Pantheon Report

Generated at 2018-11-03 21:16:04 (UTC).

Data path: GCE Iowa on `ens4` (*remote*) →GCE London on `ens4` (*local*).

Repeated the test of 18 congestion control schemes 5 times.

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

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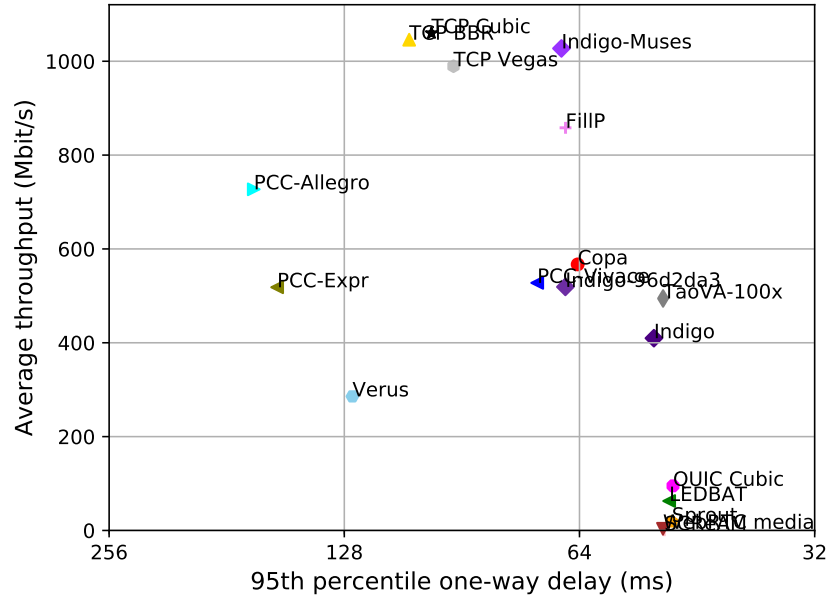
```
System info:
Linux 4.15.0-1021-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 794ca3866981572cb73700a276691acf79c60f2b
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
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
```
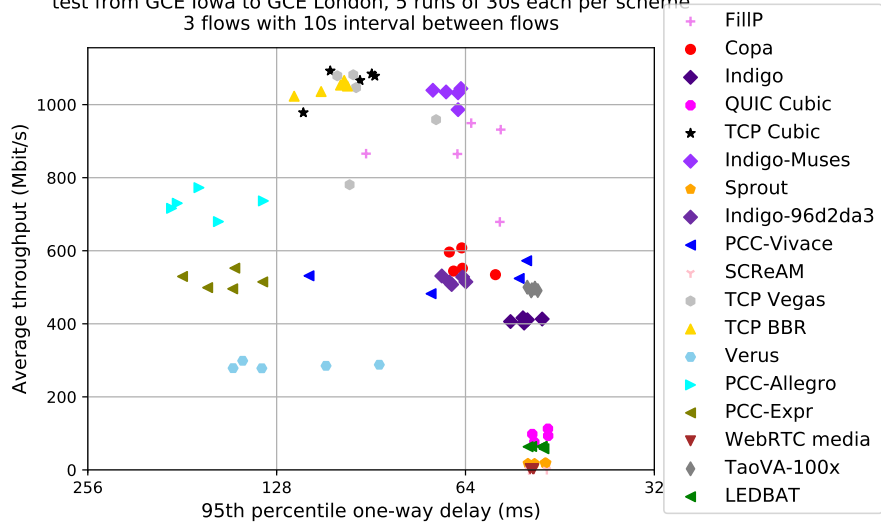
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from GCE Iowa to GCE London, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from GCE Iowa to GCE London, 5 runs of 30s each per scheme
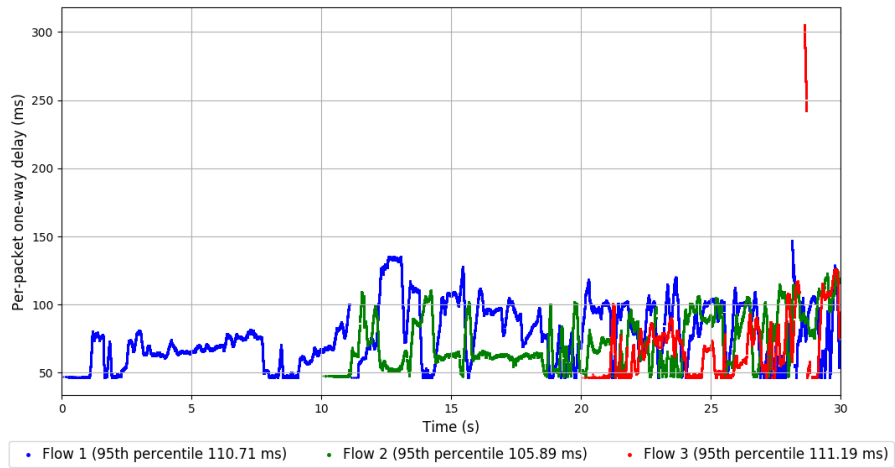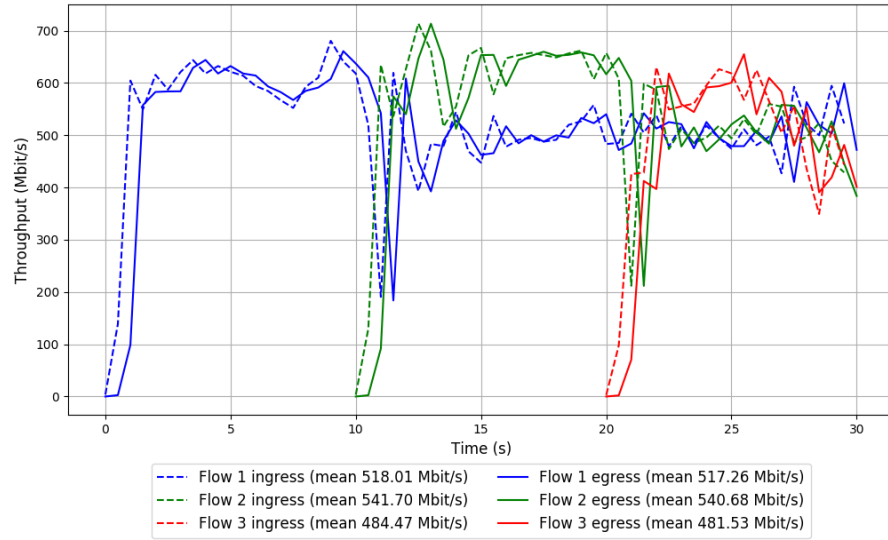3 flows with 10s interval between flows

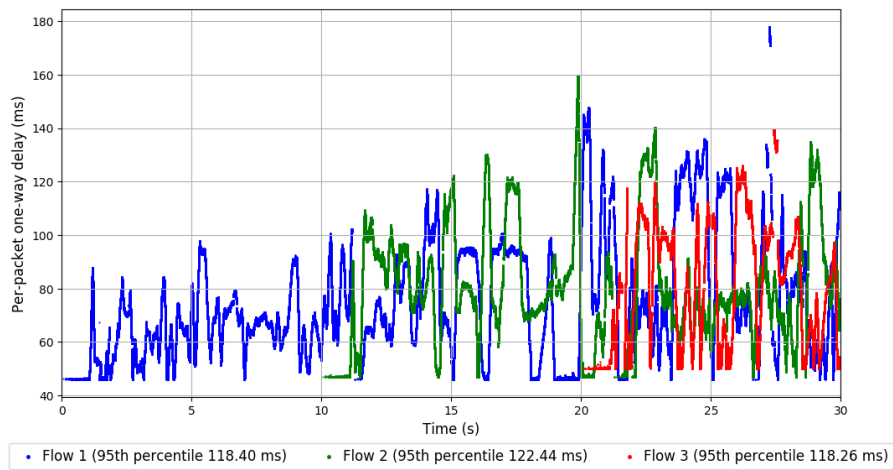| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	540.25	534.19	455.40	103.99	101.12	110.24	0.43	0.61	1.40
Copa	5	299.89	279.99	245.09	61.58	65.66	77.35	0.29	0.49	1.08
TCP Cubic	5	560.63	503.59	497.50	87.31	101.73	92.97	0.35	0.58	1.33
FillP	5	533.01	358.21	265.03	71.89	51.58	50.10	0.28	0.38	1.08
Indigo	5	215.81	203.44	180.94	51.59	50.20	49.74	0.33	0.51	1.13
Indigo-96d2da3	5	270.37	258.37	237.38	67.57	69.46	63.59	0.39	0.63	0.93
LEDBAT	5	39.95	27.72	13.30	48.65	47.96	49.04	0.51	0.95	1.95
Indigo-Muses	5	559.88	499.63	417.41	66.99	69.78	62.52	0.28	0.50	1.29
PCC-Allegro	5	414.79	335.78	273.51	170.32	131.21	94.56	3.05	1.59	1.19
PCC-Expr	5	297.82	264.89	136.07	155.92	158.40	71.15	2.56	2.79	1.51
QUIC Cubic	4	57.42	33.27	46.52	48.60	46.58	46.99	0.45	1.07	1.02
SCReAM	5	0.22	0.22	0.22	47.88	49.04	47.49	0.28	0.61	1.02
Sprout	5	9.60	9.06	8.95	47.47	48.68	47.22	0.35	0.54	1.13
TaoVA-100x	5	249.16	249.65	240.13	49.34	48.65	49.02	0.29	0.50	1.04
TCP Vegas	5	494.24	522.38	449.86	82.55	90.37	84.23	0.33	0.44	1.18
Verus	5	167.32	132.68	92.41	123.68	107.09	69.91	0.27	0.71	0.73
PCC-Vivace	4	321.04	274.20	74.94	84.21	54.37	47.44	0.46	0.61	1.58
WebRTC media	5	1.86	1.20	0.48	47.62	48.16	49.57	0.39	0.52	1.28

```
Run 1: Statistics of TCP BBR

Start at: 2018-11-03 15:56:04
End at: 2018-11-03 15:56:34
Local clock offset: -0.024 ms
Remote clock offset: -0.073 ms


# Below is generated by plot.py at 2018-11-03 19:02:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1035.86 Mbit/s
95th percentile per-packet one-way delay: 108.725 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 517.26 Mbit/s
95th percentile per-packet one-way delay: 110.709 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 540.68 Mbit/s
95th percentile per-packet one-way delay: 105.890 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 481.53 Mbit/s
95th percentile per-packet one-way delay: 111.191 ms
Loss rate: 1.56%
```
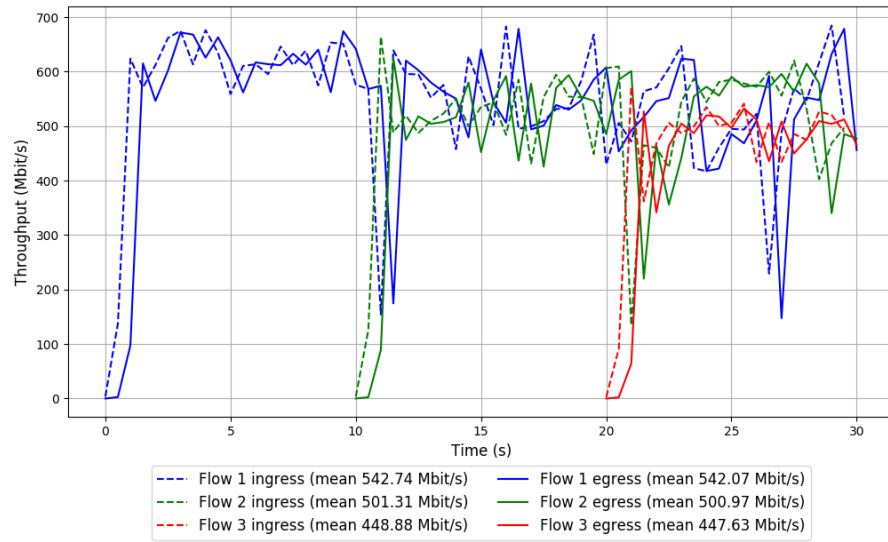
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-11-03 16:27:23
End at: 2018-11-03 16:27:53
Local clock offset: -0.329 ms
Remote clock offset: -0.081 ms


# Below is generated by plot.py at 2018-11-03 19:02:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1023.04 Mbit/s
95th percentile per-packet one-way delay: 120.024 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 542.07 Mbit/s
95th percentile per-packet one-way delay: 118.403 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 500.97 Mbit/s
95th percentile per-packet one-way delay: 122.438 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 447.63 Mbit/s
95th percentile per-packet one-way delay: 118.263 ms
Loss rate: 1.27%
```

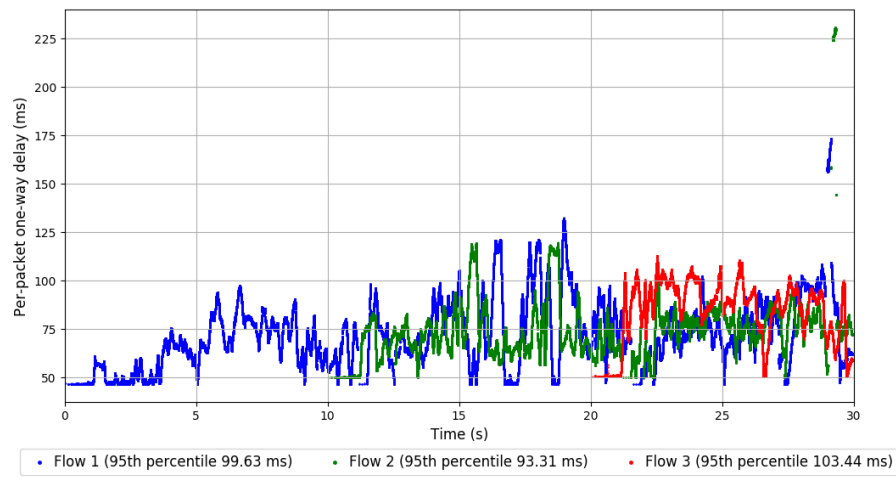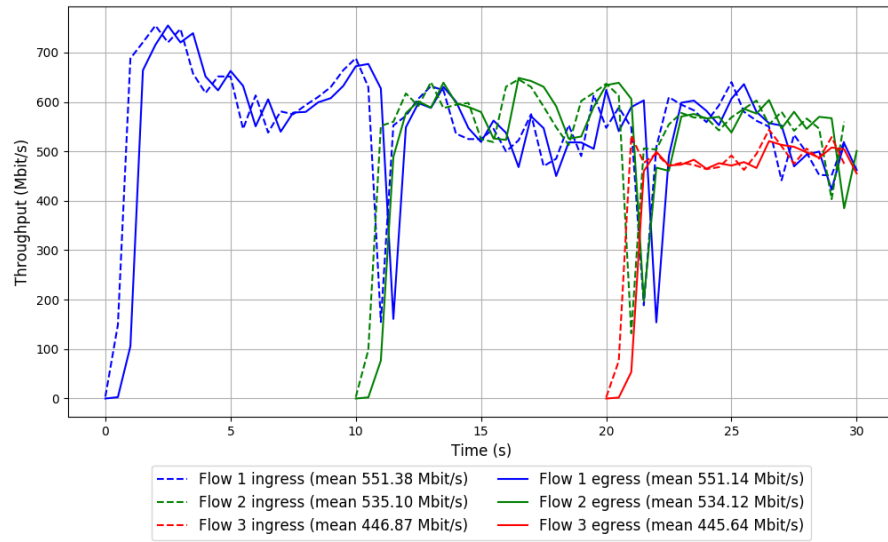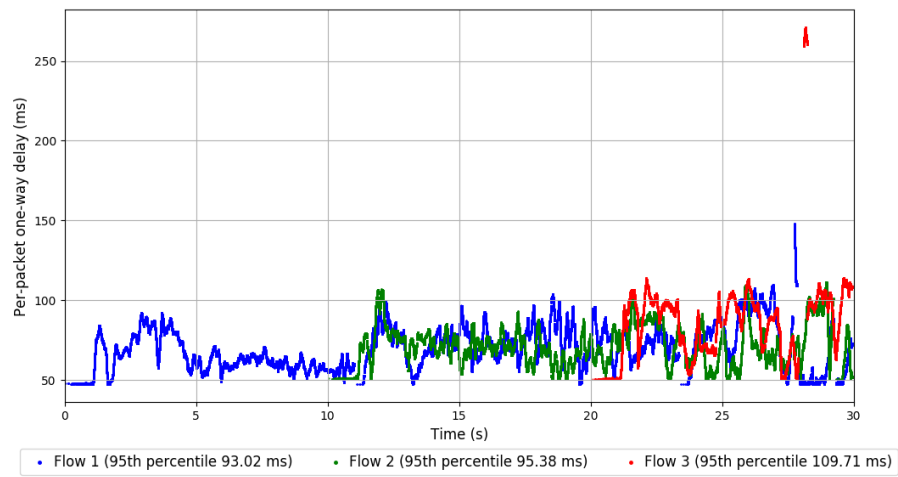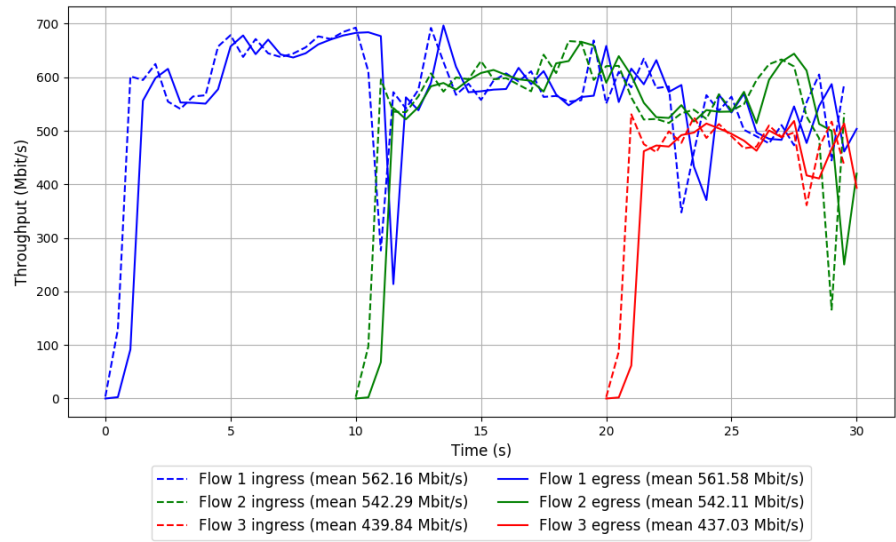Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 542.74 Mbit/s) --- Flow 1 egress (mean 542.07 Mbit/s)
Flow 2 ingress (mean 501.31 Mbit/s) --- Flow 2 egress (mean 500.97 Mbit/s)
Flow 3 ingress (mean 448.88 Mbit/s) --- Flow 3 egress (mean 447.63 Mbit/s)

Flow 1 (95th percentile 118.40 ms)   Flow 2 (95th percentile 122.44 ms)   Flow 3 (95th percentile 118.26 ms)

```
Run 3: Statistics of TCP BBR

Start at: 2018-11-03 16:59:14
End at: 2018-11-03 16:59:44
Local clock offset: 0.0 ms
Remote clock offset: -0.059 ms


# Below is generated by plot.py at 2018-11-03 19:02:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1053.50 Mbit/s
95th percentile per-packet one-way delay: 101.252 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 551.14 Mbit/s
95th percentile per-packet one-way delay: 99.627 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 534.12 Mbit/s
95th percentile per-packet one-way delay: 93.315 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 445.64 Mbit/s
95th percentile per-packet one-way delay: 103.438 ms
Loss rate: 1.26%
```

Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2018-11-03 17:30:31
End at: 2018-11-03 17:31:01
Local clock offset: -0.079 ms
Remote clock offset: -0.078 ms


# Below is generated by plot.py at 2018-11-03 19:03:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1066.30 Mbit/s
95th percentile per-packet one-way delay: 99.888 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 561.58 Mbit/s
95th percentile per-packet one-way delay: 93.020 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 542.11 Mbit/s
95th percentile per-packet one-way delay: 95.379 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 437.03 Mbit/s
95th percentile per-packet one-way delay: 109.708 ms
Loss rate: 1.62%
```
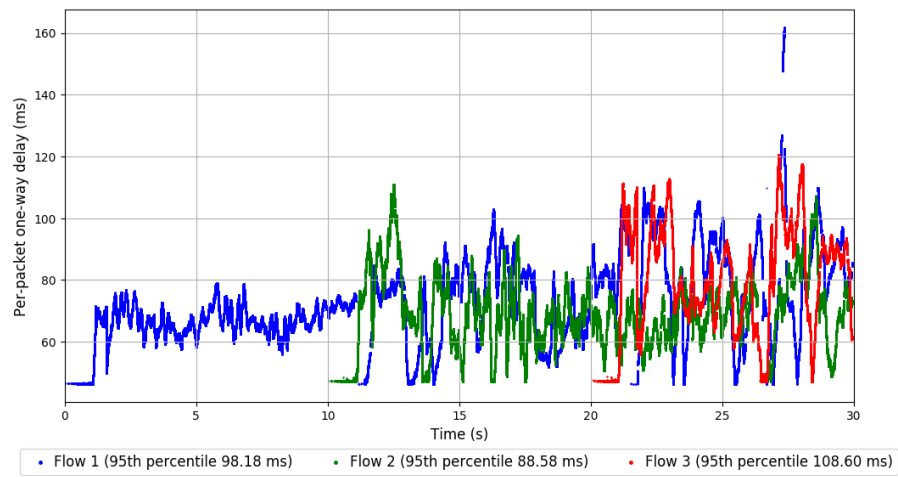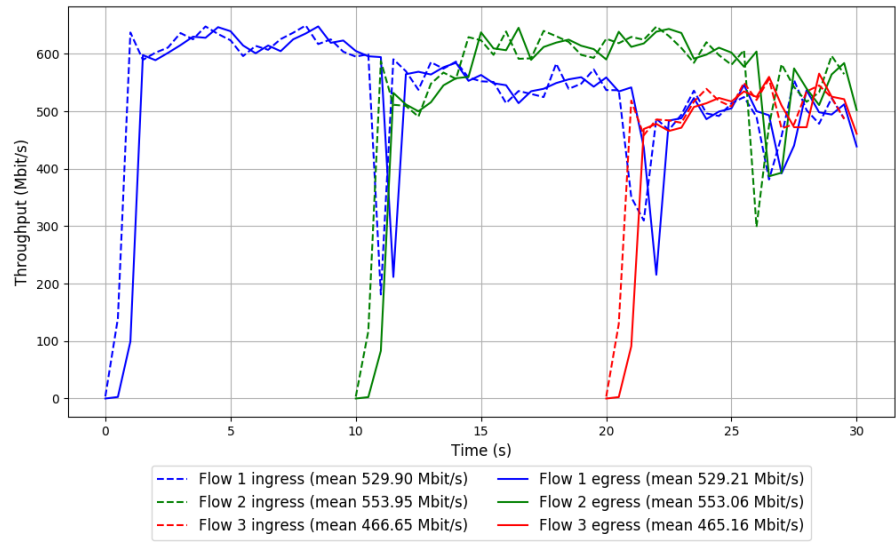
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2018-11-03 18:01:54
End at: 2018-11-03 18:02:24
Local clock offset: -0.123 ms
Remote clock offset: -0.07 ms


# Below is generated by plot.py at 2018-11-03 19:03:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1050.87 Mbit/s
95th percentile per-packet one-way delay: 98.719 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 529.21 Mbit/s
95th percentile per-packet one-way delay: 98.183 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 553.06 Mbit/s
95th percentile per-packet one-way delay: 88.585 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 465.16 Mbit/s
95th percentile per-packet one-way delay: 108.600 ms
Loss rate: 1.28%
```
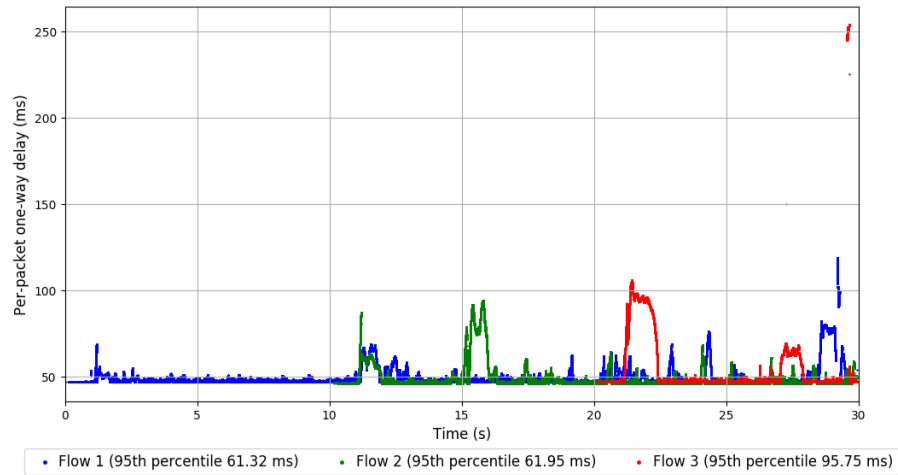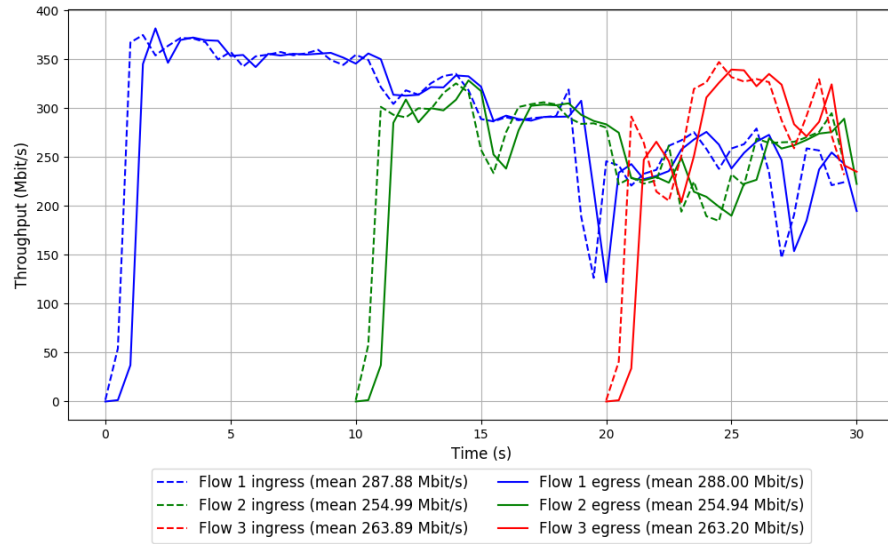
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 529.90 Mbit/s) --- Flow 1 egress (mean 529.21 Mbit/s) ---
Flow 2 ingress (mean 553.95 Mbit/s) --- Flow 2 egress (mean 553.06 Mbit/s) ---
Flow 3 ingress (mean 466.65 Mbit/s) --- Flow 3 egress (mean 465.16 Mbit/s) ---

Flow 1 (95th percentile 98.18 ms)   Flow 2 (95th percentile 88.58 ms)   Flow 3 (95th percentile 108.60 ms)
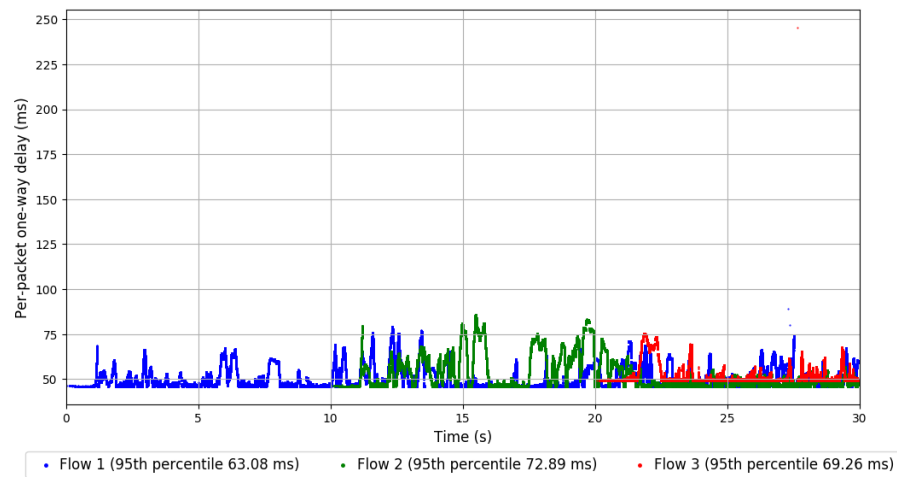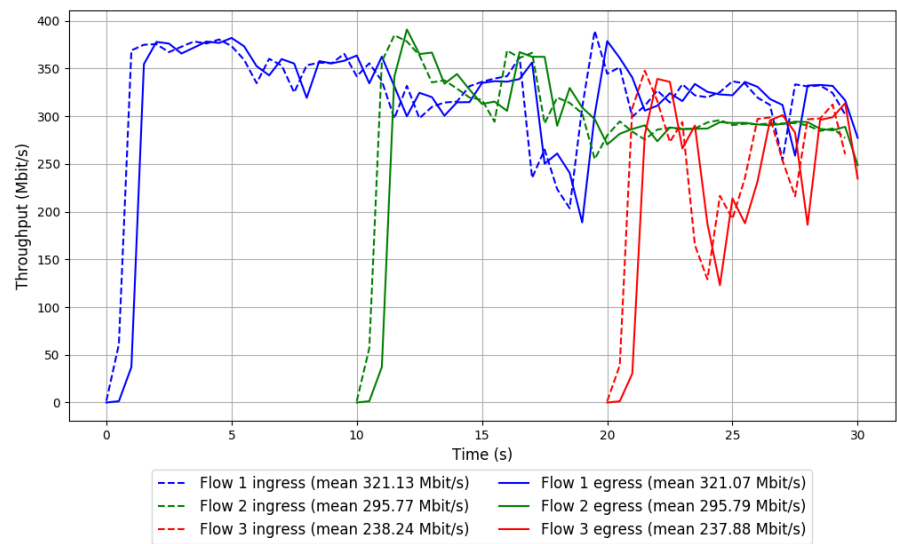
14

```
Run 1: Statistics of Copa

Start at: 2018-11-03 15:54:03
End at: 2018-11-03 15:54:33
Local clock offset: -0.006 ms
Remote clock offset: -0.075 ms


# Below is generated by plot.py at 2018-11-03 19:03:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 544.38 Mbit/s
95th percentile per-packet one-way delay: 66.859 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 288.00 Mbit/s
95th percentile per-packet one-way delay: 61.319 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 254.94 Mbit/s
95th percentile per-packet one-way delay: 61.949 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 263.20 Mbit/s
95th percentile per-packet one-way delay: 95.750 ms
Loss rate: 1.21%
```
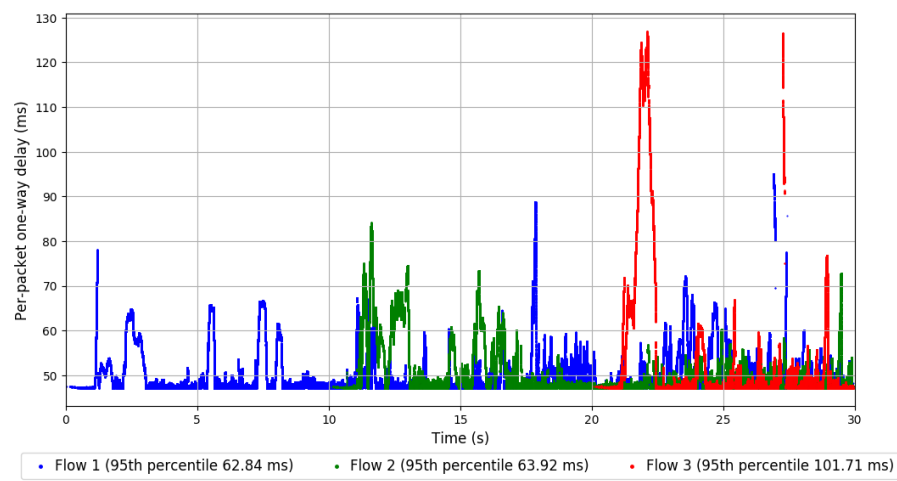
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-11-03 16:25:08
End at: 2018-11-03 16:25:38
Local clock offset: -0.394 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2018-11-03 19:04:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 596.39 Mbit/s
95th percentile per-packet one-way delay: 67.905 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 321.07 Mbit/s
95th percentile per-packet one-way delay: 63.084 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 295.79 Mbit/s
95th percentile per-packet one-way delay: 72.889 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 237.88 Mbit/s
95th percentile per-packet one-way delay: 69.258 ms
Loss rate: 1.12%
```
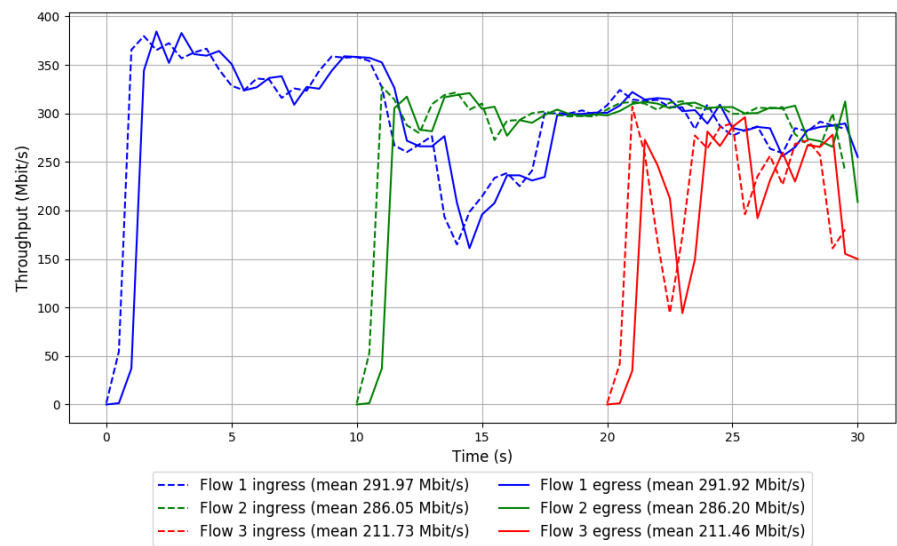
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 321.13 Mbit/s)   Flow 1 egress (mean 321.07 Mbit/s)
Flow 2 ingress (mean 295.77 Mbit/s)   Flow 2 egress (mean 295.79 Mbit/s)
Flow 3 ingress (mean 238.24 Mbit/s)   Flow 3 egress (mean 237.88 Mbit/s)

Flow 1 (95th percentile 63.08 ms)   Flow 2 (95th percentile 72.89 ms)   Flow 3 (95th percentile 69.26 ms)
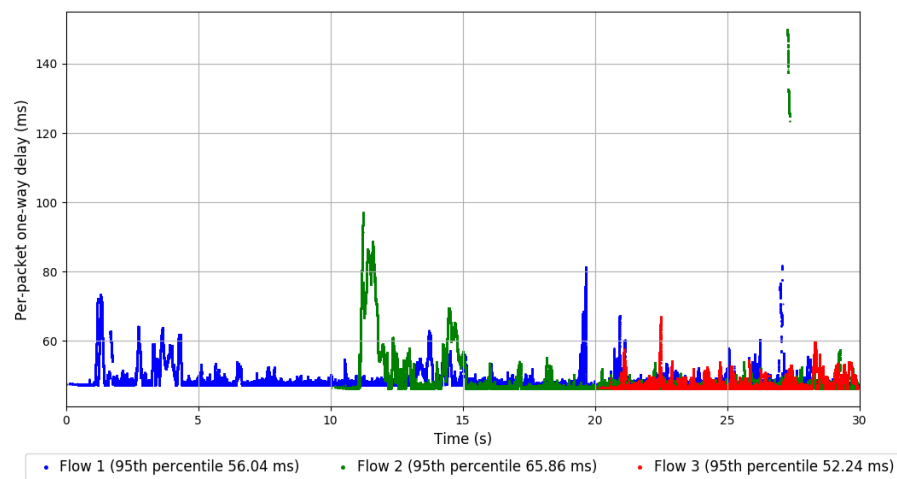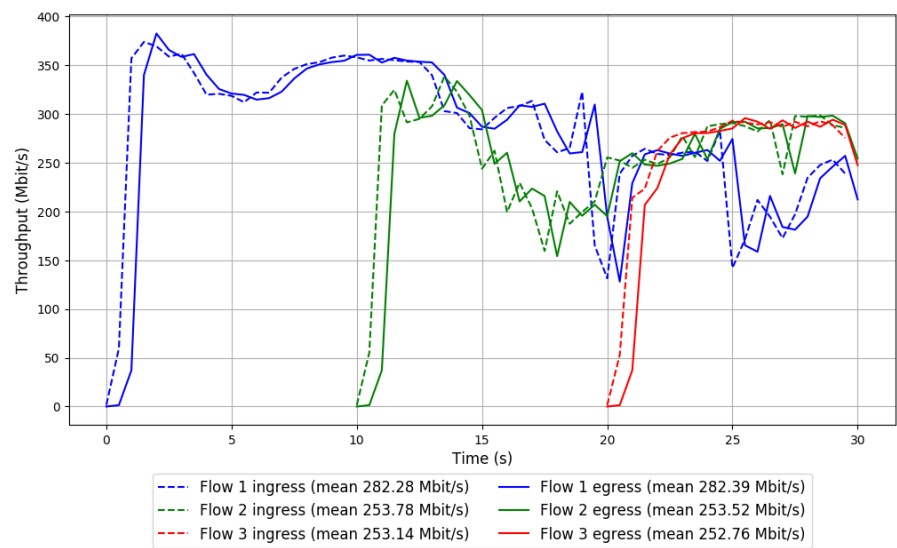
18

```
Run 3: Statistics of Copa

Start at: 2018-11-03 16:57:10
End at: 2018-11-03 16:57:40
Local clock offset: -0.012 ms
Remote clock offset: -0.008 ms


# Below is generated by plot.py at 2018-11-03 19:04:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 552.08 Mbit/s
95th percentile per-packet one-way delay: 64.732 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 291.92 Mbit/s
95th percentile per-packet one-way delay: 62.835 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 286.20 Mbit/s
95th percentile per-packet one-way delay: 63.917 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 211.46 Mbit/s
95th percentile per-packet one-way delay: 101.714 ms
Loss rate: 1.07%
```
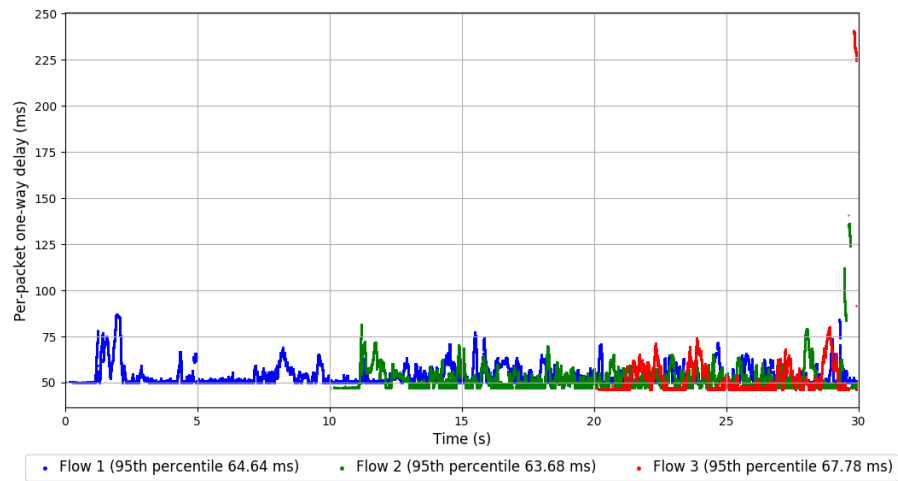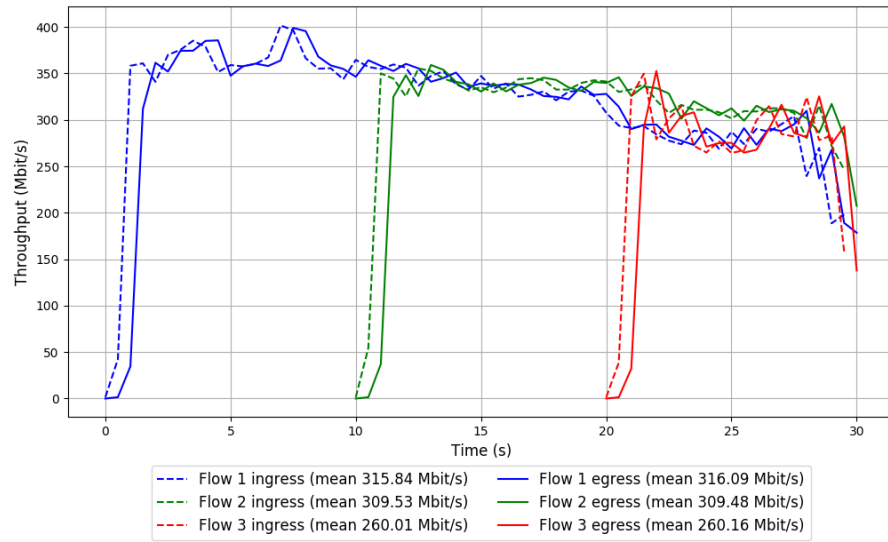
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-11-03 17:28:21
End at: 2018-11-03 17:28:51
Local clock offset: -0.031 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2018-11-03 19:22:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 534.51 Mbit/s
95th percentile per-packet one-way delay: 57.335 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 282.39 Mbit/s
95th percentile per-packet one-way delay: 56.040 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 253.52 Mbit/s
95th percentile per-packet one-way delay: 65.865 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 252.76 Mbit/s
95th percentile per-packet one-way delay: 52.245 ms
Loss rate: 1.09%
```
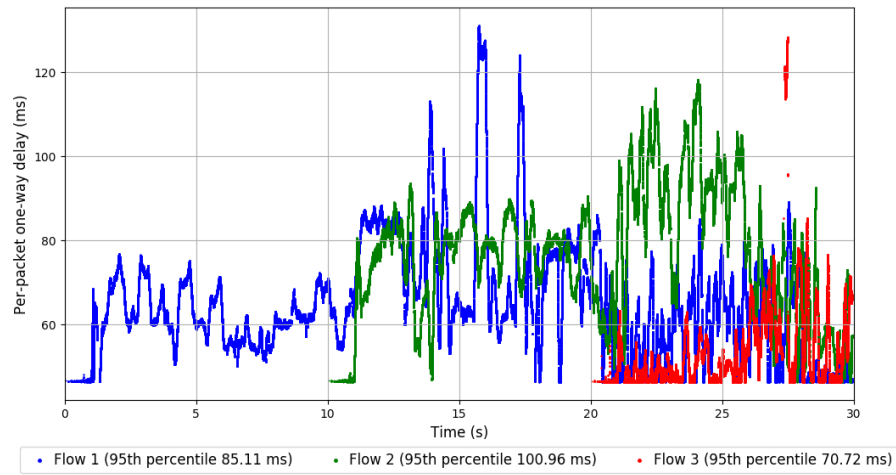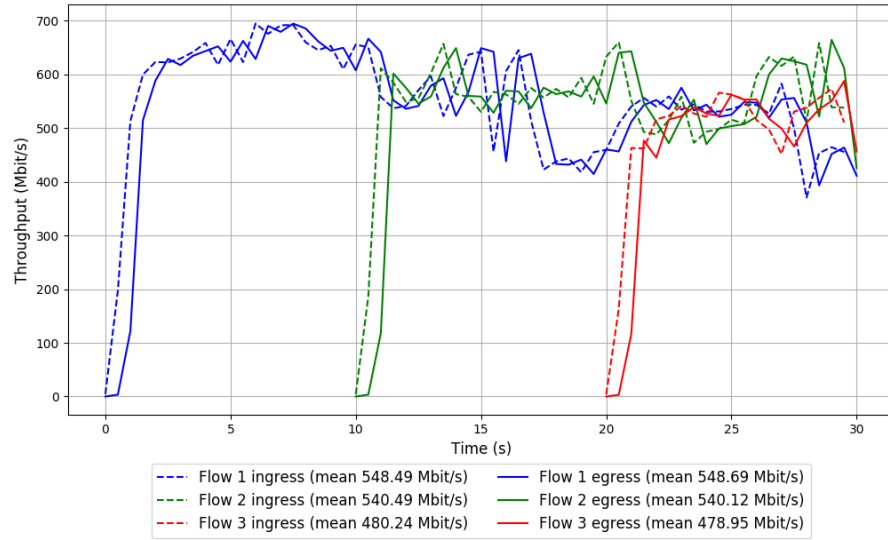
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 282.28 Mbit/s)   Flow 1 egress (mean 282.39 Mbit/s)
Flow 2 ingress (mean 253.78 Mbit/s)   Flow 2 egress (mean 253.52 Mbit/s)
Flow 3 ingress (mean 253.14 Mbit/s)   Flow 3 egress (mean 252.76 Mbit/s)

Flow 1 (95th percentile 56.04 ms)   Flow 2 (95th percentile 65.86 ms)   Flow 3 (95th percentile 52.24 ms)

22

