Pantheon Report

Generated at 2019-03-27 14:15:53 (UTC).

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

Repeated the test of 21 congestion control schemes 5 times.

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

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.
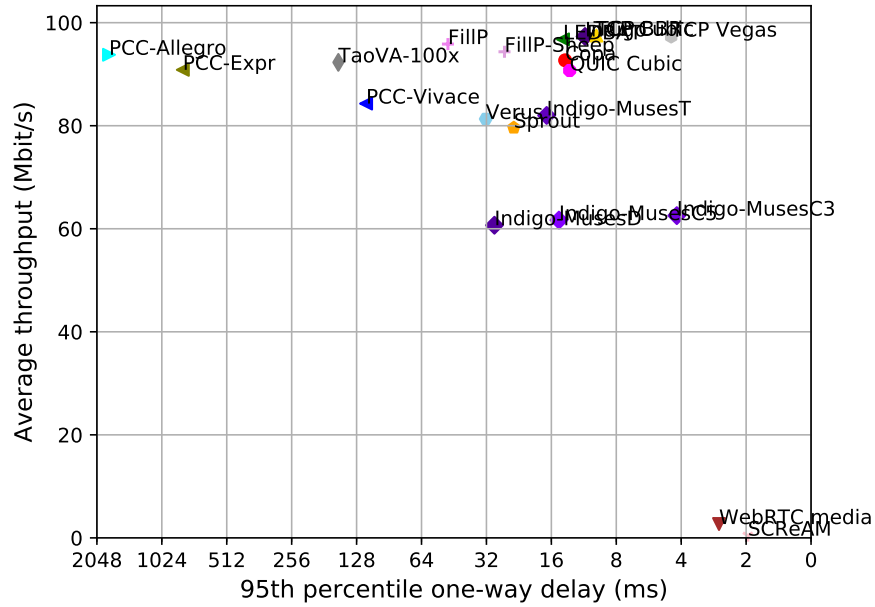
```
System info:
Linux 4.15.0-1034-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
```
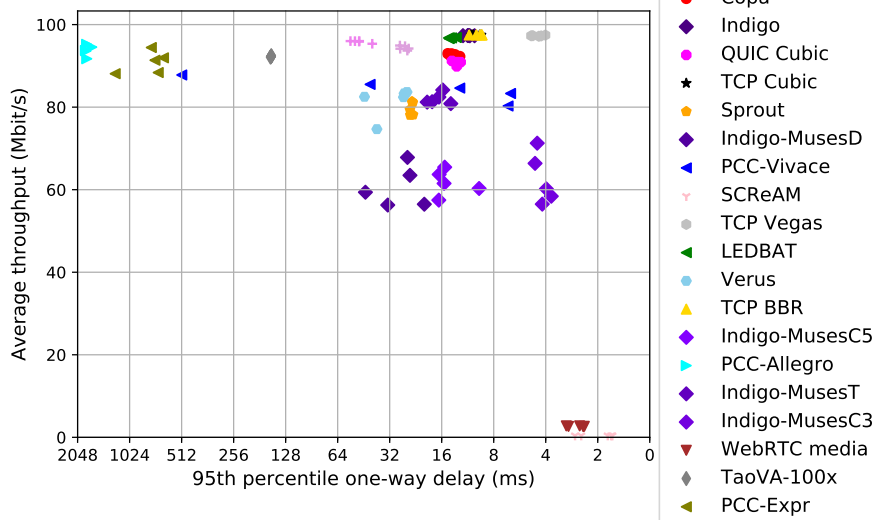
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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

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

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	59.29	40.93	32.96	9.49	10.01	10.23	0.26	0.53	0.66
Copa	5	56.18	39.30	31.12	13.50	12.72	15.79	0.04	0.09	0.15
TCP Cubic	5	60.69	39.70	31.12	10.21	10.02	10.41	0.08	0.14	0.24
FillP	5	54.70	46.06	31.60	29.23	54.81	48.08	0.09	2.58	2.56
FillP-Sheep	5	55.70	44.22	27.85	21.03	29.95	27.84	0.02	0.07	0.19
Indigo	5	59.68	40.63	32.33	9.58	11.49	8.54	0.03	1.49	0.10
Indigo-MusesC3	5	43.03	24.70	14.66	3.93	4.63	4.54	0.01	0.02	0.09
Indigo-MusesC5	5	35.85	27.28	32.23	12.48	14.63	17.75	0.03	0.08	0.12
Indigo-MusesD	5	34.66	22.21	44.61	12.81	8.90	43.24	0.04	0.08	1.28
Indigo-MusesT	5	52.01	36.35	27.37	14.52	18.92	18.20	0.04	0.10	0.21
LEDBAT	5	58.99	40.44	32.61	13.79	14.34	14.02	0.12	0.21	0.36
PCC-Allegro	5	63.24	34.34	23.43	1916.64	317.22	9.39	10.56	3.21	0.12
PCC-Expr	5	56.63	37.70	27.72	823.04	450.60	182.17	27.47	10.89	3.21
QUIC Cubic	5	53.76	40.06	31.15	12.79	12.95	14.19	0.17	0.31	0.48
SCReAM	5	0.22	0.22	0.22	1.95	1.94	1.94	0.00	0.00	0.07
Sprout	5	42.97	39.11	32.24	22.53	24.29	24.89	0.11	0.18	0.21
TaoVA-100x	5	55.44	39.46	31.81	154.14	155.68	156.20	0.52	1.11	2.72
TCP Vegas	5	50.78	51.11	37.58	3.26	4.13	4.88	0.01	0.02	0.06
Verus	5	47.03	35.69	31.66	26.09	34.07	143.11	0.05	0.10	0.13
PCC-Vivace	5	52.23	36.21	24.23	9.05	170.70	53.73	0.04	1.23	1.19
WebRTC media	5	1.51	0.80	0.39	2.58	2.62	2.94	0.00	0.00	0.02

```
Run 1: Statistics of TCP BBR

Start at: 2019-03-27 12:20:24
End at: 2019-03-27 12:20:54
Local clock offset: -0.312 ms
Remote clock offset: 0.322 ms


# Below is generated by plot.py at 2019-03-27 14:02:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.50 Mbit/s
95th percentile per-packet one-way delay: 9.371 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 59.29 Mbit/s
95th percentile per-packet one-way delay: 9.158 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 40.93 Mbit/s
95th percentile per-packet one-way delay: 9.650 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 32.94 Mbit/s
95th percentile per-packet one-way delay: 9.527 ms
Loss rate: 0.34%
```
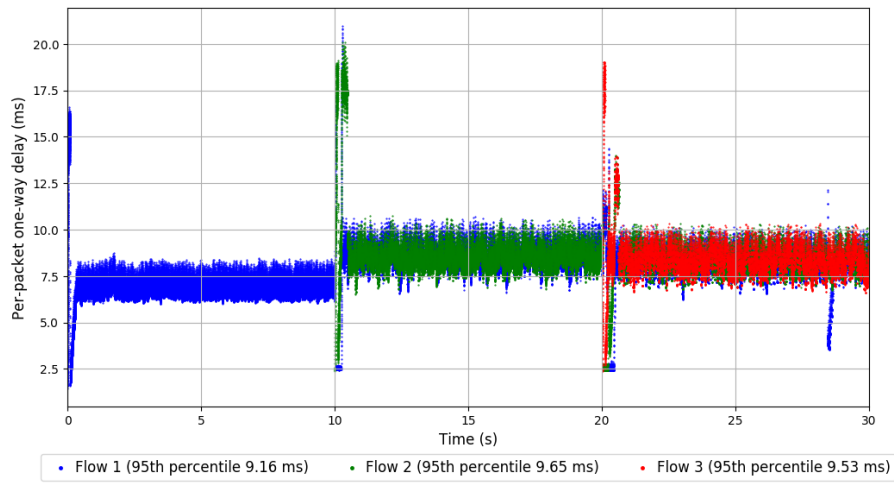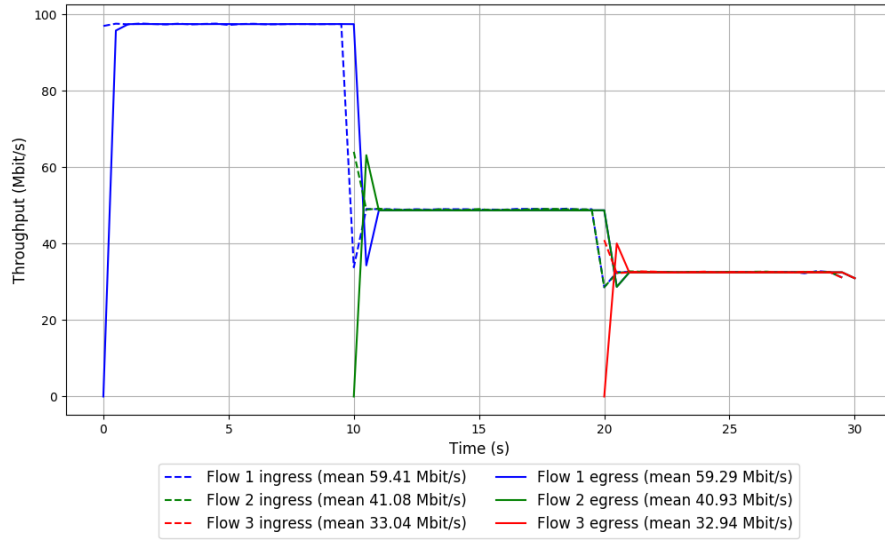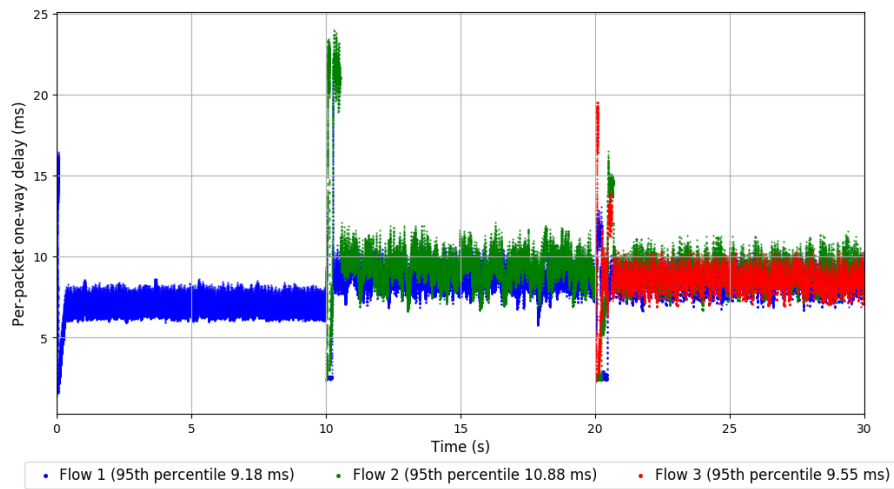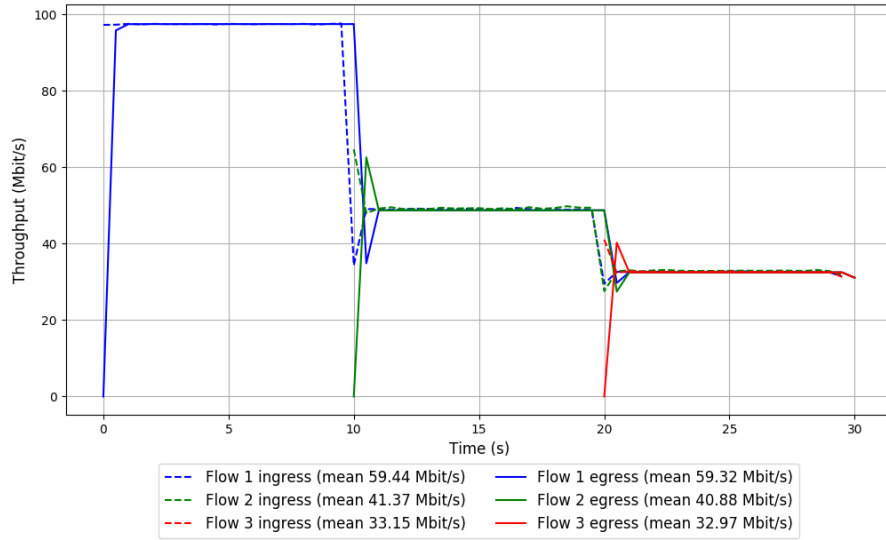
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-03-27 12:44:36
End at: 2019-03-27 12:45:06
Local clock offset: 1.874 ms
Remote clock offset: 0.745 ms


# Below is generated by plot.py at 2019-03-27 14:02:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.51 Mbit/s
95th percentile per-packet one-way delay: 10.077 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 59.32 Mbit/s
95th percentile per-packet one-way delay: 9.183 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 40.88 Mbit/s
95th percentile per-packet one-way delay: 10.879 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 32.97 Mbit/s
95th percentile per-packet one-way delay: 9.552 ms
Loss rate: 0.57%
```
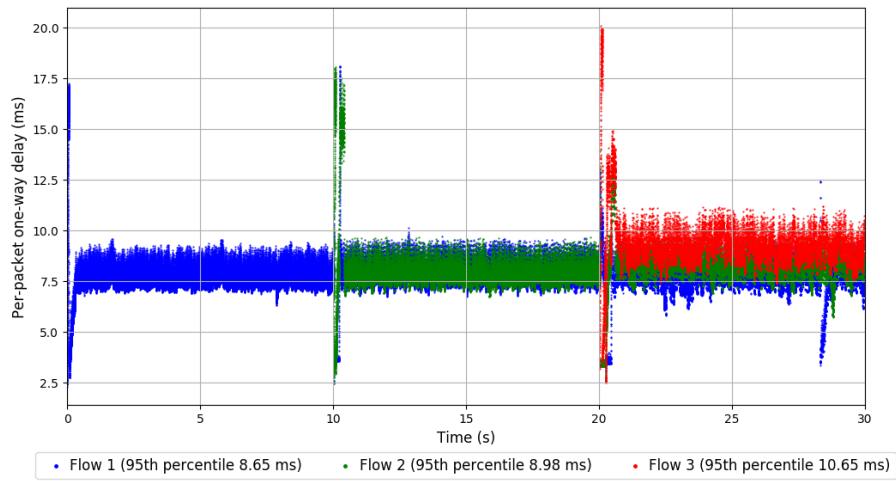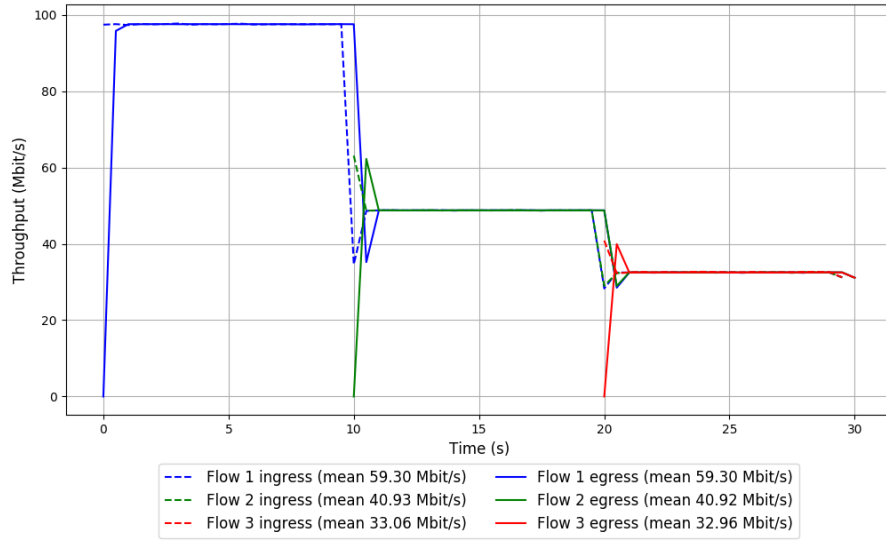
Run 2: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 59.44 Mbit/s) —— Flow 1 egress (mean 59.32 Mbit/s)
- - - Flow 2 ingress (mean 41.37 Mbit/s) —— Flow 2 egress (mean 40.88 Mbit/s)
- - - Flow 3 ingress (mean 33.15 Mbit/s) —— Flow 3 egress (mean 32.97 Mbit/s)

• Flow 1 (95th percentile 9.18 ms)   • Flow 2 (95th percentile 10.88 ms)   • Flow 3 (95th percentile 9.55 ms)

8

```
Run 3: Statistics of TCP BBR

Start at: 2019-03-27 13:08:47
End at: 2019-03-27 13:09:17
Local clock offset: -2.967 ms
Remote clock offset: 0.442 ms


# Below is generated by plot.py at 2019-03-27 14:02:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.49 Mbit/s
95th percentile per-packet one-way delay: 9.356 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 59.30 Mbit/s
95th percentile per-packet one-way delay: 8.651 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 40.92 Mbit/s
95th percentile per-packet one-way delay: 8.982 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 32.96 Mbit/s
95th percentile per-packet one-way delay: 10.648 ms
Loss rate: 0.34%
```
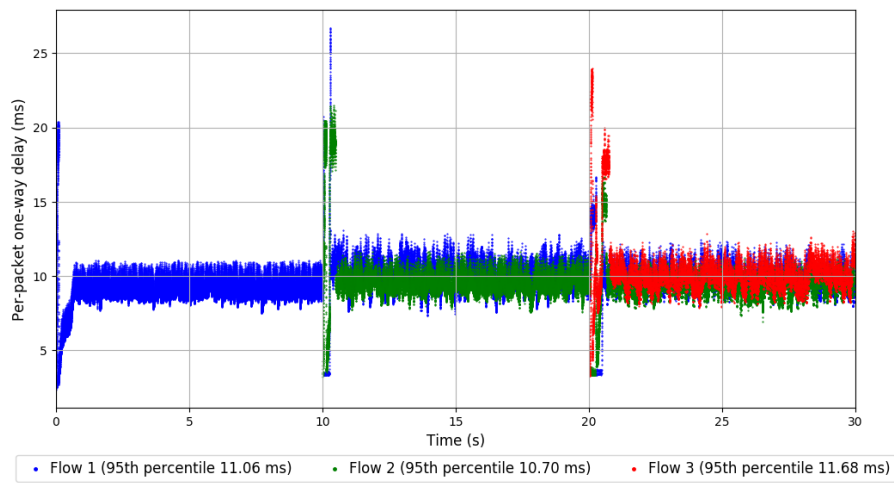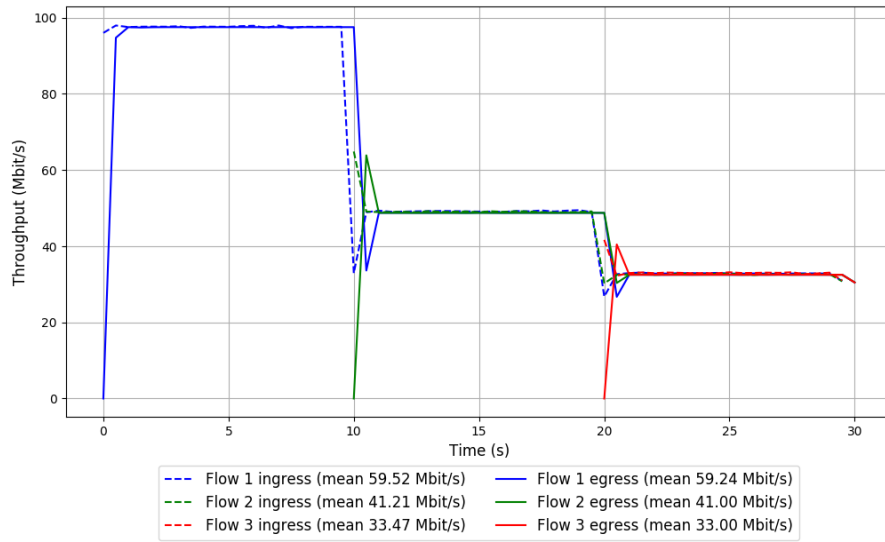
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-03-27 13:33:00
End at: 2019-03-27 13:33:30
Local clock offset: -3.31 ms
Remote clock offset: 0.146 ms


# Below is generated by plot.py at 2019-03-27 14:02:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.49 Mbit/s
95th percentile per-packet one-way delay: 11.089 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 59.24 Mbit/s
95th percentile per-packet one-way delay: 11.064 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 41.00 Mbit/s
95th percentile per-packet one-way delay: 10.699 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 33.00 Mbit/s
95th percentile per-packet one-way delay: 11.678 ms
Loss rate: 1.47%
```
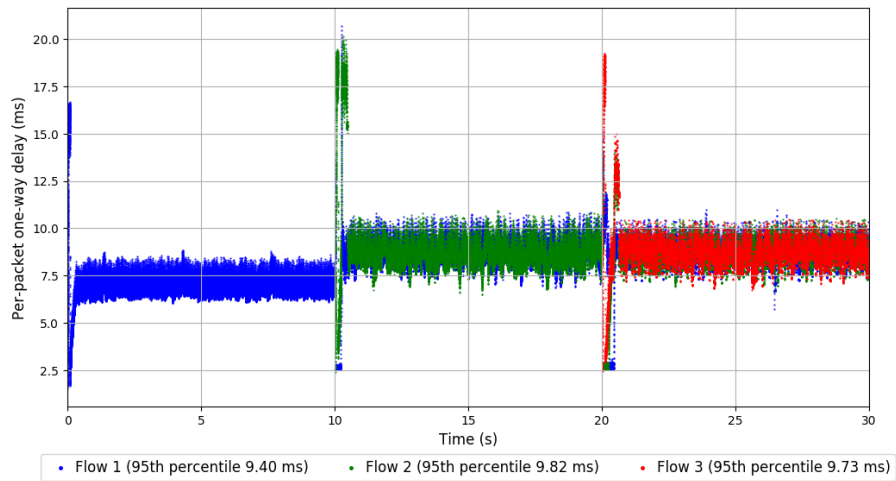
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2019-03-27 13:57:13
End at: 2019-03-27 13:57:43
Local clock offset: -7.185 ms
Remote clock offset: 0.004 ms


# Below is generated by plot.py at 2019-03-27 14:02:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.51 Mbit/s
95th percentile per-packet one-way delay: 9.575 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 59.31 Mbit/s
95th percentile per-packet one-way delay: 9.398 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 40.92 Mbit/s
95th percentile per-packet one-way delay: 9.822 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 32.94 Mbit/s
95th percentile per-packet one-way delay: 9.730 ms
Loss rate: 0.59%
```
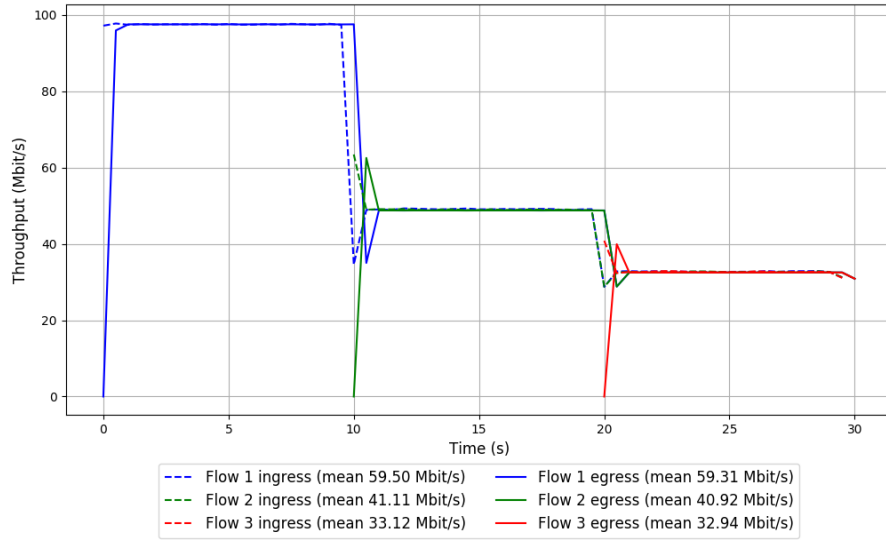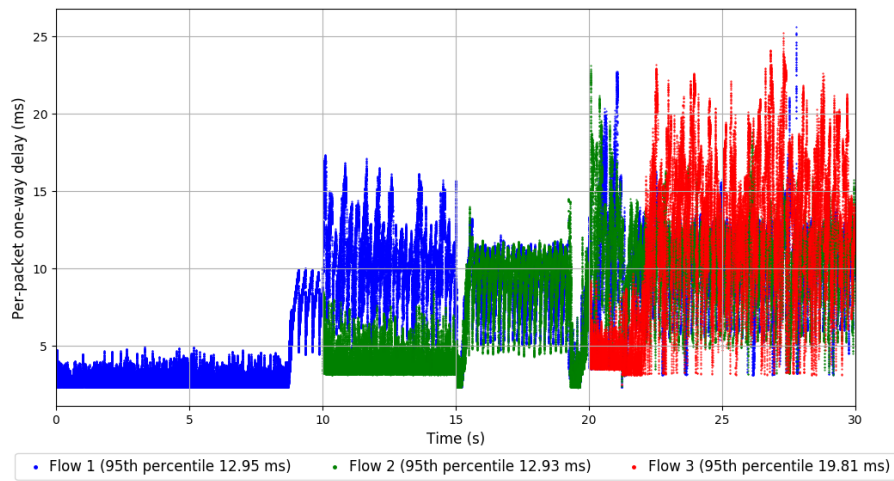
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 59.50 Mbit/s) --- Flow 1 egress (mean 59.31 Mbit/s)
Flow 2 ingress (mean 41.11 Mbit/s) --- Flow 2 egress (mean 40.92 Mbit/s)
Flow 3 ingress (mean 33.12 Mbit/s) --- Flow 3 egress (mean 32.94 Mbit/s)

Flow 1 (95th percentile 9.40 ms)   Flow 2 (95th percentile 9.82 ms)   Flow 3 (95th percentile 9.73 ms)

14

```
Run 1: Statistics of Copa

Start at: 2019-03-27 12:14:42
End at: 2019-03-27 12:15:12
Local clock offset: -0.122 ms
Remote clock offset: 0.241 ms


# Below is generated by plot.py at 2019-03-27 14:03:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.97 Mbit/s
95th percentile per-packet one-way delay: 14.758 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 56.95 Mbit/s
95th percentile per-packet one-way delay: 12.953 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 38.83 Mbit/s
95th percentile per-packet one-way delay: 12.929 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 30.61 Mbit/s
95th percentile per-packet one-way delay: 19.812 ms
Loss rate: 0.10%
```
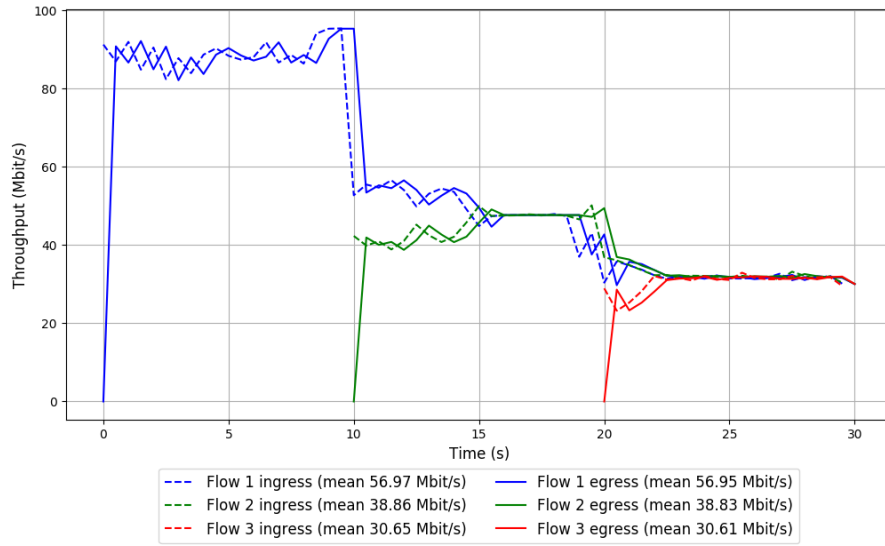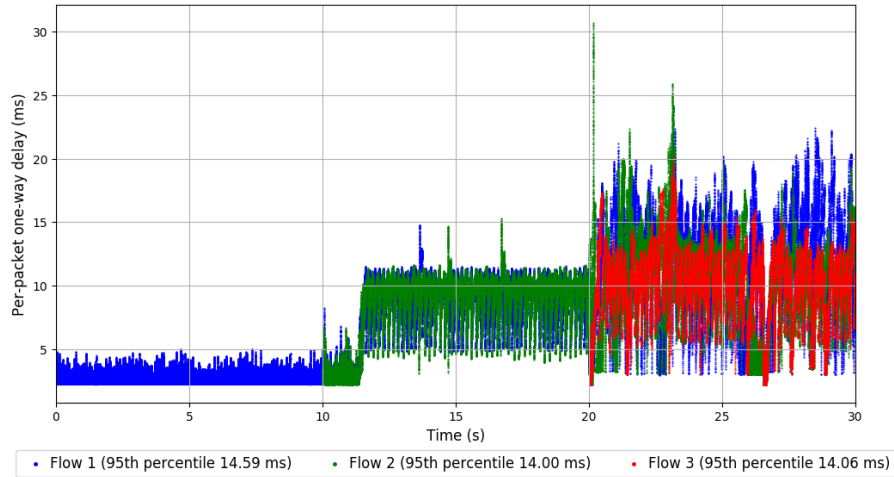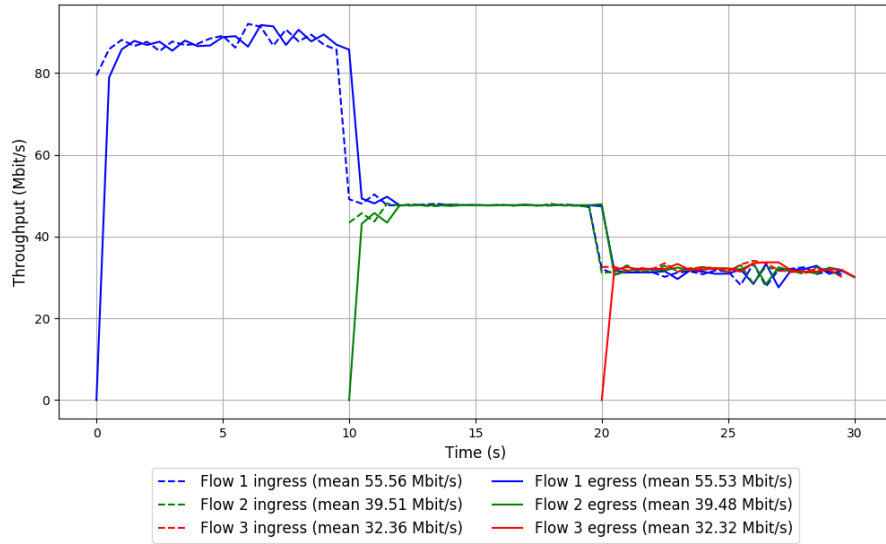
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 56.97 Mbit/s)   Flow 1 egress (mean 56.95 Mbit/s)
Flow 2 ingress (mean 38.86 Mbit/s)   Flow 2 egress (mean 38.83 Mbit/s)
Flow 3 ingress (mean 30.65 Mbit/s)   Flow 3 egress (mean 30.61 Mbit/s)

Flow 1 (95th percentile 12.95 ms)   Flow 2 (95th percentile 12.93 ms)   Flow 3 (95th percentile 19.81 ms)

```
Run 2: Statistics of Copa

Start at: 2019-03-27 12:38:54
End at: 2019-03-27 12:39:24
Local clock offset: 2.078 ms
Remote clock offset: 0.657 ms


# Below is generated by plot.py at 2019-03-27 14:03:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.56 Mbit/s
95th percentile per-packet one-way delay: 14.316 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 55.53 Mbit/s
95th percentile per-packet one-way delay: 14.592 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 39.48 Mbit/s
95th percentile per-packet one-way delay: 14.002 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 32.32 Mbit/s
95th percentile per-packet one-way delay: 14.060 ms
Loss rate: 0.14%
```
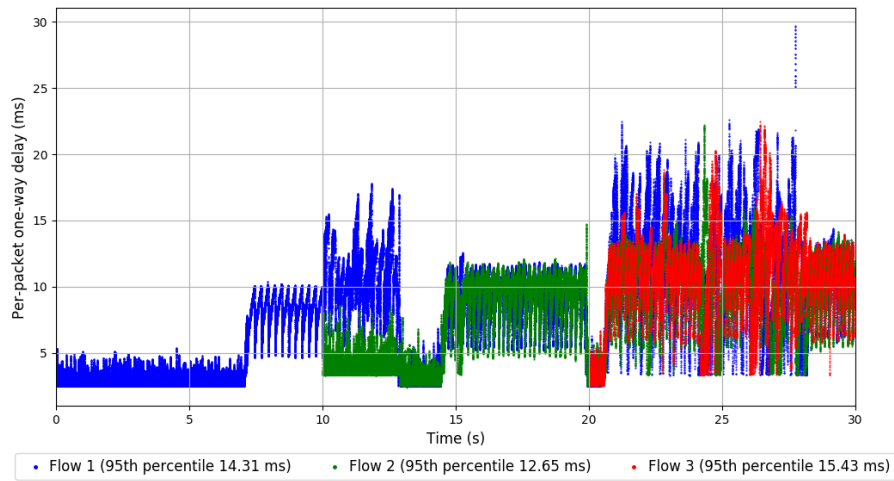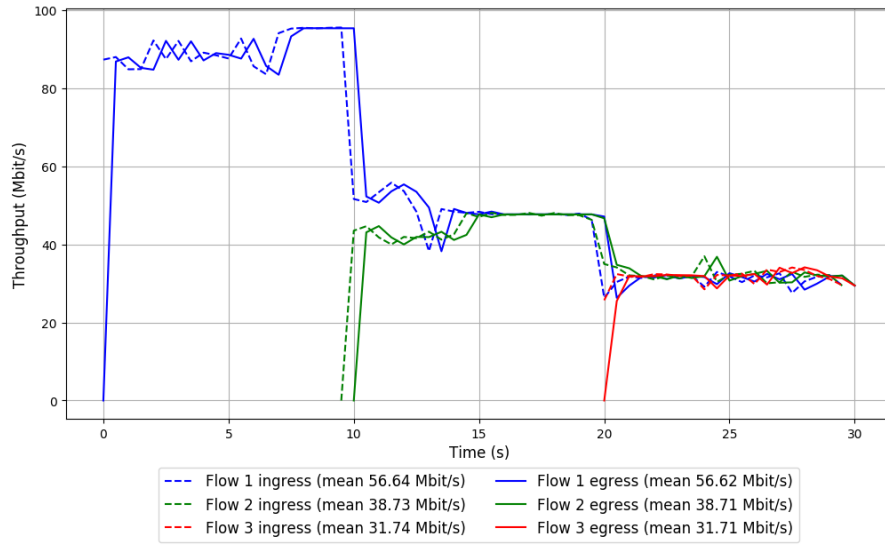
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-03-27 13:03:05
End at: 2019-03-27 13:03:35
Local clock offset: -2.479 ms
Remote clock offset: 0.553 ms


# Below is generated by plot.py at 2019-03-27 14:03:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.93 Mbit/s
95th percentile per-packet one-way delay: 14.023 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 56.62 Mbit/s
95th percentile per-packet one-way delay: 14.315 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 38.71 Mbit/s
95th percentile per-packet one-way delay: 12.647 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 31.71 Mbit/s
95th percentile per-packet one-way delay: 15.425 ms
Loss rate: 0.13%
```
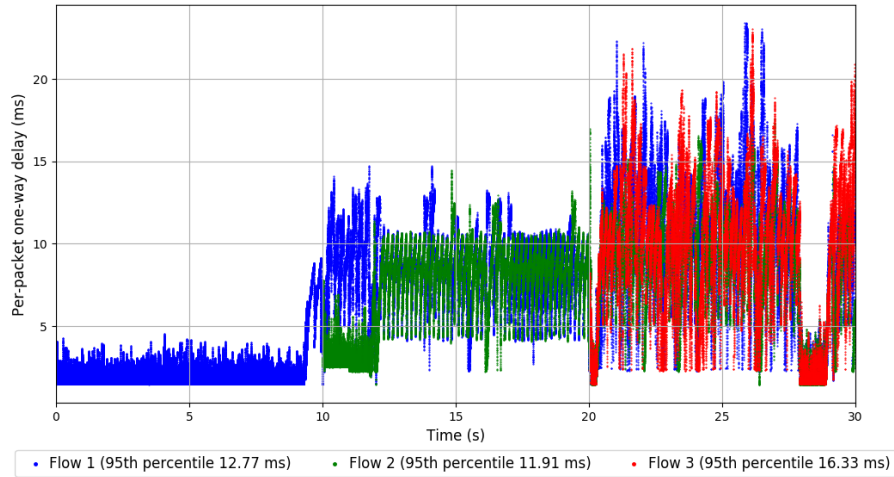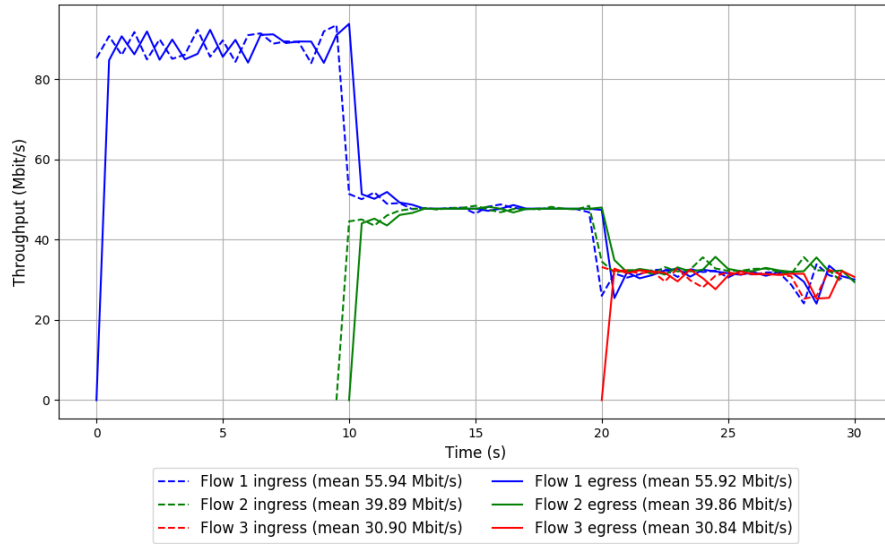
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 56.64 Mbit/s) --- Flow 1 egress (mean 56.62 Mbit/s)
Flow 2 ingress (mean 38.73 Mbit/s) --- Flow 2 egress (mean 38.71 Mbit/s)
Flow 3 ingress (mean 31.74 Mbit/s) --- Flow 3 egress (mean 31.71 Mbit/s)

Flow 1 (95th percentile 14.31 ms)   Flow 2 (95th percentile 12.65 ms)   Flow 3 (95th percentile 15.43 ms)

```
Run 4: Statistics of Copa

Start at: 2019-03-27 13:27:18
End at: 2019-03-27 13:27:48
Local clock offset: -4.108 ms
Remote clock offset: 0.366 ms


# Below is generated by plot.py at 2019-03-27 14:04:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.72 Mbit/s
95th percentile per-packet one-way delay: 13.390 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 55.92 Mbit/s
95th percentile per-packet one-way delay: 12.774 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 39.86 Mbit/s
95th percentile per-packet one-way delay: 11.915 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 30.84 Mbit/s
95th percentile per-packet one-way delay: 16.332 ms
Loss rate: 0.23%
```
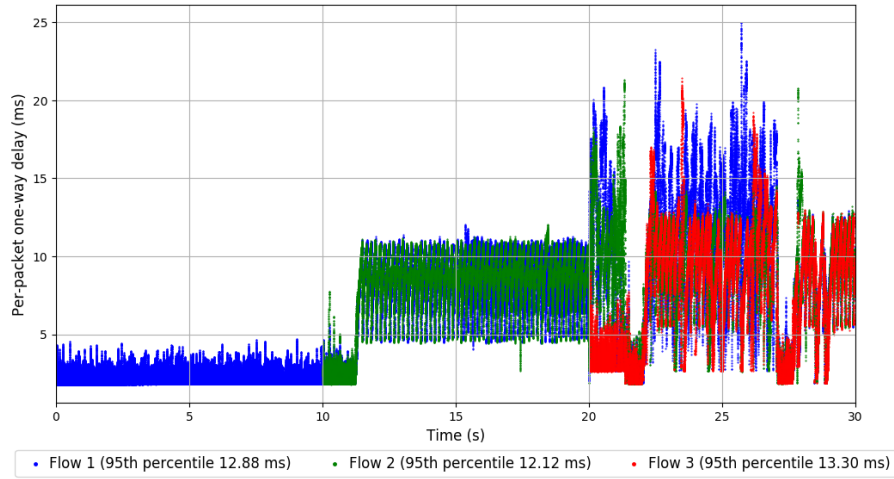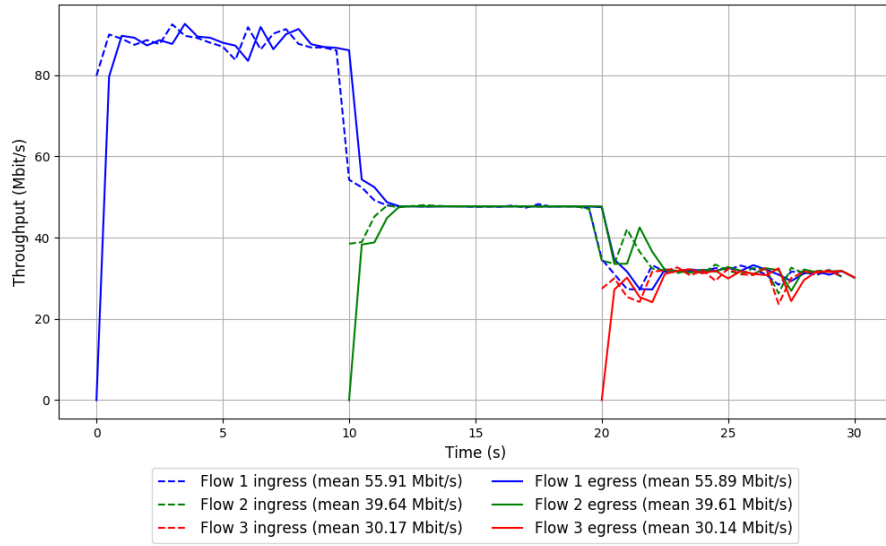
Run 4: Report of Copa — Data Link

- - - Flow 1 ingress (mean 55.94 Mbit/s)   —— Flow 1 egress (mean 55.92 Mbit/s)
- - - Flow 2 ingress (mean 39.89 Mbit/s)   —— Flow 2 egress (mean 39.86 Mbit/s)
- - - Flow 3 ingress (mean 30.90 Mbit/s)   —— Flow 3 egress (mean 30.84 Mbit/s)

• Flow 1 (95th percentile 12.77 ms)   • Flow 2 (95th percentile 11.91 ms)   • Flow 3 (95th percentile 16.33 ms)

```
Run 5: Statistics of Copa

Start at: 2019-03-27 13:51:31
End at: 2019-03-27 13:52:01
Local clock offset: -6.008 ms
Remote clock offset: 0.024 ms


# Below is generated by plot.py at 2019-03-27 14:04:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.28 Mbit/s
95th percentile per-packet one-way delay: 12.566 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 55.89 Mbit/s
95th percentile per-packet one-way delay: 12.880 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 39.61 Mbit/s
95th percentile per-packet one-way delay: 12.123 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 30.14 Mbit/s
95th percentile per-packet one-way delay: 13.301 ms
Loss rate: 0.15%
```
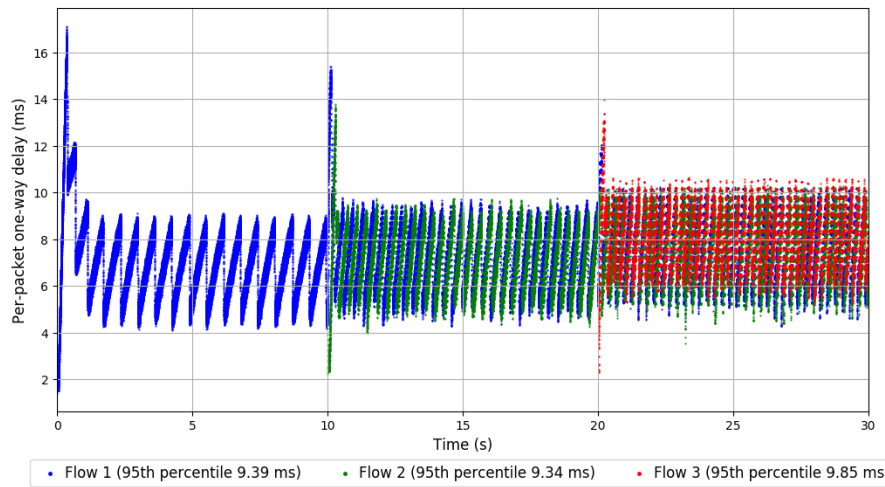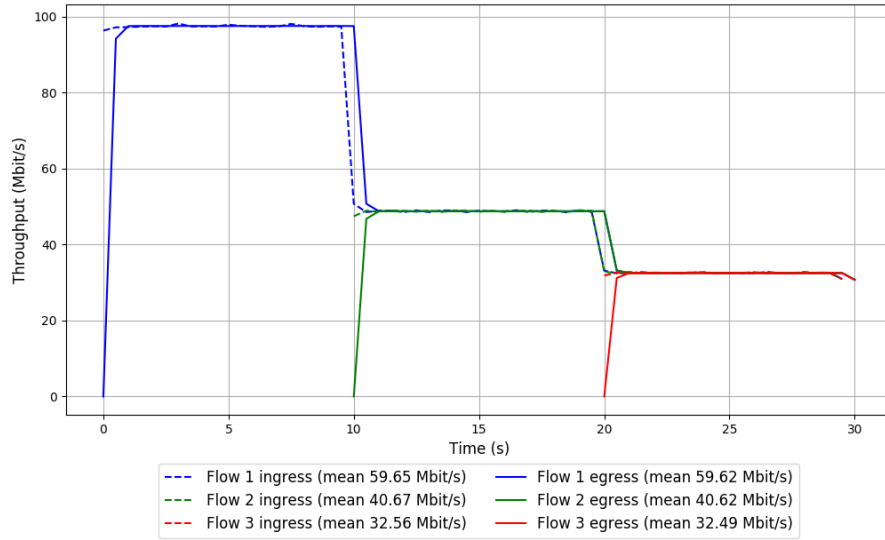
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-03-27 12:13:33
End at: 2019-03-27 12:14:03
Local clock offset: -1.041 ms
Remote clock offset: 0.304 ms


# Below is generated by plot.py at 2019-03-27 14:04:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 9.471 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.62 Mbit/s
95th percentile per-packet one-way delay: 9.392 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.62 Mbit/s
95th percentile per-packet one-way delay: 9.341 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 32.49 Mbit/s
95th percentile per-packet one-way delay: 9.852 ms
Loss rate: 0.26%
```
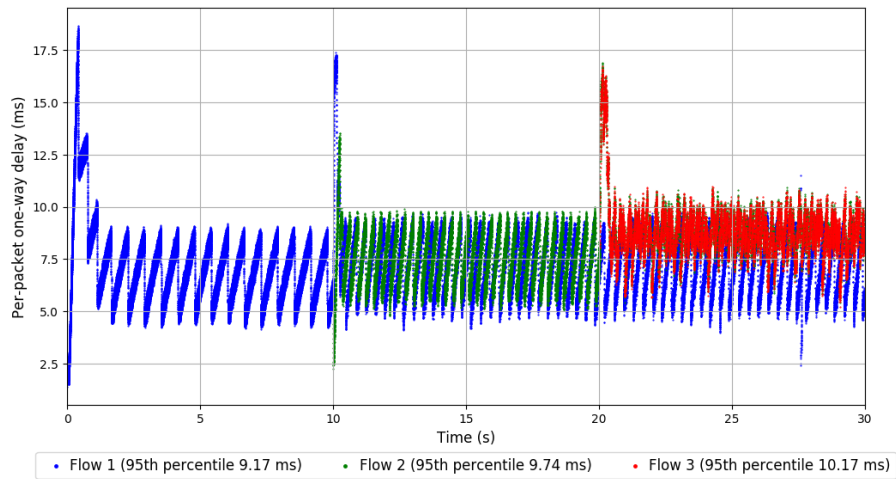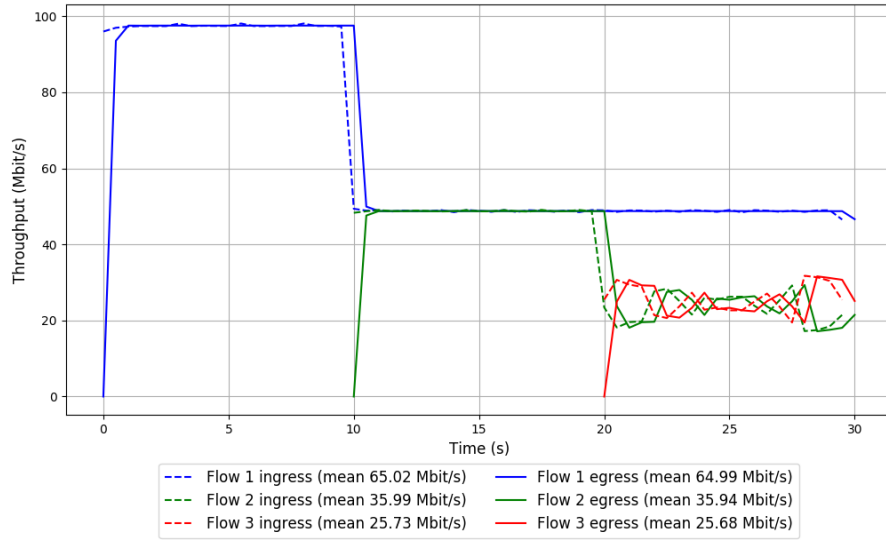
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-03-27 12:37:45
End at: 2019-03-27 12:38:15
Local clock offset: 1.288 ms
Remote clock offset: 0.646 ms


# Below is generated by plot.py at 2019-03-27 14:04:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 9.652 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 64.99 Mbit/s
95th percentile per-packet one-way delay: 9.167 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 35.94 Mbit/s
95th percentile per-packet one-way delay: 9.739 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 25.68 Mbit/s
95th percentile per-packet one-way delay: 10.168 ms
Loss rate: 0.29%
```
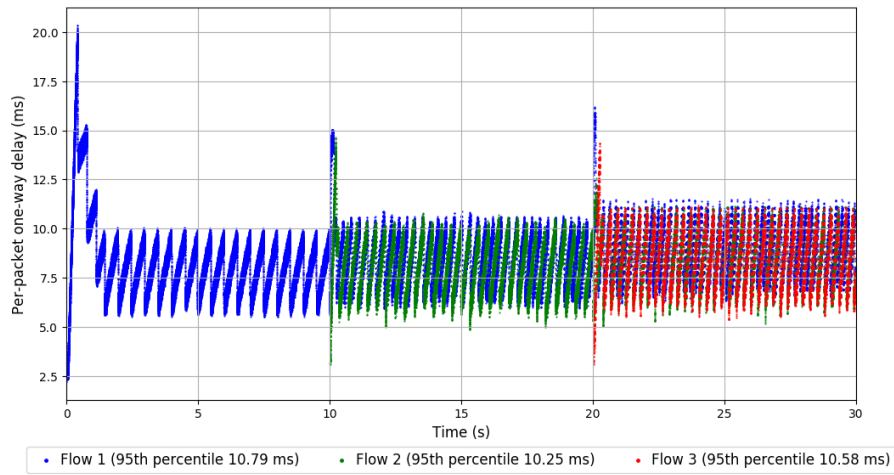
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-03-27 13:01:56
End at: 2019-03-27 13:02:26
Local clock offset: -2.418 ms
Remote clock offset: 0.683 ms


