Pantheon Report

Generated at 2019-10-04 05:36:59 (UTC).

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

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 time.google.com and have been applied to correct the timestamps in logs.
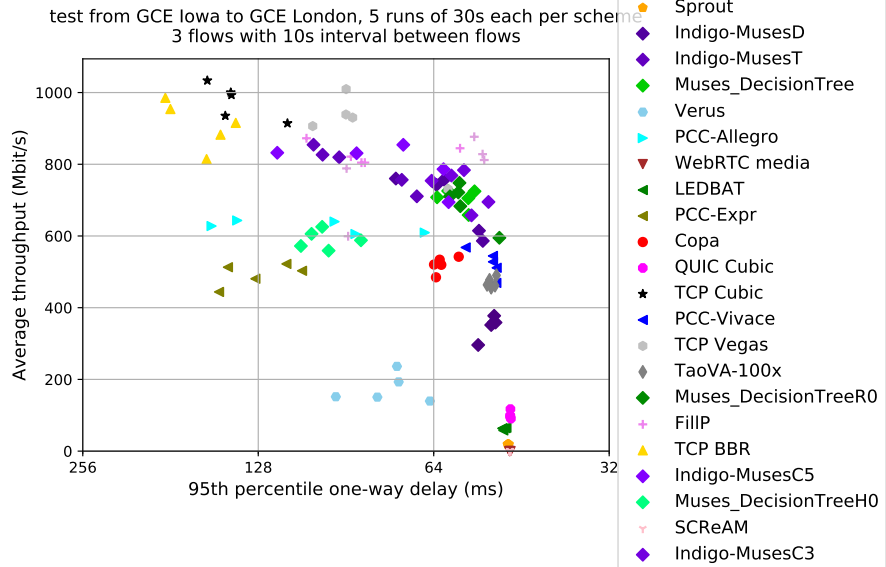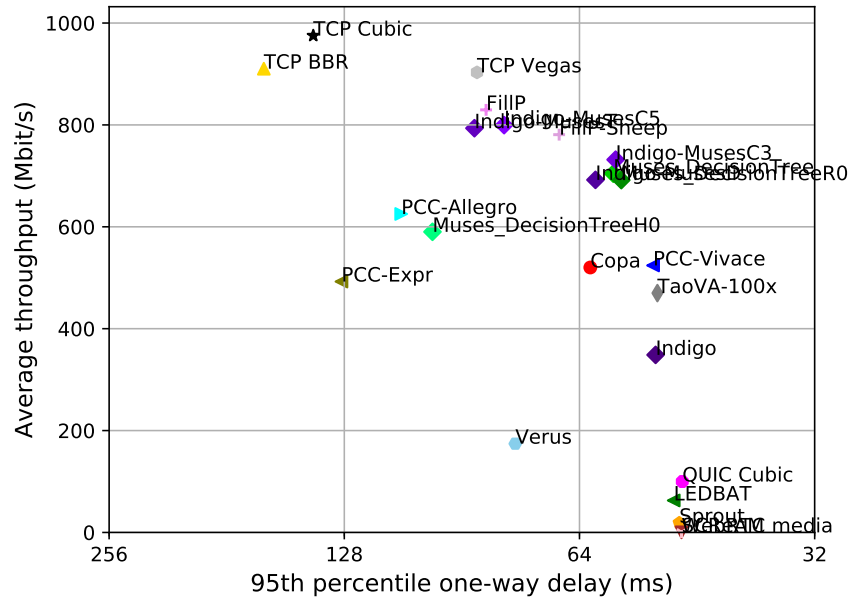
```
System info:
Linux 4.15.0-1044-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 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 GCE Iowa to GCE London, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

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

3

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	483.17	444.41	398.51	169.00	146.02	110.92	0.62	0.98	1.62
Copa	5	278.39	253.06	222.76	60.69	64.91	70.98	0.28	0.43	1.01
TCP Cubic	5	538.93	463.55	387.57	144.61	108.22	98.66	0.48	0.65	1.39
FillP	5	513.65	346.12	261.19	88.92	53.60	51.30	0.50	0.40	1.10
FillP-Sheep	5	475.33	328.95	264.66	69.85	52.15	52.34	0.30	0.41	1.16
Indigo	5	196.93	168.94	120.31	52.98	50.28	49.51	0.34	0.53	1.08
Indigo-MusesC3	5	441.86	363.63	245.42	60.96	53.69	51.05	0.22	0.43	1.71
Indigo-MusesC5	5	479.06	407.86	256.29	85.27	72.97	54.16	0.23	0.46	1.80
Indigo-MusesD	5	412.92	342.49	242.29	63.64	58.48	50.31	0.22	0.40	1.64
Indigo-MusesT	5	489.85	408.07	180.33	91.02	66.74	49.06	0.25	0.39	1.76
LEDBAT	5	40.01	27.54	13.78	48.65	48.22	47.46	0.52	0.95	1.91
Muses_DecisionTree	5	409.68	358.73	183.93	59.76	53.68	50.62	0.23	0.31	1.16
Muses_DecisionTreeH0	5	306.03	313.12	245.14	104.15	84.99	70.04	0.49	0.78	1.76
Muses_DecisionTreeR0	5	401.17	346.25	197.15	57.66	55.18	49.28	0.24	0.33	1.15
PCC-Allegro	5	339.79	306.60	250.72	111.75	87.22	106.85	0.44	0.75	1.56
PCC-Expr	5	266.48	249.63	184.67	120.20	90.55	62.64	0.88	1.23	1.15
QUIC Cubic	5	54.40	47.03	42.26	47.04	47.29	47.28	0.44	0.80	1.57
SCReAM	5	0.22	0.22	0.22	47.10	47.34	47.30	0.28	0.57	1.09
Sprout	5	9.59	9.60	9.41	47.58	47.60	47.54	0.29	0.51	0.95
TaoVA-100x	5	240.89	235.71	218.94	50.00	51.14	52.96	0.33	0.50	1.10
TCP Vegas	5	464.49	469.46	382.83	79.35	94.67	71.15	0.32	0.55	0.92
Verus	5	75.16	101.27	100.28	73.72	75.41	74.89	0.00	0.18	0.29
PCC-Vivace	5	312.36	252.30	135.25	53.99	50.08	55.79	0.32	0.50	1.23
WebRTC media	5	0.06	0.07	0.06	47.06	47.38	47.37	0.00	0.00	0.01

```
Run 1: Statistics of TCP BBR

Start at: 2019-10-03 22:57:49
End at: 2019-10-03 22:58:19
Local clock offset: -0.441 ms
Remote clock offset: 0.045 ms


# Below is generated by plot.py at 2019-10-04 02:40:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 954.05 Mbit/s
95th percentile per-packet one-way delay: 181.099 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 486.17 Mbit/s
95th percentile per-packet one-way delay: 184.094 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 495.07 Mbit/s
95th percentile per-packet one-way delay: 181.787 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 419.99 Mbit/s
95th percentile per-packet one-way delay: 161.950 ms
Loss rate: 2.28%
```
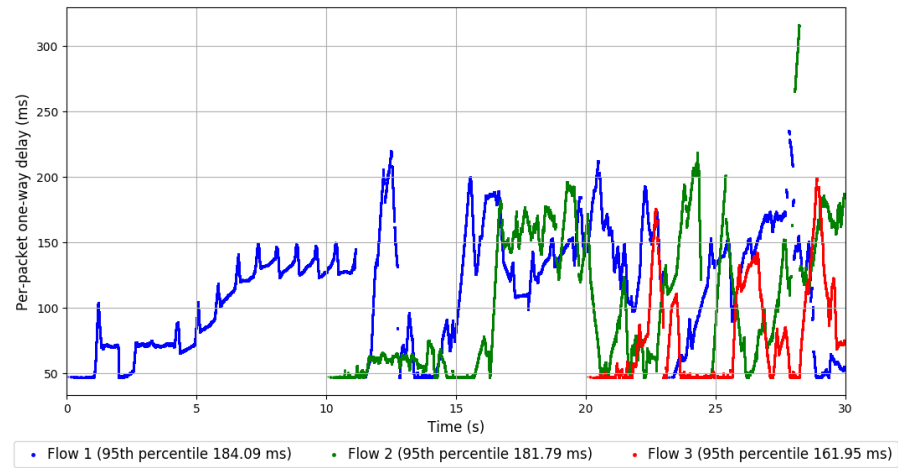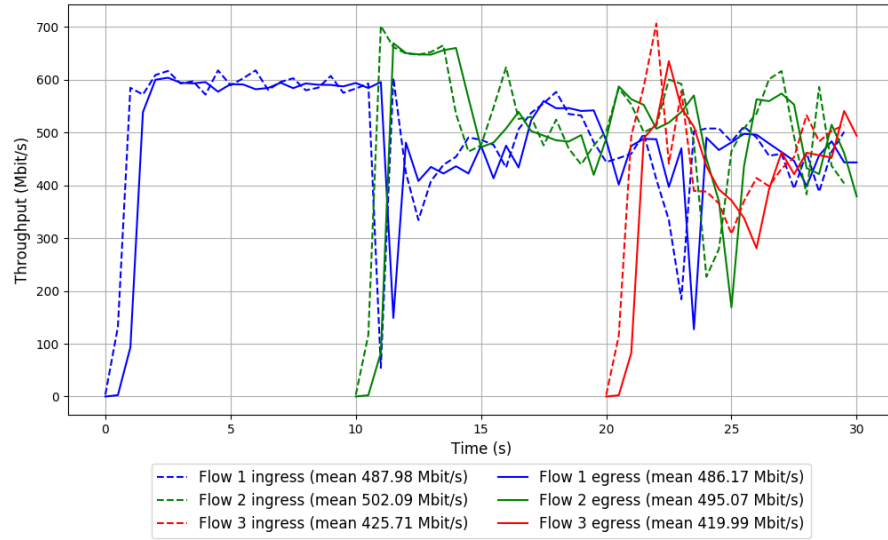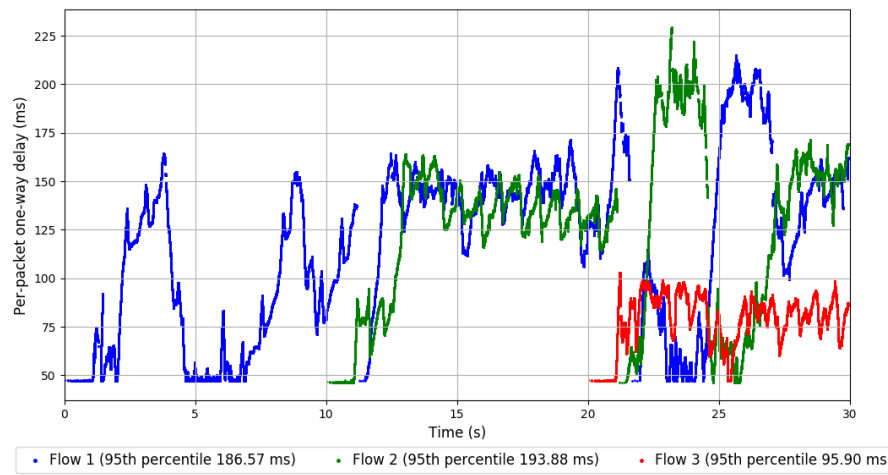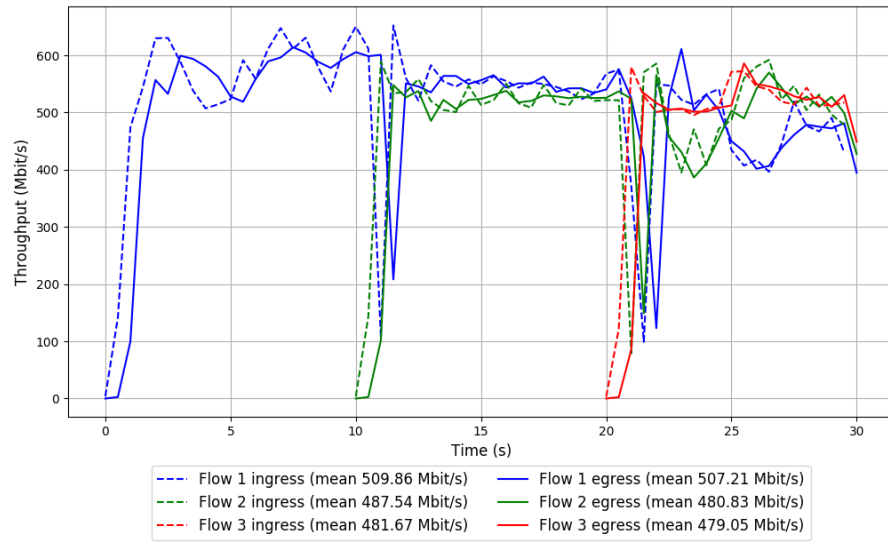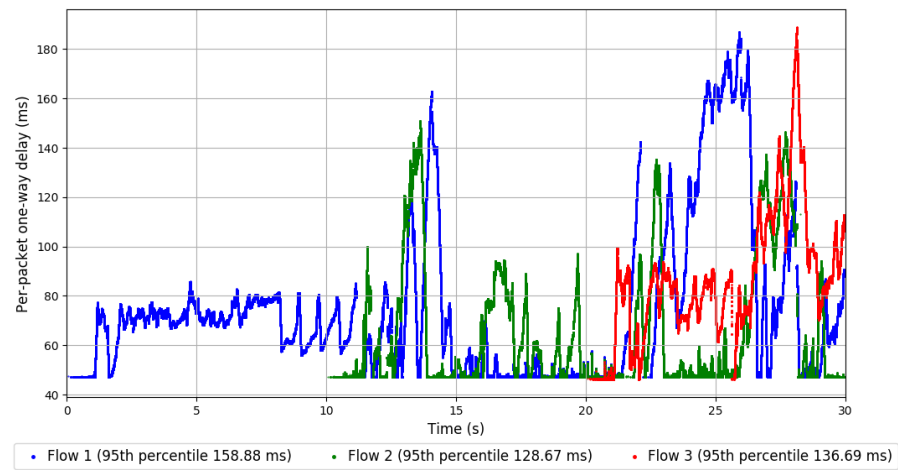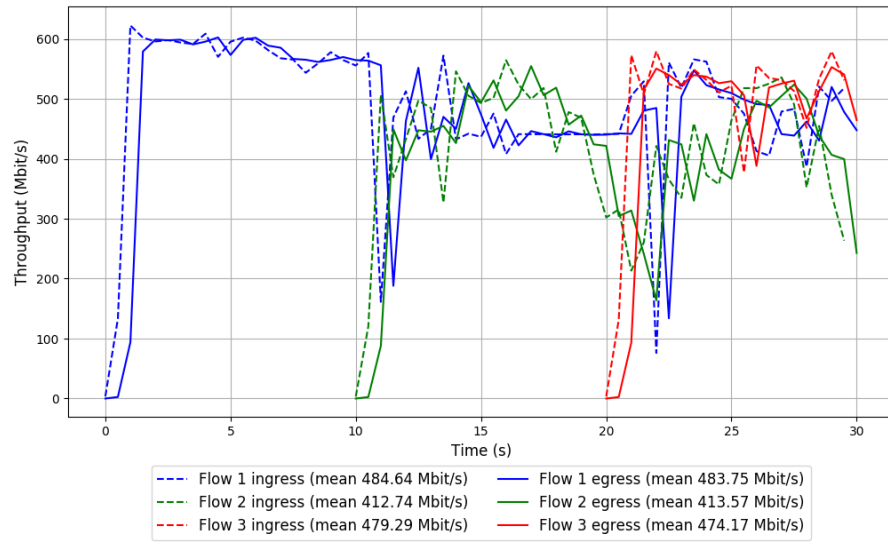
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 487.98 Mbit/s) — — — Flow 1 egress (mean 486.17 Mbit/s)
Flow 2 ingress (mean 502.09 Mbit/s) — — — Flow 2 egress (mean 495.07 Mbit/s)
Flow 3 ingress (mean 425.71 Mbit/s) — — — Flow 3 egress (mean 419.99 Mbit/s)

Flow 1 (95th percentile 184.09 ms)   Flow 2 (95th percentile 181.79 ms)   Flow 3 (95th percentile 161.95 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2019-10-03 23:38:47
End at: 2019-10-03 23:39:17
Local clock offset: -0.913 ms
Remote clock offset: -0.053 ms


# Below is generated by plot.py at 2019-10-04 02:41:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 985.32 Mbit/s
95th percentile per-packet one-way delay: 184.746 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 507.21 Mbit/s
95th percentile per-packet one-way delay: 186.569 ms
Loss rate: 0.83%
-- Flow 2:
Average throughput: 480.83 Mbit/s
95th percentile per-packet one-way delay: 193.877 ms
Loss rate: 1.83%
-- Flow 3:
Average throughput: 479.05 Mbit/s
95th percentile per-packet one-way delay: 95.899 ms
Loss rate: 1.49%
```
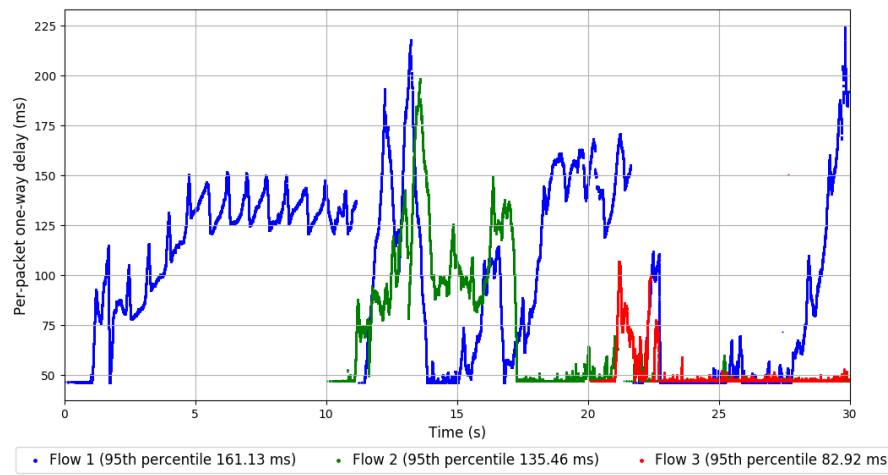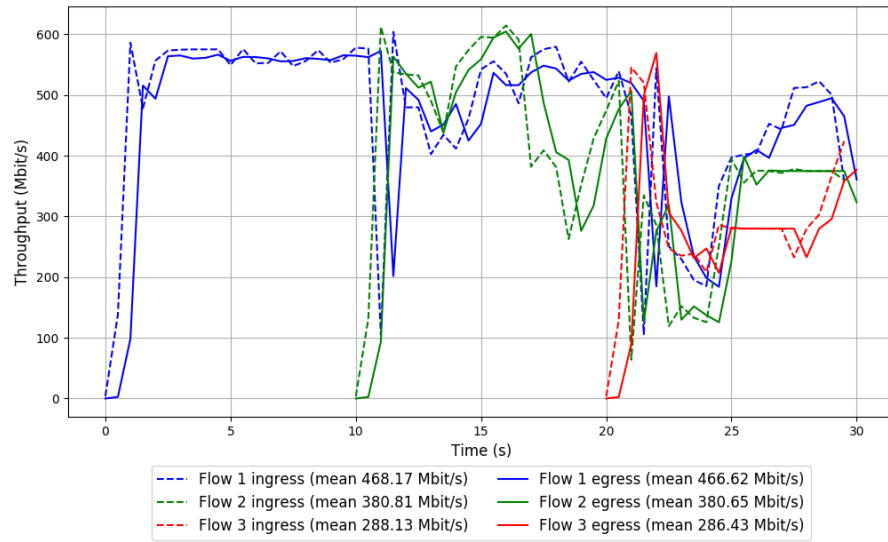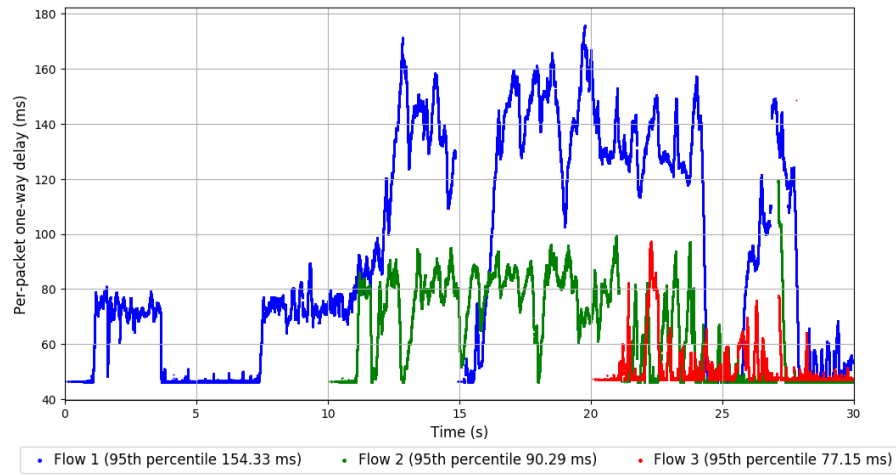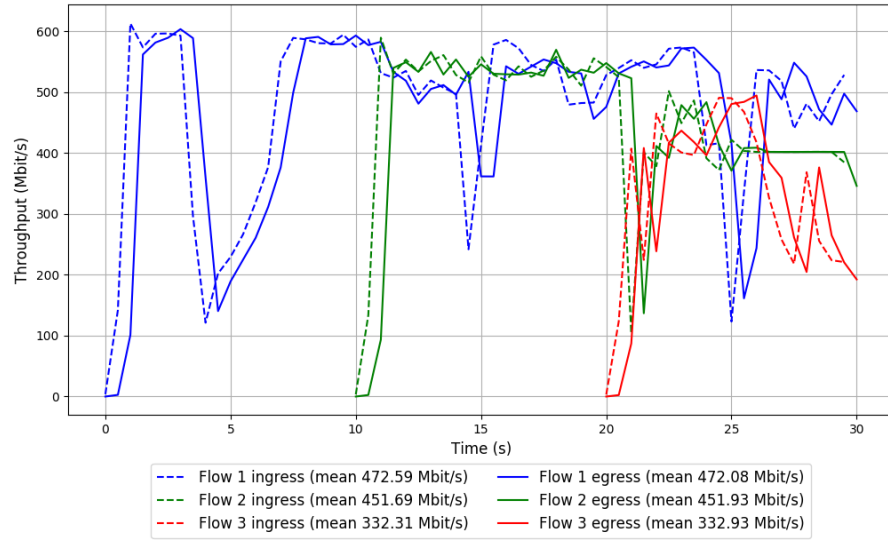
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-10-04 00:19:44
End at: 2019-10-04 00:20:14
Local clock offset: 0.048 ms
Remote clock offset: -0.057 ms


# Below is generated by plot.py at 2019-10-04 02:41:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 915.48 Mbit/s
95th percentile per-packet one-way delay: 139.892 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 483.75 Mbit/s
95th percentile per-packet one-way delay: 158.876 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 413.57 Mbit/s
95th percentile per-packet one-way delay: 128.671 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 474.17 Mbit/s
95th percentile per-packet one-way delay: 136.687 ms
Loss rate: 2.02%
```

Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 484.64 Mbit/s) -- -- Flow 1 egress (mean 483.75 Mbit/s)
Flow 2 ingress (mean 412.74 Mbit/s) -- -- Flow 2 egress (mean 413.57 Mbit/s)
Flow 3 ingress (mean 479.29 Mbit/s) -- -- Flow 3 egress (mean 474.17 Mbit/s)

Flow 1 (95th percentile 158.88 ms)   Flow 2 (95th percentile 128.67 ms)   Flow 3 (95th percentile 136.69 ms)

10

```
Run 4: Statistics of TCP BBR

Start at: 2019-10-04 01:00:01
End at: 2019-10-04 01:00:31
Local clock offset: 0.019 ms
Remote clock offset: 0.023 ms


# Below is generated by plot.py at 2019-10-04 02:41:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 814.46 Mbit/s
95th percentile per-packet one-way delay: 156.987 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 466.62 Mbit/s
95th percentile per-packet one-way delay: 161.133 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 380.65 Mbit/s
95th percentile per-packet one-way delay: 135.459 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 286.43 Mbit/s
95th percentile per-packet one-way delay: 82.916 ms
Loss rate: 1.54%
```
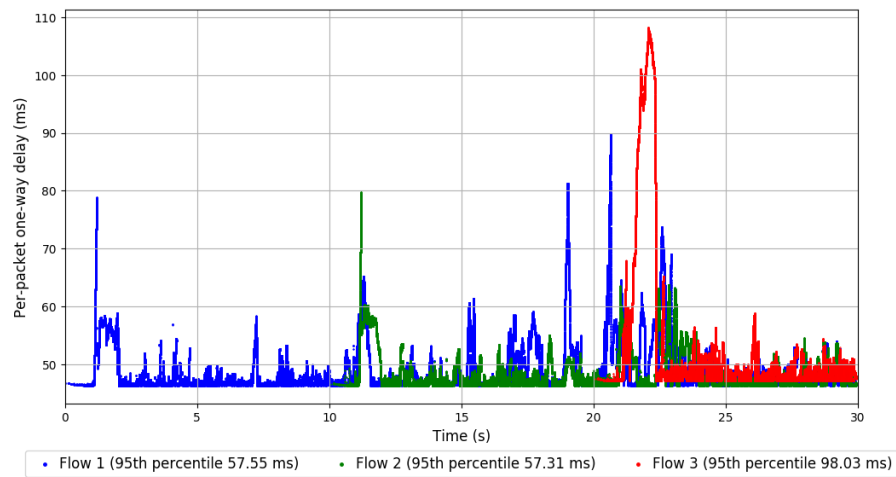
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2019-10-04 01:40:25
End at: 2019-10-04 01:40:55
Local clock offset: -0.081 ms
Remote clock offset: -0.073 ms


# Below is generated by plot.py at 2019-10-04 02:41:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 882.57 Mbit/s
95th percentile per-packet one-way delay: 148.575 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 472.08 Mbit/s
95th percentile per-packet one-way delay: 154.332 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 451.93 Mbit/s
95th percentile per-packet one-way delay: 90.286 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 332.93 Mbit/s
95th percentile per-packet one-way delay: 77.148 ms
Loss rate: 0.77%
```
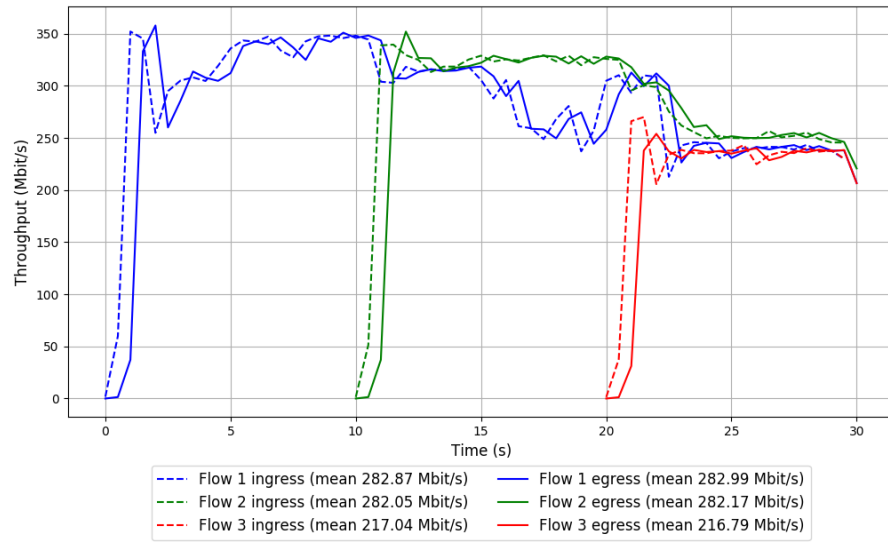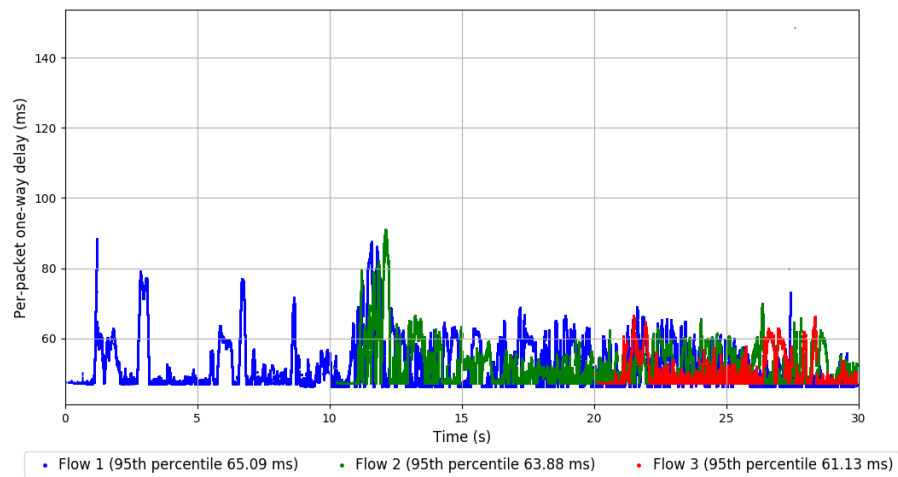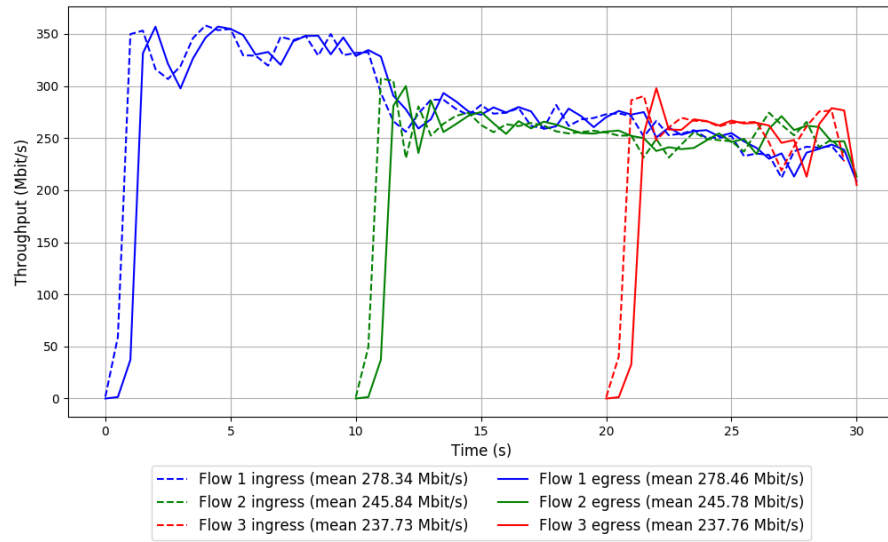
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 472.59 Mbit/s) --- Flow 1 egress (mean 472.08 Mbit/s)
Flow 2 ingress (mean 451.69 Mbit/s) --- Flow 2 egress (mean 451.93 Mbit/s)
Flow 3 ingress (mean 332.31 Mbit/s) --- Flow 3 egress (mean 332.93 Mbit/s)

Flow 1 (95th percentile 154.33 ms)   Flow 2 (95th percentile 90.29 ms)   Flow 3 (95th percentile 77.15 ms)

```
Run 1: Statistics of Copa

Start at: 2019-10-03 22:41:55
End at: 2019-10-03 22:42:25
Local clock offset: -0.026 ms
Remote clock offset: 0.025 ms


# Below is generated by plot.py at 2019-10-04 02:41:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 542.11 Mbit/s
95th percentile per-packet one-way delay: 57.979 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 282.99 Mbit/s
95th percentile per-packet one-way delay: 57.549 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 282.17 Mbit/s
95th percentile per-packet one-way delay: 57.306 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 216.79 Mbit/s
95th percentile per-packet one-way delay: 98.025 ms
Loss rate: 1.07%
```
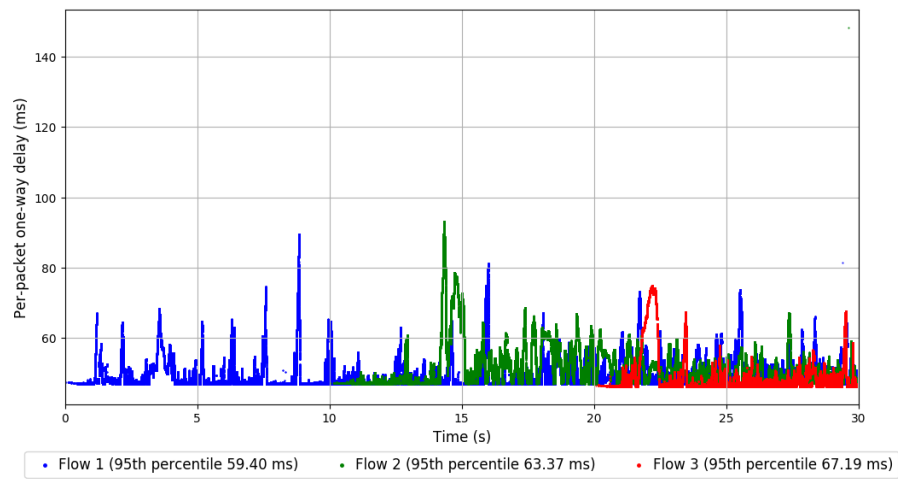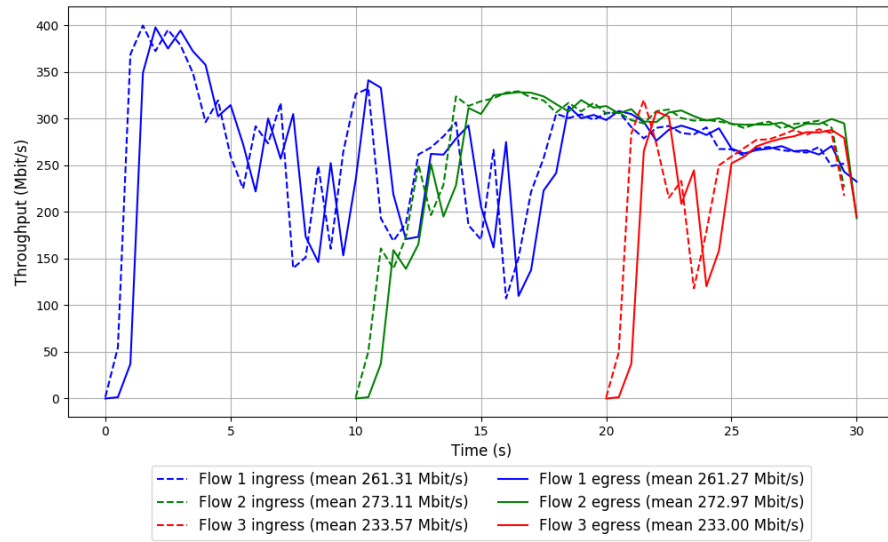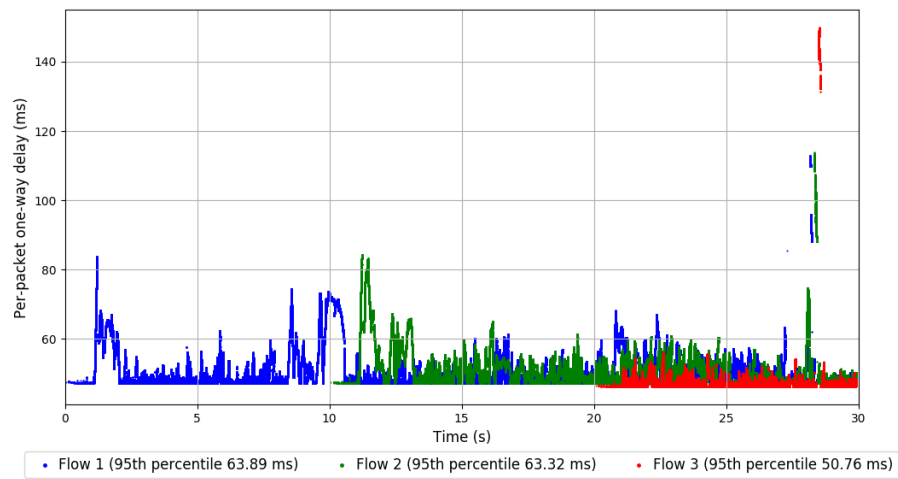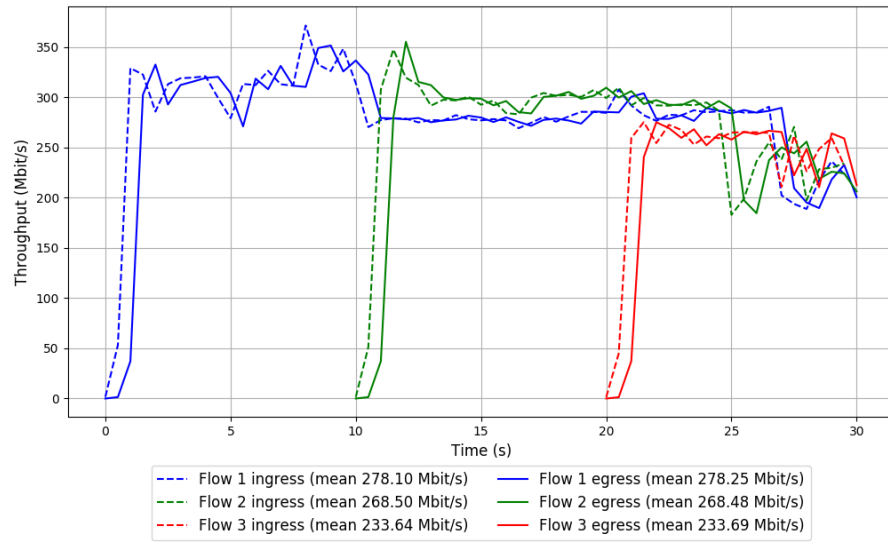
Run 1: Report of Copa — Data Link

- - - Flow 1 ingress (mean 282.87 Mbit/s) ——— Flow 1 egress (mean 282.99 Mbit/s)
- - - Flow 2 ingress (mean 282.05 Mbit/s) ——— Flow 2 egress (mean 282.17 Mbit/s)
- - - Flow 3 ingress (mean 217.04 Mbit/s) ——— Flow 3 egress (mean 216.79 Mbit/s)

- Flow 1 (95th percentile 57.55 ms)   - Flow 2 (95th percentile 57.31 ms)   - Flow 3 (95th percentile 98.03 ms)

```
Run 2: Statistics of Copa

Start at: 2019-10-03 23:22:37
End at: 2019-10-03 23:23:07
Local clock offset: -0.7 ms
Remote clock offset: -0.008 ms


# Below is generated by plot.py at 2019-10-04 02:41:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 520.34 Mbit/s
95th percentile per-packet one-way delay: 63.919 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 278.46 Mbit/s
95th percentile per-packet one-way delay: 65.086 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 245.78 Mbit/s
95th percentile per-packet one-way delay: 63.883 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 237.76 Mbit/s
95th percentile per-packet one-way delay: 61.130 ms
Loss rate: 0.98%
```

Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-10-04 00:03:38
End at: 2019-10-04 00:04:08
Local clock offset: -0.027 ms
Remote clock offset: -0.058 ms


# Below is generated by plot.py at 2019-10-04 02:41:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 519.66 Mbit/s
95th percentile per-packet one-way delay: 62.114 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 261.27 Mbit/s
95th percentile per-packet one-way delay: 59.400 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 272.97 Mbit/s
95th percentile per-packet one-way delay: 63.372 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 233.00 Mbit/s
95th percentile per-packet one-way delay: 67.185 ms
Loss rate: 1.18%
```
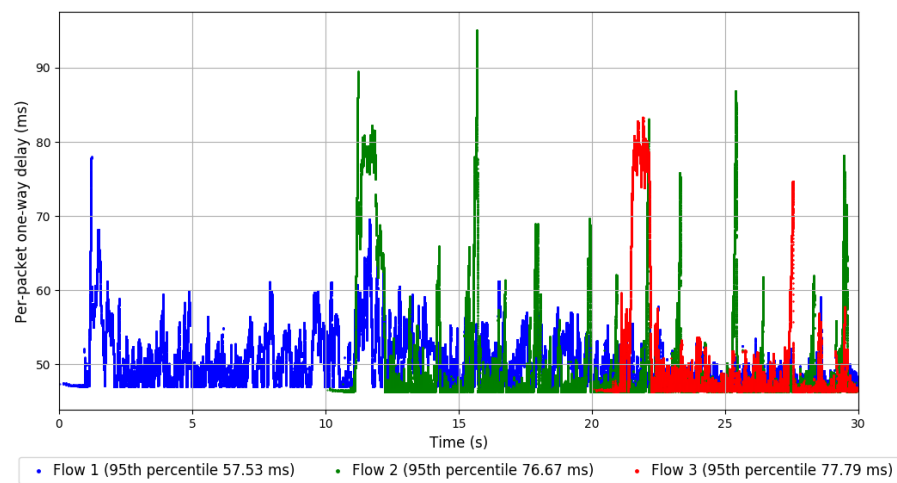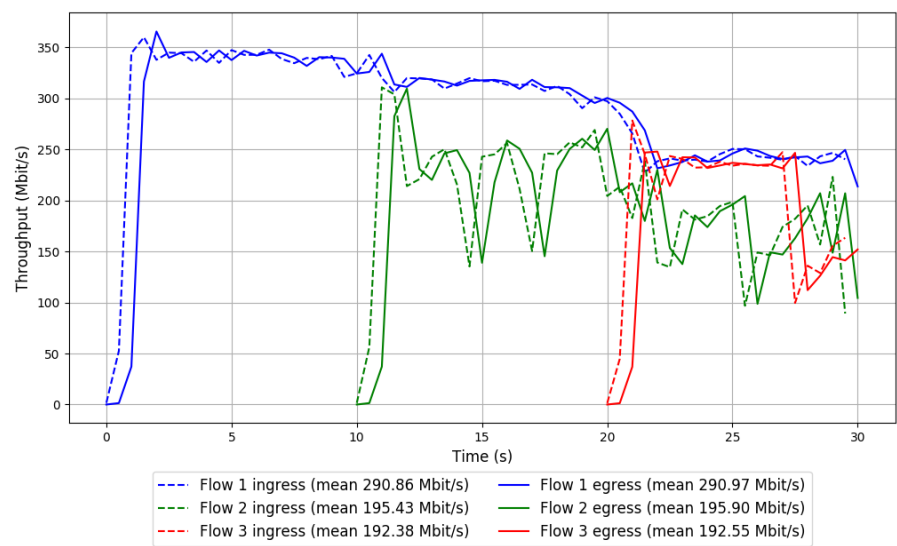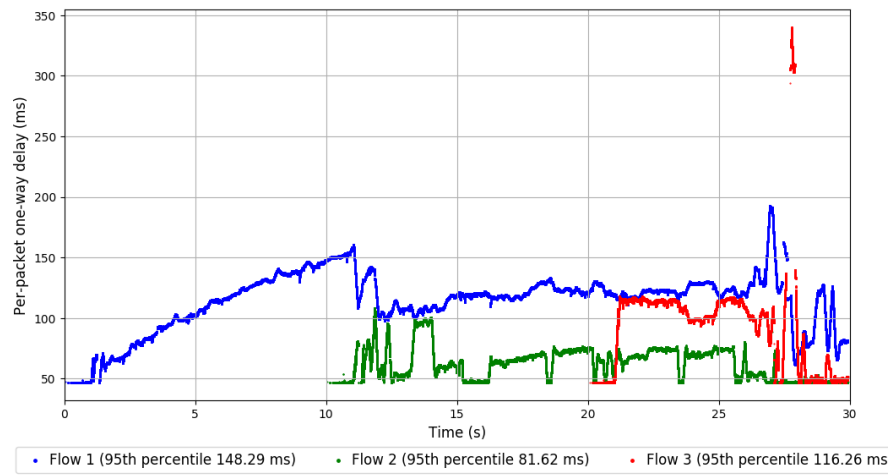
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2019-10-04 00:44:22
End at: 2019-10-04 00:44:52
Local clock offset: 0.068 ms
Remote clock offset: -0.046 ms


# Below is generated by plot.py at 2019-10-04 02:57:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 533.85 Mbit/s
95th percentile per-packet one-way delay: 62.509 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 278.25 Mbit/s
95th percentile per-packet one-way delay: 63.890 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 268.48 Mbit/s
95th percentile per-packet one-way delay: 63.323 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 233.69 Mbit/s
95th percentile per-packet one-way delay: 50.755 ms
Loss rate: 0.97%
```
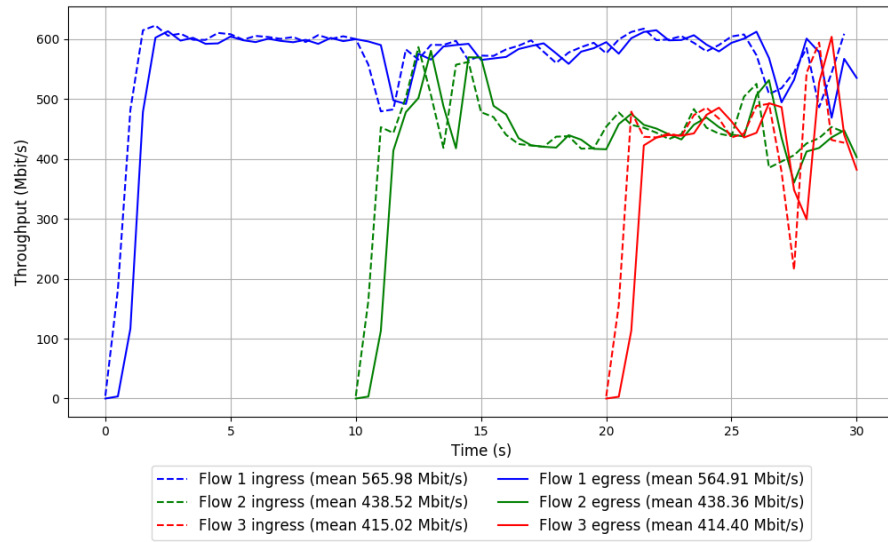
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 278.10 Mbit/s) ---- Flow 1 egress (mean 278.25 Mbit/s)
Flow 2 ingress (mean 268.50 Mbit/s) ---- Flow 2 egress (mean 268.48 Mbit/s)
Flow 3 ingress (mean 233.64 Mbit/s) ---- Flow 3 egress (mean 233.69 Mbit/s)

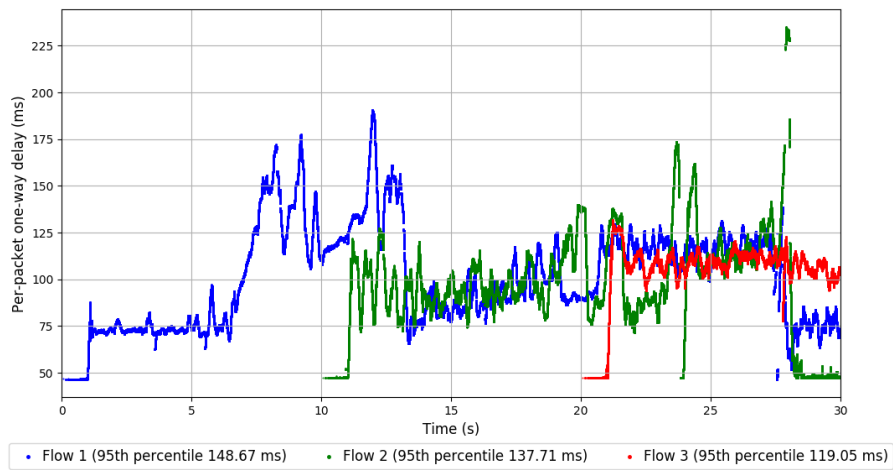Flow 1 (95th percentile 63.89 ms)   Flow 2 (95th percentile 63.32 ms)   Flow 3 (95th percentile 50.76 ms)

22

```
Run 5: Statistics of Copa

Start at: 2019-10-04 01:24:25
End at: 2019-10-04 01:24:55
Local clock offset: 0.011 ms
Remote clock offset: -0.01 ms


# Below is generated by plot.py at 2019-10-04 02:57:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 484.77 Mbit/s
95th percentile per-packet one-way delay: 63.434 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 290.97 Mbit/s
95th percentile per-packet one-way delay: 57.527 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 195.90 Mbit/s
95th percentile per-packet one-way delay: 76.665 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 192.55 Mbit/s
95th percentile per-packet one-way delay: 77.786 ms
Loss rate: 0.85%
```
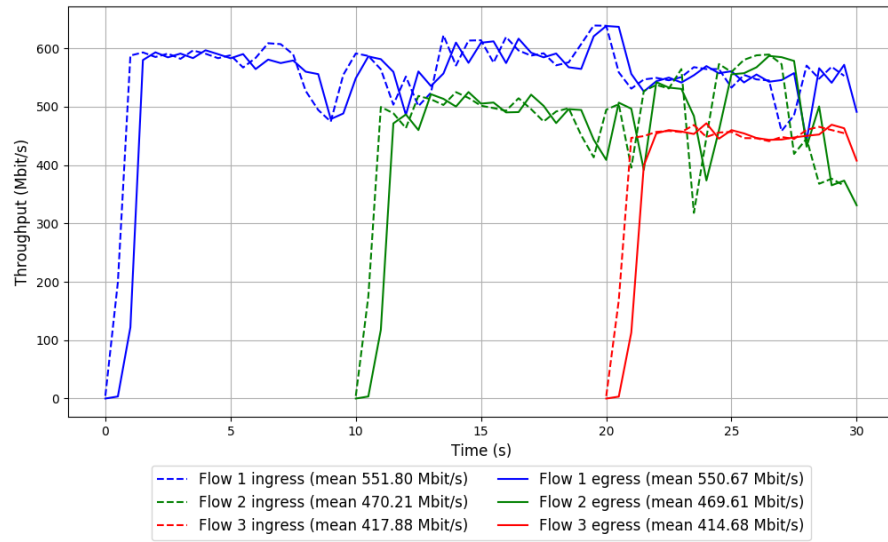
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-10-03 22:47:25
End at: 2019-10-03 22:47:55
Local clock offset: -0.427 ms
Remote clock offset: -0.001 ms


# Below is generated by plot.py at 2019-10-04 02:59:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 993.28 Mbit/s
95th percentile per-packet one-way delay: 142.281 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 564.91 Mbit/s
95th percentile per-packet one-way delay: 148.293 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 438.36 Mbit/s
95th percentile per-packet one-way delay: 81.620 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 414.40 Mbit/s
95th percentile per-packet one-way delay: 116.263 ms
Loss rate: 1.08%
```

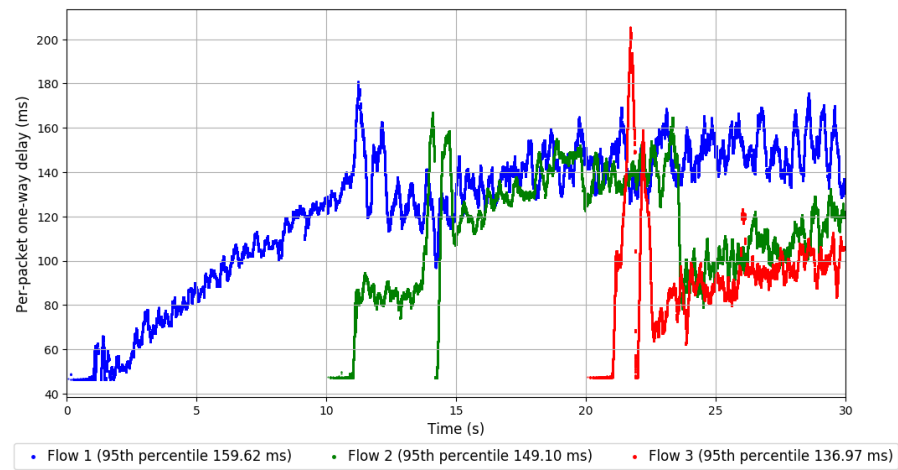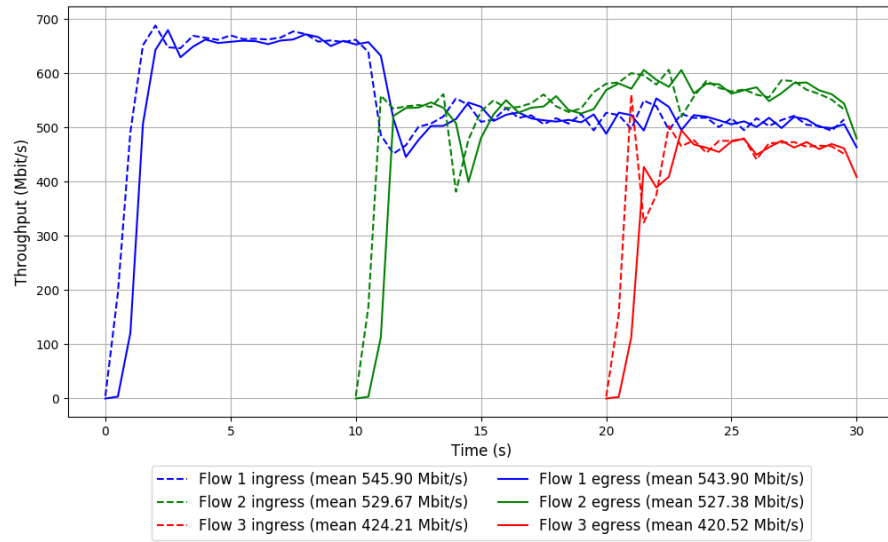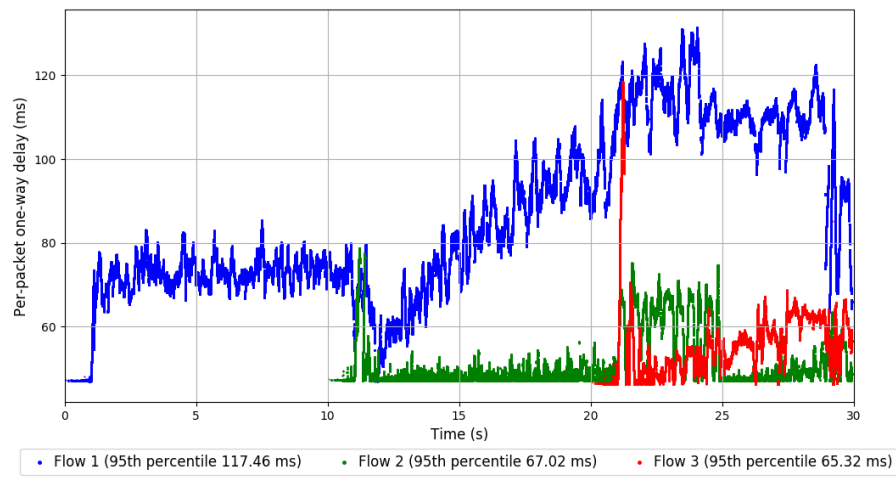Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-10-03 23:28:15
End at: 2019-10-03 23:28:45
Local clock offset: -0.782 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2019-10-04 03:00:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1000.18 Mbit/s
95th percentile per-packet one-way delay: 142.688 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 550.67 Mbit/s
95th percentile per-packet one-way delay: 148.666 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 469.61 Mbit/s
95th percentile per-packet one-way delay: 137.711 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 414.68 Mbit/s
95th percentile per-packet one-way delay: 119.047 ms
Loss rate: 1.70%
```

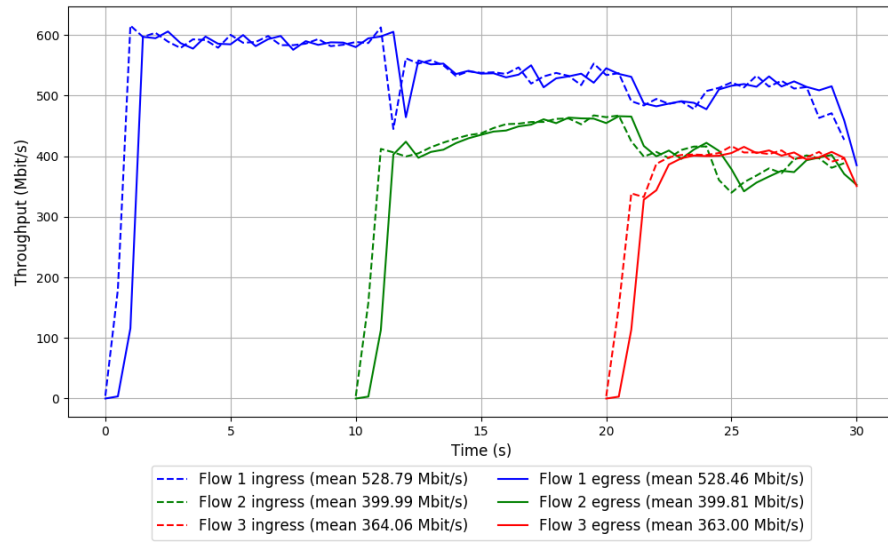Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 551.80 Mbit/s)   Flow 1 egress (mean 550.67 Mbit/s)
Flow 2 ingress (mean 470.21 Mbit/s)   Flow 2 egress (mean 469.61 Mbit/s)
Flow 3 ingress (mean 417.88 Mbit/s)   Flow 3 egress (mean 414.68 Mbit/s)

