Pantheon Report

Generated at 2018-10-02 11:58:44 (UTC).

Data path: AWS Brazil 1 on ens5 (*local*) →Brazil on p4p1 (*remote*).

Repeated the test of 18 congestion control schemes 5 times.

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

NTP offsets were measured against gps.ntp.br and have been applied to correct the timestamps in logs.
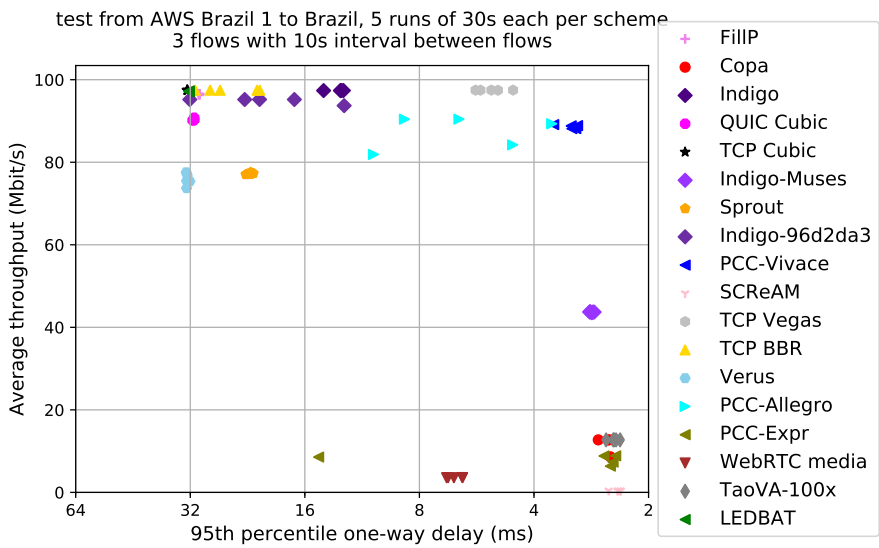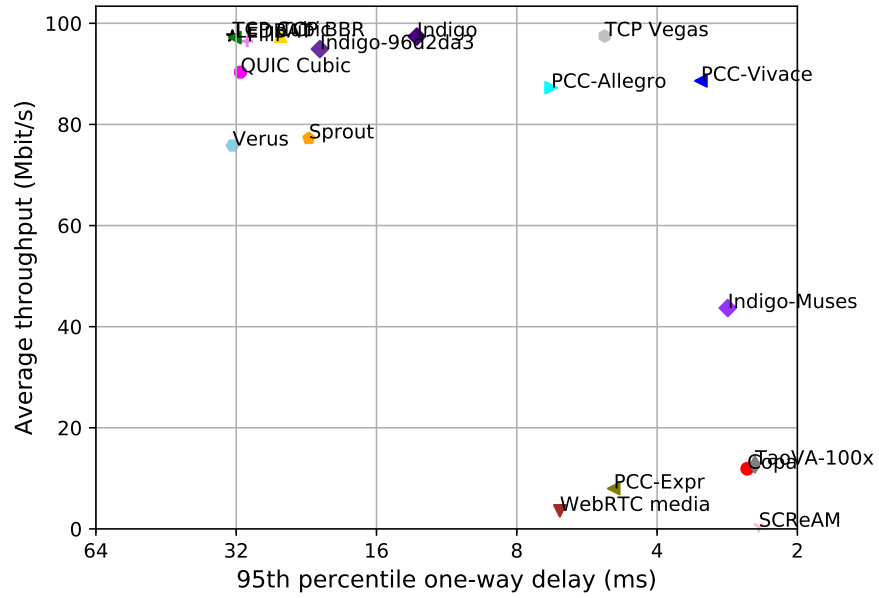
```
System info:
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

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

```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from AWS Brazil 1 to Brazil, 5 runs of 30s each per scheme
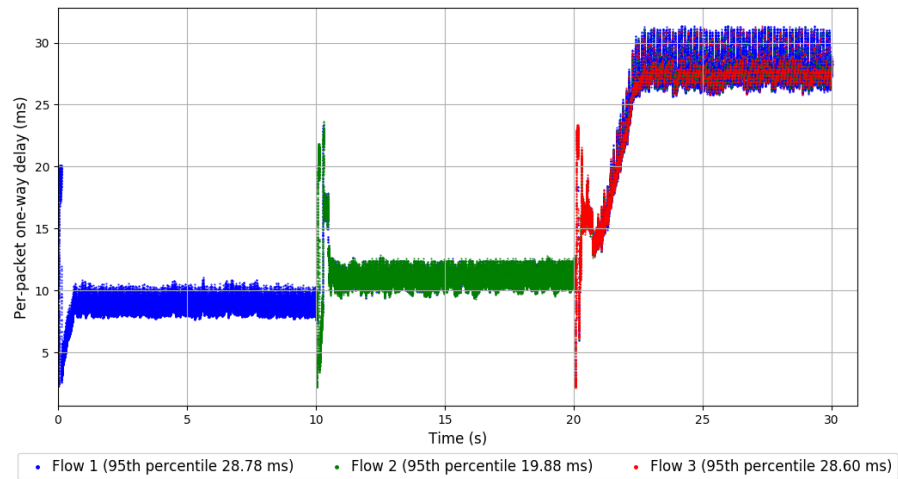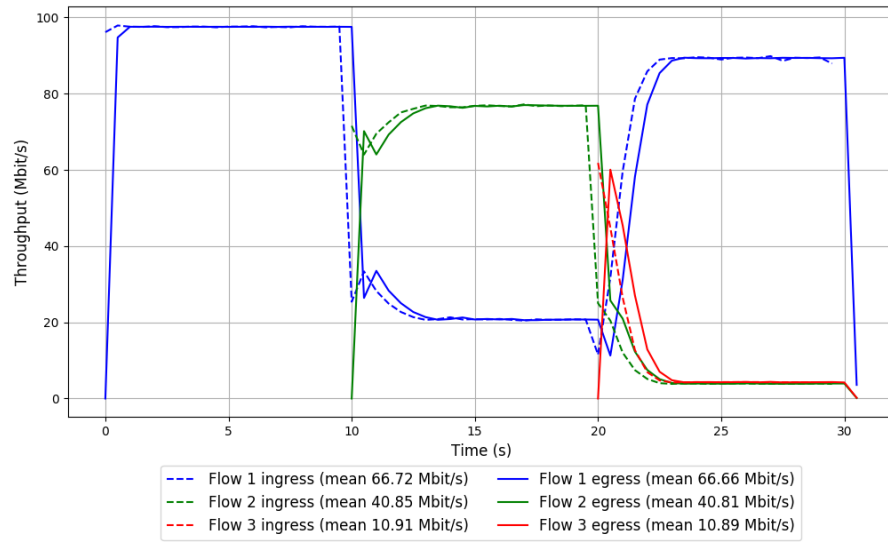3 flows with 10s interval between flows (mean of all runs by scheme)

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

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	69.72	35.72	11.88	25.83	23.01	27.42	0.03	0.01	0.09
Copa	5	6.97	6.77	3.29	2.58	2.55	2.51	73.32	70.33	81.78
TCP Cubic	5	65.41	35.08	26.22	32.51	32.66	32.72	0.04	0.04	0.04
FillP	5	60.88	38.68	29.84	30.26	30.35	30.37	15.21	28.94	34.38
Indigo	5	46.84	43.73	66.08	11.16	13.39	13.79	0.00	0.00	0.00
Indigo-96d2da3	5	49.73	49.04	38.14	19.64	20.43	21.71	0.00	0.02	5.68
LEDBAT	5	61.37	39.15	29.42	32.18	32.34	32.41	0.03	0.06	0.08
Indigo-Muses	5	21.89	21.84	21.99	2.78	2.83	3.04	0.00	0.00	0.00
PCC-Allegro	5	72.02	13.97	18.05	5.60	13.84	16.77	0.06	0.27	0.23
PCC-Expr	5	0.41	8.59	6.90	2.42	6.93	2.45	85.71	43.93	29.38
QUIC Cubic	5	57.09	36.28	27.76	31.24	31.41	31.56	0.15	0.17	0.28
SCReAM	5	0.22	0.22	0.22	2.42	2.41	2.42	0.00	0.00	0.00
Sprout	5	42.41	36.33	32.25	21.11	22.51	23.94	0.00	0.00	0.00
TaoVA-100x	5	6.61	6.76	6.47	2.47	2.47	2.46	86.45	90.28	90.87
TCP Vegas	5	48.45	43.82	59.61	9.33	4.50	4.77	0.00	0.00	0.00
Verus	5	45.56	31.54	28.15	31.08	32.82	32.86	14.31	21.55	27.40
PCC-Vivace	5	57.36	33.68	26.84	2.84	3.54	4.36	0.00	0.00	0.00
WebRTC media	5	1.95	1.25	0.38	6.30	6.57	6.99	0.00	0.00	0.10

```
Run 1: Statistics of TCP BBR

Start at: 2018-10-02 10:14:21
End at: 2018-10-02 10:14:51
Local clock offset: -7.421 ms
Remote clock offset: -0.311 ms


# Below is generated by plot.py at 2018-10-02 11:49:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 28.380 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.66 Mbit/s
95th percentile per-packet one-way delay: 28.778 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.81 Mbit/s
95th percentile per-packet one-way delay: 19.878 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.89 Mbit/s
95th percentile per-packet one-way delay: 28.596 ms
Loss rate: 0.00%
```
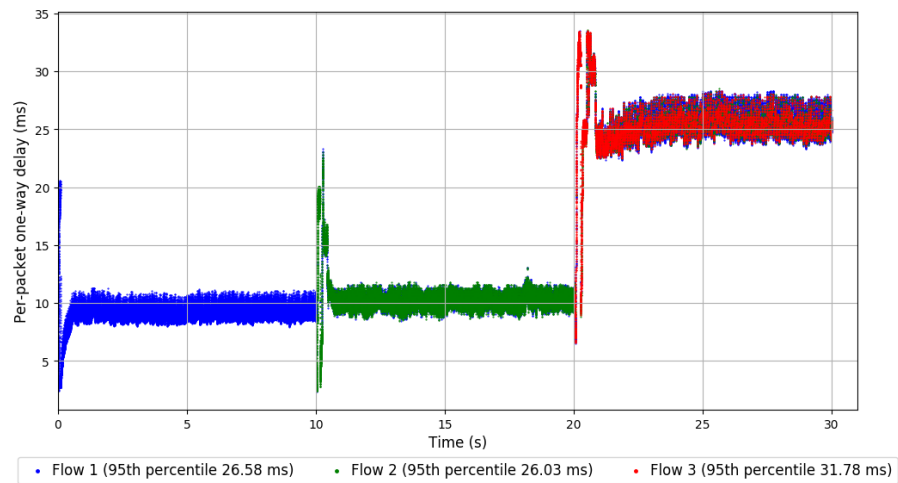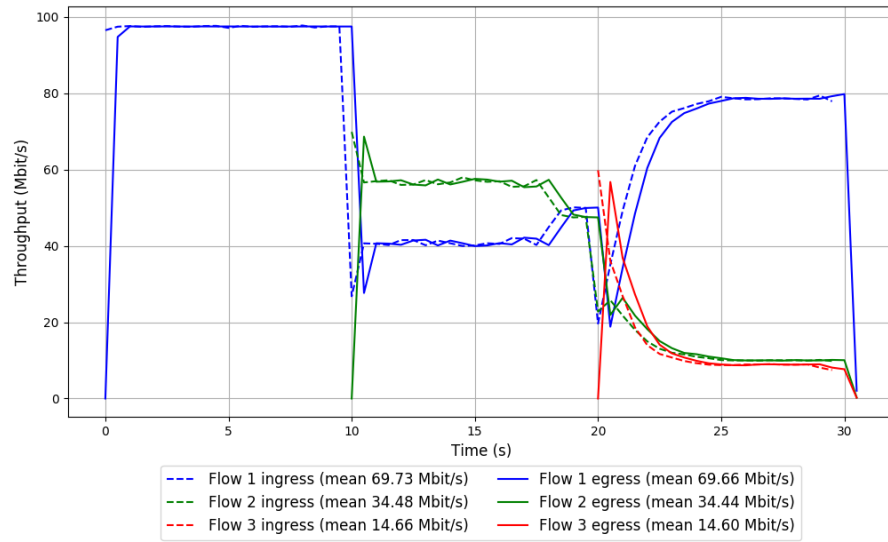
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 66.72 Mbit/s) --- Flow 1 egress (mean 66.66 Mbit/s)
Flow 2 ingress (mean 40.85 Mbit/s) --- Flow 2 egress (mean 40.81 Mbit/s)
Flow 3 ingress (mean 10.91 Mbit/s) --- Flow 3 egress (mean 10.89 Mbit/s)

Flow 1 (95th percentile 28.78 ms)   Flow 2 (95th percentile 19.88 ms)   Flow 3 (95th percentile 28.60 ms)

6

Run 2: Statistics of TCP BBR

Start at: 2018-10-02 10:34:50
End at: 2018-10-02 10:35:20
Local clock offset: -6.693 ms
Remote clock offset: 0.272 ms

Below is generated by plot.py at 2018-10-02 11:49:52
Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 26.715 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 69.66 Mbit/s
95th percentile per-packet one-way delay: 26.582 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 34.44 Mbit/s
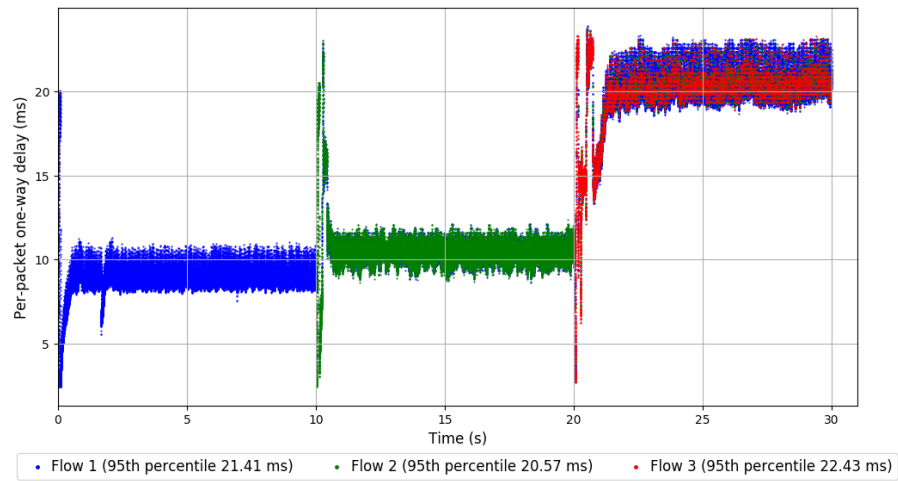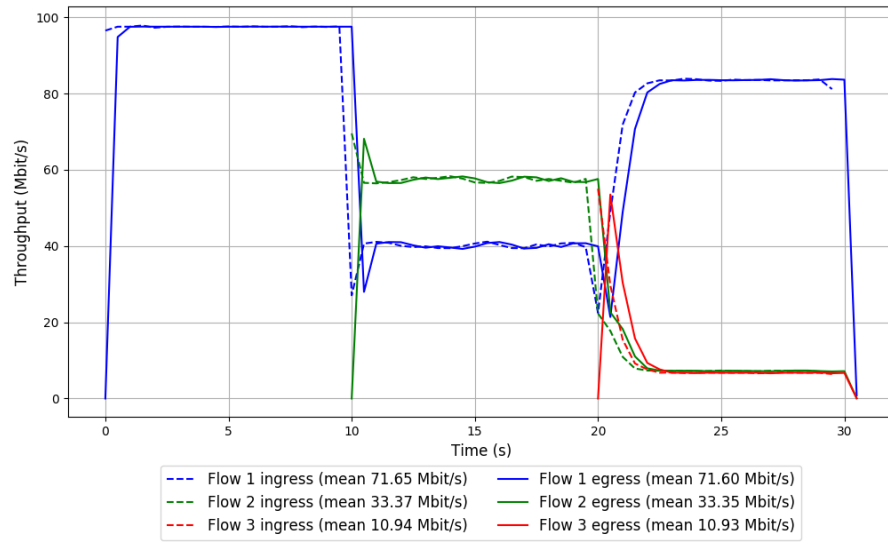95th percentile per-packet one-way delay: 26.030 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 14.60 Mbit/s
95th percentile per-packet one-way delay: 31.779 ms
Loss rate: 0.27%

Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-10-02 10:55:20
End at: 2018-10-02 10:55:50
Local clock offset: -4.301 ms
Remote clock offset: 0.639 ms


# Below is generated by plot.py at 2018-10-02 11:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.45 Mbit/s
95th percentile per-packet one-way delay: 21.368 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 71.60 Mbit/s
95th percentile per-packet one-way delay: 21.414 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.35 Mbit/s
95th percentile per-packet one-way delay: 20.565 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 10.93 Mbit/s
95th percentile per-packet one-way delay: 22.428 ms
Loss rate: 0.00%
```
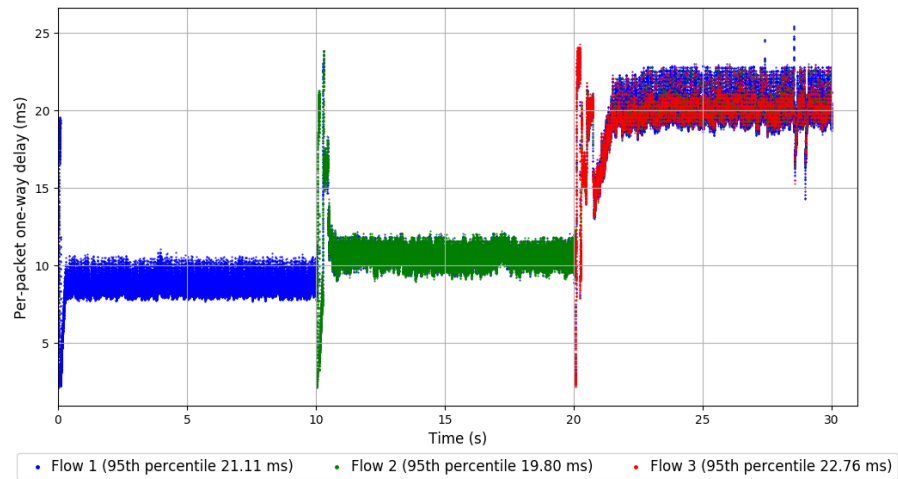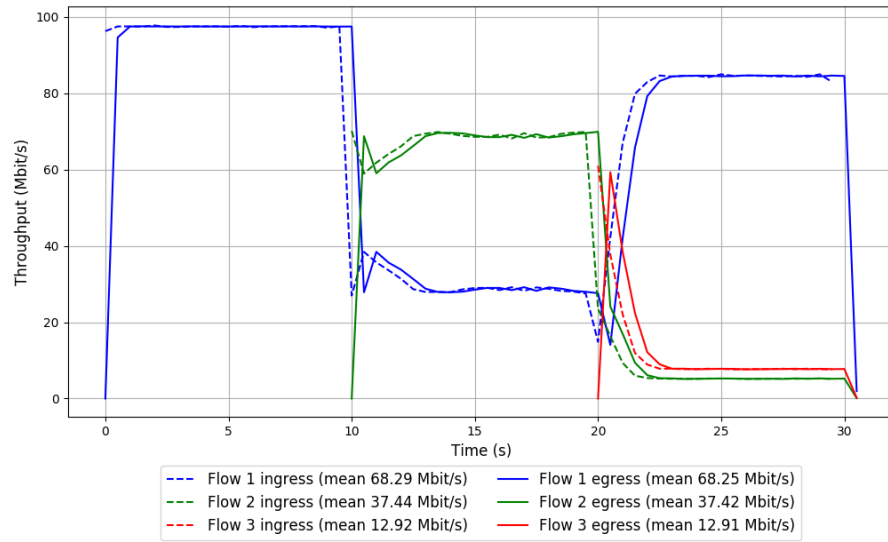
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2018-10-02 11:15:49
End at: 2018-10-02 11:16:19
Local clock offset: -2.54 ms
Remote clock offset: 1.026 ms


# Below is generated by plot.py at 2018-10-02 11:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 21.021 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 68.25 Mbit/s
95th percentile per-packet one-way delay: 21.111 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.42 Mbit/s
95th percentile per-packet one-way delay: 19.799 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.91 Mbit/s
95th percentile per-packet one-way delay: 22.759 ms
Loss rate: 0.00%
```
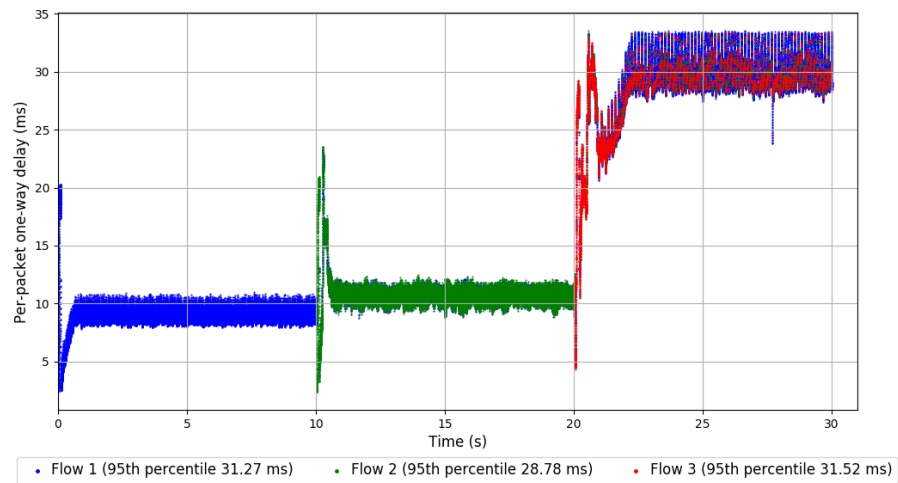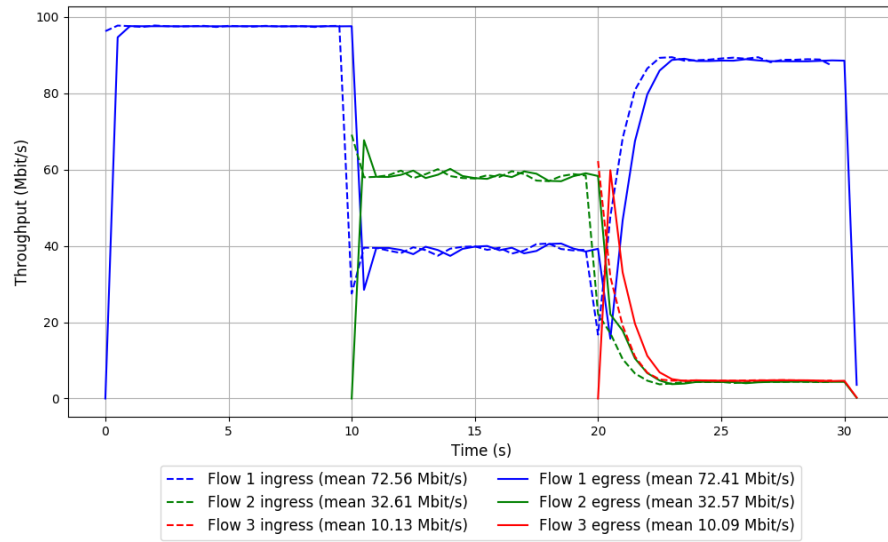
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2018-10-02 11:36:19
End at: 2018-10-02 11:36:49
Local clock offset: -3.039 ms
Remote clock offset: 1.139 ms

# Below is generated by plot.py at 2018-10-02 11:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 31.046 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 72.41 Mbit/s
95th percentile per-packet one-way delay: 31.265 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 32.57 Mbit/s
95th percentile per-packet one-way delay: 28.777 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 10.09 Mbit/s
95th percentile per-packet one-way delay: 31.523 ms
Loss rate: 0.19%
```
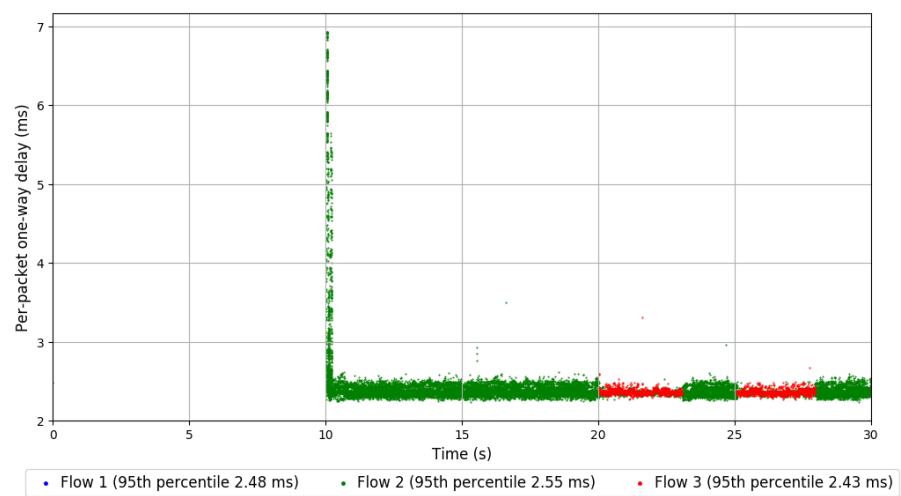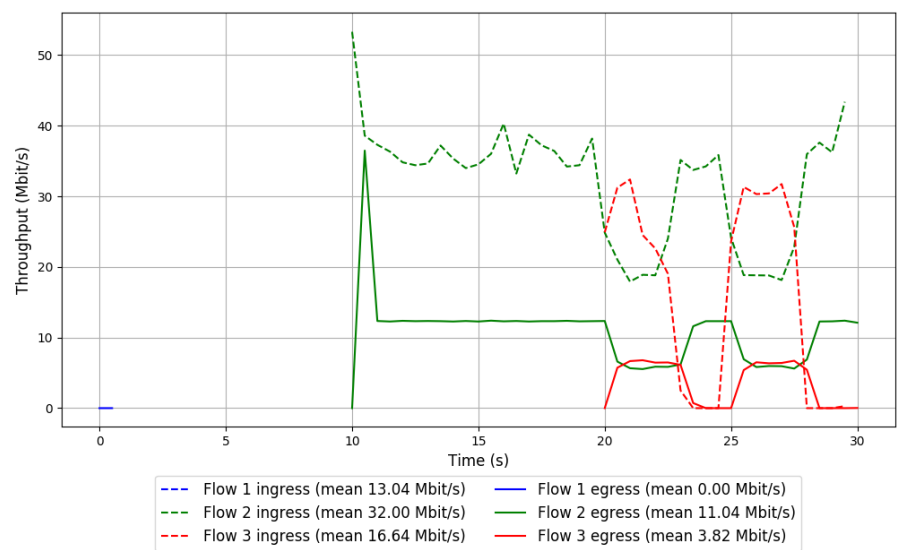
Run 5: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 72.56 Mbit/s) —— Flow 1 egress (mean 72.41 Mbit/s)
- - - Flow 2 ingress (mean 32.61 Mbit/s) —— Flow 2 egress (mean 32.57 Mbit/s)
- - - Flow 3 ingress (mean 10.13 Mbit/s) —— Flow 3 egress (mean 10.09 Mbit/s)

· Flow 1 (95th percentile 31.27 ms)   · Flow 2 (95th percentile 28.78 ms)   · Flow 3 (95th percentile 31.52 ms)
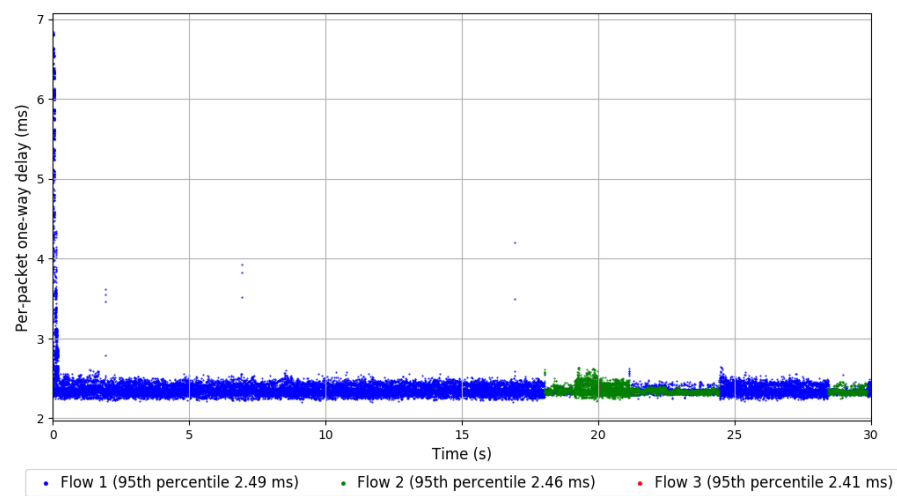
14

```
Run 1: Statistics of Copa

Start at: 2018-10-02 10:05:18
End at: 2018-10-02 10:05:48
Local clock offset: -7.427 ms
Remote clock offset: -0.462 ms


# Below is generated by plot.py at 2018-10-02 11:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 2.519 ms
Loss rate: 67.88%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.482 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 11.04 Mbit/s
95th percentile per-packet one-way delay: 2.548 ms
Loss rate: 65.50%
-- Flow 3:
Average throughput: 3.82 Mbit/s
95th percentile per-packet one-way delay: 2.426 ms
Loss rate: 77.08%
```
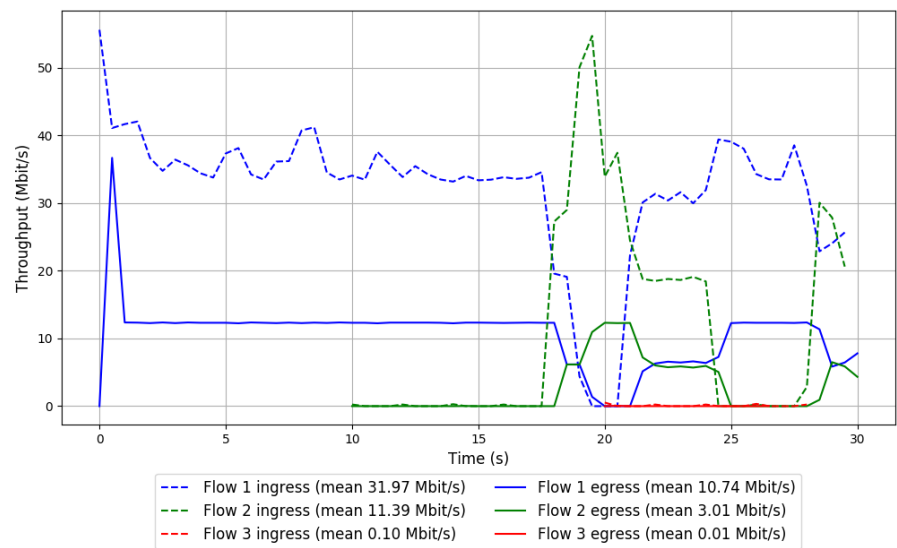
Run 1: Report of Copa — Data Link

Legend:
- --- Flow 1 ingress (mean 13.04 Mbit/s)
- —— Flow 1 egress (mean 0.00 Mbit/s)
- --- Flow 2 ingress (mean 32.00 Mbit/s)
- —— Flow 2 egress (mean 11.04 Mbit/s)
- --- Flow 3 ingress (mean 16.64 Mbit/s)
- —— Flow 3 egress (mean 3.82 Mbit/s)

Legend:
- Flow 1 (95th percentile 2.48 ms)
- Flow 2 (95th percentile 2.55 ms)
- Flow 3 (95th percentile 2.43 ms)

```
Run 2: Statistics of Copa

Start at: 2018-10-02 10:25:48
End at: 2018-10-02 10:26:18
Local clock offset: -6.782 ms
Remote clock offset: -0.019 ms


# Below is generated by plot.py at 2018-10-02 11:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.482 ms
Loss rate: 67.80%
-- Flow 1:
Average throughput: 10.74 Mbit/s
95th percentile per-packet one-way delay: 2.489 ms
Loss rate: 66.42%
-- Flow 2:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 2.464 ms
Loss rate: 73.59%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 2.407 ms
Loss rate: 95.33%
```
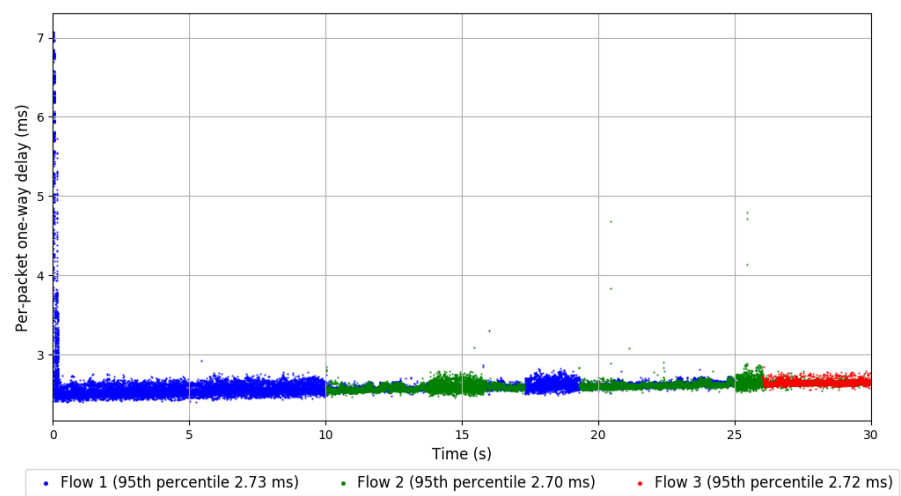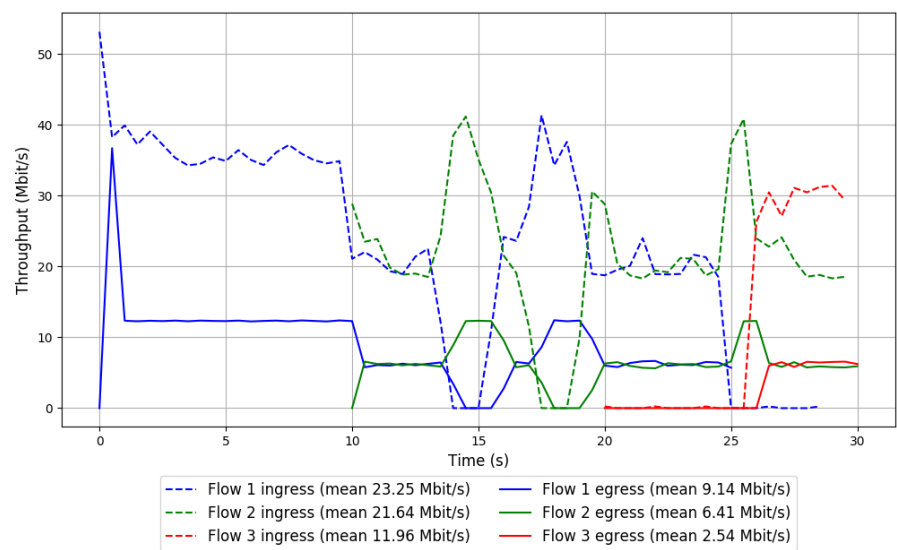
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-10-02 10:46:17
End at: 2018-10-02 10:46:47
Local clock offset: -6.418 ms
Remote clock offset: 0.433 ms


# Below is generated by plot.py at 2018-10-02 11:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.711 ms
Loss rate: 68.85%
-- Flow 1:
Average throughput: 9.14 Mbit/s
95th percentile per-packet one-way delay: 2.732 ms
Loss rate: 66.13%
-- Flow 2:
Average throughput: 6.41 Mbit/s
95th percentile per-packet one-way delay: 2.696 ms
Loss rate: 70.36%
-- Flow 3:
Average throughput: 2.54 Mbit/s
95th percentile per-packet one-way delay: 2.722 ms
Loss rate: 78.76%
```
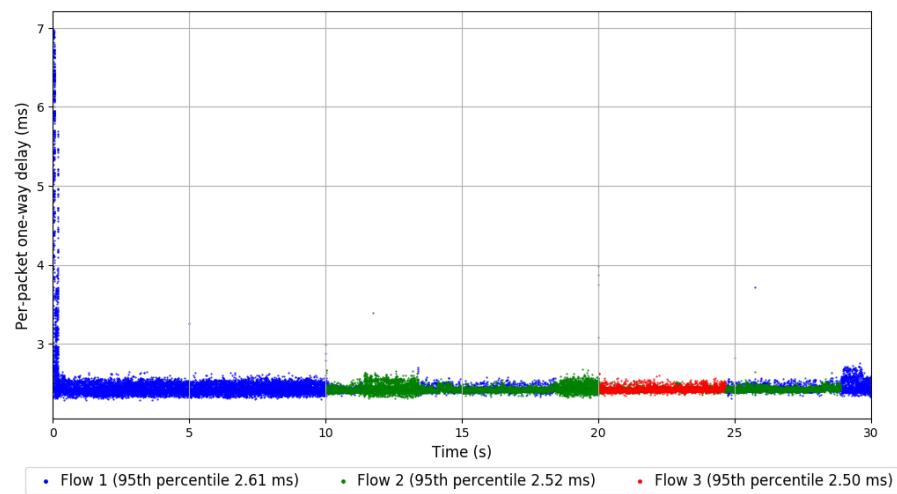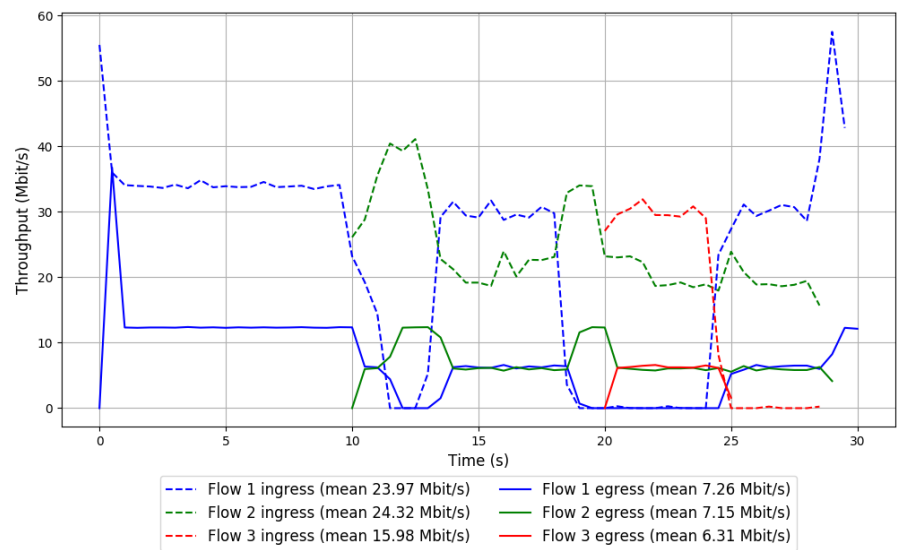
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-10-02 11:06:47
End at: 2018-10-02 11:07:17
Local clock offset: -3.098 ms
Remote clock offset: 0.844 ms


# Below is generated by plot.py at 2018-10-02 11:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.551 ms
Loss rate: 70.99%
-- Flow 1:
Average throughput: 7.26 Mbit/s
95th percentile per-packet one-way delay: 2.609 ms
Loss rate: 69.73%
-- Flow 2:
Average throughput: 7.15 Mbit/s
95th percentile per-packet one-way delay: 2.516 ms
Loss rate: 70.61%
-- Flow 3:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 2.503 ms
Loss rate: 78.83%
```
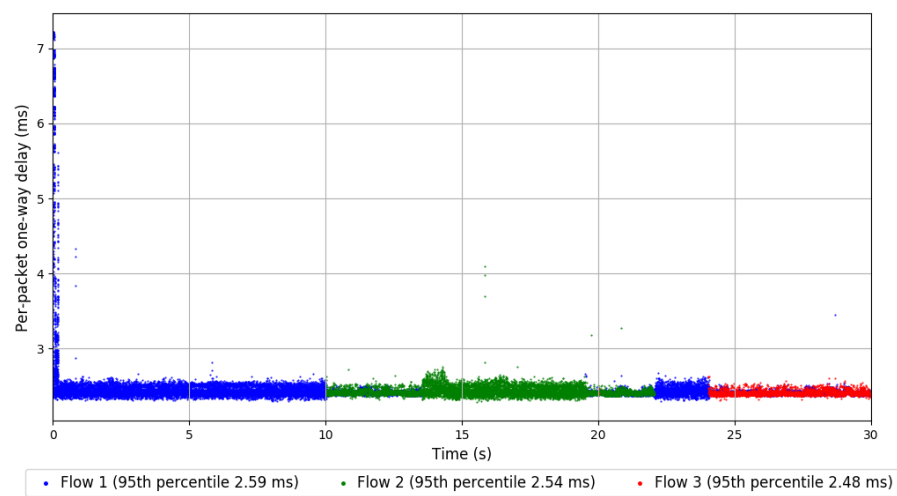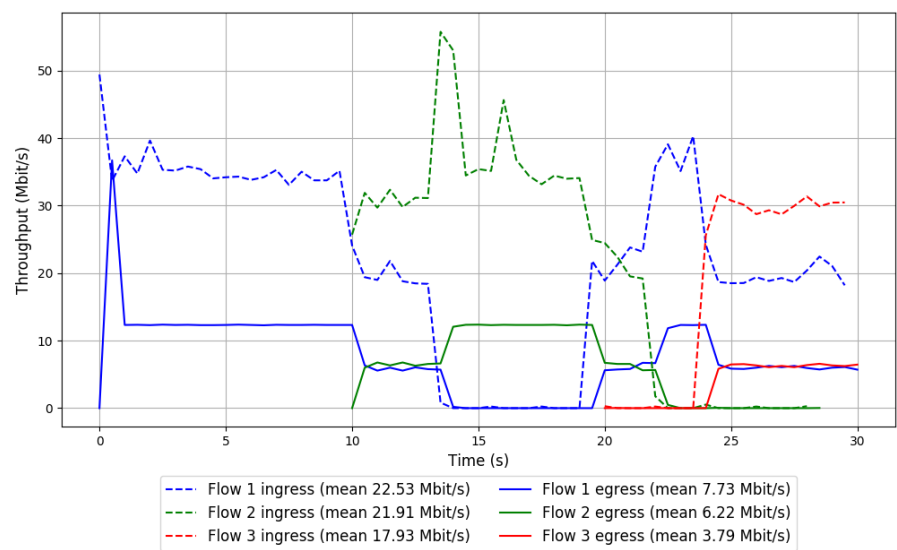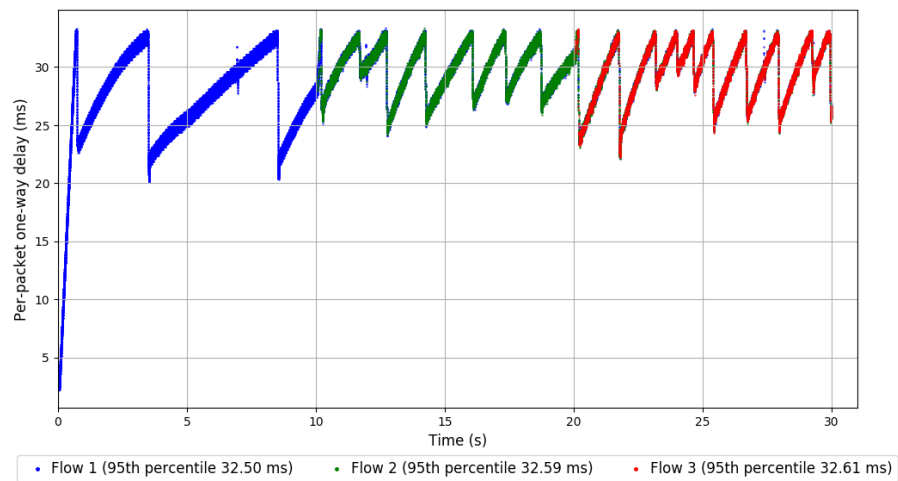
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 23.97 Mbit/s)   Flow 1 egress (mean 7.26 Mbit/s)
Flow 2 ingress (mean 24.32 Mbit/s)   Flow 2 egress (mean 7.15 Mbit/s)
Flow 3 ingress (mean 15.98 Mbit/s)   Flow 3 egress (mean 6.31 Mbit/s)

Flow 1 (95th percentile 2.61 ms)   Flow 2 (95th percentile 2.52 ms)   Flow 3 (95th percentile 2.50 ms)