```
Run 5: Statistics of Copa

Start at: 2018-11-03 17:59:46
End at: 2018-11-03 18:00:16
Local clock offset: -0.124 ms
Remote clock offset: -0.067 ms


# Below is generated by plot.py at 2018-11-03 19:25:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 607.83 Mbit/s
95th percentile per-packet one-way delay: 64.887 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 316.09 Mbit/s
95th percentile per-packet one-way delay: 64.645 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 309.48 Mbit/s
95th percentile per-packet one-way delay: 63.683 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 260.16 Mbit/s
95th percentile per-packet one-way delay: 67.780 ms
Loss rate: 0.89%
```
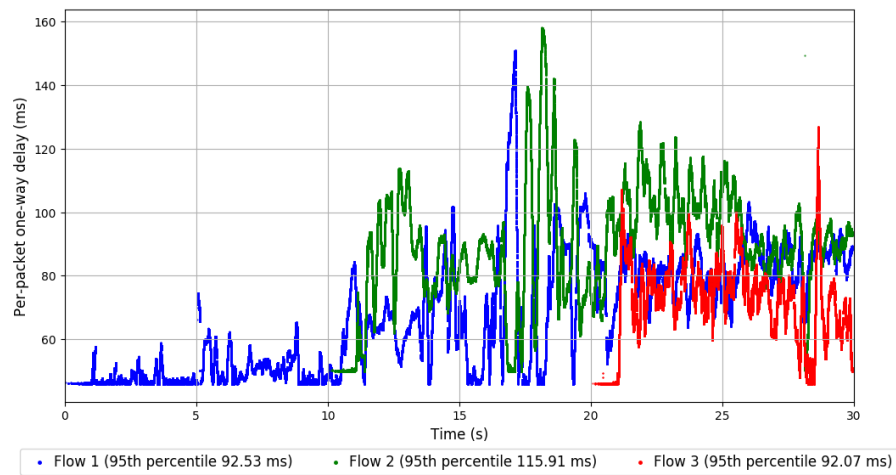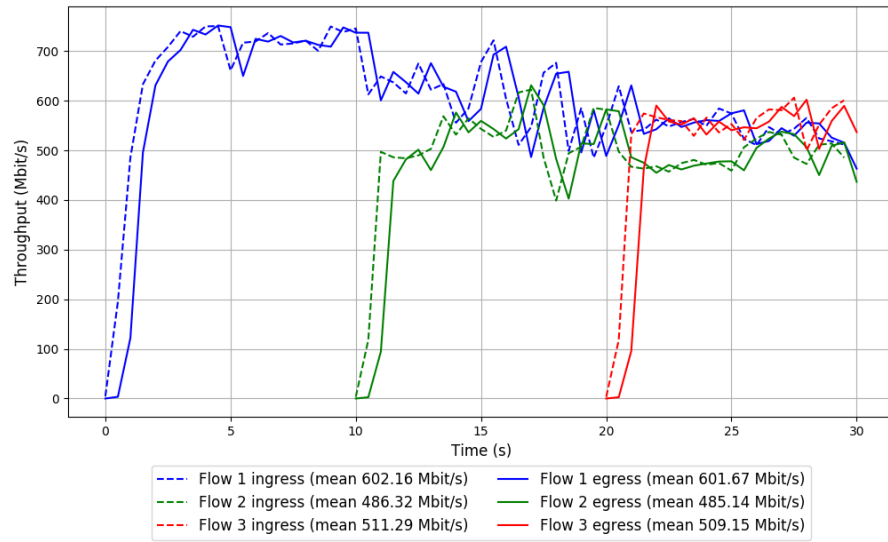
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-11-03 16:01:23
End at: 2018-11-03 16:01:53
Local clock offset: -0.037 ms
Remote clock offset: -0.114 ms


# Below is generated by plot.py at 2018-11-03 19:25:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1066.31 Mbit/s
95th percentile per-packet one-way delay: 94.265 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 548.69 Mbit/s
95th percentile per-packet one-way delay: 85.114 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 540.12 Mbit/s
95th percentile per-packet one-way delay: 100.962 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 478.95 Mbit/s
95th percentile per-packet one-way delay: 70.723 ms
Loss rate: 1.21%
```

Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-11-03 16:32:57
End at: 2018-11-03 16:33:27
Local clock offset: -0.359 ms
Remote clock offset: -0.038 ms


# Below is generated by plot.py at 2018-11-03 19:25:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1092.41 Mbit/s
95th percentile per-packet one-way delay: 105.129 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 601.67 Mbit/s
95th percentile per-packet one-way delay: 92.526 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 485.14 Mbit/s
95th percentile per-packet one-way delay: 115.910 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 509.15 Mbit/s
95th percentile per-packet one-way delay: 92.070 ms
Loss rate: 1.38%
```
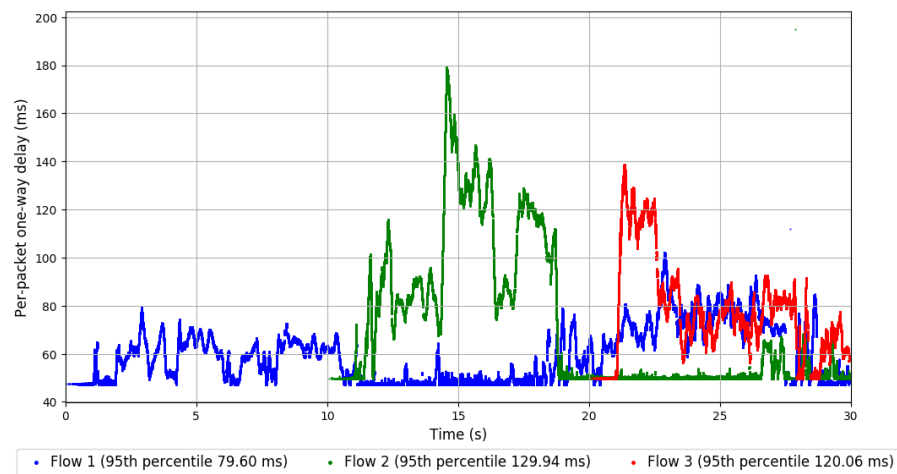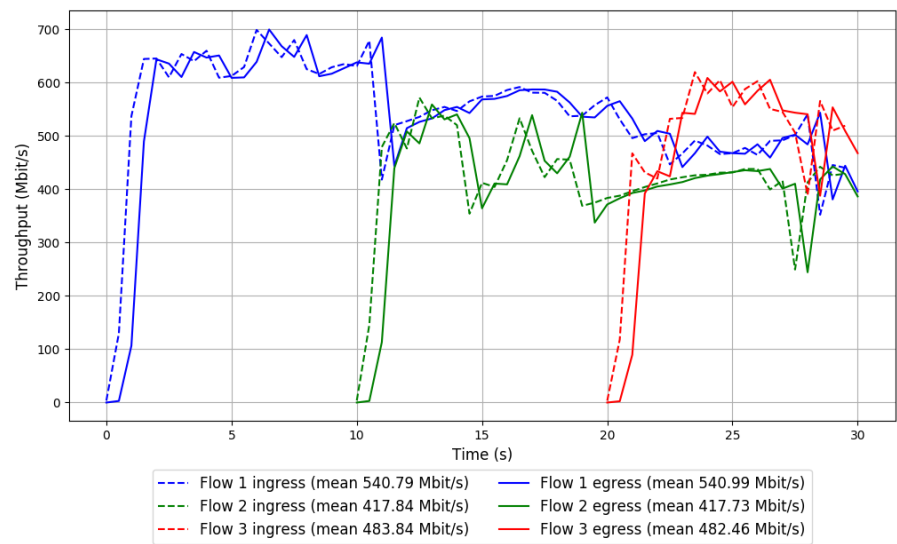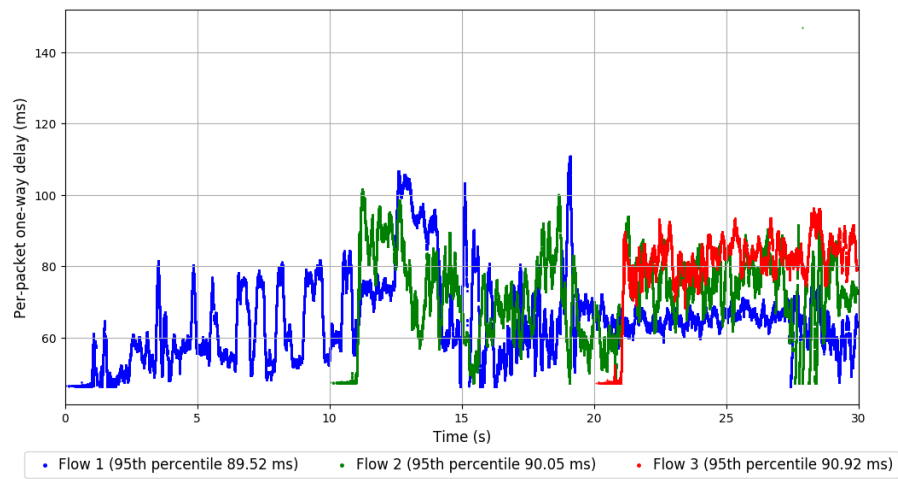
Run 2: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 602.16 Mbit/s) —— Flow 1 egress (mean 601.67 Mbit/s)
- - - Flow 2 ingress (mean 486.32 Mbit/s) —— Flow 2 egress (mean 485.14 Mbit/s)
- - - Flow 3 ingress (mean 511.29 Mbit/s) —— Flow 3 egress (mean 509.15 Mbit/s)

• Flow 1 (95th percentile 92.53 ms)　　• Flow 2 (95th percentile 115.91 ms)　　• Flow 3 (95th percentile 92.07 ms)
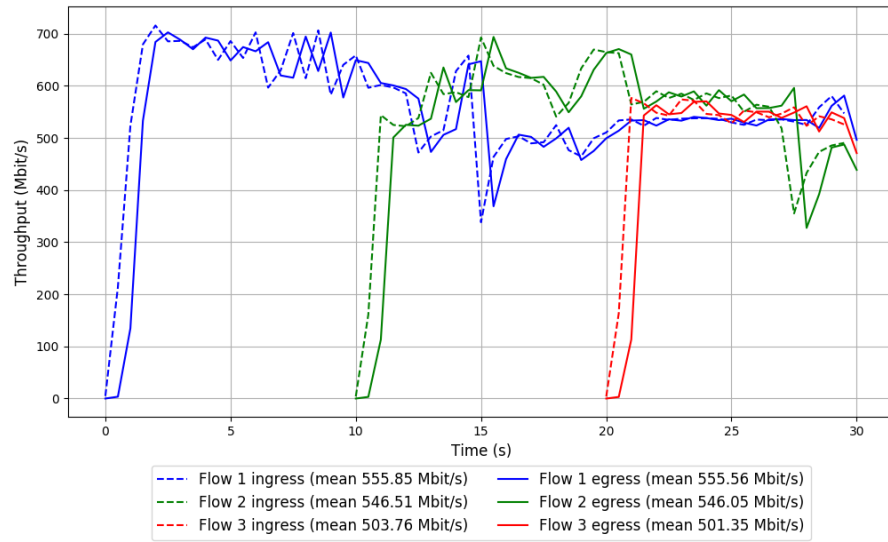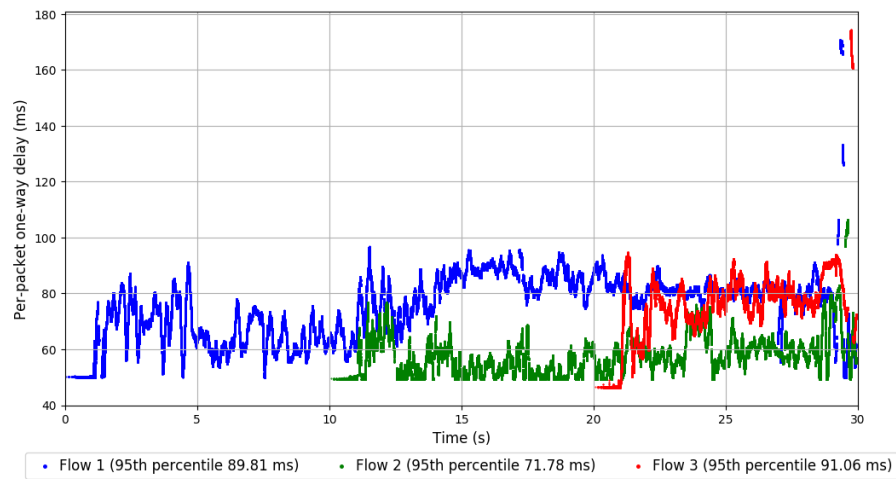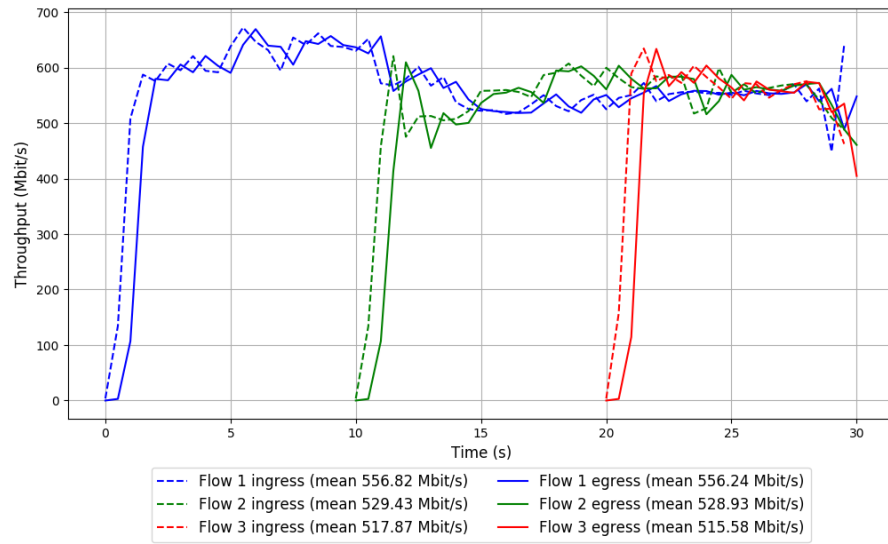
```
Run 3: Statistics of TCP Cubic

Start at: 2018-11-03 17:04:35
End at: 2018-11-03 17:05:05
Local clock offset: -0.027 ms
Remote clock offset: -0.02 ms


# Below is generated by plot.py at 2018-11-03 19:25:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 978.10 Mbit/s
95th percentile per-packet one-way delay: 116.049 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 540.99 Mbit/s
95th percentile per-packet one-way delay: 79.599 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 417.73 Mbit/s
95th percentile per-packet one-way delay: 129.940 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 482.46 Mbit/s
95th percentile per-packet one-way delay: 120.065 ms
Loss rate: 1.25%
```

Run 3: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 540.79 Mbit/s) ——— Flow 1 egress (mean 540.99 Mbit/s)
- - - Flow 2 ingress (mean 417.84 Mbit/s) ——— Flow 2 egress (mean 417.73 Mbit/s)
- - - Flow 3 ingress (mean 483.84 Mbit/s) ——— Flow 3 egress (mean 482.46 Mbit/s)

- Flow 1 (95th percentile 79.60 ms)   - Flow 2 (95th percentile 129.94 ms)   - Flow 3 (95th percentile 120.06 ms)

30

```
Run 4: Statistics of TCP Cubic

Start at: 2018-11-03 17:35:56
End at: 2018-11-03 17:36:26
Local clock offset: -0.115 ms
Remote clock offset: -0.045 ms


# Below is generated by plot.py at 2018-11-03 19:25:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1084.28 Mbit/s
95th percentile per-packet one-way delay: 90.281 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 555.56 Mbit/s
95th percentile per-packet one-way delay: 89.515 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 546.05 Mbit/s
95th percentile per-packet one-way delay: 90.053 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 501.35 Mbit/s
95th percentile per-packet one-way delay: 90.916 ms
Loss rate: 1.42%
```

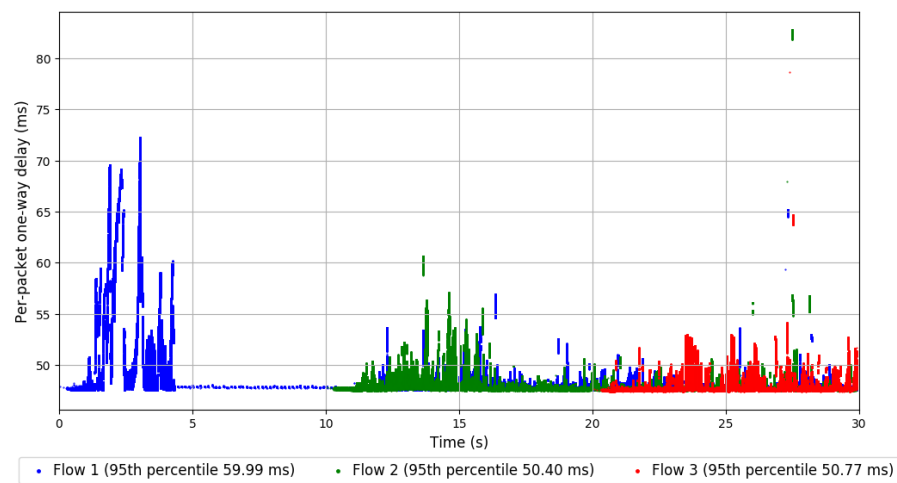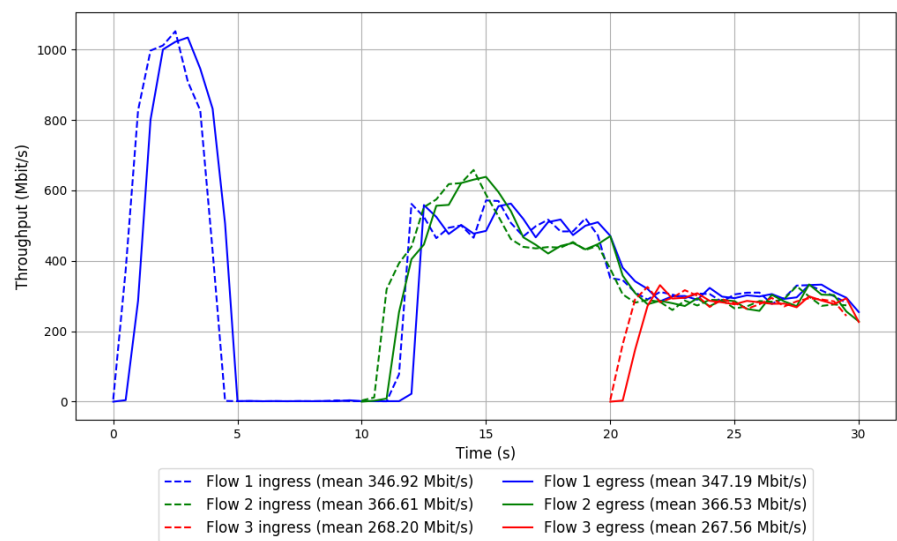Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-11-03 18:06:59
End at: 2018-11-03 18:07:29
Local clock offset: -0.134 ms
Remote clock offset: -0.101 ms


# Below is generated by plot.py at 2018-11-03 19:25:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1078.30 Mbit/s
95th percentile per-packet one-way delay: 89.279 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 556.24 Mbit/s
95th percentile per-packet one-way delay: 89.807 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 528.93 Mbit/s
95th percentile per-packet one-way delay: 71.777 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 515.58 Mbit/s
95th percentile per-packet one-way delay: 91.063 ms
Loss rate: 1.38%
```

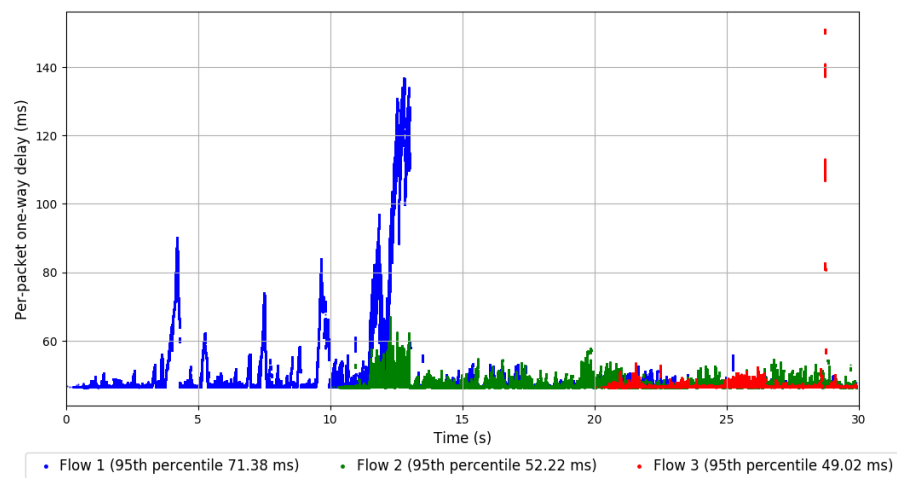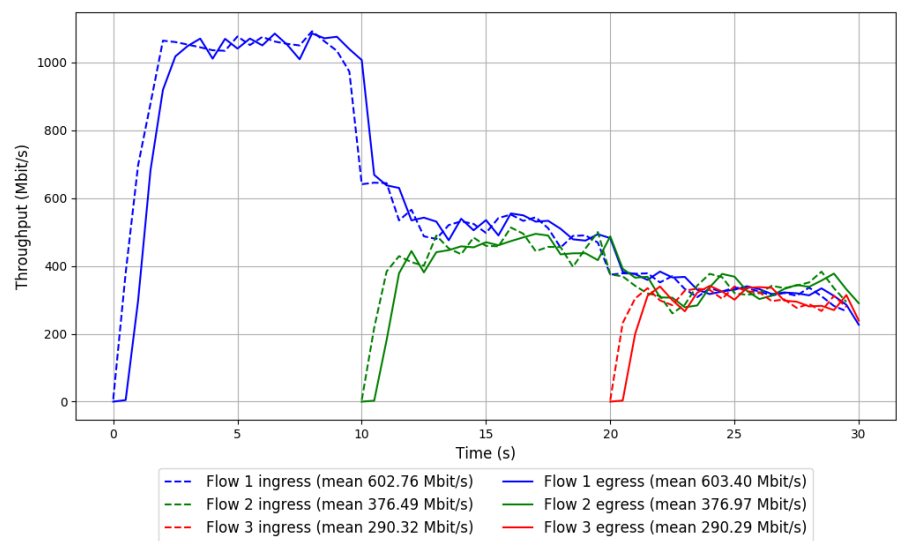Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2018-11-03 16:05:57
End at: 2018-11-03 16:06:27
Local clock offset: 0.36 ms
Remote clock offset: -0.108 ms


# Below is generated by plot.py at 2018-11-03 19:25:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 678.95 Mbit/s
95th percentile per-packet one-way delay: 56.420 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 347.19 Mbit/s
95th percentile per-packet one-way delay: 59.995 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 366.53 Mbit/s
95th percentile per-packet one-way delay: 50.404 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 267.56 Mbit/s
95th percentile per-packet one-way delay: 50.765 ms
Loss rate: 0.98%
```

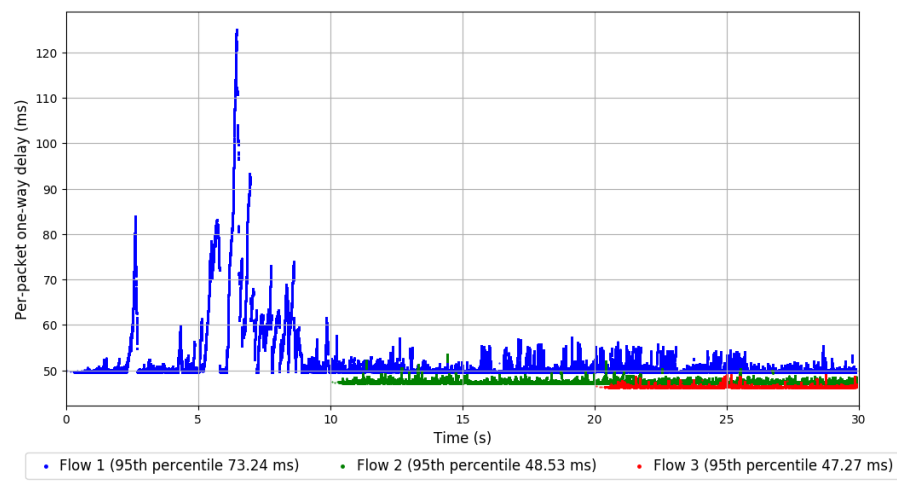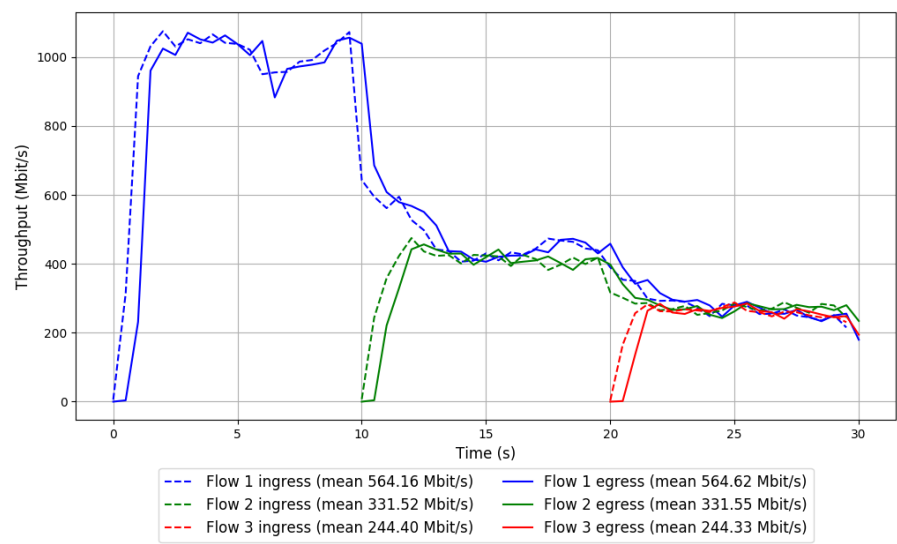# Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-11-03 16:37:44
End at: 2018-11-03 16:38:14
Local clock offset: 0.001 ms
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2018-11-03 19:44:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 949.36 Mbit/s
95th percentile per-packet one-way delay: 62.673 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 603.40 Mbit/s
95th percentile per-packet one-way delay: 71.384 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 376.97 Mbit/s
95th percentile per-packet one-way delay: 52.216 ms
Loss rate: 0.34%
-- Flow 3:
Average throughput: 290.29 Mbit/s
95th percentile per-packet one-way delay: 49.018 ms
Loss rate: 1.10%
```
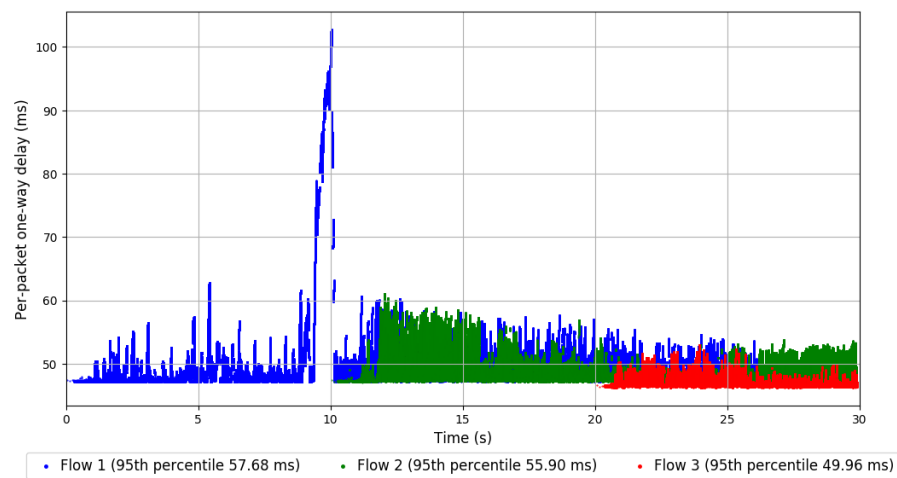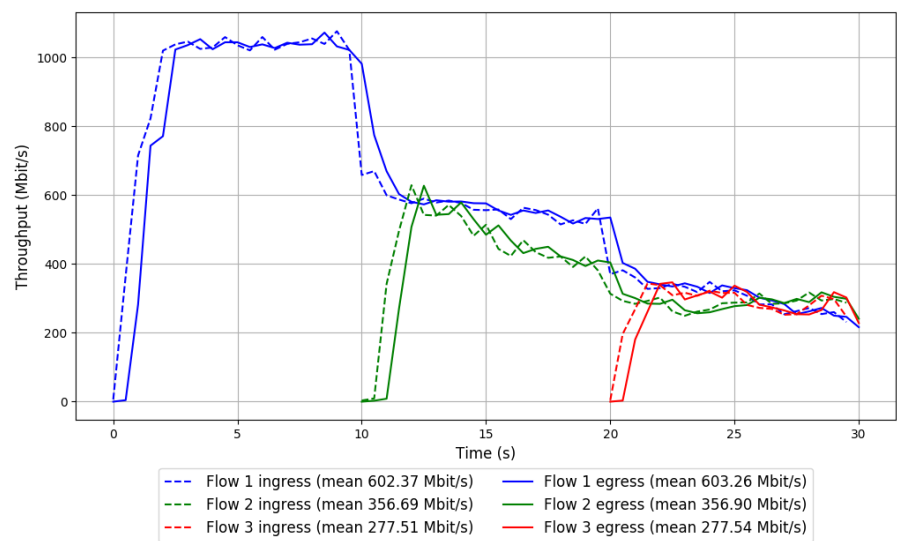
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 602.76 Mbit/s)   Flow 1 egress (mean 603.40 Mbit/s)
Flow 2 ingress (mean 376.49 Mbit/s)   Flow 2 egress (mean 376.97 Mbit/s)
Flow 3 ingress (mean 290.32 Mbit/s)   Flow 3 egress (mean 290.29 Mbit/s)

Flow 1 (95th percentile 71.38 ms)   Flow 2 (95th percentile 52.22 ms)   Flow 3 (95th percentile 49.02 ms)

```
Run 3: Statistics of FillP

Start at: 2018-11-03 17:09:08
End at: 2018-11-03 17:09:38
Local clock offset: -0.053 ms
Remote clock offset: -0.029 ms


# Below is generated by plot.py at 2018-11-03 19:44:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 864.94 Mbit/s
95th percentile per-packet one-way delay: 65.924 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 564.62 Mbit/s
95th percentile per-packet one-way delay: 73.243 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 331.55 Mbit/s
95th percentile per-packet one-way delay: 48.526 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 244.33 Mbit/s
95th percentile per-packet one-way delay: 47.266 ms
Loss rate: 1.12%
```
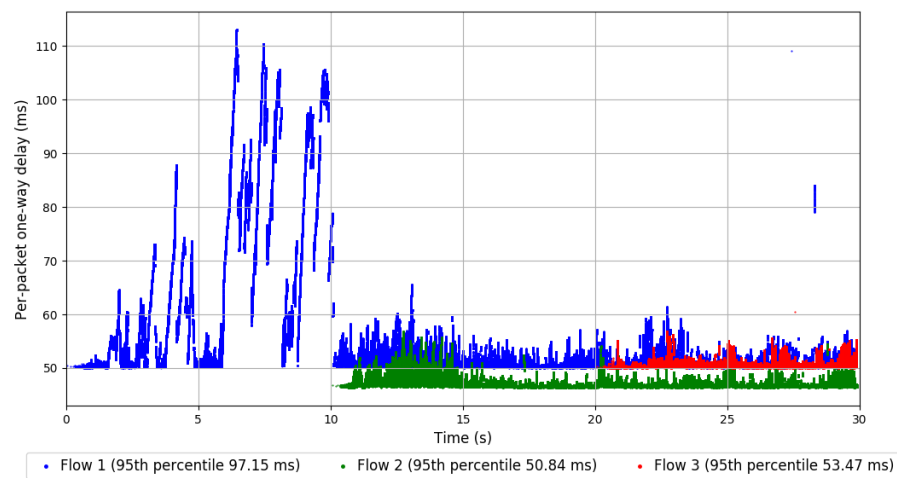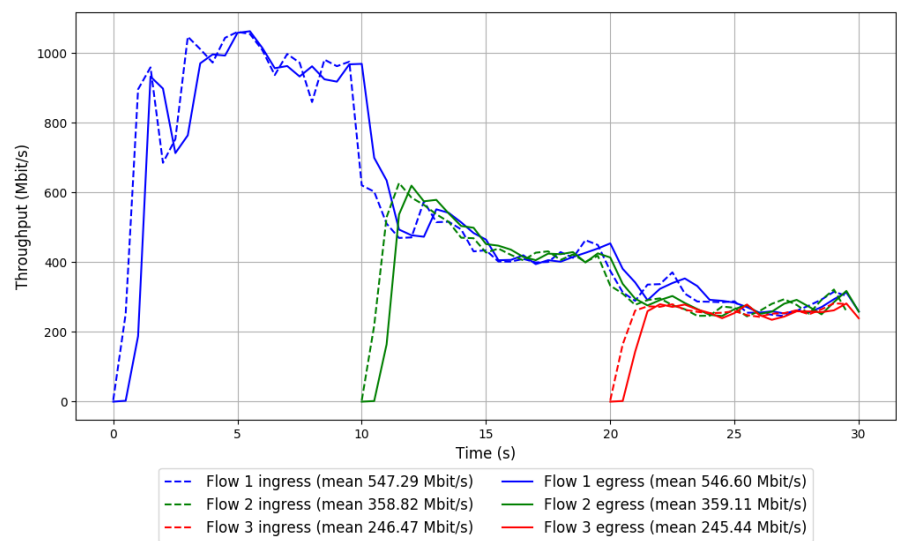
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 564.16 Mbit/s)   Flow 1 egress (mean 564.62 Mbit/s)
Flow 2 ingress (mean 331.52 Mbit/s)   Flow 2 egress (mean 331.55 Mbit/s)
Flow 3 ingress (mean 244.40 Mbit/s)   Flow 3 egress (mean 244.33 Mbit/s)

