Pantheon Report

Generated at 2018-11-30 19:32:46 (UTC).

Data path: China on `eno1` (*remote*) →AWS Korea on `ens5` (*local*).

Repeated the test of 19 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 `ntp.nict.jp` and have been applied to correct the timestamps in logs.
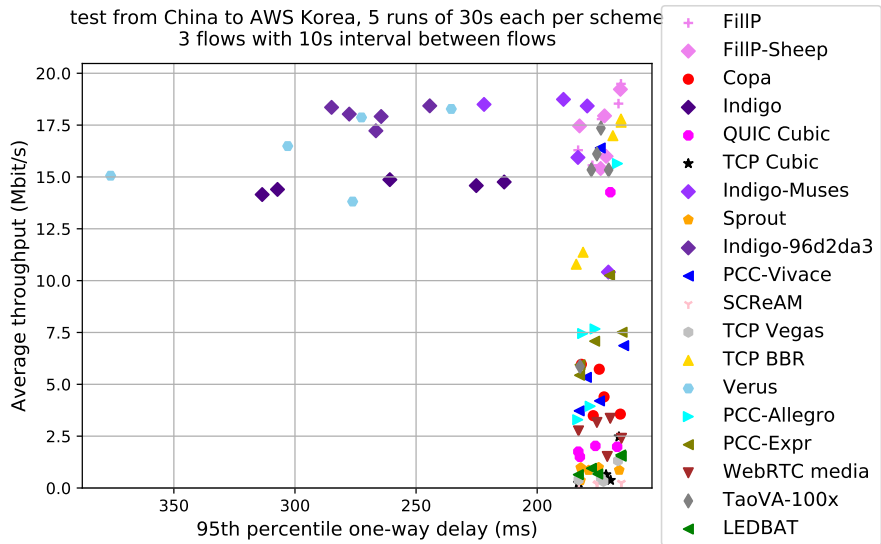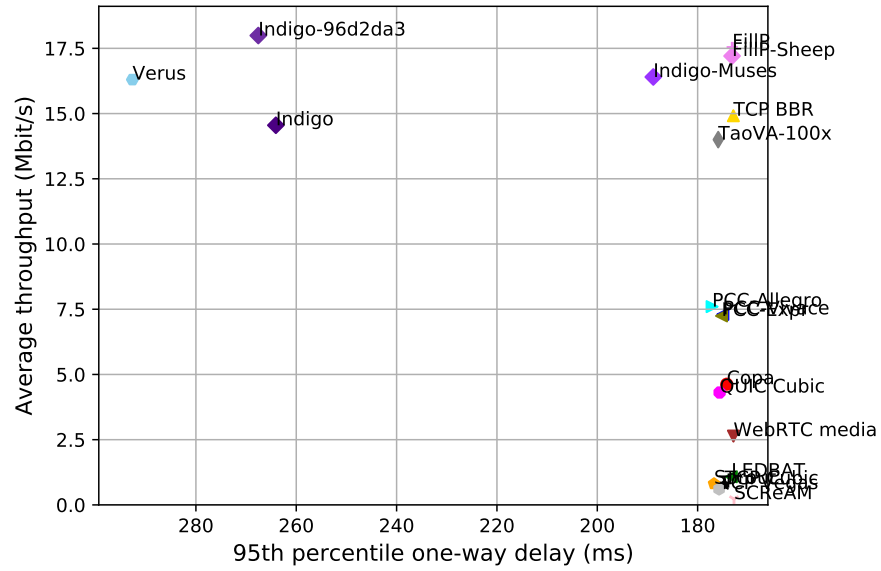
```
System info:
Linux 4.15.0-1027-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 7b6dad87cde3ab65f7c4052140eb54098aa58e9d
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
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 China to AWS Korea, 5 runs of 30s each per scheme
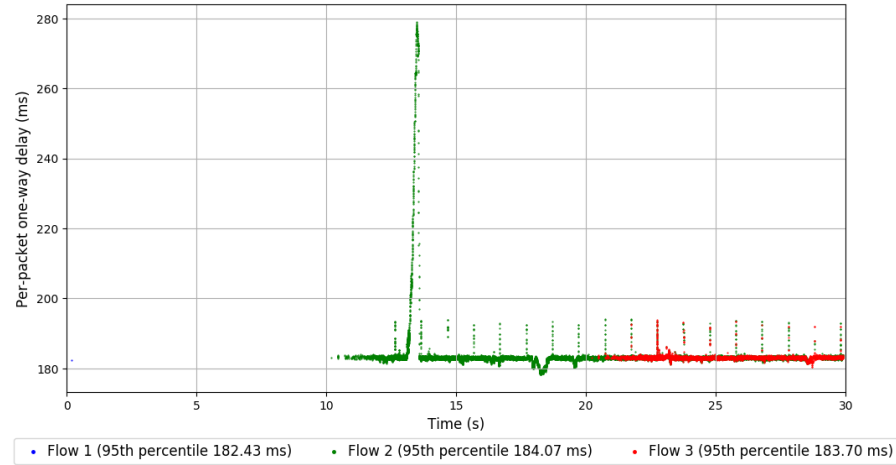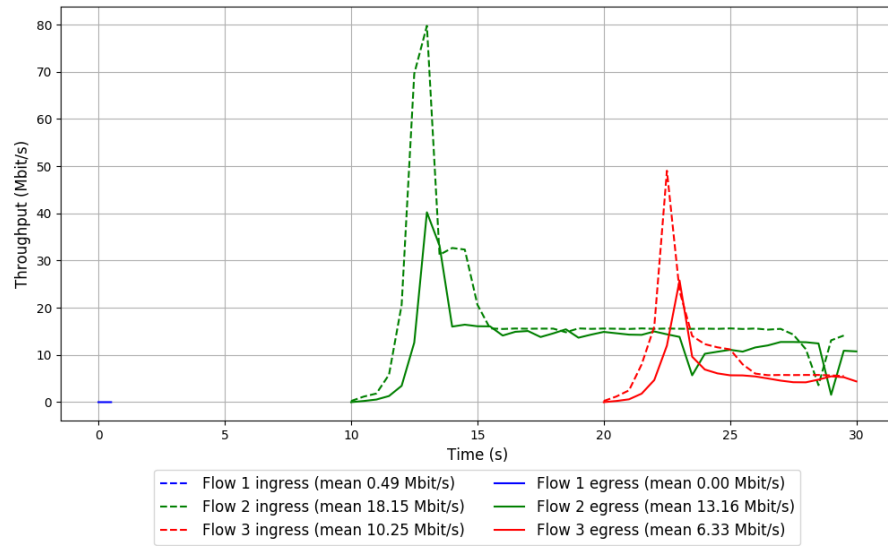3 flows with 10s interval between flows (mean of all runs by scheme)

test from China to AWS Korea, 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	7.52	8.88	4.31	172.41	172.74	173.33	52.50	29.17	33.10
Copa	5	0.92	3.33	4.60	170.57	174.20	174.20	57.77	8.04	10.19
TCP Cubic	5	0.19	0.38	1.09	174.30	174.64	174.64	61.09	6.30	5.77
FillP	5	12.06	5.74	5.11	173.30	172.64	172.70	21.09	24.56	23.03
FillP-Sheep	5	11.68	5.85	5.02	173.25	172.81	172.58	11.97	17.46	14.15
Indigo	5	8.52	7.41	3.56	237.32	261.07	269.41	61.46	78.62	84.06
Indigo-96d2da3	5	11.04	8.41	4.89	258.01	285.04	242.11	62.71	70.70	64.83
LEDBAT	5	0.60	0.53	0.45	173.33	173.19	173.26	5.14	4.24	6.19
Indigo-Muses	5	9.75	6.82	6.57	190.41	184.17	187.64	26.60	35.41	43.48
PCC-Allegro	5	3.05	2.85	8.26	176.79	176.79	176.91	84.36	21.59	22.57
PCC-Expr	5	0.01	6.62	8.89	176.19	175.25	175.21	82.75	6.04	7.05
QUIC Cubic	5	2.61	1.13	2.92	175.13	174.81	179.07	3.86	3.89	8.68
SCReAM	5	0.10	0.11	0.16	172.69	172.73	172.80	3.53	3.84	4.08
Sprout	5	0.49	0.51	0.57	176.66	176.65	176.69	8.82	4.02	6.02
TaoVA-100x	5	8.31	4.41	8.54	175.84	177.55	175.22	8.90	6.93	14.59
TCP Vegas	5	0.27	0.30	0.42	175.57	175.70	175.72	25.10	5.71	6.28
Verus	5	12.80	4.11	3.37	292.17	273.16	237.54	65.50	50.79	49.55
PCC-Vivace	5	4.63	2.52	3.06	175.23	174.66	174.83	8.20	6.73	5.23
WebRTC media	5	1.35	1.01	0.31	172.79	172.79	172.74	21.21	4.45	9.08

```
Run 1: Statistics of TCP BBR

Start at: 2018-11-30 16:07:26
End at: 2018-11-30 16:07:56
Local clock offset: 0.6 ms
Remote clock offset: 32.795 ms


# Below is generated by plot.py at 2018-11-30 19:30:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.79 Mbit/s
95th percentile per-packet one-way delay: 183.860 ms
Loss rate: 30.92%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 182.432 ms
Loss rate: 99.37%
-- Flow 2:
Average throughput: 13.16 Mbit/s
95th percentile per-packet one-way delay: 184.074 ms
Loss rate: 28.39%
-- Flow 3:
Average throughput: 6.33 Mbit/s
95th percentile per-packet one-way delay: 183.697 ms
Loss rate: 39.87%
```
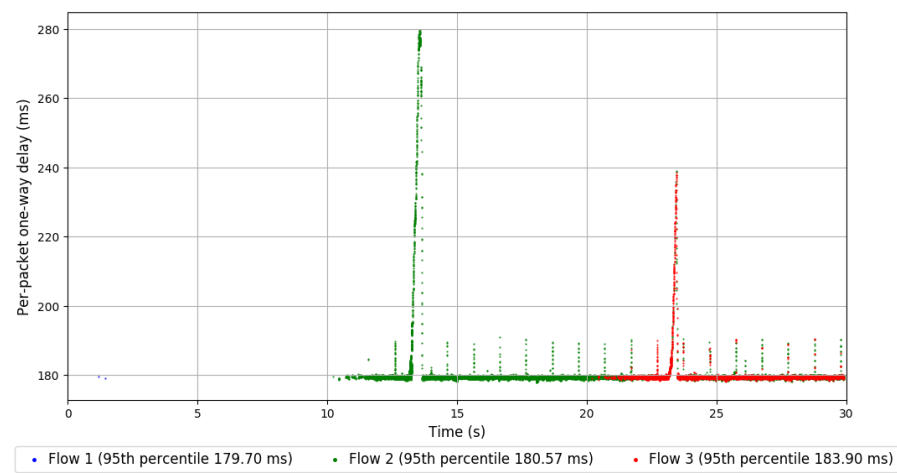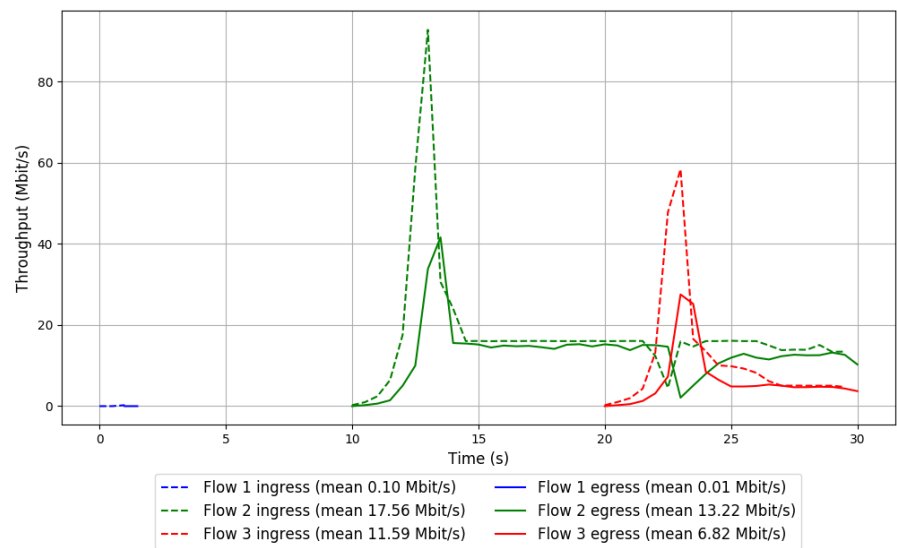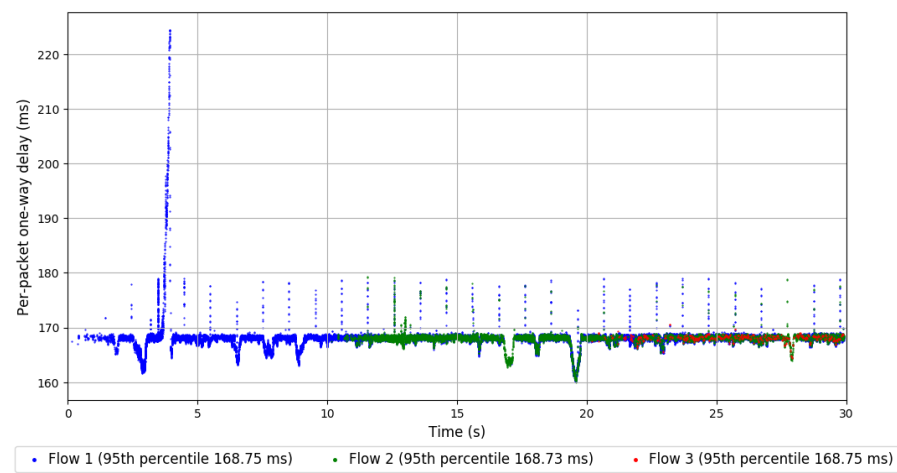
Run 1: Report of TCP BBR — Data Link

Throughput (Mbit/s) vs Time (s)

- - - Flow 1 ingress (mean 0.49 Mbit/s)   —— Flow 1 egress (mean 0.00 Mbit/s)
- - - Flow 2 ingress (mean 18.15 Mbit/s)   —— Flow 2 egress (mean 13.16 Mbit/s)
- - - Flow 3 ingress (mean 10.25 Mbit/s)   —— Flow 3 egress (mean 6.33 Mbit/s)

Per-packet one-way delay (ms) vs Time (s)

· Flow 1 (95th percentile 182.43 ms)   · Flow 2 (95th percentile 184.07 ms)   · Flow 3 (95th percentile 183.70 ms)

6

```
Run 2: Statistics of TCP BBR

Start at: 2018-11-30 17:04:27
End at: 2018-11-30 17:04:57
Local clock offset: 6.235 ms
Remote clock offset: 35.684 ms


# Below is generated by plot.py at 2018-11-30 19:30:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 11.37 Mbit/s
95th percentile per-packet one-way delay: 181.040 ms
Loss rate: 29.90%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 179.700 ms
Loss rate: 98.80%
-- Flow 2:
Average throughput: 13.22 Mbit/s
95th percentile per-packet one-way delay: 180.567 ms
Loss rate: 25.68%
-- Flow 3:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 183.901 ms
Loss rate: 42.67%
```

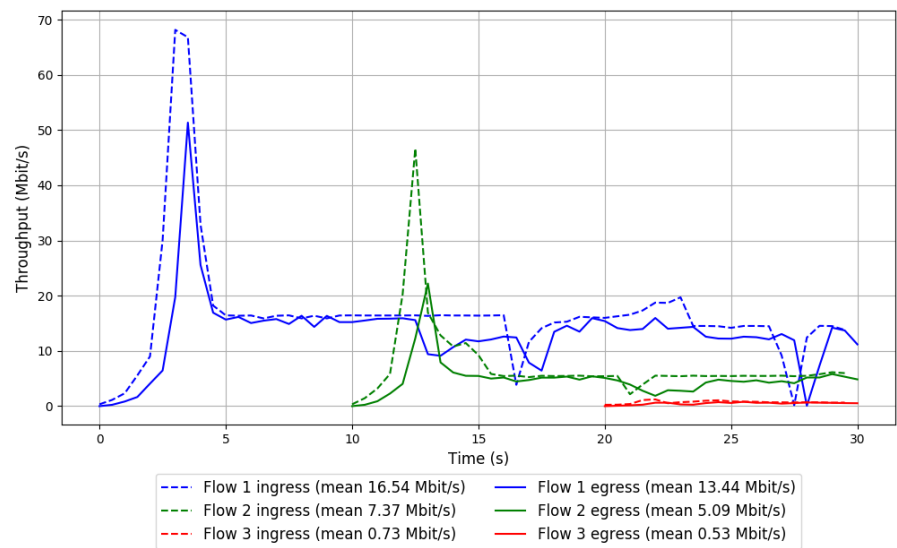Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-11-30 17:55:06
End at: 2018-11-30 17:55:36
Local clock offset: 3.784 ms
Remote clock offset: 45.466 ms


# Below is generated by plot.py at 2018-11-30 19:30:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.99 Mbit/s
95th percentile per-packet one-way delay: 168.745 ms
Loss rate: 22.33%
-- Flow 1:
Average throughput: 13.44 Mbit/s
95th percentile per-packet one-way delay: 168.748 ms
Loss rate: 19.41%
-- Flow 2:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 168.731 ms
Loss rate: 31.79%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 168.755 ms
Loss rate: 30.08%
```

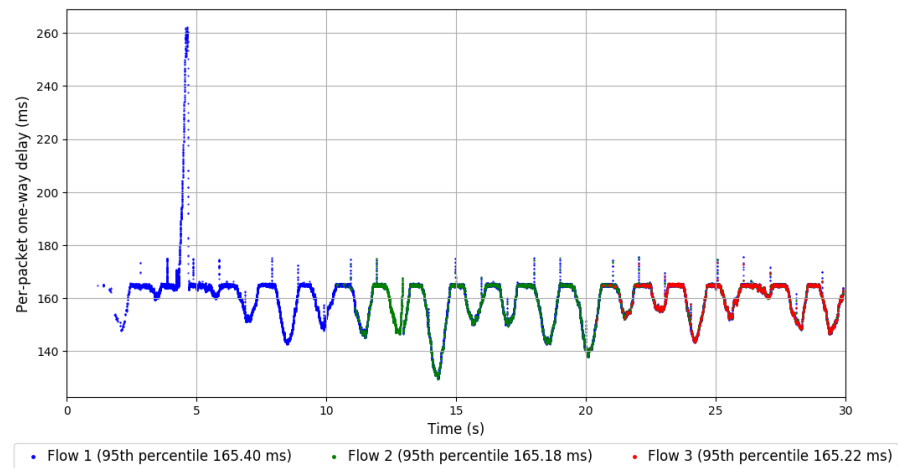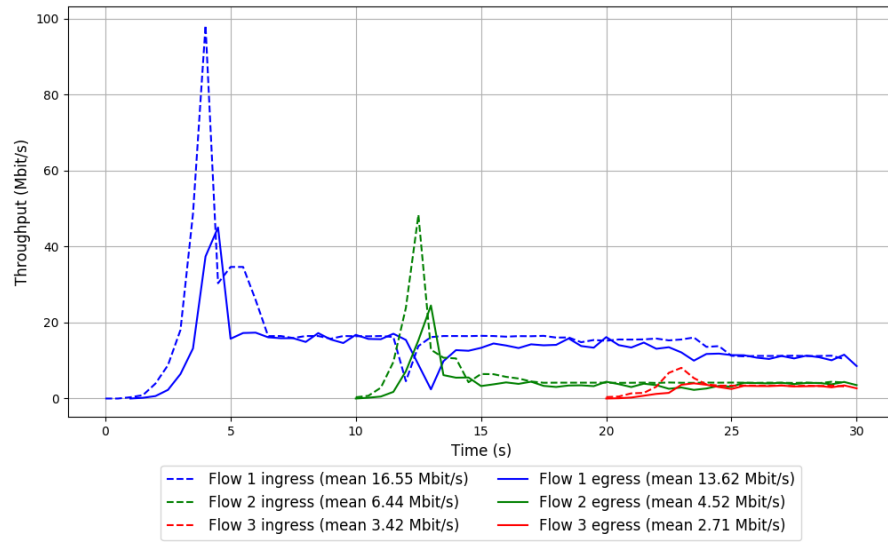Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2018-11-30 18:46:53
End at: 2018-11-30 18:47:23
Local clock offset: 0.997 ms
Remote clock offset: 49.095 ms


# Below is generated by plot.py at 2018-11-30 19:30:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.64 Mbit/s
95th percentile per-packet one-way delay: 165.339 ms
Loss rate: 23.06%
-- Flow 1:
Average throughput: 13.62 Mbit/s
95th percentile per-packet one-way delay: 165.397 ms
Loss rate: 21.17%
-- Flow 2:
Average throughput: 4.52 Mbit/s
95th percentile per-packet one-way delay: 165.184 ms
Loss rate: 30.57%
-- Flow 3:
Average throughput: 2.71 Mbit/s
95th percentile per-packet one-way delay: 165.223 ms
Loss rate: 22.28%
```
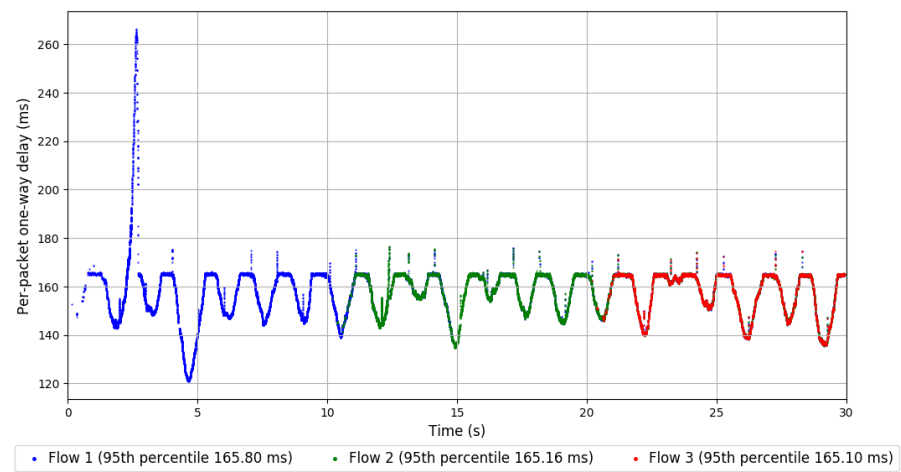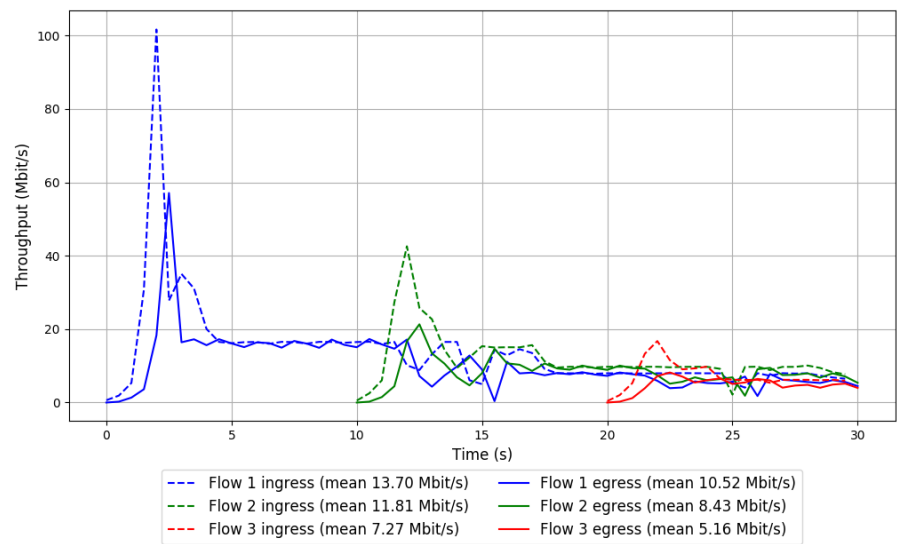
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 16.55 Mbit/s)   Flow 1 egress (mean 13.62 Mbit/s)
Flow 2 ingress (mean 6.44 Mbit/s)   Flow 2 egress (mean 4.52 Mbit/s)
Flow 3 ingress (mean 3.42 Mbit/s)   Flow 3 egress (mean 2.71 Mbit/s)

Flow 1 (95th percentile 165.40 ms)   Flow 2 (95th percentile 165.18 ms)   Flow 3 (95th percentile 165.22 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2018-11-30 19:23:30
End at: 2018-11-30 19:24:00
Local clock offset: 0.319 ms
Remote clock offset: 37.115 ms


# Below is generated by plot.py at 2018-11-30 19:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.79 Mbit/s
95th percentile per-packet one-way delay: 165.398 ms
Loss rate: 26.30%
-- Flow 1:
Average throughput: 10.52 Mbit/s
95th percentile per-packet one-way delay: 165.798 ms
Loss rate: 23.77%
-- Flow 2:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 165.164 ms
Loss rate: 29.41%
-- Flow 3:
Average throughput: 5.16 Mbit/s
95th percentile per-packet one-way delay: 165.097 ms
Loss rate: 30.58%
```
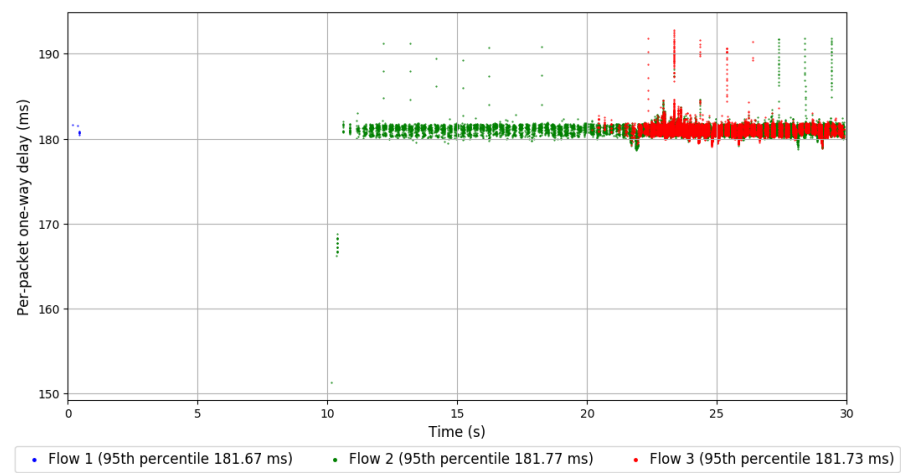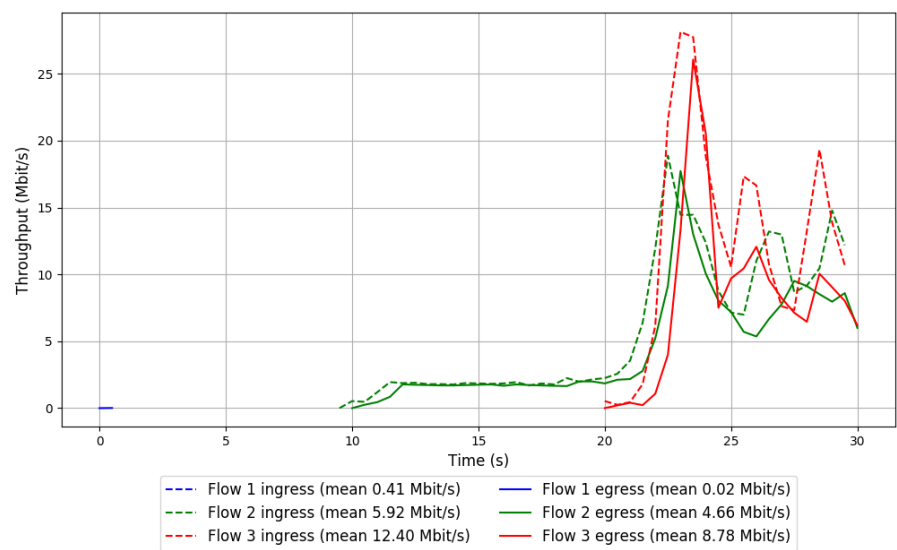
Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2018-11-30 15:56:26
End at: 2018-11-30 15:56:56
Local clock offset: 0.866 ms
Remote clock offset: 33.47 ms


# Below is generated by plot.py at 2018-11-30 19:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.96 Mbit/s
95th percentile per-packet one-way delay: 181.748 ms
Loss rate: 26.66%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 181.672 ms
Loss rate: 94.47%
-- Flow 2:
Average throughput: 4.66 Mbit/s
95th percentile per-packet one-way delay: 181.766 ms
Loss rate: 22.15%
-- Flow 3:
Average throughput: 8.78 Mbit/s
95th percentile per-packet one-way delay: 181.729 ms
Loss rate: 30.93%
```
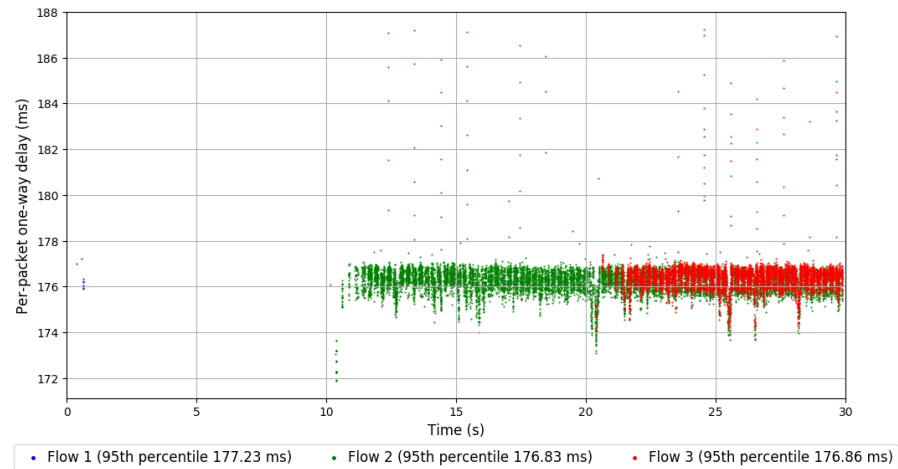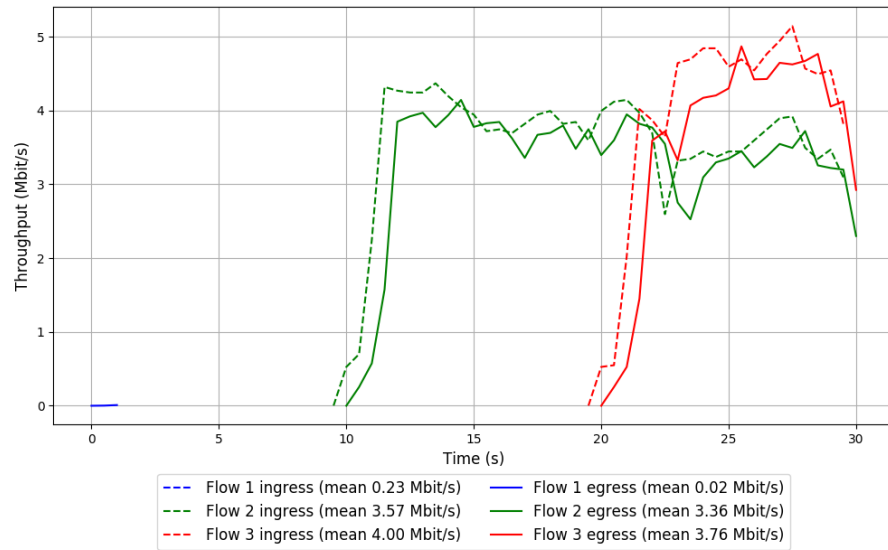
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-11-30 16:54:26
End at: 2018-11-30 16:54:56
Local clock offset: 4.395 ms
Remote clock offset: 39.035 ms


# Below is generated by plot.py at 2018-11-30 19:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.49 Mbit/s
95th percentile per-packet one-way delay: 176.843 ms
Loss rate: 7.55%
-- Flow 1:
Average throughput: 0.02 Mbit/s
95th percentile per-packet one-way delay: 177.232 ms
Loss rate: 94.53%
-- Flow 2:
Average throughput: 3.36 Mbit/s
95th percentile per-packet one-way delay: 176.831 ms
Loss rate: 7.01%
-- Flow 3:
Average throughput: 3.76 Mbit/s
95th percentile per-packet one-way delay: 176.858 ms
Loss rate: 8.30%
```
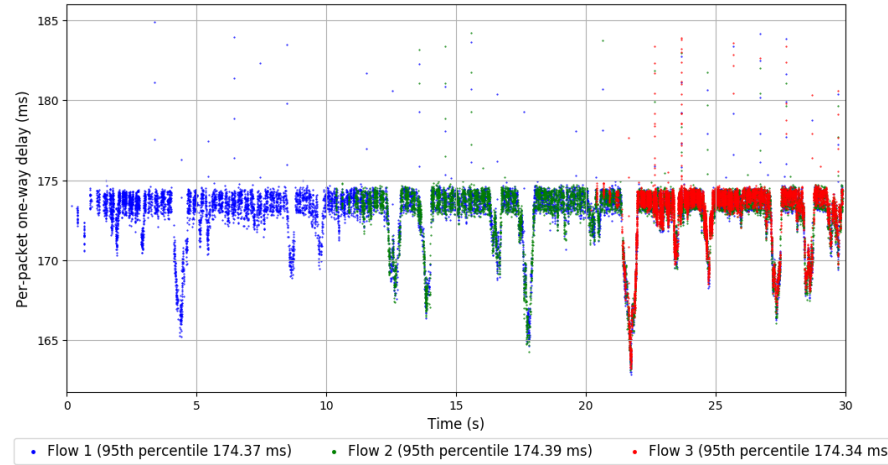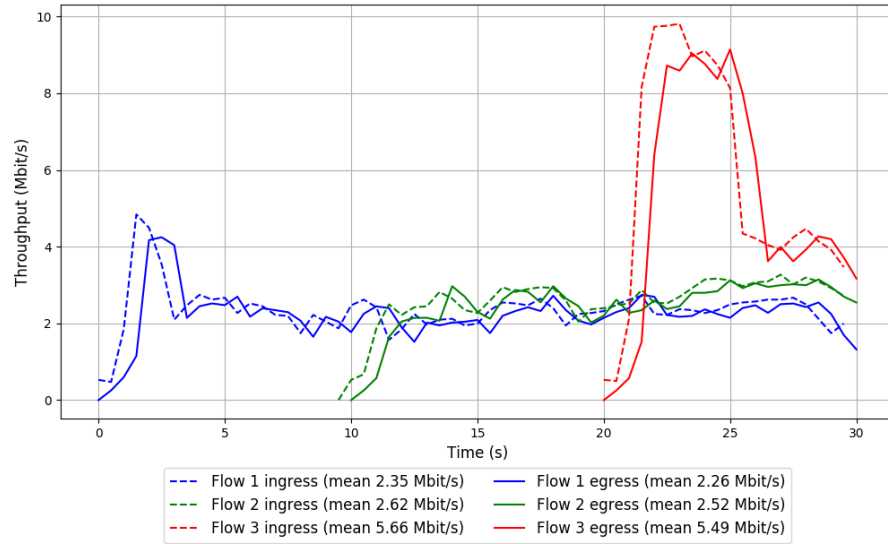
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-11-30 17:45:21
End at: 2018-11-30 17:45:51
Local clock offset: 8.212 ms
Remote clock offset: 39.641 ms


