Pantheon Report

Generated at 2019-07-18 01:29:01 (UTC).

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

Repeated the test of 24 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.
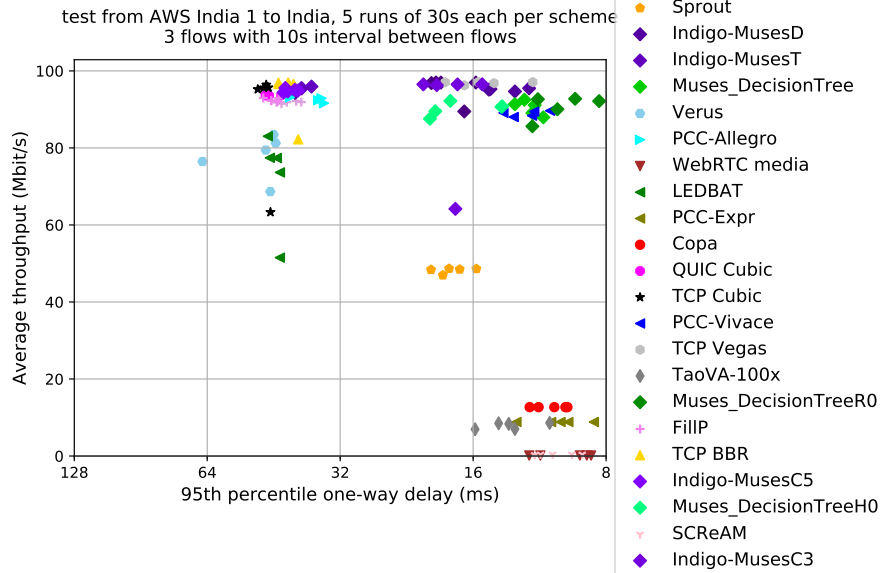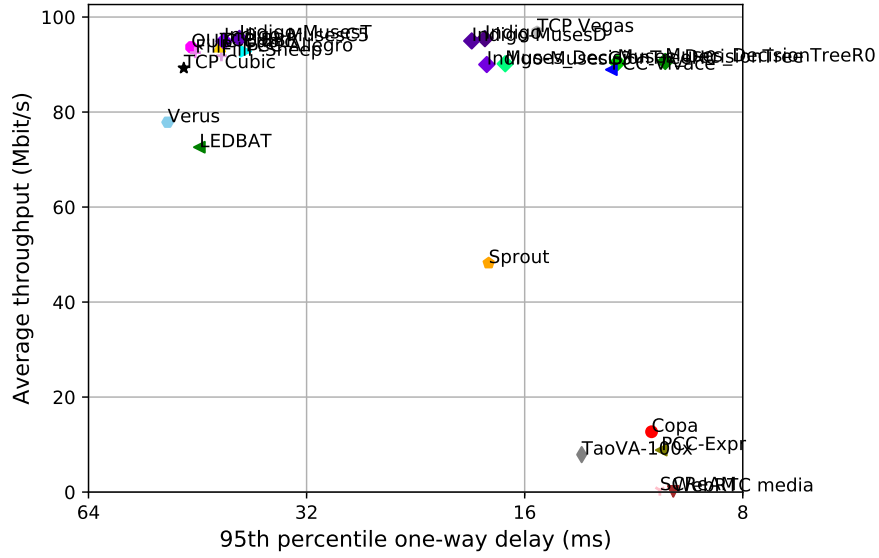
```
System info:
Linux 4.15.0-1043-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ de42328552b3776a75a932a94dfafd722537b0ec
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 @ 387225f7b5f61ddbe92d708a8869ffbb84eb3200
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

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	46.16	50.32	42.80	40.76	42.30	40.75	4.55	2.47	2.27
Copa	5	9.16	5.30	0.17	10.94	10.51	10.40	71.18	74.96	97.01
TCP Cubic	5	58.22	39.61	14.01	47.60	47.19	47.44	5.06	0.94	0.88
FillP	5	56.65	40.20	27.71	43.72	46.90	47.48	29.02	46.50	59.61
FillP-Sheep	5	54.61	41.06	29.98	39.25	43.26	44.88	4.44	9.08	15.79
Indigo	5	54.07	40.97	43.37	16.73	18.43	18.86	2.77	0.01	0.02
Indigo-MusesC3	5	37.81	55.68	55.19	16.19	17.58	19.66	3.19	0.00	0.02
Indigo-MusesC5	5	59.11	43.29	26.41	38.14	43.66	45.74	4.25	8.67	21.86
Indigo-MusesD	5	59.26	38.86	35.88	18.55	19.16	19.45	1.07	2.17	3.69
Indigo-MusesT	5	60.72	40.24	29.77	34.64	41.86	44.28	2.86	6.76	16.11
LEDBAT	5	39.35	37.04	27.71	43.75	45.27	46.94	2.26	0.64	0.81
Muses_DecisionTree	5	56.87	34.20	33.48	10.45	11.91	11.38	0.00	0.01	0.01
Muses_DecisionTreeH0	5	52.04	42.48	30.77	15.42	18.54	16.87	0.01	0.04	0.03
Muses_DecisionTreeR0	5	57.26	34.19	33.18	9.72	10.36	9.90	0.00	0.00	0.00
PCC-Allegro	5	81.84	12.02	8.92	38.47	39.65	40.45	3.09	4.25	5.06
PCC-Expr	5	0.08	10.09	6.44	7.71	10.37	10.35	85.71	46.67	32.67
QUIC Cubic	5	70.42	25.47	19.36	46.24	44.37	44.69	1.85	2.37	2.75
SCReAM	5	0.18	0.21	0.22	9.84	8.53	8.47	0.87	0.00	0.00
Sprout	5	24.09	24.30	24.07	17.70	16.62	17.93	0.72	0.00	0.04
TaoVA-100x	5	0.00	6.69	10.33	9.15	12.96	15.75	95.92	79.73	89.15
TCP Vegas	5	52.33	43.38	47.02	16.17	12.97	13.32	0.48	0.00	0.03
Verus	5	49.97	35.06	17.70	44.17	53.98	44.76	23.86	46.25	45.50
PCC-Vivace	5	61.99	31.51	18.13	10.96	14.41	15.60	0.00	0.01	0.04
WebRTC media	5	0.05	0.05	0.05	9.47	9.56	8.39	0.01	0.00	0.01

```
Run 1: Statistics of TCP BBR

Start at: 2019-07-17 23:18:12
End at: 2019-07-17 23:18:42
Local clock offset: 5.1 ms
Remote clock offset: -3.37 ms


# Below is generated by plot.py at 2019-07-18 01:16:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.00 Mbit/s
95th percentile per-packet one-way delay: 41.959 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 51.37 Mbit/s
95th percentile per-packet one-way delay: 38.862 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 51.32 Mbit/s
95th percentile per-packet one-way delay: 43.417 ms
Loss rate: 3.05%
-- Flow 3:
Average throughput: 34.55 Mbit/s
95th percentile per-packet one-way delay: 39.953 ms
Loss rate: 2.68%
```
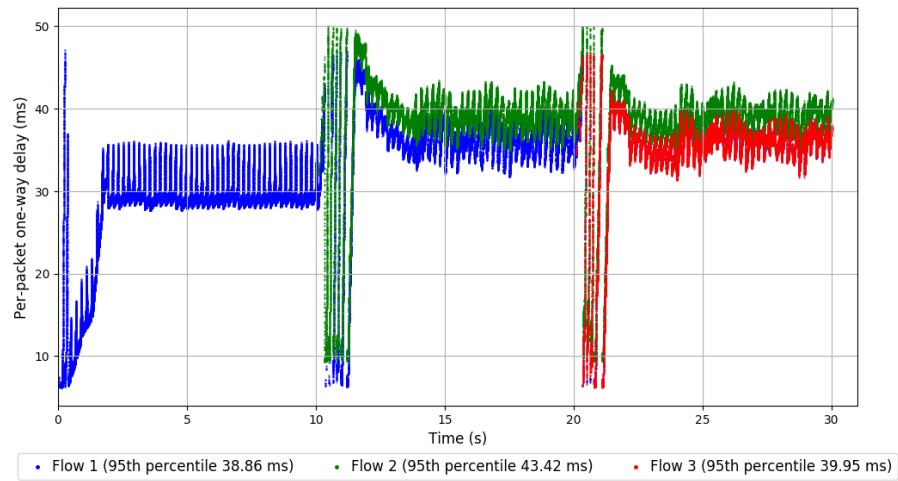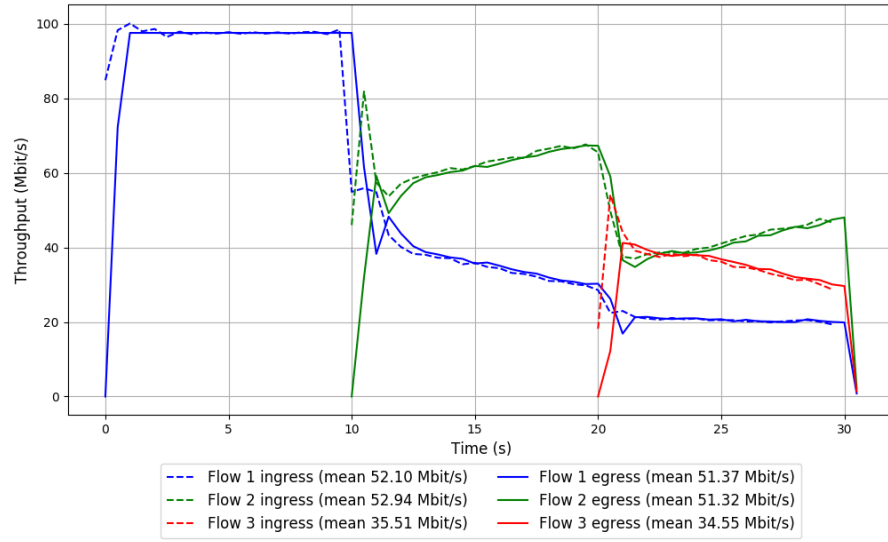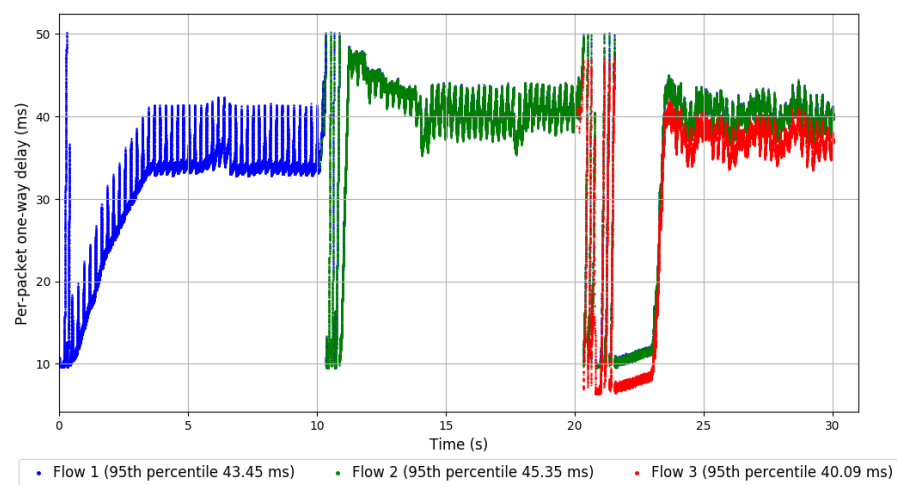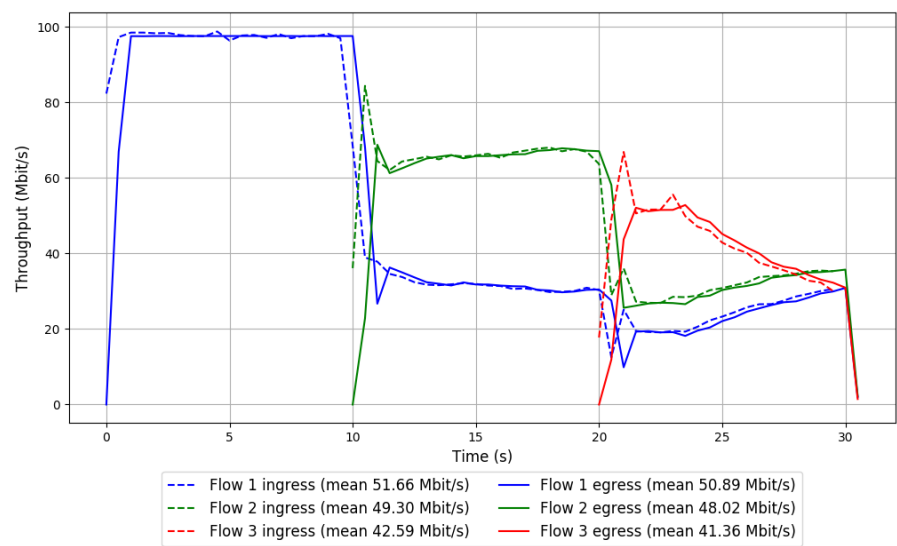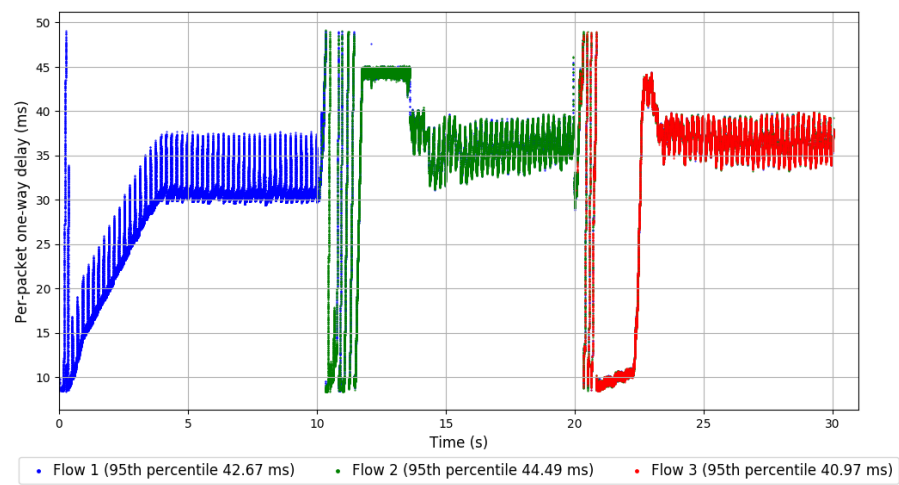
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-07-17 23:46:44
End at: 2019-07-17 23:47:14
Local clock offset: 3.68 ms
Remote clock offset: -2.945 ms


# Below is generated by plot.py at 2019-07-18 01:16:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.59 Mbit/s
95th percentile per-packet one-way delay: 44.114 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 50.89 Mbit/s
95th percentile per-packet one-way delay: 43.447 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 48.02 Mbit/s
95th percentile per-packet one-way delay: 45.346 ms
Loss rate: 2.57%
-- Flow 3:
Average throughput: 41.36 Mbit/s
95th percentile per-packet one-way delay: 40.093 ms
Loss rate: 2.89%
```
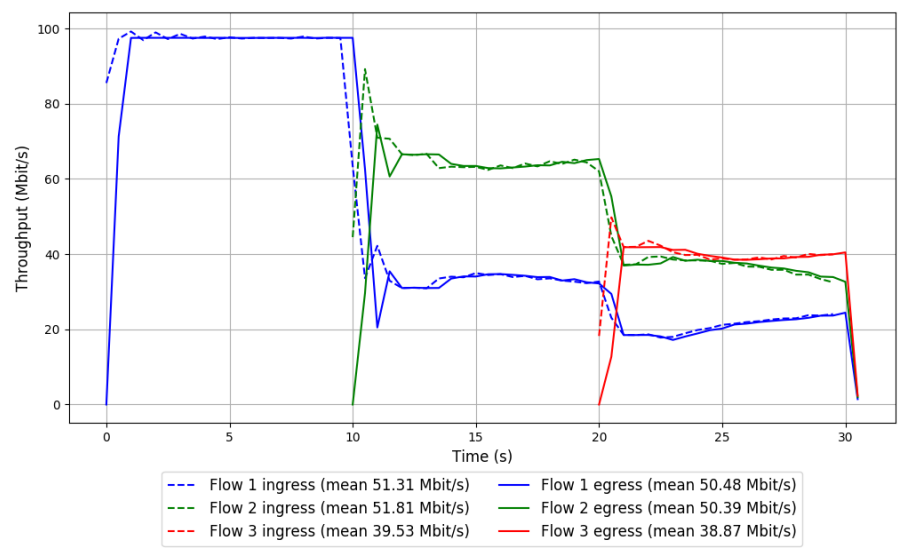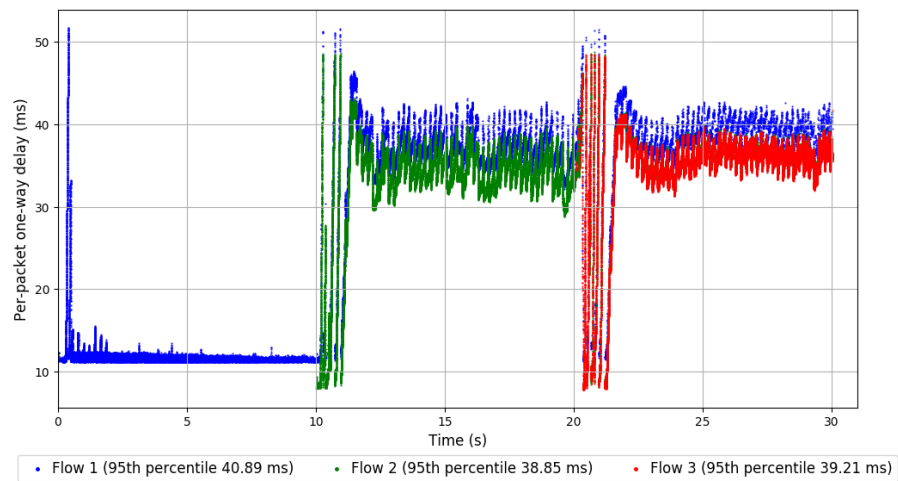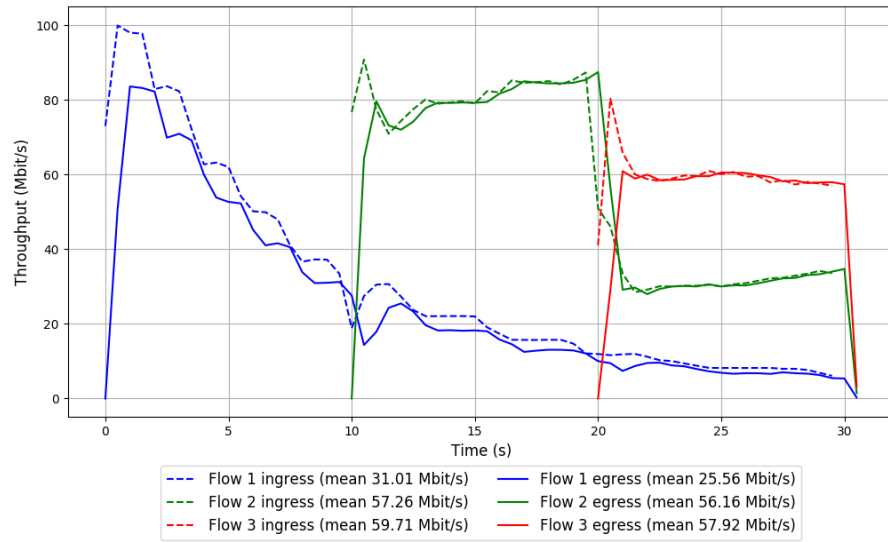
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 51.66 Mbit/s) --- Flow 1 egress (mean 50.89 Mbit/s)
Flow 2 ingress (mean 49.30 Mbit/s) --- Flow 2 egress (mean 48.02 Mbit/s)
Flow 3 ingress (mean 42.59 Mbit/s) --- Flow 3 egress (mean 41.36 Mbit/s)

Flow 1 (95th percentile 43.45 ms) Flow 2 (95th percentile 45.35 ms) Flow 3 (95th percentile 40.09 ms)

```
Run 3: Statistics of TCP BBR

Start at: 2019-07-18 00:14:57
End at: 2019-07-18 00:15:27
Local clock offset: 2.982 ms
Remote clock offset: -0.886 ms


# Below is generated by plot.py at 2019-07-18 01:16:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.95 Mbit/s
95th percentile per-packet one-way delay: 44.146 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 50.48 Mbit/s
95th percentile per-packet one-way delay: 42.668 ms
Loss rate: 1.52%
-- Flow 2:
Average throughput: 50.39 Mbit/s
95th percentile per-packet one-way delay: 44.495 ms
Loss rate: 2.69%
-- Flow 3:
Average throughput: 38.87 Mbit/s
95th percentile per-packet one-way delay: 40.970 ms
Loss rate: 1.61%
```
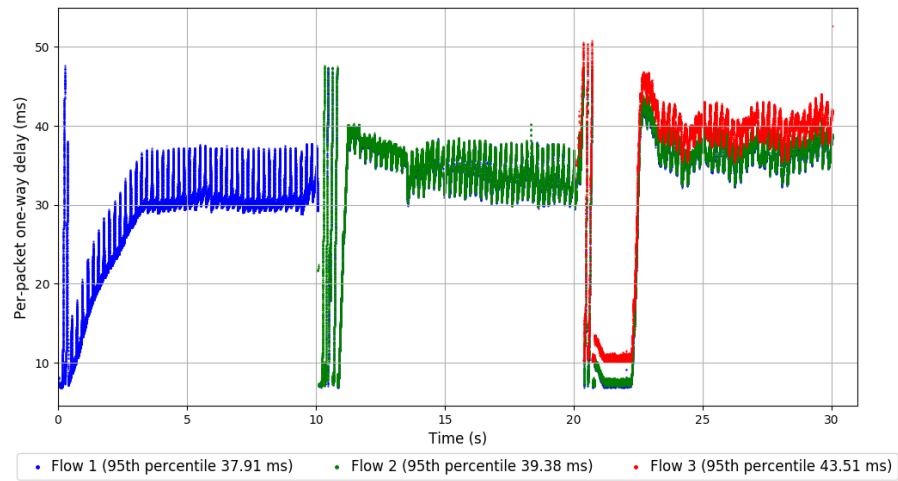
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-07-18 00:43:11
End at: 2019-07-18 00:43:41
Local clock offset: 4.866 ms
Remote clock offset: -0.775 ms


# Below is generated by plot.py at 2019-07-18 01:16:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.23 Mbit/s
95th percentile per-packet one-way delay: 39.830 ms
Loss rate: 7.52%
-- Flow 1:
Average throughput: 25.56 Mbit/s
95th percentile per-packet one-way delay: 40.887 ms
Loss rate: 17.51%
-- Flow 2:
Average throughput: 56.16 Mbit/s
95th percentile per-packet one-way delay: 38.850 ms
Loss rate: 1.79%
-- Flow 3:
Average throughput: 57.92 Mbit/s
95th percentile per-packet one-way delay: 39.206 ms
Loss rate: 2.91%
```

Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2019-07-18 01:11:18
End at: 2019-07-18 01:11:48
Local clock offset: 0.036 ms
Remote clock offset: -2.705 ms


# Below is generated by plot.py at 2019-07-18 01:16:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.62 Mbit/s
95th percentile per-packet one-way delay: 40.824 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 52.51 Mbit/s
95th percentile per-packet one-way delay: 37.914 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 45.70 Mbit/s
95th percentile per-packet one-way delay: 39.379 ms
Loss rate: 2.26%
-- Flow 3:
Average throughput: 41.30 Mbit/s
95th percentile per-packet one-way delay: 43.512 ms
Loss rate: 1.27%
```
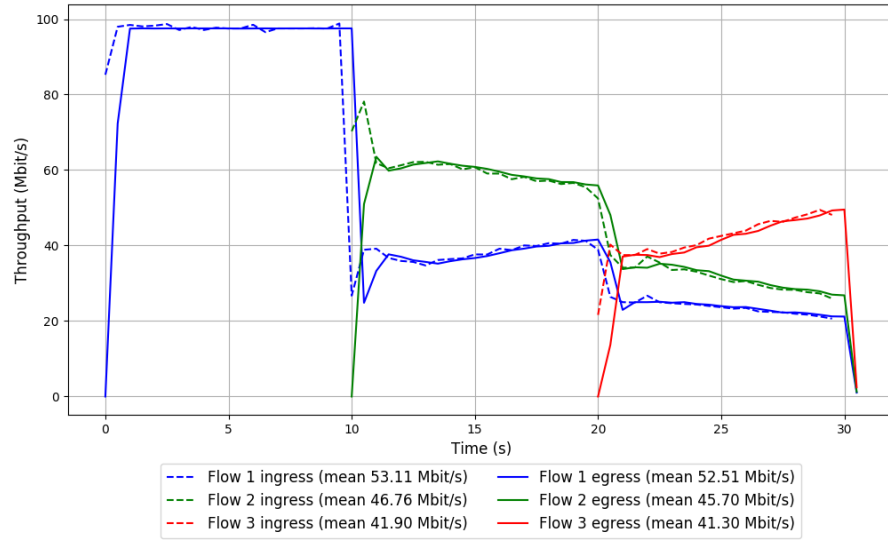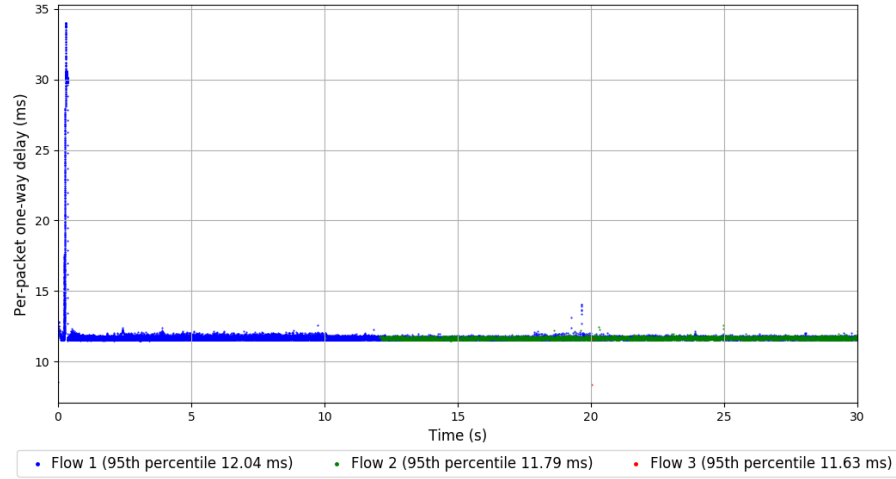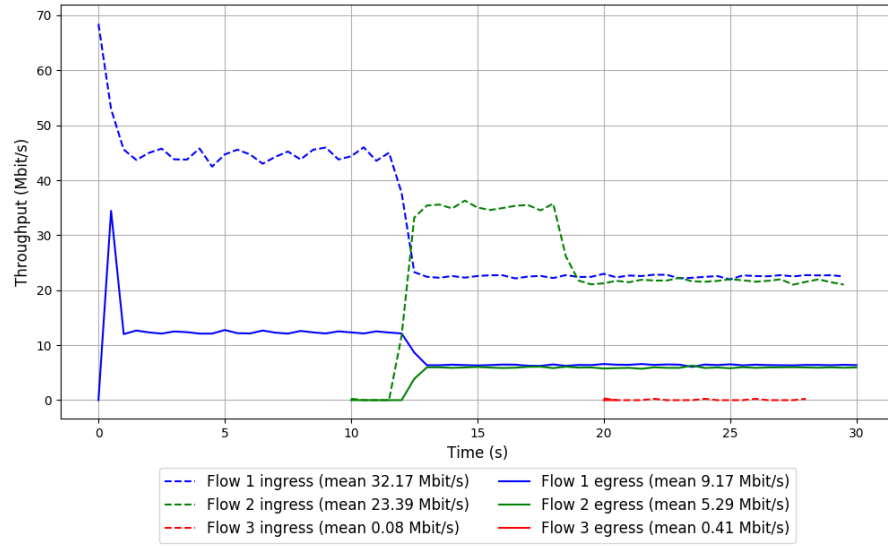
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 53.11 Mbit/s) --- Flow 1 egress (mean 52.51 Mbit/s)
Flow 2 ingress (mean 46.76 Mbit/s) --- Flow 2 egress (mean 45.70 Mbit/s)
Flow 3 ingress (mean 41.90 Mbit/s) --- Flow 3 egress (mean 41.30 Mbit/s)

• Flow 1 (95th percentile 37.91 ms)   • Flow 2 (95th percentile 39.38 ms)   • Flow 3 (95th percentile 43.51 ms)
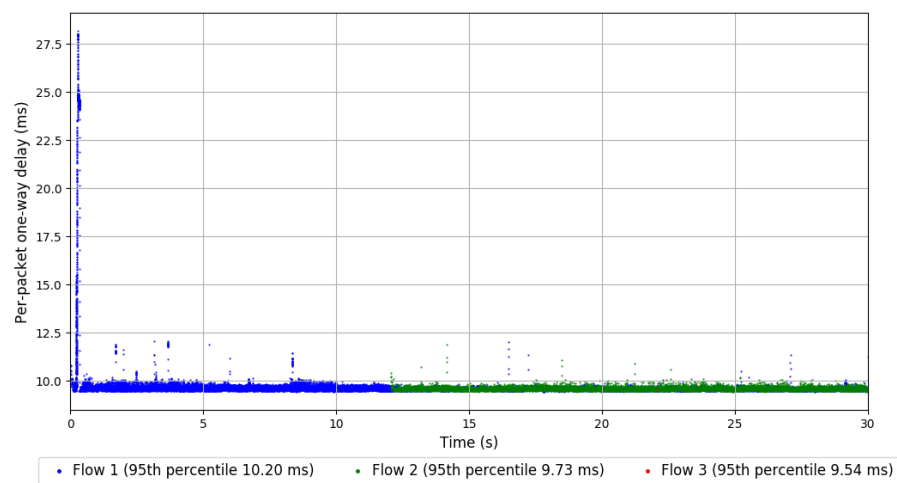
14

```
Run 1: Statistics of Copa

Start at: 2019-07-17 23:11:09
End at: 2019-07-17 23:11:39
Local clock offset: 4.359 ms
Remote clock offset: -1.37 ms


# Below is generated by plot.py at 2019-07-18 01:16:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 11.916 ms
Loss rate: 73.43%
-- Flow 1:
Average throughput: 9.17 Mbit/s
95th percentile per-packet one-way delay: 12.042 ms
Loss rate: 71.49%
-- Flow 2:
Average throughput: 5.29 Mbit/s
95th percentile per-packet one-way delay: 11.787 ms
Loss rate: 77.38%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 11.630 ms
Loss rate: 97.96%
```
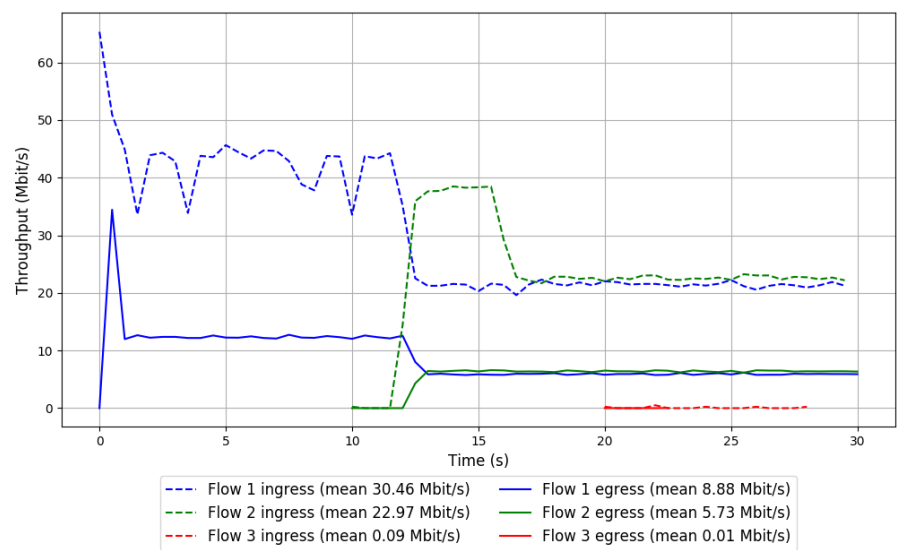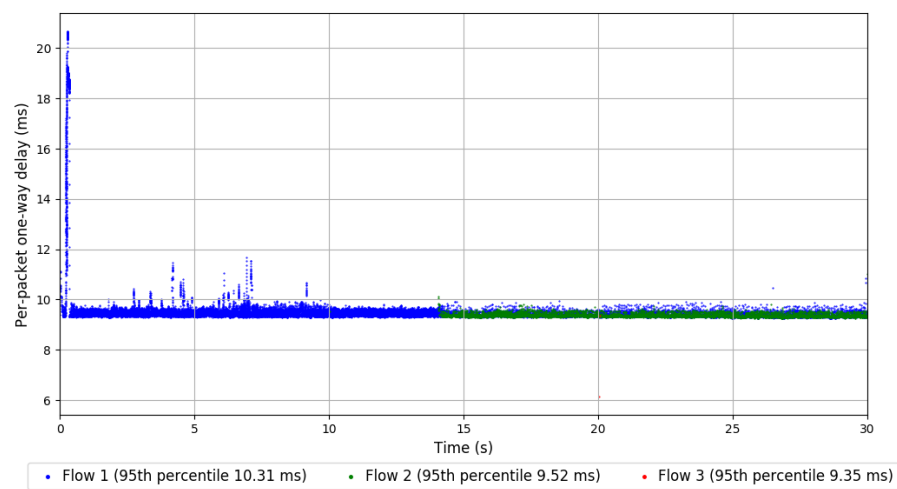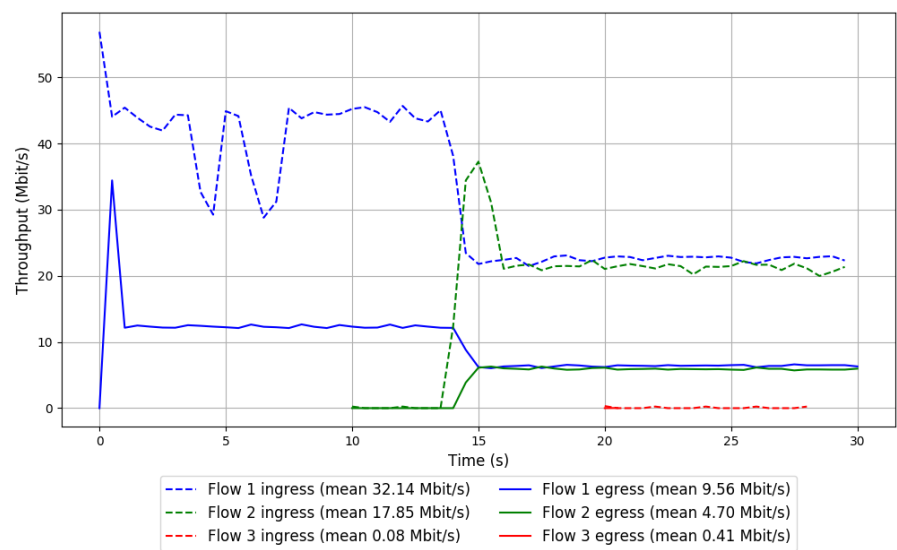
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 32.17 Mbit/s) Flow 1 egress (mean 9.17 Mbit/s)
Flow 2 ingress (mean 23.39 Mbit/s) Flow 2 egress (mean 5.29 Mbit/s)
Flow 3 ingress (mean 0.08 Mbit/s)   Flow 3 egress (mean 0.41 Mbit/s)

• Flow 1 (95th percentile 12.04 ms)   • Flow 2 (95th percentile 11.79 ms)   • Flow 3 (95th percentile 11.63 ms)

16

```
Run 2: Statistics of Copa

Start at: 2019-07-17 23:39:43
End at: 2019-07-17 23:40:13
Local clock offset: 3.382 ms
Remote clock offset: -3.576 ms


# Below is generated by plot.py at 2019-07-18 01:16:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 9.890 ms
Loss rate: 72.27%
-- Flow 1:
Average throughput: 8.88 Mbit/s
95th percentile per-packet one-way delay: 10.203 ms
Loss rate: 70.84%
-- Flow 2:
Average throughput: 5.73 Mbit/s
95th percentile per-packet one-way delay: 9.734 ms
Loss rate: 75.07%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 9.544 ms
Loss rate: 98.22%
```
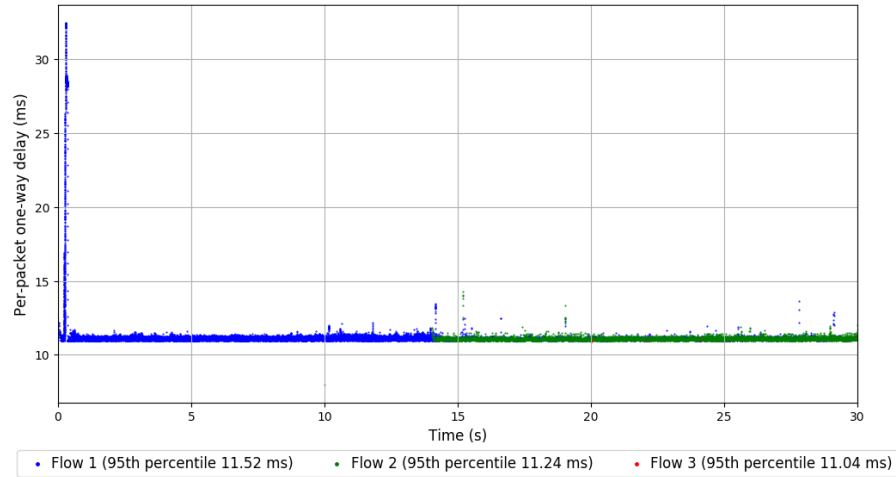
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-07-18 00:07:56
End at: 2019-07-18 00:08:26
Local clock offset: 2.738 ms
Remote clock offset: -3.518 ms


# Below is generated by plot.py at 2019-07-18 01:16:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 9.790 ms
Loss rate: 71.18%
-- Flow 1:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 10.308 ms
Loss rate: 70.24%
-- Flow 2:
Average throughput: 4.70 Mbit/s
95th percentile per-packet one-way delay: 9.518 ms
Loss rate: 73.66%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 9.348 ms
Loss rate: 97.96%
```
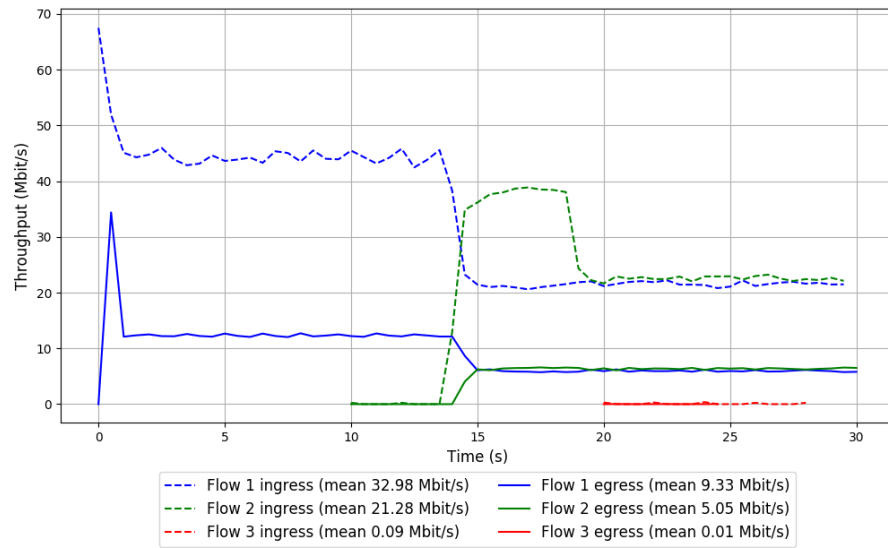
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 32.14 Mbit/s) — — — Flow 1 egress (mean 9.56 Mbit/s) ———
Flow 2 ingress (mean 17.85 Mbit/s) — — — Flow 2 egress (mean 4.70 Mbit/s) ———
Flow 3 ingress (mean 0.08 Mbit/s) — — — Flow 3 egress (mean 0.41 Mbit/s) ———

• Flow 1 (95th percentile 10.31 ms) • Flow 2 (95th percentile 9.52 ms) • Flow 3 (95th percentile 9.35 ms)

```
Run 4: Statistics of Copa

Start at: 2019-07-18 00:36:12
End at: 2019-07-18 00:36:42
Local clock offset: 4.297 ms
Remote clock offset: -1.046 ms


# Below is generated by plot.py at 2019-07-18 01:16:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 11.376 ms
Loss rate: 73.09%
-- Flow 1:
Average throughput: 9.33 Mbit/s
95th percentile per-packet one-way delay: 11.515 ms
Loss rate: 71.70%
-- Flow 2:
Average throughput: 5.05 Mbit/s
95th percentile per-packet one-way delay: 11.237 ms
Loss rate: 76.28%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 11.037 ms
Loss rate: 94.78%
```
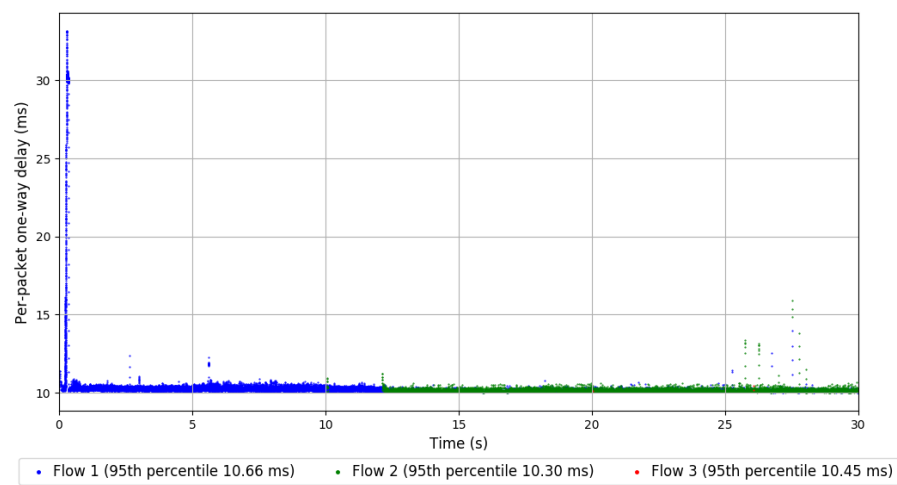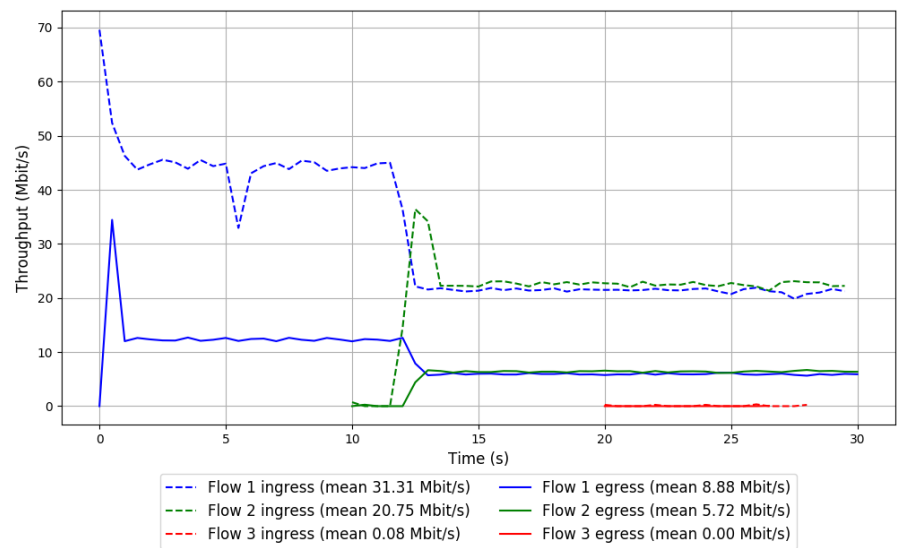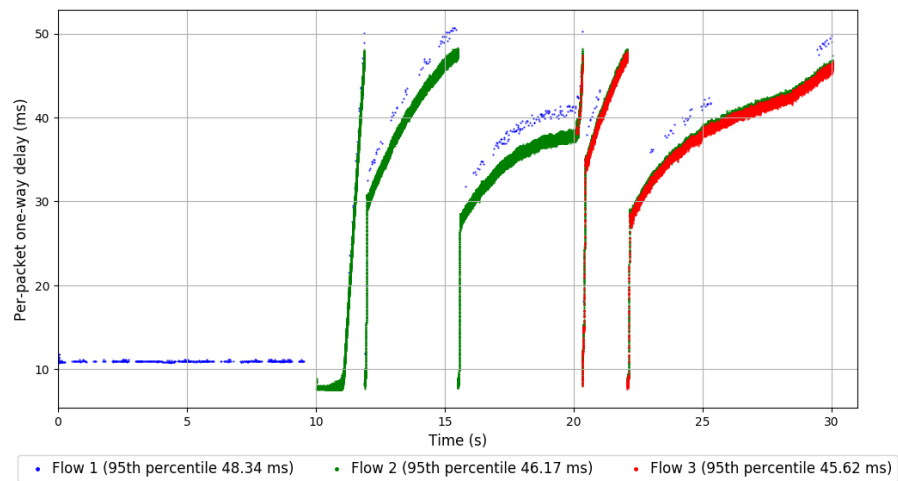
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-07-18 01:04:21
End at: 2019-07-18 01:04:51
Local clock offset: 0.53 ms
Remote clock offset: -3.4 ms

# Below is generated by plot.py at 2019-07-18 01:16:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.69 Mbit/s
95th percentile per-packet one-way delay: 10.479 ms
Loss rate: 71.88%
-- Flow 1:
Average throughput: 8.88 Mbit/s
95th percentile per-packet one-way delay: 10.657 ms
Loss rate: 71.62%
-- Flow 2:
Average throughput: 5.72 Mbit/s
95th percentile per-packet one-way delay: 10.297 ms
Loss rate: 72.42%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 10.446 ms
Loss rate: 96.14%
```
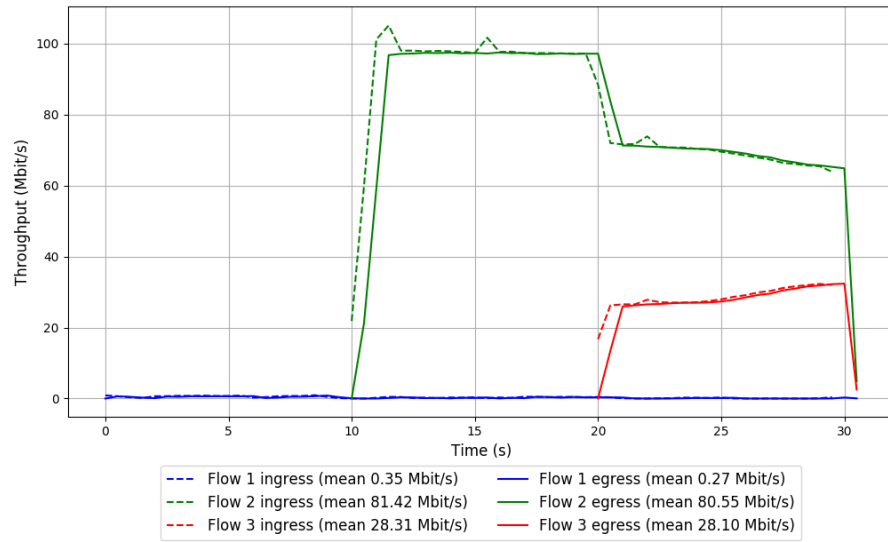
Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 31.31 Mbit/s) ---- Flow 1 egress (mean 8.88 Mbit/s) ——
Flow 2 ingress (mean 20.75 Mbit/s) ---- Flow 2 egress (mean 5.72 Mbit/s) ——
Flow 3 ingress (mean 0.08 Mbit/s) ---- Flow 3 egress (mean 0.00 Mbit/s) ——

• Flow 1 (95th percentile 10.66 ms)   • Flow 2 (95th percentile 10.30 ms)   • Flow 3 (95th percentile 10.45 ms)
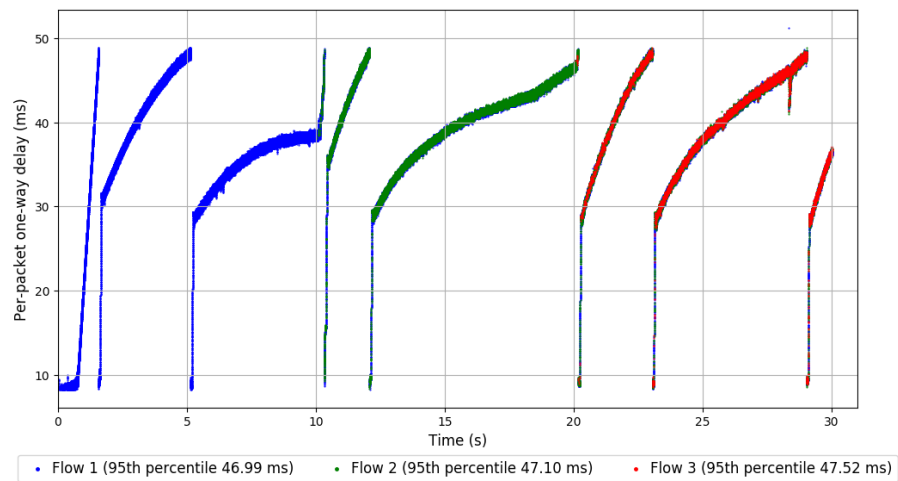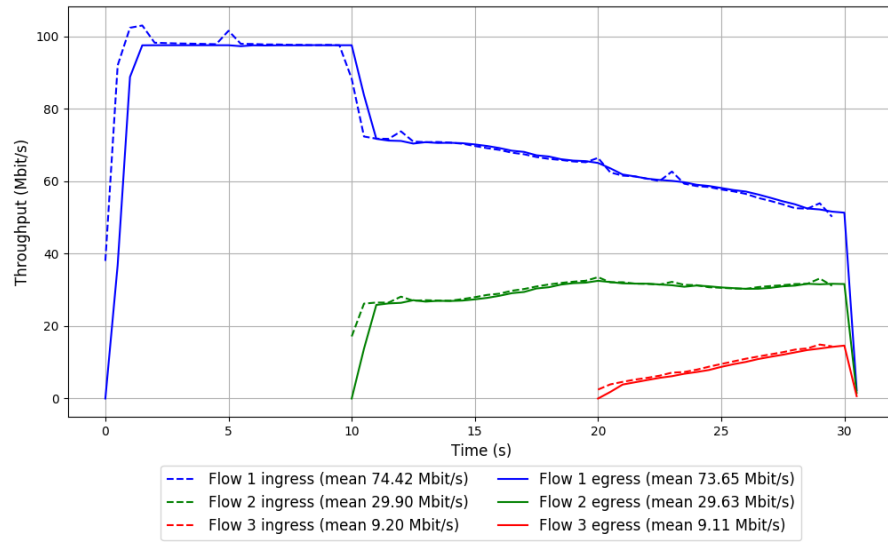
```
Run 1: Statistics of TCP Cubic

Start at: 2019-07-17 22:56:53
End at: 2019-07-17 22:57:23
Local clock offset: 1.761 ms
Remote clock offset: -3.028 ms


# Below is generated by plot.py at 2019-07-18 01:16:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.32 Mbit/s
95th percentile per-packet one-way delay: 46.025 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 48.338 ms
Loss rate: 21.57%
-- Flow 2:
Average throughput: 80.55 Mbit/s
95th percentile per-packet one-way delay: 46.166 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 28.10 Mbit/s
95th percentile per-packet one-way delay: 45.622 ms
Loss rate: 0.63%
```

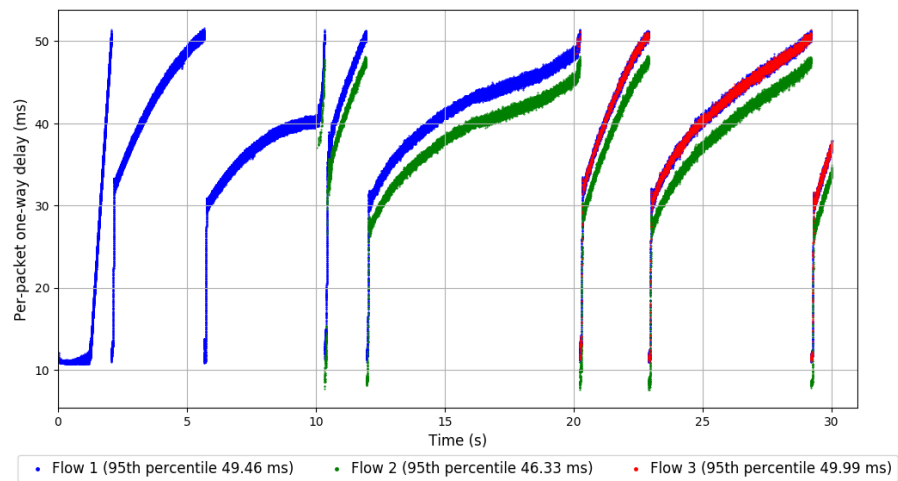Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-07-17 23:25:15
End at: 2019-07-17 23:25:45
Local clock offset: 5.524 ms
Remote clock offset: -1.119 ms


