Pantheon Report

Generated at 2018-10-26 11:43:57 (UTC).

Data path: Colombia on `p4p1` (*remote*) →AWS Brazil 2 on `ens5` (*local*).

Repeated the test of 18 congestion control schemes 5 times.

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

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.
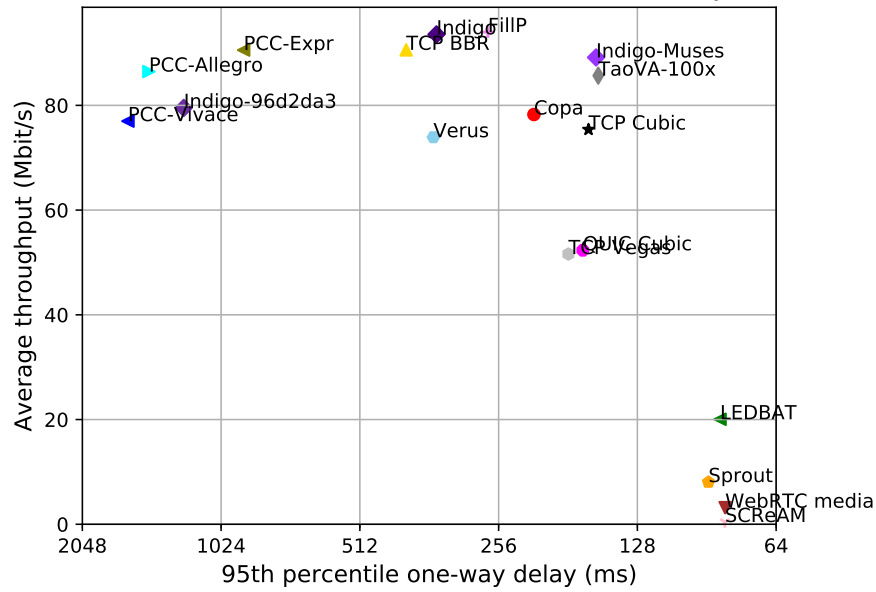
```
System info:
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
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
```
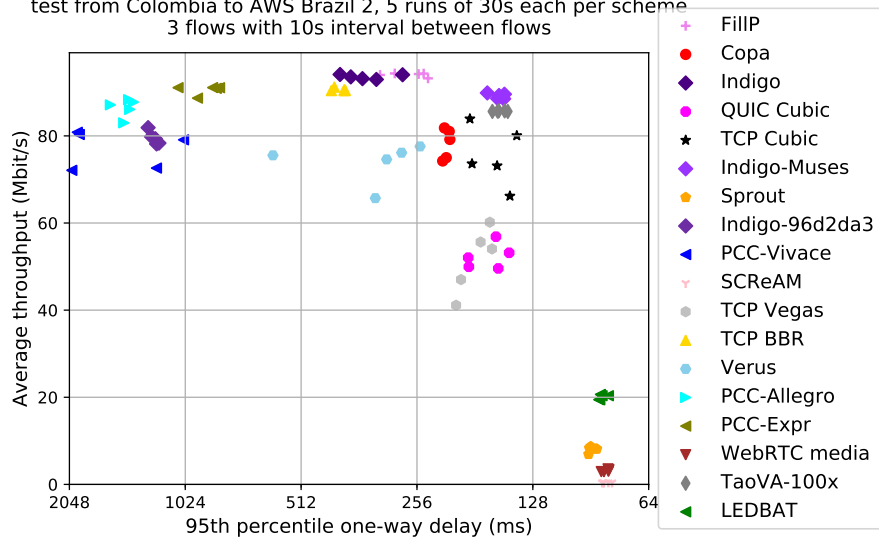
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from Colombia to AWS Brazil 2, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)

test from Colombia to AWS Brazil 2, 5 runs of 30s each per scheme
3 flows with 10s interval between flows

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	55.77	37.64	30.12	390.14	461.48	394.06	2.76	5.33	6.62
Copa	5	44.99	36.08	28.25	214.71	179.73	195.85	0.78	0.86	2.00
TCP Cubic	5	43.27	32.87	31.53	163.31	136.43	182.79	0.69	1.11	2.50
FillP	5	58.06	39.16	30.36	253.00	235.38	509.77	1.25	1.92	3.97
Indigo	5	58.18	38.82	29.63	376.40	131.86	137.92	5.80	1.16	2.69
Indigo-96d2da3	5	46.87	35.52	27.78	1231.31	1269.98	1323.35	24.00	34.87	43.79
LEDBAT	5	12.91	8.71	4.21	84.48	84.50	83.98	1.09	1.66	3.36
Indigo-Muses	5	55.74	37.42	26.20	159.53	141.32	176.32	1.23	1.90	3.33
PCC-Allegro	5	53.85	34.60	29.58	1515.10	1204.62	1467.58	25.13	13.10	19.47
PCC-Expr	5	56.33	38.49	26.63	938.10	756.86	238.15	25.34	8.10	3.60
QUIC Cubic	5	30.40	23.37	19.63	135.21	194.97	254.75	0.61	1.31	3.77
SCReAM	5	0.22	0.22	0.22	82.01	81.51	82.16	0.51	0.82	1.76
Sprout	5	4.48	4.06	2.71	89.63	89.62	88.34	0.68	1.13	2.70
TaoVA-100x	5	50.61	37.80	30.22	151.77	173.55	145.18	0.50	0.94	2.34
TCP Vegas	5	32.16	20.54	17.63	186.93	132.59	214.87	0.43	0.91	2.01
Verus	5	42.29	36.02	23.68	385.54	291.61	266.83	1.38	1.14	2.53
PCC-Vivace	5	51.00	27.91	22.86	1519.96	921.52	320.71	6.47	6.20	3.08
WebRTC media	5	1.82	0.99	0.36	81.84	82.73	81.30	0.42	0.76	2.17

```
Run 1: Statistics of TCP BBR

Start at: 2018-10-26 09:38:10
End at: 2018-10-26 09:38:40
Local clock offset: -3.902 ms
Remote clock offset: 3.233 ms


# Below is generated by plot.py at 2018-10-26 11:34:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.39 Mbit/s
95th percentile per-packet one-way delay: 427.152 ms
Loss rate: 4.40%
-- Flow 1:
Average throughput: 55.74 Mbit/s
95th percentile per-packet one-way delay: 364.633 ms
Loss rate: 3.03%
-- Flow 2:
Average throughput: 37.01 Mbit/s
95th percentile per-packet one-way delay: 611.161 ms
Loss rate: 6.08%
-- Flow 3:
Average throughput: 30.64 Mbit/s
95th percentile per-packet one-way delay: 405.401 ms
Loss rate: 7.63%
```
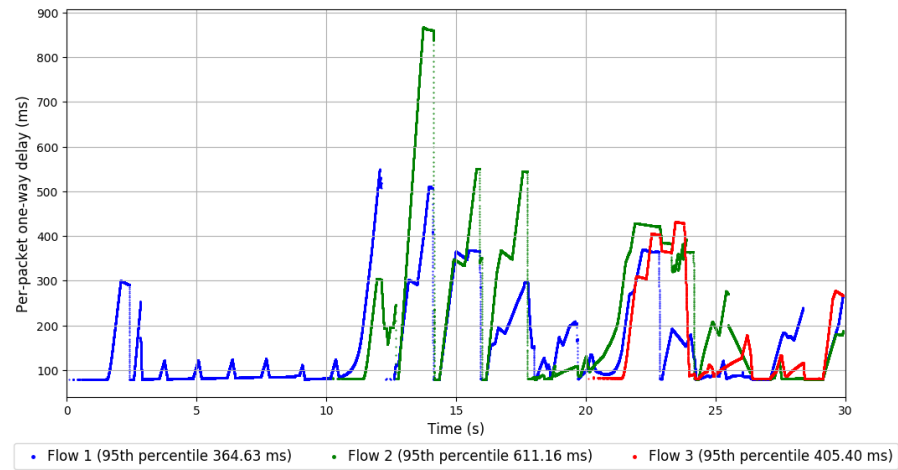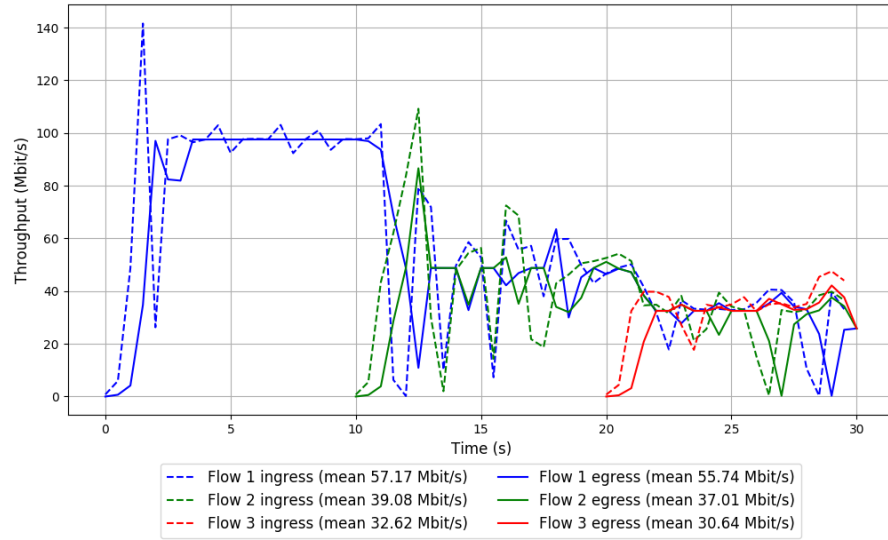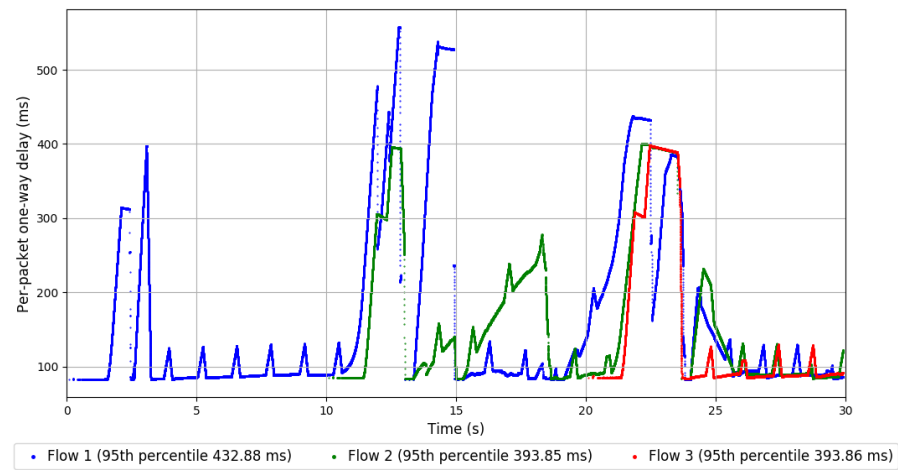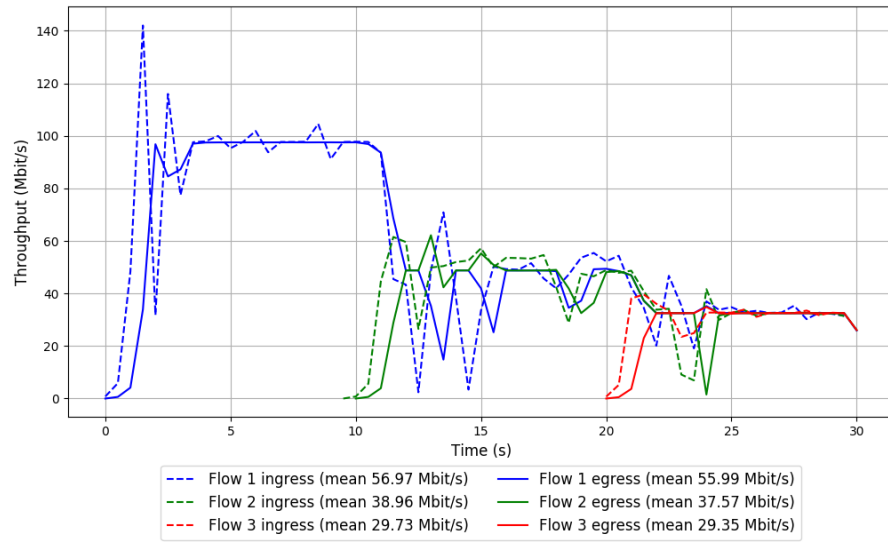
Run 1: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 57.17 Mbit/s) ——— Flow 1 egress (mean 55.74 Mbit/s)
- - - Flow 2 ingress (mean 39.08 Mbit/s) ——— Flow 2 egress (mean 37.01 Mbit/s)
- - - Flow 3 ingress (mean 32.62 Mbit/s) ——— Flow 3 egress (mean 30.64 Mbit/s)

· Flow 1 (95th percentile 364.63 ms)   · Flow 2 (95th percentile 611.16 ms)   · Flow 3 (95th percentile 405.40 ms)

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```
Run 2: Statistics of TCP BBR

Start at: 2018-10-26 10:01:10
End at: 2018-10-26 10:01:40
Local clock offset: -7.255 ms
Remote clock offset: 0.292 ms


# Below is generated by plot.py at 2018-10-26 11:34:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.61 Mbit/s
95th percentile per-packet one-way delay: 395.410 ms
Loss rate: 2.91%
-- Flow 1:
Average throughput: 55.99 Mbit/s
95th percentile per-packet one-way delay: 432.876 ms
Loss rate: 2.25%
-- Flow 2:
Average throughput: 37.57 Mbit/s
95th percentile per-packet one-way delay: 393.847 ms
Loss rate: 4.36%
-- Flow 3:
Average throughput: 29.35 Mbit/s
95th percentile per-packet one-way delay: 393.862 ms
Loss rate: 2.92%
```
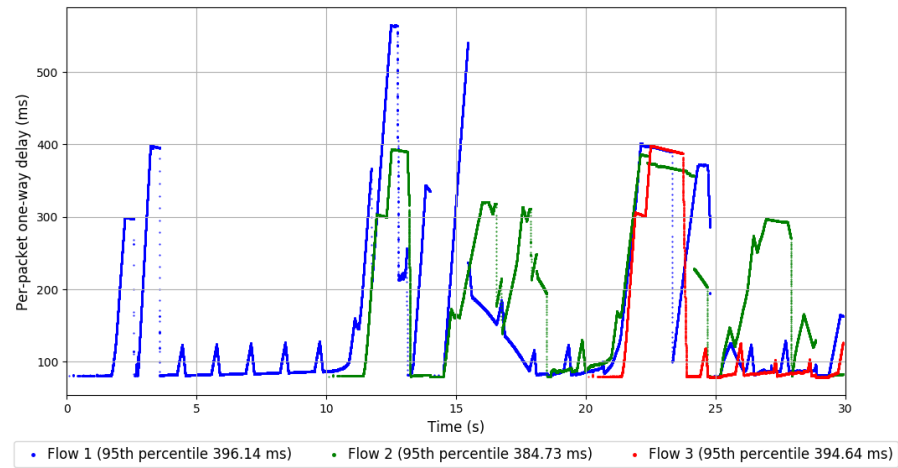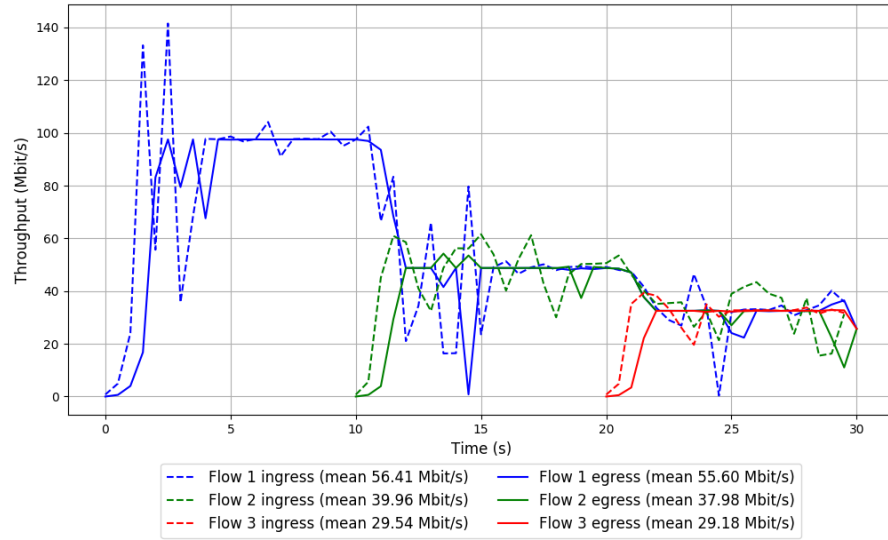
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-10-26 10:24:10
End at: 2018-10-26 10:24:40
Local clock offset: -1.456 ms
Remote clock offset: 4.188 ms


# Below is generated by plot.py at 2018-10-26 11:34:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.42 Mbit/s
95th percentile per-packet one-way delay: 392.989 ms
Loss rate: 3.14%
-- Flow 1:
Average throughput: 55.60 Mbit/s
95th percentile per-packet one-way delay: 396.138 ms
Loss rate: 1.97%
-- Flow 2:
Average throughput: 37.98 Mbit/s
95th percentile per-packet one-way delay: 384.733 ms
Loss rate: 5.73%
-- Flow 3:
Average throughput: 29.18 Mbit/s
95th percentile per-packet one-way delay: 394.637 ms
Loss rate: 2.85%
```
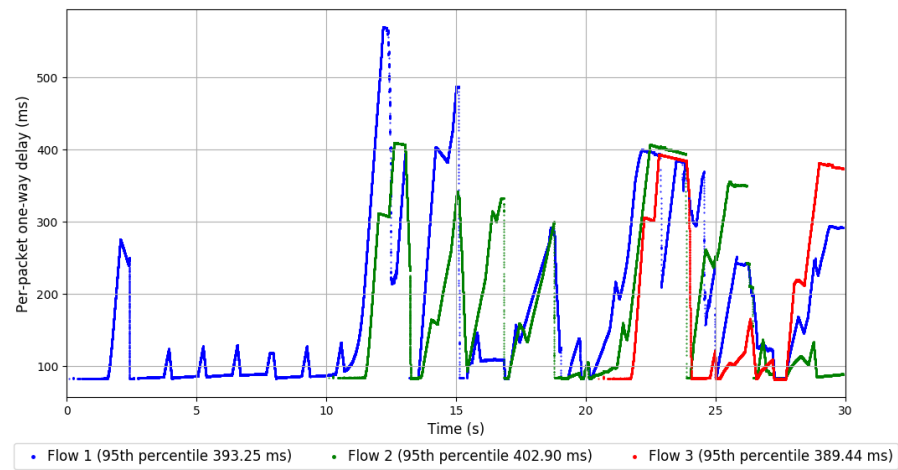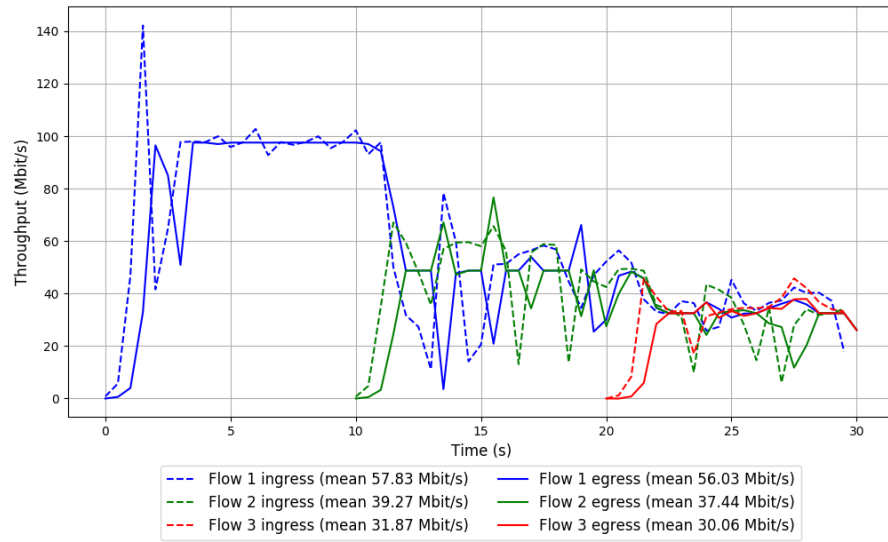
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2018-10-26 10:47:09
End at: 2018-10-26 10:47:39
Local clock offset: -5.951 ms
Remote clock offset: 0.808 ms


# Below is generated by plot.py at 2018-10-26 11:34:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.39 Mbit/s
95th percentile per-packet one-way delay: 395.987 ms
Loss rate: 4.53%
-- Flow 1:
Average throughput: 56.03 Mbit/s
95th percentile per-packet one-way delay: 393.255 ms
Loss rate: 3.63%
-- Flow 2:
Average throughput: 37.44 Mbit/s
95th percentile per-packet one-way delay: 402.901 ms
Loss rate: 5.44%
-- Flow 3:
Average throughput: 30.06 Mbit/s
95th percentile per-packet one-way delay: 389.436 ms
Loss rate: 7.27%
```
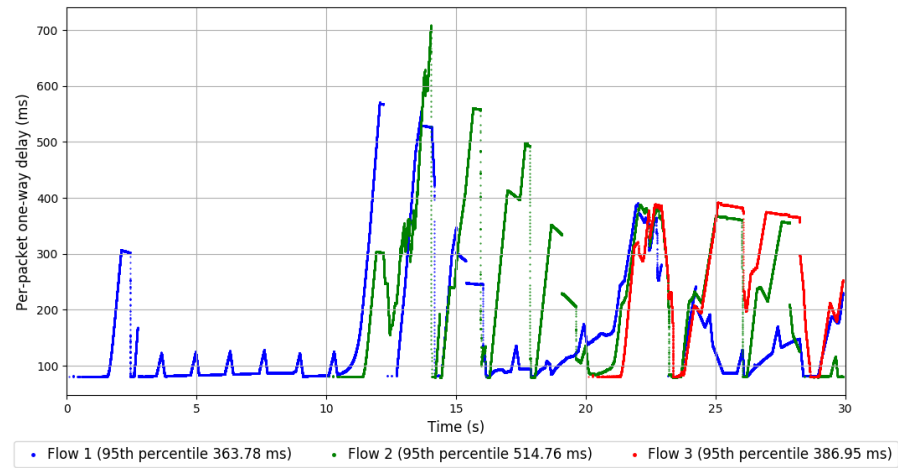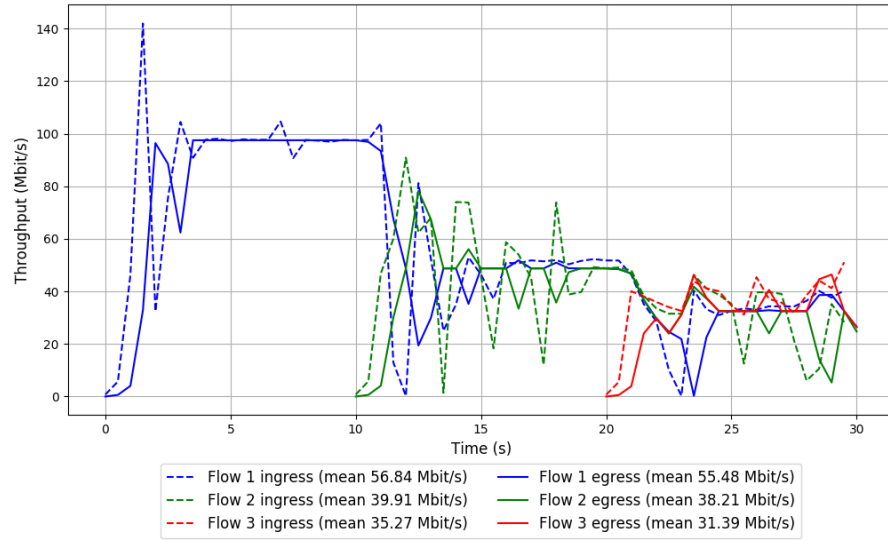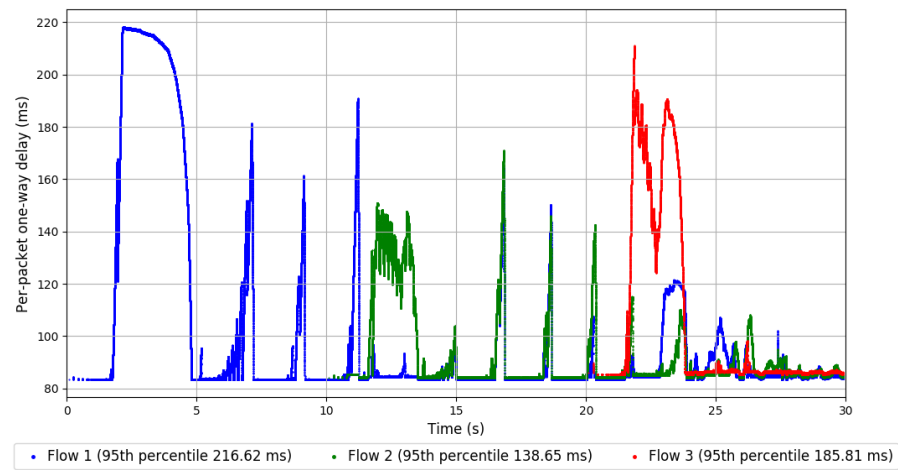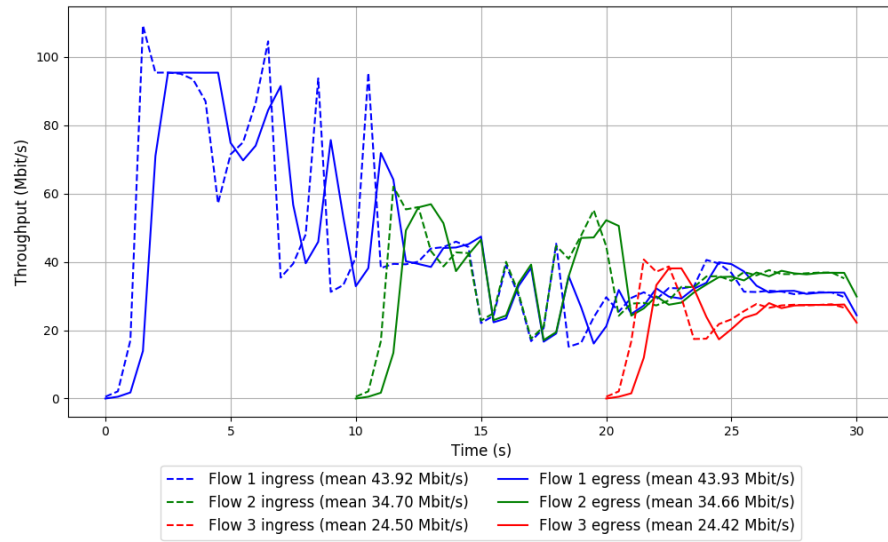
Run 4: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 57.83 Mbit/s)   —— Flow 1 egress (mean 56.03 Mbit/s)
- - - Flow 2 ingress (mean 39.27 Mbit/s)   —— Flow 2 egress (mean 37.44 Mbit/s)
- - - Flow 3 ingress (mean 31.87 Mbit/s)   —— Flow 3 egress (mean 30.06 Mbit/s)

• Flow 1 (95th percentile 393.25 ms)   • Flow 2 (95th percentile 402.90 ms)   • Flow 3 (95th percentile 389.44 ms)

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```
Run 5: Statistics of TCP BBR

Start at: 2018-10-26 11:10:06
End at: 2018-10-26 11:10:36
Local clock offset: -6.849 ms
Remote clock offset: 3.525 ms


# Below is generated by plot.py at 2018-10-26 11:34:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.19 Mbit/s
95th percentile per-packet one-way delay: 419.577 ms
Loss rate: 4.69%
-- Flow 1:
Average throughput: 55.48 Mbit/s
95th percentile per-packet one-way delay: 363.781 ms
Loss rate: 2.92%
-- Flow 2:
Average throughput: 38.21 Mbit/s
95th percentile per-packet one-way delay: 514.763 ms
Loss rate: 5.06%
-- Flow 3:
Average throughput: 31.39 Mbit/s
95th percentile per-packet one-way delay: 386.954 ms
Loss rate: 12.45%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 56.84 Mbit/s) --- Flow 1 egress (mean 55.48 Mbit/s)
Flow 2 ingress (mean 39.91 Mbit/s) --- Flow 2 egress (mean 38.21 Mbit/s)
Flow 3 ingress (mean 35.27 Mbit/s) --- Flow 3 egress (mean 31.39 Mbit/s)

Flow 1 (95th percentile 363.78 ms) • Flow 2 (95th percentile 514.76 ms) • Flow 3 (95th percentile 386.95 ms)

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```
Run 1: Statistics of Copa

Start at: 2018-10-26 09:48:28
End at: 2018-10-26 09:48:58
Local clock offset: -6.122 ms
Remote clock offset: -0.458 ms


# Below is generated by plot.py at 2018-10-26 11:34:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.00 Mbit/s
95th percentile per-packet one-way delay: 214.881 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 43.93 Mbit/s
95th percentile per-packet one-way delay: 216.620 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 34.66 Mbit/s
95th percentile per-packet one-way delay: 138.649 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 24.42 Mbit/s
95th percentile per-packet one-way delay: 185.806 ms
Loss rate: 1.99%
```
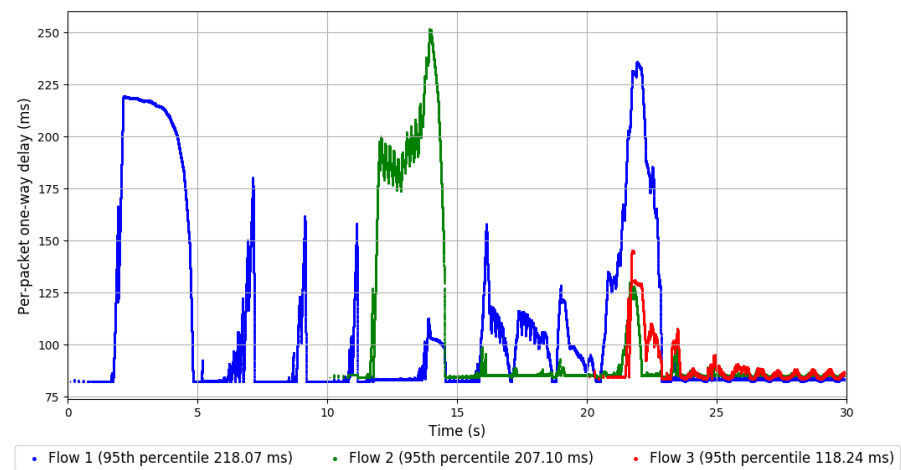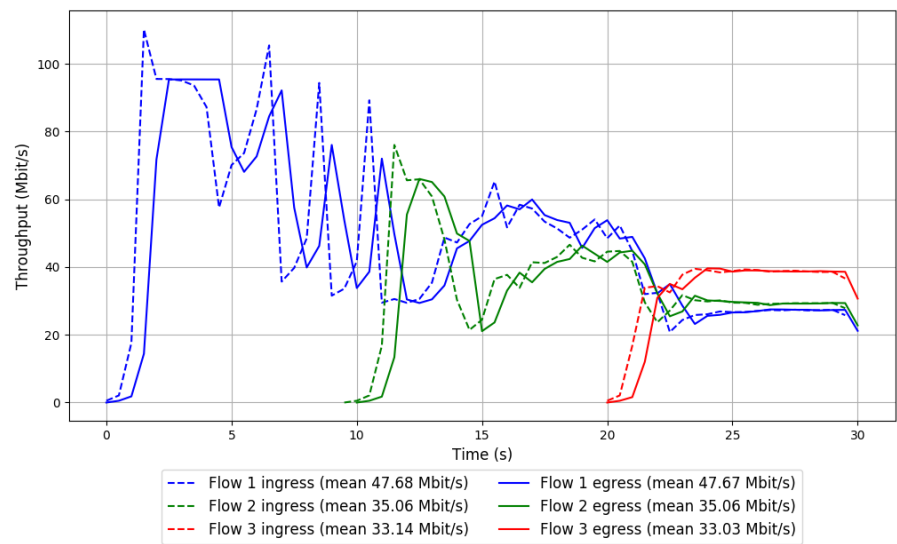
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 43.92 Mbit/s) --- Flow 1 egress (mean 43.93 Mbit/s)
Flow 2 ingress (mean 34.70 Mbit/s) --- Flow 2 egress (mean 34.66 Mbit/s)
Flow 3 ingress (mean 24.50 Mbit/s) --- Flow 3 egress (mean 24.42 Mbit/s)

Flow 1 (95th percentile 216.62 ms)   Flow 2 (95th percentile 138.65 ms)   Flow 3 (95th percentile 185.81 ms)

```
Run 2: Statistics of Copa

Start at: 2018-10-26 10:11:29
End at: 2018-10-26 10:11:59
Local clock offset: -3.341 ms
Remote clock offset: 0.05 ms


# Below is generated by plot.py at 2018-10-26 11:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.83 Mbit/s
95th percentile per-packet one-way delay: 217.183 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 47.67 Mbit/s
95th percentile per-packet one-way delay: 218.073 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 35.06 Mbit/s
95th percentile per-packet one-way delay: 207.100 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 33.03 Mbit/s
95th percentile per-packet one-way delay: 118.243 ms
Loss rate: 1.98%
```
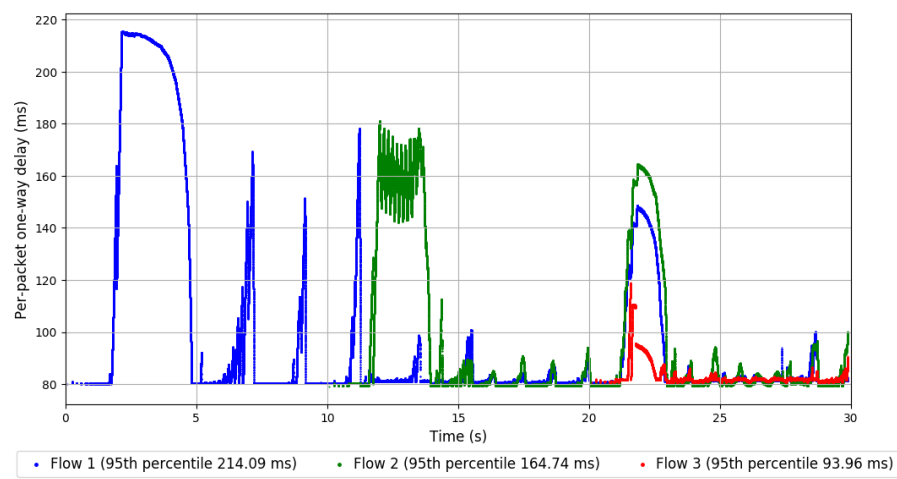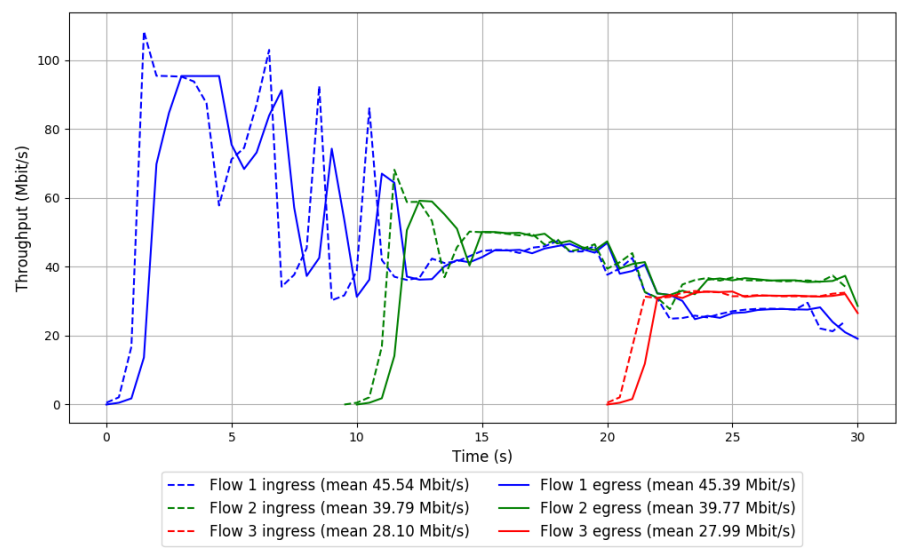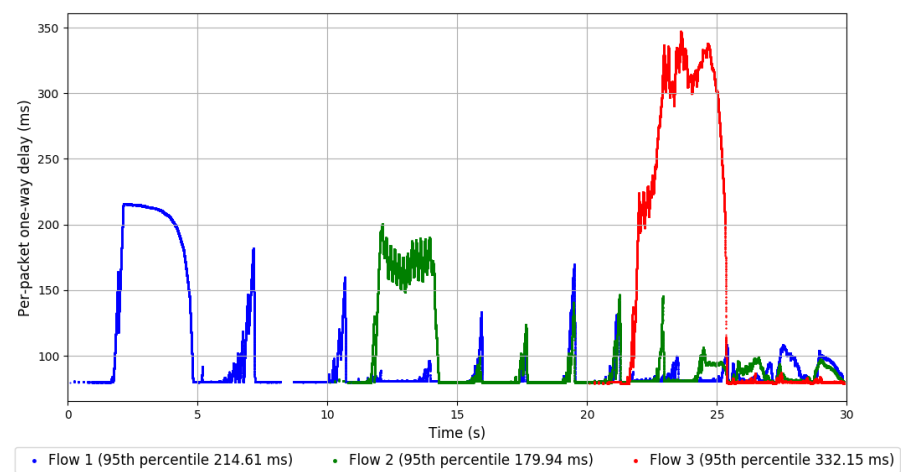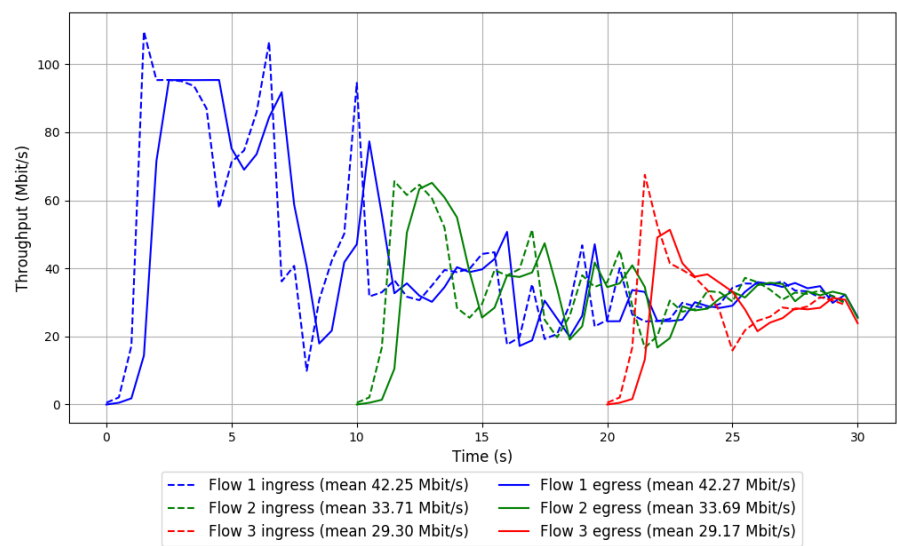
Run 2: Report of Copa — Data Link

Legend:
- Flow 1 ingress (mean 47.68 Mbit/s) — Flow 1 egress (mean 47.67 Mbit/s)
- Flow 2 ingress (mean 35.06 Mbit/s) — Flow 2 egress (mean 35.06 Mbit/s)
- Flow 3 ingress (mean 33.14 Mbit/s) — Flow 3 egress (mean 33.03 Mbit/s)

Legend:
- Flow 1 (95th percentile 218.07 ms)
- Flow 2 (95th percentile 207.10 ms)
- Flow 3 (95th percentile 118.24 ms)

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```
Run 3: Statistics of Copa

Start at: 2018-10-26 10:34:27
End at: 2018-10-26 10:34:57
Local clock offset: -2.606 ms
Remote clock offset: 4.607 ms