# Below is generated by plot.py at 2018-11-30 19:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.73 Mbit/s
95th percentile per-packet one-way delay: 174.364 ms
Loss rate: 4.77%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 174.366 ms
Loss rate: 4.24%
-- Flow 2:
Average throughput: 2.52 Mbit/s
95th percentile per-packet one-way delay: 174.386 ms
Loss rate: 4.76%
-- Flow 3:
Average throughput: 5.49 Mbit/s
95th percentile per-packet one-way delay: 174.341 ms
Loss rate: 5.43%
```
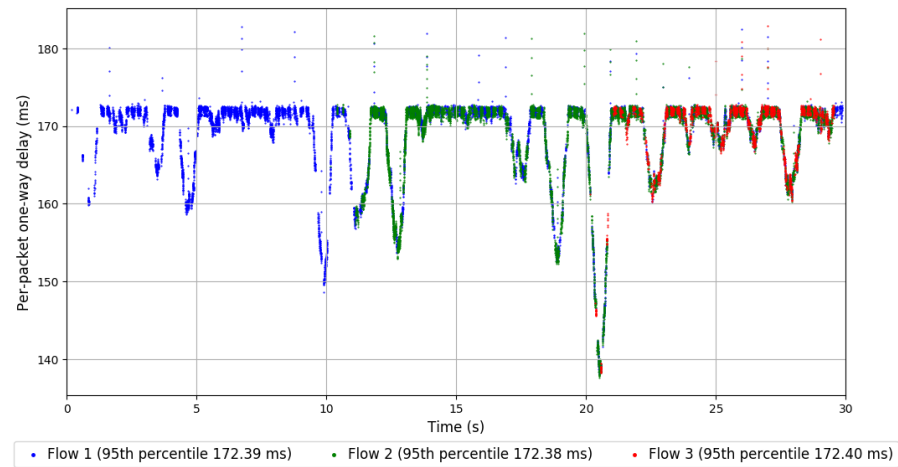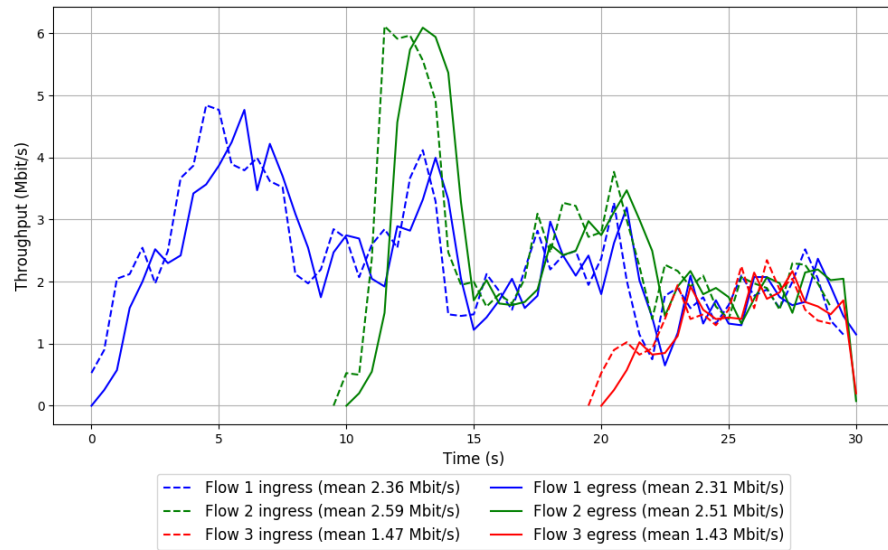
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 2.35 Mbit/s) --- Flow 1 egress (mean 2.26 Mbit/s)
Flow 2 ingress (mean 2.62 Mbit/s) --- Flow 2 egress (mean 2.52 Mbit/s)
Flow 3 ingress (mean 5.66 Mbit/s) --- Flow 3 egress (mean 5.49 Mbit/s)

Flow 1 (95th percentile 174.37 ms)   Flow 2 (95th percentile 174.39 ms)   Flow 3 (95th percentile 174.34 ms)

```
Run 4: Statistics of Copa

Start at: 2018-11-30 18:37:40
End at: 2018-11-30 18:38:10
Local clock offset: 1.286 ms
Remote clock offset: 41.496 ms


# Below is generated by plot.py at 2018-11-30 19:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.39 Mbit/s
95th percentile per-packet one-way delay: 172.384 ms
Loss rate: 3.17%
-- Flow 1:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 172.386 ms
Loss rate: 3.19%
-- Flow 2:
Average throughput: 2.51 Mbit/s
95th percentile per-packet one-way delay: 172.377 ms
Loss rate: 3.27%
-- Flow 3:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 172.403 ms
Loss rate: 2.69%
```
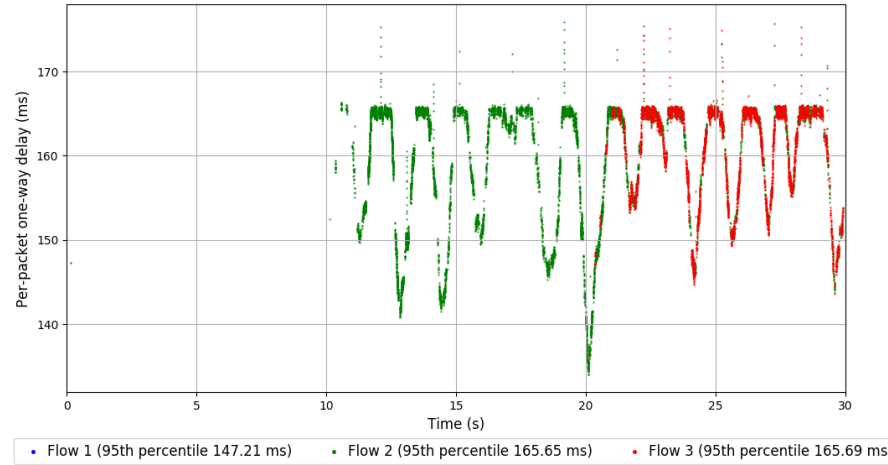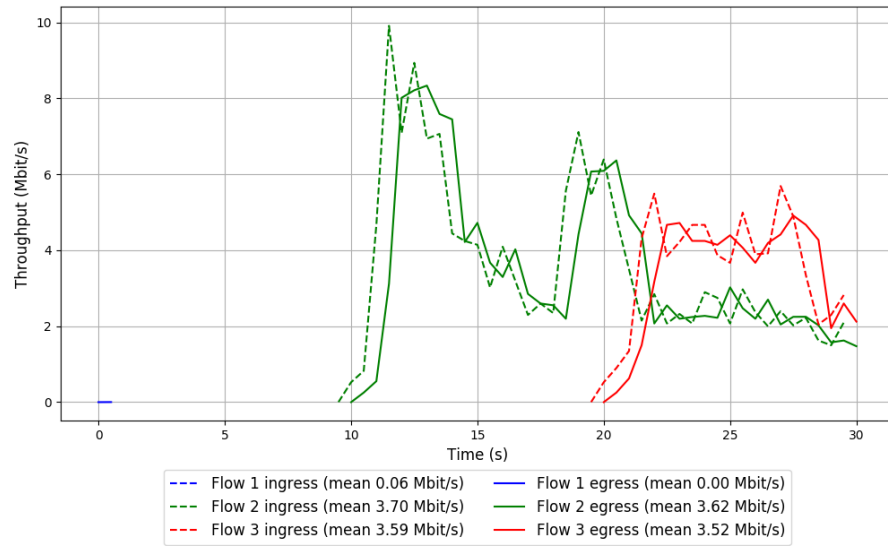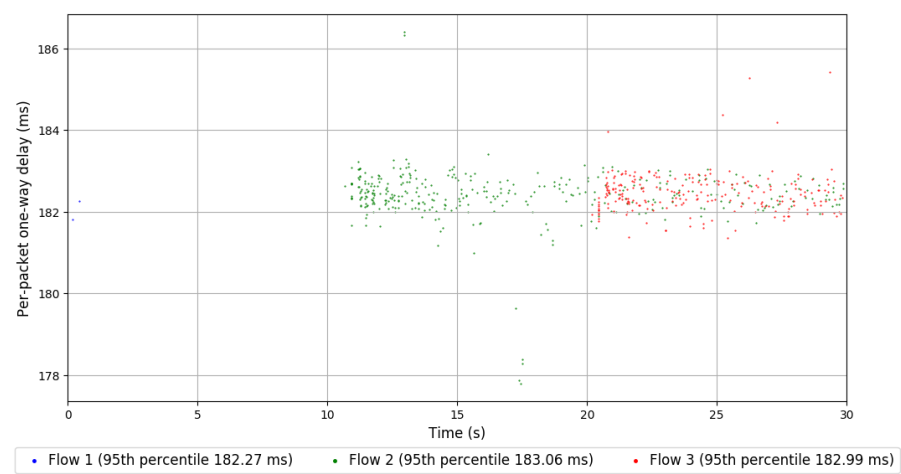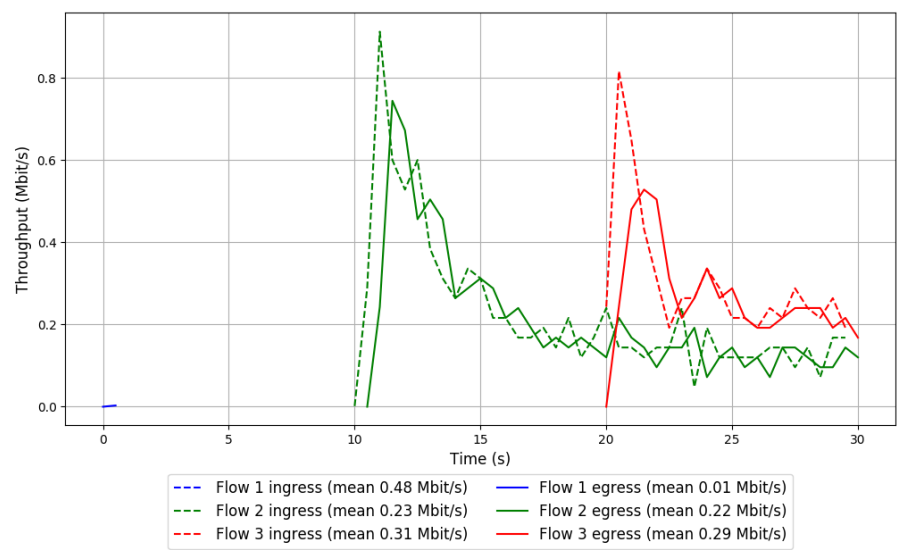
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 2.36 Mbit/s) --- Flow 1 egress (mean 2.31 Mbit/s)
Flow 2 ingress (mean 2.59 Mbit/s) --- Flow 2 egress (mean 2.51 Mbit/s)
Flow 3 ingress (mean 1.47 Mbit/s) --- Flow 3 egress (mean 1.43 Mbit/s)

Flow 1 (95th percentile 172.39 ms)   Flow 2 (95th percentile 172.38 ms)   Flow 3 (95th percentile 172.40 ms)

```
Run 5: Statistics of Copa

Start at: 2018-11-30 19:16:10
End at: 2018-11-30 19:16:40
Local clock offset: 0.088 ms
Remote clock offset: 48.494 ms


# Below is generated by plot.py at 2018-11-30 19:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.56 Mbit/s
95th percentile per-packet one-way delay: 165.663 ms
Loss rate: 3.21%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 147.208 ms
Loss rate: 92.42%
-- Flow 2:
Average throughput: 3.62 Mbit/s
95th percentile per-packet one-way delay: 165.650 ms
Loss rate: 2.99%
-- Flow 3:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 165.692 ms
Loss rate: 3.62%
```
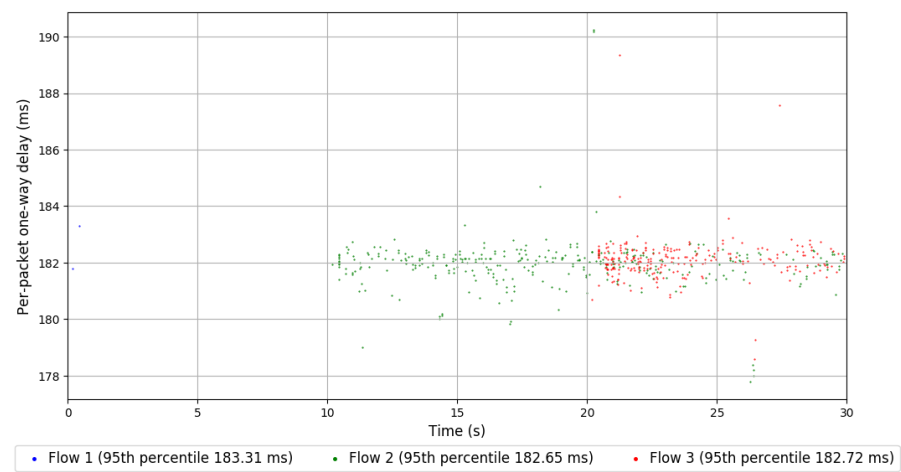
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-11-30 15:31:14
End at: 2018-11-30 15:31:44
Local clock offset: 2.155 ms
Remote clock offset: 32.006 ms

# Below is generated by plot.py at 2018-11-30 19:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 183.032 ms
Loss rate: 9.10%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 182.273 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 183.064 ms
Loss rate: 6.95%
-- Flow 3:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 182.992 ms
Loss rate: 8.69%
```
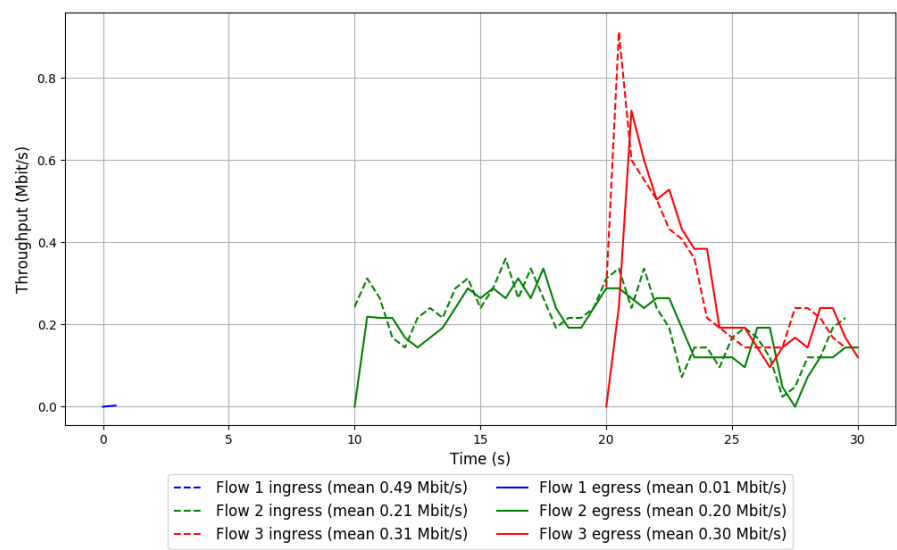
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-11-30 16:29:05
End at: 2018-11-30 16:29:35
Local clock offset: 0.75 ms
Remote clock offset: 33.958 ms


# Below is generated by plot.py at 2018-11-30 19:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 182.679 ms
Loss rate: 8.50%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 183.312 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 182.649 ms
Loss rate: 7.62%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 182.717 ms
Loss rate: 6.17%
```
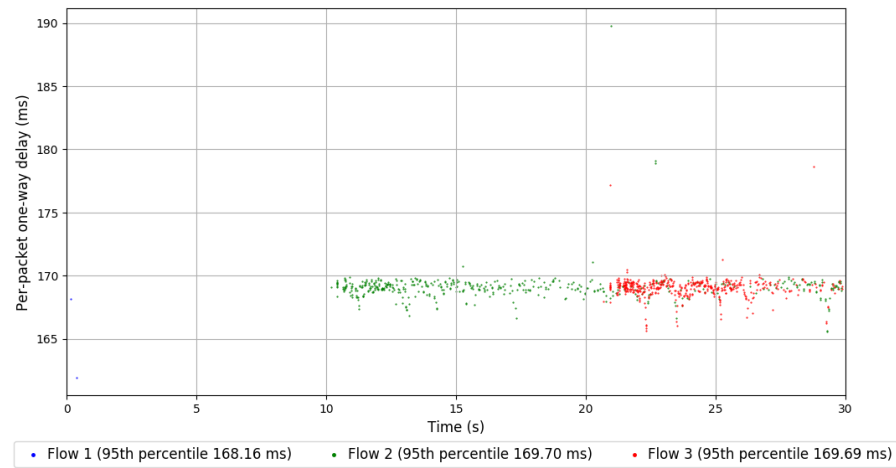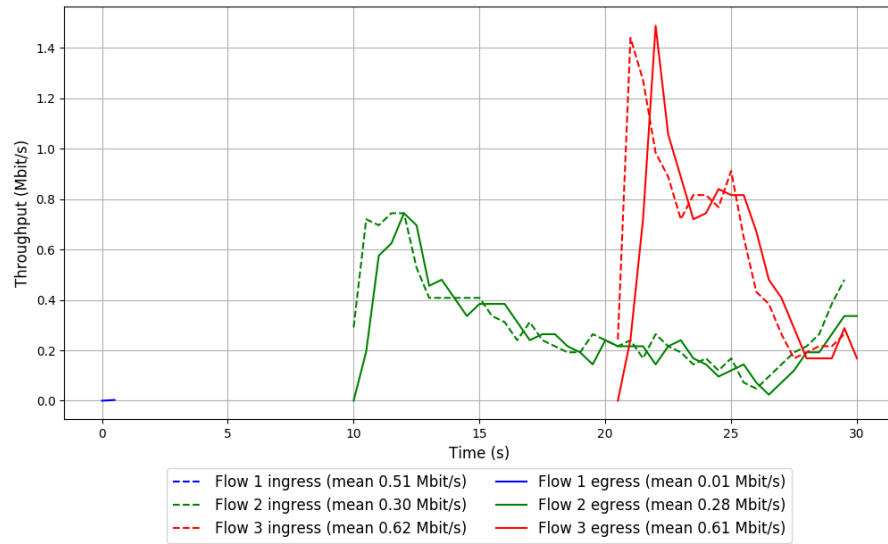
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2018-11-30 17:24:17
End at: 2018-11-30 17:24:47
Local clock offset: 7.62 ms
Remote clock offset: 44.478 ms


# Below is generated by plot.py at 2018-11-30 19:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 169.703 ms
Loss rate: 7.40%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 168.156 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 169.703 ms
Loss rate: 8.53%
-- Flow 3:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 169.693 ms
Loss rate: 4.33%
```
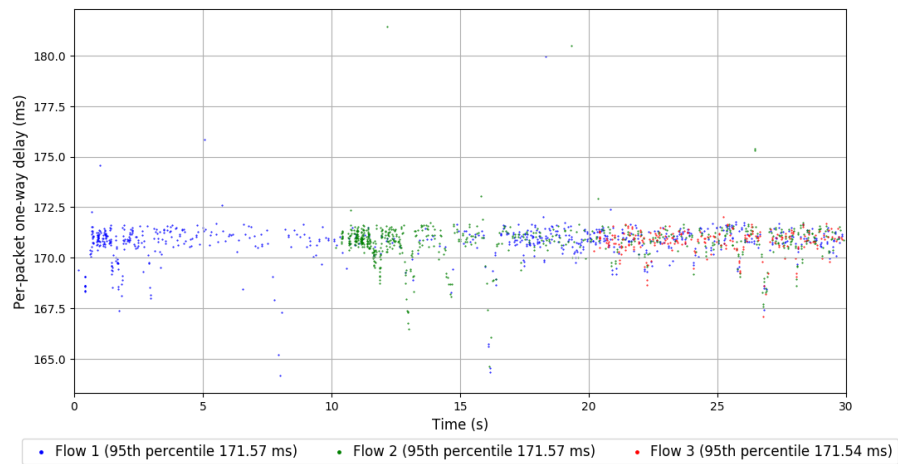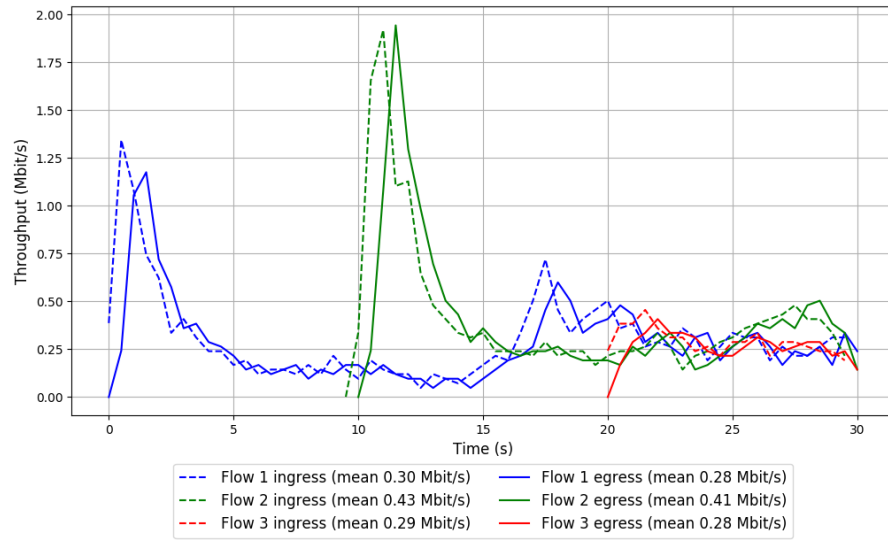
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 0.51 Mbit/s) --- Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 0.30 Mbit/s) --- Flow 2 egress (mean 0.28 Mbit/s)
Flow 3 ingress (mean 0.62 Mbit/s) --- Flow 3 egress (mean 0.61 Mbit/s)

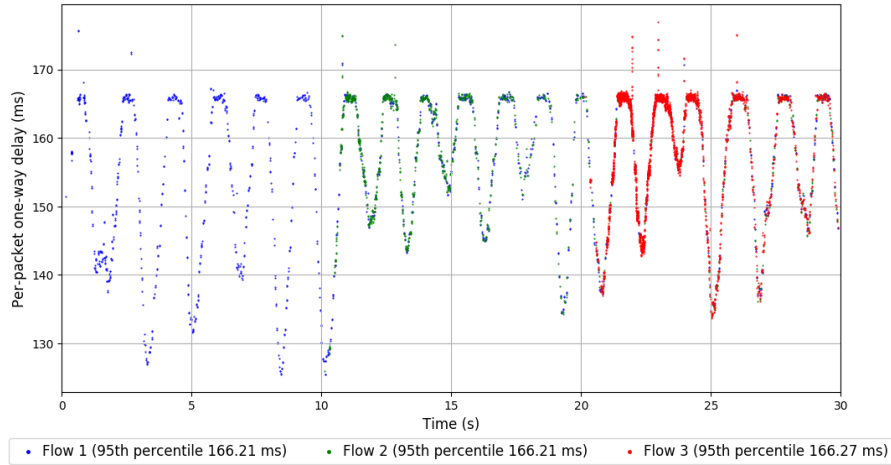Flow 1 (95th percentile 168.16 ms)   Flow 2 (95th percentile 169.70 ms)   Flow 3 (95th percentile 169.69 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2018-11-30 18:12:35
End at: 2018-11-30 18:13:05
Local clock offset: 1.082 ms
Remote clock offset: 42.464 ms


# Below is generated by plot.py at 2018-11-30 19:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 171.560 ms
Loss rate: 6.05%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 171.568 ms
Loss rate: 6.76%
-- Flow 2:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 171.566 ms
Loss rate: 4.96%
-- Flow 3:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 171.538 ms
Loss rate: 7.02%
```
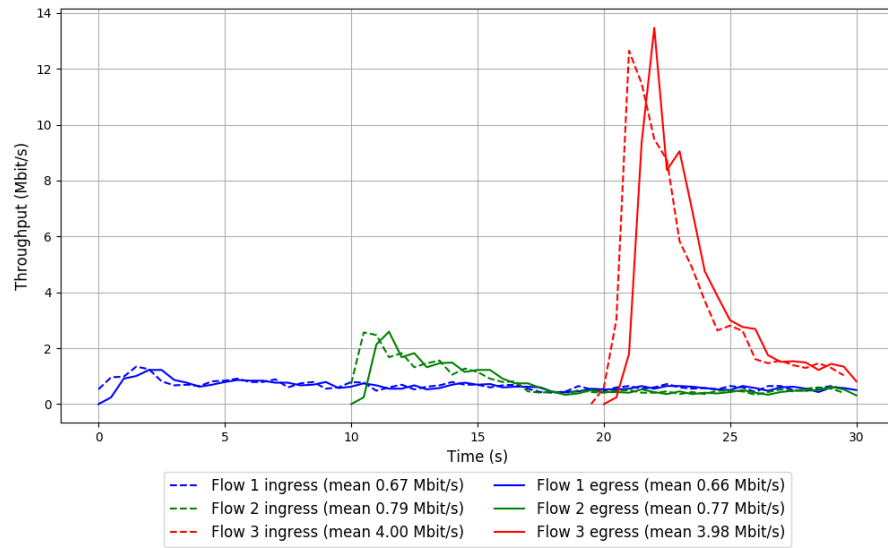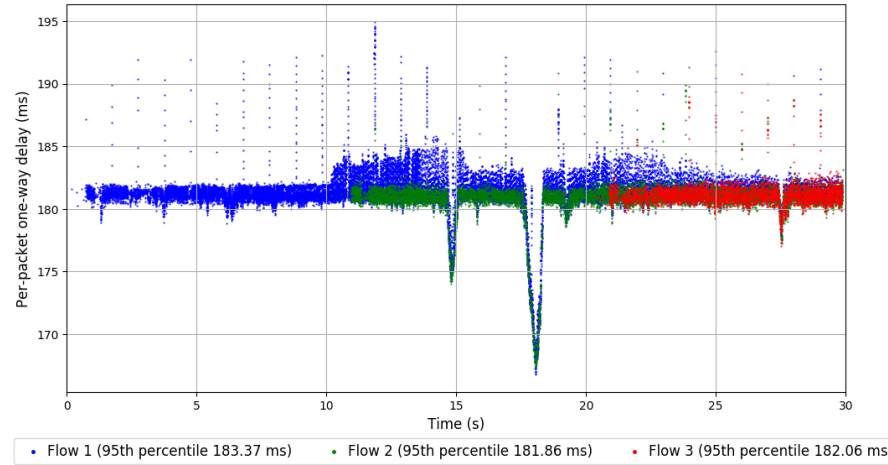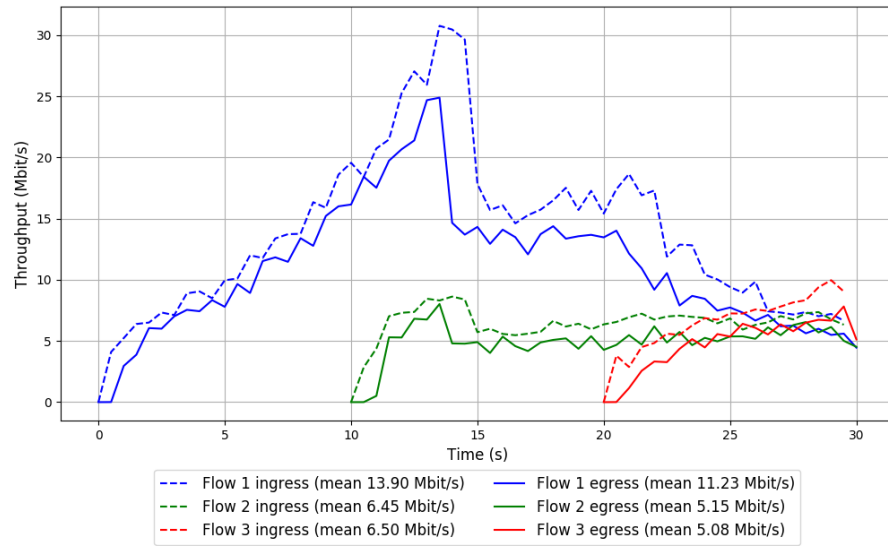
Run 4: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 0.30 Mbit/s) —— Flow 1 egress (mean 0.28 Mbit/s)
- - - Flow 2 ingress (mean 0.43 Mbit/s) —— Flow 2 egress (mean 0.41 Mbit/s)
- - - Flow 3 ingress (mean 0.29 Mbit/s) —— Flow 3 egress (mean 0.28 Mbit/s)

- Flow 1 (95th percentile 171.57 ms)   • Flow 2 (95th percentile 171.57 ms)   • Flow 3 (95th percentile 171.54 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2018-11-30 18:58:43
End at: 2018-11-30 18:59:13
Local clock offset: 0.235 ms
Remote clock offset: 48.012 ms


# Below is generated by plot.py at 2018-11-30 19:30:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.47 Mbit/s
95th percentile per-packet one-way delay: 166.245 ms
Loss rate: 2.73%
-- Flow 1:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 166.210 ms
Loss rate: 2.33%
-- Flow 2:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 166.213 ms
Loss rate: 3.45%
-- Flow 3:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 166.273 ms
Loss rate: 2.66%
```

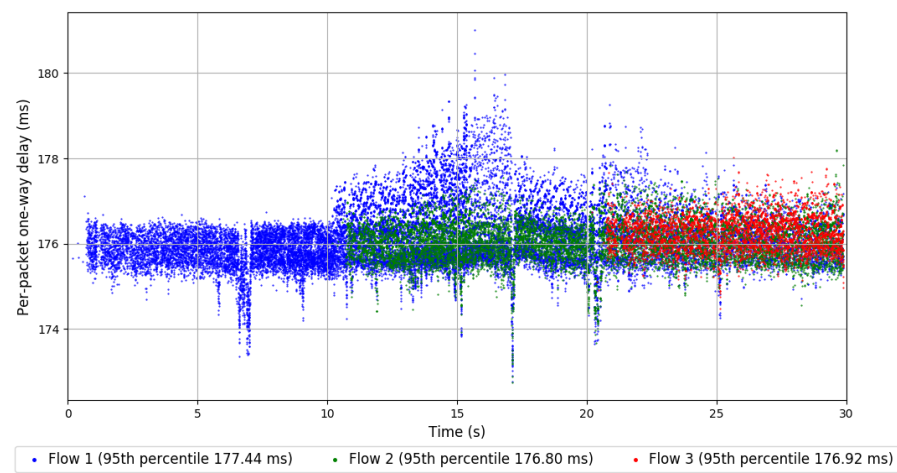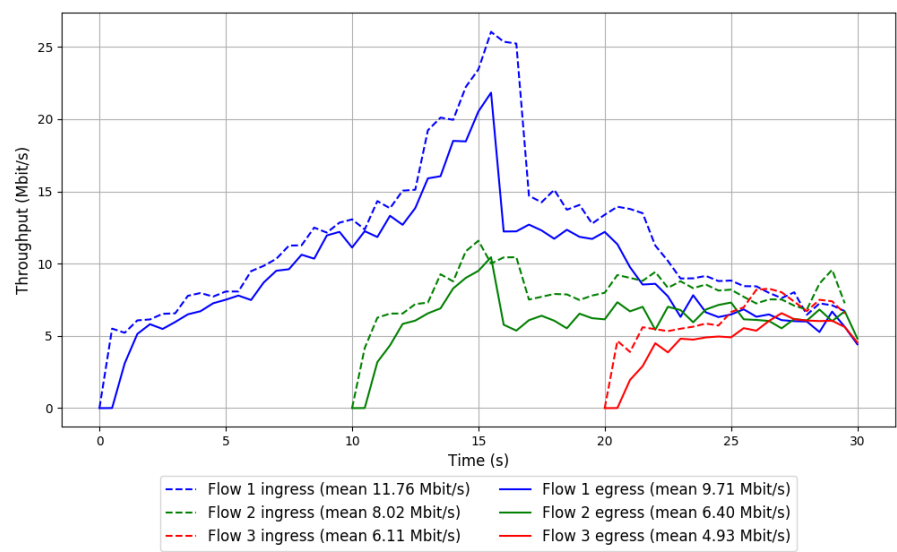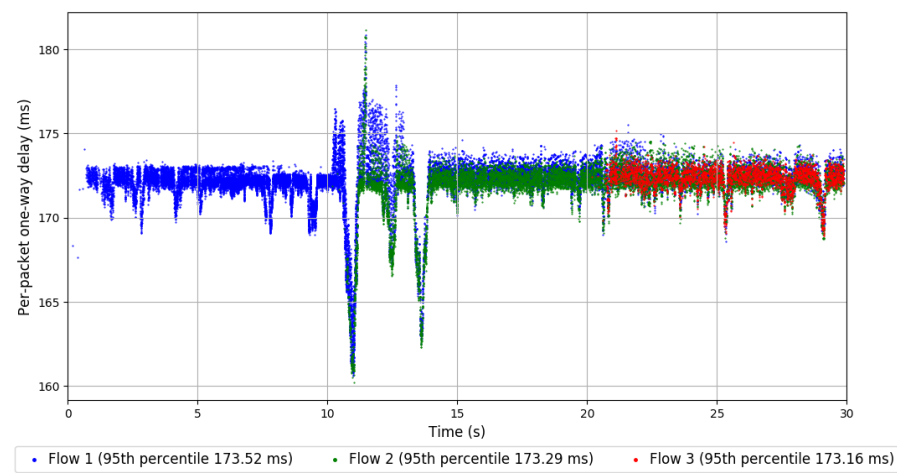Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2018-11-30 16:13:55
End at: 2018-11-30 16:14:25
Local clock offset: 0.255 ms
Remote clock offset: 34.306 ms