# Below is generated by plot.py at 2019-07-18 01:16:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.39 Mbit/s
95th percentile per-packet one-way delay: 47.040 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 73.65 Mbit/s
95th percentile per-packet one-way delay: 46.995 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 29.63 Mbit/s
95th percentile per-packet one-way delay: 47.098 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 9.11 Mbit/s
95th percentile per-packet one-way delay: 47.515 ms
Loss rate: 1.09%
```
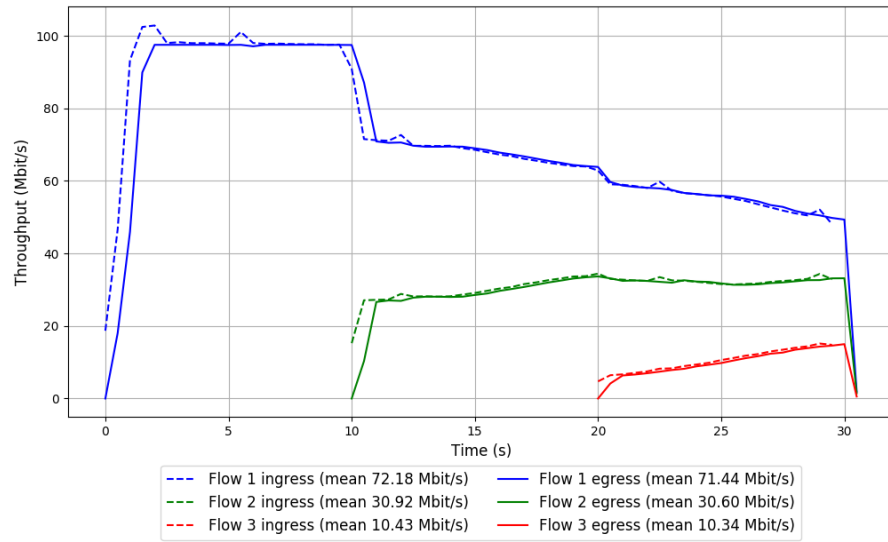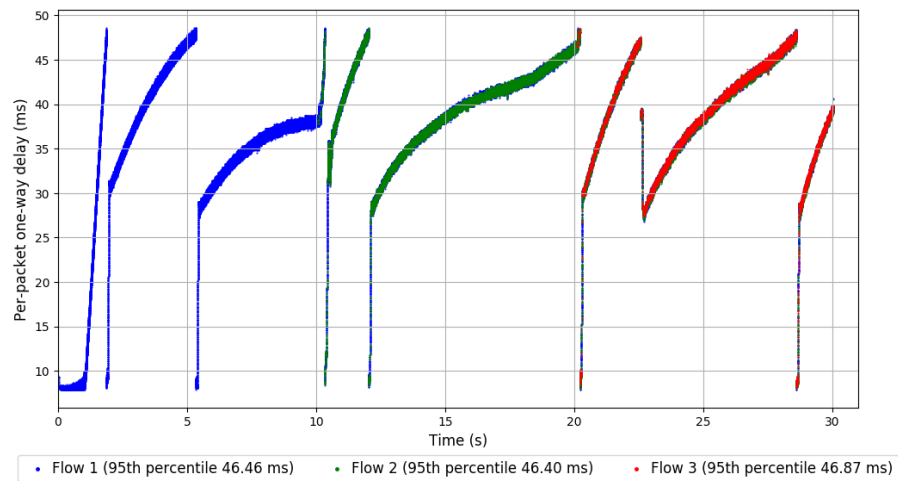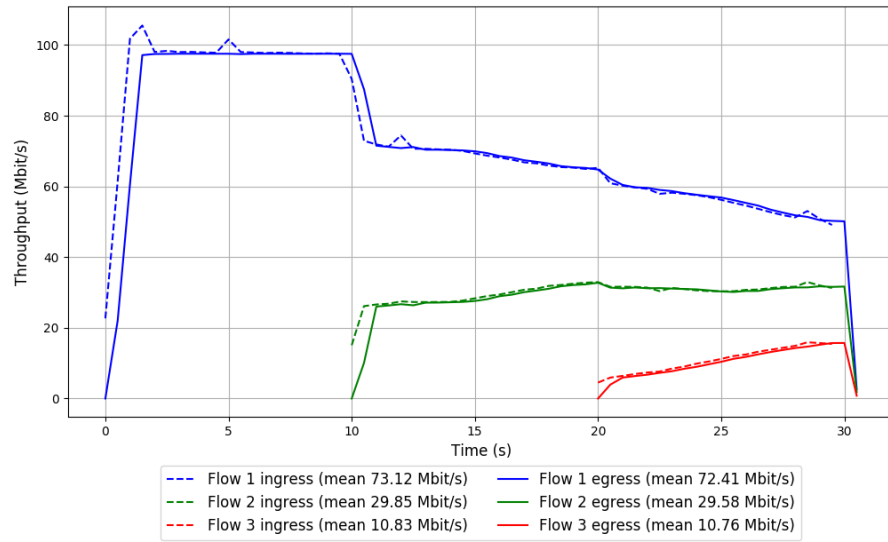
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 74.42 Mbit/s)   Flow 1 egress (mean 73.65 Mbit/s)
Flow 2 ingress (mean 29.90 Mbit/s)   Flow 2 egress (mean 29.63 Mbit/s)
Flow 3 ingress (mean 9.20 Mbit/s)   Flow 3 egress (mean 9.11 Mbit/s)

Flow 1 (95th percentile 46.99 ms)   Flow 2 (95th percentile 47.10 ms)   Flow 3 (95th percentile 47.52 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-07-17 23:53:44
End at: 2019-07-17 23:54:14
Local clock offset: 3.965 ms
Remote clock offset: -1.522 ms


# Below is generated by plot.py at 2019-07-18 01:16:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.23 Mbit/s
95th percentile per-packet one-way delay: 49.175 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 71.44 Mbit/s
95th percentile per-packet one-way delay: 49.458 ms
Loss rate: 0.96%
-- Flow 2:
Average throughput: 30.60 Mbit/s
95th percentile per-packet one-way delay: 46.326 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 10.34 Mbit/s
95th percentile per-packet one-way delay: 49.991 ms
Loss rate: 1.00%
```
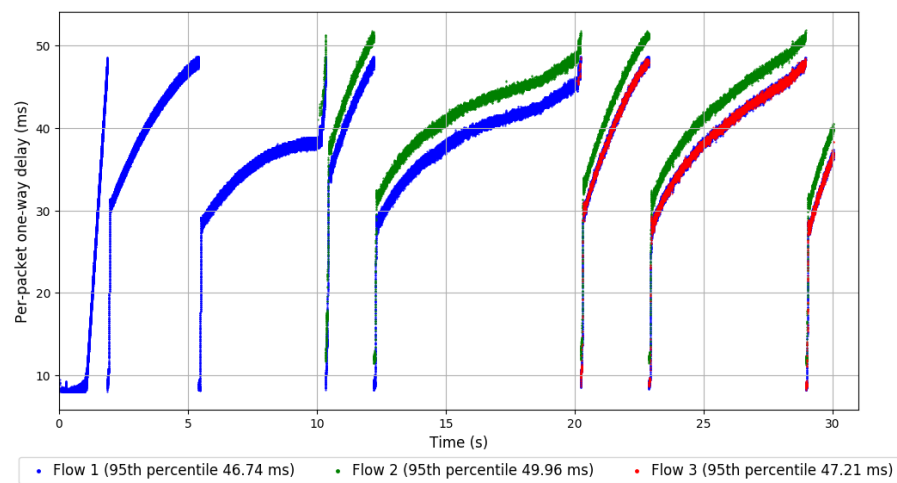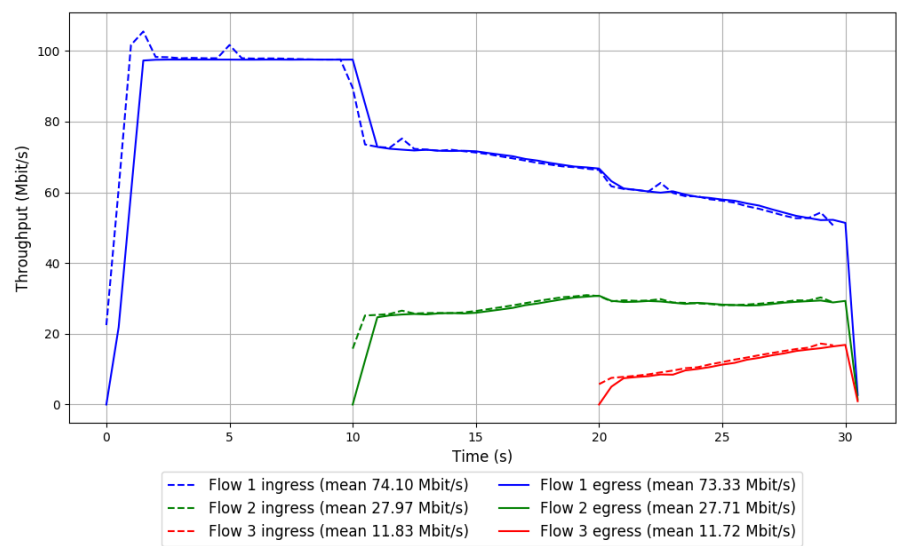
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2019-07-18 00:21:58
End at: 2019-07-18 00:22:28
Local clock offset: 2.899 ms
Remote clock offset: -1.236 ms


# Below is generated by plot.py at 2019-07-18 01:17:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 46.509 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 72.41 Mbit/s
95th percentile per-packet one-way delay: 46.457 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 29.58 Mbit/s
95th percentile per-packet one-way delay: 46.402 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 10.76 Mbit/s
95th percentile per-packet one-way delay: 46.871 ms
Loss rate: 0.68%
```
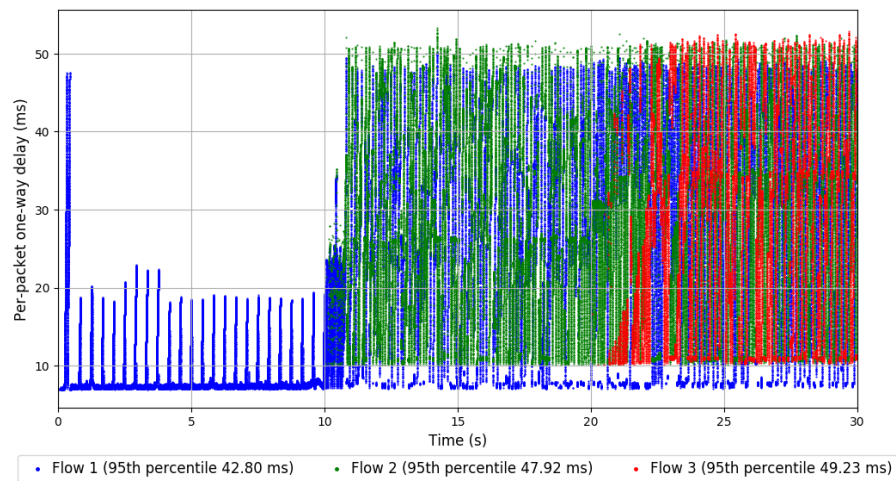
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-07-18 00:50:13
End at: 2019-07-18 00:50:43
Local clock offset: 3.73 ms
Remote clock offset: -2.291 ms


# Below is generated by plot.py at 2019-07-18 01:17:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 47.641 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 73.33 Mbit/s
95th percentile per-packet one-way delay: 46.745 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 27.71 Mbit/s
95th percentile per-packet one-way delay: 49.962 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 11.72 Mbit/s
95th percentile per-packet one-way delay: 47.208 ms
Loss rate: 0.99%
```
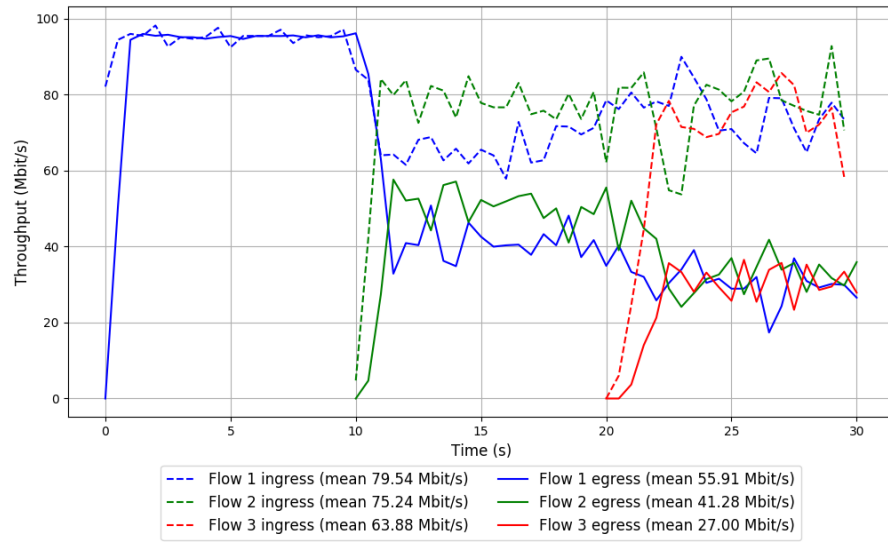
Run 5: Report of TCP Cubic — Data Link

- - - - Flow 1 ingress (mean 74.10 Mbit/s) ——— Flow 1 egress (mean 73.33 Mbit/s)
- - - - Flow 2 ingress (mean 27.97 Mbit/s) ——— Flow 2 egress (mean 27.71 Mbit/s)
- - - - Flow 3 ingress (mean 11.83 Mbit/s) ——— Flow 3 egress (mean 11.72 Mbit/s)

• Flow 1 (95th percentile 46.74 ms) • Flow 2 (95th percentile 49.96 ms) • Flow 3 (95th percentile 47.21 ms)
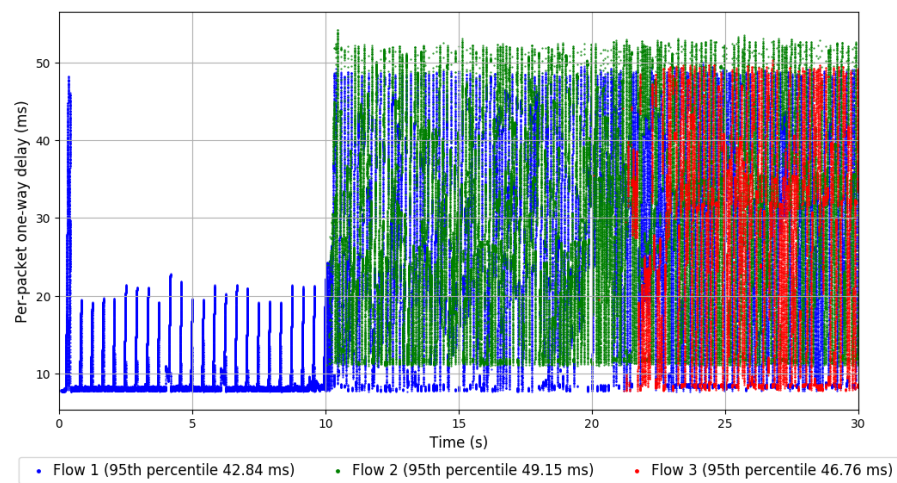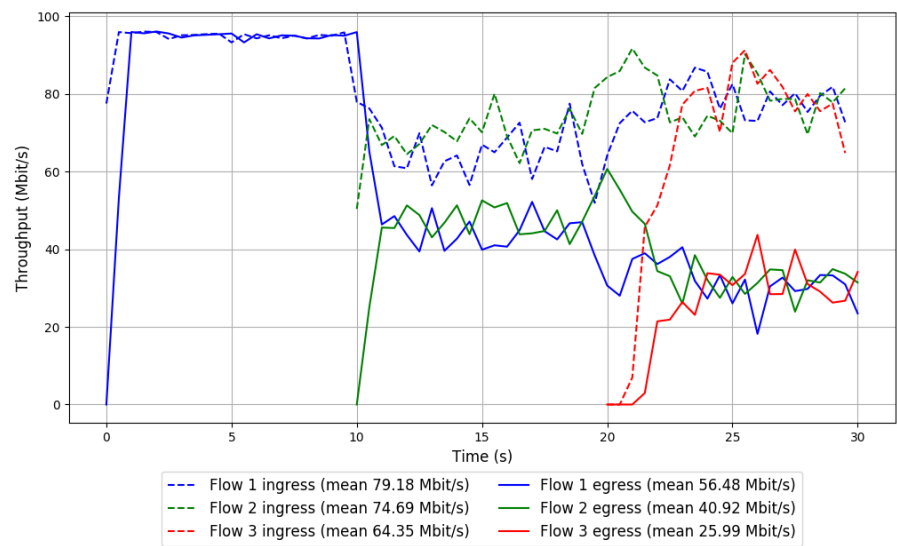
```
Run 1: Statistics of FillP

Start at: 2019-07-17 23:00:22
End at: 2019-07-17 23:00:52
Local clock offset: 2.717 ms
Remote clock offset: -3.144 ms


# Below is generated by plot.py at 2019-07-18 01:17:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.30 Mbit/s
95th percentile per-packet one-way delay: 45.829 ms
Loss rate: 38.75%
-- Flow 1:
Average throughput: 55.91 Mbit/s
95th percentile per-packet one-way delay: 42.795 ms
Loss rate: 29.65%
-- Flow 2:
Average throughput: 41.28 Mbit/s
95th percentile per-packet one-way delay: 47.918 ms
Loss rate: 45.11%
-- Flow 3:
Average throughput: 27.00 Mbit/s
95th percentile per-packet one-way delay: 49.228 ms
Loss rate: 57.90%
```
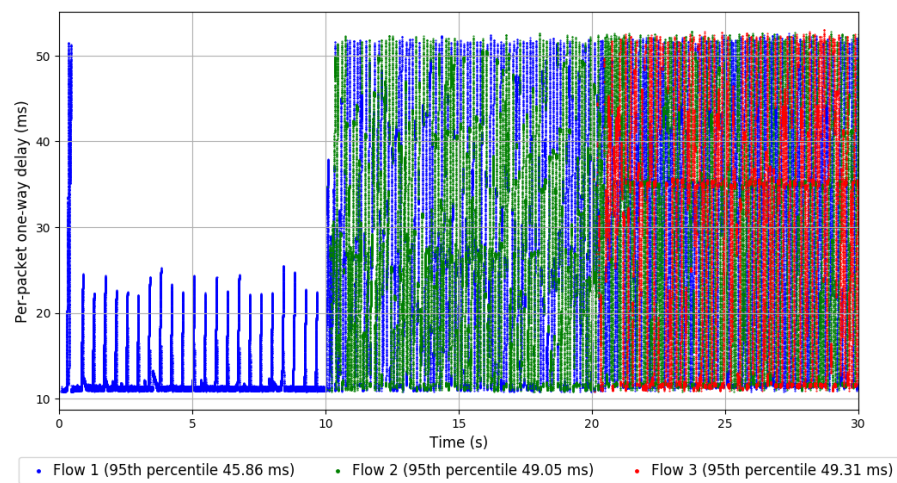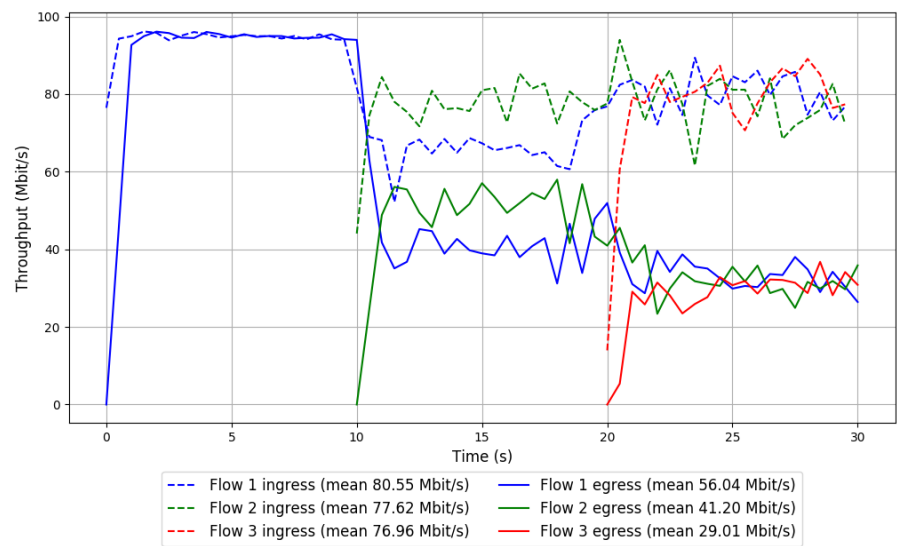
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 79.54 Mbit/s) --- Flow 1 egress (mean 55.91 Mbit/s)
Flow 2 ingress (mean 75.24 Mbit/s) --- Flow 2 egress (mean 41.28 Mbit/s)
Flow 3 ingress (mean 63.88 Mbit/s) --- Flow 3 egress (mean 27.00 Mbit/s)

• Flow 1 (95th percentile 42.80 ms)   • Flow 2 (95th percentile 47.92 ms)   • Flow 3 (95th percentile 49.23 ms)

```
Run 2: Statistics of FillP

Start at: 2019-07-17 23:28:48
End at: 2019-07-17 23:29:18
Local clock offset: 5.195 ms
Remote clock offset: -1.137 ms


# Below is generated by plot.py at 2019-07-18 01:17:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.25 Mbit/s
95th percentile per-packet one-way delay: 45.868 ms
Loss rate: 38.56%
-- Flow 1:
Average throughput: 56.48 Mbit/s
95th percentile per-packet one-way delay: 42.840 ms
Loss rate: 28.69%
-- Flow 2:
Average throughput: 40.92 Mbit/s
95th percentile per-packet one-way delay: 49.151 ms
Loss rate: 45.19%
-- Flow 3:
Average throughput: 25.99 Mbit/s
95th percentile per-packet one-way delay: 46.759 ms
Loss rate: 59.71%
```
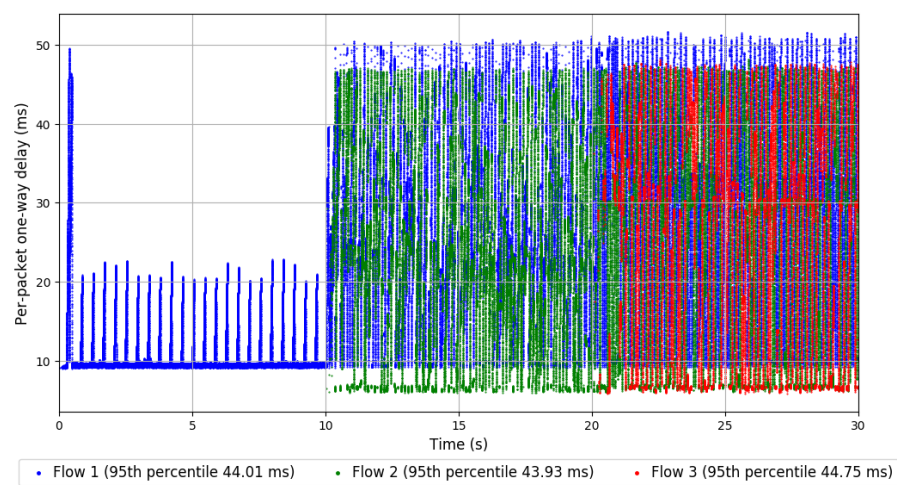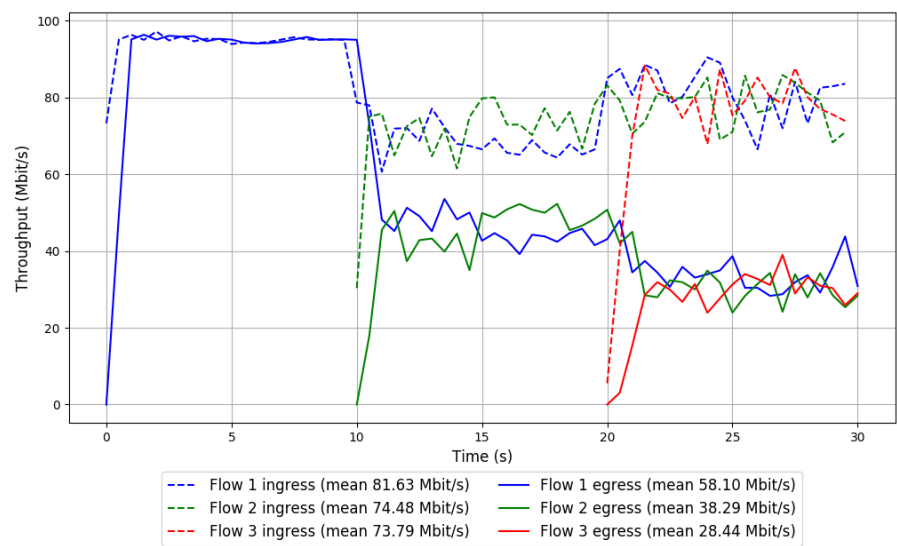
Run 2: Report of FillP — Data Link

Flow 1 ingress (mean 79.18 Mbit/s)   Flow 1 egress (mean 56.48 Mbit/s)
Flow 2 ingress (mean 74.69 Mbit/s)   Flow 2 egress (mean 40.92 Mbit/s)
Flow 3 ingress (mean 64.35 Mbit/s)   Flow 3 egress (mean 25.99 Mbit/s)

Flow 1 (95th percentile 42.84 ms)   Flow 2 (95th percentile 49.15 ms)   Flow 3 (95th percentile 46.76 ms)

```
Run 3: Statistics of FillP

Start at: 2019-07-17 23:57:12
End at: 2019-07-17 23:57:42
Local clock offset: 3.28 ms
Remote clock offset: -1.737 ms


# Below is generated by plot.py at 2019-07-18 01:17:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.97 Mbit/s
95th percentile per-packet one-way delay: 47.781 ms
Loss rate: 41.02%
-- Flow 1:
Average throughput: 56.04 Mbit/s
95th percentile per-packet one-way delay: 45.860 ms
Loss rate: 30.51%
-- Flow 2:
Average throughput: 41.20 Mbit/s
95th percentile per-packet one-way delay: 49.052 ms
Loss rate: 46.83%
-- Flow 3:
Average throughput: 29.01 Mbit/s
95th percentile per-packet one-way delay: 49.310 ms
Loss rate: 62.41%
```
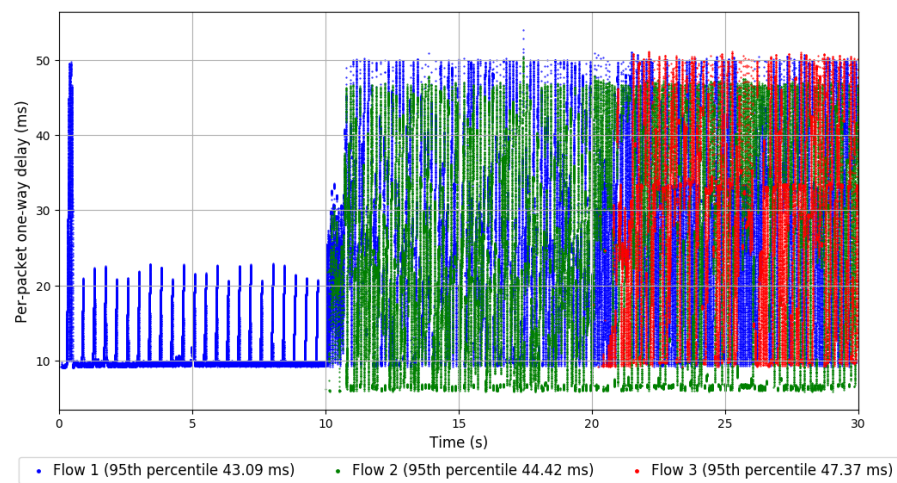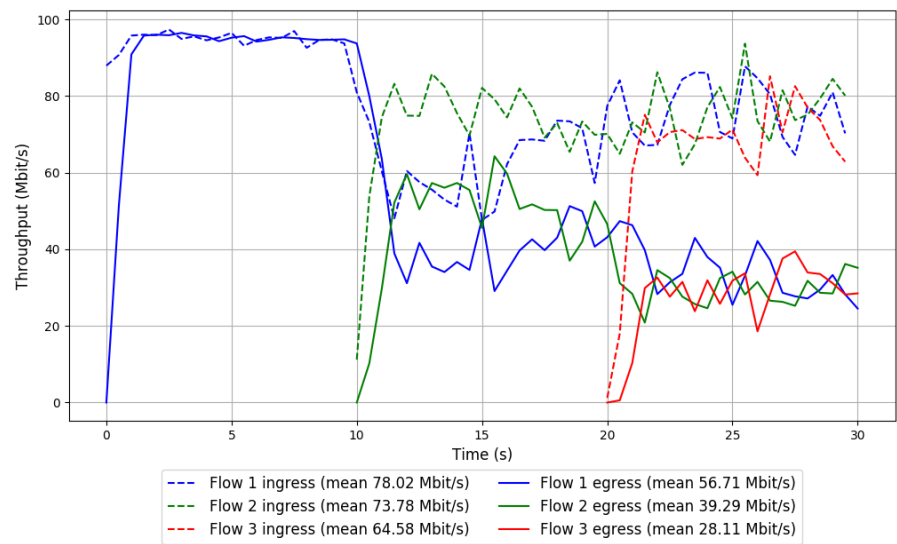
Run 3: Report of FillP — Data Link

Legend:
- Flow 1 ingress (mean 80.55 Mbit/s) — Flow 1 egress (mean 56.04 Mbit/s)
- Flow 2 ingress (mean 77.62 Mbit/s) — Flow 2 egress (mean 41.20 Mbit/s)
- Flow 3 ingress (mean 76.96 Mbit/s) — Flow 3 egress (mean 29.01 Mbit/s)

Legend:
- Flow 1 (95th percentile 45.86 ms)
- Flow 2 (95th percentile 49.05 ms)
- Flow 3 (95th percentile 49.31 ms)

```
Run 4: Statistics of FillP

Start at: 2019-07-18 00:25:30
End at: 2019-07-18 00:26:00
Local clock offset: 2.596 ms
Remote clock offset: -3.555 ms


# Below is generated by plot.py at 2019-07-18 01:17:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.90 Mbit/s
95th percentile per-packet one-way delay: 44.080 ms
Loss rate: 40.30%
-- Flow 1:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 44.010 ms
Loss rate: 28.87%
-- Flow 2:
Average throughput: 38.29 Mbit/s
95th percentile per-packet one-way delay: 43.932 ms
Loss rate: 48.62%
-- Flow 3:
Average throughput: 28.44 Mbit/s
95th percentile per-packet one-way delay: 44.746 ms
Loss rate: 61.55%
```
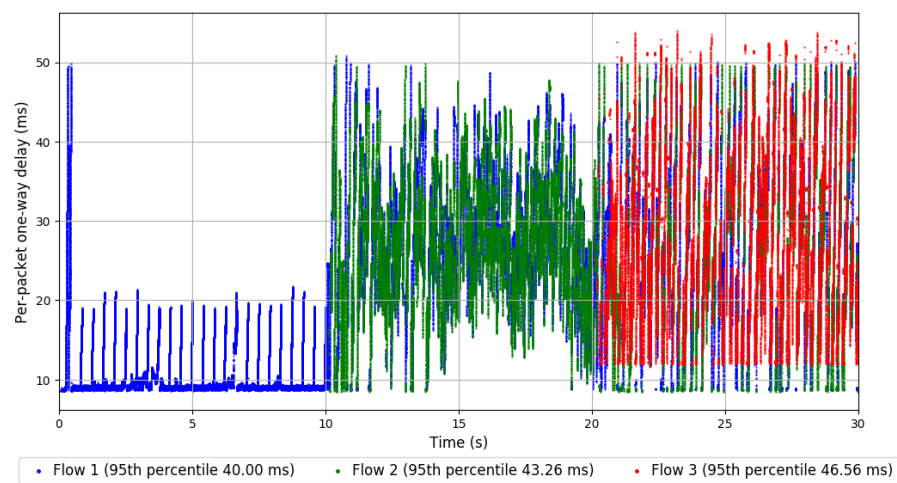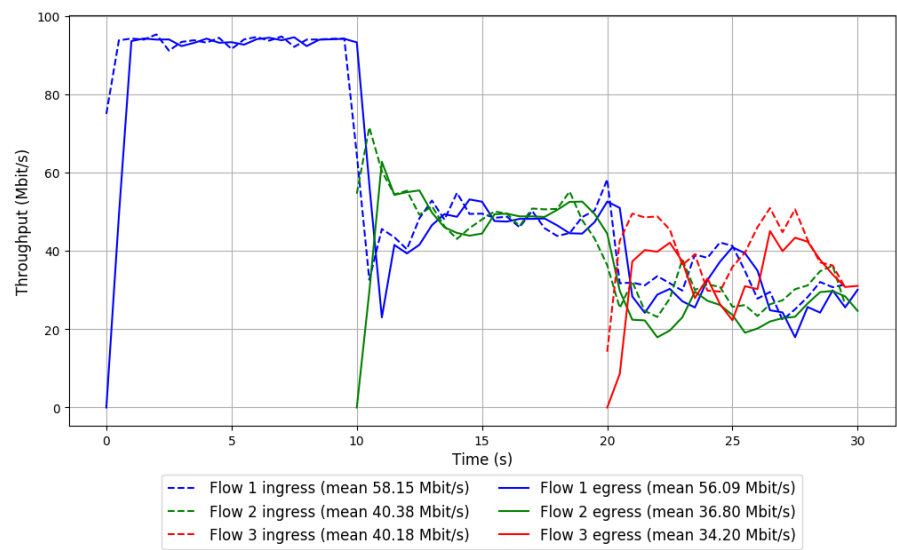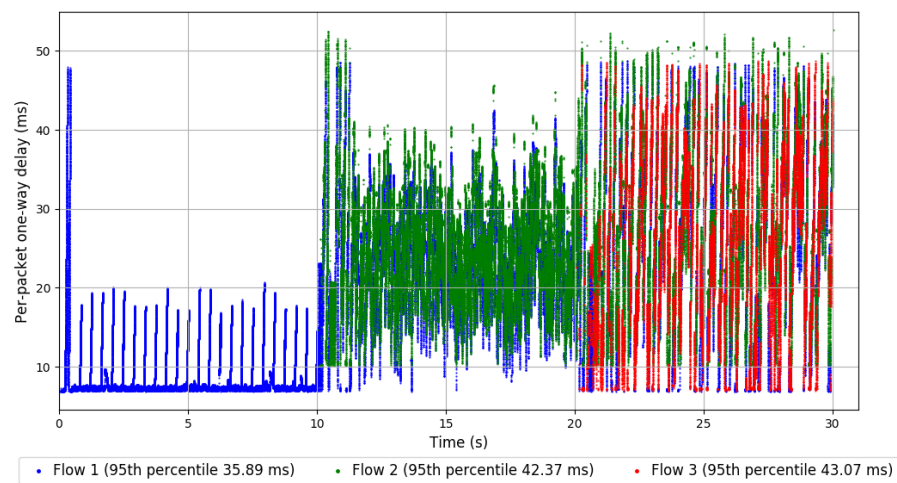
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 81.63 Mbit/s)   Flow 1 egress (mean 58.10 Mbit/s)
Flow 2 ingress (mean 74.48 Mbit/s)   Flow 2 egress (mean 38.29 Mbit/s)
Flow 3 ingress (mean 73.79 Mbit/s)   Flow 3 egress (mean 28.44 Mbit/s)

Flow 1 (95th percentile 44.01 ms)   Flow 2 (95th percentile 43.93 ms)   Flow 3 (95th percentile 44.75 ms)

```
Run 5: Statistics of FillP

Start at: 2019-07-18 00:53:41
End at: 2019-07-18 00:54:11
Local clock offset: 4.318 ms
Remote clock offset: -3.82 ms

# Below is generated by plot.py at 2019-07-18 01:18:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.11 Mbit/s
95th percentile per-packet one-way delay: 44.335 ms
Loss rate: 38.00%
-- Flow 1:
Average throughput: 56.71 Mbit/s
95th percentile per-packet one-way delay: 43.093 ms
Loss rate: 27.40%
-- Flow 2:
Average throughput: 39.29 Mbit/s
95th percentile per-packet one-way delay: 44.423 ms
Loss rate: 46.75%
-- Flow 3:
Average throughput: 28.11 Mbit/s
95th percentile per-packet one-way delay: 47.370 ms
Loss rate: 56.50%
```
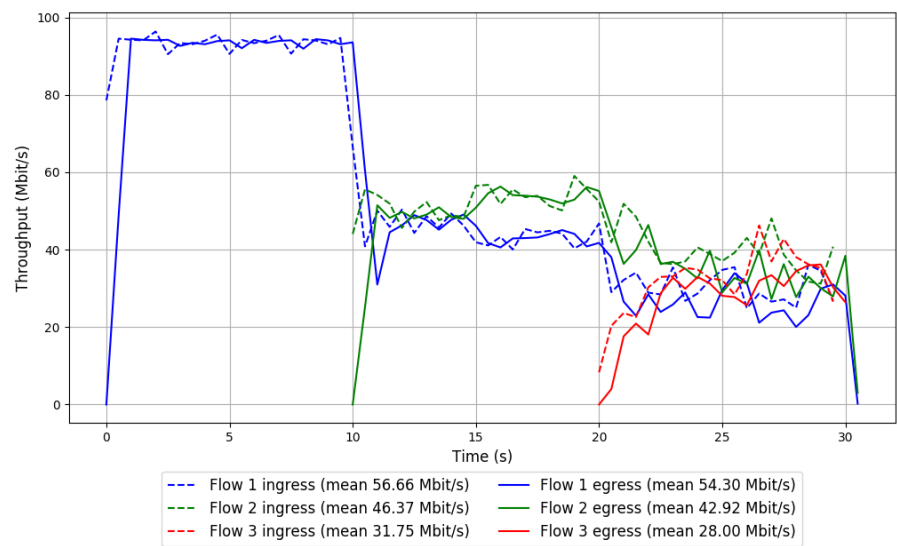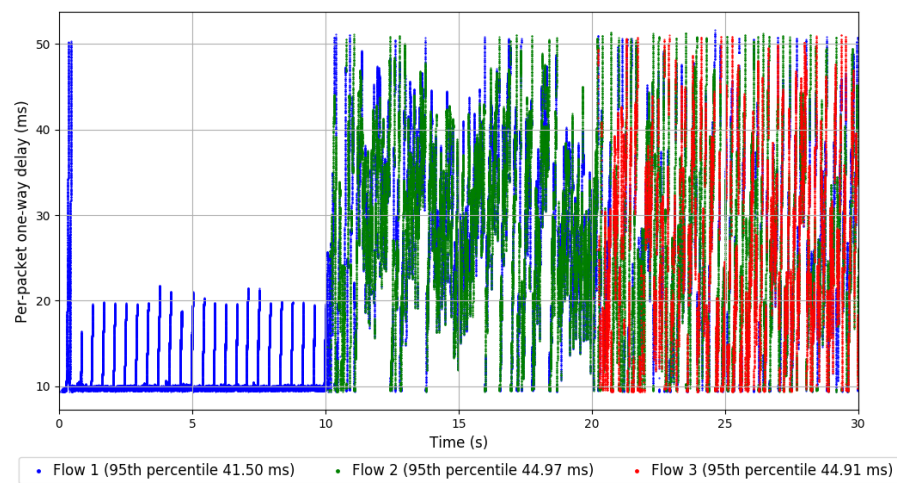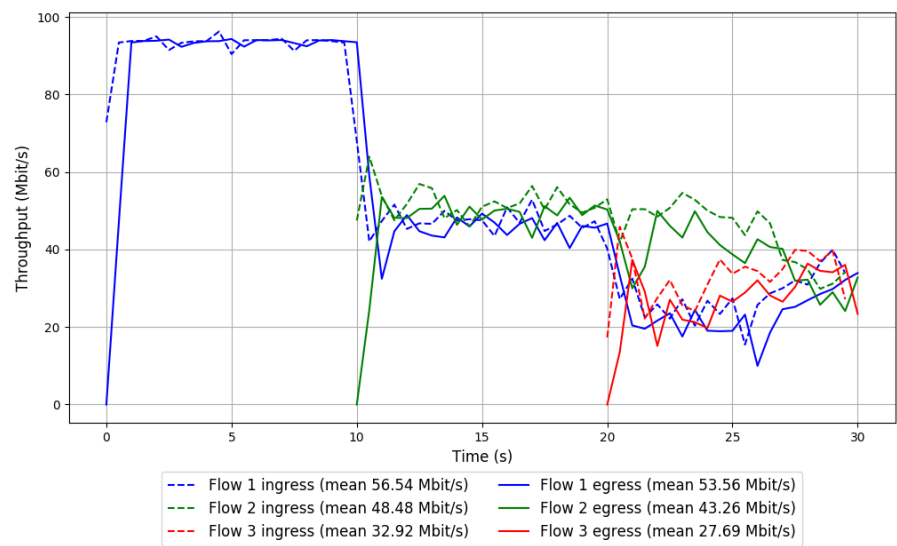
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 78.02 Mbit/s) — Flow 1 egress (mean 56.71 Mbit/s)
Flow 2 ingress (mean 73.78 Mbit/s) — Flow 2 egress (mean 39.29 Mbit/s)
Flow 3 ingress (mean 64.58 Mbit/s) — Flow 3 egress (mean 28.11 Mbit/s)

Flow 1 (95th percentile 43.09 ms)   Flow 2 (95th percentile 44.42 ms)   Flow 3 (95th percentile 47.37 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-07-17 23:17:01
End at: 2019-07-17 23:17:31
Local clock offset: 5.195 ms
Remote clock offset: -0.623 ms


# Below is generated by plot.py at 2019-07-18 01:18:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.88 Mbit/s
95th percentile per-packet one-way delay: 42.269 ms
Loss rate: 6.54%
-- Flow 1:
Average throughput: 56.09 Mbit/s
95th percentile per-packet one-way delay: 39.999 ms
Loss rate: 3.55%
-- Flow 2:
Average throughput: 36.80 Mbit/s
95th percentile per-packet one-way delay: 43.263 ms
Loss rate: 8.89%
-- Flow 3:
Average throughput: 34.20 Mbit/s
95th percentile per-packet one-way delay: 46.558 ms
Loss rate: 14.83%
```
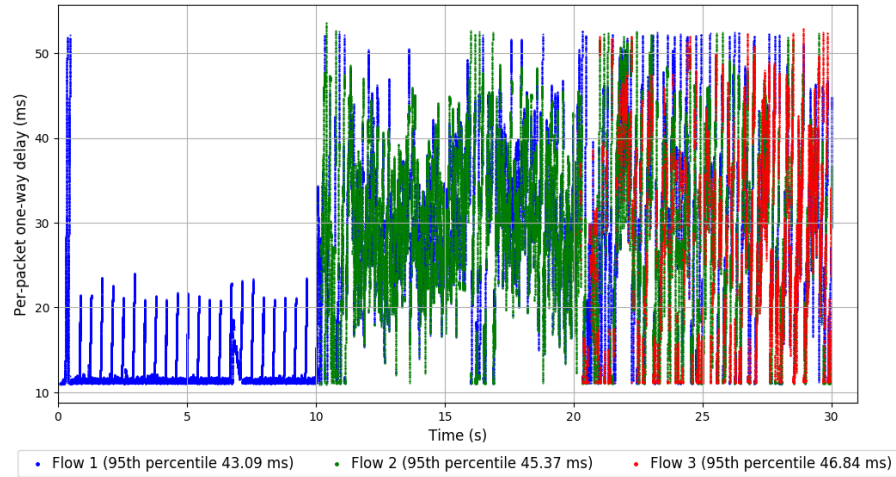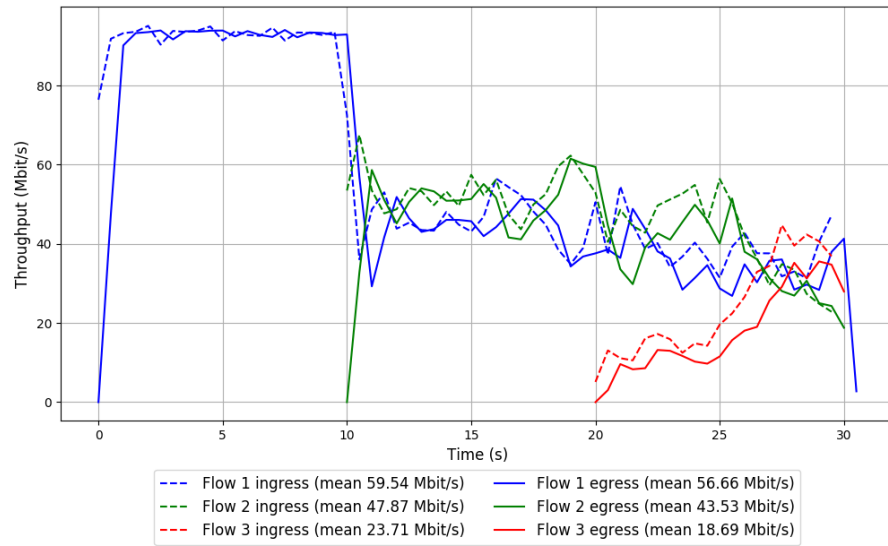
Run 1: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 58.15 Mbit/s)   Flow 1 egress (mean 56.09 Mbit/s)
Flow 2 ingress (mean 40.38 Mbit/s)   Flow 2 egress (mean 36.80 Mbit/s)
Flow 3 ingress (mean 40.18 Mbit/s)   Flow 3 egress (mean 34.20 Mbit/s)

Flow 1 (95th percentile 40.00 ms)   Flow 2 (95th percentile 43.26 ms)   Flow 3 (95th percentile 46.56 ms)

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-07-17 23:45:32
End at: 2019-07-17 23:46:02
Local clock offset: 2.779 ms
Remote clock offset: -3.158 ms


# Below is generated by plot.py at 2019-07-18 01:18:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.14 Mbit/s
95th percentile per-packet one-way delay: 40.248 ms
Loss rate: 5.90%
-- Flow 1:
Average throughput: 54.30 Mbit/s
95th percentile per-packet one-way delay: 35.894 ms
Loss rate: 4.08%
-- Flow 2:
Average throughput: 42.92 Mbit/s
95th percentile per-packet one-way delay: 42.366 ms
Loss rate: 7.28%
-- Flow 3:
Average throughput: 28.00 Mbit/s
95th percentile per-packet one-way delay: 43.074 ms
Loss rate: 11.65%
```
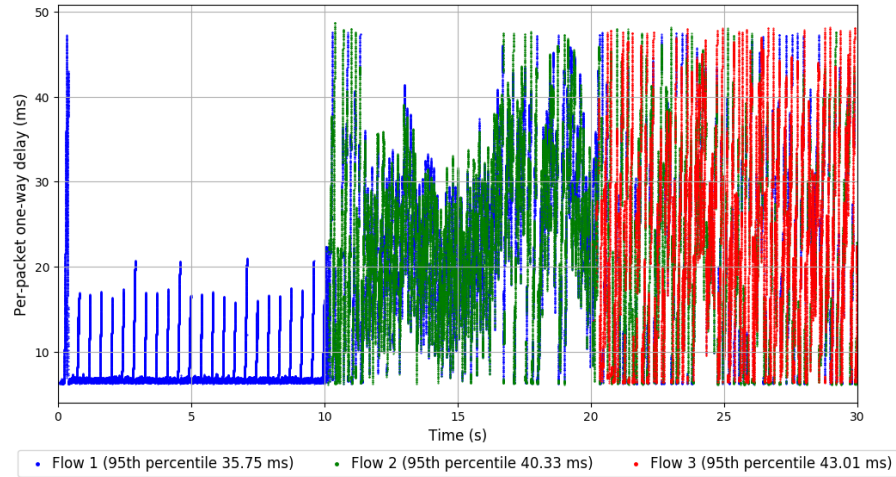
Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 56.66 Mbit/s) --- Flow 1 egress (mean 54.30 Mbit/s)
Flow 2 ingress (mean 46.37 Mbit/s) --- Flow 2 egress (mean 42.92 Mbit/s)
Flow 3 ingress (mean 31.75 Mbit/s) --- Flow 3 egress (mean 28.00 Mbit/s)

Flow 1 (95th percentile 35.89 ms)   Flow 2 (95th percentile 42.37 ms)   Flow 3 (95th percentile 43.07 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-07-18 00:13:47
End at: 2019-07-18 00:14:17
Local clock offset: 3.497 ms
Remote clock offset: -2.384 ms


# Below is generated by plot.py at 2019-07-18 01:18:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.49 Mbit/s
95th percentile per-packet one-way delay: 43.462 ms
Loss rate: 8.20%
-- Flow 1:
Average throughput: 53.56 Mbit/s
95th percentile per-packet one-way delay: 41.499 ms
Loss rate: 5.26%
-- Flow 2:
Average throughput: 43.26 Mbit/s
95th percentile per-packet one-way delay: 44.967 ms
Loss rate: 10.71%
-- Flow 3:
Average throughput: 27.69 Mbit/s
95th percentile per-packet one-way delay: 44.911 ms
Loss rate: 15.95%
```
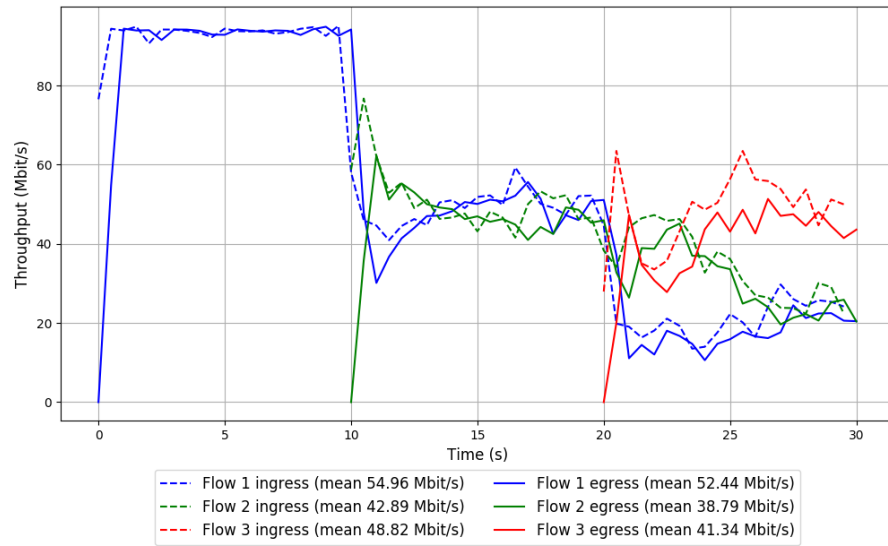
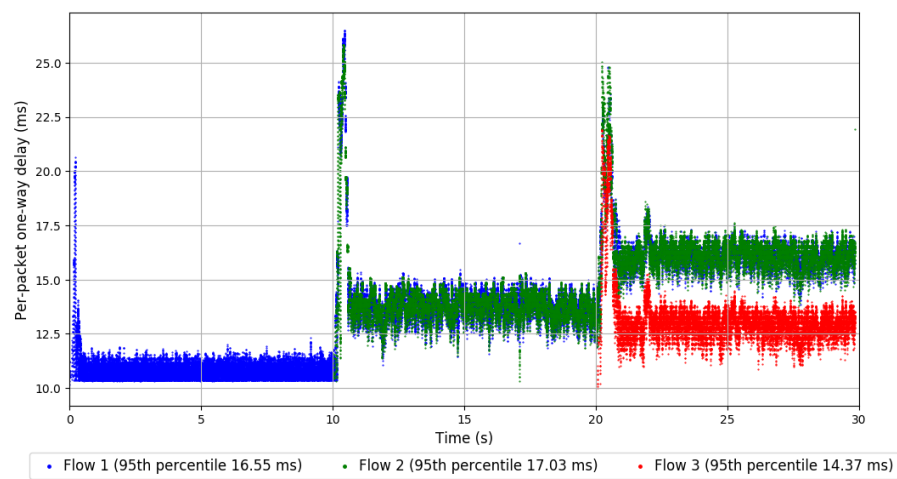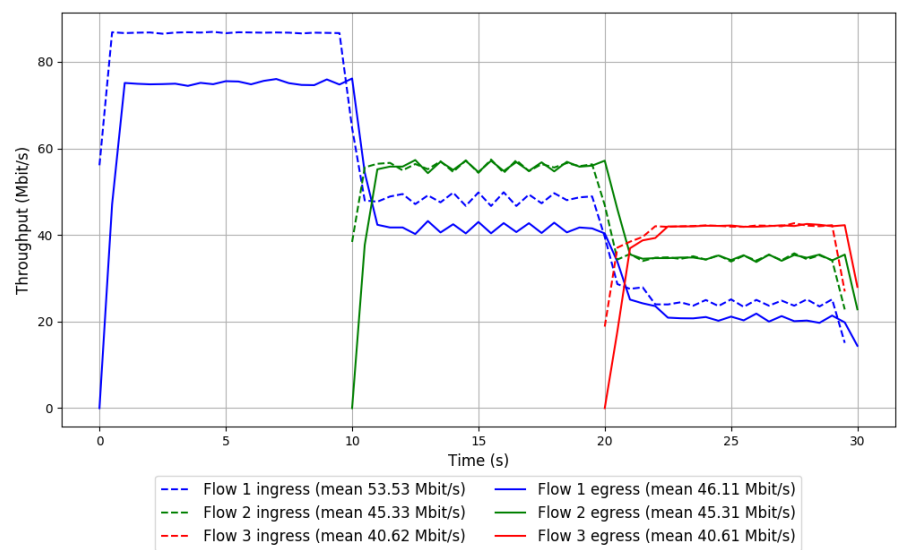Run 3: Report of FillP-Sheep — Data Link

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-07-18 00:42:00
End at: 2019-07-18 00:42:30
Local clock offset: 4.178 ms
Remote clock offset: -1.342 ms


# Below is generated by plot.py at 2019-07-18 01:19:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.82 Mbit/s
95th percentile per-packet one-way delay: 44.588 ms
Loss rate: 7.40%
-- Flow 1:
Average throughput: 56.66 Mbit/s
95th percentile per-packet one-way delay: 43.086 ms
Loss rate: 4.73%
-- Flow 2:
Average throughput: 43.53 Mbit/s
95th percentile per-packet one-way delay: 45.368 ms
Loss rate: 8.99%
-- Flow 3:
Average throughput: 18.69 Mbit/s
95th percentile per-packet one-way delay: 46.837 ms
Loss rate: 21.15%
```
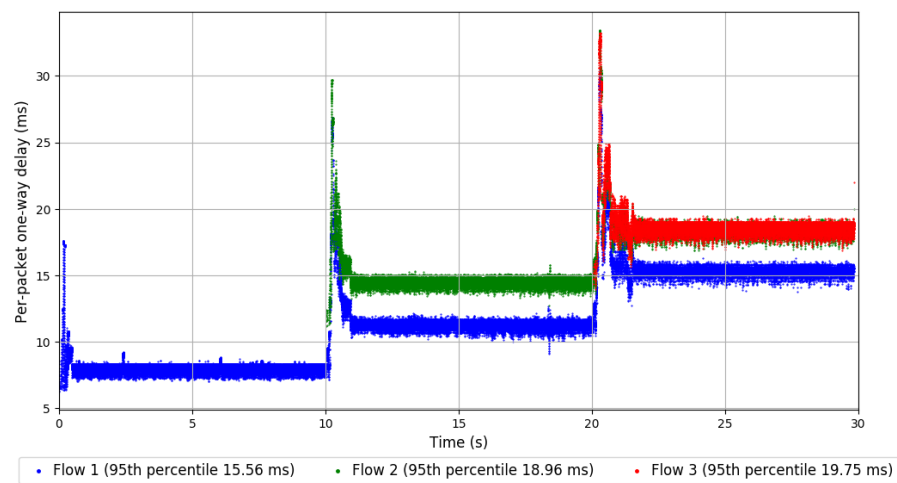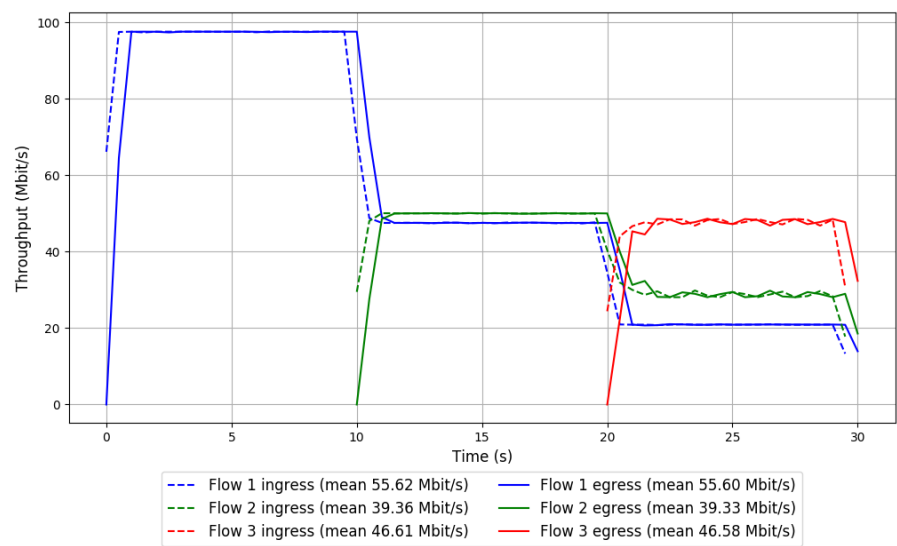
Run 4: Report of FillP-Sheep — Data Link

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-07-18 01:10:08
End at: 2019-07-18 01:10:38
Local clock offset: 0.239 ms
Remote clock offset: -3.12 ms