# Below is generated by plot.py at 2019-03-27 14:04:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 10.582 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.62 Mbit/s
95th percentile per-packet one-way delay: 10.795 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 10.249 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 32.49 Mbit/s
95th percentile per-packet one-way delay: 10.583 ms
Loss rate: 0.22%
```
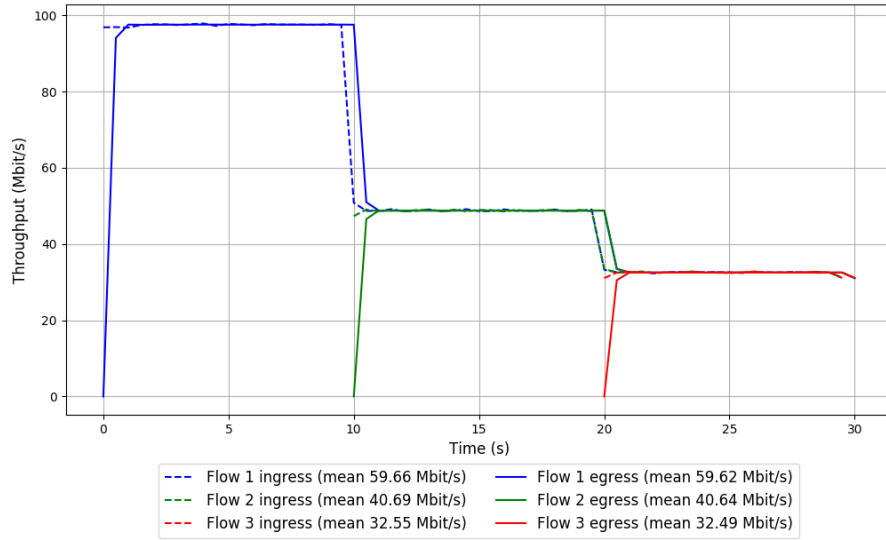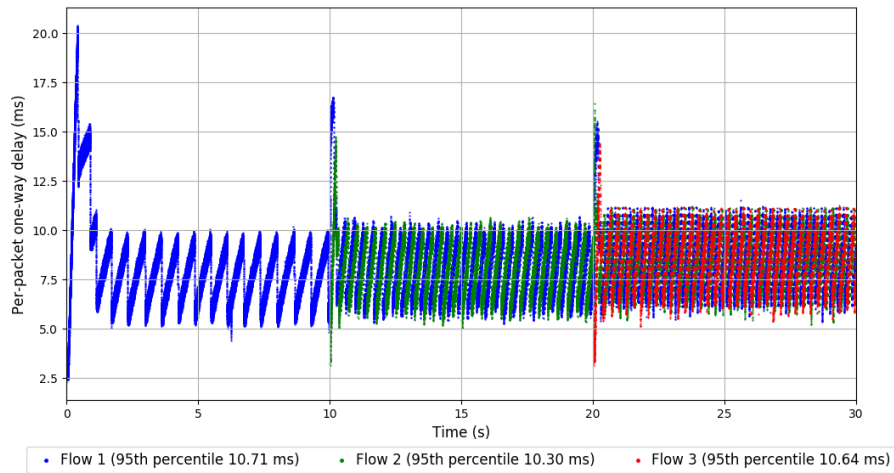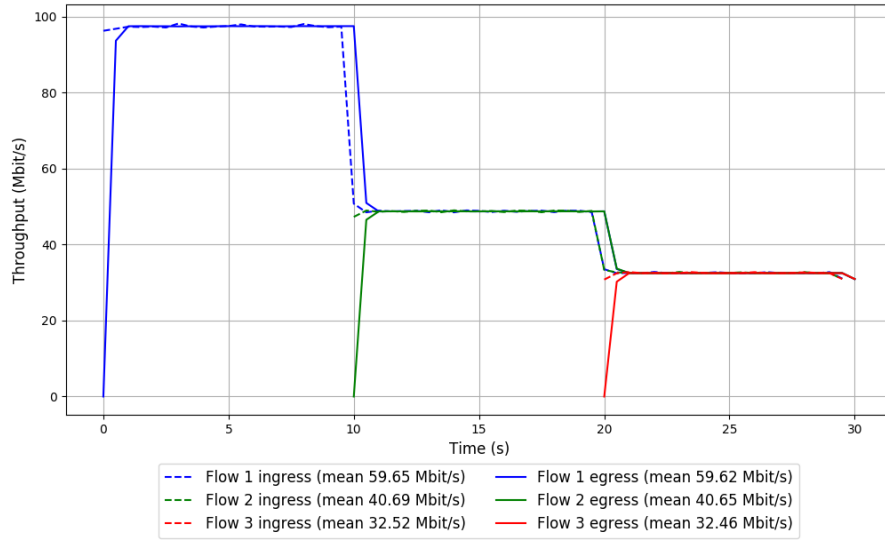
Run 3: Report of TCP Cubic — Data Link

- - - - Flow 1 ingress (mean 59.66 Mbit/s) —— Flow 1 egress (mean 59.62 Mbit/s)
- - - - Flow 2 ingress (mean 40.69 Mbit/s) —— Flow 2 egress (mean 40.64 Mbit/s)
- - - - Flow 3 ingress (mean 32.55 Mbit/s) —— Flow 3 egress (mean 32.49 Mbit/s)

• Flow 1 (95th percentile 10.79 ms)   • Flow 2 (95th percentile 10.25 ms)   • Flow 3 (95th percentile 10.58 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-03-27 13:26:08
End at: 2019-03-27 13:26:39
Local clock offset: -3.258 ms
Remote clock offset: 0.274 ms


# Below is generated by plot.py at 2019-03-27 14:04:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 10.474 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.62 Mbit/s
95th percentile per-packet one-way delay: 10.712 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.65 Mbit/s
95th percentile per-packet one-way delay: 10.302 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 32.46 Mbit/s
95th percentile per-packet one-way delay: 10.640 ms
Loss rate: 0.22%
```
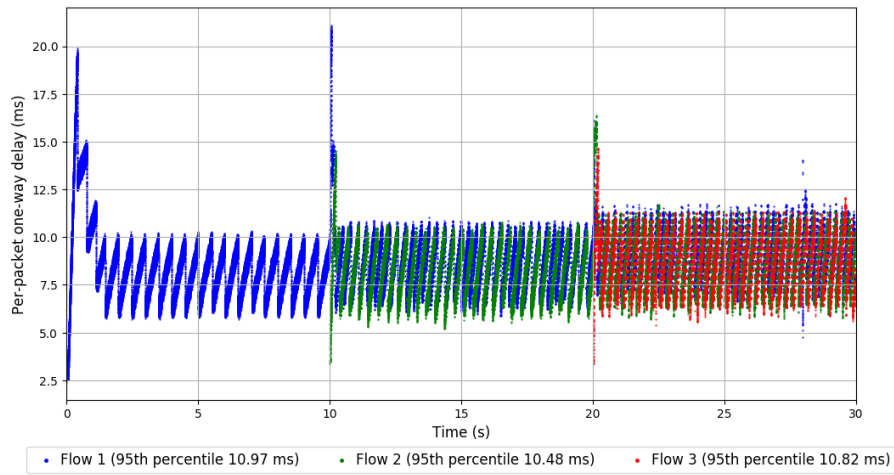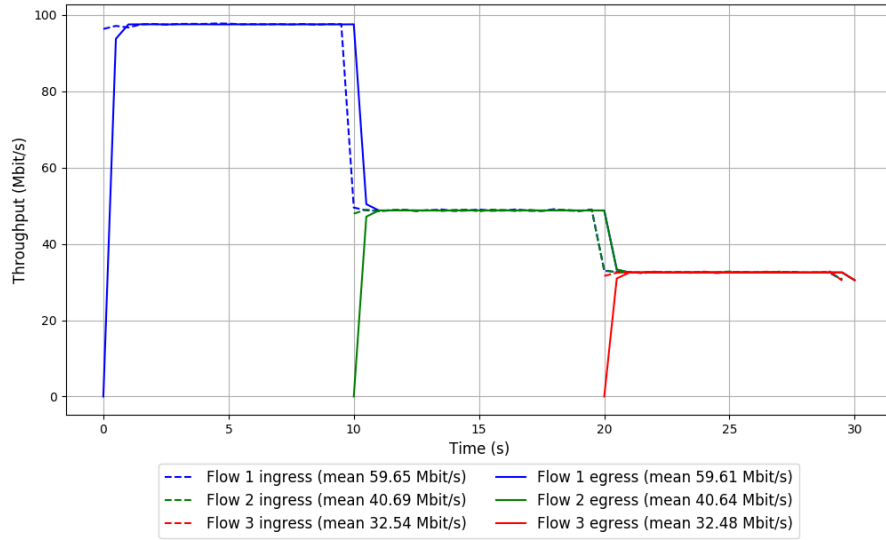
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 59.65 Mbit/s) --- Flow 1 egress (mean 59.62 Mbit/s)
Flow 2 ingress (mean 40.69 Mbit/s) --- Flow 2 egress (mean 40.65 Mbit/s)
Flow 3 ingress (mean 32.52 Mbit/s) --- Flow 3 egress (mean 32.46 Mbit/s)

Flow 1 (95th percentile 10.71 ms) • Flow 2 (95th percentile 10.30 ms) • Flow 3 (95th percentile 10.64 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2019-03-27 13:50:22
End at: 2019-03-27 13:50:52
Local clock offset: -4.994 ms
Remote clock offset: 0.03 ms


# Below is generated by plot.py at 2019-03-27 14:04:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 10.801 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 59.61 Mbit/s
95th percentile per-packet one-way delay: 10.970 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 10.478 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 32.48 Mbit/s
95th percentile per-packet one-way delay: 10.822 ms
Loss rate: 0.21%
```
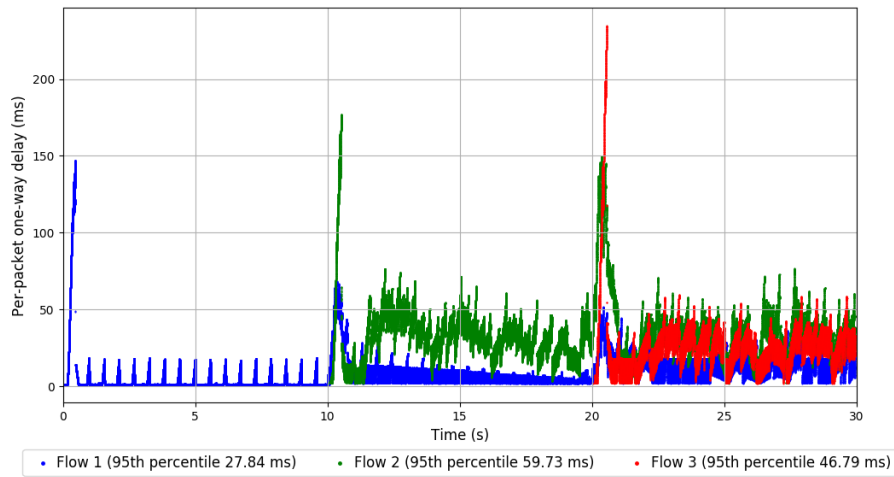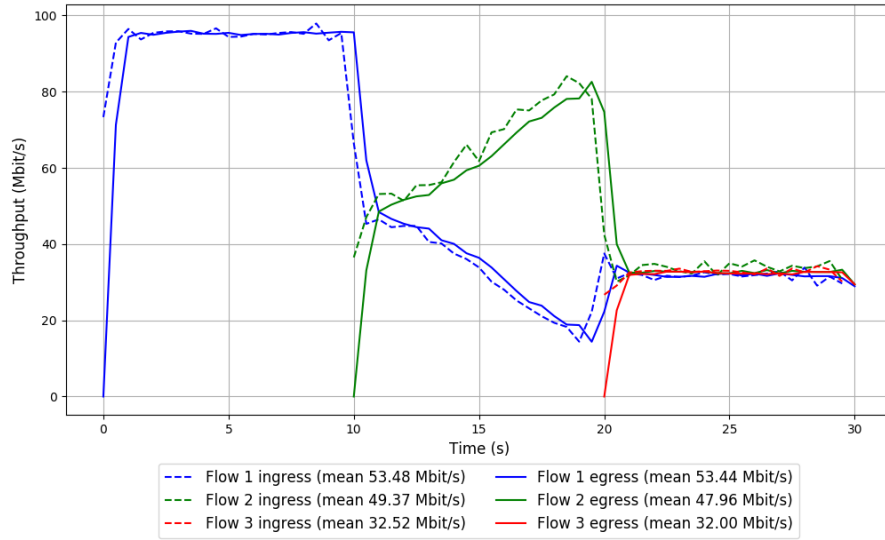
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 59.65 Mbit/s) --- Flow 1 egress (mean 59.61 Mbit/s)
Flow 2 ingress (mean 40.69 Mbit/s) --- Flow 2 egress (mean 40.64 Mbit/s)
Flow 3 ingress (mean 32.54 Mbit/s) --- Flow 3 egress (mean 32.48 Mbit/s)

Flow 1 (95th percentile 10.97 ms)   Flow 2 (95th percentile 10.48 ms)   Flow 3 (95th percentile 10.82 ms)

34

```
Run 1: Statistics of FillP

Start at: 2019-03-27 12:06:40
End at: 2019-03-27 12:07:10
Local clock offset: -1.967 ms
Remote clock offset: 0.198 ms


# Below is generated by plot.py at 2019-03-27 14:04:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.99 Mbit/s
95th percentile per-packet one-way delay: 50.836 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 53.44 Mbit/s
95th percentile per-packet one-way delay: 27.841 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 47.96 Mbit/s
95th percentile per-packet one-way delay: 59.725 ms
Loss rate: 2.85%
-- Flow 3:
Average throughput: 32.00 Mbit/s
95th percentile per-packet one-way delay: 46.790 ms
Loss rate: 1.64%
```
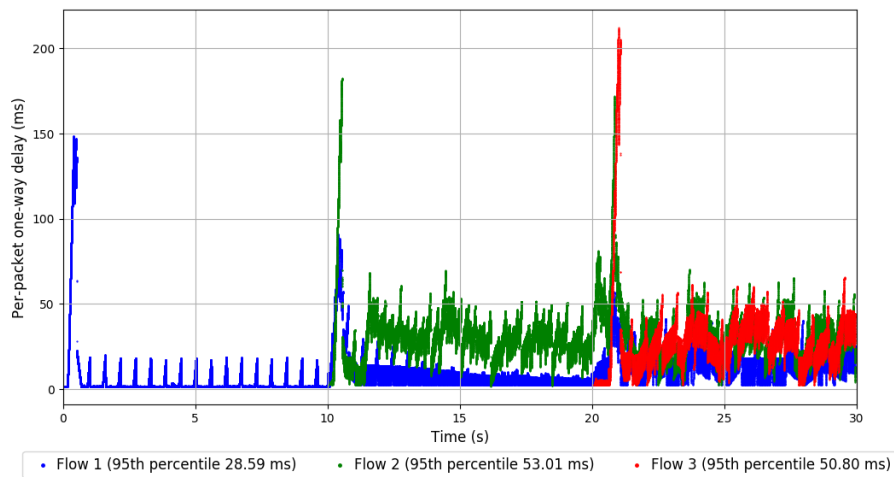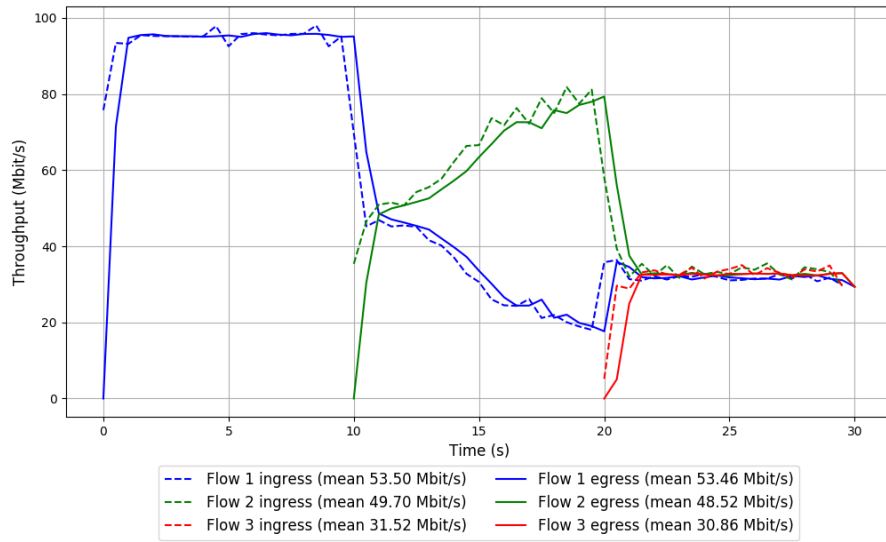
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-03-27 12:30:51
End at: 2019-03-27 12:31:21
Local clock offset: 0.673 ms
Remote clock offset: 0.398 ms


# Below is generated by plot.py at 2019-03-27 14:04:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.00 Mbit/s
95th percentile per-packet one-way delay: 48.016 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 53.46 Mbit/s
95th percentile per-packet one-way delay: 28.585 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 48.52 Mbit/s
95th percentile per-packet one-way delay: 53.012 ms
Loss rate: 2.35%
-- Flow 3:
Average throughput: 30.86 Mbit/s
95th percentile per-packet one-way delay: 50.803 ms
Loss rate: 2.16%
```
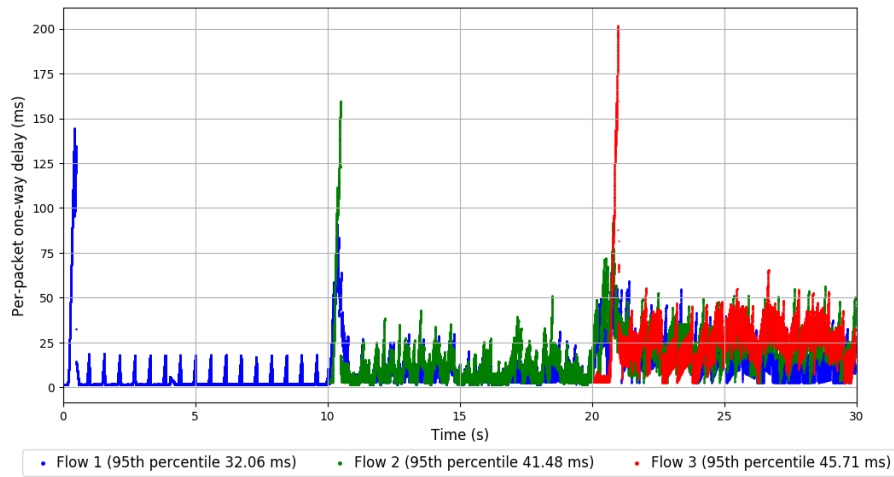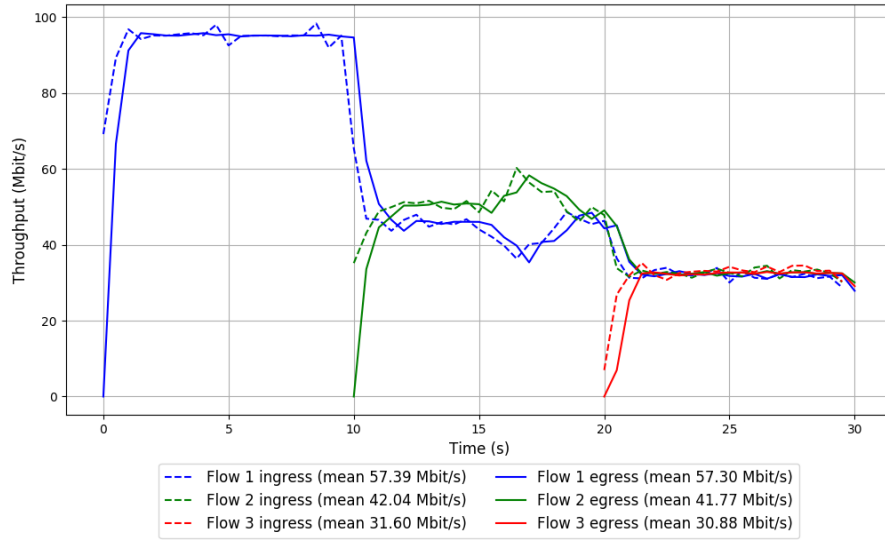
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 53.50 Mbit/s) --- Flow 1 egress (mean 53.46 Mbit/s)
Flow 2 ingress (mean 49.70 Mbit/s) --- Flow 2 egress (mean 48.52 Mbit/s)
Flow 3 ingress (mean 31.52 Mbit/s) --- Flow 3 egress (mean 30.86 Mbit/s)

Flow 1 (95th percentile 28.59 ms) • Flow 2 (95th percentile 53.01 ms) • Flow 3 (95th percentile 50.80 ms)

38

```
Run 3: Statistics of FillP

Start at: 2019-03-27 12:55:03
End at: 2019-03-27 12:55:33
Local clock offset: -1.958 ms
Remote clock offset: 0.659 ms


# Below is generated by plot.py at 2019-03-27 14:04:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.36 Mbit/s
95th percentile per-packet one-way delay: 40.363 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 57.30 Mbit/s
95th percentile per-packet one-way delay: 32.059 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 41.77 Mbit/s
95th percentile per-packet one-way delay: 41.482 ms
Loss rate: 0.44%
-- Flow 3:
Average throughput: 30.88 Mbit/s
95th percentile per-packet one-way delay: 45.707 ms
Loss rate: 2.32%
```
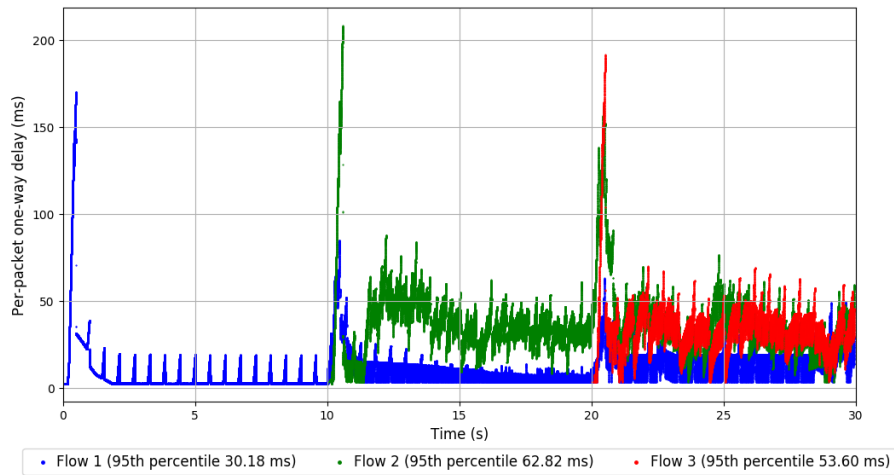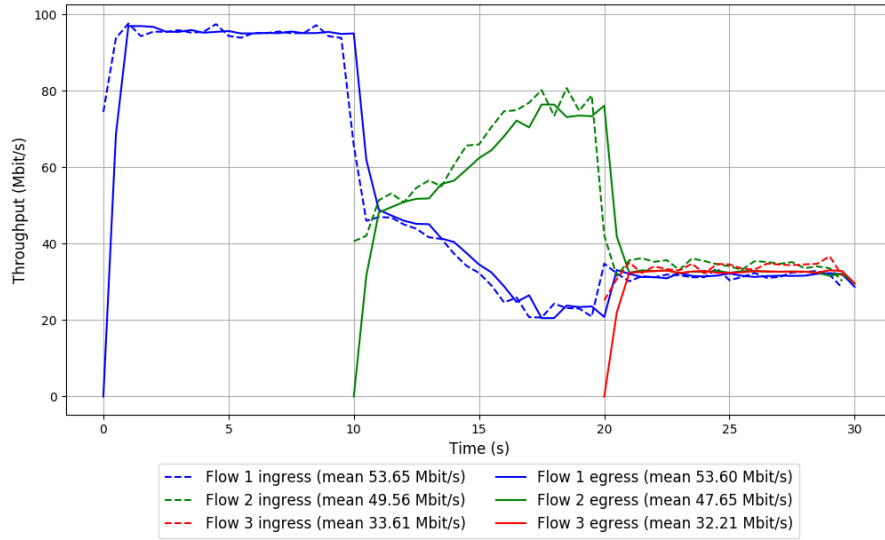
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 57.39 Mbit/s)   Flow 1 egress (mean 57.30 Mbit/s)
Flow 2 ingress (mean 42.04 Mbit/s)   Flow 2 egress (mean 41.77 Mbit/s)
Flow 3 ingress (mean 31.60 Mbit/s)   Flow 3 egress (mean 30.88 Mbit/s)

Flow 1 (95th percentile 32.06 ms)   Flow 2 (95th percentile 41.48 ms)   Flow 3 (95th percentile 45.71 ms)

```
Run 4: Statistics of FillP

Start at: 2019-03-27 13:19:15
End at: 2019-03-27 13:19:45
Local clock offset: -3.266 ms
Remote clock offset: 0.26 ms


# Below is generated by plot.py at 2019-03-27 14:04:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.00 Mbit/s
95th percentile per-packet one-way delay: 53.988 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 53.60 Mbit/s
95th percentile per-packet one-way delay: 30.175 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 47.65 Mbit/s
95th percentile per-packet one-way delay: 62.821 ms
Loss rate: 3.88%
-- Flow 3:
Average throughput: 32.21 Mbit/s
95th percentile per-packet one-way delay: 53.601 ms
Loss rate: 4.26%
```
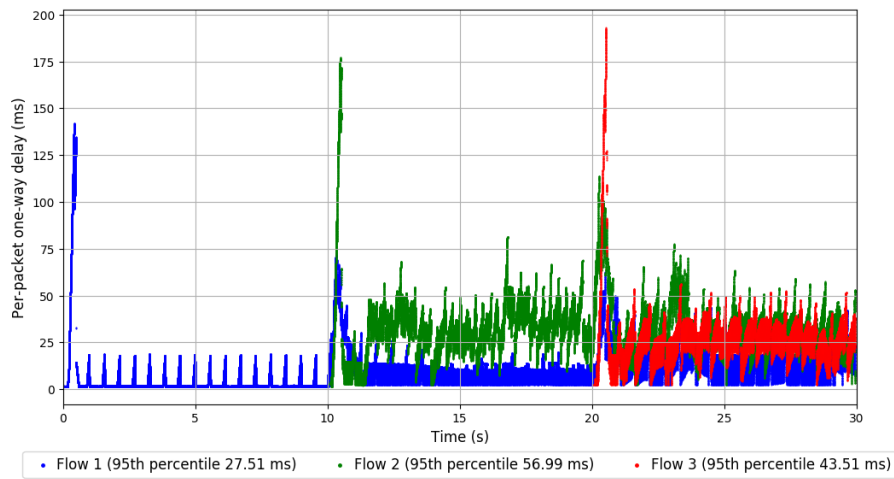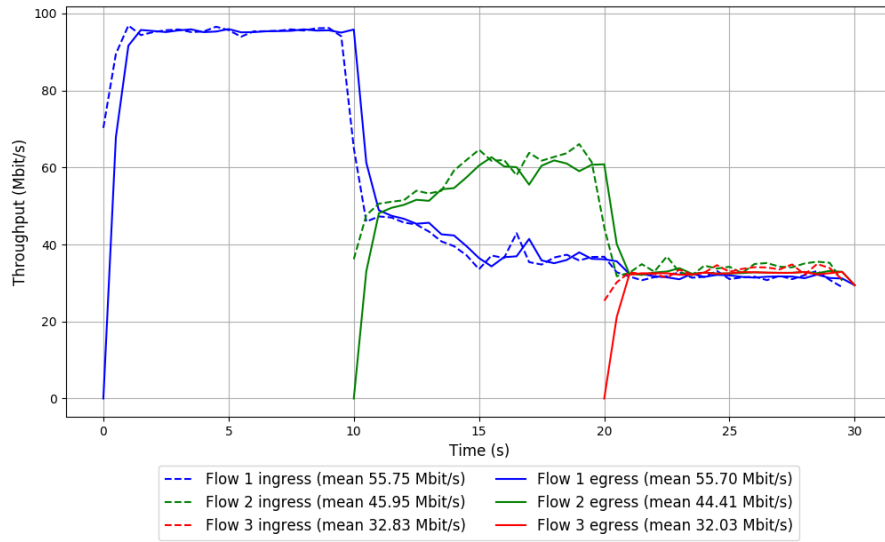
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-03-27 13:43:28
End at: 2019-03-27 13:43:58
Local clock offset: -4.213 ms
Remote clock offset: 0.079 ms


# Below is generated by plot.py at 2019-03-27 14:05:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.89 Mbit/s
95th percentile per-packet one-way delay: 48.114 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 55.70 Mbit/s
95th percentile per-packet one-way delay: 27.507 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 44.41 Mbit/s
95th percentile per-packet one-way delay: 56.986 ms
Loss rate: 3.36%
-- Flow 3:
Average throughput: 32.03 Mbit/s
95th percentile per-packet one-way delay: 43.510 ms
Loss rate: 2.44%
```
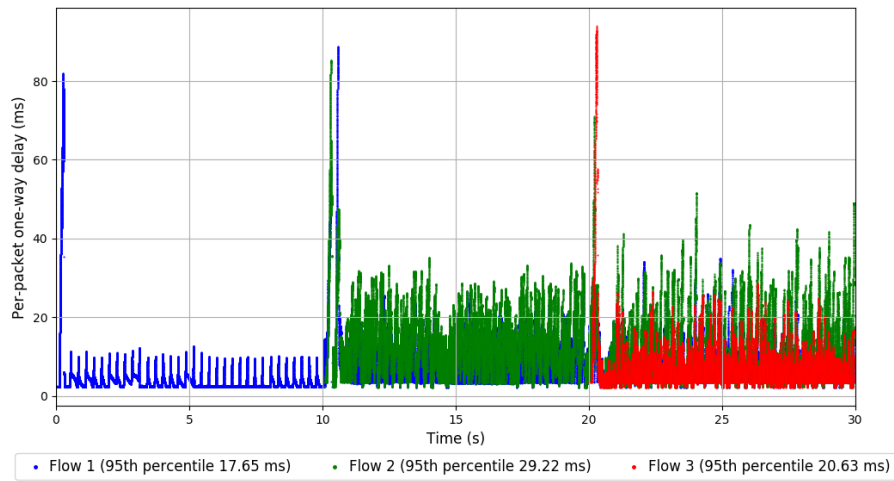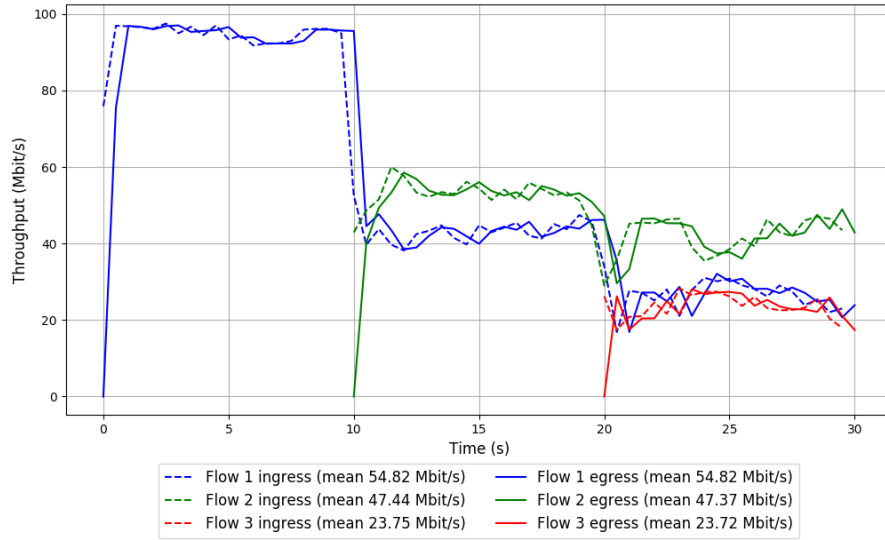
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 55.75 Mbit/s)   Flow 1 egress (mean 55.70 Mbit/s)
Flow 2 ingress (mean 45.95 Mbit/s)   Flow 2 egress (mean 44.41 Mbit/s)
Flow 3 ingress (mean 32.83 Mbit/s)   Flow 3 egress (mean 32.03 Mbit/s)

Flow 1 (95th percentile 27.51 ms)   Flow 2 (95th percentile 56.99 ms)   Flow 3 (95th percentile 43.51 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-03-27 12:04:24
End at: 2019-03-27 12:04:54
Local clock offset: -1.538 ms
Remote clock offset: 0.134 ms


# Below is generated by plot.py at 2019-03-27 14:05:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.21 Mbit/s
95th percentile per-packet one-way delay: 24.845 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 54.82 Mbit/s
95th percentile per-packet one-way delay: 17.653 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 47.37 Mbit/s
95th percentile per-packet one-way delay: 29.218 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 23.72 Mbit/s
95th percentile per-packet one-way delay: 20.631 ms
Loss rate: 0.13%
```
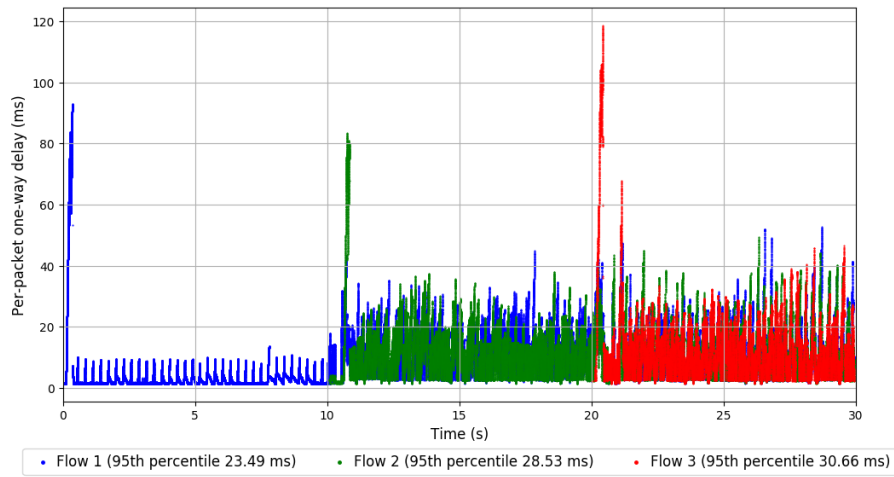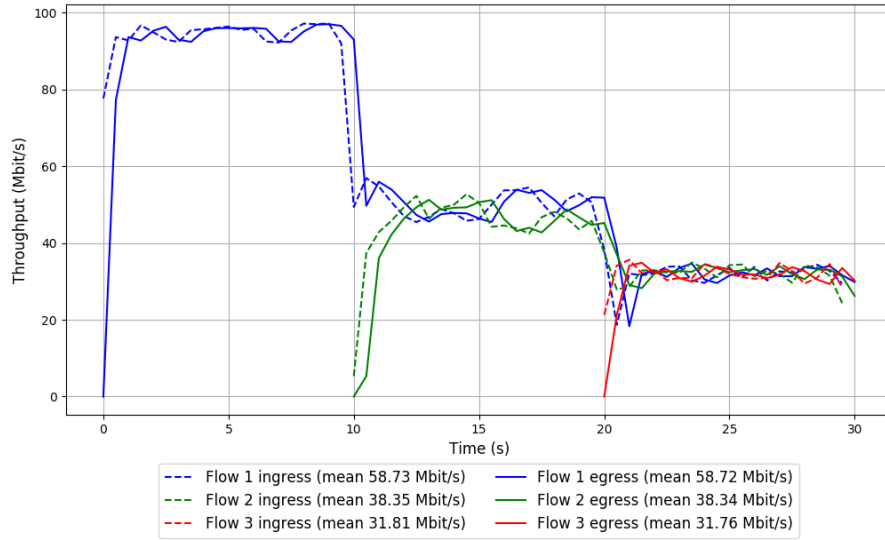
Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-03-27 12:28:35
End at: 2019-03-27 12:29:05
Local clock offset: 0.473 ms
Remote clock offset: 0.392 ms


# Below is generated by plot.py at 2019-03-27 14:05:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.77 Mbit/s
95th percentile per-packet one-way delay: 26.077 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 58.72 Mbit/s
95th percentile per-packet one-way delay: 23.491 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 38.34 Mbit/s
95th percentile per-packet one-way delay: 28.533 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 31.76 Mbit/s
95th percentile per-packet one-way delay: 30.656 ms
Loss rate: 0.14%
```
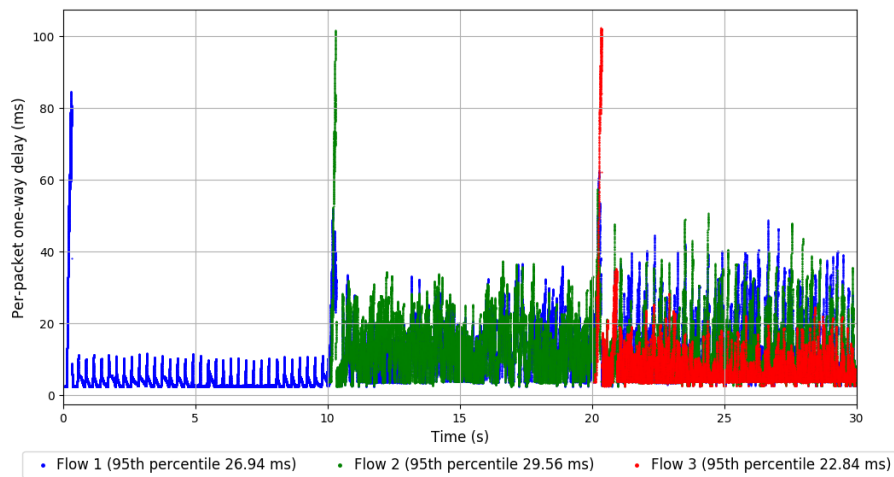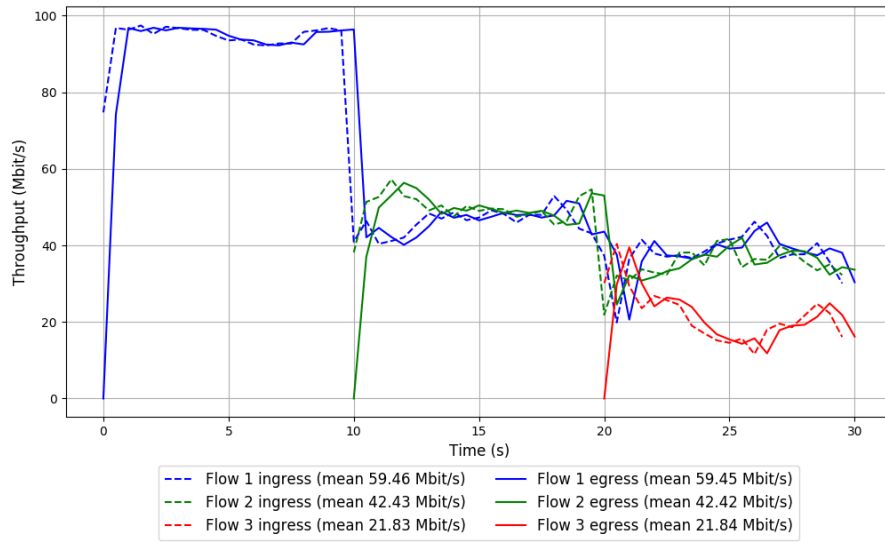
Run 2: Report of FillP-Sheep — Data Link

- - - Flow 1 ingress (mean 58.73 Mbit/s) ——— Flow 1 egress (mean 58.72 Mbit/s)
- - - Flow 2 ingress (mean 38.35 Mbit/s) ——— Flow 2 egress (mean 38.34 Mbit/s)
- - - Flow 3 ingress (mean 31.81 Mbit/s) ——— Flow 3 egress (mean 31.76 Mbit/s)

• Flow 1 (95th percentile 23.49 ms)　　• Flow 2 (95th percentile 28.53 ms)　　• Flow 3 (95th percentile 30.66 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-03-27 12:52:47
End at: 2019-03-27 12:53:17
Local clock offset: -0.473 ms
Remote clock offset: 0.748 ms


# Below is generated by plot.py at 2019-03-27 14:05:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.93 Mbit/s
95th percentile per-packet one-way delay: 27.930 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 59.45 Mbit/s
95th percentile per-packet one-way delay: 26.942 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.42 Mbit/s
95th percentile per-packet one-way delay: 29.559 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 21.84 Mbit/s
95th percentile per-packet one-way delay: 22.842 ms
Loss rate: 0.15%
```
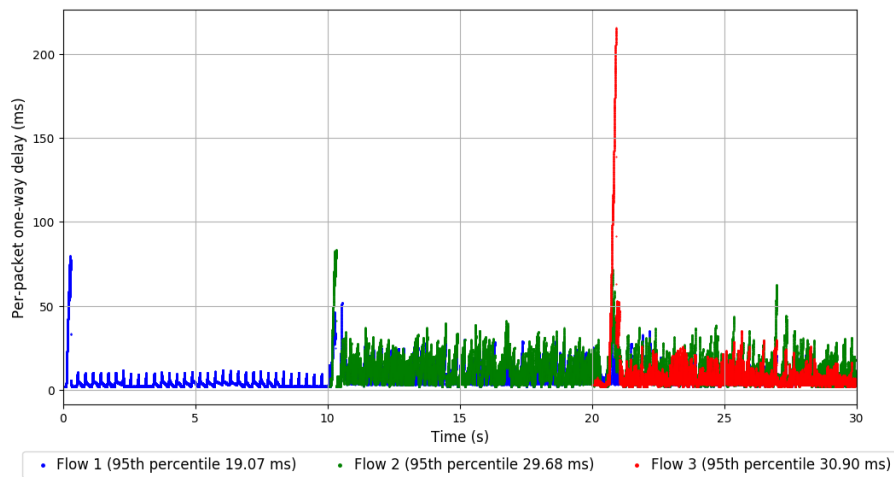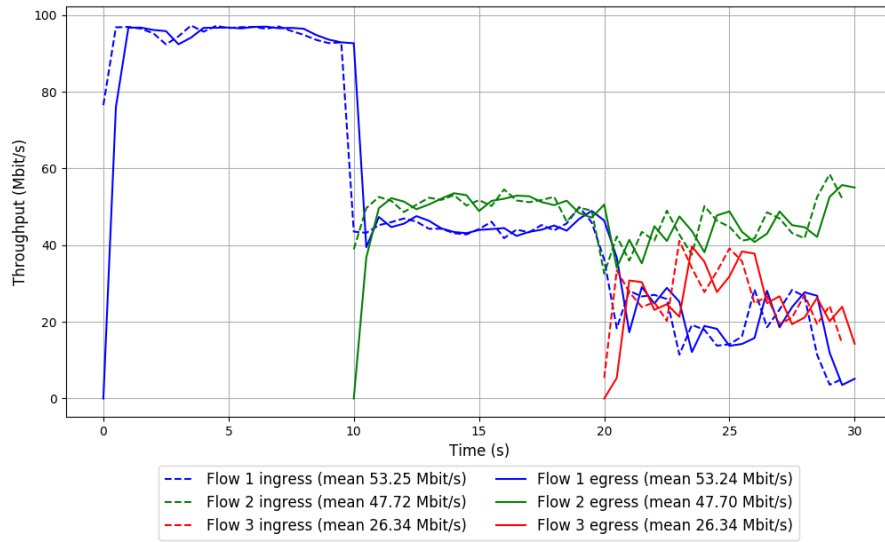
Run 3: Report of FillP-Sheep — Data Link

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-03-27 13:16:59
End at: 2019-03-27 13:17:29
Local clock offset: -3.313 ms
Remote clock offset: 0.391 ms