# Below is generated by plot.py at 2018-11-30 19:30:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.29 Mbit/s
95th percentile per-packet one-way delay: 183.092 ms
Loss rate: 20.61%
-- Flow 1:
Average throughput: 11.23 Mbit/s
95th percentile per-packet one-way delay: 183.368 ms
Loss rate: 19.91%
-- Flow 2:
Average throughput: 5.15 Mbit/s
95th percentile per-packet one-way delay: 181.858 ms
Loss rate: 21.19%
-- Flow 3:
Average throughput: 5.08 Mbit/s
95th percentile per-packet one-way delay: 182.055 ms
Loss rate: 23.98%
```
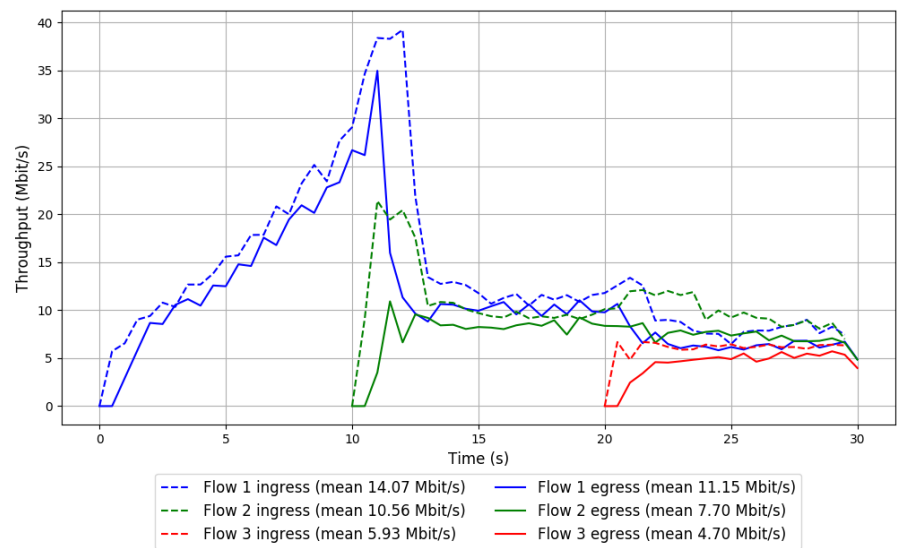
Run 1: Report of FillP — Data Link

Flow 1 ingress (mean 13.90 Mbit/s) --- Flow 1 egress (mean 11.23 Mbit/s)
Flow 2 ingress (mean 6.45 Mbit/s) --- Flow 2 egress (mean 5.15 Mbit/s)
Flow 3 ingress (mean 6.50 Mbit/s) --- Flow 3 egress (mean 5.08 Mbit/s)

Flow 1 (95th percentile 183.37 ms)   Flow 2 (95th percentile 181.86 ms)   Flow 3 (95th percentile 182.06 ms)

```
Run 2: Statistics of FillP

Start at: 2018-11-30 17:10:48
End at: 2018-11-30 17:11:18
Local clock offset: 7.068 ms
Remote clock offset: 37.986 ms


# Below is generated by plot.py at 2018-11-30 19:30:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.56 Mbit/s
95th percentile per-packet one-way delay: 177.202 ms
Loss rate: 19.30%
-- Flow 1:
Average throughput: 9.71 Mbit/s
95th percentile per-packet one-way delay: 177.445 ms
Loss rate: 18.11%
-- Flow 2:
Average throughput: 6.40 Mbit/s
95th percentile per-packet one-way delay: 176.796 ms
Loss rate: 21.15%
-- Flow 3:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 176.918 ms
Loss rate: 21.29%
```
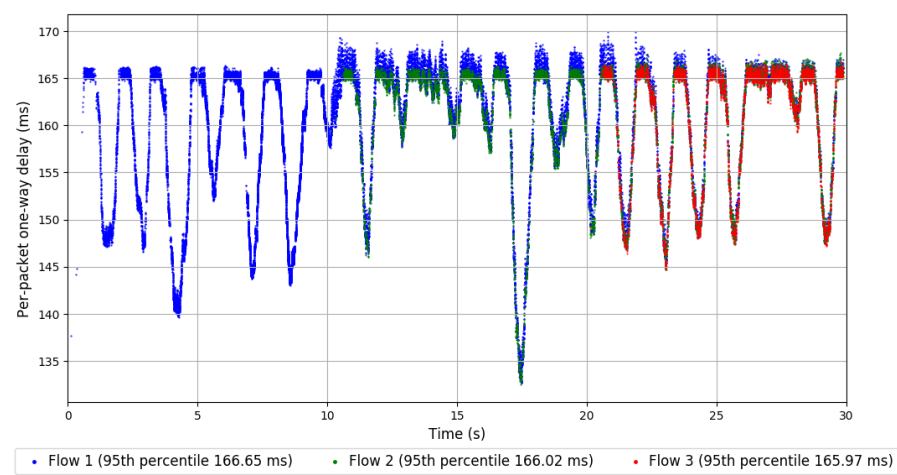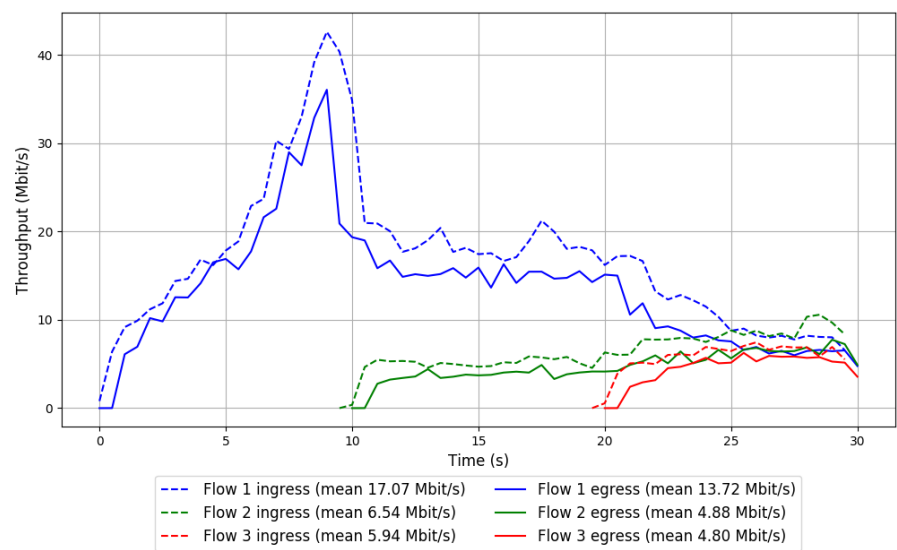
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-11-30 18:01:12
End at: 2018-11-30 18:01:42
Local clock offset: 2.293 ms
Remote clock offset: 40.544 ms


# Below is generated by plot.py at 2018-11-30 19:30:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.79 Mbit/s
95th percentile per-packet one-way delay: 173.403 ms
Loss rate: 23.51%
-- Flow 1:
Average throughput: 11.15 Mbit/s
95th percentile per-packet one-way delay: 173.524 ms
Loss rate: 21.39%
-- Flow 2:
Average throughput: 7.70 Mbit/s
95th percentile per-packet one-way delay: 173.286 ms
Loss rate: 27.93%
-- Flow 3:
Average throughput: 4.70 Mbit/s
95th percentile per-packet one-way delay: 173.165 ms
Loss rate: 22.79%
```
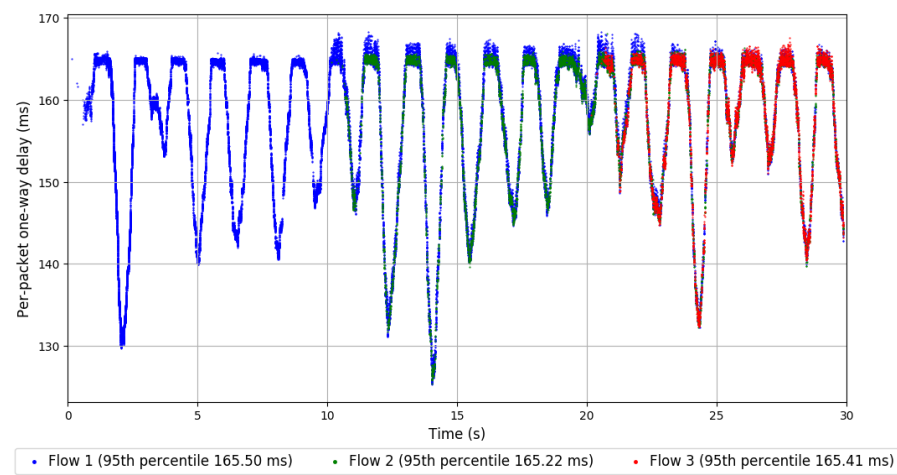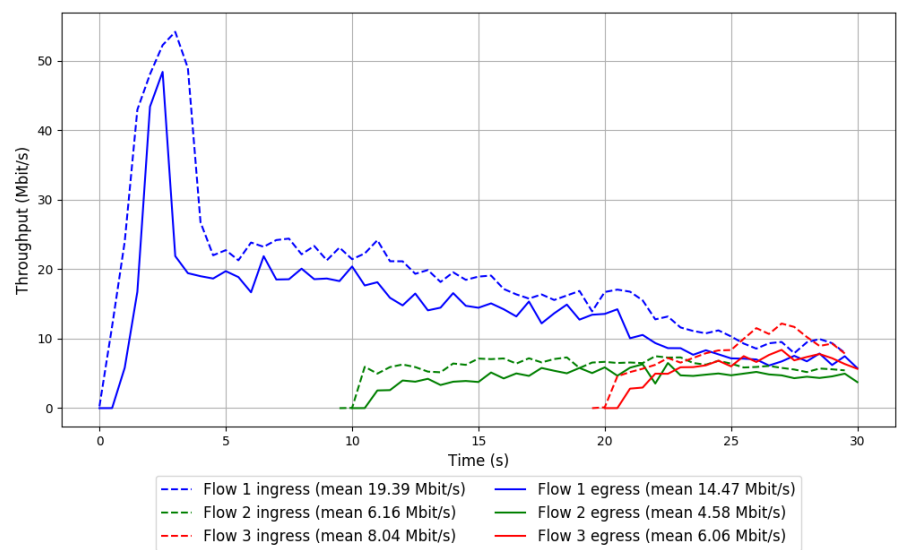
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2018-11-30 18:51:46
End at: 2018-11-30 18:52:16
Local clock offset: 0.814 ms
Remote clock offset: 48.151 ms

# Below is generated by plot.py at 2018-11-30 19:30:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.54 Mbit/s
95th percentile per-packet one-way delay: 166.425 ms
Loss rate: 21.29%
-- Flow 1:
Average throughput: 13.72 Mbit/s
95th percentile per-packet one-way delay: 166.648 ms
Loss rate: 20.10%
-- Flow 2:
Average throughput: 4.88 Mbit/s
95th percentile per-packet one-way delay: 166.022 ms
Loss rate: 26.13%
-- Flow 3:
Average throughput: 4.80 Mbit/s
95th percentile per-packet one-way delay: 165.969 ms
Loss rate: 20.88%
```
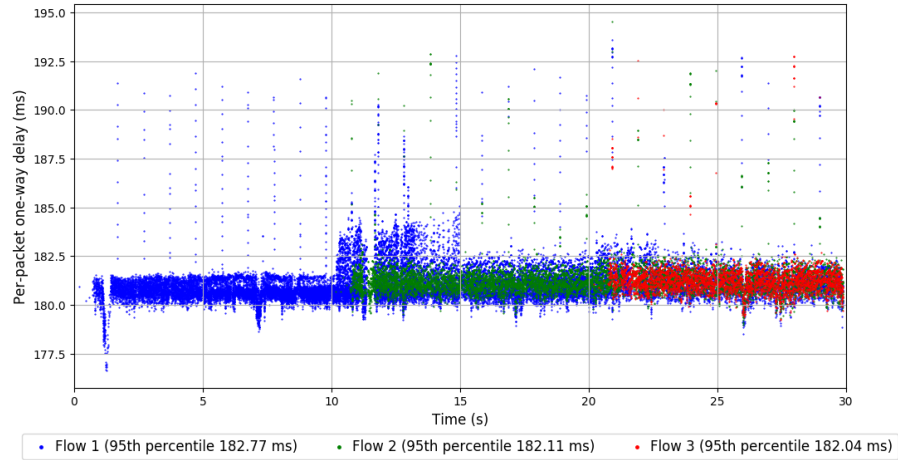
Run 4: Report of FillP — Data Link

42

```
Run 5: Statistics of FillP

Start at: 2018-11-30 19:28:33
End at: 2018-11-30 19:29:03
Local clock offset: 0.226 ms
Remote clock offset: 31.386 ms


# Below is generated by plot.py at 2018-11-30 19:30:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.49 Mbit/s
95th percentile per-packet one-way delay: 165.403 ms
Loss rate: 26.02%
-- Flow 1:
Average throughput: 14.47 Mbit/s
95th percentile per-packet one-way delay: 165.503 ms
Loss rate: 25.92%
-- Flow 2:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 165.222 ms
Loss rate: 26.41%
-- Flow 3:
Average throughput: 6.06 Mbit/s
95th percentile per-packet one-way delay: 165.410 ms
Loss rate: 26.21%
```
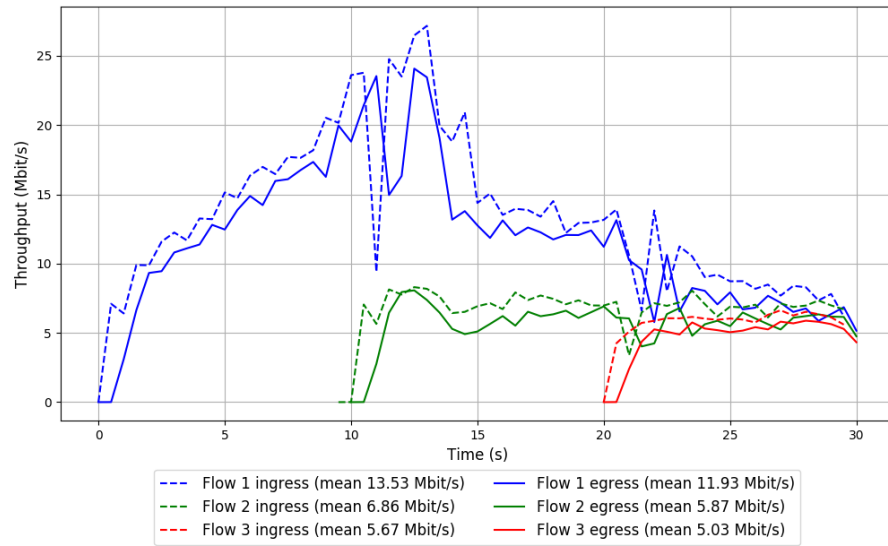
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 19.39 Mbit/s) — Flow 1 egress (mean 14.47 Mbit/s)
Flow 2 ingress (mean 6.16 Mbit/s) — Flow 2 egress (mean 4.58 Mbit/s)
Flow 3 ingress (mean 8.04 Mbit/s) — Flow 3 egress (mean 6.06 Mbit/s)

Flow 1 (95th percentile 165.50 ms) • Flow 2 (95th percentile 165.22 ms) • Flow 3 (95th percentile 165.41 ms)
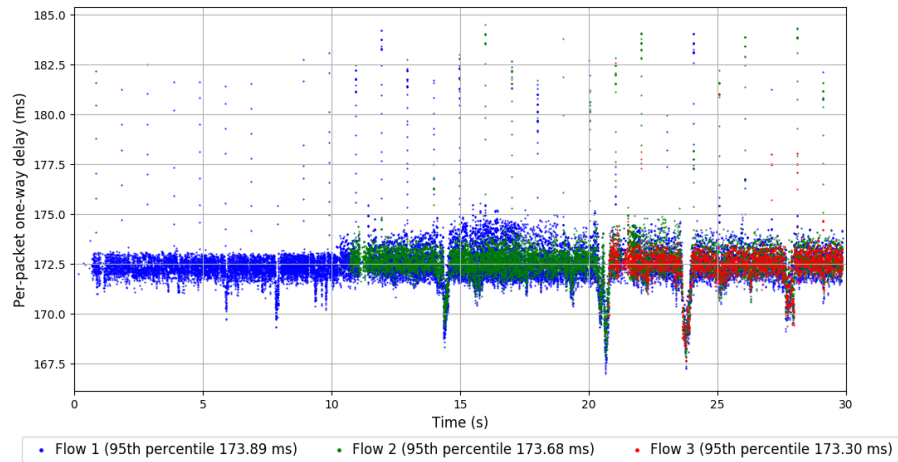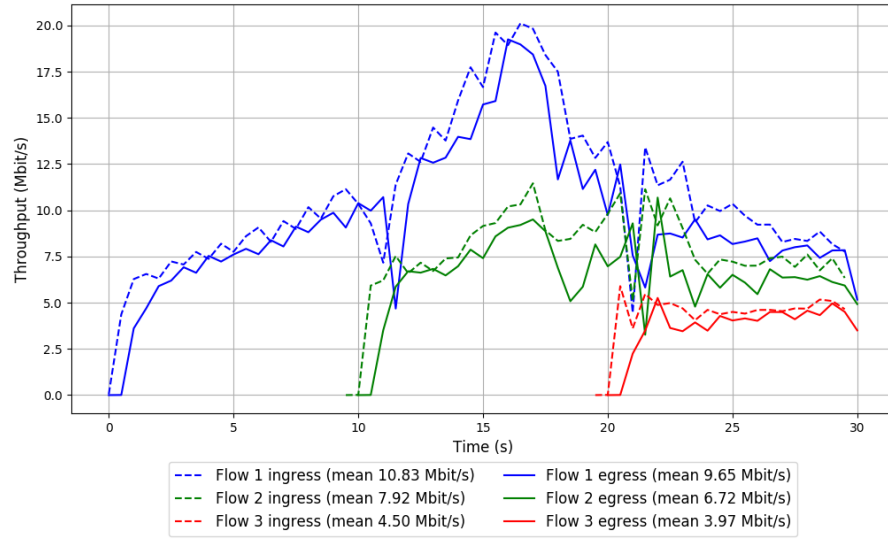
```
Run 1: Statistics of FillP-Sheep

Start at: 2018-11-30 15:59:28
End at: 2018-11-30 15:59:58
Local clock offset: 0.671 ms
Remote clock offset: 33.931 ms


# Below is generated by plot.py at 2018-11-30 19:30:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.46 Mbit/s
95th percentile per-packet one-way delay: 182.516 ms
Loss rate: 13.35%
-- Flow 1:
Average throughput: 11.93 Mbit/s
95th percentile per-packet one-way delay: 182.769 ms
Loss rate: 12.59%
-- Flow 2:
Average throughput: 5.87 Mbit/s
95th percentile per-packet one-way delay: 182.106 ms
Loss rate: 15.51%
-- Flow 3:
Average throughput: 5.03 Mbit/s
95th percentile per-packet one-way delay: 182.036 ms
Loss rate: 13.48%
```
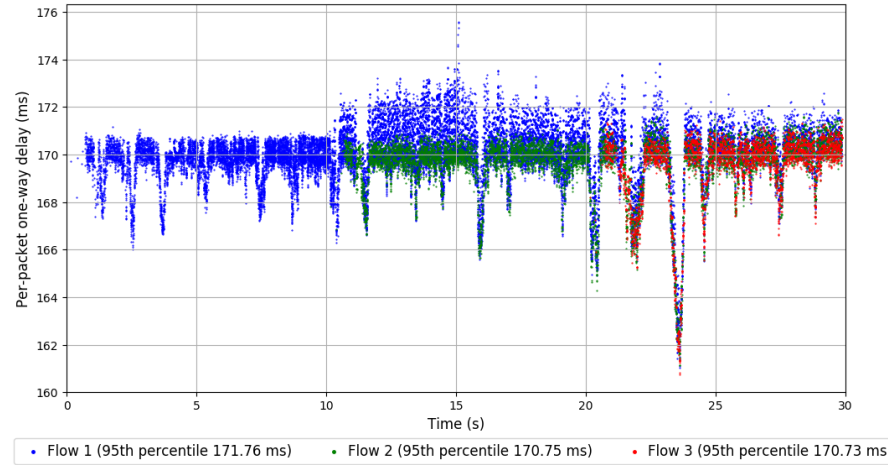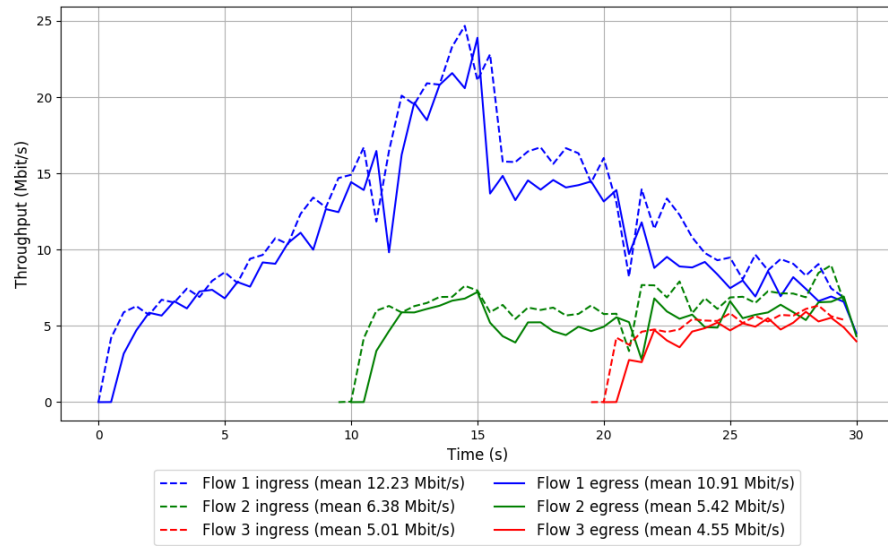
Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2018-11-30 16:56:24
End at: 2018-11-30 16:56:54
Local clock offset: 5.05 ms
Remote clock offset: 43.342 ms


# Below is generated by plot.py at 2018-11-30 19:30:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.41 Mbit/s
95th percentile per-packet one-way delay: 173.787 ms
Loss rate: 13.24%
-- Flow 1:
Average throughput: 9.65 Mbit/s
95th percentile per-packet one-way delay: 173.886 ms
Loss rate: 11.68%
-- Flow 2:
Average throughput: 6.72 Mbit/s
95th percentile per-packet one-way delay: 173.679 ms
Loss rate: 16.23%
-- Flow 3:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 173.297 ms
Loss rate: 14.06%
```

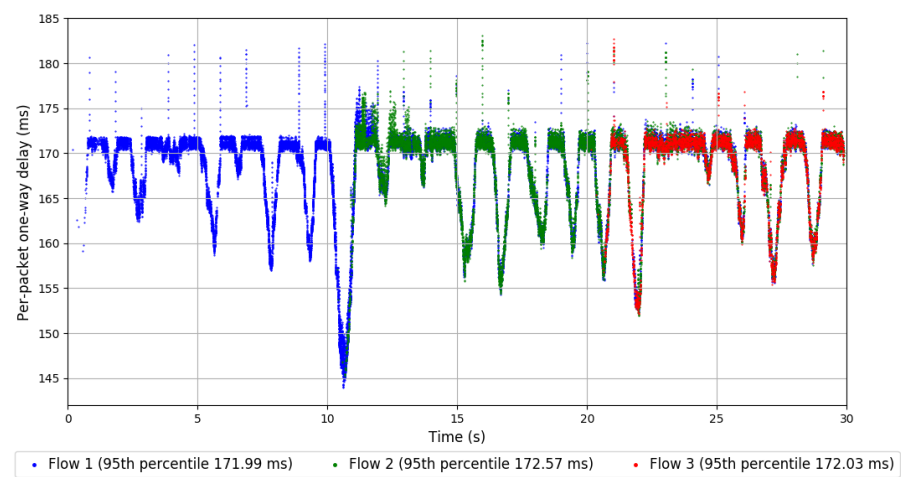Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2018-11-30 17:47:33
End at: 2018-11-30 17:48:03
Local clock offset: 6.605 ms
Remote clock offset: 43.121 ms


# Below is generated by plot.py at 2018-11-30 19:30:47
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.99 Mbit/s
95th percentile per-packet one-way delay: 171.544 ms
Loss rate: 12.60%
-- Flow 1:
Average throughput: 10.91 Mbit/s
95th percentile per-packet one-way delay: 171.763 ms
Loss rate: 11.56%
-- Flow 2:
Average throughput: 5.42 Mbit/s
95th percentile per-packet one-way delay: 170.755 ms
Loss rate: 16.09%
-- Flow 3:
Average throughput: 4.55 Mbit/s
95th percentile per-packet one-way delay: 170.730 ms
Loss rate: 11.33%
```

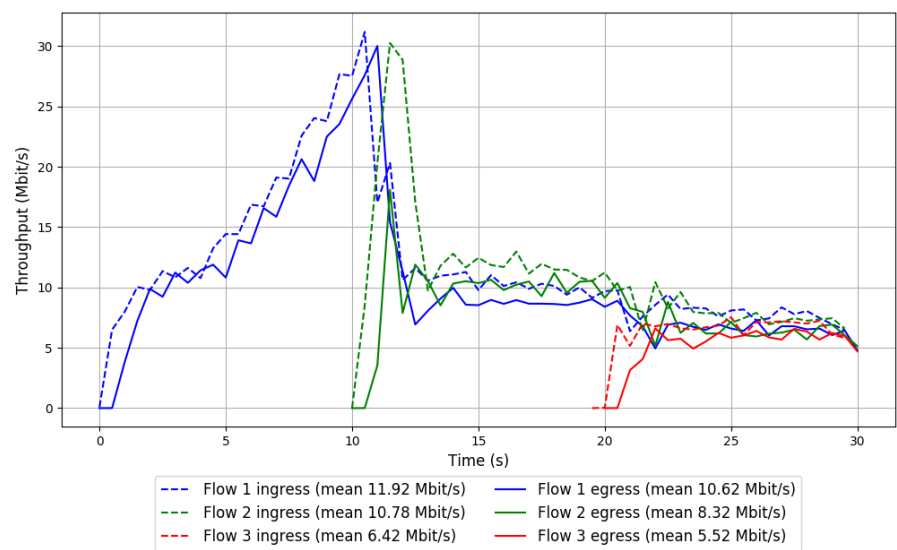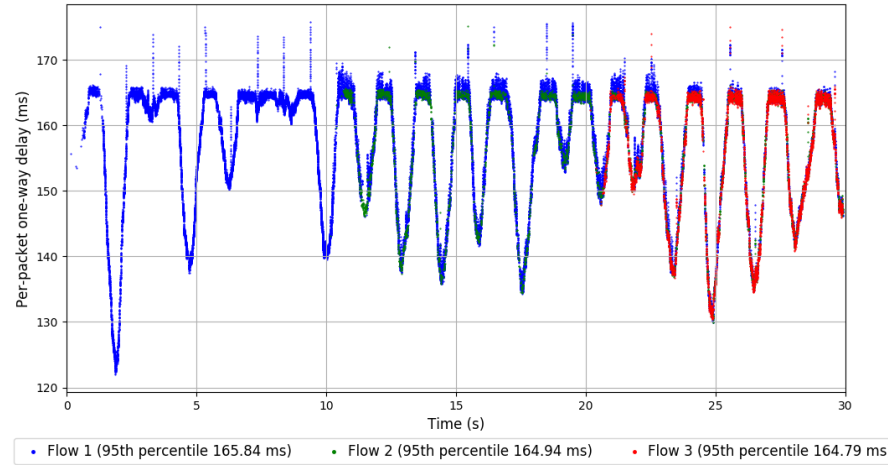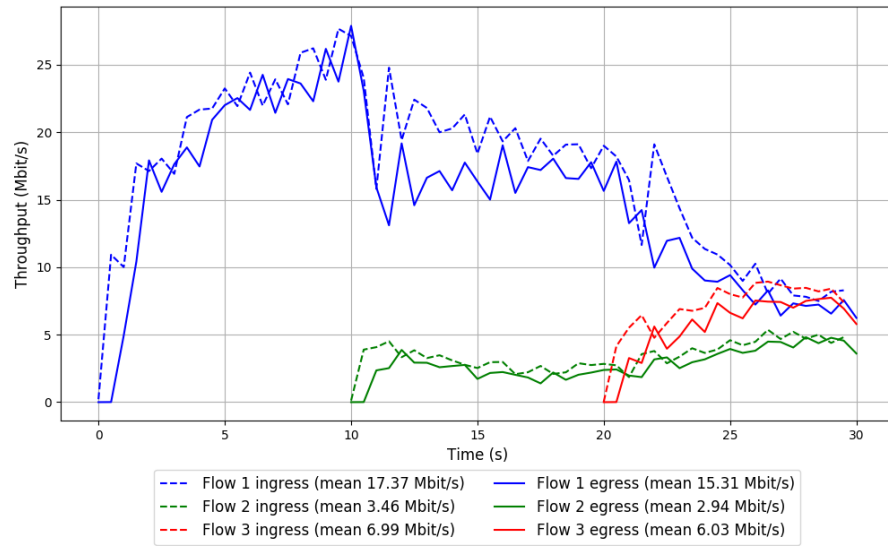## Run 3: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 12.23 Mbit/s)   Flow 1 egress (mean 10.91 Mbit/s)
Flow 2 ingress (mean 6.38 Mbit/s)   Flow 2 egress (mean 5.42 Mbit/s)
Flow 3 ingress (mean 5.01 Mbit/s)   Flow 3 egress (mean 4.55 Mbit/s)

Flow 1 (95th percentile 171.76 ms)   Flow 2 (95th percentile 170.75 ms)   Flow 3 (95th percentile 170.73 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2018-11-30 18:39:35
End at: 2018-11-30 18:40:05
Local clock offset: 1.339 ms
Remote clock offset: 42.525 ms


# Below is generated by plot.py at 2018-11-30 19:30:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.95 Mbit/s
95th percentile per-packet one-way delay: 172.193 ms
Loss rate: 16.09%
-- Flow 1:
Average throughput: 10.62 Mbit/s
95th percentile per-packet one-way delay: 171.991 ms
Loss rate: 11.53%
-- Flow 2:
Average throughput: 8.32 Mbit/s
95th percentile per-packet one-way delay: 172.568 ms
Loss rate: 23.64%
-- Flow 3:
Average throughput: 5.52 Mbit/s
95th percentile per-packet one-way delay: 172.033 ms
Loss rate: 16.13%
```

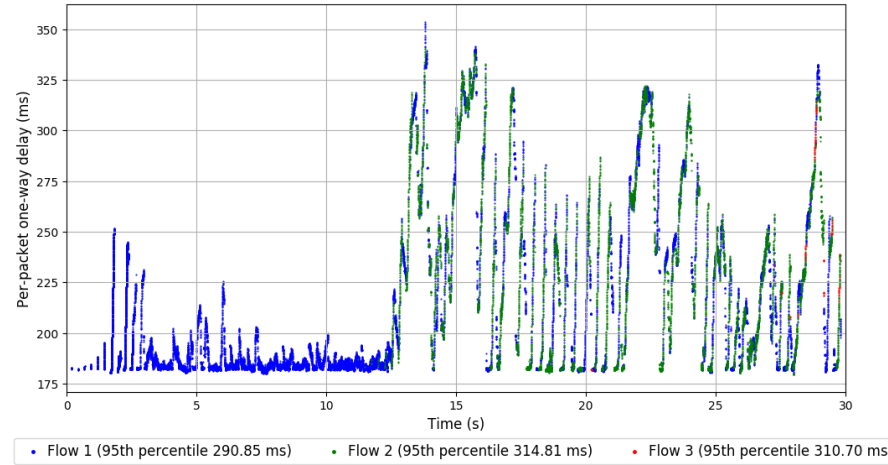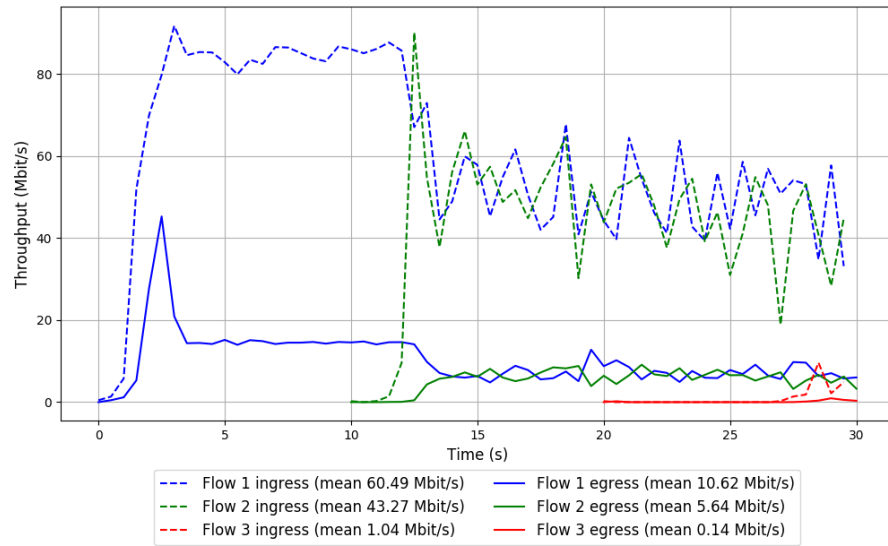Run 4: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 11.92 Mbit/s) Flow 1 egress (mean 10.62 Mbit/s)
Flow 2 ingress (mean 10.78 Mbit/s) Flow 2 egress (mean 8.32 Mbit/s)
Flow 3 ingress (mean 6.42 Mbit/s)   Flow 3 egress (mean 5.52 Mbit/s)

Flow 1 (95th percentile 171.99 ms)   Flow 2 (95th percentile 172.57 ms)   Flow 3 (95th percentile 172.03 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2018-11-30 19:17:47
End at: 2018-11-30 19:18:17
Local clock offset: 0.233 ms
Remote clock offset: 46.348 ms