Flow 1 (95th percentile 73.24 ms)   Flow 2 (95th percentile 48.53 ms)   Flow 3 (95th percentile 47.27 ms)

```
Run 4: Statistics of FillP

Start at: 2018-11-03 17:40:31
End at: 2018-11-03 17:41:01
Local clock offset: -0.108 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2018-11-03 19:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 931.56 Mbit/s
95th percentile per-packet one-way delay: 56.234 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 603.26 Mbit/s
95th percentile per-packet one-way delay: 57.682 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 356.90 Mbit/s
95th percentile per-packet one-way delay: 55.900 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 277.54 Mbit/s
95th percentile per-packet one-way delay: 49.963 ms
Loss rate: 0.74%
```
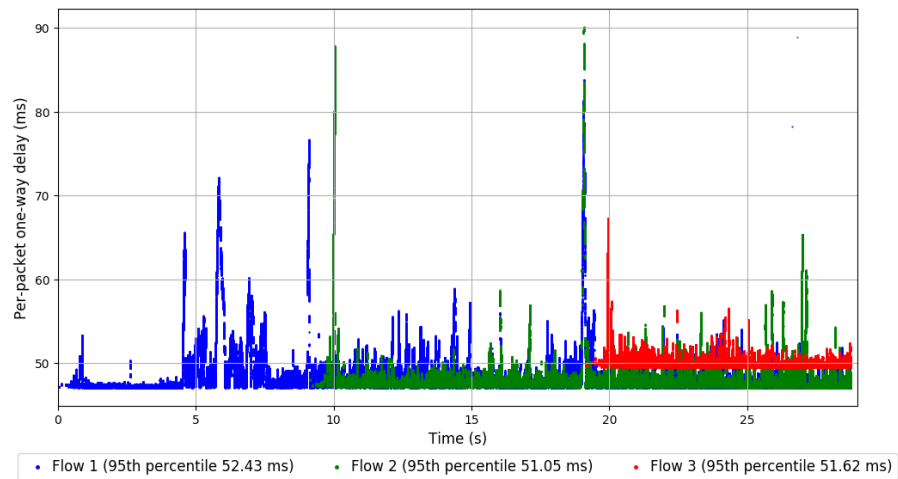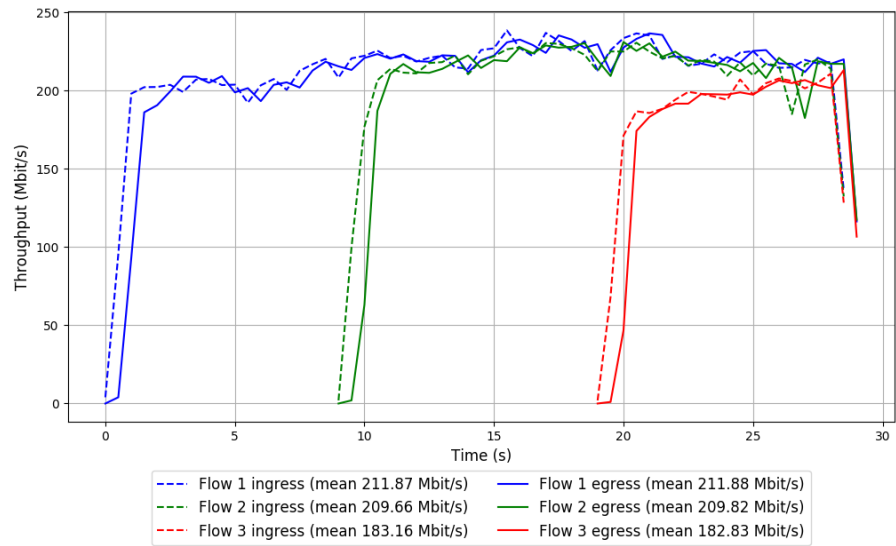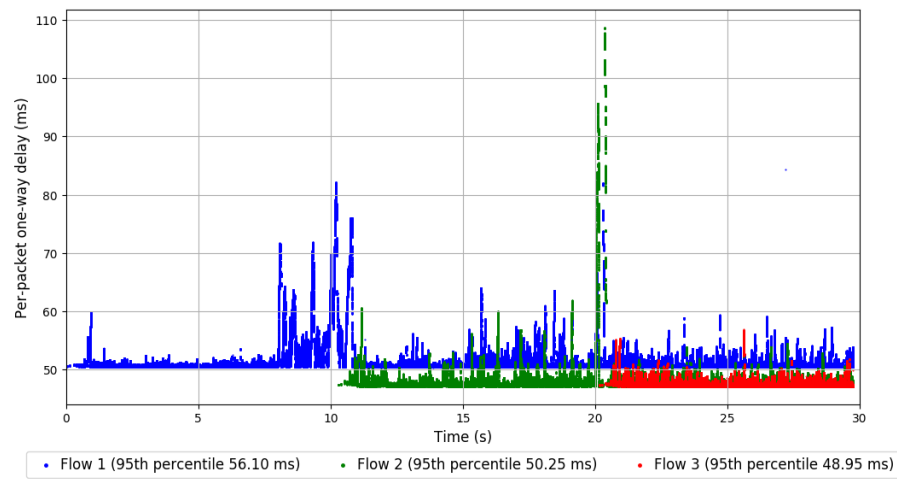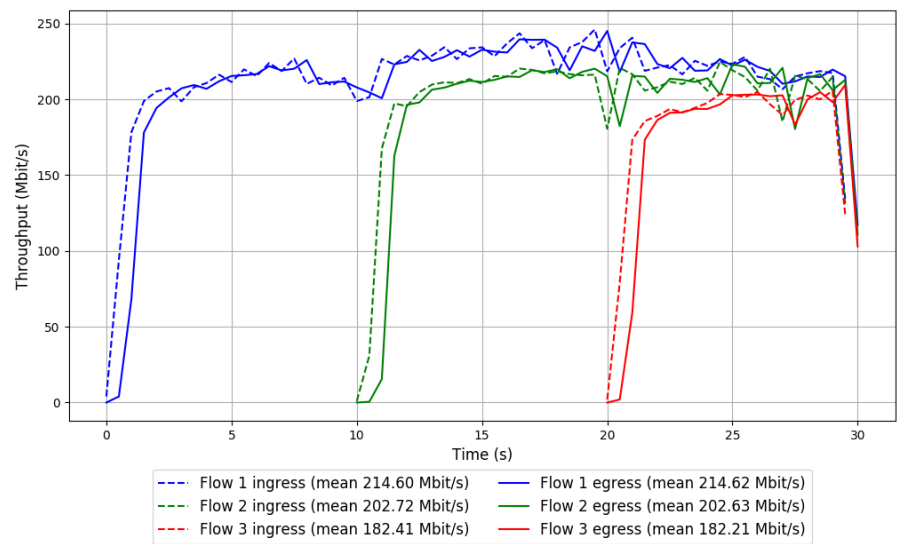
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-11-03 18:11:50
End at: 2018-11-03 18:12:20
Local clock offset: -0.094 ms
Remote clock offset: -0.06 ms


# Below is generated by plot.py at 2018-11-03 19:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 865.75 Mbit/s
95th percentile per-packet one-way delay: 92.185 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 546.60 Mbit/s
95th percentile per-packet one-way delay: 97.154 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 359.11 Mbit/s
95th percentile per-packet one-way delay: 50.837 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 245.44 Mbit/s
95th percentile per-packet one-way delay: 53.468 ms
Loss rate: 1.47%
```

Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 547.29 Mbit/s)   Flow 1 egress (mean 546.60 Mbit/s)
Flow 2 ingress (mean 358.82 Mbit/s)   Flow 2 egress (mean 359.11 Mbit/s)
Flow 3 ingress (mean 246.47 Mbit/s)   Flow 3 egress (mean 245.44 Mbit/s)

Flow 1 (95th percentile 97.15 ms)   Flow 2 (95th percentile 50.84 ms)   Flow 3 (95th percentile 53.47 ms)

44

```
Run 1: Statistics of Indigo

Start at: 2018-11-03 16:17:41
End at: 2018-11-03 16:18:11
Local clock offset: 0.008 ms
Remote clock offset: -0.032 ms

# Below is generated by plot.py at 2018-11-03 19:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 416.49 Mbit/s
95th percentile per-packet one-way delay: 51.832 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 211.88 Mbit/s
95th percentile per-packet one-way delay: 52.426 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 209.82 Mbit/s
95th percentile per-packet one-way delay: 51.054 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 182.83 Mbit/s
95th percentile per-packet one-way delay: 51.624 ms
Loss rate: 1.17%
```
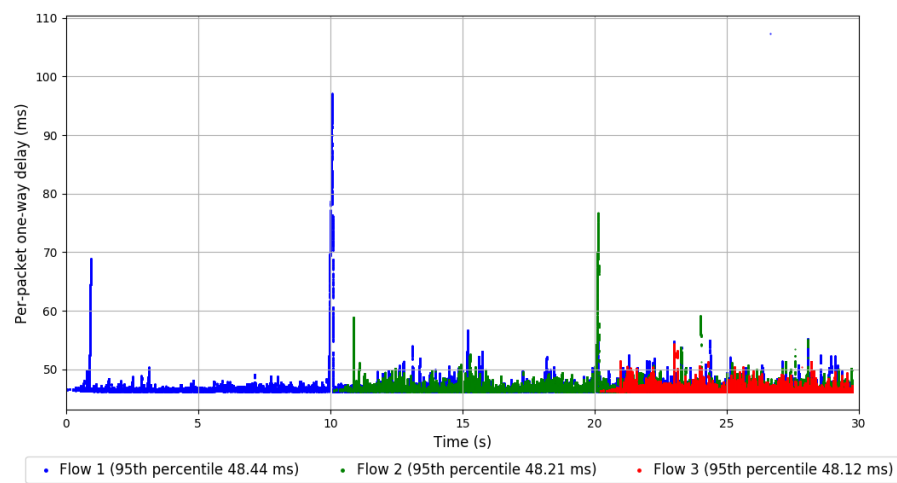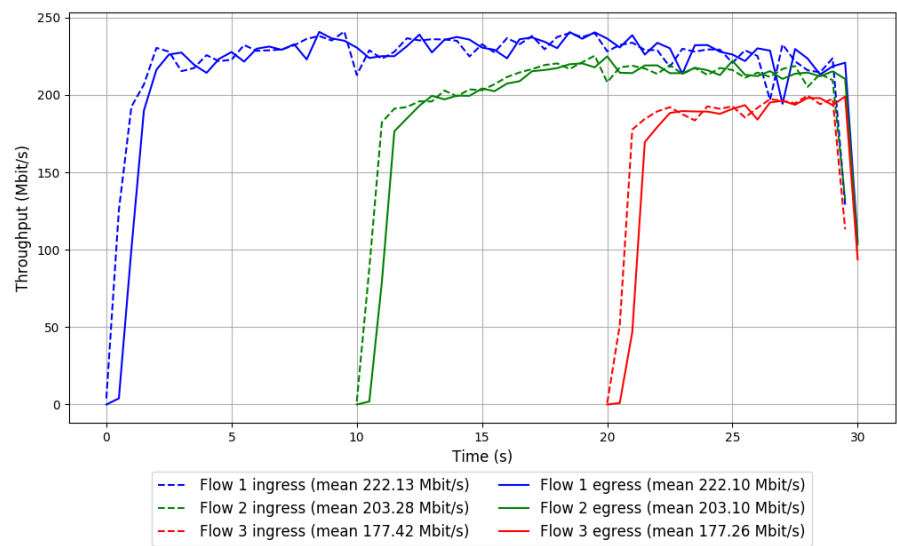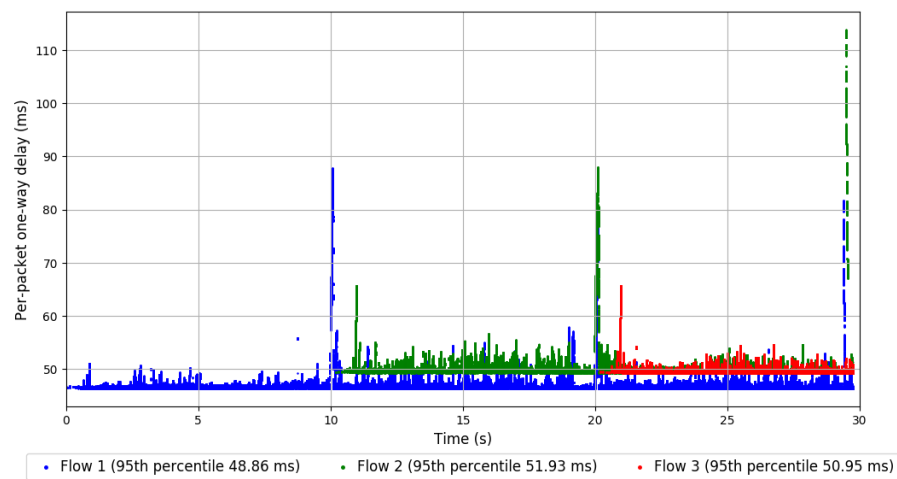
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-11-03 16:49:54
End at: 2018-11-03 16:50:24
Local clock offset: 0.019 ms
Remote clock offset: -0.037 ms

# Below is generated by plot.py at 2018-11-03 19:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 406.19 Mbit/s
95th percentile per-packet one-way delay: 54.252 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 214.62 Mbit/s
95th percentile per-packet one-way delay: 56.098 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 202.63 Mbit/s
95th percentile per-packet one-way delay: 50.246 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 182.21 Mbit/s
95th percentile per-packet one-way delay: 48.947 ms
Loss rate: 1.07%
```
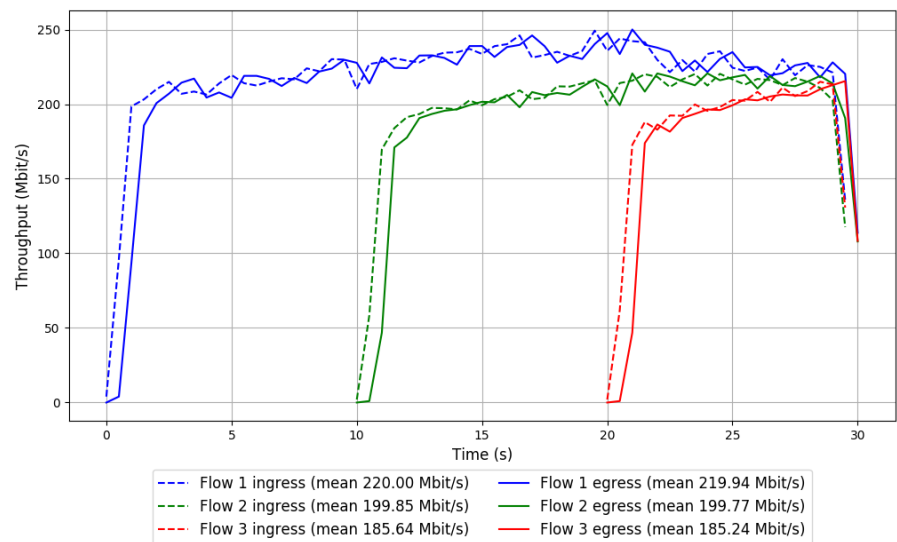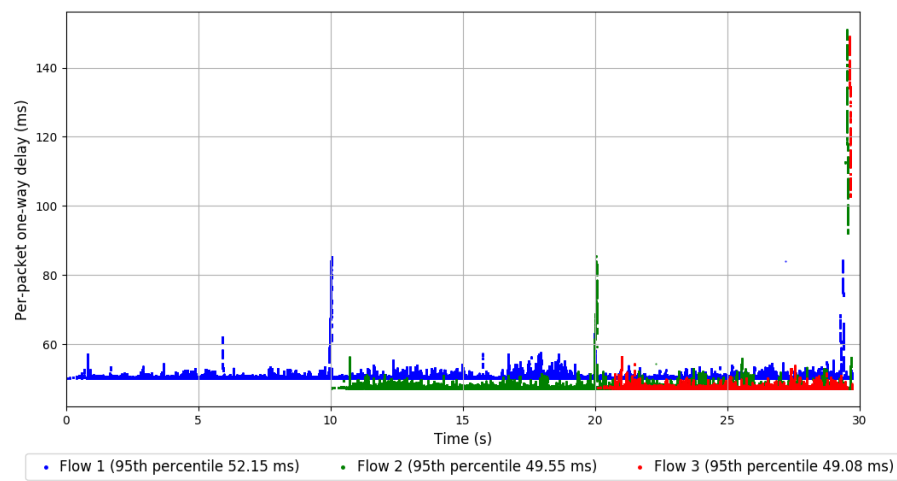
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-11-03 17:21:04
End at: 2018-11-03 17:21:34
Local clock offset: -0.122 ms
Remote clock offset: -0.01 ms

# Below is generated by plot.py at 2018-11-03 19:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 413.10 Mbit/s
95th percentile per-packet one-way delay: 48.295 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 222.10 Mbit/s
95th percentile per-packet one-way delay: 48.443 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 203.10 Mbit/s
95th percentile per-packet one-way delay: 48.214 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 177.26 Mbit/s
95th percentile per-packet one-way delay: 48.122 ms
Loss rate: 1.07%
```

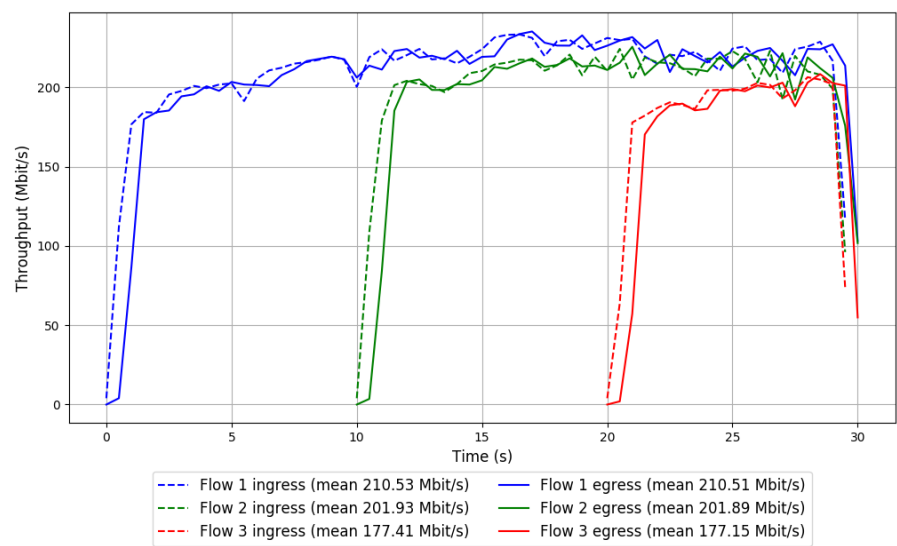Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-11-03 17:52:33
End at: 2018-11-03 17:53:03
Local clock offset: -0.09 ms
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2018-11-03 19:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 411.10 Mbit/s
95th percentile per-packet one-way delay: 50.994 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 219.94 Mbit/s
95th percentile per-packet one-way delay: 48.860 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 199.77 Mbit/s
95th percentile per-packet one-way delay: 51.933 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 185.24 Mbit/s
95th percentile per-packet one-way delay: 50.945 ms
Loss rate: 1.21%
```
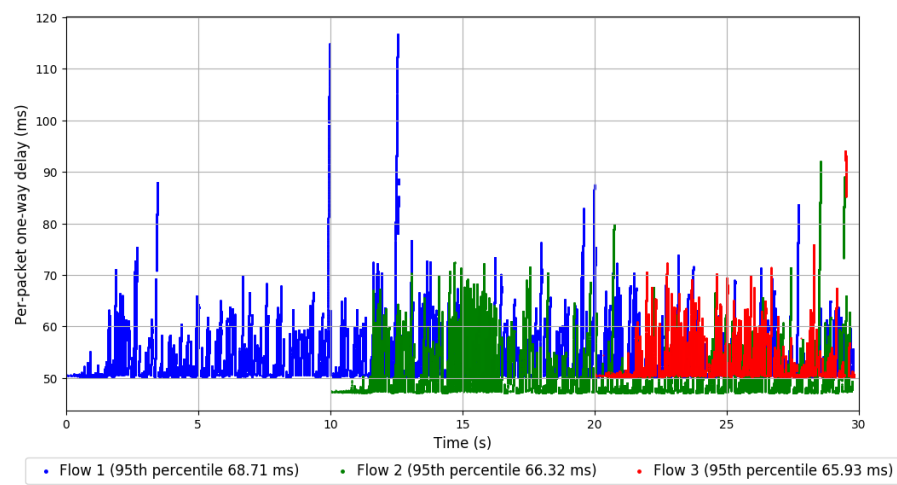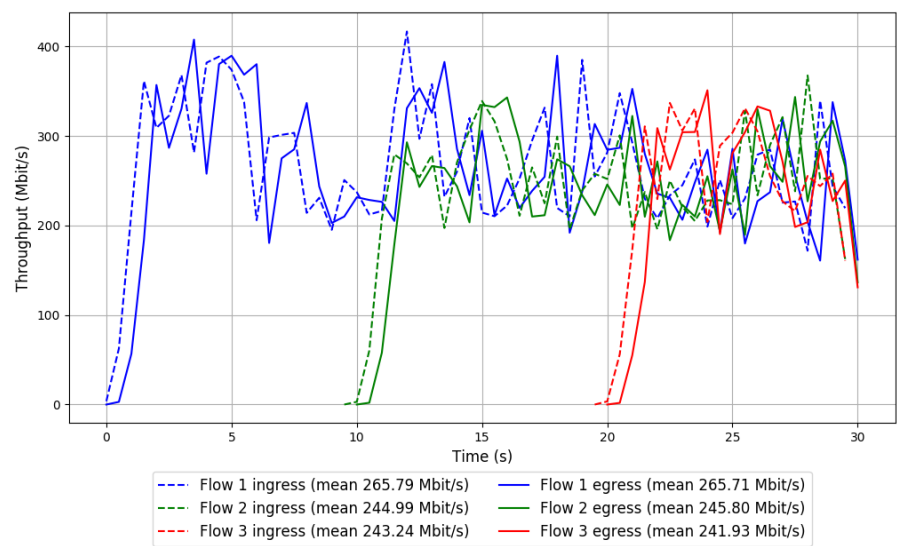
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 220.00 Mbit/s) --- Flow 1 egress (mean 219.94 Mbit/s)
Flow 2 ingress (mean 199.85 Mbit/s) --- Flow 2 egress (mean 199.77 Mbit/s)
Flow 3 ingress (mean 185.64 Mbit/s) --- Flow 3 egress (mean 185.24 Mbit/s)

Flow 1 (95th percentile 48.86 ms)   Flow 2 (95th percentile 51.93 ms)   Flow 3 (95th percentile 50.95 ms)

```
Run 5: Statistics of Indigo

Start at: 2018-11-03 18:24:15
End at: 2018-11-03 18:24:45
Local clock offset: -0.067 ms
Remote clock offset: -0.008 ms


# Below is generated by plot.py at 2018-11-03 19:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 401.94 Mbit/s
95th percentile per-packet one-way delay: 51.608 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 210.51 Mbit/s
95th percentile per-packet one-way delay: 52.147 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 201.89 Mbit/s
95th percentile per-packet one-way delay: 49.547 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 177.15 Mbit/s
95th percentile per-packet one-way delay: 49.083 ms
Loss rate: 1.12%
```
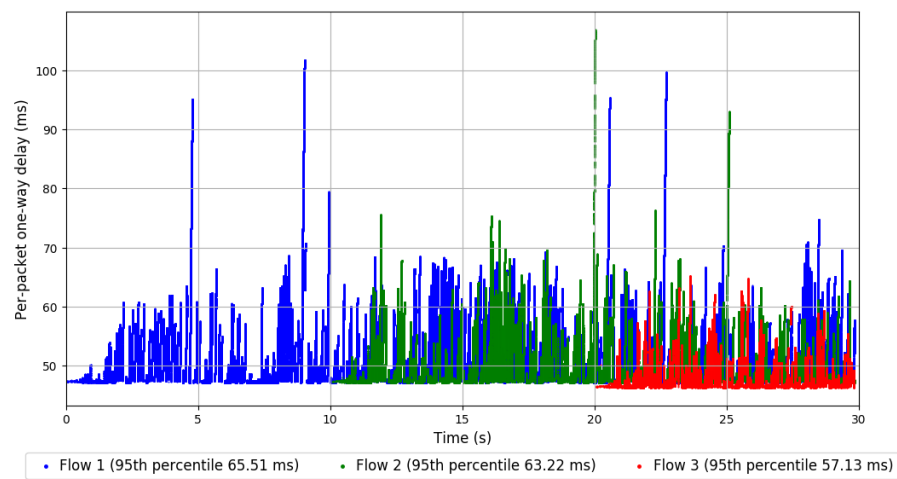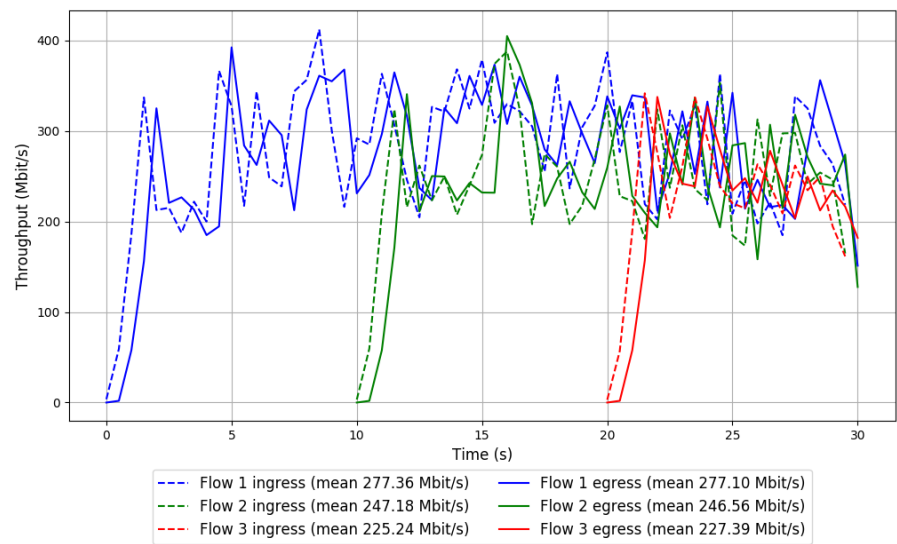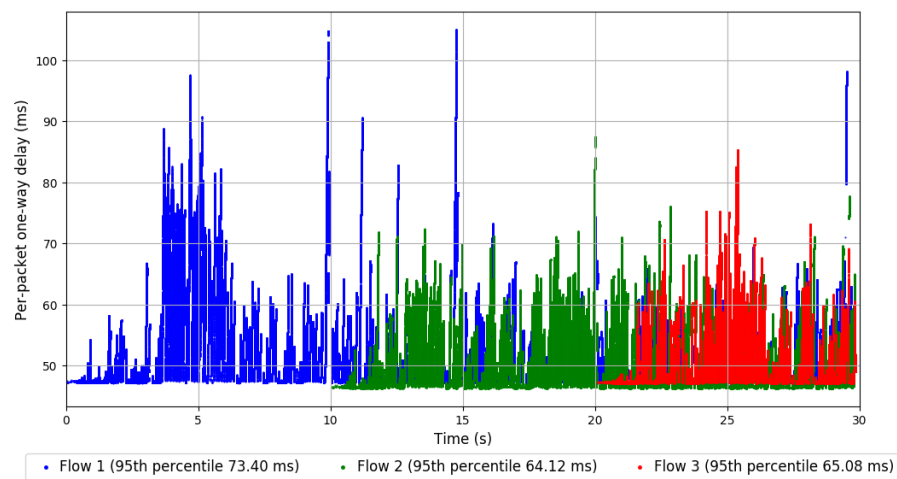
Run 5: Report of Indigo — Data Link

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

Start at: 2018-11-03 16:10:50
End at: 2018-11-03 16:11:20
Local clock offset: 0.026 ms
Remote clock offset: -0.07 ms


# Below is generated by plot.py at 2018-11-03 19:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 507.54 Mbit/s
95th percentile per-packet one-way delay: 67.334 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 265.71 Mbit/s
95th percentile per-packet one-way delay: 68.710 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 245.80 Mbit/s
95th percentile per-packet one-way delay: 66.323 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 241.93 Mbit/s
95th percentile per-packet one-way delay: 65.928 ms
Loss rate: 1.42%
```
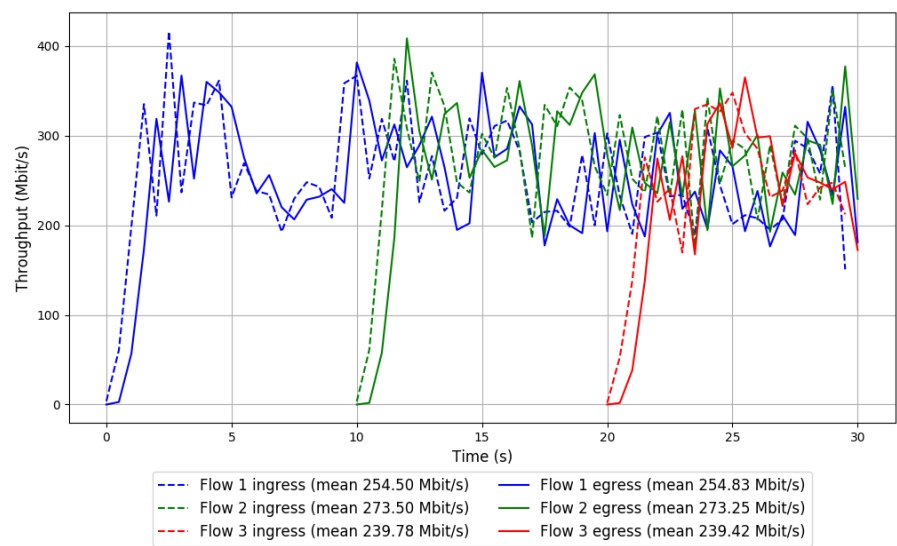
Run 1: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-11-03 16:42:51
End at: 2018-11-03 16:43:21
Local clock offset: 0.027 ms
Remote clock offset: -0.031 ms


# Below is generated by plot.py at 2018-11-03 19:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 514.90 Mbit/s
95th percentile per-packet one-way delay: 63.912 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 277.10 Mbit/s
95th percentile per-packet one-way delay: 65.506 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 246.56 Mbit/s
95th percentile per-packet one-way delay: 63.221 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 227.39 Mbit/s
95th percentile per-packet one-way delay: 57.135 ms
Loss rate: 0.29%
```
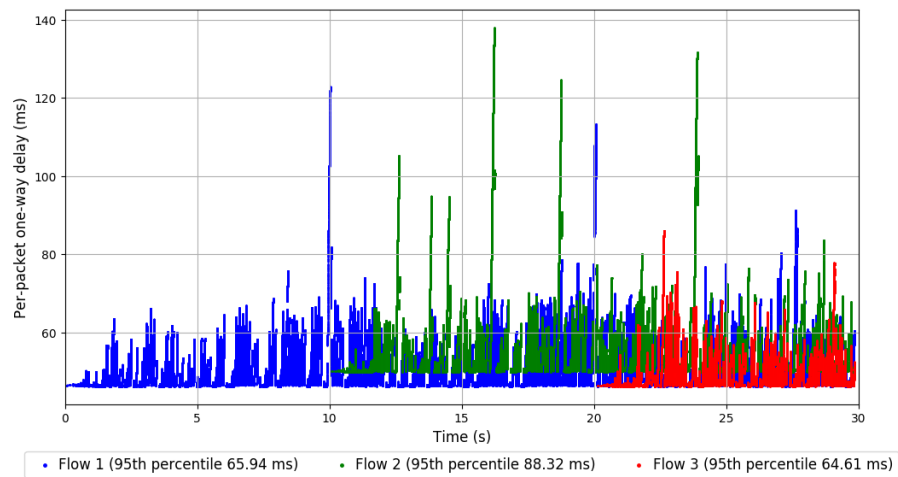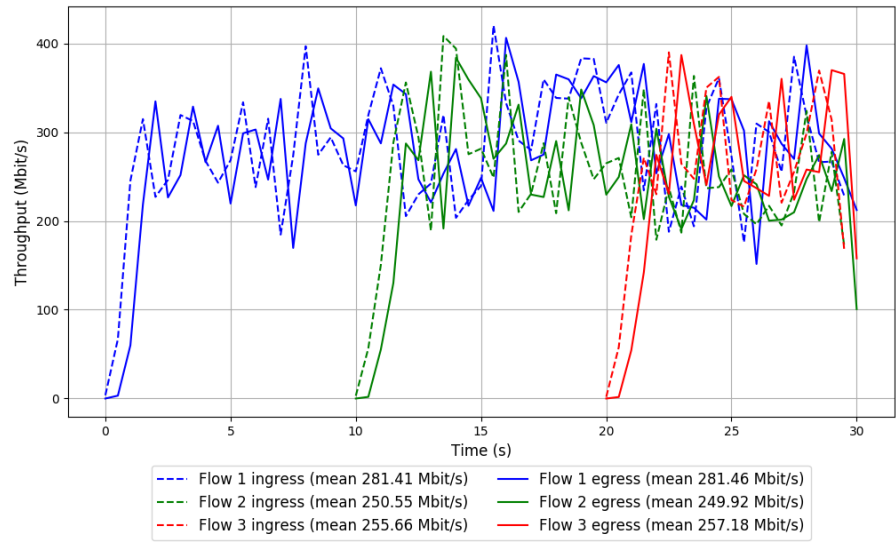
Run 2: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-11-03 17:14:10
End at: 2018-11-03 17:14:40
Local clock offset: -0.038 ms
Remote clock offset: -0.022 ms


# Below is generated by plot.py at 2018-11-03 19:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 513.58 Mbit/s
95th percentile per-packet one-way delay: 67.842 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 254.83 Mbit/s
95th percentile per-packet one-way delay: 73.403 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 273.25 Mbit/s
95th percentile per-packet one-way delay: 64.118 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 239.42 Mbit/s
95th percentile per-packet one-way delay: 65.076 ms
Loss rate: 1.00%
```
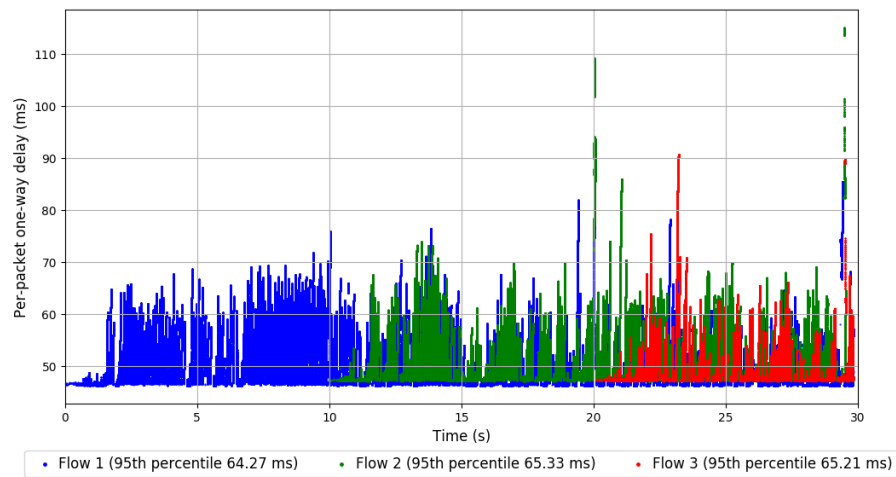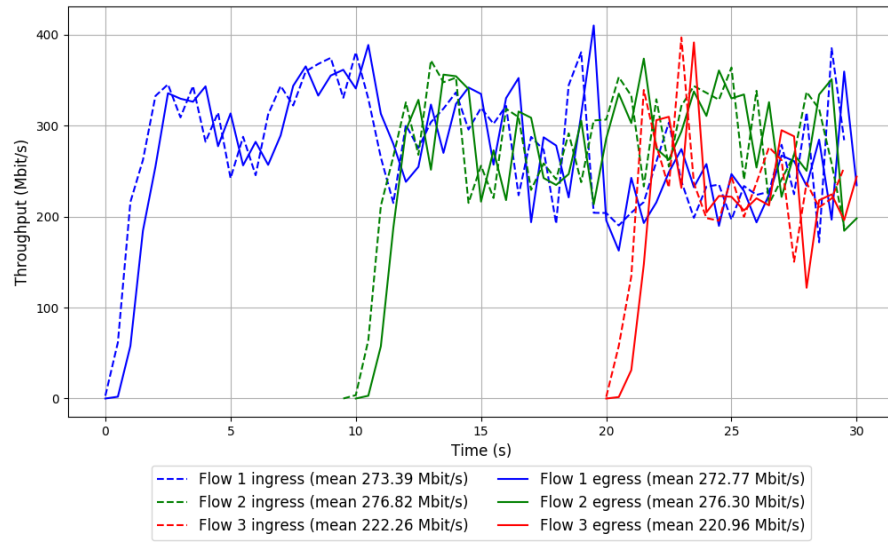
Run 3: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-11-03 17:45:35
End at: 2018-11-03 17:46:05
Local clock offset: -0.094 ms
Remote clock offset: -0.058 ms


# Below is generated by plot.py at 2018-11-03 19:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 531.03 Mbit/s
95th percentile per-packet one-way delay: 69.825 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 281.46 Mbit/s
95th percentile per-packet one-way delay: 65.945 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 249.92 Mbit/s
95th percentile per-packet one-way delay: 88.324 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 257.18 Mbit/s
95th percentile per-packet one-way delay: 64.609 ms
Loss rate: 0.38%
```

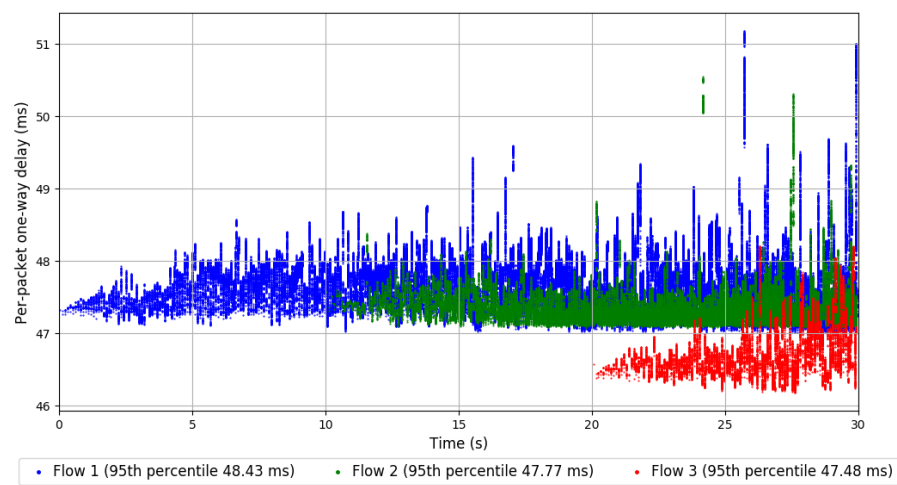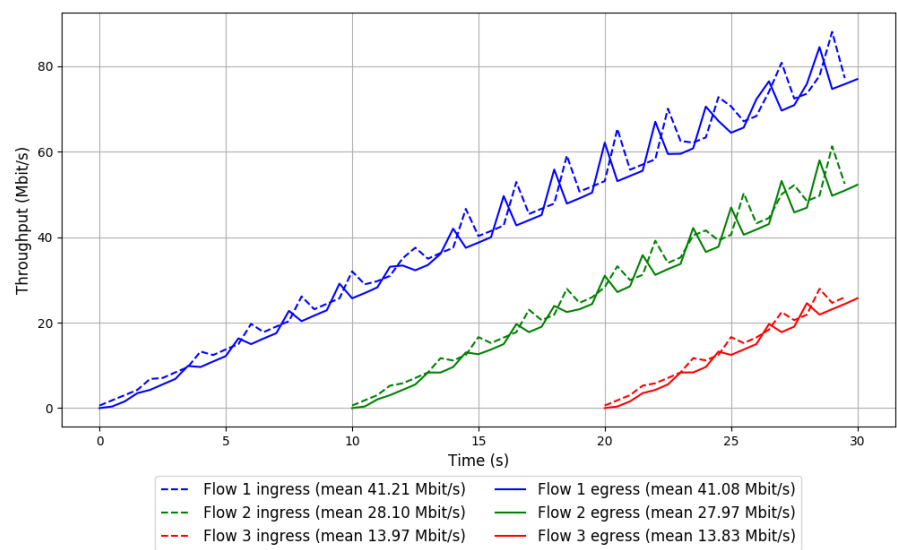Run 4: Report of Indigo-96d2da3 — Data Link

Flow 1 ingress (mean 281.41 Mbit/s) ---- Flow 1 egress (mean 281.46 Mbit/s)
Flow 2 ingress (mean 250.55 Mbit/s) ---- Flow 2 egress (mean 249.92 Mbit/s)
Flow 3 ingress (mean 255.66 Mbit/s) ---- Flow 3 egress (mean 257.18 Mbit/s)

Flow 1 (95th percentile 65.94 ms)   Flow 2 (95th percentile 88.32 ms)   Flow 3 (95th percentile 64.61 ms)

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

Start at: 2018-11-03 18:17:10
End at: 2018-11-03 18:17:40
Local clock offset: -0.117 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2018-11-03 19:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 528.27 Mbit/s
95th percentile per-packet one-way delay: 64.678 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 272.77 Mbit/s
95th percentile per-packet one-way delay: 64.268 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 276.30 Mbit/s
95th percentile per-packet one-way delay: 65.328 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 220.96 Mbit/s
95th percentile per-packet one-way delay: 65.209 ms
Loss rate: 1.55%
```

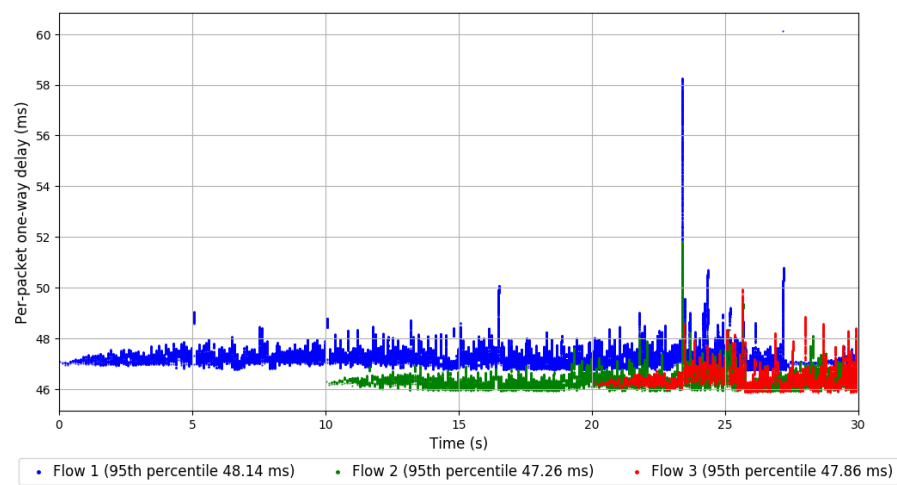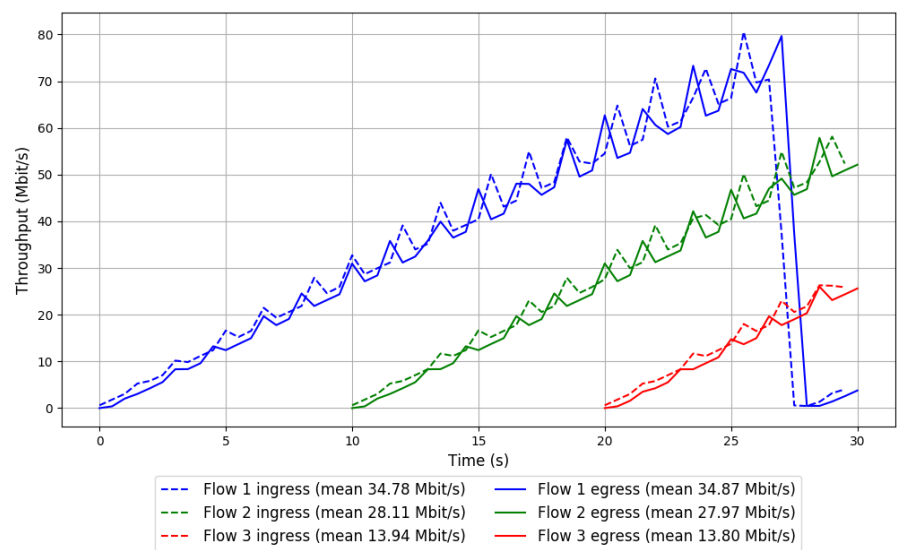Run 5: Report of Indigo-96d2da3 — Data Link

64

