Pantheon Report

Generated at 2017-12-06 01:17:45 (UTC).

Data path: AWS India 1 Ethernet (*local*) →India Ethernet (*remote*).

Repeated the test of 14 congestion control schemes 10 times.

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

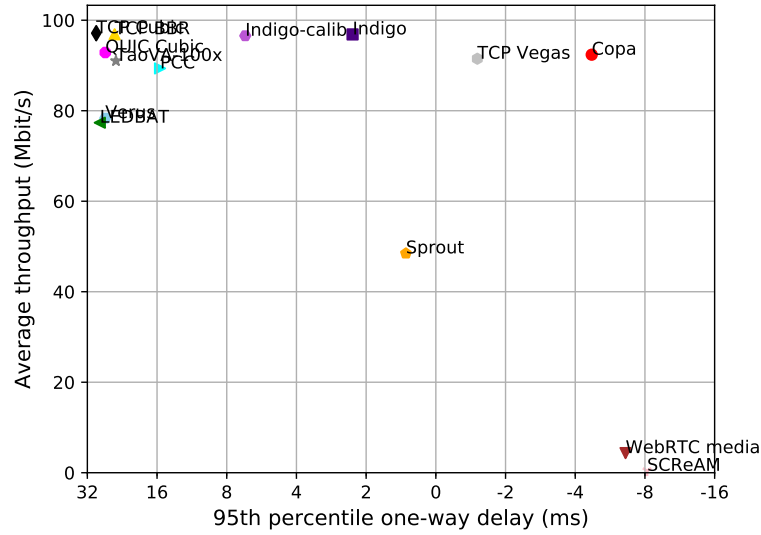Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

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

```
Git summary:
branch: indigos @ e3a57ad5ac5cfcaca0e3f983c8dd4cc3509e0262
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ b5b7c38e8391001927dc41c6cfa2627d03dde737
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-cellular @ aee99e8eb842cb053f8c9a80e28cd256a930bbc2
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/indigo-no-cwnd @ 3e58442c04028a11d7b02456e137604633ba2d6c
third_party/indigo-no-delivery-rate @ 57caa40858b964906edff4876d5a7e5bfff666c5
third_party/indigo-no-queuing-delay @ 03455460fd1a8ffbdad86fabb936fdca204b80db
third_party/indigo-no-send-rate @ b39dfa6b2c5f19cb7cd89626cb4f5bb81f9fecda
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
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/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
 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/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```
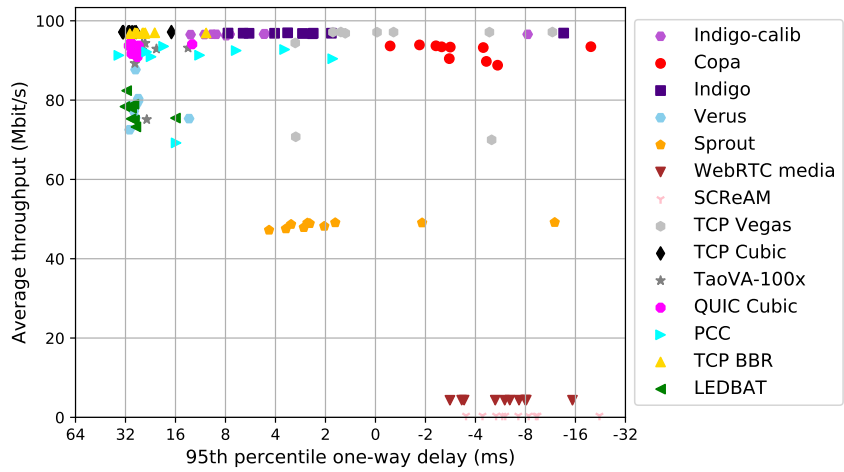
test from AWS India 1 Ethernet to India Ethernet, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

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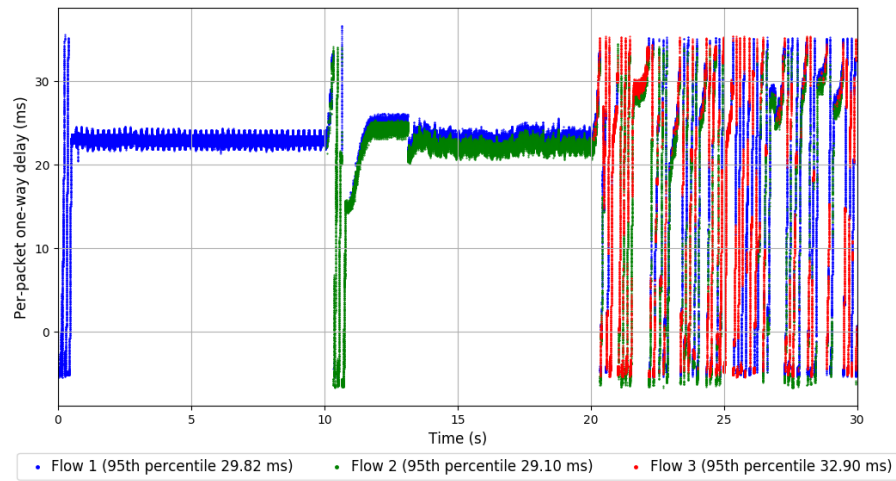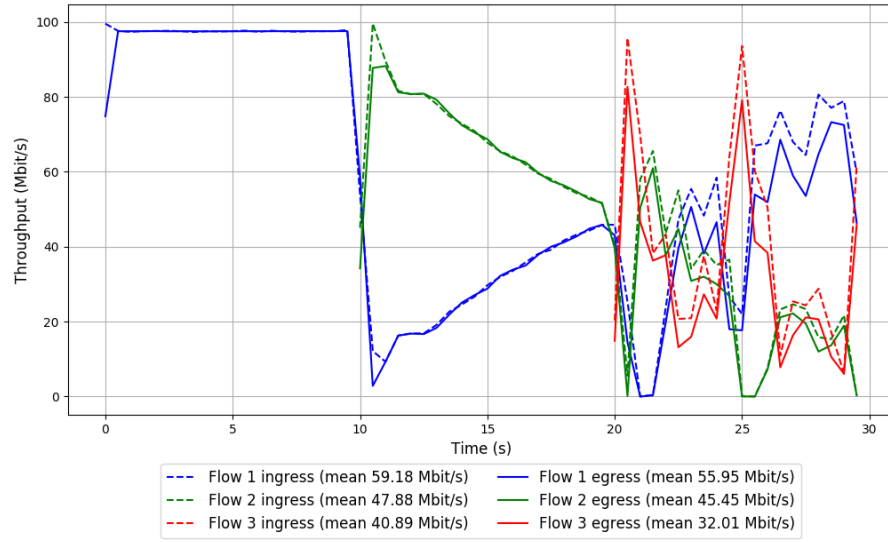3 flows with 10s interval between flows

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scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	10	49.65	49.13	41.90	22.11	24.34	26.32	2.92	4.50	8.10
TCP Cubic	10	68.96	32.99	18.79	29.12	29.40	29.76	0.94	0.81	1.17
LEDBAT	10	46.57	34.40	23.88	27.86	28.77	28.67	0.54	0.72	0.91
PCC	9	72.41	22.23	10.05	410.40	16.71	16.44	1.71	2.22	2.09
QUIC Cubic	9	63.62	34.58	19.26	26.64	26.98	26.74	1.89	2.51	2.48
SCReAM	10	0.21	0.21	0.22	-8.29	-8.41	-8.55	0.00	0.00	0.00
WebRTC media	10	2.33	1.47	0.54	-7.12	-6.70	-5.34	0.00	0.00	0.02
Sprout	10	24.38	24.18	24.25	0.41	0.89	0.26	0.00	0.00	0.00
TaoVA-100x	10	55.87	40.20	31.77	22.03	24.95	27.12	5.46	10.65	19.00
TCP Vegas	10	46.67	45.13	45.08	515.37	-4.33	-6.02	0.16	0.00	0.00
Verus	10	51.54	33.07	16.08	25.98	28.05	27.64	26.09	42.48	43.13
Copa	10	59.50	37.72	30.53	-4.96	-4.67	-4.07	0.01	0.02	0.01
Indigo	10	60.17	35.92	39.31	1.26	3.37	6.72	0.00	0.00	0.00
Indigo-calib	10	60.62	36.34	36.14	2.67	10.71	13.86	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2017-12-05 21:55:30
End at: 2017-12-05 21:56:00
Local clock offset: 3.356 ms
Remote clock offset: -11.732 ms

# Below is generated by plot.py at 2017-12-06 00:56:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.75 Mbit/s
95th percentile per-packet one-way delay: 30.147 ms
Loss rate: 7.49%
-- Flow 1:
Average throughput: 55.95 Mbit/s
95th percentile per-packet one-way delay: 29.821 ms
Loss rate: 5.44%
-- Flow 2:
Average throughput: 45.45 Mbit/s
95th percentile per-packet one-way delay: 29.103 ms
Loss rate: 5.18%
-- Flow 3:
Average throughput: 32.01 Mbit/s
95th percentile per-packet one-way delay: 32.898 ms
Loss rate: 21.89%
```

Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 59.18 Mbit/s)   Flow 1 egress (mean 55.95 Mbit/s)
Flow 2 ingress (mean 47.88 Mbit/s)   Flow 2 egress (mean 45.45 Mbit/s)
Flow 3 ingress (mean 40.89 Mbit/s)   Flow 3 egress (mean 32.01 Mbit/s)

Flow 1 (95th percentile 29.82 ms)   Flow 2 (95th percentile 29.10 ms)   Flow 3 (95th percentile 32.90 ms)
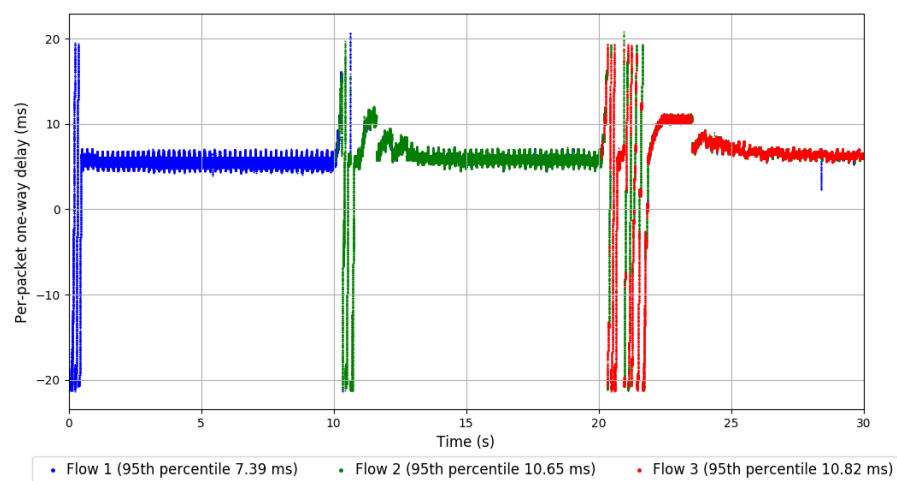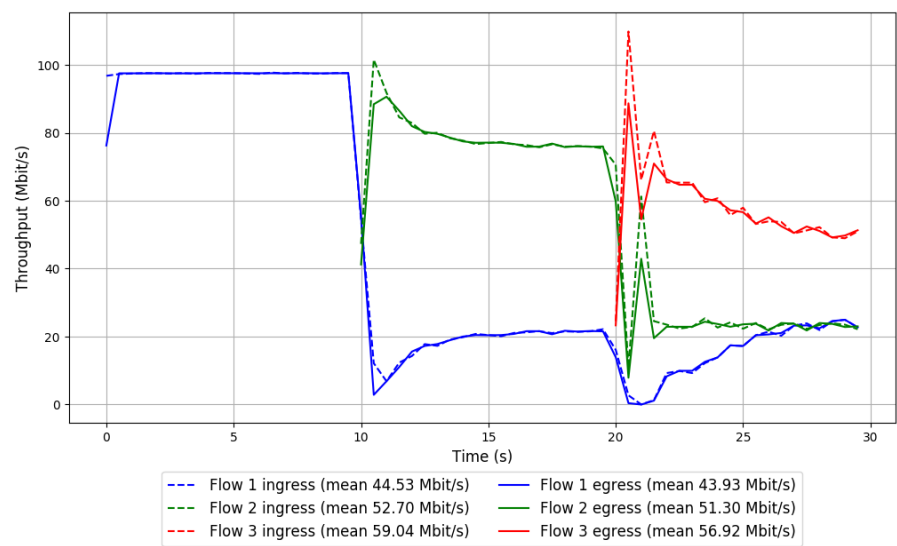
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```
Run 2: Statistics of TCP BBR

Start at: 2017-12-05 22:12:07
End at: 2017-12-05 22:12:37
Local clock offset: 18.183 ms
Remote clock offset: -11.304 ms


# Below is generated by plot.py at 2017-12-06 00:56:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.93 Mbit/s
95th percentile per-packet one-way delay: 10.463 ms
Loss rate: 2.21%
-- Flow 1:
Average throughput: 43.93 Mbit/s
95th percentile per-packet one-way delay: 7.395 ms
Loss rate: 1.26%
-- Flow 2:
Average throughput: 51.30 Mbit/s
95th percentile per-packet one-way delay: 10.648 ms
Loss rate: 2.64%
-- Flow 3:
Average throughput: 56.92 Mbit/s
95th percentile per-packet one-way delay: 10.820 ms
Loss rate: 3.60%
```
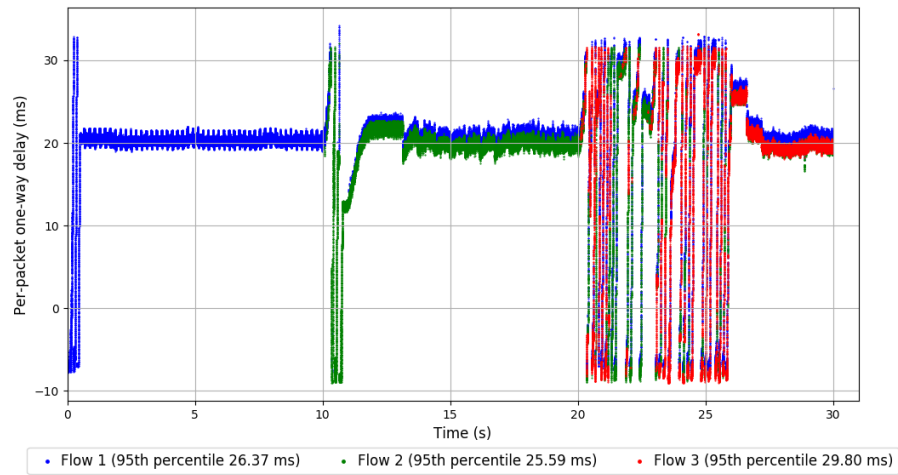
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 44.53 Mbit/s) --- Flow 1 egress (mean 43.93 Mbit/s)
Flow 2 ingress (mean 52.70 Mbit/s) --- Flow 2 egress (mean 51.30 Mbit/s)
Flow 3 ingress (mean 59.04 Mbit/s) --- Flow 3 egress (mean 56.92 Mbit/s)

Flow 1 (95th percentile 7.39 ms)   Flow 2 (95th percentile 10.65 ms)   Flow 3 (95th percentile 10.82 ms)
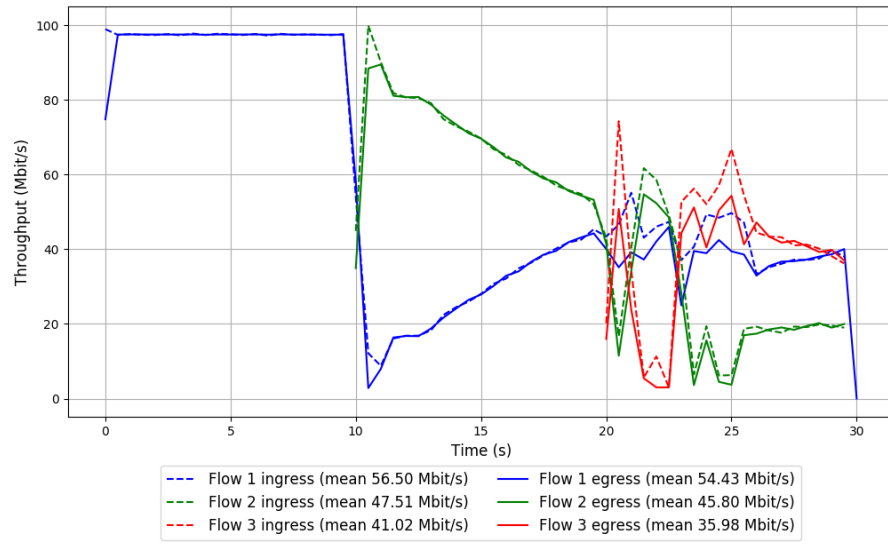
```
Run 3: Statistics of TCP BBR

Start at: 2017-12-05 22:28:41
End at: 2017-12-05 22:29:11
Local clock offset: 5.979 ms
Remote clock offset: -10.989 ms


# Below is generated by plot.py at 2017-12-06 00:56:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.83 Mbit/s
95th percentile per-packet one-way delay: 27.095 ms
Loss rate: 4.74%
-- Flow 1:
Average throughput: 54.43 Mbit/s
95th percentile per-packet one-way delay: 26.371 ms
Loss rate: 3.56%
-- Flow 2:
Average throughput: 45.80 Mbit/s
95th percentile per-packet one-way delay: 25.591 ms
Loss rate: 3.60%
-- Flow 3:
Average throughput: 35.98 Mbit/s
95th percentile per-packet one-way delay: 29.800 ms
Loss rate: 12.30%
```
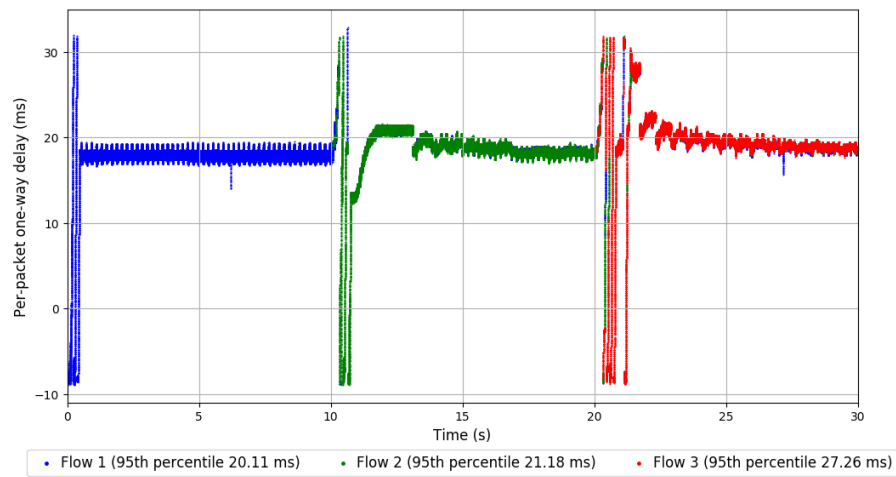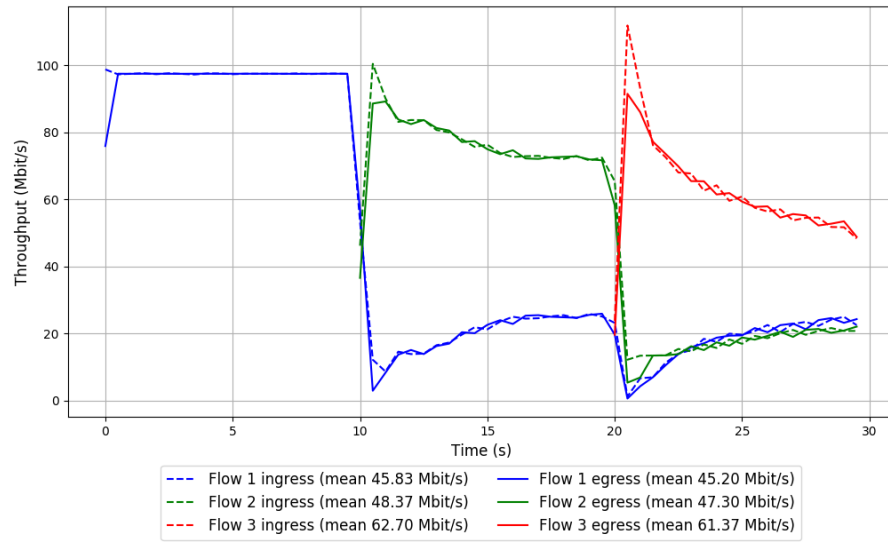
Run 3: Report of TCP BBR — Data Link

- - - - Flow 1 ingress (mean 56.50 Mbit/s) —— Flow 1 egress (mean 54.43 Mbit/s)
- - - - Flow 2 ingress (mean 47.51 Mbit/s) —— Flow 2 egress (mean 45.80 Mbit/s)
- - - - Flow 3 ingress (mean 41.02 Mbit/s) —— Flow 3 egress (mean 35.98 Mbit/s)

• Flow 1 (95th percentile 26.37 ms)   • Flow 2 (95th percentile 25.59 ms)   • Flow 3 (95th percentile 29.80 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2017-12-05 22:45:07
End at: 2017-12-05 22:45:37
Local clock offset: 4.895 ms
Remote clock offset: -11.972 ms


# Below is generated by plot.py at 2017-12-06 00:56:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.99 Mbit/s
95th percentile per-packet one-way delay: 21.343 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 45.20 Mbit/s
95th percentile per-packet one-way delay: 20.113 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 47.30 Mbit/s
95th percentile per-packet one-way delay: 21.178 ms
Loss rate: 2.20%
-- Flow 3:
Average throughput: 61.37 Mbit/s
95th percentile per-packet one-way delay: 27.257 ms
Loss rate: 2.12%
```
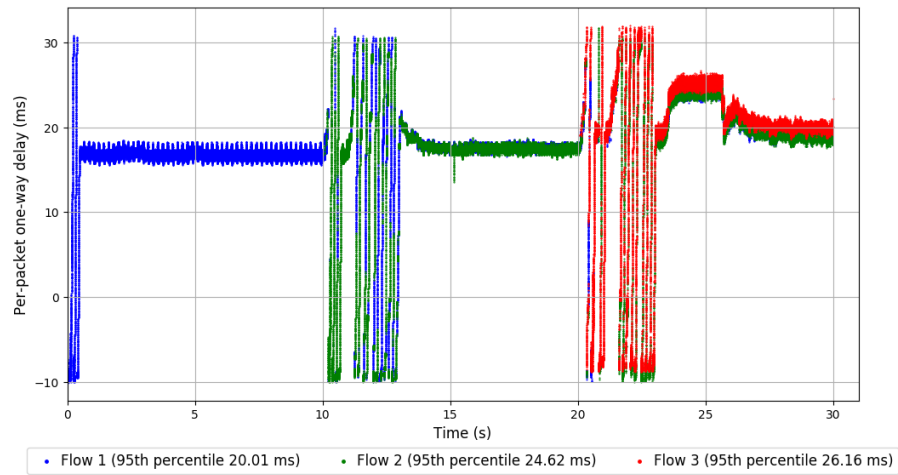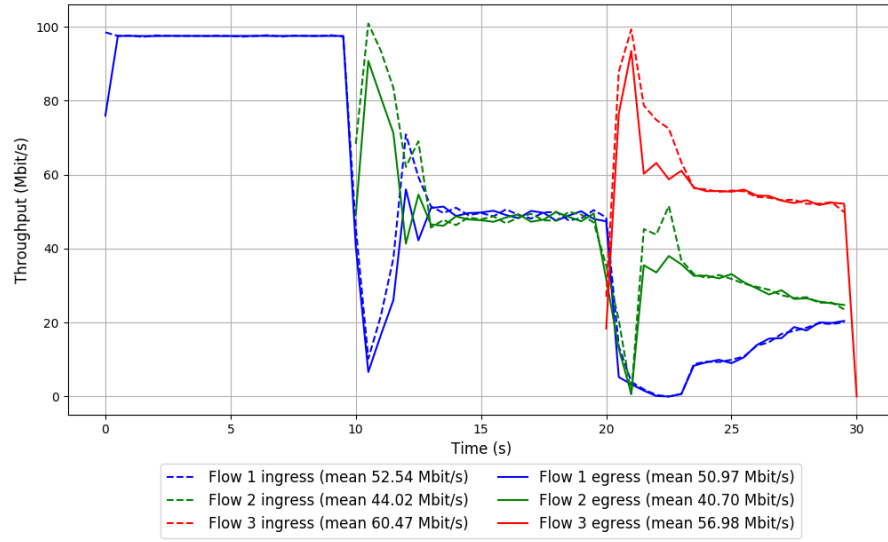
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 45.83 Mbit/s) --- Flow 1 egress (mean 45.20 Mbit/s)
Flow 2 ingress (mean 48.37 Mbit/s) --- Flow 2 egress (mean 47.30 Mbit/s)
Flow 3 ingress (mean 62.70 Mbit/s) --- Flow 3 egress (mean 61.37 Mbit/s)

• Flow 1 (95th percentile 20.11 ms)   • Flow 2 (95th percentile 21.18 ms)   • Flow 3 (95th percentile 27.26 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2017-12-05 23:01:41
End at: 2017-12-05 23:02:11
Local clock offset: 6.13 ms
Remote clock offset: -12.028 ms


# Below is generated by plot.py at 2017-12-06 00:56:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.94 Mbit/s
95th percentile per-packet one-way delay: 24.975 ms
Loss rate: 4.79%
-- Flow 1:
Average throughput: 50.97 Mbit/s
95th percentile per-packet one-way delay: 20.013 ms
Loss rate: 2.89%
-- Flow 2:
Average throughput: 40.70 Mbit/s
95th percentile per-packet one-way delay: 24.620 ms
Loss rate: 7.54%
-- Flow 3:
Average throughput: 56.98 Mbit/s
95th percentile per-packet one-way delay: 26.155 ms
Loss rate: 5.74%
```
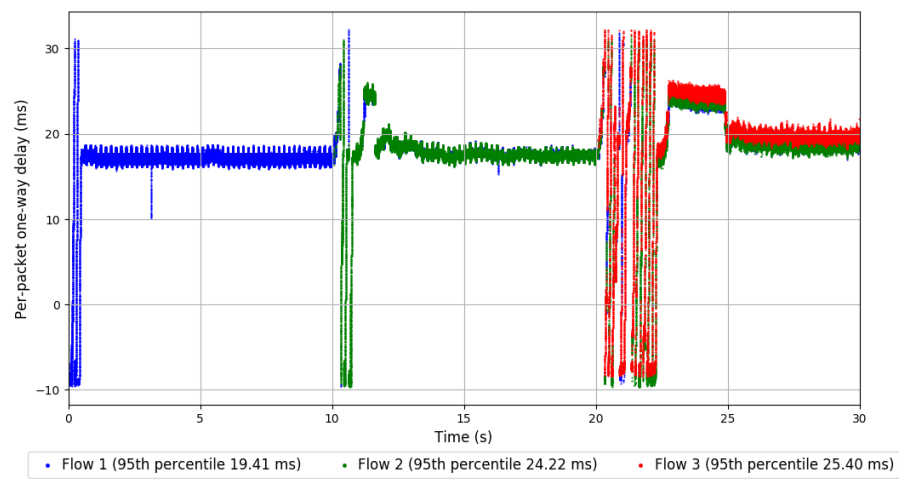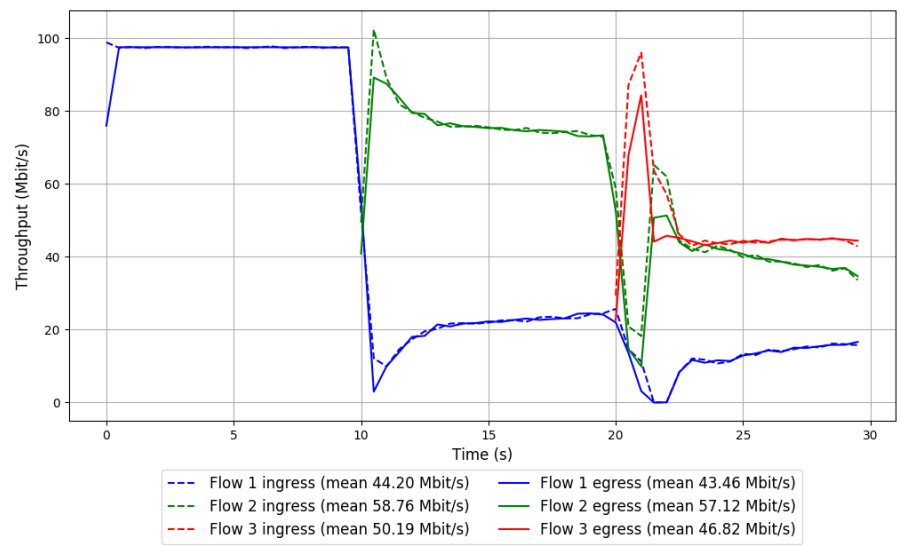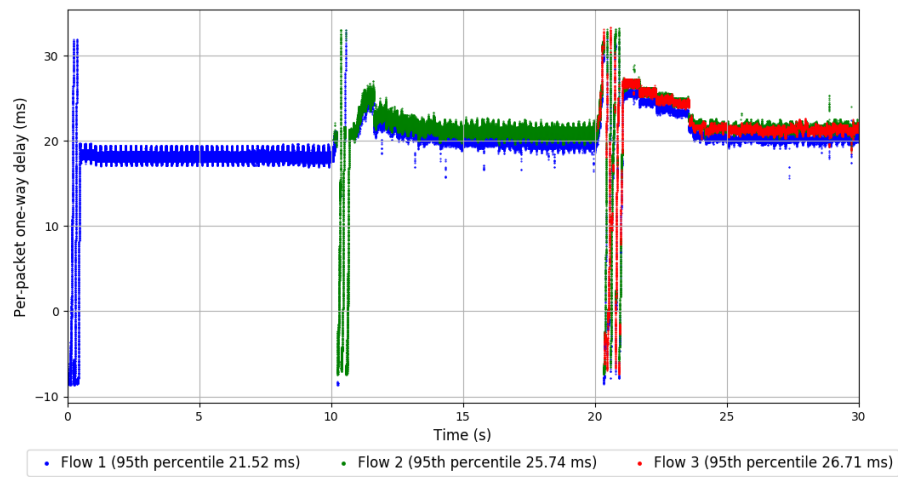
Run 5: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 52.54 Mbit/s) —— Flow 1 egress (mean 50.97 Mbit/s)
- - - Flow 2 ingress (mean 44.02 Mbit/s) —— Flow 2 egress (mean 40.70 Mbit/s)
- - - Flow 3 ingress (mean 60.47 Mbit/s) —— Flow 3 egress (mean 56.98 Mbit/s)

• Flow 1 (95th percentile 20.01 ms)   • Flow 2 (95th percentile 24.62 ms)   • Flow 3 (95th percentile 26.16 ms)

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```
Run 6: Statistics of TCP BBR

Start at: 2017-12-05 23:18:06
End at: 2017-12-05 23:18:36
Local clock offset: 6.28 ms
Remote clock offset: -11.627 ms


# Below is generated by plot.py at 2017-12-06 00:56:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.97 Mbit/s
95th percentile per-packet one-way delay: 24.351 ms
Loss rate: 2.91%
-- Flow 1:
Average throughput: 43.46 Mbit/s
95th percentile per-packet one-way delay: 19.408 ms
Loss rate: 1.59%
-- Flow 2:
Average throughput: 57.12 Mbit/s
95th percentile per-packet one-way delay: 24.221 ms
Loss rate: 2.80%
-- Flow 3:
Average throughput: 46.82 Mbit/s
95th percentile per-packet one-way delay: 25.404 ms
Loss rate: 6.71%
```
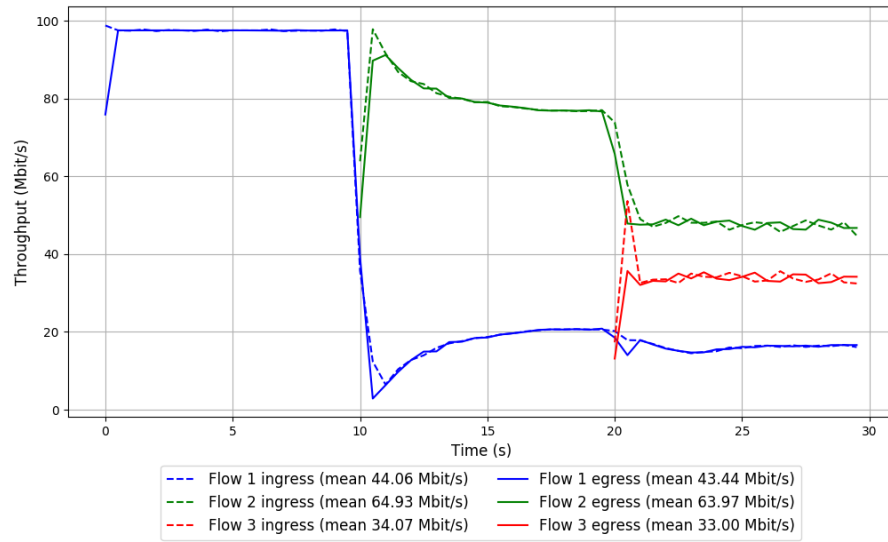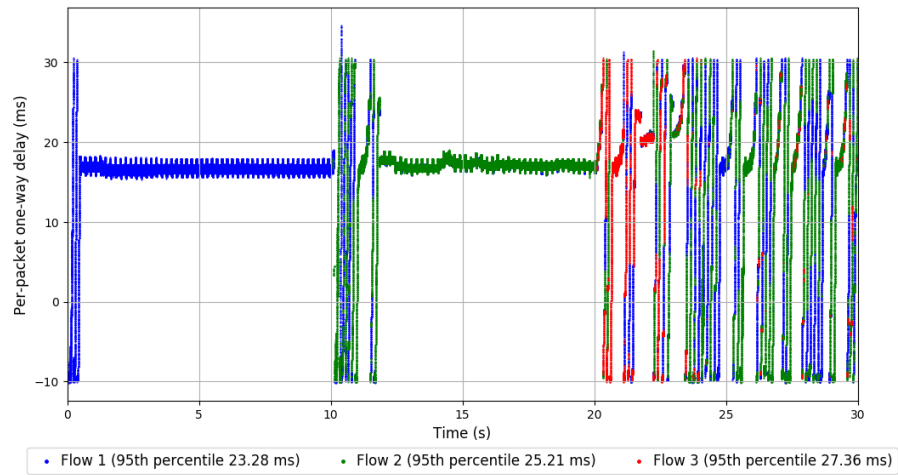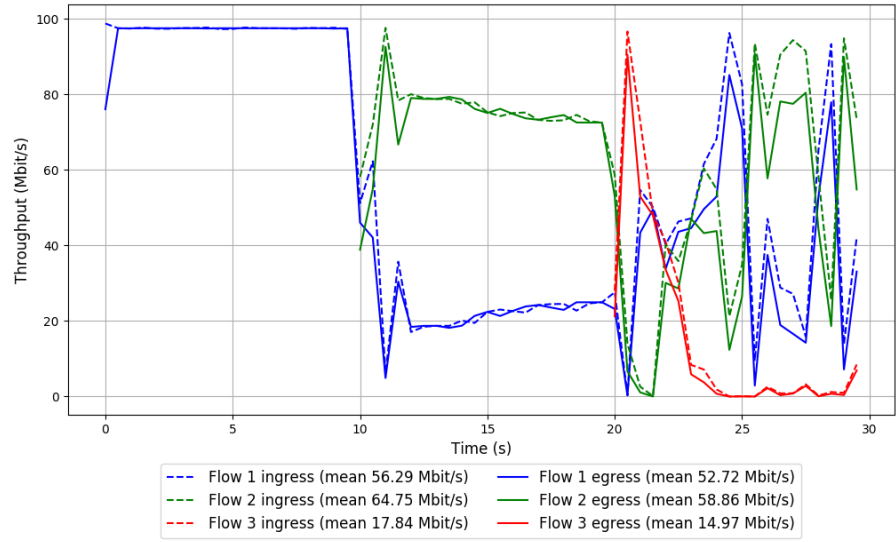
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 44.20 Mbit/s) --- Flow 1 egress (mean 43.46 Mbit/s)
Flow 2 ingress (mean 58.76 Mbit/s) --- Flow 2 egress (mean 57.12 Mbit/s)
Flow 3 ingress (mean 50.19 Mbit/s) --- Flow 3 egress (mean 46.82 Mbit/s)

• Flow 1 (95th percentile 19.41 ms)   • Flow 2 (95th percentile 24.22 ms)   • Flow 3 (95th percentile 25.40 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2017-12-05 23:34:26
End at: 2017-12-05 23:34:56
Local clock offset: 4.981 ms
Remote clock offset: -11.408 ms

# Below is generated by plot.py at 2017-12-06 00:56:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.93 Mbit/s
95th percentile per-packet one-way delay: 25.295 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 43.44 Mbit/s
95th percentile per-packet one-way delay: 21.524 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 63.97 Mbit/s
95th percentile per-packet one-way delay: 25.737 ms
Loss rate: 1.47%
-- Flow 3:
Average throughput: 33.00 Mbit/s
95th percentile per-packet one-way delay: 26.708 ms
Loss rate: 3.12%
```
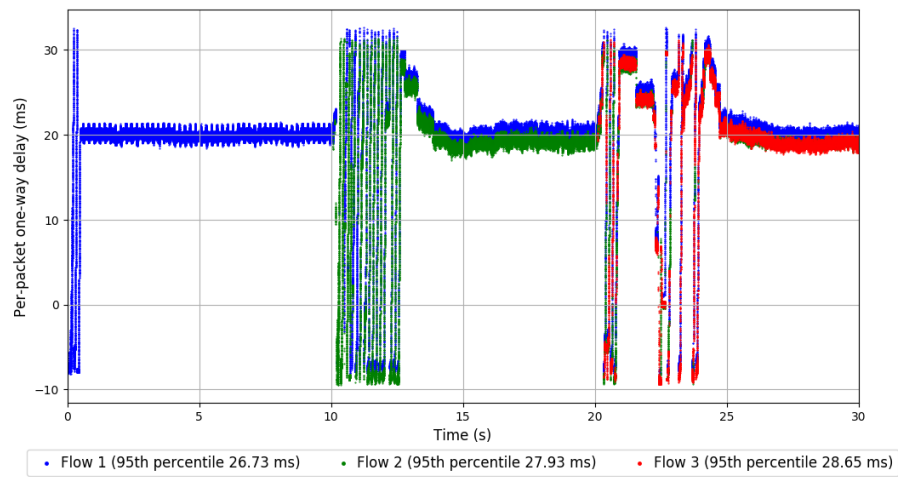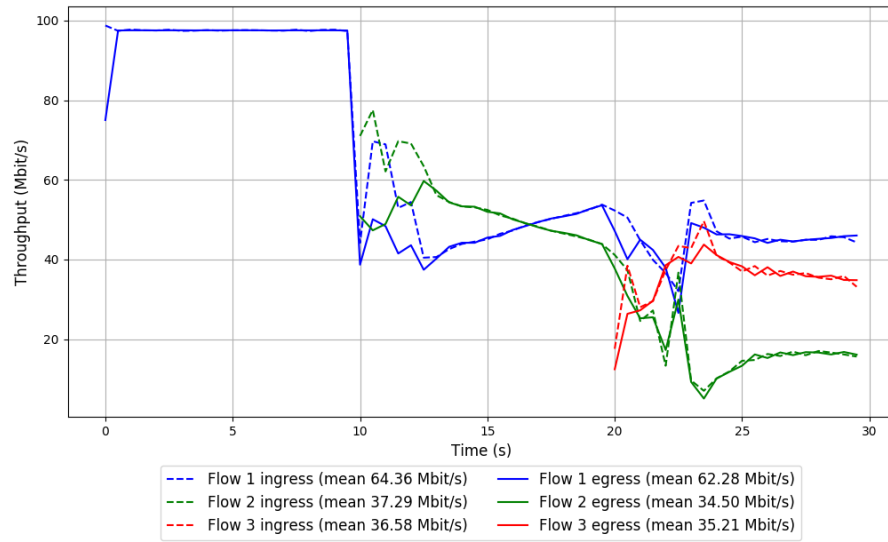
Run 7: Report of TCP BBR — Data Link

Flow 1 ingress (mean 44.06 Mbit/s) --- Flow 1 egress (mean 43.44 Mbit/s)
Flow 2 ingress (mean 64.93 Mbit/s) --- Flow 2 egress (mean 63.97 Mbit/s)
Flow 3 ingress (mean 34.07 Mbit/s) --- Flow 3 egress (mean 33.00 Mbit/s)

Flow 1 (95th percentile 21.52 ms)   Flow 2 (95th percentile 25.74 ms)   Flow 3 (95th percentile 26.71 ms)

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```
Run 8: Statistics of TCP BBR

Start at: 2017-12-05 23:50:58
End at: 2017-12-05 23:51:28
Local clock offset: 4.711 ms
Remote clock offset: -12.728 ms

# Below is generated by plot.py at 2017-12-06 00:56:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.81 Mbit/s
95th percentile per-packet one-way delay: 24.488 ms
Loss rate: 8.01%
-- Flow 1:
Average throughput: 52.72 Mbit/s
95th percentile per-packet one-way delay: 23.280 ms
Loss rate: 6.31%
-- Flow 2:
Average throughput: 58.86 Mbit/s
95th percentile per-packet one-way delay: 25.210 ms
Loss rate: 9.13%
-- Flow 3:
Average throughput: 14.97 Mbit/s
95th percentile per-packet one-way delay: 27.364 ms
Loss rate: 16.09%
```

Run 8: Report of TCP BBR — Data Link

```
Run 9: Statistics of TCP BBR

Start at: 2017-12-06 00:07:22
End at: 2017-12-06 00:07:52
Local clock offset: 5.716 ms
Remote clock offset: -12.587 ms


# Below is generated by plot.py at 2017-12-06 00:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.91 Mbit/s
95th percentile per-packet one-way delay: 27.688 ms
Loss rate: 4.28%
-- Flow 1:
Average throughput: 62.28 Mbit/s
95th percentile per-packet one-way delay: 26.728 ms
Loss rate: 3.14%
-- Flow 2:
Average throughput: 34.50 Mbit/s
95th percentile per-packet one-way delay: 27.928 ms
Loss rate: 7.48%
-- Flow 3:
Average throughput: 35.21 Mbit/s
95th percentile per-packet one-way delay: 28.653 ms
Loss rate: 3.75%
```
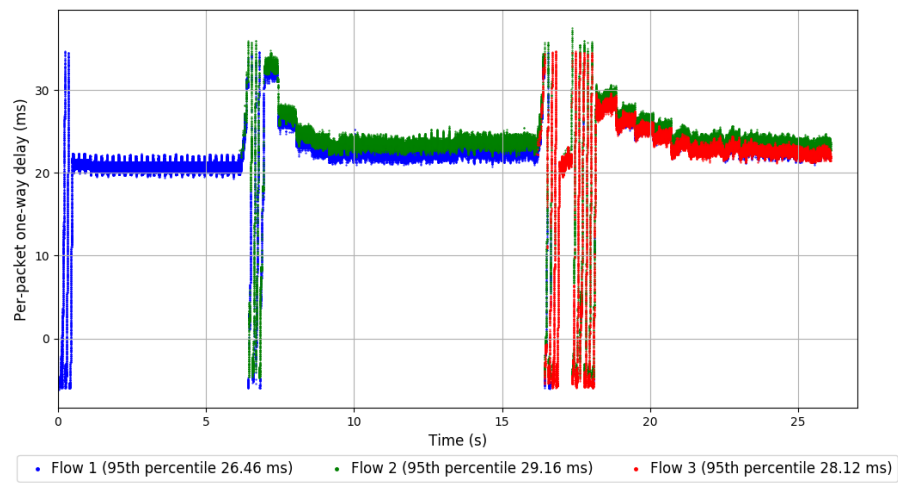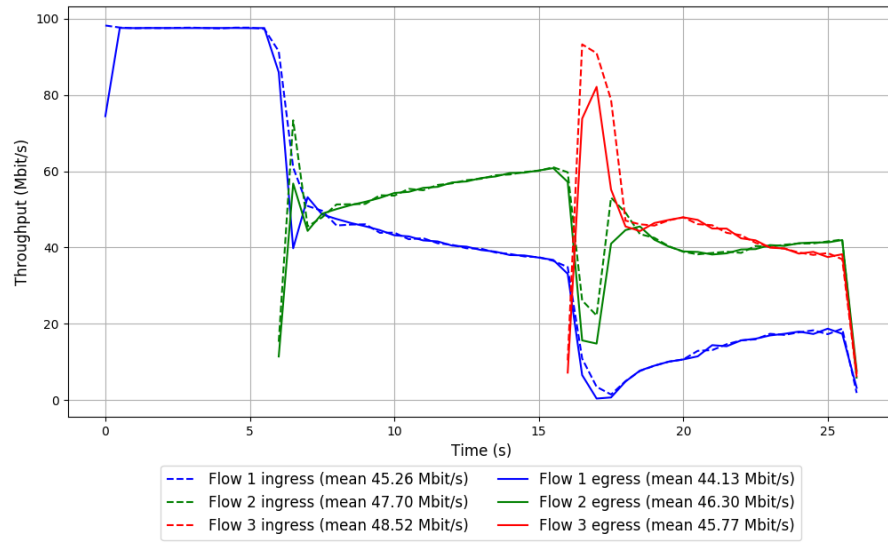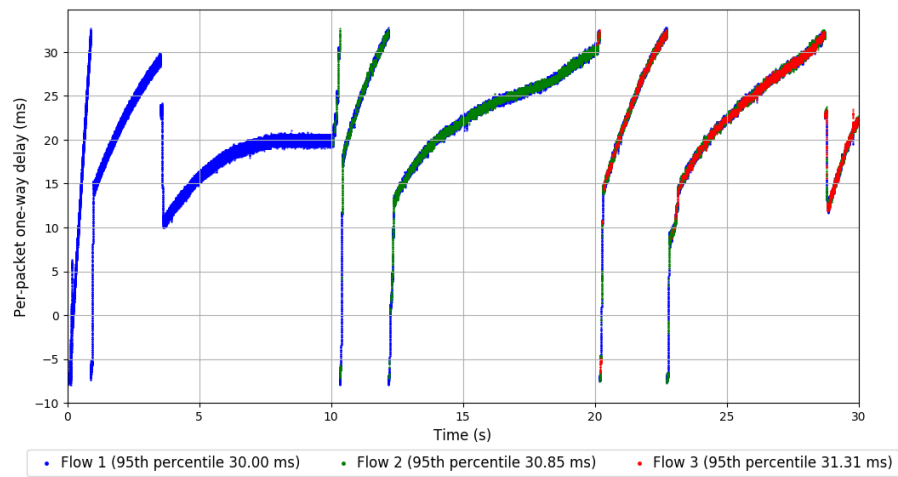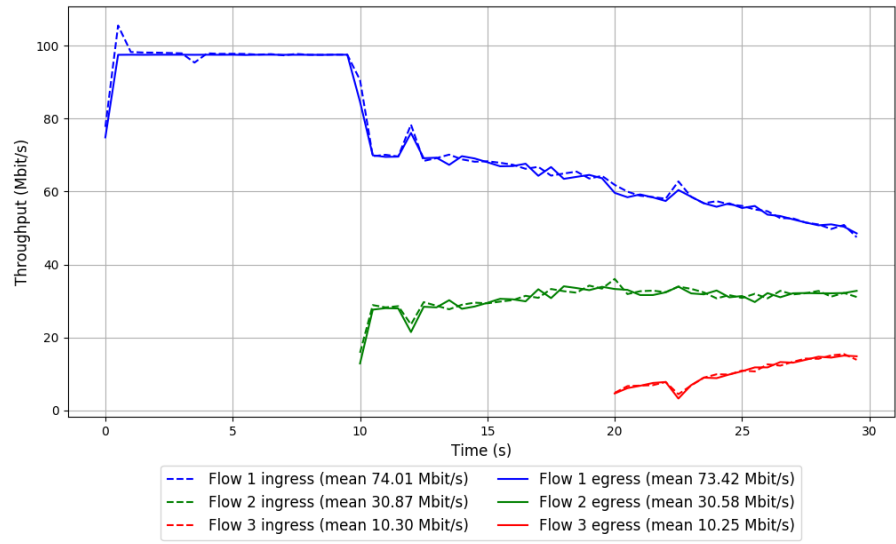
Run 9: Report of TCP BBR — Data Link

Flow 1 ingress (mean 64.36 Mbit/s)   Flow 1 egress (mean 62.28 Mbit/s)
Flow 2 ingress (mean 37.29 Mbit/s)   Flow 2 egress (mean 34.50 Mbit/s)
Flow 3 ingress (mean 36.58 Mbit/s)   Flow 3 egress (mean 35.21 Mbit/s)

Flow 1 (95th percentile 26.73 ms)   Flow 2 (95th percentile 27.93 ms)   Flow 3 (95th percentile 28.65 ms)

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```
Run 10: Statistics of TCP BBR

Start at: 2017-12-06 00:23:54
End at: 2017-12-06 00:24:24
Local clock offset: 1.145 ms
Remote clock offset: -13.858 ms


# Below is generated by plot.py at 2017-12-06 00:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.96 Mbit/s
95th percentile per-packet one-way delay: 28.129 ms
Loss rate: 3.20%
-- Flow 1:
Average throughput: 44.13 Mbit/s
95th percentile per-packet one-way delay: 26.460 ms
Loss rate: 2.41%
-- Flow 2:
Average throughput: 46.30 Mbit/s
95th percentile per-packet one-way delay: 29.164 ms
Loss rate: 2.94%
-- Flow 3:
Average throughput: 45.77 Mbit/s
95th percentile per-packet one-way delay: 28.125 ms
Loss rate: 5.66%
```
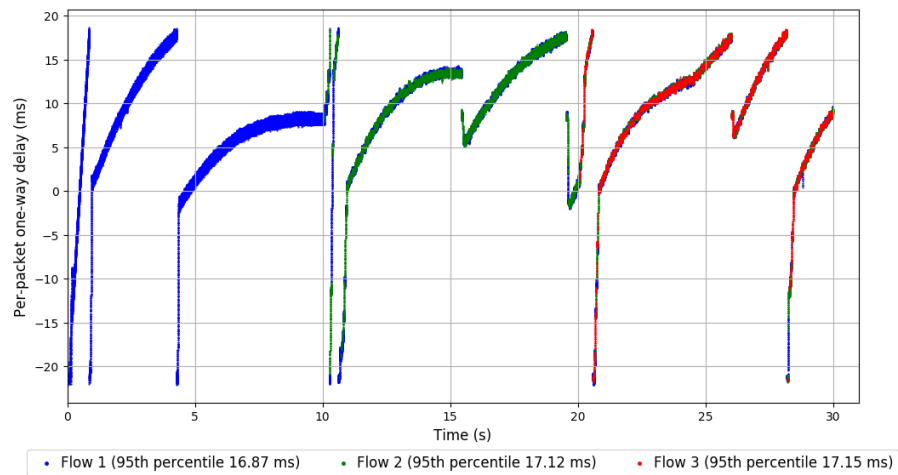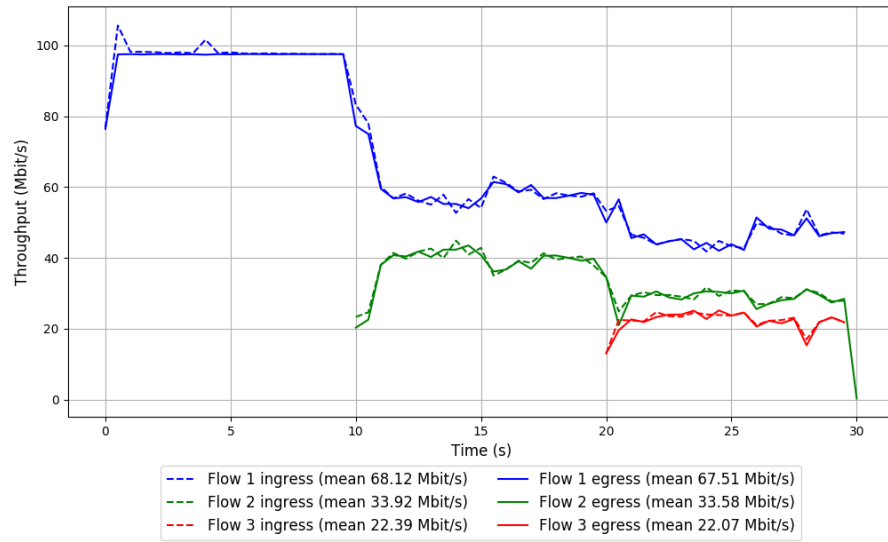
Run 10: Report of TCP BBR — Data Link

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```
Run 1: Statistics of TCP Cubic

Start at: 2017-12-05 21:54:18
End at: 2017-12-05 21:54:48
Local clock offset: 5.532 ms
Remote clock offset: -12.142 ms

# Below is generated by plot.py at 2017-12-06 00:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 30.315 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 73.42 Mbit/s
95th percentile per-packet one-way delay: 29.997 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 30.58 Mbit/s
95th percentile per-packet one-way delay: 30.852 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 10.25 Mbit/s
95th percentile per-packet one-way delay: 31.312 ms
Loss rate: 0.63%
```
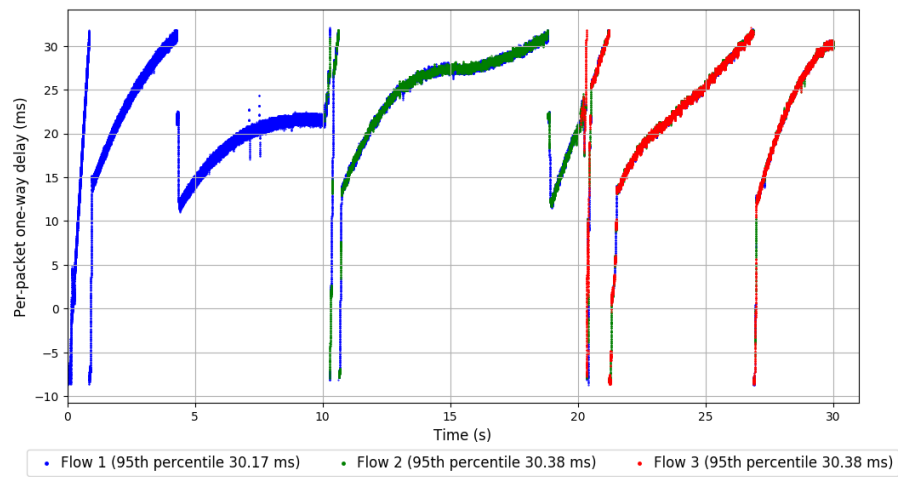
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2017-12-05 22:10:56
End at: 2017-12-05 22:11:26
Local clock offset: 18.349 ms
Remote clock offset: -11.995 ms


# Below is generated by plot.py at 2017-12-06 00:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.16 Mbit/s
95th percentile per-packet one-way delay: 16.935 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 67.51 Mbit/s
95th percentile per-packet one-way delay: 16.871 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 33.58 Mbit/s
95th percentile per-packet one-way delay: 17.118 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 22.07 Mbit/s
95th percentile per-packet one-way delay: 17.148 ms
Loss rate: 1.35%
```
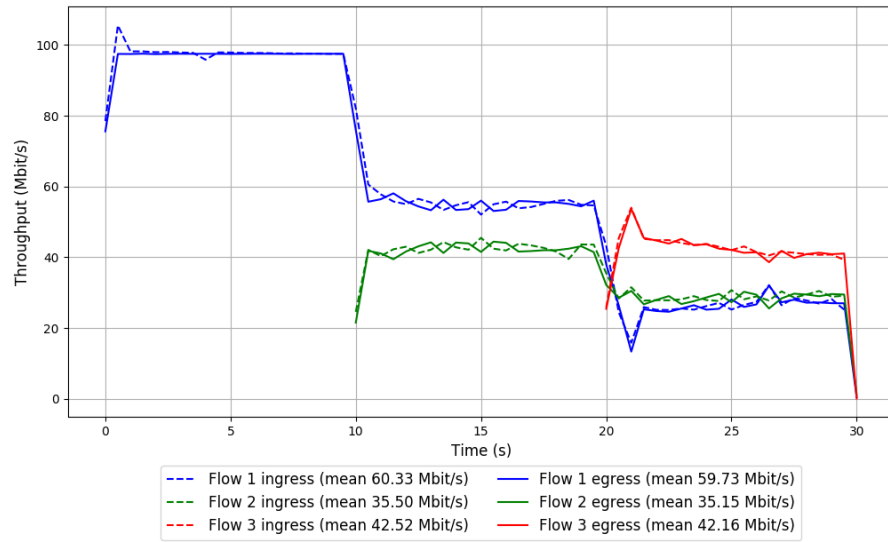
Run 2: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 68.12 Mbit/s)   —— Flow 1 egress (mean 67.51 Mbit/s)
- - - Flow 2 ingress (mean 33.92 Mbit/s)   —— Flow 2 egress (mean 33.58 Mbit/s)
- - - Flow 3 ingress (mean 22.39 Mbit/s)   —— Flow 3 egress (mean 22.07 Mbit/s)

• Flow 1 (95th percentile 16.87 ms)   • Flow 2 (95th percentile 17.12 ms)   • Flow 3 (95th percentile 17.15 ms)
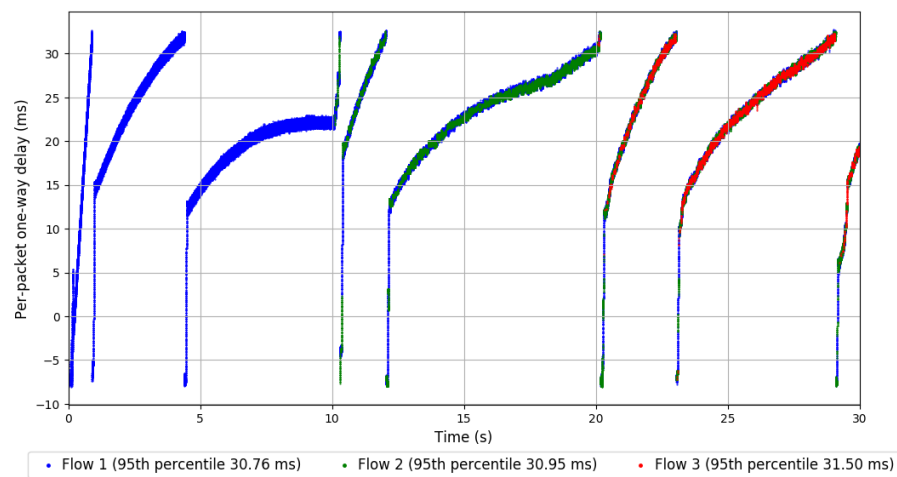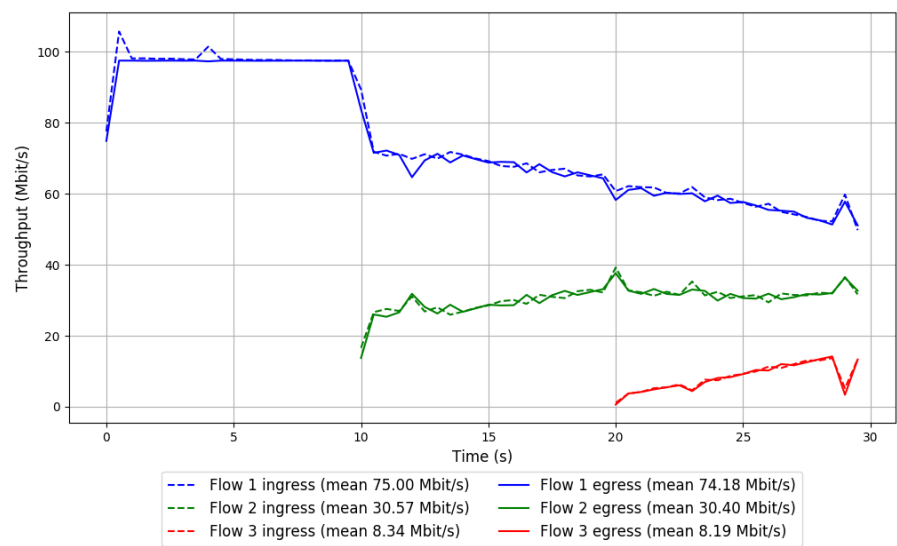
```
Run 3: Statistics of TCP Cubic

Start at: 2017-12-05 22:27:29
End at: 2017-12-05 22:27:59
Local clock offset: 4.706 ms
Remote clock offset: -11.927 ms


# Below is generated by plot.py at 2017-12-06 00:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.10 Mbit/s
95th percentile per-packet one-way delay: 30.327 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 59.73 Mbit/s
95th percentile per-packet one-way delay: 30.166 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 35.15 Mbit/s
95th percentile per-packet one-way delay: 30.384 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 42.16 Mbit/s
95th percentile per-packet one-way delay: 30.376 ms
Loss rate: 0.75%
```
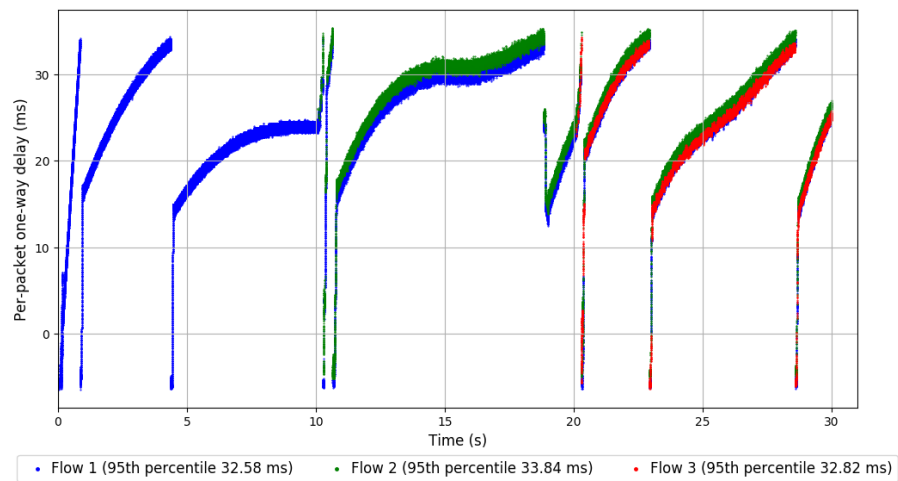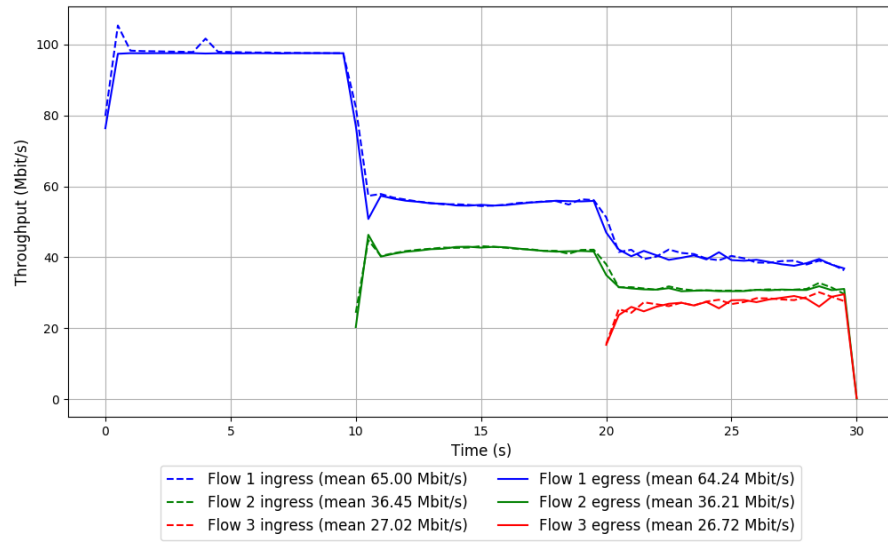
Run 3: Report of TCP Cubic — Data Link

- - - - Flow 1 ingress (mean 60.33 Mbit/s) ———— Flow 1 egress (mean 59.73 Mbit/s)
- - - - Flow 2 ingress (mean 35.50 Mbit/s) ———— Flow 2 egress (mean 35.15 Mbit/s)
- - - - Flow 3 ingress (mean 42.52 Mbit/s) ———— Flow 3 egress (mean 42.16 Mbit/s)

• Flow 1 (95th percentile 30.17 ms)   • Flow 2 (95th percentile 30.38 ms)   • Flow 3 (95th percentile 30.38 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2017-12-05 22:43:56
End at: 2017-12-05 22:44:26
Local clock offset: 5.301 ms
Remote clock offset: -11.976 ms


# Below is generated by plot.py at 2017-12-06 00:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.11 Mbit/s
95th percentile per-packet one-way delay: 30.795 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 74.18 Mbit/s
95th percentile per-packet one-way delay: 30.763 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 30.40 Mbit/s
95th percentile per-packet one-way delay: 30.950 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 8.19 Mbit/s
95th percentile per-packet one-way delay: 31.495 ms
Loss rate: 1.89%
```
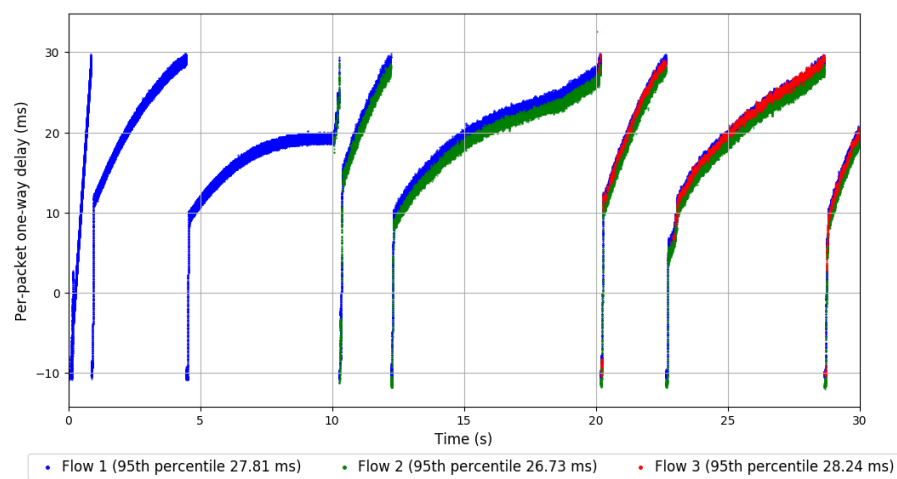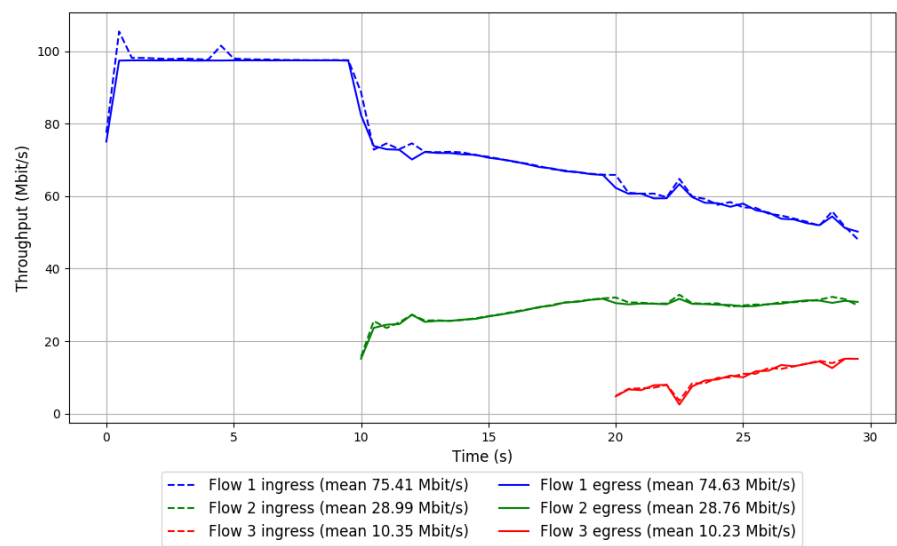
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2017-12-05 23:00:28
End at: 2017-12-05 23:00:58
Local clock offset: 3.228 ms
Remote clock offset: -11.372 ms