# Below is generated by plot.py at 2019-07-18 01:19:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.91 Mbit/s
95th percentile per-packet one-way delay: 39.193 ms
Loss rate: 7.75%
-- Flow 1:
Average throughput: 52.44 Mbit/s
95th percentile per-packet one-way delay: 35.753 ms
Loss rate: 4.59%
-- Flow 2:
Average throughput: 38.79 Mbit/s
95th percentile per-packet one-way delay: 40.333 ms
Loss rate: 9.52%
-- Flow 3:
Average throughput: 41.34 Mbit/s
95th percentile per-packet one-way delay: 43.008 ms
Loss rate: 15.36%
```

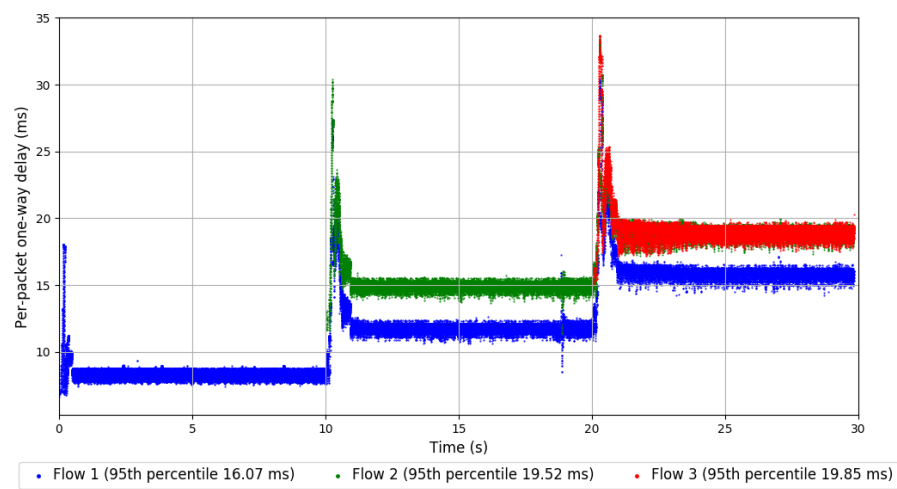Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2019-07-17 23:06:20
End at: 2019-07-17 23:06:50
Local clock offset: 3.849 ms
Remote clock offset: -2.79 ms


# Below is generated by plot.py at 2019-07-18 01:19:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.47 Mbit/s
95th percentile per-packet one-way delay: 16.757 ms
Loss rate: 7.65%
-- Flow 1:
Average throughput: 46.11 Mbit/s
95th percentile per-packet one-way delay: 16.548 ms
Loss rate: 13.84%
-- Flow 2:
Average throughput: 45.31 Mbit/s
95th percentile per-packet one-way delay: 17.028 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 40.61 Mbit/s
95th percentile per-packet one-way delay: 14.374 ms
Loss rate: 0.00%
```
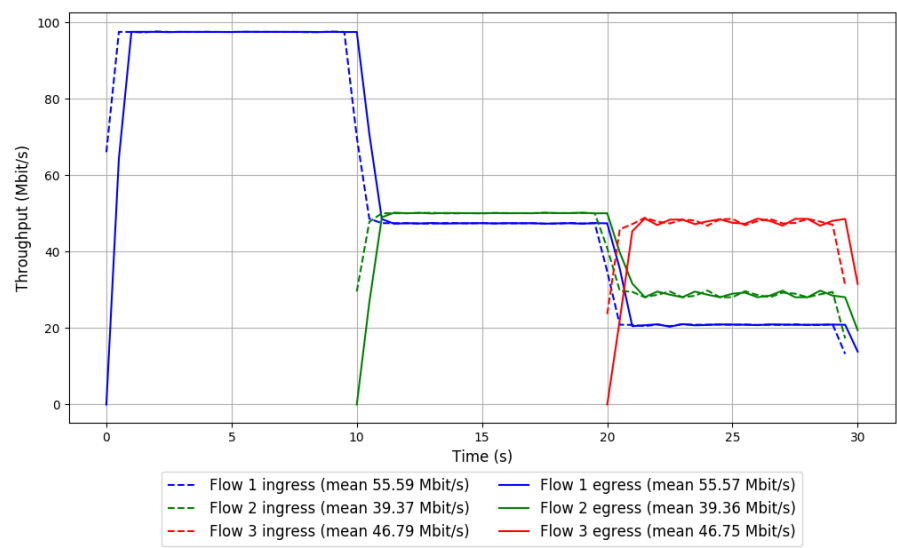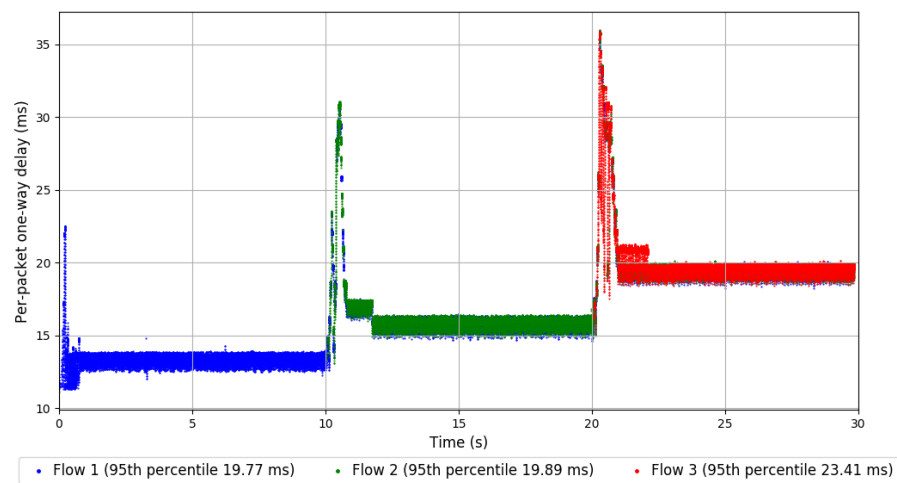
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-07-17 23:34:56
End at: 2019-07-17 23:35:26
Local clock offset: 4.173 ms
Remote clock offset: -3.042 ms


# Below is generated by plot.py at 2019-07-18 01:19:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.98 Mbit/s
95th percentile per-packet one-way delay: 18.930 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 55.60 Mbit/s
95th percentile per-packet one-way delay: 15.562 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.33 Mbit/s
95th percentile per-packet one-way delay: 18.962 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 46.58 Mbit/s
95th percentile per-packet one-way delay: 19.746 ms
Loss rate: 0.01%
```
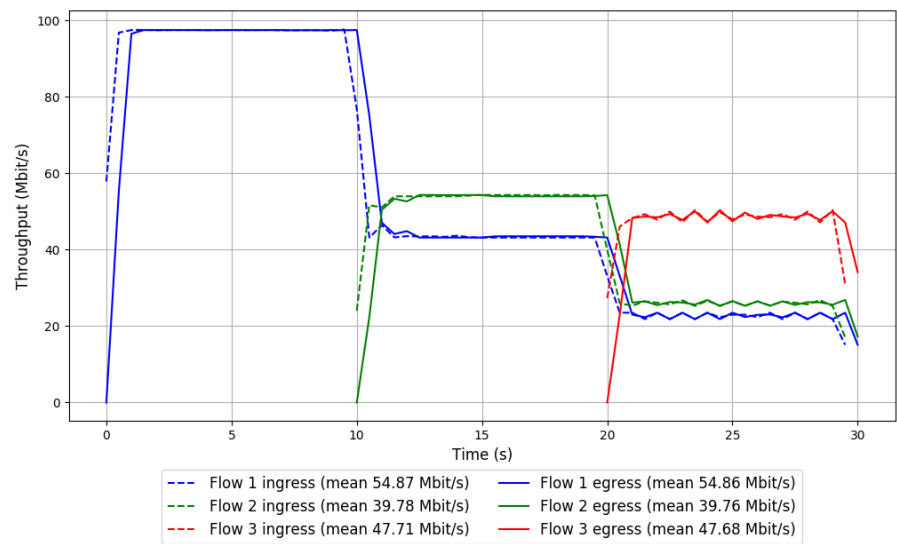
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 55.62 Mbit/s) — Flow 1 egress (mean 55.60 Mbit/s)
Flow 2 ingress (mean 39.36 Mbit/s) — Flow 2 egress (mean 39.33 Mbit/s)
Flow 3 ingress (mean 46.61 Mbit/s) — Flow 3 egress (mean 46.58 Mbit/s)

Flow 1 (95th percentile 15.56 ms)   Flow 2 (95th percentile 18.96 ms)   Flow 3 (95th percentile 19.75 ms)

58

```
Run 3: Statistics of Indigo

Start at: 2019-07-18 00:03:10
End at: 2019-07-18 00:03:40
Local clock offset: 3.001 ms
Remote clock offset: -2.665 ms


# Below is generated by plot.py at 2019-07-18 01:19:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.99 Mbit/s
95th percentile per-packet one-way delay: 19.425 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 55.57 Mbit/s
95th percentile per-packet one-way delay: 16.072 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.36 Mbit/s
95th percentile per-packet one-way delay: 19.519 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 46.75 Mbit/s
95th percentile per-packet one-way delay: 19.853 ms
Loss rate: 0.05%
```
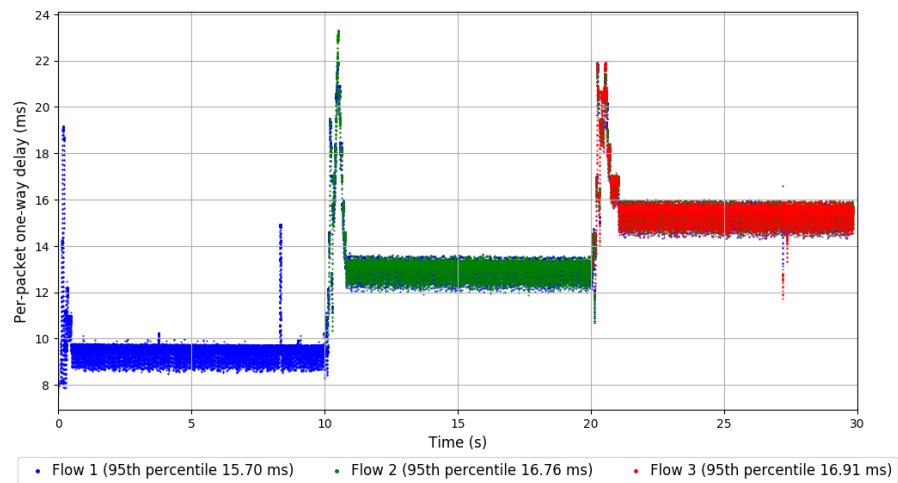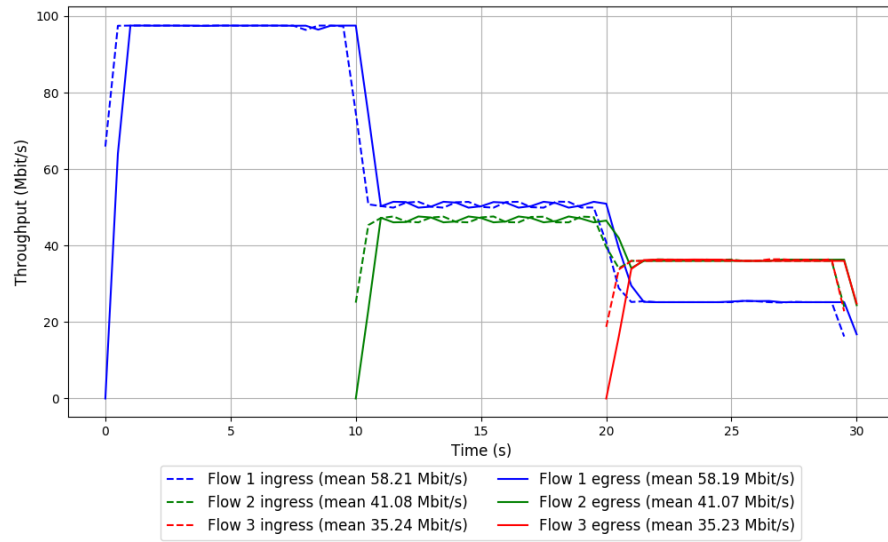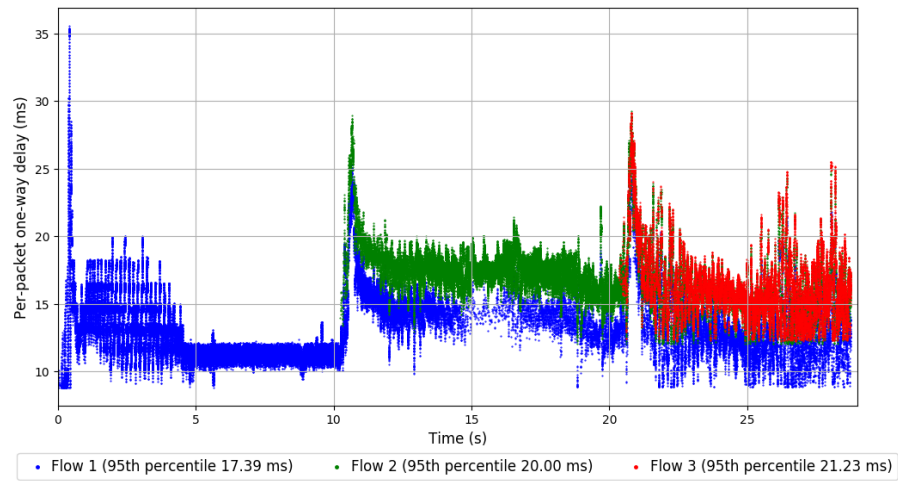
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-07-18 00:31:26
End at: 2019-07-18 00:31:56
Local clock offset: 3.66 ms
Remote clock offset: -1.012 ms


# Below is generated by plot.py at 2019-07-18 01:19:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.84 Mbit/s
95th percentile per-packet one-way delay: 19.889 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 54.86 Mbit/s
95th percentile per-packet one-way delay: 19.772 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 39.76 Mbit/s
95th percentile per-packet one-way delay: 19.887 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 47.68 Mbit/s
95th percentile per-packet one-way delay: 23.411 ms
Loss rate: 0.05%
```
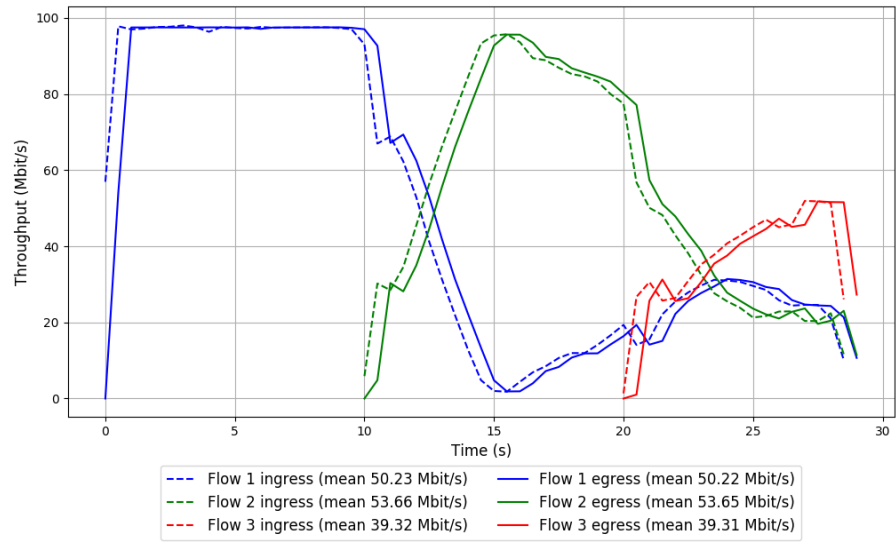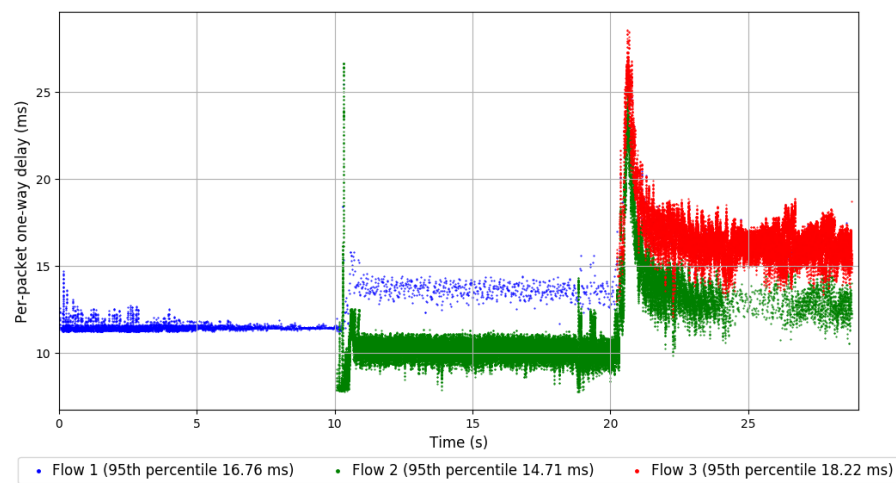
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 54.87 Mbit/s) --- Flow 1 egress (mean 54.86 Mbit/s)
Flow 2 ingress (mean 39.78 Mbit/s) --- Flow 2 egress (mean 39.76 Mbit/s)
Flow 3 ingress (mean 47.71 Mbit/s) --- Flow 3 egress (mean 47.68 Mbit/s)

• Flow 1 (95th percentile 19.77 ms)   • Flow 2 (95th percentile 19.89 ms)   • Flow 3 (95th percentile 23.41 ms)

```
Run 5: Statistics of Indigo

Start at: 2019-07-18 00:59:36
End at: 2019-07-18 01:00:06
Local clock offset: 2.638 ms
Remote clock offset: -1.62 ms


# Below is generated by plot.py at 2019-07-18 01:19:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.97 Mbit/s
95th percentile per-packet one-way delay: 15.779 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.19 Mbit/s
95th percentile per-packet one-way delay: 15.699 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 41.07 Mbit/s
95th percentile per-packet one-way delay: 16.764 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.23 Mbit/s
95th percentile per-packet one-way delay: 16.907 ms
Loss rate: 0.00%
```
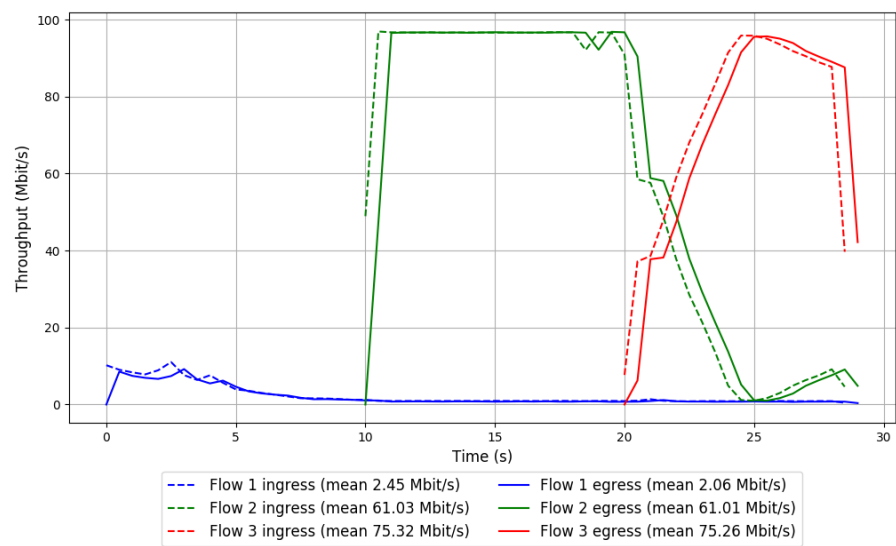
Run 5: Report of Indigo — Data Link

Flow 1 ingress (mean 58.21 Mbit/s) — Flow 1 egress (mean 58.19 Mbit/s)
Flow 2 ingress (mean 41.08 Mbit/s) — Flow 2 egress (mean 41.07 Mbit/s)
Flow 3 ingress (mean 35.24 Mbit/s) — Flow 3 egress (mean 35.23 Mbit/s)

Flow 1 (95th percentile 15.70 ms)   Flow 2 (95th percentile 16.76 ms)   Flow 3 (95th percentile 16.91 ms)

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-07-17 23:01:34
End at: 2019-07-17 23:02:04
Local clock offset: 2.326 ms
Remote clock offset: -1.974 ms


# Below is generated by plot.py at 2019-07-18 01:19:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.31 Mbit/s
95th percentile per-packet one-way delay: 19.341 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 50.22 Mbit/s
95th percentile per-packet one-way delay: 17.392 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 53.65 Mbit/s
95th percentile per-packet one-way delay: 20.001 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 39.31 Mbit/s
95th percentile per-packet one-way delay: 21.233 ms
Loss rate: 0.07%
```
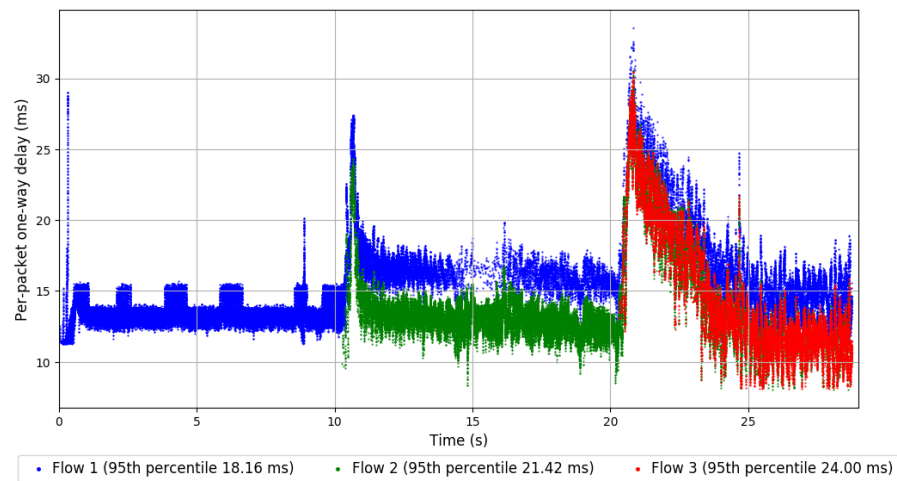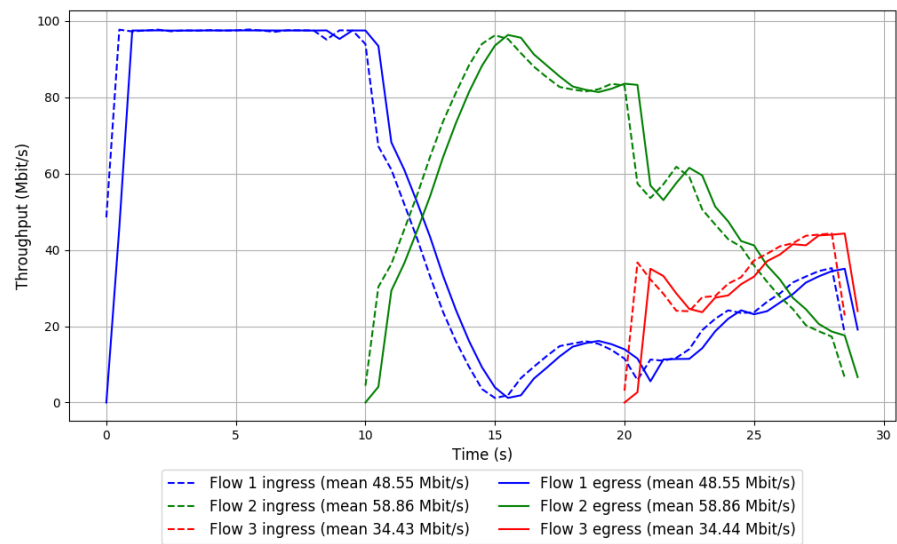
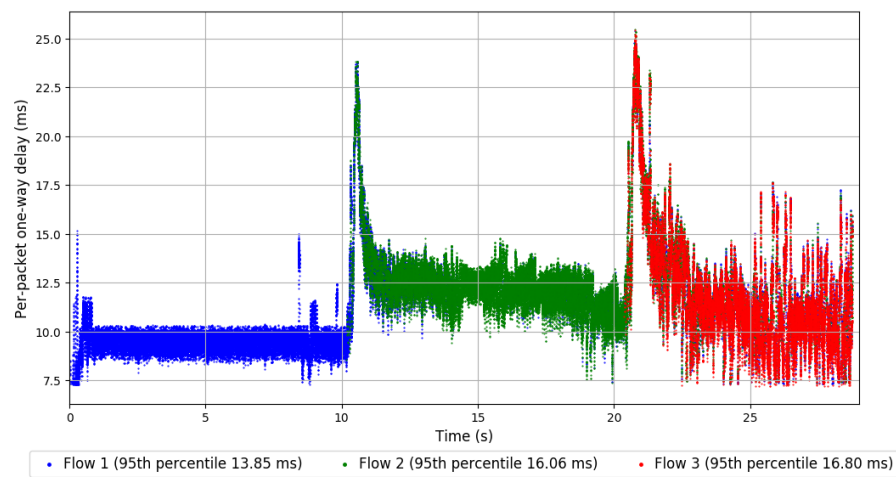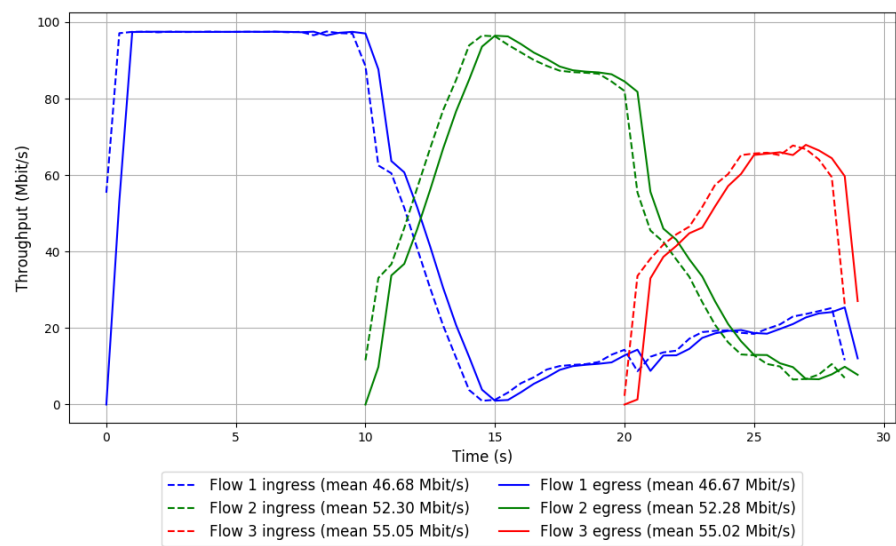Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-07-17 23:30:01
End at: 2019-07-17 23:30:31
Local clock offset: 4.375 ms
Remote clock offset: -1.807 ms


# Below is generated by plot.py at 2019-07-18 01:19:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.17 Mbit/s
95th percentile per-packet one-way delay: 17.552 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 16.759 ms
Loss rate: 15.92%
-- Flow 2:
Average throughput: 61.01 Mbit/s
95th percentile per-packet one-way delay: 14.706 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 75.26 Mbit/s
95th percentile per-packet one-way delay: 18.216 ms
Loss rate: 0.04%
```
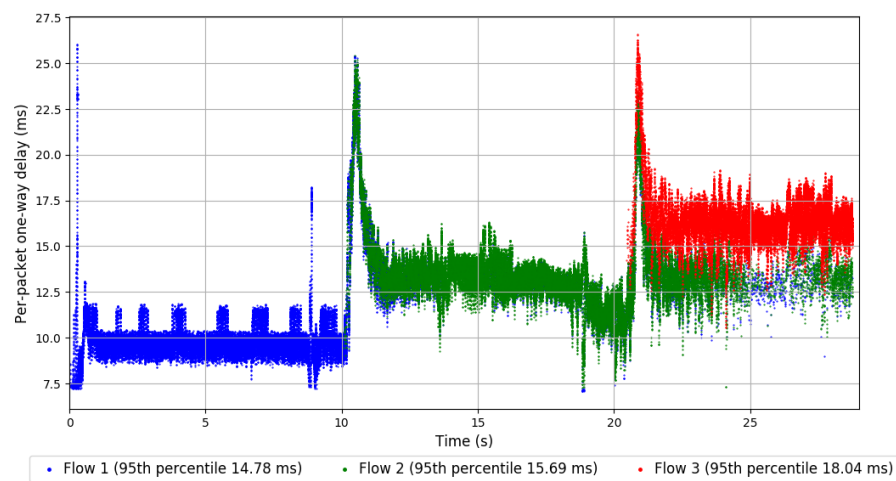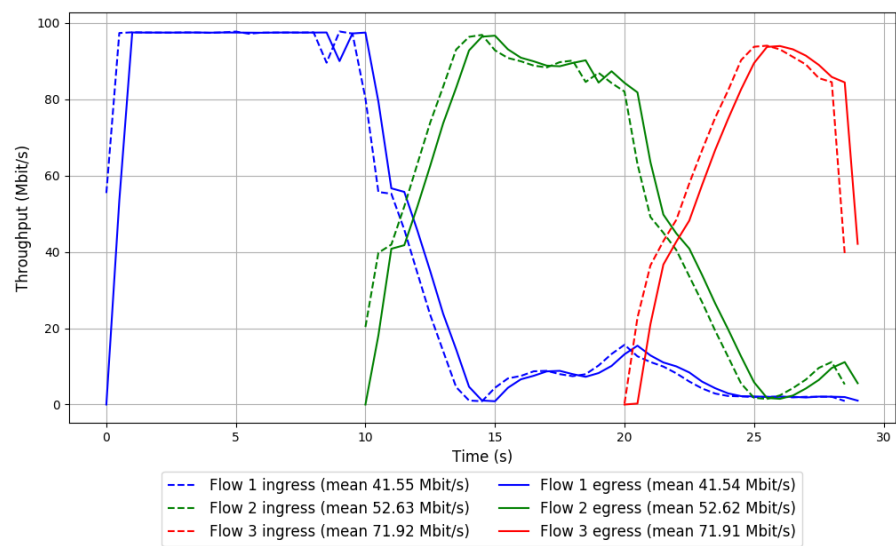
Run 2: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 2.45 Mbit/s) — Flow 1 egress (mean 2.06 Mbit/s)
Flow 2 ingress (mean 61.03 Mbit/s) — Flow 2 egress (mean 61.01 Mbit/s)
Flow 3 ingress (mean 75.32 Mbit/s) — Flow 3 egress (mean 75.26 Mbit/s)

Flow 1 (95th percentile 16.76 ms) · Flow 2 (95th percentile 14.71 ms) · Flow 3 (95th percentile 18.22 ms)
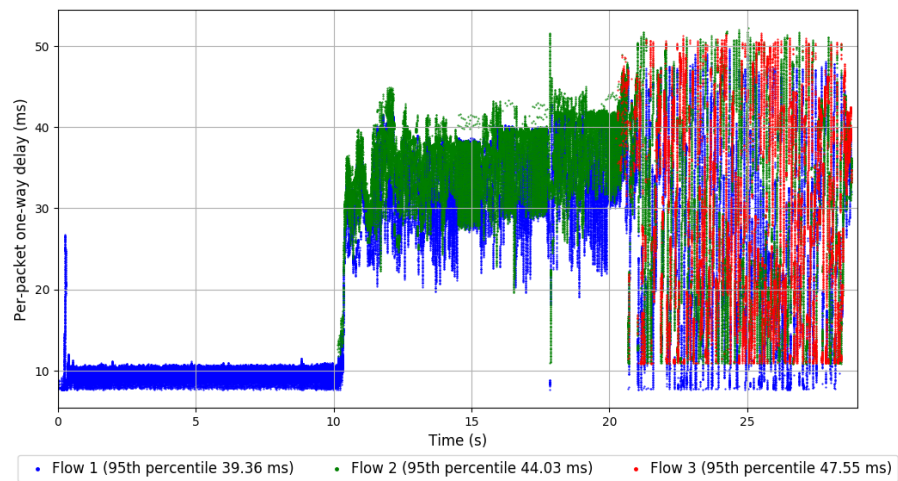
```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-07-17 23:58:26
End at: 2019-07-17 23:58:56
Local clock offset: 3.131 ms
Remote clock offset: -1.5 ms


# Below is generated by plot.py at 2019-07-18 01:20:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.51 Mbit/s
95th percentile per-packet one-way delay: 20.741 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.55 Mbit/s
95th percentile per-packet one-way delay: 18.156 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 58.86 Mbit/s
95th percentile per-packet one-way delay: 21.424 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.44 Mbit/s
95th percentile per-packet one-way delay: 23.997 ms
Loss rate: 0.00%
```
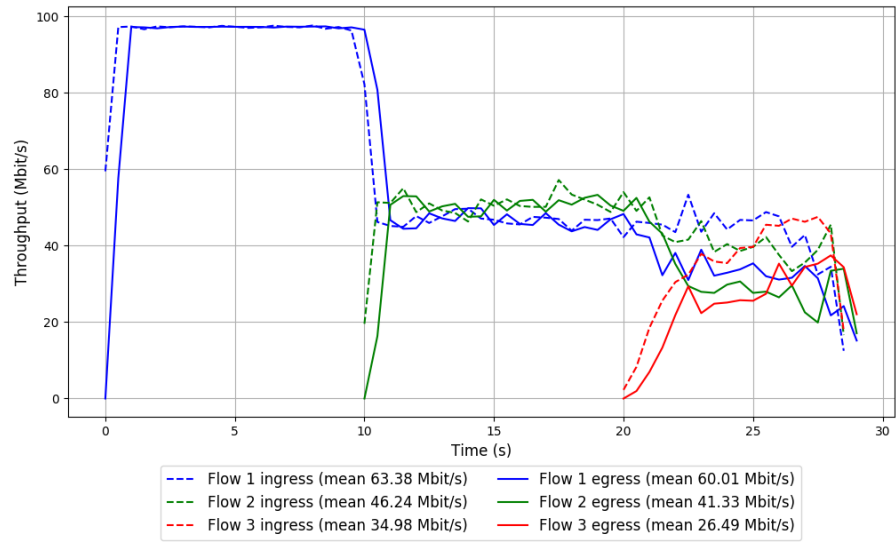
Run 3: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 48.55 Mbit/s) --- Flow 1 egress (mean 48.55 Mbit/s)
Flow 2 ingress (mean 58.86 Mbit/s) --- Flow 2 egress (mean 58.86 Mbit/s)
Flow 3 ingress (mean 34.43 Mbit/s) --- Flow 3 egress (mean 34.44 Mbit/s)

Flow 1 (95th percentile 18.16 ms)   Flow 2 (95th percentile 21.42 ms)   Flow 3 (95th percentile 24.00 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-07-18 00:26:42
End at: 2019-07-18 00:27:12
Local clock offset: 2.777 ms
Remote clock offset: -2.326 ms


# Below is generated by plot.py at 2019-07-18 01:20:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.52 Mbit/s
95th percentile per-packet one-way delay: 15.259 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.67 Mbit/s
95th percentile per-packet one-way delay: 13.846 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 52.28 Mbit/s
95th percentile per-packet one-way delay: 16.060 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 55.02 Mbit/s
95th percentile per-packet one-way delay: 16.800 ms
Loss rate: 0.00%
```

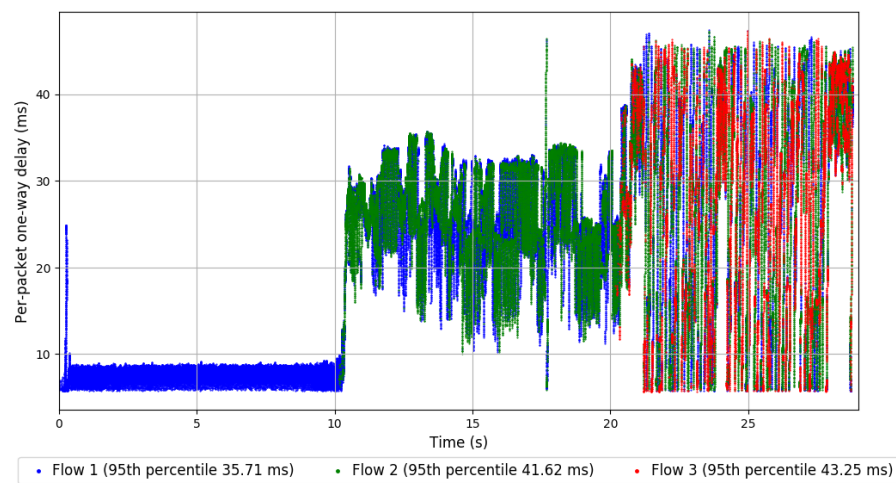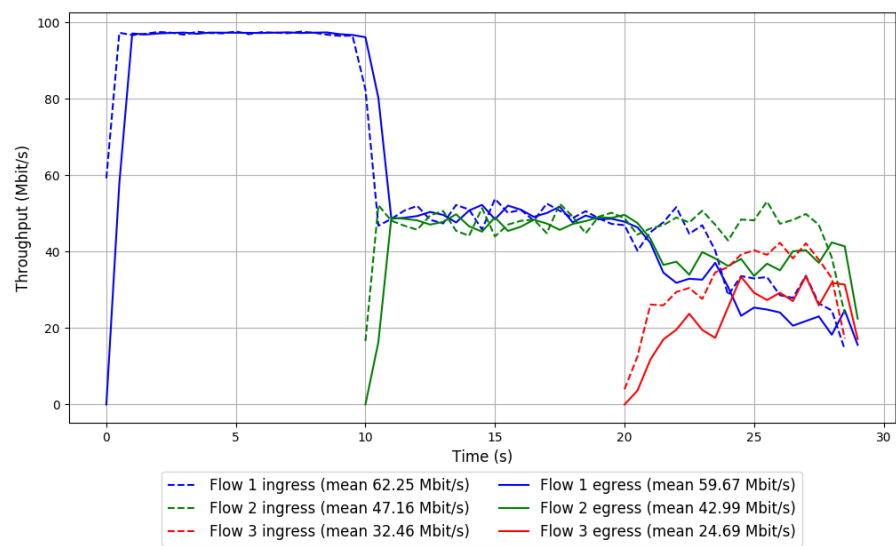Run 4: Report of Indigo-MusesC3 — Data Link

- - - Flow 1 ingress (mean 46.68 Mbit/s) ——— Flow 1 egress (mean 46.67 Mbit/s)
- - - Flow 2 ingress (mean 52.30 Mbit/s) ——— Flow 2 egress (mean 52.28 Mbit/s)
- - - Flow 3 ingress (mean 55.05 Mbit/s) ——— Flow 3 egress (mean 55.02 Mbit/s)

- Flow 1 (95th percentile 13.85 ms)   • Flow 2 (95th percentile 16.06 ms)   • Flow 3 (95th percentile 16.80 ms)
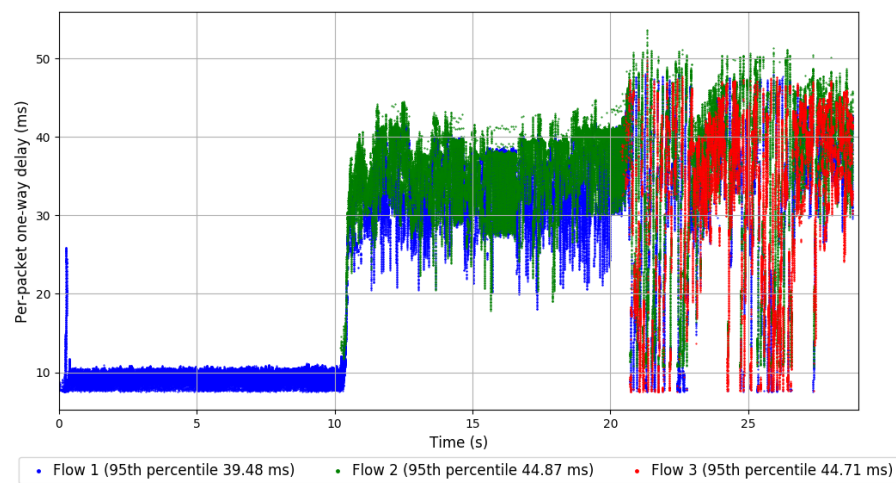
72

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-07-18 00:54:52
End at: 2019-07-18 00:55:22
Local clock offset: 5.692 ms
Remote clock offset: -1.071 ms


# Below is generated by plot.py at 2019-07-18 01:20:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.50 Mbit/s
95th percentile per-packet one-way delay: 17.357 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 41.54 Mbit/s
95th percentile per-packet one-way delay: 14.775 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 52.62 Mbit/s
95th percentile per-packet one-way delay: 15.686 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 71.91 Mbit/s
95th percentile per-packet one-way delay: 18.040 ms
Loss rate: 0.00%
```

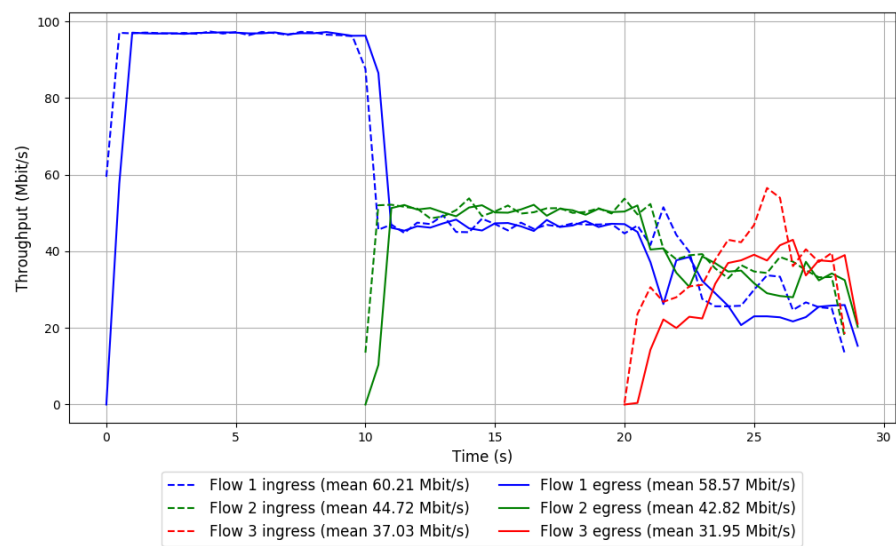Run 5: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-07-17 23:14:41
End at: 2019-07-17 23:15:11
Local clock offset: 5.173 ms
Remote clock offset: -1.415 ms


# Below is generated by plot.py at 2019-07-18 01:20:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.66 Mbit/s
95th percentile per-packet one-way delay: 42.055 ms
Loss rate: 8.69%
-- Flow 1:
Average throughput: 60.01 Mbit/s
95th percentile per-packet one-way delay: 39.363 ms
Loss rate: 5.25%
-- Flow 2:
Average throughput: 41.33 Mbit/s
95th percentile per-packet one-way delay: 44.031 ms
Loss rate: 10.53%
-- Flow 3:
Average throughput: 26.49 Mbit/s
95th percentile per-packet one-way delay: 47.545 ms
Loss rate: 24.31%
```

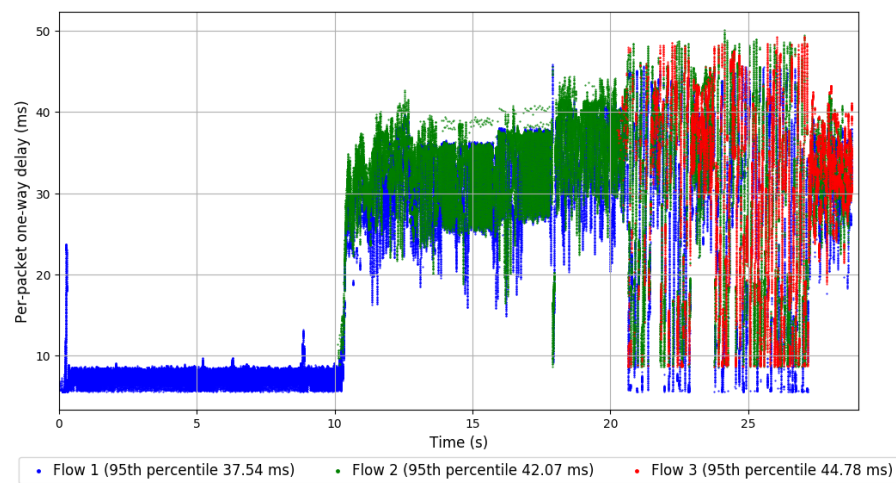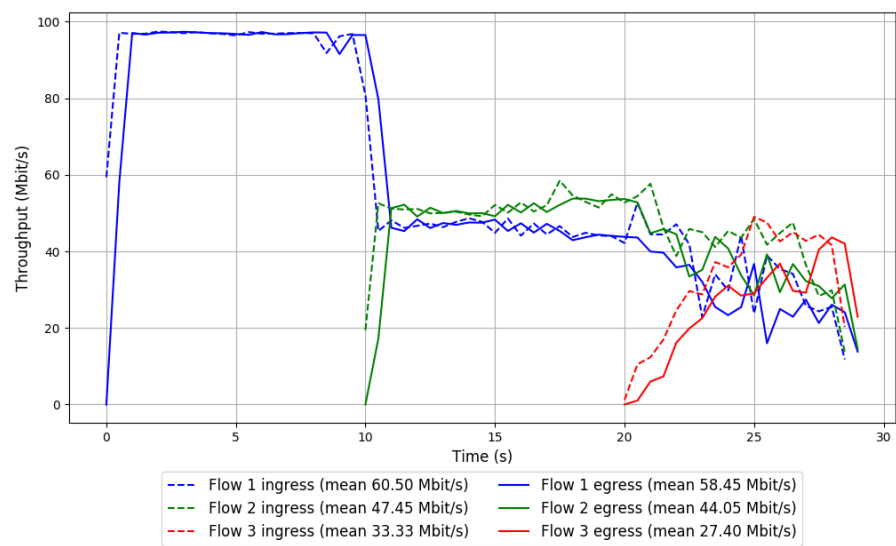Run 1: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 63.38 Mbit/s) —— Flow 1 egress (mean 60.01 Mbit/s)
- - - Flow 2 ingress (mean 46.24 Mbit/s) —— Flow 2 egress (mean 41.33 Mbit/s)
- - - Flow 3 ingress (mean 34.98 Mbit/s) —— Flow 3 egress (mean 26.49 Mbit/s)

• Flow 1 (95th percentile 39.36 ms)   • Flow 2 (95th percentile 44.03 ms)   • Flow 3 (95th percentile 47.55 ms)

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-07-17 23:43:13
End at: 2019-07-17 23:43:43
Local clock offset: 3.741 ms
Remote clock offset: -3.604 ms

# Below is generated by plot.py at 2019-07-18 01:20:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.89 Mbit/s
95th percentile per-packet one-way delay: 39.869 ms
Loss rate: 7.28%
-- Flow 1:
Average throughput: 59.67 Mbit/s
95th percentile per-packet one-way delay: 35.713 ms
Loss rate: 4.03%
-- Flow 2:
Average throughput: 42.99 Mbit/s
95th percentile per-packet one-way delay: 41.619 ms
Loss rate: 8.67%
-- Flow 3:
Average throughput: 24.69 Mbit/s
95th percentile per-packet one-way delay: 43.254 ms
Loss rate: 23.73%
```

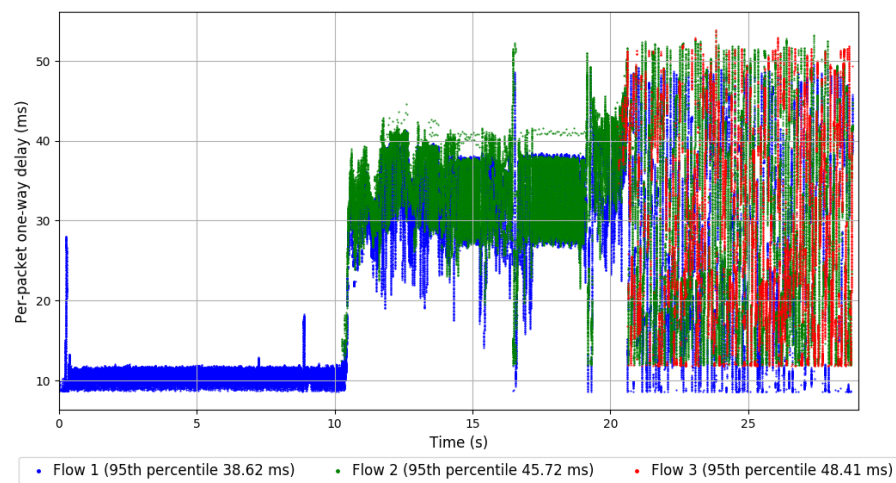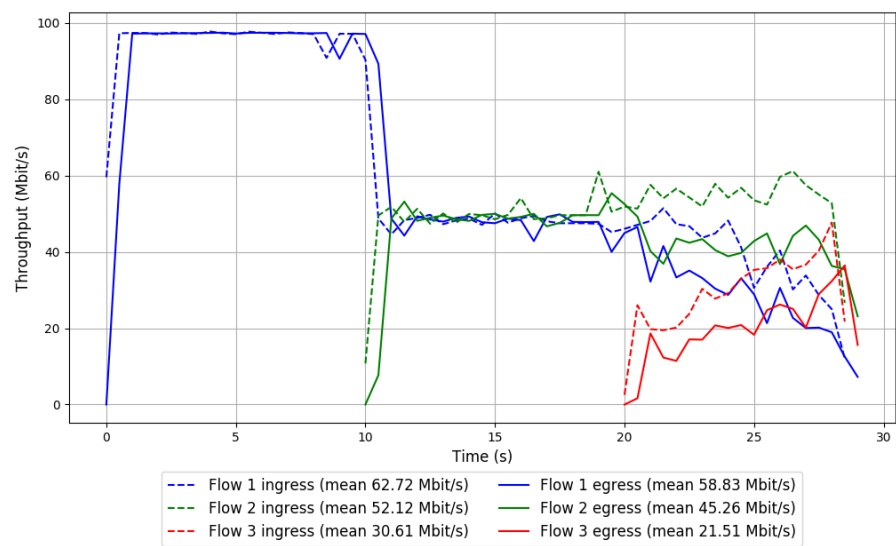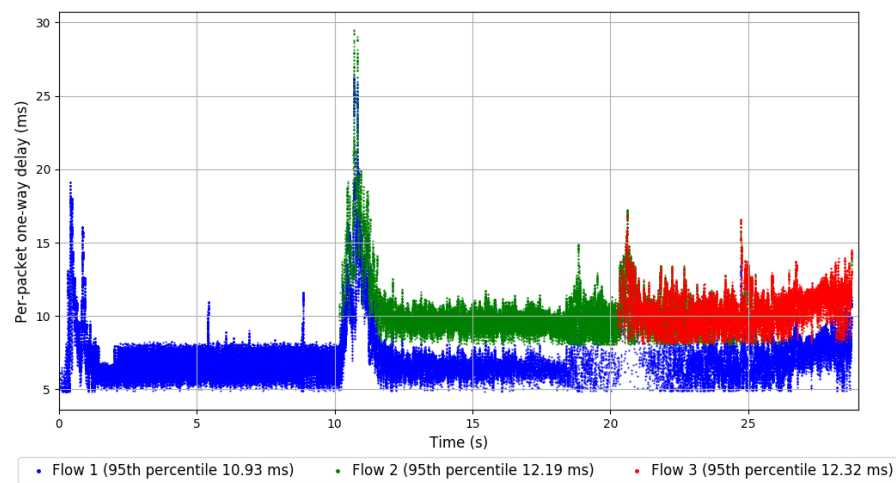Run 2: Report of Indigo-MusesC5 — Data Link

- - - - Flow 1 ingress (mean 62.25 Mbit/s) —— Flow 1 egress (mean 59.67 Mbit/s)
- - - - Flow 2 ingress (mean 47.16 Mbit/s) —— Flow 2 egress (mean 42.99 Mbit/s)
- - - - Flow 3 ingress (mean 32.46 Mbit/s) —— Flow 3 egress (mean 24.69 Mbit/s)

• Flow 1 (95th percentile 35.71 ms)   • Flow 2 (95th percentile 41.62 ms)   • Flow 3 (95th percentile 43.25 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-07-18 00:11:28
End at: 2019-07-18 00:11:58
Local clock offset: 3.056 ms
Remote clock offset: -1.765 ms


# Below is generated by plot.py at 2019-07-18 01:20:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.57 Mbit/s
95th percentile per-packet one-way delay: 42.586 ms
Loss rate: 4.24%
-- Flow 1:
Average throughput: 58.57 Mbit/s
95th percentile per-packet one-way delay: 39.483 ms
Loss rate: 2.60%
-- Flow 2:
Average throughput: 42.82 Mbit/s
95th percentile per-packet one-way delay: 44.870 ms
Loss rate: 4.09%
-- Flow 3:
Average throughput: 31.95 Mbit/s
95th percentile per-packet one-way delay: 44.708 ms
Loss rate: 13.70%
```

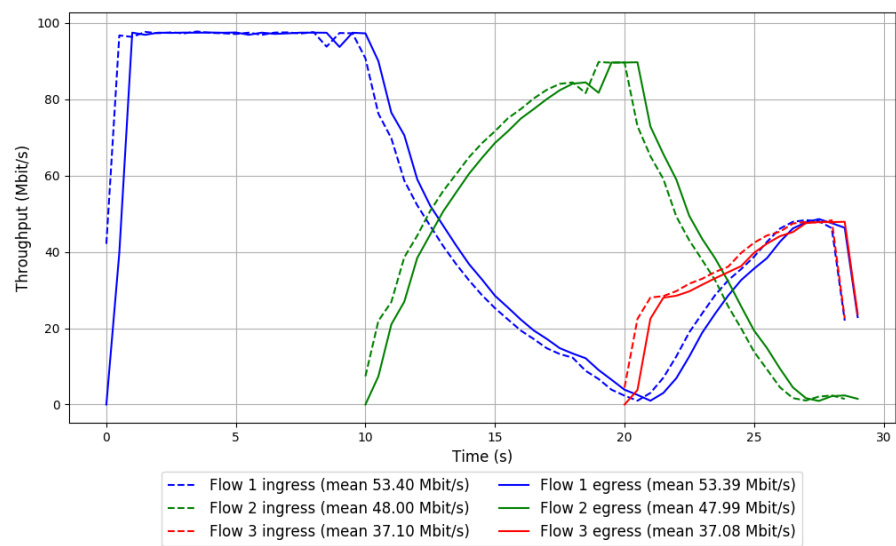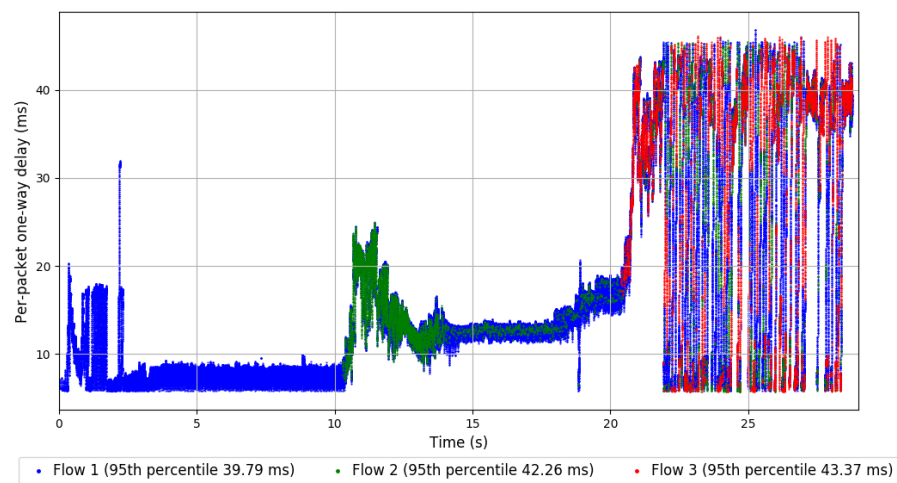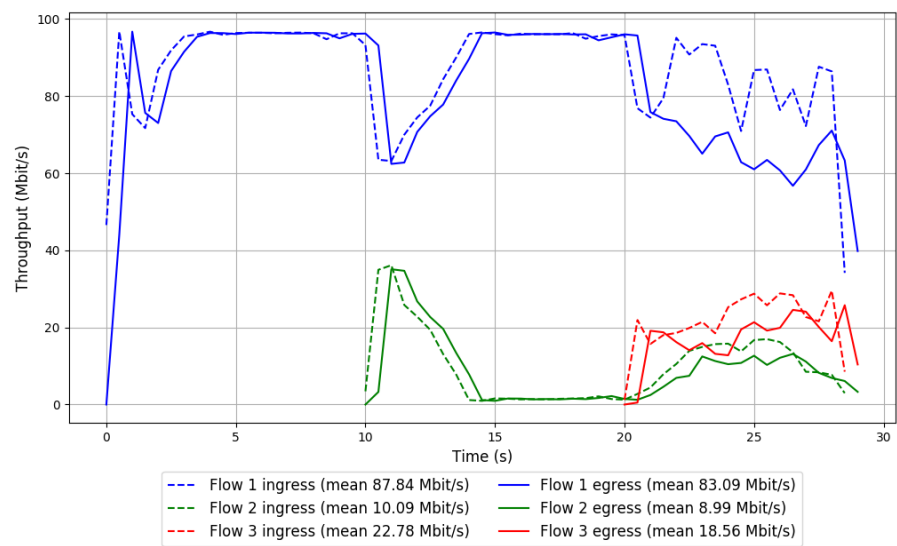Run 3: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 60.21 Mbit/s)
Flow 1 egress (mean 58.57 Mbit/s)
Flow 2 ingress (mean 44.72 Mbit/s)
Flow 2 egress (mean 42.82 Mbit/s)
Flow 3 ingress (mean 37.03 Mbit/s)
Flow 3 egress (mean 31.95 Mbit/s)

Flow 1 (95th percentile 39.48 ms)
Flow 2 (95th percentile 44.87 ms)
Flow 3 (95th percentile 44.71 ms)

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-07-18 00:39:43
End at: 2019-07-18 00:40:13
Local clock offset: 4.151 ms
Remote clock offset: -3.625 ms


# Below is generated by plot.py at 2019-07-18 01:20:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.10 Mbit/s
95th percentile per-packet one-way delay: 40.538 ms
Loss rate: 5.87%
-- Flow 1:
Average throughput: 58.45 Mbit/s
95th percentile per-packet one-way delay: 37.540 ms
Loss rate: 3.30%
-- Flow 2:
Average throughput: 44.05 Mbit/s
95th percentile per-packet one-way delay: 42.071 ms
Loss rate: 7.05%
-- Flow 3:
Average throughput: 27.40 Mbit/s
95th percentile per-packet one-way delay: 44.776 ms
Loss rate: 17.87%
```

