Pantheon Report

Generated at 2019-06-28 02:51:28 (UTC).

Data path: AWS India 1 on `ens5` (*local*) →India on `em1` (*remote*).

Repeated the test of 22 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 `nets.org.sg` and have been applied to correct the timestamps in logs.
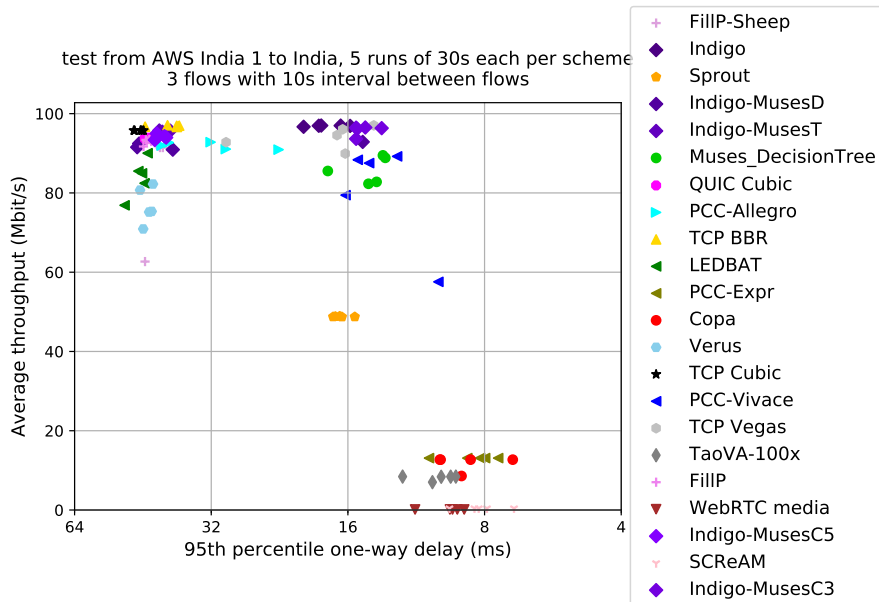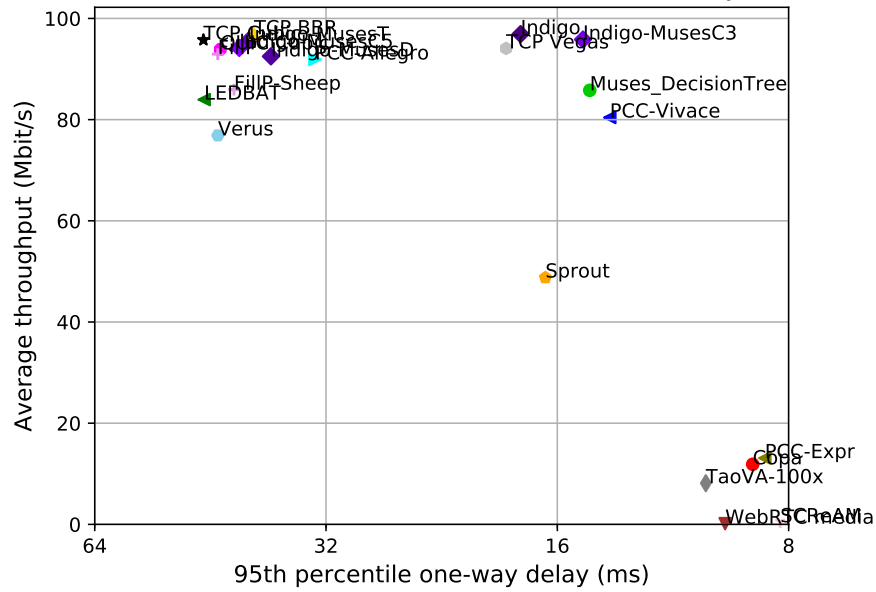
```
System info:
Linux 4.15.0-1039-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ c3953d08f32ec7ebbdede2d2f0cbdeed262571ef
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/muses_dtree @ 11c9498ecb1596b02ccd896791a02d03172af7ed
 M helpers/__init__.pyc
 M helpers/context.pyc
 M helpers/utils.pyc
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
```

```
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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

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

3

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	55.22	44.80	35.59	38.79	40.52	41.32	1.38	2.69	3.11
Copa	5	7.26	6.73	2.20	8.47	9.25	8.56	76.61	72.40	84.78
TCP Cubic	5	67.07	32.69	20.87	45.88	46.69	46.12	0.72	0.75	0.57
FillP	5	56.98	39.98	28.62	42.21	45.47	46.55	29.37	47.79	59.05
FillP-Sheep	5	50.88	37.53	30.51	40.45	42.76	44.42	4.76	8.69	15.30
Indigo	5	54.04	41.79	46.27	17.40	18.13	19.30	0.00	0.00	0.01
Indigo-MusesC3	5	47.61	59.21	34.21	13.37	15.17	14.95	0.00	0.00	0.01
Indigo-MusesC5	5	59.85	41.48	25.70	38.16	42.75	45.37	4.29	9.58	21.99
Indigo-MusesD	5	58.55	44.90	16.70	36.34	37.96	37.88	4.13	6.97	12.49
Indigo-MusesT	5	61.73	39.54	28.59	36.32	41.26	44.88	3.14	6.82	17.73
LEDBAT	5	56.05	32.60	21.02	45.98	46.18	46.89	0.27	0.52	0.70
Muses_DecisionTree	5	75.68	11.88	6.92	14.41	14.64	14.96	0.00	0.00	7.12
PCC-Allegro	5	79.72	14.20	8.28	33.32	33.22	33.06	1.52	1.84	8.31
PCC-Expr	5	7.84	5.98	3.89	8.62	8.57	8.59	42.78	31.54	31.49
QUIC Cubic	5	68.70	26.28	23.60	43.62	44.02	44.34	1.25	1.67	2.25
SCReAM	5	0.21	0.21	0.22	7.53	7.62	8.19	0.00	0.00	0.00
Sprout	5	24.54	24.44	24.20	16.01	17.21	16.62	0.01	0.00	0.03
TaoVA-100x	5	0.00	6.79	11.82	6.78	10.44	10.13	95.92	80.96	85.70
TCP Vegas	5	47.99	46.57	45.30	19.36	17.56	12.43	0.64	0.00	0.00
Verus	5	51.88	29.69	22.19	44.29	44.10	44.08	30.59	32.15	32.65
PCC-Vivace	5	47.38	39.62	20.27	12.38	14.66	16.81	7.16	0.00	0.01
WebRTC media	5	0.05	0.05	0.05	9.07	9.64	9.24	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-06-28 00:39:01
End at: 2019-06-28 00:39:31
Local clock offset: -1.716 ms
Remote clock offset: -2.58 ms


# Below is generated by plot.py at 2019-06-28 02:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.72 Mbit/s
95th percentile per-packet one-way delay: 44.752 ms
Loss rate: 3.13%
-- Flow 1:
Average throughput: 54.50 Mbit/s
95th percentile per-packet one-way delay: 43.087 ms
Loss rate: 1.89%
-- Flow 2:
Average throughput: 42.64 Mbit/s
95th percentile per-packet one-way delay: 45.572 ms
Loss rate: 3.70%
-- Flow 3:
Average throughput: 41.69 Mbit/s
95th percentile per-packet one-way delay: 45.831 ms
Loss rate: 6.64%
```
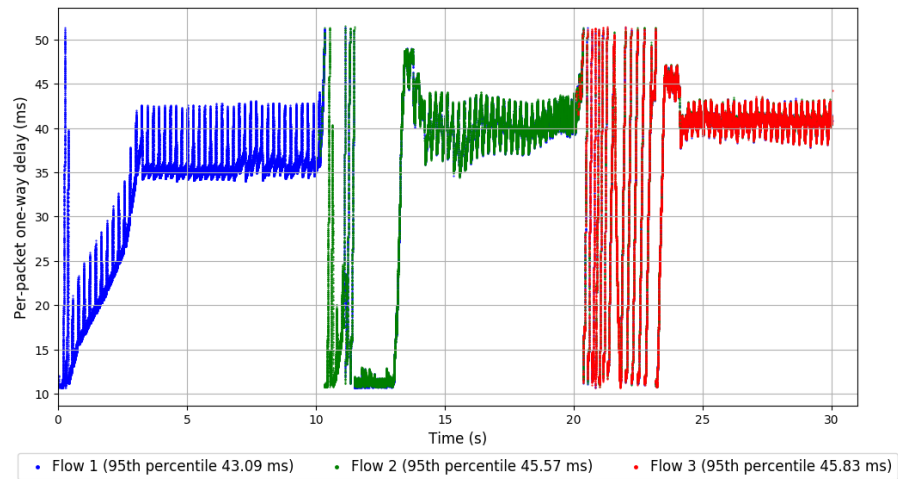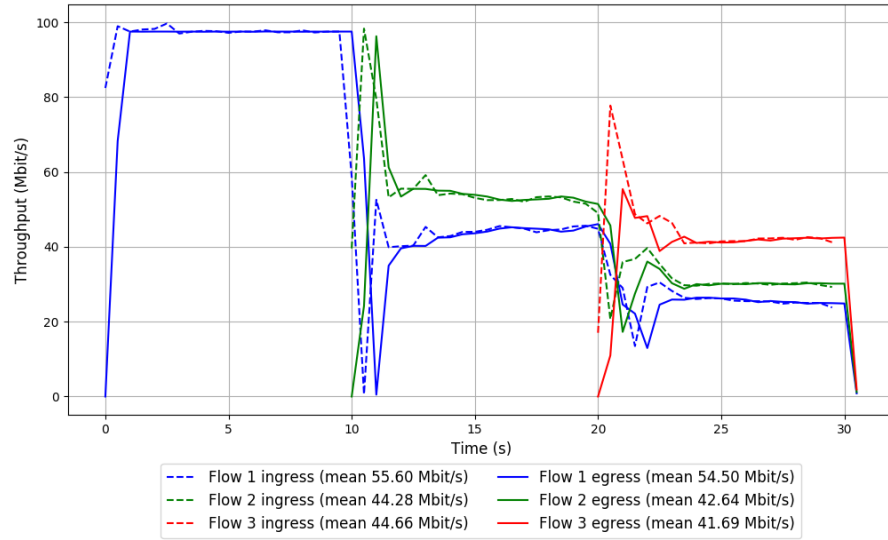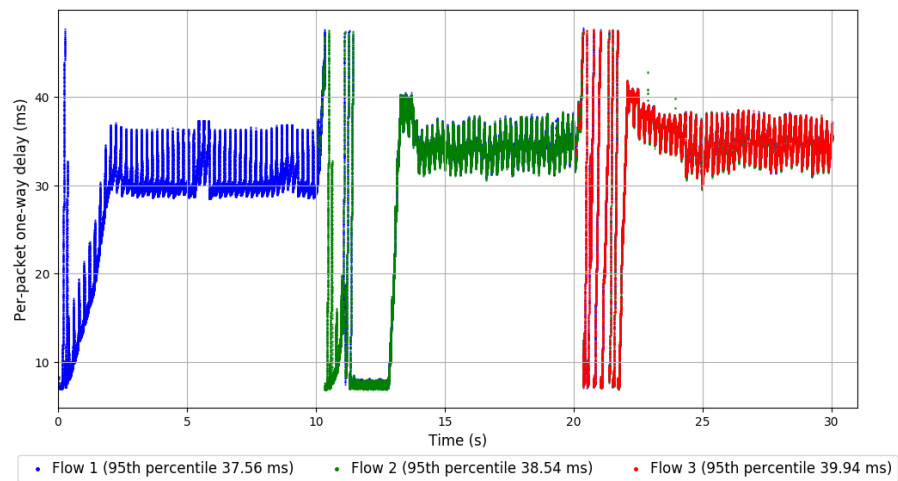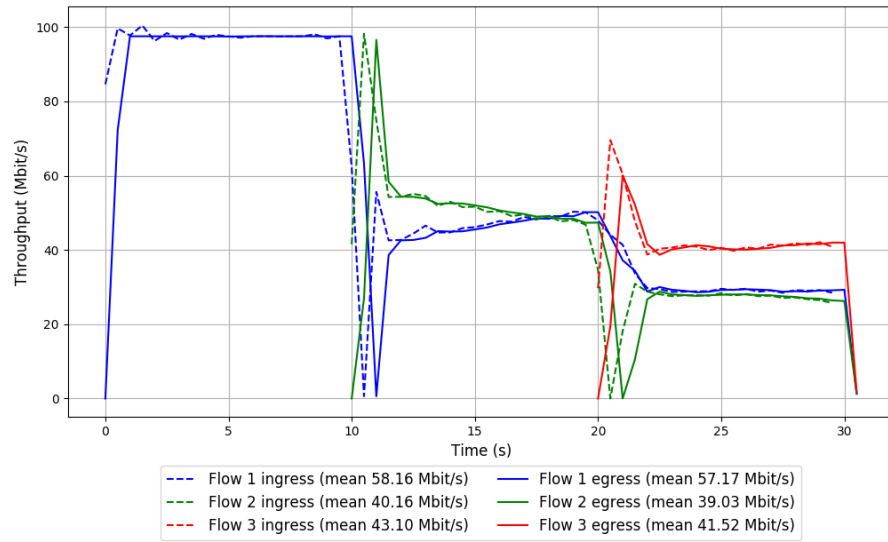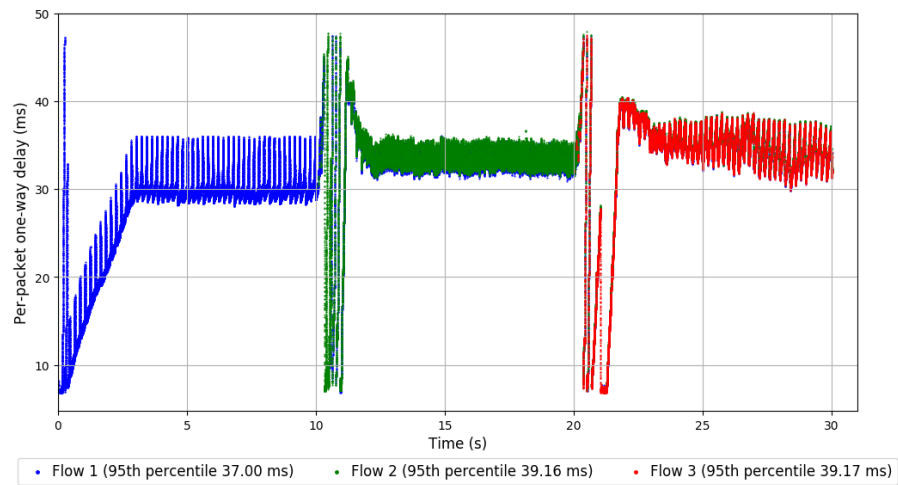
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-06-28 01:05:15
End at: 2019-06-28 01:05:45
Local clock offset: -2.263 ms
Remote clock offset: -3.39 ms


# Below is generated by plot.py at 2019-06-28 02:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.94 Mbit/s
95th percentile per-packet one-way delay: 38.128 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 57.17 Mbit/s
95th percentile per-packet one-way delay: 37.557 ms
Loss rate: 1.60%
-- Flow 2:
Average throughput: 39.03 Mbit/s
95th percentile per-packet one-way delay: 38.544 ms
Loss rate: 2.79%
-- Flow 3:
Average throughput: 41.52 Mbit/s
95th percentile per-packet one-way delay: 39.935 ms
Loss rate: 3.63%
```
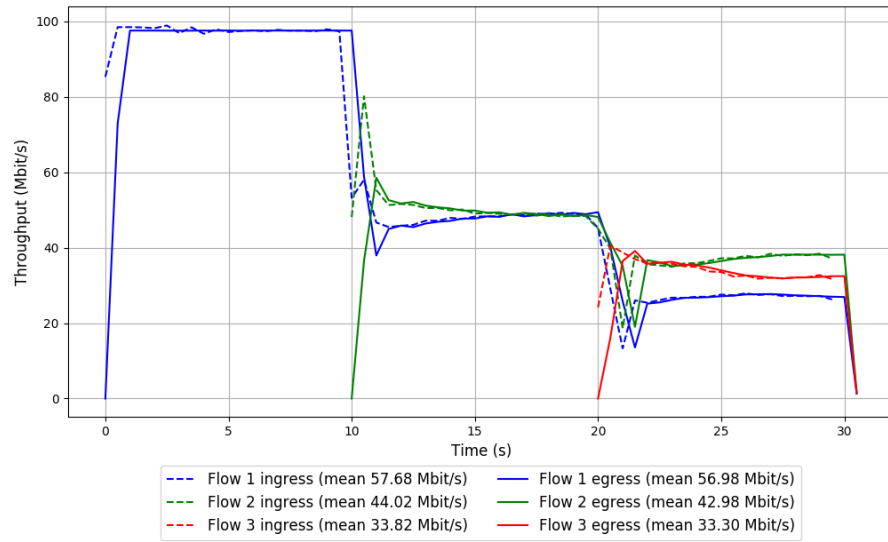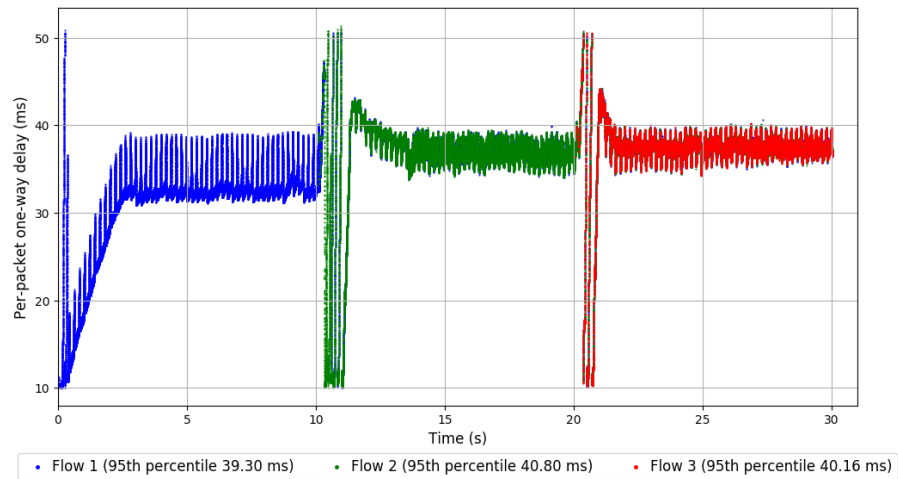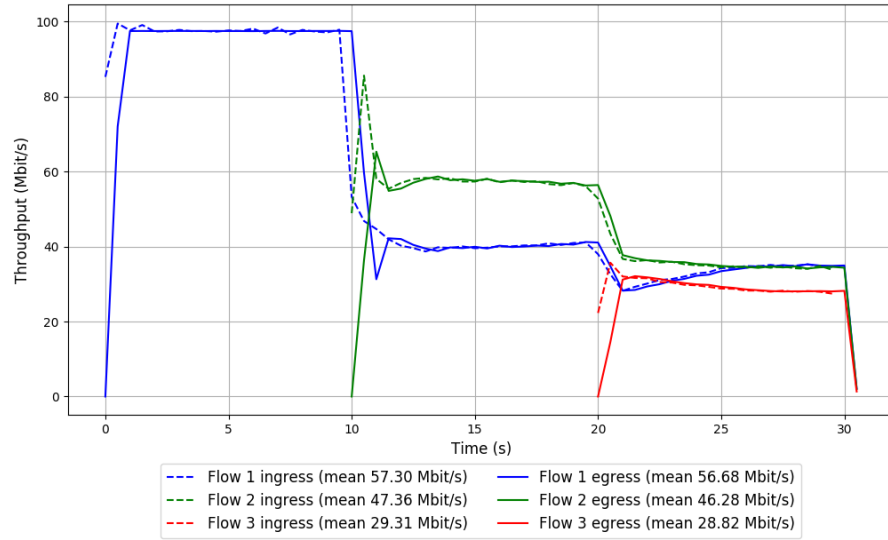
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 58.16 Mbit/s) — — — Flow 1 egress (mean 57.17 Mbit/s)
Flow 2 ingress (mean 40.16 Mbit/s) — — — Flow 2 egress (mean 39.03 Mbit/s)
Flow 3 ingress (mean 43.10 Mbit/s) — — — Flow 3 egress (mean 41.52 Mbit/s)

Flow 1 (95th percentile 37.56 ms) • Flow 2 (95th percentile 38.54 ms) • Flow 3 (95th percentile 39.94 ms)
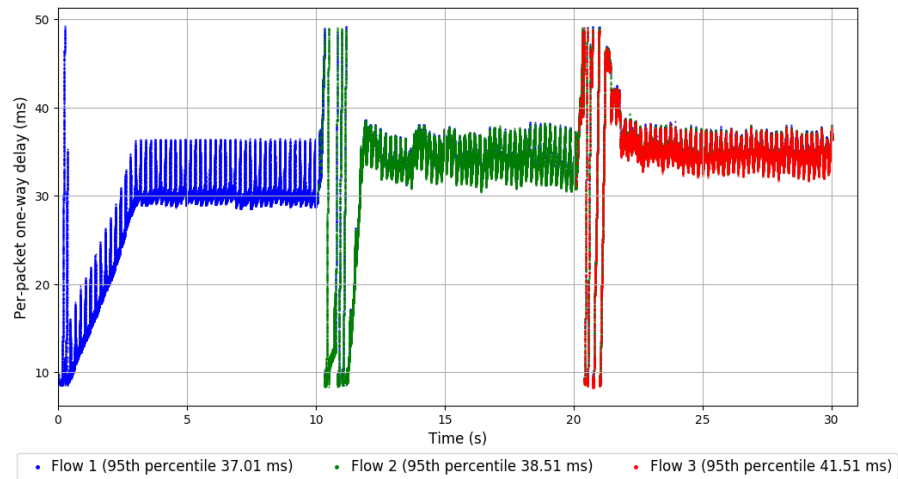
```
Run 3: Statistics of TCP BBR

Start at: 2019-06-28 01:31:47
End at: 2019-06-28 01:32:17
Local clock offset: -1.695 ms
Remote clock offset: -3.569 ms


# Below is generated by plot.py at 2019-06-28 02:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.65 Mbit/s
95th percentile per-packet one-way delay: 38.087 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 56.98 Mbit/s
95th percentile per-packet one-way delay: 36.998 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 42.98 Mbit/s
95th percentile per-packet one-way delay: 39.156 ms
Loss rate: 2.35%
-- Flow 3:
Average throughput: 33.30 Mbit/s
95th percentile per-packet one-way delay: 39.173 ms
Loss rate: 1.52%
```
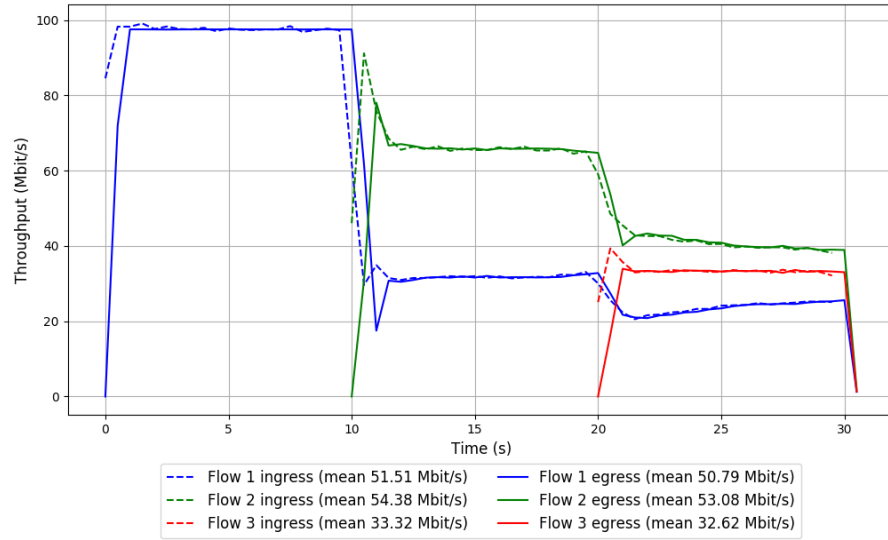
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 57.68 Mbit/s) --- Flow 1 egress (mean 56.98 Mbit/s)
Flow 2 ingress (mean 44.02 Mbit/s) --- Flow 2 egress (mean 42.98 Mbit/s)
Flow 3 ingress (mean 33.82 Mbit/s) --- Flow 3 egress (mean 33.30 Mbit/s)

Flow 1 (95th percentile 37.00 ms)   Flow 2 (95th percentile 39.16 ms)   Flow 3 (95th percentile 39.17 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-06-28 01:58:08
End at: 2019-06-28 01:58:38
Local clock offset: -3.824 ms
Remote clock offset: -3.469 ms


# Below is generated by plot.py at 2019-06-28 02:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.08 Mbit/s
95th percentile per-packet one-way delay: 39.941 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 56.68 Mbit/s
95th percentile per-packet one-way delay: 39.301 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 46.28 Mbit/s
95th percentile per-packet one-way delay: 40.804 ms
Loss rate: 2.26%
-- Flow 3:
Average throughput: 28.82 Mbit/s
95th percentile per-packet one-way delay: 40.159 ms
Loss rate: 1.67%
```
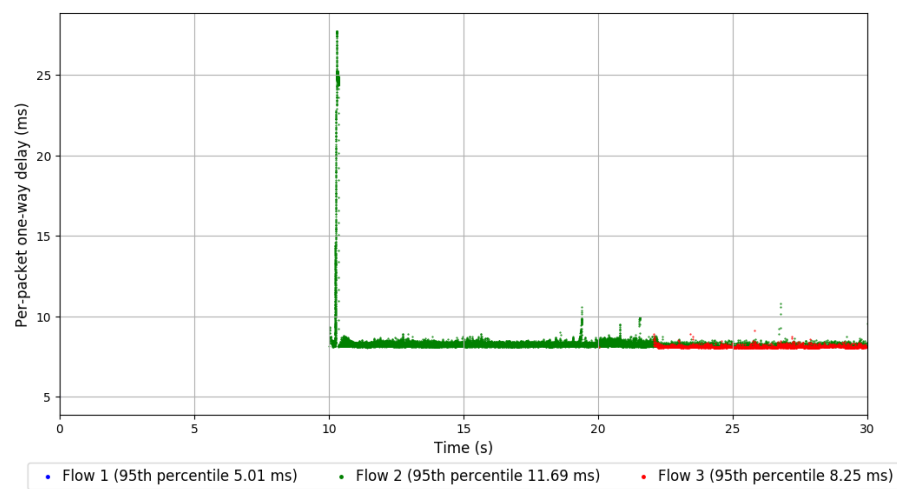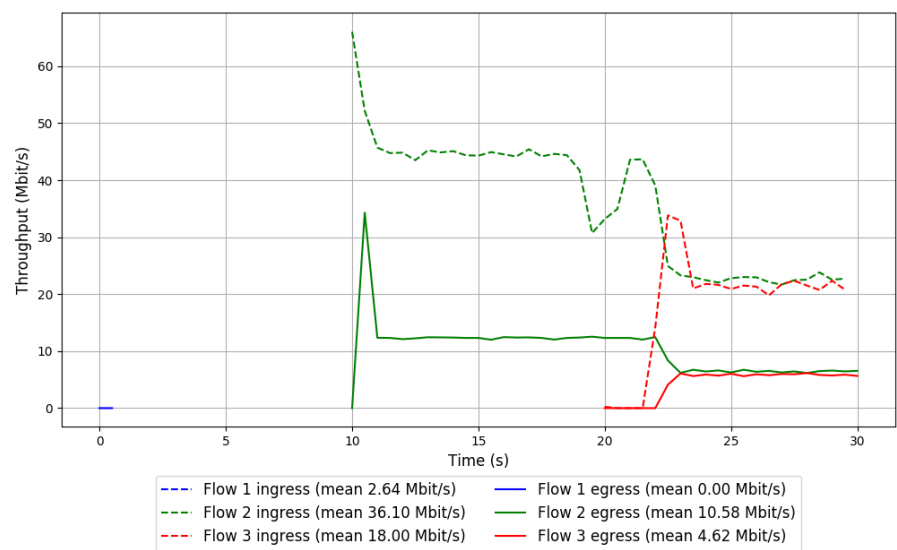
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 57.30 Mbit/s) --- Flow 1 egress (mean 56.68 Mbit/s)
Flow 2 ingress (mean 47.36 Mbit/s) --- Flow 2 egress (mean 46.28 Mbit/s)
Flow 3 ingress (mean 29.31 Mbit/s) --- Flow 3 egress (mean 28.82 Mbit/s)

Flow 1 (95th percentile 39.30 ms)   Flow 2 (95th percentile 40.80 ms)   Flow 3 (95th percentile 40.16 ms)
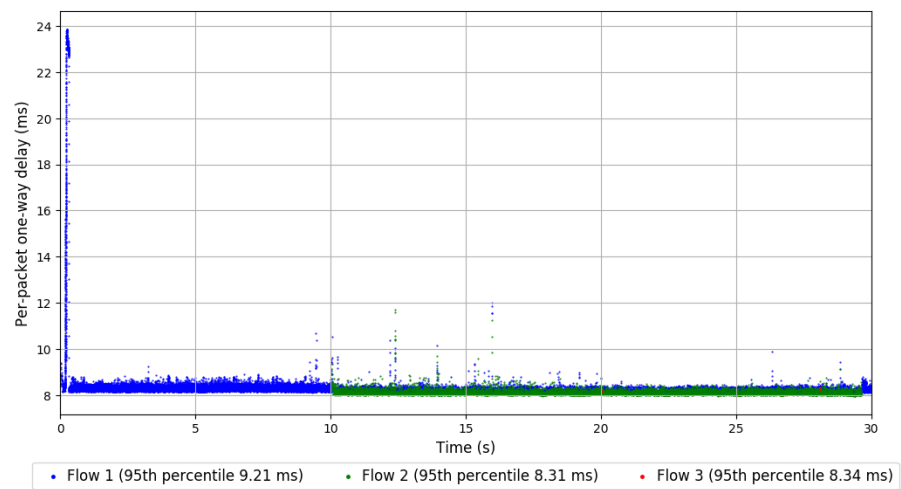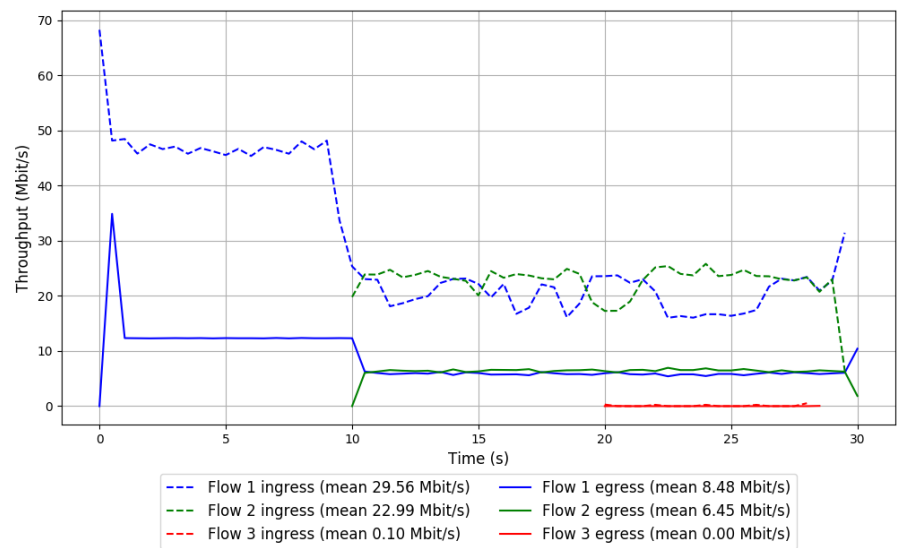
```
Run 5: Statistics of TCP BBR

Start at: 2019-06-28 02:24:41
End at: 2019-06-28 02:25:11
Local clock offset: -2.021 ms
Remote clock offset: -3.626 ms


# Below is generated by plot.py at 2019-06-28 02:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.97 Mbit/s
95th percentile per-packet one-way delay: 37.645 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 50.79 Mbit/s
95th percentile per-packet one-way delay: 37.014 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 53.08 Mbit/s
95th percentile per-packet one-way delay: 38.510 ms
Loss rate: 2.36%
-- Flow 3:
Average throughput: 32.62 Mbit/s
95th percentile per-packet one-way delay: 41.506 ms
Loss rate: 2.10%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 51.51 Mbit/s) --- Flow 1 egress (mean 50.79 Mbit/s)
Flow 2 ingress (mean 54.38 Mbit/s) --- Flow 2 egress (mean 53.08 Mbit/s)
Flow 3 ingress (mean 33.32 Mbit/s) --- Flow 3 egress (mean 32.62 Mbit/s)

Flow 1 (95th percentile 37.01 ms)   Flow 2 (95th percentile 38.51 ms)   Flow 3 (95th percentile 41.51 ms)

14

```
Run 1: Statistics of Copa

Start at: 2019-06-28 00:26:14
End at: 2019-06-28 00:26:44
Local clock offset: -1.902 ms
Remote clock offset: -5.663 ms


# Below is generated by plot.py at 2019-06-28 02:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.58 Mbit/s
95th percentile per-packet one-way delay: 8.992 ms
Loss rate: 71.42%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5.012 ms
Loss rate: 98.60%
-- Flow 2:
Average throughput: 10.58 Mbit/s
95th percentile per-packet one-way delay: 11.694 ms
Loss rate: 70.69%
-- Flow 3:
Average throughput: 4.62 Mbit/s
95th percentile per-packet one-way delay: 8.248 ms
Loss rate: 74.36%
```
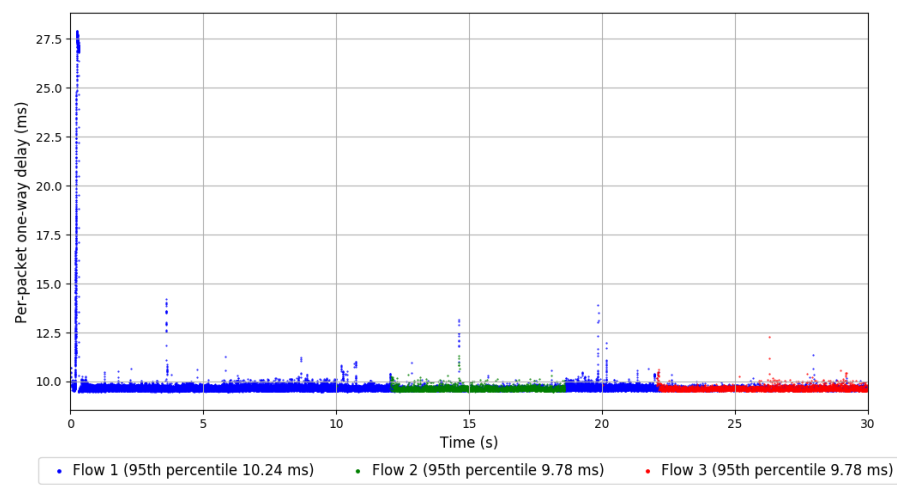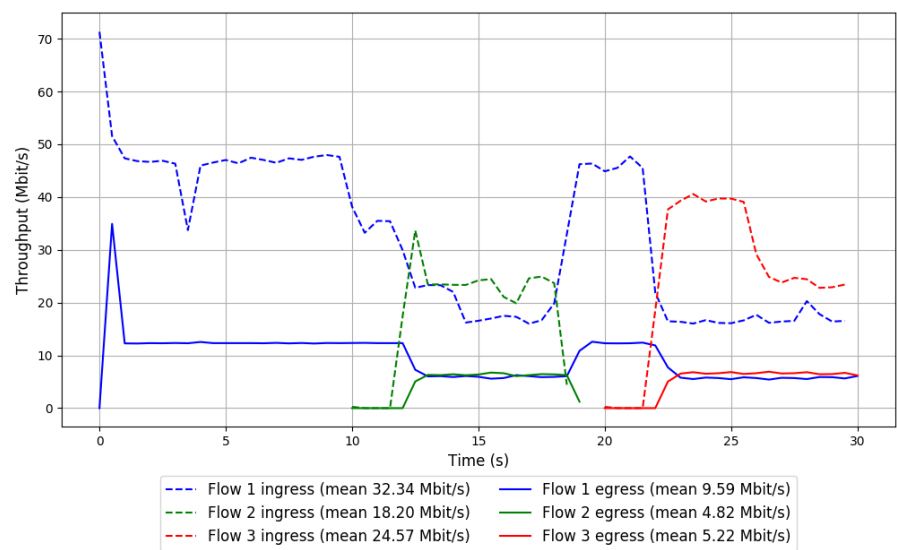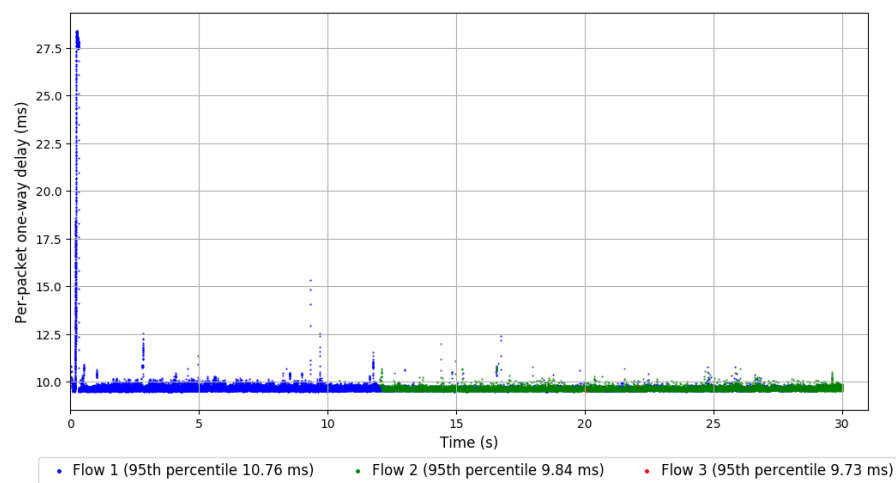
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 2.64 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 36.10 Mbit/s) --- Flow 2 egress (mean 10.58 Mbit/s)
Flow 3 ingress (mean 18.00 Mbit/s) --- Flow 3 egress (mean 4.62 Mbit/s)

Flow 1 (95th percentile 5.01 ms) · Flow 2 (95th percentile 11.69 ms) · Flow 3 (95th percentile 8.25 ms)

```
Run 2: Statistics of Copa

Start at: 2019-06-28 00:52:07
End at: 2019-06-28 00:52:37
Local clock offset: -2.495 ms
Remote clock offset: -2.363 ms


# Below is generated by plot.py at 2019-06-28 02:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.70 Mbit/s
95th percentile per-packet one-way delay: 8.588 ms
Loss rate: 71.53%
-- Flow 1:
Average throughput: 8.48 Mbit/s
95th percentile per-packet one-way delay: 9.206 ms
Loss rate: 71.30%
-- Flow 2:
Average throughput: 6.45 Mbit/s
95th percentile per-packet one-way delay: 8.306 ms
Loss rate: 71.95%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8.339 ms
Loss rate: 95.19%
```
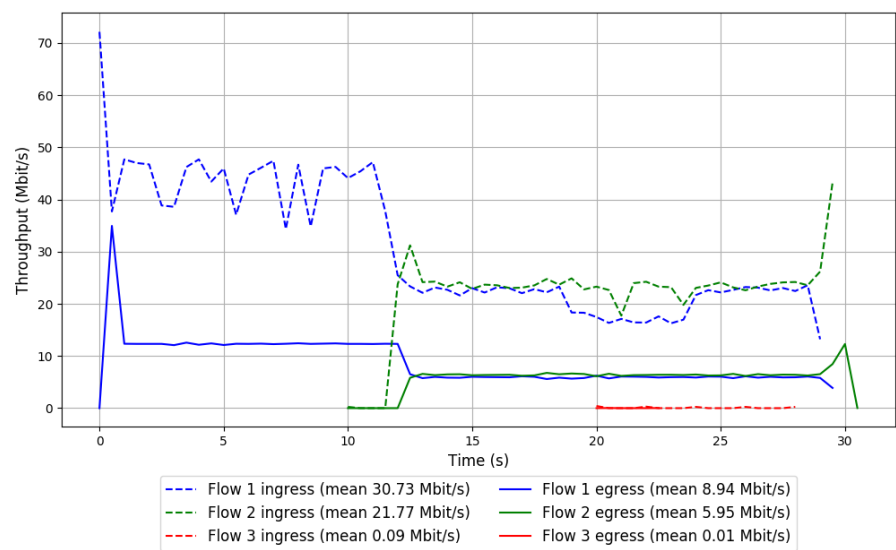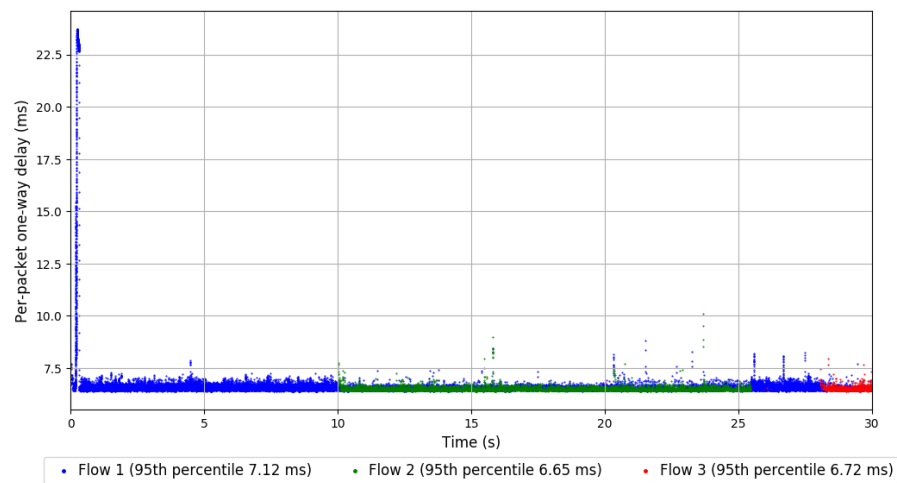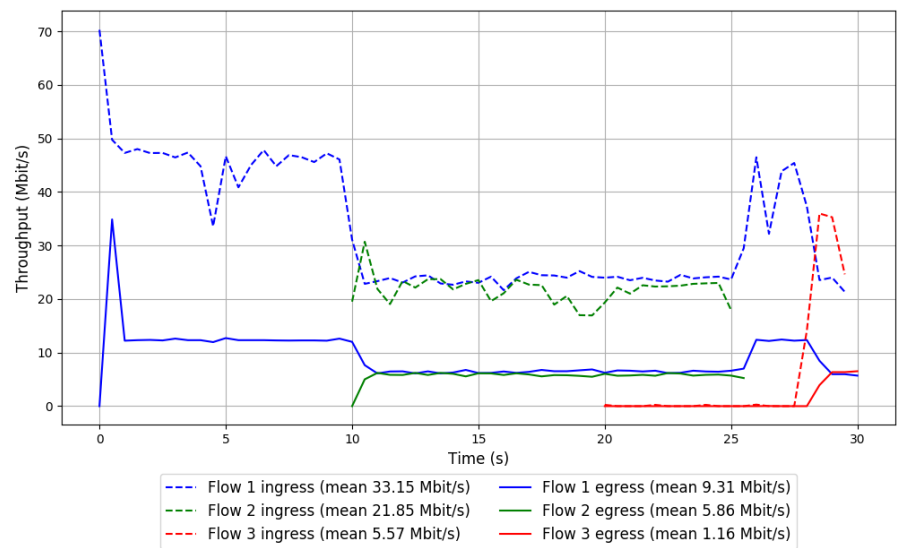
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-06-28 01:18:37
End at: 2019-06-28 01:19:07
Local clock offset: -2.817 ms
Remote clock offset: -1.295 ms


# Below is generated by plot.py at 2019-06-28 02:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.70 Mbit/s
95th percentile per-packet one-way delay: 9.999 ms
Loss rate: 72.21%
-- Flow 1:
Average throughput: 9.59 Mbit/s
95th percentile per-packet one-way delay: 10.241 ms
Loss rate: 70.34%
-- Flow 2:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 9.784 ms
Loss rate: 73.52%
-- Flow 3:
Average throughput: 5.22 Mbit/s
95th percentile per-packet one-way delay: 9.780 ms
Loss rate: 78.75%
```

Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2019-06-28 01:44:59
End at: 2019-06-28 01:45:29
Local clock offset: -2.037 ms
Remote clock offset: -1.978 ms


# Below is generated by plot.py at 2019-06-28 02:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.70 Mbit/s
95th percentile per-packet one-way delay: 10.035 ms
Loss rate: 71.49%
-- Flow 1:
Average throughput: 8.94 Mbit/s
95th percentile per-packet one-way delay: 10.763 ms
Loss rate: 70.90%
-- Flow 2:
Average throughput: 5.95 Mbit/s
95th percentile per-packet one-way delay: 9.835 ms
Loss rate: 72.67%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 9.727 ms
Loss rate: 96.47%
```
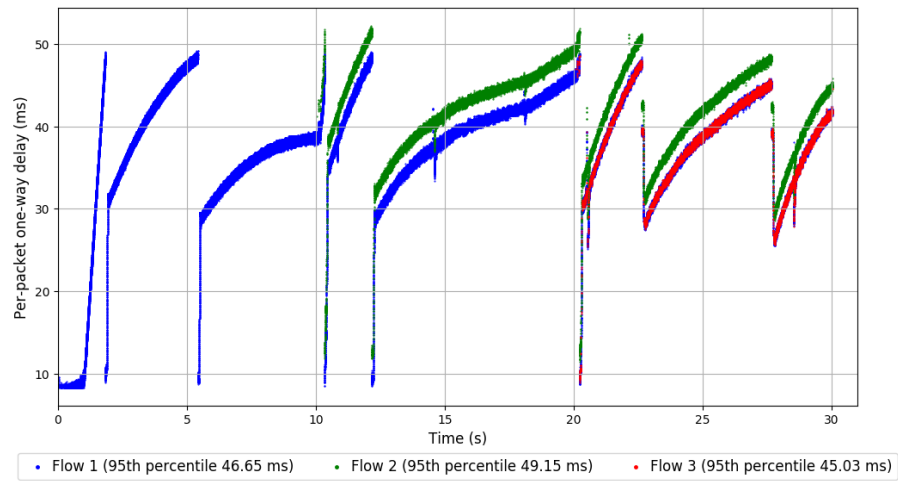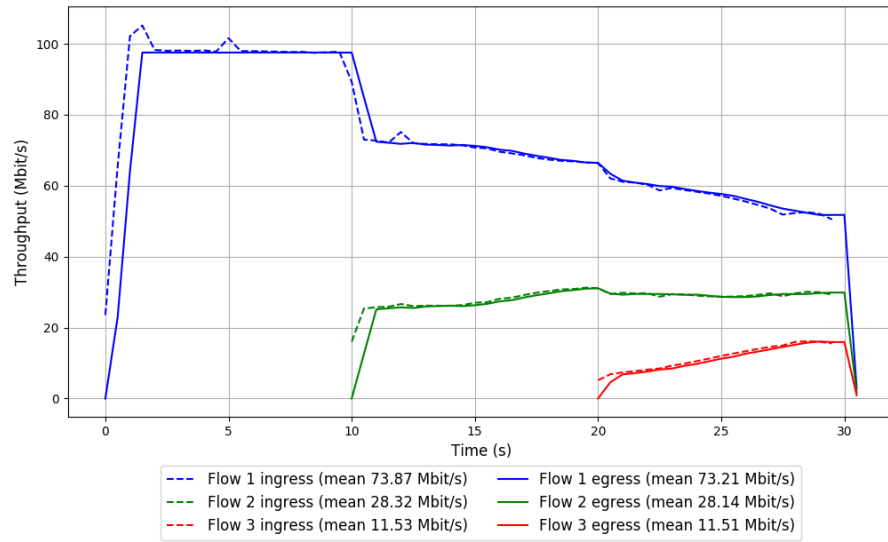
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-06-28 02:11:39
End at: 2019-06-28 02:12:09
Local clock offset: -1.282 ms
Remote clock offset: -4.547 ms


# Below is generated by plot.py at 2019-06-28 02:39:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.70 Mbit/s
95th percentile per-packet one-way delay: 6.934 ms
Loss rate: 72.52%
-- Flow 1:
Average throughput: 9.31 Mbit/s
95th percentile per-packet one-way delay: 7.120 ms
Loss rate: 71.92%
-- Flow 2:
Average throughput: 5.86 Mbit/s
95th percentile per-packet one-way delay: 6.651 ms
Loss rate: 73.19%
-- Flow 3:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 6.721 ms
Loss rate: 79.12%
```
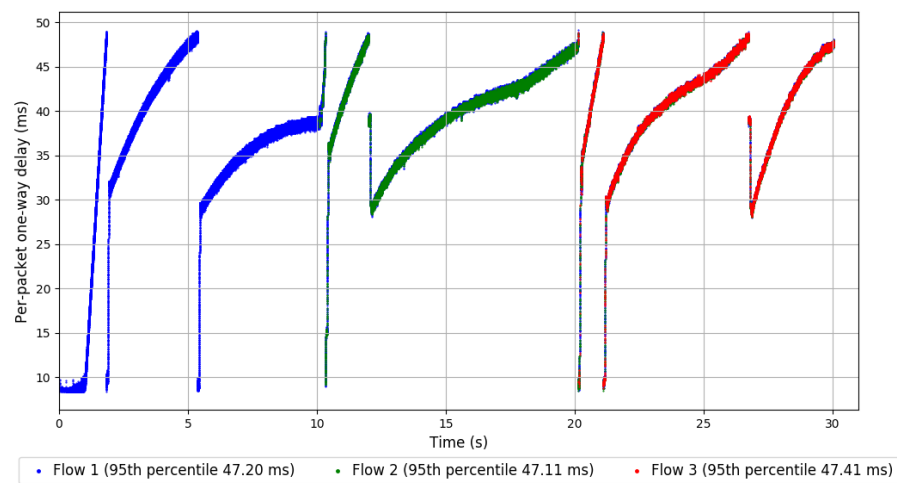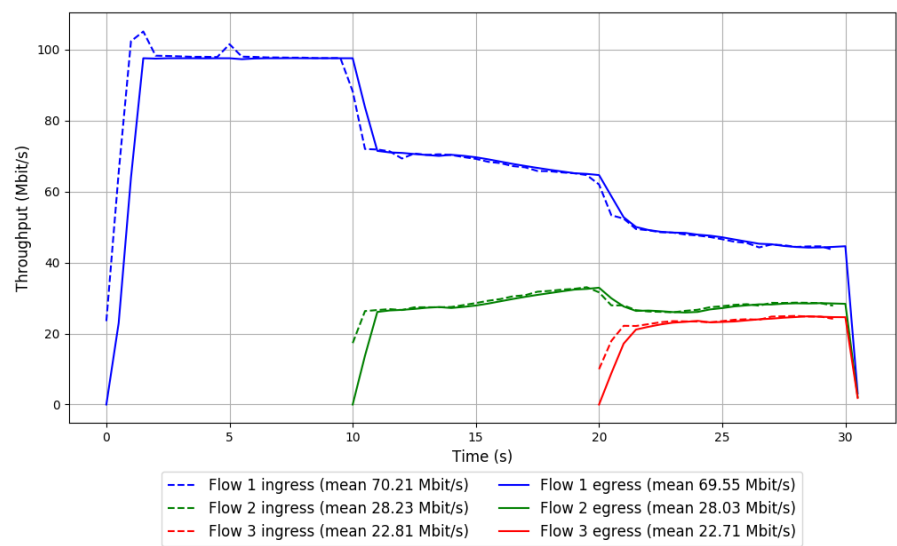
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-06-28 00:25:03
End at: 2019-06-28 00:25:33
Local clock offset: -2.848 ms
Remote clock offset: -3.255 ms