```
Run 5: Statistics of Copa

Start at: 2018-10-02 11:27:16
End at: 2018-10-02 11:27:46
Local clock offset: -3.113 ms
Remote clock offset: 1.037 ms


# Below is generated by plot.py at 2018-10-02 11:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.550 ms
Loss rate: 69.46%
-- Flow 1:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 2.587 ms
Loss rate: 65.71%
-- Flow 2:
Average throughput: 6.22 Mbit/s
95th percentile per-packet one-way delay: 2.539 ms
Loss rate: 71.61%
-- Flow 3:
Average throughput: 3.79 Mbit/s
95th percentile per-packet one-way delay: 2.479 ms
Loss rate: 78.88%
```
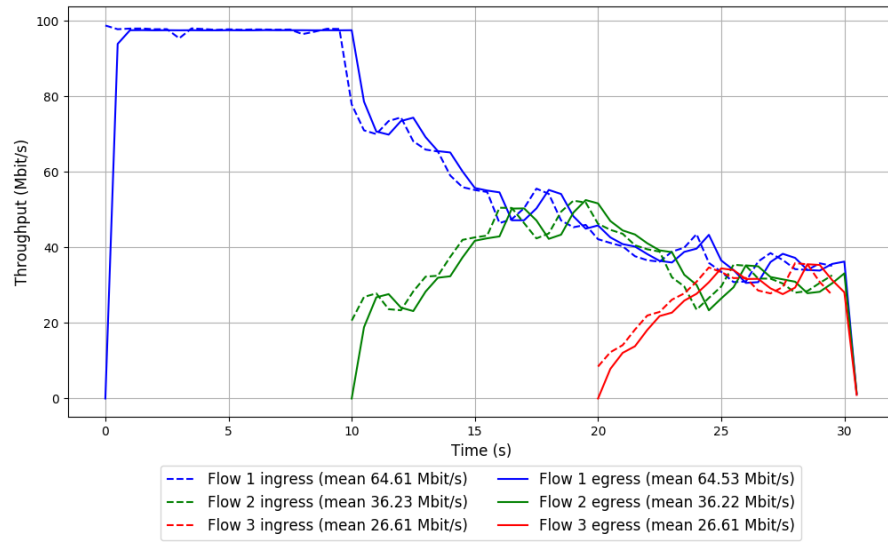
Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 22.53 Mbit/s)   Flow 1 egress (mean 7.73 Mbit/s)
Flow 2 ingress (mean 21.91 Mbit/s)   Flow 2 egress (mean 6.22 Mbit/s)
Flow 3 ingress (mean 17.93 Mbit/s)   Flow 3 egress (mean 3.79 Mbit/s)

Flow 1 (95th percentile 2.59 ms)   Flow 2 (95th percentile 2.54 ms)   Flow 3 (95th percentile 2.48 ms)

24

```
Run 1: Statistics of TCP Cubic

Start at: 2018-10-02 10:10:57
End at: 2018-10-02 10:11:27
Local clock offset: -7.42 ms
Remote clock offset: -0.435 ms


# Below is generated by plot.py at 2018-10-02 11:50:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 32.568 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 64.53 Mbit/s
95th percentile per-packet one-way delay: 32.496 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 36.22 Mbit/s
95th percentile per-packet one-way delay: 32.586 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 26.61 Mbit/s
95th percentile per-packet one-way delay: 32.606 ms
Loss rate: 0.05%
```
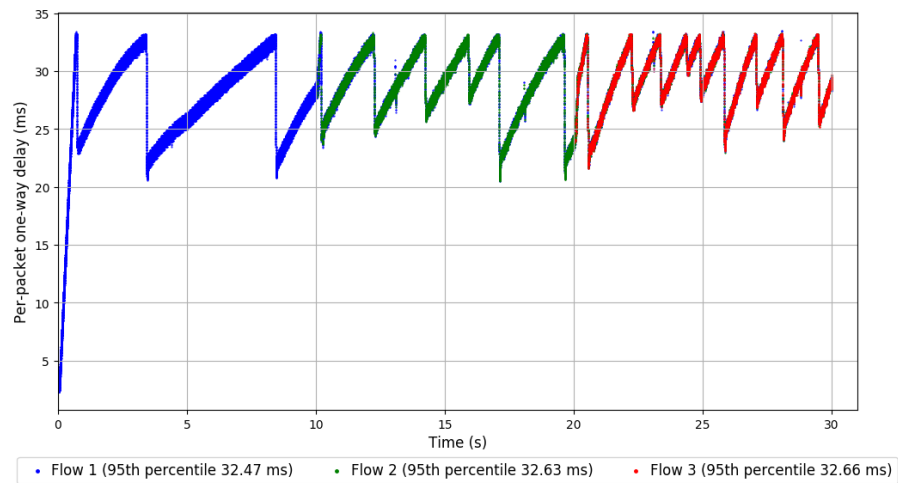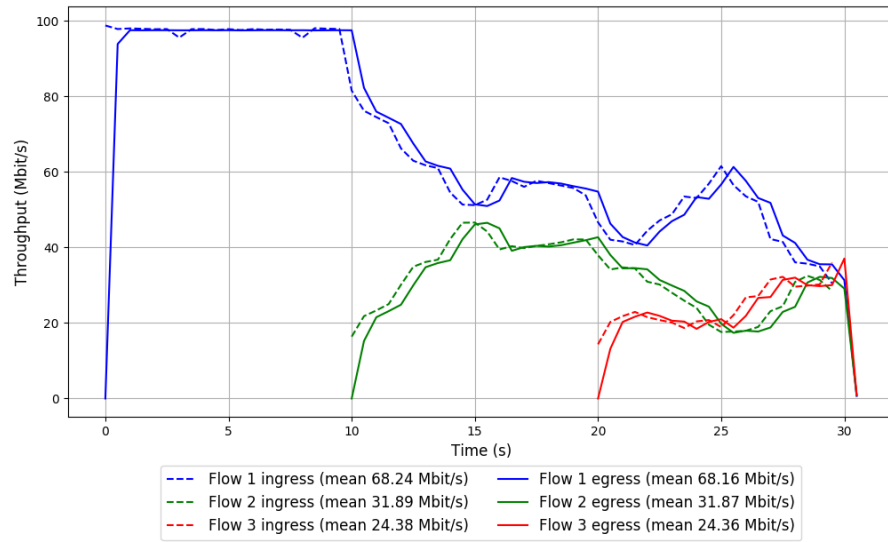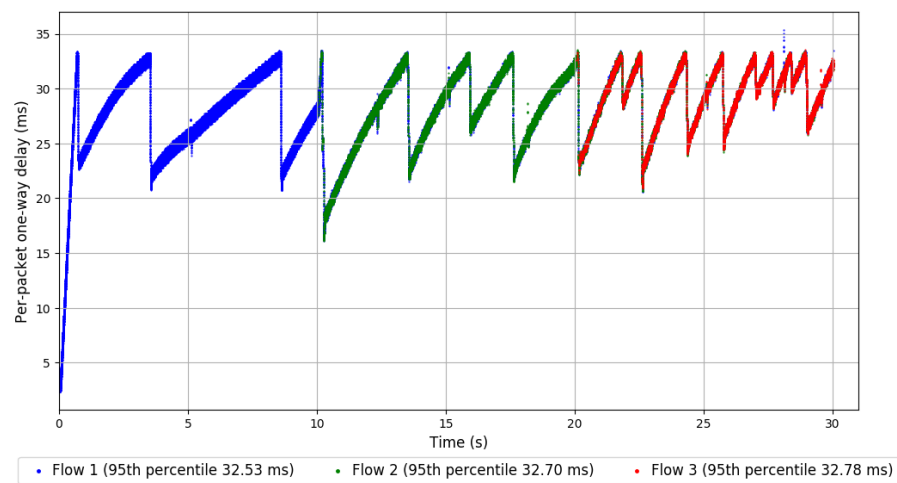
Run 1: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 64.61 Mbit/s) —— Flow 1 egress (mean 64.53 Mbit/s)
- - - Flow 2 ingress (mean 36.23 Mbit/s) —— Flow 2 egress (mean 36.22 Mbit/s)
- - - Flow 3 ingress (mean 26.61 Mbit/s) —— Flow 3 egress (mean 26.61 Mbit/s)

• Flow 1 (95th percentile 32.50 ms)   • Flow 2 (95th percentile 32.59 ms)   • Flow 3 (95th percentile 32.61 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2018-10-02 10:31:26
End at: 2018-10-02 10:31:56
Local clock offset: -6.65 ms
Remote clock offset: 0.122 ms


# Below is generated by plot.py at 2018-10-02 11:50:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 32.589 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 68.16 Mbit/s
95th percentile per-packet one-way delay: 32.466 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 31.87 Mbit/s
95th percentile per-packet one-way delay: 32.634 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 24.36 Mbit/s
95th percentile per-packet one-way delay: 32.659 ms
Loss rate: 0.03%
```
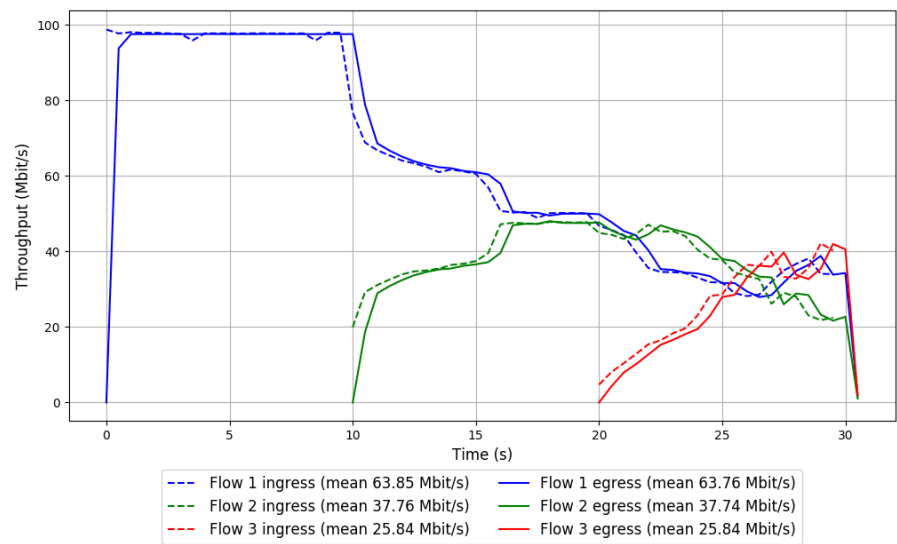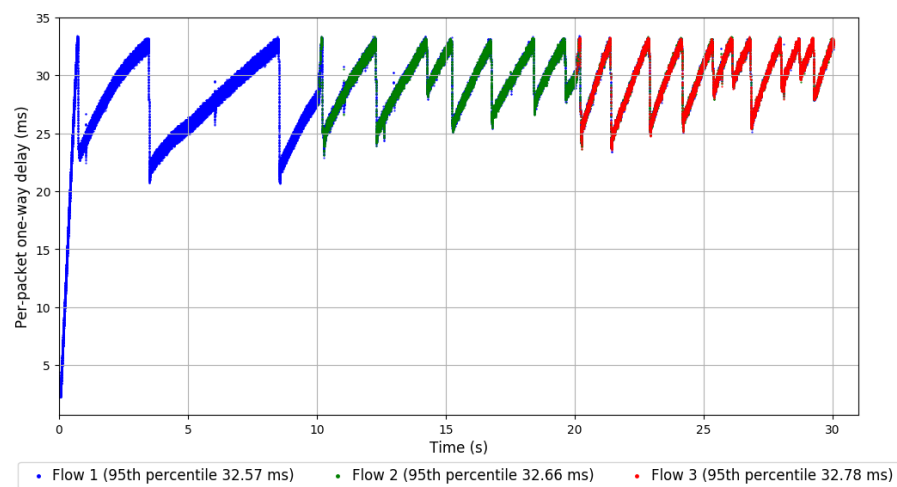
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 68.24 Mbit/s)   Flow 1 egress (mean 68.16 Mbit/s)
Flow 2 ingress (mean 31.89 Mbit/s)   Flow 2 egress (mean 31.87 Mbit/s)
Flow 3 ingress (mean 24.38 Mbit/s)   Flow 3 egress (mean 24.36 Mbit/s)

Flow 1 (95th percentile 32.47 ms)   Flow 2 (95th percentile 32.63 ms)   Flow 3 (95th percentile 32.66 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2018-10-02 10:51:56
End at: 2018-10-02 10:52:26
Local clock offset: -4.813 ms
Remote clock offset: 0.533 ms


# Below is generated by plot.py at 2018-10-02 11:50:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 32.580 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 63.76 Mbit/s
95th percentile per-packet one-way delay: 32.530 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.74 Mbit/s
95th percentile per-packet one-way delay: 32.695 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 25.84 Mbit/s
95th percentile per-packet one-way delay: 32.784 ms
Loss rate: 0.03%
```
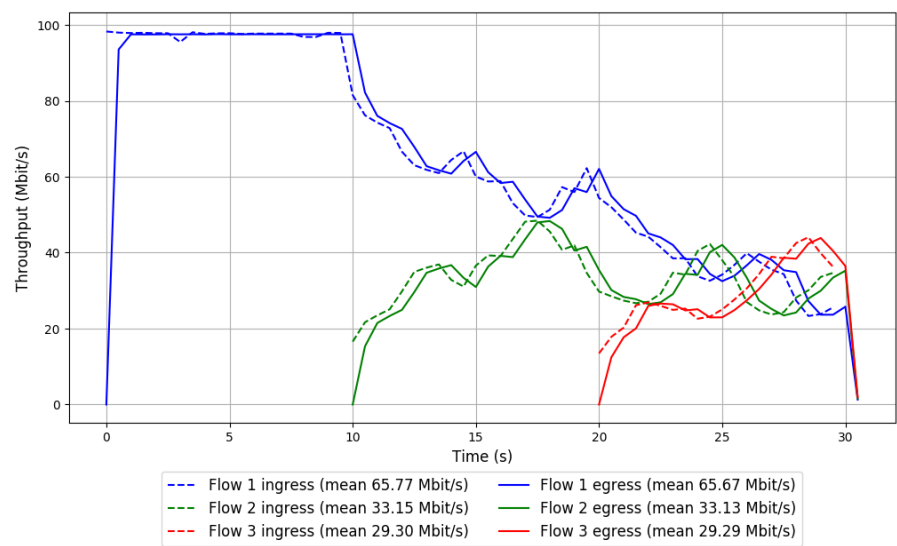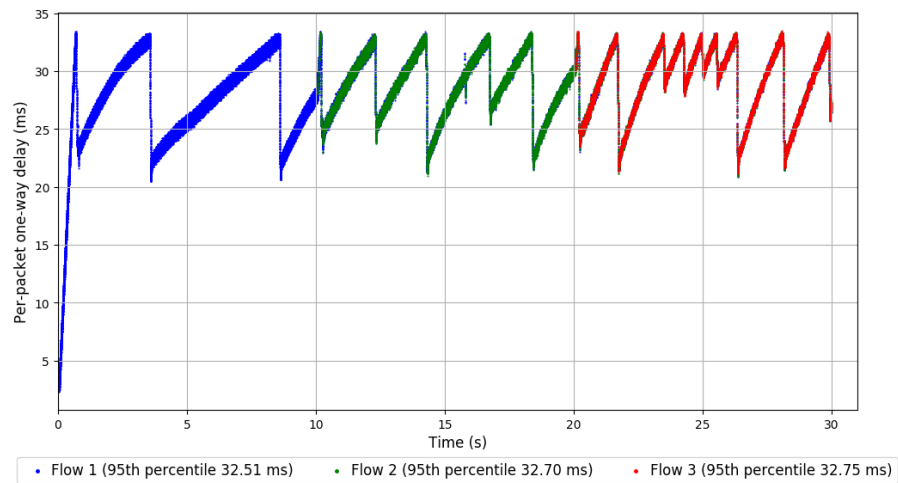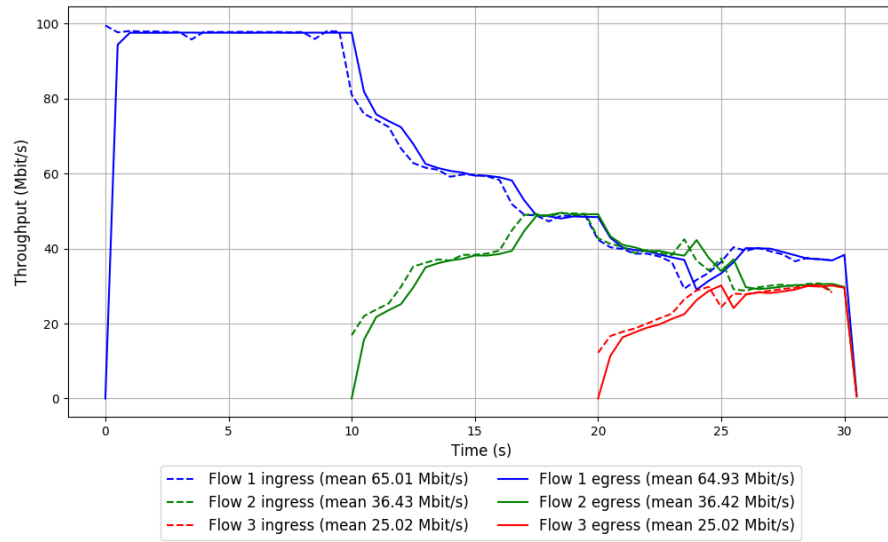
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 63.85 Mbit/s) --- Flow 1 egress (mean 63.76 Mbit/s)
Flow 2 ingress (mean 37.76 Mbit/s) --- Flow 2 egress (mean 37.74 Mbit/s)
Flow 3 ingress (mean 25.84 Mbit/s) --- Flow 3 egress (mean 25.84 Mbit/s)

Flow 1 (95th percentile 32.53 ms)   Flow 2 (95th percentile 32.70 ms)   Flow 3 (95th percentile 32.78 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2018-10-02 11:12:25
End at: 2018-10-02 11:12:55
Local clock offset: -2.7 ms
Remote clock offset: 0.932 ms


# Below is generated by plot.py at 2018-10-02 11:50:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 32.634 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 65.67 Mbit/s
95th percentile per-packet one-way delay: 32.574 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 33.13 Mbit/s
95th percentile per-packet one-way delay: 32.659 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 29.29 Mbit/s
95th percentile per-packet one-way delay: 32.782 ms
Loss rate: 0.03%
```
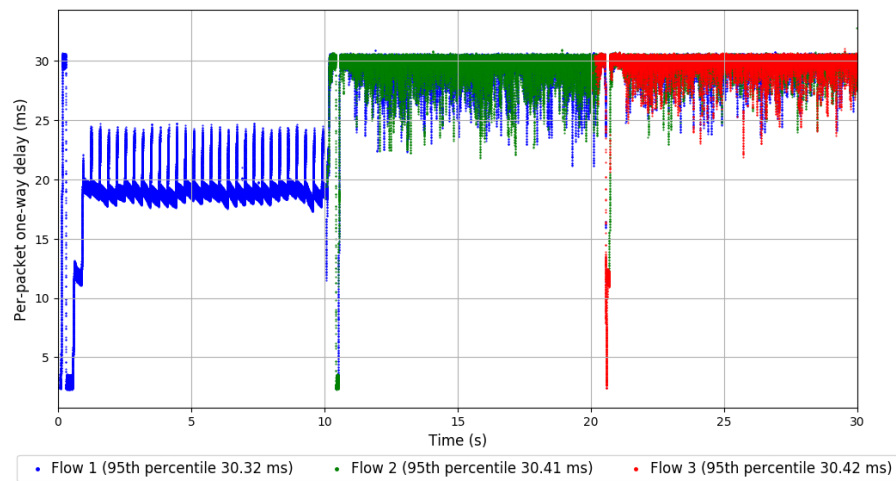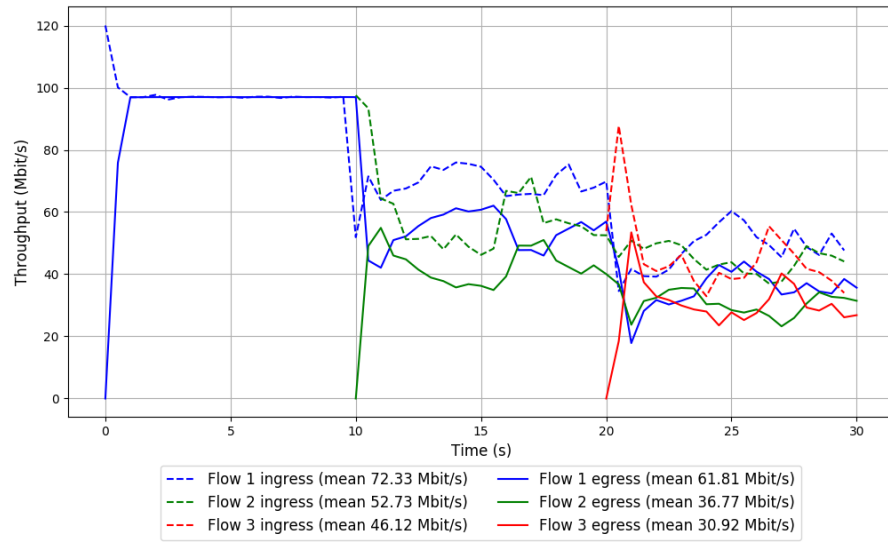
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-10-02 11:32:55
End at: 2018-10-02 11:33:25
Local clock offset: -3.031 ms
Remote clock offset: 1.114 ms


# Below is generated by plot.py at 2018-10-02 11:50:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 32.619 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 64.93 Mbit/s
95th percentile per-packet one-way delay: 32.505 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 36.42 Mbit/s
95th percentile per-packet one-way delay: 32.705 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 25.02 Mbit/s
95th percentile per-packet one-way delay: 32.748 ms
Loss rate: 0.04%
```
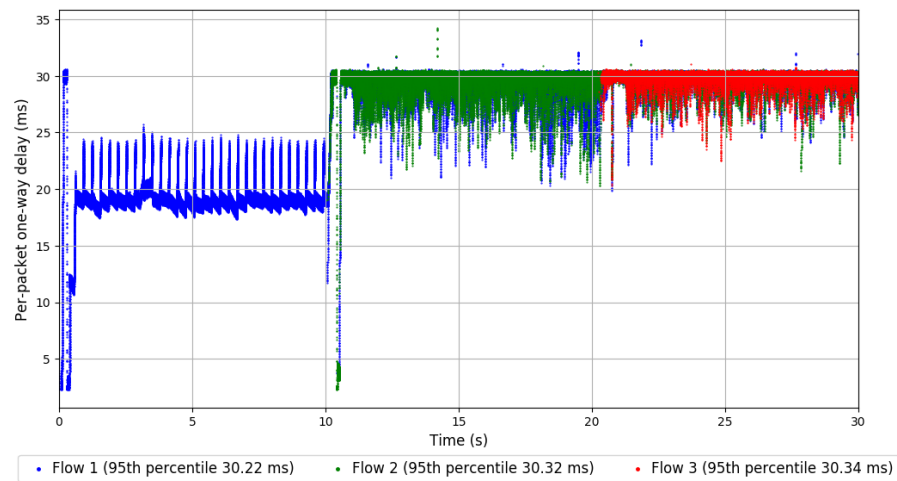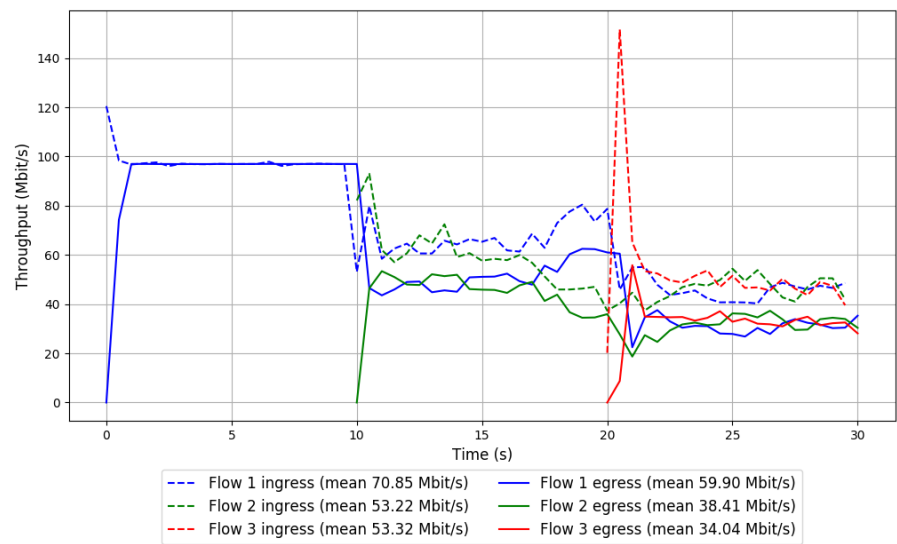
Run 5: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 65.01 Mbit/s) ——— Flow 1 egress (mean 64.93 Mbit/s)
- - - Flow 2 ingress (mean 36.43 Mbit/s) ——— Flow 2 egress (mean 36.42 Mbit/s)
- - - Flow 3 ingress (mean 25.02 Mbit/s) ——— Flow 3 egress (mean 25.02 Mbit/s)

- Flow 1 (95th percentile 32.51 ms)   • Flow 2 (95th percentile 32.70 ms)   • Flow 3 (95th percentile 32.75 ms)

```
Run 1: Statistics of FillP

Start at: 2018-10-02 10:20:03
End at: 2018-10-02 10:20:33
Local clock offset: -7.08 ms
Remote clock offset: -0.075 ms


# Below is generated by plot.py at 2018-10-02 11:51:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.53 Mbit/s
95th percentile per-packet one-way delay: 30.371 ms
Loss rate: 21.27%
-- Flow 1:
Average throughput: 61.81 Mbit/s
95th percentile per-packet one-way delay: 30.316 ms
Loss rate: 14.46%
-- Flow 2:
Average throughput: 36.77 Mbit/s
95th percentile per-packet one-way delay: 30.411 ms
Loss rate: 30.21%
-- Flow 3:
Average throughput: 30.92 Mbit/s
95th percentile per-packet one-way delay: 30.423 ms
Loss rate: 32.93%
```
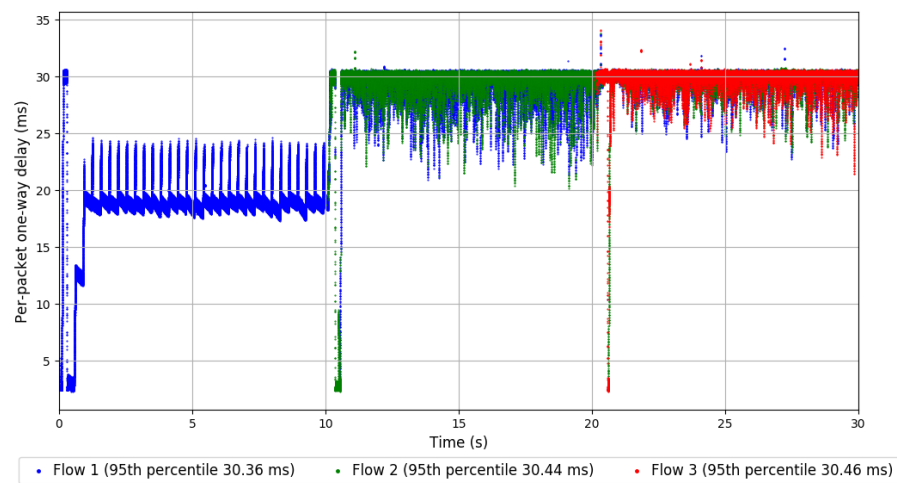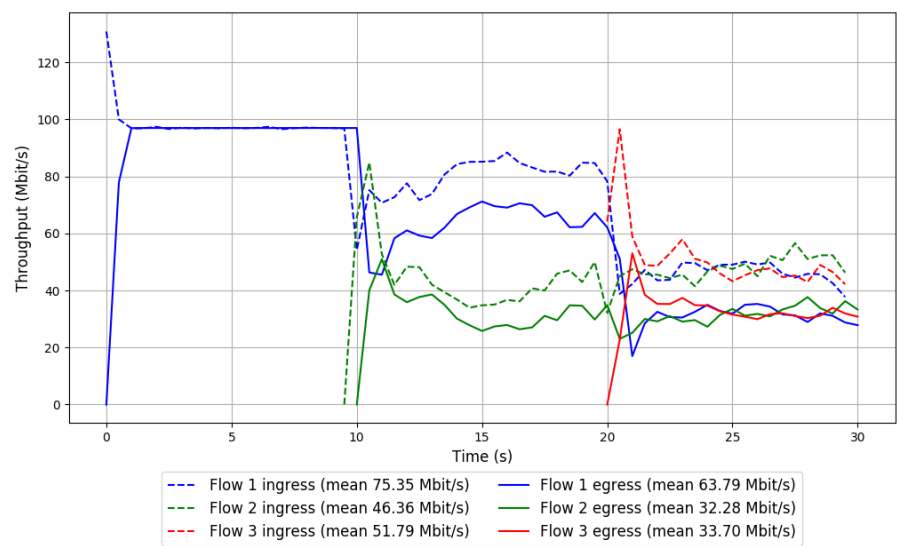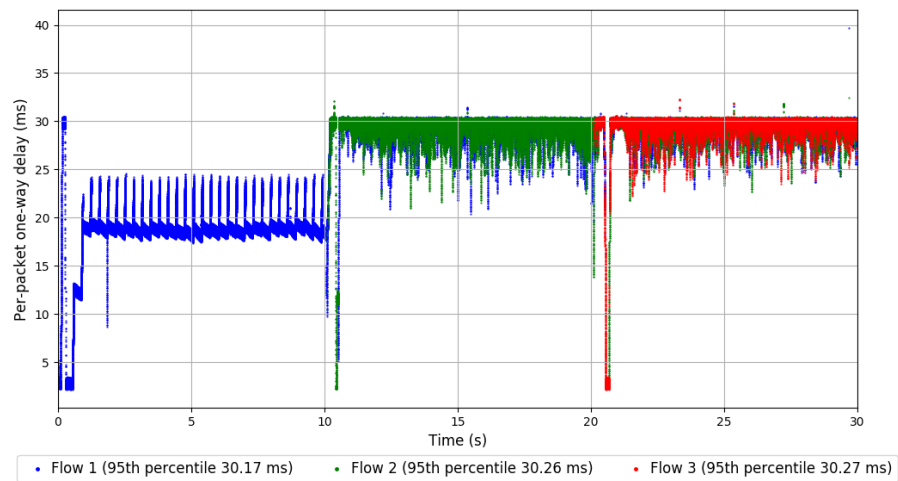
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-10-02 10:40:32
End at: 2018-10-02 10:41:02
Local clock offset: -6.594 ms
Remote clock offset: 0.367 ms


# Below is generated by plot.py at 2018-10-02 11:51:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.52 Mbit/s
95th percentile per-packet one-way delay: 30.289 ms
Loss rate: 22.08%
-- Flow 1:
Average throughput: 59.90 Mbit/s
95th percentile per-packet one-way delay: 30.224 ms
Loss rate: 15.37%
-- Flow 2:
Average throughput: 38.41 Mbit/s
95th percentile per-packet one-way delay: 30.322 ms
Loss rate: 27.79%
-- Flow 3:
Average throughput: 34.04 Mbit/s
95th percentile per-packet one-way delay: 30.338 ms
Loss rate: 37.46%
```
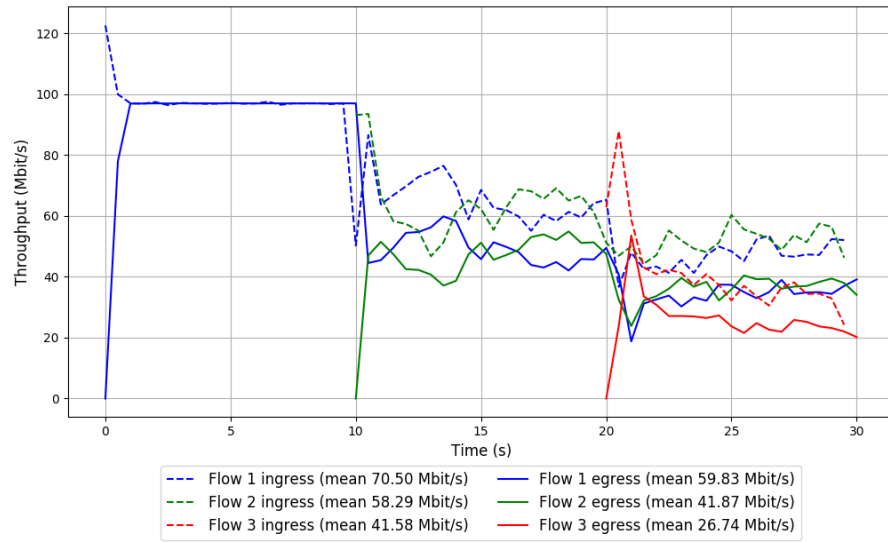
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 70.85 Mbit/s) --- Flow 1 egress (mean 59.90 Mbit/s)
Flow 2 ingress (mean 53.22 Mbit/s) --- Flow 2 egress (mean 38.41 Mbit/s)
Flow 3 ingress (mean 53.32 Mbit/s) --- Flow 3 egress (mean 34.04 Mbit/s)

Flow 1 (95th percentile 30.22 ms)   Flow 2 (95th percentile 30.32 ms)   Flow 3 (95th percentile 30.34 ms)

```
Run 3: Statistics of FillP

Start at: 2018-10-02 11:01:02
End at: 2018-10-02 11:01:32
Local clock offset: -3.591 ms
Remote clock offset: 0.755 ms


# Below is generated by plot.py at 2018-10-02 11:51:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.44 Mbit/s
95th percentile per-packet one-way delay: 30.412 ms
Loss rate: 21.77%
-- Flow 1:
Average throughput: 63.79 Mbit/s
95th percentile per-packet one-way delay: 30.362 ms
Loss rate: 15.26%
-- Flow 2:
Average throughput: 32.28 Mbit/s
95th percentile per-packet one-way delay: 30.440 ms
Loss rate: 30.34%
-- Flow 3:
Average throughput: 33.70 Mbit/s
95th percentile per-packet one-way delay: 30.464 ms
Loss rate: 34.92%
```
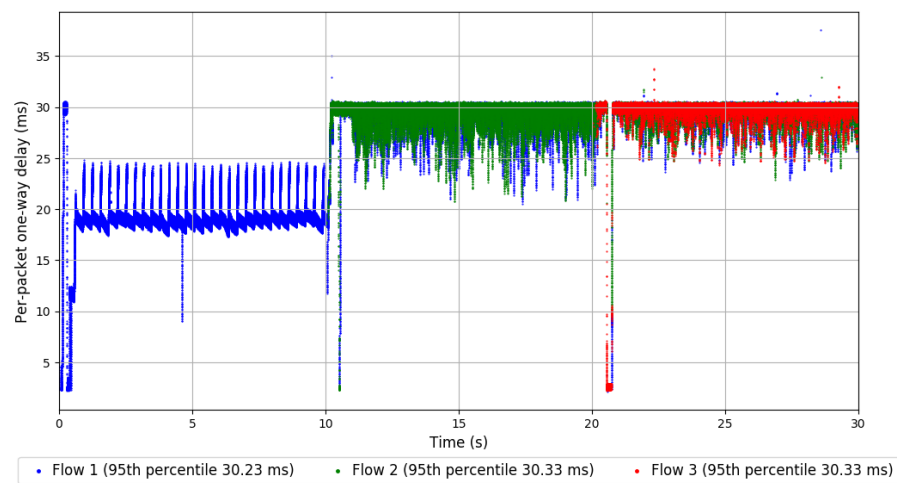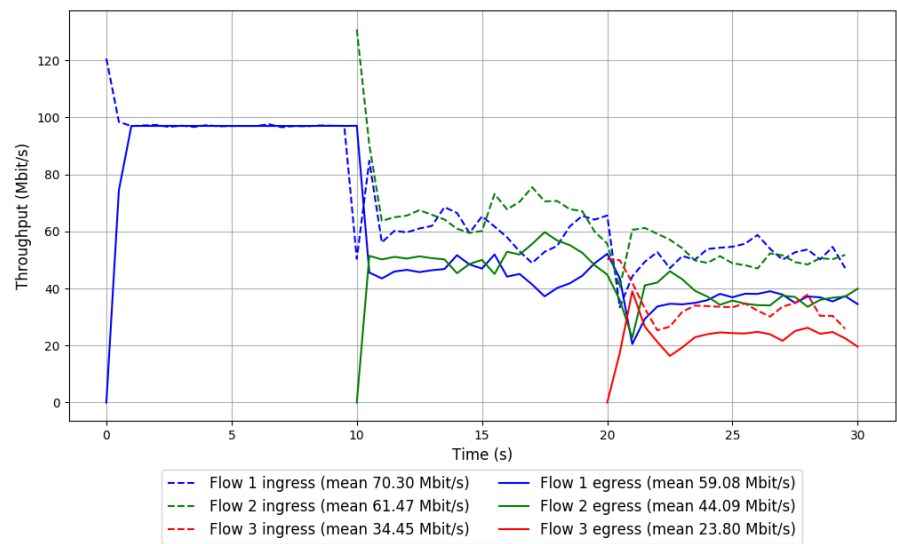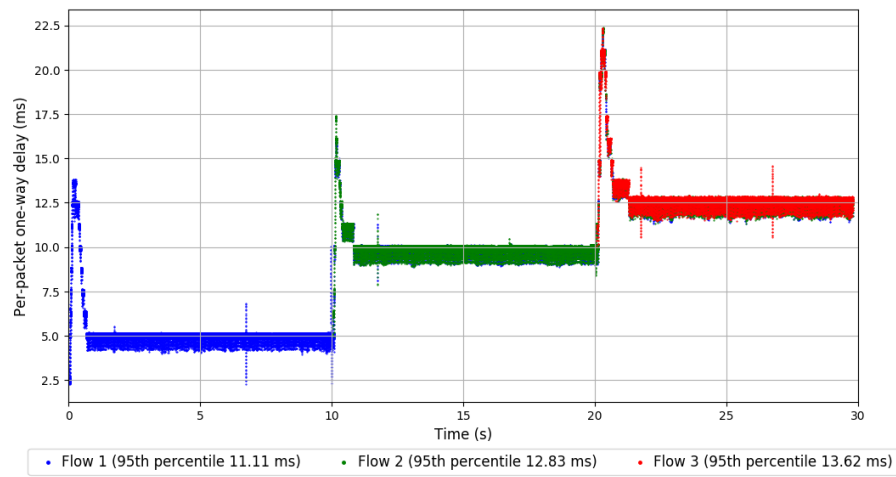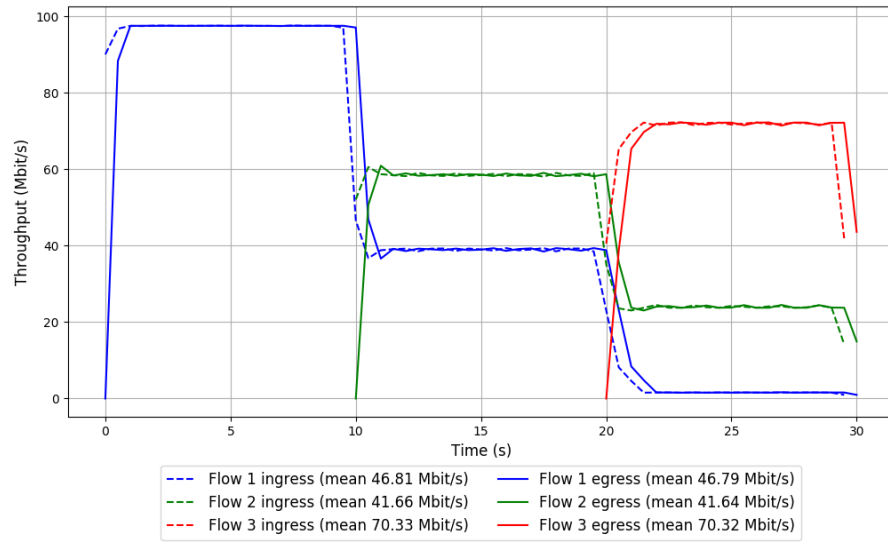
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2018-10-02 11:21:31
End at: 2018-10-02 11:22:01
Local clock offset: -2.907 ms
Remote clock offset: 1.04 ms


# Below is generated by plot.py at 2018-10-02 11:51:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.56 Mbit/s
95th percentile per-packet one-way delay: 30.227 ms
Loss rate: 21.49%
-- Flow 1:
Average throughput: 59.83 Mbit/s
95th percentile per-packet one-way delay: 30.168 ms
Loss rate: 15.05%
-- Flow 2:
Average throughput: 41.87 Mbit/s
95th percentile per-packet one-way delay: 30.261 ms
Loss rate: 28.13%
-- Flow 3:
Average throughput: 26.74 Mbit/s
95th percentile per-packet one-way delay: 30.273 ms
Loss rate: 35.70%
```

Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 70.50 Mbit/s) — — — Flow 1 egress (mean 59.83 Mbit/s) ———
Flow 2 ingress (mean 58.29 Mbit/s) — — — Flow 2 egress (mean 41.87 Mbit/s) ———
Flow 3 ingress (mean 41.58 Mbit/s) — — — Flow 3 egress (mean 26.74 Mbit/s) ———

• Flow 1 (95th percentile 30.17 ms)   • Flow 2 (95th percentile 30.26 ms)   • Flow 3 (95th percentile 30.27 ms)