Flow 1 (95th percentile 148.67 ms)   Flow 2 (95th percentile 137.71 ms)   Flow 3 (95th percentile 119.05 ms)
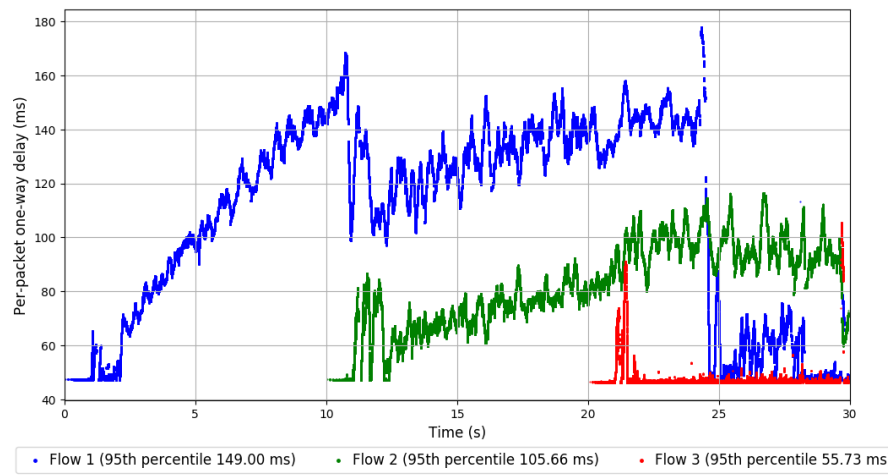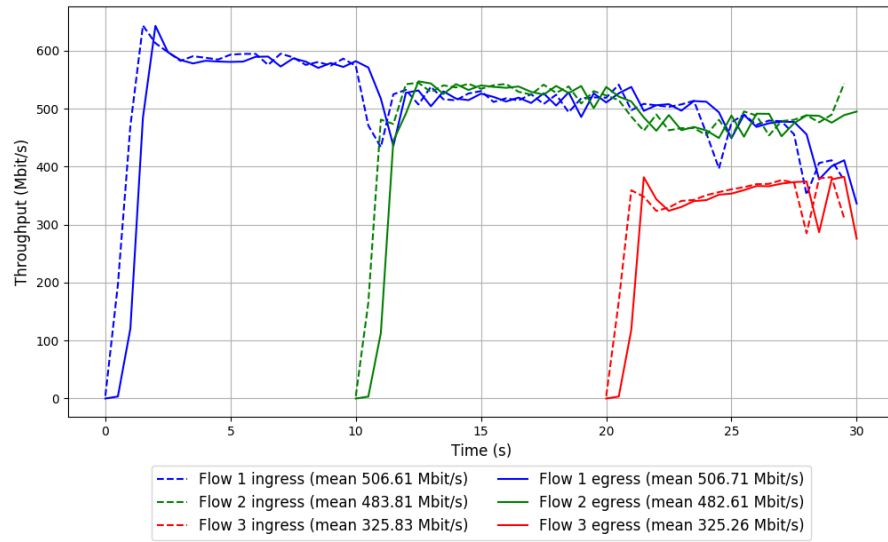
```
Run 3: Statistics of TCP Cubic

Start at: 2019-10-04 00:09:12
End at: 2019-10-04 00:09:42
Local clock offset: 0.042 ms
Remote clock offset: -0.114 ms


# Below is generated by plot.py at 2019-10-04 03:01:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1033.54 Mbit/s
95th percentile per-packet one-way delay: 156.513 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 543.90 Mbit/s
95th percentile per-packet one-way delay: 159.616 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 527.38 Mbit/s
95th percentile per-packet one-way delay: 149.103 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 420.52 Mbit/s
95th percentile per-packet one-way delay: 136.965 ms
Loss rate: 1.81%
```
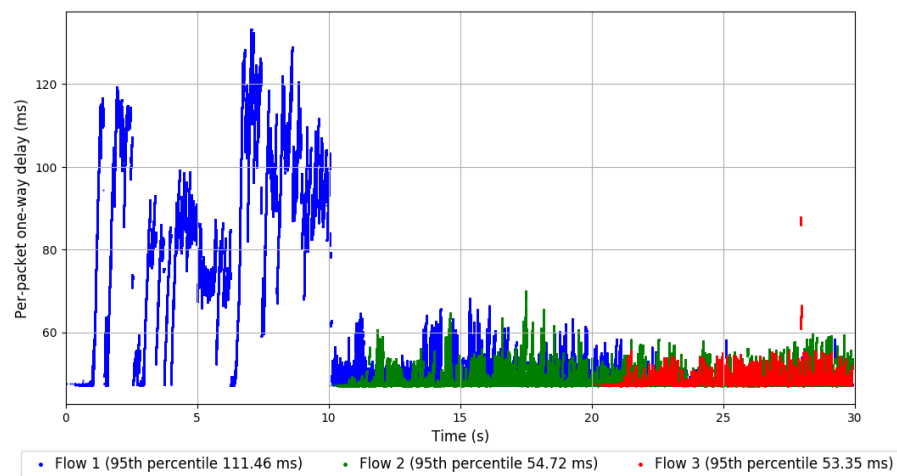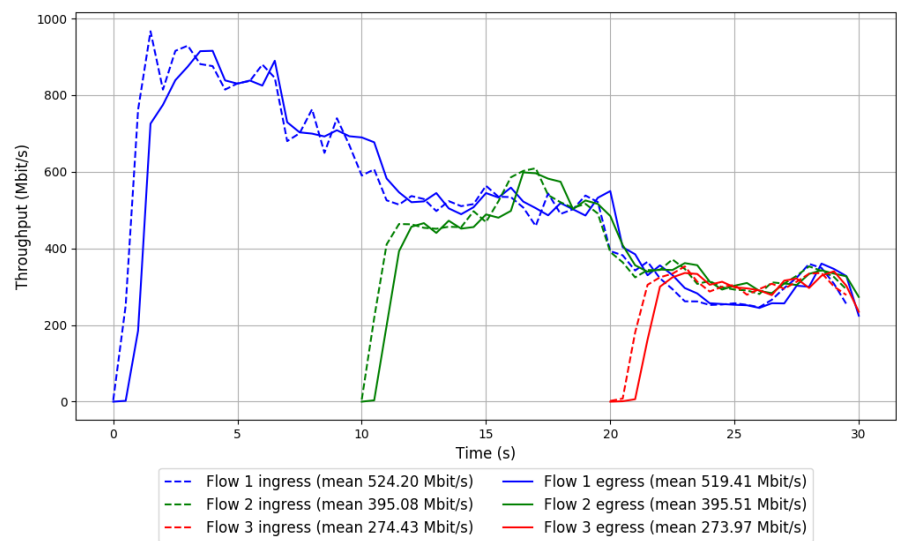
Run 3: Report of TCP Cubic — Data Link

- - - - Flow 1 ingress (mean 545.90 Mbit/s)   —— Flow 1 egress (mean 543.90 Mbit/s)
- - - - Flow 2 ingress (mean 529.67 Mbit/s)   —— Flow 2 egress (mean 527.38 Mbit/s)
- - - - Flow 3 ingress (mean 424.21 Mbit/s)   —— Flow 3 egress (mean 420.52 Mbit/s)

• Flow 1 (95th percentile 159.62 ms)   • Flow 2 (95th percentile 149.10 ms)   • Flow 3 (95th percentile 136.97 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-10-04 00:49:53
End at: 2019-10-04 00:50:23
Local clock offset: 0.078 ms
Remote clock offset: -0.026 ms


# Below is generated by plot.py at 2019-10-04 03:01:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 914.22 Mbit/s
95th percentile per-packet one-way delay: 114.052 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 528.46 Mbit/s
95th percentile per-packet one-way delay: 117.462 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 399.81 Mbit/s
95th percentile per-packet one-way delay: 67.019 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 363.00 Mbit/s
95th percentile per-packet one-way delay: 65.323 ms
Loss rate: 1.24%
```
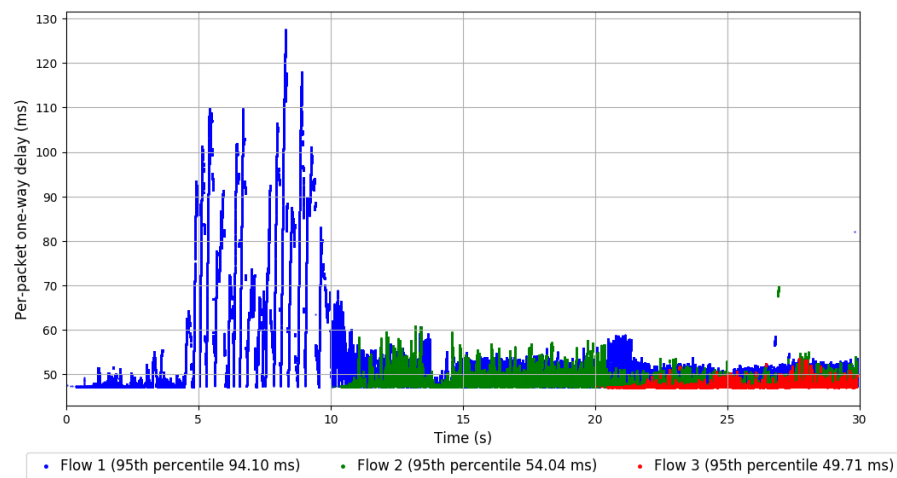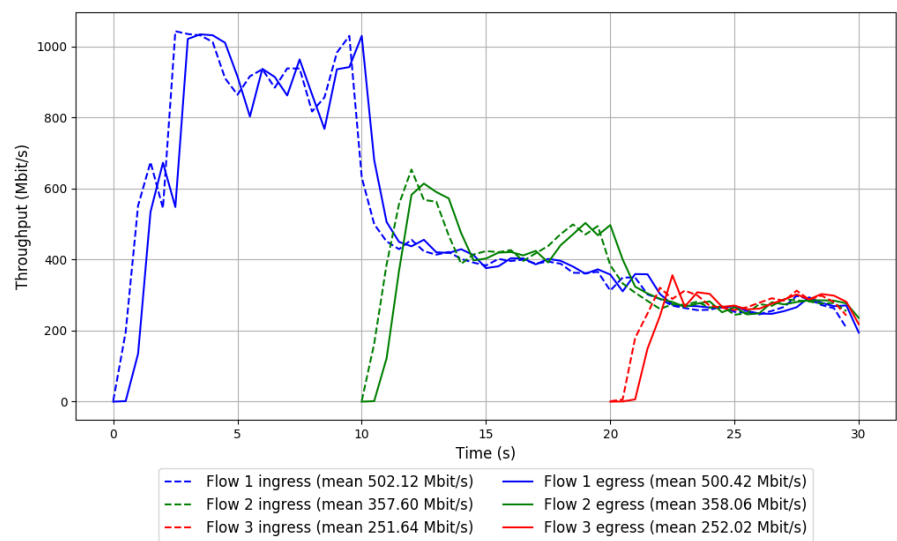
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-10-04 01:30:00
End at: 2019-10-04 01:30:30
Local clock offset: -0.056 ms
Remote clock offset: -0.024 ms


# Below is generated by plot.py at 2019-10-04 03:01:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 935.19 Mbit/s
95th percentile per-packet one-way delay: 145.775 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 506.71 Mbit/s
95th percentile per-packet one-way delay: 149.005 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 482.61 Mbit/s
95th percentile per-packet one-way delay: 105.658 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 325.26 Mbit/s
95th percentile per-packet one-way delay: 55.726 ms
Loss rate: 1.10%
```
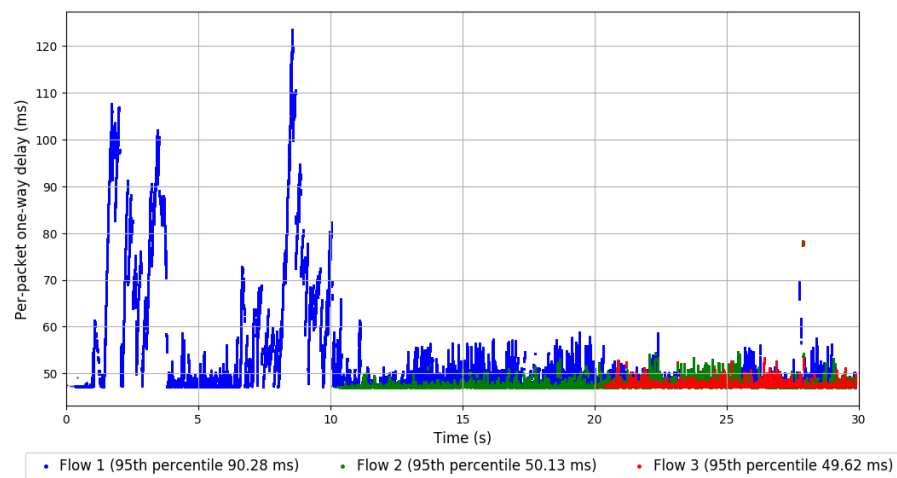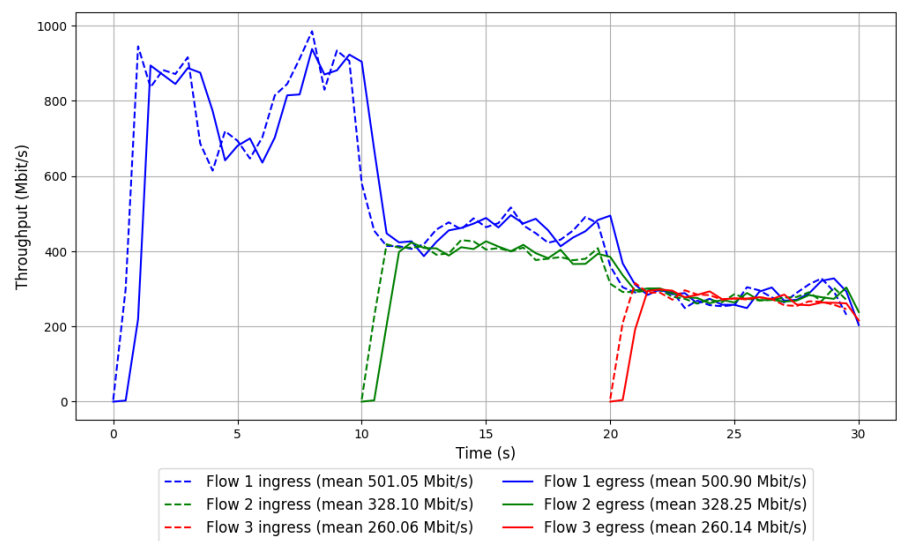
Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-10-03 23:15:06
End at: 2019-10-03 23:15:36
Local clock offset: -0.51 ms
Remote clock offset: -0.032 ms


# Below is generated by plot.py at 2019-10-04 03:02:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 872.56 Mbit/s
95th percentile per-packet one-way delay: 105.791 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 519.41 Mbit/s
95th percentile per-packet one-way delay: 111.462 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 395.51 Mbit/s
95th percentile per-packet one-way delay: 54.724 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 273.97 Mbit/s
95th percentile per-packet one-way delay: 53.348 ms
Loss rate: 1.21%
```
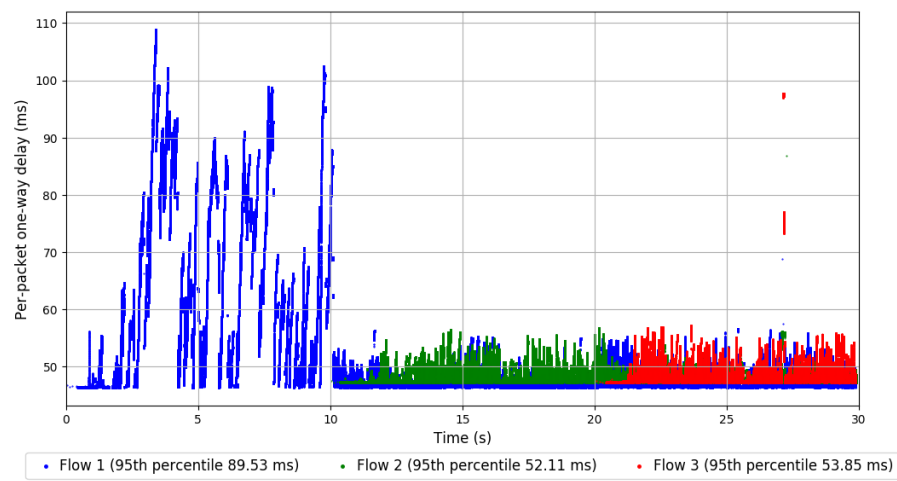
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-10-03 23:56:02
End at: 2019-10-03 23:56:32
Local clock offset: -0.136 ms
Remote clock offset: -0.098 ms


# Below is generated by plot.py at 2019-10-04 03:16:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 821.32 Mbit/s
95th percentile per-packet one-way delay: 88.775 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 500.42 Mbit/s
95th percentile per-packet one-way delay: 94.100 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 358.06 Mbit/s
95th percentile per-packet one-way delay: 54.040 ms
Loss rate: 0.28%
-- Flow 3:
Average throughput: 252.02 Mbit/s
95th percentile per-packet one-way delay: 49.713 ms
Loss rate: 0.91%
```
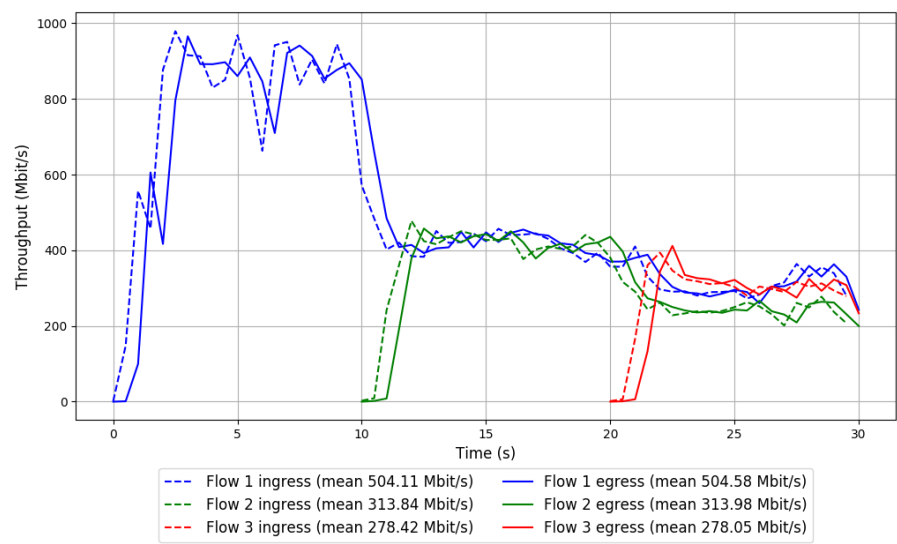
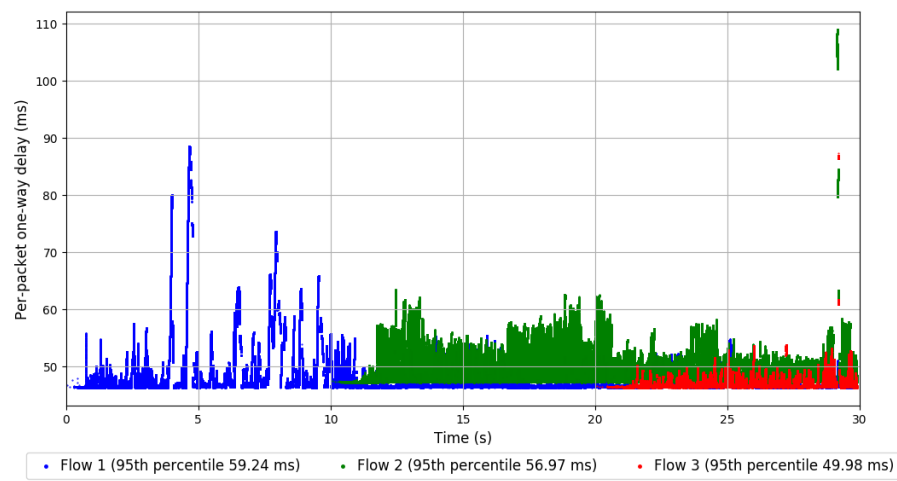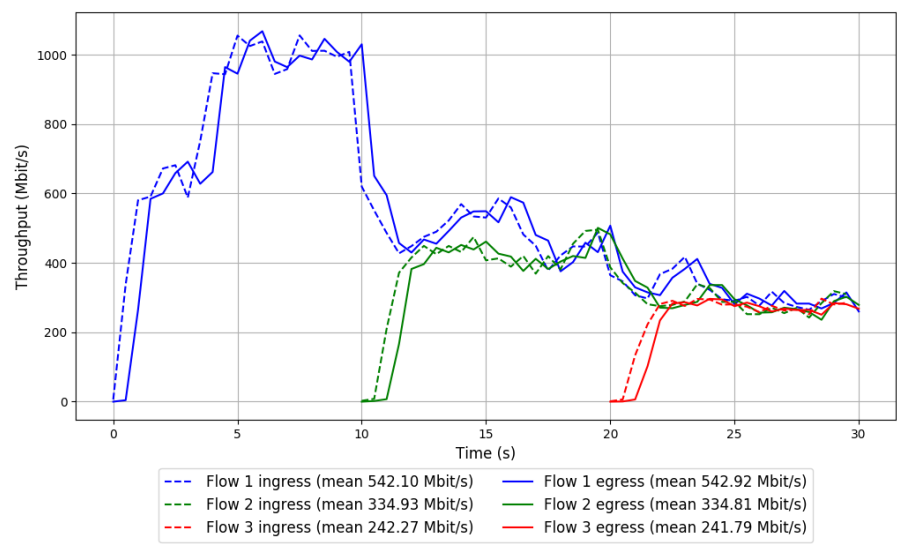Run 2: Report of FillP — Data Link

38

```
Run 3: Statistics of FillP

Start at: 2019-10-04 00:36:54
End at: 2019-10-04 00:37:24
Local clock offset: 0.081 ms
Remote clock offset: -0.048 ms


# Below is generated by plot.py at 2019-10-04 03:16:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 804.61 Mbit/s
95th percentile per-packet one-way delay: 84.014 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 500.90 Mbit/s
95th percentile per-packet one-way delay: 90.279 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 328.25 Mbit/s
95th percentile per-packet one-way delay: 50.131 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 260.14 Mbit/s
95th percentile per-packet one-way delay: 49.617 ms
Loss rate: 0.96%
```

Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 501.05 Mbit/s)   Flow 1 egress (mean 500.90 Mbit/s)
Flow 2 ingress (mean 328.10 Mbit/s)   Flow 2 egress (mean 328.25 Mbit/s)
Flow 3 ingress (mean 260.06 Mbit/s)   Flow 3 egress (mean 260.14 Mbit/s)

Flow 1 (95th percentile 90.28 ms)   Flow 2 (95th percentile 50.13 ms)   Flow 3 (95th percentile 49.62 ms)

```
Run 4: Statistics of FillP

Start at: 2019-10-04 01:16:59
End at: 2019-10-04 01:17:29
Local clock offset: -0.004 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2019-10-04 03:18:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 804.51 Mbit/s
95th percentile per-packet one-way delay: 85.143 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 504.58 Mbit/s
95th percentile per-packet one-way delay: 89.528 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 313.98 Mbit/s
95th percentile per-packet one-way delay: 52.112 ms
Loss rate: 0.33%
-- Flow 3:
Average throughput: 278.05 Mbit/s
95th percentile per-packet one-way delay: 53.855 ms
Loss rate: 1.22%
```
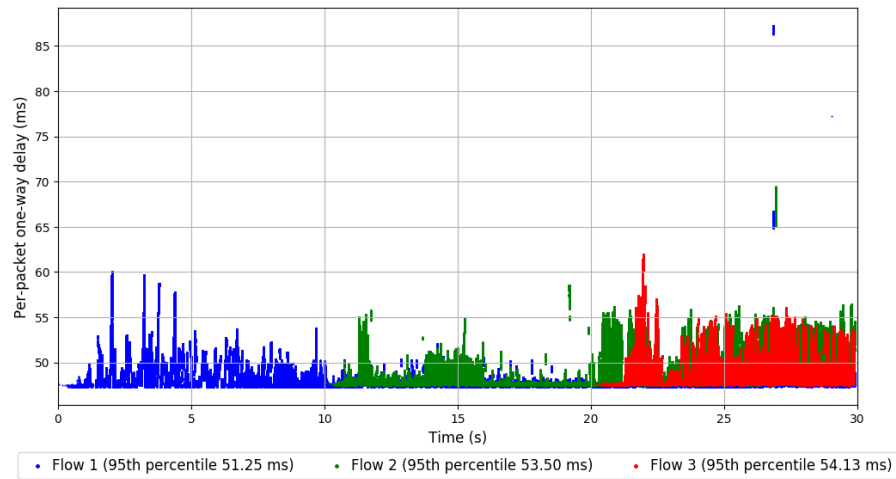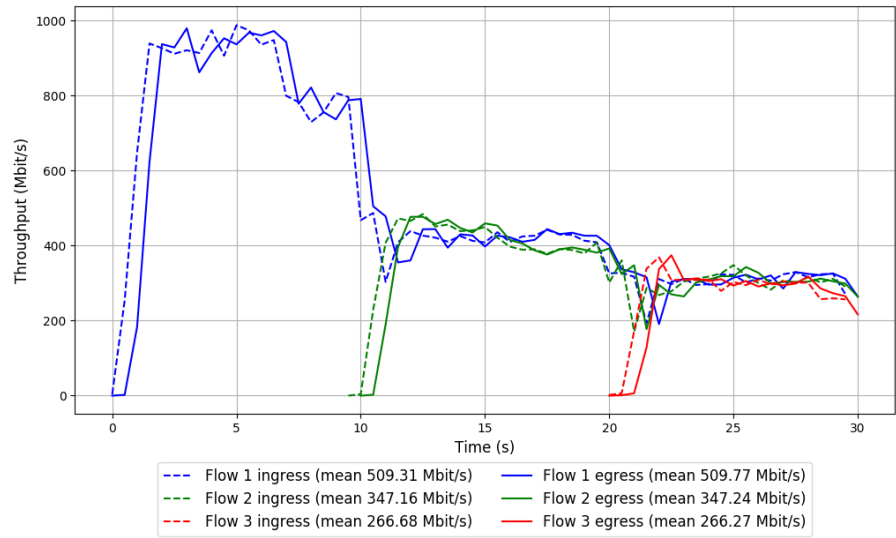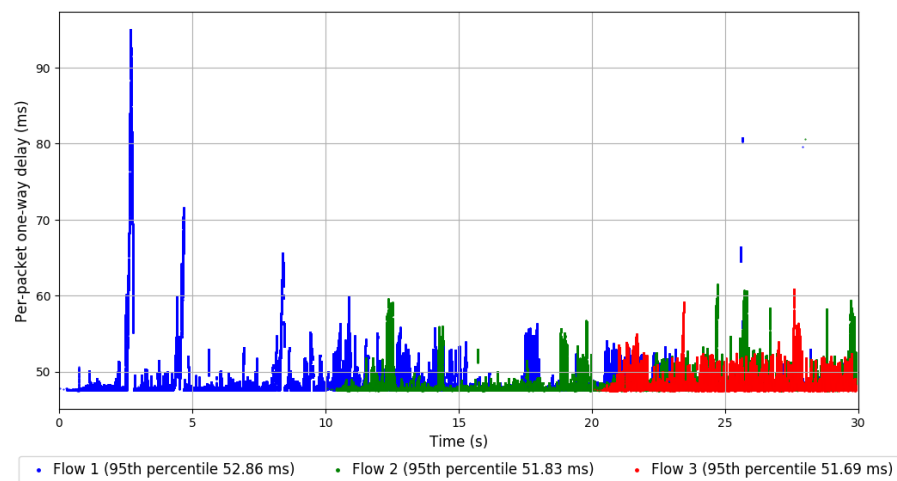
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-10-04 01:57:12
End at: 2019-10-04 01:57:42
Local clock offset: -0.107 ms
Remote clock offset: -0.133 ms


# Below is generated by plot.py at 2019-10-04 03:19:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 844.64 Mbit/s
95th percentile per-packet one-way delay: 57.677 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 542.92 Mbit/s
95th percentile per-packet one-way delay: 59.237 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 334.81 Mbit/s
95th percentile per-packet one-way delay: 56.971 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 241.79 Mbit/s
95th percentile per-packet one-way delay: 49.975 ms
Loss rate: 1.18%
```

Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-10-03 22:52:54
End at: 2019-10-03 22:53:24
Local clock offset: 0.265 ms
Remote clock offset: 0.061 ms


# Below is generated by plot.py at 2019-10-04 03:19:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 828.23 Mbit/s
95th percentile per-packet one-way delay: 52.761 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 509.77 Mbit/s
95th percentile per-packet one-way delay: 51.247 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 347.24 Mbit/s
95th percentile per-packet one-way delay: 53.496 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 266.27 Mbit/s
95th percentile per-packet one-way delay: 54.135 ms
Loss rate: 1.15%
```
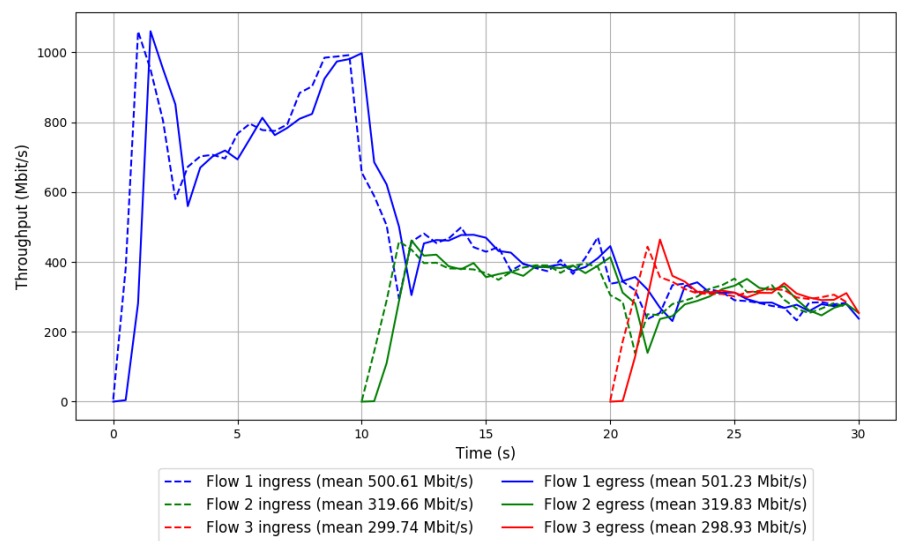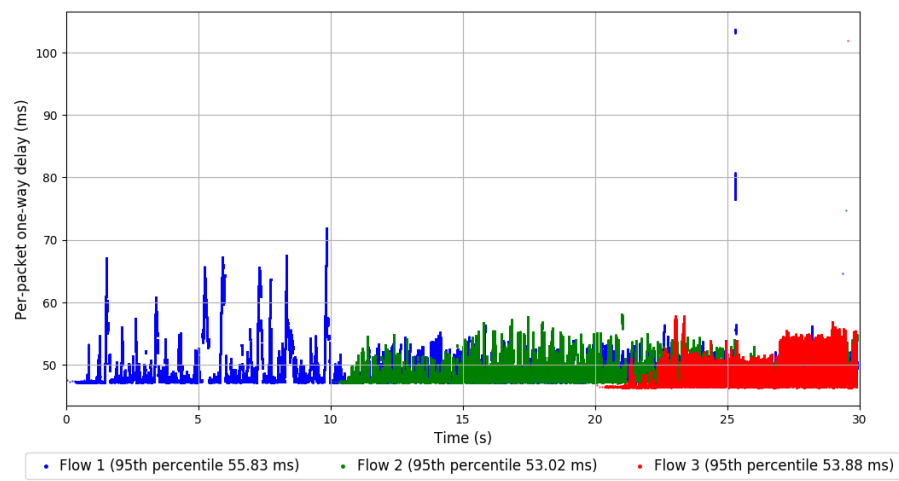
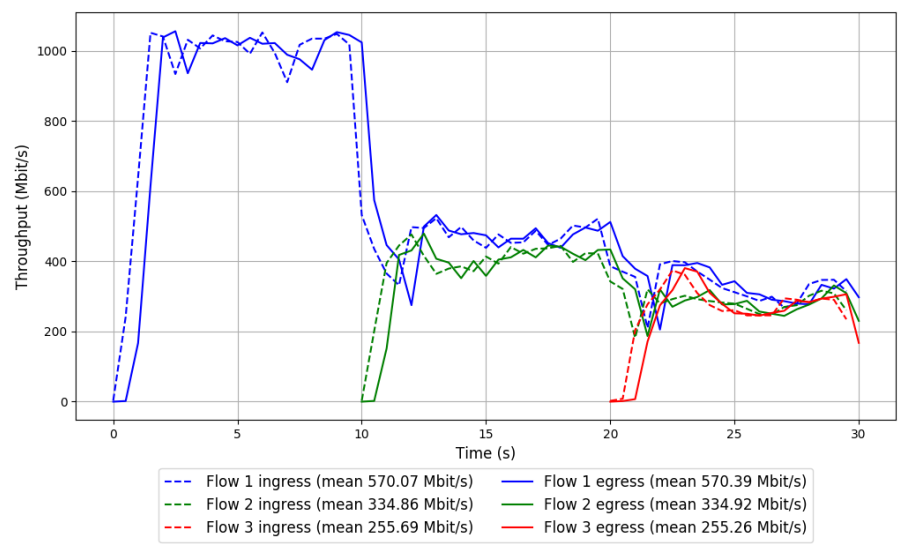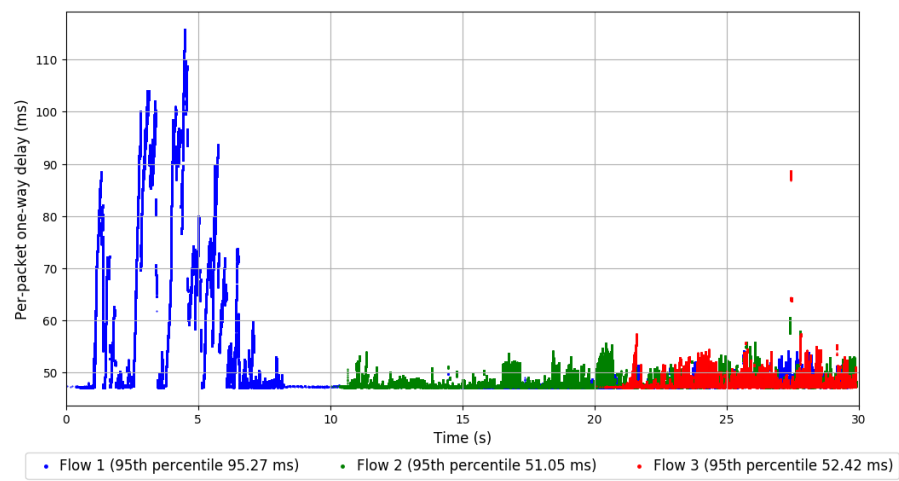Run 1: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 509.31 Mbit/s)   Flow 1 egress (mean 509.77 Mbit/s)
Flow 2 ingress (mean 347.16 Mbit/s)   Flow 2 egress (mean 347.24 Mbit/s)
Flow 3 ingress (mean 266.68 Mbit/s)   Flow 3 egress (mean 266.27 Mbit/s)

Flow 1 (95th percentile 51.25 ms)   Flow 2 (95th percentile 53.50 ms)   Flow 3 (95th percentile 54.13 ms)

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-10-03 23:33:49
End at: 2019-10-03 23:34:19
Local clock offset: -0.47 ms
Remote clock offset: -0.068 ms


# Below is generated by plot.py at 2019-10-04 03:19:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 811.81 Mbit/s
95th percentile per-packet one-way delay: 52.420 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 501.23 Mbit/s
95th percentile per-packet one-way delay: 52.863 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 319.83 Mbit/s
95th percentile per-packet one-way delay: 51.834 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 298.93 Mbit/s
95th percentile per-packet one-way delay: 51.693 ms
Loss rate: 1.03%
```

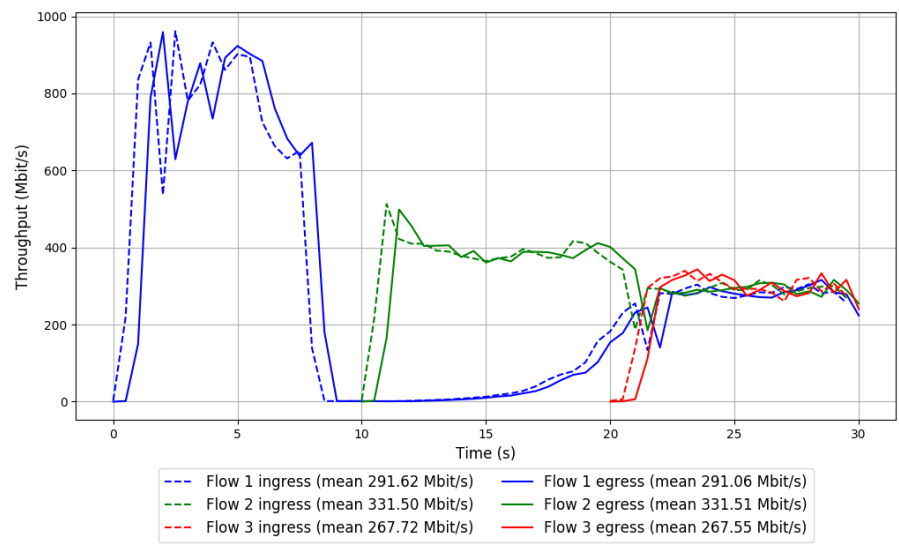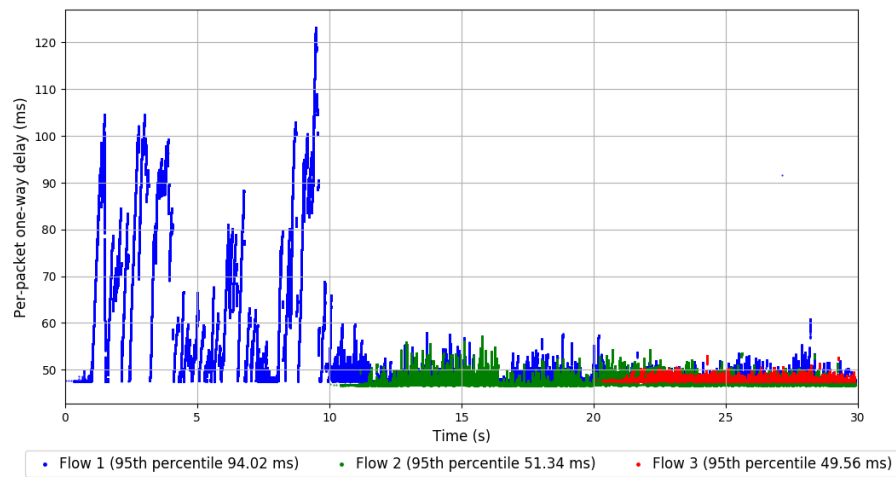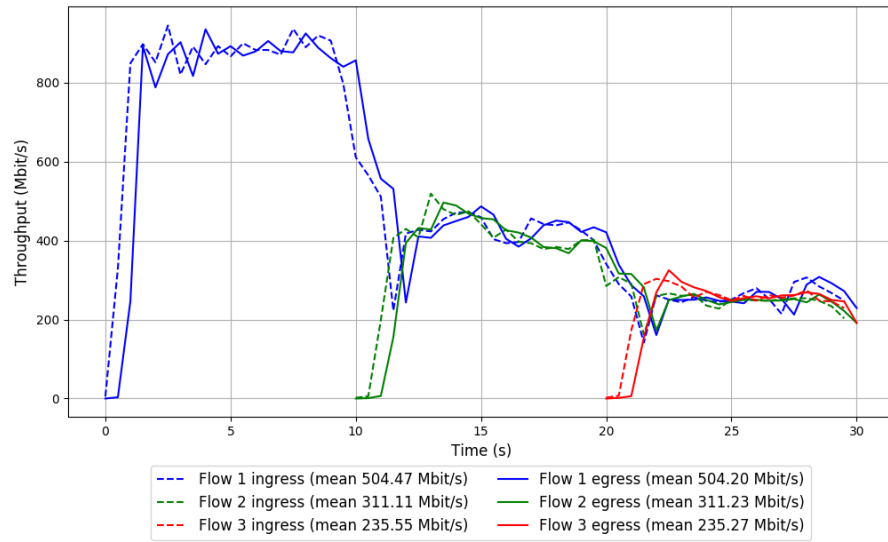Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-10-04 00:14:44
End at: 2019-10-04 00:15:14
Local clock offset: 0.071 ms
Remote clock offset: -0.091 ms


# Below is generated by plot.py at 2019-10-04 03:21:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 876.69 Mbit/s
95th percentile per-packet one-way delay: 54.531 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 570.39 Mbit/s
95th percentile per-packet one-way delay: 55.832 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 334.92 Mbit/s
95th percentile per-packet one-way delay: 53.023 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 255.26 Mbit/s
95th percentile per-packet one-way delay: 53.881 ms
Loss rate: 1.33%
```
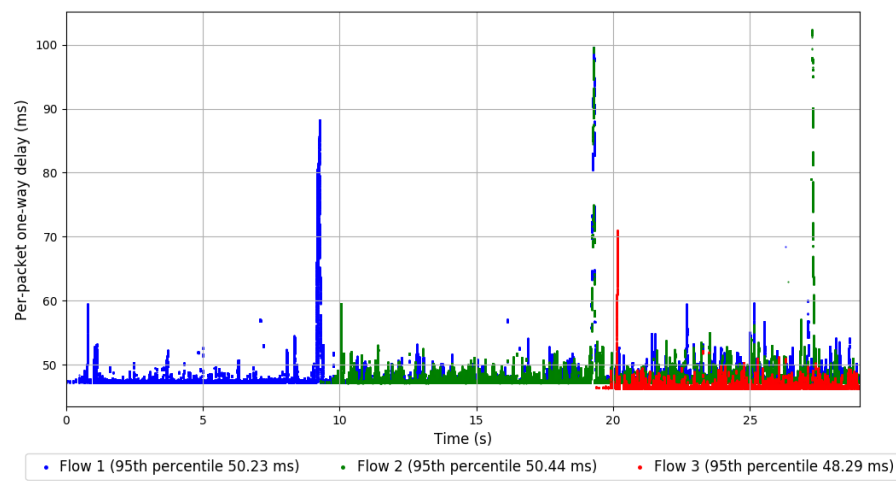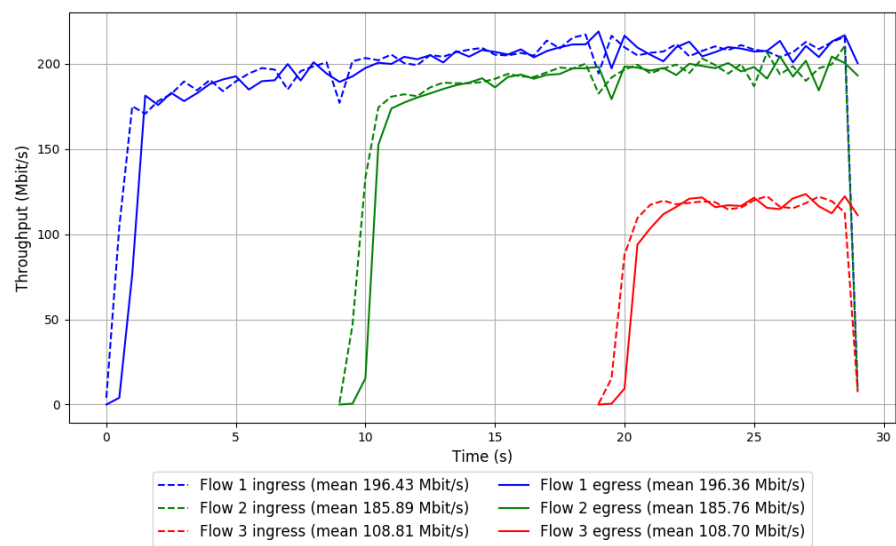
Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 570.07 Mbit/s)   Flow 1 egress (mean 570.39 Mbit/s)
Flow 2 ingress (mean 334.86 Mbit/s)   Flow 2 egress (mean 334.92 Mbit/s)
Flow 3 ingress (mean 255.69 Mbit/s)   Flow 3 egress (mean 255.26 Mbit/s)

Flow 1 (95th percentile 55.83 ms)   Flow 2 (95th percentile 53.02 ms)   Flow 3 (95th percentile 53.88 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-10-04 00:55:13
End at: 2019-10-04 00:55:43
Local clock offset: 0.045 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2019-10-04 03:21:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 599.22 Mbit/s
95th percentile per-packet one-way delay: 89.753 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 291.06 Mbit/s
95th percentile per-packet one-way delay: 95.273 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 331.51 Mbit/s
95th percentile per-packet one-way delay: 51.050 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 267.55 Mbit/s
95th percentile per-packet one-way delay: 52.416 ms
Loss rate: 1.10%
```

Run 4: Report of FillP-Sheep — Data Link

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-10-04 01:35:29
End at: 2019-10-04 01:35:59
Local clock offset: 0.317 ms
Remote clock offset: -0.028 ms


# Below is generated by plot.py at 2019-10-04 03:35:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 788.42 Mbit/s
95th percentile per-packet one-way delay: 90.295 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 504.20 Mbit/s
95th percentile per-packet one-way delay: 94.022 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 311.23 Mbit/s
95th percentile per-packet one-way delay: 51.337 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 235.27 Mbit/s
95th percentile per-packet one-way delay: 49.562 ms
Loss rate: 1.20%
```
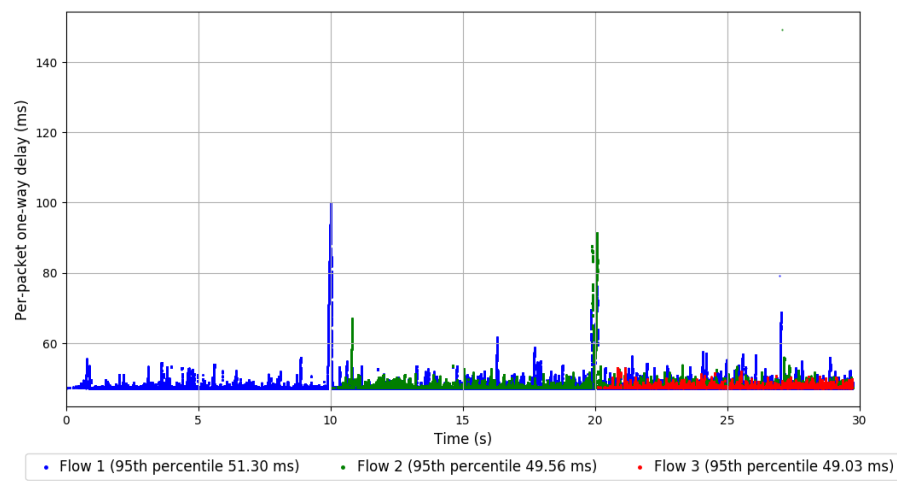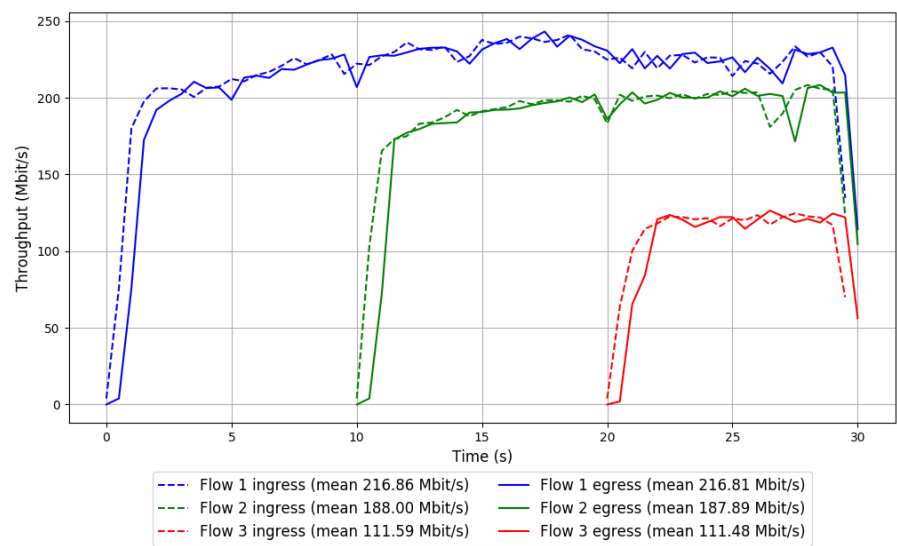
Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 504.47 Mbit/s) --- Flow 1 egress (mean 504.20 Mbit/s)
Flow 2 ingress (mean 311.11 Mbit/s) --- Flow 2 egress (mean 311.23 Mbit/s)
Flow 3 ingress (mean 235.55 Mbit/s) --- Flow 3 egress (mean 235.27 Mbit/s)

Flow 1 (95th percentile 94.02 ms) Flow 2 (95th percentile 51.34 ms) Flow 3 (95th percentile 49.56 ms)
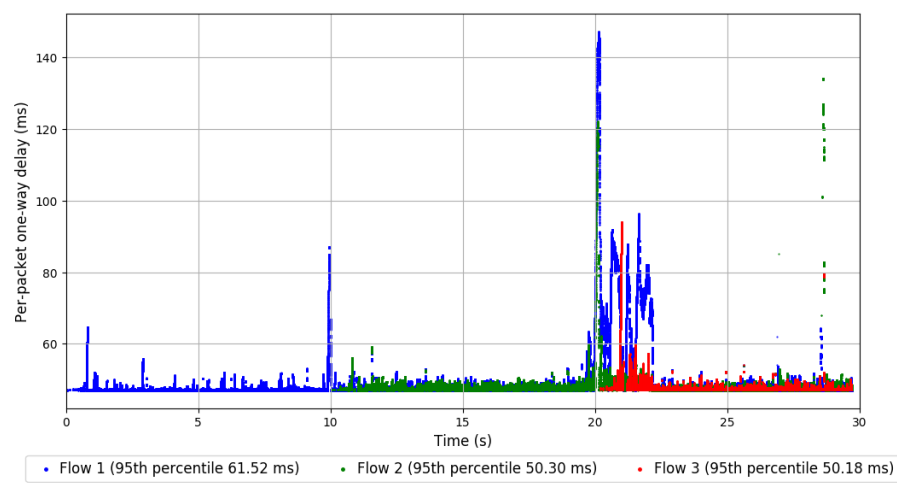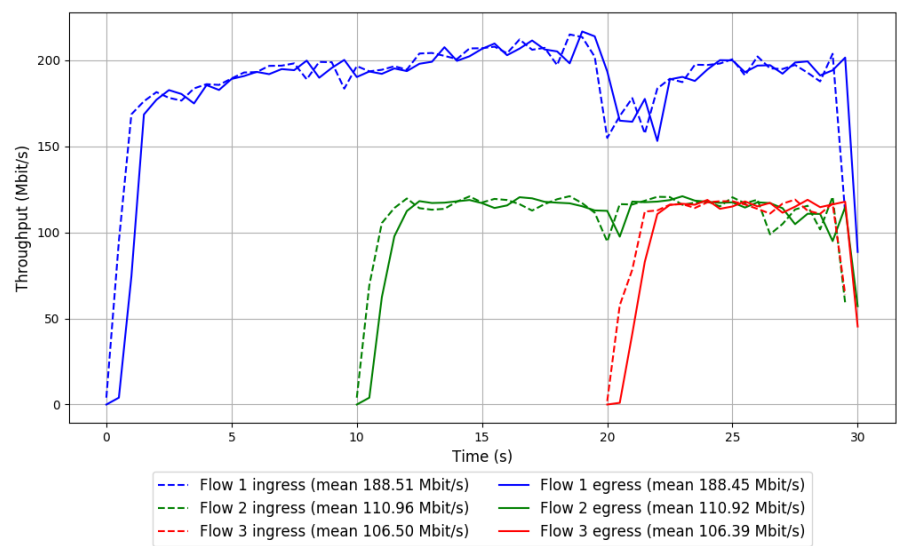
```
Run 1: Statistics of Indigo

Start at: 2019-10-03 23:13:22
End at: 2019-10-03 23:13:52
Local clock offset: -0.478 ms
Remote clock offset: -0.015 ms


# Below is generated by plot.py at 2019-10-04 03:35:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 358.72 Mbit/s
95th percentile per-packet one-way delay: 50.132 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 196.36 Mbit/s
95th percentile per-packet one-way delay: 50.225 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 185.76 Mbit/s
95th percentile per-packet one-way delay: 50.440 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 108.70 Mbit/s
95th percentile per-packet one-way delay: 48.287 ms
Loss rate: 1.07%
```
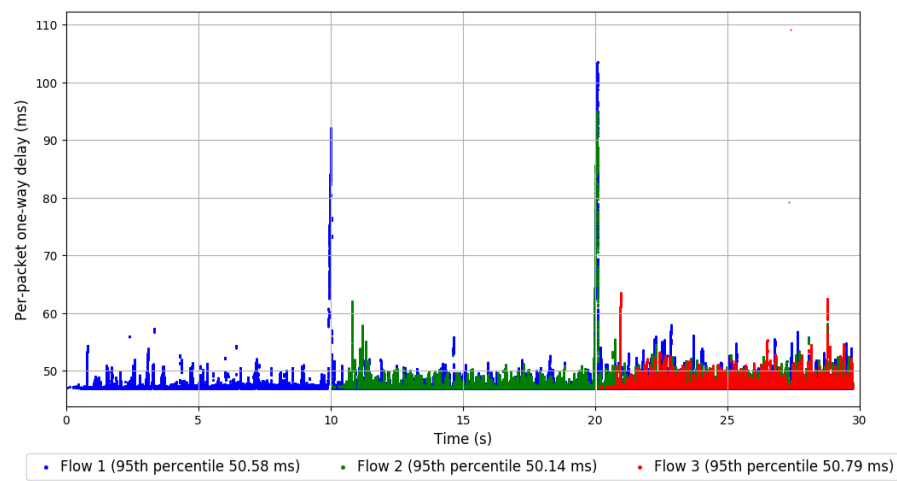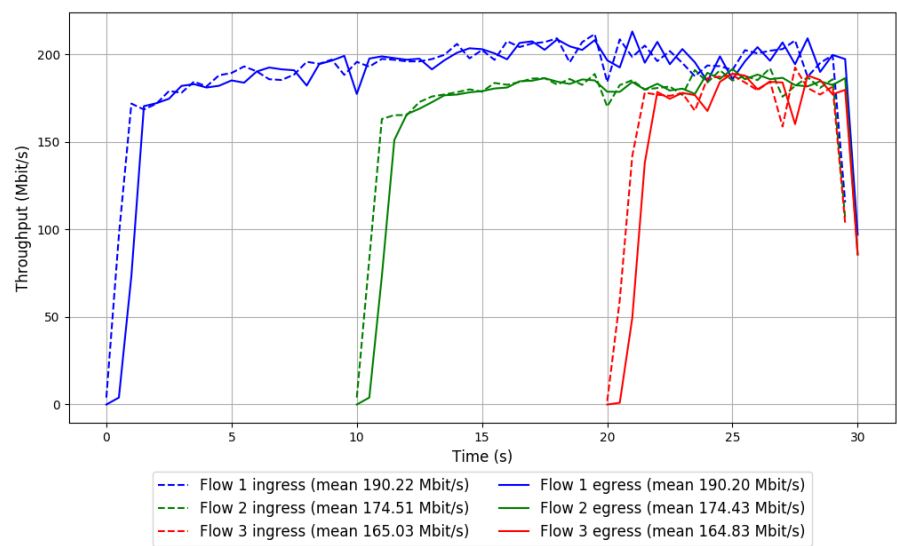
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-10-03 23:54:15
End at: 2019-10-03 23:54:45
Local clock offset: -0.164 ms
Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2019-10-04 03:35:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 377.46 Mbit/s
95th percentile per-packet one-way delay: 50.404 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 216.81 Mbit/s
95th percentile per-packet one-way delay: 51.304 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 187.89 Mbit/s
95th percentile per-packet one-way delay: 49.559 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 111.48 Mbit/s
95th percentile per-packet one-way delay: 49.031 ms
Loss rate: 1.07%
```
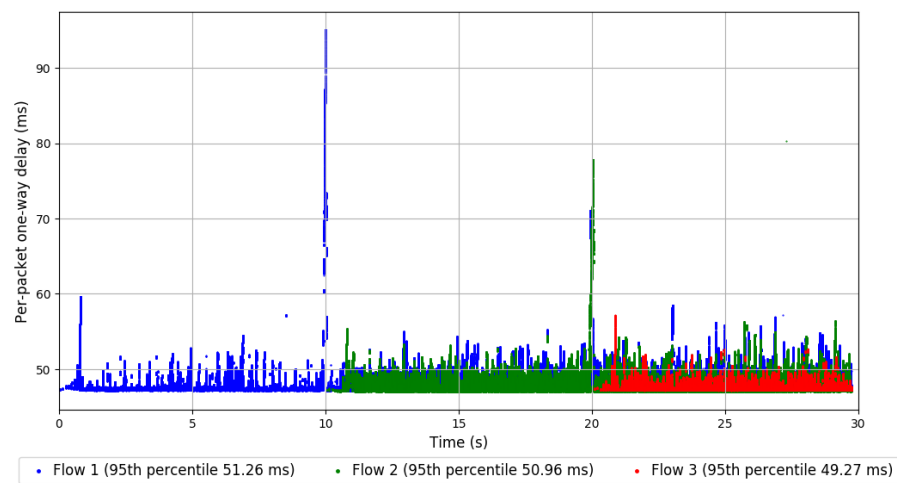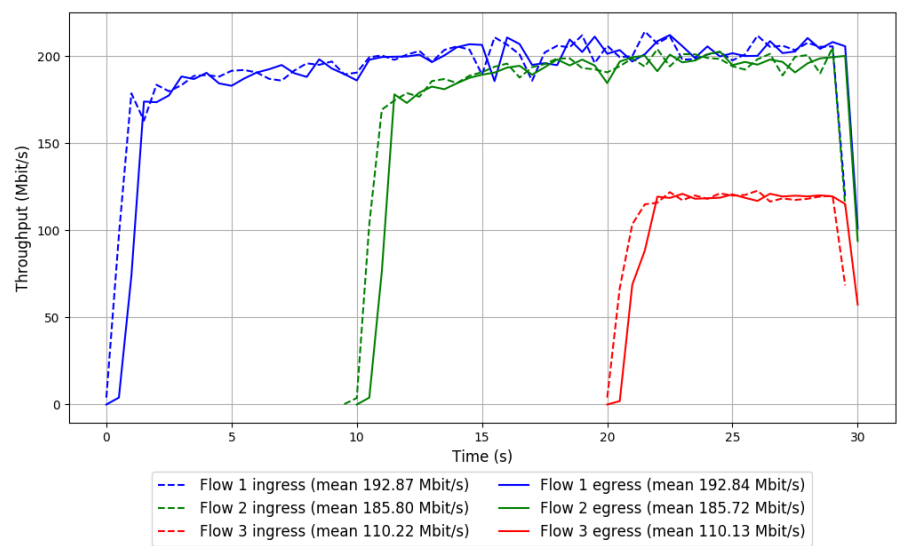
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-10-04 00:35:15
End at: 2019-10-04 00:35:45
Local clock offset: 0.062 ms
Remote clock offset: -0.007 ms

# Below is generated by plot.py at 2019-10-04 03:35:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 296.00 Mbit/s
95th percentile per-packet one-way delay: 53.691 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 188.45 Mbit/s
95th percentile per-packet one-way delay: 61.519 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 110.92 Mbit/s
95th percentile per-packet one-way delay: 50.297 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 106.39 Mbit/s
95th percentile per-packet one-way delay: 50.177 ms
Loss rate: 1.10%
```
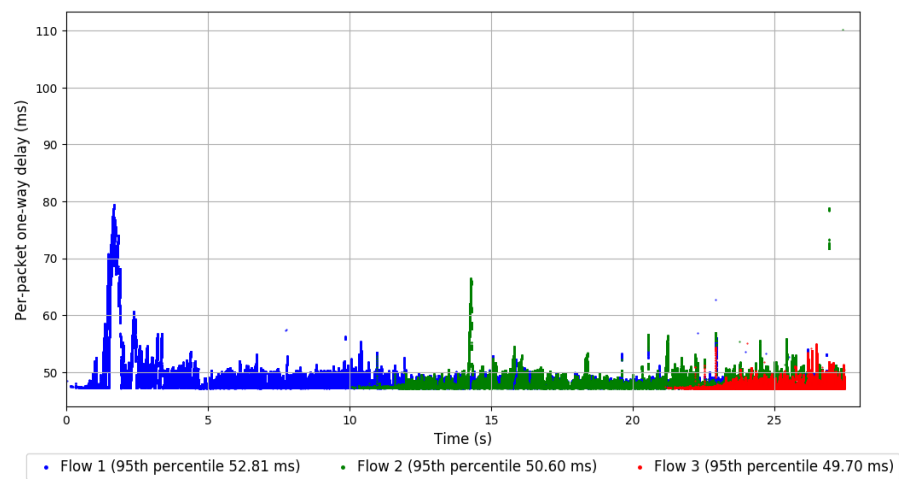
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-10-04 01:15:13
End at: 2019-10-04 01:15:43
Local clock offset: -0.038 ms
Remote clock offset: 0.048 ms