```
Run 1: Statistics of LEDBAT

Start at: 2018-11-03 16:09:32
End at: 2018-11-03 16:10:02
Local clock offset: -0.041 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2018-11-03 19:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.23 Mbit/s
95th percentile per-packet one-way delay: 48.305 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 41.08 Mbit/s
95th percentile per-packet one-way delay: 48.431 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 27.97 Mbit/s
95th percentile per-packet one-way delay: 47.775 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 13.83 Mbit/s
95th percentile per-packet one-way delay: 47.483 ms
Loss rate: 1.91%
```
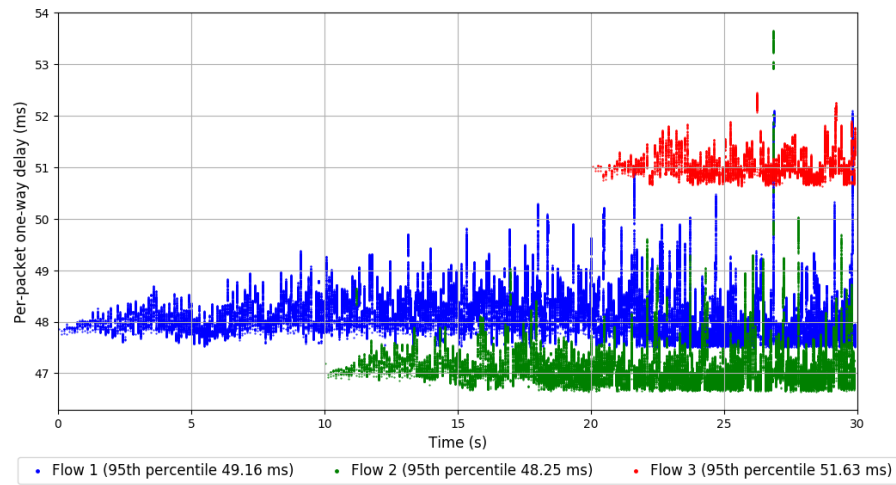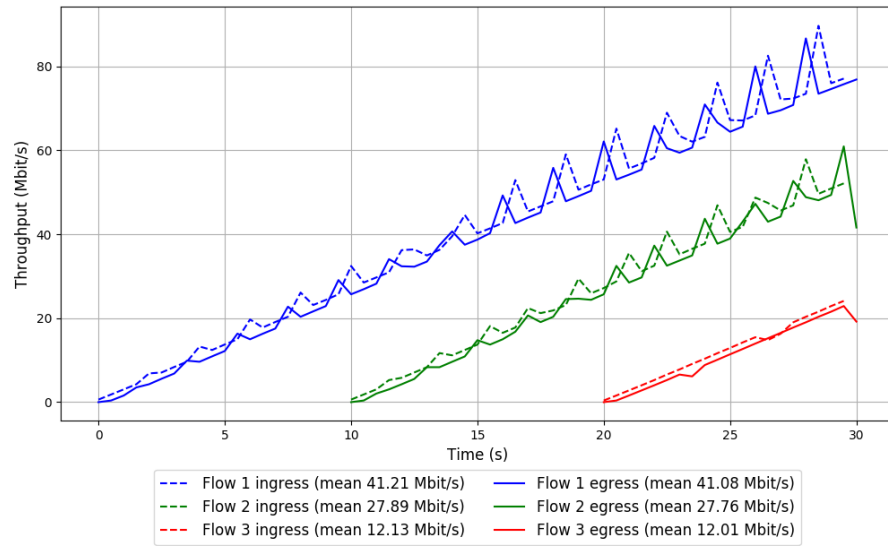
Run 1: Report of LEDBAT — Data Link

- - - Flow 1 ingress (mean 41.21 Mbit/s) —— Flow 1 egress (mean 41.08 Mbit/s)
- - - Flow 2 ingress (mean 28.10 Mbit/s) —— Flow 2 egress (mean 27.97 Mbit/s)
- - - Flow 3 ingress (mean 13.97 Mbit/s) —— Flow 3 egress (mean 13.83 Mbit/s)

• Flow 1 (95th percentile 48.43 ms)   • Flow 2 (95th percentile 47.77 ms)   • Flow 3 (95th percentile 47.48 ms)
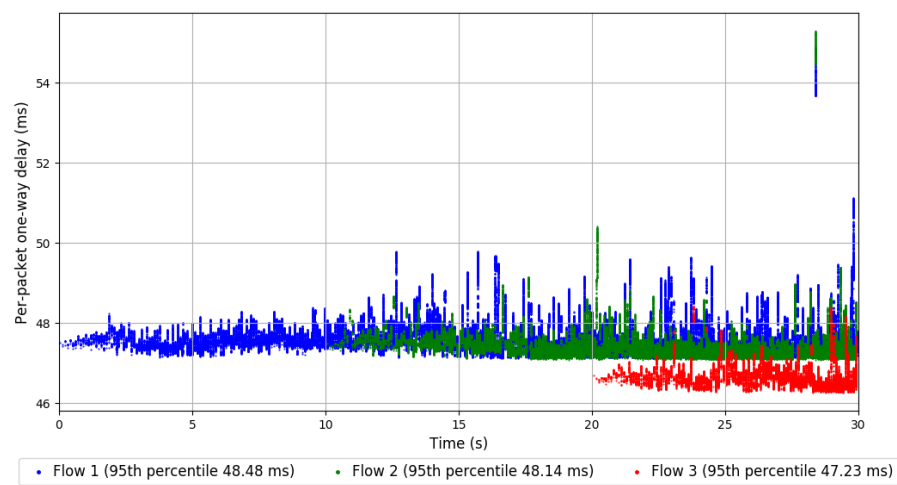
```
Run 2: Statistics of LEDBAT

Start at: 2018-11-03 16:41:34
End at: 2018-11-03 16:42:04
Local clock offset: -0.362 ms
Remote clock offset: -0.034 ms


# Below is generated by plot.py at 2018-11-03 19:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.02 Mbit/s
95th percentile per-packet one-way delay: 47.993 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 34.87 Mbit/s
95th percentile per-packet one-way delay: 48.137 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 27.97 Mbit/s
95th percentile per-packet one-way delay: 47.258 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 13.80 Mbit/s
95th percentile per-packet one-way delay: 47.861 ms
Loss rate: 1.91%
```
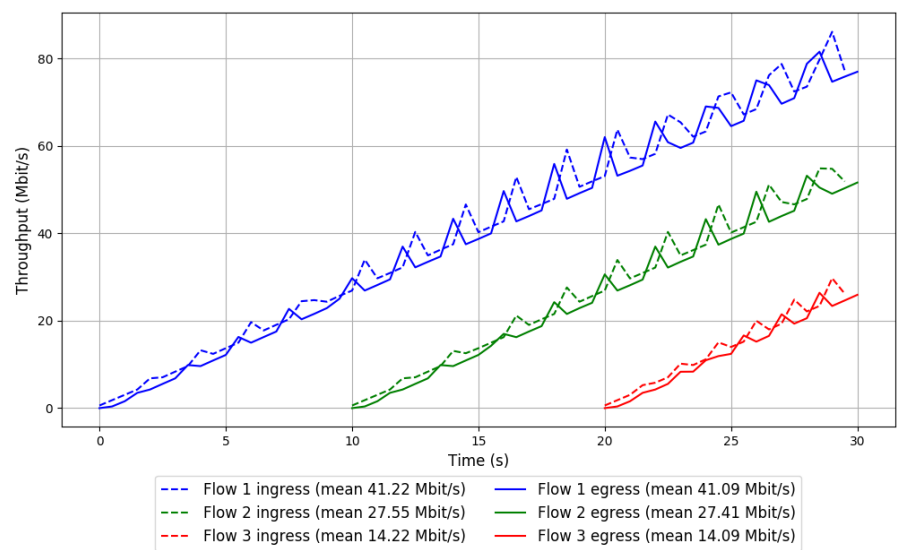
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-11-03 17:12:52
End at: 2018-11-03 17:13:22
Local clock offset: 0.3 ms
Remote clock offset: -0.017 ms


# Below is generated by plot.py at 2018-11-03 19:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.46 Mbit/s
95th percentile per-packet one-way delay: 50.864 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 41.08 Mbit/s
95th percentile per-packet one-way delay: 49.160 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 27.76 Mbit/s
95th percentile per-packet one-way delay: 48.254 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 12.01 Mbit/s
95th percentile per-packet one-way delay: 51.626 ms
Loss rate: 2.04%
```
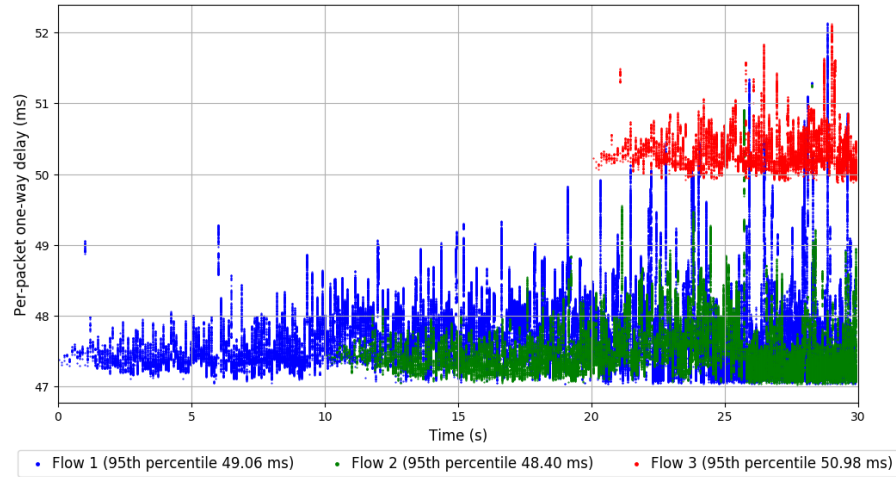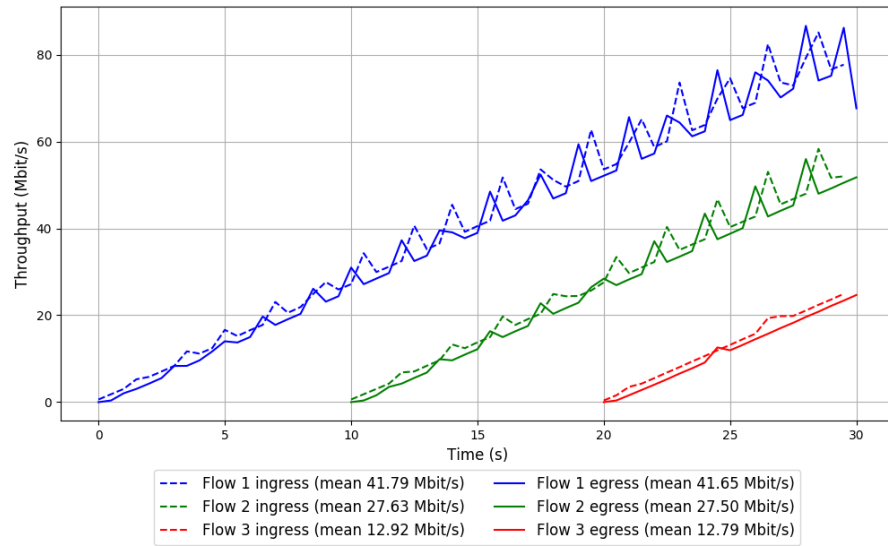
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 41.21 Mbit/s) — Flow 1 egress (mean 41.08 Mbit/s)
Flow 2 ingress (mean 27.89 Mbit/s) — Flow 2 egress (mean 27.76 Mbit/s)
Flow 3 ingress (mean 12.13 Mbit/s) — Flow 3 egress (mean 12.01 Mbit/s)

Flow 1 (95th percentile 49.16 ms)   Flow 2 (95th percentile 48.25 ms)   Flow 3 (95th percentile 51.63 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2018-11-03 17:44:17
End at: 2018-11-03 17:44:47
Local clock offset: -0.113 ms
Remote clock offset: -0.041 ms

# Below is generated by plot.py at 2018-11-03 19:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.96 Mbit/s
95th percentile per-packet one-way delay: 48.334 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 41.09 Mbit/s
95th percentile per-packet one-way delay: 48.480 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 27.41 Mbit/s
95th percentile per-packet one-way delay: 48.136 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 14.09 Mbit/s
95th percentile per-packet one-way delay: 47.233 ms
Loss rate: 1.89%
```
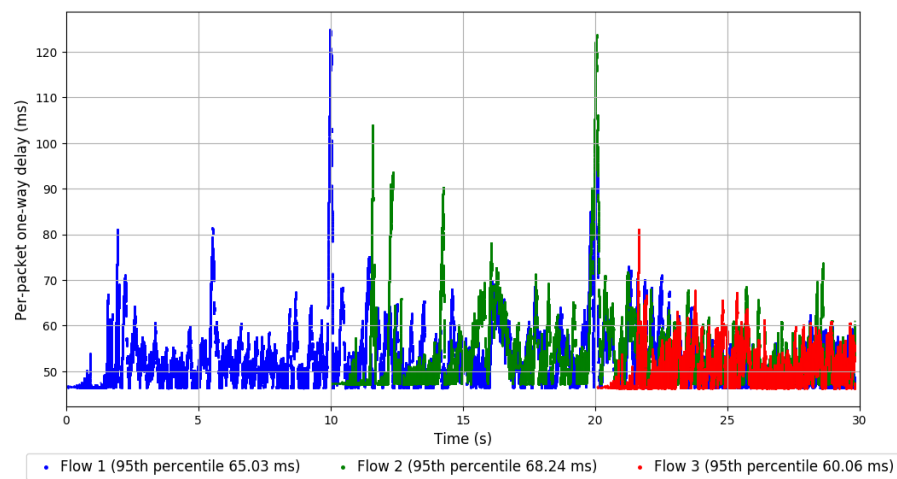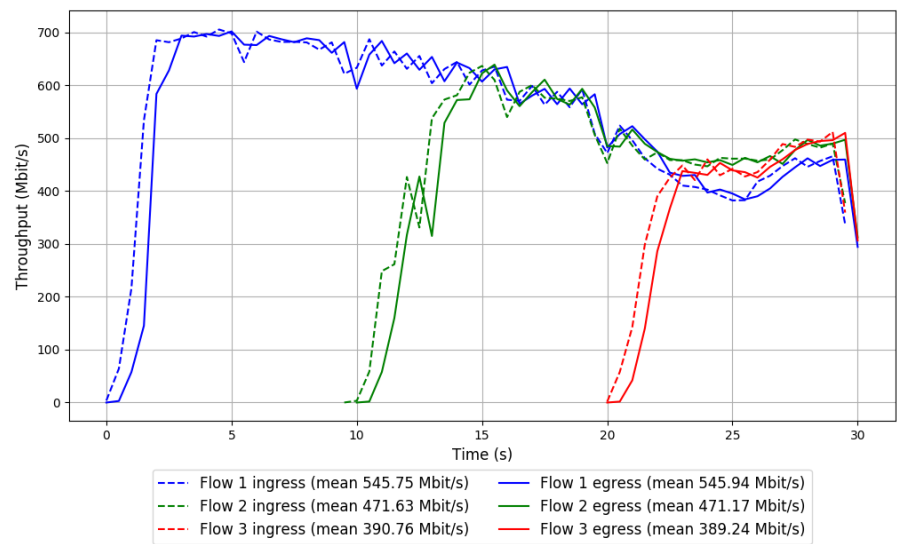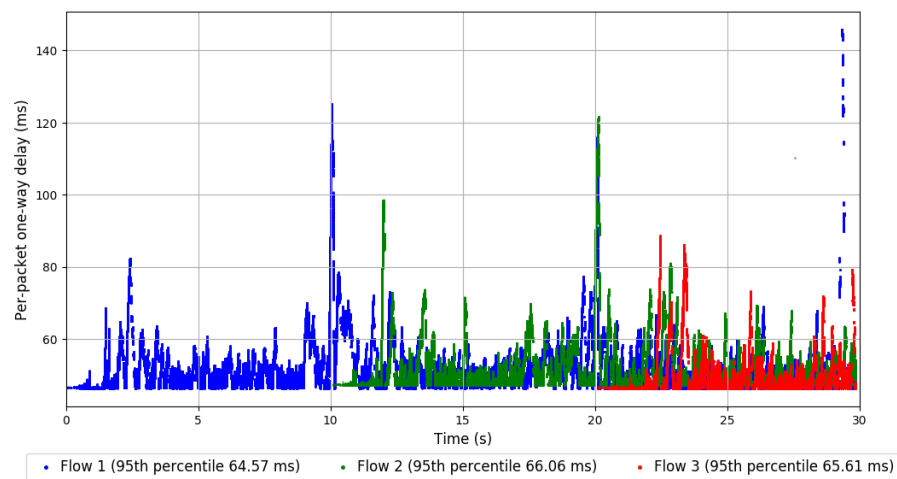
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 41.22 Mbit/s) ---- Flow 1 egress (mean 41.09 Mbit/s)
Flow 2 ingress (mean 27.55 Mbit/s) ---- Flow 2 egress (mean 27.41 Mbit/s)
Flow 3 ingress (mean 14.22 Mbit/s) ---- Flow 3 egress (mean 14.09 Mbit/s)

• Flow 1 (95th percentile 48.48 ms)   • Flow 2 (95th percentile 48.14 ms)   • Flow 3 (95th percentile 47.23 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2018-11-03 18:15:51
End at: 2018-11-03 18:16:21
Local clock offset: -0.121 ms
Remote clock offset: 0.009 ms


# Below is generated by plot.py at 2018-11-03 19:55:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.12 Mbit/s
95th percentile per-packet one-way delay: 50.202 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 41.65 Mbit/s
95th percentile per-packet one-way delay: 49.060 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 27.50 Mbit/s
95th percentile per-packet one-way delay: 48.401 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 12.79 Mbit/s
95th percentile per-packet one-way delay: 50.980 ms
Loss rate: 1.98%
```
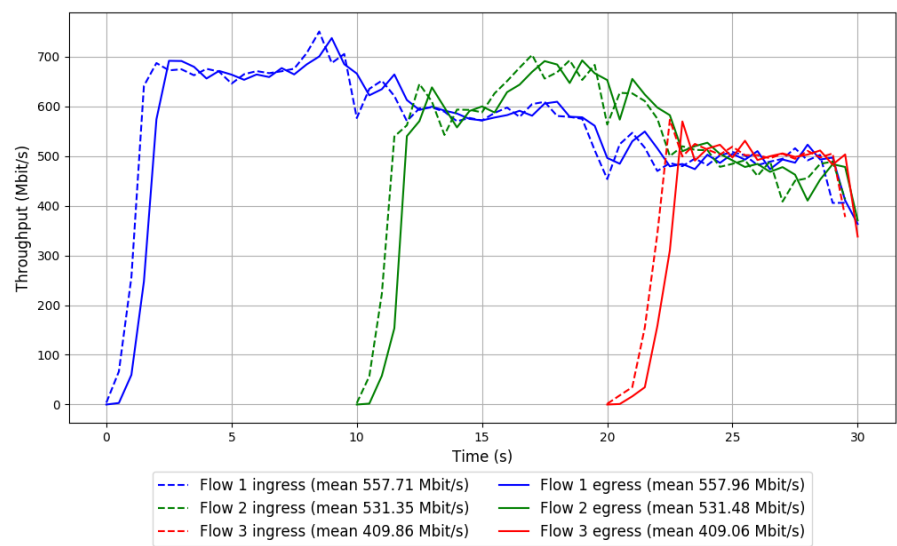
Run 5: Report of LEDBAT — Data Link

- - - Flow 1 ingress (mean 41.79 Mbit/s) —— Flow 1 egress (mean 41.65 Mbit/s)
- - - Flow 2 ingress (mean 27.63 Mbit/s) —— Flow 2 egress (mean 27.50 Mbit/s)
- - - Flow 3 ingress (mean 12.92 Mbit/s) —— Flow 3 egress (mean 12.79 Mbit/s)

• Flow 1 (95th percentile 49.06 ms)   • Flow 2 (95th percentile 48.40 ms)   • Flow 3 (95th percentile 50.98 ms)
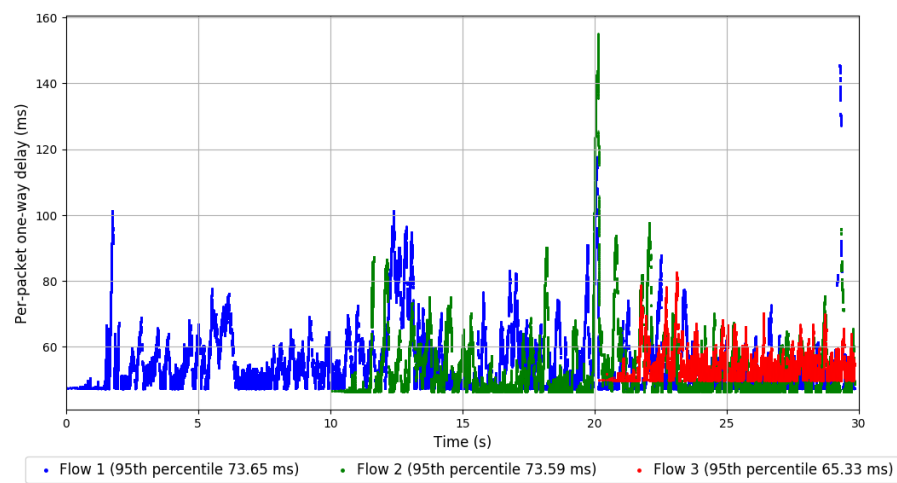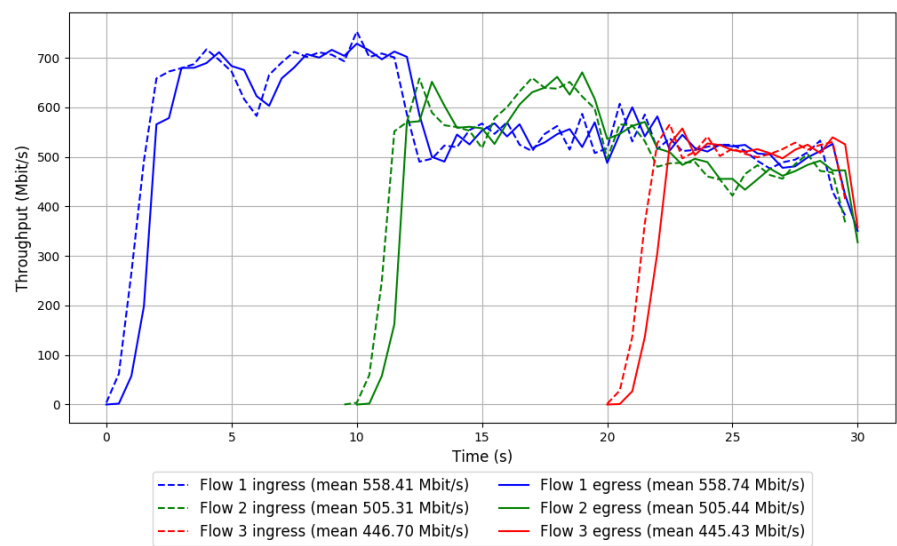
```
Run 1: Statistics of Indigo-Muses

Start at: 2018-11-03 16:12:27
End at: 2018-11-03 16:12:57
Local clock offset: 0.012 ms
Remote clock offset: -0.06 ms

# Below is generated by plot.py at 2018-11-03 20:10:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 986.24 Mbit/s
95th percentile per-packet one-way delay: 65.767 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 545.94 Mbit/s
95th percentile per-packet one-way delay: 65.028 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 471.17 Mbit/s
95th percentile per-packet one-way delay: 68.237 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 389.24 Mbit/s
95th percentile per-packet one-way delay: 60.062 ms
Loss rate: 1.32%
```
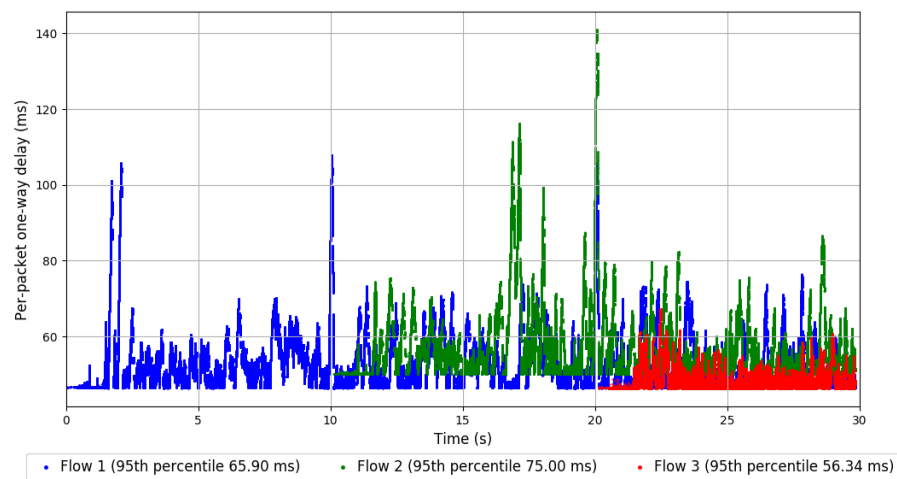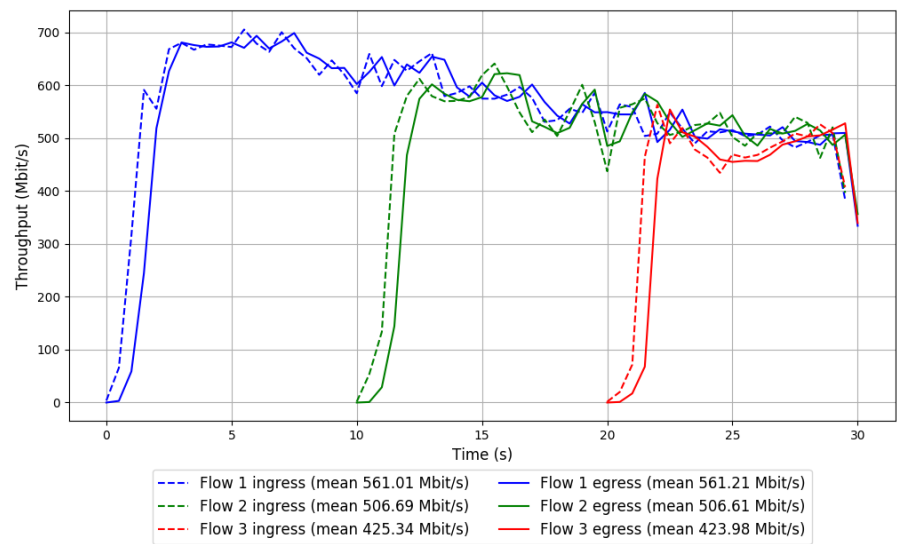
Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-11-03 16:44:32
End at: 2018-11-03 16:45:02
Local clock offset: 0.057 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2018-11-03 20:11:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1043.99 Mbit/s
95th percentile per-packet one-way delay: 65.077 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 557.96 Mbit/s
95th percentile per-packet one-way delay: 64.573 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 531.48 Mbit/s
95th percentile per-packet one-way delay: 66.055 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 409.06 Mbit/s
95th percentile per-packet one-way delay: 65.615 ms
Loss rate: 1.16%
```
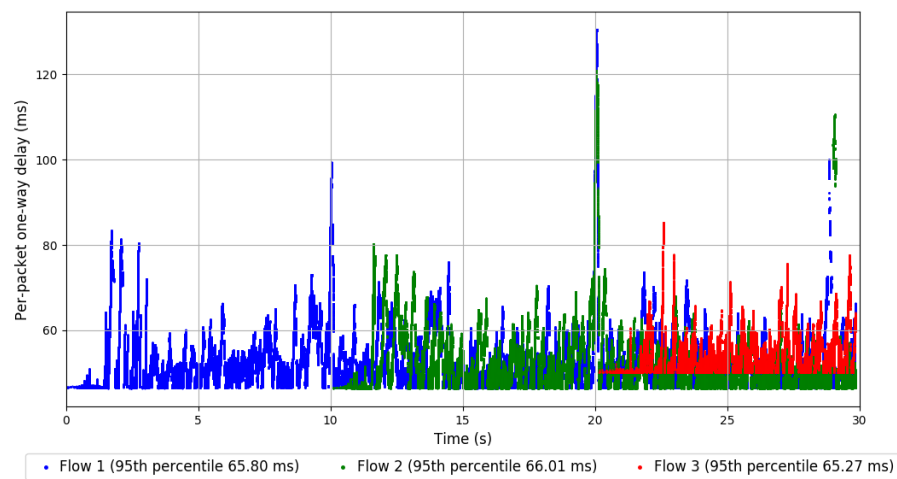
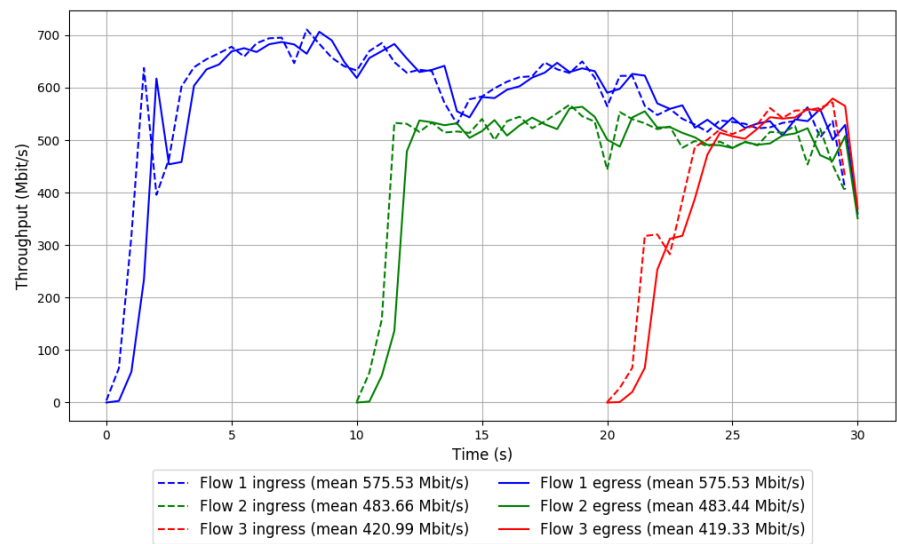Run 2: Report of Indigo-Muses — Data Link

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-11-03 17:15:49
End at: 2018-11-03 17:16:19
Local clock offset: -0.068 ms
Remote clock offset: -0.007 ms


# Below is generated by plot.py at 2018-11-03 20:12:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1039.37 Mbit/s
95th percentile per-packet one-way delay: 72.137 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 558.74 Mbit/s
95th percentile per-packet one-way delay: 73.647 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 505.44 Mbit/s
95th percentile per-packet one-way delay: 73.591 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 445.43 Mbit/s
95th percentile per-packet one-way delay: 65.325 ms
Loss rate: 1.27%
```

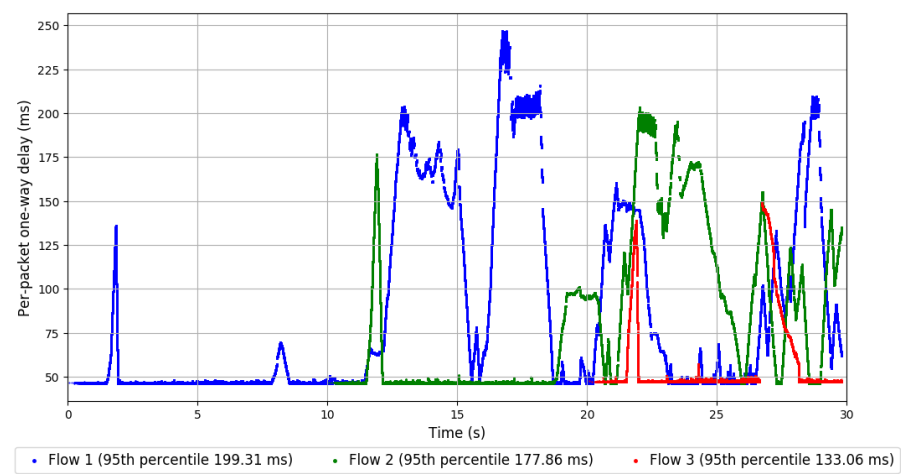# Run 3: Report of Indigo-Muses — Data Link

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-11-03 17:47:15
End at: 2018-11-03 17:47:45
Local clock offset: -0.104 ms
Remote clock offset: -0.022 ms

# Below is generated by plot.py at 2018-11-03 20:12:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1034.72 Mbit/s
95th percentile per-packet one-way delay: 68.719 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 561.21 Mbit/s
95th percentile per-packet one-way delay: 65.902 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 506.61 Mbit/s
95th percentile per-packet one-way delay: 75.003 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 423.98 Mbit/s
95th percentile per-packet one-way delay: 56.335 ms
Loss rate: 1.28%
```

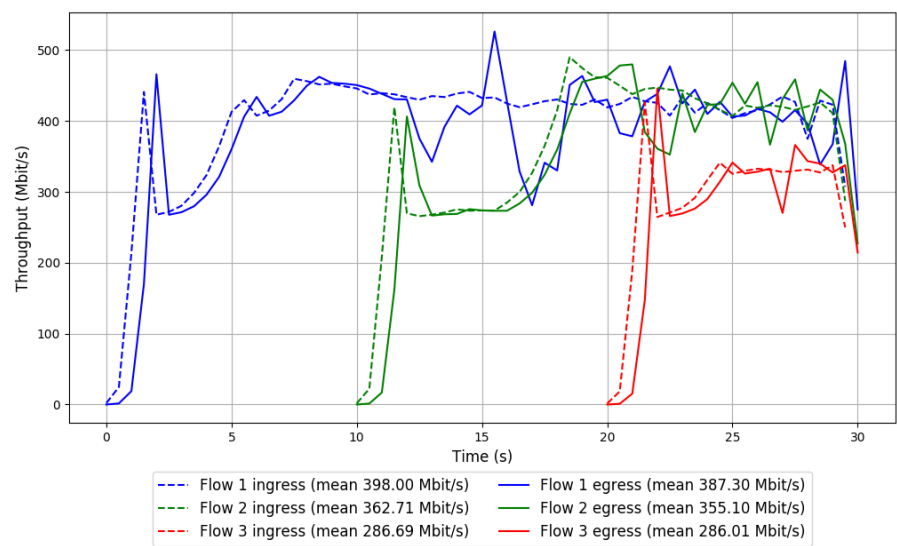Run 4: Report of Indigo-Muses — Data Link

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-11-03 18:18:54
End at: 2018-11-03 18:19:24
Local clock offset: -0.069 ms
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2018-11-03 20:14:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1032.36 Mbit/s
95th percentile per-packet one-way delay: 65.782 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 575.53 Mbit/s
95th percentile per-packet one-way delay: 65.802 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 483.44 Mbit/s
95th percentile per-packet one-way delay: 66.010 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 419.33 Mbit/s
95th percentile per-packet one-way delay: 65.267 ms
Loss rate: 1.41%
```

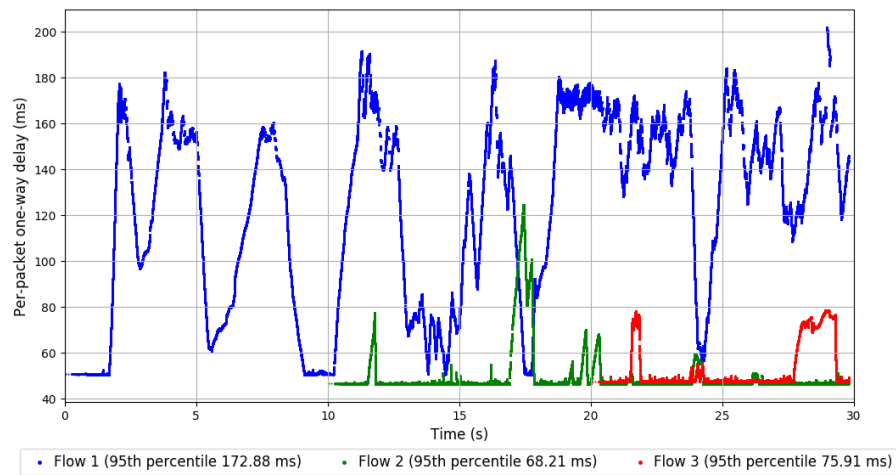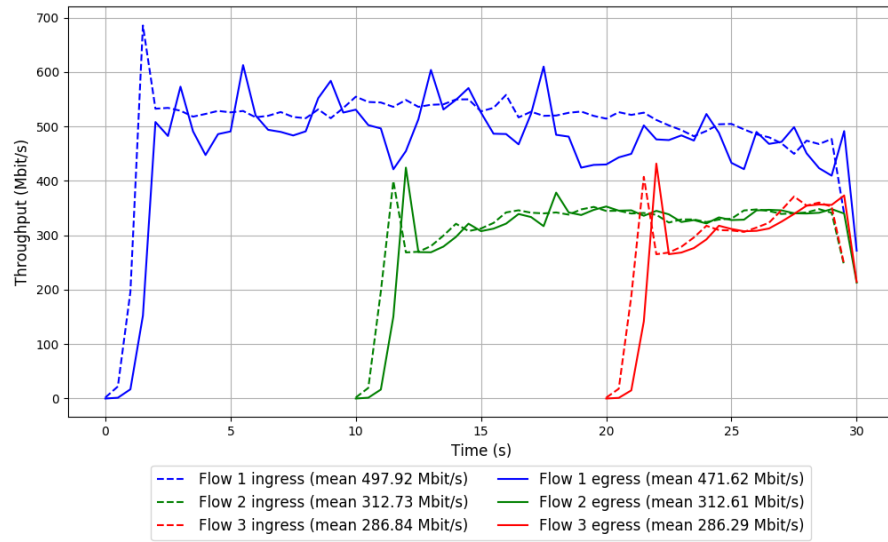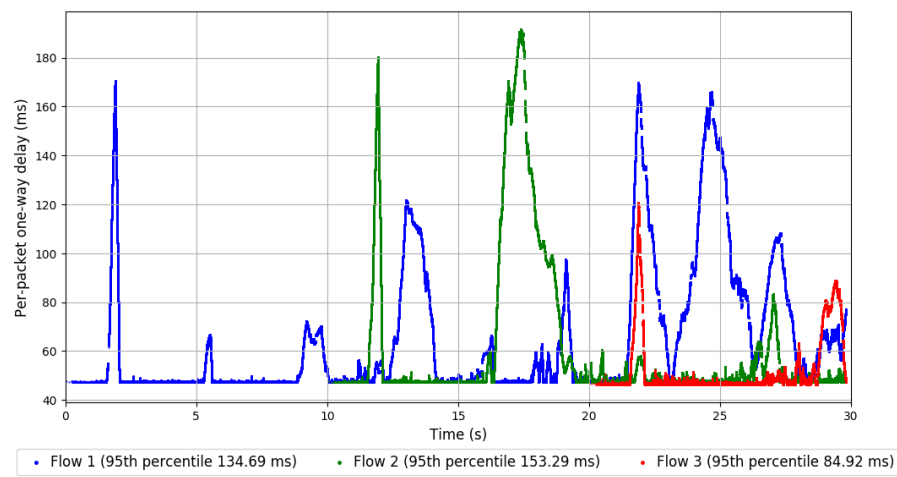Run 5: Report of Indigo-Muses — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-11-03 15:50:15
End at: 2018-11-03 15:50:45
Local clock offset: -0.036 ms
Remote clock offset: -0.085 ms