```
Run 5: Statistics of FillP

Start at: 2018-10-02 11:42:01
End at: 2018-10-02 11:42:31
Local clock offset: -2.885 ms
Remote clock offset: 1.104 ms


# Below is generated by plot.py at 2018-10-02 11:51:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 30.288 ms
Loss rate: 21.41%
-- Flow 1:
Average throughput: 59.08 Mbit/s
95th percentile per-packet one-way delay: 30.227 ms
Loss rate: 15.89%
-- Flow 2:
Average throughput: 44.09 Mbit/s
95th percentile per-packet one-way delay: 30.328 ms
Loss rate: 28.23%
-- Flow 3:
Average throughput: 23.80 Mbit/s
95th percentile per-packet one-way delay: 30.333 ms
Loss rate: 30.91%
```
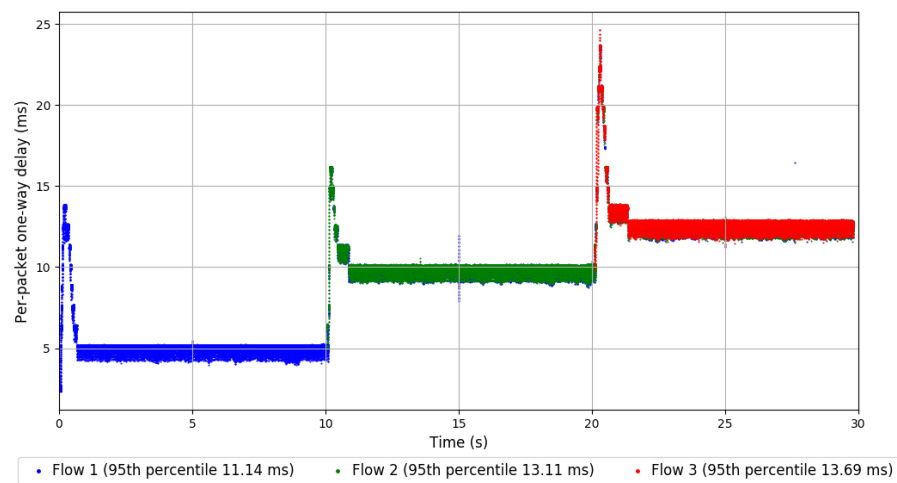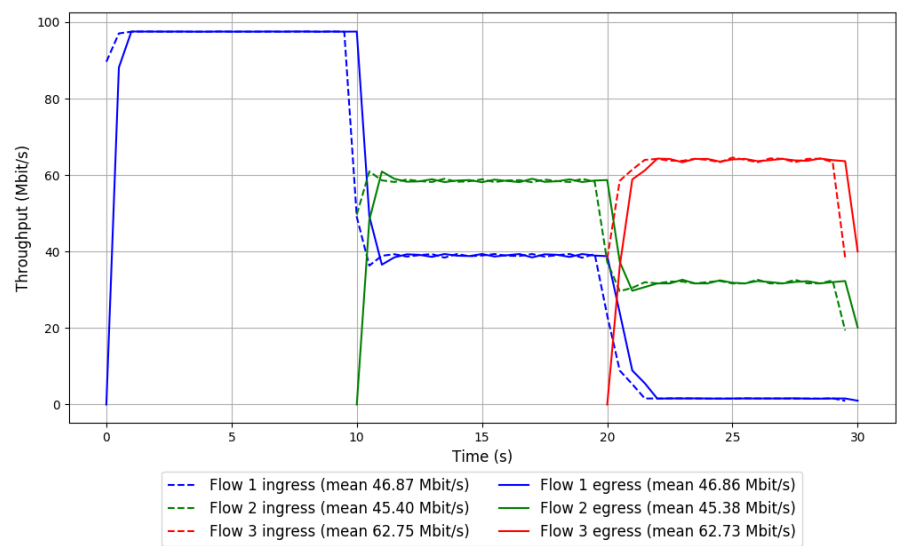
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 70.30 Mbit/s) --- Flow 1 egress (mean 59.08 Mbit/s)
Flow 2 ingress (mean 61.47 Mbit/s) --- Flow 2 egress (mean 44.09 Mbit/s)
Flow 3 ingress (mean 34.45 Mbit/s) --- Flow 3 egress (mean 23.80 Mbit/s)

Flow 1 (95th percentile 30.23 ms)   Flow 2 (95th percentile 30.33 ms)   Flow 3 (95th percentile 30.33 ms)

```
Run 1: Statistics of Indigo

Start at: 2018-10-02 10:08:38
End at: 2018-10-02 10:09:08
Local clock offset: -7.407 ms
Remote clock offset: -0.393 ms


# Below is generated by plot.py at 2018-10-02 11:51:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.37 Mbit/s
95th percentile per-packet one-way delay: 12.818 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.79 Mbit/s
95th percentile per-packet one-way delay: 11.111 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.64 Mbit/s
95th percentile per-packet one-way delay: 12.826 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 70.32 Mbit/s
95th percentile per-packet one-way delay: 13.625 ms
Loss rate: 0.00%
```
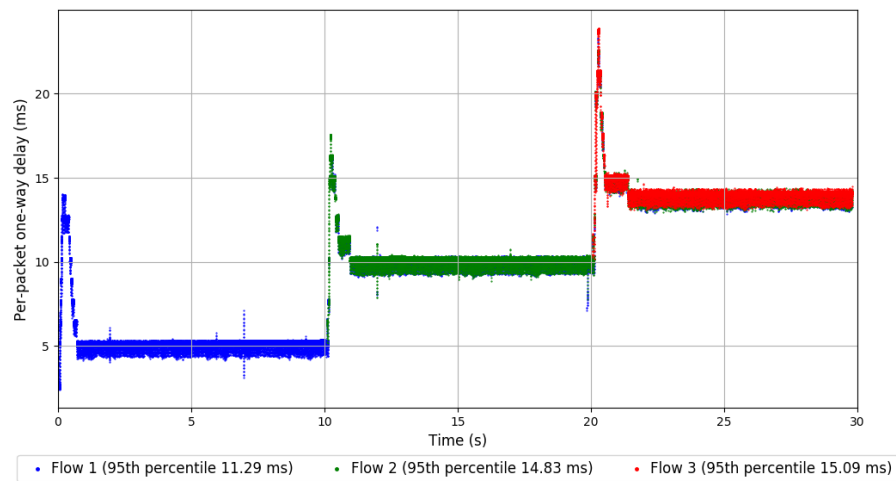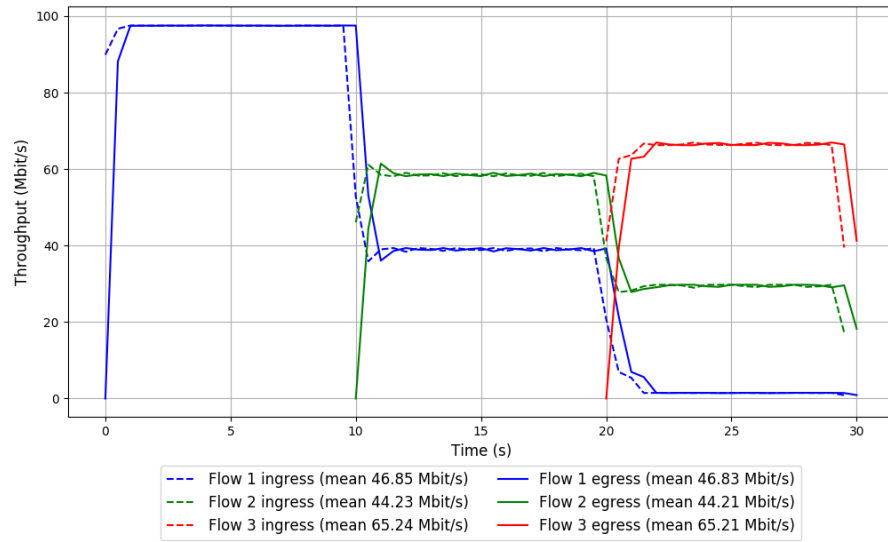
Run 1: Report of Indigo — Data Link

46

```
Run 2: Statistics of Indigo

Start at: 2018-10-02 10:29:09
End at: 2018-10-02 10:29:39
Local clock offset: -6.707 ms
Remote clock offset: 0.129 ms


# Below is generated by plot.py at 2018-10-02 11:52:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.38 Mbit/s
95th percentile per-packet one-way delay: 12.875 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.86 Mbit/s
95th percentile per-packet one-way delay: 11.144 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.38 Mbit/s
95th percentile per-packet one-way delay: 13.113 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.73 Mbit/s
95th percentile per-packet one-way delay: 13.685 ms
Loss rate: 0.00%
```
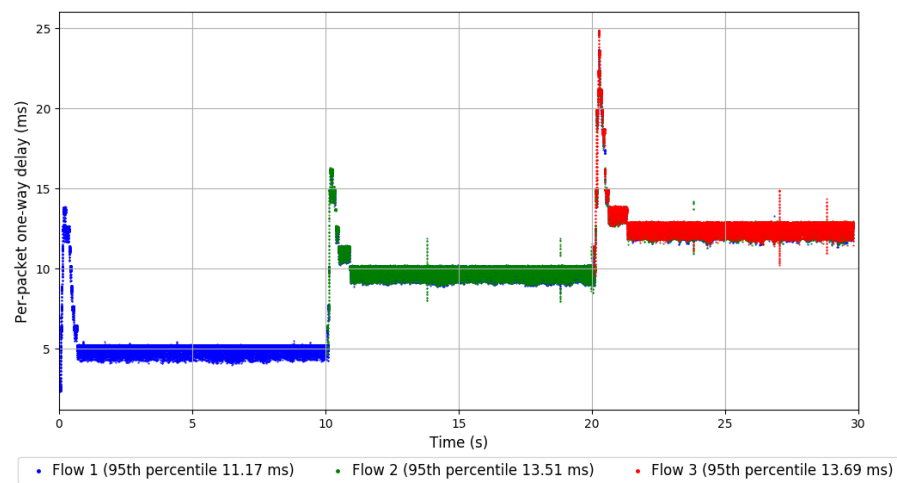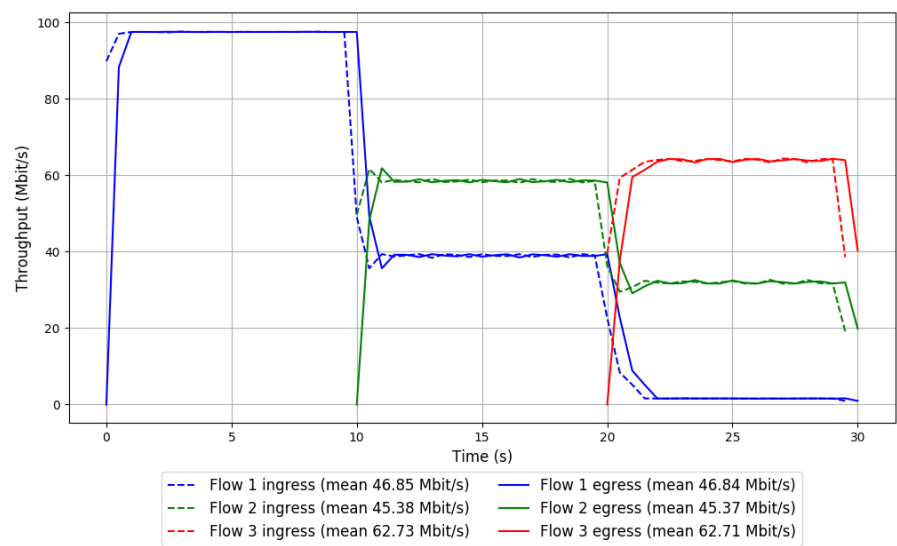
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-10-02 10:49:38
End at: 2018-10-02 10:50:08
Local clock offset: -5.403 ms
Remote clock offset: 0.535 ms


# Below is generated by plot.py at 2018-10-02 11:52:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.37 Mbit/s
95th percentile per-packet one-way delay: 14.284 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.83 Mbit/s
95th percentile per-packet one-way delay: 11.295 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.21 Mbit/s
95th percentile per-packet one-way delay: 14.830 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 65.21 Mbit/s
95th percentile per-packet one-way delay: 15.088 ms
Loss rate: 0.00%
```
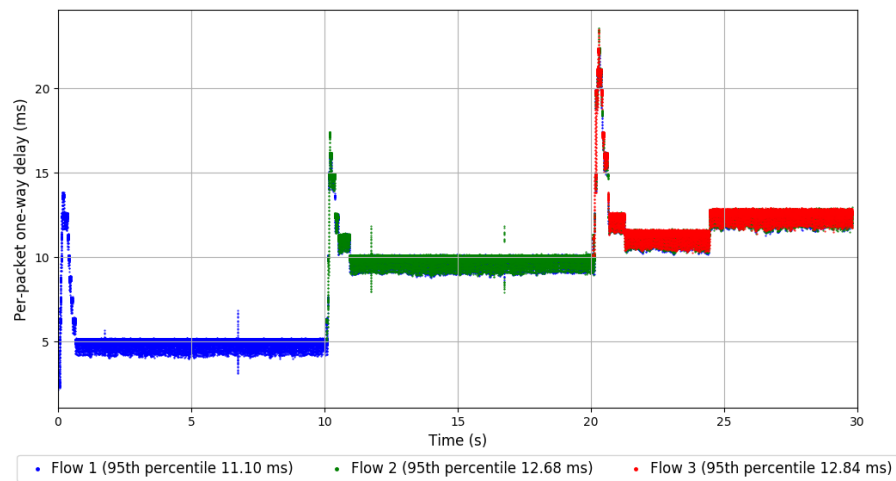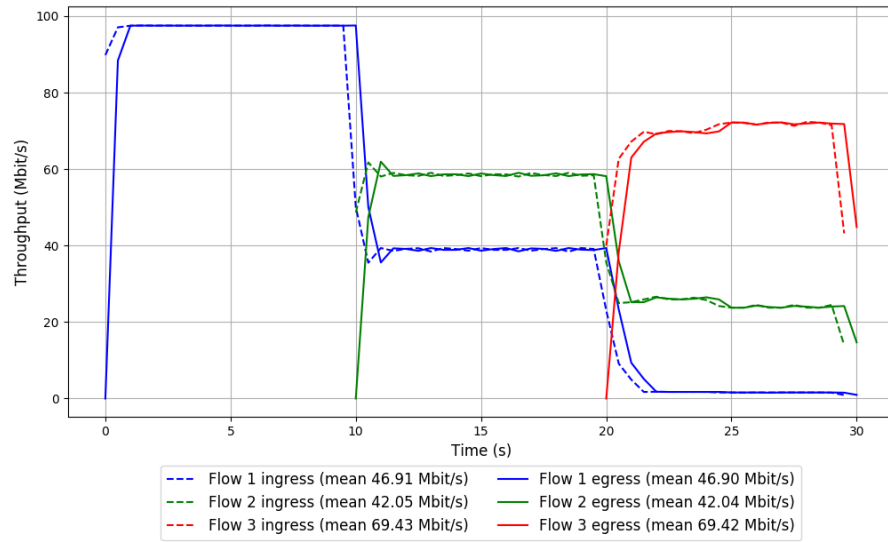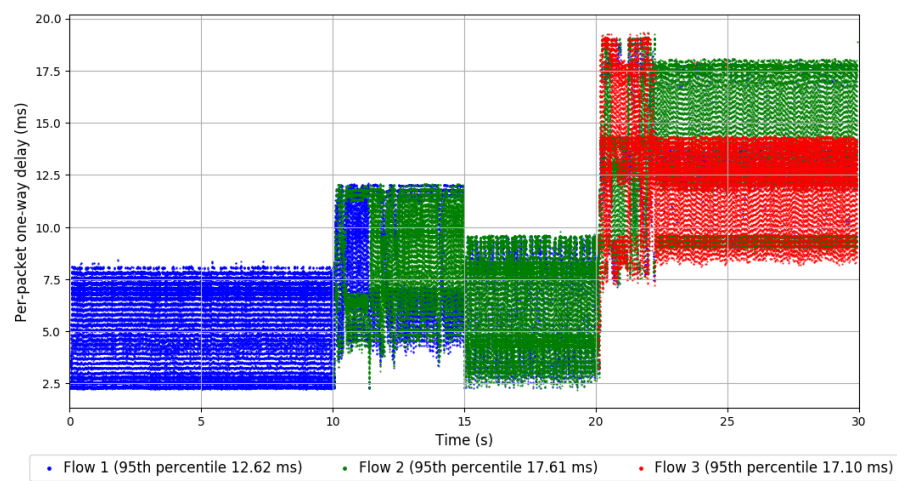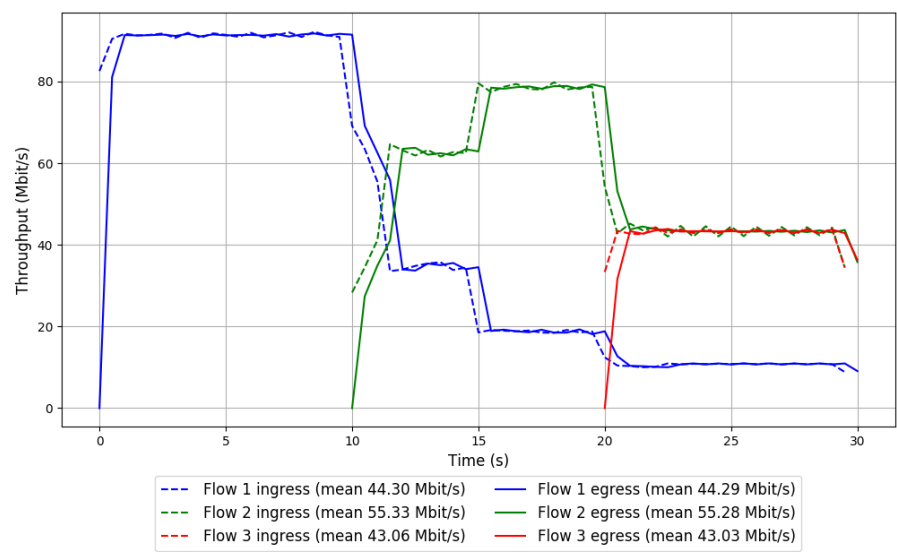
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 46.85 Mbit/s) ---- Flow 1 egress (mean 46.83 Mbit/s)
Flow 2 ingress (mean 44.23 Mbit/s) ---- Flow 2 egress (mean 44.21 Mbit/s)
Flow 3 ingress (mean 65.24 Mbit/s) ---- Flow 3 egress (mean 65.21 Mbit/s)

Flow 1 (95th percentile 11.29 ms)   Flow 2 (95th percentile 14.83 ms)   Flow 3 (95th percentile 15.09 ms)

```
Run 4: Statistics of Indigo

Start at: 2018-10-02 11:10:08
End at: 2018-10-02 11:10:38
Local clock offset: -2.837 ms
Remote clock offset: 0.968 ms


# Below is generated by plot.py at 2018-10-02 11:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.37 Mbit/s
95th percentile per-packet one-way delay: 12.897 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.84 Mbit/s
95th percentile per-packet one-way delay: 11.171 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.37 Mbit/s
95th percentile per-packet one-way delay: 13.506 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.71 Mbit/s
95th percentile per-packet one-way delay: 13.690 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 46.85 Mbit/s)   Flow 1 egress (mean 46.84 Mbit/s)
Flow 2 ingress (mean 45.38 Mbit/s)   Flow 2 egress (mean 45.37 Mbit/s)
Flow 3 ingress (mean 62.73 Mbit/s)   Flow 3 egress (mean 62.71 Mbit/s)

Flow 1 (95th percentile 11.17 ms)   Flow 2 (95th percentile 13.51 ms)   Flow 3 (95th percentile 13.69 ms)

```
Run 5: Statistics of Indigo

Start at: 2018-10-02 11:30:37
End at: 2018-10-02 11:31:07
Local clock offset: -3.041 ms
Remote clock offset: 1.1 ms


# Below is generated by plot.py at 2018-10-02 11:52:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.38 Mbit/s
95th percentile per-packet one-way delay: 12.671 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.90 Mbit/s
95th percentile per-packet one-way delay: 11.096 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 42.04 Mbit/s
95th percentile per-packet one-way delay: 12.676 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 69.42 Mbit/s
95th percentile per-packet one-way delay: 12.839 ms
Loss rate: 0.00%
```
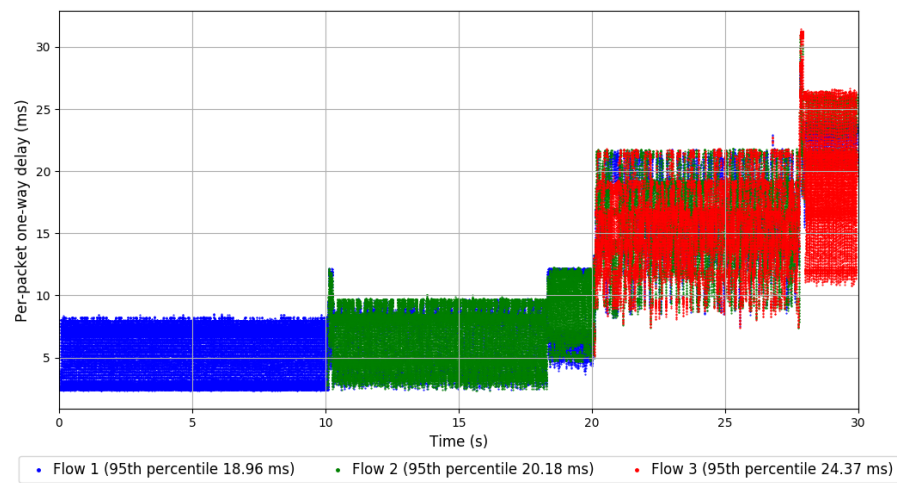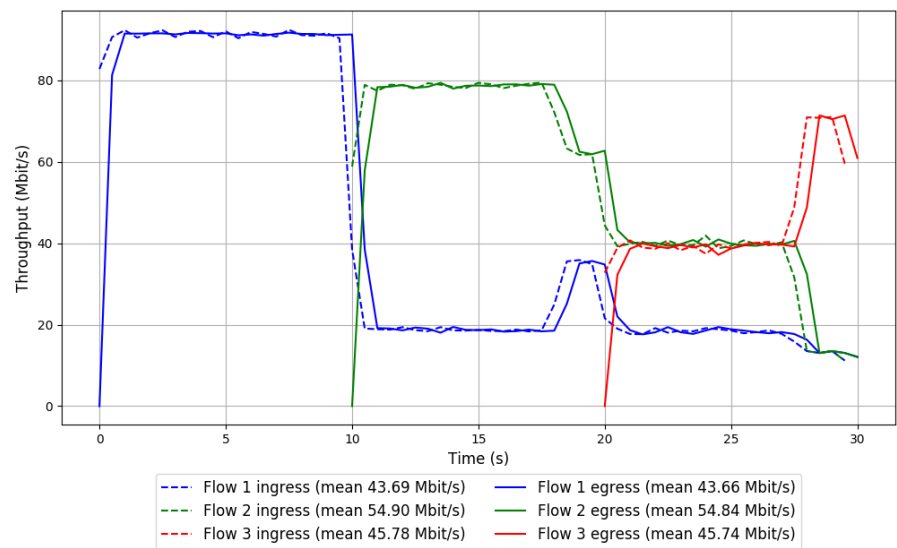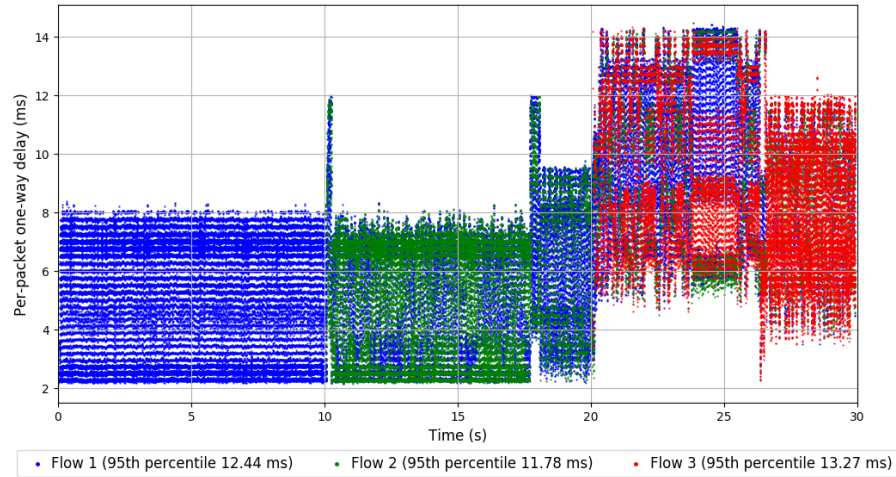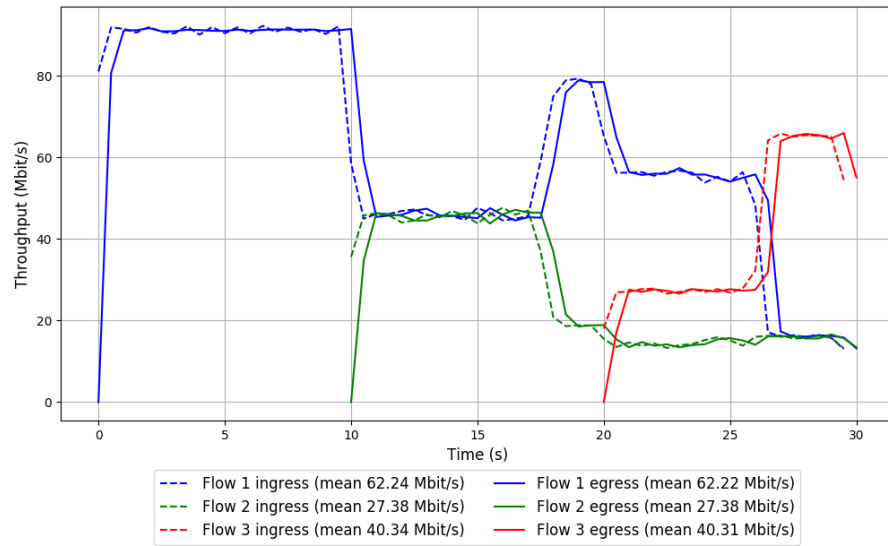
Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 46.91 Mbit/s)   Flow 1 egress (mean 46.90 Mbit/s)
Flow 2 ingress (mean 42.05 Mbit/s)   Flow 2 egress (mean 42.04 Mbit/s)
Flow 3 ingress (mean 69.43 Mbit/s)   Flow 3 egress (mean 69.42 Mbit/s)

Flow 1 (95th percentile 11.10 ms)   Flow 2 (95th percentile 12.68 ms)   Flow 3 (95th percentile 12.84 ms)

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

Start at: 2018-10-02 10:24:39
End at: 2018-10-02 10:25:09
Local clock offset: -6.818 ms
Remote clock offset: -0.042 ms


# Below is generated by plot.py at 2018-10-02 11:52:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 17.047 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 44.29 Mbit/s
95th percentile per-packet one-way delay: 12.625 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 55.28 Mbit/s
95th percentile per-packet one-way delay: 17.613 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.03 Mbit/s
95th percentile per-packet one-way delay: 17.096 ms
Loss rate: 0.00%
```
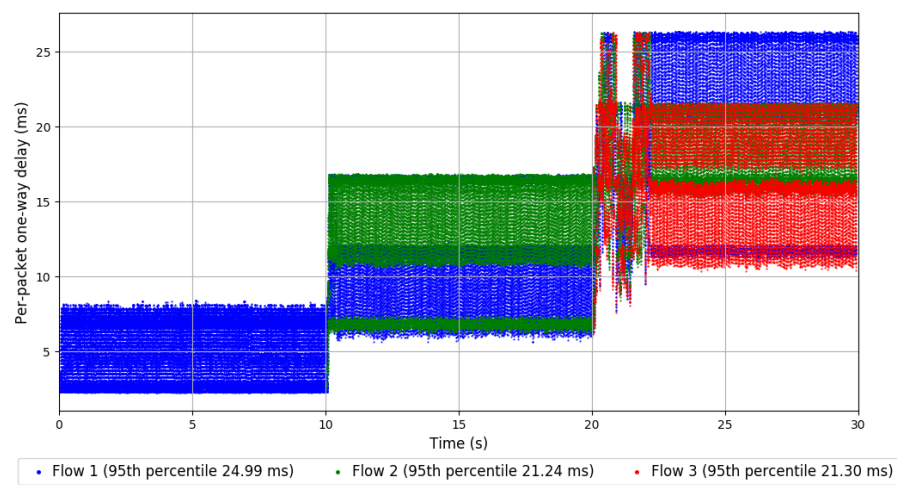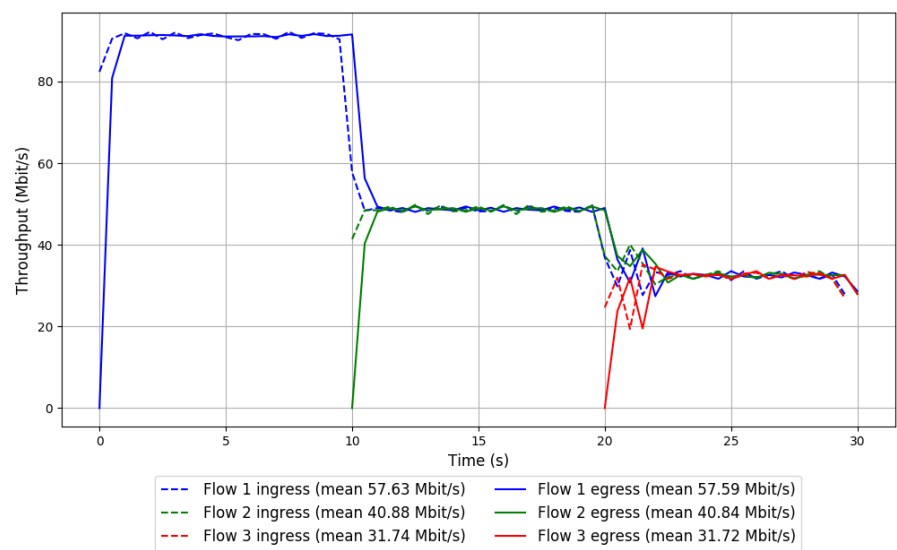
Run 1: Report of Indigo-96d2da3 — Data Link

- - - - Flow 1 ingress (mean 44.30 Mbit/s) ——— Flow 1 egress (mean 44.29 Mbit/s)
- - - - Flow 2 ingress (mean 55.33 Mbit/s) ——— Flow 2 egress (mean 55.28 Mbit/s)
- - - - Flow 3 ingress (mean 43.06 Mbit/s) ——— Flow 3 egress (mean 43.03 Mbit/s)

• Flow 1 (95th percentile 12.62 ms)   • Flow 2 (95th percentile 17.61 ms)   • Flow 3 (95th percentile 17.10 ms)

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

Start at: 2018-10-02 10:45:08
End at: 2018-10-02 10:45:38
Local clock offset: -6.655 ms
Remote clock offset: 0.475 ms


# Below is generated by plot.py at 2018-10-02 11:52:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.21 Mbit/s
95th percentile per-packet one-way delay: 21.046 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.66 Mbit/s
95th percentile per-packet one-way delay: 18.960 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 54.84 Mbit/s
95th percentile per-packet one-way delay: 20.176 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 45.74 Mbit/s
95th percentile per-packet one-way delay: 24.366 ms
Loss rate: 0.00%
```
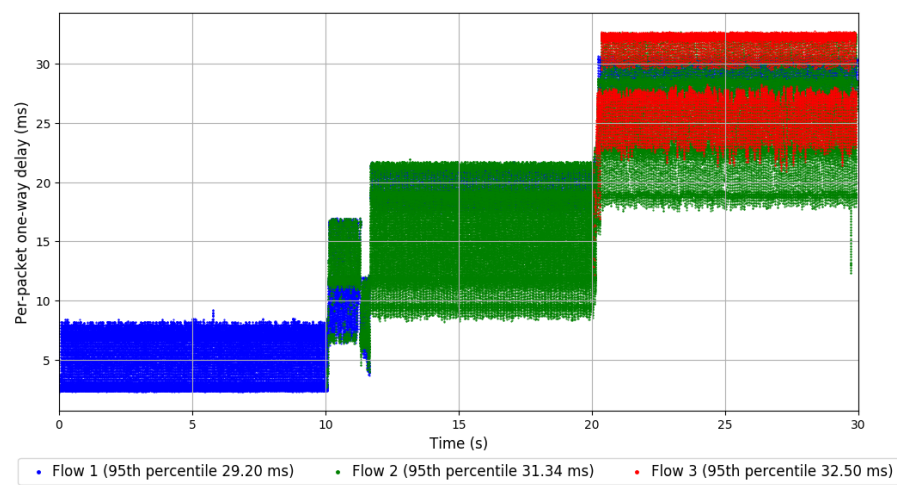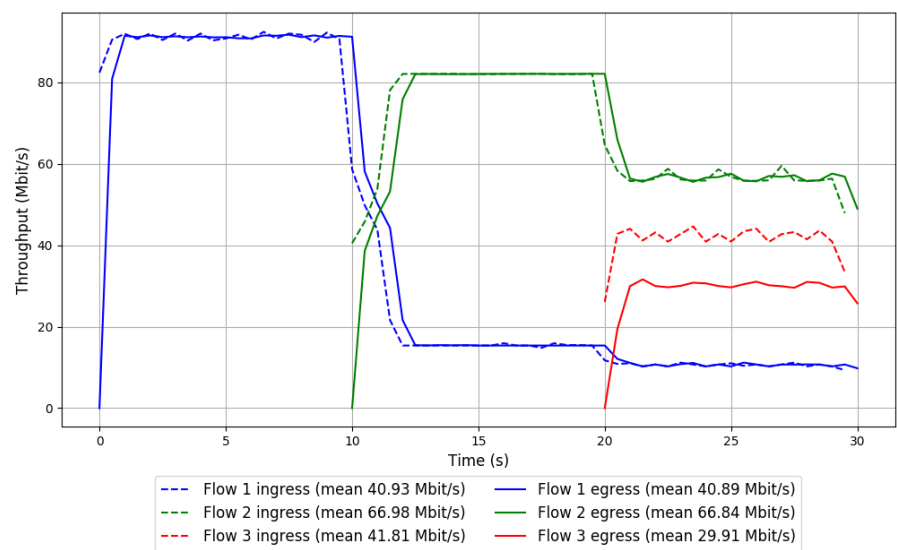
Run 2: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-10-02 11:05:37
End at: 2018-10-02 11:06:07
Local clock offset: -3.113 ms
Remote clock offset: 0.75 ms


# Below is generated by plot.py at 2018-10-02 11:52:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.71 Mbit/s
95th percentile per-packet one-way delay: 12.614 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.22 Mbit/s
95th percentile per-packet one-way delay: 12.438 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 27.38 Mbit/s
95th percentile per-packet one-way delay: 11.779 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.31 Mbit/s
95th percentile per-packet one-way delay: 13.269 ms
Loss rate: 0.00%
```

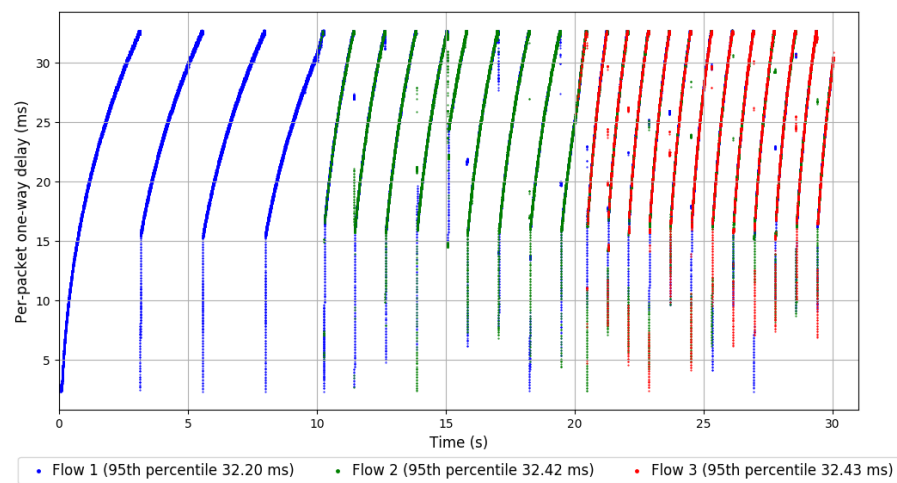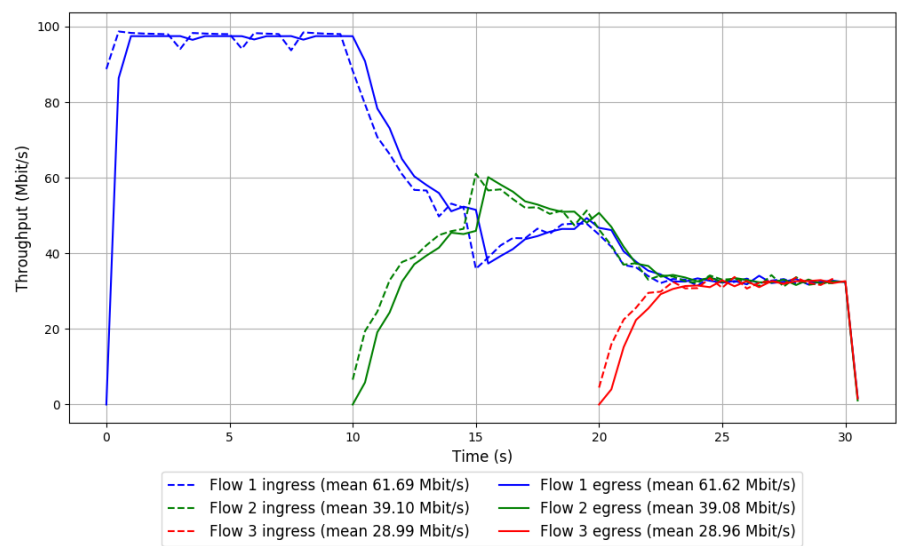Run 3: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-10-02 11:26:06
End at: 2018-10-02 11:26:36
Local clock offset: -3.014 ms
Remote clock offset: 1.049 ms


# Below is generated by plot.py at 2018-10-02 11:52:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 23.023 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.59 Mbit/s
95th percentile per-packet one-way delay: 24.989 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.84 Mbit/s
95th percentile per-packet one-way delay: 21.240 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.72 Mbit/s
95th percentile per-packet one-way delay: 21.297 ms
Loss rate: 0.00%
```
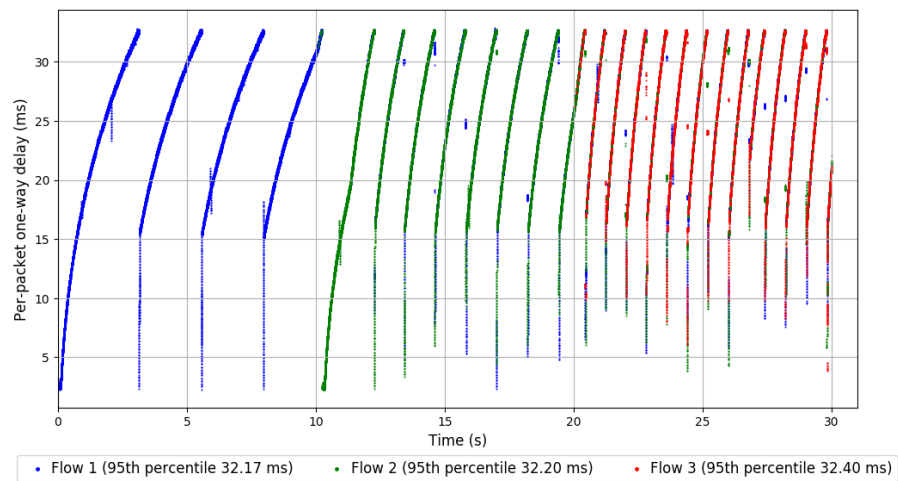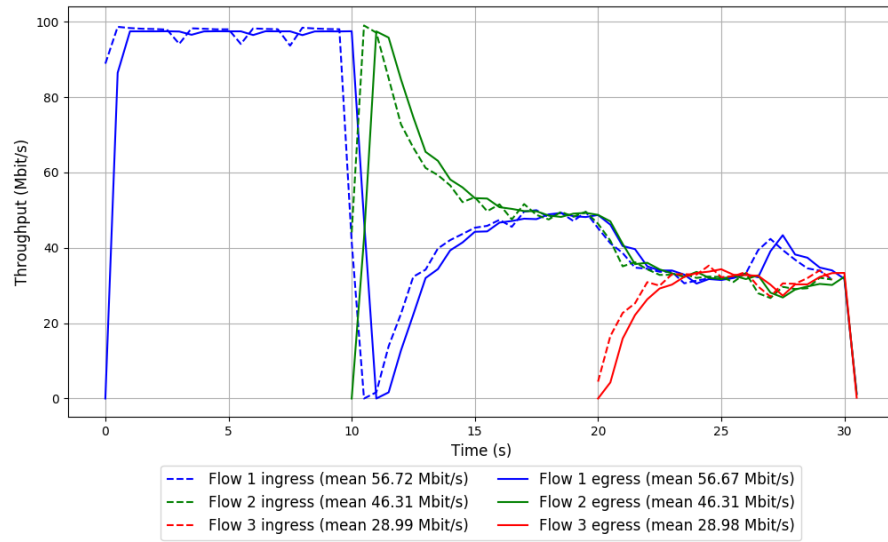
Run 4: Report of Indigo-96d2da3 — Data Link

Flow 1 ingress (mean 57.63 Mbit/s)   Flow 1 egress (mean 57.59 Mbit/s)
Flow 2 ingress (mean 40.88 Mbit/s)   Flow 2 egress (mean 40.84 Mbit/s)
Flow 3 ingress (mean 31.74 Mbit/s)   Flow 3 egress (mean 31.72 Mbit/s)

Flow 1 (95th percentile 24.99 ms)   Flow 2 (95th percentile 21.24 ms)   Flow 3 (95th percentile 21.30 ms)

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

Start at: 2018-10-02 11:46:36
End at: 2018-10-02 11:47:06
Local clock offset: -2.686 ms
Remote clock offset: 1.15 ms


# Below is generated by plot.py at 2018-10-02 11:53:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.19 Mbit/s
95th percentile per-packet one-way delay: 32.094 ms
Loss rate: 3.98%
-- Flow 1:
Average throughput: 40.89 Mbit/s
95th percentile per-packet one-way delay: 29.196 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 66.84 Mbit/s
95th percentile per-packet one-way delay: 31.339 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 29.91 Mbit/s
95th percentile per-packet one-way delay: 32.498 ms
Loss rate: 28.38%
```
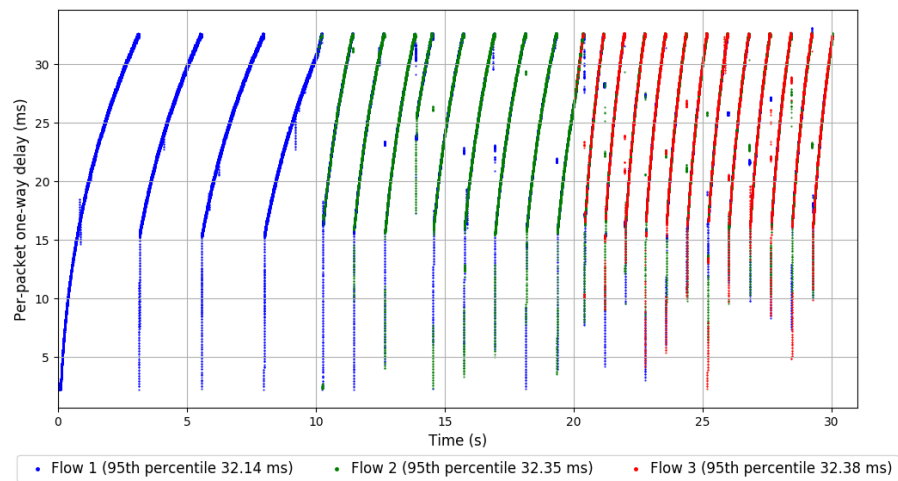
Run 5: Report of Indigo-96d2da3 — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2018-10-02 10:18:53
End at: 2018-10-02 10:19:23
Local clock offset: -7.14 ms
Remote clock offset: -0.139 ms