# Below is generated by plot.py at 2018-10-26 11:34:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.03 Mbit/s
95th percentile per-packet one-way delay: 211.104 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 45.39 Mbit/s
95th percentile per-packet one-way delay: 214.088 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 39.77 Mbit/s
95th percentile per-packet one-way delay: 164.740 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 27.99 Mbit/s
95th percentile per-packet one-way delay: 93.962 ms
Loss rate: 2.03%
```
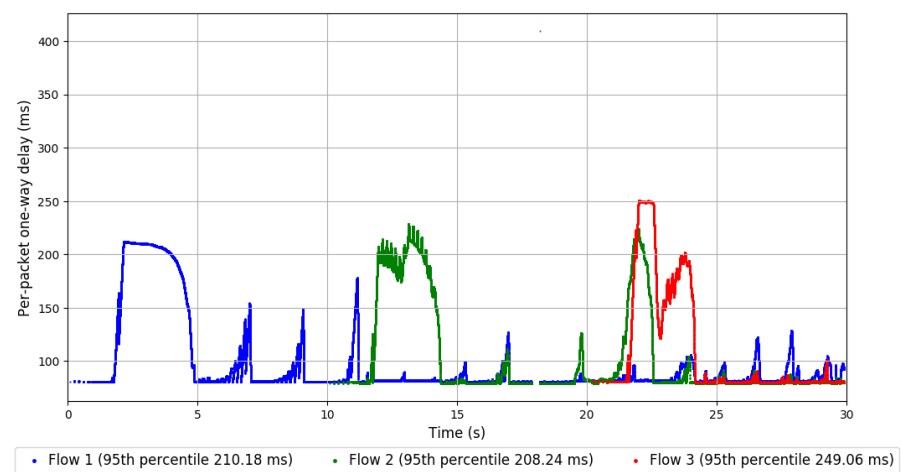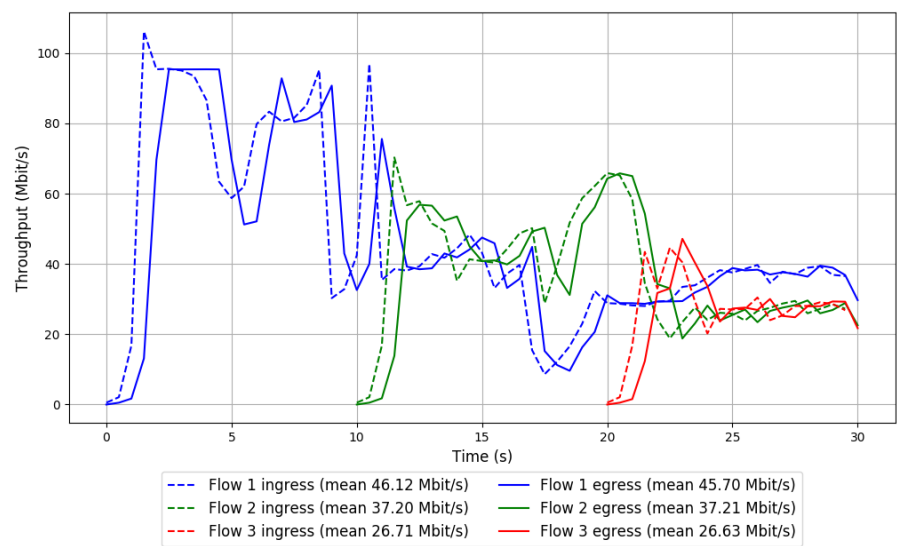
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-10-26 10:57:25
End at: 2018-10-26 10:57:55
Local clock offset: -6.93 ms
Remote clock offset: 4.076 ms


# Below is generated by plot.py at 2018-10-26 11:35:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.24 Mbit/s
95th percentile per-packet one-way delay: 219.520 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 42.27 Mbit/s
95th percentile per-packet one-way delay: 214.606 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 33.69 Mbit/s
95th percentile per-packet one-way delay: 179.940 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 29.17 Mbit/s
95th percentile per-packet one-way delay: 332.154 ms
Loss rate: 2.04%
```
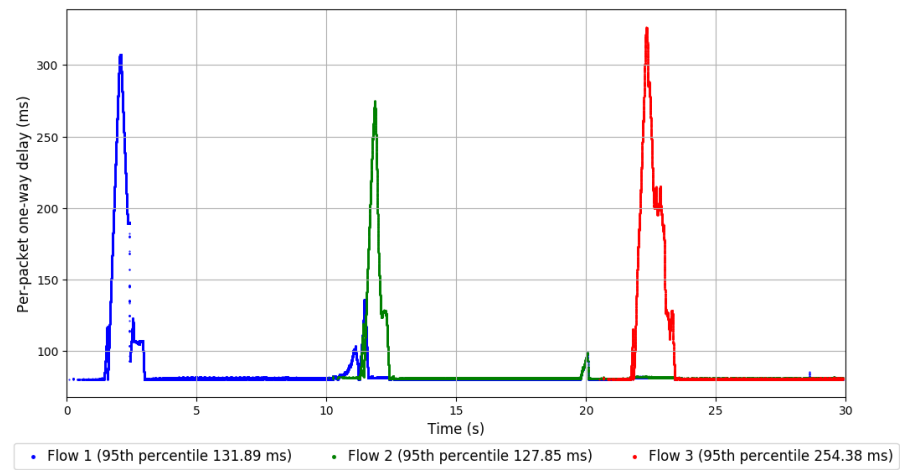
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-10-26 11:20:23
End at: 2018-10-26 11:20:53
Local clock offset: -6.896 ms
Remote clock offset: 4.166 ms


# Below is generated by plot.py at 2018-10-26 11:35:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.18 Mbit/s
95th percentile per-packet one-way delay: 210.267 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 45.70 Mbit/s
95th percentile per-packet one-way delay: 210.182 ms
Loss rate: 1.45%
-- Flow 2:
Average throughput: 37.21 Mbit/s
95th percentile per-packet one-way delay: 208.241 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 26.63 Mbit/s
95th percentile per-packet one-way delay: 249.062 ms
Loss rate: 1.94%
```
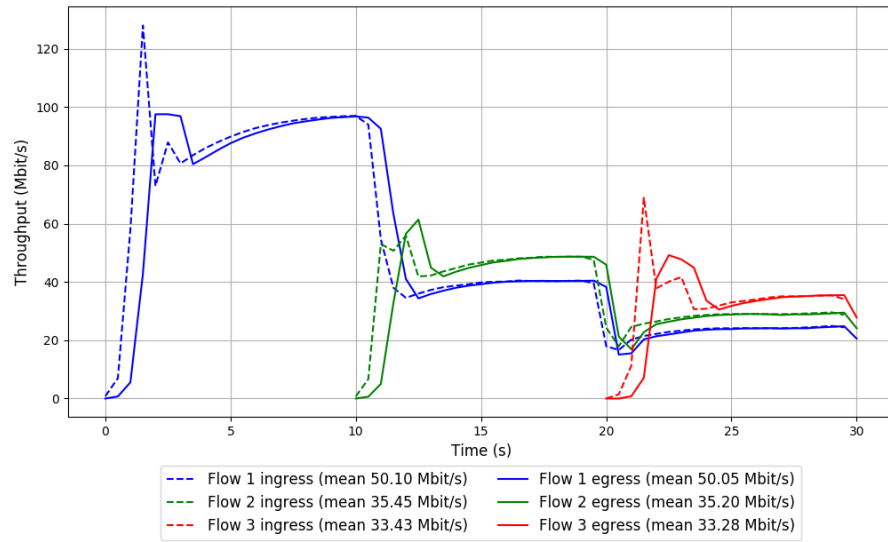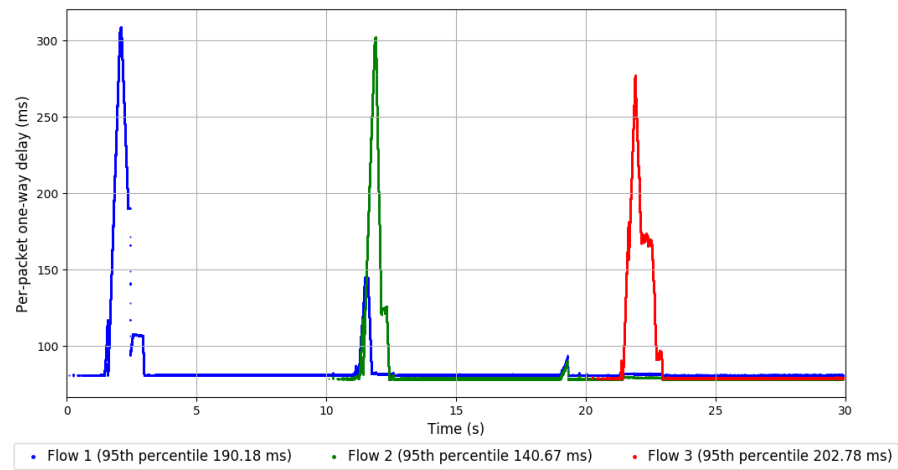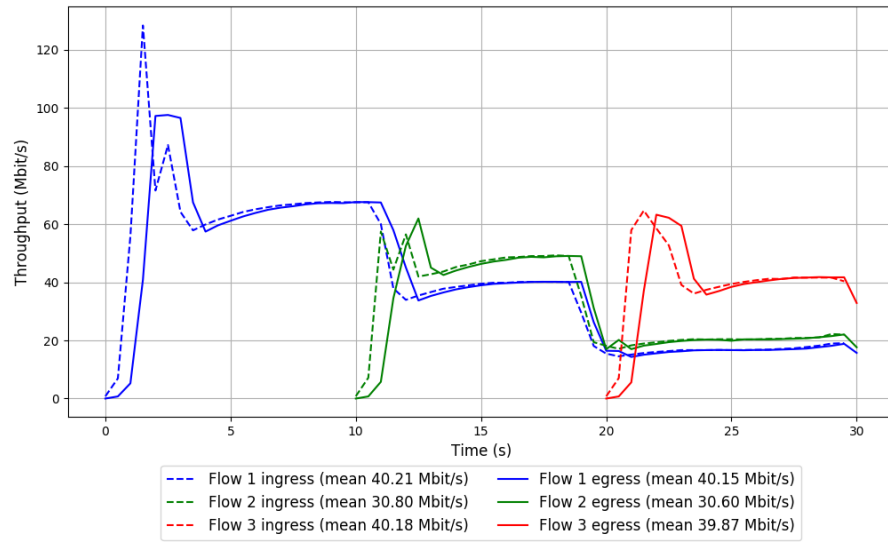
Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 46.12 Mbit/s) — Flow 1 egress (mean 45.70 Mbit/s)
Flow 2 ingress (mean 37.20 Mbit/s) — Flow 2 egress (mean 37.21 Mbit/s)
Flow 3 ingress (mean 26.71 Mbit/s) — Flow 3 egress (mean 26.63 Mbit/s)

Flow 1 (95th percentile 210.18 ms)   Flow 2 (95th percentile 208.24 ms)   Flow 3 (95th percentile 249.06 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2018-10-26 09:42:08
End at: 2018-10-26 09:42:38
Local clock offset: -5.012 ms
Remote clock offset: 3.253 ms


# Below is generated by plot.py at 2018-10-26 11:35:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.92 Mbit/s
95th percentile per-packet one-way delay: 186.512 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 50.05 Mbit/s
95th percentile per-packet one-way delay: 131.889 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 35.20 Mbit/s
95th percentile per-packet one-way delay: 127.850 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 33.28 Mbit/s
95th percentile per-packet one-way delay: 254.375 ms
Loss rate: 2.12%
```
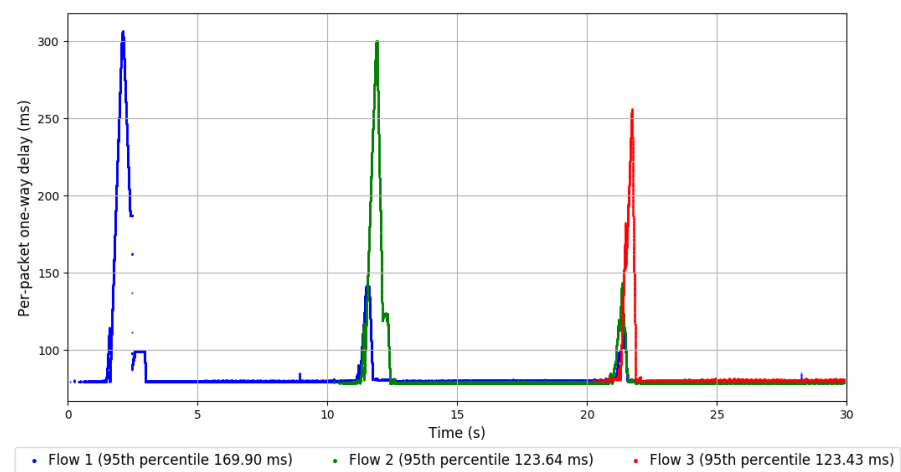
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-10-26 10:05:09
End at: 2018-10-26 10:05:39
Local clock offset: -5.307 ms
Remote clock offset: 3.783 ms


# Below is generated by plot.py at 2018-10-26 11:35:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.61 Mbit/s
95th percentile per-packet one-way delay: 184.165 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 40.15 Mbit/s
95th percentile per-packet one-way delay: 190.184 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 30.60 Mbit/s
95th percentile per-packet one-way delay: 140.671 ms
Loss rate: 1.48%
-- Flow 3:
Average throughput: 39.87 Mbit/s
95th percentile per-packet one-way delay: 202.784 ms
Loss rate: 2.39%
```
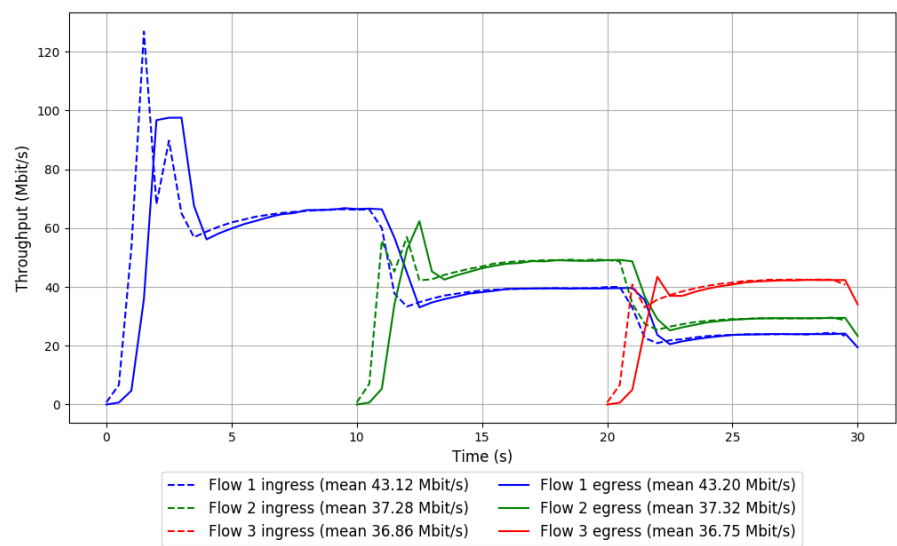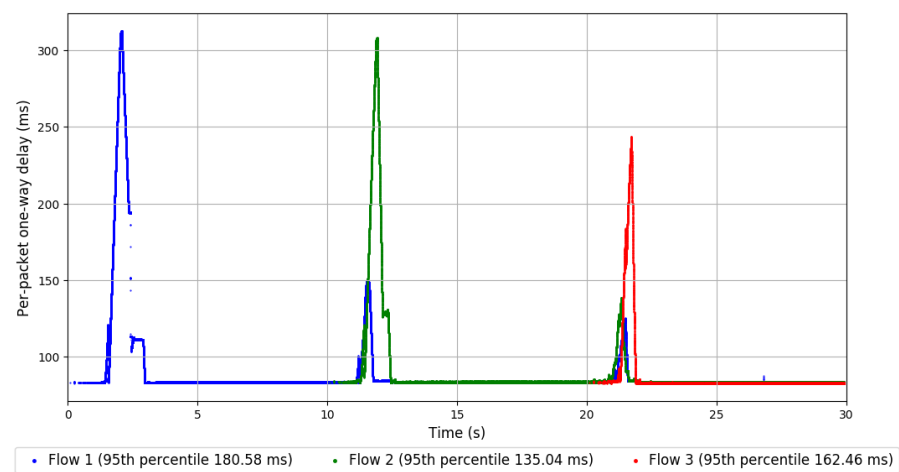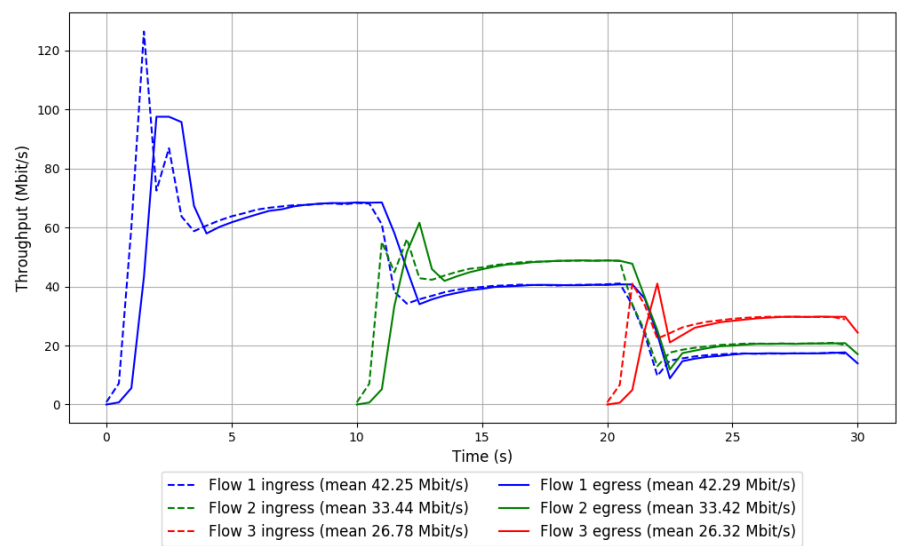
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 40.21 Mbit/s) —— Flow 1 egress (mean 40.15 Mbit/s)
Flow 2 ingress (mean 30.80 Mbit/s) —— Flow 2 egress (mean 30.60 Mbit/s)
Flow 3 ingress (mean 40.18 Mbit/s) —— Flow 3 egress (mean 39.87 Mbit/s)

• Flow 1 (95th percentile 190.18 ms)   • Flow 2 (95th percentile 140.67 ms)   • Flow 3 (95th percentile 202.78 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2018-10-26 10:28:08
End at: 2018-10-26 10:28:38
Local clock offset: -1.205 ms
Remote clock offset: 4.144 ms


# Below is generated by plot.py at 2018-10-26 11:35:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.06 Mbit/s
95th percentile per-packet one-way delay: 140.885 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 43.20 Mbit/s
95th percentile per-packet one-way delay: 169.896 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 37.32 Mbit/s
95th percentile per-packet one-way delay: 123.636 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 36.75 Mbit/s
95th percentile per-packet one-way delay: 123.427 ms
Loss rate: 1.94%
```
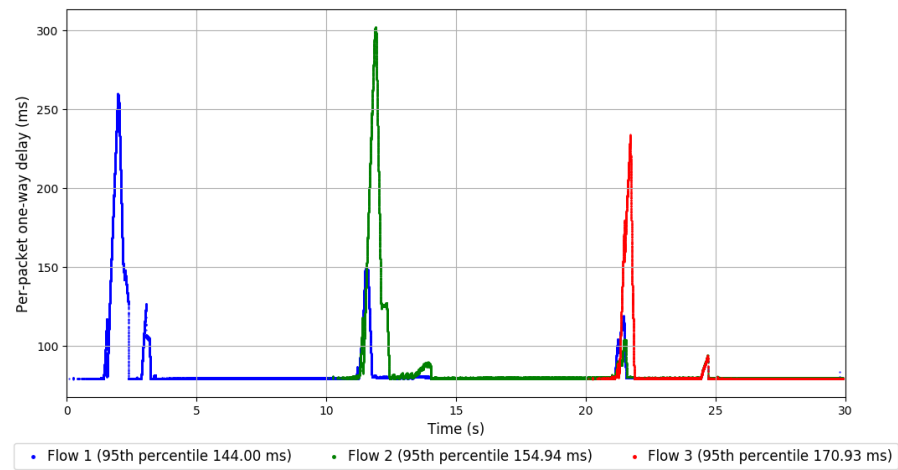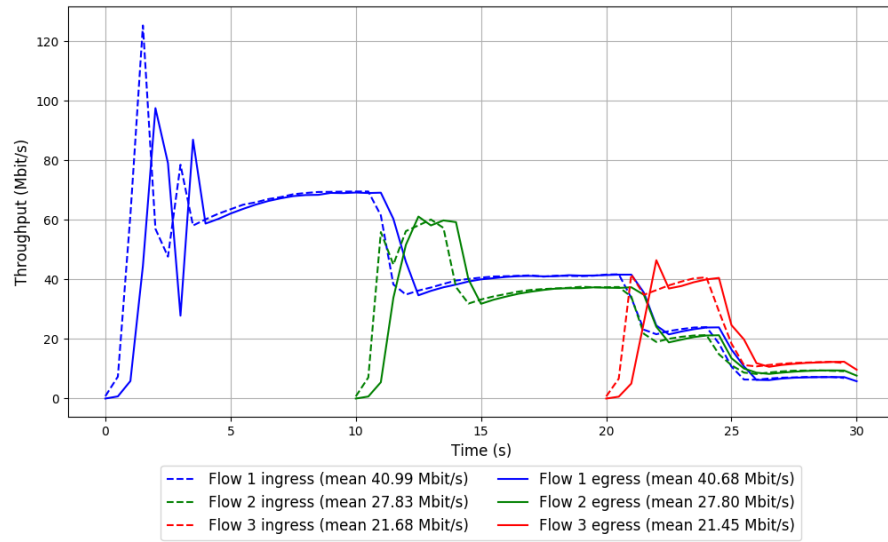
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 43.12 Mbit/s) — Flow 1 egress (mean 43.20 Mbit/s)
Flow 2 ingress (mean 37.28 Mbit/s) — Flow 2 egress (mean 37.32 Mbit/s)
Flow 3 ingress (mean 36.86 Mbit/s) — Flow 3 egress (mean 36.75 Mbit/s)

Flow 1 (95th percentile 169.90 ms) • Flow 2 (95th percentile 123.64 ms) • Flow 3 (95th percentile 123.43 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2018-10-26 10:51:06
End at: 2018-10-26 10:51:36
Local clock offset: -6.487 ms
Remote clock offset: 0.666 ms


# Below is generated by plot.py at 2018-10-26 11:35:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 73.14 Mbit/s
95th percentile per-packet one-way delay: 158.496 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 42.29 Mbit/s
95th percentile per-packet one-way delay: 180.576 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 33.42 Mbit/s
95th percentile per-packet one-way delay: 135.043 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 26.32 Mbit/s
95th percentile per-packet one-way delay: 162.462 ms
Loss rate: 3.35%
```
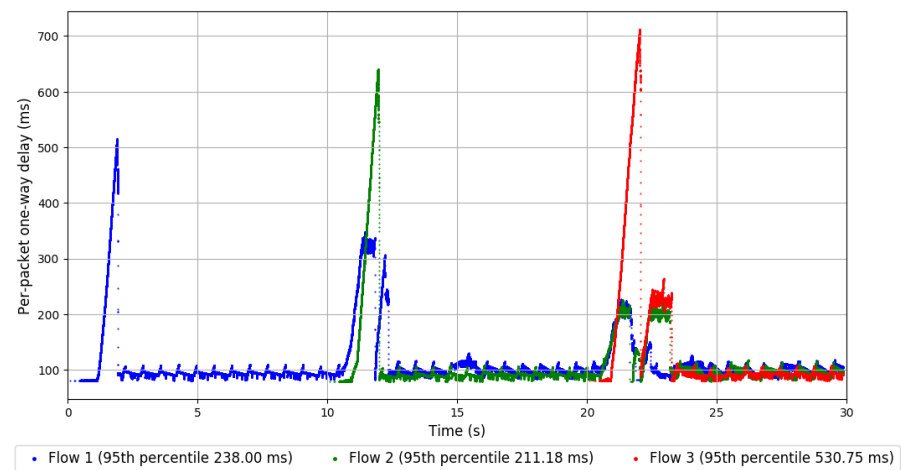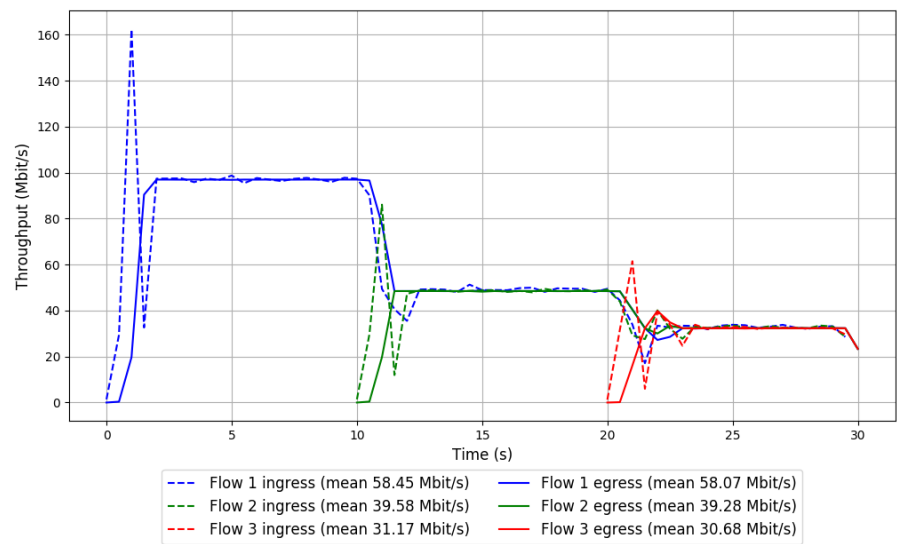
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-10-26 11:14:03
End at: 2018-10-26 11:14:33
Local clock offset: -6.898 ms
Remote clock offset: 3.527 ms


# Below is generated by plot.py at 2018-10-26 11:35:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 66.20 Mbit/s
95th percentile per-packet one-way delay: 146.817 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 40.68 Mbit/s
95th percentile per-packet one-way delay: 143.995 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 27.80 Mbit/s
95th percentile per-packet one-way delay: 154.945 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 21.45 Mbit/s
95th percentile per-packet one-way delay: 170.925 ms
Loss rate: 2.68%
```
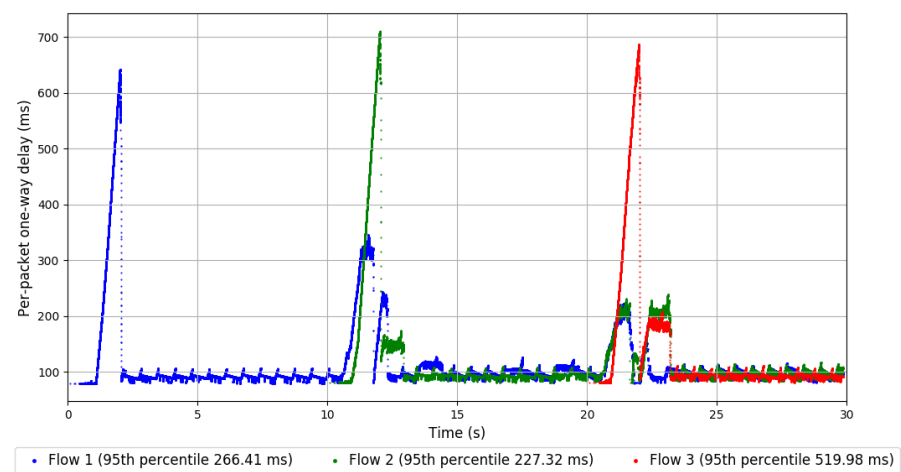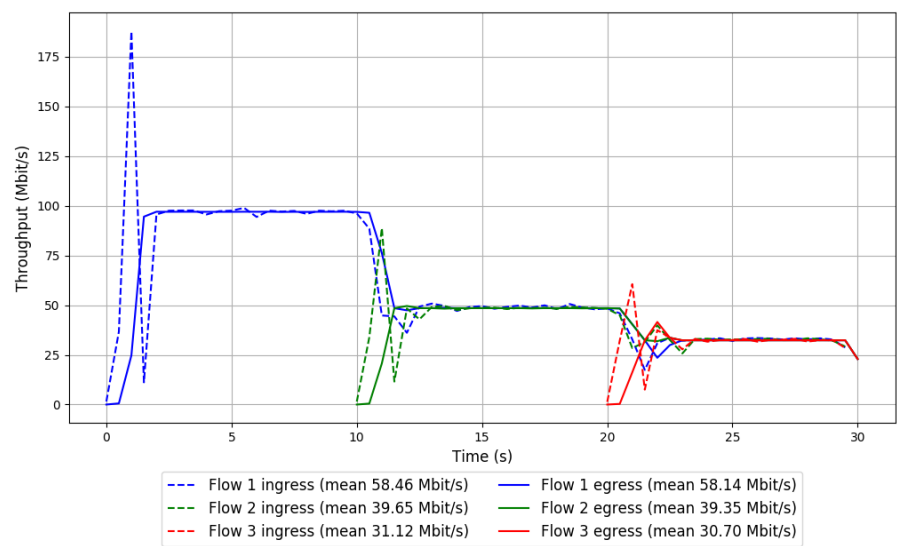
Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2018-10-26 09:51:00
End at: 2018-10-26 09:51:30
Local clock offset: -6.385 ms
Remote clock offset: 3.536 ms

# Below is generated by plot.py at 2018-10-26 11:36:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.19 Mbit/s
95th percentile per-packet one-way delay: 253.467 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 58.07 Mbit/s
95th percentile per-packet one-way delay: 238.002 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 39.28 Mbit/s
95th percentile per-packet one-way delay: 211.179 ms
Loss rate: 1.57%
-- Flow 3:
Average throughput: 30.68 Mbit/s
95th percentile per-packet one-way delay: 530.746 ms
Loss rate: 3.17%
```
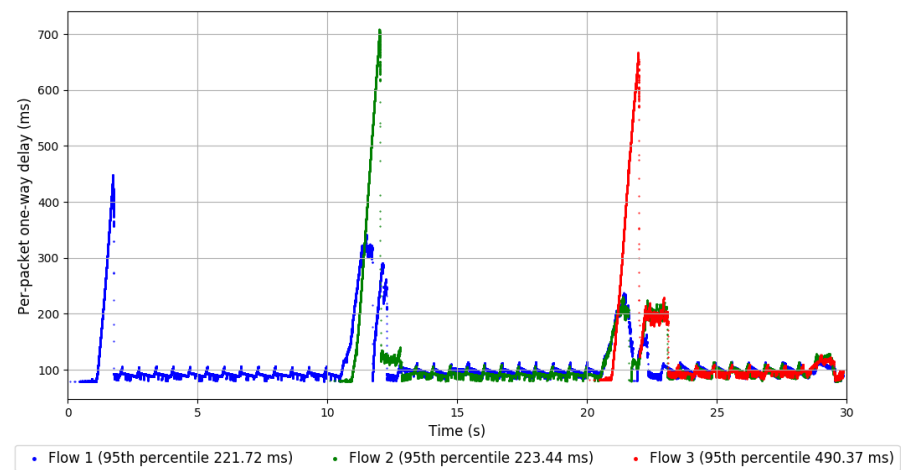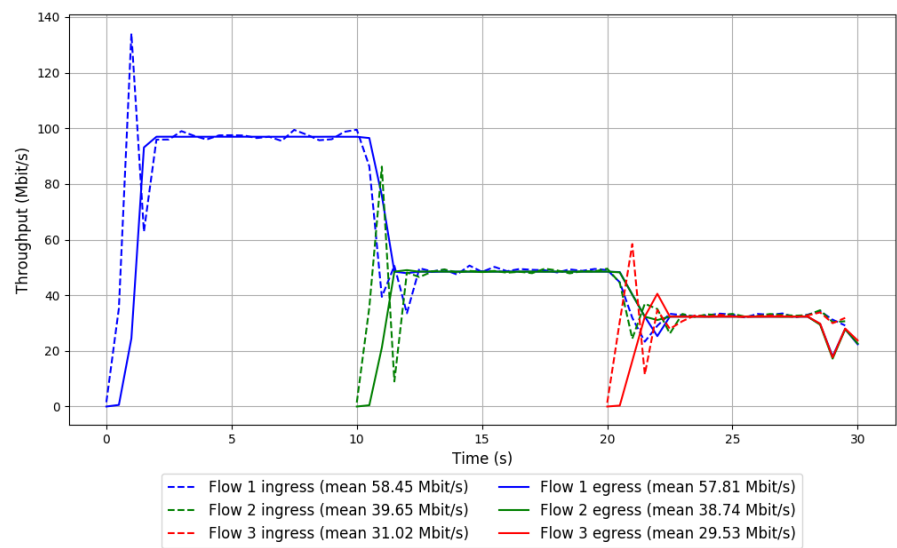
Run 1: Report of FillP — Data Link

- - - - Flow 1 ingress (mean 58.45 Mbit/s) ——— Flow 1 egress (mean 58.07 Mbit/s)
- - - - Flow 2 ingress (mean 39.58 Mbit/s) ——— Flow 2 egress (mean 39.28 Mbit/s)
- - - - Flow 3 ingress (mean 31.17 Mbit/s) ——— Flow 3 egress (mean 30.68 Mbit/s)

- Flow 1 (95th percentile 238.00 ms)   • Flow 2 (95th percentile 211.18 ms)   • Flow 3 (95th percentile 530.75 ms)

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```
Run 2: Statistics of FillP

Start at: 2018-10-26 10:14:02
End at: 2018-10-26 10:14:32
Local clock offset: -2.751 ms
Remote clock offset: 3.961 ms

# Below is generated by plot.py at 2018-10-26 11:36:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.33 Mbit/s
95th percentile per-packet one-way delay: 292.386 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 58.14 Mbit/s
95th percentile per-packet one-way delay: 266.409 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 39.35 Mbit/s
95th percentile per-packet one-way delay: 227.318 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 30.70 Mbit/s
95th percentile per-packet one-way delay: 519.977 ms
Loss rate: 2.96%
```
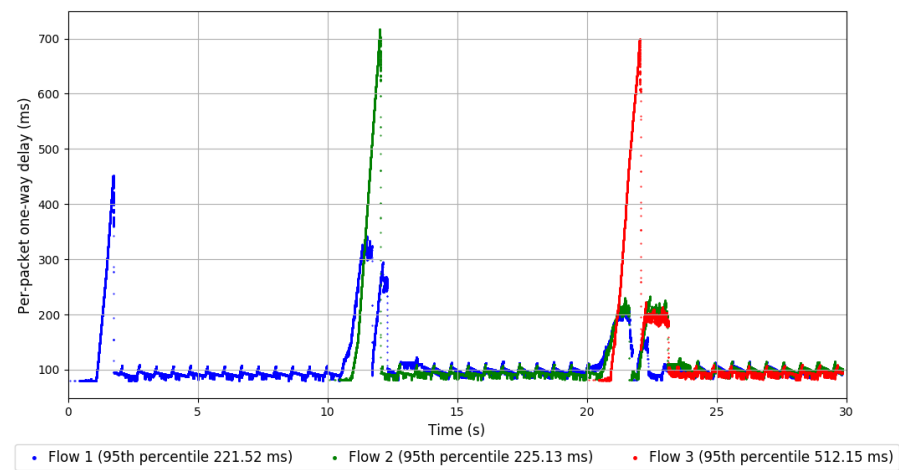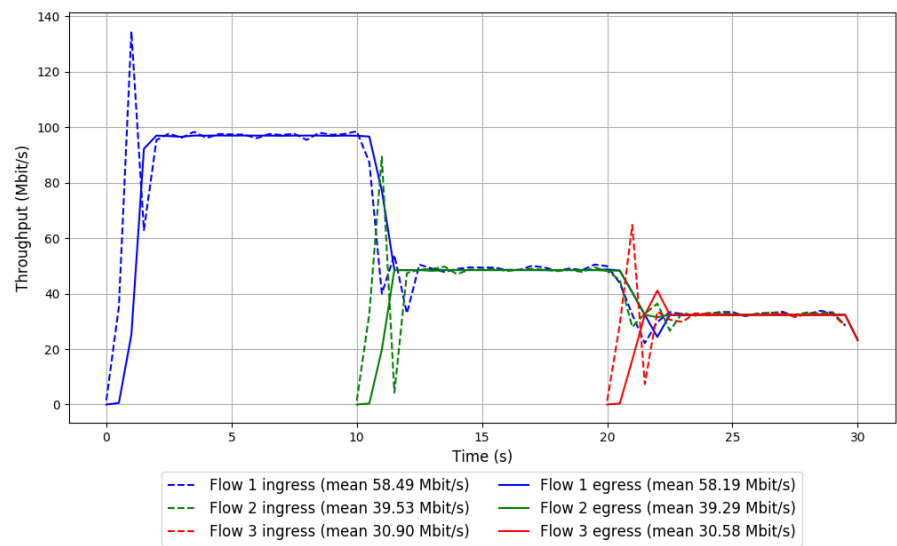
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-10-26 10:37:00
End at: 2018-10-26 10:37:30
Local clock offset: -3.612 ms
Remote clock offset: 4.085 ms


# Below is generated by plot.py at 2018-10-26 11:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.21 Mbit/s
95th percentile per-packet one-way delay: 239.633 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 57.81 Mbit/s
95th percentile per-packet one-way delay: 221.715 ms
Loss rate: 1.62%
-- Flow 2:
Average throughput: 38.74 Mbit/s
95th percentile per-packet one-way delay: 223.441 ms
Loss rate: 3.11%
-- Flow 3:
Average throughput: 29.53 Mbit/s
95th percentile per-packet one-way delay: 490.369 ms
Loss rate: 6.38%
```
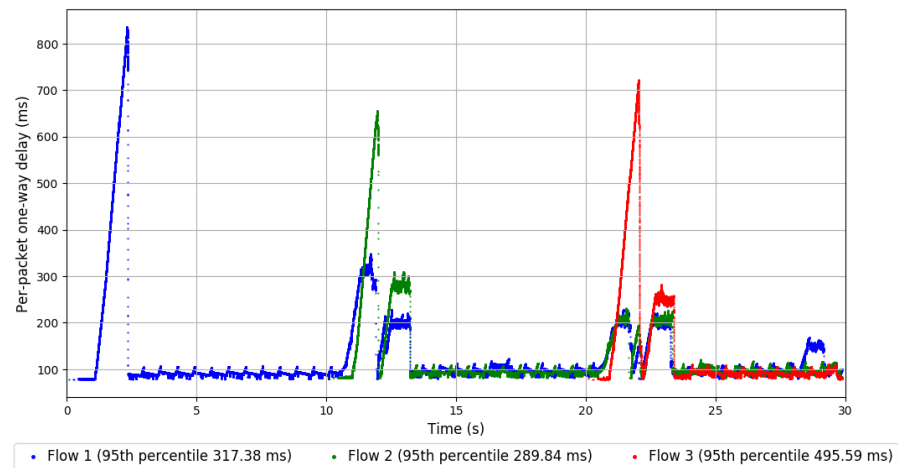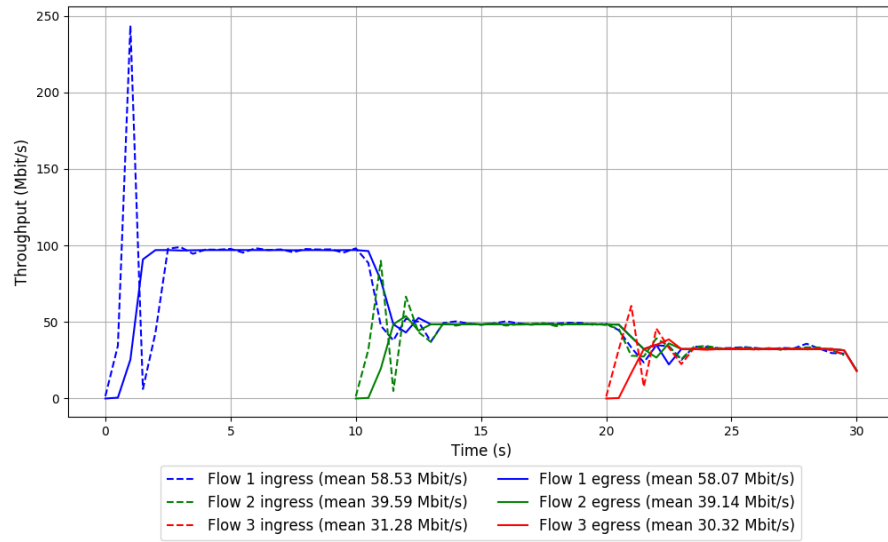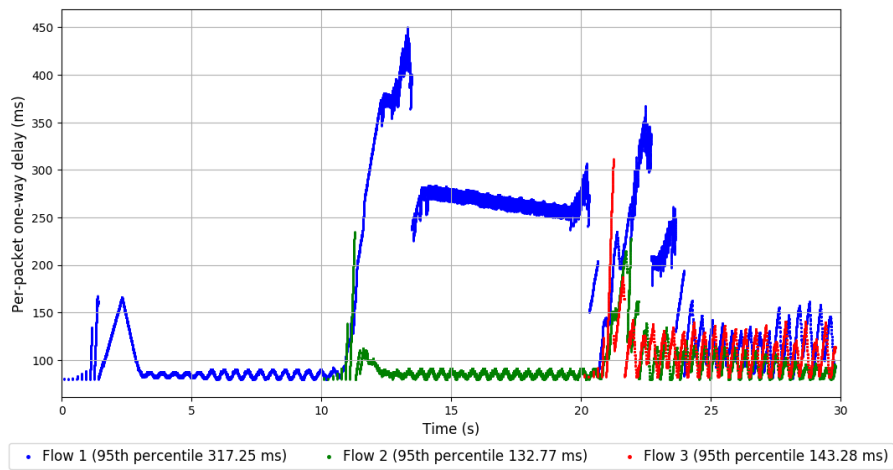
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 58.45 Mbit/s) --- Flow 1 egress (mean 57.81 Mbit/s)
Flow 2 ingress (mean 39.65 Mbit/s) --- Flow 2 egress (mean 38.74 Mbit/s)
Flow 3 ingress (mean 31.02 Mbit/s) --- Flow 3 egress (mean 29.53 Mbit/s)

Flow 1 (95th percentile 221.72 ms)   Flow 2 (95th percentile 223.44 ms)   Flow 3 (95th percentile 490.37 ms)

```
Run 4: Statistics of FillP

Start at: 2018-10-26 10:59:57
End at: 2018-10-26 11:00:27
Local clock offset: -7.074 ms
Remote clock offset: 4.06 ms


# Below is generated by plot.py at 2018-10-26 11:36:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.31 Mbit/s
95th percentile per-packet one-way delay: 245.938 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 58.19 Mbit/s
95th percentile per-packet one-way delay: 221.521 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 39.29 Mbit/s
95th percentile per-packet one-way delay: 225.135 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 30.58 Mbit/s
95th percentile per-packet one-way delay: 512.152 ms
Loss rate: 2.67%
```
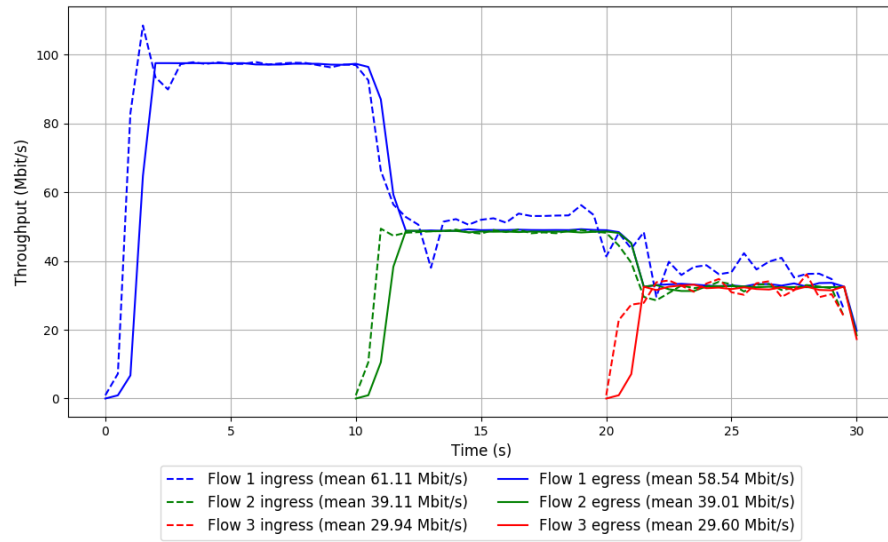
Run 4: Report of FillP — Data Link

Flow 1 ingress (mean 58.49 Mbit/s) — — — Flow 1 egress (mean 58.19 Mbit/s)
Flow 2 ingress (mean 39.53 Mbit/s) — — — Flow 2 egress (mean 39.29 Mbit/s)
Flow 3 ingress (mean 30.90 Mbit/s) — — — Flow 3 egress (mean 30.58 Mbit/s)

Flow 1 (95th percentile 221.52 ms)   Flow 2 (95th percentile 225.13 ms)   Flow 3 (95th percentile 512.15 ms)