# Below is generated by plot.py at 2019-06-28 02:39:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.74 Mbit/s
95th percentile per-packet one-way delay: 47.408 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 73.21 Mbit/s
95th percentile per-packet one-way delay: 46.650 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 28.14 Mbit/s
95th percentile per-packet one-way delay: 49.151 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 11.51 Mbit/s
95th percentile per-packet one-way delay: 45.034 ms
Loss rate: 0.22%
```
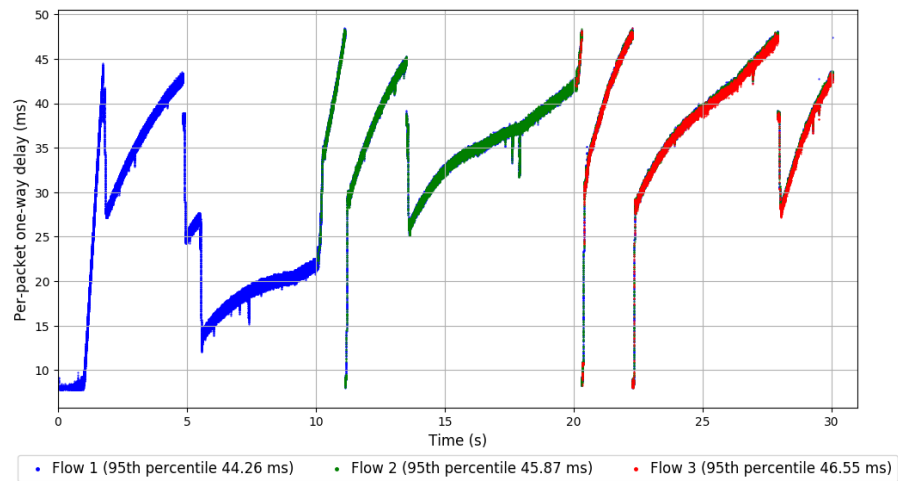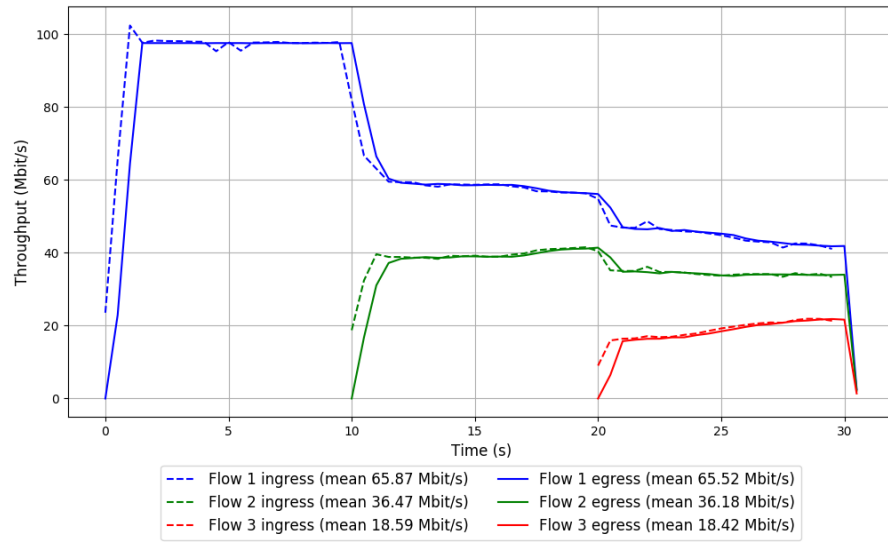
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-06-28 00:50:54
End at: 2019-06-28 00:51:24
Local clock offset: -2.308 ms
Remote clock offset: -2.097 ms


# Below is generated by plot.py at 2019-06-28 02:39:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.75 Mbit/s
95th percentile per-packet one-way delay: 47.198 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 69.55 Mbit/s
95th percentile per-packet one-way delay: 47.197 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 28.03 Mbit/s
95th percentile per-packet one-way delay: 47.110 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 22.71 Mbit/s
95th percentile per-packet one-way delay: 47.410 ms
Loss rate: 0.45%
```
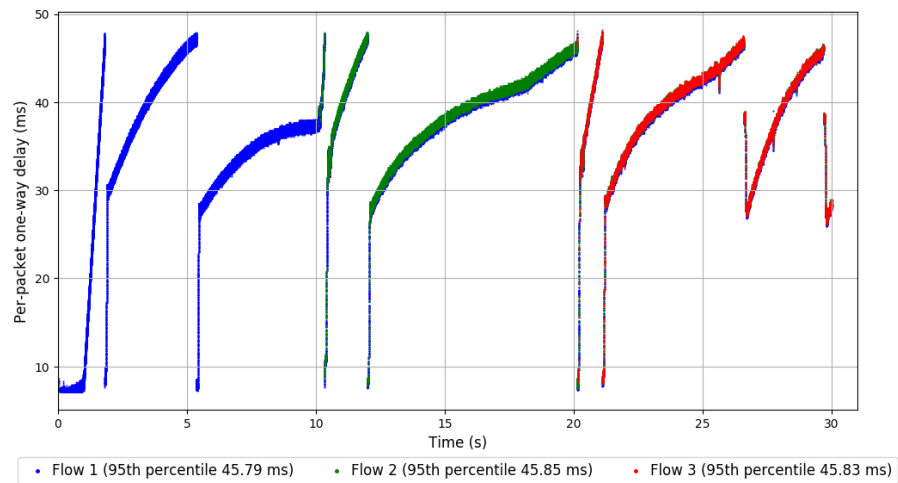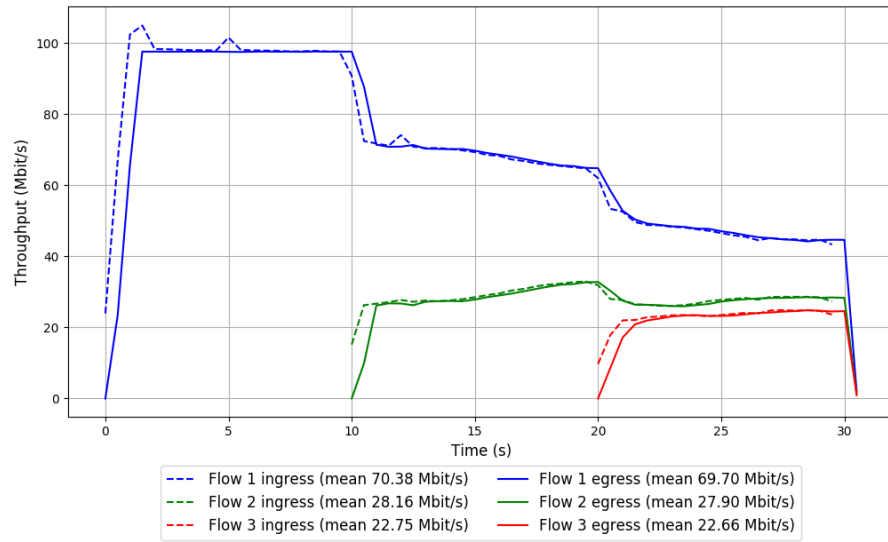
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 70.21 Mbit/s) — — — Flow 1 egress (mean 69.55 Mbit/s) ———
Flow 2 ingress (mean 28.23 Mbit/s) — — — Flow 2 egress (mean 28.03 Mbit/s) ———
Flow 3 ingress (mean 22.81 Mbit/s) — — — Flow 3 egress (mean 22.71 Mbit/s) ———

Flow 1 (95th percentile 47.20 ms) • Flow 2 (95th percentile 47.11 ms) • Flow 3 (95th percentile 47.41 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-06-28 01:17:23
End at: 2019-06-28 01:17:53
Local clock offset: -1.732 ms
Remote clock offset: -2.093 ms


# Below is generated by plot.py at 2019-06-28 02:39:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.75 Mbit/s
95th percentile per-packet one-way delay: 45.105 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 65.52 Mbit/s
95th percentile per-packet one-way delay: 44.263 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 36.18 Mbit/s
95th percentile per-packet one-way delay: 45.869 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 18.42 Mbit/s
95th percentile per-packet one-way delay: 46.554 ms
Loss rate: 0.86%
```
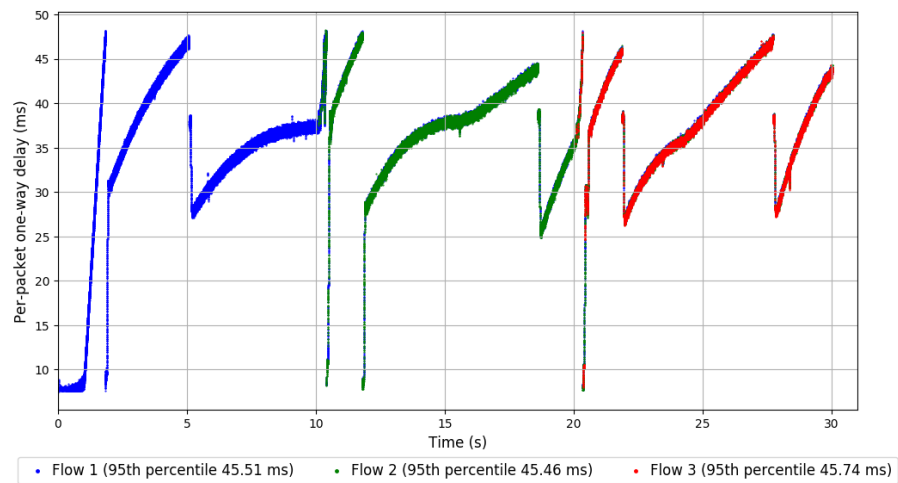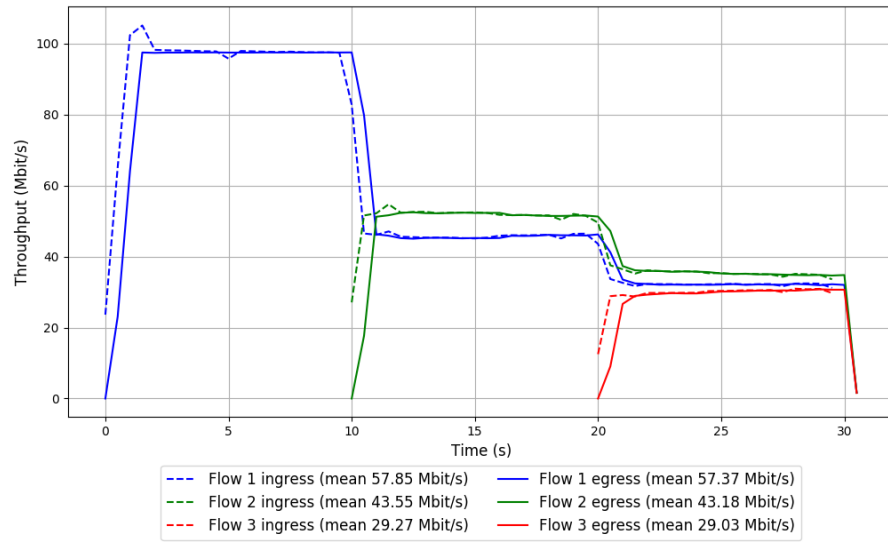
Run 3: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 65.87 Mbit/s) —— Flow 1 egress (mean 65.52 Mbit/s)
- - - Flow 2 ingress (mean 36.47 Mbit/s) —— Flow 2 egress (mean 36.18 Mbit/s)
- - - Flow 3 ingress (mean 18.59 Mbit/s) —— Flow 3 egress (mean 18.42 Mbit/s)

- Flow 1 (95th percentile 44.26 ms)   - Flow 2 (95th percentile 45.87 ms)   - Flow 3 (95th percentile 46.55 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-06-28 01:43:47
End at: 2019-06-28 01:44:17
Local clock offset: -1.119 ms
Remote clock offset: -3.179 ms


# Below is generated by plot.py at 2019-06-28 02:40:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 45.804 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 69.70 Mbit/s
95th percentile per-packet one-way delay: 45.794 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 27.90 Mbit/s
95th percentile per-packet one-way delay: 45.848 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 22.66 Mbit/s
95th percentile per-packet one-way delay: 45.834 ms
Loss rate: 0.56%
```
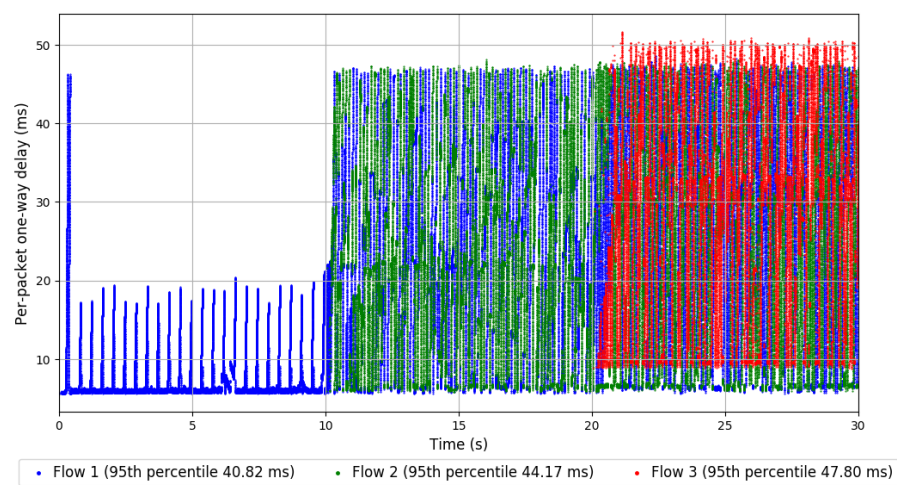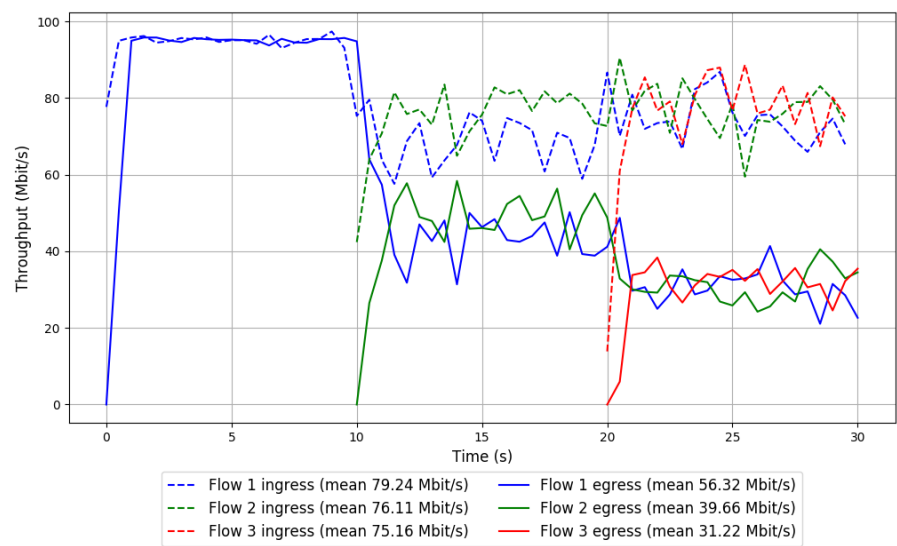
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-06-28 02:10:27
End at: 2019-06-28 02:10:57
Local clock offset: -2.359 ms
Remote clock offset: -4.686 ms


# Below is generated by plot.py at 2019-06-28 02:40:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.74 Mbit/s
95th percentile per-packet one-way delay: 45.513 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 57.37 Mbit/s
95th percentile per-packet one-way delay: 45.513 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 43.18 Mbit/s
95th percentile per-packet one-way delay: 45.464 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 29.03 Mbit/s
95th percentile per-packet one-way delay: 45.745 ms
Loss rate: 0.74%
```

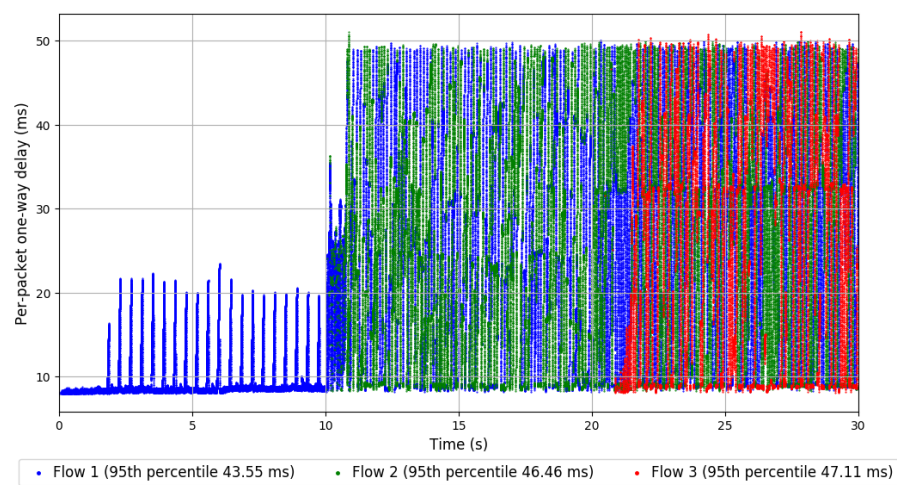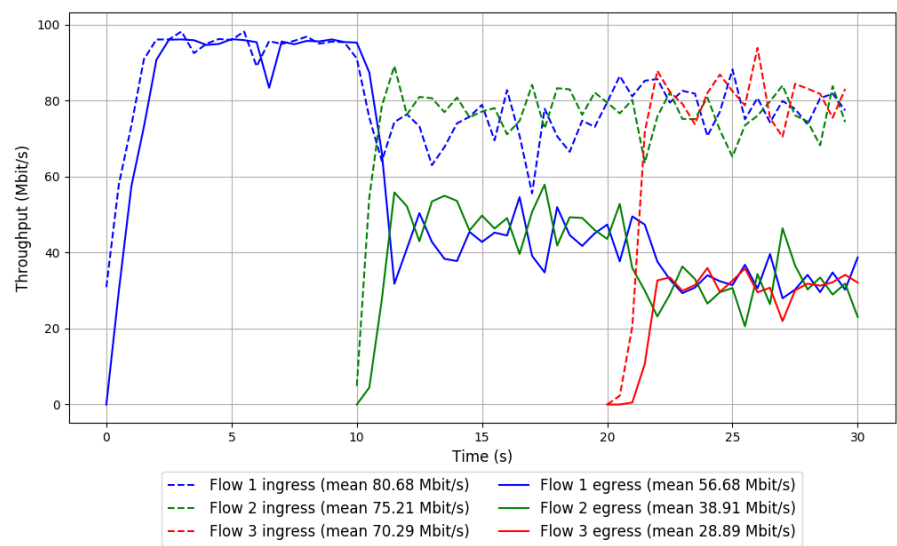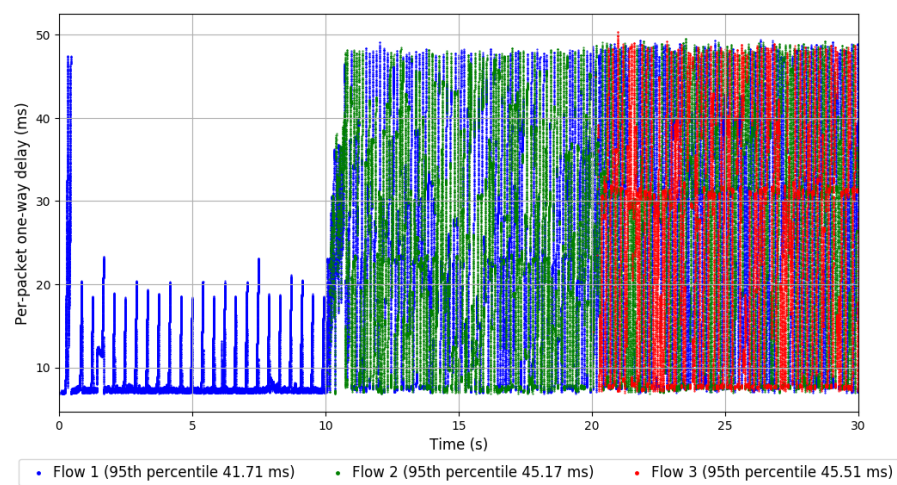Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-06-28 00:31:57
End at: 2019-06-28 00:32:27
Local clock offset: -1.539 ms
Remote clock offset: -4.342 ms

# Below is generated by plot.py at 2019-06-28 02:40:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.03 Mbit/s
95th percentile per-packet one-way delay: 43.404 ms
Loss rate: 39.89%
-- Flow 1:
Average throughput: 56.32 Mbit/s
95th percentile per-packet one-way delay: 40.823 ms
Loss rate: 28.99%
-- Flow 2:
Average throughput: 39.66 Mbit/s
95th percentile per-packet one-way delay: 44.174 ms
Loss rate: 47.81%
-- Flow 3:
Average throughput: 31.22 Mbit/s
95th percentile per-packet one-way delay: 47.796 ms
Loss rate: 58.42%
```

Run 1: Report of FillP — Data Link

- - - Flow 1 ingress (mean 79.24 Mbit/s) —— Flow 1 egress (mean 56.32 Mbit/s)
- - - Flow 2 ingress (mean 76.11 Mbit/s) —— Flow 2 egress (mean 39.66 Mbit/s)
- - - Flow 3 ingress (mean 75.16 Mbit/s) —— Flow 3 egress (mean 31.22 Mbit/s)

• Flow 1 (95th percentile 40.82 ms) • Flow 2 (95th percentile 44.17 ms) • Flow 3 (95th percentile 47.80 ms)
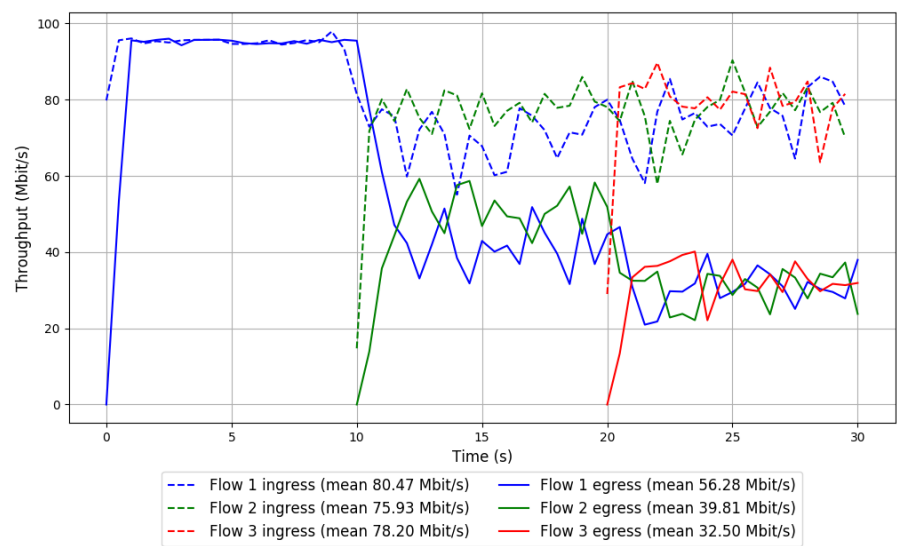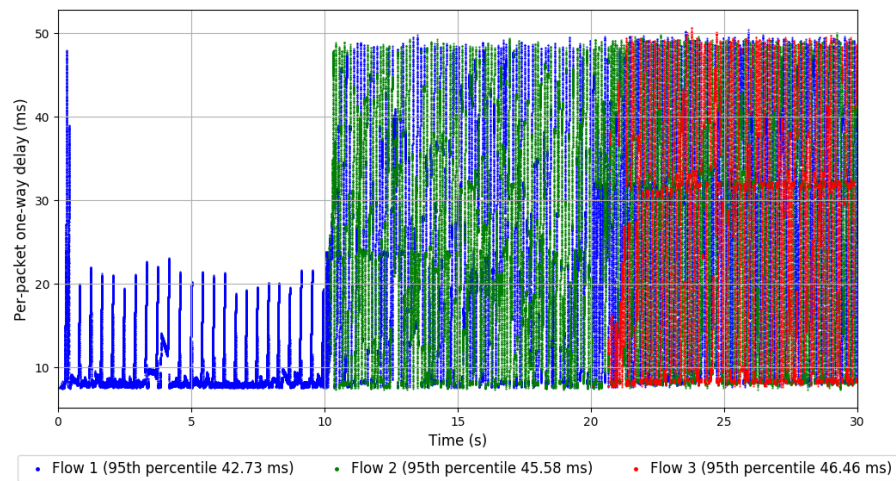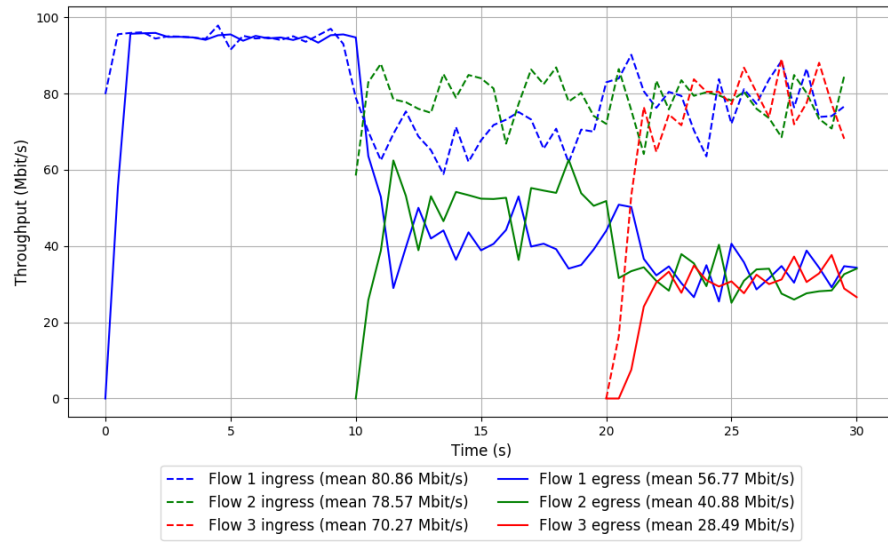
```
Run 2: Statistics of FillP

Start at: 2019-06-28 00:57:59
End at: 2019-06-28 00:58:29
Local clock offset: -1.901 ms
Remote clock offset: -1.543 ms


# Below is generated by plot.py at 2019-06-28 02:40:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.72 Mbit/s
95th percentile per-packet one-way delay: 45.128 ms
Loss rate: 40.43%
-- Flow 1:
Average throughput: 56.68 Mbit/s
95th percentile per-packet one-way delay: 43.551 ms
Loss rate: 29.73%
-- Flow 2:
Average throughput: 38.91 Mbit/s
95th percentile per-packet one-way delay: 46.460 ms
Loss rate: 48.19%
-- Flow 3:
Average throughput: 28.89 Mbit/s
95th percentile per-packet one-way delay: 47.114 ms
Loss rate: 60.83%
```

Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 80.68 Mbit/s) --- Flow 1 egress (mean 56.68 Mbit/s)
Flow 2 ingress (mean 75.21 Mbit/s) --- Flow 2 egress (mean 38.91 Mbit/s)
Flow 3 ingress (mean 70.29 Mbit/s) --- Flow 3 egress (mean 28.89 Mbit/s)

Flow 1 (95th percentile 43.55 ms) Flow 2 (95th percentile 46.46 ms) Flow 3 (95th percentile 47.11 ms)
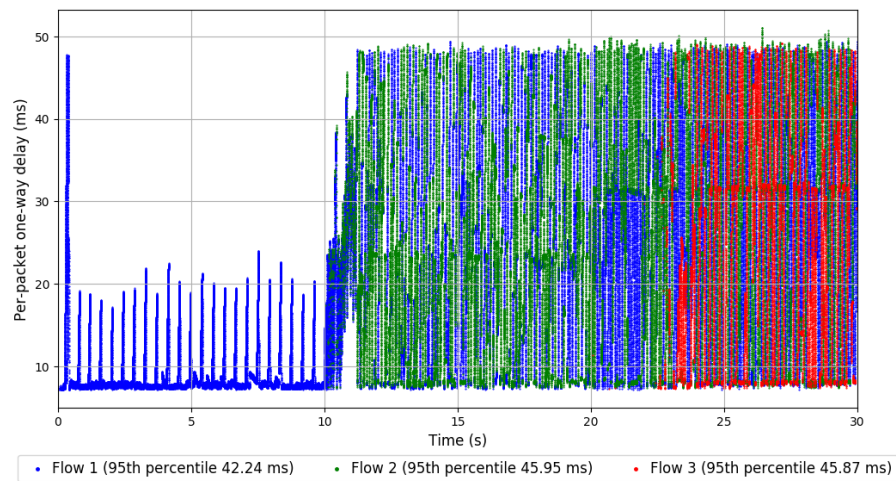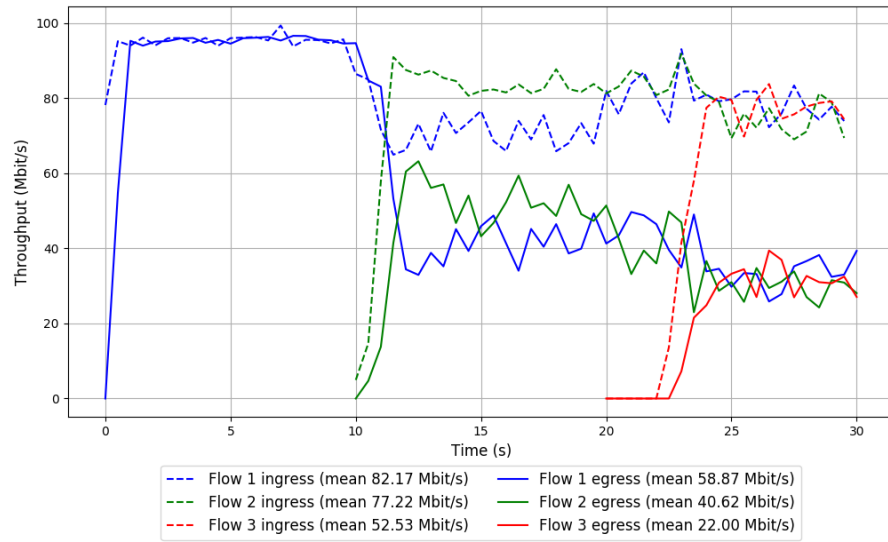
```
Run 3: Statistics of FillP

Start at: 2019-06-28 01:24:28
End at: 2019-06-28 01:24:58
Local clock offset: -1.034 ms
Remote clock offset: -2.485 ms


# Below is generated by plot.py at 2019-06-28 02:40:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.46 Mbit/s
95th percentile per-packet one-way delay: 43.812 ms
Loss rate: 40.39%
-- Flow 1:
Average throughput: 56.28 Mbit/s
95th percentile per-packet one-way delay: 41.707 ms
Loss rate: 30.06%
-- Flow 2:
Average throughput: 39.81 Mbit/s
95th percentile per-packet one-way delay: 45.167 ms
Loss rate: 47.61%
-- Flow 3:
Average throughput: 32.50 Mbit/s
95th percentile per-packet one-way delay: 45.505 ms
Loss rate: 58.37%
```

Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 80.47 Mbit/s) --- Flow 1 egress (mean 56.28 Mbit/s)
Flow 2 ingress (mean 75.93 Mbit/s) --- Flow 2 egress (mean 39.81 Mbit/s)
Flow 3 ingress (mean 78.20 Mbit/s) --- Flow 3 egress (mean 32.50 Mbit/s)

Flow 1 (95th percentile 41.71 ms) • Flow 2 (95th percentile 45.17 ms) • Flow 3 (95th percentile 45.51 ms)

```
Run 4: Statistics of FillP

Start at: 2019-06-28 01:50:54
End at: 2019-06-28 01:51:24
Local clock offset: -1.25 ms
Remote clock offset: -3.364 ms


# Below is generated by plot.py at 2019-06-28 02:41:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.39 Mbit/s
95th percentile per-packet one-way delay: 44.574 ms
Loss rate: 40.24%
-- Flow 1:
Average throughput: 56.77 Mbit/s
95th percentile per-packet one-way delay: 42.732 ms
Loss rate: 29.78%
-- Flow 2:
Average throughput: 40.88 Mbit/s
95th percentile per-packet one-way delay: 45.576 ms
Loss rate: 47.90%
-- Flow 3:
Average throughput: 28.49 Mbit/s
95th percentile per-packet one-way delay: 46.461 ms
Loss rate: 59.46%
```
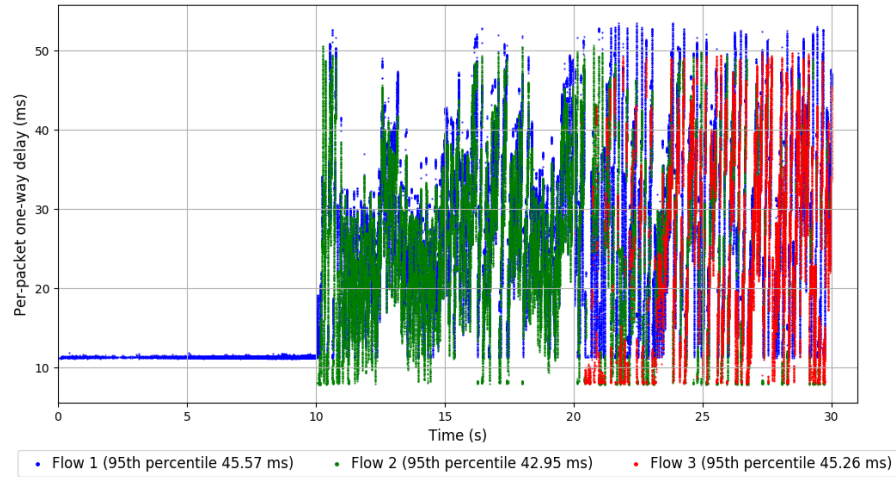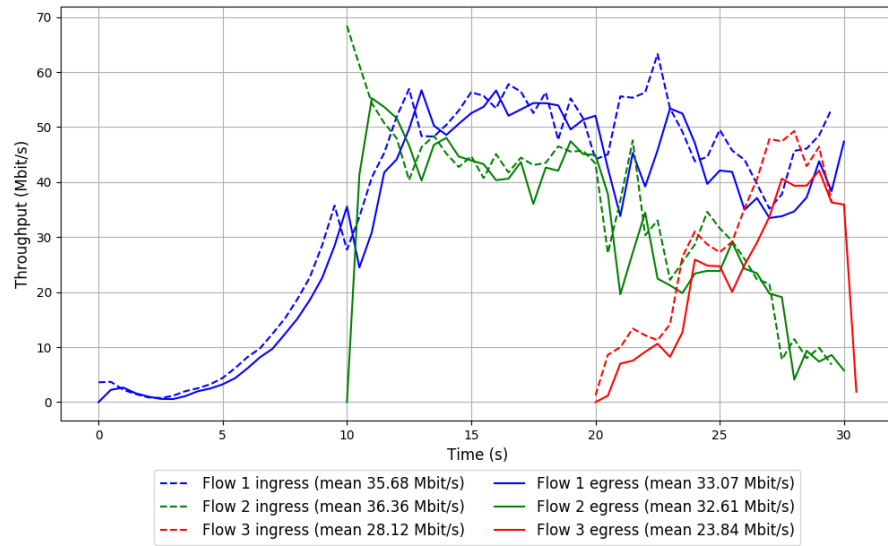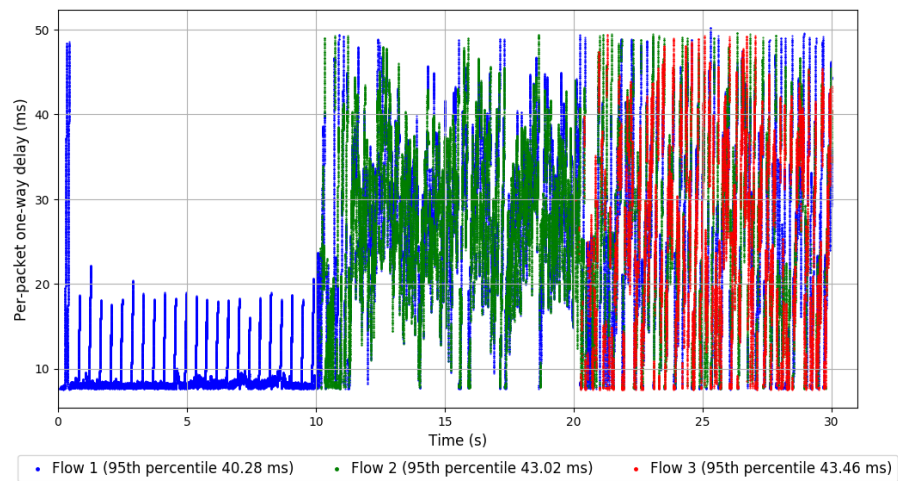
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 80.86 Mbit/s) --- Flow 1 egress (mean 56.77 Mbit/s)
Flow 2 ingress (mean 78.57 Mbit/s) --- Flow 2 egress (mean 40.88 Mbit/s)
Flow 3 ingress (mean 70.27 Mbit/s) --- Flow 3 egress (mean 28.49 Mbit/s)

• Flow 1 (95th percentile 42.73 ms)   • Flow 2 (95th percentile 45.58 ms)   • Flow 3 (95th percentile 46.46 ms)

```
Run 5: Statistics of FillP

Start at: 2019-06-28 02:17:27
End at: 2019-06-28 02:17:57
Local clock offset: -2.013 ms
Remote clock offset: -4.492 ms


# Below is generated by plot.py at 2019-06-28 02:41:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.14 Mbit/s
95th percentile per-packet one-way delay: 44.389 ms
Loss rate: 38.25%
-- Flow 1:
Average throughput: 58.87 Mbit/s
95th percentile per-packet one-way delay: 42.237 ms
Loss rate: 28.27%
-- Flow 2:
Average throughput: 40.62 Mbit/s
95th percentile per-packet one-way delay: 45.954 ms
Loss rate: 47.45%
-- Flow 3:
Average throughput: 22.00 Mbit/s
95th percentile per-packet one-way delay: 45.866 ms
Loss rate: 58.19%
```

Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-06-28 00:35:28
End at: 2019-06-28 00:35:58
Local clock offset: -2.645 ms
Remote clock offset: -3.178 ms


# Below is generated by plot.py at 2019-06-28 02:41:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 62.68 Mbit/s
95th percentile per-packet one-way delay: 44.773 ms
Loss rate: 9.35%
-- Flow 1:
Average throughput: 33.07 Mbit/s
95th percentile per-packet one-way delay: 45.567 ms
Loss rate: 7.28%
-- Flow 2:
Average throughput: 32.61 Mbit/s
95th percentile per-packet one-way delay: 42.952 ms
Loss rate: 10.19%
-- Flow 3:
Average throughput: 23.84 Mbit/s
95th percentile per-packet one-way delay: 45.262 ms
Loss rate: 15.07%
```
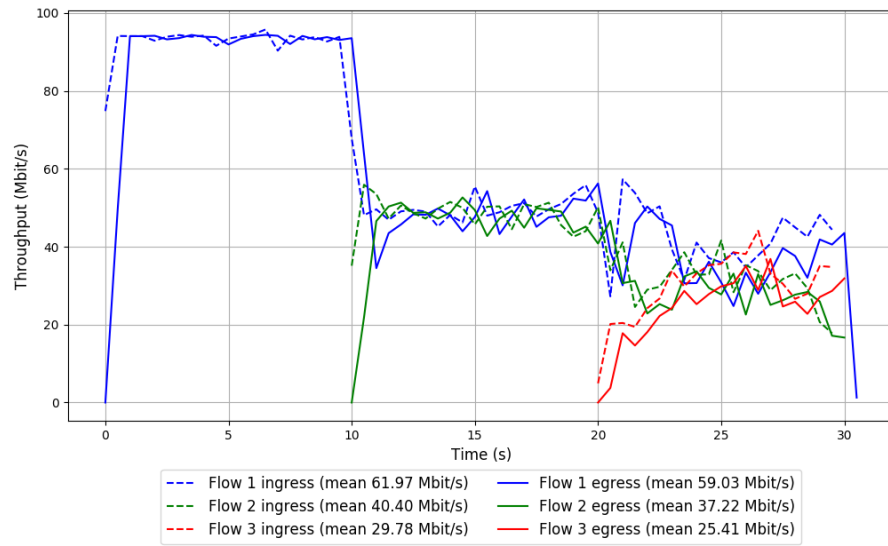
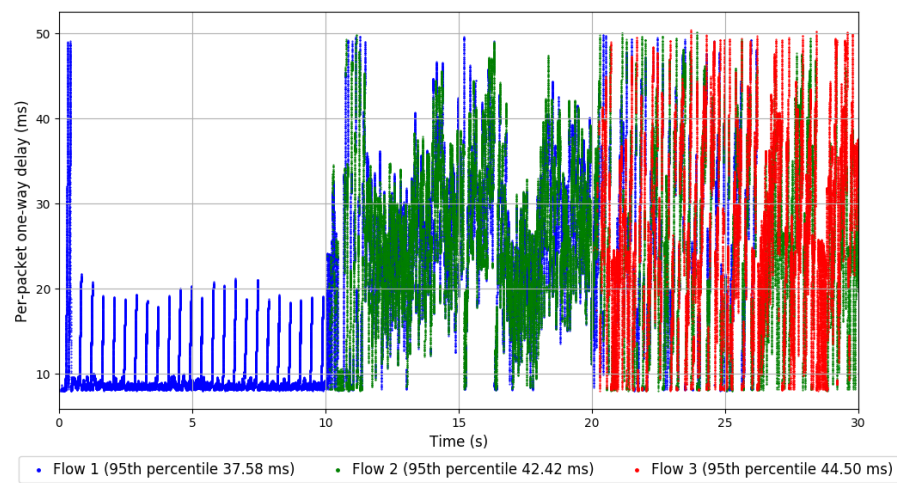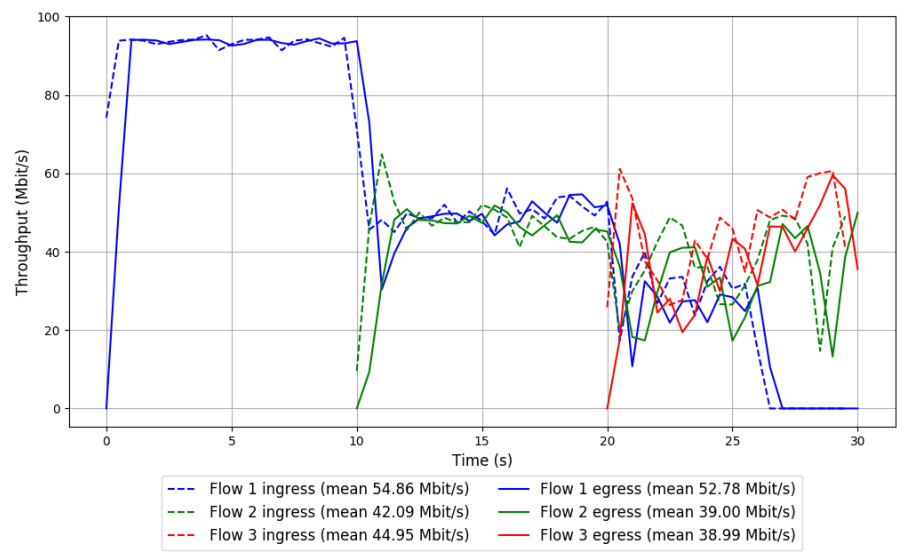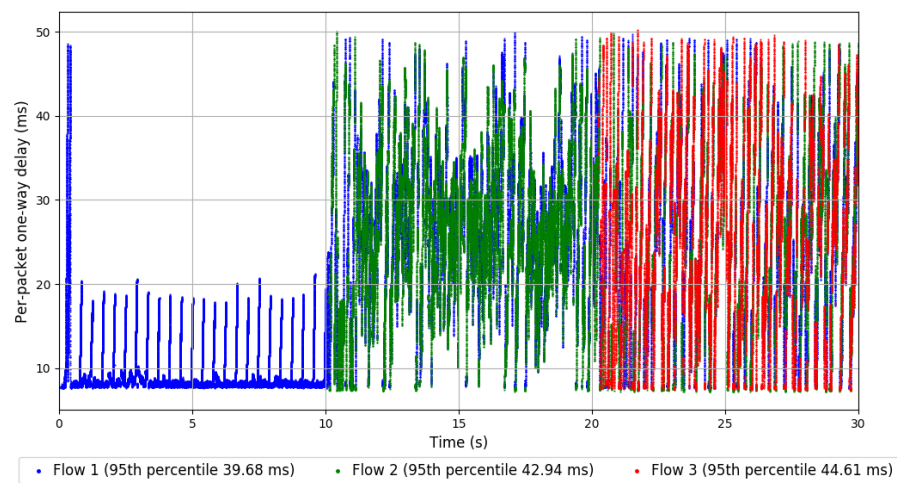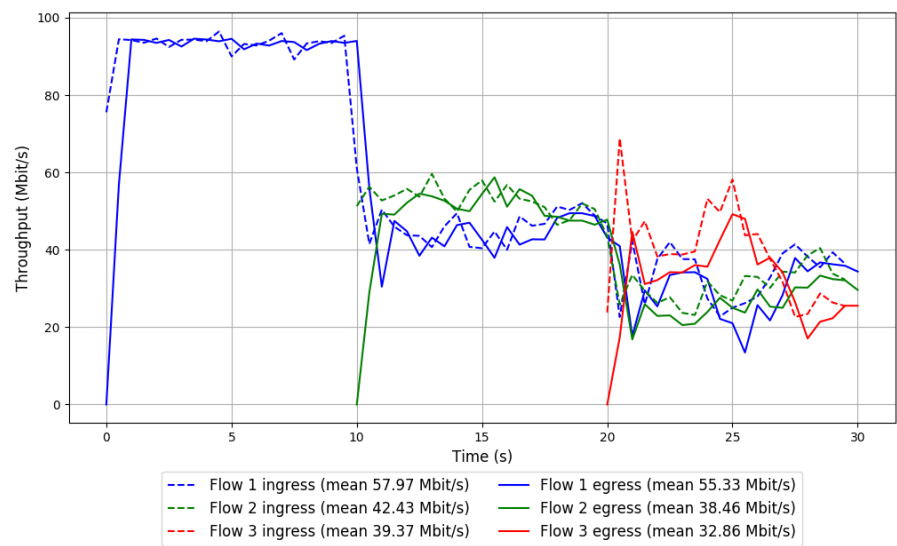Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-06-28 01:01:39
End at: 2019-06-28 01:02:09
Local clock offset: -1.967 ms
Remote clock offset: -2.272 ms


# Below is generated by plot.py at 2019-06-28 02:41:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.22 Mbit/s
95th percentile per-packet one-way delay: 41.841 ms
Loss rate: 6.51%
-- Flow 1:
Average throughput: 59.03 Mbit/s
95th percentile per-packet one-way delay: 40.278 ms
Loss rate: 4.66%
-- Flow 2:
Average throughput: 37.22 Mbit/s
95th percentile per-packet one-way delay: 43.022 ms
Loss rate: 7.74%
-- Flow 3:
Average throughput: 25.41 Mbit/s
95th percentile per-packet one-way delay: 43.456 ms
Loss rate: 14.79%
```

Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 61.97 Mbit/s) --- Flow 1 egress (mean 59.03 Mbit/s)
Flow 2 ingress (mean 40.40 Mbit/s) --- Flow 2 egress (mean 37.22 Mbit/s)
Flow 3 ingress (mean 29.78 Mbit/s) --- Flow 3 egress (mean 25.41 Mbit/s)