# Below is generated by plot.py at 2018-10-02 11:53:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.21 Mbit/s
95th percentile per-packet one-way delay: 32.230 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 61.62 Mbit/s
95th percentile per-packet one-way delay: 32.203 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 39.08 Mbit/s
95th percentile per-packet one-way delay: 32.424 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 28.96 Mbit/s
95th percentile per-packet one-way delay: 32.432 ms
Loss rate: 0.08%
```
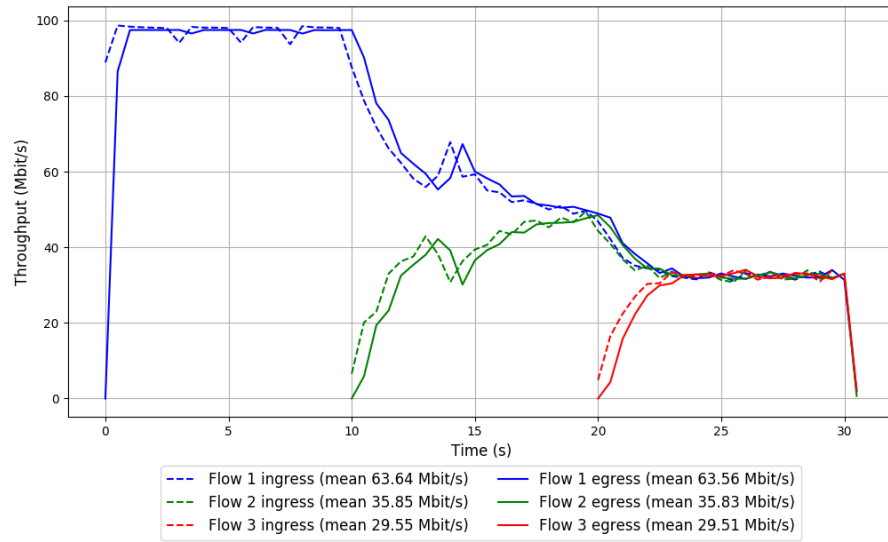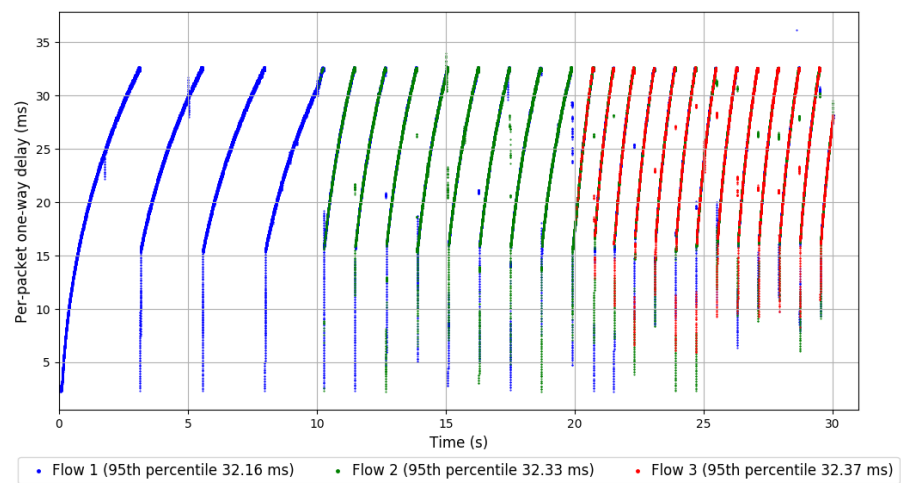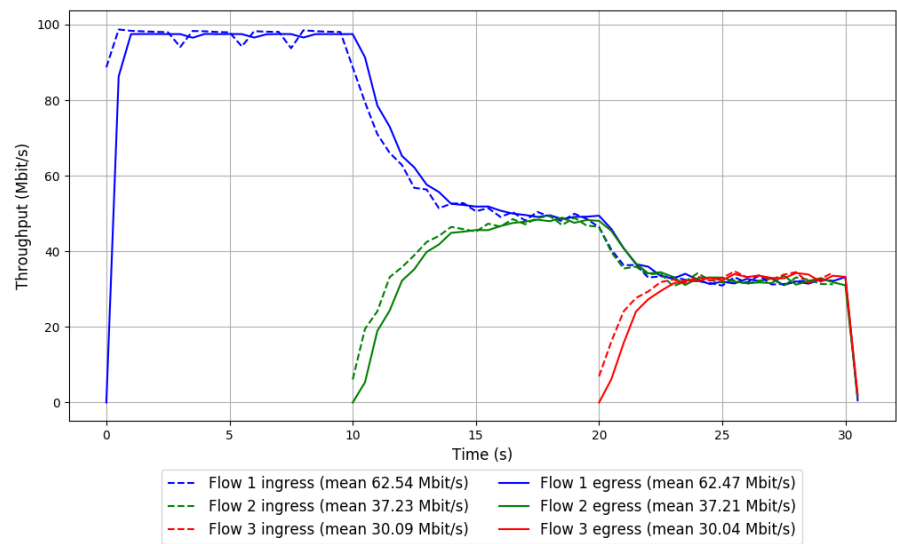
Run 1: Report of LEDBAT — Data Link

- - - - Flow 1 ingress (mean 61.69 Mbit/s)   —— Flow 1 egress (mean 61.62 Mbit/s)
- - - - Flow 2 ingress (mean 39.10 Mbit/s)   —— Flow 2 egress (mean 39.08 Mbit/s)
- - - - Flow 3 ingress (mean 28.99 Mbit/s)   —— Flow 3 egress (mean 28.96 Mbit/s)

- Flow 1 (95th percentile 32.20 ms)   • Flow 2 (95th percentile 32.42 ms)   • Flow 3 (95th percentile 32.43 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2018-10-02 10:39:22
End at: 2018-10-02 10:39:52
Local clock offset: -6.594 ms
Remote clock offset: 0.337 ms


# Below is generated by plot.py at 2018-10-02 11:53:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.09 Mbit/s
95th percentile per-packet one-way delay: 32.187 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 56.67 Mbit/s
95th percentile per-packet one-way delay: 32.166 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 46.31 Mbit/s
95th percentile per-packet one-way delay: 32.201 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 28.98 Mbit/s
95th percentile per-packet one-way delay: 32.396 ms
Loss rate: 0.09%
```
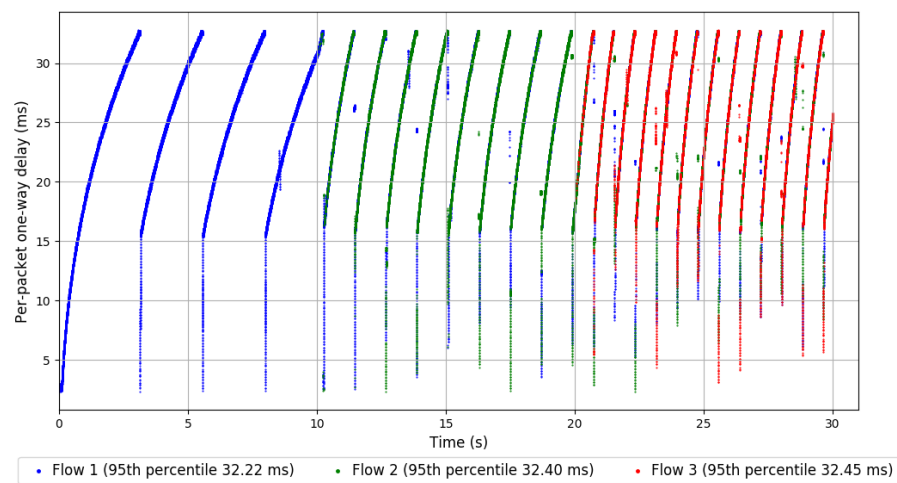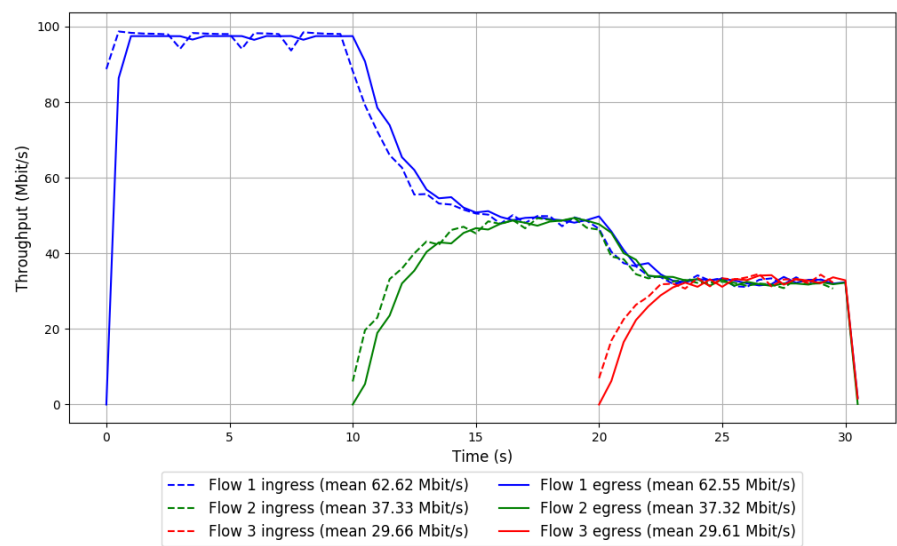
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-10-02 10:59:52
End at: 2018-10-02 11:00:22
Local clock offset: -3.642 ms
Remote clock offset: 0.653 ms


# Below is generated by plot.py at 2018-10-02 11:53:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.18 Mbit/s
95th percentile per-packet one-way delay: 32.170 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 63.56 Mbit/s
95th percentile per-packet one-way delay: 32.143 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 35.83 Mbit/s
95th percentile per-packet one-way delay: 32.352 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 29.51 Mbit/s
95th percentile per-packet one-way delay: 32.381 ms
Loss rate: 0.08%
```
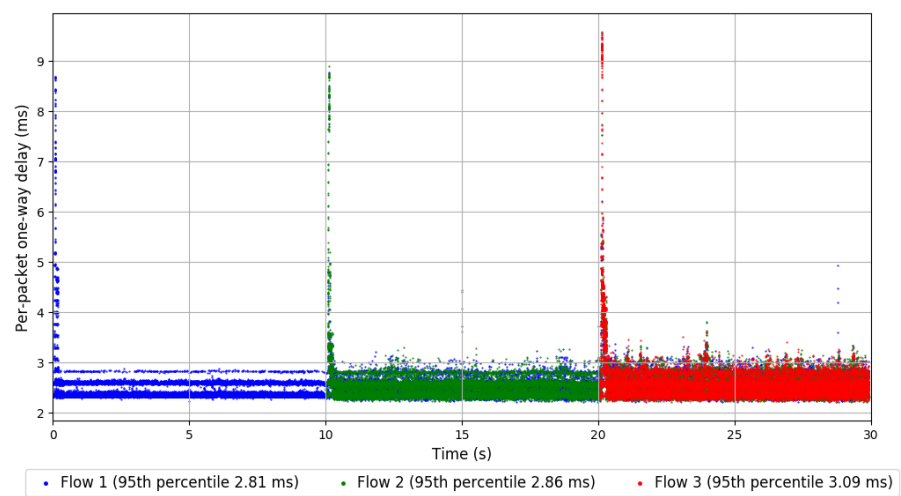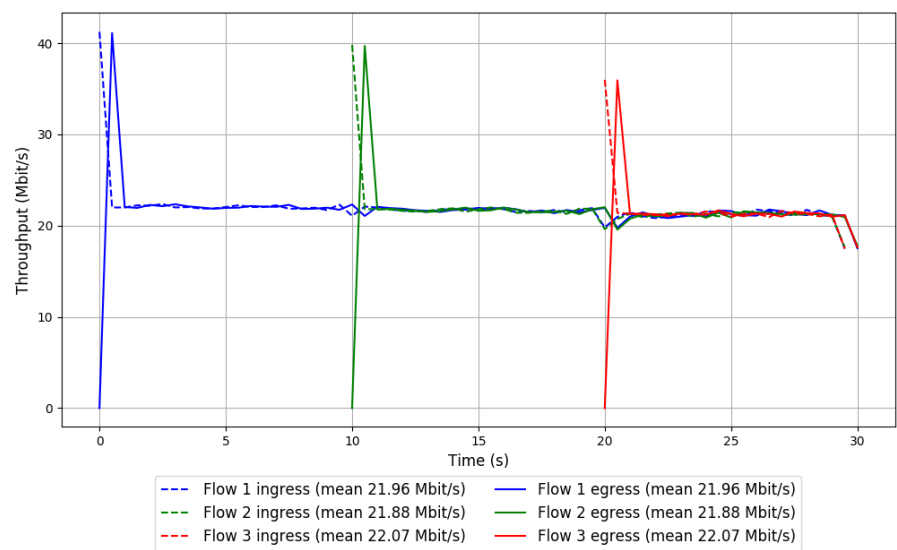
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 63.64 Mbit/s) — — — Flow 1 egress (mean 63.56 Mbit/s)
Flow 2 ingress (mean 35.85 Mbit/s) — — — Flow 2 egress (mean 35.83 Mbit/s)
Flow 3 ingress (mean 29.55 Mbit/s) — — — Flow 3 egress (mean 29.51 Mbit/s)

Flow 1 (95th percentile 32.14 ms)   •   Flow 2 (95th percentile 32.35 ms)   •   Flow 3 (95th percentile 32.38 ms)

70

```
Run 4: Statistics of LEDBAT

Start at: 2018-10-02 11:20:20
End at: 2018-10-02 11:20:50
Local clock offset: -2.919 ms
Remote clock offset: 1.022 ms

# Below is generated by plot.py at 2018-10-02 11:53:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.21 Mbit/s
95th percentile per-packet one-way delay: 32.184 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 62.47 Mbit/s
95th percentile per-packet one-way delay: 32.156 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.21 Mbit/s
95th percentile per-packet one-way delay: 32.331 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 30.04 Mbit/s
95th percentile per-packet one-way delay: 32.372 ms
Loss rate: 0.08%
```
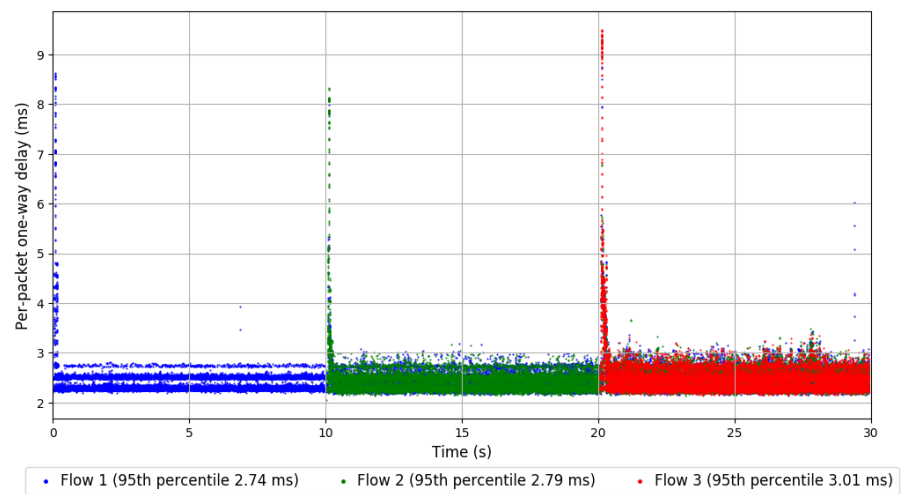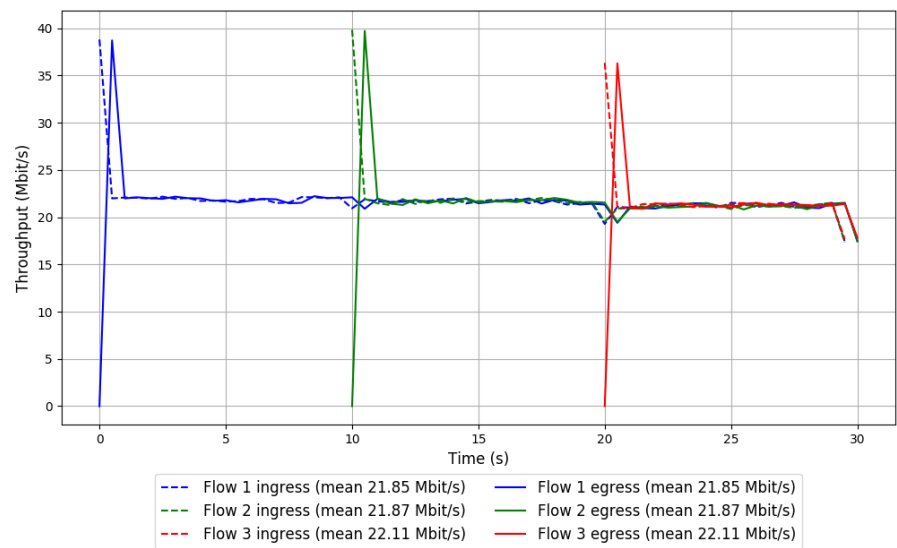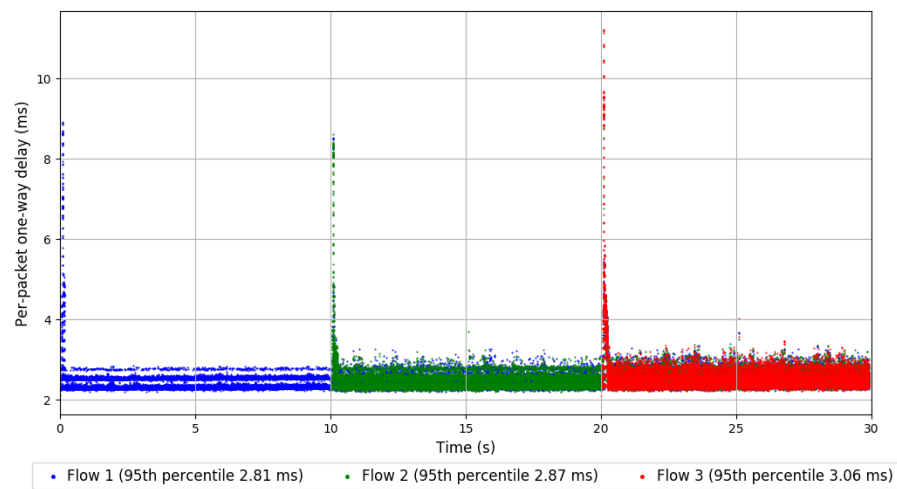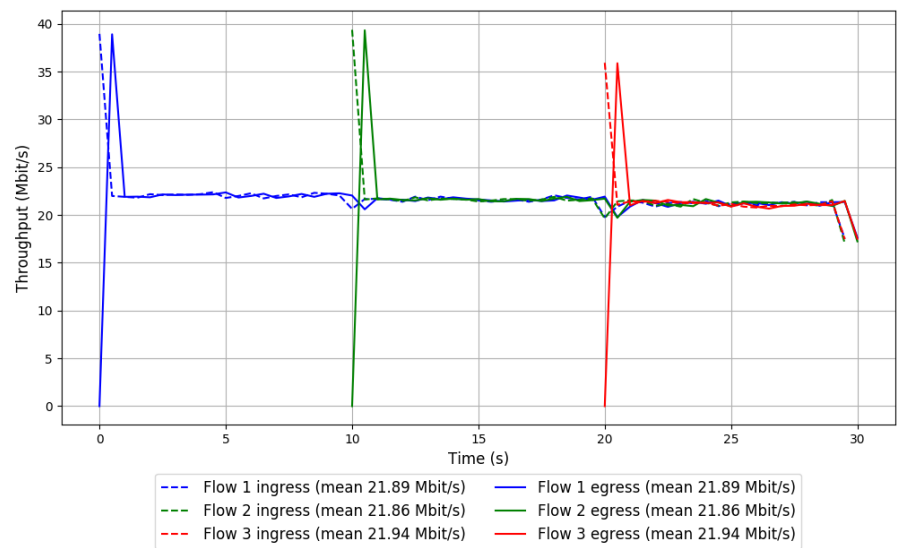
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 62.54 Mbit/s) --- Flow 1 egress (mean 62.47 Mbit/s)
Flow 2 ingress (mean 37.23 Mbit/s) --- Flow 2 egress (mean 37.21 Mbit/s)
Flow 3 ingress (mean 30.09 Mbit/s) --- Flow 3 egress (mean 30.04 Mbit/s)

Flow 1 (95th percentile 32.16 ms)   Flow 2 (95th percentile 32.33 ms)   Flow 3 (95th percentile 32.37 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2018-10-02 11:40:51
End at: 2018-10-02 11:41:21
Local clock offset: -2.986 ms
Remote clock offset: 1.073 ms

# Below is generated by plot.py at 2018-10-02 11:54:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.20 Mbit/s
95th percentile per-packet one-way delay: 32.244 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 62.55 Mbit/s
95th percentile per-packet one-way delay: 32.216 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 37.32 Mbit/s
95th percentile per-packet one-way delay: 32.398 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 29.61 Mbit/s
95th percentile per-packet one-way delay: 32.454 ms
Loss rate: 0.09%
```

Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 62.62 Mbit/s) --- Flow 1 egress (mean 62.55 Mbit/s)
Flow 2 ingress (mean 37.33 Mbit/s) --- Flow 2 egress (mean 37.32 Mbit/s)
Flow 3 ingress (mean 29.66 Mbit/s) --- Flow 3 egress (mean 29.61 Mbit/s)

Flow 1 (95th percentile 32.22 ms)   Flow 2 (95th percentile 32.40 ms)   Flow 3 (95th percentile 32.45 ms)

74

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-02 10:13:14
End at: 2018-10-02 10:13:44
Local clock offset: -7.403 ms
Remote clock offset: -0.245 ms

# Below is generated by plot.py at 2018-10-02 11:54:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.81 Mbit/s
95th percentile per-packet one-way delay: 2.850 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 21.96 Mbit/s
95th percentile per-packet one-way delay: 2.813 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.88 Mbit/s
95th percentile per-packet one-way delay: 2.863 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.07 Mbit/s
95th percentile per-packet one-way delay: 3.086 ms
Loss rate: 0.00%
```
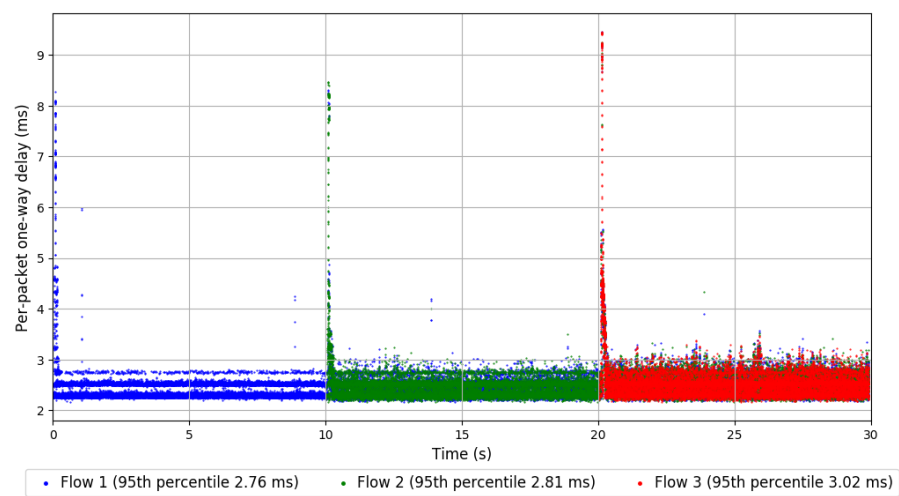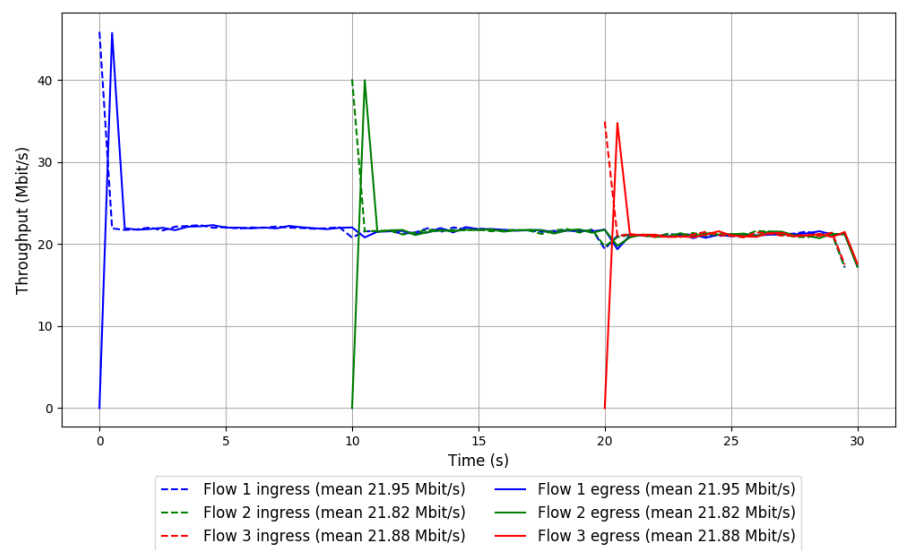
Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-10-02 10:33:43
End at: 2018-10-02 10:34:13
Local clock offset: -6.632 ms
Remote clock offset: 0.134 ms


# Below is generated by plot.py at 2018-10-02 11:54:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.70 Mbit/s
95th percentile per-packet one-way delay: 2.780 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 21.85 Mbit/s
95th percentile per-packet one-way delay: 2.740 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.87 Mbit/s
95th percentile per-packet one-way delay: 2.785 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.11 Mbit/s
95th percentile per-packet one-way delay: 3.012 ms
Loss rate: 0.00%
```
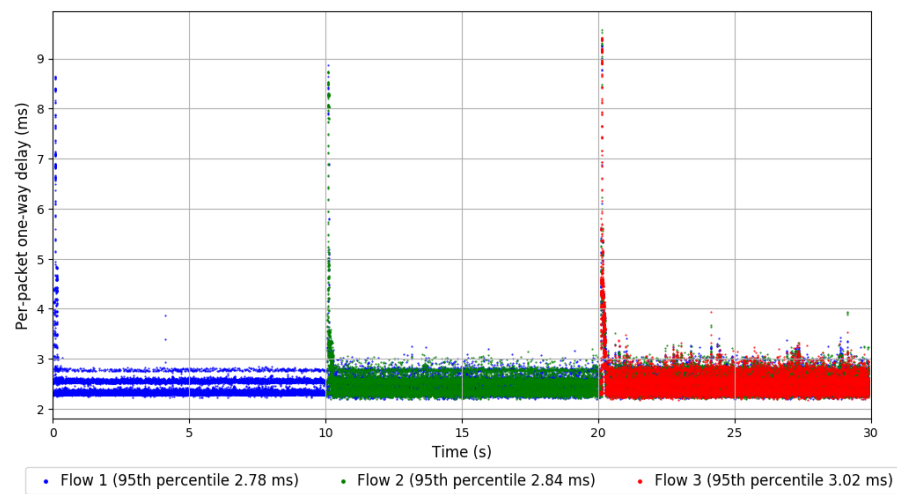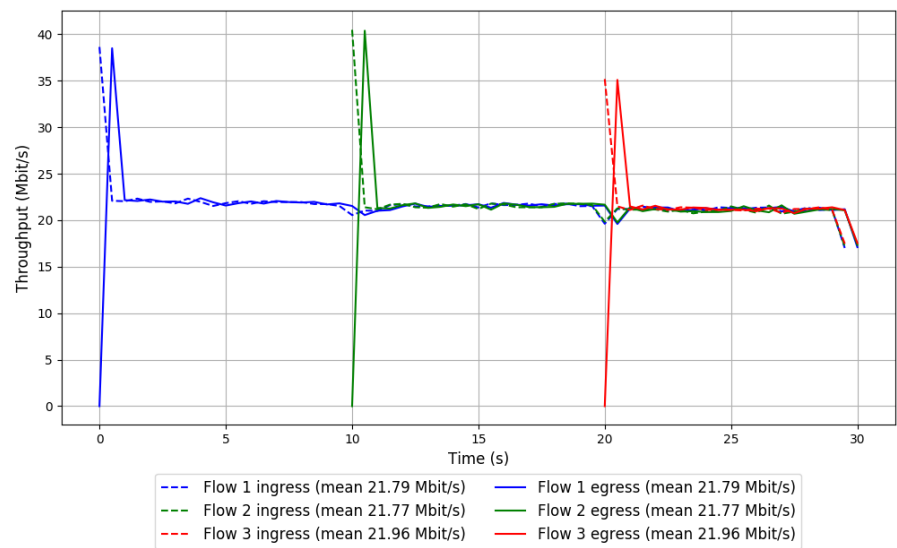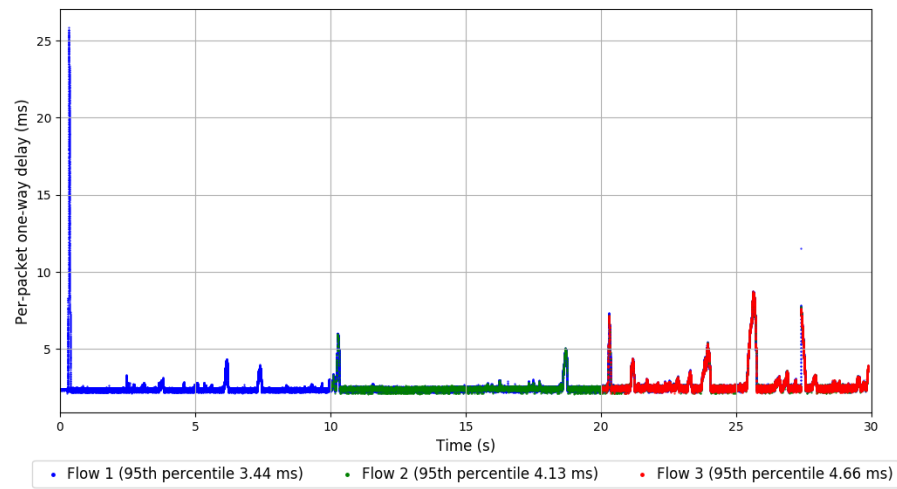
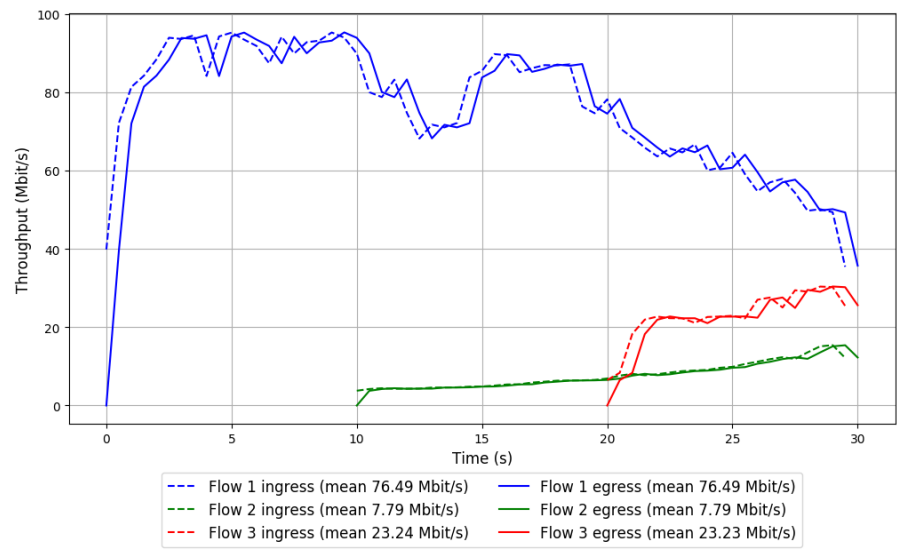Run 2: Report of Indigo-Muses — Data Link

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-10-02 10:54:13
End at: 2018-10-02 10:54:43
Local clock offset: -4.405 ms
Remote clock offset: 0.507 ms

# Below is generated by plot.py at 2018-10-02 11:54:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.69 Mbit/s
95th percentile per-packet one-way delay: 2.855 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 21.89 Mbit/s
95th percentile per-packet one-way delay: 2.806 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.86 Mbit/s
95th percentile per-packet one-way delay: 2.870 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.94 Mbit/s
95th percentile per-packet one-way delay: 3.055 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 21.89 Mbit/s) — Flow 1 egress (mean 21.89 Mbit/s)
Flow 2 ingress (mean 21.86 Mbit/s) — Flow 2 egress (mean 21.86 Mbit/s)
Flow 3 ingress (mean 21.94 Mbit/s) — Flow 3 egress (mean 21.94 Mbit/s)

Flow 1 (95th percentile 2.81 ms) • Flow 2 (95th percentile 2.87 ms) • Flow 3 (95th percentile 3.06 ms)

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-10-02 11:14:42
End at: 2018-10-02 11:15:12
Local clock offset: -2.585 ms
Remote clock offset: 0.961 ms


# Below is generated by plot.py at 2018-10-02 11:54:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.70 Mbit/s
95th percentile per-packet one-way delay: 2.801 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 21.95 Mbit/s
95th percentile per-packet one-way delay: 2.760 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.82 Mbit/s
95th percentile per-packet one-way delay: 2.813 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.88 Mbit/s
95th percentile per-packet one-way delay: 3.023 ms
Loss rate: 0.00%
```
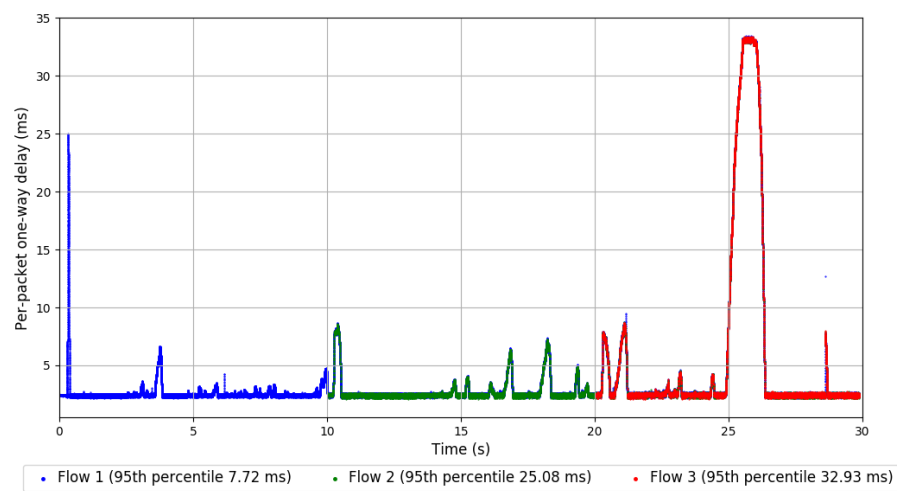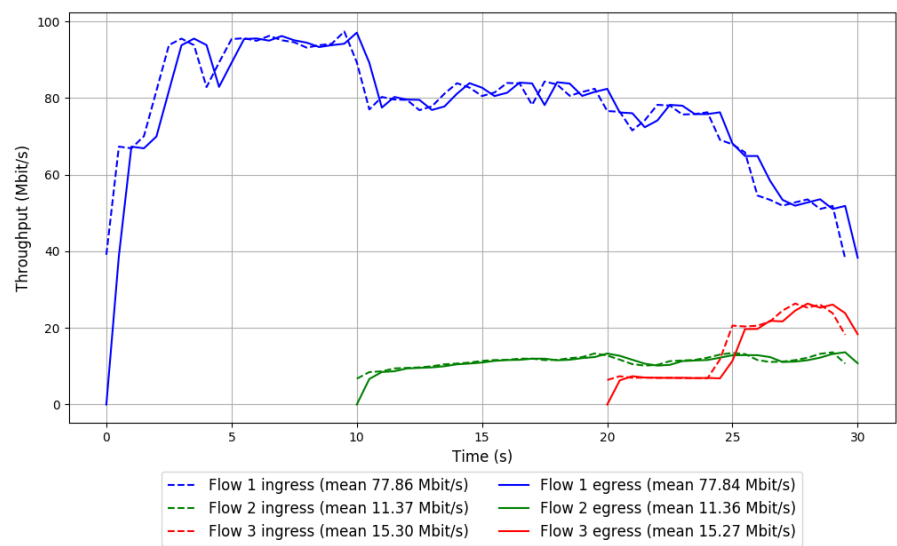
Run 4: Report of Indigo-Muses — Data Link

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-10-02 11:35:12
End at: 2018-10-02 11:35:42
Local clock offset: -2.99 ms
Remote clock offset: 1.062 ms


# Below is generated by plot.py at 2018-10-02 11:54:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 43.54 Mbit/s
95th percentile per-packet one-way delay: 2.819 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 21.79 Mbit/s
95th percentile per-packet one-way delay: 2.783 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.77 Mbit/s
95th percentile per-packet one-way delay: 2.841 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 21.96 Mbit/s
95th percentile per-packet one-way delay: 3.016 ms
Loss rate: 0.00%
```
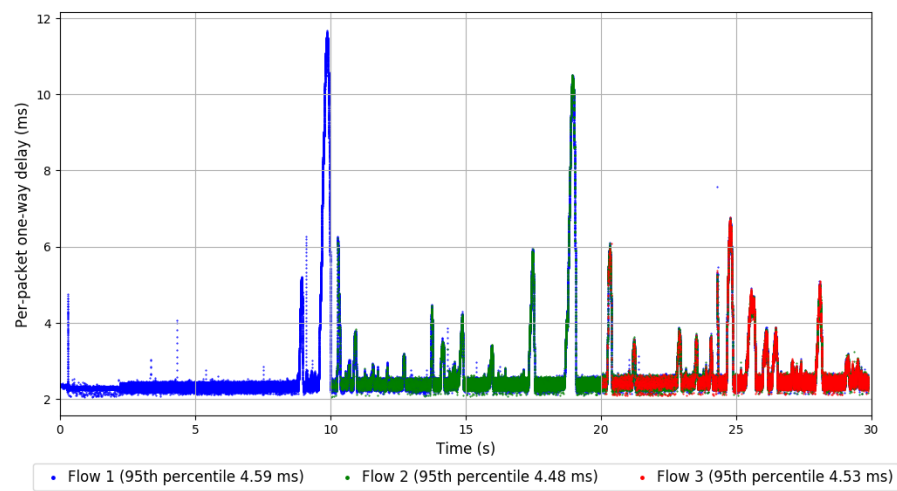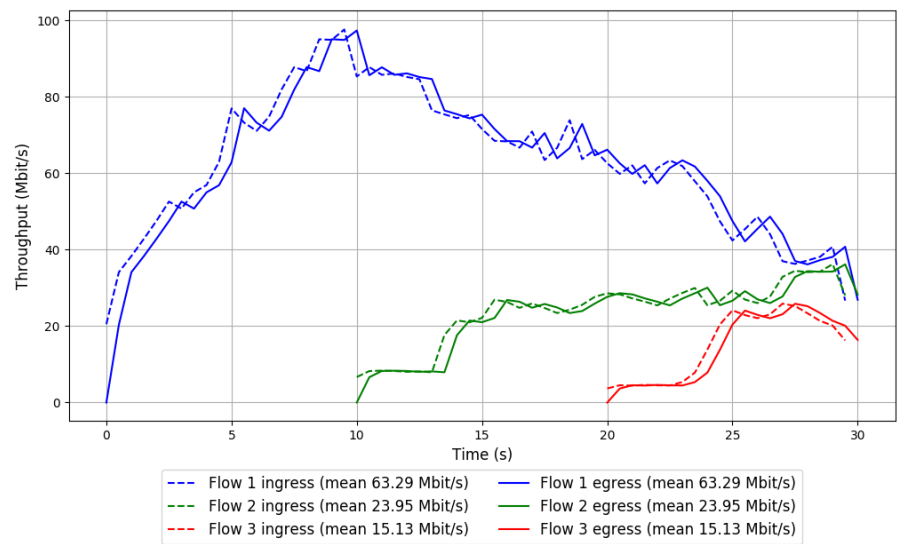
Run 5: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 21.79 Mbit/s) —— Flow 1 egress (mean 21.79 Mbit/s)
Flow 2 ingress (mean 21.77 Mbit/s) —— Flow 2 egress (mean 21.77 Mbit/s)
Flow 3 ingress (mean 21.96 Mbit/s) —— Flow 3 egress (mean 21.96 Mbit/s)

• Flow 1 (95th percentile 2.78 ms)   • Flow 2 (95th percentile 2.84 ms)   • Flow 3 (95th percentile 3.02 ms)

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-02 10:15:30
End at: 2018-10-02 10:16:00
Local clock offset: -7.447 ms
Remote clock offset: -0.258 ms