# Below is generated by plot.py at 2018-11-30 19:30:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.23 Mbit/s
95th percentile per-packet one-way delay: 165.642 ms
Loss rate: 13.18%
-- Flow 1:
Average throughput: 15.31 Mbit/s
95th percentile per-packet one-way delay: 165.842 ms
Loss rate: 12.48%
-- Flow 2:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 164.941 ms
Loss rate: 15.85%
-- Flow 3:
Average throughput: 6.03 Mbit/s
95th percentile per-packet one-way delay: 164.793 ms
Loss rate: 15.75%
```

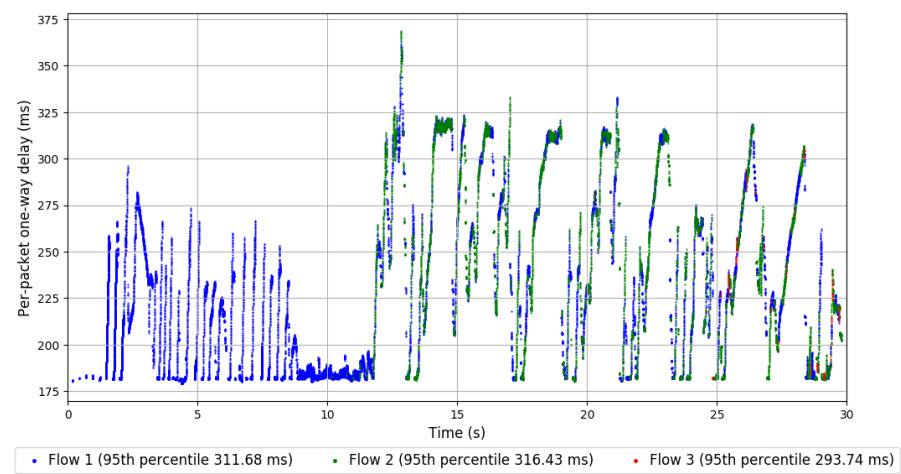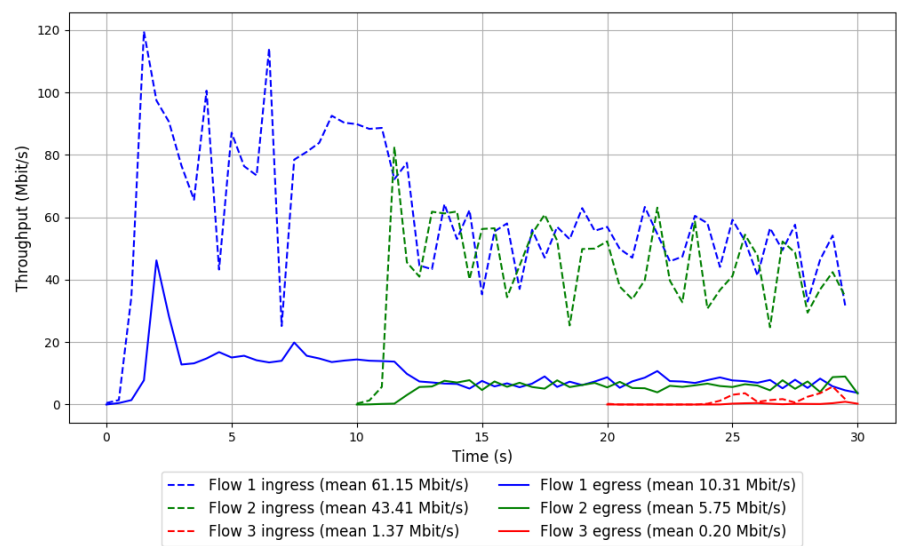Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2018-11-30 15:22:31
End at: 2018-11-30 15:23:01
Local clock offset: 2.212 ms
Remote clock offset: 32.362 ms

# Below is generated by plot.py at 2018-11-30 19:31:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.40 Mbit/s
95th percentile per-packet one-way delay: 307.213 ms
Loss rate: 84.06%
-- Flow 1:
Average throughput: 10.62 Mbit/s
95th percentile per-packet one-way delay: 290.845 ms
Loss rate: 82.59%
-- Flow 2:
Average throughput: 5.64 Mbit/s
95th percentile per-packet one-way delay: 314.809 ms
Loss rate: 87.13%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 310.705 ms
Loss rate: 87.37%
```
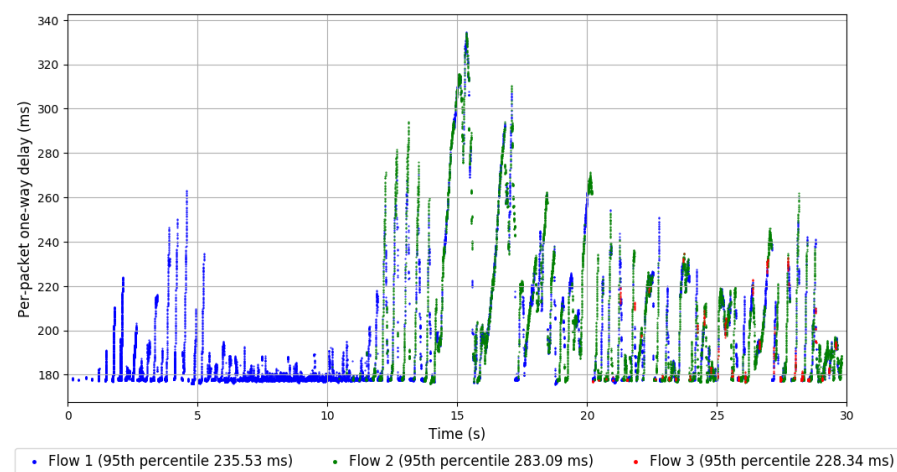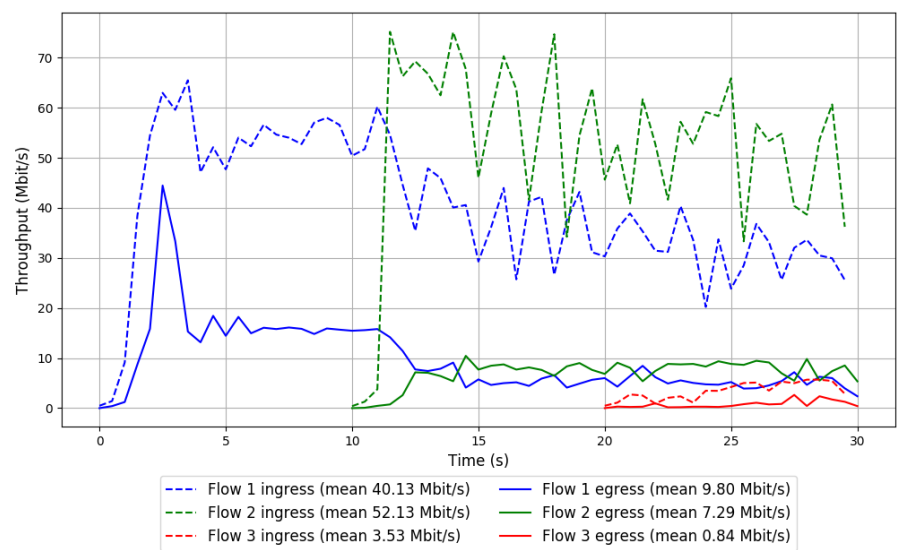
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-11-30 16:20:34
End at: 2018-11-30 16:21:04
Local clock offset: 0.593 ms
Remote clock offset: 33.931 ms


# Below is generated by plot.py at 2018-11-30 19:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.15 Mbit/s
95th percentile per-packet one-way delay: 313.534 ms
Loss rate: 84.46%
-- Flow 1:
Average throughput: 10.31 Mbit/s
95th percentile per-packet one-way delay: 311.677 ms
Loss rate: 83.28%
-- Flow 2:
Average throughput: 5.75 Mbit/s
95th percentile per-packet one-way delay: 316.432 ms
Loss rate: 86.93%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 293.736 ms
Loss rate: 85.86%
```
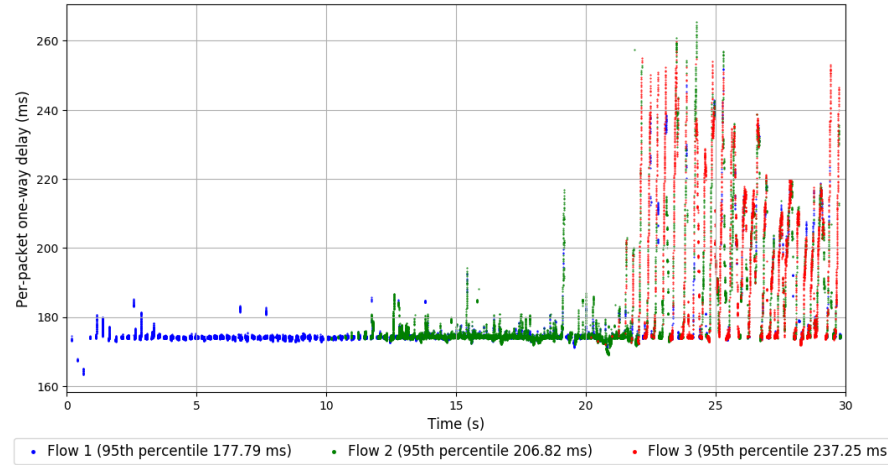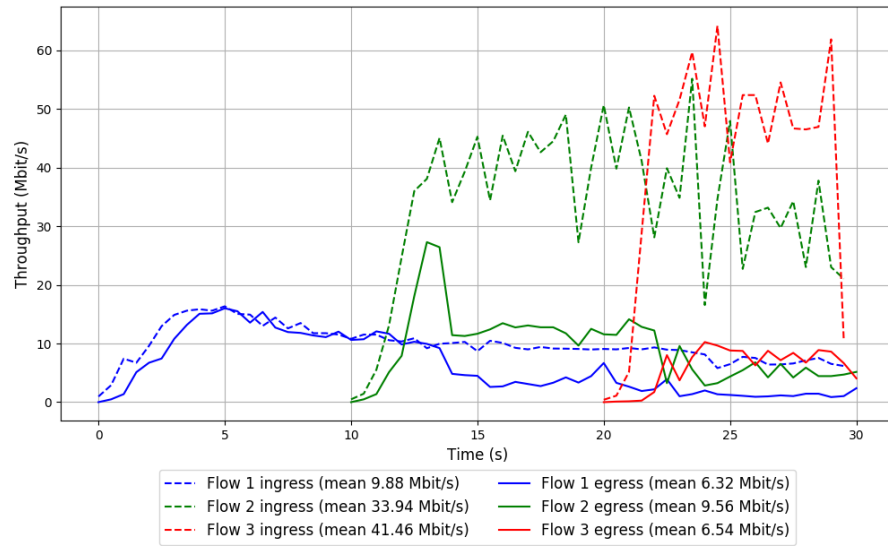
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 61.15 Mbit/s)   Flow 1 egress (mean 10.31 Mbit/s)
Flow 2 ingress (mean 43.41 Mbit/s)   Flow 2 egress (mean 5.75 Mbit/s)
Flow 3 ingress (mean 1.37 Mbit/s)   Flow 3 egress (mean 0.20 Mbit/s)

Flow 1 (95th percentile 311.68 ms)   Flow 2 (95th percentile 316.43 ms)   Flow 3 (95th percentile 293.74 ms)

```
Run 3: Statistics of Indigo

Start at: 2018-11-30 17:16:08
End at: 2018-11-30 17:16:38
Local clock offset: 7.195 ms
Remote clock offset: 36.045 ms


# Below is generated by plot.py at 2018-11-30 19:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.87 Mbit/s
95th percentile per-packet one-way delay: 260.829 ms
Loss rate: 80.57%
-- Flow 1:
Average throughput: 9.80 Mbit/s
95th percentile per-packet one-way delay: 235.530 ms
Loss rate: 75.80%
-- Flow 2:
Average throughput: 7.29 Mbit/s
95th percentile per-packet one-way delay: 283.090 ms
Loss rate: 86.19%
-- Flow 3:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 228.344 ms
Loss rate: 76.90%
```
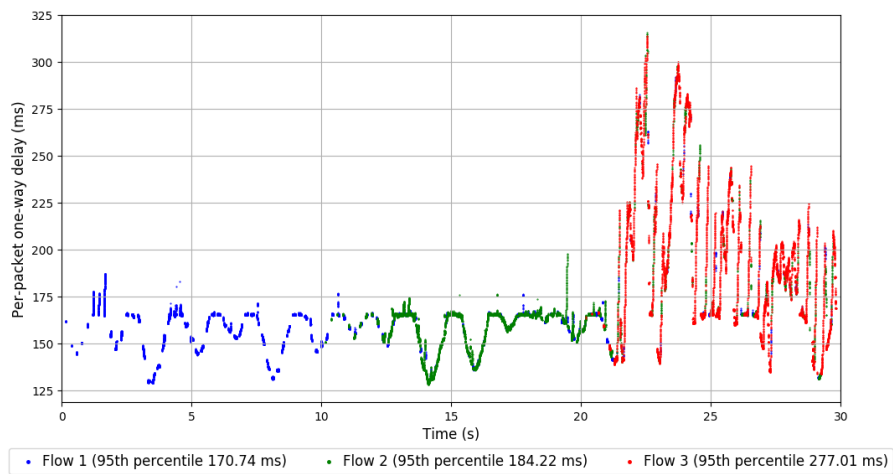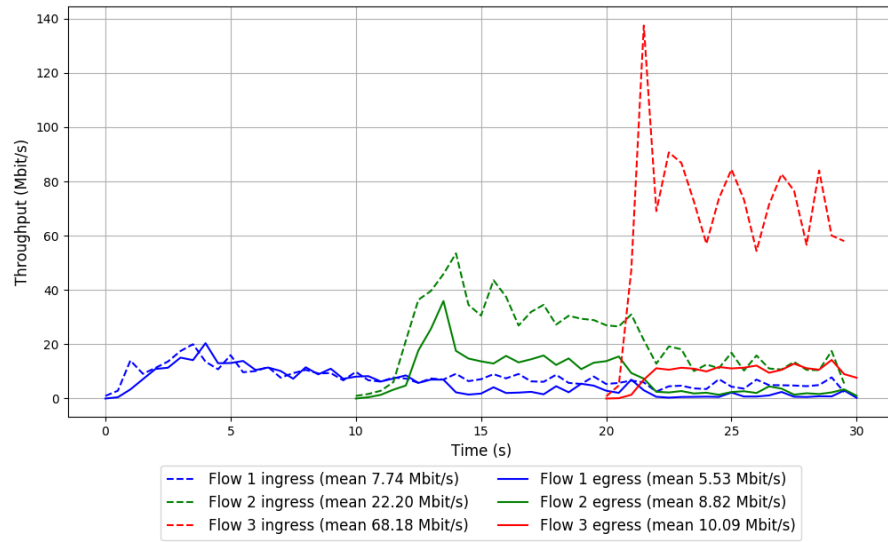
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-11-30 18:06:42
End at: 2018-11-30 18:07:12
Local clock offset: 1.42 ms
Remote clock offset: 38.736 ms


# Below is generated by plot.py at 2018-11-30 19:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.76 Mbit/s
95th percentile per-packet one-way delay: 213.617 ms
Loss rate: 68.22%
-- Flow 1:
Average throughput: 6.32 Mbit/s
95th percentile per-packet one-way delay: 177.794 ms
Loss rate: 36.50%
-- Flow 2:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 206.816 ms
Loss rate: 72.18%
-- Flow 3:
Average throughput: 6.54 Mbit/s
95th percentile per-packet one-way delay: 237.247 ms
Loss rate: 84.67%
```
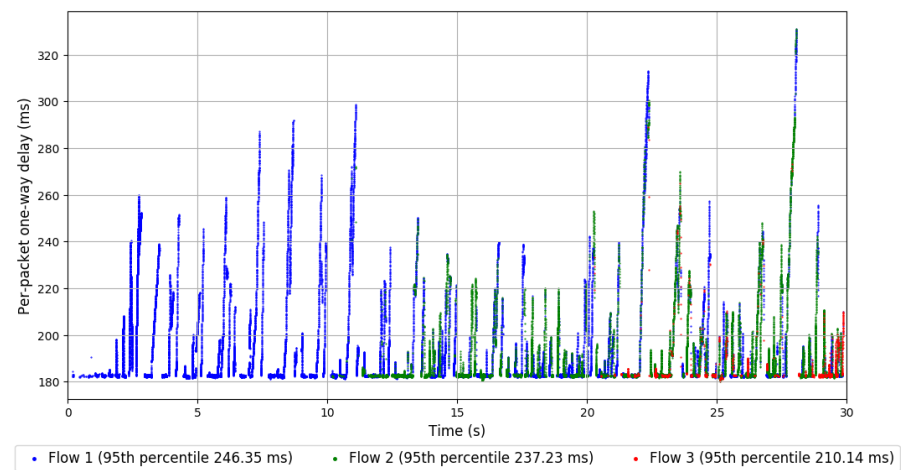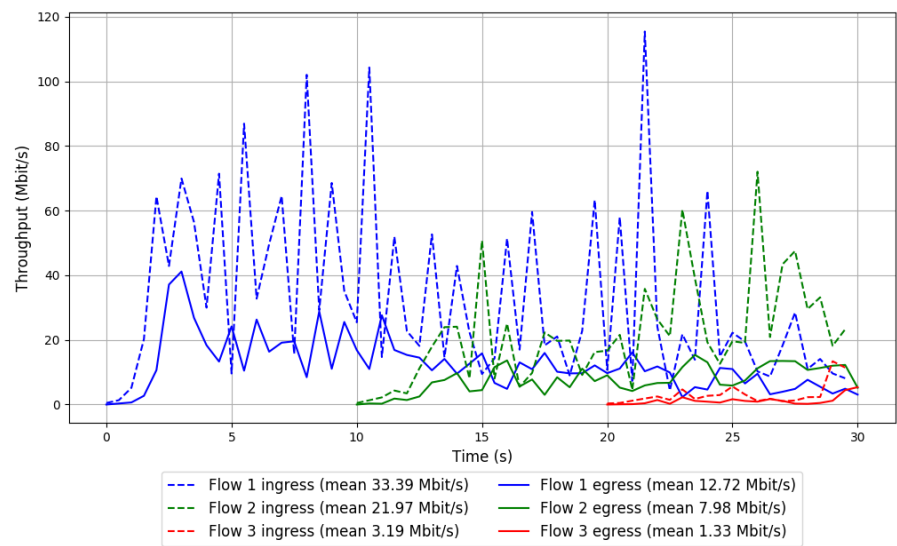
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-11-30 18:55:36
End at: 2018-11-30 18:56:06
Local clock offset: 0.497 ms
Remote clock offset: 48.458 ms


# Below is generated by plot.py at 2018-11-30 19:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.58 Mbit/s
95th percentile per-packet one-way delay: 225.141 ms
Loss rate: 67.71%
-- Flow 1:
Average throughput: 5.53 Mbit/s
95th percentile per-packet one-way delay: 170.742 ms
Loss rate: 29.15%
-- Flow 2:
Average throughput: 8.82 Mbit/s
95th percentile per-packet one-way delay: 184.215 ms
Loss rate: 60.68%
-- Flow 3:
Average throughput: 10.09 Mbit/s
95th percentile per-packet one-way delay: 277.006 ms
Loss rate: 85.52%
```
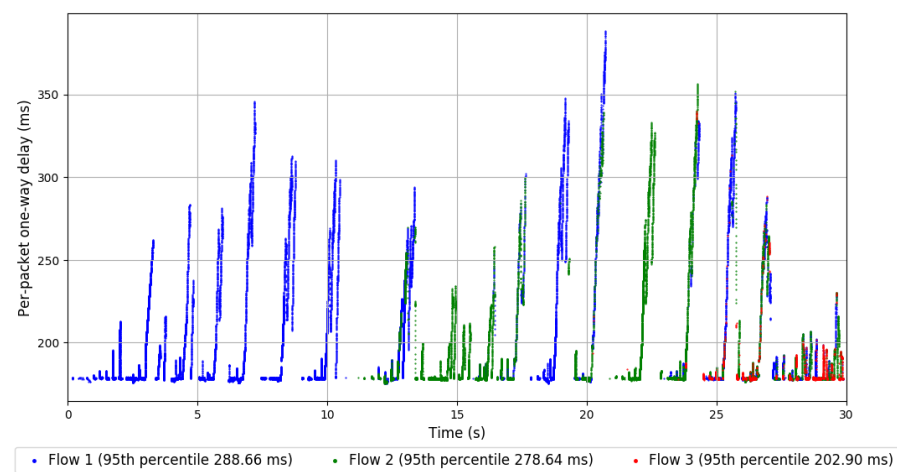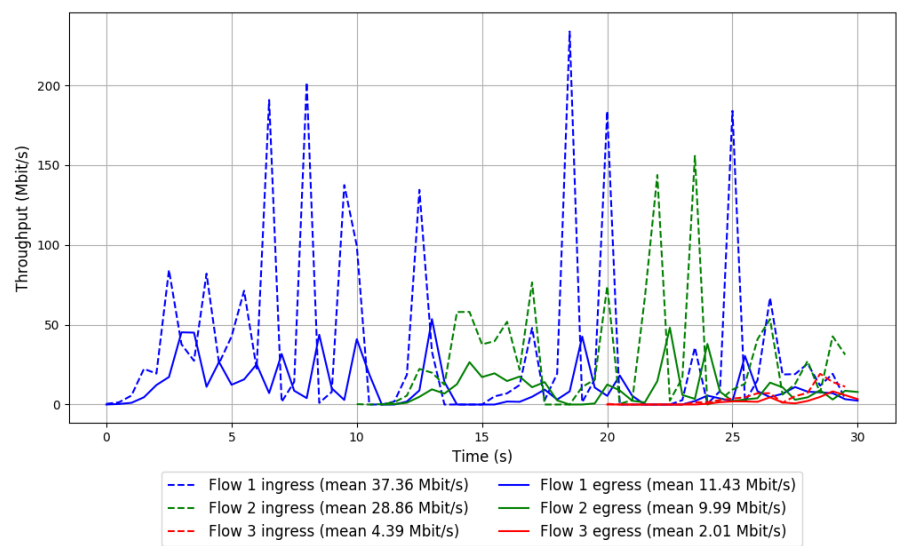
Run 5: Report of Indigo — Data Link

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

Start at: 2018-11-30 15:47:45
End at: 2018-11-30 15:48:15
Local clock offset: 1.805 ms
Remote clock offset: 31.889 ms


# Below is generated by plot.py at 2018-11-30 19:31:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.43 Mbit/s
95th percentile per-packet one-way delay: 244.354 ms
Loss rate: 62.66%
-- Flow 1:
Average throughput: 12.72 Mbit/s
95th percentile per-packet one-way delay: 246.349 ms
Loss rate: 62.22%
-- Flow 2:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 237.226 ms
Loss rate: 63.91%
-- Flow 3:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 210.137 ms
Loss rate: 59.48%
```
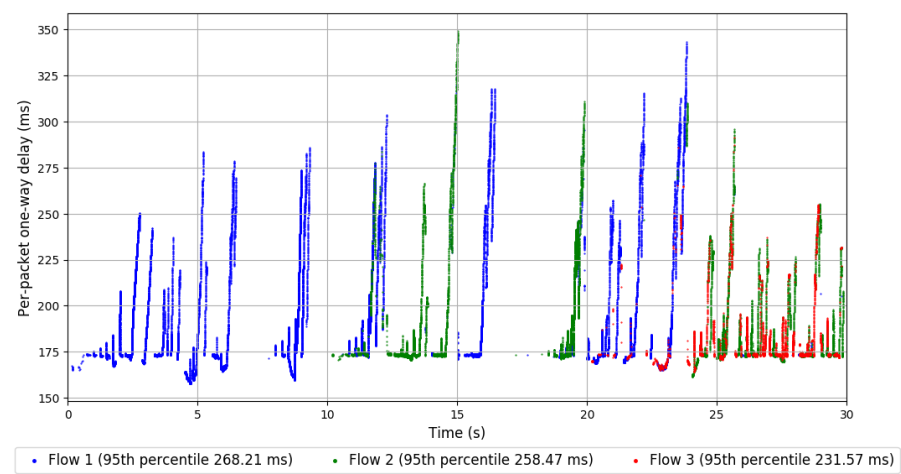
Run 1: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-11-30 16:46:01
End at: 2018-11-30 16:46:31
Local clock offset: 1.229 ms
Remote clock offset: 36.732 ms


# Below is generated by plot.py at 2018-11-30 19:31:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.36 Mbit/s
95th percentile per-packet one-way delay: 284.886 ms
Loss rate: 68.48%
-- Flow 1:
Average throughput: 11.43 Mbit/s
95th percentile per-packet one-way delay: 288.660 ms
Loss rate: 69.55%
-- Flow 2:
Average throughput: 9.99 Mbit/s
95th percentile per-packet one-way delay: 278.639 ms
Loss rate: 67.39%
-- Flow 3:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 202.902 ms
Loss rate: 55.34%
```

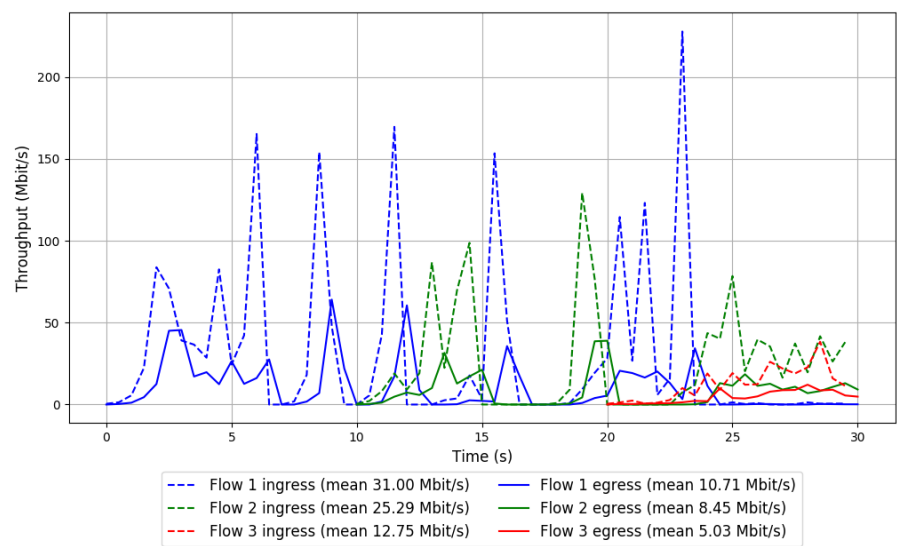Run 2: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-11-30 17:38:40
End at: 2018-11-30 17:39:10
Local clock offset: 8.221 ms
Remote clock offset: 39.603 ms


# Below is generated by plot.py at 2018-11-30 19:31:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.91 Mbit/s
95th percentile per-packet one-way delay: 264.416 ms
Loss rate: 65.80%
-- Flow 1:
Average throughput: 10.71 Mbit/s
95th percentile per-packet one-way delay: 268.209 ms
Loss rate: 65.71%
-- Flow 2:
Average throughput: 8.45 Mbit/s
95th percentile per-packet one-way delay: 258.466 ms
Loss rate: 67.01%
-- Flow 3:
Average throughput: 5.03 Mbit/s
95th percentile per-packet one-way delay: 231.571 ms
Loss rate: 61.55%
```

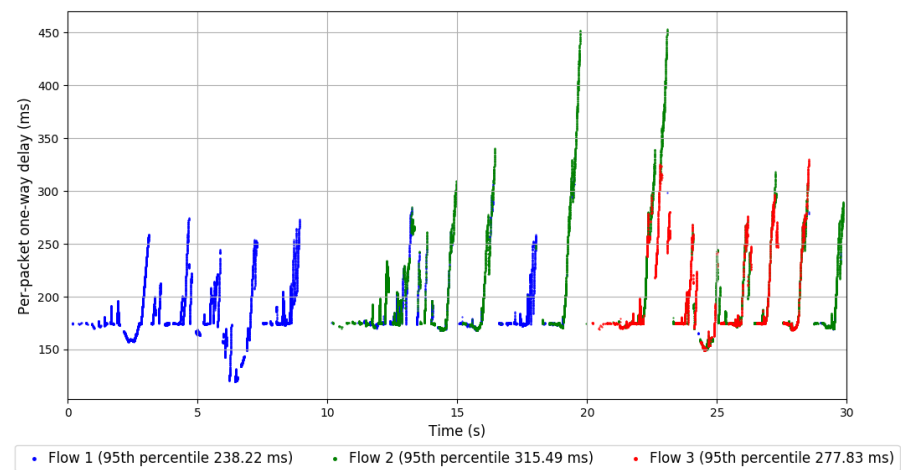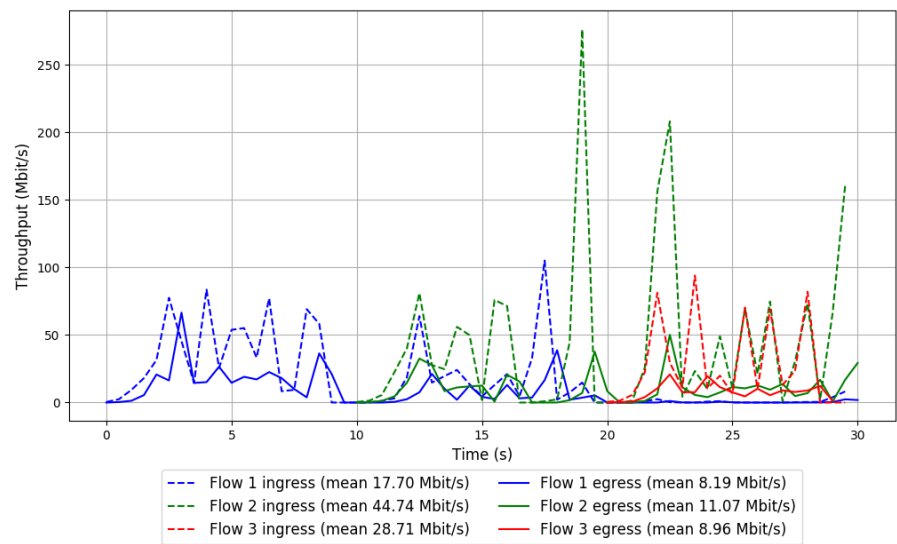Run 3: Report of Indigo-96d2da3 — Data Link

Flow 1 ingress (mean 31.00 Mbit/s) --- Flow 1 egress (mean 10.71 Mbit/s)
Flow 2 ingress (mean 25.29 Mbit/s) --- Flow 2 egress (mean 8.45 Mbit/s)
Flow 3 ingress (mean 12.75 Mbit/s) --- Flow 3 egress (mean 5.03 Mbit/s)

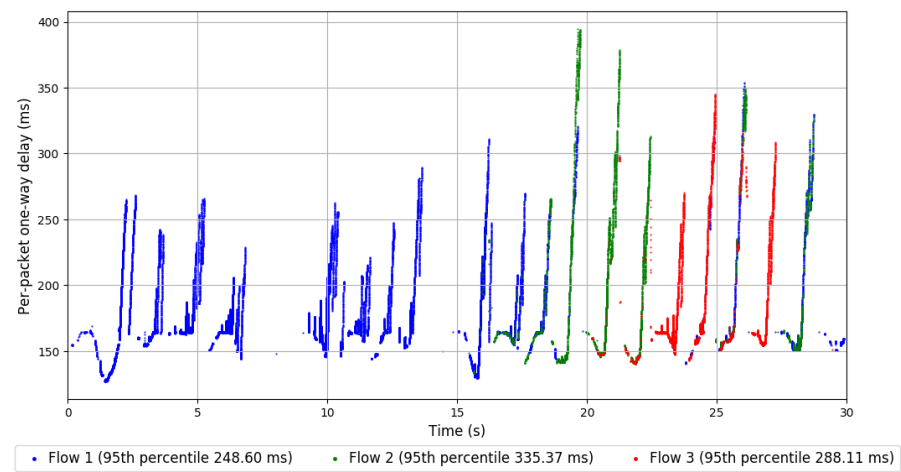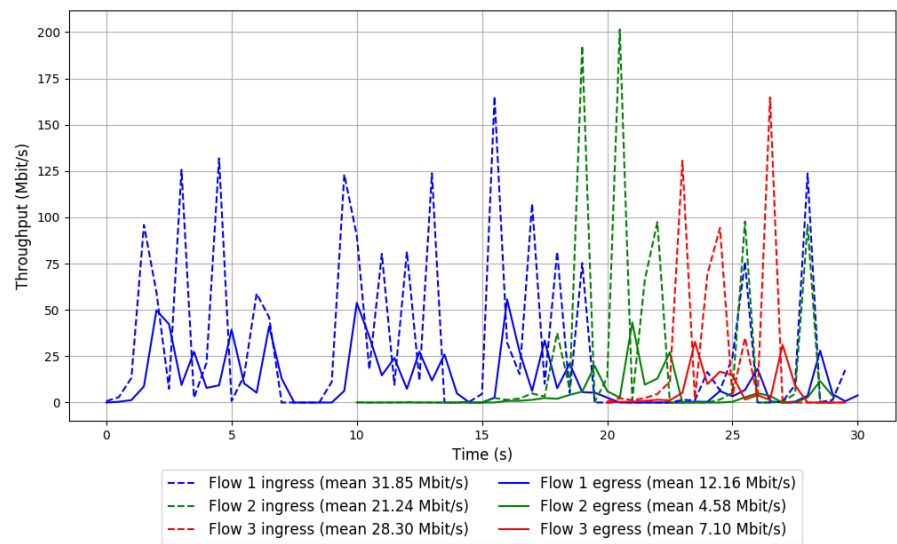Flow 1 (95th percentile 268.21 ms)   Flow 2 (95th percentile 258.47 ms)   Flow 3 (95th percentile 231.57 ms)

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

Start at: 2018-11-30 18:29:56
End at: 2018-11-30 18:30:26
Local clock offset: 1.629 ms
Remote clock offset: 39.123 ms