# Below is generated by plot.py at 2017-12-06 00:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.15 Mbit/s
95th percentile per-packet one-way delay: 33.013 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 64.24 Mbit/s
95th percentile per-packet one-way delay: 32.578 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 36.21 Mbit/s
95th percentile per-packet one-way delay: 33.841 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 26.72 Mbit/s
95th percentile per-packet one-way delay: 32.816 ms
Loss rate: 1.07%
```
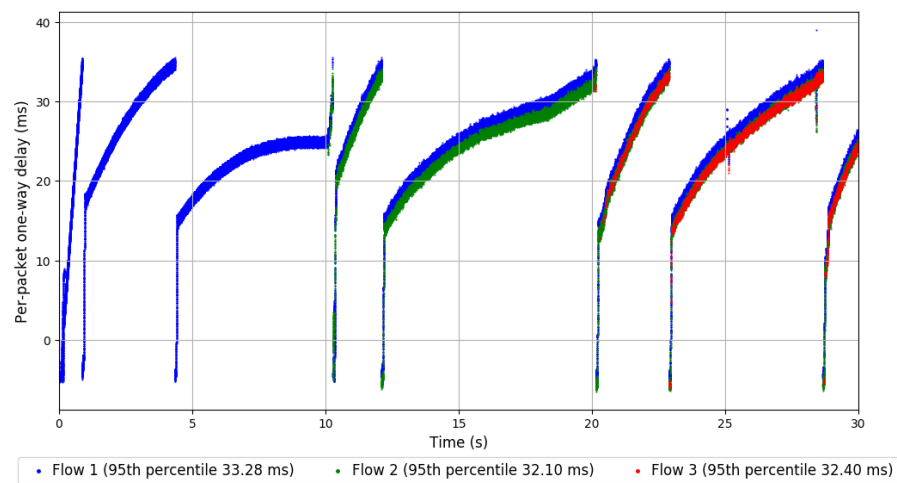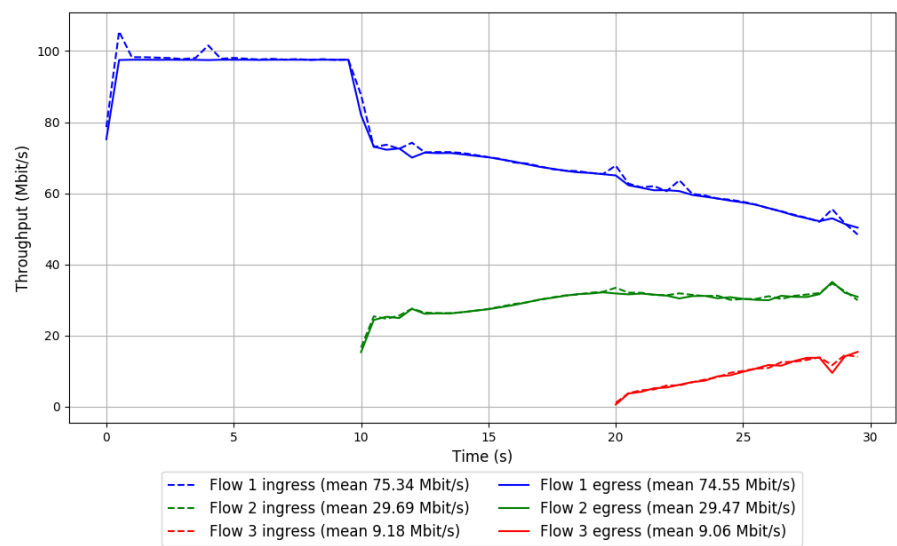
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 65.00 Mbit/s) --- Flow 1 egress (mean 64.24 Mbit/s)
Flow 2 ingress (mean 36.45 Mbit/s) --- Flow 2 egress (mean 36.21 Mbit/s)
Flow 3 ingress (mean 27.02 Mbit/s) --- Flow 3 egress (mean 26.72 Mbit/s)

Flow 1 (95th percentile 32.58 ms)   Flow 2 (95th percentile 33.84 ms)   Flow 3 (95th percentile 32.82 ms)

33

```
Run 6: Statistics of TCP Cubic

Start at: 2017-12-05 23:16:56
End at: 2017-12-05 23:17:26
Local clock offset: 6.909 ms
Remote clock offset: -13.426 ms


# Below is generated by plot.py at 2017-12-06 00:58:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.15 Mbit/s
95th percentile per-packet one-way delay: 27.650 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 74.63 Mbit/s
95th percentile per-packet one-way delay: 27.809 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 28.76 Mbit/s
95th percentile per-packet one-way delay: 26.733 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 10.23 Mbit/s
95th percentile per-packet one-way delay: 28.243 ms
Loss rate: 1.35%
```
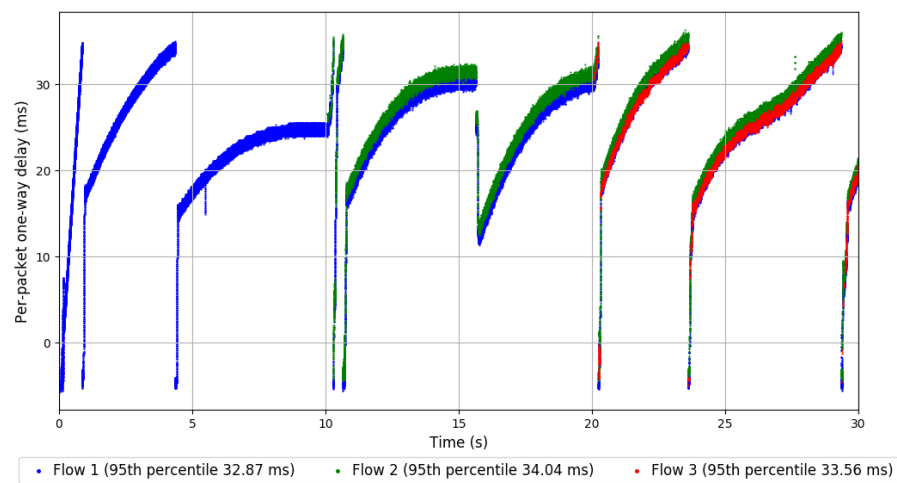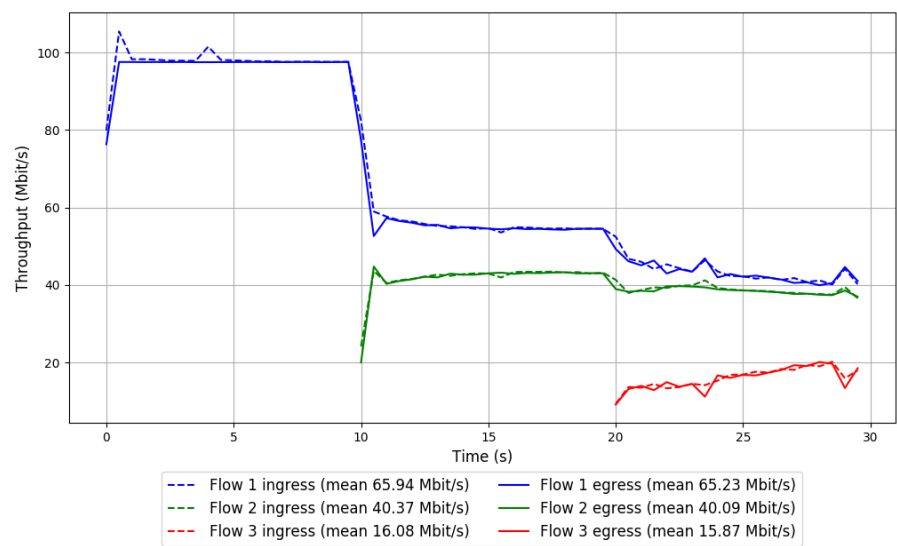
Run 6: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 75.41 Mbit/s)   —— Flow 1 egress (mean 74.63 Mbit/s)
- - - Flow 2 ingress (mean 28.99 Mbit/s)   —— Flow 2 egress (mean 28.76 Mbit/s)
- - - Flow 3 ingress (mean 10.35 Mbit/s)   —— Flow 3 egress (mean 10.23 Mbit/s)

• Flow 1 (95th percentile 27.81 ms)   • Flow 2 (95th percentile 26.73 ms)   • Flow 3 (95th percentile 28.24 ms)

35

```
Run 7: Statistics of TCP Cubic

Start at: 2017-12-05 23:33:15
End at: 2017-12-05 23:33:45
Local clock offset: 1.462 ms
Remote clock offset: -12.825 ms


# Below is generated by plot.py at 2017-12-06 00:59:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 33.051 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 74.55 Mbit/s
95th percentile per-packet one-way delay: 33.283 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 29.47 Mbit/s
95th percentile per-packet one-way delay: 32.097 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 32.397 ms
Loss rate: 1.47%
```
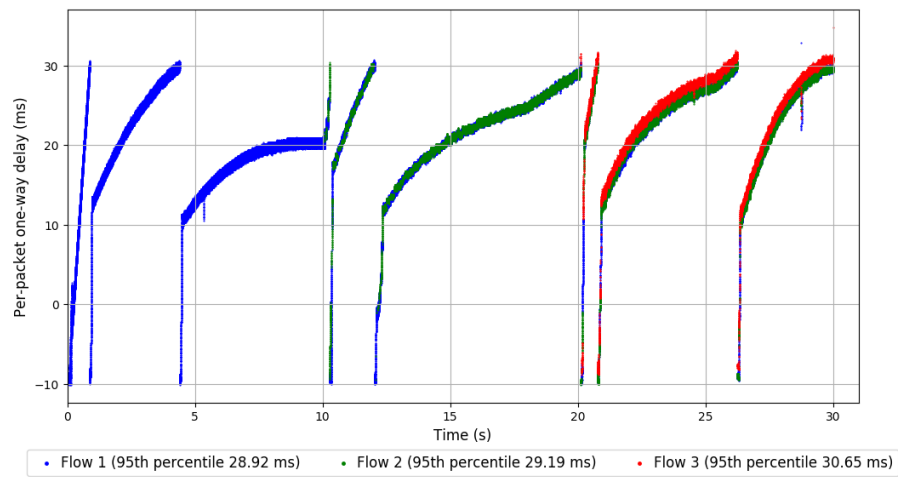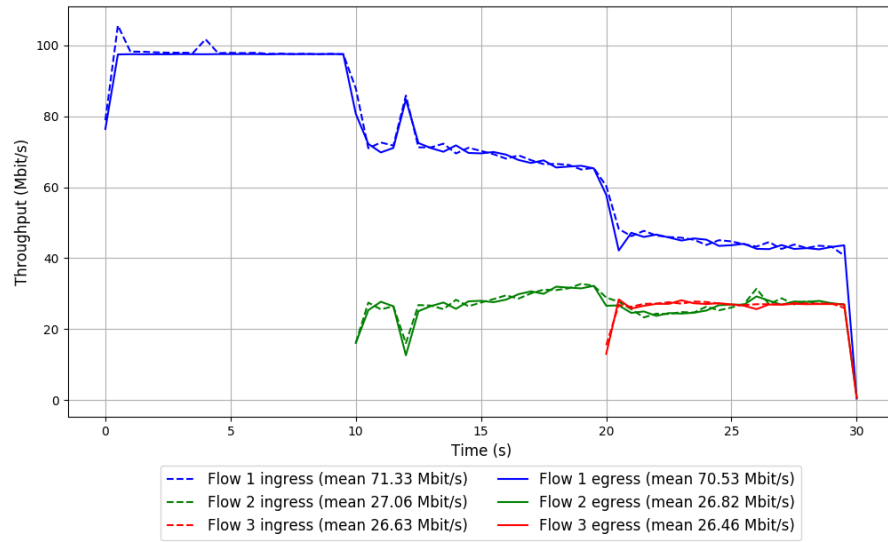
Run 7: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 75.34 Mbit/s)   Flow 1 egress (mean 74.55 Mbit/s)
Flow 2 ingress (mean 29.69 Mbit/s)   Flow 2 egress (mean 29.47 Mbit/s)
Flow 3 ingress (mean 9.18 Mbit/s)   Flow 3 egress (mean 9.06 Mbit/s)

Flow 1 (95th percentile 33.28 ms)   Flow 2 (95th percentile 32.10 ms)   Flow 3 (95th percentile 32.40 ms)

37

```
Run 8: Statistics of TCP Cubic

Start at: 2017-12-05 23:49:48
End at: 2017-12-05 23:50:18
Local clock offset: 2.832 ms
Remote clock offset: -10.163 ms


# Below is generated by plot.py at 2017-12-06 00:59:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.15 Mbit/s
95th percentile per-packet one-way delay: 33.293 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 65.23 Mbit/s
95th percentile per-packet one-way delay: 32.866 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 40.09 Mbit/s
95th percentile per-packet one-way delay: 34.038 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 15.87 Mbit/s
95th percentile per-packet one-way delay: 33.564 ms
Loss rate: 1.37%
```
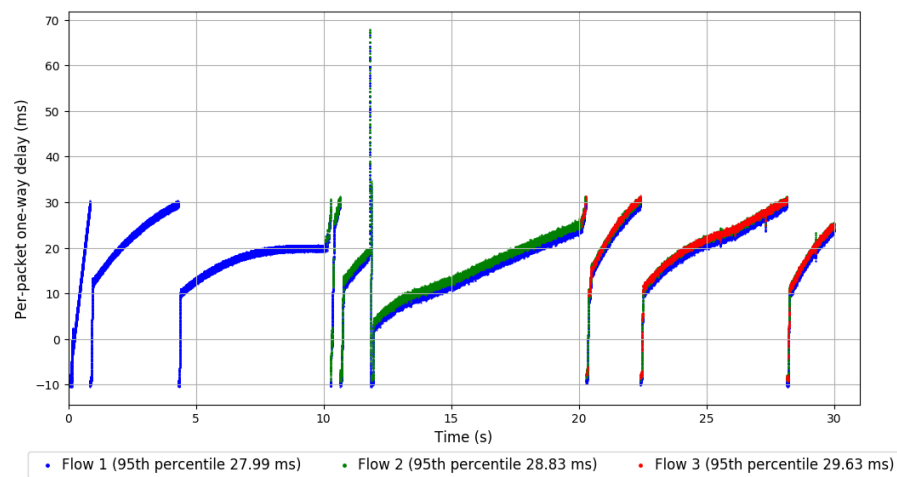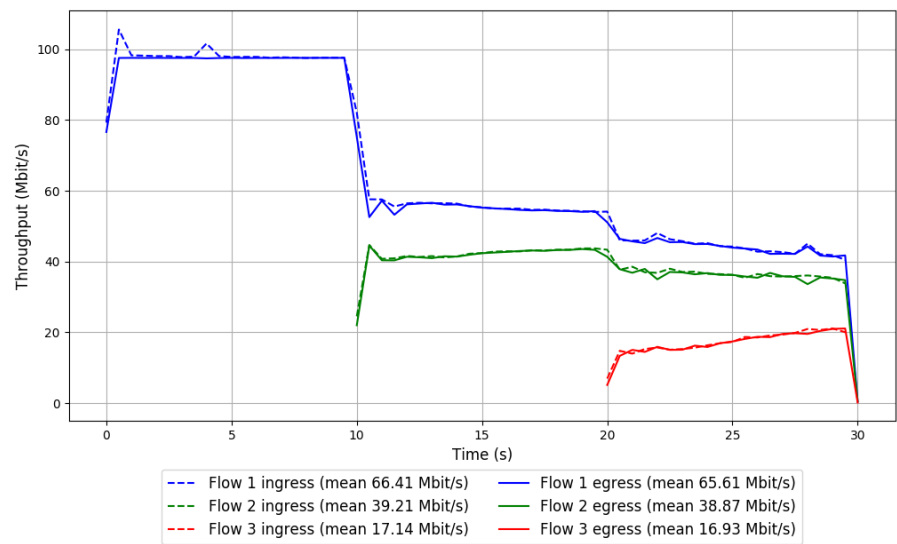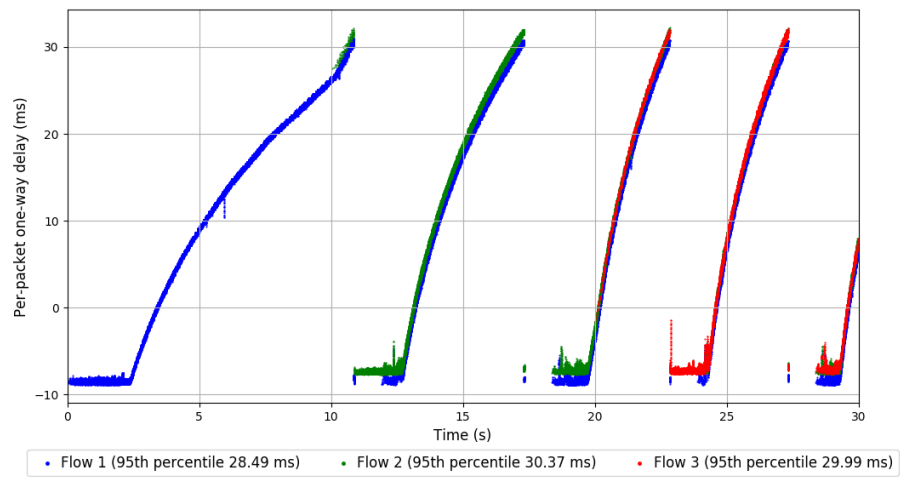
Run 8: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 65.94 Mbit/s)   Flow 1 egress (mean 65.23 Mbit/s)
Flow 2 ingress (mean 40.37 Mbit/s)   Flow 2 egress (mean 40.09 Mbit/s)
Flow 3 ingress (mean 16.08 Mbit/s)   Flow 3 egress (mean 15.87 Mbit/s)

Flow 1 (95th percentile 32.87 ms)   Flow 2 (95th percentile 34.04 ms)   Flow 3 (95th percentile 33.56 ms)

```
Run 9: Statistics of TCP Cubic

Start at: 2017-12-06 00:06:12
End at: 2017-12-06 00:06:42
Local clock offset: 6.336 ms
Remote clock offset: -12.563 ms


# Below is generated by plot.py at 2017-12-06 00:59:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 29.203 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 70.53 Mbit/s
95th percentile per-packet one-way delay: 28.921 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 26.82 Mbit/s
95th percentile per-packet one-way delay: 29.192 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 26.46 Mbit/s
95th percentile per-packet one-way delay: 30.653 ms
Loss rate: 0.60%
```
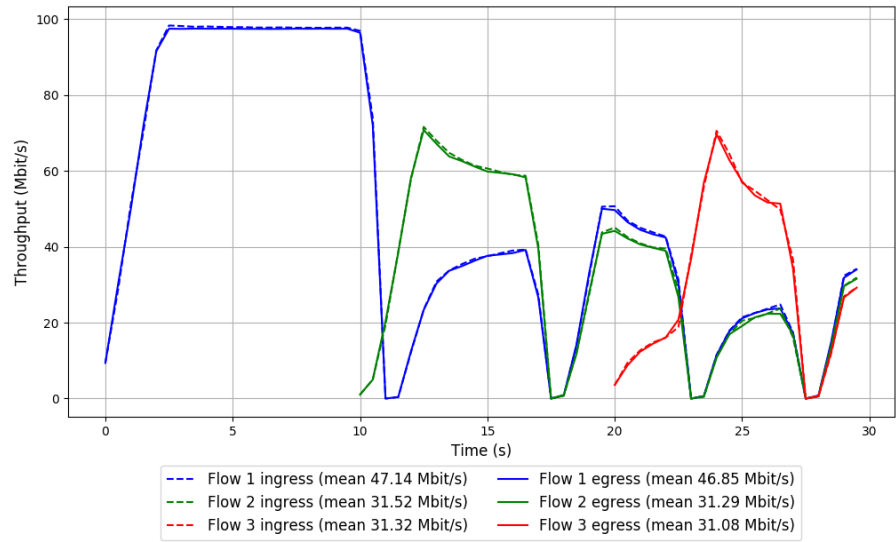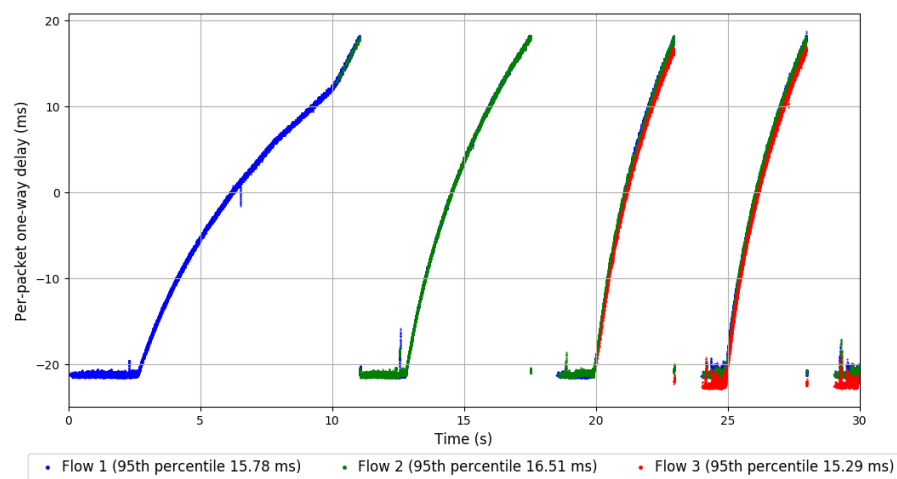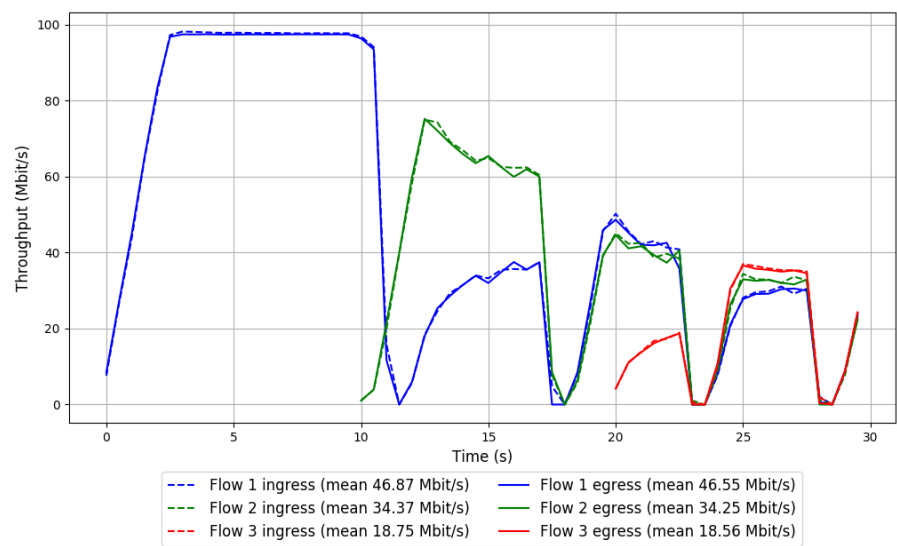
Run 9: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 71.33 Mbit/s) —— Flow 1 egress (mean 70.53 Mbit/s)
- - - Flow 2 ingress (mean 27.06 Mbit/s) —— Flow 2 egress (mean 26.82 Mbit/s)
- - - Flow 3 ingress (mean 26.63 Mbit/s) —— Flow 3 egress (mean 26.46 Mbit/s)

• Flow 1 (95th percentile 28.92 ms)   • Flow 2 (95th percentile 29.19 ms)   • Flow 3 (95th percentile 30.65 ms)

```
Run 10: Statistics of TCP Cubic

Start at: 2017-12-06 00:22:43
End at: 2017-12-06 00:23:13
Local clock offset: 5.625 ms
Remote clock offset: -13.824 ms


# Below is generated by plot.py at 2017-12-06 00:59:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.09 Mbit/s
95th percentile per-packet one-way delay: 28.349 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 65.61 Mbit/s
95th percentile per-packet one-way delay: 27.989 ms
Loss rate: 1.09%
-- Flow 2:
Average throughput: 38.87 Mbit/s
95th percentile per-packet one-way delay: 28.834 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 16.93 Mbit/s
95th percentile per-packet one-way delay: 29.631 ms
Loss rate: 1.22%
```
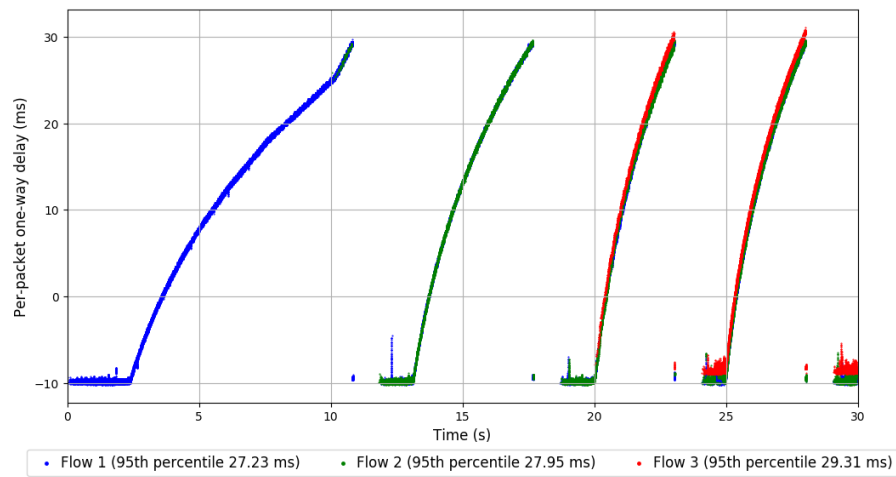
Run 10: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 66.41 Mbit/s) --- Flow 1 egress (mean 65.61 Mbit/s)
Flow 2 ingress (mean 39.21 Mbit/s) --- Flow 2 egress (mean 38.87 Mbit/s)
Flow 3 ingress (mean 17.14 Mbit/s) --- Flow 3 egress (mean 16.93 Mbit/s)

Flow 1 (95th percentile 27.99 ms)   Flow 2 (95th percentile 28.83 ms)   Flow 3 (95th percentile 29.63 ms)

43

```
Run 1: Statistics of LEDBAT

Start at: 2017-12-05 22:01:29
End at: 2017-12-05 22:01:59
Local clock offset: 4.742 ms
Remote clock offset: -12.455 ms

# Below is generated by plot.py at 2017-12-06 00:59:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.97 Mbit/s
95th percentile per-packet one-way delay: 29.413 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 46.85 Mbit/s
95th percentile per-packet one-way delay: 28.489 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 31.29 Mbit/s
95th percentile per-packet one-way delay: 30.374 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 31.08 Mbit/s
95th percentile per-packet one-way delay: 29.992 ms
Loss rate: 0.67%
```
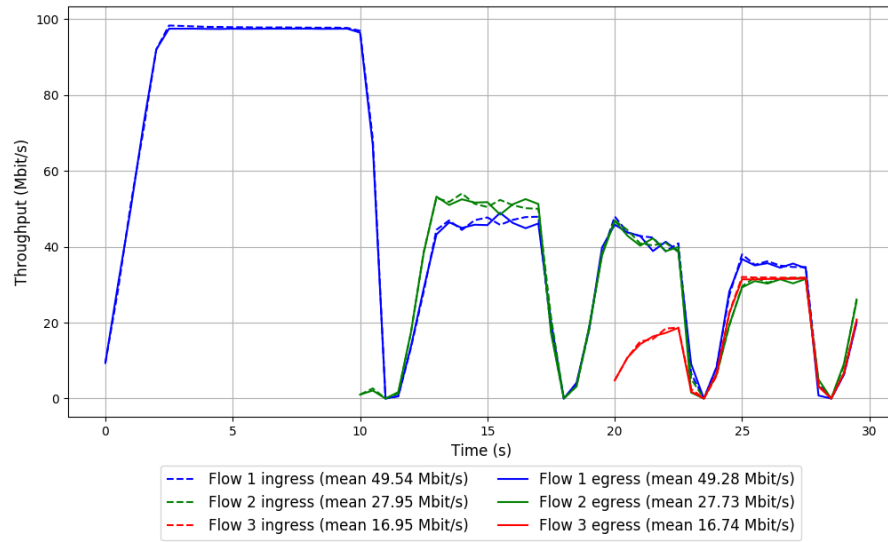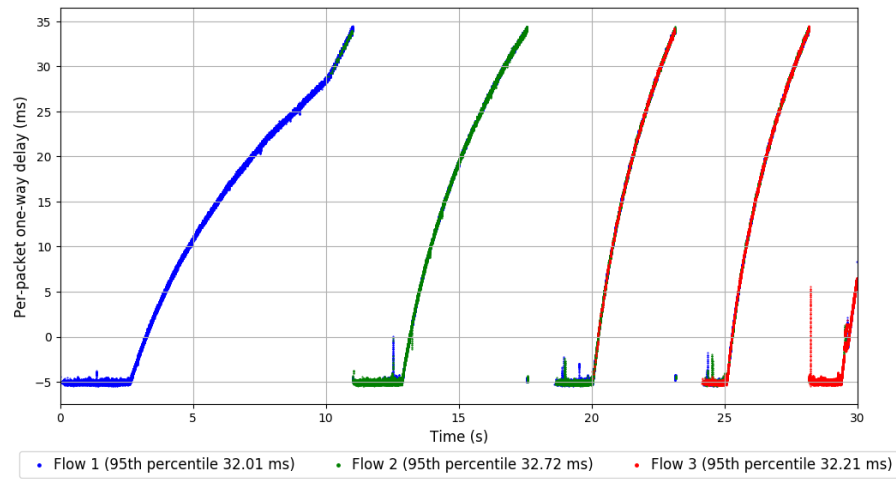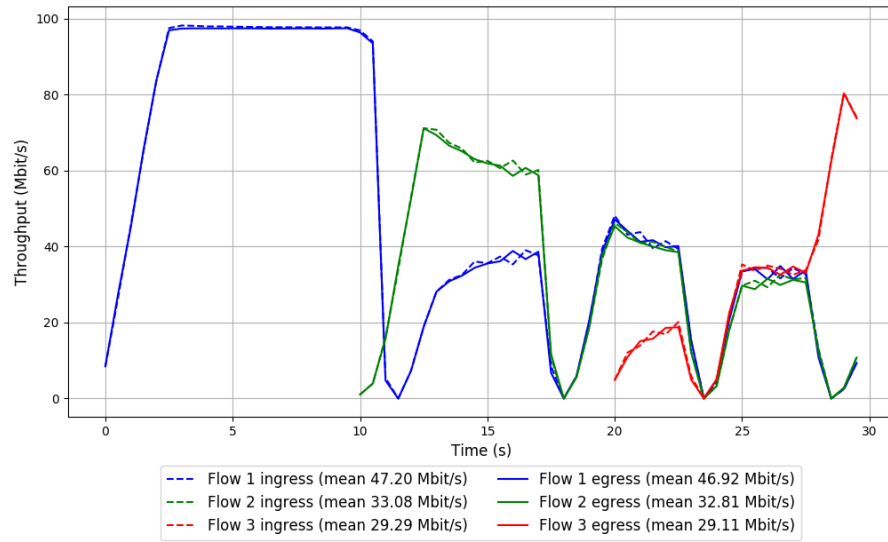
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2017-12-05 22:18:01
End at: 2017-12-05 22:18:31
Local clock offset: 18.726 ms
Remote clock offset: -12.138 ms


# Below is generated by plot.py at 2017-12-06 00:59:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.47 Mbit/s
95th percentile per-packet one-way delay: 16.011 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 46.55 Mbit/s
95th percentile per-packet one-way delay: 15.778 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 34.25 Mbit/s
95th percentile per-packet one-way delay: 16.512 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 18.56 Mbit/s
95th percentile per-packet one-way delay: 15.292 ms
Loss rate: 1.03%
```
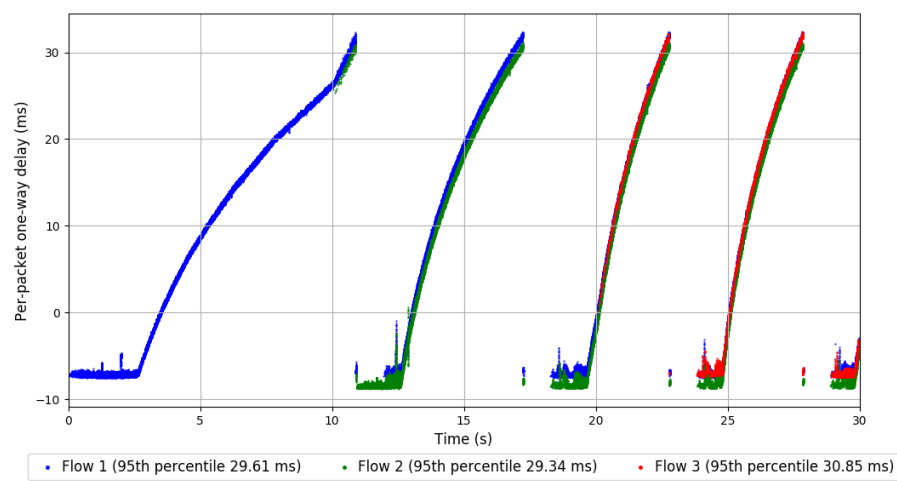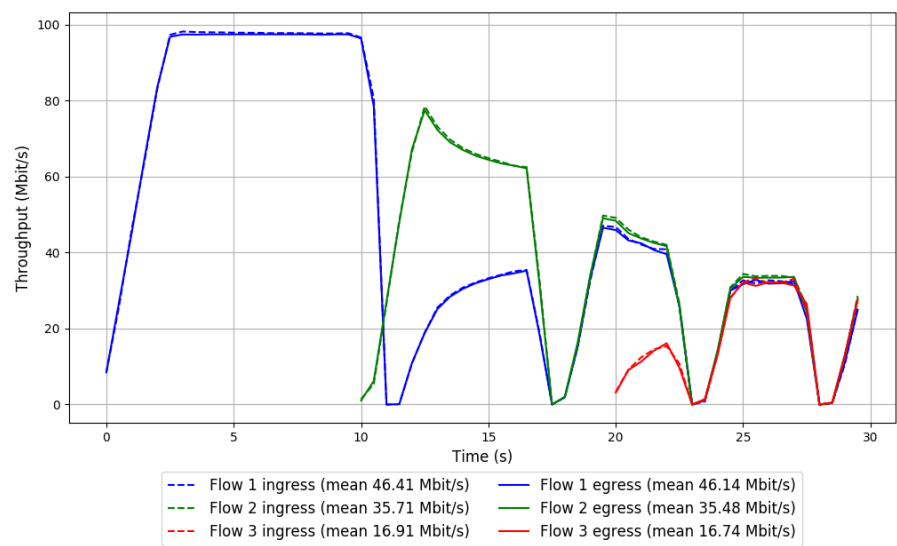
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2017-12-05 22:34:36
End at: 2017-12-05 22:35:06
Local clock offset: 6.058 ms
Remote clock offset: -11.969 ms

# Below is generated by plot.py at 2017-12-06 00:59:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.25 Mbit/s
95th percentile per-packet one-way delay: 27.717 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 49.28 Mbit/s
95th percentile per-packet one-way delay: 27.233 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 27.73 Mbit/s
95th percentile per-packet one-way delay: 27.951 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 16.74 Mbit/s
95th percentile per-packet one-way delay: 29.314 ms
Loss rate: 1.28%
```
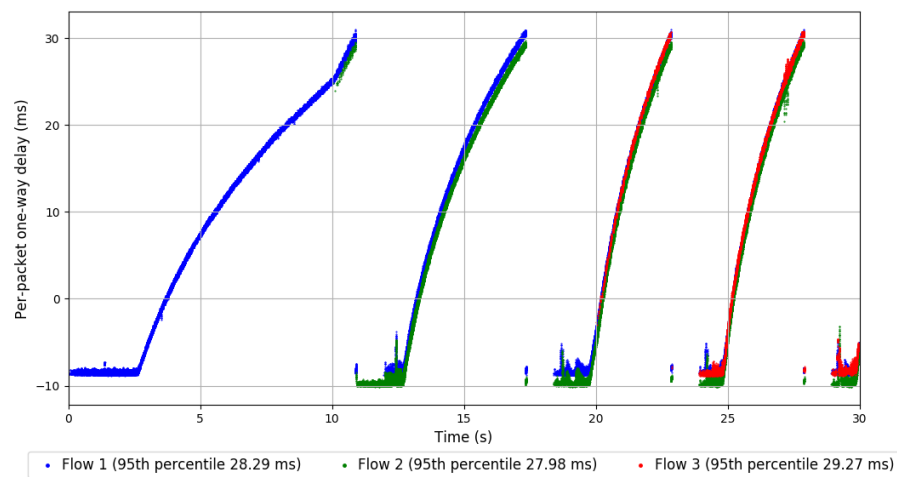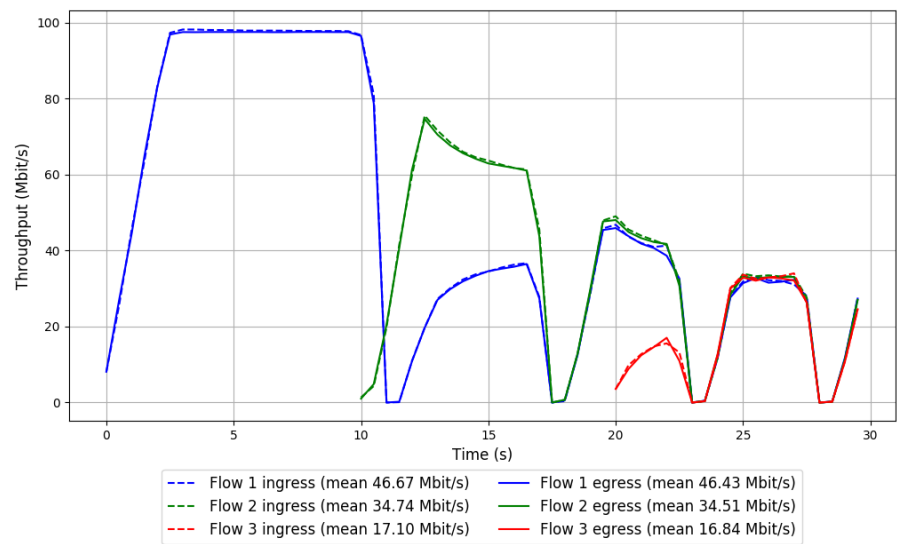
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 49.54 Mbit/s)   Flow 1 egress (mean 49.28 Mbit/s)
Flow 2 ingress (mean 27.95 Mbit/s)   Flow 2 egress (mean 27.73 Mbit/s)
Flow 3 ingress (mean 16.95 Mbit/s)   Flow 3 egress (mean 16.74 Mbit/s)

Flow 1 (95th percentile 27.23 ms)   Flow 2 (95th percentile 27.95 ms)   Flow 3 (95th percentile 29.31 ms)

49

```
Run 4: Statistics of LEDBAT

Start at: 2017-12-05 22:51:00
End at: 2017-12-05 22:51:30
Local clock offset: 3.897 ms
Remote clock offset: -10.752 ms

# Below is generated by plot.py at 2017-12-06 00:59:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.37 Mbit/s
95th percentile per-packet one-way delay: 32.255 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 46.92 Mbit/s
95th percentile per-packet one-way delay: 32.008 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 32.81 Mbit/s
95th percentile per-packet one-way delay: 32.716 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 29.11 Mbit/s
95th percentile per-packet one-way delay: 32.211 ms
Loss rate: 0.50%
```
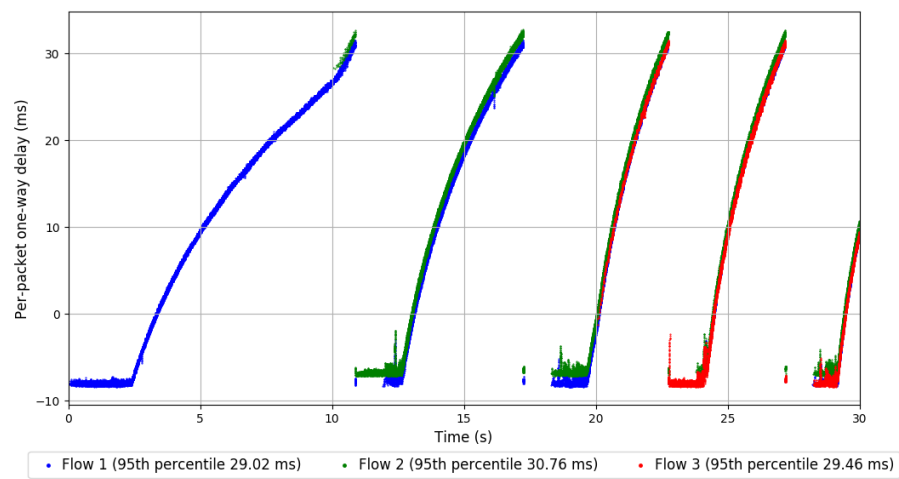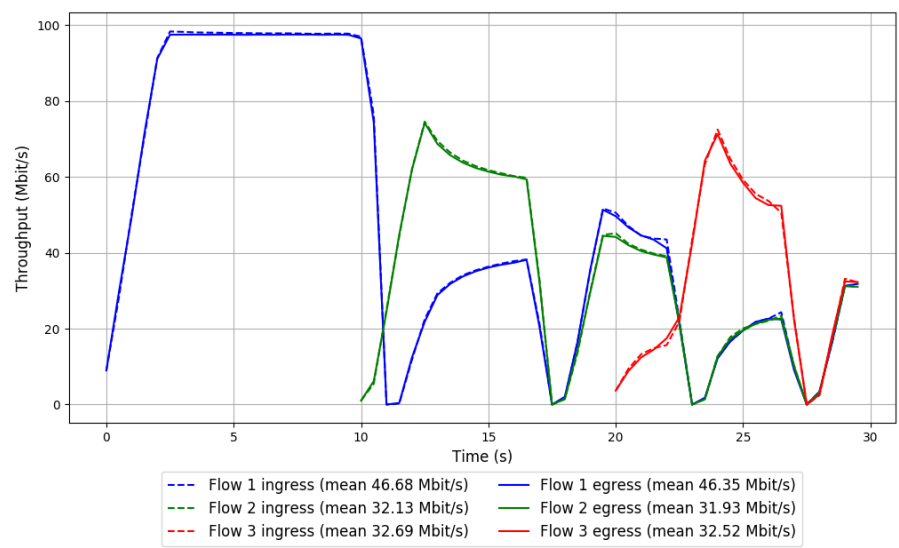
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 47.20 Mbit/s) --- Flow 1 egress (mean 46.92 Mbit/s)
Flow 2 ingress (mean 33.08 Mbit/s) --- Flow 2 egress (mean 32.81 Mbit/s)
Flow 3 ingress (mean 29.29 Mbit/s) --- Flow 3 egress (mean 29.11 Mbit/s)

Flow 1 (95th percentile 32.01 ms)   Flow 2 (95th percentile 32.72 ms)   Flow 3 (95th percentile 32.21 ms)

51

```
Run 5: Statistics of LEDBAT

Start at: 2017-12-05 23:07:32
End at: 2017-12-05 23:08:02
Local clock offset: 4.367 ms
Remote clock offset: -12.498 ms

# Below is generated by plot.py at 2017-12-06 01:00:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.29 Mbit/s
95th percentile per-packet one-way delay: 29.617 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 46.14 Mbit/s
95th percentile per-packet one-way delay: 29.613 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 35.48 Mbit/s
95th percentile per-packet one-way delay: 29.335 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 16.74 Mbit/s
95th percentile per-packet one-way delay: 30.849 ms
Loss rate: 1.08%
```
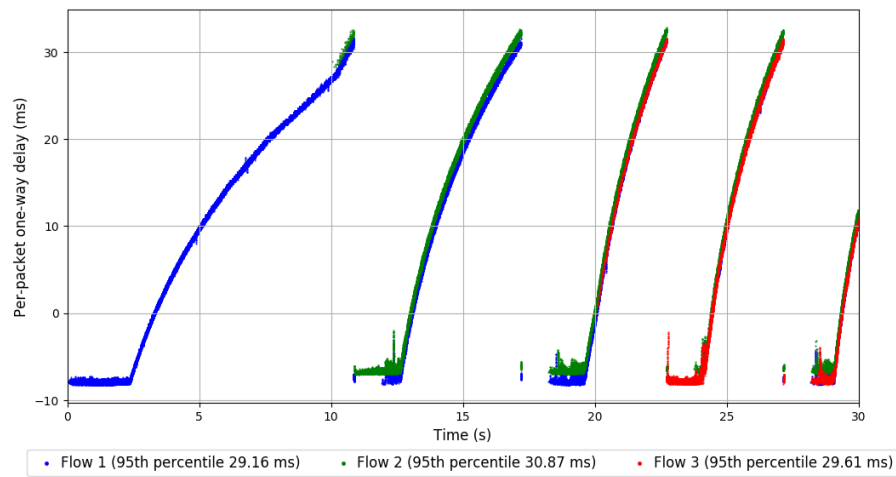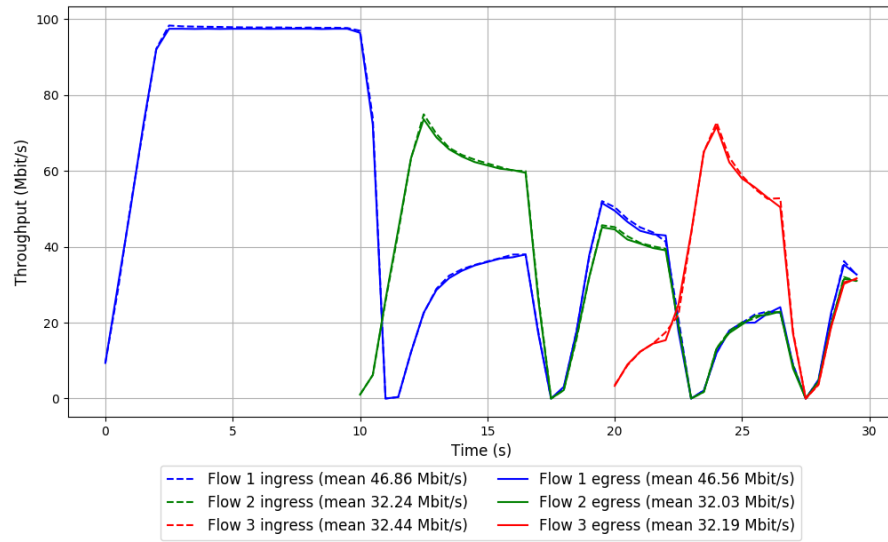
Run 5: Report of LEDBAT — Data Link

- - - Flow 1 ingress (mean 46.41 Mbit/s) —— Flow 1 egress (mean 46.14 Mbit/s)
- - - Flow 2 ingress (mean 35.71 Mbit/s) —— Flow 2 egress (mean 35.48 Mbit/s)
- - - Flow 3 ingress (mean 16.91 Mbit/s) —— Flow 3 egress (mean 16.74 Mbit/s)

- Flow 1 (95th percentile 29.61 ms)   • Flow 2 (95th percentile 29.34 ms)   • Flow 3 (95th percentile 30.85 ms)

53

```
Run 6: Statistics of LEDBAT

Start at: 2017-12-05 23:23:56
End at: 2017-12-05 23:24:26
Local clock offset: 6.03 ms
Remote clock offset: -12.295 ms

# Below is generated by plot.py at 2017-12-06 01:00:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.96 Mbit/s
95th percentile per-packet one-way delay: 28.274 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 46.43 Mbit/s
95th percentile per-packet one-way delay: 28.288 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 34.51 Mbit/s
95th percentile per-packet one-way delay: 27.981 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 16.84 Mbit/s
95th percentile per-packet one-way delay: 29.271 ms
Loss rate: 1.54%
```
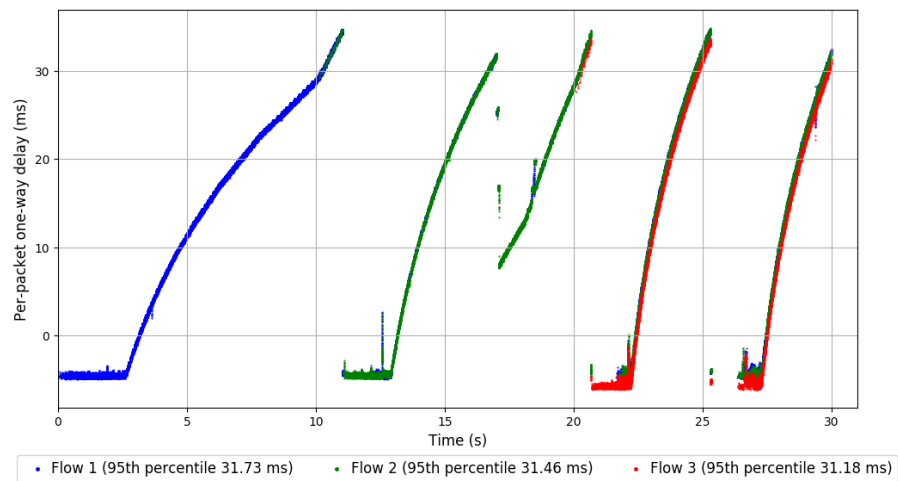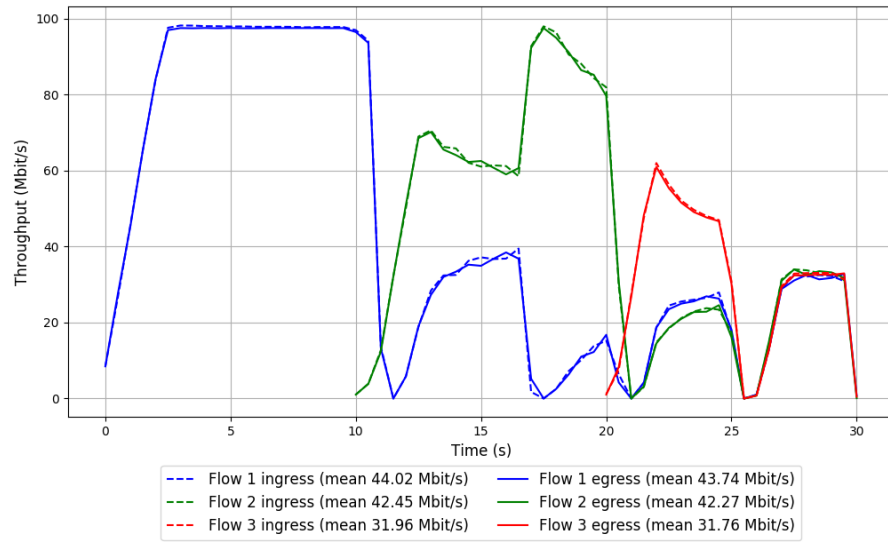
Run 6: Report of LEDBAT — Data Link

Flow 1 ingress (mean 46.67 Mbit/s)   Flow 1 egress (mean 46.43 Mbit/s)
Flow 2 ingress (mean 34.74 Mbit/s)   Flow 2 egress (mean 34.51 Mbit/s)
Flow 3 ingress (mean 17.10 Mbit/s)   Flow 3 egress (mean 16.84 Mbit/s)

Flow 1 (95th percentile 28.29 ms)   Flow 2 (95th percentile 27.98 ms)   Flow 3 (95th percentile 29.27 ms)

```
Run 7: Statistics of LEDBAT

Start at: 2017-12-05 23:40:16
End at: 2017-12-05 23:40:46
Local clock offset: 4.044 ms
Remote clock offset: -11.767 ms

# Below is generated by plot.py at 2017-12-06 01:00:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.34 Mbit/s
95th percentile per-packet one-way delay: 29.715 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 46.35 Mbit/s
95th percentile per-packet one-way delay: 29.017 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 31.93 Mbit/s
95th percentile per-packet one-way delay: 30.758 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 32.52 Mbit/s
95th percentile per-packet one-way delay: 29.464 ms
Loss rate: 0.45%
```
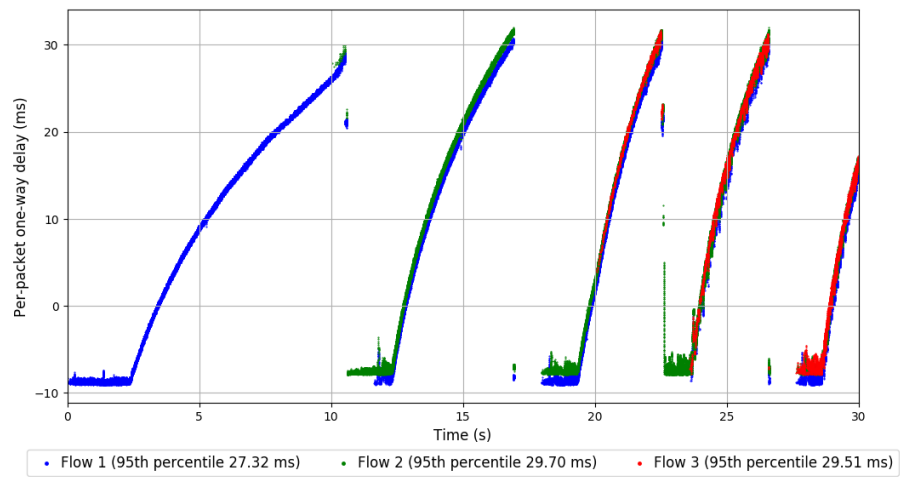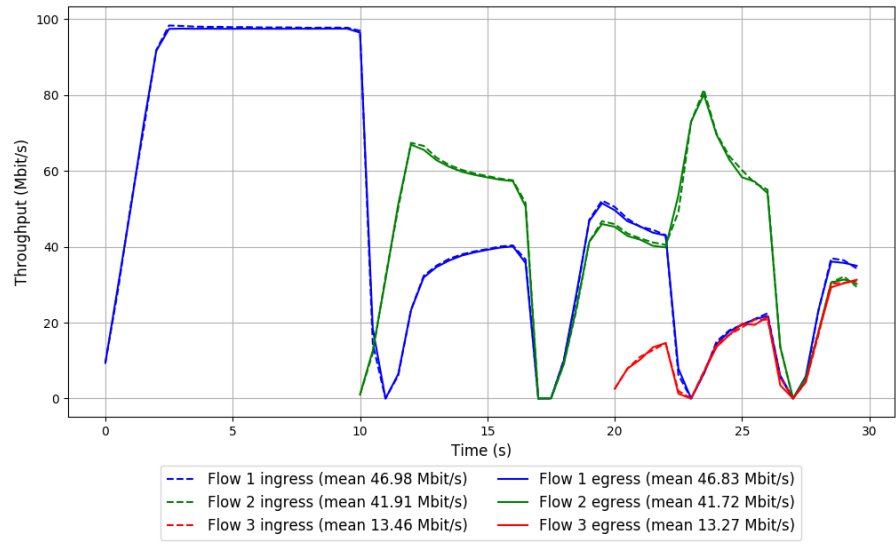
Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2017-12-05 23:56:51
End at: 2017-12-05 23:57:21
Local clock offset: 3.981 ms
Remote clock offset: -11.969 ms

# Below is generated by plot.py at 2017-12-06 01:00:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.54 Mbit/s
95th percentile per-packet one-way delay: 29.853 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 46.56 Mbit/s
95th percentile per-packet one-way delay: 29.165 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 32.03 Mbit/s
95th percentile per-packet one-way delay: 30.870 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 29.610 ms
Loss rate: 0.67%
```
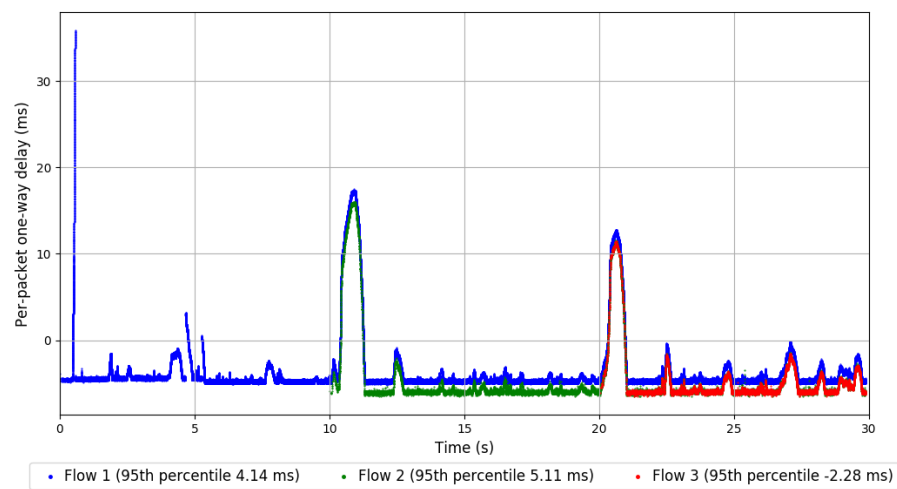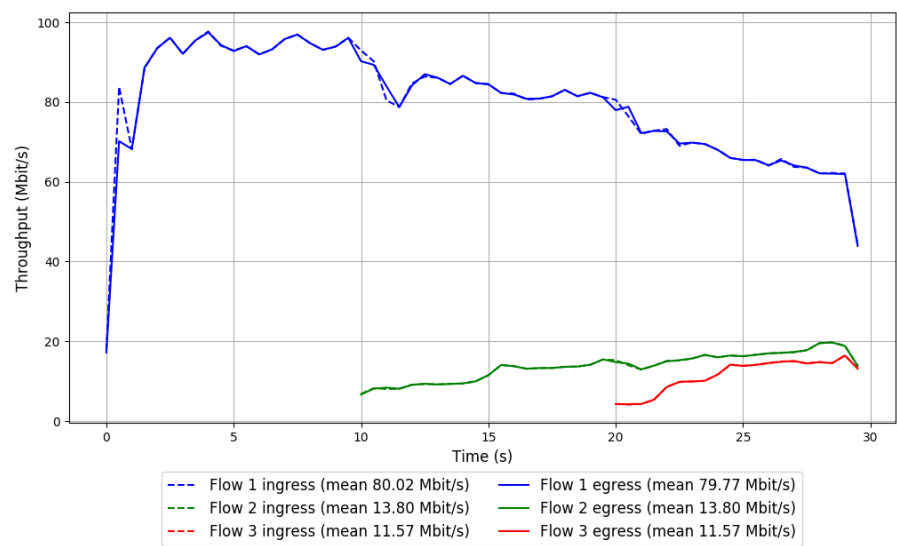
Run 8: Report of LEDBAT — Data Link

Flow 1 ingress (mean 46.86 Mbit/s) ---- Flow 1 egress (mean 46.56 Mbit/s)
Flow 2 ingress (mean 32.24 Mbit/s) ---- Flow 2 egress (mean 32.03 Mbit/s)
Flow 3 ingress (mean 32.44 Mbit/s) ---- Flow 3 egress (mean 32.19 Mbit/s)

Flow 1 (95th percentile 29.16 ms)   Flow 2 (95th percentile 30.87 ms)   Flow 3 (95th percentile 29.61 ms)

59

```
Run 9: Statistics of LEDBAT

Start at: 2017-12-06 00:13:12
End at: 2017-12-06 00:13:42
Local clock offset: 1.402 ms
Remote clock offset: -13.772 ms


# Below is generated by plot.py at 2017-12-06 01:00:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.39 Mbit/s
95th percentile per-packet one-way delay: 31.500 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 43.74 Mbit/s
95th percentile per-packet one-way delay: 31.726 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 42.27 Mbit/s
95th percentile per-packet one-way delay: 31.463 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 31.76 Mbit/s
95th percentile per-packet one-way delay: 31.183 ms
Loss rate: 0.59%
```
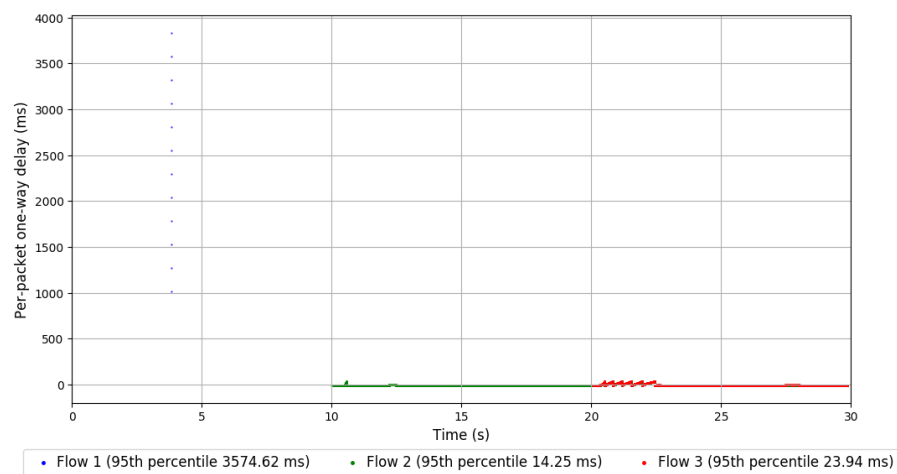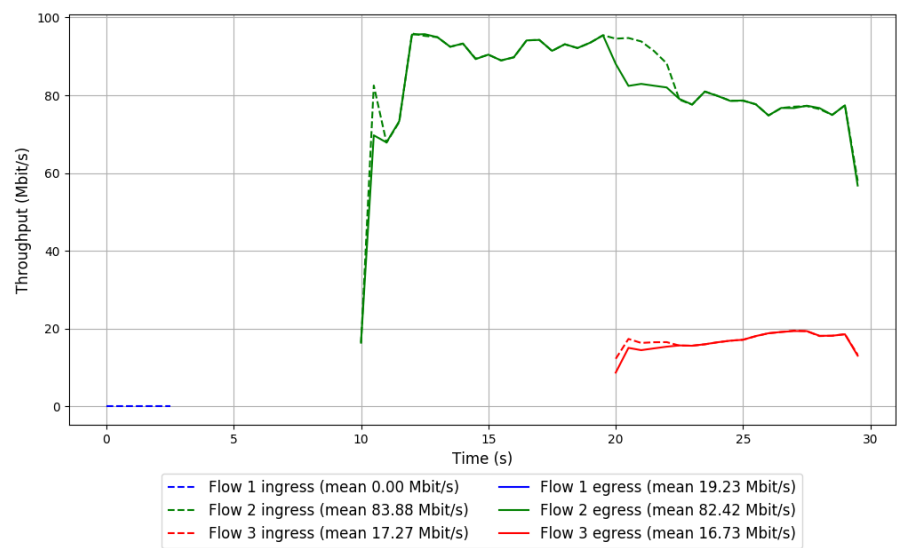
Run 9: Report of LEDBAT — Data Link