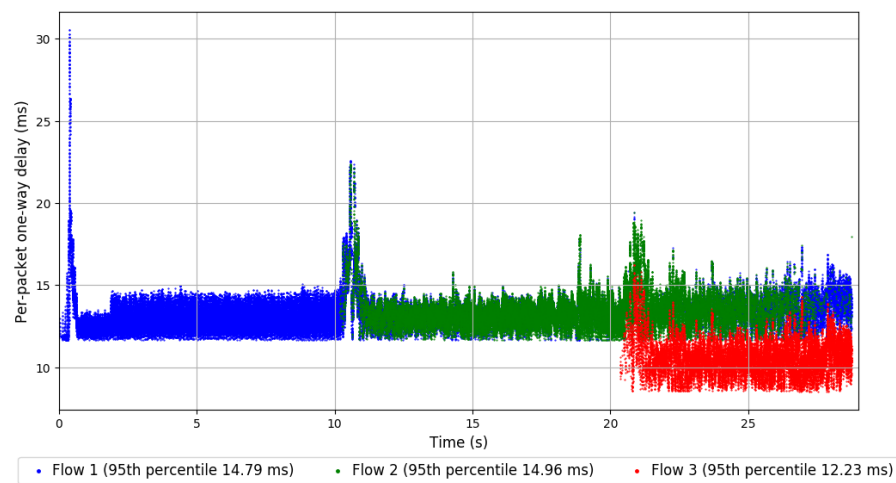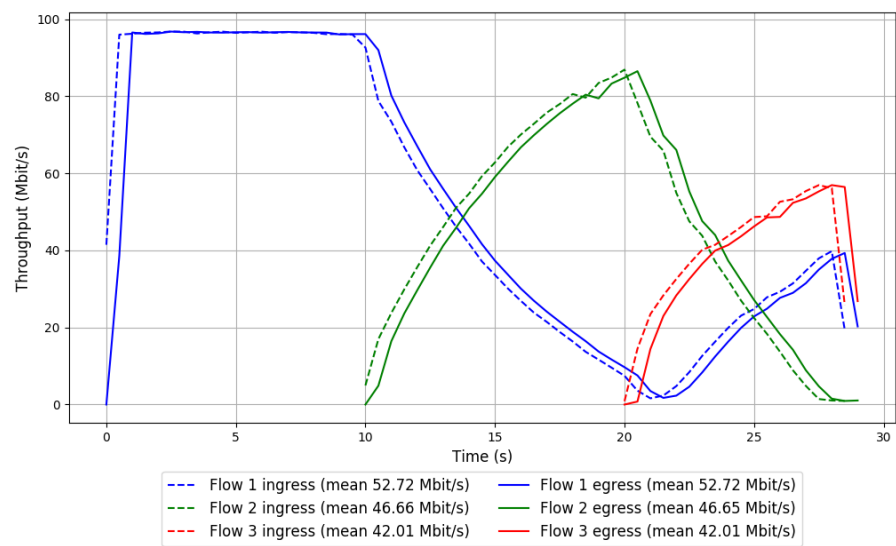Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-07-18 01:07:50
End at: 2019-07-18 01:08:20
Local clock offset: -0.173 ms
Remote clock offset: -1.631 ms


# Below is generated by plot.py at 2019-07-18 01:20:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 42.981 ms
Loss rate: 10.33%
-- Flow 1:
Average throughput: 58.83 Mbit/s
95th percentile per-packet one-way delay: 38.623 ms
Loss rate: 6.08%
-- Flow 2:
Average throughput: 45.26 Mbit/s
95th percentile per-packet one-way delay: 45.718 ms
Loss rate: 13.01%
-- Flow 3:
Average throughput: 21.51 Mbit/s
95th percentile per-packet one-way delay: 48.407 ms
Loss rate: 29.68%
```
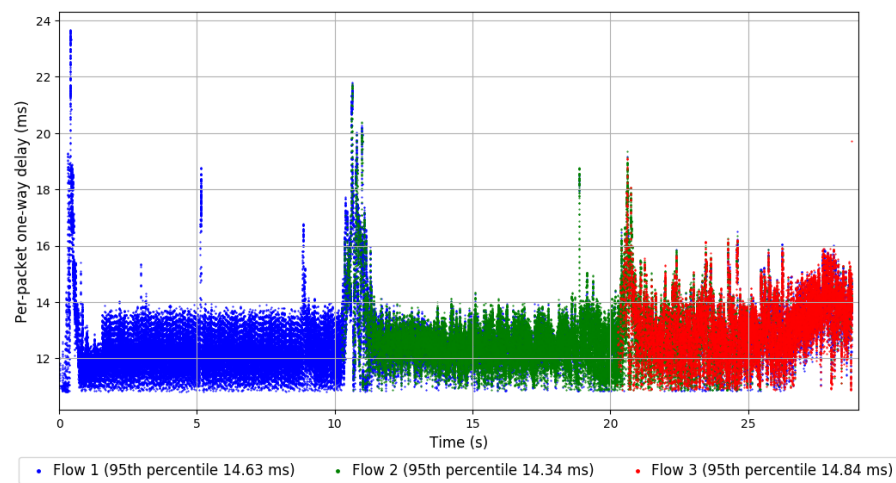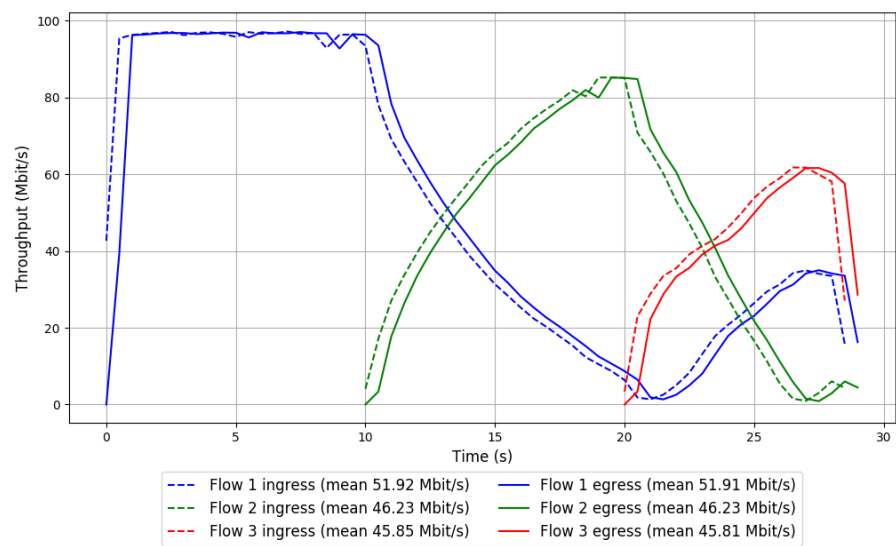
Run 5: Report of Indigo-MusesC5 — Data Link

- - - Flow 1 ingress (mean 62.72 Mbit/s) —— Flow 1 egress (mean 58.83 Mbit/s)
- - - Flow 2 ingress (mean 52.12 Mbit/s) —— Flow 2 egress (mean 45.26 Mbit/s)
- - - Flow 3 ingress (mean 30.61 Mbit/s) —— Flow 3 egress (mean 21.51 Mbit/s)

- Flow 1 (95th percentile 38.62 ms)   - Flow 2 (95th percentile 45.72 ms)   - Flow 3 (95th percentile 48.41 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-07-17 23:12:17
End at: 2019-07-17 23:12:47
Local clock offset: 5.341 ms
Remote clock offset: -3.914 ms


# Below is generated by plot.py at 2019-07-18 01:21:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.48 Mbit/s
95th percentile per-packet one-way delay: 11.951 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.39 Mbit/s
95th percentile per-packet one-way delay: 10.930 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.99 Mbit/s
95th percentile per-packet one-way delay: 12.190 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.08 Mbit/s
95th percentile per-packet one-way delay: 12.316 ms
Loss rate: 0.03%
```

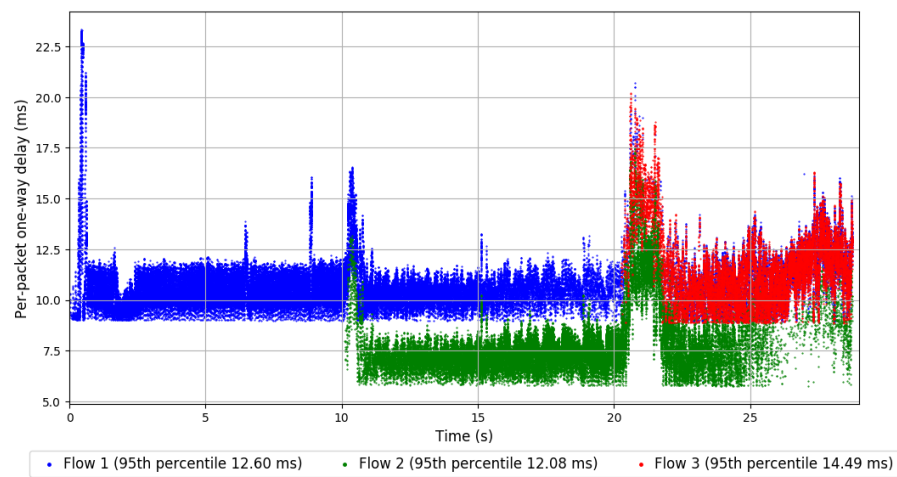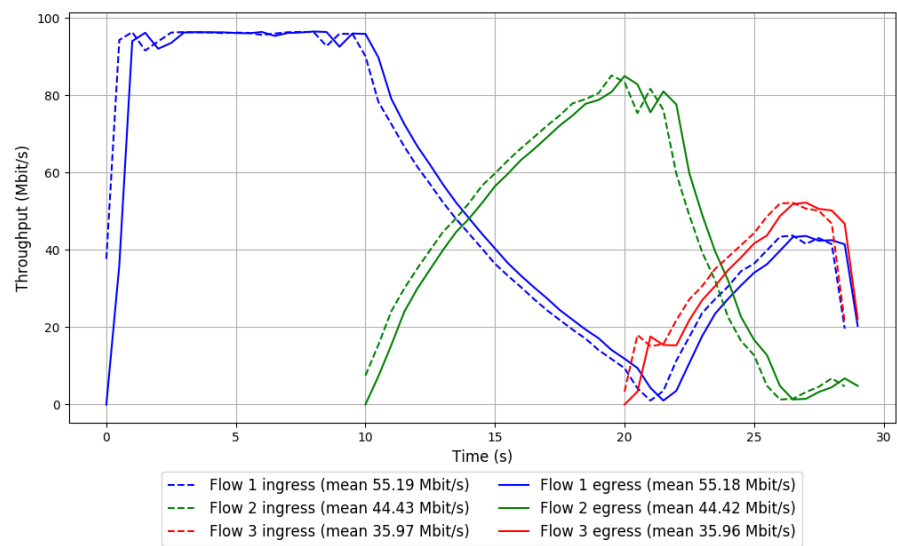Run 1: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 53.40 Mbit/s) --- Flow 1 egress (mean 53.39 Mbit/s)
Flow 2 ingress (mean 48.00 Mbit/s) --- Flow 2 egress (mean 47.99 Mbit/s)
Flow 3 ingress (mean 37.10 Mbit/s) --- Flow 3 egress (mean 37.08 Mbit/s)

Flow 1 (95th percentile 10.93 ms) · Flow 2 (95th percentile 12.19 ms) · Flow 3 (95th percentile 12.32 ms)

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-07-17 23:40:50
End at: 2019-07-17 23:41:20
Local clock offset: 3.661 ms
Remote clock offset: -3.739 ms


# Below is generated by plot.py at 2019-07-18 01:21:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.29 Mbit/s
95th percentile per-packet one-way delay: 40.487 ms
Loss rate: 6.51%
-- Flow 1:
Average throughput: 83.09 Mbit/s
95th percentile per-packet one-way delay: 39.794 ms
Loss rate: 5.30%
-- Flow 2:
Average throughput: 8.99 Mbit/s
95th percentile per-packet one-way delay: 42.257 ms
Loss rate: 10.84%
-- Flow 3:
Average throughput: 18.56 Mbit/s
95th percentile per-packet one-way delay: 43.367 ms
Loss rate: 18.34%
```

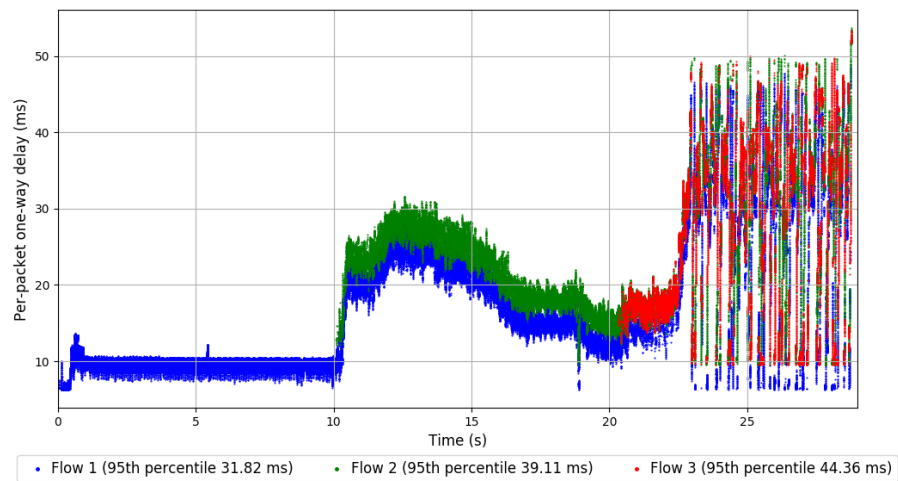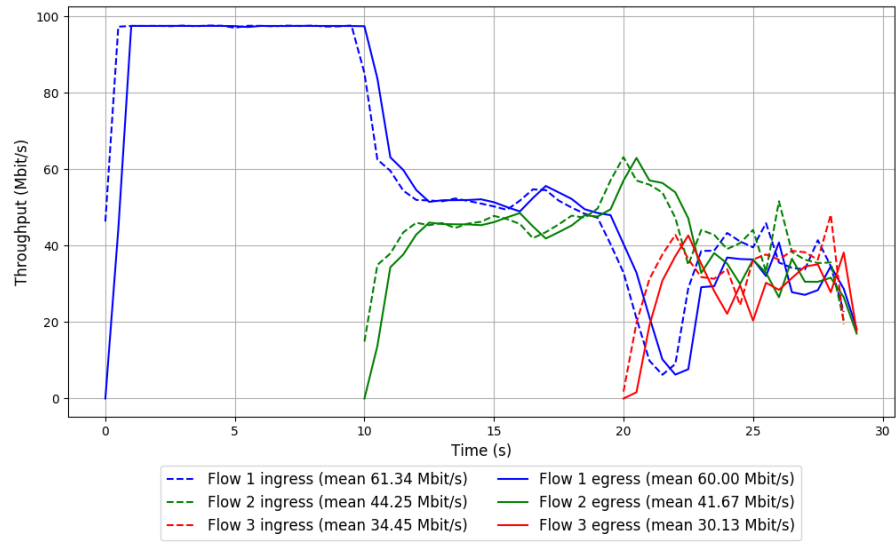Run 2: Report of Indigo-MusesD — Data Link

- - - Flow 1 ingress (mean 87.84 Mbit/s) ——— Flow 1 egress (mean 83.09 Mbit/s)
- - - Flow 2 ingress (mean 10.09 Mbit/s) ——— Flow 2 egress (mean 8.99 Mbit/s)
- - - Flow 3 ingress (mean 22.78 Mbit/s) ——— Flow 3 egress (mean 18.56 Mbit/s)

- Flow 1 (95th percentile 39.79 ms)   - Flow 2 (95th percentile 42.26 ms)   - Flow 3 (95th percentile 43.37 ms)

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-07-18 00:09:04
End at: 2019-07-18 00:09:34
Local clock offset: 2.273 ms
Remote clock offset: -1.596 ms


# Below is generated by plot.py at 2019-07-18 01:21:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.14 Mbit/s
95th percentile per-packet one-way delay: 14.744 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 52.72 Mbit/s
95th percentile per-packet one-way delay: 14.795 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 46.65 Mbit/s
95th percentile per-packet one-way delay: 14.962 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.01 Mbit/s
95th percentile per-packet one-way delay: 12.234 ms
Loss rate: 0.00%
```
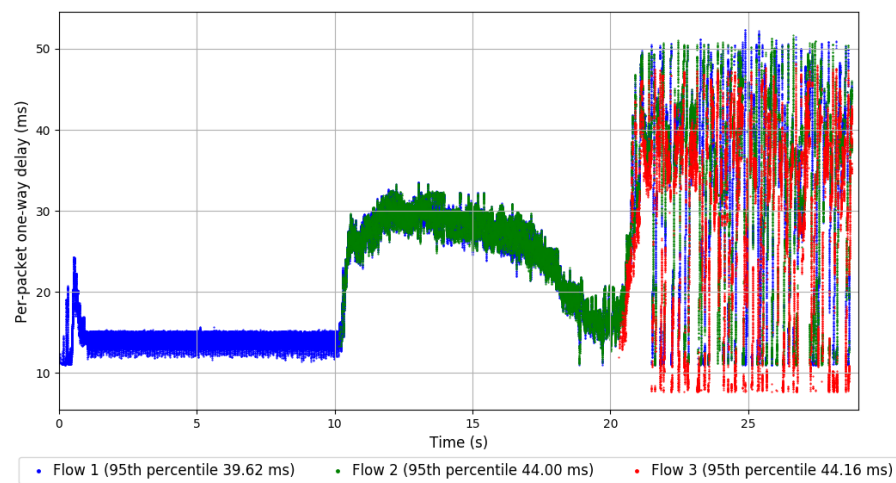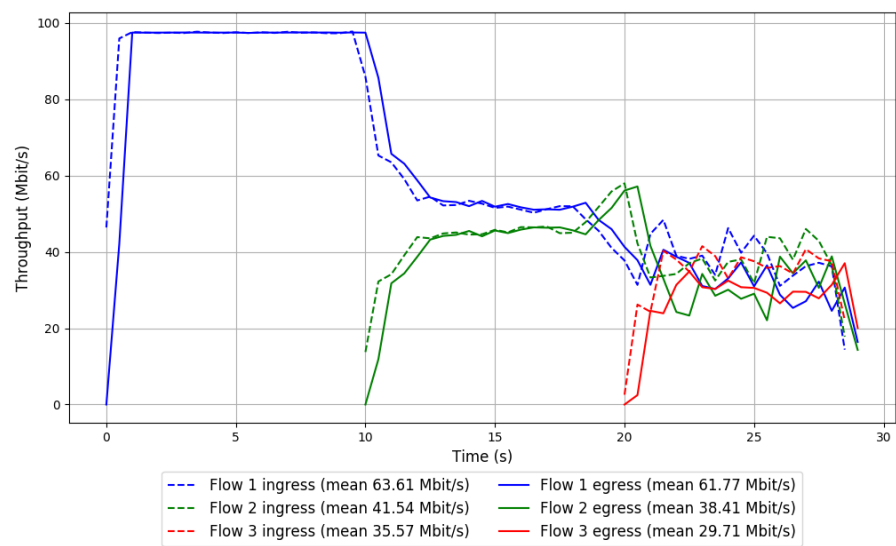
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-07-18 00:37:20
End at: 2019-07-18 00:37:50
Local clock offset: 4.168 ms
Remote clock offset: -1.305 ms


# Below is generated by plot.py at 2019-07-18 01:21:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.28 Mbit/s
95th percentile per-packet one-way delay: 14.618 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 51.91 Mbit/s
95th percentile per-packet one-way delay: 14.626 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 46.23 Mbit/s
95th percentile per-packet one-way delay: 14.338 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 45.81 Mbit/s
95th percentile per-packet one-way delay: 14.841 ms
Loss rate: 0.03%
```

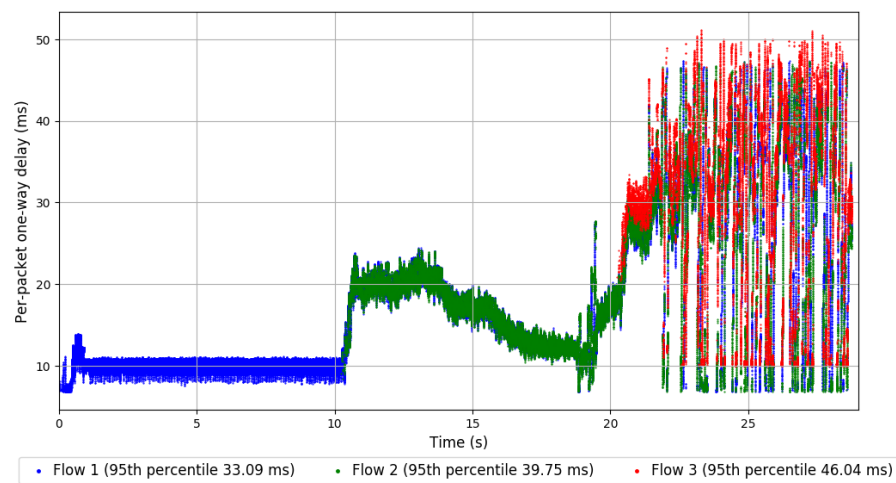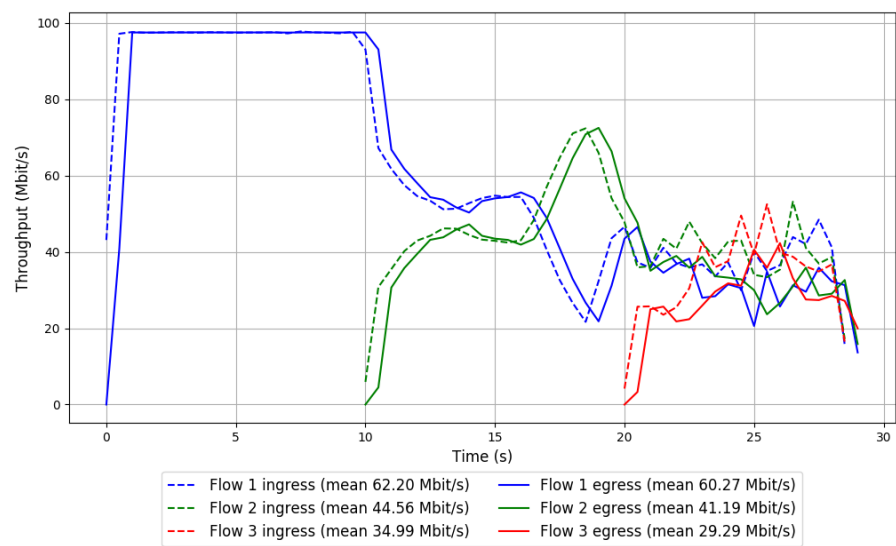Run 4: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 51.92 Mbit/s) — Flow 1 egress (mean 51.91 Mbit/s)
Flow 2 ingress (mean 46.23 Mbit/s) — Flow 2 egress (mean 46.23 Mbit/s)
Flow 3 ingress (mean 45.85 Mbit/s) — Flow 3 egress (mean 45.81 Mbit/s)

Flow 1 (95th percentile 14.63 ms) • Flow 2 (95th percentile 14.34 ms) • Flow 3 (95th percentile 14.84 ms)

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-07-18 01:05:28
End at: 2019-07-18 01:05:58
Local clock offset: 0.985 ms
Remote clock offset: -3.791 ms


# Below is generated by plot.py at 2019-07-18 01:21:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.67 Mbit/s
95th percentile per-packet one-way delay: 12.867 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 55.18 Mbit/s
95th percentile per-packet one-way delay: 12.600 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 44.42 Mbit/s
95th percentile per-packet one-way delay: 12.078 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 35.96 Mbit/s
95th percentile per-packet one-way delay: 14.493 ms
Loss rate: 0.03%
```

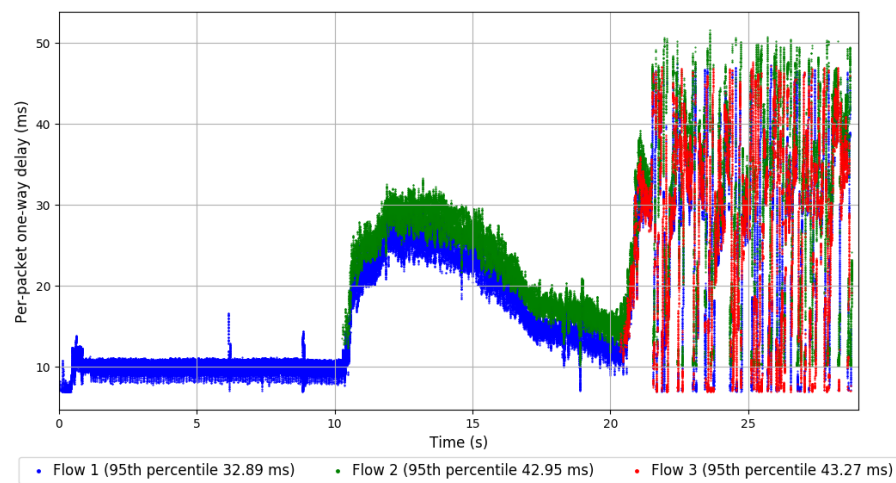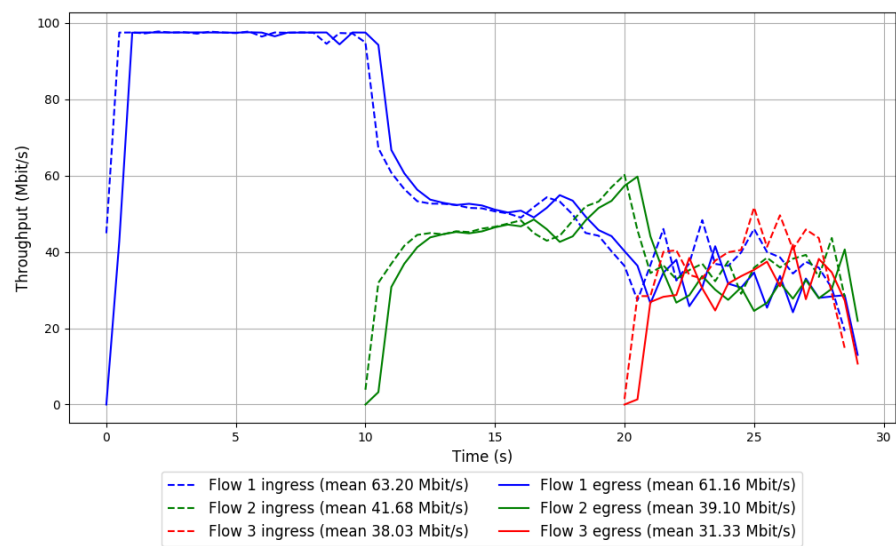Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-07-17 23:08:44
End at: 2019-07-17 23:09:14
Local clock offset: 4.082 ms
Remote clock offset: -3.496 ms


# Below is generated by plot.py at 2019-07-18 01:21:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.94 Mbit/s
95th percentile per-packet one-way delay: 37.165 ms
Loss rate: 4.15%
-- Flow 1:
Average throughput: 60.00 Mbit/s
95th percentile per-packet one-way delay: 31.819 ms
Loss rate: 2.09%
-- Flow 2:
Average throughput: 41.67 Mbit/s
95th percentile per-packet one-way delay: 39.112 ms
Loss rate: 5.67%
-- Flow 3:
Average throughput: 30.13 Mbit/s
95th percentile per-packet one-way delay: 44.359 ms
Loss rate: 12.33%
```

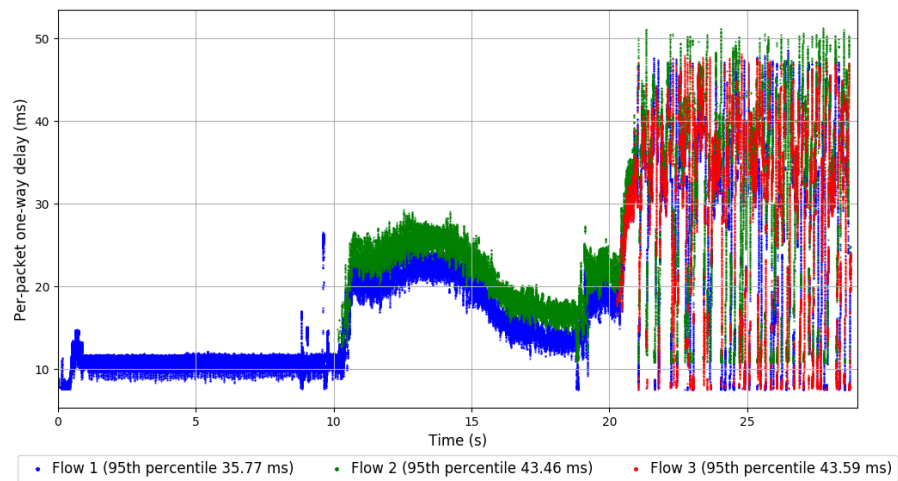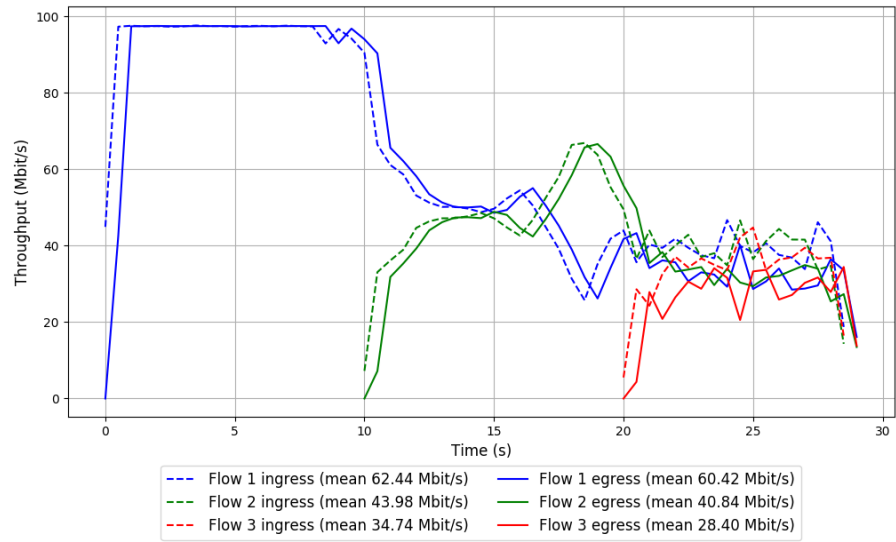Run 1: Report of Indigo-MusesT — Data Link

- - - Flow 1 ingress (mean 61.34 Mbit/s) ——— Flow 1 egress (mean 60.00 Mbit/s)
- - - Flow 2 ingress (mean 44.25 Mbit/s) ——— Flow 2 egress (mean 41.67 Mbit/s)
- - - Flow 3 ingress (mean 34.45 Mbit/s) ——— Flow 3 egress (mean 30.13 Mbit/s)

• Flow 1 (95th percentile 31.82 ms)   • Flow 2 (95th percentile 39.11 ms)   • Flow 3 (95th percentile 44.36 ms)

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-07-17 23:37:20
End at: 2019-07-17 23:37:50
Local clock offset: 4.217 ms
Remote clock offset: -1.551 ms


# Below is generated by plot.py at 2019-07-18 01:21:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.40 Mbit/s
95th percentile per-packet one-way delay: 41.976 ms
Loss rate: 5.43%
-- Flow 1:
Average throughput: 61.77 Mbit/s
95th percentile per-packet one-way delay: 39.619 ms
Loss rate: 2.81%
-- Flow 2:
Average throughput: 38.41 Mbit/s
95th percentile per-packet one-way delay: 44.001 ms
Loss rate: 7.42%
-- Flow 3:
Average throughput: 29.71 Mbit/s
95th percentile per-packet one-way delay: 44.162 ms
Loss rate: 16.25%
```

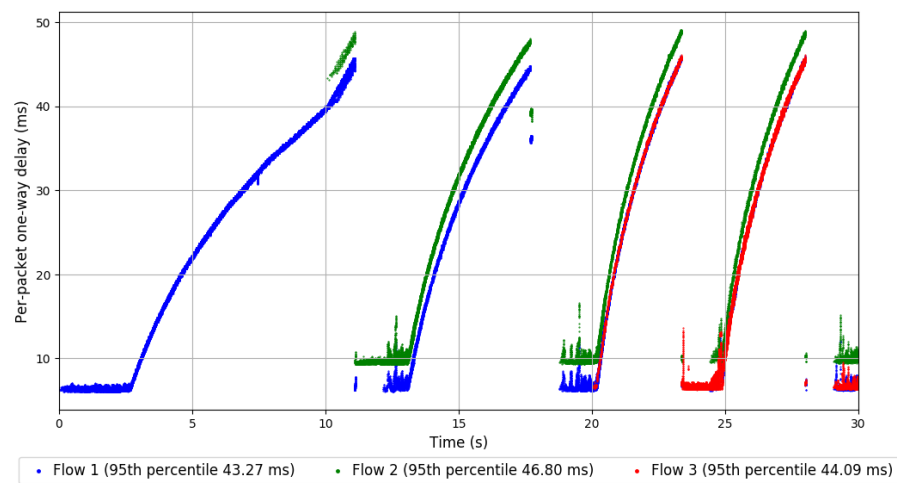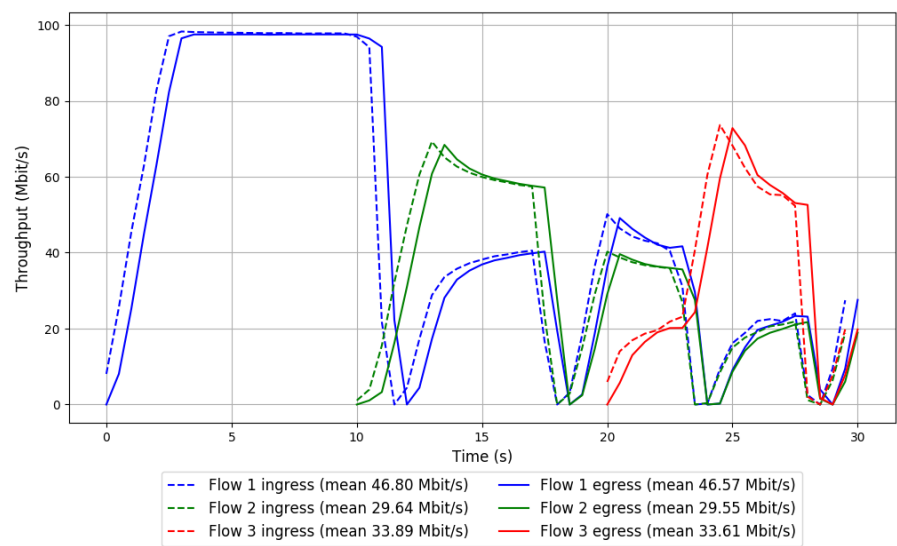Run 2: Report of Indigo-MusesT — Data Link

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```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-07-18 00:05:34
End at: 2019-07-18 00:06:04
Local clock offset: 2.797 ms
Remote clock offset: -2.844 ms


# Below is generated by plot.py at 2019-07-18 01:21:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.47 Mbit/s
95th percentile per-packet one-way delay: 39.230 ms
Loss rate: 5.64%
-- Flow 1:
Average throughput: 60.27 Mbit/s
95th percentile per-packet one-way delay: 33.085 ms
Loss rate: 3.04%
-- Flow 2:
Average throughput: 41.19 Mbit/s
95th percentile per-packet one-way delay: 39.752 ms
Loss rate: 7.46%
-- Flow 3:
Average throughput: 29.29 Mbit/s
95th percentile per-packet one-way delay: 46.038 ms
Loss rate: 16.19%
```

Run 3: Report of Indigo-MusesT — Data Link
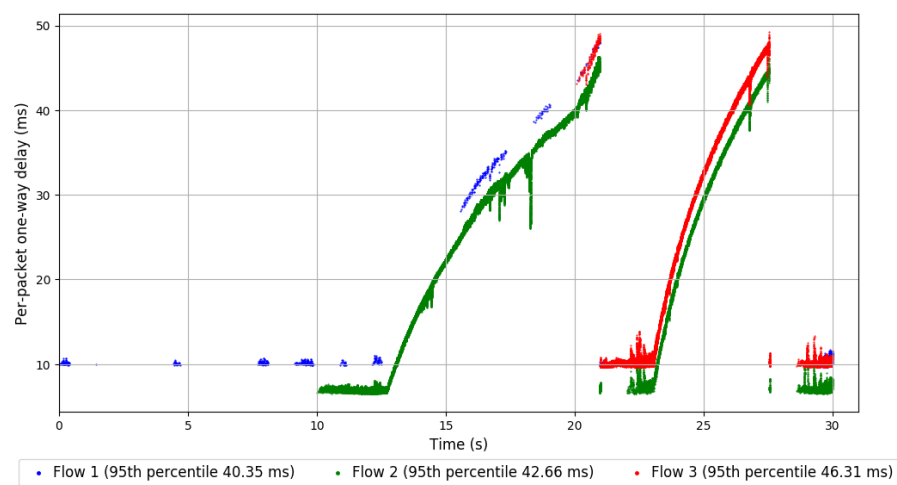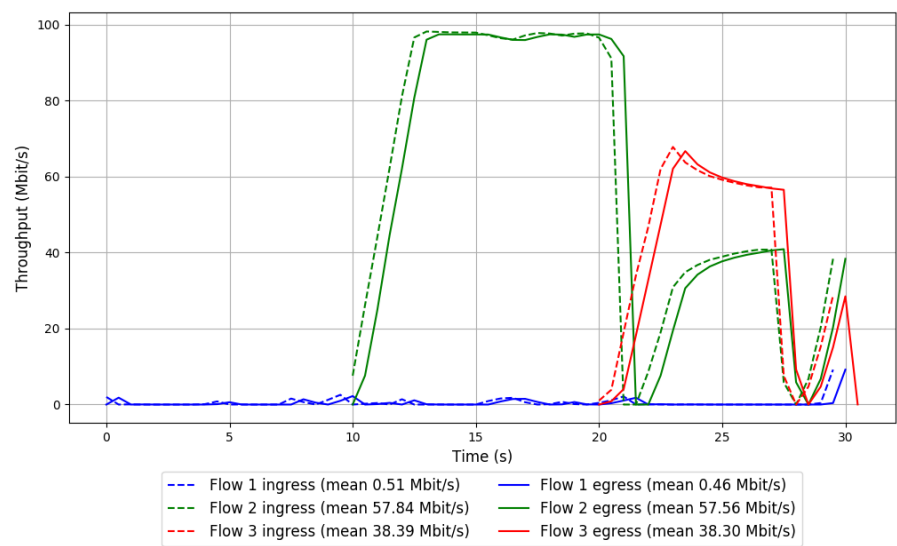

- - - - Flow 1 ingress (mean 62.20 Mbit/s) ——— Flow 1 egress (mean 60.27 Mbit/s)
- - - - Flow 2 ingress (mean 44.56 Mbit/s) ——— Flow 2 egress (mean 41.19 Mbit/s)
- - - - Flow 3 ingress (mean 34.99 Mbit/s) ——— Flow 3 egress (mean 29.29 Mbit/s)

- Flow 1 (95th percentile 33.09 ms)   · Flow 2 (95th percentile 39.75 ms)   · Flow 3 (95th percentile 46.04 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-07-18 00:33:49
End at: 2019-07-18 00:34:19
Local clock offset: 3.42 ms
Remote clock offset: -2.714 ms


# Below is generated by plot.py at 2019-07-18 01:22:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.50 Mbit/s
95th percentile per-packet one-way delay: 39.091 ms
Loss rate: 5.56%
-- Flow 1:
Average throughput: 61.16 Mbit/s
95th percentile per-packet one-way delay: 32.889 ms
Loss rate: 3.18%
-- Flow 2:
Average throughput: 39.10 Mbit/s
95th percentile per-packet one-way delay: 42.952 ms
Loss rate: 6.16%
-- Flow 3:
Average throughput: 31.33 Mbit/s
95th percentile per-packet one-way delay: 43.268 ms
Loss rate: 17.56%
```

Run 4: Report of Indigo-MusesT — Data Link
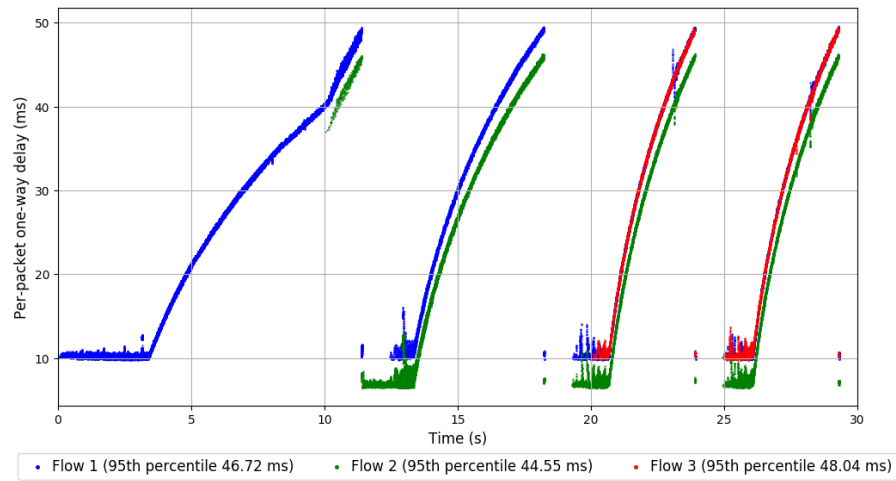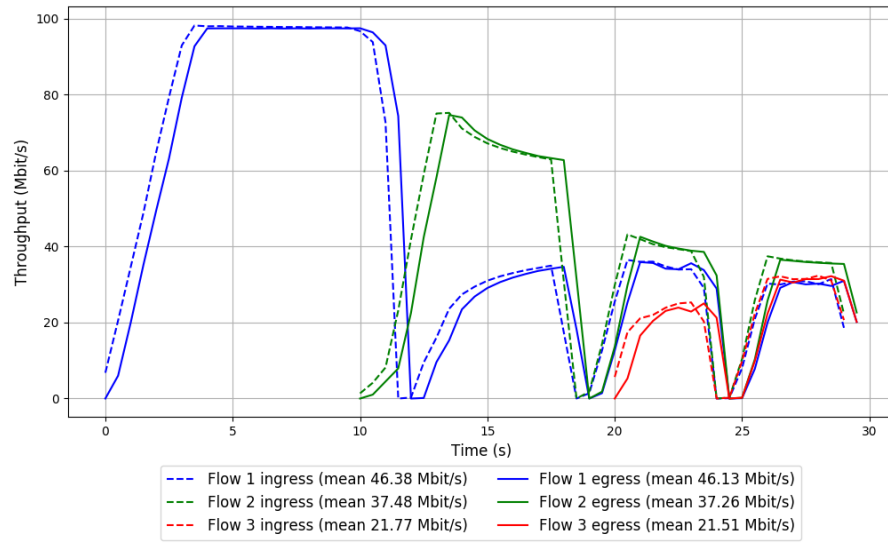
```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-07-18 01:01:59
End at: 2019-07-18 01:02:29
Local clock offset: 1.882 ms
Remote clock offset: -1.847 ms


# Below is generated by plot.py at 2019-07-18 01:22:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.25 Mbit/s
95th percentile per-packet one-way delay: 40.631 ms
Loss rate: 5.83%
-- Flow 1:
Average throughput: 60.42 Mbit/s
95th percentile per-packet one-way delay: 35.775 ms
Loss rate: 3.20%
-- Flow 2:
Average throughput: 40.84 Mbit/s
95th percentile per-packet one-way delay: 43.459 ms
Loss rate: 7.11%
-- Flow 3:
Average throughput: 28.40 Mbit/s
95th percentile per-packet one-way delay: 43.595 ms
Loss rate: 18.23%
```

Run 5: Report of Indigo-MusesT — Data Link
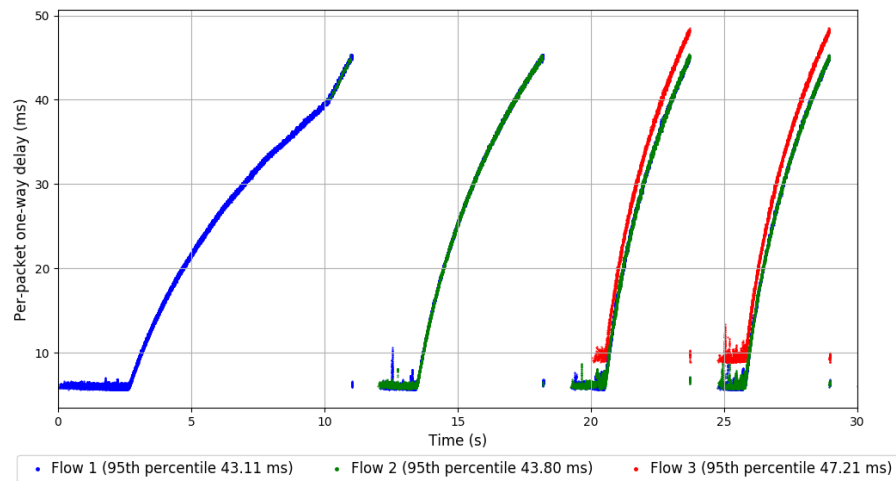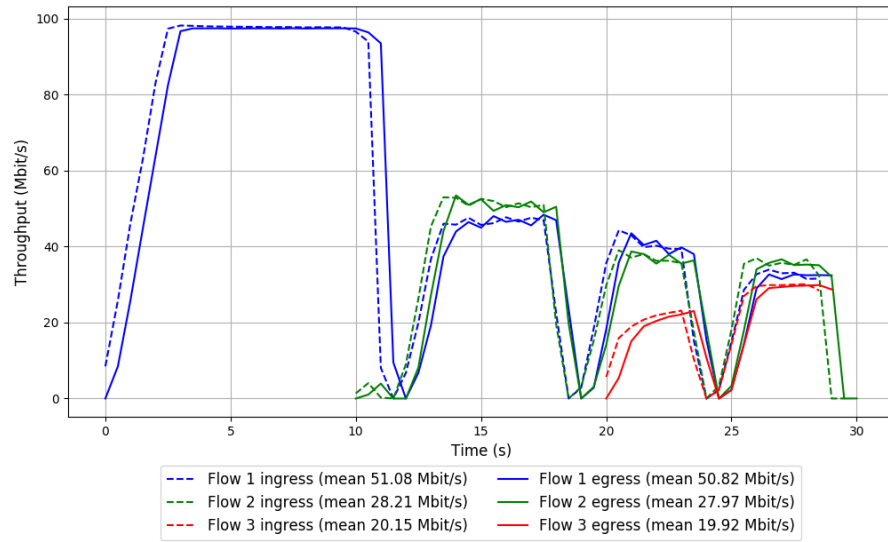

Flow 1 ingress (mean 62.44 Mbit/s) --- Flow 1 egress (mean 60.42 Mbit/s)
Flow 2 ingress (mean 43.98 Mbit/s) --- Flow 2 egress (mean 40.84 Mbit/s)
Flow 3 ingress (mean 34.74 Mbit/s) --- Flow 3 egress (mean 28.40 Mbit/s)

Flow 1 (95th percentile 35.77 ms) • Flow 2 (95th percentile 43.46 ms) • Flow 3 (95th percentile 43.59 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2019-07-17 22:54:33
End at: 2019-07-17 22:55:03
Local clock offset: 1.402 ms
Remote clock offset: -4.091 ms


# Below is generated by plot.py at 2019-07-18 01:22:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.39 Mbit/s
95th percentile per-packet one-way delay: 44.521 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 46.57 Mbit/s
95th percentile per-packet one-way delay: 43.275 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 29.55 Mbit/s
95th percentile per-packet one-way delay: 46.799 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 33.61 Mbit/s
95th percentile per-packet one-way delay: 44.095 ms
Loss rate: 0.82%
```
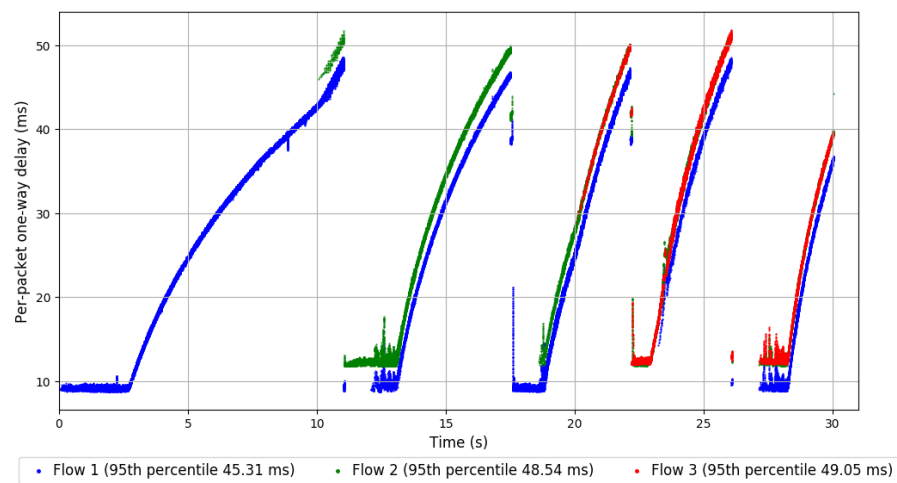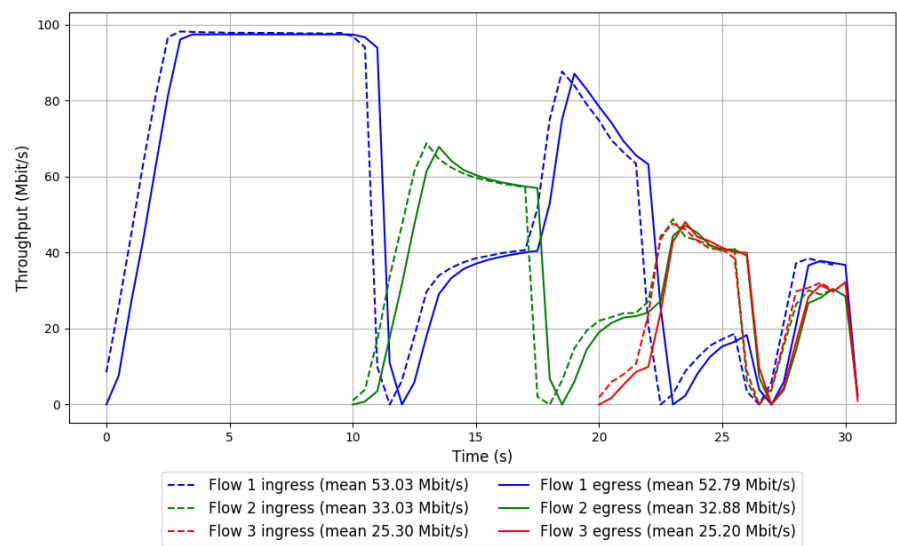
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-07-17 23:22:54
End at: 2019-07-17 23:23:24
Local clock offset: 5.696 ms
Remote clock offset: -2.952 ms


# Below is generated by plot.py at 2019-07-18 01:22:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 51.51 Mbit/s
95th percentile per-packet one-way delay: 43.827 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 40.349 ms
Loss rate: 9.44%
-- Flow 2:
Average throughput: 57.56 Mbit/s
95th percentile per-packet one-way delay: 42.655 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 38.30 Mbit/s
95th percentile per-packet one-way delay: 46.308 ms
Loss rate: 0.57%
```
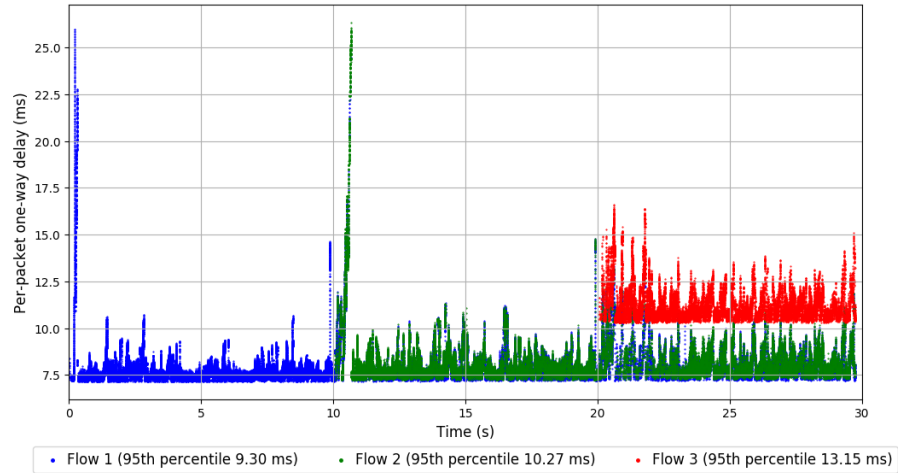
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-07-17 23:51:22
End at: 2019-07-17 23:51:52
Local clock offset: 3.49 ms
Remote clock offset: -2.944 ms