# Below is generated by plot.py at 2018-11-30 19:31:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.03 Mbit/s
95th percentile per-packet one-way delay: 277.585 ms
Loss rate: 68.27%
-- Flow 1:
Average throughput: 8.19 Mbit/s
95th percentile per-packet one-way delay: 238.215 ms
Loss rate: 53.99%
-- Flow 2:
Average throughput: 11.07 Mbit/s
95th percentile per-packet one-way delay: 315.493 ms
Loss rate: 75.37%
-- Flow 3:
Average throughput: 8.96 Mbit/s
95th percentile per-packet one-way delay: 277.831 ms
Loss rate: 72.85%
```

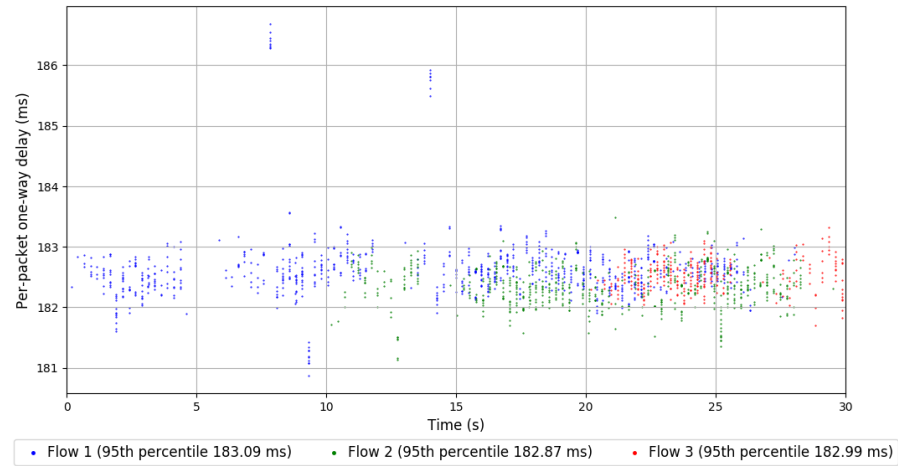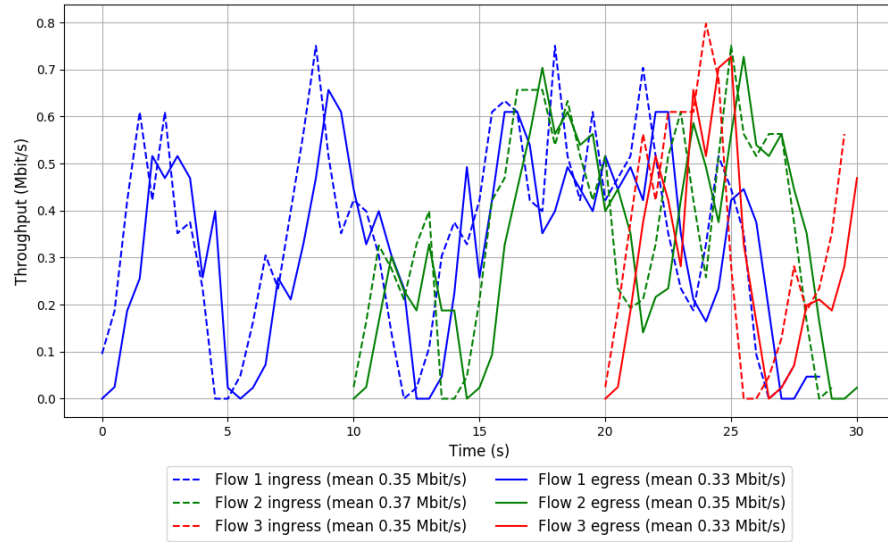Run 4: Report of Indigo-96d2da3 — Data Link

Flow 1 ingress (mean 17.70 Mbit/s)　　Flow 1 egress (mean 8.19 Mbit/s)
Flow 2 ingress (mean 44.74 Mbit/s)　　Flow 2 egress (mean 11.07 Mbit/s)
Flow 3 ingress (mean 28.71 Mbit/s)　　Flow 3 egress (mean 8.96 Mbit/s)

Flow 1 (95th percentile 238.22 ms)　　Flow 2 (95th percentile 315.49 ms)　　Flow 3 (95th percentile 277.83 ms)

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

Start at: 2018-11-30 19:11:59
End at: 2018-11-30 19:12:29
Local clock offset: -0.247 ms
Remote clock offset: 49.435 ms


# Below is generated by plot.py at 2018-11-30 19:31:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.23 Mbit/s
95th percentile per-packet one-way delay: 266.592 ms
Loss rate: 68.69%
-- Flow 1:
Average throughput: 12.16 Mbit/s
95th percentile per-packet one-way delay: 248.602 ms
Loss rate: 62.08%
-- Flow 2:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 335.372 ms
Loss rate: 79.80%
-- Flow 3:
Average throughput: 7.10 Mbit/s
95th percentile per-packet one-way delay: 288.114 ms
Loss rate: 74.94%
```

Run 5: Report of Indigo-96d2da3 — Data Link
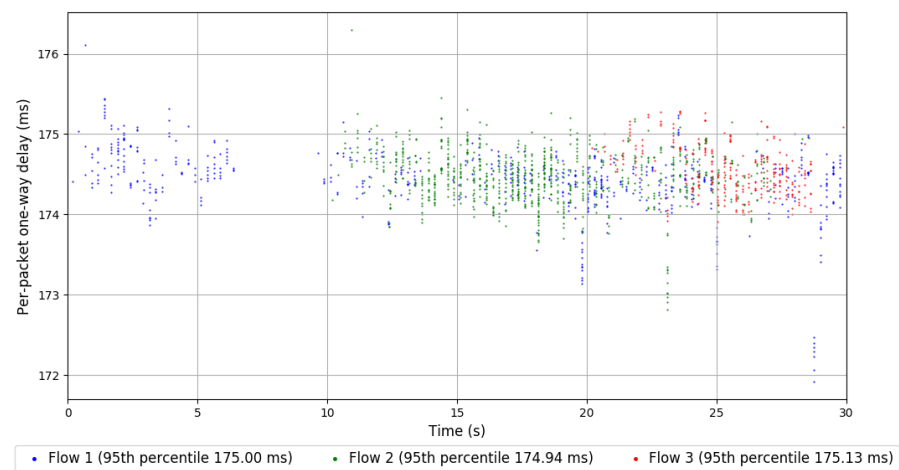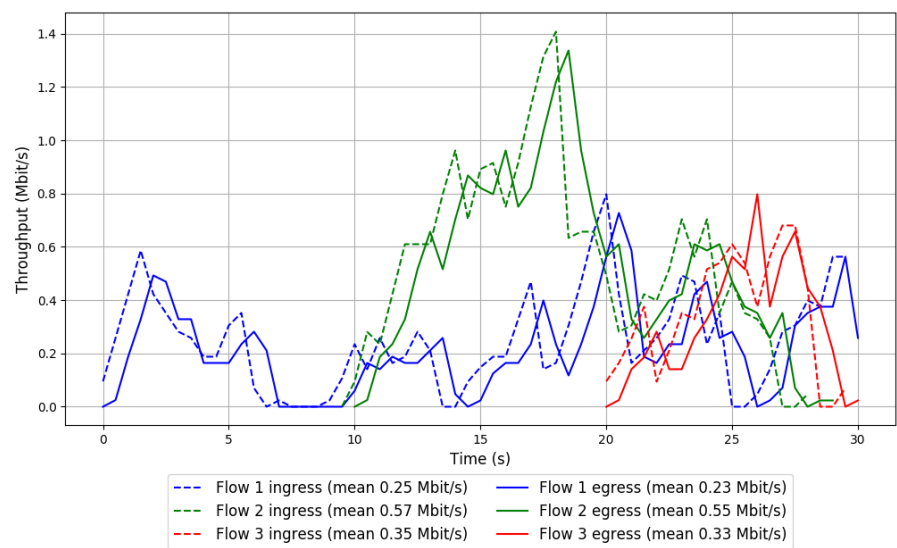

Flow 1 ingress (mean 31.85 Mbit/s) — Flow 1 egress (mean 12.16 Mbit/s)
Flow 2 ingress (mean 21.24 Mbit/s) — Flow 2 egress (mean 4.58 Mbit/s)
Flow 3 ingress (mean 28.30 Mbit/s) — Flow 3 egress (mean 7.10 Mbit/s)

Flow 1 (95th percentile 248.60 ms) • Flow 2 (95th percentile 335.37 ms) • Flow 3 (95th percentile 288.11 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2018-11-30 16:12:26
End at: 2018-11-30 16:12:56
Local clock offset: 0.406 ms
Remote clock offset: 33.385 ms

# Below is generated by plot.py at 2018-11-30 19:31:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 183.016 ms
Loss rate: 6.42%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 183.095 ms
Loss rate: 6.80%
-- Flow 2:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 182.865 ms
Loss rate: 4.76%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 182.986 ms
Loss rate: 8.77%
```
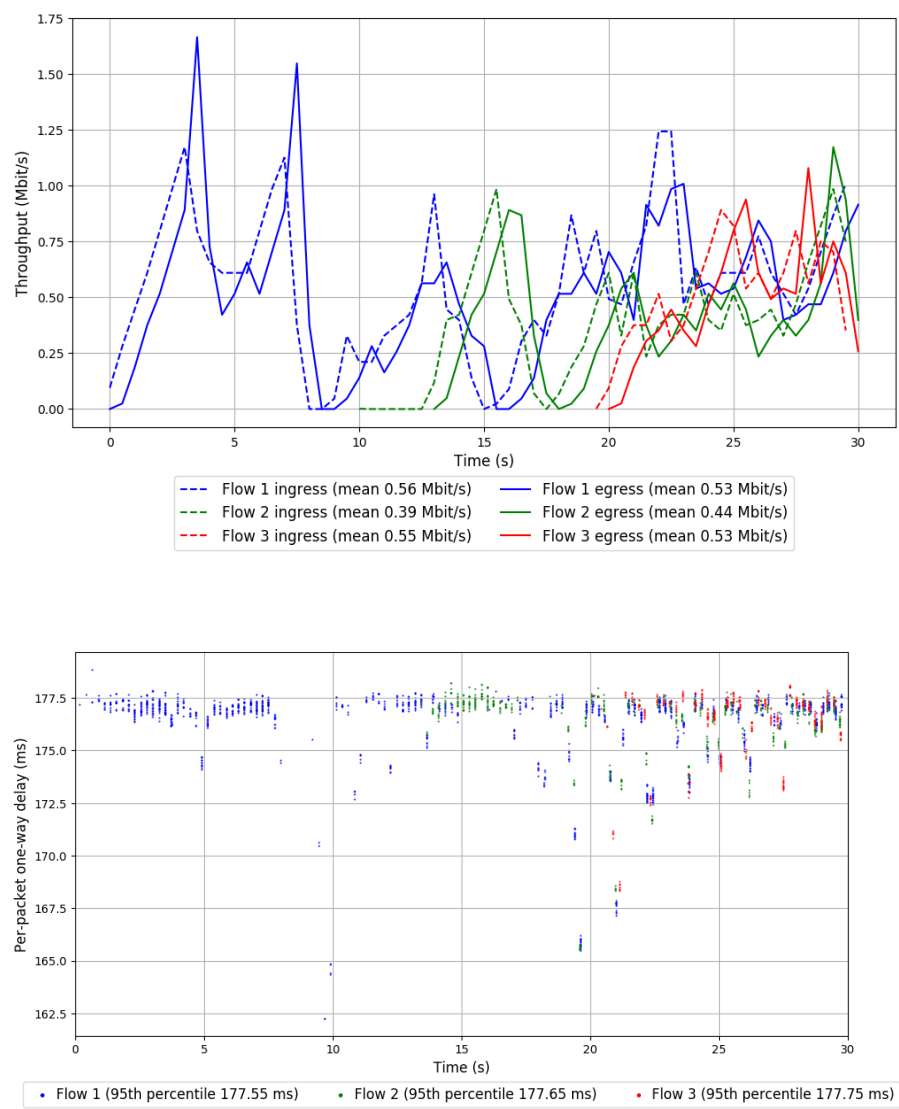
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 0.35 Mbit/s) Flow 1 egress (mean 0.33 Mbit/s)
Flow 2 ingress (mean 0.37 Mbit/s) Flow 2 egress (mean 0.35 Mbit/s)
Flow 3 ingress (mean 0.35 Mbit/s) Flow 3 egress (mean 0.33 Mbit/s)

Flow 1 (95th percentile 183.09 ms)   Flow 2 (95th percentile 182.87 ms)   Flow 3 (95th percentile 182.99 ms)
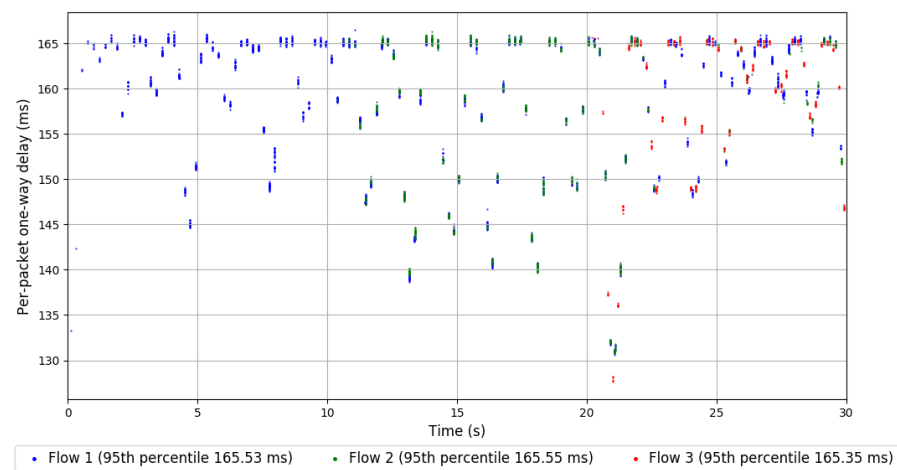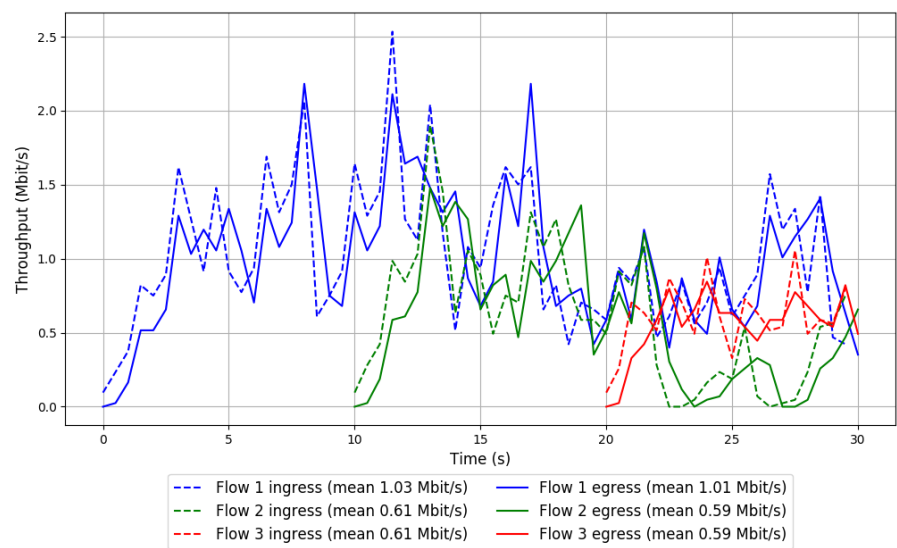
```
Run 2: Statistics of LEDBAT

Start at: 2018-11-30 17:09:21
End at: 2018-11-30 17:09:51
Local clock offset: 6.854 ms
Remote clock offset: 39.831 ms

# Below is generated by plot.py at 2018-11-30 19:31:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 175.000 ms
Loss rate: 6.11%
-- Flow 1:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 175.005 ms
Loss rate: 9.88%
-- Flow 2:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 174.944 ms
Loss rate: 3.27%
-- Flow 3:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 175.129 ms
Loss rate: 6.46%
```
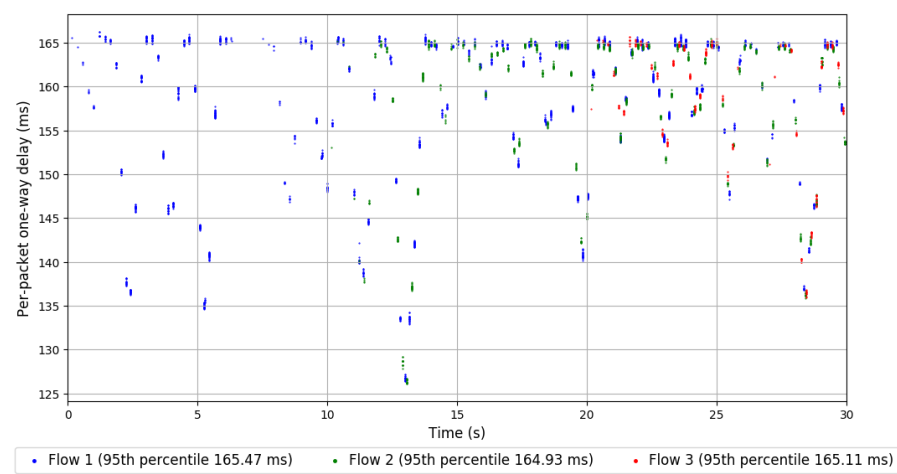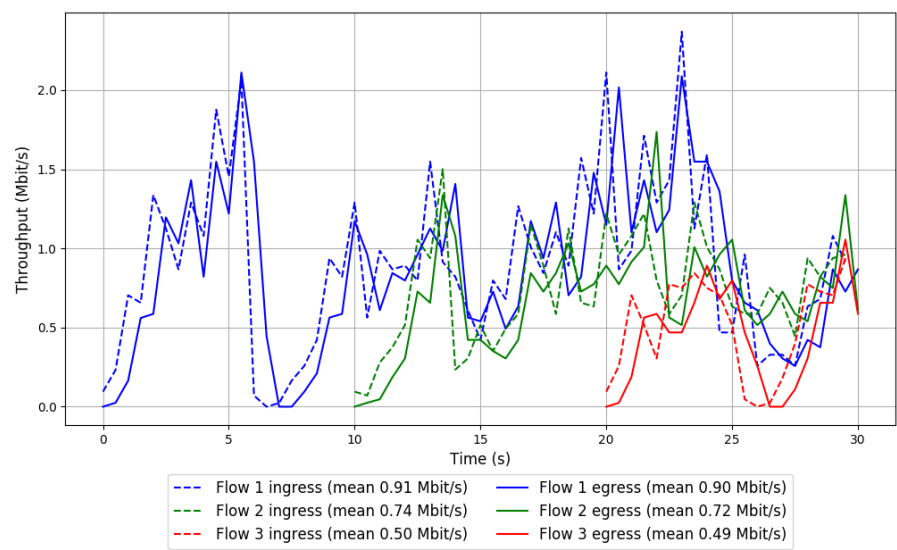
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 0.25 Mbit/s) --- Flow 1 egress (mean 0.23 Mbit/s)
Flow 2 ingress (mean 0.57 Mbit/s) --- Flow 2 egress (mean 0.55 Mbit/s)
Flow 3 ingress (mean 0.35 Mbit/s) --- Flow 3 egress (mean 0.33 Mbit/s)

Flow 1 (95th percentile 175.00 ms) • Flow 2 (95th percentile 174.94 ms) • Flow 3 (95th percentile 175.13 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2018-11-30 17:59:51
End at: 2018-11-30 18:00:21
Local clock offset: 2.627 ms
Remote clock offset: 35.87 ms

# Below is generated by plot.py at 2018-11-30 19:31:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 177.620 ms
Loss rate: 5.15%
-- Flow 1:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 177.554 ms
Loss rate: 4.67%
-- Flow 2:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 177.645 ms
Loss rate: 6.41%
-- Flow 3:
Average throughput: 0.53 Mbit/s
95th percentile per-packet one-way delay: 177.752 ms
Loss rate: 4.82%
```
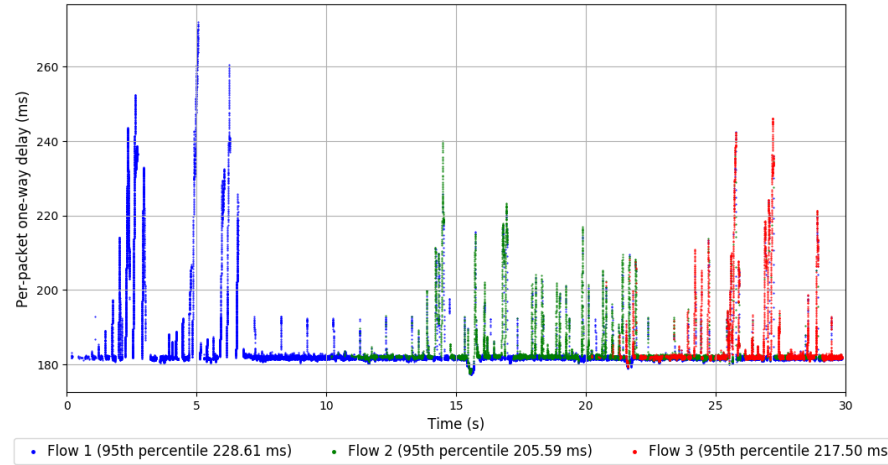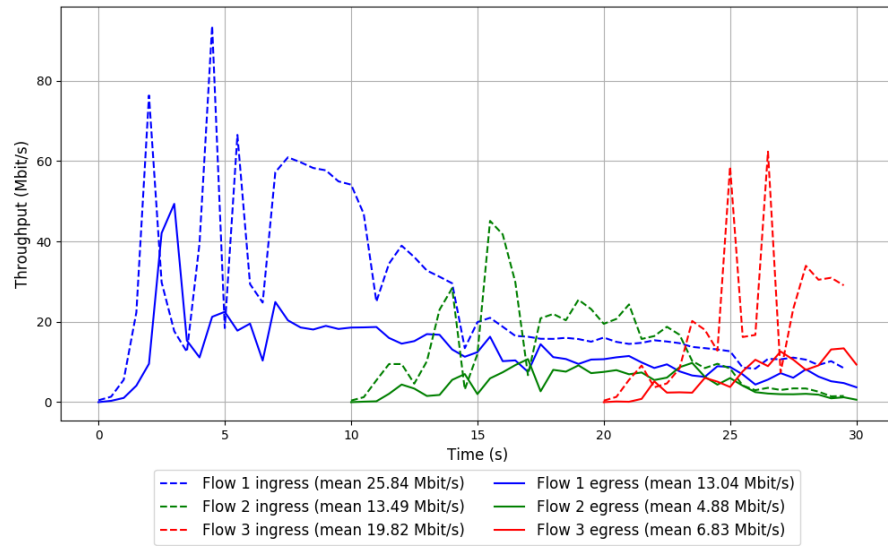
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-11-30 18:50:27
End at: 2018-11-30 18:50:57
Local clock offset: 0.784 ms
Remote clock offset: 48.358 ms


# Below is generated by plot.py at 2018-11-30 19:31:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 165.521 ms
Loss rate: 2.93%
-- Flow 1:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 165.527 ms
Loss rate: 2.14%
-- Flow 2:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 165.552 ms
Loss rate: 3.88%
-- Flow 3:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 165.346 ms
Loss rate: 5.03%
```

Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 1.03 Mbit/s) — — —   Flow 1 egress (mean 1.01 Mbit/s) ———
Flow 2 ingress (mean 0.61 Mbit/s) — — —   Flow 2 egress (mean 0.59 Mbit/s) ———
Flow 3 ingress (mean 0.61 Mbit/s) — — —   Flow 3 egress (mean 0.59 Mbit/s) ———

Flow 1 (95th percentile 165.53 ms)   •   Flow 2 (95th percentile 165.55 ms)   •   Flow 3 (95th percentile 165.35 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2018-11-30 19:27:13
End at: 2018-11-30 19:27:43
Local clock offset: 0.221 ms
Remote clock offset: 32.696 ms


# Below is generated by plot.py at 2018-11-30 19:31:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 165.320 ms
Loss rate: 2.80%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 165.465 ms
Loss rate: 2.20%
-- Flow 2:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 164.927 ms
Loss rate: 2.87%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 165.106 ms
Loss rate: 5.86%
```
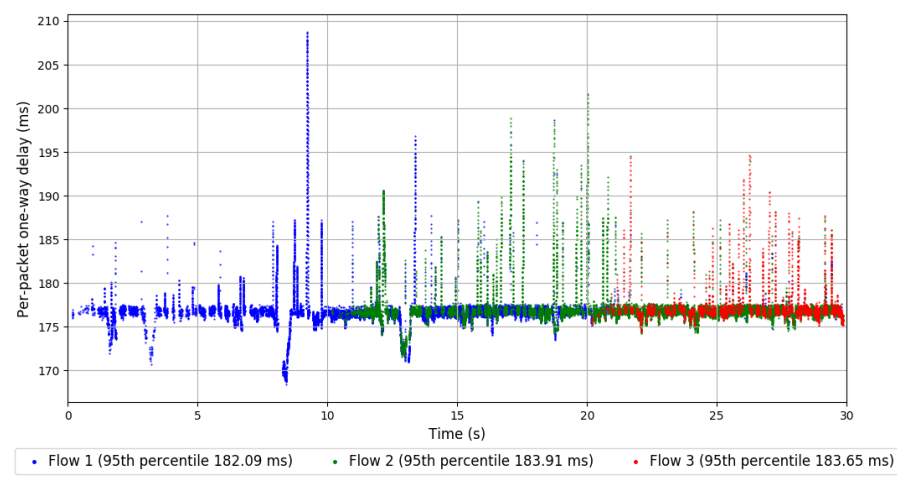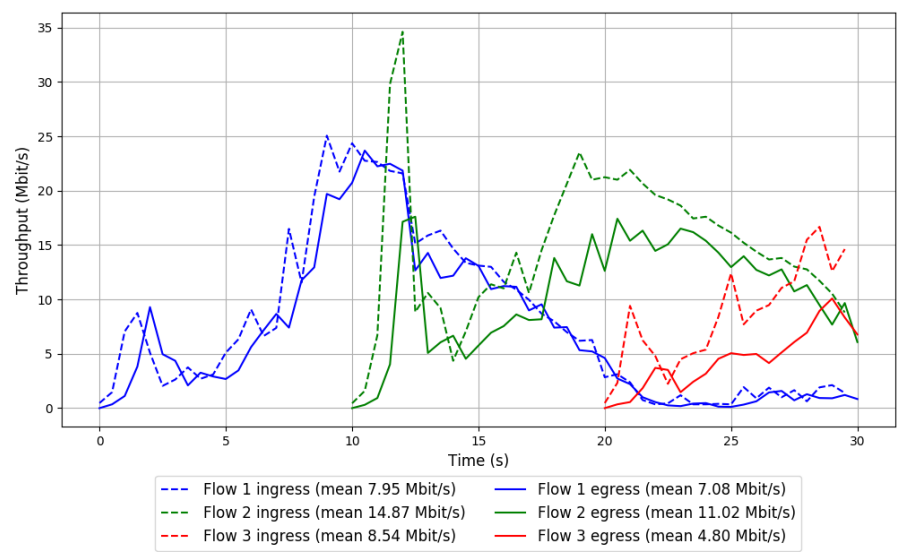
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-11-30 15:41:19
End at: 2018-11-30 15:41:49
Local clock offset: 2.379 ms
Remote clock offset: 32.246 ms


# Below is generated by plot.py at 2018-11-30 19:31:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.50 Mbit/s
95th percentile per-packet one-way delay: 221.937 ms
Loss rate: 55.68%
-- Flow 1:
Average throughput: 13.04 Mbit/s
95th percentile per-packet one-way delay: 228.614 ms
Loss rate: 49.94%
-- Flow 2:
Average throughput: 4.88 Mbit/s
95th percentile per-packet one-way delay: 205.590 ms
Loss rate: 64.30%
-- Flow 3:
Average throughput: 6.83 Mbit/s
95th percentile per-packet one-way delay: 217.498 ms
Loss rate: 66.48%
```

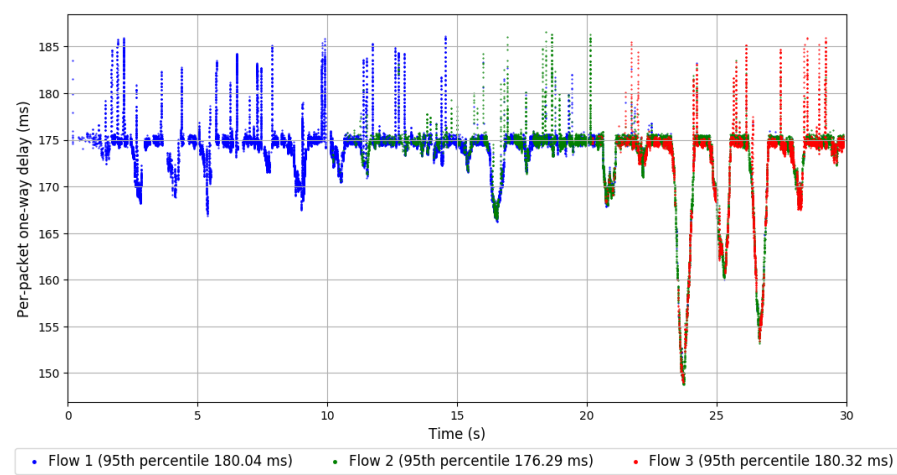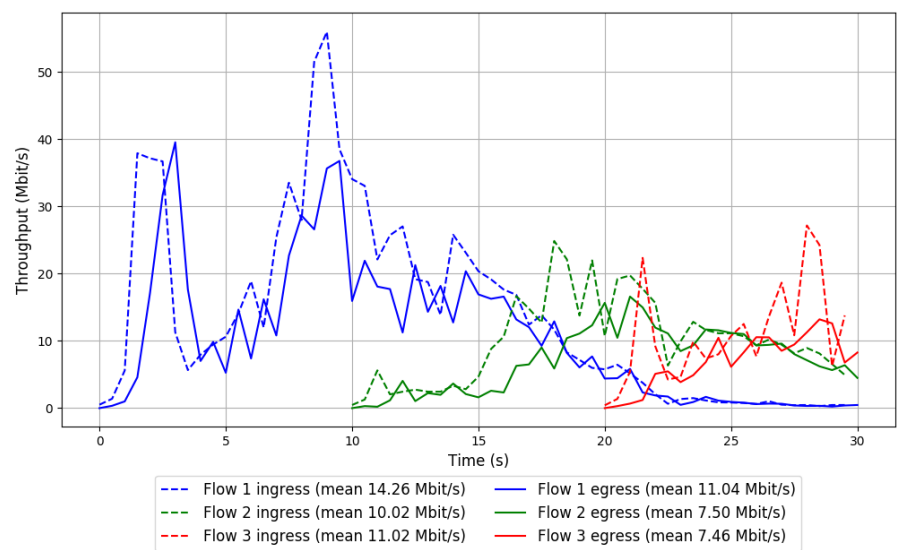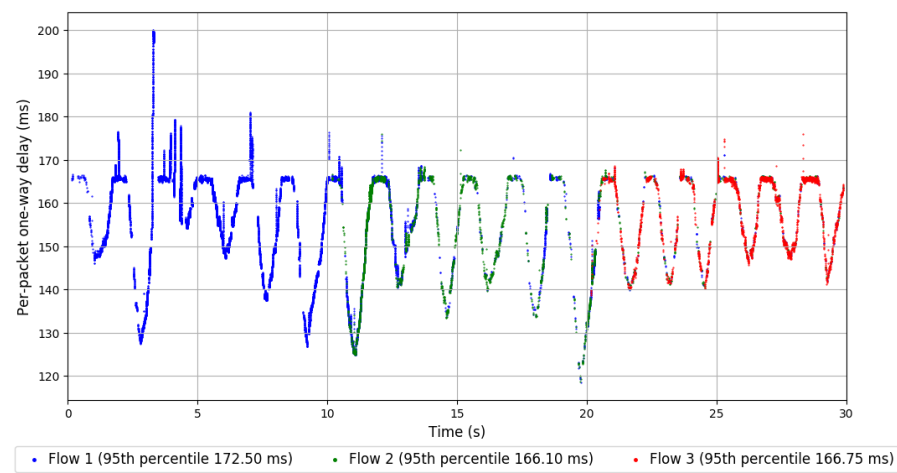Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-11-30 16:39:38
End at: 2018-11-30 16:40:08
Local clock offset: 0.735 ms
Remote clock offset: 34.503 ms


# Below is generated by plot.py at 2018-11-30 19:31:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.74 Mbit/s
95th percentile per-packet one-way delay: 189.143 ms
Loss rate: 56.34%
-- Flow 1:
Average throughput: 9.42 Mbit/s
95th percentile per-packet one-way delay: 188.802 ms
Loss rate: 46.63%
-- Flow 2:
Average throughput: 8.72 Mbit/s
95th percentile per-packet one-way delay: 188.985 ms
Loss rate: 58.73%
-- Flow 3:
Average throughput: 11.02 Mbit/s
95th percentile per-packet one-way delay: 189.966 ms
Loss rate: 68.41%
```
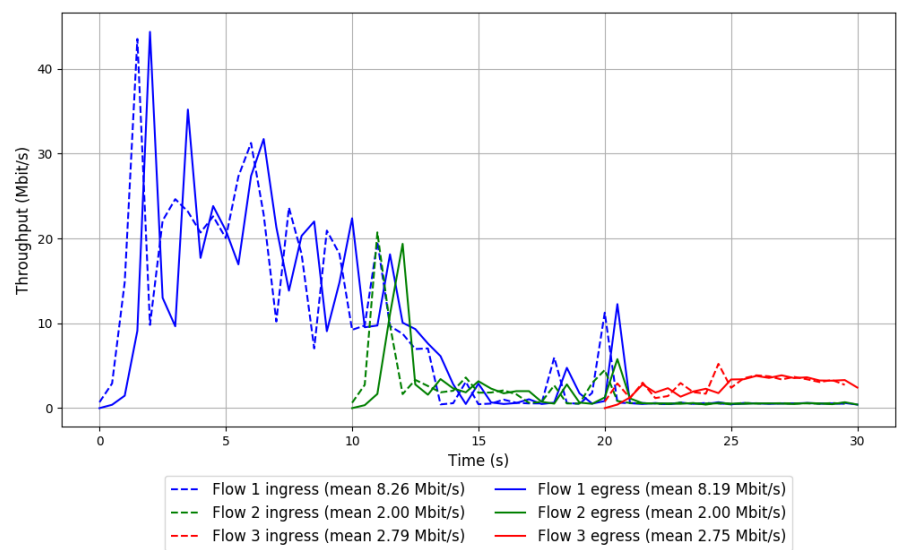
Run 2: Report of Indigo-Muses — Data Link

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-11-30 17:32:19
End at: 2018-11-30 17:32:49
Local clock offset: 8.001 ms
Remote clock offset: 35.976 ms