Flow 1 (95th percentile 40.28 ms)   Flow 2 (95th percentile 43.02 ms)   Flow 3 (95th percentile 43.46 ms)
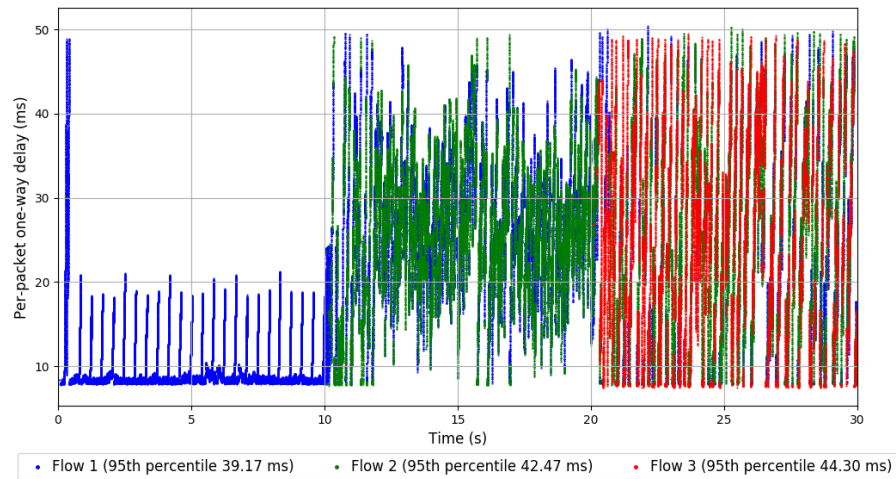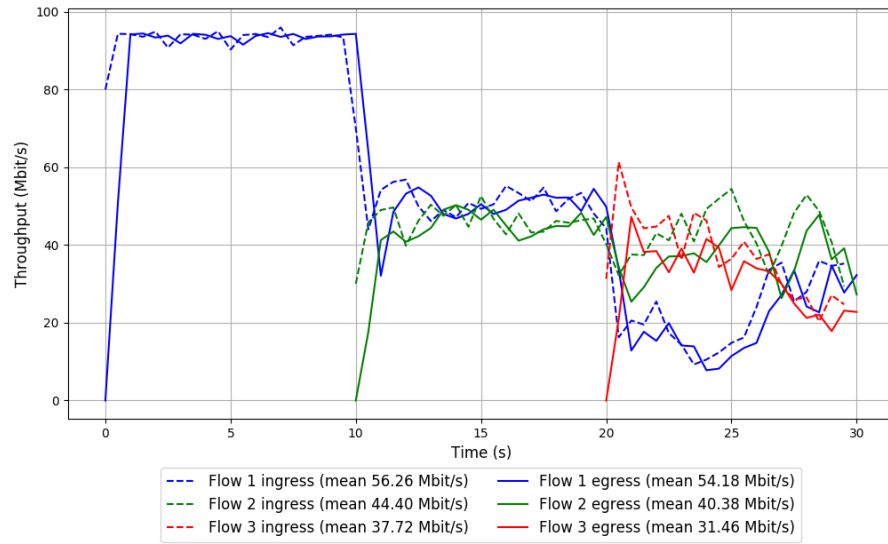
```
Run 3: Statistics of FillP-Sheep

Start at: 2019-06-28 01:28:04
End at: 2019-06-28 01:28:34
Local clock offset: -2.36 ms
Remote clock offset: -2.797 ms


# Below is generated by plot.py at 2019-06-28 02:41:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.44 Mbit/s
95th percentile per-packet one-way delay: 40.893 ms
Loss rate: 6.17%
-- Flow 1:
Average throughput: 52.78 Mbit/s
95th percentile per-packet one-way delay: 37.578 ms
Loss rate: 3.72%
-- Flow 2:
Average throughput: 39.00 Mbit/s
95th percentile per-packet one-way delay: 42.420 ms
Loss rate: 7.23%
-- Flow 3:
Average throughput: 38.99 Mbit/s
95th percentile per-packet one-way delay: 44.496 ms
Loss rate: 13.17%
```
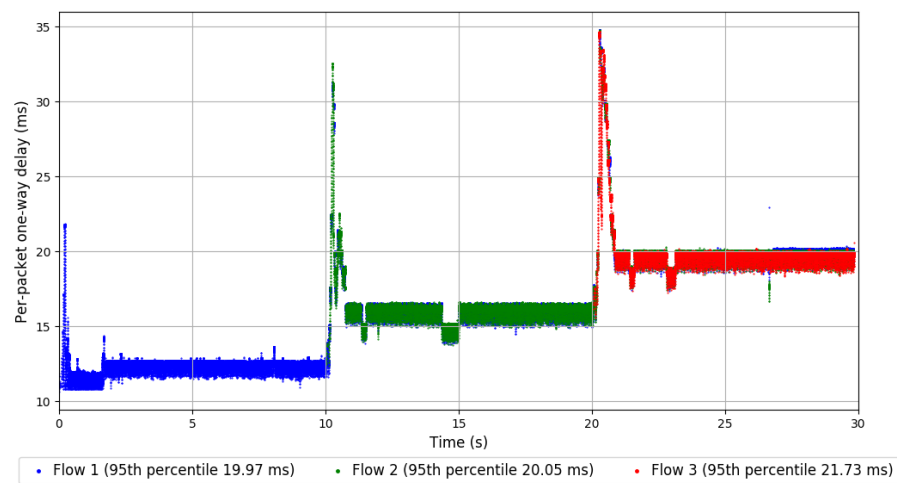
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 54.86 Mbit/s) --- Flow 1 egress (mean 52.78 Mbit/s)
Flow 2 ingress (mean 42.09 Mbit/s) --- Flow 2 egress (mean 39.00 Mbit/s)
Flow 3 ingress (mean 44.95 Mbit/s) --- Flow 3 egress (mean 38.99 Mbit/s)

Flow 1 (95th percentile 37.58 ms)   Flow 2 (95th percentile 42.42 ms)   Flow 3 (95th percentile 44.50 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-06-28 01:54:31
End at: 2019-06-28 01:55:01
Local clock offset: -2.092 ms
Remote clock offset: -4.276 ms


# Below is generated by plot.py at 2019-06-28 02:42:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.80 Mbit/s
95th percentile per-packet one-way delay: 41.839 ms
Loss rate: 7.42%
-- Flow 1:
Average throughput: 55.33 Mbit/s
95th percentile per-packet one-way delay: 39.684 ms
Loss rate: 4.44%
-- Flow 2:
Average throughput: 38.46 Mbit/s
95th percentile per-packet one-way delay: 42.935 ms
Loss rate: 9.22%
-- Flow 3:
Average throughput: 32.86 Mbit/s
95th percentile per-packet one-way delay: 44.612 ms
Loss rate: 16.72%
```

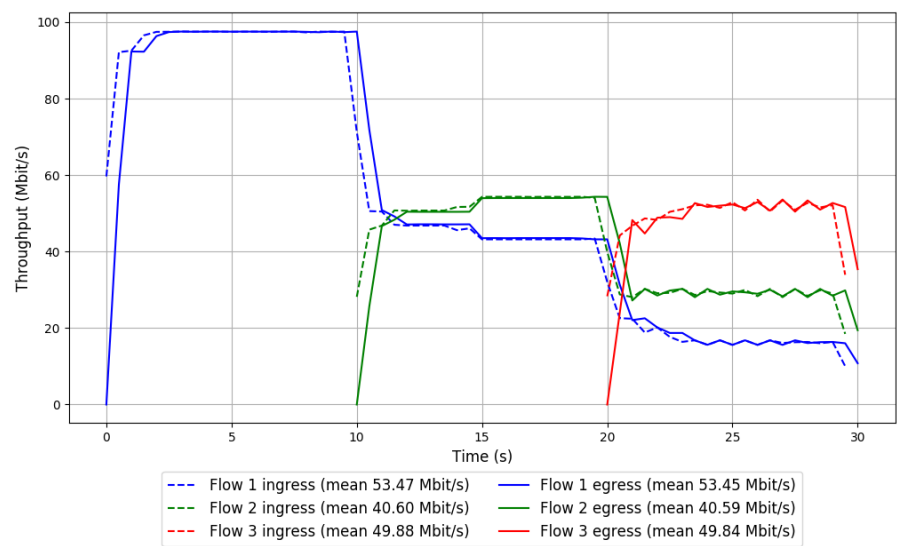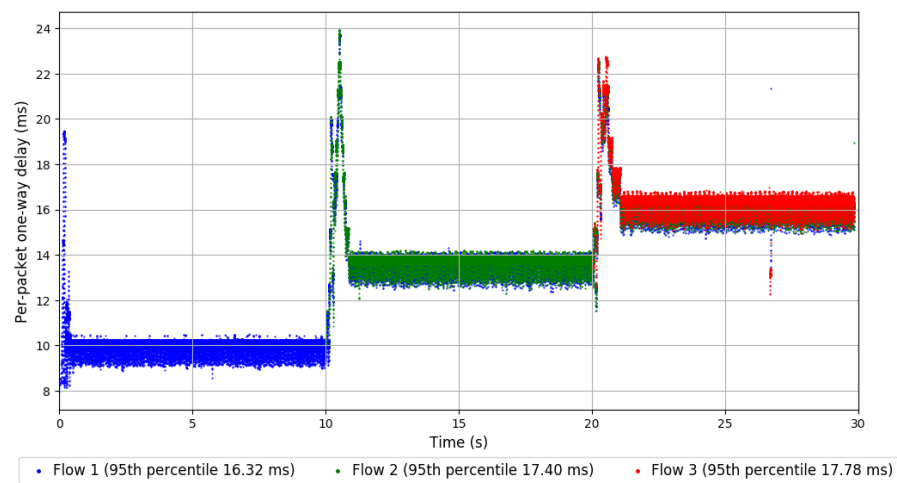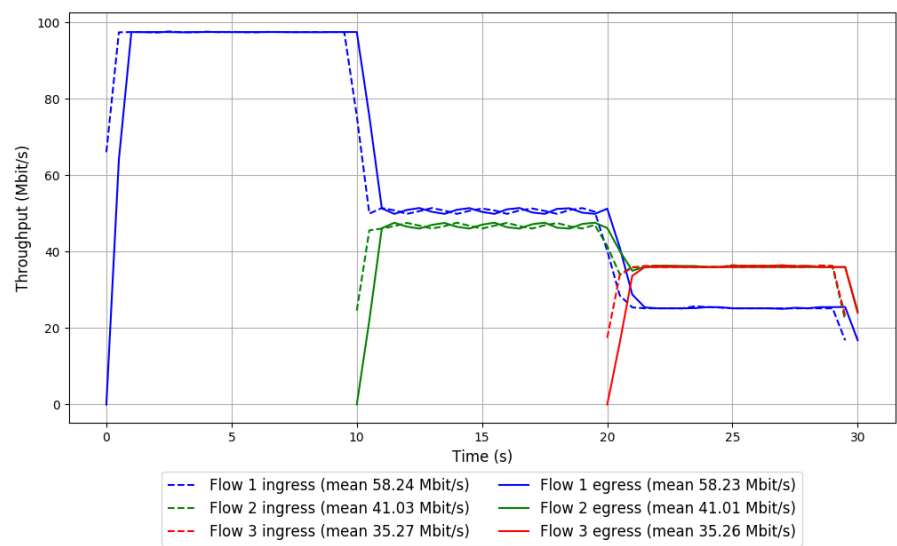Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 57.97 Mbit/s)   Flow 1 egress (mean 55.33 Mbit/s)
Flow 2 ingress (mean 42.43 Mbit/s)   Flow 2 egress (mean 38.46 Mbit/s)
Flow 3 ingress (mean 39.37 Mbit/s)   Flow 3 egress (mean 32.86 Mbit/s)

Flow 1 (95th percentile 39.68 ms)   Flow 2 (95th percentile 42.94 ms)   Flow 3 (95th percentile 44.61 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-06-28 02:21:04
End at: 2019-06-28 02:21:34
Local clock offset: -1.13 ms
Remote clock offset: -3.287 ms


# Below is generated by plot.py at 2019-06-28 02:42:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.45 Mbit/s
95th percentile per-packet one-way delay: 41.485 ms
Loss rate: 6.96%
-- Flow 1:
Average throughput: 54.18 Mbit/s
95th percentile per-packet one-way delay: 39.167 ms
Loss rate: 3.69%
-- Flow 2:
Average throughput: 40.38 Mbit/s
95th percentile per-packet one-way delay: 42.470 ms
Loss rate: 9.06%
-- Flow 3:
Average throughput: 31.46 Mbit/s
95th percentile per-packet one-way delay: 44.298 ms
Loss rate: 16.74%
```

Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 56.26 Mbit/s) --- Flow 1 egress (mean 54.18 Mbit/s)
Flow 2 ingress (mean 44.40 Mbit/s) --- Flow 2 egress (mean 40.38 Mbit/s)
Flow 3 ingress (mean 37.72 Mbit/s) --- Flow 3 egress (mean 31.46 Mbit/s)

Flow 1 (95th percentile 39.17 ms)   Flow 2 (95th percentile 42.47 ms)   Flow 3 (95th percentile 44.30 ms)
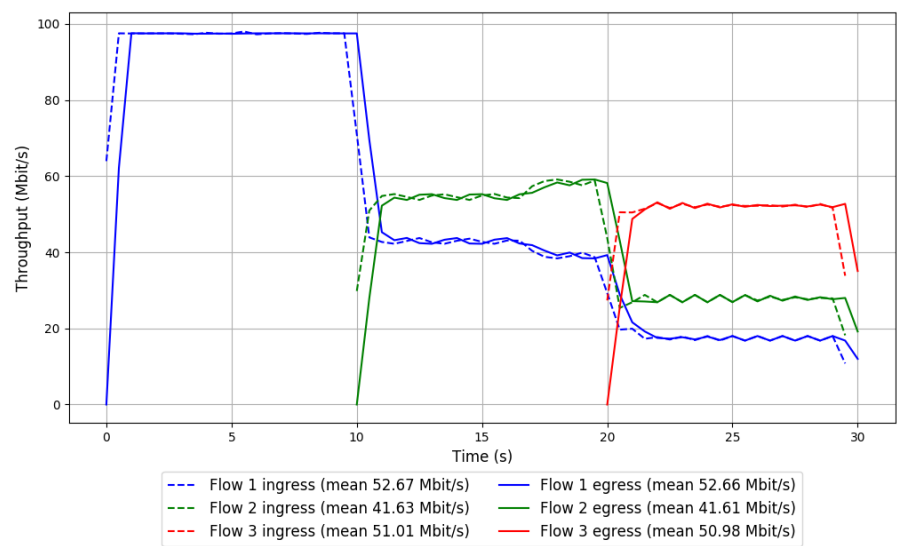
54

```
Run 1: Statistics of Indigo

Start at: 2019-06-28 00:37:48
End at: 2019-06-28 00:38:18
Local clock offset: -1.636 ms
Remote clock offset: -2.529 ms


# Below is generated by plot.py at 2019-06-28 02:42:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.69 Mbit/s
95th percentile per-packet one-way delay: 20.032 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 53.45 Mbit/s
95th percentile per-packet one-way delay: 19.974 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 40.59 Mbit/s
95th percentile per-packet one-way delay: 20.054 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 49.84 Mbit/s
95th percentile per-packet one-way delay: 21.729 ms
Loss rate: 0.07%
```
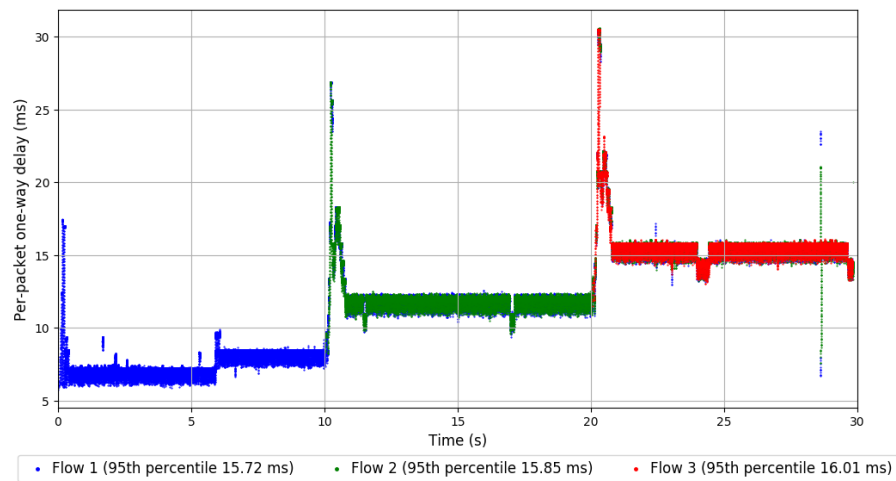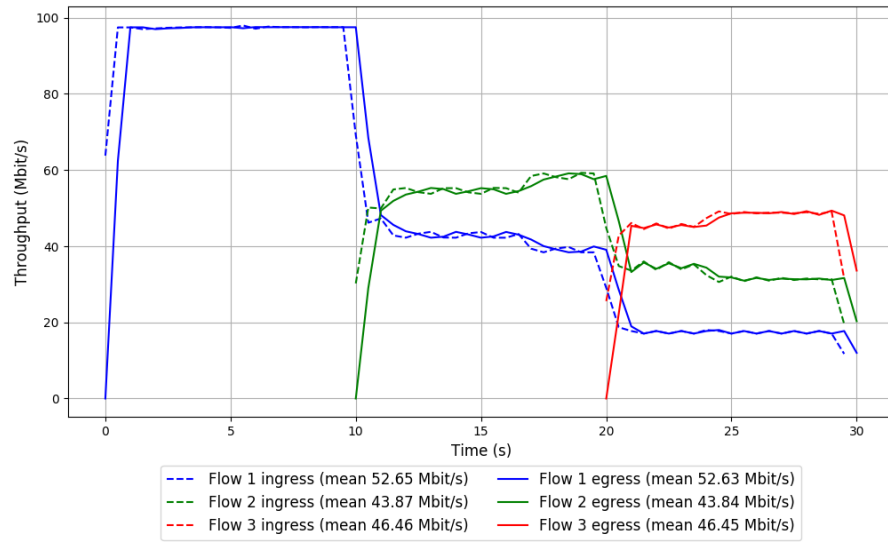
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-06-28 01:04:01
End at: 2019-06-28 01:04:31
Local clock offset: -2.02 ms
Remote clock offset: -1.932 ms


# Below is generated by plot.py at 2019-06-28 02:42:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.98 Mbit/s
95th percentile per-packet one-way delay: 16.598 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.23 Mbit/s
95th percentile per-packet one-way delay: 16.323 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.01 Mbit/s
95th percentile per-packet one-way delay: 17.398 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.26 Mbit/s
95th percentile per-packet one-way delay: 17.776 ms
Loss rate: 0.00%
```
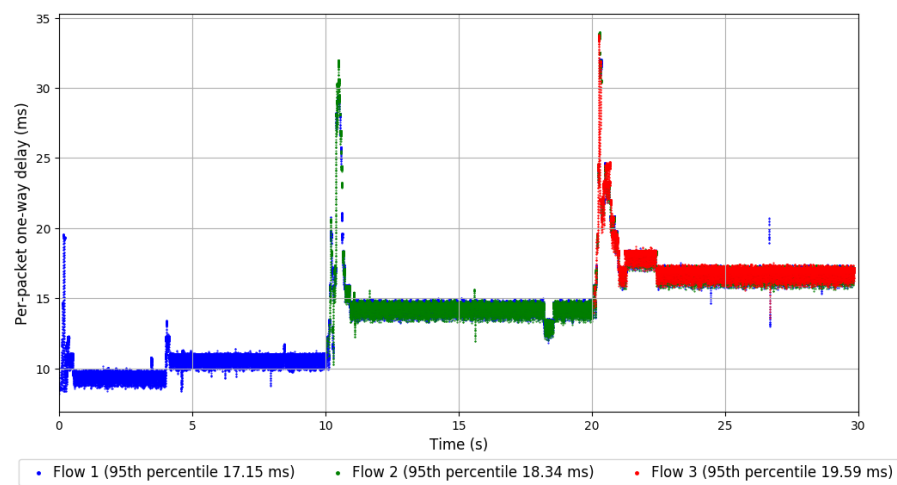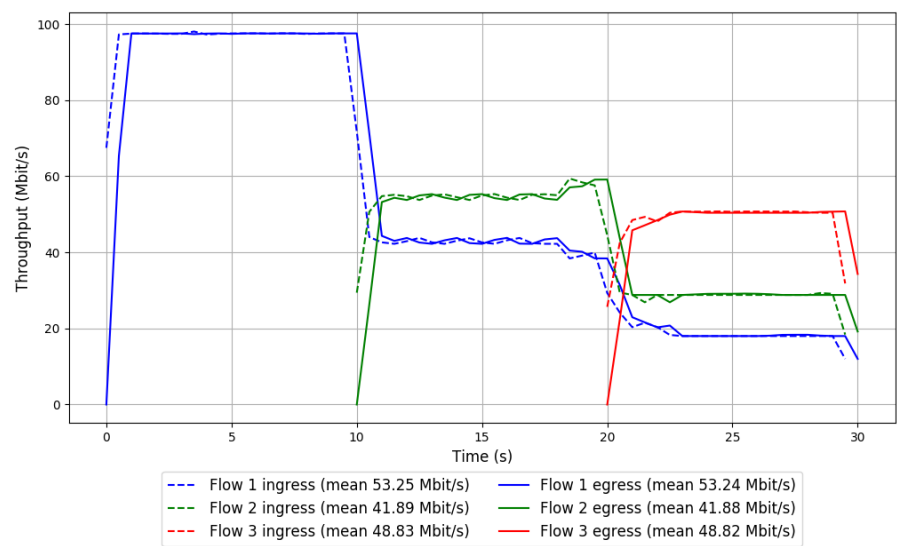
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-06-28 01:30:32
End at: 2019-06-28 01:31:02
Local clock offset: -1.619 ms
Remote clock offset: -2.493 ms

# Below is generated by plot.py at 2019-06-28 02:42:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.95 Mbit/s
95th percentile per-packet one-way delay: 18.549 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.66 Mbit/s
95th percentile per-packet one-way delay: 17.813 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.61 Mbit/s
95th percentile per-packet one-way delay: 19.024 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 50.98 Mbit/s
95th percentile per-packet one-way delay: 21.415 ms
Loss rate: 0.00%
```
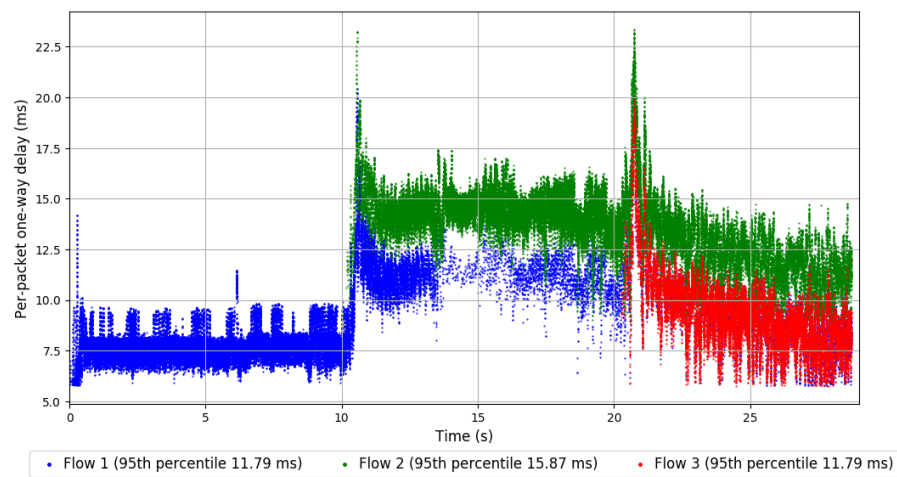
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-06-28 01:56:52
End at: 2019-06-28 01:57:22
Local clock offset: -1.682 ms
Remote clock offset: -5.601 ms


# Below is generated by plot.py at 2019-06-28 02:42:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.91 Mbit/s
95th percentile per-packet one-way delay: 15.818 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 52.63 Mbit/s
95th percentile per-packet one-way delay: 15.723 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.84 Mbit/s
95th percentile per-packet one-way delay: 15.849 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 46.45 Mbit/s
95th percentile per-packet one-way delay: 16.013 ms
Loss rate: 0.00%
```
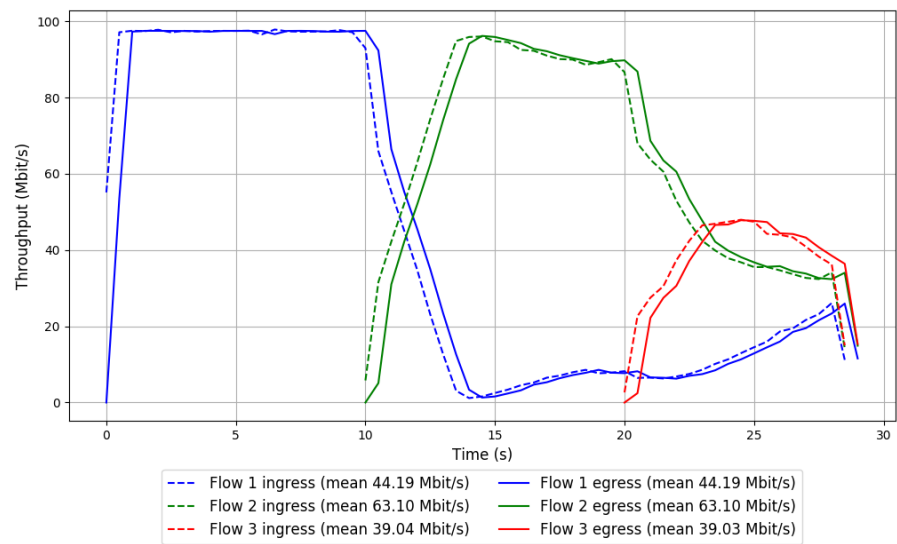
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-06-28 02:23:26
End at: 2019-06-28 02:23:56
Local clock offset: -1.865 ms
Remote clock offset: -3.546 ms


# Below is generated by plot.py at 2019-06-28 02:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.00 Mbit/s
95th percentile per-packet one-way delay: 18.318 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.24 Mbit/s
95th percentile per-packet one-way delay: 17.149 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.88 Mbit/s
95th percentile per-packet one-way delay: 18.338 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 48.82 Mbit/s
95th percentile per-packet one-way delay: 19.587 ms
Loss rate: 0.00%
```
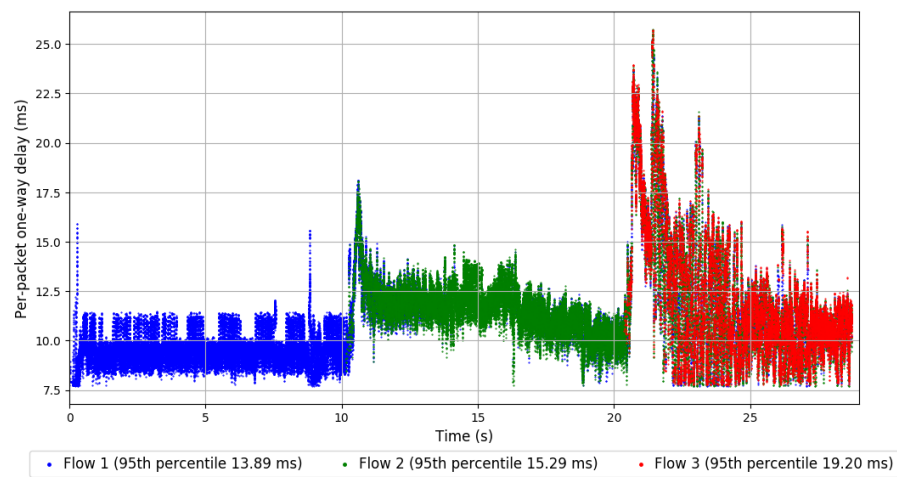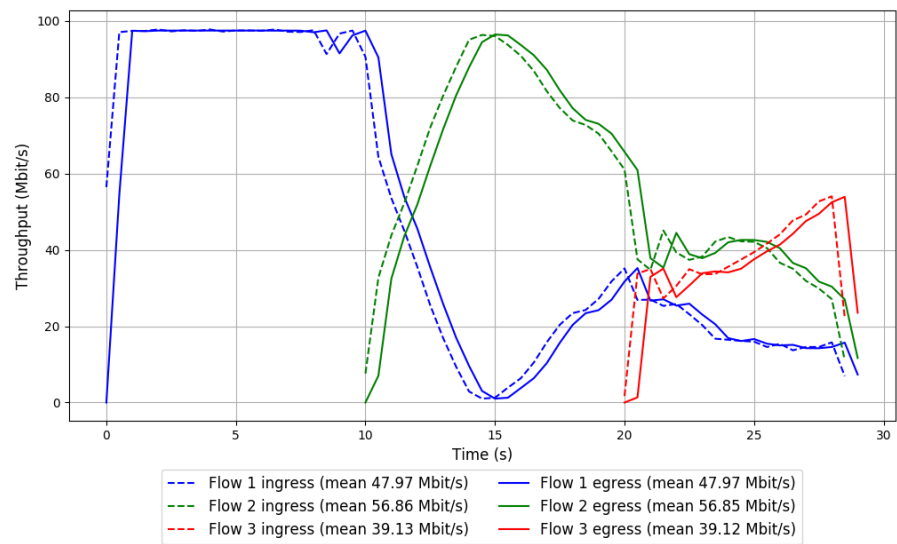
Run 5: Report of Indigo — Data Link

- - - Flow 1 ingress (mean 53.25 Mbit/s) —— Flow 1 egress (mean 53.24 Mbit/s)
- - - Flow 2 ingress (mean 41.89 Mbit/s) —— Flow 2 egress (mean 41.88 Mbit/s)
- - - Flow 3 ingress (mean 48.83 Mbit/s) —— Flow 3 egress (mean 48.82 Mbit/s)

• Flow 1 (95th percentile 17.15 ms)   • Flow 2 (95th percentile 18.34 ms)   • Flow 3 (95th percentile 19.59 ms)

64

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-06-28 00:30:46
End at: 2019-06-28 00:31:16
Local clock offset: -1.765 ms
Remote clock offset: -4.565 ms

# Below is generated by plot.py at 2019-06-28 02:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.47 Mbit/s
95th percentile per-packet one-way delay: 15.348 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 44.19 Mbit/s
95th percentile per-packet one-way delay: 11.793 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 63.10 Mbit/s
95th percentile per-packet one-way delay: 15.866 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 39.03 Mbit/s
95th percentile per-packet one-way delay: 11.787 ms
Loss rate: 0.03%
```

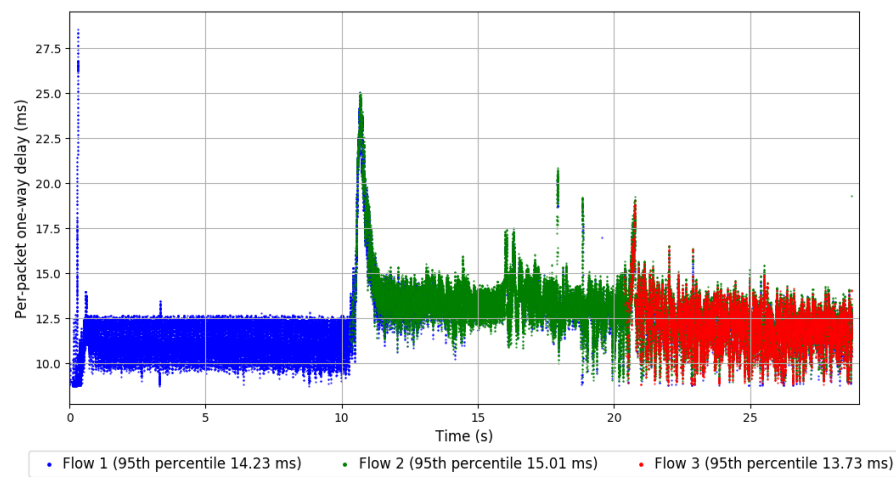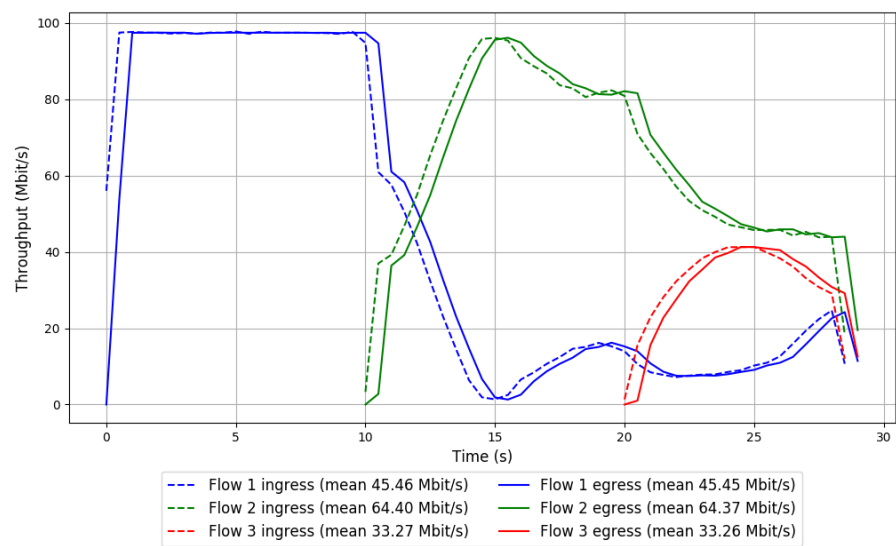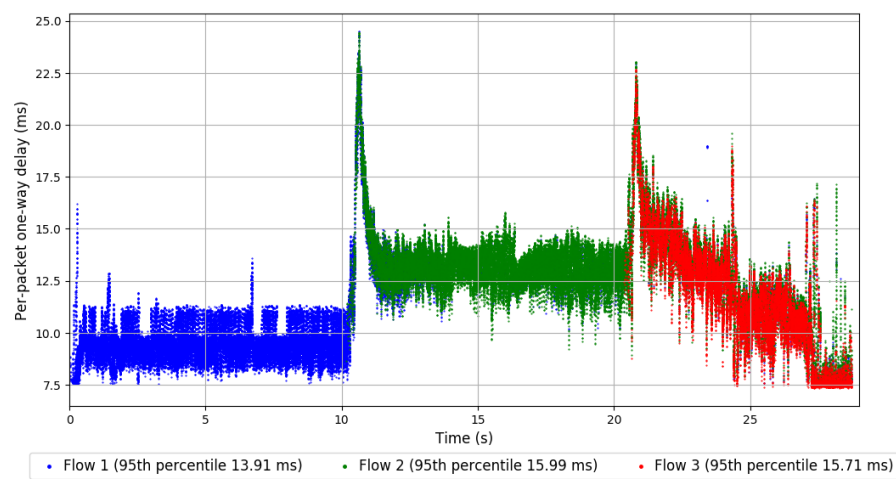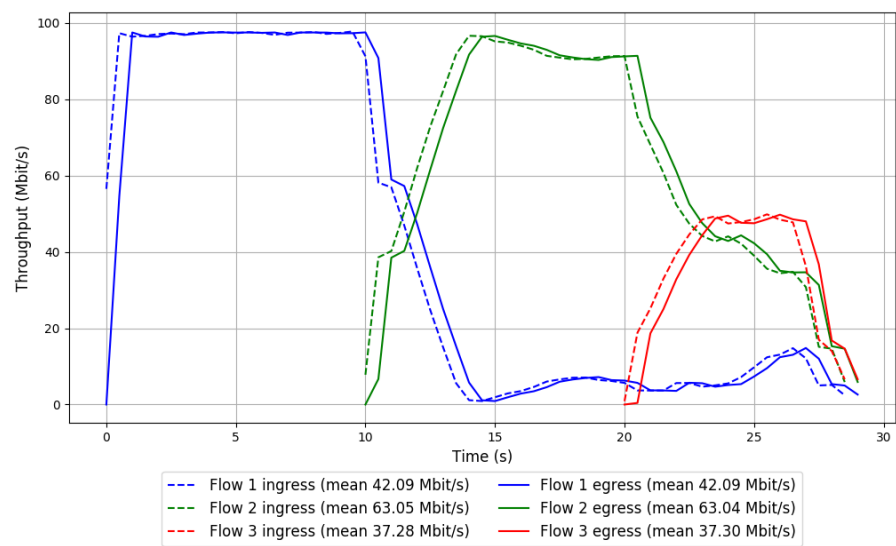Run 1: Report of Indigo-MusesC3 — Data Link

- - - - Flow 1 ingress (mean 44.19 Mbit/s)   ——— Flow 1 egress (mean 44.19 Mbit/s)
- - - - Flow 2 ingress (mean 63.10 Mbit/s)   ——— Flow 2 egress (mean 63.10 Mbit/s)
- - - - Flow 3 ingress (mean 39.04 Mbit/s)   ——— Flow 3 egress (mean 39.03 Mbit/s)

• Flow 1 (95th percentile 11.79 ms)   • Flow 2 (95th percentile 15.87 ms)   • Flow 3 (95th percentile 11.79 ms)

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-06-28 00:56:44
End at: 2019-06-28 00:57:14
Local clock offset: -2.252 ms
Remote clock offset: -2.496 ms


# Below is generated by plot.py at 2019-06-28 02:43:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.19 Mbit/s
95th percentile per-packet one-way delay: 15.264 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.97 Mbit/s
95th percentile per-packet one-way delay: 13.889 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 56.85 Mbit/s
95th percentile per-packet one-way delay: 15.292 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 39.12 Mbit/s
95th percentile per-packet one-way delay: 19.195 ms
Loss rate: 0.00%
```
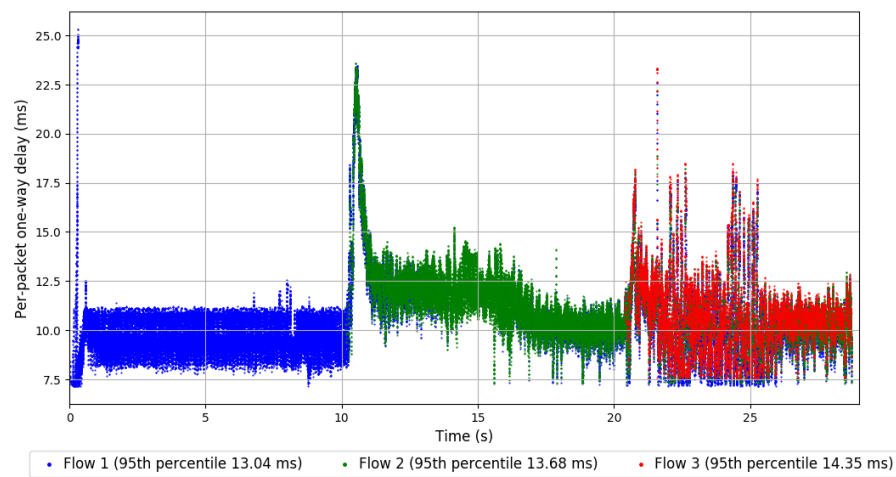
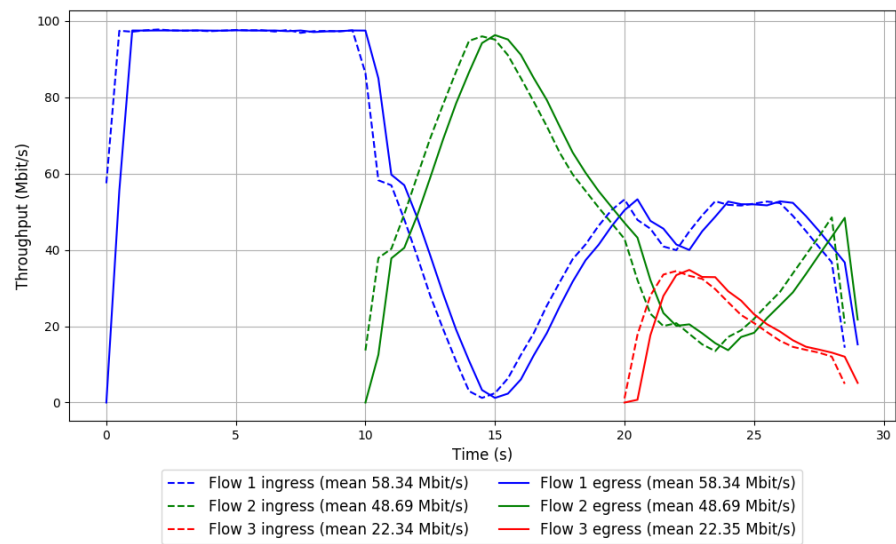Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-06-28 01:23:15
End at: 2019-06-28 01:23:45
Local clock offset: -2.027 ms
Remote clock offset: -1.591 ms


# Below is generated by plot.py at 2019-06-28 02:43:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.51 Mbit/s
95th percentile per-packet one-way delay: 14.648 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 45.45 Mbit/s
95th percentile per-packet one-way delay: 14.226 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 64.37 Mbit/s
95th percentile per-packet one-way delay: 15.008 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.26 Mbit/s
95th percentile per-packet one-way delay: 13.728 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesC3 — Data Link

- - - Flow 1 ingress (mean 45.46 Mbit/s)   —— Flow 1 egress (mean 45.45 Mbit/s)
- - - Flow 2 ingress (mean 64.40 Mbit/s)   —— Flow 2 egress (mean 64.37 Mbit/s)
- - - Flow 3 ingress (mean 33.27 Mbit/s)   —— Flow 3 egress (mean 33.26 Mbit/s)

- Flow 1 (95th percentile 14.23 ms)   • Flow 2 (95th percentile 15.01 ms)   • Flow 3 (95th percentile 13.73 ms)
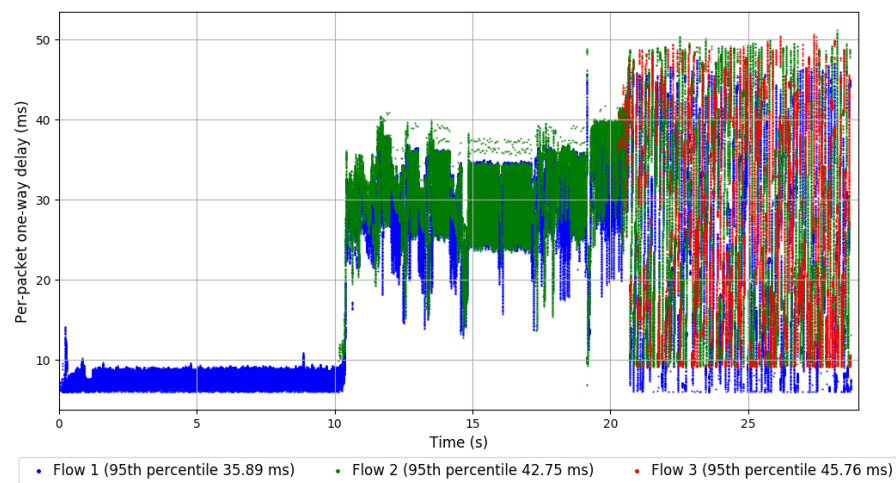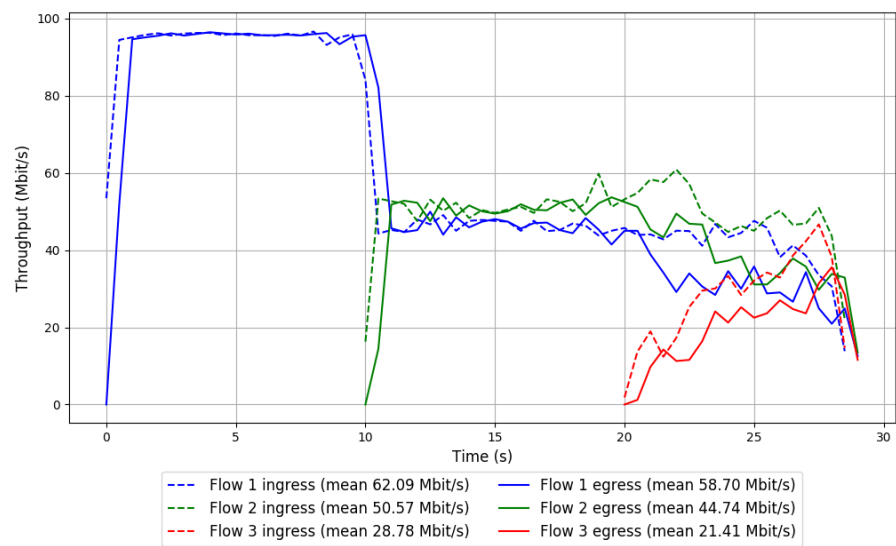
```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-06-28 01:49:34
End at: 2019-06-28 01:50:04
Local clock offset: -2.168 ms
Remote clock offset: -4.339 ms


# Below is generated by plot.py at 2019-06-28 02:43:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.65 Mbit/s
95th percentile per-packet one-way delay: 15.348 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.09 Mbit/s
95th percentile per-packet one-way delay: 13.906 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 63.04 Mbit/s
95th percentile per-packet one-way delay: 15.992 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.30 Mbit/s
95th percentile per-packet one-way delay: 15.713 ms
Loss rate: 0.00%
```
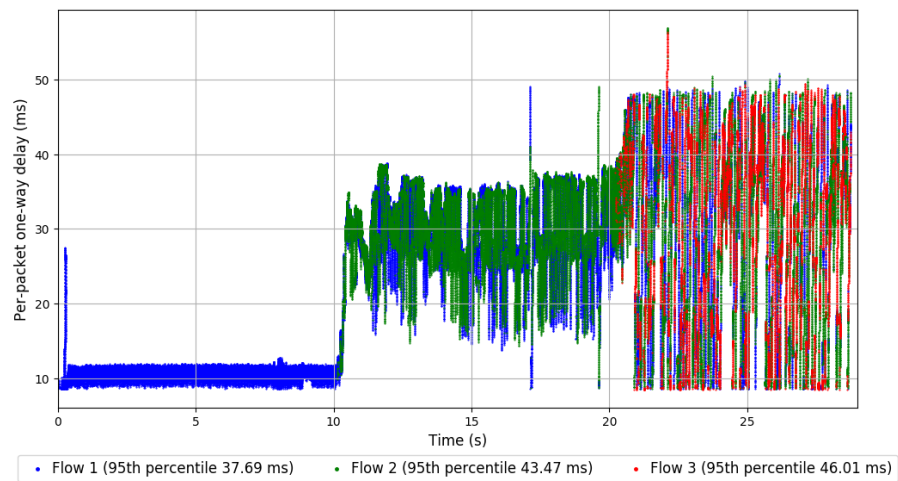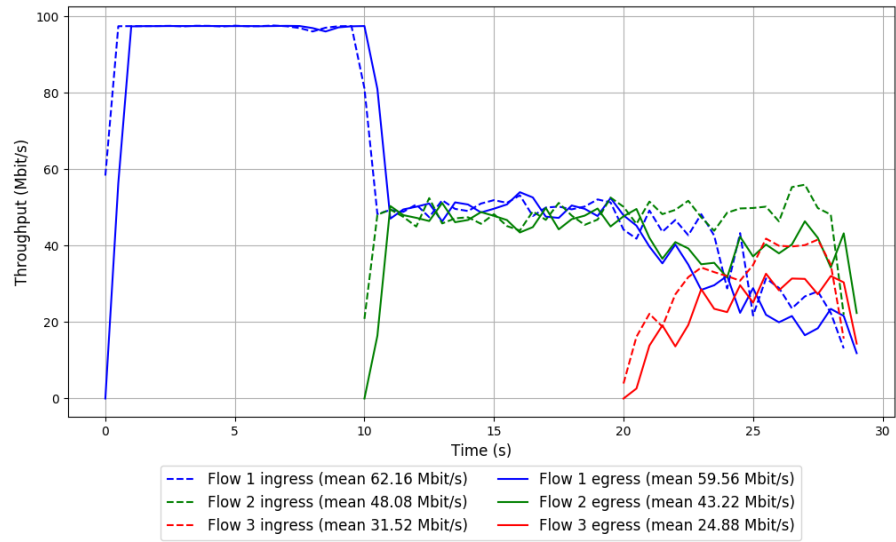
Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-06-28 02:16:15
End at: 2019-06-28 02:16:45
Local clock offset: -1.923 ms
Remote clock offset: -4.514 ms


# Below is generated by plot.py at 2019-06-28 02:43:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.34 Mbit/s
95th percentile per-packet one-way delay: 13.481 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.34 Mbit/s
95th percentile per-packet one-way delay: 13.040 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 48.69 Mbit/s
95th percentile per-packet one-way delay: 13.677 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.35 Mbit/s
95th percentile per-packet one-way delay: 14.349 ms
Loss rate: 0.00%
```

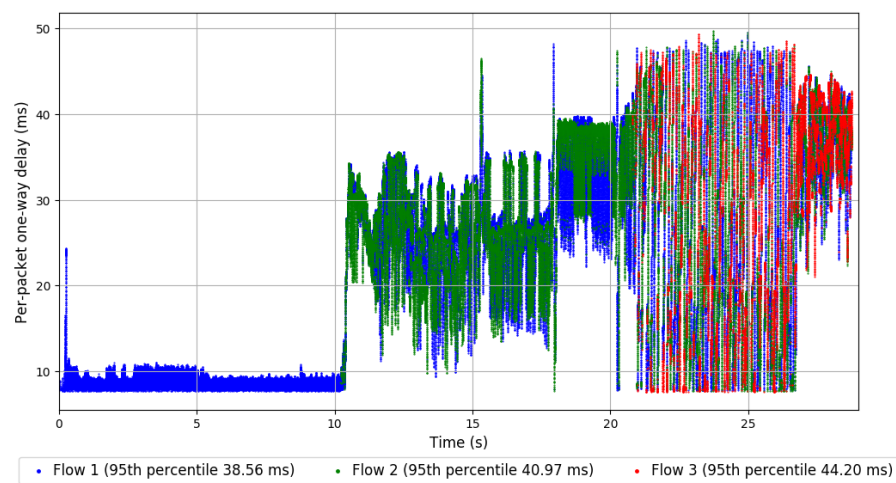Run 5: Report of Indigo-MusesC3 — Data Link

74

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-06-28 00:40:13
End at: 2019-06-28 00:40:43
Local clock offset: -1.772 ms
Remote clock offset: -4.135 ms


# Below is generated by plot.py at 2019-06-28 02:43:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.98 Mbit/s
95th percentile per-packet one-way delay: 40.218 ms
Loss rate: 9.06%
-- Flow 1:
Average throughput: 58.70 Mbit/s
95th percentile per-packet one-way delay: 35.892 ms
Loss rate: 5.45%
-- Flow 2:
Average throughput: 44.74 Mbit/s
95th percentile per-packet one-way delay: 42.750 ms
Loss rate: 11.51%
-- Flow 3:
Average throughput: 21.41 Mbit/s
95th percentile per-packet one-way delay: 45.758 ms
Loss rate: 25.86%
```

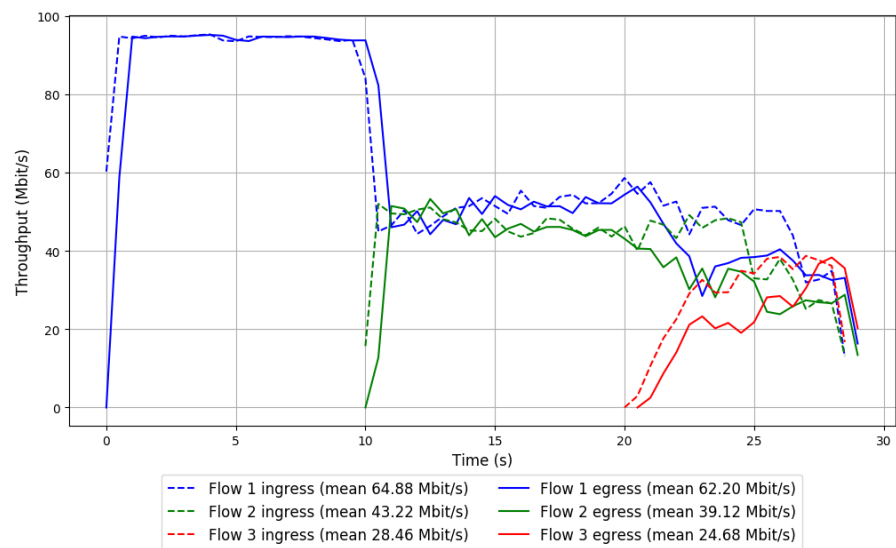Run 1: Report of Indigo-MusesC5 — Data Link

- - - - Flow 1 ingress (mean 62.09 Mbit/s)   ——— Flow 1 egress (mean 58.70 Mbit/s)
- - - - Flow 2 ingress (mean 50.57 Mbit/s)   ——— Flow 2 egress (mean 44.74 Mbit/s)
- - - - Flow 3 ingress (mean 28.78 Mbit/s)   ——— Flow 3 egress (mean 21.41 Mbit/s)