# Below is generated by plot.py at 2019-07-18 01:22:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.43 Mbit/s
95th percentile per-packet one-way delay: 46.170 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 46.13 Mbit/s
95th percentile per-packet one-way delay: 46.717 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 37.26 Mbit/s
95th percentile per-packet one-way delay: 44.548 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 21.51 Mbit/s
95th percentile per-packet one-way delay: 48.041 ms
Loss rate: 1.19%
```
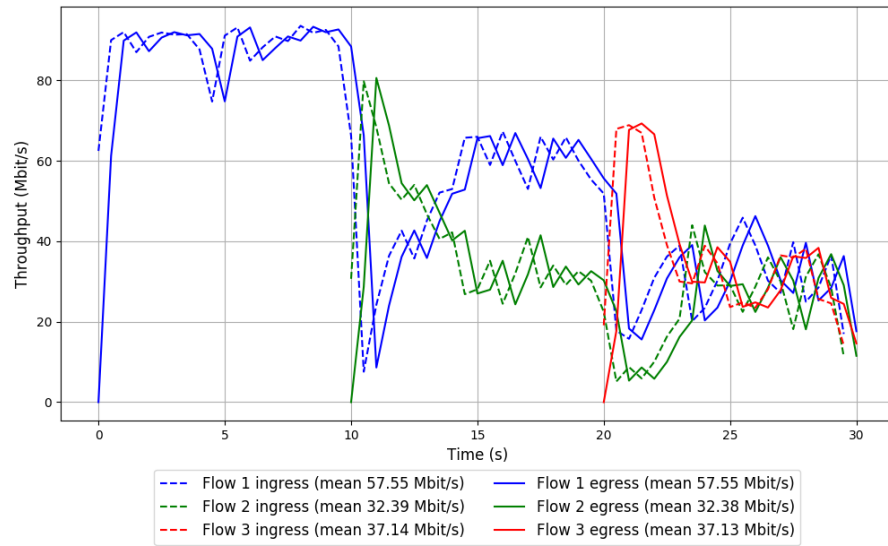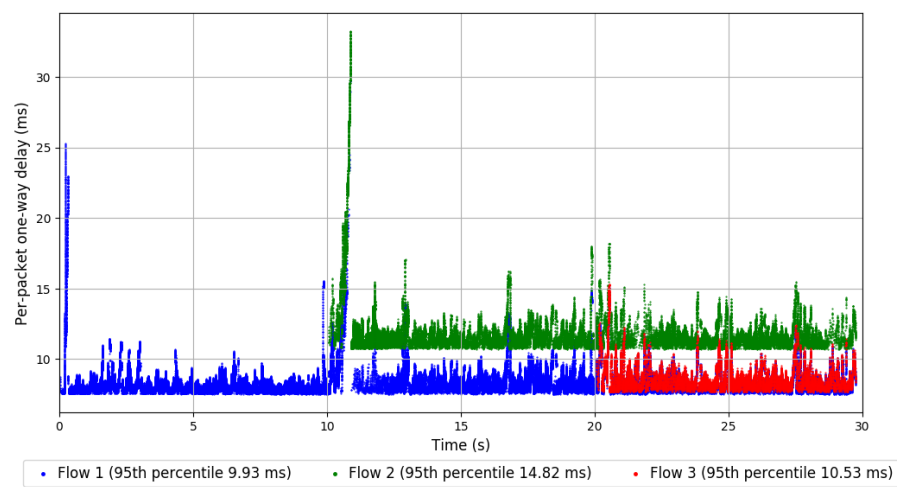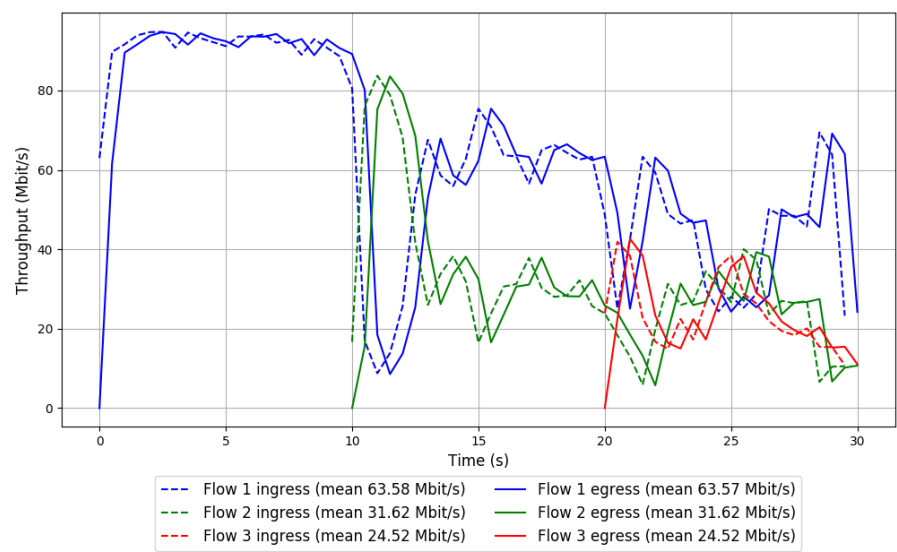
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 46.38 Mbit/s) — — — Flow 1 egress (mean 46.13 Mbit/s)
Flow 2 ingress (mean 37.48 Mbit/s) — — — Flow 2 egress (mean 37.26 Mbit/s)
Flow 3 ingress (mean 21.77 Mbit/s) — — — Flow 3 egress (mean 21.51 Mbit/s)

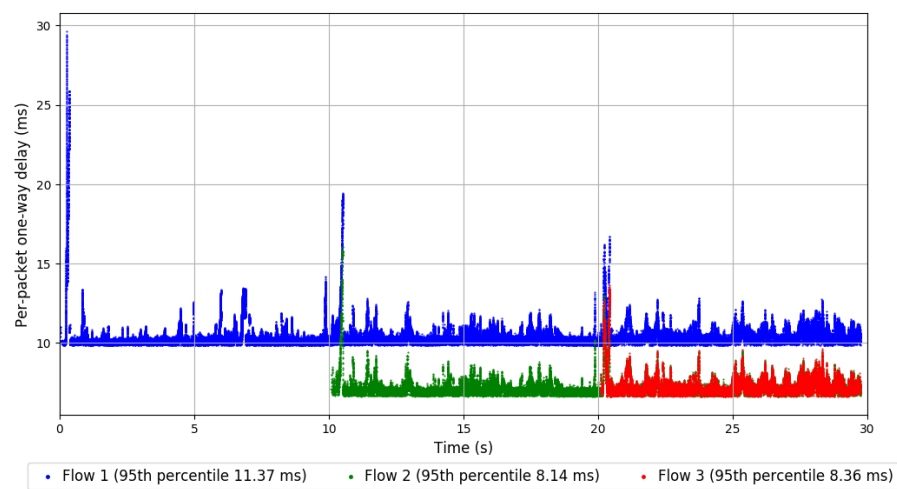Flow 1 (95th percentile 46.72 ms)   Flow 2 (95th percentile 44.55 ms)   Flow 3 (95th percentile 48.04 ms)

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```
Run 4: Statistics of LEDBAT

Start at: 2019-07-18 00:19:37
End at: 2019-07-18 00:20:07
Local clock offset: 2.881 ms
Remote clock offset: -3.577 ms


# Below is generated by plot.py at 2019-07-18 01:22:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.64 Mbit/s
95th percentile per-packet one-way delay: 43.808 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 50.82 Mbit/s
95th percentile per-packet one-way delay: 43.107 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 27.97 Mbit/s
95th percentile per-packet one-way delay: 43.800 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 19.92 Mbit/s
95th percentile per-packet one-way delay: 47.211 ms
Loss rate: 1.14%
```

Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-07-18 00:47:50
End at: 2019-07-18 00:48:20
Local clock offset: 4.311 ms
Remote clock offset: -0.847 ms


# Below is generated by plot.py at 2019-07-18 01:22:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.03 Mbit/s
95th percentile per-packet one-way delay: 46.661 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 52.79 Mbit/s
95th percentile per-packet one-way delay: 45.314 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 32.88 Mbit/s
95th percentile per-packet one-way delay: 48.544 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 25.20 Mbit/s
95th percentile per-packet one-way delay: 49.047 ms
Loss rate: 0.32%
```
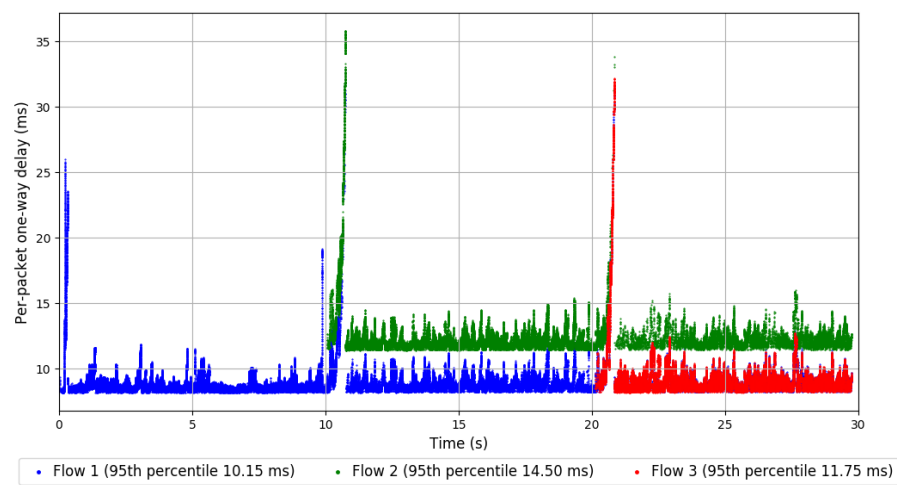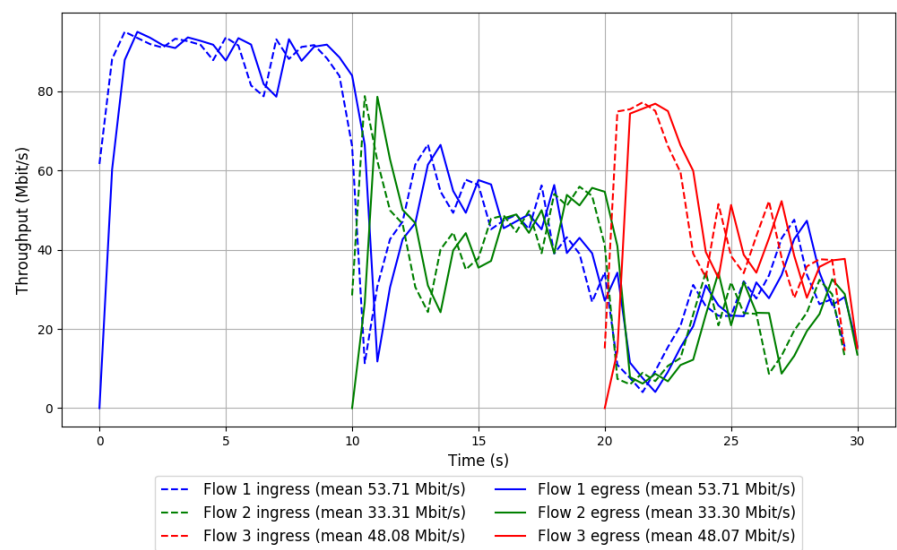
Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 53.03 Mbit/s)   Flow 1 egress (mean 52.79 Mbit/s)
Flow 2 ingress (mean 33.03 Mbit/s)   Flow 2 egress (mean 32.88 Mbit/s)
Flow 3 ingress (mean 25.30 Mbit/s)   Flow 3 egress (mean 25.20 Mbit/s)

Flow 1 (95th percentile 45.31 ms)   Flow 2 (95th percentile 48.54 ms)   Flow 3 (95th percentile 49.05 ms)

```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-07-17 23:02:47
End at: 2019-07-17 23:03:17
Local clock offset: 3.014 ms
Remote clock offset: -3.14 ms


# Below is generated by plot.py at 2019-07-18 01:22:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.11 Mbit/s
95th percentile per-packet one-way delay: 11.608 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.55 Mbit/s
95th percentile per-packet one-way delay: 9.301 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.38 Mbit/s
95th percentile per-packet one-way delay: 10.267 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.13 Mbit/s
95th percentile per-packet one-way delay: 13.146 ms
Loss rate: 0.02%
```

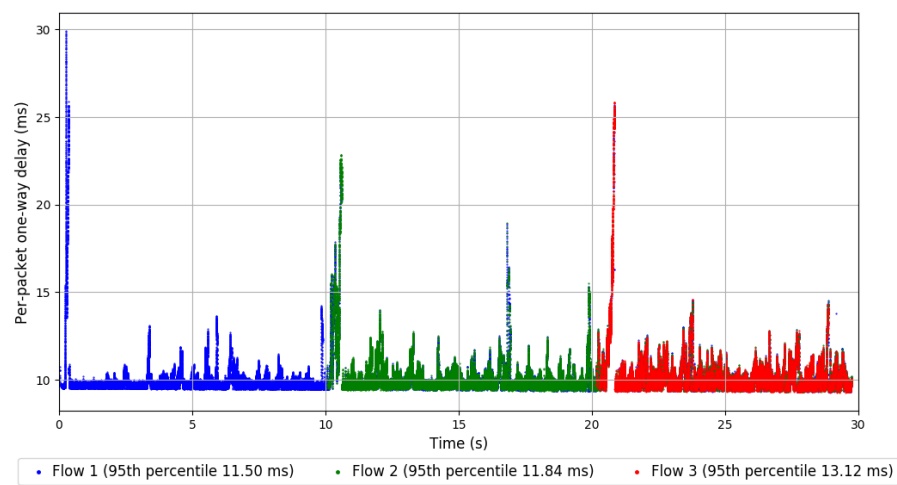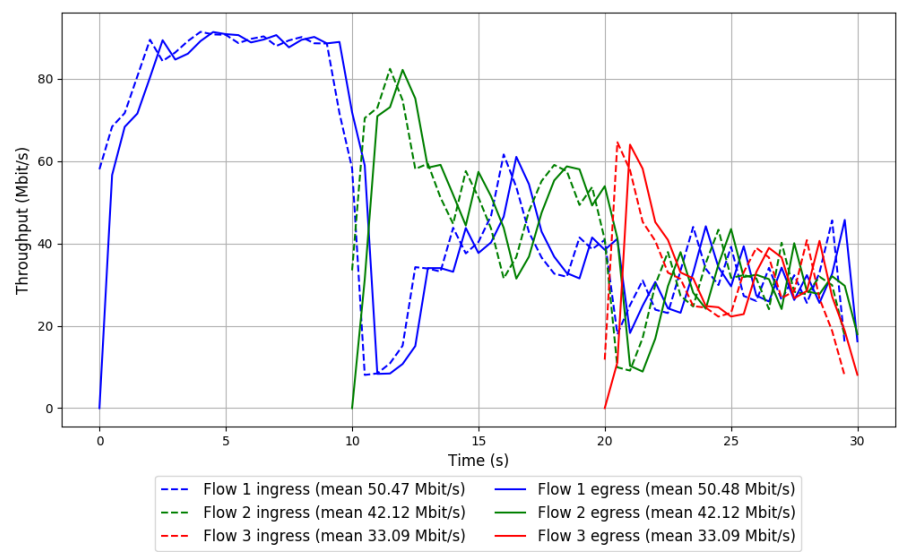Run 1: Report of Muses_DecisionTree — Data Link

```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-07-17 23:31:12
End at: 2019-07-17 23:31:42
Local clock offset: 4.93 ms
Remote clock offset: -1.374 ms


# Below is generated by plot.py at 2019-07-18 01:23:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.52 Mbit/s
95th percentile per-packet one-way delay: 12.245 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.57 Mbit/s
95th percentile per-packet one-way delay: 9.934 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.62 Mbit/s
95th percentile per-packet one-way delay: 14.821 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 24.52 Mbit/s
95th percentile per-packet one-way delay: 10.526 ms
Loss rate: 0.00%
```

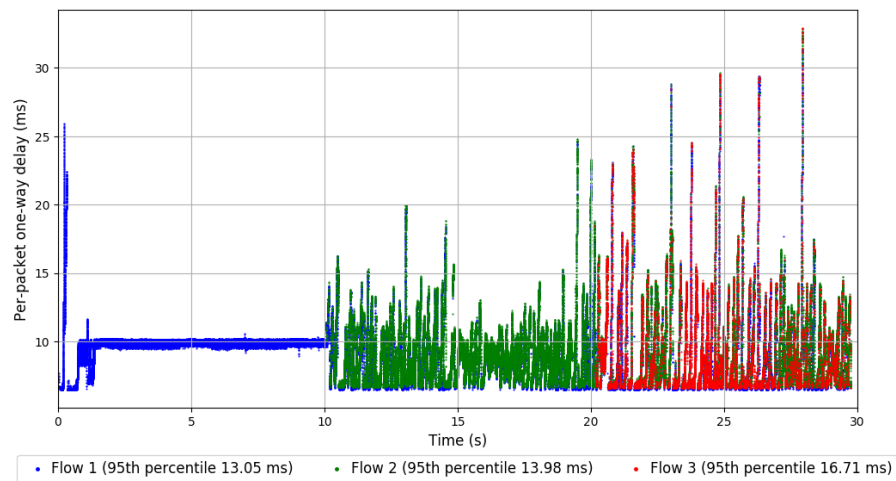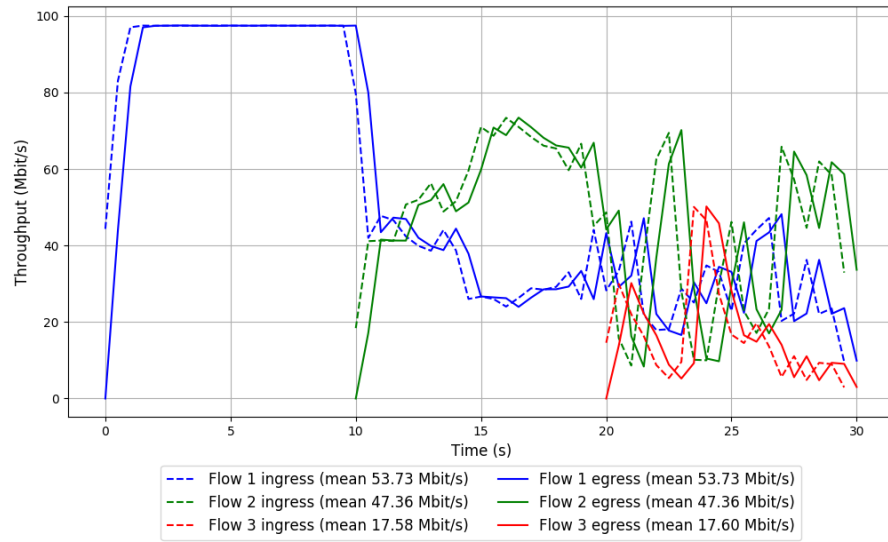Run 2: Report of Muses_DecisionTree — Data Link

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-07-17 23:59:39
End at: 2019-07-18 00:00:09
Local clock offset: 3.618 ms
Remote clock offset: -2.419 ms


# Below is generated by plot.py at 2019-07-18 01:23:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.95 Mbit/s
95th percentile per-packet one-way delay: 11.099 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 59.05 Mbit/s
95th percentile per-packet one-way delay: 11.369 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 31.58 Mbit/s
95th percentile per-packet one-way delay: 8.144 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.57 Mbit/s
95th percentile per-packet one-way delay: 8.360 ms
Loss rate: 0.00%
```
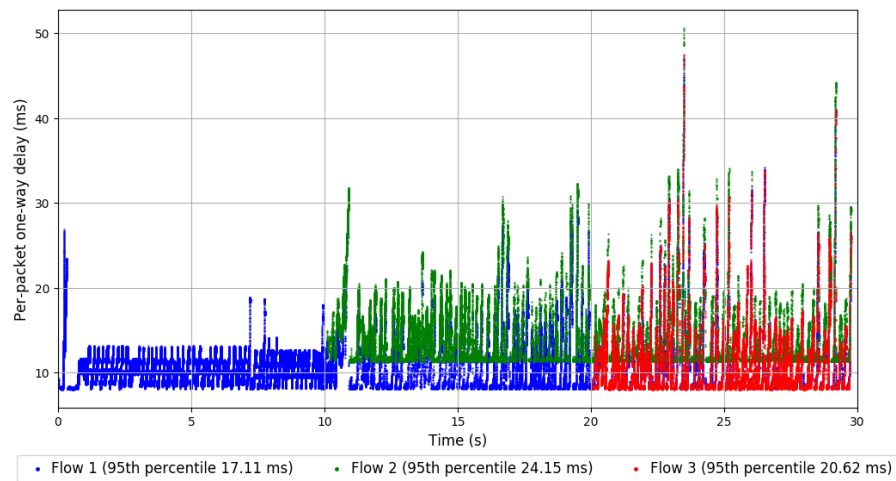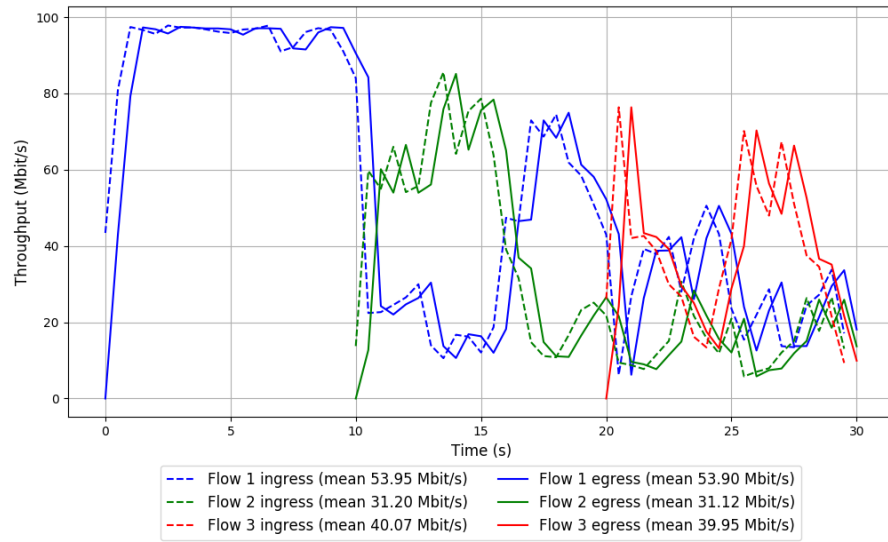
Run 3: Report of Muses_DecisionTree — Data Link

```
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 00:27:53
End at: 2019-07-18 00:28:23
Local clock offset: 2.204 ms
Remote clock offset: -2.105 ms


# Below is generated by plot.py at 2019-07-18 01:23:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.35 Mbit/s
95th percentile per-packet one-way delay: 12.870 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 53.71 Mbit/s
95th percentile per-packet one-way delay: 10.146 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 33.30 Mbit/s
95th percentile per-packet one-way delay: 14.500 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 48.07 Mbit/s
95th percentile per-packet one-way delay: 11.748 ms
Loss rate: 0.00%
```
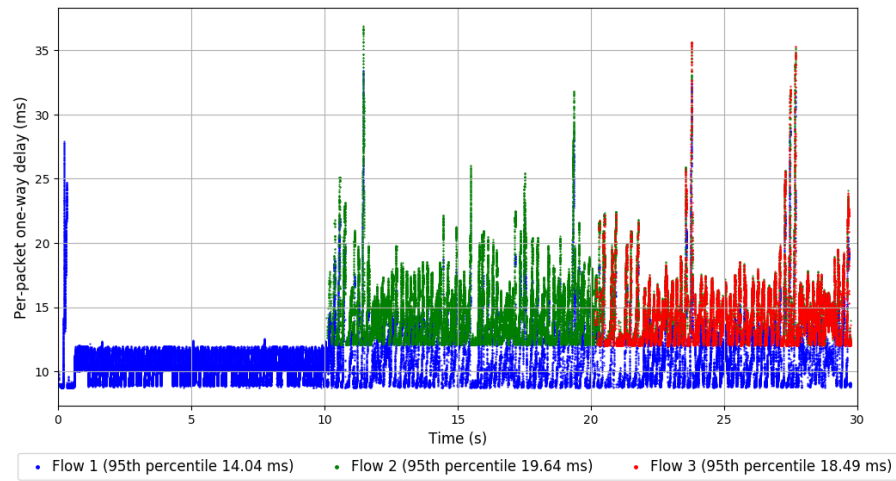
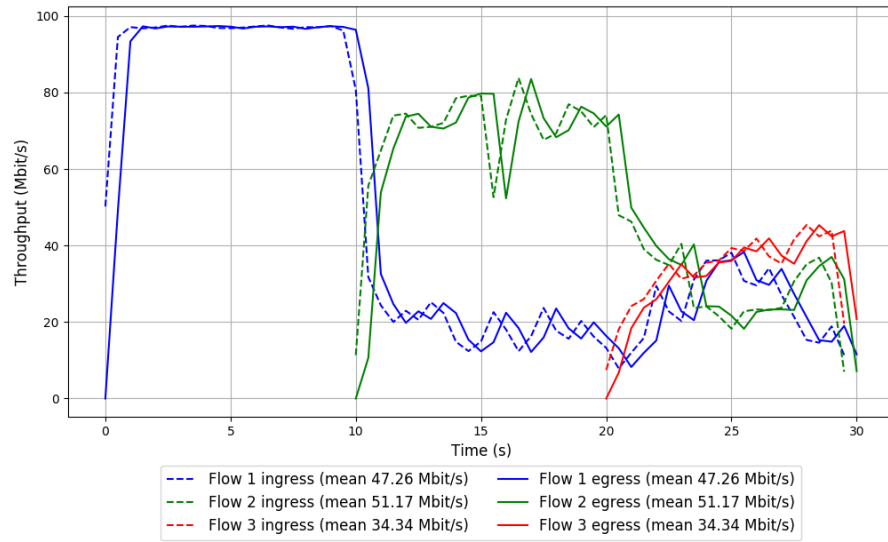Run 4: Report of Muses_DecisionTree — Data Link

```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-07-18 00:56:03
End at: 2019-07-18 00:56:33
Local clock offset: 4.728 ms
Remote clock offset: -2.399 ms


# Below is generated by plot.py at 2019-07-18 01:23:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.09 Mbit/s
95th percentile per-packet one-way delay: 11.746 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 50.48 Mbit/s
95th percentile per-packet one-way delay: 11.501 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.12 Mbit/s
95th percentile per-packet one-way delay: 11.837 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 33.09 Mbit/s
95th percentile per-packet one-way delay: 13.124 ms
Loss rate: 0.02%
```

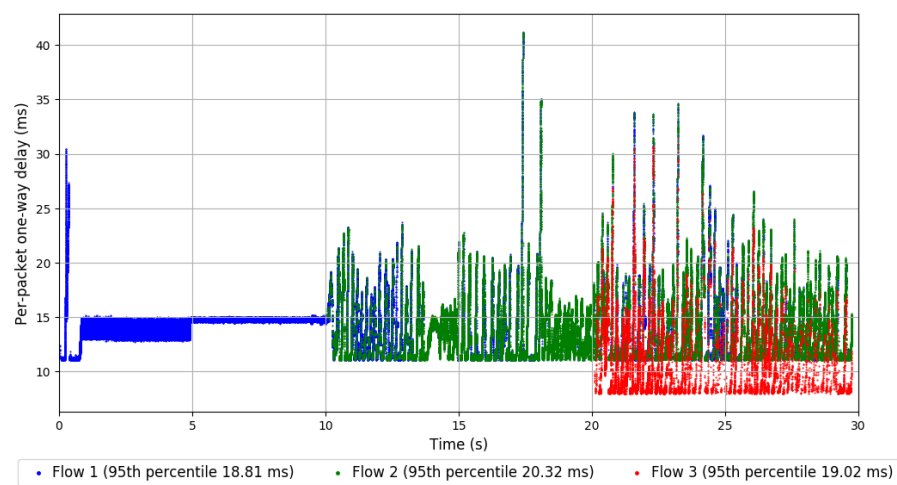Run 5: Report of Muses_DecisionTree — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-17 22:53:22
End at: 2019-07-17 22:53:52
Local clock offset: 1.511 ms
Remote clock offset: -3.48 ms


# Below is generated by plot.py at 2019-07-18 01:23:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.80 Mbit/s
95th percentile per-packet one-way delay: 13.745 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 53.73 Mbit/s
95th percentile per-packet one-way delay: 13.046 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 47.36 Mbit/s
95th percentile per-packet one-way delay: 13.985 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 17.60 Mbit/s
95th percentile per-packet one-way delay: 16.713 ms
Loss rate: 0.00%
```

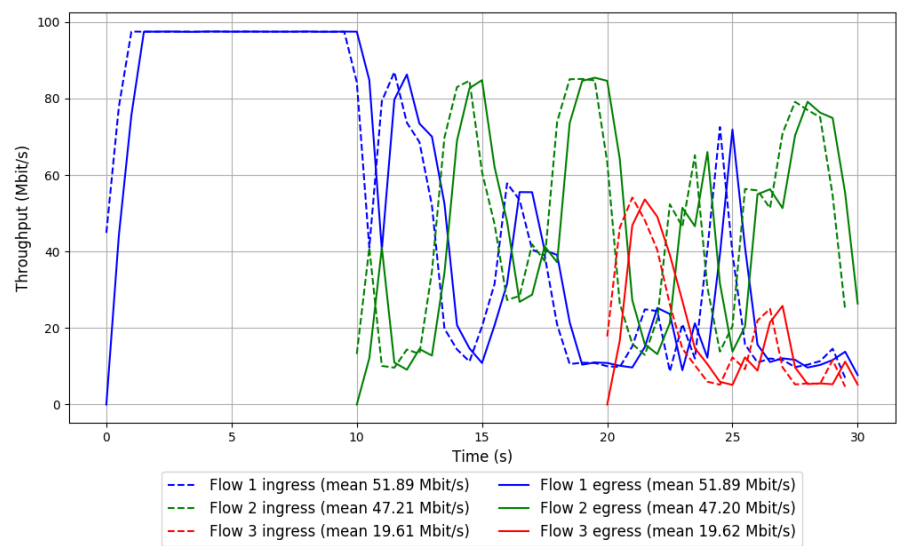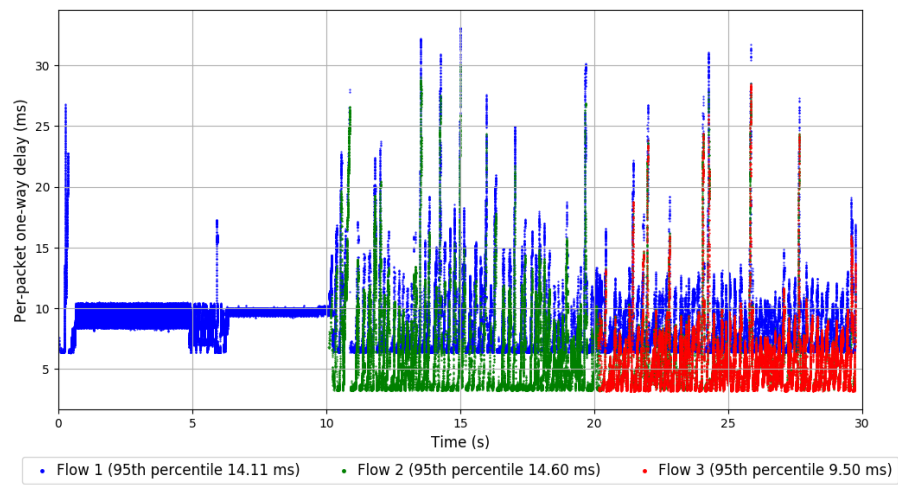Run 1: Report of Muses_DecisionTreeH0 — Data Link

Flow 1 ingress (mean 53.73 Mbit/s) --- Flow 1 egress (mean 53.73 Mbit/s)
Flow 2 ingress (mean 47.36 Mbit/s) --- Flow 2 egress (mean 47.36 Mbit/s)
Flow 3 ingress (mean 17.58 Mbit/s) --- Flow 3 egress (mean 17.60 Mbit/s)

Flow 1 (95th percentile 13.05 ms)   Flow 2 (95th percentile 13.98 ms)   Flow 3 (95th percentile 16.71 ms)

```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-17 23:21:41
End at: 2019-07-17 23:22:12
Local clock offset: 5.123 ms
Remote clock offset: -1.763 ms


# Below is generated by plot.py at 2019-07-18 01:23:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.56 Mbit/s
95th percentile per-packet one-way delay: 20.043 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 53.90 Mbit/s
95th percentile per-packet one-way delay: 17.110 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 31.12 Mbit/s
95th percentile per-packet one-way delay: 24.150 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 39.95 Mbit/s
95th percentile per-packet one-way delay: 20.620 ms
Loss rate: 0.11%
```
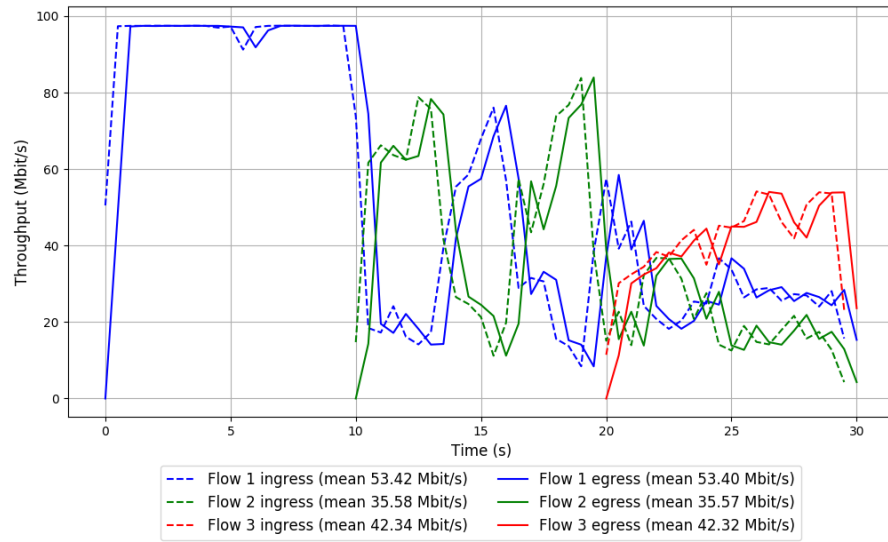
Run 2: Report of Muses_DecisionTreeH0 — Data Link

Flow 1 ingress (mean 53.95 Mbit/s) --- Flow 1 egress (mean 53.90 Mbit/s)
Flow 2 ingress (mean 31.20 Mbit/s) --- Flow 2 egress (mean 31.12 Mbit/s)
Flow 3 ingress (mean 40.07 Mbit/s) --- Flow 3 egress (mean 39.95 Mbit/s)

Flow 1 (95th percentile 17.11 ms) Flow 2 (95th percentile 24.15 ms) Flow 3 (95th percentile 20.62 ms)

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```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-17 23:50:11
End at: 2019-07-17 23:50:41
Local clock offset: 2.803 ms
Remote clock offset: -1.395 ms


# Below is generated by plot.py at 2019-07-18 01:23:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.23 Mbit/s
95th percentile per-packet one-way delay: 18.019 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.26 Mbit/s
95th percentile per-packet one-way delay: 14.044 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 51.17 Mbit/s
95th percentile per-packet one-way delay: 19.641 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 34.34 Mbit/s
95th percentile per-packet one-way delay: 18.490 ms
Loss rate: 0.03%
```
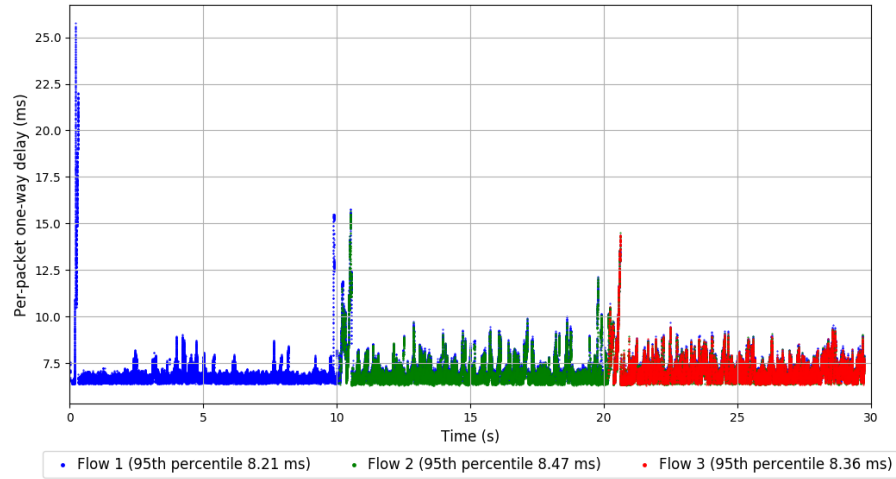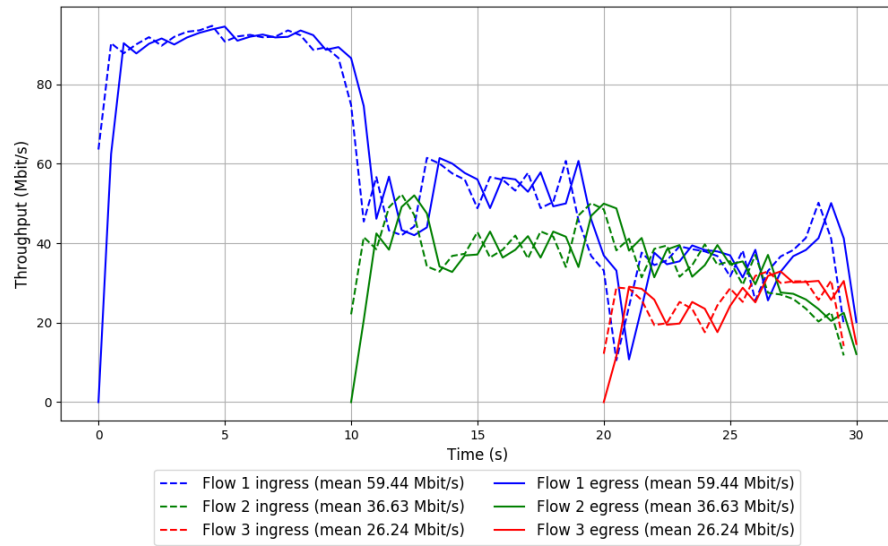
Run 3: Report of Muses_DecisionTreeH0 — Data Link

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```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 00:18:24
End at: 2019-07-18 00:18:54
Local clock offset: 2.268 ms
Remote clock offset: -1.964 ms


# Below is generated by plot.py at 2019-07-18 01:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.54 Mbit/s
95th percentile per-packet one-way delay: 19.490 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 51.89 Mbit/s
95th percentile per-packet one-way delay: 18.813 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 47.20 Mbit/s
95th percentile per-packet one-way delay: 20.317 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 19.62 Mbit/s
95th percentile per-packet one-way delay: 19.024 ms
Loss rate: 0.00%
```
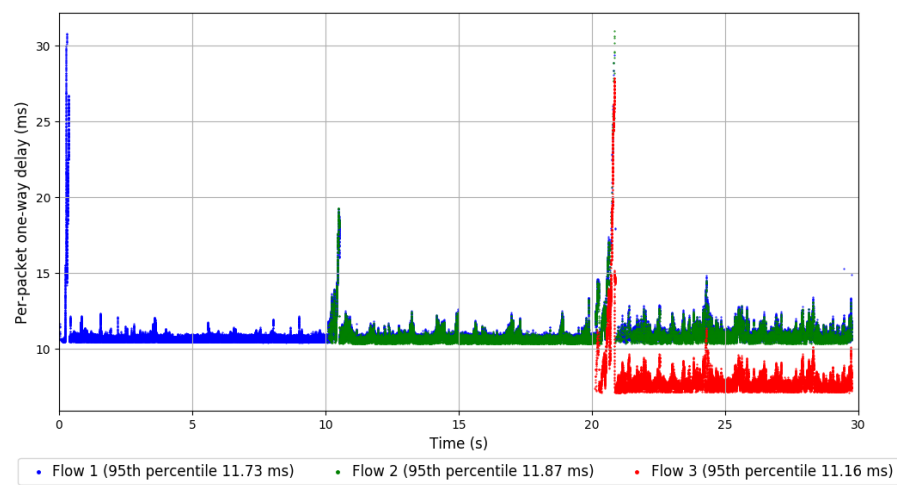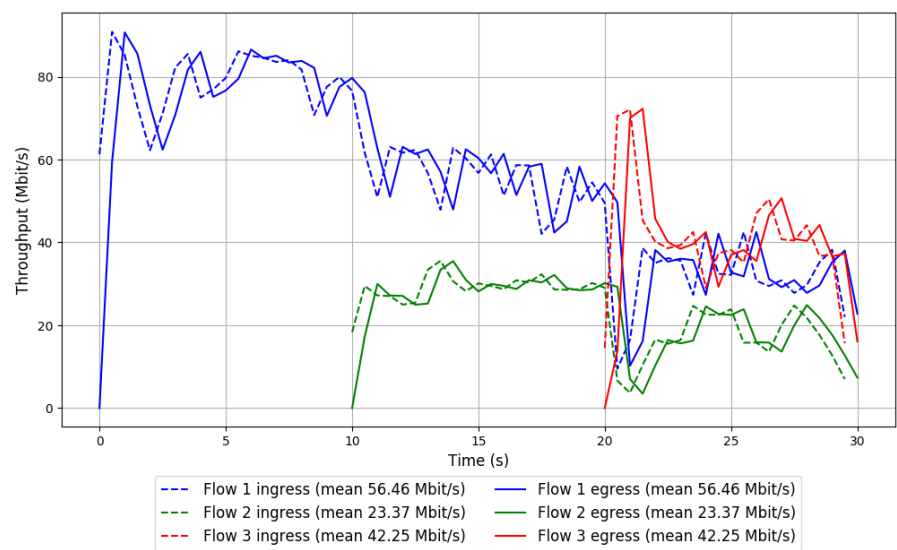
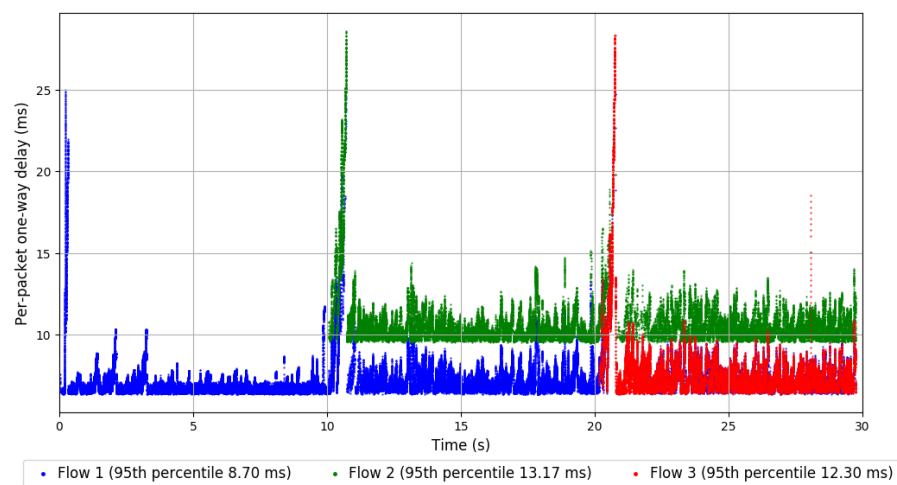Run 4: Report of Muses_DecisionTreeH0 — Data Link

```
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-18 00:46:38
End at: 2019-07-18 00:47:08
Local clock offset: 2.647 ms
Remote clock offset: -7.921 ms


# Below is generated by plot.py at 2019-07-18 01:24:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.67 Mbit/s
95th percentile per-packet one-way delay: 13.801 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 53.40 Mbit/s
95th percentile per-packet one-way delay: 14.110 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 35.57 Mbit/s
95th percentile per-packet one-way delay: 14.602 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.32 Mbit/s
95th percentile per-packet one-way delay: 9.500 ms
Loss rate: 0.00%
```

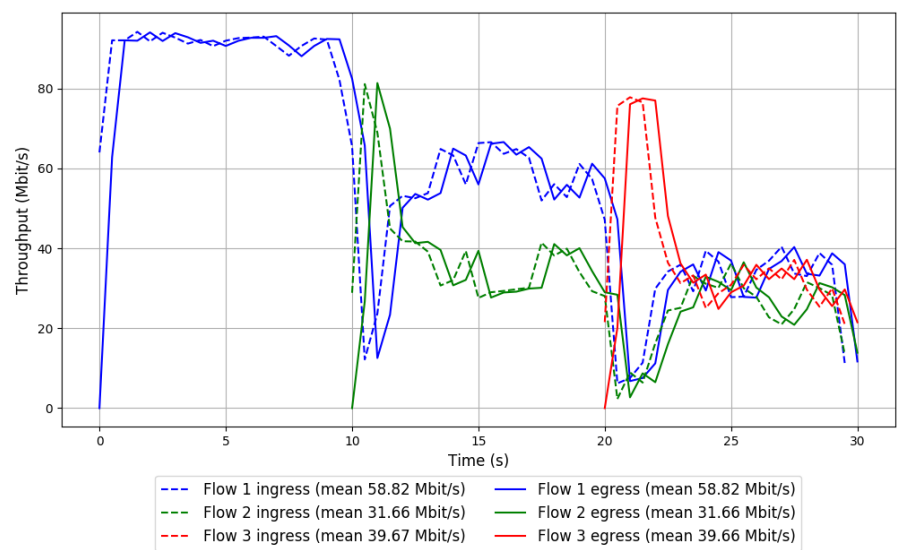Run 5: Report of Muses_DecisionTreeH0 — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-17 23:07:33
End at: 2019-07-17 23:08:03
Local clock offset: 4.254 ms
Remote clock offset: -3.16 ms


# Below is generated by plot.py at 2019-07-18 01:24:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.16 Mbit/s
95th percentile per-packet one-way delay: 8.297 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.44 Mbit/s
95th percentile per-packet one-way delay: 8.208 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.63 Mbit/s
95th percentile per-packet one-way delay: 8.470 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 26.24 Mbit/s
95th percentile per-packet one-way delay: 8.355 ms
Loss rate: 0.00%
```

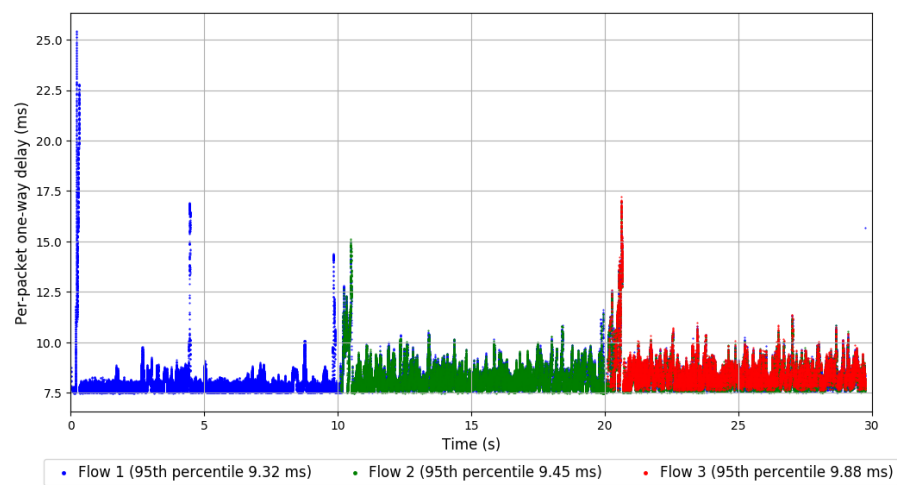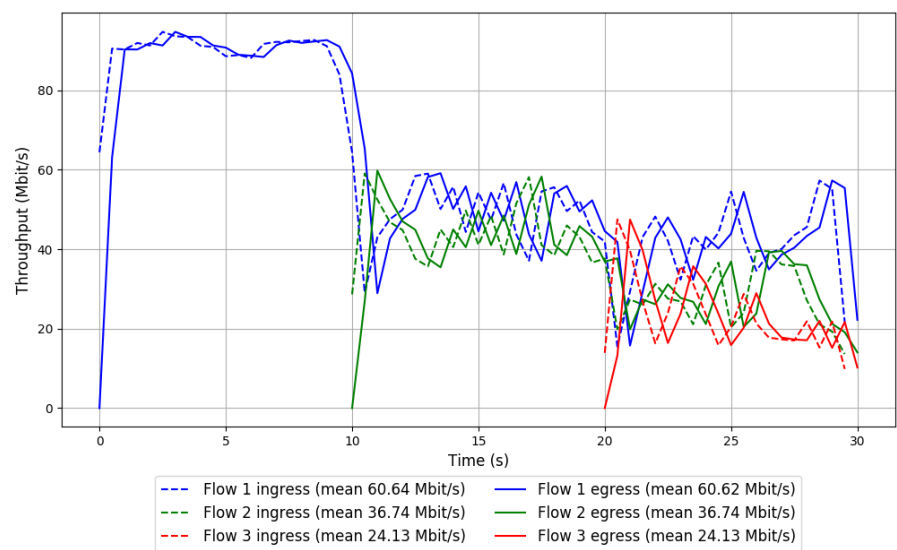Run 1: Report of Muses_DecisionTreeR0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-17 23:36:09
End at: 2019-07-17 23:36:39
Local clock offset: 4.867 ms
Remote clock offset: -1.48 ms


# Below is generated by plot.py at 2019-07-18 01:24:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.62 Mbit/s
95th percentile per-packet one-way delay: 11.750 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.46 Mbit/s
95th percentile per-packet one-way delay: 11.729 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 23.37 Mbit/s
95th percentile per-packet one-way delay: 11.872 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 42.25 Mbit/s
95th percentile per-packet one-way delay: 11.165 ms
Loss rate: 0.00%
```

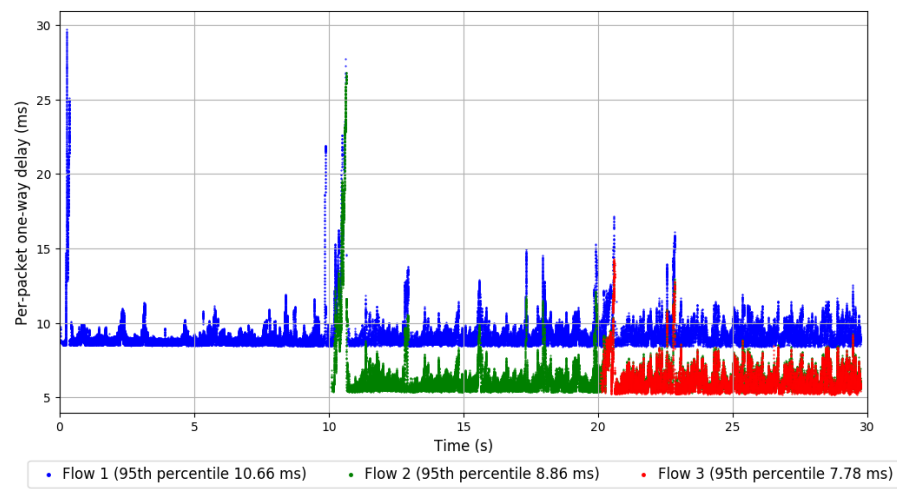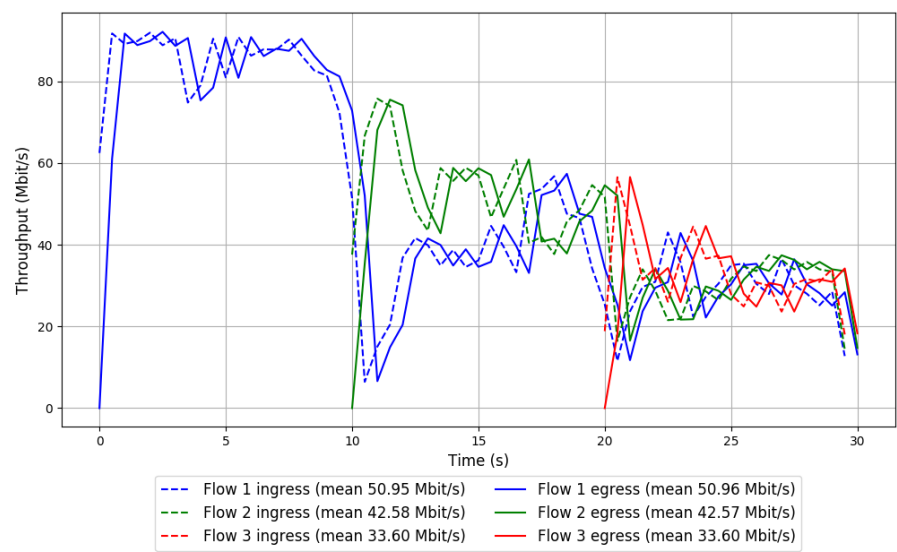Run 2: Report of Muses_DecisionTreeR0 — Data Link

```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 00:04:22
End at: 2019-07-18 00:04:52
Local clock offset: 3.096 ms
Remote clock offset: -2.929 ms


# Below is generated by plot.py at 2019-07-18 01:24:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.65 Mbit/s
95th percentile per-packet one-way delay: 11.417 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 58.82 Mbit/s
95th percentile per-packet one-way delay: 8.701 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 31.66 Mbit/s
95th percentile per-packet one-way delay: 13.169 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 39.66 Mbit/s
95th percentile per-packet one-way delay: 12.300 ms
Loss rate: 0.00%
```

Run 3: Report of Muses_DecisionTreeR0 — Data Link

```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 00:32:39
End at: 2019-07-18 00:33:09
Local clock offset: 4.106 ms
Remote clock offset: -1.235 ms


# Below is generated by plot.py at 2019-07-18 01:24:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.76 Mbit/s
95th percentile per-packet one-way delay: 9.402 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.62 Mbit/s
95th percentile per-packet one-way delay: 9.317 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 36.74 Mbit/s
95th percentile per-packet one-way delay: 9.445 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.13 Mbit/s
95th percentile per-packet one-way delay: 9.878 ms
Loss rate: 0.00%
```
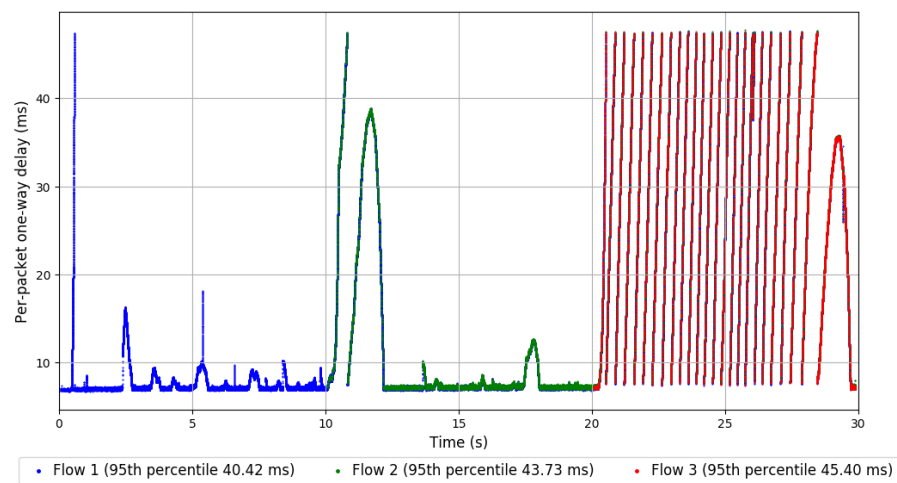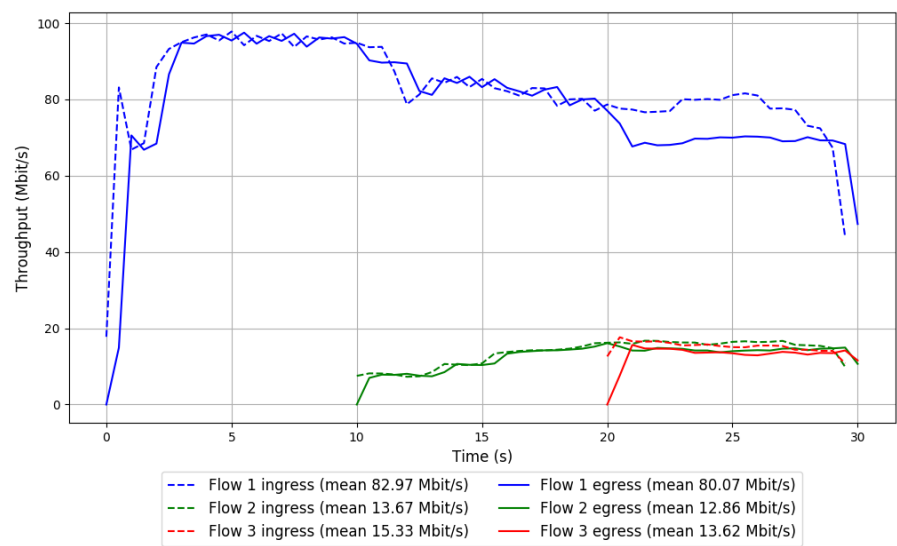
Run 4: Report of Muses_DecisionTreeR0 — Data Link

- Flow 1 ingress (mean 60.64 Mbit/s)
- Flow 2 ingress (mean 36.74 Mbit/s)
- Flow 3 ingress (mean 24.13 Mbit/s)
- Flow 1 egress (mean 60.62 Mbit/s)
- Flow 2 egress (mean 36.74 Mbit/s)
- Flow 3 egress (mean 24.13 Mbit/s)

- Flow 1 (95th percentile 9.32 ms)
- Flow 2 (95th percentile 9.45 ms)
- Flow 3 (95th percentile 9.88 ms)

```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-18 01:00:48
End at: 2019-07-18 01:01:18
Local clock offset: 3.177 ms
Remote clock offset: -3.153 ms