# Below is generated by plot.py at 2019-03-27 14:06:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.71 Mbit/s
95th percentile per-packet one-way delay: 25.296 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 53.24 Mbit/s
95th percentile per-packet one-way delay: 19.070 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 47.70 Mbit/s
95th percentile per-packet one-way delay: 29.681 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 26.34 Mbit/s
95th percentile per-packet one-way delay: 30.900 ms
Loss rate: 0.06%
```
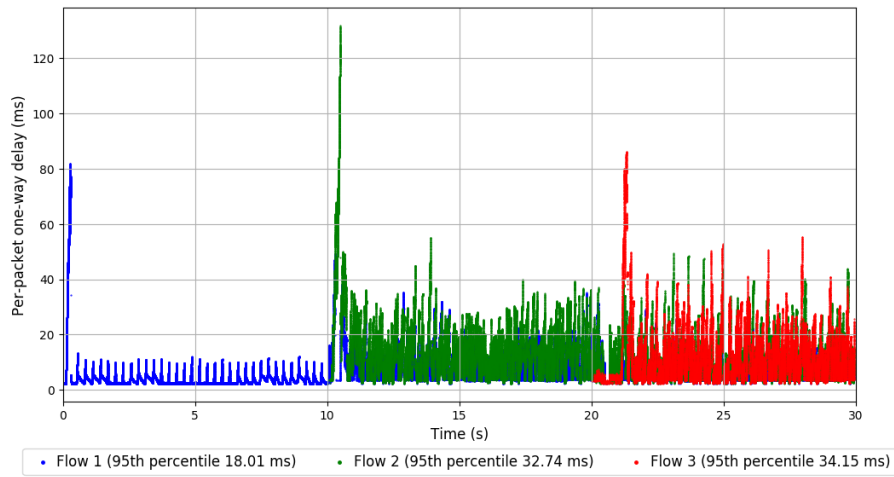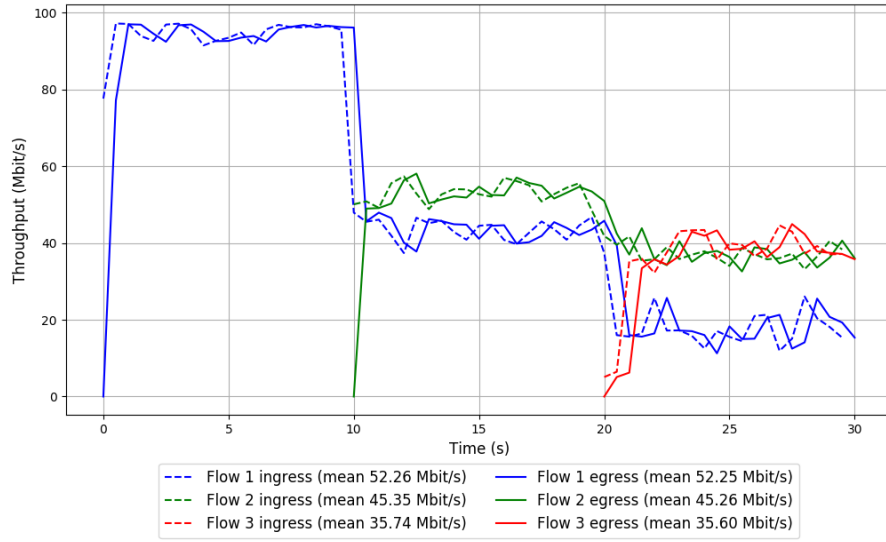
Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 53.25 Mbit/s)   Flow 1 egress (mean 53.24 Mbit/s)
Flow 2 ingress (mean 47.72 Mbit/s)   Flow 2 egress (mean 47.70 Mbit/s)
Flow 3 ingress (mean 26.34 Mbit/s)   Flow 3 egress (mean 26.34 Mbit/s)

Flow 1 (95th percentile 19.07 ms)   Flow 2 (95th percentile 29.68 ms)   Flow 3 (95th percentile 30.90 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-03-27 13:41:12
End at: 2019-03-27 13:41:42
Local clock offset: -3.474 ms
Remote clock offset: 0.023 ms


# Below is generated by plot.py at 2019-03-27 14:06:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.16 Mbit/s
95th percentile per-packet one-way delay: 27.819 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 52.25 Mbit/s
95th percentile per-packet one-way delay: 18.012 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 45.26 Mbit/s
95th percentile per-packet one-way delay: 32.745 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 35.60 Mbit/s
95th percentile per-packet one-way delay: 34.151 ms
Loss rate: 0.45%
```
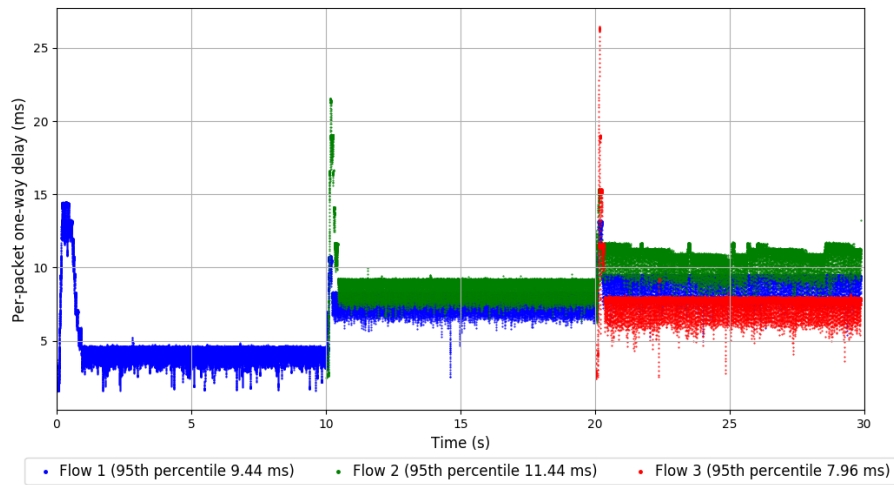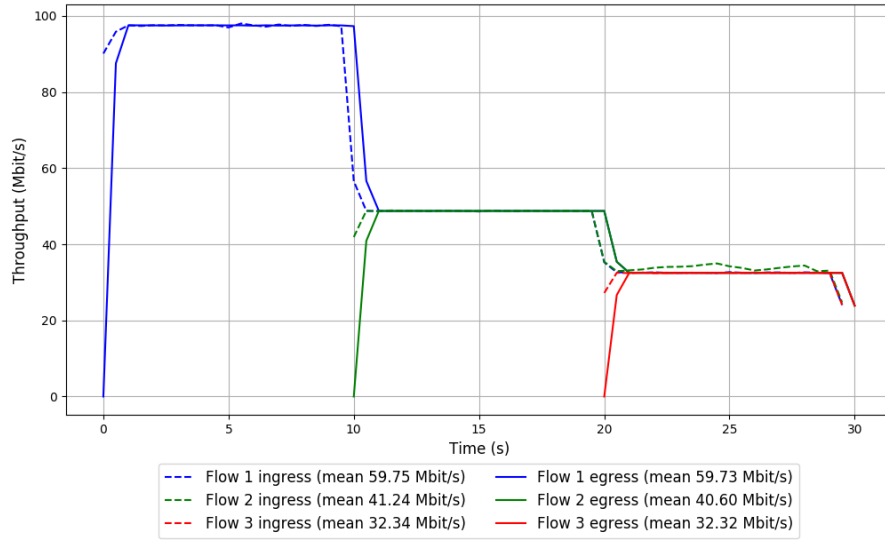
Run 5: Report of FillP-Sheep — Data Link

- - - Flow 1 ingress (mean 52.26 Mbit/s)   —— Flow 1 egress (mean 52.25 Mbit/s)
- - - Flow 2 ingress (mean 45.35 Mbit/s)   —— Flow 2 egress (mean 45.26 Mbit/s)
- - - Flow 3 ingress (mean 35.74 Mbit/s)   —— Flow 3 egress (mean 35.60 Mbit/s)

- Flow 1 (95th percentile 18.01 ms)   • Flow 2 (95th percentile 32.74 ms)   • Flow 3 (95th percentile 34.15 ms)

```
Run 1: Statistics of Indigo

Start at: 2019-03-27 12:21:34
End at: 2019-03-27 12:22:04
Local clock offset: -0.187 ms
Remote clock offset: 0.336 ms


# Below is generated by plot.py at 2019-03-27 14:06:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.35 Mbit/s
95th percentile per-packet one-way delay: 11.142 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 59.73 Mbit/s
95th percentile per-packet one-way delay: 9.440 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 40.60 Mbit/s
95th percentile per-packet one-way delay: 11.437 ms
Loss rate: 1.55%
-- Flow 3:
Average throughput: 32.32 Mbit/s
95th percentile per-packet one-way delay: 7.955 ms
Loss rate: 0.11%
```
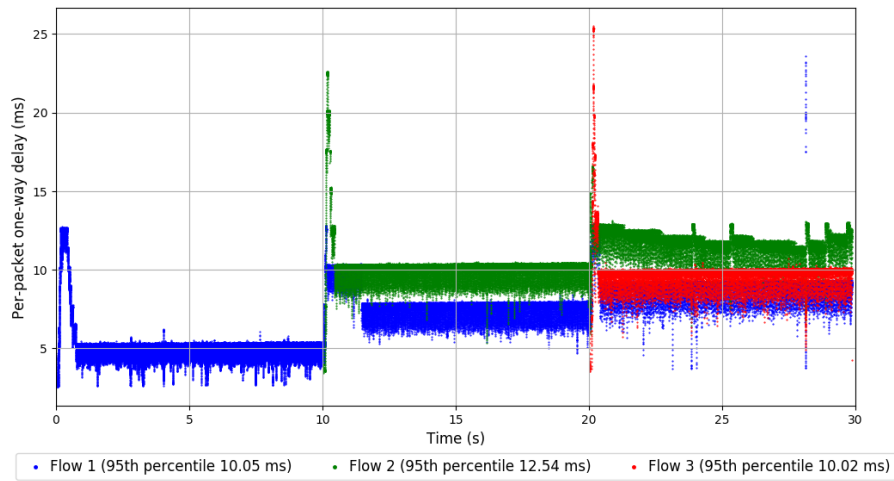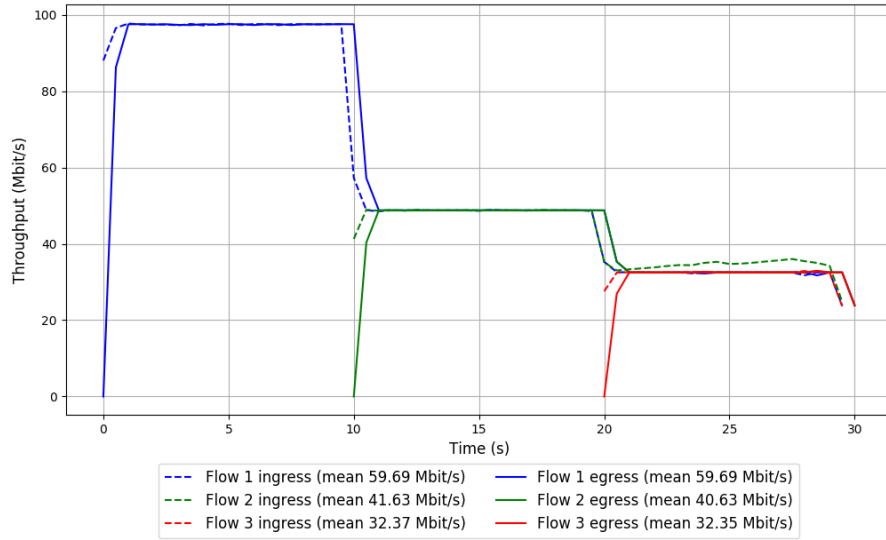
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-03-27 12:45:45
End at: 2019-03-27 12:46:15
Local clock offset: 2.726 ms
Remote clock offset: 0.679 ms

# Below is generated by plot.py at 2019-03-27 14:06:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.32 Mbit/s
95th percentile per-packet one-way delay: 12.048 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 59.69 Mbit/s
95th percentile per-packet one-way delay: 10.054 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 40.63 Mbit/s
95th percentile per-packet one-way delay: 12.535 ms
Loss rate: 2.42%
-- Flow 3:
Average throughput: 32.35 Mbit/s
95th percentile per-packet one-way delay: 10.019 ms
Loss rate: 0.07%
```
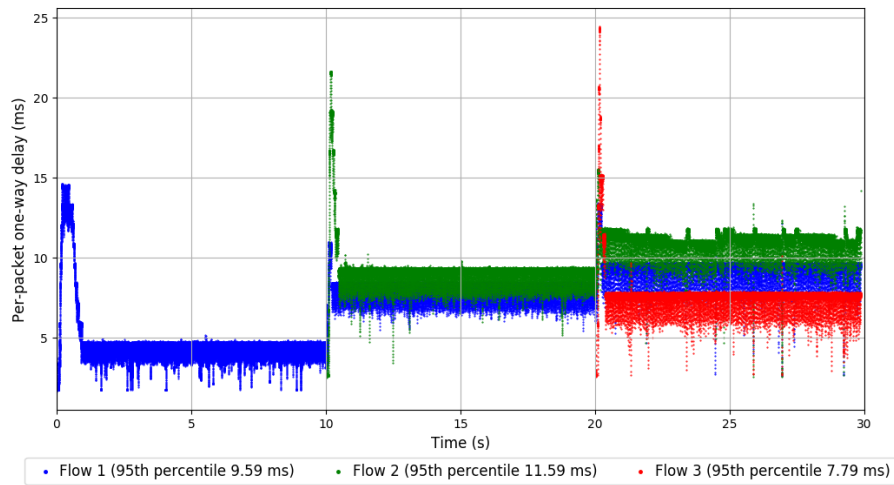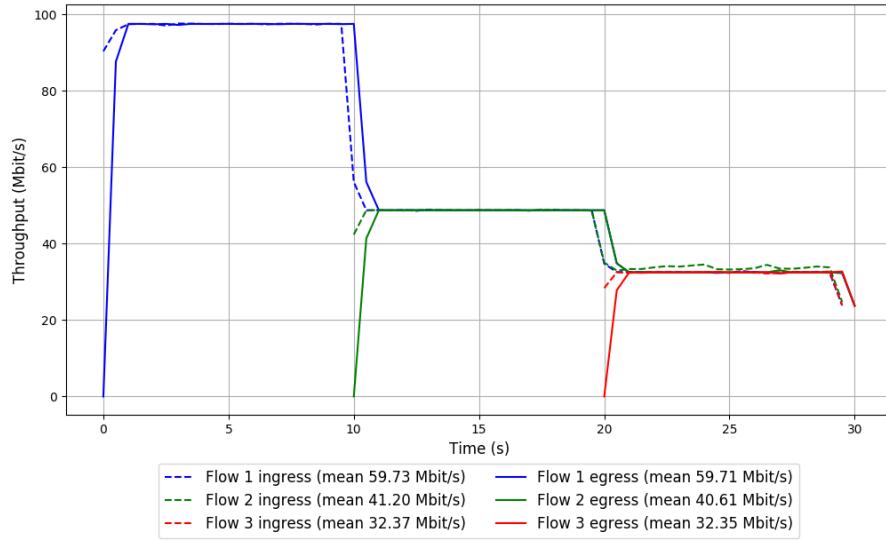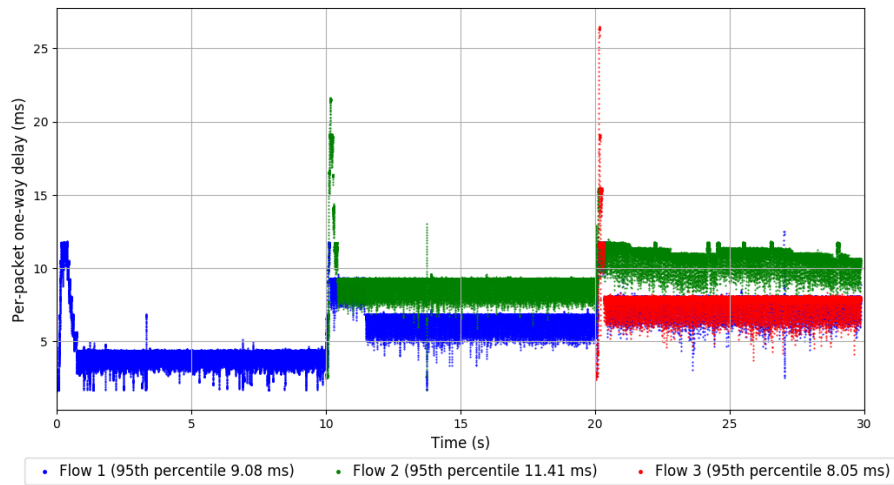
Run 2: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 59.69 Mbit/s)   —— Flow 1 egress (mean 59.69 Mbit/s)
- - - Flow 2 ingress (mean 41.63 Mbit/s)   —— Flow 2 egress (mean 40.63 Mbit/s)
- - - Flow 3 ingress (mean 32.37 Mbit/s)   —— Flow 3 egress (mean 32.35 Mbit/s)

• Flow 1 (95th percentile 10.05 ms)   • Flow 2 (95th percentile 12.54 ms)   • Flow 3 (95th percentile 10.02 ms)

58

```
Run 3: Statistics of Indigo

Start at: 2019-03-27 13:09:57
End at: 2019-03-27 13:10:27
Local clock offset: -3.81 ms
Remote clock offset: 0.391 ms


# Below is generated by plot.py at 2019-03-27 14:06:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.35 Mbit/s
95th percentile per-packet one-way delay: 11.312 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 59.71 Mbit/s
95th percentile per-packet one-way delay: 9.586 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 40.61 Mbit/s
95th percentile per-packet one-way delay: 11.593 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 32.35 Mbit/s
95th percentile per-packet one-way delay: 7.790 ms
Loss rate: 0.10%
```
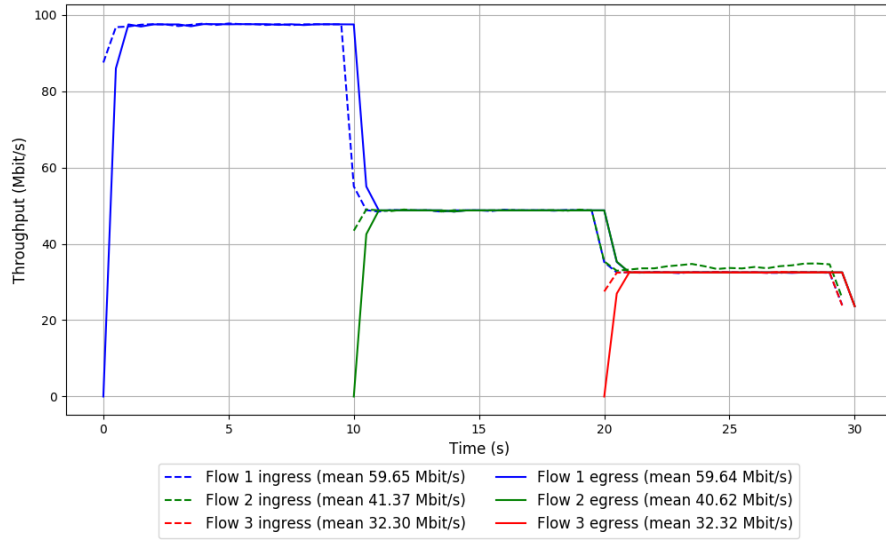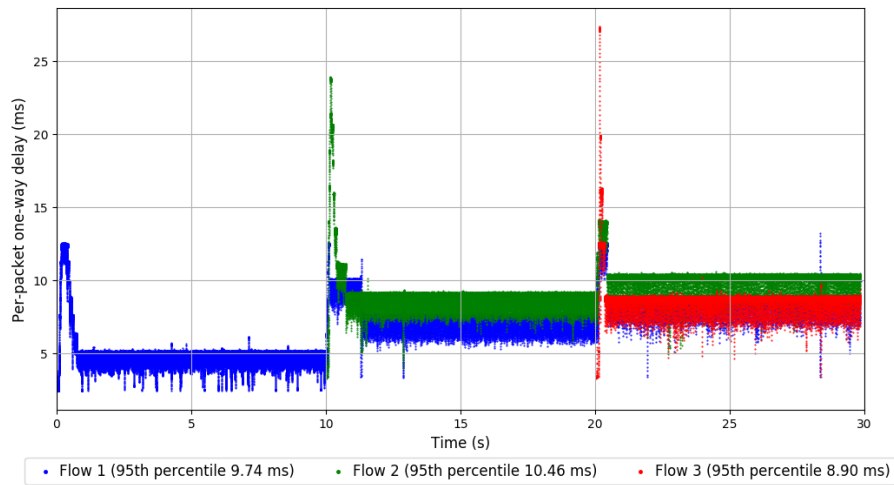
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-03-27 13:34:10
End at: 2019-03-27 13:34:40
Local clock offset: -4.098 ms
Remote clock offset: 0.162 ms


# Below is generated by plot.py at 2019-03-27 14:06:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.29 Mbit/s
95th percentile per-packet one-way delay: 10.999 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 59.64 Mbit/s
95th percentile per-packet one-way delay: 9.076 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 40.62 Mbit/s
95th percentile per-packet one-way delay: 11.410 ms
Loss rate: 1.83%
-- Flow 3:
Average throughput: 32.32 Mbit/s
95th percentile per-packet one-way delay: 8.052 ms
Loss rate: 0.12%
```
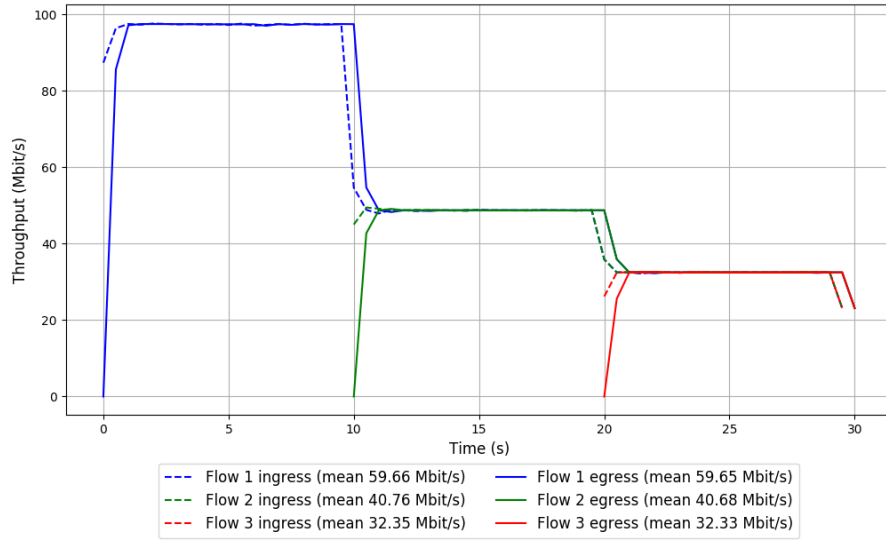
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-03-27 13:58:23
End at: 2019-03-27 13:58:53
Local clock offset: -6.489 ms
Remote clock offset: 0.077 ms


# Below is generated by plot.py at 2019-03-27 14:06:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.30 Mbit/s
95th percentile per-packet one-way delay: 10.330 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 59.65 Mbit/s
95th percentile per-packet one-way delay: 9.745 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 40.68 Mbit/s
95th percentile per-packet one-way delay: 10.455 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 32.33 Mbit/s
95th percentile per-packet one-way delay: 8.901 ms
Loss rate: 0.10%
```
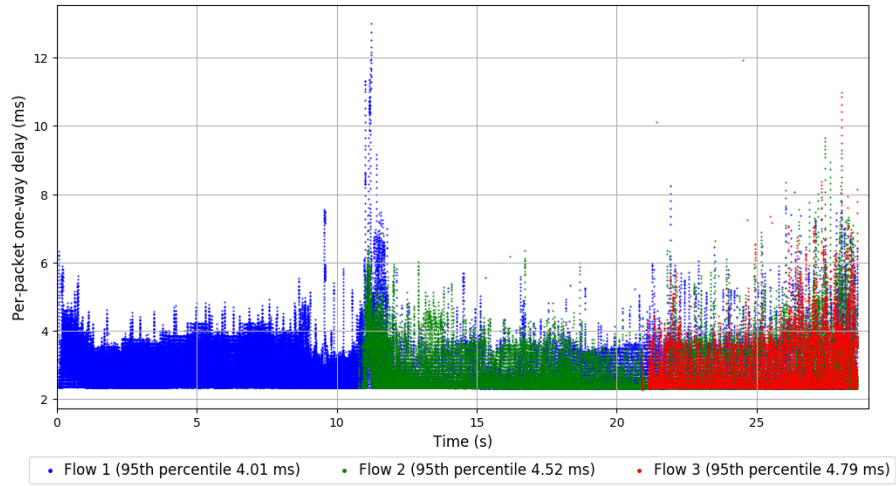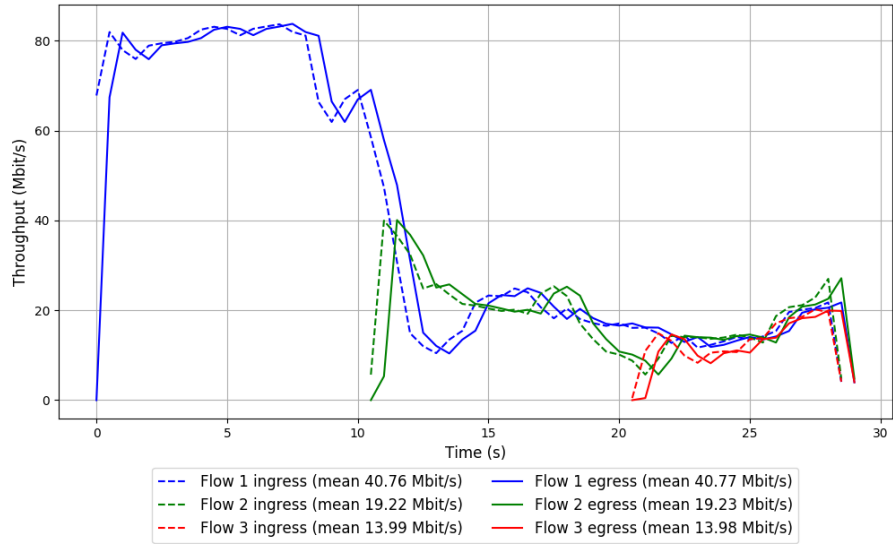
Run 5: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 59.66 Mbit/s)   —— Flow 1 egress (mean 59.65 Mbit/s)
- - - Flow 2 ingress (mean 40.76 Mbit/s)   —— Flow 2 egress (mean 40.68 Mbit/s)
- - - Flow 3 ingress (mean 32.35 Mbit/s)   —— Flow 3 egress (mean 32.33 Mbit/s)

• Flow 1 (95th percentile 9.74 ms)   • Flow 2 (95th percentile 10.46 ms)   • Flow 3 (95th percentile 8.90 ms)

64

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-03-27 12:12:25
End at: 2019-03-27 12:12:55
Local clock offset: -0.407 ms
Remote clock offset: 0.205 ms


# Below is generated by plot.py at 2019-03-27 14:06:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.50 Mbit/s
95th percentile per-packet one-way delay: 4.188 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 40.77 Mbit/s
95th percentile per-packet one-way delay: 4.015 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 19.23 Mbit/s
95th percentile per-packet one-way delay: 4.522 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 13.98 Mbit/s
95th percentile per-packet one-way delay: 4.785 ms
Loss rate: 0.05%
```
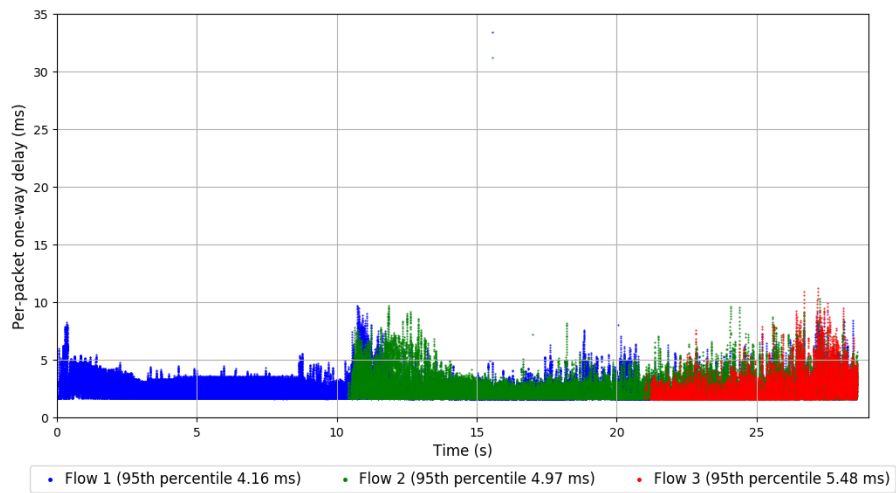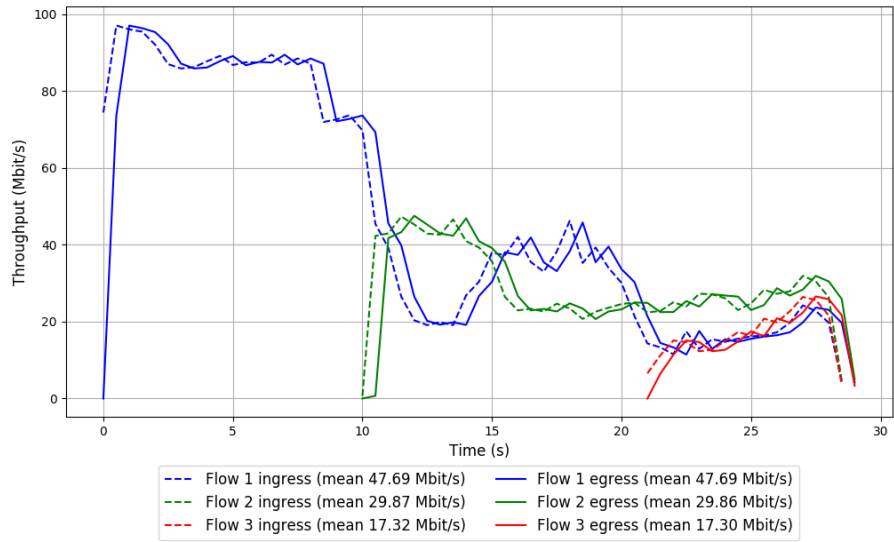
Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-03-27 12:36:37
End at: 2019-03-27 12:37:07
Local clock offset: 1.189 ms
Remote clock offset: 0.544 ms


# Below is generated by plot.py at 2019-03-27 14:06:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 71.27 Mbit/s
95th percentile per-packet one-way delay: 4.480 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 47.69 Mbit/s
95th percentile per-packet one-way delay: 4.163 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 29.86 Mbit/s
95th percentile per-packet one-way delay: 4.969 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.30 Mbit/s
95th percentile per-packet one-way delay: 5.479 ms
Loss rate: 0.14%
```
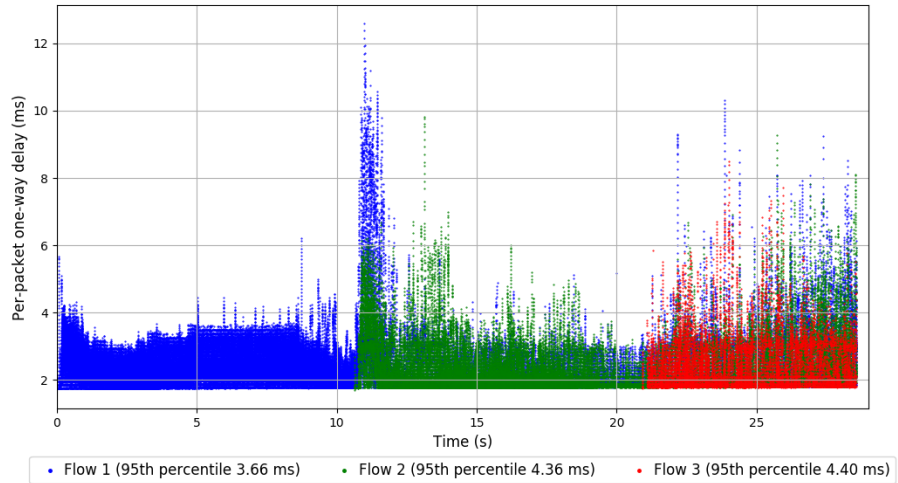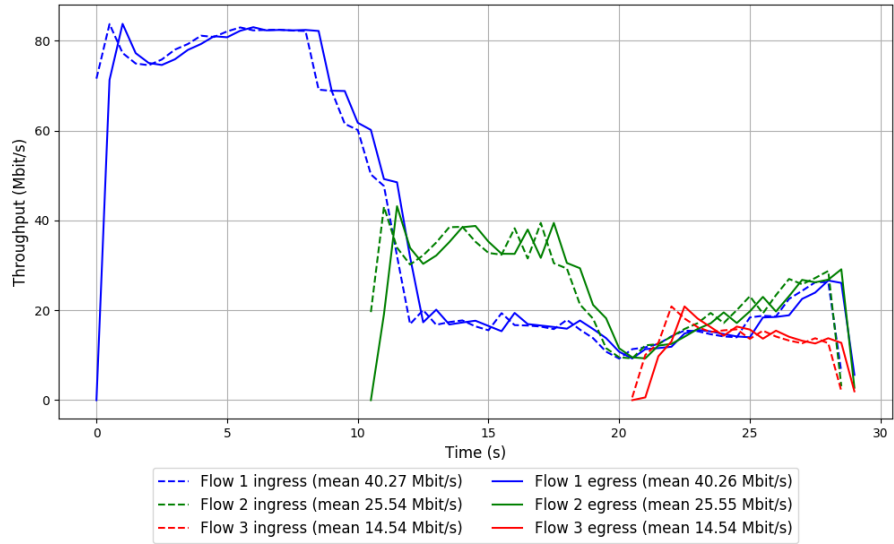
Run 2: Report of Indigo-MusesC3 — Data Link

- - - - Flow 1 ingress (mean 47.69 Mbit/s)   —— Flow 1 egress (mean 47.69 Mbit/s)
- - - - Flow 2 ingress (mean 29.87 Mbit/s)   —— Flow 2 egress (mean 29.86 Mbit/s)
- - - - Flow 3 ingress (mean 17.32 Mbit/s)   —— Flow 3 egress (mean 17.30 Mbit/s)

- Flow 1 (95th percentile 4.16 ms)   • Flow 2 (95th percentile 4.97 ms)   • Flow 3 (95th percentile 5.48 ms)

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-03-27 13:00:48
End at: 2019-03-27 13:01:18
Local clock offset: -2.977 ms
Remote clock offset: 0.638 ms


# Below is generated by plot.py at 2019-03-27 14:06:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.19 Mbit/s
95th percentile per-packet one-way delay: 3.967 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 40.26 Mbit/s
95th percentile per-packet one-way delay: 3.660 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 25.55 Mbit/s
95th percentile per-packet one-way delay: 4.355 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 14.54 Mbit/s
95th percentile per-packet one-way delay: 4.399 ms
Loss rate: 0.06%
```
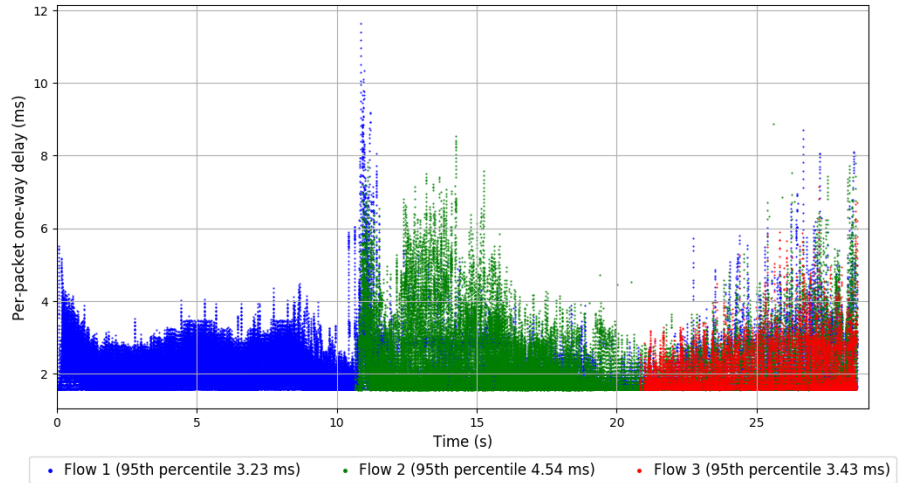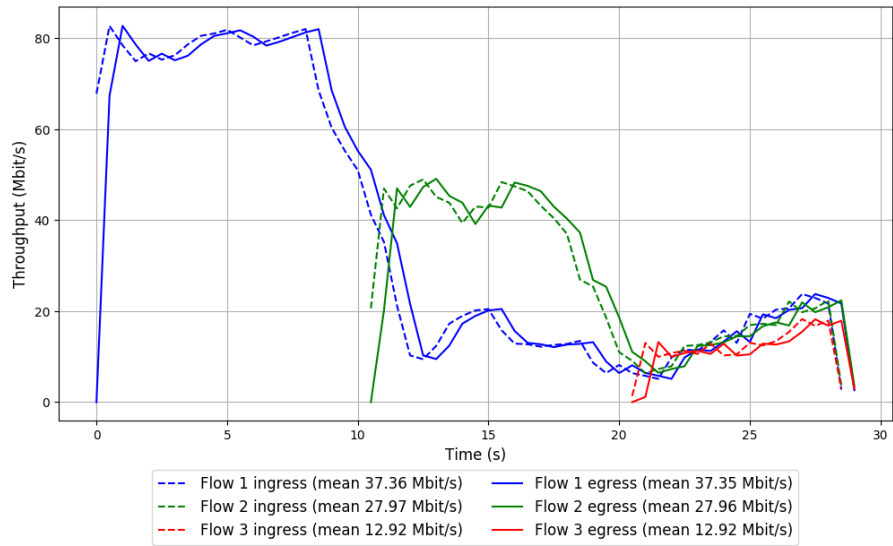
Run 3: Report of Indigo-MusesC3 — Data Link

70

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-03-27 13:25:01
End at: 2019-03-27 13:25:31
Local clock offset: -4.037 ms
Remote clock offset: 0.365 ms


# Below is generated by plot.py at 2019-03-27 14:06:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 58.41 Mbit/s
95th percentile per-packet one-way delay: 3.715 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 37.35 Mbit/s
95th percentile per-packet one-way delay: 3.226 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 27.96 Mbit/s
95th percentile per-packet one-way delay: 4.542 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 12.92 Mbit/s
95th percentile per-packet one-way delay: 3.428 ms
Loss rate: 0.08%
```
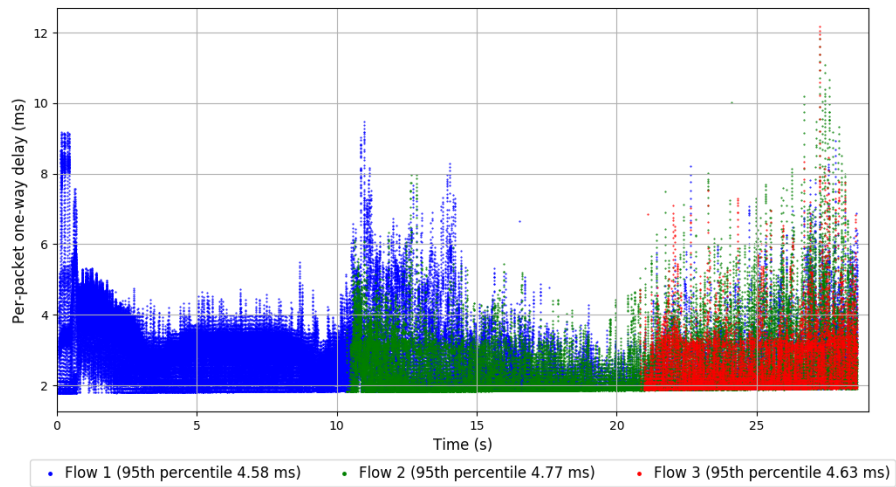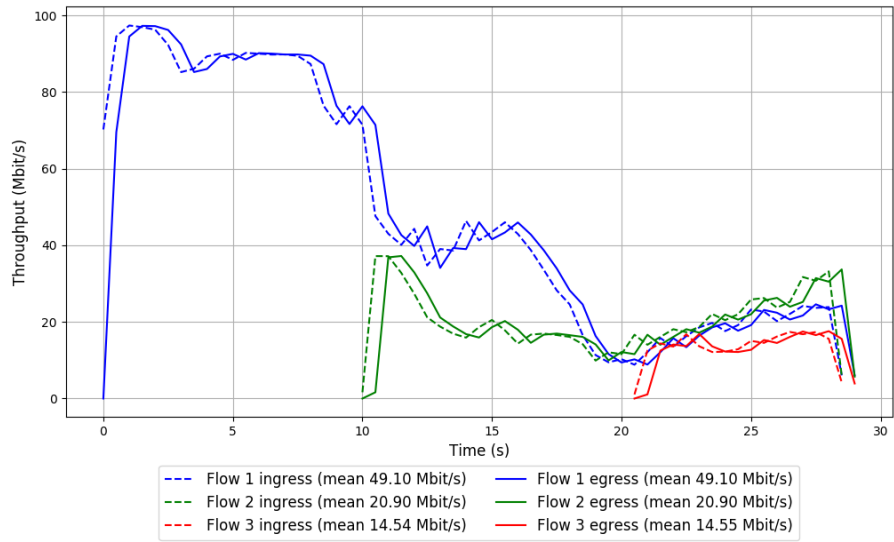
Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-03-27 13:49:14
End at: 2019-03-27 13:49:44
Local clock offset: -5.444 ms
Remote clock offset: 0.013 ms


# Below is generated by plot.py at 2019-03-27 14:07:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.38 Mbit/s
95th percentile per-packet one-way delay: 4.612 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 49.10 Mbit/s
95th percentile per-packet one-way delay: 4.584 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 20.90 Mbit/s
95th percentile per-packet one-way delay: 4.768 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 14.55 Mbit/s
95th percentile per-packet one-way delay: 4.633 ms
Loss rate: 0.12%
```
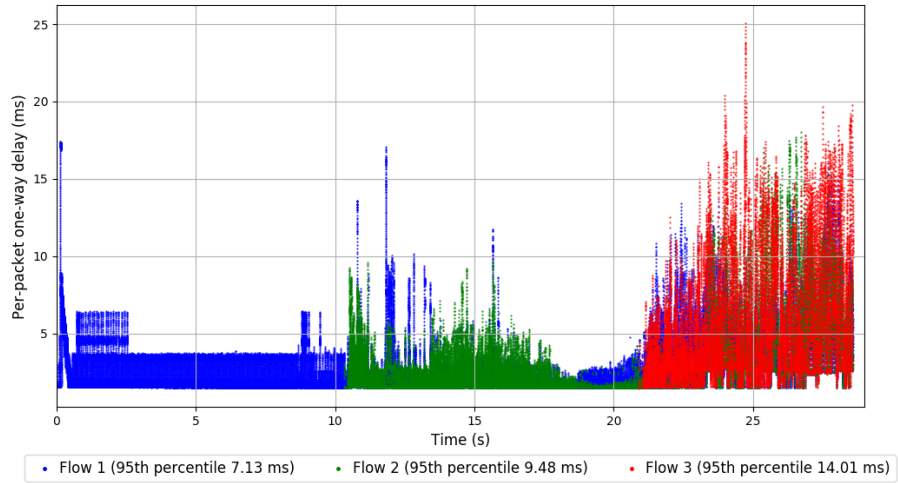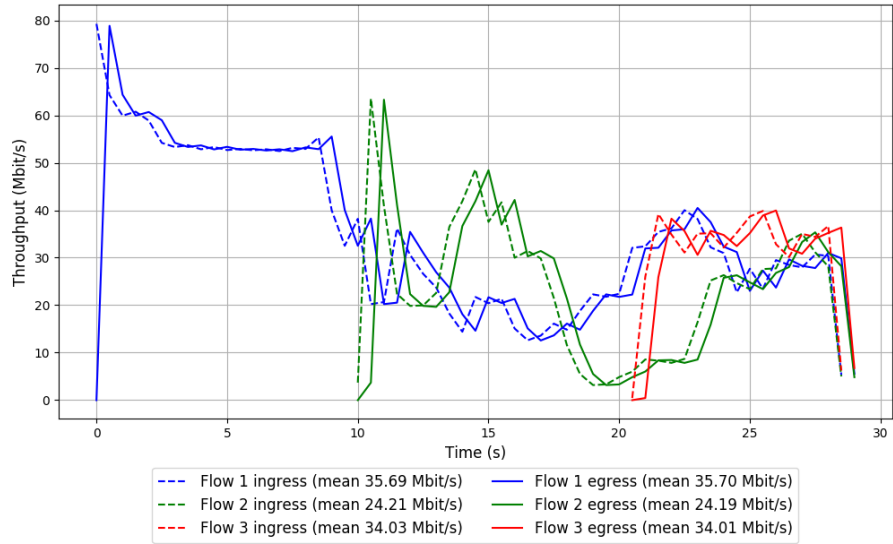
Run 5: Report of Indigo-MusesC3 — Data Link

74

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-03-27 12:19:17
End at: 2019-03-27 12:19:47
Local clock offset: -0.412 ms
Remote clock offset: 0.382 ms


# Below is generated by plot.py at 2019-03-27 14:07:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.29 Mbit/s
95th percentile per-packet one-way delay: 9.720 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 35.70 Mbit/s
95th percentile per-packet one-way delay: 7.129 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 24.19 Mbit/s
95th percentile per-packet one-way delay: 9.476 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 34.01 Mbit/s
95th percentile per-packet one-way delay: 14.011 ms
Loss rate: 0.04%
```
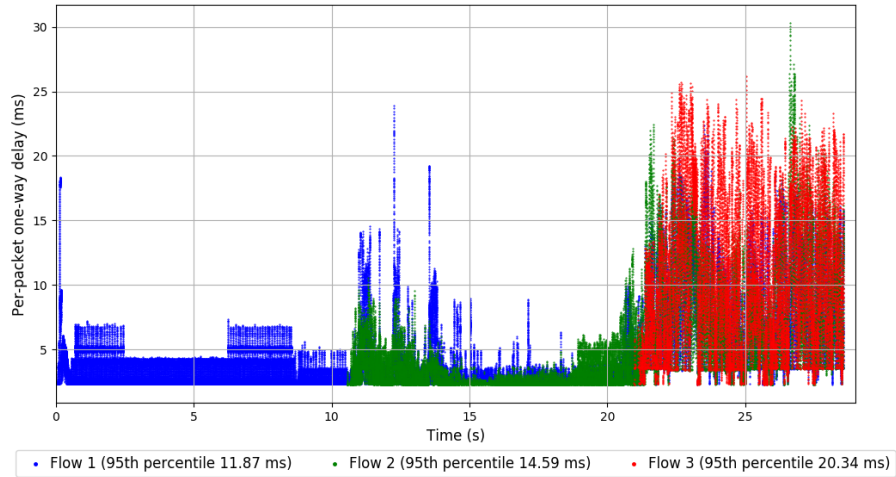
Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-03-27 12:43:28
End at: 2019-03-27 12:43:58
Local clock offset: 2.542 ms
Remote clock offset: 0.716 ms


# Below is generated by plot.py at 2019-03-27 14:07:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.52 Mbit/s
95th percentile per-packet one-way delay: 15.504 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 36.04 Mbit/s
95th percentile per-packet one-way delay: 11.873 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 26.70 Mbit/s
95th percentile per-packet one-way delay: 14.588 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 32.44 Mbit/s
95th percentile per-packet one-way delay: 20.342 ms
Loss rate: 0.24%
```
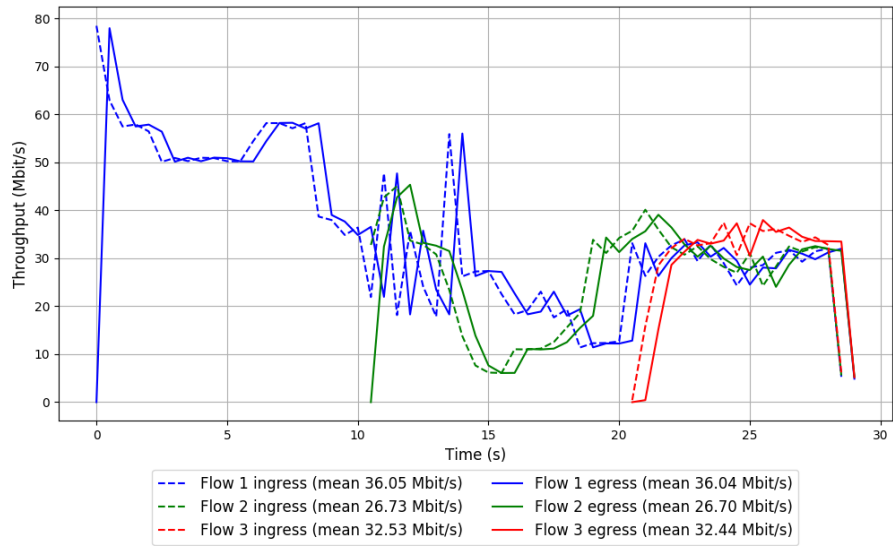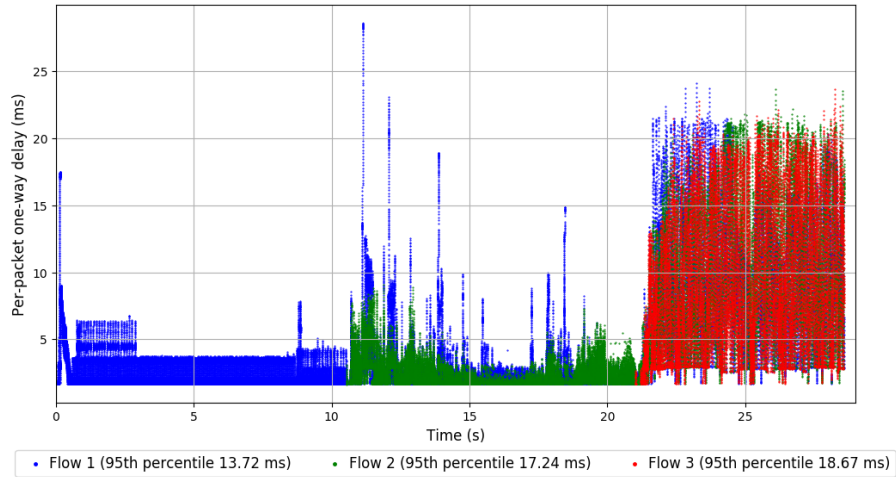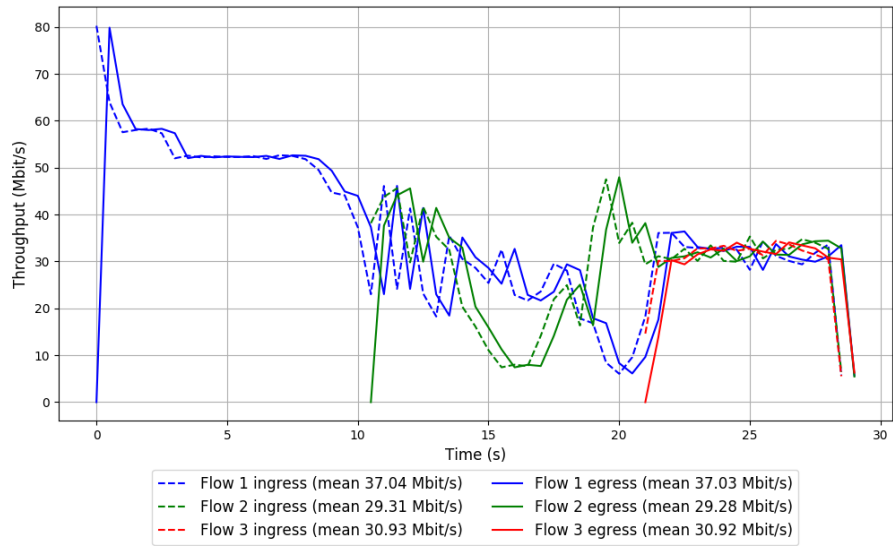
Run 2: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 36.05 Mbit/s) --- Flow 1 egress (mean 36.04 Mbit/s)
Flow 2 ingress (mean 26.73 Mbit/s) --- Flow 2 egress (mean 26.70 Mbit/s)
Flow 3 ingress (mean 32.53 Mbit/s) --- Flow 3 egress (mean 32.44 Mbit/s)

Flow 1 (95th percentile 11.87 ms)   Flow 2 (95th percentile 14.59 ms)   Flow 3 (95th percentile 20.34 ms)

78

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-03-27 13:07:39
End at: 2019-03-27 13:08:09
Local clock offset: -3.654 ms
Remote clock offset: 0.474 ms