```
Run 5: Statistics of FillP

Start at: 2018-10-26 11:22:58
End at: 2018-10-26 11:23:28
Local clock offset: -6.915 ms
Remote clock offset: 3.65 ms


# Below is generated by plot.py at 2018-10-26 11:36:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.99 Mbit/s
95th percentile per-packet one-way delay: 319.274 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 58.07 Mbit/s
95th percentile per-packet one-way delay: 317.375 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 39.14 Mbit/s
95th percentile per-packet one-way delay: 289.841 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 30.32 Mbit/s
95th percentile per-packet one-way delay: 495.586 ms
Loss rate: 4.66%
```
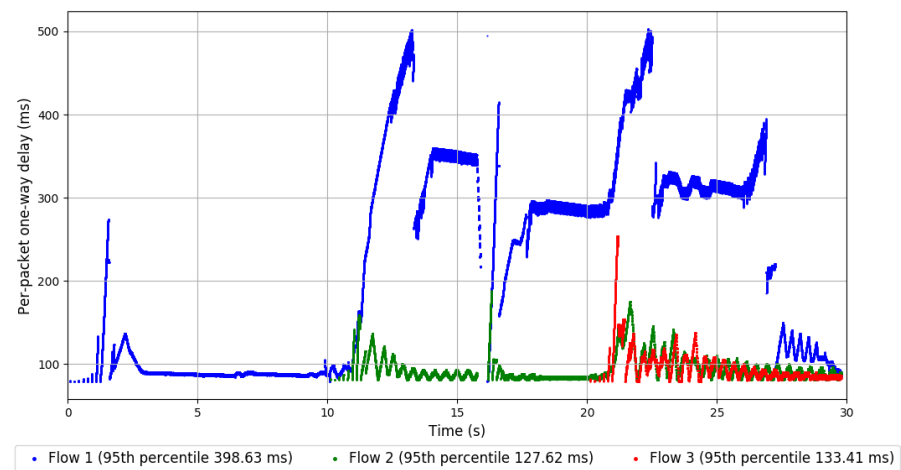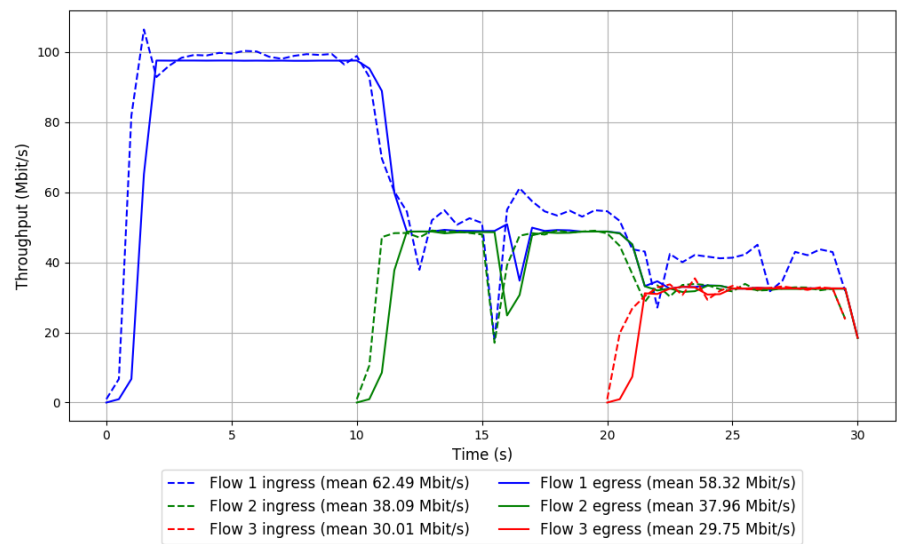
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of Indigo

Start at: 2018-10-26 09:39:28
End at: 2018-10-26 09:39:58
Local clock offset: -4.236 ms
Remote clock offset: 2.87 ms


# Below is generated by plot.py at 2018-10-26 11:36:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.03 Mbit/s
95th percentile per-packet one-way delay: 278.989 ms
Loss rate: 3.56%
-- Flow 1:
Average throughput: 58.54 Mbit/s
95th percentile per-packet one-way delay: 317.248 ms
Loss rate: 4.74%
-- Flow 2:
Average throughput: 39.01 Mbit/s
95th percentile per-packet one-way delay: 132.766 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 29.60 Mbit/s
95th percentile per-packet one-way delay: 143.283 ms
Loss rate: 2.80%
```
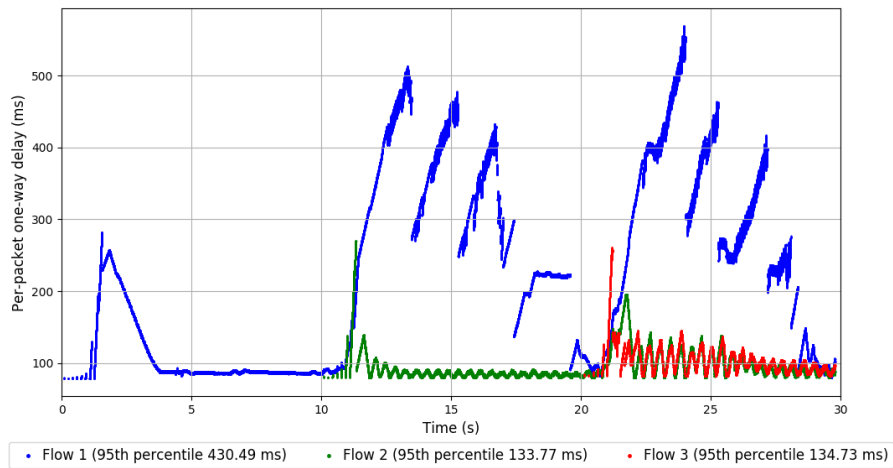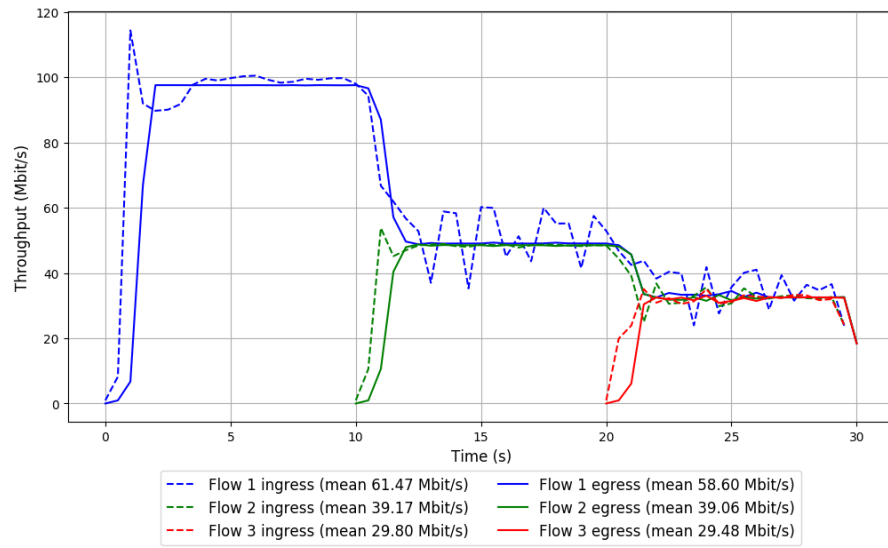
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-10-26 10:02:28
End at: 2018-10-26 10:02:58
Local clock offset: -6.591 ms
Remote clock offset: 3.639 ms


# Below is generated by plot.py at 2018-10-26 11:36:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.14 Mbit/s
95th percentile per-packet one-way delay: 354.728 ms
Loss rate: 5.15%
-- Flow 1:
Average throughput: 58.32 Mbit/s
95th percentile per-packet one-way delay: 398.628 ms
Loss rate: 7.18%
-- Flow 2:
Average throughput: 37.96 Mbit/s
95th percentile per-packet one-way delay: 127.624 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 29.75 Mbit/s
95th percentile per-packet one-way delay: 133.411 ms
Loss rate: 2.50%
```
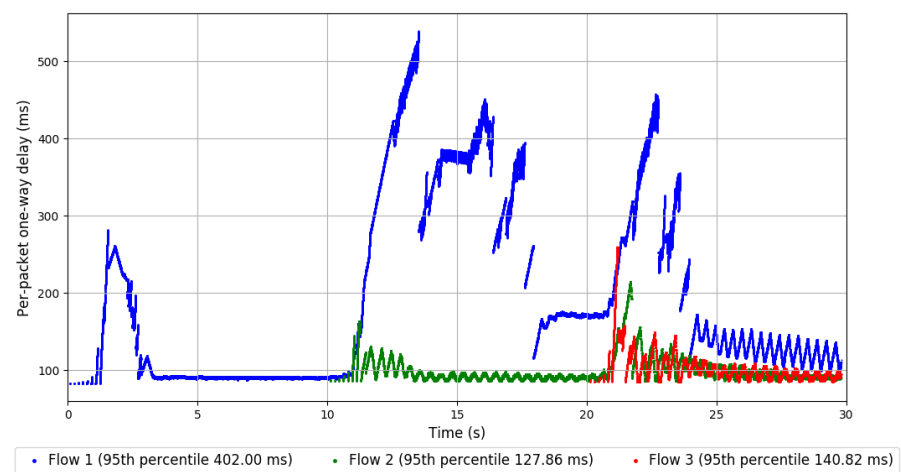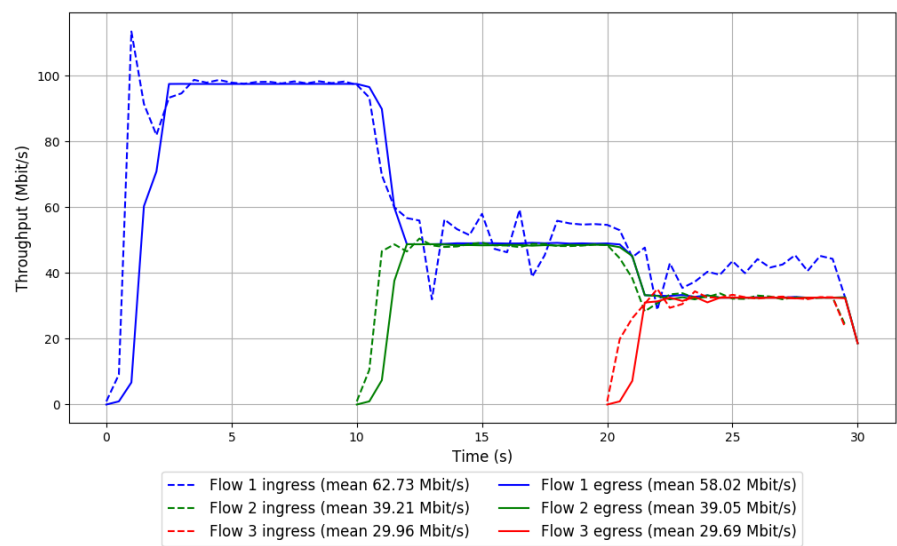
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-10-26 10:25:28
End at: 2018-10-26 10:25:58
Local clock offset: -1.325 ms
Remote clock offset: 3.846 ms


# Below is generated by plot.py at 2018-10-26 11:36:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.10 Mbit/s
95th percentile per-packet one-way delay: 405.545 ms
Loss rate: 3.83%
-- Flow 1:
Average throughput: 58.60 Mbit/s
95th percentile per-packet one-way delay: 430.485 ms
Loss rate: 5.17%
-- Flow 2:
Average throughput: 39.06 Mbit/s
95th percentile per-packet one-way delay: 133.766 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 29.48 Mbit/s
95th percentile per-packet one-way delay: 134.726 ms
Loss rate: 2.70%
```
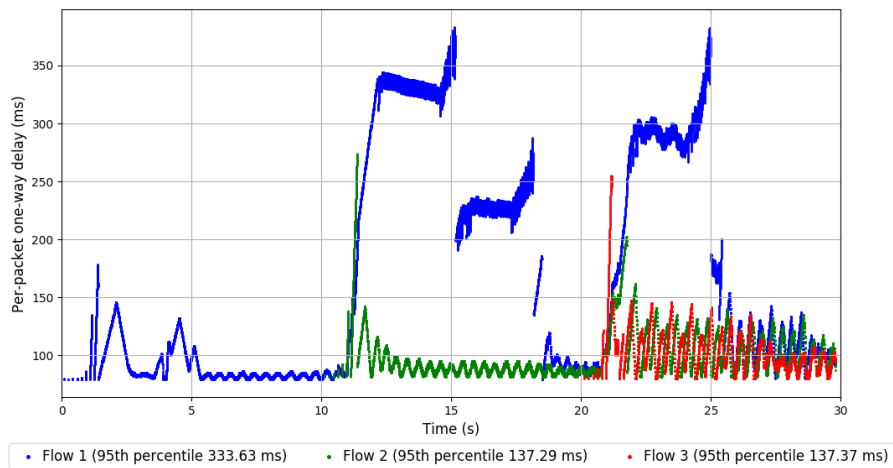
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-10-26 10:48:27
End at: 2018-10-26 10:48:57
Local clock offset: -6.166 ms
Remote clock offset: 0.384 ms


# Below is generated by plot.py at 2018-10-26 11:37:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.55 Mbit/s
95th percentile per-packet one-way delay: 380.336 ms
Loss rate: 5.67%
-- Flow 1:
Average throughput: 58.02 Mbit/s
95th percentile per-packet one-way delay: 402.003 ms
Loss rate: 8.00%
-- Flow 2:
Average throughput: 39.05 Mbit/s
95th percentile per-packet one-way delay: 127.860 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 29.69 Mbit/s
95th percentile per-packet one-way delay: 140.819 ms
Loss rate: 2.59%
```
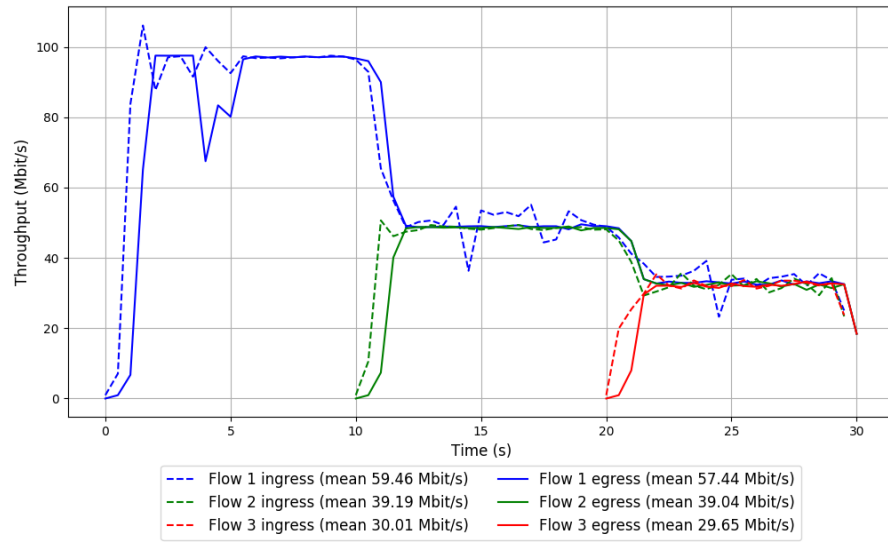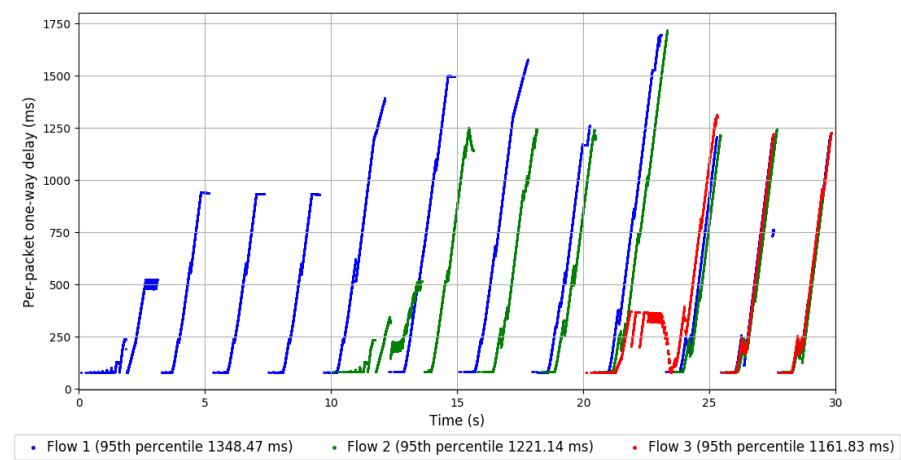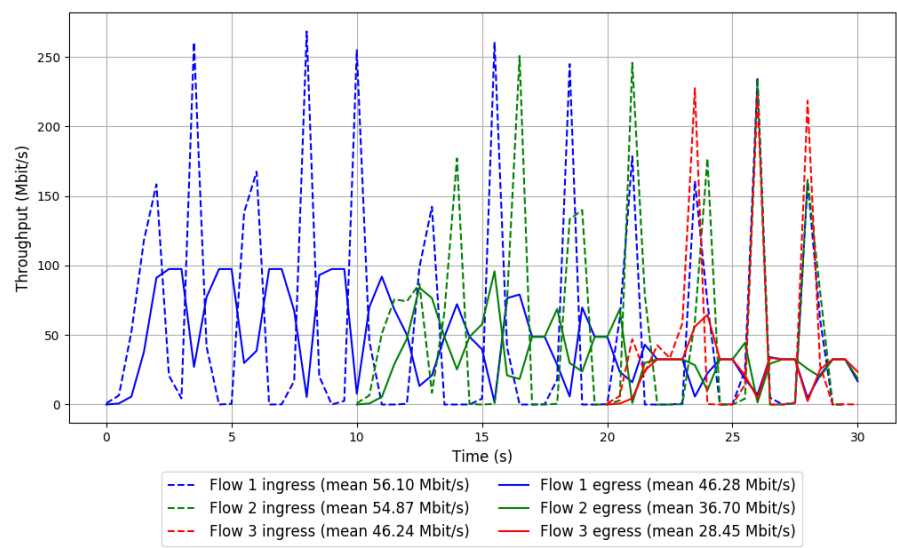
Run 4: Report of Indigo — Data Link

- Flow 1 ingress (mean 62.73 Mbit/s) —— Flow 1 egress (mean 58.02 Mbit/s)
- Flow 2 ingress (mean 39.21 Mbit/s) —— Flow 2 egress (mean 39.05 Mbit/s)
- Flow 3 ingress (mean 29.96 Mbit/s) —— Flow 3 egress (mean 29.69 Mbit/s)

- Flow 1 (95th percentile 402.00 ms)
- Flow 2 (95th percentile 127.86 ms)
- Flow 3 (95th percentile 140.82 ms)

```
Run 5: Statistics of Indigo

Start at: 2018-10-26 11:11:24
End at: 2018-10-26 11:11:54
Local clock offset: -6.903 ms
Remote clock offset: 4.048 ms


# Below is generated by plot.py at 2018-10-26 11:37:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.95 Mbit/s
95th percentile per-packet one-way delay: 326.400 ms
Loss rate: 3.07%
-- Flow 1:
Average throughput: 57.44 Mbit/s
95th percentile per-packet one-way delay: 333.634 ms
Loss rate: 3.92%
-- Flow 2:
Average throughput: 39.04 Mbit/s
95th percentile per-packet one-way delay: 137.286 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 29.65 Mbit/s
95th percentile per-packet one-way delay: 137.373 ms
Loss rate: 2.85%
```
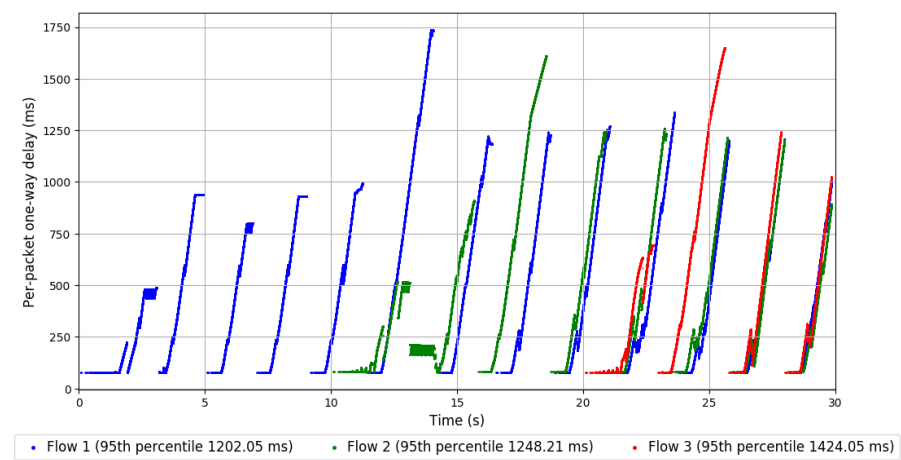
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-26 09:45:58
End at: 2018-10-26 09:46:28
Local clock offset: -5.853 ms
Remote clock offset: 3.309 ms


# Below is generated by plot.py at 2018-10-26 11:37:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.82 Mbit/s
95th percentile per-packet one-way delay: 1253.391 ms
Loss rate: 26.62%
-- Flow 1:
Average throughput: 46.28 Mbit/s
95th percentile per-packet one-way delay: 1348.473 ms
Loss rate: 18.03%
-- Flow 2:
Average throughput: 36.70 Mbit/s
95th percentile per-packet one-way delay: 1221.144 ms
Loss rate: 34.05%
-- Flow 3:
Average throughput: 28.45 Mbit/s
95th percentile per-packet one-way delay: 1161.830 ms
Loss rate: 40.15%
```
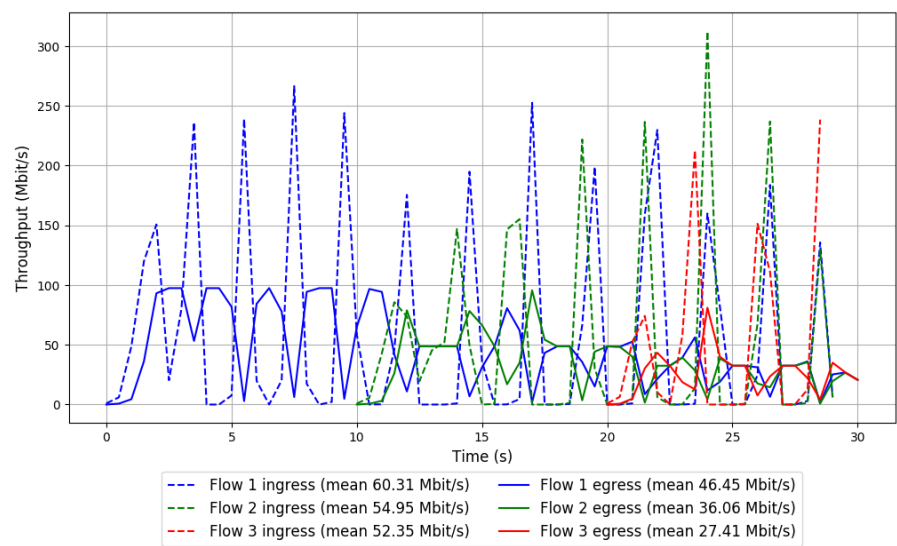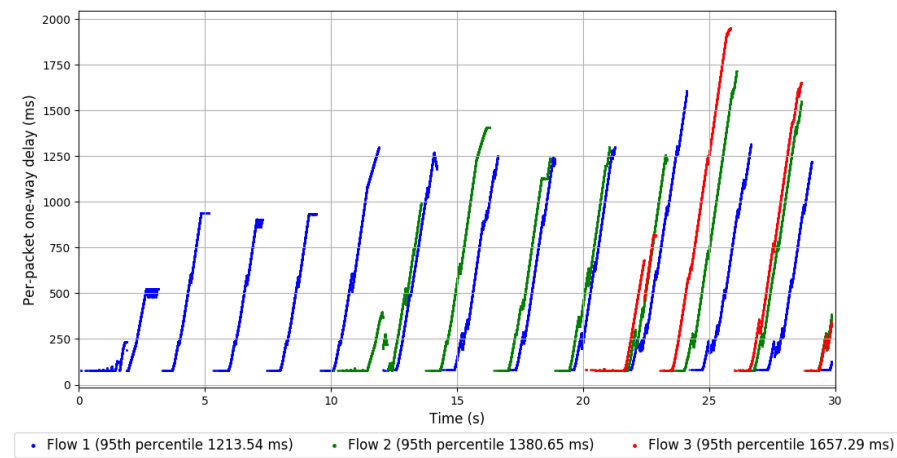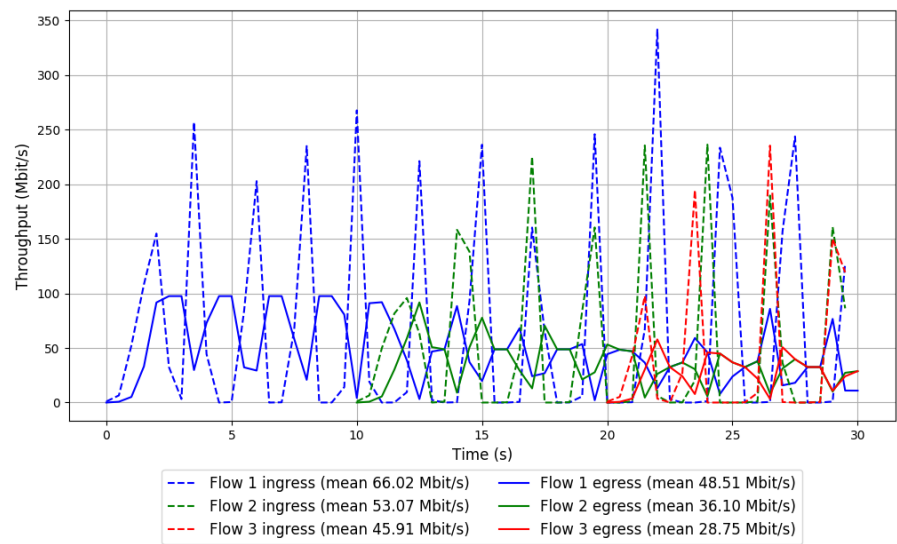
Run 1: Report of Indigo-96d2da3 — Data Link

Flow 1 ingress (mean 56.10 Mbit/s) — Flow 1 egress (mean 46.28 Mbit/s)
Flow 2 ingress (mean 54.87 Mbit/s) — Flow 2 egress (mean 36.70 Mbit/s)
Flow 3 ingress (mean 46.24 Mbit/s) — Flow 3 egress (mean 28.45 Mbit/s)

Flow 1 (95th percentile 1348.47 ms)   Flow 2 (95th percentile 1221.14 ms)   Flow 3 (95th percentile 1161.83 ms)

```
Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-26 10:08:59
End at: 2018-10-26 10:09:29
Local clock offset: -3.938 ms
Remote clock offset: 3.837 ms


# Below is generated by plot.py at 2018-10-26 11:37:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.35 Mbit/s
95th percentile per-packet one-way delay: 1224.848 ms
Loss rate: 27.59%
-- Flow 1:
Average throughput: 46.45 Mbit/s
95th percentile per-packet one-way delay: 1202.049 ms
Loss rate: 21.03%
-- Flow 2:
Average throughput: 36.06 Mbit/s
95th percentile per-packet one-way delay: 1248.207 ms
Loss rate: 31.95%
-- Flow 3:
Average throughput: 27.41 Mbit/s
95th percentile per-packet one-way delay: 1424.045 ms
Loss rate: 42.53%
```
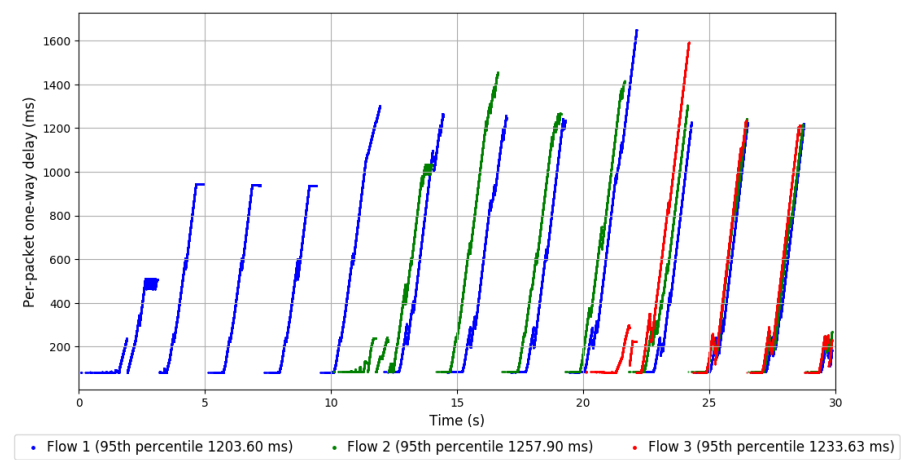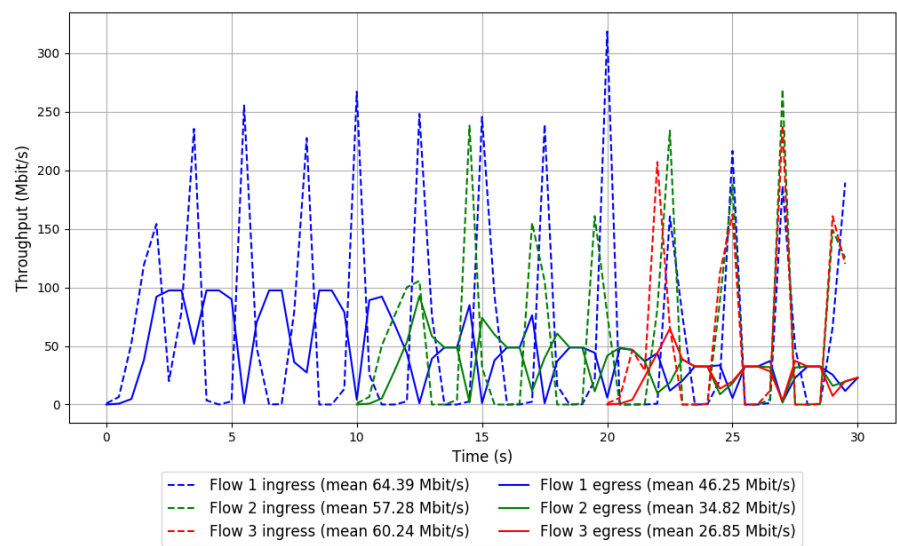
Run 2: Report of Indigo-96d2da3 — Data Link

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```
Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-26 10:31:57
End at: 2018-10-26 10:32:27
Local clock offset: -1.077 ms
Remote clock offset: 4.492 ms


# Below is generated by plot.py at 2018-10-26 11:37:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.89 Mbit/s
95th percentile per-packet one-way delay: 1278.794 ms
Loss rate: 29.57%
-- Flow 1:
Average throughput: 48.51 Mbit/s
95th percentile per-packet one-way delay: 1213.542 ms
Loss rate: 26.92%
-- Flow 2:
Average throughput: 36.10 Mbit/s
95th percentile per-packet one-way delay: 1380.654 ms
Loss rate: 31.55%
-- Flow 3:
Average throughput: 28.75 Mbit/s
95th percentile per-packet one-way delay: 1657.289 ms
Loss rate: 36.74%
```
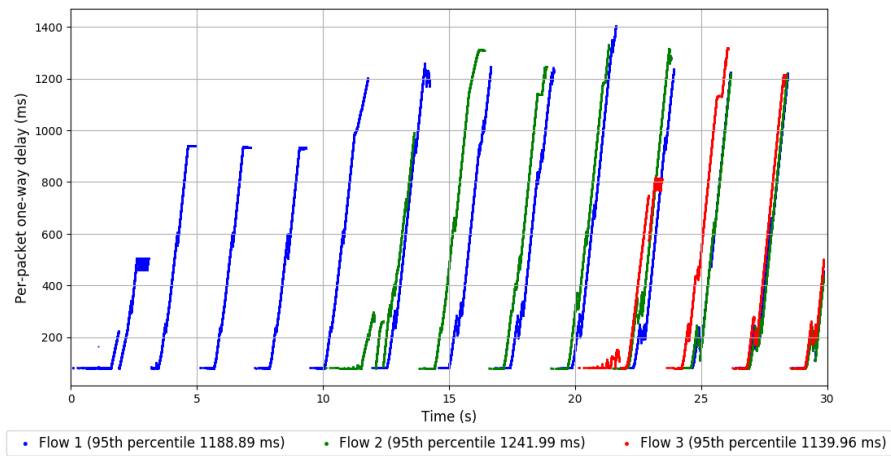
Run 3: Report of Indigo-96d2da3 — Data Link

```
Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-26 10:54:55
End at: 2018-10-26 10:55:25
Local clock offset: -6.752 ms
Remote clock offset: 0.619 ms


# Below is generated by plot.py at 2018-10-26 11:38:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.16 Mbit/s
95th percentile per-packet one-way delay: 1215.696 ms
Loss rate: 35.72%
-- Flow 1:
Average throughput: 46.25 Mbit/s
95th percentile per-packet one-way delay: 1203.595 ms
Loss rate: 27.98%
-- Flow 2:
Average throughput: 34.82 Mbit/s
95th percentile per-packet one-way delay: 1257.901 ms
Loss rate: 38.93%
-- Flow 3:
Average throughput: 26.85 Mbit/s
95th percentile per-packet one-way delay: 1233.629 ms
Loss rate: 54.96%
```
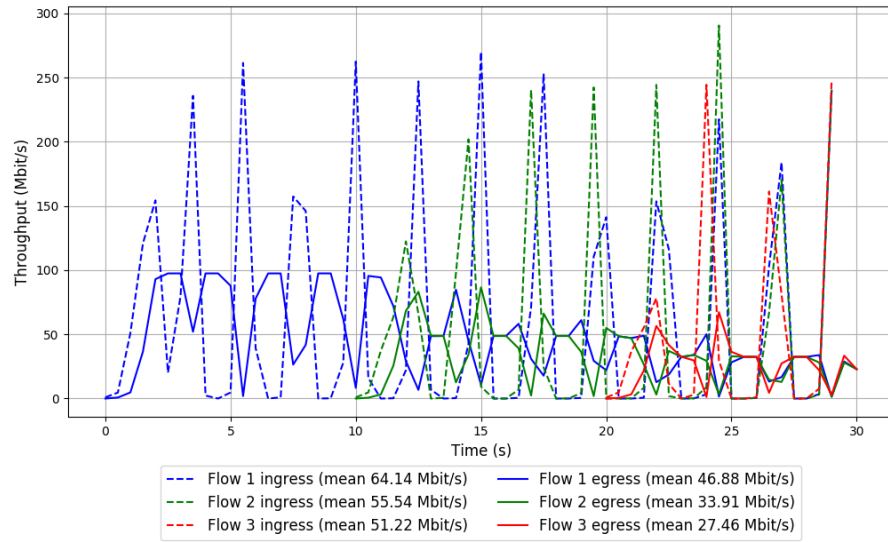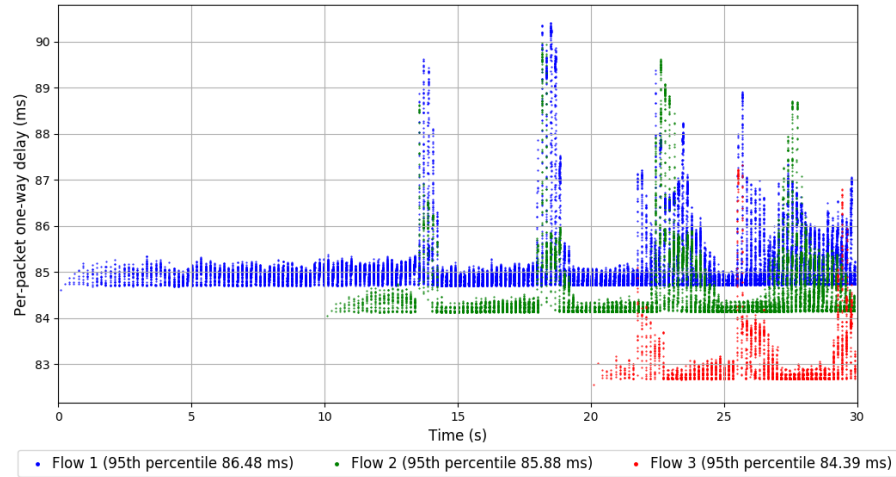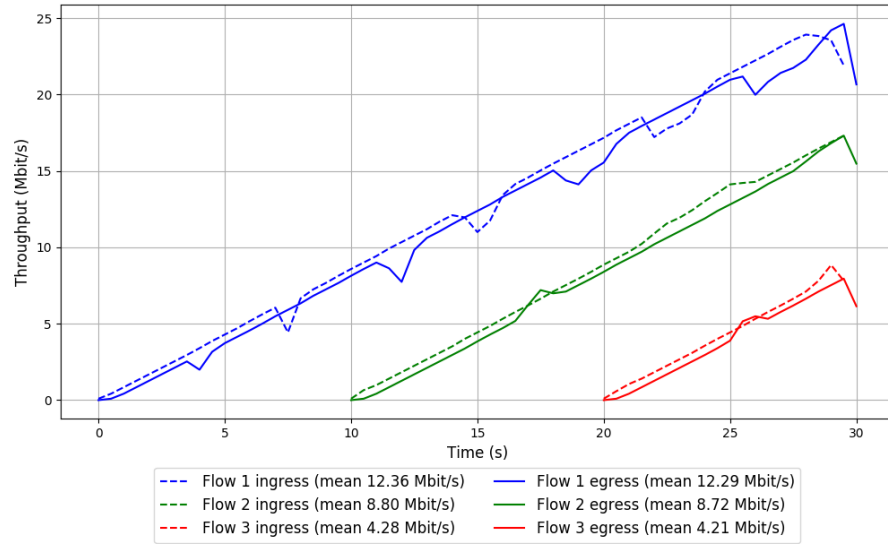
Run 4: Report of Indigo-96d2da3 — Data Link

Flow 1 ingress (mean 64.39 Mbit/s) — Flow 1 egress (mean 46.25 Mbit/s)
Flow 2 ingress (mean 57.28 Mbit/s) — Flow 2 egress (mean 34.82 Mbit/s)
Flow 3 ingress (mean 60.24 Mbit/s) — Flow 3 egress (mean 26.85 Mbit/s)

Flow 1 (95th percentile 1203.60 ms)   Flow 2 (95th percentile 1257.90 ms)   Flow 3 (95th percentile 1233.63 ms)

```
Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-26 11:17:53
End at: 2018-10-26 11:18:23
Local clock offset: -6.923 ms
Remote clock offset: 3.908 ms


# Below is generated by plot.py at 2018-10-26 11:38:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 78.34 Mbit/s
95th percentile per-packet one-way delay: 1198.538 ms
Loss rate: 32.33%
-- Flow 1:
Average throughput: 46.88 Mbit/s
95th percentile per-packet one-way delay: 1188.889 ms
Loss rate: 26.04%
-- Flow 2:
Average throughput: 33.91 Mbit/s
95th percentile per-packet one-way delay: 1241.987 ms
Loss rate: 37.88%
-- Flow 3:
Average throughput: 27.46 Mbit/s
95th percentile per-packet one-way delay: 1139.956 ms
Loss rate: 44.58%
```
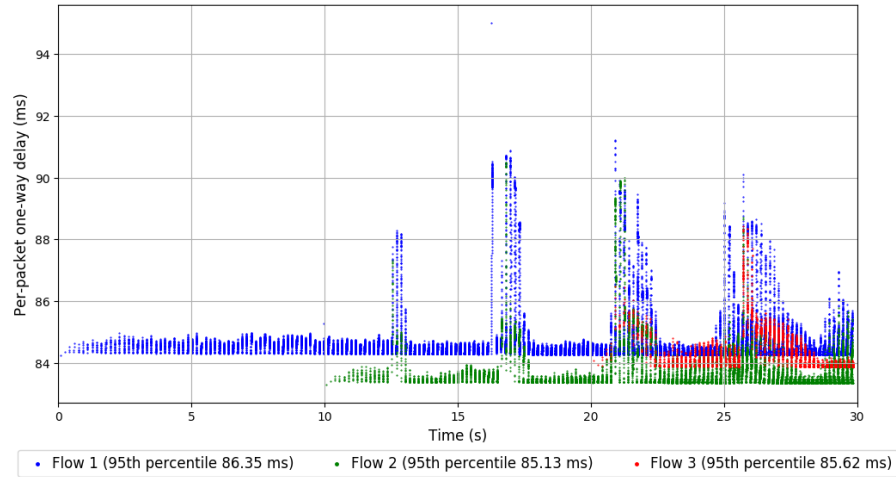
Run 5: Report of Indigo-96d2da3 — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2018-10-26 09:53:34
End at: 2018-10-26 09:54:04
Local clock offset: -6.628 ms
Remote clock offset: -0.325 ms

# Below is generated by plot.py at 2018-10-26 11:38:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.46 Mbit/s
95th percentile per-packet one-way delay: 86.298 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 12.29 Mbit/s
95th percentile per-packet one-way delay: 86.479 ms
Loss rate: 1.05%
-- Flow 2:
Average throughput: 8.72 Mbit/s
95th percentile per-packet one-way delay: 85.881 ms
Loss rate: 1.66%
-- Flow 3:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 84.388 ms
Loss rate: 3.33%
```
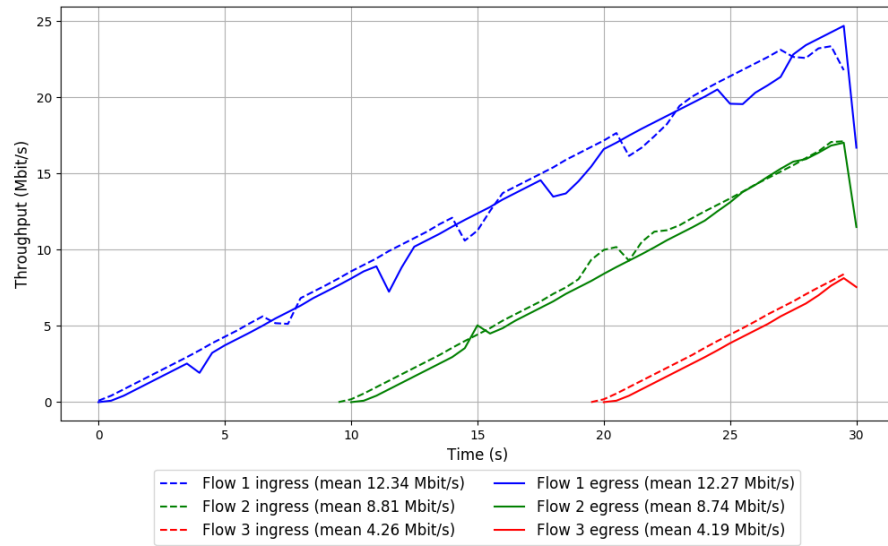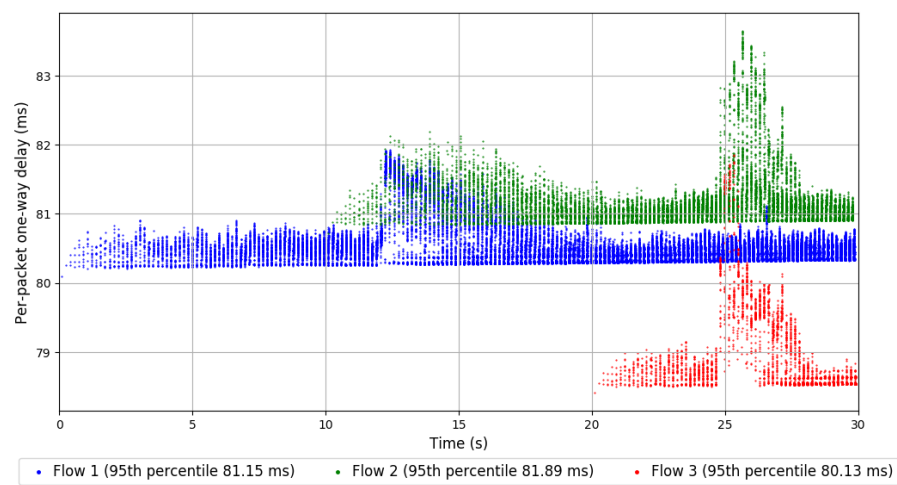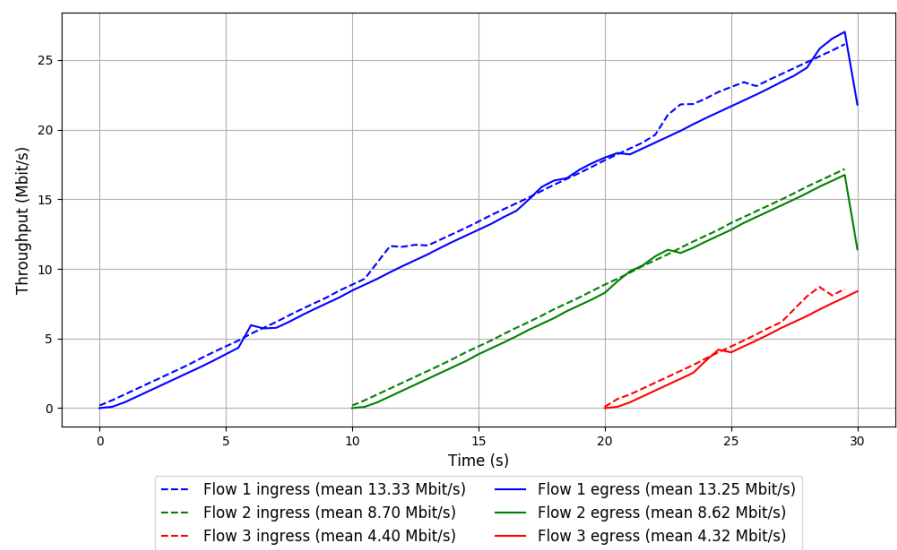
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-10-26 10:16:36
End at: 2018-10-26 10:17:06
Local clock offset: -2.257 ms
Remote clock offset: 0.48 ms