# Below is generated by plot.py at 2019-10-04 03:35:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 358.90 Mbit/s
95th percentile per-packet one-way delay: 50.478 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 190.20 Mbit/s
95th percentile per-packet one-way delay: 50.577 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 174.43 Mbit/s
95th percentile per-packet one-way delay: 50.136 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 164.83 Mbit/s
95th percentile per-packet one-way delay: 50.788 ms
Loss rate: 1.10%
```
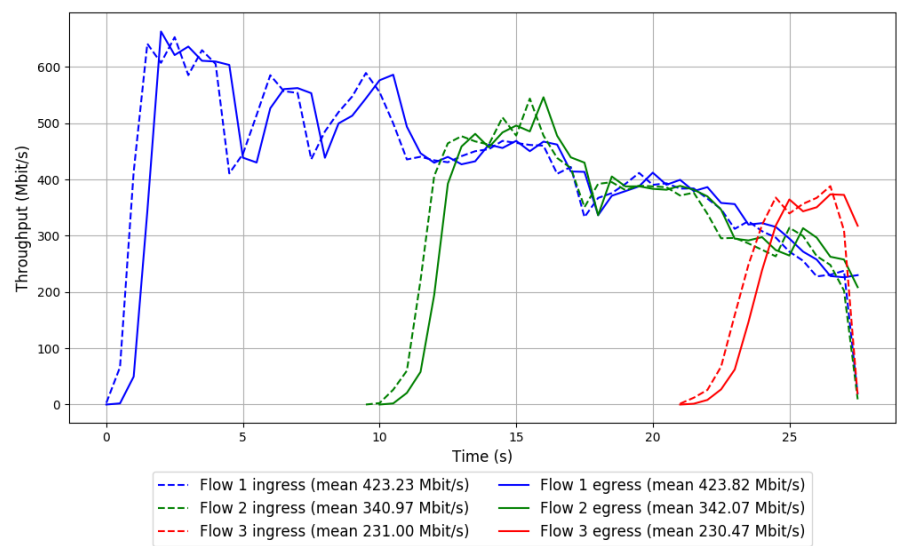
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-10-04 01:55:27
End at: 2019-10-04 01:55:57
Local clock offset: -0.037 ms
Remote clock offset: -0.111 ms


# Below is generated by plot.py at 2019-10-04 03:35:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.74 Mbit/s
95th percentile per-packet one-way delay: 51.002 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 192.84 Mbit/s
95th percentile per-packet one-way delay: 51.260 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 185.72 Mbit/s
95th percentile per-packet one-way delay: 50.962 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 110.13 Mbit/s
95th percentile per-packet one-way delay: 49.266 ms
Loss rate: 1.08%
```
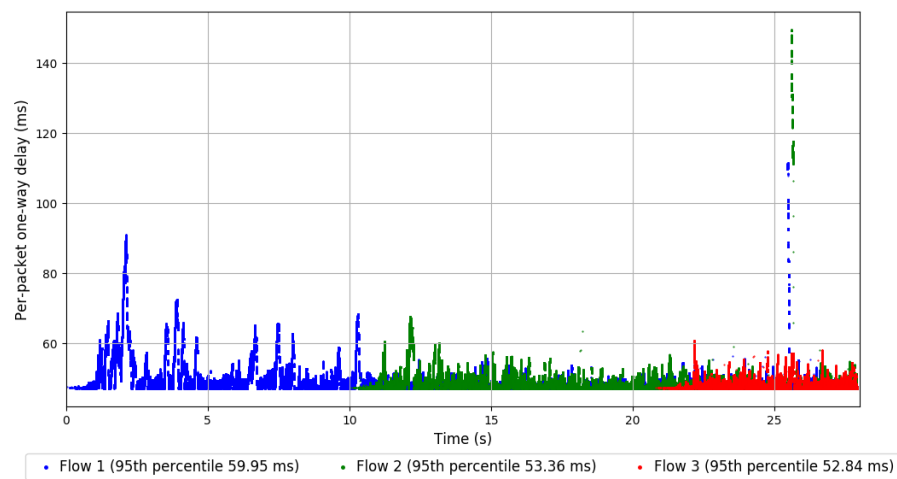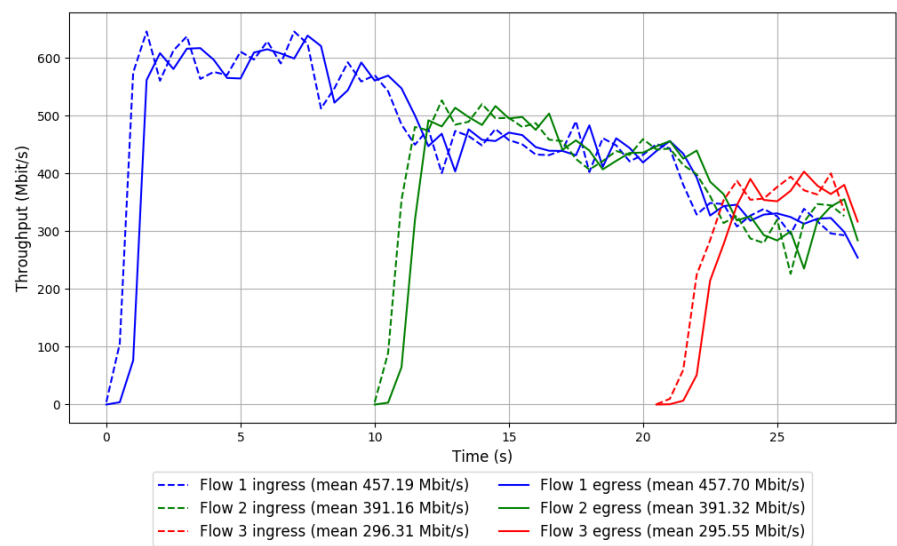
Run 5: Report of Indigo — Data Link

64

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-10-03 22:43:56
End at: 2019-10-03 22:44:26
Local clock offset: -0.051 ms
Remote clock offset: -0.002 ms


# Below is generated by plot.py at 2019-10-04 03:35:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 694.91 Mbit/s
95th percentile per-packet one-way delay: 51.553 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 423.82 Mbit/s
95th percentile per-packet one-way delay: 52.811 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 342.07 Mbit/s
95th percentile per-packet one-way delay: 50.604 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 230.47 Mbit/s
95th percentile per-packet one-way delay: 49.699 ms
Loss rate: 1.78%
```
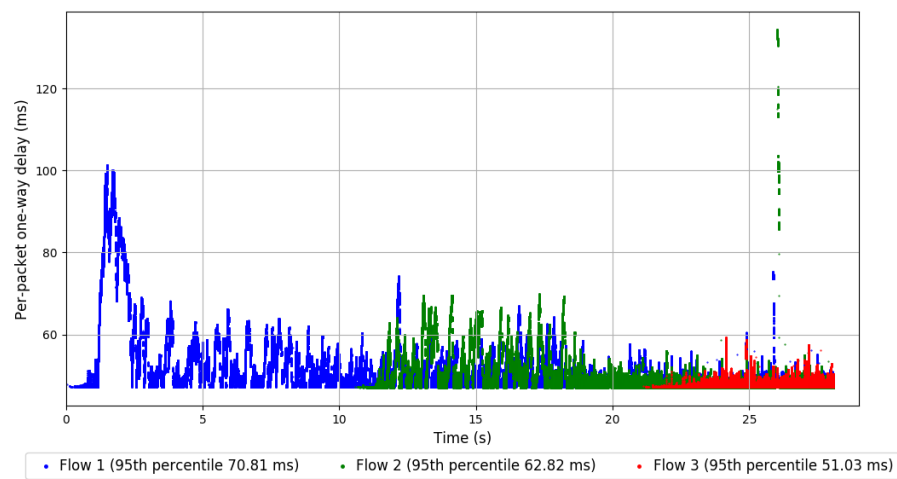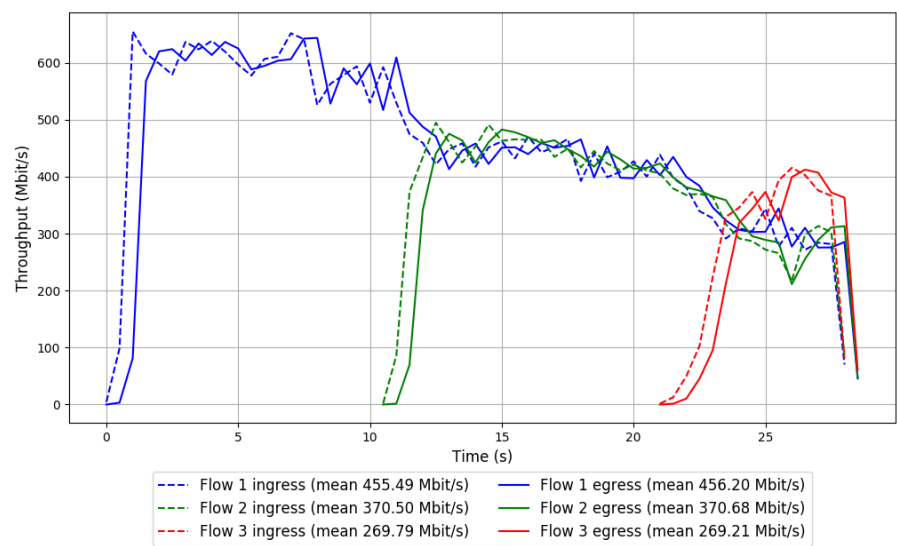
Run 1: Report of Indigo-MusesC3 — Data Link

66

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-10-03 23:24:36
End at: 2019-10-03 23:25:06
Local clock offset: -0.709 ms
Remote clock offset: -0.048 ms


# Below is generated by plot.py at 2019-10-04 03:36:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 783.69 Mbit/s
95th percentile per-packet one-way delay: 56.793 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 457.70 Mbit/s
95th percentile per-packet one-way delay: 59.950 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 391.32 Mbit/s
95th percentile per-packet one-way delay: 53.357 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 295.55 Mbit/s
95th percentile per-packet one-way delay: 52.842 ms
Loss rate: 1.58%
```
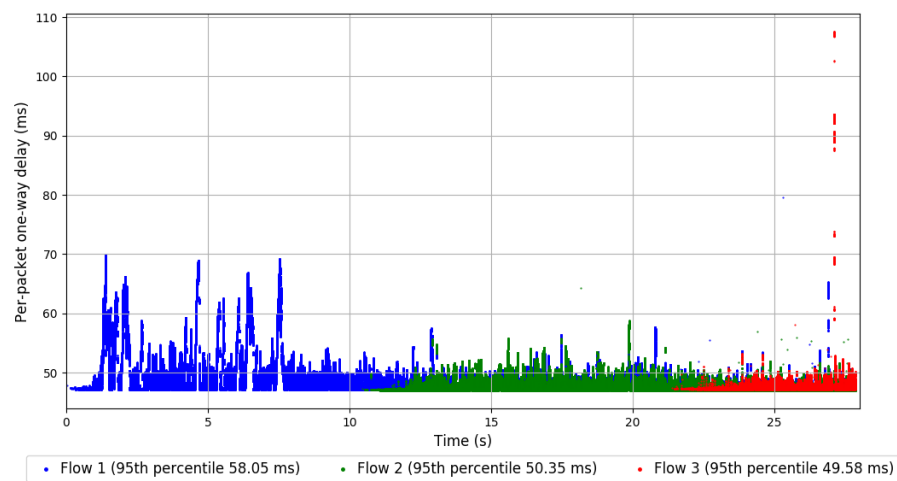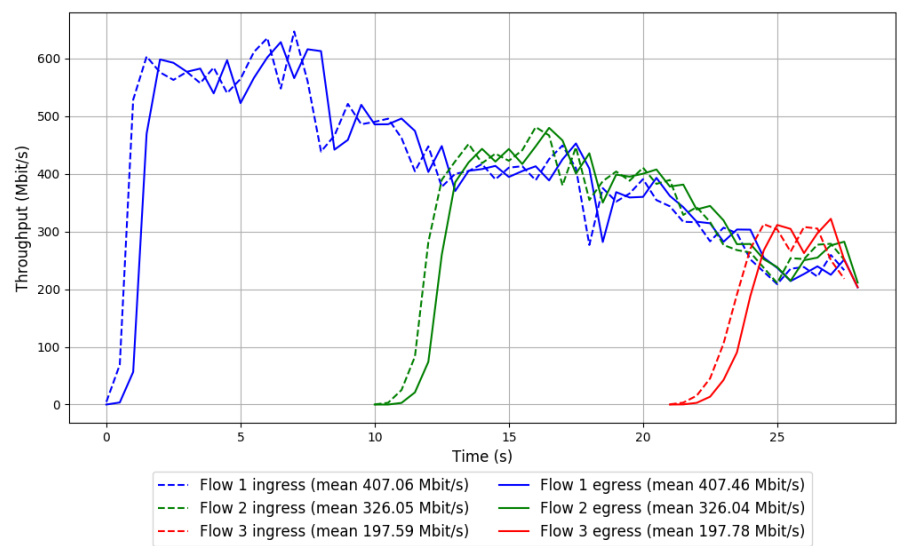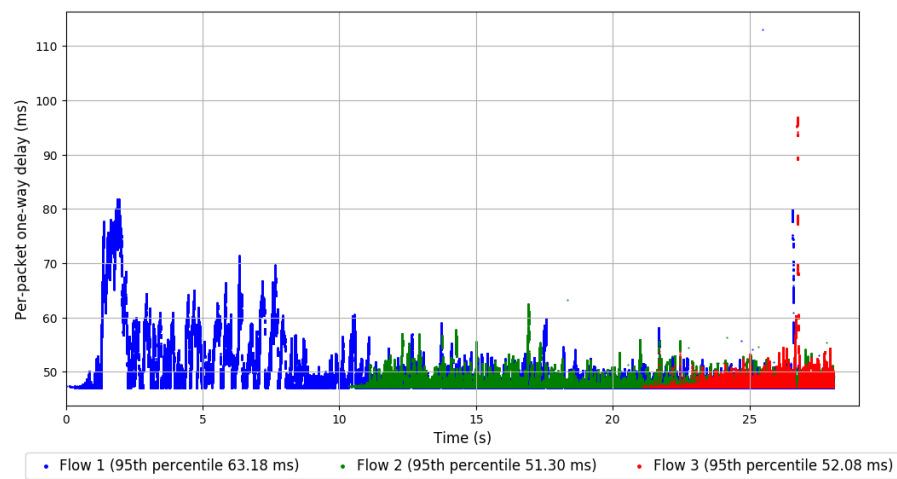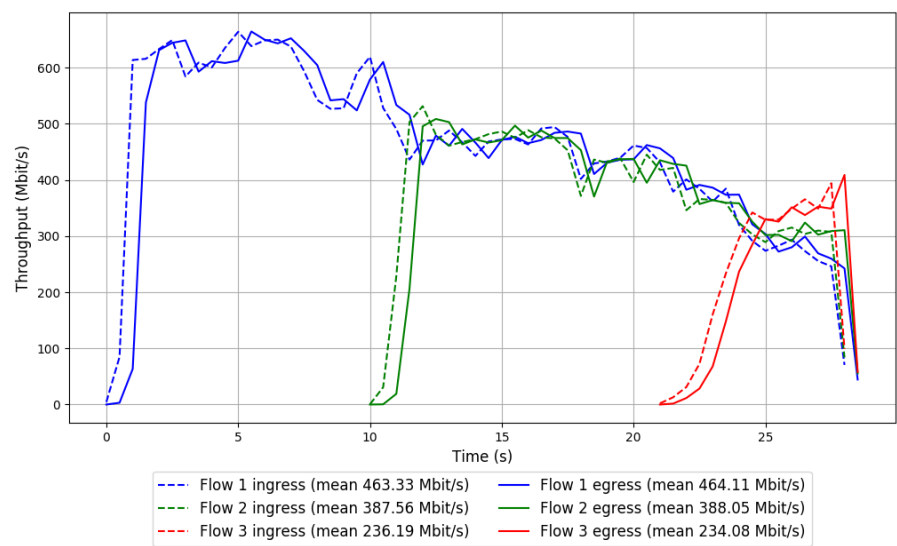
Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-10-04 00:05:36
End at: 2019-10-04 00:06:06
Local clock offset: 0.047 ms
Remote clock offset: -0.1 ms


# Below is generated by plot.py at 2019-10-04 03:43:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 754.13 Mbit/s
95th percentile per-packet one-way delay: 64.536 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 456.20 Mbit/s
95th percentile per-packet one-way delay: 70.813 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 370.68 Mbit/s
95th percentile per-packet one-way delay: 62.823 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 269.21 Mbit/s
95th percentile per-packet one-way delay: 51.035 ms
Loss rate: 1.58%
```

Run 3: Report of Indigo-MusesC3 — Data Link

- - - - Flow 1 ingress (mean 455.49 Mbit/s) —— Flow 1 egress (mean 456.20 Mbit/s)
- - - - Flow 2 ingress (mean 370.50 Mbit/s) —— Flow 2 egress (mean 370.68 Mbit/s)
- - - - Flow 3 ingress (mean 269.79 Mbit/s) —— Flow 3 egress (mean 269.21 Mbit/s)

- Flow 1 (95th percentile 70.81 ms)   - Flow 2 (95th percentile 62.82 ms)   - Flow 3 (95th percentile 51.03 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-10-04 00:46:26
End at: 2019-10-04 00:46:56
Local clock offset: 0.102 ms
Remote clock offset: -0.015 ms


# Below is generated by plot.py at 2019-10-04 03:43:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 657.52 Mbit/s
95th percentile per-packet one-way delay: 55.126 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 407.46 Mbit/s
95th percentile per-packet one-way delay: 58.047 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 326.04 Mbit/s
95th percentile per-packet one-way delay: 50.347 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 197.78 Mbit/s
95th percentile per-packet one-way delay: 49.581 ms
Loss rate: 1.42%
```

Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-10-04 01:26:22
End at: 2019-10-04 01:26:52
Local clock offset: -0.047 ms
Remote clock offset: -0.077 ms


# Below is generated by plot.py at 2019-10-04 03:46:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 768.58 Mbit/s
95th percentile per-packet one-way delay: 59.672 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 464.11 Mbit/s
95th percentile per-packet one-way delay: 63.178 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 388.05 Mbit/s
95th percentile per-packet one-way delay: 51.304 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 234.08 Mbit/s
95th percentile per-packet one-way delay: 52.083 ms
Loss rate: 2.19%
```
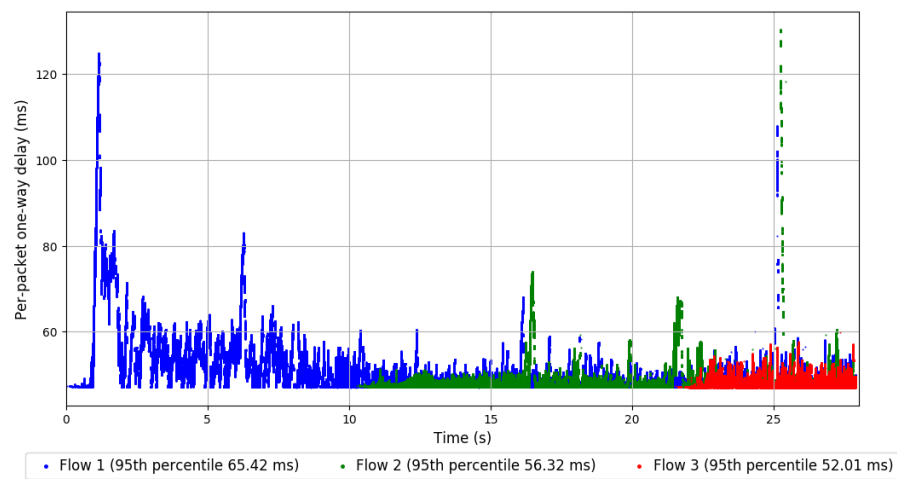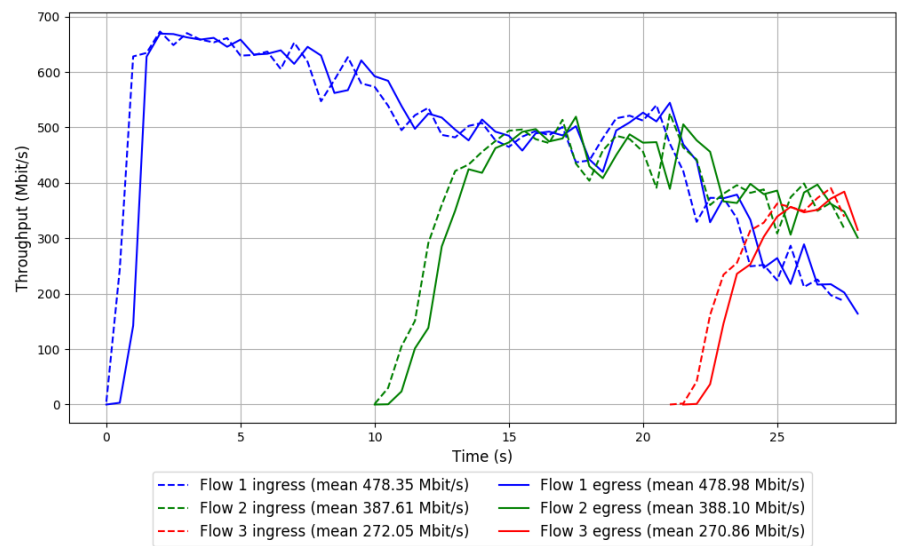
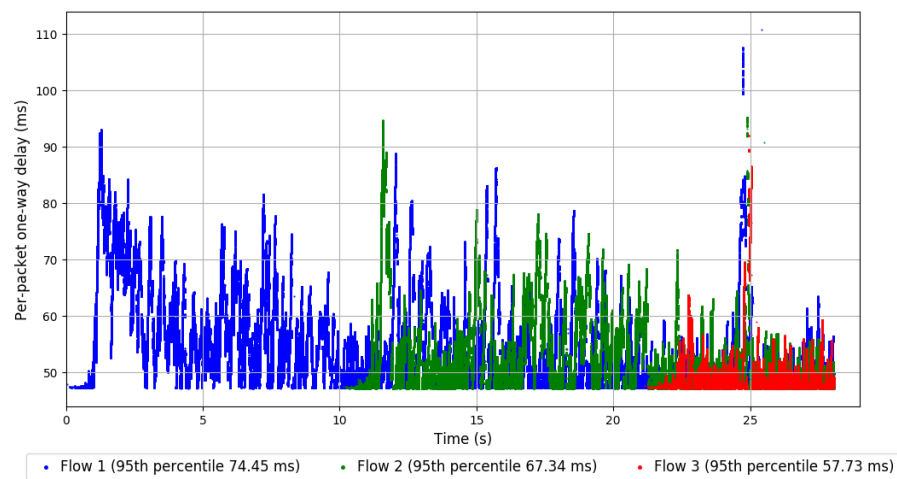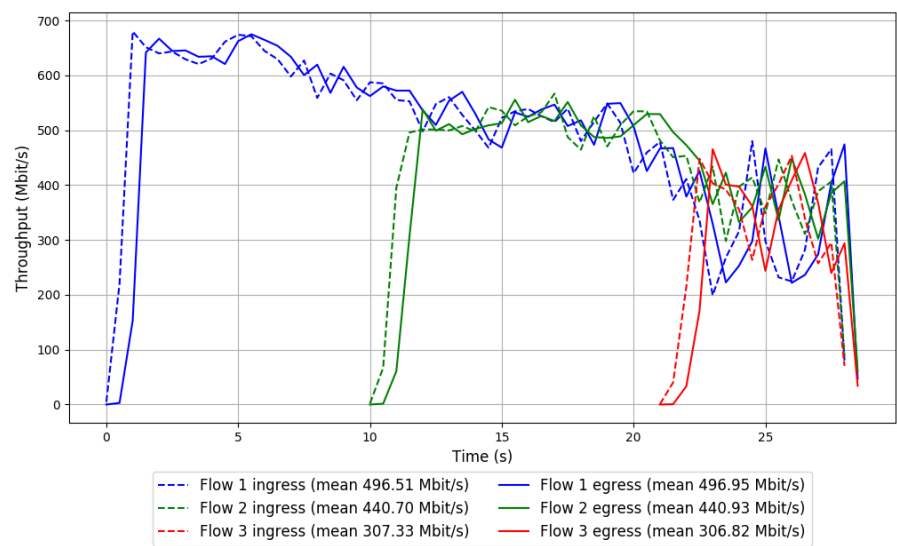Run 5: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 463.33 Mbit/s)   Flow 1 egress (mean 464.11 Mbit/s)
Flow 2 ingress (mean 387.56 Mbit/s)   Flow 2 egress (mean 388.05 Mbit/s)
Flow 3 ingress (mean 236.19 Mbit/s)   Flow 3 egress (mean 234.08 Mbit/s)

Flow 1 (95th percentile 63.18 ms)   Flow 2 (95th percentile 51.30 ms)   Flow 3 (95th percentile 52.08 ms)

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-10-03 22:49:26
End at: 2019-10-03 22:49:56
Local clock offset: -0.062 ms
Remote clock offset: 0.03 ms


# Below is generated by plot.py at 2019-10-04 03:48:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 786.26 Mbit/s
95th percentile per-packet one-way delay: 61.573 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 478.98 Mbit/s
95th percentile per-packet one-way delay: 65.424 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 388.10 Mbit/s
95th percentile per-packet one-way delay: 56.324 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 270.86 Mbit/s
95th percentile per-packet one-way delay: 52.012 ms
Loss rate: 1.92%
```

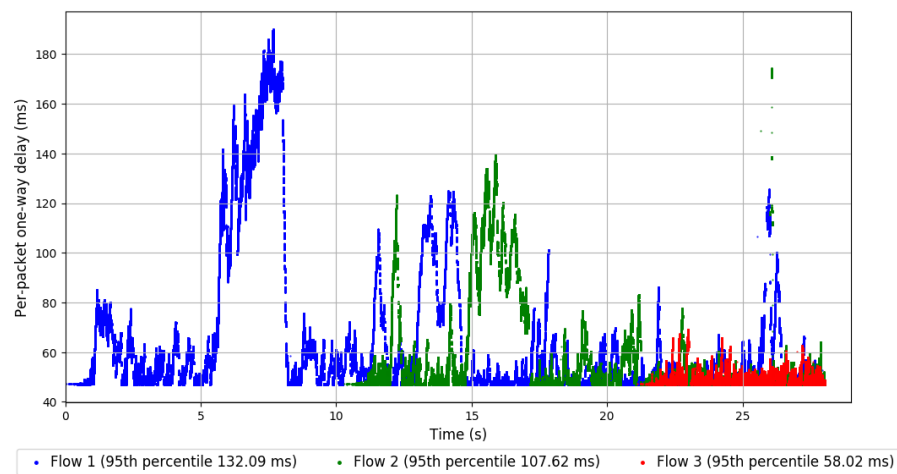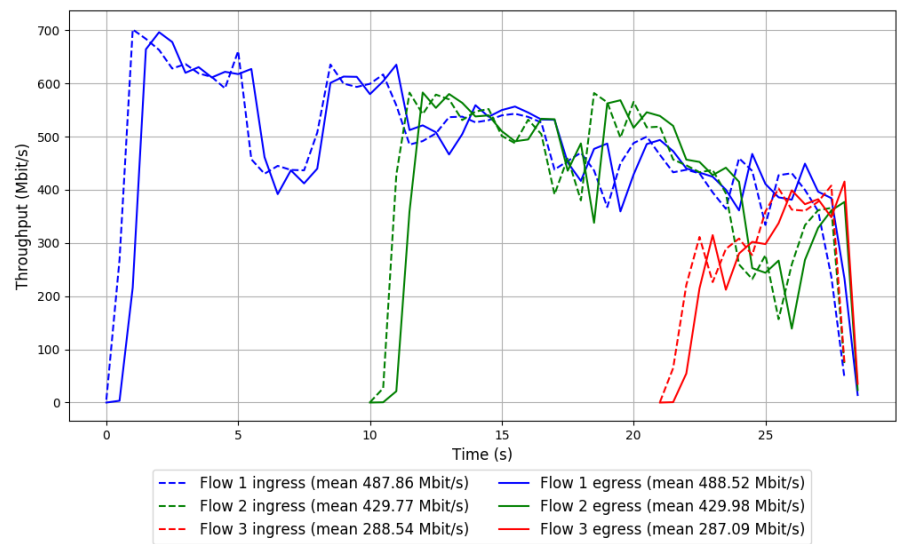## Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-10-03 23:30:16
End at: 2019-10-03 23:30:46
Local clock offset: -0.771 ms
Remote clock offset: -0.056 ms

# Below is generated by plot.py at 2019-10-04 03:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 854.30 Mbit/s
95th percentile per-packet one-way delay: 72.176 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 496.95 Mbit/s
95th percentile per-packet one-way delay: 74.454 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 440.93 Mbit/s
95th percentile per-packet one-way delay: 67.341 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 306.82 Mbit/s
95th percentile per-packet one-way delay: 57.731 ms
Loss rate: 1.51%
```

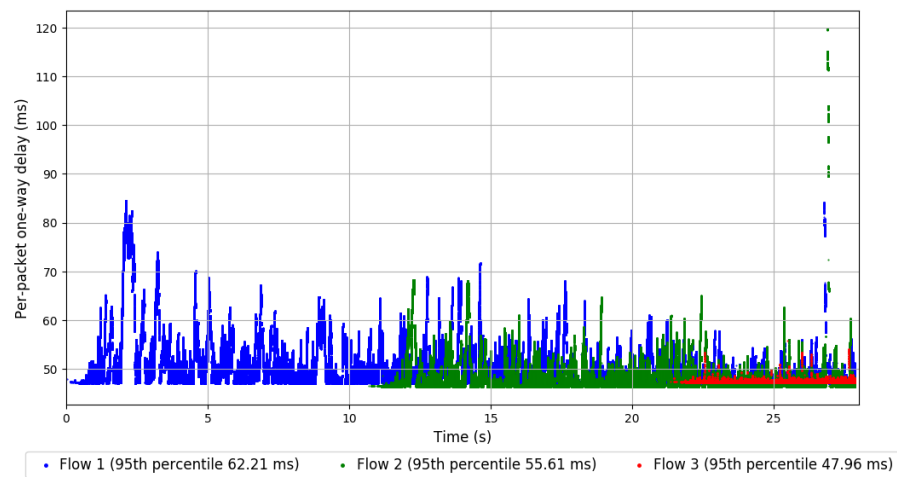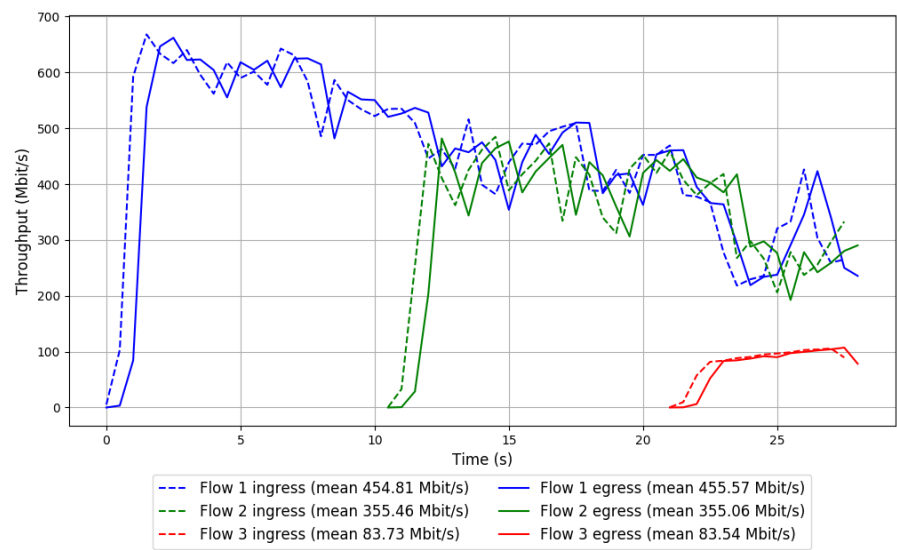Run 2: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 496.51 Mbit/s) --- Flow 1 egress (mean 496.95 Mbit/s)
Flow 2 ingress (mean 440.70 Mbit/s) --- Flow 2 egress (mean 440.93 Mbit/s)
Flow 3 ingress (mean 307.33 Mbit/s) --- Flow 3 egress (mean 306.82 Mbit/s)

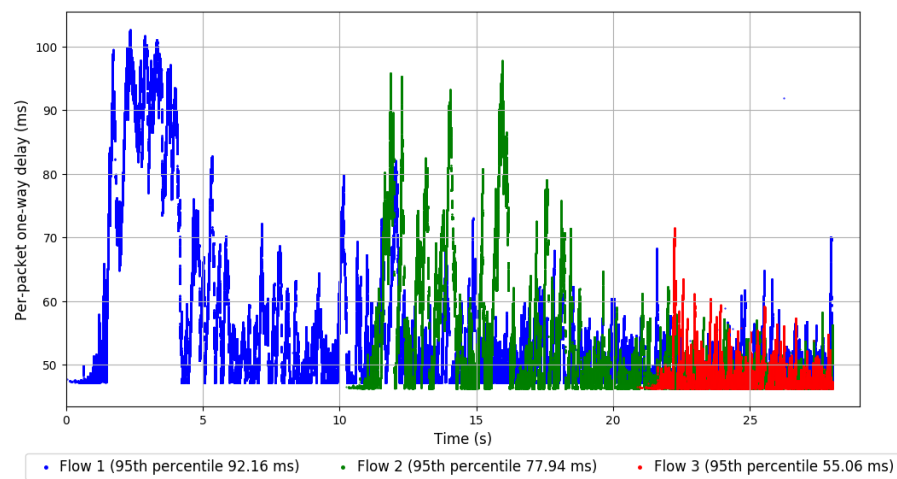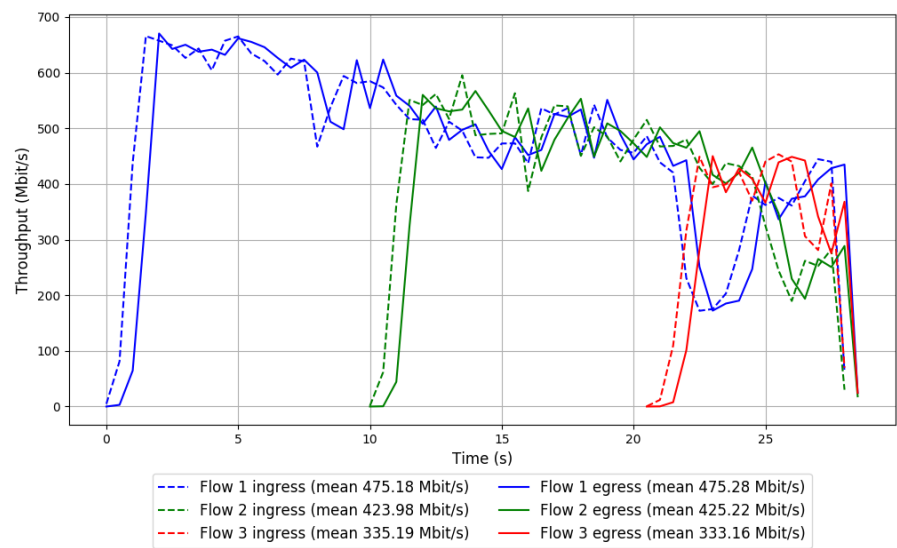Flow 1 (95th percentile 74.45 ms)   Flow 2 (95th percentile 67.34 ms)   Flow 3 (95th percentile 57.73 ms)

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-10-04 00:11:15
End at: 2019-10-04 00:11:45
Local clock offset: 0.068 ms
Remote clock offset: -0.118 ms


# Below is generated by plot.py at 2019-10-04 03:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 832.10 Mbit/s
95th percentile per-packet one-way delay: 118.735 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 488.52 Mbit/s
95th percentile per-packet one-way delay: 132.085 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 429.98 Mbit/s
95th percentile per-packet one-way delay: 107.616 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 287.09 Mbit/s
95th percentile per-packet one-way delay: 58.015 ms
Loss rate: 1.86%
```

Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-10-04 00:51:50
End at: 2019-10-04 00:52:20
Local clock offset: 0.088 ms
Remote clock offset: -0.027 ms


# Below is generated by plot.py at 2019-10-04 03:49:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 694.34 Mbit/s
95th percentile per-packet one-way delay: 60.344 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 455.57 Mbit/s
95th percentile per-packet one-way delay: 62.212 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 355.06 Mbit/s
95th percentile per-packet one-way delay: 55.610 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 83.54 Mbit/s
95th percentile per-packet one-way delay: 47.963 ms
Loss rate: 1.80%
```
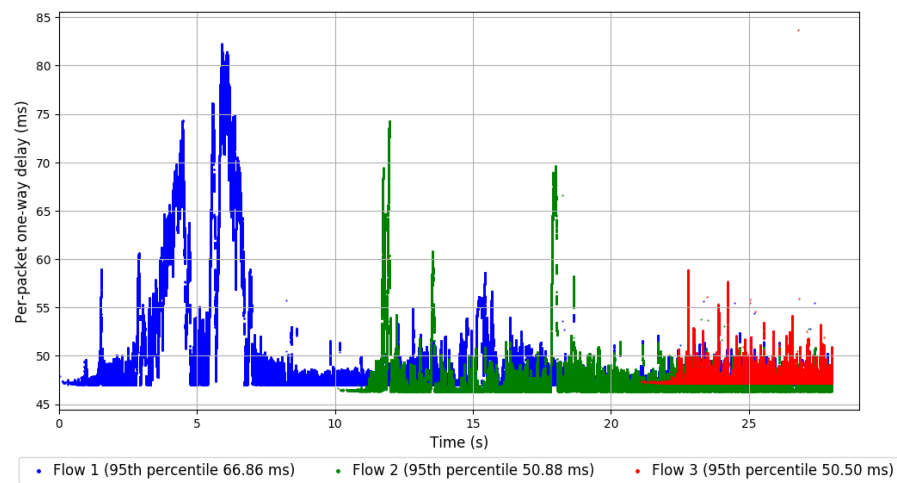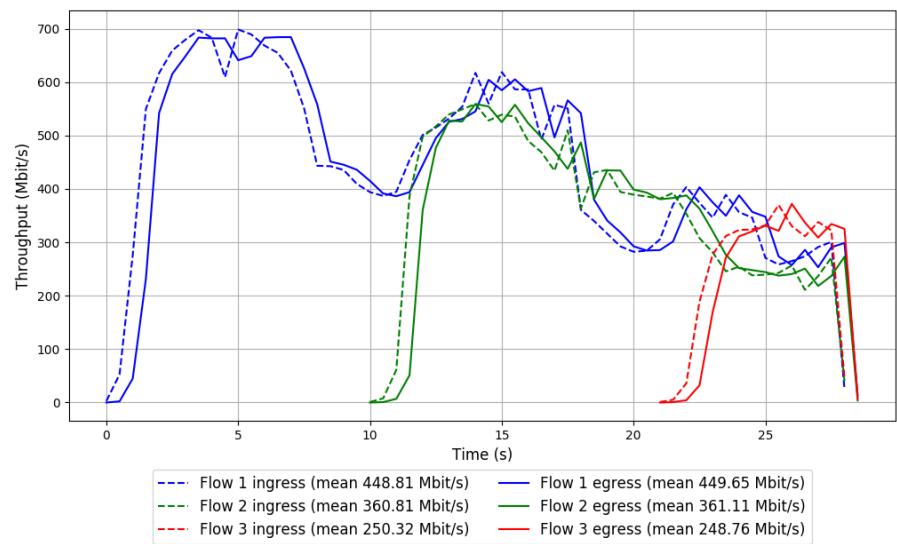
Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-10-04 01:31:58
End at: 2019-10-04 01:32:28
Local clock offset: -0.04 ms
Remote clock offset: -0.079 ms


# Below is generated by plot.py at 2019-10-04 03:53:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 830.83 Mbit/s
95th percentile per-packet one-way delay: 86.790 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 475.28 Mbit/s
95th percentile per-packet one-way delay: 92.155 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 425.22 Mbit/s
95th percentile per-packet one-way delay: 77.941 ms
Loss rate: 0.25%
-- Flow 3:
Average throughput: 333.16 Mbit/s
95th percentile per-packet one-way delay: 55.064 ms
Loss rate: 1.93%
```
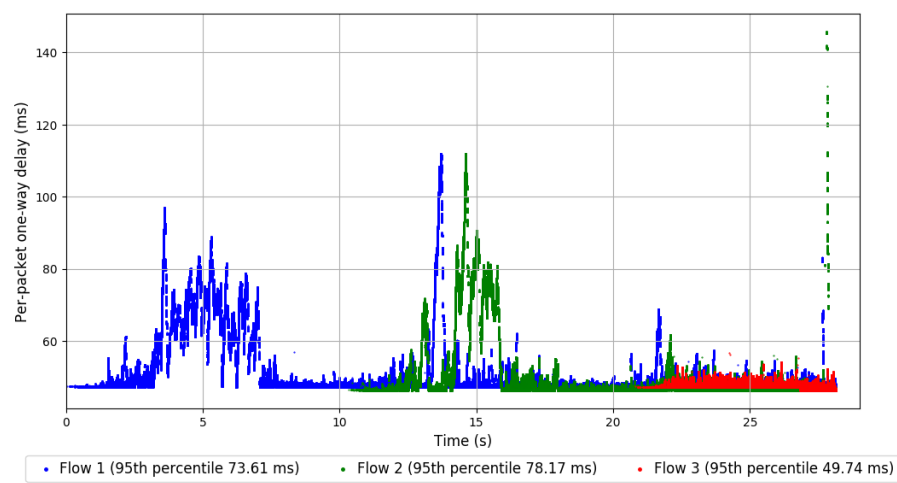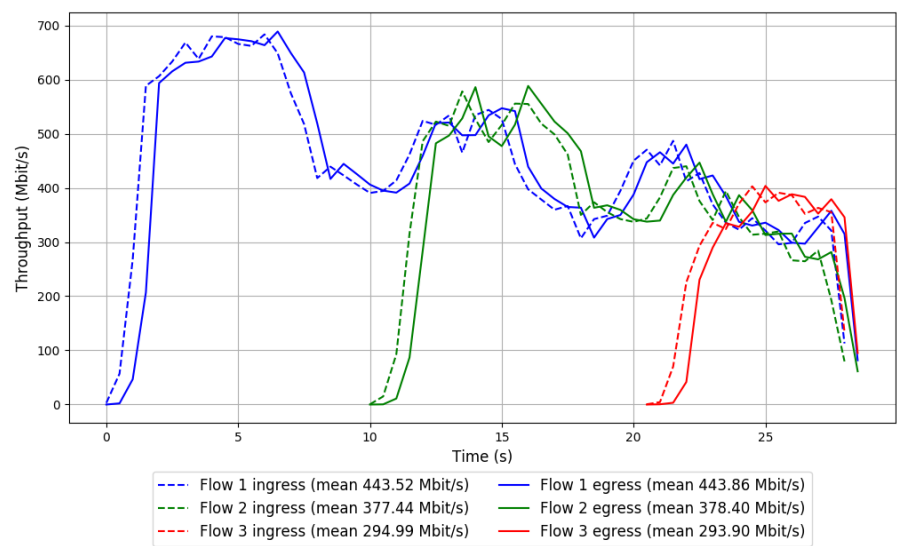
Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-10-03 23:04:41
End at: 2019-10-03 23:05:11
Local clock offset: -0.098 ms
Remote clock offset: 0.016 ms


# Below is generated by plot.py at 2019-10-04 03:57:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 742.33 Mbit/s
95th percentile per-packet one-way delay: 63.305 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 449.65 Mbit/s
95th percentile per-packet one-way delay: 66.859 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 361.11 Mbit/s
95th percentile per-packet one-way delay: 50.878 ms
Loss rate: 0.43%
-- Flow 3:
Average throughput: 248.76 Mbit/s
95th percentile per-packet one-way delay: 50.501 ms
Loss rate: 1.98%
```

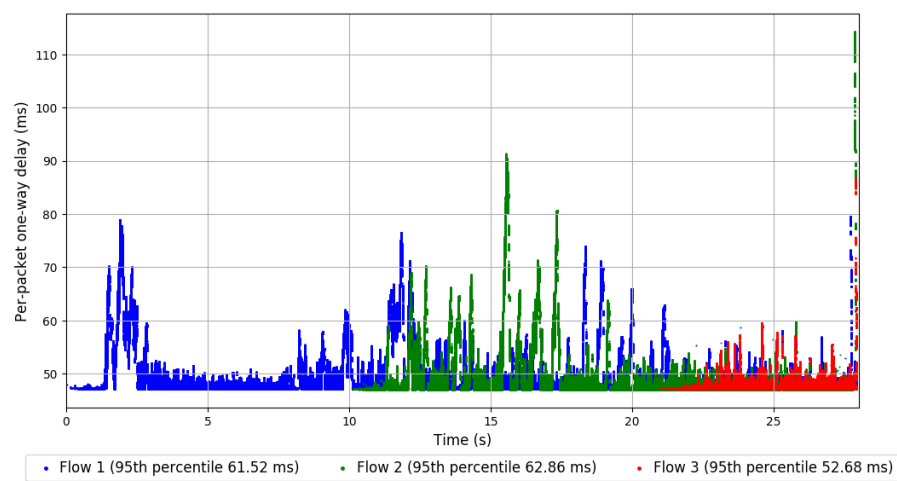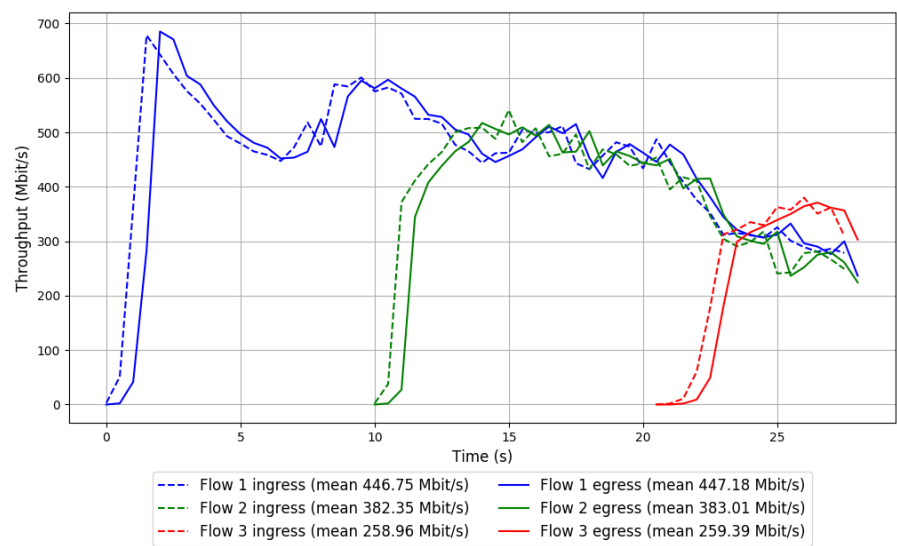Run 1: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 448.81 Mbit/s) Flow 1 egress (mean 449.65 Mbit/s)
Flow 2 ingress (mean 360.81 Mbit/s) Flow 2 egress (mean 361.11 Mbit/s)
Flow 3 ingress (mean 250.32 Mbit/s) Flow 3 egress (mean 248.76 Mbit/s)

Flow 1 (95th percentile 66.86 ms) Flow 2 (95th percentile 50.88 ms) Flow 3 (95th percentile 50.50 ms)

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-10-03 23:45:38
End at: 2019-10-03 23:46:08
Local clock offset: -0.445 ms
Remote clock offset: -0.082 ms

# Below is generated by plot.py at 2019-10-04 03:59:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 760.17 Mbit/s
95th percentile per-packet one-way delay: 74.334 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 443.86 Mbit/s
95th percentile per-packet one-way delay: 73.610 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 378.40 Mbit/s
95th percentile per-packet one-way delay: 78.171 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 293.90 Mbit/s
95th percentile per-packet one-way delay: 49.738 ms
Loss rate: 1.67%
```
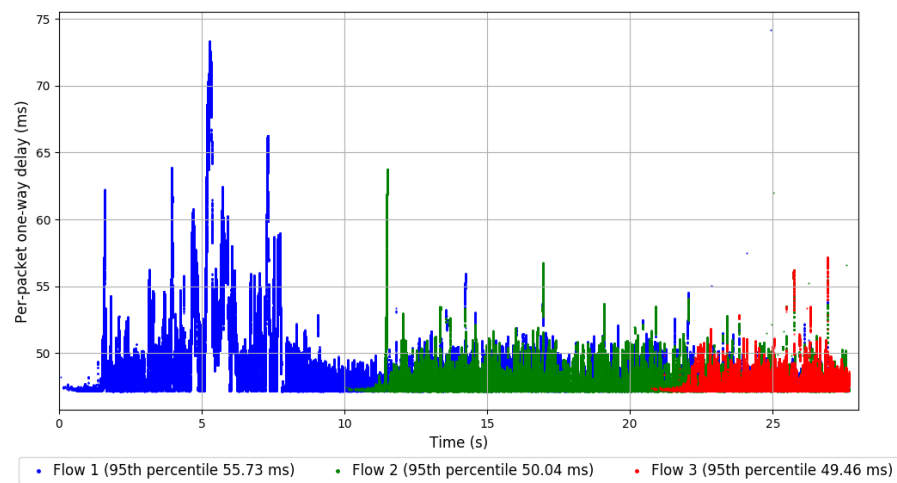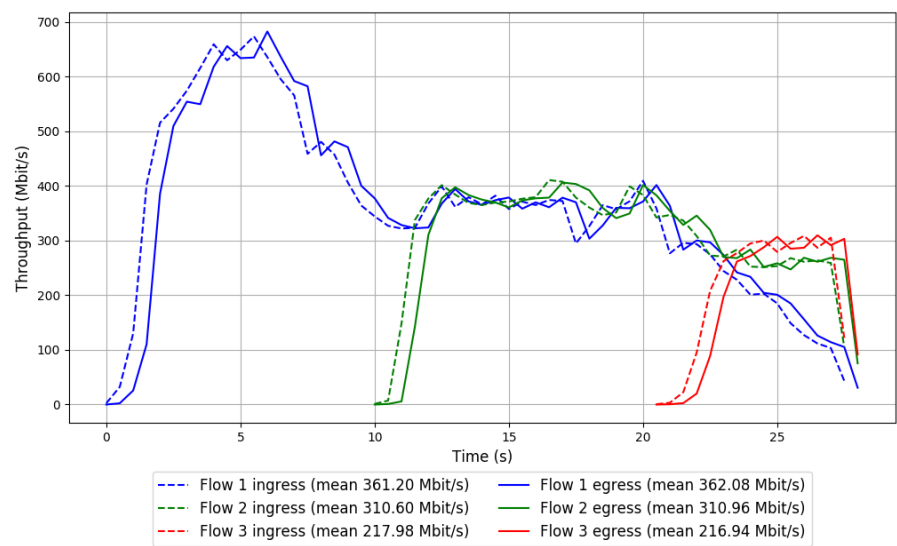
Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-10-04 00:26:36
End at: 2019-10-04 00:27:06
Local clock offset: 0.052 ms
Remote clock offset: -0.063 ms