# Below is generated by plot.py at 2019-03-27 14:07:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.69 Mbit/s
95th percentile per-packet one-way delay: 16.551 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 37.03 Mbit/s
95th percentile per-packet one-way delay: 13.719 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 29.28 Mbit/s
95th percentile per-packet one-way delay: 17.244 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 30.92 Mbit/s
95th percentile per-packet one-way delay: 18.667 ms
Loss rate: 0.09%
```
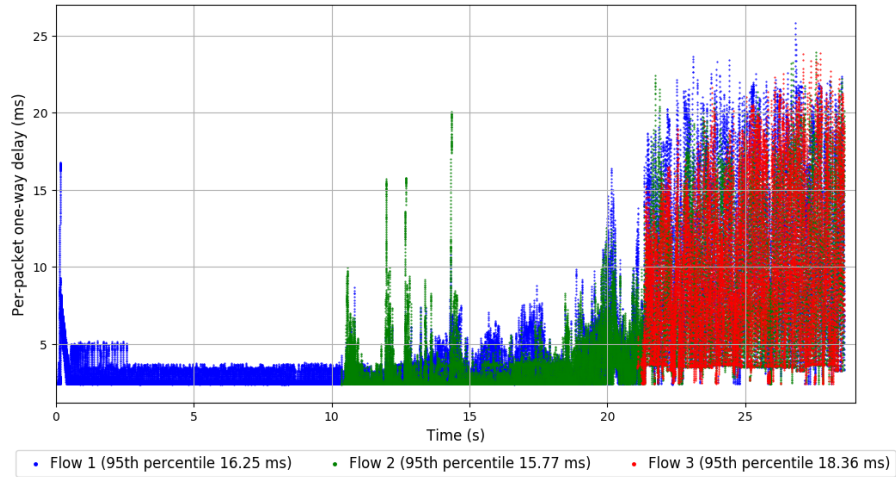
Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-03-27 13:31:52
End at: 2019-03-27 13:32:22
Local clock offset: -3.303 ms
Remote clock offset: 0.219 ms


# Below is generated by plot.py at 2019-03-27 14:07:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.47 Mbit/s
95th percentile per-packet one-way delay: 16.631 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 31.53 Mbit/s
95th percentile per-packet one-way delay: 16.250 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 27.45 Mbit/s
95th percentile per-packet one-way delay: 15.772 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 32.10 Mbit/s
95th percentile per-packet one-way delay: 18.360 ms
Loss rate: 0.22%
```
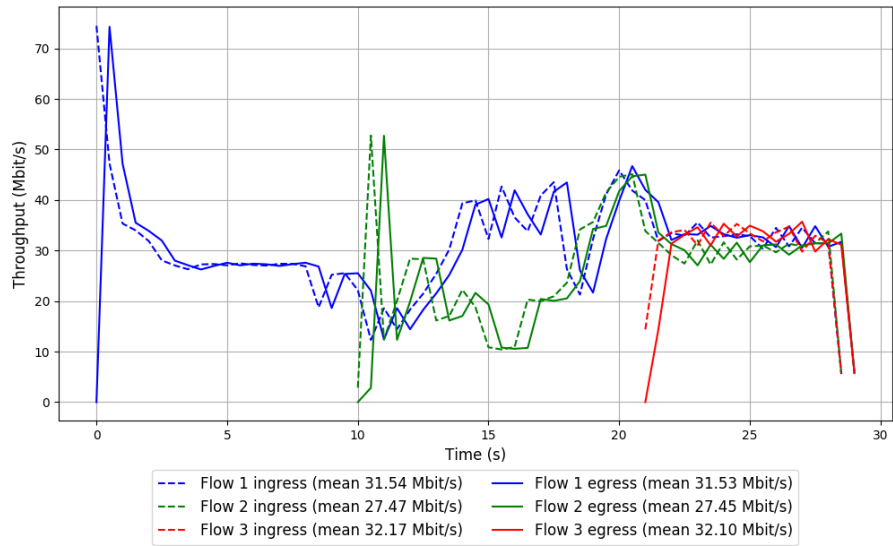
Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-03-27 13:56:06
End at: 2019-03-27 13:56:36
Local clock offset: -6.921 ms
Remote clock offset: 0.093 ms


# Below is generated by plot.py at 2019-03-27 14:07:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.45 Mbit/s
95th percentile per-packet one-way delay: 15.374 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 38.94 Mbit/s
95th percentile per-packet one-way delay: 13.407 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 28.77 Mbit/s
95th percentile per-packet one-way delay: 16.089 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 31.68 Mbit/s
95th percentile per-packet one-way delay: 17.355 ms
Loss rate: 0.00%
```
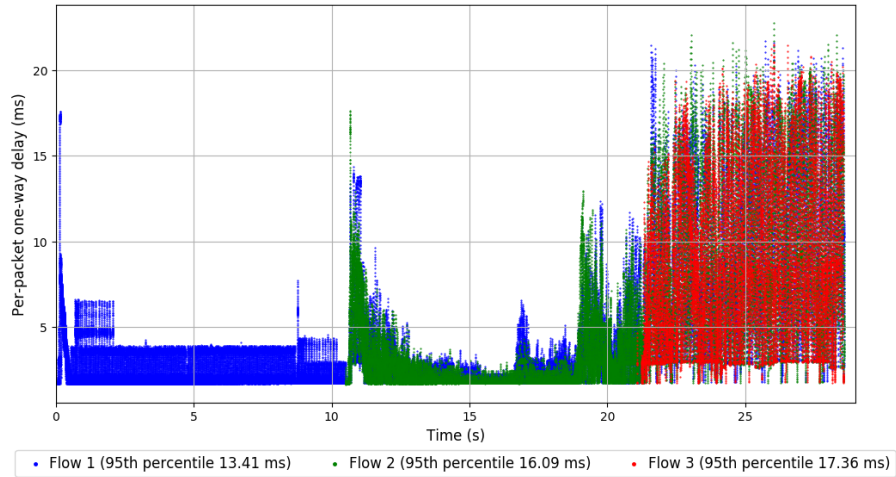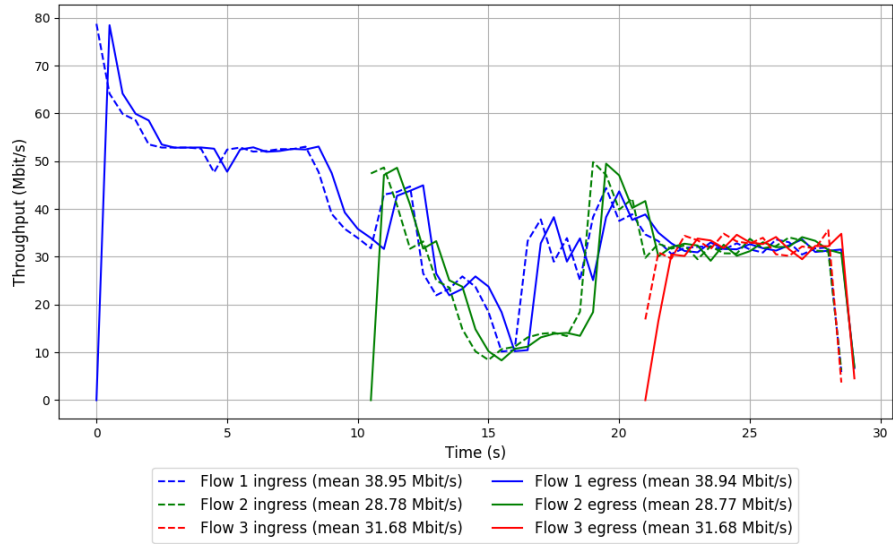
Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-03-27 12:05:32
End at: 2019-03-27 12:06:02
Local clock offset: -2.104 ms
Remote clock offset: 0.158 ms


# Below is generated by plot.py at 2019-03-27 14:07:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.47 Mbit/s
95th percentile per-packet one-way delay: 24.423 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 32.94 Mbit/s
95th percentile per-packet one-way delay: 16.386 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 28.91 Mbit/s
95th percentile per-packet one-way delay: 11.943 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 45.37 Mbit/s
95th percentile per-packet one-way delay: 30.135 ms
Loss rate: 1.03%
```
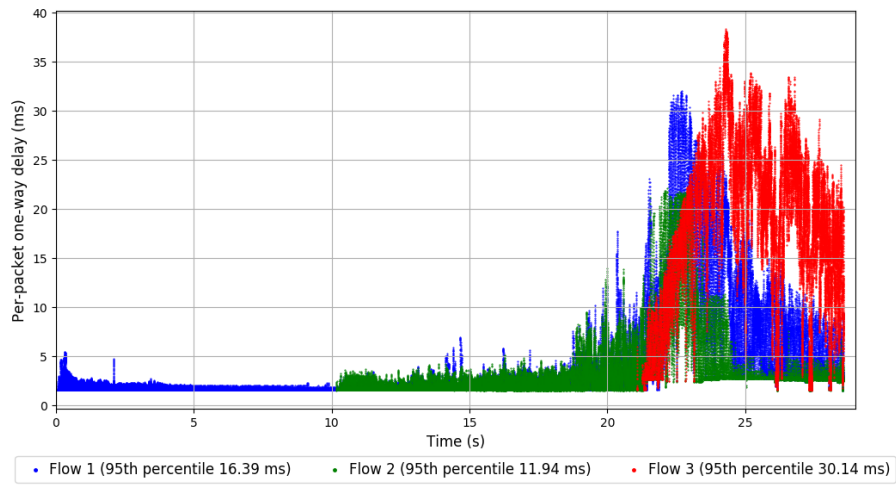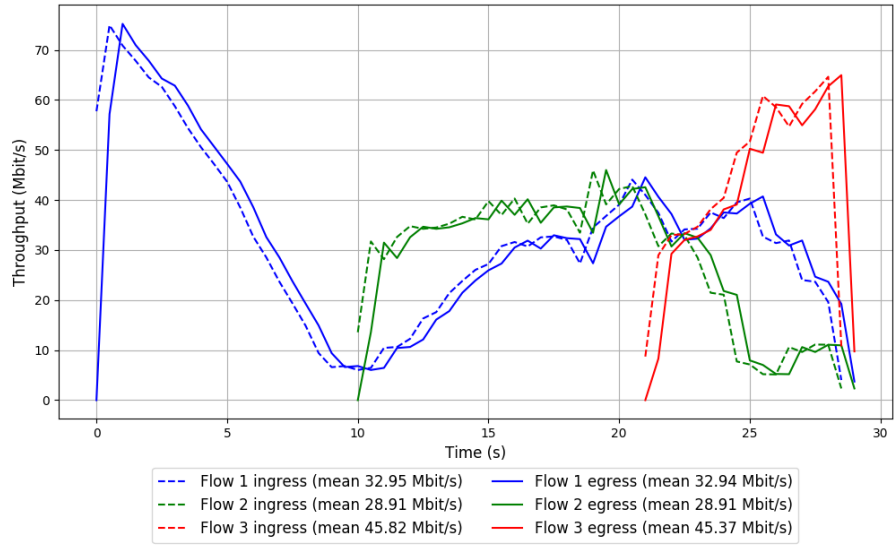
Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-03-27 12:29:43
End at: 2019-03-27 12:30:13
Local clock offset: 1.323 ms
Remote clock offset: 0.44 ms


# Below is generated by plot.py at 2019-03-27 14:07:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.28 Mbit/s
95th percentile per-packet one-way delay: 32.843 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 34.01 Mbit/s
95th percentile per-packet one-way delay: 15.086 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 14.26 Mbit/s
95th percentile per-packet one-way delay: 4.151 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 49.83 Mbit/s
95th percentile per-packet one-way delay: 37.787 ms
Loss rate: 2.01%
```
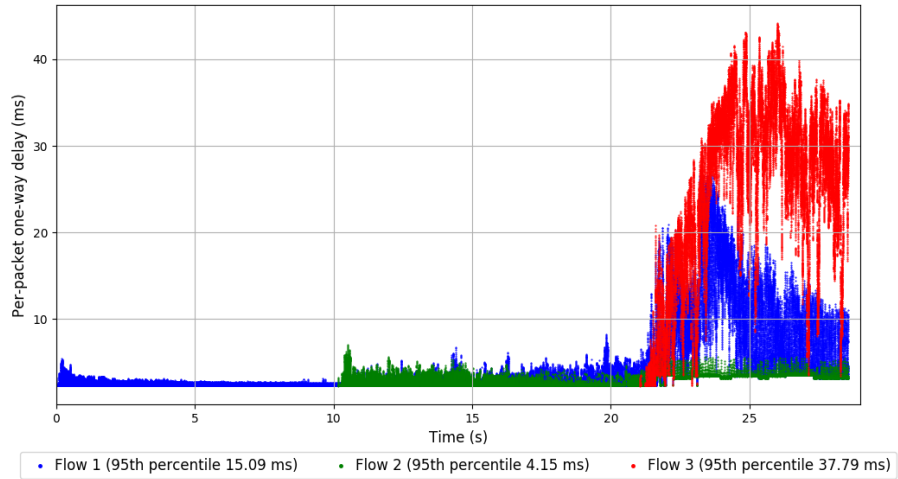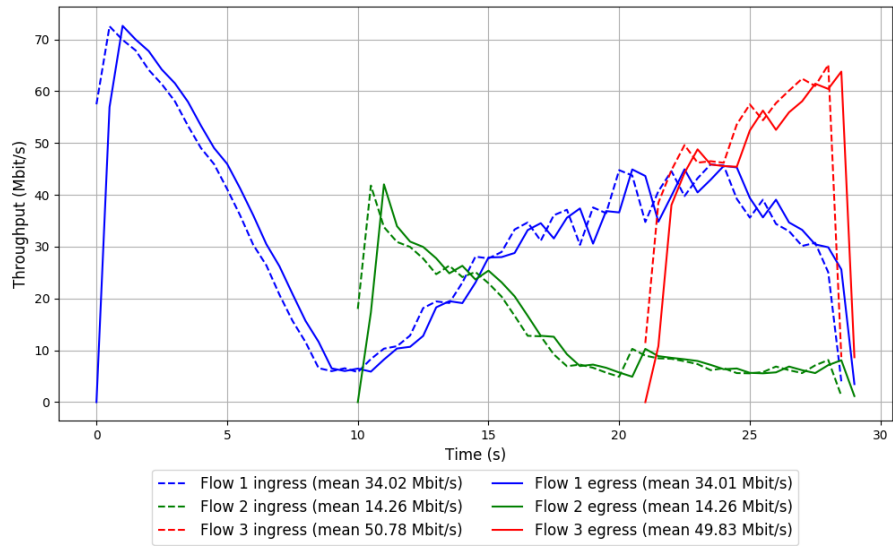
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-03-27 12:53:55
End at: 2019-03-27 12:54:25
Local clock offset: -1.561 ms
Remote clock offset: 0.614 ms


# Below is generated by plot.py at 2019-03-27 14:07:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 59.38 Mbit/s
95th percentile per-packet one-way delay: 44.222 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 32.58 Mbit/s
95th percentile per-packet one-way delay: 10.588 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 22.29 Mbit/s
95th percentile per-packet one-way delay: 7.195 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 47.54 Mbit/s
95th percentile per-packet one-way delay: 62.494 ms
Loss rate: 1.78%
```
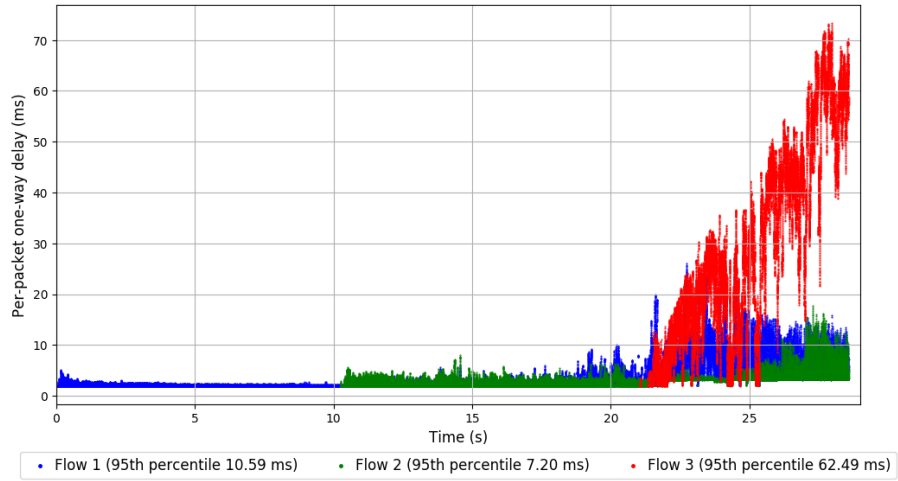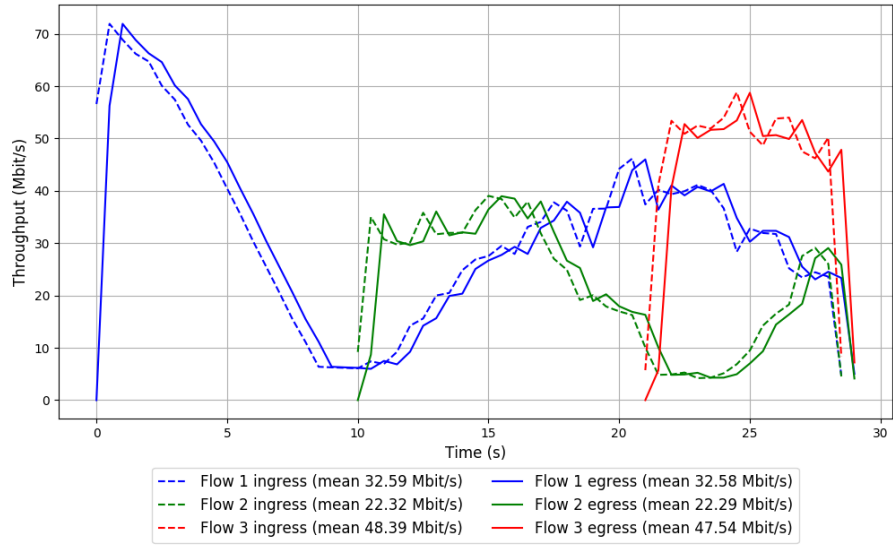
Run 3: Report of Indigo-MusesD — Data Link

90

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-03-27 13:18:08
End at: 2019-03-27 13:18:38
Local clock offset: -3.286 ms
Remote clock offset: 0.37 ms


# Below is generated by plot.py at 2019-03-27 14:07:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.48 Mbit/s
95th percentile per-packet one-way delay: 20.173 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 32.06 Mbit/s
95th percentile per-packet one-way delay: 13.640 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 25.08 Mbit/s
95th percentile per-packet one-way delay: 13.660 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 31.63 Mbit/s
95th percentile per-packet one-way delay: 31.085 ms
Loss rate: 0.47%
```
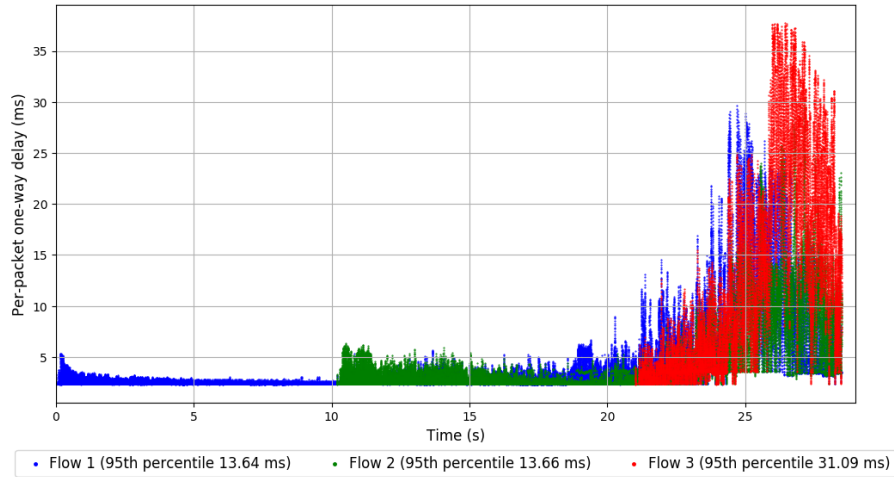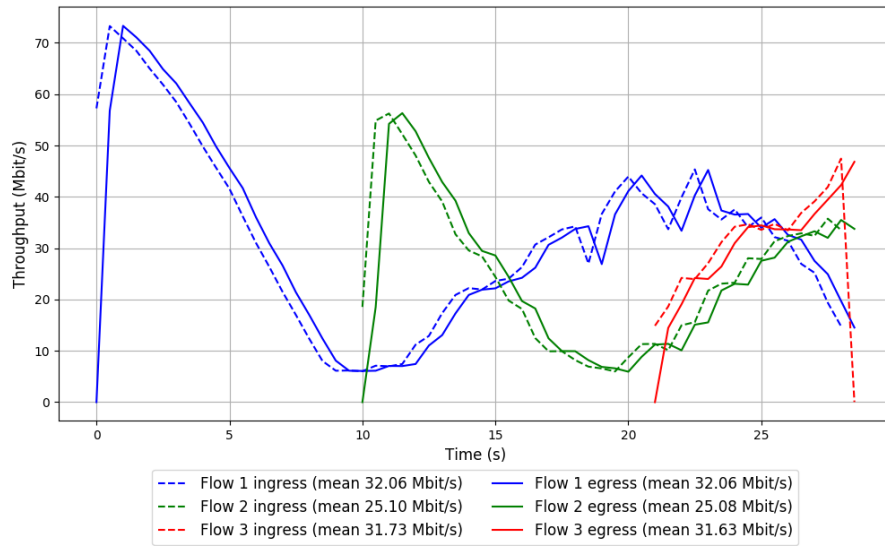
Run 4: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 32.06 Mbit/s)   Flow 1 egress (mean 32.06 Mbit/s)
Flow 2 ingress (mean 25.10 Mbit/s)   Flow 2 egress (mean 25.08 Mbit/s)
Flow 3 ingress (mean 31.73 Mbit/s)   Flow 3 egress (mean 31.63 Mbit/s)

Flow 1 (95th percentile 13.64 ms)   Flow 2 (95th percentile 13.66 ms)   Flow 3 (95th percentile 31.09 ms)

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-03-27 13:42:20
End at: 2019-03-27 13:42:50
Local clock offset: -3.439 ms
Remote clock offset: 0.134 ms


# Below is generated by plot.py at 2019-03-27 14:08:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 67.82 Mbit/s
95th percentile per-packet one-way delay: 25.255 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 41.69 Mbit/s
95th percentile per-packet one-way delay: 8.364 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 20.52 Mbit/s
95th percentile per-packet one-way delay: 7.558 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 48.68 Mbit/s
95th percentile per-packet one-way delay: 54.721 ms
Loss rate: 1.12%
```
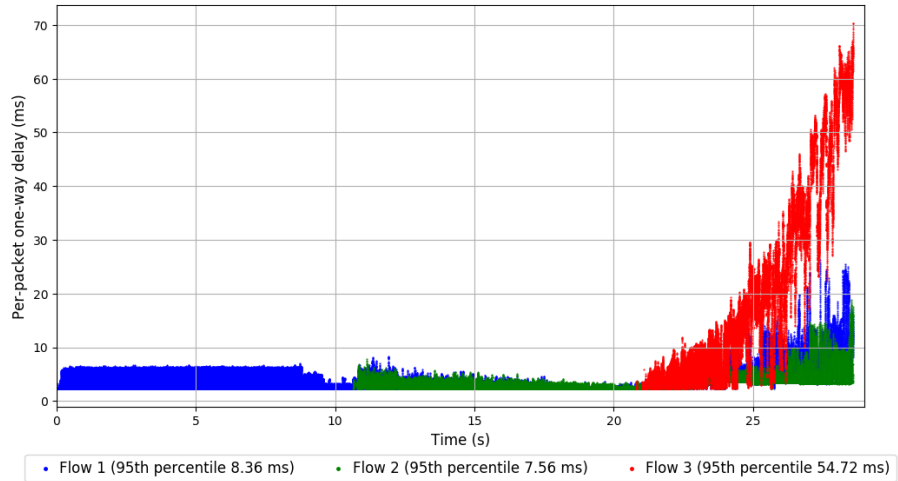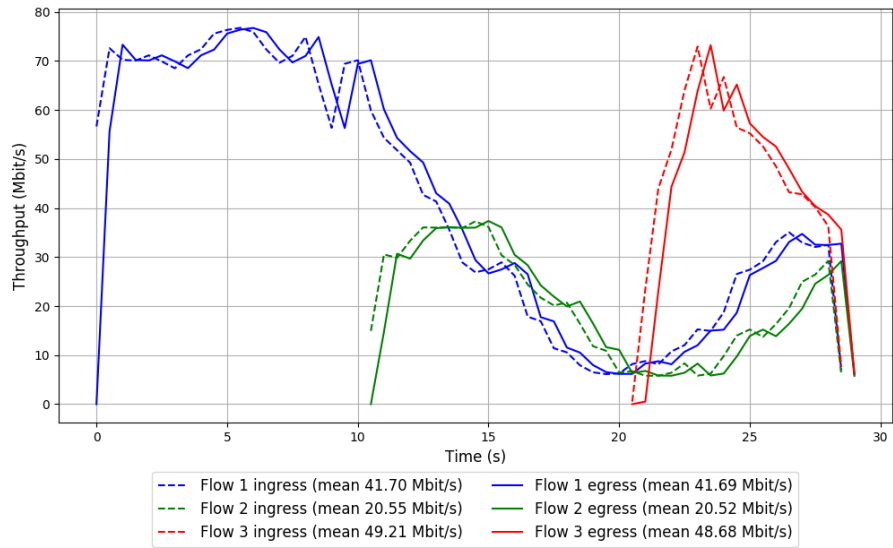
Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-03-27 12:07:48
End at: 2019-03-27 12:08:18
Local clock offset: -1.753 ms
Remote clock offset: 0.141 ms


# Below is generated by plot.py at 2019-03-27 14:08:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.22 Mbit/s
95th percentile per-packet one-way delay: 19.413 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 50.62 Mbit/s
95th percentile per-packet one-way delay: 15.597 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 35.47 Mbit/s
95th percentile per-packet one-way delay: 21.136 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 30.56 Mbit/s
95th percentile per-packet one-way delay: 24.268 ms
Loss rate: 0.51%
```
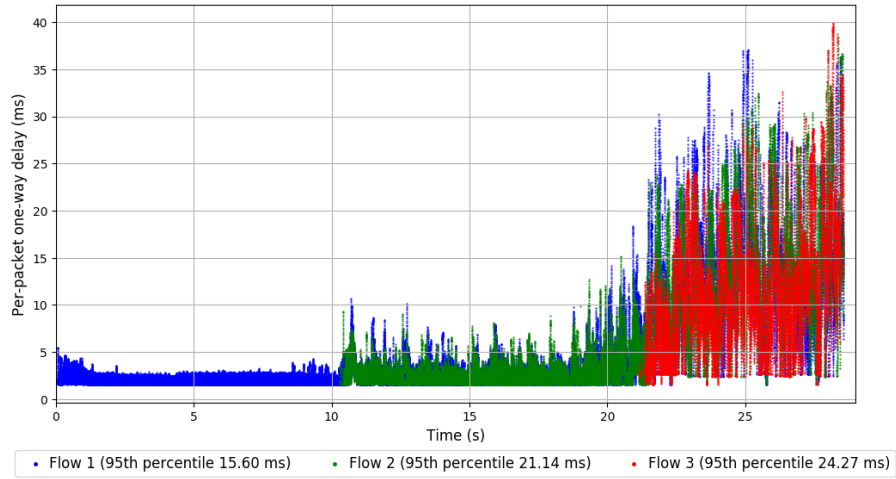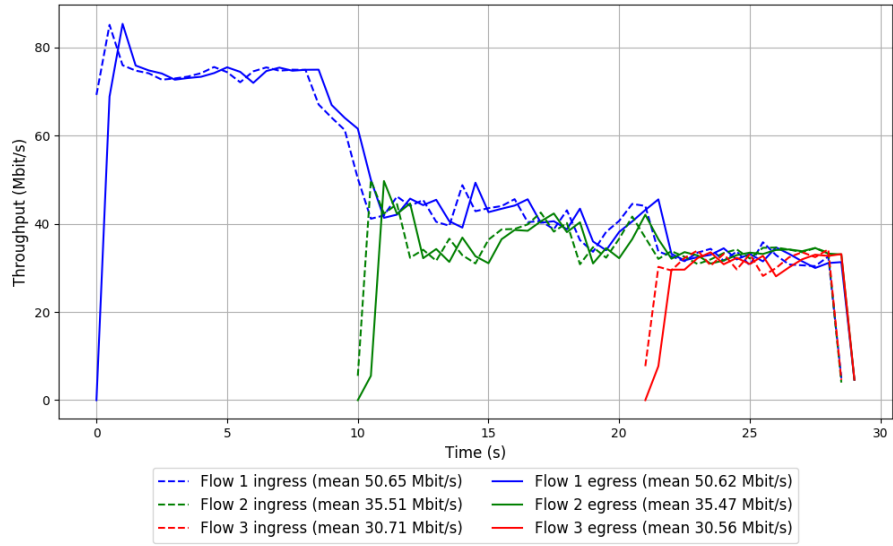
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-03-27 12:32:00
End at: 2019-03-27 12:32:30
Local clock offset: 1.472 ms
Remote clock offset: 0.47 ms


# Below is generated by plot.py at 2019-03-27 14:08:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.44 Mbit/s
95th percentile per-packet one-way delay: 16.603 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 52.09 Mbit/s
95th percentile per-packet one-way delay: 15.873 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 36.96 Mbit/s
95th percentile per-packet one-way delay: 17.946 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 27.12 Mbit/s
95th percentile per-packet one-way delay: 15.849 ms
Loss rate: 0.21%
```
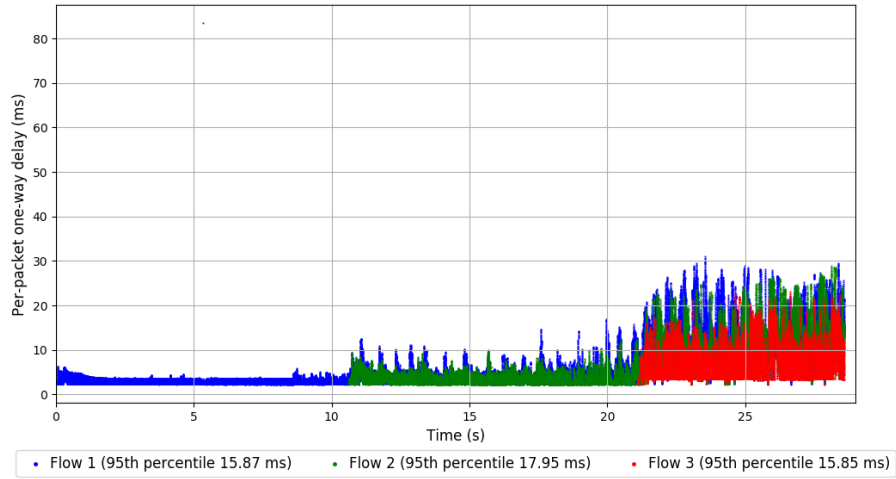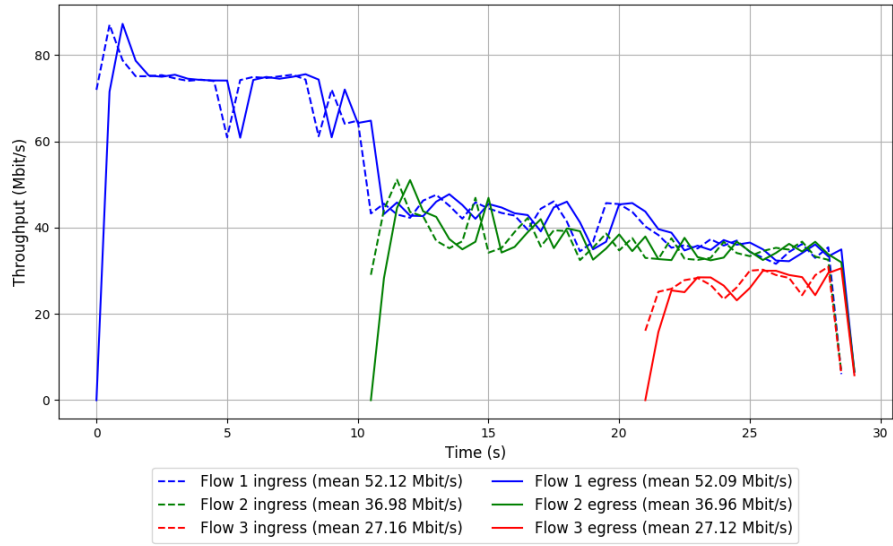
Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-03-27 12:56:11
End at: 2019-03-27 12:56:41
Local clock offset: -1.414 ms
Remote clock offset: 0.662 ms


# Below is generated by plot.py at 2019-03-27 14:08:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.85 Mbit/s
95th percentile per-packet one-way delay: 14.171 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 52.28 Mbit/s
95th percentile per-packet one-way delay: 13.100 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 35.78 Mbit/s
95th percentile per-packet one-way delay: 16.126 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 24.75 Mbit/s
95th percentile per-packet one-way delay: 12.785 ms
Loss rate: 0.08%
```
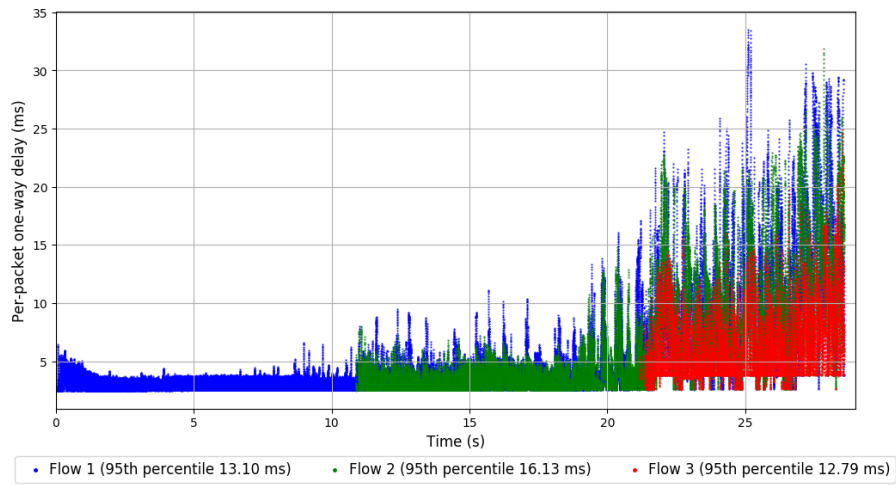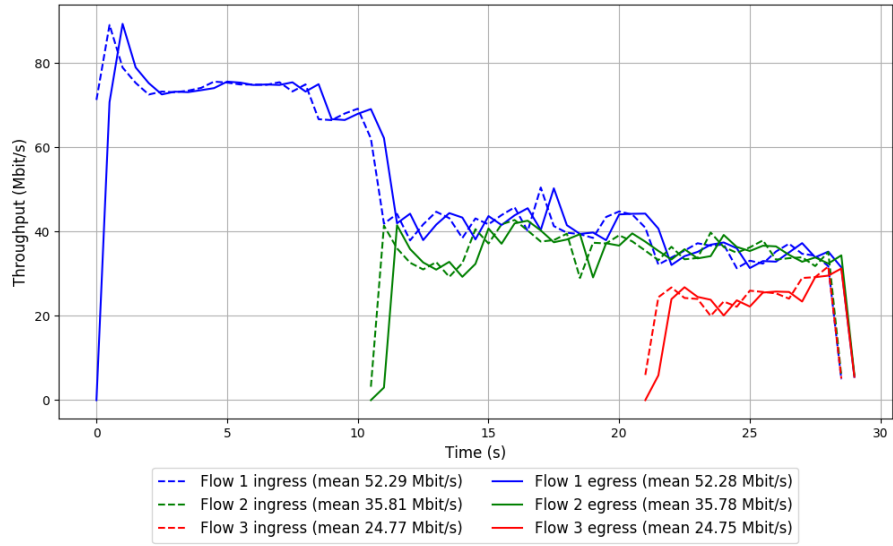
Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-03-27 13:20:24
End at: 2019-03-27 13:20:54
Local clock offset: -4.034 ms
Remote clock offset: 0.281 ms


# Below is generated by plot.py at 2019-03-27 14:08:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.31 Mbit/s
95th percentile per-packet one-way delay: 18.178 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 50.79 Mbit/s
95th percentile per-packet one-way delay: 15.027 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 36.11 Mbit/s
95th percentile per-packet one-way delay: 20.875 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 28.83 Mbit/s
95th percentile per-packet one-way delay: 20.273 ms
Loss rate: 0.17%
```
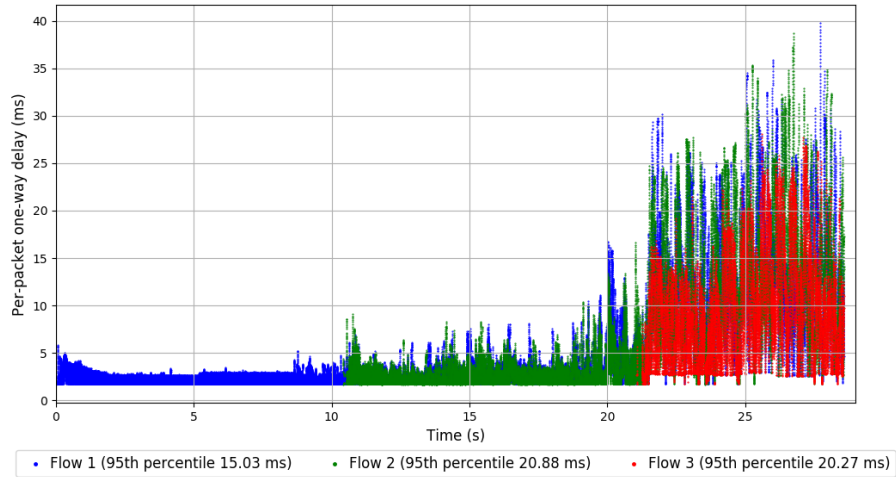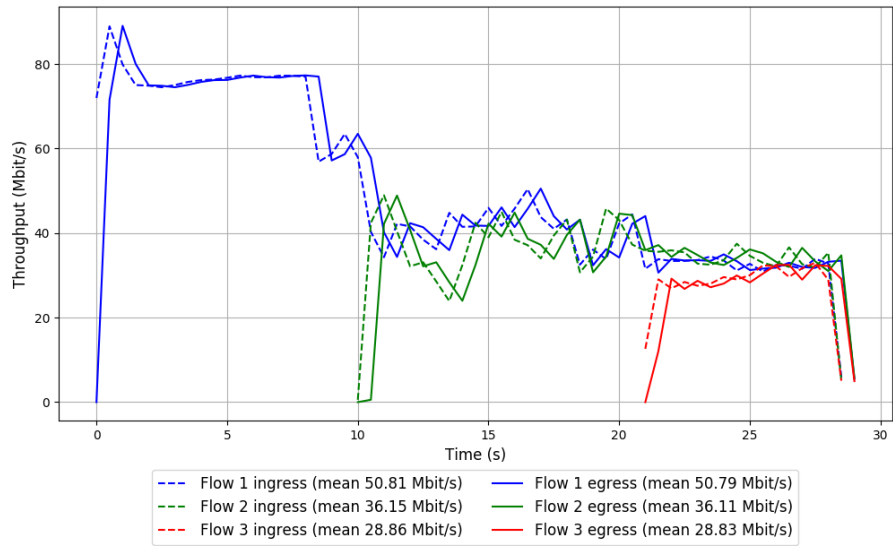
Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-03-27 13:44:37
End at: 2019-03-27 13:45:07
Local clock offset: -3.482 ms
Remote clock offset: 0.076 ms


# Below is generated by plot.py at 2019-03-27 14:08:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.16 Mbit/s
95th percentile per-packet one-way delay: 15.783 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 54.28 Mbit/s
95th percentile per-packet one-way delay: 13.023 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 37.43 Mbit/s
95th percentile per-packet one-way delay: 18.540 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 25.58 Mbit/s
95th percentile per-packet one-way delay: 17.803 ms
Loss rate: 0.10%
```

Run 5: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 54.31 Mbit/s) --- Flow 1 egress (mean 54.28 Mbit/s)
Flow 2 ingress (mean 37.47 Mbit/s) --- Flow 2 egress (mean 37.43 Mbit/s)
Flow 3 ingress (mean 25.55 Mbit/s) --- Flow 3 egress (mean 25.58 Mbit/s)

Flow 1 (95th percentile 13.02 ms)   Flow 2 (95th percentile 18.54 ms)   Flow 3 (95th percentile 17.80 ms)

104

```
Run 1: Statistics of LEDBAT

Start at: 2019-03-27 12:11:15
End at: 2019-03-27 12:11:45
Local clock offset: -0.53 ms
Remote clock offset: 0.255 ms


# Below is generated by plot.py at 2019-03-27 14:08:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.61 Mbit/s
95th percentile per-packet one-way delay: 14.487 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 58.82 Mbit/s
95th percentile per-packet one-way delay: 13.756 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 40.70 Mbit/s
95th percentile per-packet one-way delay: 14.966 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 32.17 Mbit/s
95th percentile per-packet one-way delay: 13.149 ms
Loss rate: 0.34%
```
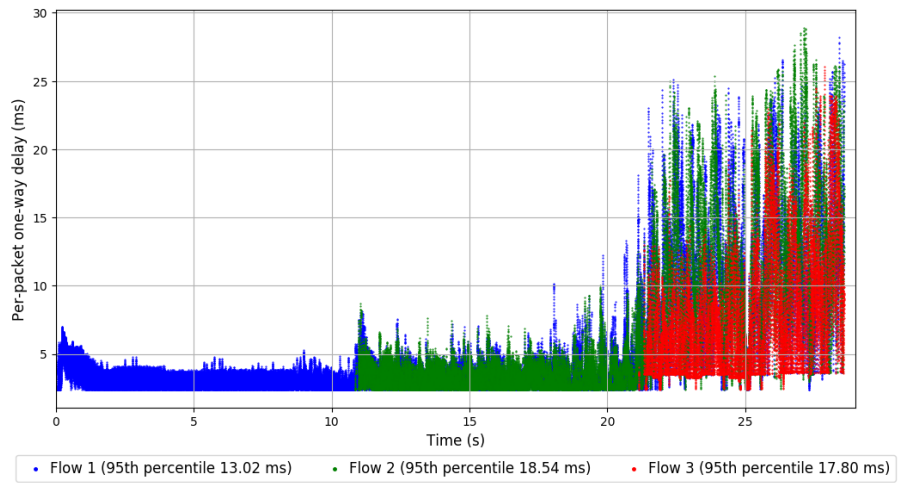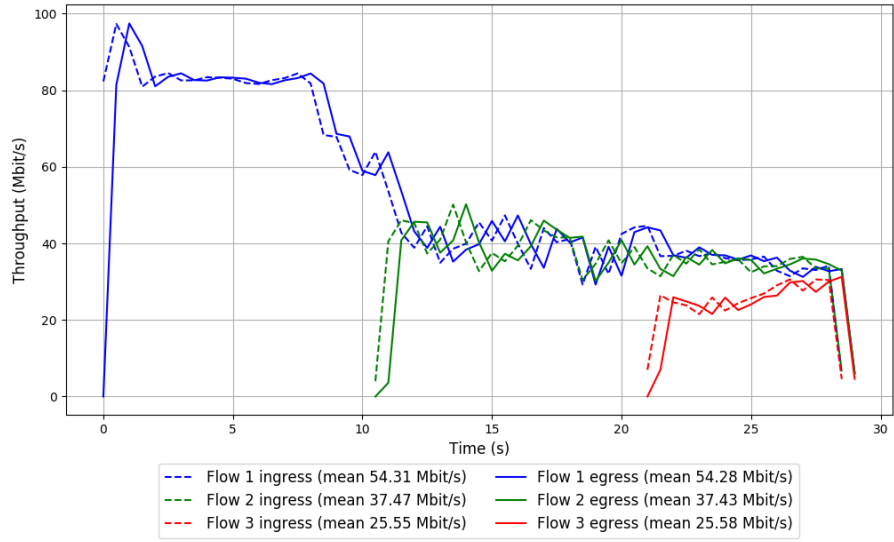
Run 1: Report of LEDBAT — Data Link

- - - - Flow 1 ingress (mean 58.88 Mbit/s)   —— Flow 1 egress (mean 58.82 Mbit/s)
- - - - Flow 2 ingress (mean 40.78 Mbit/s)   —— Flow 2 egress (mean 40.70 Mbit/s)
- - - - Flow 3 ingress (mean 32.26 Mbit/s)   —— Flow 3 egress (mean 32.17 Mbit/s)

• Flow 1 (95th percentile 13.76 ms)   • Flow 2 (95th percentile 14.97 ms)   • Flow 3 (95th percentile 13.15 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2019-03-27 12:35:26
End at: 2019-03-27 12:35:56
Local clock offset: 1.039 ms
Remote clock offset: 0.506 ms


# Below is generated by plot.py at 2019-03-27 14:09:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.87 Mbit/s
95th percentile per-packet one-way delay: 13.172 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 59.12 Mbit/s
95th percentile per-packet one-way delay: 12.922 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 40.45 Mbit/s
95th percentile per-packet one-way delay: 13.260 ms
Loss rate: 0.23%
-- Flow 3:
Average throughput: 32.57 Mbit/s
95th percentile per-packet one-way delay: 13.303 ms
Loss rate: 0.34%
```
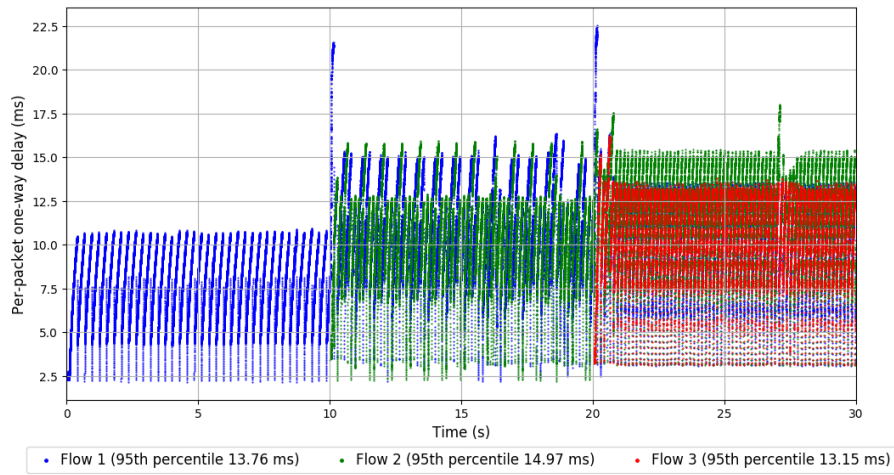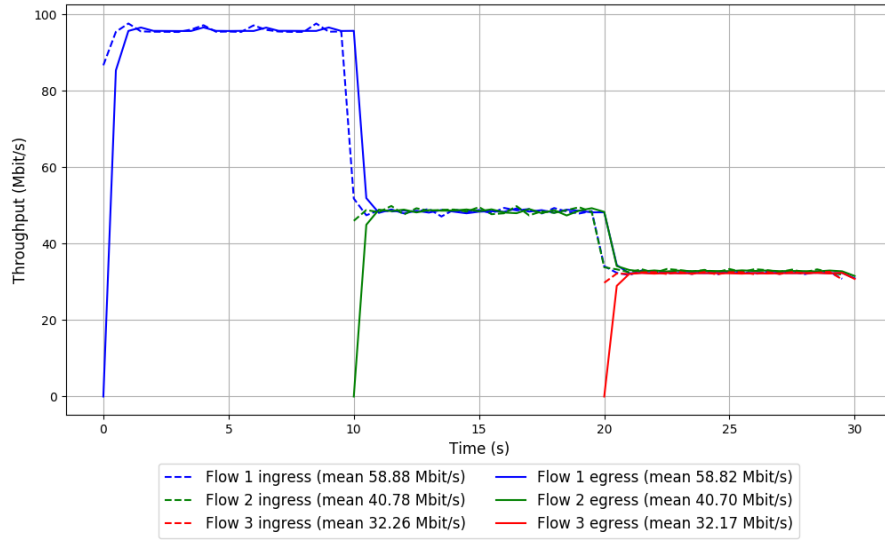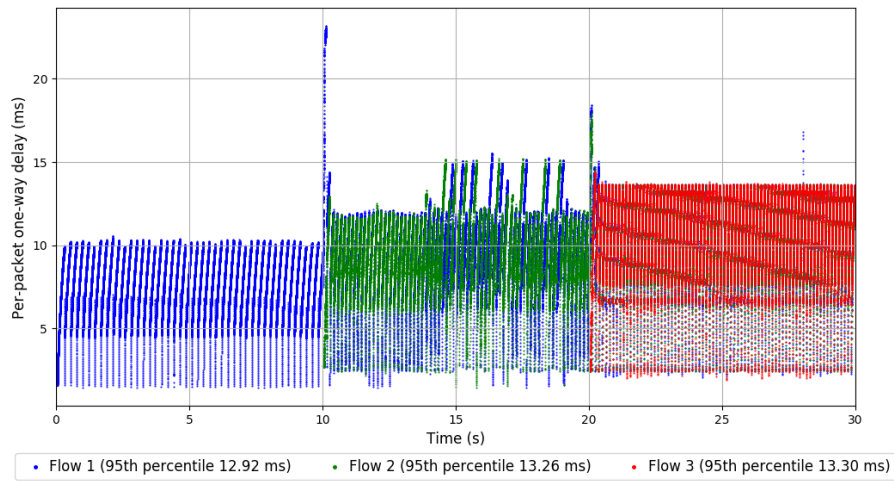
Run 2: Report of LEDBAT — Data Link