• Flow 1 (95th percentile 35.89 ms)   • Flow 2 (95th percentile 42.75 ms)   • Flow 3 (95th percentile 45.76 ms)
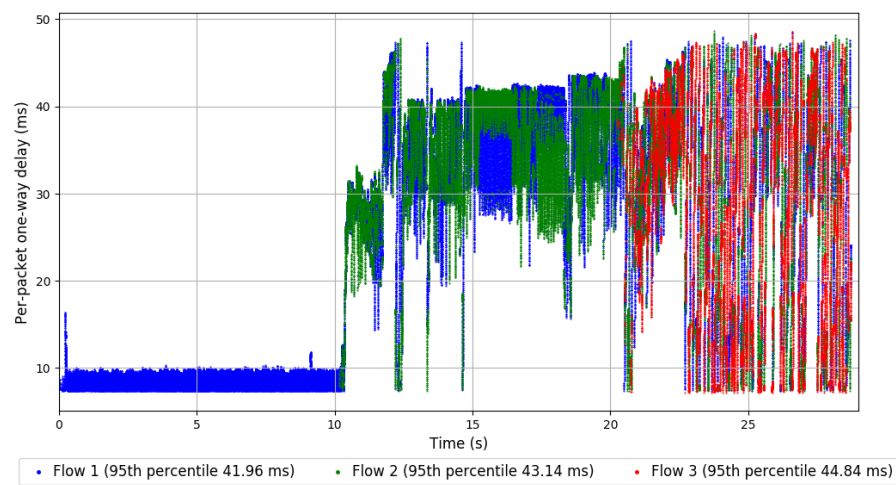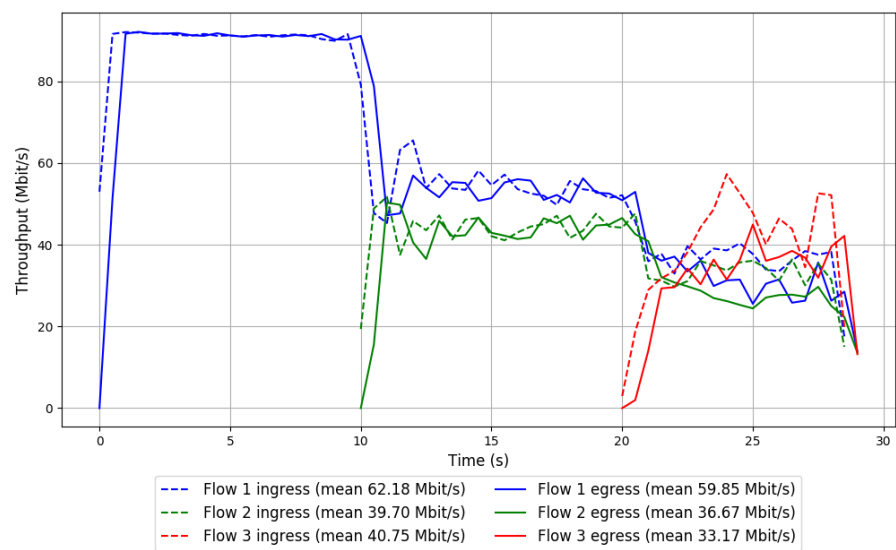
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-06-28 01:06:29
End at: 2019-06-28 01:06:59
Local clock offset: -2.383 ms
Remote clock offset: -1.894 ms

Below is generated by plot.py at 2019-06-28 02:43:51
Datalink statistics
-- Total of 3 flows:
Average throughput: 95.00 Mbit/s
95th percentile per-packet one-way delay: 42.182 ms
Loss rate: 7.40%
-- Flow 1:
Average throughput: 59.56 Mbit/s
95th percentile per-packet one-way delay: 37.690 ms
Loss rate: 4.07%
-- Flow 2:
Average throughput: 43.22 Mbit/s
95th percentile per-packet one-way delay: 43.472 ms
Loss rate: 9.93%
-- Flow 3:
Average throughput: 24.88 Mbit/s
95th percentile per-packet one-way delay: 46.006 ms
Loss rate: 21.06%
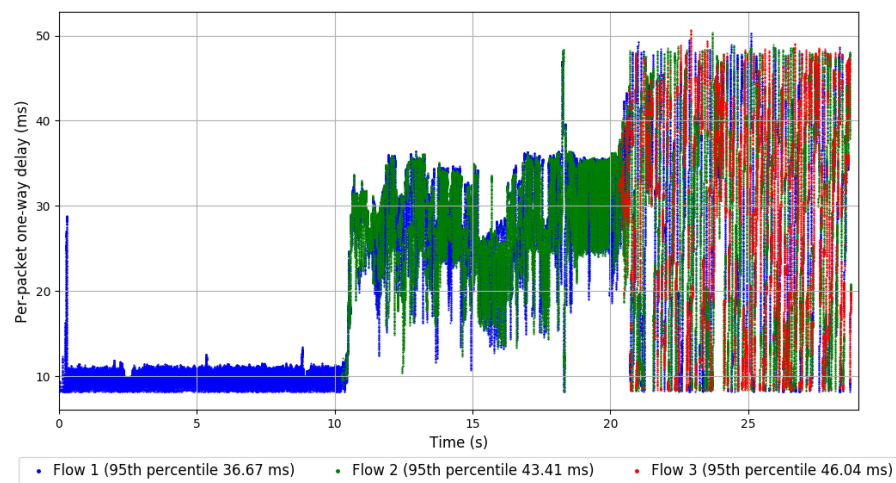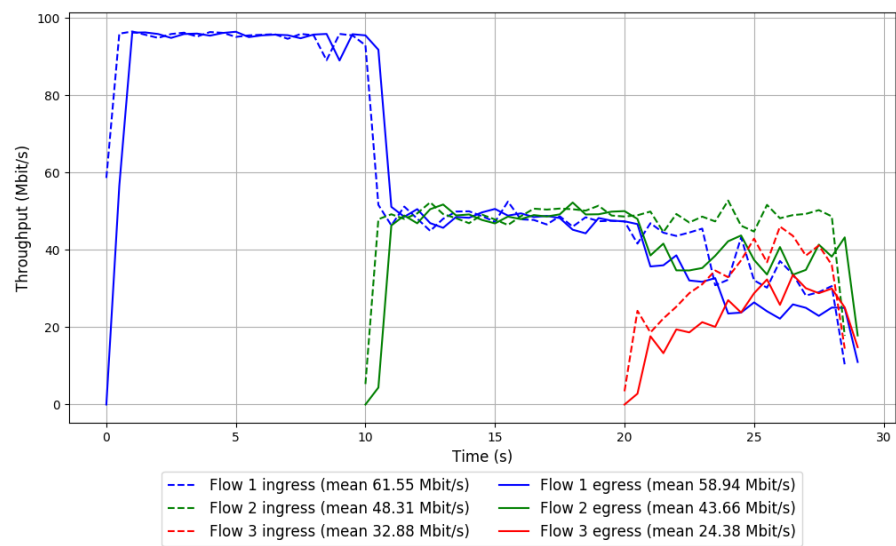
Run 2: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 62.16 Mbit/s)   Flow 1 egress (mean 59.56 Mbit/s)
Flow 2 ingress (mean 48.08 Mbit/s)   Flow 2 egress (mean 43.22 Mbit/s)
Flow 3 ingress (mean 31.52 Mbit/s)   Flow 3 egress (mean 24.88 Mbit/s)

Flow 1 (95th percentile 37.69 ms)   Flow 2 (95th percentile 43.47 ms)   Flow 3 (95th percentile 46.01 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-06-28 01:33:02
End at: 2019-06-28 01:33:32
Local clock offset: -2.128 ms
Remote clock offset: -3.246 ms


# Below is generated by plot.py at 2019-06-28 02:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.31 Mbit/s
95th percentile per-packet one-way delay: 40.566 ms
Loss rate: 6.69%
-- Flow 1:
Average throughput: 62.20 Mbit/s
95th percentile per-packet one-way delay: 38.560 ms
Loss rate: 4.04%
-- Flow 2:
Average throughput: 39.12 Mbit/s
95th percentile per-packet one-way delay: 40.968 ms
Loss rate: 9.33%
-- Flow 3:
Average throughput: 24.68 Mbit/s
95th percentile per-packet one-way delay: 44.202 ms
Loss rate: 18.26%
```

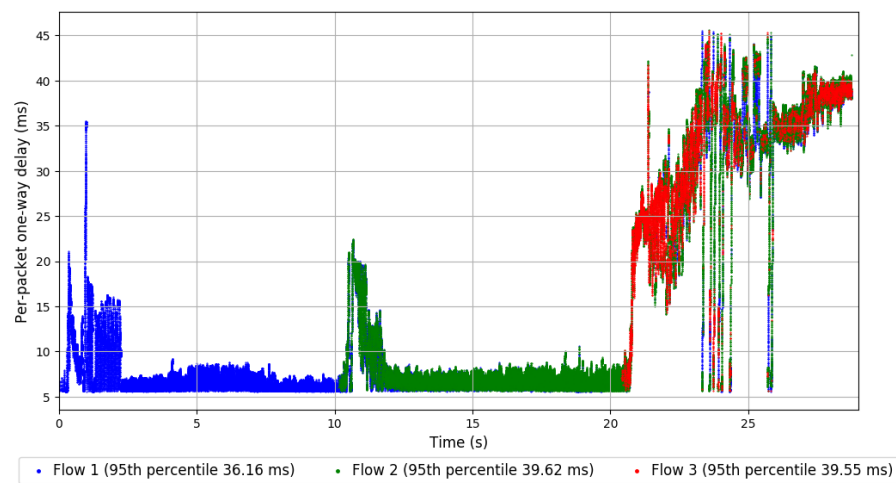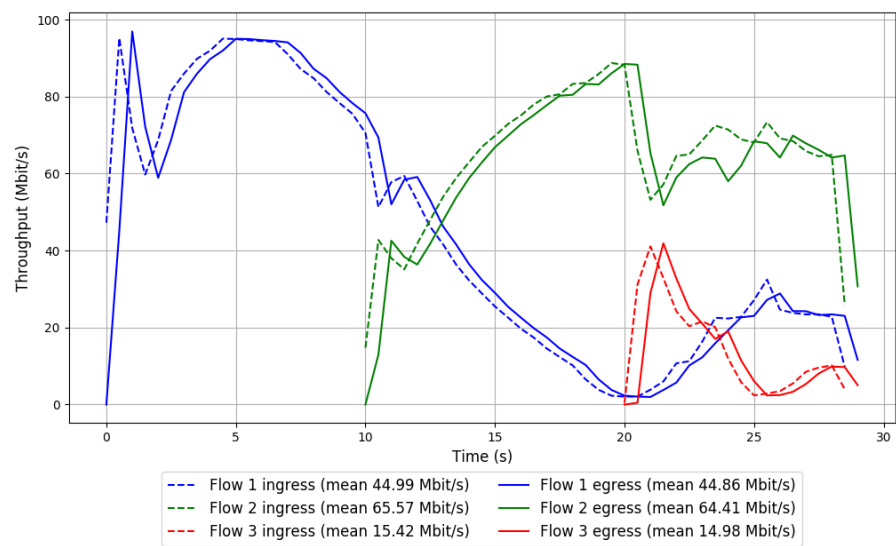Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-06-28 01:59:31
End at: 2019-06-28 02:00:01
Local clock offset: -1.281 ms
Remote clock offset: -3.836 ms

# Below is generated by plot.py at 2019-06-28 02:44:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.37 Mbit/s
95th percentile per-packet one-way delay: 42.606 ms
Loss rate: 6.52%
-- Flow 1:
Average throughput: 59.85 Mbit/s
95th percentile per-packet one-way delay: 41.963 ms
Loss rate: 3.70%
-- Flow 2:
Average throughput: 36.67 Mbit/s
95th percentile per-packet one-way delay: 43.140 ms
Loss rate: 7.57%
-- Flow 3:
Average throughput: 33.17 Mbit/s
95th percentile per-packet one-way delay: 44.835 ms
Loss rate: 18.78%
```

Run 4: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 62.18 Mbit/s)   Flow 1 egress (mean 59.85 Mbit/s)
Flow 2 ingress (mean 39.70 Mbit/s)   Flow 2 egress (mean 36.67 Mbit/s)
Flow 3 ingress (mean 40.75 Mbit/s)   Flow 3 egress (mean 33.17 Mbit/s)

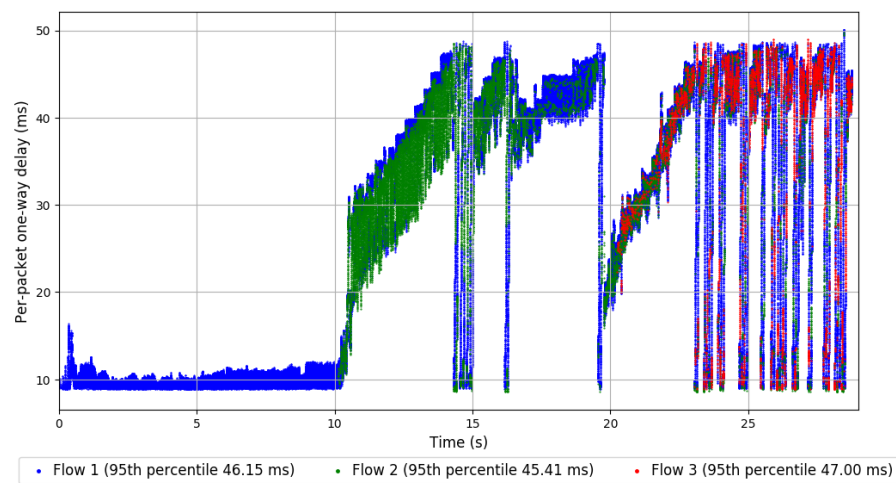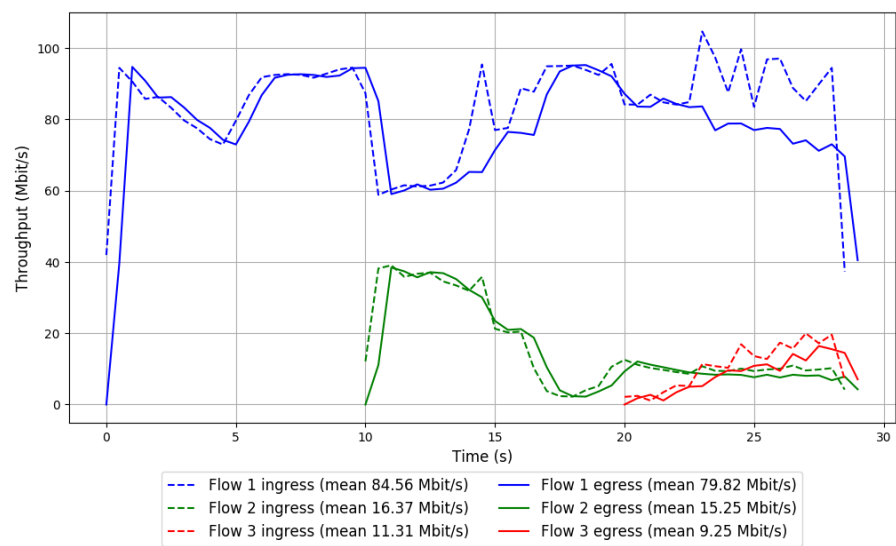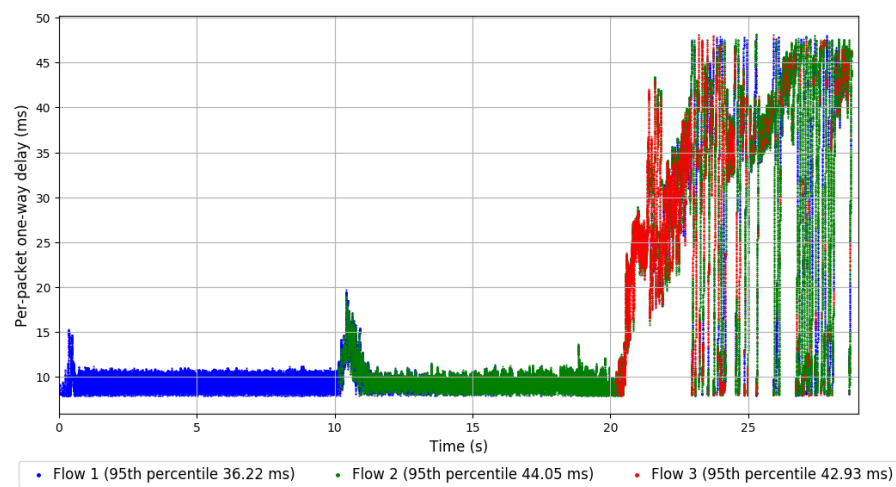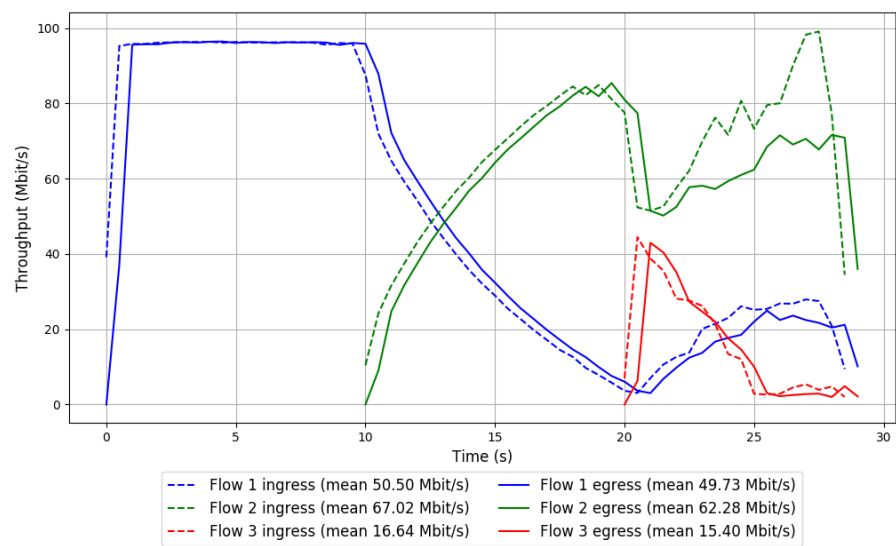Flow 1 (95th percentile 41.96 ms)   Flow 2 (95th percentile 43.14 ms)   Flow 3 (95th percentile 44.84 ms)

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-06-28 02:25:54
End at: 2019-06-28 02:26:24
Local clock offset: -1.54 ms
Remote clock offset: -3.433 ms


# Below is generated by plot.py at 2019-06-28 02:44:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.23 Mbit/s
95th percentile per-packet one-way delay: 41.951 ms
Loss rate: 7.91%
-- Flow 1:
Average throughput: 58.94 Mbit/s
95th percentile per-packet one-way delay: 36.675 ms
Loss rate: 4.21%
-- Flow 2:
Average throughput: 43.66 Mbit/s
95th percentile per-packet one-way delay: 43.412 ms
Loss rate: 9.58%
-- Flow 3:
Average throughput: 24.38 Mbit/s
95th percentile per-packet one-way delay: 46.043 ms
Loss rate: 25.97%
```

Run 5: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 61.55 Mbit/s) ——— Flow 1 egress (mean 58.94 Mbit/s)
- - - Flow 2 ingress (mean 48.31 Mbit/s) ——— Flow 2 egress (mean 43.66 Mbit/s)
- - - Flow 3 ingress (mean 32.88 Mbit/s) ——— Flow 3 egress (mean 24.38 Mbit/s)

- Flow 1 (95th percentile 36.67 ms)   - Flow 2 (95th percentile 43.41 ms)   - Flow 3 (95th percentile 46.04 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-06-28 00:46:12
End at: 2019-06-28 00:46:42
Local clock offset: -1.376 ms
Remote clock offset: -4.141 ms


# Below is generated by plot.py at 2019-06-28 02:44:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.92 Mbit/s
95th percentile per-packet one-way delay: 38.892 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 44.86 Mbit/s
95th percentile per-packet one-way delay: 36.165 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 64.41 Mbit/s
95th percentile per-packet one-way delay: 39.620 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 14.98 Mbit/s
95th percentile per-packet one-way delay: 39.549 ms
Loss rate: 2.48%
```
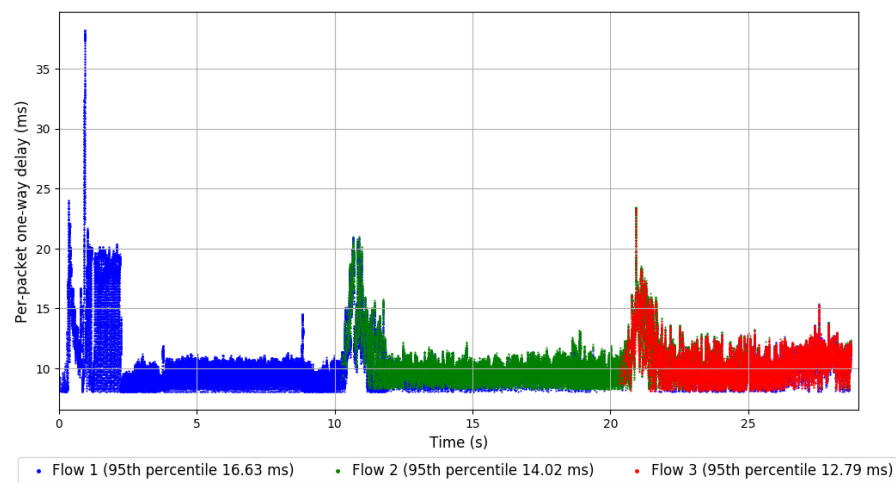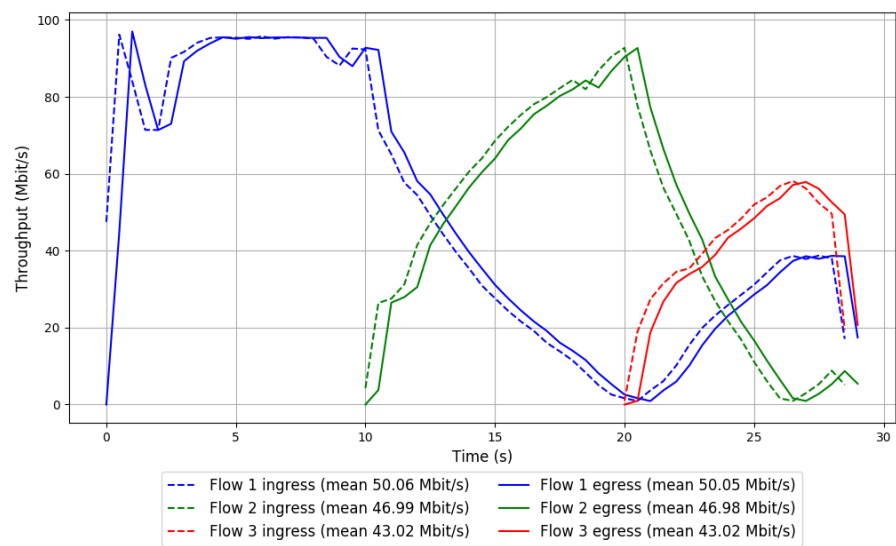
Run 1: Report of Indigo-MusesD — Data Link

86

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-06-28 01:12:35
End at: 2019-06-28 01:13:05
Local clock offset: -2.517 ms
Remote clock offset: -1.665 ms


# Below is generated by plot.py at 2019-06-28 02:44:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.45 Mbit/s
95th percentile per-packet one-way delay: 46.132 ms
Loss rate: 6.05%
-- Flow 1:
Average throughput: 79.82 Mbit/s
95th percentile per-packet one-way delay: 46.149 ms
Loss rate: 5.50%
-- Flow 2:
Average throughput: 15.25 Mbit/s
95th percentile per-packet one-way delay: 45.410 ms
Loss rate: 6.71%
-- Flow 3:
Average throughput: 9.25 Mbit/s
95th percentile per-packet one-way delay: 47.000 ms
Loss rate: 18.04%
```
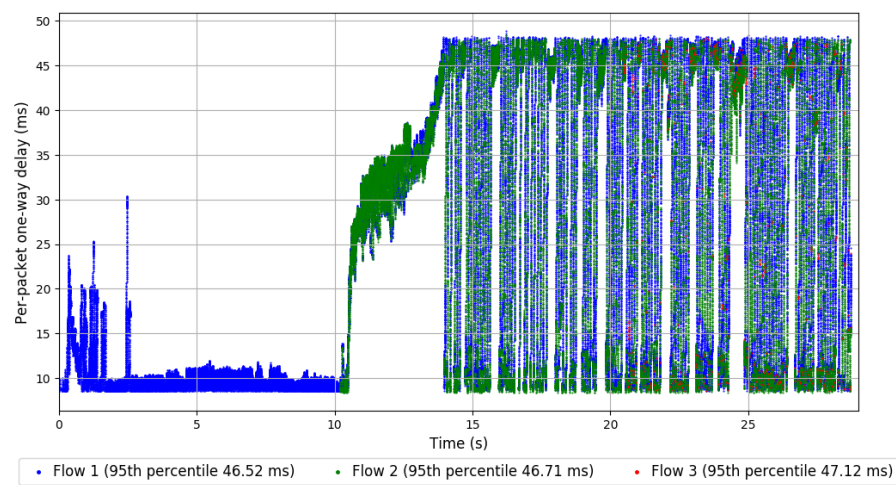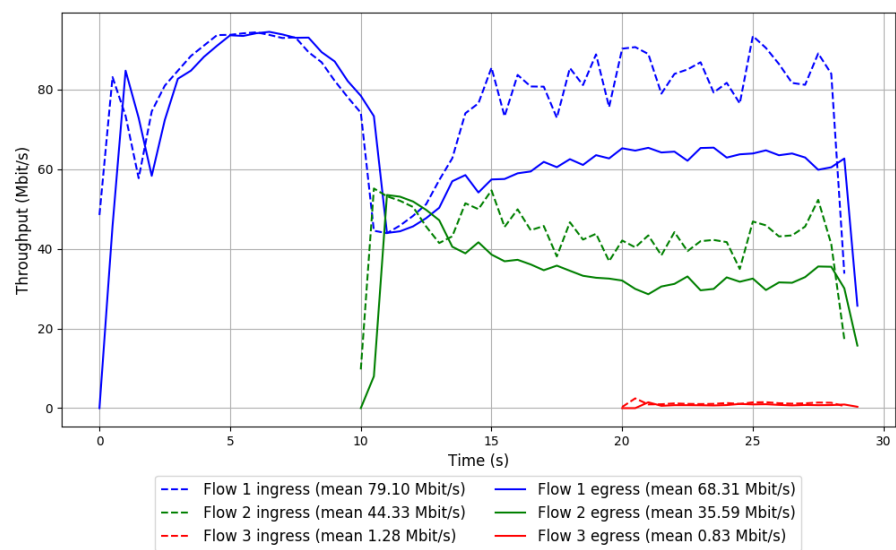
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-06-28 01:39:02
End at: 2019-06-28 01:39:32
Local clock offset: -1.651 ms
Remote clock offset: -2.734 ms

# Below is generated by plot.py at 2019-06-28 02:44:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.73 Mbit/s
95th percentile per-packet one-way delay: 42.269 ms
Loss rate: 4.09%
-- Flow 1:
Average throughput: 49.73 Mbit/s
95th percentile per-packet one-way delay: 36.220 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 62.28 Mbit/s
95th percentile per-packet one-way delay: 44.054 ms
Loss rate: 6.90%
-- Flow 3:
Average throughput: 15.40 Mbit/s
95th percentile per-packet one-way delay: 42.932 ms
Loss rate: 7.06%
```

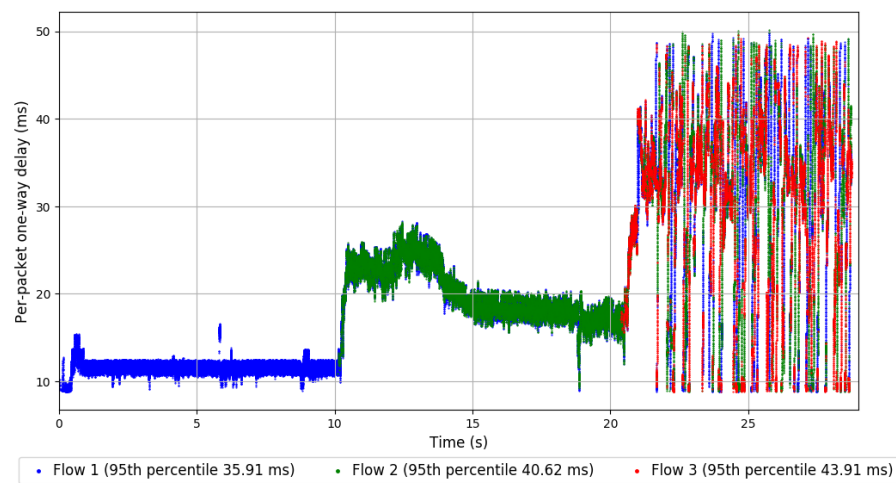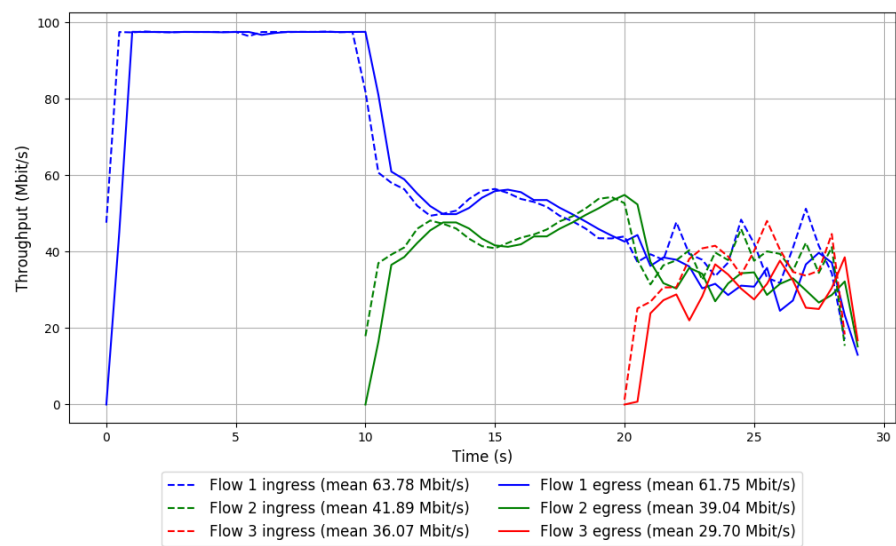Run 3: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 50.50 Mbit/s) — Flow 1 egress (mean 49.73 Mbit/s)
Flow 2 ingress (mean 67.02 Mbit/s) — Flow 2 egress (mean 62.28 Mbit/s)
Flow 3 ingress (mean 16.64 Mbit/s) — Flow 3 egress (mean 15.40 Mbit/s)

Flow 1 (95th percentile 36.22 ms)   Flow 2 (95th percentile 44.05 ms)   Flow 3 (95th percentile 42.93 ms)

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-06-28 02:05:39
End at: 2019-06-28 02:06:09
Local clock offset: -1.813 ms
Remote clock offset: -3.408 ms


# Below is generated by plot.py at 2019-06-28 02:44:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.88 Mbit/s
95th percentile per-packet one-way delay: 14.842 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.05 Mbit/s
95th percentile per-packet one-way delay: 16.634 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 46.98 Mbit/s
95th percentile per-packet one-way delay: 14.017 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.02 Mbit/s
95th percentile per-packet one-way delay: 12.787 ms
Loss rate: 0.00%
```

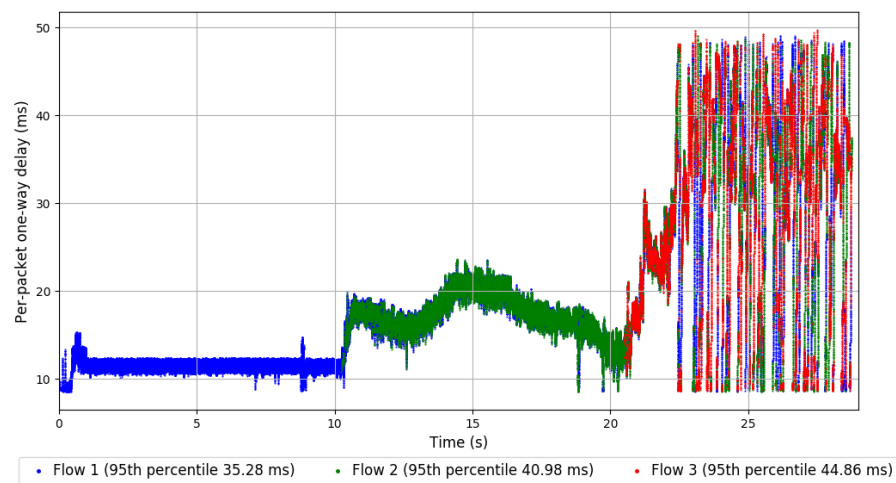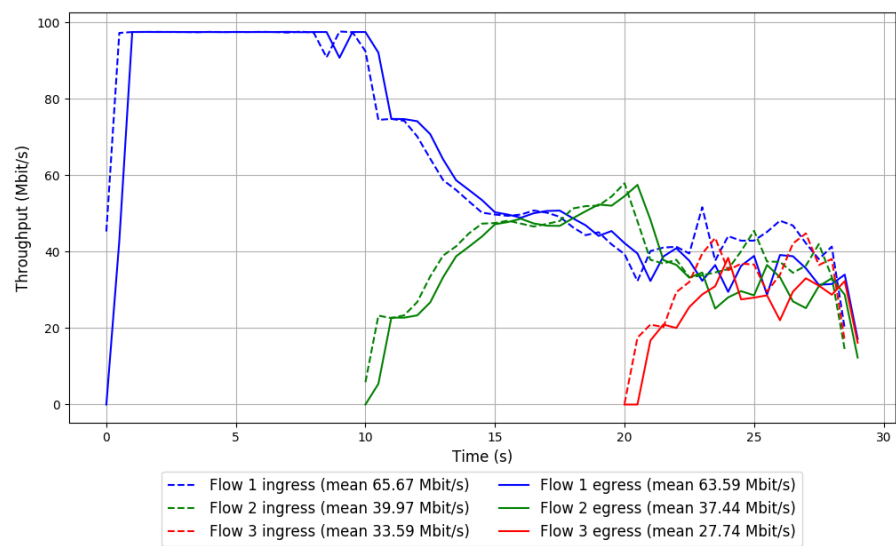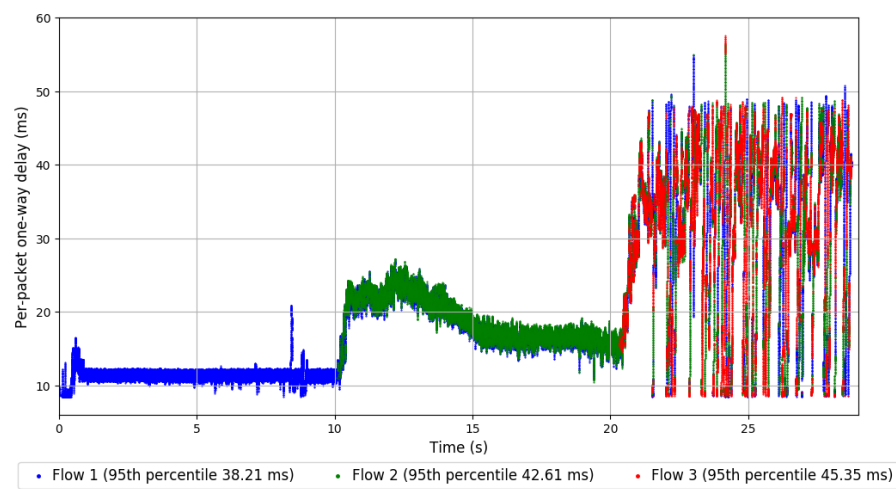Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-06-28 02:31:58
End at: 2019-06-28 02:32:28
Local clock offset: -1.786 ms
Remote clock offset: -3.693 ms


# Below is generated by plot.py at 2019-06-28 02:45:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.54 Mbit/s
95th percentile per-packet one-way delay: 46.588 ms
Loss rate: 15.28%
-- Flow 1:
Average throughput: 68.31 Mbit/s
95th percentile per-packet one-way delay: 46.516 ms
Loss rate: 13.60%
-- Flow 2:
Average throughput: 35.59 Mbit/s
95th percentile per-packet one-way delay: 46.709 ms
Loss rate: 19.67%
-- Flow 3:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 47.124 ms
Loss rate: 34.88%
```

Run 5: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 79.10 Mbit/s) — Flow 1 egress (mean 68.31 Mbit/s)
Flow 2 ingress (mean 44.33 Mbit/s) — Flow 2 egress (mean 35.59 Mbit/s)
Flow 3 ingress (mean 1.28 Mbit/s) — Flow 3 egress (mean 0.83 Mbit/s)

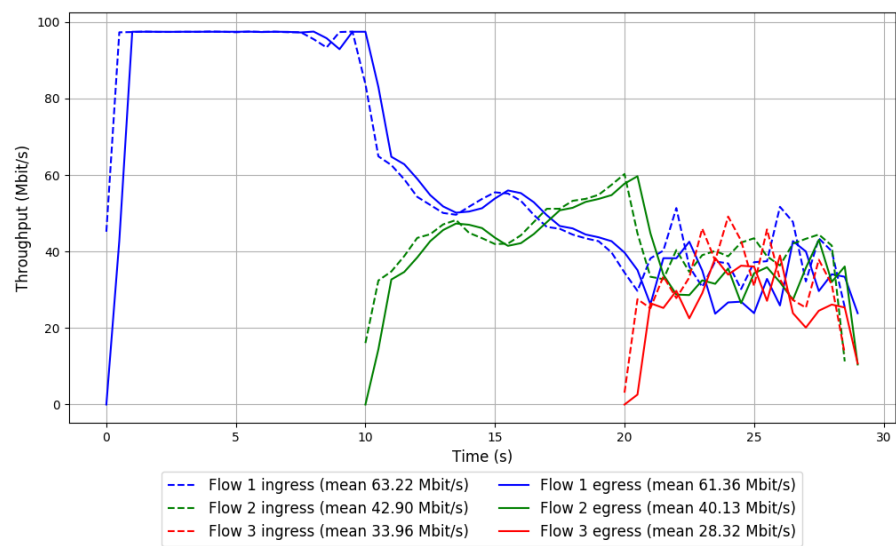Flow 1 (95th percentile 46.52 ms) — Flow 2 (95th percentile 46.71 ms) — Flow 3 (95th percentile 47.12 ms)

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-06-28 00:49:41
End at: 2019-06-28 00:50:11
Local clock offset: -2.609 ms
Remote clock offset: -1.943 ms


# Below is generated by plot.py at 2019-06-28 02:45:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 39.395 ms
Loss rate: 5.55%
-- Flow 1:
Average throughput: 61.75 Mbit/s
95th percentile per-packet one-way delay: 35.905 ms
Loss rate: 3.10%
-- Flow 2:
Average throughput: 39.04 Mbit/s
95th percentile per-packet one-way delay: 40.621 ms
Loss rate: 6.69%
-- Flow 3:
Average throughput: 29.70 Mbit/s
95th percentile per-packet one-way delay: 43.905 ms
Loss rate: 17.50%
```

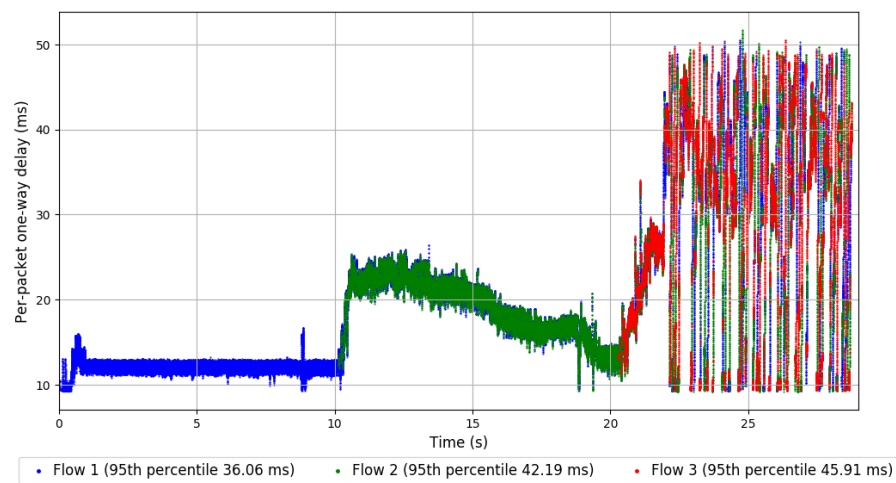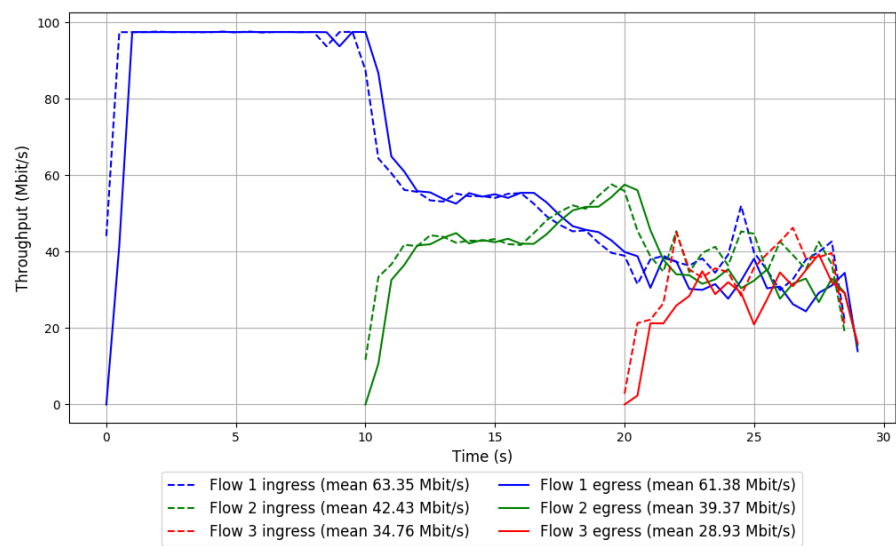Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-06-28 01:16:08
End at: 2019-06-28 01:16:38
Local clock offset: -2.657 ms
Remote clock offset: -2.063 ms


# Below is generated by plot.py at 2019-06-28 02:45:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.68 Mbit/s
95th percentile per-packet one-way delay: 40.005 ms
Loss rate: 5.23%
-- Flow 1:
Average throughput: 63.59 Mbit/s
95th percentile per-packet one-way delay: 35.277 ms
Loss rate: 3.09%
-- Flow 2:
Average throughput: 37.44 Mbit/s
95th percentile per-packet one-way delay: 40.975 ms
Loss rate: 6.20%
-- Flow 3:
Average throughput: 27.74 Mbit/s
95th percentile per-packet one-way delay: 44.857 ms
Loss rate: 17.22%
```
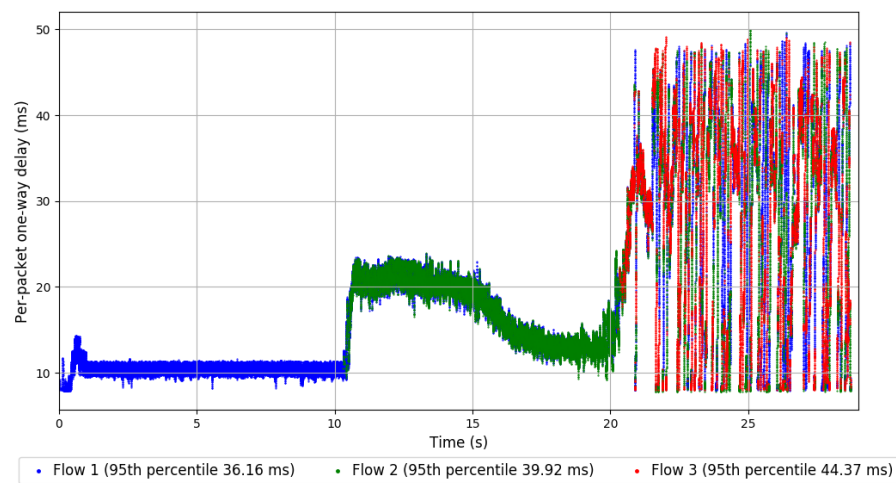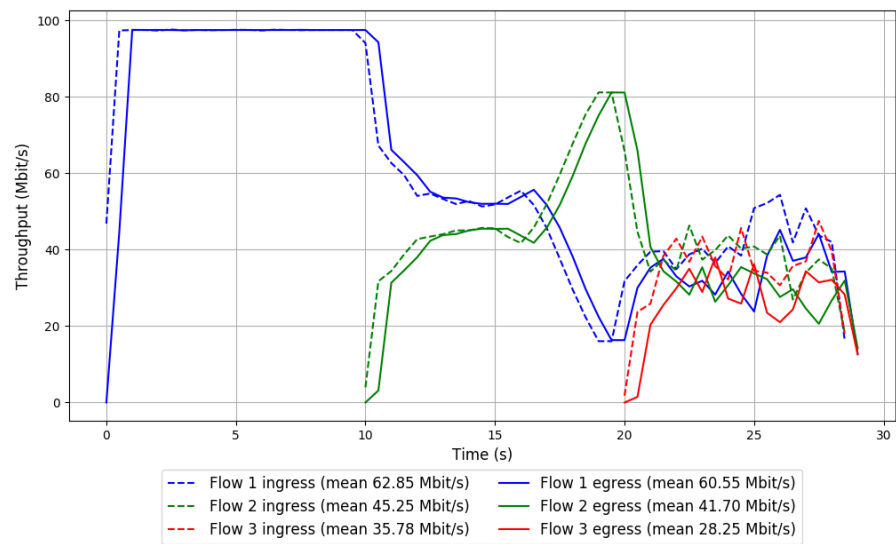
Run 2: Report of Indigo-MusesT — Data Link

98

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-06-28 01:42:32
End at: 2019-06-28 01:43:02
Local clock offset: -1.479 ms
Remote clock offset: -2.184 ms


# Below is generated by plot.py at 2019-06-28 02:45:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.74 Mbit/s
95th percentile per-packet one-way delay: 41.635 ms
Loss rate: 5.12%
-- Flow 1:
Average throughput: 61.36 Mbit/s
95th percentile per-packet one-way delay: 38.210 ms
Loss rate: 2.83%
-- Flow 2:
Average throughput: 40.13 Mbit/s
95th percentile per-packet one-way delay: 42.607 ms
Loss rate: 6.29%
-- Flow 3:
Average throughput: 28.32 Mbit/s
95th percentile per-packet one-way delay: 45.352 ms
Loss rate: 16.38%
```
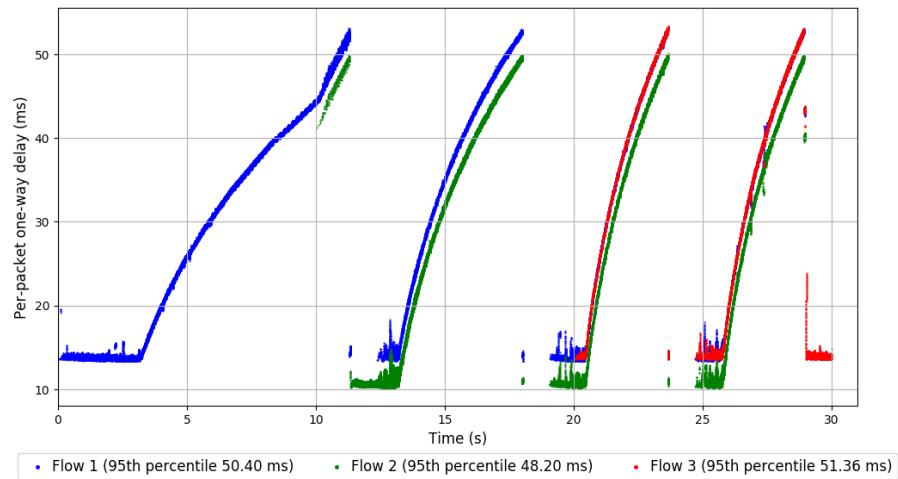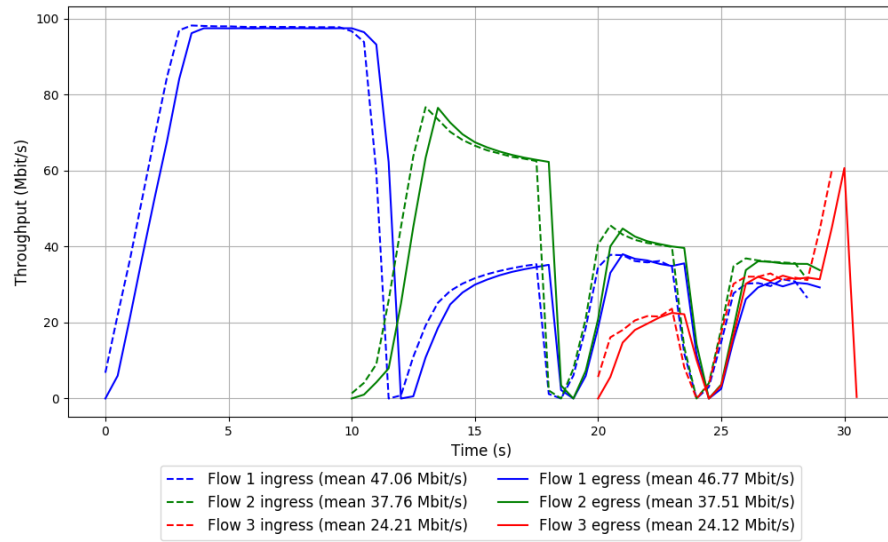
Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 63.22 Mbit/s) --- Flow 1 egress (mean 61.36 Mbit/s)
Flow 2 ingress (mean 42.90 Mbit/s) --- Flow 2 egress (mean 40.13 Mbit/s)
Flow 3 ingress (mean 33.96 Mbit/s) --- Flow 3 egress (mean 28.32 Mbit/s)

Flow 1 (95th percentile 38.21 ms)   Flow 2 (95th percentile 42.61 ms)   Flow 3 (95th percentile 45.35 ms)

100

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-06-28 02:09:10
End at: 2019-06-28 02:09:40
Local clock offset: -2.481 ms
Remote clock offset: -3.093 ms


# Below is generated by plot.py at 2019-06-28 02:45:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.43 Mbit/s
95th percentile per-packet one-way delay: 41.012 ms
Loss rate: 5.48%
-- Flow 1:
Average throughput: 61.38 Mbit/s
95th percentile per-packet one-way delay: 36.056 ms
Loss rate: 3.02%
-- Flow 2:
Average throughput: 39.37 Mbit/s
95th percentile per-packet one-way delay: 42.192 ms
Loss rate: 7.06%
-- Flow 3:
Average throughput: 28.93 Mbit/s
95th percentile per-packet one-way delay: 45.913 ms
Loss rate: 16.47%
```