# Below is generated by plot.py at 2018-11-03 20:22:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 716.14 Mbit/s
95th percentile per-packet one-way delay: 188.255 ms
Loss rate: 2.63%
-- Flow 1:
Average throughput: 387.30 Mbit/s
95th percentile per-packet one-way delay: 199.309 ms
Loss rate: 3.00%
-- Flow 2:
Average throughput: 355.10 Mbit/s
95th percentile per-packet one-way delay: 177.857 ms
Loss rate: 2.57%
-- Flow 3:
Average throughput: 286.01 Mbit/s
95th percentile per-packet one-way delay: 133.057 ms
Loss rate: 1.20%
```

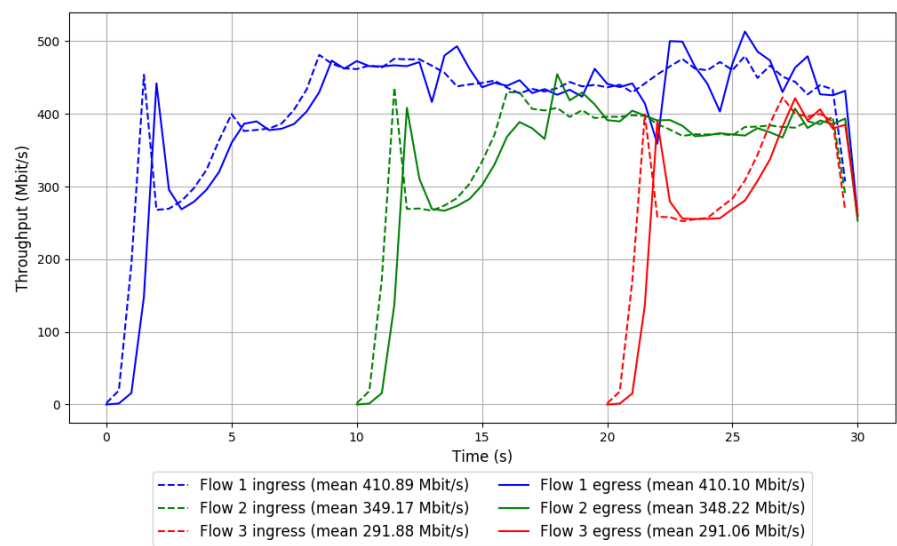Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-11-03 16:21:10
End at: 2018-11-03 16:21:40
Local clock offset: 0.031 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2018-11-03 20:24:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 772.70 Mbit/s
95th percentile per-packet one-way delay: 170.231 ms
Loss rate: 3.76%
-- Flow 1:
Average throughput: 471.62 Mbit/s
95th percentile per-packet one-way delay: 172.885 ms
Loss rate: 5.60%
-- Flow 2:
Average throughput: 312.61 Mbit/s
95th percentile per-packet one-way delay: 68.209 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 286.29 Mbit/s
95th percentile per-packet one-way delay: 75.909 ms
Loss rate: 1.17%
```

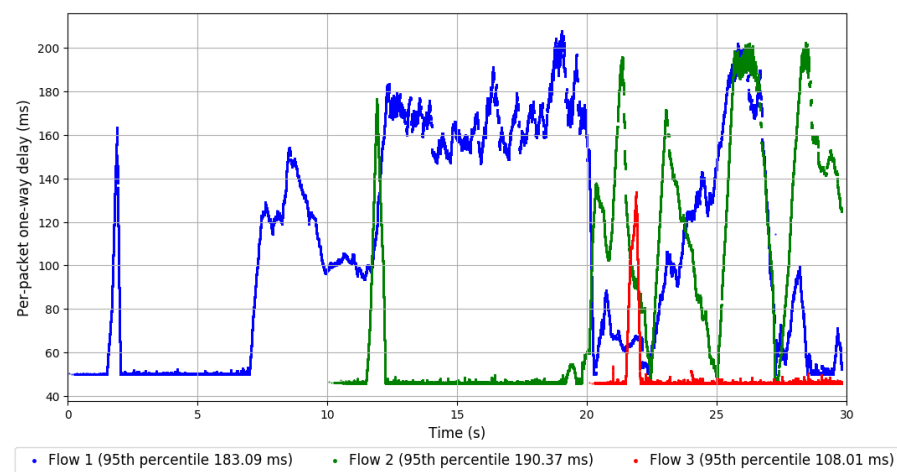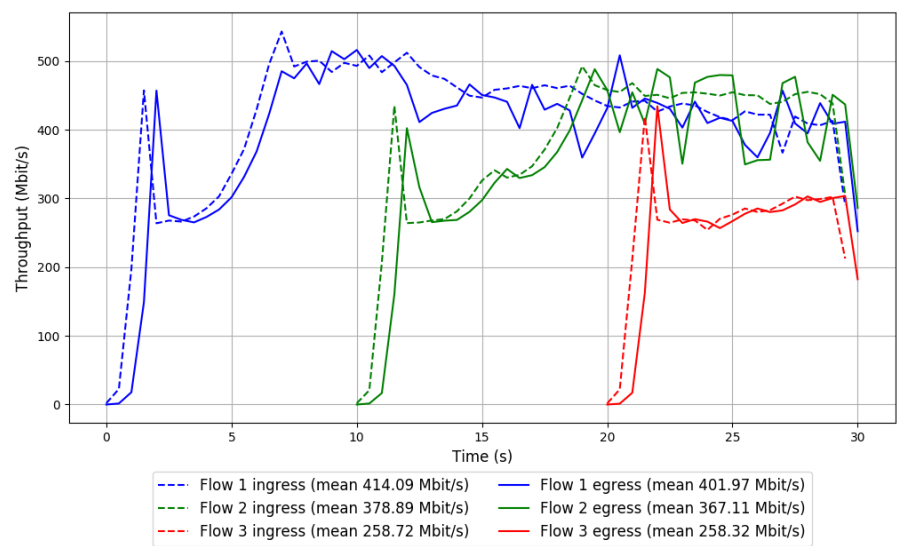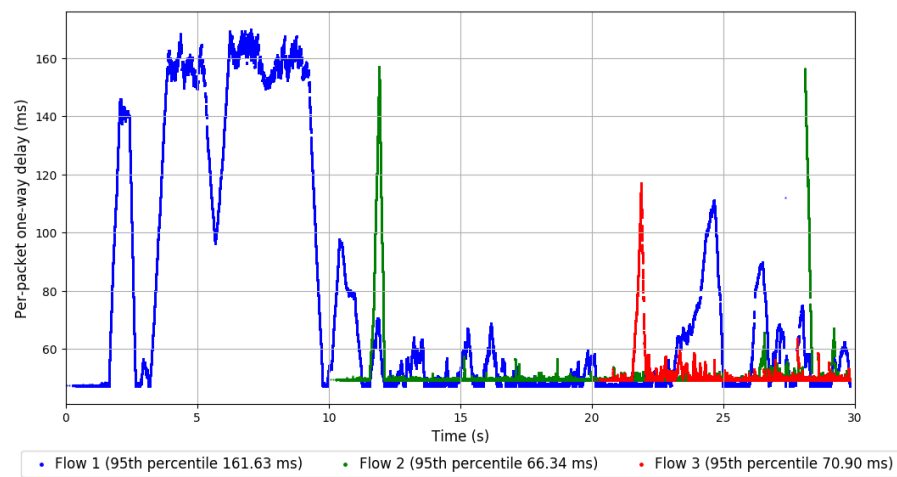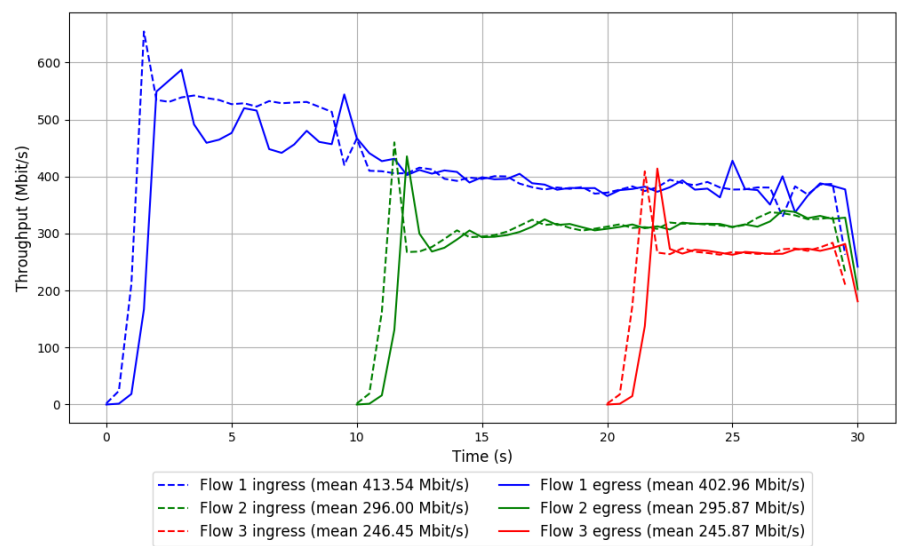Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-11-03 16:53:22
End at: 2018-11-03 16:53:52
Local clock offset: 0.059 ms
Remote clock offset: -0.031 ms


# Below is generated by plot.py at 2018-11-03 20:24:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 736.40 Mbit/s
95th percentile per-packet one-way delay: 134.383 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 410.10 Mbit/s
95th percentile per-packet one-way delay: 134.689 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 348.22 Mbit/s
95th percentile per-packet one-way delay: 153.294 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 291.06 Mbit/s
95th percentile per-packet one-way delay: 84.919 ms
Loss rate: 1.24%
```

Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 410.89 Mbit/s) --- Flow 1 egress (mean 410.10 Mbit/s)
Flow 2 ingress (mean 349.17 Mbit/s) --- Flow 2 egress (mean 348.22 Mbit/s)
Flow 3 ingress (mean 291.88 Mbit/s) --- Flow 3 egress (mean 291.06 Mbit/s)

Flow 1 (95th percentile 134.69 ms)   Flow 2 (95th percentile 153.29 ms)   Flow 3 (95th percentile 84.92 ms)

90

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-11-03 17:24:43
End at: 2018-11-03 17:25:13
Local clock offset: -0.451 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2018-11-03 20:40:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 730.03 Mbit/s
95th percentile per-packet one-way delay: 184.340 ms
Loss rate: 3.12%
-- Flow 1:
Average throughput: 401.97 Mbit/s
95th percentile per-packet one-way delay: 183.095 ms
Loss rate: 3.25%
-- Flow 2:
Average throughput: 367.11 Mbit/s
95th percentile per-packet one-way delay: 190.365 ms
Loss rate: 3.58%
-- Flow 3:
Average throughput: 258.32 Mbit/s
95th percentile per-packet one-way delay: 108.009 ms
Loss rate: 1.12%
```

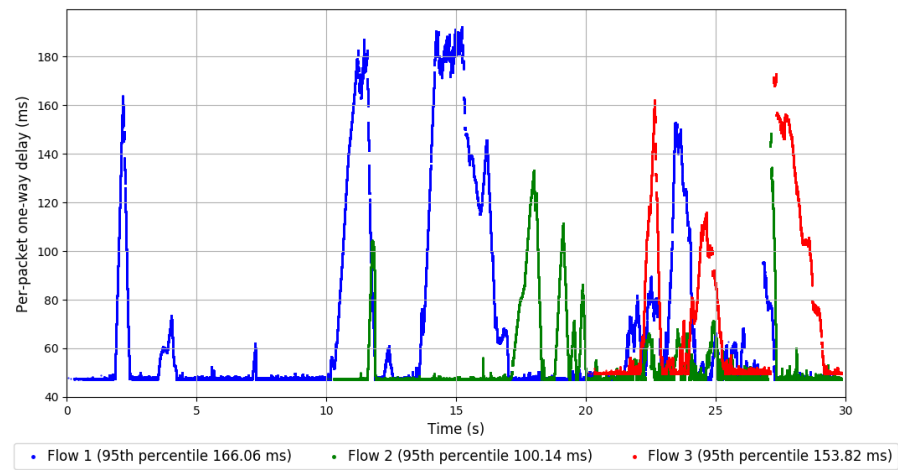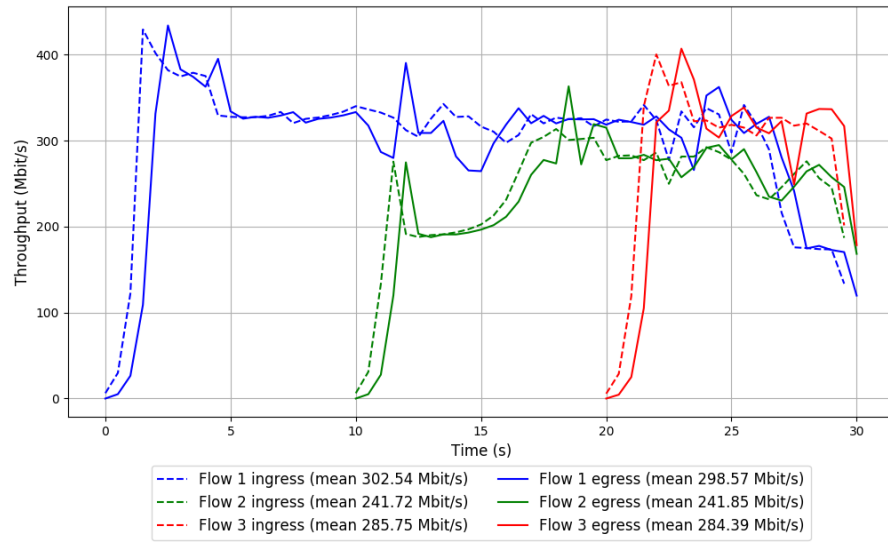Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-11-03 17:56:02
End at: 2018-11-03 17:56:32
Local clock offset: -0.129 ms
Remote clock offset: -0.086 ms


# Below is generated by plot.py at 2018-11-03 20:40:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 679.77 Mbit/s
95th percentile per-packet one-way delay: 158.493 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 402.96 Mbit/s
95th percentile per-packet one-way delay: 161.628 ms
Loss rate: 2.87%
-- Flow 2:
Average throughput: 295.87 Mbit/s
95th percentile per-packet one-way delay: 66.339 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 245.87 Mbit/s
95th percentile per-packet one-way delay: 70.898 ms
Loss rate: 1.22%
```

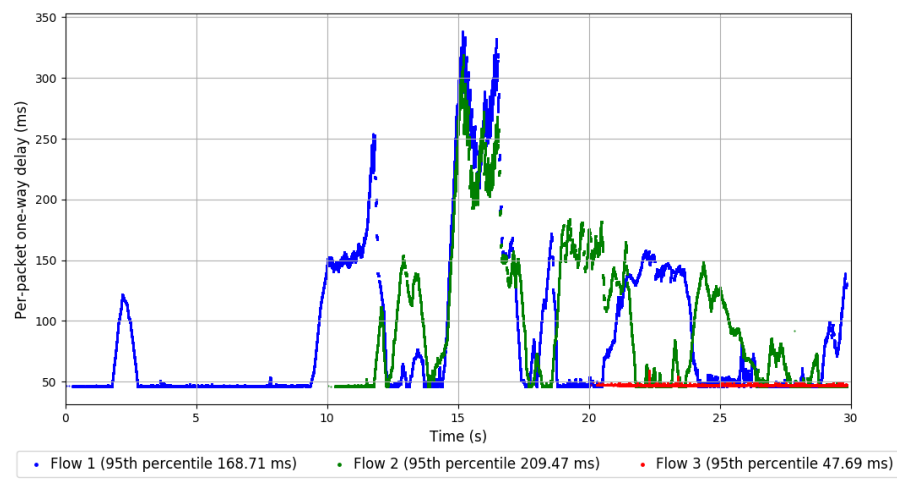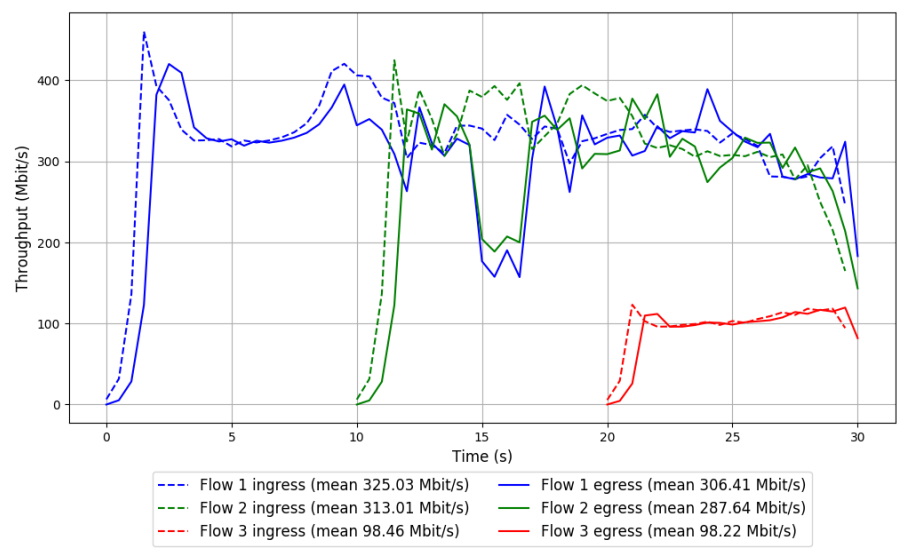# Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2018-11-03 16:15:39
End at: 2018-11-03 16:16:09
Local clock offset: -0.015 ms
Remote clock offset: -0.112 ms


# Below is generated by plot.py at 2018-11-03 20:40:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 552.32 Mbit/s
95th percentile per-packet one-way delay: 149.260 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 298.57 Mbit/s
95th percentile per-packet one-way delay: 166.063 ms
Loss rate: 1.63%
-- Flow 2:
Average throughput: 241.85 Mbit/s
95th percentile per-packet one-way delay: 100.139 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 284.39 Mbit/s
95th percentile per-packet one-way delay: 153.818 ms
Loss rate: 1.46%
```
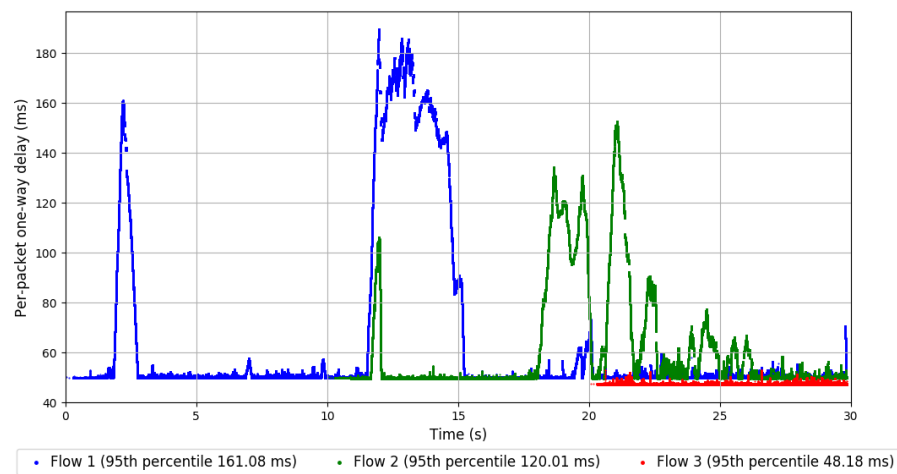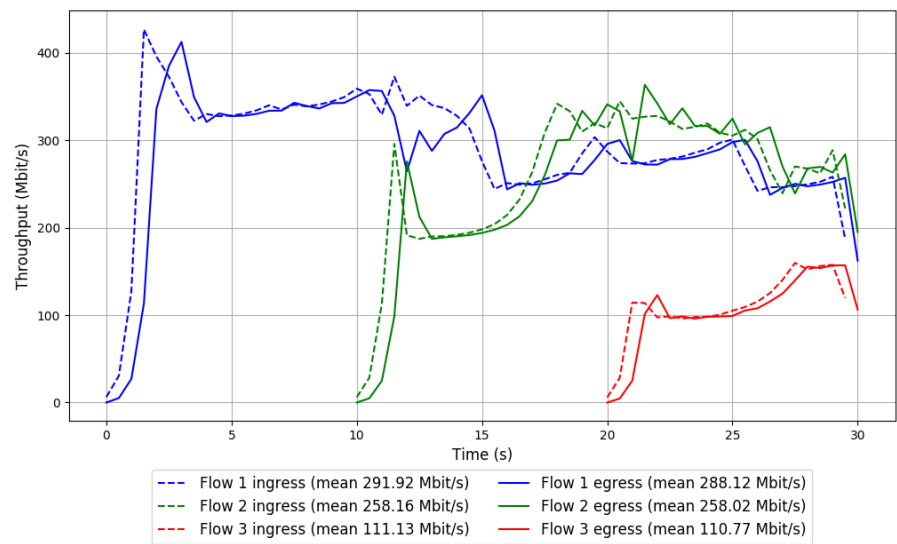
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2018-11-03 16:47:53
End at: 2018-11-03 16:48:23
Local clock offset: 0.008 ms
Remote clock offset: -0.029 ms

# Below is generated by plot.py at 2018-11-03 20:40:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 529.59 Mbit/s
95th percentile per-packet one-way delay: 180.835 ms
Loss rate: 6.67%
-- Flow 1:
Average throughput: 306.41 Mbit/s
95th percentile per-packet one-way delay: 168.711 ms
Loss rate: 6.02%
-- Flow 2:
Average throughput: 287.64 Mbit/s
95th percentile per-packet one-way delay: 209.471 ms
Loss rate: 8.54%
-- Flow 3:
Average throughput: 98.22 Mbit/s
95th percentile per-packet one-way delay: 47.689 ms
Loss rate: 1.20%
```

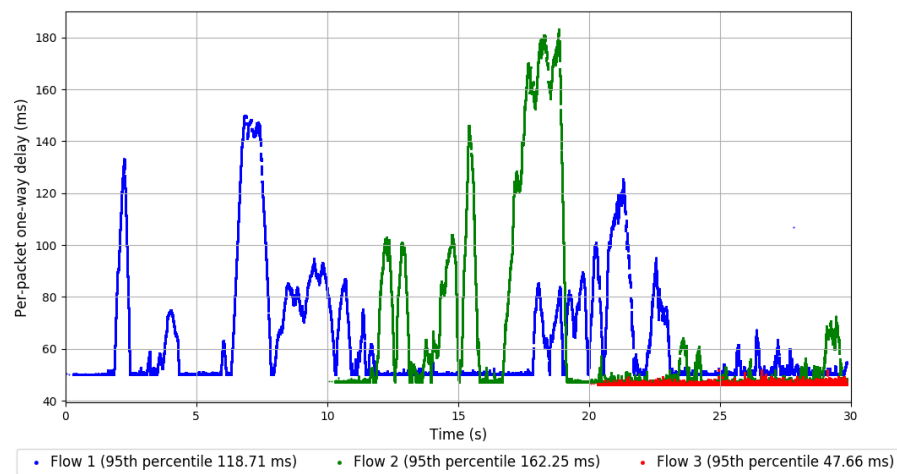Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-11-03 17:19:06
End at: 2018-11-03 17:19:36
Local clock offset: -0.043 ms
Remote clock offset: -0.029 ms


# Below is generated by plot.py at 2018-11-03 20:40:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 495.75 Mbit/s
95th percentile per-packet one-way delay: 150.417 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 288.12 Mbit/s
95th percentile per-packet one-way delay: 161.083 ms
Loss rate: 1.62%
-- Flow 2:
Average throughput: 258.02 Mbit/s
95th percentile per-packet one-way delay: 120.011 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 110.77 Mbit/s
95th percentile per-packet one-way delay: 48.181 ms
Loss rate: 1.28%
```

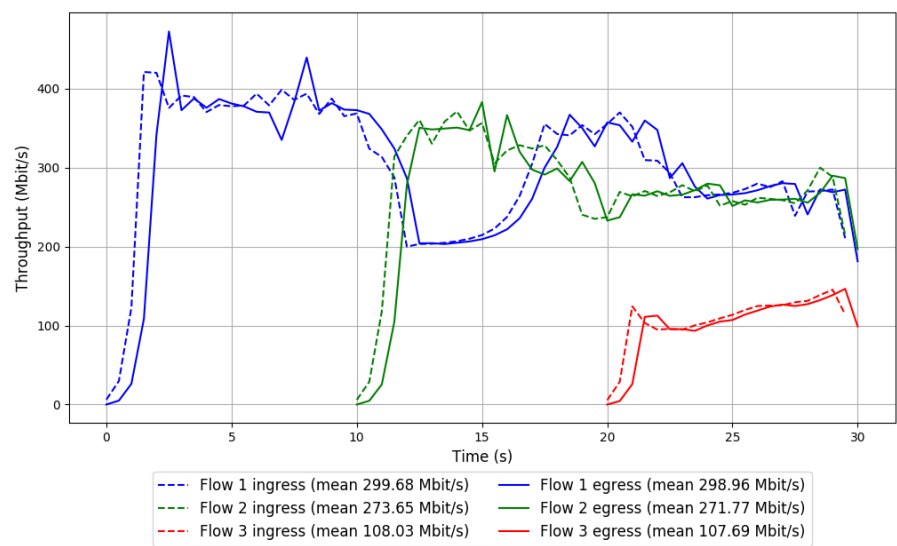Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-11-03 17:50:33
End at: 2018-11-03 17:51:03
Local clock offset: -0.115 ms
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2018-11-03 20:42:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 514.69 Mbit/s
95th percentile per-packet one-way delay: 134.719 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 298.96 Mbit/s
95th percentile per-packet one-way delay: 118.707 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 271.77 Mbit/s
95th percentile per-packet one-way delay: 162.251 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 107.69 Mbit/s
95th percentile per-packet one-way delay: 47.662 ms
Loss rate: 1.27%
```
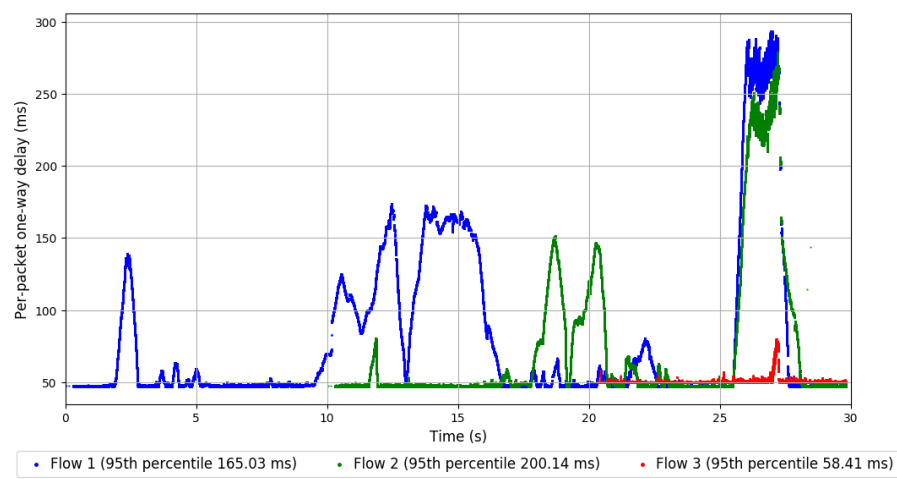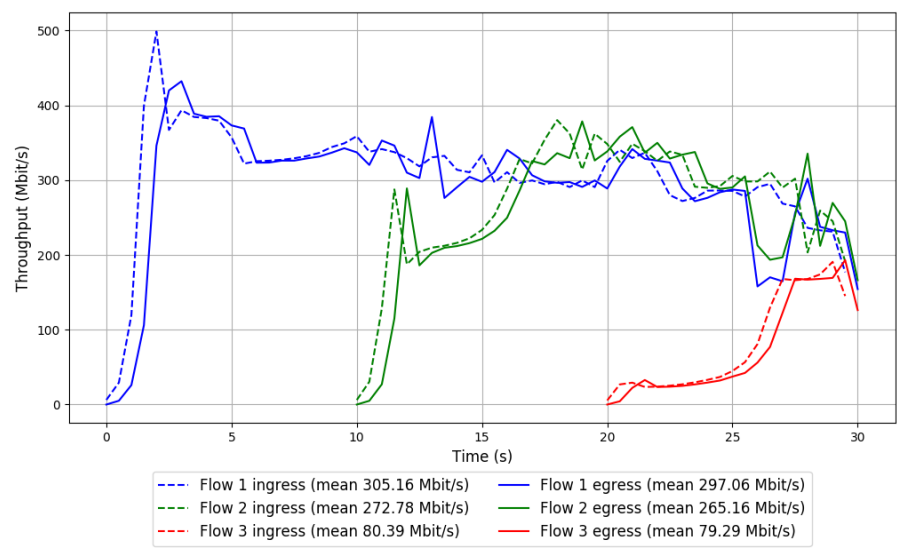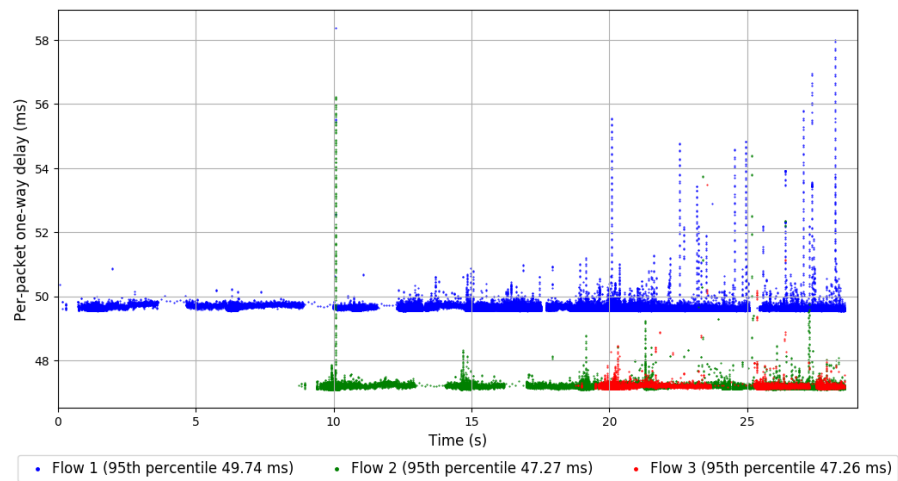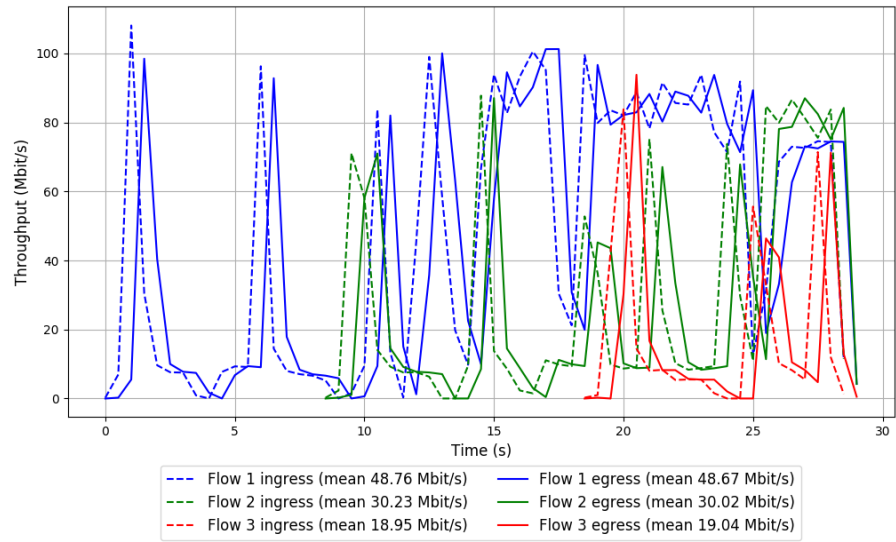
Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 299.68 Mbit/s) --- Flow 1 egress (mean 298.96 Mbit/s)
Flow 2 ingress (mean 273.65 Mbit/s) --- Flow 2 egress (mean 271.77 Mbit/s)
Flow 3 ingress (mean 108.03 Mbit/s) --- Flow 3 egress (mean 107.69 Mbit/s)

Flow 1 (95th percentile 118.71 ms) • Flow 2 (95th percentile 162.25 ms) • Flow 3 (95th percentile 47.66 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2018-11-03 18:22:14
End at: 2018-11-03 18:22:44
Local clock offset: -0.119 ms
Remote clock offset: -0.001 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 499.07 Mbit/s
95th percentile per-packet one-way delay: 164.899 ms
Loss rate: 3.04%
-- Flow 1:
Average throughput: 297.06 Mbit/s
95th percentile per-packet one-way delay: 165.026 ms
Loss rate: 2.97%
-- Flow 2:
Average throughput: 265.16 Mbit/s
95th percentile per-packet one-way delay: 200.137 ms
Loss rate: 3.26%
-- Flow 3:
Average throughput: 79.29 Mbit/s
95th percentile per-packet one-way delay: 58.406 ms
Loss rate: 2.36%
```

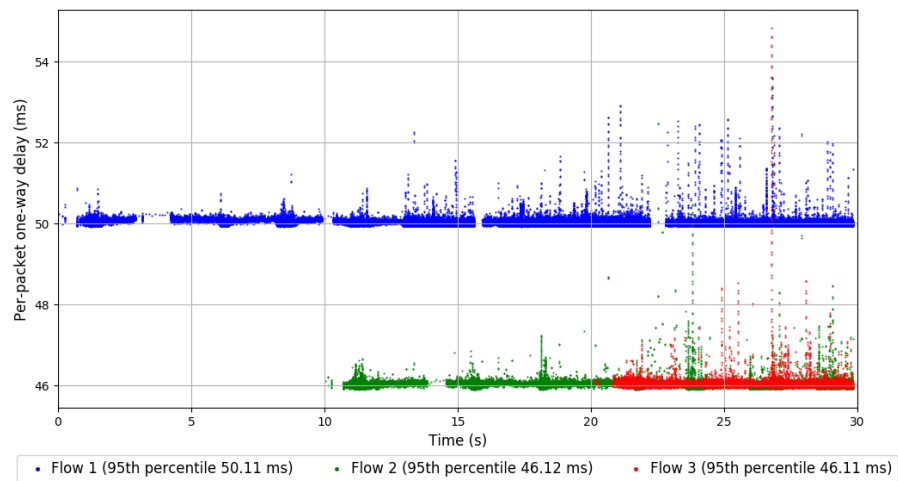Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-11-03 16:04:41
End at: 2018-11-03 16:05:11
Local clock offset: -0.013 ms
Remote clock offset: -0.095 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.05 Mbit/s
95th percentile per-packet one-way delay: 49.713 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 48.67 Mbit/s
95th percentile per-packet one-way delay: 49.740 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 30.02 Mbit/s
95th percentile per-packet one-way delay: 47.272 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 19.04 Mbit/s
95th percentile per-packet one-way delay: 47.264 ms
Loss rate: 0.45%
```

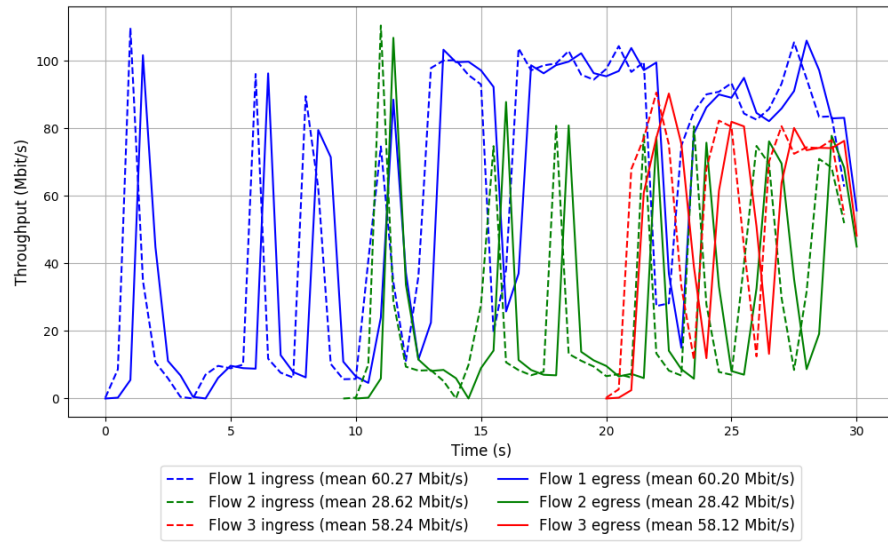Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-11-03 16:36:27
End at: 2018-11-03 16:36:57
Local clock offset: -0.347 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 98.18 Mbit/s
95th percentile per-packet one-way delay: 50.086 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 60.20 Mbit/s
95th percentile per-packet one-way delay: 50.111 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 28.42 Mbit/s
95th percentile per-packet one-way delay: 46.124 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 58.12 Mbit/s
95th percentile per-packet one-way delay: 46.107 ms
Loss rate: 1.16%
```

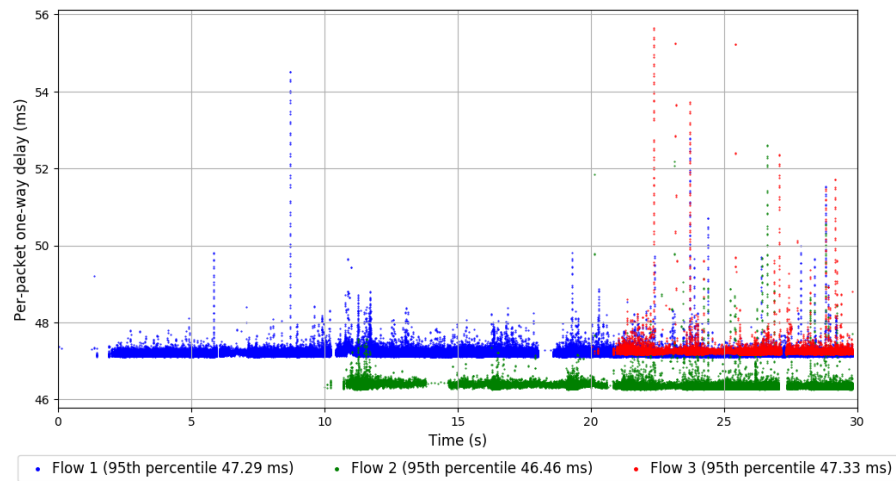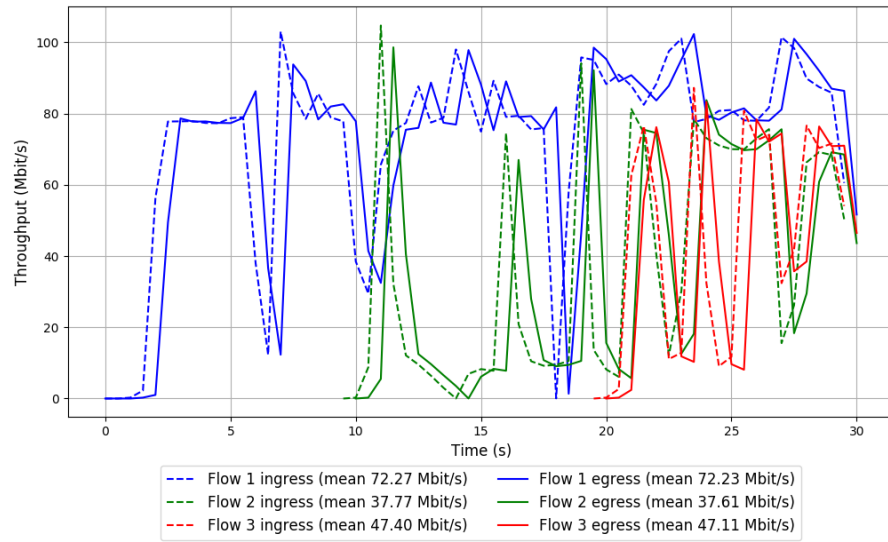Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-11-03 17:07:50
End at: 2018-11-03 17:08:20
Local clock offset: -0.049 ms
Remote clock offset: -0.043 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 112.70 Mbit/s
95th percentile per-packet one-way delay: 47.289 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 72.23 Mbit/s
95th percentile per-packet one-way delay: 47.293 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 37.61 Mbit/s
95th percentile per-packet one-way delay: 46.460 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 47.11 Mbit/s
95th percentile per-packet one-way delay: 47.330 ms
Loss rate: 1.56%
```

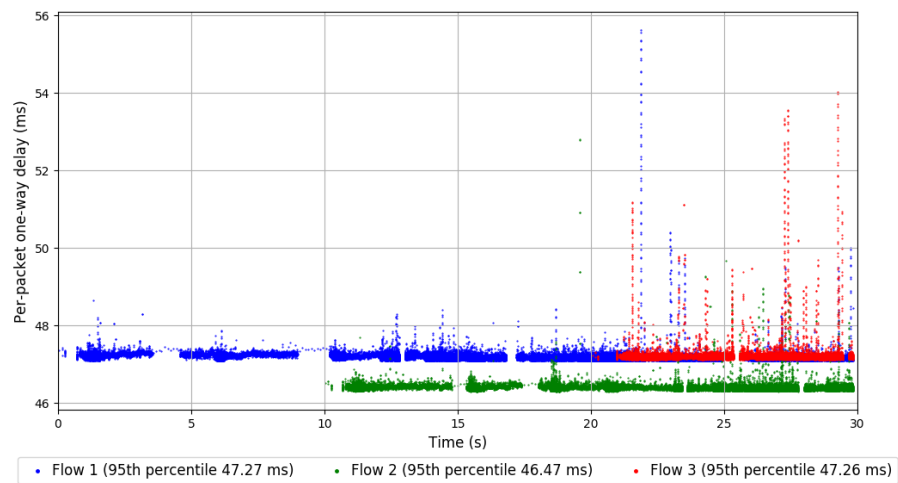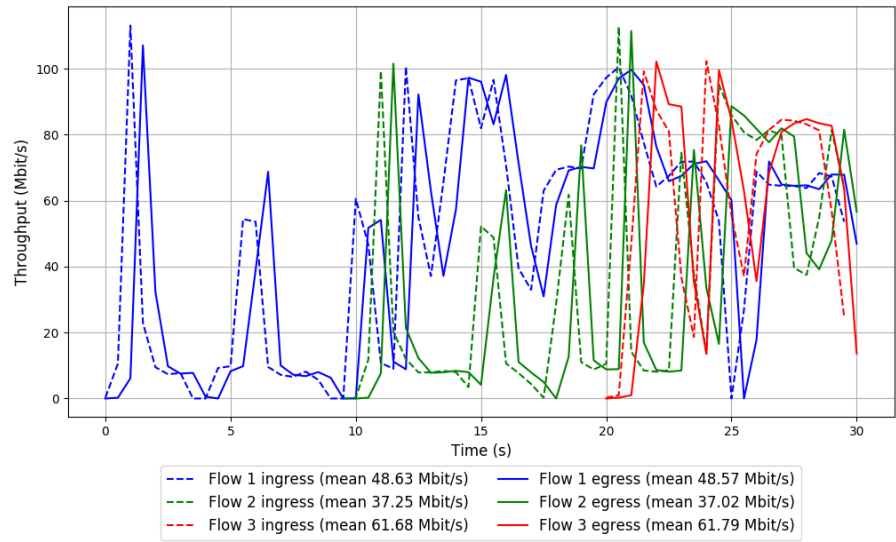Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-11-03 17:39:14
End at: 2018-11-03 17:39:44
Local clock offset: -0.091 ms
Remote clock offset: -0.061 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.46 Mbit/s
95th percentile per-packet one-way delay: 47.249 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 48.57 Mbit/s
95th percentile per-packet one-way delay: 47.266 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 37.02 Mbit/s
95th percentile per-packet one-way delay: 46.474 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 61.79 Mbit/s
95th percentile per-packet one-way delay: 47.257 ms
Loss rate: 0.90%
```