# Below is generated by plot.py at 2018-10-02 11:54:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.33 Mbit/s
95th percentile per-packet one-way delay: 3.593 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 76.49 Mbit/s
95th percentile per-packet one-way delay: 3.439 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 7.79 Mbit/s
95th percentile per-packet one-way delay: 4.126 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.23 Mbit/s
95th percentile per-packet one-way delay: 4.659 ms
Loss rate: 0.00%
```
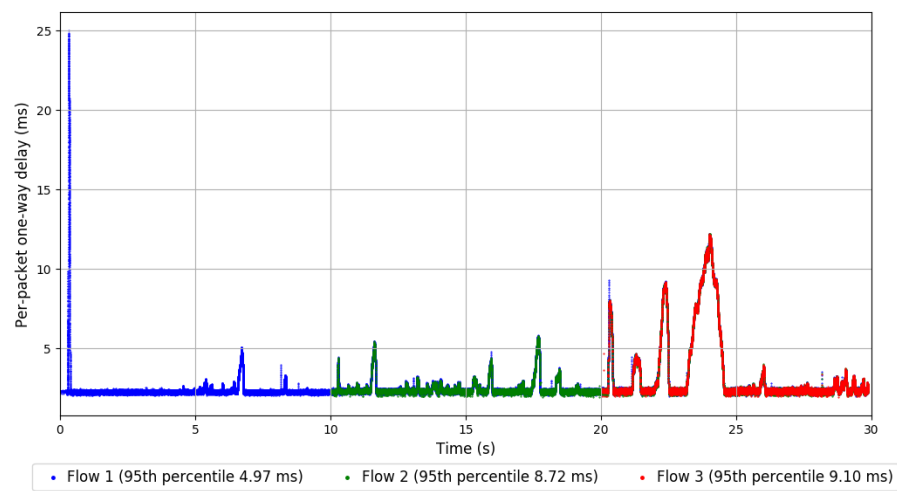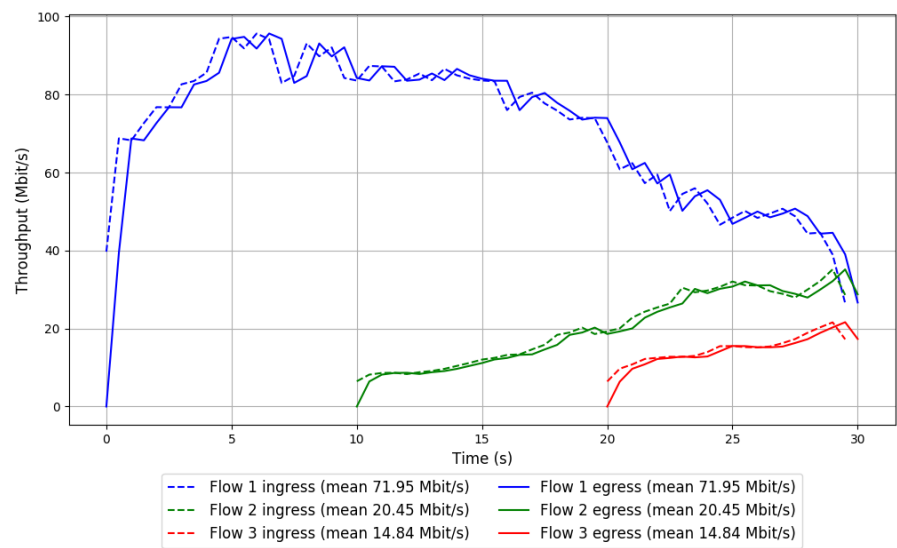
Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-10-02 10:35:59
End at: 2018-10-02 10:36:29
Local clock offset: -6.597 ms
Remote clock offset: 0.282 ms


# Below is generated by plot.py at 2018-10-02 11:54:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.44 Mbit/s
95th percentile per-packet one-way delay: 8.759 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 77.84 Mbit/s
95th percentile per-packet one-way delay: 7.721 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 11.36 Mbit/s
95th percentile per-packet one-way delay: 25.083 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 15.27 Mbit/s
95th percentile per-packet one-way delay: 32.930 ms
Loss rate: 0.19%
```
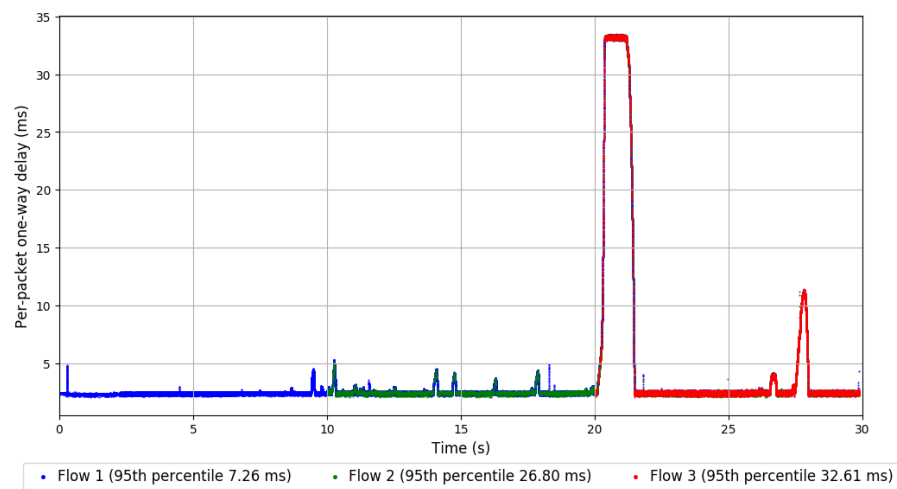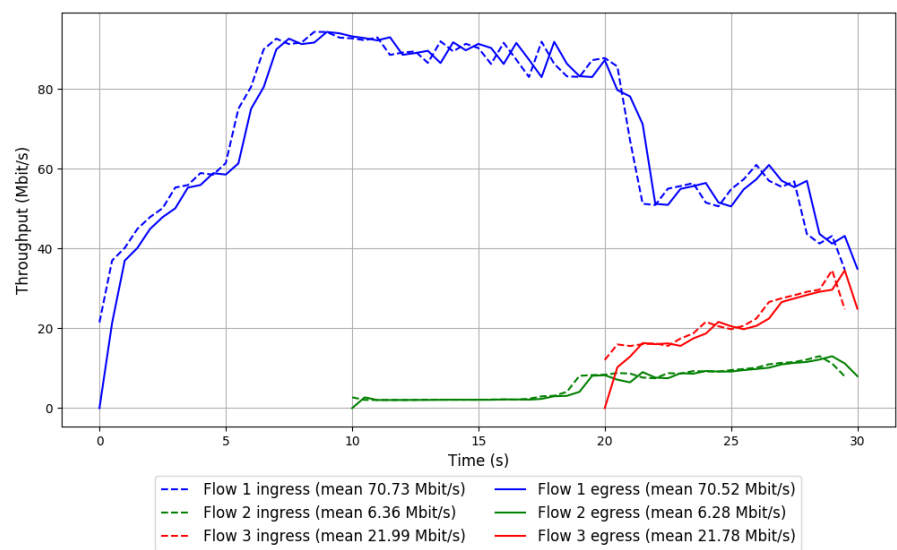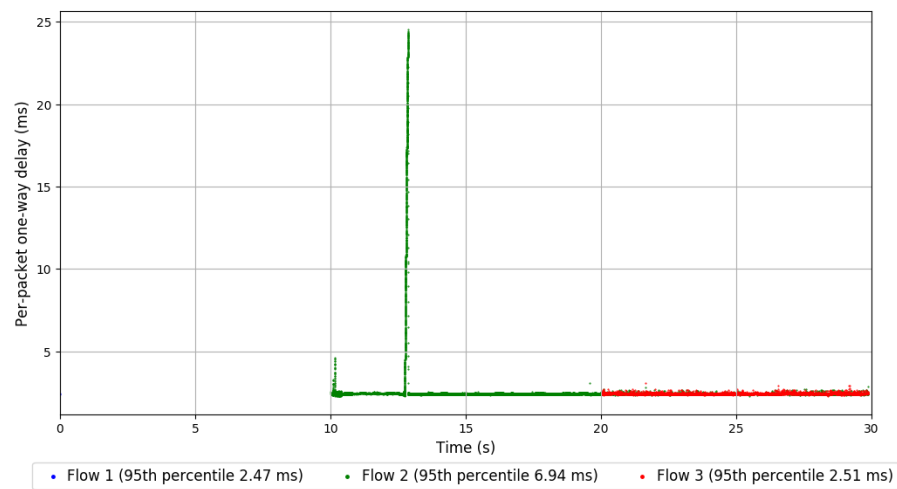
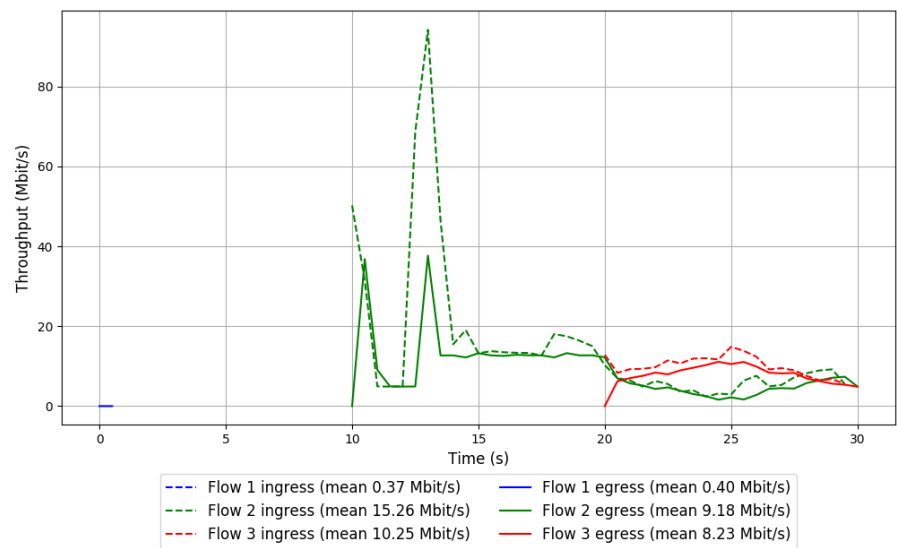Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-10-02 10:56:29
End at: 2018-10-02 10:56:59
Local clock offset: -4.038 ms
Remote clock offset: 0.562 ms


# Below is generated by plot.py at 2018-10-02 11:54:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.20 Mbit/s
95th percentile per-packet one-way delay: 4.551 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.29 Mbit/s
95th percentile per-packet one-way delay: 4.594 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.95 Mbit/s
95th percentile per-packet one-way delay: 4.479 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 15.13 Mbit/s
95th percentile per-packet one-way delay: 4.525 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-10-02 11:16:58
End at: 2018-10-02 11:17:28
Local clock offset: -2.628 ms
Remote clock offset: 0.993 ms


# Below is generated by plot.py at 2018-10-02 11:55:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.44 Mbit/s
95th percentile per-packet one-way delay: 6.298 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 71.95 Mbit/s
95th percentile per-packet one-way delay: 4.971 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.45 Mbit/s
95th percentile per-packet one-way delay: 8.721 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 14.84 Mbit/s
95th percentile per-packet one-way delay: 9.103 ms
Loss rate: 0.00%
```
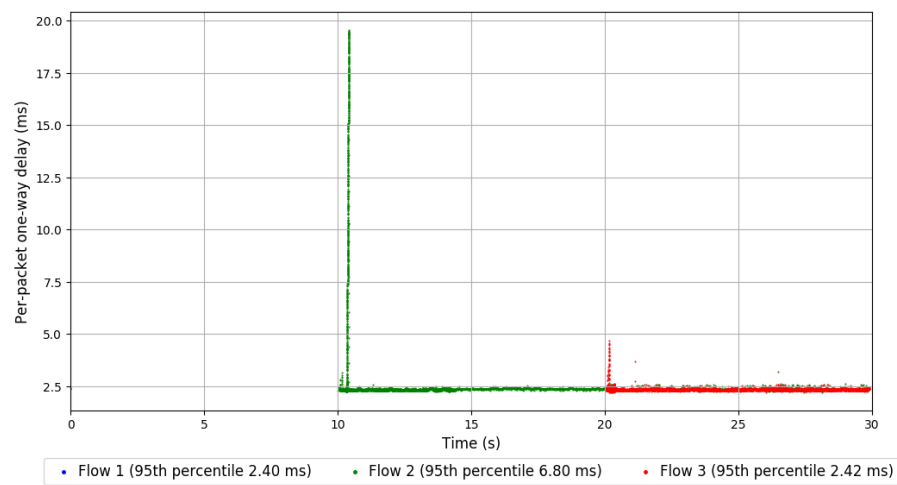
Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-10-02 11:37:28
End at: 2018-10-02 11:37:58
Local clock offset: -2.98 ms
Remote clock offset: 1.053 ms


# Below is generated by plot.py at 2018-10-02 11:55:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.88 Mbit/s
95th percentile per-packet one-way delay: 10.559 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 70.52 Mbit/s
95th percentile per-packet one-way delay: 7.264 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 6.28 Mbit/s
95th percentile per-packet one-way delay: 26.800 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 21.78 Mbit/s
95th percentile per-packet one-way delay: 32.609 ms
Loss rate: 0.94%
```
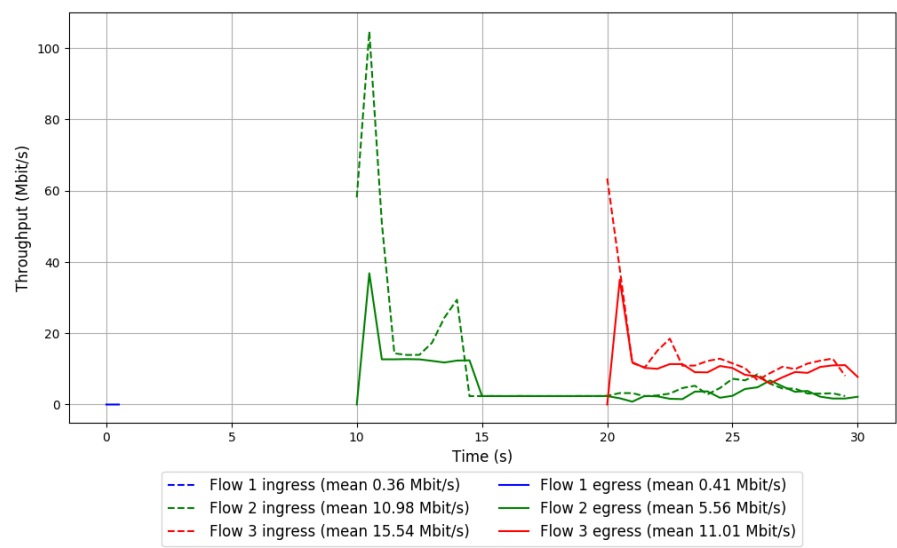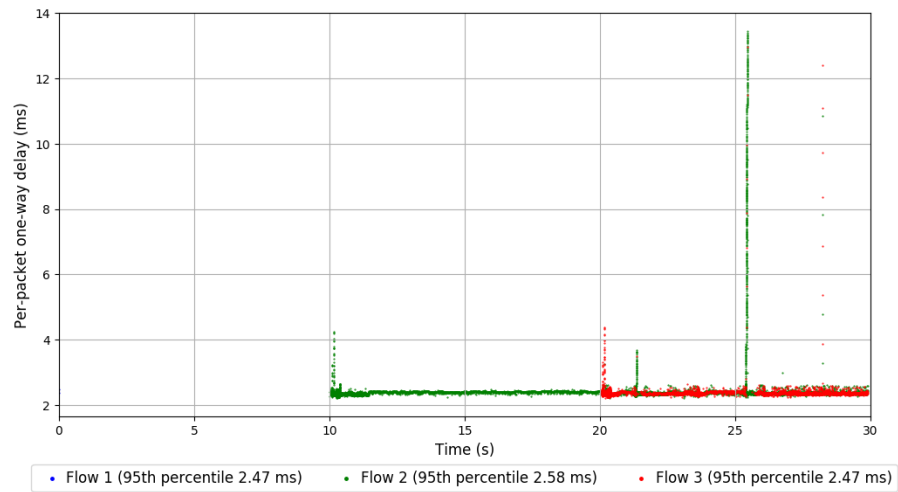
Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-02 10:21:13
End at: 2018-10-02 10:21:43
Local clock offset: -7.048 ms
Remote clock offset: -0.104 ms


# Below is generated by plot.py at 2018-10-02 11:55:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.83 Mbit/s
95th percentile per-packet one-way delay: 2.619 ms
Loss rate: 34.79%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 2.469 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.18 Mbit/s
95th percentile per-packet one-way delay: 6.943 ms
Loss rate: 39.83%
-- Flow 3:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 2.513 ms
Loss rate: 19.65%
```
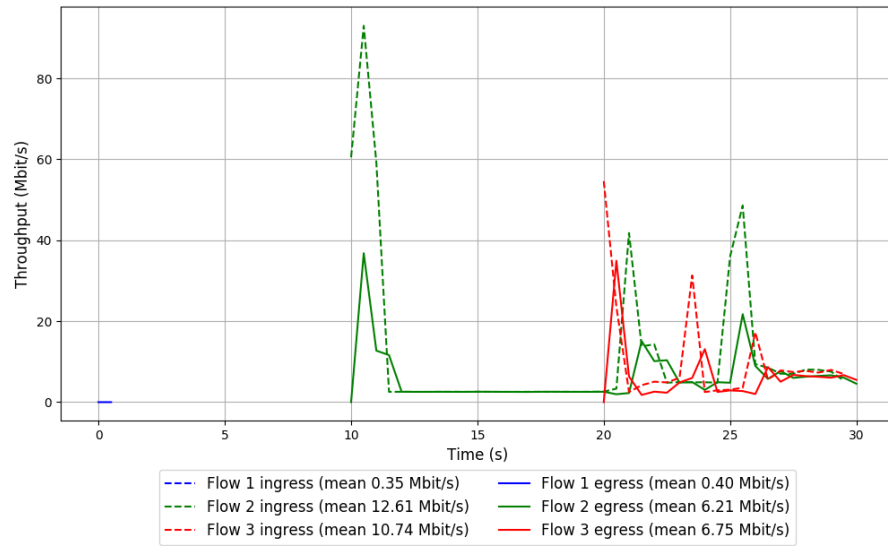
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2018-10-02 10:41:42
End at: 2018-10-02 10:42:12
Local clock offset: -6.596 ms
Remote clock offset: 0.345 ms

# Below is generated by plot.py at 2018-10-02 11:55:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.33 Mbit/s
95th percentile per-packet one-way delay: 2.479 ms
Loss rate: 41.05%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 2.405 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 5.56 Mbit/s
95th percentile per-packet one-way delay: 6.799 ms
Loss rate: 49.39%
-- Flow 3:
Average throughput: 11.01 Mbit/s
95th percentile per-packet one-way delay: 2.418 ms
Loss rate: 29.18%
```
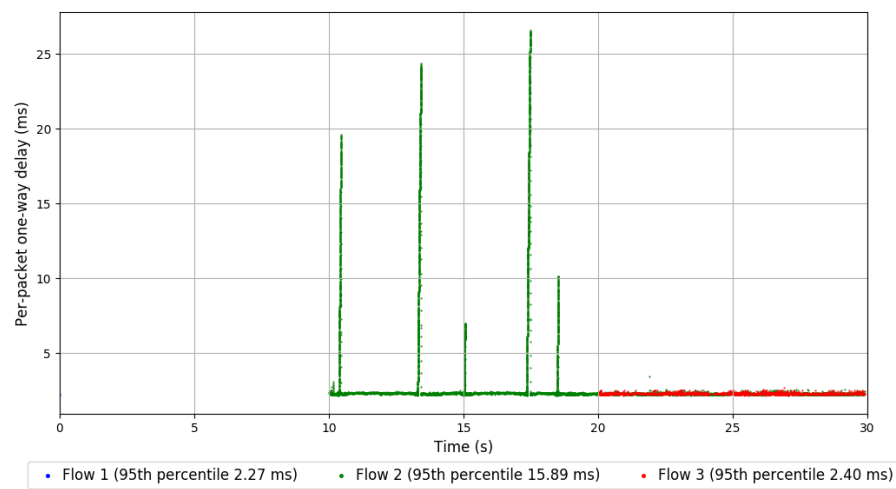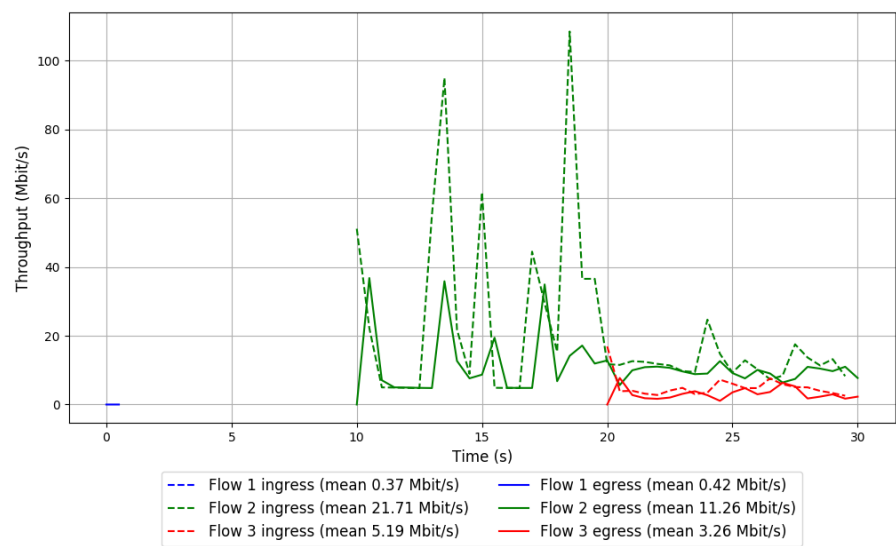
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-10-02 11:02:12
End at: 2018-10-02 11:02:42
Local clock offset: -3.428 ms
Remote clock offset: 0.705 ms

# Below is generated by plot.py at 2018-10-02 11:55:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.36 Mbit/s
95th percentile per-packet one-way delay: 2.520 ms
Loss rate: 46.71%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 2.474 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 6.21 Mbit/s
95th percentile per-packet one-way delay: 2.582 ms
Loss rate: 50.76%
-- Flow 3:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 2.470 ms
Loss rate: 37.12%
```
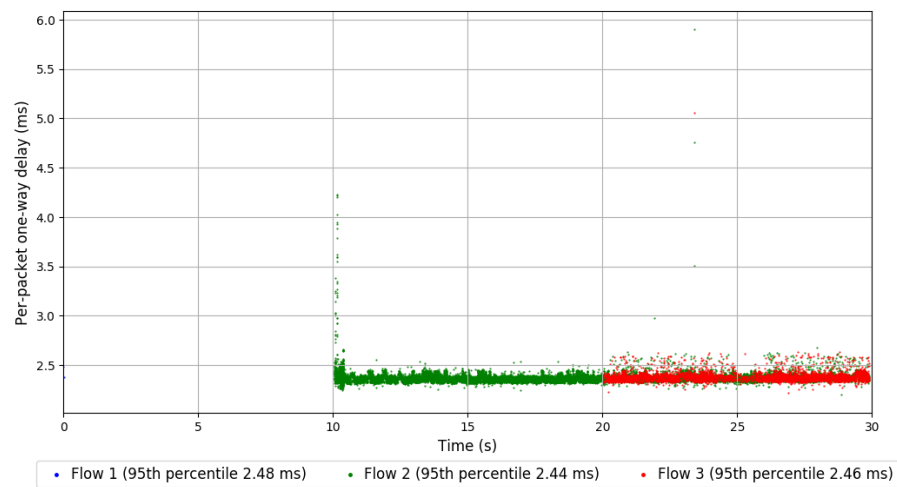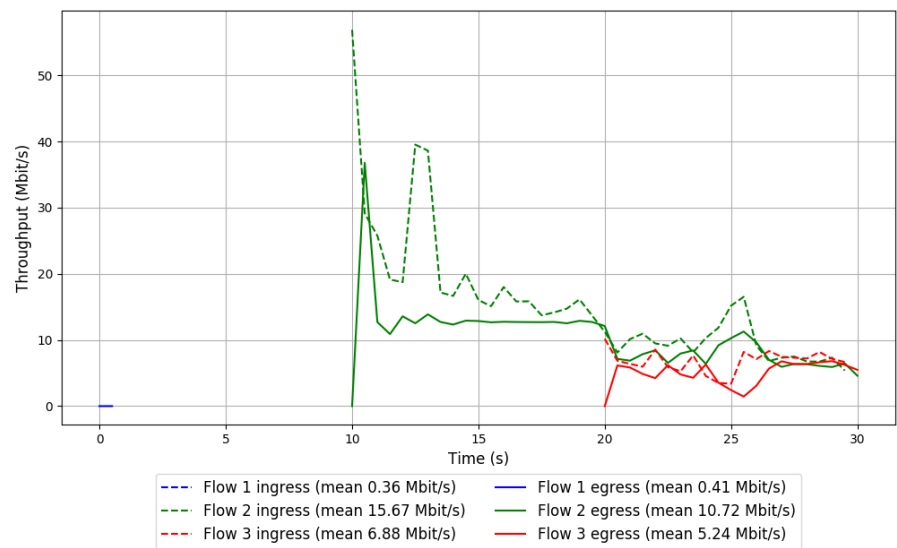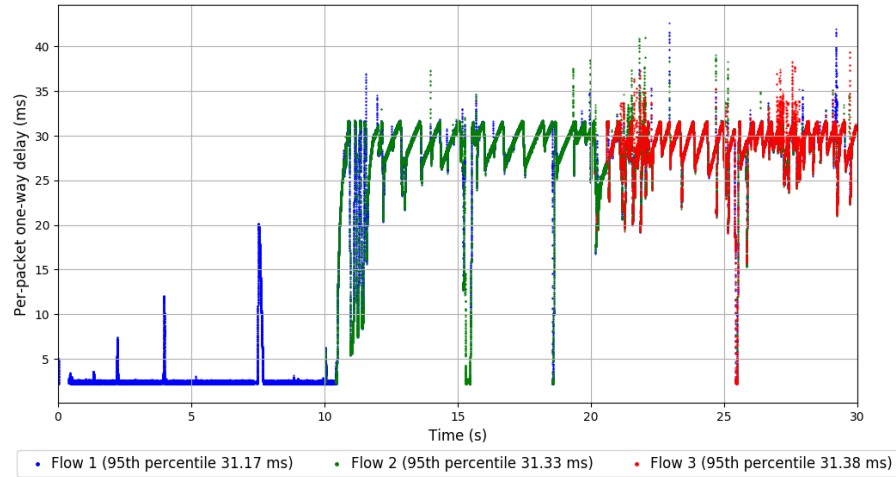
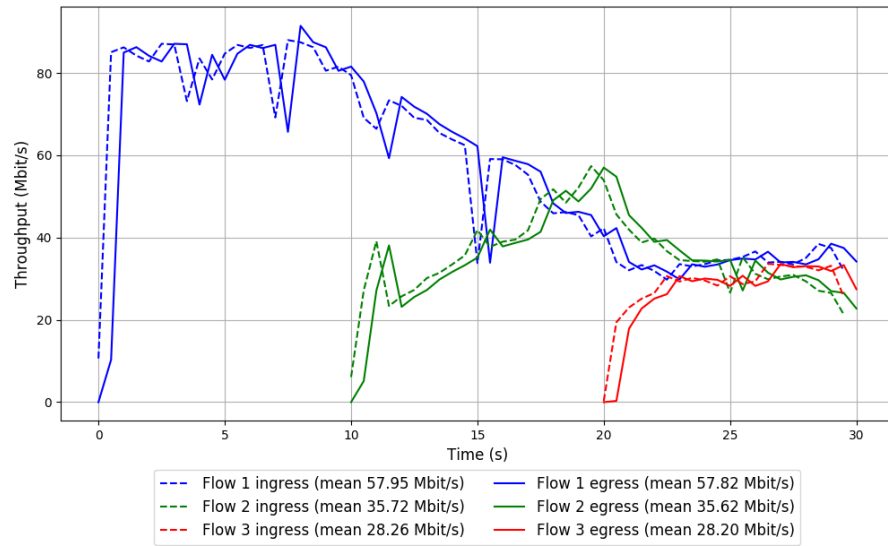Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-10-02 11:22:41
End at: 2018-10-02 11:23:11
Local clock offset: -2.93 ms
Remote clock offset: 1.048 ms

# Below is generated by plot.py at 2018-10-02 11:55:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.57 Mbit/s
95th percentile per-packet one-way delay: 14.721 ms
Loss rate: 46.96%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 2.275 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 11.26 Mbit/s
95th percentile per-packet one-way delay: 15.894 ms
Loss rate: 48.12%
-- Flow 3:
Average throughput: 3.26 Mbit/s
95th percentile per-packet one-way delay: 2.401 ms
Loss rate: 37.15%
```

Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2018-10-02 11:43:11
End at: 2018-10-02 11:43:41
Local clock offset: -2.867 ms
Remote clock offset: 1.09 ms


# Below is generated by plot.py at 2018-10-02 11:55:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.86 Mbit/s
95th percentile per-packet one-way delay: 2.440 ms
Loss rate: 30.19%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 2.485 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.72 Mbit/s
95th percentile per-packet one-way delay: 2.438 ms
Loss rate: 31.57%
-- Flow 3:
Average throughput: 5.24 Mbit/s
95th percentile per-packet one-way delay: 2.459 ms
Loss rate: 23.82%
```
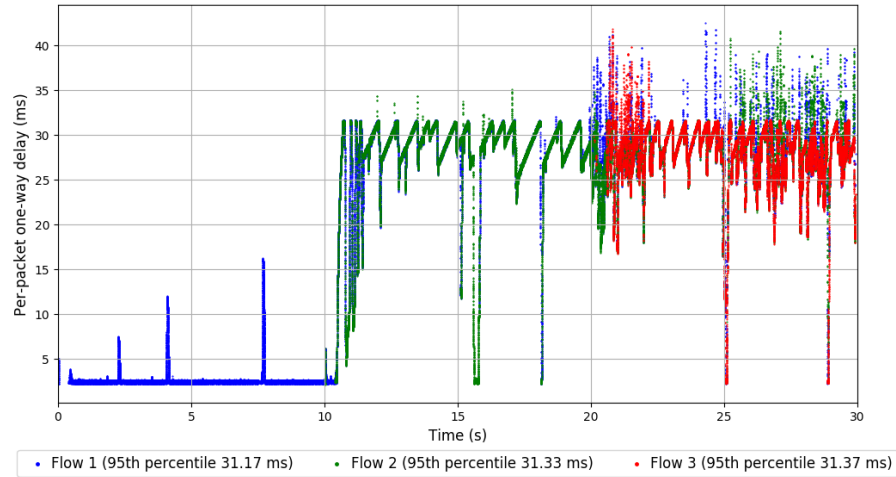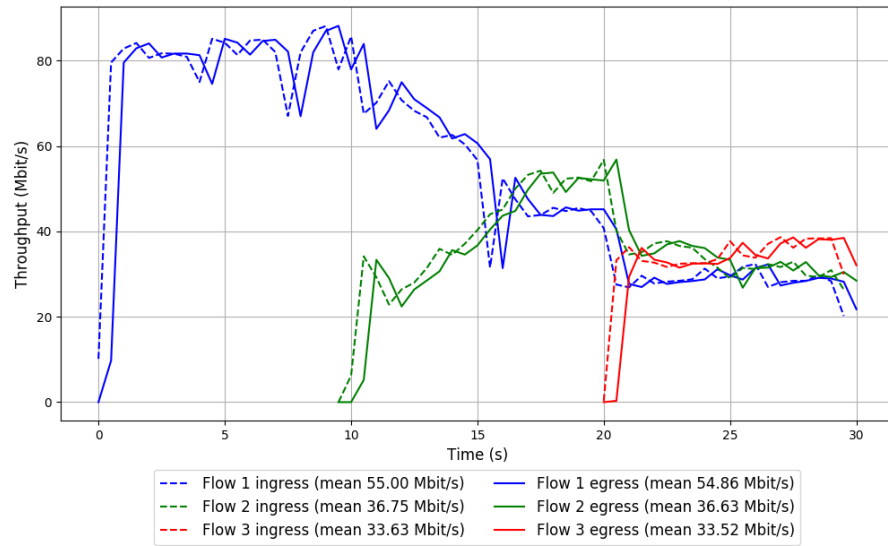
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 0.36 Mbit/s) --- Flow 1 egress (mean 0.41 Mbit/s)
Flow 2 ingress (mean 15.67 Mbit/s) --- Flow 2 egress (mean 10.72 Mbit/s)
Flow 3 ingress (mean 6.88 Mbit/s) --- Flow 3 egress (mean 5.24 Mbit/s)

Flow 1 (95th percentile 2.48 ms) · Flow 2 (95th percentile 2.44 ms) · Flow 3 (95th percentile 2.46 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-10-02 10:06:24
End at: 2018-10-02 10:06:54
Local clock offset: -7.41 ms
Remote clock offset: -0.428 ms


# Below is generated by plot.py at 2018-10-02 11:55:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.78 Mbit/s
95th percentile per-packet one-way delay: 31.249 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 57.82 Mbit/s
95th percentile per-packet one-way delay: 31.171 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 35.62 Mbit/s
95th percentile per-packet one-way delay: 31.332 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 28.20 Mbit/s
95th percentile per-packet one-way delay: 31.378 ms
Loss rate: 0.19%
```
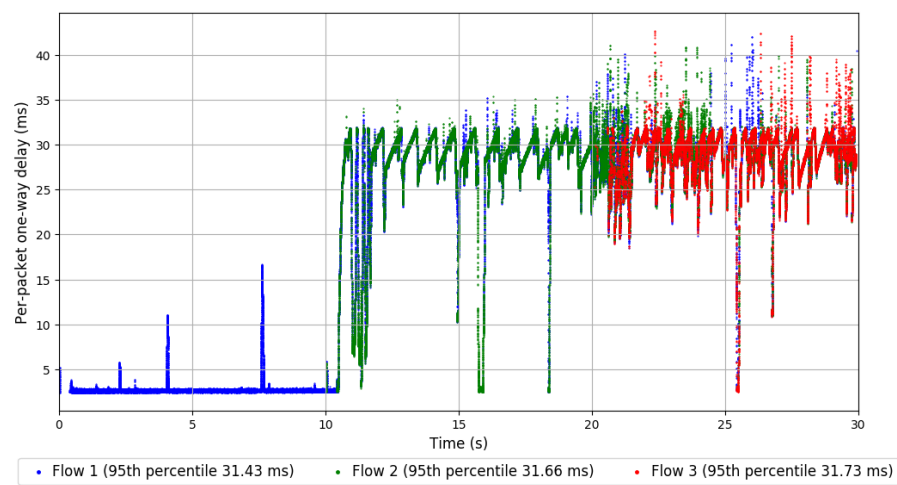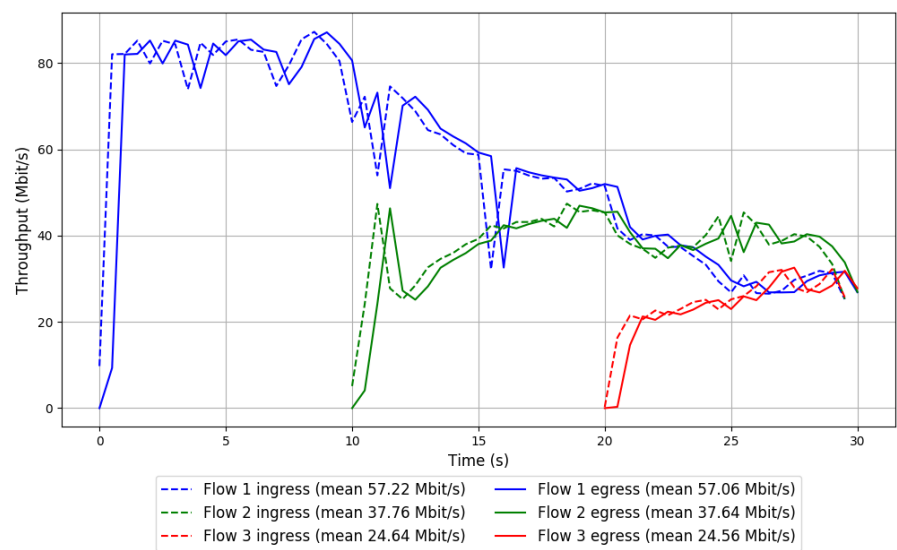
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-10-02 10:26:54
End at: 2018-10-02 10:27:24
Local clock offset: -6.755 ms
Remote clock offset: 0.018 ms


# Below is generated by plot.py at 2018-10-02 11:55:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.26 Mbit/s
95th percentile per-packet one-way delay: 31.263 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 54.86 Mbit/s
95th percentile per-packet one-way delay: 31.174 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 36.63 Mbit/s
95th percentile per-packet one-way delay: 31.330 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 33.52 Mbit/s
95th percentile per-packet one-way delay: 31.373 ms
Loss rate: 0.38%
```
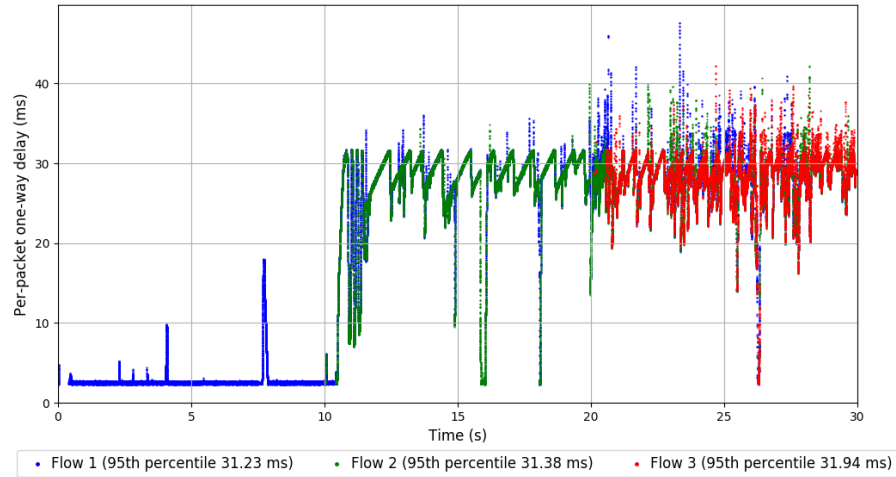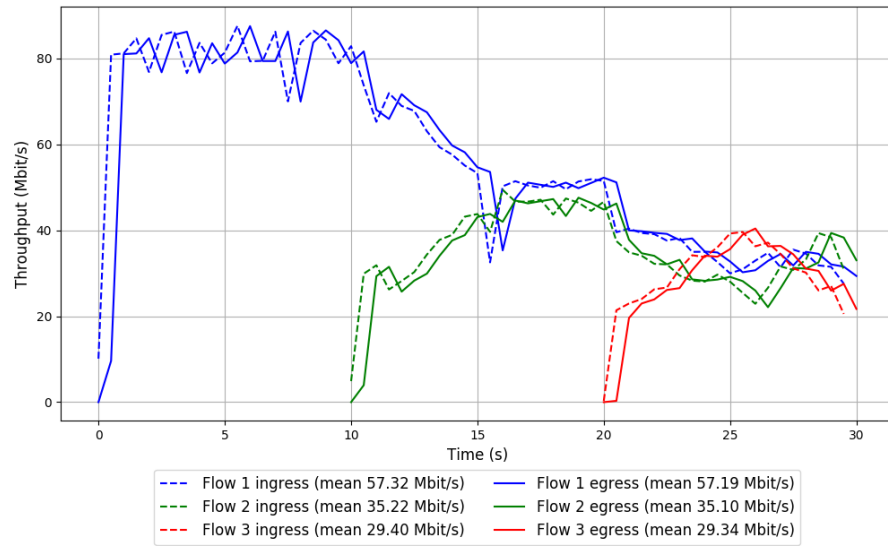
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-10-02 10:47:23
End at: 2018-10-02 10:47:53
Local clock offset: -6.104 ms
Remote clock offset: 0.45 ms


# Below is generated by plot.py at 2018-10-02 11:55:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.15 Mbit/s
95th percentile per-packet one-way delay: 31.553 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 57.06 Mbit/s
95th percentile per-packet one-way delay: 31.429 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 37.64 Mbit/s
95th percentile per-packet one-way delay: 31.664 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 24.56 Mbit/s
95th percentile per-packet one-way delay: 31.732 ms
Loss rate: 0.30%
```
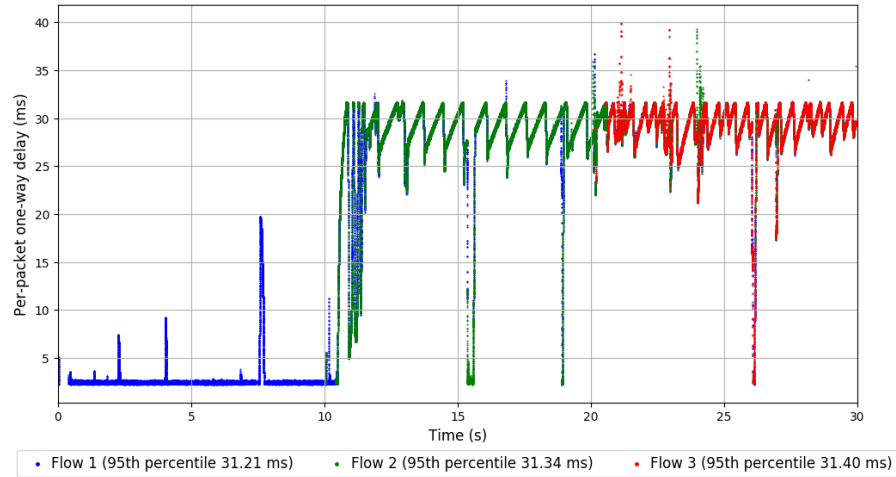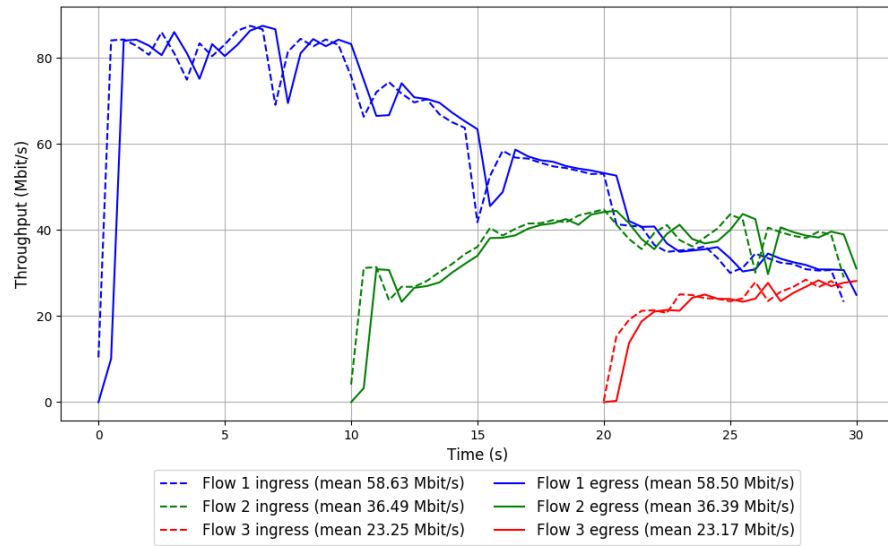
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 57.22 Mbit/s)   Flow 1 egress (mean 57.06 Mbit/s)
Flow 2 ingress (mean 37.76 Mbit/s)   Flow 2 egress (mean 37.64 Mbit/s)
Flow 3 ingress (mean 24.64 Mbit/s)   Flow 3 egress (mean 24.56 Mbit/s)