# Below is generated by plot.py at 2019-07-18 01:24:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.05 Mbit/s
95th percentile per-packet one-way delay: 10.312 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.96 Mbit/s
95th percentile per-packet one-way delay: 10.656 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 42.57 Mbit/s
95th percentile per-packet one-way delay: 8.858 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.60 Mbit/s
95th percentile per-packet one-way delay: 7.783 ms
Loss rate: 0.00%
```

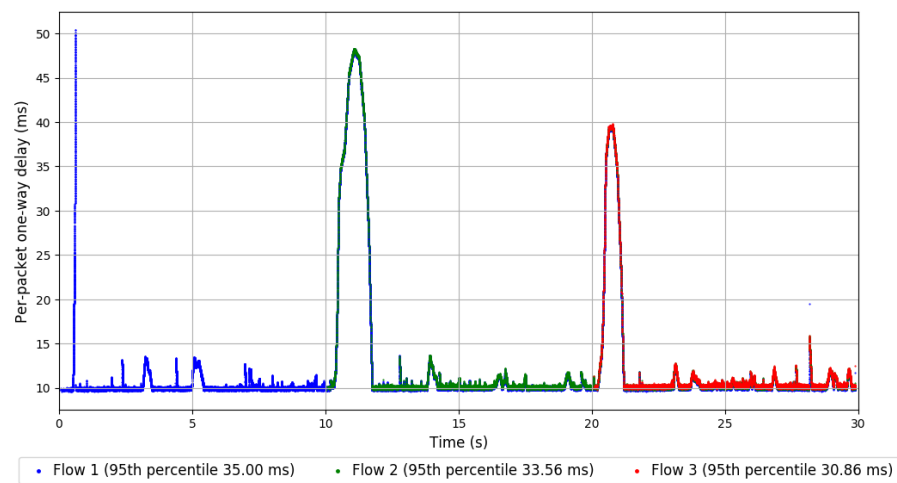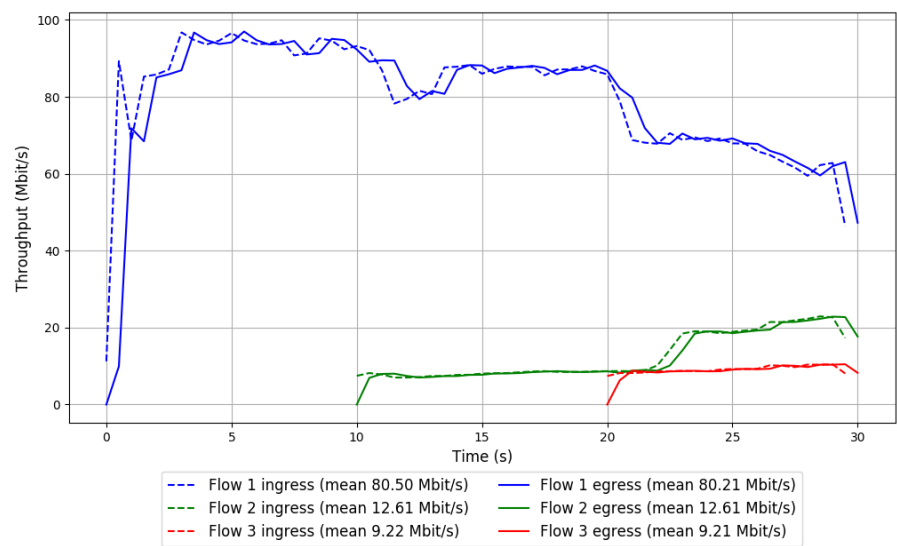Run 5: Report of Muses_DecisionTreeR0 — Data Link

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```
Run 1: Statistics of PCC-Allegro

Start at: 2019-07-17 22:55:43
End at: 2019-07-17 22:56:13
Local clock offset: 1.753 ms
Remote clock offset: -3.38 ms


# Below is generated by plot.py at 2019-07-18 01:25:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.11 Mbit/s
95th percentile per-packet one-way delay: 41.574 ms
Loss rate: 4.12%
-- Flow 1:
Average throughput: 80.07 Mbit/s
95th percentile per-packet one-way delay: 40.418 ms
Loss rate: 3.49%
-- Flow 2:
Average throughput: 12.86 Mbit/s
95th percentile per-packet one-way delay: 43.728 ms
Loss rate: 5.92%
-- Flow 3:
Average throughput: 13.62 Mbit/s
95th percentile per-packet one-way delay: 45.397 ms
Loss rate: 11.19%
```
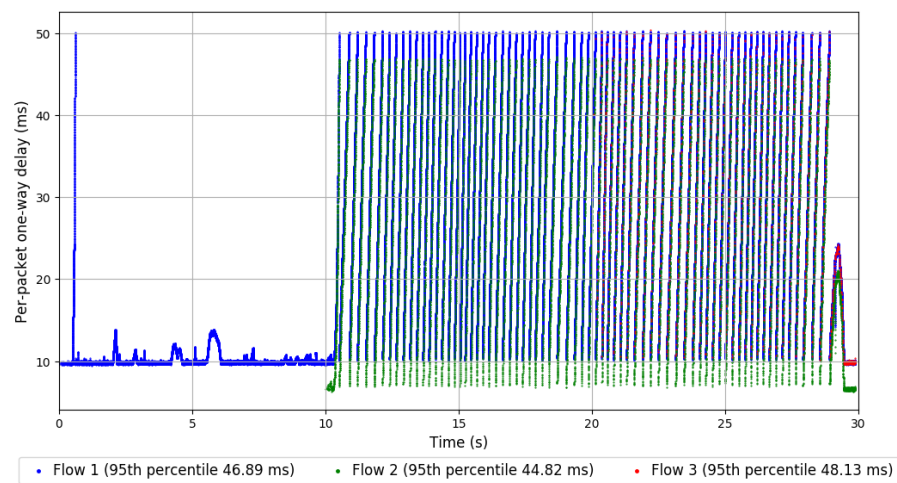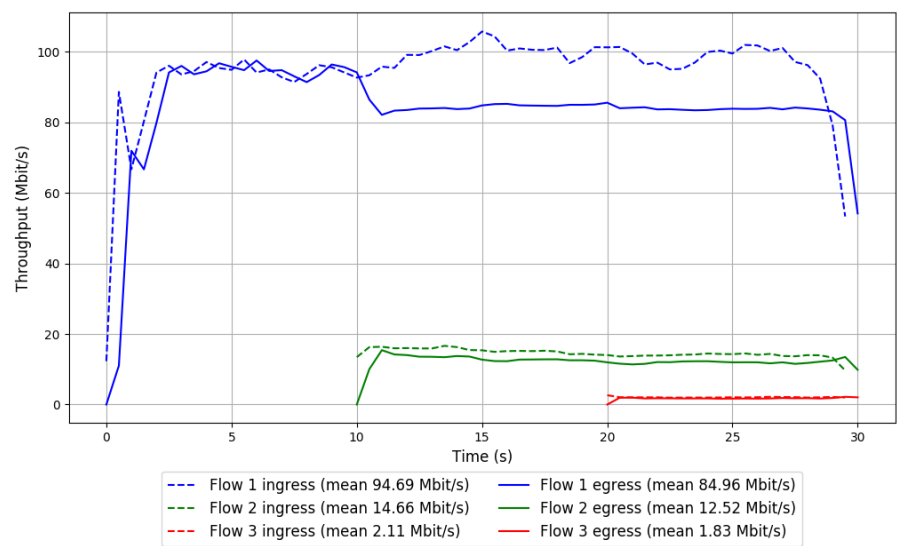
Run 1: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 82.97 Mbit/s) --- Flow 1 egress (mean 80.07 Mbit/s)
Flow 2 ingress (mean 13.67 Mbit/s) --- Flow 2 egress (mean 12.86 Mbit/s)
Flow 3 ingress (mean 15.33 Mbit/s) --- Flow 3 egress (mean 13.62 Mbit/s)

Flow 1 (95th percentile 40.42 ms) • Flow 2 (95th percentile 43.73 ms) • Flow 3 (95th percentile 45.40 ms)
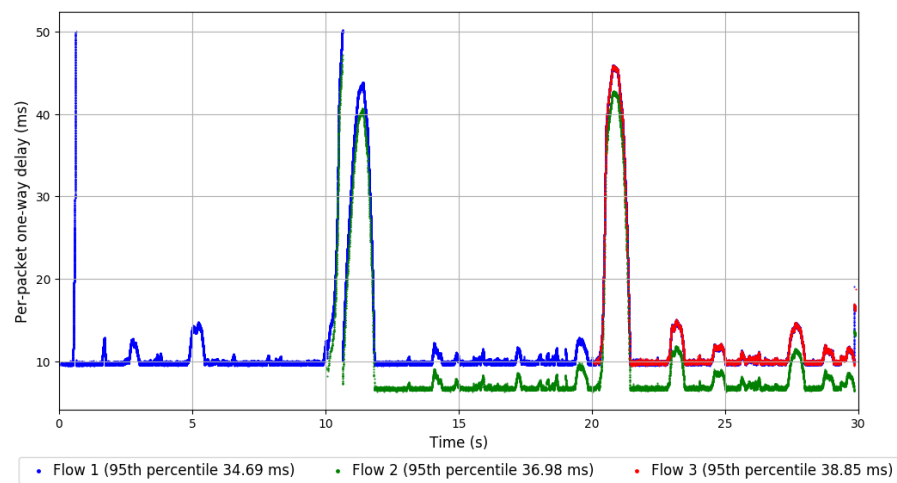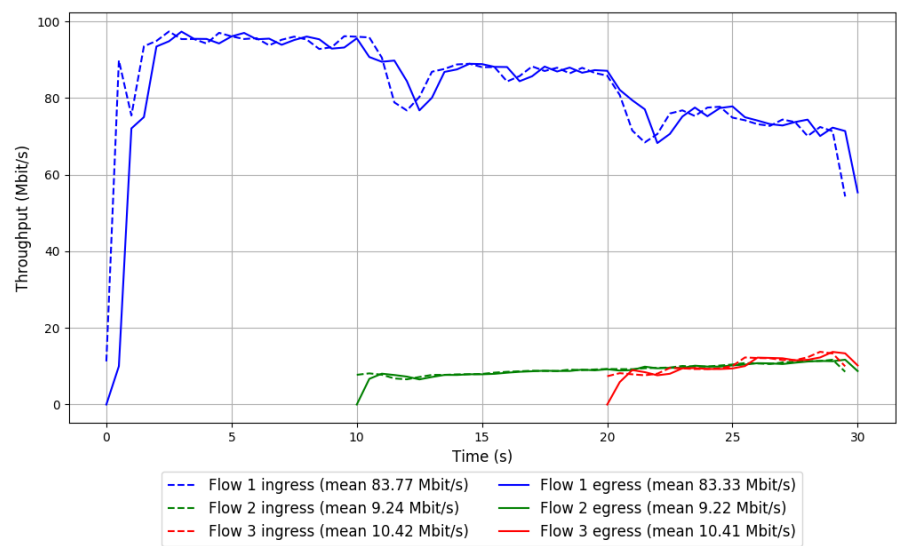
```
Run 2: Statistics of PCC-Allegro

Start at: 2019-07-17 23:24:05
End at: 2019-07-17 23:24:35
Local clock offset: 5.471 ms
Remote clock offset: -3.069 ms


# Below is generated by plot.py at 2019-07-18 01:25:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.36 Mbit/s
95th percentile per-packet one-way delay: 35.893 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 80.65 Mbit/s
95th percentile per-packet one-way delay: 35.381 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 12.89 Mbit/s
95th percentile per-packet one-way delay: 39.175 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 9.53 Mbit/s
95th percentile per-packet one-way delay: 39.012 ms
Loss rate: 0.76%
```

Run 2: Report of PCC-Allegro — Data Link

- - - - Flow 1 ingress (mean 81.30 Mbit/s) ——— Flow 1 egress (mean 80.65 Mbit/s)
- - - - Flow 2 ingress (mean 12.96 Mbit/s) ——— Flow 2 egress (mean 12.89 Mbit/s)
- - - - Flow 3 ingress (mean 9.60 Mbit/s) ——— Flow 3 egress (mean 9.53 Mbit/s)

- Flow 1 (95th percentile 35.38 ms)　　　• Flow 2 (95th percentile 39.17 ms)　　　• Flow 3 (95th percentile 39.01 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-07-17 23:52:34
End at: 2019-07-17 23:53:04
Local clock offset: 3.831 ms
Remote clock offset: -2.724 ms


# Below is generated by plot.py at 2019-07-18 01:25:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.63 Mbit/s
95th percentile per-packet one-way delay: 34.825 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 80.21 Mbit/s
95th percentile per-packet one-way delay: 35.000 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 33.564 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 9.21 Mbit/s
95th percentile per-packet one-way delay: 30.864 ms
Loss rate: 0.03%
```
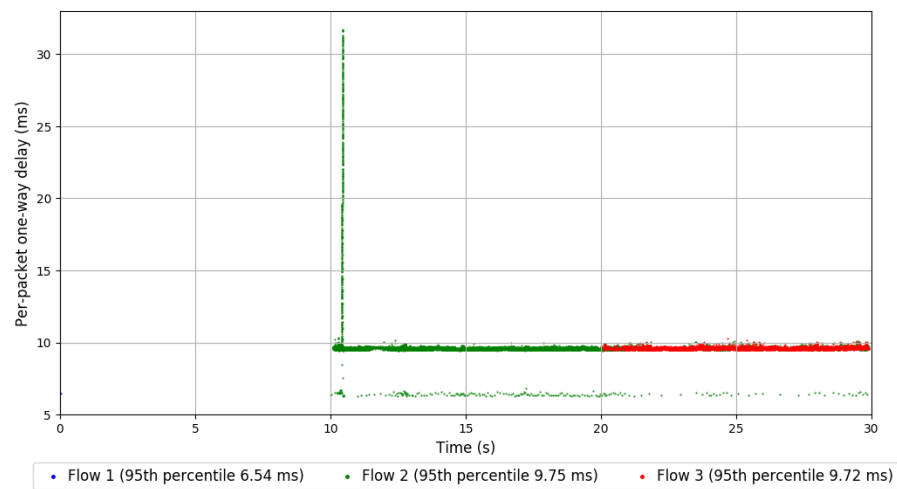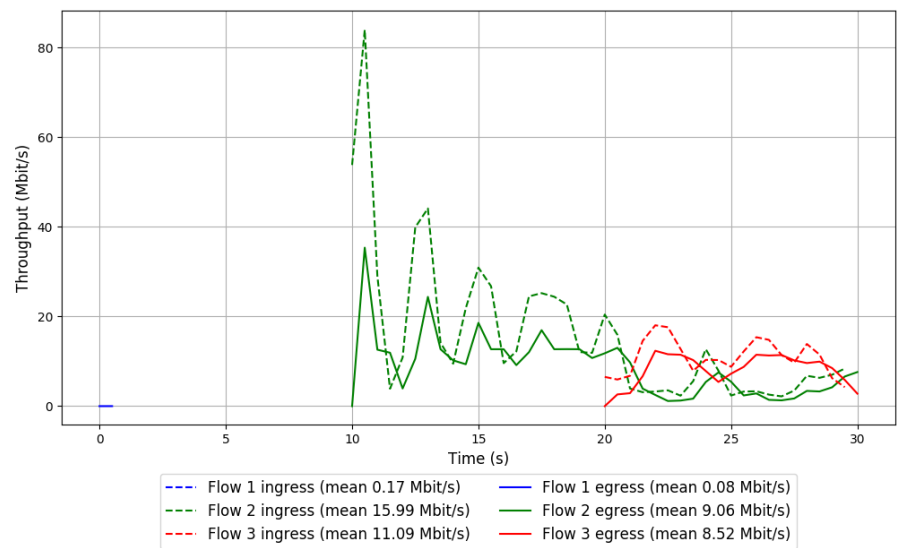
Run 3: Report of PCC-Allegro — Data Link

Legend:
- Flow 1 ingress (mean 80.50 Mbit/s) — Flow 1 egress (mean 80.21 Mbit/s)
- Flow 2 ingress (mean 12.61 Mbit/s) — Flow 2 egress (mean 12.61 Mbit/s)
- Flow 3 ingress (mean 9.22 Mbit/s) — Flow 3 egress (mean 9.21 Mbit/s)

Legend:
- Flow 1 (95th percentile 35.00 ms)
- Flow 2 (95th percentile 33.56 ms)
- Flow 3 (95th percentile 30.86 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-07-18 00:20:48
End at: 2019-07-18 00:21:18
Local clock offset: 2.824 ms
Remote clock offset: -2.845 ms


# Below is generated by plot.py at 2019-07-18 01:25:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.89 Mbit/s
95th percentile per-packet one-way delay: 46.621 ms
Loss rate: 10.70%
-- Flow 1:
Average throughput: 84.96 Mbit/s
95th percentile per-packet one-way delay: 46.888 ms
Loss rate: 10.28%
-- Flow 2:
Average throughput: 12.52 Mbit/s
95th percentile per-packet one-way delay: 44.822 ms
Loss rate: 14.60%
-- Flow 3:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 48.131 ms
Loss rate: 13.30%
```

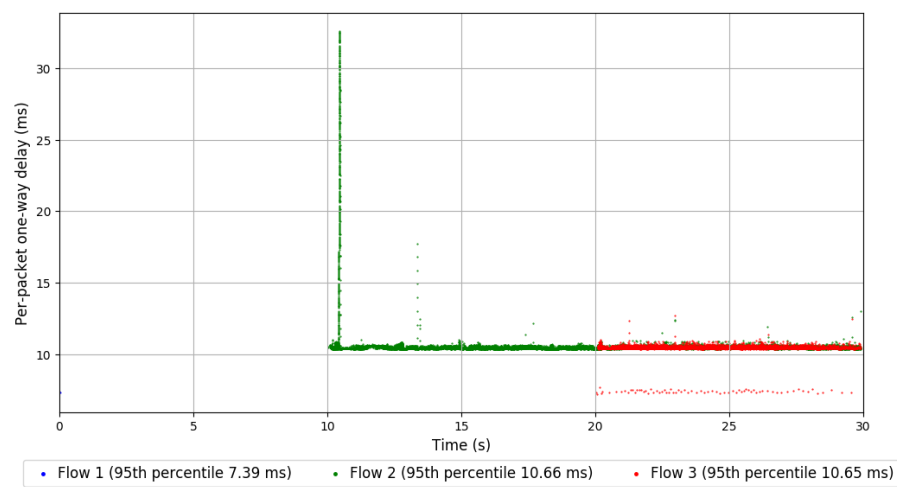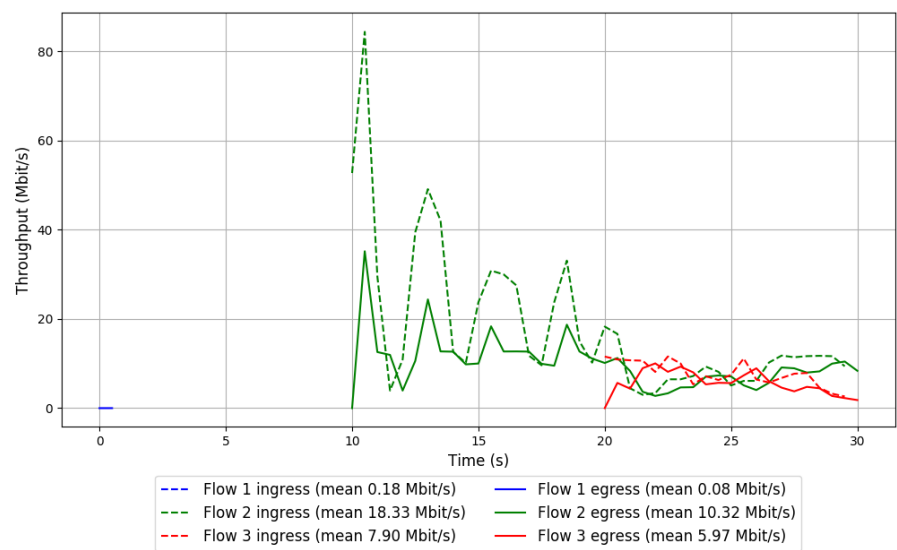Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 94.69 Mbit/s) --- Flow 1 egress (mean 84.96 Mbit/s)
Flow 2 ingress (mean 14.66 Mbit/s) --- Flow 2 egress (mean 12.52 Mbit/s)
Flow 3 ingress (mean 2.11 Mbit/s) --- Flow 3 egress (mean 1.83 Mbit/s)

Flow 1 (95th percentile 46.89 ms) • Flow 2 (95th percentile 44.82 ms) • Flow 3 (95th percentile 48.13 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-07-18 00:49:03
End at: 2019-07-18 00:49:33
Local clock offset: 4.504 ms
Remote clock offset: -3.031 ms


# Below is generated by plot.py at 2019-07-18 01:25:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.88 Mbit/s
95th percentile per-packet one-way delay: 35.273 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 83.33 Mbit/s
95th percentile per-packet one-way delay: 34.686 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 9.22 Mbit/s
95th percentile per-packet one-way delay: 36.984 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 10.41 Mbit/s
95th percentile per-packet one-way delay: 38.854 ms
Loss rate: 0.02%
```
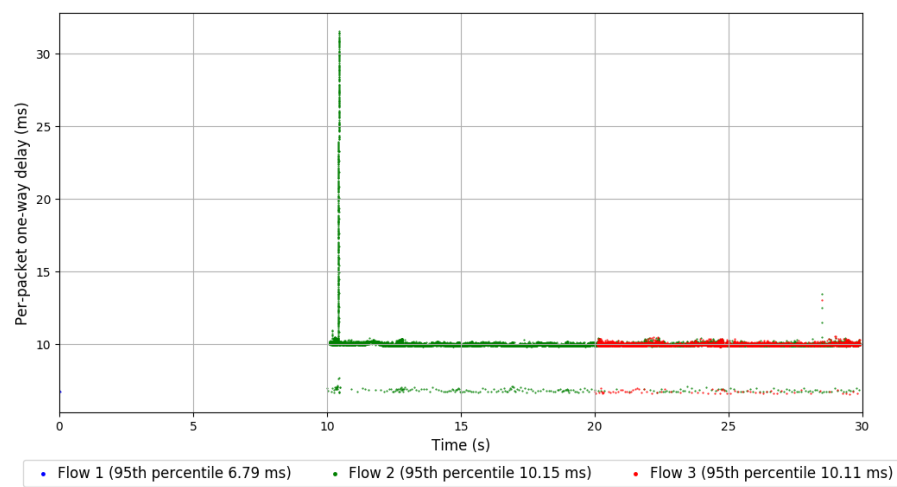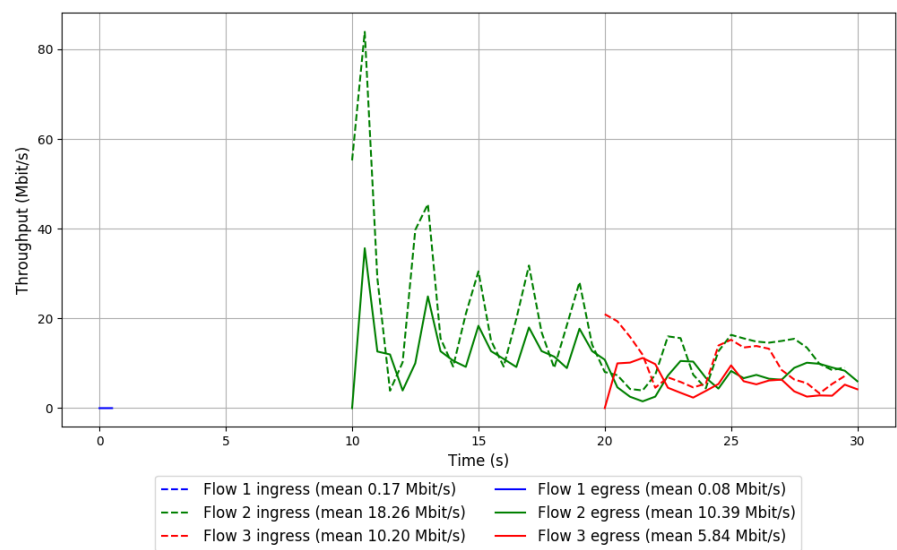
Run 5: Report of PCC-Allegro — Data Link

- - - Flow 1 ingress (mean 83.77 Mbit/s) —— Flow 1 egress (mean 83.33 Mbit/s)
- - - Flow 2 ingress (mean 9.24 Mbit/s) —— Flow 2 egress (mean 9.22 Mbit/s)
- - - Flow 3 ingress (mean 10.42 Mbit/s) —— Flow 3 egress (mean 10.41 Mbit/s)

• Flow 1 (95th percentile 34.69 ms)   • Flow 2 (95th percentile 36.98 ms)   • Flow 3 (95th percentile 38.85 ms)
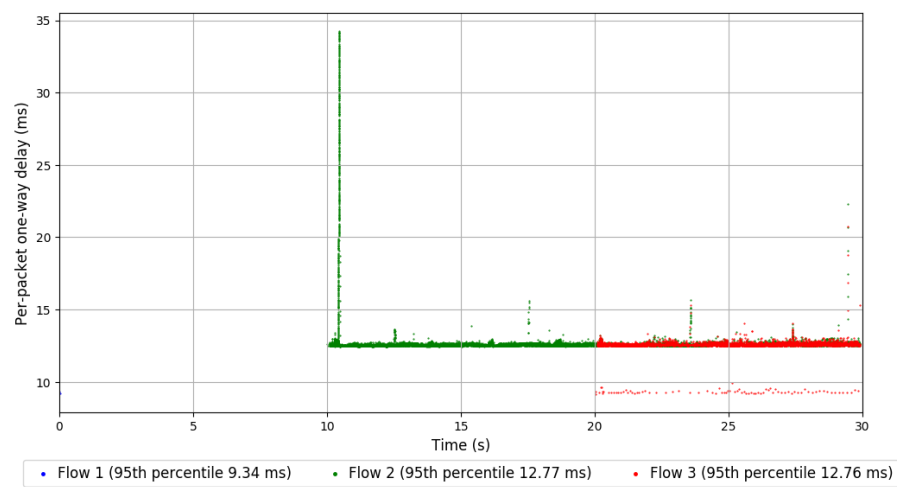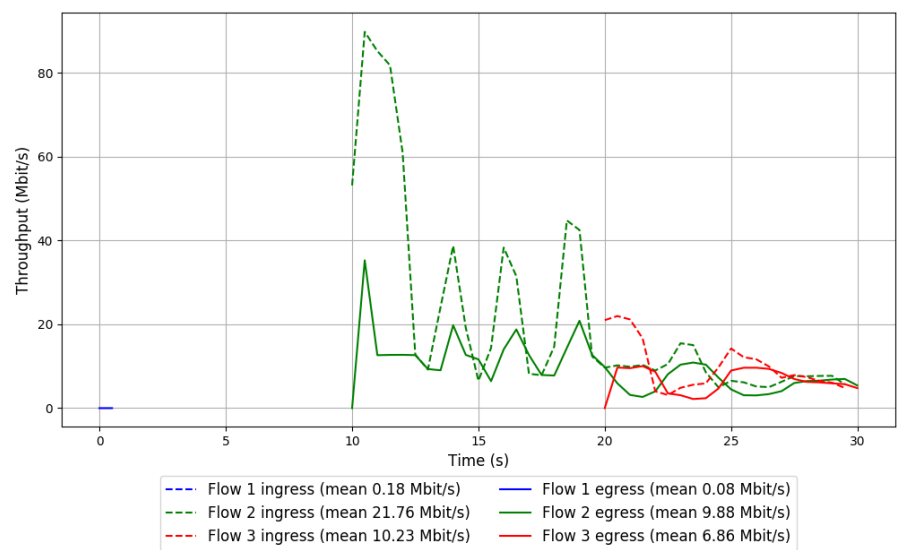
```
Run 1: Statistics of PCC-Expr

Start at: 2019-07-17 23:15:53
End at: 2019-07-17 23:16:23
Local clock offset: 5.015 ms
Remote clock offset: -3.078 ms


# Below is generated by plot.py at 2019-07-18 01:25:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 9.739 ms
Loss rate: 38.17%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 6.540 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.06 Mbit/s
95th percentile per-packet one-way delay: 9.754 ms
Loss rate: 43.34%
-- Flow 3:
Average throughput: 8.52 Mbit/s
95th percentile per-packet one-way delay: 9.718 ms
Loss rate: 23.16%
```
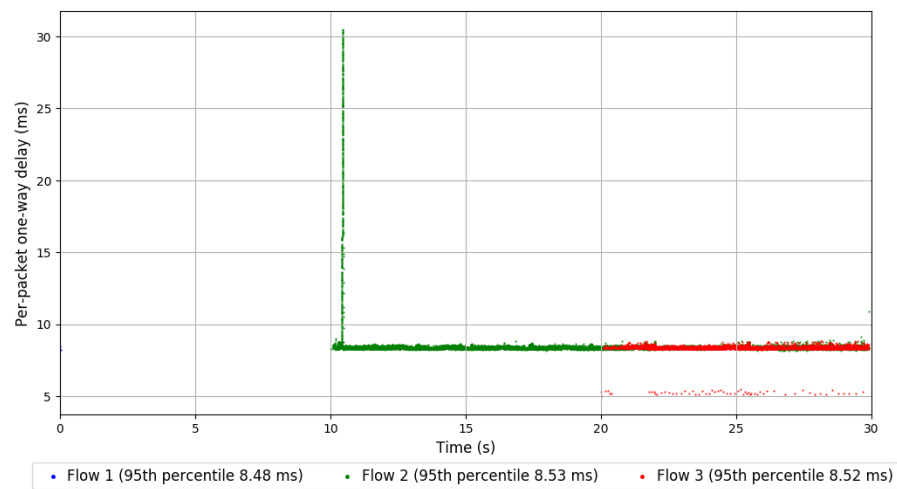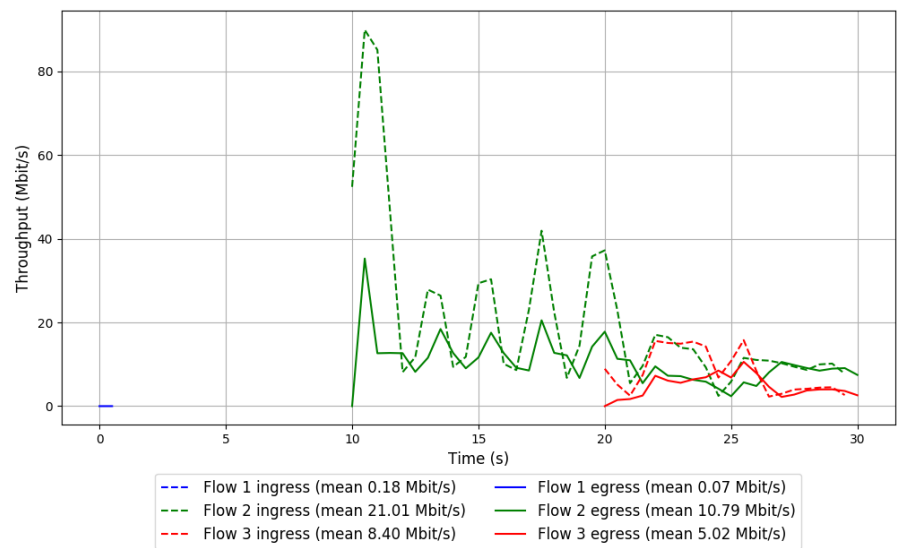
Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2019-07-17 23:44:24
End at: 2019-07-17 23:44:54
Local clock offset: 2.984 ms
Remote clock offset: -2.831 ms


# Below is generated by plot.py at 2019-07-18 01:25:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.83 Mbit/s
95th percentile per-packet one-way delay: 10.654 ms
Loss rate: 40.29%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 7.392 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.32 Mbit/s
95th percentile per-packet one-way delay: 10.658 ms
Loss rate: 43.68%
-- Flow 3:
Average throughput: 5.97 Mbit/s
95th percentile per-packet one-way delay: 10.649 ms
Loss rate: 24.44%
```
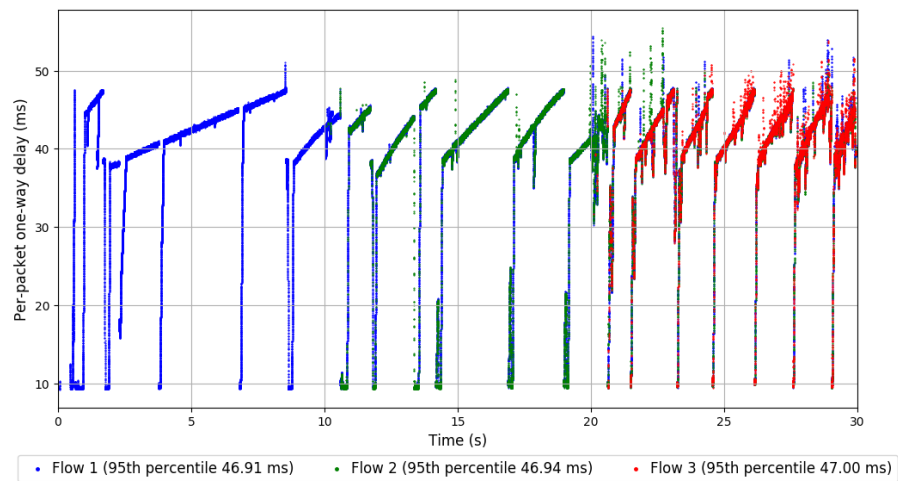
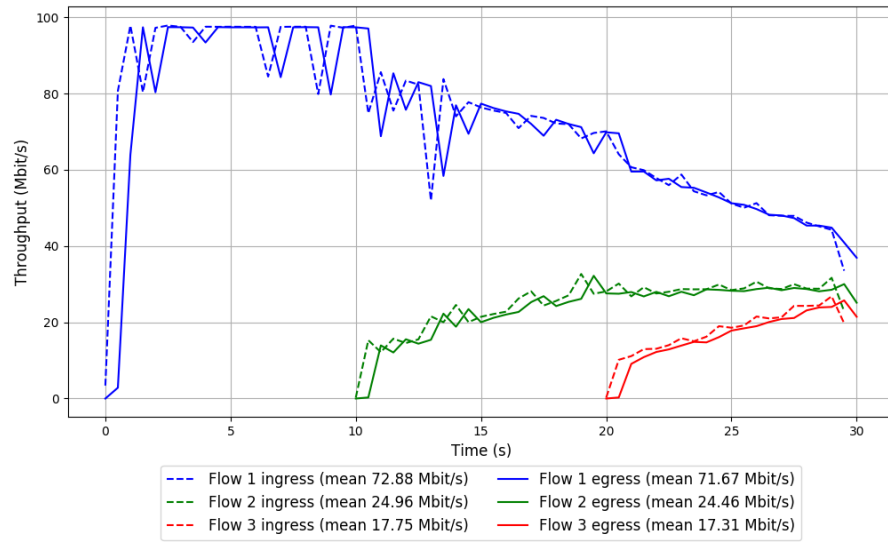Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-07-18 00:12:39
End at: 2019-07-18 00:13:09
Local clock offset: 3.211 ms
Remote clock offset: -2.41 ms


# Below is generated by plot.py at 2019-07-18 01:25:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 10.145 ms
Loss rate: 43.01%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 6.794 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.39 Mbit/s
95th percentile per-packet one-way delay: 10.154 ms
Loss rate: 43.09%
-- Flow 3:
Average throughput: 5.84 Mbit/s
95th percentile per-packet one-way delay: 10.106 ms
Loss rate: 42.74%
```

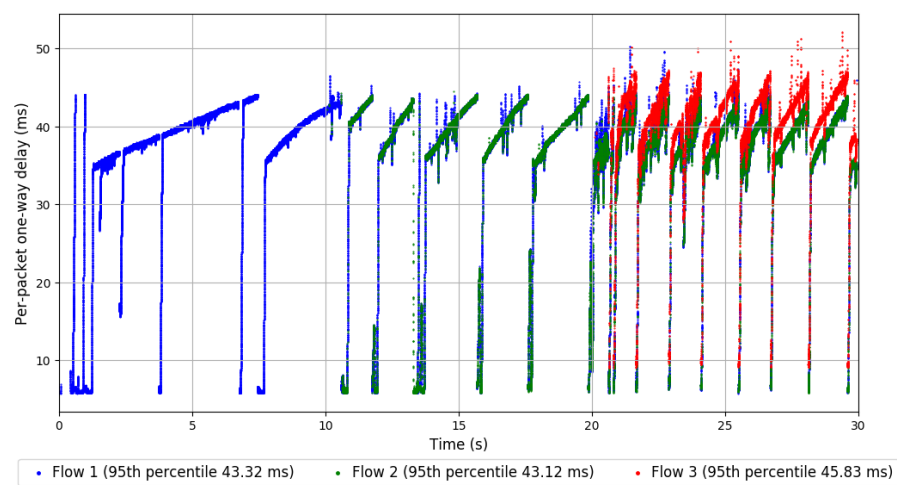Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2019-07-18 00:40:53
End at: 2019-07-18 00:41:23
Local clock offset: 3.359 ms
Remote clock offset: -0.703 ms


# Below is generated by plot.py at 2019-07-18 01:25:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 12.766 ms
Loss rate: 50.48%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 9.337 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 9.88 Mbit/s
95th percentile per-packet one-way delay: 12.772 ms
Loss rate: 54.60%
-- Flow 3:
Average throughput: 6.86 Mbit/s
95th percentile per-packet one-way delay: 12.755 ms
Loss rate: 32.85%
```
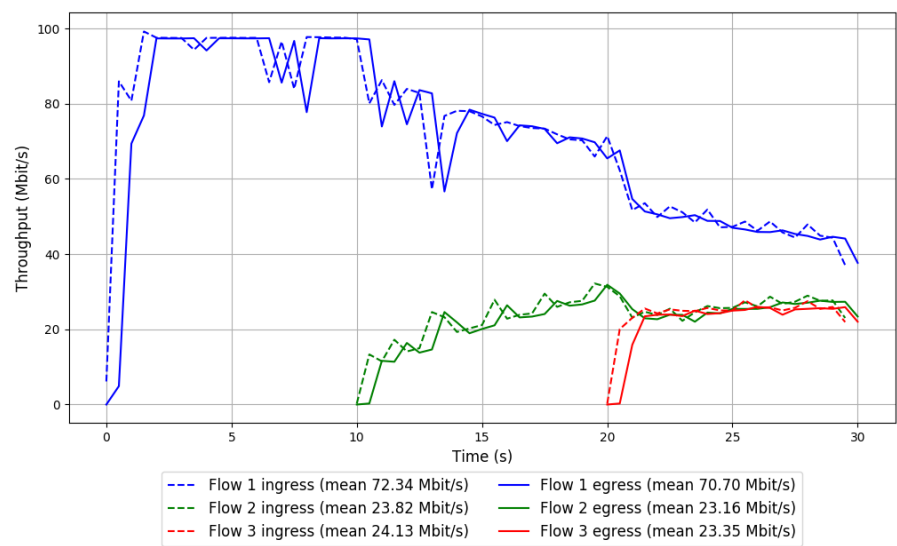
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-07-18 01:09:01
End at: 2019-07-18 01:09:31
Local clock offset: 0.483 ms
Remote clock offset: -4.361 ms


# Below is generated by plot.py at 2019-07-18 01:25:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 8.528 ms
Loss rate: 47.24%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 8.479 ms
Loss rate: 85.71%
-- Flow 2:
Average throughput: 10.79 Mbit/s
95th percentile per-packet one-way delay: 8.532 ms
Loss rate: 48.64%
-- Flow 3:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 8.518 ms
Loss rate: 40.17%
```

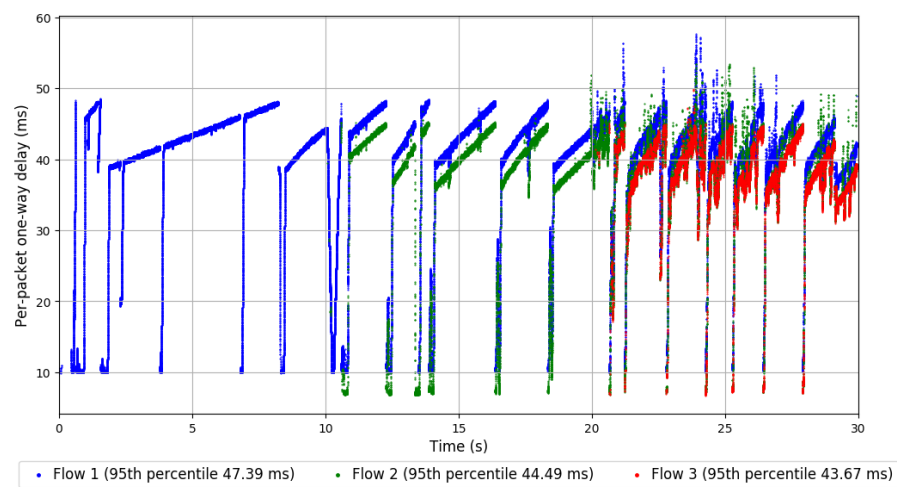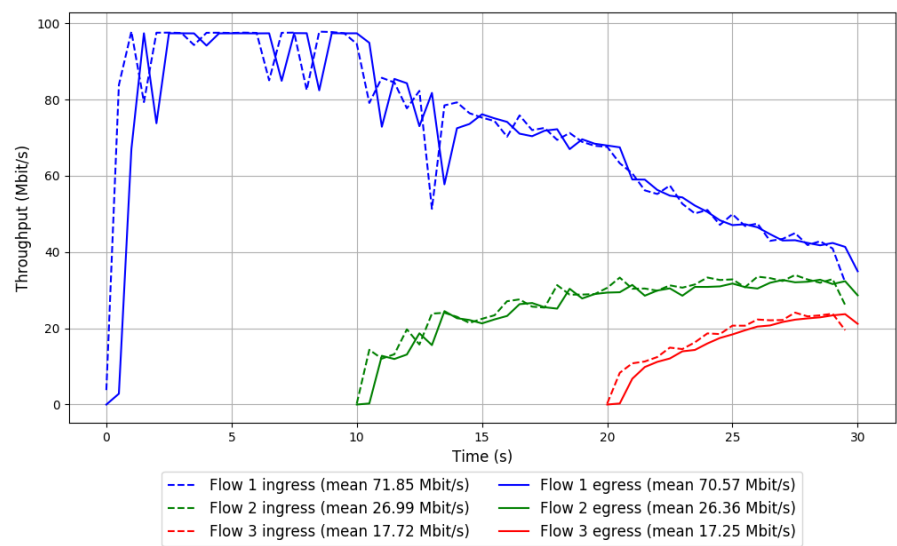# Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-07-17 22:58:03
End at: 2019-07-17 22:58:33
Local clock offset: 2.511 ms
Remote clock offset: -3.781 ms


# Below is generated by plot.py at 2019-07-18 01:26:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.58 Mbit/s
95th percentile per-packet one-way delay: 46.920 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 71.67 Mbit/s
95th percentile per-packet one-way delay: 46.912 ms
Loss rate: 1.55%
-- Flow 2:
Average throughput: 24.46 Mbit/s
95th percentile per-packet one-way delay: 46.943 ms
Loss rate: 2.01%
-- Flow 3:
Average throughput: 17.31 Mbit/s
95th percentile per-packet one-way delay: 47.003 ms
Loss rate: 2.39%
```
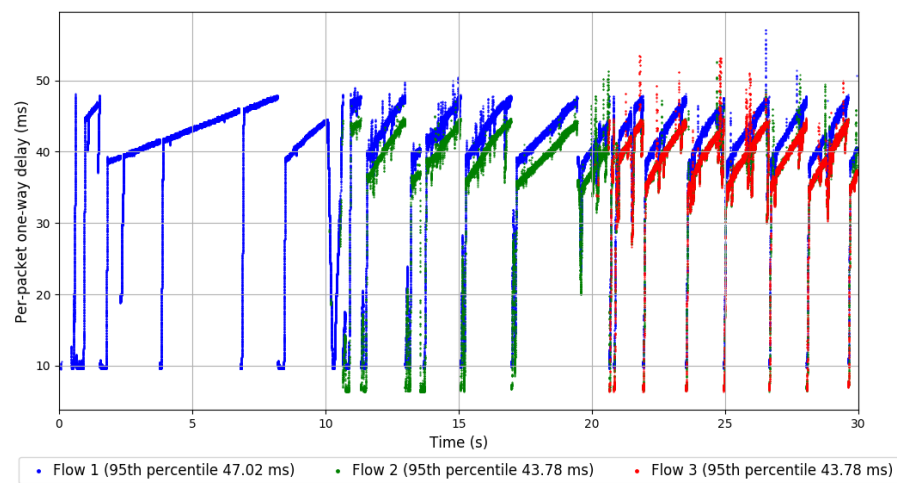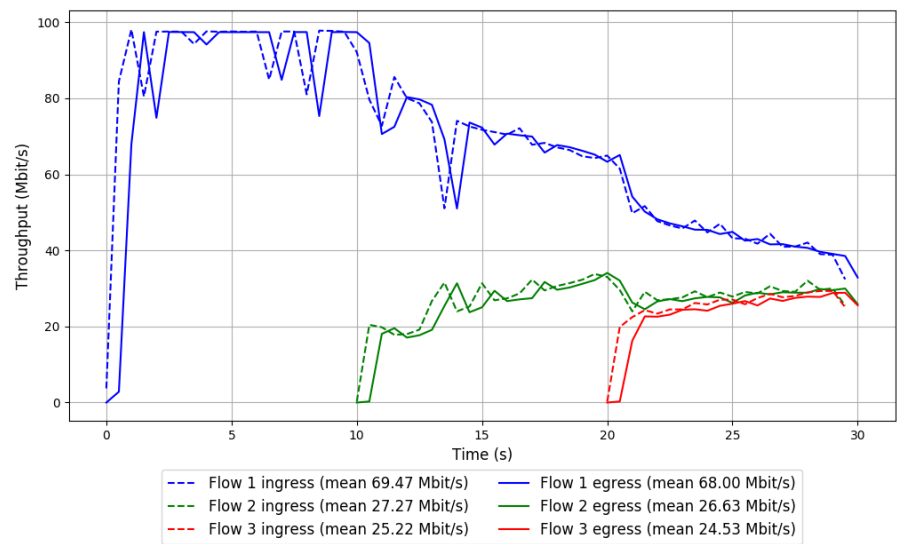
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 72.88 Mbit/s) --- Flow 1 egress (mean 71.67 Mbit/s)
Flow 2 ingress (mean 24.96 Mbit/s) --- Flow 2 egress (mean 24.46 Mbit/s)
Flow 3 ingress (mean 17.75 Mbit/s) --- Flow 3 egress (mean 17.31 Mbit/s)

Flow 1 (95th percentile 46.91 ms)   Flow 2 (95th percentile 46.94 ms)   Flow 3 (95th percentile 47.00 ms)

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```
Run 2: Statistics of QUIC Cubic

Start at: 2019-07-17 23:26:27
End at: 2019-07-17 23:26:57
Local clock offset: 5.359 ms
Remote clock offset: -3.433 ms


# Below is generated by plot.py at 2019-07-18 01:26:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.73 Mbit/s
95th percentile per-packet one-way delay: 43.527 ms
Loss rate: 2.33%
-- Flow 1:
Average throughput: 70.70 Mbit/s
95th percentile per-packet one-way delay: 43.320 ms
Loss rate: 2.14%
-- Flow 2:
Average throughput: 23.16 Mbit/s
95th percentile per-packet one-way delay: 43.120 ms
Loss rate: 2.81%
-- Flow 3:
Average throughput: 23.35 Mbit/s
95th percentile per-packet one-way delay: 45.828 ms
Loss rate: 3.18%
```
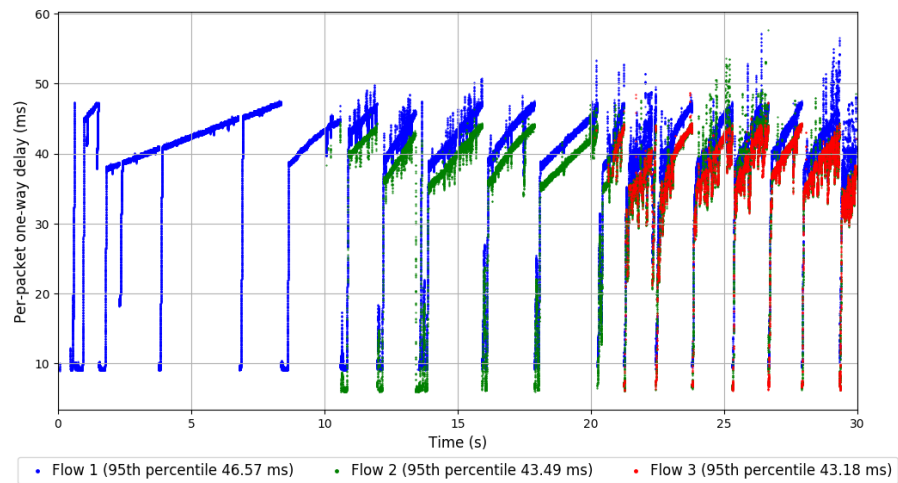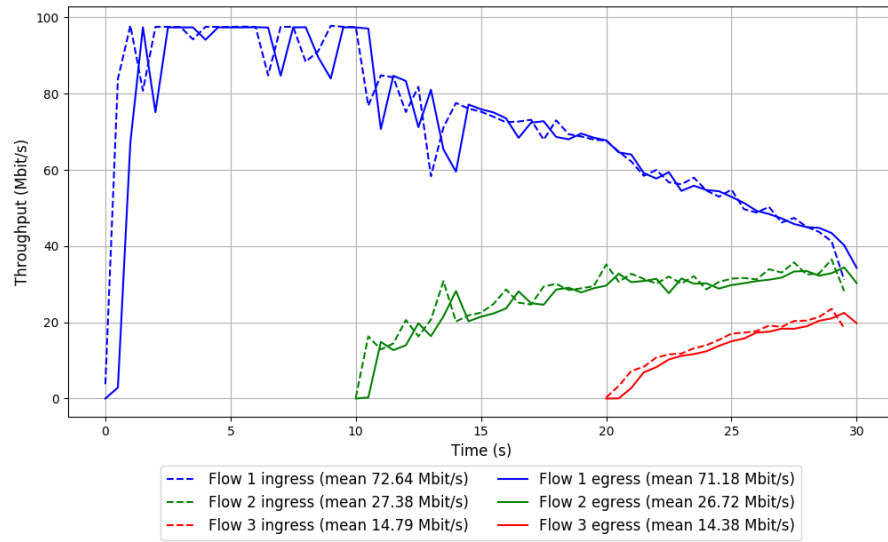
Run 2: Report of QUIC Cubic — Data Link

- - - Flow 1 ingress (mean 72.34 Mbit/s) —— Flow 1 egress (mean 70.70 Mbit/s)
- - - Flow 2 ingress (mean 23.82 Mbit/s) —— Flow 2 egress (mean 23.16 Mbit/s)
- - - Flow 3 ingress (mean 24.13 Mbit/s) —— Flow 3 egress (mean 23.35 Mbit/s)

• Flow 1 (95th percentile 43.32 ms)　　• Flow 2 (95th percentile 43.12 ms)　　• Flow 3 (95th percentile 45.83 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-07-17 23:54:55
End at: 2019-07-17 23:55:25
Local clock offset: 3.08 ms
Remote clock offset: -3.154 ms


# Below is generated by plot.py at 2019-07-18 01:26:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.71 Mbit/s
95th percentile per-packet one-way delay: 47.225 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 70.57 Mbit/s
95th percentile per-packet one-way delay: 47.393 ms
Loss rate: 1.67%
-- Flow 2:
Average throughput: 26.36 Mbit/s
95th percentile per-packet one-way delay: 44.487 ms
Loss rate: 2.31%
-- Flow 3:
Average throughput: 17.25 Mbit/s
95th percentile per-packet one-way delay: 43.672 ms
Loss rate: 2.69%
```
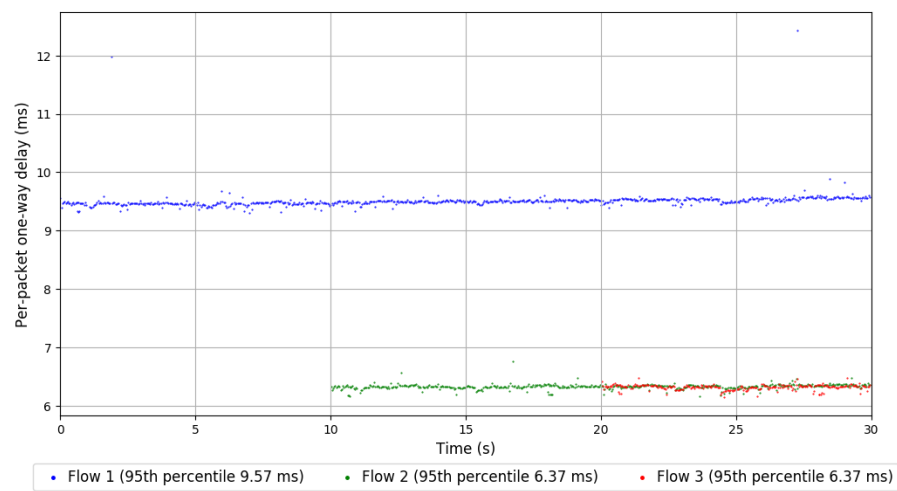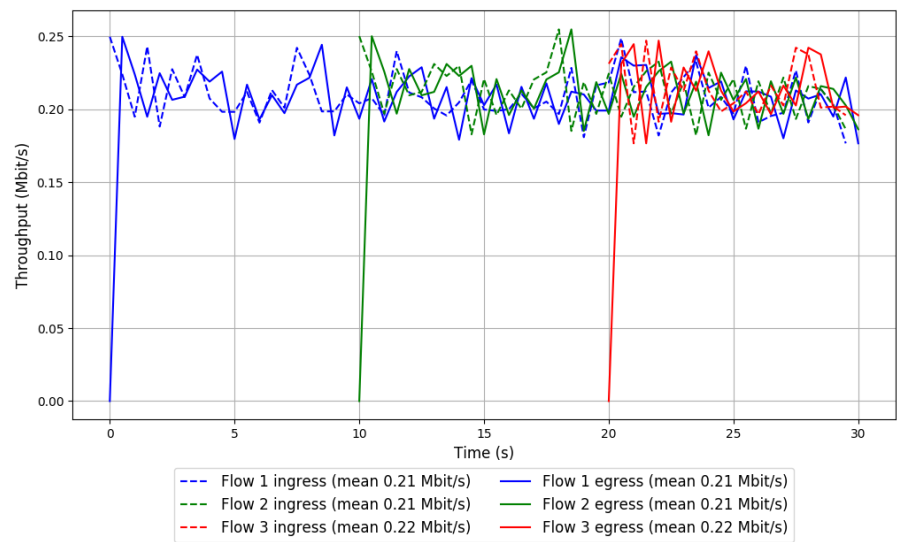
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 71.85 Mbit/s) — — — Flow 1 egress (mean 70.57 Mbit/s) ———
Flow 2 ingress (mean 26.99 Mbit/s) — — — Flow 2 egress (mean 26.36 Mbit/s) ———
Flow 3 ingress (mean 17.72 Mbit/s) — — — Flow 3 egress (mean 17.25 Mbit/s) ———

Flow 1 (95th percentile 47.39 ms)   Flow 2 (95th percentile 44.49 ms)   Flow 3 (95th percentile 43.67 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-07-18 00:23:12
End at: 2019-07-18 00:23:42
Local clock offset: 3.194 ms
Remote clock offset: -2.445 ms


# Below is generated by plot.py at 2019-07-18 01:26:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.70 Mbit/s
95th percentile per-packet one-way delay: 46.799 ms
Loss rate: 2.12%
-- Flow 1:
Average throughput: 68.00 Mbit/s
95th percentile per-packet one-way delay: 47.023 ms
Loss rate: 1.99%
-- Flow 2:
Average throughput: 26.63 Mbit/s
95th percentile per-packet one-way delay: 43.784 ms
Loss rate: 2.36%
-- Flow 3:
Average throughput: 24.53 Mbit/s
95th percentile per-packet one-way delay: 43.776 ms
Loss rate: 2.75%
```

Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 69.47 Mbit/s)   Flow 1 egress (mean 68.00 Mbit/s)
Flow 2 ingress (mean 27.27 Mbit/s)   Flow 2 egress (mean 26.63 Mbit/s)
Flow 3 ingress (mean 25.22 Mbit/s)   Flow 3 egress (mean 24.53 Mbit/s)

Flow 1 (95th percentile 47.02 ms)   Flow 2 (95th percentile 43.78 ms)   Flow 3 (95th percentile 43.78 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-07-18 00:51:23
End at: 2019-07-18 00:51:53
Local clock offset: 4.619 ms
Remote clock offset: -3.536 ms


# Below is generated by plot.py at 2019-07-18 01:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.61 Mbit/s
95th percentile per-packet one-way delay: 46.369 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 71.18 Mbit/s
95th percentile per-packet one-way delay: 46.568 ms
Loss rate: 1.89%
-- Flow 2:
Average throughput: 26.72 Mbit/s
95th percentile per-packet one-way delay: 43.495 ms
Loss rate: 2.36%
-- Flow 3:
Average throughput: 14.38 Mbit/s
95th percentile per-packet one-way delay: 43.183 ms
Loss rate: 2.76%
```