# Below is generated by plot.py at 2018-10-26 11:38:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.42 Mbit/s
95th percentile per-packet one-way delay: 85.761 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 12.27 Mbit/s
95th percentile per-packet one-way delay: 86.349 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 8.74 Mbit/s
95th percentile per-packet one-way delay: 85.128 ms
Loss rate: 1.66%
-- Flow 3:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 85.617 ms
Loss rate: 3.38%
```

Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-10-26 10:39:34
End at: 2018-10-26 10:40:04
Local clock offset: -4.408 ms
Remote clock offset: 4.242 ms


# Below is generated by plot.py at 2018-10-26 11:38:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.35 Mbit/s
95th percentile per-packet one-way delay: 81.462 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 13.25 Mbit/s
95th percentile per-packet one-way delay: 81.151 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 81.891 ms
Loss rate: 1.67%
-- Flow 3:
Average throughput: 4.32 Mbit/s
95th percentile per-packet one-way delay: 80.132 ms
Loss rate: 3.32%
```
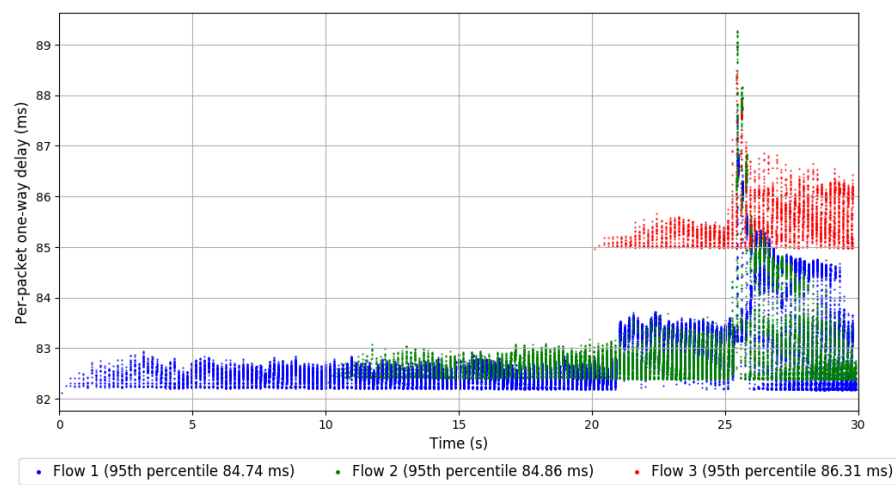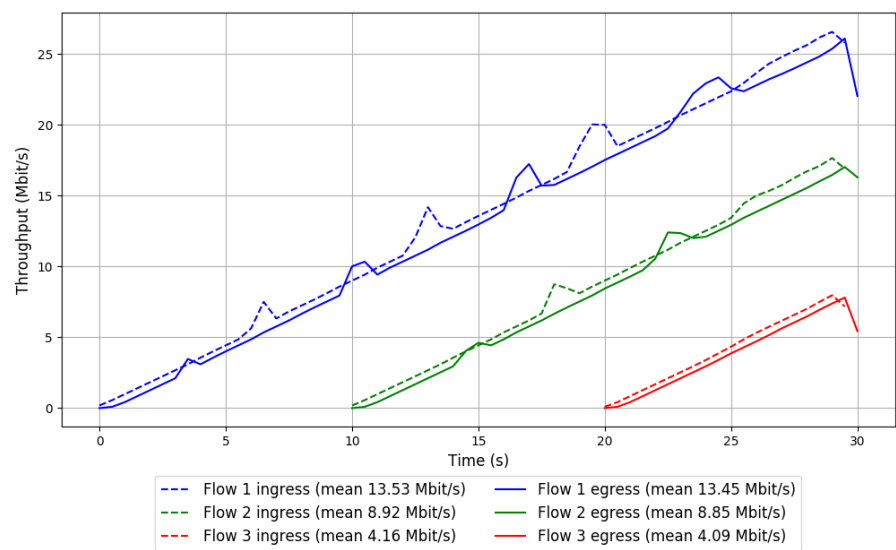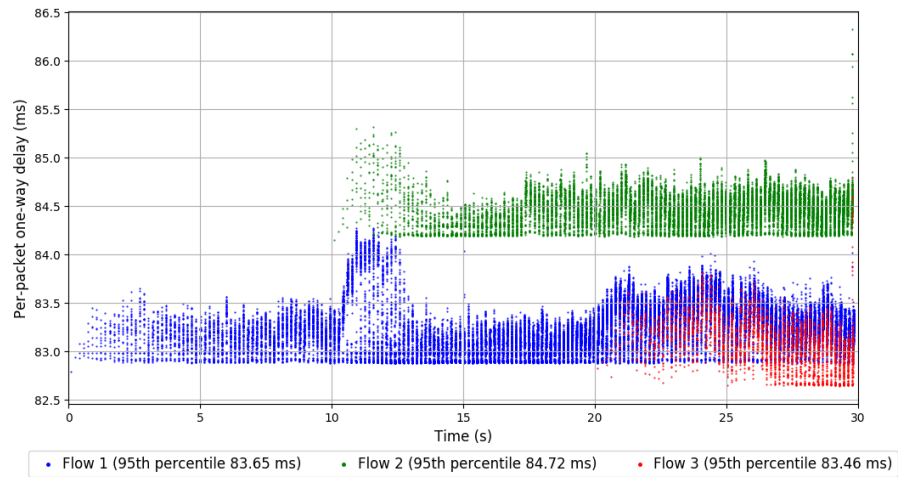
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 13.33 Mbit/s)   Flow 1 egress (mean 13.25 Mbit/s)
Flow 2 ingress (mean 8.70 Mbit/s)   Flow 2 egress (mean 8.62 Mbit/s)
Flow 3 ingress (mean 4.40 Mbit/s)   Flow 3 egress (mean 4.32 Mbit/s)

Flow 1 (95th percentile 81.15 ms)   Flow 2 (95th percentile 81.89 ms)   Flow 3 (95th percentile 80.13 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2018-10-26 11:02:32
End at: 2018-10-26 11:03:02
Local clock offset: -7.124 ms
Remote clock offset: 0.193 ms

# Below is generated by plot.py at 2018-10-26 11:38:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.66 Mbit/s
95th percentile per-packet one-way delay: 85.443 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 13.45 Mbit/s
95th percentile per-packet one-way delay: 84.743 ms
Loss rate: 1.08%
-- Flow 2:
Average throughput: 8.85 Mbit/s
95th percentile per-packet one-way delay: 84.859 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 4.09 Mbit/s
95th percentile per-packet one-way delay: 86.308 ms
Loss rate: 3.41%
```
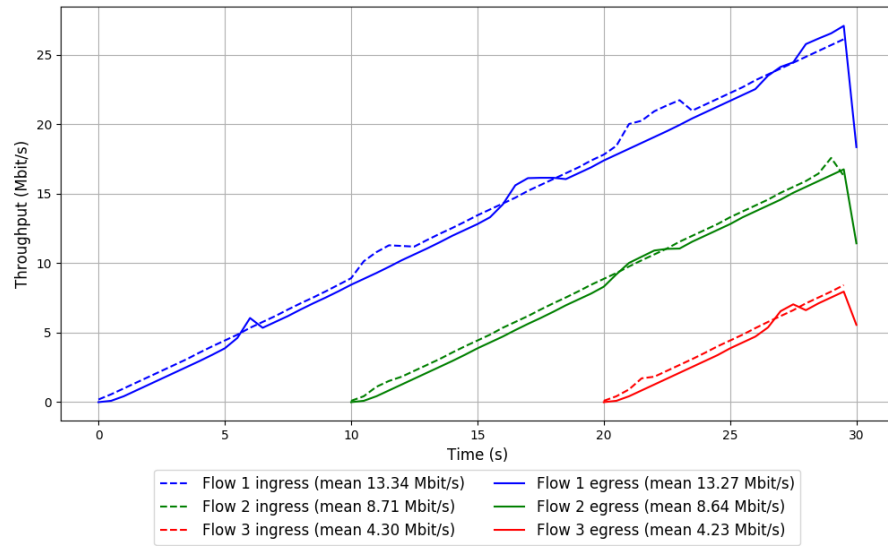
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-10-26 11:25:34
End at: 2018-10-26 11:26:04
Local clock offset: -7.077 ms
Remote clock offset: 0.218 ms

# Below is generated by plot.py at 2018-10-26 11:38:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 20.36 Mbit/s
95th percentile per-packet one-way delay: 84.611 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 13.27 Mbit/s
95th percentile per-packet one-way delay: 83.654 ms
Loss rate: 1.10%
-- Flow 2:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 84.720 ms
Loss rate: 1.68%
-- Flow 3:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 83.460 ms
Loss rate: 3.38%
```
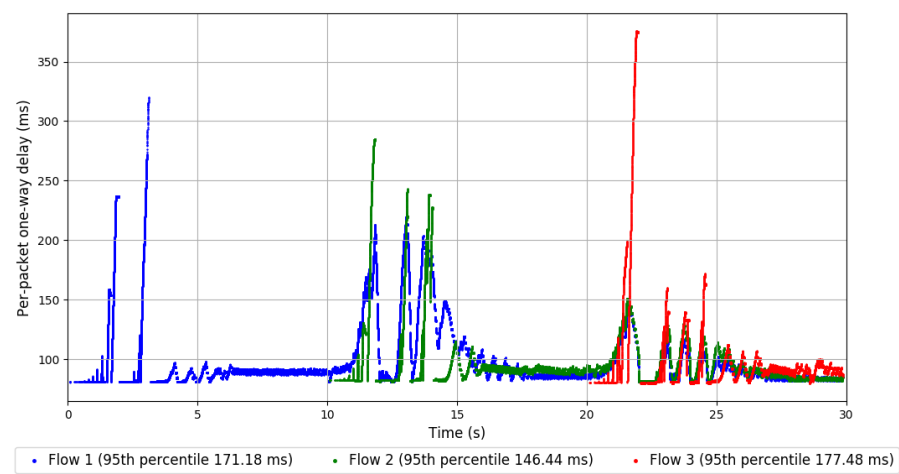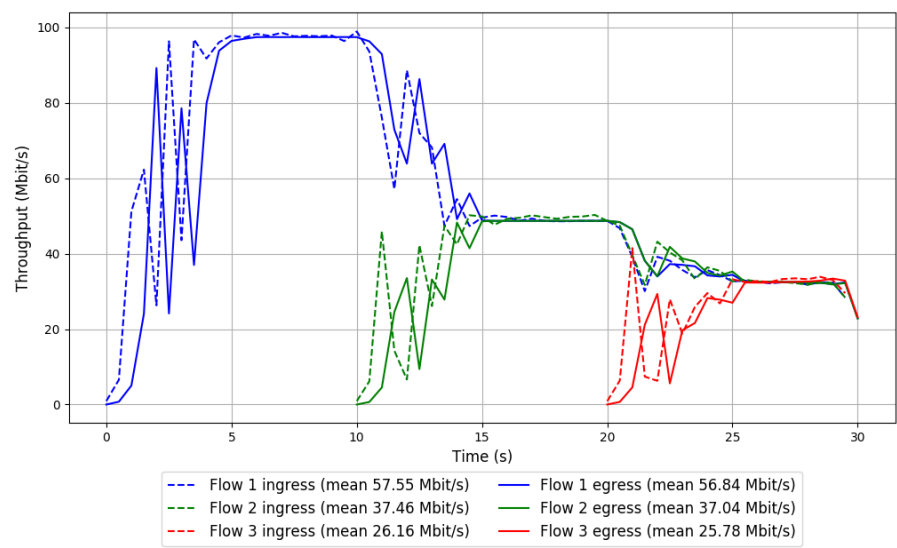
Run 5: Report of LEDBAT — Data Link

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```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-26 09:43:25
End at: 2018-10-26 09:43:55
Local clock offset: -5.399 ms
Remote clock offset: 3.301 ms


# Below is generated by plot.py at 2018-10-26 11:38:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.86 Mbit/s
95th percentile per-packet one-way delay: 168.053 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 56.84 Mbit/s
95th percentile per-packet one-way delay: 171.175 ms
Loss rate: 1.76%
-- Flow 2:
Average throughput: 37.04 Mbit/s
95th percentile per-packet one-way delay: 146.435 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 25.78 Mbit/s
95th percentile per-packet one-way delay: 177.479 ms
Loss rate: 3.12%
```
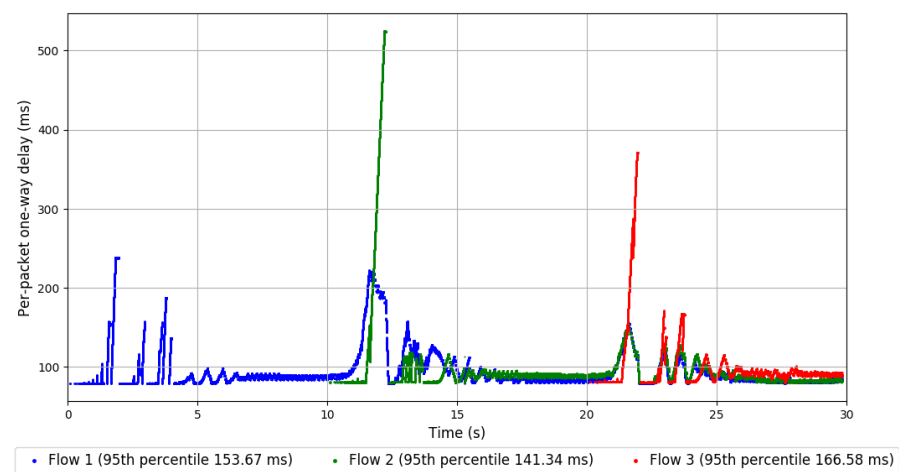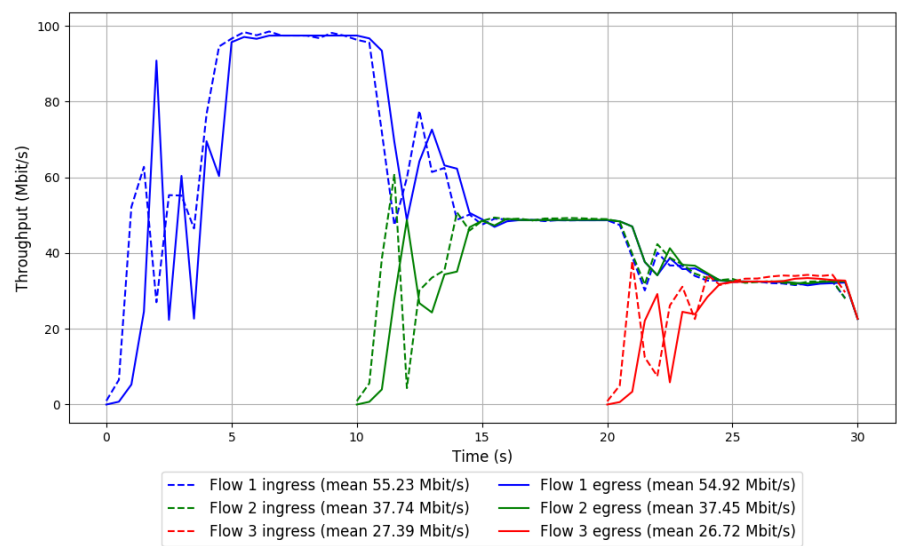
Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-10-26 10:06:25
End at: 2018-10-26 10:06:55
Local clock offset: -4.749 ms
Remote clock offset: 3.284 ms


# Below is generated by plot.py at 2018-10-26 11:38:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.51 Mbit/s
95th percentile per-packet one-way delay: 152.363 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 54.92 Mbit/s
95th percentile per-packet one-way delay: 153.671 ms
Loss rate: 1.11%
-- Flow 2:
Average throughput: 37.45 Mbit/s
95th percentile per-packet one-way delay: 141.341 ms
Loss rate: 1.60%
-- Flow 3:
Average throughput: 26.72 Mbit/s
95th percentile per-packet one-way delay: 166.581 ms
Loss rate: 4.07%
```
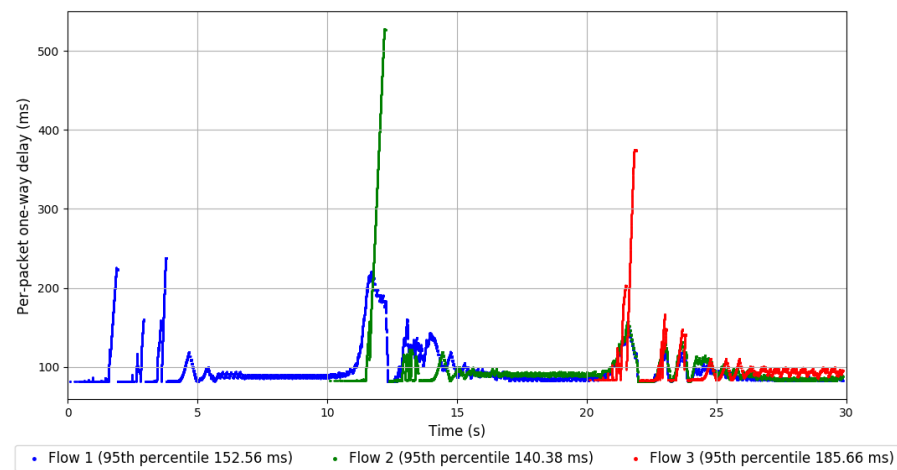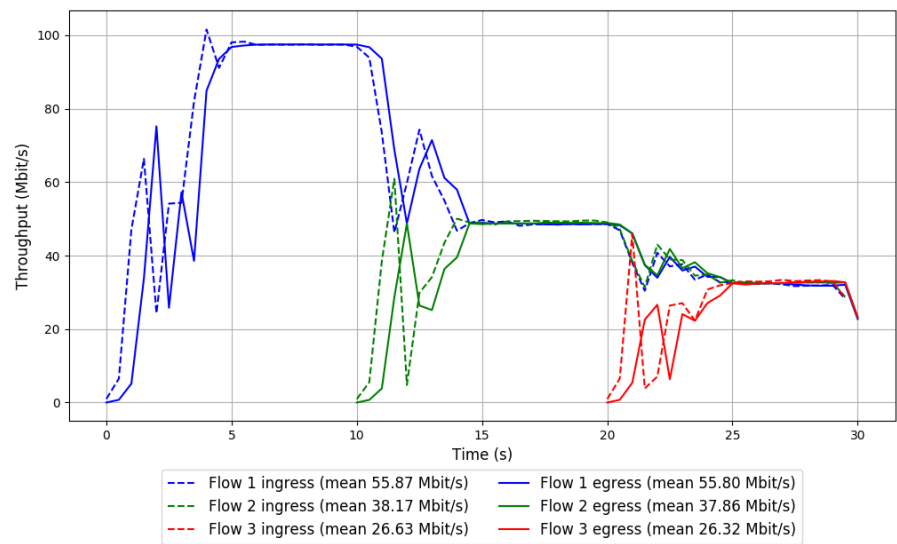
Run 2: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 55.23 Mbit/s) — Flow 1 egress (mean 54.92 Mbit/s)
Flow 2 ingress (mean 37.74 Mbit/s) — Flow 2 egress (mean 37.45 Mbit/s)
Flow 3 ingress (mean 27.39 Mbit/s) — Flow 3 egress (mean 26.72 Mbit/s)

Flow 1 (95th percentile 153.67 ms)   Flow 2 (95th percentile 141.34 ms)   Flow 3 (95th percentile 166.58 ms)

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-10-26 10:29:24
End at: 2018-10-26 10:29:54
Local clock offset: -1.118 ms
Remote clock offset: 0.785 ms


# Below is generated by plot.py at 2018-10-26 11:38:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.56 Mbit/s
95th percentile per-packet one-way delay: 151.697 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 55.80 Mbit/s
95th percentile per-packet one-way delay: 152.563 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 37.86 Mbit/s
95th percentile per-packet one-way delay: 140.379 ms
Loss rate: 1.62%
-- Flow 3:
Average throughput: 26.32 Mbit/s
95th percentile per-packet one-way delay: 185.661 ms
Loss rate: 2.78%
```
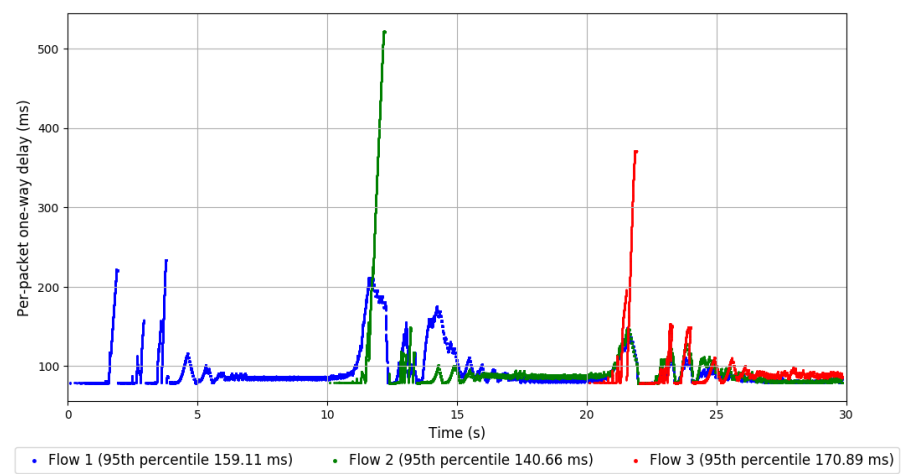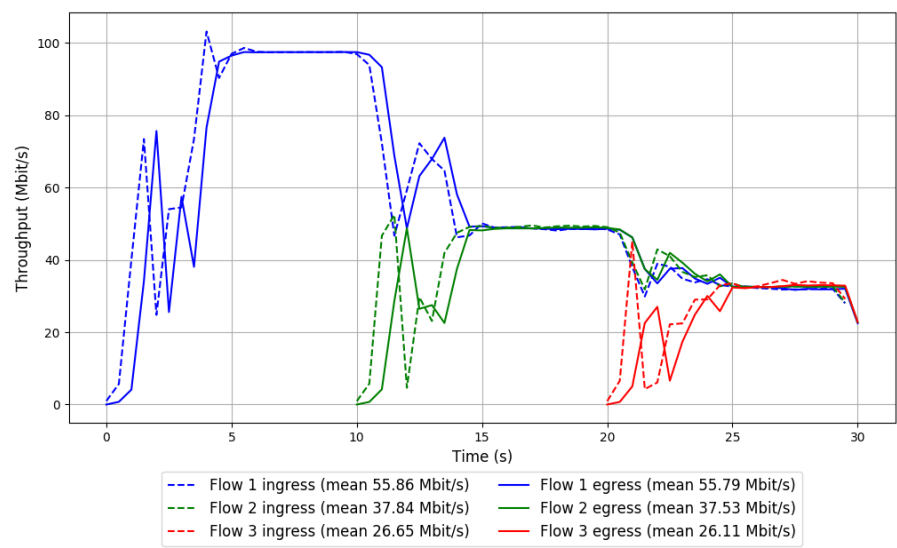
Run 3: Report of Indigo-Muses — Data Link

- Flow 1 ingress (mean 55.87 Mbit/s) — Flow 1 egress (mean 55.80 Mbit/s)
- Flow 2 ingress (mean 38.17 Mbit/s) — Flow 2 egress (mean 37.86 Mbit/s)
- Flow 3 ingress (mean 26.63 Mbit/s) — Flow 3 egress (mean 26.32 Mbit/s)

- Flow 1 (95th percentile 152.56 ms)   • Flow 2 (95th percentile 140.38 ms)   • Flow 3 (95th percentile 185.66 ms)

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-10-26 10:52:22
End at: 2018-10-26 10:52:52
Local clock offset: -6.647 ms
Remote clock offset: 4.413 ms


# Below is generated by plot.py at 2018-10-26 11:38:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.27 Mbit/s
95th percentile per-packet one-way delay: 156.703 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 55.79 Mbit/s
95th percentile per-packet one-way delay: 159.109 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 37.53 Mbit/s
95th percentile per-packet one-way delay: 140.659 ms
Loss rate: 1.64%
-- Flow 3:
Average throughput: 26.11 Mbit/s
95th percentile per-packet one-way delay: 170.893 ms
Loss rate: 3.65%
```
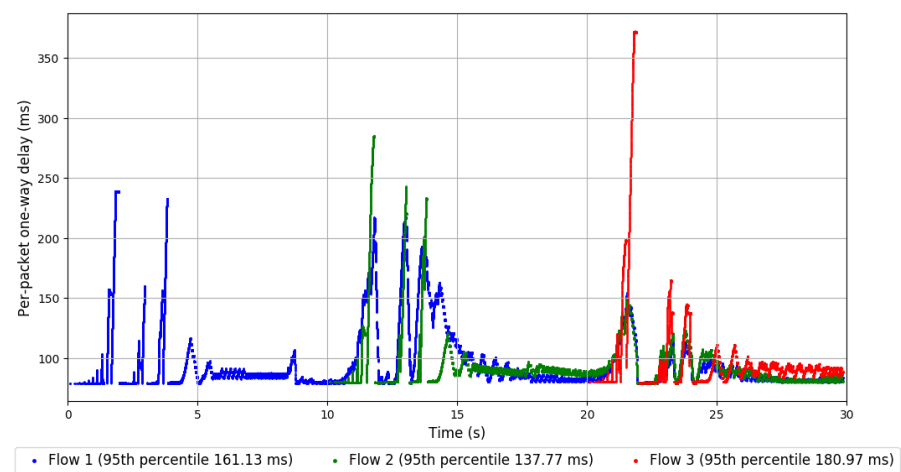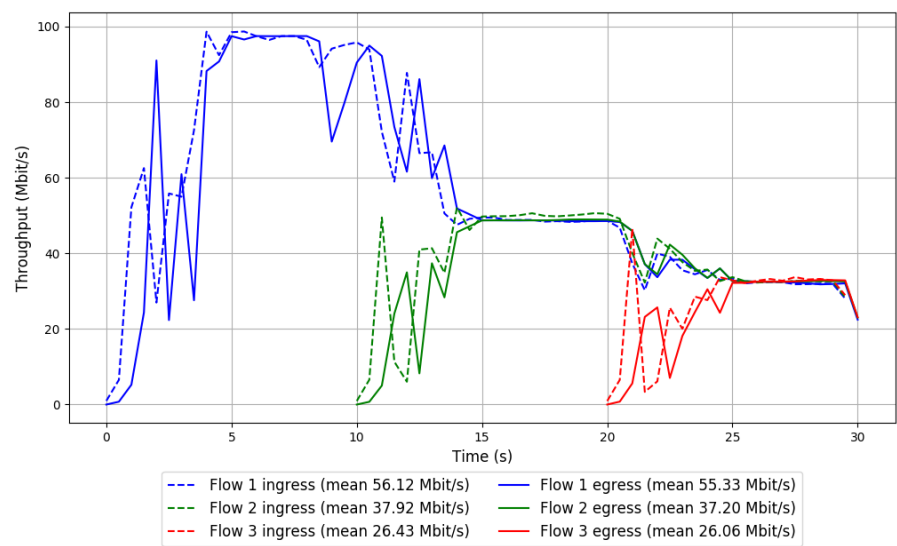
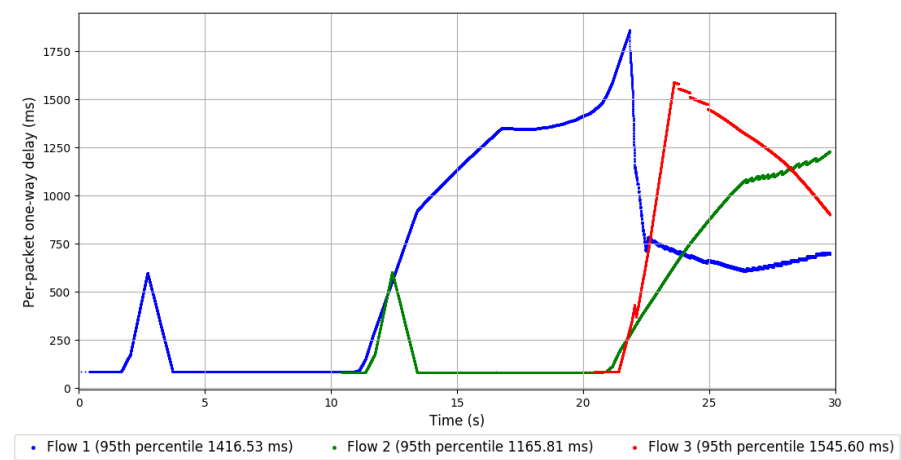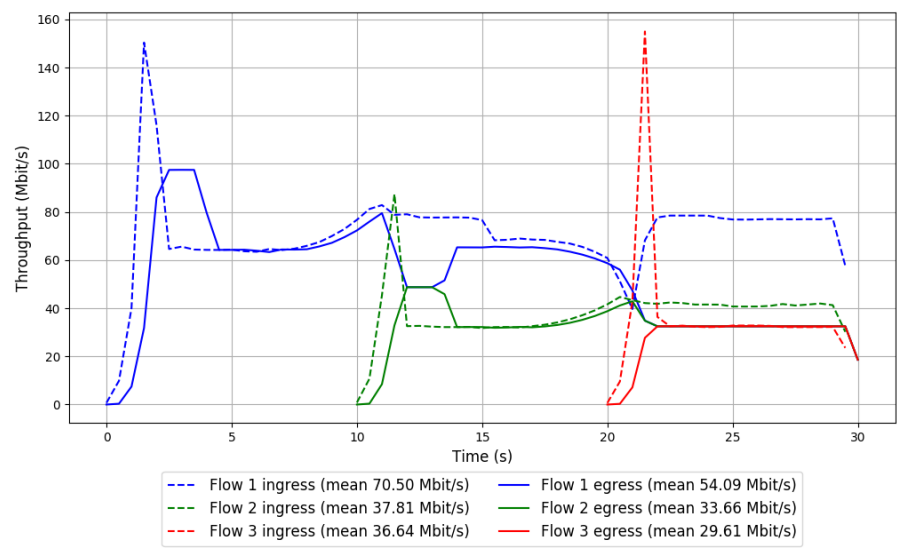# Run 4: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 55.86 Mbit/s) --- Flow 1 egress (mean 55.79 Mbit/s)
Flow 2 ingress (mean 37.84 Mbit/s) --- Flow 2 egress (mean 37.53 Mbit/s)
Flow 3 ingress (mean 26.65 Mbit/s) --- Flow 3 egress (mean 26.11 Mbit/s)

Flow 1 (95th percentile 159.11 ms) · Flow 2 (95th percentile 140.66 ms) · Flow 3 (95th percentile 170.89 ms)

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-10-26 11:15:19
End at: 2018-10-26 11:15:49
Local clock offset: -6.84 ms
Remote clock offset: 3.391 ms


# Below is generated by plot.py at 2018-10-26 11:38:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.57 Mbit/s
95th percentile per-packet one-way delay: 157.977 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 55.33 Mbit/s
95th percentile per-packet one-way delay: 161.127 ms
Loss rate: 1.95%
-- Flow 2:
Average throughput: 37.20 Mbit/s
95th percentile per-packet one-way delay: 137.772 ms
Loss rate: 2.70%
-- Flow 3:
Average throughput: 26.06 Mbit/s
95th percentile per-packet one-way delay: 180.975 ms
Loss rate: 3.02%
```
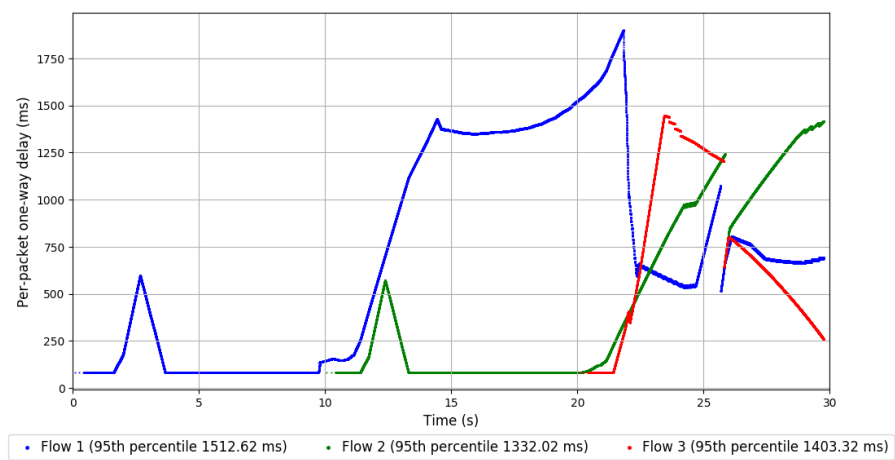
Run 5: Report of Indigo-Muses — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-26 09:44:42
End at: 2018-10-26 09:45:12
Local clock offset: -5.522 ms
Remote clock offset: -0.012 ms


# Below is generated by plot.py at 2018-10-26 11:39:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.08 Mbit/s
95th percentile per-packet one-way delay: 1427.625 ms
Loss rate: 20.55%
-- Flow 1:
Average throughput: 54.09 Mbit/s
95th percentile per-packet one-way delay: 1416.532 ms
Loss rate: 23.70%
-- Flow 2:
Average throughput: 33.66 Mbit/s
95th percentile per-packet one-way delay: 1165.809 ms
Loss rate: 11.70%
-- Flow 3:
Average throughput: 29.61 Mbit/s
95th percentile per-packet one-way delay: 1545.597 ms
Loss rate: 20.53%
```
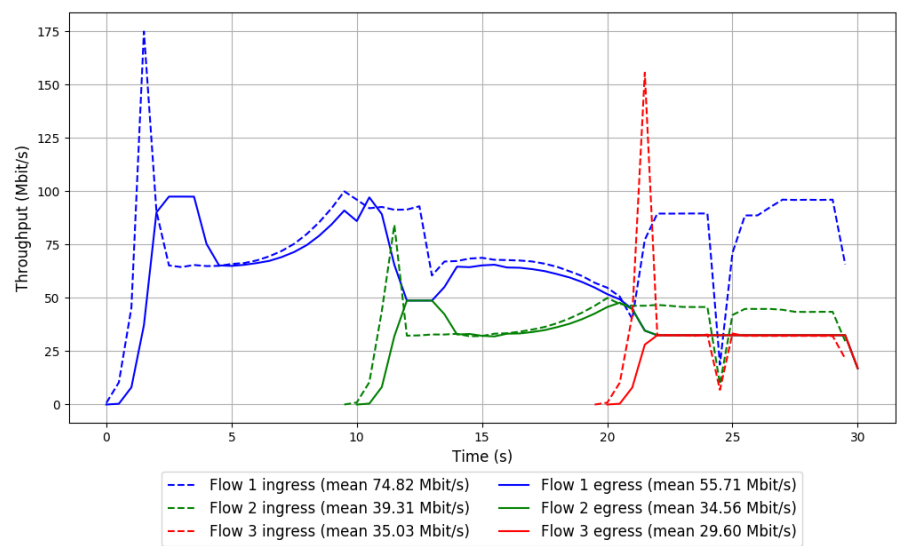
Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-10-26 10:07:42
End at: 2018-10-26 10:08:12
Local clock offset: -4.414 ms
Remote clock offset: -0.1 ms