# Below is generated by plot.py at 2018-11-30 19:31:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.94 Mbit/s
95th percentile per-packet one-way delay: 183.172 ms
Loss rate: 23.52%
-- Flow 1:
Average throughput: 7.08 Mbit/s
95th percentile per-packet one-way delay: 182.091 ms
Loss rate: 11.69%
-- Flow 2:
Average throughput: 11.02 Mbit/s
95th percentile per-packet one-way delay: 183.906 ms
Loss rate: 26.81%
-- Flow 3:
Average throughput: 4.80 Mbit/s
95th percentile per-packet one-way delay: 183.650 ms
Loss rate: 45.17%
```

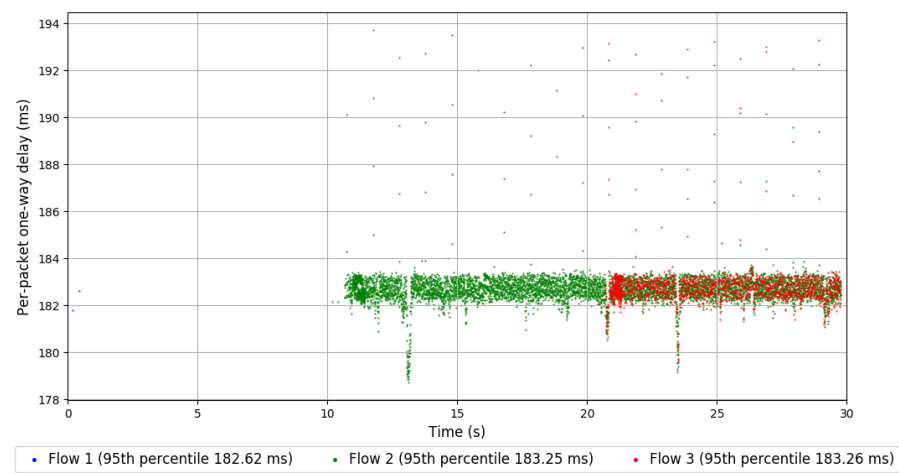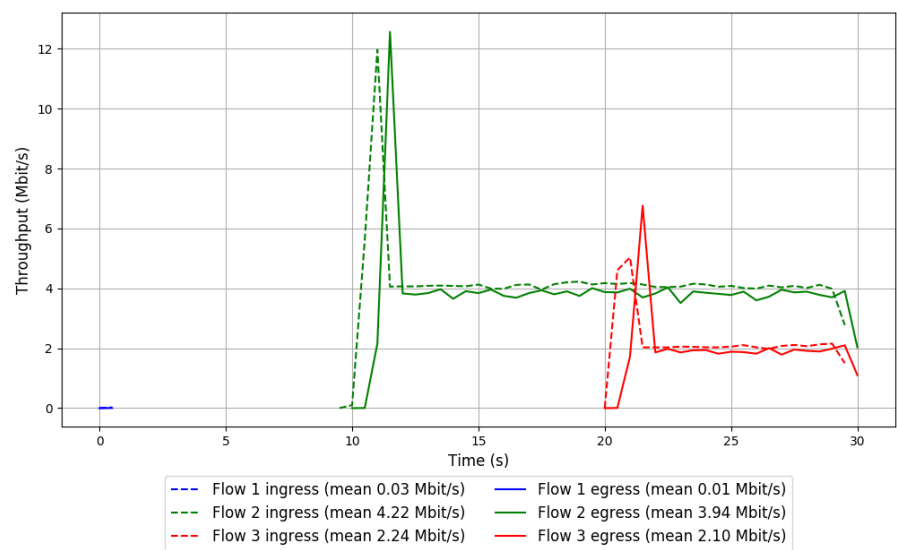Run 3: Report of Indigo-Muses — Data Link

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-11-30 18:24:44
End at: 2018-11-30 18:25:14
Local clock offset: 1.423 ms
Remote clock offset: 38.433 ms


# Below is generated by plot.py at 2018-11-30 19:31:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.42 Mbit/s
95th percentile per-packet one-way delay: 179.339 ms
Loss rate: 25.56%
-- Flow 1:
Average throughput: 11.04 Mbit/s
95th percentile per-packet one-way delay: 180.041 ms
Loss rate: 23.19%
-- Flow 2:
Average throughput: 7.50 Mbit/s
95th percentile per-packet one-way delay: 176.291 ms
Loss rate: 26.06%
-- Flow 3:
Average throughput: 7.46 Mbit/s
95th percentile per-packet one-way delay: 180.318 ms
Loss rate: 33.87%
```

Run 4: Report of Indigo-Muses — Data Link

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-11-30 19:05:37
End at: 2018-11-30 19:06:07
Local clock offset: 0.33 ms
Remote clock offset: 48.302 ms


# Below is generated by plot.py at 2018-11-30 19:31:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.41 Mbit/s
95th percentile per-packet one-way delay: 170.599 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 8.19 Mbit/s
95th percentile per-packet one-way delay: 172.501 ms
Loss rate: 1.54%
-- Flow 2:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 166.098 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 166.746 ms
Loss rate: 3.49%
```

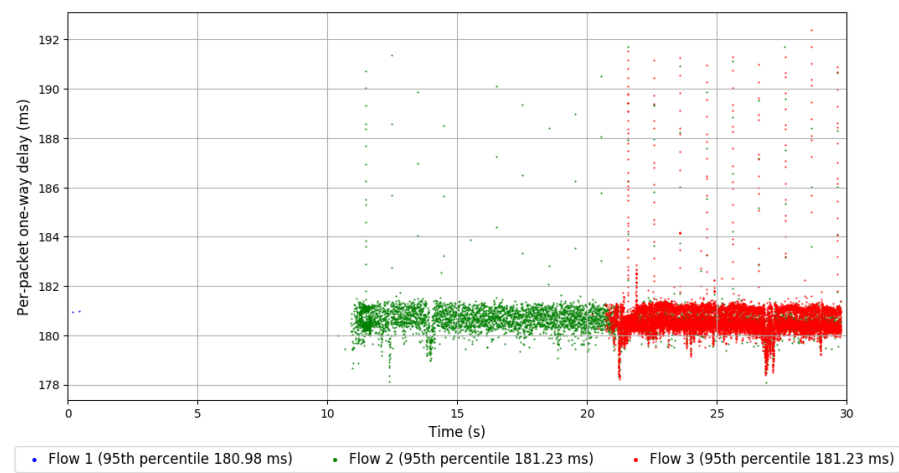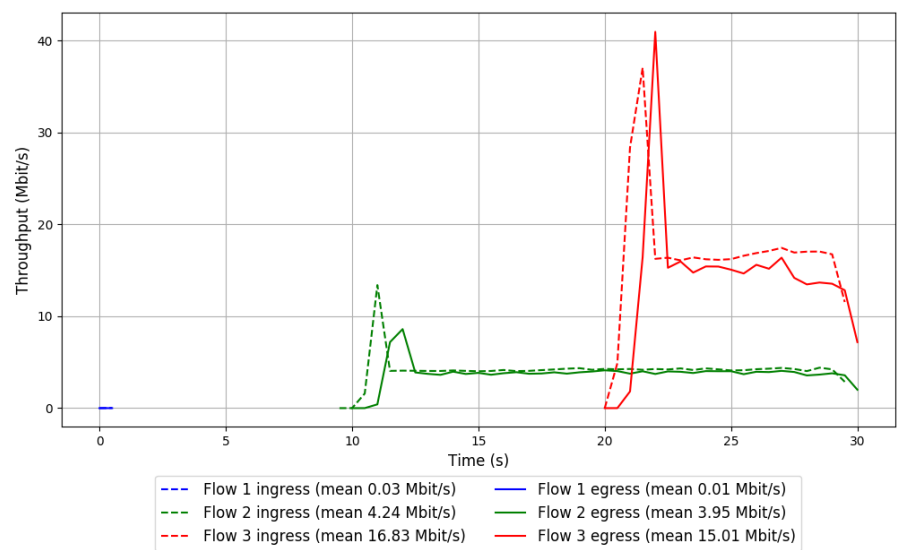Run 5: Report of Indigo-Muses — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-11-30 15:46:05
End at: 2018-11-30 15:46:35
Local clock offset: 2.025 ms
Remote clock offset: 31.776 ms


# Below is generated by plot.py at 2018-11-30 19:31:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 183.255 ms
Loss rate: 7.91%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 182.623 ms
Loss rate: 85.42%
-- Flow 2:
Average throughput: 3.94 Mbit/s
95th percentile per-packet one-way delay: 183.254 ms
Loss rate: 7.65%
-- Flow 3:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 183.257 ms
Loss rate: 8.87%
```

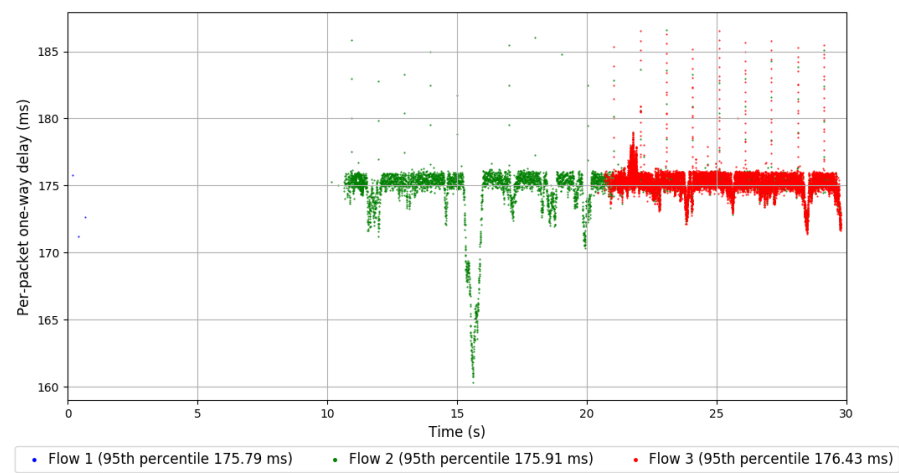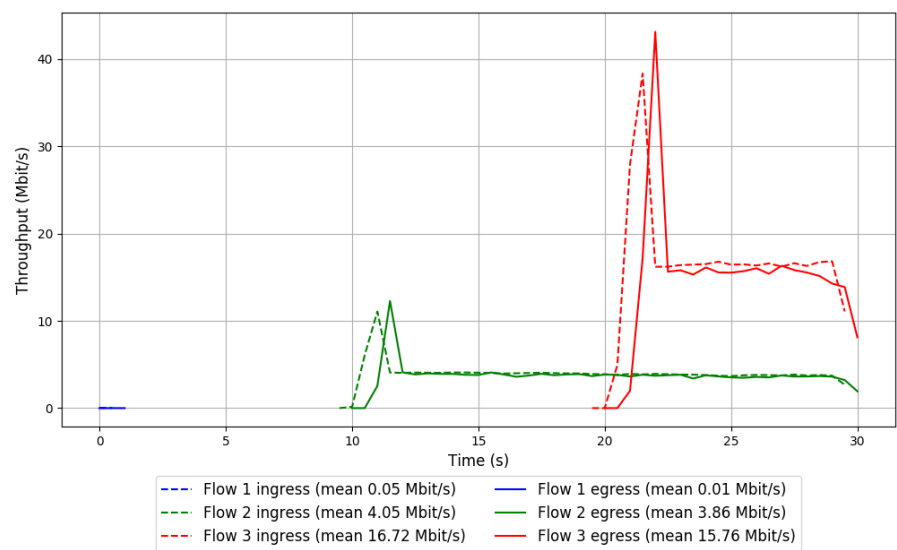Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-11-30 16:44:05
End at: 2018-11-30 16:44:35
Local clock offset: 0.842 ms
Remote clock offset: 35.443 ms


# Below is generated by plot.py at 2018-11-30 19:31:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.45 Mbit/s
95th percentile per-packet one-way delay: 181.227 ms
Loss rate: 11.77%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 180.976 ms
Loss rate: 85.42%
-- Flow 2:
Average throughput: 3.95 Mbit/s
95th percentile per-packet one-way delay: 181.227 ms
Loss rate: 9.07%
-- Flow 3:
Average throughput: 15.01 Mbit/s
95th percentile per-packet one-way delay: 181.227 ms
Loss rate: 13.14%
```

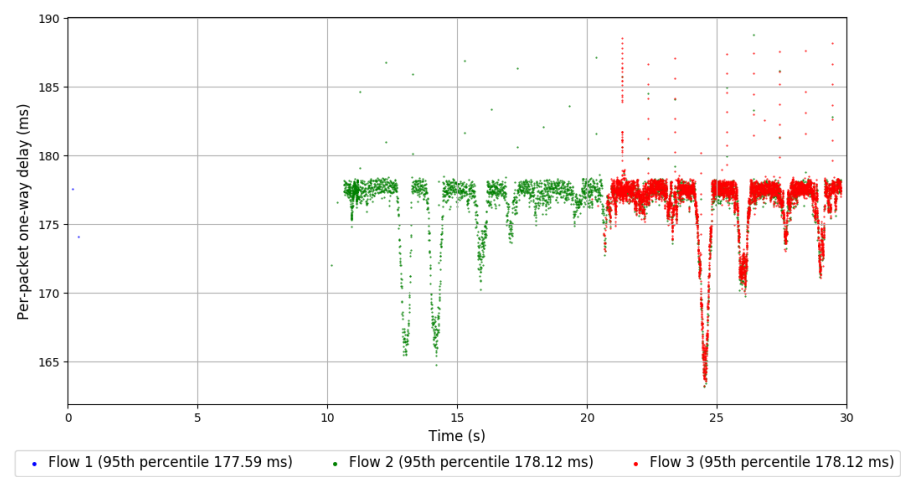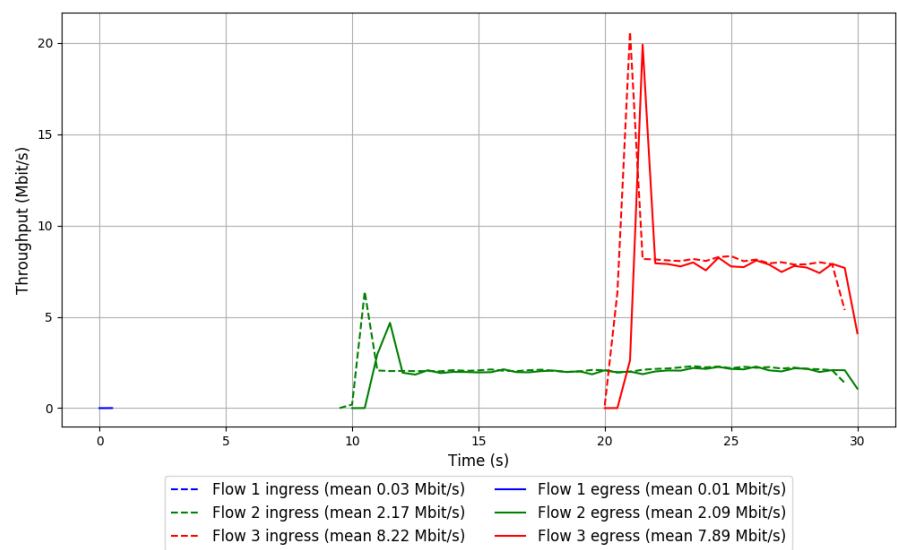Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-11-30 17:36:47
End at: 2018-11-30 17:37:17
Local clock offset: 7.987 ms
Remote clock offset: 37.517 ms


# Below is generated by plot.py at 2018-11-30 19:31:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.67 Mbit/s
95th percentile per-packet one-way delay: 176.103 ms
Loss rate: 7.43%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 175.791 ms
Loss rate: 89.82%
-- Flow 2:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 175.908 ms
Loss rate: 5.86%
-- Flow 3:
Average throughput: 15.76 Mbit/s
95th percentile per-packet one-way delay: 176.434 ms
Loss rate: 8.18%
```

Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-11-30 18:28:09
End at: 2018-11-30 18:28:39
Local clock offset: 1.453 ms
Remote clock offset: 36.127 ms

# Below is generated by plot.py at 2018-11-30 19:31:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.94 Mbit/s
95th percentile per-packet one-way delay: 178.119 ms
Loss rate: 5.70%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 177.592 ms
Loss rate: 85.42%
-- Flow 2:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 178.120 ms
Loss rate: 4.59%
-- Flow 3:
Average throughput: 7.89 Mbit/s
95th percentile per-packet one-way delay: 178.117 ms
Loss rate: 6.27%
```
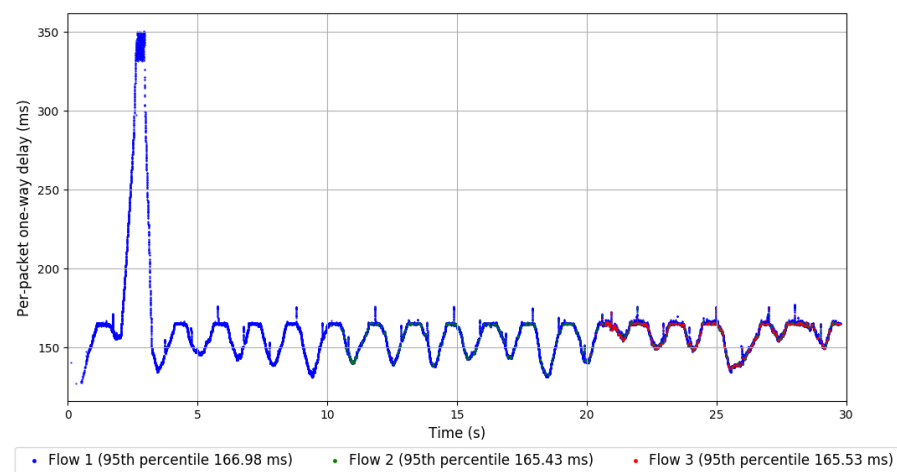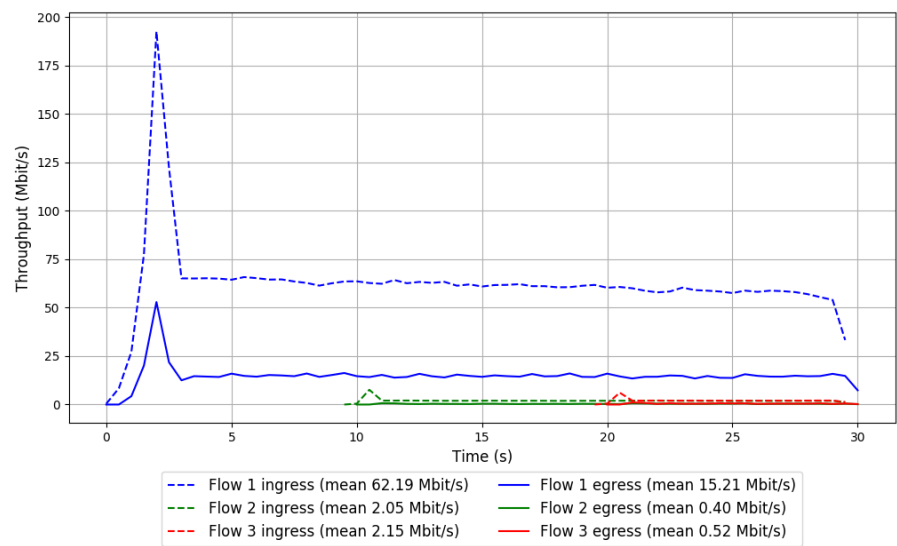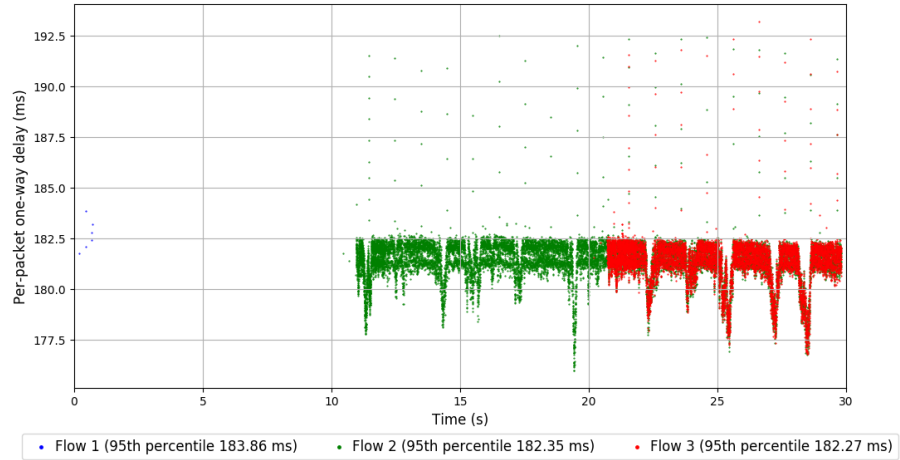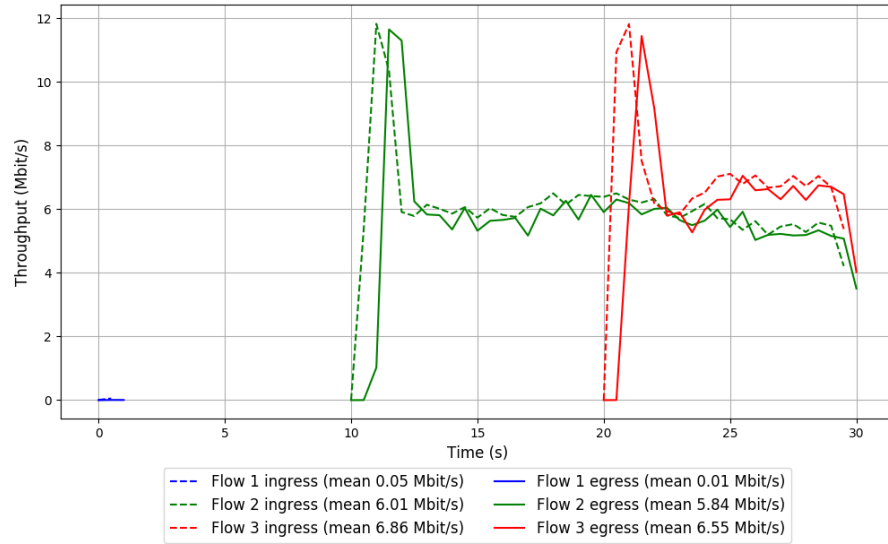
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 0.03 Mbit/s) --- Flow 1 egress (mean 0.01 Mbit/s)
Flow 2 ingress (mean 2.17 Mbit/s) --- Flow 2 egress (mean 2.09 Mbit/s)
Flow 3 ingress (mean 8.22 Mbit/s) --- Flow 3 egress (mean 7.89 Mbit/s)

Flow 1 (95th percentile 177.59 ms)   Flow 2 (95th percentile 178.12 ms)   Flow 3 (95th percentile 178.12 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-11-30 19:08:55
End at: 2018-11-30 19:09:25
Local clock offset: 0.044 ms
Remote clock offset: 49.0 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.64 Mbit/s
95th percentile per-packet one-way delay: 166.859 ms
Loss rate: 75.83%
-- Flow 1:
Average throughput: 15.21 Mbit/s
95th percentile per-packet one-way delay: 166.981 ms
Loss rate: 75.71%
-- Flow 2:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 165.428 ms
Loss rate: 80.78%
-- Flow 3:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 165.528 ms
Loss rate: 76.40%
```

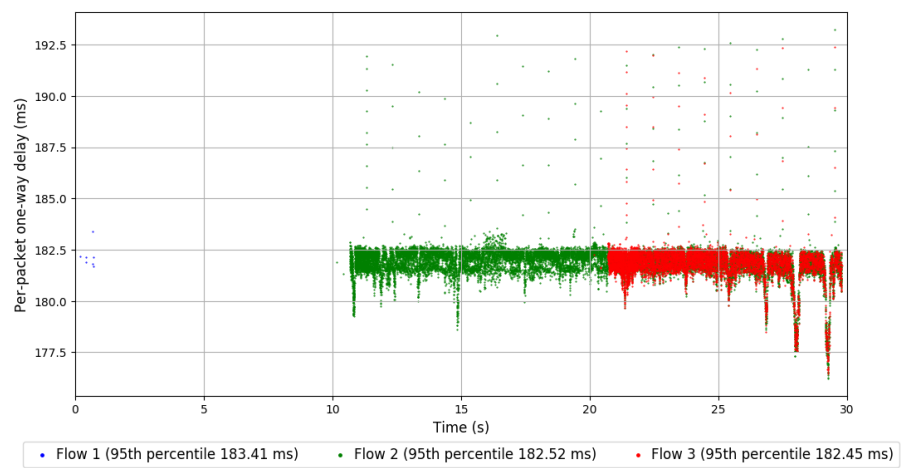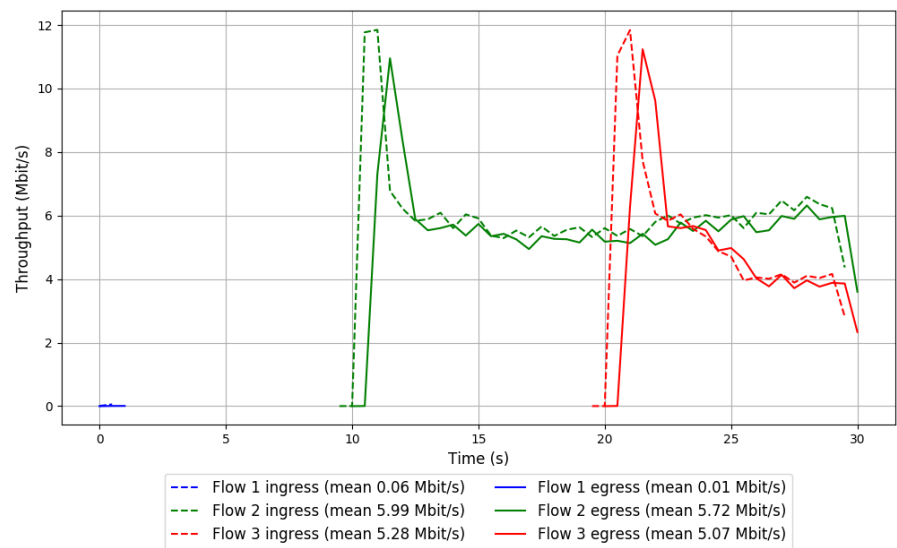## Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 62.19 Mbit/s)   Flow 1 egress (mean 15.21 Mbit/s)
Flow 2 ingress (mean 2.05 Mbit/s)   Flow 2 egress (mean 0.40 Mbit/s)
Flow 3 ingress (mean 2.15 Mbit/s)   Flow 3 egress (mean 0.52 Mbit/s)

Flow 1 (95th percentile 166.98 ms)   Flow 2 (95th percentile 165.43 ms)   Flow 3 (95th percentile 165.53 ms)

```
Run 1: Statistics of PCC-Expr

Start at: 2018-11-30 15:20:08
End at: 2018-11-30 15:20:38
Local clock offset: 2.218 ms
Remote clock offset: 32.715 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.94 Mbit/s
95th percentile per-packet one-way delay: 182.324 ms
Loss rate: 5.90%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 183.863 ms
Loss rate: 80.26%
-- Flow 2:
Average throughput: 5.84 Mbit/s
95th percentile per-packet one-way delay: 182.351 ms
Loss rate: 5.27%
-- Flow 3:
Average throughput: 6.55 Mbit/s
95th percentile per-packet one-way delay: 182.272 ms
Loss rate: 6.99%
```
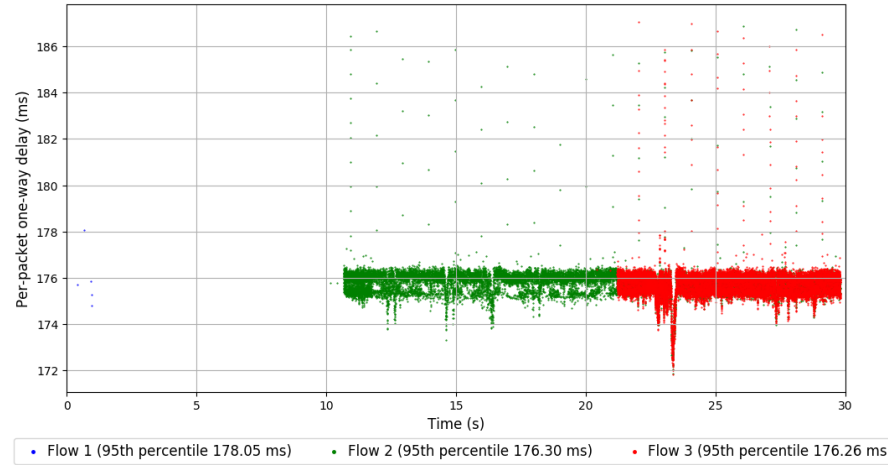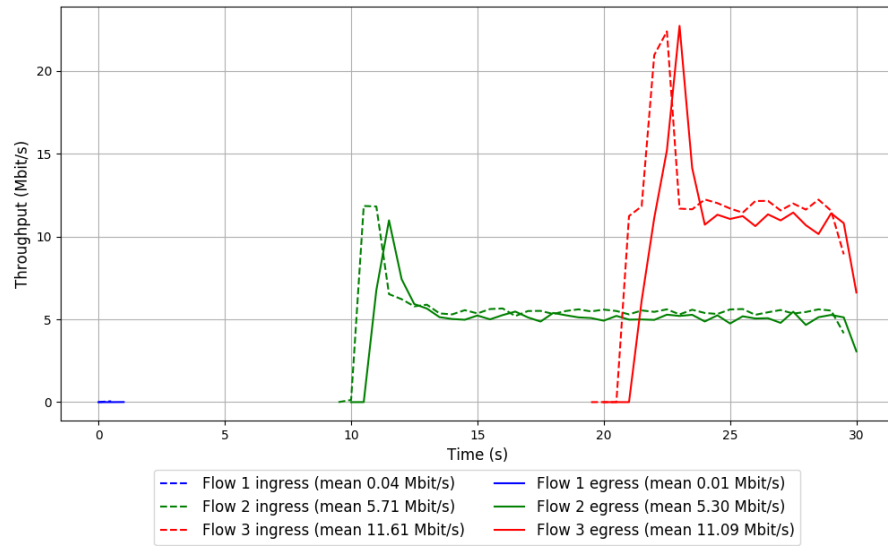
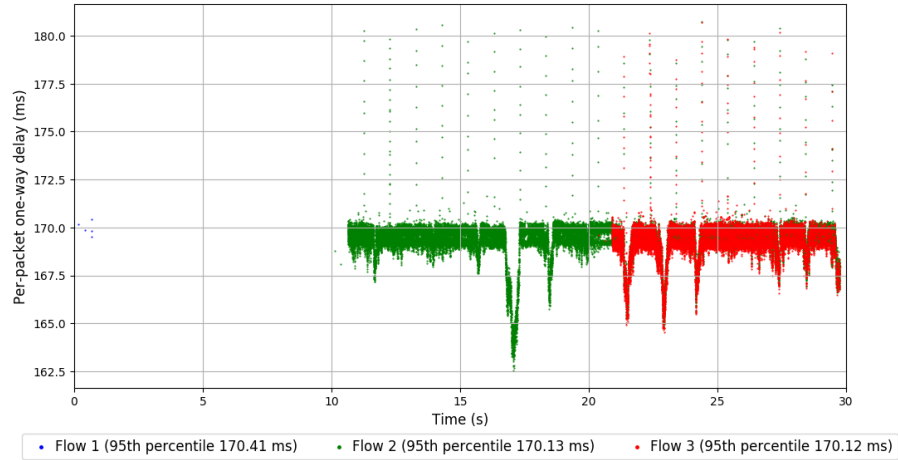# Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2018-11-30 16:18:11
End at: 2018-11-30 16:18:41
Local clock offset: 0.486 ms
Remote clock offset: 33.351 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.44 Mbit/s
95th percentile per-packet one-way delay: 182.502 ms
Loss rate: 6.01%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 183.407 ms
Loss rate: 78.24%
-- Flow 2:
Average throughput: 5.72 Mbit/s
95th percentile per-packet one-way delay: 182.520 ms
Loss rate: 5.82%
-- Flow 3:
Average throughput: 5.07 Mbit/s
95th percentile per-packet one-way delay: 182.450 ms
Loss rate: 6.39%
```
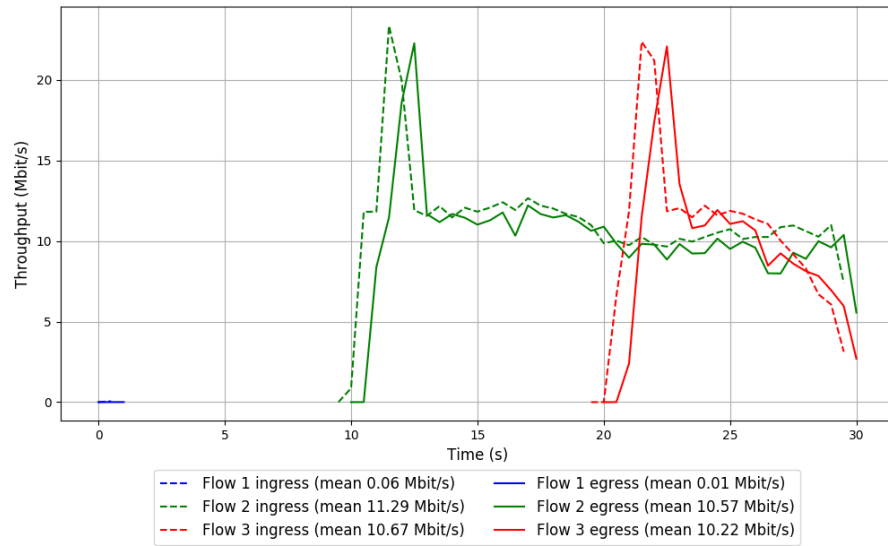
Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-11-30 17:13:12
End at: 2018-11-30 17:13:42
Local clock offset: 7.157 ms
Remote clock offset: 37.926 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.08 Mbit/s
95th percentile per-packet one-way delay: 176.280 ms
Loss rate: 8.95%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 178.049 ms
Loss rate: 84.42%
-- Flow 2:
Average throughput: 5.30 Mbit/s
95th percentile per-packet one-way delay: 176.299 ms
Loss rate: 8.44%
-- Flow 3:
Average throughput: 11.09 Mbit/s
95th percentile per-packet one-way delay: 176.256 ms
Loss rate: 9.43%
```
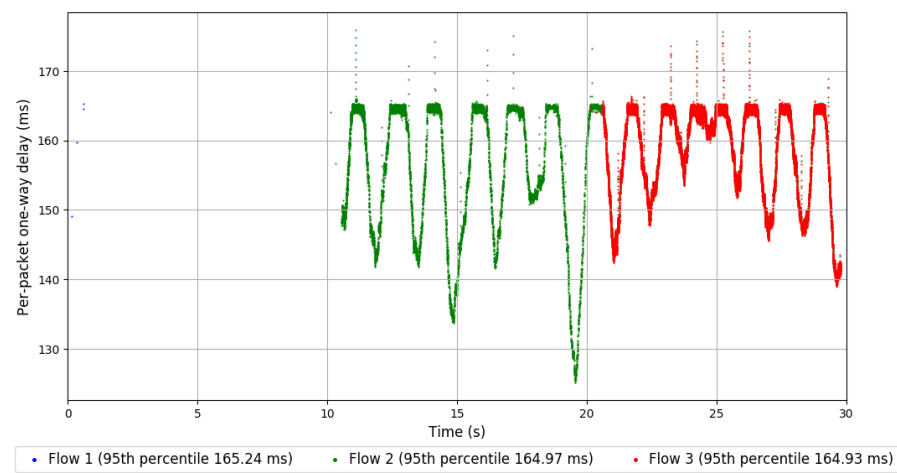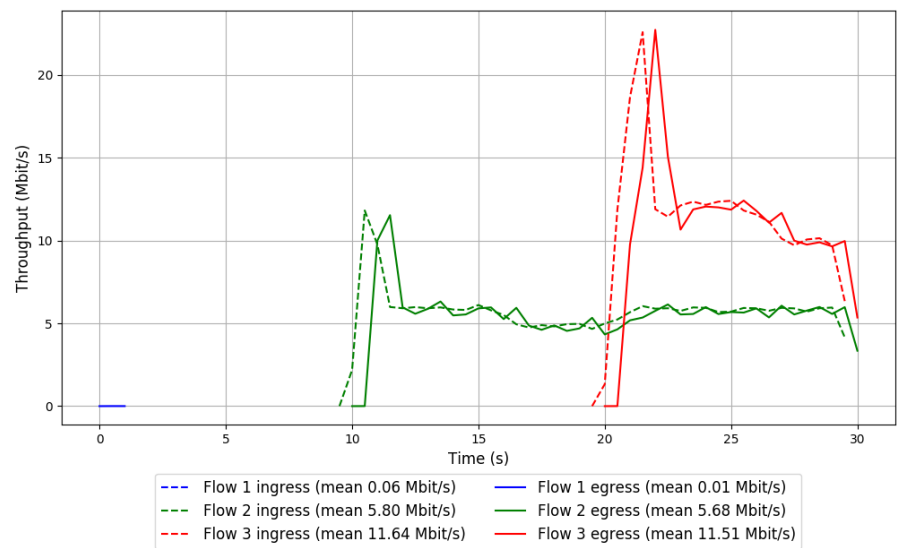
Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-11-30 18:03:23
End at: 2018-11-30 18:03:53
Local clock offset: 2.117 ms
Remote clock offset: 43.318 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 10.25 Mbit/s
95th percentile per-packet one-way delay: 170.129 ms
Loss rate: 8.02%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 170.413 ms
Loss rate: 83.86%
-- Flow 2:
Average throughput: 10.57 Mbit/s
95th percentile per-packet one-way delay: 170.132 ms
Loss rate: 7.51%
-- Flow 3:
Average throughput: 10.22 Mbit/s
95th percentile per-packet one-way delay: 170.120 ms
Loss rate: 9.08%
```
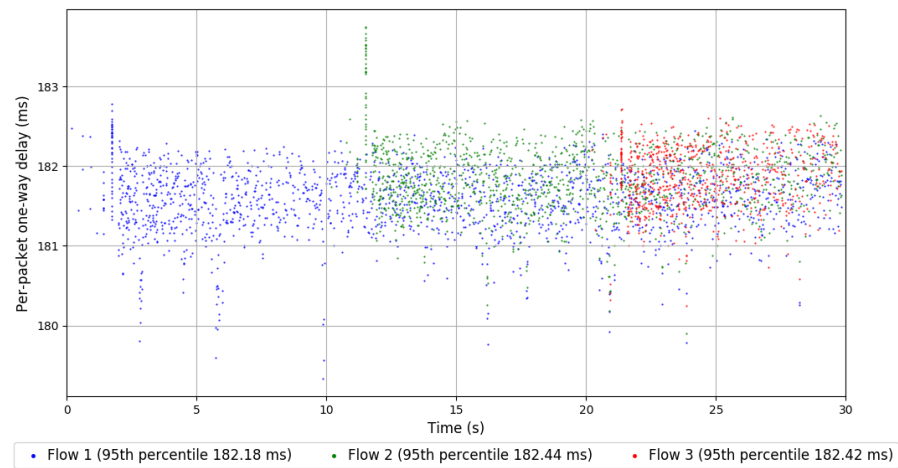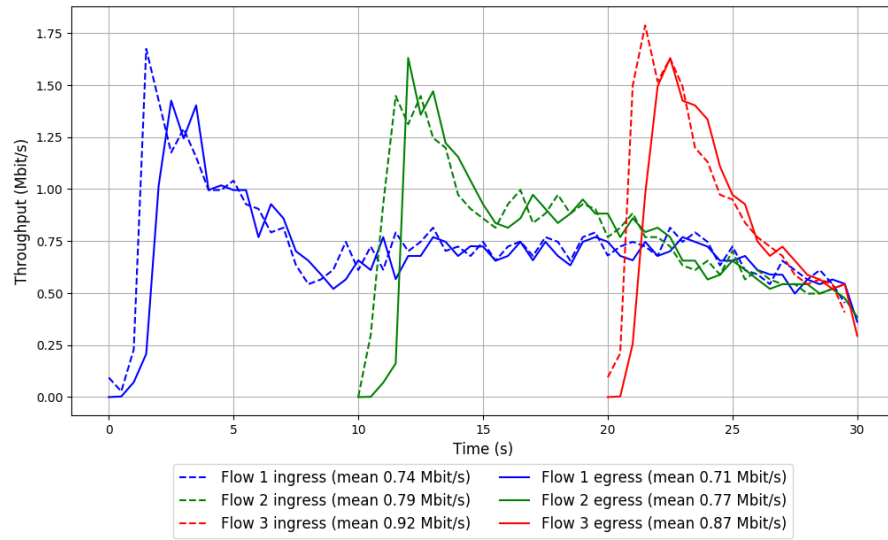
Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2018-11-30 18:53:31
End at: 2018-11-30 18:54:01
Local clock offset: 0.596 ms
Remote clock offset: 48.891 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 7.51 Mbit/s
95th percentile per-packet one-way delay: 164.955 ms
Loss rate: 3.29%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 165.240 ms
Loss rate: 86.98%
-- Flow 2:
Average throughput: 5.68 Mbit/s
95th percentile per-packet one-way delay: 164.973 ms
Loss rate: 3.18%
-- Flow 3:
Average throughput: 11.51 Mbit/s
95th percentile per-packet one-way delay: 164.932 ms
Loss rate: 3.38%
```