Flow 1 ingress (mean 44.02 Mbit/s) Flow 1 egress (mean 43.74 Mbit/s)
Flow 2 ingress (mean 42.45 Mbit/s) Flow 2 egress (mean 42.27 Mbit/s)
Flow 3 ingress (mean 31.96 Mbit/s) Flow 3 egress (mean 31.76 Mbit/s)

Flow 1 (95th percentile 31.73 ms)   Flow 2 (95th percentile 31.46 ms)   Flow 3 (95th percentile 31.18 ms)

```
Run 10: Statistics of LEDBAT

Start at: 2017-12-06 00:29:44
End at: 2017-12-06 00:30:14
Local clock offset: 6.05 ms
Remote clock offset: -11.975 ms


# Below is generated by plot.py at 2017-12-06 01:00:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.96 Mbit/s
95th percentile per-packet one-way delay: 28.474 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 46.83 Mbit/s
95th percentile per-packet one-way delay: 27.322 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 41.72 Mbit/s
95th percentile per-packet one-way delay: 29.698 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 13.27 Mbit/s
95th percentile per-packet one-way delay: 29.507 ms
Loss rate: 1.29%
```

Run 10: Report of LEDBAT — Data Link

Flow 1 ingress (mean 46.98 Mbit/s)   Flow 1 egress (mean 46.83 Mbit/s)
Flow 2 ingress (mean 41.91 Mbit/s)   Flow 2 egress (mean 41.72 Mbit/s)
Flow 3 ingress (mean 13.46 Mbit/s)   Flow 3 egress (mean 13.27 Mbit/s)

Flow 1 (95th percentile 27.32 ms)   Flow 2 (95th percentile 29.70 ms)   Flow 3 (95th percentile 29.51 ms)

```
Run 1: Statistics of PCC

Start at: 2017-12-05 21:48:29
End at: 2017-12-05 21:48:59
Local clock offset: 3.696 ms
Remote clock offset: -11.124 ms

# Below is generated by plot.py at 2017-12-06 01:01:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.76 Mbit/s
95th percentile per-packet one-way delay: 3.524 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 79.77 Mbit/s
95th percentile per-packet one-way delay: 4.142 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 13.80 Mbit/s
95th percentile per-packet one-way delay: 5.113 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.57 Mbit/s
95th percentile per-packet one-way delay: -2.279 ms
Loss rate: 0.00%
```
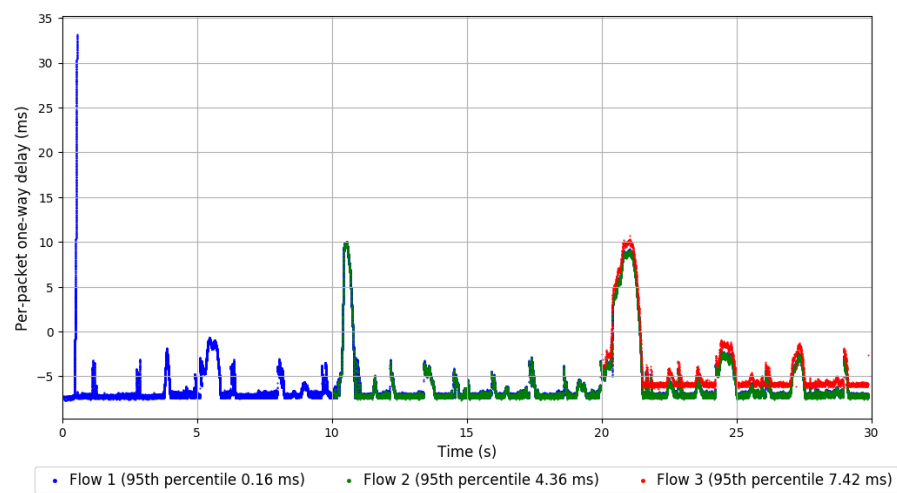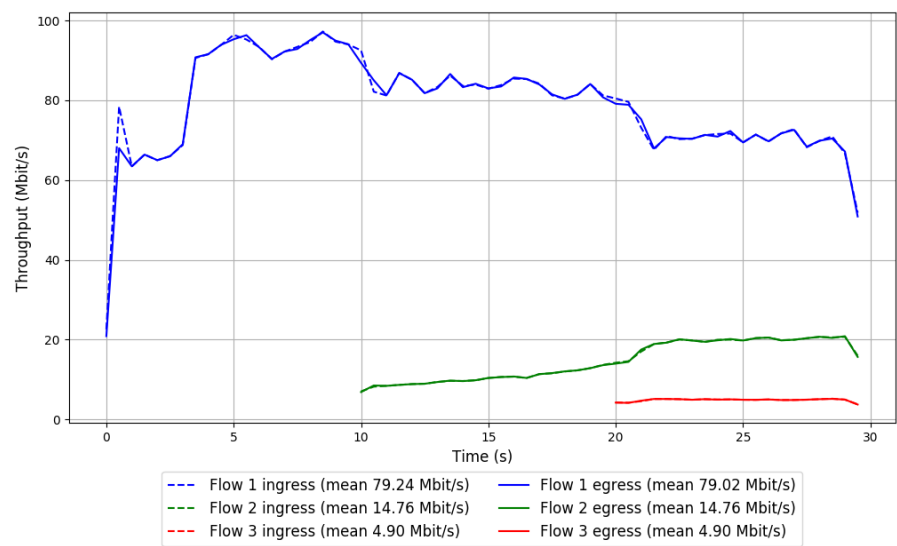
Run 1: Report of PCC — Data Link

- - - - Flow 1 ingress (mean 80.02 Mbit/s) ——— Flow 1 egress (mean 79.77 Mbit/s)
- - - - Flow 2 ingress (mean 13.80 Mbit/s) ——— Flow 2 egress (mean 13.80 Mbit/s)
- - - - Flow 3 ingress (mean 11.57 Mbit/s) ——— Flow 3 egress (mean 11.57 Mbit/s)

- Flow 1 (95th percentile 4.14 ms)   - Flow 2 (95th percentile 5.11 ms)   - Flow 3 (95th percentile -2.28 ms)
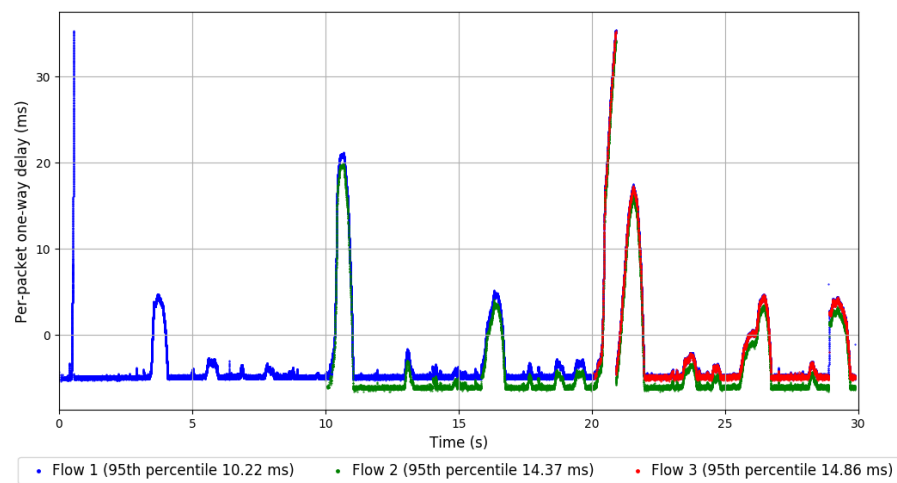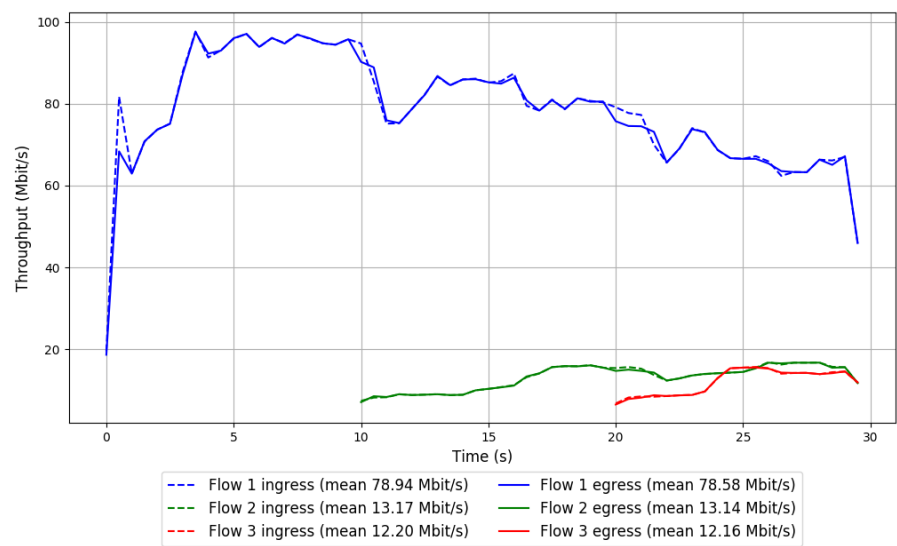
```
Run 2: Statistics of PCC

Start at: 2017-12-05 22:05:07
End at: 2017-12-05 22:05:37
Local clock offset: 4.688 ms
Remote clock offset: -11.688 ms

# Below is generated by plot.py at 2017-12-06 01:01:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.21 Mbit/s
95th percentile per-packet one-way delay: 15.868 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 19.23 Mbit/s
95th percentile per-packet one-way delay: 3574.625 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 82.42 Mbit/s
95th percentile per-packet one-way delay: 14.246 ms
Loss rate: 1.73%
-- Flow 3:
Average throughput: 16.73 Mbit/s
95th percentile per-packet one-way delay: 23.944 ms
Loss rate: 3.13%
```

Run 2: Report of PCC — Data Link

- Flow 1 ingress (mean 0.00 Mbit/s)
- Flow 1 egress (mean 19.23 Mbit/s)
- Flow 2 ingress (mean 83.88 Mbit/s)
- Flow 2 egress (mean 82.42 Mbit/s)
- Flow 3 ingress (mean 17.27 Mbit/s)
- Flow 3 egress (mean 16.73 Mbit/s)

- Flow 1 (95th percentile 3574.62 ms)
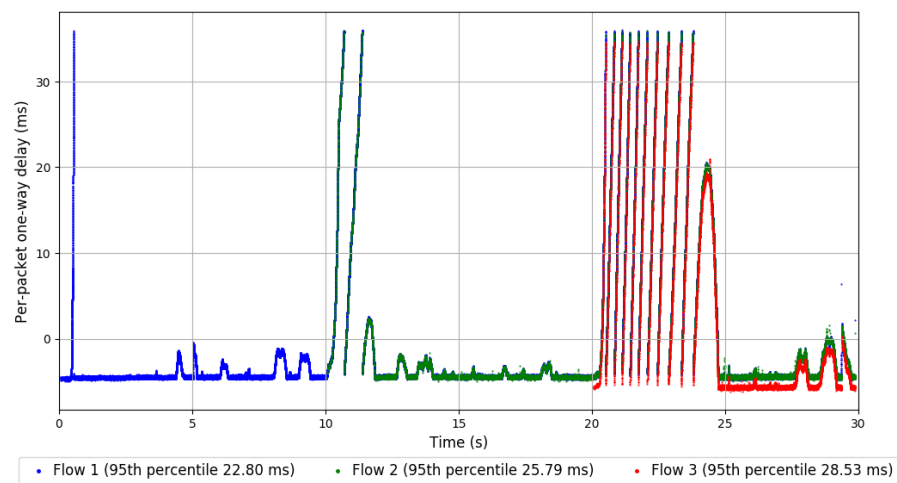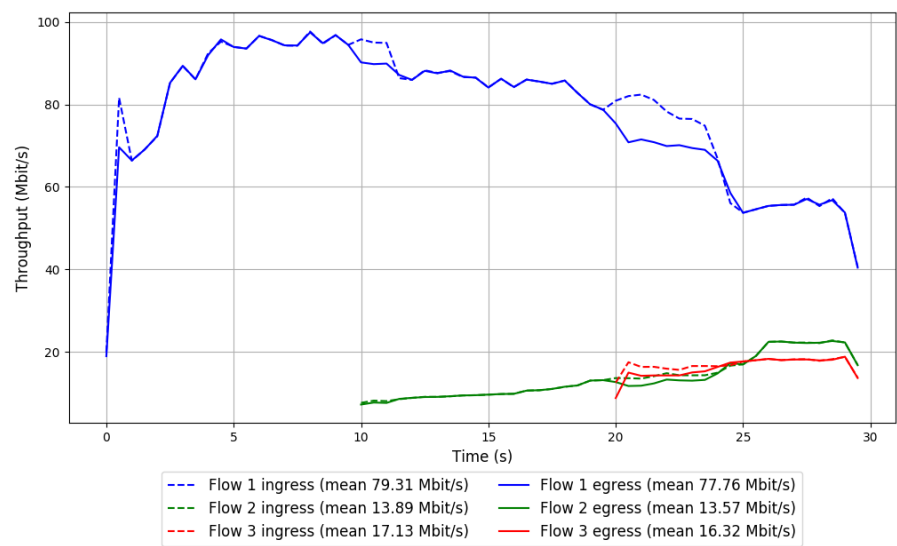- Flow 2 (95th percentile 14.25 ms)
- Flow 3 (95th percentile 23.94 ms)

```
Run 3: Statistics of PCC

Start at: 2017-12-05 22:21:41
End at: 2017-12-05 22:22:11
Local clock offset: 20.408 ms
Remote clock offset: -10.245 ms
```

Run 3: Report of PCC — Data Link

Flow 1 ingress (mean 0.00 Mbit/s) --- Flow 1 egress (mean 76.80 Mbit/s)
Flow 2 ingress (mean 84.37 Mbit/s) --- Flow 2 egress (mean 83.99 Mbit/s)
Flow 3 ingress (mean 11.56 Mbit/s) --- Flow 3 egress (mean 11.56 Mbit/s)

Flow 1 (95th percentile 8861.16 ms)   Flow 2 (95th percentile -17.92 ms)   Flow 3 (95th percentile -16.77 ms)

```
Run 4: Statistics of PCC

Start at: 2017-12-05 22:38:12
End at: 2017-12-05 22:38:42
Local clock offset: 5.376 ms
Remote clock offset: -11.232 ms


# Below is generated by plot.py at 2017-12-06 01:01:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.49 Mbit/s
95th percentile per-packet one-way delay: 6.898 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 81.93 Mbit/s
95th percentile per-packet one-way delay: 7.100 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 13.00 Mbit/s
95th percentile per-packet one-way delay: 6.871 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 5.83 Mbit/s
95th percentile per-packet one-way delay: -2.542 ms
Loss rate: 0.00%
```
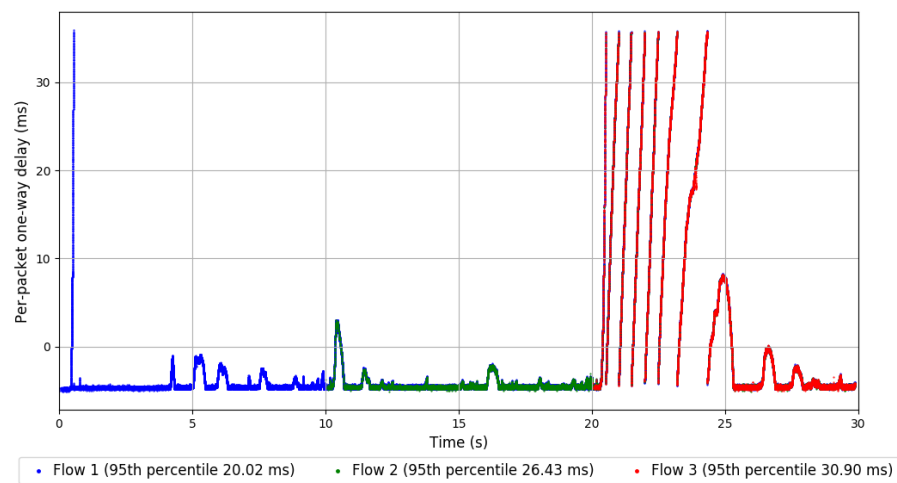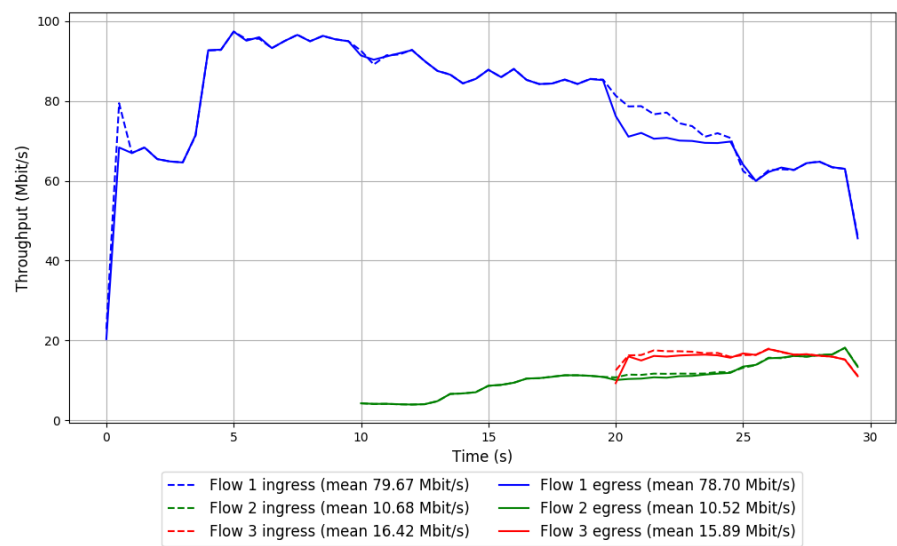
Run 4: Report of PCC — Data Link

Flow 1 ingress (mean 82.32 Mbit/s) — Flow 1 egress (mean 81.93 Mbit/s)
Flow 2 ingress (mean 13.02 Mbit/s) — Flow 2 egress (mean 13.00 Mbit/s)
Flow 3 ingress (mean 5.83 Mbit/s) — Flow 3 egress (mean 5.83 Mbit/s)

Flow 1 (95th percentile 7.10 ms)   Flow 2 (95th percentile 6.87 ms)   Flow 3 (95th percentile -2.54 ms)

71

```
Run 5: Statistics of PCC

Start at: 2017-12-05 22:54:42
End at: 2017-12-05 22:55:12
Local clock offset: 4.675 ms
Remote clock offset: -10.863 ms


# Below is generated by plot.py at 2017-12-06 01:01:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.43 Mbit/s
95th percentile per-packet one-way delay: 1.710 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 79.02 Mbit/s
95th percentile per-packet one-way delay: 0.158 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 14.76 Mbit/s
95th percentile per-packet one-way delay: 4.361 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.90 Mbit/s
95th percentile per-packet one-way delay: 7.416 ms
Loss rate: 0.00%
```
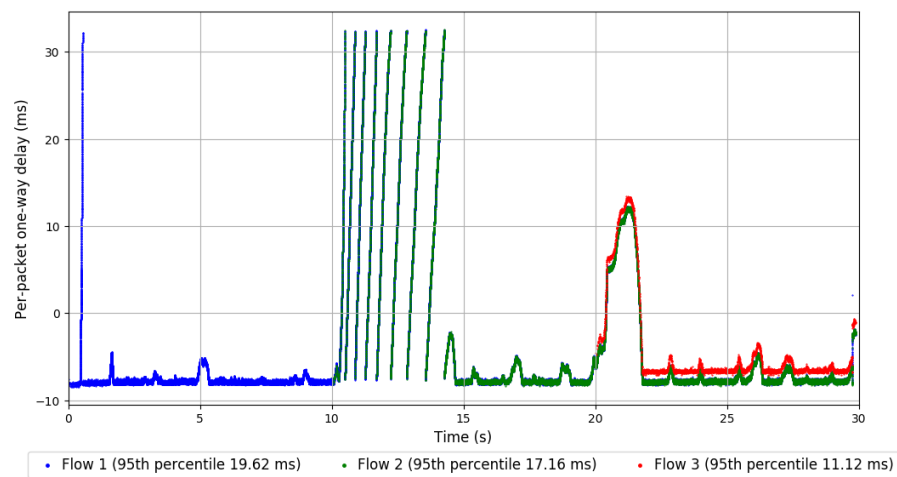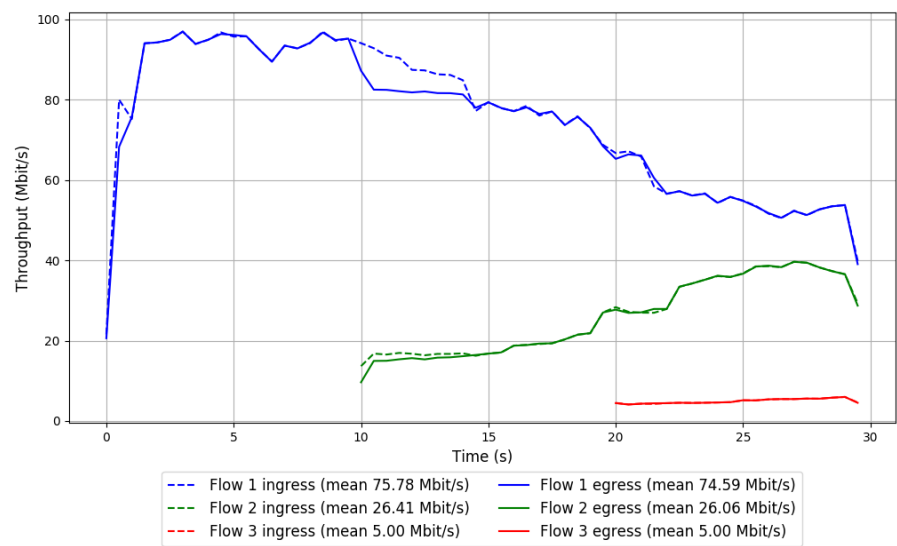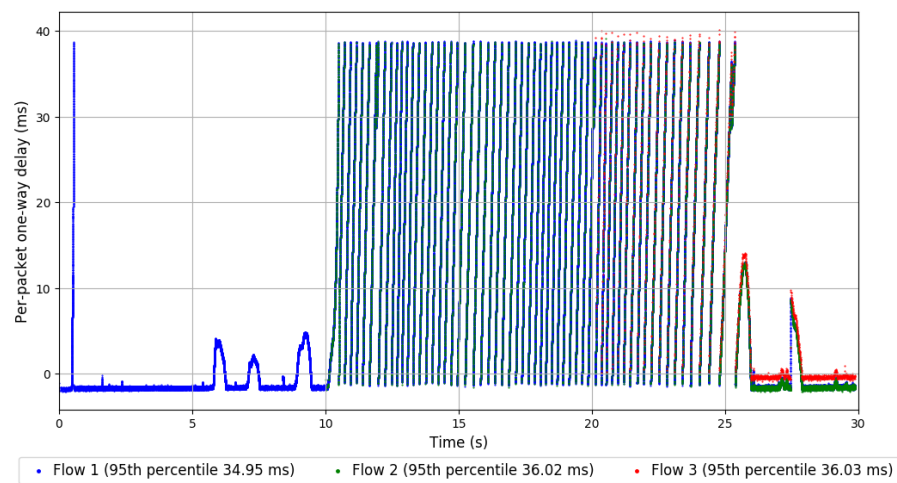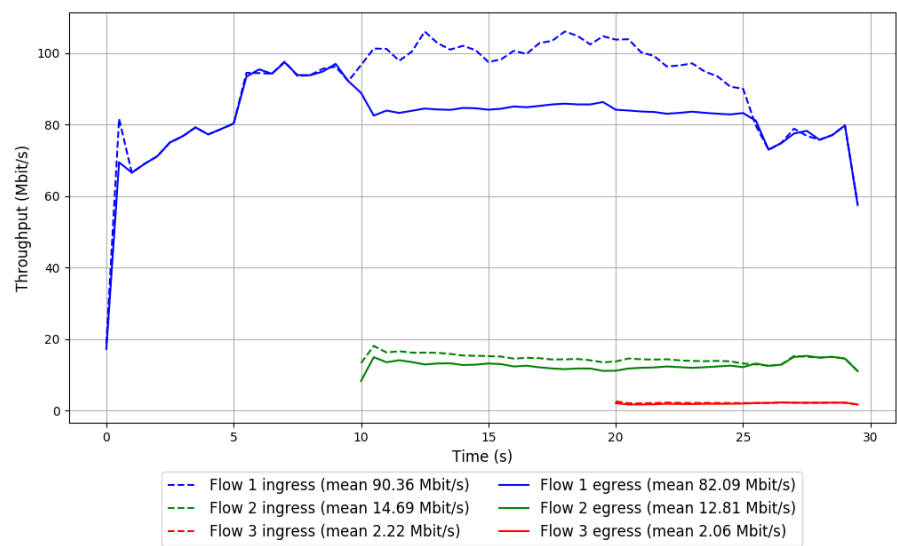
Run 5: Report of PCC — Data Link

```
Run 6: Statistics of PCC

Start at: 2017-12-05 23:11:07
End at: 2017-12-05 23:11:37
Local clock offset: 3.057 ms
Remote clock offset: -11.573 ms


# Below is generated by plot.py at 2017-12-06 01:01:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.32 Mbit/s
95th percentile per-packet one-way delay: 11.457 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 78.58 Mbit/s
95th percentile per-packet one-way delay: 10.216 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 13.14 Mbit/s
95th percentile per-packet one-way delay: 14.366 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 12.16 Mbit/s
95th percentile per-packet one-way delay: 14.855 ms
Loss rate: 0.27%
```

Run 6: Report of PCC — Data Link

- - - - Flow 1 ingress (mean 78.94 Mbit/s) ——— Flow 1 egress (mean 78.58 Mbit/s)
- - - - Flow 2 ingress (mean 13.17 Mbit/s) ——— Flow 2 egress (mean 13.14 Mbit/s)
- - - - Flow 3 ingress (mean 12.20 Mbit/s) ——— Flow 3 egress (mean 12.16 Mbit/s)

- Flow 1 (95th percentile 10.22 ms)   • Flow 2 (95th percentile 14.37 ms)   • Flow 3 (95th percentile 14.86 ms)

```
Run 7: Statistics of PCC

Start at: 2017-12-05 23:27:31
End at: 2017-12-05 23:28:01
Local clock offset: 2.997 ms
Remote clock offset: -11.079 ms


# Below is generated by plot.py at 2017-12-06 01:02:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.15 Mbit/s
95th percentile per-packet one-way delay: 23.885 ms
Loss rate: 2.14%
-- Flow 1:
Average throughput: 77.76 Mbit/s
95th percentile per-packet one-way delay: 22.800 ms
Loss rate: 1.94%
-- Flow 2:
Average throughput: 13.57 Mbit/s
95th percentile per-packet one-way delay: 25.786 ms
Loss rate: 2.26%
-- Flow 3:
Average throughput: 16.32 Mbit/s
95th percentile per-packet one-way delay: 28.529 ms
Loss rate: 4.76%
```
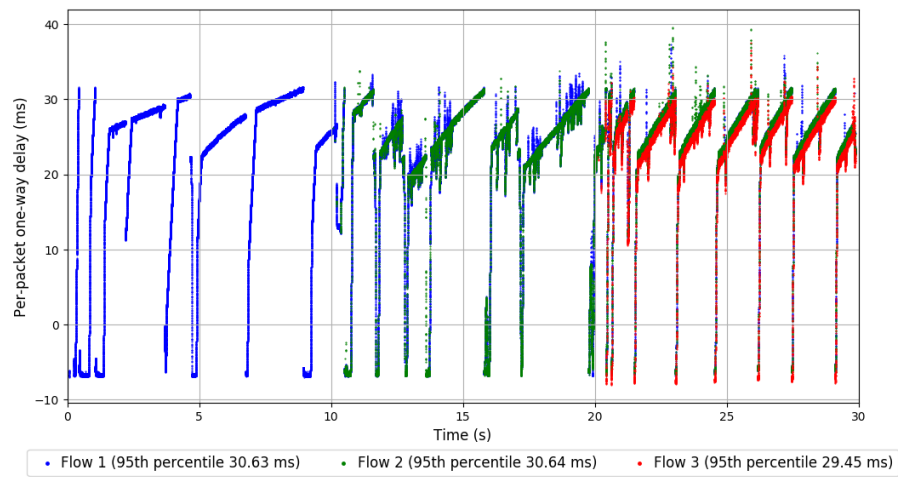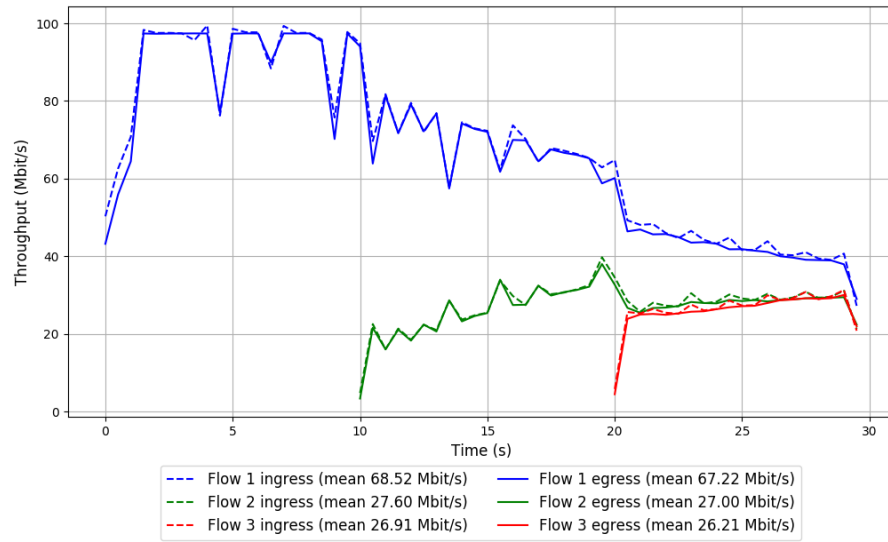
Run 7: Report of PCC — Data Link

Flow 1 ingress (mean 79.31 Mbit/s) --- Flow 1 egress (mean 77.76 Mbit/s)
Flow 2 ingress (mean 13.89 Mbit/s) --- Flow 2 egress (mean 13.57 Mbit/s)
Flow 3 ingress (mean 17.13 Mbit/s) --- Flow 3 egress (mean 16.32 Mbit/s)

Flow 1 (95th percentile 22.80 ms) Flow 2 (95th percentile 25.79 ms) Flow 3 (95th percentile 28.53 ms)

77

```
Run 8: Statistics of PCC

Start at: 2017-12-05 23:44:03
End at: 2017-12-05 23:44:33
Local clock offset: 1.624 ms
Remote clock offset: -10.625 ms

# Below is generated by plot.py at 2017-12-06 01:02:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.93 Mbit/s
95th percentile per-packet one-way delay: 22.458 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 78.70 Mbit/s
95th percentile per-packet one-way delay: 20.021 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 10.52 Mbit/s
95th percentile per-packet one-way delay: 26.429 ms
Loss rate: 1.50%
-- Flow 3:
Average throughput: 15.89 Mbit/s
95th percentile per-packet one-way delay: 30.900 ms
Loss rate: 3.22%
```
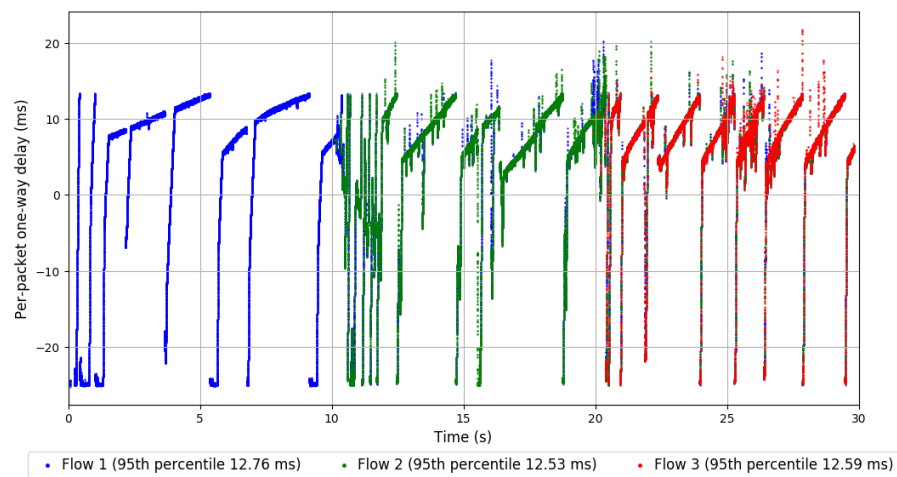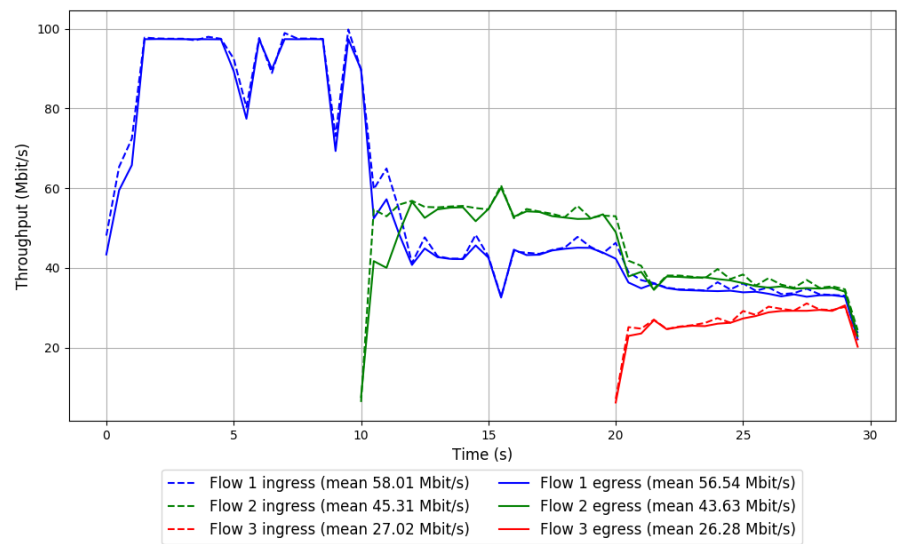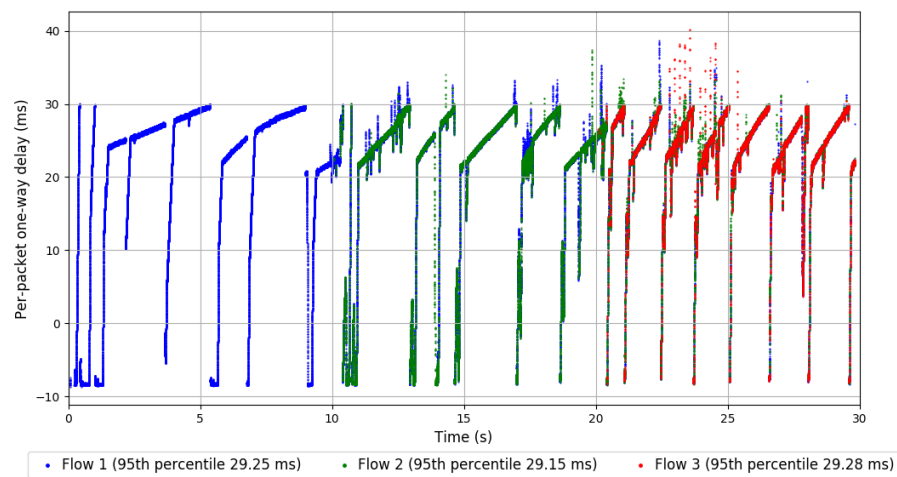
Run 8: Report of PCC — Data Link

Flow 1 ingress (mean 79.67 Mbit/s)   Flow 1 egress (mean 78.70 Mbit/s)
Flow 2 ingress (mean 10.68 Mbit/s)   Flow 2 egress (mean 10.52 Mbit/s)
Flow 3 ingress (mean 16.42 Mbit/s)   Flow 3 egress (mean 15.89 Mbit/s)

Flow 1 (95th percentile 20.02 ms)   Flow 2 (95th percentile 26.43 ms)   Flow 3 (95th percentile 30.90 ms)

79

```
Run 9: Statistics of PCC

Start at: 2017-12-06 00:00:27
End at: 2017-12-06 00:00:57
Local clock offset: 4.314 ms
Remote clock offset: -11.985 ms


# Below is generated by plot.py at 2017-12-06 01:02:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.56 Mbit/s
95th percentile per-packet one-way delay: 18.860 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 74.59 Mbit/s
95th percentile per-packet one-way delay: 19.619 ms
Loss rate: 1.55%
-- Flow 2:
Average throughput: 26.06 Mbit/s
95th percentile per-packet one-way delay: 17.161 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 5.00 Mbit/s
95th percentile per-packet one-way delay: 11.124 ms
Loss rate: 0.00%
```
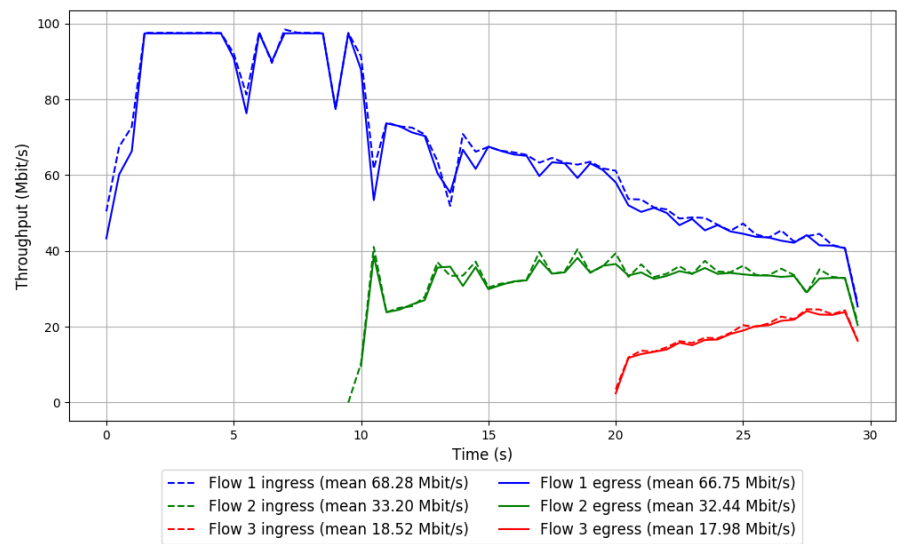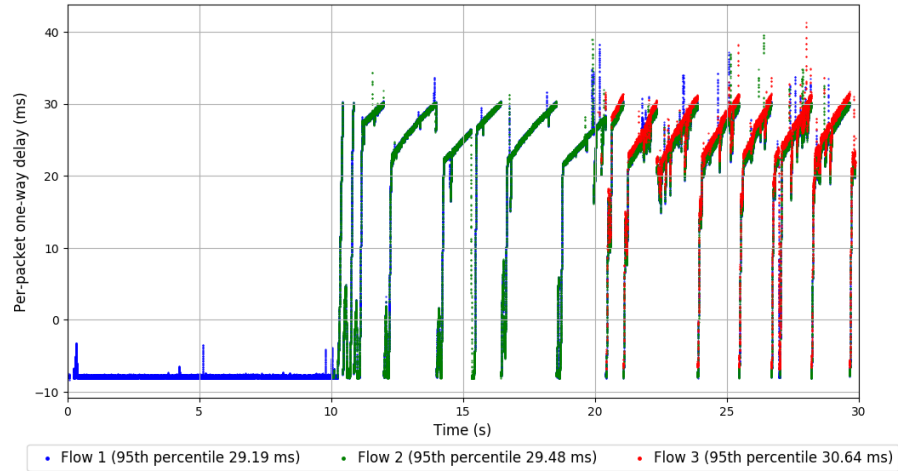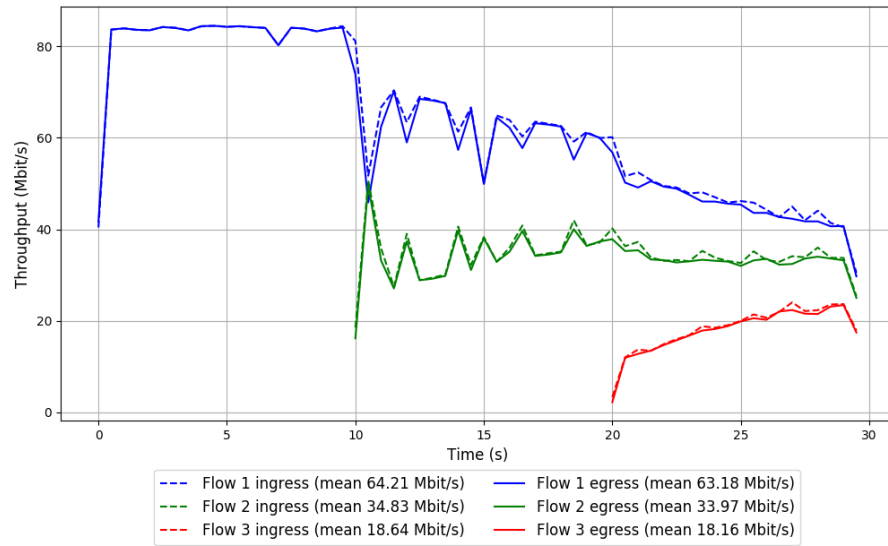
Run 9: Report of PCC — Data Link

- - - Flow 1 ingress (mean 75.78 Mbit/s) —— Flow 1 egress (mean 74.59 Mbit/s)
- - - Flow 2 ingress (mean 26.41 Mbit/s) —— Flow 2 egress (mean 26.06 Mbit/s)
- - - Flow 3 ingress (mean 5.00 Mbit/s) —— Flow 3 egress (mean 5.00 Mbit/s)

• Flow 1 (95th percentile 19.62 ms) • Flow 2 (95th percentile 17.16 ms) • Flow 3 (95th percentile 11.12 ms)

81

```
Run 10: Statistics of PCC

Start at: 2017-12-06 00:16:49
End at: 2017-12-06 00:17:19
Local clock offset: -1.776 ms
Remote clock offset: -12.607 ms

# Below is generated by plot.py at 2017-12-06 01:02:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.28 Mbit/s
95th percentile per-packet one-way delay: 35.095 ms
Loss rate: 9.49%
-- Flow 1:
Average throughput: 82.09 Mbit/s
95th percentile per-packet one-way delay: 34.946 ms
Loss rate: 9.15%
-- Flow 2:
Average throughput: 12.81 Mbit/s
95th percentile per-packet one-way delay: 36.015 ms
Loss rate: 12.84%
-- Flow 3:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 36.034 ms
Loss rate: 7.45%
```
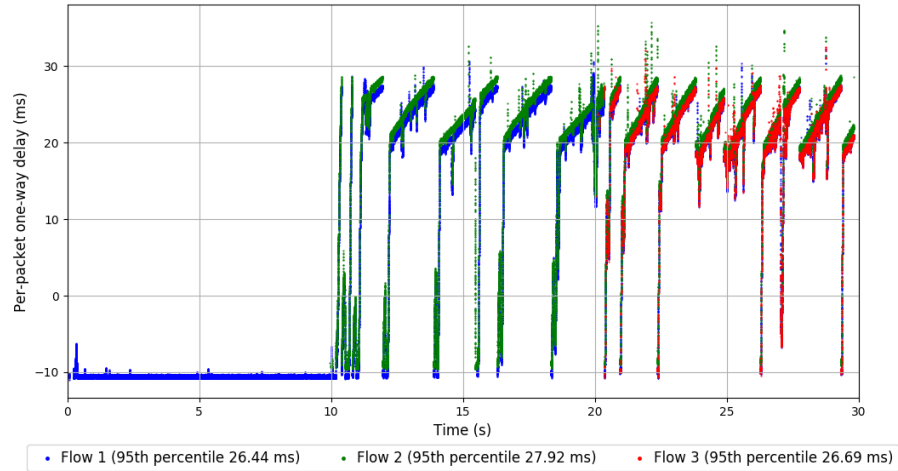
Run 10: Report of PCC — Data Link

- - - - Flow 1 ingress (mean 90.36 Mbit/s) ——— Flow 1 egress (mean 82.09 Mbit/s)
- - - - Flow 2 ingress (mean 14.69 Mbit/s) ——— Flow 2 egress (mean 12.81 Mbit/s)
- - - - Flow 3 ingress (mean 2.22 Mbit/s)   ——— Flow 3 egress (mean 2.06 Mbit/s)

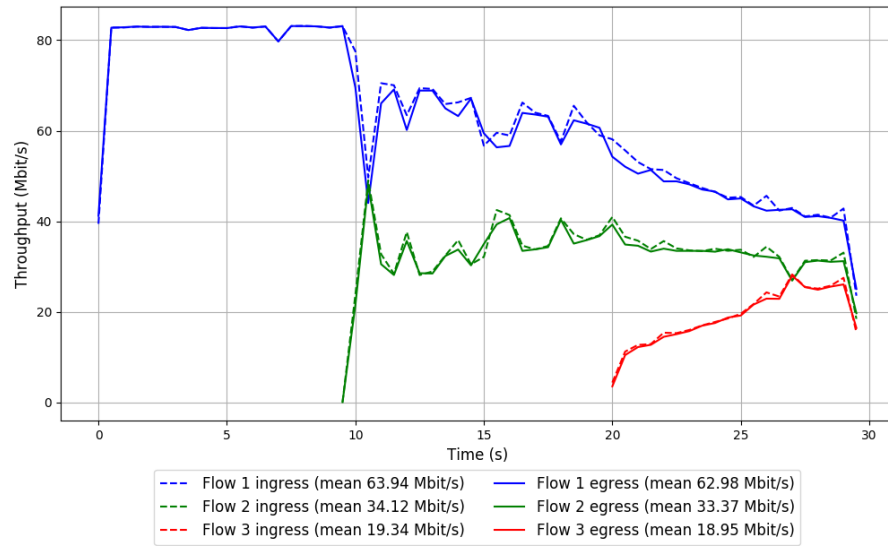• Flow 1 (95th percentile 34.95 ms) • Flow 2 (95th percentile 36.02 ms) • Flow 3 (95th percentile 36.03 ms)

83

```
Run 1: Statistics of QUIC Cubic

Start at: 2017-12-05 21:59:01
End at: 2017-12-05 21:59:31
Local clock offset: 3.739 ms
Remote clock offset: -12.689 ms

# Below is generated by plot.py at 2017-12-06 01:02:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.69 Mbit/s
95th percentile per-packet one-way delay: 30.567 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 67.22 Mbit/s
95th percentile per-packet one-way delay: 30.631 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 27.00 Mbit/s
95th percentile per-packet one-way delay: 30.645 ms
Loss rate: 2.17%
-- Flow 3:
Average throughput: 26.21 Mbit/s
95th percentile per-packet one-way delay: 29.447 ms
Loss rate: 2.61%
```

Run 1: Report of QUIC Cubic — Data Link
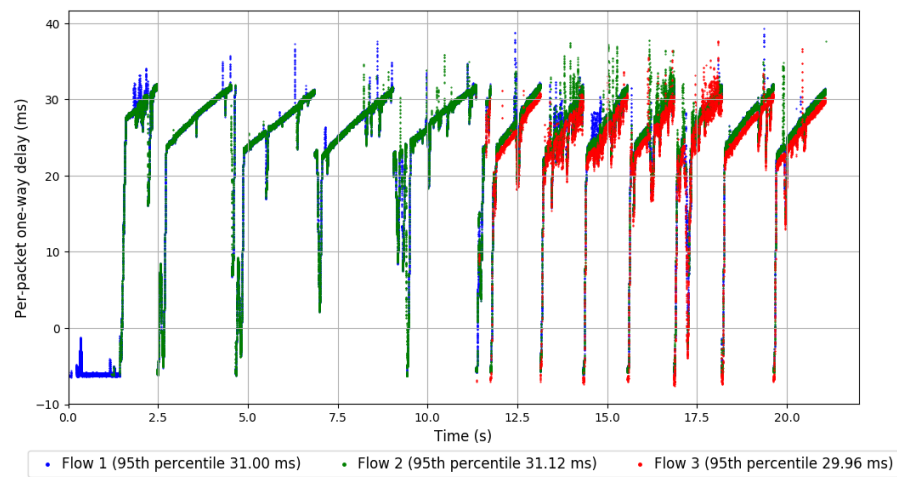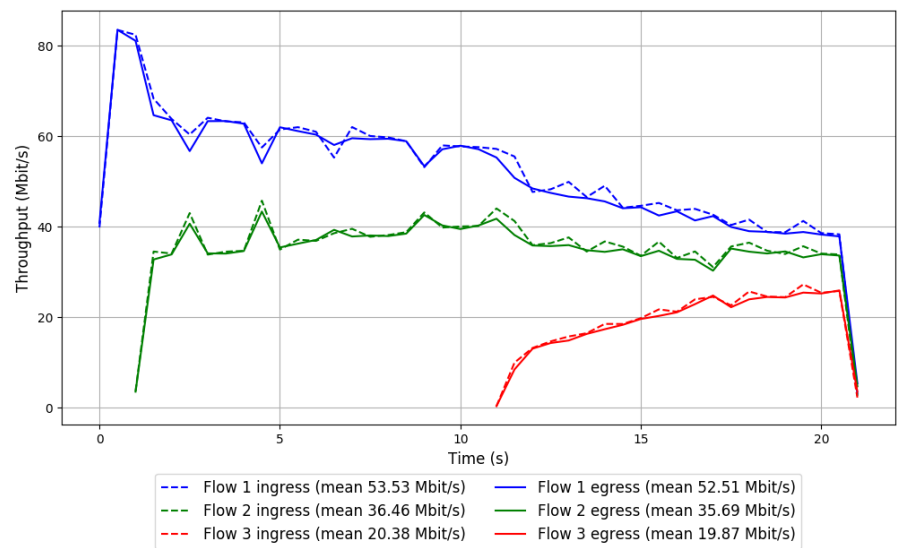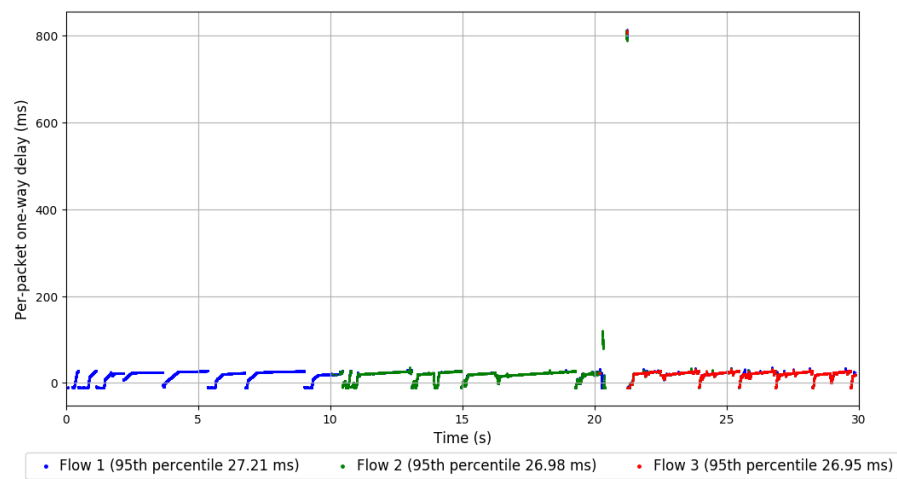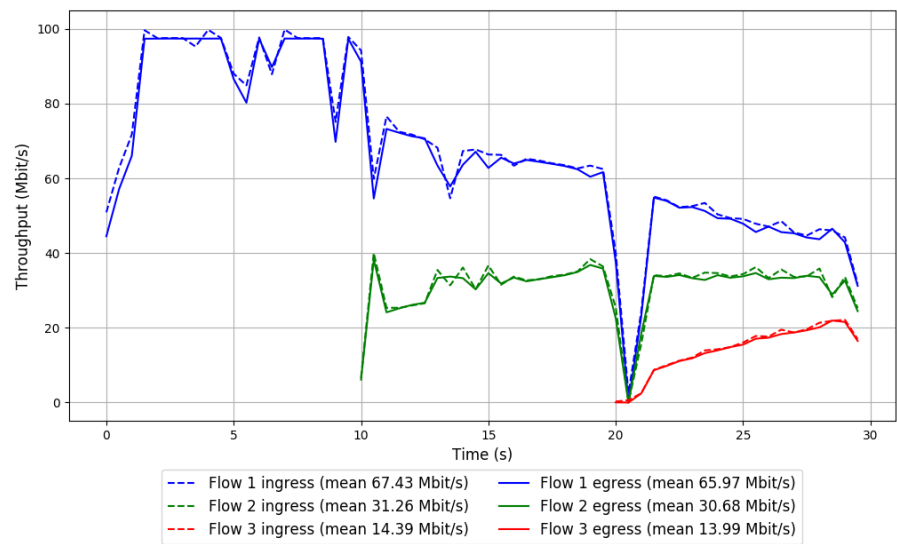
```
Run 2: Statistics of QUIC Cubic

Start at: 2017-12-05 22:15:38
End at: 2017-12-05 22:16:08
Local clock offset: 19.613 ms
Remote clock offset: -13.546 ms


# Below is generated by plot.py at 2017-12-06 01:03:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.09 Mbit/s
95th percentile per-packet one-way delay: 12.689 ms
Loss rate: 2.87%
-- Flow 1:
Average throughput: 56.54 Mbit/s
95th percentile per-packet one-way delay: 12.757 ms
Loss rate: 2.45%
-- Flow 2:
Average throughput: 43.63 Mbit/s
95th percentile per-packet one-way delay: 12.528 ms
Loss rate: 3.73%
-- Flow 3:
Average throughput: 26.28 Mbit/s
95th percentile per-packet one-way delay: 12.585 ms
Loss rate: 2.77%
```

Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2017-12-05 22:32:12
End at: 2017-12-05 22:32:42
Local clock offset: 3.84 ms
Remote clock offset: -12.489 ms

# Below is generated by plot.py at 2017-12-06 01:03:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.16 Mbit/s
95th percentile per-packet one-way delay: 29.237 ms
Loss rate: 2.21%
-- Flow 1:
Average throughput: 66.75 Mbit/s
95th percentile per-packet one-way delay: 29.249 ms
Loss rate: 2.12%
-- Flow 2:
Average throughput: 32.44 Mbit/s
95th percentile per-packet one-way delay: 29.147 ms
Loss rate: 2.30%
-- Flow 3:
Average throughput: 17.98 Mbit/s
95th percentile per-packet one-way delay: 29.281 ms
Loss rate: 2.91%
```
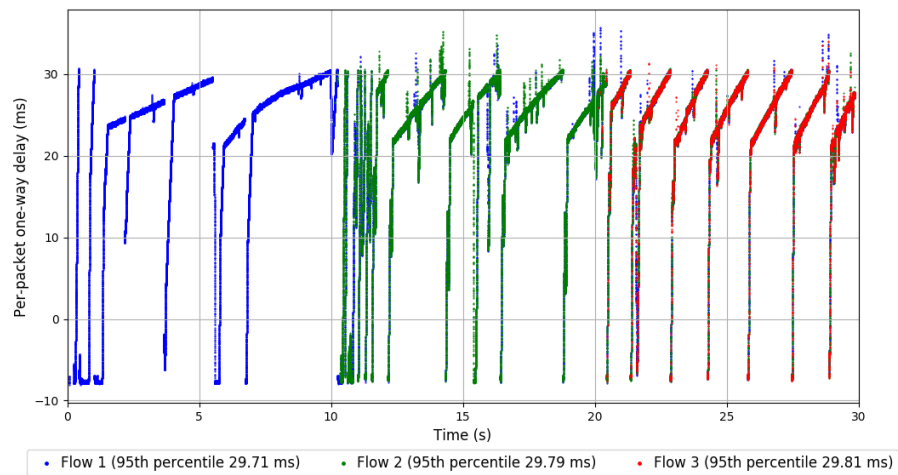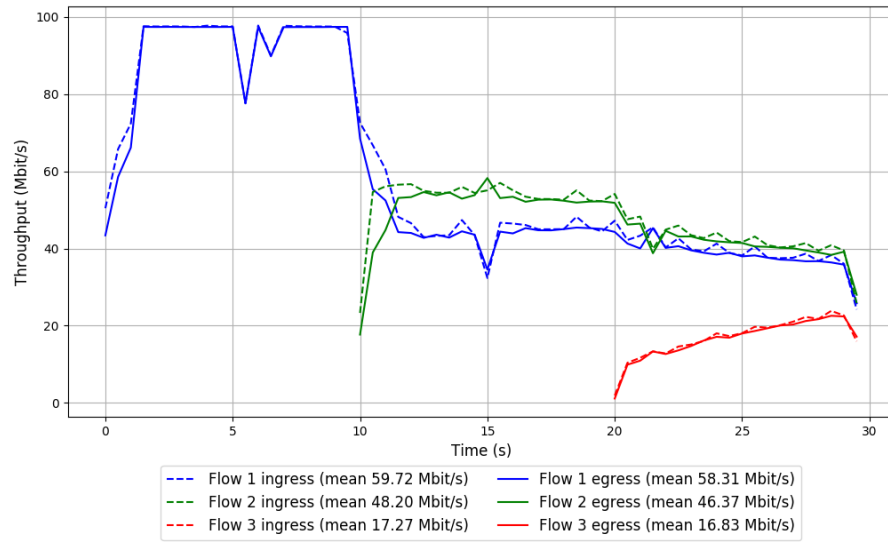
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 68.28 Mbit/s) --- Flow 1 egress (mean 66.75 Mbit/s)
Flow 2 ingress (mean 33.20 Mbit/s) --- Flow 2 egress (mean 32.44 Mbit/s)
Flow 3 ingress (mean 18.52 Mbit/s) --- Flow 3 egress (mean 17.98 Mbit/s)

Flow 1 (95th percentile 29.25 ms)   Flow 2 (95th percentile 29.15 ms)   Flow 3 (95th percentile 29.28 ms)

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```
Run 4: Statistics of QUIC Cubic

Start at: 2017-12-05 22:48:39
End at: 2017-12-05 22:49:09
Local clock offset: 4.754 ms
Remote clock offset: -11.365 ms


# Below is generated by plot.py at 2017-12-06 01:03:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.68 Mbit/s
95th percentile per-packet one-way delay: 29.421 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 63.18 Mbit/s
95th percentile per-packet one-way delay: 29.189 ms
Loss rate: 1.51%
-- Flow 2:
Average throughput: 33.97 Mbit/s
95th percentile per-packet one-way delay: 29.482 ms
Loss rate: 2.33%
-- Flow 3:
Average throughput: 18.16 Mbit/s
95th percentile per-packet one-way delay: 30.638 ms
Loss rate: 2.63%
```
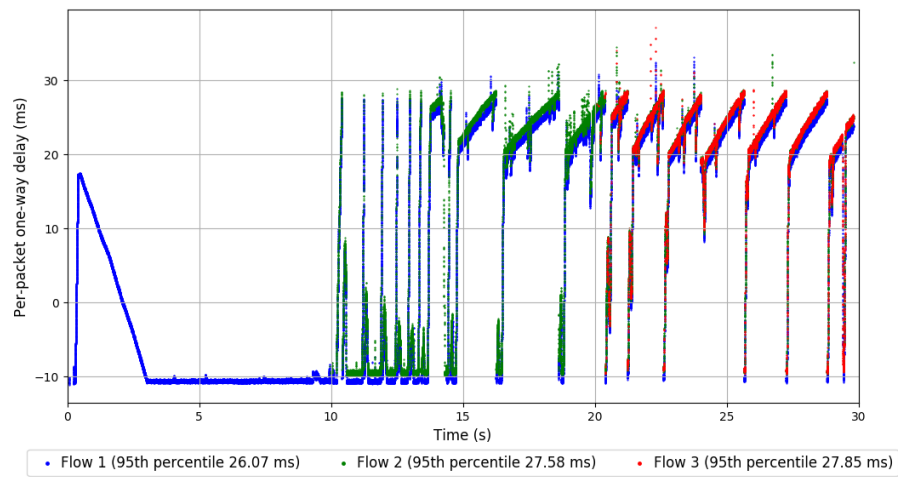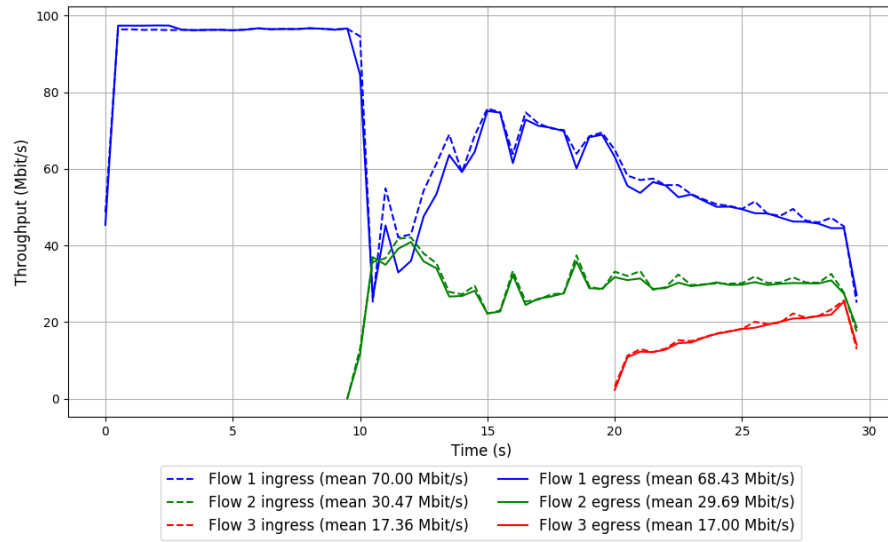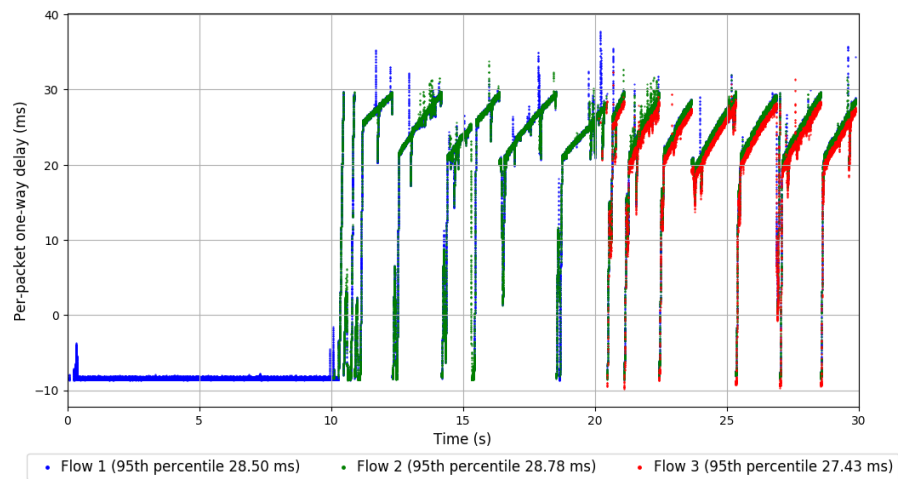
Run 4: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 64.21 Mbit/s) —— Flow 1 egress (mean 63.18 Mbit/s)
- - - Flow 2 ingress (mean 34.83 Mbit/s) —— Flow 2 egress (mean 33.97 Mbit/s)
- - - Flow 3 ingress (mean 18.64 Mbit/s) —— Flow 3 egress (mean 18.16 Mbit/s)

• Flow 1 (95th percentile 29.19 ms)   • Flow 2 (95th percentile 29.48 ms)   • Flow 3 (95th percentile 30.64 ms)

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```
Run 5: Statistics of QUIC Cubic

Start at: 2017-12-05 23:05:11
End at: 2017-12-05 23:05:41
Local clock offset: 5.734 ms
Remote clock offset: -13.274 ms