# Below is generated by plot.py at 2018-10-26 11:39:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.31 Mbit/s
95th percentile per-packet one-way delay: 1436.855 ms
Loss rate: 21.97%
-- Flow 1:
Average throughput: 55.71 Mbit/s
95th percentile per-packet one-way delay: 1512.624 ms
Loss rate: 25.95%
-- Flow 2:
Average throughput: 34.56 Mbit/s
95th percentile per-packet one-way delay: 1332.021 ms
Loss rate: 12.81%
-- Flow 3:
Average throughput: 29.60 Mbit/s
95th percentile per-packet one-way delay: 1403.316 ms
Loss rate: 16.90%
```
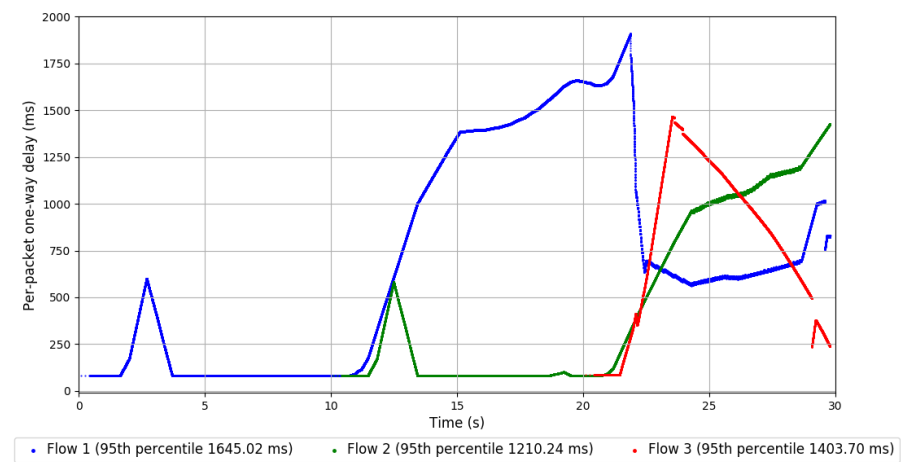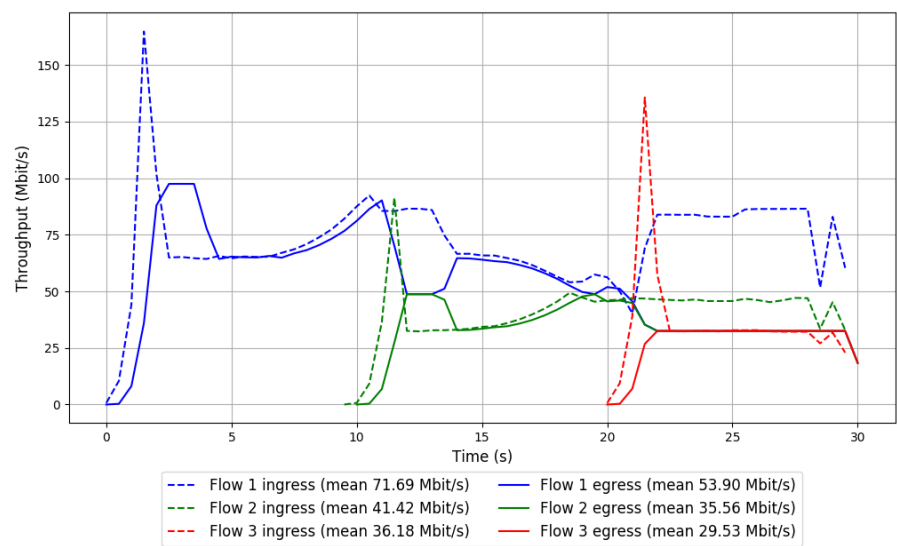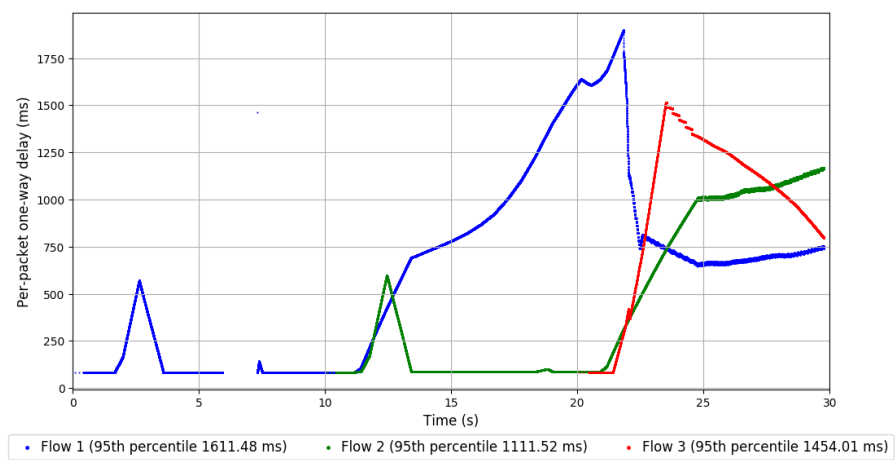
Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 74.82 Mbit/s) --- Flow 1 egress (mean 55.71 Mbit/s)
Flow 2 ingress (mean 39.31 Mbit/s) --- Flow 2 egress (mean 34.56 Mbit/s)
Flow 3 ingress (mean 35.03 Mbit/s) --- Flow 3 egress (mean 29.60 Mbit/s)

Flow 1 (95th percentile 1512.62 ms) • Flow 2 (95th percentile 1332.02 ms) • Flow 3 (95th percentile 1403.32 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-10-26 10:30:41
End at: 2018-10-26 10:31:11
Local clock offset: -0.919 ms
Remote clock offset: 0.337 ms


# Below is generated by plot.py at 2018-10-26 11:39:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.12 Mbit/s
95th percentile per-packet one-way delay: 1602.569 ms
Loss rate: 22.06%
-- Flow 1:
Average throughput: 53.90 Mbit/s
95th percentile per-packet one-way delay: 1645.016 ms
Loss rate: 25.22%
-- Flow 2:
Average throughput: 35.56 Mbit/s
95th percentile per-packet one-way delay: 1210.241 ms
Loss rate: 14.86%
-- Flow 3:
Average throughput: 29.53 Mbit/s
95th percentile per-packet one-way delay: 1403.700 ms
Loss rate: 19.73%
```
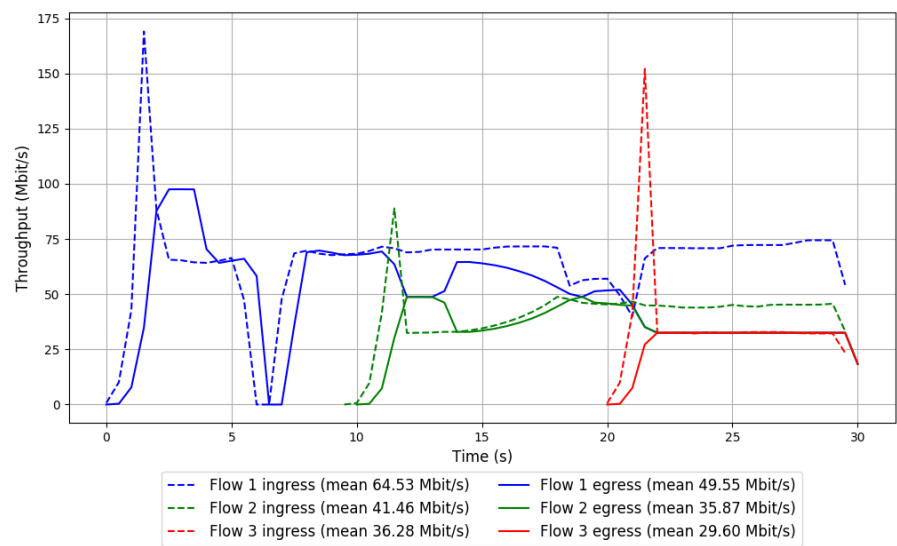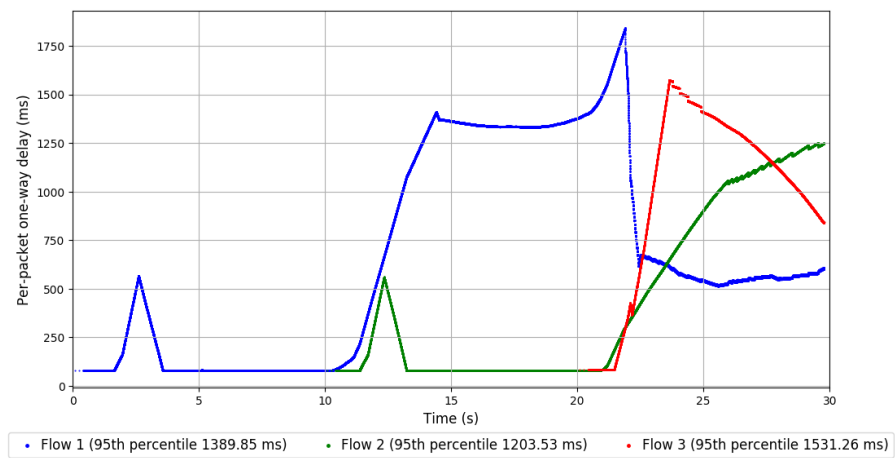
Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-10-26 10:53:39
End at: 2018-10-26 10:54:09
Local clock offset: -6.627 ms
Remote clock offset: 0.717 ms


# Below is generated by plot.py at 2018-10-26 11:39:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.99 Mbit/s
95th percentile per-packet one-way delay: 1479.324 ms
Loss rate: 20.69%
-- Flow 1:
Average throughput: 49.55 Mbit/s
95th percentile per-packet one-way delay: 1611.477 ms
Loss rate: 23.63%
-- Flow 2:
Average throughput: 35.87 Mbit/s
95th percentile per-packet one-way delay: 1111.524 ms
Loss rate: 14.21%
-- Flow 3:
Average throughput: 29.60 Mbit/s
95th percentile per-packet one-way delay: 1454.008 ms
Loss rate: 19.78%
```
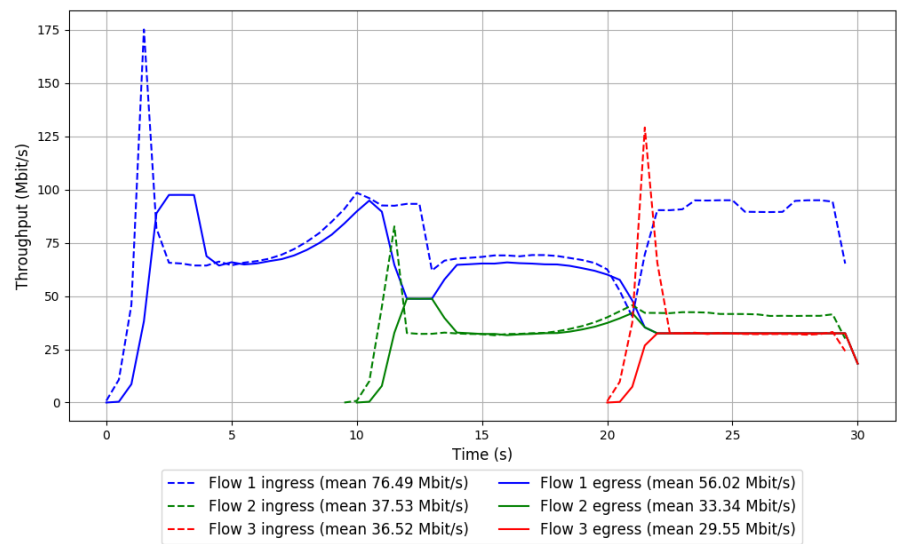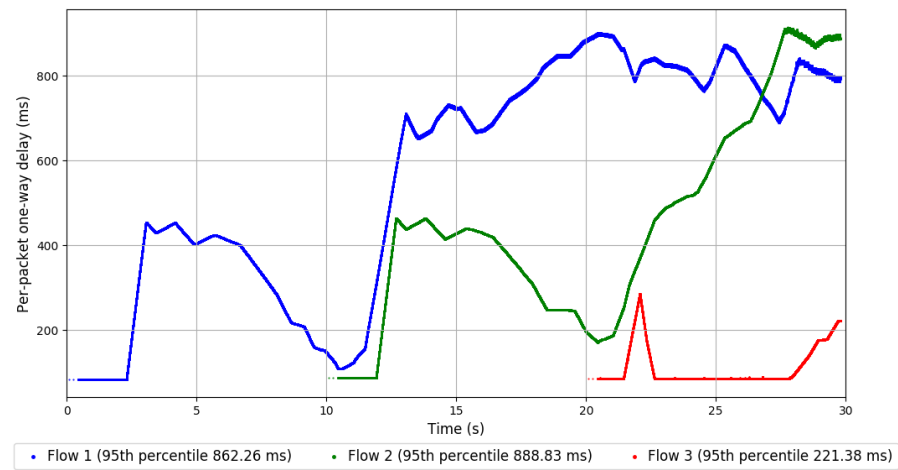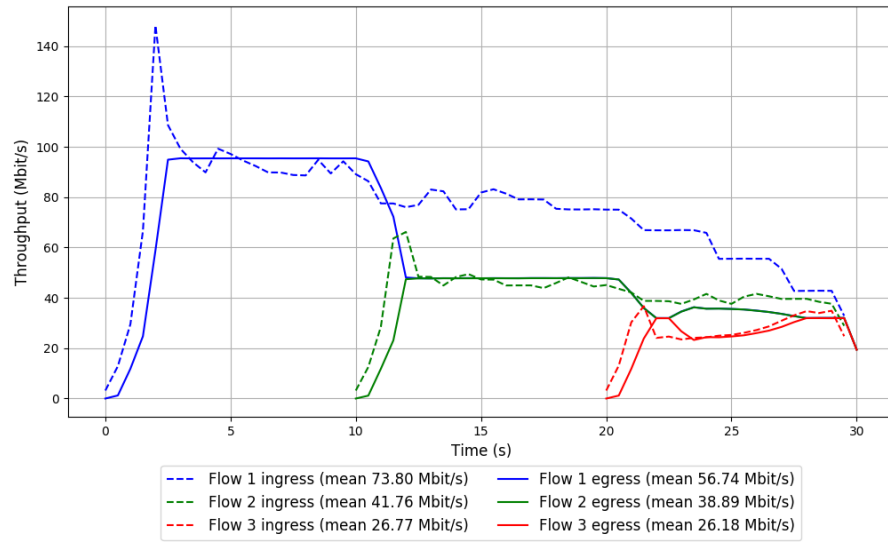
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 64.53 Mbit/s)   Flow 1 egress (mean 49.55 Mbit/s)
Flow 2 ingress (mean 41.46 Mbit/s)   Flow 2 egress (mean 35.87 Mbit/s)
Flow 3 ingress (mean 36.28 Mbit/s)   Flow 3 egress (mean 29.60 Mbit/s)

Flow 1 (95th percentile 1611.48 ms)   Flow 2 (95th percentile 1111.52 ms)   Flow 3 (95th percentile 1454.01 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-10-26 11:16:36
End at: 2018-10-26 11:17:06
Local clock offset: -6.831 ms
Remote clock offset: 3.471 ms


# Below is generated by plot.py at 2018-10-26 11:39:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.76 Mbit/s
95th percentile per-packet one-way delay: 1396.450 ms
Loss rate: 23.09%
-- Flow 1:
Average throughput: 56.02 Mbit/s
95th percentile per-packet one-way delay: 1389.852 ms
Loss rate: 27.16%
-- Flow 2:
Average throughput: 33.34 Mbit/s
95th percentile per-packet one-way delay: 1203.528 ms
Loss rate: 11.91%
-- Flow 3:
Average throughput: 29.55 Mbit/s
95th percentile per-packet one-way delay: 1531.263 ms
Loss rate: 20.42%
```
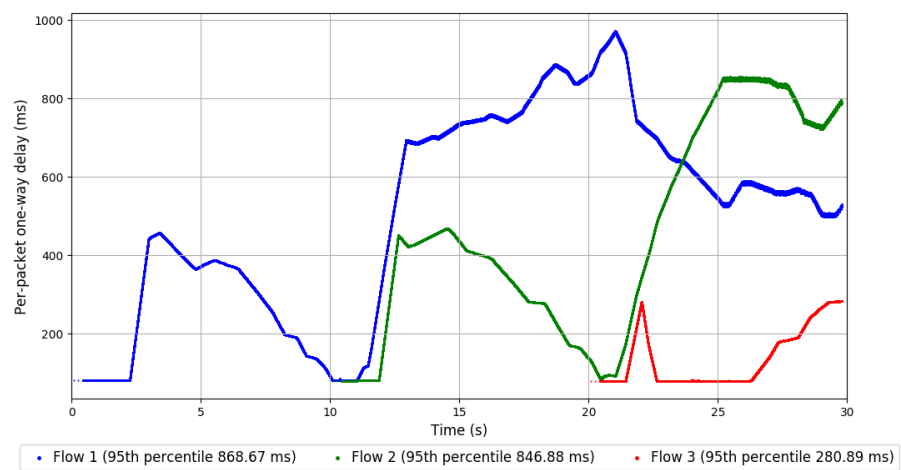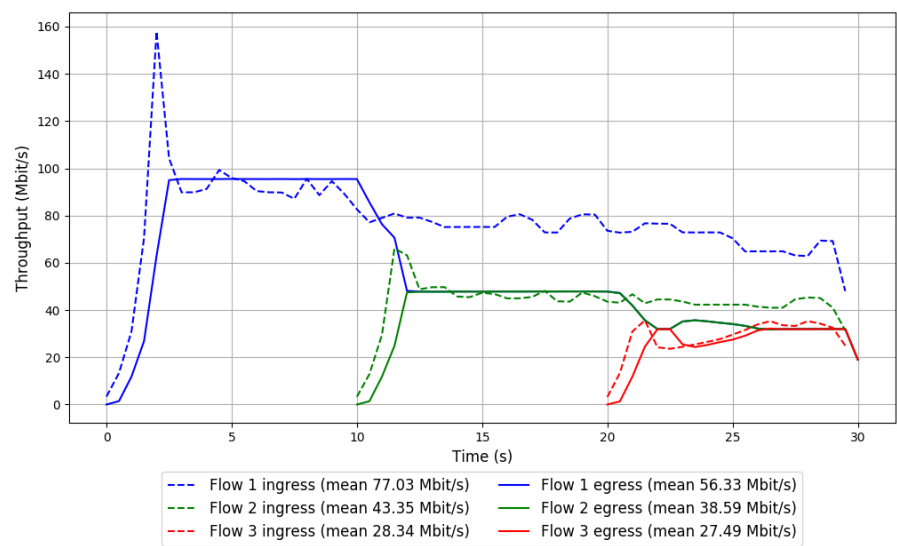
Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 76.49 Mbit/s) ---- Flow 1 egress (mean 56.02 Mbit/s) ——
Flow 2 ingress (mean 37.53 Mbit/s) ---- Flow 2 egress (mean 33.34 Mbit/s) ——
Flow 3 ingress (mean 36.52 Mbit/s) ---- Flow 3 egress (mean 29.55 Mbit/s) ——

Flow 1 (95th percentile 1389.85 ms)   Flow 2 (95th percentile 1203.53 ms)   Flow 3 (95th percentile 1531.26 ms)

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```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-26 09:40:47
End at: 2018-10-26 09:41:17
Local clock offset: -4.644 ms
Remote clock offset: -0.177 ms


# Below is generated by plot.py at 2018-10-26 11:40:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.09 Mbit/s
95th percentile per-packet one-way delay: 869.321 ms
Loss rate: 17.96%
-- Flow 1:
Average throughput: 56.74 Mbit/s
95th percentile per-packet one-way delay: 862.256 ms
Loss rate: 23.53%
-- Flow 2:
Average throughput: 38.89 Mbit/s
95th percentile per-packet one-way delay: 888.830 ms
Loss rate: 7.64%
-- Flow 3:
Average throughput: 26.18 Mbit/s
95th percentile per-packet one-way delay: 221.381 ms
Loss rate: 3.85%
```
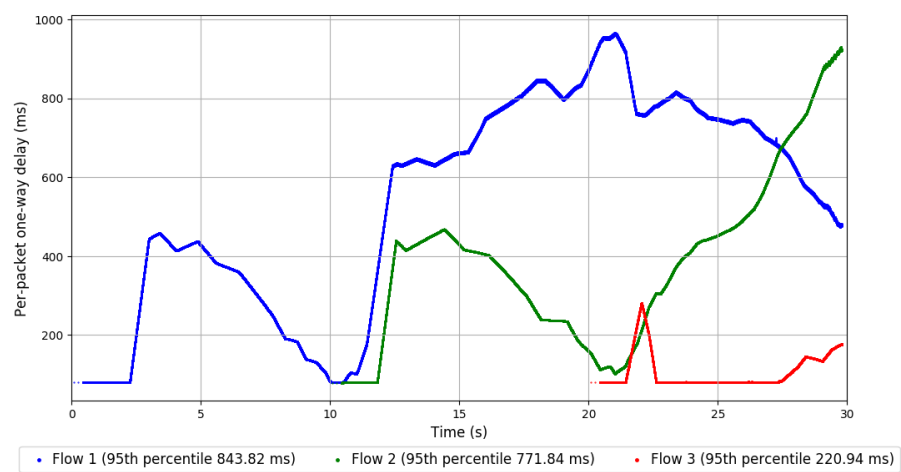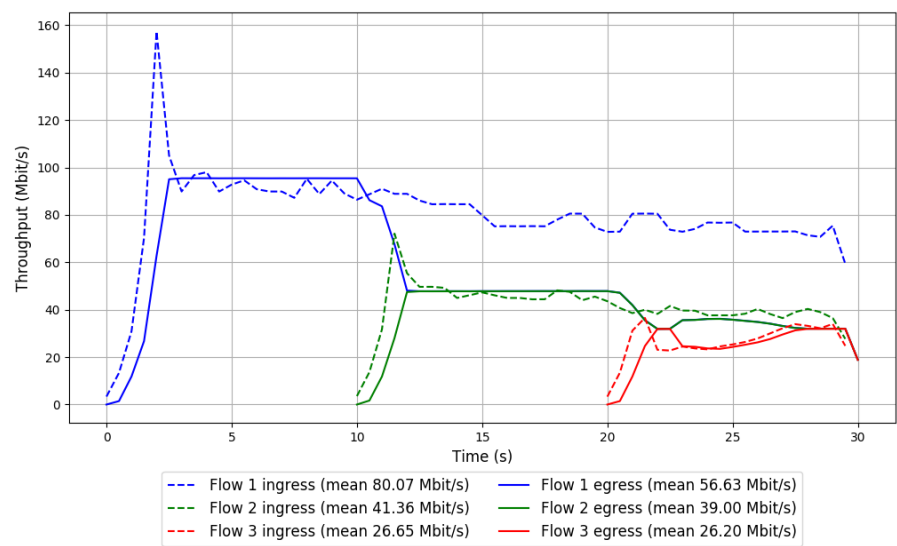
Run 1: Report of PCC-Expr — Data Link

- - - - Flow 1 ingress (mean 73.80 Mbit/s) — Flow 1 egress (mean 56.74 Mbit/s)
- - - - Flow 2 ingress (mean 41.76 Mbit/s) — Flow 2 egress (mean 38.89 Mbit/s)
- - - - Flow 3 ingress (mean 26.77 Mbit/s) — Flow 3 egress (mean 26.18 Mbit/s)

- Flow 1 (95th percentile 862.26 ms)   - Flow 2 (95th percentile 888.83 ms)   - Flow 3 (95th percentile 221.38 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2018-10-26 10:03:46
End at: 2018-10-26 10:04:16
Local clock offset: -5.943 ms
Remote clock offset: 3.643 ms


# Below is generated by plot.py at 2018-10-26 11:40:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.91 Mbit/s
95th percentile per-packet one-way delay: 850.666 ms
Loss rate: 21.54%
-- Flow 1:
Average throughput: 56.33 Mbit/s
95th percentile per-packet one-way delay: 868.669 ms
Loss rate: 27.28%
-- Flow 2:
Average throughput: 38.59 Mbit/s
95th percentile per-packet one-way delay: 846.882 ms
Loss rate: 11.70%
-- Flow 3:
Average throughput: 27.49 Mbit/s
95th percentile per-packet one-way delay: 280.893 ms
Loss rate: 4.58%
```
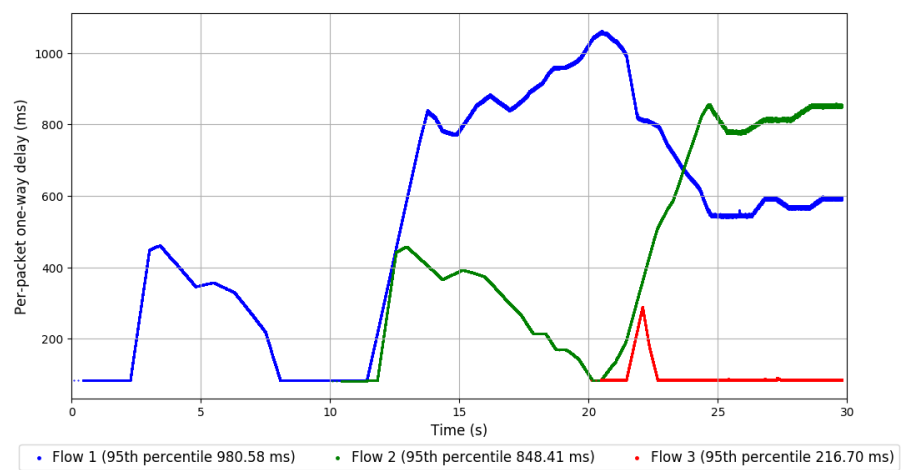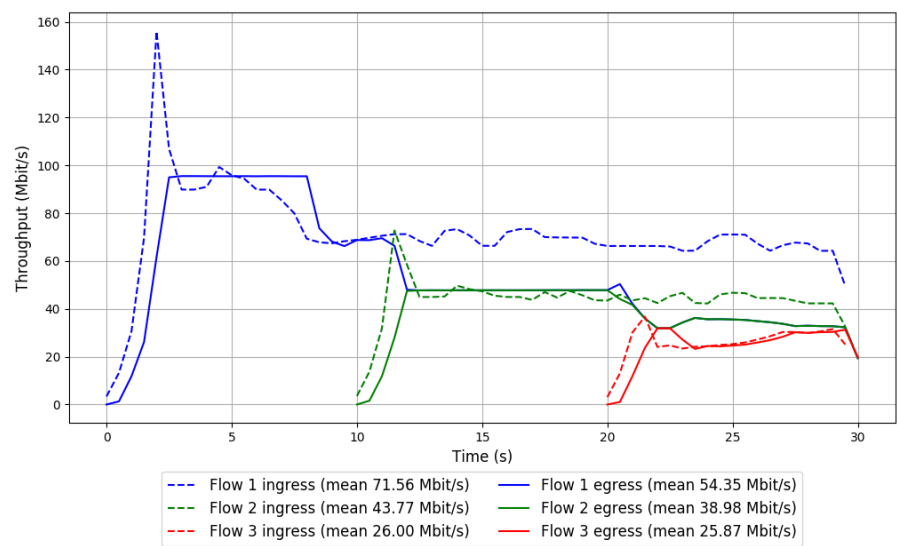
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-10-26 10:26:47
End at: 2018-10-26 10:27:17
Local clock offset: -1.243 ms
Remote clock offset: 4.059 ms


# Below is generated by plot.py at 2018-10-26 11:40:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.06 Mbit/s
95th percentile per-packet one-way delay: 834.121 ms
Loss rate: 22.19%
-- Flow 1:
Average throughput: 56.63 Mbit/s
95th percentile per-packet one-way delay: 843.824 ms
Loss rate: 29.67%
-- Flow 2:
Average throughput: 39.00 Mbit/s
95th percentile per-packet one-way delay: 771.844 ms
Loss rate: 6.45%
-- Flow 3:
Average throughput: 26.20 Mbit/s
95th percentile per-packet one-way delay: 220.935 ms
Loss rate: 3.32%
```
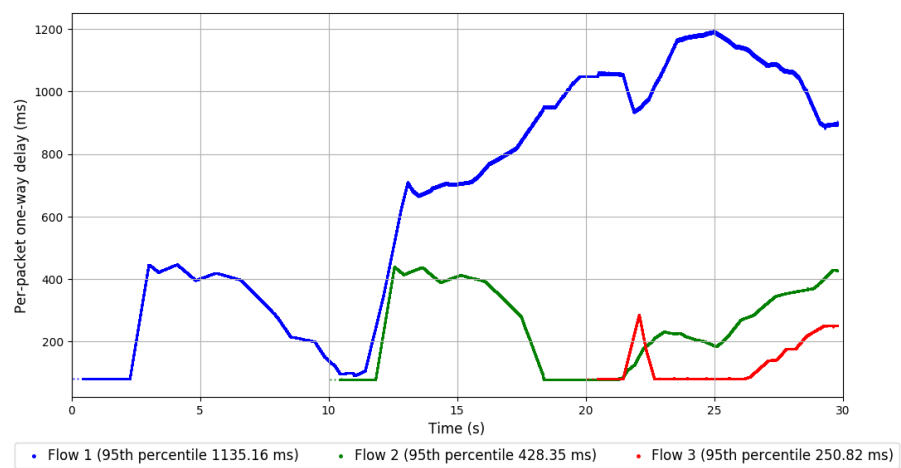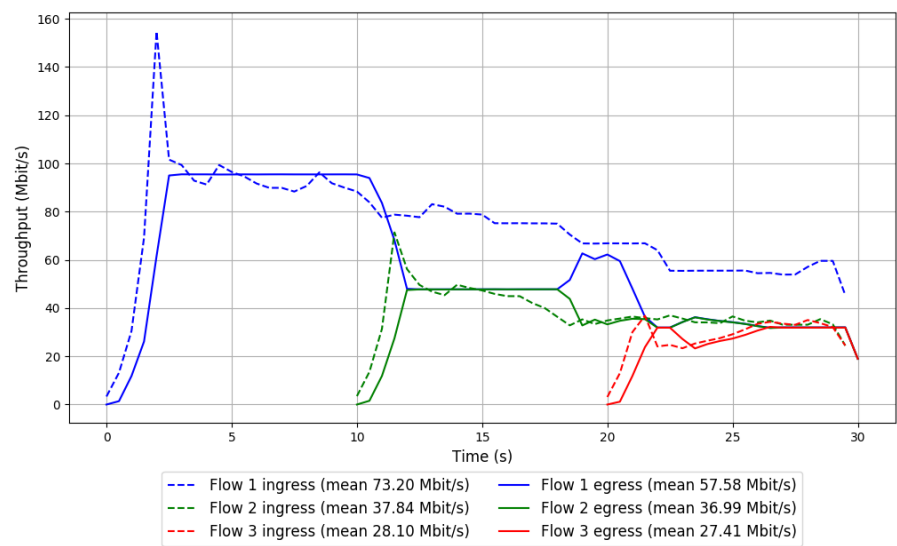
Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-10-26 10:49:45
End at: 2018-10-26 10:50:15
Local clock offset: -6.265 ms
Remote clock offset: 0.185 ms


# Below is generated by plot.py at 2018-10-26 11:41:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.66 Mbit/s
95th percentile per-packet one-way delay: 951.966 ms
Loss rate: 19.30%
-- Flow 1:
Average throughput: 54.35 Mbit/s
95th percentile per-packet one-way delay: 980.576 ms
Loss rate: 24.47%
-- Flow 2:
Average throughput: 38.98 Mbit/s
95th percentile per-packet one-way delay: 848.412 ms
Loss rate: 11.67%
-- Flow 3:
Average throughput: 25.87 Mbit/s
95th percentile per-packet one-way delay: 216.699 ms
Loss rate: 2.15%
```
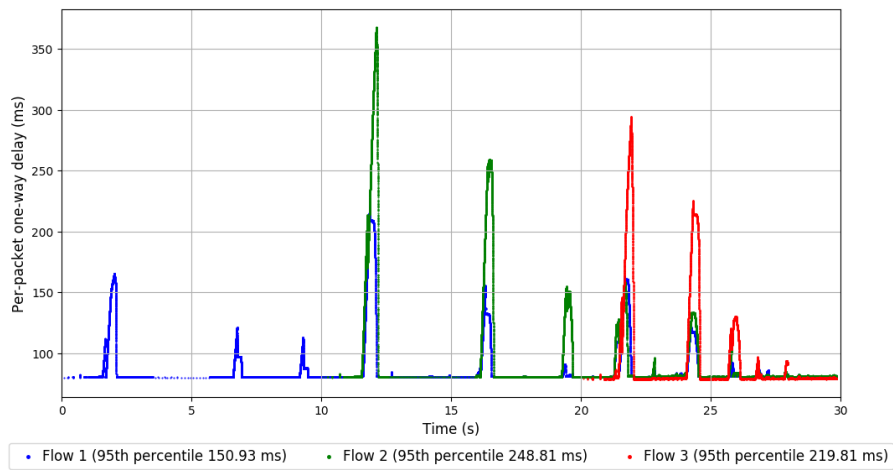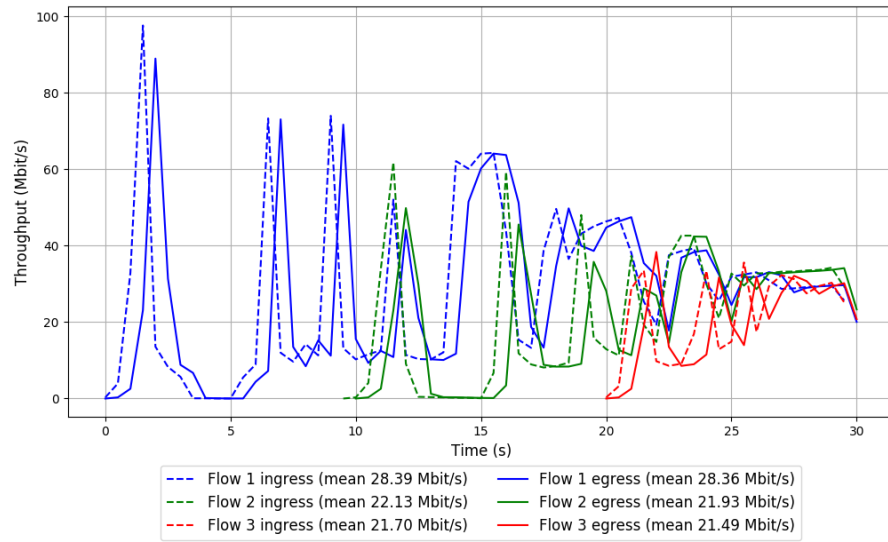
Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 71.56 Mbit/s) — Flow 1 egress (mean 54.35 Mbit/s)
Flow 2 ingress (mean 43.77 Mbit/s) — Flow 2 egress (mean 38.98 Mbit/s)
Flow 3 ingress (mean 26.00 Mbit/s) — Flow 3 egress (mean 25.87 Mbit/s)

Flow 1 (95th percentile 980.58 ms) — Flow 2 (95th percentile 848.41 ms) — Flow 3 (95th percentile 216.70 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2018-10-26 11:12:43
End at: 2018-10-26 11:13:13
Local clock offset: -6.841 ms
Remote clock offset: 3.931 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.07 Mbit/s
95th percentile per-packet one-way delay: 1069.237 ms
Loss rate: 15.86%
-- Flow 1:
Average throughput: 57.58 Mbit/s
95th percentile per-packet one-way delay: 1135.162 ms
Loss rate: 21.76%
-- Flow 2:
Average throughput: 36.99 Mbit/s
95th percentile per-packet one-way delay: 428.351 ms
Loss rate: 3.04%
-- Flow 3:
Average throughput: 27.41 Mbit/s
95th percentile per-packet one-way delay: 250.818 ms
Loss rate: 4.09%
```
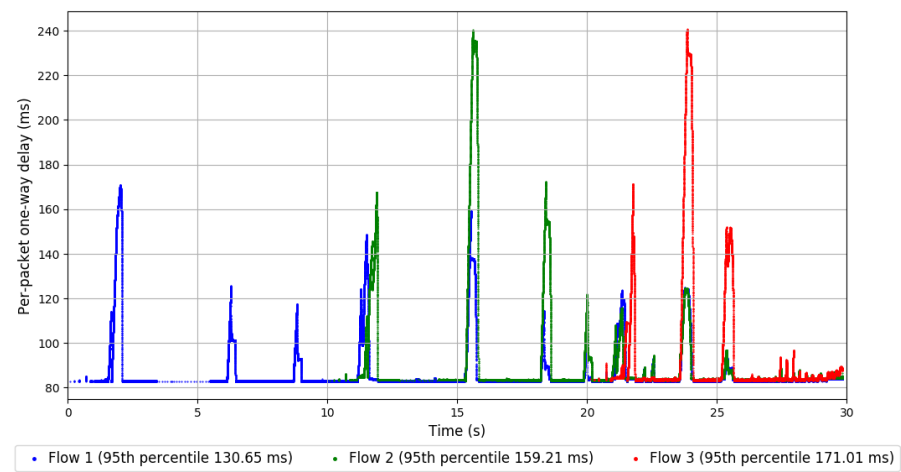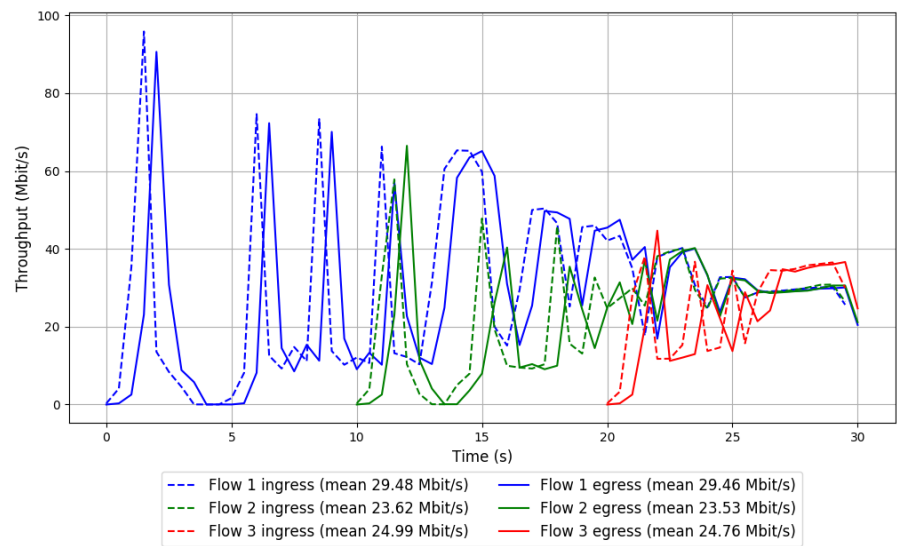
Run 5: Report of PCC-Expr — Data Link

- - - Flow 1 ingress (mean 73.20 Mbit/s) —— Flow 1 egress (mean 57.58 Mbit/s)
- - - Flow 2 ingress (mean 37.84 Mbit/s) —— Flow 2 egress (mean 36.99 Mbit/s)
- - - Flow 3 ingress (mean 28.10 Mbit/s) —— Flow 3 egress (mean 27.41 Mbit/s)

- Flow 1 (95th percentile 1135.16 ms)   • Flow 2 (95th percentile 428.35 ms)   • Flow 3 (95th percentile 250.82 ms)

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```
Run 1: Statistics of QUIC Cubic

Start at: 2018-10-26 09:54:48
End at: 2018-10-26 09:55:18
Local clock offset: -6.844 ms
Remote clock offset: 3.554 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.96 Mbit/s
95th percentile per-packet one-way delay: 187.696 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 28.36 Mbit/s
95th percentile per-packet one-way delay: 150.932 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 21.93 Mbit/s
95th percentile per-packet one-way delay: 248.806 ms
Loss rate: 1.71%
-- Flow 3:
Average throughput: 21.49 Mbit/s
95th percentile per-packet one-way delay: 219.813 ms
Loss rate: 2.61%
```
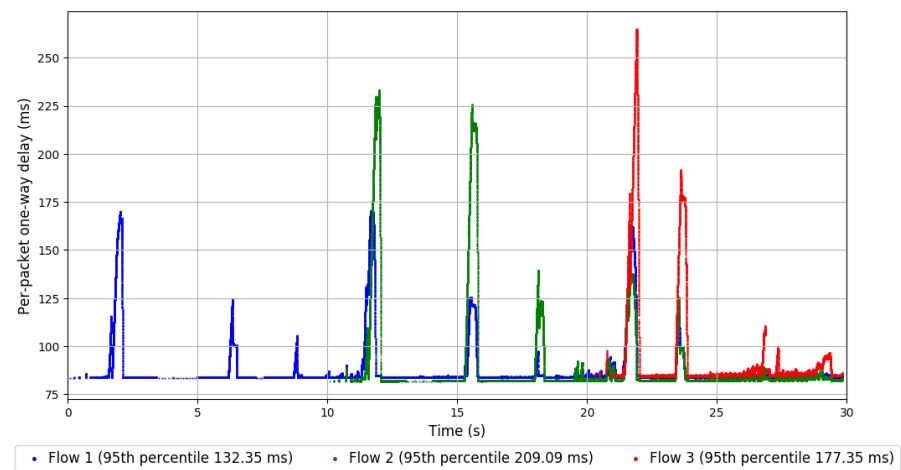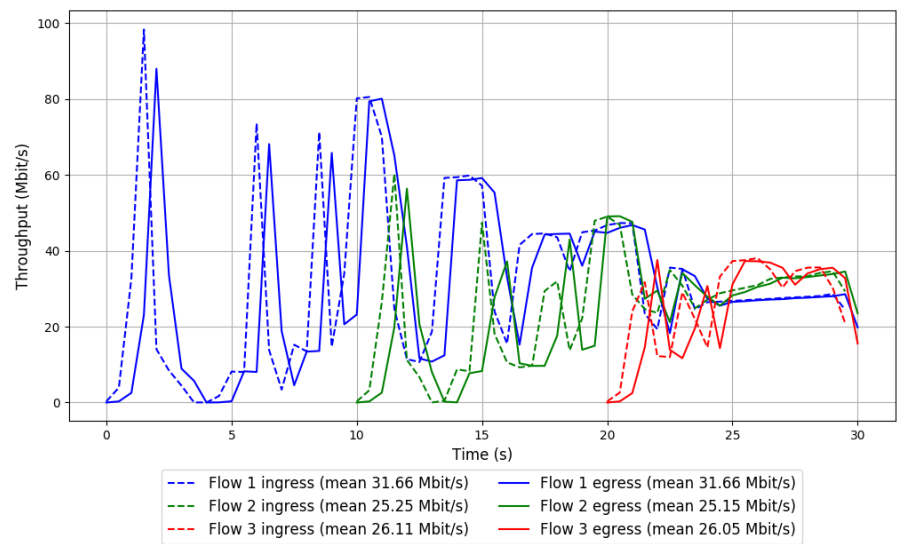
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-10-26 10:17:50
End at: 2018-10-26 10:18:20
Local clock offset: -2.053 ms
Remote clock offset: 0.252 ms

# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 53.17 Mbit/s
95th percentile per-packet one-way delay: 147.470 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 29.46 Mbit/s
95th percentile per-packet one-way delay: 130.654 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 23.53 Mbit/s
95th percentile per-packet one-way delay: 159.209 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 24.76 Mbit/s
95th percentile per-packet one-way delay: 171.011 ms
Loss rate: 2.58%
```
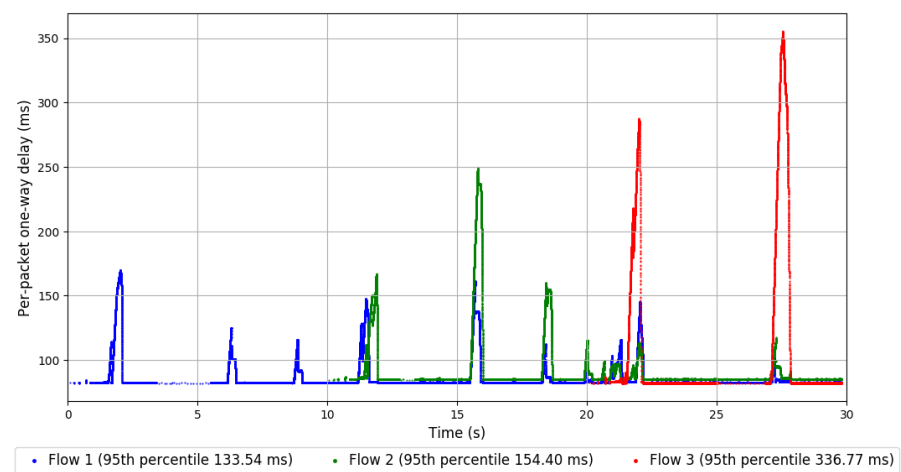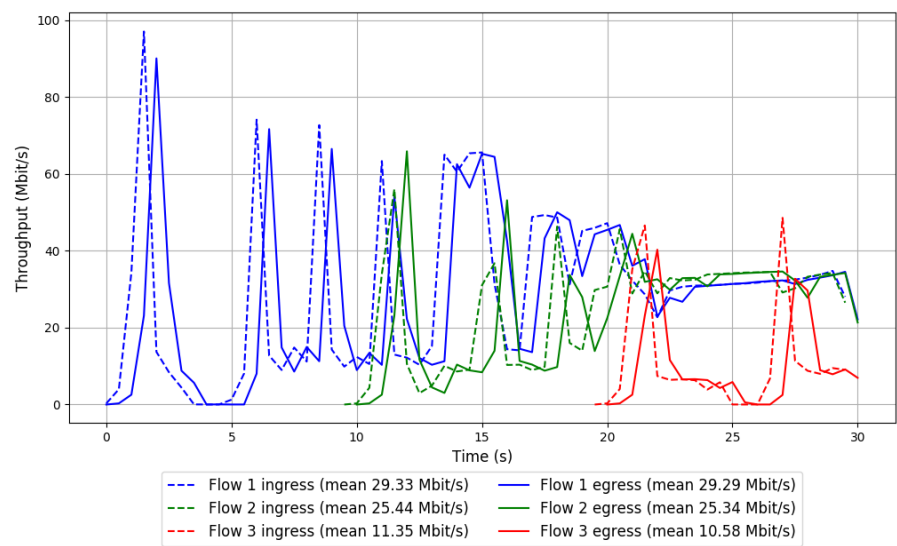
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-10-26 10:40:48
End at: 2018-10-26 10:41:18
Local clock offset: -4.888 ms
Remote clock offset: 0.815 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 56.87 Mbit/s
95th percentile per-packet one-way delay: 159.610 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 31.66 Mbit/s
95th percentile per-packet one-way delay: 132.355 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 25.15 Mbit/s
95th percentile per-packet one-way delay: 209.093 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 26.05 Mbit/s
95th percentile per-packet one-way delay: 177.346 ms
Loss rate: 1.89%
```
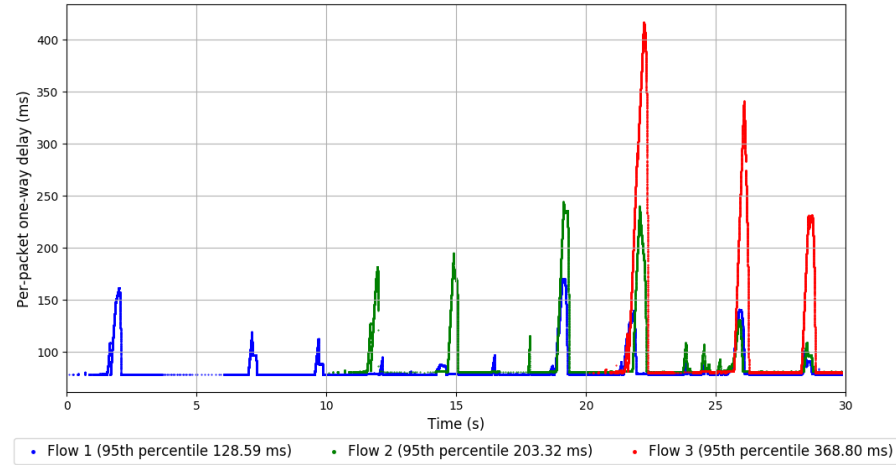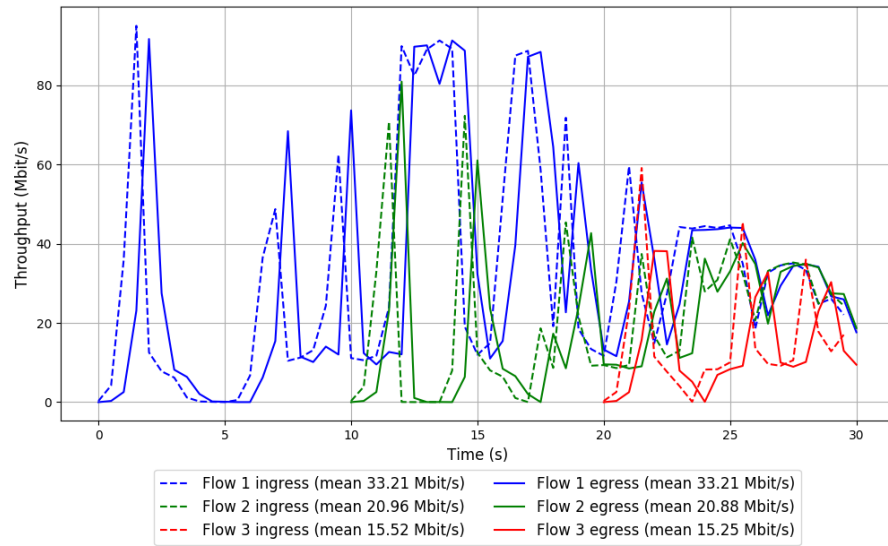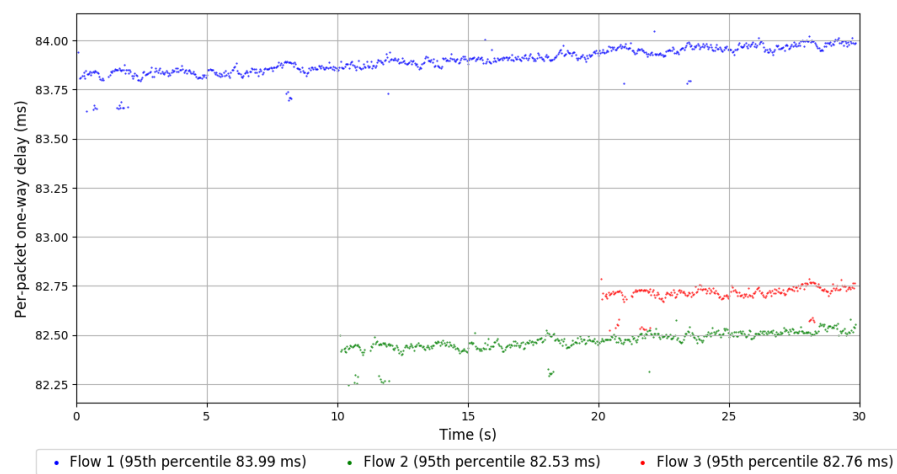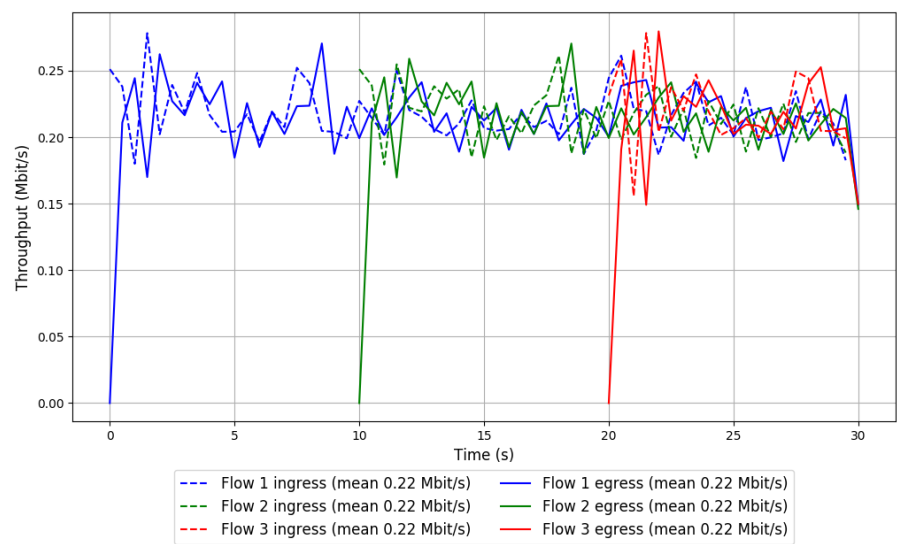
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 31.66 Mbit/s) — Flow 1 egress (mean 31.66 Mbit/s)
Flow 2 ingress (mean 25.25 Mbit/s) — Flow 2 egress (mean 25.15 Mbit/s)
Flow 3 ingress (mean 26.11 Mbit/s) — Flow 3 egress (mean 26.05 Mbit/s)

Flow 1 (95th percentile 132.35 ms) — Flow 2 (95th percentile 209.09 ms) — Flow 3 (95th percentile 177.35 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-10-26 11:03:46
End at: 2018-10-26 11:04:16
Local clock offset: -7.172 ms
Remote clock offset: 0.283 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 49.58 Mbit/s
95th percentile per-packet one-way delay: 157.386 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 29.29 Mbit/s
95th percentile per-packet one-way delay: 133.540 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 25.34 Mbit/s
95th percentile per-packet one-way delay: 154.399 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 10.58 Mbit/s
95th percentile per-packet one-way delay: 336.774 ms
Loss rate: 8.34%
```

Run 4: Report of QUIC Cubic — Data Link
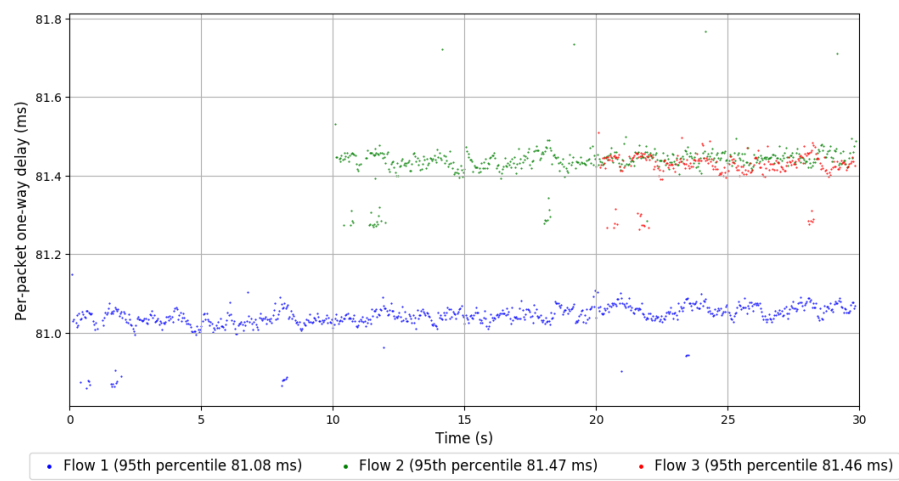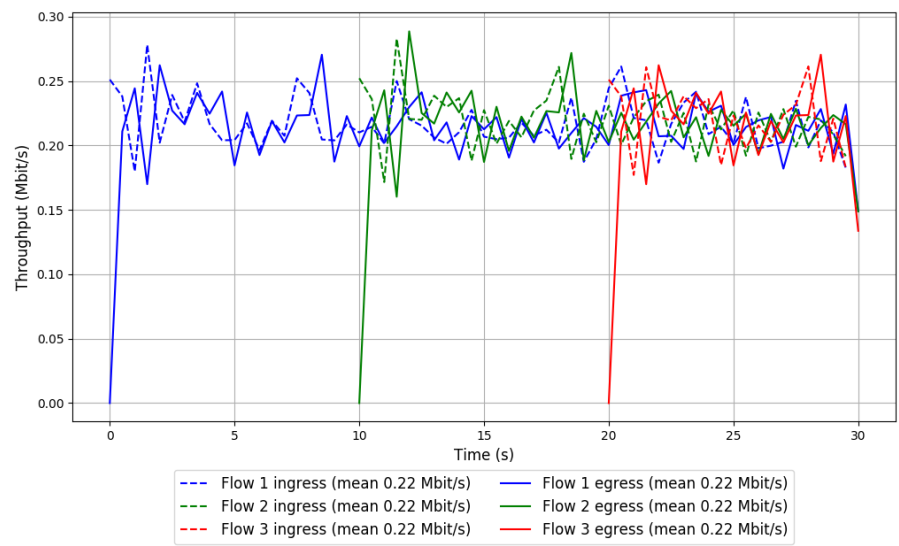

Flow 1 ingress (mean 29.33 Mbit/s)   Flow 1 egress (mean 29.29 Mbit/s)
Flow 2 ingress (mean 25.44 Mbit/s)   Flow 2 egress (mean 25.34 Mbit/s)
Flow 3 ingress (mean 11.35 Mbit/s)   Flow 3 egress (mean 10.58 Mbit/s)

Flow 1 (95th percentile 133.54 ms)   Flow 2 (95th percentile 154.40 ms)   Flow 3 (95th percentile 336.77 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-10-26 11:26:48
End at: 2018-10-26 11:27:18
Local clock offset: -7.104 ms
Remote clock offset: 3.566 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 52.05 Mbit/s
95th percentile per-packet one-way delay: 188.404 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 33.21 Mbit/s
95th percentile per-packet one-way delay: 128.588 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 20.88 Mbit/s
95th percentile per-packet one-way delay: 203.320 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 15.25 Mbit/s
95th percentile per-packet one-way delay: 368.801 ms
Loss rate: 3.41%
```

Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 33.21 Mbit/s) Flow 1 egress (mean 33.21 Mbit/s)
Flow 2 ingress (mean 20.96 Mbit/s) Flow 2 egress (mean 20.88 Mbit/s)
Flow 3 ingress (mean 15.52 Mbit/s) Flow 3 egress (mean 15.25 Mbit/s)

Flow 1 (95th percentile 128.59 ms) Flow 2 (95th percentile 203.32 ms) Flow 3 (95th percentile 368.80 ms)

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```
Run 1: Statistics of SCReAM

Start at: 2018-10-26 09:36:58
End at: 2018-10-26 09:37:28
Local clock offset: -3.408 ms
Remote clock offset: -0.46 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 83.975 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.988 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 82.533 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 82.762 ms
Loss rate: 1.84%
```
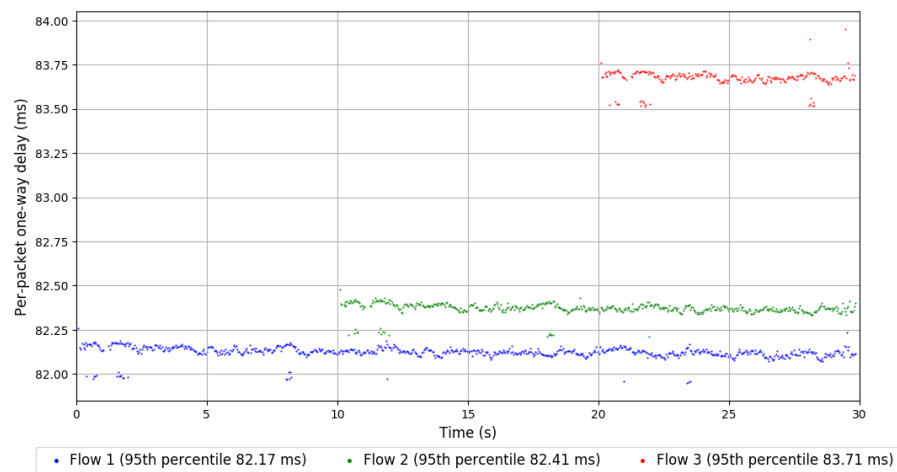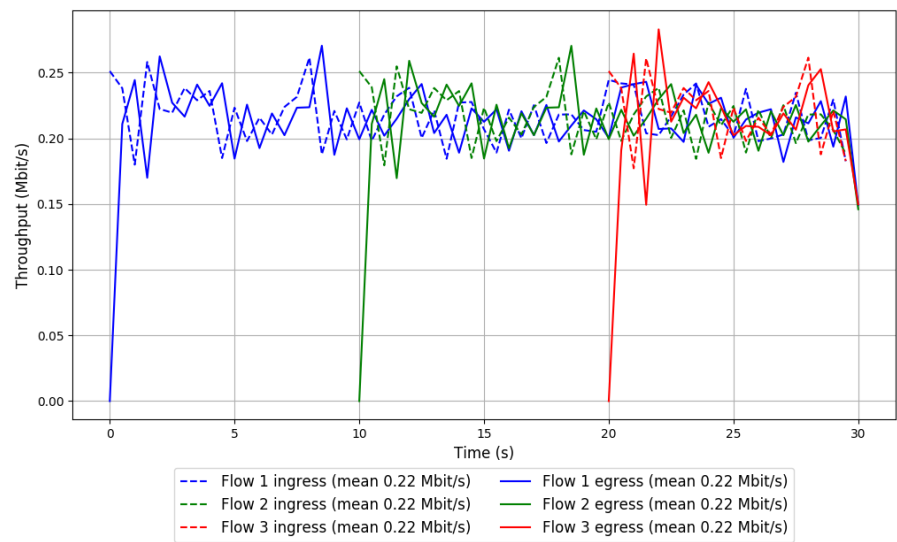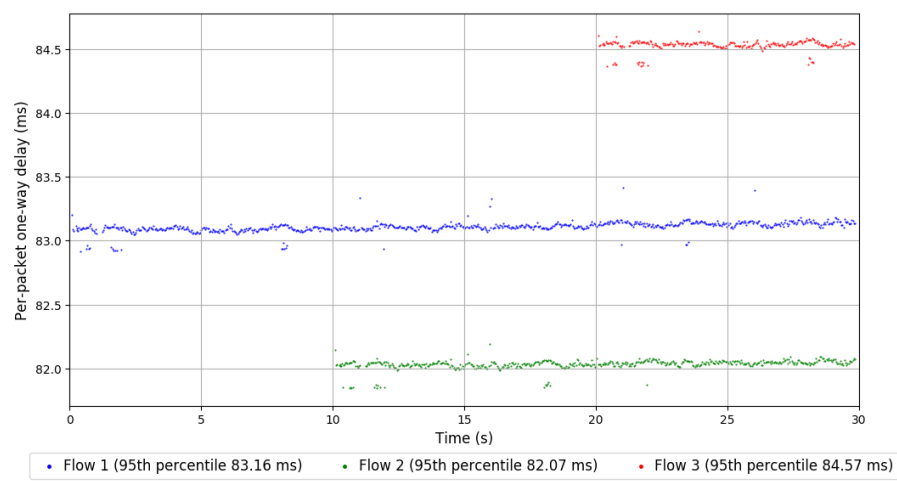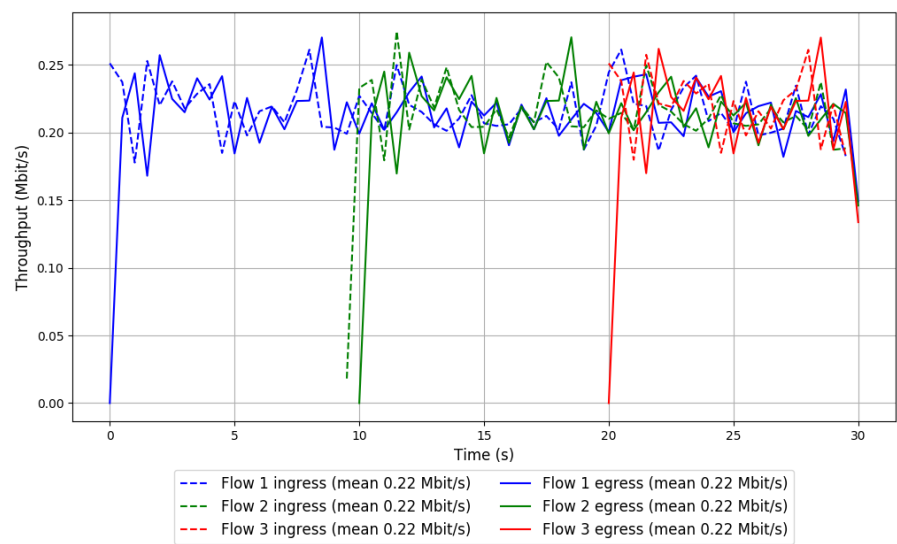
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-10-26 09:59:58
End at: 2018-10-26 10:00:28
Local clock offset: -7.073 ms
Remote clock offset: 3.371 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 81.461 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.078 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.472 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.461 ms
Loss rate: 1.84%
```

Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-10-26 10:22:58
End at: 2018-10-26 10:23:28
Local clock offset: -1.608 ms
Remote clock offset: 0.552 ms

# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 83.690 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 82.166 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 82.409 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.713 ms
Loss rate: 1.84%
```
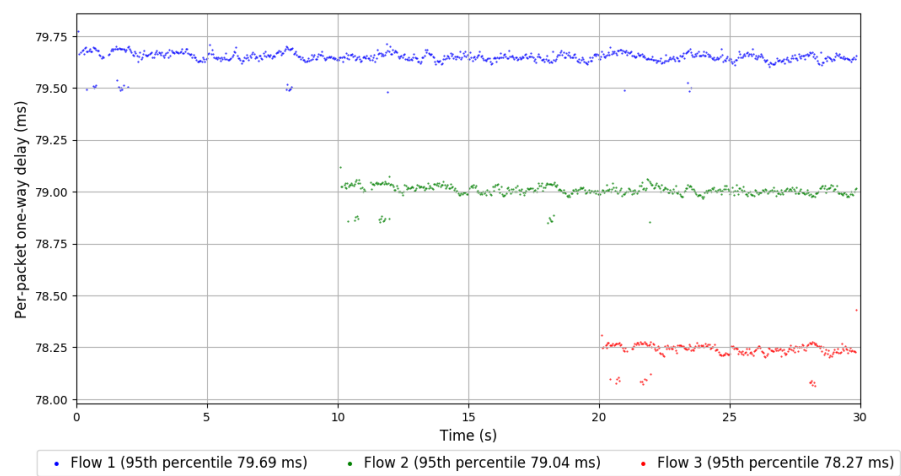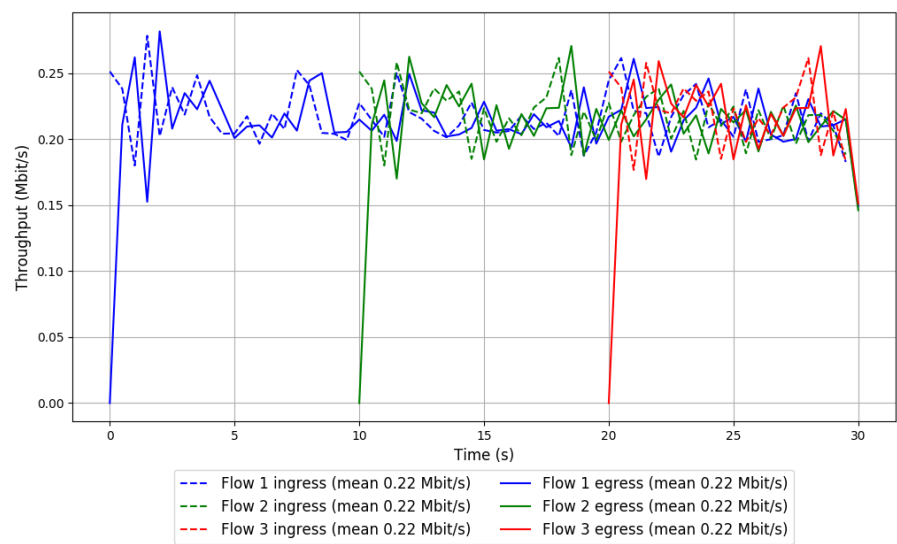
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-10-26 10:45:57
End at: 2018-10-26 10:46:27
Local clock offset: -5.894 ms
Remote clock offset: 0.408 ms

# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 84.548 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 83.155 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 82.071 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 84.568 ms
Loss rate: 1.84%
```
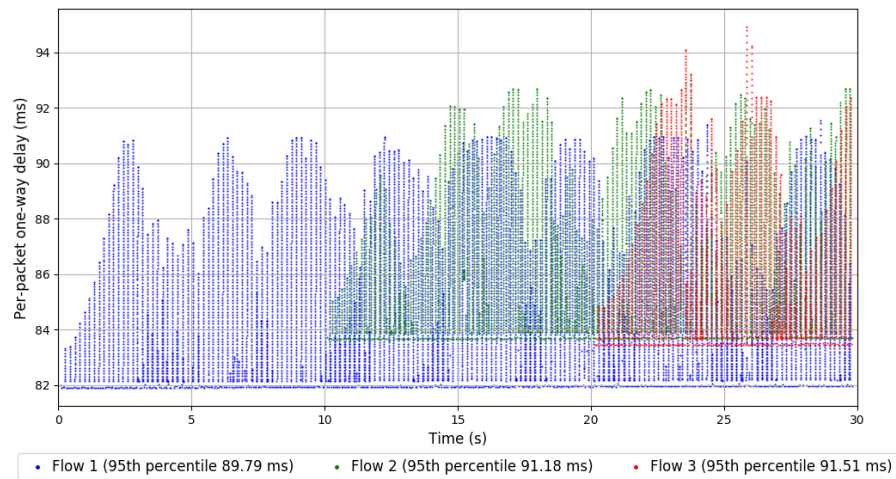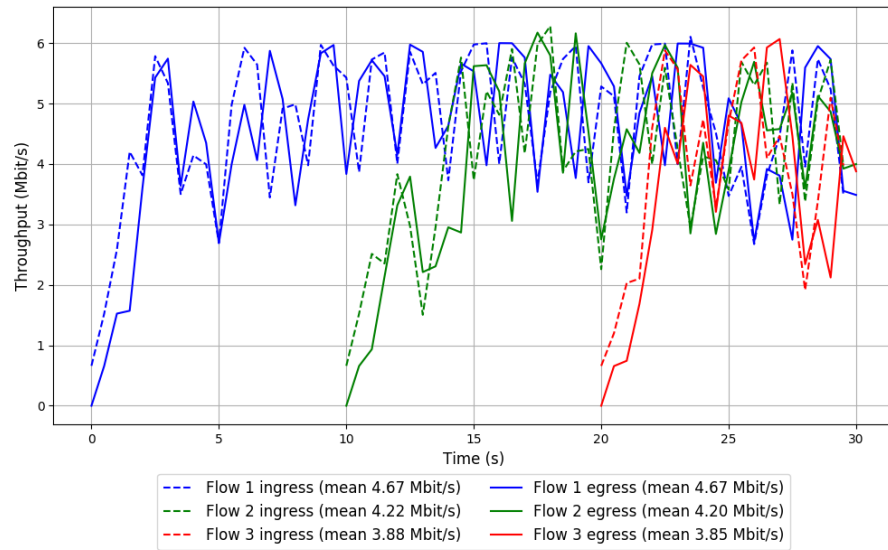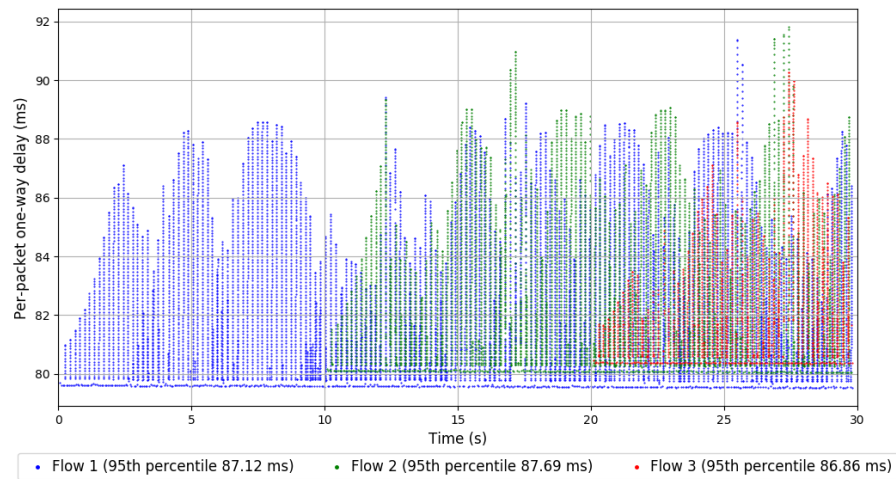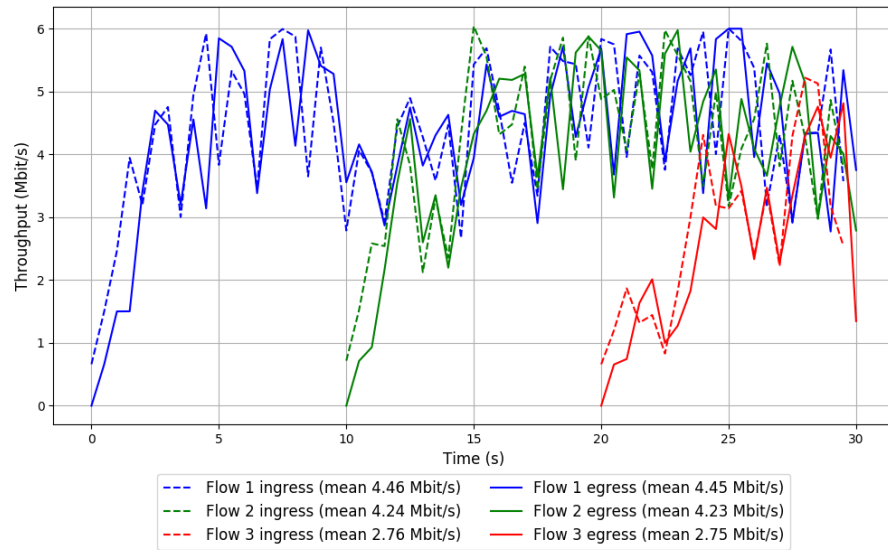
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-10-26 11:08:54
End at: 2018-10-26 11:09:24
Local clock offset: -6.876 ms
Remote clock offset: 4.439 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 79.677 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 79.686 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 79.041 ms
Loss rate: 0.82%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 78.271 ms
Loss rate: 1.45%
```

Run 5: Report of SCReAM — Data Link

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```
Run 1: Statistics of Sprout

Start at: 2018-10-26 09:49:47
End at: 2018-10-26 09:50:17
Local clock offset: -6.375 ms
Remote clock offset: 0.043 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.71 Mbit/s
95th percentile per-packet one-way delay: 90.537 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 4.67 Mbit/s
95th percentile per-packet one-way delay: 89.790 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 4.20 Mbit/s
95th percentile per-packet one-way delay: 91.181 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 3.85 Mbit/s
95th percentile per-packet one-way delay: 91.510 ms
Loss rate: 2.62%
```
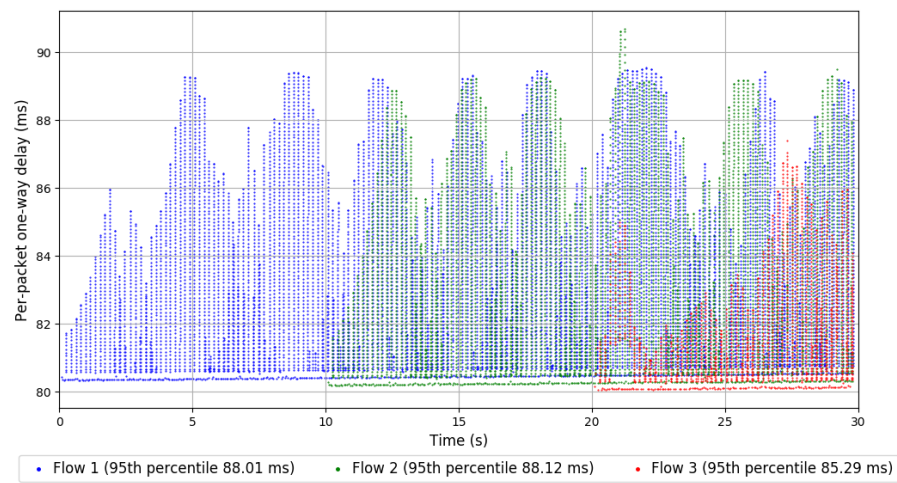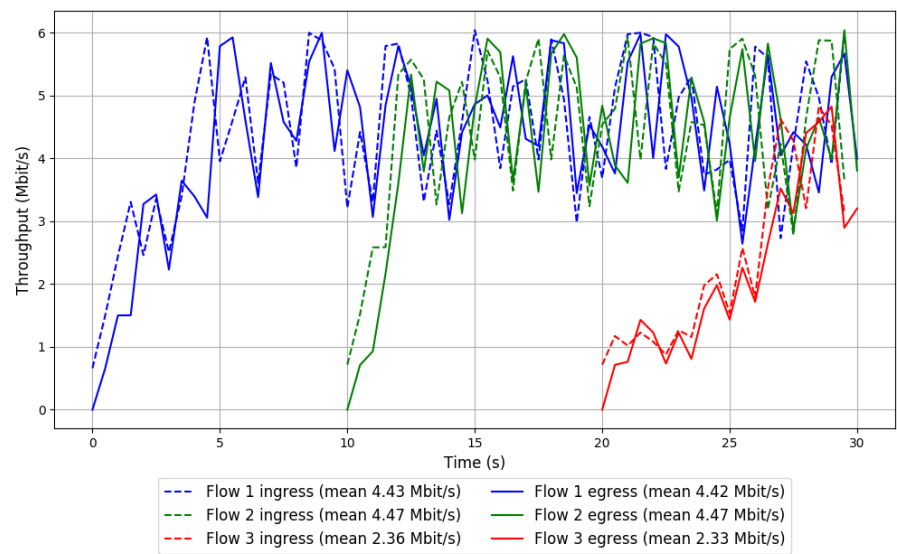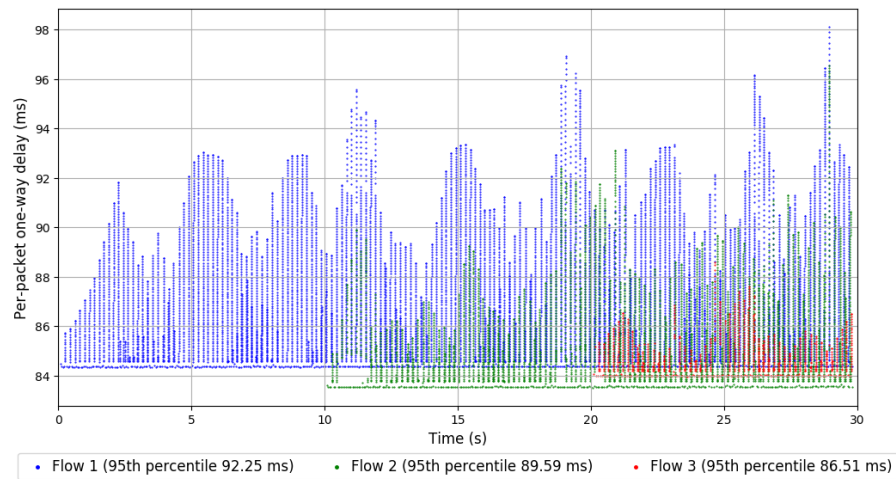
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-10-26 10:12:49
End at: 2018-10-26 10:13:19
Local clock offset: -3.057 ms
Remote clock offset: 4.268 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.15 Mbit/s
95th percentile per-packet one-way delay: 87.292 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 4.45 Mbit/s
95th percentile per-packet one-way delay: 87.123 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 4.23 Mbit/s
95th percentile per-packet one-way delay: 87.685 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 86.858 ms
Loss rate: 2.20%
```
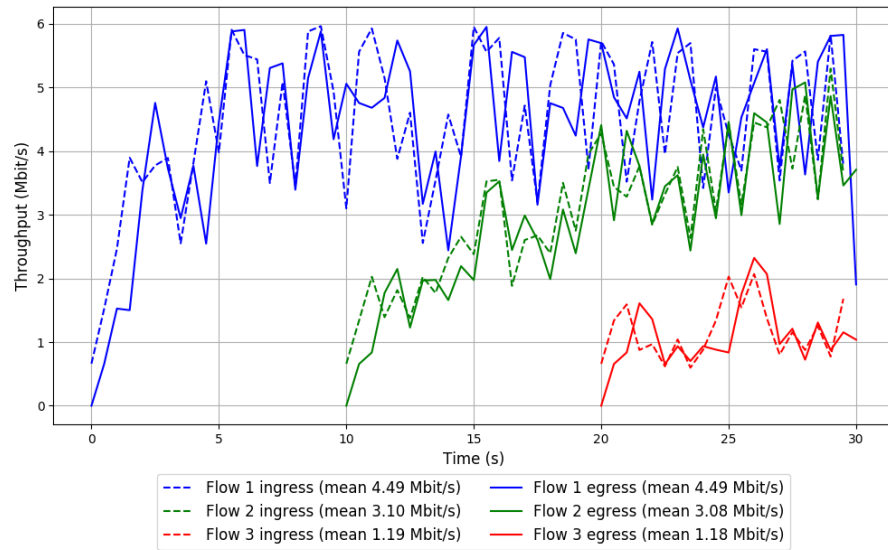
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-10-26 10:35:47
End at: 2018-10-26 10:36:17
Local clock offset: -3.251 ms
Remote clock offset: 4.122 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.14 Mbit/s
95th percentile per-packet one-way delay: 87.958 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 4.42 Mbit/s
95th percentile per-packet one-way delay: 88.011 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 4.47 Mbit/s
95th percentile per-packet one-way delay: 88.124 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 85.288 ms
Loss rate: 3.35%
```
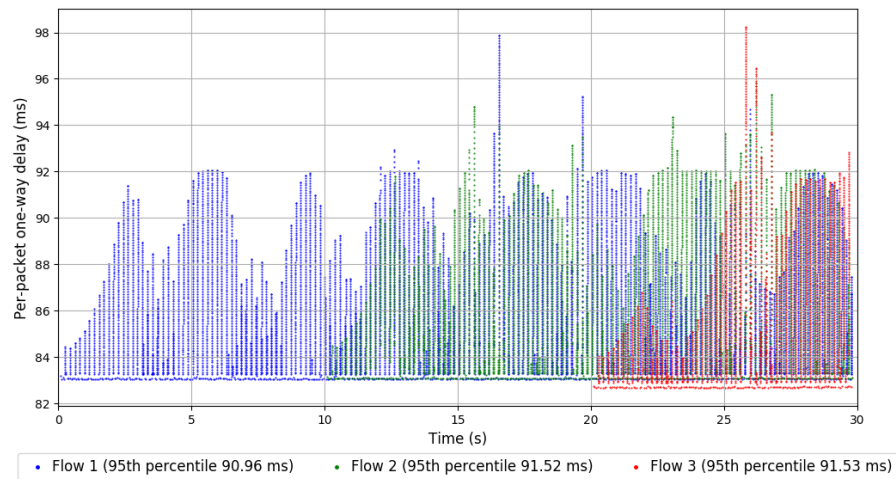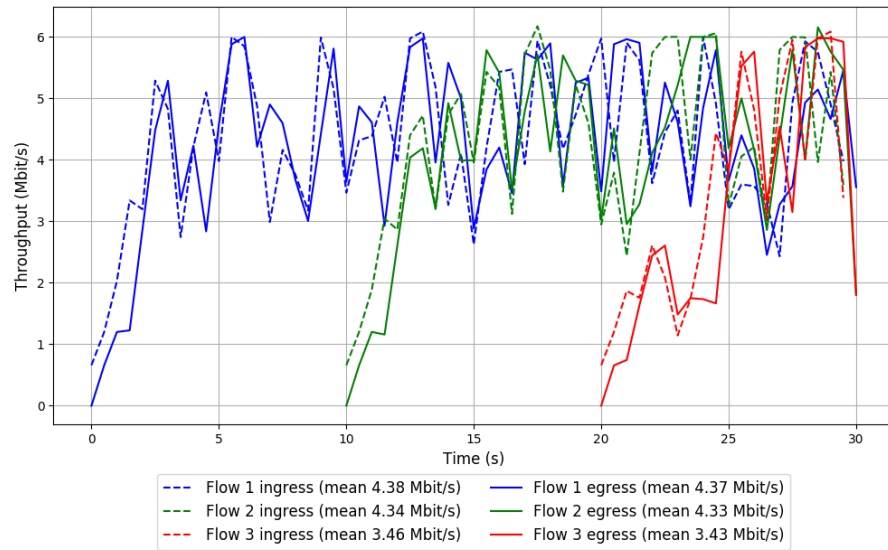
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-10-26 10:58:45
End at: 2018-10-26 10:59:15
Local clock offset: -7.114 ms
Remote clock offset: 0.675 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.92 Mbit/s
95th percentile per-packet one-way delay: 91.702 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 4.49 Mbit/s
95th percentile per-packet one-way delay: 92.255 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 89.586 ms
Loss rate: 1.45%
-- Flow 3:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 86.511 ms
Loss rate: 2.75%
```
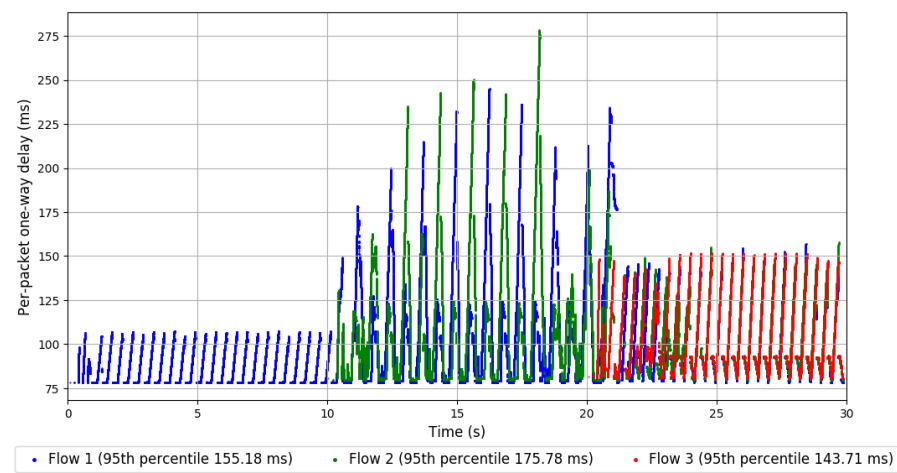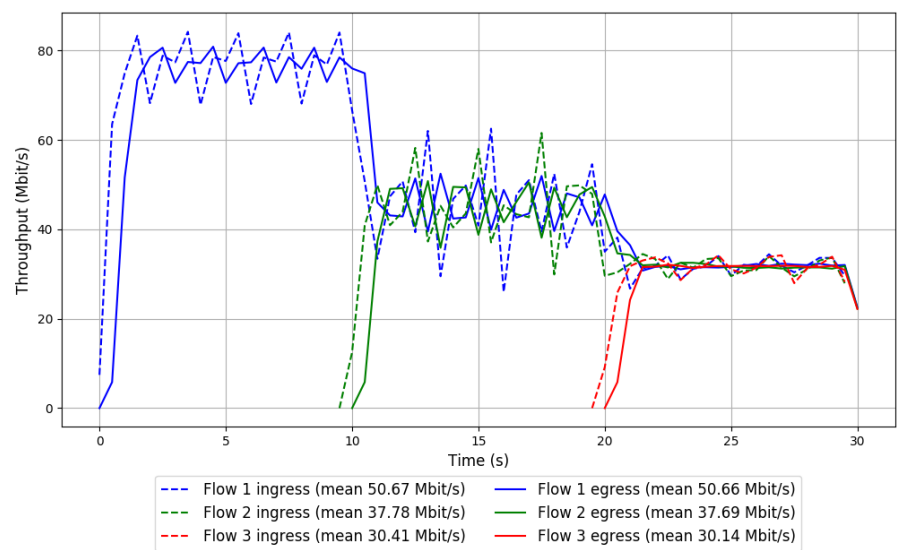
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-10-26 11:21:45
End at: 2018-10-26 11:22:15
Local clock offset: -6.946 ms
Remote clock offset: -0.124 ms


# Below is generated by plot.py at 2018-10-26 11:41:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.35 Mbit/s
95th percentile per-packet one-way delay: 91.275 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 4.37 Mbit/s
95th percentile per-packet one-way delay: 90.964 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 4.33 Mbit/s
95th percentile per-packet one-way delay: 91.519 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 3.43 Mbit/s
95th percentile per-packet one-way delay: 91.532 ms
Loss rate: 2.56%
```

Run 5: Report of Sprout — Data Link

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

Start at: 2018-10-26 09:58:36
End at: 2018-10-26 09:59:06
Local clock offset: -7.052 ms
Remote clock offset: 3.991 ms