- - - - Flow 1 ingress (mean 59.20 Mbit/s) ——— Flow 1 egress (mean 59.12 Mbit/s)
- - - - Flow 2 ingress (mean 40.53 Mbit/s) ——— Flow 2 egress (mean 40.45 Mbit/s)
- - - - Flow 3 ingress (mean 32.68 Mbit/s) ——— Flow 3 egress (mean 32.57 Mbit/s)

- Flow 1 (95th percentile 12.92 ms)   • Flow 2 (95th percentile 13.26 ms)   • Flow 3 (95th percentile 13.30 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2019-03-27 12:59:37
End at: 2019-03-27 13:00:07
Local clock offset: -2.028 ms
Remote clock offset: 0.622 ms


# Below is generated by plot.py at 2019-03-27 14:09:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.77 Mbit/s
95th percentile per-packet one-way delay: 14.607 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 59.18 Mbit/s
95th percentile per-packet one-way delay: 14.453 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 40.16 Mbit/s
95th percentile per-packet one-way delay: 14.806 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 32.65 Mbit/s
95th percentile per-packet one-way delay: 14.769 ms
Loss rate: 0.39%
```
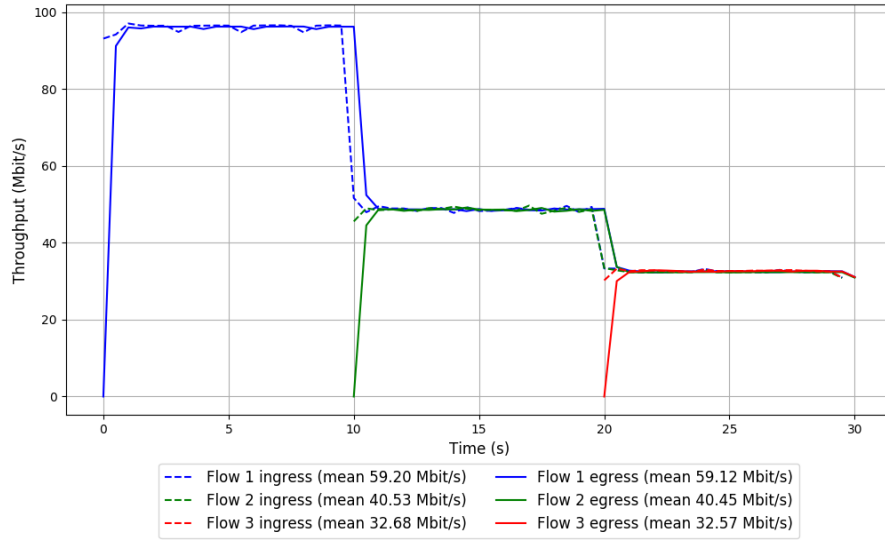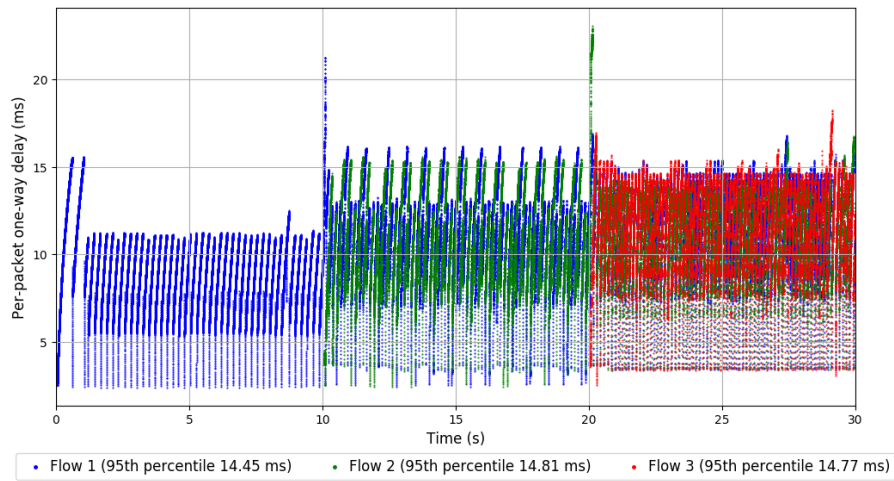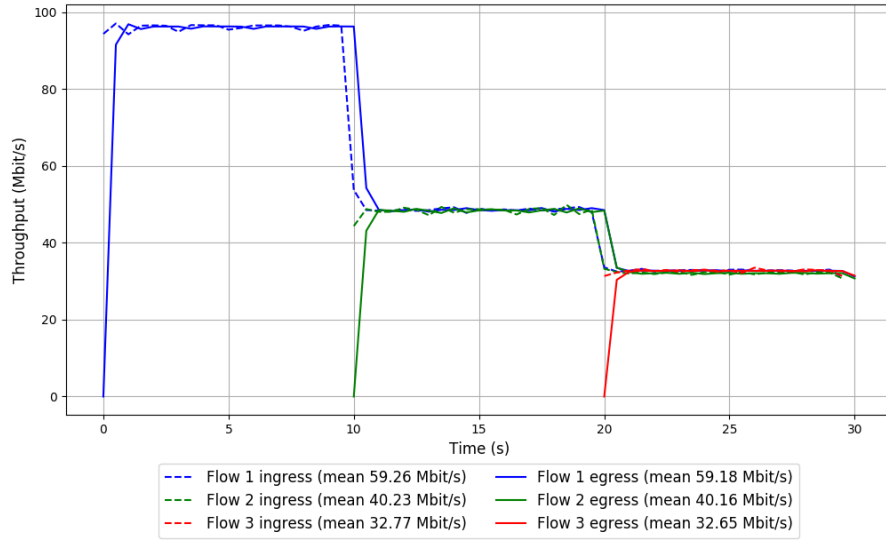
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 59.26 Mbit/s) -------- Flow 1 egress (mean 59.18 Mbit/s)
Flow 2 ingress (mean 40.23 Mbit/s) -------- Flow 2 egress (mean 40.16 Mbit/s)
Flow 3 ingress (mean 32.77 Mbit/s) -------- Flow 3 egress (mean 32.65 Mbit/s)

• Flow 1 (95th percentile 14.45 ms)   • Flow 2 (95th percentile 14.81 ms)   • Flow 3 (95th percentile 14.77 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-03-27 13:23:50
End at: 2019-03-27 13:24:20
Local clock offset: -4.02 ms
Remote clock offset: 0.292 ms


# Below is generated by plot.py at 2019-03-27 14:09:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.78 Mbit/s
95th percentile per-packet one-way delay: 14.033 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 58.94 Mbit/s
95th percentile per-packet one-way delay: 13.821 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 40.44 Mbit/s
95th percentile per-packet one-way delay: 14.175 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 32.84 Mbit/s
95th percentile per-packet one-way delay: 14.245 ms
Loss rate: 0.37%
```
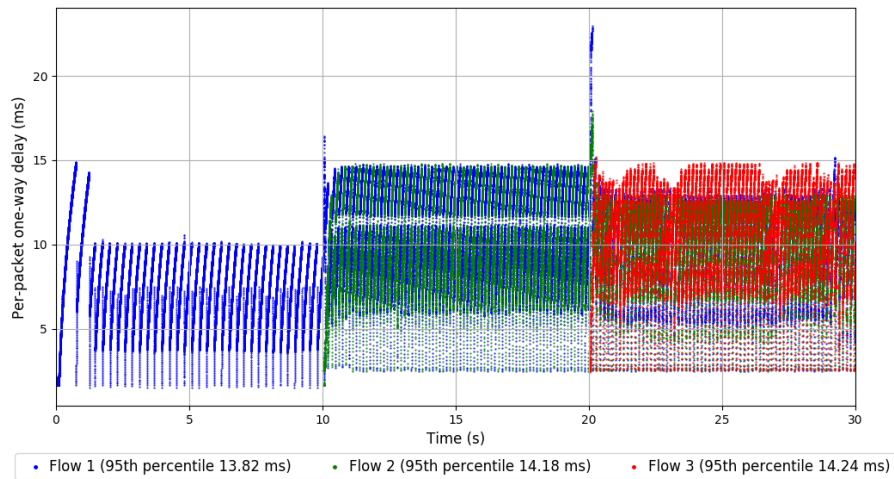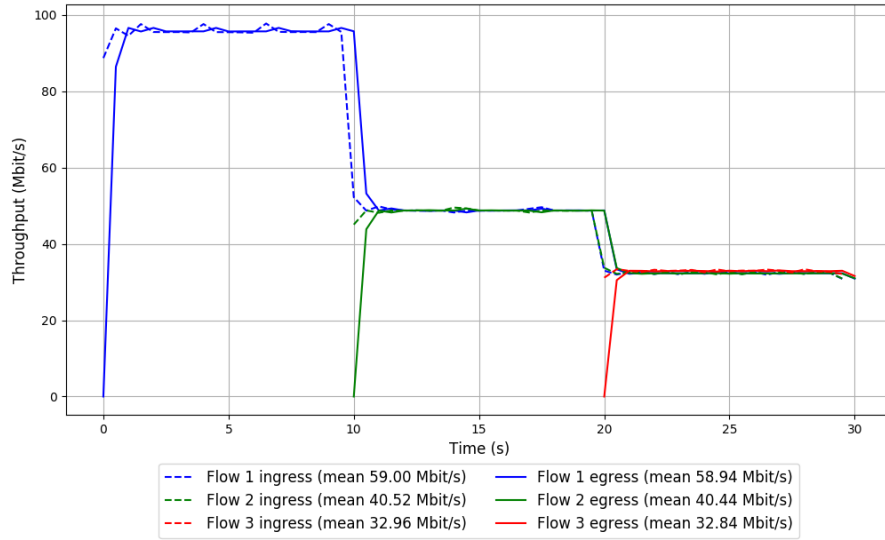
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-03-27 13:48:03
End at: 2019-03-27 13:48:33
Local clock offset: -5.028 ms
Remote clock offset: -0.032 ms

# Below is generated by plot.py at 2019-03-27 14:09:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.77 Mbit/s
95th percentile per-packet one-way delay: 14.364 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 58.91 Mbit/s
95th percentile per-packet one-way delay: 14.017 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 40.46 Mbit/s
95th percentile per-packet one-way delay: 14.493 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 32.84 Mbit/s
95th percentile per-packet one-way delay: 14.651 ms
Loss rate: 0.36%
```
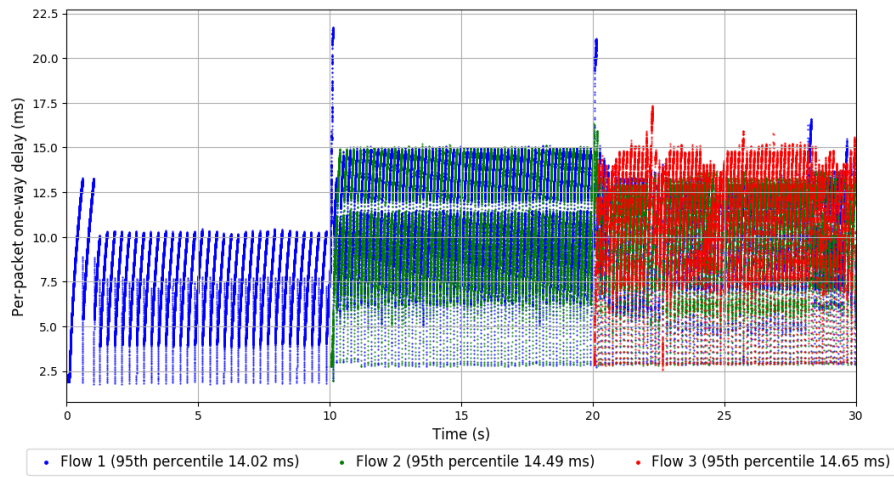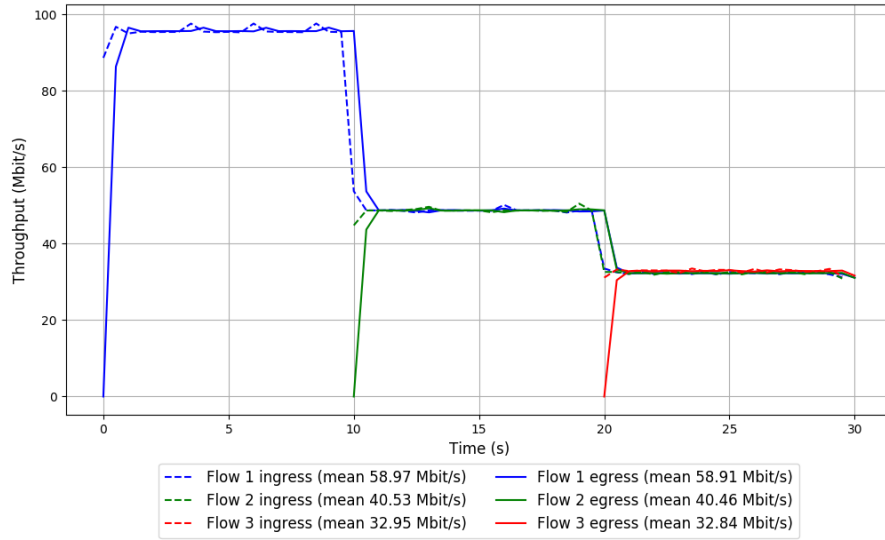
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-03-27 12:00:55
End at: 2019-03-27 12:01:25
Local clock offset: -2.968 ms
Remote clock offset: 0.079 ms


# Below is generated by plot.py at 2019-03-27 14:09:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.54 Mbit/s
95th percentile per-packet one-way delay: 1694.942 ms
Loss rate: 6.72%
-- Flow 1:
Average throughput: 65.40 Mbit/s
95th percentile per-packet one-way delay: 1733.042 ms
Loss rate: 9.38%
-- Flow 2:
Average throughput: 36.19 Mbit/s
95th percentile per-packet one-way delay: 14.854 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 15.52 Mbit/s
95th percentile per-packet one-way delay: 3.306 ms
Loss rate: 0.08%
```
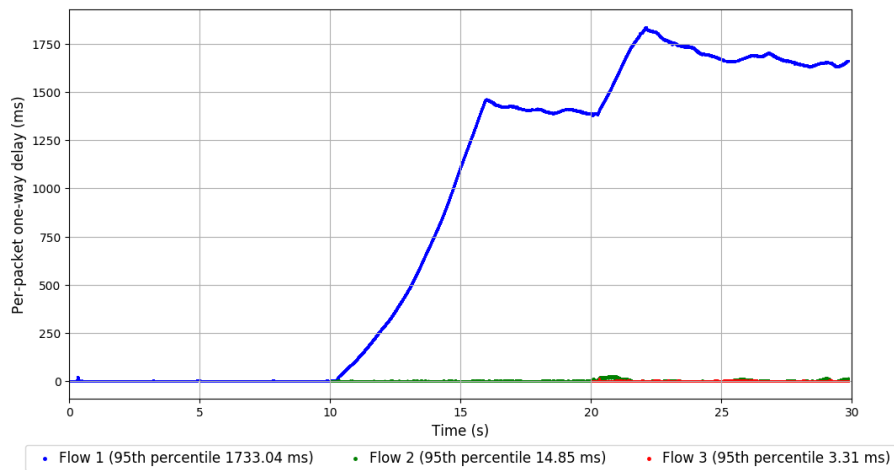
Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 72.17 Mbit/s) — — — — Flow 1 egress (mean 65.40 Mbit/s)
Flow 2 ingress (mean 36.25 Mbit/s) — — — — Flow 2 egress (mean 36.19 Mbit/s)
Flow 3 ingress (mean 15.53 Mbit/s) — — — — Flow 3 egress (mean 15.52 Mbit/s)

Flow 1 (95th percentile 1733.04 ms)   •   Flow 2 (95th percentile 14.85 ms)   •   Flow 3 (95th percentile 3.31 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-03-27 12:25:06
End at: 2019-03-27 12:25:36
Local clock offset: 0.912 ms
Remote clock offset: 0.265 ms


# Below is generated by plot.py at 2019-03-27 14:09:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.74 Mbit/s
95th percentile per-packet one-way delay: 1844.863 ms
Loss rate: 7.20%
-- Flow 1:
Average throughput: 62.36 Mbit/s
95th percentile per-packet one-way delay: 1914.426 ms
Loss rate: 9.93%
-- Flow 2:
Average throughput: 35.05 Mbit/s
95th percentile per-packet one-way delay: 105.310 ms
Loss rate: 1.66%
-- Flow 3:
Average throughput: 24.52 Mbit/s
95th percentile per-packet one-way delay: 11.818 ms
Loss rate: 0.09%
```
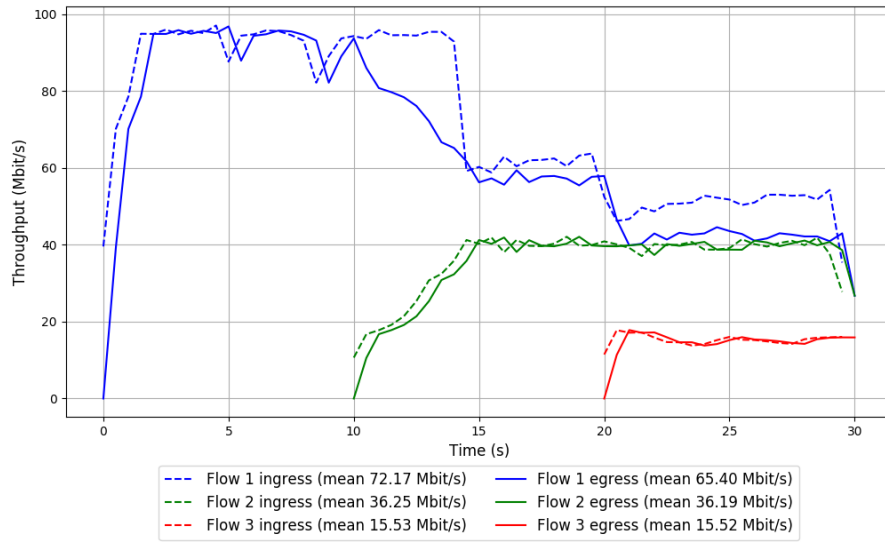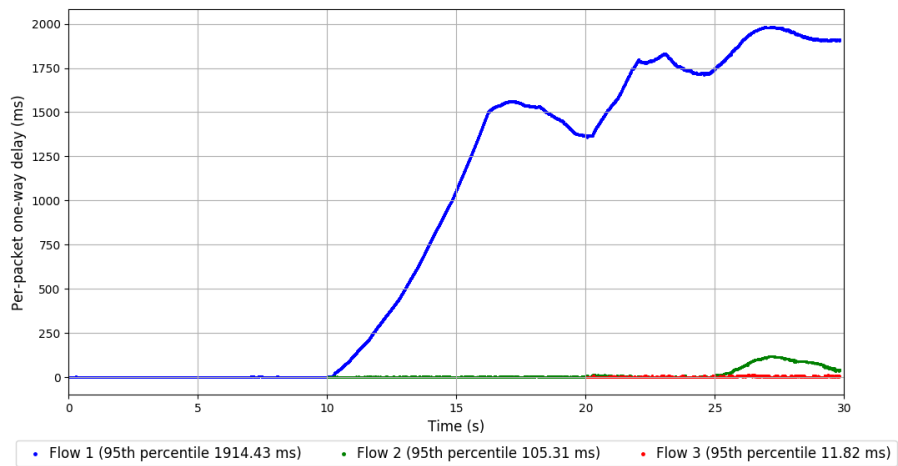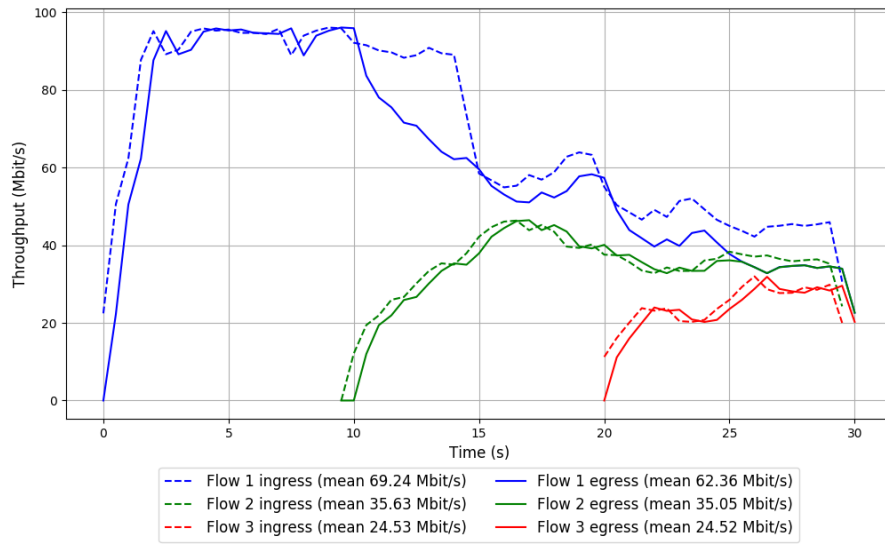
Run 2: Report of PCC-Allegro — Data Link

- - - - Flow 1 ingress (mean 69.24 Mbit/s) ——— Flow 1 egress (mean 62.36 Mbit/s)
- - - - Flow 2 ingress (mean 35.63 Mbit/s) ——— Flow 2 egress (mean 35.05 Mbit/s)
- - - - Flow 3 ingress (mean 24.53 Mbit/s) ——— Flow 3 egress (mean 24.52 Mbit/s)

- Flow 1 (95th percentile 1914.43 ms)　　• Flow 2 (95th percentile 105.31 ms)　　• Flow 3 (95th percentile 11.82 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-03-27 12:49:18
End at: 2019-03-27 12:49:48
Local clock offset: 0.875 ms
Remote clock offset: 0.699 ms


# Below is generated by plot.py at 2019-03-27 14:09:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.22 Mbit/s
95th percentile per-packet one-way delay: 1815.533 ms
Loss rate: 6.67%
-- Flow 1:
Average throughput: 65.72 Mbit/s
95th percentile per-packet one-way delay: 1862.475 ms
Loss rate: 9.36%
-- Flow 2:
Average throughput: 31.59 Mbit/s
95th percentile per-packet one-way delay: 7.058 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 25.81 Mbit/s
95th percentile per-packet one-way delay: 4.154 ms
Loss rate: 0.05%
```
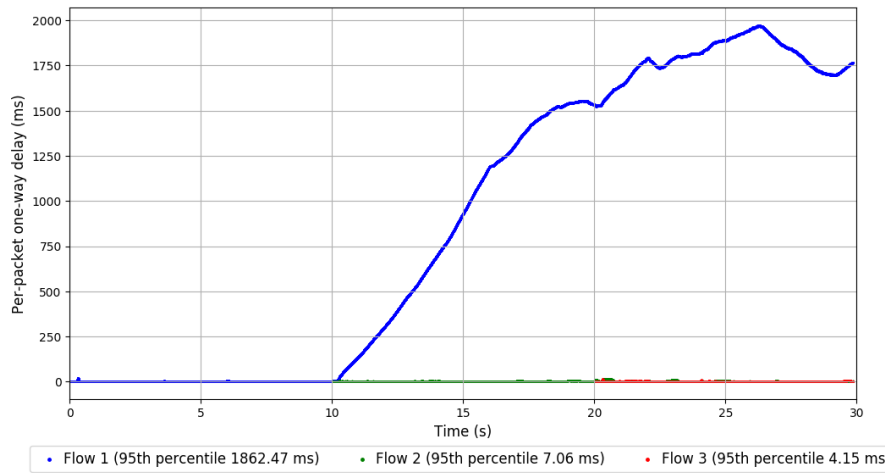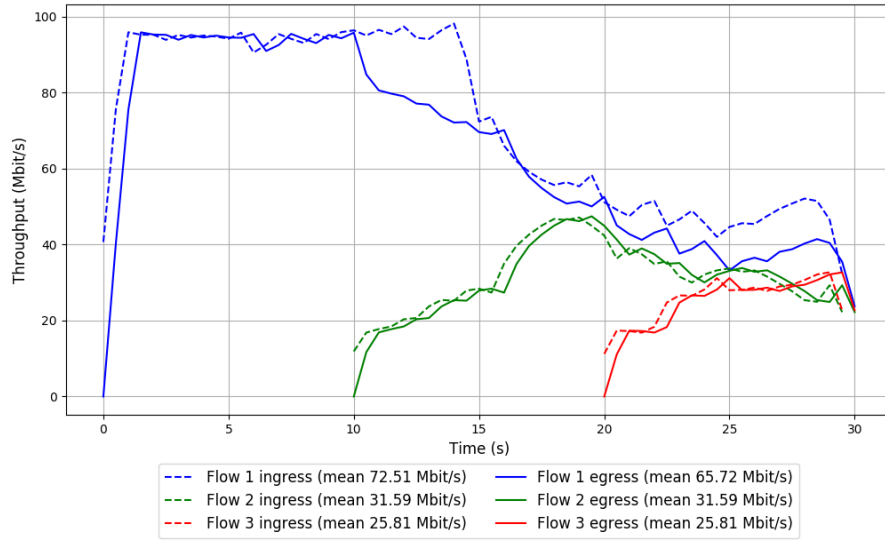
Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-03-27 13:13:30
End at: 2019-03-27 13:14:00
Local clock offset: -3.212 ms
Remote clock offset: 0.317 ms


# Below is generated by plot.py at 2019-03-27 14:10:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.63 Mbit/s
95th percentile per-packet one-way delay: 1829.779 ms
Loss rate: 4.62%
-- Flow 1:
Average throughput: 64.74 Mbit/s
95th percentile per-packet one-way delay: 2174.530 ms
Loss rate: 5.64%
-- Flow 2:
Average throughput: 30.17 Mbit/s
95th percentile per-packet one-way delay: 199.737 ms
Loss rate: 3.17%
-- Flow 3:
Average throughput: 26.85 Mbit/s
95th percentile per-packet one-way delay: 10.988 ms
Loss rate: 0.13%
```
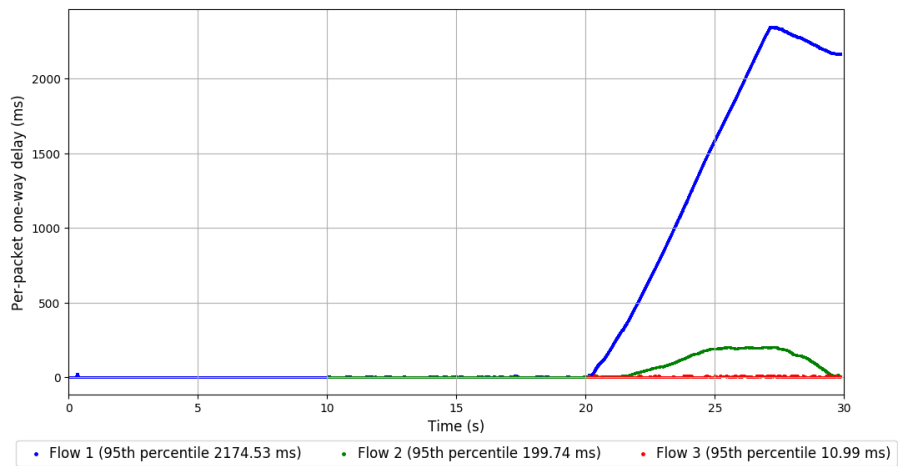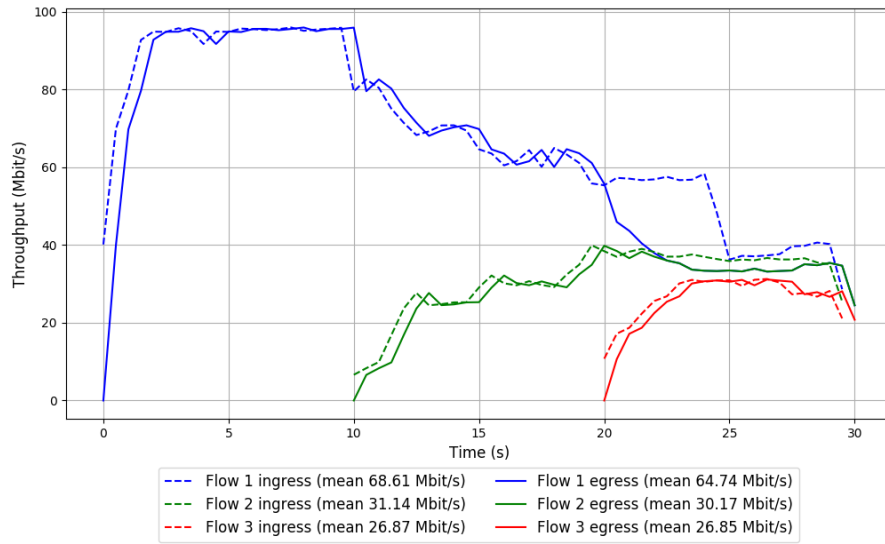
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 68.61 Mbit/s)   Flow 1 egress (mean 64.74 Mbit/s)
Flow 2 ingress (mean 31.14 Mbit/s)   Flow 2 egress (mean 30.17 Mbit/s)
Flow 3 ingress (mean 26.87 Mbit/s)   Flow 3 egress (mean 26.85 Mbit/s)

Flow 1 (95th percentile 2174.53 ms)   Flow 2 (95th percentile 199.74 ms)   Flow 3 (95th percentile 10.99 ms)

122

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-03-27 13:37:43
End at: 2019-03-27 13:38:13
Local clock offset: -4.138 ms
Remote clock offset: 0.099 ms


# Below is generated by plot.py at 2019-03-27 14:10:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.72 Mbit/s
95th percentile per-packet one-way delay: 1812.481 ms
Loss rate: 15.15%
-- Flow 1:
Average throughput: 57.96 Mbit/s
95th percentile per-packet one-way delay: 1898.705 ms
Loss rate: 18.51%
-- Flow 2:
Average throughput: 38.71 Mbit/s
95th percentile per-packet one-way delay: 1259.126 ms
Loss rate: 11.05%
-- Flow 3:
Average throughput: 24.46 Mbit/s
95th percentile per-packet one-way delay: 16.664 ms
Loss rate: 0.25%
```
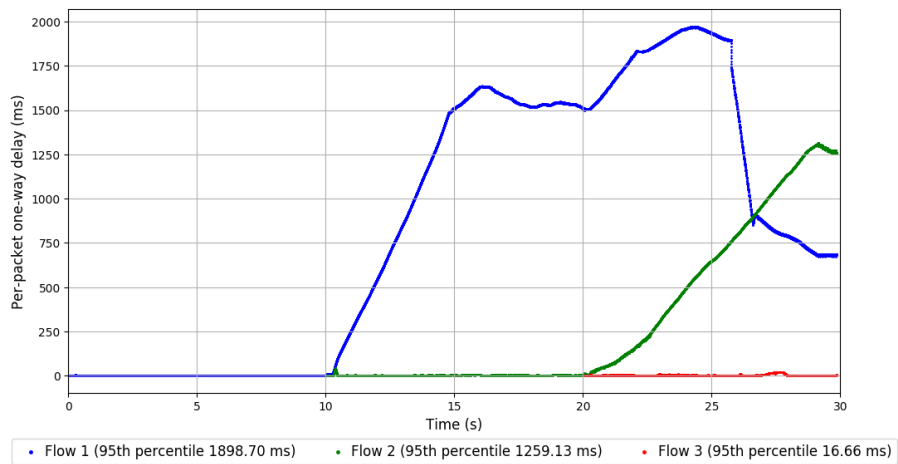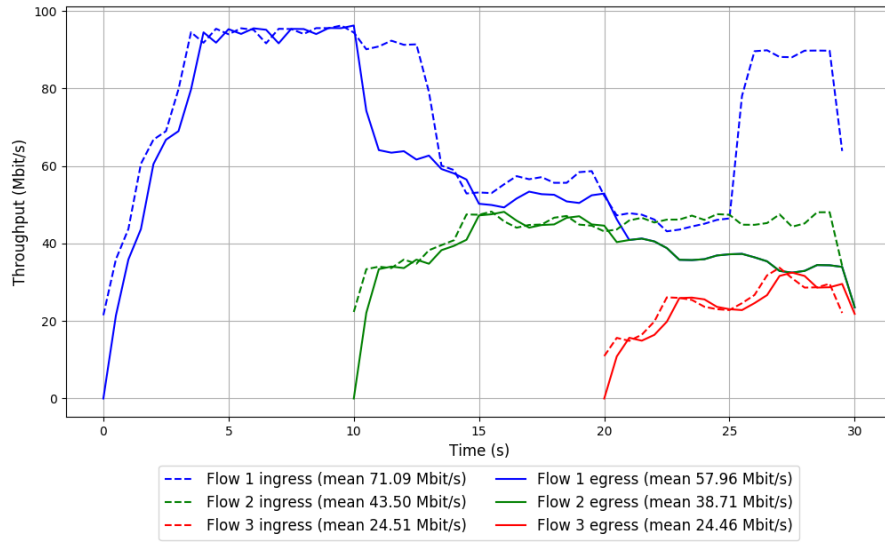
Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 71.09 Mbit/s) — Flow 1 egress (mean 57.96 Mbit/s)
Flow 2 ingress (mean 43.50 Mbit/s) — Flow 2 egress (mean 38.71 Mbit/s)
Flow 3 ingress (mean 24.51 Mbit/s) — Flow 3 egress (mean 24.46 Mbit/s)

Flow 1 (95th percentile 1898.70 ms) • Flow 2 (95th percentile 1259.13 ms) • Flow 3 (95th percentile 16.66 ms)

```
Run 1: Statistics of PCC-Expr

Start at: 2019-03-27 11:58:32
End at: 2019-03-27 11:59:02
Local clock offset: -2.836 ms
Remote clock offset: 0.133 ms


# Below is generated by plot.py at 2019-03-27 14:11:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.95 Mbit/s
95th percentile per-packet one-way delay: 652.459 ms
Loss rate: 24.21%
-- Flow 1:
Average throughput: 56.30 Mbit/s
95th percentile per-packet one-way delay: 596.064 ms
Loss rate: 28.21%
-- Flow 2:
Average throughput: 39.40 Mbit/s
95th percentile per-packet one-way delay: 695.016 ms
Loss rate: 21.52%
-- Flow 3:
Average throughput: 28.61 Mbit/s
95th percentile per-packet one-way delay: 204.744 ms
Loss rate: 0.56%
```
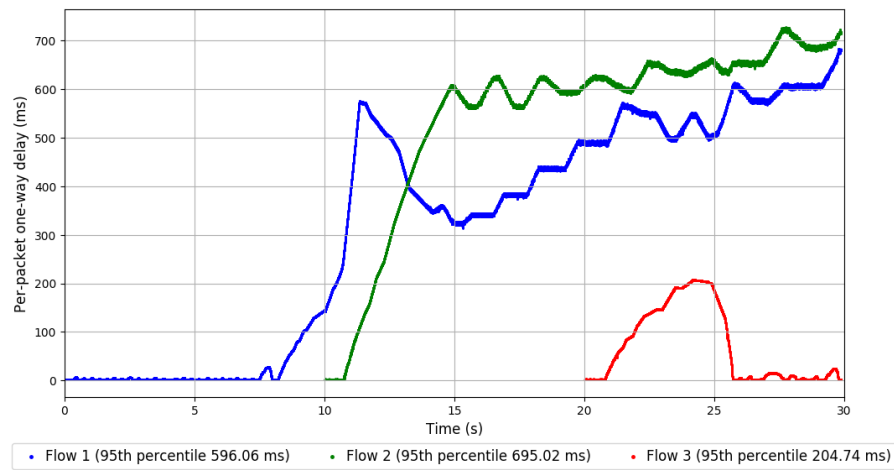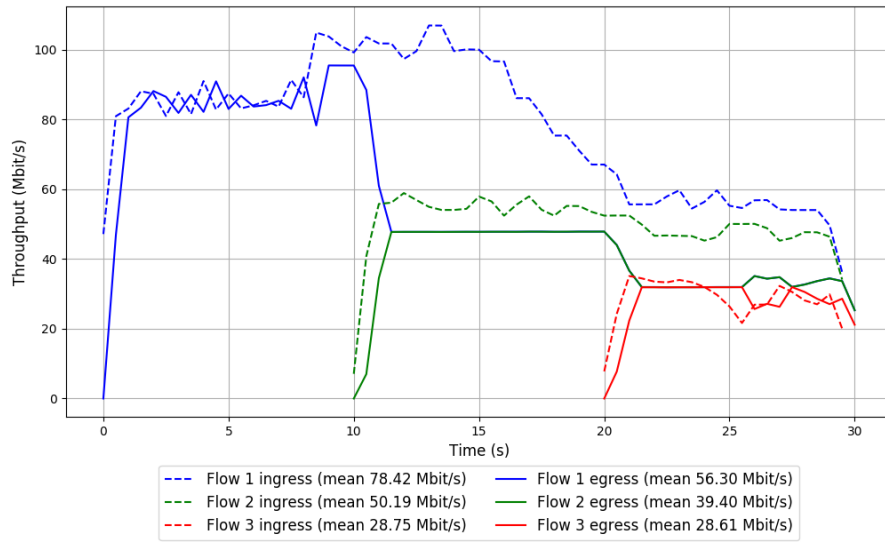
Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 78.42 Mbit/s)   Flow 1 egress (mean 56.30 Mbit/s)
Flow 2 ingress (mean 50.19 Mbit/s)   Flow 2 egress (mean 39.40 Mbit/s)
Flow 3 ingress (mean 28.75 Mbit/s)   Flow 3 egress (mean 28.61 Mbit/s)

Flow 1 (95th percentile 596.06 ms)   Flow 2 (95th percentile 695.02 ms)   Flow 3 (95th percentile 204.74 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-03-27 12:22:44
End at: 2019-03-27 12:23:14
Local clock offset: 0.698 ms
Remote clock offset: 0.363 ms


# Below is generated by plot.py at 2019-03-27 14:11:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.10 Mbit/s
95th percentile per-packet one-way delay: 1241.708 ms
Loss rate: 4.70%
-- Flow 1:
Average throughput: 54.83 Mbit/s
95th percentile per-packet one-way delay: 1302.731 ms
Loss rate: 7.25%
-- Flow 2:
Average throughput: 37.38 Mbit/s
95th percentile per-packet one-way delay: 233.881 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 25.48 Mbit/s
95th percentile per-packet one-way delay: 25.787 ms
Loss rate: 0.22%
```
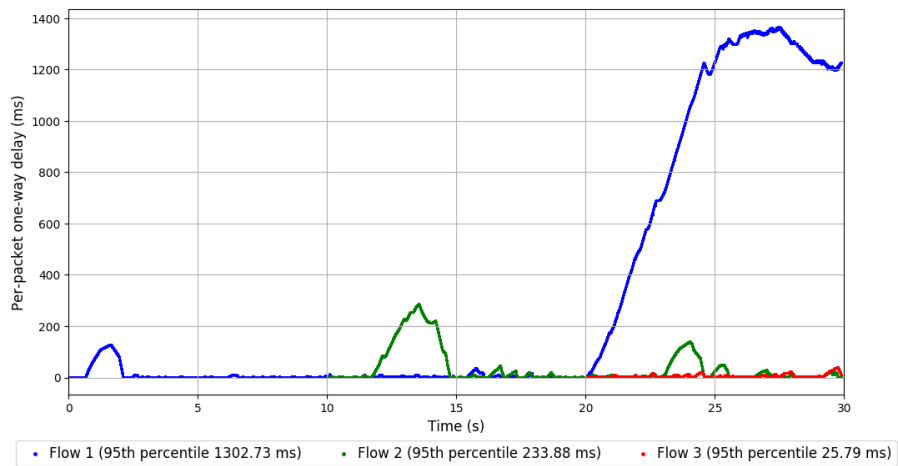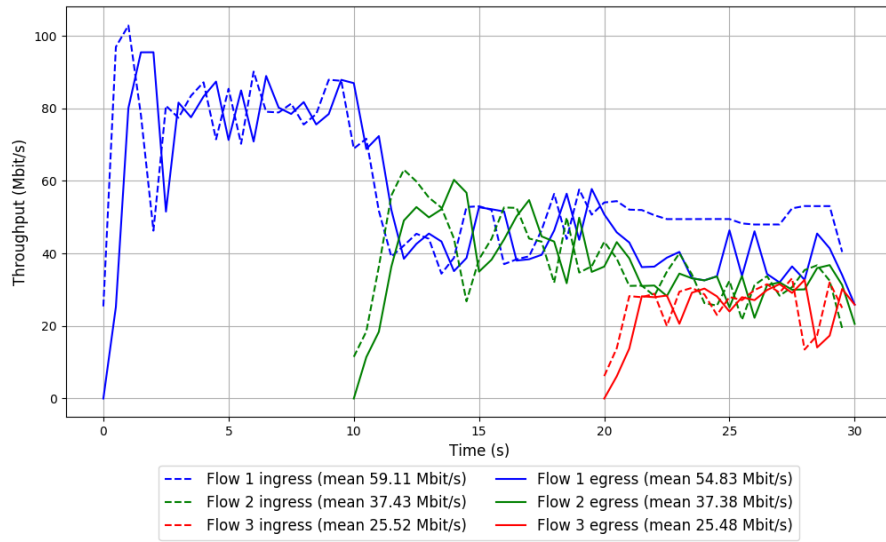
Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 59.11 Mbit/s) --- Flow 1 egress (mean 54.83 Mbit/s)
Flow 2 ingress (mean 37.43 Mbit/s) --- Flow 2 egress (mean 37.38 Mbit/s)
Flow 3 ingress (mean 25.52 Mbit/s) --- Flow 3 egress (mean 25.48 Mbit/s)

Flow 1 (95th percentile 1302.73 ms) Flow 2 (95th percentile 233.88 ms) Flow 3 (95th percentile 25.79 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-03-27 12:46:56
End at: 2019-03-27 12:47:26
Local clock offset: 2.157 ms
Remote clock offset: 0.782 ms


# Below is generated by plot.py at 2019-03-27 14:11:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.38 Mbit/s
95th percentile per-packet one-way delay: 699.870 ms
Loss rate: 26.89%
-- Flow 1:
Average throughput: 52.96 Mbit/s
95th percentile per-packet one-way delay: 684.508 ms
Loss rate: 32.81%
-- Flow 2:
Average throughput: 40.88 Mbit/s
95th percentile per-packet one-way delay: 716.939 ms
Loss rate: 19.60%
-- Flow 3:
Average throughput: 24.92 Mbit/s
95th percentile per-packet one-way delay: 11.671 ms
Loss rate: 0.14%
```
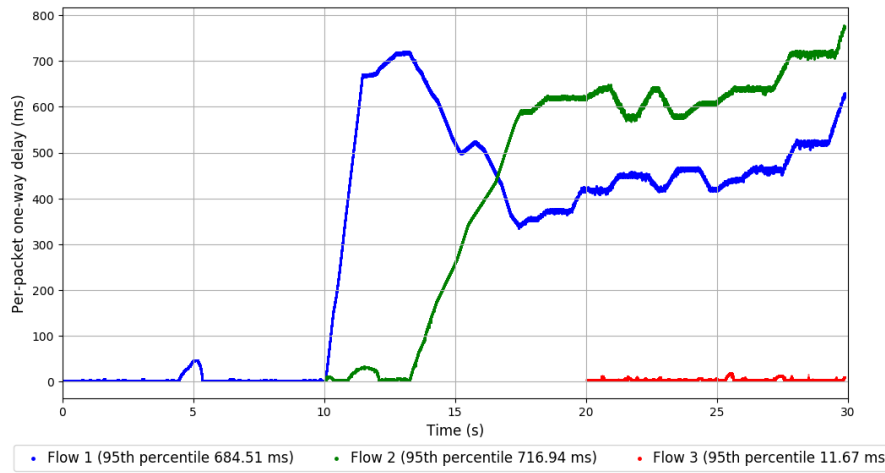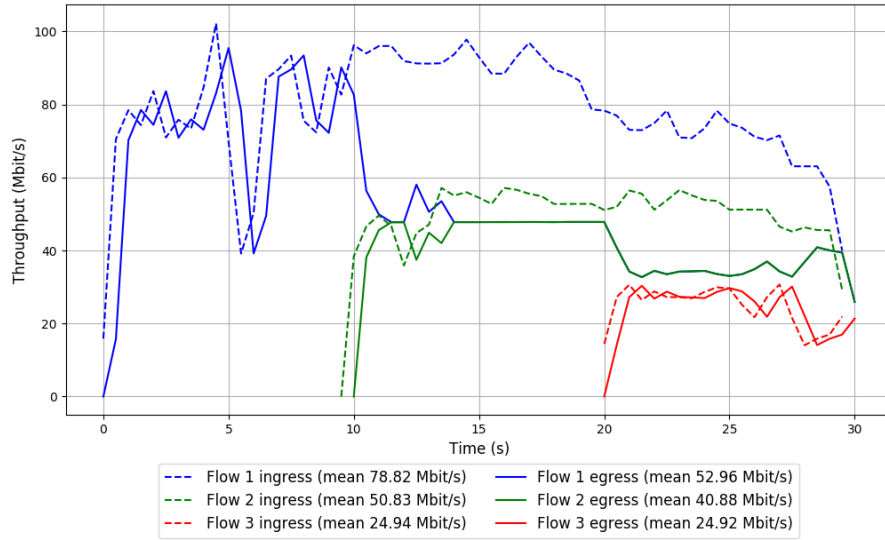
Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2019-03-27 13:11:07
End at: 2019-03-27 13:11:37
Local clock offset: -3.12 ms
Remote clock offset: 0.302 ms