# Below is generated by plot.py at 2017-12-06 01:03:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.41 Mbit/s
95th percentile per-packet one-way delay: 26.935 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 62.98 Mbit/s
95th percentile per-packet one-way delay: 26.436 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 33.37 Mbit/s
95th percentile per-packet one-way delay: 27.921 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 18.95 Mbit/s
95th percentile per-packet one-way delay: 26.691 ms
Loss rate: 1.93%
```
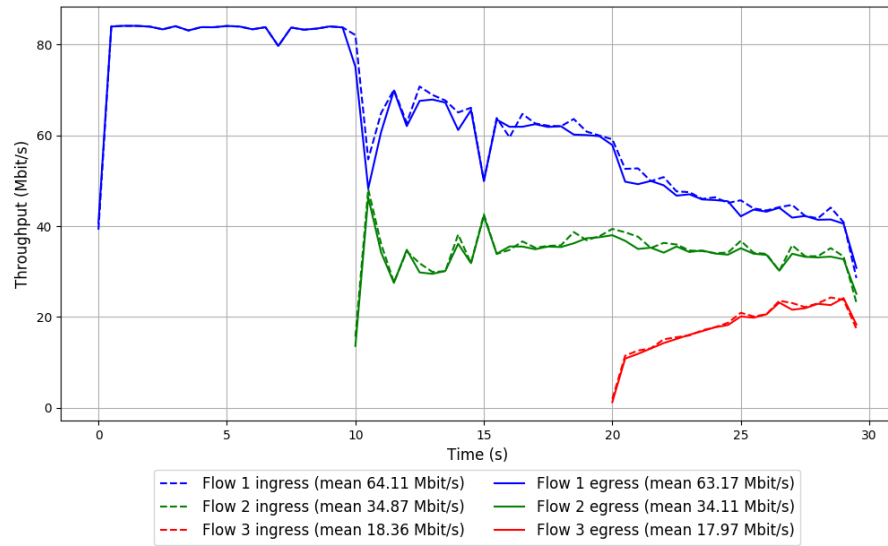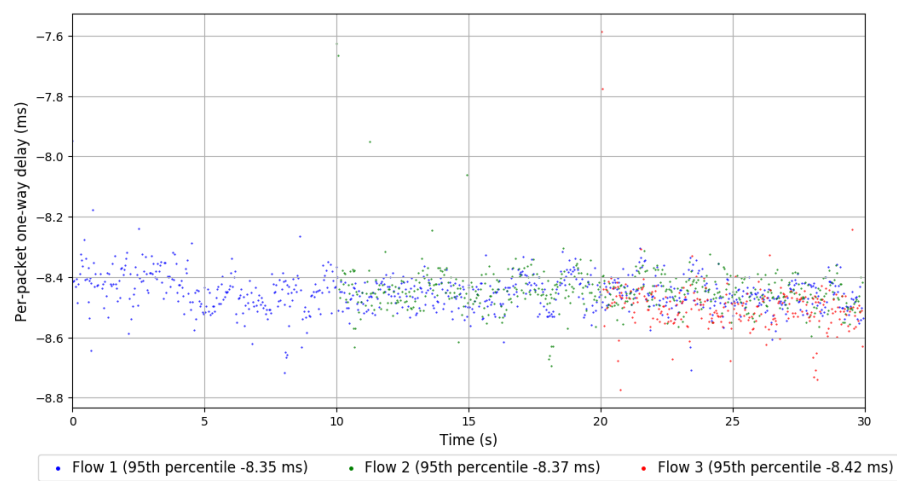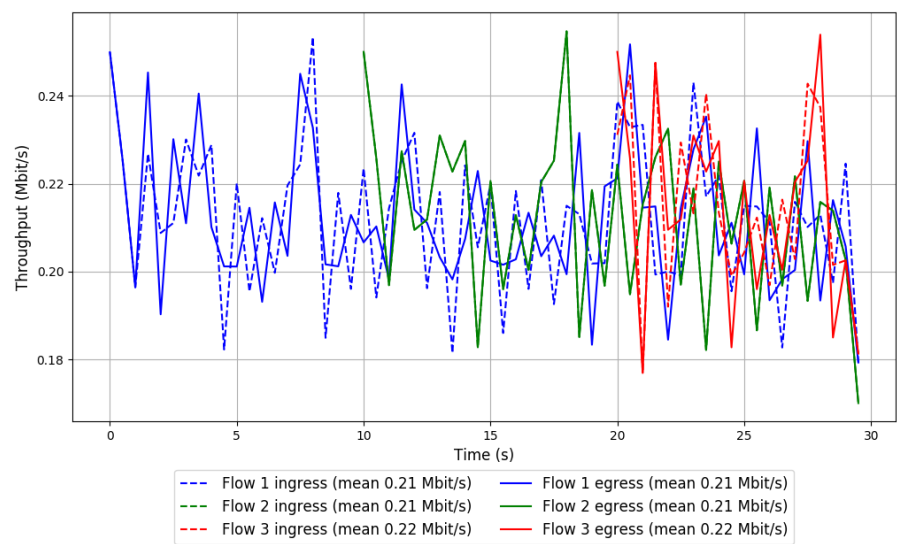
Run 5: Report of QUIC Cubic — Data Link

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```
Run 6: Statistics of QUIC Cubic

Start at: 2017-12-05 23:21:38
End at: 2017-12-05 23:22:08
Local clock offset: 3.563 ms
Remote clock offset: -12.227 ms
```

Run 6: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 53.53 Mbit/s)   Flow 1 egress (mean 52.51 Mbit/s)
Flow 2 ingress (mean 36.46 Mbit/s)   Flow 2 egress (mean 35.69 Mbit/s)
Flow 3 ingress (mean 20.38 Mbit/s)   Flow 3 egress (mean 19.87 Mbit/s)

Flow 1 (95th percentile 31.00 ms)   Flow 2 (95th percentile 31.12 ms)   Flow 3 (95th percentile 29.96 ms)

```
Run 7: Statistics of QUIC Cubic

Start at: 2017-12-05 23:37:55
End at: 2017-12-05 23:38:25
Local clock offset: 6.244 ms
Remote clock offset: -11.799 ms

# Below is generated by plot.py at 2017-12-06 01:03:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.87 Mbit/s
95th percentile per-packet one-way delay: 27.143 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 65.97 Mbit/s
95th percentile per-packet one-way delay: 27.209 ms
Loss rate: 2.05%
-- Flow 2:
Average throughput: 30.68 Mbit/s
95th percentile per-packet one-way delay: 26.977 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 13.99 Mbit/s
95th percentile per-packet one-way delay: 26.945 ms
Loss rate: 2.75%
```
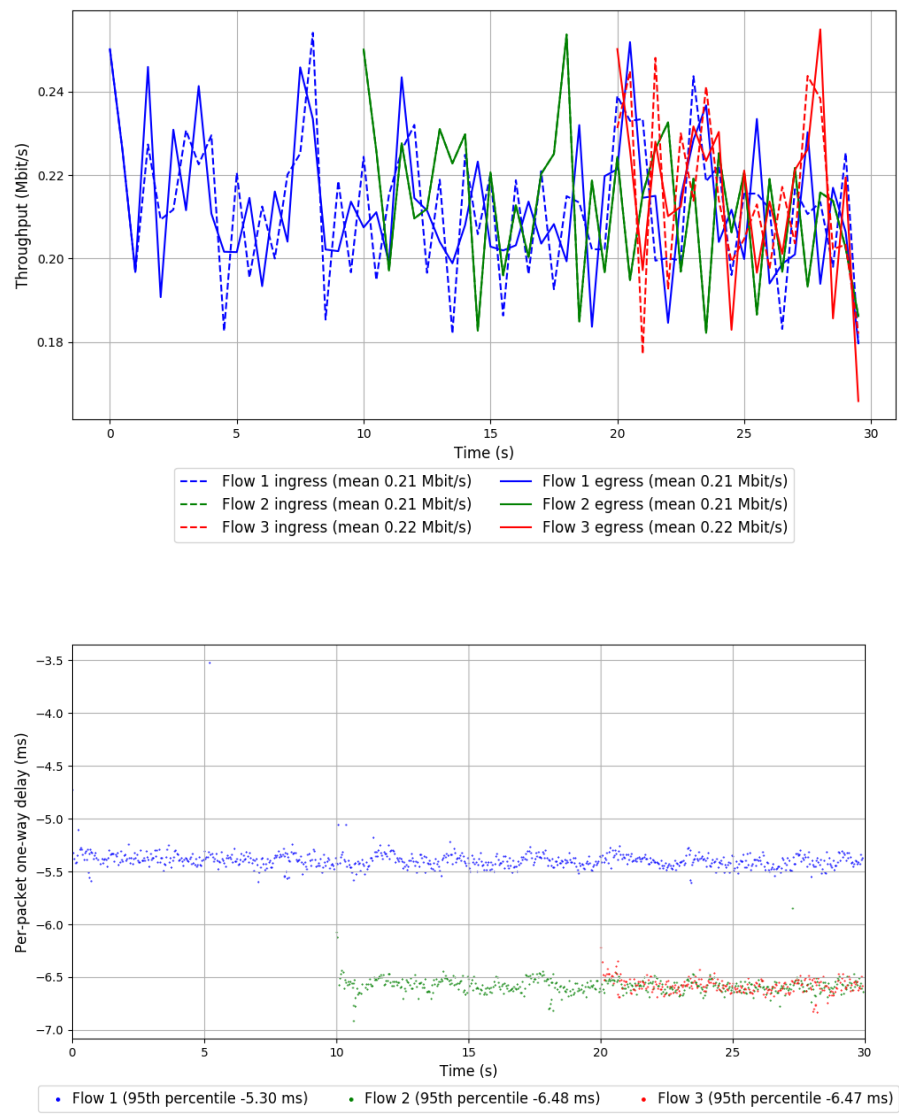
Run 7: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 67.43 Mbit/s) —— Flow 1 egress (mean 65.97 Mbit/s)
- - - Flow 2 ingress (mean 31.26 Mbit/s) —— Flow 2 egress (mean 30.68 Mbit/s)
- - - Flow 3 ingress (mean 14.39 Mbit/s) —— Flow 3 egress (mean 13.99 Mbit/s)

- Flow 1 (95th percentile 27.21 ms)　　• Flow 2 (95th percentile 26.98 ms)　　• Flow 3 (95th percentile 26.95 ms)

```
Run 8: Statistics of QUIC Cubic

Start at: 2017-12-05 23:54:31
End at: 2017-12-05 23:55:01
Local clock offset: 5.677 ms
Remote clock offset: -10.869 ms

# Below is generated by plot.py at 2017-12-06 01:04:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.51 Mbit/s
95th percentile per-packet one-way delay: 29.742 ms
Loss rate: 2.76%
-- Flow 1:
Average throughput: 58.31 Mbit/s
95th percentile per-packet one-way delay: 29.706 ms
Loss rate: 2.26%
-- Flow 2:
Average throughput: 46.37 Mbit/s
95th percentile per-packet one-way delay: 29.793 ms
Loss rate: 3.76%
-- Flow 3:
Average throughput: 16.83 Mbit/s
95th percentile per-packet one-way delay: 29.810 ms
Loss rate: 2.49%
```
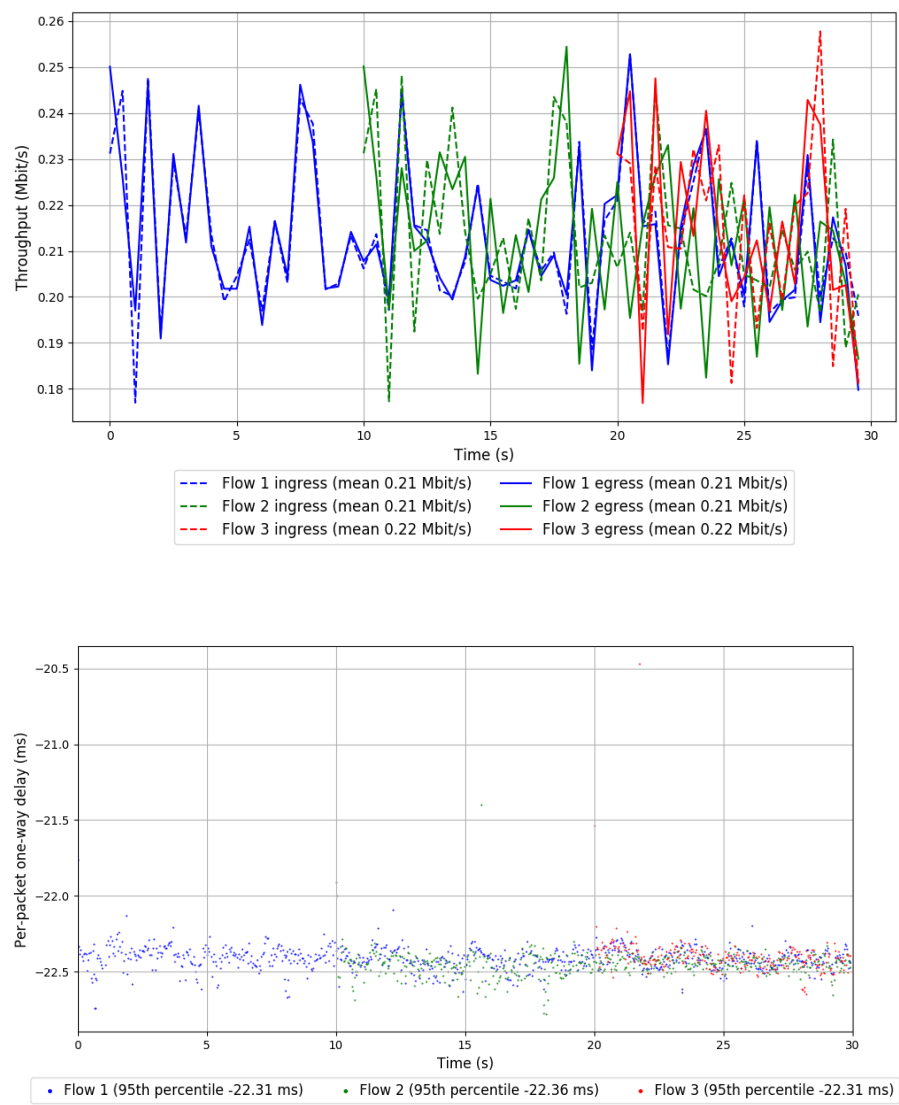
Run 8: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 59.72 Mbit/s) —— Flow 1 egress (mean 58.31 Mbit/s)
- - - Flow 2 ingress (mean 48.20 Mbit/s) —— Flow 2 egress (mean 46.37 Mbit/s)
- - - Flow 3 ingress (mean 17.27 Mbit/s) —— Flow 3 egress (mean 16.83 Mbit/s)

- Flow 1 (95th percentile 29.71 ms)   • Flow 2 (95th percentile 29.79 ms)   • Flow 3 (95th percentile 29.81 ms)

```
Run 9: Statistics of QUIC Cubic

Start at: 2017-12-06 00:10:52
End at: 2017-12-06 00:11:22
Local clock offset: 6.179 ms
Remote clock offset: -13.888 ms


# Below is generated by plot.py at 2017-12-06 01:04:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.74 Mbit/s
95th percentile per-packet one-way delay: 26.682 ms
Loss rate: 2.19%
-- Flow 1:
Average throughput: 68.43 Mbit/s
95th percentile per-packet one-way delay: 26.070 ms
Loss rate: 2.14%
-- Flow 2:
Average throughput: 29.69 Mbit/s
95th percentile per-packet one-way delay: 27.580 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 17.00 Mbit/s
95th percentile per-packet one-way delay: 27.847 ms
Loss rate: 2.12%
```

Run 9: Report of QUIC Cubic — Data Link

- - - - Flow 1 ingress (mean 70.00 Mbit/s)   ——— Flow 1 egress (mean 68.43 Mbit/s)
- - - - Flow 2 ingress (mean 30.47 Mbit/s)   ——— Flow 2 egress (mean 29.69 Mbit/s)
- - - - Flow 3 ingress (mean 17.36 Mbit/s)   ——— Flow 3 egress (mean 17.00 Mbit/s)

• Flow 1 (95th percentile 26.07 ms)   • Flow 2 (95th percentile 27.58 ms)   • Flow 3 (95th percentile 27.85 ms)

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```
Run 10: Statistics of QUIC Cubic

Start at: 2017-12-06 00:27:23
End at: 2017-12-06 00:27:53
Local clock offset: 6.286 ms
Remote clock offset: -12.51 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.66 Mbit/s
95th percentile per-packet one-way delay: 28.549 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 63.17 Mbit/s
95th percentile per-packet one-way delay: 28.495 ms
Loss rate: 1.33%
-- Flow 2:
Average throughput: 34.11 Mbit/s
95th percentile per-packet one-way delay: 28.776 ms
Loss rate: 2.02%
-- Flow 3:
Average throughput: 17.97 Mbit/s
95th percentile per-packet one-way delay: 27.432 ms
Loss rate: 2.11%
```

Run 10: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 64.11 Mbit/s) --- Flow 1 egress (mean 63.17 Mbit/s)
Flow 2 ingress (mean 34.87 Mbit/s) --- Flow 2 egress (mean 34.11 Mbit/s)
Flow 3 ingress (mean 18.36 Mbit/s) --- Flow 3 egress (mean 17.97 Mbit/s)

Flow 1 (95th percentile 28.50 ms)   Flow 2 (95th percentile 28.78 ms)   Flow 3 (95th percentile 27.43 ms)

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```
Run 1: Statistics of SCReAM

Start at: 2017-12-05 21:53:13
End at: 2017-12-05 21:53:43
Local clock offset: 5.24 ms
Remote clock offset: -13.04 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: -8.362 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -8.354 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -8.365 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -8.418 ms
Loss rate: 0.00%
```
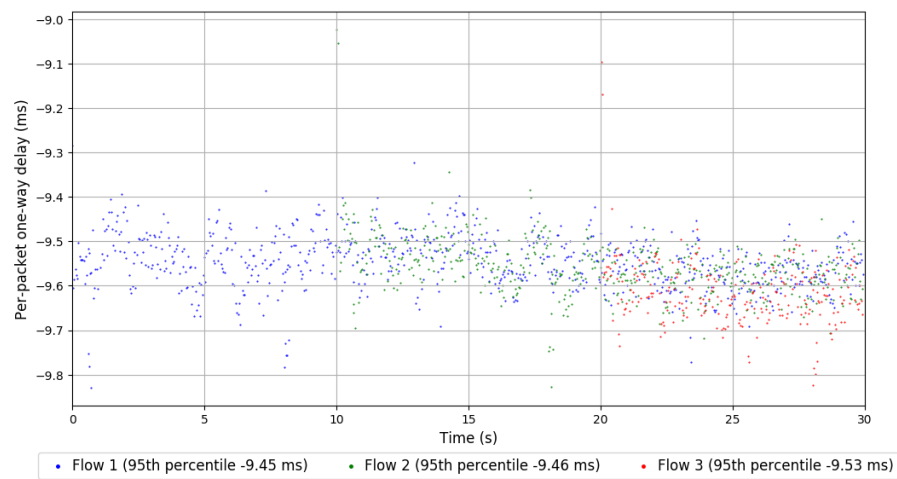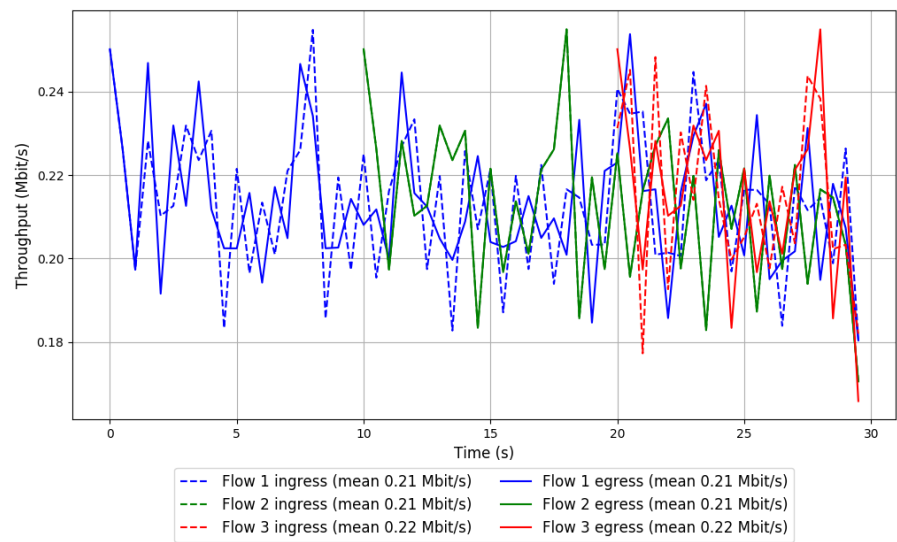
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2017-12-05 22:09:51
End at: 2017-12-05 22:10:21
Local clock offset: 3.304 ms
Remote clock offset: -11.637 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: -5.323 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -5.304 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -6.483 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -6.472 ms
Loss rate: 0.00%
```
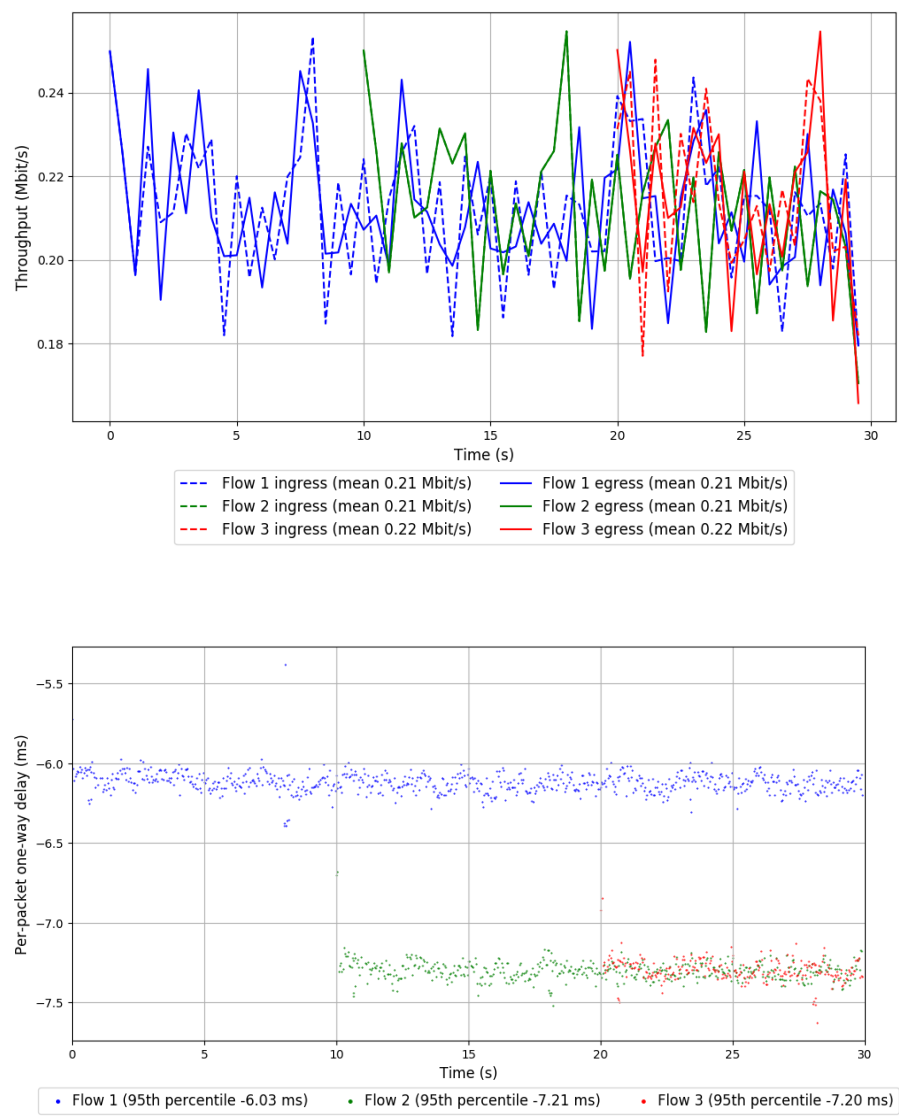
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2017-12-05 22:26:24
End at: 2017-12-05 22:26:54
Local clock offset: 19.606 ms
Remote clock offset: -10.872 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: -22.315 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -22.306 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -22.364 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -22.309 ms
Loss rate: 0.00%
```
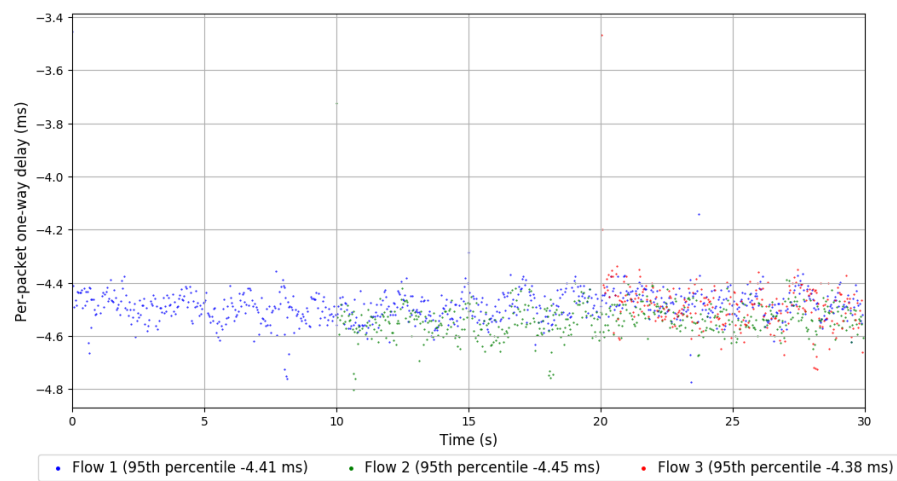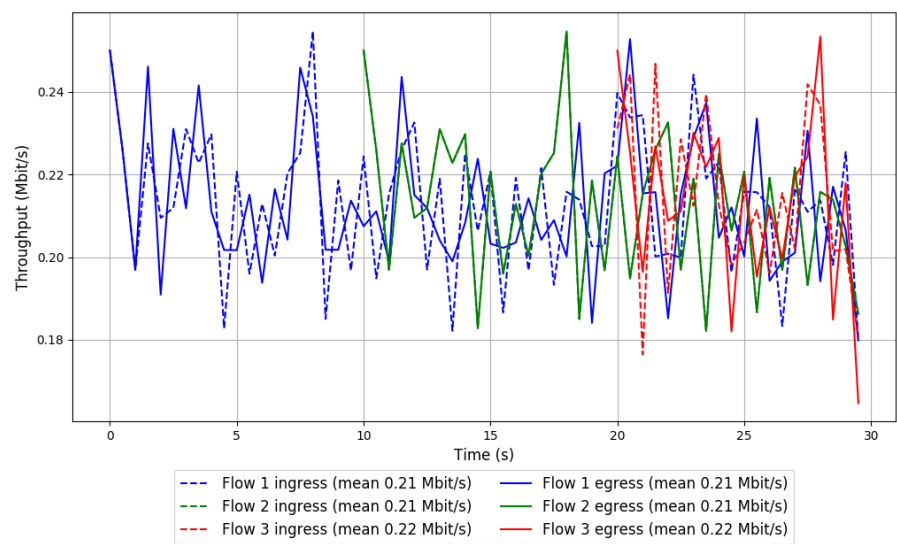
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2017-12-05 22:42:51
End at: 2017-12-05 22:43:21
Local clock offset: 5.582 ms
Remote clock offset: -11.897 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: -9.251 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -9.239 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -9.265 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -9.314 ms
Loss rate: 0.00%
```
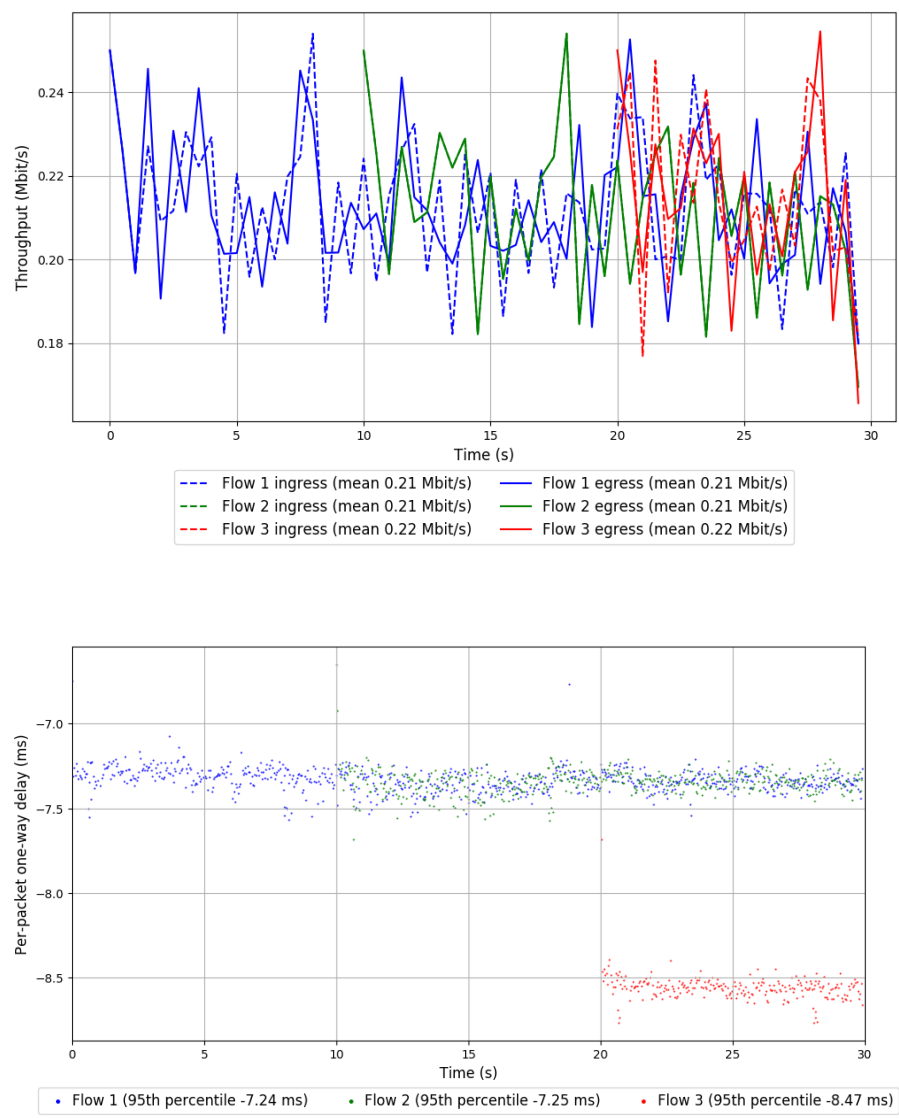
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2017-12-05 22:59:22
End at: 2017-12-05 22:59:52
Local clock offset: 3.835 ms
Remote clock offset: -11.534 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: -5.801 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -5.813 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -5.794 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -5.782 ms
Loss rate: 0.00%
```
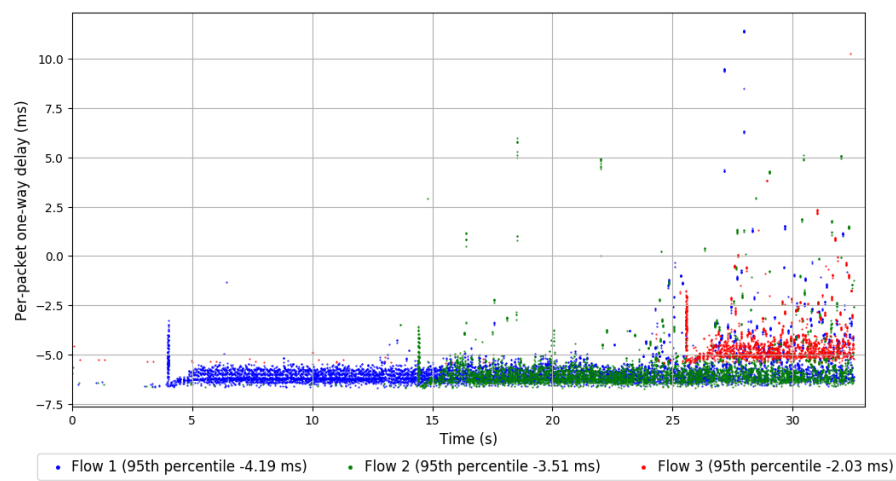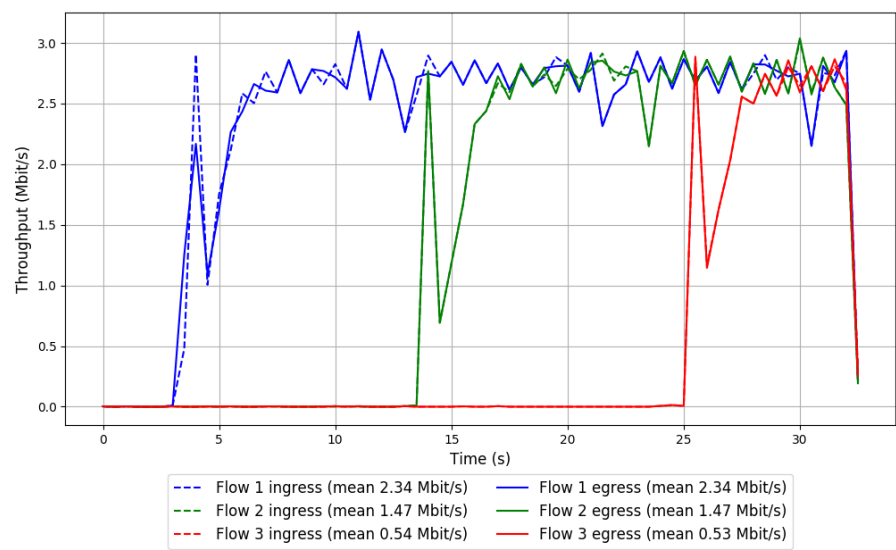
Run 5: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.21 Mbit/s) — Flow 1 egress (mean 0.21 Mbit/s)
Flow 2 ingress (mean 0.21 Mbit/s) — Flow 2 egress (mean 0.21 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s) — Flow 3 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile -5.81 ms) • Flow 2 (95th percentile -5.79 ms) • Flow 3 (95th percentile -5.78 ms)

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```
Run 6: Statistics of SCReAM

Start at: 2017-12-05 23:15:50
End at: 2017-12-05 23:16:20
Local clock offset: 1.91 ms
Remote clock offset: -11.261 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: -3.510 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -4.748 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -3.484 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -3.607 ms
Loss rate: 0.00%
```
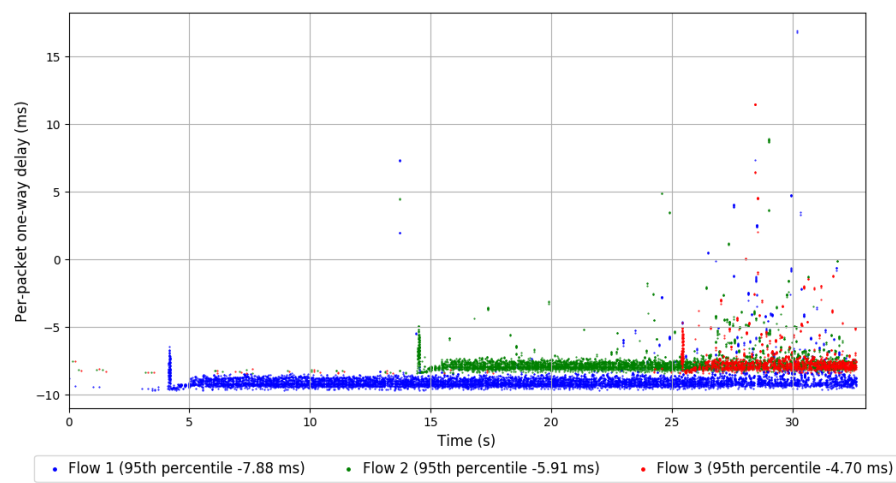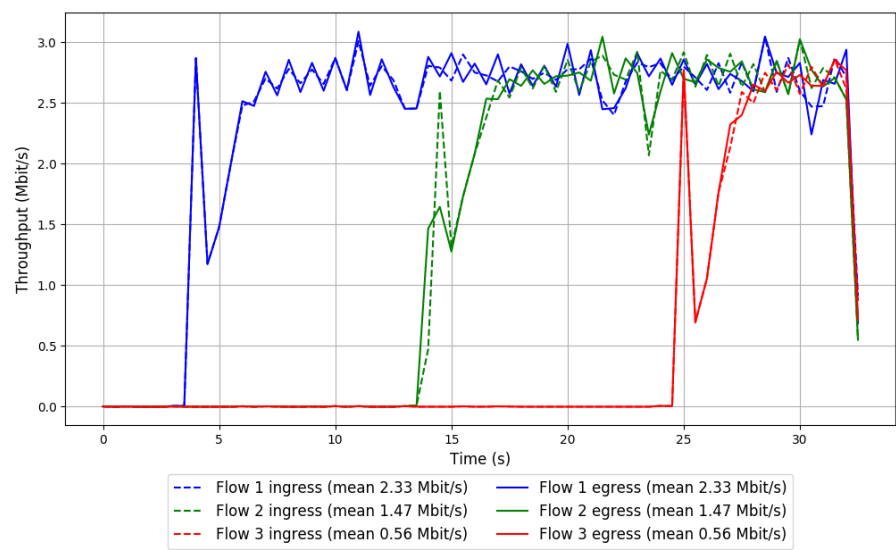
Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2017-12-05 23:32:10
End at: 2017-12-05 23:32:40
Local clock offset: 6.342 ms
Remote clock offset: -11.233 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: -9.458 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -9.448 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -9.464 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -9.527 ms
Loss rate: 0.00%
```
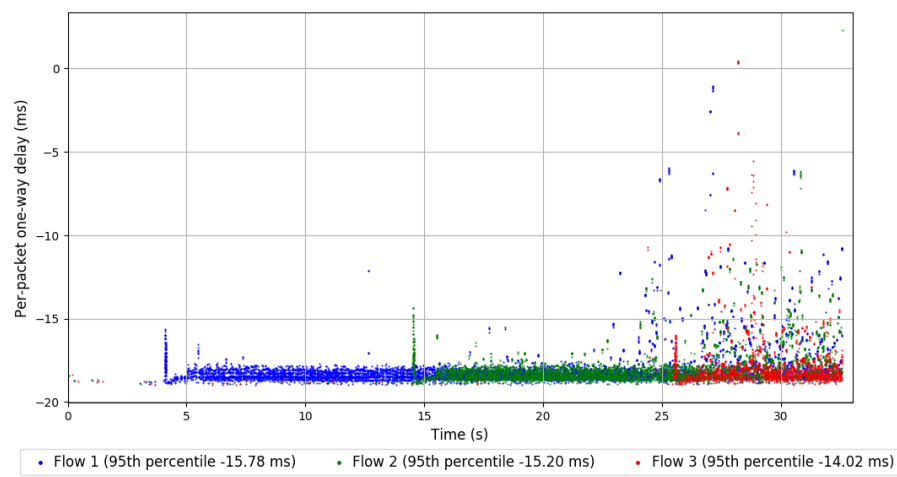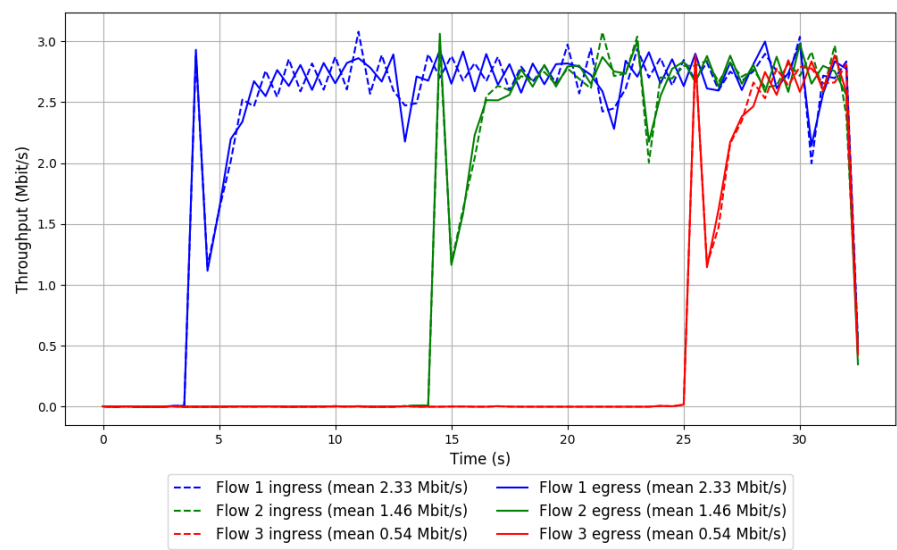
Run 7: Report of SCReAM — Data Link

```
Run 8: Statistics of SCReAM

Start at: 2017-12-05 23:48:43
End at: 2017-12-05 23:49:13
Local clock offset: 2.844 ms
Remote clock offset: -11.89 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: -6.047 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -6.033 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -7.215 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -7.202 ms
Loss rate: 0.00%
```
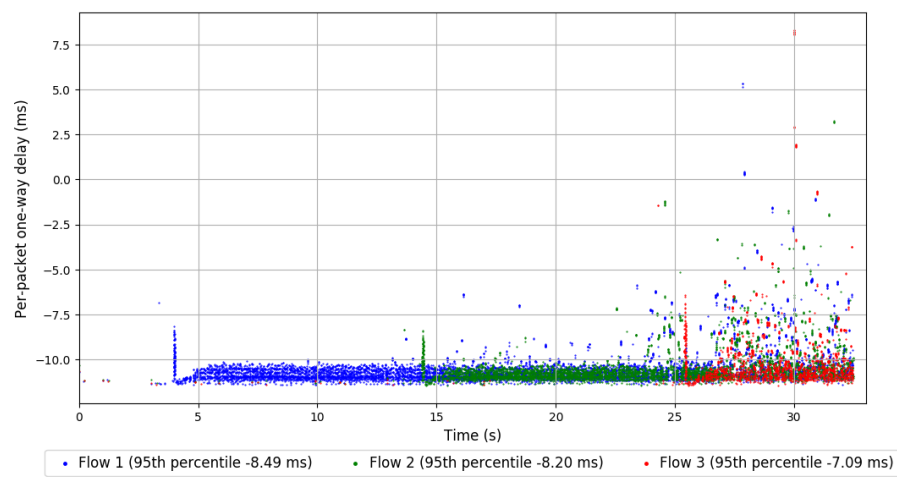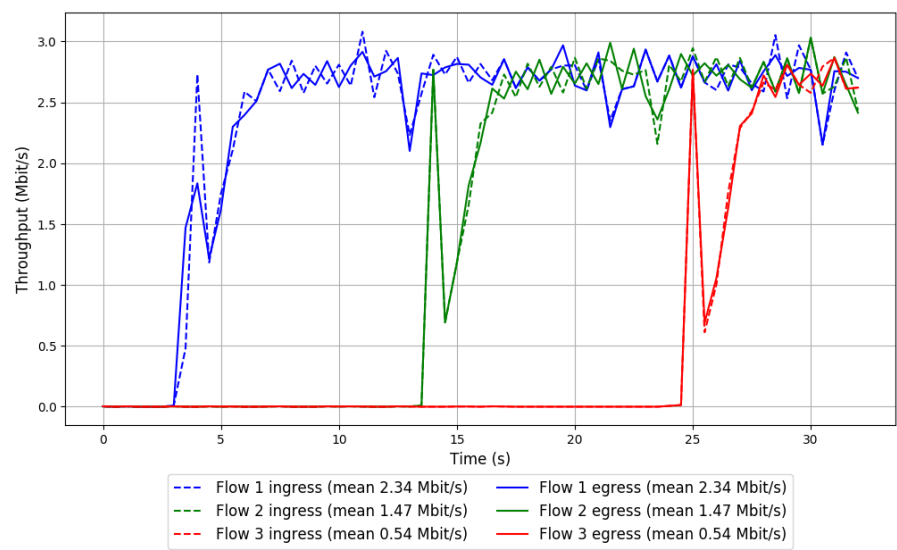
Run 8: Report of SCReAM — Data Link

119

```
Run 9: Statistics of SCReAM

Start at: 2017-12-06 00:05:06
End at: 2017-12-06 00:05:36
Local clock offset: 2.371 ms
Remote clock offset: -12.139 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: -4.410 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -4.408 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -4.452 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -4.377 ms
Loss rate: 0.00%
```

Run 9: Report of SCReAM — Data Link

121

```
Run 10: Statistics of SCReAM

Start at: 2017-12-06 00:21:38
End at: 2017-12-06 00:22:08
Local clock offset: 3.83 ms
Remote clock offset: -13.84 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: -7.245 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -7.237 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: -7.250 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: -8.473 ms
Loss rate: 0.00%
```
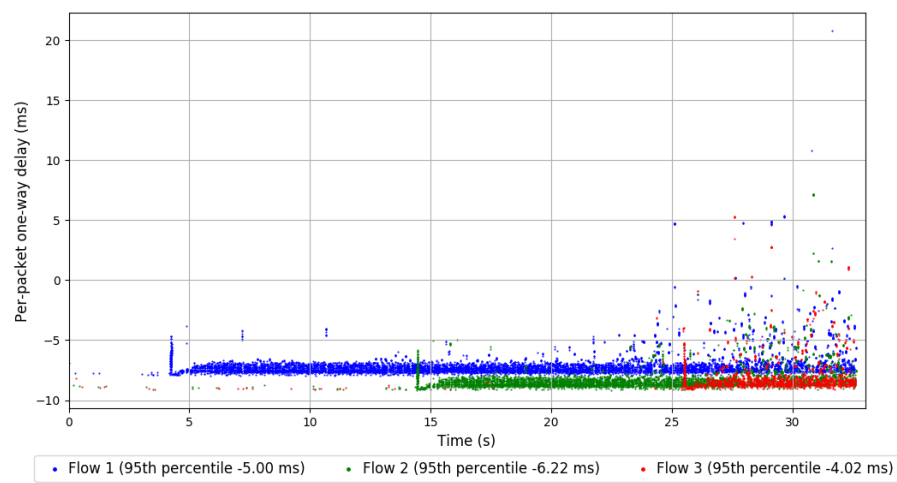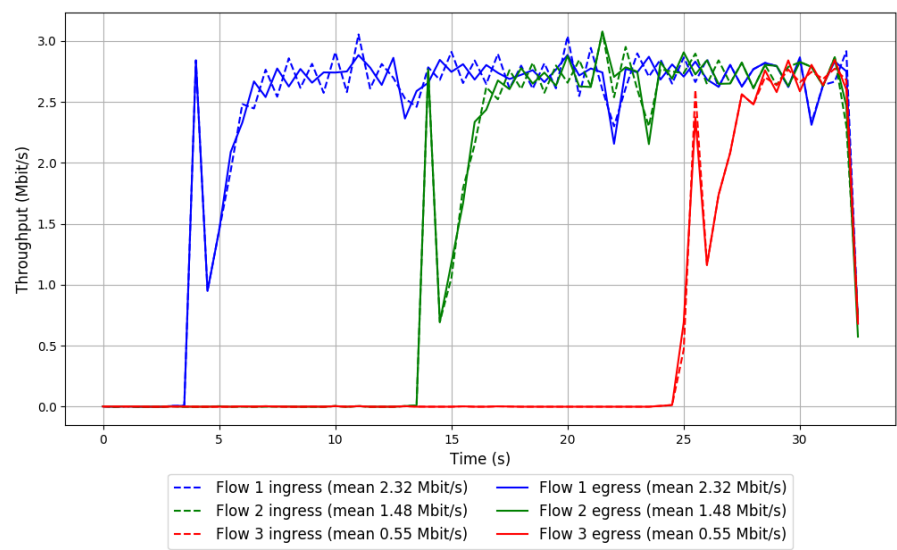
Run 10: Report of SCReAM — Data Link

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```
Run 1: Statistics of WebRTC media

Start at: 2017-12-05 21:50:53
End at: 2017-12-05 21:51:23
Local clock offset: 3.933 ms
Remote clock offset: -11.013 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: -3.417 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: -4.193 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: -3.512 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: -2.029 ms
Loss rate: 0.16%
```
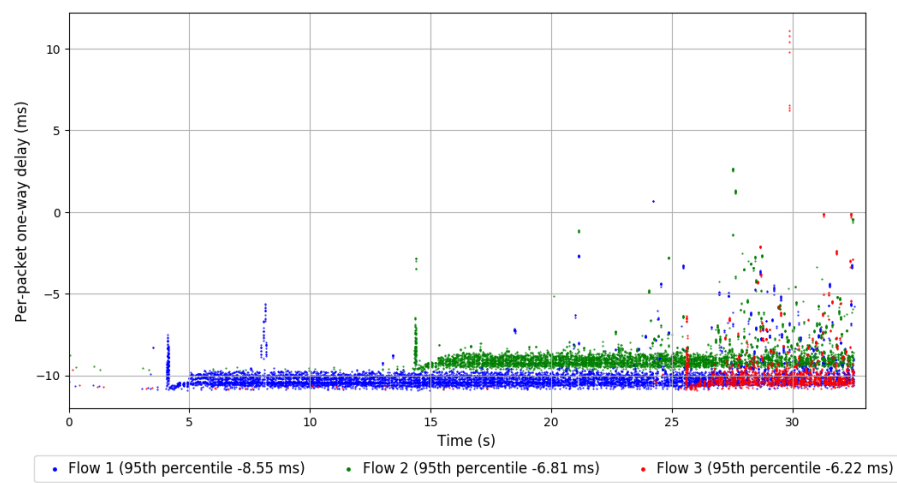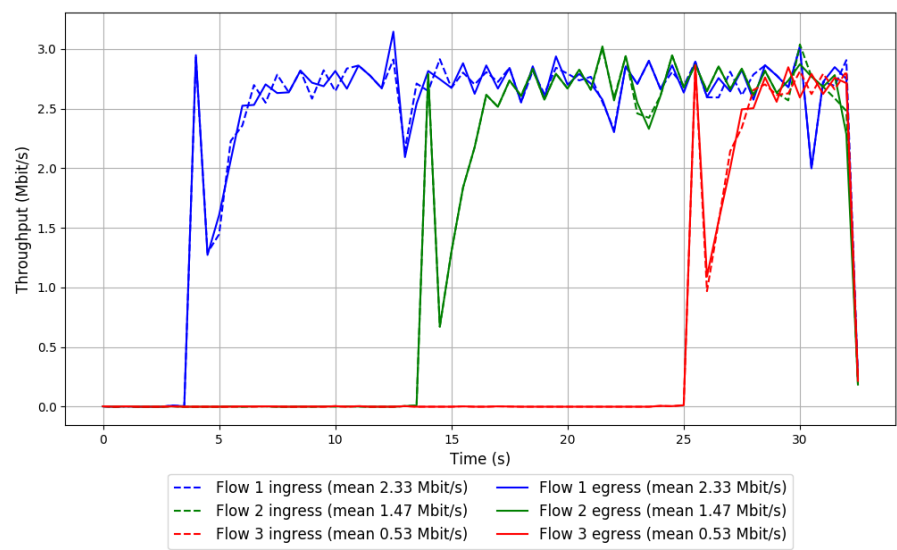
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2017-12-05 22:07:32
End at: 2017-12-05 22:08:02
Local clock offset: 4.503 ms
Remote clock offset: -13.133 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: -6.434 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: -7.885 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: -5.911 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: -4.701 ms
Loss rate: 0.00%
```
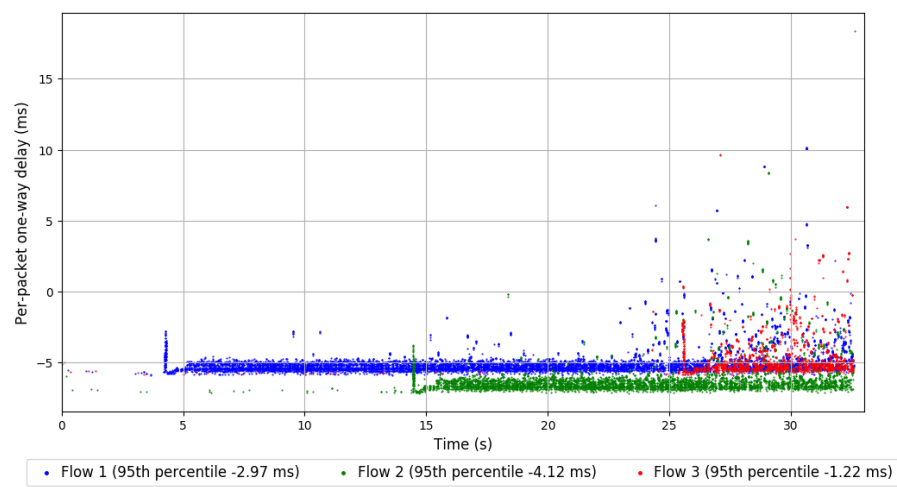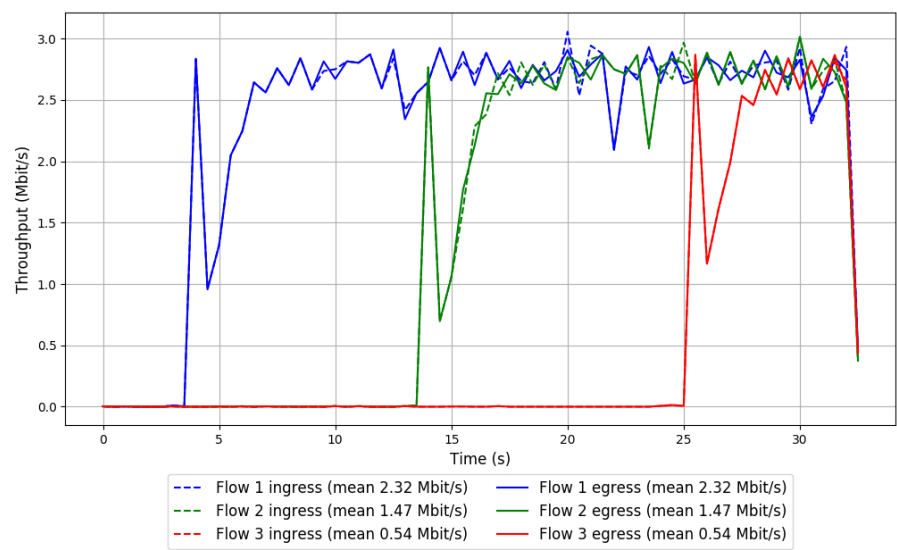
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2017-12-05 22:24:05
End at: 2017-12-05 22:24:35
Local clock offset: 13.865 ms
Remote clock offset: -12.821 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.32 Mbit/s
95th percentile per-packet one-way delay: -15.351 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: -15.778 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: -15.199 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: -14.016 ms
Loss rate: 0.00%
```

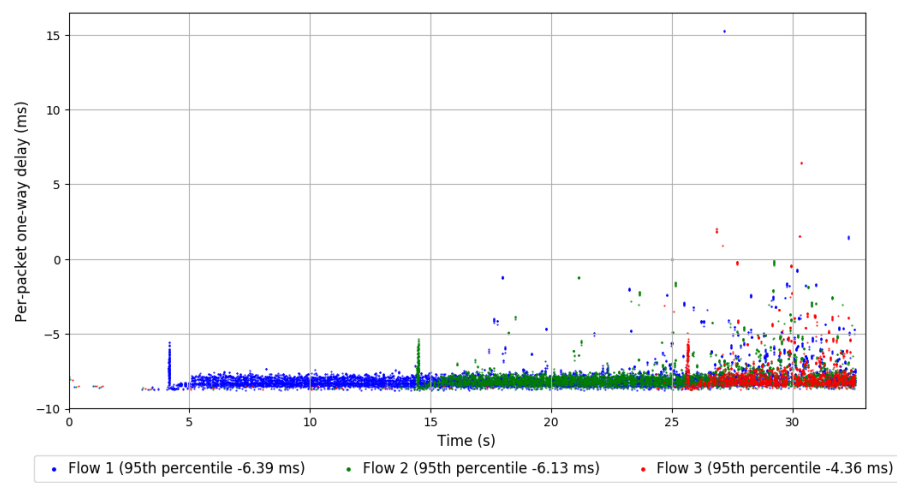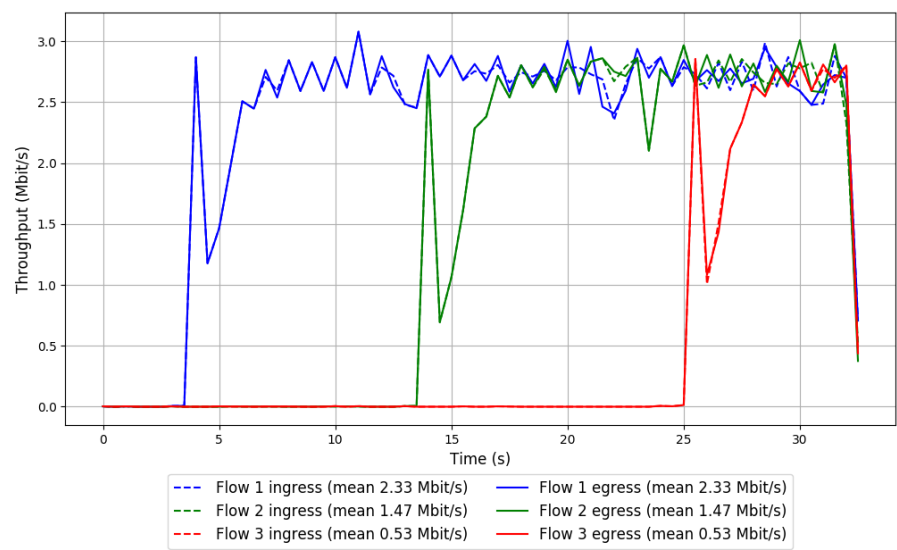Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2017-12-05 22:40:34
End at: 2017-12-05 22:41:04
Local clock offset: 6.53 ms
Remote clock offset: -12.612 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: -8.090 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: -8.487 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: -8.195 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: -7.094 ms
Loss rate: 0.00%
```

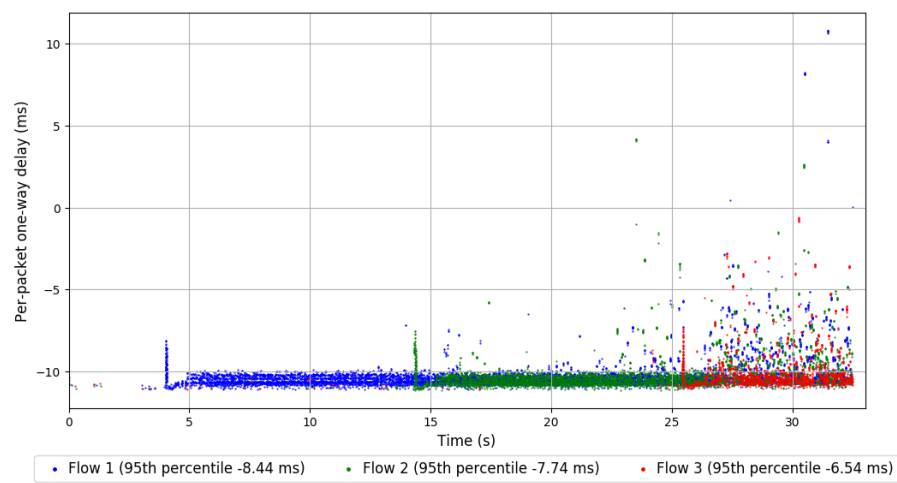Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2017-12-05 22:57:05
End at: 2017-12-05 22:57:35
Local clock offset: 5.03 ms
Remote clock offset: -11.998 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: -5.263 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: -4.998 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: -6.222 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: -4.024 ms
Loss rate: 0.00%
```
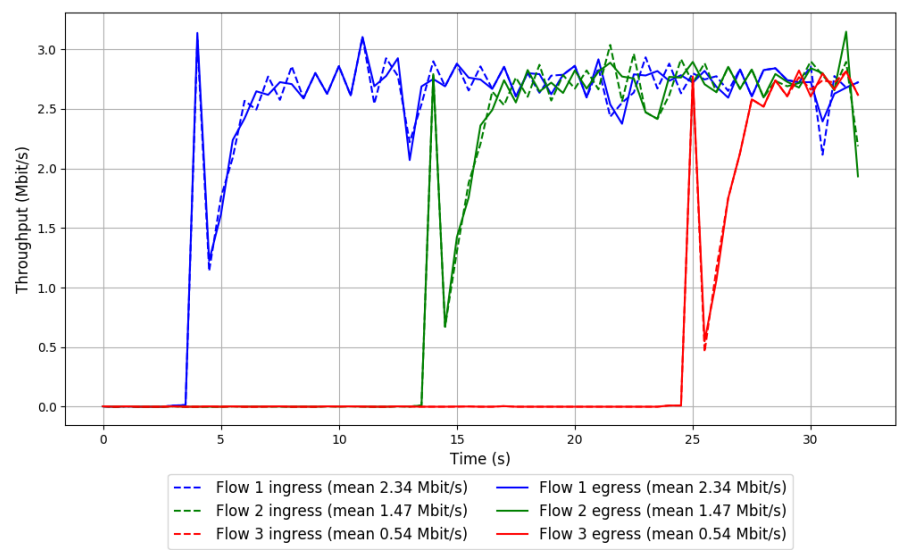
Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2017-12-05 23:13:30
End at: 2017-12-05 23:14:00
Local clock offset: 7.188 ms
Remote clock offset: -11.69 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.33 Mbit/s
95th percentile per-packet one-way delay: -7.315 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: -8.550 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: -6.806 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: -6.216 ms
Loss rate: 0.00%
```
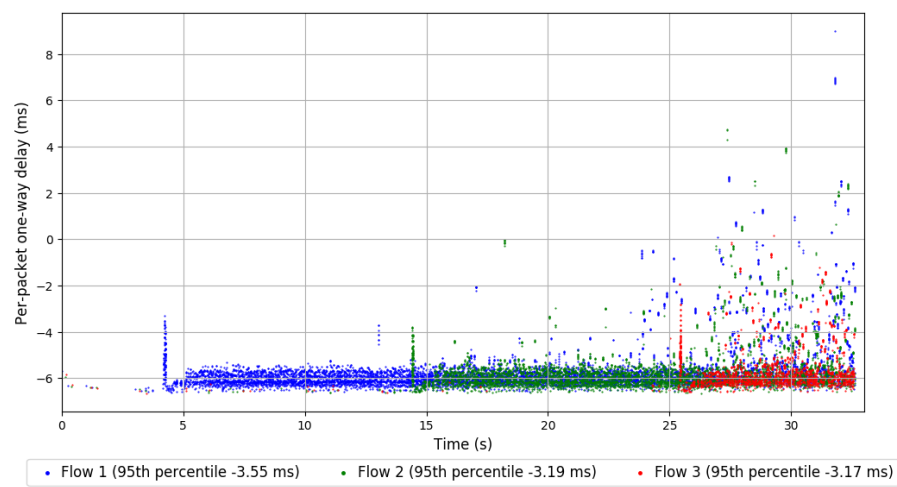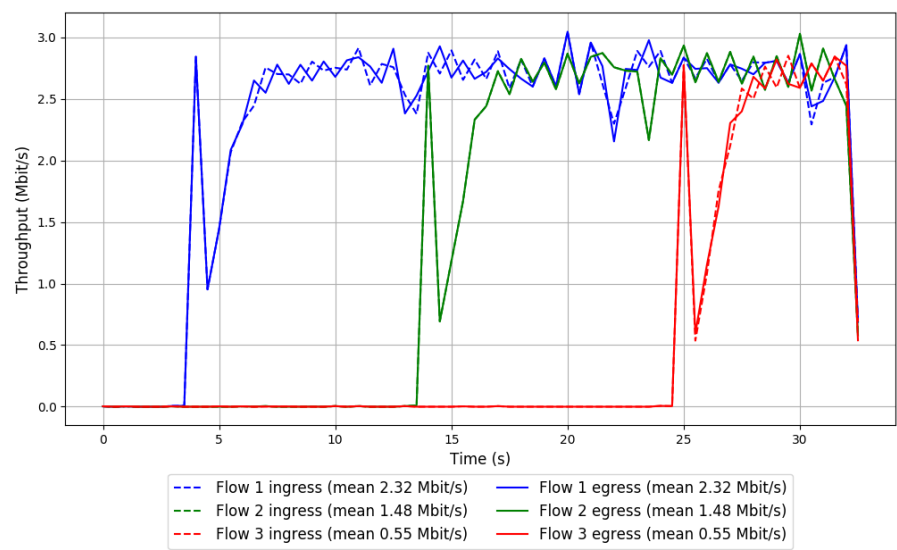
Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2017-12-05 23:29:53
End at: 2017-12-05 23:30:23
Local clock offset: 3.243 ms
Remote clock offset: -11.603 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.31 Mbit/s
95th percentile per-packet one-way delay: -2.807 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: -2.966 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: -4.122 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: -1.218 ms
Loss rate: 0.00%
```
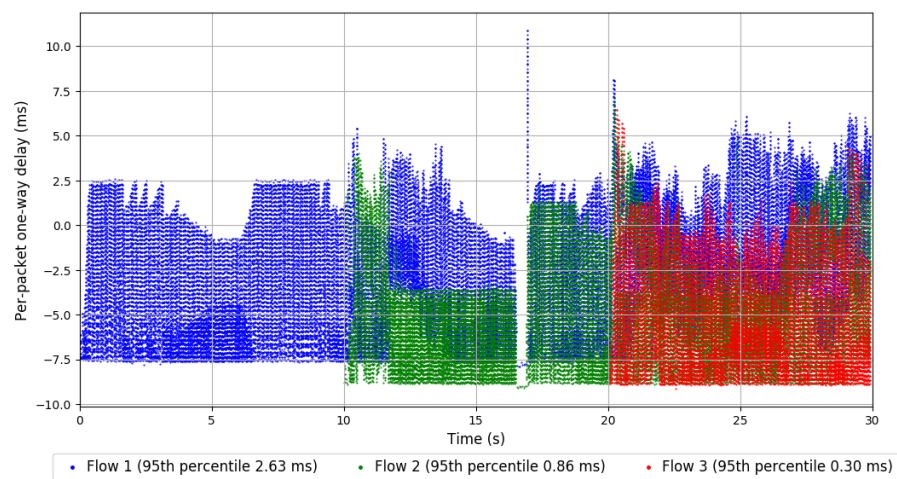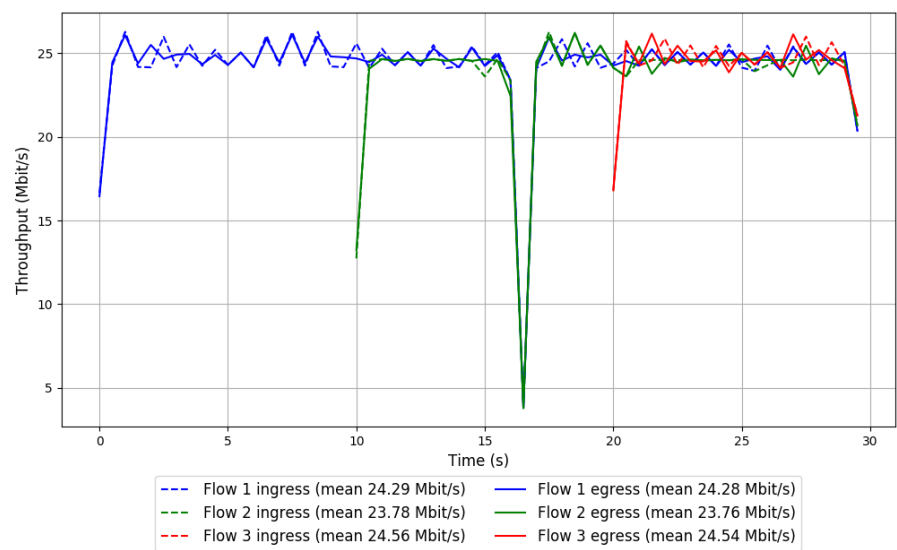
Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2017-12-05 23:46:26
End at: 2017-12-05 23:46:56
Local clock offset: 4.568 ms
Remote clock offset: -12.453 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.32 Mbit/s
95th percentile per-packet one-way delay: -5.999 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: -6.388 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: -6.128 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: -4.355 ms
Loss rate: 0.00%
```
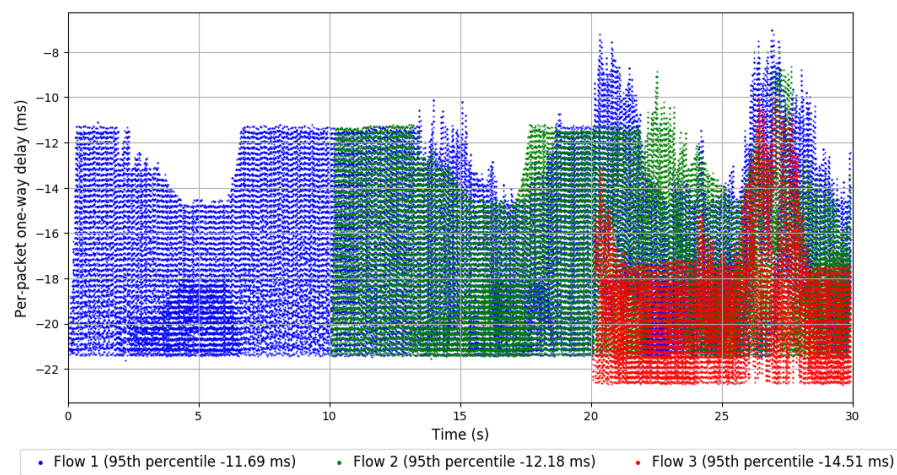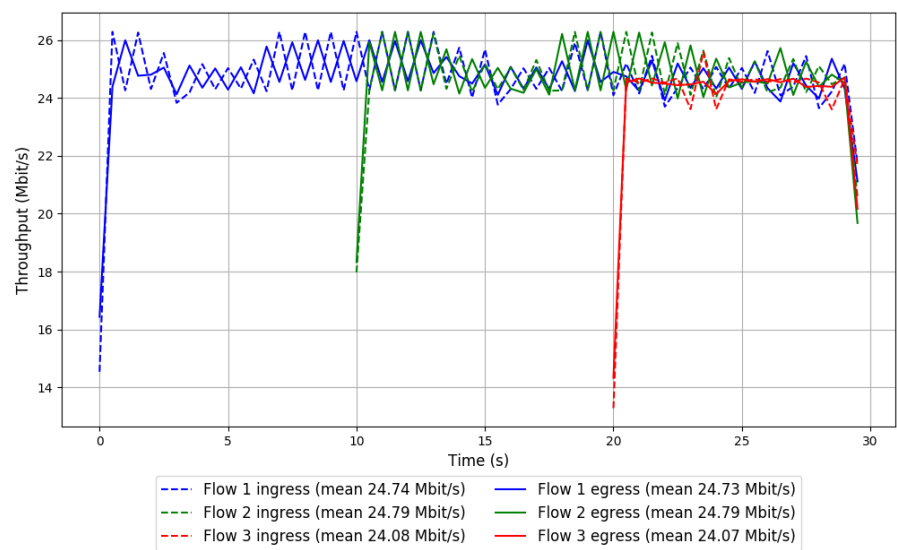
Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2017-12-06 00:02:49
End at: 2017-12-06 00:03:19
Local clock offset: 6.939 ms
Remote clock offset: -12.299 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.35 Mbit/s
95th percentile per-packet one-way delay: -7.978 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: -8.444 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: -7.741 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: -6.543 ms
Loss rate: 0.00%
```

Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2017-12-06 00:19:11
End at: 2017-12-06 00:19:41
Local clock offset: 3.858 ms
Remote clock offset: -12.669 ms

# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.34 Mbit/s
95th percentile per-packet one-way delay: -3.305 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: -3.546 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: -3.195 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: -3.171 ms
Loss rate: 0.00%
```