# Below is generated by plot.py at 2018-10-26 11:42:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.66 Mbit/s
95th percentile per-packet one-way delay: 157.976 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 50.66 Mbit/s
95th percentile per-packet one-way delay: 155.177 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 37.69 Mbit/s
95th percentile per-packet one-way delay: 175.779 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 30.14 Mbit/s
95th percentile per-packet one-way delay: 143.710 ms
Loss rate: 2.51%
```
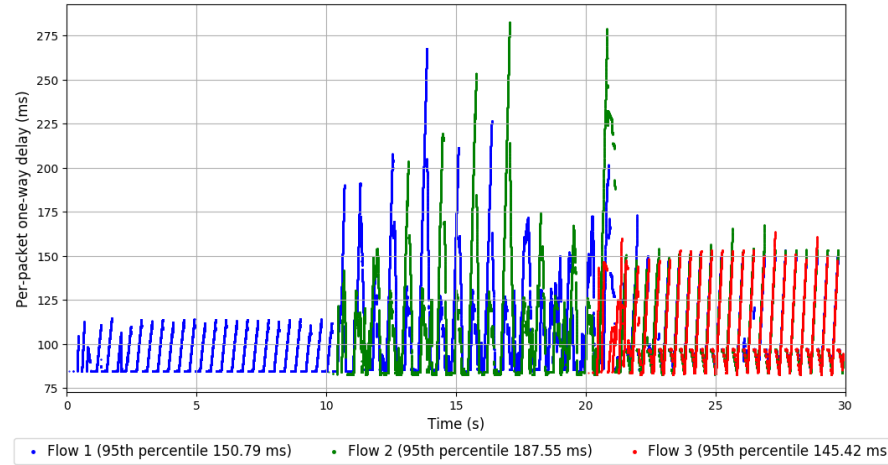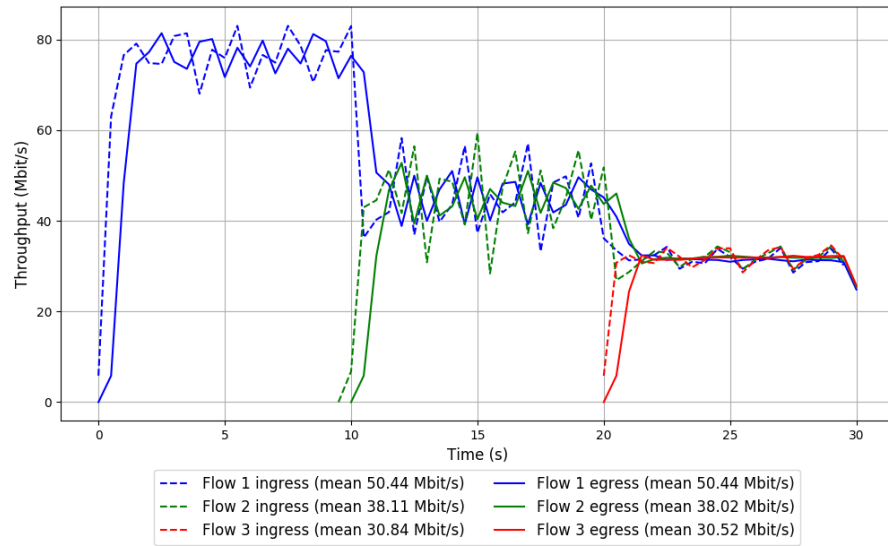
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2018-10-26 10:21:38
End at: 2018-10-26 10:22:08
Local clock offset: -1.707 ms
Remote clock offset: 0.341 ms

# Below is generated by plot.py at 2018-10-26 11:42:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.75 Mbit/s
95th percentile per-packet one-way delay: 156.978 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 50.44 Mbit/s
95th percentile per-packet one-way delay: 150.795 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 38.02 Mbit/s
95th percentile per-packet one-way delay: 187.548 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 30.52 Mbit/s
95th percentile per-packet one-way delay: 145.416 ms
Loss rate: 2.37%
```
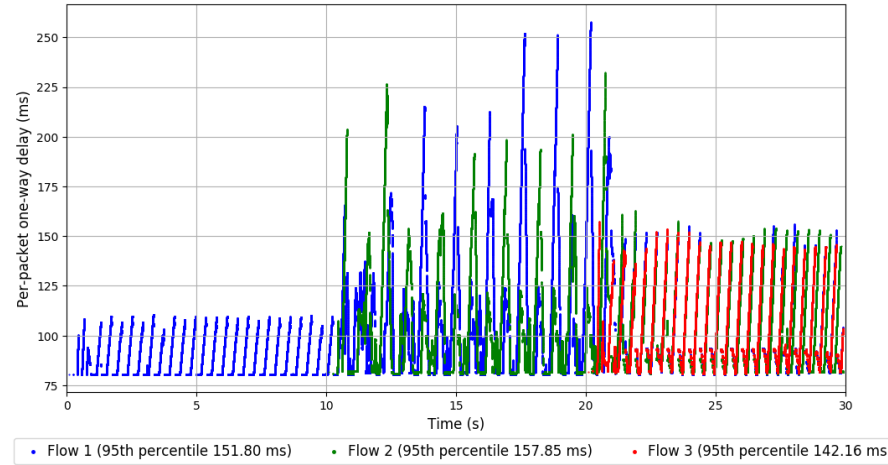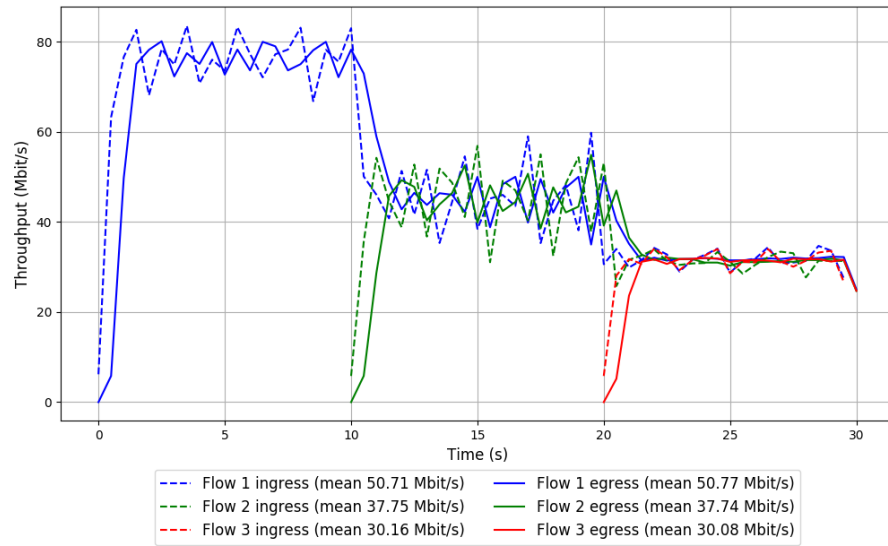
Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2018-10-26 10:44:36
End at: 2018-10-26 10:45:06
Local clock offset: -5.555 ms
Remote clock offset: 4.429 ms


# Below is generated by plot.py at 2018-10-26 11:42:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.74 Mbit/s
95th percentile per-packet one-way delay: 151.549 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 50.77 Mbit/s
95th percentile per-packet one-way delay: 151.796 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 37.74 Mbit/s
95th percentile per-packet one-way delay: 157.851 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 30.08 Mbit/s
95th percentile per-packet one-way delay: 142.165 ms
Loss rate: 1.93%
```
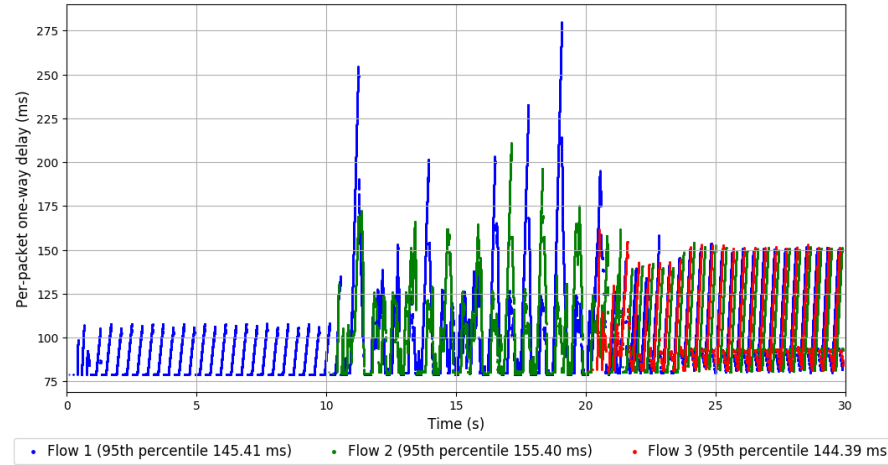
Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2018-10-26 11:07:34
End at: 2018-10-26 11:08:04
Local clock offset: -6.892 ms
Remote clock offset: 3.588 ms


# Below is generated by plot.py at 2018-10-26 11:42:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.61 Mbit/s
95th percentile per-packet one-way delay: 148.666 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 50.67 Mbit/s
95th percentile per-packet one-way delay: 145.409 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 37.68 Mbit/s
95th percentile per-packet one-way delay: 155.402 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 30.12 Mbit/s
95th percentile per-packet one-way delay: 144.392 ms
Loss rate: 2.39%
```
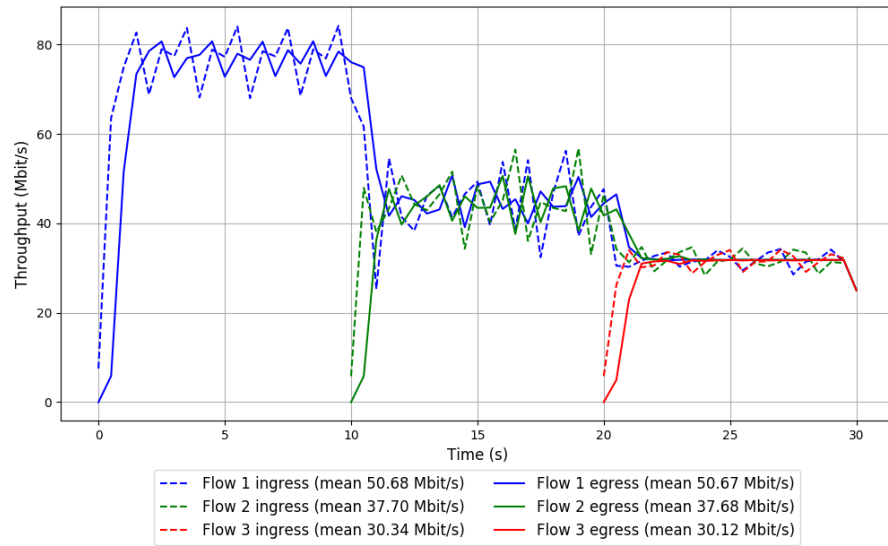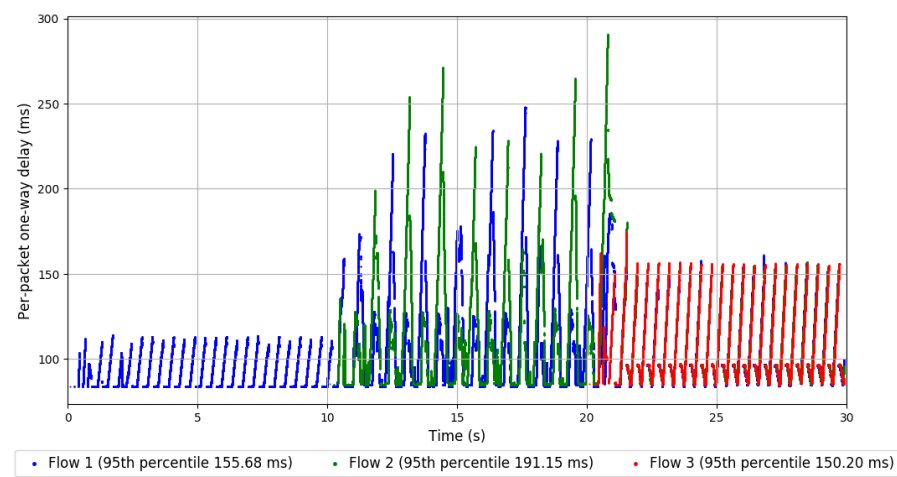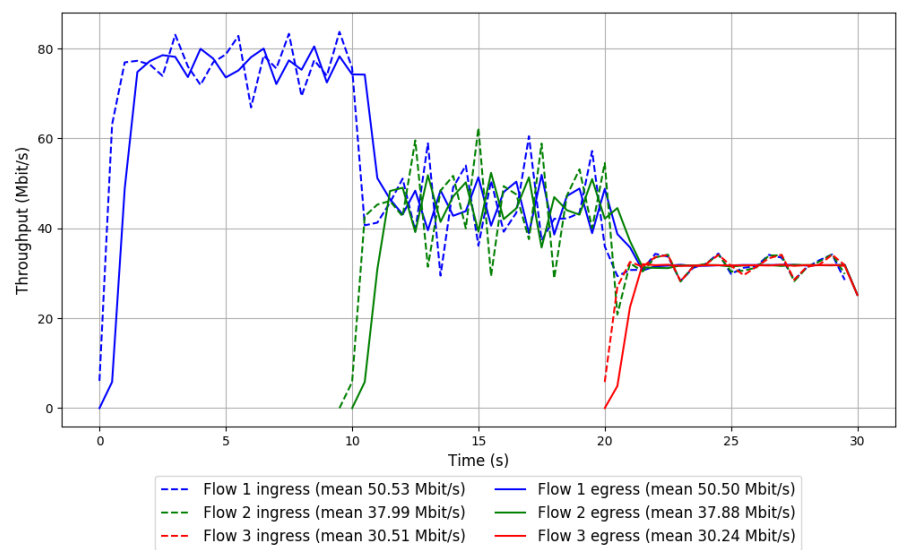
Run 4: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 50.68 Mbit/s) ——— Flow 1 egress (mean 50.67 Mbit/s)
- - - - Flow 2 ingress (mean 37.70 Mbit/s) ——— Flow 2 egress (mean 37.68 Mbit/s)
- - - - Flow 3 ingress (mean 30.34 Mbit/s) ——— Flow 3 egress (mean 30.12 Mbit/s)

· Flow 1 (95th percentile 145.41 ms)　　· Flow 2 (95th percentile 155.40 ms)　　· Flow 3 (95th percentile 144.39 ms)

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

Start at: 2018-10-26 11:30:36
End at: 2018-10-26 11:31:06
Local clock offset: -7.059 ms
Remote clock offset: 0.19 ms


# Below is generated by plot.py at 2018-10-26 11:42:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.62 Mbit/s
95th percentile per-packet one-way delay: 163.049 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 50.50 Mbit/s
95th percentile per-packet one-way delay: 155.677 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 37.88 Mbit/s
95th percentile per-packet one-way delay: 191.149 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 30.24 Mbit/s
95th percentile per-packet one-way delay: 150.204 ms
Loss rate: 2.52%
```
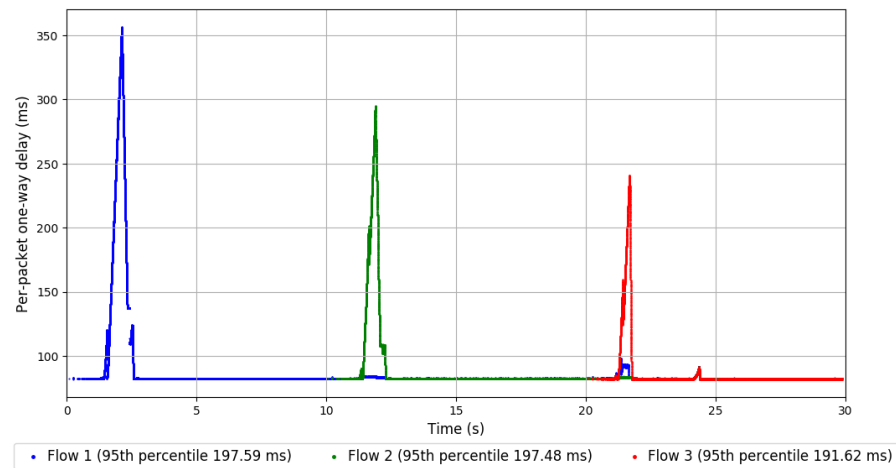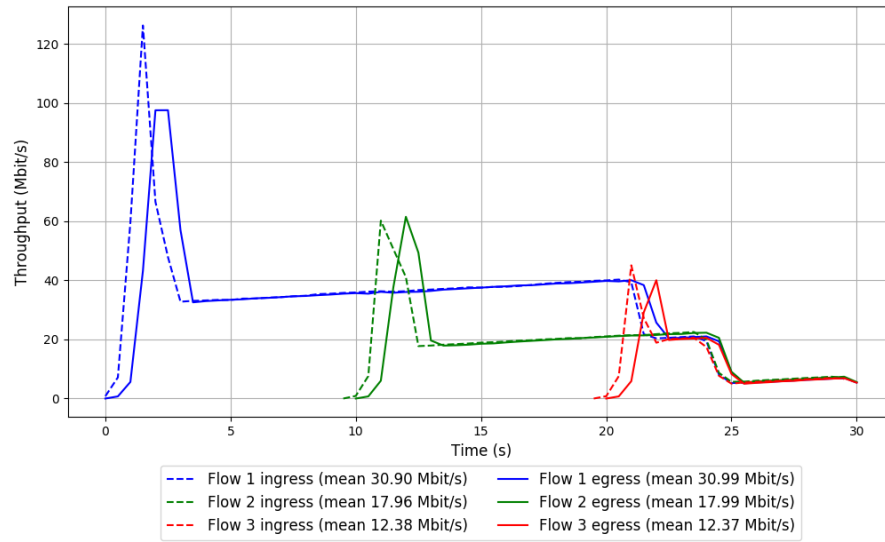
Run 5: Report of TaoVA-100x — Data Link

- - - - Flow 1 ingress (mean 50.53 Mbit/s) ——— Flow 1 egress (mean 50.50 Mbit/s)
- - - - Flow 2 ingress (mean 37.99 Mbit/s) ——— Flow 2 egress (mean 37.88 Mbit/s)
- - - - Flow 3 ingress (mean 30.51 Mbit/s) ——— Flow 3 egress (mean 30.24 Mbit/s)

- Flow 1 (95th percentile 155.68 ms) • Flow 2 (95th percentile 191.15 ms) • Flow 3 (95th percentile 150.20 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2018-10-26 09:56:04
End at: 2018-10-26 09:56:34
Local clock offset: -6.884 ms
Remote clock offset: 0.083 ms


# Below is generated by plot.py at 2018-10-26 11:42:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.01 Mbit/s
95th percentile per-packet one-way delay: 196.708 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 30.99 Mbit/s
95th percentile per-packet one-way delay: 197.589 ms
Loss rate: 0.26%
-- Flow 2:
Average throughput: 17.99 Mbit/s
95th percentile per-packet one-way delay: 197.480 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 191.621 ms
Loss rate: 1.69%
```
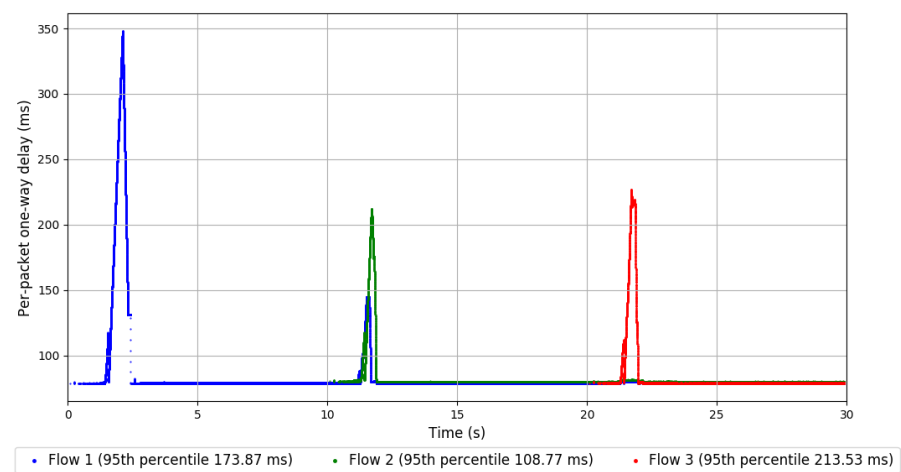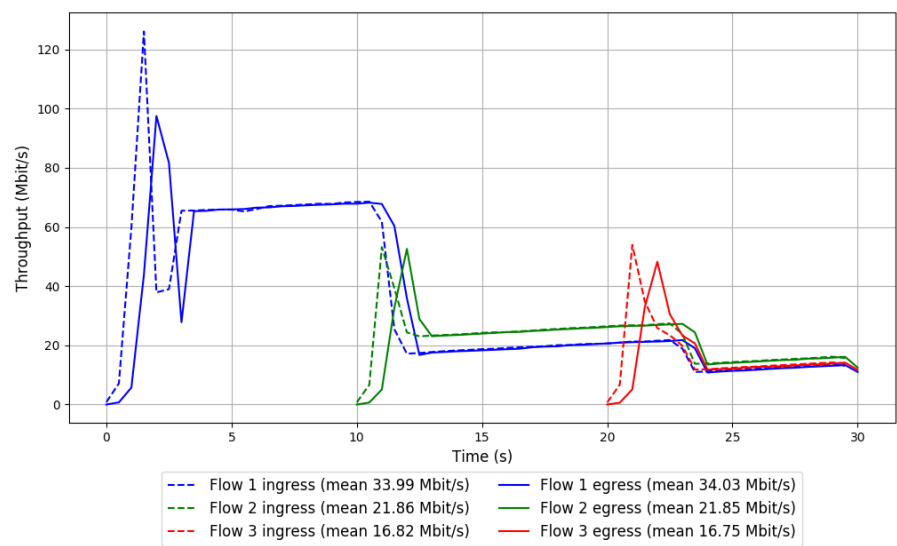
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-10-26 10:19:06
End at: 2018-10-26 10:19:36
Local clock offset: -1.923 ms
Remote clock offset: 4.471 ms


# Below is generated by plot.py at 2018-10-26 11:42:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 54.05 Mbit/s
95th percentile per-packet one-way delay: 163.414 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 34.03 Mbit/s
95th percentile per-packet one-way delay: 173.868 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 21.85 Mbit/s
95th percentile per-packet one-way delay: 108.773 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 16.75 Mbit/s
95th percentile per-packet one-way delay: 213.526 ms
Loss rate: 2.07%
```
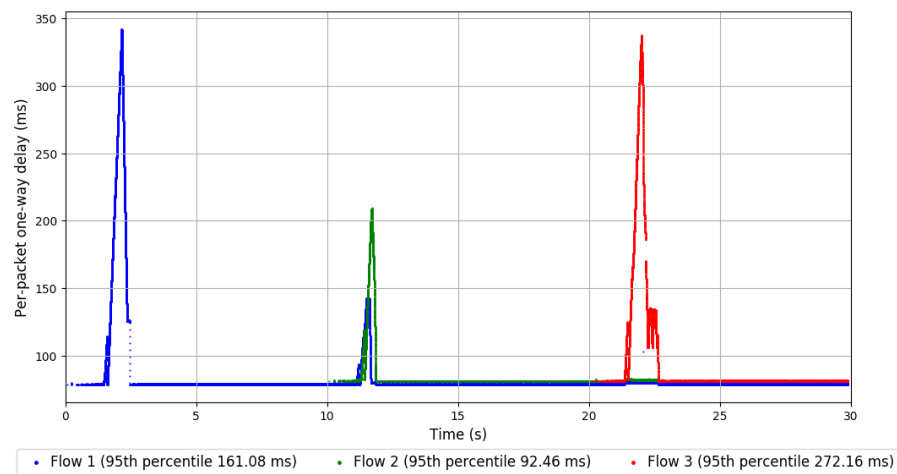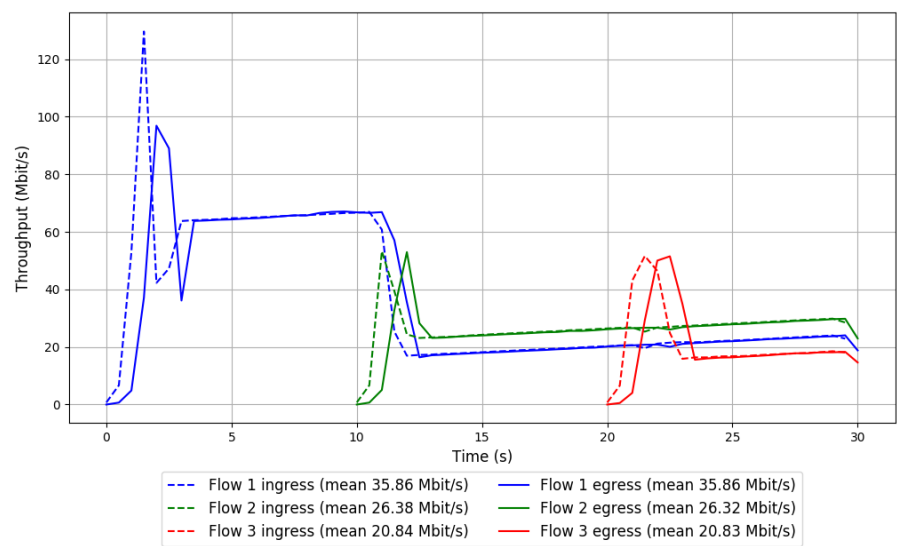
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-10-26 10:42:03
End at: 2018-10-26 10:42:33
Local clock offset: -5.057 ms
Remote clock offset: 4.068 ms


# Below is generated by plot.py at 2018-10-26 11:42:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 60.18 Mbit/s
95th percentile per-packet one-way delay: 165.555 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 35.86 Mbit/s
95th percentile per-packet one-way delay: 161.083 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 26.32 Mbit/s
95th percentile per-packet one-way delay: 92.463 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 20.83 Mbit/s
95th percentile per-packet one-way delay: 272.160 ms
Loss rate: 1.72%
```
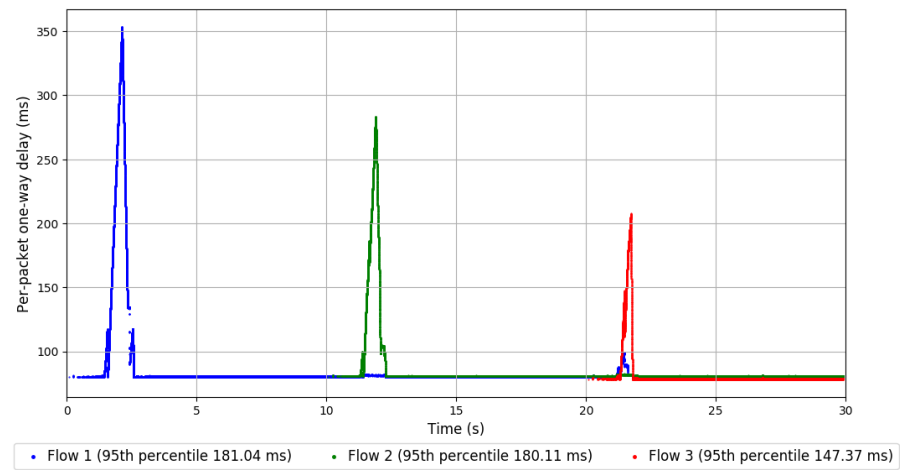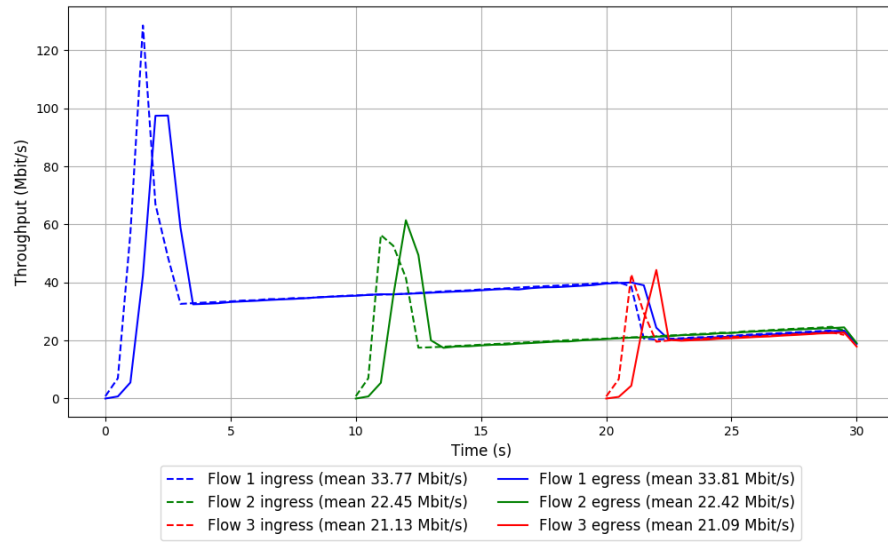
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-10-26 11:05:01
End at: 2018-10-26 11:05:31
Local clock offset: -7.117 ms
Remote clock offset: 4.112 ms


# Below is generated by plot.py at 2018-10-26 11:42:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 55.63 Mbit/s
95th percentile per-packet one-way delay: 174.936 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 33.81 Mbit/s
95th percentile per-packet one-way delay: 181.040 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 22.42 Mbit/s
95th percentile per-packet one-way delay: 180.107 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 21.09 Mbit/s
95th percentile per-packet one-way delay: 147.370 ms
Loss rate: 1.81%
```

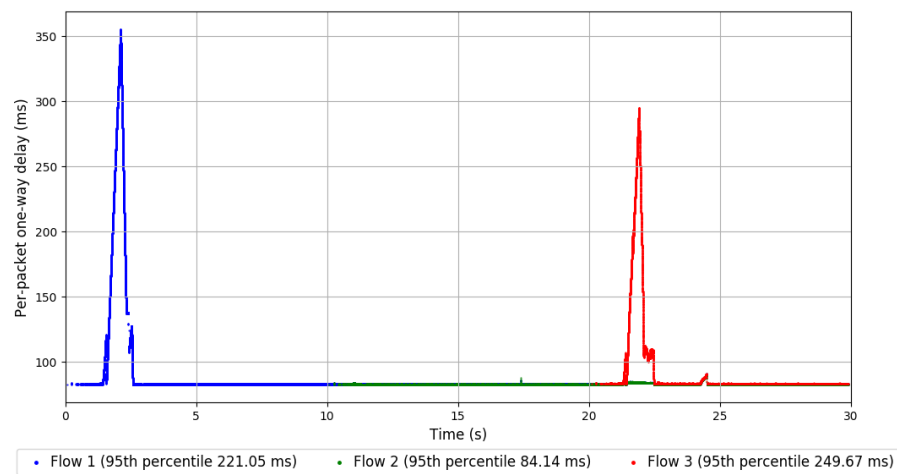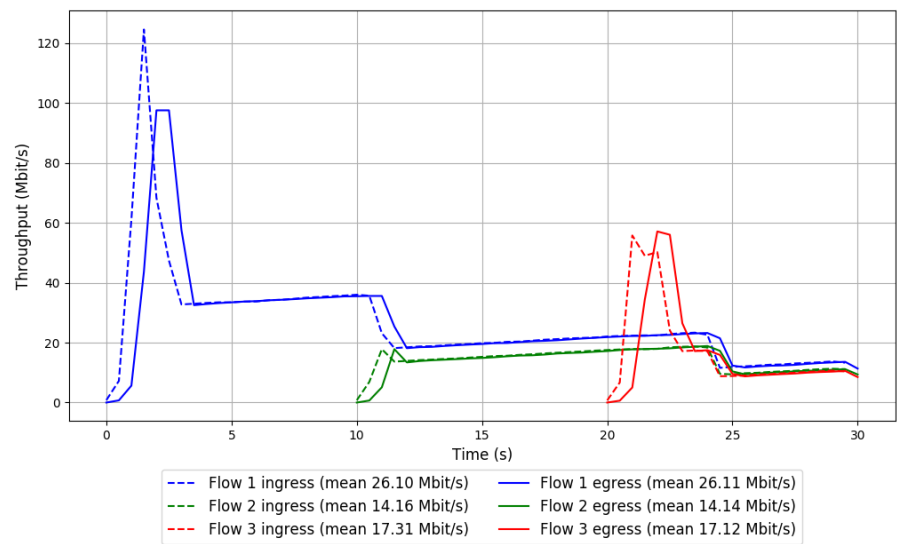Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-10-26 11:28:04
End at: 2018-10-26 11:28:34
Local clock offset: -7.064 ms
Remote clock offset: -0.216 ms


# Below is generated by plot.py at 2018-10-26 11:42:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 41.12 Mbit/s
95th percentile per-packet one-way delay: 202.563 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 26.11 Mbit/s
95th percentile per-packet one-way delay: 221.051 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 14.14 Mbit/s
95th percentile per-packet one-way delay: 84.135 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 17.12 Mbit/s
95th percentile per-packet one-way delay: 249.673 ms
Loss rate: 2.76%
```
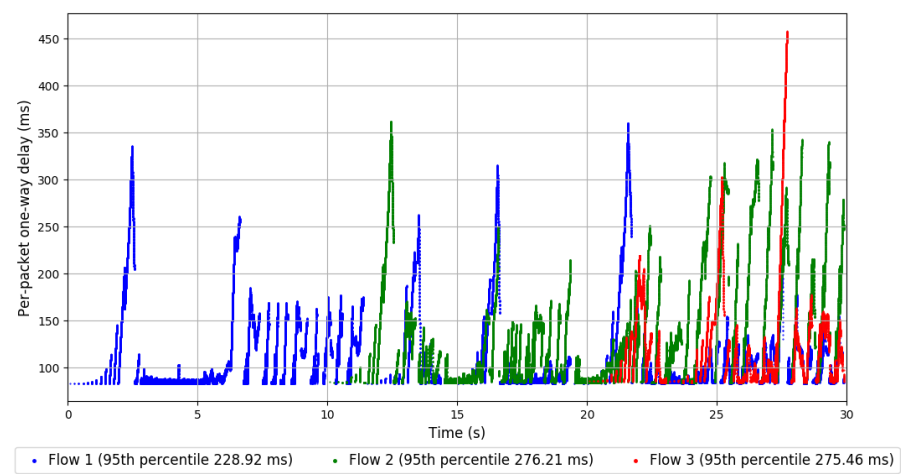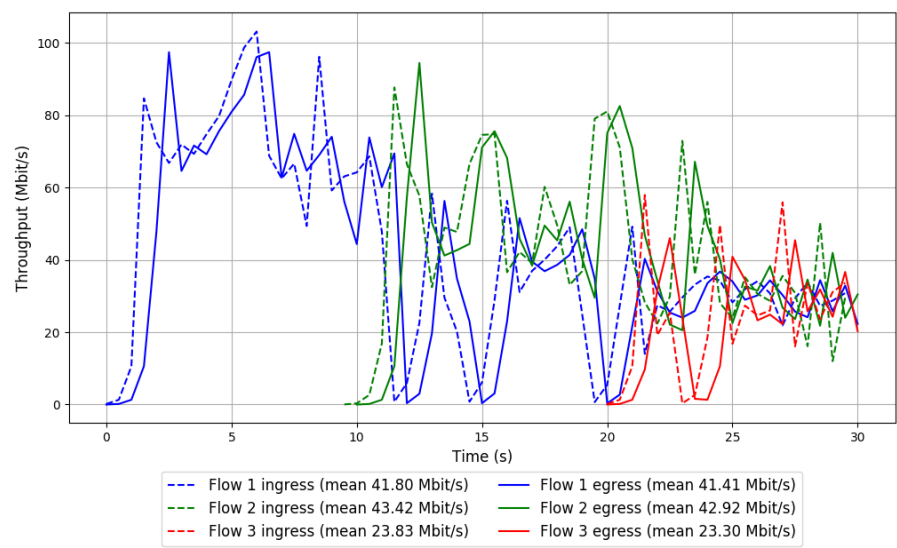
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 26.10 Mbit/s) --- Flow 1 egress (mean 26.11 Mbit/s)
Flow 2 ingress (mean 14.16 Mbit/s) --- Flow 2 egress (mean 14.14 Mbit/s)
Flow 3 ingress (mean 17.31 Mbit/s) --- Flow 3 egress (mean 17.12 Mbit/s)

Flow 1 (95th percentile 221.05 ms)   Flow 2 (95th percentile 84.14 ms)   Flow 3 (95th percentile 249.67 ms)

```
Run 1: Statistics of Verus

Start at: 2018-10-26 09:57:19
End at: 2018-10-26 09:57:49
Local clock offset: -6.981 ms
Remote clock offset: -0.098 ms


# Below is generated by plot.py at 2018-10-26 11:42:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 77.59 Mbit/s
95th percentile per-packet one-way delay: 251.302 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 41.41 Mbit/s
95th percentile per-packet one-way delay: 228.916 ms
Loss rate: 1.46%
-- Flow 2:
Average throughput: 42.92 Mbit/s
95th percentile per-packet one-way delay: 276.209 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 23.30 Mbit/s
95th percentile per-packet one-way delay: 275.461 ms
Loss rate: 3.82%
```
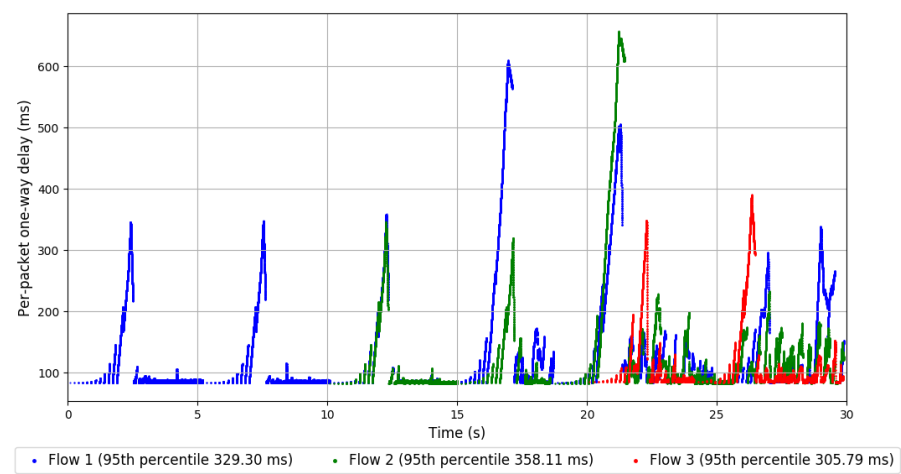
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-10-26 10:20:21
End at: 2018-10-26 10:20:51
Local clock offset: -1.895 ms
Remote clock offset: 0.597 ms