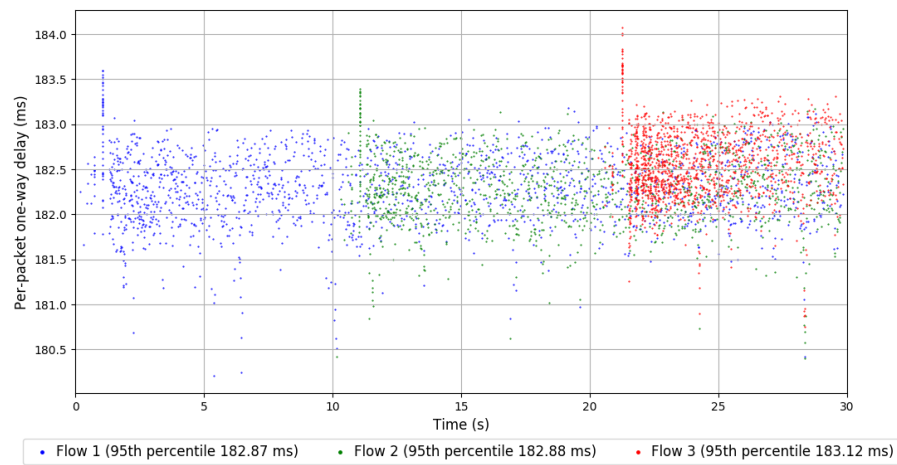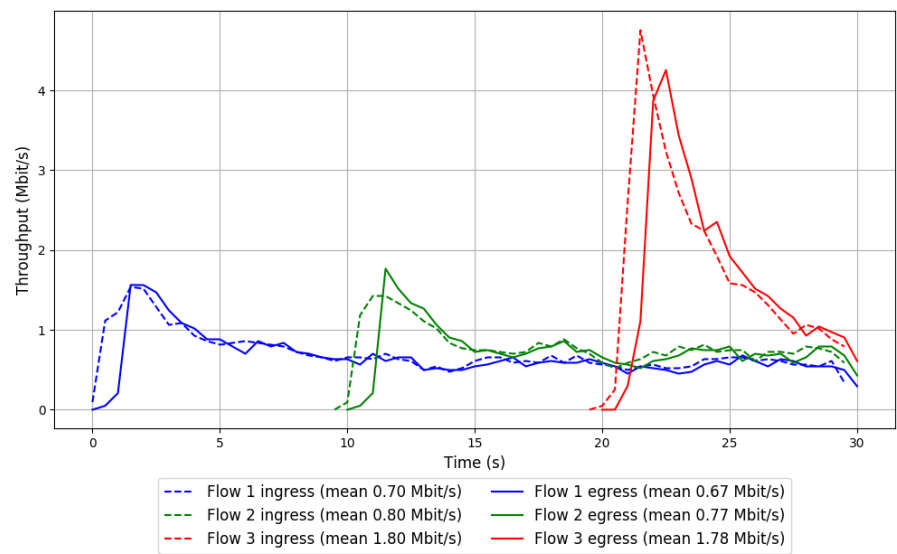Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-11-30 15:44:36
End at: 2018-11-30 15:45:06
Local clock offset: 2.506 ms
Remote clock offset: 32.616 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 182.369 ms
Loss rate: 5.01%
-- Flow 1:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 182.177 ms
Loss rate: 4.60%
-- Flow 2:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 182.441 ms
Loss rate: 4.37%
-- Flow 3:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 182.420 ms
Loss rate: 7.12%
```
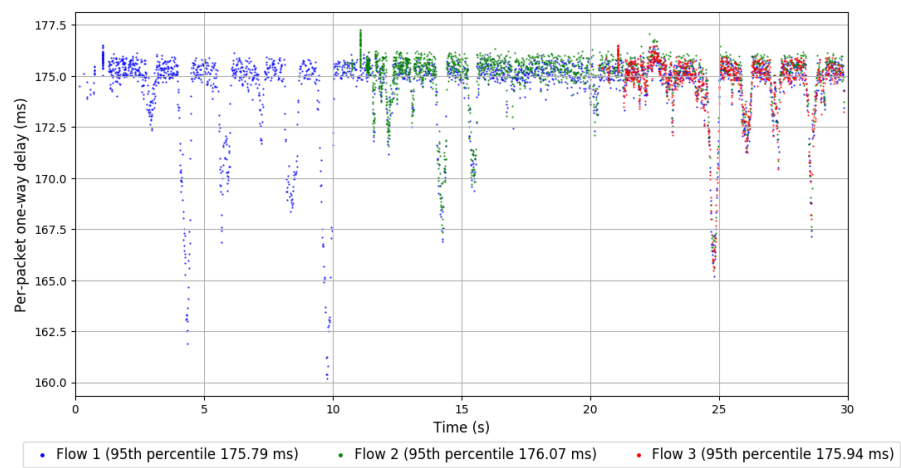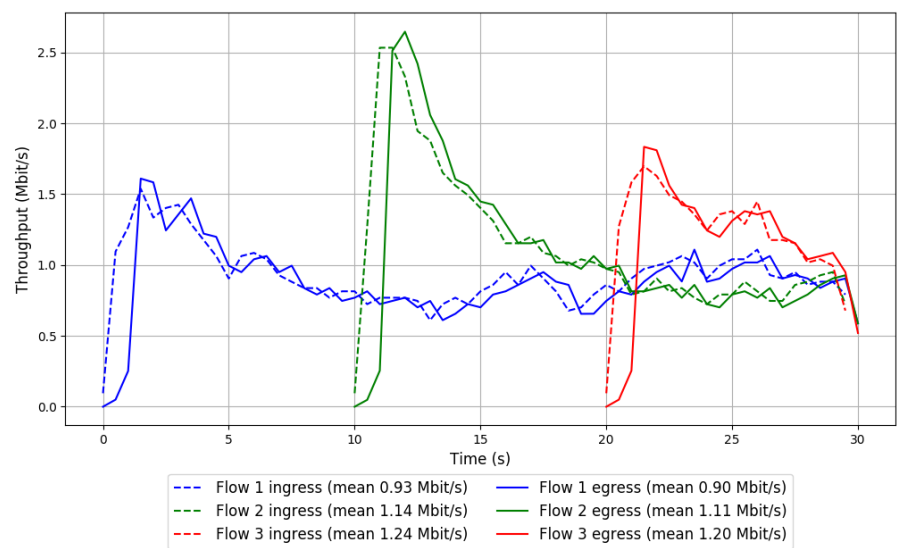
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-11-30 16:42:36
End at: 2018-11-30 16:43:06
Local clock offset: 0.635 ms
Remote clock offset: 33.255 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 183.011 ms
Loss rate: 5.18%
-- Flow 1:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 182.872 ms
Loss rate: 5.08%
-- Flow 2:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 182.880 ms
Loss rate: 5.23%
-- Flow 3:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 183.120 ms
Loss rate: 5.25%
```
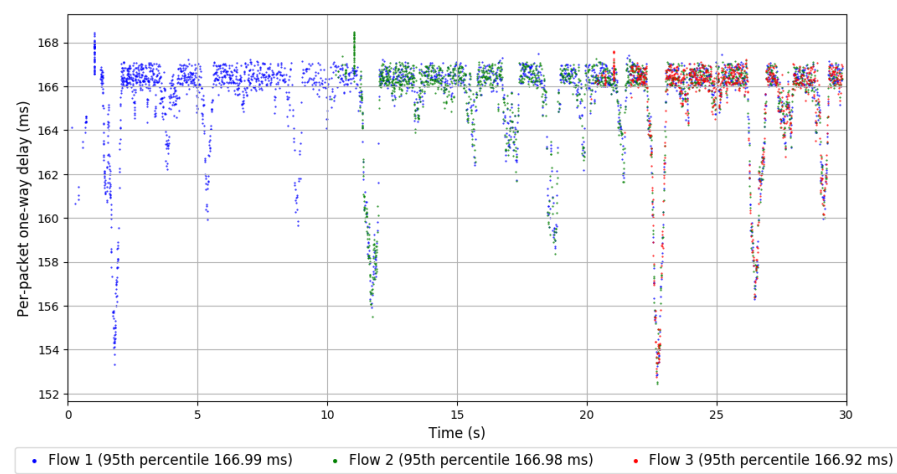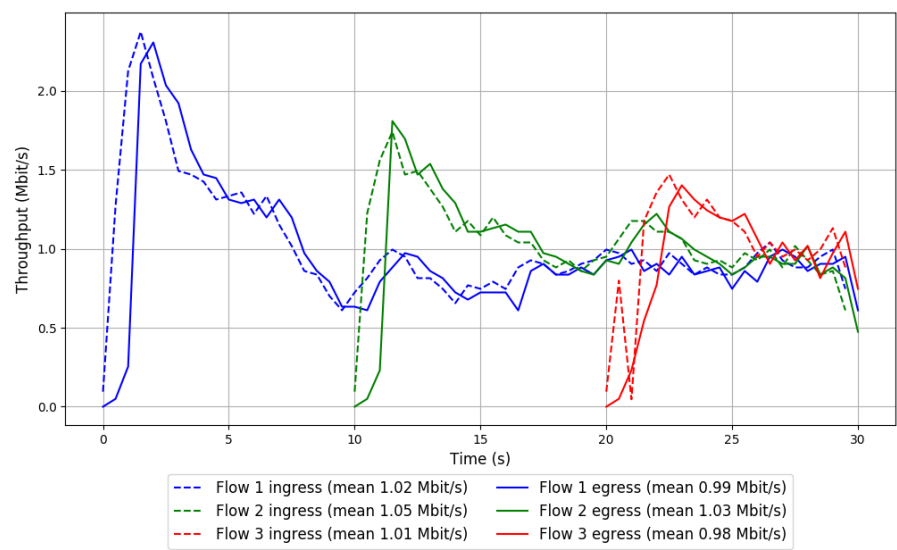
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.70 Mbit/s)   Flow 1 egress (mean 0.67 Mbit/s)
Flow 2 ingress (mean 0.80 Mbit/s)   Flow 2 egress (mean 0.77 Mbit/s)
Flow 3 ingress (mean 1.80 Mbit/s)   Flow 3 egress (mean 1.78 Mbit/s)

Flow 1 (95th percentile 182.87 ms)   Flow 2 (95th percentile 182.88 ms)   Flow 3 (95th percentile 183.12 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-11-30 17:35:22
End at: 2018-11-30 17:35:52
Local clock offset: 7.916 ms
Remote clock offset: 37.143 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 175.969 ms
Loss rate: 3.99%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 175.795 ms
Loss rate: 3.71%
-- Flow 2:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 176.070 ms
Loss rate: 3.59%
-- Flow 3:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 175.938 ms
Loss rate: 5.35%
```
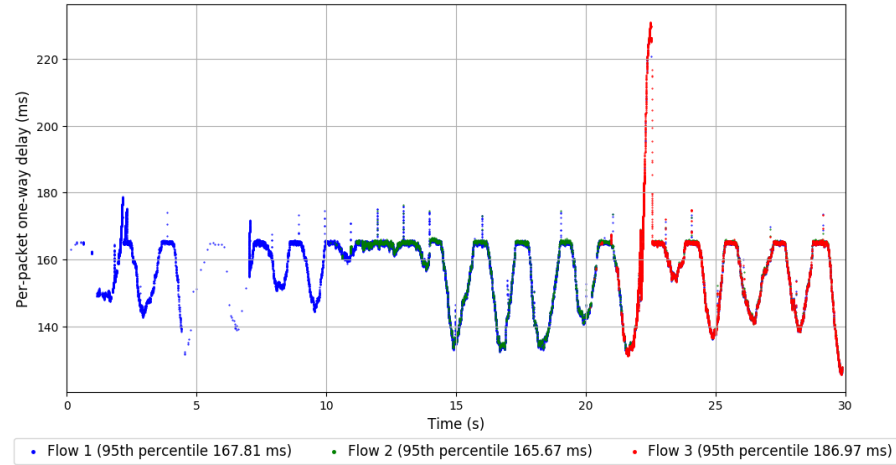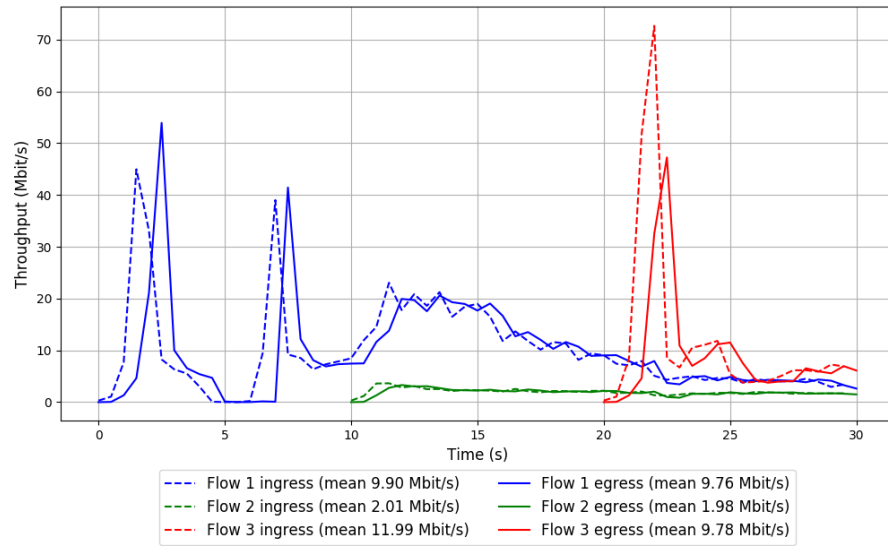
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-11-30 18:26:46
End at: 2018-11-30 18:27:16
Local clock offset: 1.443 ms
Remote clock offset: 46.879 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 166.978 ms
Loss rate: 3.89%
-- Flow 1:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 166.989 ms
Loss rate: 3.76%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 166.978 ms
Loss rate: 3.30%
-- Flow 3:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 166.919 ms
Loss rate: 5.51%
```
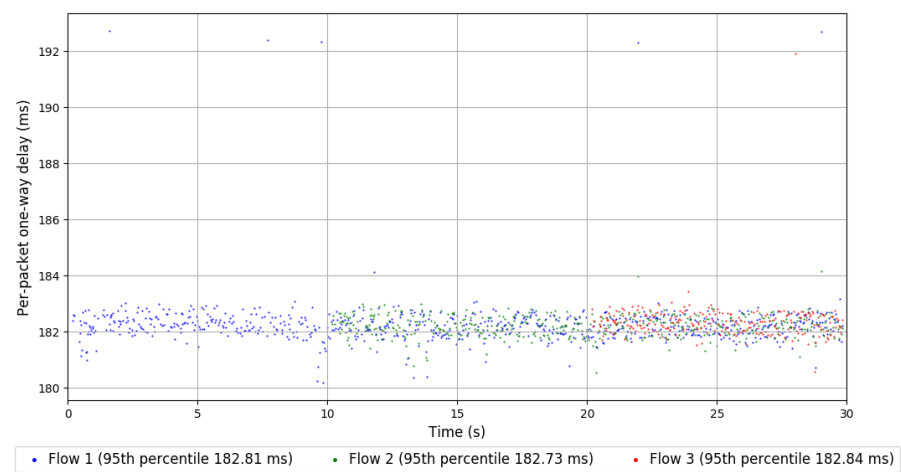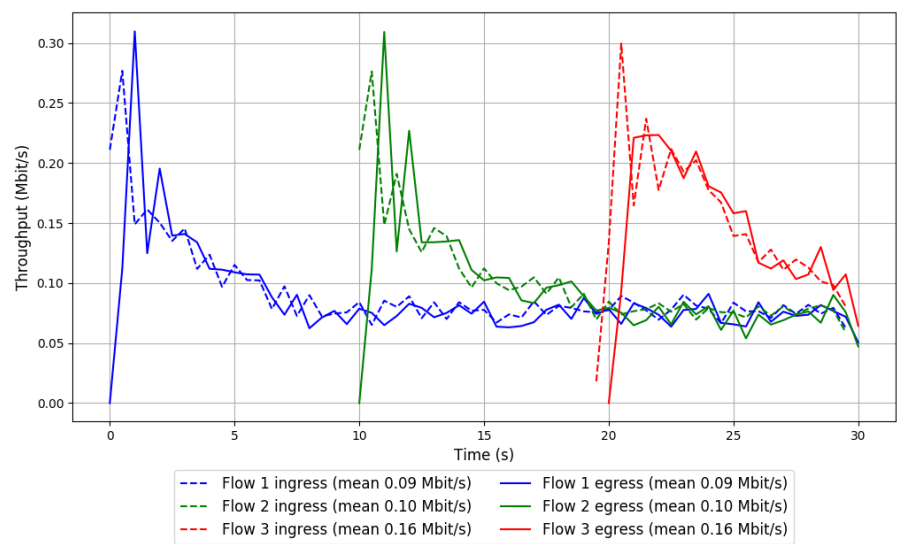
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-11-30 19:07:06
End at: 2018-11-30 19:07:36
Local clock offset: -0.07 ms
Remote clock offset: 48.422 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.26 Mbit/s
95th percentile per-packet one-way delay: 169.785 ms
Loss rate: 6.91%
-- Flow 1:
Average throughput: 9.76 Mbit/s
95th percentile per-packet one-way delay: 167.813 ms
Loss rate: 2.13%
-- Flow 2:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 165.669 ms
Loss rate: 2.96%
-- Flow 3:
Average throughput: 9.78 Mbit/s
95th percentile per-packet one-way delay: 186.967 ms
Loss rate: 20.16%
```

Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 9.90 Mbit/s)   Flow 1 egress (mean 9.76 Mbit/s)
Flow 2 ingress (mean 2.01 Mbit/s)   Flow 2 egress (mean 1.98 Mbit/s)
Flow 3 ingress (mean 11.99 Mbit/s)   Flow 3 egress (mean 9.78 Mbit/s)

Flow 1 (95th percentile 167.81 ms)   Flow 2 (95th percentile 165.67 ms)   Flow 3 (95th percentile 186.97 ms)
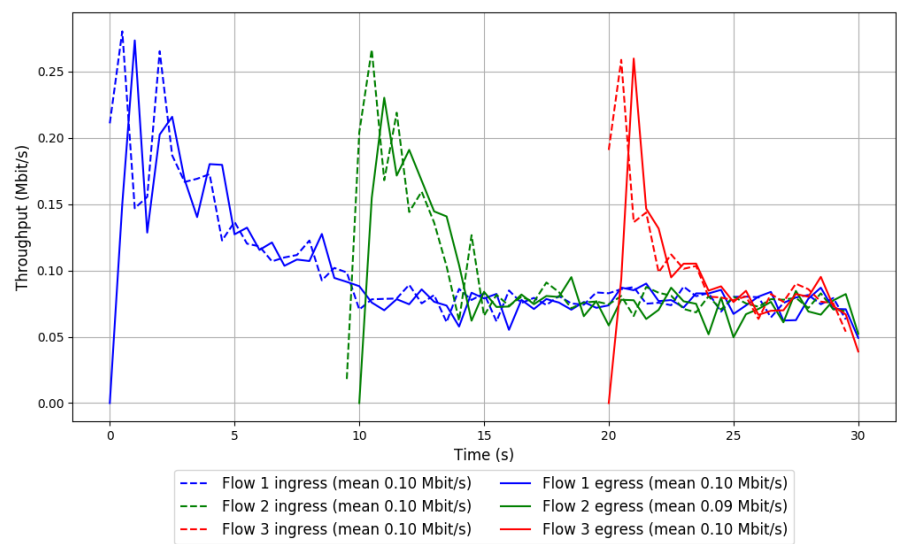
```
Run 1: Statistics of SCReAM

Start at: 2018-11-30 16:10:58
End at: 2018-11-30 16:11:28
Local clock offset: 0.308 ms
Remote clock offset: 33.125 ms

# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 182.777 ms
Loss rate: 4.80%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 182.808 ms
Loss rate: 5.08%
-- Flow 2:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 182.732 ms
Loss rate: 4.82%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 182.839 ms
Loss rate: 4.29%
```

Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-11-30 17:07:56
End at: 2018-11-30 17:08:26
Local clock offset: 6.552 ms
Remote clock offset: 39.391 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 175.451 ms
Loss rate: 5.53%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 175.360 ms
Loss rate: 3.85%
-- Flow 2:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 175.173 ms
Loss rate: 7.15%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 175.699 ms
Loss rate: 7.45%
```
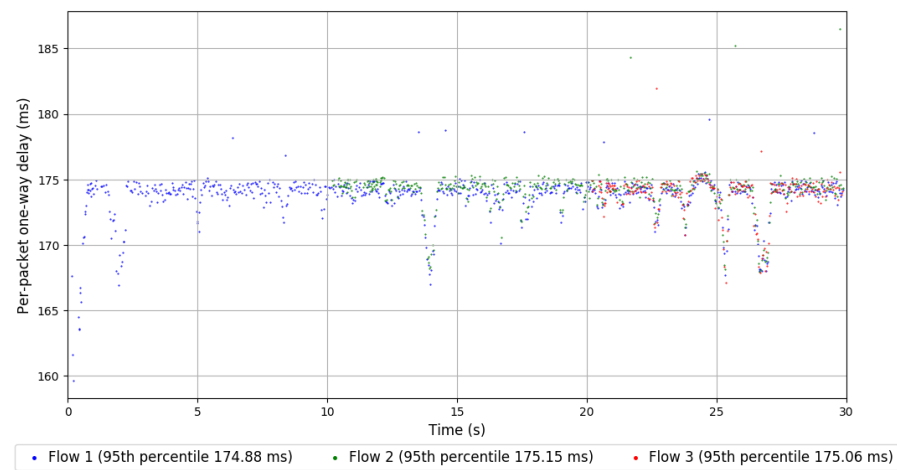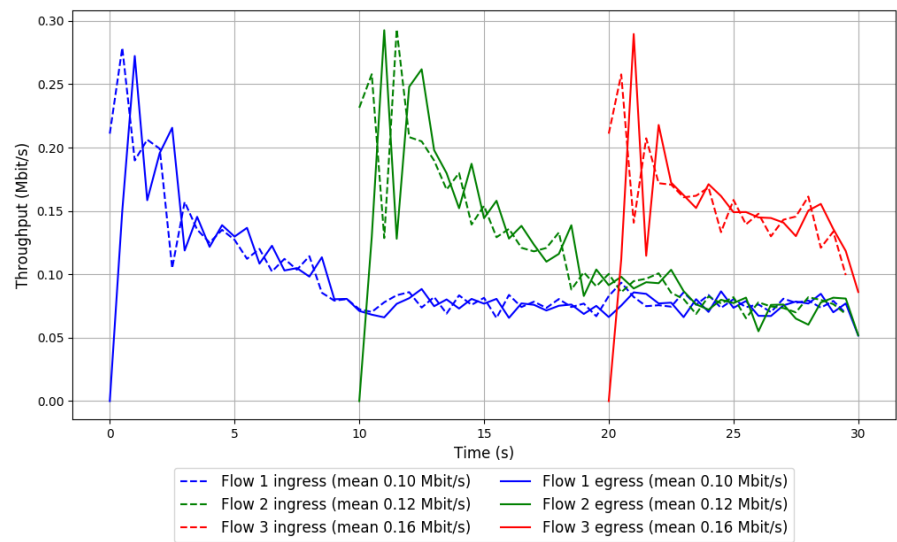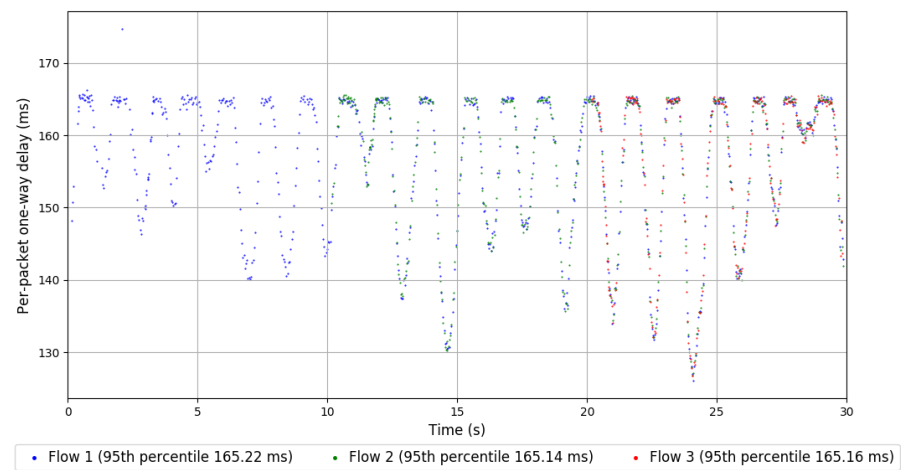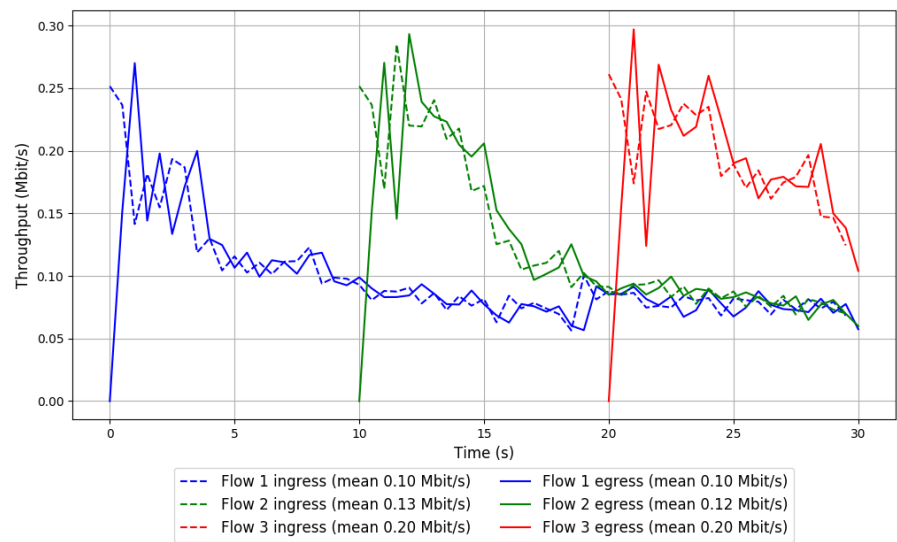
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-11-30 17:58:26
End at: 2018-11-30 17:58:56
Local clock offset: 2.682 ms
Remote clock offset: 38.53 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 175.059 ms
Loss rate: 3.15%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 174.879 ms
Loss rate: 3.45%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 175.154 ms
Loss rate: 2.64%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 175.059 ms
Loss rate: 3.34%
```
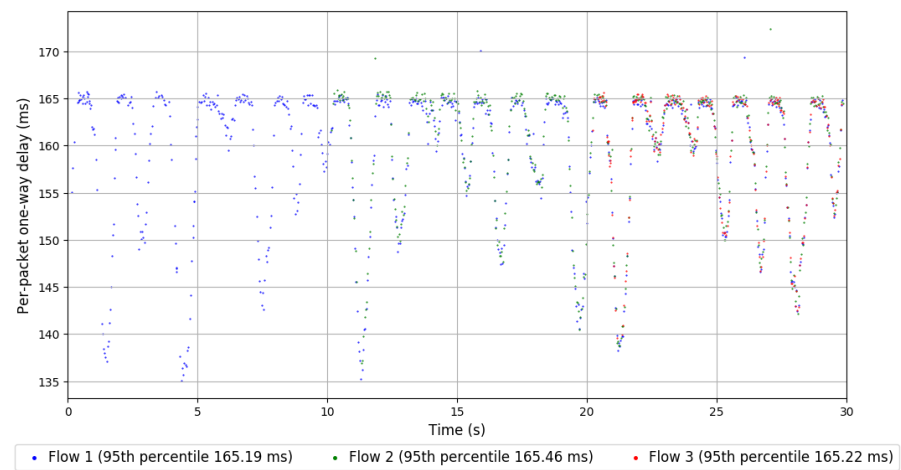
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-11-30 18:49:09
End at: 2018-11-30 18:49:39
Local clock offset: 0.853 ms
Remote clock offset: 48.791 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 165.174 ms
Loss rate: 2.15%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 165.217 ms
Loss rate: 2.29%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 165.143 ms
Loss rate: 2.08%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 165.155 ms
Loss rate: 2.03%
```