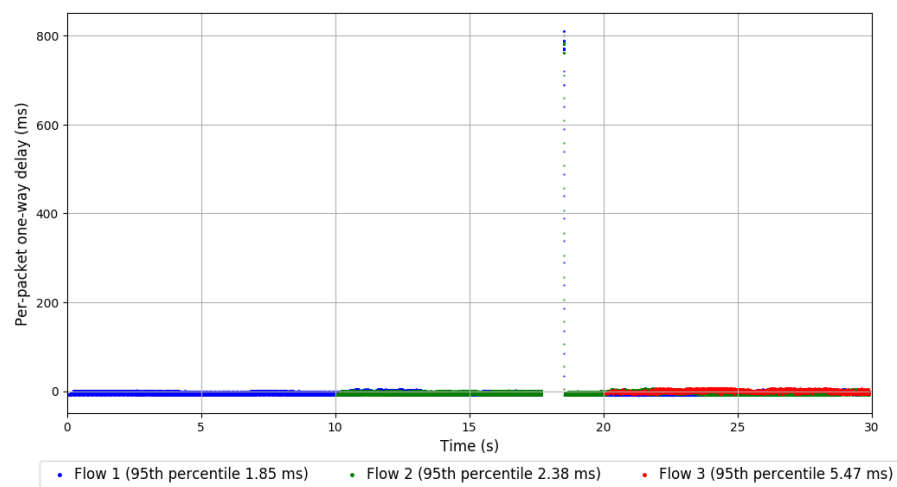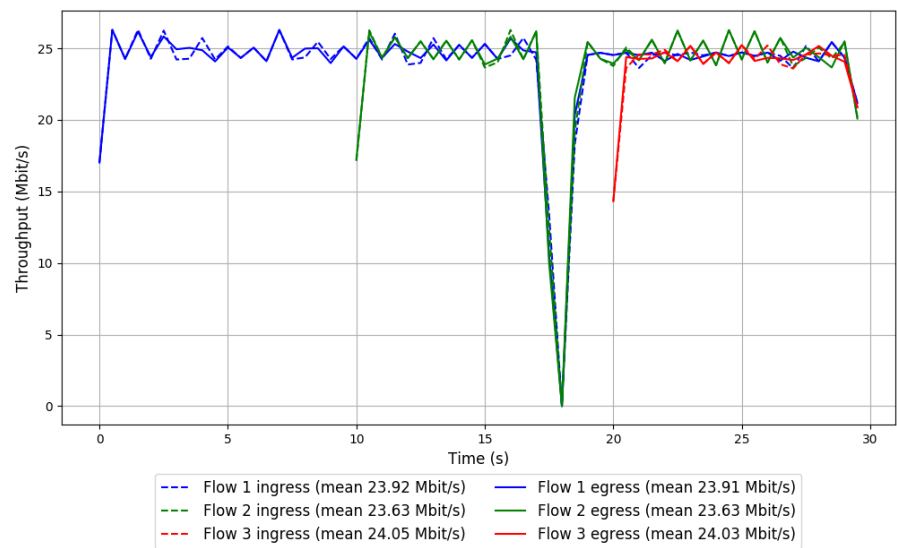Run 10: Report of WebRTC media — Data Link

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```
Run 1: Statistics of Sprout

Start at: 2017-12-05 21:56:41
End at: 2017-12-05 21:57:11
Local clock offset: 5.01 ms
Remote clock offset: -12.274 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.20 Mbit/s
95th percentile per-packet one-way delay: 2.033 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.28 Mbit/s
95th percentile per-packet one-way delay: 2.626 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.76 Mbit/s
95th percentile per-packet one-way delay: 0.862 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.54 Mbit/s
95th percentile per-packet one-way delay: 0.304 ms
Loss rate: 0.00%
```
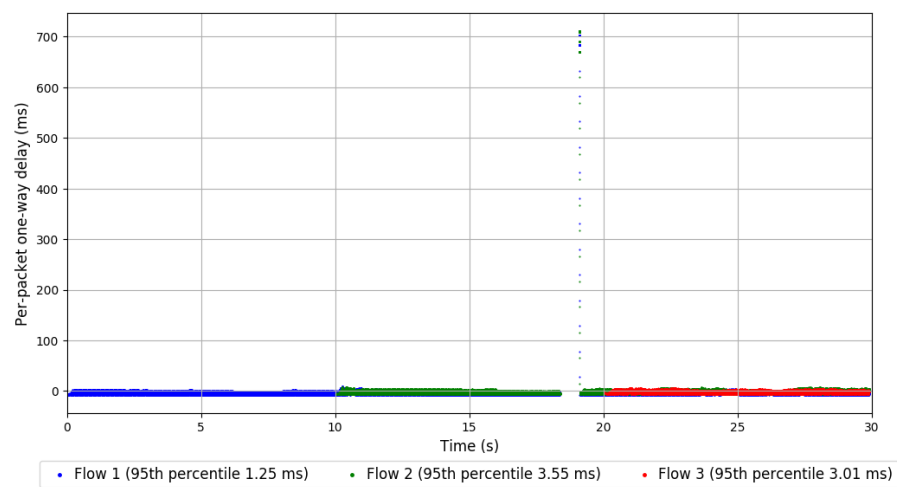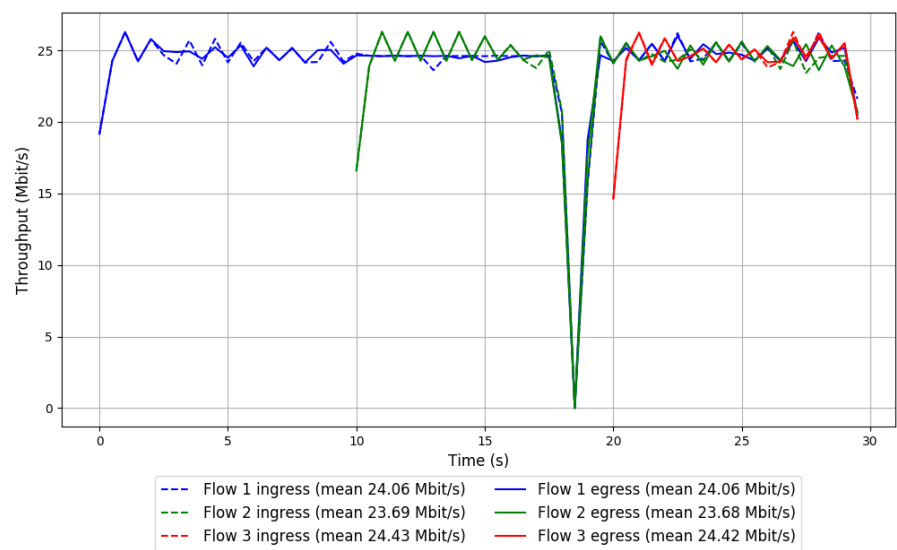
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2017-12-05 22:13:18
End at: 2017-12-05 22:13:48
Local clock offset: 20.498 ms
Remote clock offset: -10.286 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.16 Mbit/s
95th percentile per-packet one-way delay: -12.000 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.73 Mbit/s
95th percentile per-packet one-way delay: -11.689 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.79 Mbit/s
95th percentile per-packet one-way delay: -12.178 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.07 Mbit/s
95th percentile per-packet one-way delay: -14.510 ms
Loss rate: 0.00%
```
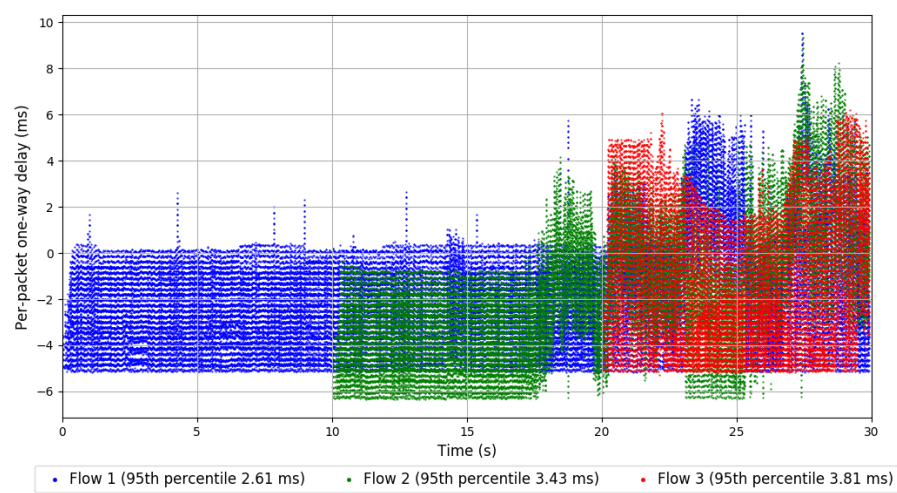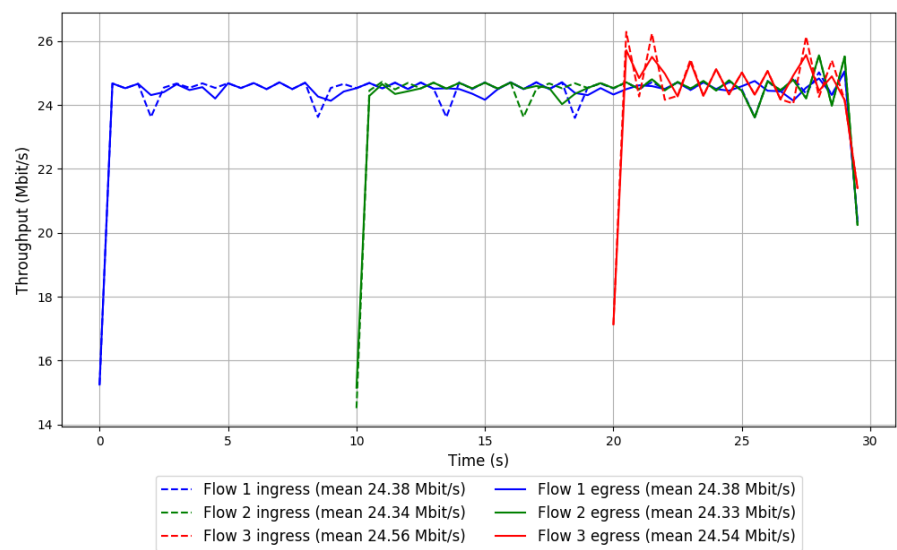
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2017-12-05 22:29:52
End at: 2017-12-05 22:30:22
Local clock offset: 3.557 ms
Remote clock offset: -12.416 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.56 Mbit/s
95th percentile per-packet one-way delay: 3.461 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.91 Mbit/s
95th percentile per-packet one-way delay: 1.847 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.63 Mbit/s
95th percentile per-packet one-way delay: 2.385 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.03 Mbit/s
95th percentile per-packet one-way delay: 5.473 ms
Loss rate: 0.00%
```
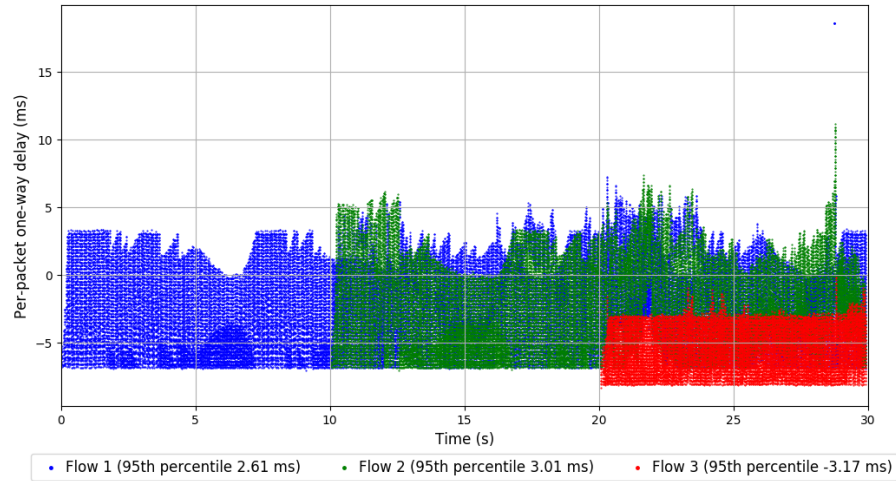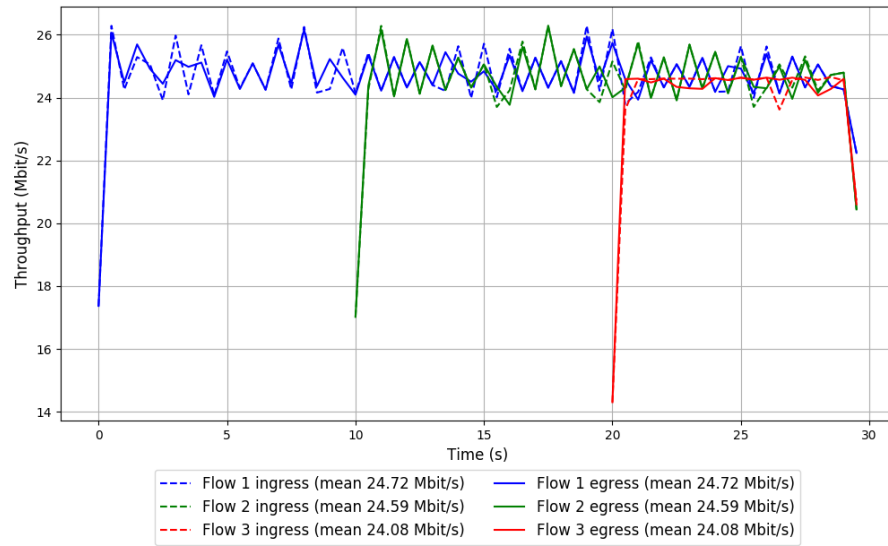
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2017-12-05 22:46:17
End at: 2017-12-05 22:46:47
Local clock offset: 3.478 ms
Remote clock offset: -12.399 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.88 Mbit/s
95th percentile per-packet one-way delay: 2.701 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.06 Mbit/s
95th percentile per-packet one-way delay: 1.252 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.68 Mbit/s
95th percentile per-packet one-way delay: 3.551 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.42 Mbit/s
95th percentile per-packet one-way delay: 3.007 ms
Loss rate: 0.00%
```
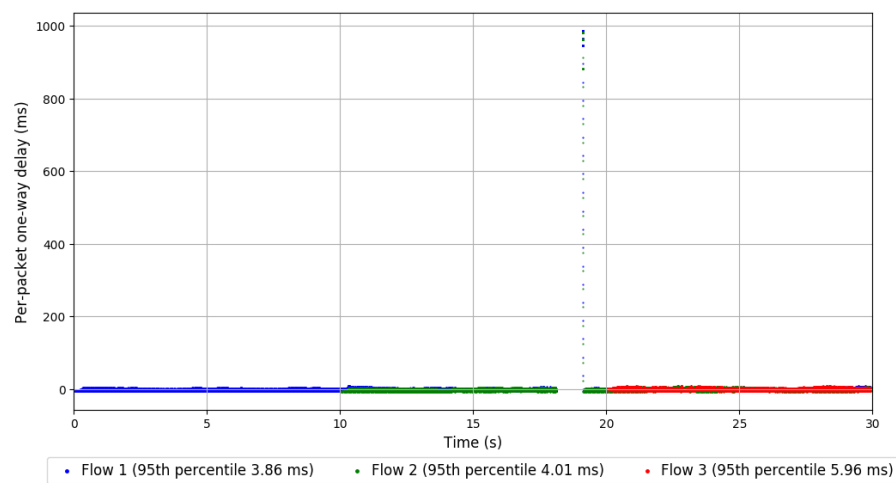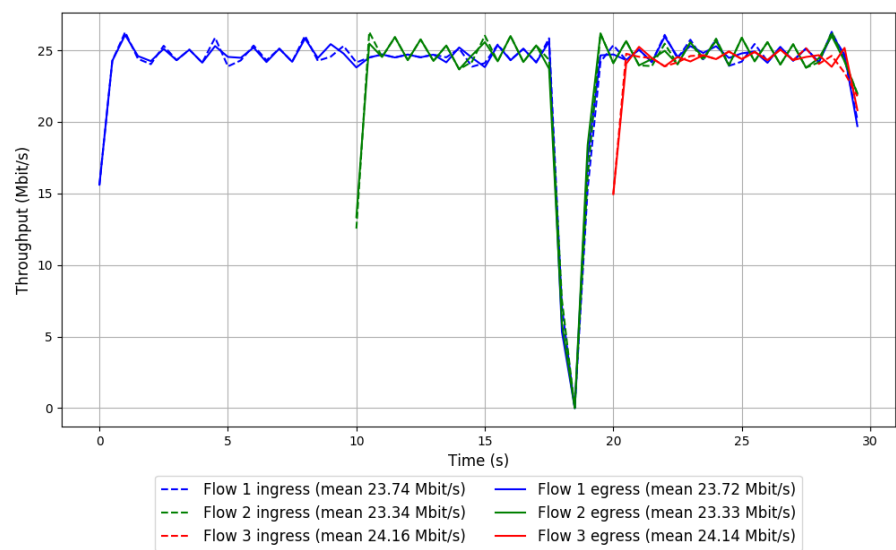
Run 4: Report of Sprout — Data Link

Flow 1 ingress (mean 24.06 Mbit/s) --- Flow 1 egress (mean 24.06 Mbit/s)
Flow 2 ingress (mean 23.69 Mbit/s) --- Flow 2 egress (mean 23.68 Mbit/s)
Flow 3 ingress (mean 24.43 Mbit/s) --- Flow 3 egress (mean 24.42 Mbit/s)

Flow 1 (95th percentile 1.25 ms) Flow 2 (95th percentile 3.55 ms) Flow 3 (95th percentile 3.01 ms)

```
Run 5: Statistics of Sprout

Start at: 2017-12-05 23:02:52
End at: 2017-12-05 23:03:22
Local clock offset: 1.825 ms
Remote clock offset: -12.665 ms


# Below is generated by plot.py at 2017-12-06 01:04:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.67 Mbit/s
95th percentile per-packet one-way delay: 3.222 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.38 Mbit/s
95th percentile per-packet one-way delay: 2.606 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.33 Mbit/s
95th percentile per-packet one-way delay: 3.432 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.54 Mbit/s
95th percentile per-packet one-way delay: 3.815 ms
Loss rate: 0.00%
```
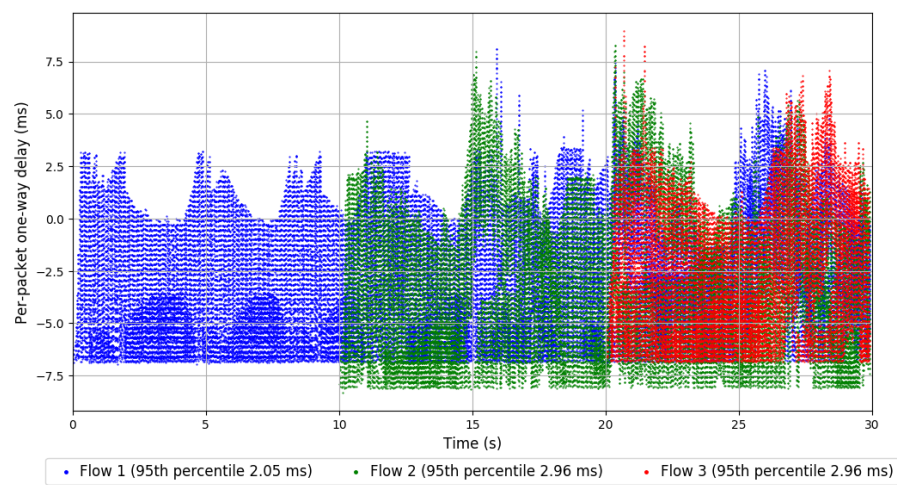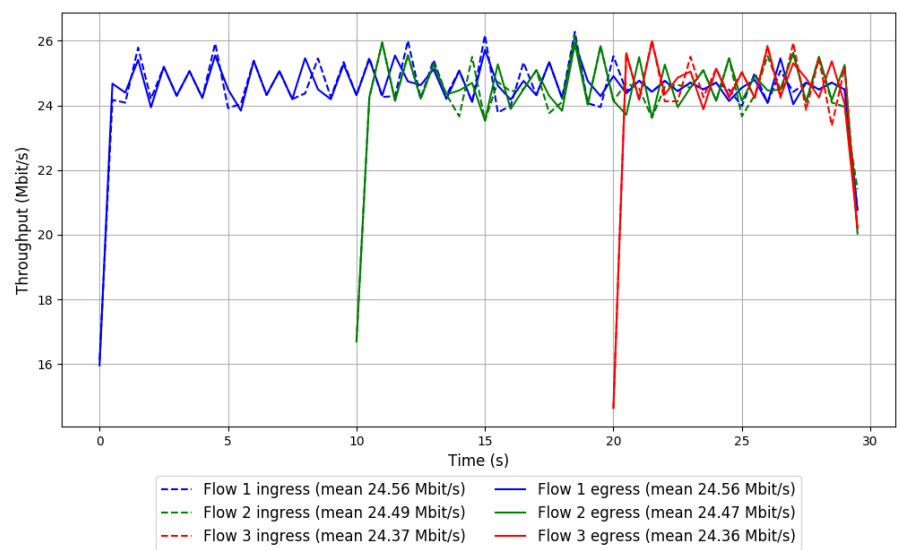
Run 5: Report of Sprout — Data Link

```
Run 6: Statistics of Sprout

Start at: 2017-12-05 23:19:17
End at: 2017-12-05 23:19:47
Local clock offset: 3.597 ms
Remote clock offset: -12.756 ms


# Below is generated by plot.py at 2017-12-06 01:04:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.02 Mbit/s
95th percentile per-packet one-way delay: 2.568 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.72 Mbit/s
95th percentile per-packet one-way delay: 2.614 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.59 Mbit/s
95th percentile per-packet one-way delay: 3.007 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.08 Mbit/s
95th percentile per-packet one-way delay: -3.166 ms
Loss rate: 0.00%
```
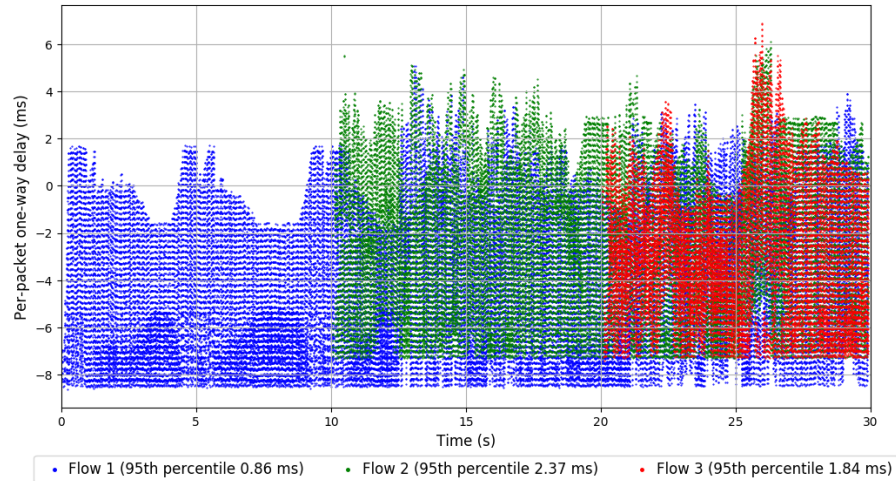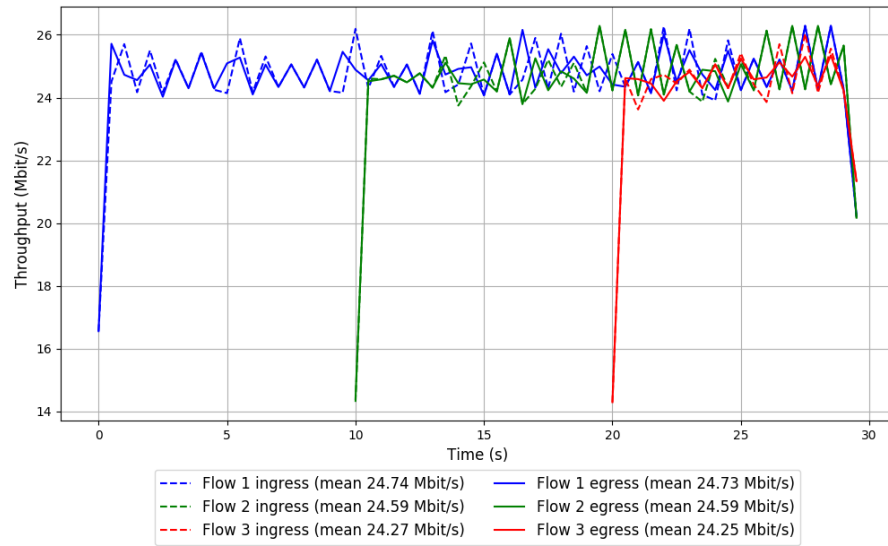
Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2017-12-05 23:35:36
End at: 2017-12-05 23:36:06
Local clock offset: 3.448 ms
Remote clock offset: -10.938 ms


# Below is generated by plot.py at 2017-12-06 01:05:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.22 Mbit/s
95th percentile per-packet one-way delay: 4.372 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 23.72 Mbit/s
95th percentile per-packet one-way delay: 3.857 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 23.33 Mbit/s
95th percentile per-packet one-way delay: 4.014 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.14 Mbit/s
95th percentile per-packet one-way delay: 5.957 ms
Loss rate: 0.00%
```
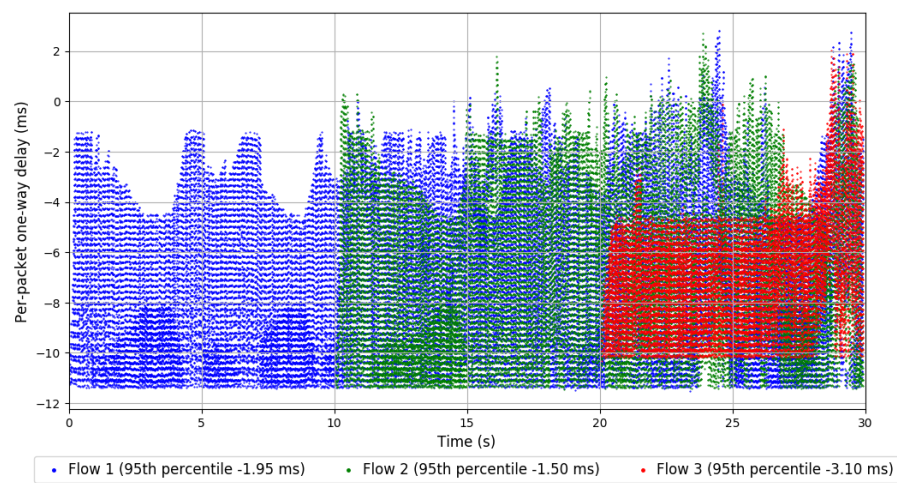
Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2017-12-05 23:52:11
End at: 2017-12-05 23:52:41
Local clock offset: 4.123 ms
Remote clock offset: -11.227 ms

# Below is generated by plot.py at 2017-12-06 01:05:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.88 Mbit/s
95th percentile per-packet one-way delay: 2.489 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.56 Mbit/s
95th percentile per-packet one-way delay: 2.053 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.47 Mbit/s
95th percentile per-packet one-way delay: 2.963 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.36 Mbit/s
95th percentile per-packet one-way delay: 2.956 ms
Loss rate: 0.00%
```
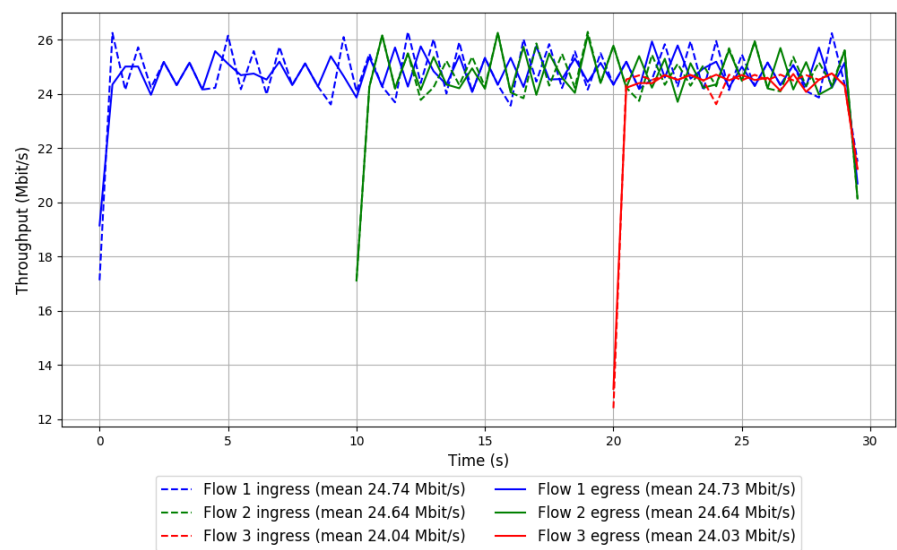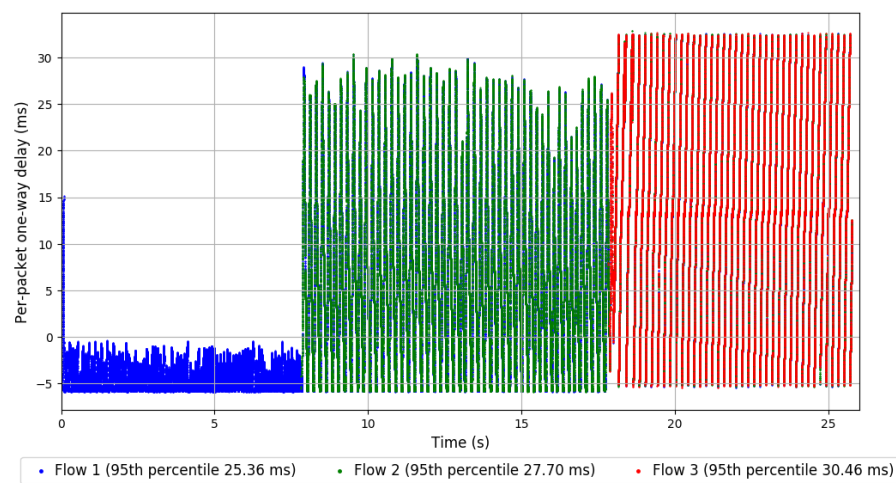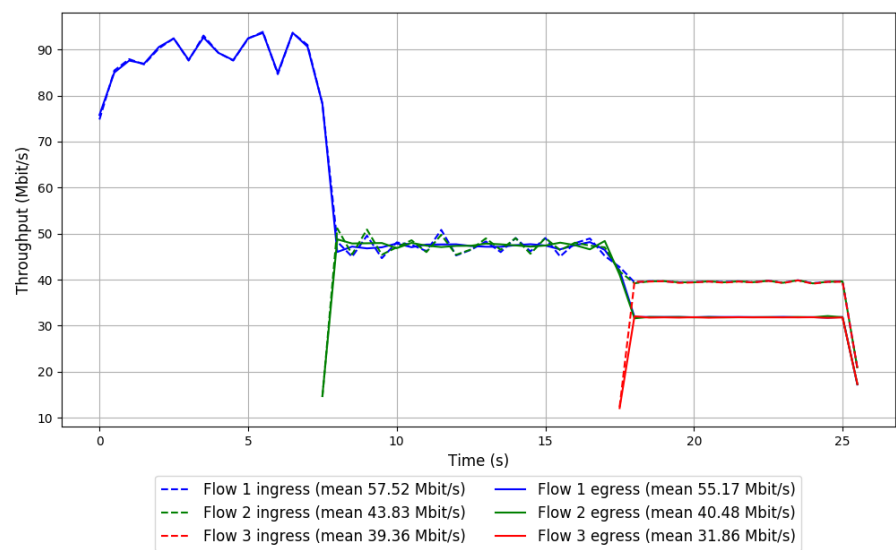
Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2017-12-06 00:08:32
End at: 2017-12-06 00:09:02
Local clock offset: 3.982 ms
Remote clock offset: -13.524 ms


# Below is generated by plot.py at 2017-12-06 01:05:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.10 Mbit/s
95th percentile per-packet one-way delay: 1.609 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.73 Mbit/s
95th percentile per-packet one-way delay: 0.858 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.59 Mbit/s
95th percentile per-packet one-way delay: 2.366 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.25 Mbit/s
95th percentile per-packet one-way delay: 1.845 ms
Loss rate: 0.00%
```

Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2017-12-06 00:25:05
End at: 2017-12-06 00:25:35
Local clock offset: 6.777 ms
Remote clock offset: -13.555 ms


# Below is generated by plot.py at 2017-12-06 01:05:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.06 Mbit/s
95th percentile per-packet one-way delay: -1.866 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.73 Mbit/s
95th percentile per-packet one-way delay: -1.953 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.64 Mbit/s
95th percentile per-packet one-way delay: -1.498 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.03 Mbit/s
95th percentile per-packet one-way delay: -3.096 ms
Loss rate: 0.00%
```

Run 10: Report of Sprout — Data Link

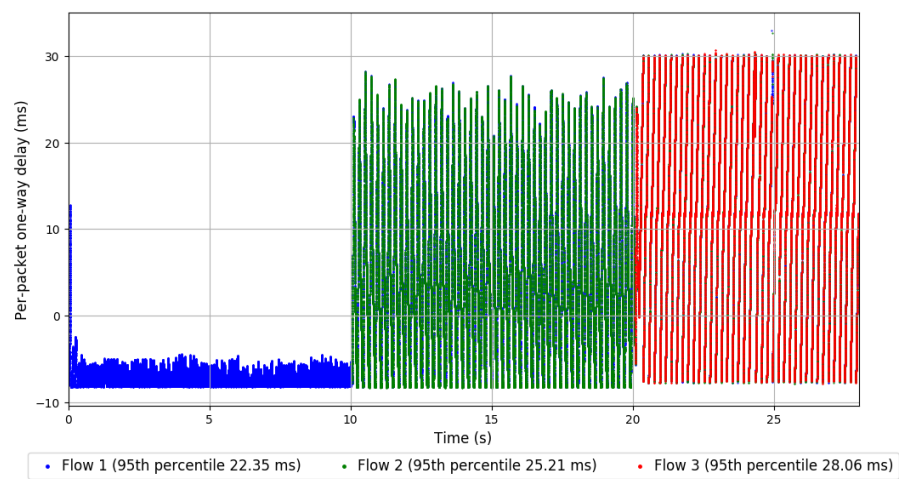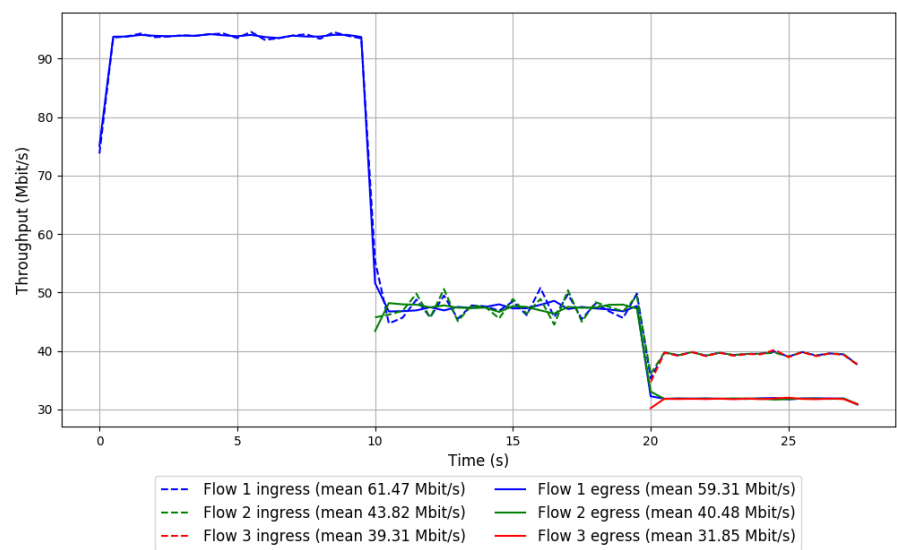Flow 1 ingress (mean 24.74 Mbit/s)   Flow 1 egress (mean 24.73 Mbit/s)
Flow 2 ingress (mean 24.64 Mbit/s)   Flow 2 egress (mean 24.64 Mbit/s)
Flow 3 ingress (mean 24.04 Mbit/s)   Flow 3 egress (mean 24.03 Mbit/s)

Flow 1 (95th percentile -1.95 ms)   Flow 2 (95th percentile -1.50 ms)   Flow 3 (95th percentile -3.10 ms)

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

Start at: 2017-12-05 21:49:38
End at: 2017-12-05 21:50:08
Local clock offset: 2.14 ms
Remote clock offset: -12.26 ms

# Below is generated by plot.py at 2017-12-06 01:06:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.23 Mbit/s
95th percentile per-packet one-way delay: 27.214 ms
Loss rate: 6.91%
-- Flow 1:
Average throughput: 55.17 Mbit/s
95th percentile per-packet one-way delay: 25.358 ms
Loss rate: 4.01%
-- Flow 2:
Average throughput: 40.48 Mbit/s
95th percentile per-packet one-way delay: 27.699 ms
Loss rate: 7.54%
-- Flow 3:
Average throughput: 31.86 Mbit/s
95th percentile per-packet one-way delay: 30.461 ms
Loss rate: 19.02%
```
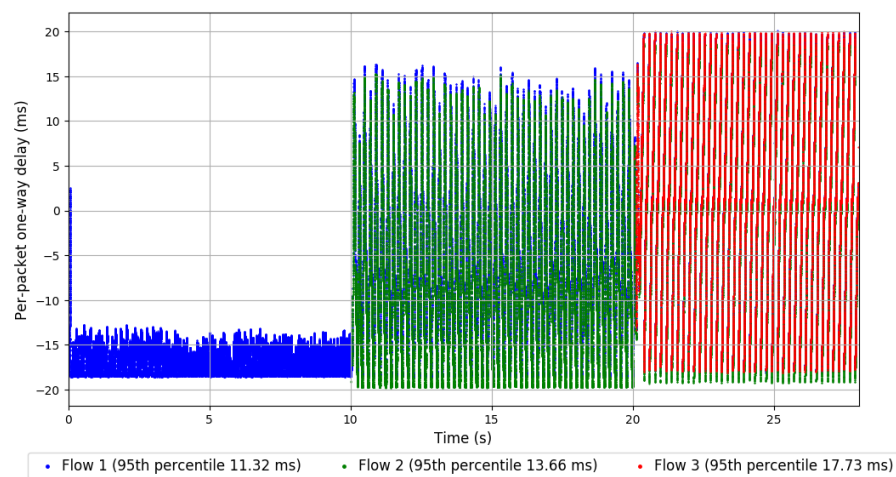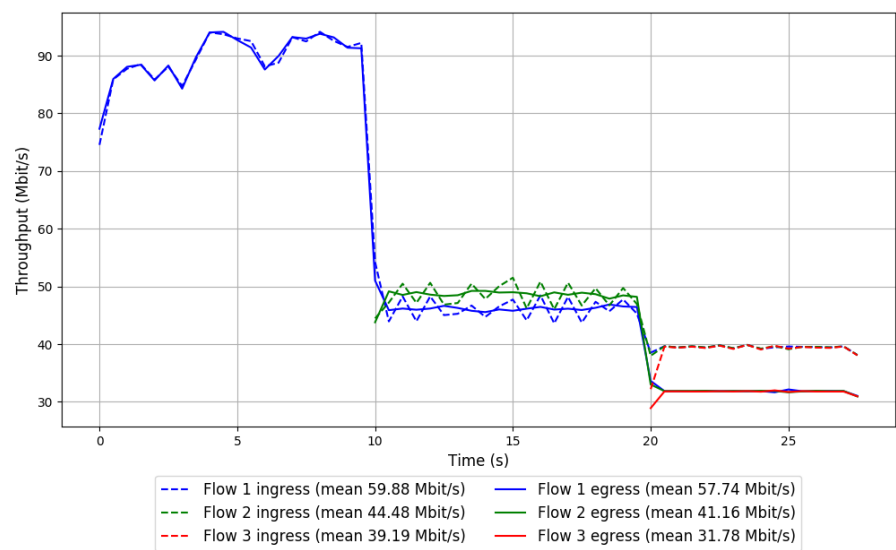
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2017-12-05 22:06:15
End at: 2017-12-05 22:06:45
Local clock offset: 6.058 ms
Remote clock offset: -11.705 ms


# Below is generated by plot.py at 2017-12-06 01:07:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.36 Mbit/s
95th percentile per-packet one-way delay: 24.365 ms
Loss rate: 6.30%
-- Flow 1:
Average throughput: 59.31 Mbit/s
95th percentile per-packet one-way delay: 22.353 ms
Loss rate: 3.44%
-- Flow 2:
Average throughput: 40.48 Mbit/s
95th percentile per-packet one-way delay: 25.213 ms
Loss rate: 7.53%
-- Flow 3:
Average throughput: 31.85 Mbit/s
95th percentile per-packet one-way delay: 28.059 ms
Loss rate: 18.93%
```
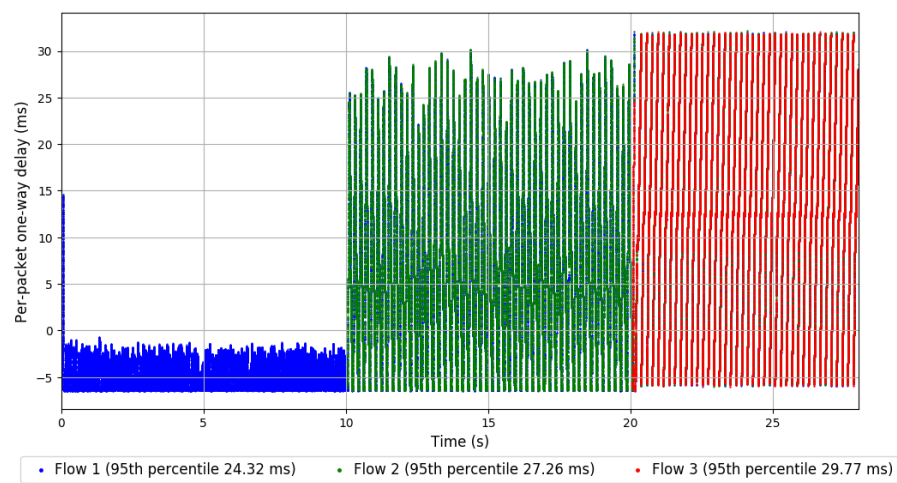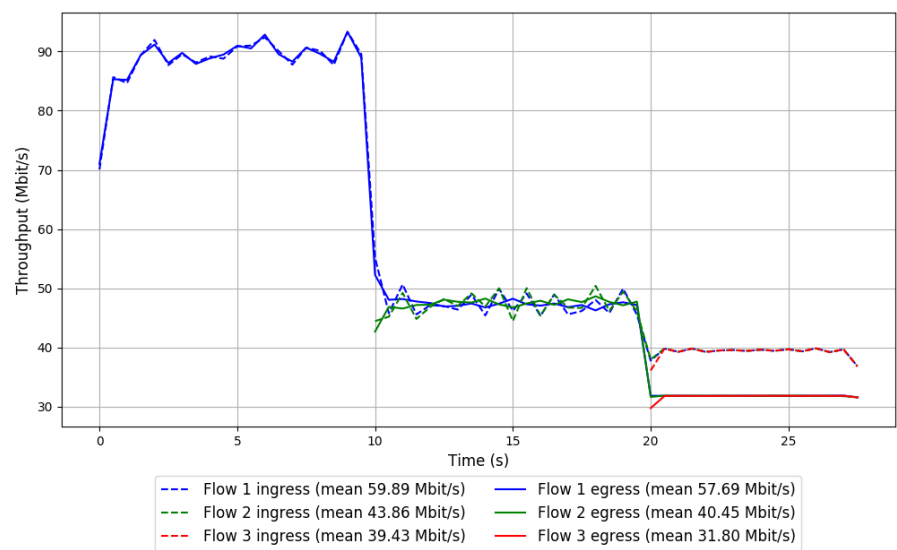
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 61.47 Mbit/s)   Flow 1 egress (mean 59.31 Mbit/s)
Flow 2 ingress (mean 43.82 Mbit/s)   Flow 2 egress (mean 40.48 Mbit/s)
Flow 3 ingress (mean 39.31 Mbit/s)   Flow 3 egress (mean 31.85 Mbit/s)

Flow 1 (95th percentile 22.35 ms)   Flow 2 (95th percentile 25.21 ms)   Flow 3 (95th percentile 28.06 ms)
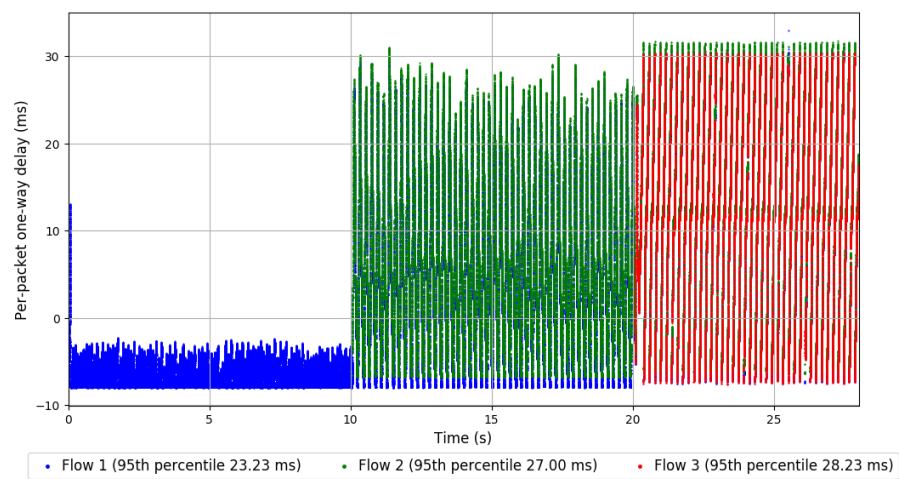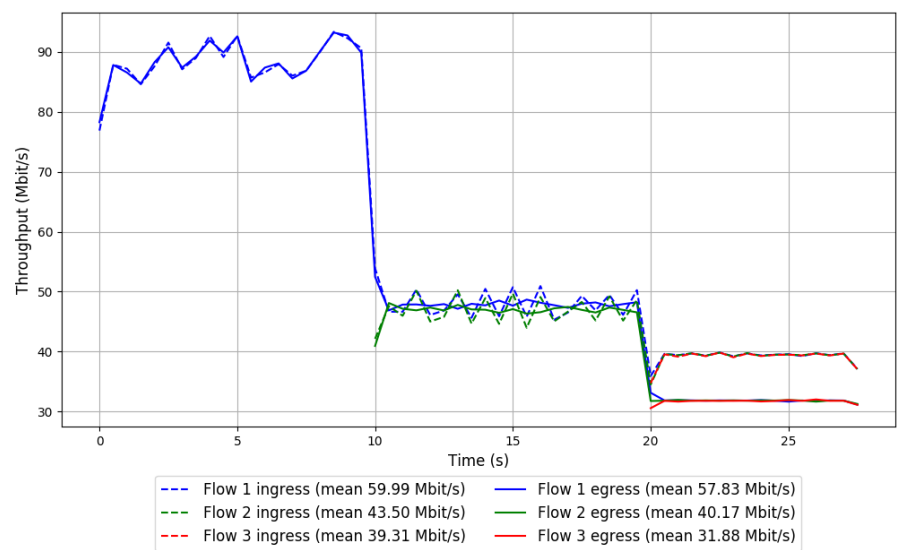
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```
Run 3: Statistics of TaoVA-100x

Start at: 2017-12-05 22:22:49
End at: 2017-12-05 22:23:19
Local clock offset: 16.212 ms
Remote clock offset: -11.498 ms


# Below is generated by plot.py at 2017-12-06 01:07:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.17 Mbit/s
95th percentile per-packet one-way delay: 13.442 ms
Loss rate: 6.33%
-- Flow 1:
Average throughput: 57.74 Mbit/s
95th percentile per-packet one-way delay: 11.325 ms
Loss rate: 3.51%
-- Flow 2:
Average throughput: 41.16 Mbit/s
95th percentile per-packet one-way delay: 13.663 ms
Loss rate: 7.36%
-- Flow 3:
Average throughput: 31.78 Mbit/s
95th percentile per-packet one-way delay: 17.730 ms
Loss rate: 18.88%
```

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

- - - Flow 1 ingress (mean 59.88 Mbit/s)   —— Flow 1 egress (mean 57.74 Mbit/s)
- - - Flow 2 ingress (mean 44.48 Mbit/s)   —— Flow 2 egress (mean 41.16 Mbit/s)
- - - Flow 3 ingress (mean 39.19 Mbit/s)   —— Flow 3 egress (mean 31.78 Mbit/s)

- Flow 1 (95th percentile 11.32 ms)   • Flow 2 (95th percentile 13.66 ms)   • Flow 3 (95th percentile 17.73 ms)

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

Start at: 2017-12-05 22:39:21
End at: 2017-12-05 22:39:51
Local clock offset: 3.512 ms
Remote clock offset: -10.878 ms

# Below is generated by plot.py at 2017-12-06 01:07:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.72 Mbit/s
95th percentile per-packet one-way delay: 26.372 ms
Loss rate: 6.46%
-- Flow 1:
Average throughput: 57.69 Mbit/s
95th percentile per-packet one-way delay: 24.319 ms
Loss rate: 3.56%
-- Flow 2:
Average throughput: 40.45 Mbit/s
95th percentile per-packet one-way delay: 27.259 ms
Loss rate: 7.61%
-- Flow 3:
Average throughput: 31.80 Mbit/s
95th percentile per-packet one-way delay: 29.772 ms
Loss rate: 19.07%
```
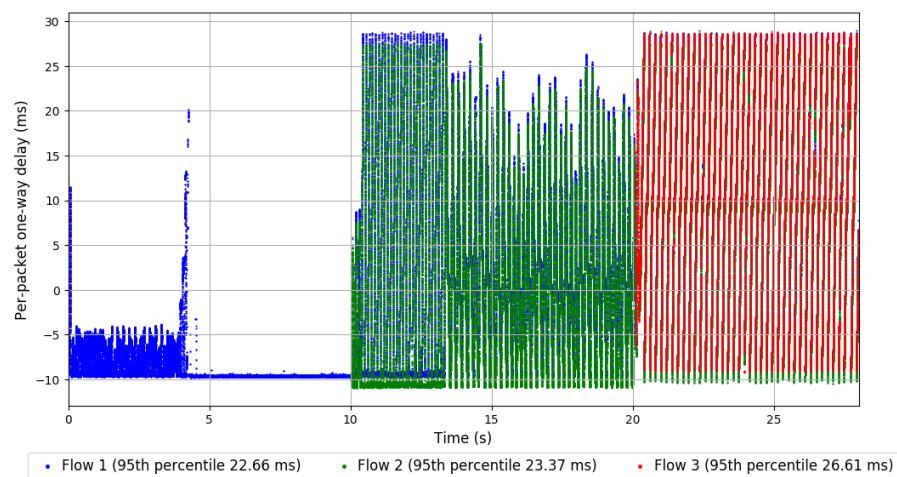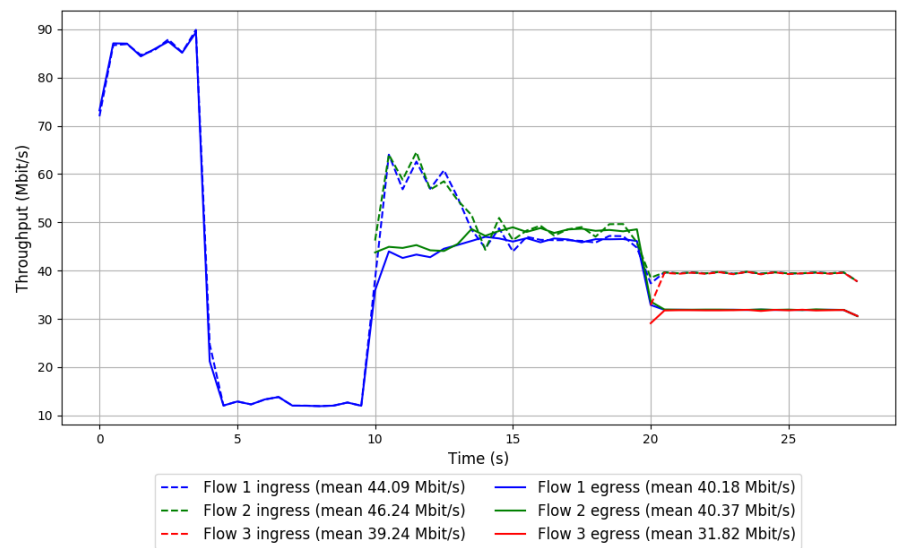
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 59.89 Mbit/s) — Flow 1 egress (mean 57.69 Mbit/s)
Flow 2 ingress (mean 43.86 Mbit/s) — Flow 2 egress (mean 40.45 Mbit/s)
Flow 3 ingress (mean 39.43 Mbit/s) — Flow 3 egress (mean 31.80 Mbit/s)

Flow 1 (95th percentile 24.32 ms)   Flow 2 (95th percentile 27.26 ms)   Flow 3 (95th percentile 29.77 ms)

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

Start at: 2017-12-05 22:55:51
End at: 2017-12-05 22:56:21
Local clock offset: 4.115 ms
Remote clock offset: -12.013 ms

# Below is generated by plot.py at 2017-12-06 01:07:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.68 Mbit/s
95th percentile per-packet one-way delay: 25.487 ms
Loss rate: 6.36%
-- Flow 1:
Average throughput: 57.83 Mbit/s
95th percentile per-packet one-way delay: 23.229 ms
Loss rate: 3.51%
-- Flow 2:
Average throughput: 40.17 Mbit/s
95th percentile per-packet one-way delay: 27.004 ms
Loss rate: 7.53%
-- Flow 3:
Average throughput: 31.88 Mbit/s
95th percentile per-packet one-way delay: 28.225 ms
Loss rate: 18.78%
```
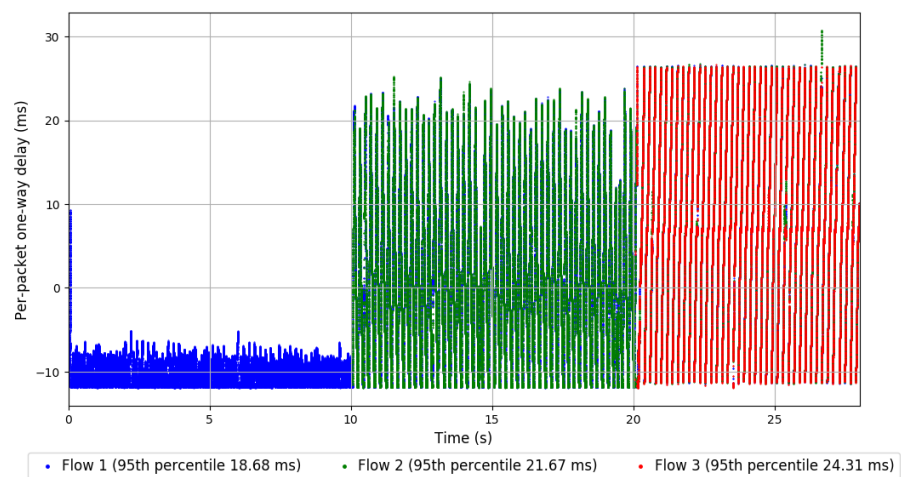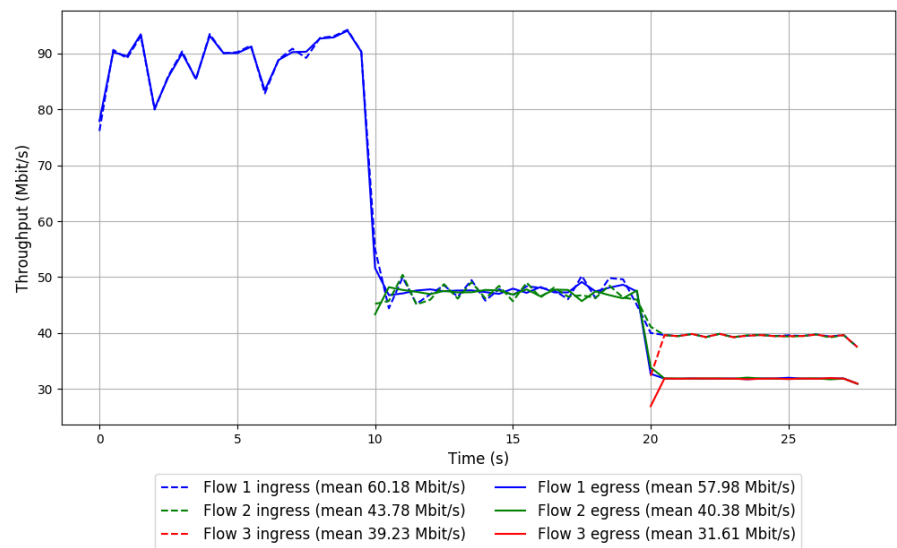
Run 5: Report of TaoVA-100x — Data Link

- - - Flow 1 ingress (mean 59.99 Mbit/s) ——— Flow 1 egress (mean 57.83 Mbit/s)
- - - Flow 2 ingress (mean 43.50 Mbit/s) ——— Flow 2 egress (mean 40.17 Mbit/s)
- - - Flow 3 ingress (mean 39.31 Mbit/s) ——— Flow 3 egress (mean 31.88 Mbit/s)

• Flow 1 (95th percentile 23.23 ms)   • Flow 2 (95th percentile 27.00 ms)   • Flow 3 (95th percentile 28.23 ms)
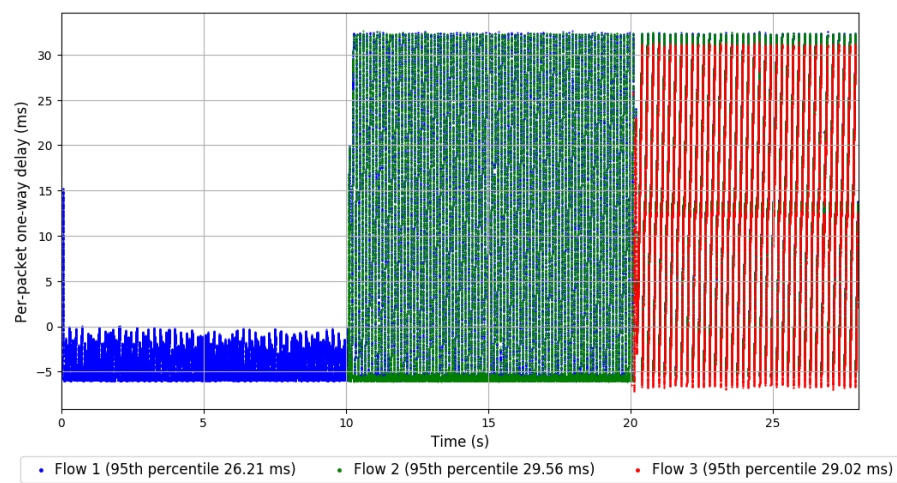
```
Run 6: Statistics of TaoVA-100x

Start at: 2017-12-05 23:12:16
End at: 2017-12-05 23:12:46
Local clock offset: 7.017 ms
Remote clock offset: -12.112 ms