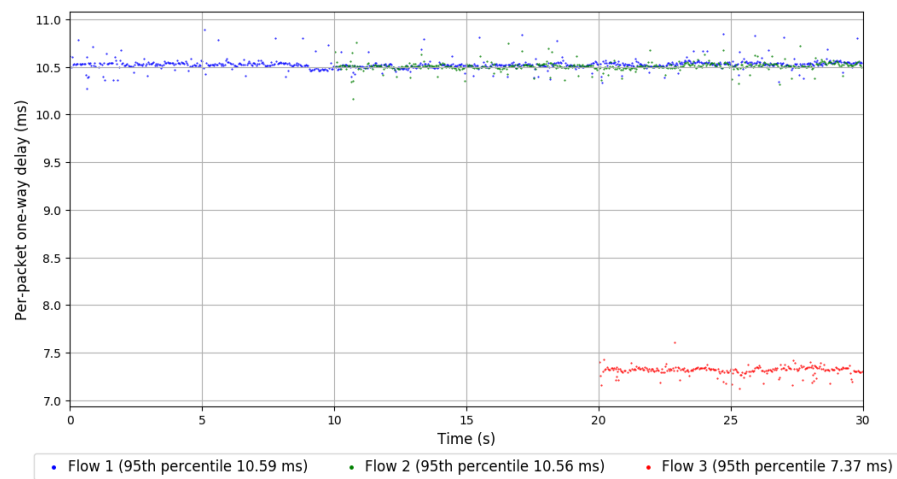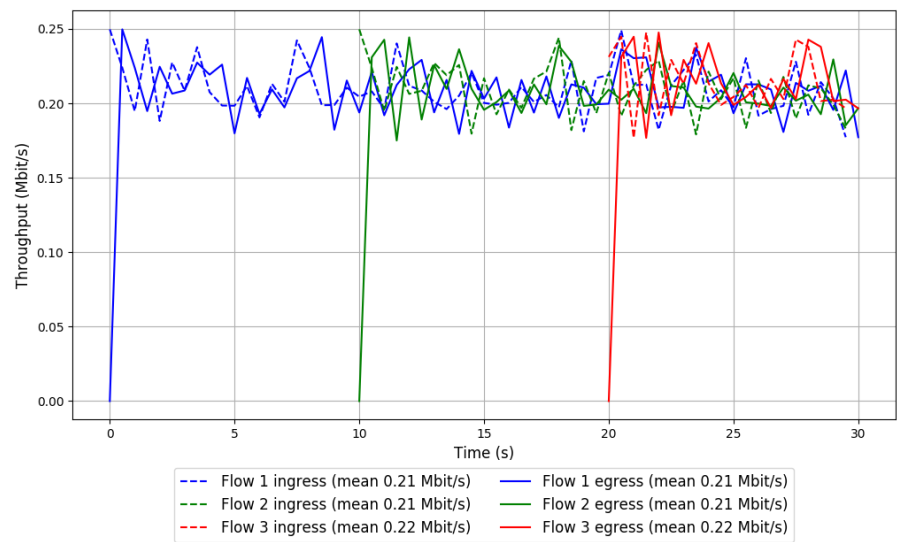Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-07-17 22:59:15
End at: 2019-07-17 22:59:45
Local clock offset: 3.006 ms
Remote clock offset: -3.537 ms


# Below is generated by plot.py at 2019-07-18 01:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 9.560 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 9.571 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 6.370 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 6.370 ms
Loss rate: 0.00%
```
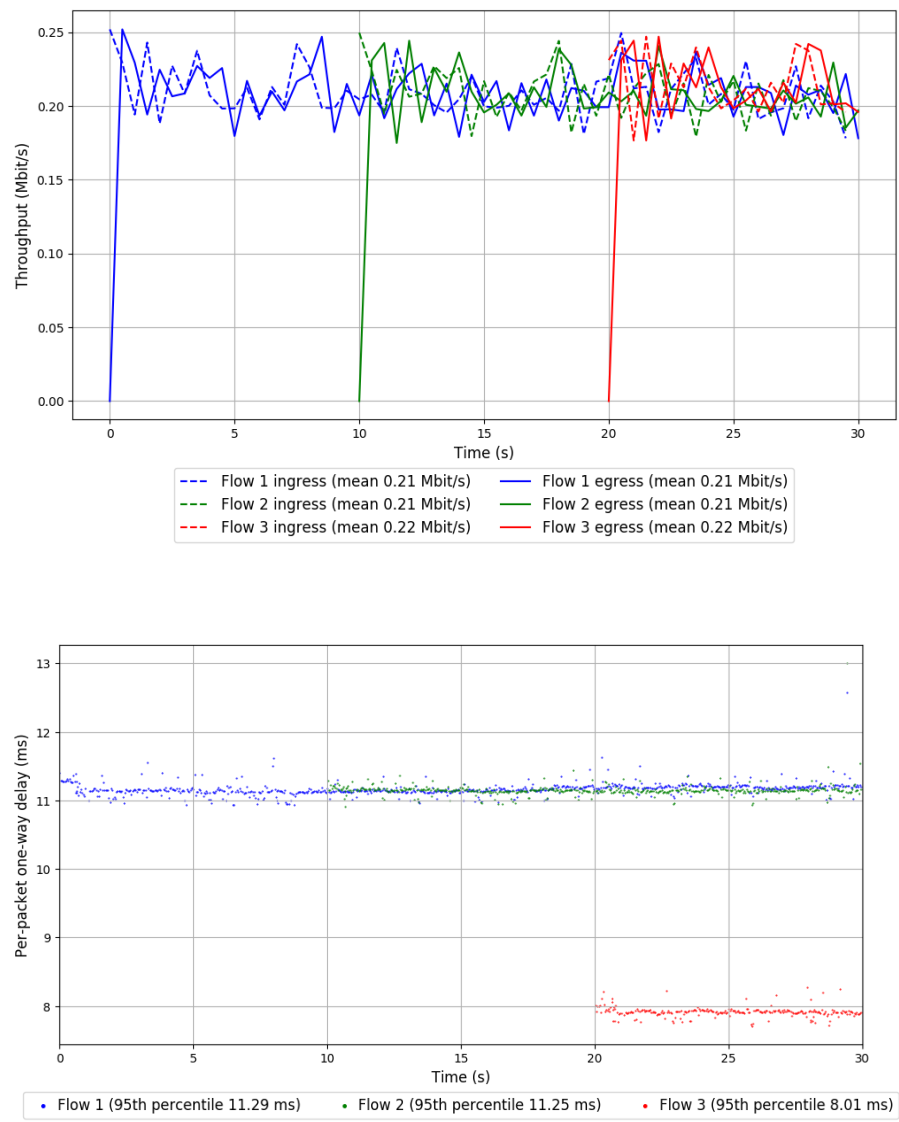
Run 1: Report of SCReAM — Data Link

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```
Run 2: Statistics of SCReAM

Start at: 2019-07-17 23:27:42
End at: 2019-07-17 23:28:12
Local clock offset: 4.758 ms
Remote clock offset: -3.846 ms


# Below is generated by plot.py at 2019-07-18 01:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 9.061 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 6.077 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 5.937 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 9.113 ms
Loss rate: 0.00%
```
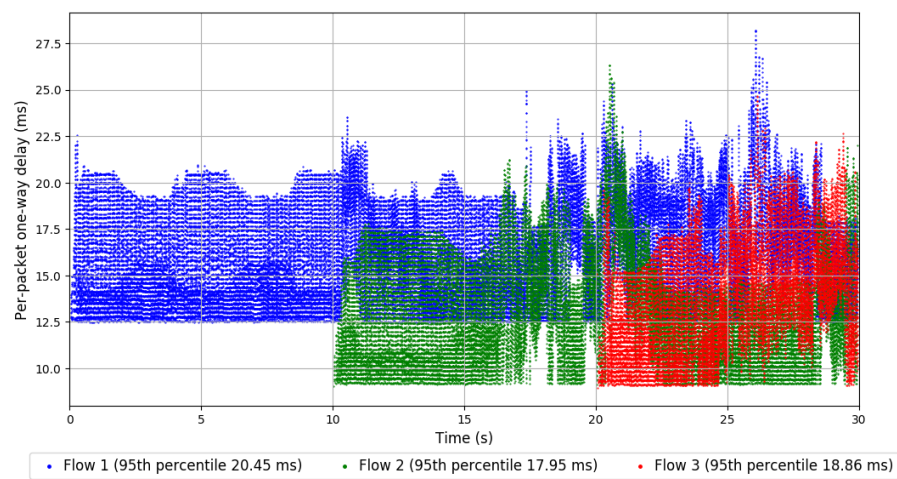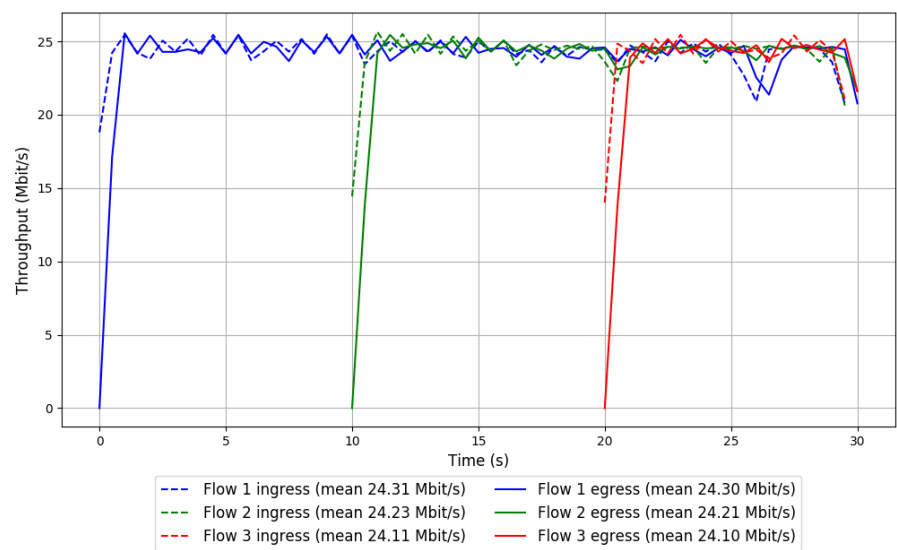
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-07-17 23:56:06
End at: 2019-07-17 23:56:36
Local clock offset: 3.769 ms
Remote clock offset: -0.956 ms


# Below is generated by plot.py at 2019-07-18 01:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 11.614 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 11.674 ms
Loss rate: 4.37%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 8.541 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.500 ms
Loss rate: 0.00%
```
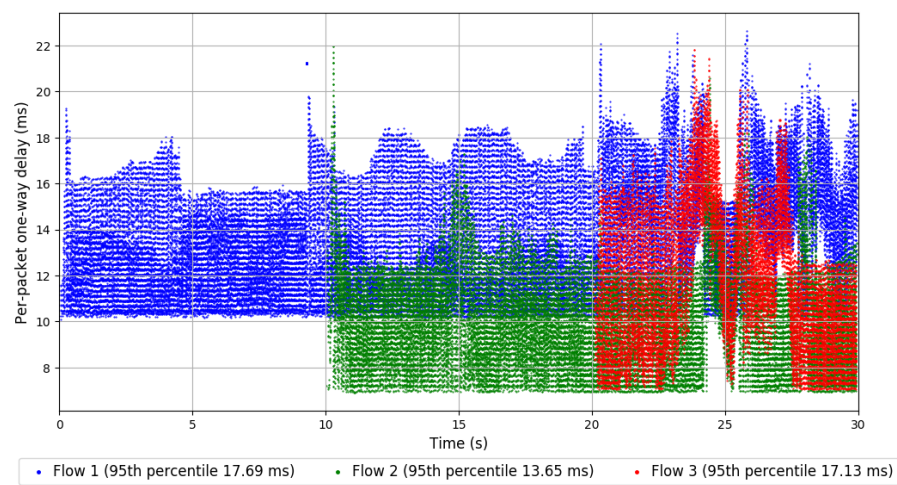
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-07-18 00:24:24
End at: 2019-07-18 00:24:54
Local clock offset: 3.156 ms
Remote clock offset: -1.738 ms


# Below is generated by plot.py at 2019-07-18 01:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 10.569 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 10.586 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 10.563 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 7.374 ms
Loss rate: 0.00%
```
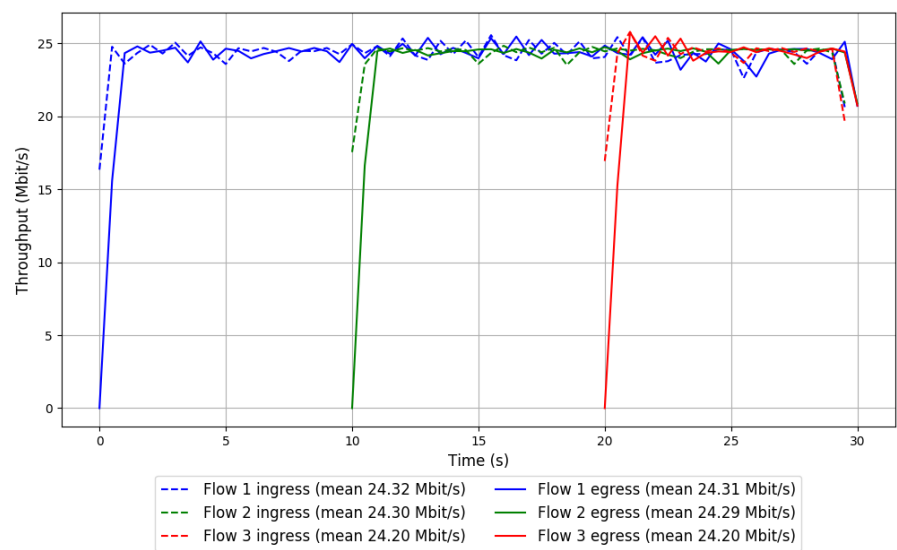
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-07-18 00:52:34
End at: 2019-07-18 00:53:04
Local clock offset: 4.582 ms
Remote clock offset: -1.792 ms


# Below is generated by plot.py at 2019-07-18 01:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 11.257 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.292 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.250 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 8.010 ms
Loss rate: 0.00%
```
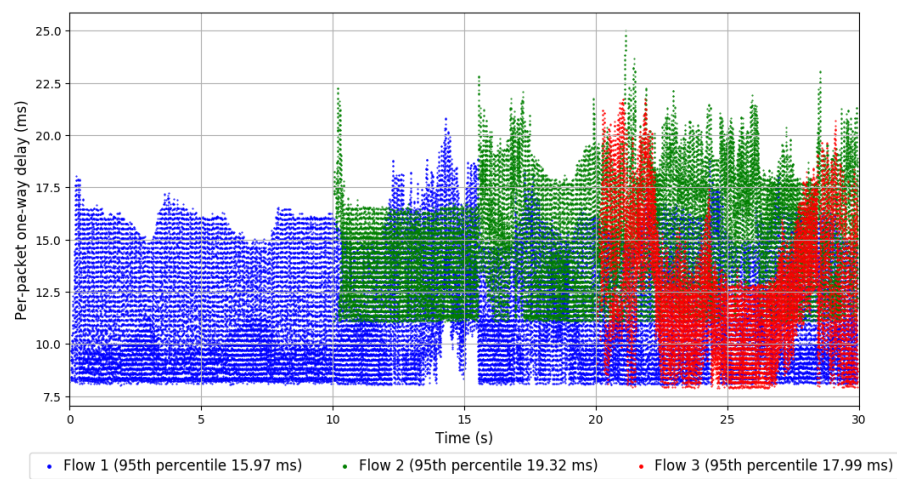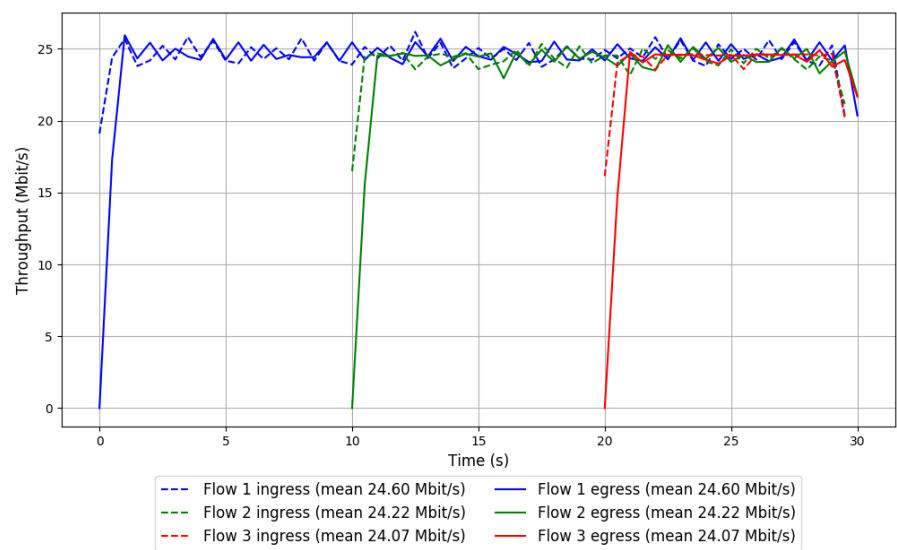
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-07-17 22:52:12
End at: 2019-07-17 22:52:42
Local clock offset: 0.848 ms
Remote clock offset: -1.551 ms


# Below is generated by plot.py at 2019-07-18 01:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.38 Mbit/s
95th percentile per-packet one-way delay: 19.927 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.30 Mbit/s
95th percentile per-packet one-way delay: 20.454 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.21 Mbit/s
95th percentile per-packet one-way delay: 17.951 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.10 Mbit/s
95th percentile per-packet one-way delay: 18.857 ms
Loss rate: 0.00%
```
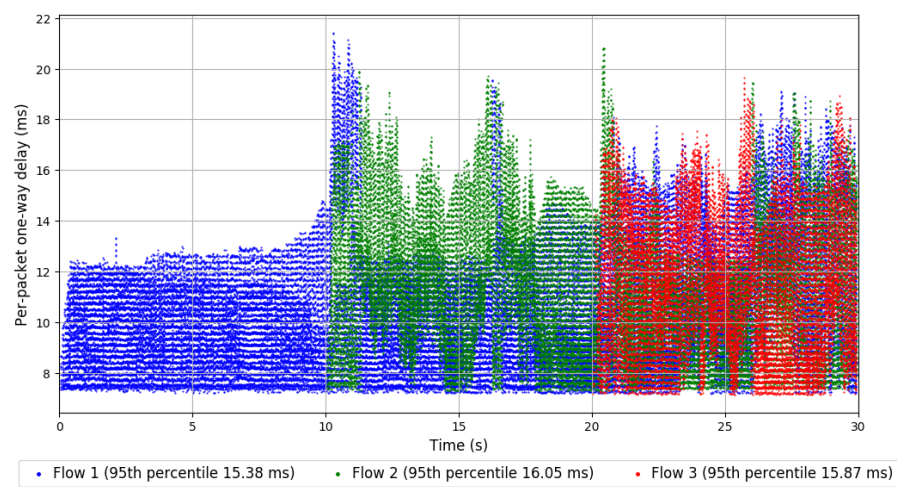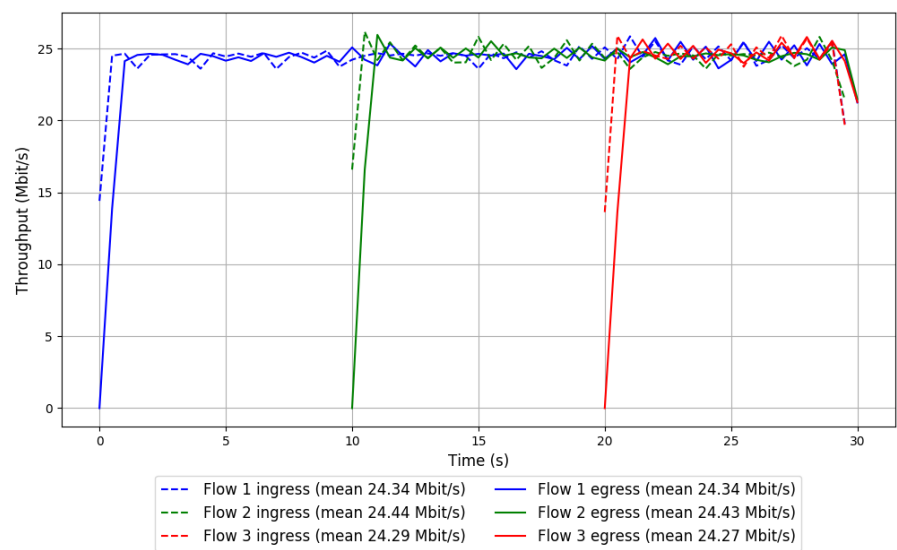
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-07-17 23:20:31
End at: 2019-07-17 23:21:01
Local clock offset: 4.967 ms
Remote clock offset: -2.896 ms


# Below is generated by plot.py at 2019-07-18 01:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.47 Mbit/s
95th percentile per-packet one-way delay: 17.162 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.31 Mbit/s
95th percentile per-packet one-way delay: 17.687 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.29 Mbit/s
95th percentile per-packet one-way delay: 13.653 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.20 Mbit/s
95th percentile per-packet one-way delay: 17.128 ms
Loss rate: 0.00%
```
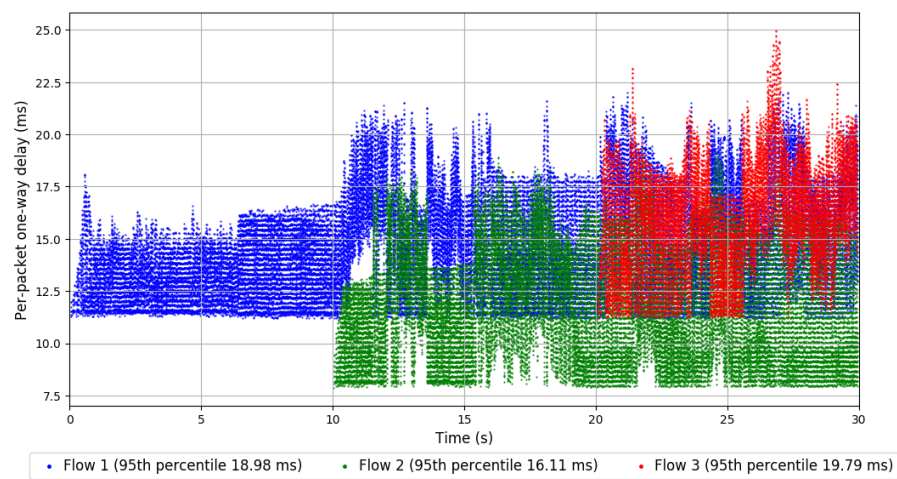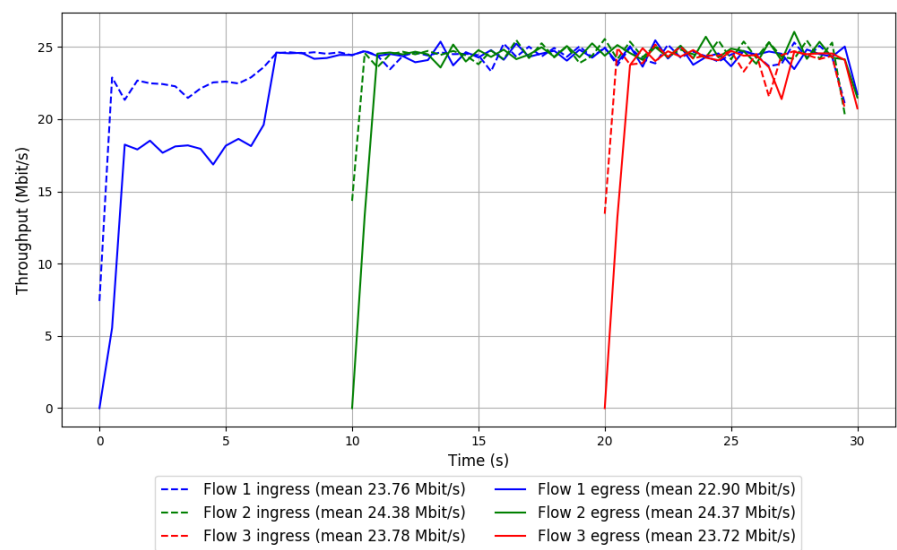
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-07-17 23:49:03
End at: 2019-07-17 23:49:33
Local clock offset: 3.587 ms
Remote clock offset: -1.445 ms


# Below is generated by plot.py at 2019-07-18 01:26:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.65 Mbit/s
95th percentile per-packet one-way delay: 18.142 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.60 Mbit/s
95th percentile per-packet one-way delay: 15.972 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.22 Mbit/s
95th percentile per-packet one-way delay: 19.323 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.07 Mbit/s
95th percentile per-packet one-way delay: 17.988 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-07-18 00:17:15
End at: 2019-07-18 00:17:45
Local clock offset: 3.105 ms
Remote clock offset: -1.852 ms


# Below is generated by plot.py at 2019-07-18 01:26:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.60 Mbit/s
95th percentile per-packet one-way delay: 15.736 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.34 Mbit/s
95th percentile per-packet one-way delay: 15.382 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 24.43 Mbit/s
95th percentile per-packet one-way delay: 16.054 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 24.27 Mbit/s
95th percentile per-packet one-way delay: 15.868 ms
Loss rate: 0.00%
```
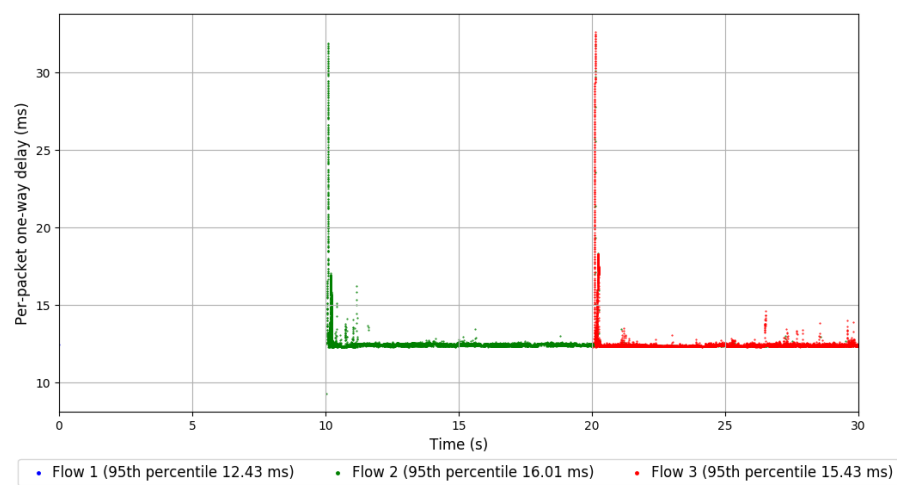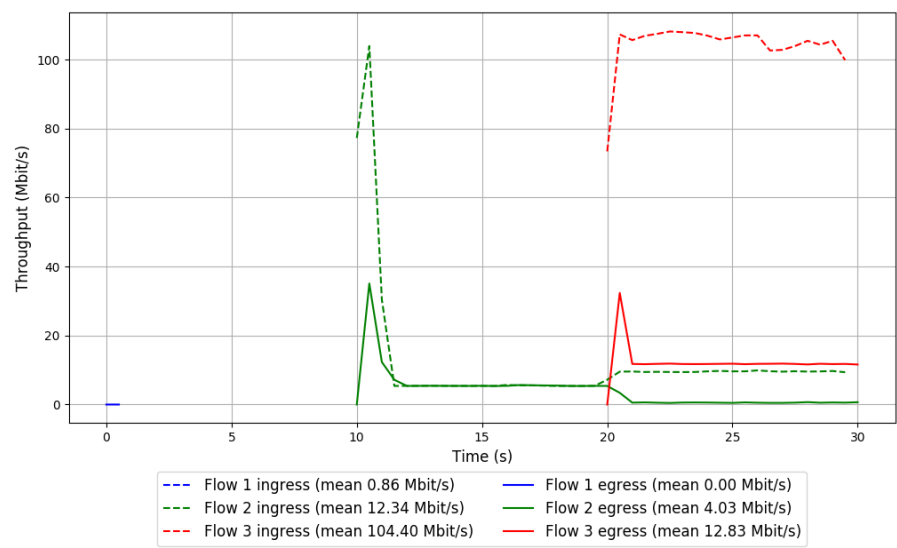
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-07-18 00:45:28
End at: 2019-07-18 00:45:58
Local clock offset: 3.566 ms
Remote clock offset: -2.156 ms


# Below is generated by plot.py at 2019-07-18 01:26:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 46.96 Mbit/s
95th percentile per-packet one-way delay: 18.736 ms
Loss rate: 1.81%
-- Flow 1:
Average throughput: 22.90 Mbit/s
95th percentile per-packet one-way delay: 18.981 ms
Loss rate: 3.59%
-- Flow 2:
Average throughput: 24.37 Mbit/s
95th percentile per-packet one-way delay: 16.113 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 23.72 Mbit/s
95th percentile per-packet one-way delay: 19.794 ms
Loss rate: 0.19%
```
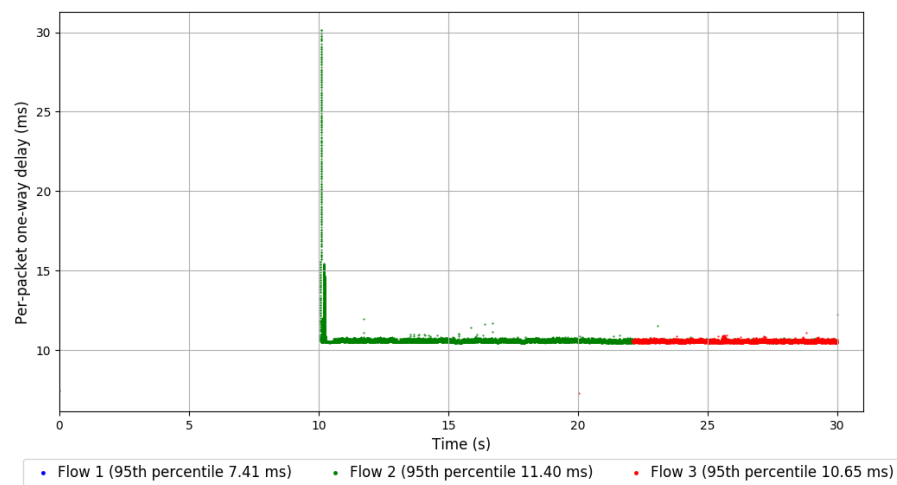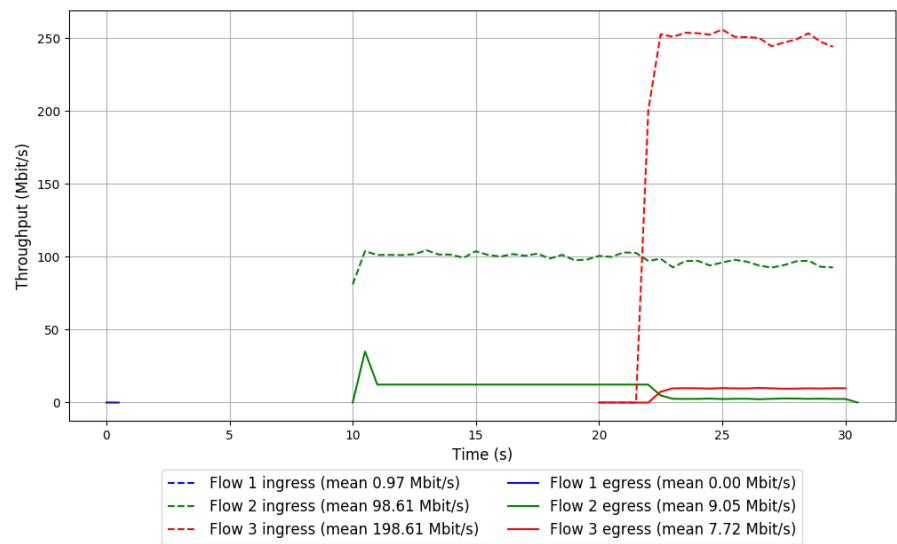
Run 5: Report of Sprout — Data Link

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

Start at: 2019-07-17 23:05:13
End at: 2019-07-17 23:05:43
Local clock offset: 3.485 ms
Remote clock offset: -1.0 ms

# Below is generated by plot.py at 2019-07-18 01:26:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.95 Mbit/s
95th percentile per-packet one-way delay: 15.838 ms
Loss rate: 83.81%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.429 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 16.009 ms
Loss rate: 67.33%
-- Flow 3:
Average throughput: 12.83 Mbit/s
95th percentile per-packet one-way delay: 15.432 ms
Loss rate: 87.71%
```
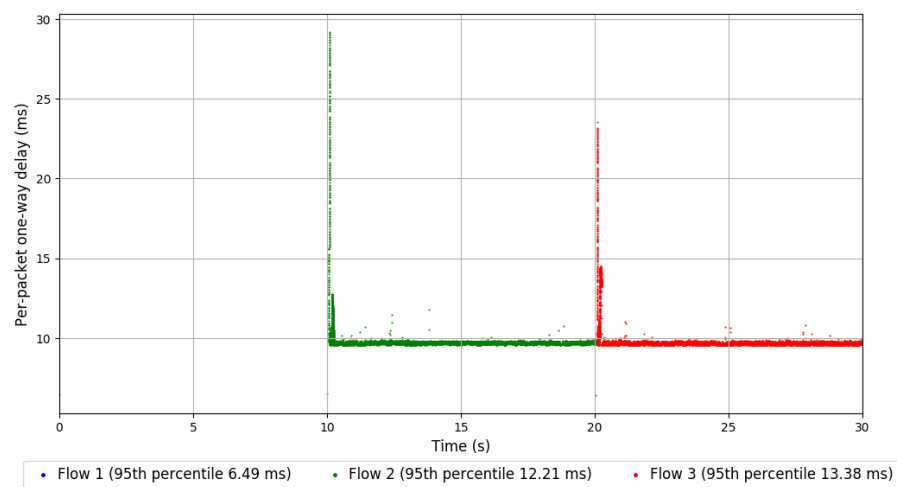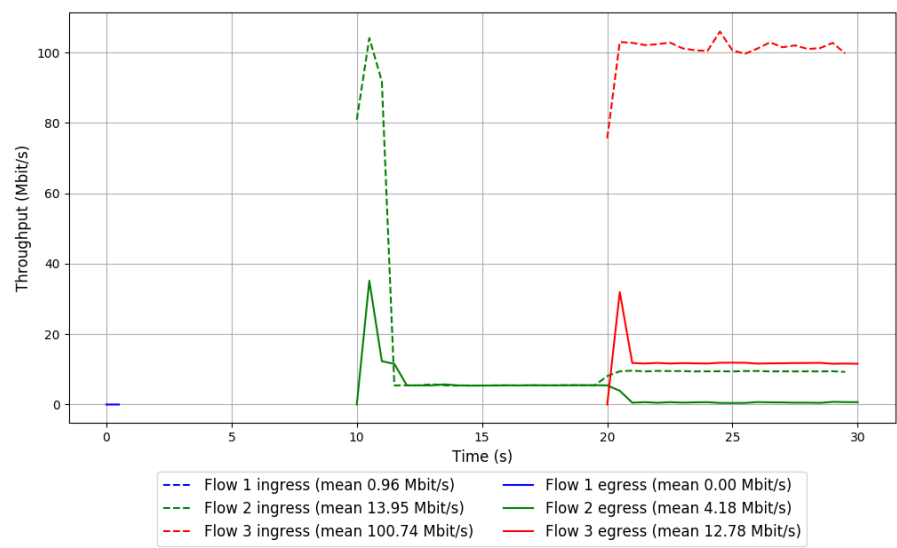
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2019-07-17 23:33:47
End at: 2019-07-17 23:34:17
Local clock offset: 4.695 ms
Remote clock offset: -1.718 ms


# Below is generated by plot.py at 2019-07-18 01:26:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.60 Mbit/s
95th percentile per-packet one-way delay: 10.737 ms
Loss rate: 93.47%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 7.413 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.05 Mbit/s
95th percentile per-packet one-way delay: 11.400 ms
Loss rate: 90.82%
-- Flow 3:
Average throughput: 7.72 Mbit/s
95th percentile per-packet one-way delay: 10.654 ms
Loss rate: 96.12%
```
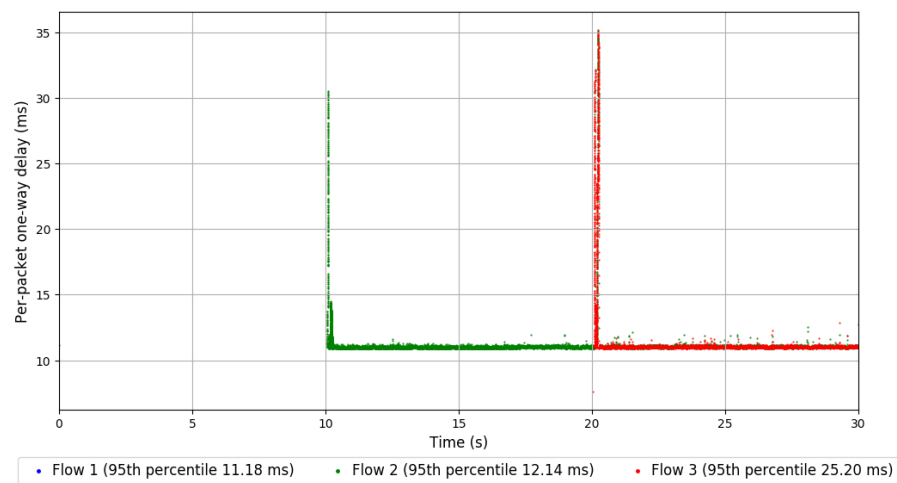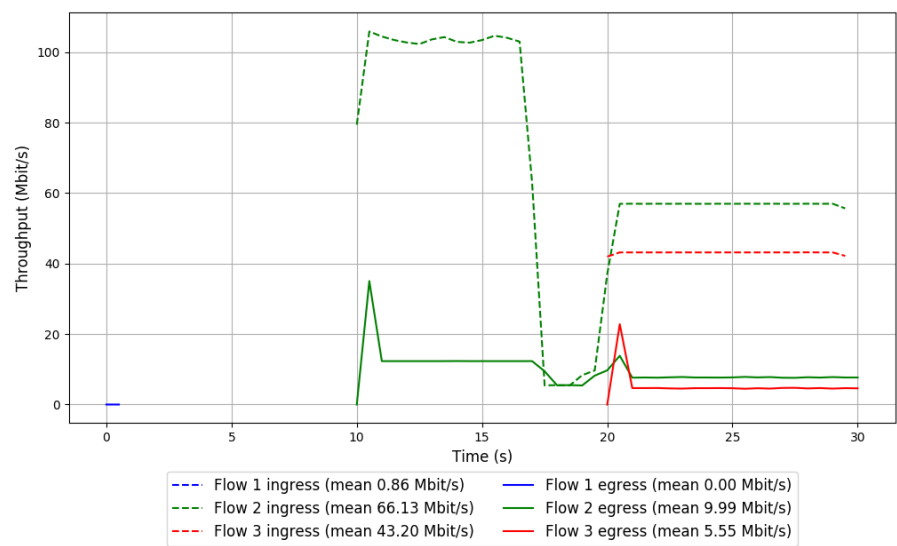
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.97 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 98.61 Mbit/s) --- Flow 2 egress (mean 9.05 Mbit/s)
Flow 3 ingress (mean 198.61 Mbit/s) --- Flow 3 egress (mean 7.72 Mbit/s)

Flow 1 (95th percentile 7.41 ms)   Flow 2 (95th percentile 11.40 ms)   Flow 3 (95th percentile 10.65 ms)

198

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

Start at: 2019-07-18 00:02:02
End at: 2019-07-18 00:02:32
Local clock offset: 3.008 ms
Remote clock offset: -3.104 ms


# Below is generated by plot.py at 2019-07-18 01:26:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.03 Mbit/s
95th percentile per-packet one-way delay: 12.869 ms
Loss rate: 83.57%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 6.492 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 4.18 Mbit/s
95th percentile per-packet one-way delay: 12.210 ms
Loss rate: 70.06%
-- Flow 3:
Average throughput: 12.78 Mbit/s
95th percentile per-packet one-way delay: 13.385 ms
Loss rate: 87.31%
```
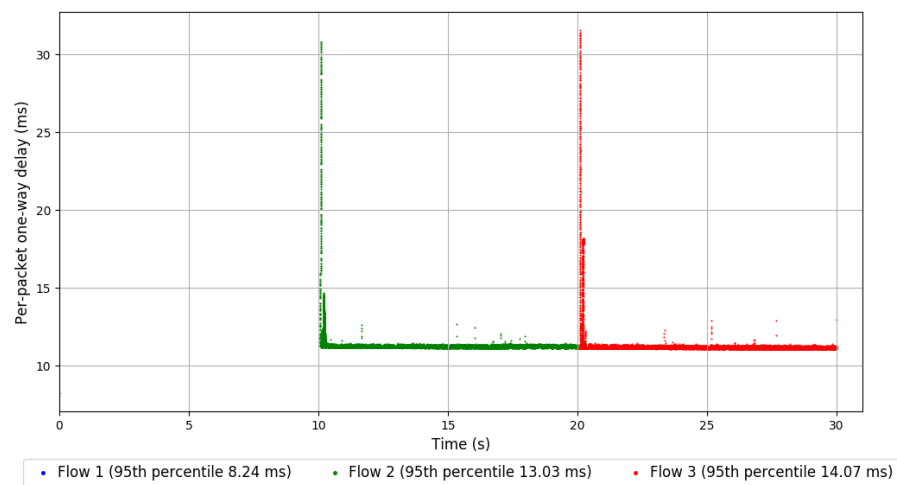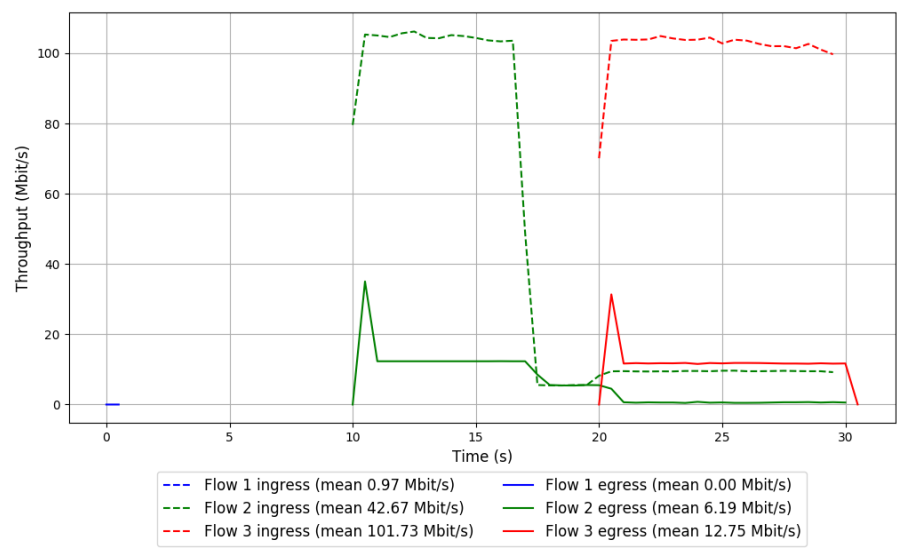
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.96 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s) ---
Flow 2 ingress (mean 13.95 Mbit/s) --- Flow 2 egress (mean 4.18 Mbit/s) ---
Flow 3 ingress (mean 100.74 Mbit/s) --- Flow 3 egress (mean 12.78 Mbit/s) ---

Flow 1 (95th percentile 6.49 ms) • Flow 2 (95th percentile 12.21 ms) • Flow 3 (95th percentile 13.38 ms)

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

Start at: 2019-07-18 00:30:18
End at: 2019-07-18 00:30:48
Local clock offset: 3.753 ms
Remote clock offset: -1.241 ms


# Below is generated by plot.py at 2019-07-18 01:26:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.50 Mbit/s
95th percentile per-packet one-way delay: 14.010 ms
Loss rate: 85.45%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.179 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 9.99 Mbit/s
95th percentile per-packet one-way delay: 12.136 ms
Loss rate: 84.90%
-- Flow 3:
Average throughput: 5.55 Mbit/s
95th percentile per-packet one-way delay: 25.197 ms
Loss rate: 87.16%
```
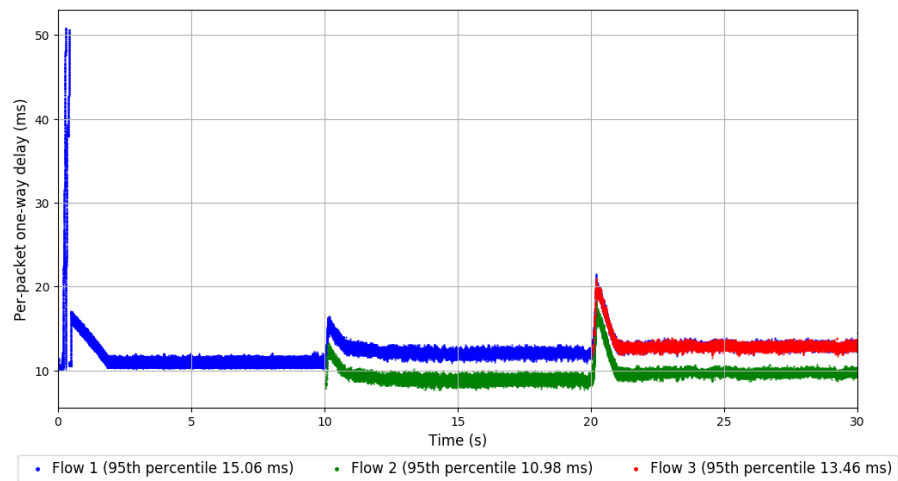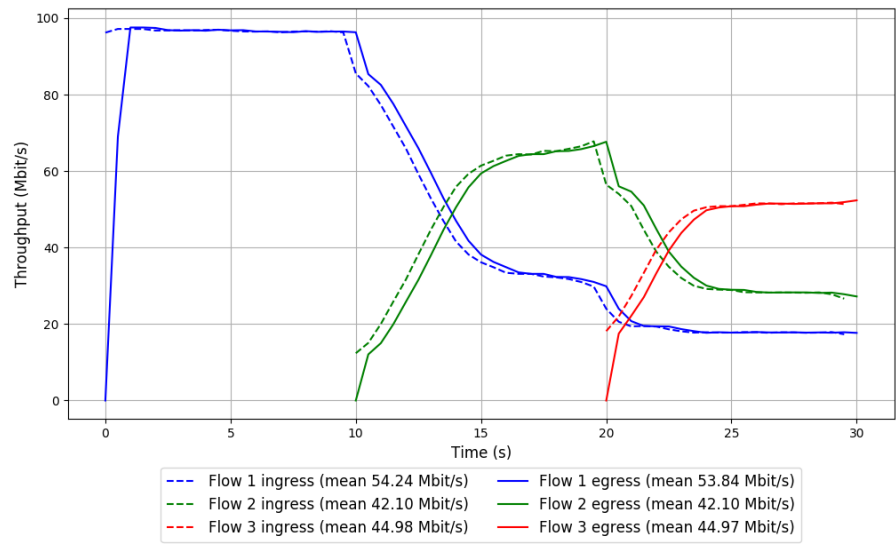
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 0.86 Mbit/s)   Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 66.13 Mbit/s)   Flow 2 egress (mean 9.99 Mbit/s)
Flow 3 ingress (mean 43.20 Mbit/s)   Flow 3 egress (mean 5.55 Mbit/s)

Flow 1 (95th percentile 11.18 ms)   Flow 2 (95th percentile 12.14 ms)   Flow 3 (95th percentile 25.20 ms)

202

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

Start at: 2019-07-18 00:58:28
End at: 2019-07-18 00:58:58
Local clock offset: 2.778 ms
Remote clock offset: -1.63 ms


# Below is generated by plot.py at 2019-07-18 01:26:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.36 Mbit/s
95th percentile per-packet one-way delay: 13.291 ms
Loss rate: 86.58%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 8.242 ms
Loss rate: 95.92%
-- Flow 2:
Average throughput: 6.19 Mbit/s
95th percentile per-packet one-way delay: 13.033 ms
Loss rate: 85.52%
-- Flow 3:
Average throughput: 12.75 Mbit/s
95th percentile per-packet one-way delay: 14.073 ms
Loss rate: 87.46%
```

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

Flow 1 ingress (mean 0.97 Mbit/s) --- Flow 1 egress (mean 0.00 Mbit/s)
Flow 2 ingress (mean 42.67 Mbit/s) --- Flow 2 egress (mean 6.19 Mbit/s)
Flow 3 ingress (mean 101.73 Mbit/s) --- Flow 3 egress (mean 12.75 Mbit/s)

Flow 1 (95th percentile 8.24 ms)   Flow 2 (95th percentile 13.03 ms)   Flow 3 (95th percentile 14.07 ms)
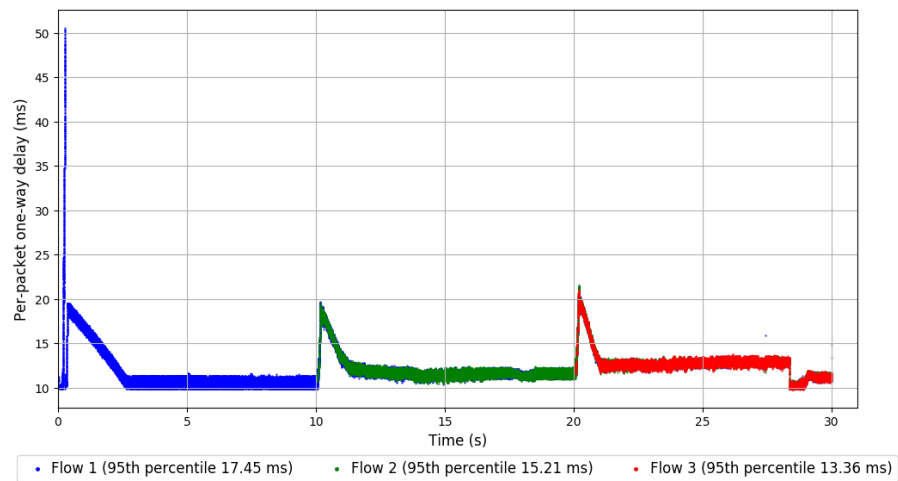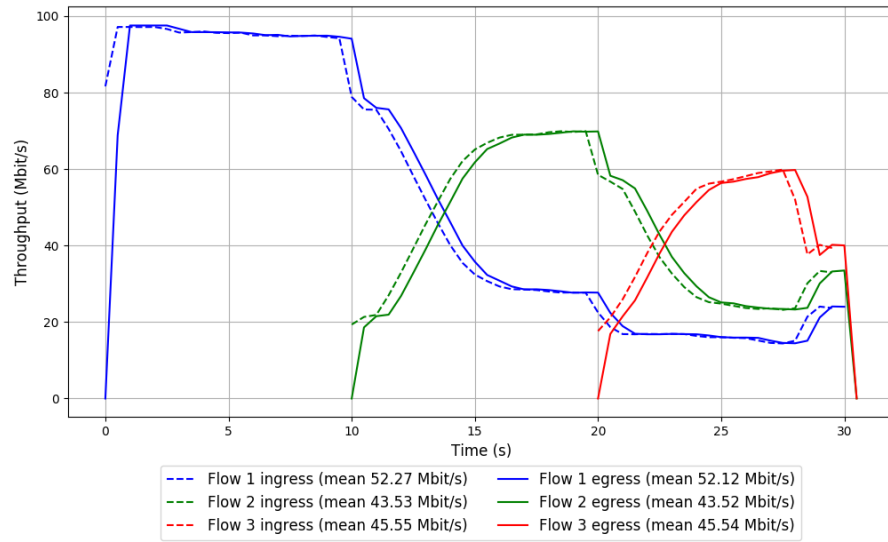
```
Run 1: Statistics of TCP Vegas

Start at: 2019-07-17 23:09:57
End at: 2019-07-17 23:10:27
Local clock offset: 4.977 ms
Remote clock offset: -1.95 ms


# Below is generated by plot.py at 2019-07-18 01:27:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.83 Mbit/s
95th percentile per-packet one-way delay: 14.351 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 53.84 Mbit/s
95th percentile per-packet one-way delay: 15.058 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 42.10 Mbit/s
95th percentile per-packet one-way delay: 10.985 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 44.97 Mbit/s
95th percentile per-packet one-way delay: 13.455 ms
Loss rate: 0.03%
```
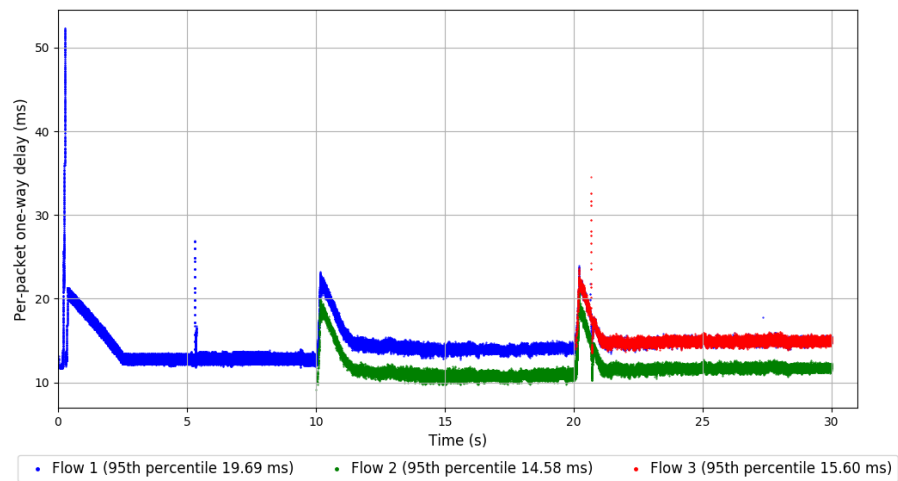
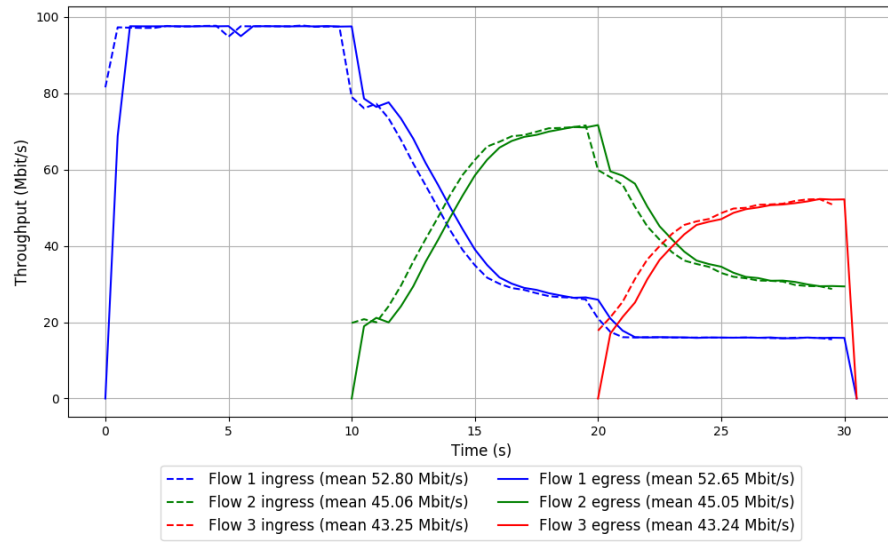Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-07-17 23:38:32
End at: 2019-07-17 23:39:02
Local clock offset: 3.226 ms
Remote clock offset: -2.298 ms