# Below is generated by plot.py at 2018-10-26 11:43:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 65.71 Mbit/s
95th percentile per-packet one-way delay: 328.450 ms
Loss rate: 1.83%
-- Flow 1:
Average throughput: 37.54 Mbit/s
95th percentile per-packet one-way delay: 329.302 ms
Loss rate: 1.98%
-- Flow 2:
Average throughput: 31.12 Mbit/s
95th percentile per-packet one-way delay: 358.109 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 22.92 Mbit/s
95th percentile per-packet one-way delay: 305.790 ms
Loss rate: 2.15%
```
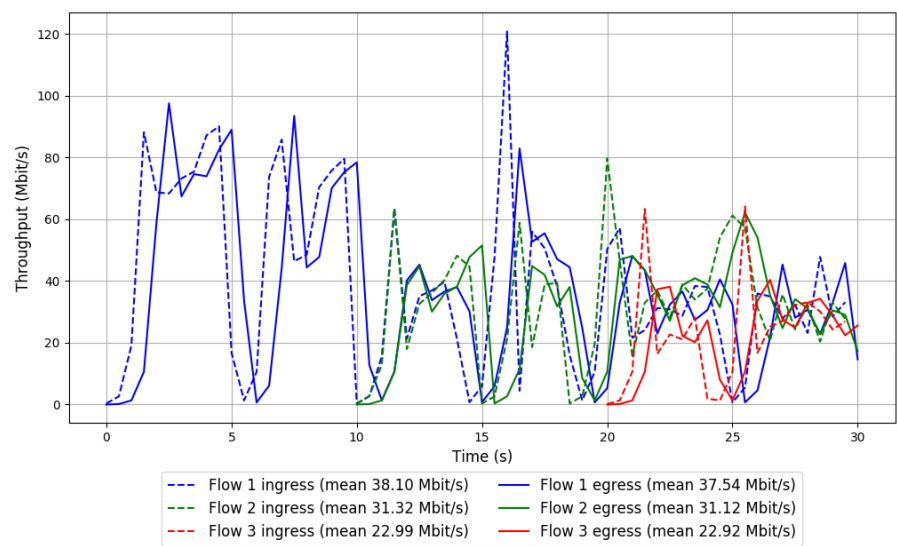
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-10-26 10:43:19
End at: 2018-10-26 10:43:49
Local clock offset: -5.323 ms
Remote clock offset: 3.995 ms


# Below is generated by plot.py at 2018-10-26 11:43:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 75.54 Mbit/s
95th percentile per-packet one-way delay: 605.977 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 44.04 Mbit/s
95th percentile per-packet one-way delay: 773.484 ms
Loss rate: 1.48%
-- Flow 2:
Average throughput: 38.21 Mbit/s
95th percentile per-packet one-way delay: 256.820 ms
Loss rate: 1.58%
-- Flow 3:
Average throughput: 19.62 Mbit/s
95th percentile per-packet one-way delay: 292.198 ms
Loss rate: 0.82%
```
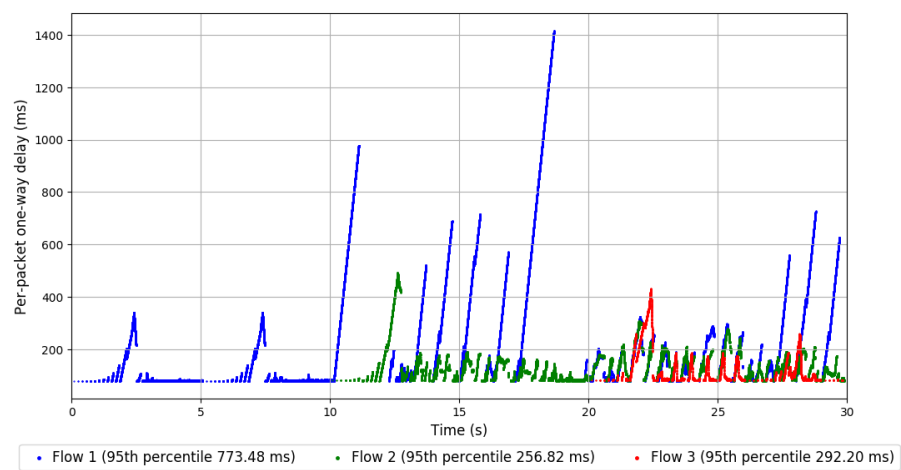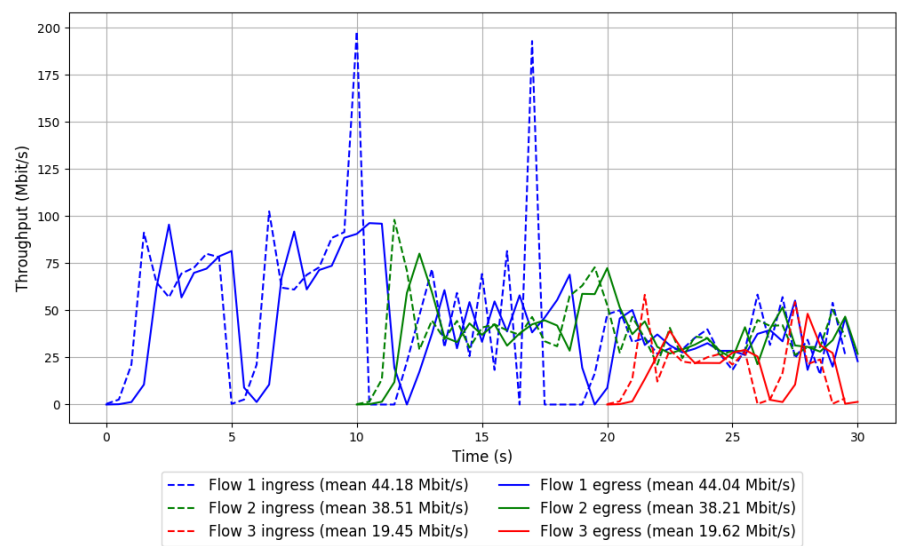
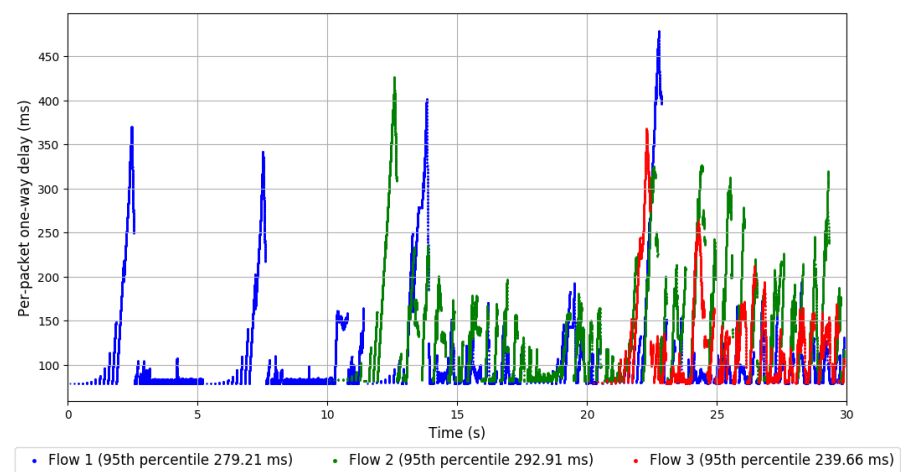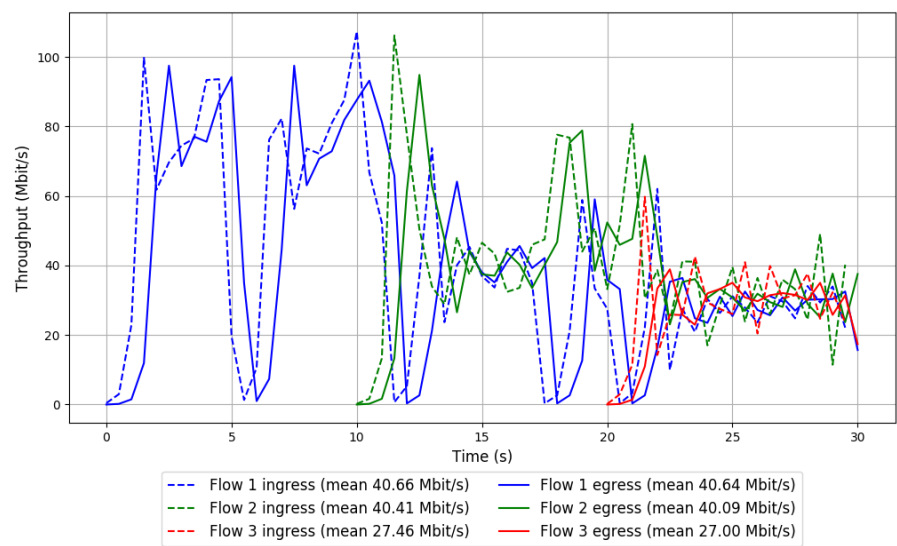Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-10-26 11:06:16
End at: 2018-10-26 11:06:46
Local clock offset: -6.985 ms
Remote clock offset: 3.642 ms


# Below is generated by plot.py at 2018-10-26 11:43:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 76.14 Mbit/s
95th percentile per-packet one-way delay: 280.591 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 40.64 Mbit/s
95th percentile per-packet one-way delay: 279.208 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 40.09 Mbit/s
95th percentile per-packet one-way delay: 292.910 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 27.00 Mbit/s
95th percentile per-packet one-way delay: 239.663 ms
Loss rate: 3.28%
```

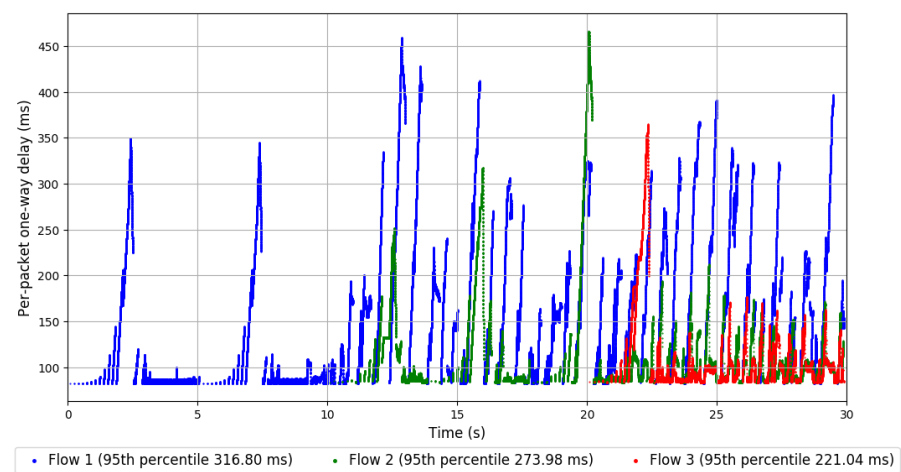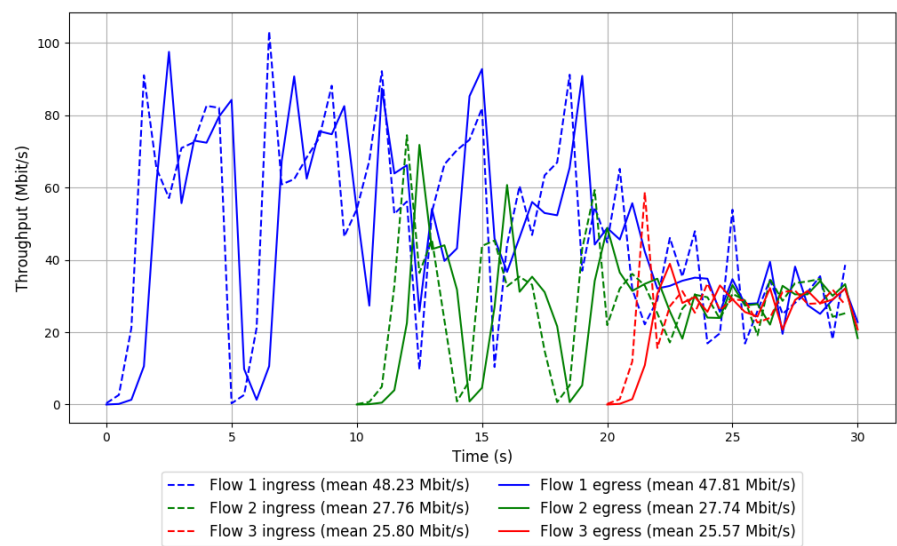Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-10-26 11:29:18
End at: 2018-10-26 11:29:48
Local clock offset: -7.023 ms
Remote clock offset: -0.216 ms


# Below is generated by plot.py at 2018-10-26 11:43:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 74.61 Mbit/s
95th percentile per-packet one-way delay: 306.922 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 47.81 Mbit/s
95th percentile per-packet one-way delay: 316.804 ms
Loss rate: 1.38%
-- Flow 2:
Average throughput: 27.74 Mbit/s
95th percentile per-packet one-way delay: 273.977 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 25.57 Mbit/s
95th percentile per-packet one-way delay: 221.042 ms
Loss rate: 2.56%
```

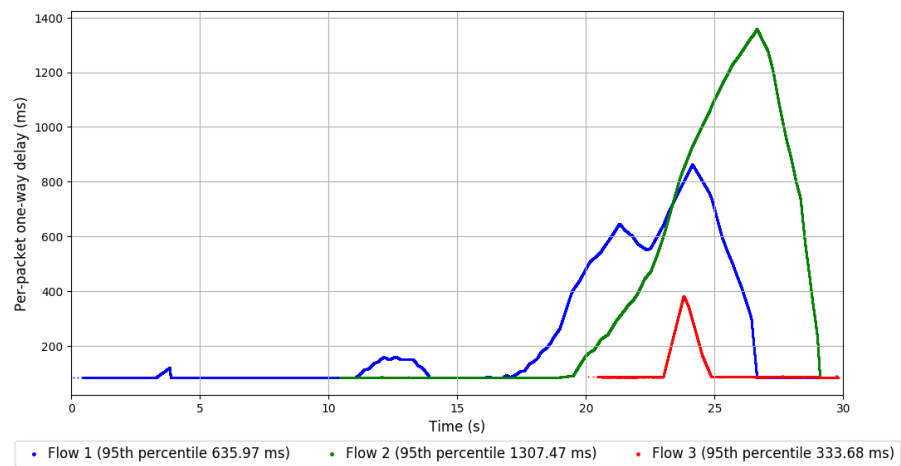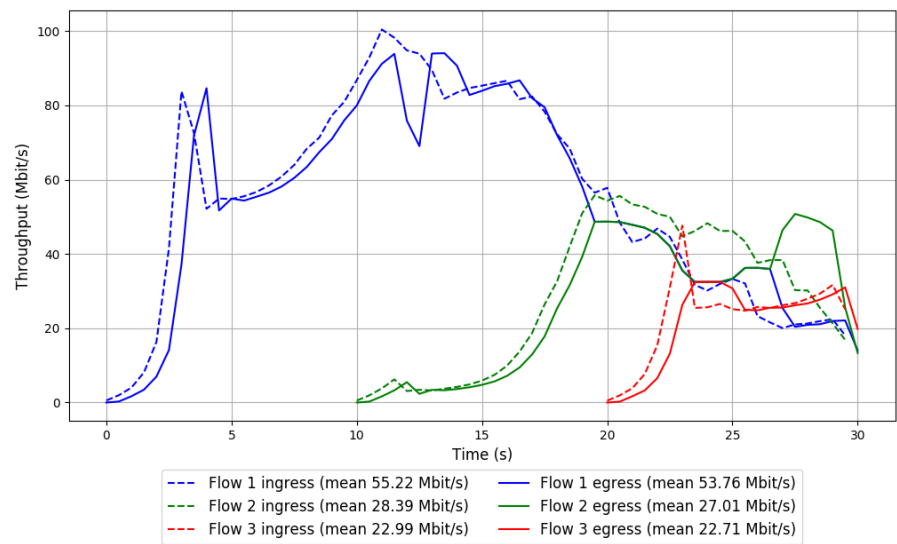Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-10-26 09:52:17
End at: 2018-10-26 09:52:47
Local clock offset: -6.491 ms
Remote clock offset: -0.307 ms


# Below is generated by plot.py at 2018-10-26 11:43:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.09 Mbit/s
95th percentile per-packet one-way delay: 1034.763 ms
Loss rate: 3.72%
-- Flow 1:
Average throughput: 53.76 Mbit/s
95th percentile per-packet one-way delay: 635.966 ms
Loss rate: 3.18%
-- Flow 2:
Average throughput: 27.01 Mbit/s
95th percentile per-packet one-way delay: 1307.466 ms
Loss rate: 5.61%
-- Flow 3:
Average throughput: 22.71 Mbit/s
95th percentile per-packet one-way delay: 333.678 ms
Loss rate: 2.88%
```

Run 1: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 55.22 Mbit/s)   ——— Flow 1 egress (mean 53.76 Mbit/s)
- - - - Flow 2 ingress (mean 28.39 Mbit/s)   ——— Flow 2 egress (mean 27.01 Mbit/s)
- - - - Flow 3 ingress (mean 22.99 Mbit/s)   ——— Flow 3 egress (mean 22.71 Mbit/s)

• Flow 1 (95th percentile 635.97 ms)   • Flow 2 (95th percentile 1307.47 ms)   • Flow 3 (95th percentile 333.68 ms)

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-10-26 10:15:18
End at: 2018-10-26 10:15:48
Local clock offset: -2.487 ms
Remote clock offset: 0.114 ms


# Below is generated by plot.py at 2018-10-26 11:43:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.83 Mbit/s
95th percentile per-packet one-way delay: 1953.933 ms
Loss rate: 8.46%
-- Flow 1:
Average throughput: 53.32 Mbit/s
95th percentile per-packet one-way delay: 2011.998 ms
Loss rate: 10.88%
-- Flow 2:
Average throughput: 30.20 Mbit/s
95th percentile per-packet one-way delay: 632.817 ms
Loss rate: 3.31%
-- Flow 3:
Average throughput: 22.86 Mbit/s
95th percentile per-packet one-way delay: 297.770 ms
Loss rate: 3.49%
```
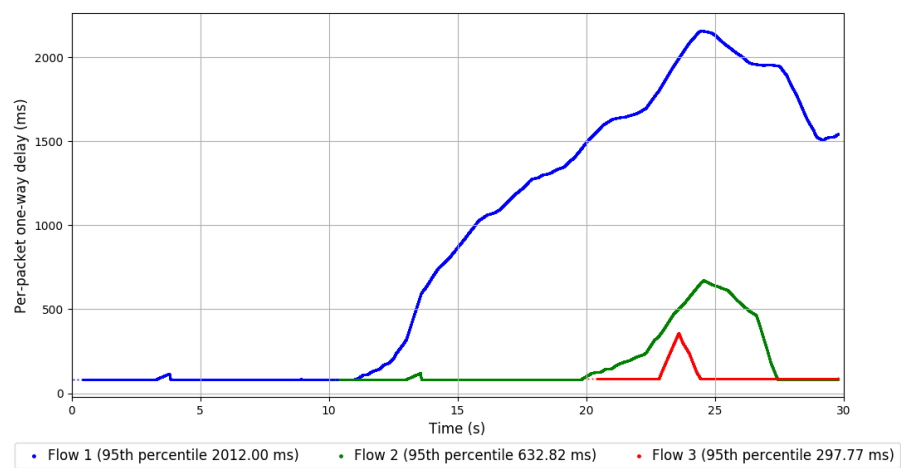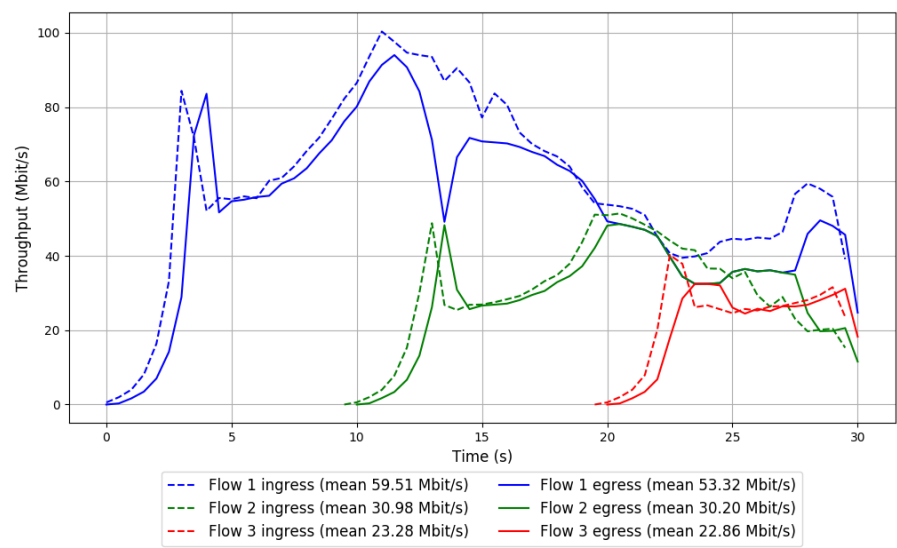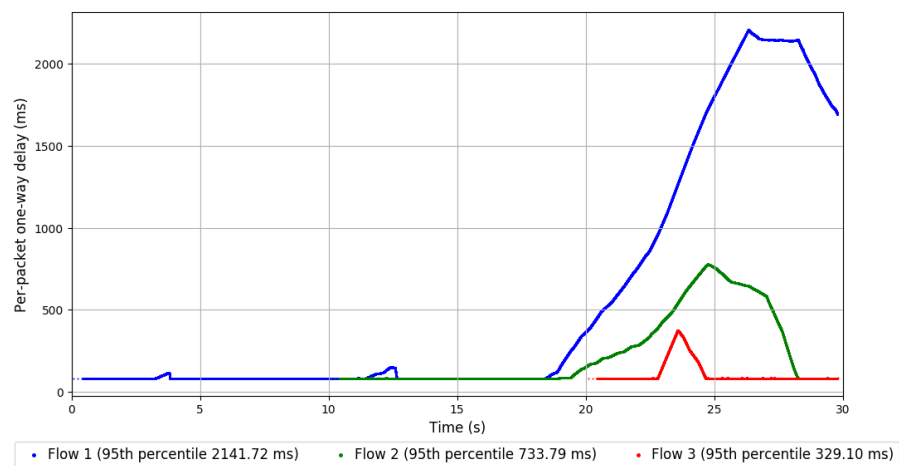
Run 2: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 59.51 Mbit/s)   —— Flow 1 egress (mean 53.32 Mbit/s)
- - - - Flow 2 ingress (mean 30.98 Mbit/s)   —— Flow 2 egress (mean 30.20 Mbit/s)
- - - - Flow 3 ingress (mean 23.28 Mbit/s)   —— Flow 3 egress (mean 22.86 Mbit/s)

- Flow 1 (95th percentile 2012.00 ms)   • Flow 2 (95th percentile 632.82 ms)   • Flow 3 (95th percentile 297.77 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-10-26 10:38:17
End at: 2018-10-26 10:38:47
Local clock offset: -4.133 ms
Remote clock offset: 0.749 ms


# Below is generated by plot.py at 2018-10-26 11:43:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.09 Mbit/s
95th percentile per-packet one-way delay: 2018.820 ms
Loss rate: 8.45%
-- Flow 1:
Average throughput: 48.03 Mbit/s
95th percentile per-packet one-way delay: 2141.725 ms
Loss rate: 9.25%
-- Flow 2:
Average throughput: 25.06 Mbit/s
95th percentile per-packet one-way delay: 733.791 ms
Loss rate: 8.50%
-- Flow 3:
Average throughput: 22.79 Mbit/s
95th percentile per-packet one-way delay: 329.102 ms
Loss rate: 2.82%
```
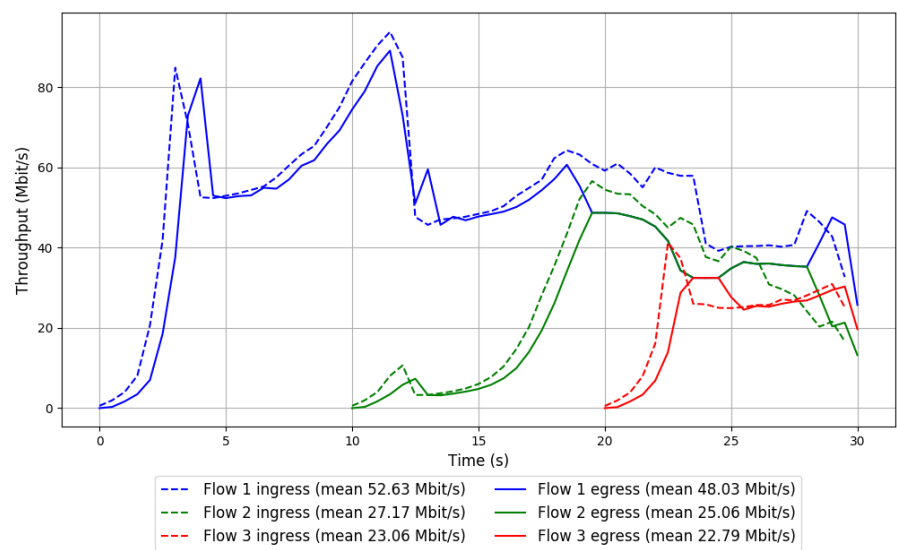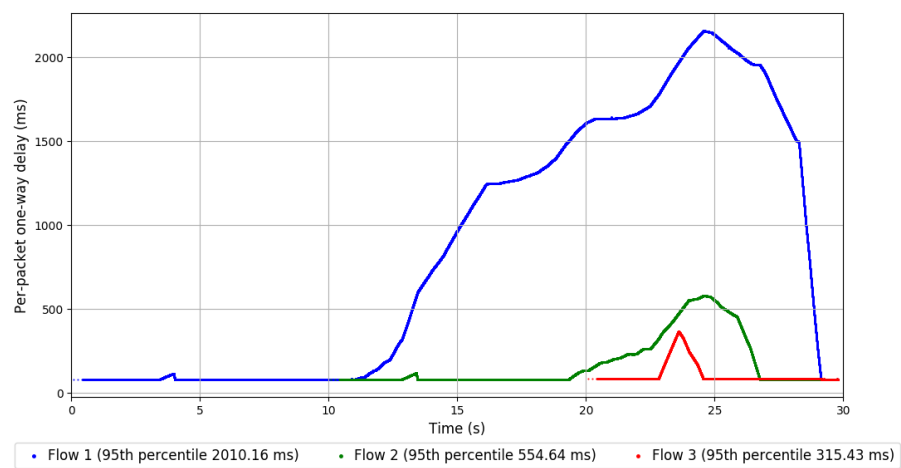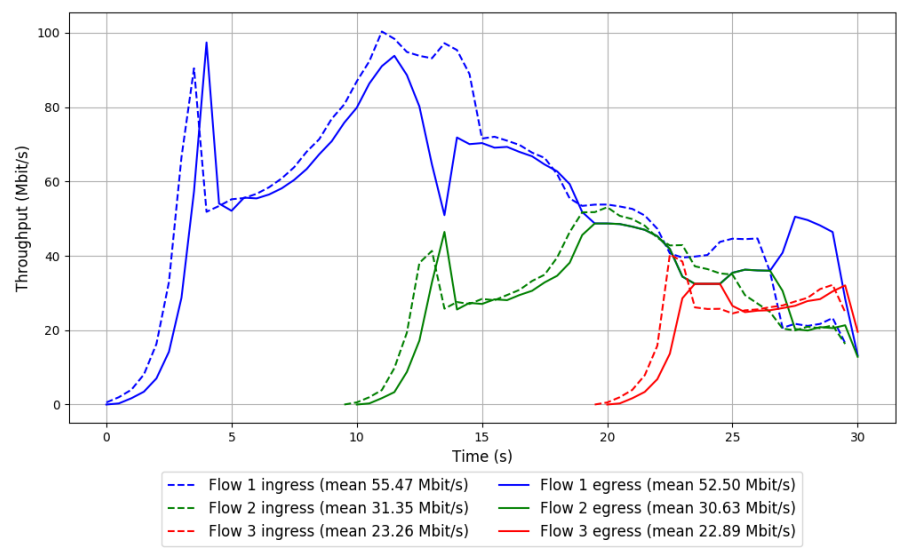
Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 52.63 Mbit/s)   Flow 1 egress (mean 48.03 Mbit/s)
Flow 2 ingress (mean 27.17 Mbit/s)   Flow 2 egress (mean 25.06 Mbit/s)
Flow 3 ingress (mean 23.06 Mbit/s)   Flow 3 egress (mean 22.79 Mbit/s)

Flow 1 (95th percentile 2141.72 ms)   Flow 2 (95th percentile 733.79 ms)   Flow 3 (95th percentile 329.10 ms)

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-10-26 11:01:14
End at: 2018-10-26 11:01:44
Local clock offset: -7.167 ms
Remote clock offset: 3.869 ms


# Below is generated by plot.py at 2018-10-26 11:43:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.31 Mbit/s
95th percentile per-packet one-way delay: 1930.695 ms
Loss rate: 4.94%
-- Flow 1:
Average throughput: 52.50 Mbit/s
95th percentile per-packet one-way delay: 2010.158 ms
Loss rate: 5.87%
-- Flow 2:
Average throughput: 30.63 Mbit/s
95th percentile per-packet one-way delay: 554.645 ms
Loss rate: 3.11%
-- Flow 3:
Average throughput: 22.89 Mbit/s
95th percentile per-packet one-way delay: 315.425 ms
Loss rate: 3.22%
```
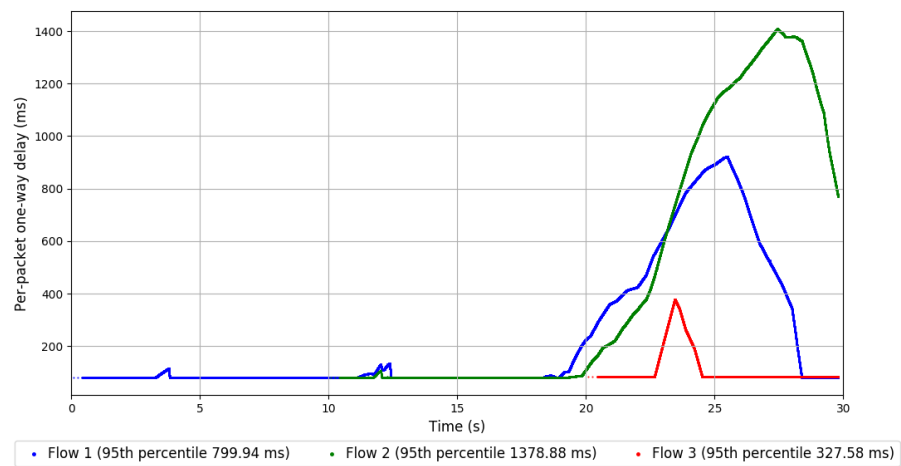
Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-10-26 11:24:16
End at: 2018-10-26 11:24:46
Local clock offset: -7.015 ms
Remote clock offset: 3.766 ms


# Below is generated by plot.py at 2018-10-26 11:43:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 72.61 Mbit/s
95th percentile per-packet one-way delay: 1216.646 ms
Loss rate: 5.05%
-- Flow 1:
Average throughput: 47.40 Mbit/s
95th percentile per-packet one-way delay: 799.943 ms
Loss rate: 3.18%
-- Flow 2:
Average throughput: 26.67 Mbit/s
95th percentile per-packet one-way delay: 1378.877 ms
Loss rate: 10.47%
-- Flow 3:
Average throughput: 23.04 Mbit/s
95th percentile per-packet one-way delay: 327.577 ms
Loss rate: 3.01%
```
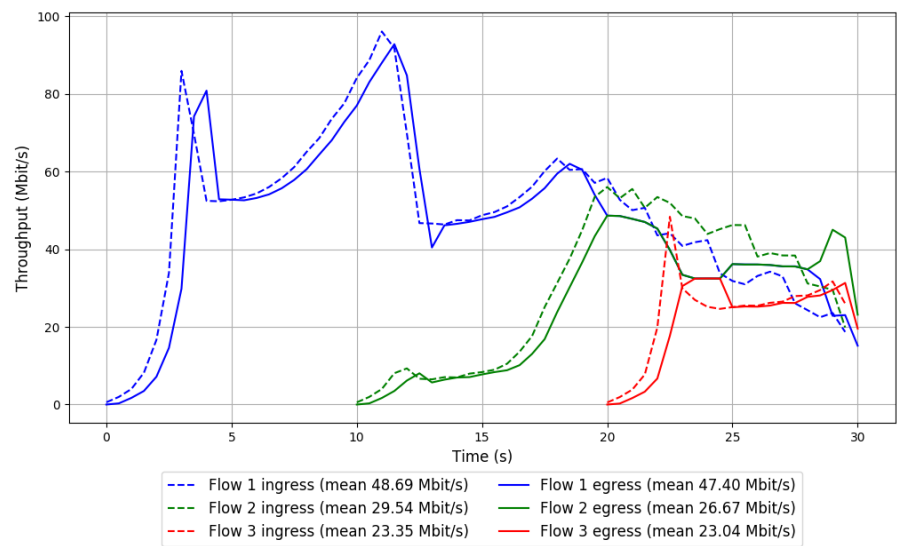
Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-10-26 09:47:16
End at: 2018-10-26 09:47:46
Local clock offset: -6.009 ms
Remote clock offset: 3.371 ms


# Below is generated by plot.py at 2018-10-26 11:43:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 81.419 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 80.784 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 81.617 ms
Loss rate: 0.74%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 79.353 ms
Loss rate: 1.84%
```
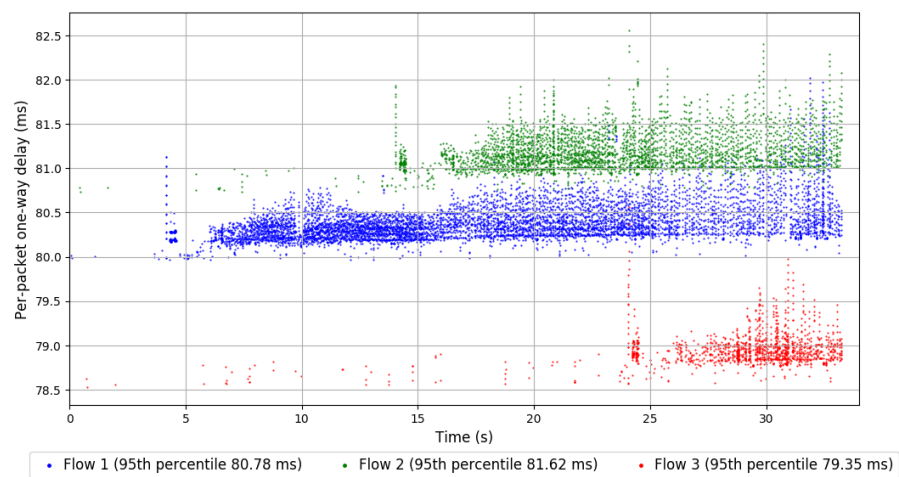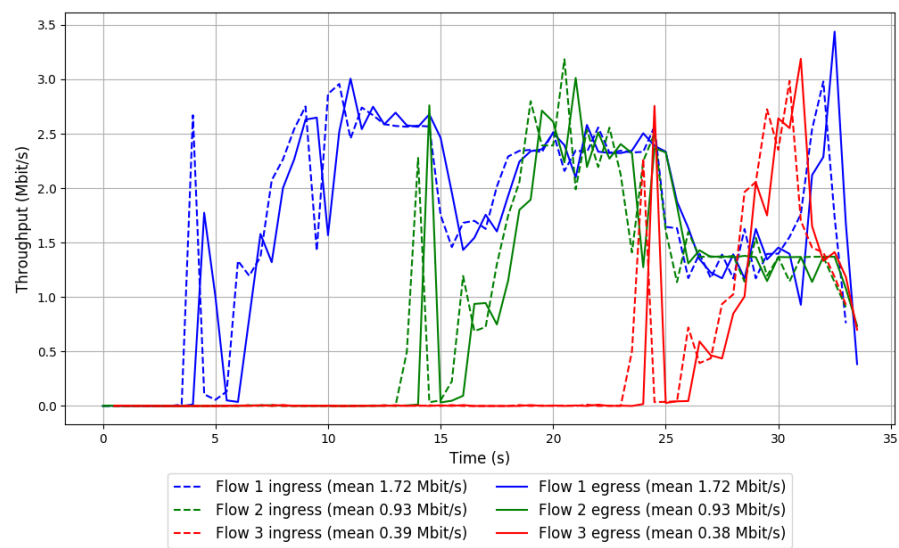
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-10-26 10:10:16
End at: 2018-10-26 10:10:46
Local clock offset: -3.542 ms
Remote clock offset: 4.167 ms


# Below is generated by plot.py at 2018-10-26 11:43:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 81.181 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 81.173 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 81.255 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 79.234 ms
Loss rate: 2.53%
```
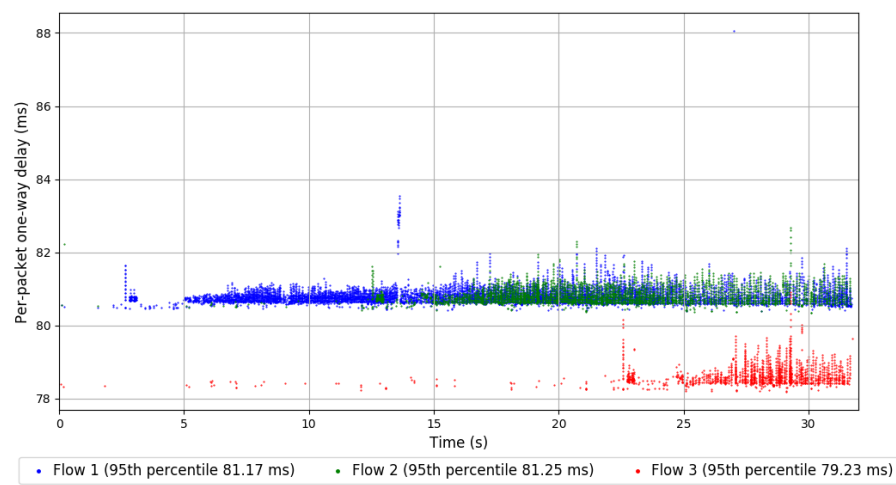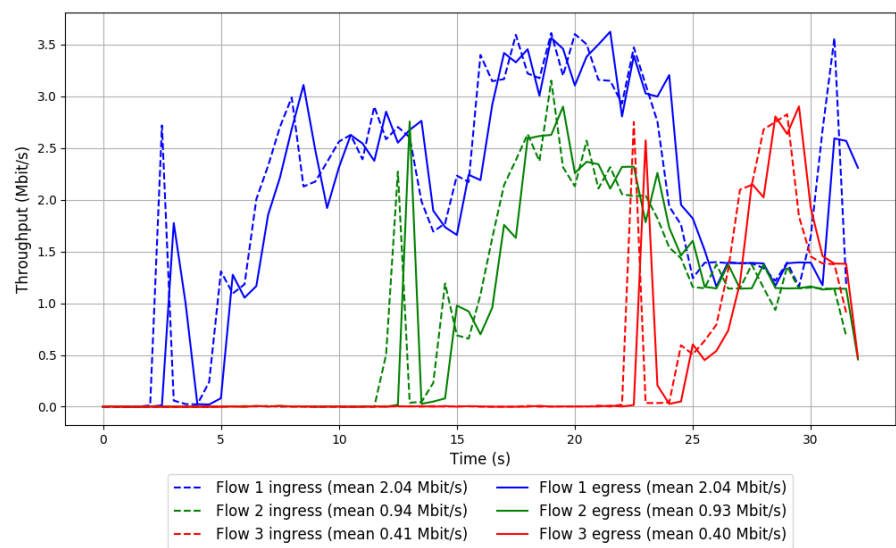
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-10-26 10:33:15
End at: 2018-10-26 10:33:45
Local clock offset: -2.018 ms
Remote clock offset: 0.769 ms


# Below is generated by plot.py at 2018-10-26 11:43:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.92 Mbit/s
95th percentile per-packet one-way delay: 83.650 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 83.640 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 83.691 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 83.540 ms
Loss rate: 2.71%
```
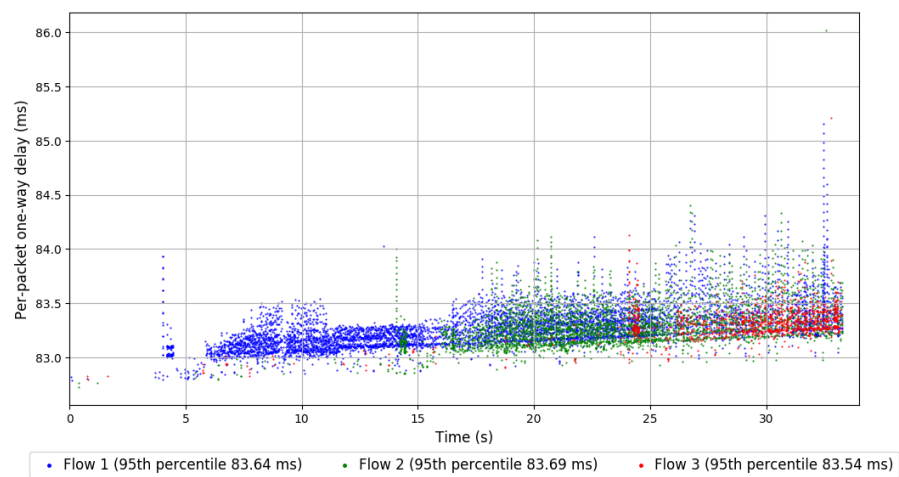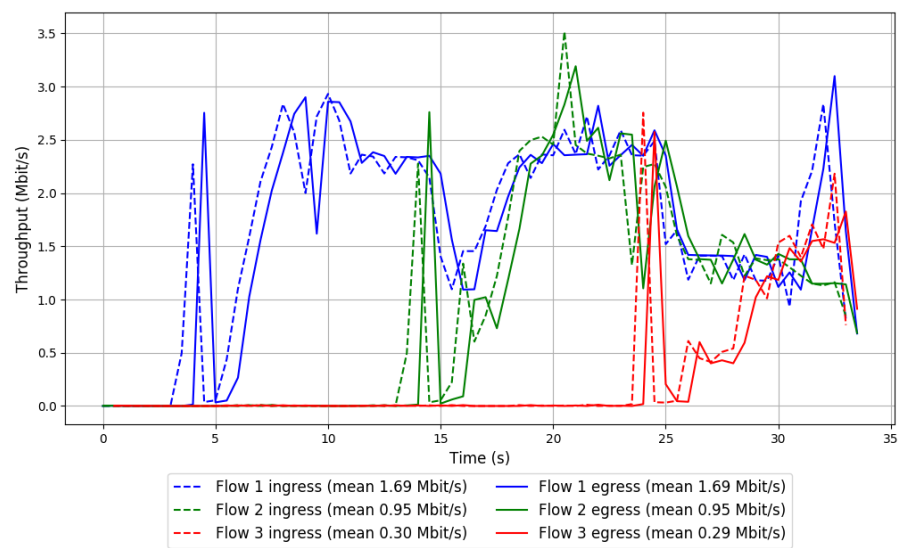
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-10-26 10:56:13
End at: 2018-10-26 10:56:43
Local clock offset: -6.855 ms
Remote clock offset: 0.731 ms


# Below is generated by plot.py at 2018-10-26 11:43:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 84.984 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 82.508 ms
Loss rate: 0.37%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 85.201 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 84.358 ms
Loss rate: 1.88%
```
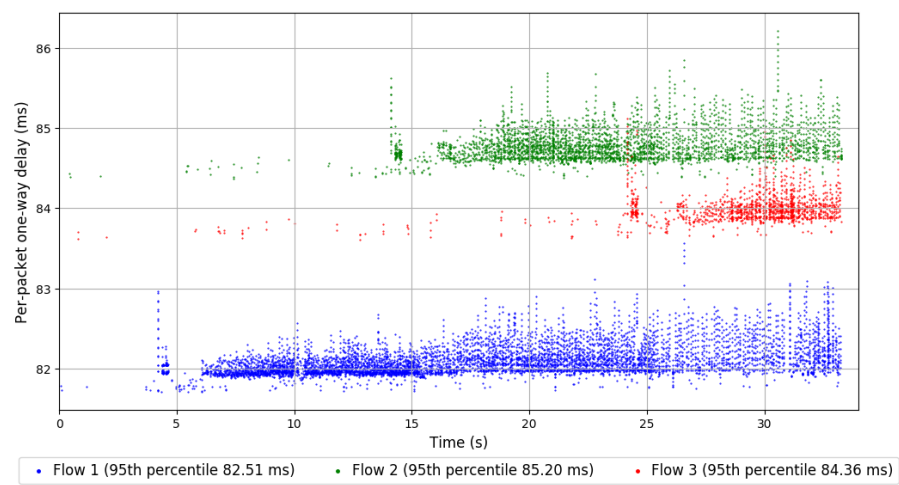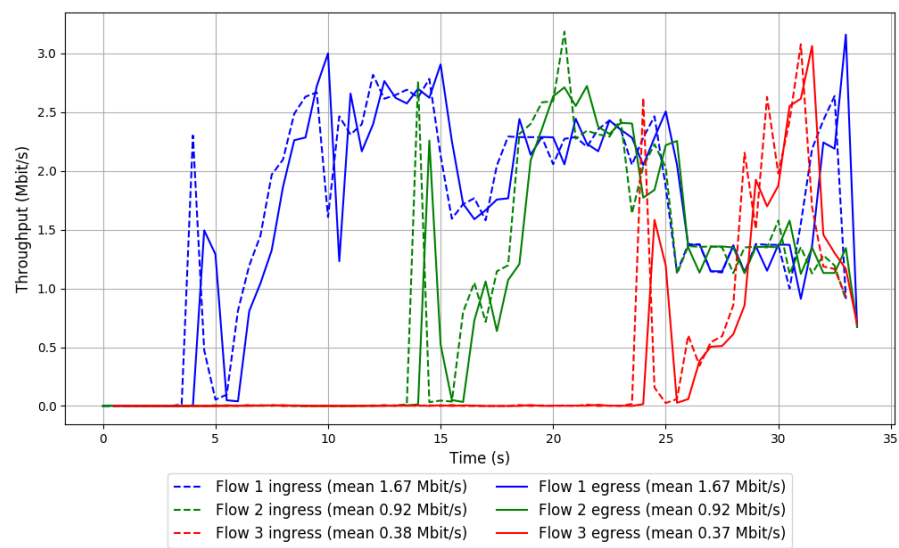
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-10-26 11:19:11
End at: 2018-10-26 11:19:41
Local clock offset: -6.935 ms
Remote clock offset: 3.725 ms


# Below is generated by plot.py at 2018-10-26 11:43:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 81.607 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 81.112 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 81.893 ms
Loss rate: 0.96%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 79.991 ms
Loss rate: 1.91%
```

Run 5: Report of WebRTC media — Data Link