# Below is generated by plot.py at 2017-12-06 01:07:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.12 Mbit/s
95th percentile per-packet one-way delay: 23.837 ms
Loss rate: 11.49%
-- Flow 1:
Average throughput: 40.18 Mbit/s
95th percentile per-packet one-way delay: 22.663 ms
Loss rate: 8.84%
-- Flow 2:
Average throughput: 40.37 Mbit/s
95th percentile per-packet one-way delay: 23.371 ms
Loss rate: 12.62%
-- Flow 3:
Average throughput: 31.82 Mbit/s
95th percentile per-packet one-way delay: 26.612 ms
Loss rate: 19.00%
```
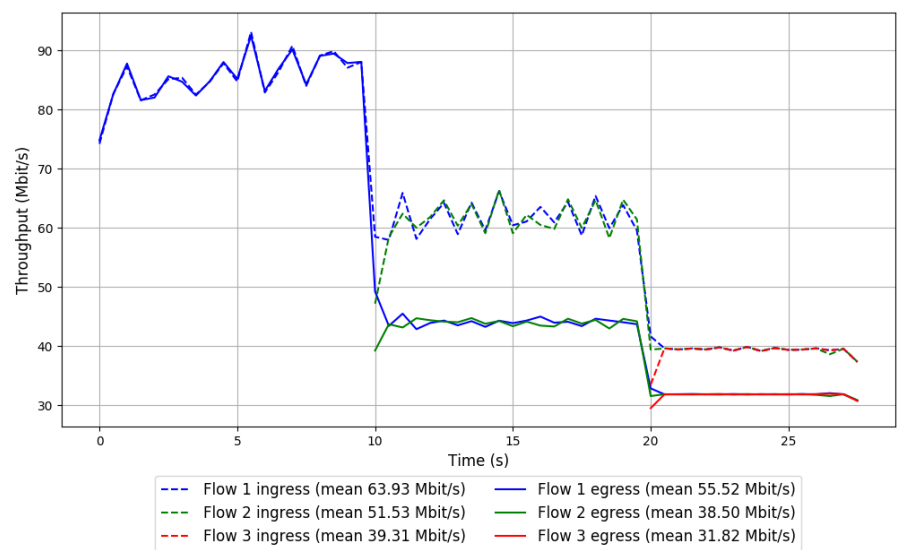
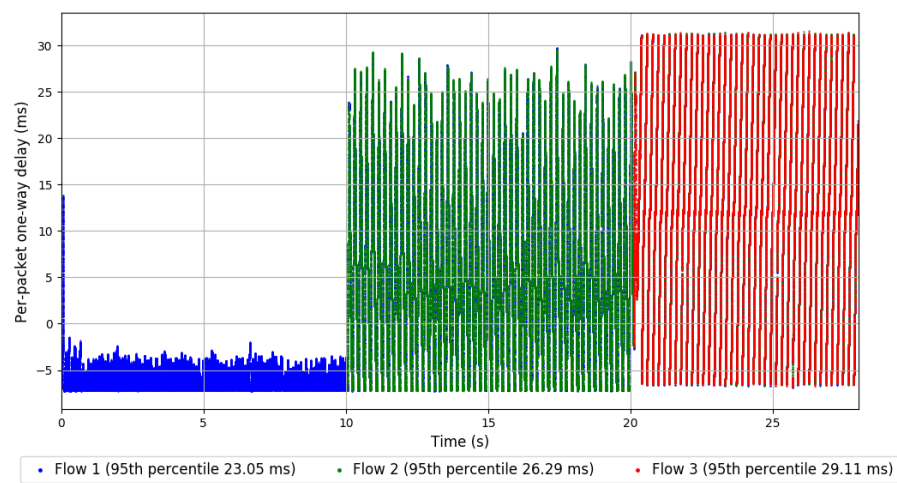Run 6: Report of TaoVA-100x — Data Link

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

Start at: 2017-12-05 23:28:40
End at: 2017-12-05 23:29:10
Local clock offset: 6.713 ms
Remote clock offset: -13.26 ms


# Below is generated by plot.py at 2017-12-06 01:07:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.91 Mbit/s
95th percentile per-packet one-way delay: 20.829 ms
Loss rate: 6.49%
-- Flow 1:
Average throughput: 57.98 Mbit/s
95th percentile per-packet one-way delay: 18.676 ms
Loss rate: 3.59%
-- Flow 2:
Average throughput: 40.38 Mbit/s
95th percentile per-packet one-way delay: 21.667 ms
Loss rate: 7.66%
-- Flow 3:
Average throughput: 31.61 Mbit/s
95th percentile per-packet one-way delay: 24.310 ms
Loss rate: 19.20%
```
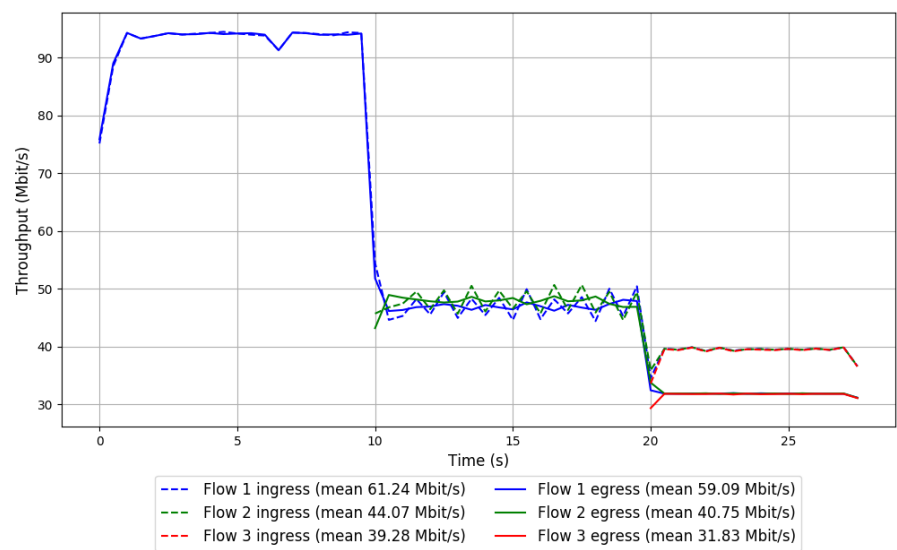
Run 7: Report of TaoVA-100x — Data Link

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

Start at: 2017-12-05 23:45:12
End at: 2017-12-05 23:45:42
Local clock offset: 3.606 ms
Remote clock offset: -10.957 ms

# Below is generated by plot.py at 2017-12-06 01:07:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.27 Mbit/s
95th percentile per-packet one-way delay: 28.102 ms
Loss rate: 17.40%
-- Flow 1:
Average throughput: 55.52 Mbit/s
95th percentile per-packet one-way delay: 26.213 ms
Loss rate: 13.11%
-- Flow 2:
Average throughput: 38.50 Mbit/s
95th percentile per-packet one-way delay: 29.564 ms
Loss rate: 25.22%
-- Flow 3:
Average throughput: 31.82 Mbit/s
95th percentile per-packet one-way delay: 29.015 ms
Loss rate: 18.85%
```

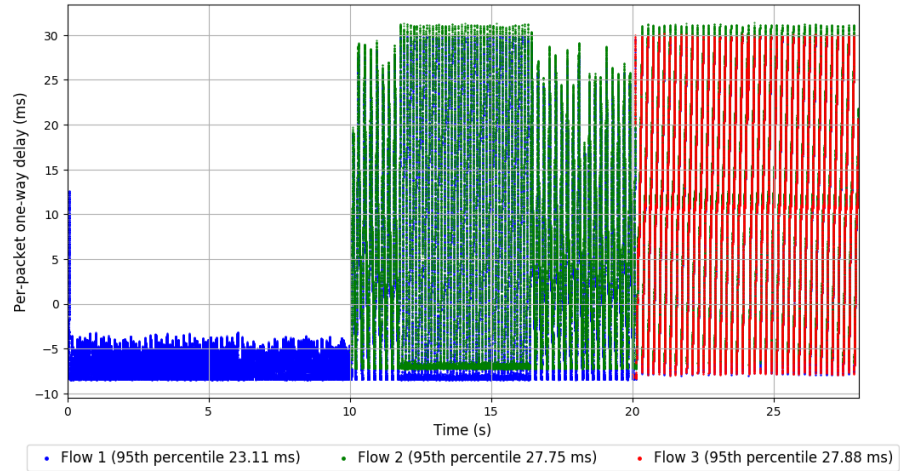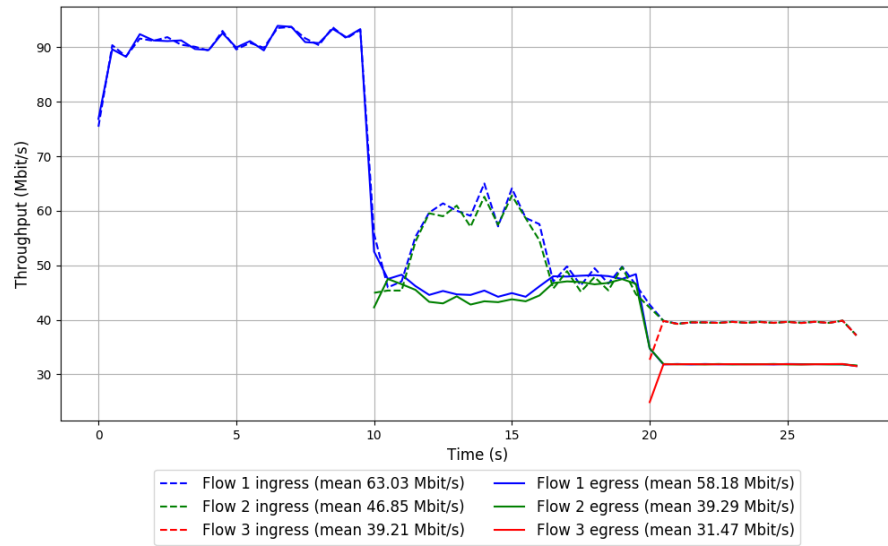Run 8: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 63.93 Mbit/s) — — —   Flow 1 egress (mean 55.52 Mbit/s) ———
Flow 2 ingress (mean 51.53 Mbit/s) — — —   Flow 2 egress (mean 38.50 Mbit/s) ———
Flow 3 ingress (mean 39.31 Mbit/s) — — —   Flow 3 egress (mean 31.82 Mbit/s) ———

• Flow 1 (95th percentile 26.21 ms)   • Flow 2 (95th percentile 29.56 ms)   • Flow 3 (95th percentile 29.02 ms)

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

Start at: 2017-12-06 00:01:36
End at: 2017-12-06 00:02:06
Local clock offset: 3.129 ms
Remote clock offset: -12.341 ms


# Below is generated by plot.py at 2017-12-06 01:09:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.29 Mbit/s
95th percentile per-packet one-way delay: 25.380 ms
Loss rate: 6.26%
-- Flow 1:
Average throughput: 59.09 Mbit/s
95th percentile per-packet one-way delay: 23.052 ms
Loss rate: 3.43%
-- Flow 2:
Average throughput: 40.75 Mbit/s
95th percentile per-packet one-way delay: 26.294 ms
Loss rate: 7.42%
-- Flow 3:
Average throughput: 31.83 Mbit/s
95th percentile per-packet one-way delay: 29.109 ms
Loss rate: 18.87%
```
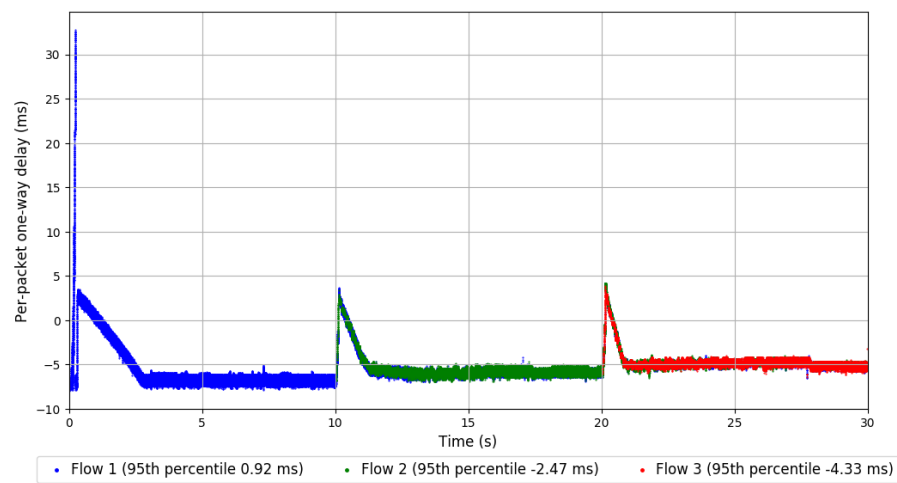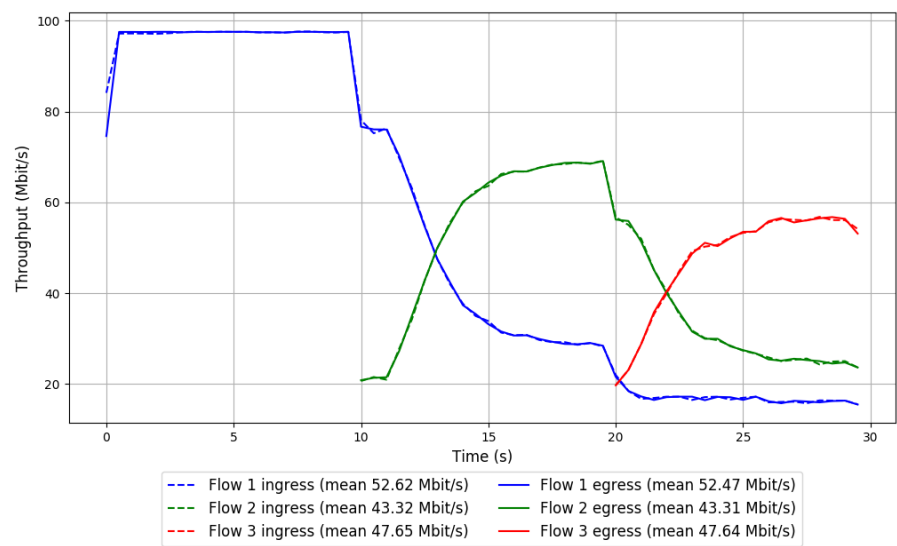
Run 9: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 61.24 Mbit/s)   Flow 1 egress (mean 59.09 Mbit/s)
Flow 2 ingress (mean 44.07 Mbit/s)   Flow 2 egress (mean 40.75 Mbit/s)
Flow 3 ingress (mean 39.28 Mbit/s)   Flow 3 egress (mean 31.83 Mbit/s)

Flow 1 (95th percentile 23.05 ms)   Flow 2 (95th percentile 26.29 ms)   Flow 3 (95th percentile 29.11 ms)

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

Start at: 2017-12-06 00:17:58
End at: 2017-12-06 00:18:28
Local clock offset: 5.906 ms
Remote clock offset: -11.472 ms


# Below is generated by plot.py at 2017-12-06 01:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.39 Mbit/s
95th percentile per-packet one-way delay: 25.757 ms
Loss rate: 11.29%
-- Flow 1:
Average throughput: 58.18 Mbit/s
95th percentile per-packet one-way delay: 23.108 ms
Loss rate: 7.60%
-- Flow 2:
Average throughput: 39.29 Mbit/s
95th percentile per-packet one-way delay: 27.749 ms
Loss rate: 16.00%
-- Flow 3:
Average throughput: 31.47 Mbit/s
95th percentile per-packet one-way delay: 27.883 ms
Loss rate: 19.44%
```

Run 10: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 63.03 Mbit/s)   Flow 1 egress (mean 58.18 Mbit/s)
Flow 2 ingress (mean 46.85 Mbit/s)   Flow 2 egress (mean 39.29 Mbit/s)
Flow 3 ingress (mean 39.21 Mbit/s)   Flow 3 egress (mean 31.47 Mbit/s)

Flow 1 (95th percentile 23.11 ms)   Flow 2 (95th percentile 27.75 ms)   Flow 3 (95th percentile 27.88 ms)

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```
Run 1: Statistics of TCP Vegas

Start at: 2017-12-05 22:00:15
End at: 2017-12-05 22:00:45
Local clock offset: 4.07 ms
Remote clock offset: -13.482 ms


# Below is generated by plot.py at 2017-12-06 01:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.13 Mbit/s
95th percentile per-packet one-way delay: -0.062 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 52.47 Mbit/s
95th percentile per-packet one-way delay: 0.922 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 43.31 Mbit/s
95th percentile per-packet one-way delay: -2.466 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.64 Mbit/s
95th percentile per-packet one-way delay: -4.330 ms
Loss rate: 0.00%
```
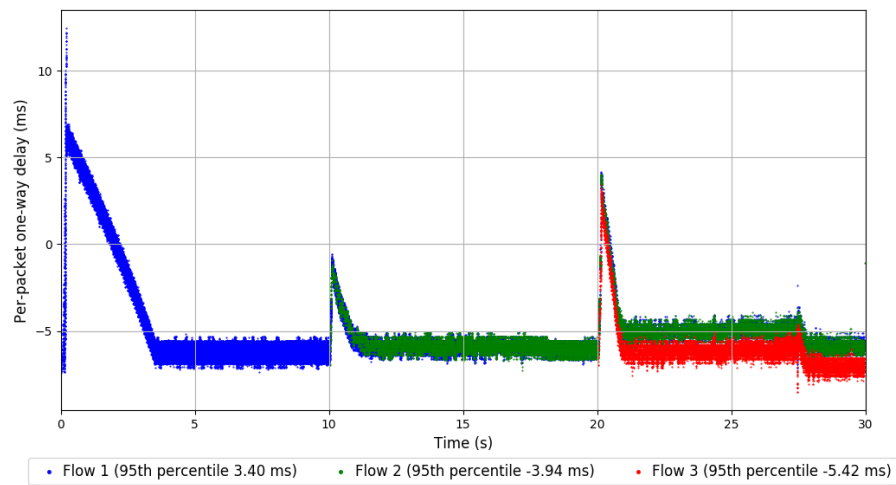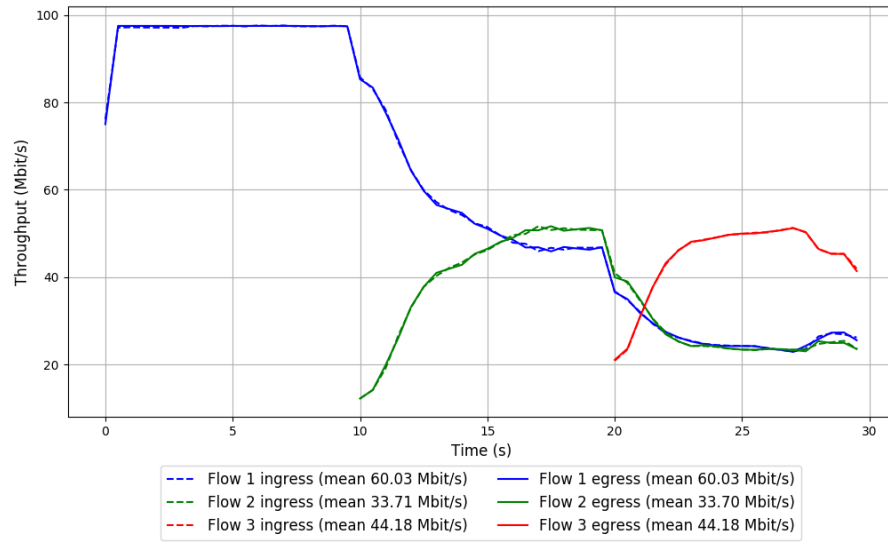
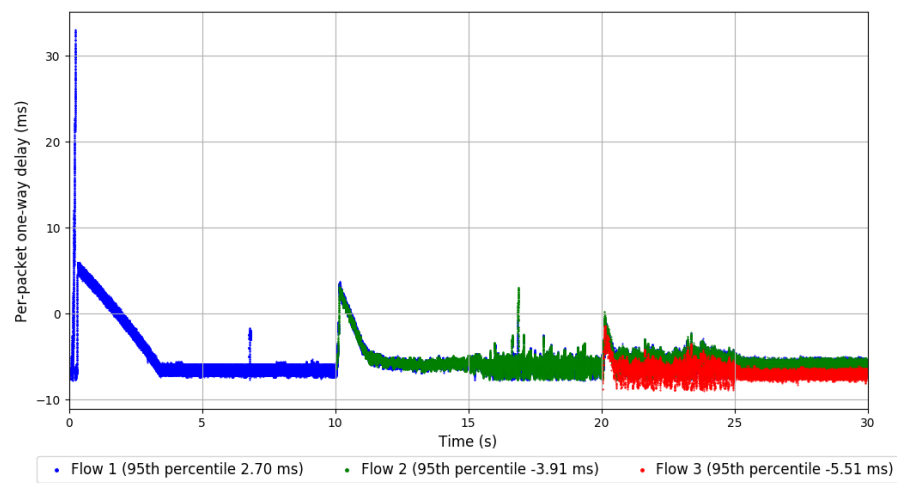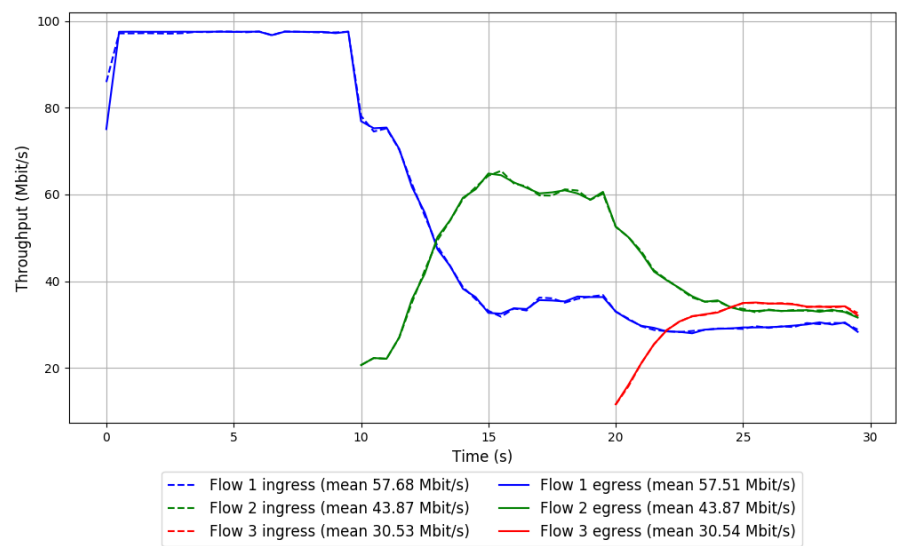Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2017-12-05 22:16:50
End at: 2017-12-05 22:17:20
Local clock offset: 17.791 ms
Remote clock offset: -11.016 ms


# Below is generated by plot.py at 2017-12-06 01:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.16 Mbit/s
95th percentile per-packet one-way delay: -11.624 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.15 Mbit/s
95th percentile per-packet one-way delay: -9.979 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.44 Mbit/s
95th percentile per-packet one-way delay: -17.642 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.43 Mbit/s
95th percentile per-packet one-way delay: -16.505 ms
Loss rate: 0.00%
```

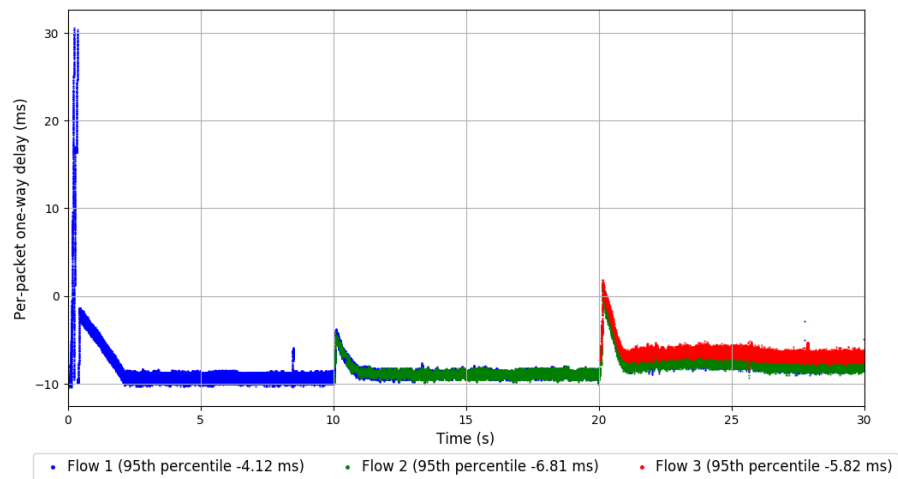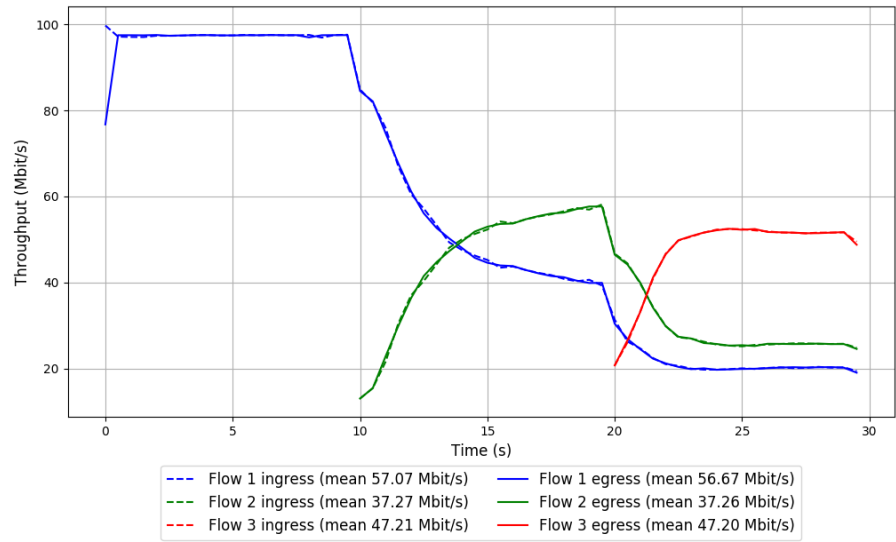Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2017-12-05 22:33:24
End at: 2017-12-05 22:33:54
Local clock offset: 4.167 ms
Remote clock offset: -12.359 ms


# Below is generated by plot.py at 2017-12-06 01:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.13 Mbit/s
95th percentile per-packet one-way delay: 1.703 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.03 Mbit/s
95th percentile per-packet one-way delay: 3.402 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.70 Mbit/s
95th percentile per-packet one-way delay: -3.935 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 44.18 Mbit/s
95th percentile per-packet one-way delay: -5.424 ms
Loss rate: 0.00%
```
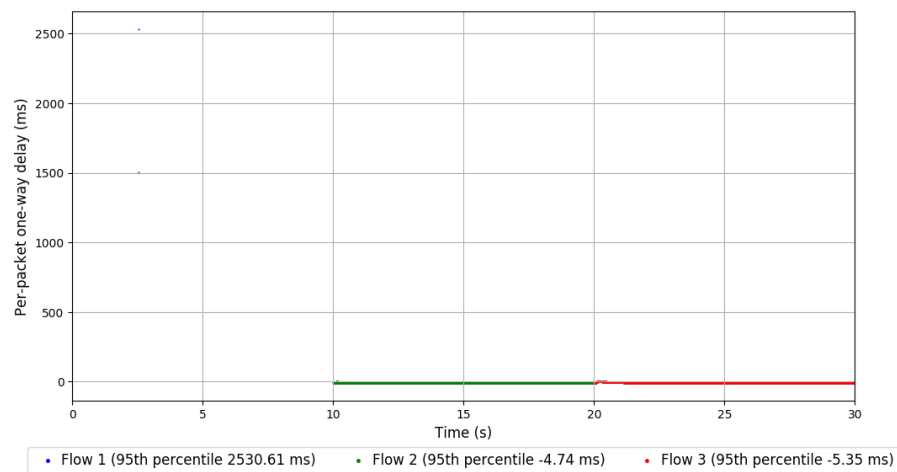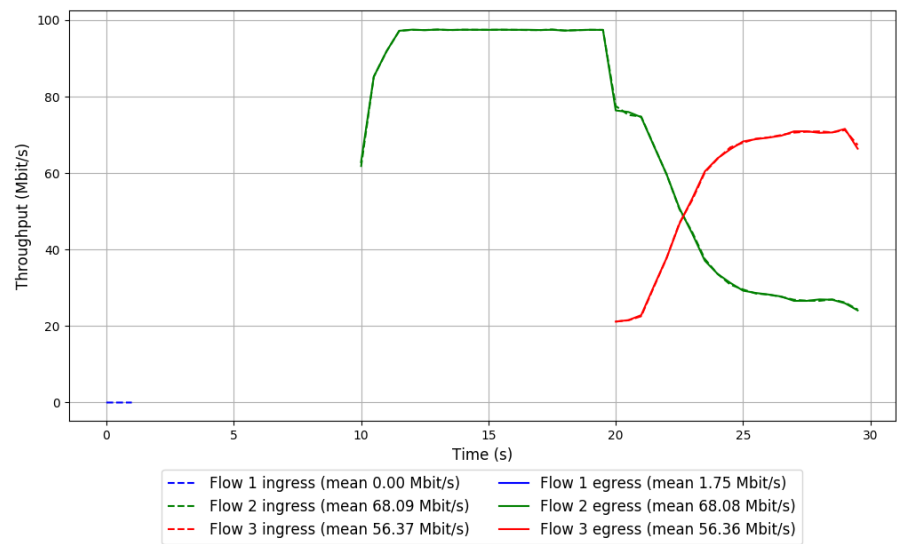
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 60.03 Mbit/s)   Flow 1 egress (mean 60.03 Mbit/s)
Flow 2 ingress (mean 33.71 Mbit/s)   Flow 2 egress (mean 33.70 Mbit/s)
Flow 3 ingress (mean 44.18 Mbit/s)   Flow 3 egress (mean 44.18 Mbit/s)

Flow 1 (95th percentile 3.40 ms)   Flow 2 (95th percentile -3.94 ms)   Flow 3 (95th percentile -5.42 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2017-12-05 22:49:50
End at: 2017-12-05 22:50:20
Local clock offset: 5.493 ms
Remote clock offset: -11.516 ms


# Below is generated by plot.py at 2017-12-06 01:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.85 Mbit/s
95th percentile per-packet one-way delay: 1.209 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 57.51 Mbit/s
95th percentile per-packet one-way delay: 2.700 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 43.87 Mbit/s
95th percentile per-packet one-way delay: -3.910 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.54 Mbit/s
95th percentile per-packet one-way delay: -5.515 ms
Loss rate: 0.00%
```

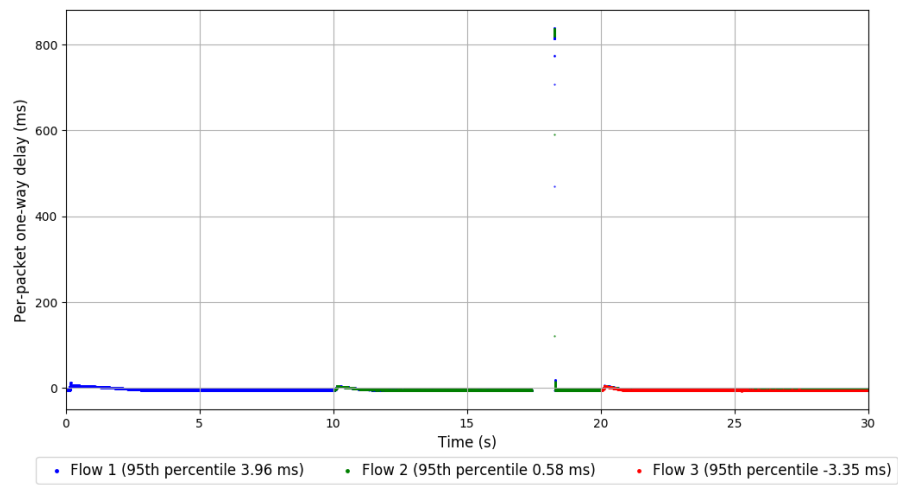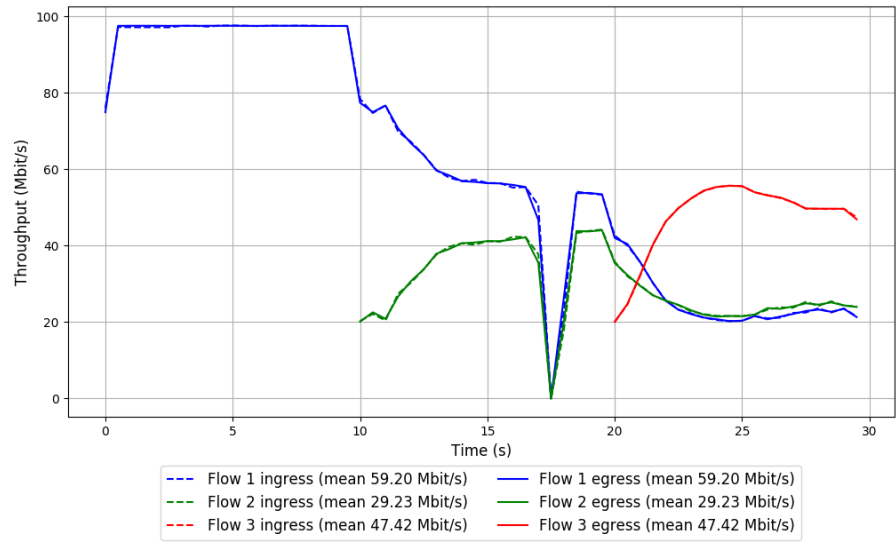Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2017-12-05 23:06:21
End at: 2017-12-05 23:06:51
Local clock offset: 7.196 ms
Remote clock offset: -11.324 ms


# Below is generated by plot.py at 2017-12-06 01:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: -4.853 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 56.67 Mbit/s
95th percentile per-packet one-way delay: -4.115 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 37.26 Mbit/s
95th percentile per-packet one-way delay: -6.813 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.20 Mbit/s
95th percentile per-packet one-way delay: -5.823 ms
Loss rate: 0.00%
```

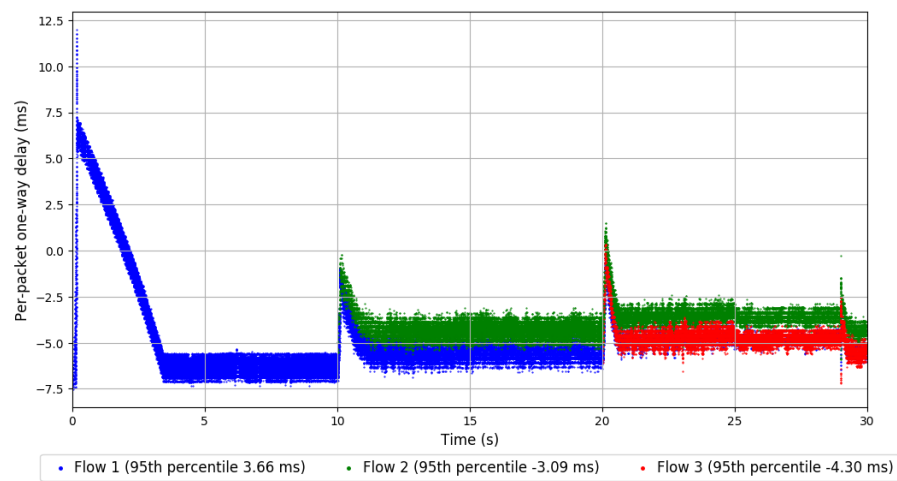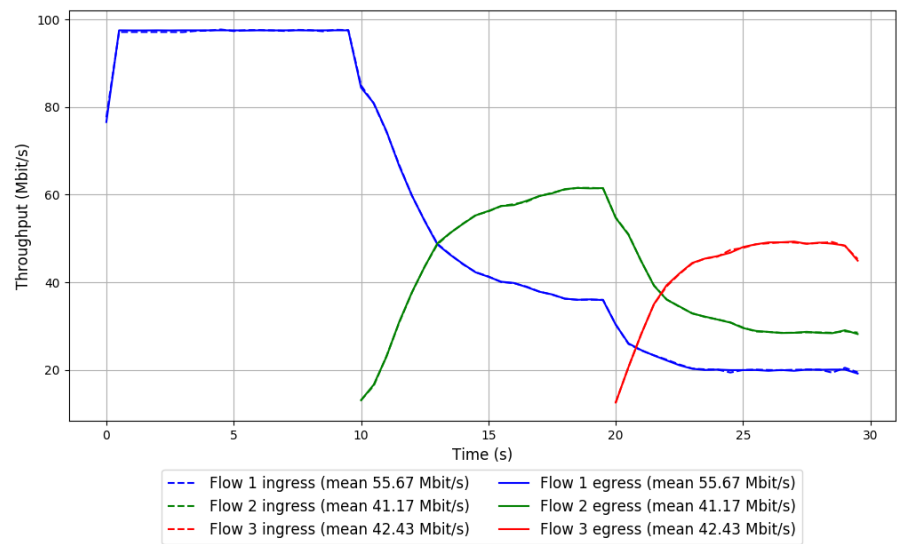Run 5: Report of TCP Vegas — Data Link

```
Run 6: Statistics of TCP Vegas

Start at: 2017-12-05 23:22:48
End at: 2017-12-05 23:23:18
Local clock offset: 5.963 ms
Remote clock offset: -10.377 ms


# Below is generated by plot.py at 2017-12-06 01:09:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 69.98 Mbit/s
95th percentile per-packet one-way delay: -5.004 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 2530.605 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 68.08 Mbit/s
95th percentile per-packet one-way delay: -4.740 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 56.36 Mbit/s
95th percentile per-packet one-way delay: -5.353 ms
Loss rate: 0.00%
```

Run 6: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 0.00 Mbit/s) — Flow 1 egress (mean 1.75 Mbit/s)
Flow 2 ingress (mean 68.09 Mbit/s) — Flow 2 egress (mean 68.08 Mbit/s)
Flow 3 ingress (mean 56.37 Mbit/s) — Flow 3 egress (mean 56.36 Mbit/s)

Flow 1 (95th percentile 2530.61 ms) · Flow 2 (95th percentile -4.74 ms) · Flow 3 (95th percentile -5.35 ms)

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```
Run 7: Statistics of TCP Vegas

Start at: 2017-12-05 23:39:06
End at: 2017-12-05 23:39:36
Local clock offset: 1.77 ms
Remote clock offset: -12.657 ms


# Below is generated by plot.py at 2017-12-06 01:09:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 3.042 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.20 Mbit/s
95th percentile per-packet one-way delay: 3.956 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 29.23 Mbit/s
95th percentile per-packet one-way delay: 0.577 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.42 Mbit/s
95th percentile per-packet one-way delay: -3.354 ms
Loss rate: 0.00%
```
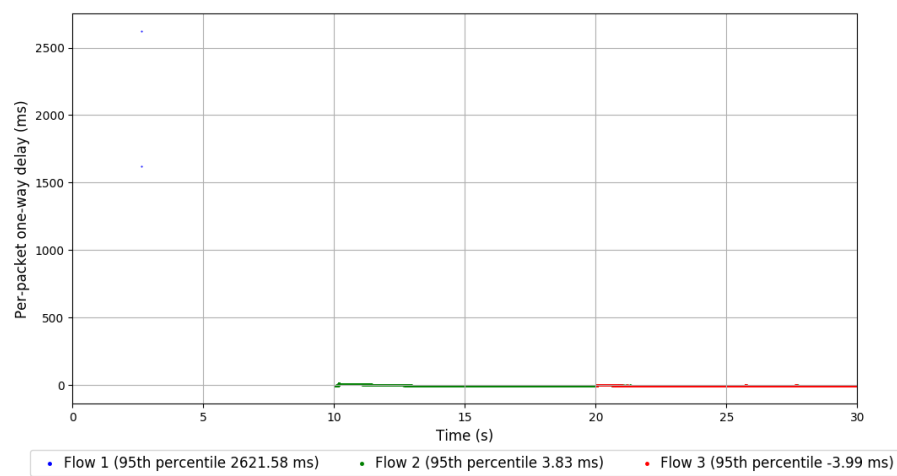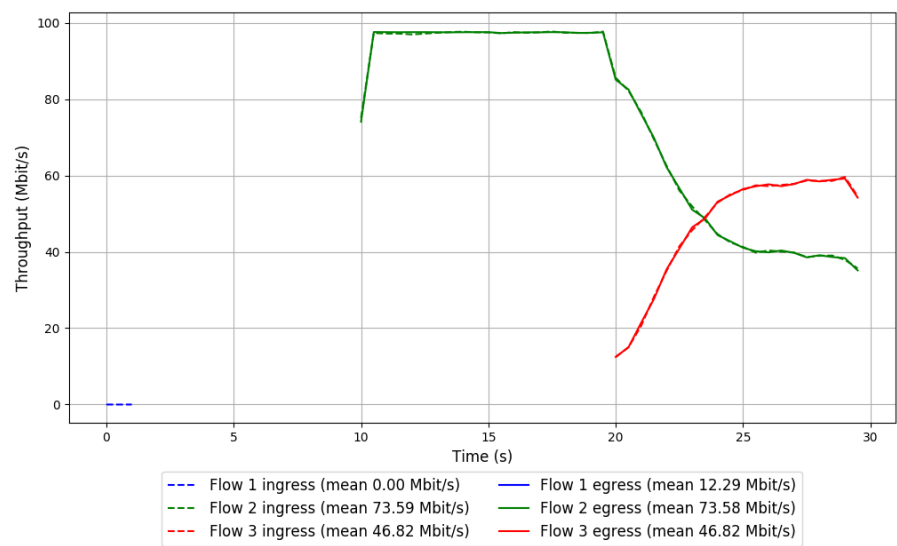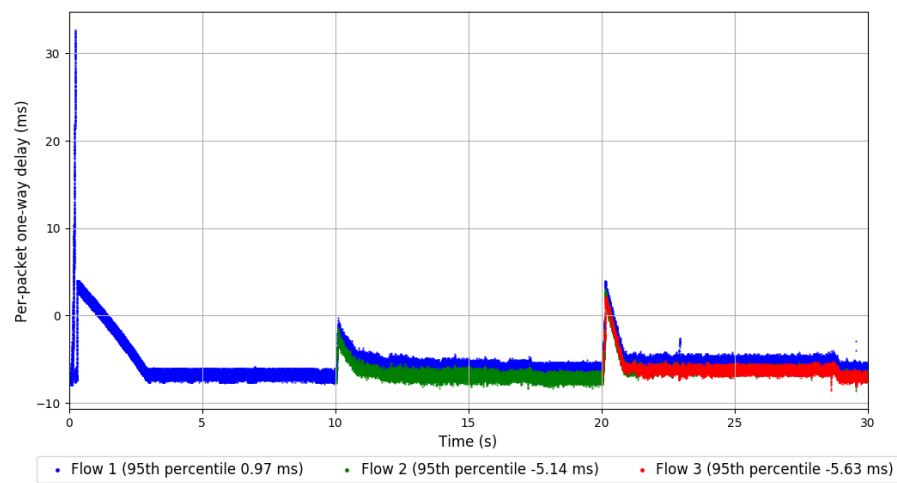
Run 7: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 59.20 Mbit/s) — — — Flow 1 egress (mean 59.20 Mbit/s)
Flow 2 ingress (mean 29.23 Mbit/s) — — — Flow 2 egress (mean 29.23 Mbit/s)
Flow 3 ingress (mean 47.42 Mbit/s) — — — Flow 3 egress (mean 47.42 Mbit/s)

Flow 1 (95th percentile 3.96 ms) • Flow 2 (95th percentile 0.58 ms) • Flow 3 (95th percentile -3.35 ms)

```
Run 8: Statistics of TCP Vegas

Start at: 2017-12-05 23:55:41
End at: 2017-12-05 23:56:11
Local clock offset: 3.563 ms
Remote clock offset: -11.493 ms


# Below is generated by plot.py at 2017-12-06 01:10:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.17 Mbit/s
95th percentile per-packet one-way delay: 1.385 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.67 Mbit/s
95th percentile per-packet one-way delay: 3.659 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.17 Mbit/s
95th percentile per-packet one-way delay: -3.089 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.43 Mbit/s
95th percentile per-packet one-way delay: -4.305 ms
Loss rate: 0.00%
```
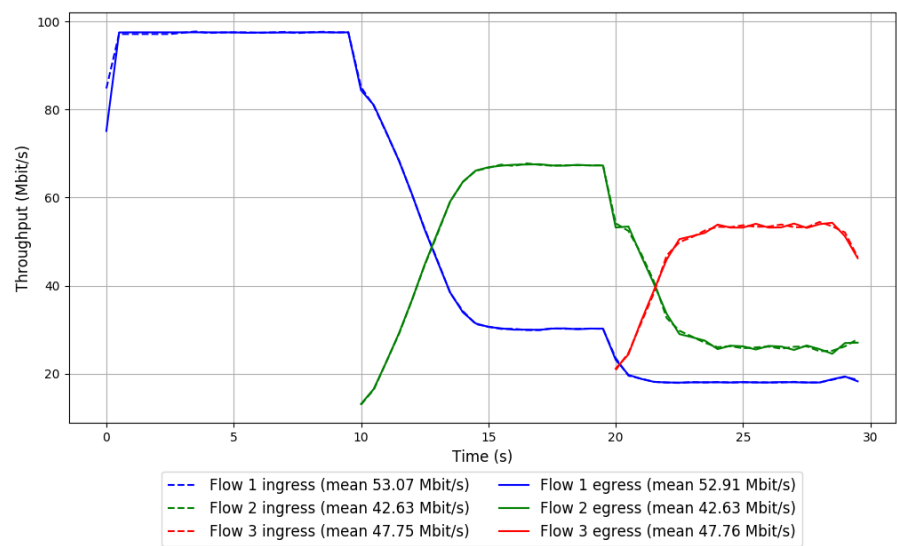
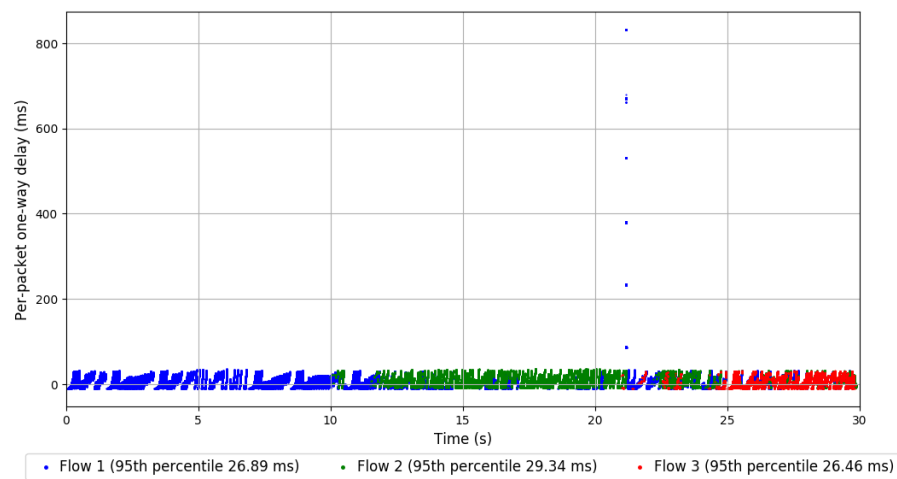Run 8: Report of TCP Vegas — Data Link

```
Run 9: Statistics of TCP Vegas

Start at: 2017-12-06 00:12:03
End at: 2017-12-06 00:12:33
Local clock offset: 3.307 ms
Remote clock offset: -13.116 ms


# Below is generated by plot.py at 2017-12-06 01:10:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.75 Mbit/s
95th percentile per-packet one-way delay: 3.021 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.29 Mbit/s
95th percentile per-packet one-way delay: 2621.580 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 73.58 Mbit/s
95th percentile per-packet one-way delay: 3.835 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 46.82 Mbit/s
95th percentile per-packet one-way delay: -3.990 ms
Loss rate: 0.00%
```
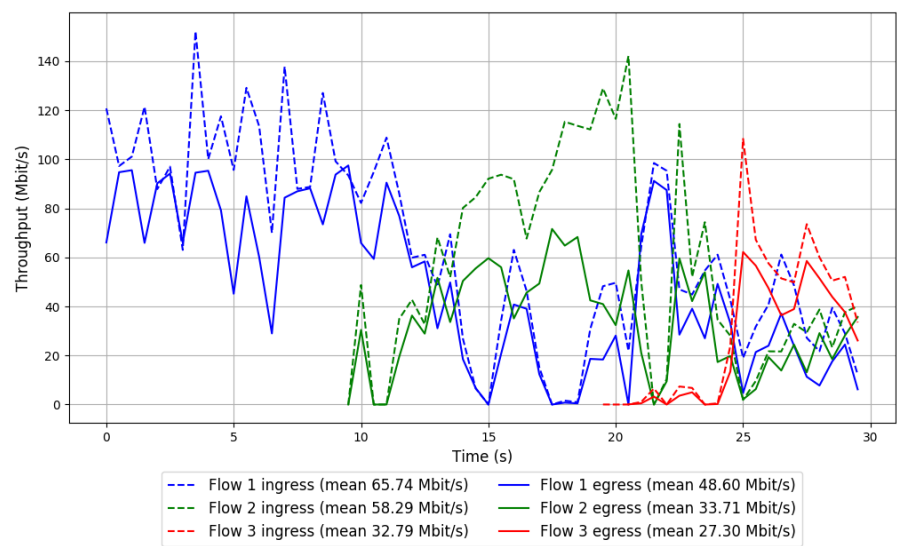
Run 9: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 0.00 Mbit/s) --- Flow 1 egress (mean 12.29 Mbit/s)
Flow 2 ingress (mean 73.59 Mbit/s) --- Flow 2 egress (mean 73.58 Mbit/s)
Flow 3 ingress (mean 46.82 Mbit/s) --- Flow 3 egress (mean 46.82 Mbit/s)

Flow 1 (95th percentile 2621.58 ms)   Flow 2 (95th percentile 3.83 ms)   Flow 3 (95th percentile -3.99 ms)

201

```
Run 10: Statistics of TCP Vegas

Start at: 2017-12-06 00:28:34
End at: 2017-12-06 00:29:04
Local clock offset: 4.271 ms
Remote clock offset: -13.888 ms


# Below is generated by plot.py at 2017-12-06 01:10:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.15 Mbit/s
95th percentile per-packet one-way delay: -0.723 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 52.91 Mbit/s
95th percentile per-packet one-way delay: 0.971 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 42.63 Mbit/s
95th percentile per-packet one-way delay: -5.140 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.76 Mbit/s
95th percentile per-packet one-way delay: -5.633 ms
Loss rate: 0.00%
```

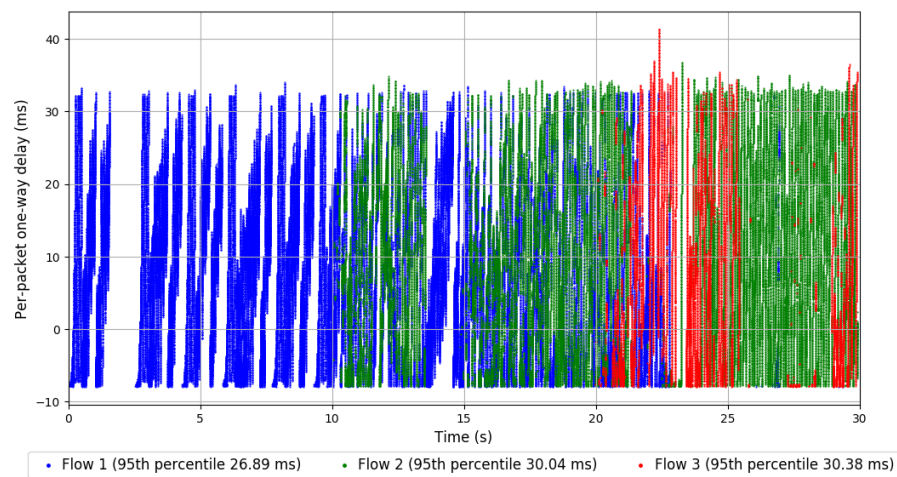Run 10: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2017-12-05 21:57:49
End at: 2017-12-05 21:58:19
Local clock offset: 6.242 ms
Remote clock offset: -11.493 ms


# Below is generated by plot.py at 2017-12-06 01:10:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.78 Mbit/s
95th percentile per-packet one-way delay: 27.673 ms
Loss rate: 31.45%
-- Flow 1:
Average throughput: 48.60 Mbit/s
95th percentile per-packet one-way delay: 26.895 ms
Loss rate: 26.05%
-- Flow 2:
Average throughput: 33.71 Mbit/s
95th percentile per-packet one-way delay: 29.338 ms
Loss rate: 42.21%
-- Flow 3:
Average throughput: 27.30 Mbit/s
95th percentile per-packet one-way delay: 26.457 ms
Loss rate: 25.34%
```
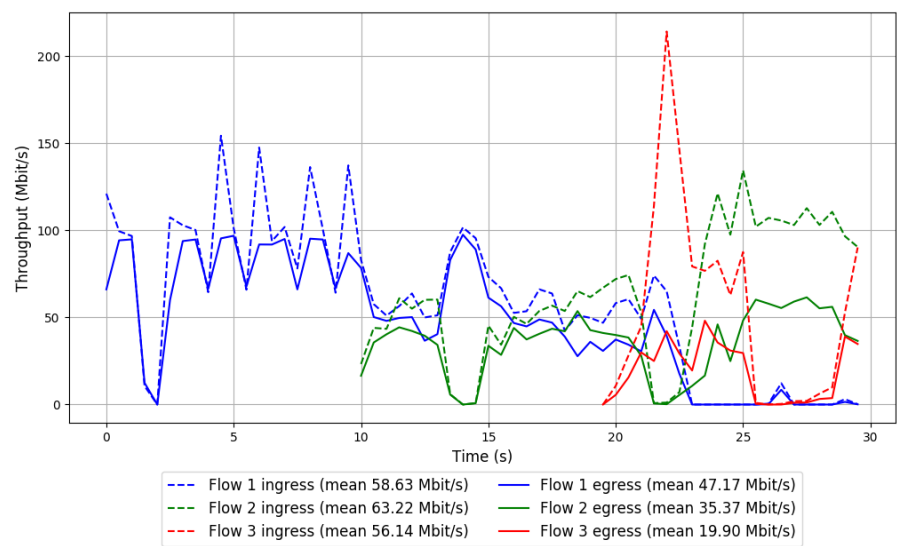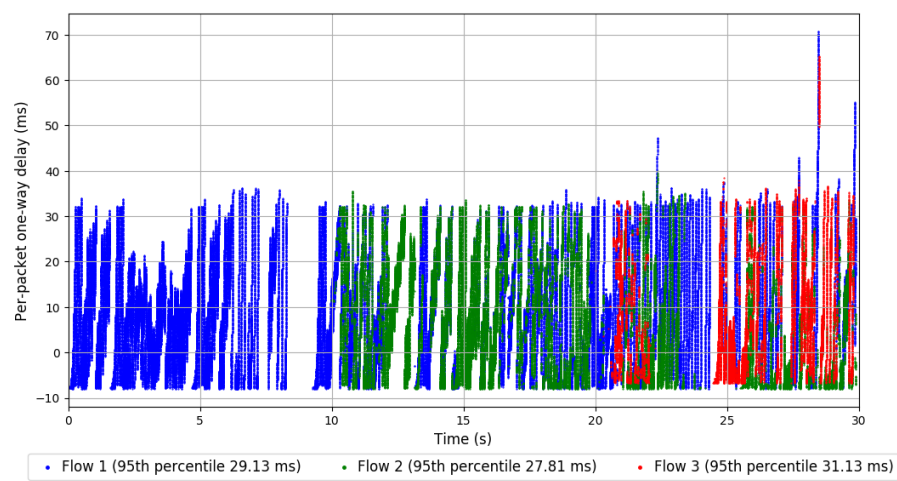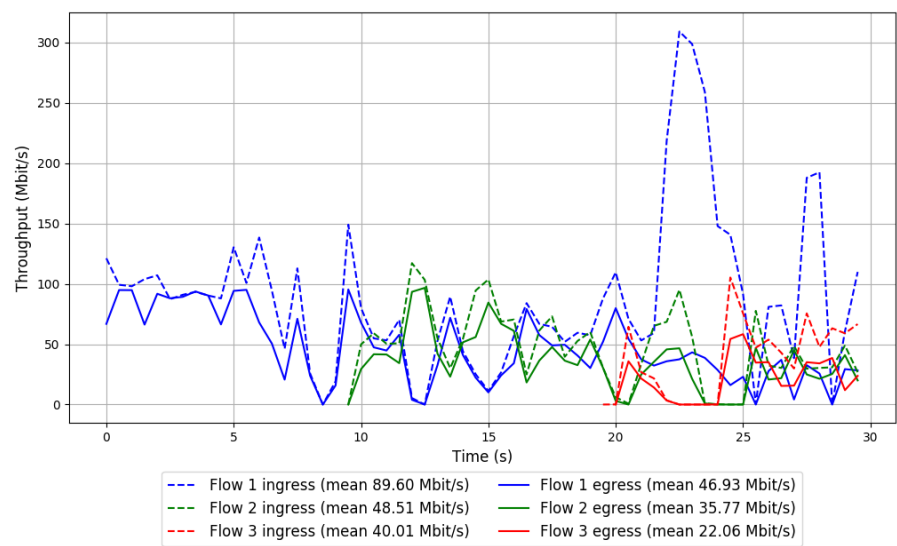
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2017-12-05 22:14:25
End at: 2017-12-05 22:14:55
Local clock offset: 18.967 ms
Remote clock offset: -12.367 ms


# Below is generated by plot.py at 2017-12-06 01:10:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.33 Mbit/s
95th percentile per-packet one-way delay: 13.253 ms
Loss rate: 35.54%
-- Flow 1:
Average throughput: 51.28 Mbit/s
95th percentile per-packet one-way delay: 12.388 ms
Loss rate: 28.47%
-- Flow 2:
Average throughput: 23.13 Mbit/s
95th percentile per-packet one-way delay: 15.348 ms
Loss rate: 51.46%
-- Flow 3:
Average throughput: 26.74 Mbit/s
95th percentile per-packet one-way delay: 14.234 ms
Loss rate: 35.71%
```

Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2017-12-05 22:31:00
End at: 2017-12-05 22:31:30
Local clock offset: 5.674 ms
Remote clock offset: -10.082 ms

# Below is generated by plot.py at 2017-12-06 01:10:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.20 Mbit/s
95th percentile per-packet one-way delay: 28.495 ms
Loss rate: 35.25%
-- Flow 1:
Average throughput: 47.17 Mbit/s
95th percentile per-packet one-way delay: 26.891 ms
Loss rate: 19.62%
-- Flow 2:
Average throughput: 35.37 Mbit/s
95th percentile per-packet one-way delay: 30.043 ms
Loss rate: 44.09%
-- Flow 3:
Average throughput: 19.90 Mbit/s
95th percentile per-packet one-way delay: 30.378 ms
Loss rate: 64.50%
```
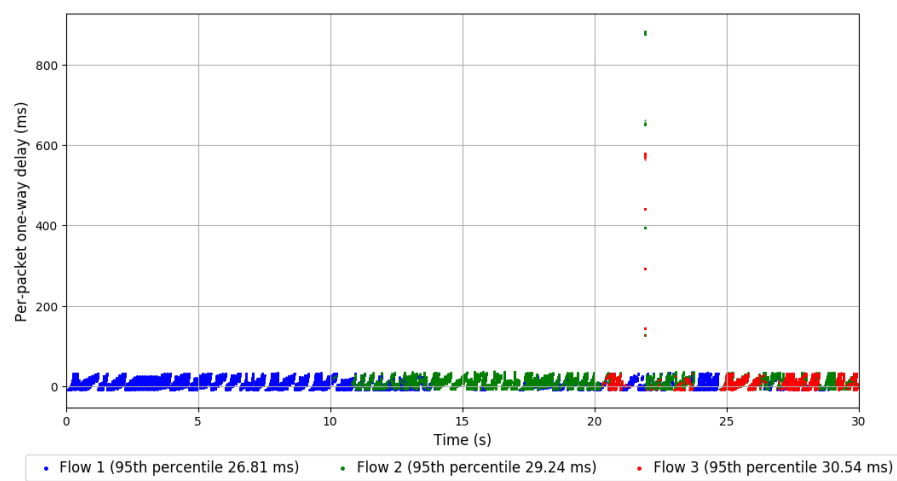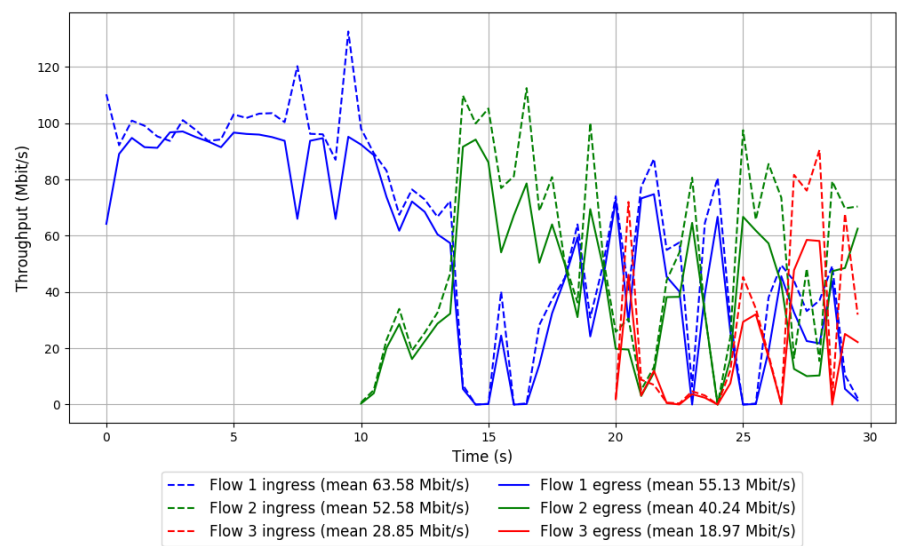
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2017-12-05 22:47:25
End at: 2017-12-05 22:47:55
Local clock offset: 3.383 ms
Remote clock offset: -12.564 ms