Run 4: Report of Indigo-MusesT — Data Link
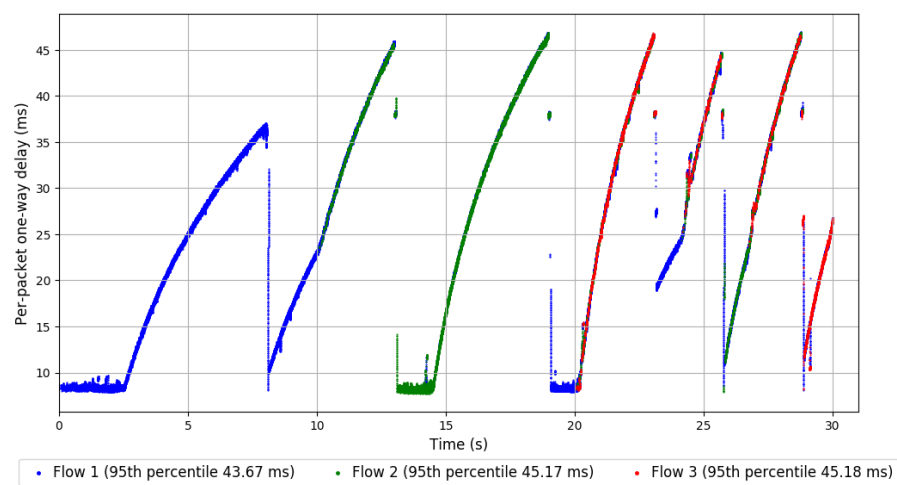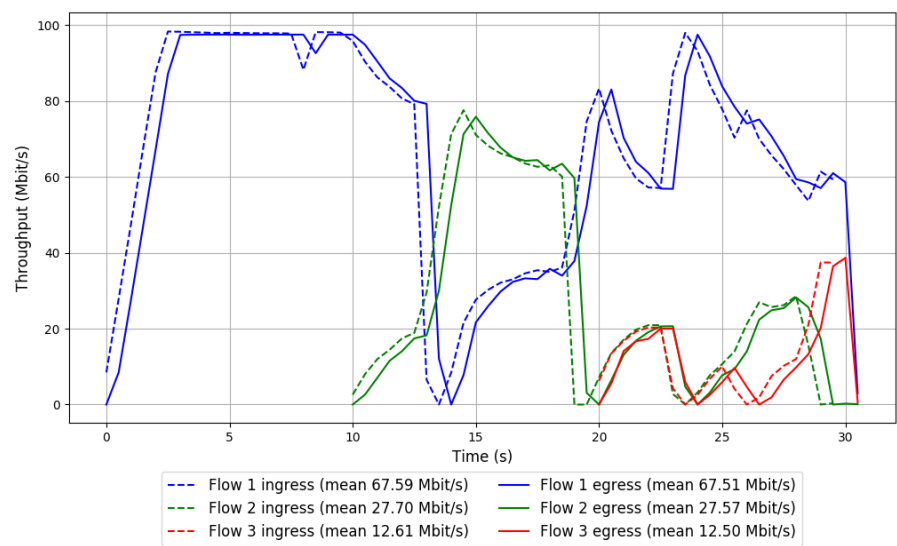

- - - - Flow 1 ingress (mean 63.35 Mbit/s) ——— Flow 1 egress (mean 61.38 Mbit/s)
- - - - Flow 2 ingress (mean 42.43 Mbit/s) ——— Flow 2 egress (mean 39.37 Mbit/s)
- - - - Flow 3 ingress (mean 34.76 Mbit/s) ——— Flow 3 egress (mean 28.93 Mbit/s)

- Flow 1 (95th percentile 36.06 ms)   · Flow 2 (95th percentile 42.19 ms)   · Flow 3 (95th percentile 45.91 ms)
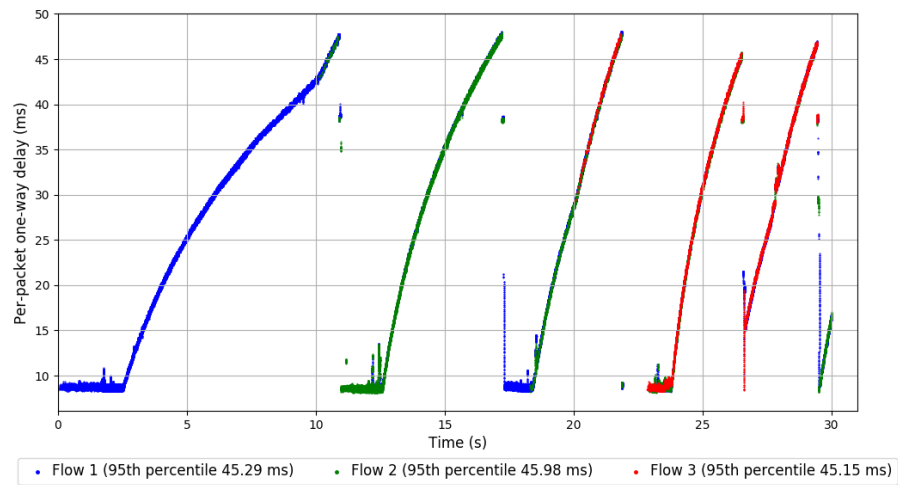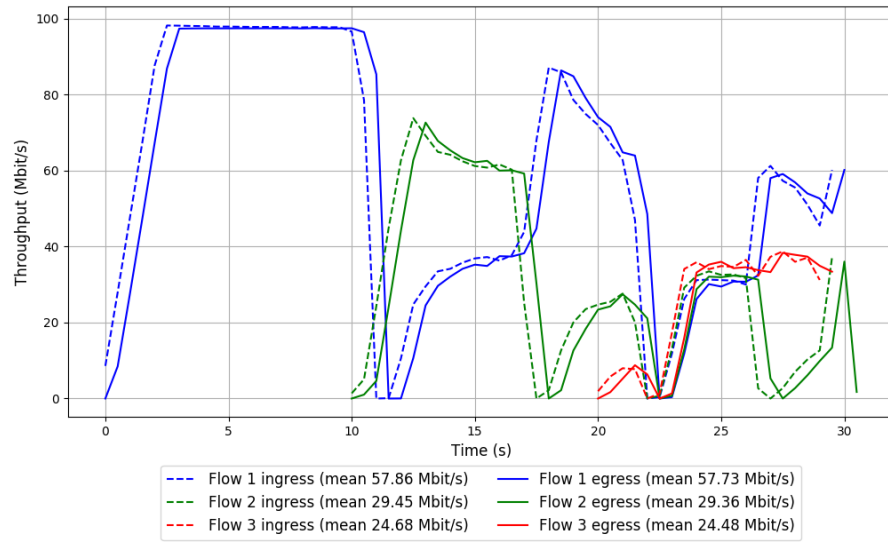
```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-06-28 02:35:33
End at: 2019-06-28 02:36:03
Local clock offset: -1.749 ms
Remote clock offset: -4.386 ms


# Below is generated by plot.py at 2019-06-28 02:45:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 39.638 ms
Loss rate: 6.63%
-- Flow 1:
Average throughput: 60.55 Mbit/s
95th percentile per-packet one-way delay: 36.161 ms
Loss rate: 3.65%
-- Flow 2:
Average throughput: 41.70 Mbit/s
95th percentile per-packet one-way delay: 39.916 ms
Loss rate: 7.85%
-- Flow 3:
Average throughput: 28.25 Mbit/s
95th percentile per-packet one-way delay: 44.367 ms
Loss rate: 21.09%
```

Run 5: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 62.85 Mbit/s) --- Flow 1 egress (mean 60.55 Mbit/s)
Flow 2 ingress (mean 45.25 Mbit/s) --- Flow 2 egress (mean 41.70 Mbit/s)
Flow 3 ingress (mean 35.78 Mbit/s) --- Flow 3 egress (mean 28.25 Mbit/s)

Flow 1 (95th percentile 36.16 ms)   Flow 2 (95th percentile 39.92 ms)   Flow 3 (95th percentile 44.37 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2019-06-28 00:43:47
End at: 2019-06-28 00:44:17
Local clock offset: -6.013 ms
Remote clock offset: -4.093 ms

# Below is generated by plot.py at 2019-06-28 02:45:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.88 Mbit/s
95th percentile per-packet one-way delay: 49.676 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 46.77 Mbit/s
95th percentile per-packet one-way delay: 50.402 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 37.51 Mbit/s
95th percentile per-packet one-way delay: 48.198 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 24.12 Mbit/s
95th percentile per-packet one-way delay: 51.357 ms
Loss rate: 0.39%
```
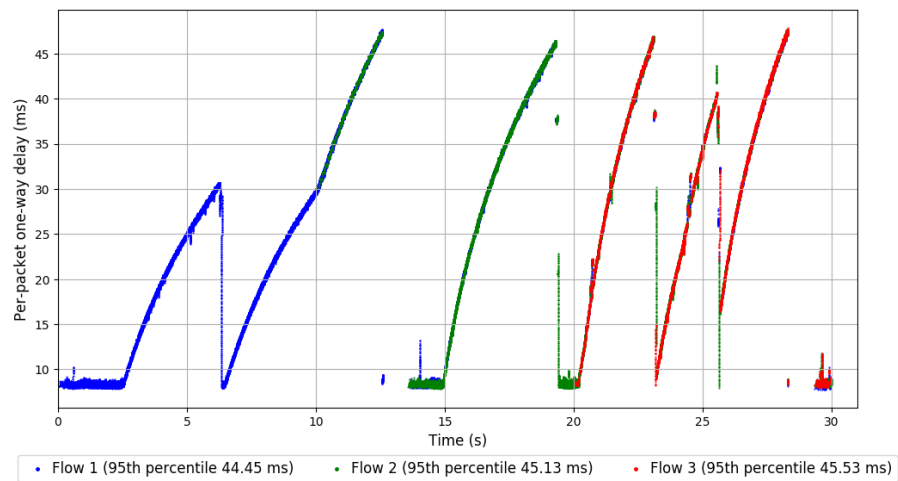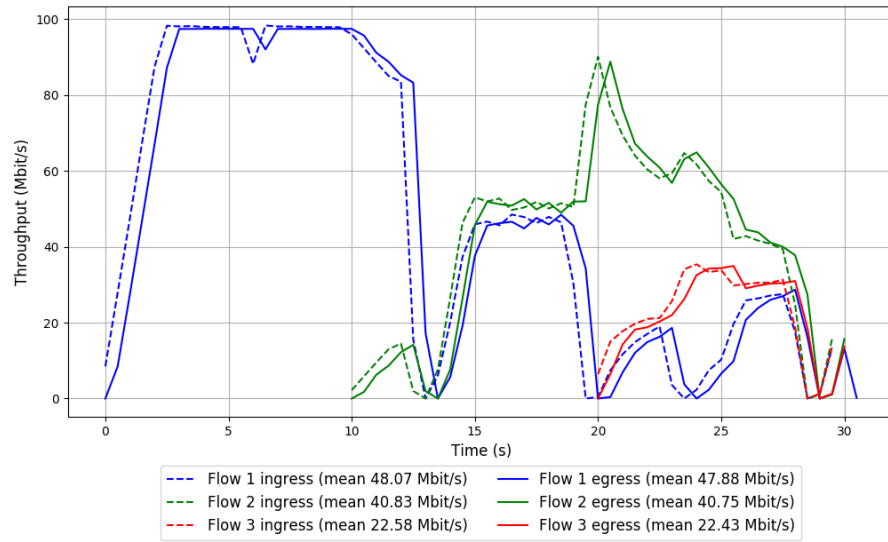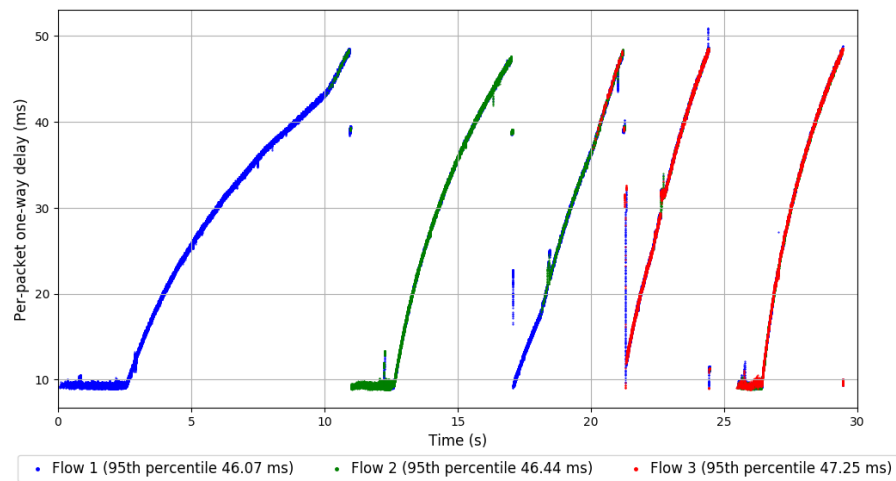
Run 1: Report of LEDBAT — Data Link

- - - Flow 1 ingress (mean 47.06 Mbit/s) —— Flow 1 egress (mean 46.77 Mbit/s)
- - - Flow 2 ingress (mean 37.76 Mbit/s) —— Flow 2 egress (mean 37.51 Mbit/s)
- - - Flow 3 ingress (mean 24.21 Mbit/s) —— Flow 3 egress (mean 24.12 Mbit/s)

• Flow 1 (95th percentile 50.40 ms)　　• Flow 2 (95th percentile 48.20 ms)　　• Flow 3 (95th percentile 51.36 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2019-06-28 01:10:03
End at: 2019-06-28 01:10:33
Local clock offset: -1.754 ms
Remote clock offset: -1.729 ms


# Below is generated by plot.py at 2019-06-28 02:46:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.02 Mbit/s
95th percentile per-packet one-way delay: 44.200 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 67.51 Mbit/s
95th percentile per-packet one-way delay: 43.668 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 27.57 Mbit/s
95th percentile per-packet one-way delay: 45.169 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 12.50 Mbit/s
95th percentile per-packet one-way delay: 45.181 ms
Loss rate: 0.69%
```
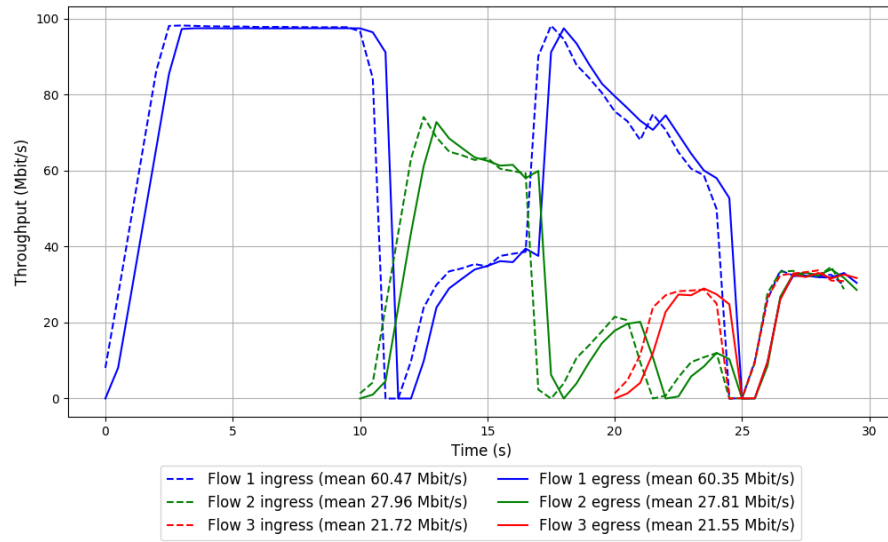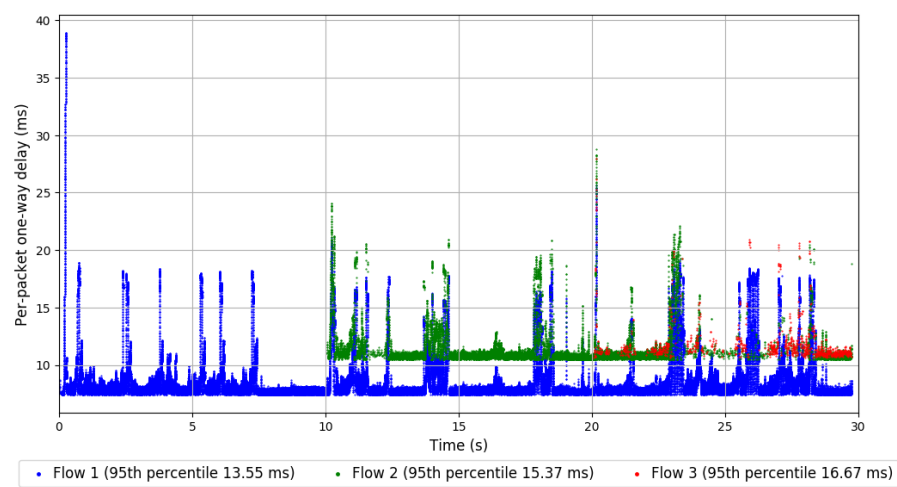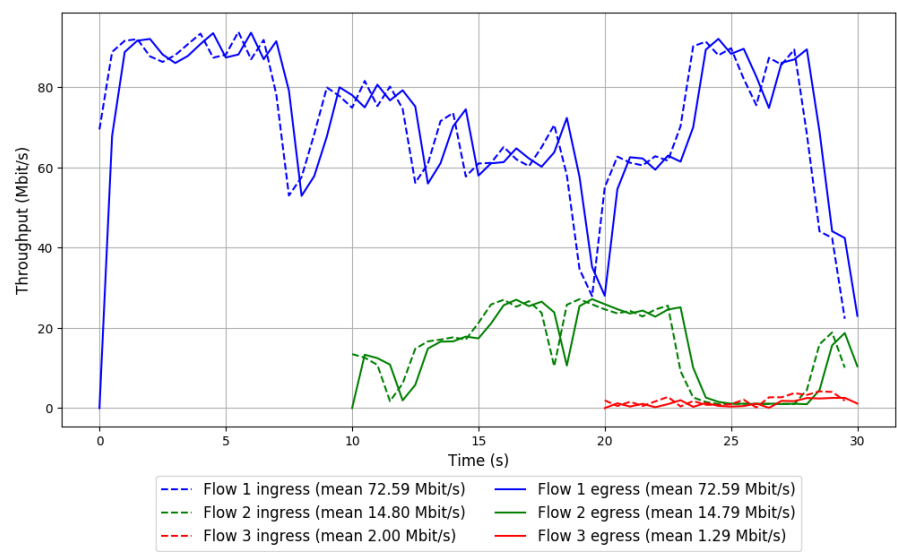
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 67.59 Mbit/s) — — — Flow 1 egress (mean 67.51 Mbit/s)
Flow 2 ingress (mean 27.70 Mbit/s) — — — Flow 2 egress (mean 27.57 Mbit/s)
Flow 3 ingress (mean 12.61 Mbit/s) — — — Flow 3 egress (mean 12.50 Mbit/s)

Flow 1 (95th percentile 43.67 ms) · Flow 2 (95th percentile 45.17 ms) · Flow 3 (95th percentile 45.18 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2019-06-28 01:36:36
End at: 2019-06-28 01:37:06
Local clock offset: -1.713 ms
Remote clock offset: -2.308 ms


# Below is generated by plot.py at 2019-06-28 02:46:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 84.94 Mbit/s
95th percentile per-packet one-way delay: 45.463 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 57.73 Mbit/s
95th percentile per-packet one-way delay: 45.292 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 29.36 Mbit/s
95th percentile per-packet one-way delay: 45.975 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 24.48 Mbit/s
95th percentile per-packet one-way delay: 45.154 ms
Loss rate: 0.68%
```

Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 57.86 Mbit/s) ---- Flow 1 egress (mean 57.73 Mbit/s) ——
Flow 2 ingress (mean 29.45 Mbit/s) ---- Flow 2 egress (mean 29.36 Mbit/s) ——
Flow 3 ingress (mean 24.68 Mbit/s) ---- Flow 3 egress (mean 24.48 Mbit/s) ——

Flow 1 (95th percentile 45.29 ms)   Flow 2 (95th percentile 45.98 ms)   Flow 3 (95th percentile 45.15 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-06-28 02:03:12
End at: 2019-06-28 02:03:42
Local clock offset: -1.583 ms
Remote clock offset: -3.428 ms

# Below is generated by plot.py at 2019-06-28 02:46:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.44 Mbit/s
95th percentile per-packet one-way delay: 44.884 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 47.88 Mbit/s
95th percentile per-packet one-way delay: 44.453 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 40.75 Mbit/s
95th percentile per-packet one-way delay: 45.126 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 22.43 Mbit/s
95th percentile per-packet one-way delay: 45.526 ms
Loss rate: 0.67%
```
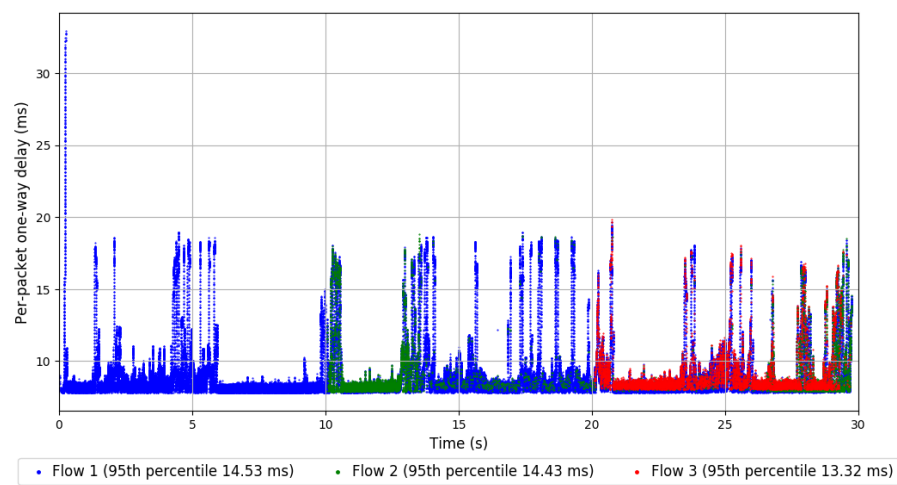
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 48.07 Mbit/s) --- Flow 1 egress (mean 47.88 Mbit/s)
Flow 2 ingress (mean 40.83 Mbit/s) --- Flow 2 egress (mean 40.75 Mbit/s)
Flow 3 ingress (mean 22.58 Mbit/s) --- Flow 3 egress (mean 22.43 Mbit/s)

Flow 1 (95th percentile 44.45 ms)   Flow 2 (95th percentile 45.13 ms)   Flow 3 (95th percentile 45.53 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-06-28 02:29:32
End at: 2019-06-28 02:30:02
Local clock offset: -1.687 ms
Remote clock offset: -2.975 ms


# Below is generated by plot.py at 2019-06-28 02:46:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.51 Mbit/s
95th percentile per-packet one-way delay: 46.321 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 60.35 Mbit/s
95th percentile per-packet one-way delay: 46.074 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 27.81 Mbit/s
95th percentile per-packet one-way delay: 46.437 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 21.55 Mbit/s
95th percentile per-packet one-way delay: 47.248 ms
Loss rate: 1.08%
```
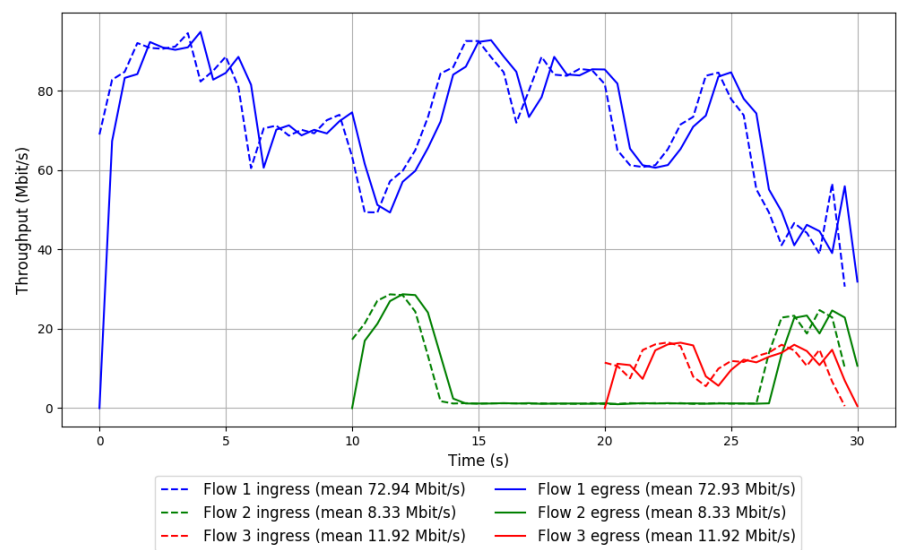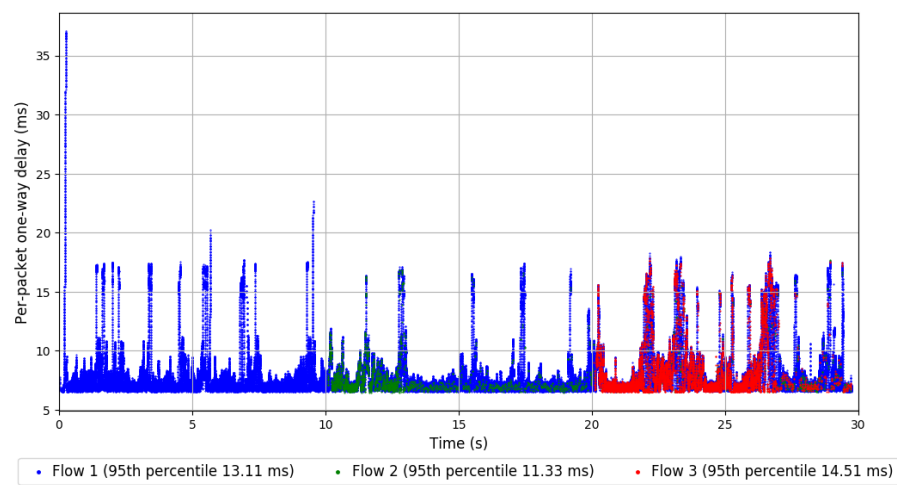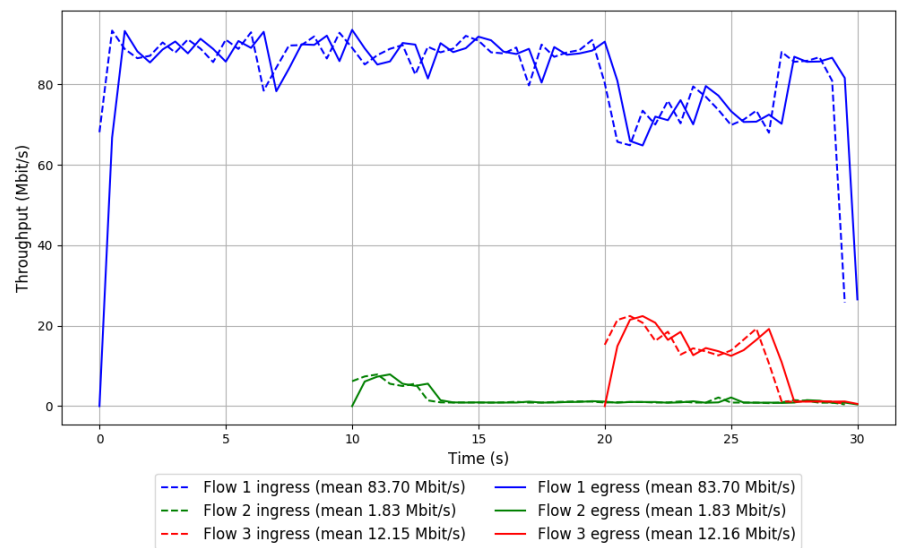
Run 5: Report of LEDBAT — Data Link

- - - Flow 1 ingress (mean 60.47 Mbit/s)   —— Flow 1 egress (mean 60.35 Mbit/s)
- - - Flow 2 ingress (mean 27.96 Mbit/s)   —— Flow 2 egress (mean 27.81 Mbit/s)
- - - Flow 3 ingress (mean 21.72 Mbit/s)   —— Flow 3 egress (mean 21.55 Mbit/s)

• Flow 1 (95th percentile 46.07 ms)   • Flow 2 (95th percentile 46.44 ms)   • Flow 3 (95th percentile 47.25 ms)
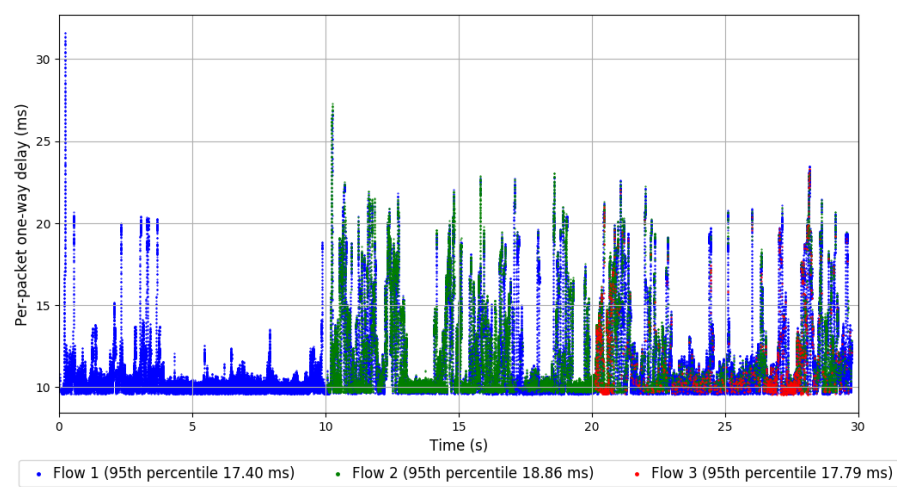
114

```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 00:29:36
End at: 2019-06-28 00:30:06
Local clock offset: -2.558 ms
Remote clock offset: -3.859 ms

# Below is generated by plot.py at 2019-06-28 02:46:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.79 Mbit/s
95th percentile per-packet one-way delay: 13.833 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 72.59 Mbit/s
95th percentile per-packet one-way delay: 13.549 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 14.79 Mbit/s
95th percentile per-packet one-way delay: 15.365 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 16.674 ms
Loss rate: 35.52%
```
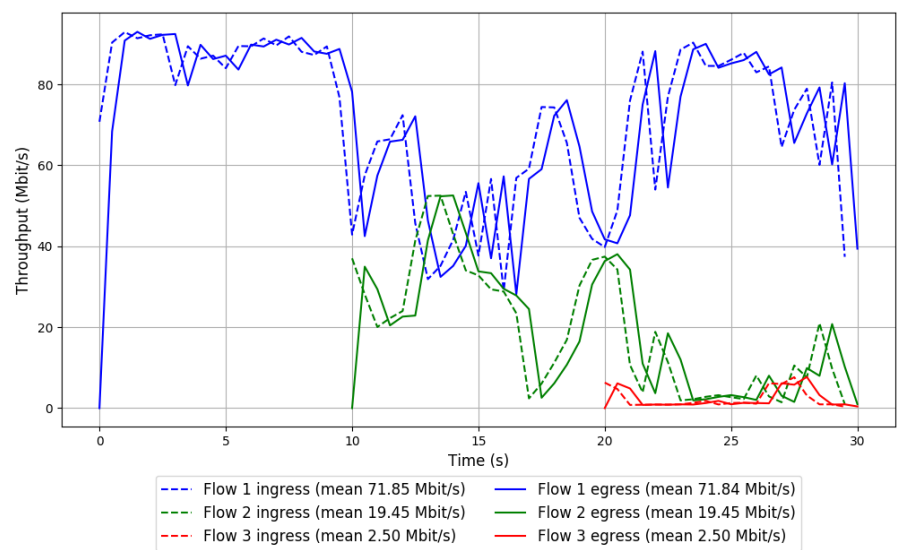
Run 1: Report of Muses_DecisionTree — Data Link

```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 00:55:31
End at: 2019-06-28 00:56:01
Local clock offset: -2.638 ms
Remote clock offset: -1.602 ms

# Below is generated by plot.py at 2019-06-28 02:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.47 Mbit/s
95th percentile per-packet one-way delay: 13.396 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 77.35 Mbit/s
95th percentile per-packet one-way delay: 13.450 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 15.02 Mbit/s
95th percentile per-packet one-way delay: 13.234 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 6.72 Mbit/s
95th percentile per-packet one-way delay: 12.504 ms
Loss rate: 0.09%
```

Run 2: Report of Muses_DecisionTree — Data Link

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 01:22:02
End at: 2019-06-28 01:22:32
Local clock offset: -2.186 ms
Remote clock offset: -2.667 ms


# Below is generated by plot.py at 2019-06-28 02:46:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.31 Mbit/s
95th percentile per-packet one-way delay: 14.414 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 72.93 Mbit/s
95th percentile per-packet one-way delay: 14.531 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 8.33 Mbit/s
95th percentile per-packet one-way delay: 14.432 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 11.92 Mbit/s
95th percentile per-packet one-way delay: 13.323 ms
Loss rate: 0.00%
```
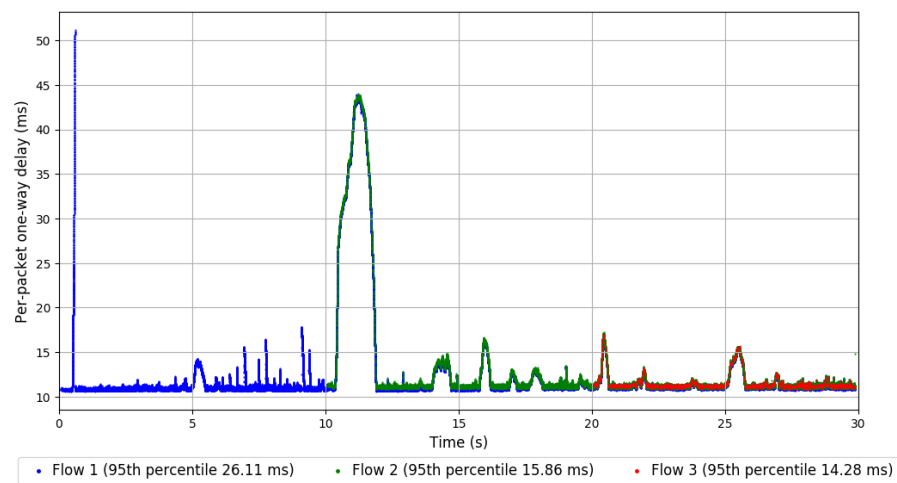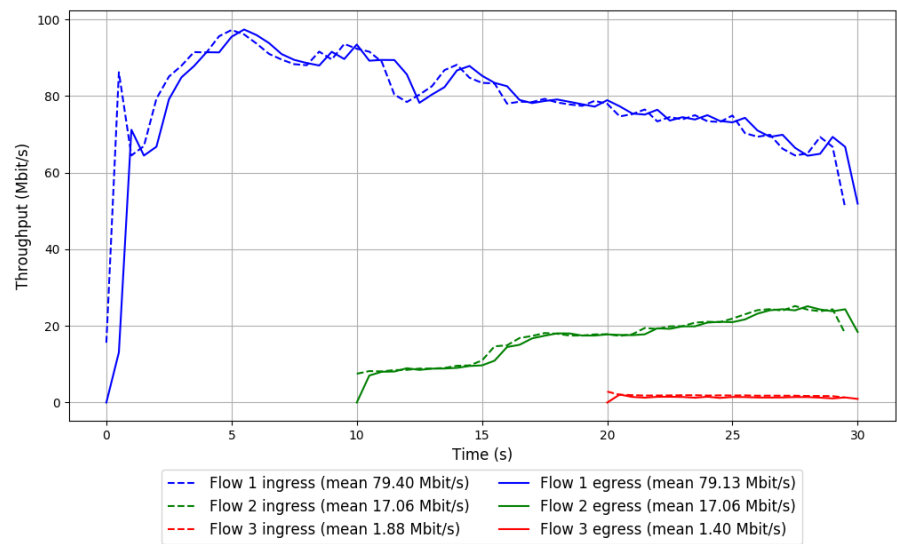
Run 3: Report of Muses_DecisionTree — Data Link

```
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 01:48:22
End at: 2019-06-28 01:48:52
Local clock offset: -1.701 ms
Remote clock offset: -4.841 ms


# Below is generated by plot.py at 2019-06-28 02:46:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.85 Mbit/s
95th percentile per-packet one-way delay: 13.235 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 83.70 Mbit/s
95th percentile per-packet one-way delay: 13.107 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 11.327 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.16 Mbit/s
95th percentile per-packet one-way delay: 14.510 ms
Loss rate: 0.00%
```

Run 4: Report of Muses_DecisionTree — Data Link

```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 02:15:02
End at: 2019-06-28 02:15:32
Local clock offset: -2.618 ms
Remote clock offset: -2.947 ms


# Below is generated by plot.py at 2019-06-28 02:47:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.54 Mbit/s
95th percentile per-packet one-way delay: 17.717 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 71.84 Mbit/s
95th percentile per-packet one-way delay: 17.401 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 19.45 Mbit/s
95th percentile per-packet one-way delay: 18.857 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 2.50 Mbit/s
95th percentile per-packet one-way delay: 17.786 ms
Loss rate: 0.00%
```

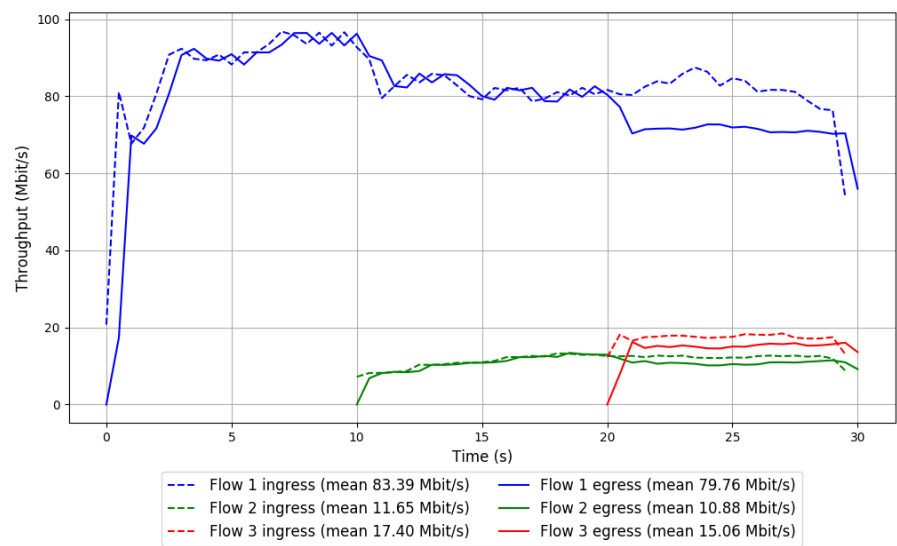Run 5: Report of Muses_DecisionTree — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-06-28 00:36:38
End at: 2019-06-28 00:37:08
Local clock offset: -2.336 ms
Remote clock offset: -3.28 ms


# Below is generated by plot.py at 2019-06-28 02:47:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.92 Mbit/s
95th percentile per-packet one-way delay: 22.736 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 79.13 Mbit/s
95th percentile per-packet one-way delay: 26.109 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 17.06 Mbit/s
95th percentile per-packet one-way delay: 15.861 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 14.275 ms
Loss rate: 25.84%
```
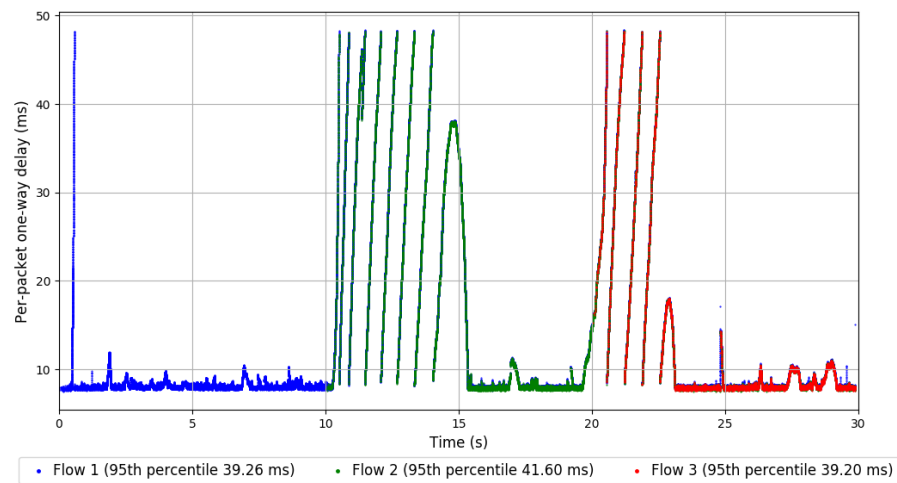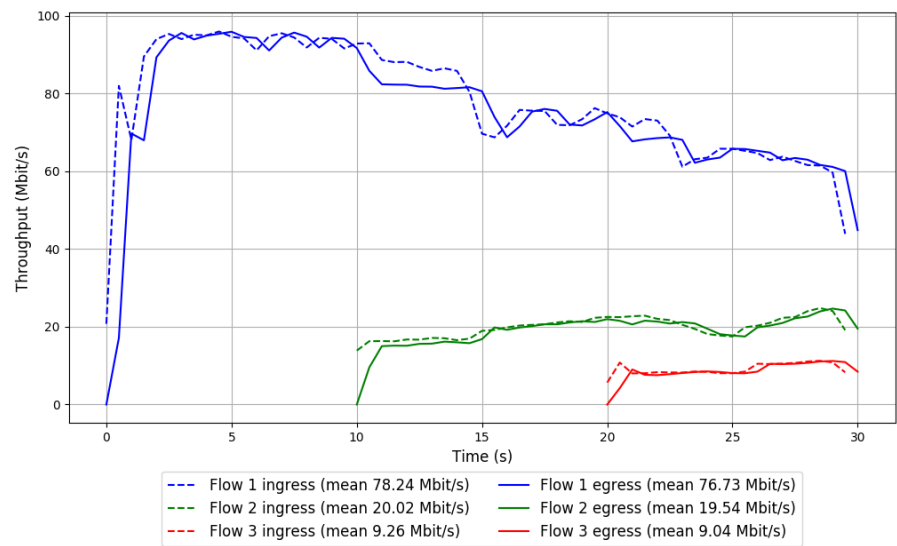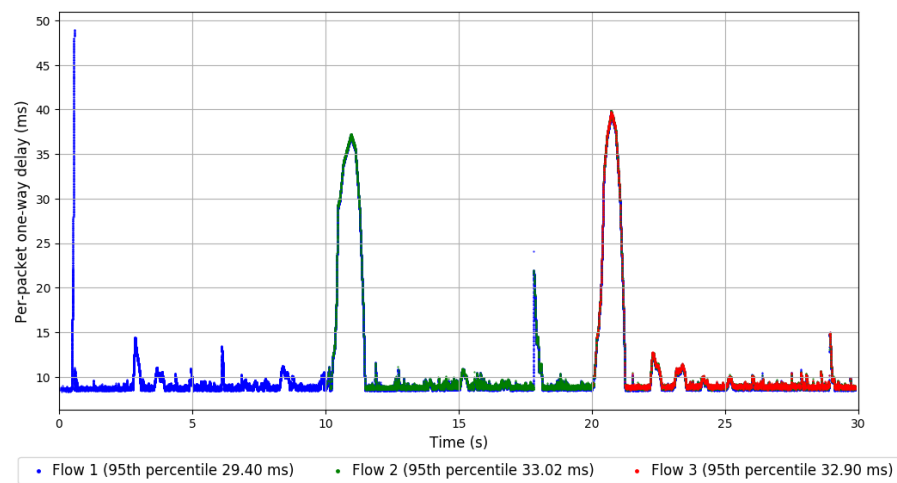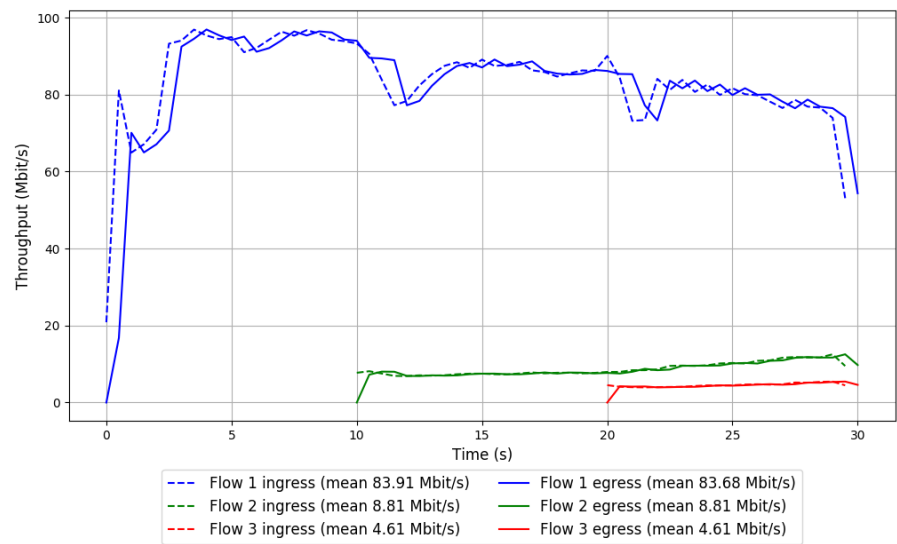
Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-06-28 01:02:51
End at: 2019-06-28 01:03:21
Local clock offset: -1.869 ms
Remote clock offset: -3.201 ms


# Below is generated by plot.py at 2019-06-28 02:47:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.81 Mbit/s
95th percentile per-packet one-way delay: 32.097 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 79.29 Mbit/s
95th percentile per-packet one-way delay: 31.799 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 14.73 Mbit/s
95th percentile per-packet one-way delay: 32.837 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 11.29 Mbit/s
95th percentile per-packet one-way delay: 33.952 ms
Loss rate: 0.00%
```
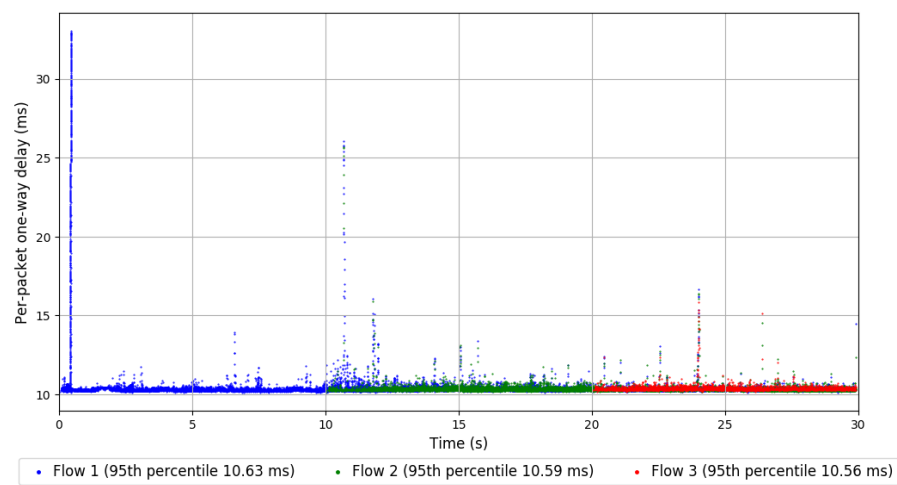
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 79.95 Mbit/s) --- Flow 1 egress (mean 79.29 Mbit/s)
Flow 2 ingress (mean 14.78 Mbit/s) --- Flow 2 egress (mean 14.73 Mbit/s)
Flow 3 ingress (mean 11.30 Mbit/s) --- Flow 3 egress (mean 11.29 Mbit/s)

Flow 1 (95th percentile 31.80 ms)   Flow 2 (95th percentile 32.84 ms)   Flow 3 (95th percentile 33.95 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-06-28 01:29:18
End at: 2019-06-28 01:29:48
Local clock offset: -1.45 ms
Remote clock offset: -3.775 ms