# Below is generated by plot.py at 2019-03-27 14:11:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.36 Mbit/s
95th percentile per-packet one-way delay: 730.715 ms
Loss rate: 27.08%
-- Flow 1:
Average throughput: 56.55 Mbit/s
95th percentile per-packet one-way delay: 739.377 ms
Loss rate: 33.46%
-- Flow 2:
Average throughput: 37.02 Mbit/s
95th percentile per-packet one-way delay: 565.796 ms
Loss rate: 13.09%
-- Flow 3:
Average throughput: 30.91 Mbit/s
95th percentile per-packet one-way delay: 611.734 ms
Loss rate: 14.94%
```
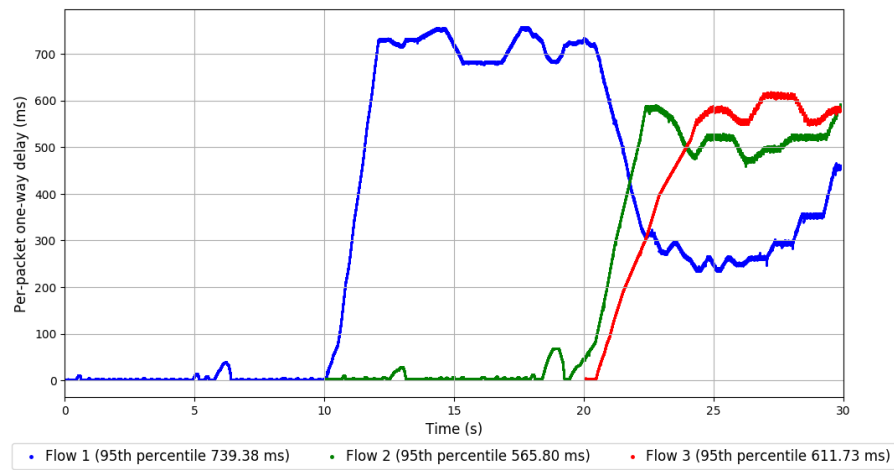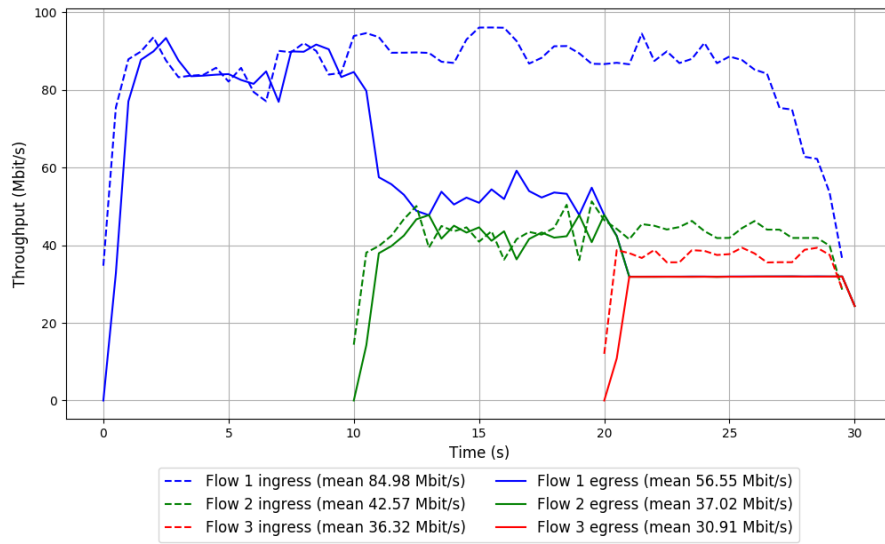
Run 4: Report of PCC-Expr — Data Link

- - - Flow 1 ingress (mean 84.98 Mbit/s)   —— Flow 1 egress (mean 56.55 Mbit/s)
- - - Flow 2 ingress (mean 42.57 Mbit/s)   —— Flow 2 egress (mean 37.02 Mbit/s)
- - - Flow 3 ingress (mean 36.32 Mbit/s)   —— Flow 3 egress (mean 30.91 Mbit/s)

- Flow 1 (95th percentile 739.38 ms)   • Flow 2 (95th percentile 565.80 ms)   • Flow 3 (95th percentile 611.73 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2019-03-27 13:35:20
End at: 2019-03-27 13:35:50
Local clock offset: -3.343 ms
Remote clock offset: 0.223 ms


# Below is generated by plot.py at 2019-03-27 14:11:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.45 Mbit/s
95th percentile per-packet one-way delay: 767.371 ms
Loss rate: 26.80%
-- Flow 1:
Average throughput: 62.49 Mbit/s
95th percentile per-packet one-way delay: 792.545 ms
Loss rate: 35.60%
-- Flow 2:
Average throughput: 33.83 Mbit/s
95th percentile per-packet one-way delay: 41.375 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 28.66 Mbit/s
95th percentile per-packet one-way delay: 56.934 ms
Loss rate: 0.19%
```
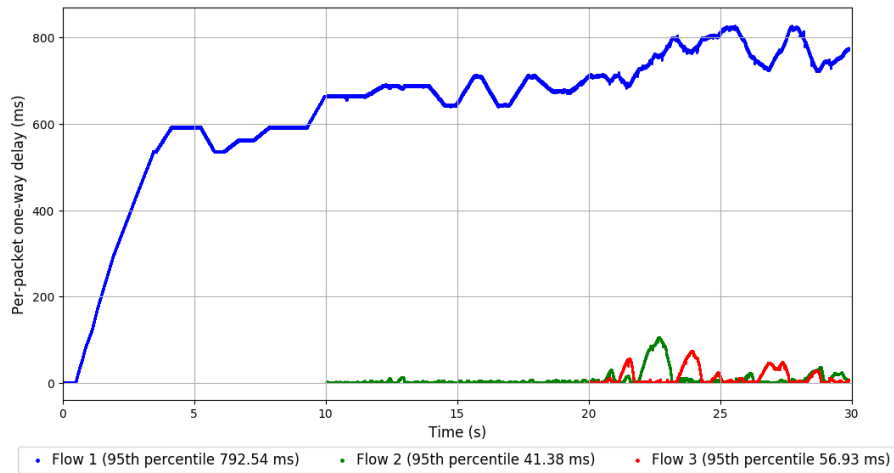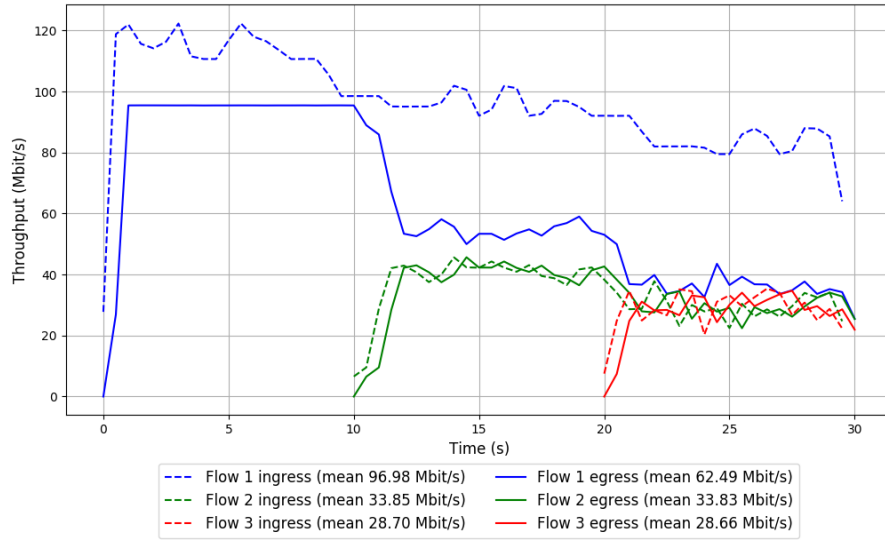
Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-03-27 11:59:46
End at: 2019-03-27 12:00:16
Local clock offset: -3.292 ms
Remote clock offset: 0.098 ms


# Below is generated by plot.py at 2019-03-27 14:11:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.90 Mbit/s
95th percentile per-packet one-way delay: 12.421 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 53.98 Mbit/s
95th percentile per-packet one-way delay: 12.384 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 40.04 Mbit/s
95th percentile per-packet one-way delay: 12.085 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 31.11 Mbit/s
95th percentile per-packet one-way delay: 13.287 ms
Loss rate: 0.46%
```
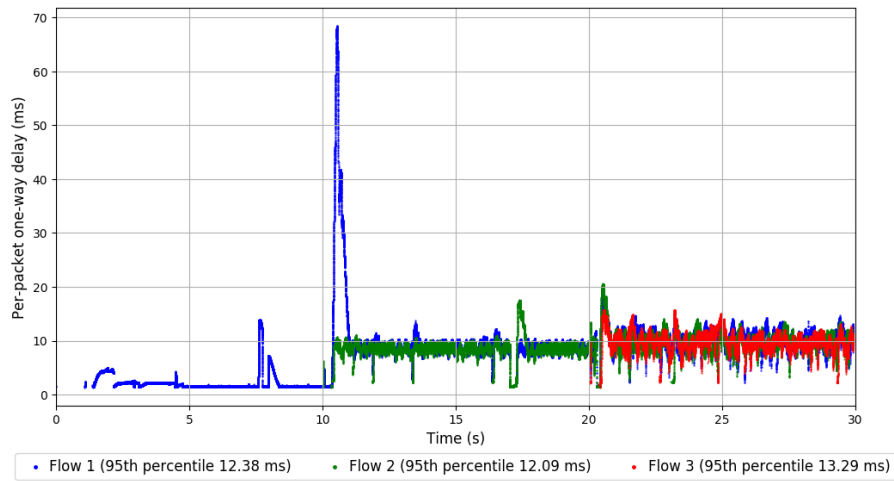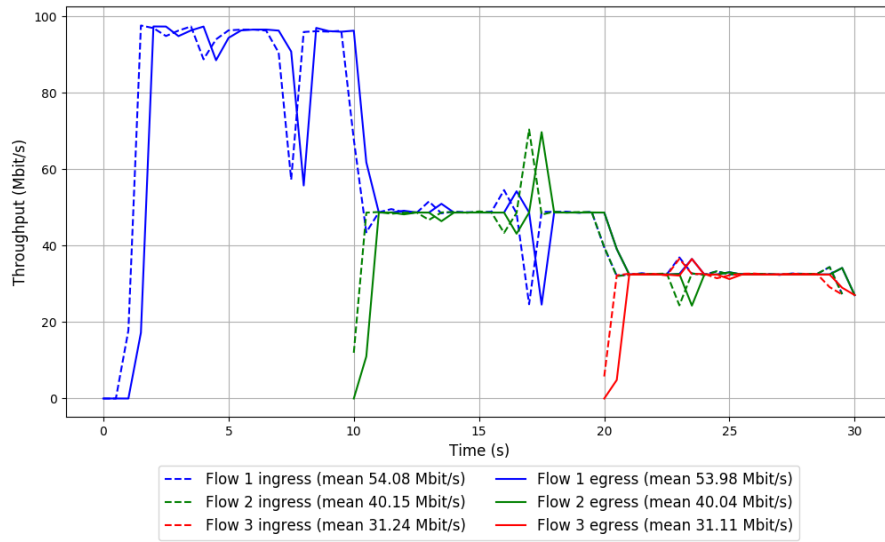
Run 1: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 54.08 Mbit/s)   —— Flow 1 egress (mean 53.98 Mbit/s)
- - - Flow 2 ingress (mean 40.15 Mbit/s)   —— Flow 2 egress (mean 40.04 Mbit/s)
- - - Flow 3 ingress (mean 31.24 Mbit/s)   —— Flow 3 egress (mean 31.11 Mbit/s)

- Flow 1 (95th percentile 12.38 ms)   • Flow 2 (95th percentile 12.09 ms)   • Flow 3 (95th percentile 13.29 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-03-27 12:23:57
End at: 2019-03-27 12:24:27
Local clock offset: 0.806 ms
Remote clock offset: 0.414 ms

# Below is generated by plot.py at 2019-03-27 14:11:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.20 Mbit/s
95th percentile per-packet one-way delay: 13.962 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 54.23 Mbit/s
95th percentile per-packet one-way delay: 13.466 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 40.08 Mbit/s
95th percentile per-packet one-way delay: 13.873 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 31.19 Mbit/s
95th percentile per-packet one-way delay: 14.934 ms
Loss rate: 0.51%
```
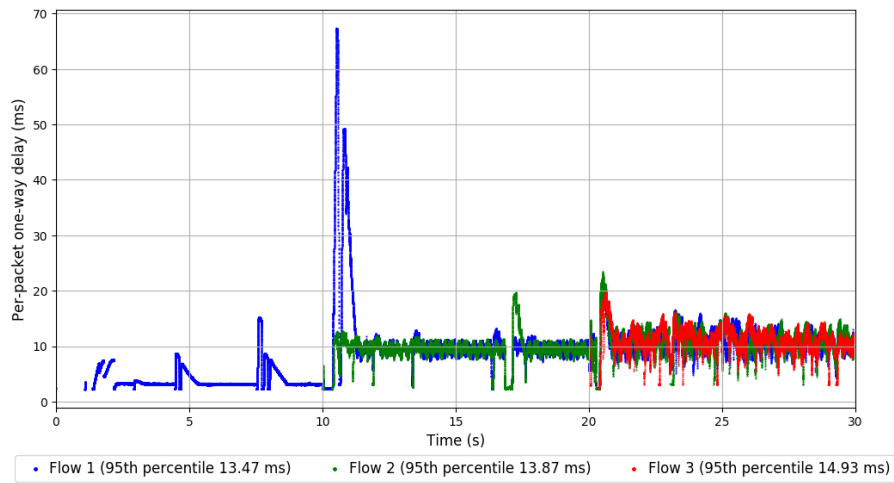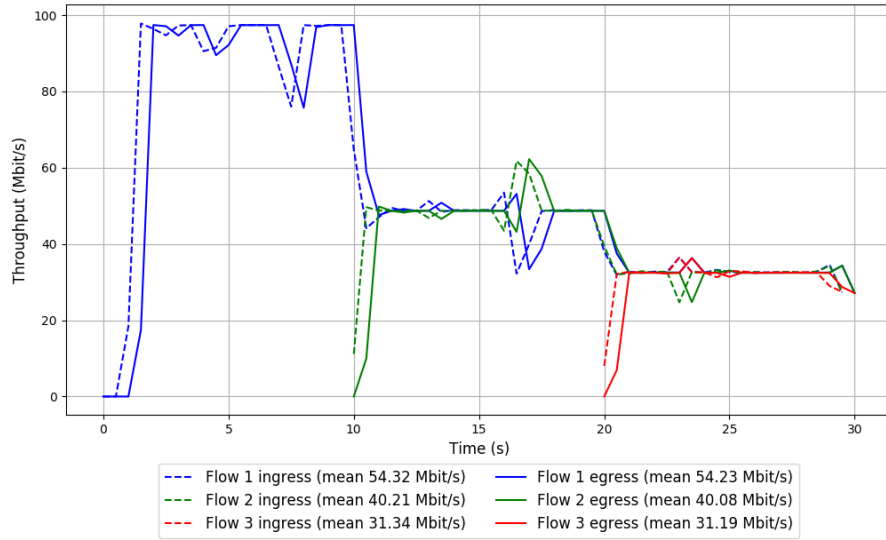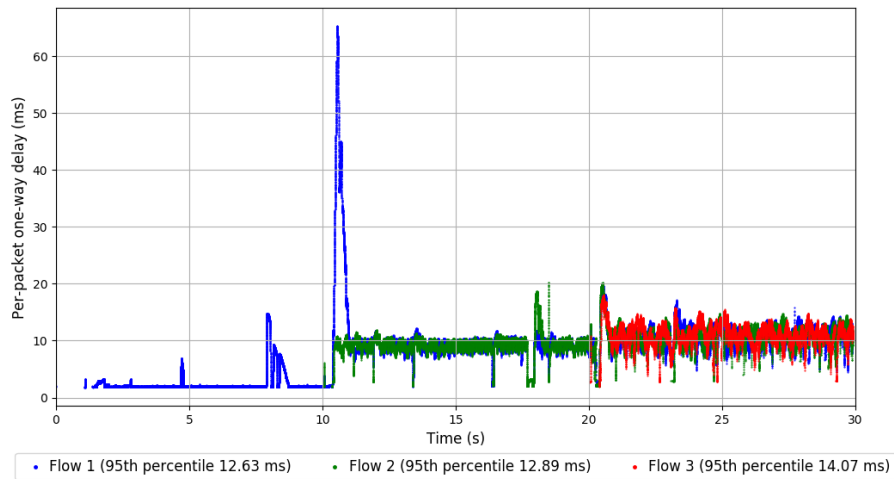
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 54.32 Mbit/s)   Flow 1 egress (mean 54.23 Mbit/s)
Flow 2 ingress (mean 40.21 Mbit/s)   Flow 2 egress (mean 40.08 Mbit/s)
Flow 3 ingress (mean 31.34 Mbit/s)   Flow 3 egress (mean 31.19 Mbit/s)

Flow 1 (95th percentile 13.47 ms)   Flow 2 (95th percentile 13.87 ms)   Flow 3 (95th percentile 14.93 ms)

138

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-03-27 12:48:09
End at: 2019-03-27 12:48:39
Local clock offset: 0.729 ms
Remote clock offset: 0.803 ms


# Below is generated by plot.py at 2019-03-27 14:11:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.87 Mbit/s
95th percentile per-packet one-way delay: 13.102 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 52.91 Mbit/s
95th percentile per-packet one-way delay: 12.635 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 40.04 Mbit/s
95th percentile per-packet one-way delay: 12.890 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 31.22 Mbit/s
95th percentile per-packet one-way delay: 14.071 ms
Loss rate: 0.50%
```
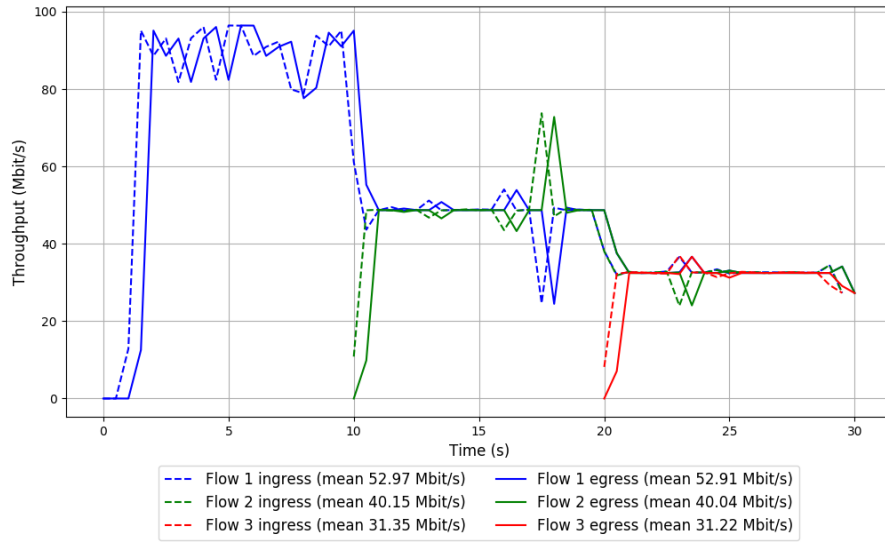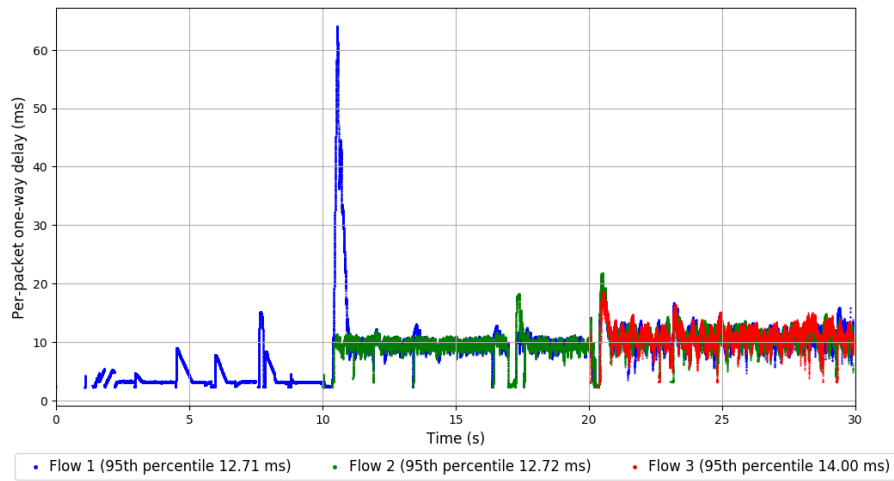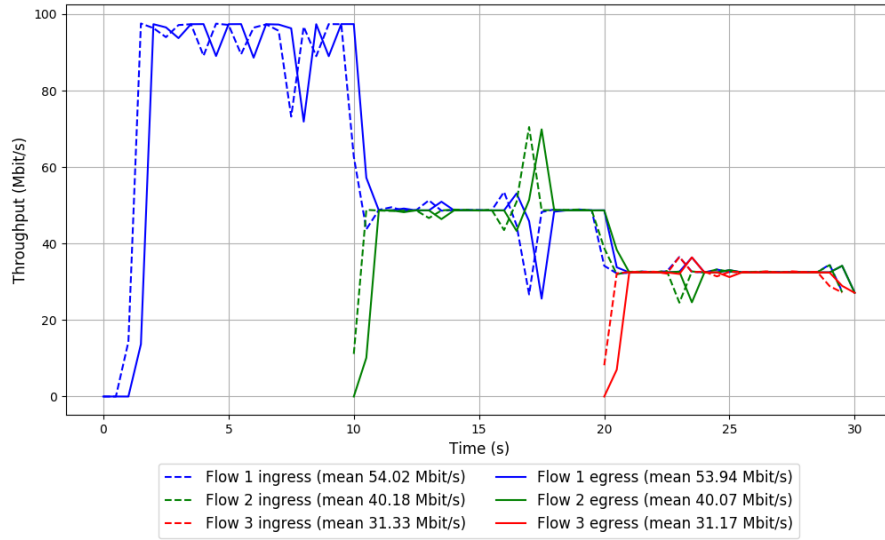
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 52.97 Mbit/s) — — — Flow 1 egress (mean 52.91 Mbit/s)
Flow 2 ingress (mean 40.15 Mbit/s) — — — Flow 2 egress (mean 40.04 Mbit/s)
Flow 3 ingress (mean 31.35 Mbit/s) — — — Flow 3 egress (mean 31.22 Mbit/s)

Flow 1 (95th percentile 12.63 ms)   Flow 2 (95th percentile 12.89 ms)   Flow 3 (95th percentile 14.07 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-03-27 13:12:21
End at: 2019-03-27 13:12:51
Local clock offset: -3.171 ms
Remote clock offset: 0.444 ms


# Below is generated by plot.py at 2019-03-27 14:12:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.92 Mbit/s
95th percentile per-packet one-way delay: 13.022 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 53.94 Mbit/s
95th percentile per-packet one-way delay: 12.712 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 40.07 Mbit/s
95th percentile per-packet one-way delay: 12.716 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 31.17 Mbit/s
95th percentile per-packet one-way delay: 14.004 ms
Loss rate: 0.50%
```
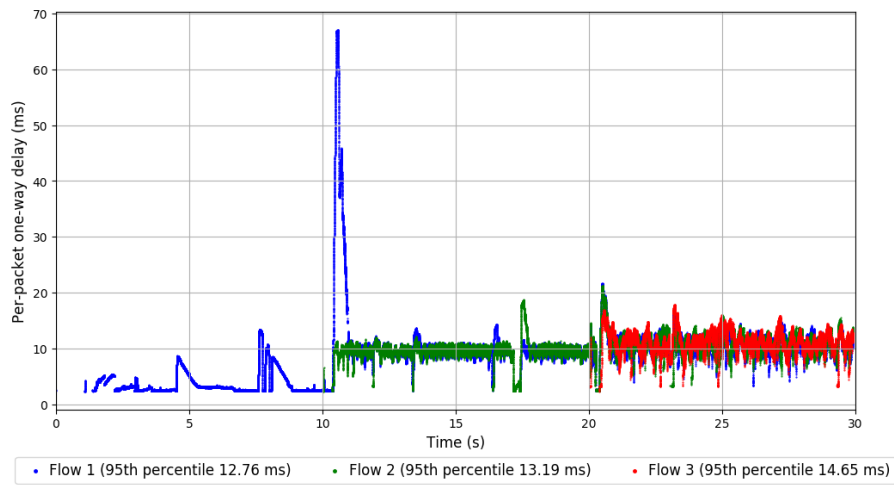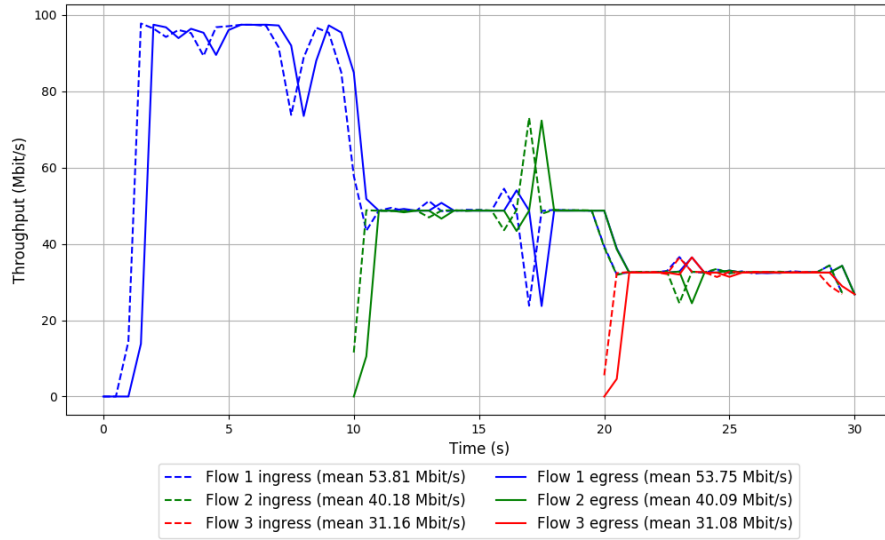
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 54.02 Mbit/s) --- Flow 1 egress (mean 53.94 Mbit/s)
Flow 2 ingress (mean 40.18 Mbit/s) --- Flow 2 egress (mean 40.07 Mbit/s)
Flow 3 ingress (mean 31.33 Mbit/s) --- Flow 3 egress (mean 31.17 Mbit/s)

Flow 1 (95th percentile 12.71 ms) • Flow 2 (95th percentile 12.72 ms) • Flow 3 (95th percentile 14.00 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-03-27 13:36:34
End at: 2019-03-27 13:37:04
Local clock offset: -3.358 ms
Remote clock offset: 0.11 ms


# Below is generated by plot.py at 2019-03-27 14:12:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.69 Mbit/s
95th percentile per-packet one-way delay: 13.291 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 53.75 Mbit/s
95th percentile per-packet one-way delay: 12.763 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 40.09 Mbit/s
95th percentile per-packet one-way delay: 13.188 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 31.08 Mbit/s
95th percentile per-packet one-way delay: 14.648 ms
Loss rate: 0.44%
```
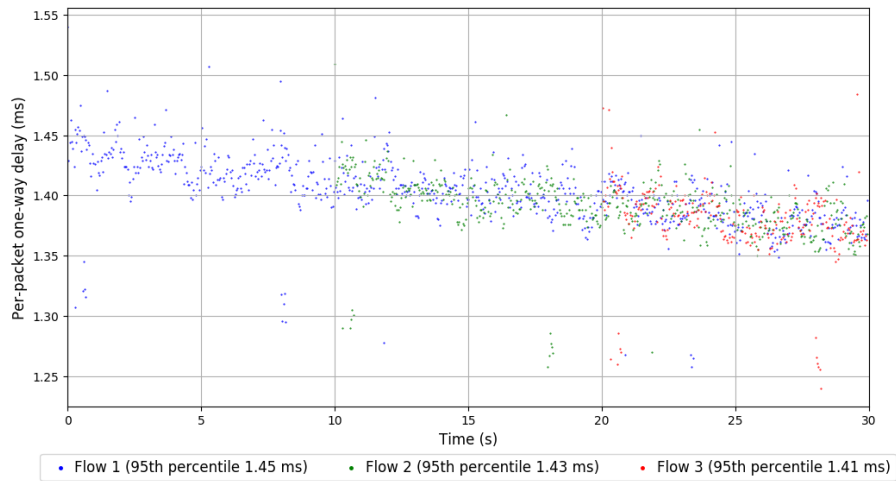
Run 5: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 53.81 Mbit/s) —— Flow 1 egress (mean 53.75 Mbit/s)
- - - Flow 2 ingress (mean 40.18 Mbit/s) —— Flow 2 egress (mean 40.09 Mbit/s)
- - - Flow 3 ingress (mean 31.16 Mbit/s) —— Flow 3 egress (mean 31.08 Mbit/s)

• Flow 1 (95th percentile 12.76 ms)   • Flow 2 (95th percentile 13.19 ms)   • Flow 3 (95th percentile 14.65 ms)

144

```
Run 1: Statistics of SCReAM

Start at: 2019-03-27 12:10:09
End at: 2019-03-27 12:10:39
Local clock offset: -1.54 ms
Remote clock offset: 0.245 ms


# Below is generated by plot.py at 2019-03-27 14:12:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.438 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.446 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.425 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.412 ms
Loss rate: 0.00%
```
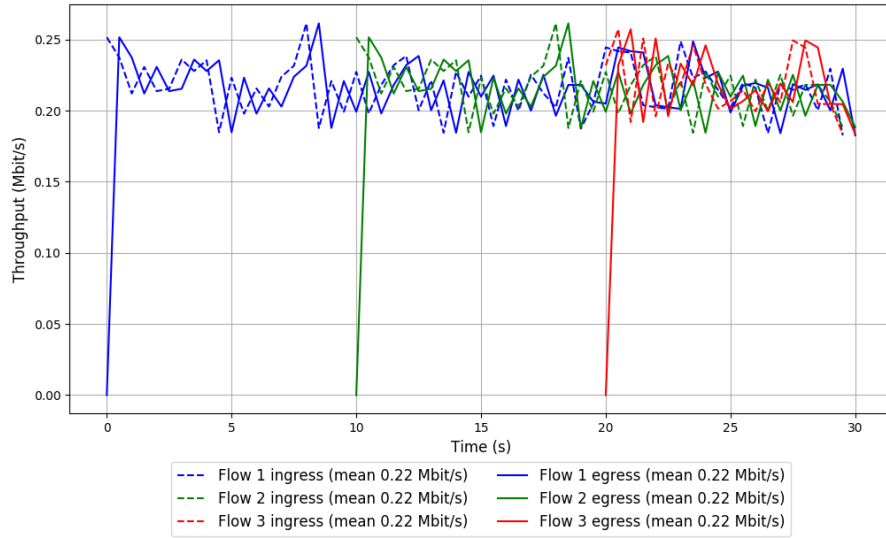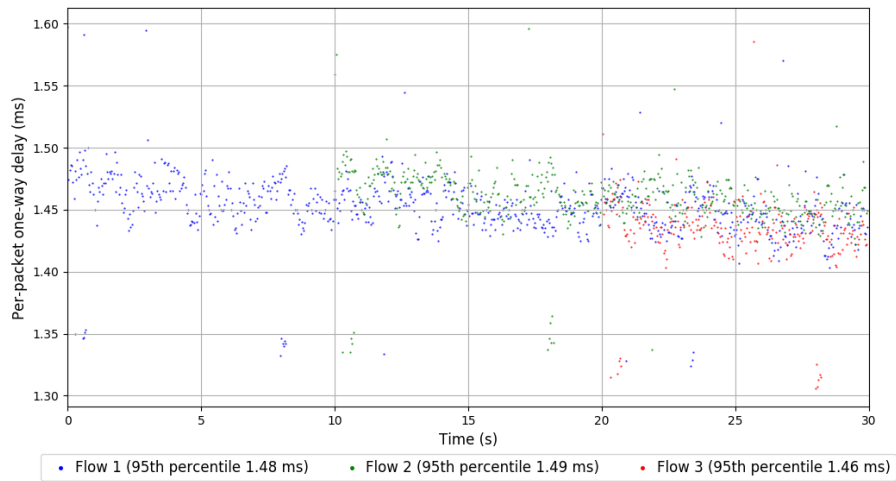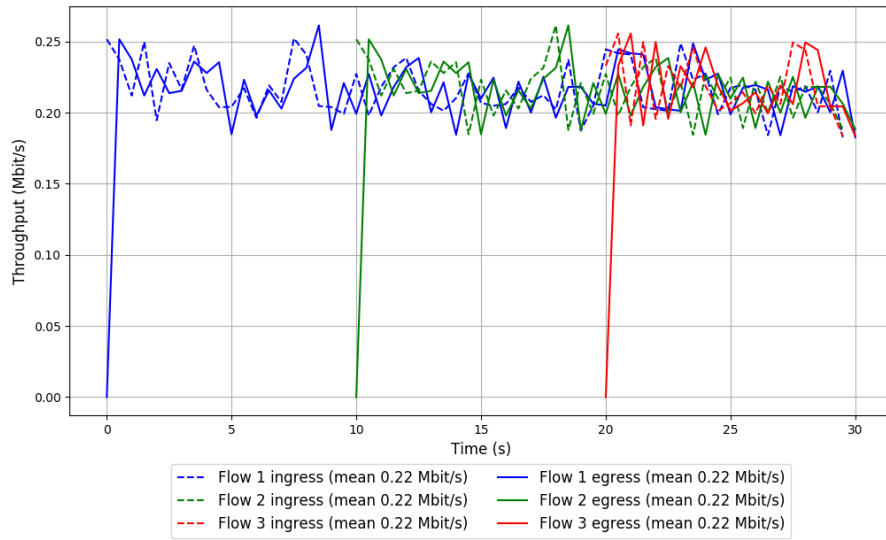
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-03-27 12:34:21
End at: 2019-03-27 12:34:51
Local clock offset: 0.917 ms
Remote clock offset: 0.576 ms

# Below is generated by plot.py at 2019-03-27 14:12:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 1.483 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.482 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.487 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.460 ms
Loss rate: 0.00%
```
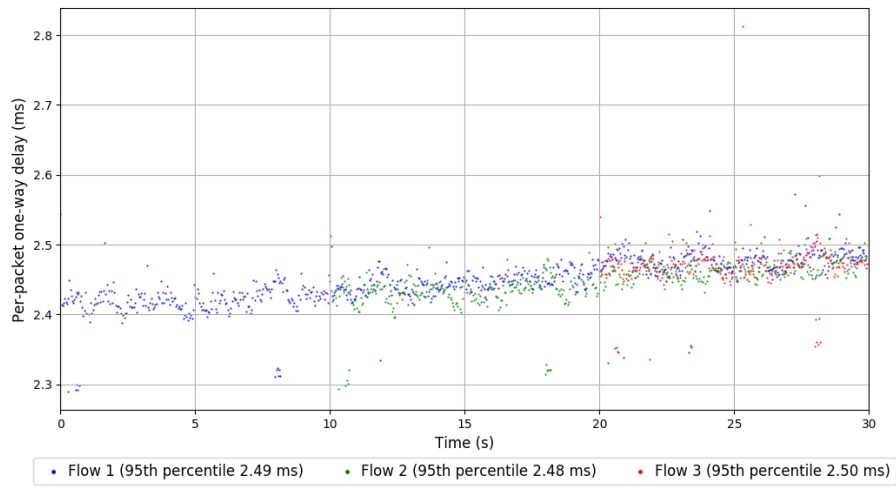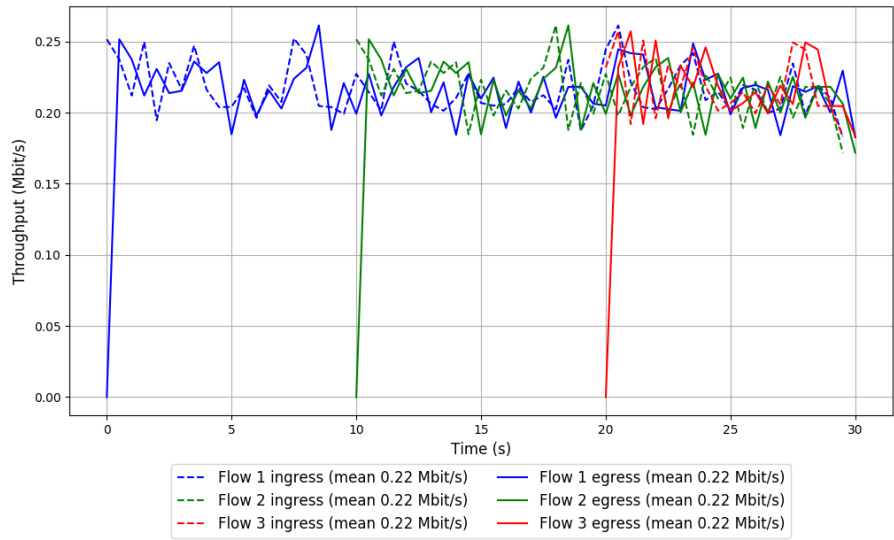
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-03-27 12:58:32
End at: 2019-03-27 12:59:02
Local clock offset: -1.919 ms
Remote clock offset: 0.664 ms


# Below is generated by plot.py at 2019-03-27 14:12:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 2.493 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.493 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.484 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.503 ms
Loss rate: 0.00%
```
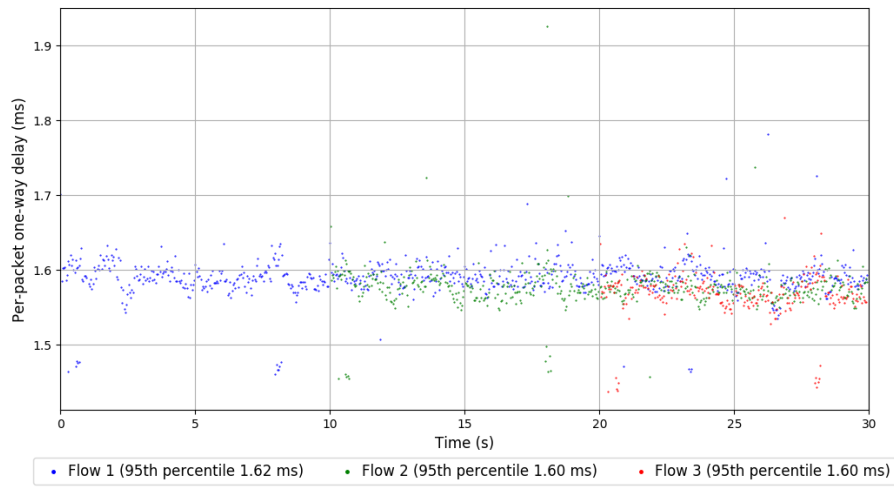
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-03-27 13:22:45
End at: 2019-03-27 13:23:15
Local clock offset: -4.038 ms
Remote clock offset: 0.345 ms


# Below is generated by plot.py at 2019-03-27 14:12:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 1.615 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.619 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.604 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.599 ms
Loss rate: 0.00%
```
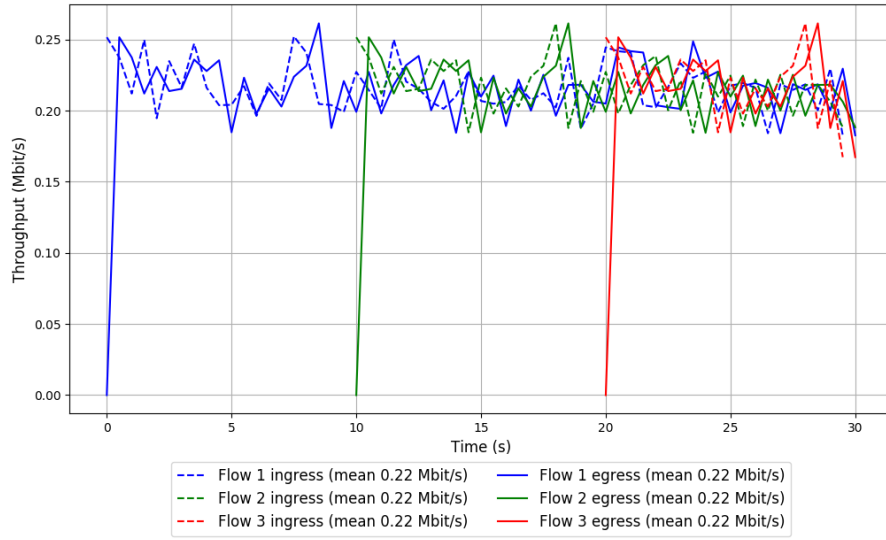
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-03-27 13:46:58
End at: 2019-03-27 13:47:28
Local clock offset: -3.869 ms
Remote clock offset: 0.121 ms


# Below is generated by plot.py at 2019-03-27 14:12:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 2.706 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.705 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.697 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.716 ms
Loss rate: 0.35%
```
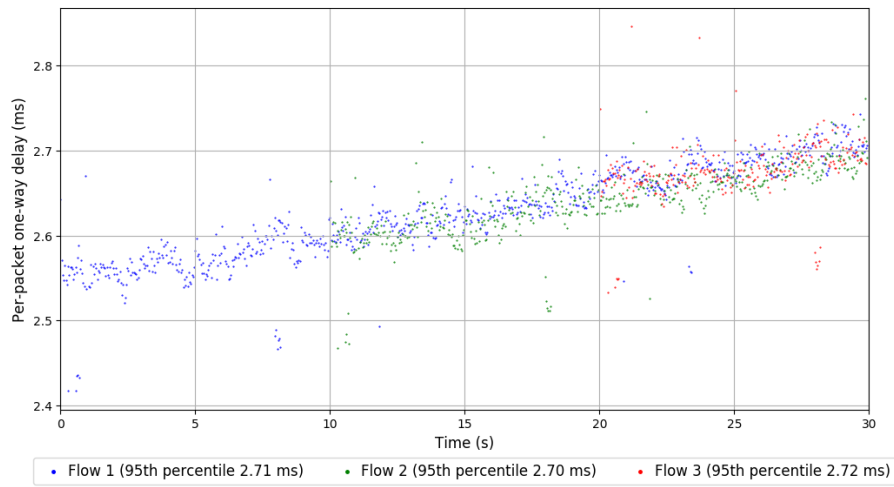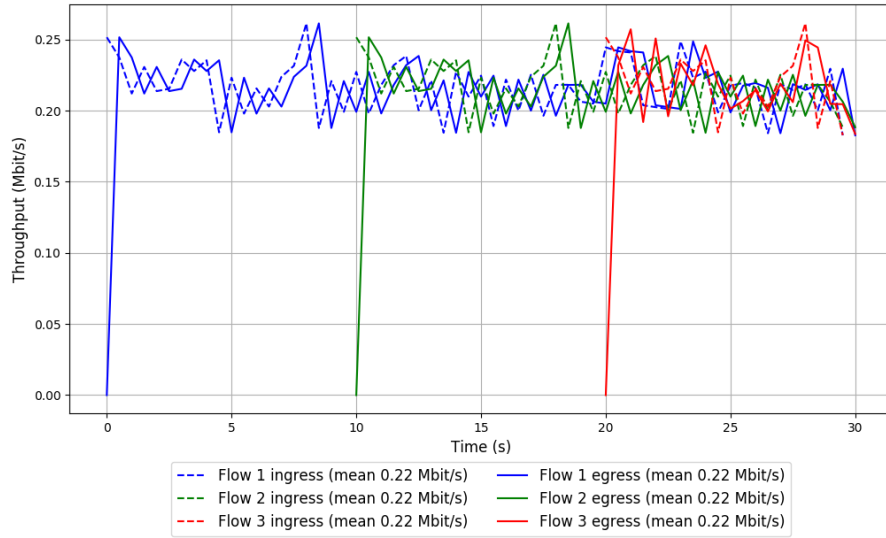
Run 5: Report of SCReAM — Data Link

154

```
Run 1: Statistics of Sprout

Start at: 2019-03-27 12:15:55
End at: 2019-03-27 12:16:25
Local clock offset: -0.757 ms
Remote clock offset: 0.292 ms


# Below is generated by plot.py at 2019-03-27 14:12:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.10 Mbit/s
95th percentile per-packet one-way delay: 23.526 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 43.61 Mbit/s
95th percentile per-packet one-way delay: 21.719 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.37 Mbit/s
95th percentile per-packet one-way delay: 23.222 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 32.30 Mbit/s
95th percentile per-packet one-way delay: 25.642 ms
Loss rate: 0.25%
```
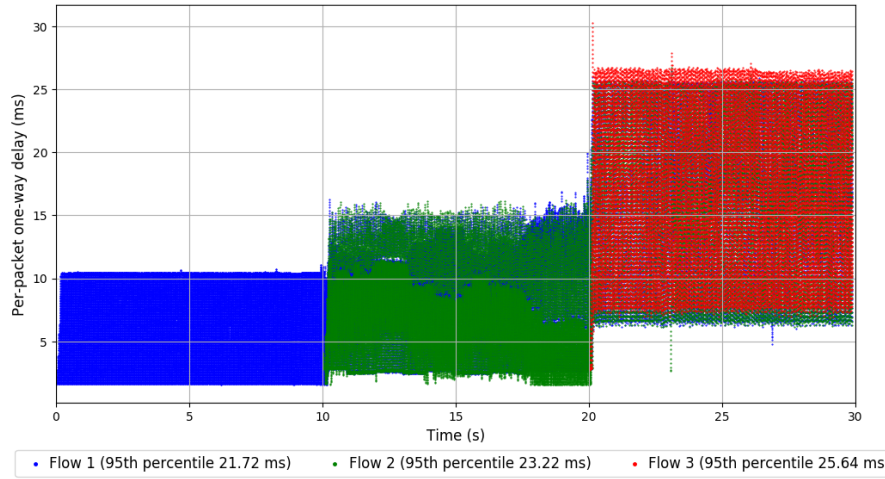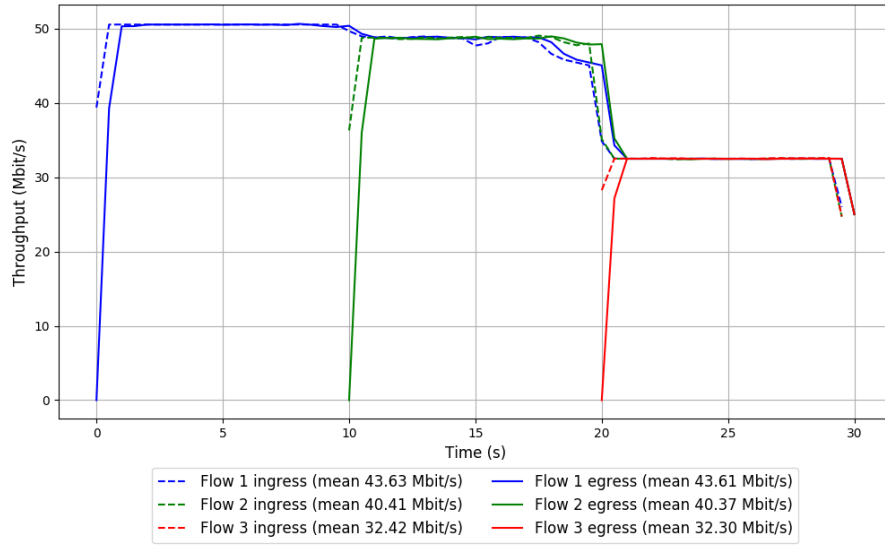
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-03-27 12:40:06
End at: 2019-03-27 12:40:36
Local clock offset: 2.198 ms
Remote clock offset: 0.535 ms


# Below is generated by plot.py at 2019-03-27 14:12:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.06 Mbit/s
95th percentile per-packet one-way delay: 24.314 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 42.97 Mbit/s
95th percentile per-packet one-way delay: 23.704 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 36.76 Mbit/s
95th percentile per-packet one-way delay: 24.253 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 32.29 Mbit/s
95th percentile per-packet one-way delay: 25.013 ms
Loss rate: 0.10%
```
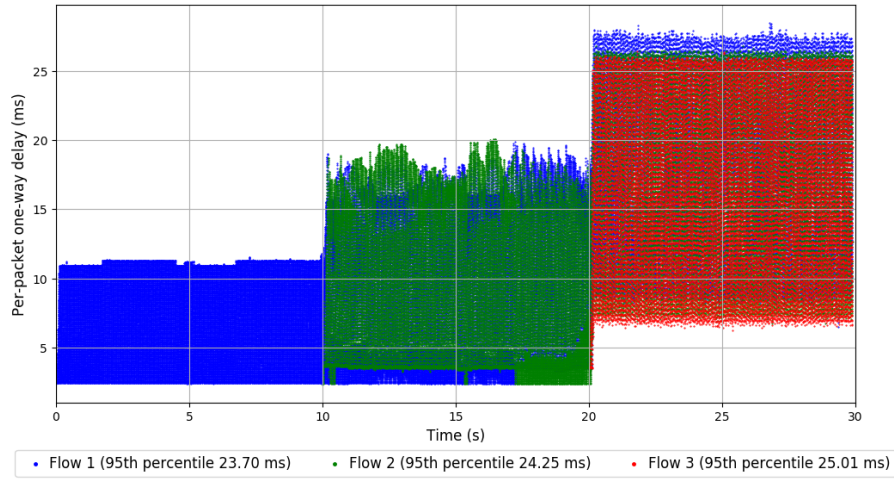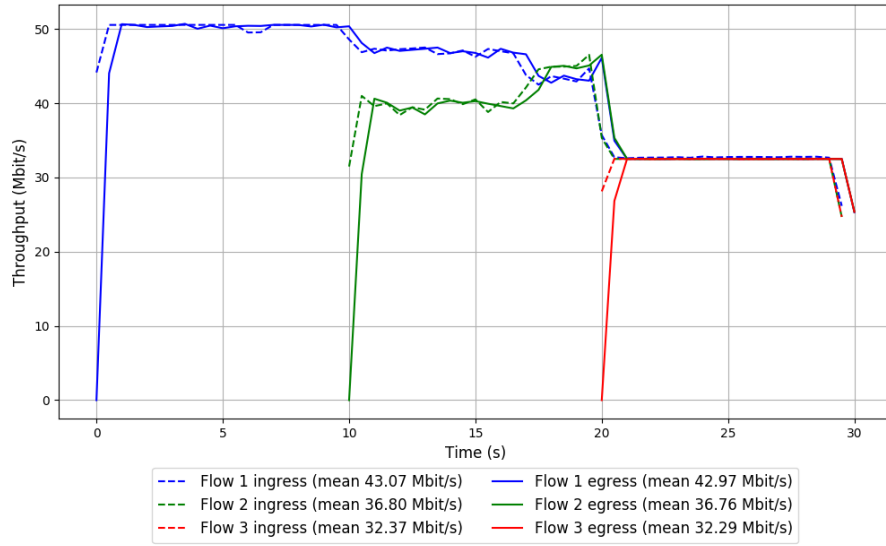
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-03-27 13:04:17
End at: 2019-03-27 13:04:47
Local clock offset: -3.386 ms
Remote clock offset: 0.631 ms


# Below is generated by plot.py at 2019-03-27 14:12:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.35 Mbit/s
95th percentile per-packet one-way delay: 23.765 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 43.80 Mbit/s
95th percentile per-packet one-way delay: 23.064 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 40.46 Mbit/s
95th percentile per-packet one-way delay: 24.294 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 32.23 Mbit/s
95th percentile per-packet one-way delay: 23.911 ms
Loss rate: 0.25%
```
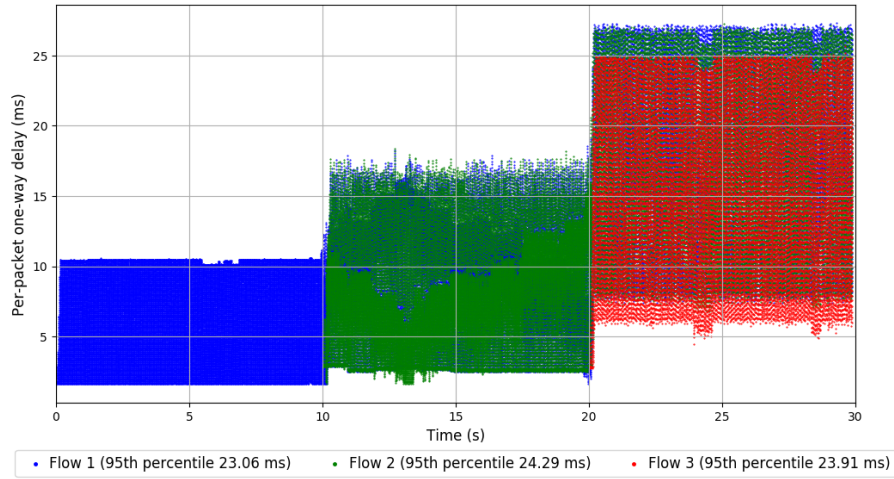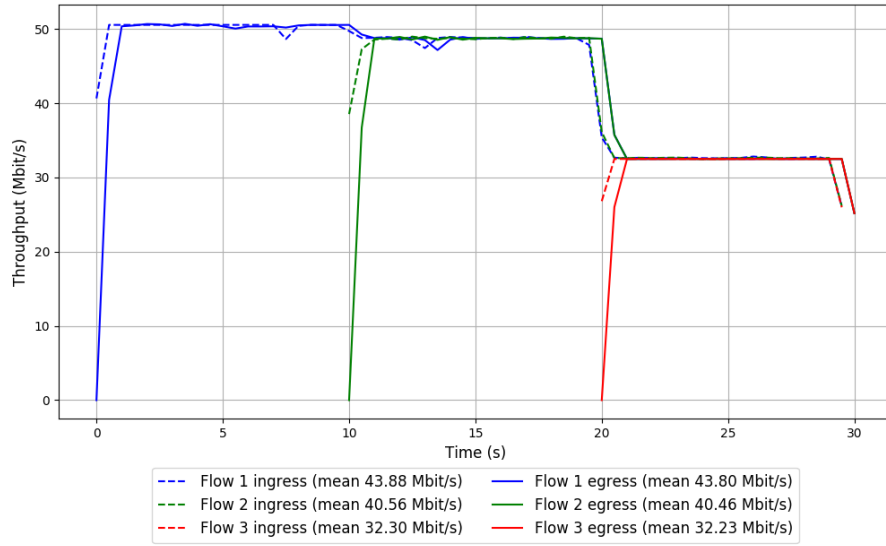
Run 3: Report of Sprout — Data Link

Flow 1 ingress (mean 43.88 Mbit/s) --- Flow 1 egress (mean 43.80 Mbit/s)
Flow 2 ingress (mean 40.56 Mbit/s) --- Flow 2 egress (mean 40.46 Mbit/s)
Flow 3 ingress (mean 32.30 Mbit/s) --- Flow 3 egress (mean 32.23 Mbit/s)

Flow 1 (95th percentile 23.06 ms)   Flow 2 (95th percentile 24.29 ms)   Flow 3 (95th percentile 23.91 ms)

160