# Below is generated by plot.py at 2019-07-18 01:27:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.11 Mbit/s
95th percentile per-packet one-way delay: 15.586 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 54.56 Mbit/s
95th percentile per-packet one-way delay: 16.347 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 40.62 Mbit/s
95th percentile per-packet one-way delay: 12.929 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 46.51 Mbit/s
95th percentile per-packet one-way delay: 14.534 ms
Loss rate: 0.04%
```

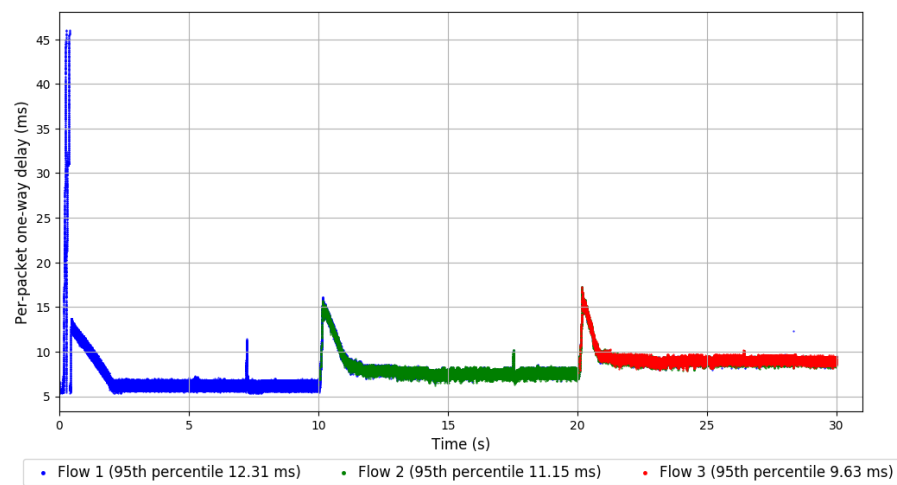Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-07-18 00:06:45
End at: 2019-07-18 00:07:15
Local clock offset: 2.872 ms
Remote clock offset: -2.825 ms


# Below is generated by plot.py at 2019-07-18 01:27:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.25 Mbit/s
95th percentile per-packet one-way delay: 16.747 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 52.12 Mbit/s
95th percentile per-packet one-way delay: 17.448 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 43.52 Mbit/s
95th percentile per-packet one-way delay: 15.215 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 45.54 Mbit/s
95th percentile per-packet one-way delay: 13.364 ms
Loss rate: 0.03%
```
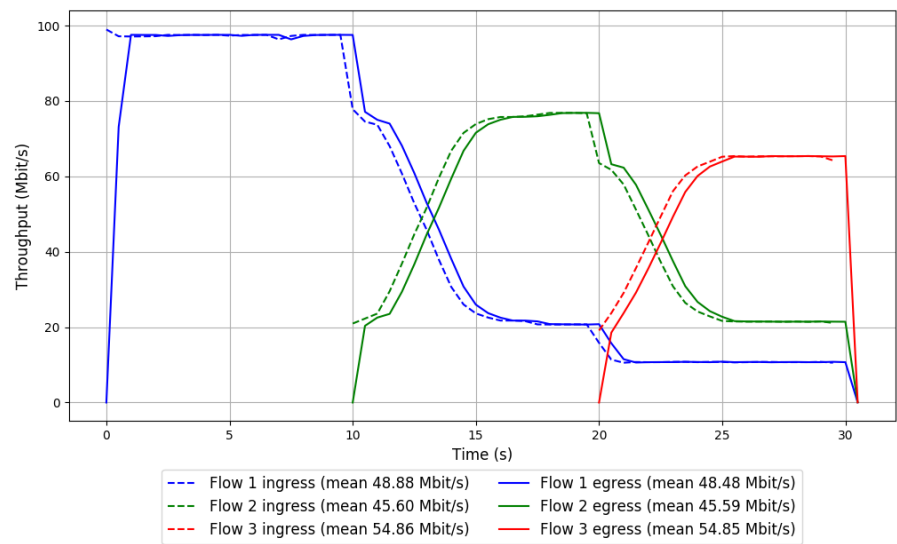
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-07-18 00:35:00
End at: 2019-07-18 00:35:30
Local clock offset: 3.456 ms
Remote clock offset: -1.069 ms


# Below is generated by plot.py at 2019-07-18 01:27:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.04 Mbit/s
95th percentile per-packet one-way delay: 18.508 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 52.65 Mbit/s
95th percentile per-packet one-way delay: 19.694 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 45.05 Mbit/s
95th percentile per-packet one-way delay: 14.582 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 43.24 Mbit/s
95th percentile per-packet one-way delay: 15.602 ms
Loss rate: 0.03%
```
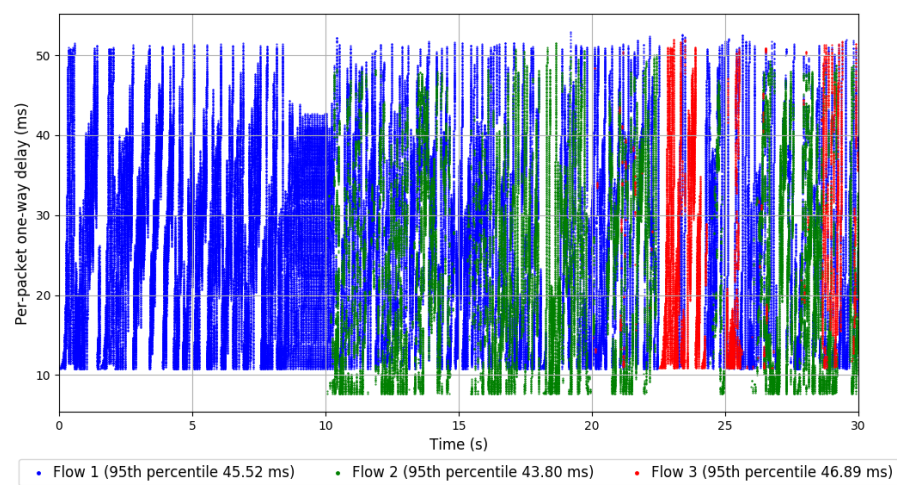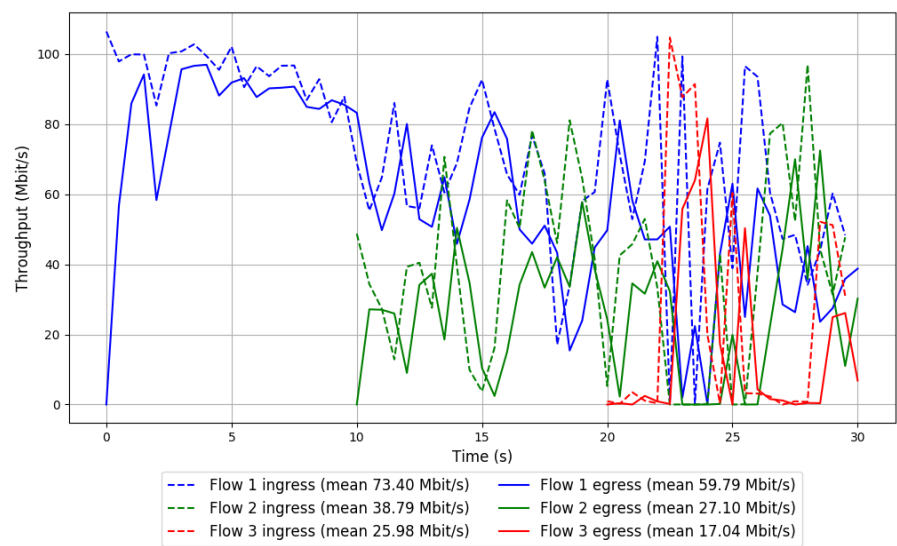
Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 52.80 Mbit/s) Flow 1 egress (mean 52.65 Mbit/s)
Flow 2 ingress (mean 45.06 Mbit/s) Flow 2 egress (mean 45.05 Mbit/s)
Flow 3 ingress (mean 43.25 Mbit/s) Flow 3 egress (mean 43.24 Mbit/s)

Flow 1 (95th percentile 19.69 ms)   Flow 2 (95th percentile 14.58 ms)   Flow 3 (95th percentile 15.60 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2019-07-18 01:03:10
End at: 2019-07-18 01:03:40
Local clock offset: 1.992 ms
Remote clock offset: -3.761 ms


# Below is generated by plot.py at 2019-07-18 01:27:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.09 Mbit/s
95th percentile per-packet one-way delay: 11.725 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 48.48 Mbit/s
95th percentile per-packet one-way delay: 12.312 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 45.59 Mbit/s
95th percentile per-packet one-way delay: 11.152 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 54.85 Mbit/s
95th percentile per-packet one-way delay: 9.627 ms
Loss rate: 0.00%
```
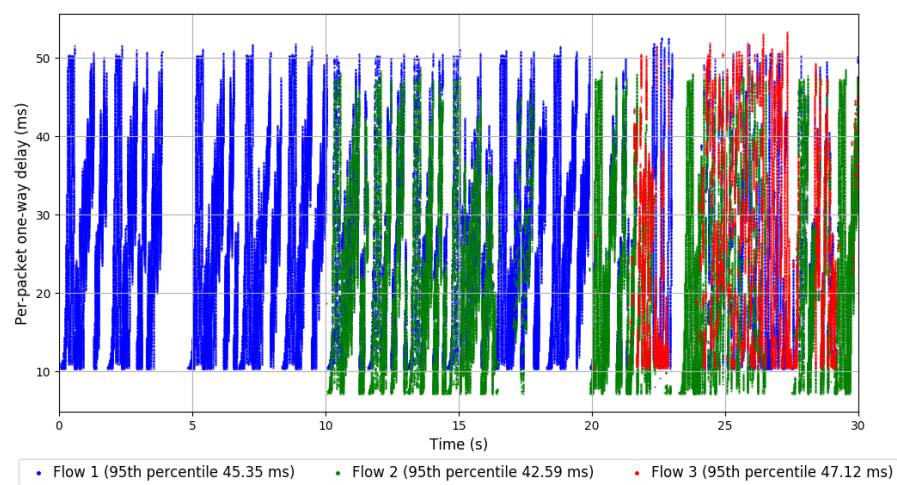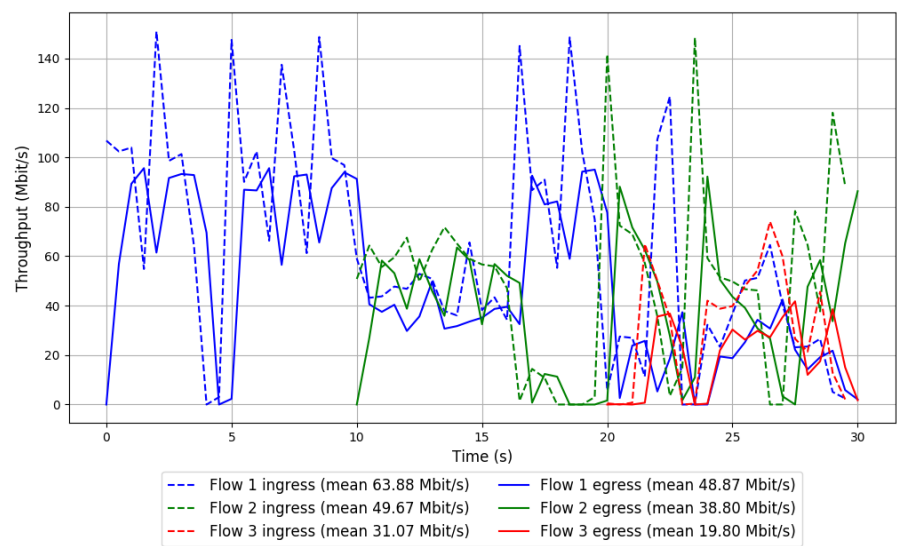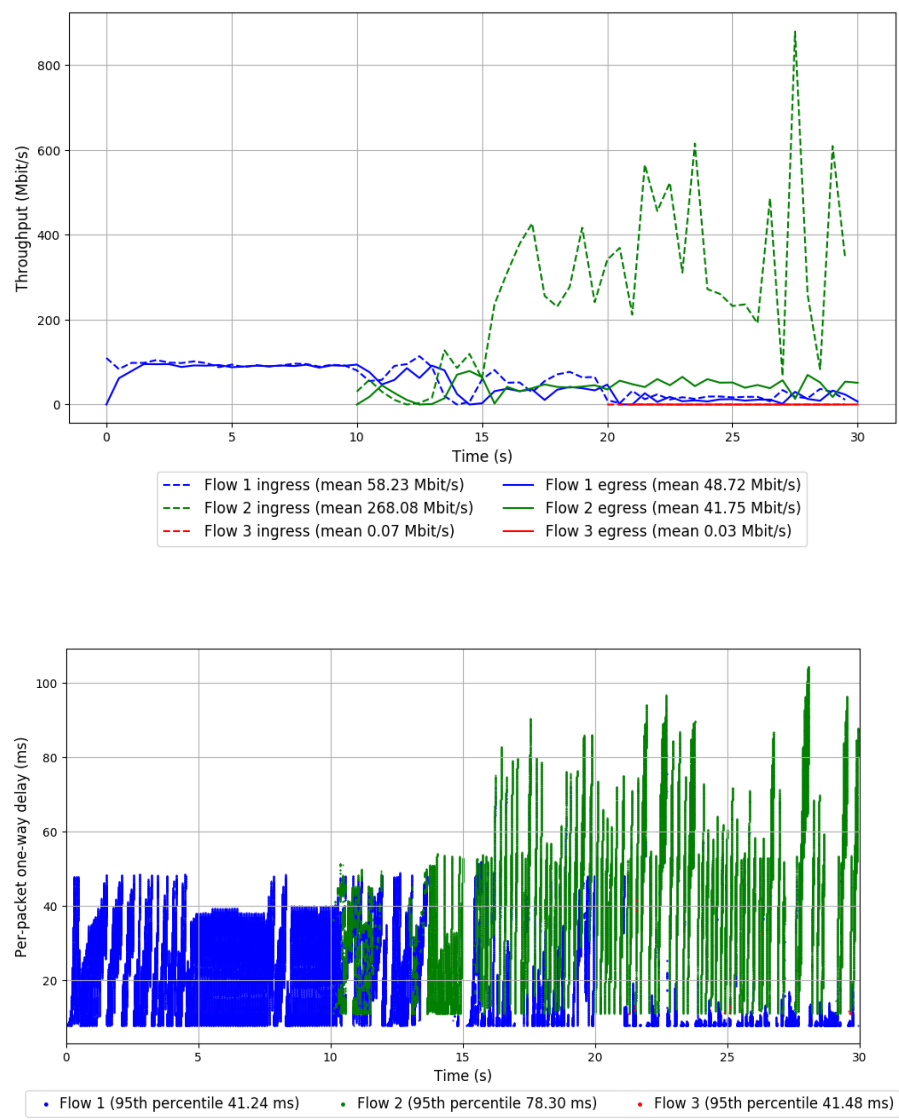
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 48.88 Mbit/s) --- Flow 1 egress (mean 48.48 Mbit/s)
Flow 2 ingress (mean 45.60 Mbit/s) --- Flow 2 egress (mean 45.59 Mbit/s)
Flow 3 ingress (mean 54.86 Mbit/s) --- Flow 3 egress (mean 54.85 Mbit/s)

Flow 1 (95th percentile 12.31 ms) • Flow 2 (95th percentile 11.15 ms) • Flow 3 (95th percentile 9.63 ms)

```
Run 1: Statistics of Verus

Start at: 2019-07-17 23:13:28
End at: 2019-07-17 23:13:58
Local clock offset: 5.226 ms
Remote clock offset: -1.301 ms


# Below is generated by plot.py at 2019-07-18 01:27:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.46 Mbit/s
95th percentile per-packet one-way delay: 45.267 ms
Loss rate: 22.51%
-- Flow 1:
Average throughput: 59.79 Mbit/s
95th percentile per-packet one-way delay: 45.518 ms
Loss rate: 18.46%
-- Flow 2:
Average throughput: 27.10 Mbit/s
95th percentile per-packet one-way delay: 43.798 ms
Loss rate: 30.12%
-- Flow 3:
Average throughput: 17.04 Mbit/s
95th percentile per-packet one-way delay: 46.891 ms
Loss rate: 34.26%
```
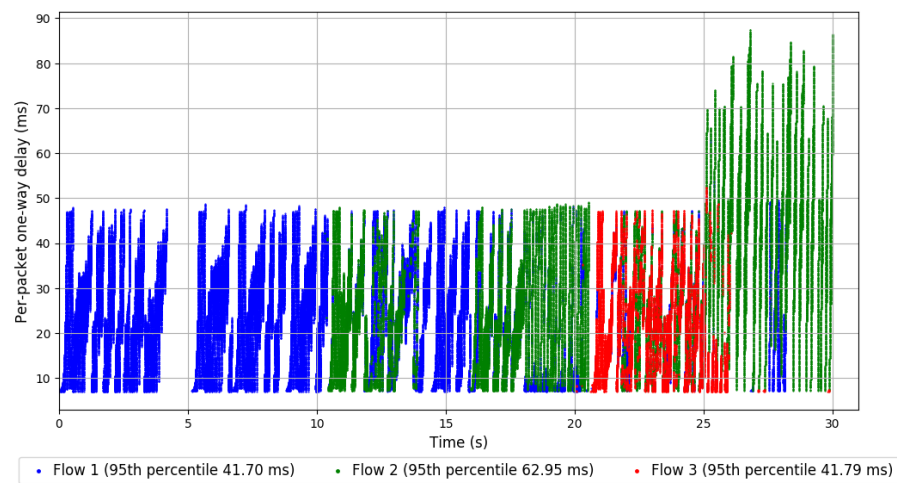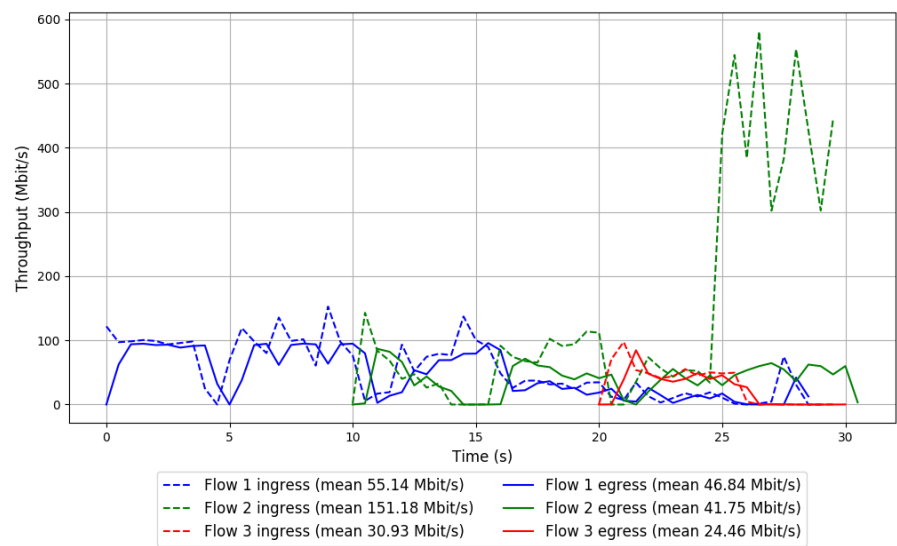
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-07-17 23:42:01
End at: 2019-07-17 23:42:31
Local clock offset: 4.342 ms
Remote clock offset: -1.574 ms


# Below is generated by plot.py at 2019-07-18 01:27:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.25 Mbit/s
95th percentile per-packet one-way delay: 44.780 ms
Loss rate: 24.14%
-- Flow 1:
Average throughput: 48.87 Mbit/s
95th percentile per-packet one-way delay: 45.355 ms
Loss rate: 23.42%
-- Flow 2:
Average throughput: 38.80 Mbit/s
95th percentile per-packet one-way delay: 42.590 ms
Loss rate: 21.81%
-- Flow 3:
Average throughput: 19.80 Mbit/s
95th percentile per-packet one-way delay: 47.116 ms
Loss rate: 36.10%
```
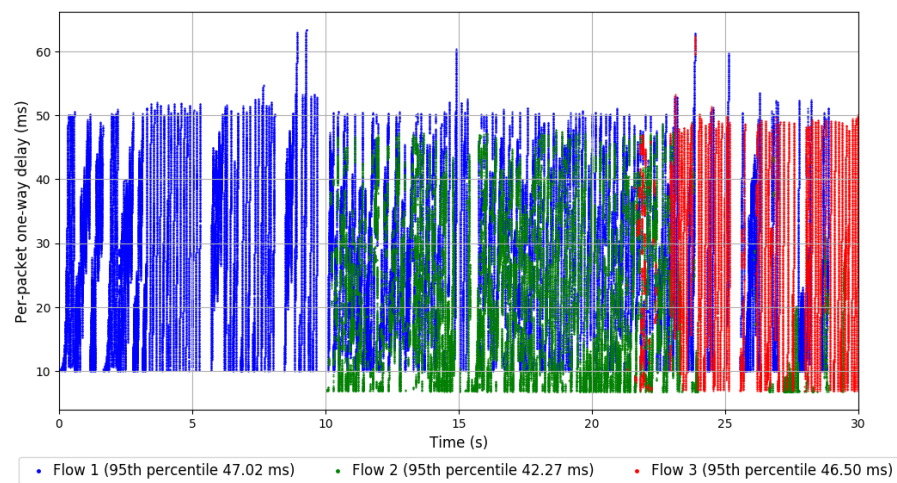
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-07-18 00:10:15
End at: 2019-07-18 00:10:45
Local clock offset: 3.514 ms
Remote clock offset: -0.973 ms


# Below is generated by plot.py at 2019-07-18 01:28:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.48 Mbit/s
95th percentile per-packet one-way delay: 65.592 ms
Loss rate: 67.58%
-- Flow 1:
Average throughput: 48.72 Mbit/s
95th percentile per-packet one-way delay: 41.236 ms
Loss rate: 16.33%
-- Flow 2:
Average throughput: 41.75 Mbit/s
95th percentile per-packet one-way delay: 78.298 ms
Loss rate: 84.38%
-- Flow 3:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 41.485 ms
Loss rate: 62.71%
```
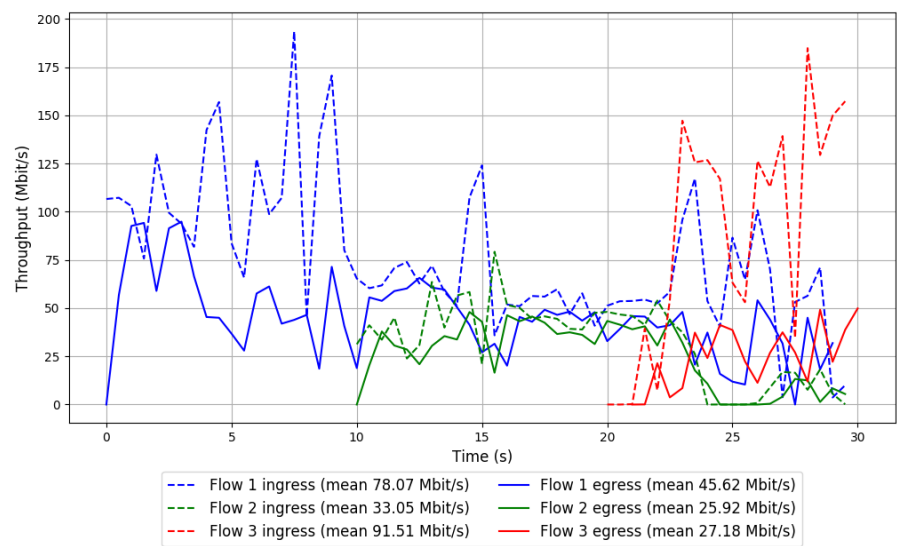
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-07-18 00:38:31
End at: 2019-07-18 00:39:01
Local clock offset: 4.186 ms
Remote clock offset: -1.949 ms


# Below is generated by plot.py at 2019-07-18 01:28:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.45 Mbit/s
95th percentile per-packet one-way delay: 47.163 ms
Loss rate: 51.24%
-- Flow 1:
Average throughput: 46.84 Mbit/s
95th percentile per-packet one-way delay: 41.702 ms
Loss rate: 18.05%
-- Flow 2:
Average throughput: 41.75 Mbit/s
95th percentile per-packet one-way delay: 62.950 ms
Loss rate: 72.33%
-- Flow 3:
Average throughput: 24.46 Mbit/s
95th percentile per-packet one-way delay: 41.788 ms
Loss rate: 21.11%
```
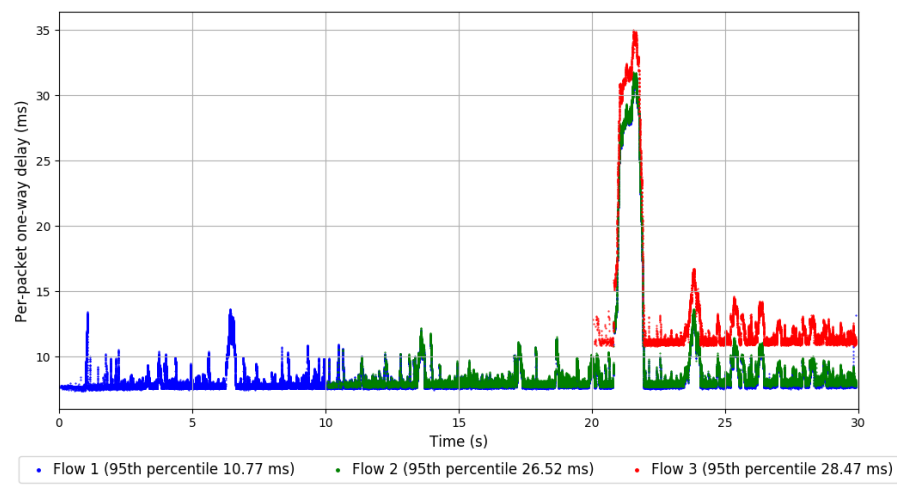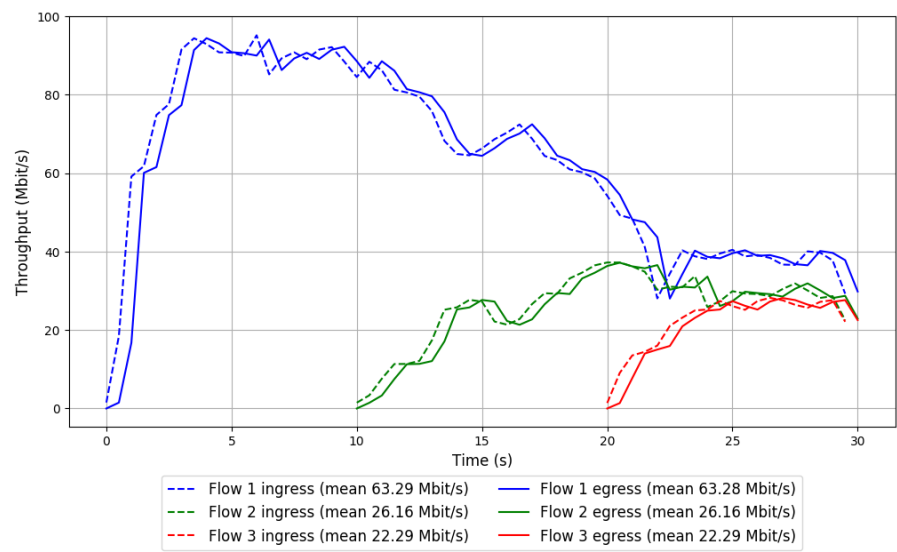
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-07-18 01:06:39
End at: 2019-07-18 01:07:09
Local clock offset: 0.489 ms
Remote clock offset: -2.971 ms


# Below is generated by plot.py at 2019-07-18 01:28:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 68.66 Mbit/s
95th percentile per-packet one-way delay: 46.068 ms
Loss rate: 46.53%
-- Flow 1:
Average throughput: 45.62 Mbit/s
95th percentile per-packet one-way delay: 47.015 ms
Loss rate: 43.04%
-- Flow 2:
Average throughput: 25.92 Mbit/s
95th percentile per-packet one-way delay: 42.265 ms
Loss rate: 22.59%
-- Flow 3:
Average throughput: 27.18 Mbit/s
95th percentile per-packet one-way delay: 46.502 ms
Loss rate: 73.31%
```
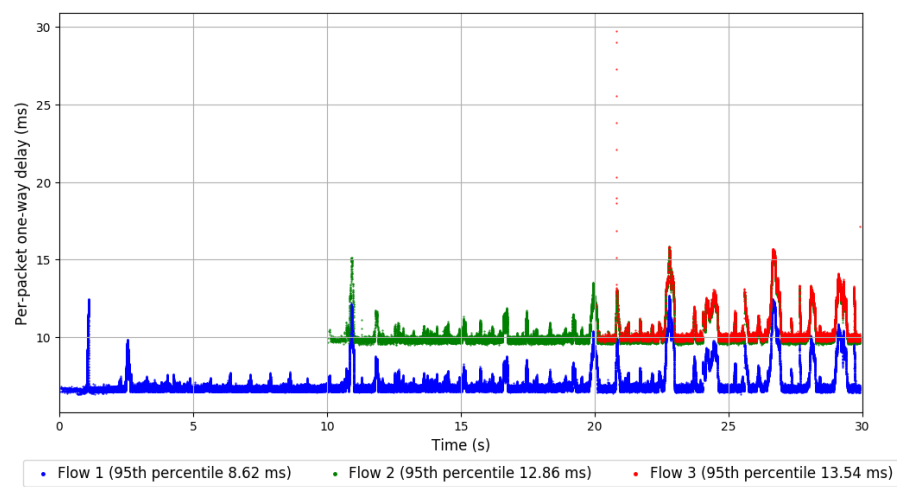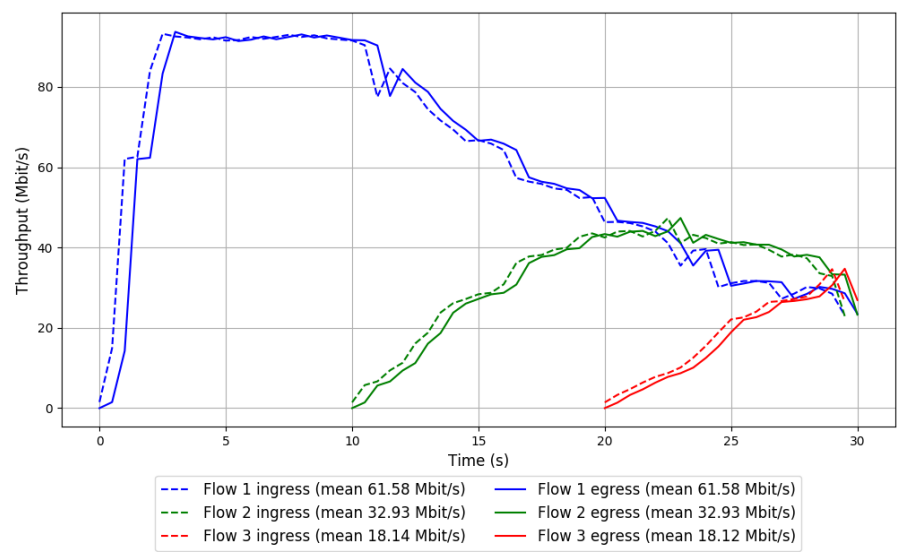
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-07-17 23:03:59
End at: 2019-07-17 23:04:29
Local clock offset: 3.591 ms
Remote clock offset: -2.161 ms


# Below is generated by plot.py at 2019-07-18 01:28:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.03 Mbit/s
95th percentile per-packet one-way delay: 12.952 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.28 Mbit/s
95th percentile per-packet one-way delay: 10.771 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 26.16 Mbit/s
95th percentile per-packet one-way delay: 26.518 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 22.29 Mbit/s
95th percentile per-packet one-way delay: 28.469 ms
Loss rate: 0.04%
```
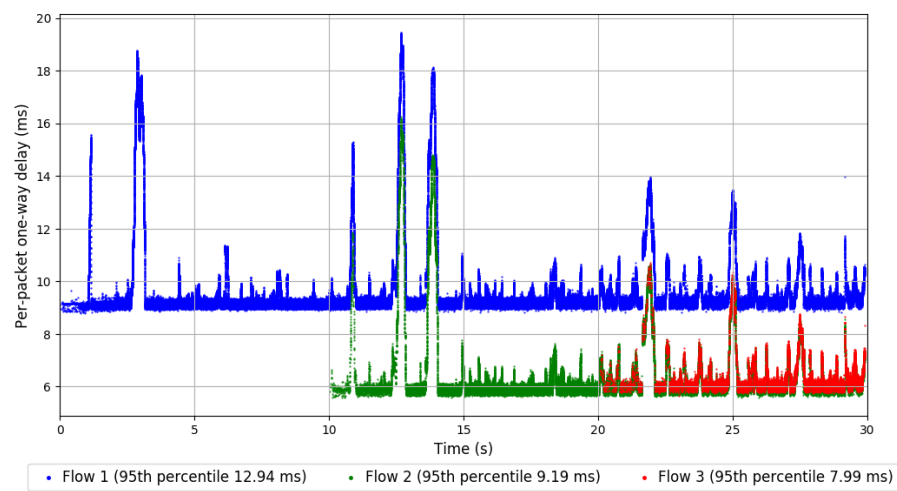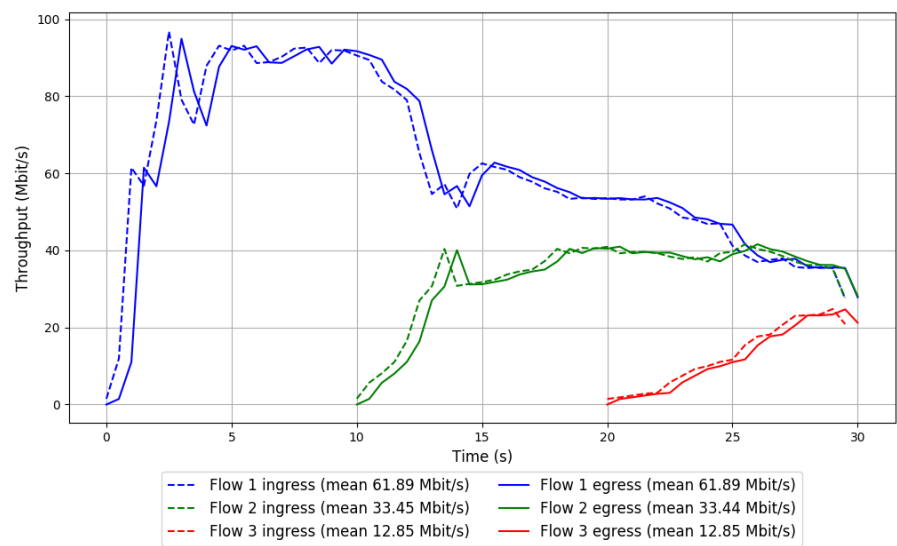
Run 1: Report of PCC-Vivace — Data Link

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```
Run 2: Statistics of PCC-Vivace

Start at: 2019-07-17 23:32:24
End at: 2019-07-17 23:32:54
Local clock offset: 1.358 ms
Remote clock offset: -5.994 ms


# Below is generated by plot.py at 2019-07-18 01:28:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.45 Mbit/s
95th percentile per-packet one-way delay: 11.639 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 61.58 Mbit/s
95th percentile per-packet one-way delay: 8.621 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 32.93 Mbit/s
95th percentile per-packet one-way delay: 12.856 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 18.12 Mbit/s
95th percentile per-packet one-way delay: 13.545 ms
Loss rate: 0.06%
```
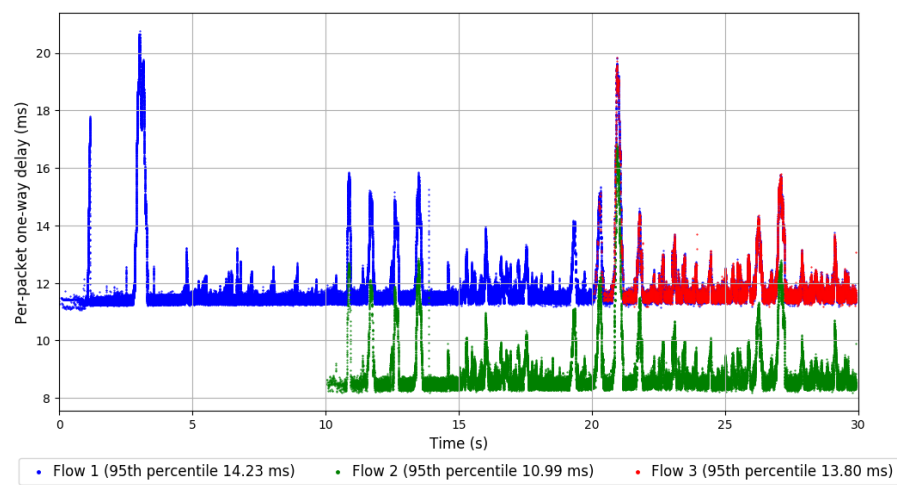
Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-07-18 00:00:50
End at: 2019-07-18 00:01:20
Local clock offset: 3.404 ms
Remote clock offset: -3.448 ms


# Below is generated by plot.py at 2019-07-18 01:28:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.37 Mbit/s
95th percentile per-packet one-way delay: 11.771 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 61.89 Mbit/s
95th percentile per-packet one-way delay: 12.937 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 33.44 Mbit/s
95th percentile per-packet one-way delay: 9.185 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.85 Mbit/s
95th percentile per-packet one-way delay: 7.986 ms
Loss rate: 0.00%
```

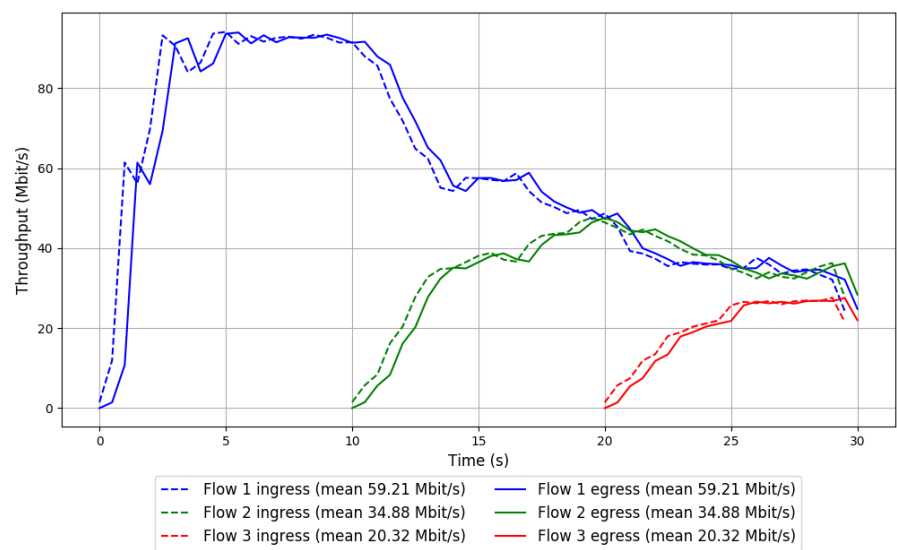Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-07-18 00:29:04
End at: 2019-07-18 00:29:34
Local clock offset: 3.861 ms
Remote clock offset: -0.621 ms


# Below is generated by plot.py at 2019-07-18 01:28:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.12 Mbit/s
95th percentile per-packet one-way delay: 13.665 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 59.21 Mbit/s
95th percentile per-packet one-way delay: 14.230 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 34.88 Mbit/s
95th percentile per-packet one-way delay: 10.992 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 20.32 Mbit/s
95th percentile per-packet one-way delay: 13.804 ms
Loss rate: 0.05%
```

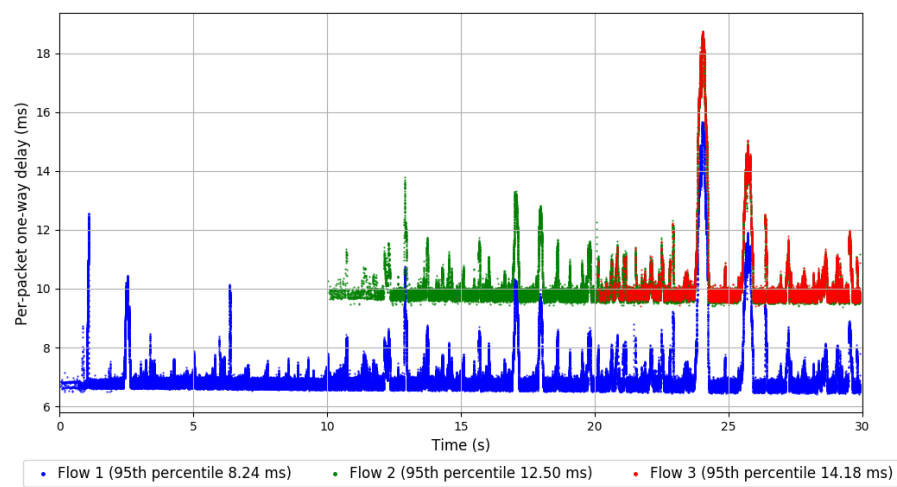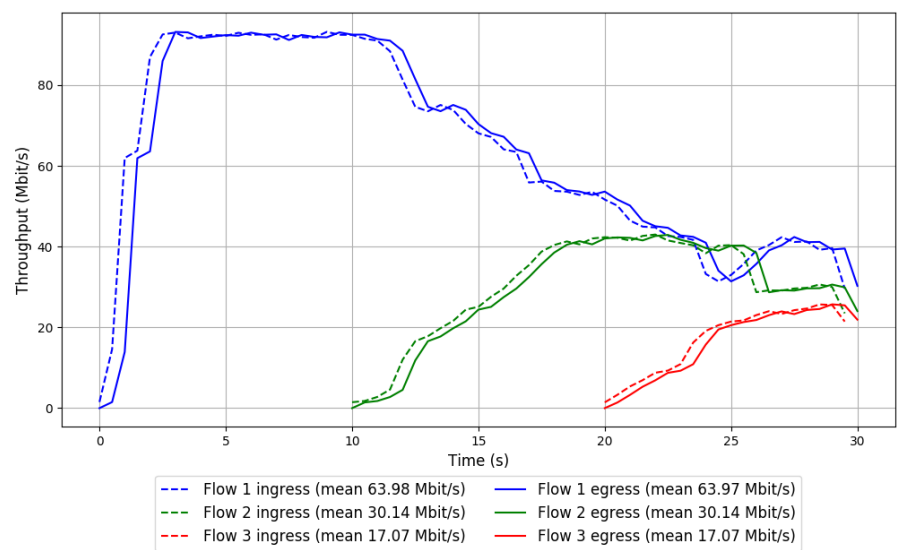## Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-07-18 00:57:14
End at: 2019-07-18 00:57:44
Local clock offset: 3.326 ms
Remote clock offset: -3.157 ms


# Below is generated by plot.py at 2019-07-18 01:28:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.65 Mbit/s
95th percentile per-packet one-way delay: 10.712 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 63.97 Mbit/s
95th percentile per-packet one-way delay: 8.243 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 30.14 Mbit/s
95th percentile per-packet one-way delay: 12.504 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 17.07 Mbit/s
95th percentile per-packet one-way delay: 14.182 ms
Loss rate: 0.05%
```

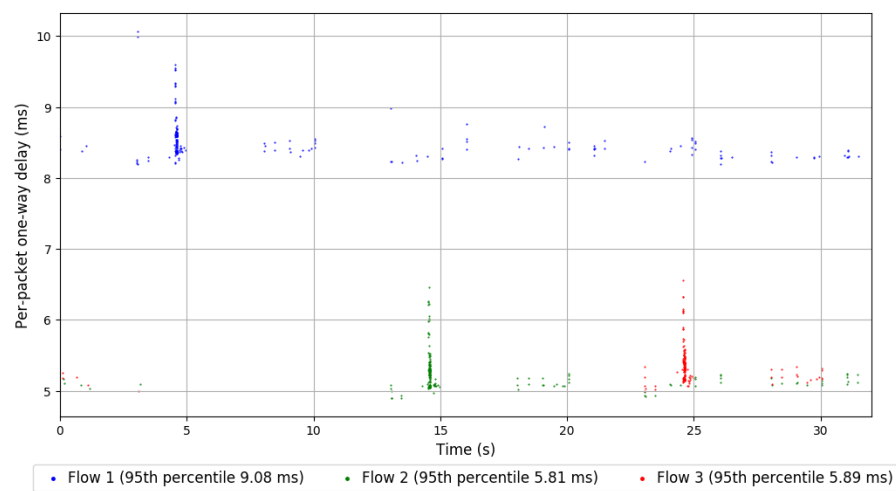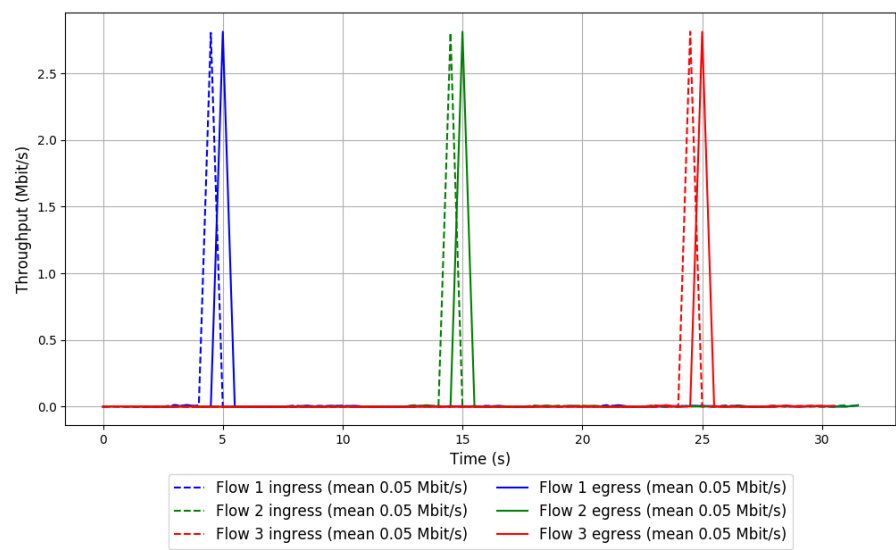# Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-07-17 23:19:25
End at: 2019-07-17 23:19:55
Local clock offset: 6.065 ms
Remote clock offset: -3.564 ms


# Below is generated by plot.py at 2019-07-18 01:28:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 8.650 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.077 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5.806 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 5.891 ms
Loss rate: 0.00%
```

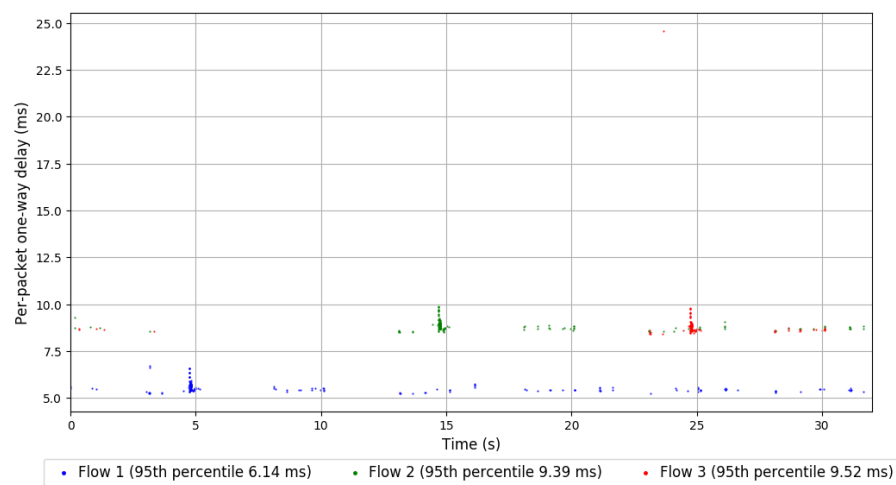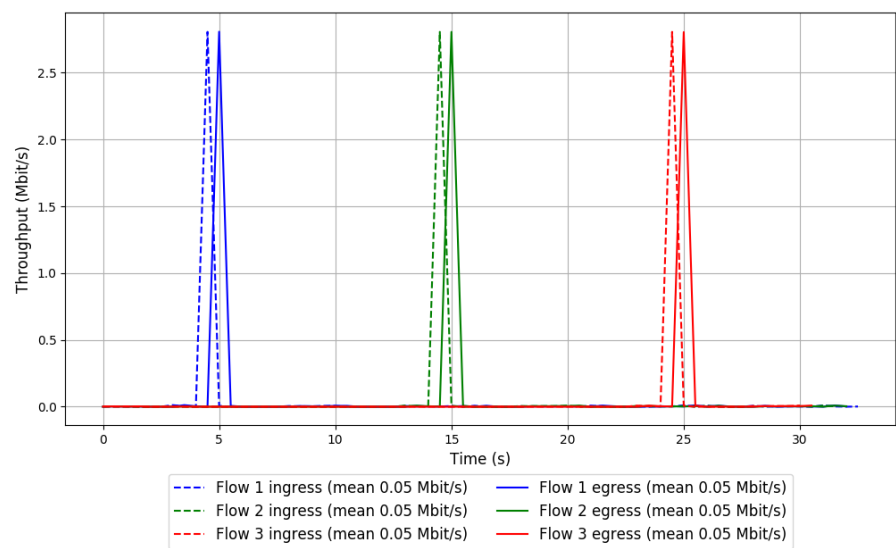Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-07-17 23:47:56
End at: 2019-07-17 23:48:26
Local clock offset: 3.914 ms
Remote clock offset: -3.565 ms


# Below is generated by plot.py at 2019-07-18 01:28:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 9.171 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 6.138 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.395 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.522 ms
Loss rate: 0.00%
```

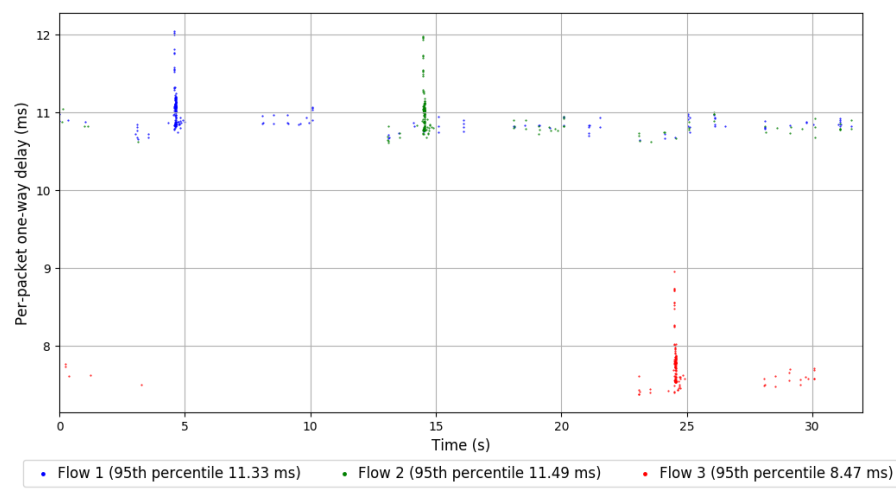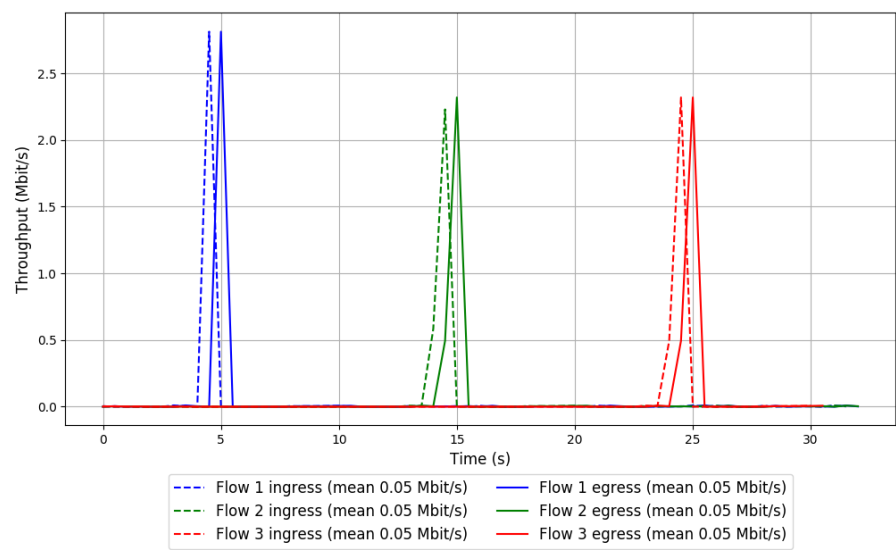Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-07-18 00:16:09
End at: 2019-07-18 00:16:39
Local clock offset: 2.534 ms
Remote clock offset: -2.047 ms


# Below is generated by plot.py at 2019-07-18 01:28:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 11.269 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 11.327 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 11.487 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 8.474 ms
Loss rate: 0.00%
```
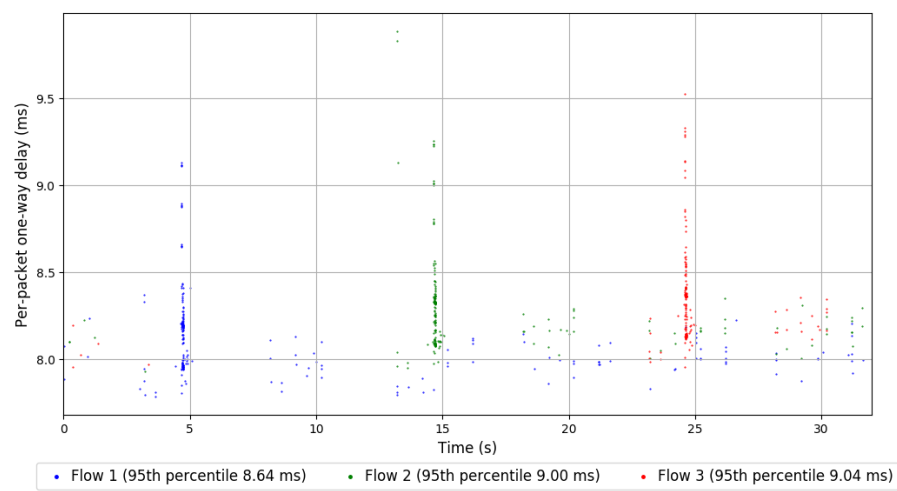
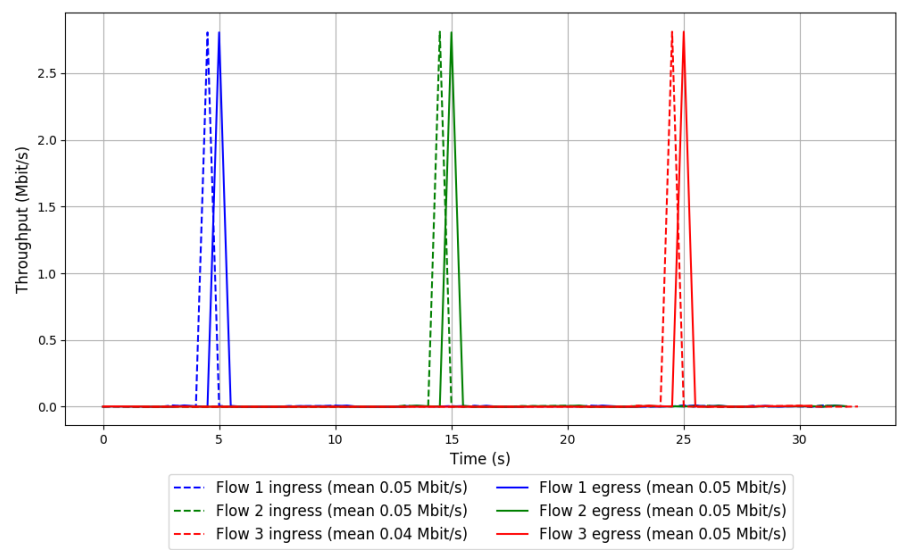Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-07-18 00:44:22
End at: 2019-07-18 00:44:52
Local clock offset: 4.332 ms
Remote clock offset: -1.253 ms


# Below is generated by plot.py at 2019-07-18 01:28:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 8.848 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 8.643 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.000 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.045 ms
Loss rate: 0.05%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-07-18 01:12:29
End at: 2019-07-18 01:12:59
Local clock offset: 0.13 ms
Remote clock offset: -1.052 ms


# Below is generated by plot.py at 2019-07-18 01:28:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 11.943 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 12.180 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 12.116 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.004 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link