# Below is generated by plot.py at 2019-06-28 02:47:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.96 Mbit/s
95th percentile per-packet one-way delay: 41.171 ms
Loss rate: 4.98%
-- Flow 1:
Average throughput: 79.76 Mbit/s
95th percentile per-packet one-way delay: 40.039 ms
Loss rate: 4.27%
-- Flow 2:
Average throughput: 10.88 Mbit/s
95th percentile per-packet one-way delay: 42.777 ms
Loss rate: 6.46%
-- Flow 3:
Average throughput: 15.06 Mbit/s
95th percentile per-packet one-way delay: 44.964 ms
Loss rate: 13.26%
```
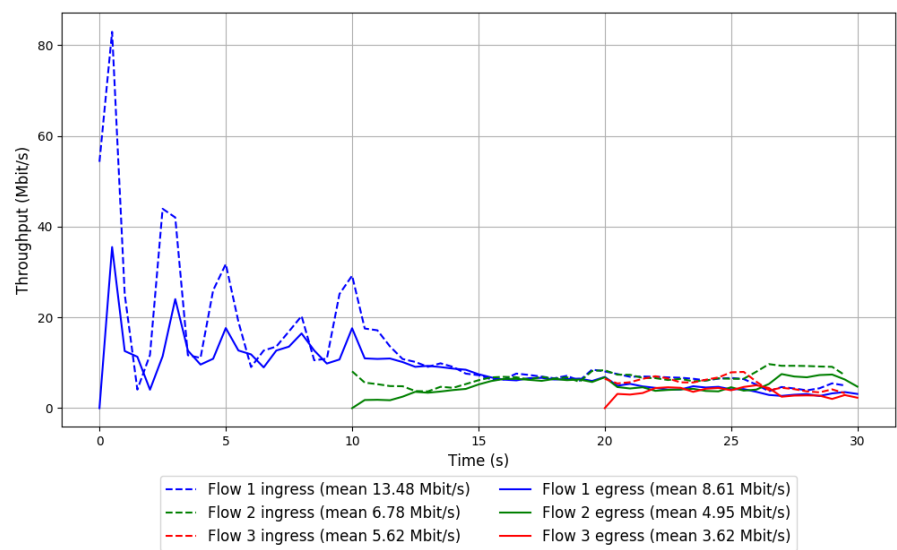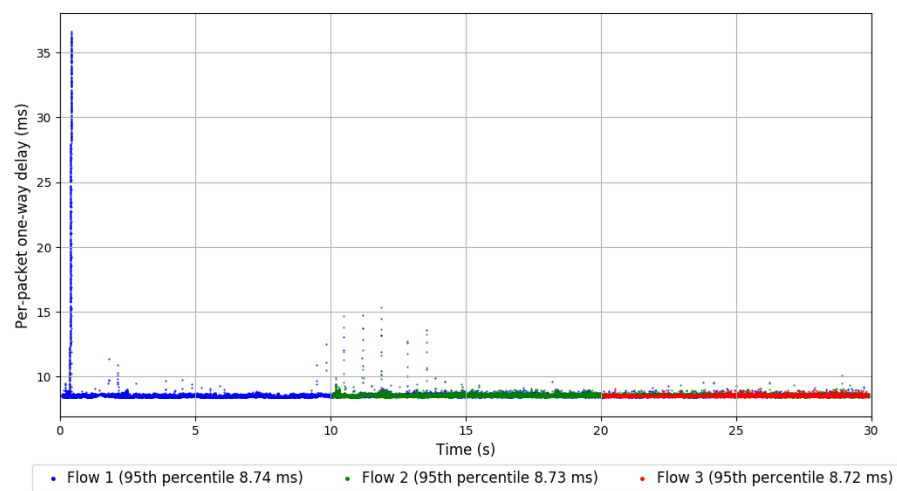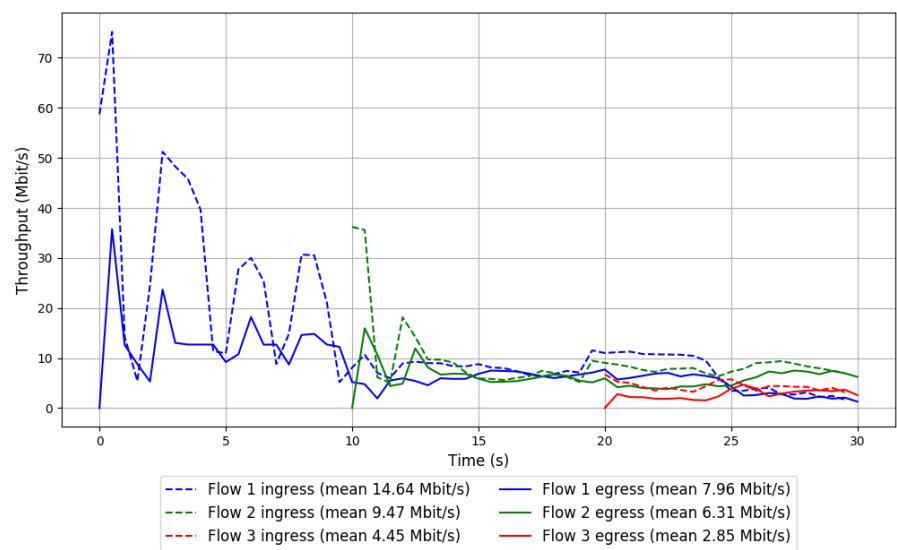
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 83.39 Mbit/s)   Flow 1 egress (mean 79.76 Mbit/s)
Flow 2 ingress (mean 11.65 Mbit/s)   Flow 2 egress (mean 10.88 Mbit/s)
Flow 3 ingress (mean 17.40 Mbit/s)   Flow 3 egress (mean 15.06 Mbit/s)

Flow 1 (95th percentile 40.04 ms)   Flow 2 (95th percentile 42.78 ms)   Flow 3 (95th percentile 44.96 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-06-28 01:55:42
End at: 2019-06-28 01:56:12
Local clock offset: -1.335 ms
Remote clock offset: -3.44 ms


# Below is generated by plot.py at 2019-06-28 02:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.70 Mbit/s
95th percentile per-packet one-way delay: 39.688 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 76.73 Mbit/s
95th percentile per-packet one-way delay: 39.259 ms
Loss rate: 1.90%
-- Flow 2:
Average throughput: 19.54 Mbit/s
95th percentile per-packet one-way delay: 41.600 ms
Loss rate: 2.39%
-- Flow 3:
Average throughput: 9.04 Mbit/s
95th percentile per-packet one-way delay: 39.197 ms
Loss rate: 2.45%
```
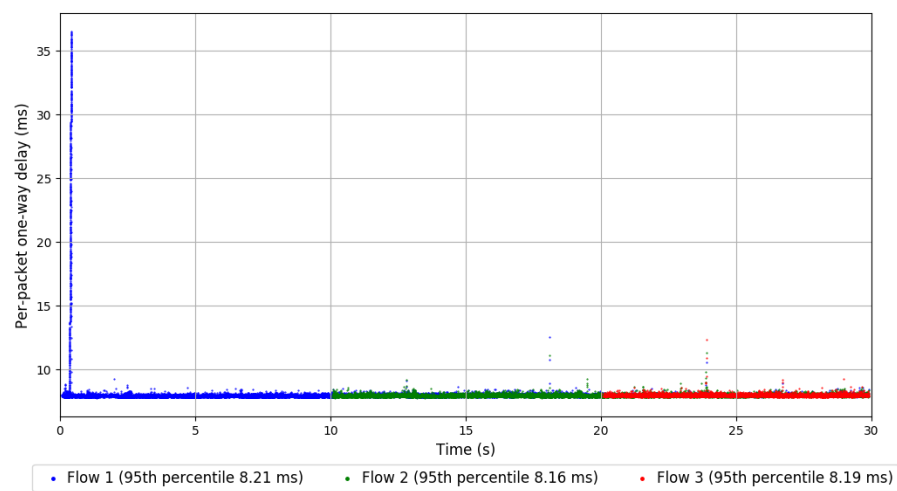
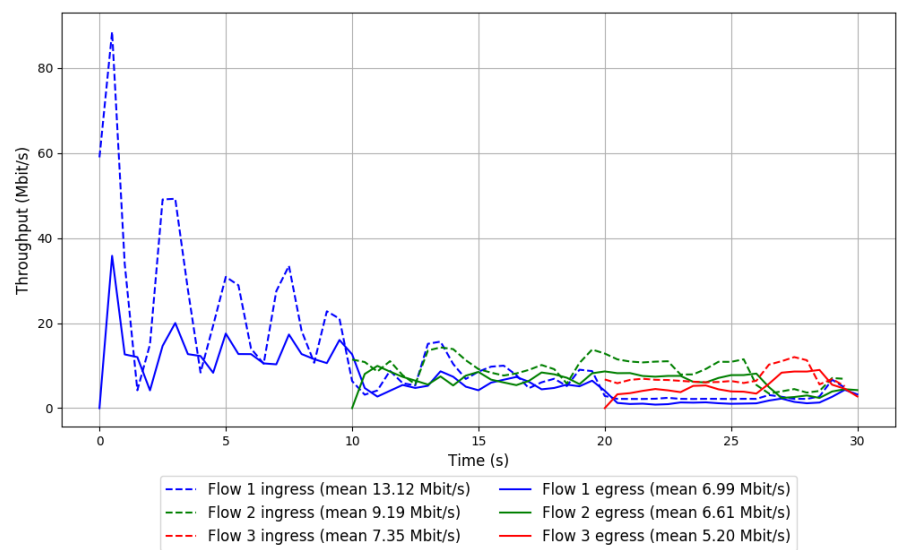Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-06-28 02:22:16
End at: 2019-06-28 02:22:46
Local clock offset: -2.131 ms
Remote clock offset: -3.694 ms


# Below is generated by plot.py at 2019-06-28 02:48:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.06 Mbit/s
95th percentile per-packet one-way delay: 29.721 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 83.68 Mbit/s
95th percentile per-packet one-way delay: 29.399 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 8.81 Mbit/s
95th percentile per-packet one-way delay: 33.020 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 4.61 Mbit/s
95th percentile per-packet one-way delay: 32.897 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 83.91 Mbit/s) --- Flow 1 egress (mean 83.68 Mbit/s)
Flow 2 ingress (mean 8.81 Mbit/s) --- Flow 2 egress (mean 8.81 Mbit/s)
Flow 3 ingress (mean 4.61 Mbit/s) --- Flow 3 egress (mean 4.61 Mbit/s)

Flow 1 (95th percentile 29.40 ms) • Flow 2 (95th percentile 33.02 ms) • Flow 3 (95th percentile 32.90 ms)
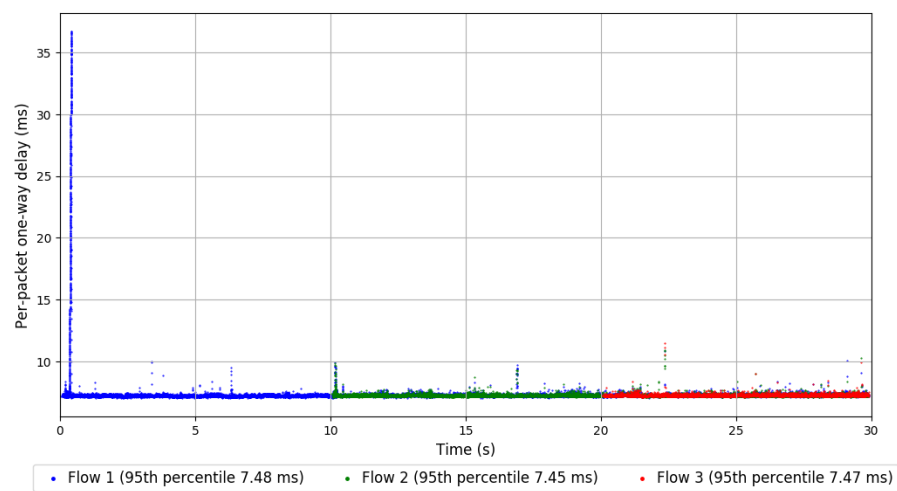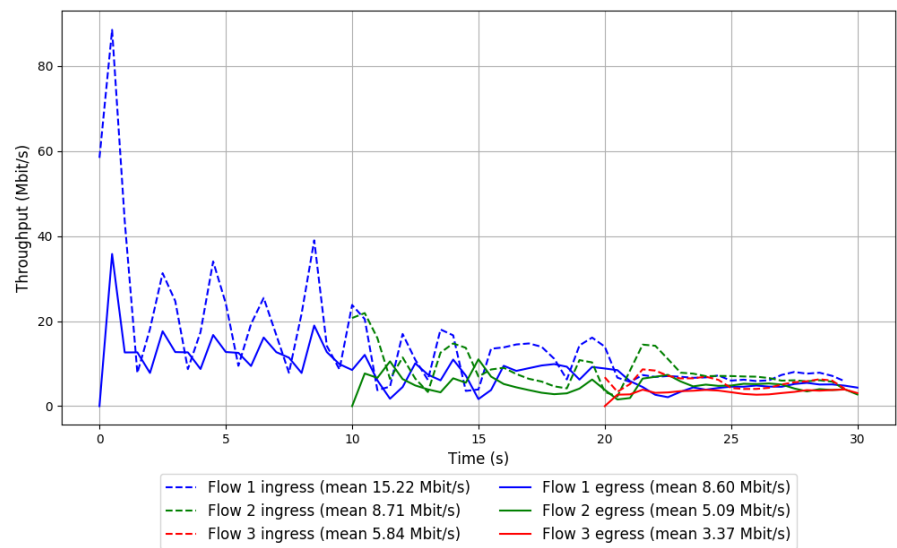
```
Run 1: Statistics of PCC-Expr

Start at: 2019-06-28 00:33:09
End at: 2019-06-28 00:33:39
Local clock offset: -1.786 ms
Remote clock offset: -3.359 ms


# Below is generated by plot.py at 2019-06-28 02:48:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.09 Mbit/s
95th percentile per-packet one-way delay: 10.604 ms
Loss rate: 34.02%
-- Flow 1:
Average throughput: 8.61 Mbit/s
95th percentile per-packet one-way delay: 10.630 ms
Loss rate: 36.14%
-- Flow 2:
Average throughput: 4.95 Mbit/s
95th percentile per-packet one-way delay: 10.585 ms
Loss rate: 26.99%
-- Flow 3:
Average throughput: 3.62 Mbit/s
95th percentile per-packet one-way delay: 10.563 ms
Loss rate: 35.63%
```

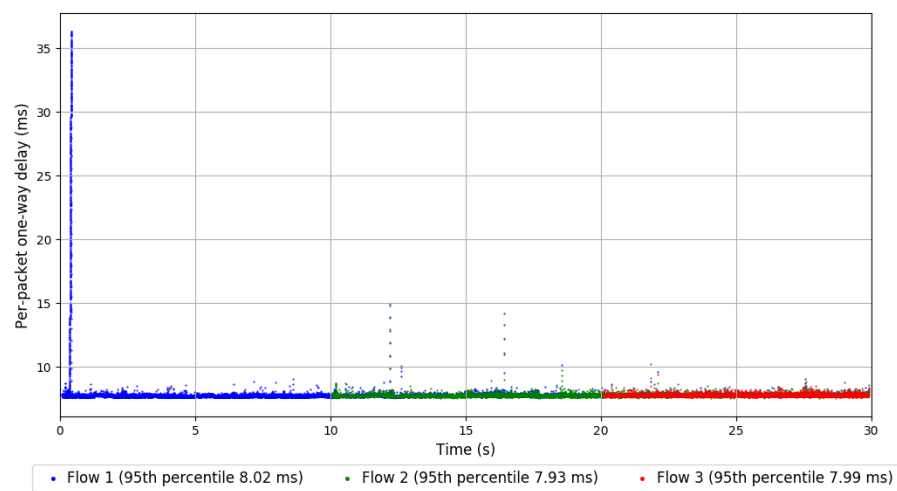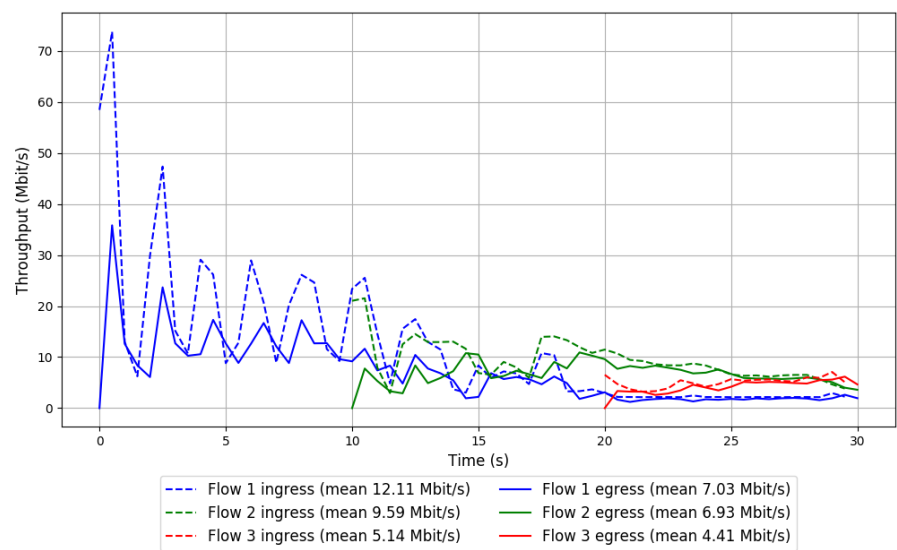# Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2019-06-28 00:59:11
End at: 2019-06-28 00:59:41
Local clock offset: -1.938 ms
Remote clock offset: -1.551 ms


# Below is generated by plot.py at 2019-06-28 02:48:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.10 Mbit/s
95th percentile per-packet one-way delay: 8.733 ms
Loss rate: 41.52%
-- Flow 1:
Average throughput: 7.96 Mbit/s
95th percentile per-packet one-way delay: 8.742 ms
Loss rate: 45.61%
-- Flow 2:
Average throughput: 6.31 Mbit/s
95th percentile per-packet one-way delay: 8.728 ms
Loss rate: 33.34%
-- Flow 3:
Average throughput: 2.85 Mbit/s
95th percentile per-packet one-way delay: 8.723 ms
Loss rate: 35.94%
```
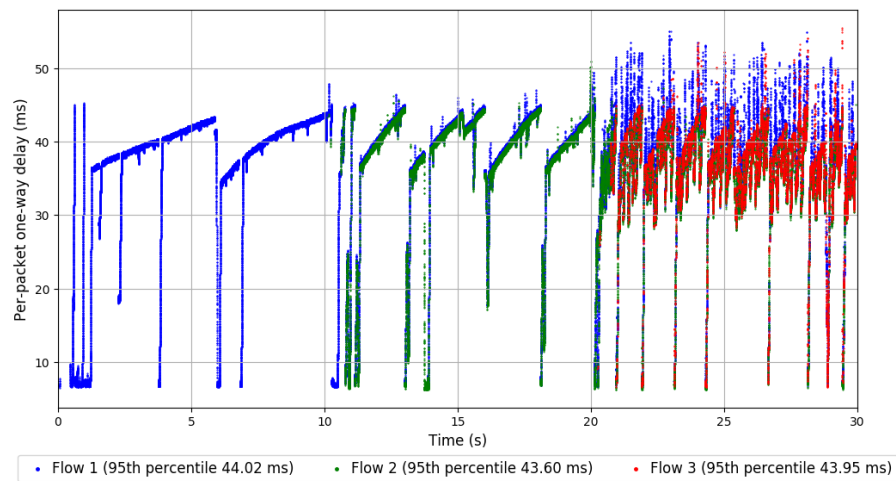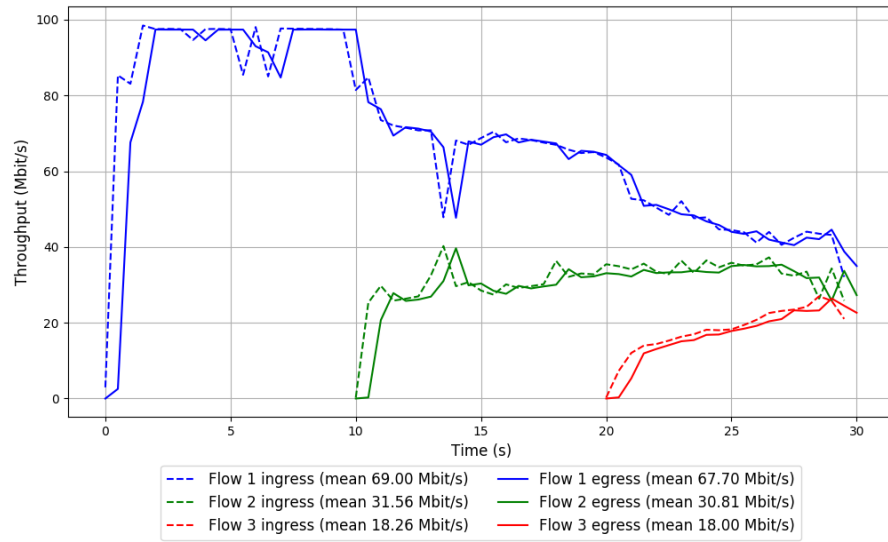
Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 14.64 Mbit/s)   Flow 1 egress (mean 7.96 Mbit/s)
Flow 2 ingress (mean 9.47 Mbit/s)   Flow 2 egress (mean 6.31 Mbit/s)
Flow 3 ingress (mean 4.45 Mbit/s)   Flow 3 egress (mean 2.85 Mbit/s)

Flow 1 (95th percentile 8.74 ms)   Flow 2 (95th percentile 8.73 ms)   Flow 3 (95th percentile 8.72 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-06-28 01:25:40
End at: 2019-06-28 01:26:10
Local clock offset: -1.844 ms
Remote clock offset: -2.491 ms


# Below is generated by plot.py at 2019-06-28 02:48:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.10 Mbit/s
95th percentile per-packet one-way delay: 8.184 ms
Loss rate: 39.52%
-- Flow 1:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 8.214 ms
Loss rate: 46.75%
-- Flow 2:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 8.161 ms
Loss rate: 28.04%
-- Flow 3:
Average throughput: 5.20 Mbit/s
95th percentile per-packet one-way delay: 8.186 ms
Loss rate: 29.31%
```
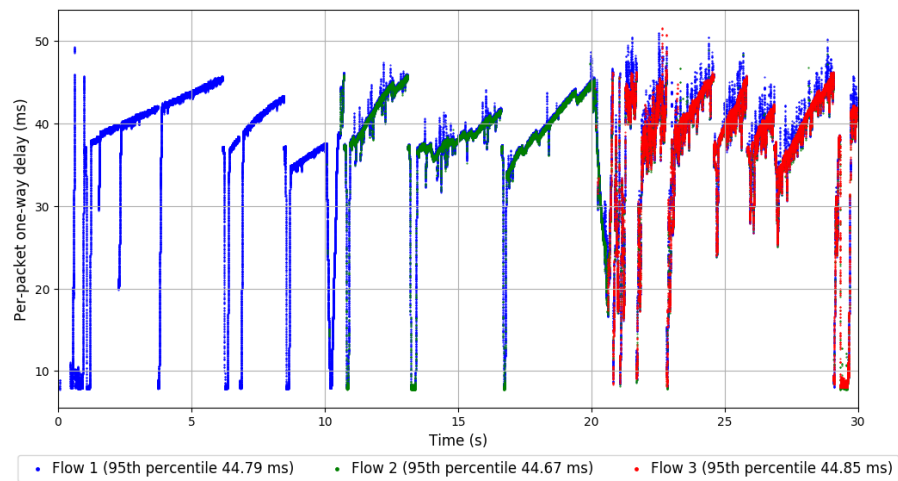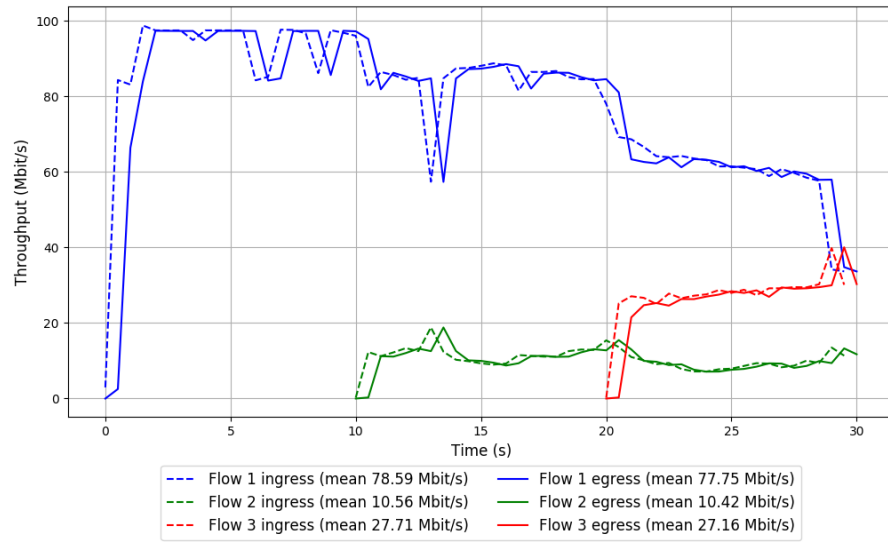
Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2019-06-28 01:52:08
End at: 2019-06-28 01:52:38
Local clock offset: -2.224 ms
Remote clock offset: -4.879 ms


# Below is generated by plot.py at 2019-06-28 02:48:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.10 Mbit/s
95th percentile per-packet one-way delay: 7.467 ms
Loss rate: 42.90%
-- Flow 1:
Average throughput: 8.60 Mbit/s
95th percentile per-packet one-way delay: 7.480 ms
Loss rate: 43.47%
-- Flow 2:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 7.447 ms
Loss rate: 41.60%
-- Flow 3:
Average throughput: 3.37 Mbit/s
95th percentile per-packet one-way delay: 7.469 ms
Loss rate: 42.31%
```

Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-06-28 02:18:39
End at: 2019-06-28 02:19:09
Local clock offset: -2.219 ms
Remote clock offset: -4.412 ms


# Below is generated by plot.py at 2019-06-28 02:48:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.10 Mbit/s
95th percentile per-packet one-way delay: 7.977 ms
Loss rate: 35.11%
-- Flow 1:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 8.022 ms
Loss rate: 41.91%
-- Flow 2:
Average throughput: 6.93 Mbit/s
95th percentile per-packet one-way delay: 7.931 ms
Loss rate: 27.73%
-- Flow 3:
Average throughput: 4.41 Mbit/s
95th percentile per-packet one-way delay: 7.993 ms
Loss rate: 14.28%
```

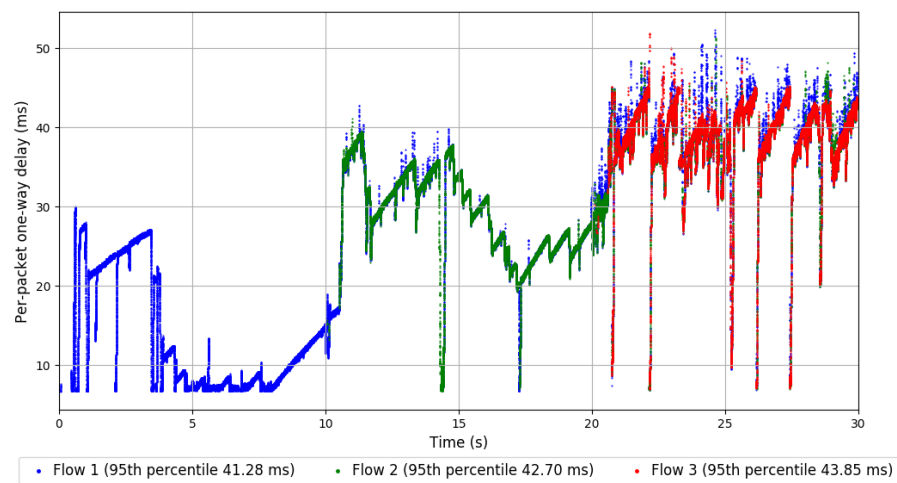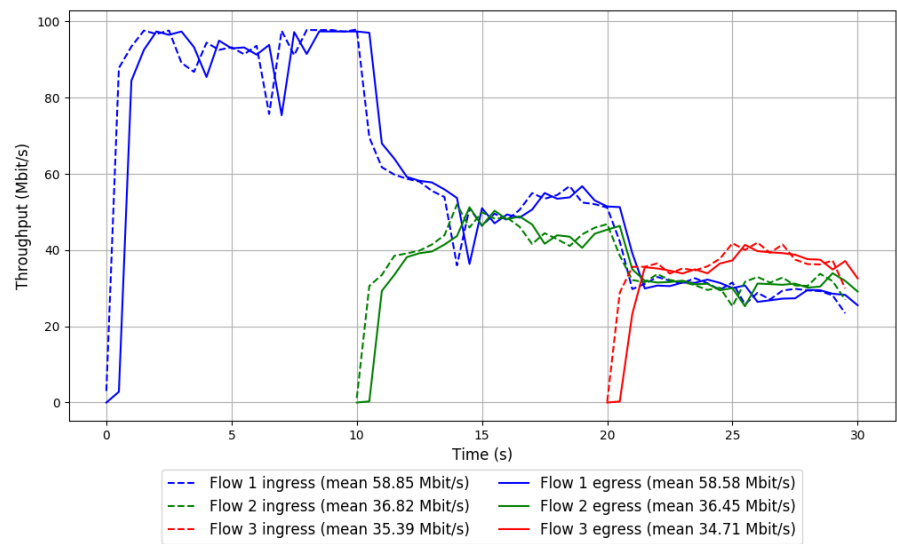Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-06-28 00:44:59
End at: 2019-06-28 00:45:29
Local clock offset: -2.652 ms
Remote clock offset: -4.418 ms


# Below is generated by plot.py at 2019-06-28 02:48:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.94 Mbit/s
95th percentile per-packet one-way delay: 43.934 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 67.70 Mbit/s
95th percentile per-packet one-way delay: 44.015 ms
Loss rate: 1.78%
-- Flow 2:
Average throughput: 30.81 Mbit/s
95th percentile per-packet one-way delay: 43.602 ms
Loss rate: 2.38%
-- Flow 3:
Average throughput: 18.00 Mbit/s
95th percentile per-packet one-way delay: 43.949 ms
Loss rate: 2.65%
```
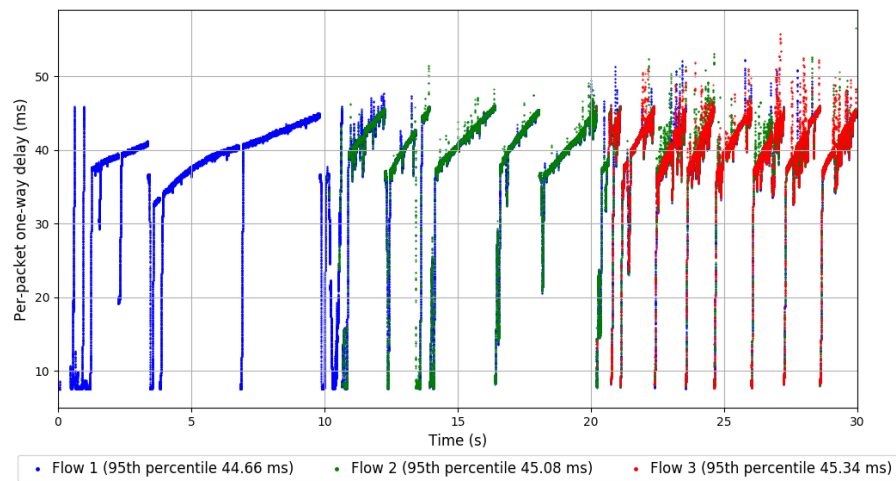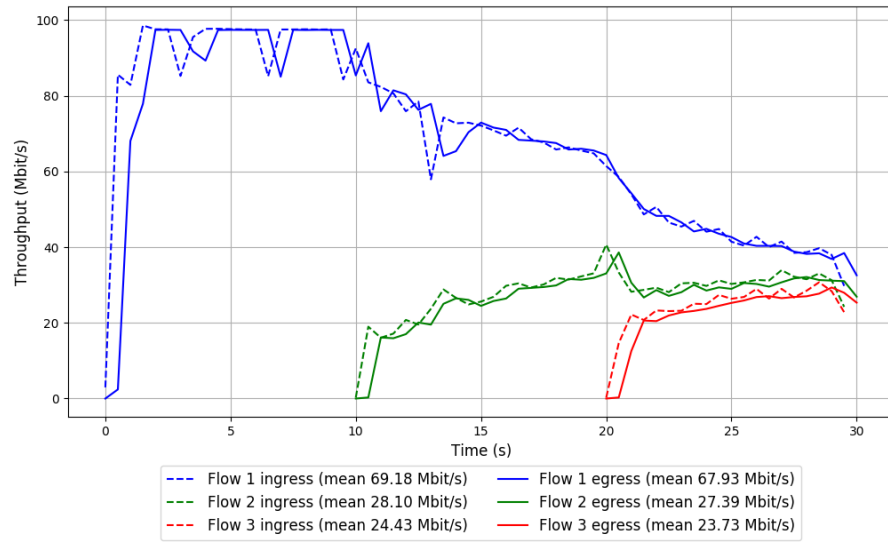
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 69.00 Mbit/s) ---- Flow 1 egress (mean 67.70 Mbit/s)
Flow 2 ingress (mean 31.56 Mbit/s) ---- Flow 2 egress (mean 30.81 Mbit/s)
Flow 3 ingress (mean 18.26 Mbit/s) ---- Flow 3 egress (mean 18.00 Mbit/s)

Flow 1 (95th percentile 44.02 ms)   Flow 2 (95th percentile 43.60 ms)   Flow 3 (95th percentile 43.95 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-06-28 01:11:18
End at: 2019-06-28 01:11:48
Local clock offset: -2.804 ms
Remote clock offset: -2.756 ms


# Below is generated by plot.py at 2019-06-28 02:48:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.58 Mbit/s
95th percentile per-packet one-way delay: 44.784 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 77.75 Mbit/s
95th percentile per-packet one-way delay: 44.790 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 10.42 Mbit/s
95th percentile per-packet one-way delay: 44.667 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 27.16 Mbit/s
95th percentile per-packet one-way delay: 44.851 ms
Loss rate: 1.99%
```
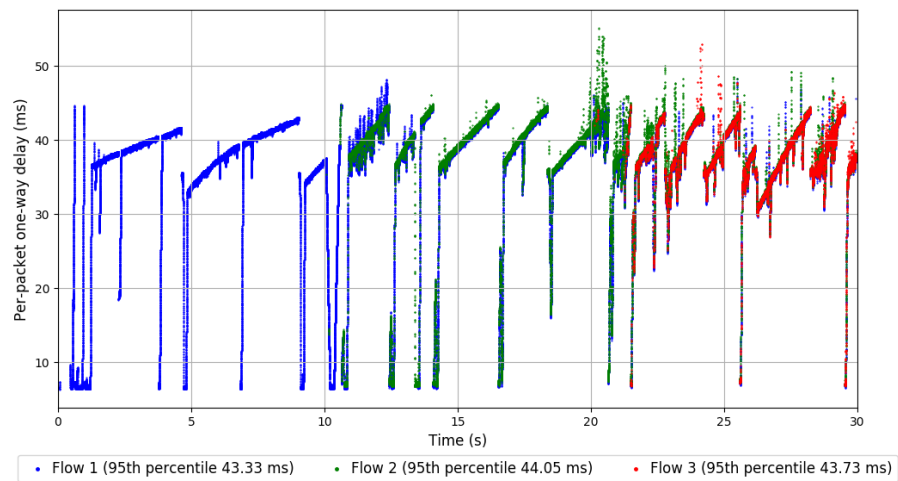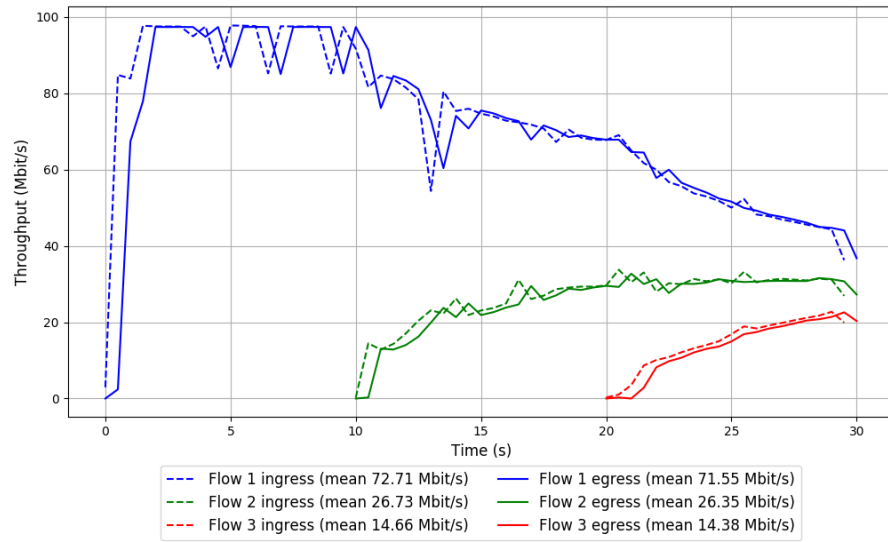
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-06-28 01:37:49
End at: 2019-06-28 01:38:20
Local clock offset: -1.575 ms
Remote clock offset: -3.599 ms


# Below is generated by plot.py at 2019-06-28 02:48:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.24 Mbit/s
95th percentile per-packet one-way delay: 42.576 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 58.58 Mbit/s
95th percentile per-packet one-way delay: 41.280 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 36.45 Mbit/s
95th percentile per-packet one-way delay: 42.703 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 34.71 Mbit/s
95th percentile per-packet one-way delay: 43.846 ms
Loss rate: 1.77%
```
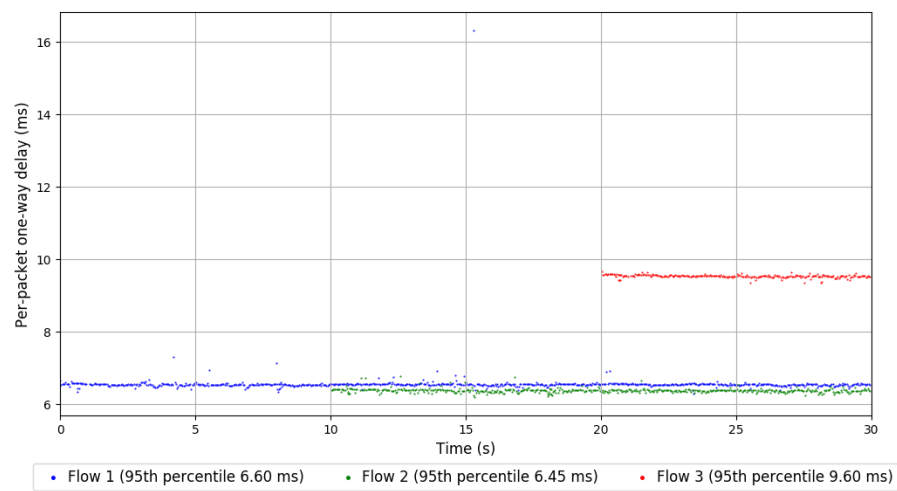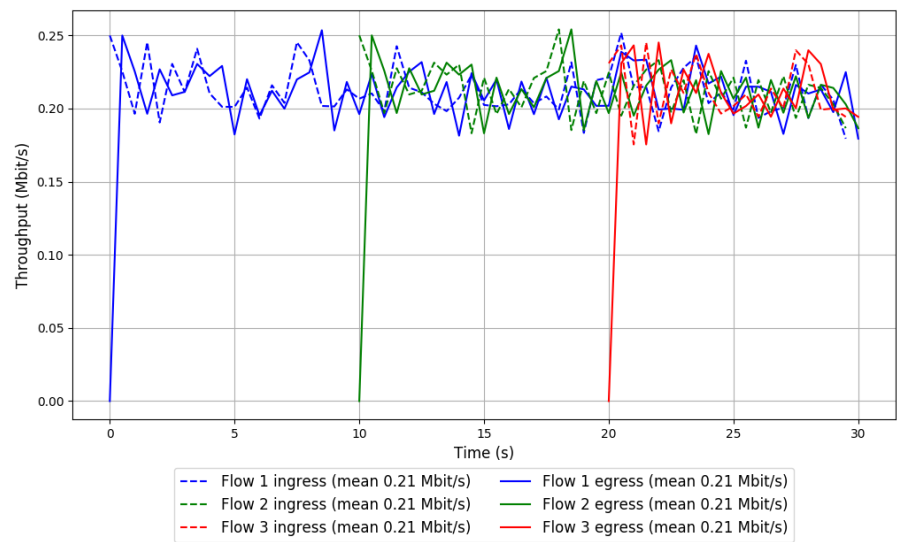
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 58.85 Mbit/s) --- Flow 1 egress (mean 58.58 Mbit/s)
Flow 2 ingress (mean 36.82 Mbit/s) --- Flow 2 egress (mean 36.45 Mbit/s)
Flow 3 ingress (mean 35.39 Mbit/s) --- Flow 3 egress (mean 34.71 Mbit/s)

Flow 1 (95th percentile 41.28 ms)   Flow 2 (95th percentile 42.70 ms)   Flow 3 (95th percentile 43.85 ms)
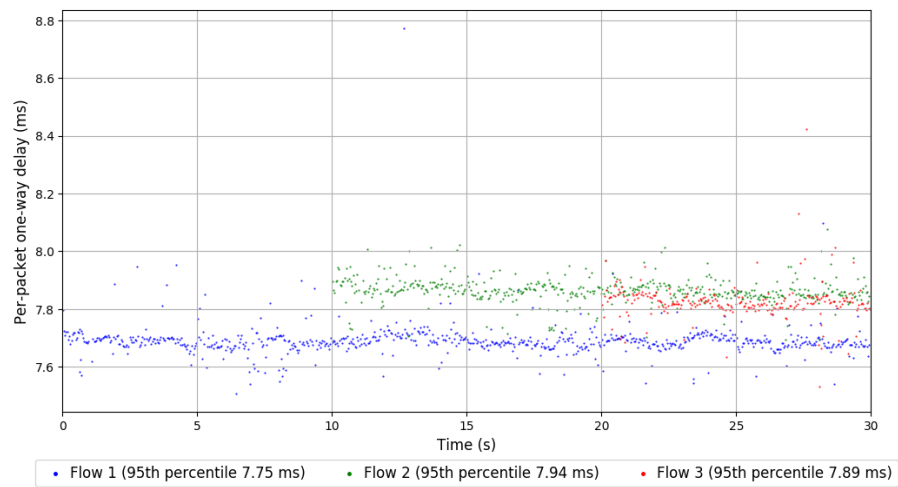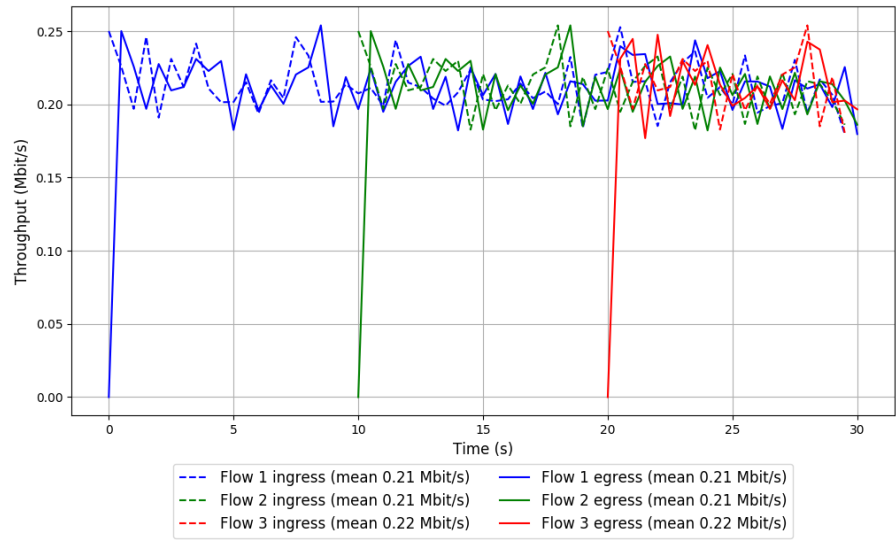
150

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-06-28 02:04:26
End at: 2019-06-28 02:04:56
Local clock offset: -1.3 ms
Remote clock offset: -3.399 ms


# Below is generated by plot.py at 2019-06-28 02:48:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.89 Mbit/s
95th percentile per-packet one-way delay: 44.828 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 67.93 Mbit/s
95th percentile per-packet one-way delay: 44.661 ms
Loss rate: 1.69%
-- Flow 2:
Average throughput: 27.39 Mbit/s
95th percentile per-packet one-way delay: 45.080 ms
Loss rate: 2.41%
-- Flow 3:
Average throughput: 23.73 Mbit/s
95th percentile per-packet one-way delay: 45.335 ms
Loss rate: 2.87%
```

Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 69.18 Mbit/s) --- Flow 1 egress (mean 67.93 Mbit/s)
Flow 2 ingress (mean 28.10 Mbit/s) --- Flow 2 egress (mean 27.39 Mbit/s)
Flow 3 ingress (mean 24.43 Mbit/s) --- Flow 3 egress (mean 23.73 Mbit/s)

Flow 1 (95th percentile 44.66 ms) • Flow 2 (95th percentile 45.08 ms) • Flow 3 (95th percentile 45.34 ms)

152

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-06-28 02:30:45
End at: 2019-06-28 02:31:15
Local clock offset: -1.982 ms
Remote clock offset: -5.633 ms


# Below is generated by plot.py at 2019-06-28 02:49:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.74 Mbit/s
95th percentile per-packet one-way delay: 43.543 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 71.55 Mbit/s
95th percentile per-packet one-way delay: 43.330 ms
Loss rate: 1.47%
-- Flow 2:
Average throughput: 26.35 Mbit/s
95th percentile per-packet one-way delay: 44.053 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 14.38 Mbit/s
95th percentile per-packet one-way delay: 43.732 ms
Loss rate: 1.96%
```

Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 72.71 Mbit/s) --- Flow 1 egress (mean 71.55 Mbit/s)
Flow 2 ingress (mean 26.73 Mbit/s) --- Flow 2 egress (mean 26.35 Mbit/s)
Flow 3 ingress (mean 14.66 Mbit/s) --- Flow 3 egress (mean 14.38 Mbit/s)

Flow 1 (95th percentile 43.33 ms)   Flow 2 (95th percentile 44.05 ms)   Flow 3 (95th percentile 43.73 ms)
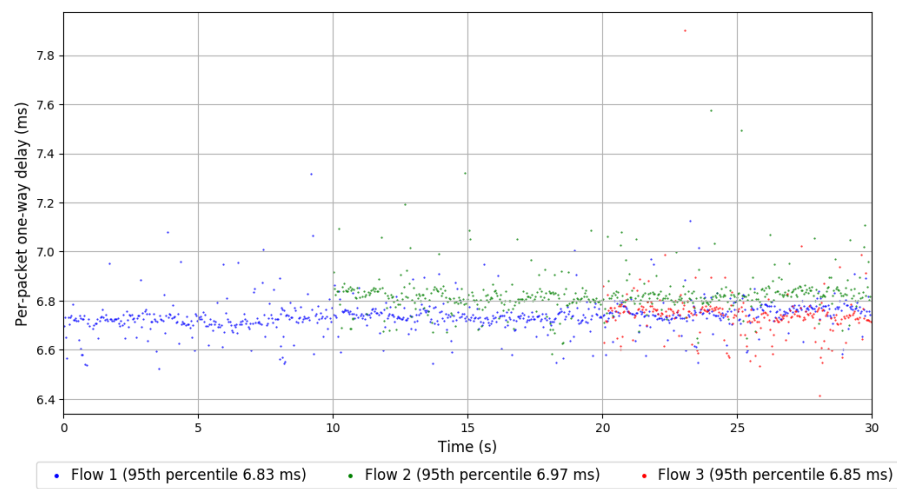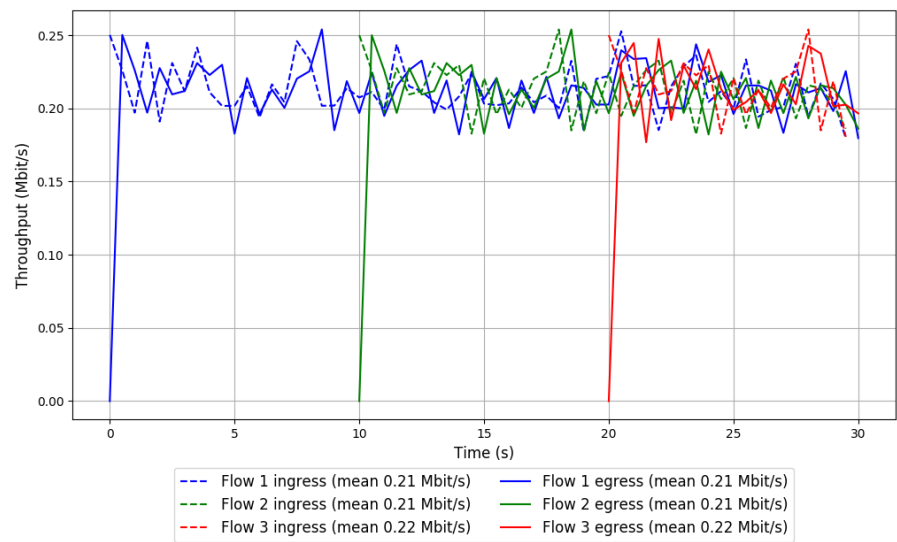
```
Run 1: Statistics of SCReAM

Start at: 2019-06-28 00:28:29
End at: 2019-06-28 00:28:59
Local clock offset: -1.272 ms
Remote clock offset: -3.668 ms