Run 4: Report of QUIC Cubic — Data Link

Run 5: Statistics of QUIC Cubic

/home/ubuntu/pantheon/data/2018-11-03T15-47-GCE-Iowa-to-GCE-London-5-runs-3-flows/quic_stats

Run 5: Report of QUIC Cubic — Data Link
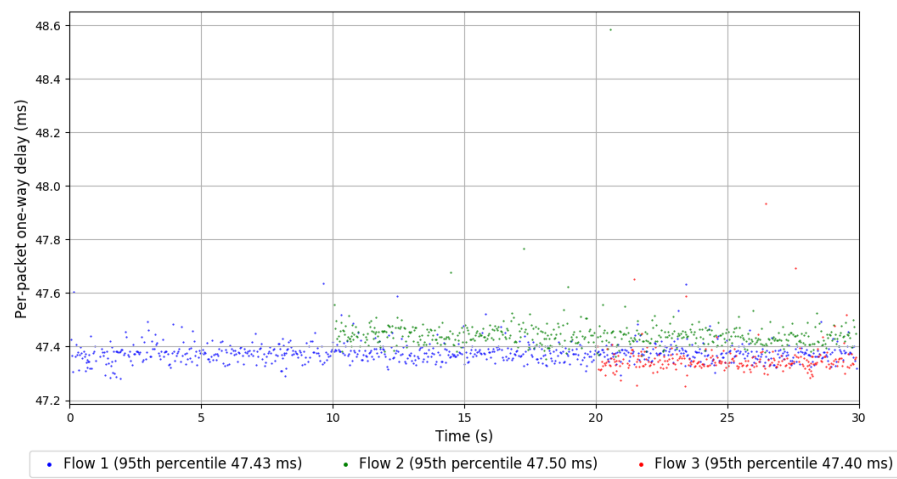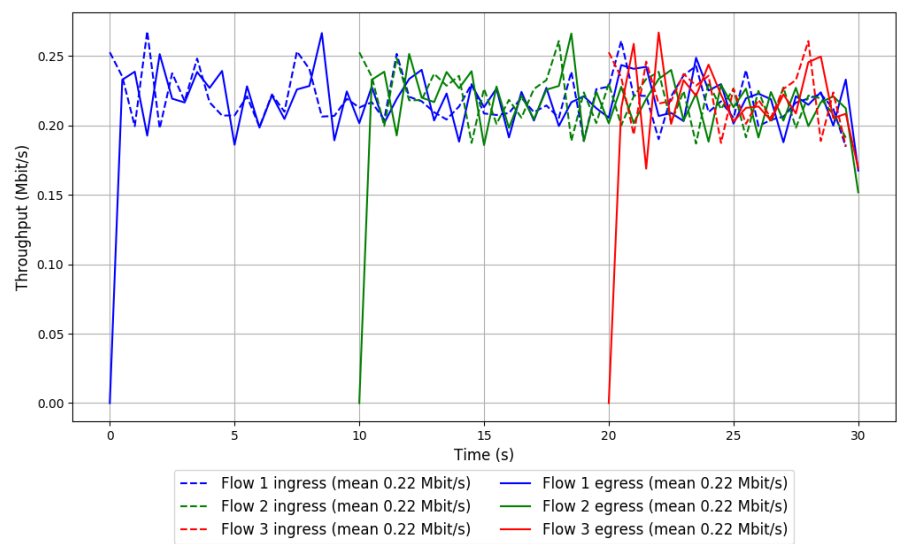
Figure is missing

Figure is missing

```
Run 1: Statistics of SCReAM

Start at: 2018-11-03 16:00:12
End at: 2018-11-03 16:00:42
Local clock offset: 0.004 ms
Remote clock offset: -0.07 ms

# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.477 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.434 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.498 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.398 ms
Loss rate: 1.09%
```
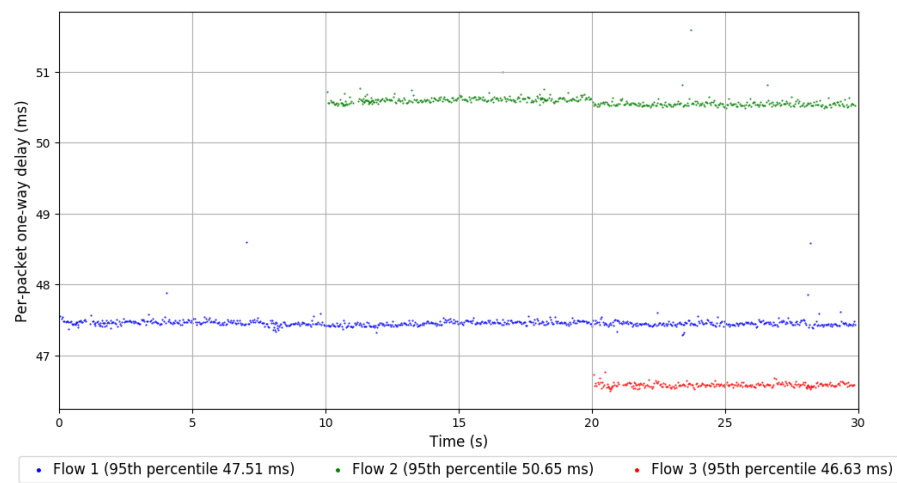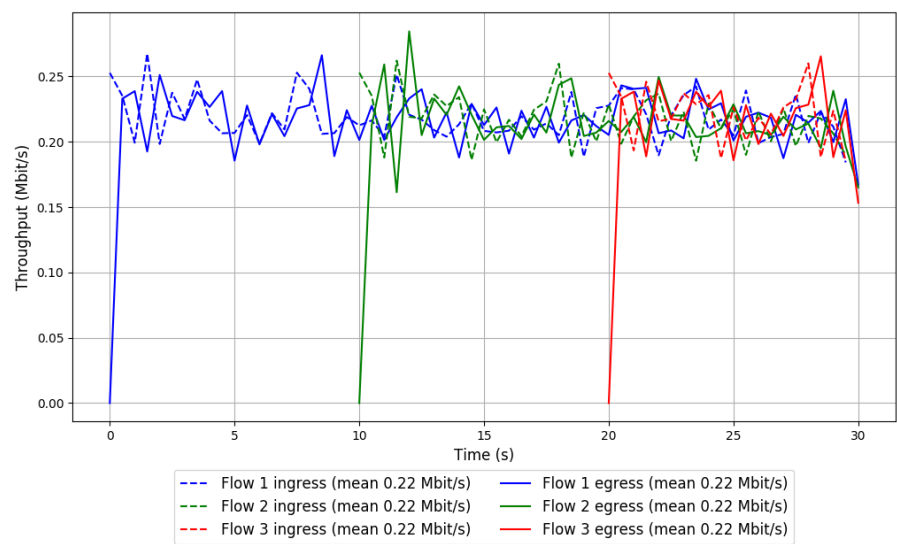
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-11-03 16:31:46
End at: 2018-11-03 16:32:16
Local clock offset: 0.045 ms
Remote clock offset: -0.047 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 50.626 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.514 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.652 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.634 ms
Loss rate: 1.09%
```

Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-11-03 17:03:24
End at: 2018-11-03 17:03:54
Local clock offset: -0.083 ms
Remote clock offset: -0.07 ms

# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 50.573 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.485 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.615 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.795 ms
Loss rate: 1.09%
```
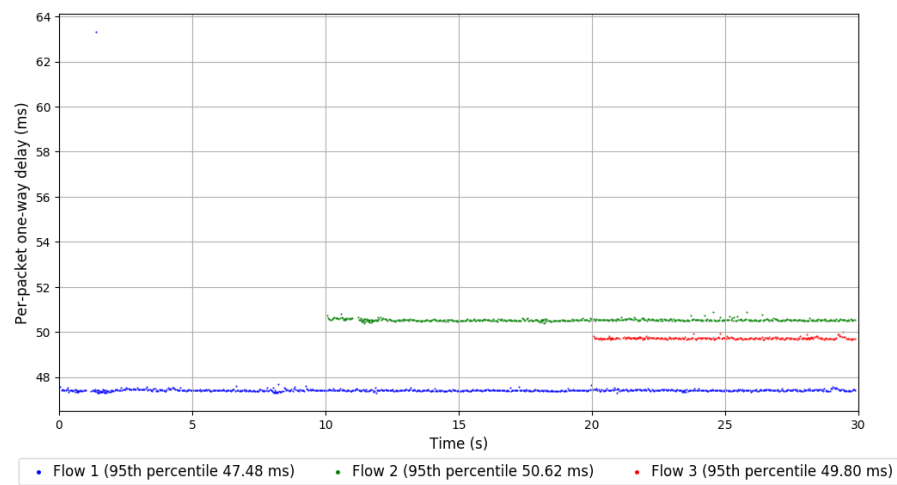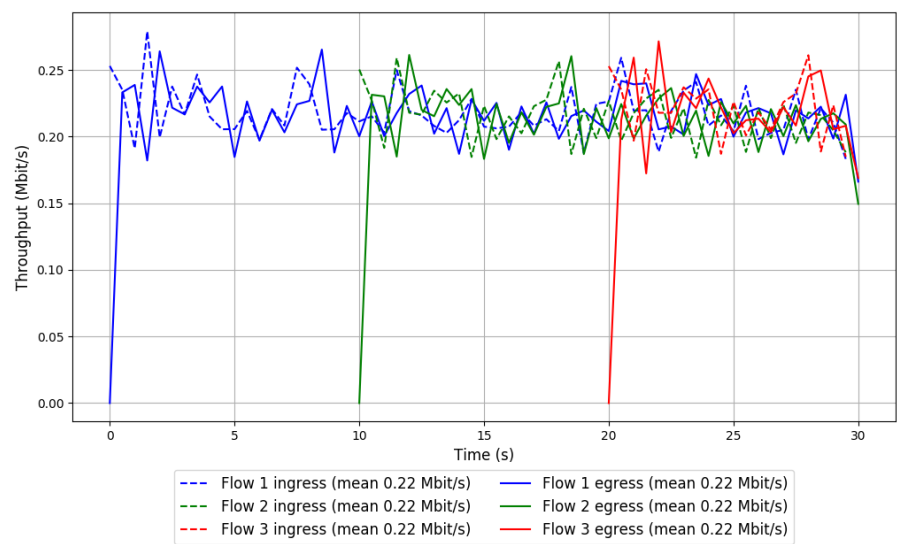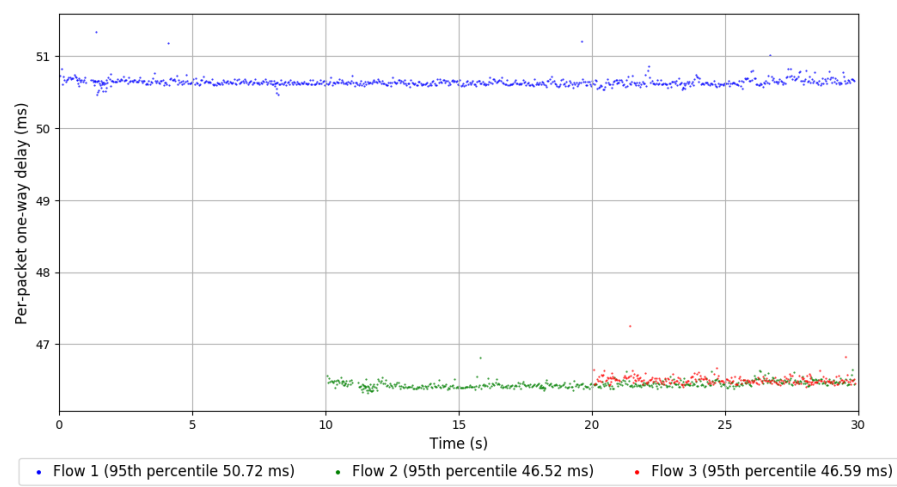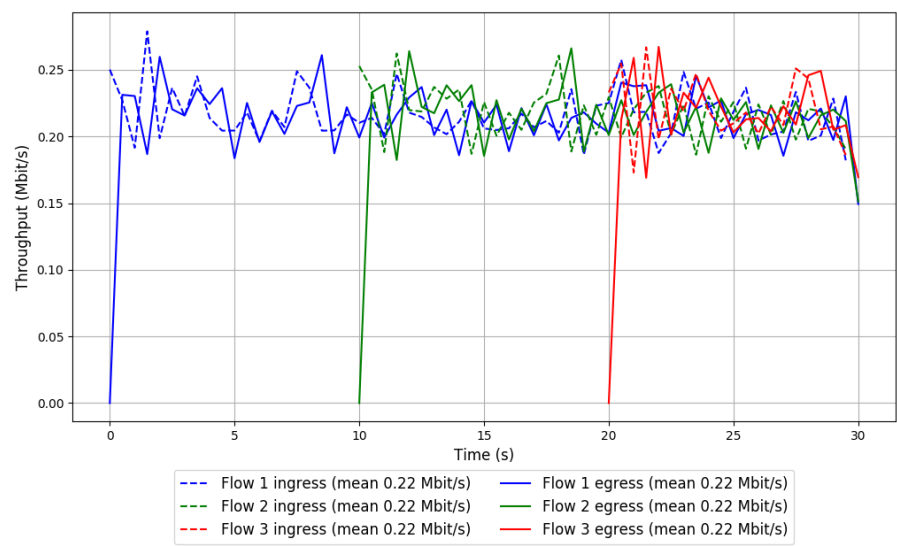
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-11-03 17:34:45
End at: 2018-11-03 17:35:15
Local clock offset: -0.101 ms
Remote clock offset: -0.015 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 50.689 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.718 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.522 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.585 ms
Loss rate: 0.74%
```
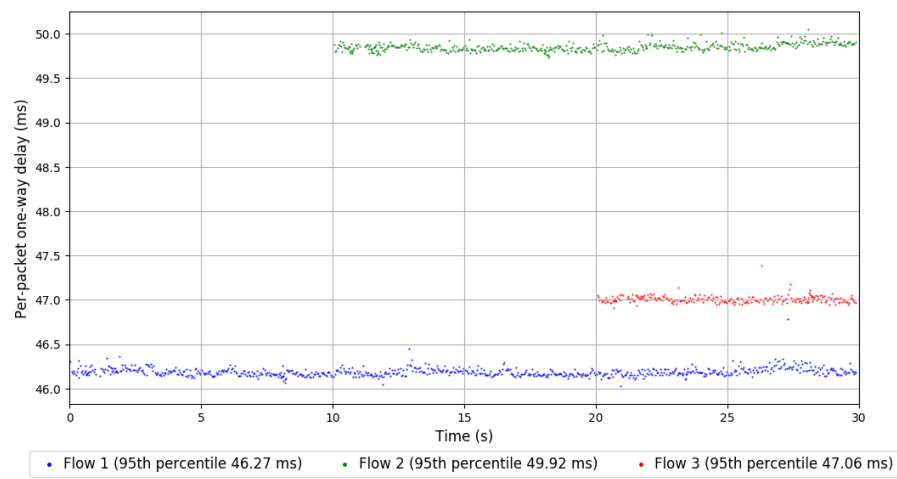
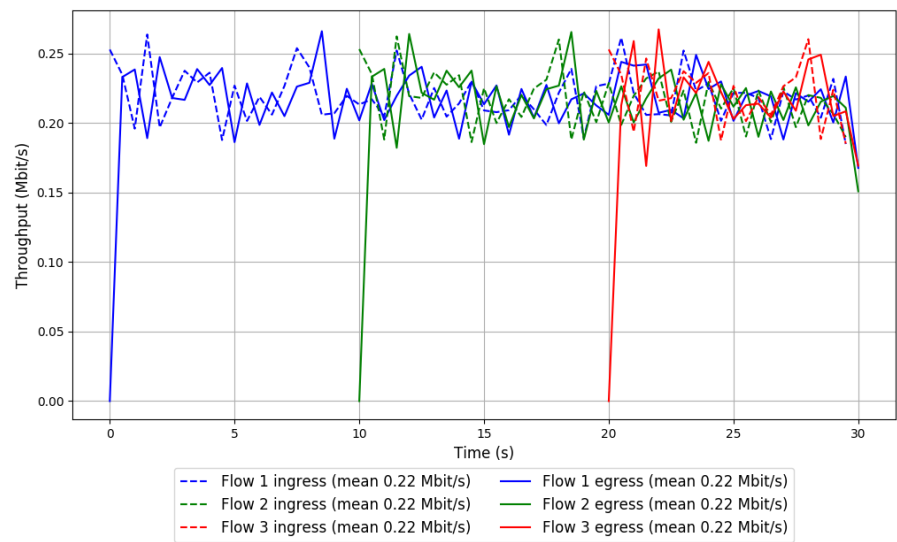## Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-11-03 18:05:48
End at: 2018-11-03 18:06:18
Local clock offset: -0.456 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 49.892 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.265 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 49.923 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.059 ms
Loss rate: 1.09%
```

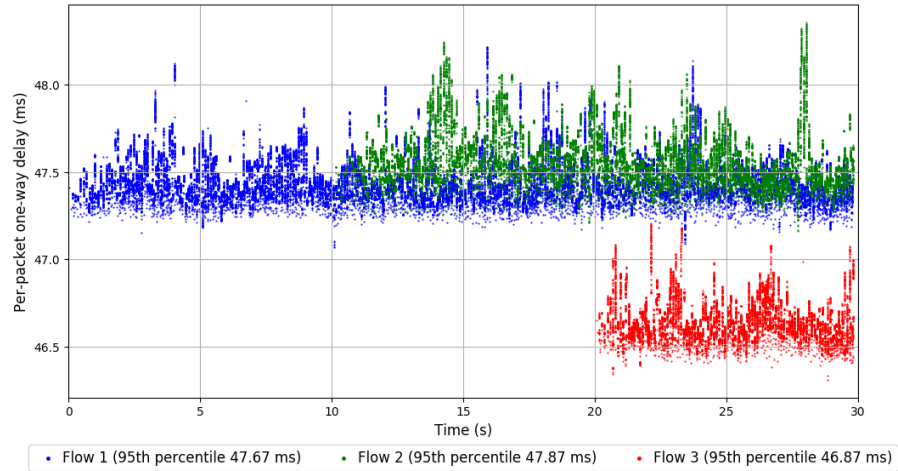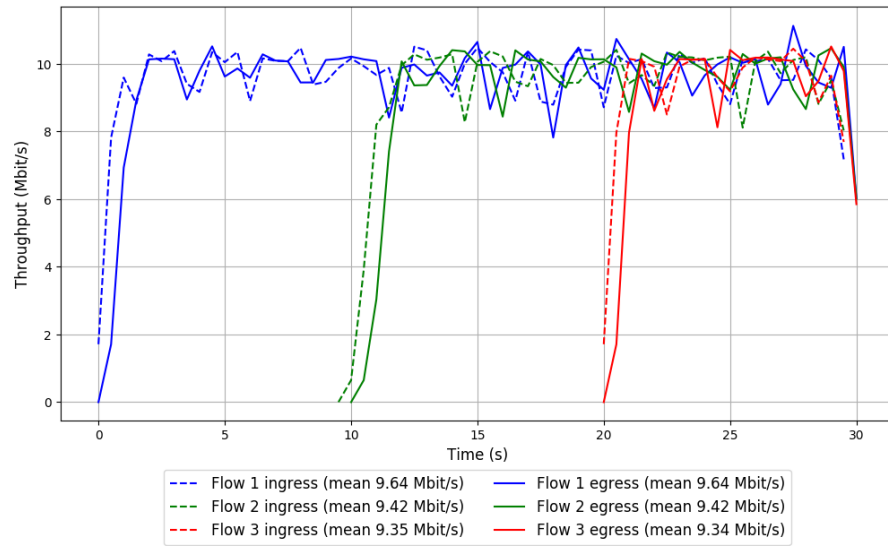## Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-11-03 16:03:28
End at: 2018-11-03 16:03:58
Local clock offset: 0.02 ms
Remote clock offset: -0.084 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.94 Mbit/s
95th percentile per-packet one-way delay: 47.757 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 9.64 Mbit/s
95th percentile per-packet one-way delay: 47.670 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 9.42 Mbit/s
95th percentile per-packet one-way delay: 47.872 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 46.872 ms
Loss rate: 1.11%
```
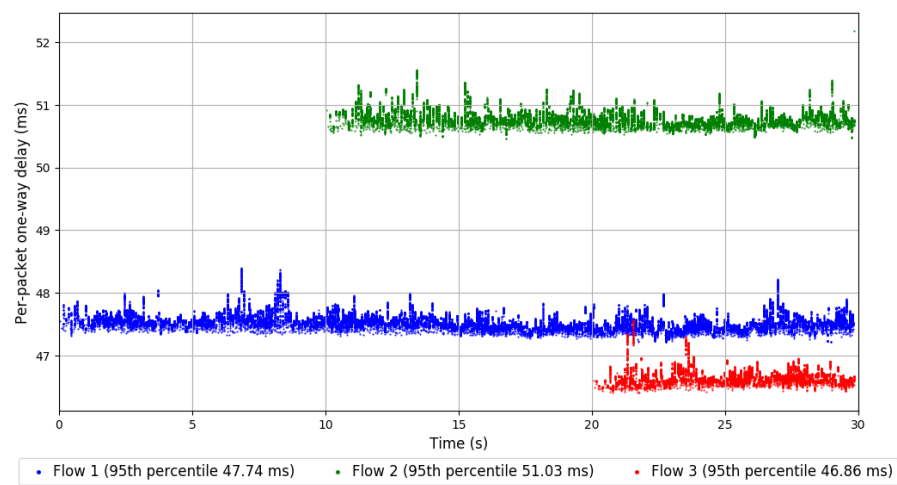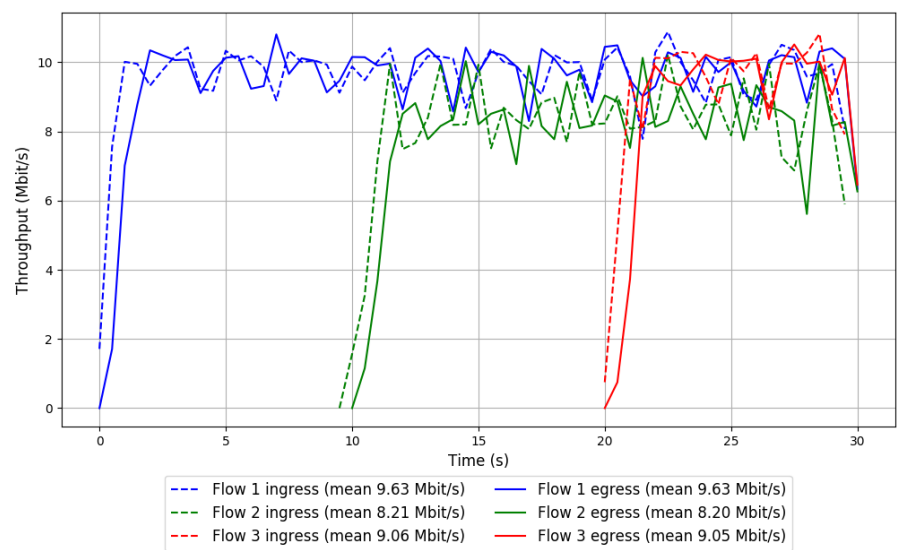
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-11-03 16:35:13
End at: 2018-11-03 16:35:43
Local clock offset: 0.035 ms
Remote clock offset: -0.032 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.03 Mbit/s
95th percentile per-packet one-way delay: 50.898 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 9.63 Mbit/s
95th percentile per-packet one-way delay: 47.745 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 8.20 Mbit/s
95th percentile per-packet one-way delay: 51.030 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 9.05 Mbit/s
95th percentile per-packet one-way delay: 46.861 ms
Loss rate: 1.11%
```
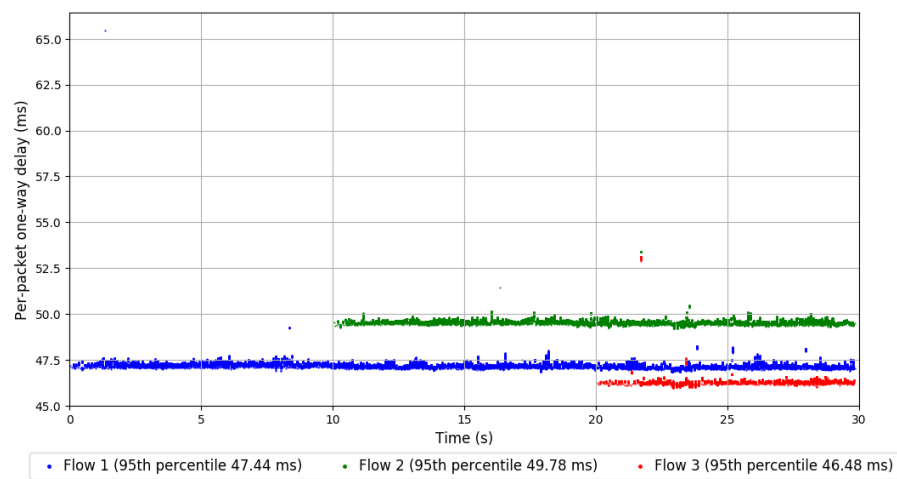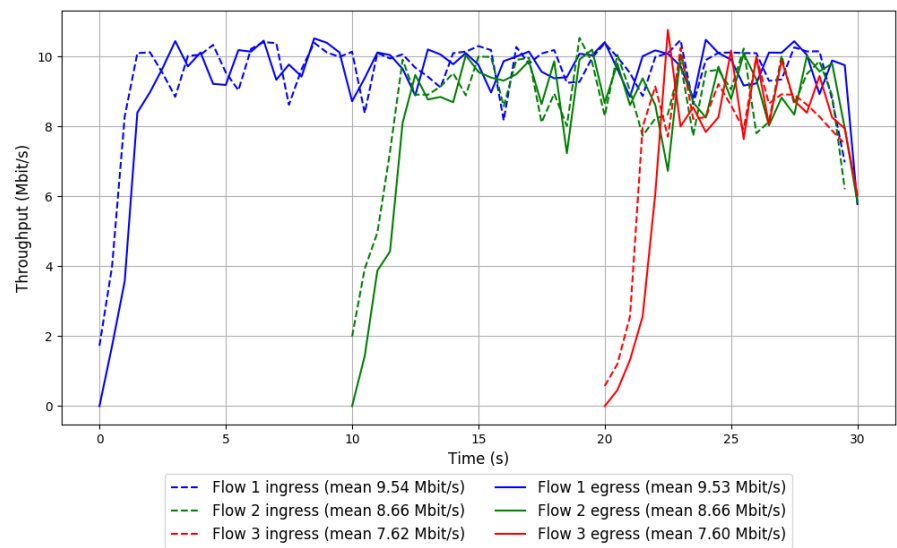
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-11-03 17:06:37
End at: 2018-11-03 17:07:07
Local clock offset: -0.428 ms
Remote clock offset: -0.053 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.77 Mbit/s
95th percentile per-packet one-way delay: 49.670 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 9.53 Mbit/s
95th percentile per-packet one-way delay: 47.441 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 8.66 Mbit/s
95th percentile per-packet one-way delay: 49.776 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 7.60 Mbit/s
95th percentile per-packet one-way delay: 46.482 ms
Loss rate: 1.32%
```
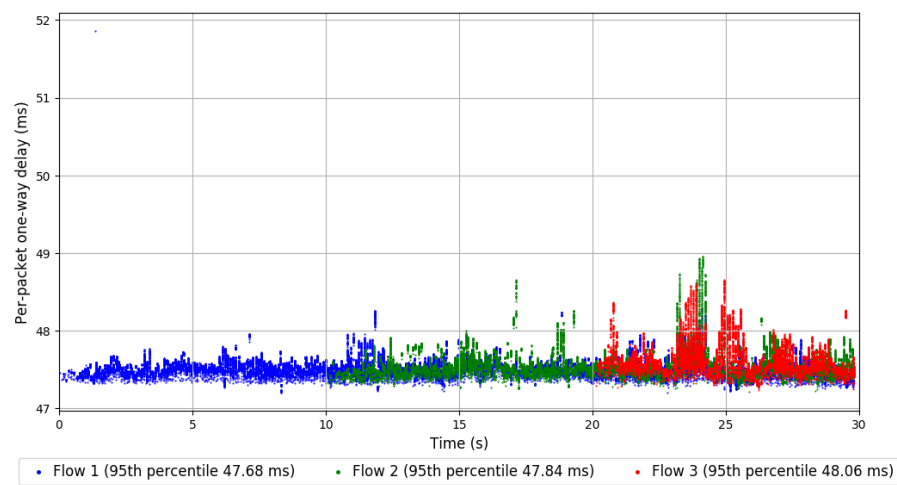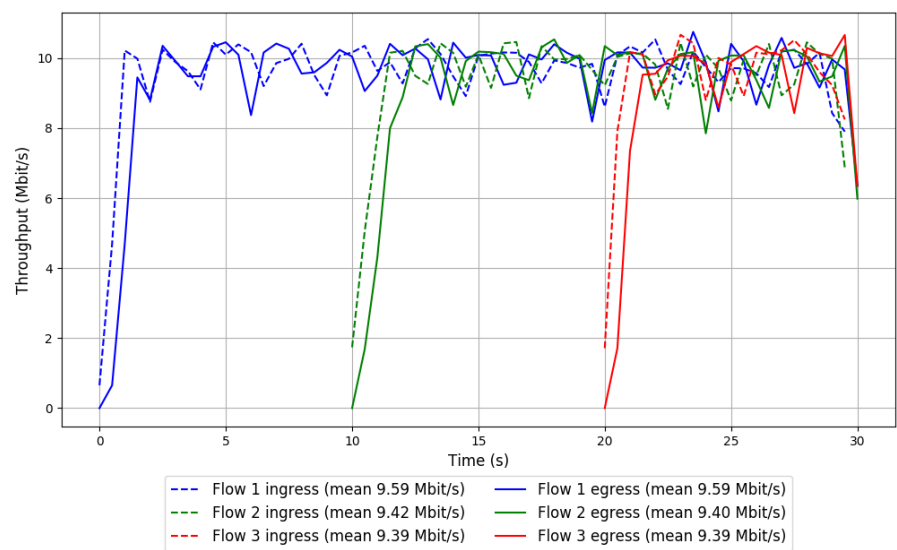
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-11-03 17:38:01
End at: 2018-11-03 17:38:31
Local clock offset: -0.085 ms
Remote clock offset: -0.057 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.89 Mbit/s
95th percentile per-packet one-way delay: 47.813 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 9.59 Mbit/s
95th percentile per-packet one-way delay: 47.682 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 9.40 Mbit/s
95th percentile per-packet one-way delay: 47.836 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 9.39 Mbit/s
95th percentile per-packet one-way delay: 48.062 ms
Loss rate: 1.09%
```
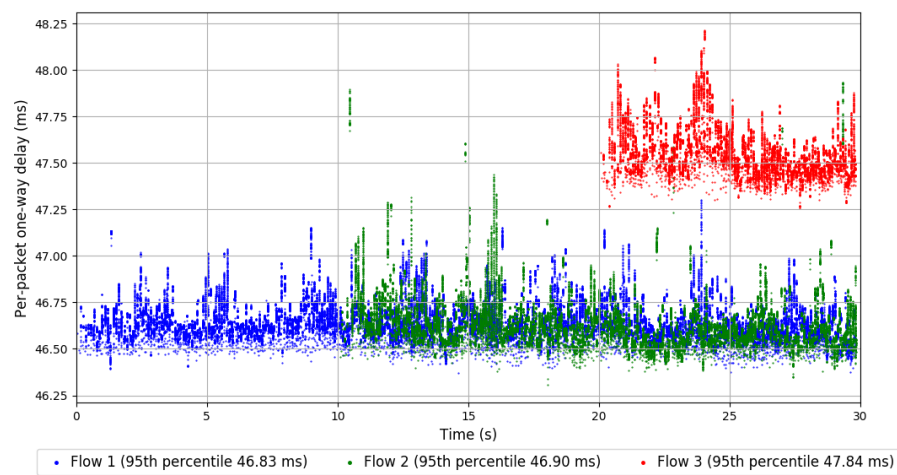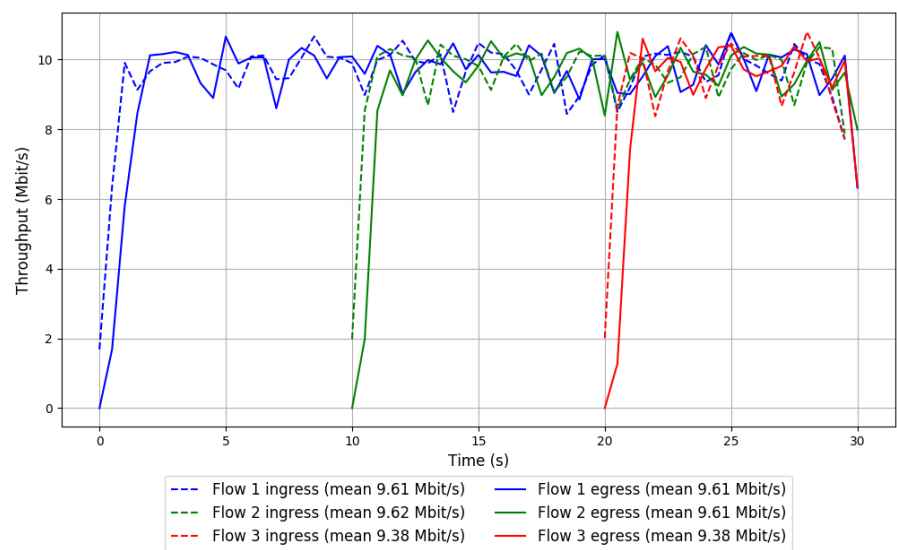
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-11-03 18:09:05
End at: 2018-11-03 18:09:35
Local clock offset: -0.058 ms
Remote clock offset: -0.014 ms


# Below is generated by plot.py at 2018-11-03 20:43:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.05 Mbit/s
95th percentile per-packet one-way delay: 47.593 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 46.834 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 9.61 Mbit/s
95th percentile per-packet one-way delay: 46.904 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 9.38 Mbit/s
95th percentile per-packet one-way delay: 47.841 ms
Loss rate: 1.00%
```
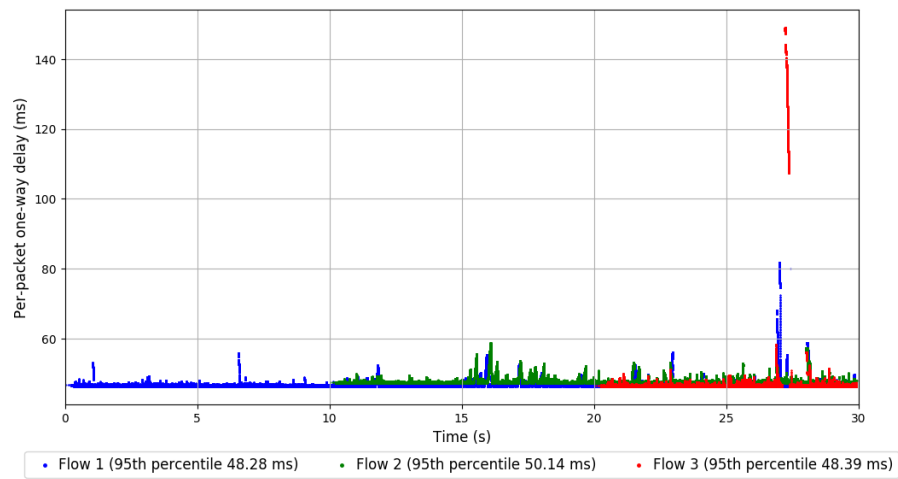
Run 5: Report of Sprout — Data Link

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

Start at: 2018-11-03 16:07:36
End at: 2018-11-03 16:08:06
Local clock offset: -0.009 ms
Remote clock offset: -0.087 ms


# Below is generated by plot.py at 2018-11-03 20:53:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 490.86 Mbit/s
95th percentile per-packet one-way delay: 49.080 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 250.19 Mbit/s
95th percentile per-packet one-way delay: 48.277 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 243.78 Mbit/s
95th percentile per-packet one-way delay: 50.143 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 238.14 Mbit/s
95th percentile per-packet one-way delay: 48.394 ms
Loss rate: 1.04%
```

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

Flow 1 ingress (mean 250.25 Mbit/s)   Flow 1 egress (mean 250.19 Mbit/s)
Flow 2 ingress (mean 243.89 Mbit/s)   Flow 2 egress (mean 243.78 Mbit/s)
Flow 3 ingress (mean 238.38 Mbit/s)   Flow 3 egress (mean 238.14 Mbit/s)

Flow 1 (95th percentile 48.28 ms)   Flow 2 (95th percentile 50.14 ms)   Flow 3 (95th percentile 48.39 ms)

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

Start at: 2018-11-03 16:39:35
End at: 2018-11-03 16:40:05
Local clock offset: 0.037 ms
Remote clock offset: -0.059 ms