```
Run 4: Statistics of Sprout

Start at: 2019-03-27 13:28:30
End at: 2019-03-27 13:29:00
Local clock offset: -4.048 ms
Remote clock offset: 0.273 ms


# Below is generated by plot.py at 2019-03-27 14:12:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.15 Mbit/s
95th percentile per-packet one-way delay: 23.455 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 41.48 Mbit/s
95th percentile per-packet one-way delay: 21.444 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 39.19 Mbit/s
95th percentile per-packet one-way delay: 24.186 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 32.17 Mbit/s
95th percentile per-packet one-way delay: 24.776 ms
Loss rate: 0.22%
```
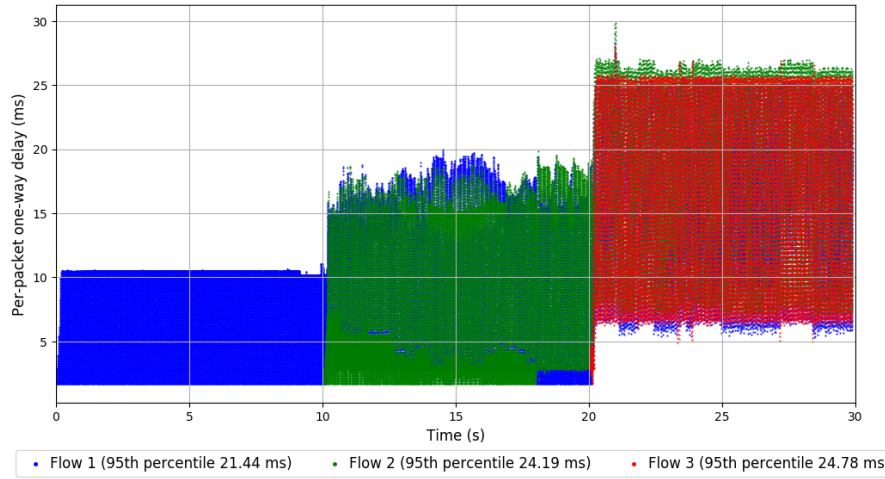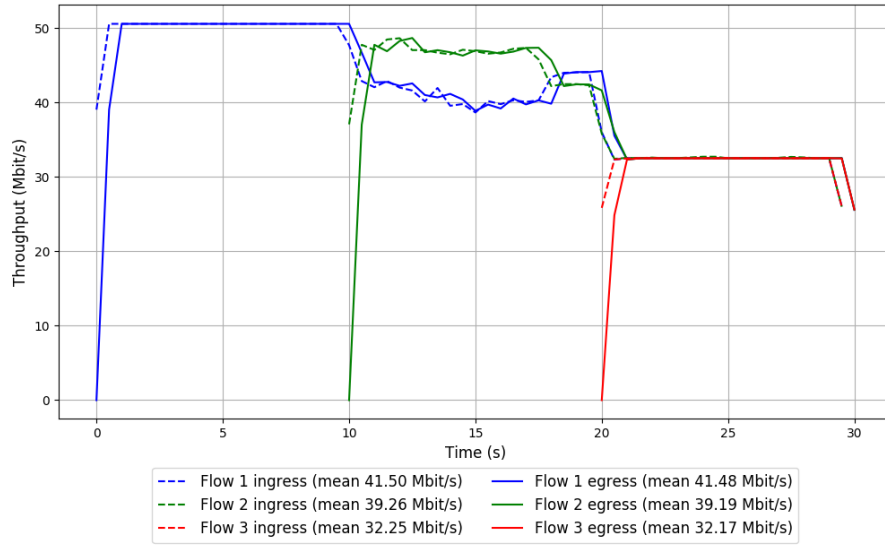
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-03-27 13:52:44
End at: 2019-03-27 13:53:14
Local clock offset: -5.578 ms
Remote clock offset: 0.042 ms


# Below is generated by plot.py at 2019-03-27 14:12:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.41 Mbit/s
95th percentile per-packet one-way delay: 24.435 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 42.98 Mbit/s
95th percentile per-packet one-way delay: 22.704 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 38.78 Mbit/s
95th percentile per-packet one-way delay: 25.488 ms
Loss rate: 0.31%
-- Flow 3:
Average throughput: 32.22 Mbit/s
95th percentile per-packet one-way delay: 25.122 ms
Loss rate: 0.22%
```
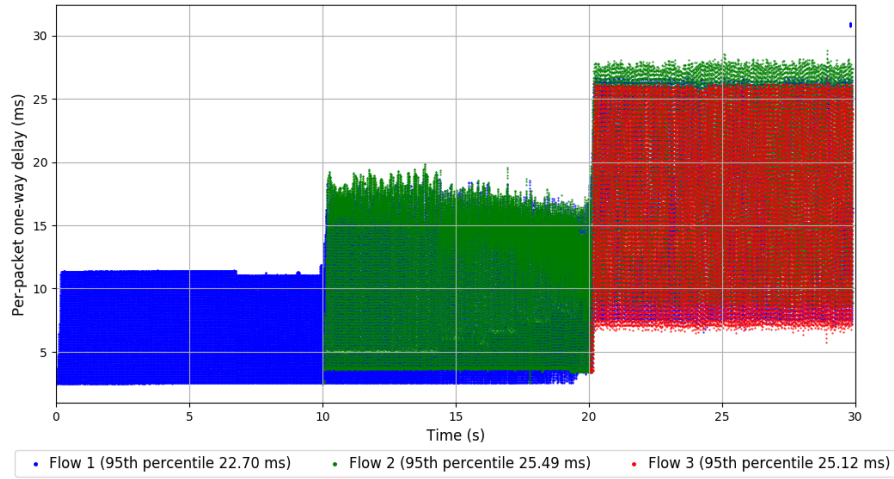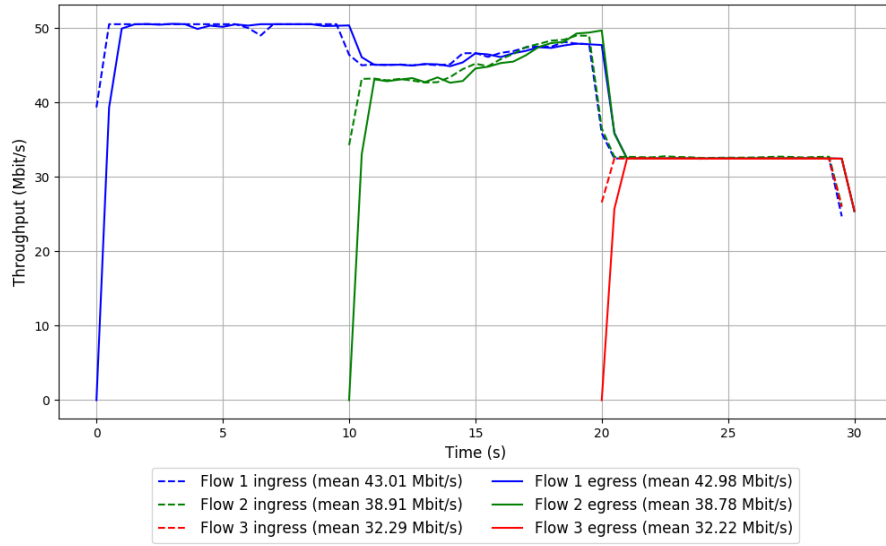
Run 5: Report of Sprout — Data Link

Flow 1 ingress (mean 43.01 Mbit/s) --- Flow 1 egress (mean 42.98 Mbit/s)
Flow 2 ingress (mean 38.91 Mbit/s) --- Flow 2 egress (mean 38.78 Mbit/s)
Flow 3 ingress (mean 32.29 Mbit/s) --- Flow 3 egress (mean 32.22 Mbit/s)

Flow 1 (95th percentile 22.70 ms)   Flow 2 (95th percentile 25.49 ms)   Flow 3 (95th percentile 25.12 ms)

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

Start at: 2019-03-27 12:08:57
End at: 2019-03-27 12:09:27
Local clock offset: -1.603 ms
Remote clock offset: 0.165 ms


# Below is generated by plot.py at 2019-03-27 14:14:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.41 Mbit/s
95th percentile per-packet one-way delay: 155.044 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 55.61 Mbit/s
95th percentile per-packet one-way delay: 153.714 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 39.37 Mbit/s
95th percentile per-packet one-way delay: 154.204 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 31.82 Mbit/s
95th percentile per-packet one-way delay: 156.562 ms
Loss rate: 2.69%
```
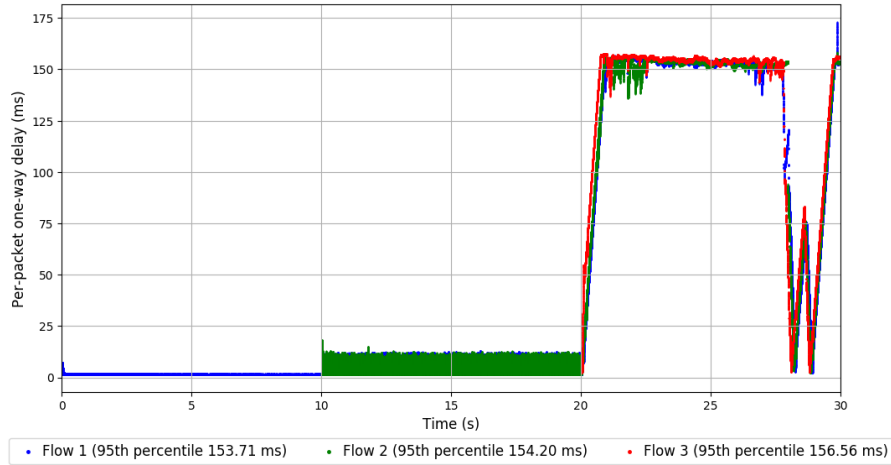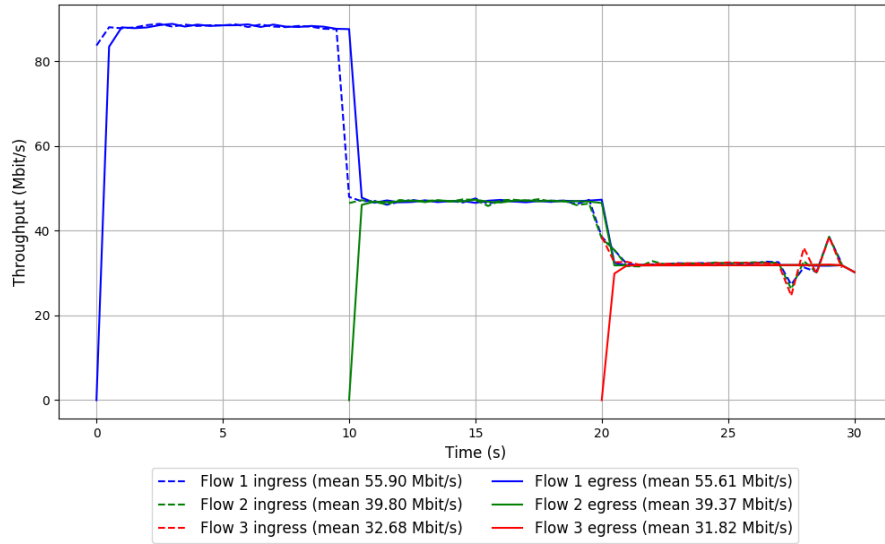
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 55.90 Mbit/s) Flow 1 egress (mean 55.61 Mbit/s)
Flow 2 ingress (mean 39.80 Mbit/s) Flow 2 egress (mean 39.37 Mbit/s)
Flow 3 ingress (mean 32.68 Mbit/s) Flow 3 egress (mean 31.82 Mbit/s)

Flow 1 (95th percentile 153.71 ms) Flow 2 (95th percentile 154.20 ms) Flow 3 (95th percentile 156.56 ms)

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

Start at: 2019-03-27 12:33:08
End at: 2019-03-27 12:33:38
Local clock offset: 1.65 ms
Remote clock offset: 0.411 ms


# Below is generated by plot.py at 2019-03-27 14:14:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.13 Mbit/s
95th percentile per-packet one-way delay: 156.580 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 55.35 Mbit/s
95th percentile per-packet one-way delay: 156.370 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 39.37 Mbit/s
95th percentile per-packet one-way delay: 156.987 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 31.77 Mbit/s
95th percentile per-packet one-way delay: 156.341 ms
Loss rate: 2.70%
```
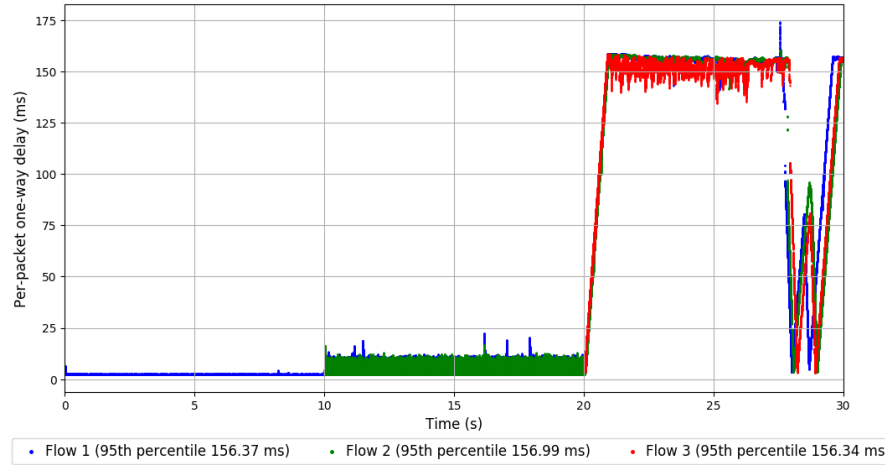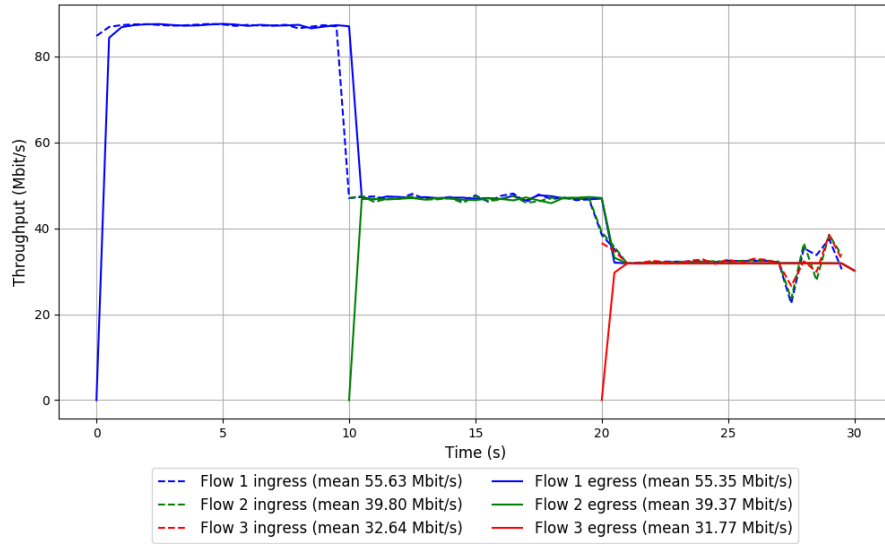
Run 2: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 55.63 Mbit/s)   ——— Flow 1 egress (mean 55.35 Mbit/s)
- - - - Flow 2 ingress (mean 39.80 Mbit/s)   ——— Flow 2 egress (mean 39.37 Mbit/s)
- - - - Flow 3 ingress (mean 32.64 Mbit/s)   ——— Flow 3 egress (mean 31.77 Mbit/s)

- Flow 1 (95th percentile 156.37 ms)   • Flow 2 (95th percentile 156.99 ms)   • Flow 3 (95th percentile 156.34 ms)

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

Start at: 2019-03-27 12:57:20
End at: 2019-03-27 12:57:50
Local clock offset: -2.388 ms
Remote clock offset: 0.725 ms


# Below is generated by plot.py at 2019-03-27 14:14:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.40 Mbit/s
95th percentile per-packet one-way delay: 155.062 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 55.48 Mbit/s
95th percentile per-packet one-way delay: 153.169 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 39.57 Mbit/s
95th percentile per-packet one-way delay: 156.257 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 31.79 Mbit/s
95th percentile per-packet one-way delay: 155.358 ms
Loss rate: 2.79%
```
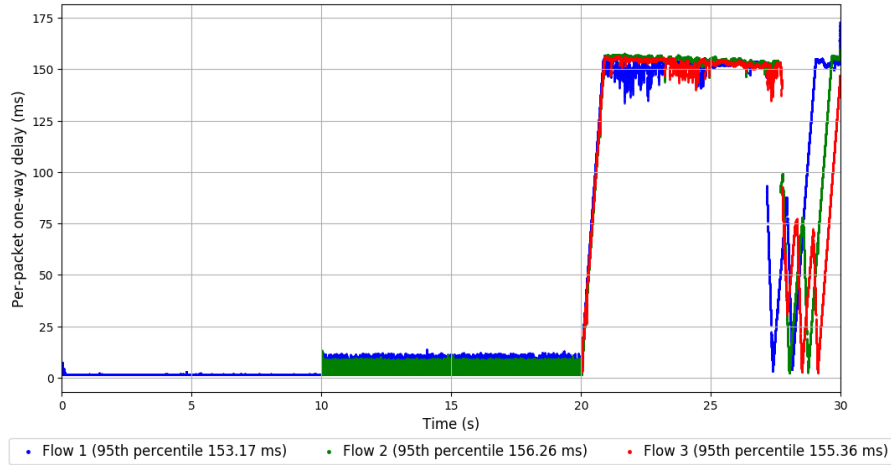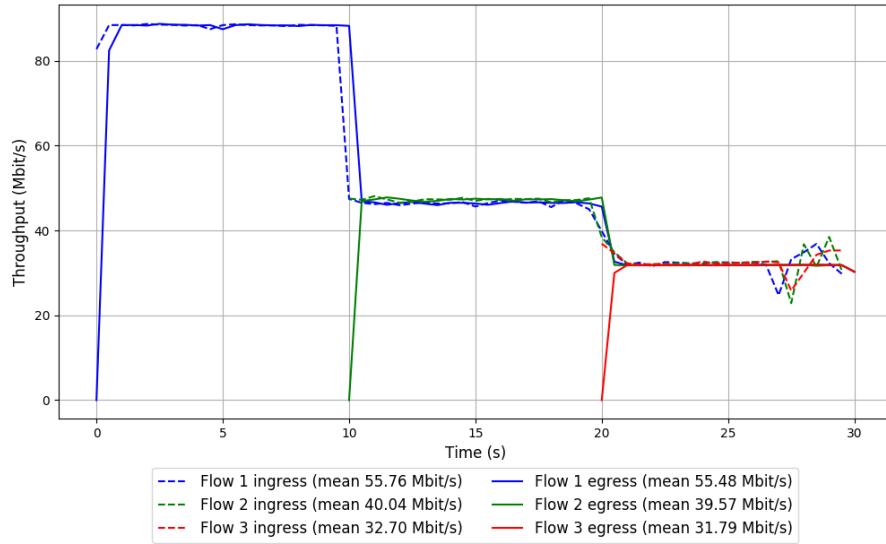
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 55.76 Mbit/s) --- Flow 1 egress (mean 55.48 Mbit/s)
Flow 2 ingress (mean 40.04 Mbit/s) --- Flow 2 egress (mean 39.57 Mbit/s)
Flow 3 ingress (mean 32.70 Mbit/s) --- Flow 3 egress (mean 31.79 Mbit/s)

Flow 1 (95th percentile 153.17 ms)   Flow 2 (95th percentile 156.26 ms)   Flow 3 (95th percentile 155.36 ms)

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

Start at: 2019-03-27 13:21:32
End at: 2019-03-27 13:22:02
Local clock offset: -4.037 ms
Remote clock offset: 0.285 ms


# Below is generated by plot.py at 2019-03-27 14:14:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.23 Mbit/s
95th percentile per-packet one-way delay: 155.678 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 55.32 Mbit/s
95th percentile per-packet one-way delay: 152.271 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 39.56 Mbit/s
95th percentile per-packet one-way delay: 156.106 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 31.83 Mbit/s
95th percentile per-packet one-way delay: 156.788 ms
Loss rate: 2.62%
```
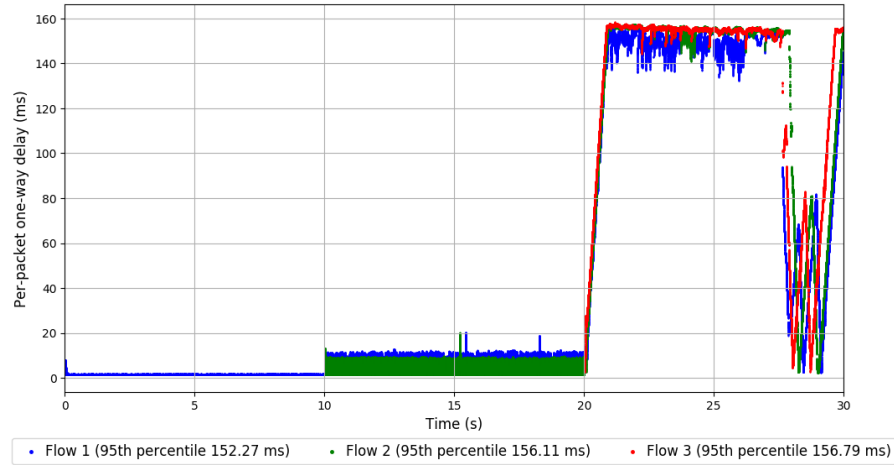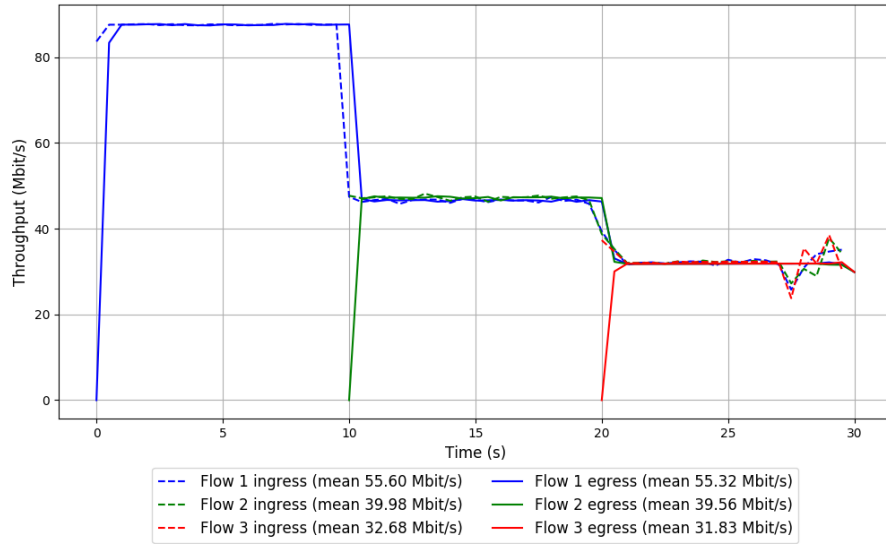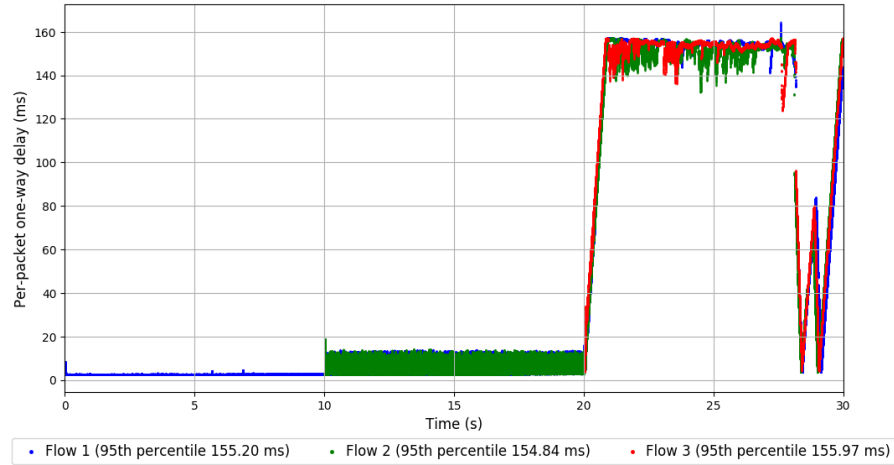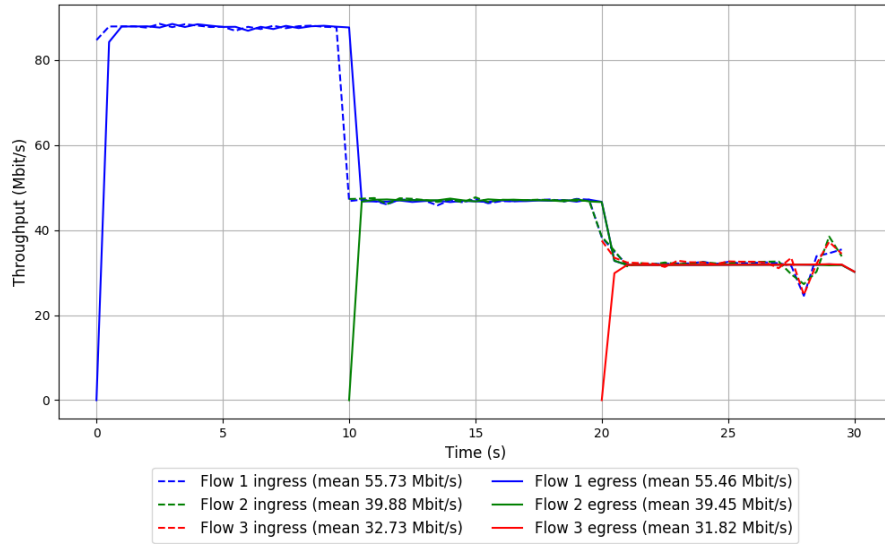
Run 4: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 55.60 Mbit/s)   —— Flow 1 egress (mean 55.32 Mbit/s)
- - - - Flow 2 ingress (mean 39.98 Mbit/s)   —— Flow 2 egress (mean 39.56 Mbit/s)
- - - - Flow 3 ingress (mean 32.68 Mbit/s)   —— Flow 3 egress (mean 31.83 Mbit/s)

- Flow 1 (95th percentile 152.27 ms)   • Flow 2 (95th percentile 156.11 ms)   • Flow 3 (95th percentile 156.79 ms)

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

Start at: 2019-03-27 13:45:46
End at: 2019-03-27 13:46:16
Local clock offset: -3.488 ms
Remote clock offset: -0.022 ms

# Below is generated by plot.py at 2019-03-27 14:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.31 Mbit/s
95th percentile per-packet one-way delay: 155.382 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 55.46 Mbit/s
95th percentile per-packet one-way delay: 155.196 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 39.45 Mbit/s
95th percentile per-packet one-way delay: 154.839 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 31.82 Mbit/s
95th percentile per-packet one-way delay: 155.969 ms
Loss rate: 2.82%
```
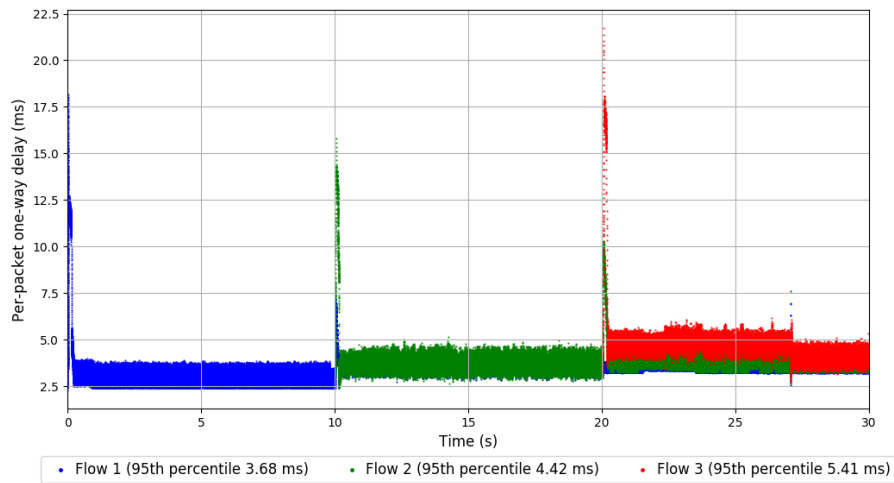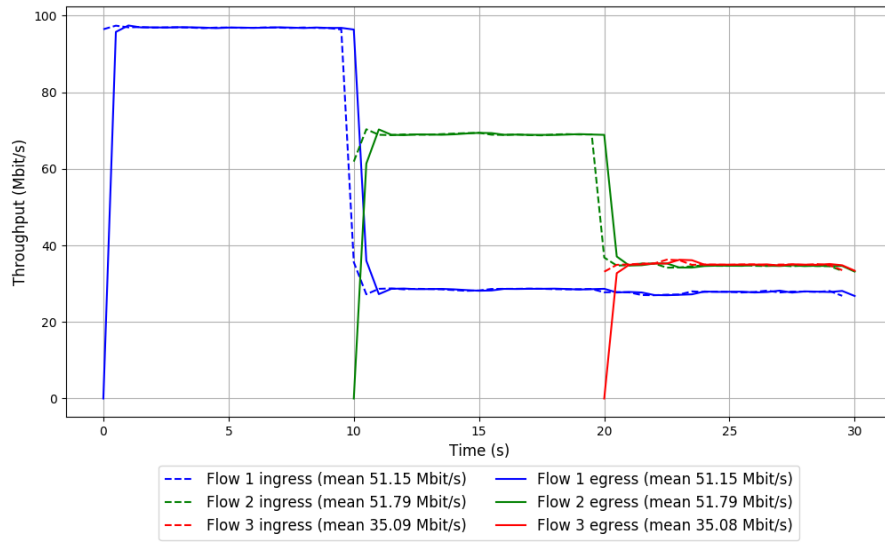
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 55.73 Mbit/s) —— Flow 1 egress (mean 55.46 Mbit/s)
Flow 2 ingress (mean 39.88 Mbit/s) —— Flow 2 egress (mean 39.45 Mbit/s)
Flow 3 ingress (mean 32.73 Mbit/s) —— Flow 3 egress (mean 31.82 Mbit/s)

Flow 1 (95th percentile 155.20 ms)   •   Flow 2 (95th percentile 154.84 ms)   •   Flow 3 (95th percentile 155.97 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-03-27 12:18:08
End at: 2019-03-27 12:18:38
Local clock offset: 0.227 ms
Remote clock offset: 0.245 ms


# Below is generated by plot.py at 2019-03-27 14:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.29 Mbit/s
95th percentile per-packet one-way delay: 4.857 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 51.15 Mbit/s
95th percentile per-packet one-way delay: 3.677 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 51.79 Mbit/s
95th percentile per-packet one-way delay: 4.418 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 35.08 Mbit/s
95th percentile per-packet one-way delay: 5.412 ms
Loss rate: 0.07%
```
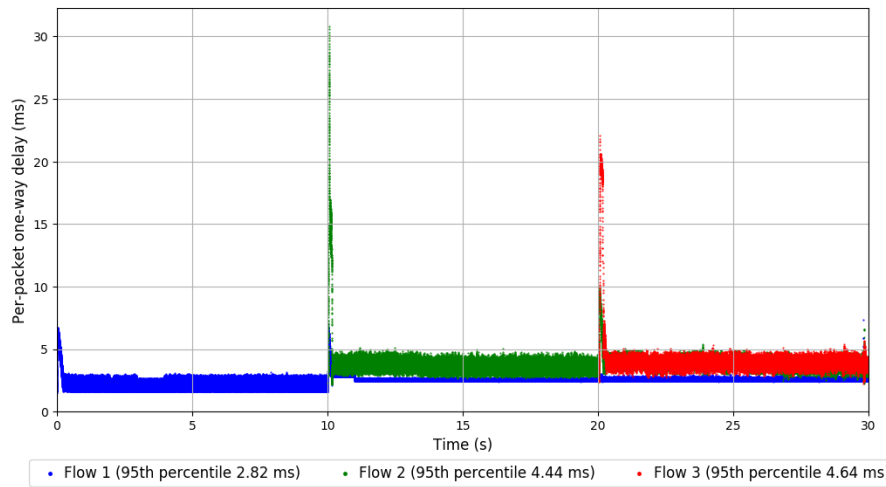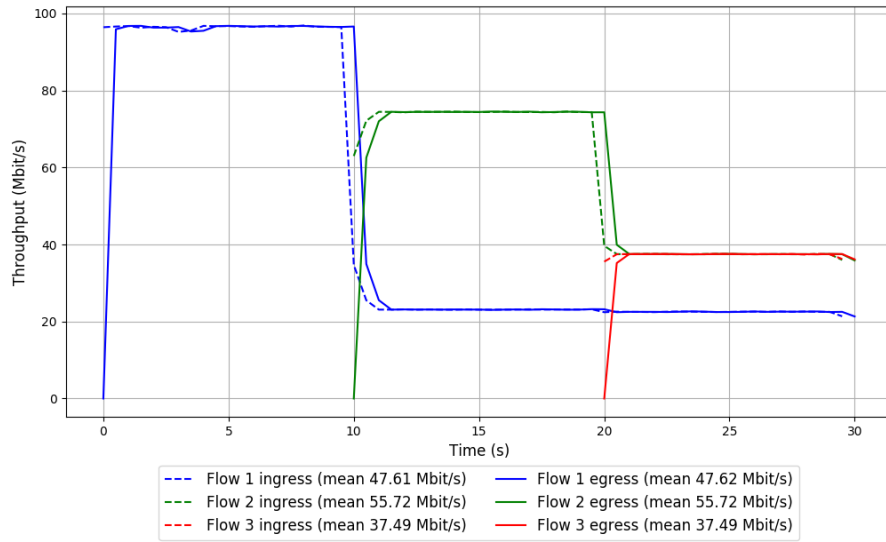
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-03-27 12:42:19
End at: 2019-03-27 12:42:49
Local clock offset: 1.684 ms
Remote clock offset: 0.656 ms


# Below is generated by plot.py at 2019-03-27 14:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.17 Mbit/s
95th percentile per-packet one-way delay: 4.385 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 47.62 Mbit/s
95th percentile per-packet one-way delay: 2.817 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 55.72 Mbit/s
95th percentile per-packet one-way delay: 4.437 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 37.49 Mbit/s
95th percentile per-packet one-way delay: 4.641 ms
Loss rate: 0.05%
```
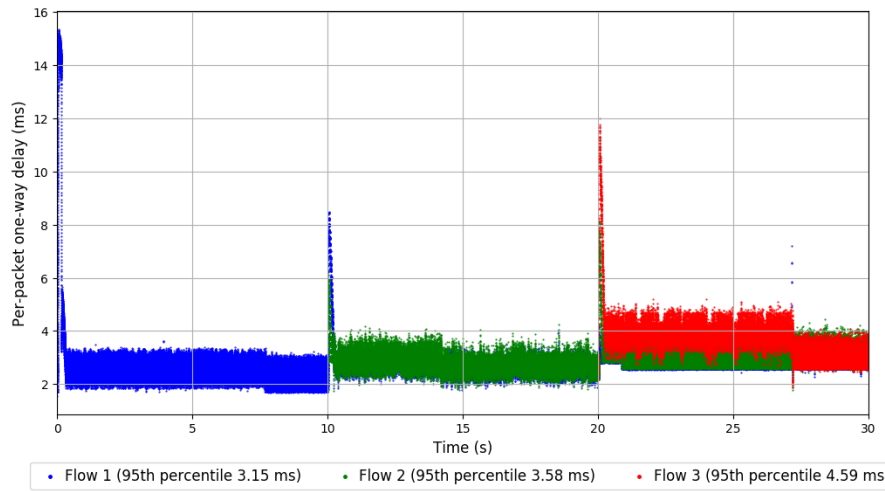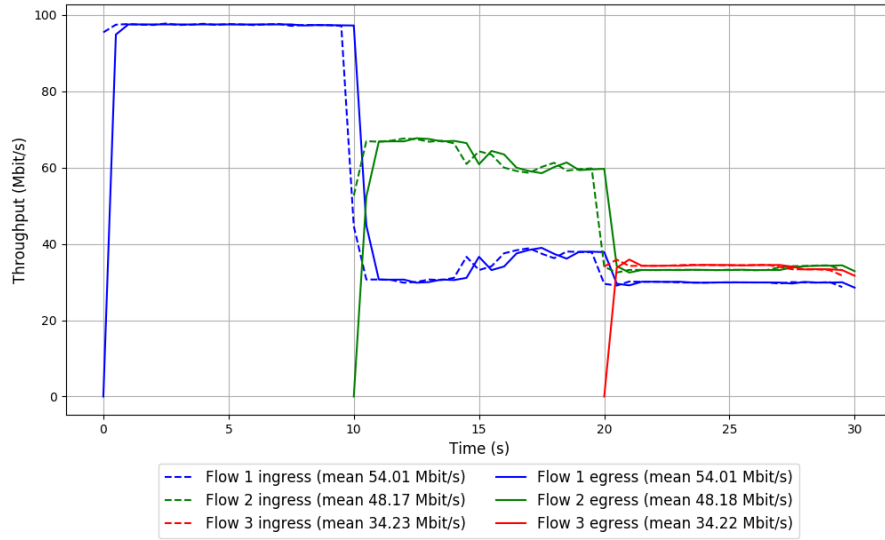
Run 2: Report of TCP Vegas — Data Link

- Flow 1 ingress (mean 47.61 Mbit/s) — Flow 1 egress (mean 47.62 Mbit/s)
- Flow 2 ingress (mean 55.72 Mbit/s) — Flow 2 egress (mean 55.72 Mbit/s)
- Flow 3 ingress (mean 37.49 Mbit/s) — Flow 3 egress (mean 37.49 Mbit/s)

- Flow 1 (95th percentile 2.82 ms)
- Flow 2 (95th percentile 4.44 ms)
- Flow 3 (95th percentile 4.64 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2019-03-27 13:06:30
End at: 2019-03-27 13:07:00
Local clock offset: -3.567 ms
Remote clock offset: 0.498 ms


# Below is generated by plot.py at 2019-03-27 14:14:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.46 Mbit/s
95th percentile per-packet one-way delay: 4.022 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 54.01 Mbit/s
95th percentile per-packet one-way delay: 3.154 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 48.18 Mbit/s
95th percentile per-packet one-way delay: 3.583 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 34.22 Mbit/s
95th percentile per-packet one-way delay: 4.593 ms
Loss rate: 0.04%
```
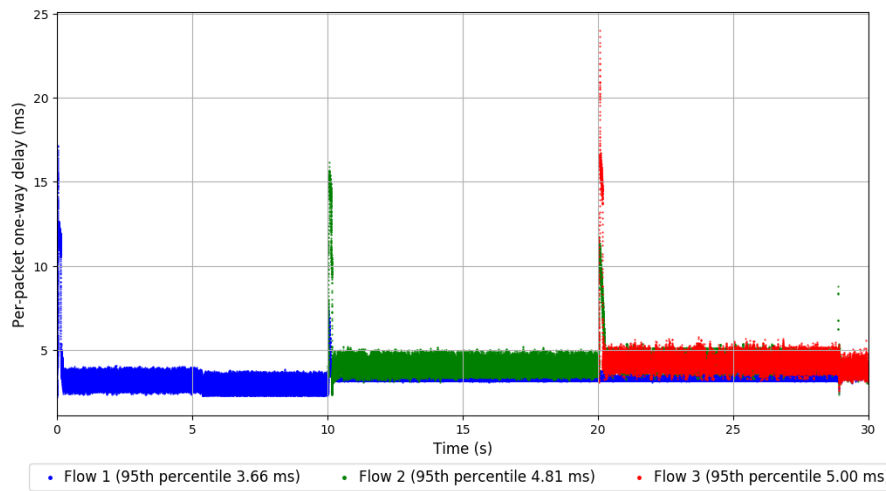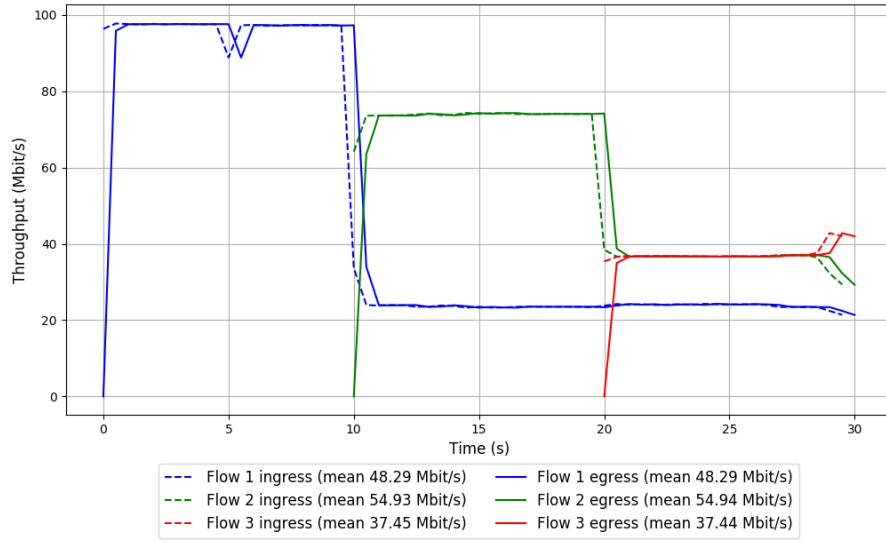
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-03-27 13:30:43
End at: 2019-03-27 13:31:13
Local clock offset: -3.348 ms
Remote clock offset: 0.294 ms


# Below is generated by plot.py at 2019-03-27 14:14:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.31 Mbit/s
95th percentile per-packet one-way delay: 4.748 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 48.29 Mbit/s
95th percentile per-packet one-way delay: 3.658 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 54.94 Mbit/s
95th percentile per-packet one-way delay: 4.813 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 37.44 Mbit/s
95th percentile per-packet one-way delay: 4.996 ms
Loss rate: 0.06%
```
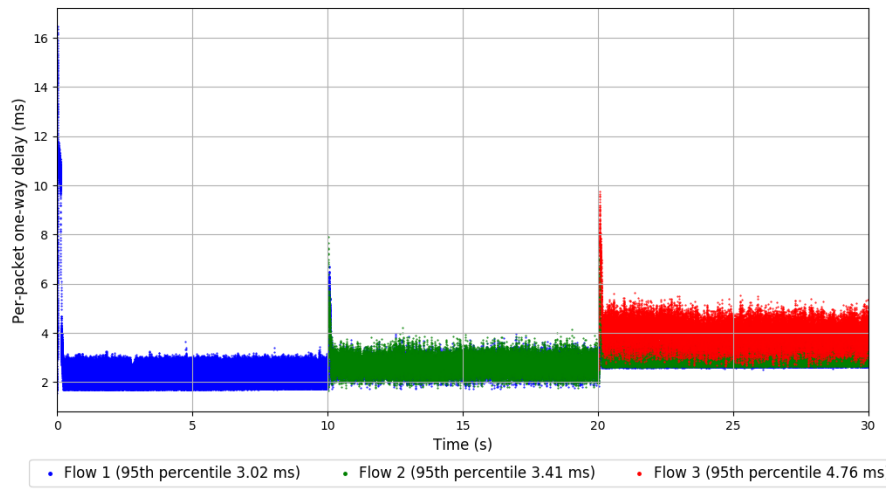
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-03-27 13:54:56
End at: 2019-03-27 13:55:26
Local clock offset: -6.723 ms
Remote clock offset: 0.072 ms


# Below is generated by plot.py at 2019-03-27 14:14:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.26 Mbit/s
95th percentile per-packet one-way delay: 4.251 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 52.84 Mbit/s
95th percentile per-packet one-way delay: 3.017 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 44.94 Mbit/s
95th percentile per-packet one-way delay: 3.412 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 43.65 Mbit/s
95th percentile per-packet one-way delay: 4.756 ms
Loss rate: 0.06%
```
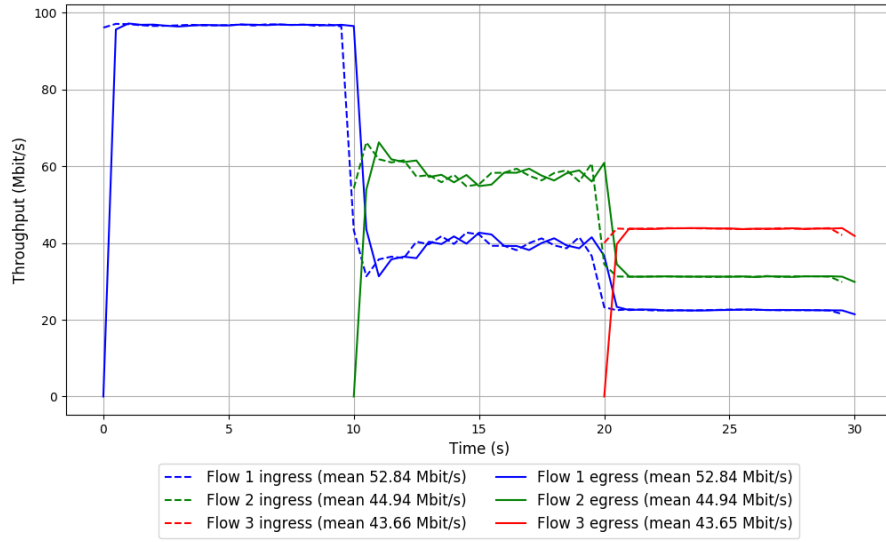
Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-03-27 12:03:14
End at: 2019-03-27 12:03:44
Local clock offset: -1.75 ms
Remote clock offset: 0.087 ms