# Below is generated by plot.py at 2019-10-04 04:01:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 757.16 Mbit/s
95th percentile per-packet one-way delay: 61.419 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 447.18 Mbit/s
95th percentile per-packet one-way delay: 61.523 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 383.01 Mbit/s
95th percentile per-packet one-way delay: 62.858 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 259.39 Mbit/s
95th percentile per-packet one-way delay: 52.679 ms
Loss rate: 1.18%
```
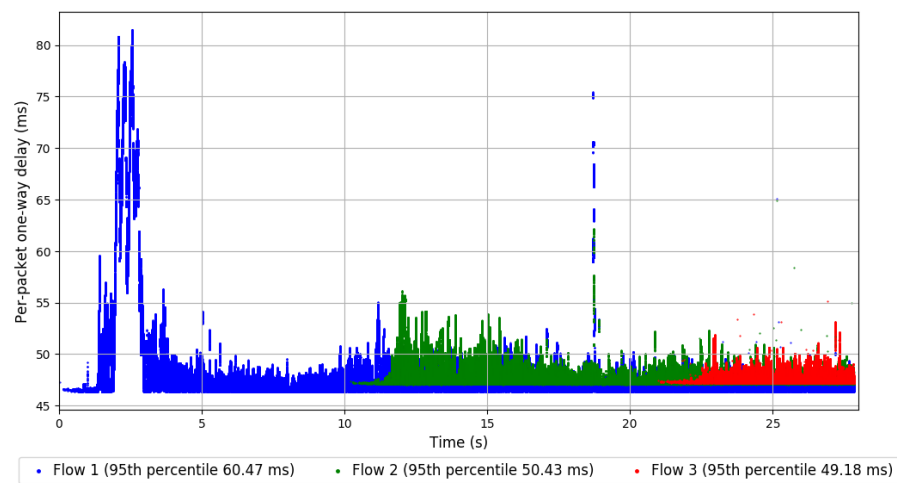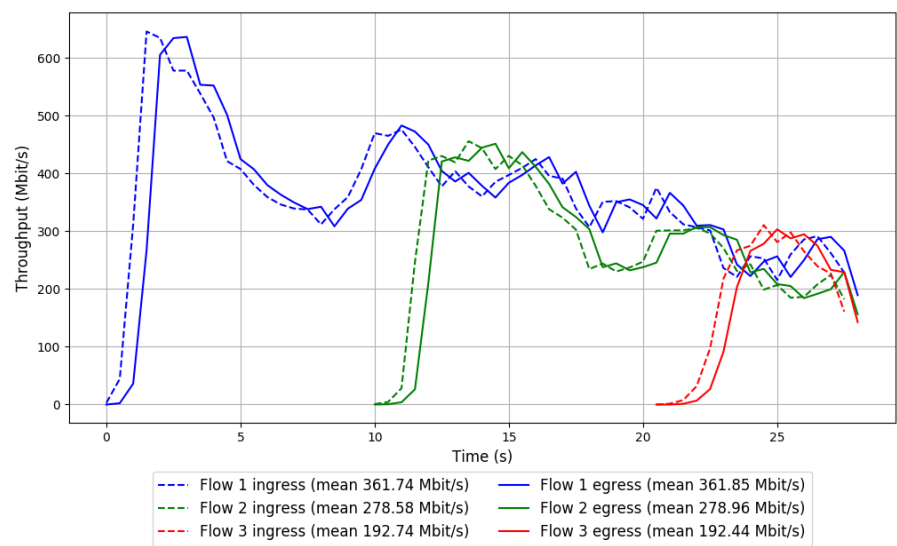
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-10-04 01:06:43
End at: 2019-10-04 01:07:13
Local clock offset: 0.025 ms
Remote clock offset: 0.026 ms


# Below is generated by plot.py at 2019-10-04 04:01:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 614.72 Mbit/s
95th percentile per-packet one-way delay: 53.522 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 362.08 Mbit/s
95th percentile per-packet one-way delay: 55.731 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 310.96 Mbit/s
95th percentile per-packet one-way delay: 50.037 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 216.94 Mbit/s
95th percentile per-packet one-way delay: 49.462 ms
Loss rate: 1.84%
```

Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-10-04 01:47:10
End at: 2019-10-04 01:47:40
Local clock offset: -0.058 ms
Remote clock offset: -0.126 ms


# Below is generated by plot.py at 2019-10-04 04:01:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 586.28 Mbit/s
95th percentile per-packet one-way delay: 52.718 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 361.85 Mbit/s
95th percentile per-packet one-way delay: 60.467 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 278.96 Mbit/s
95th percentile per-packet one-way delay: 50.432 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 192.44 Mbit/s
95th percentile per-packet one-way delay: 49.177 ms
Loss rate: 1.51%
```
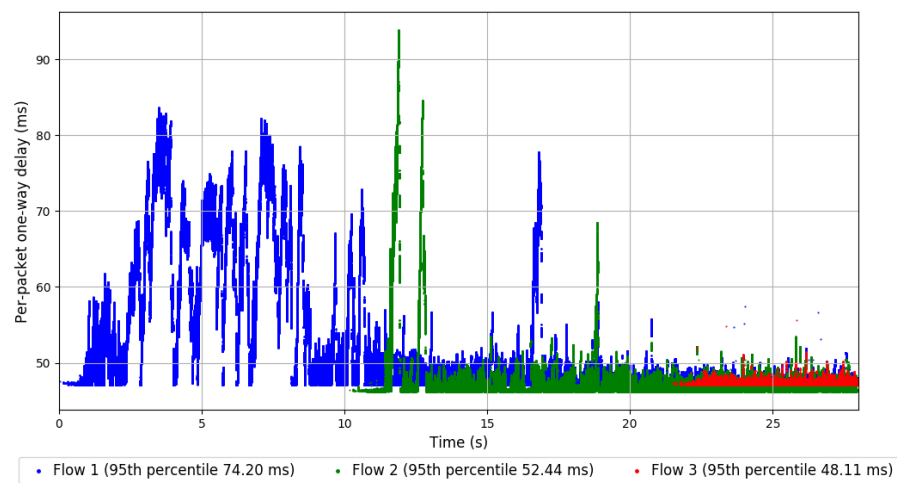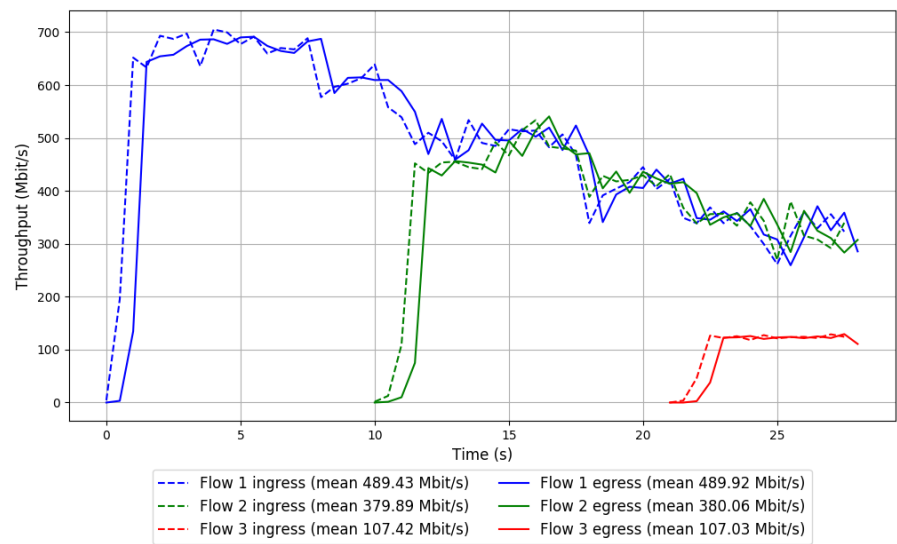
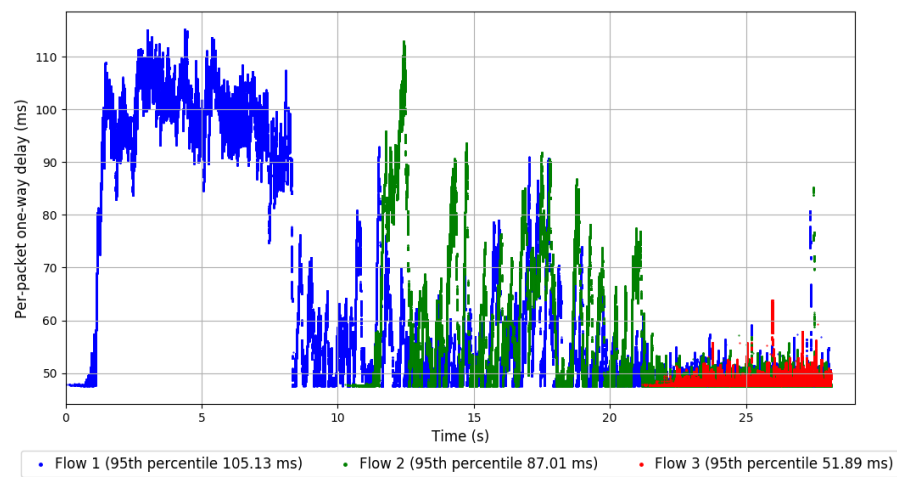# Run 5: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 361.74 Mbit/s)   Flow 1 egress (mean 361.85 Mbit/s)
Flow 2 ingress (mean 278.58 Mbit/s)   Flow 2 egress (mean 278.96 Mbit/s)
Flow 3 ingress (mean 192.74 Mbit/s)   Flow 3 egress (mean 192.44 Mbit/s)

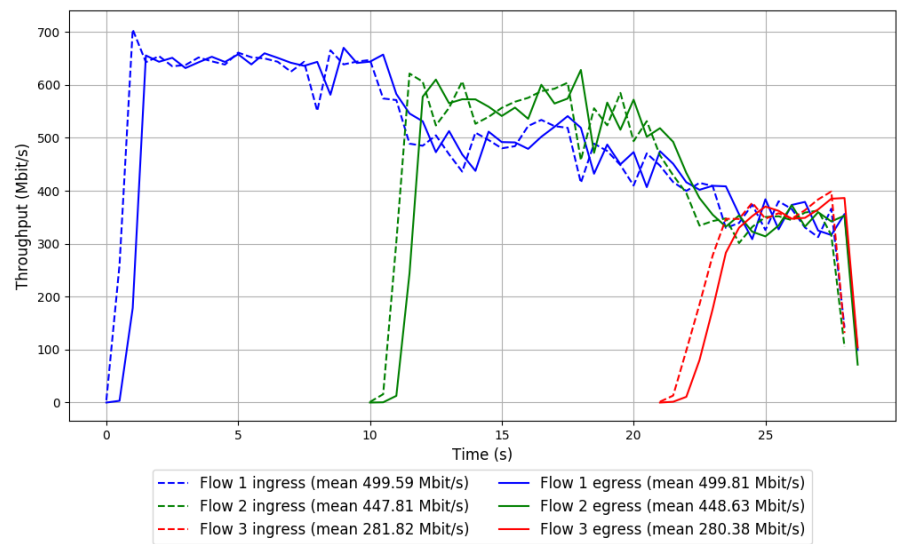Flow 1 (95th percentile 60.47 ms)   Flow 2 (95th percentile 50.43 ms)   Flow 3 (95th percentile 49.18 ms)

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-10-03 22:45:39
End at: 2019-10-03 22:46:09
Local clock offset: -0.099 ms
Remote clock offset: 0.015 ms

# Below is generated by plot.py at 2019-10-04 04:04:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 756.62 Mbit/s
95th percentile per-packet one-way delay: 72.609 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 489.92 Mbit/s
95th percentile per-packet one-way delay: 74.202 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 380.06 Mbit/s
95th percentile per-packet one-way delay: 52.443 ms
Loss rate: 0.49%
-- Flow 3:
Average throughput: 107.03 Mbit/s
95th percentile per-packet one-way delay: 48.111 ms
Loss rate: 1.79%
```

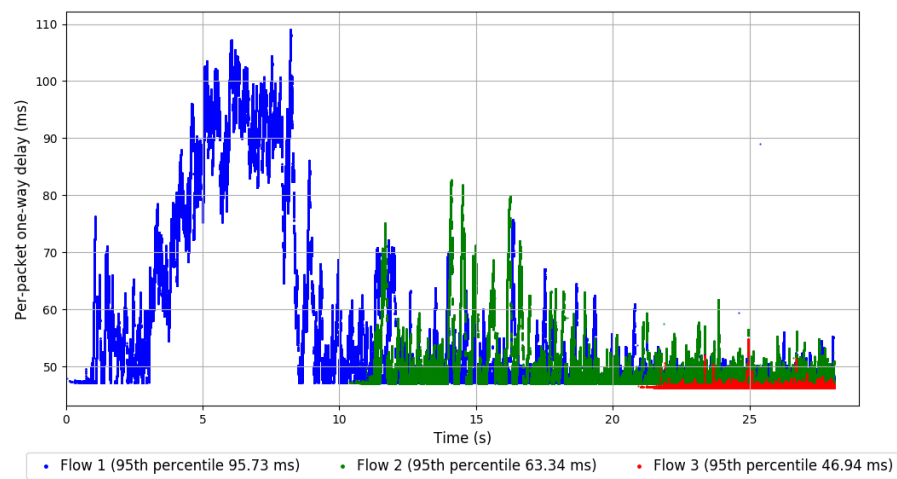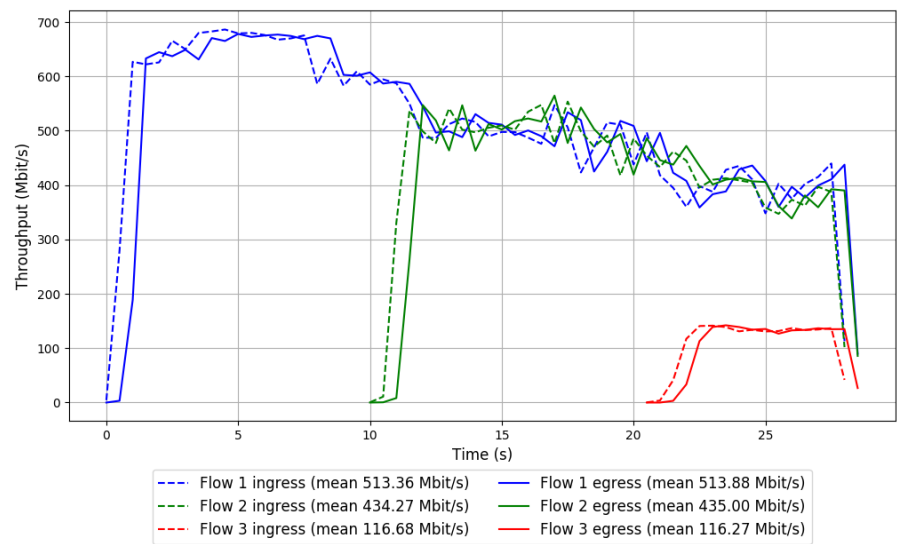Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-10-03 23:26:24
End at: 2019-10-03 23:26:54
Local clock offset: -0.353 ms
Remote clock offset: -0.071 ms


# Below is generated by plot.py at 2019-10-04 04:07:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 854.50 Mbit/s
95th percentile per-packet one-way delay: 102.890 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 499.81 Mbit/s
95th percentile per-packet one-way delay: 105.134 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 448.63 Mbit/s
95th percentile per-packet one-way delay: 87.008 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 280.38 Mbit/s
95th percentile per-packet one-way delay: 51.886 ms
Loss rate: 1.85%
```

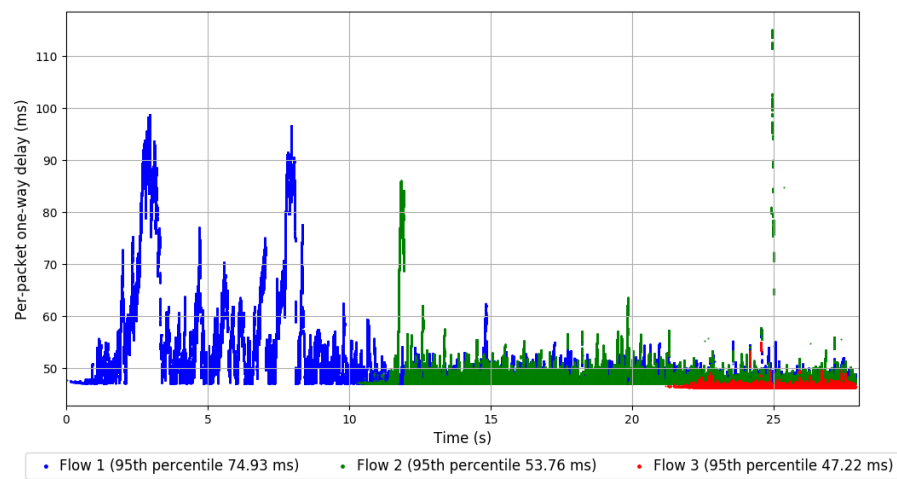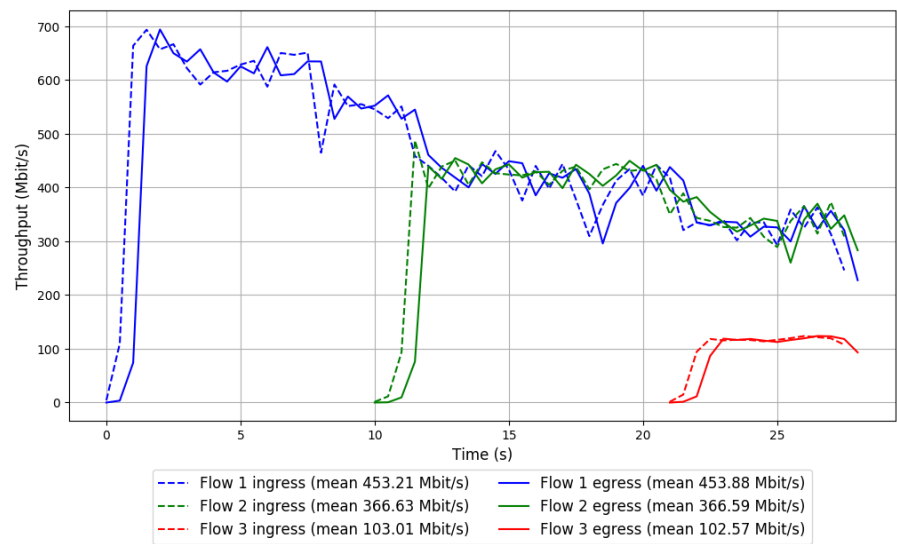Run 2: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 499.59 Mbit/s) --- Flow 1 egress (mean 499.81 Mbit/s)
Flow 2 ingress (mean 447.81 Mbit/s) --- Flow 2 egress (mean 448.63 Mbit/s)
Flow 3 ingress (mean 281.82 Mbit/s) --- Flow 3 egress (mean 280.38 Mbit/s)

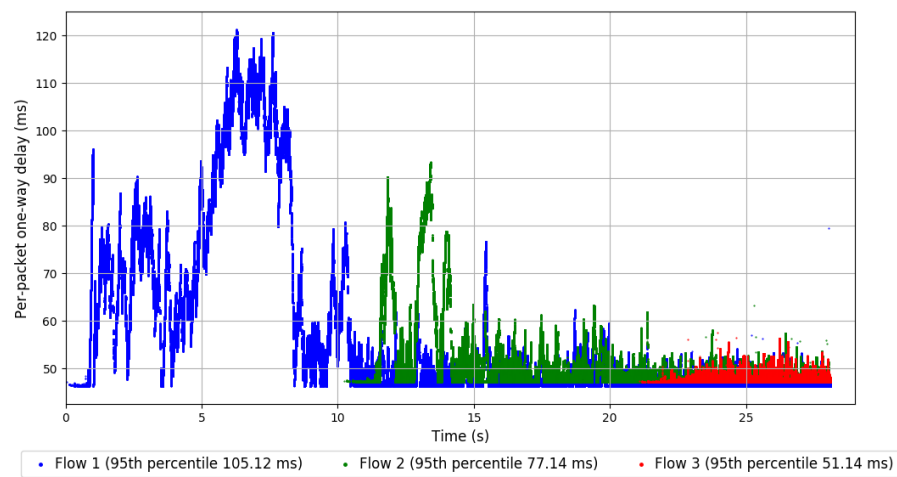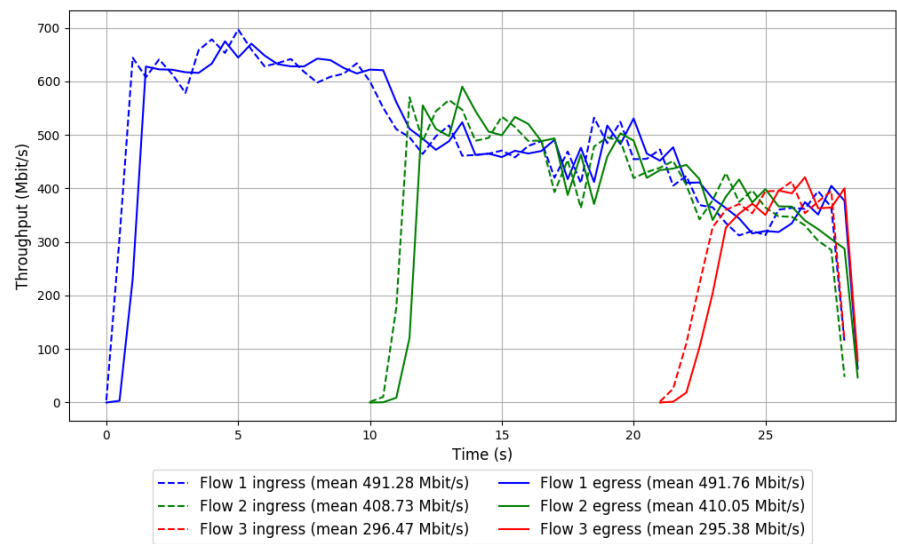Flow 1 (95th percentile 105.13 ms)   Flow 2 (95th percentile 87.01 ms)   Flow 3 (95th percentile 51.89 ms)

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-10-04 00:07:22
End at: 2019-10-04 00:07:52
Local clock offset: 0.036 ms
Remote clock offset: -0.086 ms


# Below is generated by plot.py at 2019-10-04 04:10:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 819.52 Mbit/s
95th percentile per-packet one-way delay: 92.956 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 513.88 Mbit/s
95th percentile per-packet one-way delay: 95.726 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 435.00 Mbit/s
95th percentile per-packet one-way delay: 63.345 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 116.27 Mbit/s
95th percentile per-packet one-way delay: 46.938 ms
Loss rate: 1.64%
```

Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 513.36 Mbit/s) --- Flow 1 egress (mean 513.88 Mbit/s)
Flow 2 ingress (mean 434.27 Mbit/s) --- Flow 2 egress (mean 435.00 Mbit/s)
Flow 3 ingress (mean 116.68 Mbit/s) --- Flow 3 egress (mean 116.27 Mbit/s)

Flow 1 (95th percentile 95.73 ms) · Flow 2 (95th percentile 63.34 ms) · Flow 3 (95th percentile 46.94 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-10-04 00:48:08
End at: 2019-10-04 00:48:38
Local clock offset: 0.141 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2019-10-04 04:11:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 710.60 Mbit/s
95th percentile per-packet one-way delay: 68.413 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 453.88 Mbit/s
95th percentile per-packet one-way delay: 74.931 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 366.59 Mbit/s
95th percentile per-packet one-way delay: 53.762 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 102.57 Mbit/s
95th percentile per-packet one-way delay: 47.224 ms
Loss rate: 1.80%
```

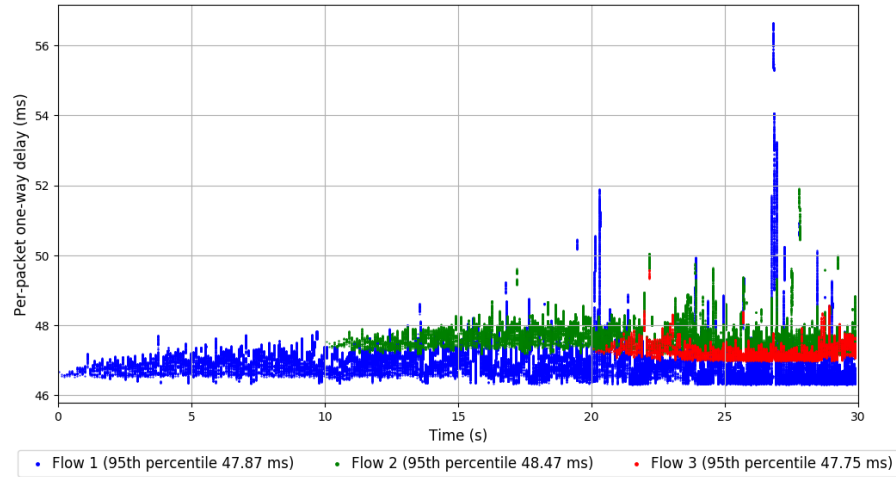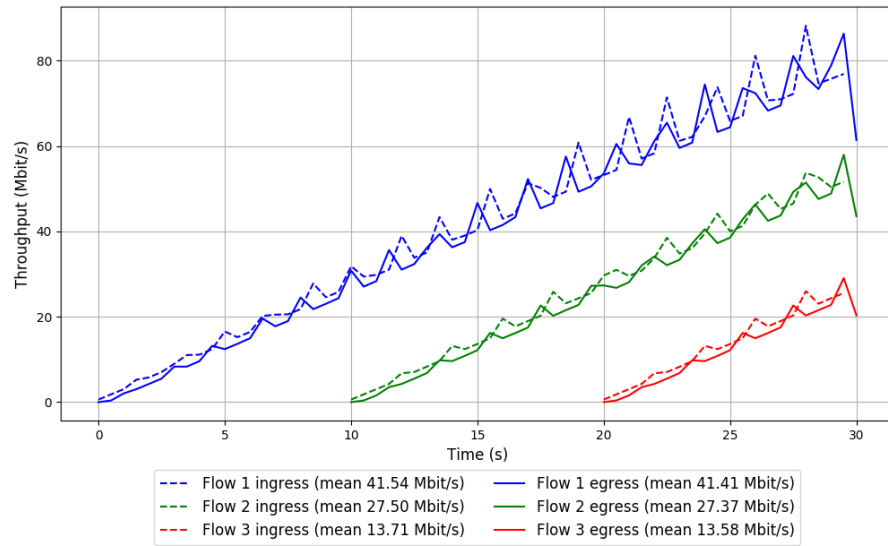Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-10-04 01:28:09
End at: 2019-10-04 01:28:39
Local clock offset: -0.024 ms
Remote clock offset: -0.019 ms


# Below is generated by plot.py at 2019-10-04 04:15:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 826.57 Mbit/s
95th percentile per-packet one-way delay: 99.270 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 491.76 Mbit/s
95th percentile per-packet one-way delay: 105.120 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 410.05 Mbit/s
95th percentile per-packet one-way delay: 77.145 ms
Loss rate: 0.21%
-- Flow 3:
Average throughput: 295.38 Mbit/s
95th percentile per-packet one-way delay: 51.140 ms
Loss rate: 1.70%
```

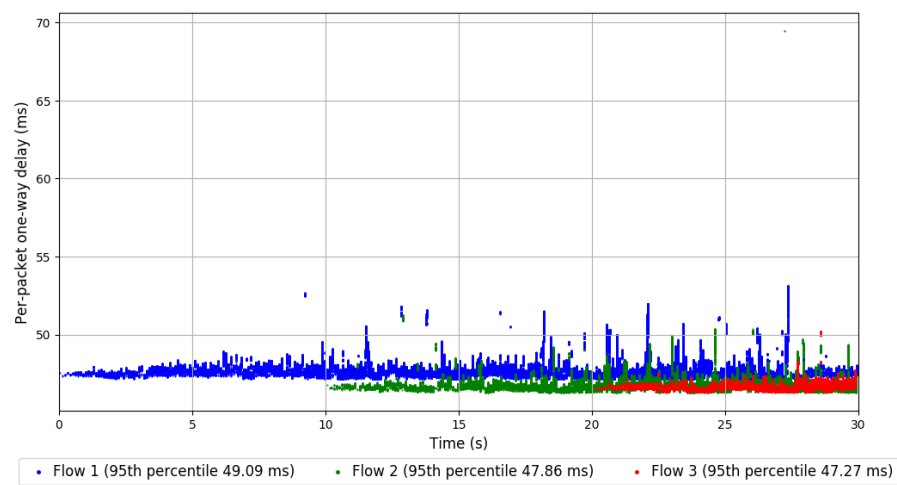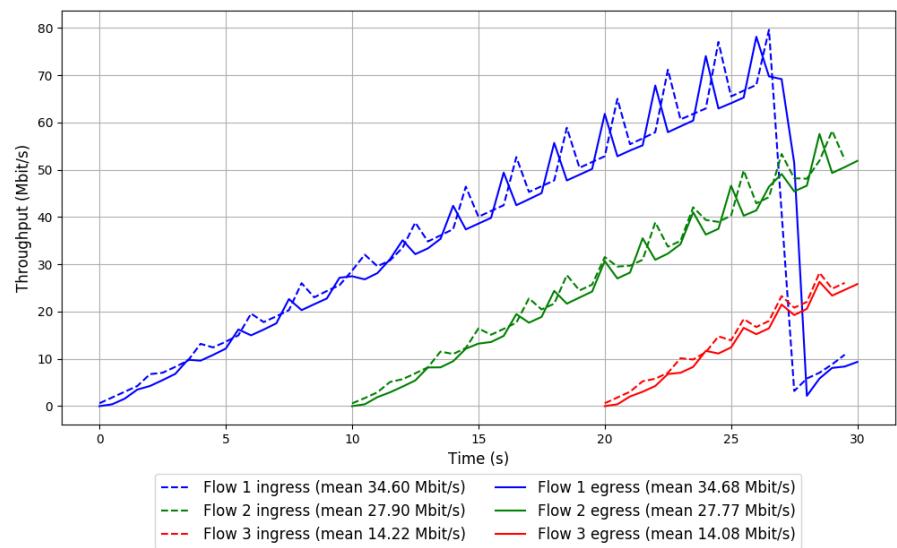# Run 5: Report of Indigo-MusesT — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2019-10-03 22:40:37
End at: 2019-10-03 22:41:07
Local clock offset: -0.03 ms
Remote clock offset: 0.026 ms


# Below is generated by plot.py at 2019-10-04 04:15:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 64.04 Mbit/s
95th percentile per-packet one-way delay: 48.216 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 41.41 Mbit/s
95th percentile per-packet one-way delay: 47.871 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 27.37 Mbit/s
95th percentile per-packet one-way delay: 48.473 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 13.58 Mbit/s
95th percentile per-packet one-way delay: 47.751 ms
Loss rate: 1.92%
```
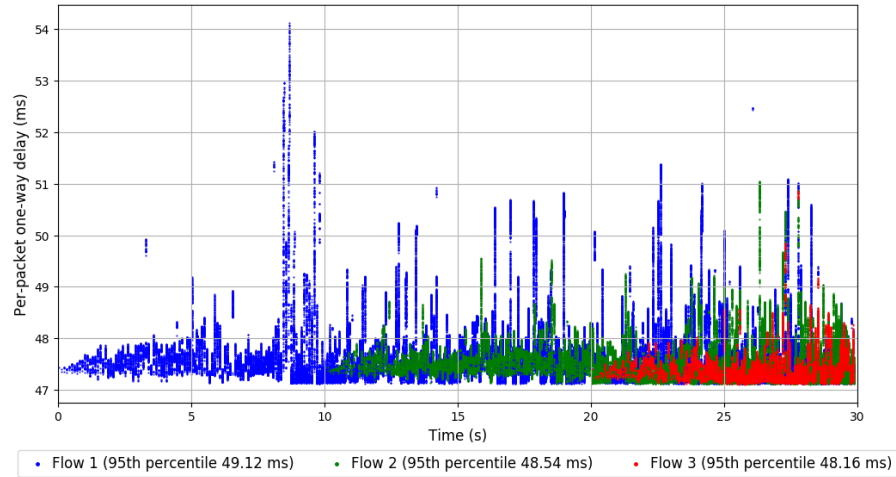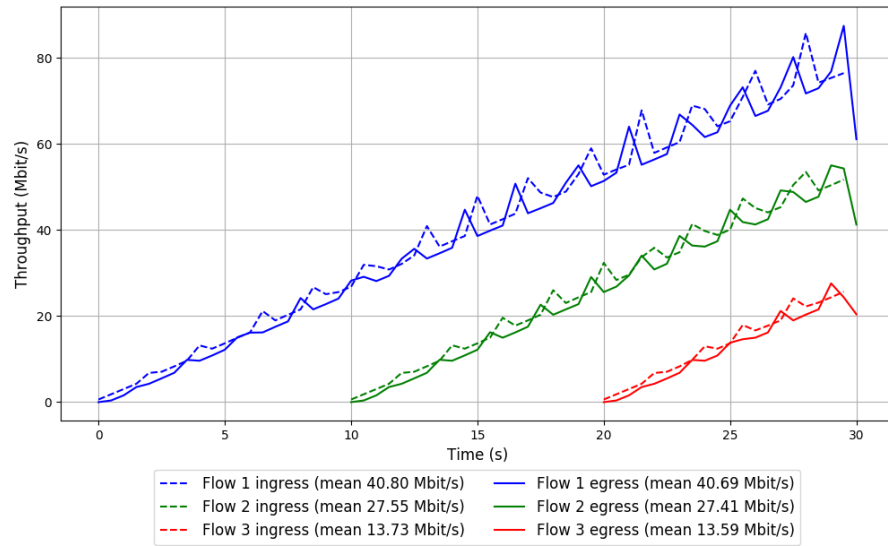
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-10-03 23:21:20
End at: 2019-10-03 23:21:50
Local clock offset: -0.668 ms
Remote clock offset: -0.021 ms


# Below is generated by plot.py at 2019-10-04 04:15:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 57.76 Mbit/s
95th percentile per-packet one-way delay: 48.621 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 34.68 Mbit/s
95th percentile per-packet one-way delay: 49.088 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 27.77 Mbit/s
95th percentile per-packet one-way delay: 47.857 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 14.08 Mbit/s
95th percentile per-packet one-way delay: 47.267 ms
Loss rate: 1.89%
```
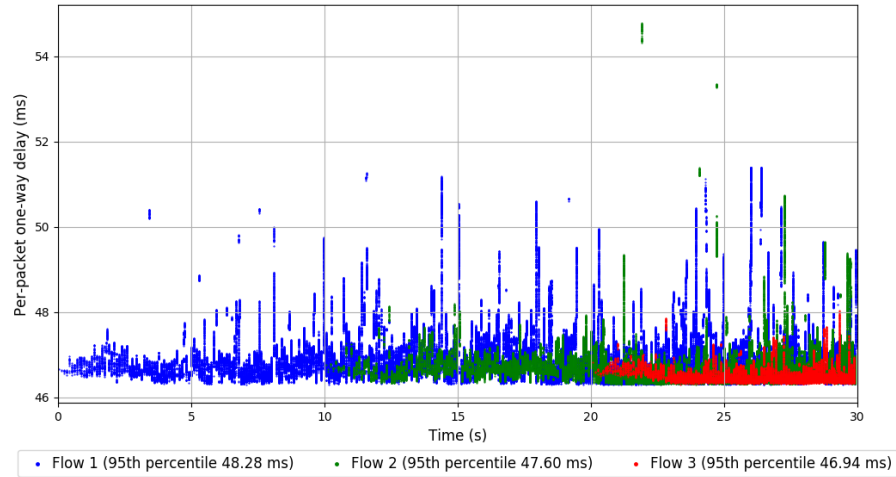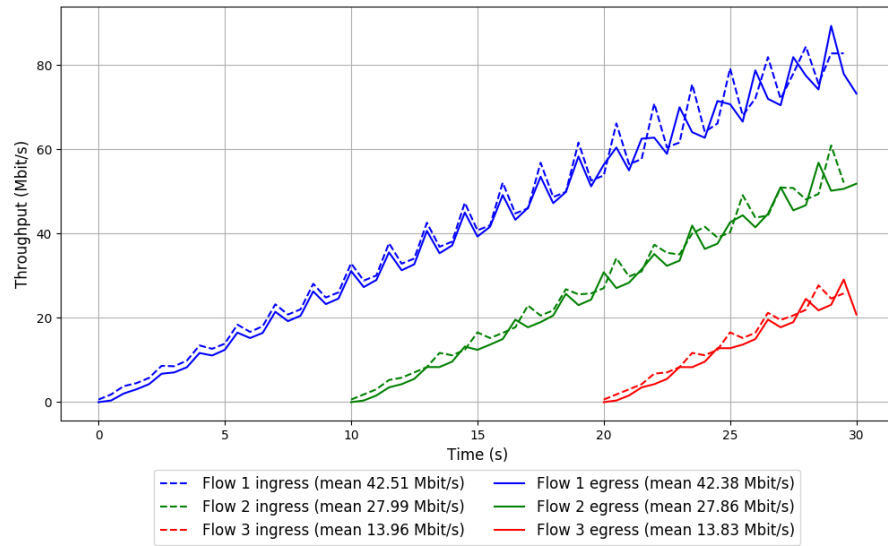
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-10-04 00:02:20
End at: 2019-10-04 00:02:50
Local clock offset: -0.041 ms
Remote clock offset: -0.107 ms

# Below is generated by plot.py at 2019-10-04 04:15:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.36 Mbit/s
95th percentile per-packet one-way delay: 48.799 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 40.69 Mbit/s
95th percentile per-packet one-way delay: 49.122 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 27.41 Mbit/s
95th percentile per-packet one-way delay: 48.538 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 13.59 Mbit/s
95th percentile per-packet one-way delay: 48.163 ms
Loss rate: 1.93%
```
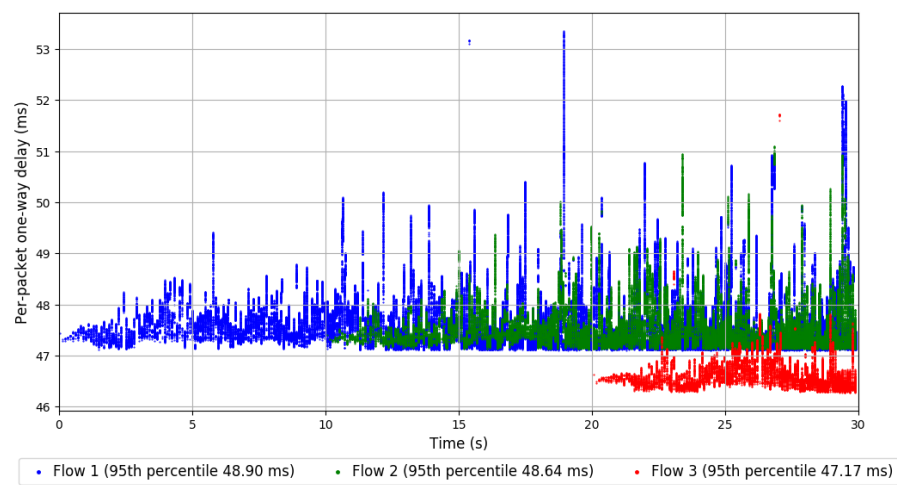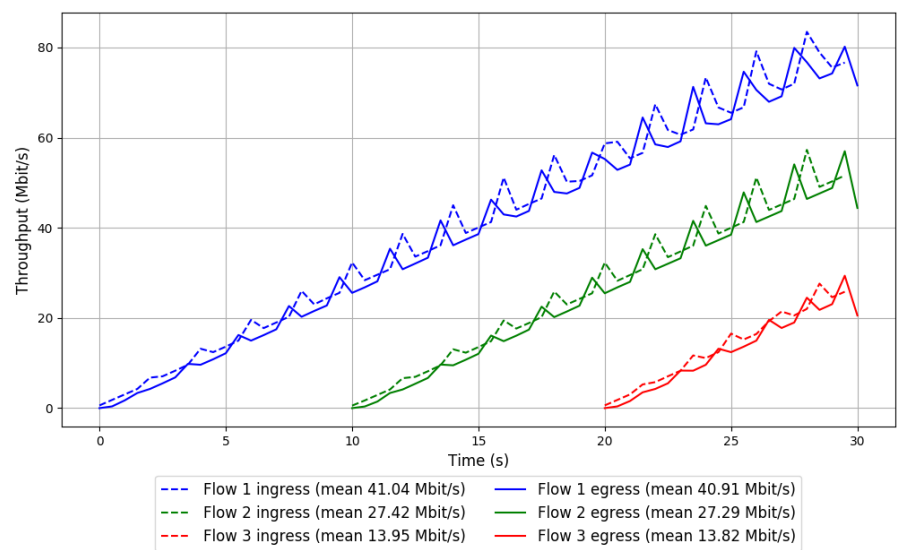
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-10-04 00:43:03
End at: 2019-10-04 00:43:33
Local clock offset: 0.089 ms
Remote clock offset: -0.077 ms


# Below is generated by plot.py at 2019-10-04 04:15:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.45 Mbit/s
95th percentile per-packet one-way delay: 48.030 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 42.38 Mbit/s
95th percentile per-packet one-way delay: 48.283 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 27.86 Mbit/s
95th percentile per-packet one-way delay: 47.600 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 13.83 Mbit/s
95th percentile per-packet one-way delay: 46.939 ms
Loss rate: 1.90%
```

Run 4: Report of LEDBAT — Data Link

- - - Flow 1 ingress (mean 42.51 Mbit/s) —— Flow 1 egress (mean 42.38 Mbit/s)
- - - Flow 2 ingress (mean 27.99 Mbit/s) —— Flow 2 egress (mean 27.86 Mbit/s)
- - - Flow 3 ingress (mean 13.96 Mbit/s) —— Flow 3 egress (mean 13.83 Mbit/s)

• Flow 1 (95th percentile 48.28 ms)   • Flow 2 (95th percentile 47.60 ms)   • Flow 3 (95th percentile 46.94 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-10-04 01:23:07
End at: 2019-10-04 01:23:37
Local clock offset: -0.032 ms
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2019-10-04 04:15:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 63.58 Mbit/s
95th percentile per-packet one-way delay: 48.760 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 40.91 Mbit/s
95th percentile per-packet one-way delay: 48.904 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 27.29 Mbit/s
95th percentile per-packet one-way delay: 48.636 ms
Loss rate: 0.95%
-- Flow 3:
Average throughput: 13.82 Mbit/s
95th percentile per-packet one-way delay: 47.170 ms
Loss rate: 1.90%
```
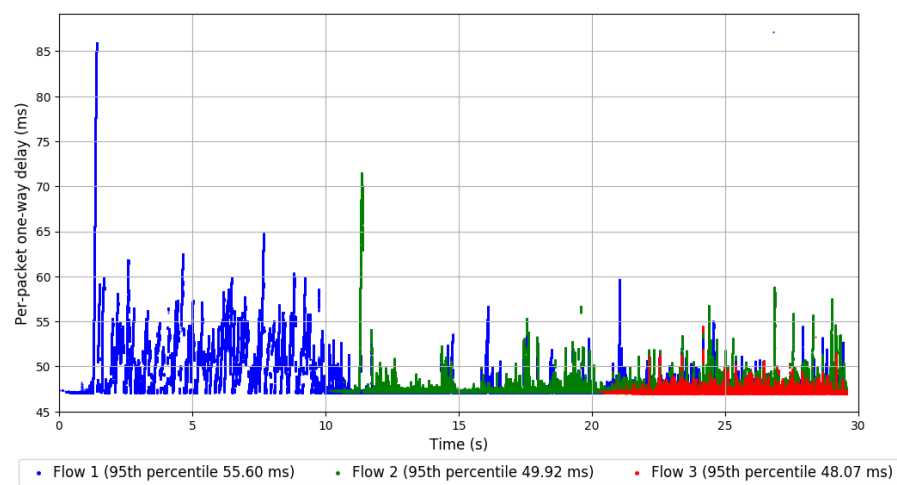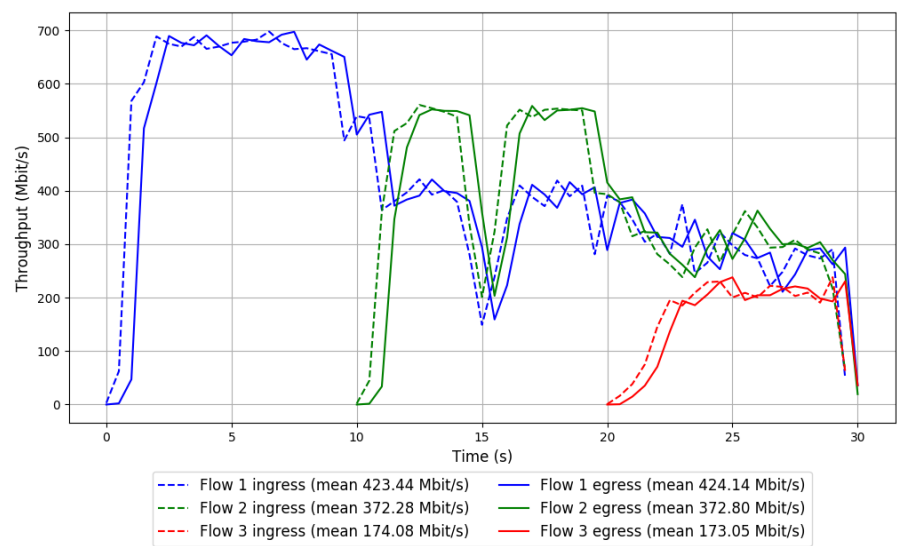
Run 5: Report of LEDBAT — Data Link

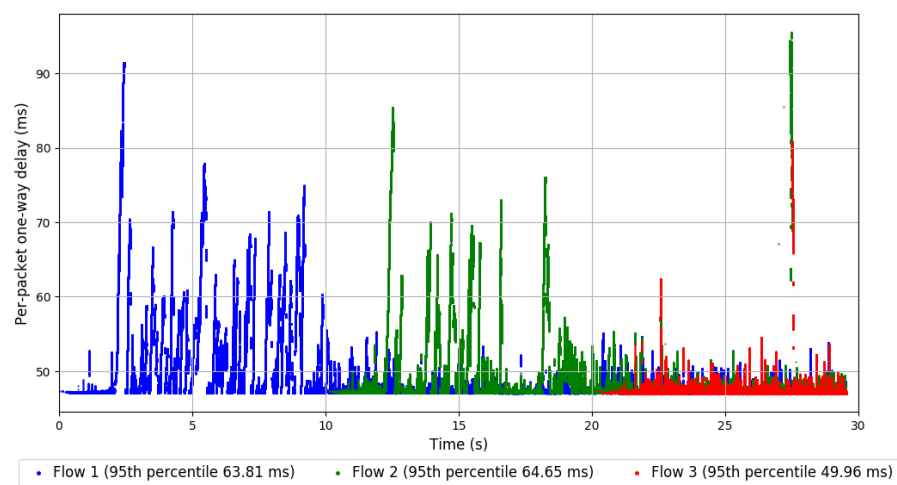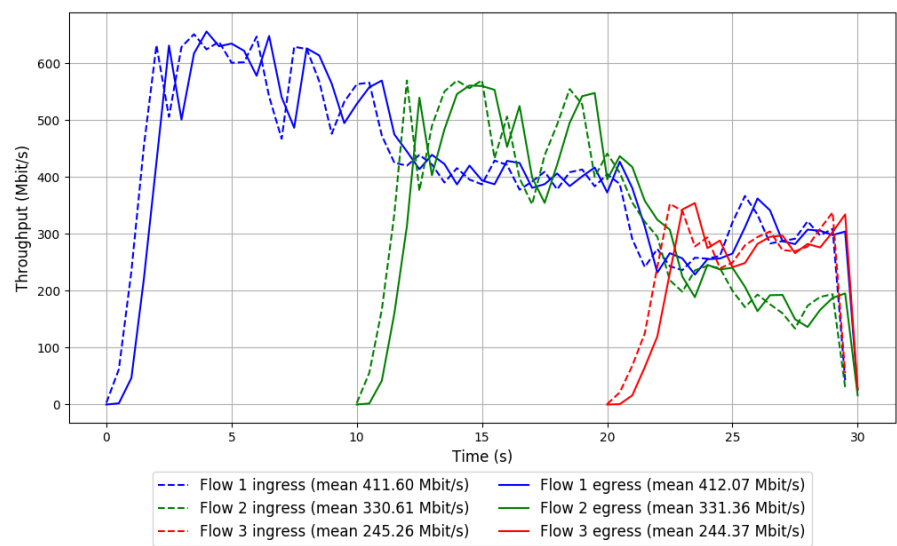Flow 1 ingress (mean 41.04 Mbit/s) — Flow 1 egress (mean 40.91 Mbit/s)
Flow 2 ingress (mean 27.42 Mbit/s) — Flow 2 egress (mean 27.29 Mbit/s)
Flow 3 ingress (mean 13.95 Mbit/s) — Flow 3 egress (mean 13.82 Mbit/s)

Flow 1 (95th percentile 48.90 ms)   Flow 2 (95th percentile 48.64 ms)   Flow 3 (95th percentile 47.17 ms)
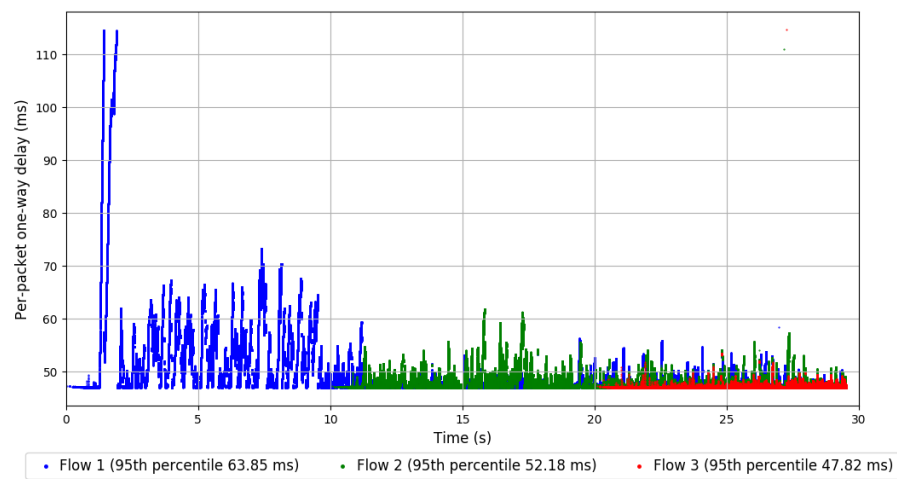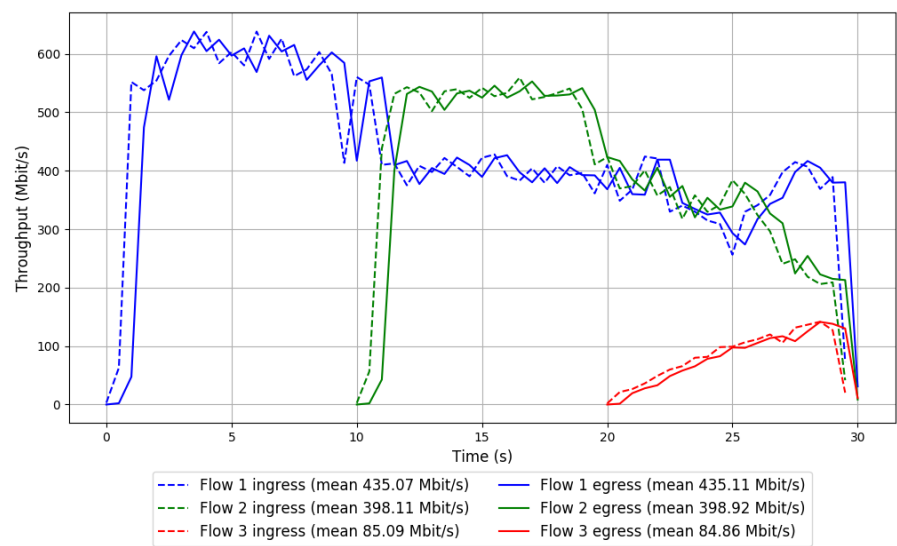
```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-10-03 22:59:51
End at: 2019-10-03 23:00:21
Local clock offset: -0.088 ms
Remote clock offset: 0.016 ms


# Below is generated by plot.py at 2019-10-04 04:18:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 724.60 Mbit/s
95th percentile per-packet one-way delay: 54.472 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 424.14 Mbit/s
95th percentile per-packet one-way delay: 55.598 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 372.80 Mbit/s
95th percentile per-packet one-way delay: 49.923 ms
Loss rate: 0.37%
-- Flow 3:
Average throughput: 173.05 Mbit/s
95th percentile per-packet one-way delay: 48.070 ms
Loss rate: 1.61%
```

Run 1: Report of Muses_DecisionTree — Data Link

Flow 1 ingress (mean 423.44 Mbit/s) --- Flow 1 egress (mean 424.14 Mbit/s)
Flow 2 ingress (mean 372.28 Mbit/s) --- Flow 2 egress (mean 372.80 Mbit/s)
Flow 3 ingress (mean 174.08 Mbit/s) --- Flow 3 egress (mean 173.05 Mbit/s)

Flow 1 (95th percentile 55.60 ms)   Flow 2 (95th percentile 49.92 ms)   Flow 3 (95th percentile 48.07 ms)