# Below is generated by plot.py at 2017-12-06 01:10:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.96 Mbit/s
95th percentile per-packet one-way delay: 28.875 ms
Loss rate: 42.21%
-- Flow 1:
Average throughput: 46.93 Mbit/s
95th percentile per-packet one-way delay: 29.129 ms
Loss rate: 47.56%
-- Flow 2:
Average throughput: 35.77 Mbit/s
95th percentile per-packet one-way delay: 27.808 ms
Loss rate: 26.34%
-- Flow 3:
Average throughput: 22.06 Mbit/s
95th percentile per-packet one-way delay: 31.133 ms
Loss rate: 44.83%
```

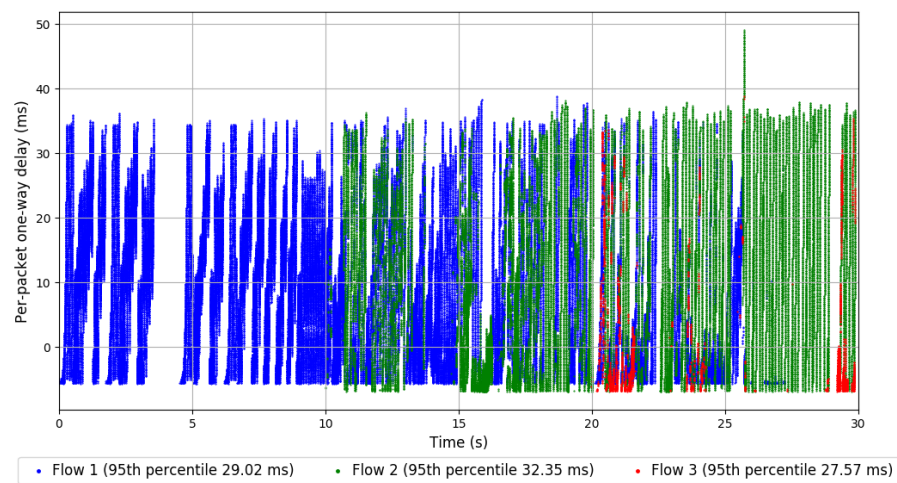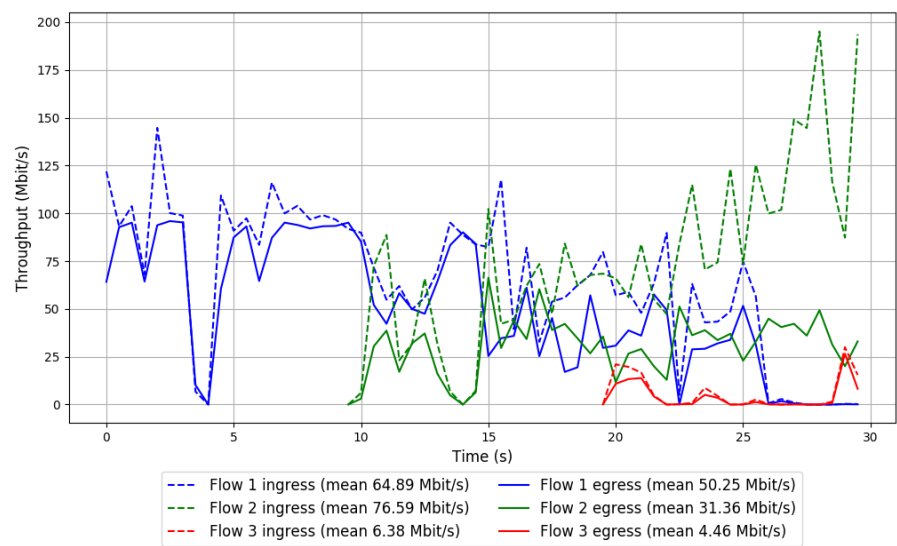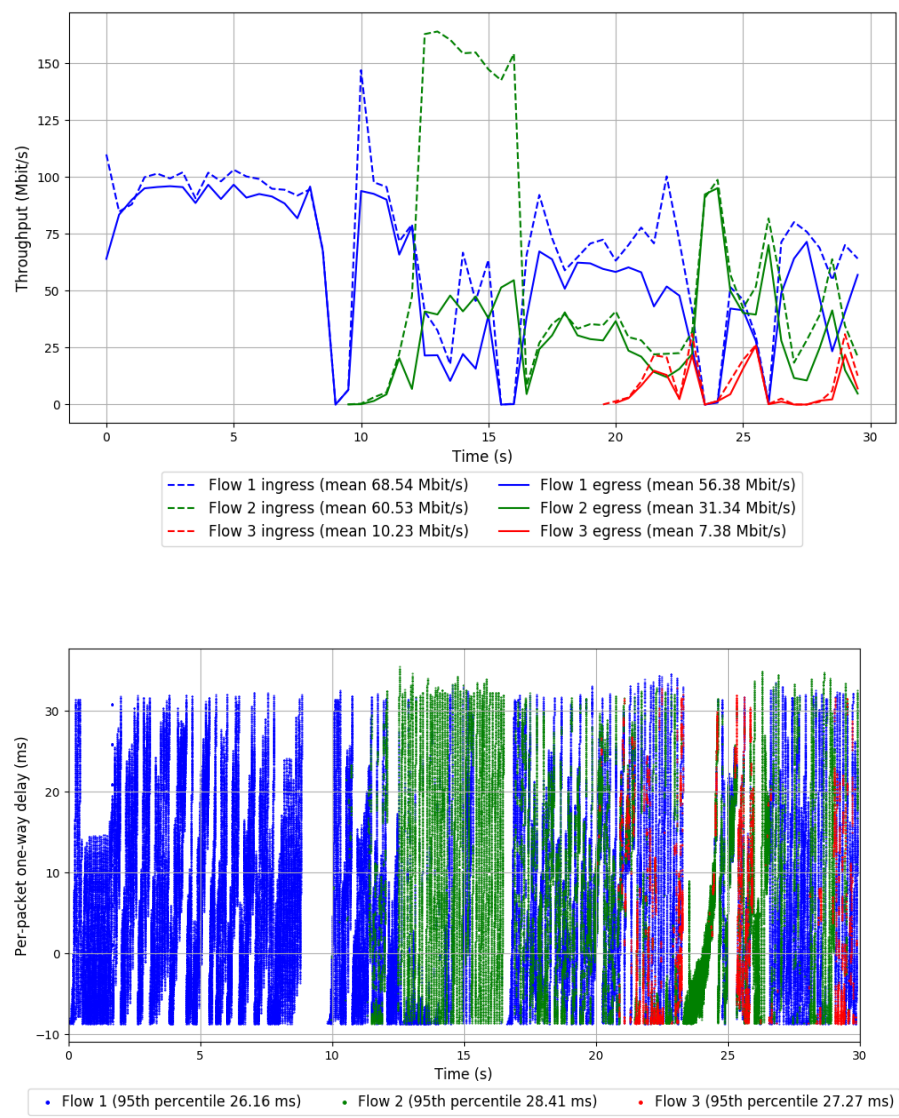## Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2017-12-05 23:03:59
End at: 2017-12-05 23:04:29
Local clock offset: 2.869 ms
Remote clock offset: -13.299 ms


# Below is generated by plot.py at 2017-12-06 01:10:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.69 Mbit/s
95th percentile per-packet one-way delay: 27.855 ms
Loss rate: 18.46%
-- Flow 1:
Average throughput: 55.13 Mbit/s
95th percentile per-packet one-way delay: 26.814 ms
Loss rate: 13.36%
-- Flow 2:
Average throughput: 40.24 Mbit/s
95th percentile per-packet one-way delay: 29.236 ms
Loss rate: 23.49%
-- Flow 3:
Average throughput: 18.97 Mbit/s
95th percentile per-packet one-way delay: 30.539 ms
Loss rate: 34.21%
```

Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 63.58 Mbit/s) --- Flow 1 egress (mean 55.13 Mbit/s)
Flow 2 ingress (mean 52.58 Mbit/s) --- Flow 2 egress (mean 40.24 Mbit/s)
Flow 3 ingress (mean 28.85 Mbit/s) --- Flow 3 egress (mean 18.97 Mbit/s)

Flow 1 (95th percentile 26.81 ms) • Flow 2 (95th percentile 29.24 ms) • Flow 3 (95th percentile 30.54 ms)

```
Run 6: Statistics of Verus

Start at: 2017-12-05 23:20:26
End at: 2017-12-05 23:20:56
Local clock offset: 3.813 ms
Remote clock offset: -11.262 ms

# Below is generated by plot.py at 2017-12-06 01:11:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.53 Mbit/s
95th percentile per-packet one-way delay: 30.254 ms
Loss rate: 38.52%
-- Flow 1:
Average throughput: 50.25 Mbit/s
95th percentile per-packet one-way delay: 29.019 ms
Loss rate: 22.63%
-- Flow 2:
Average throughput: 31.36 Mbit/s
95th percentile per-packet one-way delay: 32.346 ms
Loss rate: 59.06%
-- Flow 3:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 27.568 ms
Loss rate: 30.05%
```
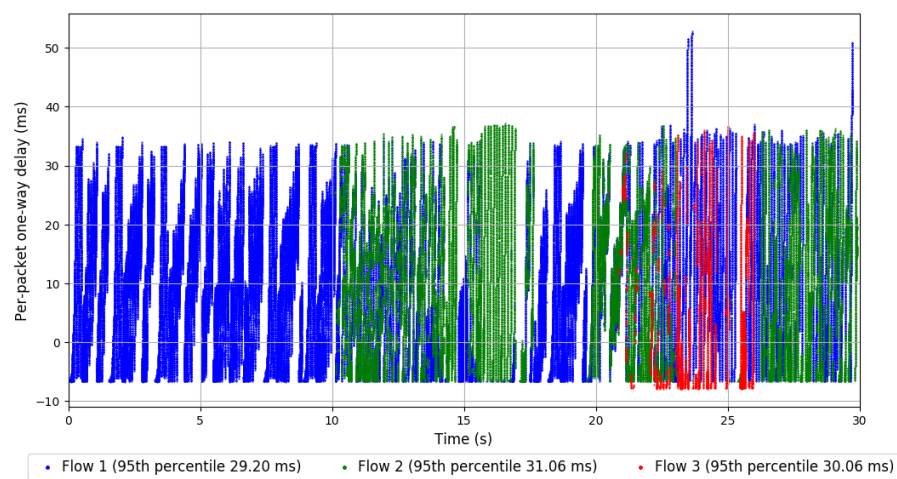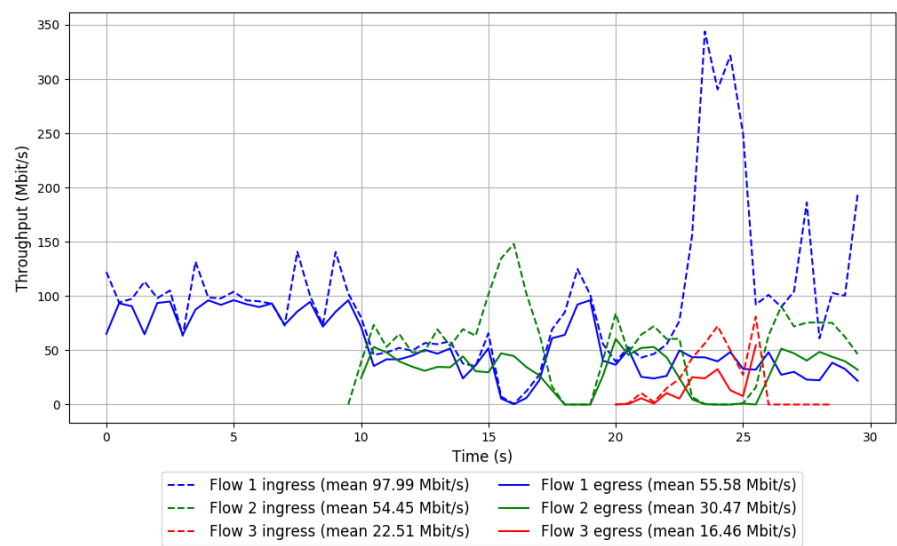
Run 6: Report of Verus — Data Link

Flow 1 ingress (mean 64.89 Mbit/s)   Flow 1 egress (mean 50.25 Mbit/s)
Flow 2 ingress (mean 76.59 Mbit/s)   Flow 2 egress (mean 31.36 Mbit/s)
Flow 3 ingress (mean 6.38 Mbit/s)   Flow 3 egress (mean 4.46 Mbit/s)

Flow 1 (95th percentile 29.02 ms)   Flow 2 (95th percentile 32.35 ms)   Flow 3 (95th percentile 27.57 ms)

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```
Run 7: Statistics of Verus

Start at: 2017-12-05 23:36:43
End at: 2017-12-05 23:37:13
Local clock offset: 4.283 ms
Remote clock offset: -11.979 ms


# Below is generated by plot.py at 2017-12-06 01:11:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.69 Mbit/s
95th percentile per-packet one-way delay: 26.889 ms
Loss rate: 28.93%
-- Flow 1:
Average throughput: 56.38 Mbit/s
95th percentile per-packet one-way delay: 26.159 ms
Loss rate: 17.67%
-- Flow 2:
Average throughput: 31.34 Mbit/s
95th percentile per-packet one-way delay: 28.409 ms
Loss rate: 48.14%
-- Flow 3:
Average throughput: 7.38 Mbit/s
95th percentile per-packet one-way delay: 27.275 ms
Loss rate: 27.91%
```
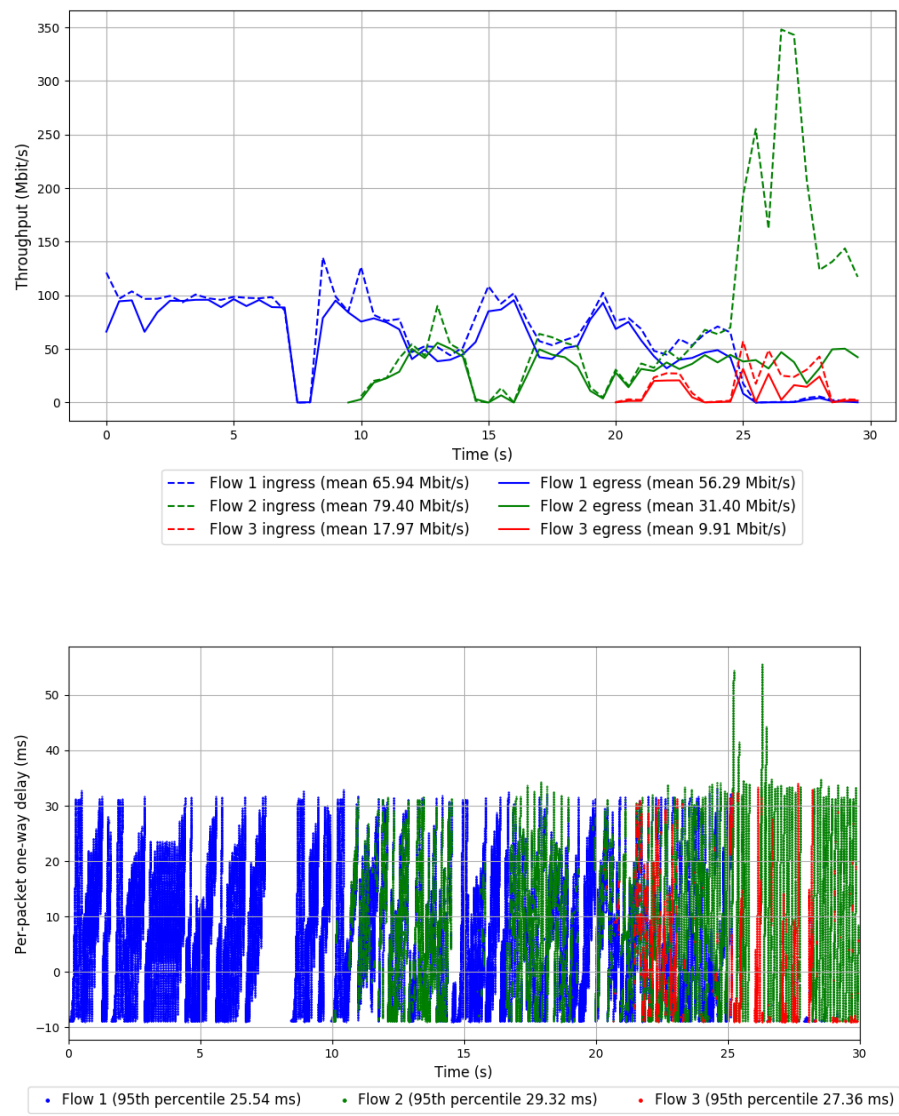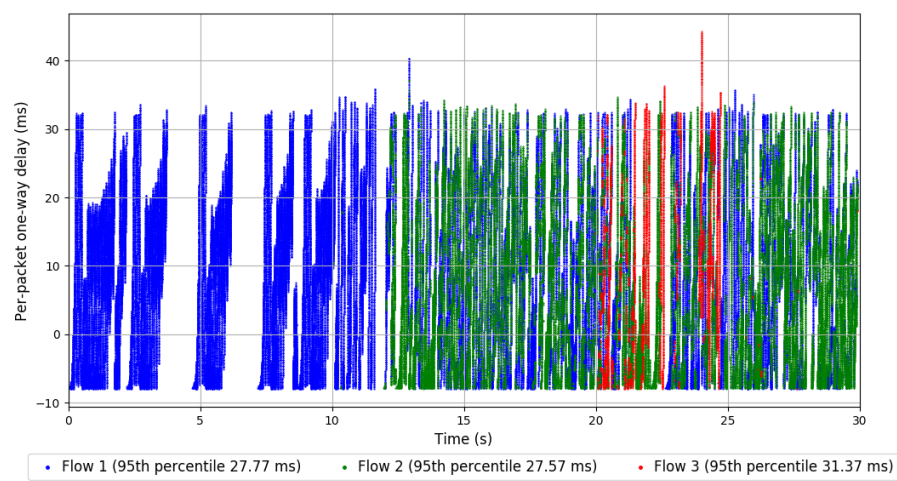
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2017-12-05 23:53:19
End at: 2017-12-05 23:53:49
Local clock offset: 3.935 ms
Remote clock offset: -11.353 ms

# Below is generated by plot.py at 2017-12-06 01:11:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.53 Mbit/s
95th percentile per-packet one-way delay: 29.859 ms
Loss rate: 43.87%
-- Flow 1:
Average throughput: 55.58 Mbit/s
95th percentile per-packet one-way delay: 29.202 ms
Loss rate: 43.20%
-- Flow 2:
Average throughput: 30.47 Mbit/s
95th percentile per-packet one-way delay: 31.056 ms
Loss rate: 44.08%
-- Flow 3:
Average throughput: 16.46 Mbit/s
95th percentile per-packet one-way delay: 30.061 ms
Loss rate: 52.72%
```
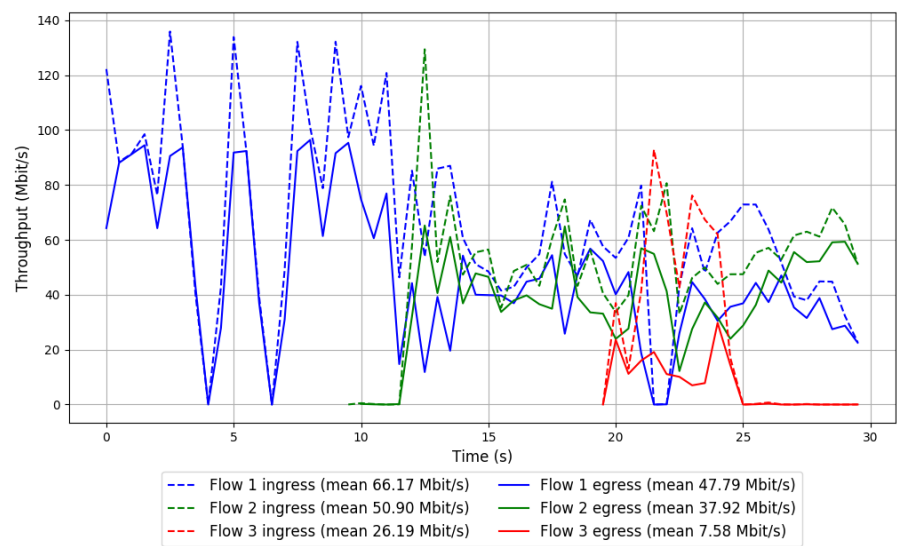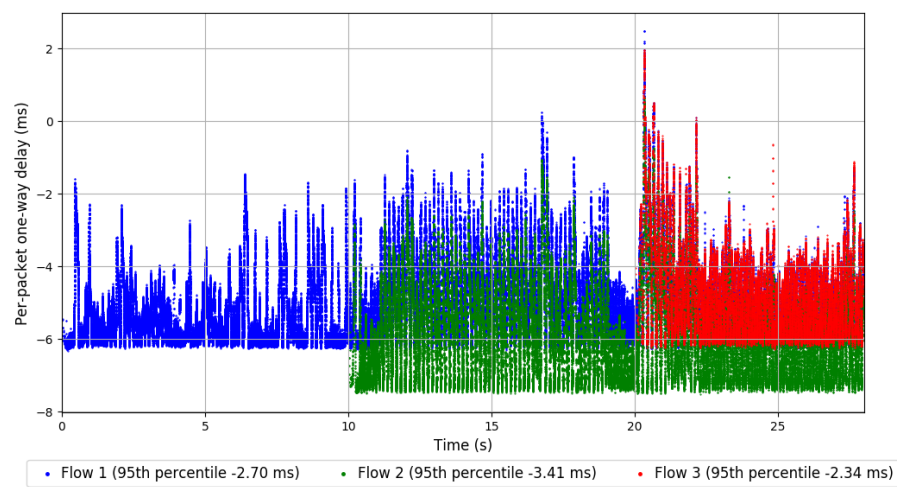
Run 8: Report of Verus — Data Link

Flow 1 ingress (mean 97.99 Mbit/s) --- Flow 1 egress (mean 55.58 Mbit/s)
Flow 2 ingress (mean 54.45 Mbit/s) --- Flow 2 egress (mean 30.47 Mbit/s)
Flow 3 ingress (mean 22.51 Mbit/s) --- Flow 3 egress (mean 16.46 Mbit/s)

Flow 1 (95th percentile 29.20 ms)   Flow 2 (95th percentile 31.06 ms)   Flow 3 (95th percentile 30.06 ms)

```
Run 9: Statistics of Verus

Start at: 2017-12-06 00:09:39
End at: 2017-12-06 00:10:09
Local clock offset: 5.654 ms
Remote clock offset: -12.441 ms


# Below is generated by plot.py at 2017-12-06 01:11:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.37 Mbit/s
95th percentile per-packet one-way delay: 26.817 ms
Loss rate: 35.47%
-- Flow 1:
Average throughput: 56.29 Mbit/s
95th percentile per-packet one-way delay: 25.536 ms
Loss rate: 14.62%
-- Flow 2:
Average throughput: 31.40 Mbit/s
95th percentile per-packet one-way delay: 29.319 ms
Loss rate: 60.42%
-- Flow 3:
Average throughput: 9.91 Mbit/s
95th percentile per-packet one-way delay: 27.358 ms
Loss rate: 44.96%
```
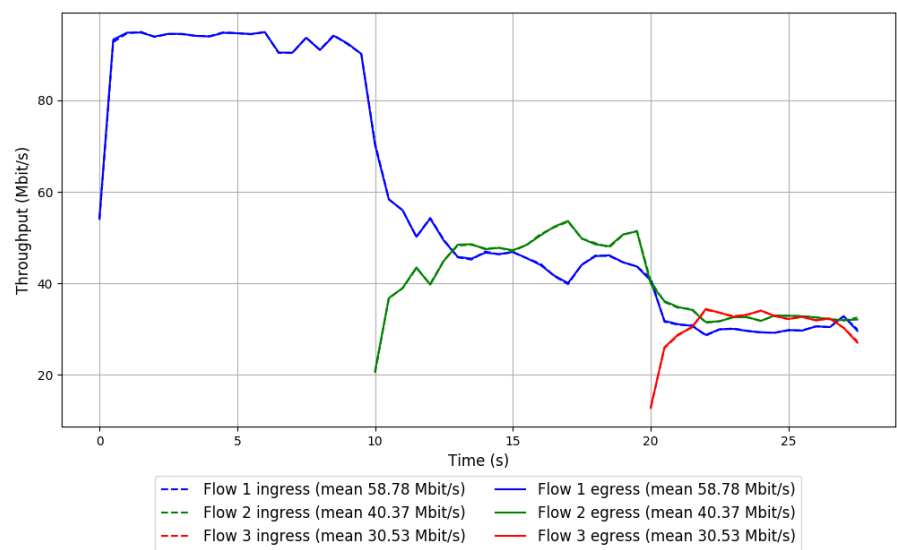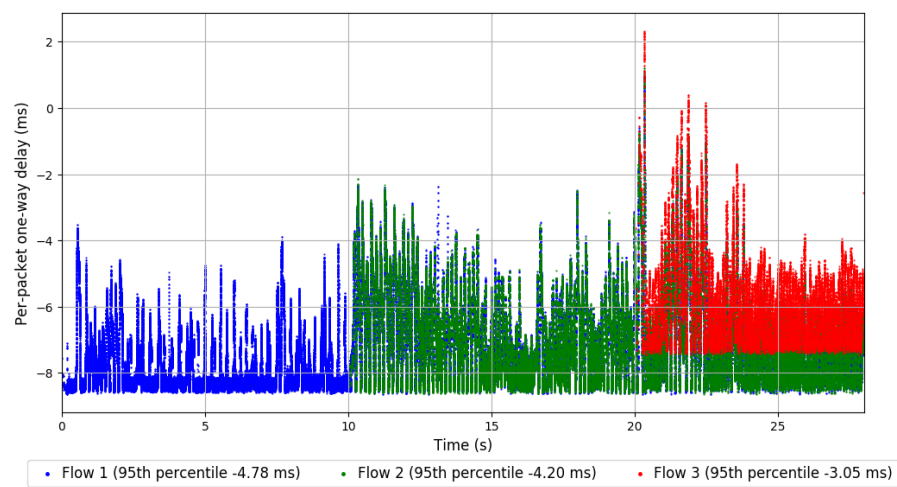
Run 9: Report of Verus — Data Link

```
Run 10: Statistics of Verus

Start at: 2017-12-06 00:26:12
End at: 2017-12-06 00:26:42
Local clock offset: 5.702 ms
Remote clock offset: -12.439 ms

# Below is generated by plot.py at 2017-12-06 01:11:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.54 Mbit/s
95th percentile per-packet one-way delay: 27.951 ms
Loss rate: 30.49%
-- Flow 1:
Average throughput: 47.79 Mbit/s
95th percentile per-packet one-way delay: 27.775 ms
Loss rate: 27.70%
-- Flow 2:
Average throughput: 37.92 Mbit/s
95th percentile per-packet one-way delay: 27.573 ms
Loss rate: 25.51%
-- Flow 3:
Average throughput: 7.58 Mbit/s
95th percentile per-packet one-way delay: 31.374 ms
Loss rate: 71.05%
```
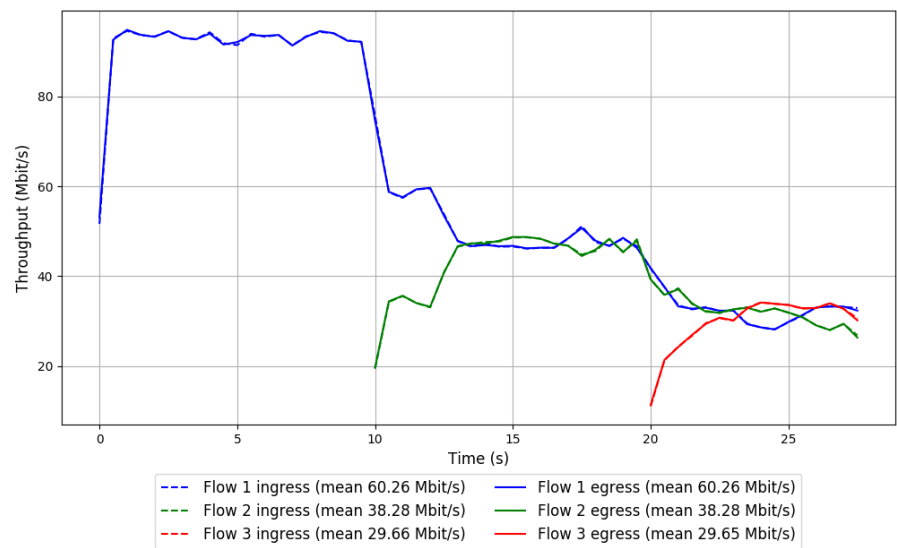
Run 10: Report of Verus — Data Link

Flow 1 ingress (mean 66.17 Mbit/s) —— Flow 1 egress (mean 47.79 Mbit/s)
Flow 2 ingress (mean 50.90 Mbit/s) —— Flow 2 egress (mean 37.92 Mbit/s)
Flow 3 ingress (mean 26.19 Mbit/s) —— Flow 3 egress (mean 7.58 Mbit/s)

• Flow 1 (95th percentile 27.77 ms)   • Flow 2 (95th percentile 27.57 ms)   • Flow 3 (95th percentile 31.37 ms)
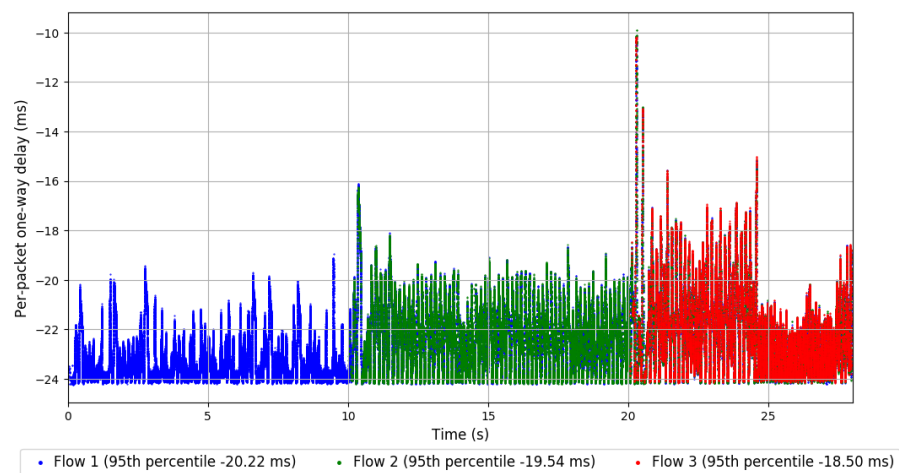
223

```
Run 1: Statistics of Copa

Start at: 2017-12-05 21:45:52
End at: 2017-12-05 21:46:22
Local clock offset: 5.134 ms
Remote clock offset: -11.319 ms


# Below is generated by plot.py at 2017-12-06 01:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.37 Mbit/s
95th percentile per-packet one-way delay: -2.820 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.78 Mbit/s
95th percentile per-packet one-way delay: -2.702 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.37 Mbit/s
95th percentile per-packet one-way delay: -3.412 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.53 Mbit/s
95th percentile per-packet one-way delay: -2.344 ms
Loss rate: 0.00%
```
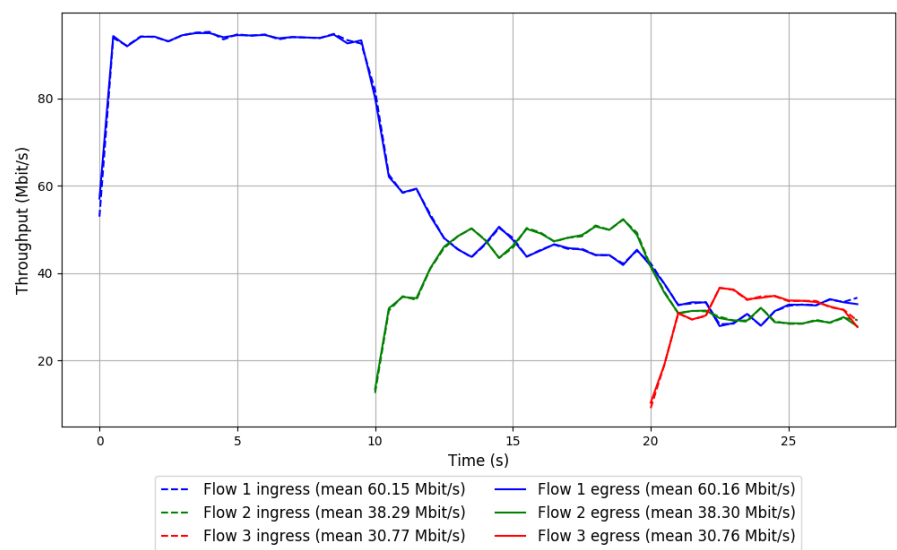
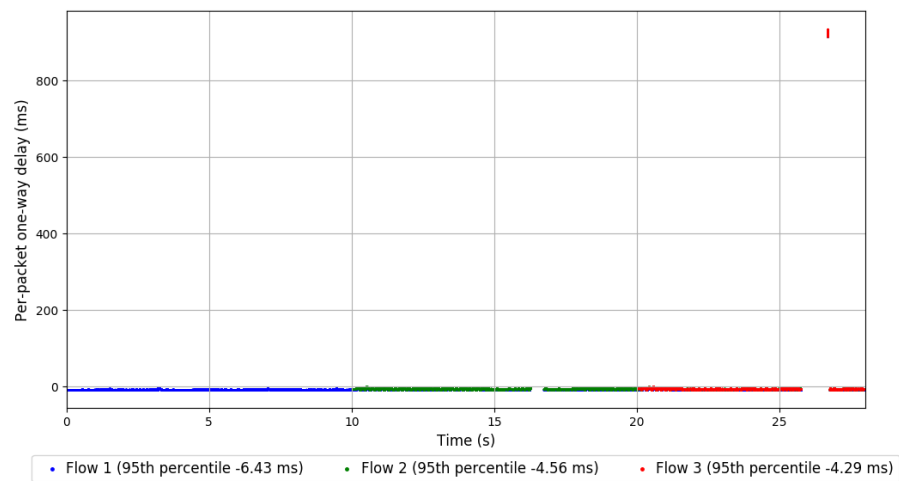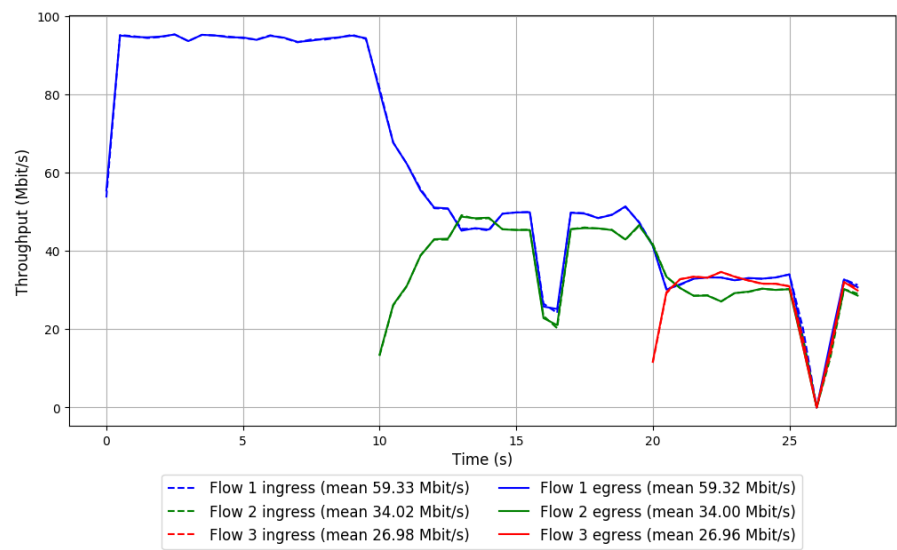Run 1: Report of Copa — Data Link

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```
Run 2: Statistics of Copa

Start at: 2017-12-05 22:02:41
End at: 2017-12-05 22:03:11
Local clock offset: 6.046 ms
Remote clock offset: -10.898 ms

# Below is generated by plot.py at 2017-12-06 01:13:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.25 Mbit/s
95th percentile per-packet one-way delay: -4.457 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.26 Mbit/s
95th percentile per-packet one-way delay: -4.782 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.28 Mbit/s
95th percentile per-packet one-way delay: -4.204 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.65 Mbit/s
95th percentile per-packet one-way delay: -3.047 ms
Loss rate: 0.01%
```

Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 60.26 Mbit/s)   Flow 1 egress (mean 60.26 Mbit/s)
Flow 2 ingress (mean 38.28 Mbit/s)   Flow 2 egress (mean 38.28 Mbit/s)
Flow 3 ingress (mean 29.66 Mbit/s)   Flow 3 egress (mean 29.65 Mbit/s)

Flow 1 (95th percentile -4.78 ms)   Flow 2 (95th percentile -4.20 ms)   Flow 3 (95th percentile -3.05 ms)

```
Run 3: Statistics of Copa

Start at: 2017-12-05 22:19:11
End at: 2017-12-05 22:19:41
Local clock offset: 19.448 ms
Remote clock offset: -13.979 ms


# Below is generated by plot.py at 2017-12-06 01:13:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.47 Mbit/s
95th percentile per-packet one-way delay: -19.808 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.16 Mbit/s
95th percentile per-packet one-way delay: -20.218 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.30 Mbit/s
95th percentile per-packet one-way delay: -19.536 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.76 Mbit/s
95th percentile per-packet one-way delay: -18.500 ms
Loss rate: 0.01%
```
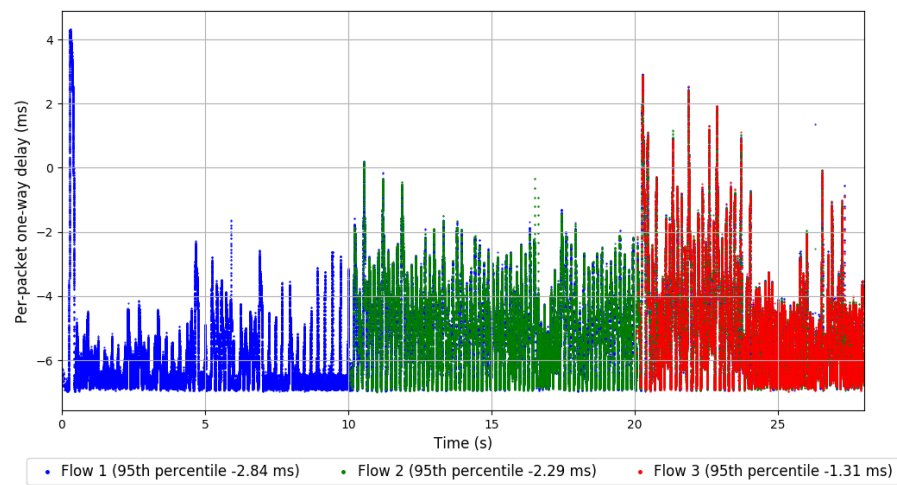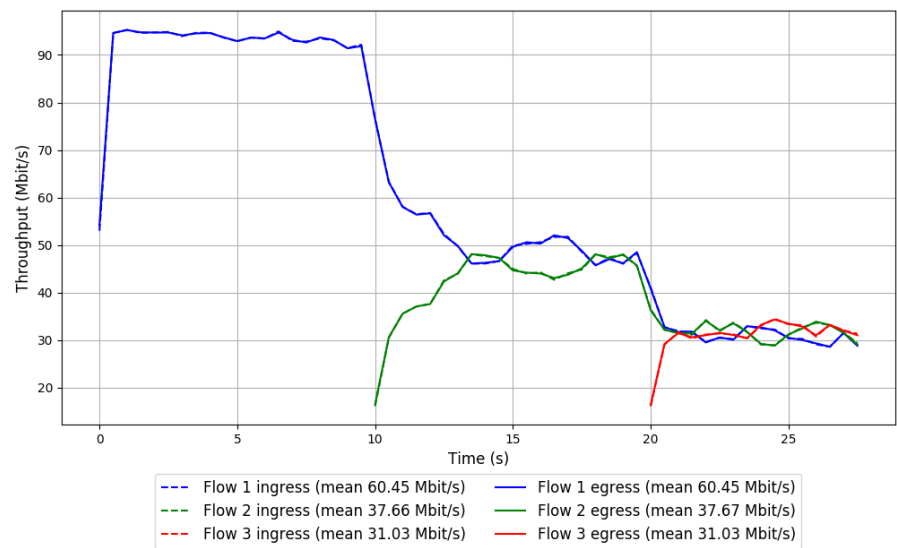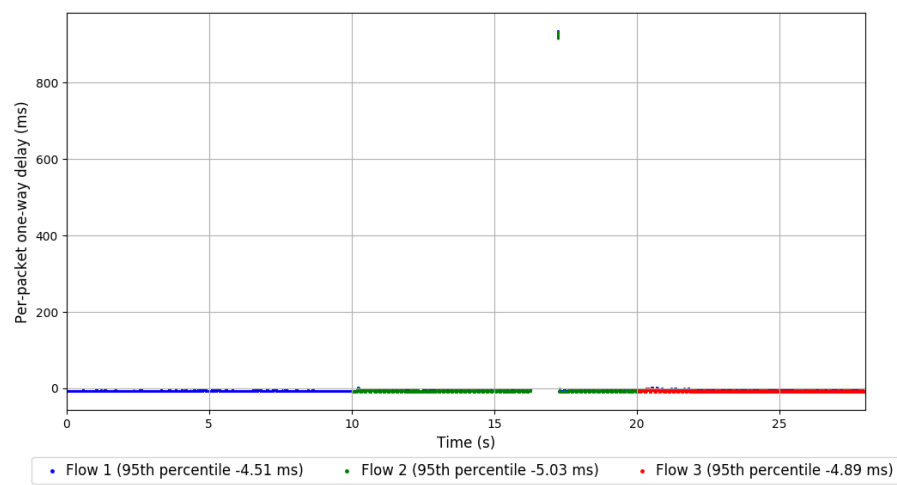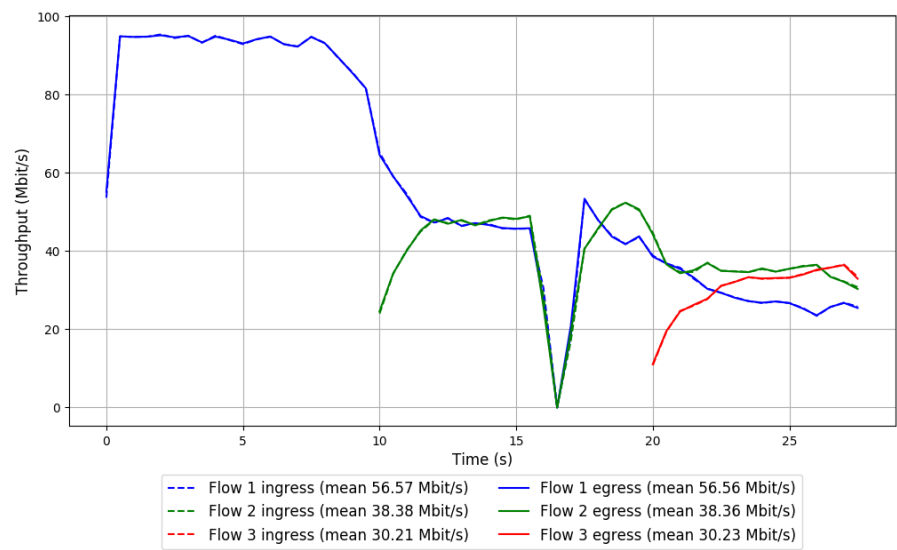
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 60.15 Mbit/s) --- Flow 1 egress (mean 60.16 Mbit/s)
Flow 2 ingress (mean 38.29 Mbit/s) --- Flow 2 egress (mean 38.30 Mbit/s)
Flow 3 ingress (mean 30.77 Mbit/s) --- Flow 3 egress (mean 30.76 Mbit/s)

Flow 1 (95th percentile -20.22 ms) Flow 2 (95th percentile -19.54 ms) Flow 3 (95th percentile -18.50 ms)

```
Run 4: Statistics of Copa

Start at: 2017-12-05 22:35:47
End at: 2017-12-05 22:36:17
Local clock offset: 6.852 ms
Remote clock offset: -10.999 ms


# Below is generated by plot.py at 2017-12-06 01:13:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.80 Mbit/s
95th percentile per-packet one-way delay: -5.437 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 59.32 Mbit/s
95th percentile per-packet one-way delay: -6.430 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 34.00 Mbit/s
95th percentile per-packet one-way delay: -4.564 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 26.96 Mbit/s
95th percentile per-packet one-way delay: -4.291 ms
Loss rate: 0.10%
```
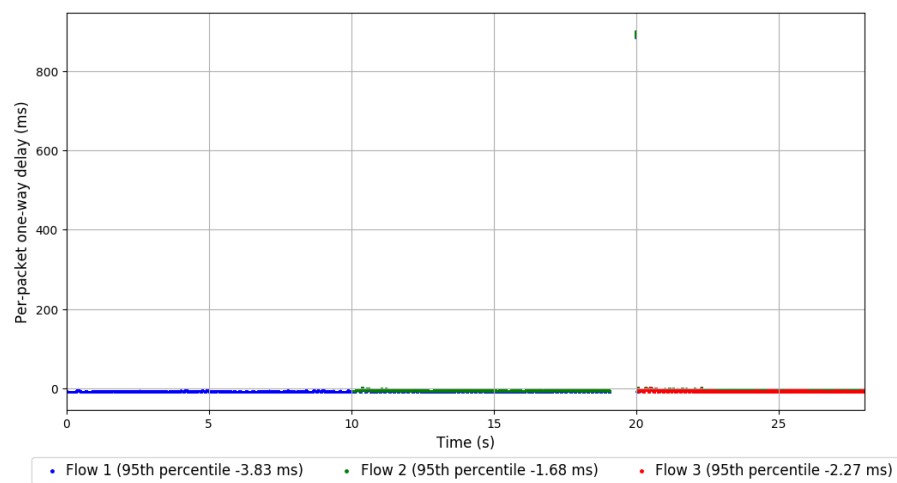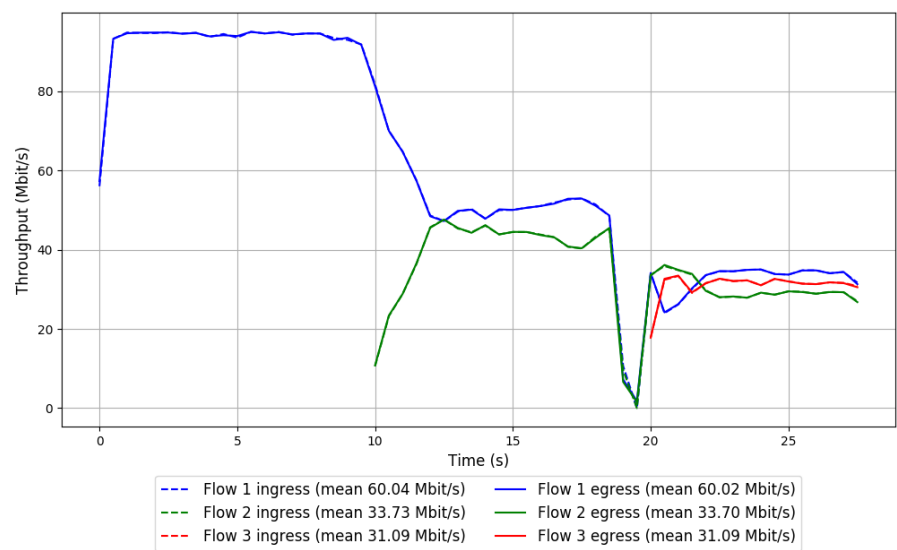
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 59.33 Mbit/s) — — — Flow 1 egress (mean 59.32 Mbit/s)
Flow 2 ingress (mean 34.02 Mbit/s) — — — Flow 2 egress (mean 34.00 Mbit/s)
Flow 3 ingress (mean 26.98 Mbit/s) — — — Flow 3 egress (mean 26.96 Mbit/s)

Flow 1 (95th percentile -6.43 ms) • Flow 2 (95th percentile -4.56 ms) • Flow 3 (95th percentile -4.29 ms)

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```
Run 5: Statistics of Copa

Start at: 2017-12-05 22:52:11
End at: 2017-12-05 22:52:41
Local clock offset: 4.091 ms
Remote clock offset: -12.13 ms


# Below is generated by plot.py at 2017-12-06 01:13:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.44 Mbit/s
95th percentile per-packet one-way delay: -2.502 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.45 Mbit/s
95th percentile per-packet one-way delay: -2.841 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.67 Mbit/s
95th percentile per-packet one-way delay: -2.288 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.03 Mbit/s
95th percentile per-packet one-way delay: -1.310 ms
Loss rate: 0.00%
```
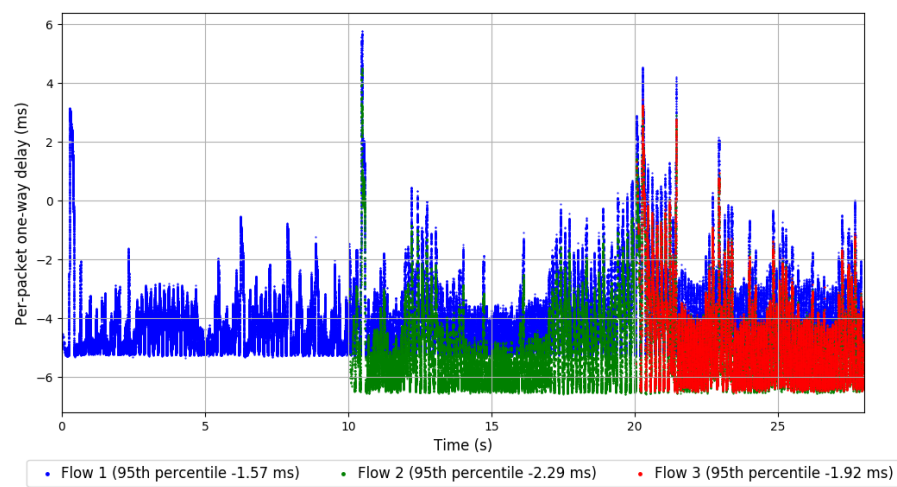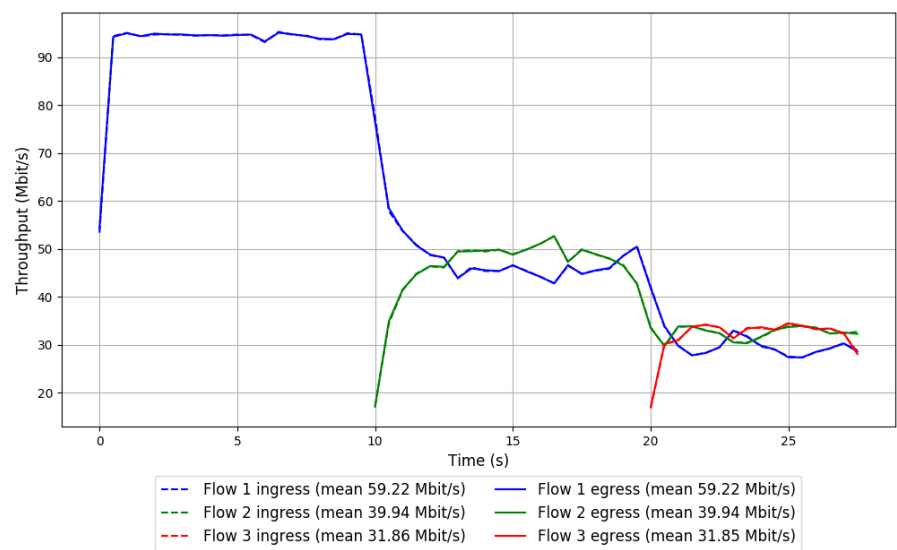
Run 5: Report of Copa — Data Link

```
Run 6: Statistics of Copa

Start at: 2017-12-05 23:08:42
End at: 2017-12-05 23:09:12
Local clock offset: 6.04 ms
Remote clock offset: -11.679 ms


# Below is generated by plot.py at 2017-12-06 01:13:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.76 Mbit/s
95th percentile per-packet one-way delay: -4.652 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 56.56 Mbit/s
95th percentile per-packet one-way delay: -4.506 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 38.36 Mbit/s
95th percentile per-packet one-way delay: -5.031 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 30.23 Mbit/s
95th percentile per-packet one-way delay: -4.895 ms
Loss rate: 0.00%
```
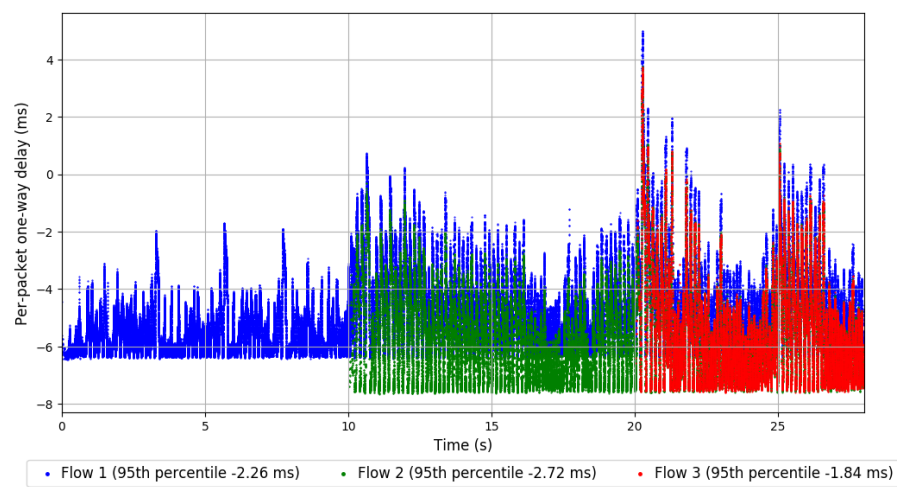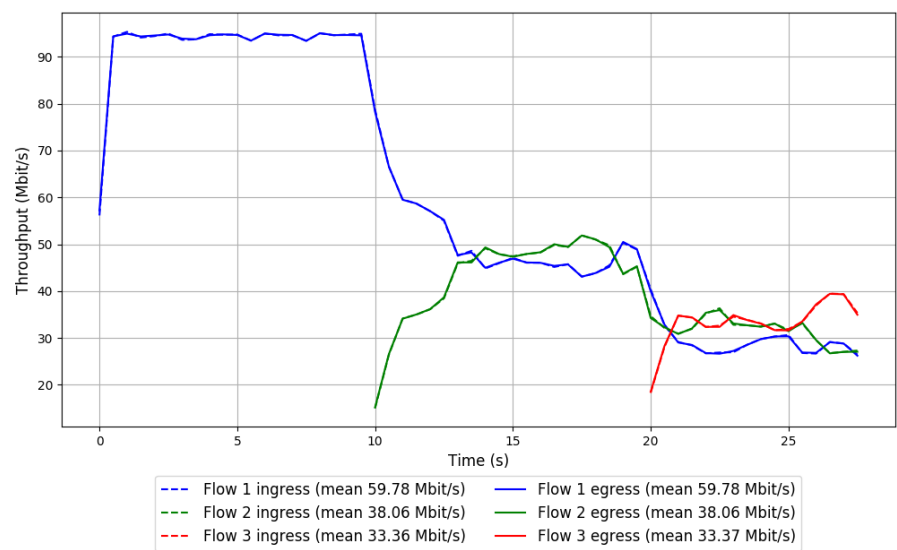
Run 6: Report of Copa — Data Link

Flow 1 ingress (mean 56.57 Mbit/s) --- Flow 1 egress (mean 56.56 Mbit/s)
Flow 2 ingress (mean 38.38 Mbit/s) --- Flow 2 egress (mean 38.36 Mbit/s)
Flow 3 ingress (mean 30.21 Mbit/s) --- Flow 3 egress (mean 30.23 Mbit/s)

Flow 1 (95th percentile -4.51 ms) • Flow 2 (95th percentile -5.03 ms) • Flow 3 (95th percentile -4.89 ms)

```
Run 7: Statistics of Copa

Start at: 2017-12-05 23:25:07
End at: 2017-12-05 23:25:37
Local clock offset: 4.966 ms
Remote clock offset: -10.935 ms


# Below is generated by plot.py at 2017-12-06 01:13:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.46 Mbit/s
95th percentile per-packet one-way delay: -2.783 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 60.02 Mbit/s
95th percentile per-packet one-way delay: -3.826 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 33.70 Mbit/s
95th percentile per-packet one-way delay: -1.683 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 31.09 Mbit/s
95th percentile per-packet one-way delay: -2.270 ms
Loss rate: 0.00%
```
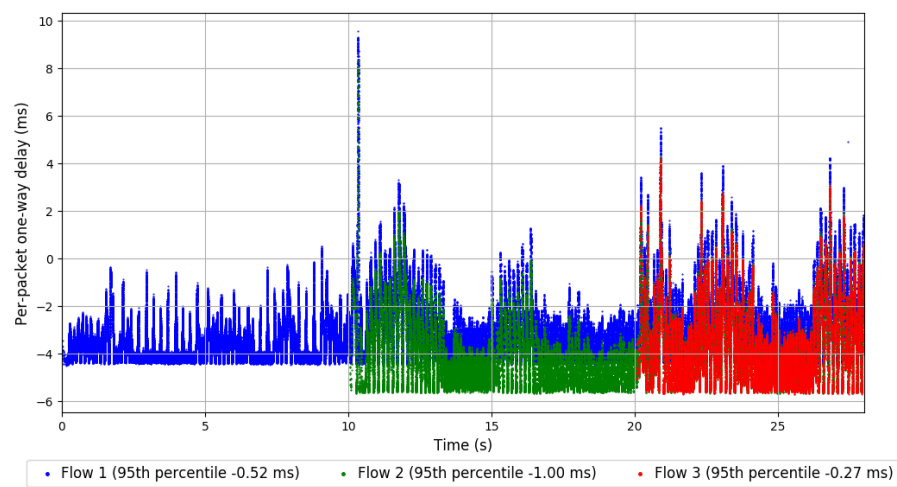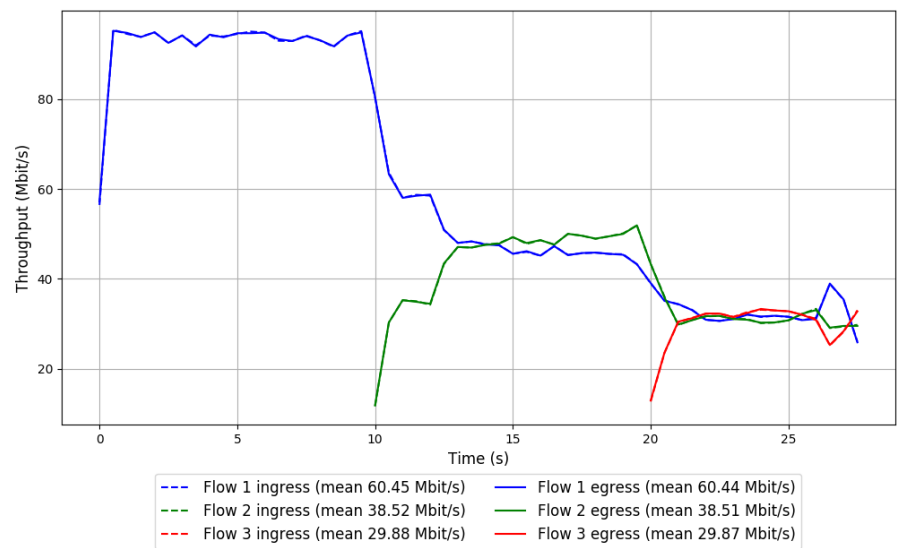
Run 7: Report of Copa — Data Link

Flow 1 ingress (mean 60.04 Mbit/s)   Flow 1 egress (mean 60.02 Mbit/s)
Flow 2 ingress (mean 33.73 Mbit/s)   Flow 2 egress (mean 33.70 Mbit/s)
Flow 3 ingress (mean 31.09 Mbit/s)   Flow 3 egress (mean 31.09 Mbit/s)

• Flow 1 (95th percentile -3.83 ms)   • Flow 2 (95th percentile -1.68 ms)   • Flow 3 (95th percentile -2.27 ms)

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```
Run 8: Statistics of Copa

Start at: 2017-12-05 23:41:35
End at: 2017-12-05 23:42:05
Local clock offset: 1.699 ms
Remote clock offset: -12.273 ms

# Below is generated by plot.py at 2017-12-06 01:14:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.92 Mbit/s
95th percentile per-packet one-way delay: -1.761 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.22 Mbit/s
95th percentile per-packet one-way delay: -1.569 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.94 Mbit/s
95th percentile per-packet one-way delay: -2.288 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 31.85 Mbit/s
95th percentile per-packet one-way delay: -1.921 ms
Loss rate: 0.00%
```
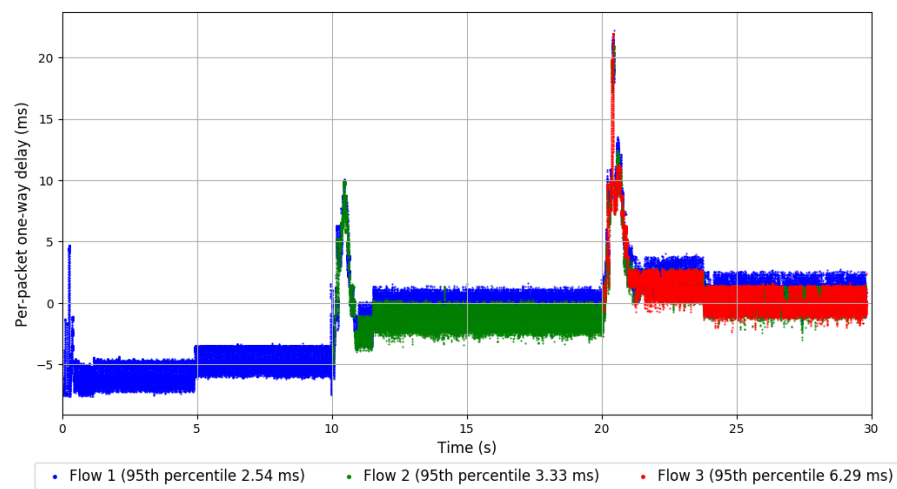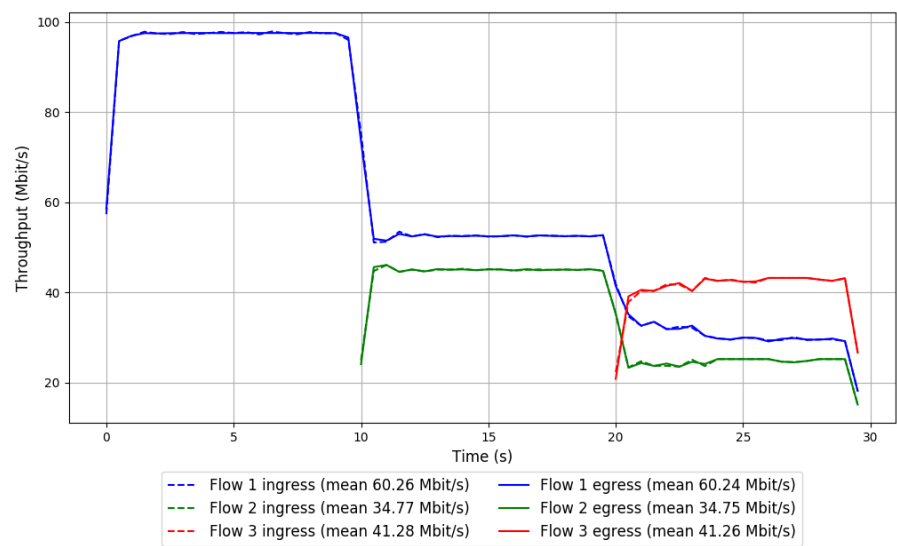
Run 8: Report of Copa — Data Link

```
Run 9: Statistics of Copa

Start at: 2017-12-05 23:58:02
End at: 2017-12-05 23:58:32
Local clock offset: 3.818 ms
Remote clock offset: -11.658 ms

# Below is generated by plot.py at 2017-12-06 01:15:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.69 Mbit/s
95th percentile per-packet one-way delay: -2.312 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.78 Mbit/s
95th percentile per-packet one-way delay: -2.259 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.06 Mbit/s
95th percentile per-packet one-way delay: -2.721 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.37 Mbit/s
95th percentile per-packet one-way delay: -1.845 ms
Loss rate: 0.00%
```
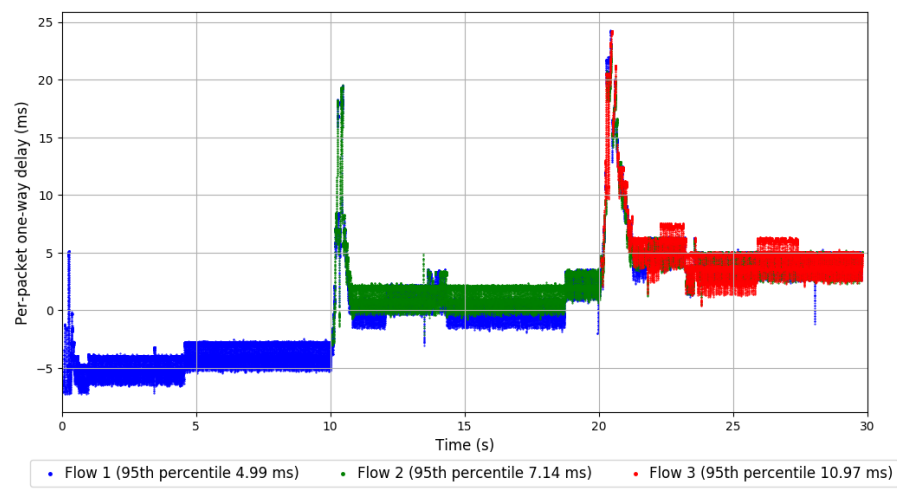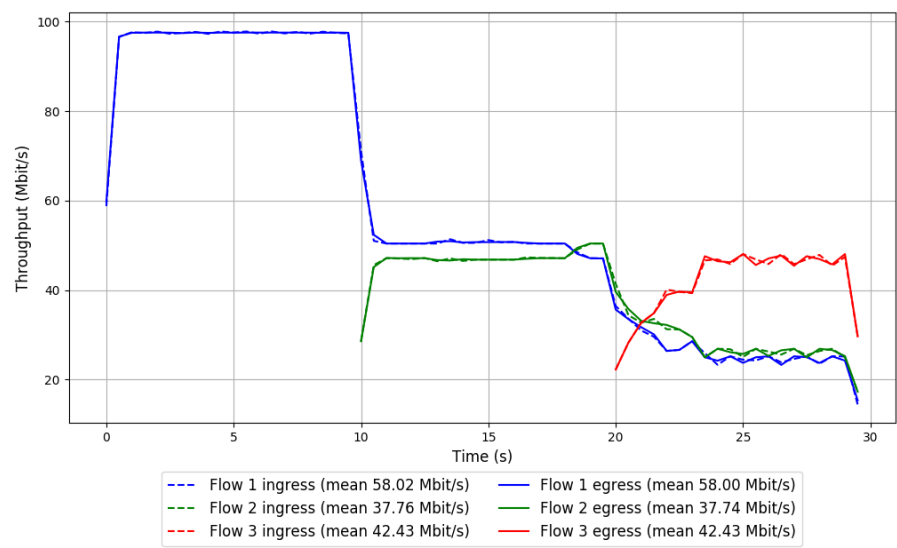
Run 9: Report of Copa — Data Link

```
Run 10: Statistics of Copa

Start at: 2017-12-06 00:14:23
End at: 2017-12-06 00:14:53
Local clock offset: 1.671 ms
Remote clock offset: -13.008 ms