# Below is generated by plot.py at 2019-06-28 02:49:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 9.561 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 6.600 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 6.448 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 9.595 ms
Loss rate: 0.00%
```
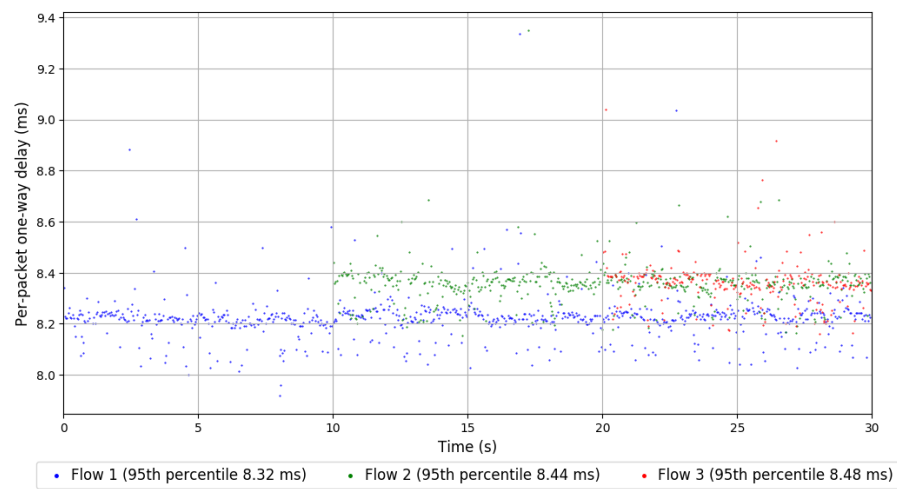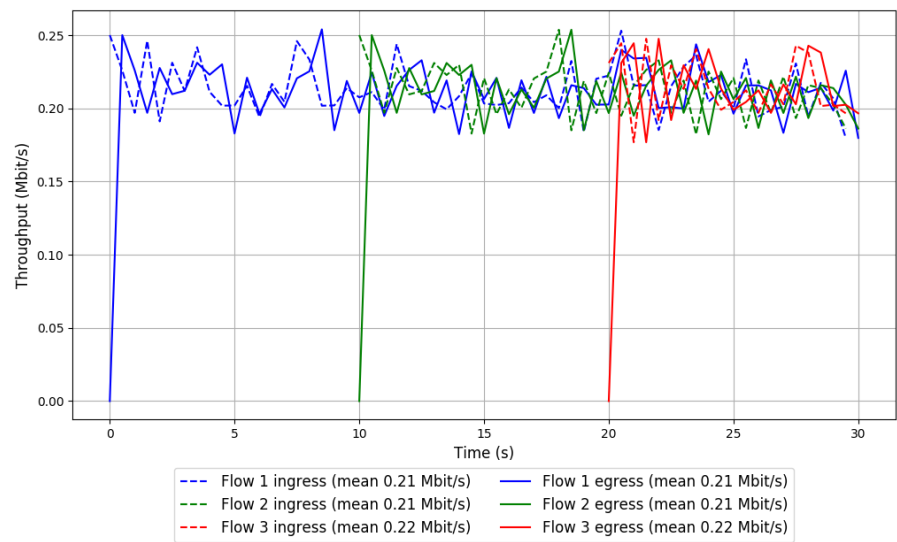
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-06-28 00:54:25
End at: 2019-06-28 00:54:55
Local clock offset: -2.617 ms
Remote clock offset: -3.026 ms


# Below is generated by plot.py at 2019-06-28 02:49:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 7.904 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 7.747 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 7.942 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 7.895 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-06-28 01:20:56
End at: 2019-06-28 01:21:26
Local clock offset: -1.54 ms
Remote clock offset: -1.901 ms


# Below is generated by plot.py at 2019-06-28 02:49:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 8.241 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8.163 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8.294 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 8.148 ms
Loss rate: 0.00%
```
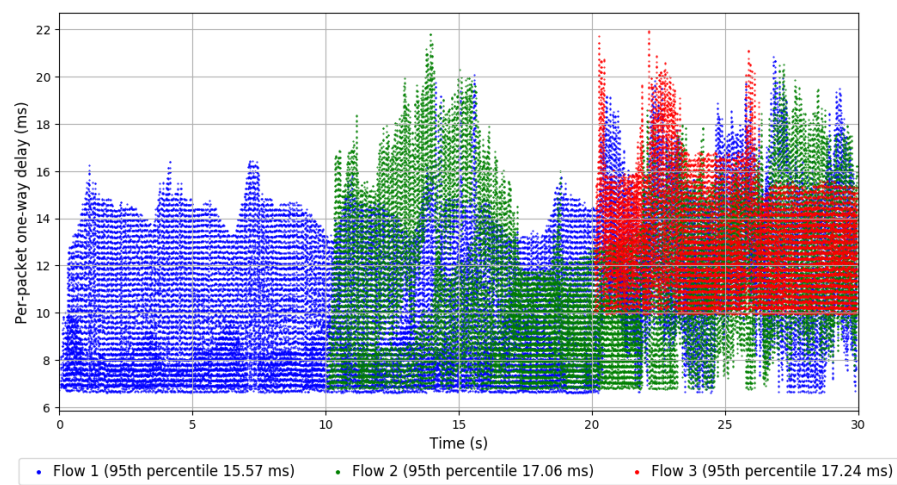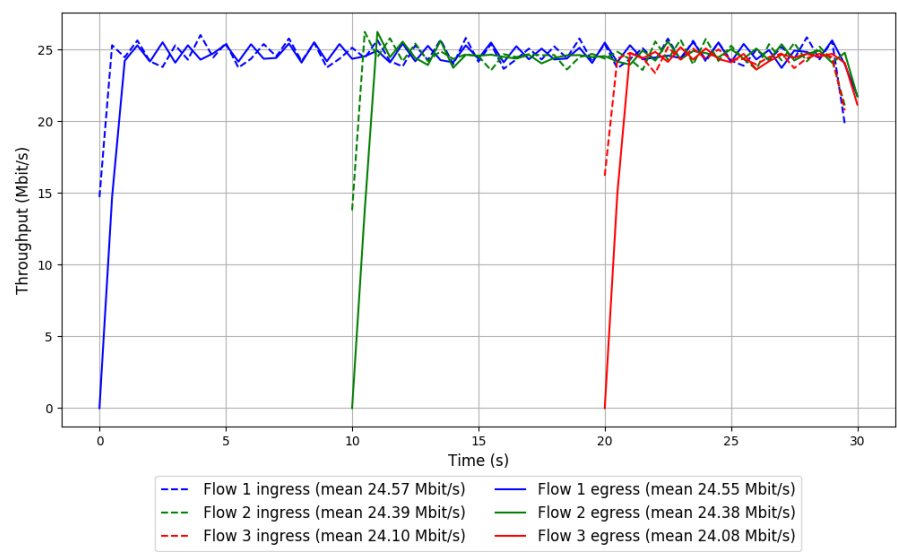
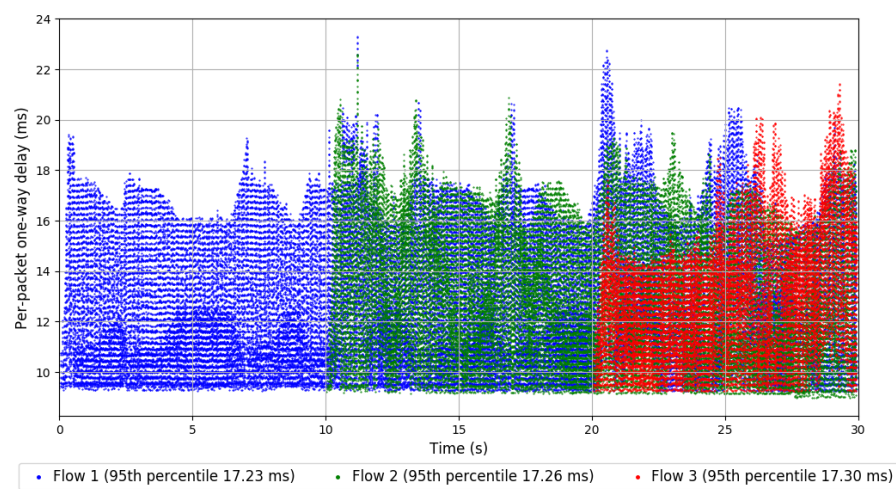# Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-06-28 01:47:16
End at: 2019-06-28 01:47:46
Local clock offset: -1.172 ms
Remote clock offset: -4.179 ms


# Below is generated by plot.py at 2019-06-28 02:49:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 6.890 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 6.829 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 6.966 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 6.853 ms
Loss rate: 0.00%
```
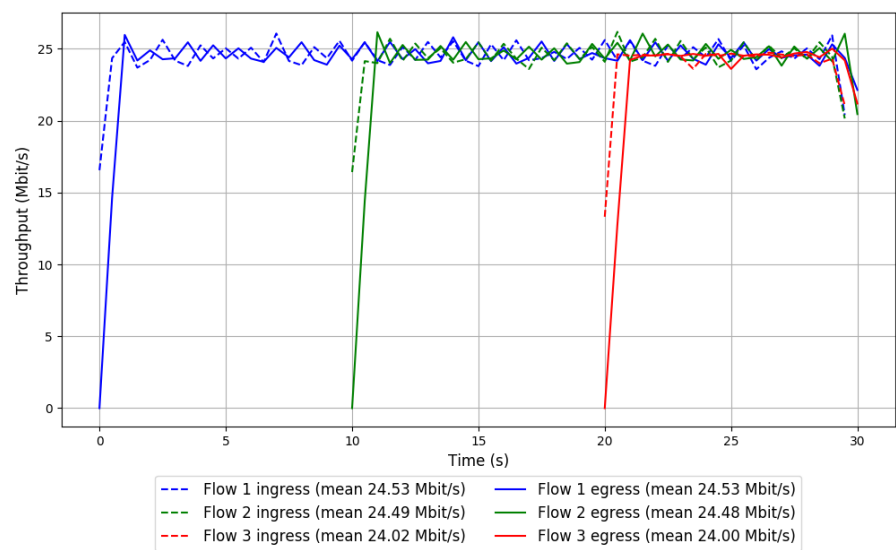
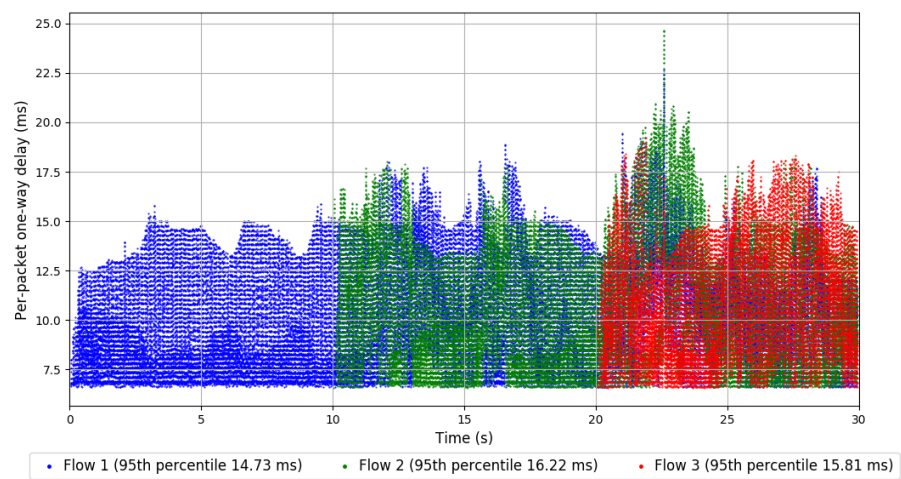# Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-06-28 02:13:56
End at: 2019-06-28 02:14:26
Local clock offset: -1.932 ms
Remote clock offset: -3.744 ms


# Below is generated by plot.py at 2019-06-28 02:49:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 8.419 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8.317 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8.438 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 8.483 ms
Loss rate: 0.00%
```
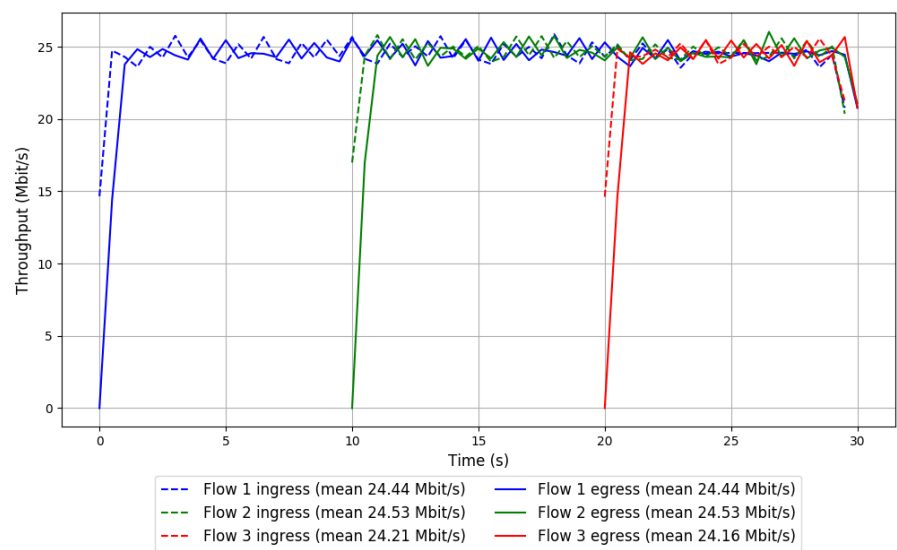
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-06-28 00:27:21
End at: 2019-06-28 00:27:51
Local clock offset: -1.558 ms
Remote clock offset: -3.44 ms


# Below is generated by plot.py at 2019-06-28 02:49:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.73 Mbit/s
95th percentile per-packet one-way delay: 16.494 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 24.55 Mbit/s
95th percentile per-packet one-way delay: 15.566 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 24.38 Mbit/s
95th percentile per-packet one-way delay: 17.061 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.08 Mbit/s
95th percentile per-packet one-way delay: 17.238 ms
Loss rate: 0.00%
```
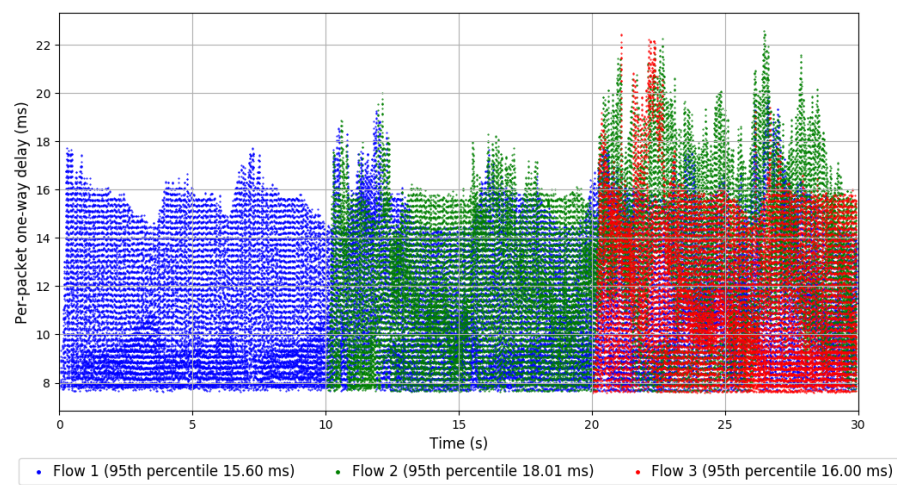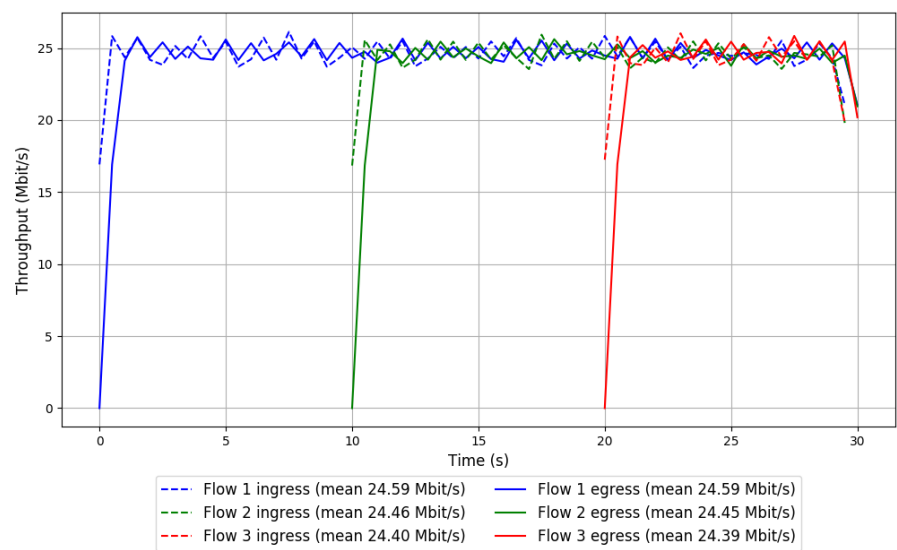
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-06-28 00:53:15
End at: 2019-06-28 00:53:45
Local clock offset: -2.078 ms
Remote clock offset: -0.927 ms


# Below is generated by plot.py at 2019-06-28 02:49:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.74 Mbit/s
95th percentile per-packet one-way delay: 17.246 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.53 Mbit/s
95th percentile per-packet one-way delay: 17.228 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.48 Mbit/s
95th percentile per-packet one-way delay: 17.257 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.00 Mbit/s
95th percentile per-packet one-way delay: 17.302 ms
Loss rate: 0.00%
```
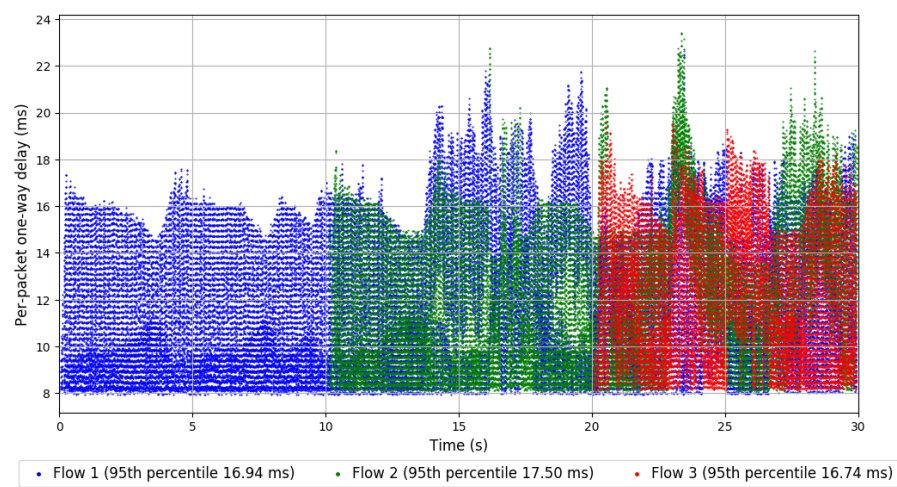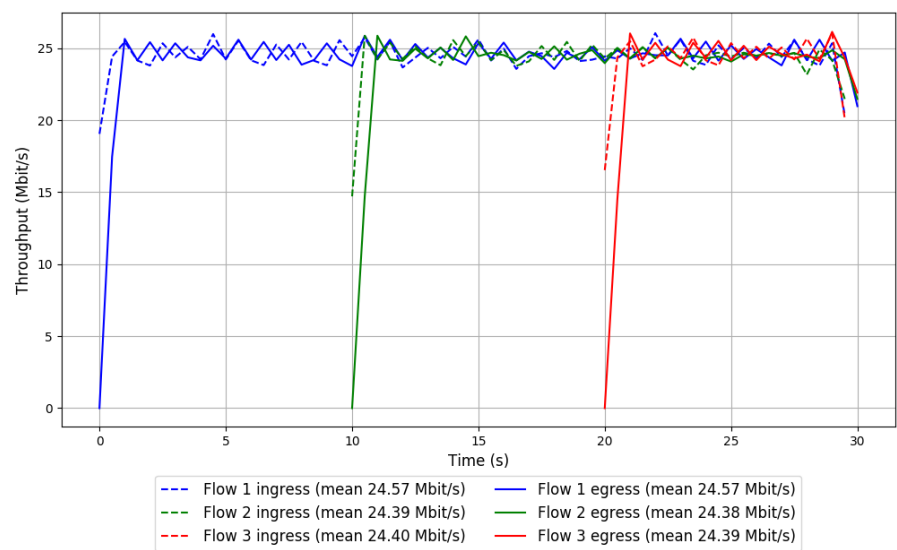
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-06-28 01:19:46
End at: 2019-06-28 01:20:16
Local clock offset: -1.527 ms
Remote clock offset: -3.255 ms


# Below is generated by plot.py at 2019-06-28 02:49:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.74 Mbit/s
95th percentile per-packet one-way delay: 15.451 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 24.44 Mbit/s
95th percentile per-packet one-way delay: 14.729 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.53 Mbit/s
95th percentile per-packet one-way delay: 16.224 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.16 Mbit/s
95th percentile per-packet one-way delay: 15.813 ms
Loss rate: 0.16%
```
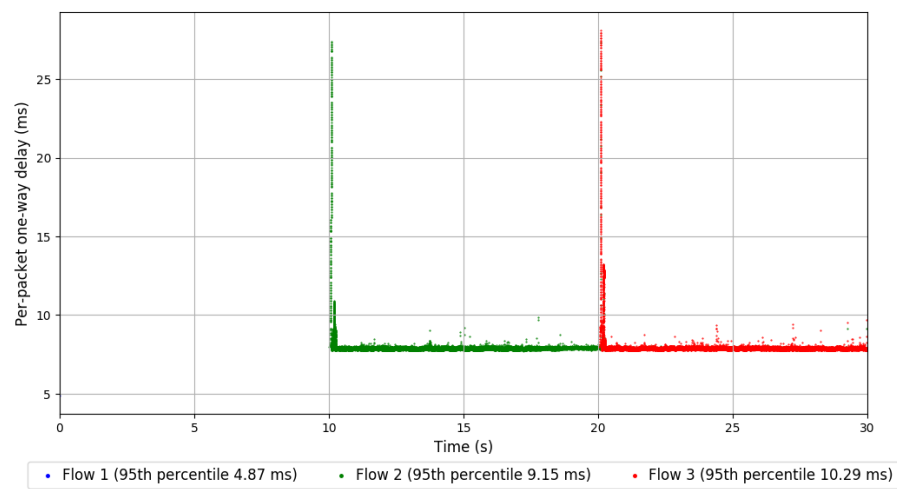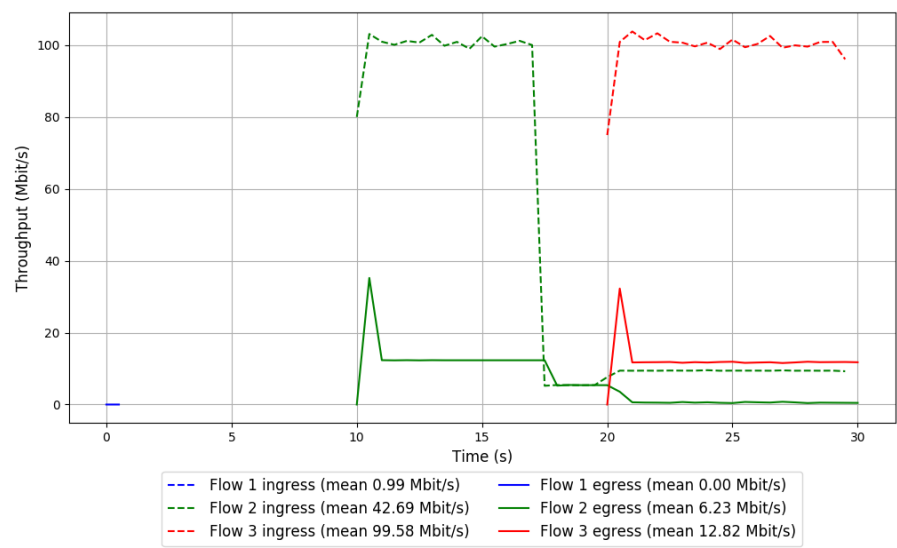
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-06-28 01:46:07
End at: 2019-06-28 01:46:37
Local clock offset: -2.546 ms
Remote clock offset: -4.584 ms


# Below is generated by plot.py at 2019-06-28 02:49:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.90 Mbit/s
95th percentile per-packet one-way delay: 16.680 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.59 Mbit/s
95th percentile per-packet one-way delay: 15.597 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 18.007 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.39 Mbit/s
95th percentile per-packet one-way delay: 15.997 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

Flow 1 ingress (mean 24.59 Mbit/s)   Flow 1 egress (mean 24.59 Mbit/s)
Flow 2 ingress (mean 24.46 Mbit/s)   Flow 2 egress (mean 24.45 Mbit/s)
Flow 3 ingress (mean 24.40 Mbit/s)   Flow 3 egress (mean 24.39 Mbit/s)

Flow 1 (95th percentile 15.60 ms)   Flow 2 (95th percentile 18.01 ms)   Flow 3 (95th percentile 16.00 ms)

```
Run 5: Statistics of Sprout

Start at: 2019-06-28 02:12:47
End at: 2019-06-28 02:13:17
Local clock offset: -1.742 ms
Remote clock offset: -3.498 ms


# Below is generated by plot.py at 2019-06-28 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.84 Mbit/s
95th percentile per-packet one-way delay: 17.050 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 24.57 Mbit/s
95th percentile per-packet one-way delay: 16.936 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 24.38 Mbit/s
95th percentile per-packet one-way delay: 17.501 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.39 Mbit/s
95th percentile per-packet one-way delay: 16.737 ms
Loss rate: 0.00%
```
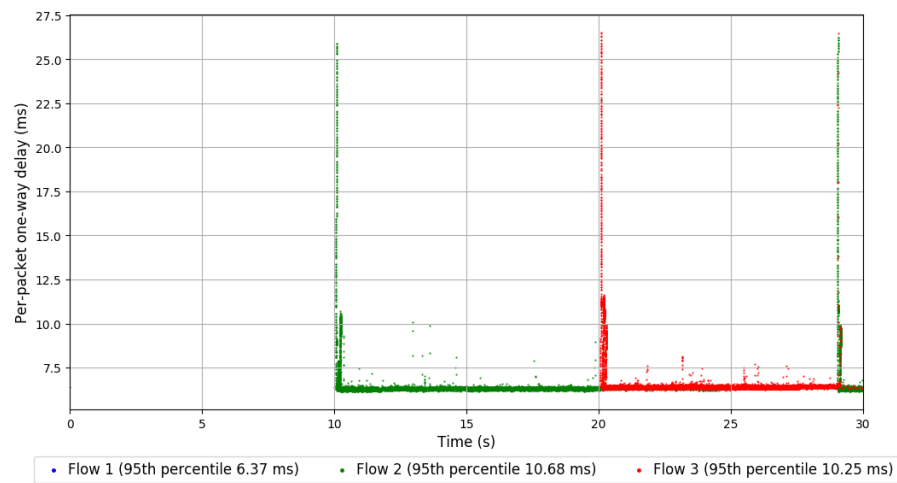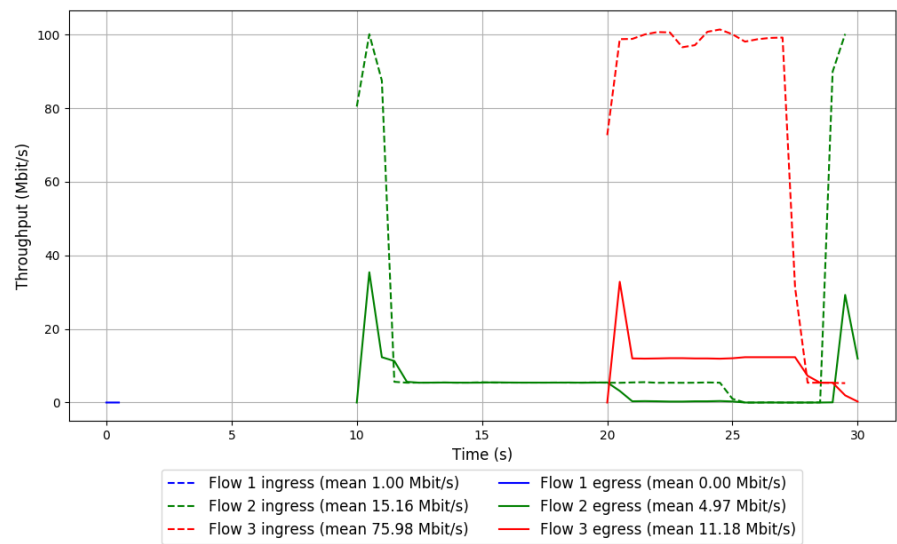
Run 5: Report of Sprout — Data Link

Flow 1 ingress (mean 24.57 Mbit/s) —— Flow 1 egress (mean 24.57 Mbit/s)
Flow 2 ingress (mean 24.39 Mbit/s) —— Flow 2 egress (mean 24.38 Mbit/s)
Flow 3 ingress (mean 24.40 Mbit/s) —— Flow 3 egress (mean 24.39 Mbit/s)

Flow 1 (95th percentile 16.94 ms)   Flow 2 (95th percentile 17.50 ms)   Flow 3 (95th percentile 16.74 ms)
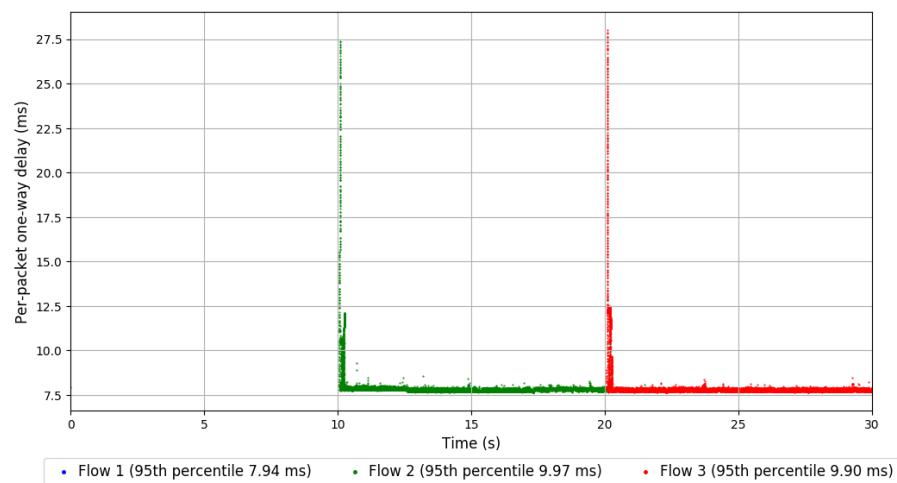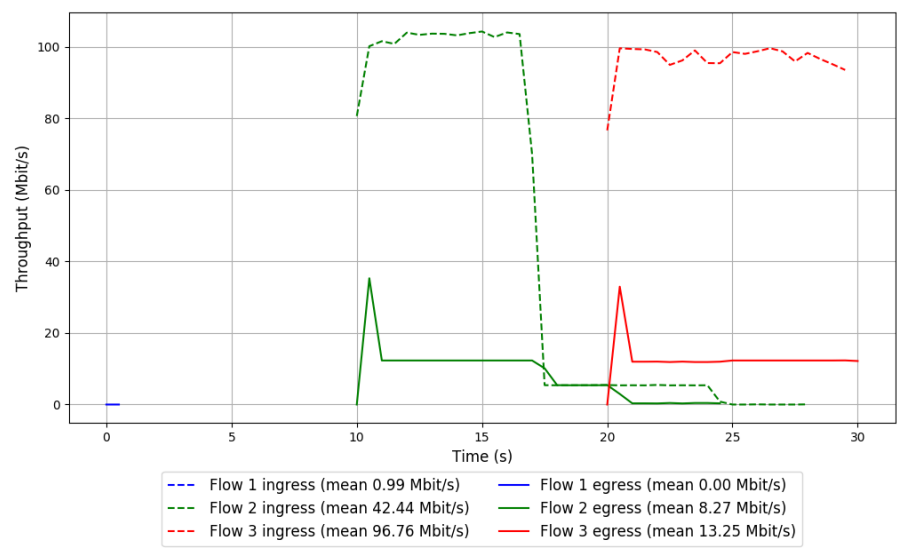
174

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

Start at: 2019-06-28 00:42:36
End at: 2019-06-28 00:43:06
Local clock offset: -1.198 ms
Remote clock offset: -4.906 ms


# Below is generated by plot.py at 2019-06-28 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.41 Mbit/s
95th percentile per-packet one-way delay: 9.501 ms
Loss rate: 86.34%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 4.874 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 6.23 Mbit/s
95th percentile per-packet one-way delay: 9.155 ms
Loss rate: 85.42%
-- Flow 3:
Average throughput: 12.82 Mbit/s
95th percentile per-packet one-way delay: 10.294 ms
Loss rate: 87.12%
```
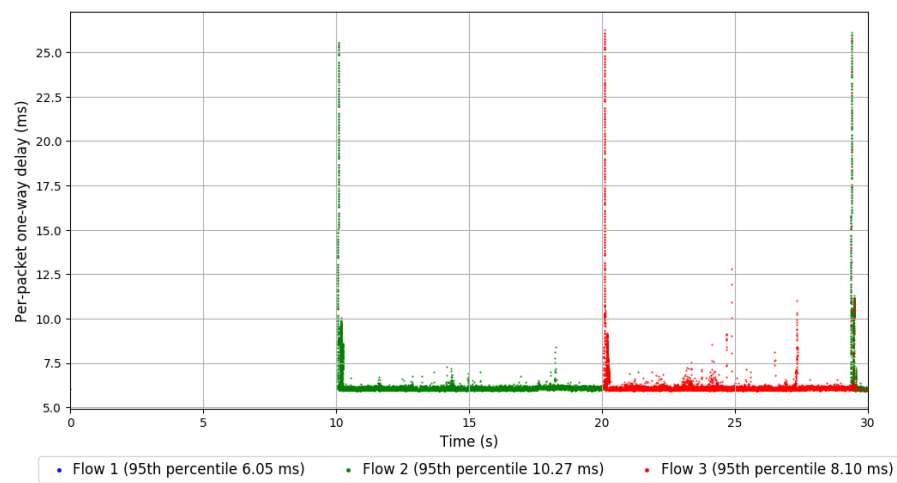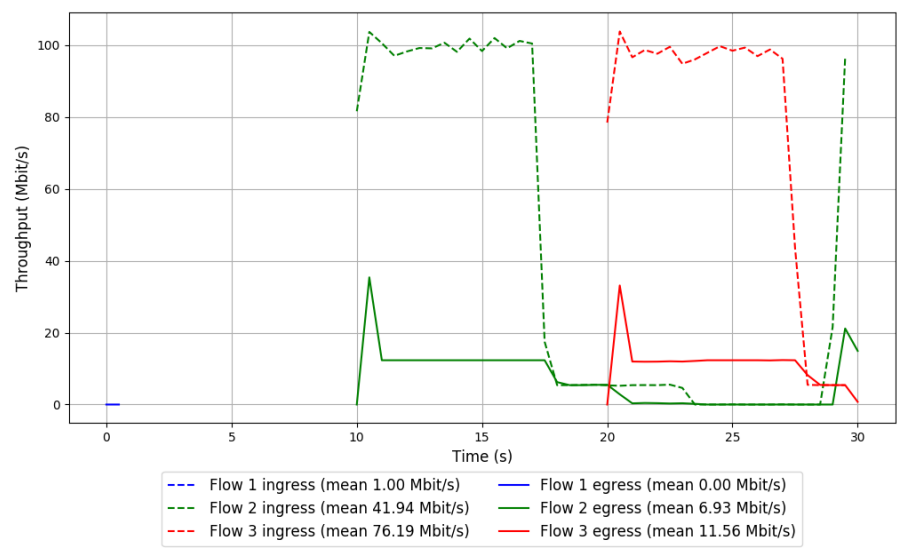
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2019-06-28 01:08:55
End at: 2019-06-28 01:09:25
Local clock offset: -1.84 ms
Remote clock offset: -3.44 ms

# Below is generated by plot.py at 2019-06-28 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.02 Mbit/s
95th percentile per-packet one-way delay: 10.421 ms
Loss rate: 80.13%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6.372 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 4.97 Mbit/s
95th percentile per-packet one-way delay: 10.678 ms
Loss rate: 67.19%
-- Flow 3:
Average throughput: 11.18 Mbit/s
95th percentile per-packet one-way delay: 10.247 ms
Loss rate: 85.31%
```
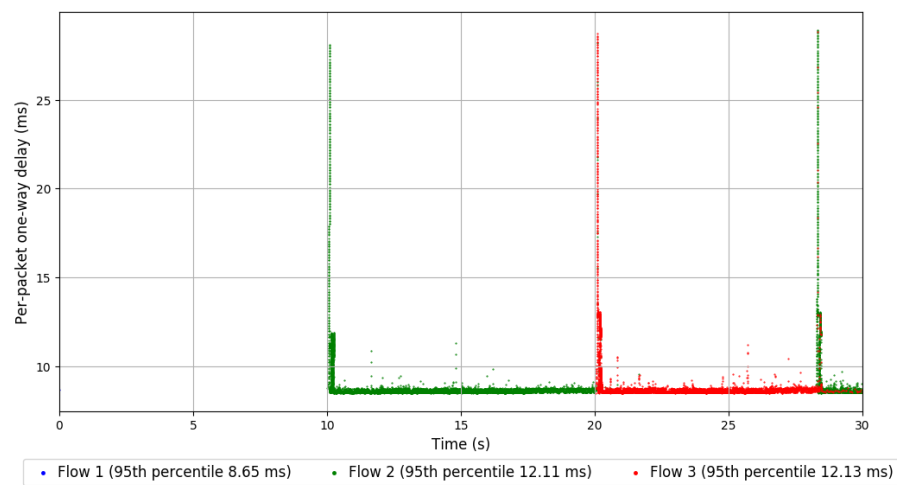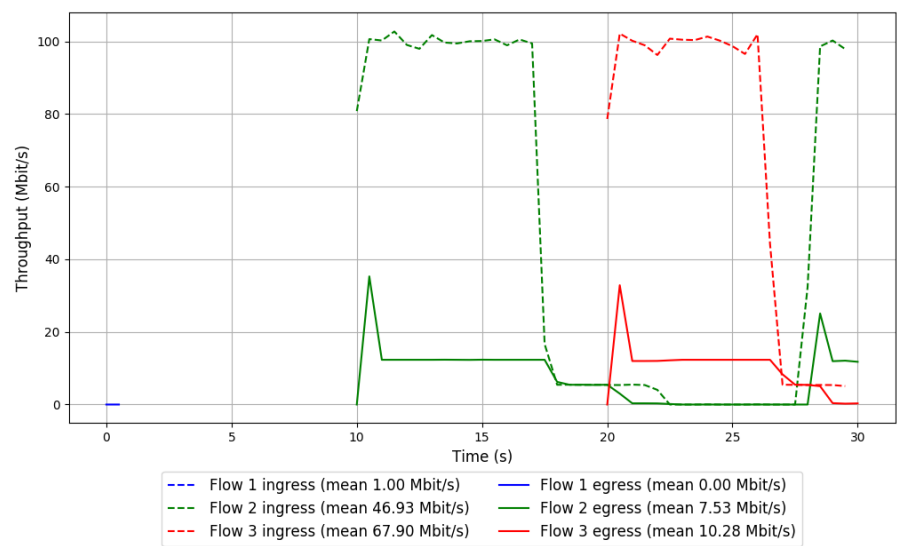
Run 2: Report of TaoVA-100x — Data Link

178

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

Start at: 2019-06-28 01:35:28
End at: 2019-06-28 01:35:58
Local clock offset: -1.733 ms
Remote clock offset: -2.906 ms


# Below is generated by plot.py at 2019-06-28 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.38 Mbit/s
95th percentile per-packet one-way delay: 9.967 ms
Loss rate: 85.62%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7.938 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 8.27 Mbit/s
95th percentile per-packet one-way delay: 9.967 ms
Loss rate: 84.77%
-- Flow 3:
Average throughput: 13.25 Mbit/s
95th percentile per-packet one-way delay: 9.904 ms
Loss rate: 86.31%
```
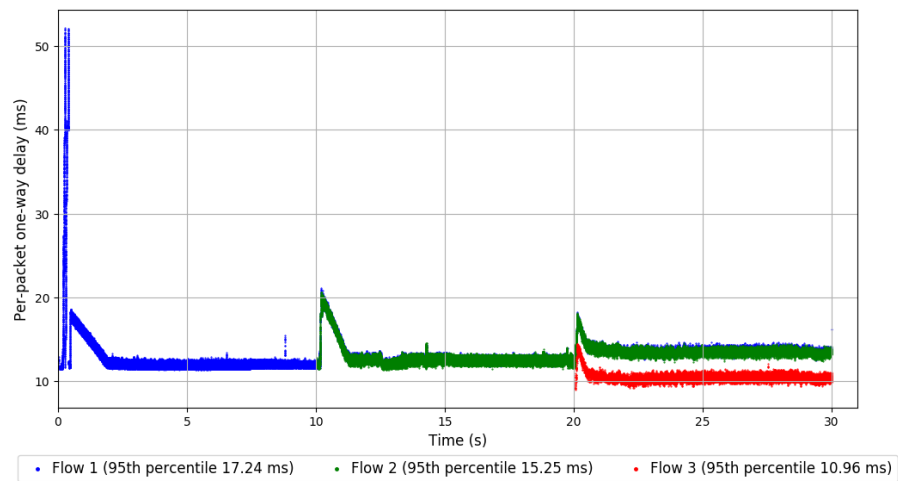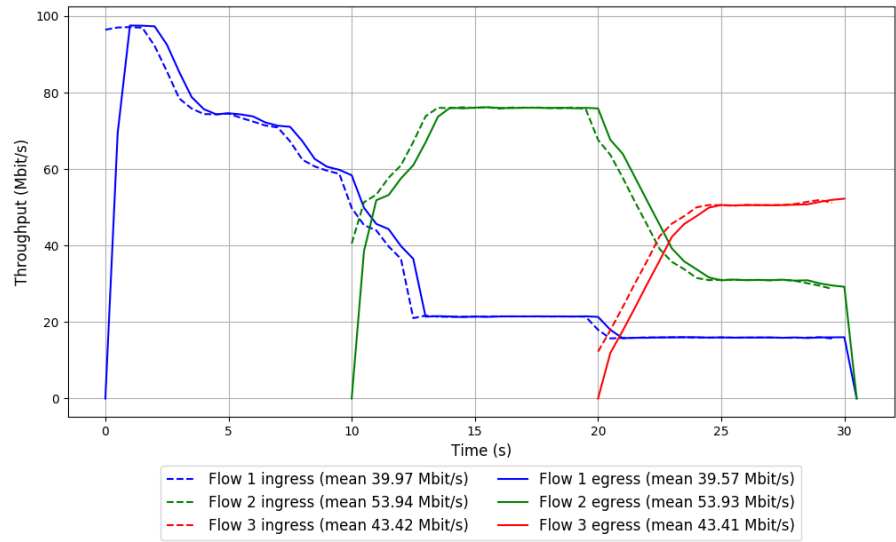
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.99 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 42.44 Mbit/s) --- Flow 2 egress (mean 8.27 Mbit/s)
Flow 3 ingress (mean 96.76 Mbit/s) --- Flow 3 egress (mean 13.25 Mbit/s)

Flow 1 (95th percentile 7.94 ms) • Flow 2 (95th percentile 9.97 ms) • Flow 3 (95th percentile 9.90 ms)

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

Start at: 2019-06-28 02:02:05
End at: 2019-06-28 02:02:35
Local clock offset: -1.476 ms
Remote clock offset: -5.262 ms


# Below is generated by plot.py at 2019-06-28 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 9.255 ms
Loss rate: 84.16%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6.047 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 6.93 Mbit/s
95th percentile per-packet one-way delay: 10.273 ms
Loss rate: 83.48%
-- Flow 3:
Average throughput: 11.56 Mbit/s
95th percentile per-packet one-way delay: 8.098 ms
Loss rate: 84.92%
```

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

- - - Flow 1 ingress (mean 1.00 Mbit/s)   —— Flow 1 egress (mean 0.00 Mbit/s)
- - - Flow 2 ingress (mean 41.94 Mbit/s)   —— Flow 2 egress (mean 6.93 Mbit/s)
- - - Flow 3 ingress (mean 76.19 Mbit/s)   —— Flow 3 egress (mean 11.56 Mbit/s)

- Flow 1 (95th percentile 6.05 ms)   • Flow 2 (95th percentile 10.27 ms)   • Flow 3 (95th percentile 8.10 ms)

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

Start at: 2019-06-28 02:28:24
End at: 2019-06-28 02:28:54
Local clock offset: -1.633 ms
Remote clock offset: -3.284 ms


# Below is generated by plot.py at 2019-06-28 02:49:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 12.124 ms
Loss rate: 84.34%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8.652 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 12.113 ms
Loss rate: 83.96%
-- Flow 3:
Average throughput: 10.28 Mbit/s
95th percentile per-packet one-way delay: 12.130 ms
Loss rate: 84.86%
```

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

- Flow 1 ingress (mean 1.00 Mbit/s)
- Flow 1 egress (mean 0.00 Mbit/s)
- Flow 2 ingress (mean 46.93 Mbit/s)
- Flow 2 egress (mean 7.53 Mbit/s)
- Flow 3 ingress (mean 67.90 Mbit/s)
- Flow 3 egress (mean 10.28 Mbit/s)

- Flow 1 (95th percentile 8.65 ms)
- Flow 2 (95th percentile 12.11 ms)
- Flow 3 (95th percentile 12.13 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-06-28 00:47:23
End at: 2019-06-28 00:47:53
Local clock offset: -2.45 ms
Remote clock offset: -2.409 ms


# Below is generated by plot.py at 2019-06-28 02:50:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.93 Mbit/s
95th percentile per-packet one-way delay: 16.218 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 39.57 Mbit/s
95th percentile per-packet one-way delay: 17.238 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 53.93 Mbit/s
95th percentile per-packet one-way delay: 15.249 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 43.41 Mbit/s
95th percentile per-packet one-way delay: 10.965 ms
Loss rate: 0.00%
```
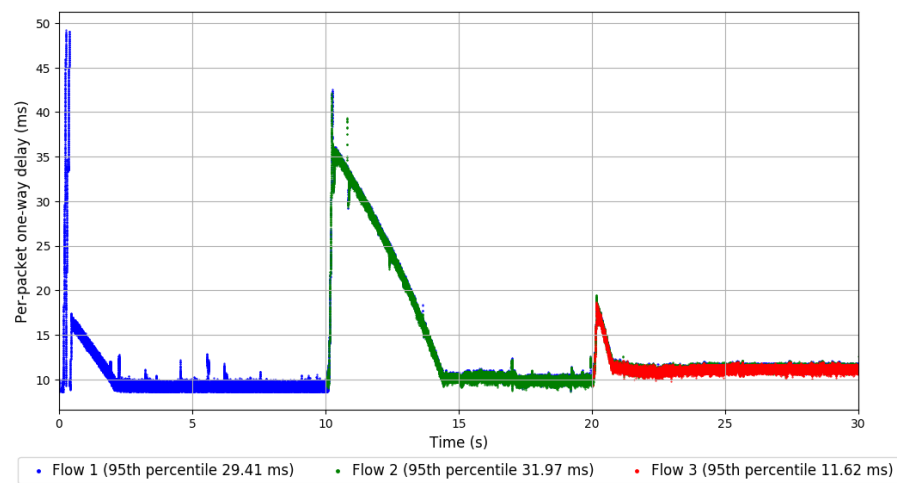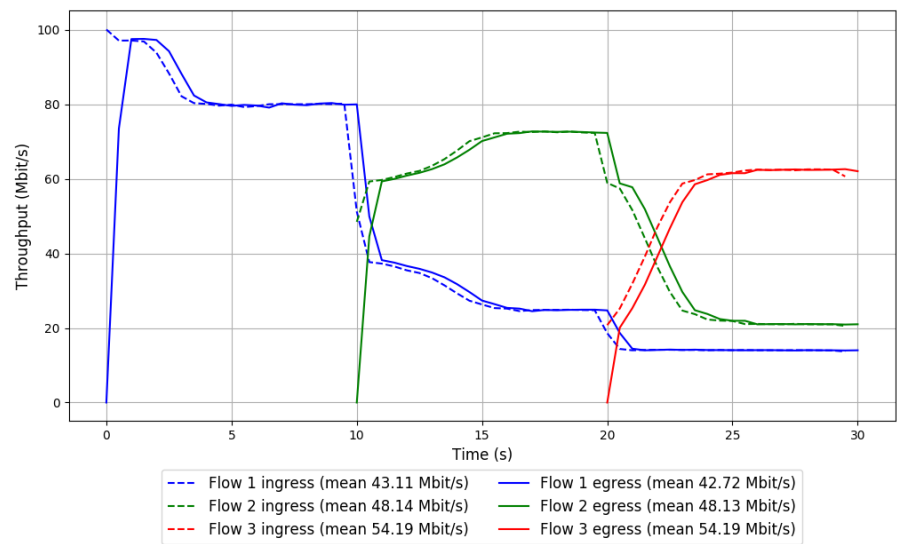
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-06-28 01:13:47
End at: 2019-06-28 01:14:17
Local clock offset: -2.168 ms
Remote clock offset: -2.567 ms


# Below is generated by plot.py at 2019-06-28 02:50:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.05 Mbit/s
95th percentile per-packet one-way delay: 16.430 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 57.52 Mbit/s
95th percentile per-packet one-way delay: 16.652 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 41.82 Mbit/s
95th percentile per-packet one-way delay: 15.455 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 32.08 Mbit/s
95th percentile per-packet one-way delay: 16.688 ms
Loss rate: 0.00%
```
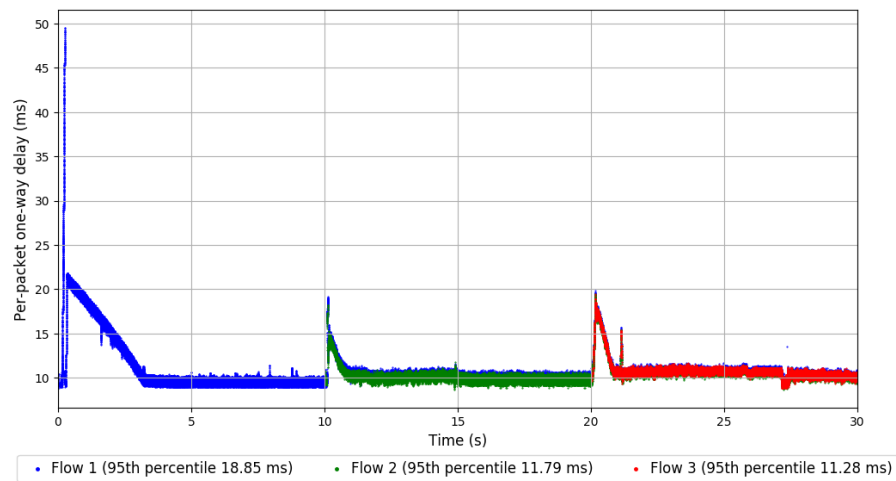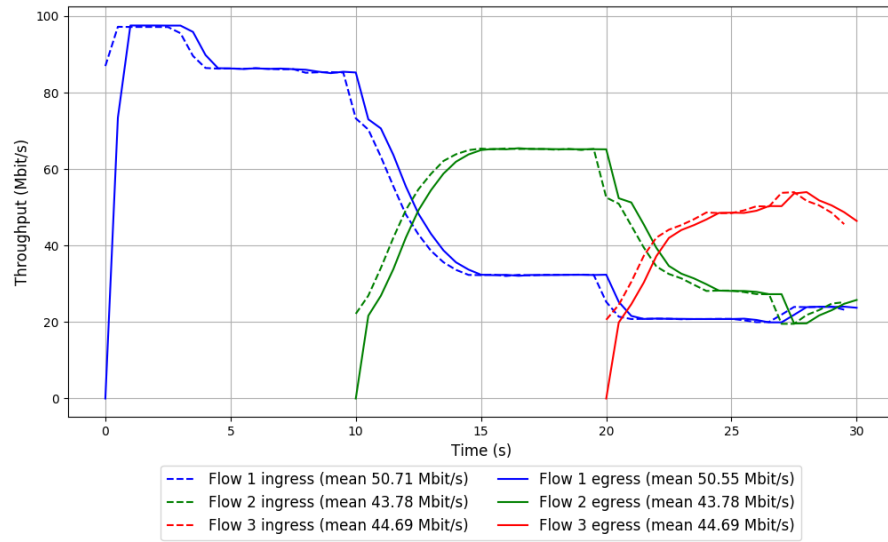
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-06-28 01:40:14
End at: 2019-06-28 01:40:44
Local clock offset: -0.815 ms
Remote clock offset: -2.488 ms


# Below is generated by plot.py at 2019-06-28 02:50:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.04 Mbit/s
95th percentile per-packet one-way delay: 14.032 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 49.59 Mbit/s
95th percentile per-packet one-way delay: 14.670 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 45.20 Mbit/s
95th percentile per-packet one-way delay: 13.344 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 52.13 Mbit/s
95th percentile per-packet one-way delay: 11.605 ms
Loss rate: 0.00%
```
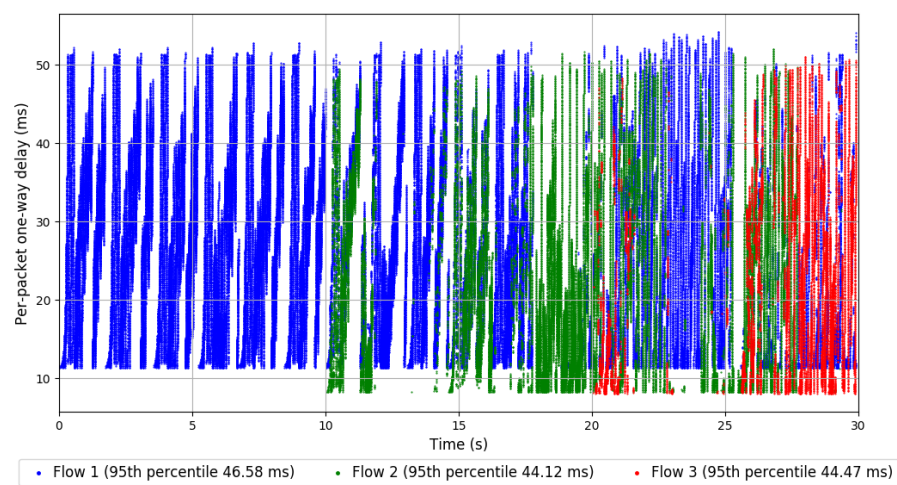
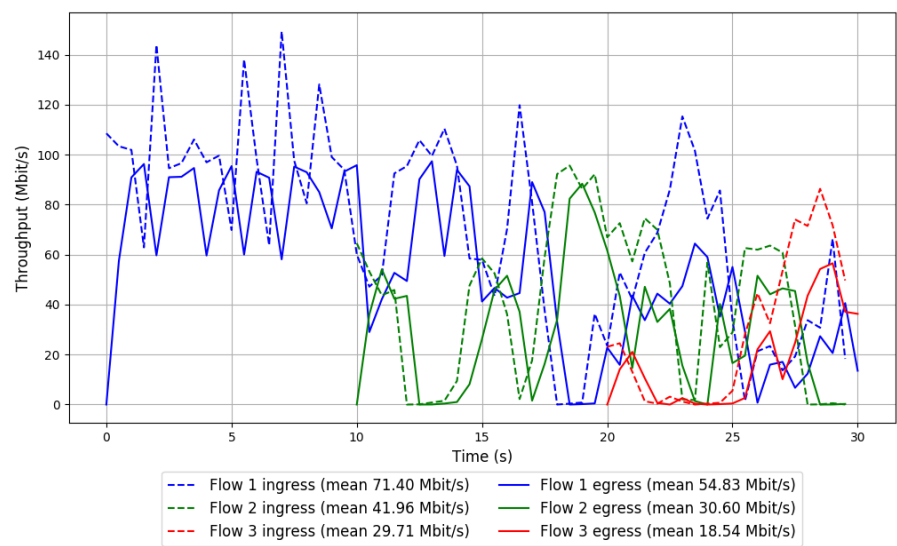Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-06-28 02:06:51
End at: 2019-06-28 02:07:21
Local clock offset: -1.664 ms
Remote clock offset: -3.038 ms


# Below is generated by plot.py at 2019-06-28 02:50:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.80 Mbit/s
95th percentile per-packet one-way delay: 29.683 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 42.72 Mbit/s
95th percentile per-packet one-way delay: 29.406 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 48.13 Mbit/s
95th percentile per-packet one-way delay: 31.966 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 54.19 Mbit/s
95th percentile per-packet one-way delay: 11.619 ms
Loss rate: 0.00%
```