Flow 1 (95th percentile 31.43 ms)   Flow 2 (95th percentile 31.66 ms)   Flow 3 (95th percentile 31.73 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-10-02 11:07:53
End at: 2018-10-02 11:08:23
Local clock offset: -2.98 ms
Remote clock offset: 0.909 ms


# Below is generated by plot.py at 2018-10-02 11:56:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.19 Mbit/s
95th percentile per-packet one-way delay: 31.322 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 57.19 Mbit/s
95th percentile per-packet one-way delay: 31.227 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 35.10 Mbit/s
95th percentile per-packet one-way delay: 31.383 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 29.34 Mbit/s
95th percentile per-packet one-way delay: 31.936 ms
Loss rate: 0.21%
```
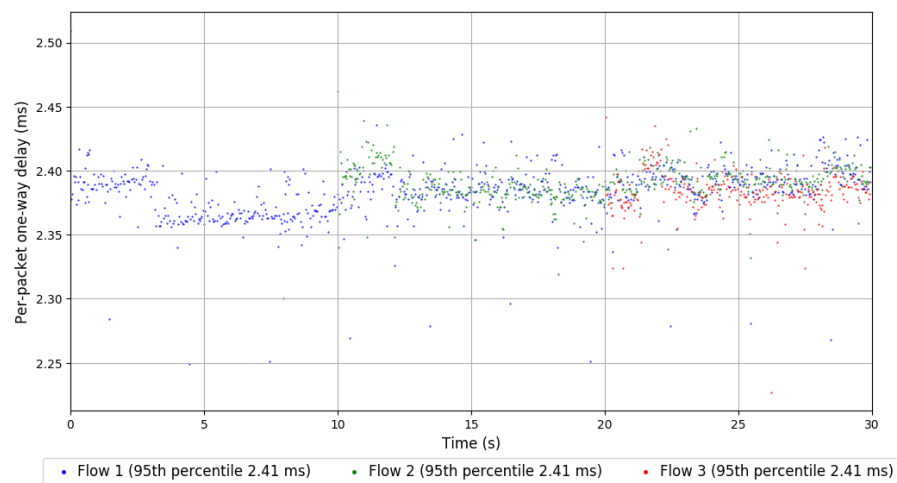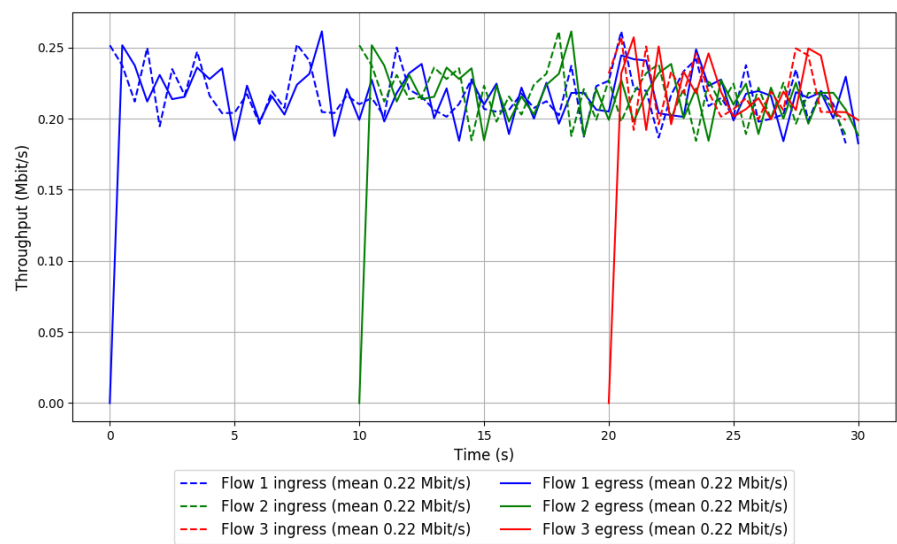
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 57.32 Mbit/s) --- Flow 1 egress (mean 57.19 Mbit/s)
Flow 2 ingress (mean 35.22 Mbit/s) --- Flow 2 egress (mean 35.10 Mbit/s)
Flow 3 ingress (mean 29.40 Mbit/s) --- Flow 3 egress (mean 29.34 Mbit/s)

Flow 1 (95th percentile 31.23 ms) · Flow 2 (95th percentile 31.38 ms) · Flow 3 (95th percentile 31.94 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-10-02 11:28:22
End at: 2018-10-02 11:28:52
Local clock offset: -3.041 ms
Remote clock offset: 1.108 ms


# Below is generated by plot.py at 2018-10-02 11:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.31 Mbit/s
95th percentile per-packet one-way delay: 31.281 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 58.50 Mbit/s
95th percentile per-packet one-way delay: 31.215 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 36.39 Mbit/s
95th percentile per-packet one-way delay: 31.340 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 23.17 Mbit/s
95th percentile per-packet one-way delay: 31.403 ms
Loss rate: 0.32%
```
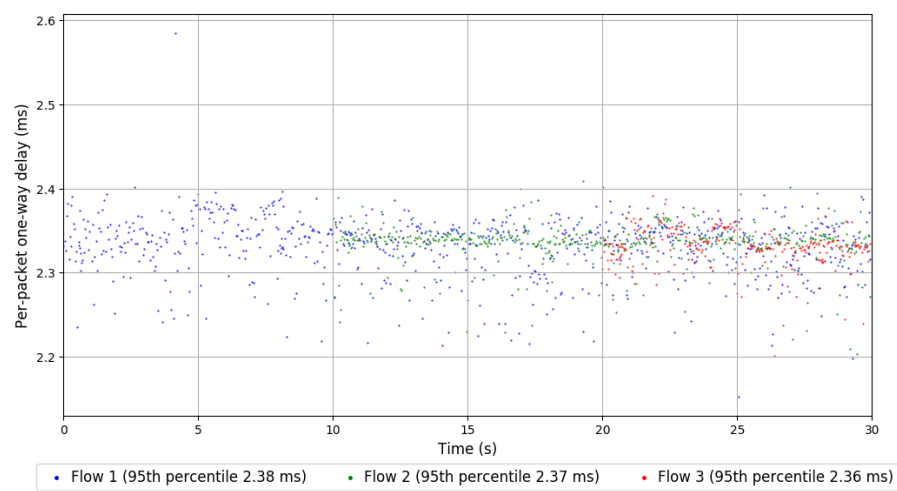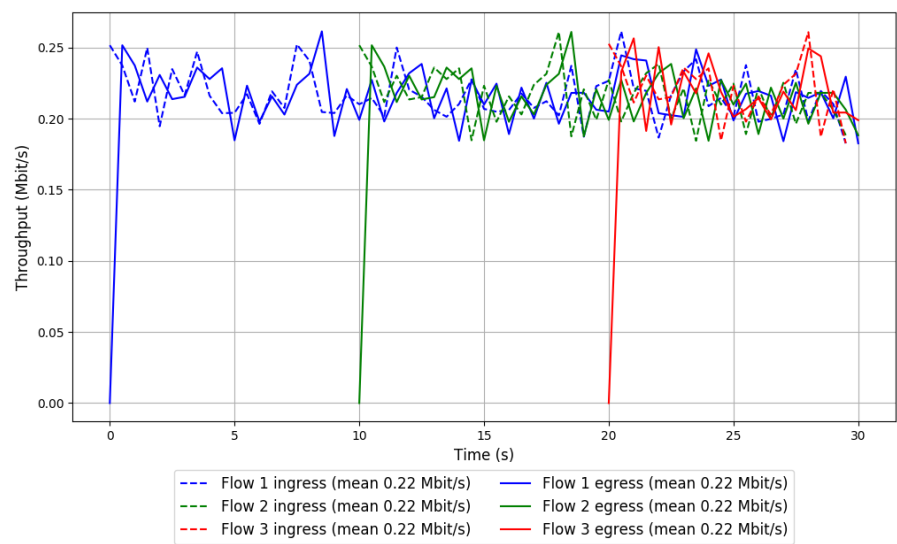
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 58.63 Mbit/s)   Flow 1 egress (mean 58.50 Mbit/s)
Flow 2 ingress (mean 36.49 Mbit/s)   Flow 2 egress (mean 36.39 Mbit/s)
Flow 3 ingress (mean 23.25 Mbit/s)   Flow 3 egress (mean 23.17 Mbit/s)

Flow 1 (95th percentile 31.21 ms)   Flow 2 (95th percentile 31.34 ms)   Flow 3 (95th percentile 31.40 ms)

```
Run 1: Statistics of SCReAM

Start at: 2018-10-02 10:17:47
End at: 2018-10-02 10:18:17
Local clock offset: -7.229 ms
Remote clock offset: -0.219 ms

# Below is generated by plot.py at 2018-10-02 11:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.412 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.411 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.412 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.409 ms
Loss rate: 0.00%
```
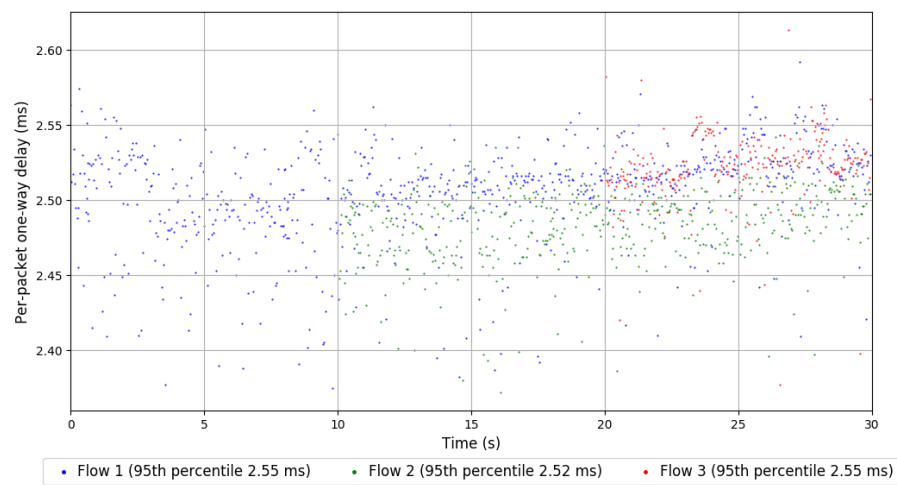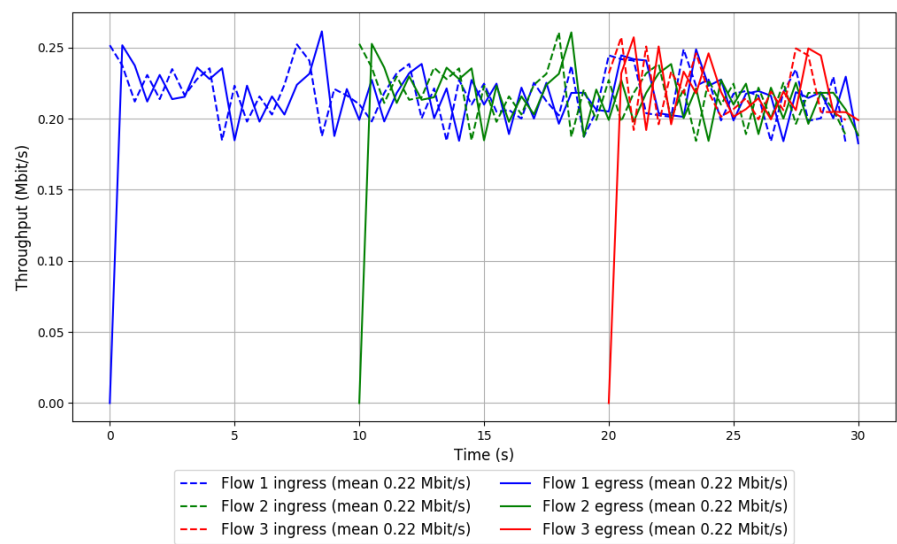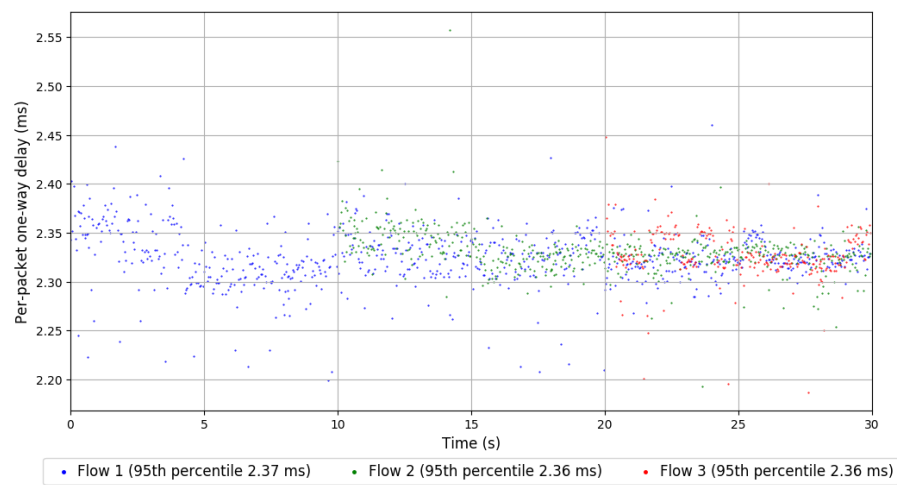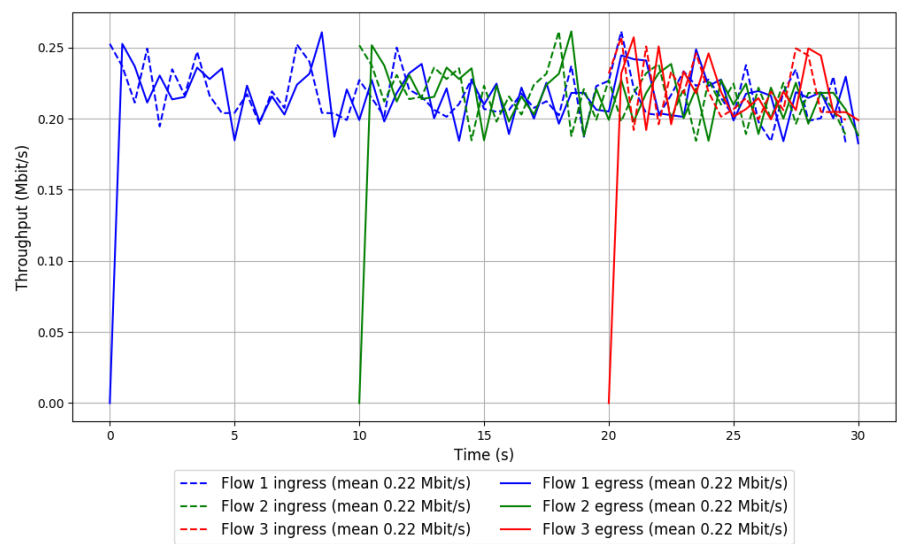
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-10-02 10:38:16
End at: 2018-10-02 10:38:46
Local clock offset: -6.604 ms
Remote clock offset: 0.248 ms

# Below is generated by plot.py at 2018-10-02 11:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.374 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.378 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.366 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.361 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-10-02 10:58:46
End at: 2018-10-02 10:59:16
Local clock offset: -3.768 ms
Remote clock offset: 0.748 ms


# Below is generated by plot.py at 2018-10-02 11:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.546 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.548 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.515 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.552 ms
Loss rate: 0.00%
```
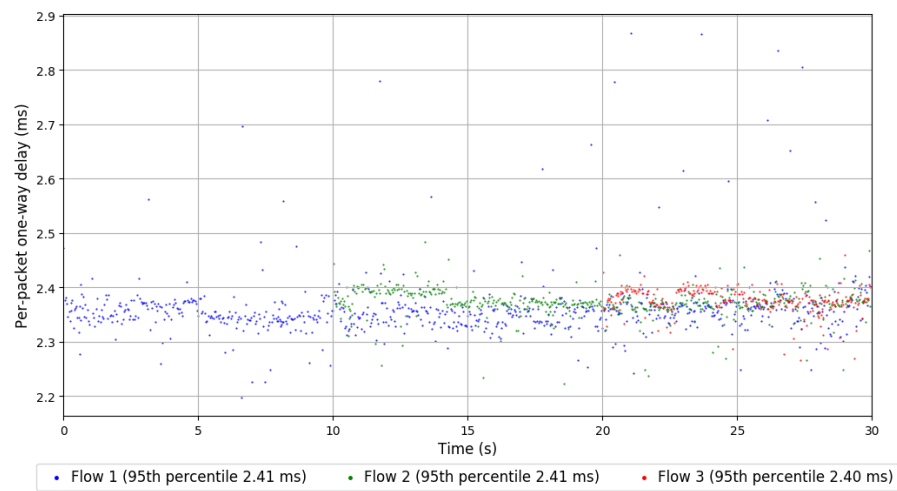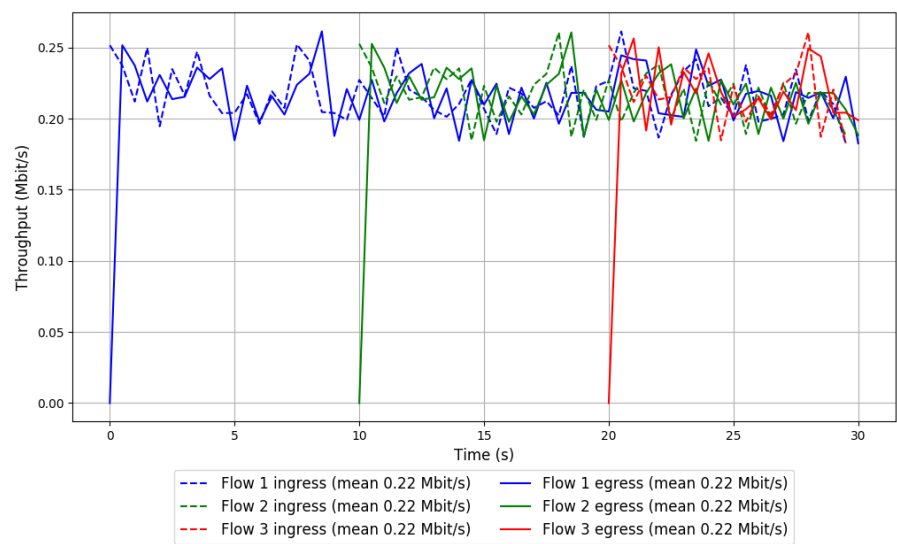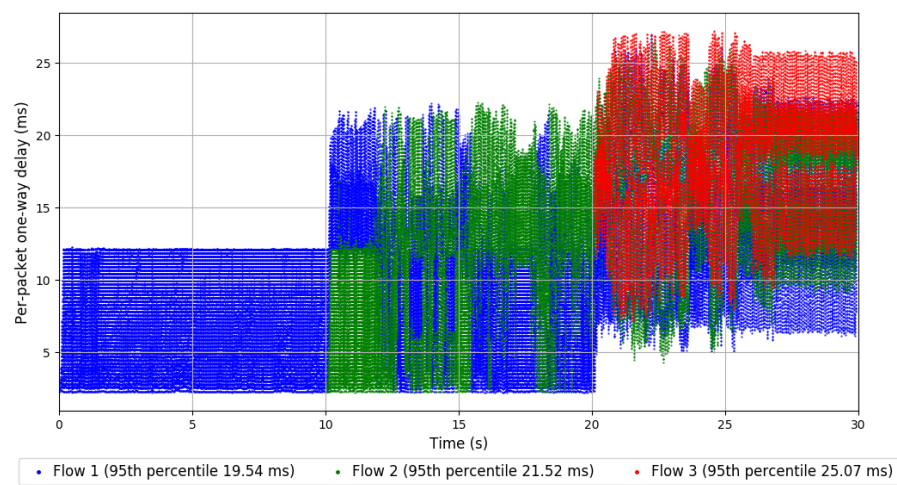
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-10-02 11:19:15
End at: 2018-10-02 11:19:45
Local clock offset: -2.782 ms
Remote clock offset: 1.062 ms


# Below is generated by plot.py at 2018-10-02 11:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.365 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.369 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.361 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.358 ms
Loss rate: 0.00%
```
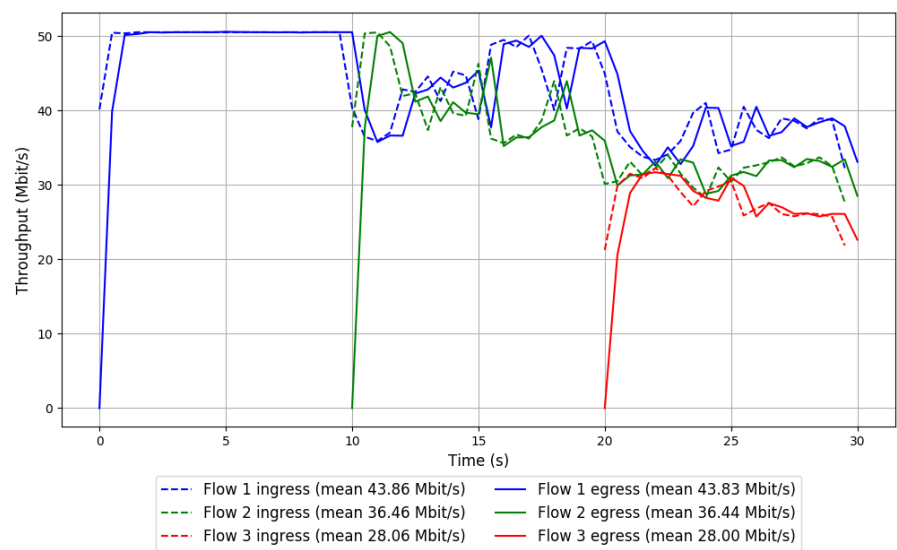
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-10-02 11:39:45
End at: 2018-10-02 11:40:15
Local clock offset: -2.93 ms
Remote clock offset: 1.061 ms


# Below is generated by plot.py at 2018-10-02 11:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.407 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.411 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.406 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.405 ms
Loss rate: 0.00%
```
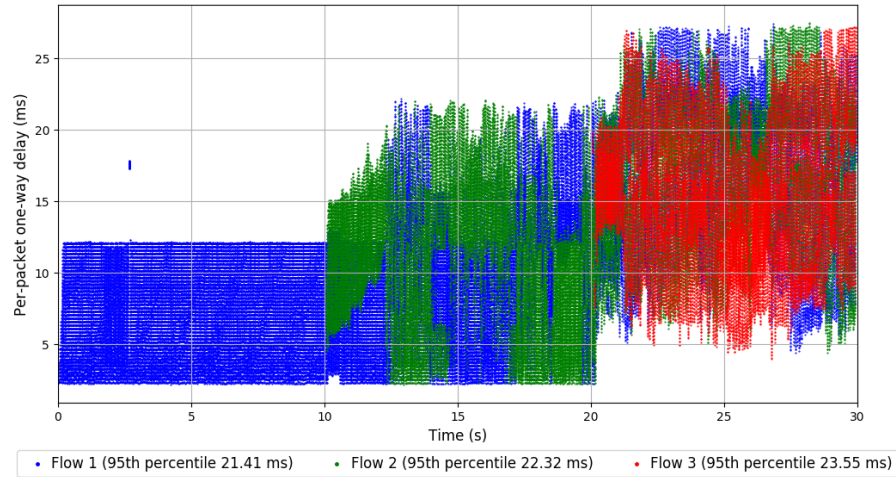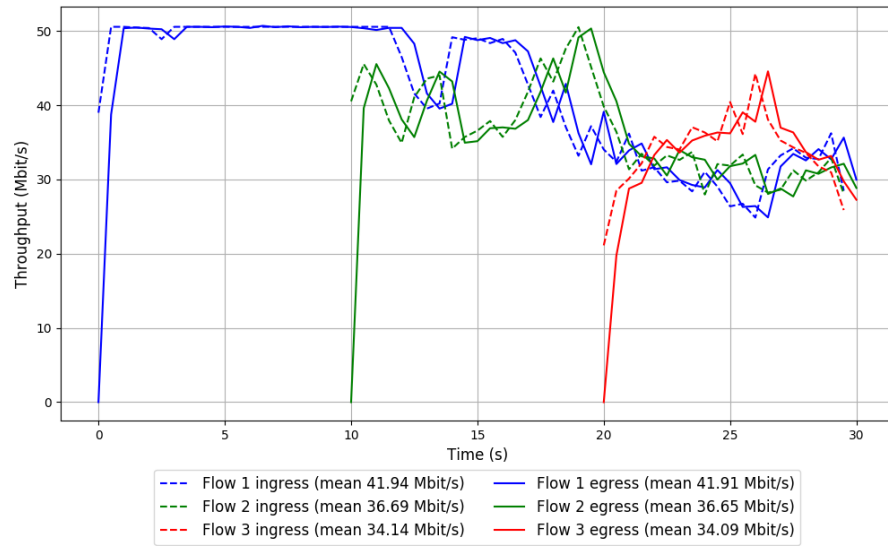
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-10-02 10:12:06
End at: 2018-10-02 10:12:36
Local clock offset: -7.419 ms
Remote clock offset: -0.324 ms


# Below is generated by plot.py at 2018-10-02 11:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.32 Mbit/s
95th percentile per-packet one-way delay: 21.845 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.83 Mbit/s
95th percentile per-packet one-way delay: 19.537 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.44 Mbit/s
95th percentile per-packet one-way delay: 21.515 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 28.00 Mbit/s
95th percentile per-packet one-way delay: 25.070 ms
Loss rate: 0.00%
```
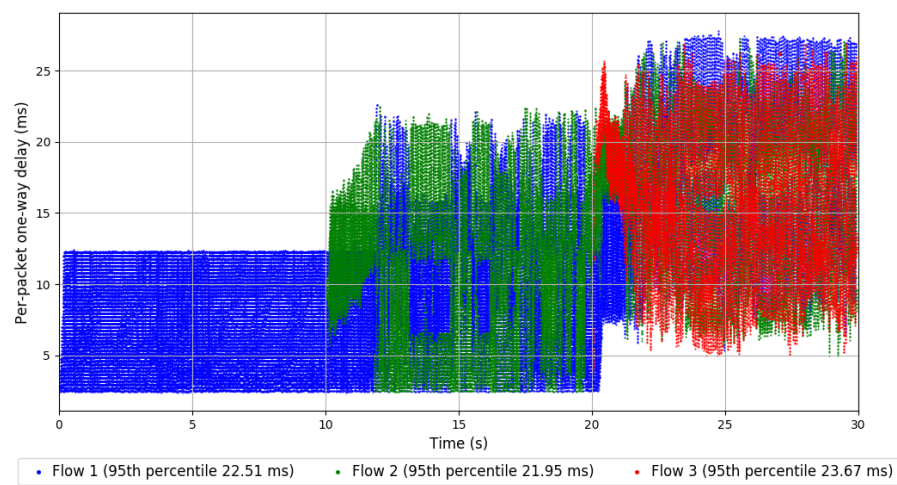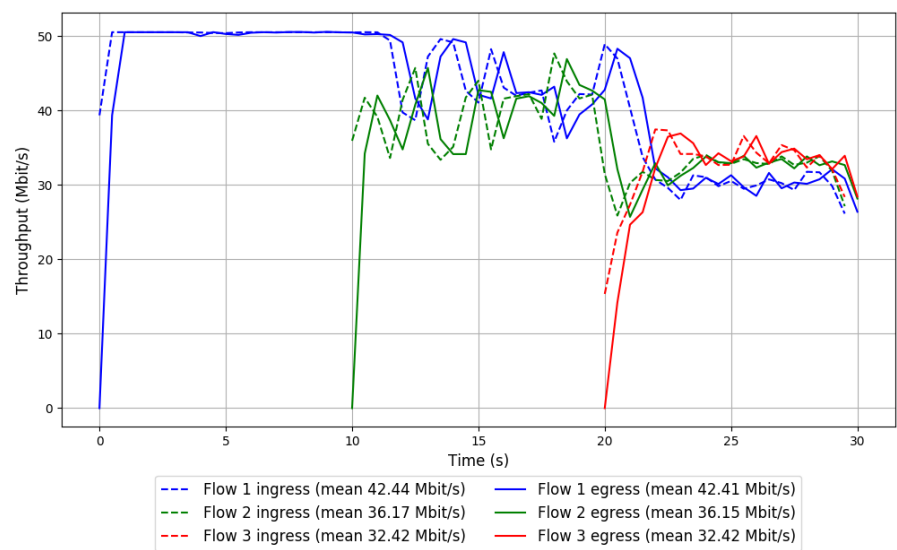
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-10-02 10:32:35
End at: 2018-10-02 10:33:05
Local clock offset: -6.637 ms
Remote clock offset: 0.14 ms


# Below is generated by plot.py at 2018-10-02 11:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.56 Mbit/s
95th percentile per-packet one-way delay: 22.204 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.91 Mbit/s
95th percentile per-packet one-way delay: 21.408 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.65 Mbit/s
95th percentile per-packet one-way delay: 22.321 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.09 Mbit/s
95th percentile per-packet one-way delay: 23.555 ms
Loss rate: 0.00%
```
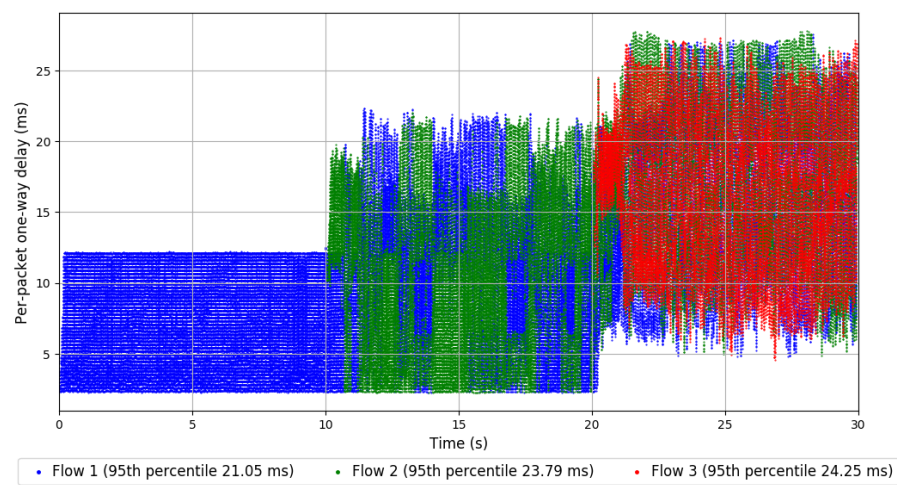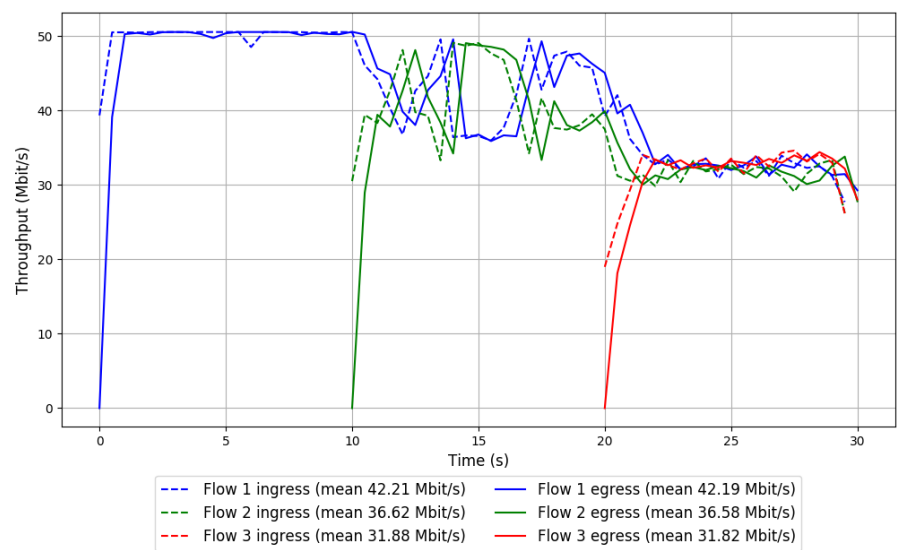
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-10-02 10:53:05
End at: 2018-10-02 10:53:35
Local clock offset: -4.674 ms
Remote clock offset: 0.559 ms


# Below is generated by plot.py at 2018-10-02 11:56:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.18 Mbit/s
95th percentile per-packet one-way delay: 22.645 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.41 Mbit/s
95th percentile per-packet one-way delay: 22.510 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.15 Mbit/s
95th percentile per-packet one-way delay: 21.954 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 32.42 Mbit/s
95th percentile per-packet one-way delay: 23.674 ms
Loss rate: 0.00%
```
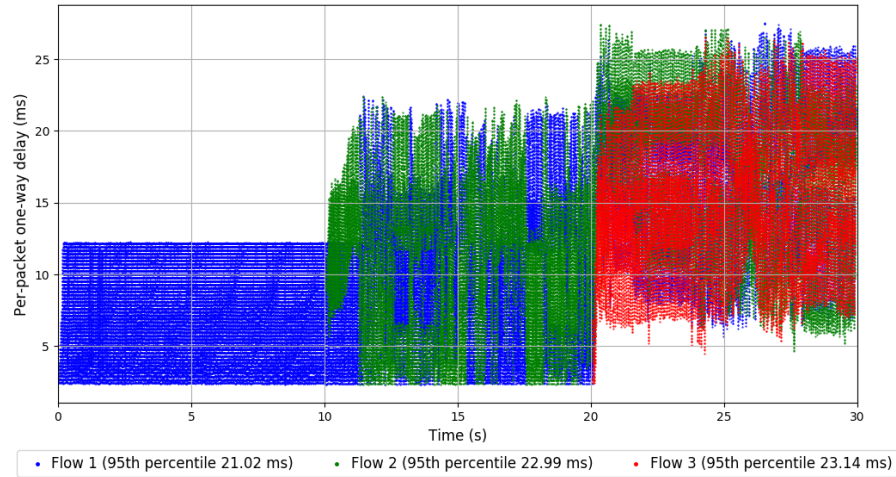
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-10-02 11:13:34
End at: 2018-10-02 11:14:04
Local clock offset: -2.635 ms
Remote clock offset: 0.981 ms


# Below is generated by plot.py at 2018-10-02 11:56:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.03 Mbit/s
95th percentile per-packet one-way delay: 22.862 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.19 Mbit/s
95th percentile per-packet one-way delay: 21.052 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.58 Mbit/s
95th percentile per-packet one-way delay: 23.792 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.82 Mbit/s
95th percentile per-packet one-way delay: 24.248 ms
Loss rate: 0.00%
```
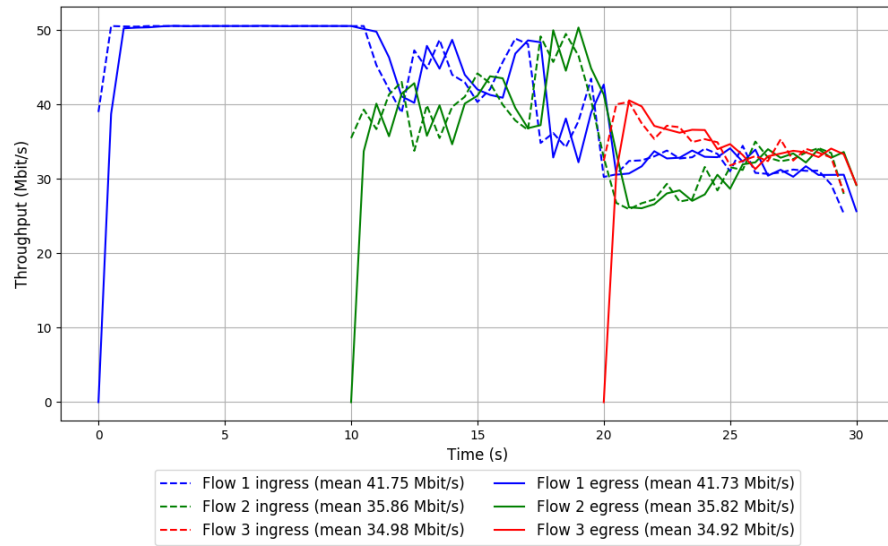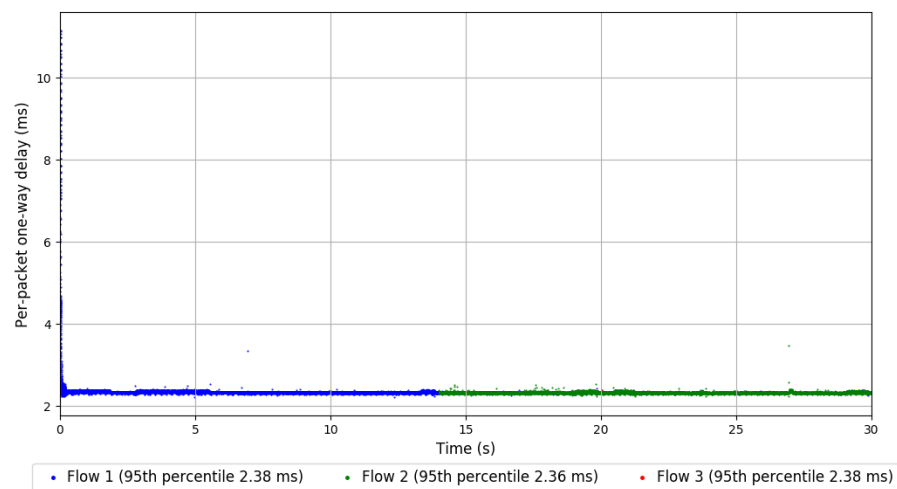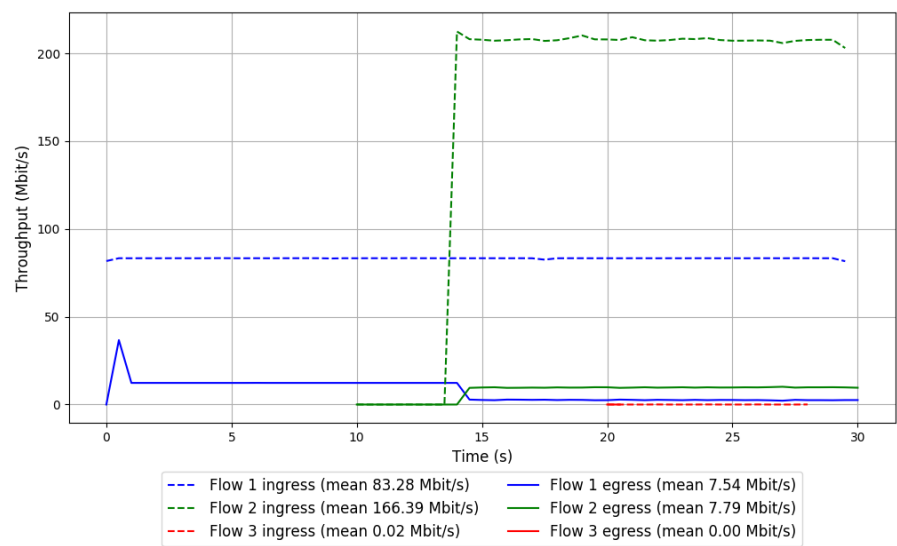
Run 4: Report of Sprout — Data Link

- - - Flow 1 ingress (mean 42.21 Mbit/s)   —— Flow 1 egress (mean 42.19 Mbit/s)
- - - Flow 2 ingress (mean 36.62 Mbit/s)   —— Flow 2 egress (mean 36.58 Mbit/s)
- - - Flow 3 ingress (mean 31.88 Mbit/s)   —— Flow 3 egress (mean 31.82 Mbit/s)

• Flow 1 (95th percentile 21.05 ms)   • Flow 2 (95th percentile 23.79 ms)   • Flow 3 (95th percentile 24.25 ms)

```
Run 5: Statistics of Sprout

Start at: 2018-10-02 11:34:04
End at: 2018-10-02 11:34:34
Local clock offset: -3.009 ms
Remote clock offset: 1.103 ms


# Below is generated by plot.py at 2018-10-02 11:56:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.11 Mbit/s
95th percentile per-packet one-way delay: 22.198 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.73 Mbit/s
95th percentile per-packet one-way delay: 21.019 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 35.82 Mbit/s
95th percentile per-packet one-way delay: 22.990 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.92 Mbit/s
95th percentile per-packet one-way delay: 23.136 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

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

Start at: 2018-10-02 10:09:49
End at: 2018-10-02 10:10:19
Local clock offset: -7.495 ms
Remote clock offset: -0.476 ms