# Below is generated by plot.py at 2019-03-27 14:14:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.42 Mbit/s
95th percentile per-packet one-way delay: 26.628 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 49.44 Mbit/s
95th percentile per-packet one-way delay: 22.463 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 32.19 Mbit/s
95th percentile per-packet one-way delay: 35.213 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 34.72 Mbit/s
95th percentile per-packet one-way delay: 91.856 ms
Loss rate: 0.13%
```
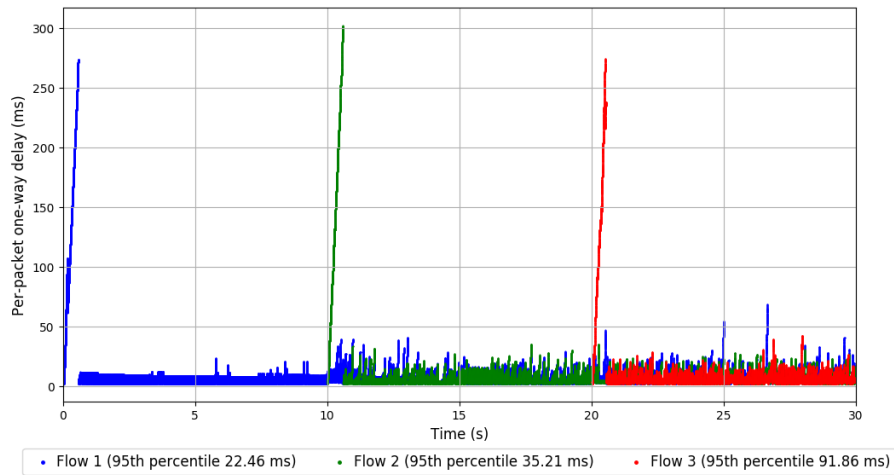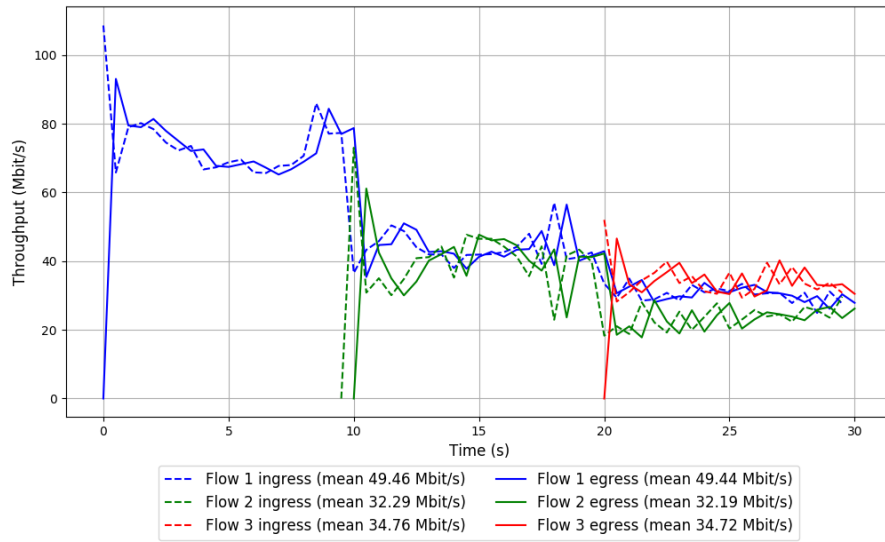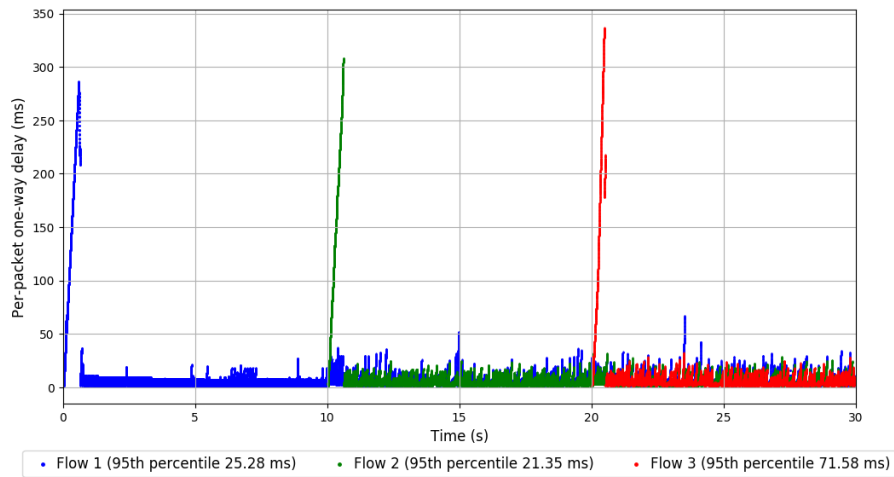
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 49.46 Mbit/s) --- Flow 1 egress (mean 49.44 Mbit/s)
Flow 2 ingress (mean 32.29 Mbit/s) --- Flow 2 egress (mean 32.19 Mbit/s)
Flow 3 ingress (mean 34.76 Mbit/s) --- Flow 3 egress (mean 34.72 Mbit/s)

Flow 1 (95th percentile 22.46 ms) Flow 2 (95th percentile 35.21 ms) Flow 3 (95th percentile 91.86 ms)

186

```
Run 2: Statistics of Verus

Start at: 2019-03-27 12:27:25
End at: 2019-03-27 12:27:55
Local clock offset: 0.302 ms
Remote clock offset: 0.373 ms


# Below is generated by plot.py at 2019-03-27 14:15:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.66 Mbit/s
95th percentile per-packet one-way delay: 25.413 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 48.88 Mbit/s
95th percentile per-packet one-way delay: 25.284 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 36.12 Mbit/s
95th percentile per-packet one-way delay: 21.354 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 32.30 Mbit/s
95th percentile per-packet one-way delay: 71.576 ms
Loss rate: 0.18%
```
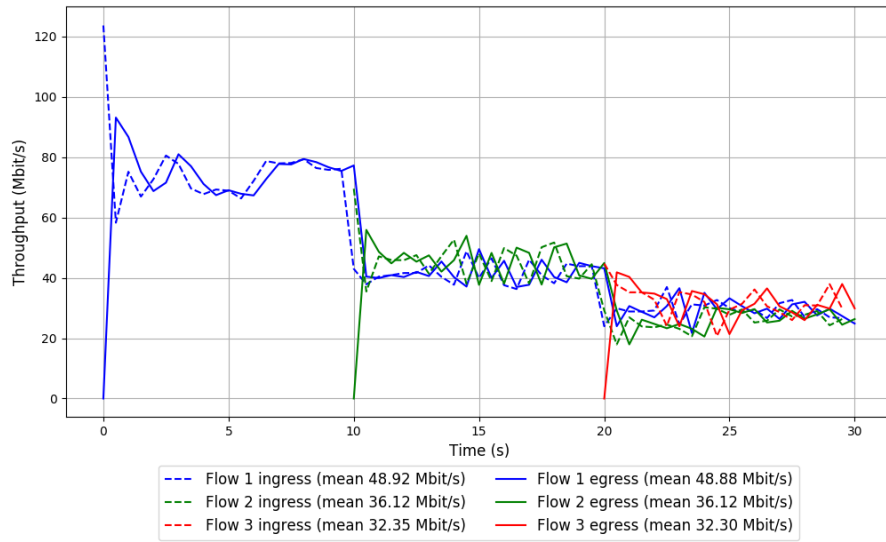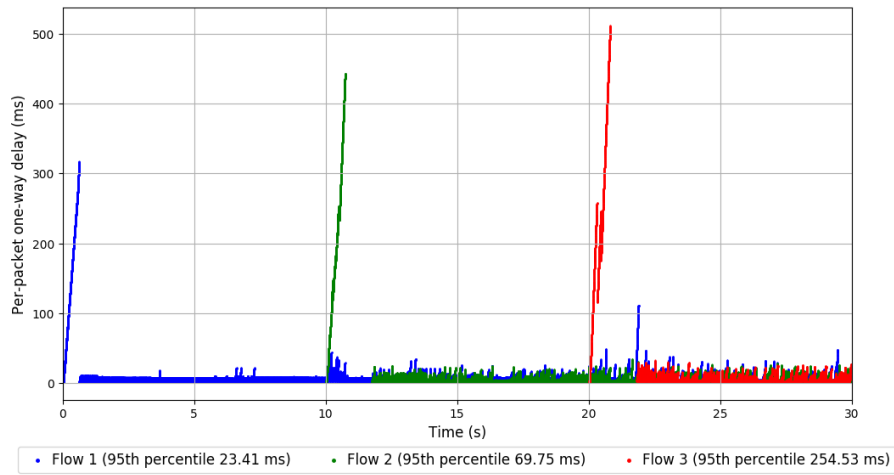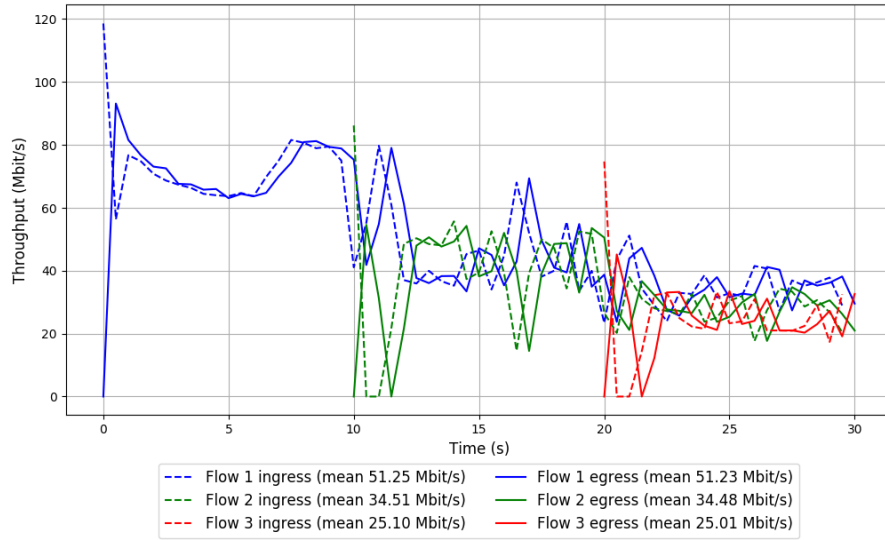
Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 48.92 Mbit/s) --- Flow 1 egress (mean 48.88 Mbit/s)
Flow 2 ingress (mean 36.12 Mbit/s) --- Flow 2 egress (mean 36.12 Mbit/s)
Flow 3 ingress (mean 32.35 Mbit/s) --- Flow 3 egress (mean 32.30 Mbit/s)

Flow 1 (95th percentile 25.28 ms) Flow 2 (95th percentile 21.35 ms) Flow 3 (95th percentile 71.58 ms)

188

```
Run 3: Statistics of Verus

Start at: 2019-03-27 12:51:37
End at: 2019-03-27 12:52:07
Local clock offset: -0.819 ms
Remote clock offset: 0.695 ms


# Below is generated by plot.py at 2019-03-27 14:15:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.51 Mbit/s
95th percentile per-packet one-way delay: 44.774 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 51.23 Mbit/s
95th percentile per-packet one-way delay: 23.405 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 34.48 Mbit/s
95th percentile per-packet one-way delay: 69.745 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 25.01 Mbit/s
95th percentile per-packet one-way delay: 254.526 ms
Loss rate: 0.09%
```
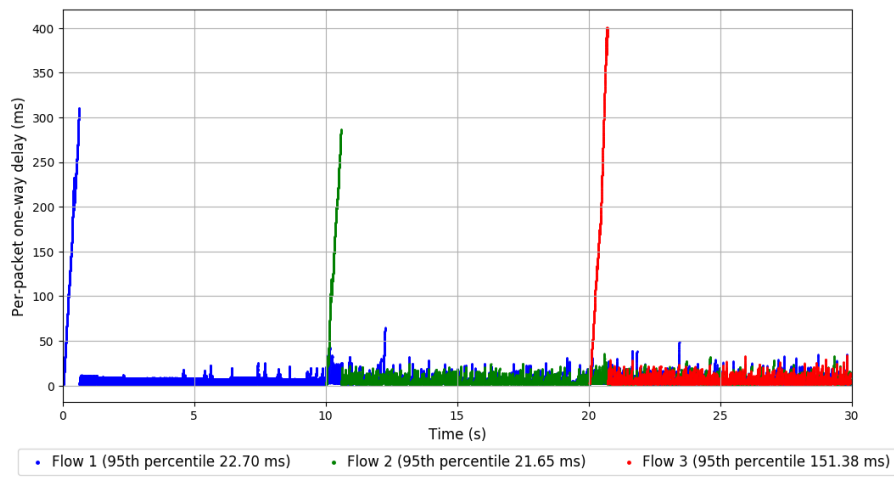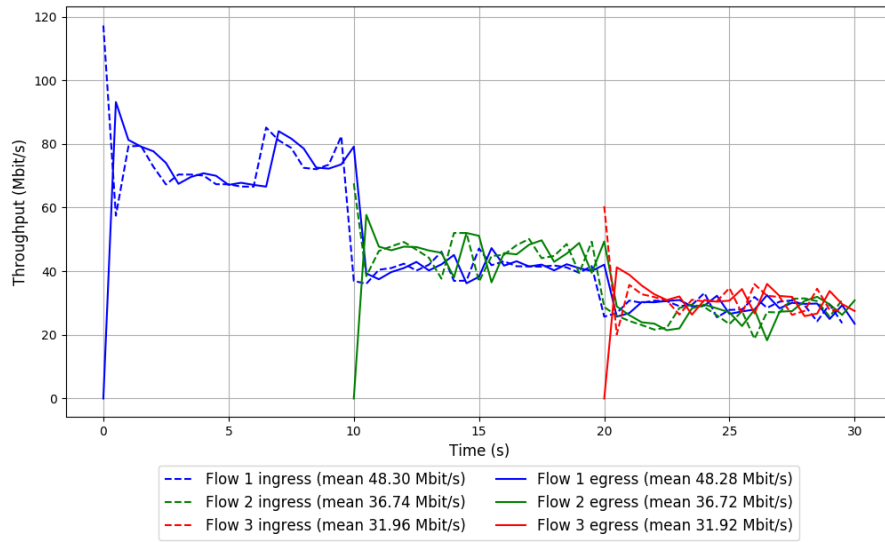
Run 3: Report of Verus — Data Link

Flow 1 ingress (mean 51.25 Mbit/s) --- Flow 1 egress (mean 51.23 Mbit/s)
Flow 2 ingress (mean 34.51 Mbit/s) --- Flow 2 egress (mean 34.48 Mbit/s)
Flow 3 ingress (mean 25.10 Mbit/s) --- Flow 3 egress (mean 25.01 Mbit/s)

Flow 1 (95th percentile 23.41 ms)   Flow 2 (95th percentile 69.75 ms)   Flow 3 (95th percentile 254.53 ms)

```
Run 4: Statistics of Verus

Start at: 2019-03-27 13:15:49
End at: 2019-03-27 13:16:19
Local clock offset: -4.108 ms
Remote clock offset: 0.253 ms


# Below is generated by plot.py at 2019-03-27 14:15:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.33 Mbit/s
95th percentile per-packet one-way delay: 26.395 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 48.28 Mbit/s
95th percentile per-packet one-way delay: 22.695 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 36.72 Mbit/s
95th percentile per-packet one-way delay: 21.646 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 31.92 Mbit/s
95th percentile per-packet one-way delay: 151.376 ms
Loss rate: 0.15%
```
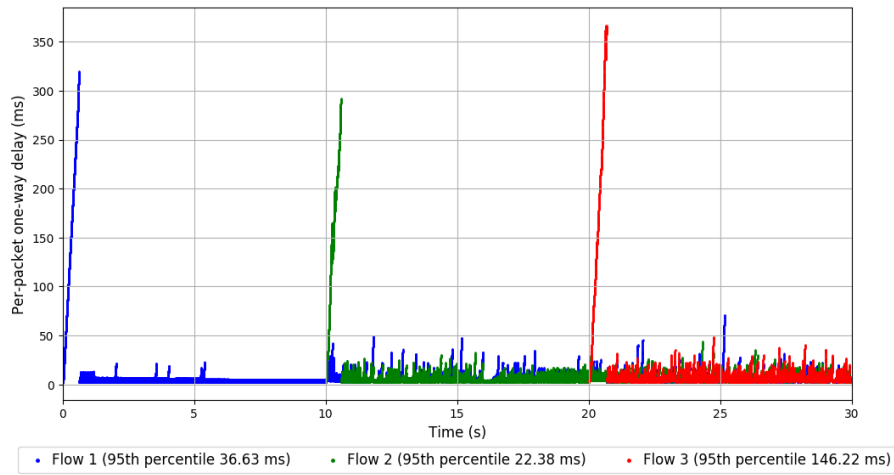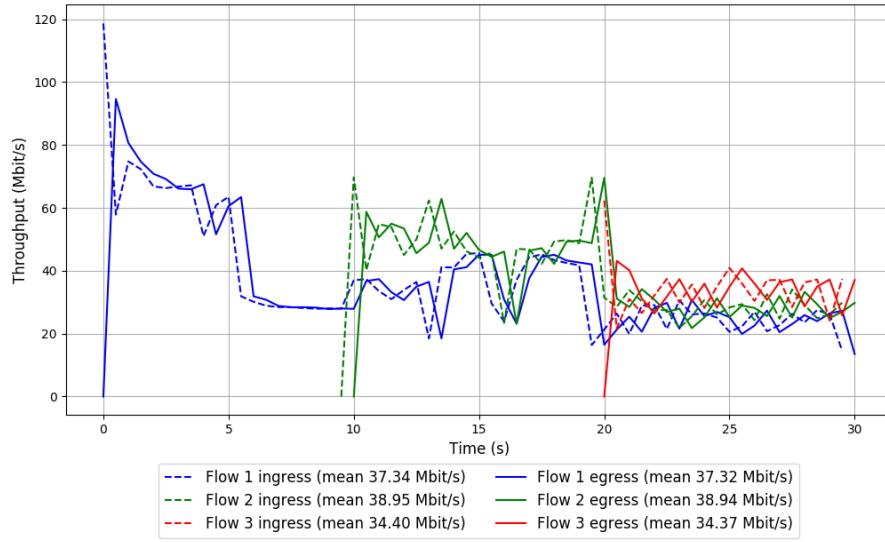
Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 48.30 Mbit/s) — Flow 1 egress (mean 48.28 Mbit/s)
Flow 2 ingress (mean 36.74 Mbit/s) — Flow 2 egress (mean 36.72 Mbit/s)
Flow 3 ingress (mean 31.96 Mbit/s) — Flow 3 egress (mean 31.92 Mbit/s)

Flow 1 (95th percentile 22.70 ms) • Flow 2 (95th percentile 21.65 ms) • Flow 3 (95th percentile 151.38 ms)

```
Run 5: Statistics of Verus

Start at: 2019-03-27 13:40:03
End at: 2019-03-27 13:40:33
Local clock offset: -3.401 ms
Remote clock offset: 0.015 ms


# Below is generated by plot.py at 2019-03-27 14:15:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.67 Mbit/s
95th percentile per-packet one-way delay: 37.957 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 37.32 Mbit/s
95th percentile per-packet one-way delay: 36.626 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 38.94 Mbit/s
95th percentile per-packet one-way delay: 22.383 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 34.37 Mbit/s
95th percentile per-packet one-way delay: 146.216 ms
Loss rate: 0.10%
```
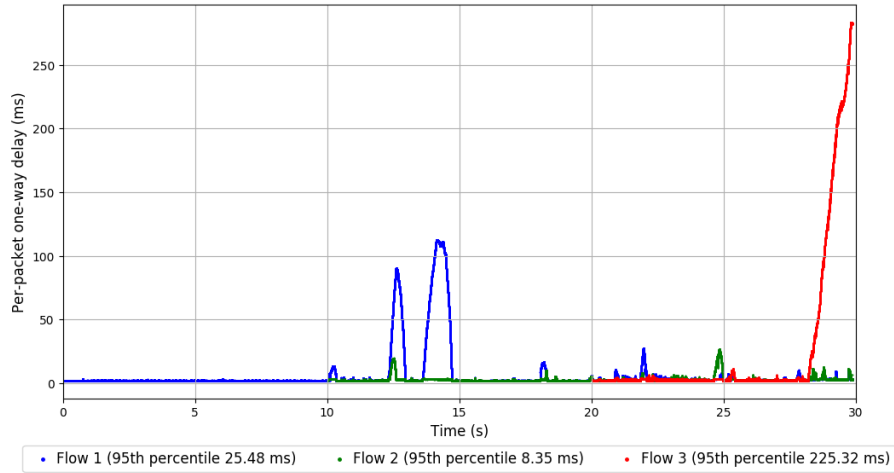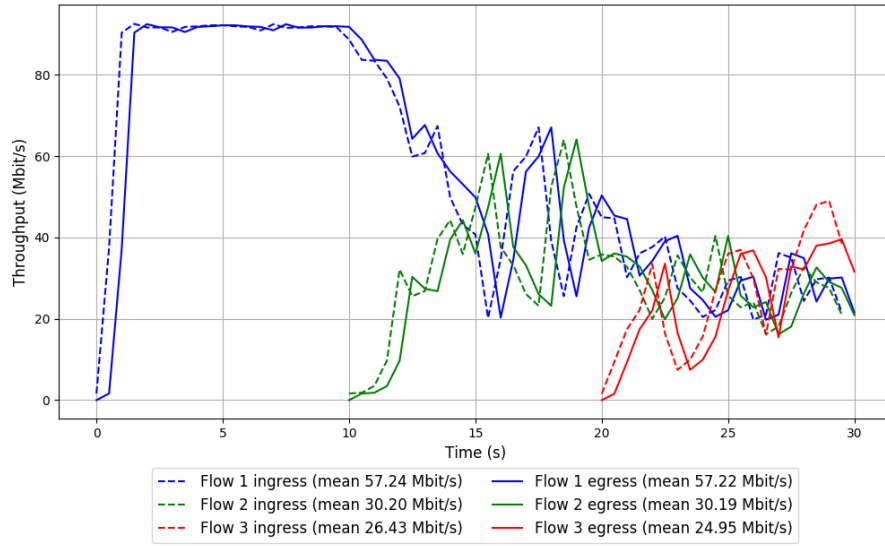
Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 37.34 Mbit/s) --- Flow 1 egress (mean 37.32 Mbit/s)
Flow 2 ingress (mean 38.95 Mbit/s) --- Flow 2 egress (mean 38.94 Mbit/s)
Flow 3 ingress (mean 34.40 Mbit/s) --- Flow 3 egress (mean 34.37 Mbit/s)

Flow 1 (95th percentile 36.63 ms) • Flow 2 (95th percentile 22.38 ms) • Flow 3 (95th percentile 146.22 ms)

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-03-27 12:02:03
End at: 2019-03-27 12:02:33
Local clock offset: -2.045 ms
Remote clock offset: 0.07 ms


# Below is generated by plot.py at 2019-03-27 14:15:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.51 Mbit/s
95th percentile per-packet one-way delay: 41.563 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 57.22 Mbit/s
95th percentile per-packet one-way delay: 25.481 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 30.19 Mbit/s
95th percentile per-packet one-way delay: 8.347 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 24.95 Mbit/s
95th percentile per-packet one-way delay: 225.323 ms
Loss rate: 5.71%
```
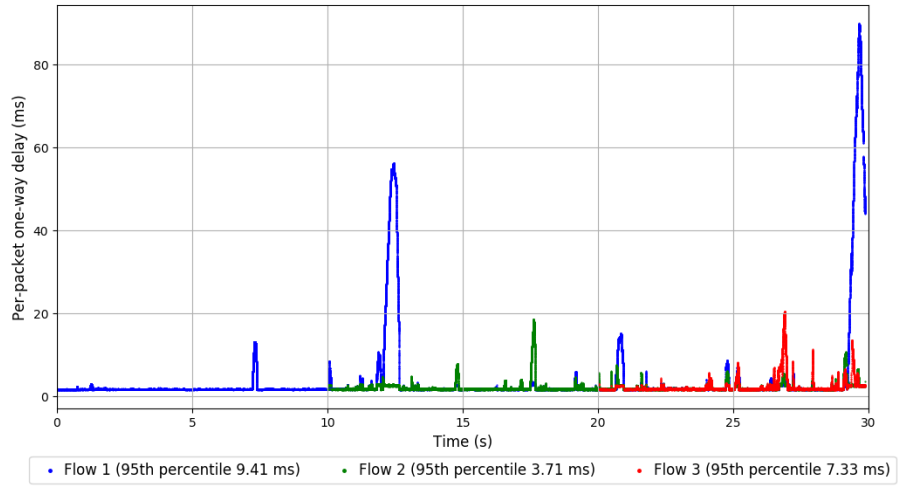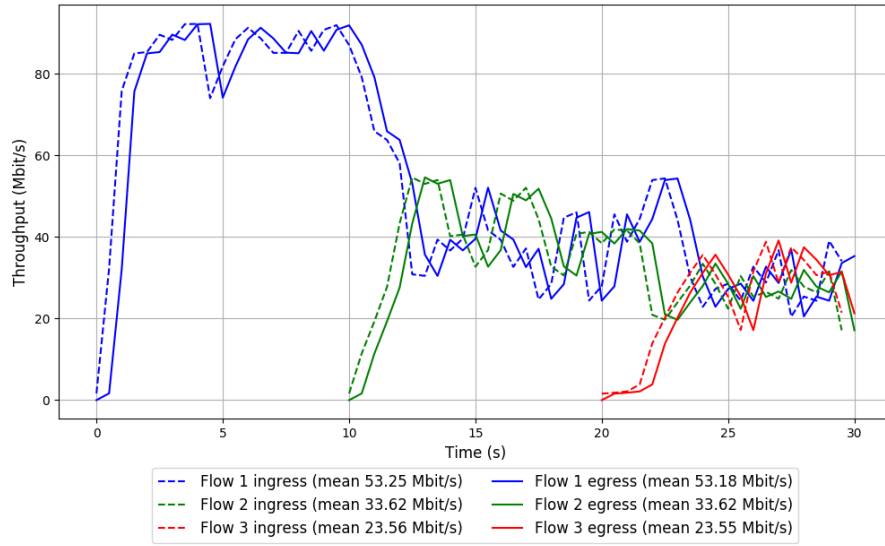
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-03-27 12:26:15
End at: 2019-03-27 12:26:45
Local clock offset: 0.26 ms
Remote clock offset: 0.318 ms


# Below is generated by plot.py at 2019-03-27 14:15:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.31 Mbit/s
95th percentile per-packet one-way delay: 6.394 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 53.18 Mbit/s
95th percentile per-packet one-way delay: 9.409 ms
Loss rate: 0.14%
-- Flow 2:
Average throughput: 33.62 Mbit/s
95th percentile per-packet one-way delay: 3.712 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 23.55 Mbit/s
95th percentile per-packet one-way delay: 7.330 ms
Loss rate: 0.07%
```
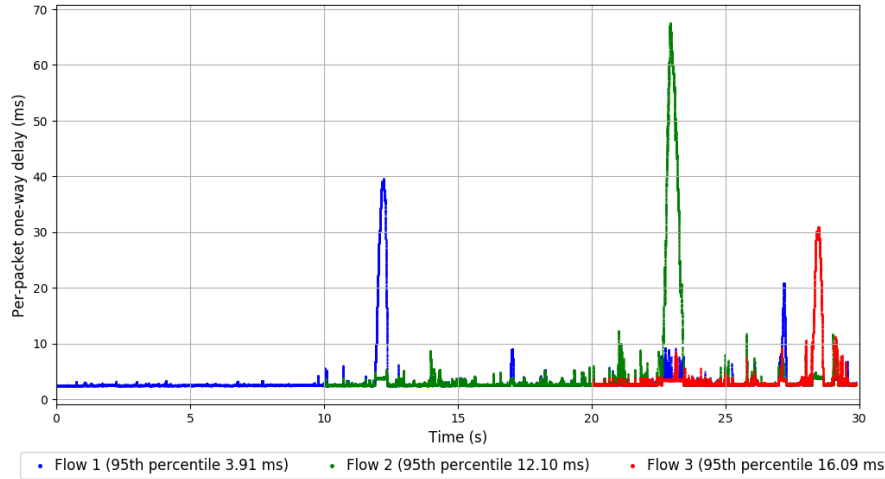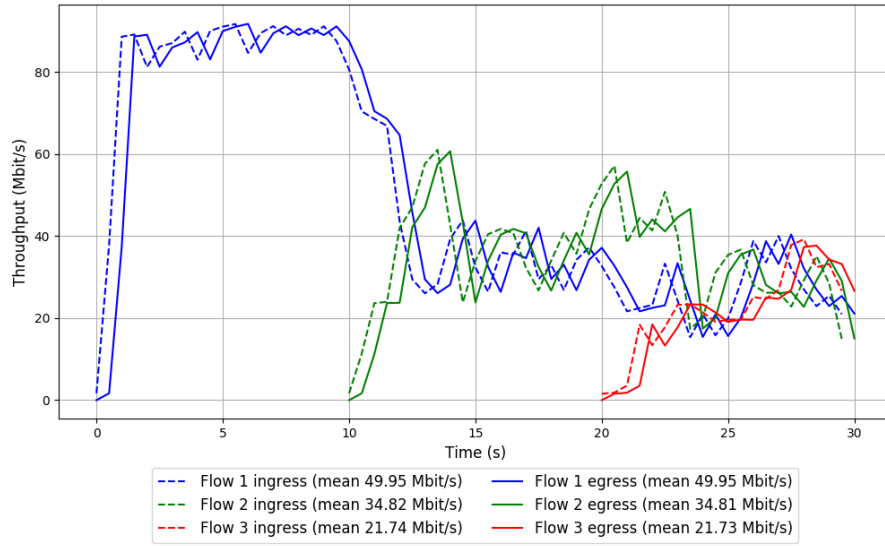
Run 2: Report of PCC-Vivace — Data Link

- Flow 1 ingress (mean 53.25 Mbit/s)
- Flow 1 egress (mean 53.18 Mbit/s)
- Flow 2 ingress (mean 33.62 Mbit/s)
- Flow 2 egress (mean 33.62 Mbit/s)
- Flow 3 ingress (mean 23.56 Mbit/s)
- Flow 3 egress (mean 23.55 Mbit/s)

- Flow 1 (95th percentile 9.41 ms)
- Flow 2 (95th percentile 3.71 ms)
- Flow 3 (95th percentile 7.33 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-03-27 12:50:27
End at: 2019-03-27 12:50:57
Local clock offset: 0.243 ms
Remote clock offset: 0.711 ms


# Below is generated by plot.py at 2019-03-27 14:15:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.27 Mbit/s
95th percentile per-packet one-way delay: 6.612 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 49.95 Mbit/s
95th percentile per-packet one-way delay: 3.913 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 34.81 Mbit/s
95th percentile per-packet one-way delay: 12.097 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 21.73 Mbit/s
95th percentile per-packet one-way delay: 16.092 ms
Loss rate: 0.08%
```
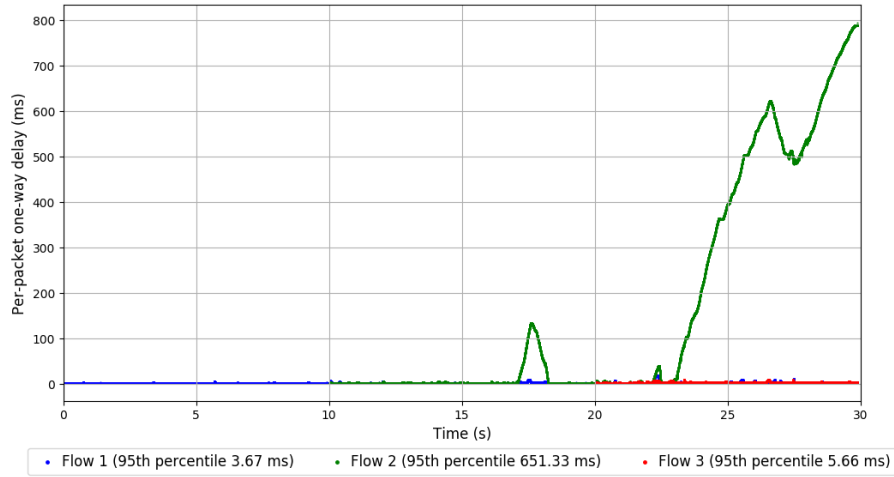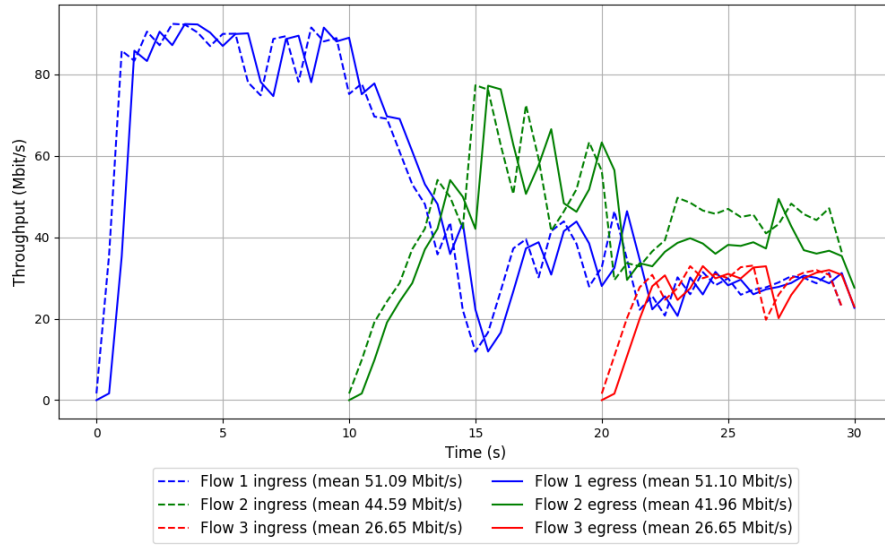
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-03-27 13:14:39
End at: 2019-03-27 13:15:09
Local clock offset: -3.273 ms
Remote clock offset: 0.354 ms


# Below is generated by plot.py at 2019-03-27 14:15:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.79 Mbit/s
95th percentile per-packet one-way delay: 511.204 ms
Loss rate: 1.97%
-- Flow 1:
Average throughput: 51.10 Mbit/s
95th percentile per-packet one-way delay: 3.665 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 41.96 Mbit/s
95th percentile per-packet one-way delay: 651.331 ms
Loss rate: 5.90%
-- Flow 3:
Average throughput: 26.65 Mbit/s
95th percentile per-packet one-way delay: 5.657 ms
Loss rate: 0.05%
```
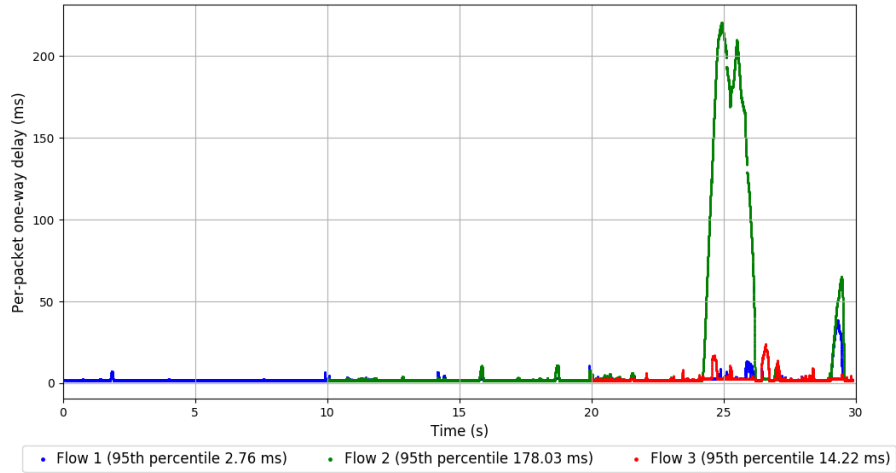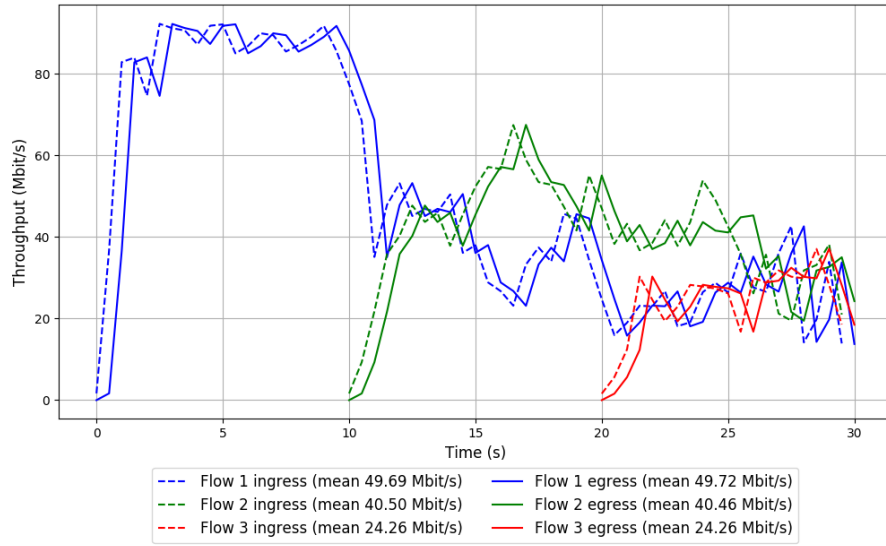
Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-03-27 13:38:52
End at: 2019-03-27 13:39:22
Local clock offset: -4.165 ms
Remote clock offset: 0.173 ms


# Below is generated by plot.py at 2019-03-27 14:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.62 Mbit/s
95th percentile per-packet one-way delay: 12.581 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 49.72 Mbit/s
95th percentile per-packet one-way delay: 2.760 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 40.46 Mbit/s
95th percentile per-packet one-way delay: 178.035 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 24.26 Mbit/s
95th percentile per-packet one-way delay: 14.224 ms
Loss rate: 0.06%
```
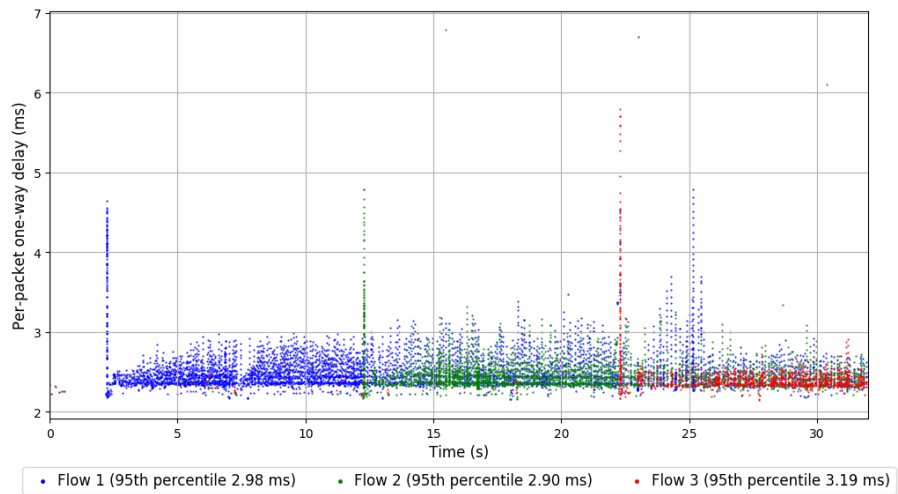
Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-03-27 12:17:02
End at: 2019-03-27 12:17:32
Local clock offset: 0.123 ms
Remote clock offset: 0.324 ms


# Below is generated by plot.py at 2019-03-27 14:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 2.954 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 2.978 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 2.896 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 3.194 ms
Loss rate: 0.09%
```
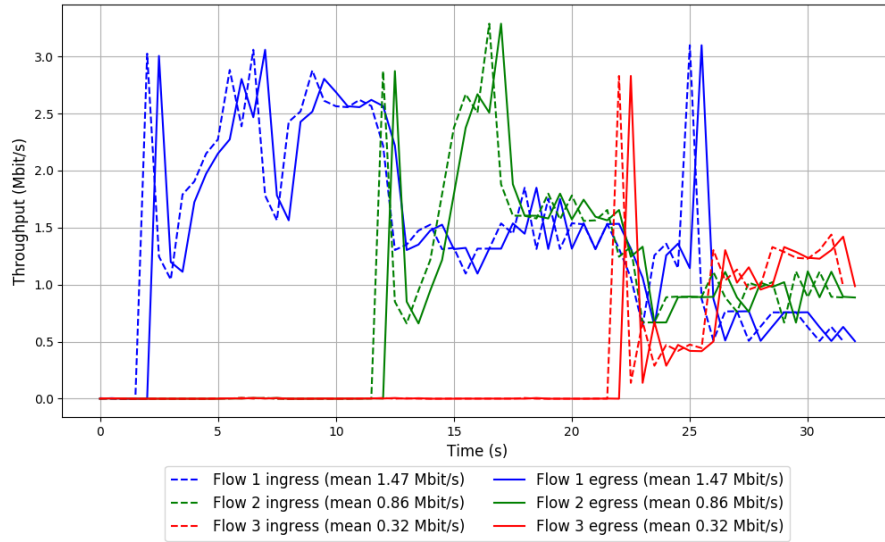
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-03-27 12:41:14
End at: 2019-03-27 12:41:44
Local clock offset: 2.364 ms
Remote clock offset: 0.678 ms


# Below is generated by plot.py at 2019-03-27 14:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.77 Mbit/s
95th percentile per-packet one-way delay: 3.040 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 2.909 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 3.102 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 3.248 ms
Loss rate: 0.00%
```
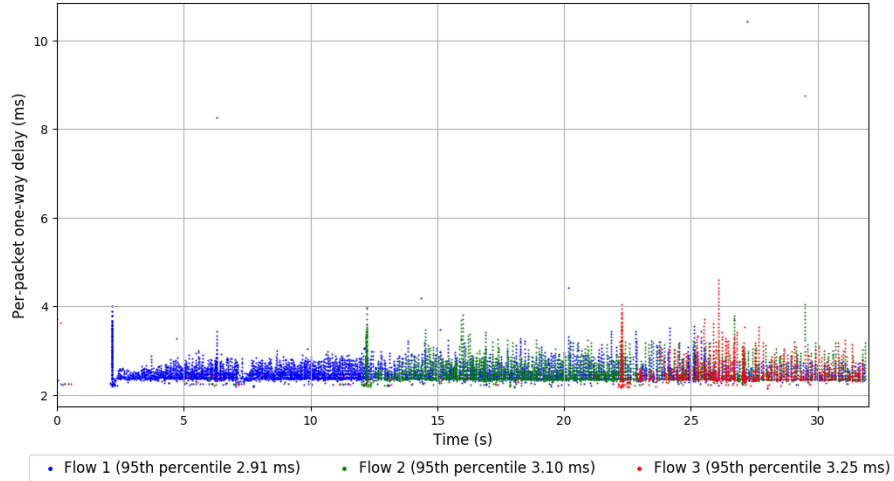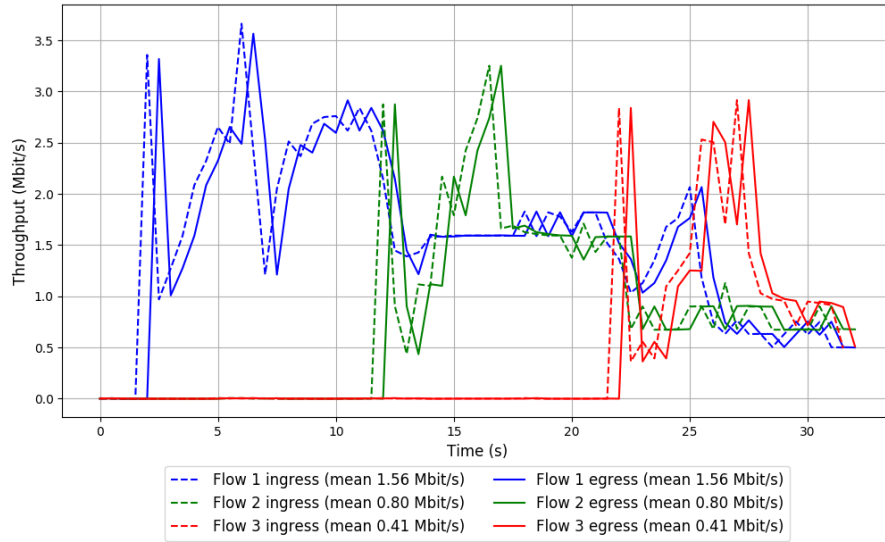
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-03-27 13:05:25
End at: 2019-03-27 13:05:55
Local clock offset: -3.46 ms
Remote clock offset: 0.501 ms


# Below is generated by plot.py at 2019-03-27 14:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.59 Mbit/s
95th percentile per-packet one-way delay: 2.427 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 2.354 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 2.196 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 2.724 ms
Loss rate: 0.00%
```
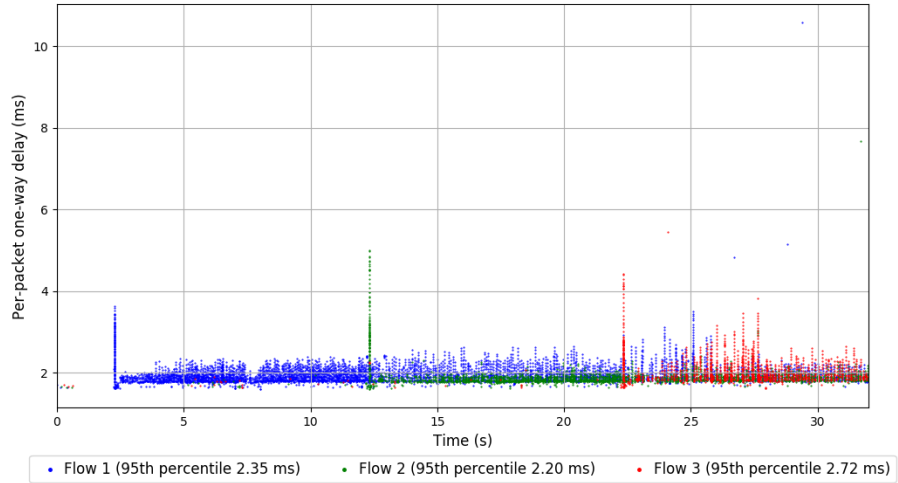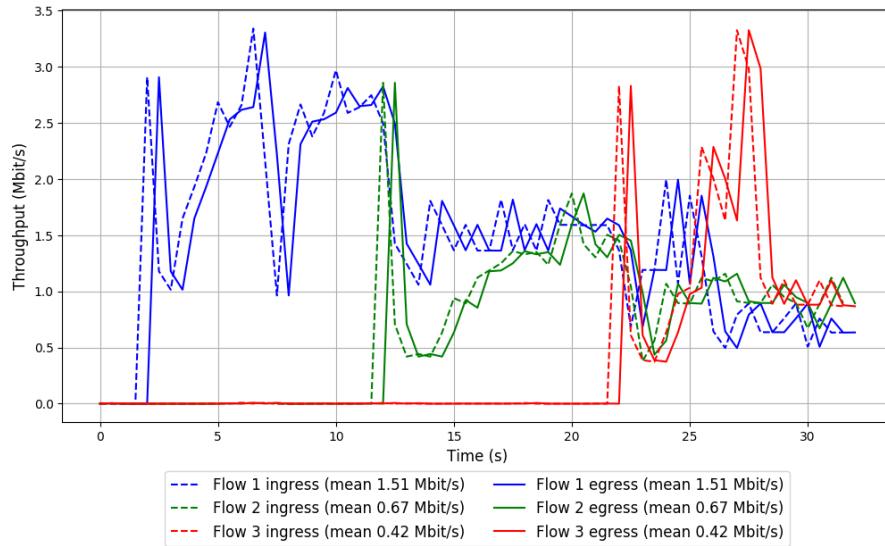
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-03-27 13:29:38
End at: 2019-03-27 13:30:08
Local clock offset: -4.045 ms
Remote clock offset: 0.271 ms


# Below is generated by plot.py at 2019-03-27 14:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.77 Mbit/s
95th percentile per-packet one-way delay: 2.545 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 2.337 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 2.371 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 3.302 ms
Loss rate: 0.00%
```
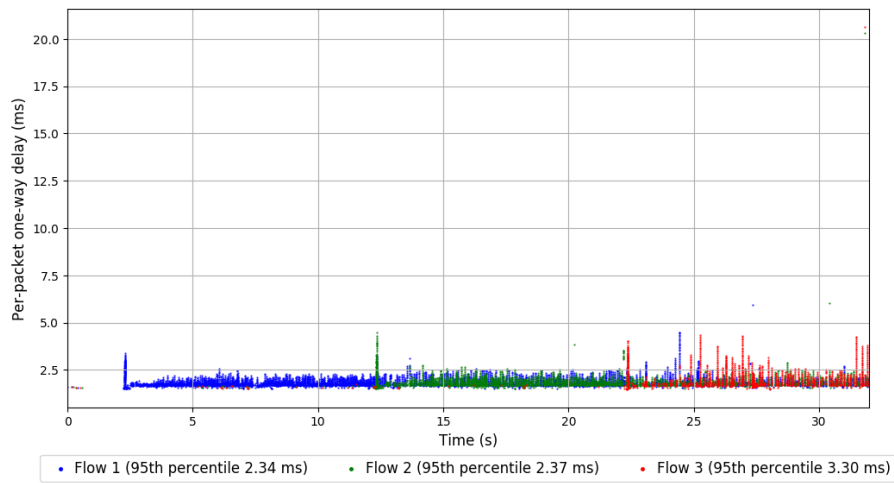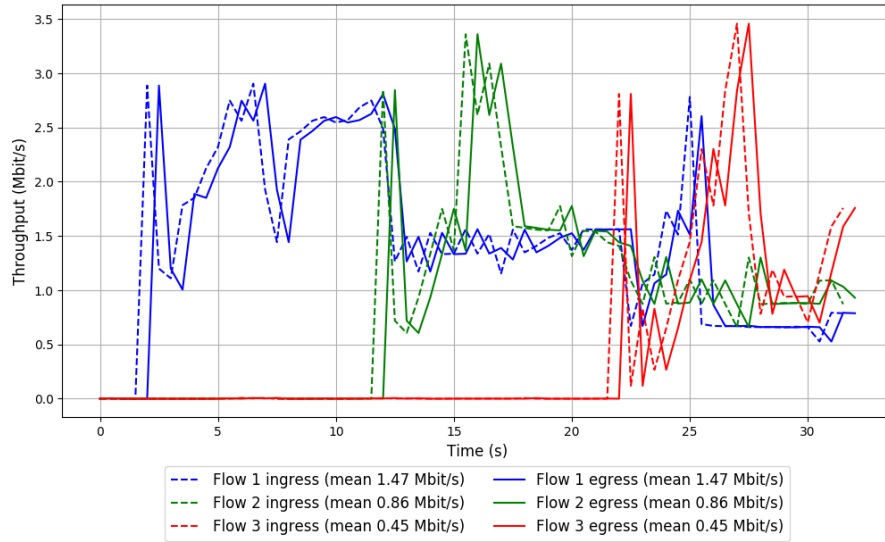
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-03-27 13:53:51
End at: 2019-03-27 13:54:21
Local clock offset: -6.514 ms
Remote clock offset: 0.095 ms


# Below is generated by plot.py at 2019-03-27 14:15:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.66 Mbit/s
95th percentile per-packet one-way delay: 2.393 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 2.340 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 2.515 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 2.225 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link