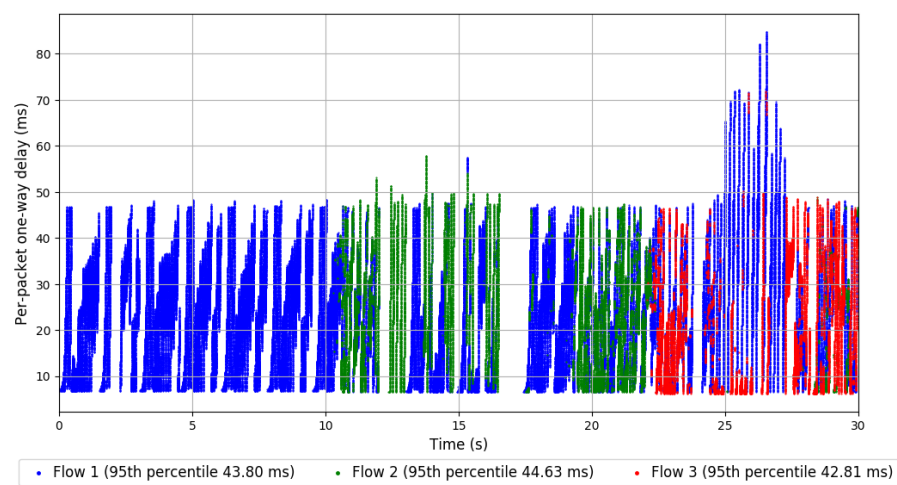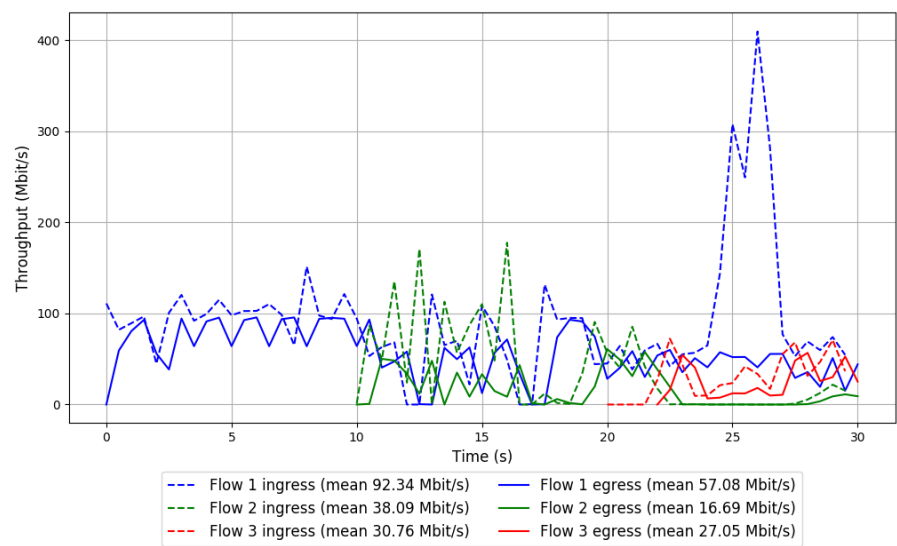Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-06-28 02:33:12
End at: 2019-06-28 02:33:42
Local clock offset: -1.907 ms
Remote clock offset: -3.397 ms


# Below is generated by plot.py at 2019-06-28 02:50:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.57 Mbit/s
95th percentile per-packet one-way delay: 16.908 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 50.55 Mbit/s
95th percentile per-packet one-way delay: 18.852 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 43.78 Mbit/s
95th percentile per-packet one-way delay: 11.793 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 44.69 Mbit/s
95th percentile per-packet one-way delay: 11.276 ms
Loss rate: 0.00%
```

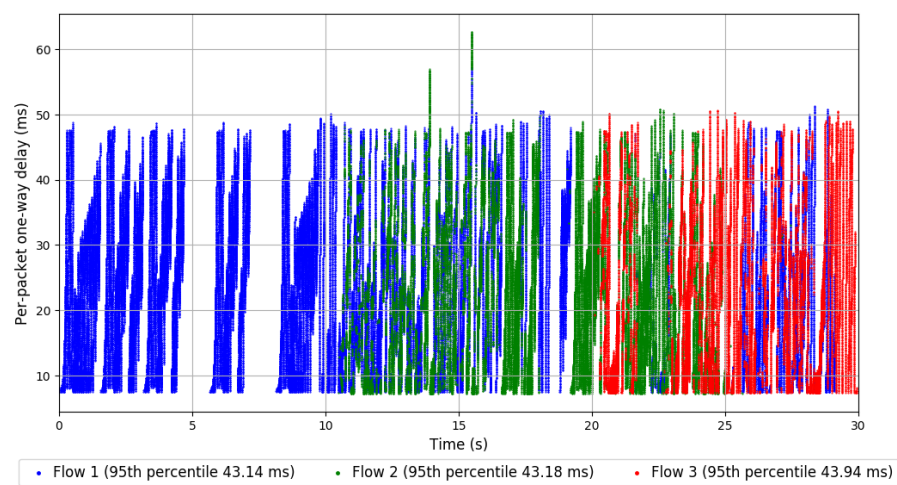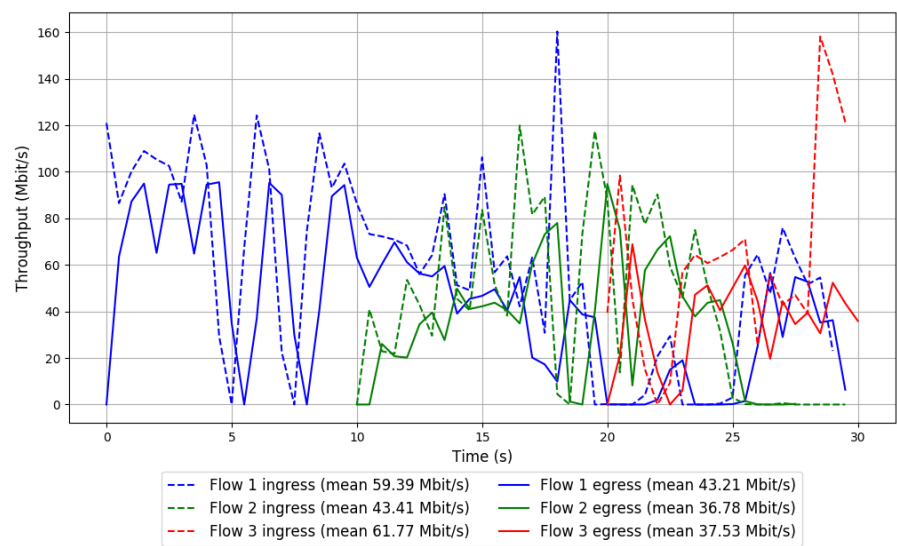## Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-06-28 00:41:24
End at: 2019-06-28 00:41:54
Local clock offset: -2.563 ms
Remote clock offset: -2.952 ms


# Below is generated by plot.py at 2019-06-28 02:50:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.72 Mbit/s
95th percentile per-packet one-way delay: 45.916 ms
Loss rate: 25.71%
-- Flow 1:
Average throughput: 54.83 Mbit/s
95th percentile per-packet one-way delay: 46.578 ms
Loss rate: 23.21%
-- Flow 2:
Average throughput: 30.60 Mbit/s
95th percentile per-packet one-way delay: 44.115 ms
Loss rate: 28.06%
-- Flow 3:
Average throughput: 18.54 Mbit/s
95th percentile per-packet one-way delay: 44.473 ms
Loss rate: 37.36%
```

Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-06-28 01:07:42
End at: 2019-06-28 01:08:12
Local clock offset: -1.27 ms
Remote clock offset: -2.673 ms


# Below is generated by plot.py at 2019-06-28 02:50:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.17 Mbit/s
95th percentile per-packet one-way delay: 43.854 ms
Loss rate: 41.02%
-- Flow 1:
Average throughput: 57.08 Mbit/s
95th percentile per-packet one-way delay: 43.795 ms
Loss rate: 38.13%
-- Flow 2:
Average throughput: 16.69 Mbit/s
95th percentile per-packet one-way delay: 44.632 ms
Loss rate: 56.19%
-- Flow 3:
Average throughput: 27.05 Mbit/s
95th percentile per-packet one-way delay: 42.813 ms
Loss rate: 29.88%
```
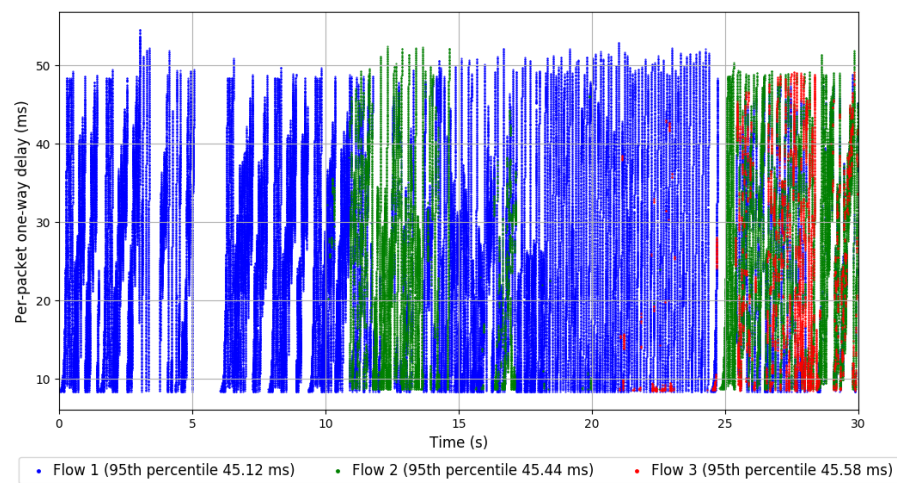
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-06-28 01:34:15
End at: 2019-06-28 01:34:45
Local clock offset: -2.212 ms
Remote clock offset: -3.695 ms


# Below is generated by plot.py at 2019-06-28 02:50:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.35 Mbit/s
95th percentile per-packet one-way delay: 43.284 ms
Loss rate: 29.10%
-- Flow 1:
Average throughput: 43.21 Mbit/s
95th percentile per-packet one-way delay: 43.142 ms
Loss rate: 27.31%
-- Flow 2:
Average throughput: 36.78 Mbit/s
95th percentile per-packet one-way delay: 43.177 ms
Loss rate: 25.30%
-- Flow 3:
Average throughput: 37.53 Mbit/s
95th percentile per-packet one-way delay: 43.943 ms
Loss rate: 39.40%
```
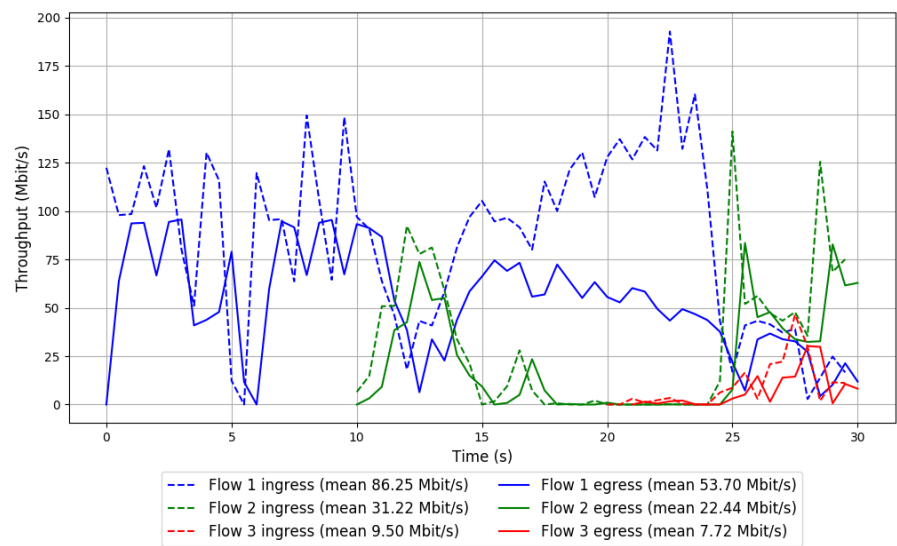
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-06-28 02:00:51
End at: 2019-06-28 02:01:21
Local clock offset: -1.81 ms
Remote clock offset: -2.99 ms


# Below is generated by plot.py at 2019-06-28 02:51:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 70.91 Mbit/s
95th percentile per-packet one-way delay: 45.187 ms
Loss rate: 35.56%
-- Flow 1:
Average throughput: 53.70 Mbit/s
95th percentile per-packet one-way delay: 45.125 ms
Loss rate: 37.69%
-- Flow 2:
Average throughput: 22.44 Mbit/s
95th percentile per-packet one-way delay: 45.435 ms
Loss rate: 28.07%
-- Flow 3:
Average throughput: 7.72 Mbit/s
95th percentile per-packet one-way delay: 45.582 ms
Loss rate: 26.75%
```
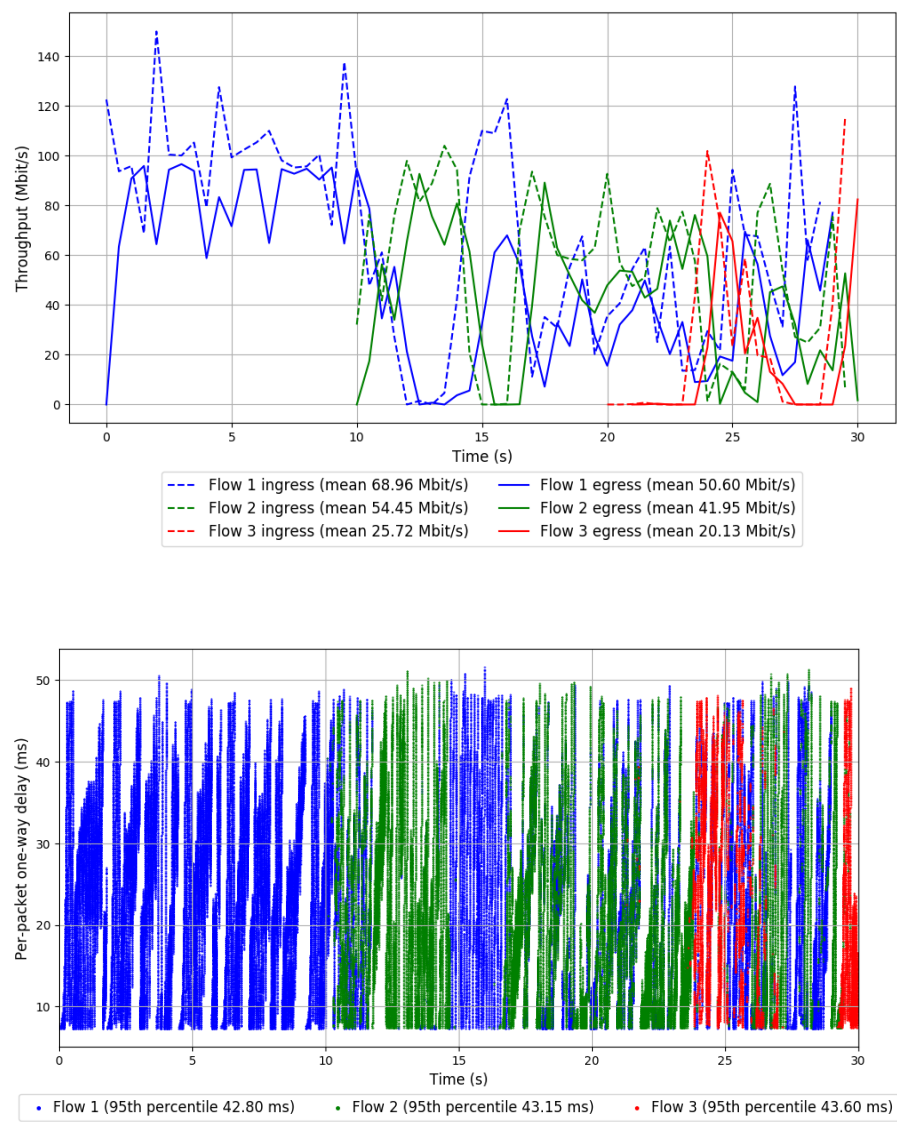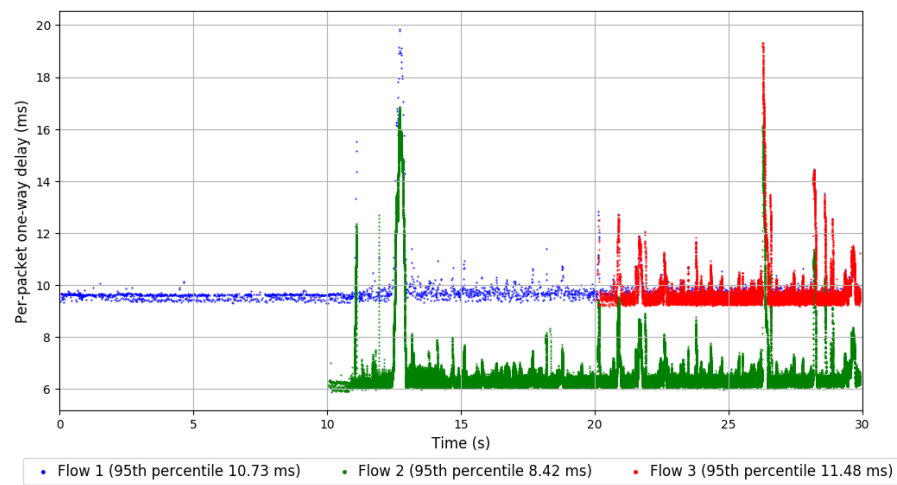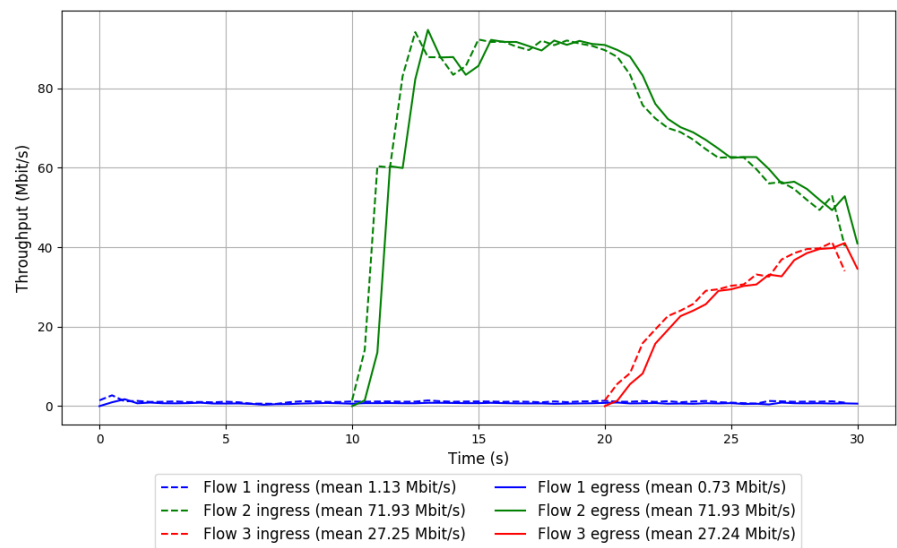
Run 4: Report of Verus — Data Link

Flow 1 ingress (mean 86.25 Mbit/s) — Flow 1 egress (mean 53.70 Mbit/s)
Flow 2 ingress (mean 31.22 Mbit/s) — Flow 2 egress (mean 22.44 Mbit/s)
Flow 3 ingress (mean 9.50 Mbit/s) — Flow 3 egress (mean 7.72 Mbit/s)

Flow 1 (95th percentile 45.12 ms)   Flow 2 (95th percentile 45.44 ms)   Flow 3 (95th percentile 45.58 ms)

```
Run 5: Statistics of Verus

Start at: 2019-06-28 02:27:09
End at: 2019-06-28 02:27:39
Local clock offset: -1.761 ms
Remote clock offset: -4.582 ms


# Below is generated by plot.py at 2019-06-28 02:51:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.24 Mbit/s
95th percentile per-packet one-way delay: 42.996 ms
Loss rate: 25.73%
-- Flow 1:
Average throughput: 50.60 Mbit/s
95th percentile per-packet one-way delay: 42.800 ms
Loss rate: 26.61%
-- Flow 2:
Average throughput: 41.95 Mbit/s
95th percentile per-packet one-way delay: 43.146 ms
Loss rate: 23.12%
-- Flow 3:
Average throughput: 20.13 Mbit/s
95th percentile per-packet one-way delay: 43.605 ms
Loss rate: 29.85%
```

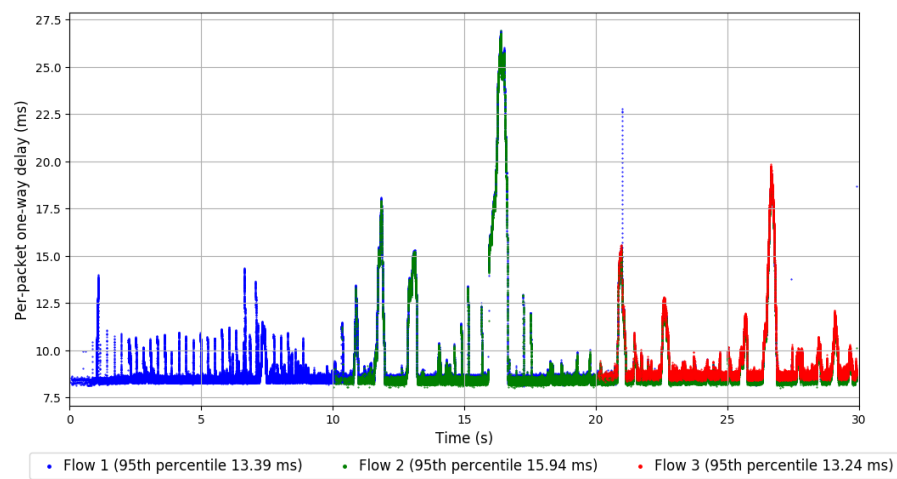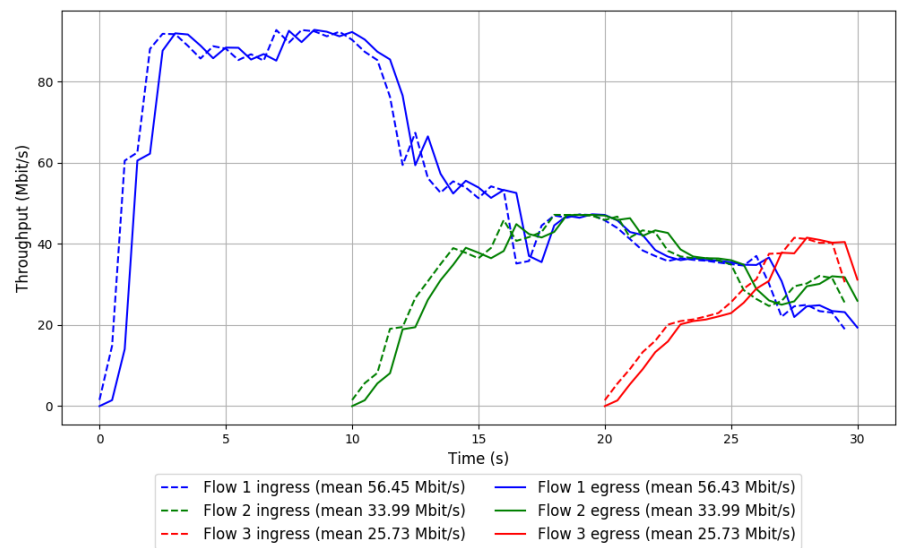Run 5: Report of Verus — Data Link

204

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-06-28 00:34:17
End at: 2019-06-28 00:34:47
Local clock offset: -2.641 ms
Remote clock offset: -5.107 ms


# Below is generated by plot.py at 2019-06-28 02:51:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.56 Mbit/s
95th percentile per-packet one-way delay: 10.113 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 10.729 ms
Loss rate: 35.80%
-- Flow 2:
Average throughput: 71.93 Mbit/s
95th percentile per-packet one-way delay: 8.419 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 27.24 Mbit/s
95th percentile per-packet one-way delay: 11.483 ms
Loss rate: 0.05%
```
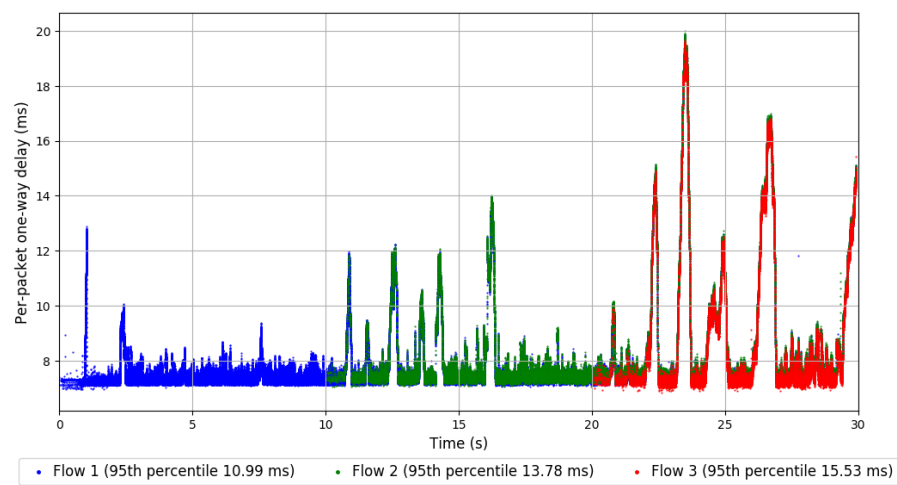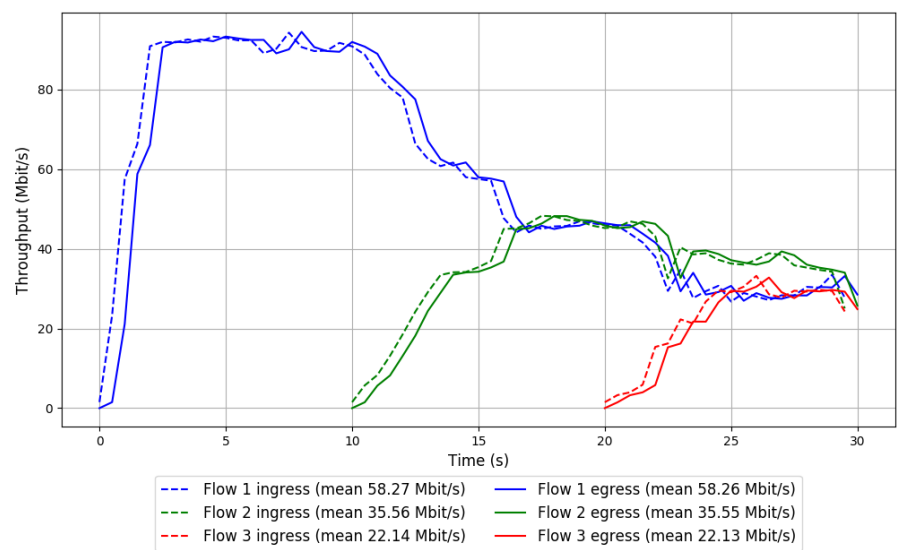
Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-06-28 01:00:21
End at: 2019-06-28 01:00:51
Local clock offset: -1.878 ms
Remote clock offset: -1.603 ms


# Below is generated by plot.py at 2019-06-28 02:51:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.52 Mbit/s
95th percentile per-packet one-way delay: 14.367 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.43 Mbit/s
95th percentile per-packet one-way delay: 13.389 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.99 Mbit/s
95th percentile per-packet one-way delay: 15.944 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 25.73 Mbit/s
95th percentile per-packet one-way delay: 13.236 ms
Loss rate: 0.00%
```
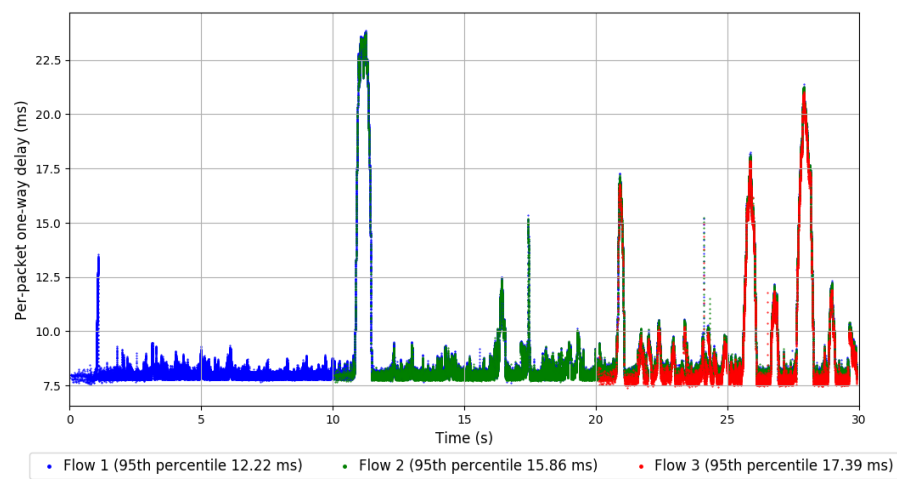
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-06-28 01:26:48
End at: 2019-06-28 01:27:18
Local clock offset: -1.481 ms
Remote clock offset: -2.841 ms


# Below is generated by plot.py at 2019-06-28 02:51:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.22 Mbit/s
95th percentile per-packet one-way delay: 12.466 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.26 Mbit/s
95th percentile per-packet one-way delay: 10.995 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 35.55 Mbit/s
95th percentile per-packet one-way delay: 13.780 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.13 Mbit/s
95th percentile per-packet one-way delay: 15.533 ms
Loss rate: 0.01%
```

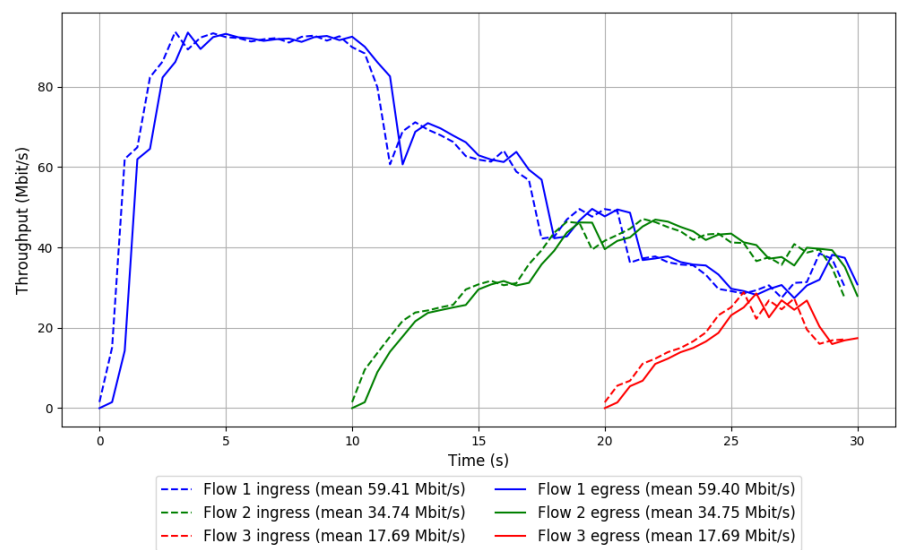Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-06-28 01:53:16
End at: 2019-06-28 01:53:46
Local clock offset: -1.921 ms
Remote clock offset: -4.142 ms


# Below is generated by plot.py at 2019-06-28 02:51:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.36 Mbit/s
95th percentile per-packet one-way delay: 15.220 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.40 Mbit/s
95th percentile per-packet one-way delay: 12.222 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 34.75 Mbit/s
95th percentile per-packet one-way delay: 15.861 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.69 Mbit/s
95th percentile per-packet one-way delay: 17.390 ms
Loss rate: 0.00%
```

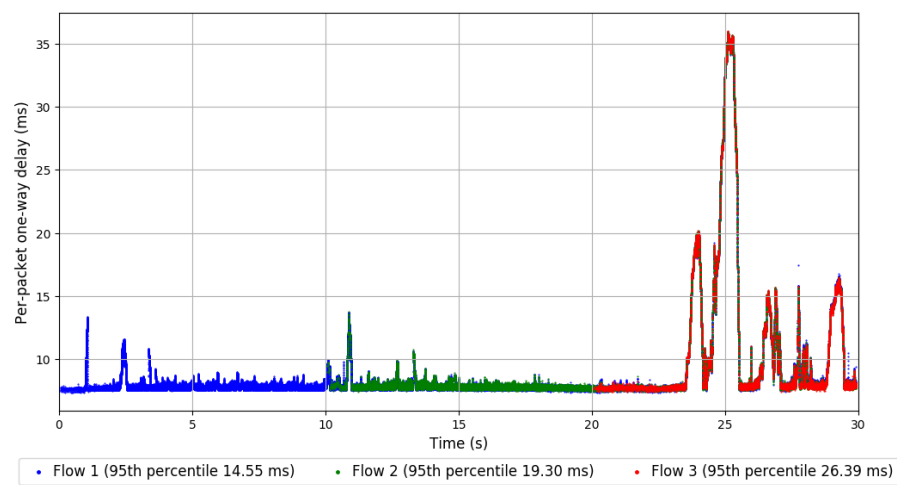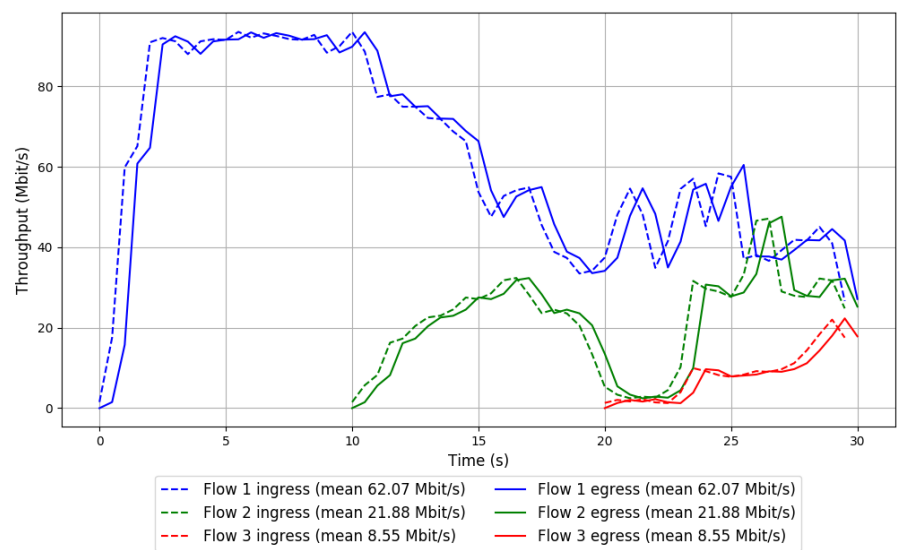Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-06-28 02:19:48
End at: 2019-06-28 02:20:18
Local clock offset: -1.7 ms
Remote clock offset: -4.049 ms


# Below is generated by plot.py at 2019-06-28 02:51:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.44 Mbit/s
95th percentile per-packet one-way delay: 16.195 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.07 Mbit/s
95th percentile per-packet one-way delay: 14.549 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 21.88 Mbit/s
95th percentile per-packet one-way delay: 19.296 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 26.394 ms
Loss rate: 0.00%
```

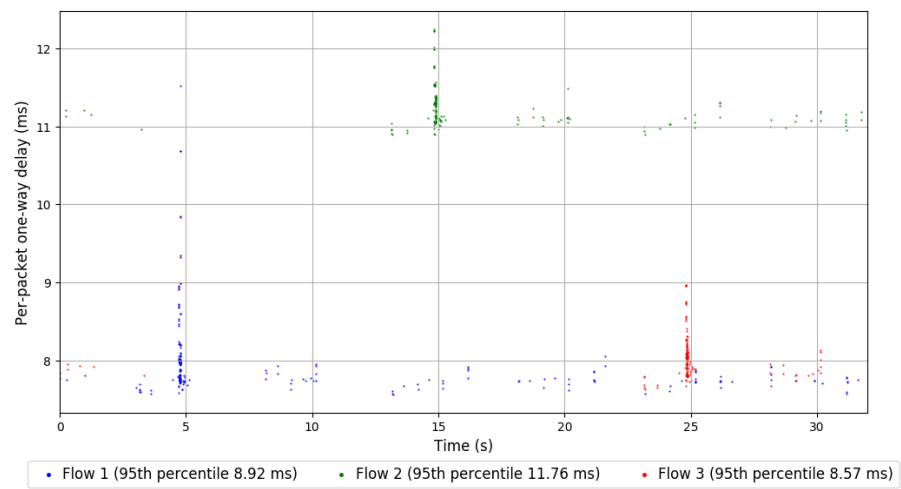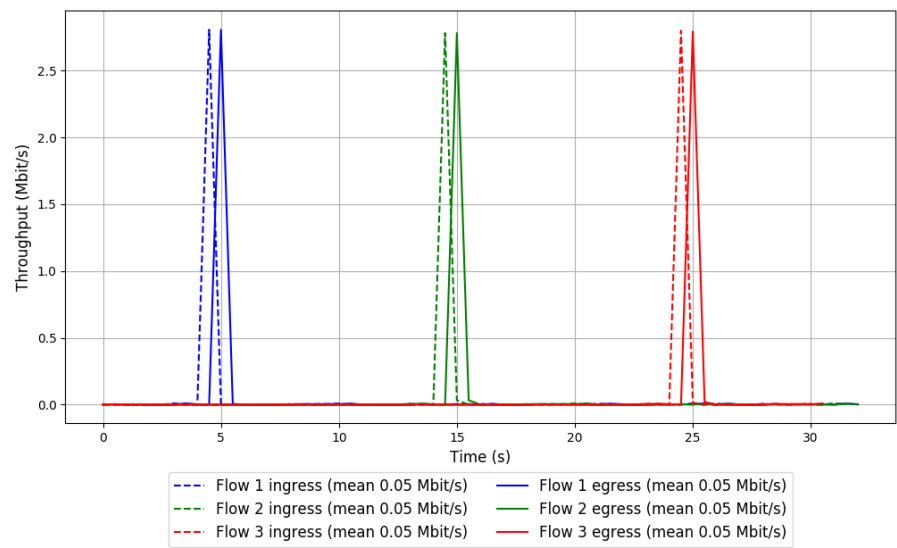Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-06-28 00:48:34
End at: 2019-06-28 00:49:04
Local clock offset: -2.155 ms
Remote clock offset: -2.562 ms


# Below is generated by plot.py at 2019-06-28 02:51:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 11.380 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 8.919 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 11.759 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 8.570 ms
Loss rate: 0.00%
```

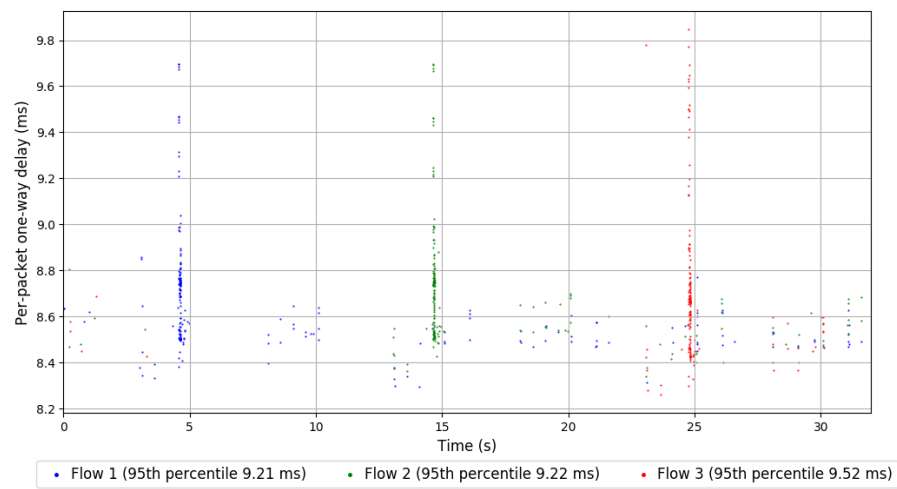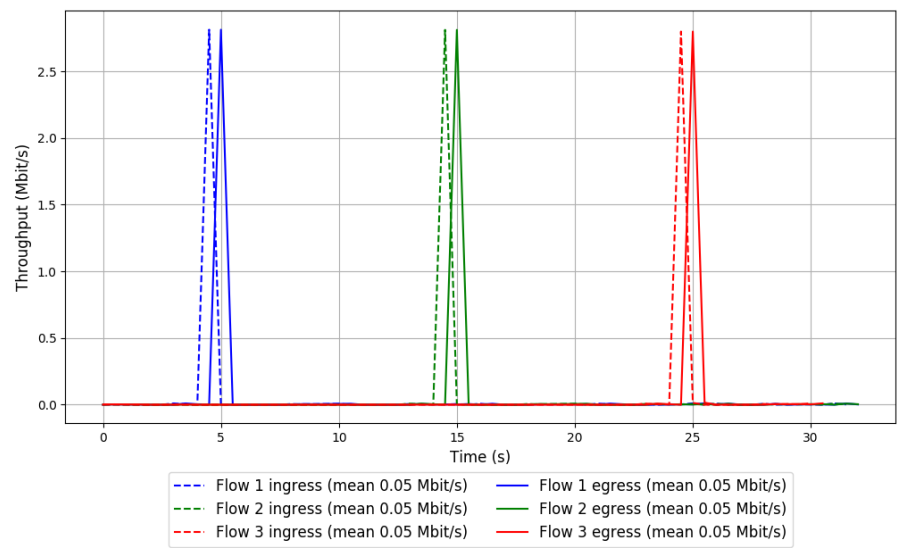Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-06-28 01:15:01
End at: 2019-06-28 01:15:31
Local clock offset: -2.596 ms
Remote clock offset: -2.212 ms

# Below is generated by plot.py at 2019-06-28 02:51:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 9.413 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.209 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.217 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.519 ms
Loss rate: 0.00%
```

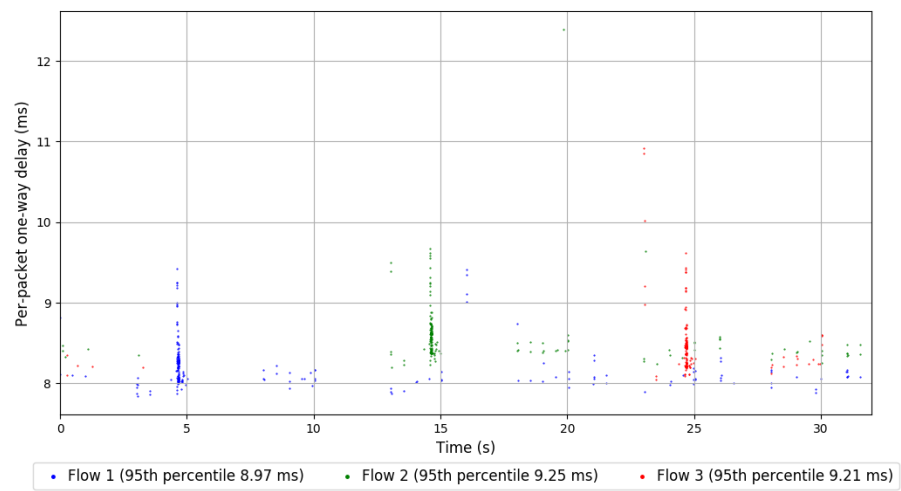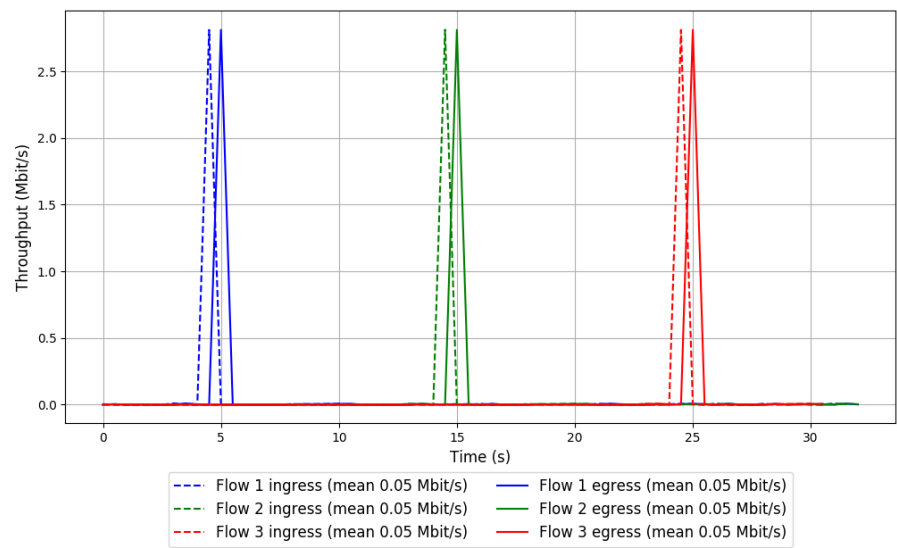Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-06-28 01:41:25
End at: 2019-06-28 01:41:55
Local clock offset: -1.511 ms
Remote clock offset: -2.537 ms


# Below is generated by plot.py at 2019-06-28 02:51:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 9.185 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 8.968 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.247 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.206 ms
Loss rate: 0.00%
```
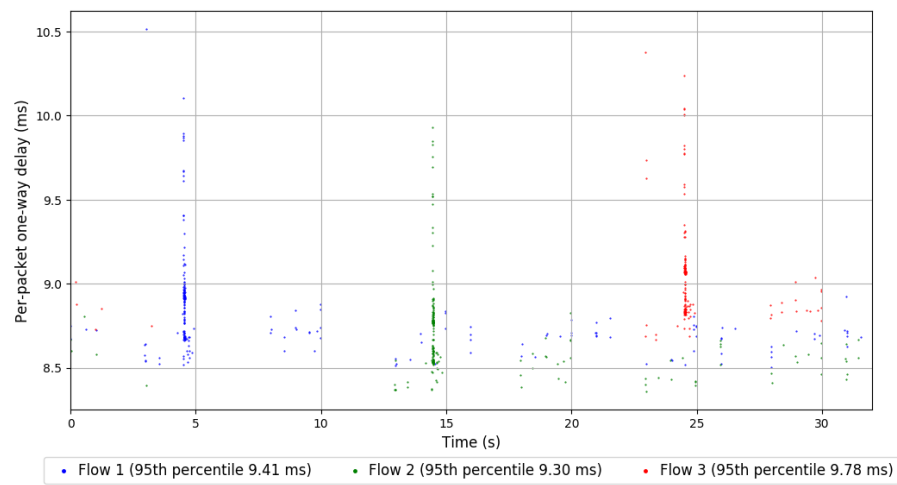
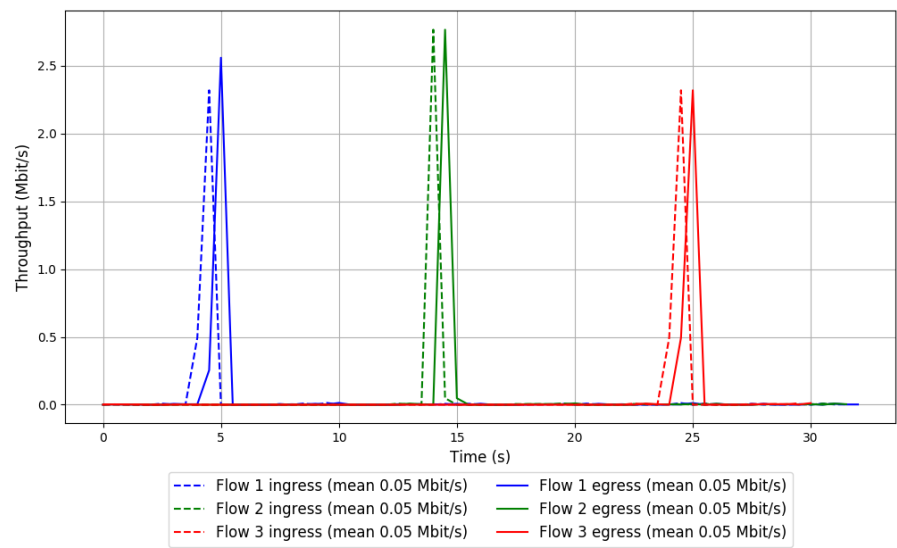Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-06-28 02:08:04
End at: 2019-06-28 02:08:34
Local clock offset: -2.38 ms
Remote clock offset: -3.485 ms


# Below is generated by plot.py at 2019-06-28 02:51:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 9.536 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.407 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.303 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.776 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-06-28 02:34:27
End at: 2019-06-28 02:34:57
Local clock offset: -1.937 ms
Remote clock offset: -4.175 ms


# Below is generated by plot.py at 2019-06-28 02:51:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 8.869 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 8.834 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 8.693 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.04 Mbit/s
95th percentile per-packet one-way delay: 9.110 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link