# Below is generated by plot.py at 2017-12-06 01:15:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.66 Mbit/s
95th percentile per-packet one-way delay: -0.586 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.44 Mbit/s
95th percentile per-packet one-way delay: -0.517 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 38.51 Mbit/s
95th percentile per-packet one-way delay: -0.998 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.87 Mbit/s
95th percentile per-packet one-way delay: -0.267 ms
Loss rate: 0.00%
```
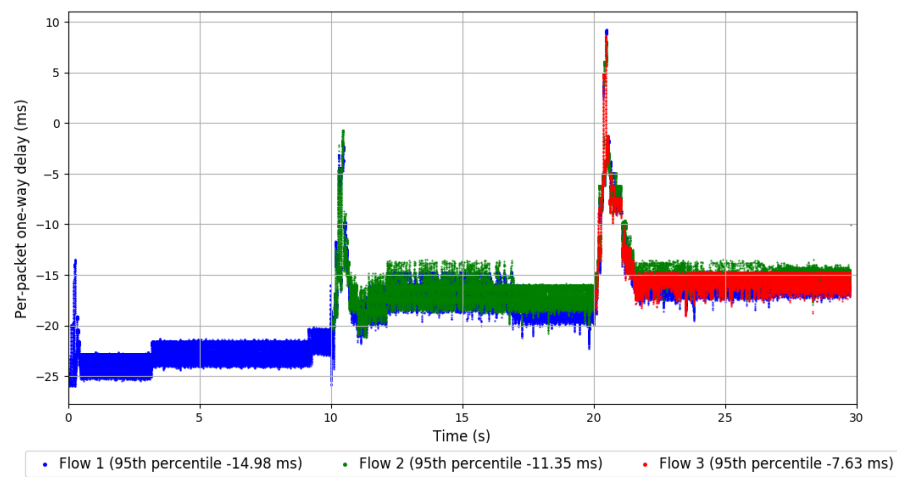
Run 10: Report of Copa — Data Link

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```
Run 1: Statistics of Indigo

Start at: 2017-12-05 21:47:14
End at: 2017-12-05 21:47:44
Local clock offset: 4.712 ms
Remote clock offset: -13.064 ms

# Below is generated by plot.py at 2017-12-06 01:15:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 2.750 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.24 Mbit/s
95th percentile per-packet one-way delay: 2.542 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.75 Mbit/s
95th percentile per-packet one-way delay: 3.330 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 41.26 Mbit/s
95th percentile per-packet one-way delay: 6.295 ms
Loss rate: 0.00%
```
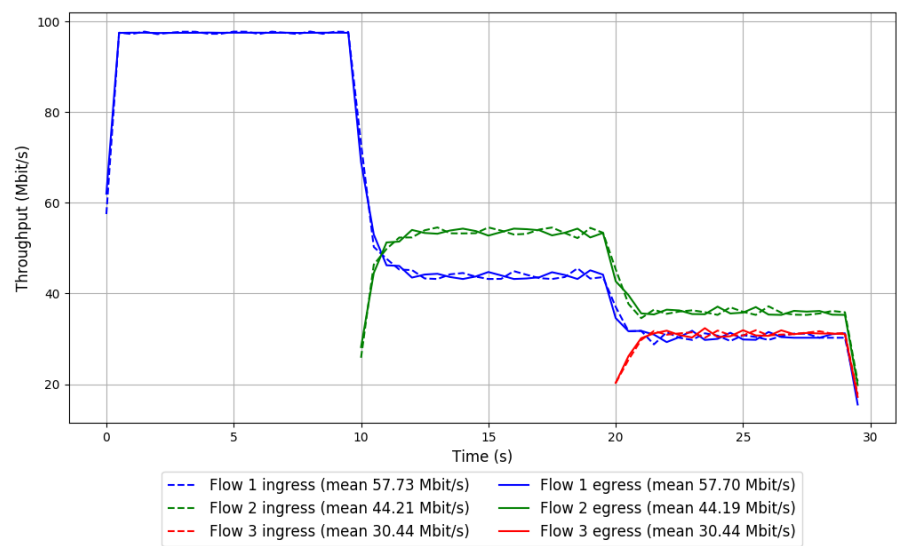
Run 1: Report of Indigo — Data Link

245

```
Run 2: Statistics of Indigo

Start at: 2017-12-05 22:03:55
End at: 2017-12-05 22:04:25
Local clock offset: 4.657 ms
Remote clock offset: -12.1 ms

# Below is generated by plot.py at 2017-12-06 01:15:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.87 Mbit/s
95th percentile per-packet one-way delay: 6.257 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.00 Mbit/s
95th percentile per-packet one-way delay: 4.990 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.74 Mbit/s
95th percentile per-packet one-way delay: 7.140 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.43 Mbit/s
95th percentile per-packet one-way delay: 10.969 ms
Loss rate: 0.01%
```
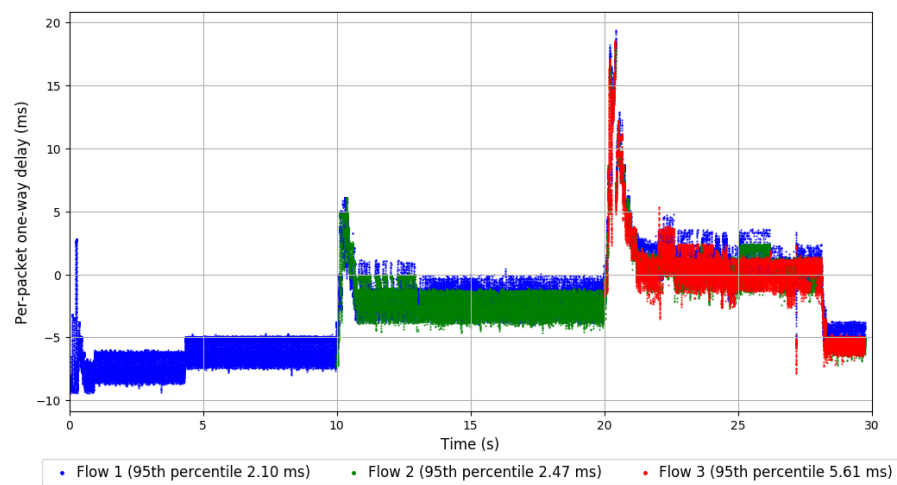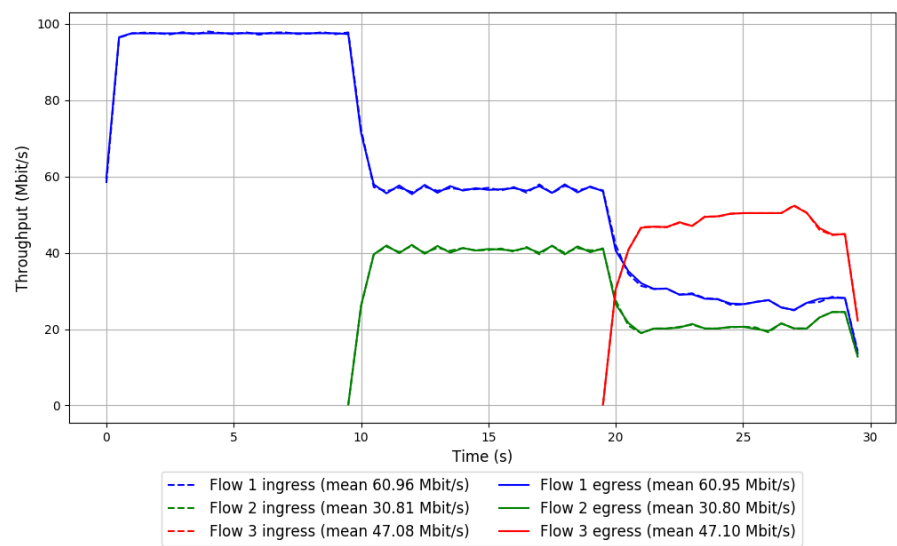
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2017-12-05 22:20:26
End at: 2017-12-05 22:20:56
Local clock offset: 21.83 ms
Remote clock offset: -12.242 ms

# Below is generated by plot.py at 2017-12-06 01:15:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.90 Mbit/s
95th percentile per-packet one-way delay: -13.585 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.70 Mbit/s
95th percentile per-packet one-way delay: -14.977 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 44.19 Mbit/s
95th percentile per-packet one-way delay: -11.349 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 30.44 Mbit/s
95th percentile per-packet one-way delay: -7.632 ms
Loss rate: 0.00%
```
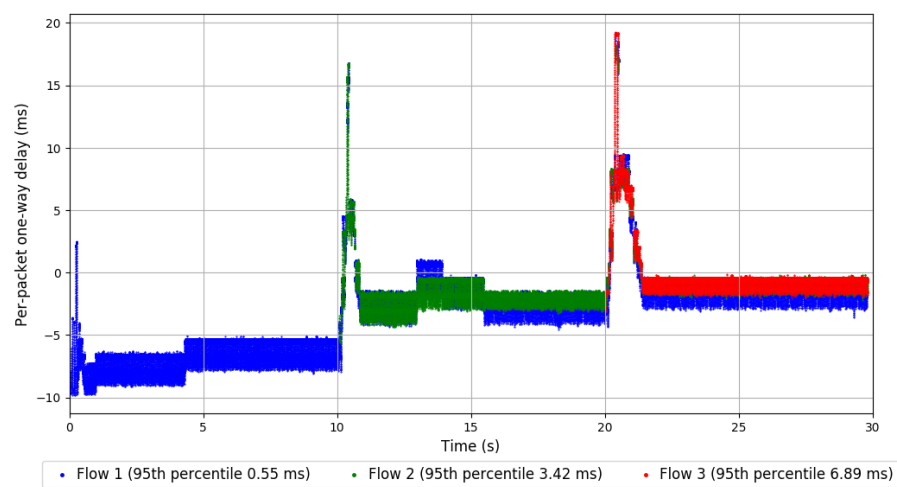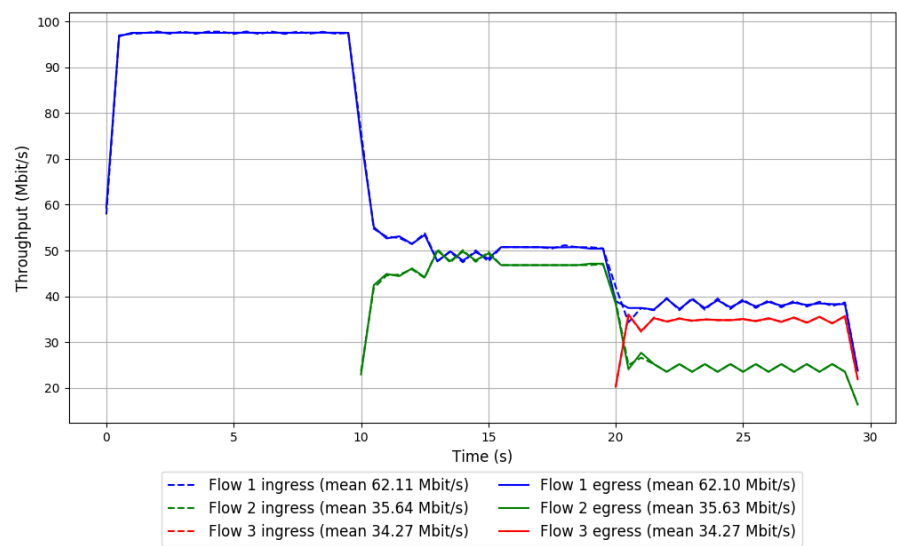
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2017-12-05 22:37:00
End at: 2017-12-05 22:37:30
Local clock offset: 5.333 ms
Remote clock offset: -13.235 ms


# Below is generated by plot.py at 2017-12-06 01:15:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.87 Mbit/s
95th percentile per-packet one-way delay: 2.371 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.95 Mbit/s
95th percentile per-packet one-way delay: 2.105 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.80 Mbit/s
95th percentile per-packet one-way delay: 2.472 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.10 Mbit/s
95th percentile per-packet one-way delay: 5.609 ms
Loss rate: 0.00%
```
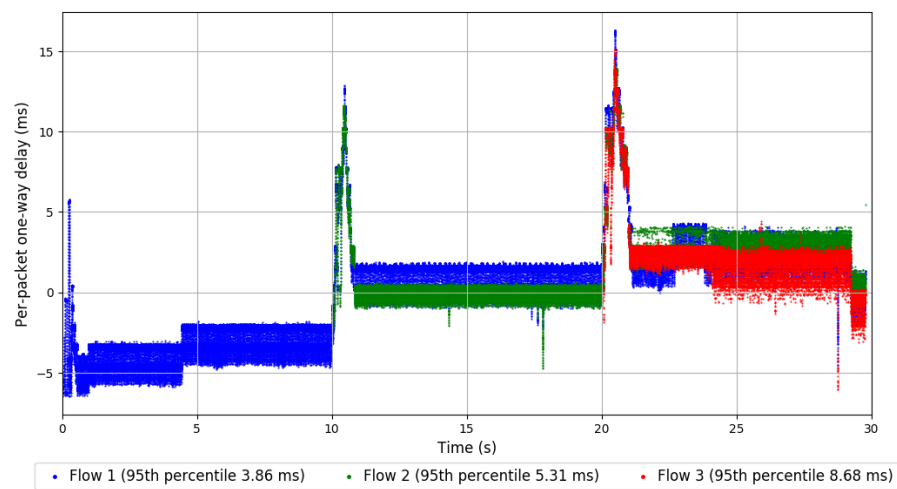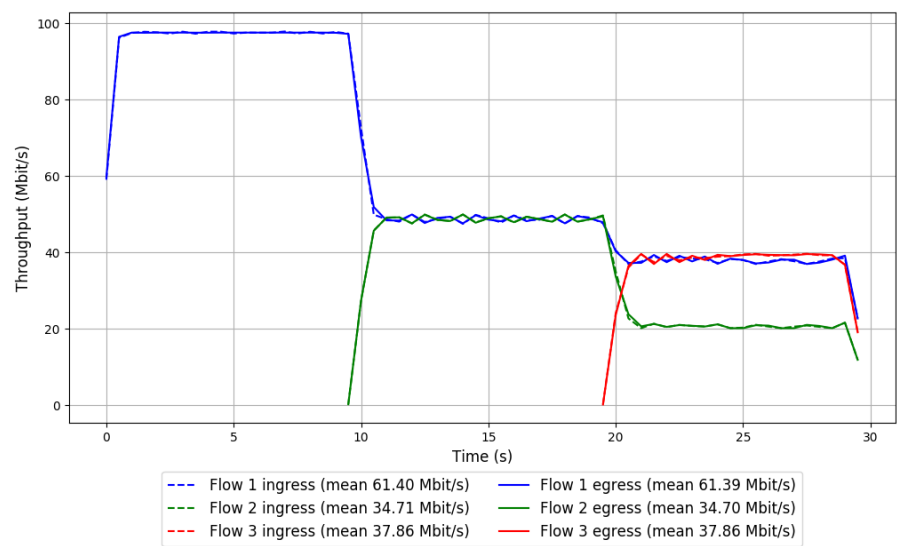
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 60.96 Mbit/s) — — — Flow 1 egress (mean 60.95 Mbit/s)
Flow 2 ingress (mean 30.81 Mbit/s) — — — Flow 2 egress (mean 30.80 Mbit/s)
Flow 3 ingress (mean 47.08 Mbit/s) — — — Flow 3 egress (mean 47.10 Mbit/s)

Flow 1 (95th percentile 2.10 ms) • Flow 2 (95th percentile 2.47 ms) • Flow 3 (95th percentile 5.61 ms)

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```
Run 5: Statistics of Indigo

Start at: 2017-12-05 22:53:29
End at: 2017-12-05 22:53:59
Local clock offset: 6.617 ms
Remote clock offset: -12.478 ms

# Below is generated by plot.py at 2017-12-06 01:15:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.87 Mbit/s
95th percentile per-packet one-way delay: 1.765 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.10 Mbit/s
95th percentile per-packet one-way delay: 0.545 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 35.63 Mbit/s
95th percentile per-packet one-way delay: 3.417 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.27 Mbit/s
95th percentile per-packet one-way delay: 6.893 ms
Loss rate: 0.00%
```
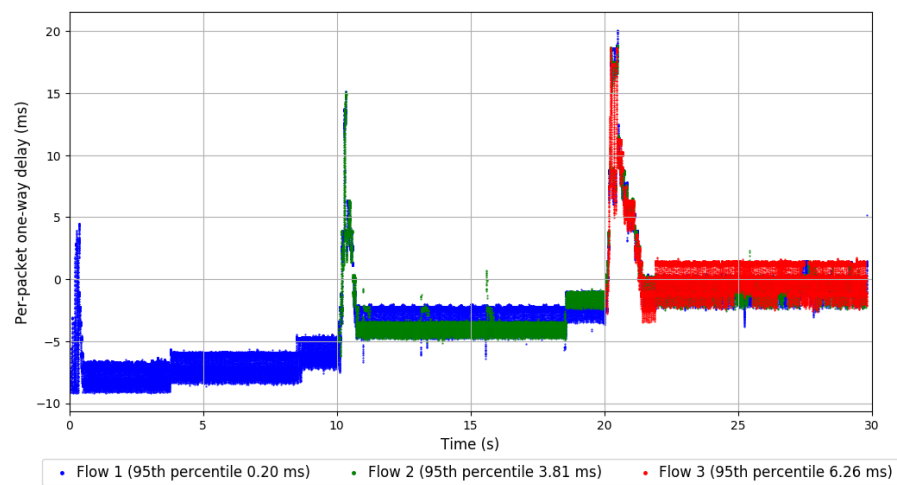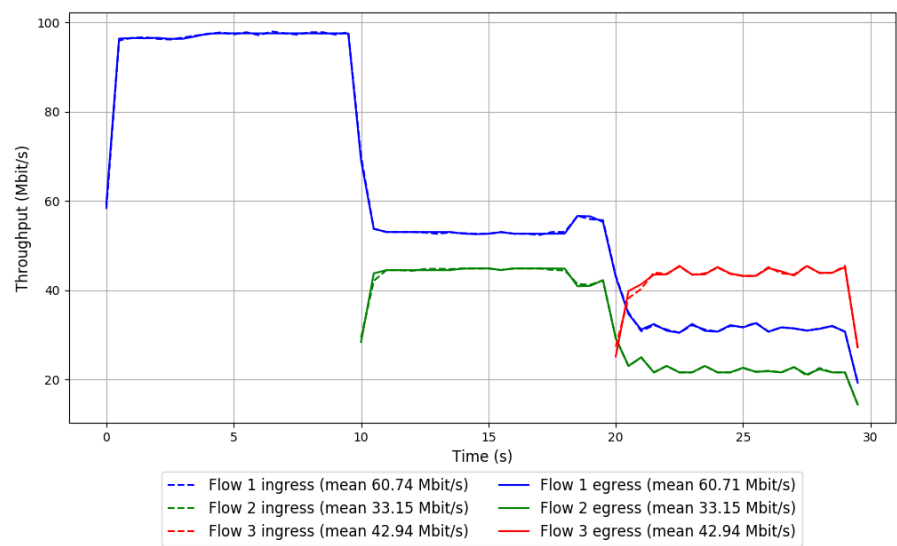
Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2017-12-05 23:09:55
End at: 2017-12-05 23:10:25
Local clock offset: 4.504 ms
Remote clock offset: -11.415 ms


# Below is generated by plot.py at 2017-12-06 01:15:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.86 Mbit/s
95th percentile per-packet one-way delay: 4.051 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.39 Mbit/s
95th percentile per-packet one-way delay: 3.861 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.70 Mbit/s
95th percentile per-packet one-way delay: 5.308 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.86 Mbit/s
95th percentile per-packet one-way delay: 8.679 ms
Loss rate: 0.00%
```
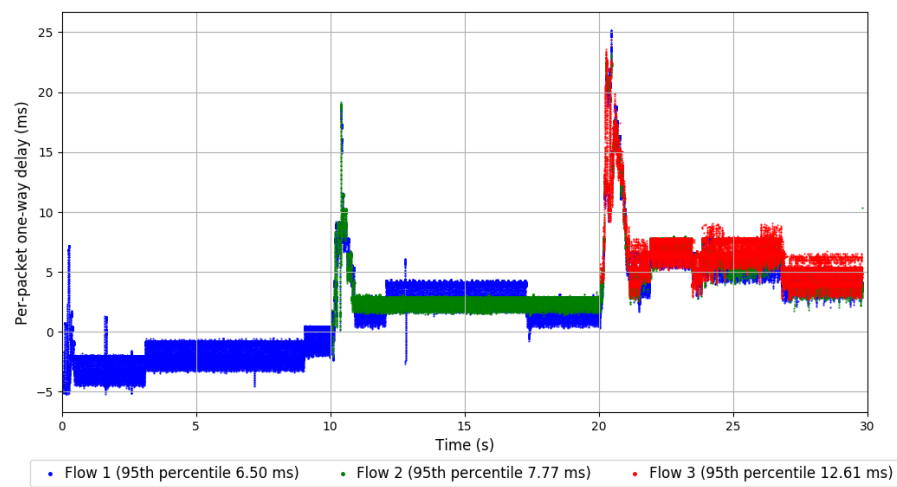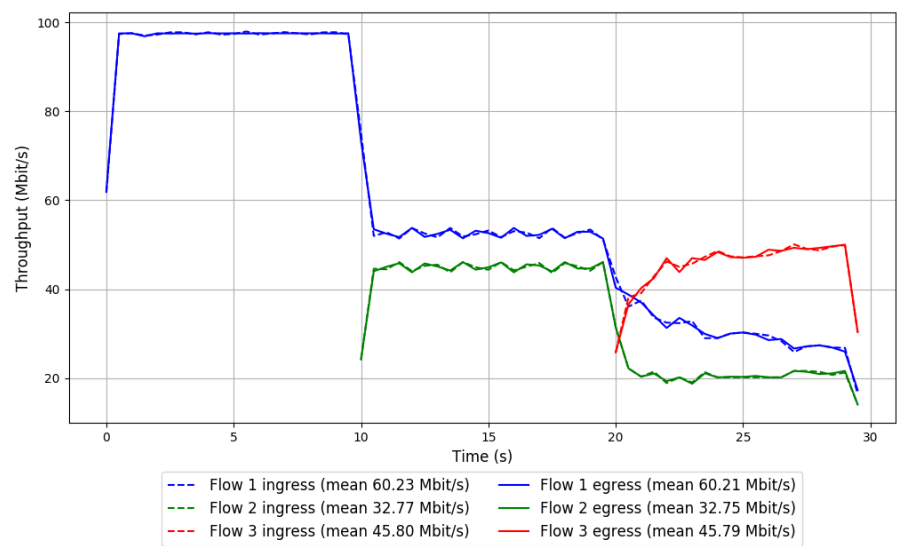
Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2017-12-05 23:26:20
End at: 2017-12-05 23:26:50
Local clock offset: 5.891 ms
Remote clock offset: -11.426 ms


# Below is generated by plot.py at 2017-12-06 01:16:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.75 Mbit/s
95th percentile per-packet one-way delay: 2.399 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.71 Mbit/s
95th percentile per-packet one-way delay: 0.202 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.15 Mbit/s
95th percentile per-packet one-way delay: 3.809 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.94 Mbit/s
95th percentile per-packet one-way delay: 6.261 ms
Loss rate: 0.00%
```

Run 7: Report of Indigo — Data Link

```
Run 8: Statistics of Indigo

Start at: 2017-12-05 23:42:50
End at: 2017-12-05 23:43:20
Local clock offset: 0.845 ms
Remote clock offset: -11.817 ms

# Below is generated by plot.py at 2017-12-06 01:16:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.90 Mbit/s
95th percentile per-packet one-way delay: 7.726 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.21 Mbit/s
95th percentile per-packet one-way delay: 6.502 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.75 Mbit/s
95th percentile per-packet one-way delay: 7.768 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 45.79 Mbit/s
95th percentile per-packet one-way delay: 12.608 ms
Loss rate: 0.00%
```
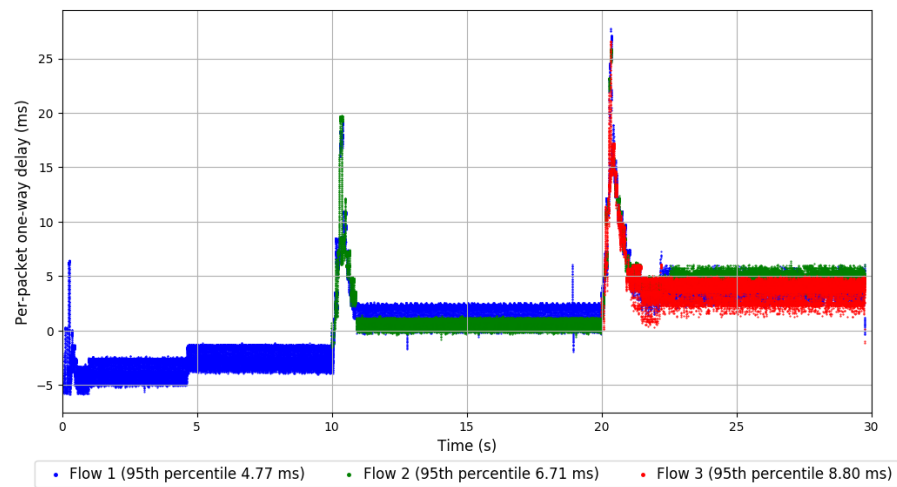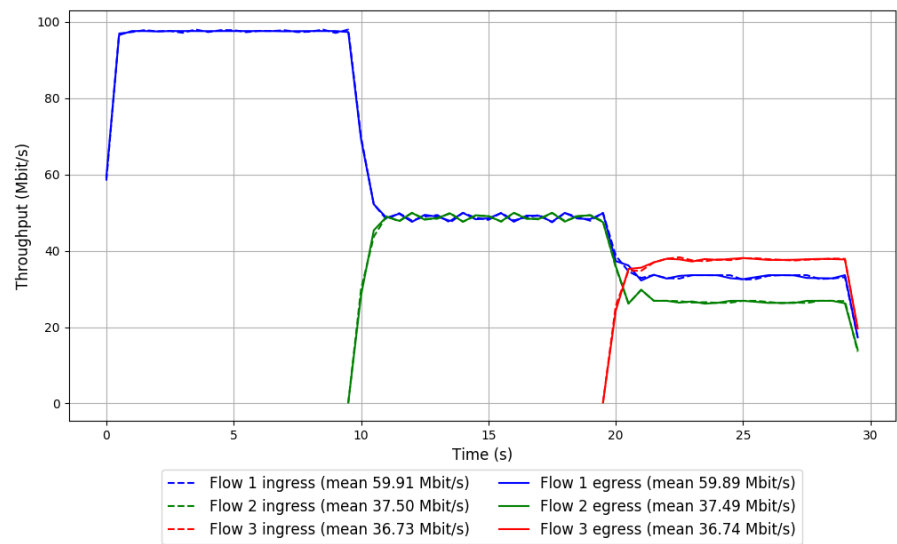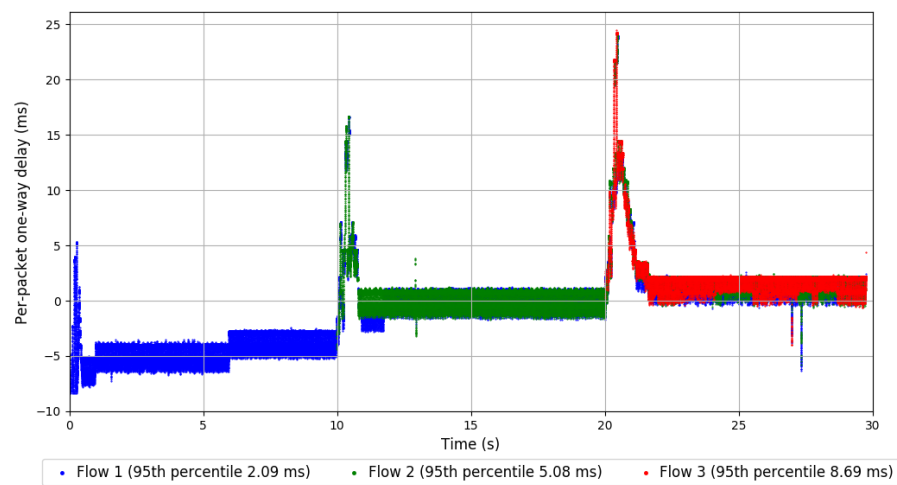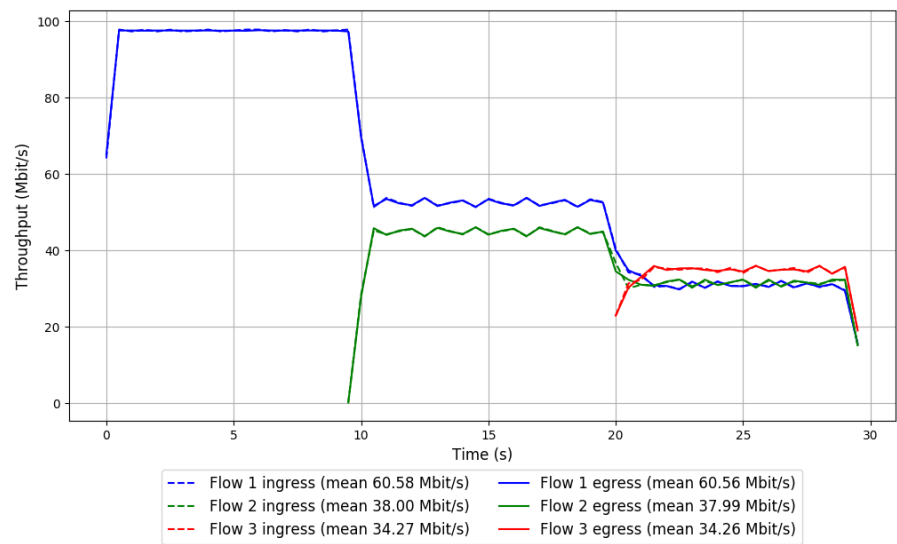
Run 8: Report of Indigo — Data Link

Flow 1 ingress (mean 60.23 Mbit/s) — Flow 1 egress (mean 60.21 Mbit/s)
Flow 2 ingress (mean 32.77 Mbit/s) — Flow 2 egress (mean 32.75 Mbit/s)
Flow 3 ingress (mean 45.80 Mbit/s) — Flow 3 egress (mean 45.79 Mbit/s)

• Flow 1 (95th percentile 6.50 ms)   • Flow 2 (95th percentile 7.77 ms)   • Flow 3 (95th percentile 12.61 ms)

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```
Run 9: Statistics of Indigo

Start at: 2017-12-05 23:59:15
End at: 2017-12-05 23:59:45
Local clock offset: 3.287 ms
Remote clock offset: -11.766 ms


# Below is generated by plot.py at 2017-12-06 01:16:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.85 Mbit/s
95th percentile per-packet one-way delay: 5.773 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.89 Mbit/s
95th percentile per-packet one-way delay: 4.772 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.49 Mbit/s
95th percentile per-packet one-way delay: 6.708 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.74 Mbit/s
95th percentile per-packet one-way delay: 8.801 ms
Loss rate: 0.00%
```

Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2017-12-06 00:15:37
End at: 2017-12-06 00:16:07
Local clock offset: 3.758 ms
Remote clock offset: -13.667 ms

# Below is generated by plot.py at 2017-12-06 01:16:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.97 Mbit/s
95th percentile per-packet one-way delay: 3.380 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.56 Mbit/s
95th percentile per-packet one-way delay: 2.094 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 37.99 Mbit/s
95th percentile per-packet one-way delay: 5.077 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.26 Mbit/s
95th percentile per-packet one-way delay: 8.686 ms
Loss rate: 0.00%
```
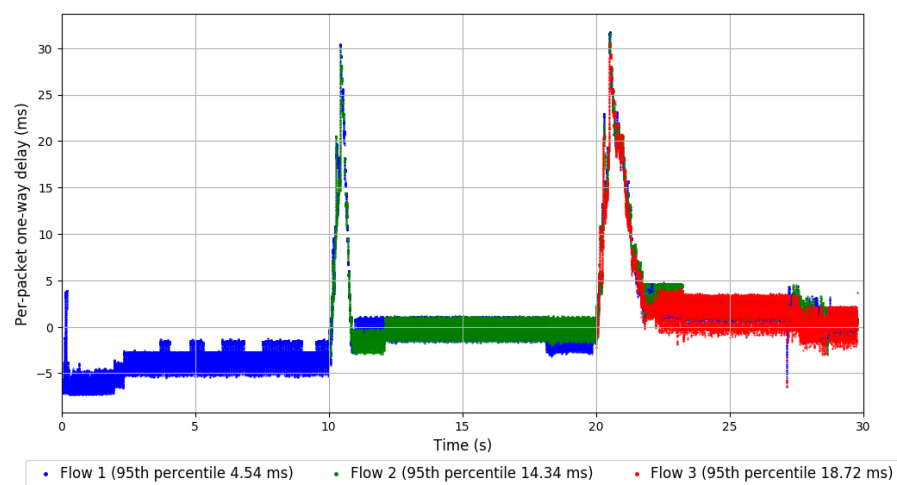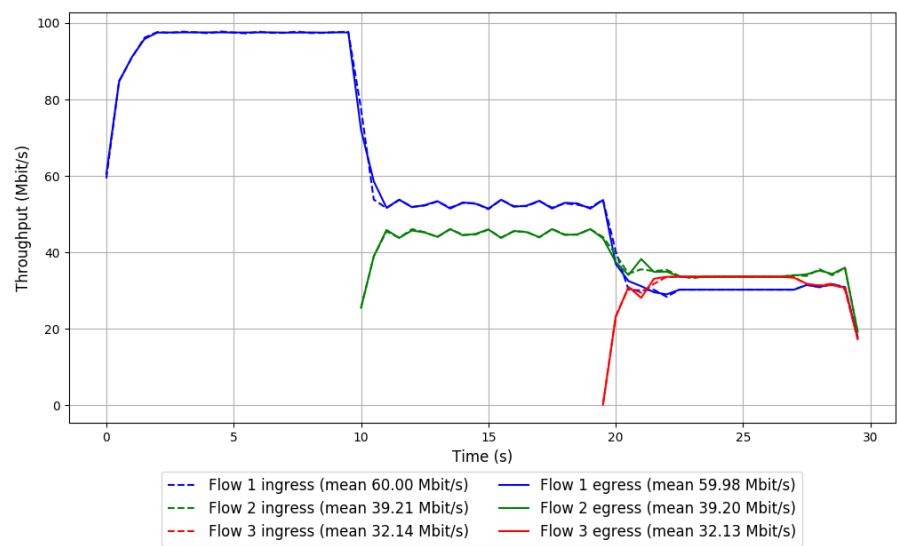
Run 10: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-calib

Start at: 2017-12-05 21:51:59
End at: 2017-12-05 21:52:29
Local clock offset: 4.41 ms
Remote clock offset: -12.521 ms

# Below is generated by plot.py at 2017-12-06 01:16:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.54 Mbit/s
95th percentile per-packet one-way delay: 10.708 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.98 Mbit/s
95th percentile per-packet one-way delay: 4.537 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.20 Mbit/s
95th percentile per-packet one-way delay: 14.342 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.13 Mbit/s
95th percentile per-packet one-way delay: 18.719 ms
Loss rate: 0.00%
```

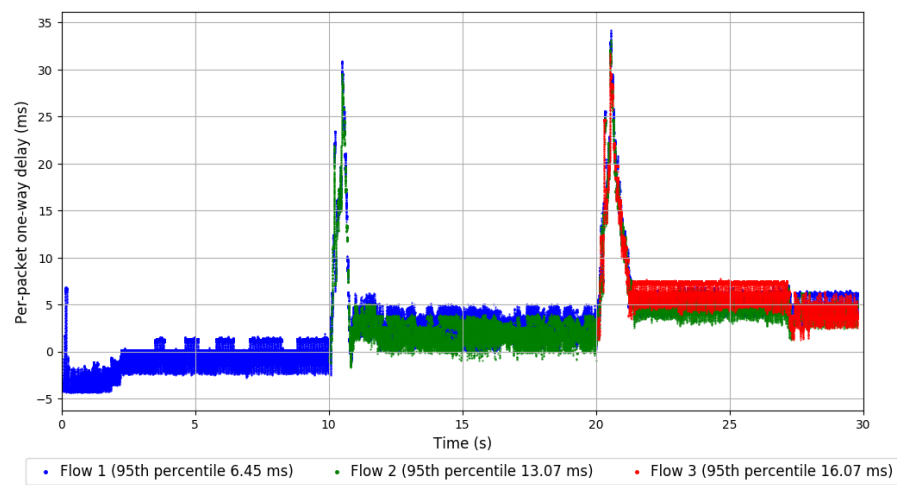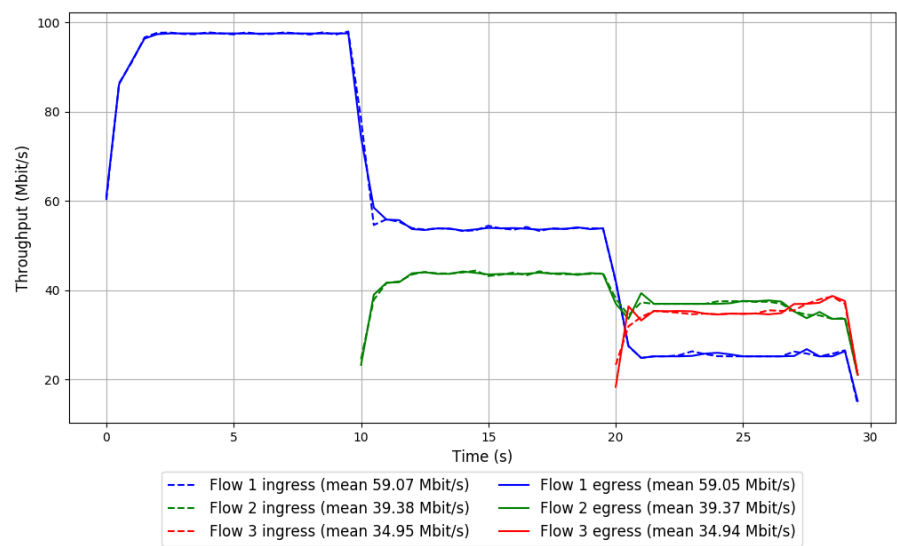Run 1: Report of Indigo-calib — Data Link

```
Run 2: Statistics of Indigo-calib

Start at: 2017-12-05 22:08:37
End at: 2017-12-05 22:09:07
Local clock offset: 1.555 ms
Remote clock offset: -12.244 ms

# Below is generated by plot.py at 2017-12-06 01:16:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.59 Mbit/s
95th percentile per-packet one-way delay: 9.095 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.05 Mbit/s
95th percentile per-packet one-way delay: 6.448 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.37 Mbit/s
95th percentile per-packet one-way delay: 13.070 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.94 Mbit/s
95th percentile per-packet one-way delay: 16.071 ms
Loss rate: 0.00%
```

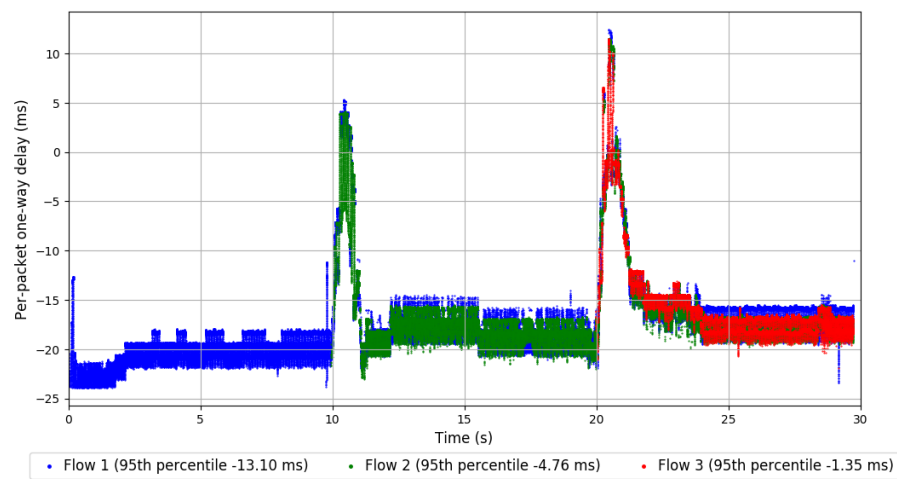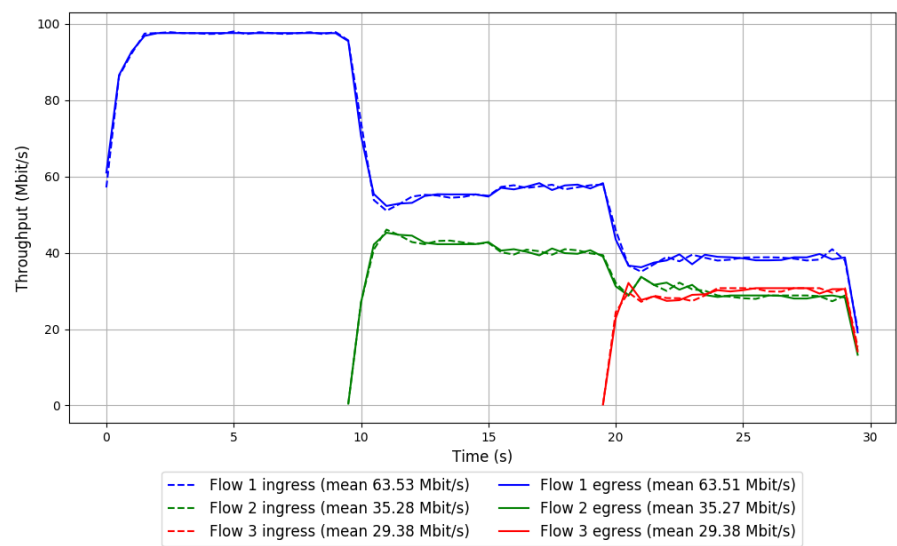Run 2: Report of Indigo-calib — Data Link

```
Run 3: Statistics of Indigo-calib

Start at: 2017-12-05 22:25:10
End at: 2017-12-05 22:25:40
Local clock offset: 21.023 ms
Remote clock offset: -12.008 ms


# Below is generated by plot.py at 2017-12-06 01:16:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.59 Mbit/s
95th percentile per-packet one-way delay: -8.245 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.51 Mbit/s
95th percentile per-packet one-way delay: -13.100 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 35.27 Mbit/s
95th percentile per-packet one-way delay: -4.763 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 29.38 Mbit/s
95th percentile per-packet one-way delay: -1.346 ms
Loss rate: 0.00%
```

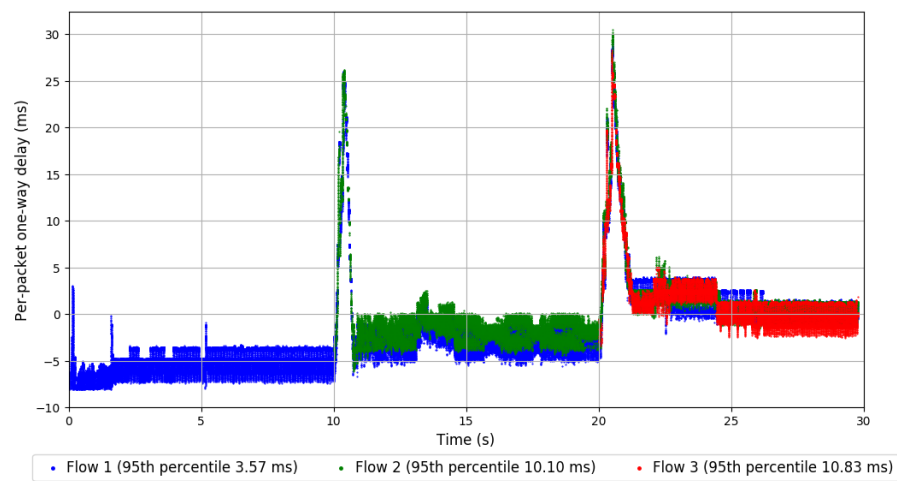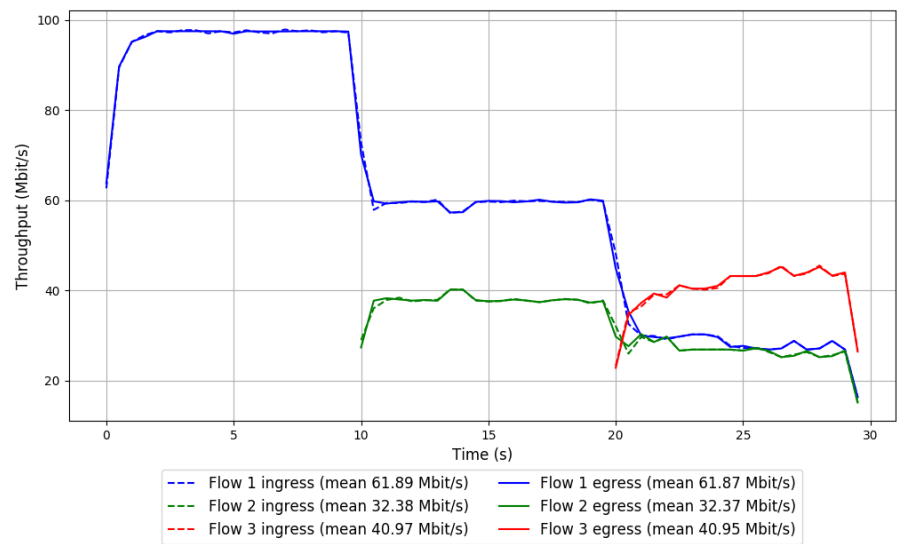Run 3: Report of Indigo-calib — Data Link

```
Run 4: Statistics of Indigo-calib

Start at: 2017-12-05 22:41:39
End at: 2017-12-05 22:42:09
Local clock offset: 4.607 ms
Remote clock offset: -11.411 ms

# Below is generated by plot.py at 2017-12-06 01:17:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.75 Mbit/s
95th percentile per-packet one-way delay: 4.643 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.87 Mbit/s
95th percentile per-packet one-way delay: 3.567 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 10.104 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 40.95 Mbit/s
95th percentile per-packet one-way delay: 10.826 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-calib — Data Link
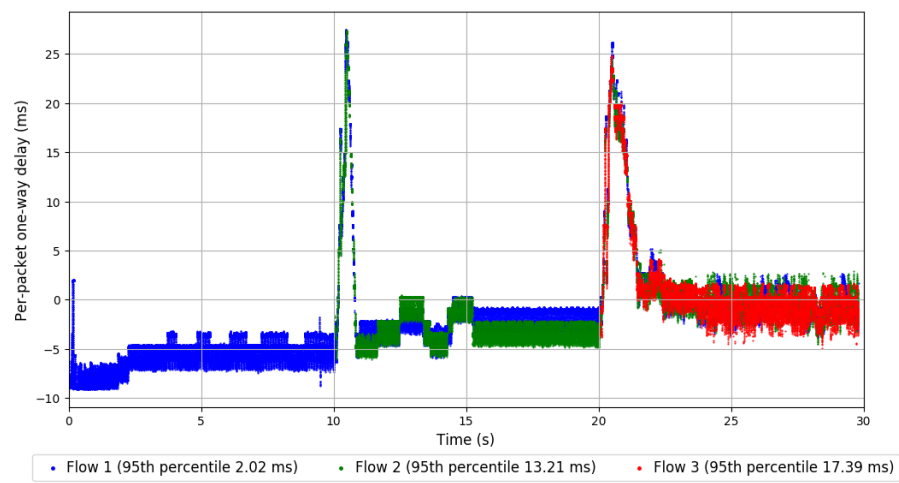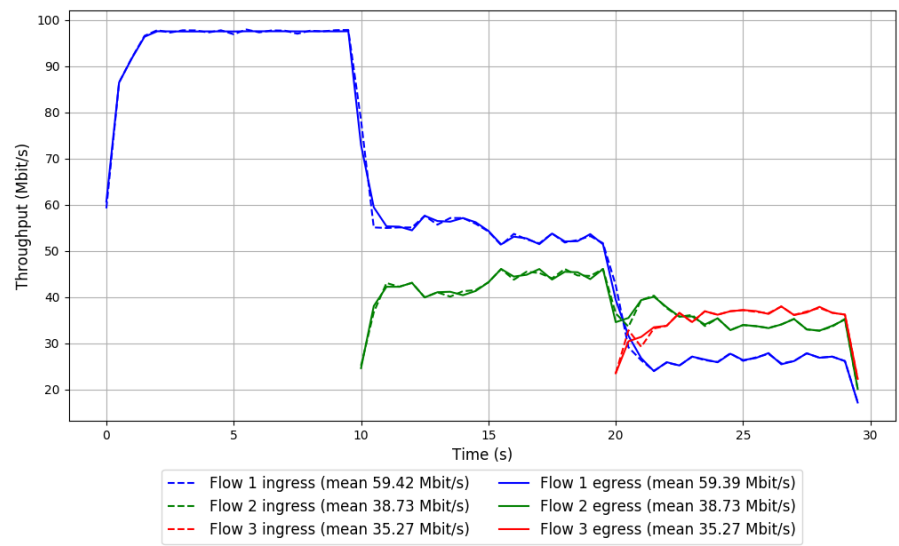

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```
Run 5: Statistics of Indigo-calib

Start at: 2017-12-05 22:58:10
End at: 2017-12-05 22:58:40
Local clock offset: 6.982 ms
Remote clock offset: -11.466 ms


# Below is generated by plot.py at 2017-12-06 01:17:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.59 Mbit/s
95th percentile per-packet one-way delay: 7.563 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 59.39 Mbit/s
95th percentile per-packet one-way delay: 2.023 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 38.73 Mbit/s
95th percentile per-packet one-way delay: 13.215 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.27 Mbit/s
95th percentile per-packet one-way delay: 17.394 ms
Loss rate: 0.00%
```

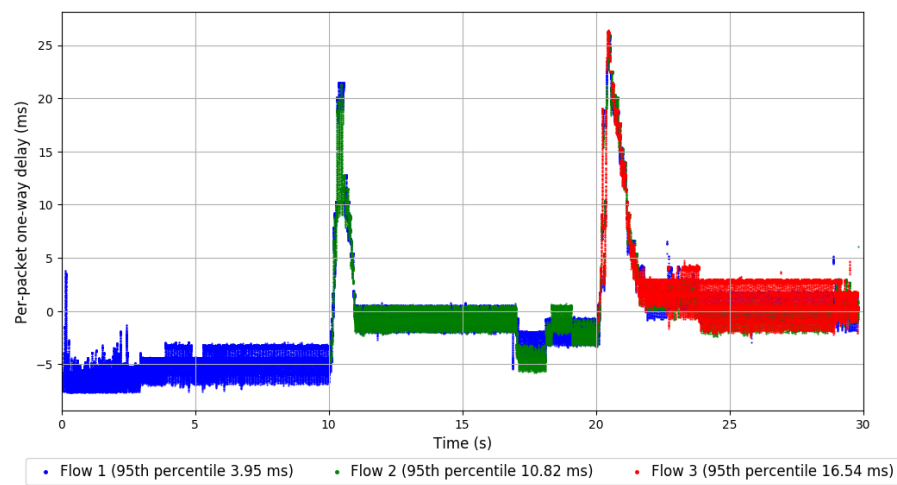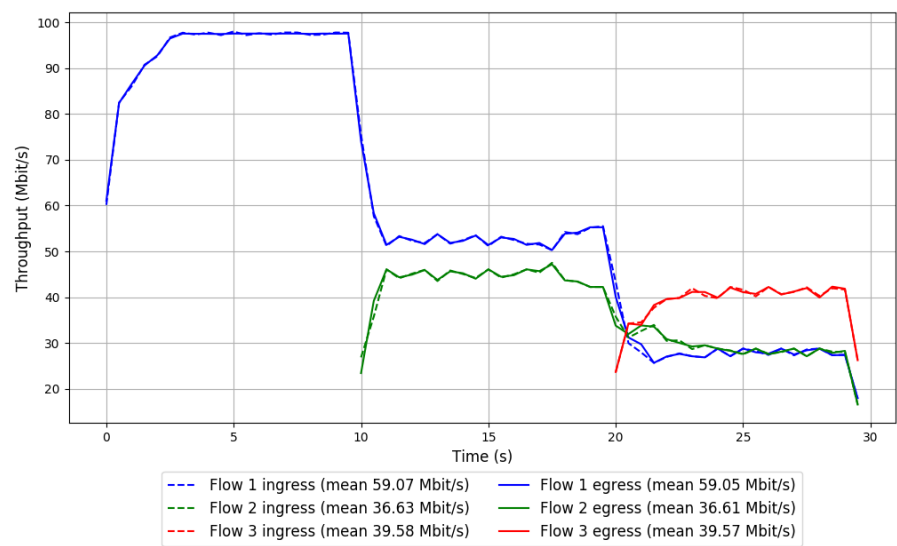Run 5: Report of Indigo-calib — Data Link

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```
Run 6: Statistics of Indigo-calib

Start at: 2017-12-05 23:14:36
End at: 2017-12-05 23:15:06
Local clock offset: 4.701 ms
Remote clock offset: -11.166 ms


# Below is generated by plot.py at 2017-12-06 01:17:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.24 Mbit/s
95th percentile per-packet one-way delay: 7.922 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.05 Mbit/s
95th percentile per-packet one-way delay: 3.946 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.61 Mbit/s
95th percentile per-packet one-way delay: 10.821 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 39.57 Mbit/s
95th percentile per-packet one-way delay: 16.544 ms
Loss rate: 0.00%
```

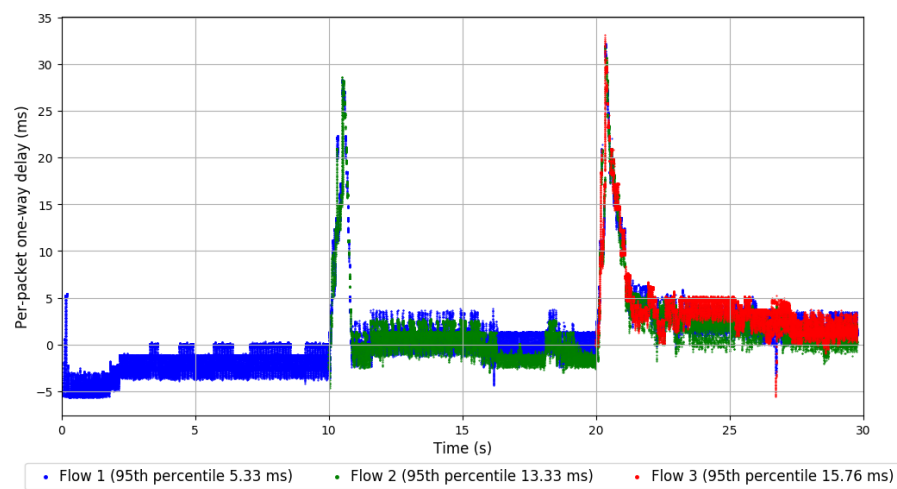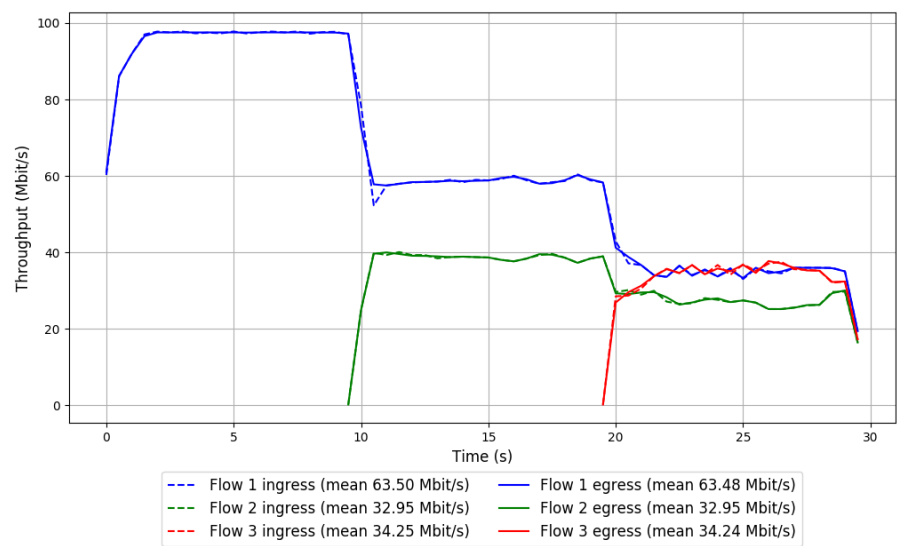# Run 6: Report of Indigo-calib — Data Link

```
Run 7: Statistics of Indigo-calib

Start at: 2017-12-05 23:30:59
End at: 2017-12-05 23:31:29
Local clock offset: 1.856 ms
Remote clock offset: -12.93 ms


# Below is generated by plot.py at 2017-12-06 01:17:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.61 Mbit/s
95th percentile per-packet one-way delay: 9.641 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.48 Mbit/s
95th percentile per-packet one-way delay: 5.325 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.95 Mbit/s
95th percentile per-packet one-way delay: 13.326 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.24 Mbit/s
95th percentile per-packet one-way delay: 15.759 ms
Loss rate: 0.00%
```

Run 7: Report of Indigo-calib — Data Link

```
Run 8: Statistics of Indigo-calib

Start at: 2017-12-05 23:47:31
End at: 2017-12-05 23:48:01
Local clock offset: 0.852 ms
Remote clock offset: -11.278 ms


# Below is generated by plot.py at 2017-12-06 01:17:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.52 Mbit/s
95th percentile per-packet one-way delay: 12.980 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.72 Mbit/s
95th percentile per-packet one-way delay: 7.708 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.33 Mbit/s
95th percentile per-packet one-way delay: 16.777 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.63 Mbit/s
95th percentile per-packet one-way delay: 19.207 ms
Loss rate: 0.00%
```
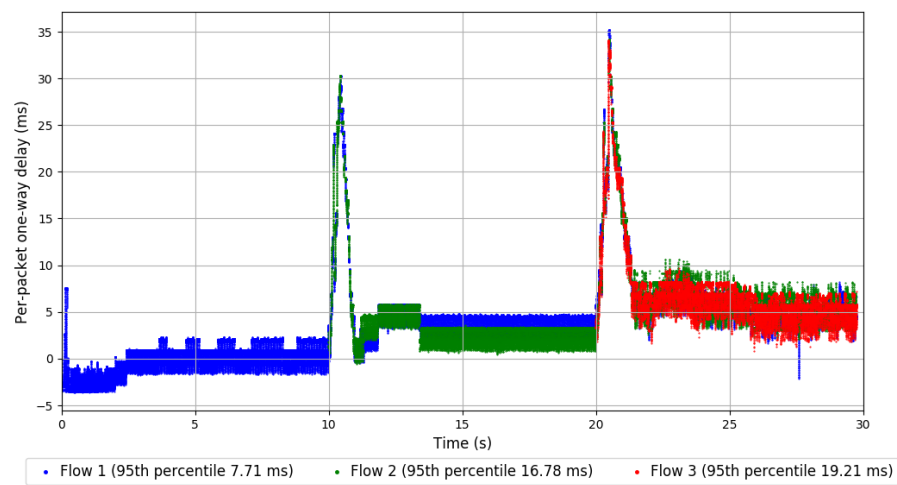
Run 8: Report of Indigo-calib — Data Link

- - - Flow 1 ingress (mean 57.74 Mbit/s)   —— Flow 1 egress (mean 57.72 Mbit/s)
- - - Flow 2 ingress (mean 41.34 Mbit/s)   —— Flow 2 egress (mean 41.33 Mbit/s)
- - - Flow 3 ingress (mean 34.64 Mbit/s)   —— Flow 3 egress (mean 34.63 Mbit/s)

• Flow 1 (95th percentile 7.71 ms)   • Flow 2 (95th percentile 16.78 ms)   • Flow 3 (95th percentile 19.21 ms)

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```
Run 9: Statistics of Indigo-calib

Start at: 2017-12-06 00:03:55
End at: 2017-12-06 00:04:25
Local clock offset: 1.382 ms
Remote clock offset: -12.649 ms

# Below is generated by plot.py at 2017-12-06 01:17:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.62 Mbit/s
95th percentile per-packet one-way delay: 7.557 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.14 Mbit/s
95th percentile per-packet one-way delay: 5.020 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.04 Mbit/s
95th percentile per-packet one-way delay: 12.710 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.49 Mbit/s
95th percentile per-packet one-way delay: 13.391 ms
Loss rate: 0.00%
```
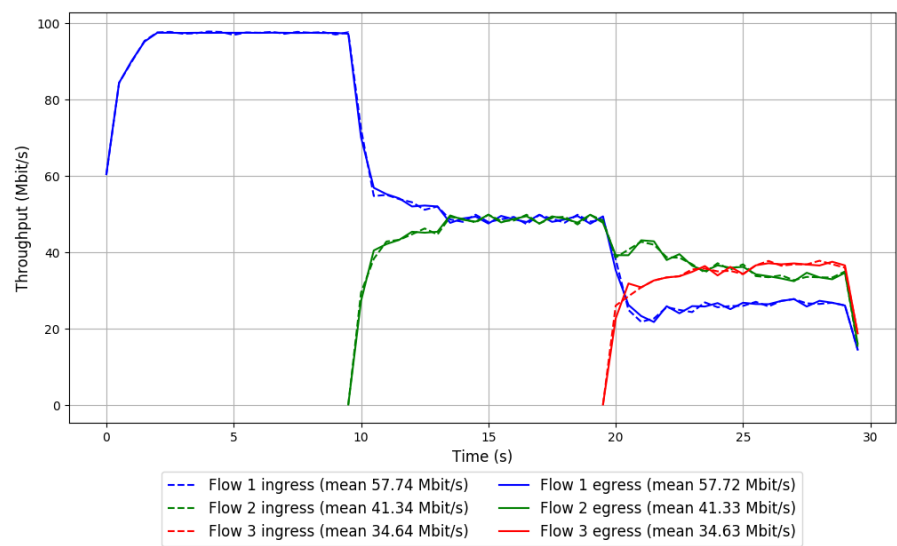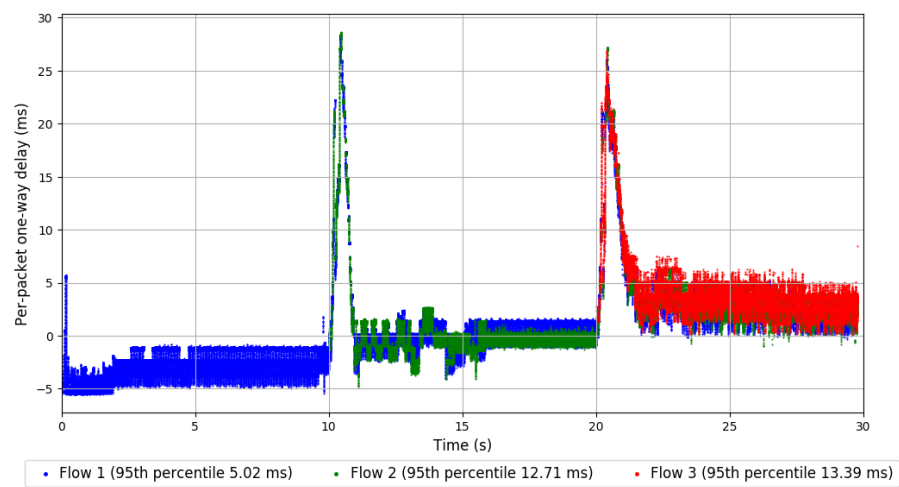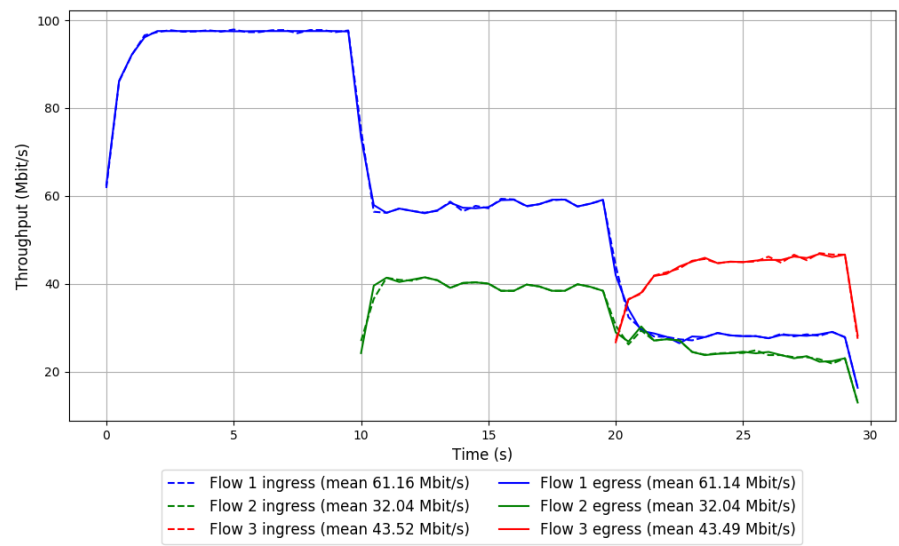
Run 9: Report of Indigo-calib — Data Link

- - - - Flow 1 ingress (mean 61.16 Mbit/s)   —— Flow 1 egress (mean 61.14 Mbit/s)
- - - - Flow 2 ingress (mean 32.04 Mbit/s)   —— Flow 2 egress (mean 32.04 Mbit/s)
- - - - Flow 3 ingress (mean 43.52 Mbit/s)   —— Flow 3 egress (mean 43.49 Mbit/s)

• Flow 1 (95th percentile 5.02 ms)   • Flow 2 (95th percentile 12.71 ms)   • Flow 3 (95th percentile 13.39 ms)

```
Run 10: Statistics of Indigo-calib

Start at: 2017-12-06 00:20:19
End at: 2017-12-06 00:20:49
Local clock offset: 5.664 ms
Remote clock offset: -13.897 ms


# Below is generated by plot.py at 2017-12-06 01:17:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.62 Mbit/s
95th percentile per-packet one-way delay: 4.691 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.97 Mbit/s
95th percentile per-packet one-way delay: 1.200 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 35.49 Mbit/s
95th percentile per-packet one-way delay: 7.485 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.78 Mbit/s
95th percentile per-packet one-way delay: 12.009 ms
Loss rate: 0.00%
```

Run 10: Report of Indigo-calib — Data Link