```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-10-03 23:40:49
End at: 2019-10-03 23:41:19
Local clock offset: -0.876 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2019-10-04 04:19:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 707.88 Mbit/s
95th percentile per-packet one-way delay: 63.158 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 412.07 Mbit/s
95th percentile per-packet one-way delay: 63.808 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 331.36 Mbit/s
95th percentile per-packet one-way delay: 64.646 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 244.37 Mbit/s
95th percentile per-packet one-way delay: 49.957 ms
Loss rate: 1.37%
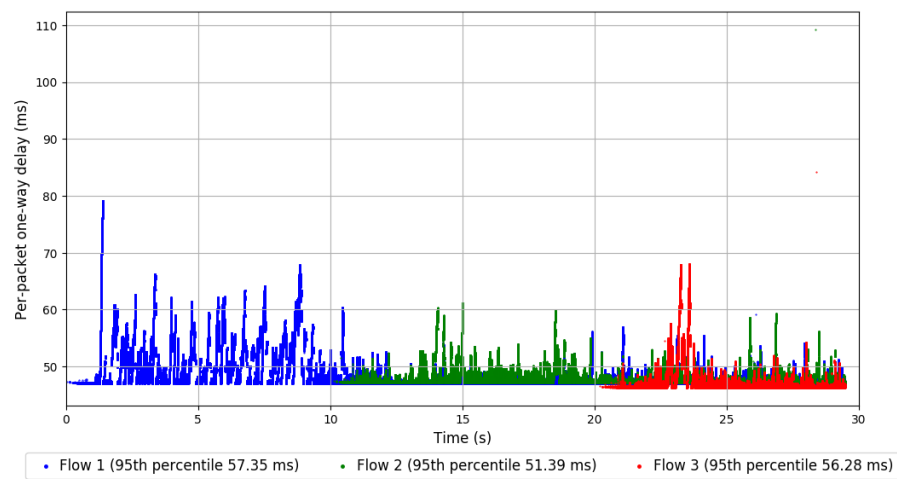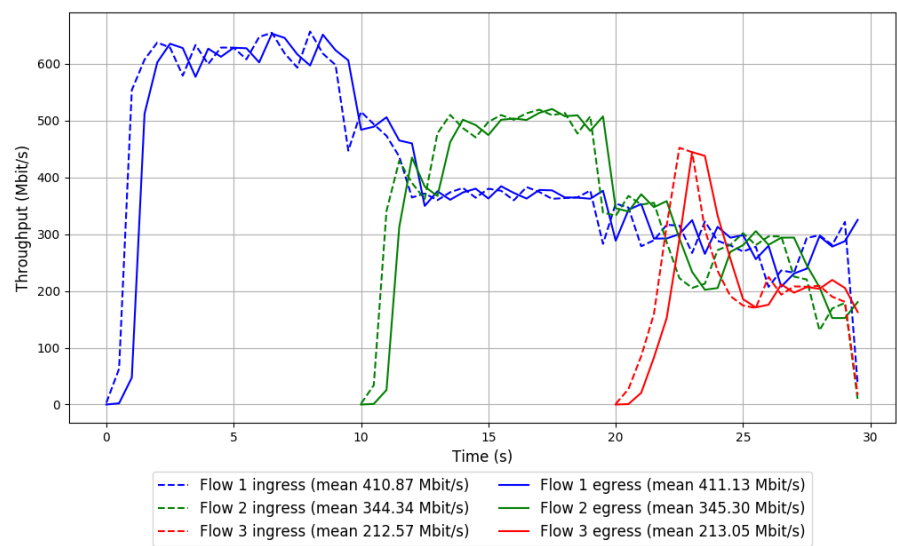```

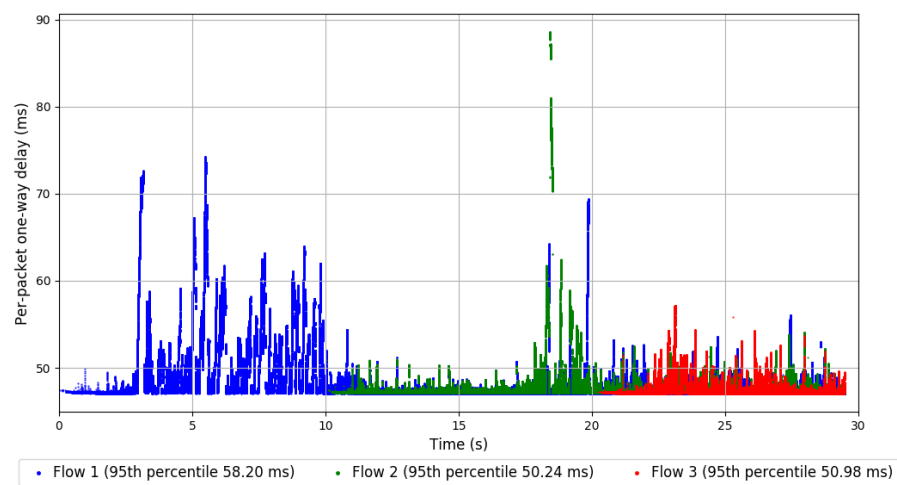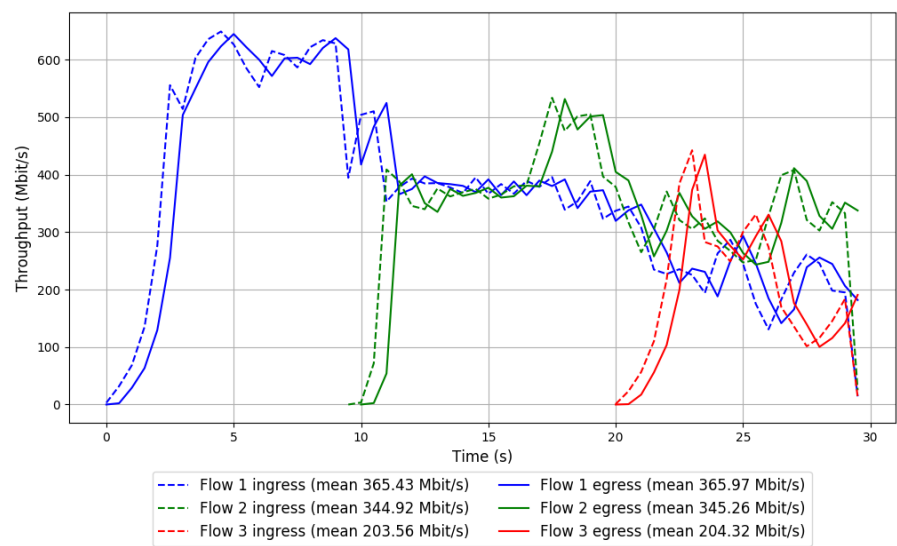Run 2: Report of Muses_DecisionTree — Data Link

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-10-04 00:21:45
End at: 2019-10-04 00:22:15
Local clock offset: 0.082 ms
Remote clock offset: -0.067 ms


# Below is generated by plot.py at 2019-10-04 04:21:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 725.66 Mbit/s
95th percentile per-packet one-way delay: 60.451 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 435.11 Mbit/s
95th percentile per-packet one-way delay: 63.848 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 398.92 Mbit/s
95th percentile per-packet one-way delay: 52.178 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 84.86 Mbit/s
95th percentile per-packet one-way delay: 47.823 ms
Loss rate: 1.29%
```

Run 3: Report of Muses_DecisionTree — Data Link

Flow 1 ingress (mean 435.07 Mbit/s)   Flow 1 egress (mean 435.11 Mbit/s)
Flow 2 ingress (mean 398.11 Mbit/s)   Flow 2 egress (mean 398.92 Mbit/s)
Flow 3 ingress (mean 85.09 Mbit/s)   Flow 3 egress (mean 84.86 Mbit/s)

Flow 1 (95th percentile 63.85 ms)   Flow 2 (95th percentile 52.18 ms)   Flow 3 (95th percentile 47.82 ms)

```
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-10-04 01:01:55
End at: 2019-10-04 01:02:25
Local clock offset: 0.017 ms
Remote clock offset: -0.003 ms


# Below is generated by plot.py at 2019-10-04 04:21:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 705.21 Mbit/s
95th percentile per-packet one-way delay: 55.828 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 411.13 Mbit/s
95th percentile per-packet one-way delay: 57.346 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 345.30 Mbit/s
95th percentile per-packet one-way delay: 51.393 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 213.05 Mbit/s
95th percentile per-packet one-way delay: 56.281 ms
Loss rate: 0.90%
```
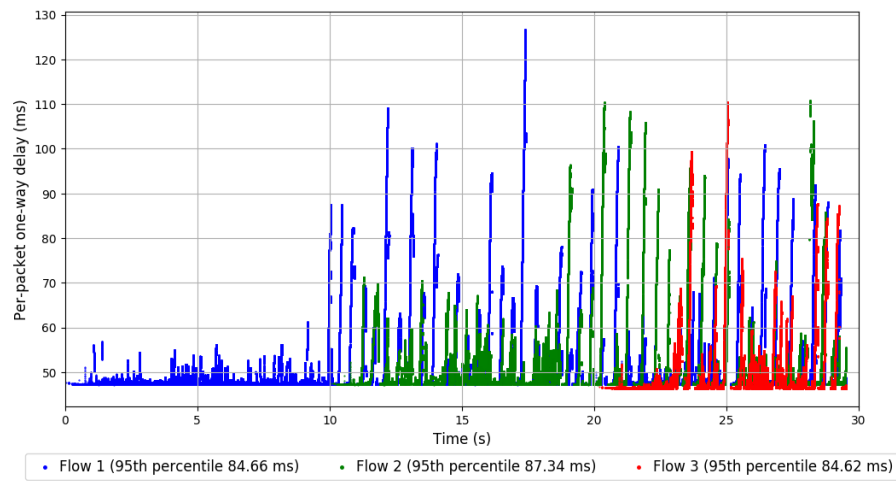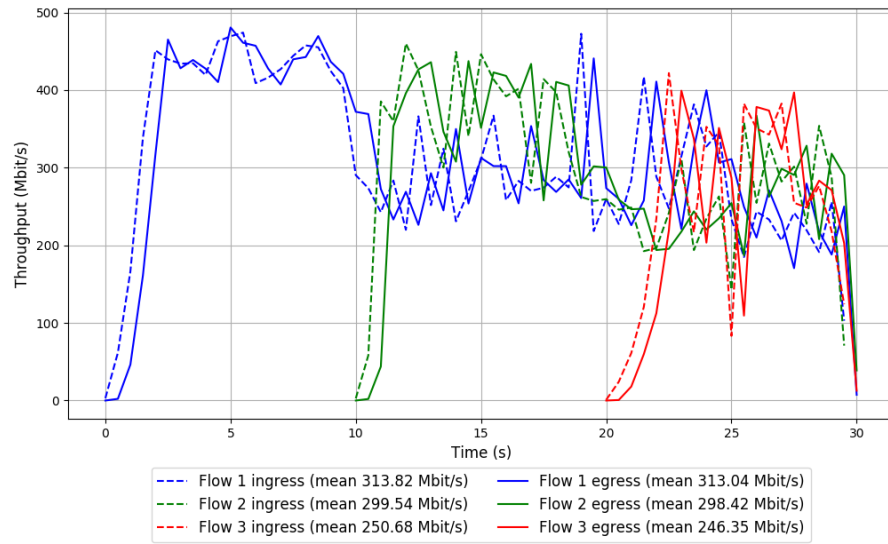
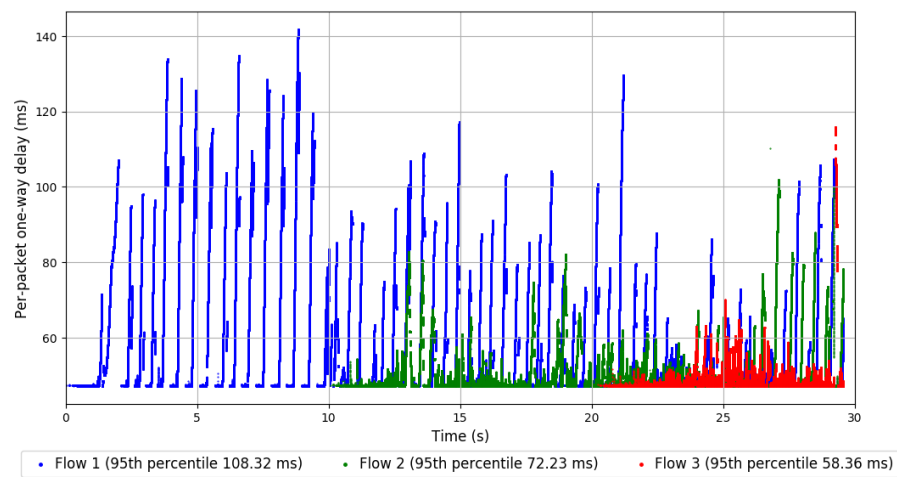Run 4: Report of Muses_DecisionTree — Data Link

```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-10-04 01:42:22
End at: 2019-10-04 01:42:53
Local clock offset: -0.05 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2019-10-04 04:21:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 658.51 Mbit/s
95th percentile per-packet one-way delay: 55.754 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 365.97 Mbit/s
95th percentile per-packet one-way delay: 58.196 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 345.26 Mbit/s
95th percentile per-packet one-way delay: 50.240 ms
Loss rate: 0.41%
-- Flow 3:
Average throughput: 204.32 Mbit/s
95th percentile per-packet one-way delay: 50.979 ms
Loss rate: 0.63%
```
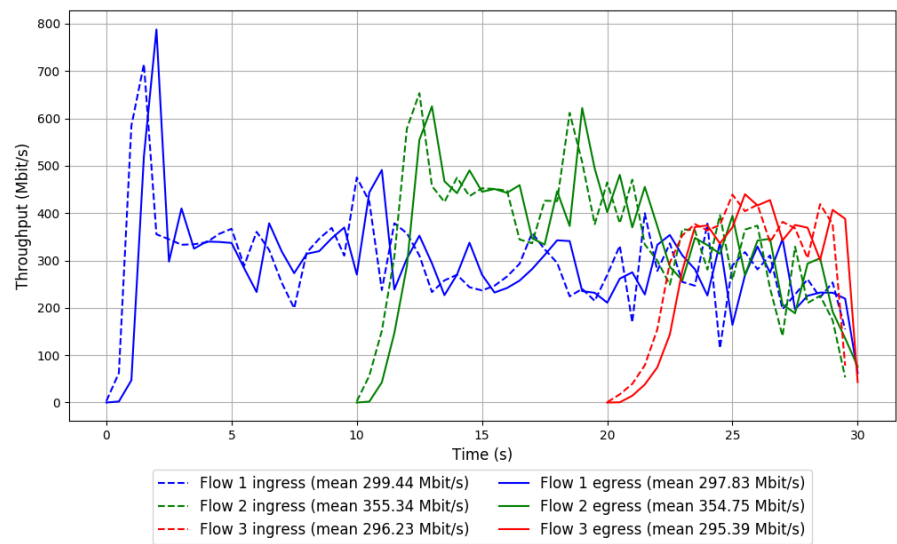
Run 5: Report of Muses_DecisionTree — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-10-03 22:51:13
End at: 2019-10-03 22:51:43
Local clock offset: -0.056 ms
Remote clock offset: -0.01 ms


# Below is generated by plot.py at 2019-10-04 04:22:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 587.97 Mbit/s
95th percentile per-packet one-way delay: 85.314 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 313.04 Mbit/s
95th percentile per-packet one-way delay: 84.655 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 298.42 Mbit/s
95th percentile per-packet one-way delay: 87.342 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 246.35 Mbit/s
95th percentile per-packet one-way delay: 84.622 ms
Loss rate: 2.79%
```
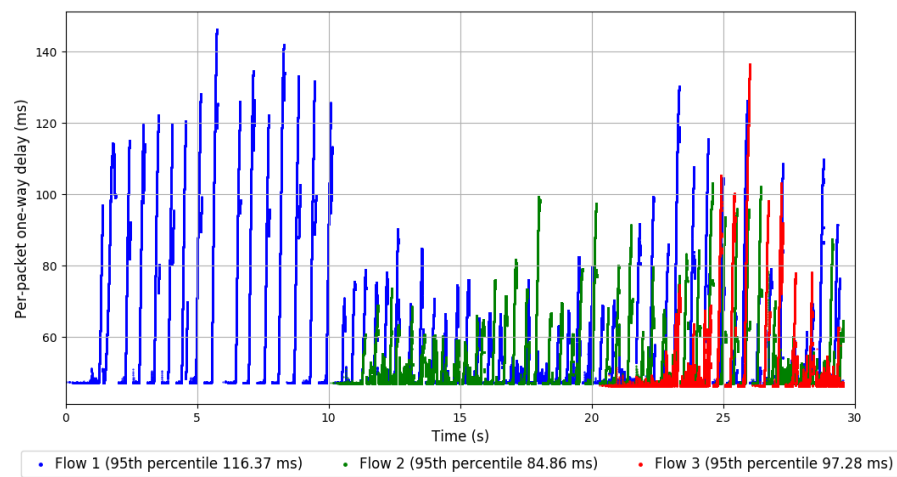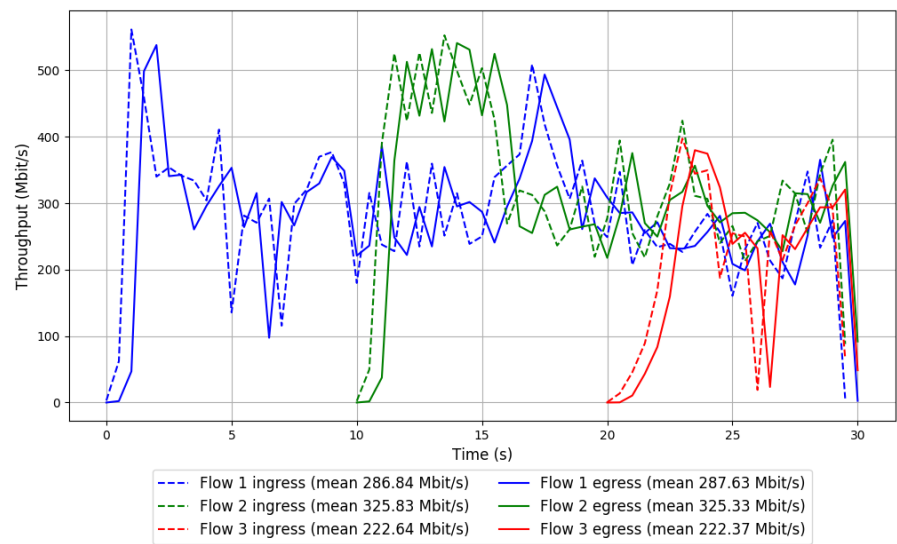
Run 1: Report of Muses_DecisionTreeH0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-10-03 23:32:07
End at: 2019-10-03 23:32:37
Local clock offset: -0.814 ms
Remote clock offset: -0.082 ms


# Below is generated by plot.py at 2019-10-04 04:24:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 625.52 Mbit/s
95th percentile per-packet one-way delay: 99.442 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 297.83 Mbit/s
95th percentile per-packet one-way delay: 108.319 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 354.75 Mbit/s
95th percentile per-packet one-way delay: 72.230 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 295.39 Mbit/s
95th percentile per-packet one-way delay: 58.358 ms
Loss rate: 1.29%
```

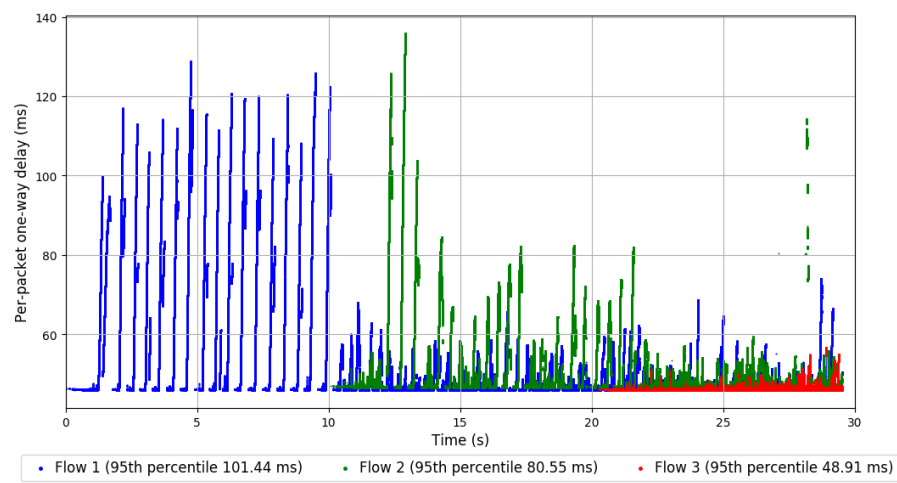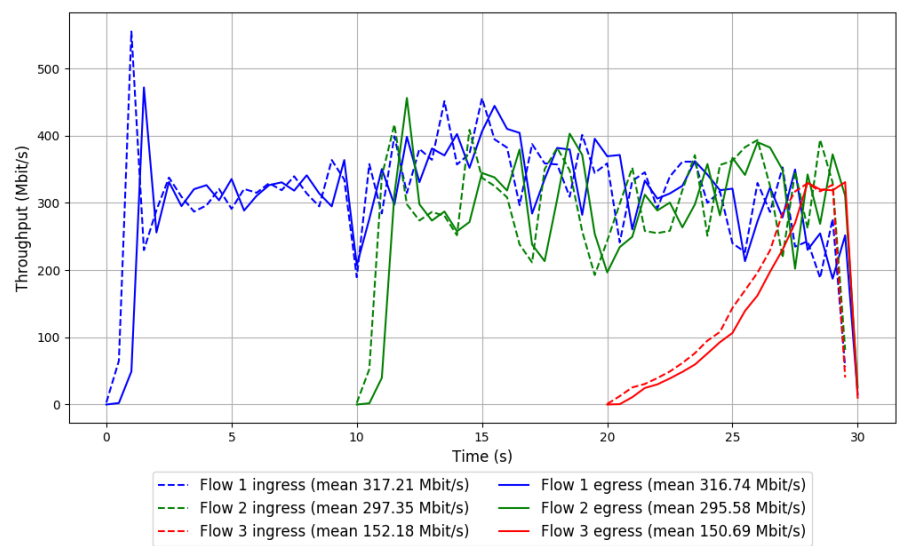# Run 2: Report of Muses_DecisionTreeH0 — Data Link

Run 3: Statistics of Muses_DecisionTreeH0

Start at: 2019-10-04 00:13:05
End at: 2019-10-04 00:13:35
Local clock offset: 0.047 ms
Remote clock offset: -0.105 ms

Below is generated by plot.py at 2019-10-04 04:27:44
Datalink statistics
-- Total of 3 flows:
Average throughput: 572.12 Mbit/s
95th percentile per-packet one-way delay: 108.153 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 287.63 Mbit/s
95th percentile per-packet one-way delay: 116.368 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 325.33 Mbit/s
95th percentile per-packet one-way delay: 84.862 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 222.37 Mbit/s
95th percentile per-packet one-way delay: 97.279 ms
Loss rate: 1.12%

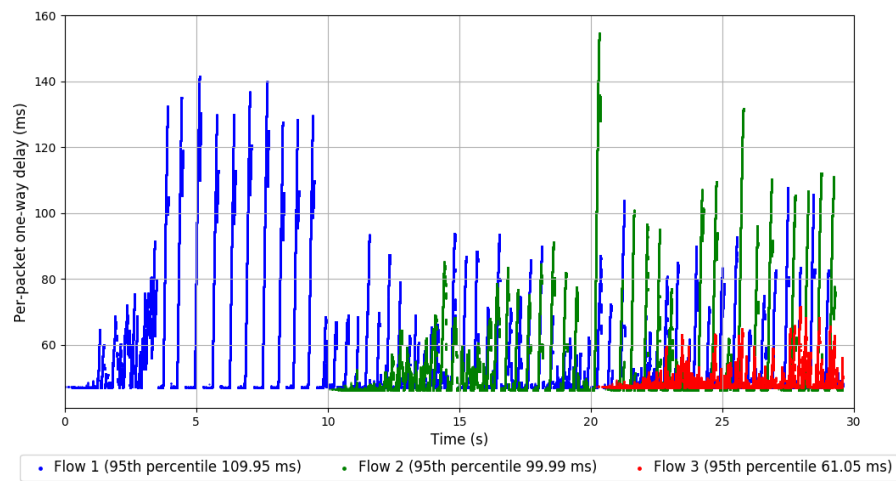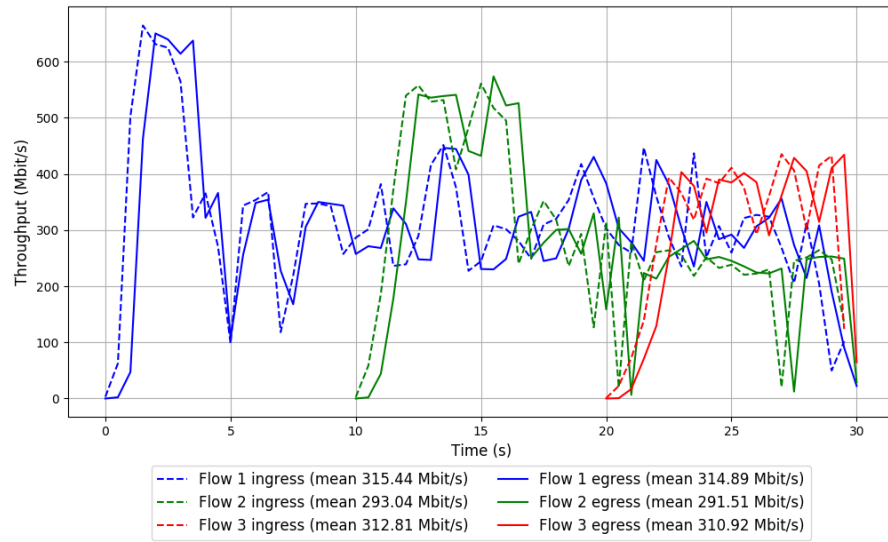Run 3: Report of Muses_DecisionTreeH0 — Data Link

```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-10-04 00:53:34
End at: 2019-10-04 00:54:04
Local clock offset: -0.307 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2019-10-04 04:29:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 559.13 Mbit/s
95th percentile per-packet one-way delay: 96.938 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 316.74 Mbit/s
95th percentile per-packet one-way delay: 101.445 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 295.58 Mbit/s
95th percentile per-packet one-way delay: 80.546 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 150.69 Mbit/s
95th percentile per-packet one-way delay: 48.909 ms
Loss rate: 1.96%
```
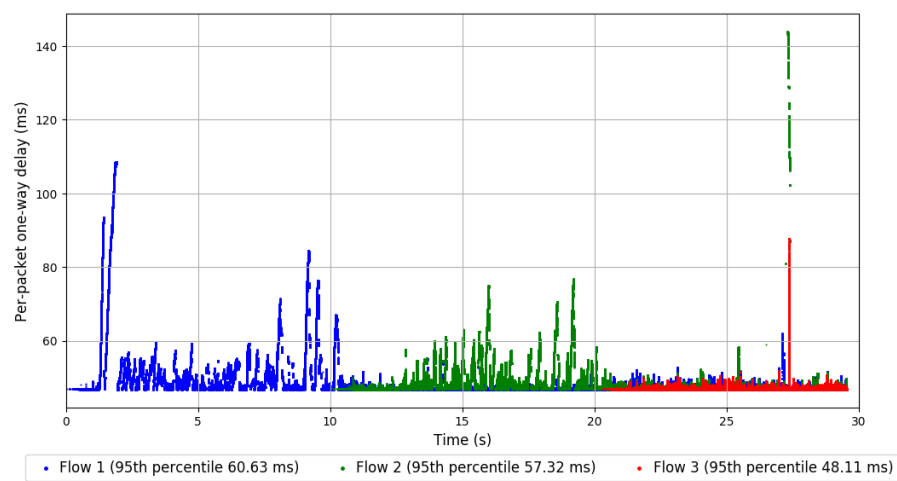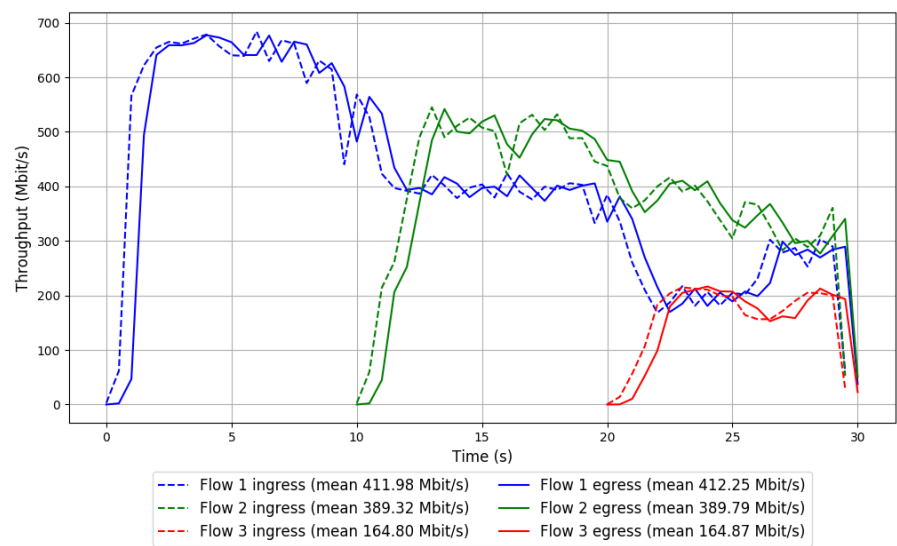
Run 4: Report of Muses_DecisionTreeH0 — Data Link

132

```
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-10-04 01:33:48
End at: 2019-10-04 01:34:18
Local clock offset: -0.052 ms
Remote clock offset: -0.071 ms


# Below is generated by plot.py at 2019-10-04 04:32:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 605.95 Mbit/s
95th percentile per-packet one-way delay: 103.697 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 314.89 Mbit/s
95th percentile per-packet one-way delay: 109.955 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 291.51 Mbit/s
95th percentile per-packet one-way delay: 99.991 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 310.92 Mbit/s
95th percentile per-packet one-way delay: 61.047 ms
Loss rate: 1.65%
```

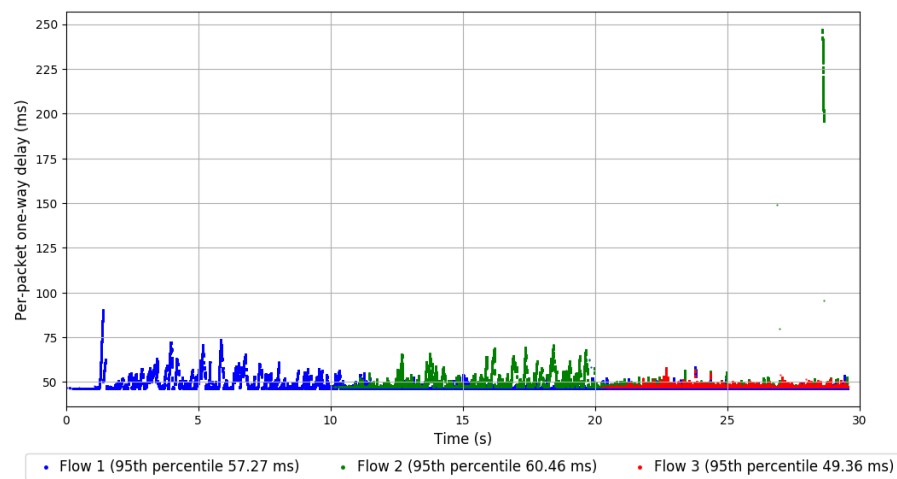Run 5: Report of Muses_DecisionTreeH0 — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-10-03 23:18:18
End at: 2019-10-03 23:18:48
Local clock offset: -0.971 ms
Remote clock offset: 0.006 ms


# Below is generated by plot.py at 2019-10-04 04:35:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 721.45 Mbit/s
95th percentile per-packet one-way delay: 58.076 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 412.25 Mbit/s
95th percentile per-packet one-way delay: 60.634 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 389.79 Mbit/s
95th percentile per-packet one-way delay: 57.320 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 164.87 Mbit/s
95th percentile per-packet one-way delay: 48.113 ms
Loss rate: 0.98%
```
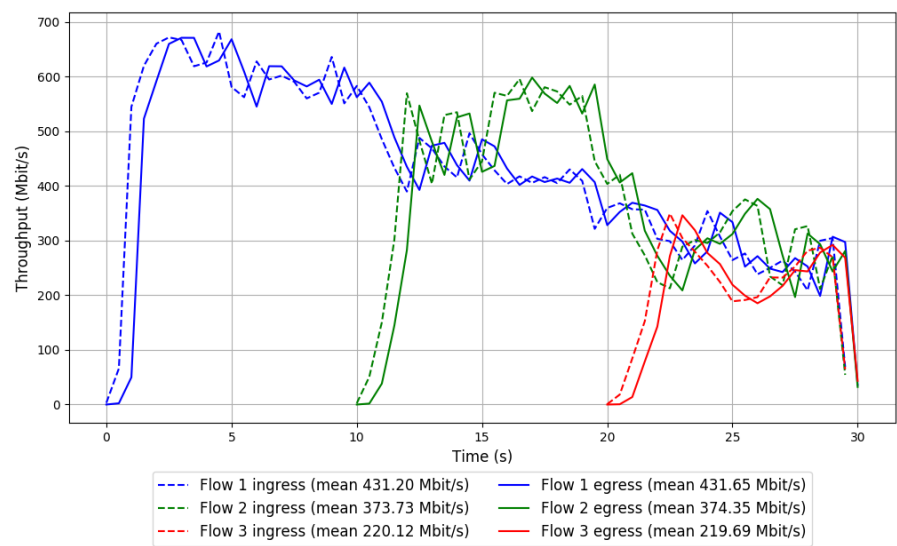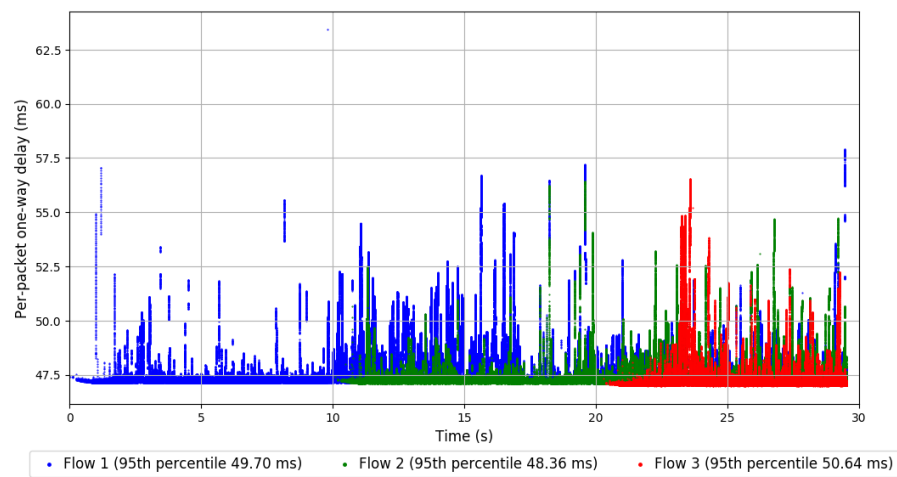
Run 1: Report of Muses_DecisionTreeR0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-10-03 23:59:17
End at: 2019-10-03 23:59:47
Local clock offset: -0.071 ms
Remote clock offset: -0.134 ms


# Below is generated by plot.py at 2019-10-04 04:36:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 748.09 Mbit/s
95th percentile per-packet one-way delay: 57.810 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 431.65 Mbit/s
95th percentile per-packet one-way delay: 57.269 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 374.35 Mbit/s
95th percentile per-packet one-way delay: 60.457 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 219.69 Mbit/s
95th percentile per-packet one-way delay: 49.363 ms
Loss rate: 1.18%
```

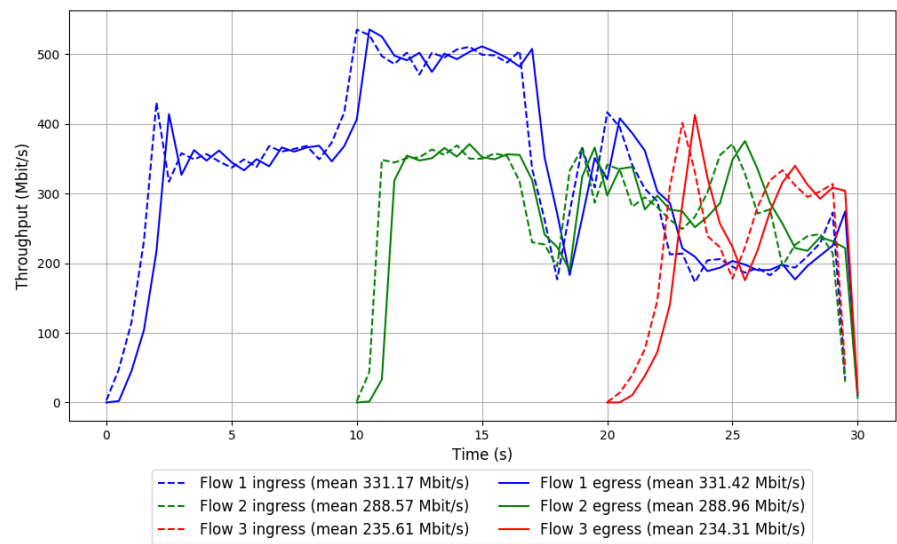Run 2: Report of Muses_DecisionTreeR0 — Data Link

```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-10-04 00:40:04
End at: 2019-10-04 00:40:34
Local clock offset: 0.103 ms
Remote clock offset: -0.015 ms


# Below is generated by plot.py at 2019-10-04 04:36:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 595.00 Mbit/s
95th percentile per-packet one-way delay: 49.378 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 331.42 Mbit/s
95th percentile per-packet one-way delay: 49.701 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 288.96 Mbit/s
95th percentile per-packet one-way delay: 48.359 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 234.31 Mbit/s
95th percentile per-packet one-way delay: 50.636 ms
Loss rate: 1.60%
```
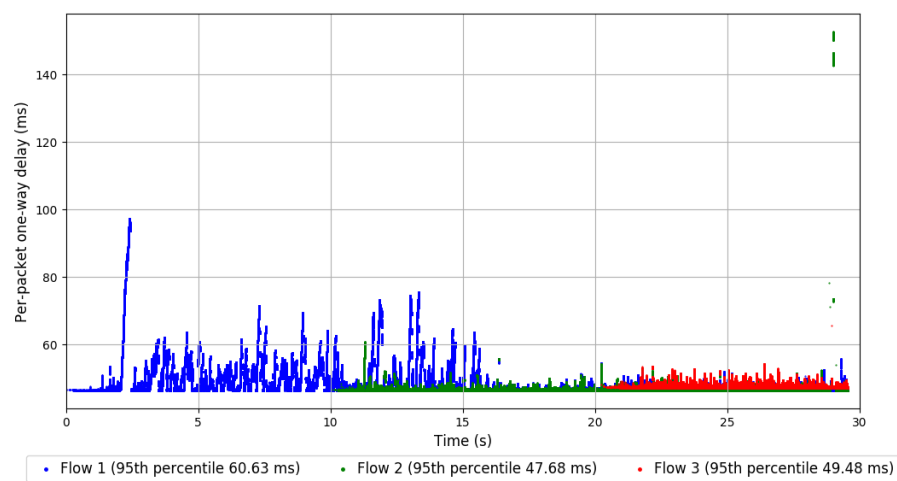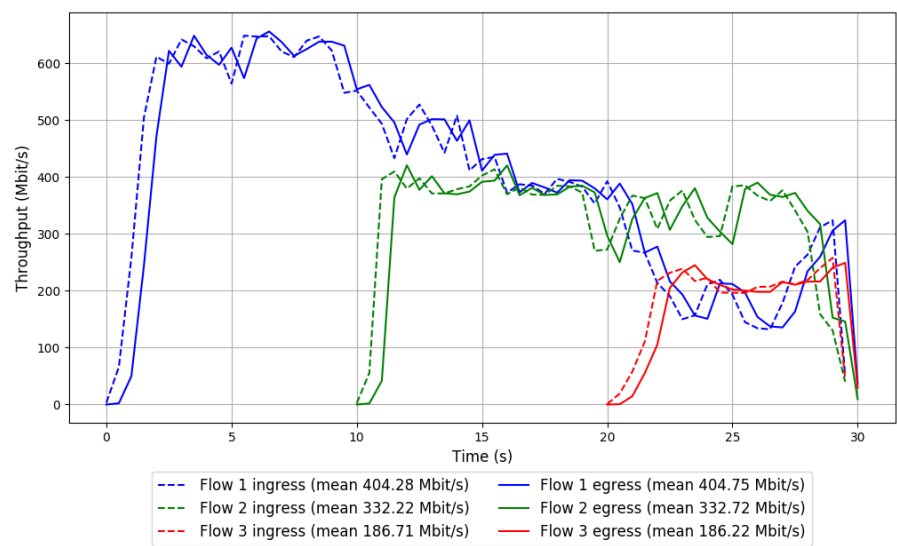
Run 3: Report of Muses_DecisionTreeR0 — Data Link

```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-10-04 01:20:08
End at: 2019-10-04 01:20:38
Local clock offset: -0.012 ms
Remote clock offset: 0.007 ms


# Below is generated by plot.py at 2019-10-04 04:37:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 683.09 Mbit/s
95th percentile per-packet one-way delay: 57.618 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 404.75 Mbit/s
95th percentile per-packet one-way delay: 60.630 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 332.72 Mbit/s
95th percentile per-packet one-way delay: 47.679 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 186.22 Mbit/s
95th percentile per-packet one-way delay: 49.477 ms
Loss rate: 1.27%
```

Run 4: Report of Muses_DecisionTreeR0 — Data Link
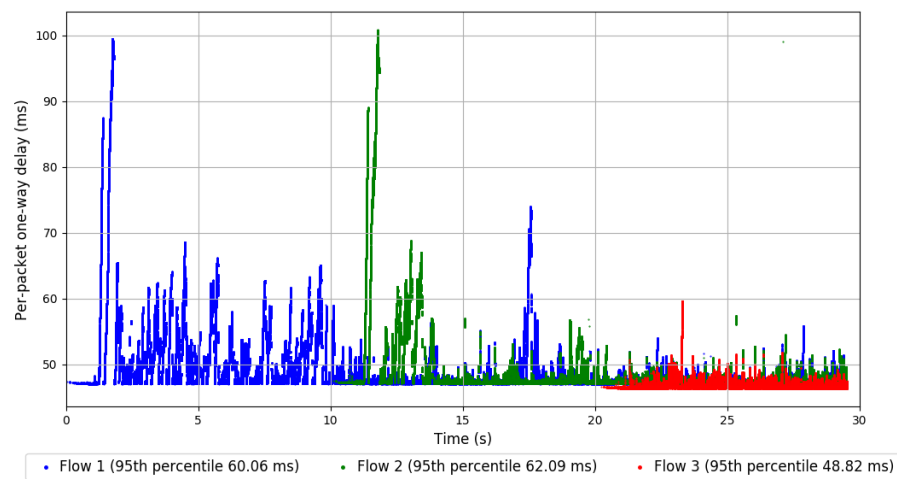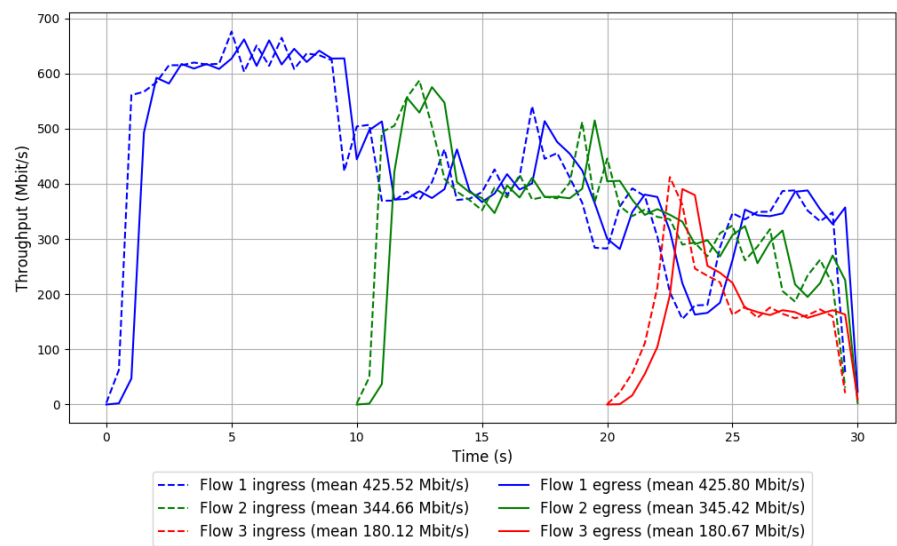
```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-10-04 02:00:32
End at: 2019-10-04 02:01:02
Local clock offset: -0.048 ms
Remote clock offset: -0.103 ms


# Below is generated by plot.py at 2019-10-04 04:39:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 710.54 Mbit/s
95th percentile per-packet one-way delay: 60.021 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 425.80 Mbit/s
95th percentile per-packet one-way delay: 60.060 ms
Loss rate: 0.27%
-- Flow 2:
Average throughput: 345.42 Mbit/s
95th percentile per-packet one-way delay: 62.085 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 180.67 Mbit/s
95th percentile per-packet one-way delay: 48.824 ms
Loss rate: 0.70%
```
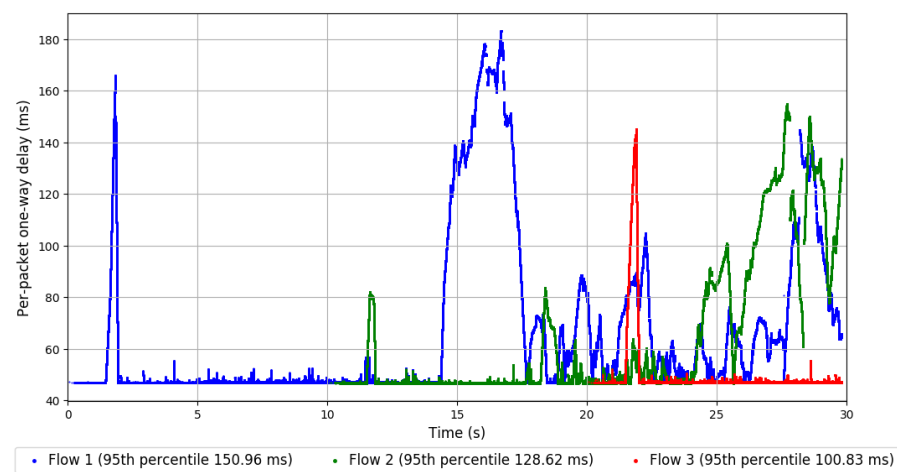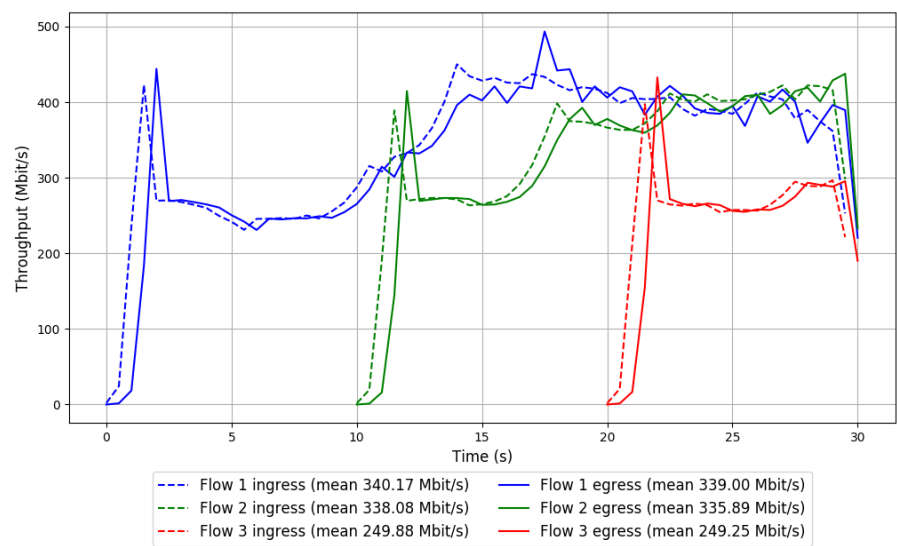
Run 5: Report of Muses_DecisionTreeR0 — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-10-03 23:02:49
End at: 2019-10-03 23:03:19
Local clock offset: -0.491 ms
Remote clock offset: 0.024 ms


# Below is generated by plot.py at 2019-10-04 04:53:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 643.29 Mbit/s
95th percentile per-packet one-way delay: 139.083 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 339.00 Mbit/s
95th percentile per-packet one-way delay: 150.962 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 335.89 Mbit/s
95th percentile per-packet one-way delay: 128.624 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 249.25 Mbit/s
95th percentile per-packet one-way delay: 100.834 ms
Loss rate: 1.22%
```

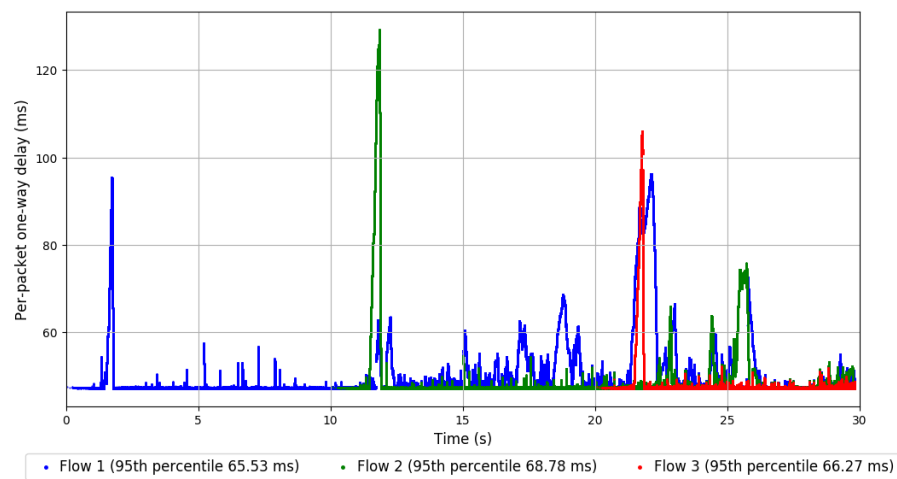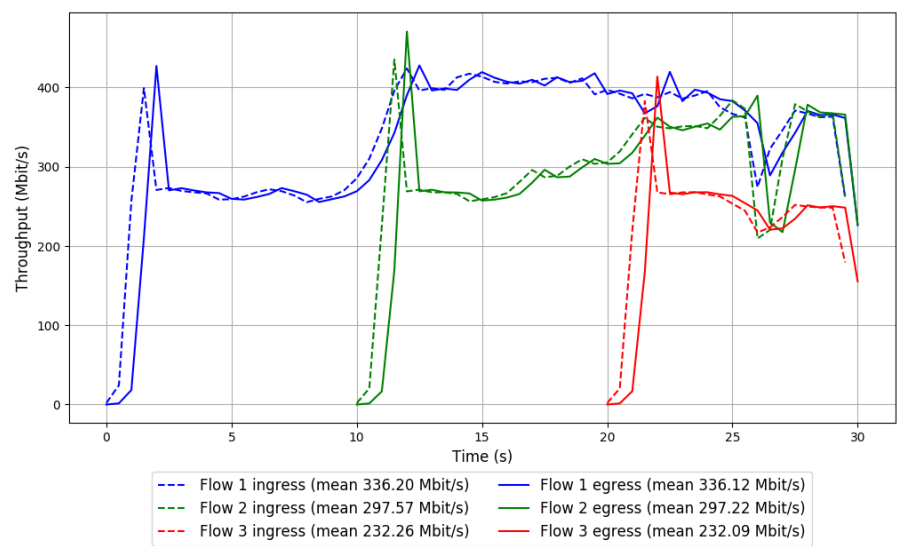Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-10-03 23:43:47
End at: 2019-10-03 23:44:17
Local clock offset: -0.574 ms
Remote clock offset: -0.108 ms


# Below is generated by plot.py at 2019-10-04 04:54:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 609.40 Mbit/s
95th percentile per-packet one-way delay: 66.304 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 336.12 Mbit/s
95th percentile per-packet one-way delay: 65.535 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 297.22 Mbit/s
95th percentile per-packet one-way delay: 68.775 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 232.09 Mbit/s
95th percentile per-packet one-way delay: 66.267 ms
Loss rate: 1.03%
```

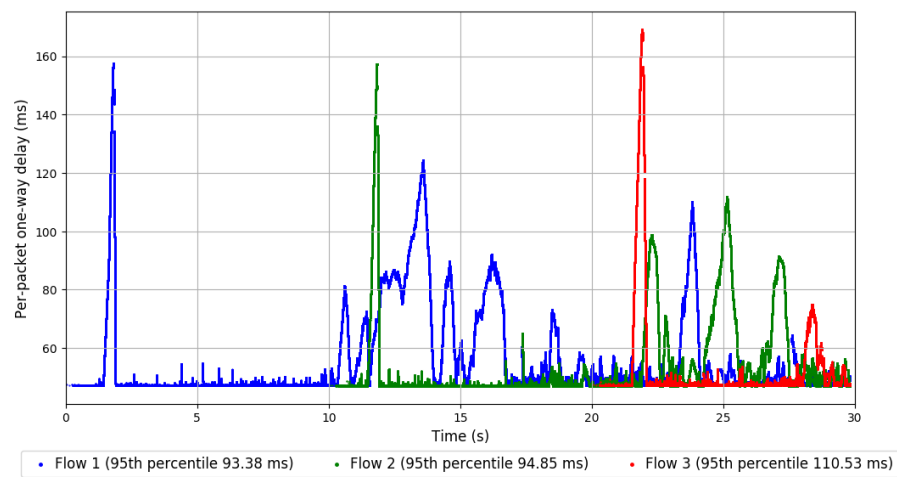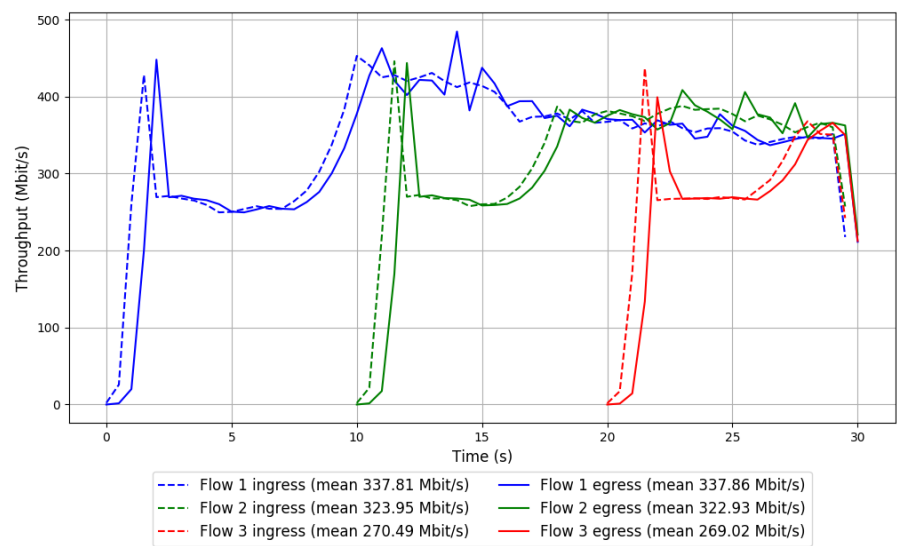Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-10-04 00:24:43
End at: 2019-10-04 00:25:13
Local clock offset: 0.032 ms
Remote clock offset: -0.078 ms


# Below is generated by plot.py at 2019-10-04 04:57:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 640.08 Mbit/s
95th percentile per-packet one-way delay: 94.683 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 337.86 Mbit/s
95th percentile per-packet one-way delay: 93.379 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 322.93 Mbit/s
95th percentile per-packet one-way delay: 94.849 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 269.02 Mbit/s
95th percentile per-packet one-way delay: 110.535 ms
Loss rate: 1.51%
```

Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 337.81 Mbit/s) ---- Flow 1 egress (mean 337.86 Mbit/s) ——
Flow 2 ingress (mean 323.95 Mbit/s) ---- Flow 2 egress (mean 322.93 Mbit/s) ——
Flow 3 ingress (mean 270.49 Mbit/s) ---- Flow 3 egress (mean 269.02 Mbit/s) ——

Flow 1 (95th percentile 93.38 ms)   • Flow 2 (95th percentile 94.85 ms)   • Flow 3 (95th percentile 110.53 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-10-04 01:04:52
End at: 2019-10-04 01:05:22
Local clock offset: 0.018 ms
Remote clock offset: -0.03 ms