# Below is generated by plot.py at 2018-11-03 20:53:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 500.19 Mbit/s
95th percentile per-packet one-way delay: 51.014 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 251.25 Mbit/s
95th percentile per-packet one-way delay: 51.085 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 253.15 Mbit/s
95th percentile per-packet one-way delay: 47.507 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 244.01 Mbit/s
95th percentile per-packet one-way delay: 51.601 ms
Loss rate: 1.03%
```
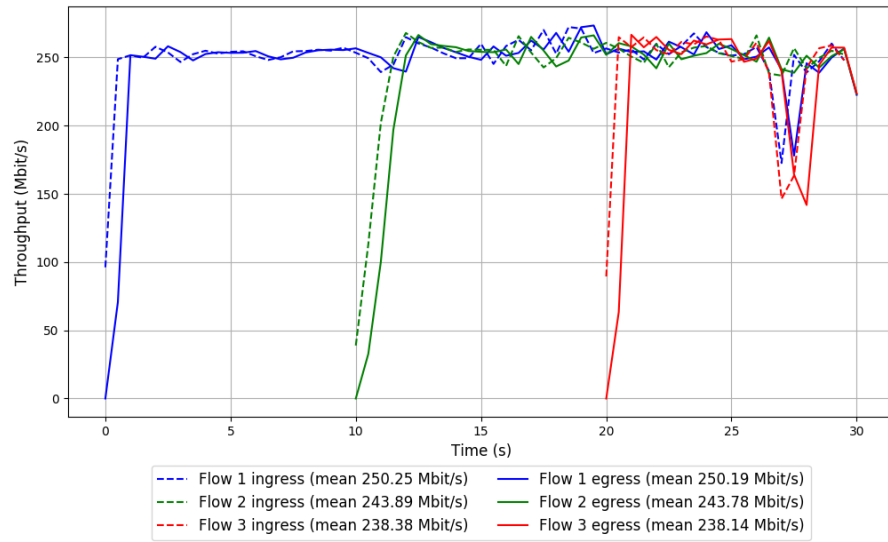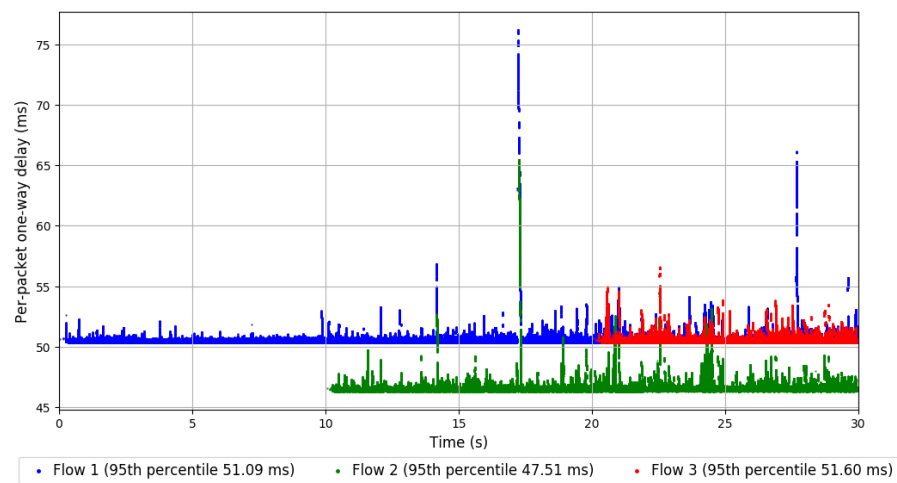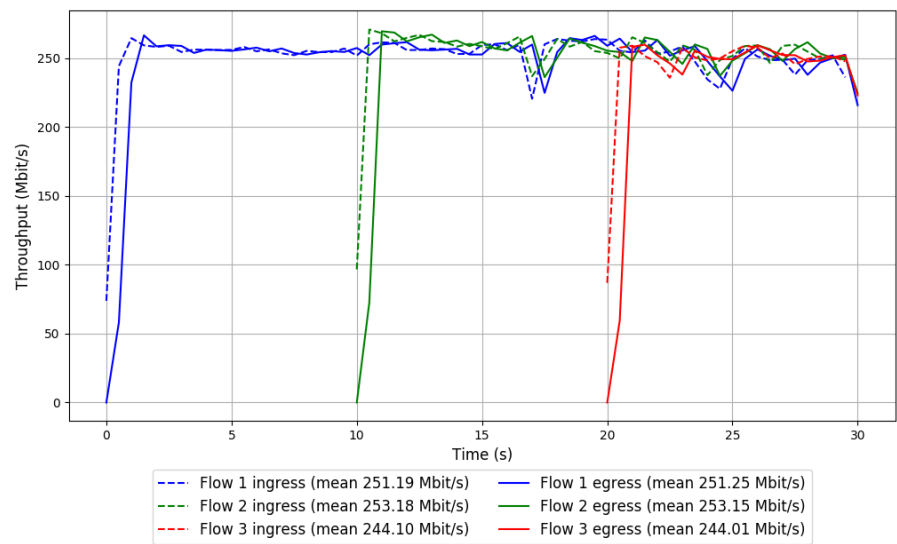
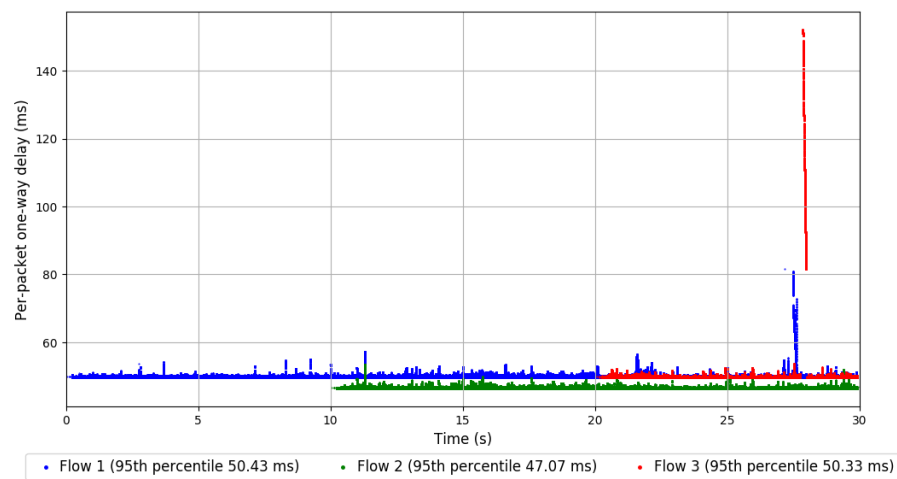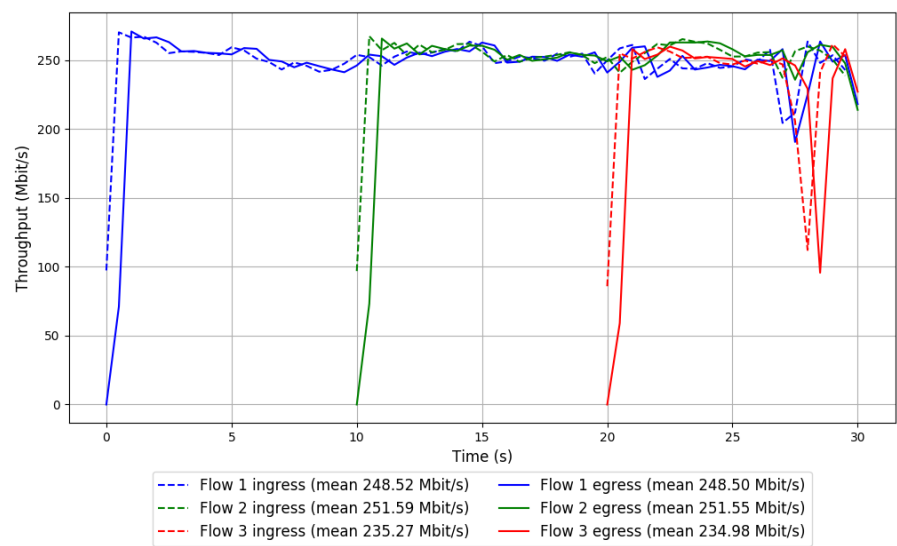Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2018-11-03 17:10:56
End at: 2018-11-03 17:11:26
Local clock offset: -0.063 ms
Remote clock offset: -0.021 ms


# Below is generated by plot.py at 2018-11-03 20:53:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 493.31 Mbit/s
95th percentile per-packet one-way delay: 50.150 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 248.50 Mbit/s
95th percentile per-packet one-way delay: 50.426 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 251.55 Mbit/s
95th percentile per-packet one-way delay: 47.067 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 234.98 Mbit/s
95th percentile per-packet one-way delay: 50.327 ms
Loss rate: 1.10%
```

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

Flow 1 ingress (mean 248.52 Mbit/s) --- Flow 1 egress (mean 248.50 Mbit/s)
Flow 2 ingress (mean 251.59 Mbit/s) --- Flow 2 egress (mean 251.55 Mbit/s)
Flow 3 ingress (mean 235.27 Mbit/s) --- Flow 3 egress (mean 234.98 Mbit/s)

Flow 1 (95th percentile 50.43 ms)   Flow 2 (95th percentile 47.07 ms)   Flow 3 (95th percentile 50.33 ms)
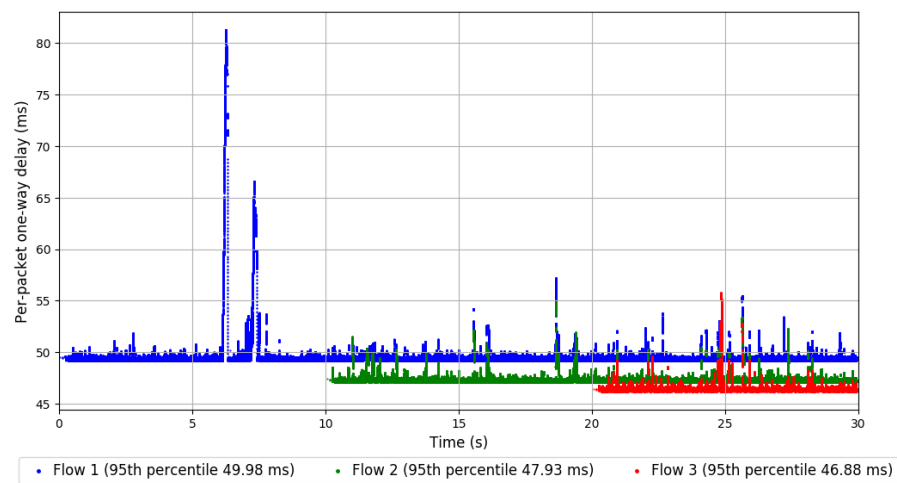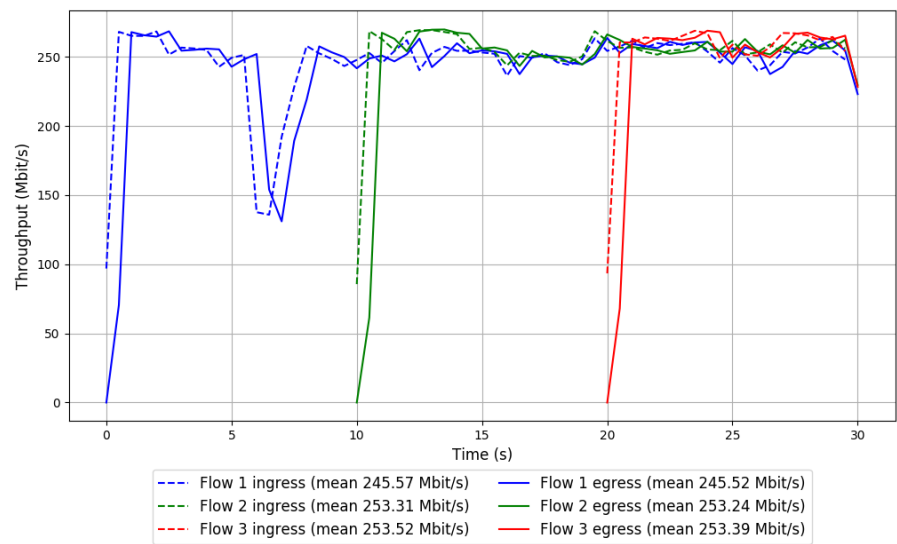
```
Run 4: Statistics of TaoVA-100x

Start at: 2018-11-03 17:42:19
End at: 2018-11-03 17:42:49
Local clock offset: -0.138 ms
Remote clock offset: -0.052 ms


# Below is generated by plot.py at 2018-11-03 20:54:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.62 Mbit/s
95th percentile per-packet one-way delay: 49.607 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 245.52 Mbit/s
95th percentile per-packet one-way delay: 49.981 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 253.24 Mbit/s
95th percentile per-packet one-way delay: 47.929 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 253.39 Mbit/s
95th percentile per-packet one-way delay: 46.880 ms
Loss rate: 0.98%
```

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

- - - - Flow 1 ingress (mean 245.57 Mbit/s)   —— Flow 1 egress (mean 245.52 Mbit/s)
- - - - Flow 2 ingress (mean 253.31 Mbit/s)   —— Flow 2 egress (mean 253.24 Mbit/s)
- - - - Flow 3 ingress (mean 253.52 Mbit/s)   —— Flow 3 egress (mean 253.39 Mbit/s)

- Flow 1 (95th percentile 49.98 ms)   • Flow 2 (95th percentile 47.93 ms)   • Flow 3 (95th percentile 46.88 ms)
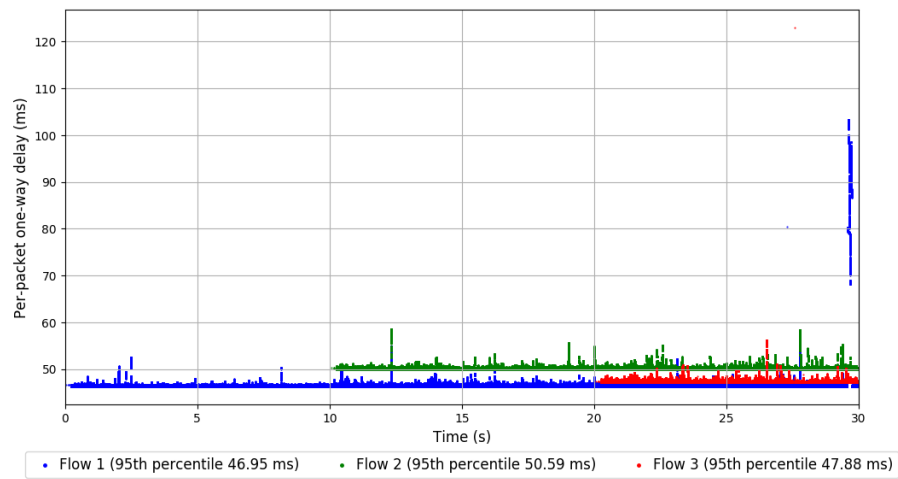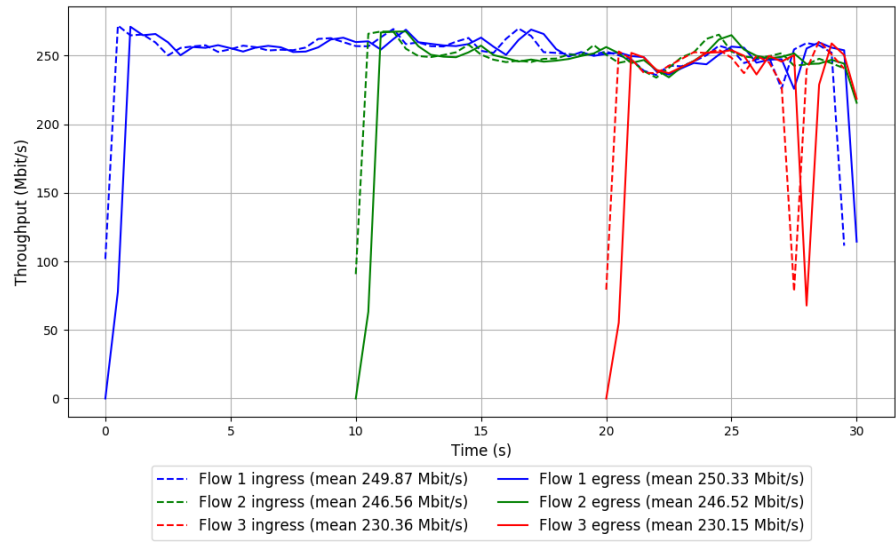
142

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

Start at: 2018-11-03 18:13:43
End at: 2018-11-03 18:14:13
Local clock offset: -0.097 ms
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2018-11-03 20:58:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 490.11 Mbit/s
95th percentile per-packet one-way delay: 50.276 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 250.33 Mbit/s
95th percentile per-packet one-way delay: 46.949 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 246.52 Mbit/s
95th percentile per-packet one-way delay: 50.591 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 230.15 Mbit/s
95th percentile per-packet one-way delay: 47.883 ms
Loss rate: 1.04%
```

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

Flow 1 ingress (mean 249.87 Mbit/s) — — — Flow 1 egress (mean 250.33 Mbit/s)
Flow 2 ingress (mean 246.56 Mbit/s) — — — Flow 2 egress (mean 246.52 Mbit/s)
Flow 3 ingress (mean 230.36 Mbit/s) — — — Flow 3 egress (mean 230.15 Mbit/s)

Flow 1 (95th percentile 46.95 ms) • Flow 2 (95th percentile 50.59 ms) • Flow 3 (95th percentile 47.88 ms)
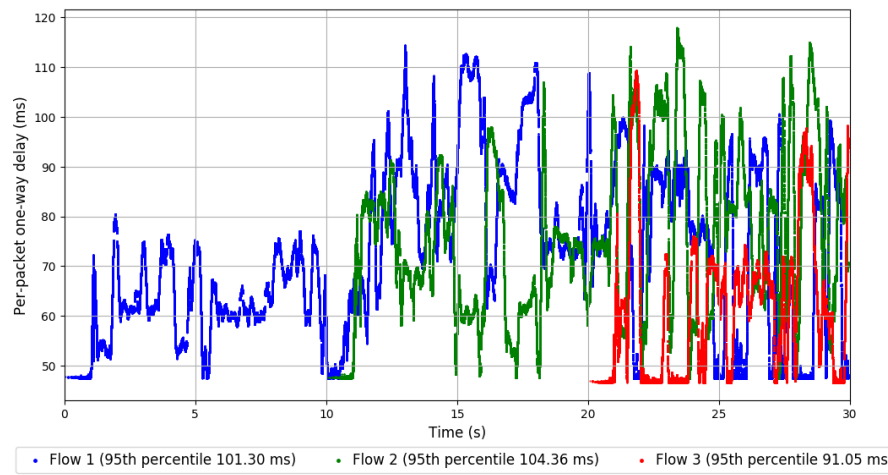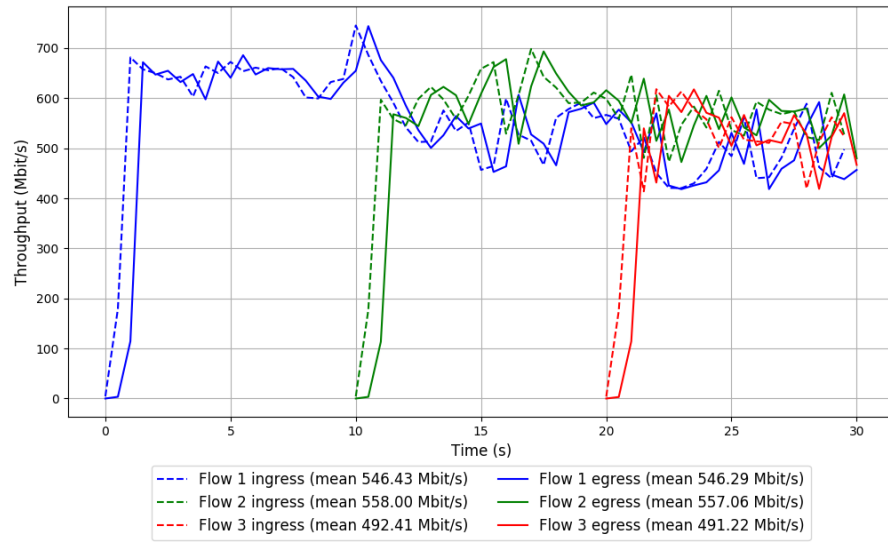
144

```
Run 1: Statistics of TCP Vegas

Start at: 2018-11-03 15:58:08
End at: 2018-11-03 15:58:38
Local clock offset: 0.355 ms
Remote clock offset: -0.059 ms


# Below is generated by plot.py at 2018-11-03 21:02:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1078.91 Mbit/s
95th percentile per-packet one-way delay: 102.451 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 546.29 Mbit/s
95th percentile per-packet one-way delay: 101.296 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 557.06 Mbit/s
95th percentile per-packet one-way delay: 104.362 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 491.22 Mbit/s
95th percentile per-packet one-way delay: 91.048 ms
Loss rate: 1.18%
```

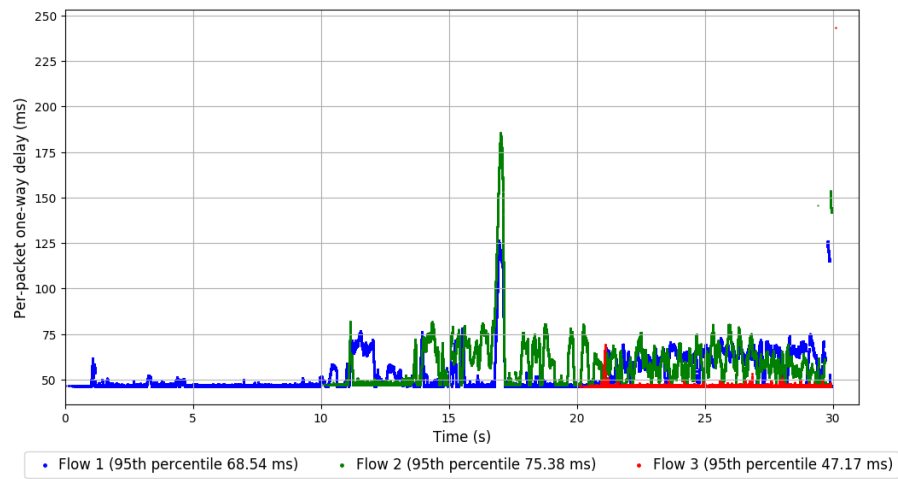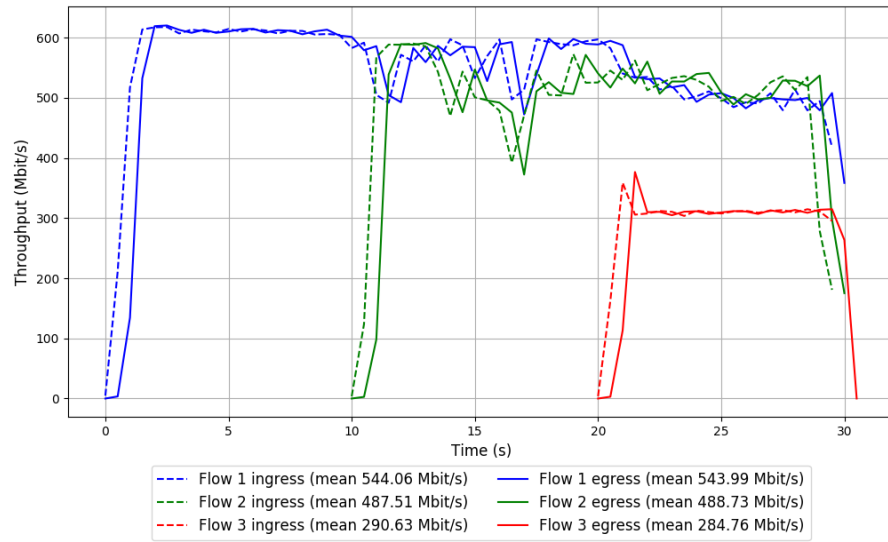Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-11-03 16:29:36
End at: 2018-11-03 16:30:06
Local clock offset: 0.015 ms
Remote clock offset: -0.057 ms


# Below is generated by plot.py at 2018-11-03 21:02:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 958.80 Mbit/s
95th percentile per-packet one-way delay: 71.291 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 543.99 Mbit/s
95th percentile per-packet one-way delay: 68.541 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 488.73 Mbit/s
95th percentile per-packet one-way delay: 75.384 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 284.76 Mbit/s
95th percentile per-packet one-way delay: 47.175 ms
Loss rate: 1.03%
```

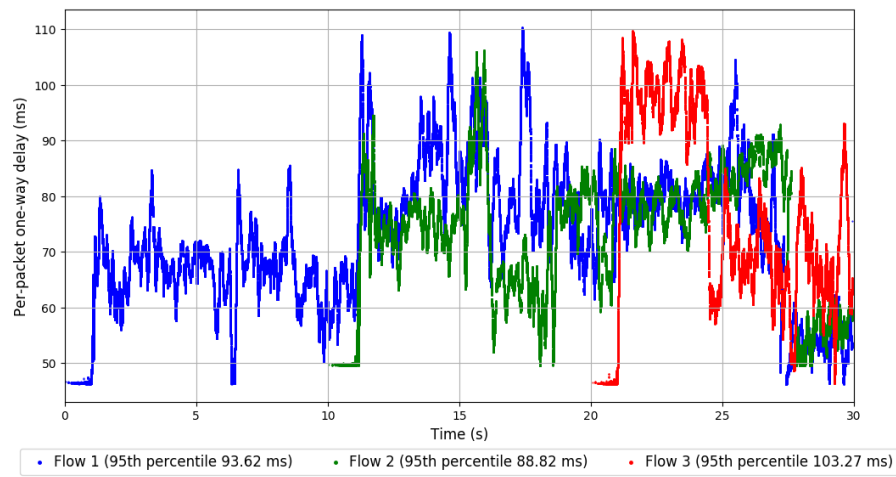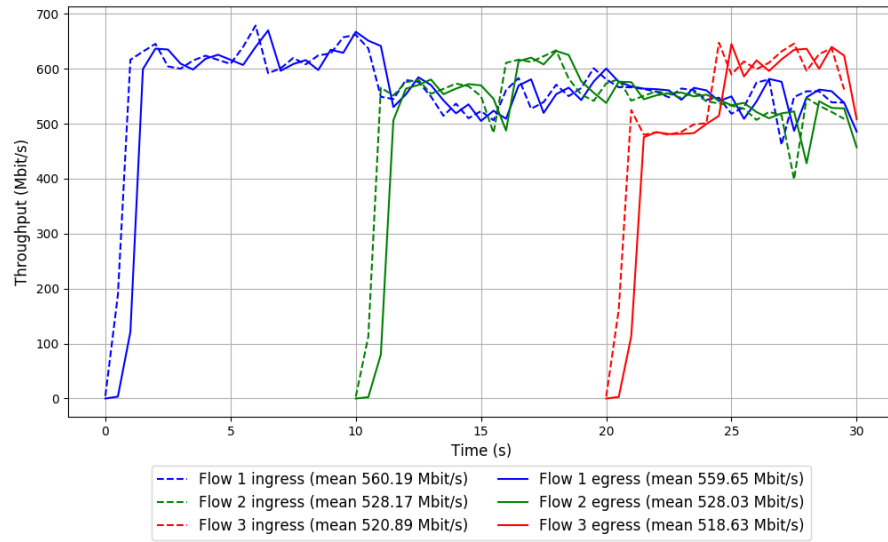Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-11-03 17:01:18
End at: 2018-11-03 17:01:48
Local clock offset: -0.03 ms
Remote clock offset: -0.012 ms


# Below is generated by plot.py at 2018-11-03 21:06:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1081.77 Mbit/s
95th percentile per-packet one-way delay: 96.623 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 559.65 Mbit/s
95th percentile per-packet one-way delay: 93.622 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 528.03 Mbit/s
95th percentile per-packet one-way delay: 88.820 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 518.63 Mbit/s
95th percentile per-packet one-way delay: 103.274 ms
Loss rate: 1.37%
```

Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 560.19 Mbit/s) Flow 1 egress (mean 559.65 Mbit/s)
Flow 2 ingress (mean 528.17 Mbit/s) Flow 2 egress (mean 528.03 Mbit/s)
Flow 3 ingress (mean 520.89 Mbit/s) Flow 3 egress (mean 518.63 Mbit/s)

Flow 1 (95th percentile 93.62 ms)   Flow 2 (95th percentile 88.82 ms)   Flow 3 (95th percentile 103.27 ms)

150

```
Run 4: Statistics of TCP Vegas

Start at: 2018-11-03 17:32:41
End at: 2018-11-03 17:33:11
Local clock offset: -0.085 ms
Remote clock offset: 0.022 ms


# Below is generated by plot.py at 2018-11-03 21:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1046.57 Mbit/s
95th percentile per-packet one-way delay: 95.614 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 540.84 Mbit/s
95th percentile per-packet one-way delay: 100.406 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 529.90 Mbit/s
95th percentile per-packet one-way delay: 83.828 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 463.97 Mbit/s
95th percentile per-packet one-way delay: 66.939 ms
Loss rate: 1.16%
```
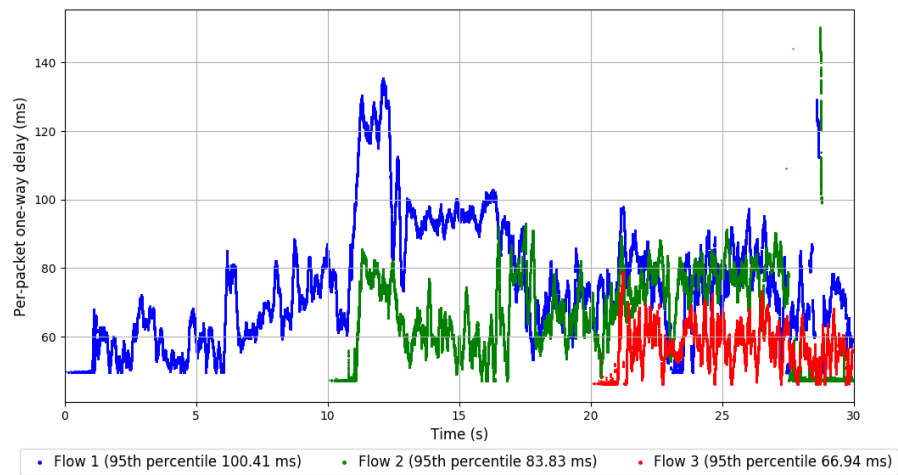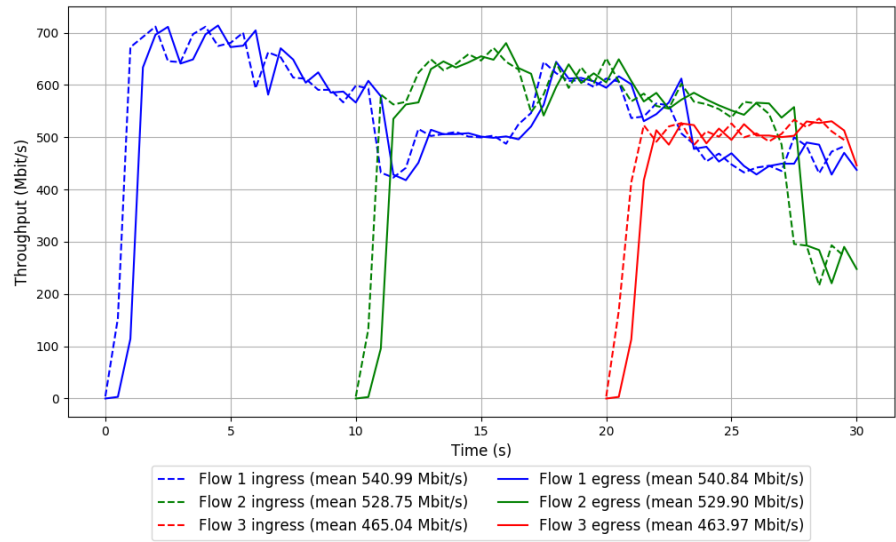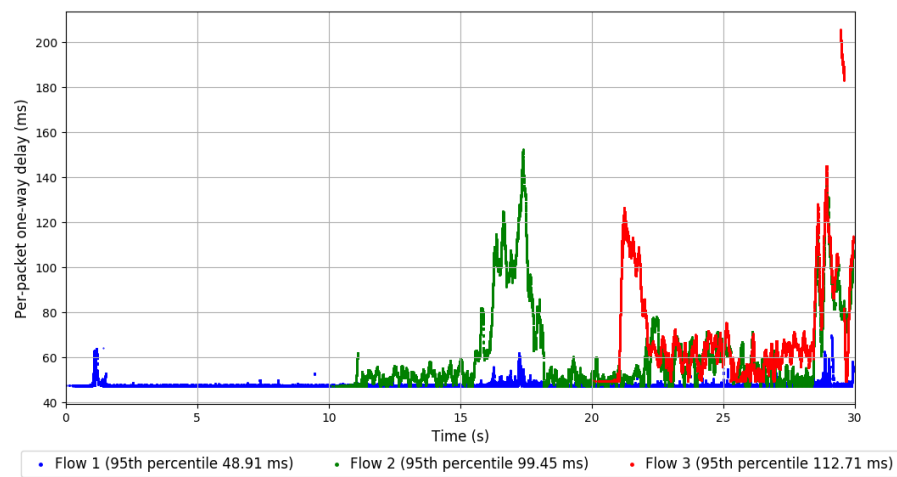
Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 540.99 Mbit/s)   Flow 1 egress (mean 540.84 Mbit/s)
Flow 2 ingress (mean 528.75 Mbit/s)   Flow 2 egress (mean 529.90 Mbit/s)
Flow 3 ingress (mean 465.04 Mbit/s)   Flow 3 egress (mean 463.97 Mbit/s)

Flow 1 (95th percentile 100.41 ms)   Flow 2 (95th percentile 83.83 ms)   Flow 3 (95th percentile 66.94 ms)
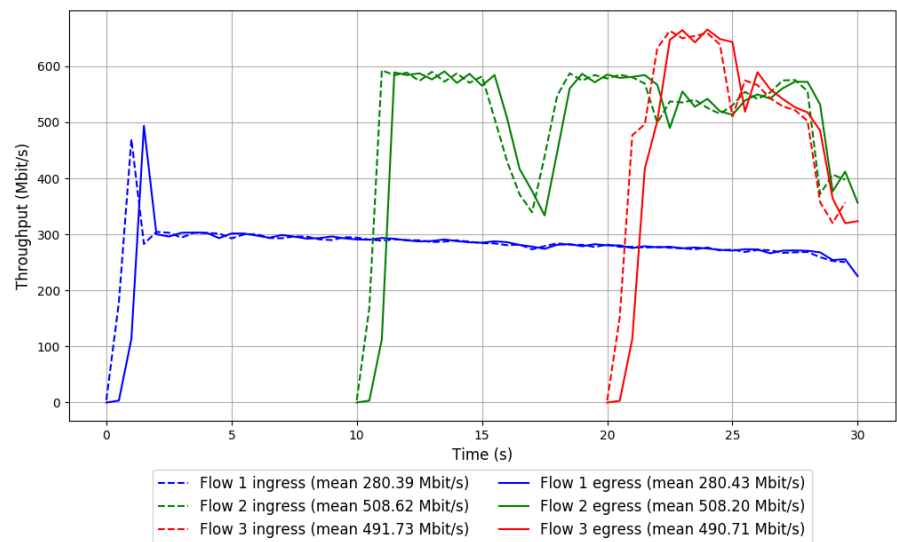
```
Run 5: Statistics of TCP Vegas

Start at: 2018-11-03 18:03:58
End at: 2018-11-03 18:04:28
Local clock offset: -0.131 ms
Remote clock offset: -0.059 ms


# Below is generated by plot.py at 2018-11-03 21:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 780.73 Mbit/s
95th percentile per-packet one-way delay: 97.926 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 280.43 Mbit/s
95th percentile per-packet one-way delay: 48.908 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 508.20 Mbit/s
95th percentile per-packet one-way delay: 99.455 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 490.71 Mbit/s
95th percentile per-packet one-way delay: 112.711 ms
Loss rate: 1.17%
```

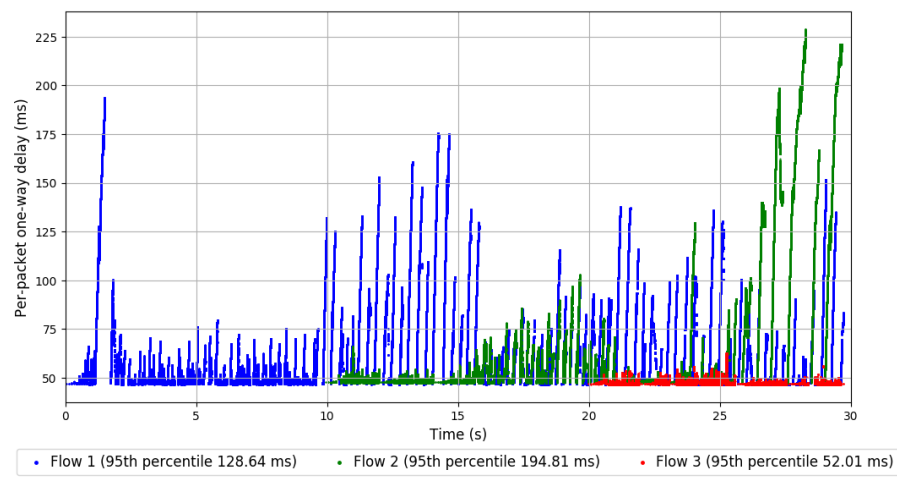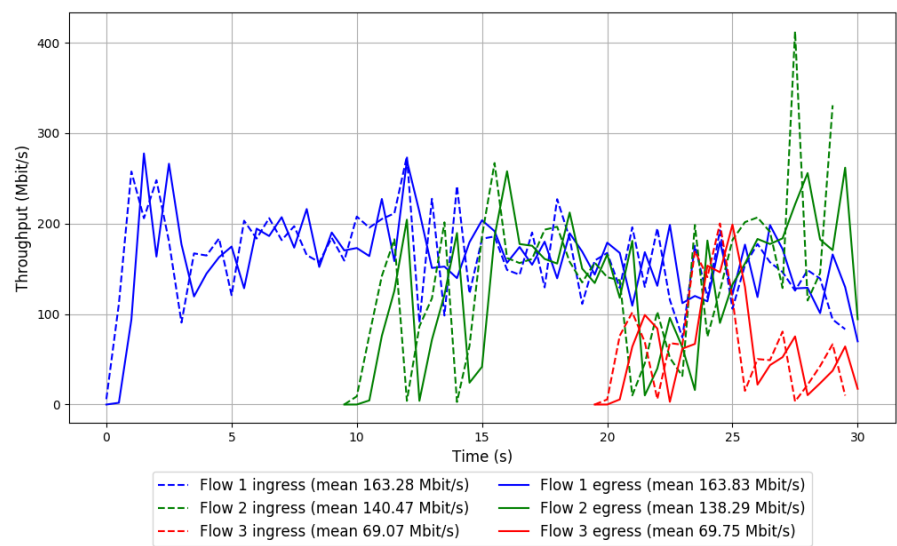Run 5: Report of TCP Vegas — Data Link

154

```
Run 1: Statistics of Verus

Start at: 2018-11-03 15:48:38
End at: 2018-11-03 15:49:08
Local clock offset: 0.306 ms
Remote clock offset: -0.072 ms


# Below is generated by plot.py at 2018-11-03 21:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 278.62 Mbit/s
95th percentile per-packet one-way delay: 150.190 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 163.83 Mbit/s
95th percentile per-packet one-way delay: 128.638 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 138.29 Mbit/s
95th percentile per-packet one-way delay: 194.809 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 69.75 Mbit/s
95th percentile per-packet one-way delay: 52.014 ms
Loss rate: 0.01%
```

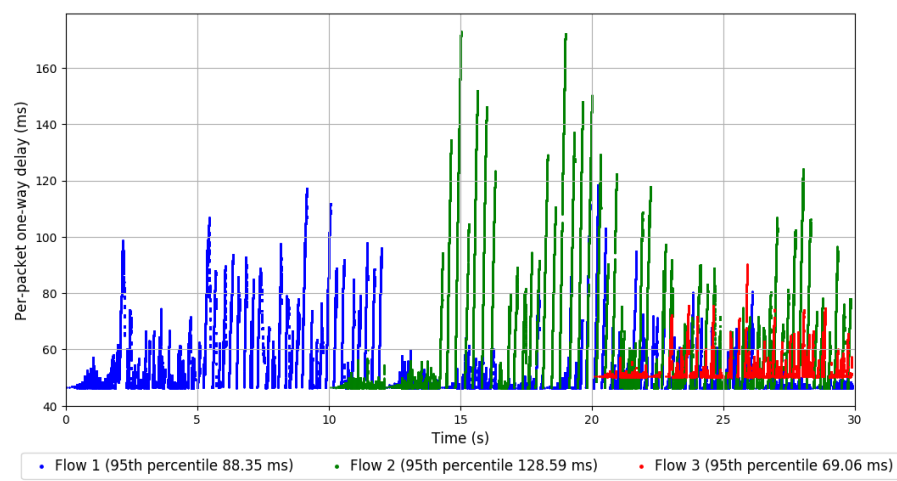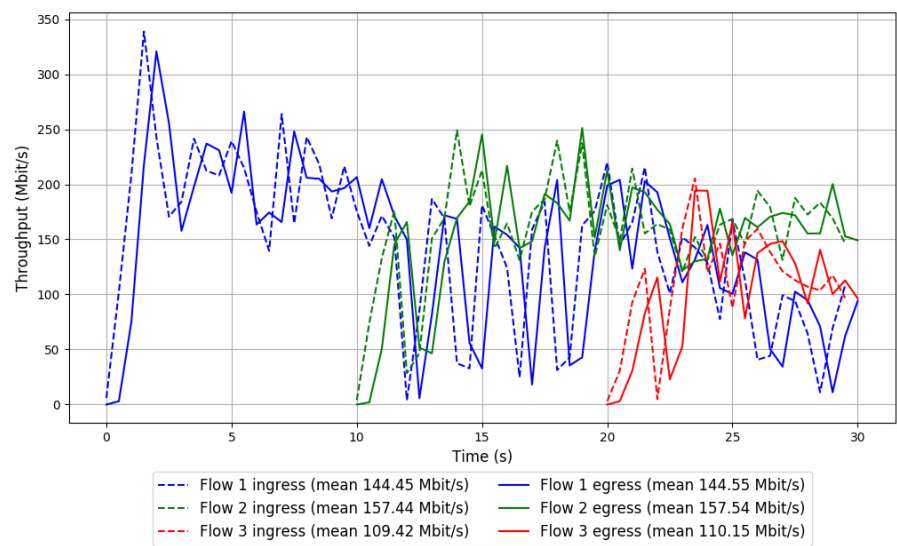Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-11-03 16:19:30
End at: 2018-11-03 16:20:00
Local clock offset: 0.017 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2018-11-03 21:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 284.98 Mbit/s
95th percentile per-packet one-way delay: 106.774 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 144.55 Mbit/s
95th percentile per-packet one-way delay: 88.352 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 157.54 Mbit/s
95th percentile per-packet one-way delay: 128.588 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 110.15 Mbit/s
95th percentile per-packet one-way delay: 69.064 ms
Loss rate: 0.60%
```