# Below is generated by plot.py at 2018-10-02 11:56:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.376 ms
Loss rate: 93.44%
-- Flow 1:
Average throughput: 7.54 Mbit/s
95th percentile per-packet one-way delay: 2.381 ms
Loss rate: 90.95%
-- Flow 2:
Average throughput: 7.79 Mbit/s
95th percentile per-packet one-way delay: 2.364 ms
Loss rate: 95.32%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.380 ms
Loss rate: 99.16%
```
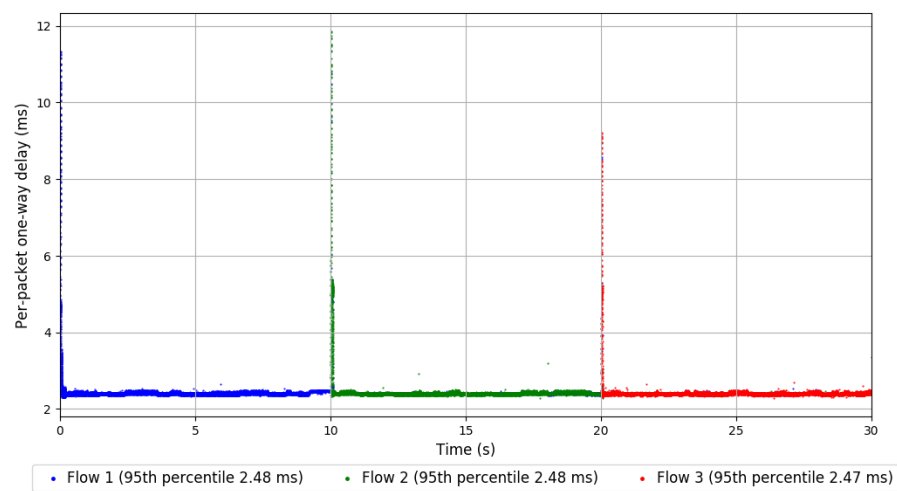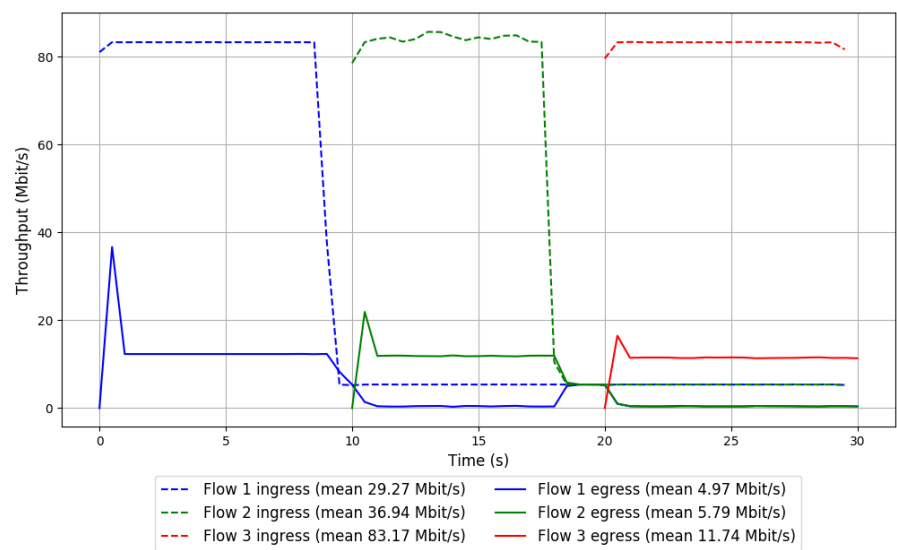
Run 1: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 83.28 Mbit/s) —— Flow 1 egress (mean 7.54 Mbit/s)
- - - Flow 2 ingress (mean 166.39 Mbit/s) —— Flow 2 egress (mean 7.79 Mbit/s)
- - - Flow 3 ingress (mean 0.02 Mbit/s) —— Flow 3 egress (mean 0.00 Mbit/s)

• Flow 1 (95th percentile 2.38 ms) • Flow 2 (95th percentile 2.36 ms) • Flow 3 (95th percentile 2.38 ms)

136

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

Start at: 2018-10-02 10:30:19
End at: 2018-10-02 10:30:49
Local clock offset: -6.668 ms
Remote clock offset: 0.164 ms

# Below is generated by plot.py at 2018-10-02 11:56:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.476 ms
Loss rate: 84.40%
-- Flow 1:
Average throughput: 4.97 Mbit/s
95th percentile per-packet one-way delay: 2.485 ms
Loss rate: 83.03%
-- Flow 2:
Average throughput: 5.79 Mbit/s
95th percentile per-packet one-way delay: 2.477 ms
Loss rate: 84.35%
-- Flow 3:
Average throughput: 11.74 Mbit/s
95th percentile per-packet one-way delay: 2.467 ms
Loss rate: 85.88%
```
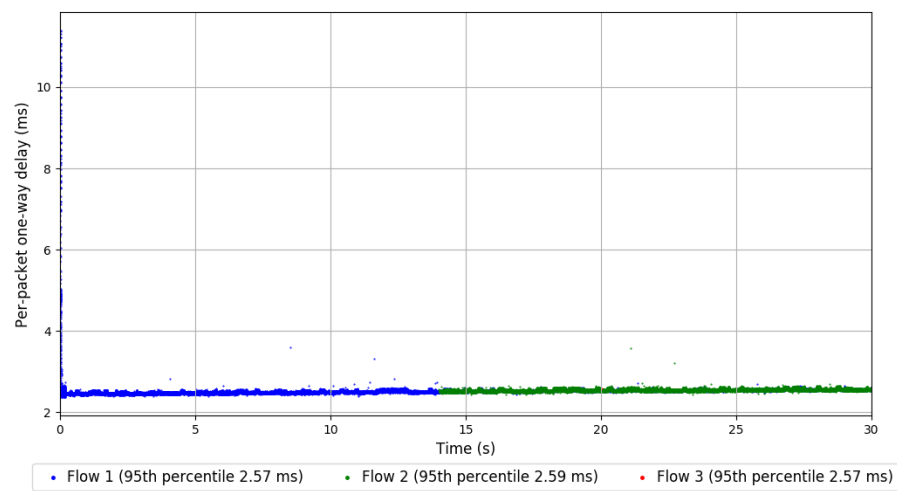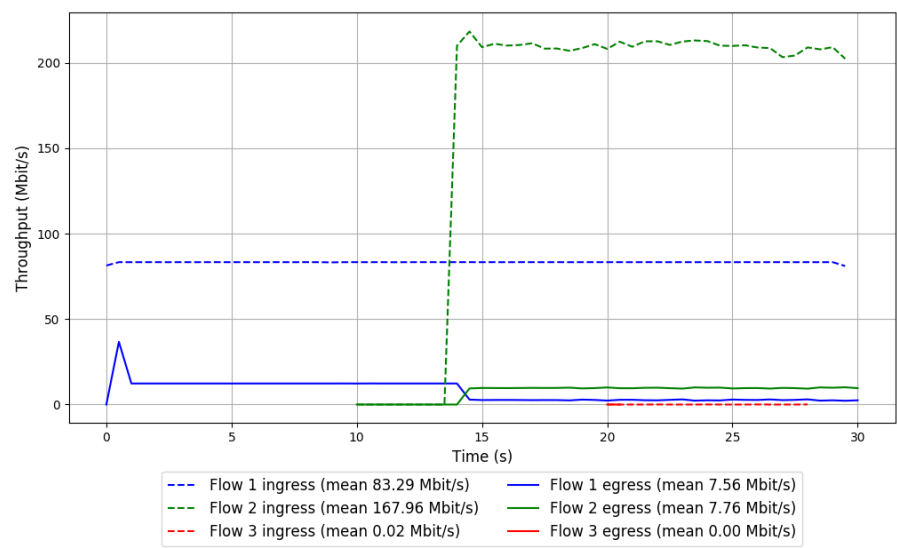
Run 2: Report of TaoVA-100x — Data Link

138

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

Start at: 2018-10-02 10:50:48
End at: 2018-10-02 10:51:18
Local clock offset: -5.125 ms
Remote clock offset: 0.508 ms


# Below is generated by plot.py at 2018-10-02 11:56:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.585 ms
Loss rate: 93.48%
-- Flow 1:
Average throughput: 7.56 Mbit/s
95th percentile per-packet one-way delay: 2.567 ms
Loss rate: 90.92%
-- Flow 2:
Average throughput: 7.76 Mbit/s
95th percentile per-packet one-way delay: 2.594 ms
Loss rate: 95.38%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2.573 ms
Loss rate: 99.16%
```
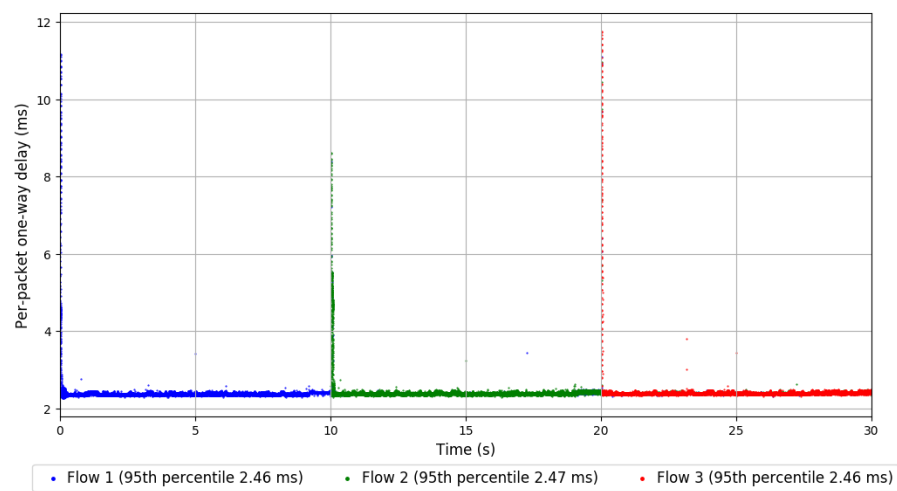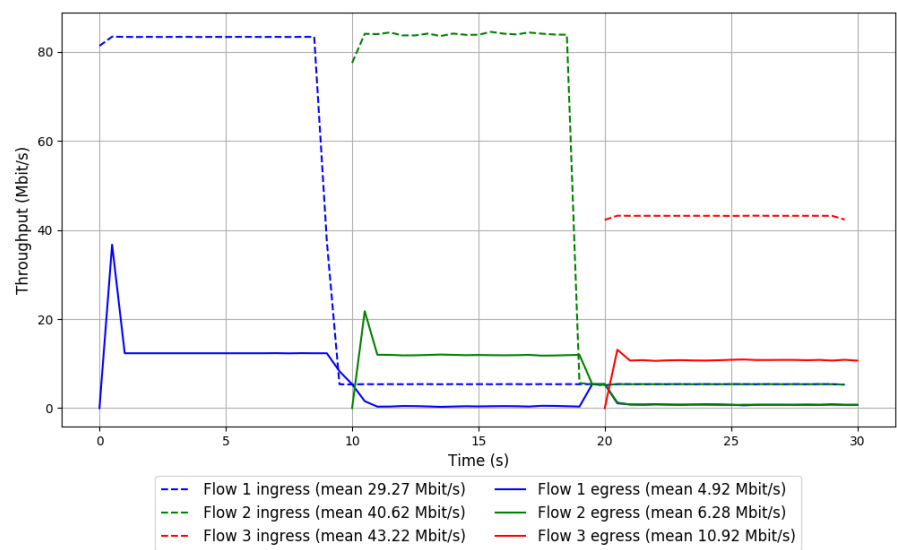
Run 3: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 83.29 Mbit/s) —— Flow 1 egress (mean 7.56 Mbit/s)
- - - Flow 2 ingress (mean 167.96 Mbit/s) —— Flow 2 egress (mean 7.76 Mbit/s)
- - - Flow 3 ingress (mean 0.02 Mbit/s) —— Flow 3 egress (mean 0.00 Mbit/s)

- Flow 1 (95th percentile 2.57 ms) • Flow 2 (95th percentile 2.59 ms) • Flow 3 (95th percentile 2.57 ms)

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

Start at: 2018-10-02 11:11:18
End at: 2018-10-02 11:11:48
Local clock offset: -2.777 ms
Remote clock offset: 0.955 ms

# Below is generated by plot.py at 2018-10-02 11:56:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.463 ms
Loss rate: 81.99%
-- Flow 1:
Average throughput: 4.92 Mbit/s
95th percentile per-packet one-way delay: 2.458 ms
Loss rate: 83.19%
-- Flow 2:
Average throughput: 6.28 Mbit/s
95th percentile per-packet one-way delay: 2.468 ms
Loss rate: 84.55%
-- Flow 3:
Average throughput: 10.92 Mbit/s
95th percentile per-packet one-way delay: 2.463 ms
Loss rate: 74.74%
```
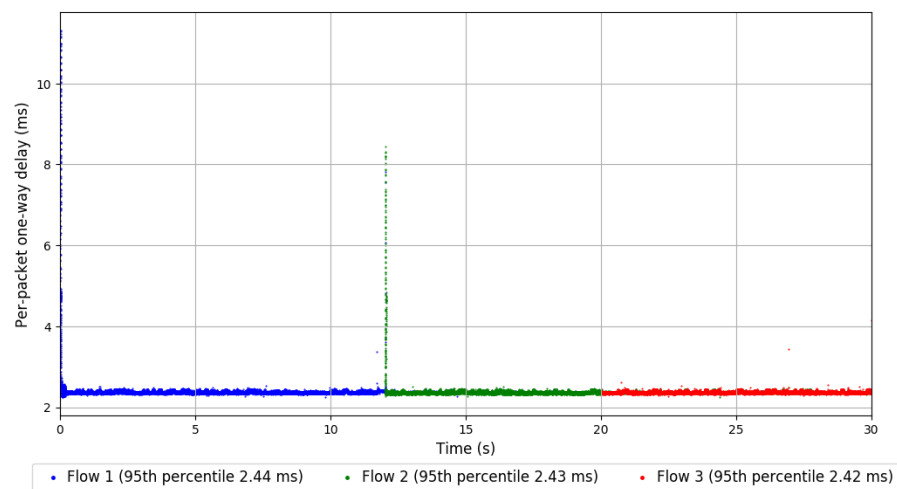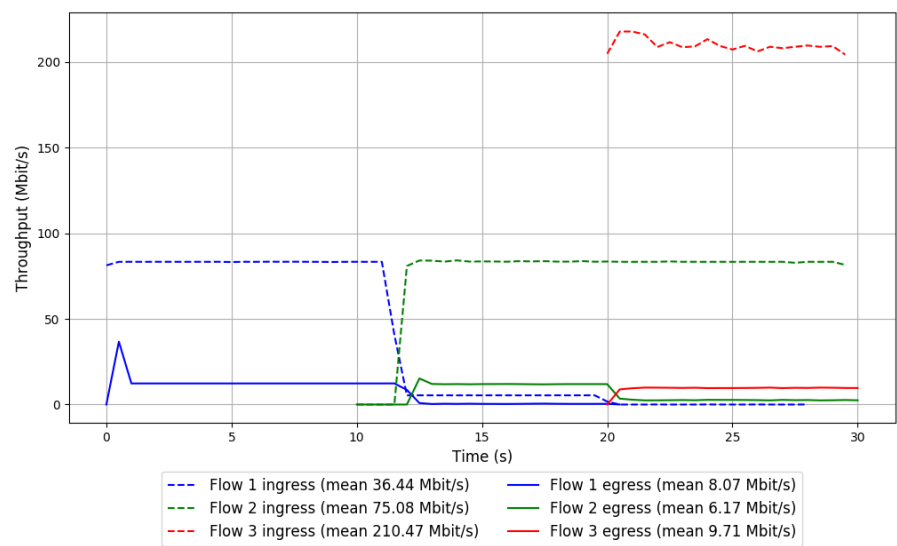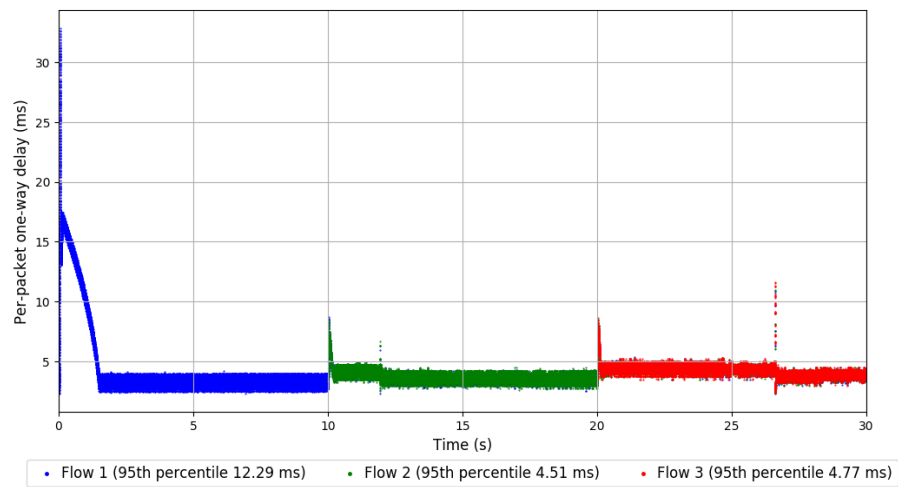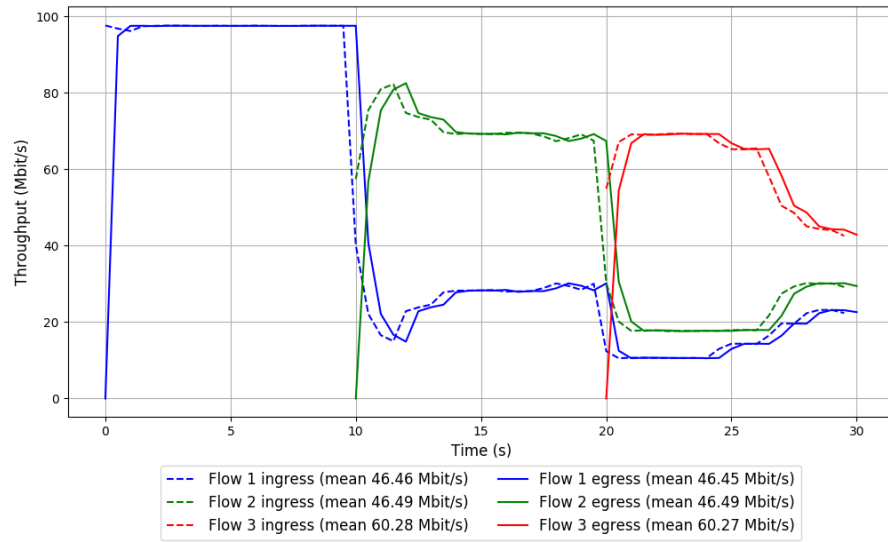
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 29.27 Mbit/s) --- Flow 1 egress (mean 4.92 Mbit/s)
Flow 2 ingress (mean 40.62 Mbit/s) --- Flow 2 egress (mean 6.28 Mbit/s)
Flow 3 ingress (mean 43.22 Mbit/s) --- Flow 3 egress (mean 10.92 Mbit/s)

• Flow 1 (95th percentile 2.46 ms)   • Flow 2 (95th percentile 2.47 ms)   • Flow 3 (95th percentile 2.46 ms)

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

Start at: 2018-10-02 11:31:47
End at: 2018-10-02 11:32:17
Local clock offset: -3.099 ms
Remote clock offset: 1.018 ms


# Below is generated by plot.py at 2018-10-02 11:56:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 2.434 ms
Loss rate: 91.74%
-- Flow 1:
Average throughput: 8.07 Mbit/s
95th percentile per-packet one-way delay: 2.444 ms
Loss rate: 84.17%
-- Flow 2:
Average throughput: 6.17 Mbit/s
95th percentile per-packet one-way delay: 2.430 ms
Loss rate: 91.78%
-- Flow 3:
Average throughput: 9.71 Mbit/s
95th percentile per-packet one-way delay: 2.425 ms
Loss rate: 95.39%
```
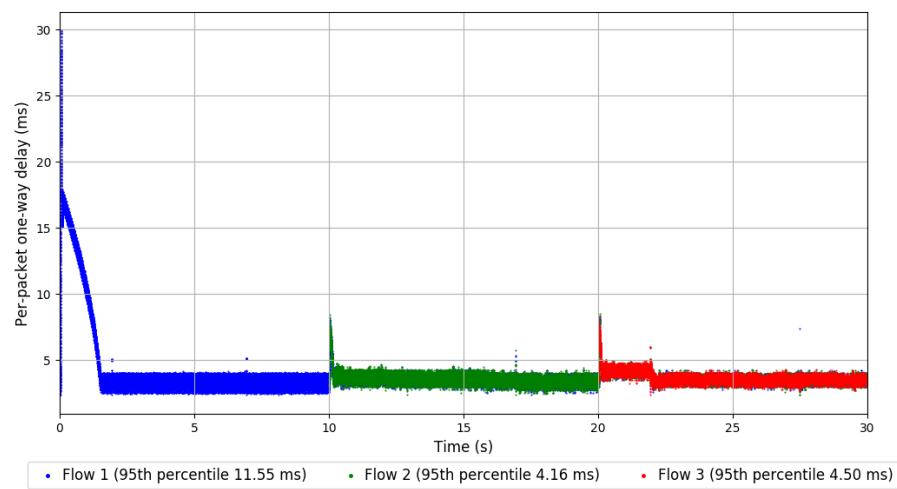
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 36.44 Mbit/s)   Flow 1 egress (mean 8.07 Mbit/s)
Flow 2 ingress (mean 75.08 Mbit/s)   Flow 2 egress (mean 6.17 Mbit/s)
Flow 3 ingress (mean 210.47 Mbit/s)   Flow 3 egress (mean 9.71 Mbit/s)

Flow 1 (95th percentile 2.44 ms)   Flow 2 (95th percentile 2.43 ms)   Flow 3 (95th percentile 2.42 ms)

144

```
Run 1: Statistics of TCP Vegas

Start at: 2018-10-02 10:16:38
End at: 2018-10-02 10:17:08
Local clock offset: -7.351 ms
Remote clock offset: -0.223 ms


# Below is generated by plot.py at 2018-10-02 11:57:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 5.697 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.45 Mbit/s
95th percentile per-packet one-way delay: 12.295 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.49 Mbit/s
95th percentile per-packet one-way delay: 4.513 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 60.27 Mbit/s
95th percentile per-packet one-way delay: 4.767 ms
Loss rate: 0.00%
```
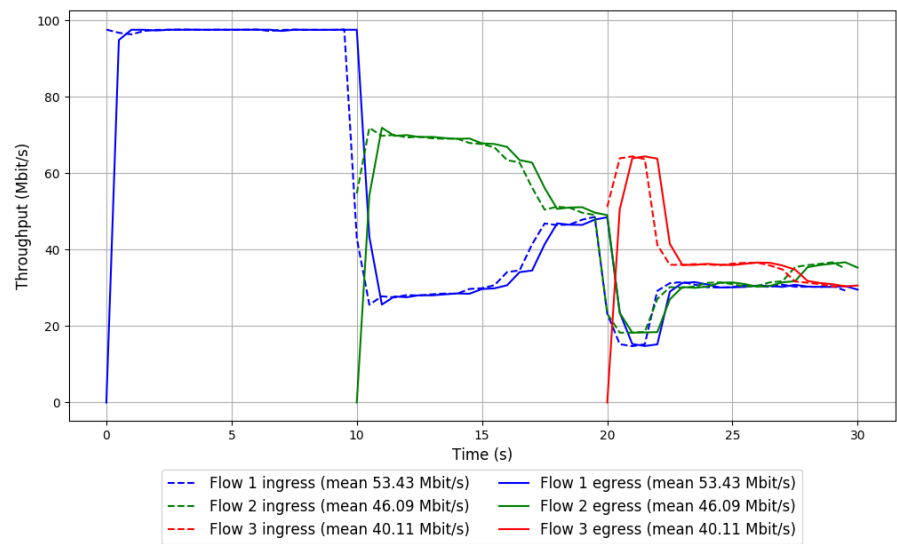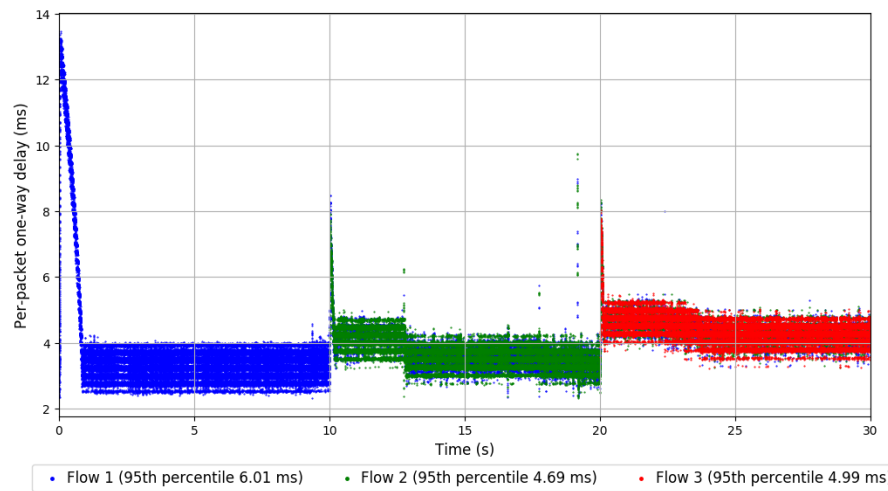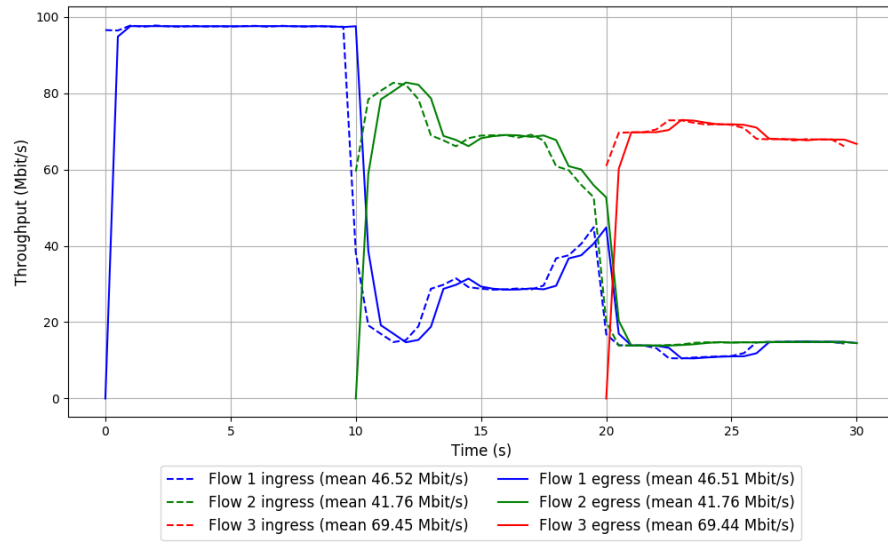
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-10-02 10:37:07
End at: 2018-10-02 10:37:37
Local clock offset: -6.67 ms
Remote clock offset: 0.273 ms


# Below is generated by plot.py at 2018-10-02 11:57:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 5.529 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.43 Mbit/s
95th percentile per-packet one-way delay: 11.554 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.09 Mbit/s
95th percentile per-packet one-way delay: 4.157 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.11 Mbit/s
95th percentile per-packet one-way delay: 4.501 ms
Loss rate: 0.00%
```
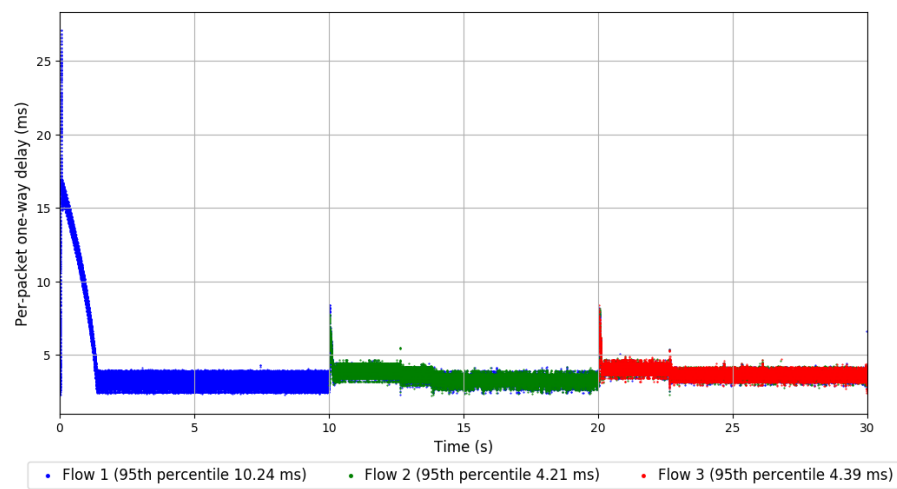
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-10-02 10:57:37
End at: 2018-10-02 10:58:07
Local clock offset: -3.89 ms
Remote clock offset: 0.675 ms


# Below is generated by plot.py at 2018-10-02 11:57:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.44 Mbit/s
95th percentile per-packet one-way delay: 4.975 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.51 Mbit/s
95th percentile per-packet one-way delay: 6.006 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.76 Mbit/s
95th percentile per-packet one-way delay: 4.693 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 69.44 Mbit/s
95th percentile per-packet one-way delay: 4.991 ms
Loss rate: 0.00%
```
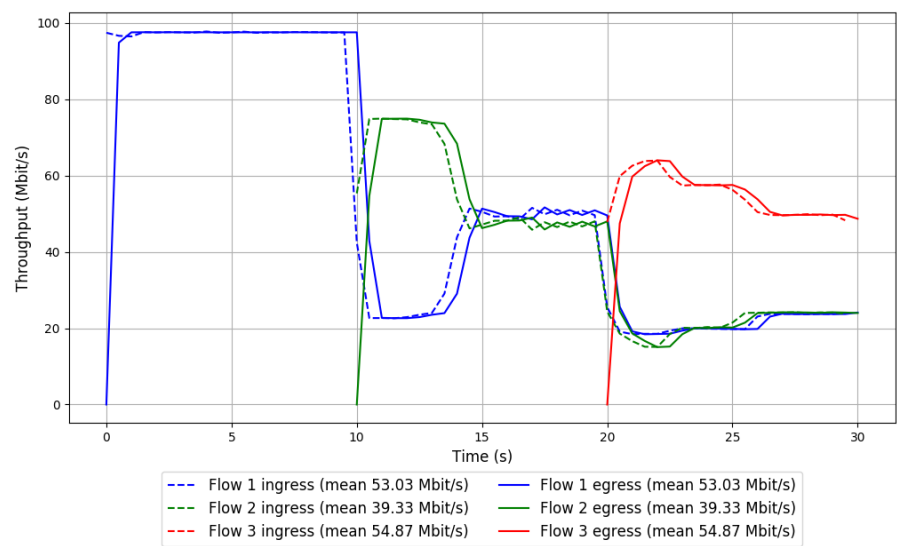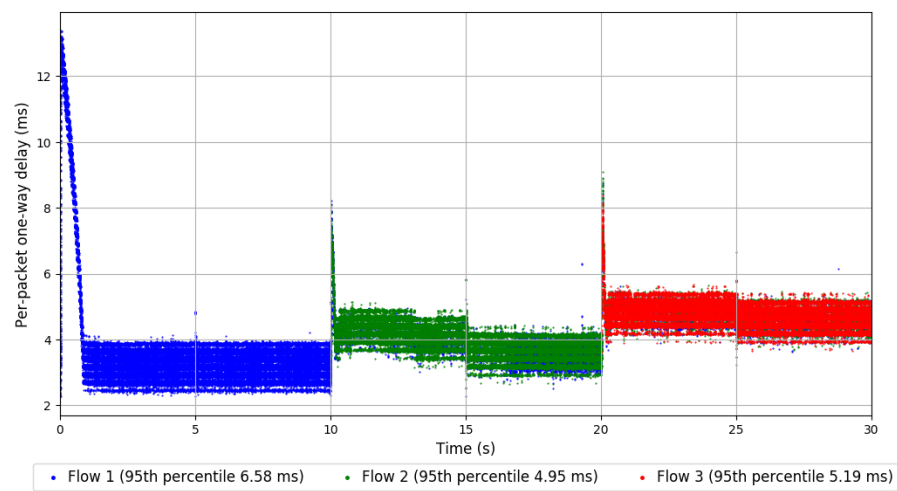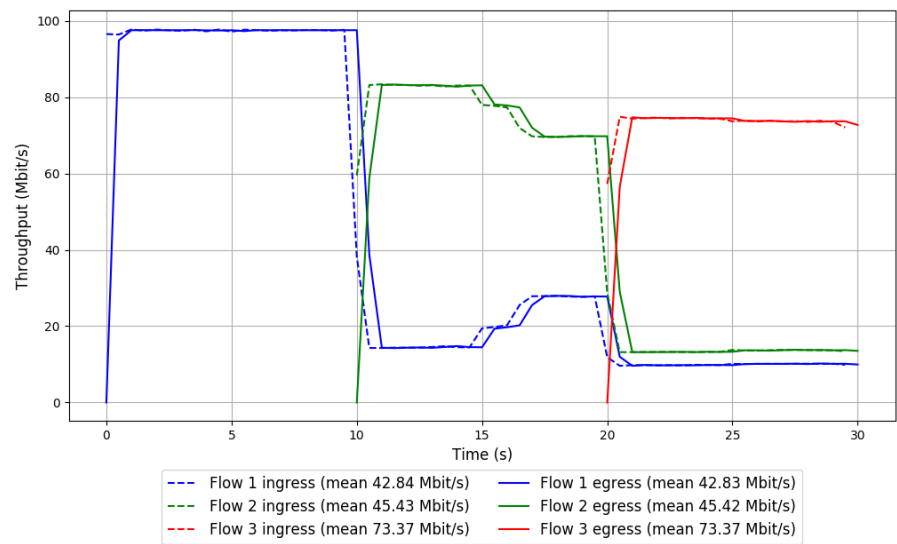
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 46.52 Mbit/s)   Flow 1 egress (mean 46.51 Mbit/s)
Flow 2 ingress (mean 41.76 Mbit/s)   Flow 2 egress (mean 41.76 Mbit/s)
Flow 3 ingress (mean 69.45 Mbit/s)   Flow 3 egress (mean 69.44 Mbit/s)

Flow 1 (95th percentile 6.01 ms)   Flow 2 (95th percentile 4.69 ms)   Flow 3 (95th percentile 4.99 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2018-10-02 11:18:06
End at: 2018-10-02 11:18:36
Local clock offset: -2.72 ms
Remote clock offset: 1.108 ms


# Below is generated by plot.py at 2018-10-02 11:57:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 4.539 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.03 Mbit/s
95th percentile per-packet one-way delay: 10.244 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.33 Mbit/s
95th percentile per-packet one-way delay: 4.211 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 54.87 Mbit/s
95th percentile per-packet one-way delay: 4.390 ms
Loss rate: 0.00%
```

Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-10-02 11:38:36
End at: 2018-10-02 11:39:06
Local clock offset: -2.949 ms
Remote clock offset: 1.061 ms


# Below is generated by plot.py at 2018-10-02 11:57:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 5.177 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.83 Mbit/s
95th percentile per-packet one-way delay: 6.575 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.42 Mbit/s
95th percentile per-packet one-way delay: 4.947 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 73.37 Mbit/s
95th percentile per-packet one-way delay: 5.188 ms
Loss rate: 0.00%
```
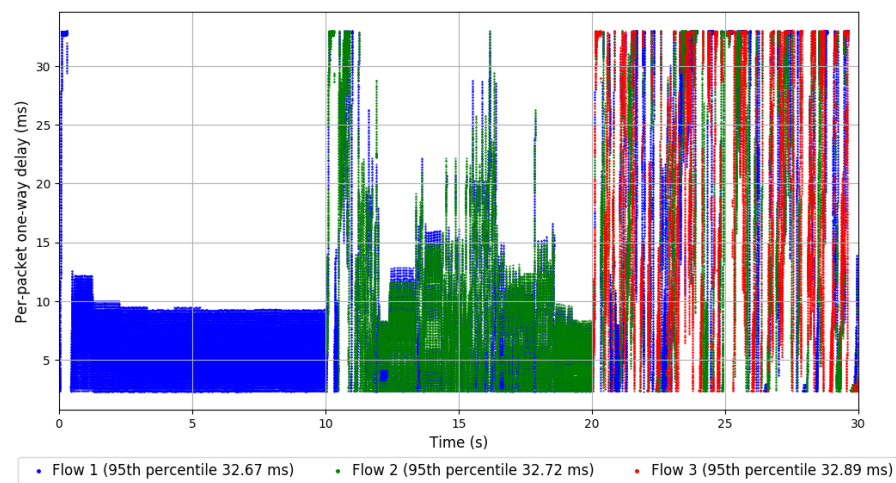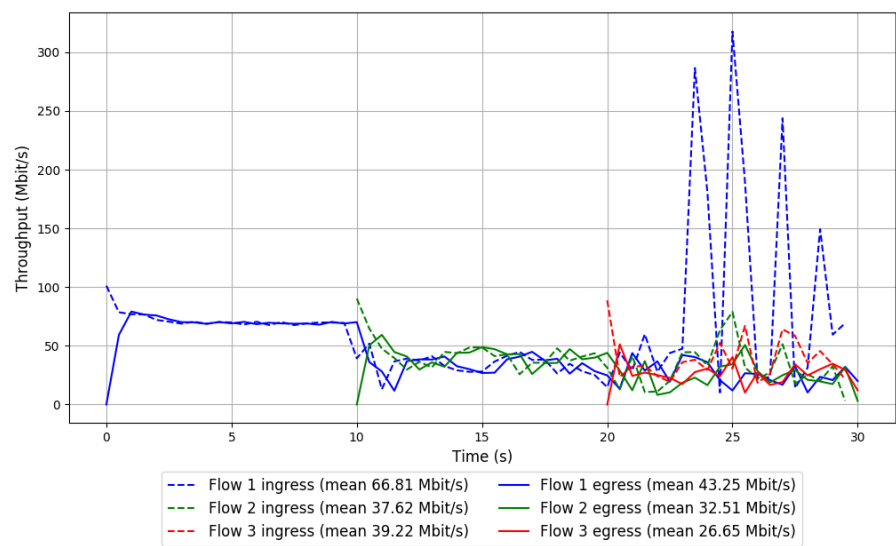
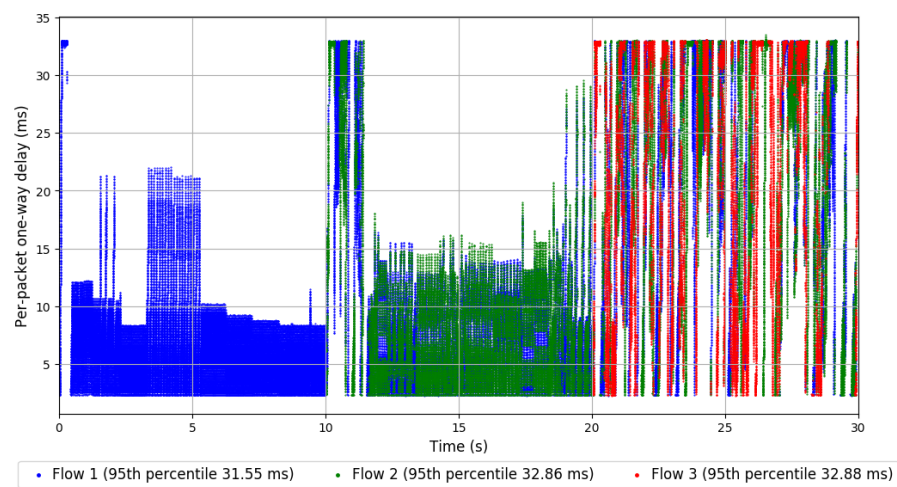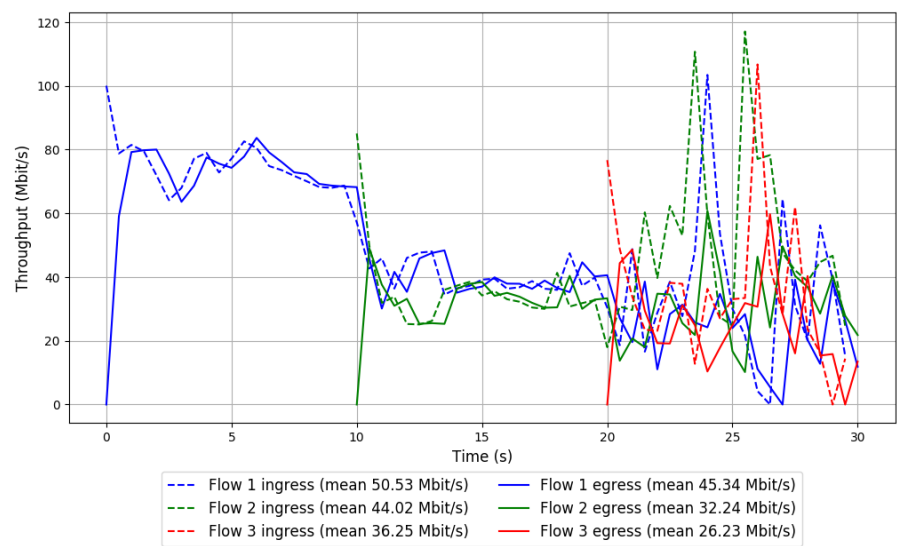## Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-10-02 10:23:29
End at: 2018-10-02 10:23:59
Local clock offset: -6.868 ms
Remote clock offset: 0.003 ms


# Below is generated by plot.py at 2018-10-02 11:57:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.72 Mbit/s
95th percentile per-packet one-way delay: 32.728 ms
Loss rate: 29.69%
-- Flow 1:
Average throughput: 43.25 Mbit/s
95th percentile per-packet one-way delay: 32.670 ms
Loss rate: 35.26%
-- Flow 2:
Average throughput: 32.51 Mbit/s
95th percentile per-packet one-way delay: 32.715 ms
Loss rate: 13.57%
-- Flow 3:
Average throughput: 26.65 Mbit/s
95th percentile per-packet one-way delay: 32.892 ms
Loss rate: 32.09%
```
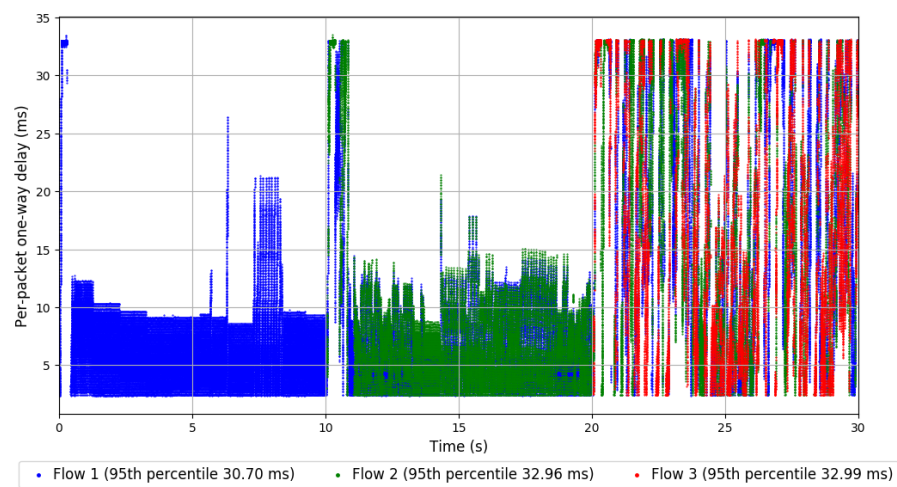
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 66.81 Mbit/s) --- Flow 1 egress (mean 43.25 Mbit/s)
Flow 2 ingress (mean 37.62 Mbit/s) --- Flow 2 egress (mean 32.51 Mbit/s)
Flow 3 ingress (mean 39.22 Mbit/s) --- Flow 3 egress (mean 26.65 Mbit/s)