# Below is generated by plot.py at 2019-10-04 04:57:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 605.51 Mbit/s
95th percentile per-packet one-way delay: 87.169 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 333.35 Mbit/s
95th percentile per-packet one-way delay: 89.889 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 288.99 Mbit/s
95th percentile per-packet one-way delay: 59.754 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 246.36 Mbit/s
95th percentile per-packet one-way delay: 132.466 ms
Loss rate: 2.51%
```
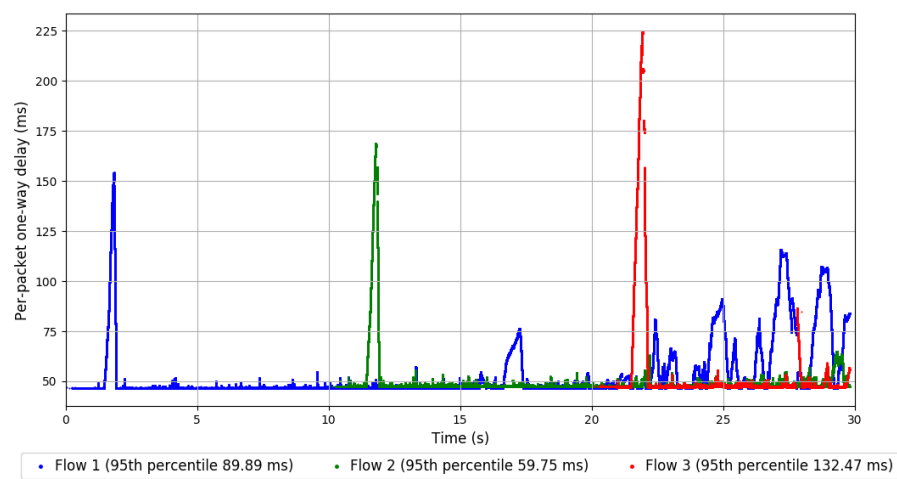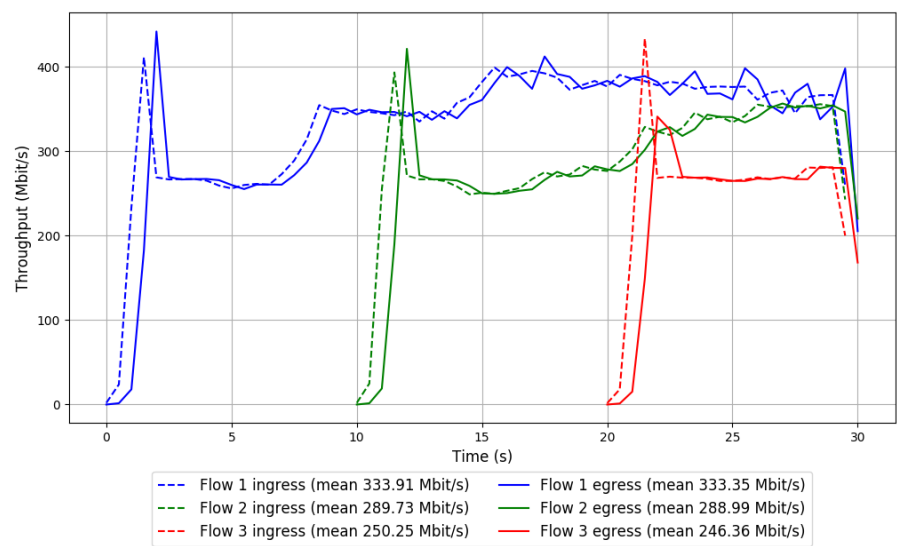
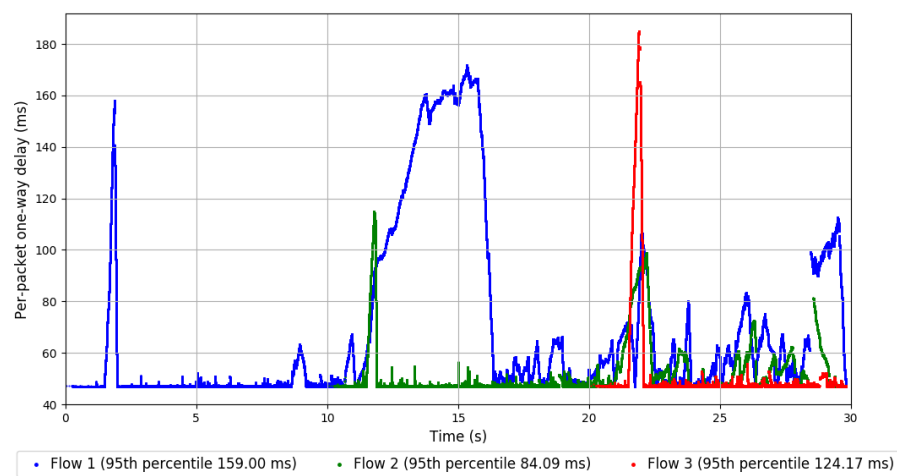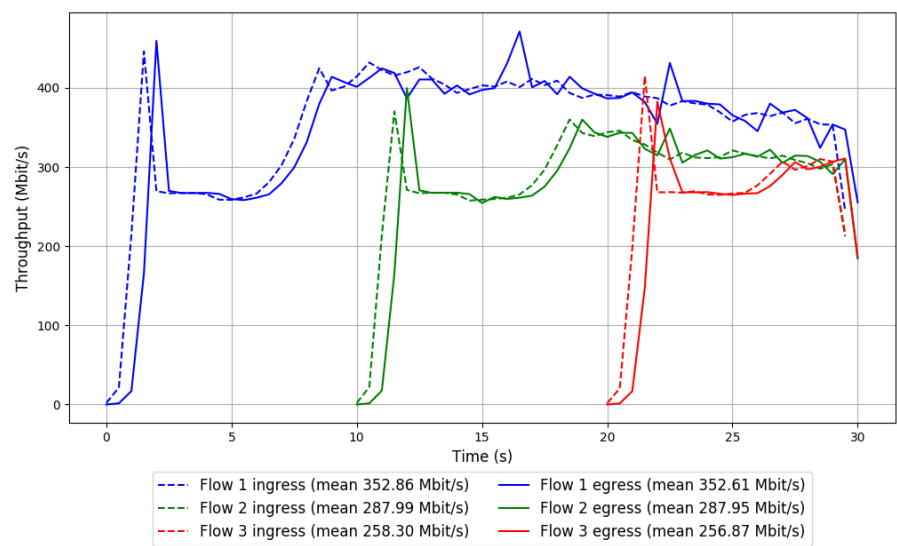# Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-10-04 01:45:18
End at: 2019-10-04 01:45:48
Local clock offset: -0.083 ms
Remote clock offset: -0.061 ms


# Below is generated by plot.py at 2019-10-04 05:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 627.70 Mbit/s
95th percentile per-packet one-way delay: 153.909 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 352.61 Mbit/s
95th percentile per-packet one-way delay: 158.997 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 287.95 Mbit/s
95th percentile per-packet one-way delay: 84.091 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 256.87 Mbit/s
95th percentile per-packet one-way delay: 124.168 ms
Loss rate: 1.52%
```

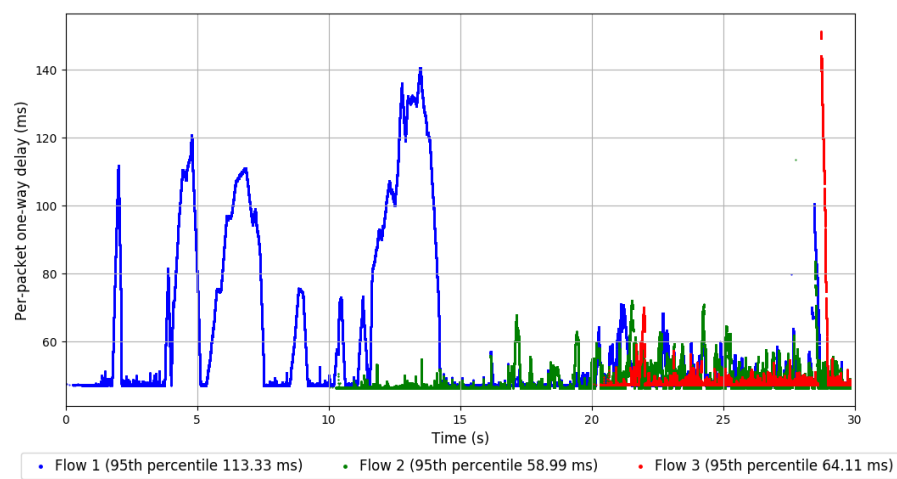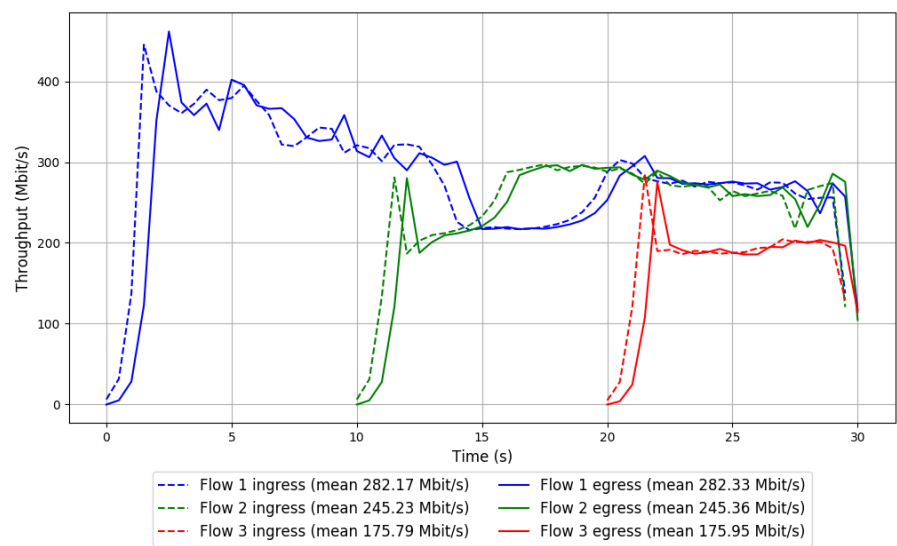Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-10-03 23:07:39
End at: 2019-10-03 23:08:09
Local clock offset: -0.219 ms
Remote clock offset: 0.024 ms


# Below is generated by plot.py at 2019-10-04 05:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 502.89 Mbit/s
95th percentile per-packet one-way delay: 107.675 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 282.33 Mbit/s
95th percentile per-packet one-way delay: 113.331 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 245.36 Mbit/s
95th percentile per-packet one-way delay: 58.988 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 175.95 Mbit/s
95th percentile per-packet one-way delay: 64.115 ms
Loss rate: 0.91%
```

Run 1: Report of PCC-Expr — Data Link

- - - - Flow 1 ingress (mean 282.17 Mbit/s) ——— Flow 1 egress (mean 282.33 Mbit/s)
- - - - Flow 2 ingress (mean 245.23 Mbit/s) ——— Flow 2 egress (mean 245.36 Mbit/s)
- - - - Flow 3 ingress (mean 175.79 Mbit/s) ——— Flow 3 egress (mean 175.95 Mbit/s)

• Flow 1 (95th percentile 113.33 ms)   • Flow 2 (95th percentile 58.99 ms)   • Flow 3 (95th percentile 64.11 ms)
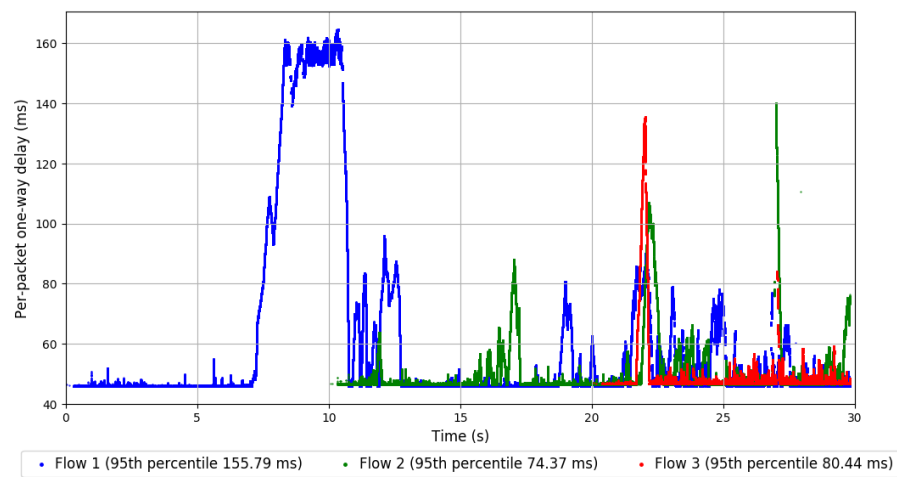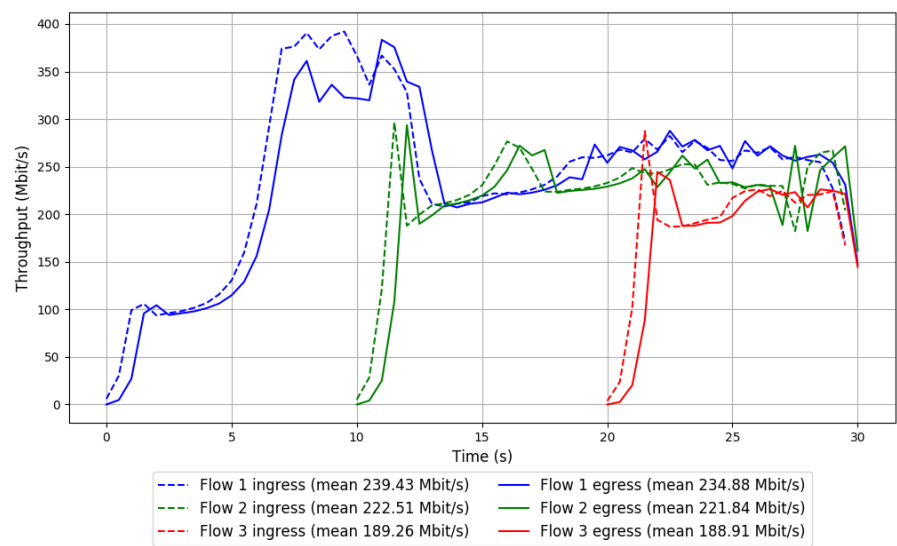
156

```
Run 2: Statistics of PCC-Expr

Start at: 2019-10-03 23:48:36
End at: 2019-10-03 23:49:06
Local clock offset: -0.708 ms
Remote clock offset: -0.102 ms


# Below is generated by plot.py at 2019-10-04 05:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 443.94 Mbit/s
95th percentile per-packet one-way delay: 149.453 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 234.88 Mbit/s
95th percentile per-packet one-way delay: 155.792 ms
Loss rate: 2.21%
-- Flow 2:
Average throughput: 221.84 Mbit/s
95th percentile per-packet one-way delay: 74.369 ms
Loss rate: 0.78%
-- Flow 3:
Average throughput: 188.91 Mbit/s
95th percentile per-packet one-way delay: 80.445 ms
Loss rate: 1.15%
```

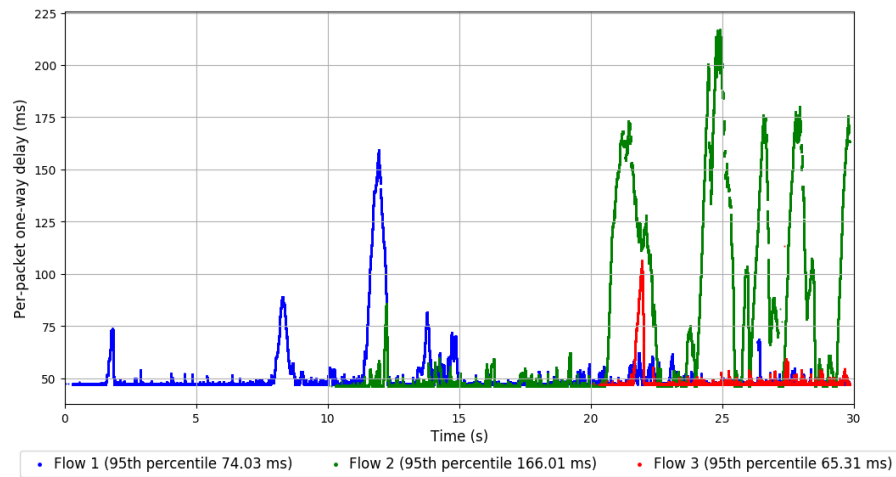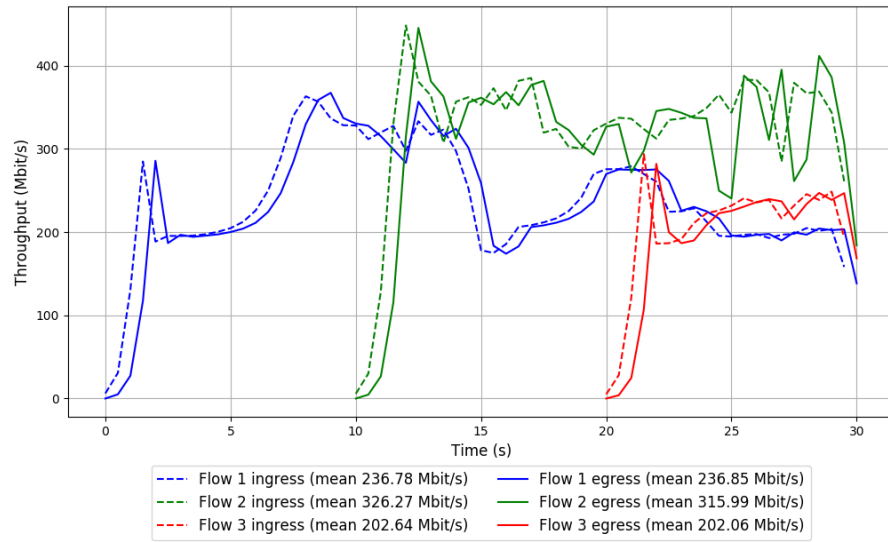Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2019-10-04 00:29:34
End at: 2019-10-04 00:30:04
Local clock offset: 0.077 ms
Remote clock offset: -0.04 ms


# Below is generated by plot.py at 2019-10-04 05:00:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 512.89 Mbit/s
95th percentile per-packet one-way delay: 144.296 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 236.85 Mbit/s
95th percentile per-packet one-way delay: 74.031 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 315.99 Mbit/s
95th percentile per-packet one-way delay: 166.011 ms
Loss rate: 3.62%
-- Flow 3:
Average throughput: 202.06 Mbit/s
95th percentile per-packet one-way delay: 65.315 ms
Loss rate: 1.25%
```

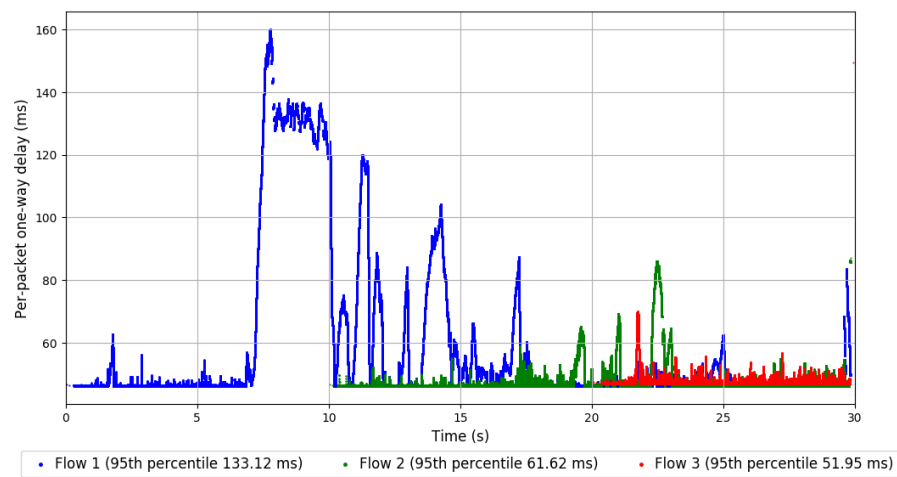Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 236.78 Mbit/s)   Flow 1 egress (mean 236.85 Mbit/s)
Flow 2 ingress (mean 326.27 Mbit/s)   Flow 2 egress (mean 315.99 Mbit/s)
Flow 3 ingress (mean 202.64 Mbit/s)   Flow 3 egress (mean 202.06 Mbit/s)

Flow 1 (95th percentile 74.03 ms)   Flow 2 (95th percentile 166.01 ms)   Flow 3 (95th percentile 65.31 ms)
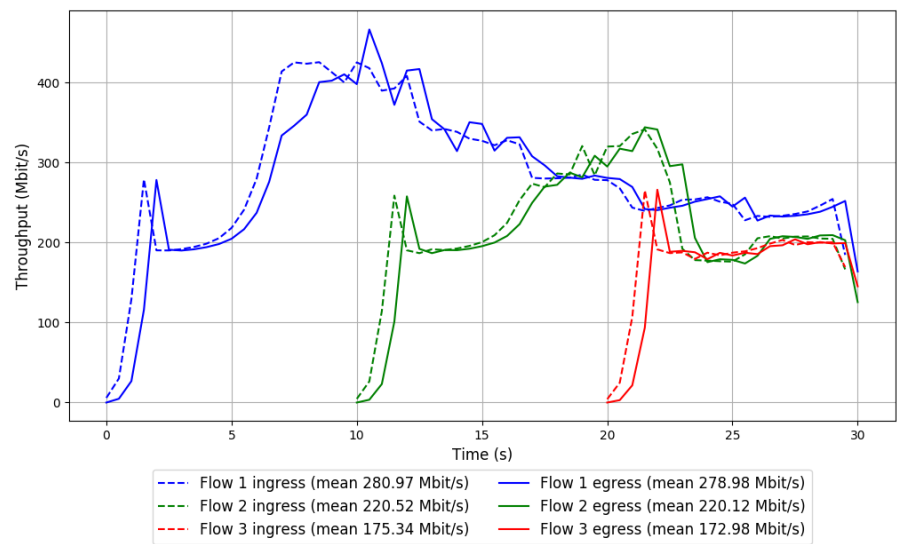
```
Run 4: Statistics of PCC-Expr

Start at: 2019-10-04 01:09:35
End at: 2019-10-04 01:10:05
Local clock offset: 0.002 ms
Remote clock offset: 0.032 ms


# Below is generated by plot.py at 2019-10-04 05:10:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 480.80 Mbit/s
95th percentile per-packet one-way delay: 129.476 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 278.98 Mbit/s
95th percentile per-packet one-way delay: 133.121 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 220.12 Mbit/s
95th percentile per-packet one-way delay: 61.623 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 172.98 Mbit/s
95th percentile per-packet one-way delay: 51.955 ms
Loss rate: 1.30%
```

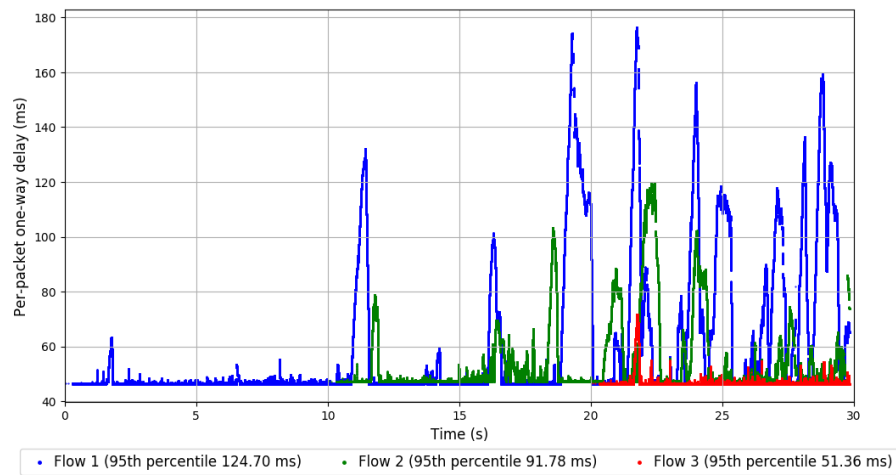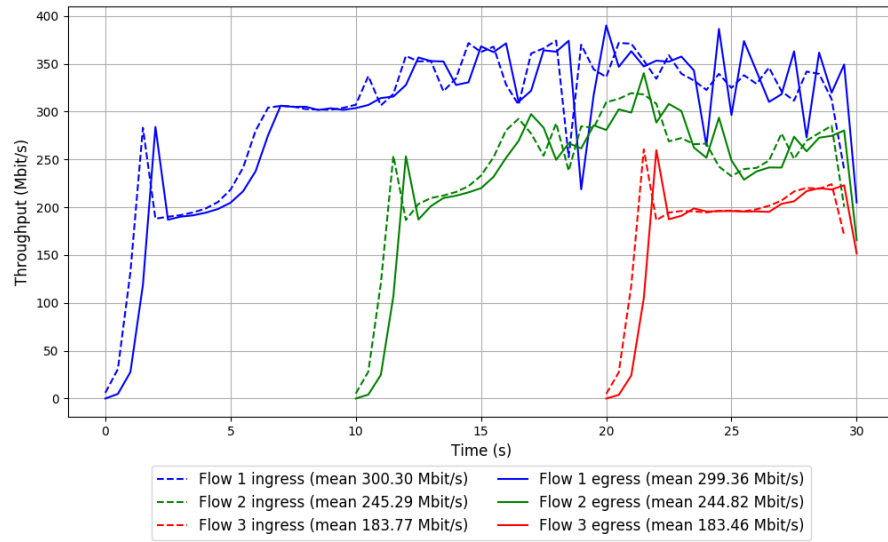# Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-10-04 01:50:01
End at: 2019-10-04 01:50:31
Local clock offset: -0.072 ms
Remote clock offset: -0.081 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 522.08 Mbit/s
95th percentile per-packet one-way delay: 114.543 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 299.36 Mbit/s
95th percentile per-packet one-way delay: 124.700 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 244.82 Mbit/s
95th percentile per-packet one-way delay: 91.782 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 183.46 Mbit/s
95th percentile per-packet one-way delay: 51.361 ms
Loss rate: 1.13%
```

Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-10-03 22:56:32
End at: 2019-10-03 22:57:02
Local clock offset: -0.09 ms
Remote clock offset: 0.011 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.24 Mbit/s
95th percentile per-packet one-way delay: 47.300 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 44.64 Mbit/s
95th percentile per-packet one-way delay: 47.265 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 61.08 Mbit/s
95th percentile per-packet one-way delay: 47.323 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 23.58 Mbit/s
95th percentile per-packet one-way delay: 47.259 ms
Loss rate: 4.33%
```
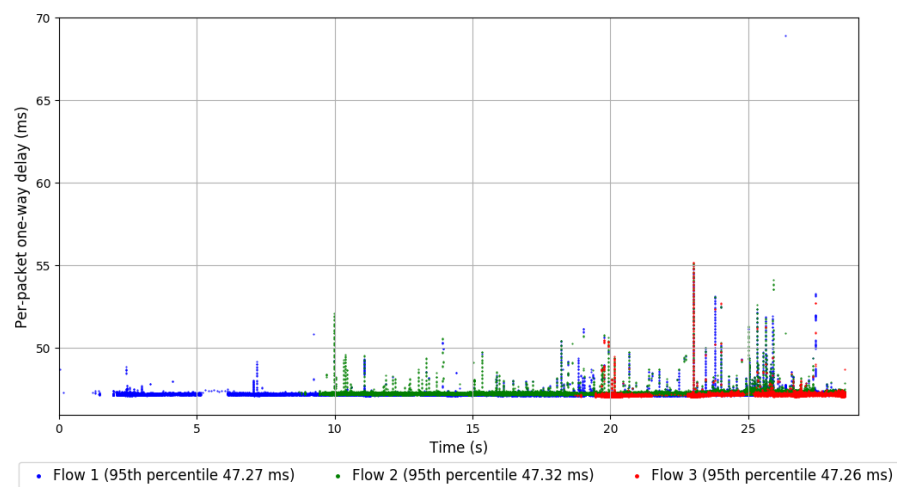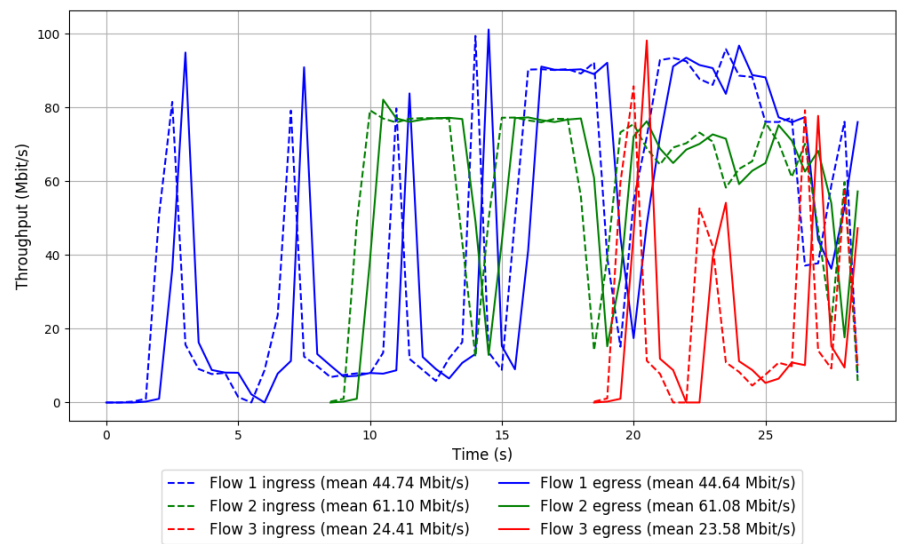
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-10-03 23:37:30
End at: 2019-10-03 23:38:00
Local clock offset: -0.854 ms
Remote clock offset: -0.11 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.40 Mbit/s
95th percentile per-packet one-way delay: 47.329 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 56.69 Mbit/s
95th percentile per-packet one-way delay: 46.508 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 38.16 Mbit/s
95th percentile per-packet one-way delay: 47.360 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 52.93 Mbit/s
95th percentile per-packet one-way delay: 47.361 ms
Loss rate: 1.04%
```
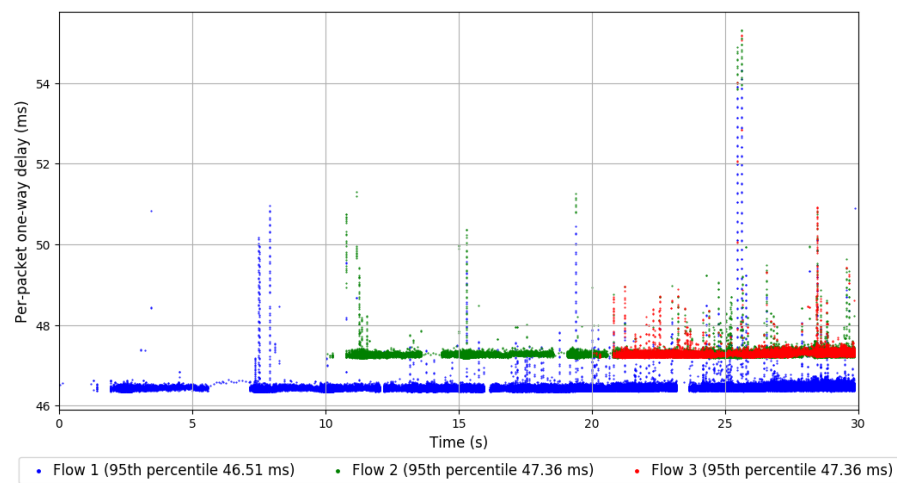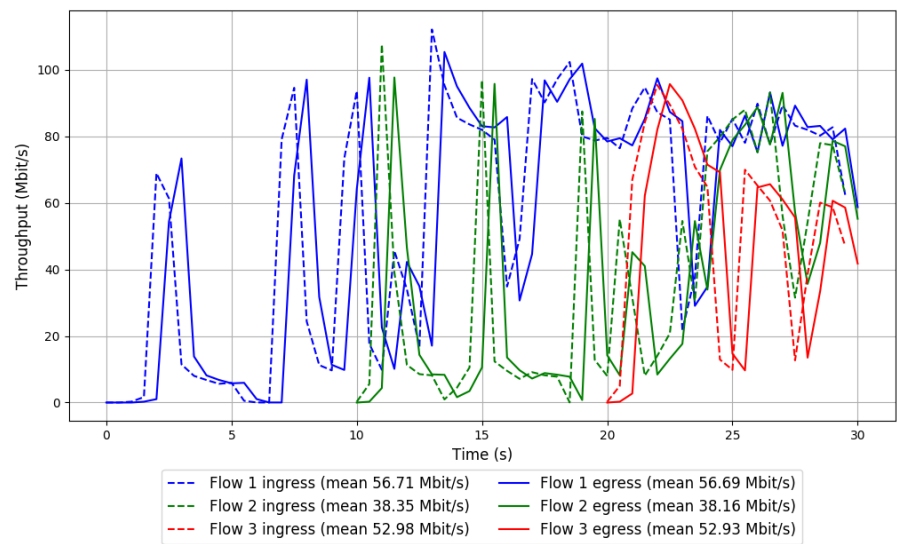
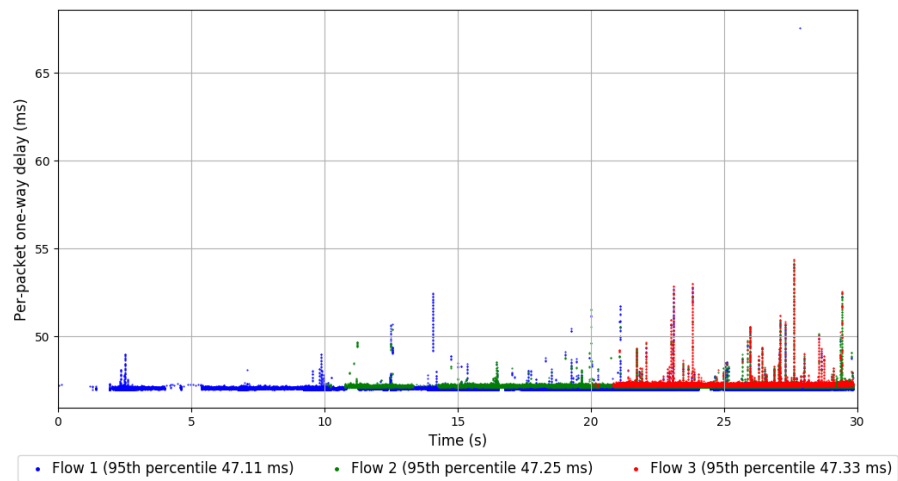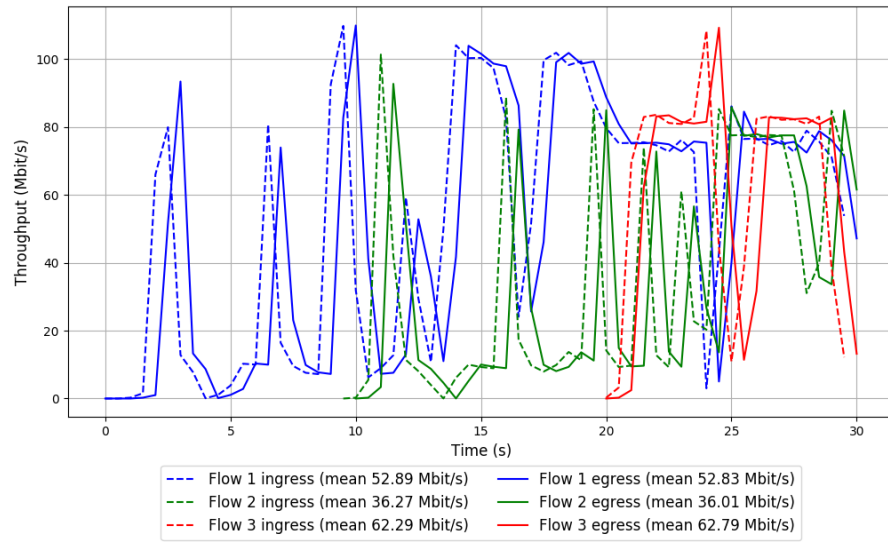Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-10-04 00:18:27
End at: 2019-10-04 00:18:57
Local clock offset: 0.028 ms
Remote clock offset: -0.107 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 97.39 Mbit/s
95th percentile per-packet one-way delay: 47.280 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 52.83 Mbit/s
95th percentile per-packet one-way delay: 47.113 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 36.01 Mbit/s
95th percentile per-packet one-way delay: 47.252 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 62.79 Mbit/s
95th percentile per-packet one-way delay: 47.333 ms
Loss rate: 0.17%
```

Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 52.89 Mbit/s)   Flow 1 egress (mean 52.83 Mbit/s)
Flow 2 ingress (mean 36.27 Mbit/s)   Flow 2 egress (mean 36.01 Mbit/s)
Flow 3 ingress (mean 62.29 Mbit/s)   Flow 3 egress (mean 62.79 Mbit/s)

Flow 1 (95th percentile 47.11 ms)   Flow 2 (95th percentile 47.25 ms)   Flow 3 (95th percentile 47.33 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-10-04 00:58:43
End at: 2019-10-04 00:59:13
Local clock offset: 0.01 ms
Remote clock offset: -0.008 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 117.25 Mbit/s
95th percentile per-packet one-way delay: 47.270 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 61.39 Mbit/s
95th percentile per-packet one-way delay: 47.153 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 58.83 Mbit/s
95th percentile per-packet one-way delay: 47.296 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 51.11 Mbit/s
95th percentile per-packet one-way delay: 47.251 ms
Loss rate: 1.31%
```
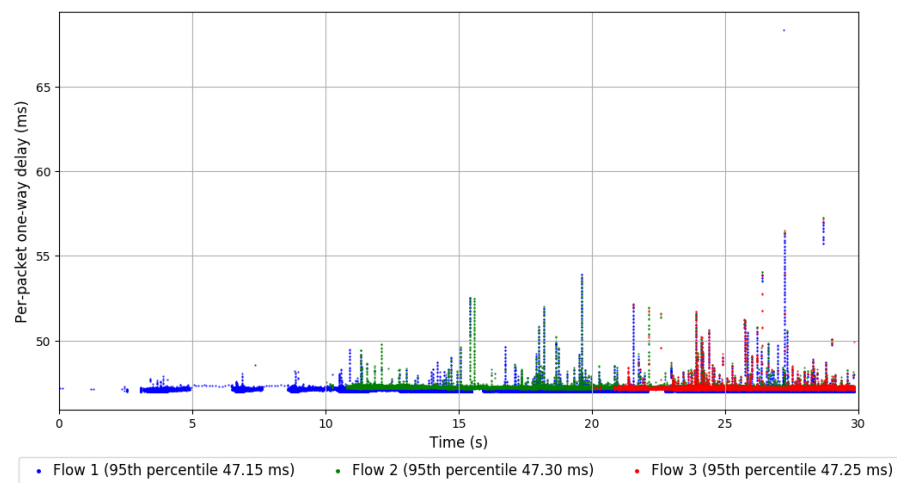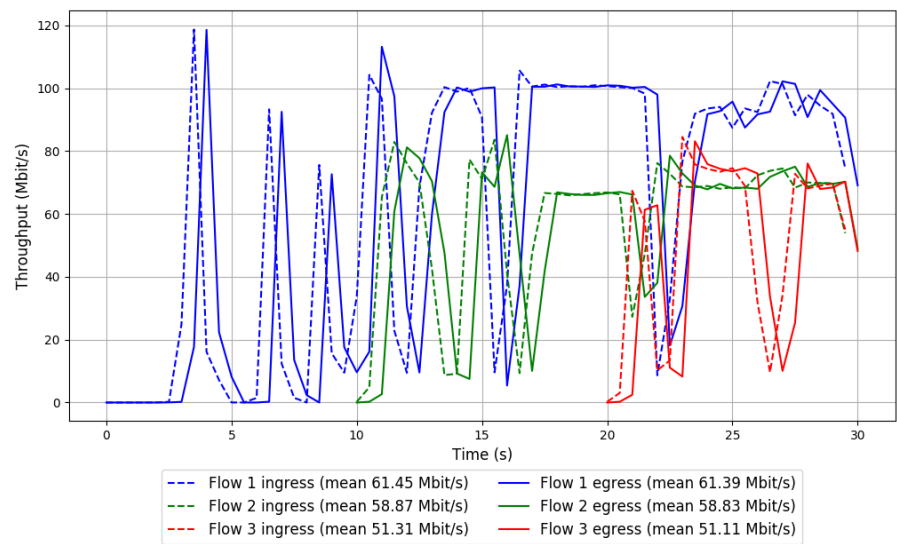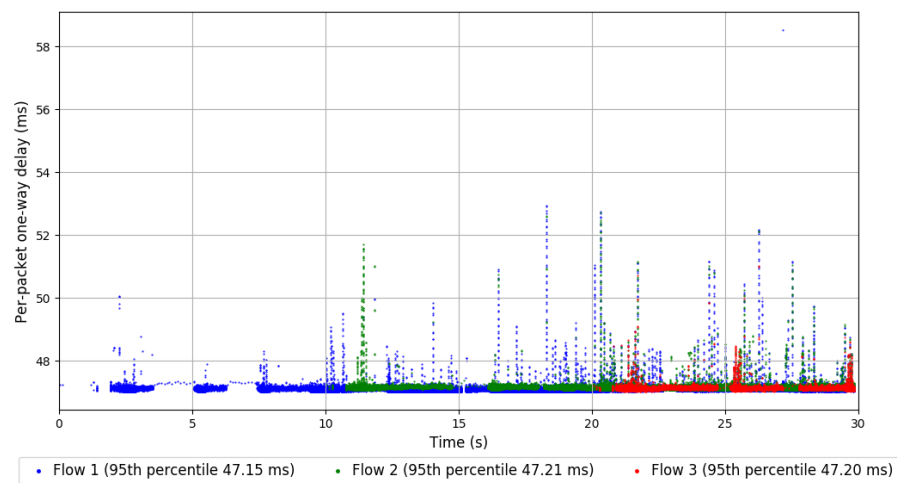
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 61.45 Mbit/s) —— Flow 1 egress (mean 61.39 Mbit/s)
Flow 2 ingress (mean 58.87 Mbit/s) —— Flow 2 egress (mean 58.83 Mbit/s)
Flow 3 ingress (mean 51.31 Mbit/s) —— Flow 3 egress (mean 51.11 Mbit/s)

Flow 1 (95th percentile 47.15 ms)   Flow 2 (95th percentile 47.30 ms)   Flow 3 (95th percentile 47.25 ms)
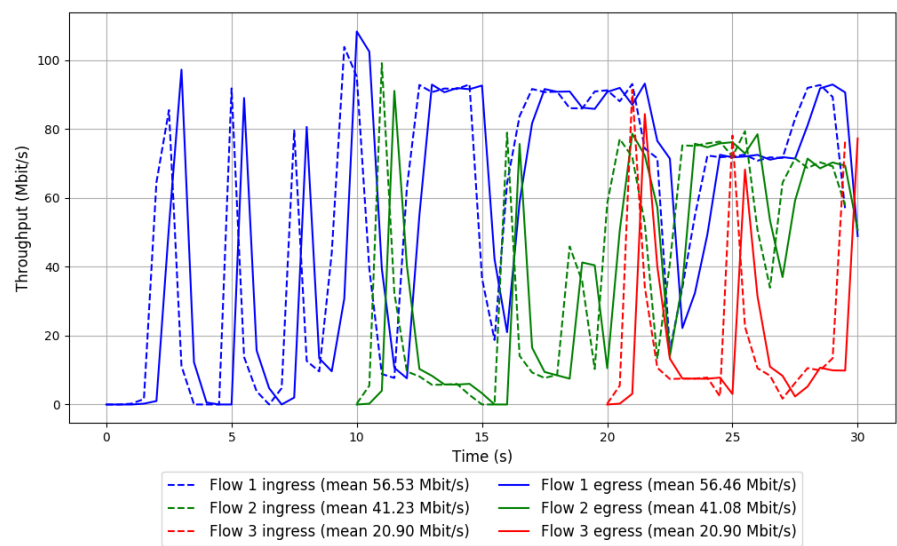
172

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-10-04 01:39:08
End at: 2019-10-04 01:39:38
Local clock offset: -0.053 ms
Remote clock offset: -0.095 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.62 Mbit/s
95th percentile per-packet one-way delay: 47.184 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 56.46 Mbit/s
95th percentile per-packet one-way delay: 47.153 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 41.08 Mbit/s
95th percentile per-packet one-way delay: 47.208 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 20.90 Mbit/s
95th percentile per-packet one-way delay: 47.197 ms
Loss rate: 0.98%
```

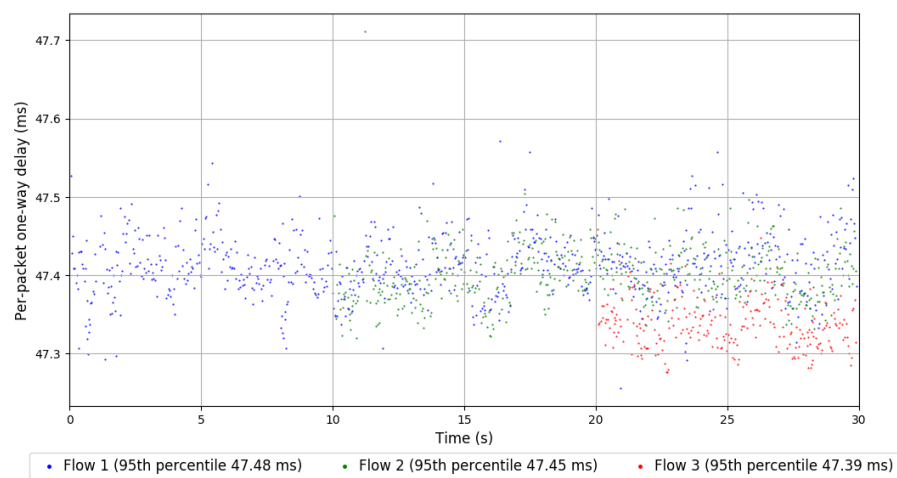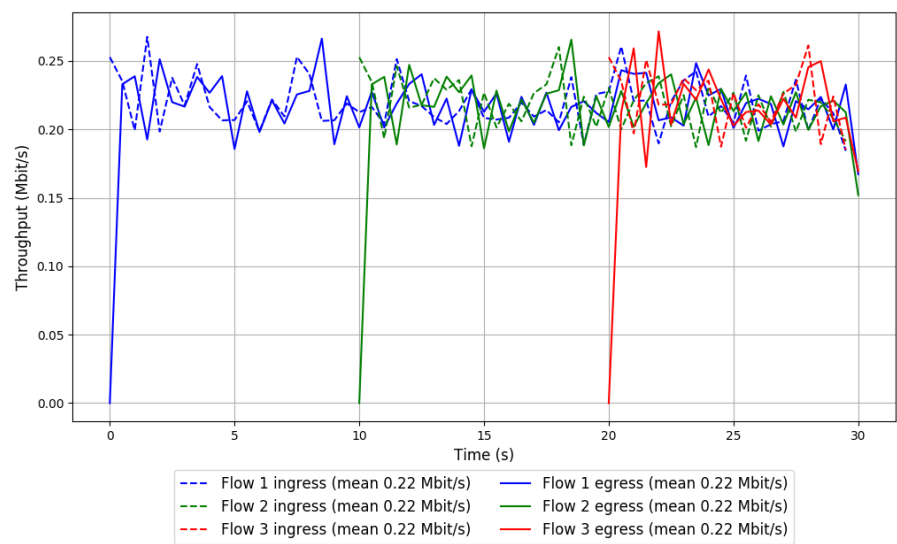Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-10-03 23:06:27
End at: 2019-10-03 23:06:57
Local clock offset: -0.135 ms
Remote clock offset: 0.046 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.469 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.479 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.455 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.388 ms
Loss rate: 1.09%
```
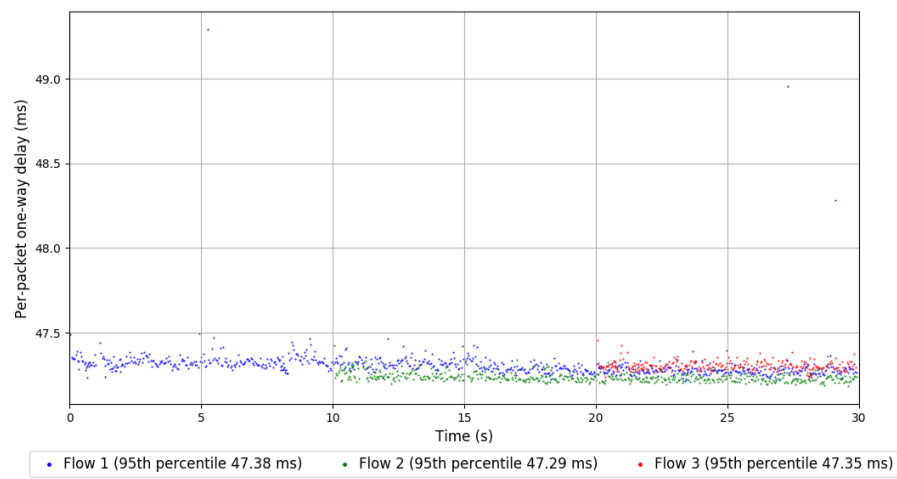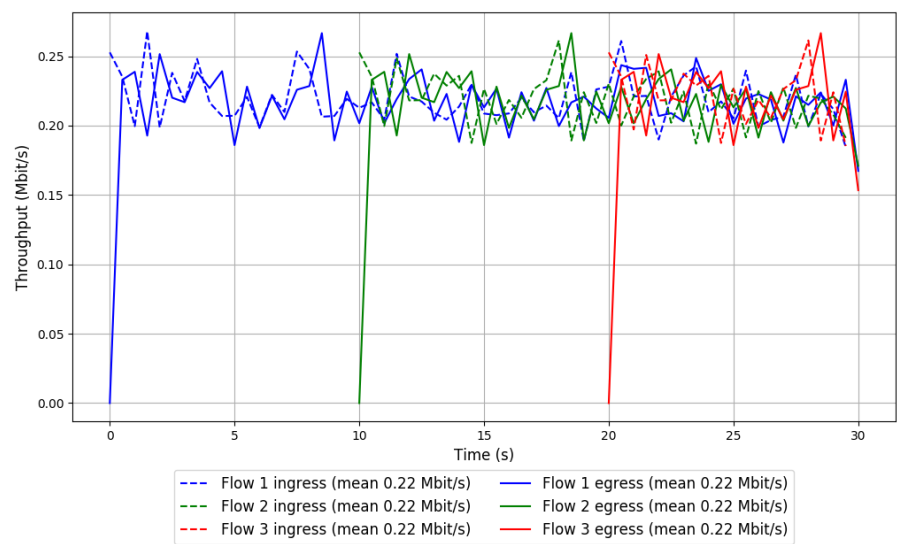
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-10-03 23:47:25
End at: 2019-10-03 23:47:55
Local clock offset: -0.395 ms
Remote clock offset: -0.091 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.355 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.375 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.289 ms
Loss rate: 0.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.351 ms
Loss rate: 1.09%
```
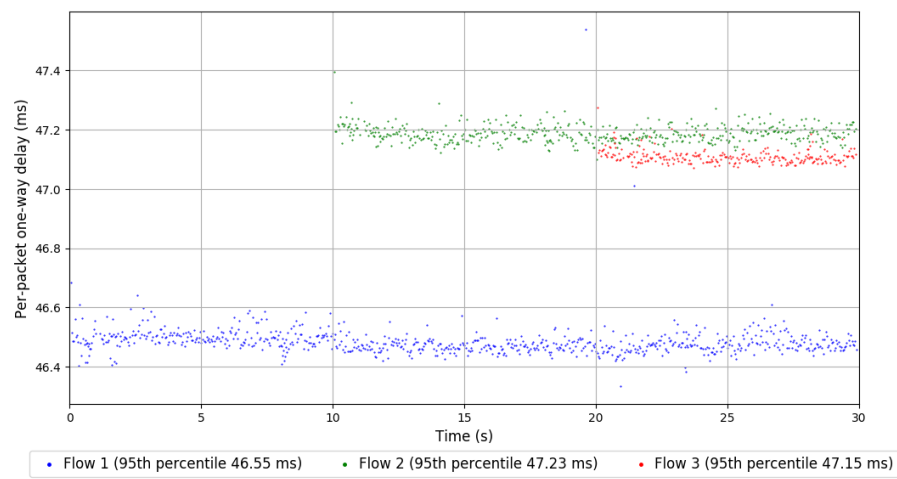
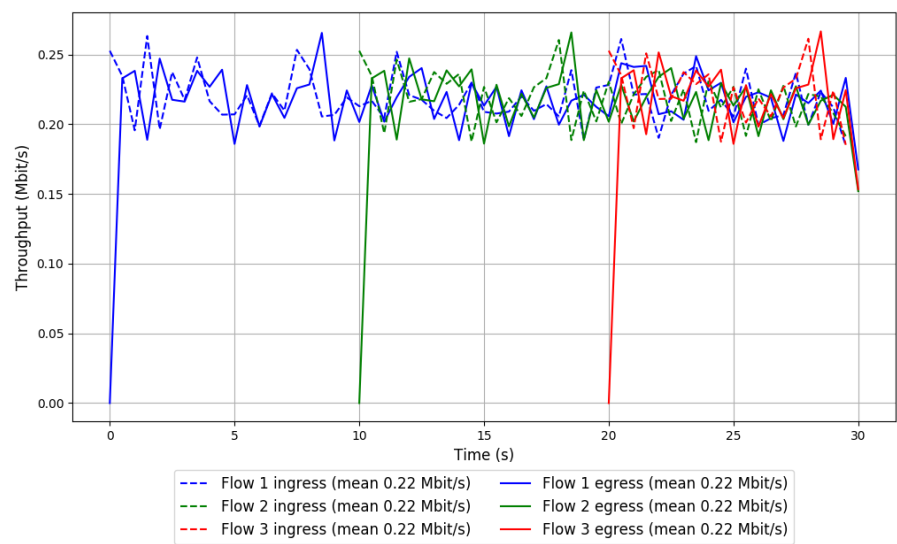# Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-10-04 00:28:23
End at: 2019-10-04 00:28:53
Local clock offset: 0.059 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.216 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.546 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.234 ms
Loss rate: 0.62%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.153 ms
Loss rate: 1.09%
```

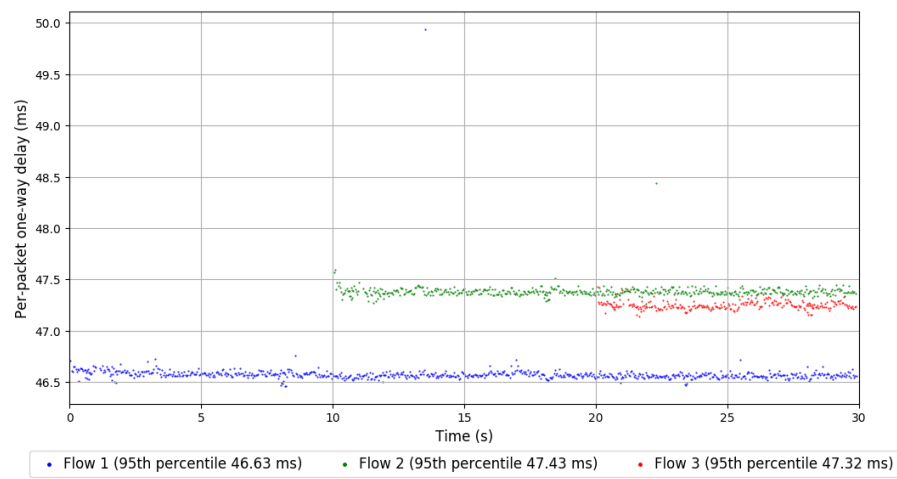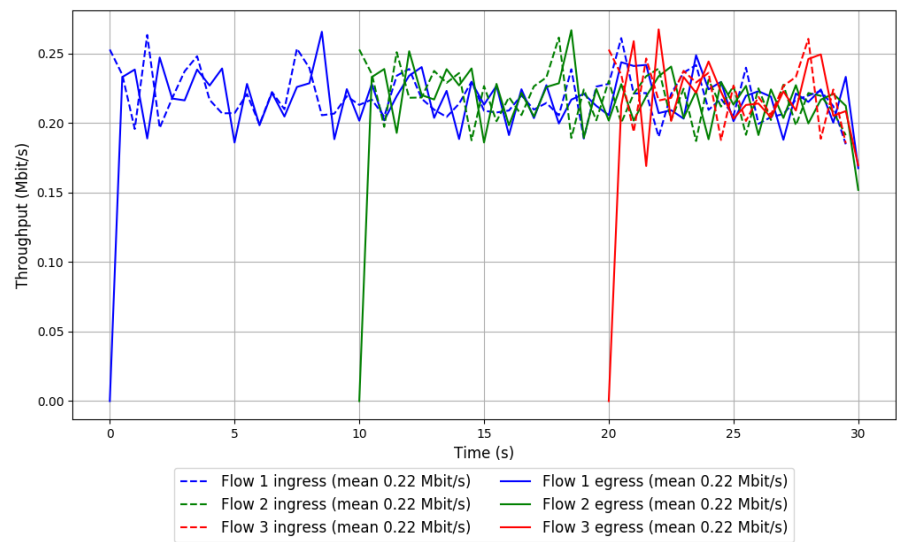# Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-10-04 01:08:23
End at: 2019-10-04 01:08:53
Local clock offset: -0.006 ms
Remote clock offset: -0.0 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.413 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 46.627 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.433 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.318 ms
Loss rate: 1.09%
```

Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-10-04 01:48:50
End at: 2019-10-04 01:49:20
Local clock offset: -0.09 ms
Remote clock offset: -0.1 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 47.435 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.454 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.285 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.307 ms
Loss rate: 1.09%
```
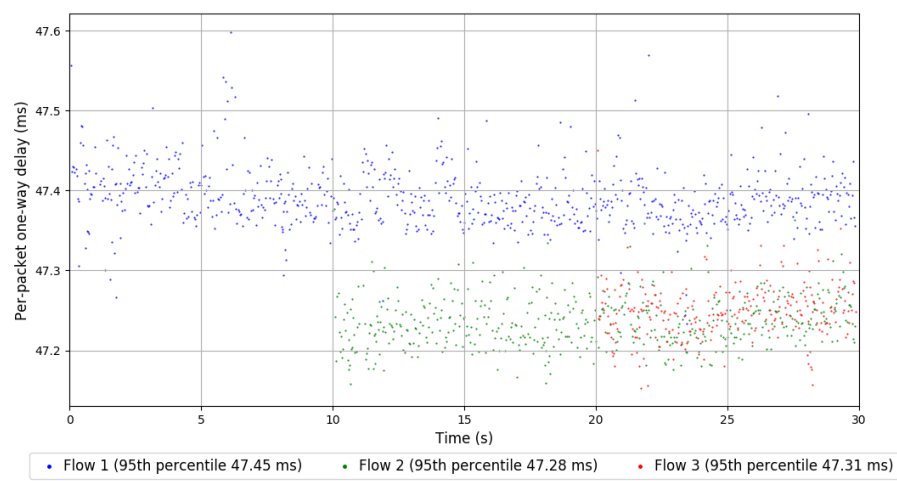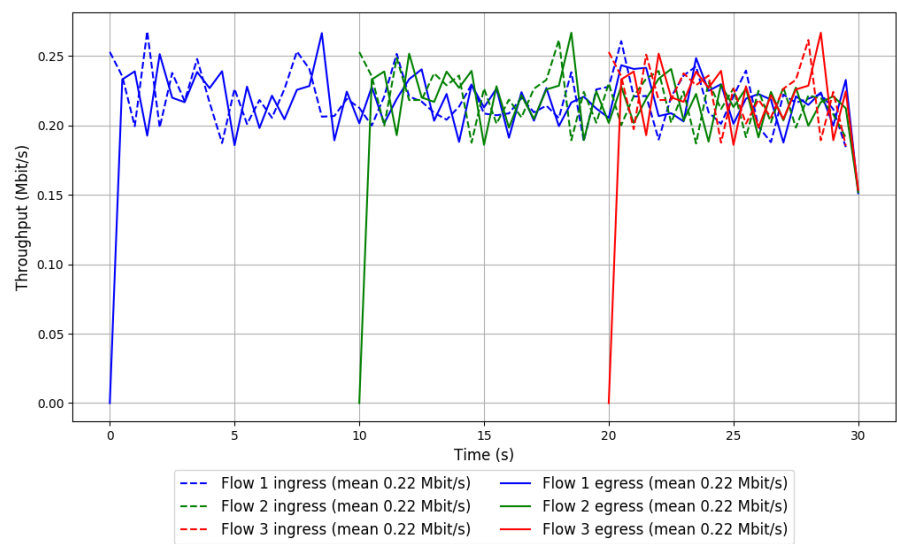
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-10-03 22:39:23
End at: 2019-10-03 22:39:53
Local clock offset: -0.086 ms
Remote clock offset: 0.013 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.95 Mbit/s
95th percentile per-packet one-way delay: 47.706 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 47.709 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 47.730 ms
Loss rate: 0.46%
-- Flow 3:
Average throughput: 9.48 Mbit/s
95th percentile per-packet one-way delay: 47.595 ms
Loss rate: 0.90%
```
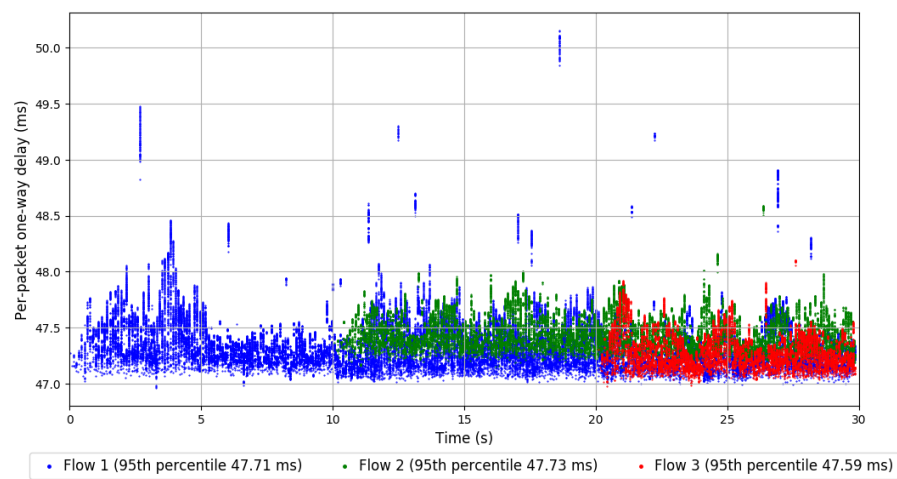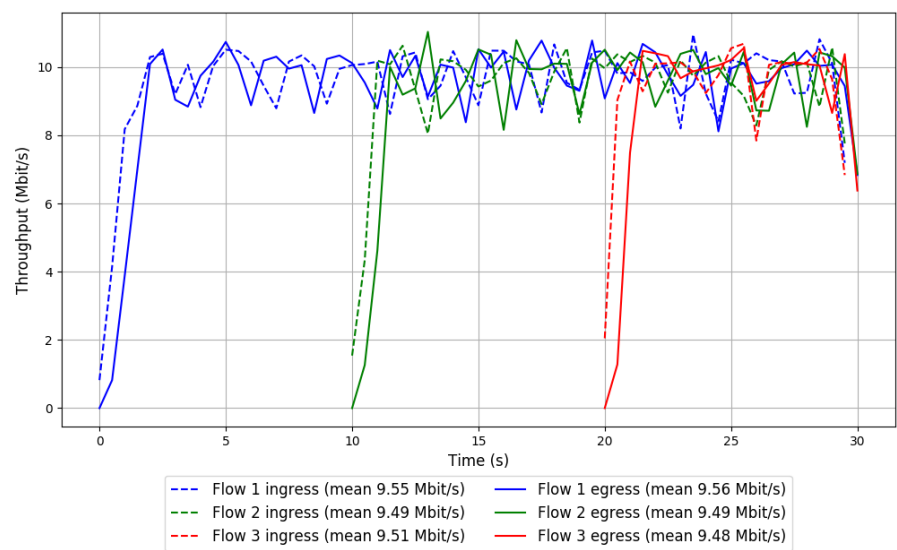
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-10-03 23:20:06
End at: 2019-10-03 23:20:36
Local clock offset: -0.61 ms
Remote clock offset: -0.01 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.96 Mbit/s
95th percentile per-packet one-way delay: 47.787 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 9.49 Mbit/s
95th percentile per-packet one-way delay: 47.828 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 9.57 Mbit/s
95th percentile per-packet one-way delay: 47.720 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 9.52 Mbit/s
95th percentile per-packet one-way delay: 47.741 ms
Loss rate: 1.06%
```
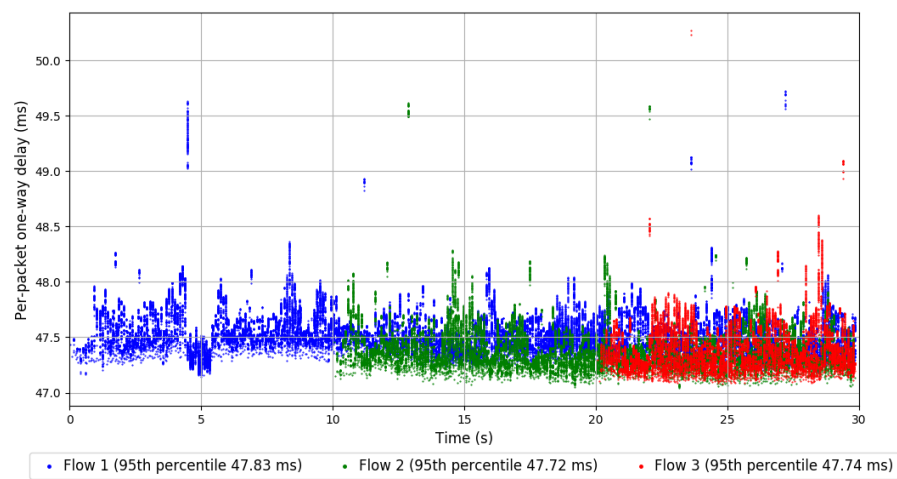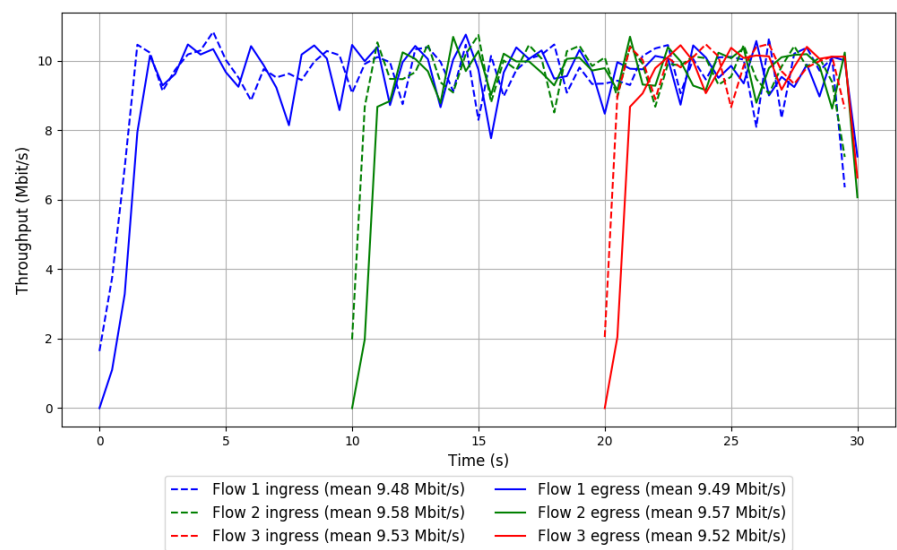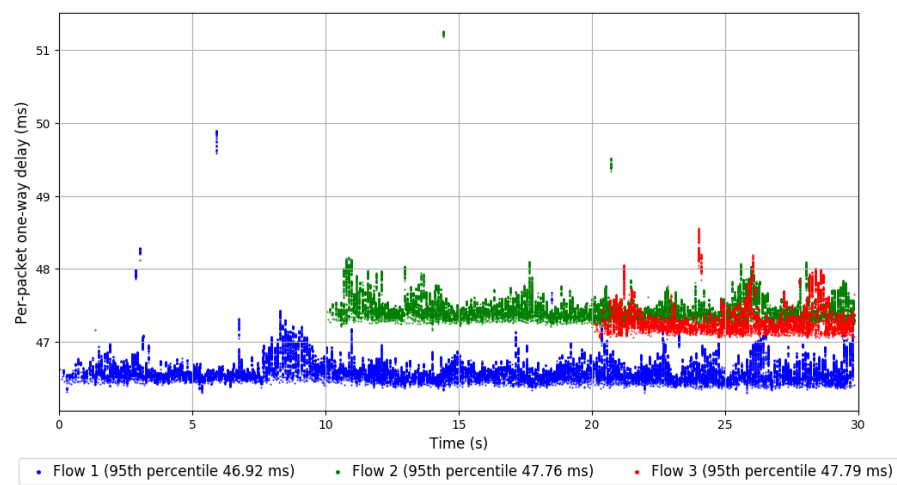
Run 2: Report of Sprout — Data Link

188

```
Run 3: Statistics of Sprout

Start at: 2019-10-04 00:01:06
End at: 2019-10-04 00:01:36
Local clock offset: -0.055 ms
Remote clock offset: -0.11 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.04 Mbit/s
95th percentile per-packet one-way delay: 47.641 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 9.59 Mbit/s
95th percentile per-packet one-way delay: 46.920 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 9.64 Mbit/s
95th percentile per-packet one-way delay: 47.762 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 9.31 Mbit/s
95th percentile per-packet one-way delay: 47.792 ms
Loss rate: 1.06%
```
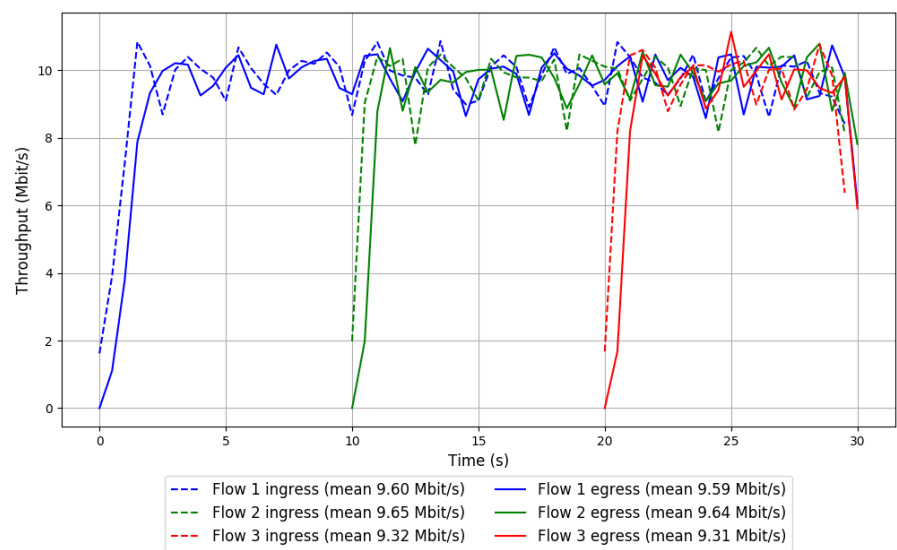
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-10-04 00:41:49
End at: 2019-10-04 00:42:19
Local clock offset: 0.119 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.09 Mbit/s
95th percentile per-packet one-way delay: 47.809 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 9.65 Mbit/s
95th percentile per-packet one-way delay: 47.798 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 9.60 Mbit/s
95th percentile per-packet one-way delay: 47.888 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 9.36 Mbit/s
95th percentile per-packet one-way delay: 47.689 ms
Loss rate: 0.75%
```
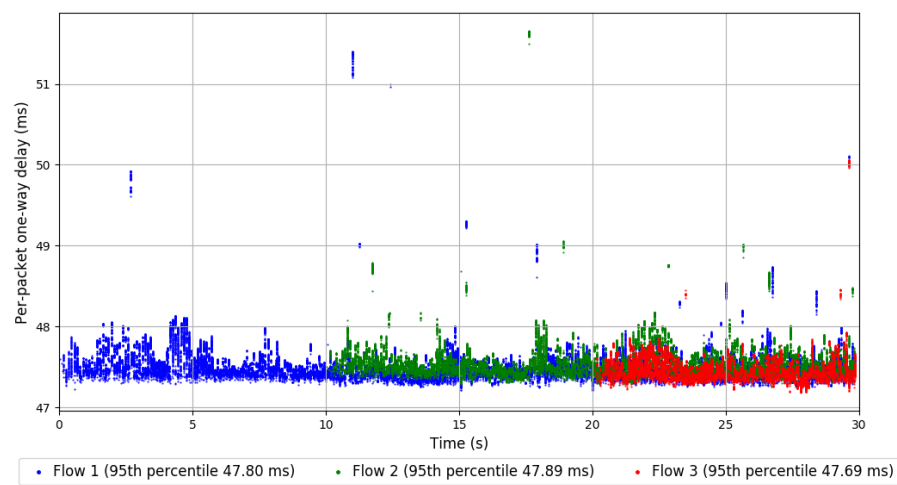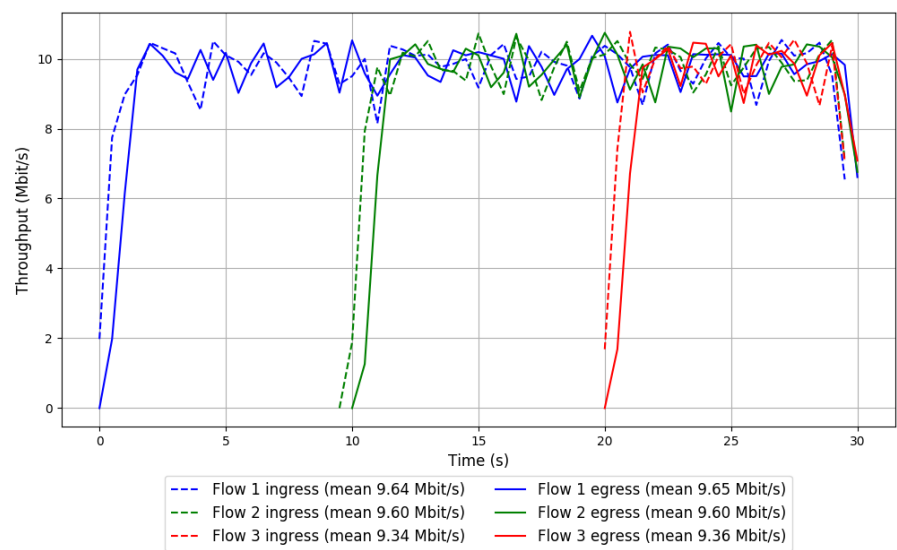
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-10-04 01:21:54
End at: 2019-10-04 01:22:24
Local clock offset: -0.019 ms
Remote clock offset: -0.005 ms


# Below is generated by plot.py at 2019-10-04 05:13:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.15 Mbit/s
95th percentile per-packet one-way delay: 47.541 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 9.65 Mbit/s
95th percentile per-packet one-way delay: 47.626 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 9.68 Mbit/s
95th percentile per-packet one-way delay: 46.890 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 9.39 Mbit/s
95th percentile per-packet one-way delay: 46.892 ms
Loss rate: 0.98%
```
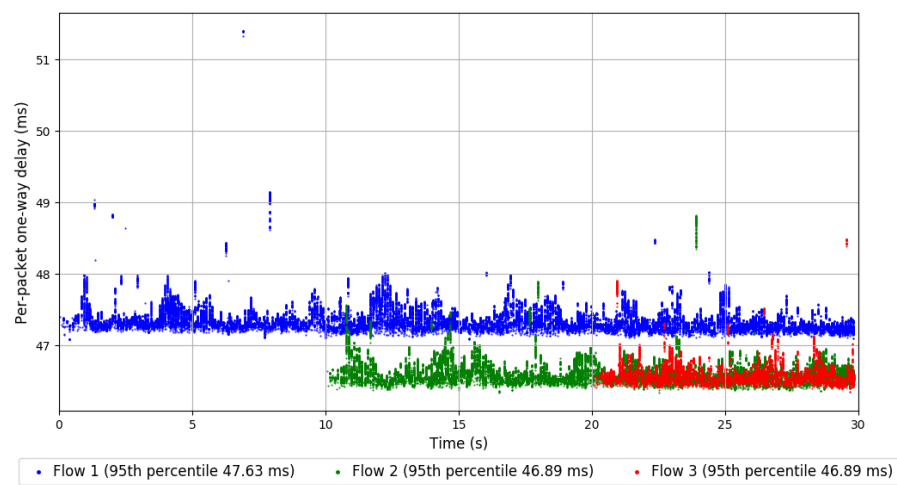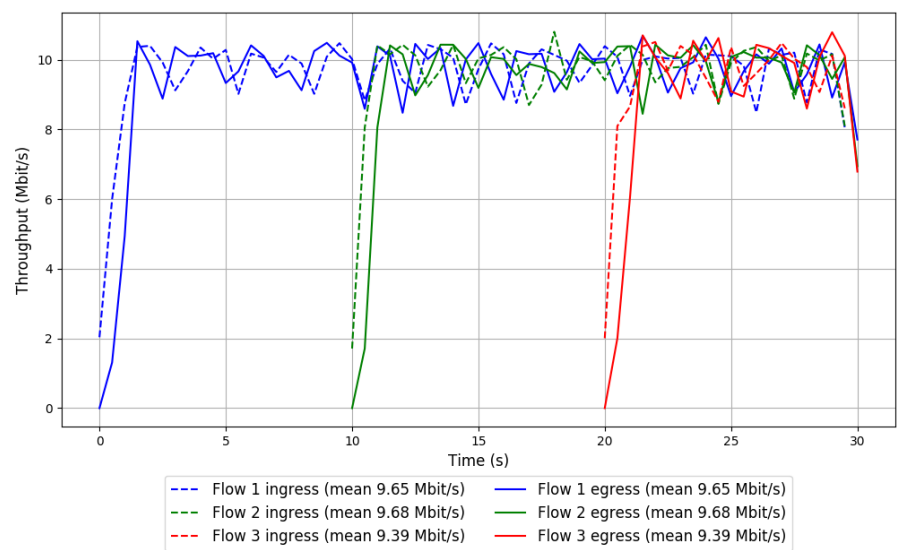
Run 5: Report of Sprout — Data Link

194

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

Start at: 2019-10-03 22:54:38
End at: 2019-10-03 22:55:08
Local clock offset: -0.075 ms
Remote clock offset: 0.047 ms


# Below is generated by plot.py at 2019-10-04 05:17:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 461.60 Mbit/s
95th percentile per-packet one-way delay: 50.234 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 238.54 Mbit/s
95th percentile per-packet one-way delay: 48.543 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 228.12 Mbit/s
95th percentile per-packet one-way delay: 51.868 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 216.35 Mbit/s
95th percentile per-packet one-way delay: 53.547 ms
Loss rate: 1.04%
```

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

- - - - Flow 1 ingress (mean 238.65 Mbit/s) ——— Flow 1 egress (mean 238.54 Mbit/s)
- - - - Flow 2 ingress (mean 228.22 Mbit/s) ——— Flow 2 egress (mean 228.12 Mbit/s)
- - - - Flow 3 ingress (mean 216.51 Mbit/s) ——— Flow 3 egress (mean 216.35 Mbit/s)

• Flow 1 (95th percentile 48.54 ms)   • Flow 2 (95th percentile 51.87 ms)   • Flow 3 (95th percentile 53.55 ms)
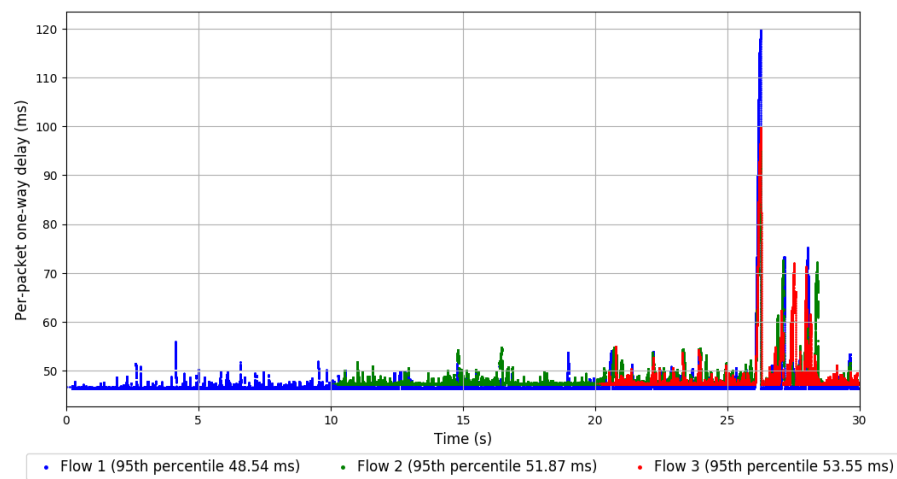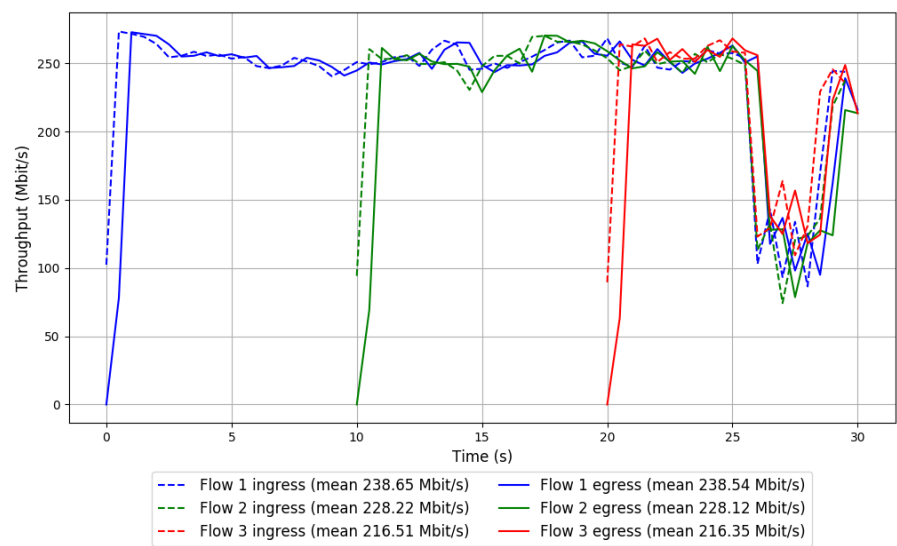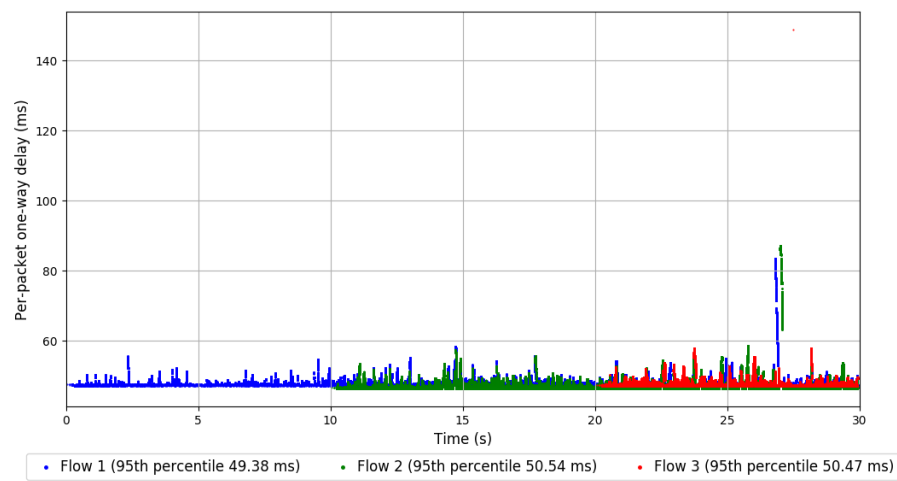
```
Run 2: Statistics of TaoVA-100x

Start at: 2019-10-03 23:35:33
End at: 2019-10-03 23:36:03
Local clock offset: -0.831 ms
Remote clock offset: -0.067 ms


# Below is generated by plot.py at 2019-10-04 05:19:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 490.35 Mbit/s
95th percentile per-packet one-way delay: 49.953 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 251.50 Mbit/s
95th percentile per-packet one-way delay: 49.376 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 241.06 Mbit/s
95th percentile per-packet one-way delay: 50.540 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 238.14 Mbit/s
95th percentile per-packet one-way delay: 50.468 ms
Loss rate: 1.04%
```

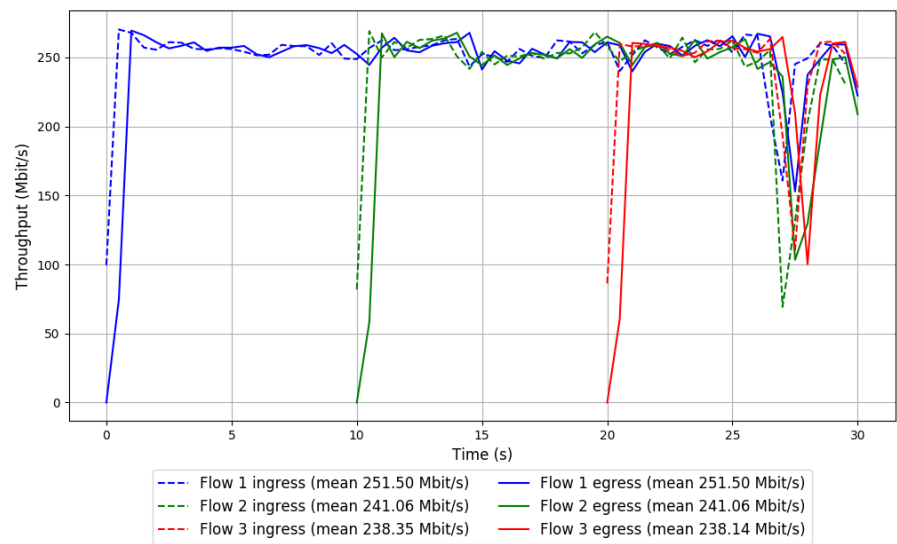# Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-10-04 00:16:32
End at: 2019-10-04 00:17:02
Local clock offset: 0.055 ms
Remote clock offset: -0.105 ms


# Below is generated by plot.py at 2019-10-04 05:19:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 463.79 Mbit/s
95th percentile per-packet one-way delay: 51.837 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 244.16 Mbit/s
95th percentile per-packet one-way delay: 51.686 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 221.47 Mbit/s
95th percentile per-packet one-way delay: 52.134 ms
Loss rate: 0.53%
-- Flow 3:
Average throughput: 219.12 Mbit/s
95th percentile per-packet one-way delay: 51.513 ms
Loss rate: 1.16%
```

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

Flow 1 ingress (mean 244.17 Mbit/s) --- Flow 1 egress (mean 244.16 Mbit/s)
Flow 2 ingress (mean 221.58 Mbit/s) --- Flow 2 egress (mean 221.47 Mbit/s)
Flow 3 ingress (mean 219.57 Mbit/s) --- Flow 3 egress (mean 219.12 Mbit/s)

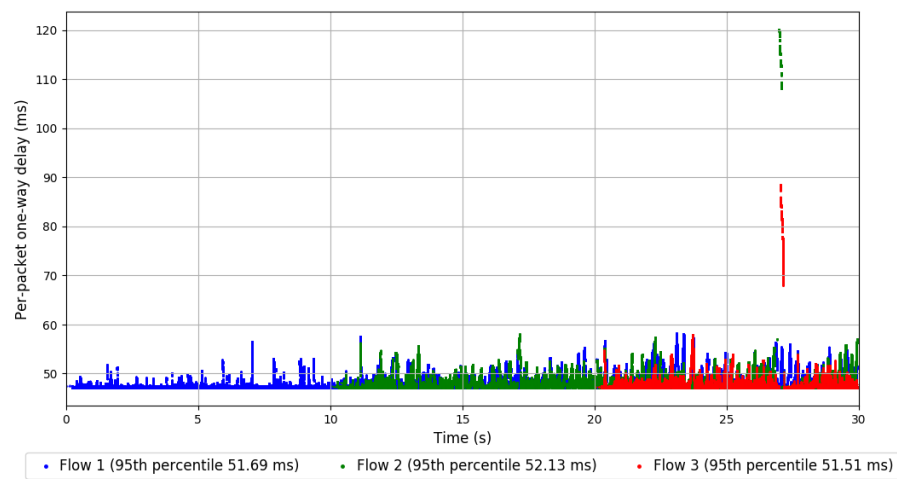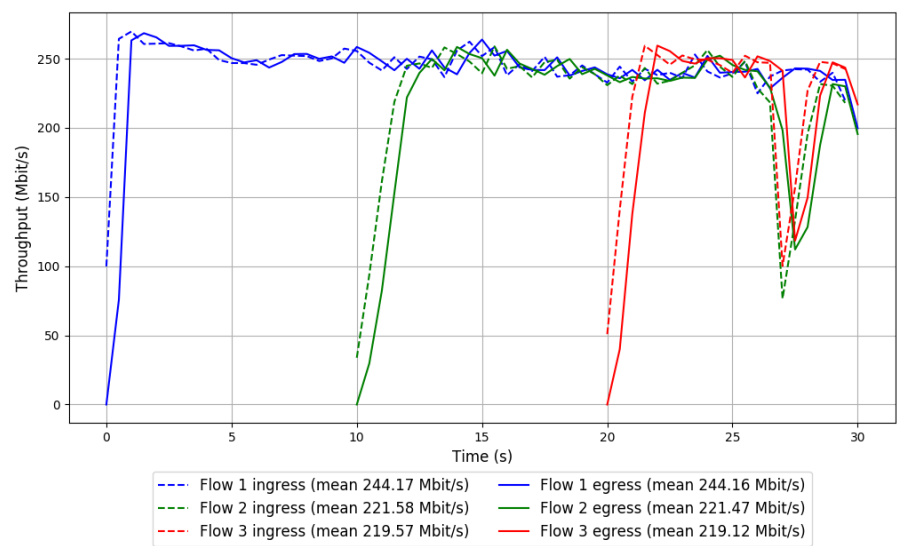Flow 1 (95th percentile 51.69 ms)   Flow 2 (95th percentile 52.13 ms)   Flow 3 (95th percentile 51.51 ms)

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

Start at: 2019-10-04 00:56:49
End at: 2019-10-04 00:57:19
Local clock offset: 0.03 ms
Remote clock offset: 0.0 ms

# Below is generated by plot.py at 2019-10-04 05:19:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 455.97 Mbit/s
95th percentile per-packet one-way delay: 51.001 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 223.56 Mbit/s
95th percentile per-packet one-way delay: 49.586 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 243.61 Mbit/s
95th percentile per-packet one-way delay: 50.544 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 213.68 Mbit/s
95th percentile per-packet one-way delay: 54.904 ms
Loss rate: 1.12%
```
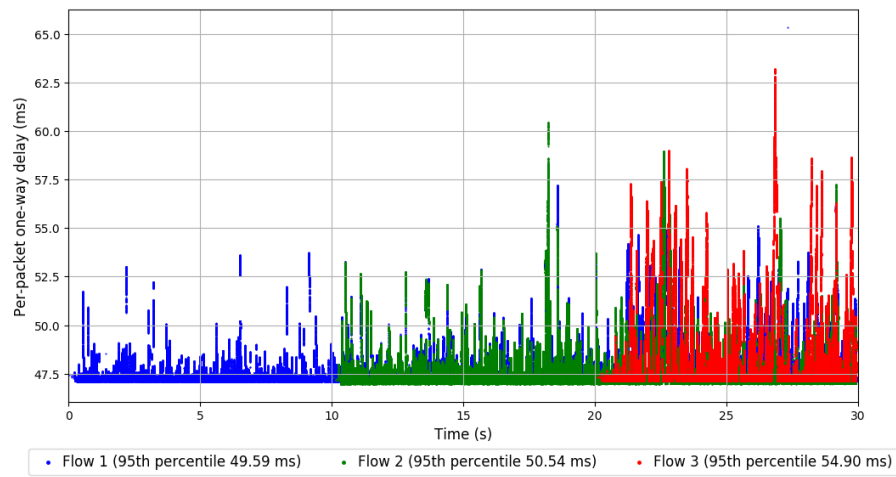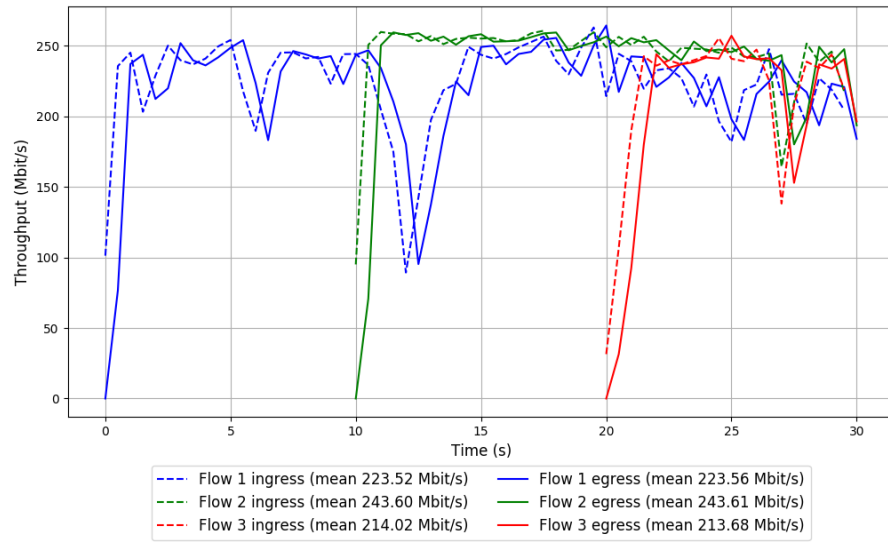
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2019-10-04 01:37:13
End at: 2019-10-04 01:37:43
Local clock offset: -0.031 ms
Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2019-10-04 05:19:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 477.58 Mbit/s
95th percentile per-packet one-way delay: 51.335 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 246.68 Mbit/s
95th percentile per-packet one-way delay: 50.799 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 244.29 Mbit/s
95th percentile per-packet one-way delay: 50.594 ms
Loss rate: 0.51%
-- Flow 3:
Average throughput: 207.43 Mbit/s
95th percentile per-packet one-way delay: 54.364 ms
Loss rate: 1.14%
```

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

Flow 1 ingress (mean 246.70 Mbit/s) — Flow 1 egress (mean 246.68 Mbit/s)
Flow 2 ingress (mean 244.36 Mbit/s) — Flow 2 egress (mean 244.29 Mbit/s)
Flow 3 ingress (mean 207.82 Mbit/s) — Flow 3 egress (mean 207.43 Mbit/s)

Flow 1 (95th percentile 50.80 ms) · Flow 2 (95th percentile 50.59 ms) · Flow 3 (95th percentile 54.36 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-10-03 23:09:36
End at: 2019-10-03 23:10:06
Local clock offset: -0.301 ms
Remote clock offset: 0.041 ms


# Below is generated by plot.py at 2019-10-04 05:19:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 906.44 Mbit/s
95th percentile per-packet one-way delay: 103.220 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 441.04 Mbit/s
95th percentile per-packet one-way delay: 92.424 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 489.01 Mbit/s
95th percentile per-packet one-way delay: 117.178 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 424.50 Mbit/s
95th percentile per-packet one-way delay: 57.931 ms
Loss rate: 0.46%
```
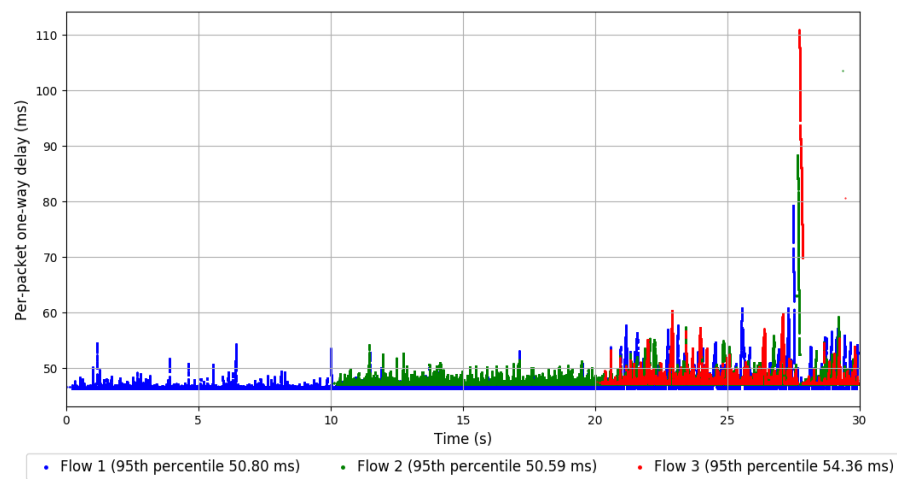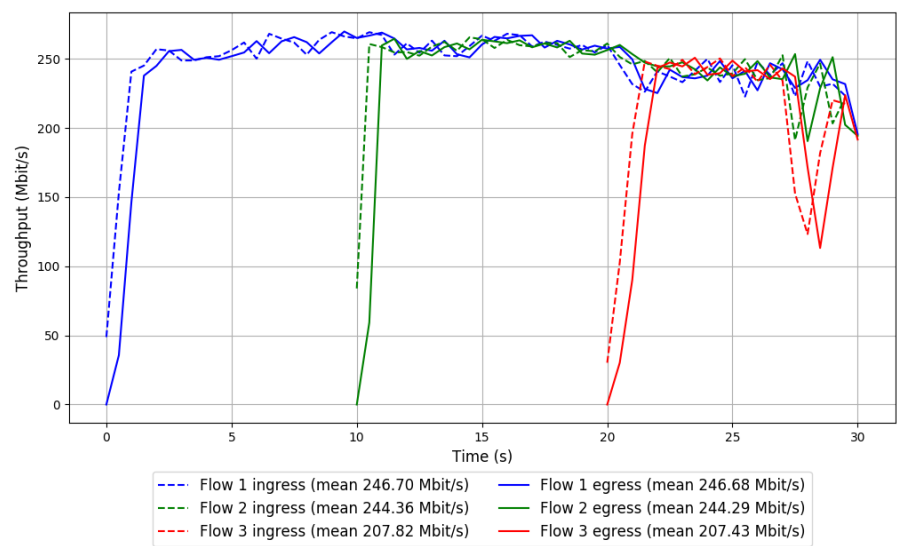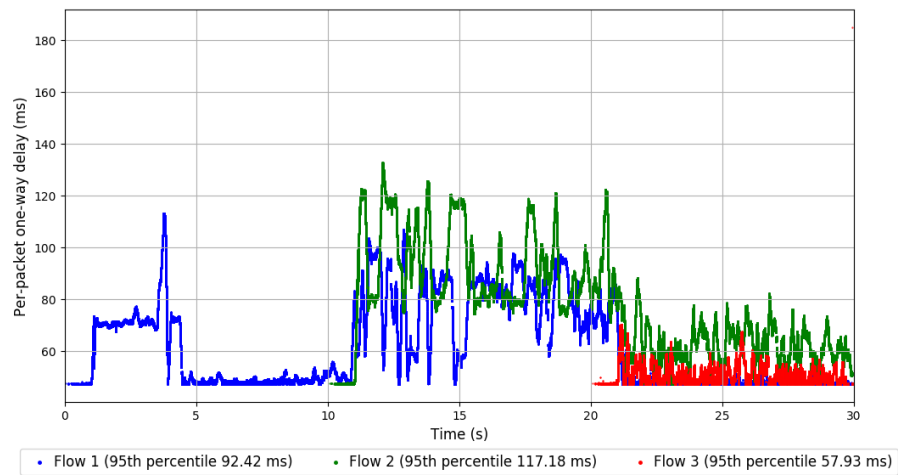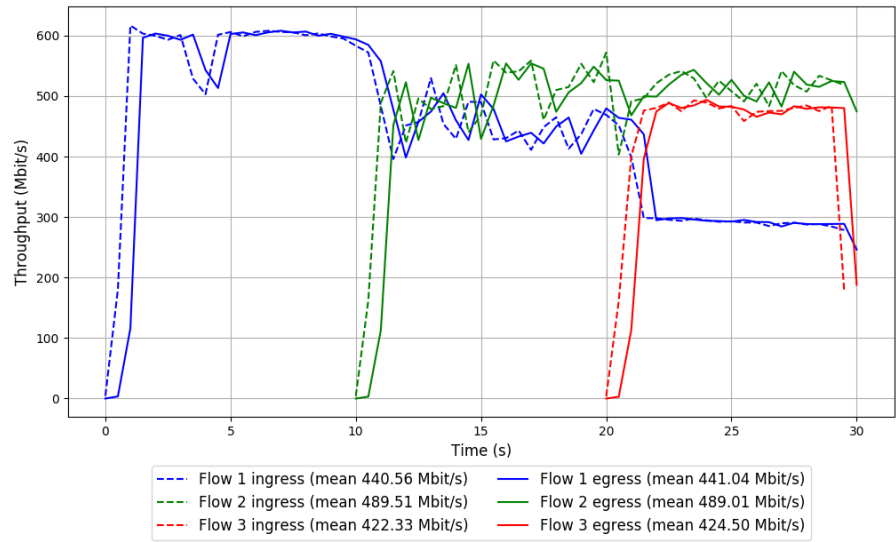
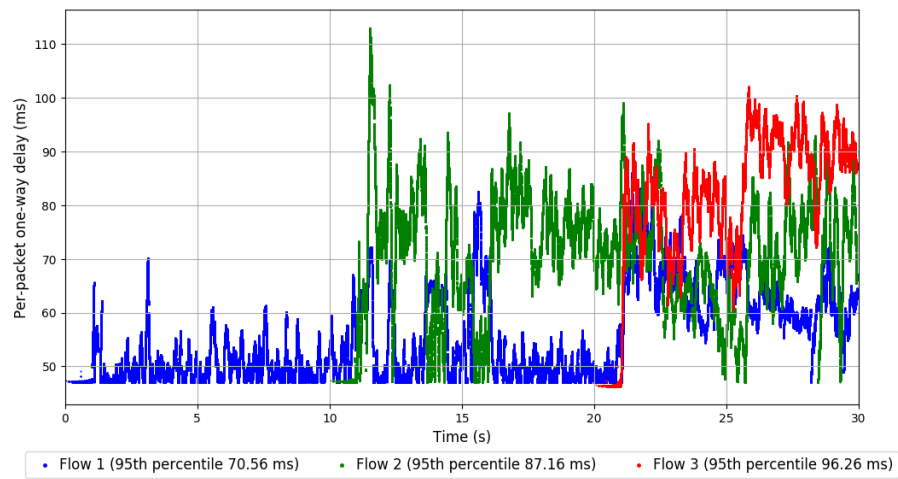Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-10-03 23:50:27
End at: 2019-10-03 23:50:57
Local clock offset: -0.273 ms
Remote clock offset: -0.062 ms


# Below is generated by plot.py at 2019-10-04 05:33:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1009.55 Mbit/s
95th percentile per-packet one-way delay: 90.456 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 540.17 Mbit/s
95th percentile per-packet one-way delay: 70.563 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 459.72 Mbit/s
95th percentile per-packet one-way delay: 87.156 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 495.38 Mbit/s
95th percentile per-packet one-way delay: 96.259 ms
Loss rate: 1.44%
```

Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 540.32 Mbit/s) --- Flow 1 egress (mean 540.17 Mbit/s)
Flow 2 ingress (mean 460.32 Mbit/s) --- Flow 2 egress (mean 459.72 Mbit/s)
Flow 3 ingress (mean 497.85 Mbit/s) --- Flow 3 egress (mean 495.38 Mbit/s)

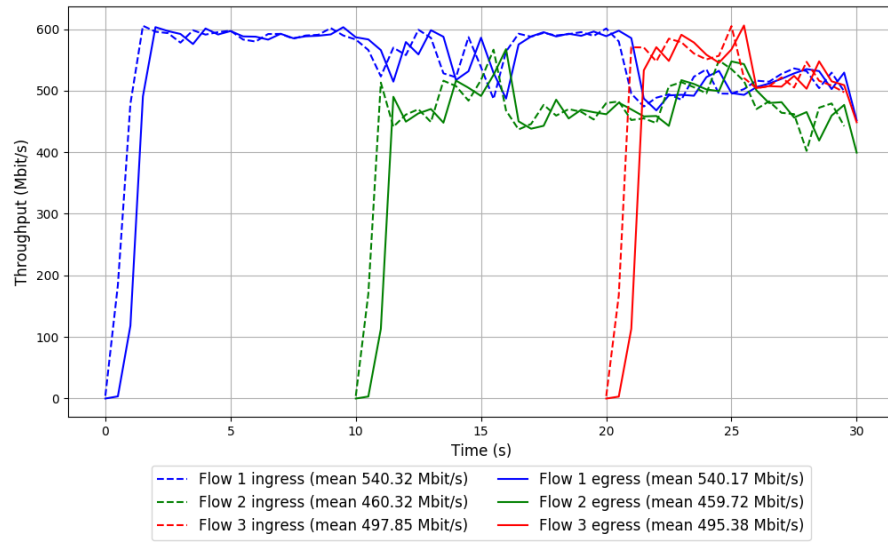Flow 1 (95th percentile 70.56 ms)   Flow 2 (95th percentile 87.16 ms)   Flow 3 (95th percentile 96.26 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2019-10-04 00:31:29
End at: 2019-10-04 00:31:59
Local clock offset: 0.123 ms
Remote clock offset: -0.06 ms


# Below is generated by plot.py at 2019-10-04 05:33:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 938.72 Mbit/s
95th percentile per-packet one-way delay: 90.522 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 508.19 Mbit/s
95th percentile per-packet one-way delay: 98.154 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 423.26 Mbit/s
95th percentile per-packet one-way delay: 93.250 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 451.37 Mbit/s
95th percentile per-packet one-way delay: 75.032 ms
Loss rate: 0.64%
```
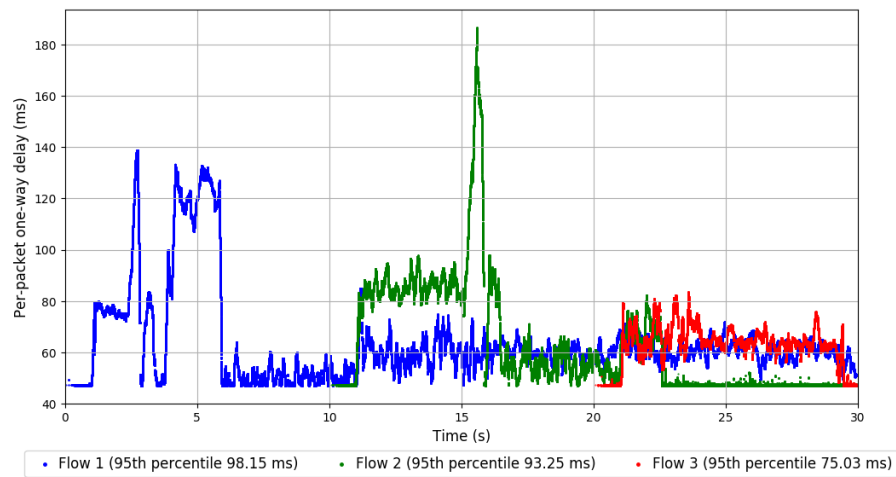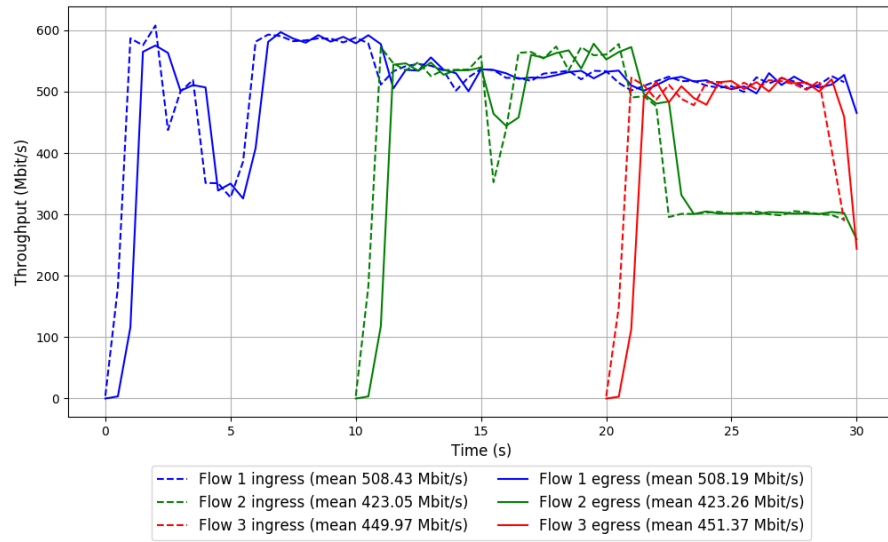
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 508.43 Mbit/s) --- Flow 1 egress (mean 508.19 Mbit/s)
Flow 2 ingress (mean 423.05 Mbit/s) --- Flow 2 egress (mean 423.26 Mbit/s)
Flow 3 ingress (mean 449.97 Mbit/s) --- Flow 3 egress (mean 451.37 Mbit/s)

Flow 1 (95th percentile 98.15 ms)   Flow 2 (95th percentile 93.25 ms)   Flow 3 (95th percentile 75.03 ms)
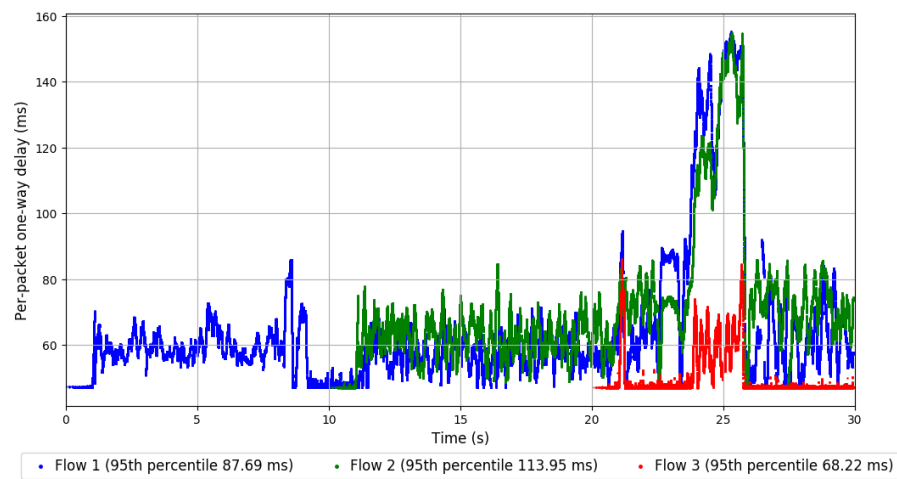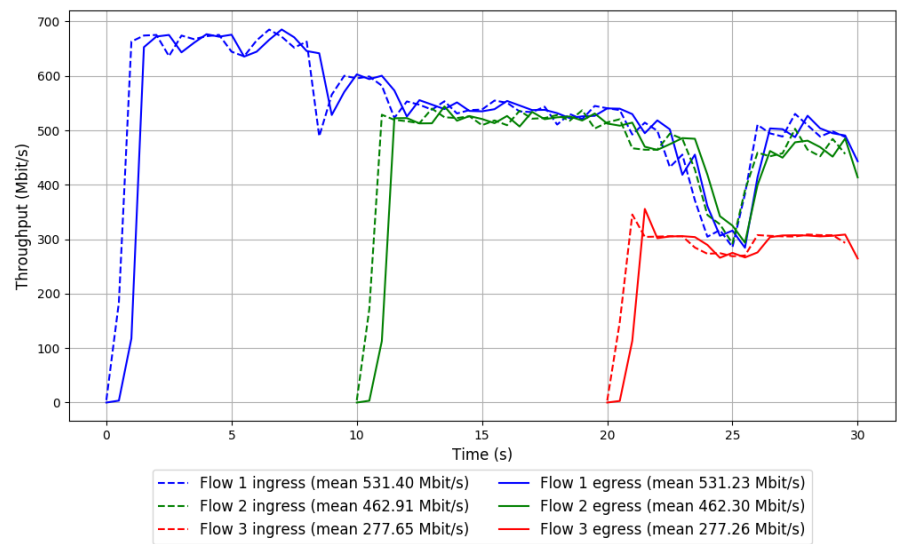
```
Run 4: Statistics of TCP Vegas

Start at: 2019-10-04 01:11:27
End at: 2019-10-04 01:11:57
Local clock offset: -0.027 ms
Remote clock offset: -0.015 ms


# Below is generated by plot.py at 2019-10-04 05:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 930.24 Mbit/s
95th percentile per-packet one-way delay: 88.168 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 531.23 Mbit/s
95th percentile per-packet one-way delay: 87.695 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 462.30 Mbit/s
95th percentile per-packet one-way delay: 113.949 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 277.26 Mbit/s
95th percentile per-packet one-way delay: 68.217 ms
Loss rate: 1.05%
```

Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 531.40 Mbit/s)   Flow 1 egress (mean 531.23 Mbit/s)
Flow 2 ingress (mean 462.91 Mbit/s)   Flow 2 egress (mean 462.30 Mbit/s)
Flow 3 ingress (mean 277.65 Mbit/s)   Flow 3 egress (mean 277.26 Mbit/s)

Flow 1 (95th percentile 87.69 ms)   Flow 2 (95th percentile 113.95 ms)   Flow 3 (95th percentile 68.22 ms)
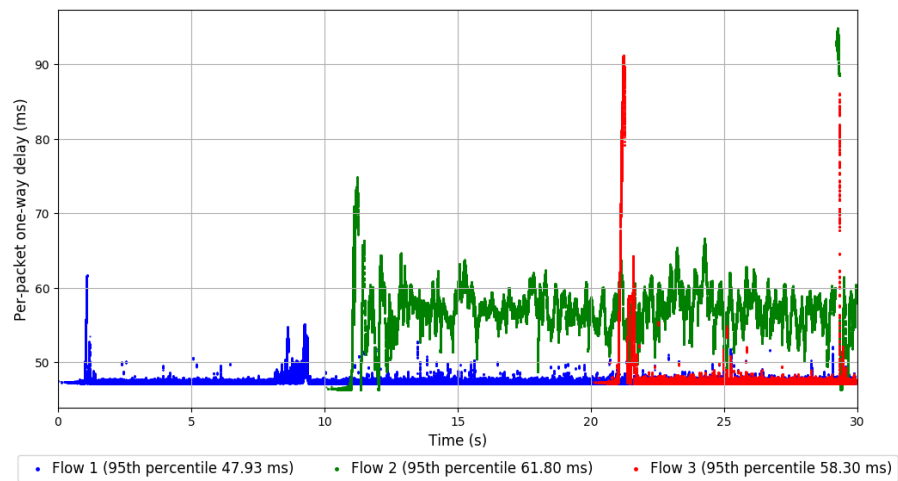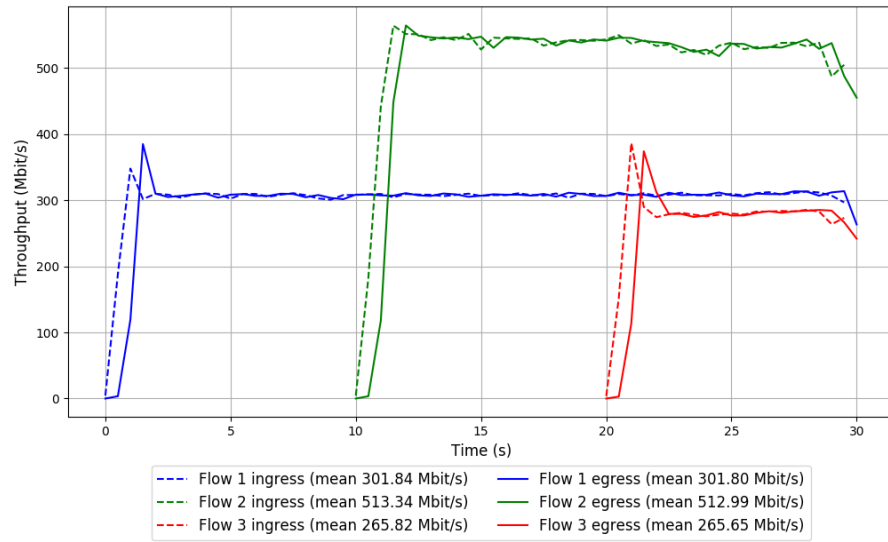
```
Run 5: Statistics of TCP Vegas

Start at: 2019-10-04 01:51:56
End at: 2019-10-04 01:52:26
Local clock offset: -0.058 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2019-10-04 05:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 730.74 Mbit/s
95th percentile per-packet one-way delay: 60.479 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 301.80 Mbit/s
95th percentile per-packet one-way delay: 47.932 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 512.99 Mbit/s
95th percentile per-packet one-way delay: 61.798 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 265.65 Mbit/s
95th percentile per-packet one-way delay: 58.298 ms
Loss rate: 1.02%
```

Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 301.84 Mbit/s) --- Flow 1 egress (mean 301.80 Mbit/s)
Flow 2 ingress (mean 513.34 Mbit/s) --- Flow 2 egress (mean 512.99 Mbit/s)
Flow 3 ingress (mean 265.82 Mbit/s) --- Flow 3 egress (mean 265.65 Mbit/s)

Flow 1 (95th percentile 47.93 ms)   Flow 2 (95th percentile 61.80 ms)   Flow 3 (95th percentile 58.30 ms)
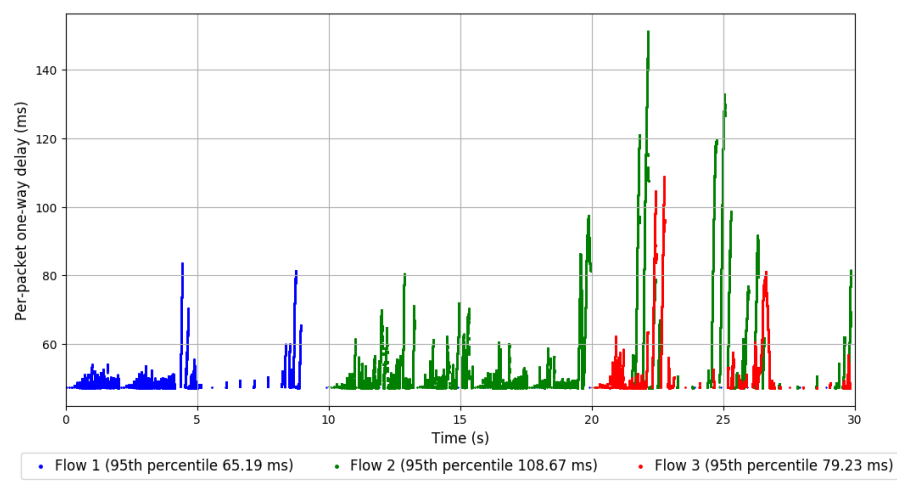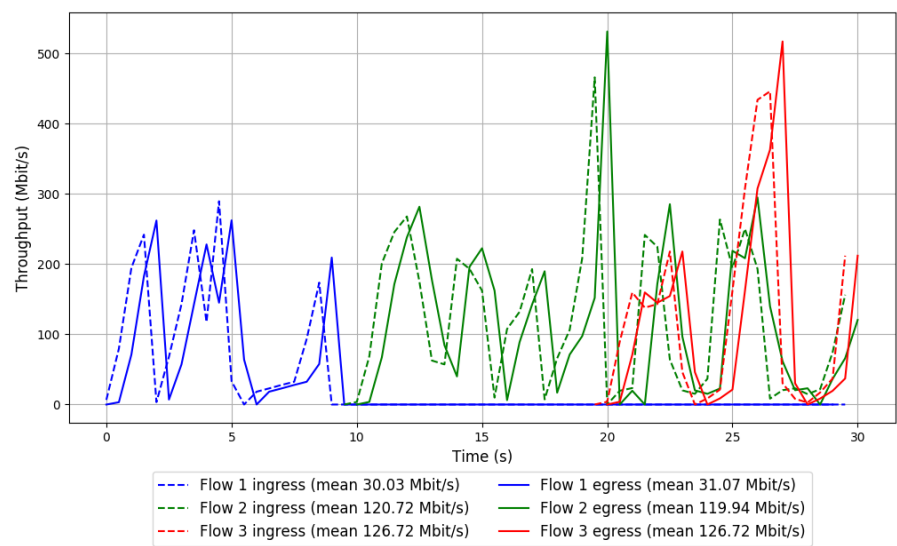
```
Run 1: Statistics of Verus

Start at: 2019-10-03 23:16:53
End at: 2019-10-03 23:17:23
Local clock offset: -0.555 ms
Remote clock offset: -0.011 ms


# Below is generated by plot.py at 2019-10-04 05:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 151.65 Mbit/s
95th percentile per-packet one-way delay: 94.210 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 31.07 Mbit/s
95th percentile per-packet one-way delay: 65.193 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 119.94 Mbit/s
95th percentile per-packet one-way delay: 108.667 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 126.72 Mbit/s
95th percentile per-packet one-way delay: 79.233 ms
Loss rate: 0.00%
```

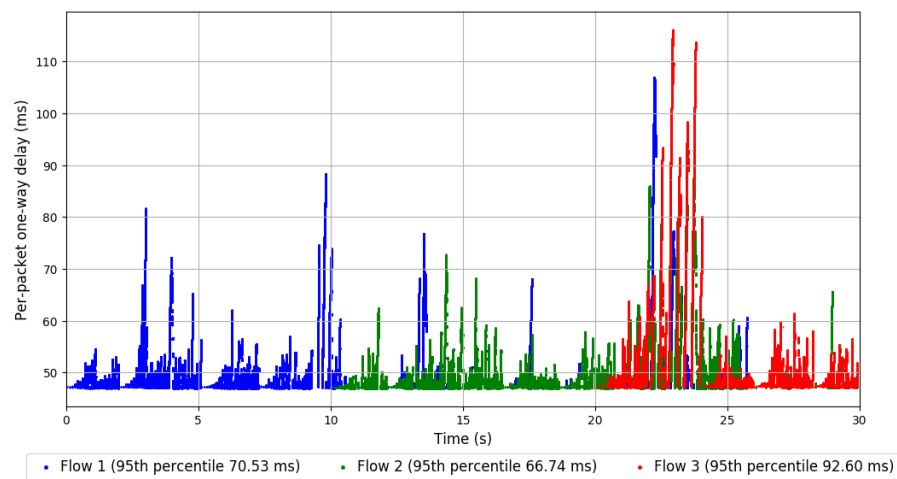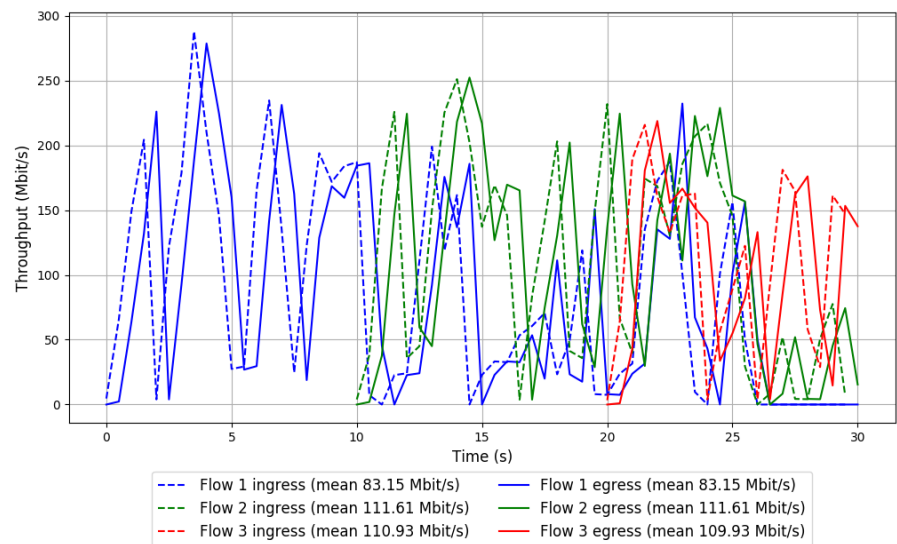Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-10-03 23:57:48
End at: 2019-10-03 23:58:18
Local clock offset: -0.102 ms
Remote clock offset: -0.097 ms


# Below is generated by plot.py at 2019-10-04 05:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 193.04 Mbit/s
95th percentile per-packet one-way delay: 73.500 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 83.15 Mbit/s
95th percentile per-packet one-way delay: 70.528 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 111.61 Mbit/s
95th percentile per-packet one-way delay: 66.743 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 109.93 Mbit/s
95th percentile per-packet one-way delay: 92.604 ms
Loss rate: 1.47%
```

Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 83.15 Mbit/s) — Flow 1 egress (mean 83.15 Mbit/s)
Flow 2 ingress (mean 111.61 Mbit/s) — Flow 2 egress (mean 111.61 Mbit/s)
Flow 3 ingress (mean 110.93 Mbit/s) — Flow 3 egress (mean 109.93 Mbit/s)

Flow 1 (95th percentile 70.53 ms) — Flow 2 (95th percentile 66.74 ms) — Flow 3 (95th percentile 92.60 ms)
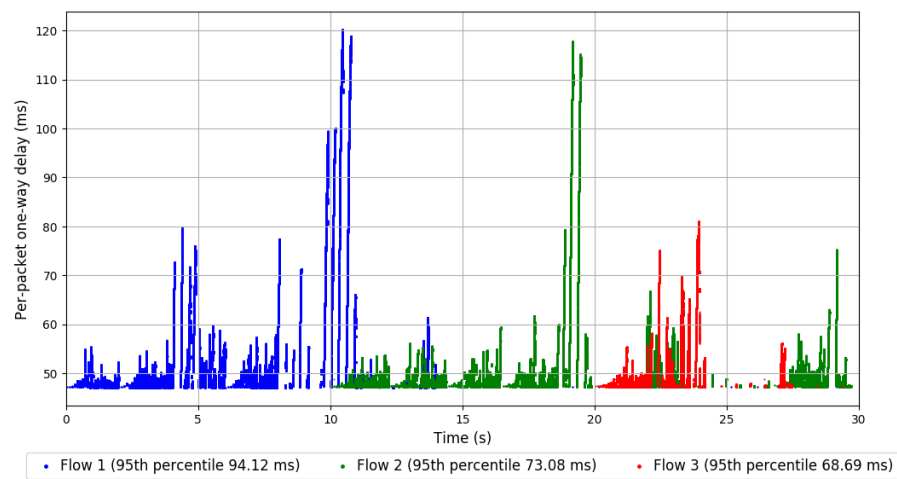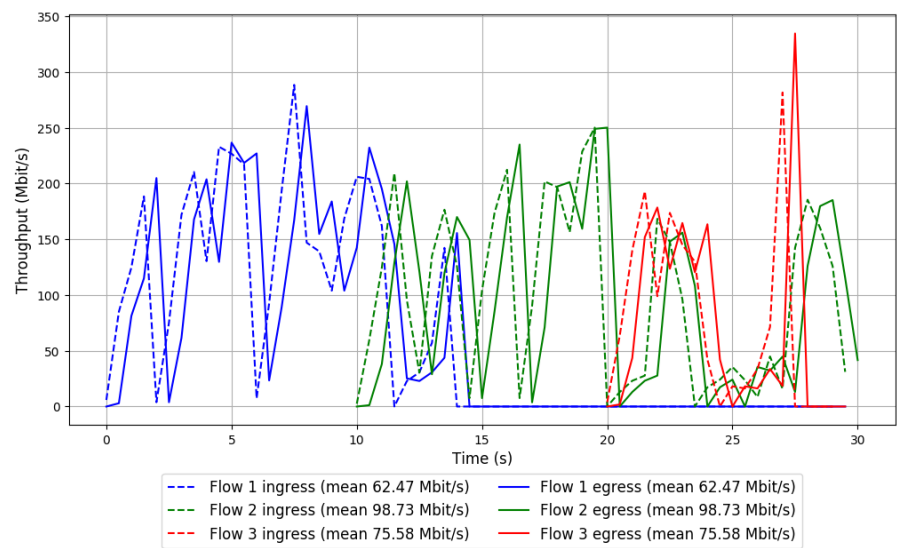
```
Run 3: Statistics of Verus

Start at: 2019-10-04 00:38:39
End at: 2019-10-04 00:39:09
Local clock offset: 0.107 ms
Remote clock offset: -0.033 ms


# Below is generated by plot.py at 2019-10-04 05:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 150.58 Mbit/s
95th percentile per-packet one-way delay: 79.958 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.47 Mbit/s
95th percentile per-packet one-way delay: 94.120 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 98.73 Mbit/s
95th percentile per-packet one-way delay: 73.082 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 75.58 Mbit/s
95th percentile per-packet one-way delay: 68.695 ms
Loss rate: 0.00%
```

Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-10-04 01:18:44
End at: 2019-10-04 01:19:14
Local clock offset: 0.372 ms
Remote clock offset: 0.021 ms


# Below is generated by plot.py at 2019-10-04 05:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 139.64 Mbit/s
95th percentile per-packet one-way delay: 64.976 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.38 Mbit/s
95th percentile per-packet one-way delay: 57.996 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 86.31 Mbit/s
95th percentile per-packet one-way delay: 66.642 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 83.39 Mbit/s
95th percentile per-packet one-way delay: 73.896 ms
Loss rate: 0.00%
```
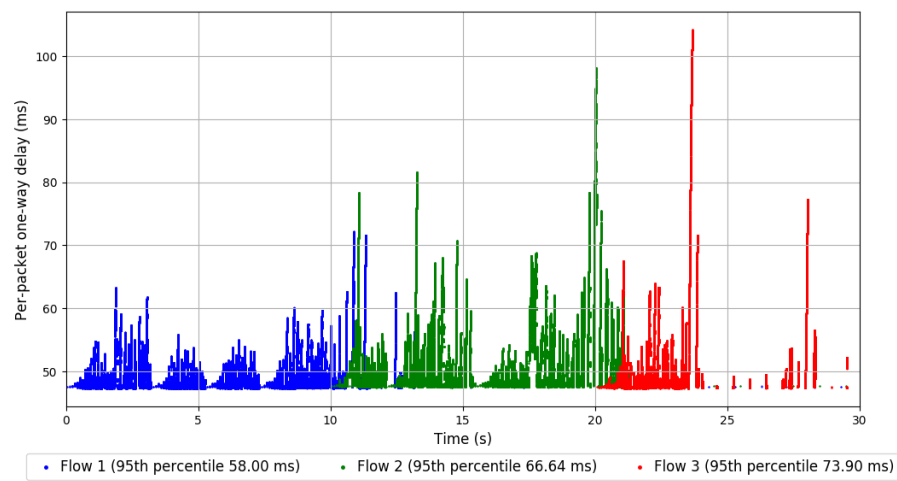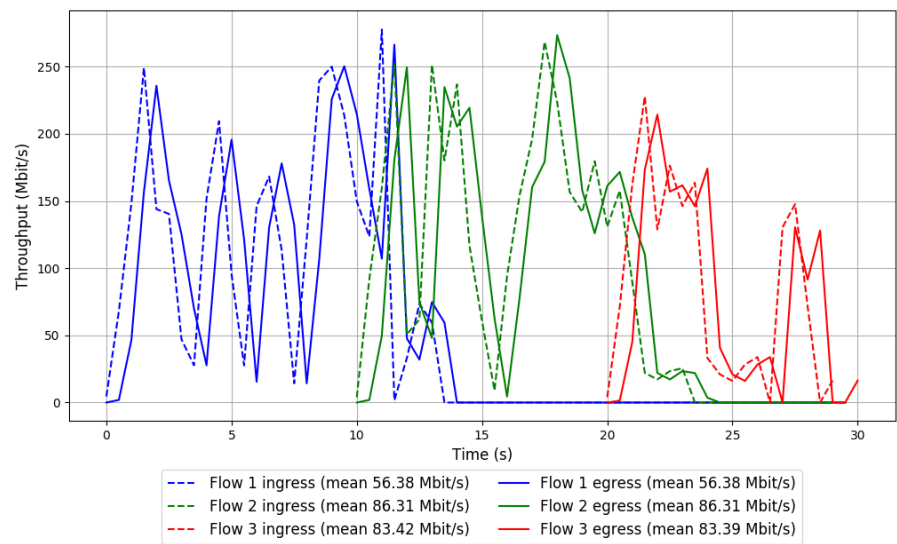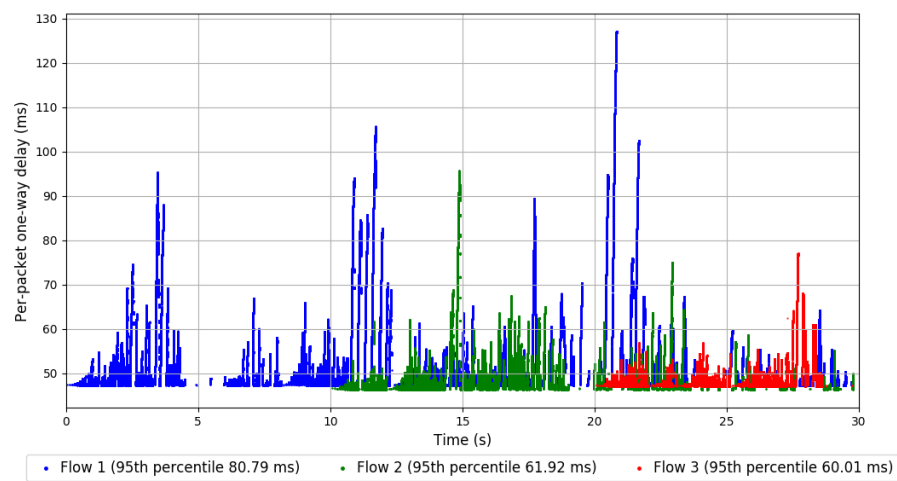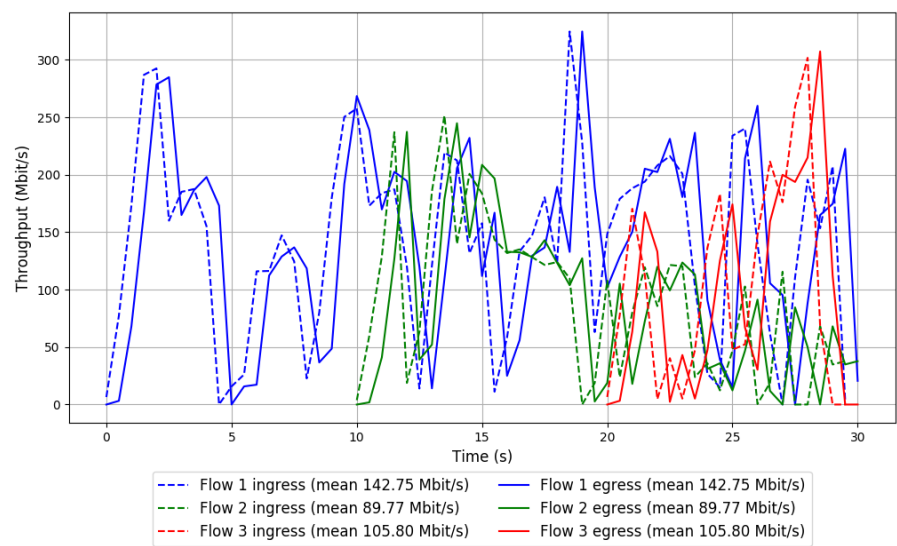
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-10-04 01:58:59
End at: 2019-10-04 01:59:29
Local clock offset: -0.033 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2019-10-04 05:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 236.40 Mbit/s
95th percentile per-packet one-way delay: 74.006 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 142.75 Mbit/s
95th percentile per-packet one-way delay: 80.787 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 89.77 Mbit/s
95th percentile per-packet one-way delay: 61.920 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 105.80 Mbit/s
95th percentile per-packet one-way delay: 60.010 ms
Loss rate: 0.00%
```

Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-10-03 23:11:33
End at: 2019-10-03 23:12:03
Local clock offset: -0.392 ms
Remote clock offset: 0.005 ms


# Below is generated by plot.py at 2019-10-04 05:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 567.97 Mbit/s
95th percentile per-packet one-way delay: 56.419 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 337.92 Mbit/s
95th percentile per-packet one-way delay: 67.870 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 252.91 Mbit/s
95th percentile per-packet one-way delay: 50.090 ms
Loss rate: 0.47%
-- Flow 3:
Average throughput: 189.54 Mbit/s
95th percentile per-packet one-way delay: 67.297 ms
Loss rate: 1.29%
```
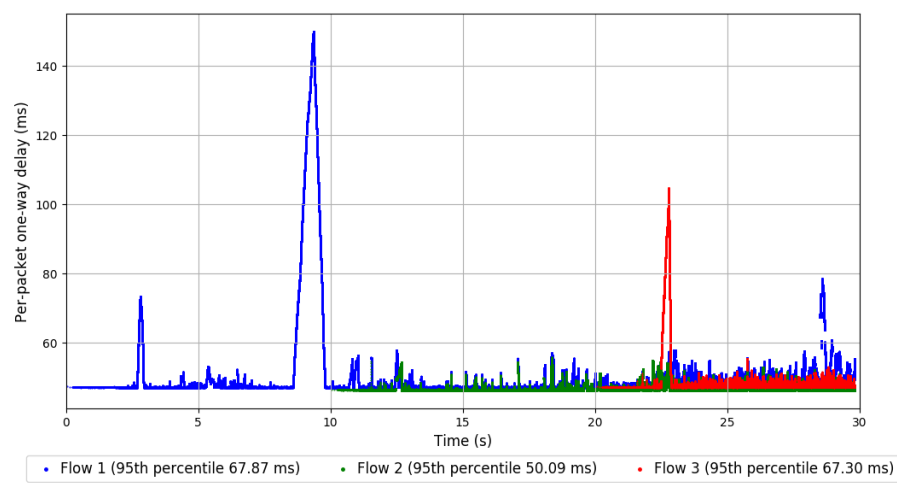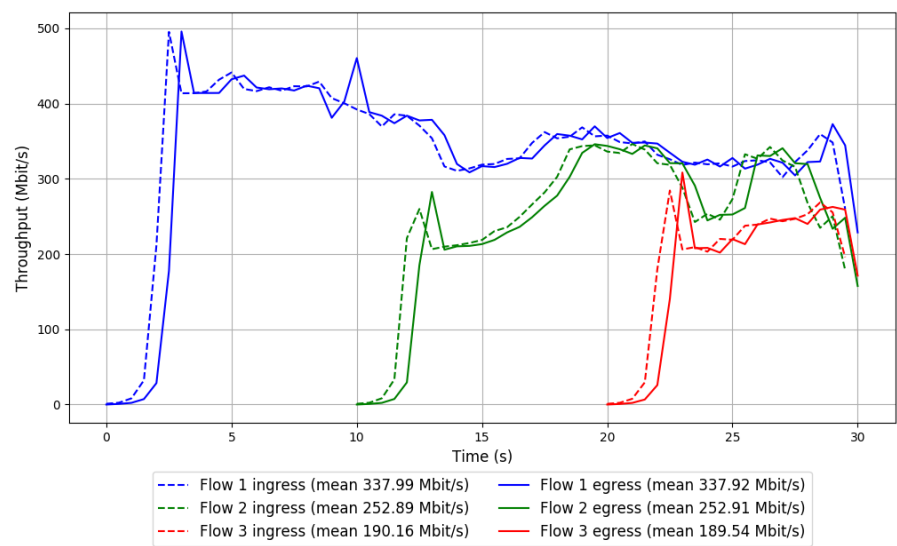
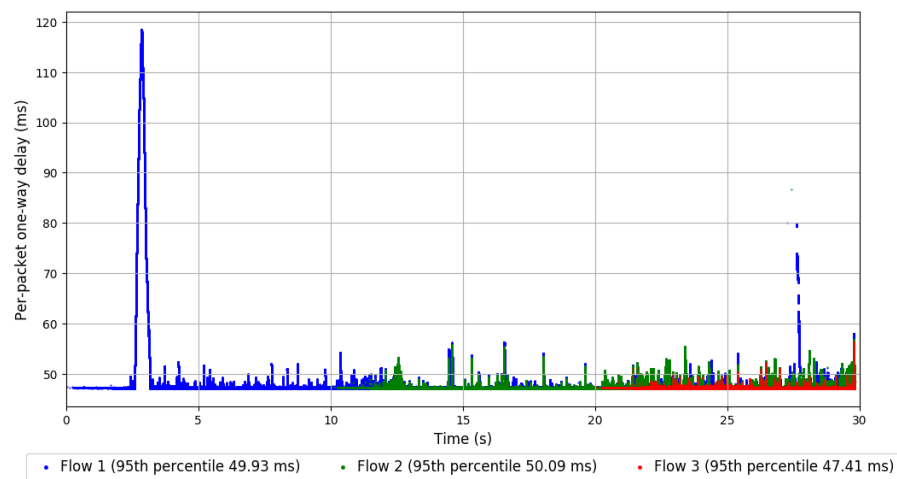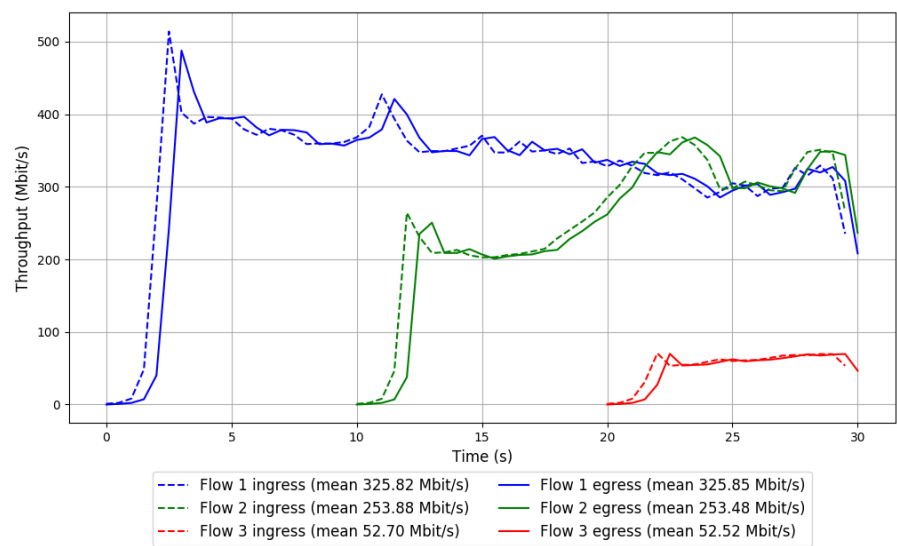Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-10-03 23:52:29
End at: 2019-10-03 23:52:59
Local clock offset: -0.201 ms
Remote clock offset: -0.083 ms


# Below is generated by plot.py at 2019-10-04 05:35:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 511.34 Mbit/s
95th percentile per-packet one-way delay: 49.918 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 325.85 Mbit/s
95th percentile per-packet one-way delay: 49.927 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 253.48 Mbit/s
95th percentile per-packet one-way delay: 50.095 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 52.52 Mbit/s
95th percentile per-packet one-way delay: 47.408 ms
Loss rate: 1.30%
```

Run 2: Report of PCC-Vivace — Data Link

- - - Flow 1 ingress (mean 325.82 Mbit/s)   —— Flow 1 egress (mean 325.85 Mbit/s)
- - - Flow 2 ingress (mean 253.88 Mbit/s)   —— Flow 2 egress (mean 253.48 Mbit/s)
- - - Flow 3 ingress (mean 52.70 Mbit/s)   —— Flow 3 egress (mean 52.52 Mbit/s)

- Flow 1 (95th percentile 49.93 ms)   • Flow 2 (95th percentile 50.09 ms)   • Flow 3 (95th percentile 47.41 ms)
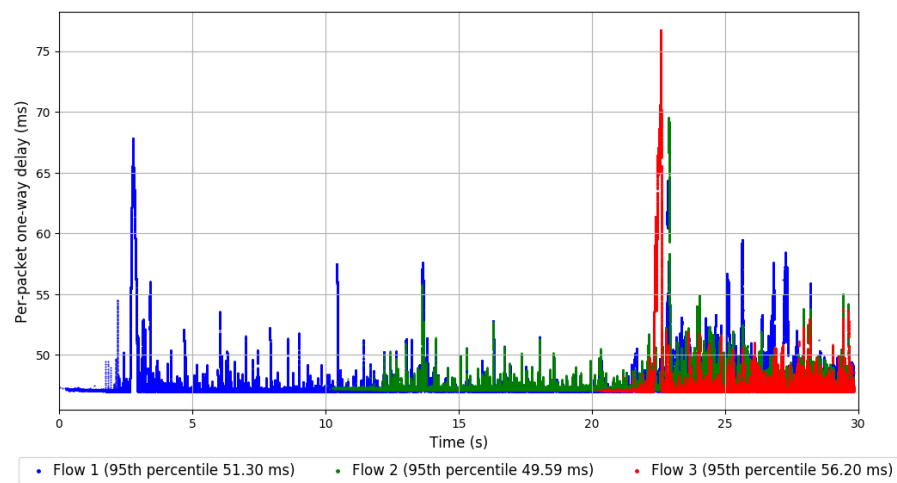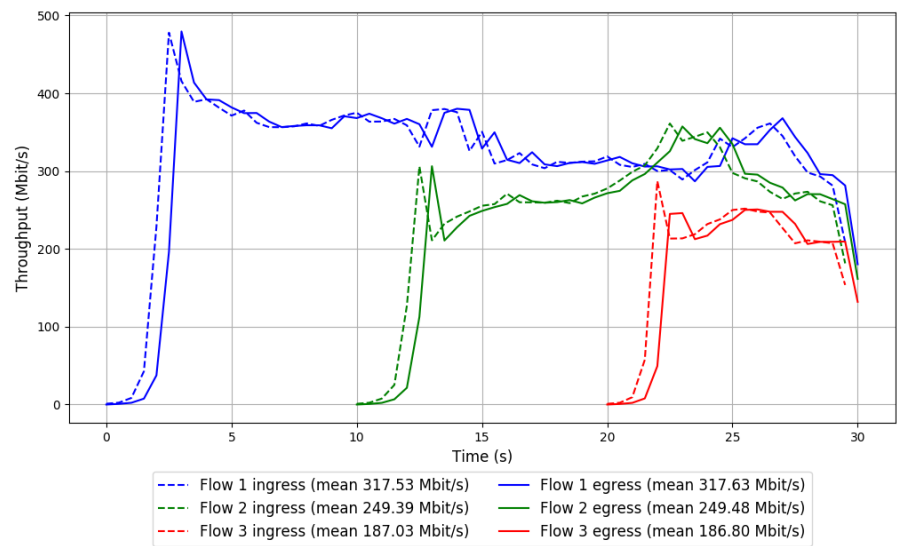
```
Run 3: Statistics of PCC-Vivace

Start at: 2019-10-04 00:33:27
End at: 2019-10-04 00:33:57
Local clock offset: 0.073 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2019-10-04 05:35:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 544.33 Mbit/s
95th percentile per-packet one-way delay: 50.656 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 317.63 Mbit/s
95th percentile per-packet one-way delay: 51.299 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 249.48 Mbit/s
95th percentile per-packet one-way delay: 49.586 ms
Loss rate: 0.45%
-- Flow 3:
Average throughput: 186.80 Mbit/s
95th percentile per-packet one-way delay: 56.204 ms
Loss rate: 1.10%
```

Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 317.53 Mbit/s) --- Flow 1 egress (mean 317.63 Mbit/s)
Flow 2 ingress (mean 249.39 Mbit/s) --- Flow 2 egress (mean 249.48 Mbit/s)
Flow 3 ingress (mean 187.03 Mbit/s) --- Flow 3 egress (mean 186.80 Mbit/s)

Flow 1 (95th percentile 51.30 ms) • Flow 2 (95th percentile 49.59 ms) • Flow 3 (95th percentile 56.20 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-10-04 01:13:26
End at: 2019-10-04 01:13:56
Local clock offset: -0.004 ms
Remote clock offset: 0.033 ms


# Below is generated by plot.py at 2019-10-04 05:36:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 527.86 Mbit/s
95th percentile per-packet one-way delay: 50.645 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 328.92 Mbit/s
95th percentile per-packet one-way delay: 51.391 ms
Loss rate: 0.25%
-- Flow 2:
Average throughput: 270.92 Mbit/s
95th percentile per-packet one-way delay: 50.322 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 58.23 Mbit/s
95th percentile per-packet one-way delay: 47.480 ms
Loss rate: 1.17%
```
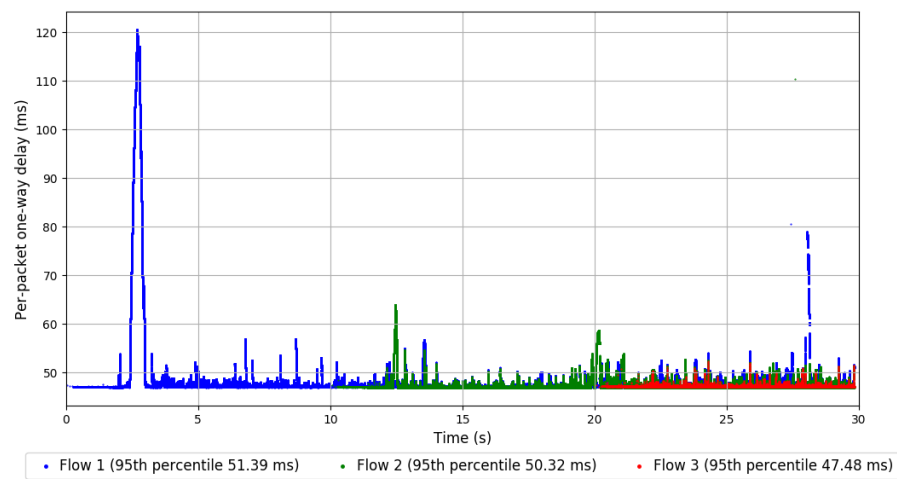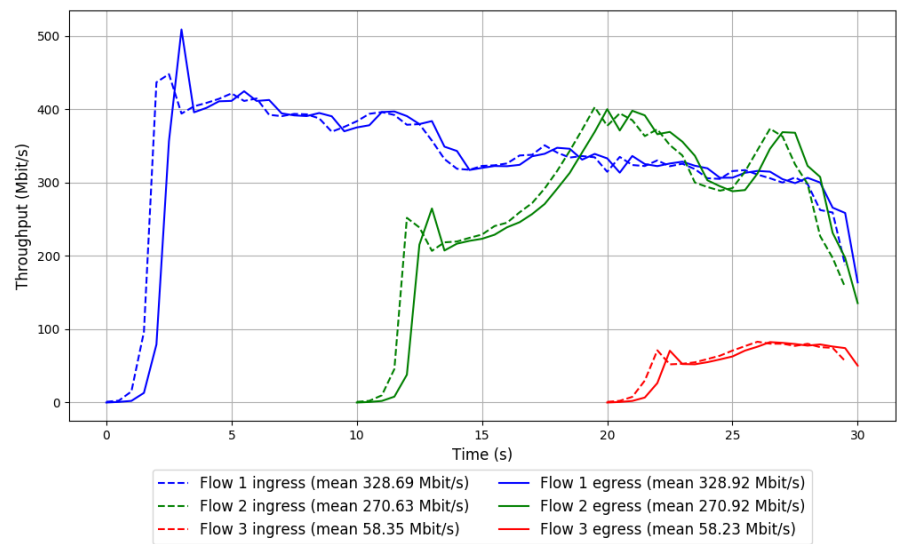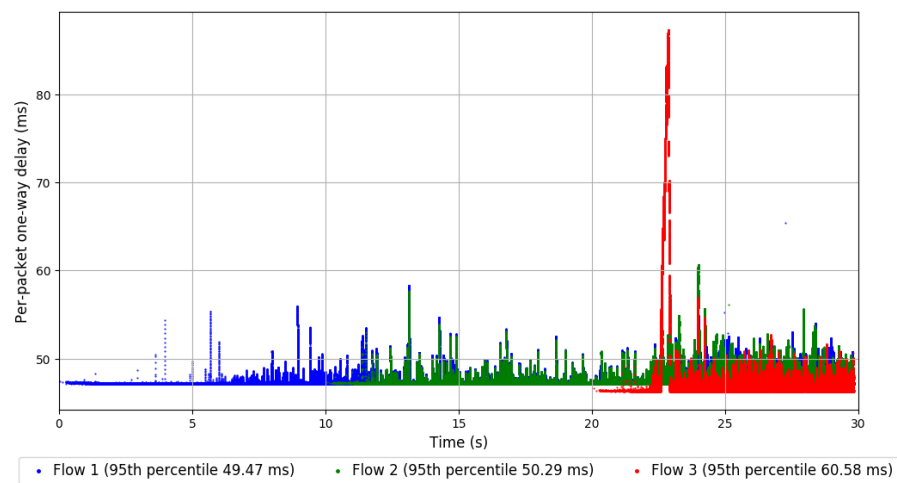
Run 4: Report of PCC-Vivace — Data Link

- Flow 1 ingress (mean 328.69 Mbit/s)
- Flow 1 egress (mean 328.92 Mbit/s)
- Flow 2 ingress (mean 270.63 Mbit/s)
- Flow 2 egress (mean 270.92 Mbit/s)
- Flow 3 ingress (mean 58.35 Mbit/s)
- Flow 3 egress (mean 58.23 Mbit/s)

- Flow 1 (95th percentile 51.39 ms)
- Flow 2 (95th percentile 50.32 ms)
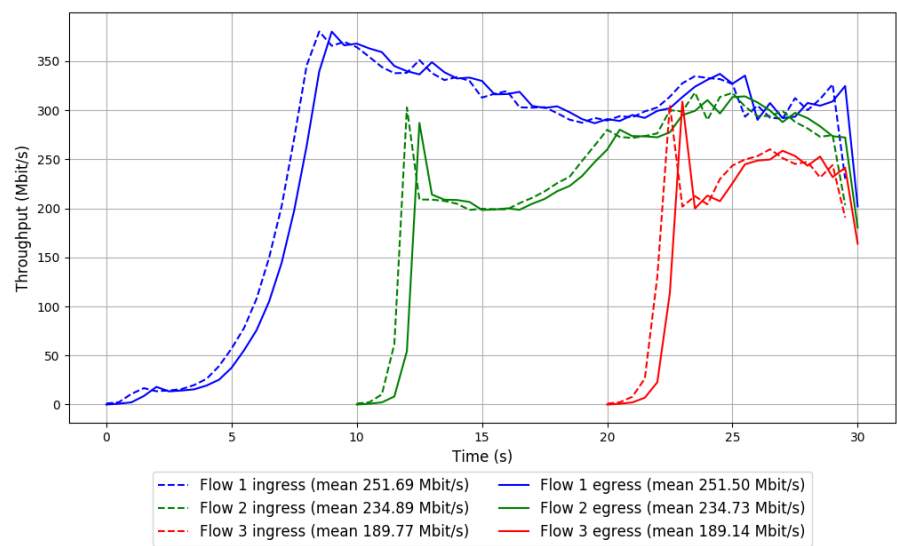- Flow 3 (95th percentile 47.48 ms)

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-10-04 01:53:44
End at: 2019-10-04 01:54:14
Local clock offset: -0.113 ms
Remote clock offset: -0.106 ms


# Below is generated by plot.py at 2019-10-04 05:36:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 469.23 Mbit/s
95th percentile per-packet one-way delay: 49.981 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 251.50 Mbit/s
95th percentile per-packet one-way delay: 49.469 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 234.73 Mbit/s
95th percentile per-packet one-way delay: 50.294 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 189.14 Mbit/s
95th percentile per-packet one-way delay: 60.580 ms
Loss rate: 1.30%
```

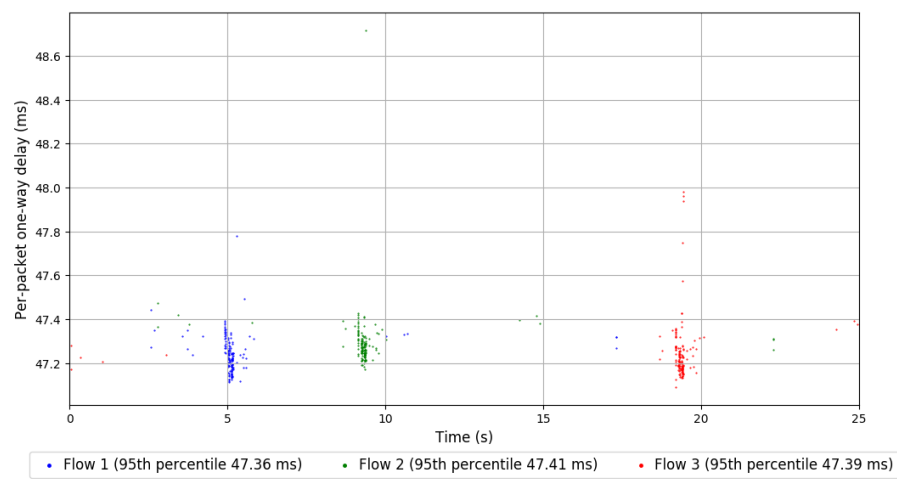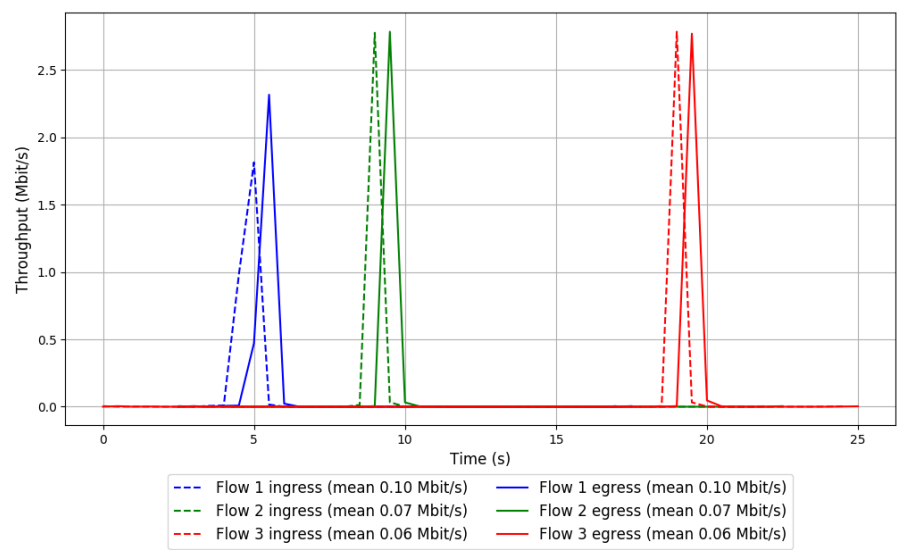# Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2019-10-03 23:01:38
End at: 2019-10-03 23:02:08
Local clock offset: -0.129 ms
Remote clock offset: 0.039 ms


# Below is generated by plot.py at 2019-10-04 05:36:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 47.394 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 47.359 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 47.409 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 47.394 ms
Loss rate: 0.00%
```

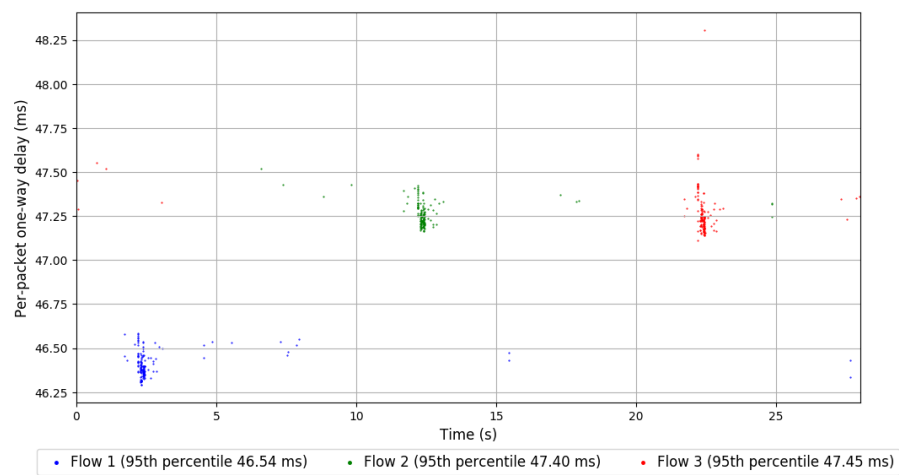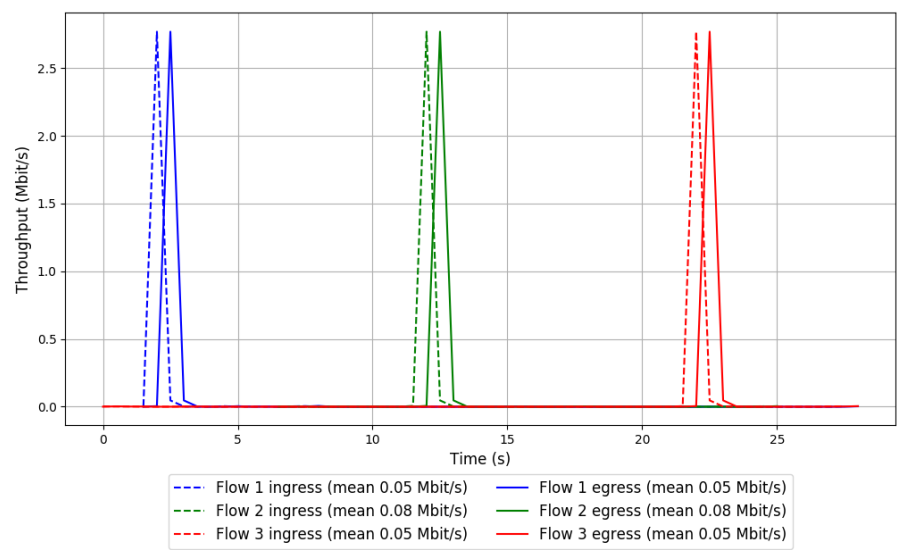Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-10-03 23:42:36
End at: 2019-10-03 23:43:06
Local clock offset: -0.684 ms
Remote clock offset: -0.061 ms


# Below is generated by plot.py at 2019-10-04 05:36:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 47.411 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 46.539 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 47.398 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.454 ms
Loss rate: 0.00%
```

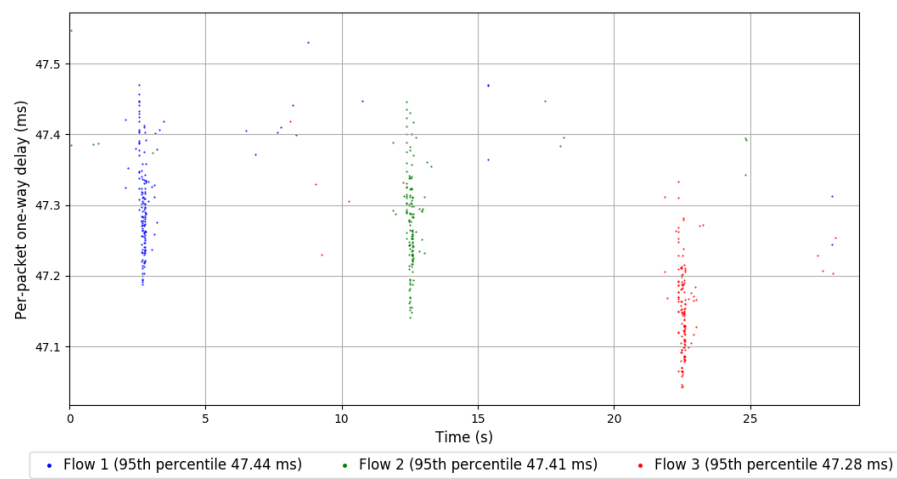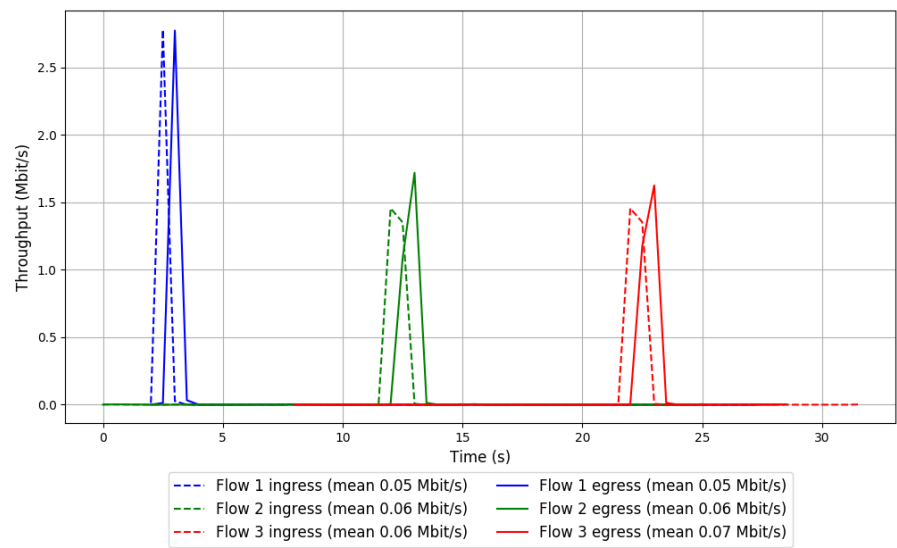Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-10-04 00:23:32
End at: 2019-10-04 00:24:02
Local clock offset: 0.041 ms
Remote clock offset: -0.083 ms


# Below is generated by plot.py at 2019-10-04 05:36:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 47.419 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.442 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 47.411 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 47.281 ms
Loss rate: 0.05%
```

Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-10-04 01:03:41
End at: 2019-10-04 01:04:11
Local clock offset: 0.034 ms
Remote clock offset: 0.014 ms


# Below is generated by plot.py at 2019-10-04 05:36:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 47.462 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.414 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 47.441 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 47.483 ms
Loss rate: 0.00%
```
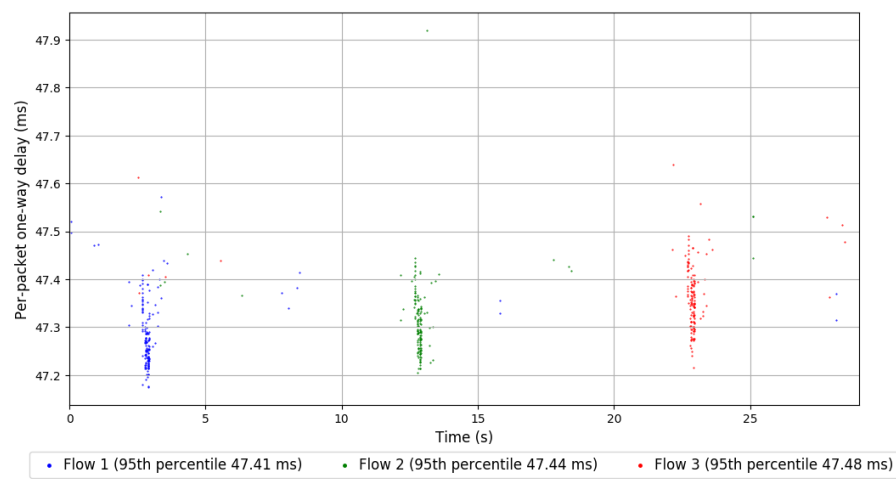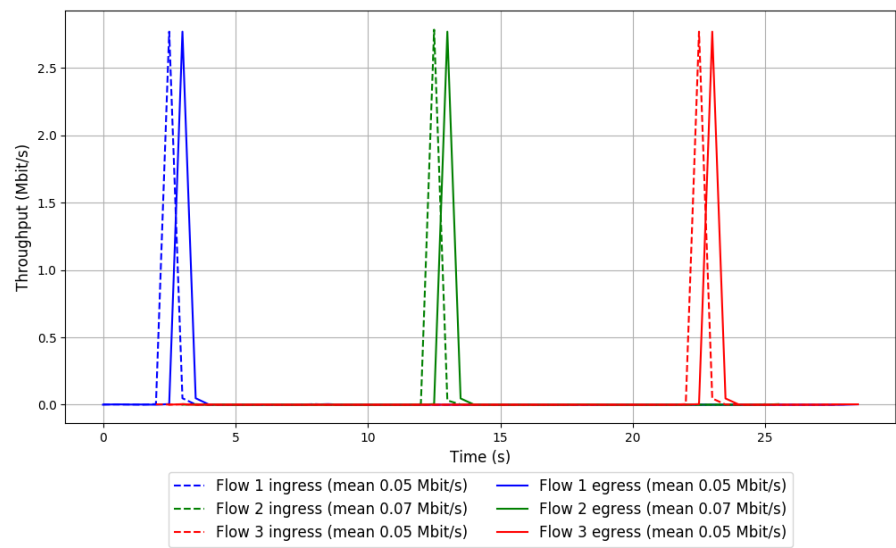
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-10-04 01:44:07
End at: 2019-10-04 01:44:37
Local clock offset: -0.085 ms
Remote clock offset: -0.054 ms


# Below is generated by plot.py at 2019-10-04 05:36:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 47.239 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 46.526 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 47.248 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 47.253 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link