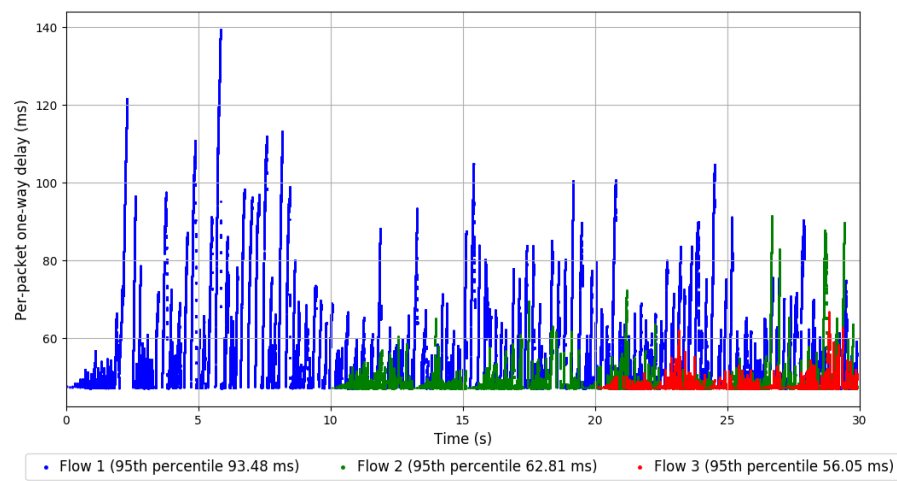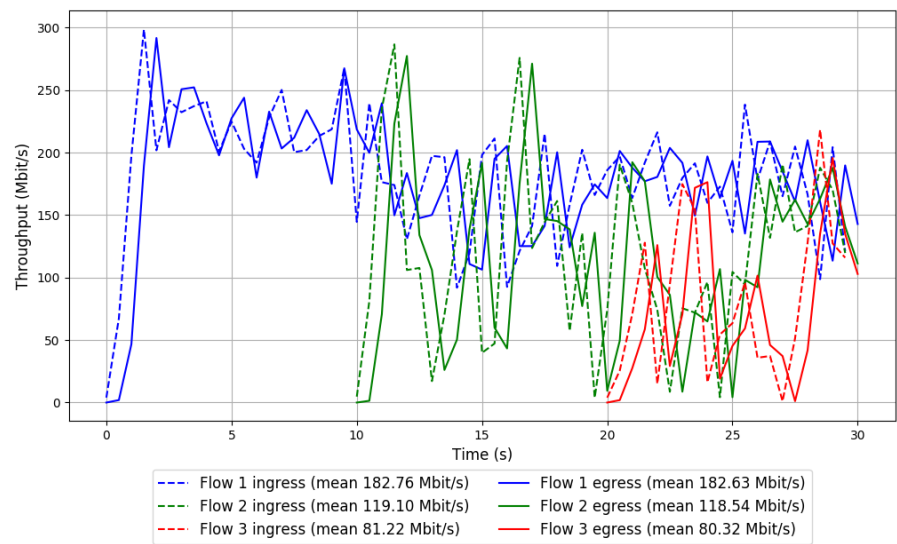Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-11-03 16:51:43
End at: 2018-11-03 16:52:13
Local clock offset: 0.03 ms
Remote clock offset: -0.039 ms

# Below is generated by plot.py at 2018-11-03 21:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 287.94 Mbit/s
95th percentile per-packet one-way delay: 87.812 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 182.63 Mbit/s
95th percentile per-packet one-way delay: 93.483 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 118.54 Mbit/s
95th percentile per-packet one-way delay: 62.808 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 80.32 Mbit/s
95th percentile per-packet one-way delay: 56.047 ms
Loss rate: 1.89%
```
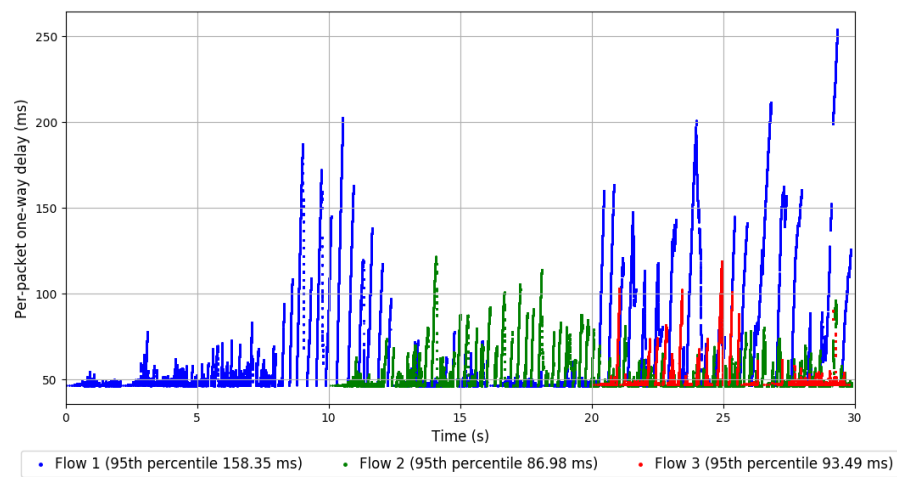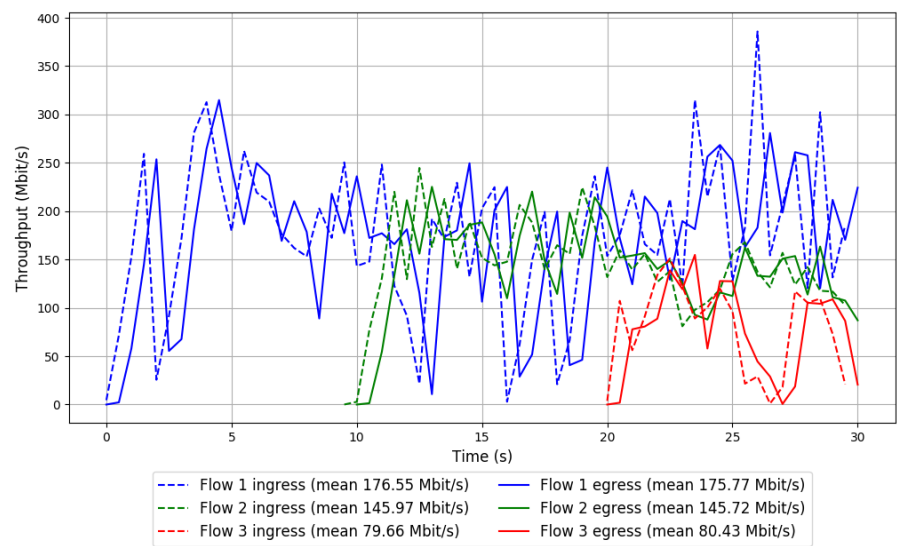
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-11-03 17:23:01
End at: 2018-11-03 17:23:31
Local clock offset: -0.055 ms
Remote clock offset: -0.032 ms

# Below is generated by plot.py at 2018-11-03 21:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 298.76 Mbit/s
95th percentile per-packet one-way delay: 144.996 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 175.77 Mbit/s
95th percentile per-packet one-way delay: 158.349 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 145.72 Mbit/s
95th percentile per-packet one-way delay: 86.984 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 80.43 Mbit/s
95th percentile per-packet one-way delay: 93.494 ms
Loss rate: 0.02%
```
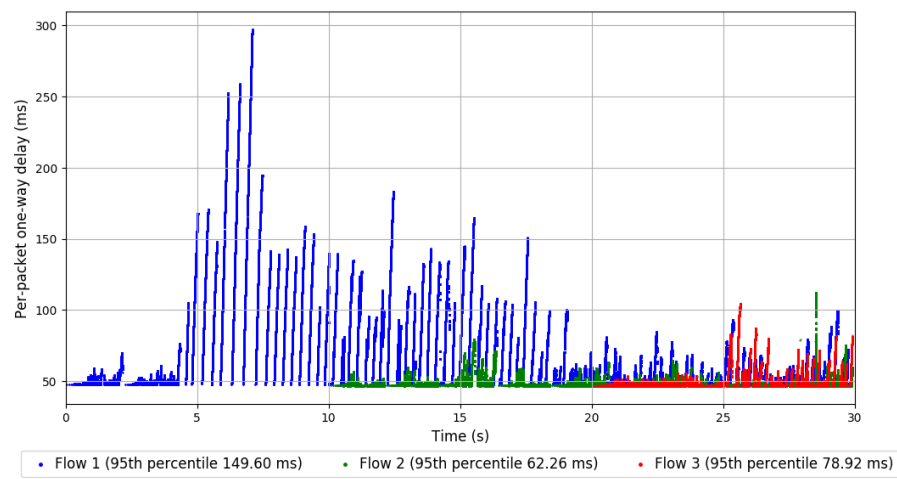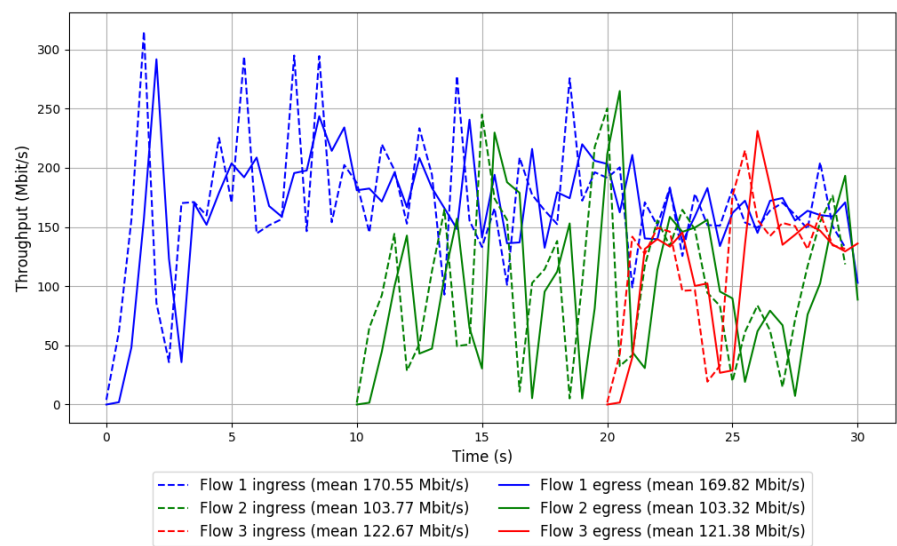
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-11-03 17:54:24
End at: 2018-11-03 17:54:54
Local clock offset: 0.25 ms
Remote clock offset: -0.085 ms


# Below is generated by plot.py at 2018-11-03 21:15:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 278.24 Mbit/s
95th percentile per-packet one-way delay: 135.154 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 169.82 Mbit/s
95th percentile per-packet one-way delay: 149.601 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 103.32 Mbit/s
95th percentile per-packet one-way delay: 62.264 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 121.38 Mbit/s
95th percentile per-packet one-way delay: 78.918 ms
Loss rate: 1.12%
```

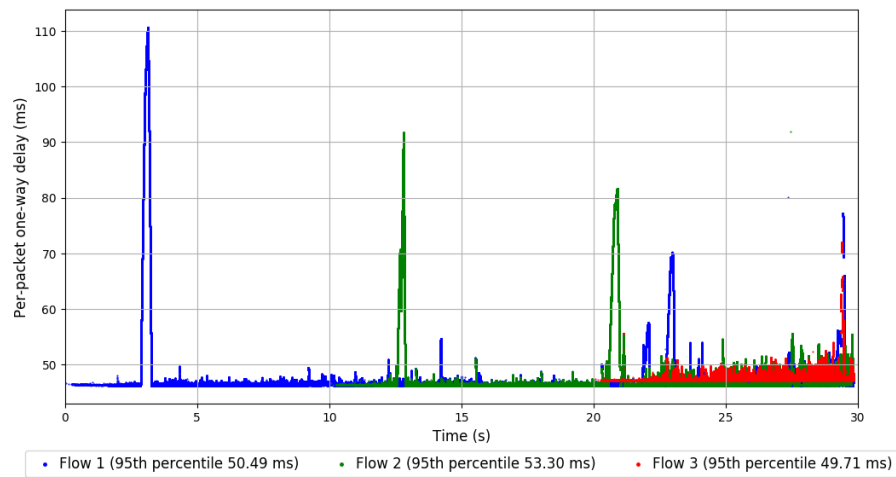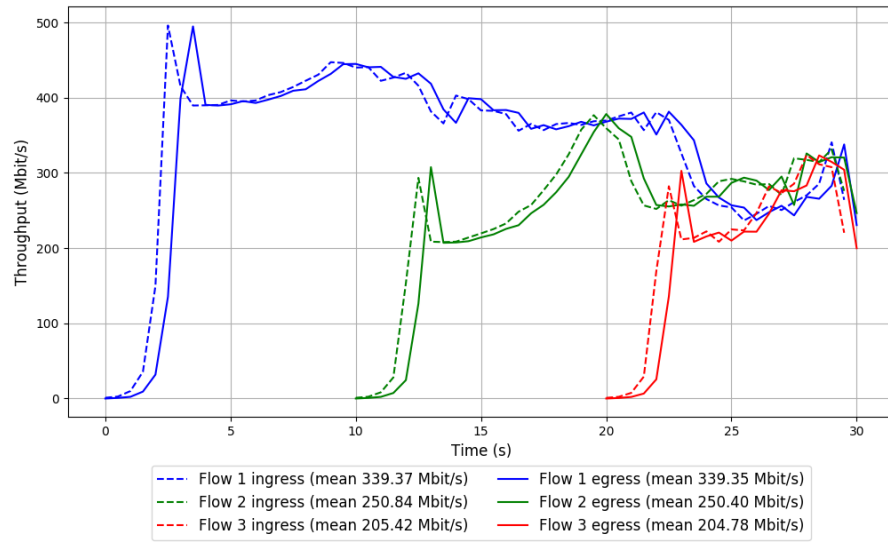Run 5: Report of Verus — Data Link

164

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-11-03 15:52:13
End at: 2018-11-03 15:52:43
Local clock offset: -0.033 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2018-11-03 21:15:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 572.64 Mbit/s
95th percentile per-packet one-way delay: 51.134 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 339.35 Mbit/s
95th percentile per-packet one-way delay: 50.490 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 250.40 Mbit/s
95th percentile per-packet one-way delay: 53.296 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 204.78 Mbit/s
95th percentile per-packet one-way delay: 49.707 ms
Loss rate: 1.27%
```

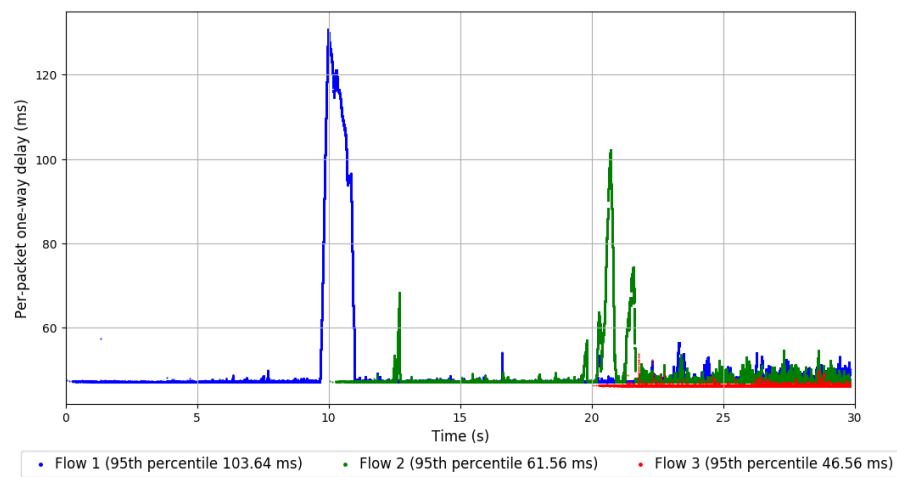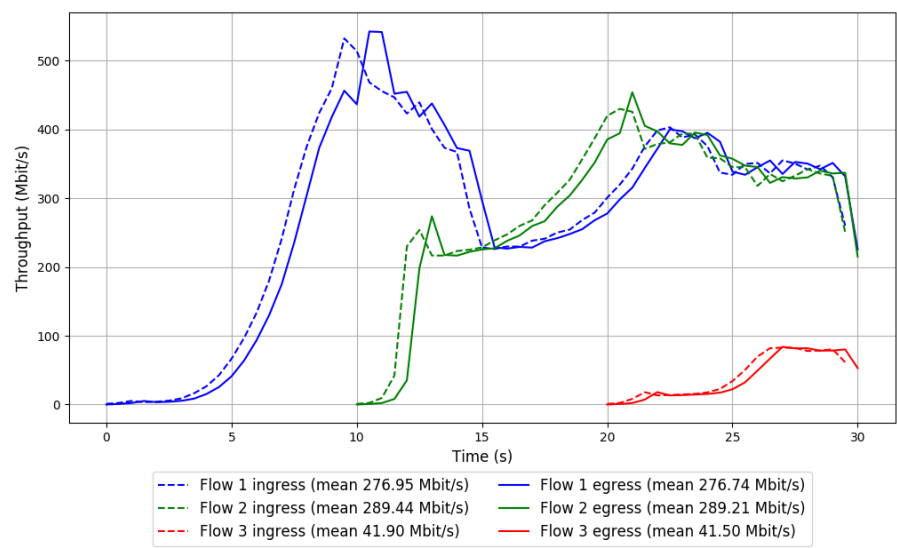# Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-11-03 16:23:19
End at: 2018-11-03 16:23:49
Local clock offset: -0.016 ms
Remote clock offset: -0.048 ms


# Below is generated by plot.py at 2018-11-03 21:15:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 482.42 Mbit/s
95th percentile per-packet one-way delay: 72.623 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 276.74 Mbit/s
95th percentile per-packet one-way delay: 103.641 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 289.21 Mbit/s
95th percentile per-packet one-way delay: 61.564 ms
Loss rate: 0.56%
-- Flow 3:
Average throughput: 41.50 Mbit/s
95th percentile per-packet one-way delay: 46.559 ms
Loss rate: 1.93%
```

Run 2: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 276.95 Mbit/s) —— Flow 1 egress (mean 276.74 Mbit/s)
Flow 2 ingress (mean 289.44 Mbit/s) —— Flow 2 egress (mean 289.21 Mbit/s)
Flow 3 ingress (mean 41.90 Mbit/s) —— Flow 3 egress (mean 41.50 Mbit/s)

• Flow 1 (95th percentile 103.64 ms)   • Flow 2 (95th percentile 61.56 ms)   • Flow 3 (95th percentile 46.56 ms)
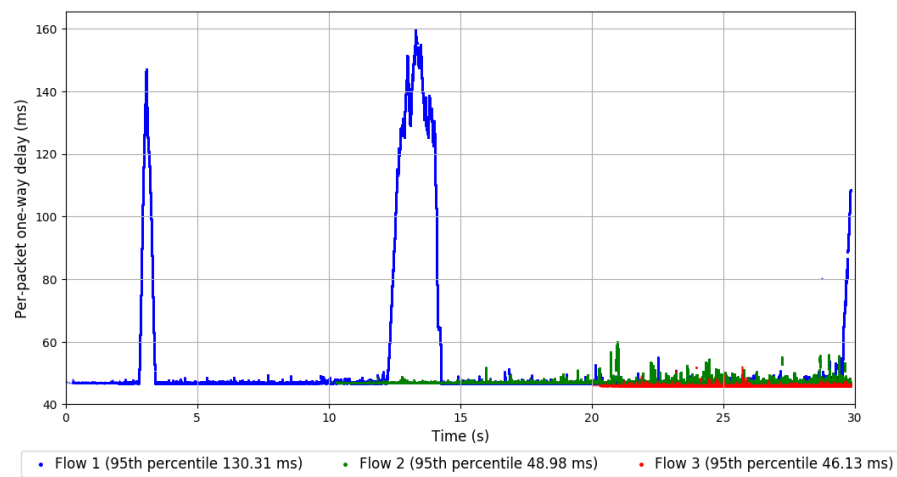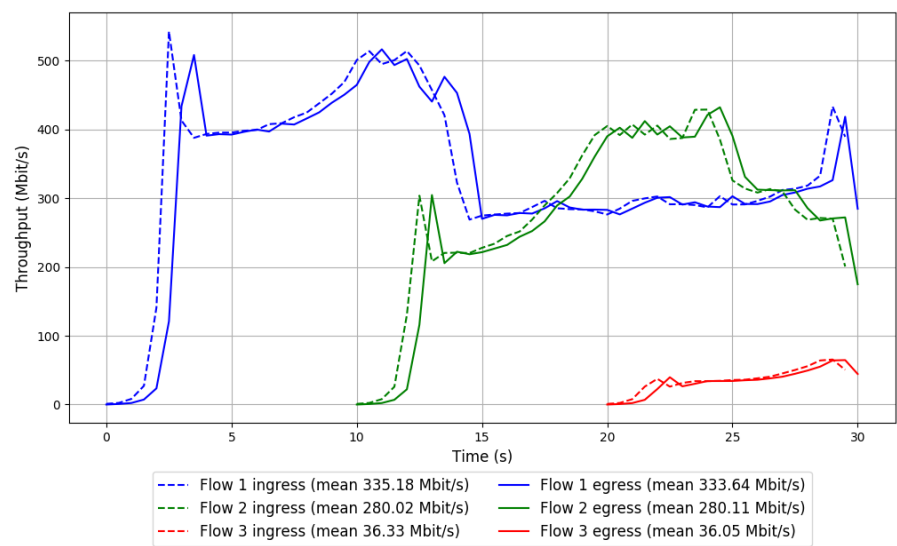
```
Run 3: Statistics of PCC-Vivace

Start at: 2018-11-03 16:55:23
End at: 2018-11-03 16:55:53
Local clock offset: -0.4 ms
Remote clock offset: -0.009 ms


# Below is generated by plot.py at 2018-11-03 21:15:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 531.44 Mbit/s
95th percentile per-packet one-way delay: 113.673 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 333.64 Mbit/s
95th percentile per-packet one-way delay: 130.306 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 280.11 Mbit/s
95th percentile per-packet one-way delay: 48.983 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 36.05 Mbit/s
95th percentile per-packet one-way delay: 46.135 ms
Loss rate: 1.73%
```

Run 3: Report of PCC-Vivace — Data Link

Run 4: Statistics of PCC-Vivace

/home/ubuntu/pantheon/data/2018-11-03T15-47-GCE-Iowa-to-GCE-London-5-runs-3-flows/vivace_sta

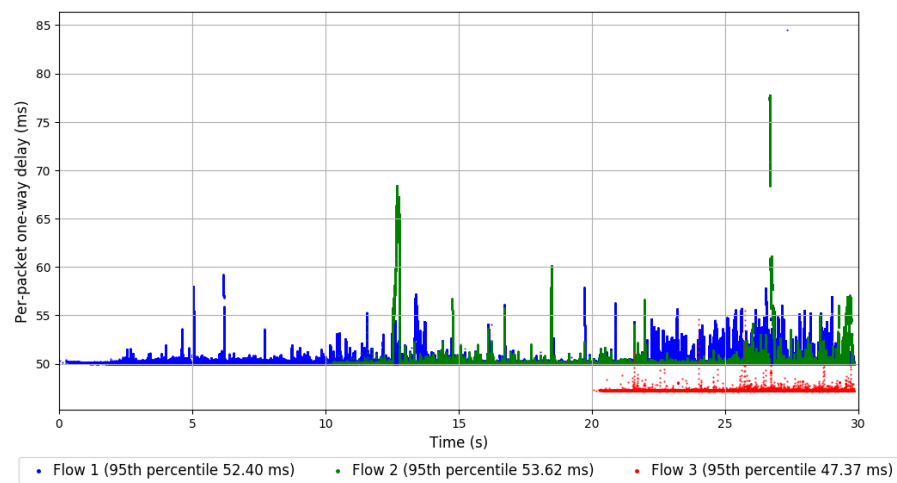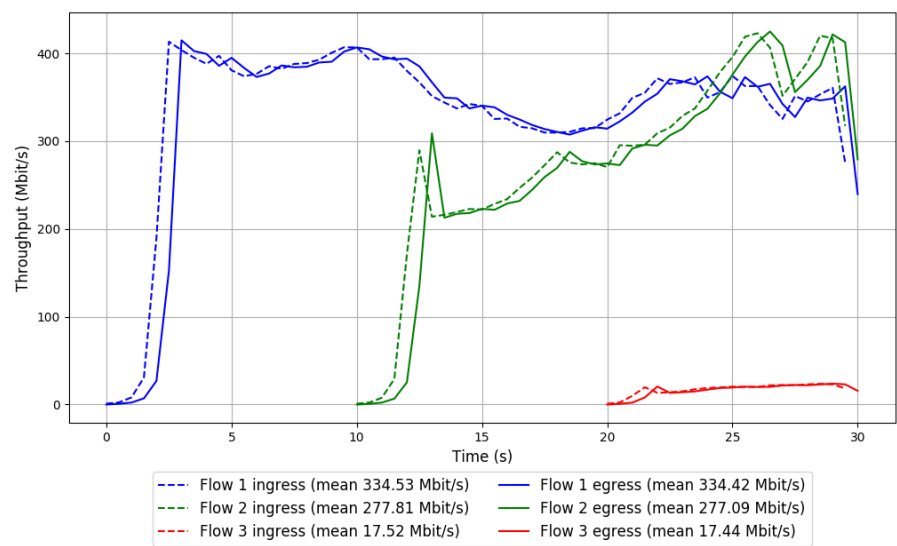Run 4: Report of PCC-Vivace — Data Link

Figure is missing

Figure is missing

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-11-03 17:57:59
End at: 2018-11-03 17:58:29
Local clock offset: -0.1 ms
Remote clock offset: -0.051 ms

# Below is generated by plot.py at 2018-11-03 21:16:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 524.10 Mbit/s
95th percentile per-packet one-way delay: 52.556 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 334.42 Mbit/s
95th percentile per-packet one-way delay: 52.395 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 277.09 Mbit/s
95th percentile per-packet one-way delay: 53.624 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 17.44 Mbit/s
95th percentile per-packet one-way delay: 47.370 ms
Loss rate: 1.40%
```

Run 5: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 334.53 Mbit/s) ——— Flow 1 egress (mean 334.42 Mbit/s)
- - - - Flow 2 ingress (mean 277.81 Mbit/s) ——— Flow 2 egress (mean 277.09 Mbit/s)
- - - - Flow 3 ingress (mean 17.52 Mbit/s) ——— Flow 3 egress (mean 17.44 Mbit/s)

- Flow 1 (95th percentile 52.40 ms)   · Flow 2 (95th percentile 53.62 ms)   · Flow 3 (95th percentile 47.37 ms)
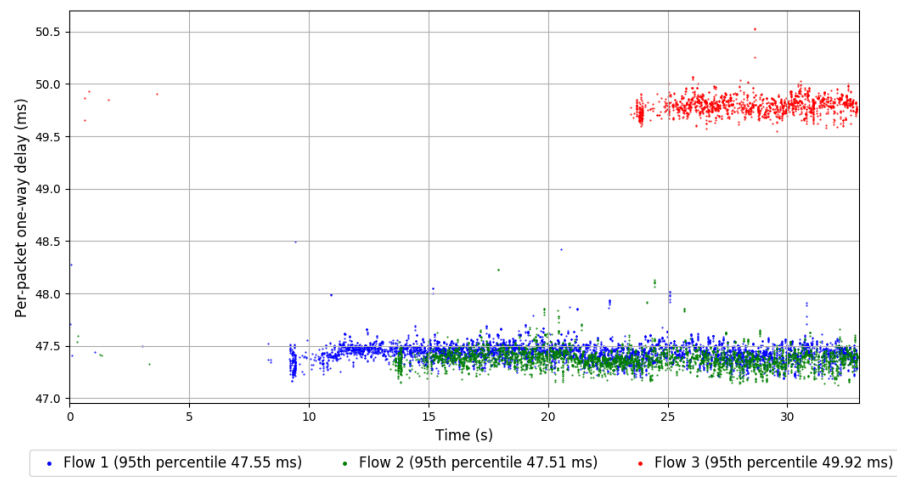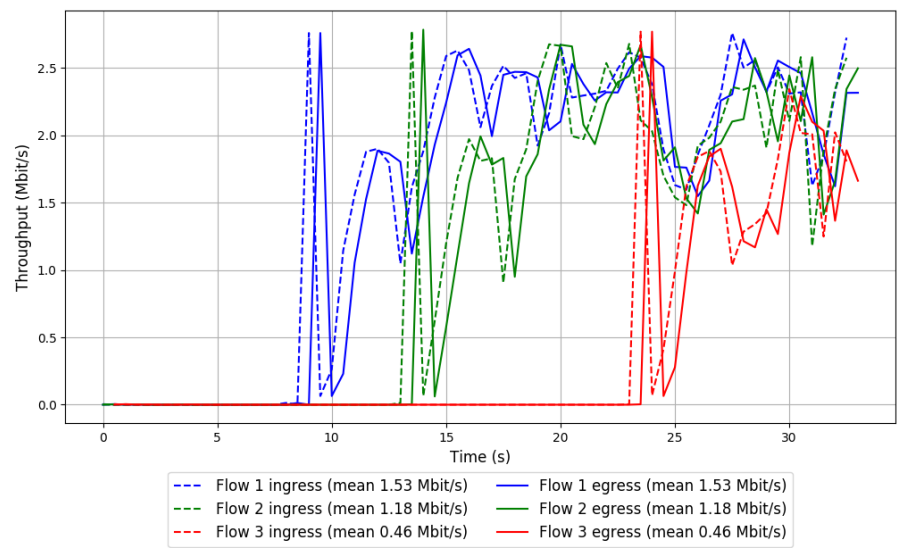
```
Run 1: Statistics of WebRTC media

Start at: 2018-11-03 16:14:28
End at: 2018-11-03 16:14:58
Local clock offset: -0.004 ms
Remote clock offset: -0.085 ms


# Below is generated by plot.py at 2018-11-03 21:16:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 49.822 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 47.554 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 47.514 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 49.919 ms
Loss rate: 0.93%
```

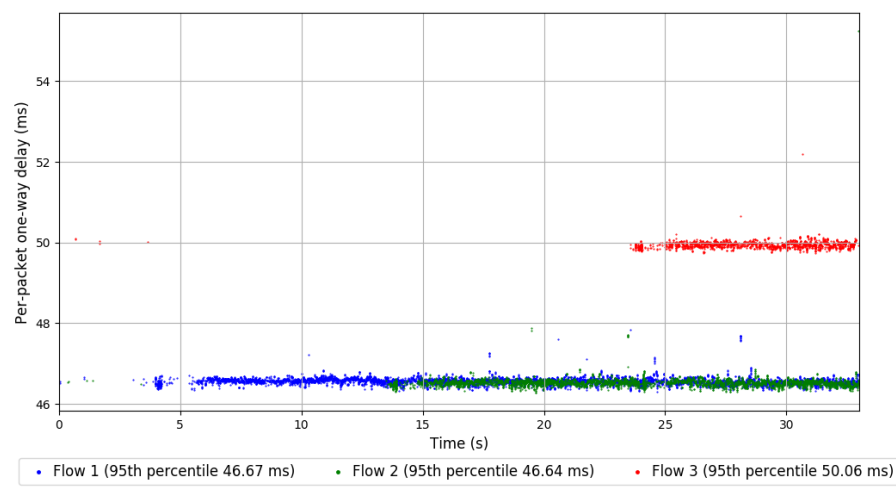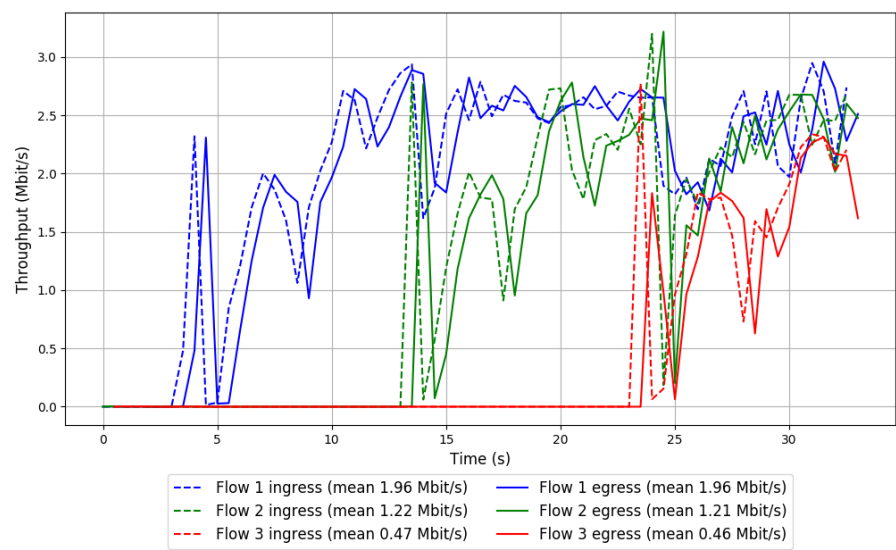Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-11-03 16:46:42
End at: 2018-11-03 16:47:12
Local clock offset: 0.054 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2018-11-03 21:16:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.61 Mbit/s
95th percentile per-packet one-way delay: 49.961 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 46.674 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 46.639 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 50.059 ms
Loss rate: 2.36%
```

Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-11-03 17:17:54
End at: 2018-11-03 17:18:24
Local clock offset: -0.07 ms
Remote clock offset: 0.016 ms


# Below is generated by plot.py at 2018-11-03 21:16:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.62 Mbit/s
95th percentile per-packet one-way delay: 50.485 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 46.656 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 46.686 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 50.660 ms
Loss rate: 2.23%
```
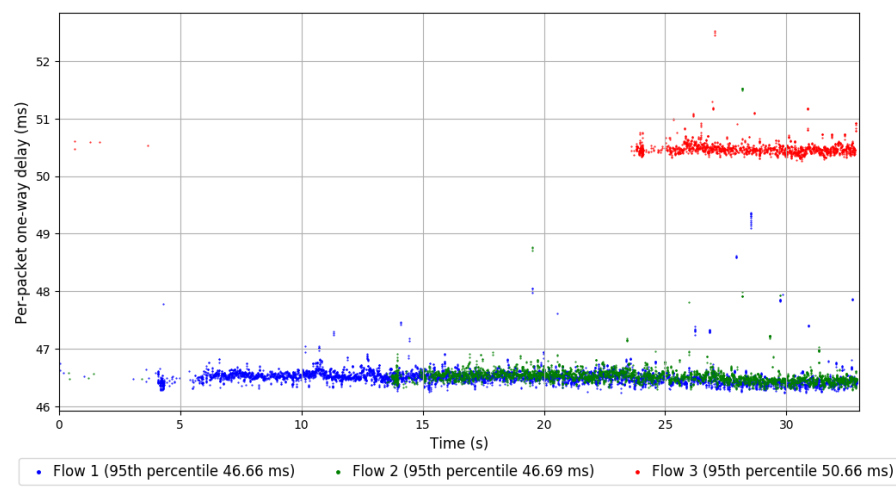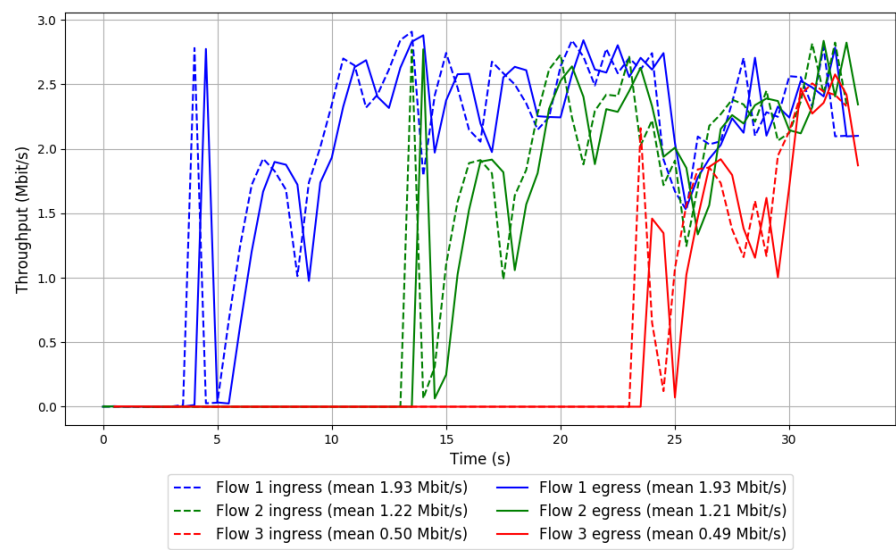
Run 3: Report of WebRTC media — Data Link

Flow 1 ingress (mean 1.93 Mbit/s) — — — Flow 1 egress (mean 1.93 Mbit/s)
Flow 2 ingress (mean 1.22 Mbit/s) — — — Flow 2 egress (mean 1.21 Mbit/s)
Flow 3 ingress (mean 0.50 Mbit/s) — — — Flow 3 egress (mean 0.49 Mbit/s)

Flow 1 (95th percentile 46.66 ms) • Flow 2 (95th percentile 46.69 ms) • Flow 3 (95th percentile 50.66 ms)
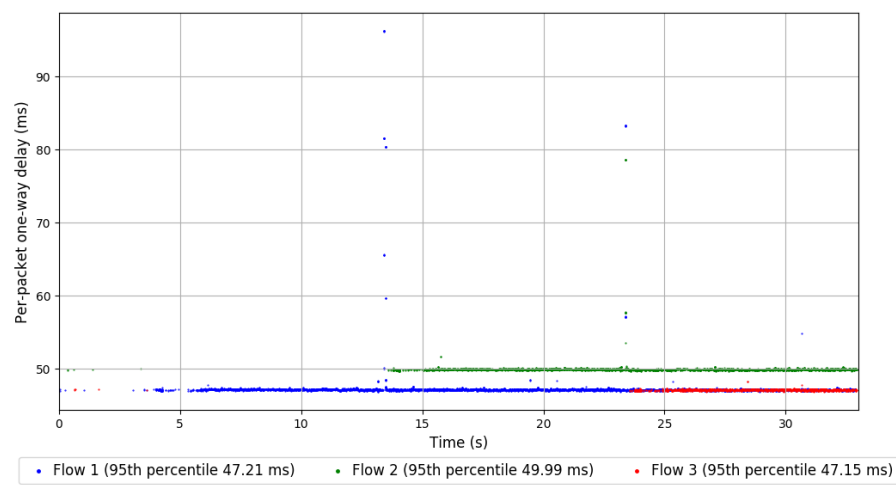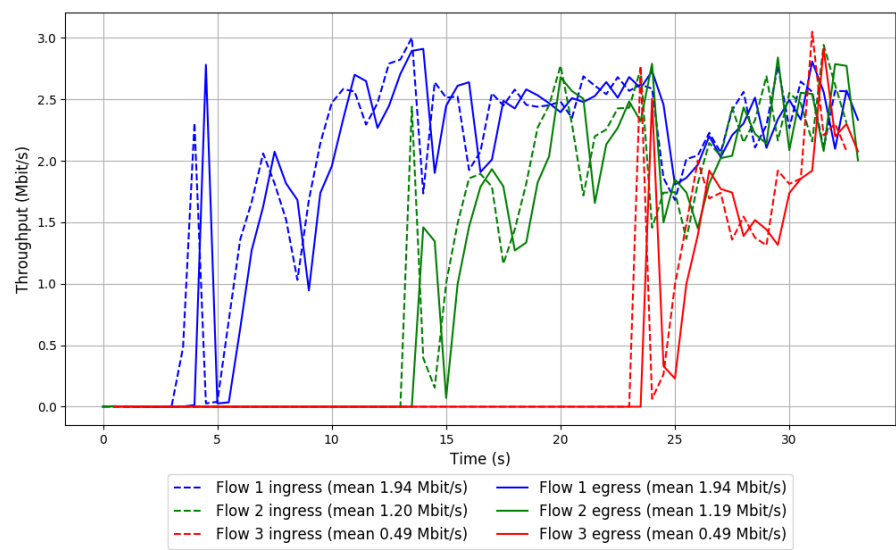
```
Run 4: Statistics of WebRTC media

Start at: 2018-11-03 17:49:21
End at: 2018-11-03 17:49:51
Local clock offset: -0.485 ms
Remote clock offset: -0.094 ms


# Below is generated by plot.py at 2018-11-03 21:16:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.60 Mbit/s
95th percentile per-packet one-way delay: 49.944 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 47.212 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 49.995 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 47.149 ms
Loss rate: 0.87%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-11-03 18:21:02
End at: 2018-11-03 18:21:32
Local clock offset: -0.461 ms
Remote clock offset: -0.011 ms


# Below is generated by plot.py at 2018-11-03 21:16:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.58 Mbit/s
95th percentile per-packet one-way delay: 50.003 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 50.012 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 49.970 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 50.084 ms
Loss rate: 0.01%
```

Run 5: Report of WebRTC media — Data Link