Flow 1 (95th percentile 32.67 ms) • Flow 2 (95th percentile 32.72 ms) • Flow 3 (95th percentile 32.89 ms)

```
Run 2: Statistics of Verus

Start at: 2018-10-02 10:43:58
End at: 2018-10-02 10:44:28
Local clock offset: -6.593 ms
Remote clock offset: 0.448 ms


# Below is generated by plot.py at 2018-10-02 11:57:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.49 Mbit/s
95th percentile per-packet one-way delay: 32.730 ms
Loss rate: 17.70%
-- Flow 1:
Average throughput: 45.34 Mbit/s
95th percentile per-packet one-way delay: 31.555 ms
Loss rate: 10.19%
-- Flow 2:
Average throughput: 32.24 Mbit/s
95th percentile per-packet one-way delay: 32.860 ms
Loss rate: 26.65%
-- Flow 3:
Average throughput: 26.23 Mbit/s
95th percentile per-packet one-way delay: 32.885 ms
Loss rate: 27.44%
```
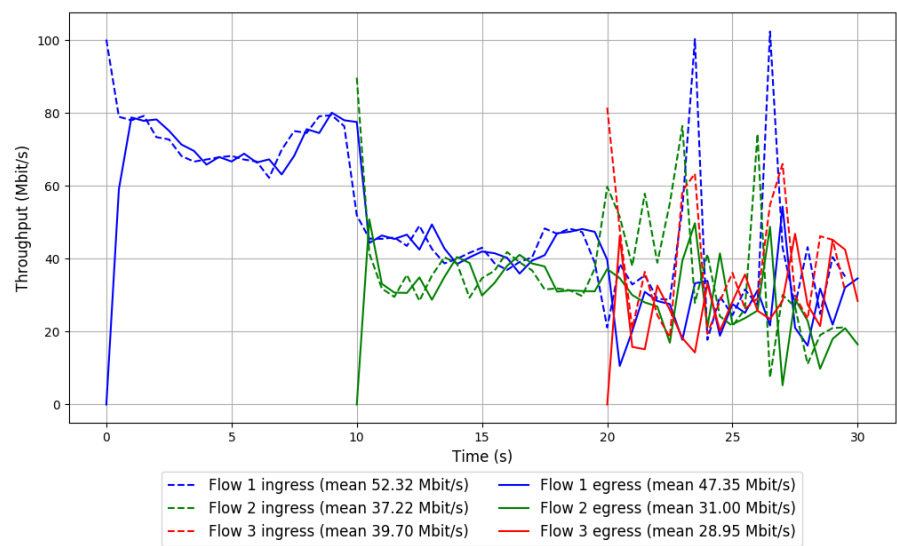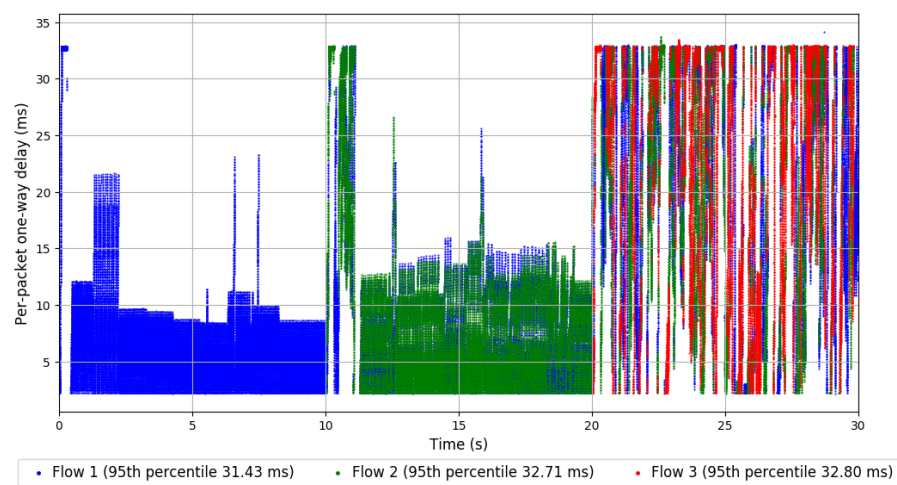
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-10-02 11:04:28
End at: 2018-10-02 11:04:58
Local clock offset: -3.29 ms
Remote clock offset: 0.847 ms


# Below is generated by plot.py at 2018-10-02 11:57:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.57 Mbit/s
95th percentile per-packet one-way delay: 32.795 ms
Loss rate: 13.95%
-- Flow 1:
Average throughput: 47.35 Mbit/s
95th percentile per-packet one-way delay: 30.701 ms
Loss rate: 9.42%
-- Flow 2:
Average throughput: 31.00 Mbit/s
95th percentile per-packet one-way delay: 32.962 ms
Loss rate: 16.61%
-- Flow 3:
Average throughput: 28.95 Mbit/s
95th percentile per-packet one-way delay: 32.987 ms
Loss rate: 26.96%
```
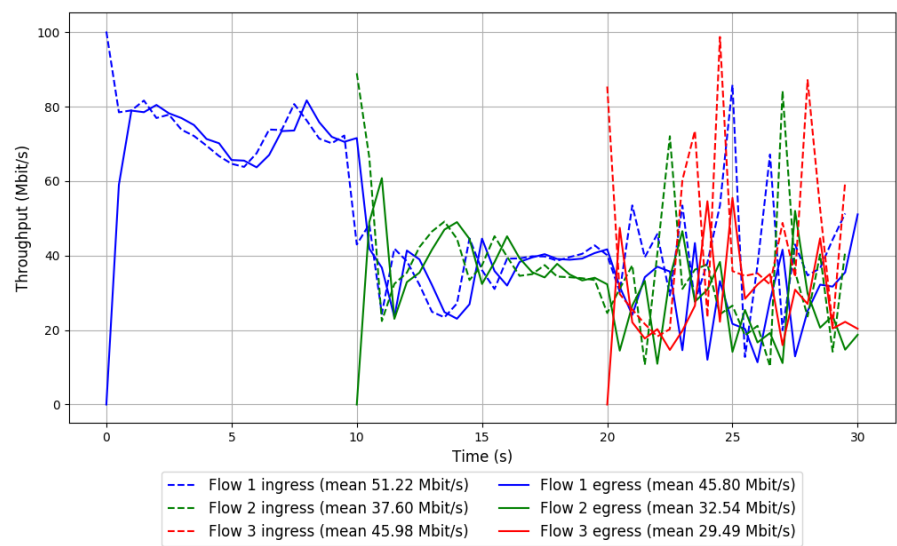
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-10-02 11:24:57
End at: 2018-10-02 11:25:27
Local clock offset: -2.997 ms
Remote clock offset: 1.028 ms


# Below is generated by plot.py at 2018-10-02 11:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.95 Mbit/s
95th percentile per-packet one-way delay: 32.613 ms
Loss rate: 15.45%
-- Flow 1:
Average throughput: 45.80 Mbit/s
95th percentile per-packet one-way delay: 31.432 ms
Loss rate: 10.56%
-- Flow 2:
Average throughput: 32.54 Mbit/s
95th percentile per-packet one-way delay: 32.709 ms
Loss rate: 13.33%
-- Flow 3:
Average throughput: 29.49 Mbit/s
95th percentile per-packet one-way delay: 32.802 ms
Loss rate: 35.65%
```
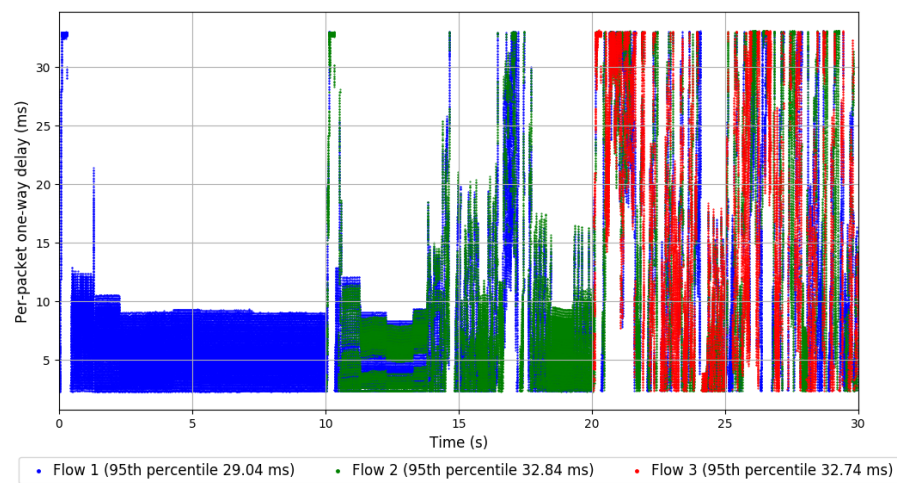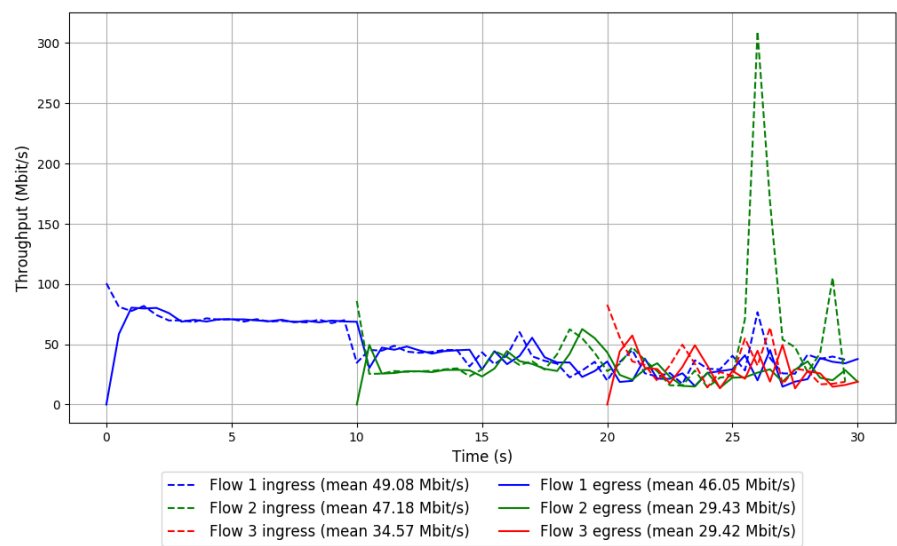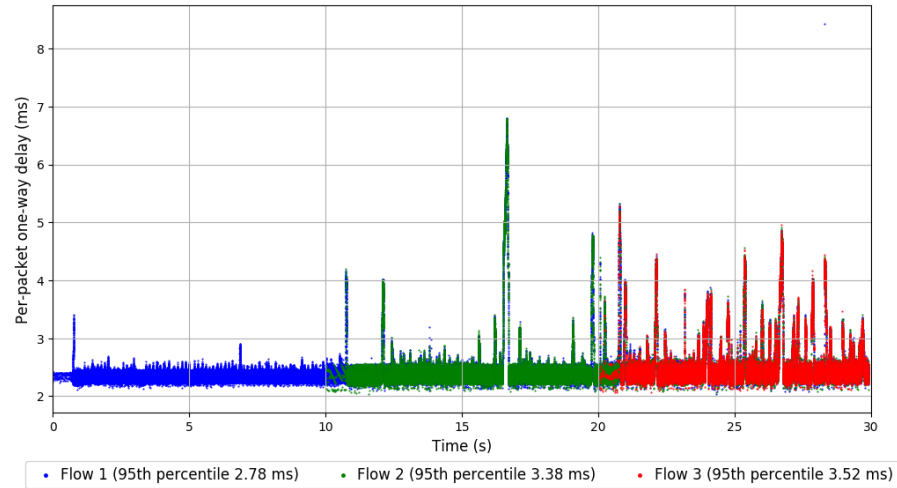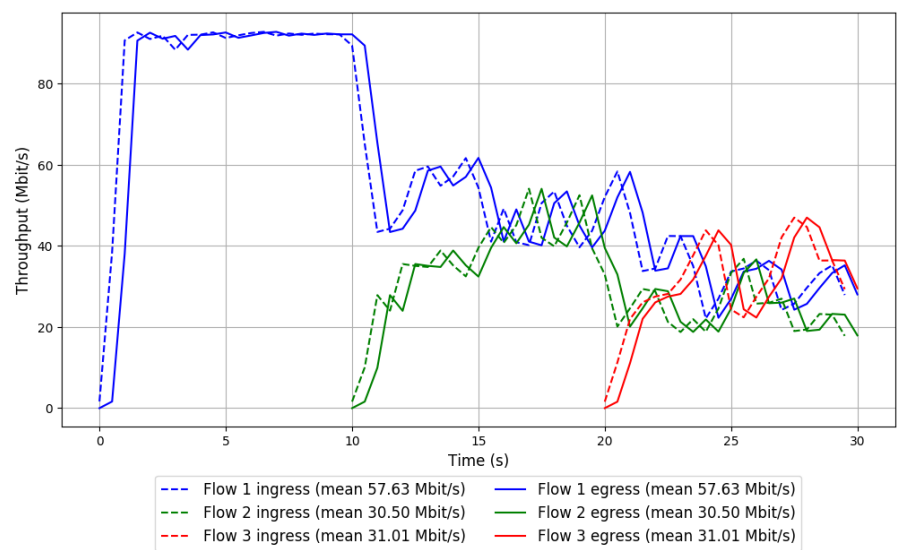
Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 51.22 Mbit/s) — — — Flow 1 egress (mean 45.80 Mbit/s)
Flow 2 ingress (mean 37.60 Mbit/s) — — — Flow 2 egress (mean 32.54 Mbit/s)
Flow 3 ingress (mean 45.98 Mbit/s) — — — Flow 3 egress (mean 29.49 Mbit/s)

Flow 1 (95th percentile 31.43 ms)   Flow 2 (95th percentile 32.71 ms)   Flow 3 (95th percentile 32.80 ms)

```
Run 5: Statistics of Verus

Start at: 2018-10-02 11:45:27
End at: 2018-10-02 11:45:57
Local clock offset: -2.825 ms
Remote clock offset: 1.076 ms


# Below is generated by plot.py at 2018-10-02 11:58:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.39 Mbit/s
95th percentile per-packet one-way delay: 32.075 ms
Loss rate: 17.97%
-- Flow 1:
Average throughput: 46.05 Mbit/s
95th percentile per-packet one-way delay: 29.037 ms
Loss rate: 6.14%
-- Flow 2:
Average throughput: 29.43 Mbit/s
95th percentile per-packet one-way delay: 32.844 ms
Loss rate: 37.60%
-- Flow 3:
Average throughput: 29.42 Mbit/s
95th percentile per-packet one-way delay: 32.739 ms
Loss rate: 14.84%
```

Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-10-02 10:22:19
End at: 2018-10-02 10:22:49
Local clock offset: -6.921 ms
Remote clock offset: -0.118 ms


# Below is generated by plot.py at 2018-10-02 11:58:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.16 Mbit/s
95th percentile per-packet one-way delay: 3.106 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.63 Mbit/s
95th percentile per-packet one-way delay: 2.781 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.50 Mbit/s
95th percentile per-packet one-way delay: 3.385 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.01 Mbit/s
95th percentile per-packet one-way delay: 3.522 ms
Loss rate: 0.00%
```
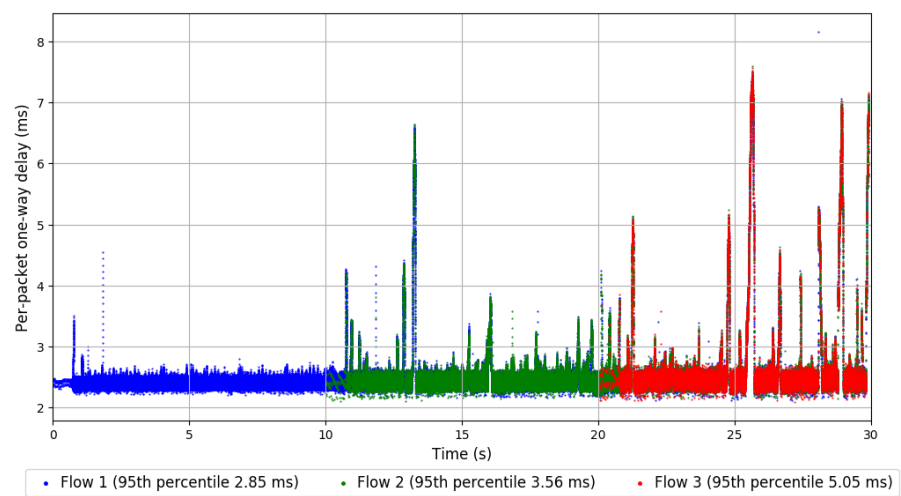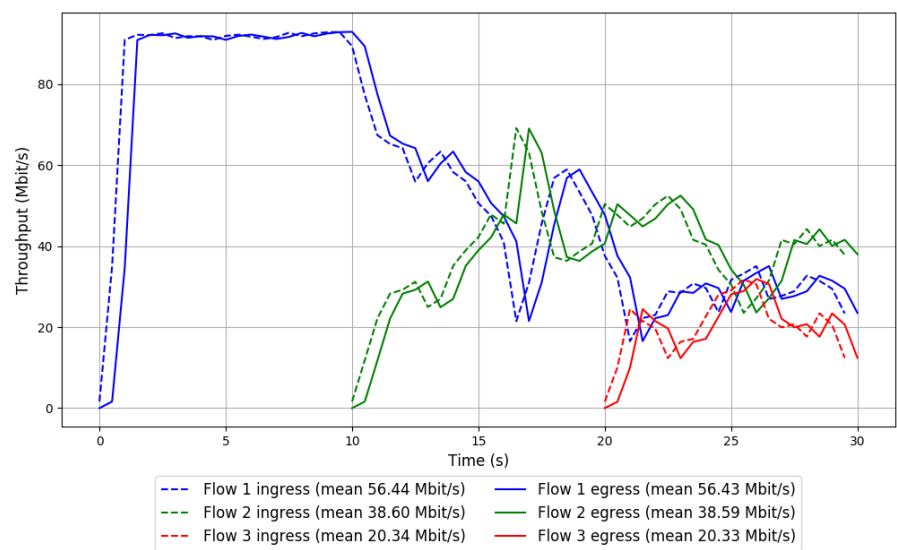
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-10-02 10:42:48
End at: 2018-10-02 10:43:18
Local clock offset: -6.66 ms
Remote clock offset: 0.347 ms


# Below is generated by plot.py at 2018-10-02 11:58:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.82 Mbit/s
95th percentile per-packet one-way delay: 3.194 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.43 Mbit/s
95th percentile per-packet one-way delay: 2.849 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.59 Mbit/s
95th percentile per-packet one-way delay: 3.562 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.33 Mbit/s
95th percentile per-packet one-way delay: 5.049 ms
Loss rate: 0.00%
```
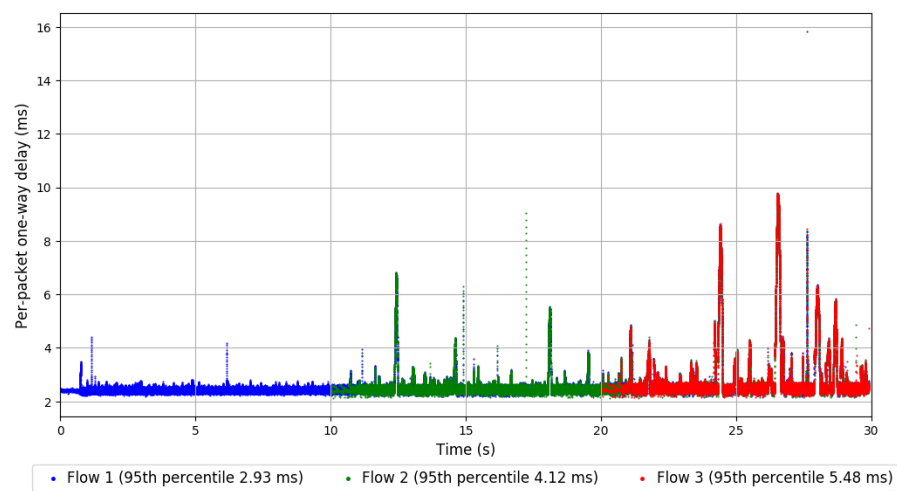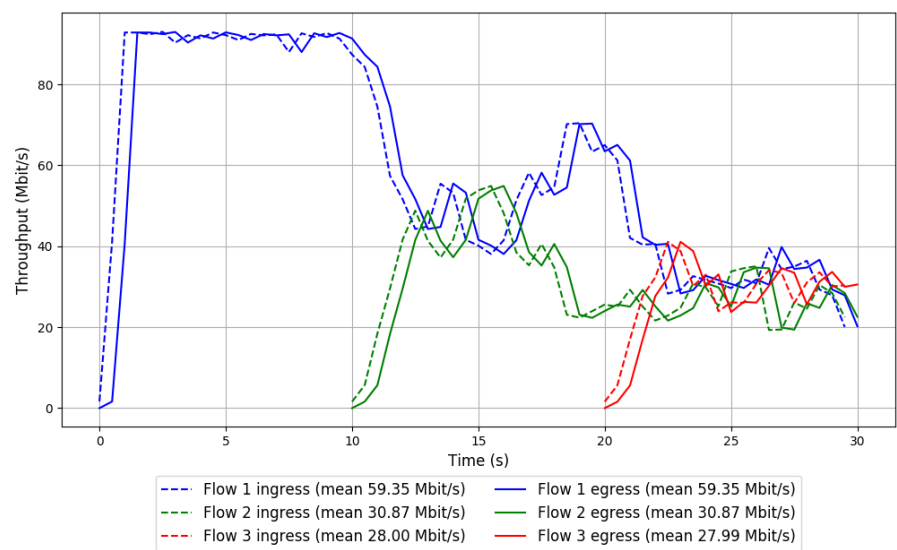
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-10-02 11:03:17
End at: 2018-10-02 11:03:47
Local clock offset: -3.32 ms
Remote clock offset: 0.789 ms


# Below is generated by plot.py at 2018-10-02 11:58:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.12 Mbit/s
95th percentile per-packet one-way delay: 3.550 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.35 Mbit/s
95th percentile per-packet one-way delay: 2.931 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.87 Mbit/s
95th percentile per-packet one-way delay: 4.115 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.99 Mbit/s
95th percentile per-packet one-way delay: 5.478 ms
Loss rate: 0.00%
```
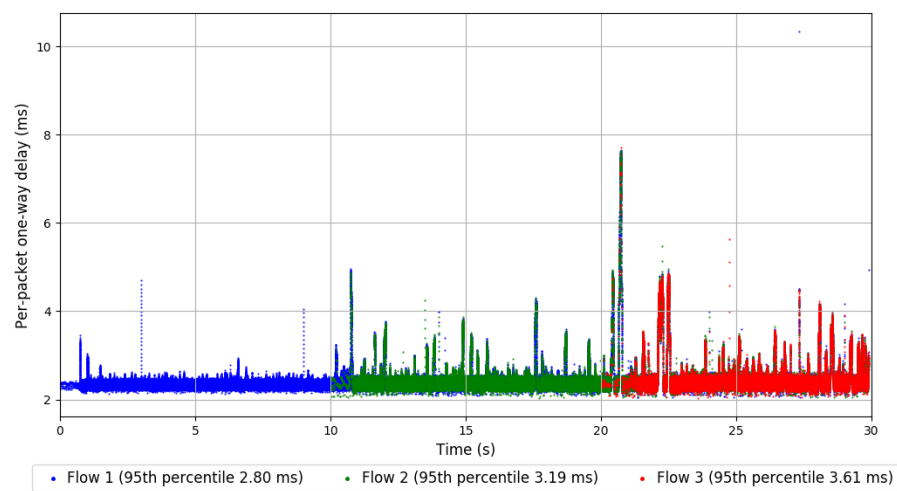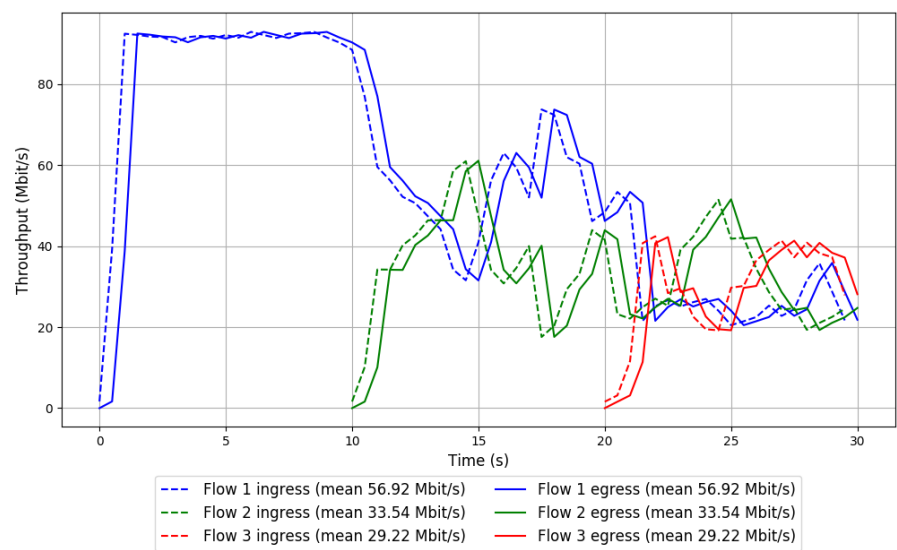
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-10-02 11:23:46
End at: 2018-10-02 11:24:16
Local clock offset: -2.982 ms
Remote clock offset: 1.032 ms


# Below is generated by plot.py at 2018-10-02 11:58:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.88 Mbit/s
95th percentile per-packet one-way delay: 3.073 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.92 Mbit/s
95th percentile per-packet one-way delay: 2.802 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.54 Mbit/s
95th percentile per-packet one-way delay: 3.186 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.22 Mbit/s
95th percentile per-packet one-way delay: 3.608 ms
Loss rate: 0.00%
```
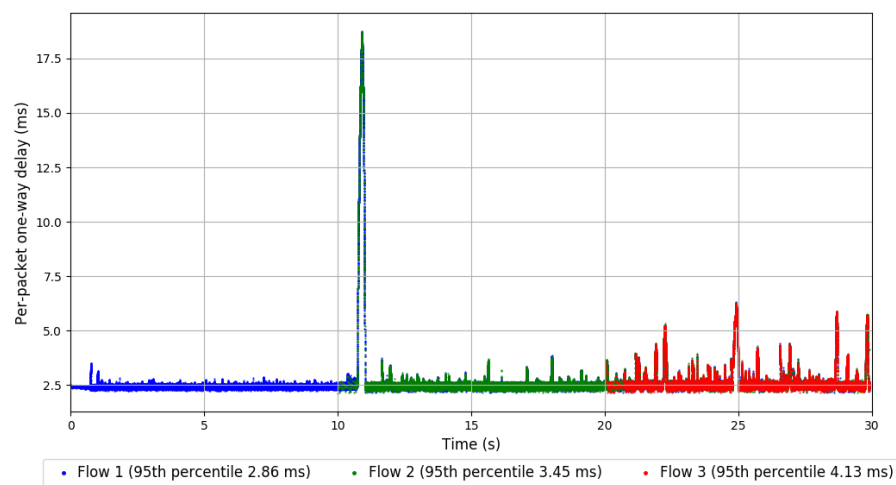
Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-10-02 11:44:17
End at: 2018-10-02 11:44:47
Local clock offset: -2.89 ms
Remote clock offset: 1.069 ms


# Below is generated by plot.py at 2018-10-02 11:58:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.15 Mbit/s
95th percentile per-packet one-way delay: 3.181 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.47 Mbit/s
95th percentile per-packet one-way delay: 2.858 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.90 Mbit/s
95th percentile per-packet one-way delay: 3.453 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 25.64 Mbit/s
95th percentile per-packet one-way delay: 4.133 ms
Loss rate: 0.00%
```
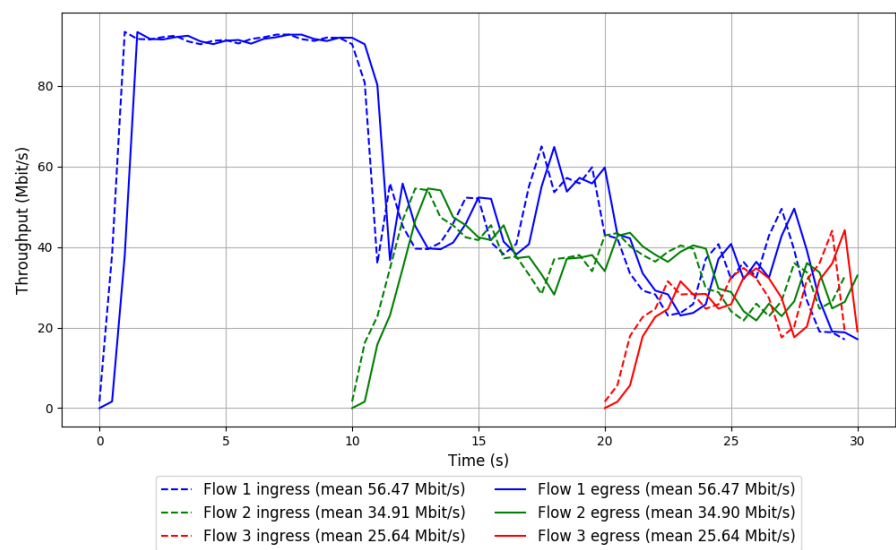
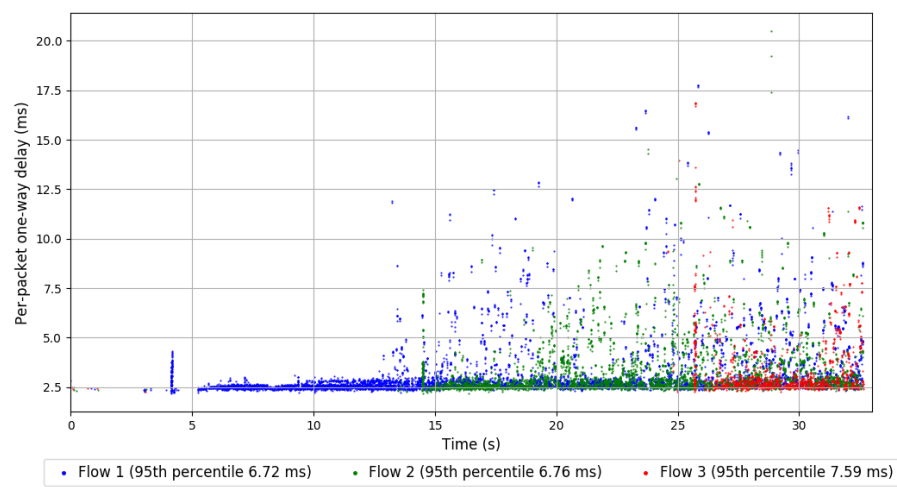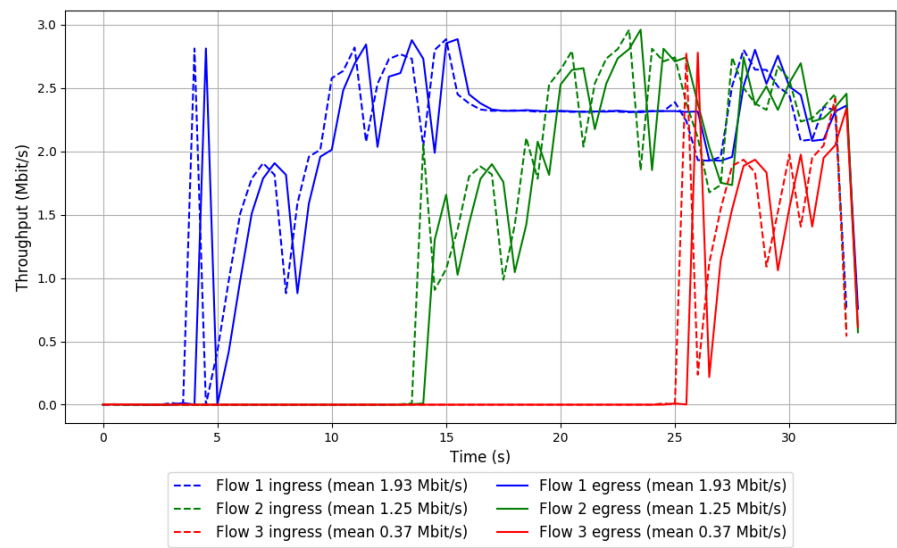Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-10-02 10:07:33
End at: 2018-10-02 10:08:03
Local clock offset: -7.396 ms
Remote clock offset: -0.399 ms

# Below is generated by plot.py at 2018-10-02 11:58:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.55 Mbit/s
95th percentile per-packet one-way delay: 6.786 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 6.724 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 6.762 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 7.588 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-10-02 10:28:04
End at: 2018-10-02 10:28:34
Local clock offset: -6.793 ms
Remote clock offset: 0.009 ms


# Below is generated by plot.py at 2018-10-02 11:58:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.56 Mbit/s
95th percentile per-packet one-way delay: 6.493 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 6.364 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 6.361 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 7.372 ms
Loss rate: 0.19%
```
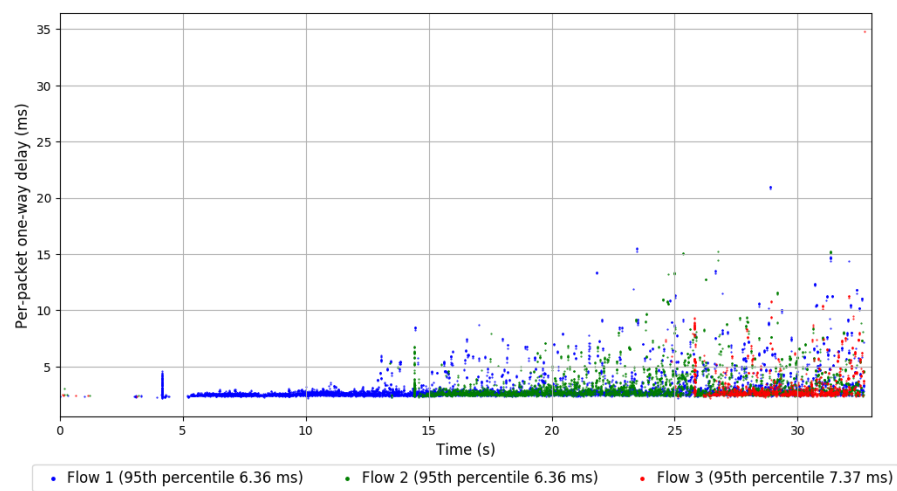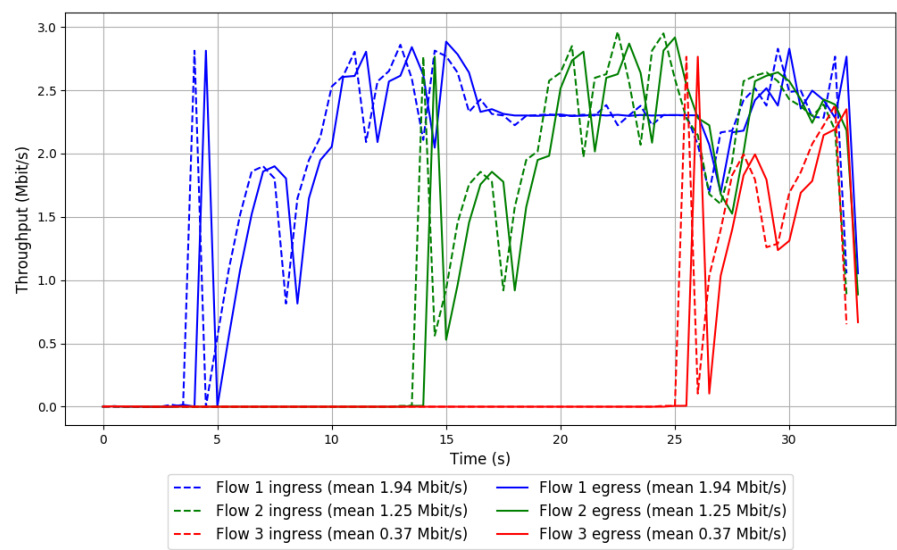
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-10-02 10:48:32
End at: 2018-10-02 10:49:02
Local clock offset: -5.665 ms
Remote clock offset: 0.496 ms


# Below is generated by plot.py at 2018-10-02 11:58:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.58 Mbit/s
95th percentile per-packet one-way delay: 6.726 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 6.469 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 7.062 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 7.556 ms
Loss rate: 0.00%
```
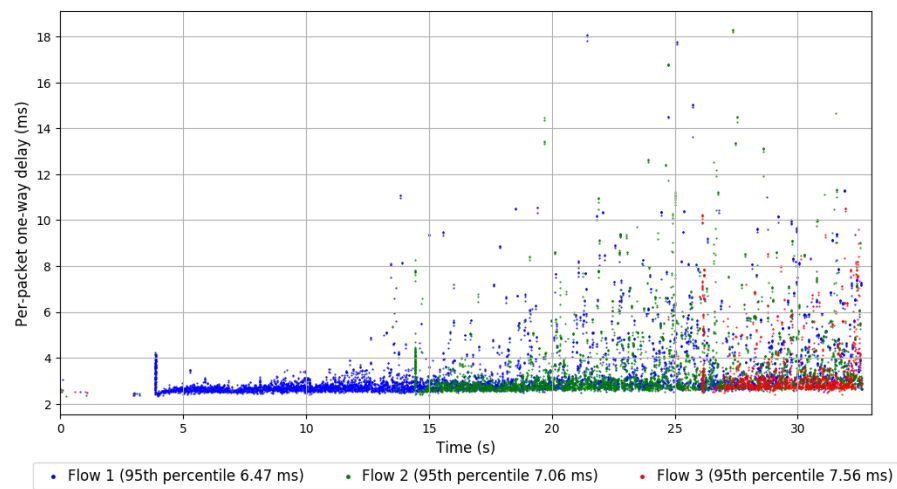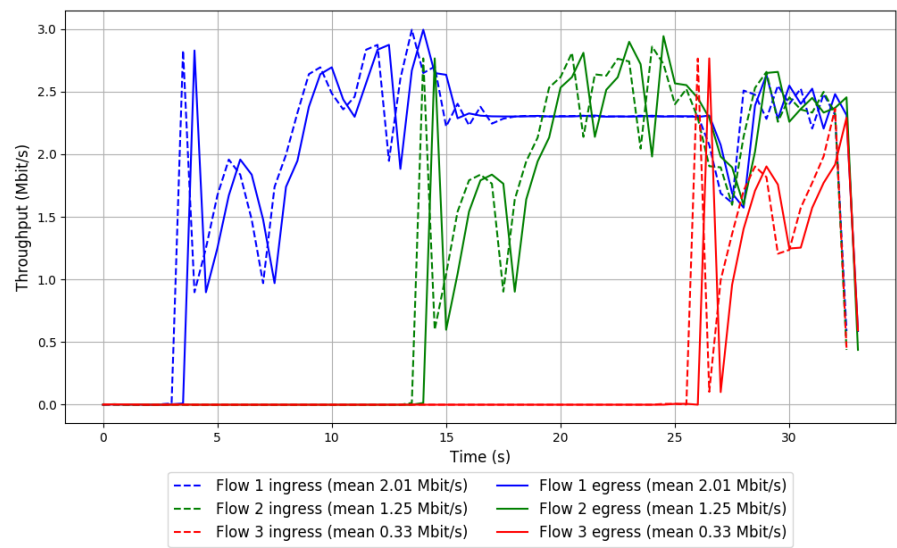
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-10-02 11:09:02
End at: 2018-10-02 11:09:32
Local clock offset: -2.911 ms
Remote clock offset: 0.82 ms


# Below is generated by plot.py at 2018-10-02 11:58:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 6.173 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 5.864 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 6.277 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 7.034 ms
Loss rate: 0.31%
```
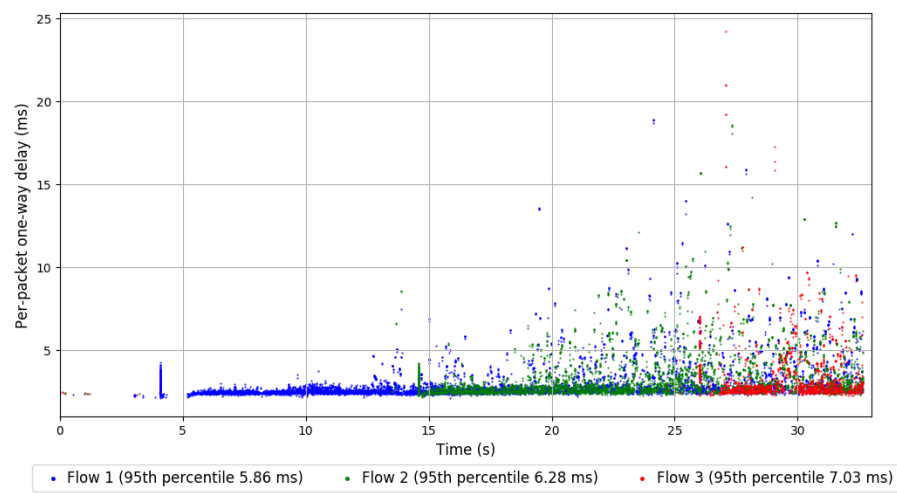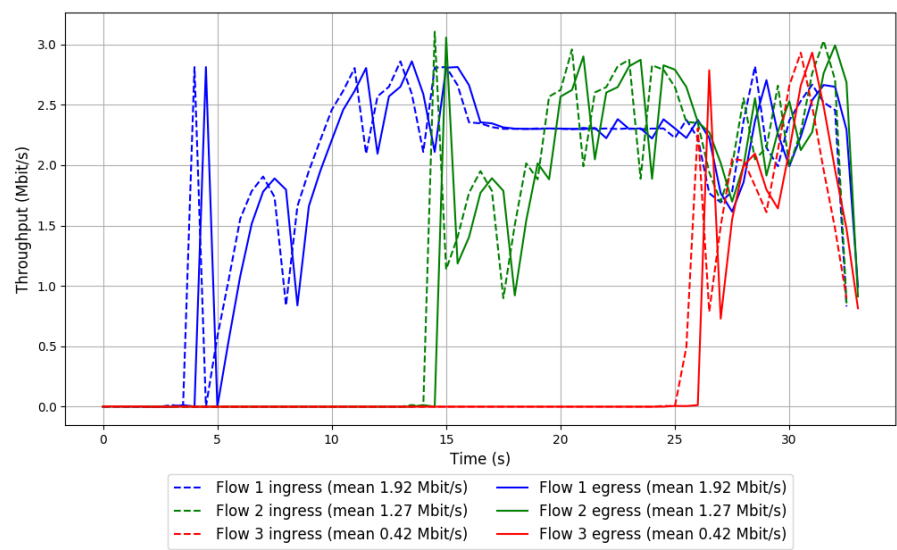
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-10-02 11:29:31
End at: 2018-10-02 11:30:01
Local clock offset: -3.046 ms
Remote clock offset: 0.947 ms


# Below is generated by plot.py at 2018-10-02 11:58:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.58 Mbit/s
95th percentile per-packet one-way delay: 6.162 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 6.081 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 6.380 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 5.410 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

184