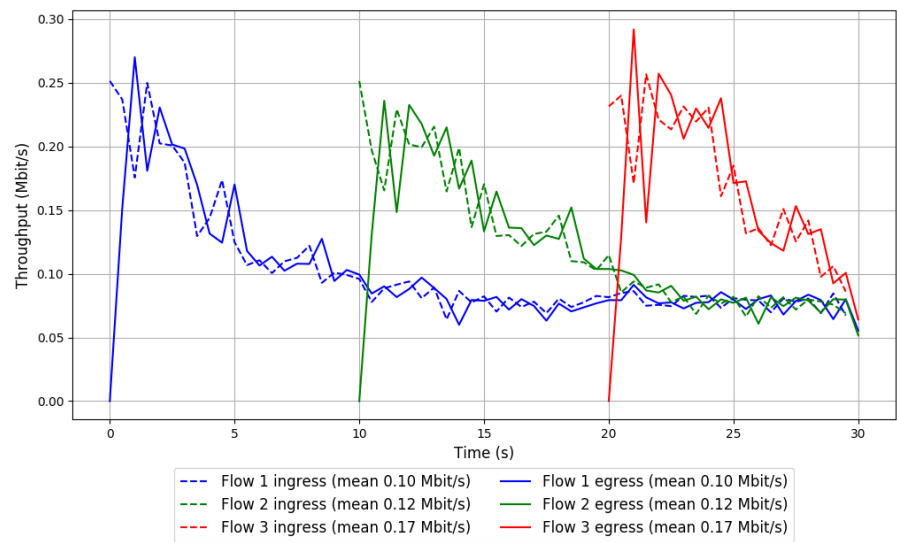# Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-11-30 19:25:55
End at: 2018-11-30 19:26:25
Local clock offset: 0.08 ms
Remote clock offset: 34.016 ms

# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 165.294 ms
Loss rate: 2.89%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 165.192 ms
Loss rate: 2.97%
-- Flow 2:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 165.462 ms
Loss rate: 2.50%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 165.225 ms
Loss rate: 3.31%
```

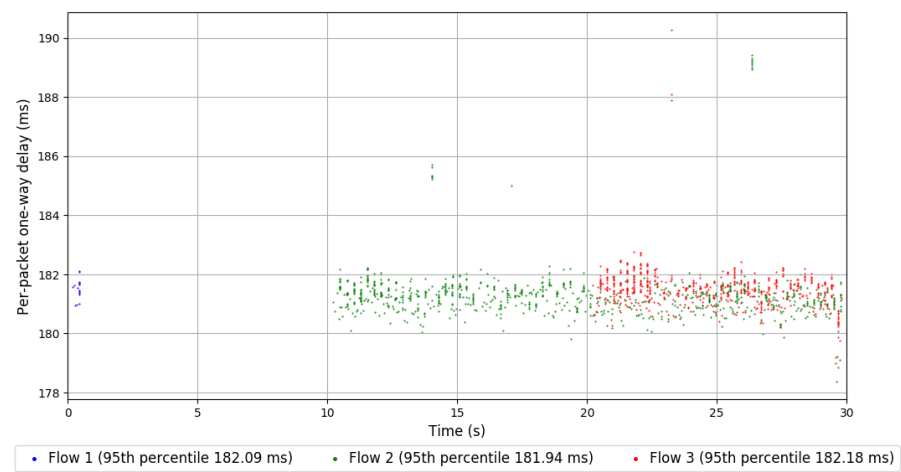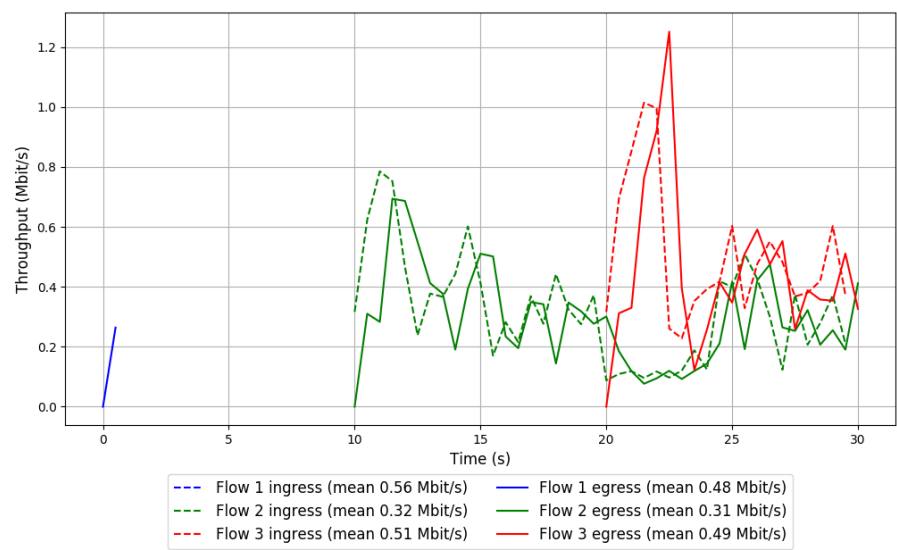## Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-11-30 15:39:47
End at: 2018-11-30 15:40:17
Local clock offset: 2.214 ms
Remote clock offset: 32.929 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 182.122 ms
Loss rate: 6.55%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 182.089 ms
Loss rate: 15.29%
-- Flow 2:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 181.944 ms
Loss rate: 6.27%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 182.184 ms
Loss rate: 6.63%
```
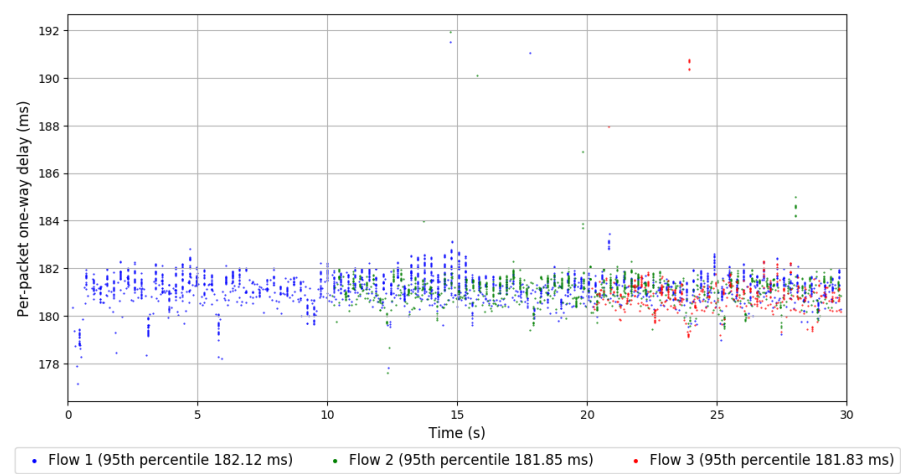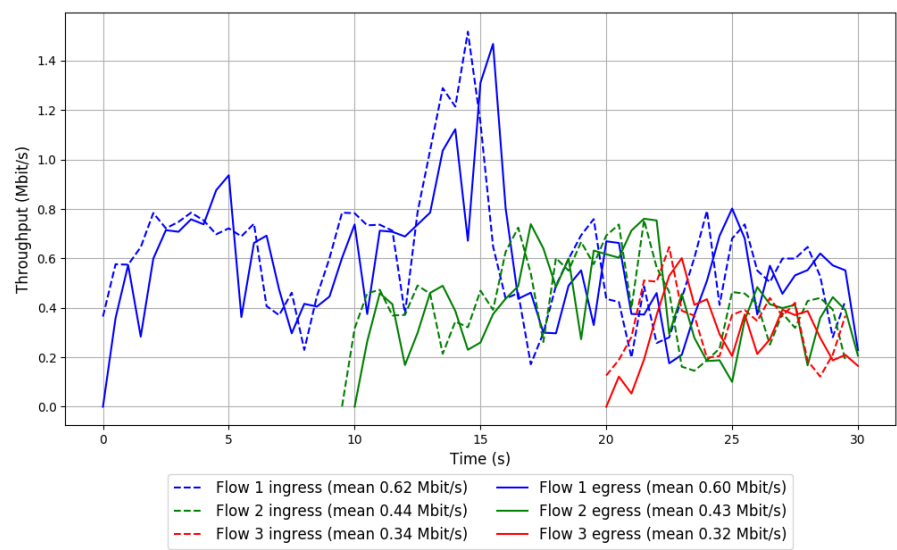
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-11-30 16:38:06
End at: 2018-11-30 16:38:36
Local clock offset: 0.715 ms
Remote clock offset: 34.707 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 182.013 ms
Loss rate: 4.49%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 182.124 ms
Loss rate: 4.12%
-- Flow 2:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 181.853 ms
Loss rate: 3.63%
-- Flow 3:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 181.827 ms
Loss rate: 8.74%
```
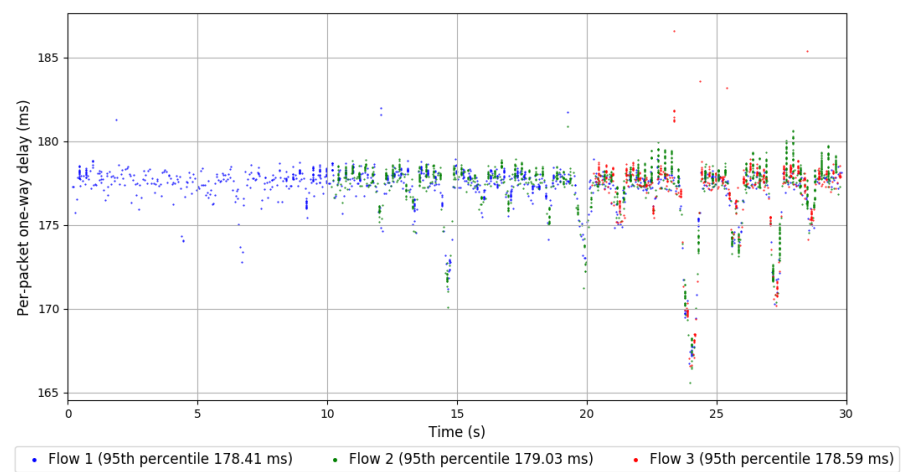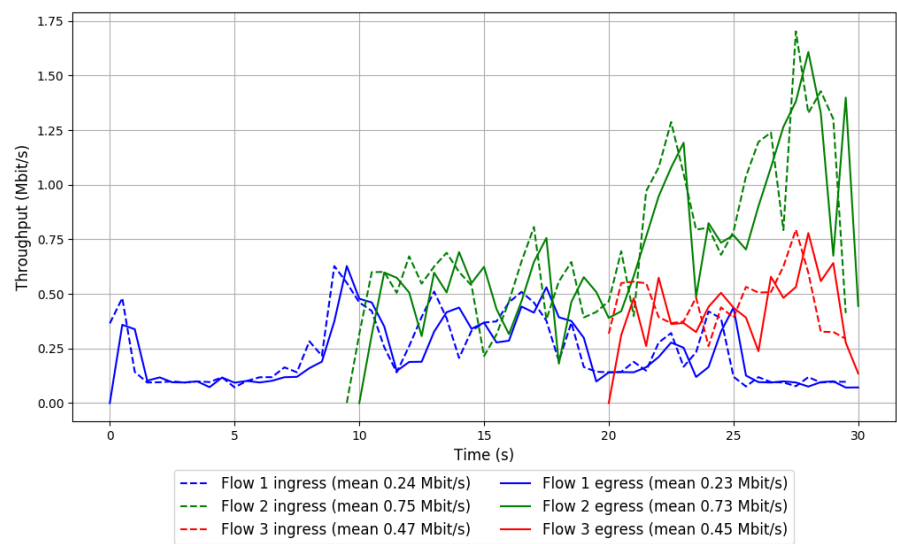
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-11-30 17:30:50
End at: 2018-11-30 17:31:20
Local clock offset: 7.847 ms
Remote clock offset: 35.014 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 178.765 ms
Loss rate: 5.06%
-- Flow 1:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 178.407 ms
Loss rate: 5.50%
-- Flow 2:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 179.034 ms
Loss rate: 4.68%
-- Flow 3:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 178.587 ms
Loss rate: 5.60%
```

Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-11-30 18:23:18
End at: 2018-11-30 18:23:48
Local clock offset: 1.303 ms
Remote clock offset: 39.836 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 174.620 ms
Loss rate: 4.17%
-- Flow 1:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 174.756 ms
Loss rate: 3.85%
-- Flow 2:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 174.401 ms
Loss rate: 4.14%
-- Flow 3:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 174.556 ms
Loss rate: 5.26%
```
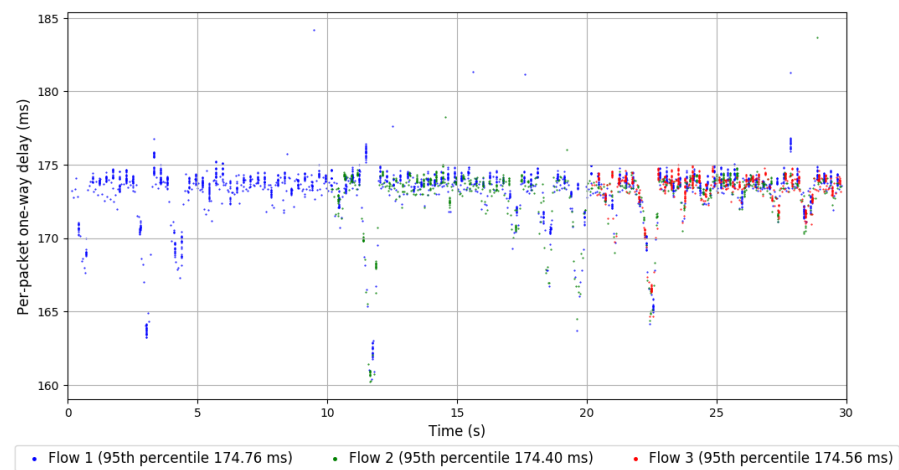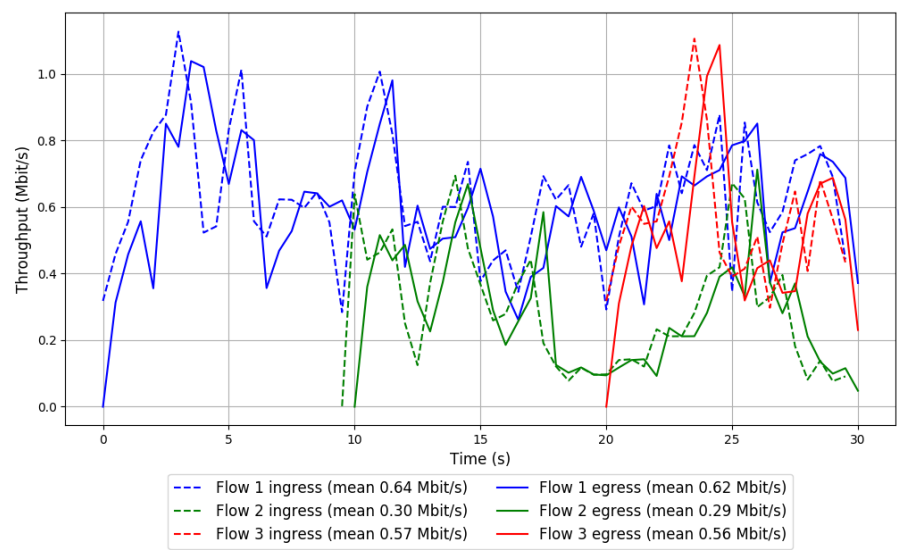
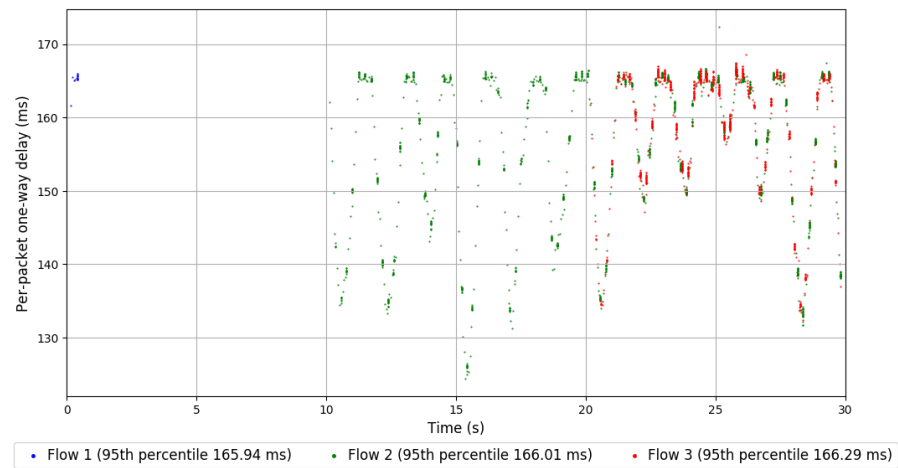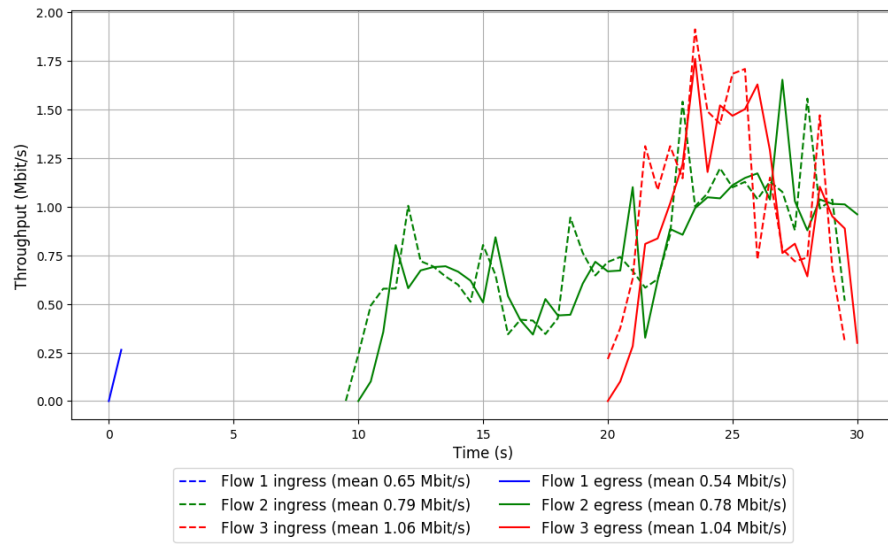## Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-11-30 19:04:17
End at: 2018-11-30 19:04:47
Local clock offset: 0.263 ms
Remote clock offset: 48.409 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 166.125 ms
Loss rate: 2.47%
-- Flow 1:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 165.937 ms
Loss rate: 15.32%
-- Flow 2:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 166.015 ms
Loss rate: 1.40%
-- Flow 3:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 166.293 ms
Loss rate: 3.88%
```
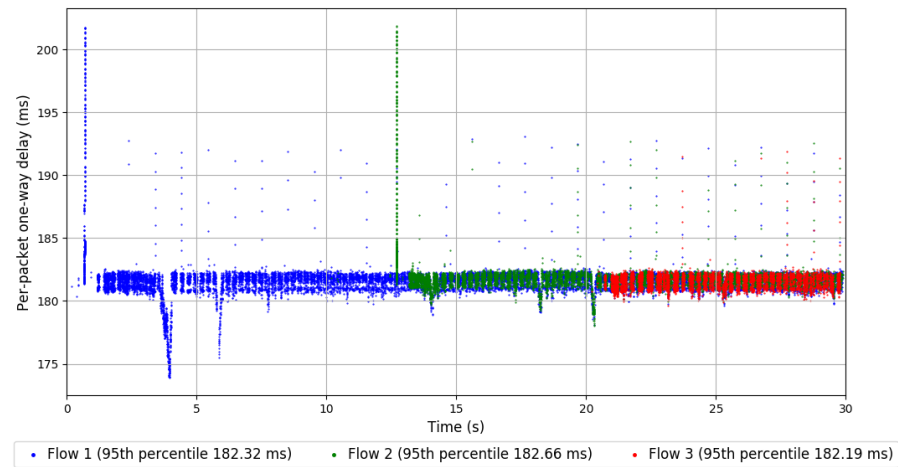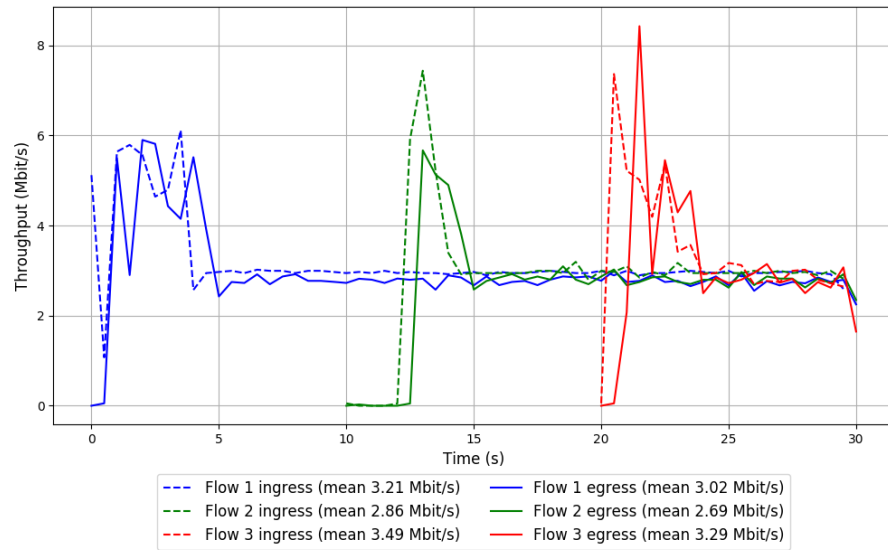
Run 5: Report of Sprout — Data Link

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

Start at: 2018-11-30 16:05:10
End at: 2018-11-30 16:05:40
Local clock offset: 0.677 ms
Remote clock offset: 33.819 ms


# Below is generated by plot.py at 2018-11-30 19:32:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.86 Mbit/s
95th percentile per-packet one-way delay: 182.322 ms
Loss rate: 6.99%
-- Flow 1:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 182.319 ms
Loss rate: 6.64%
-- Flow 2:
Average throughput: 2.69 Mbit/s
95th percentile per-packet one-way delay: 182.664 ms
Loss rate: 6.83%
-- Flow 3:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 182.191 ms
Loss rate: 8.23%
```
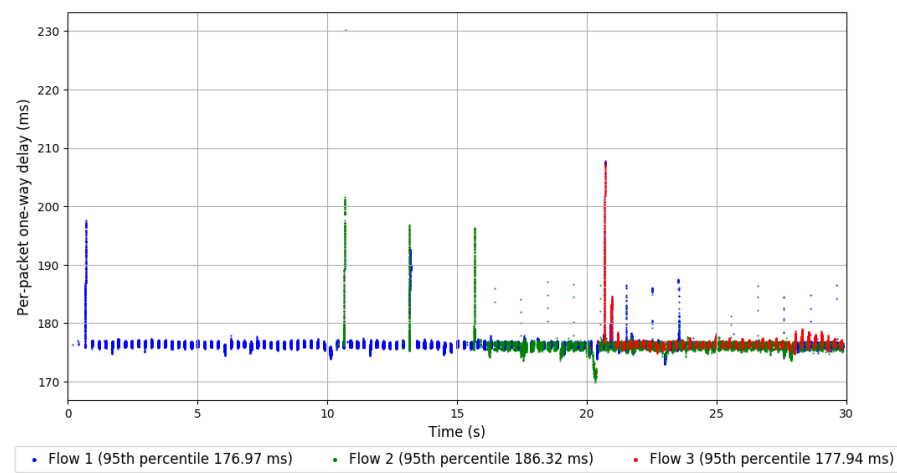
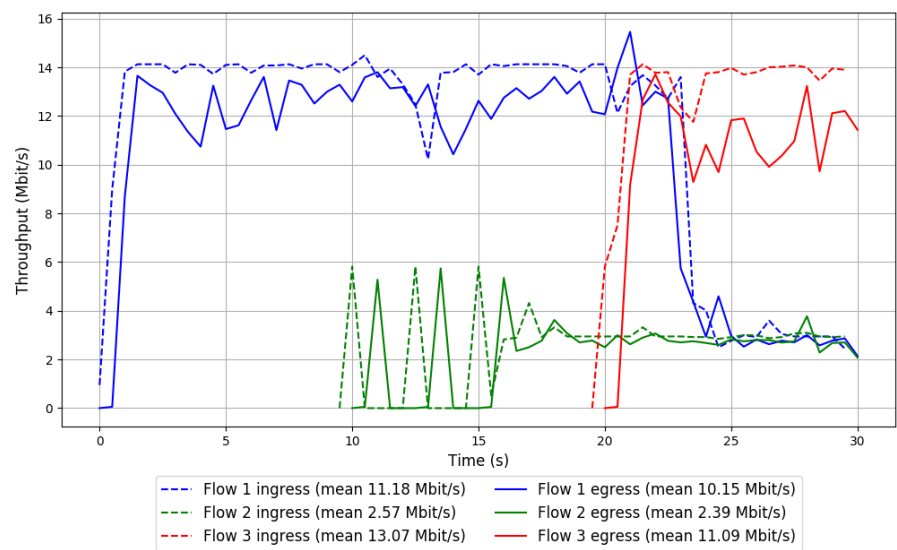Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2018-11-30 17:01:39
End at: 2018-11-30 17:02:09
Local clock offset: 5.783 ms
Remote clock offset: 38.844 ms

# Below is generated by plot.py at 2018-11-30 19:32:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.34 Mbit/s
95th percentile per-packet one-way delay: 177.634 ms
Loss rate: 11.62%
-- Flow 1:
Average throughput: 10.15 Mbit/s
95th percentile per-packet one-way delay: 176.971 ms
Loss rate: 9.90%
-- Flow 2:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 186.325 ms
Loss rate: 8.23%
-- Flow 3:
Average throughput: 11.09 Mbit/s
95th percentile per-packet one-way delay: 177.942 ms
Loss rate: 17.39%
```

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

Flow 1 ingress (mean 11.18 Mbit/s)   Flow 1 egress (mean 10.15 Mbit/s)
Flow 2 ingress (mean 2.57 Mbit/s)   Flow 2 egress (mean 2.39 Mbit/s)
Flow 3 ingress (mean 13.07 Mbit/s)   Flow 3 egress (mean 11.09 Mbit/s)

Flow 1 (95th percentile 176.97 ms)   Flow 2 (95th percentile 186.32 ms)   Flow 3 (95th percentile 177.94 ms)

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

Start at: 2018-11-30 17:51:01
End at: 2018-11-30 17:51:31
Local clock offset: 4.814 ms
Remote clock offset: 39.9 ms

# Below is generated by plot.py at 2018-11-30 19:32:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.11 Mbit/s
95th percentile per-packet one-way delay: 175.351 ms
Loss rate: 6.41%
-- Flow 1:
Average throughput: 12.80 Mbit/s
95th percentile per-packet one-way delay: 175.154 ms
Loss rate: 6.48%
-- Flow 2:
Average throughput: 2.99 Mbit/s
95th percentile per-packet one-way delay: 176.871 ms
Loss rate: 5.87%
-- Flow 3:
Average throughput: 4.06 Mbit/s
95th percentile per-packet one-way delay: 176.112 ms
Loss rate: 6.59%
```
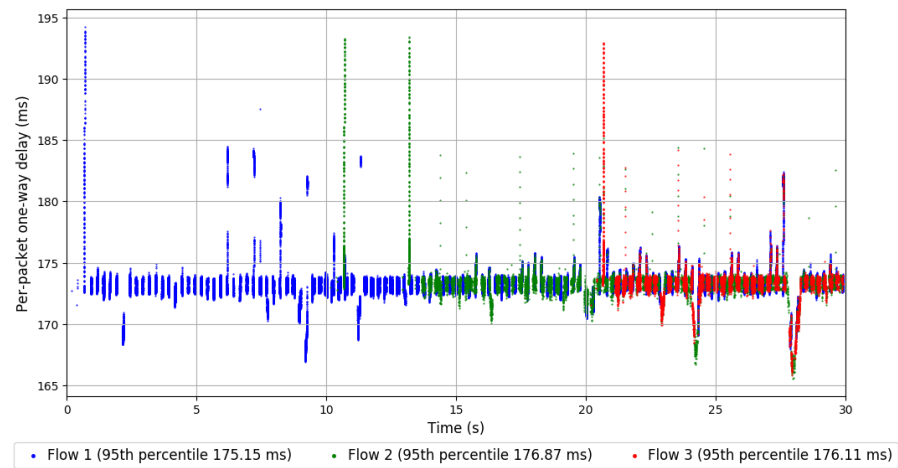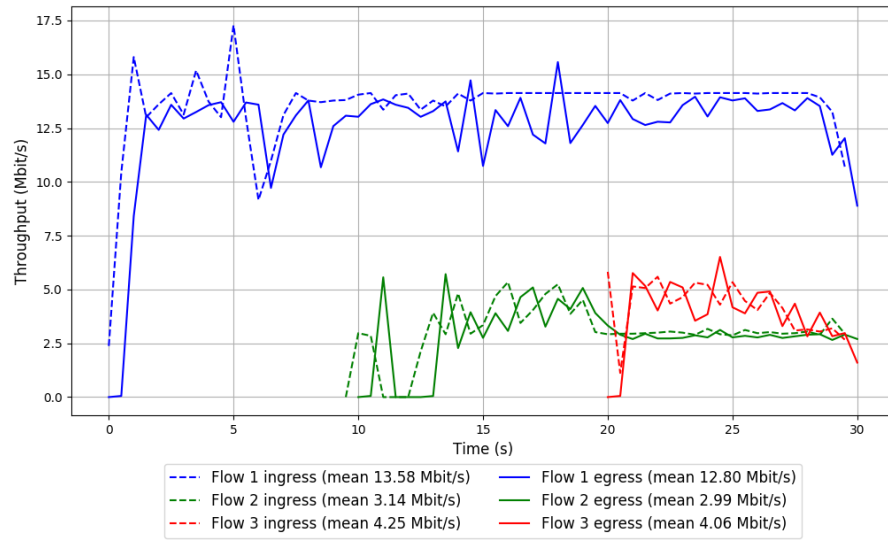
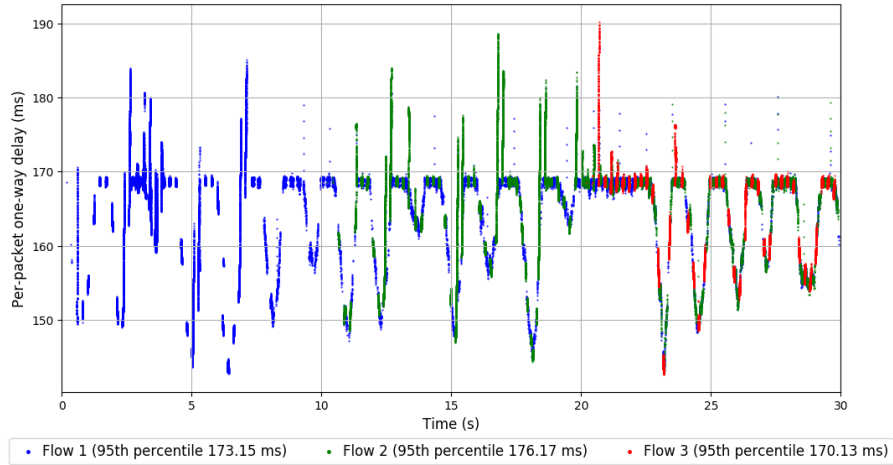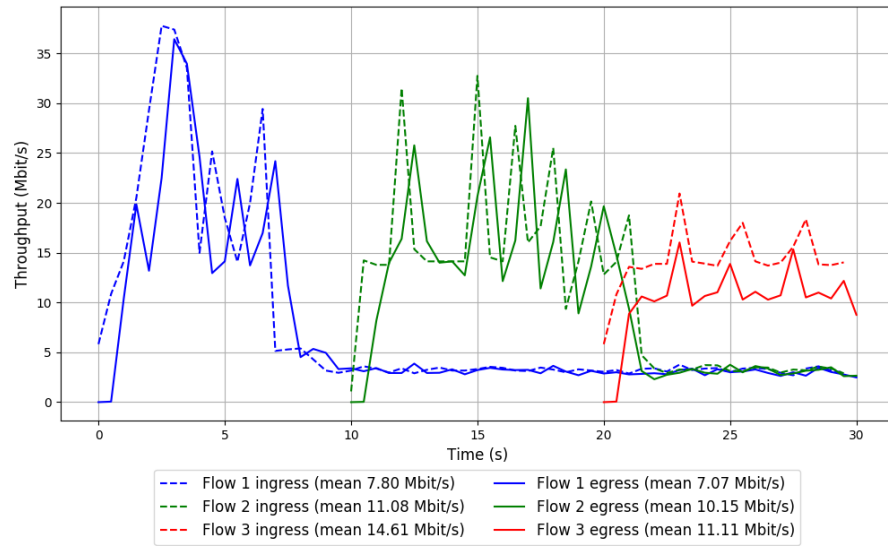Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2018-11-30 18:43:51
End at: 2018-11-30 18:44:21
Local clock offset: 1.189 ms
Remote clock offset: 44.811 ms


# Below is generated by plot.py at 2018-11-30 19:32:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.35 Mbit/s
95th percentile per-packet one-way delay: 173.689 ms
Loss rate: 13.58%
-- Flow 1:
Average throughput: 7.07 Mbit/s
95th percentile per-packet one-way delay: 173.150 ms
Loss rate: 10.02%
-- Flow 2:
Average throughput: 10.15 Mbit/s
95th percentile per-packet one-way delay: 176.168 ms
Loss rate: 9.49%
-- Flow 3:
Average throughput: 11.11 Mbit/s
95th percentile per-packet one-way delay: 170.131 ms
Loss rate: 25.71%
```
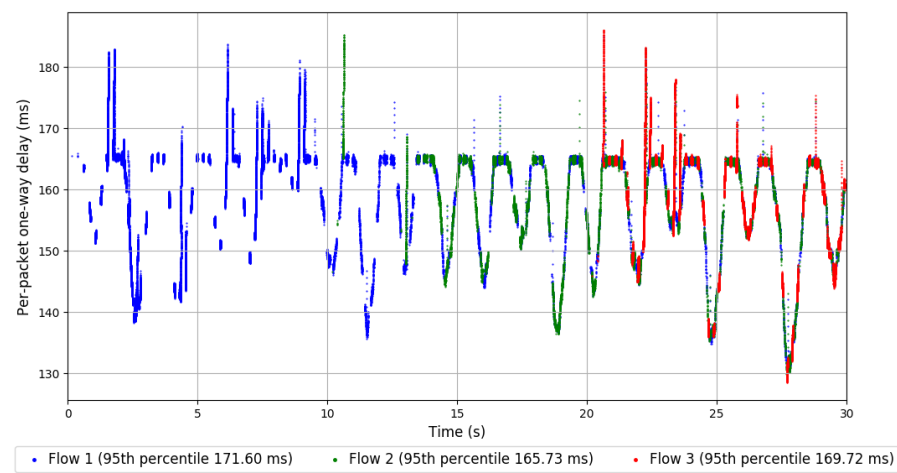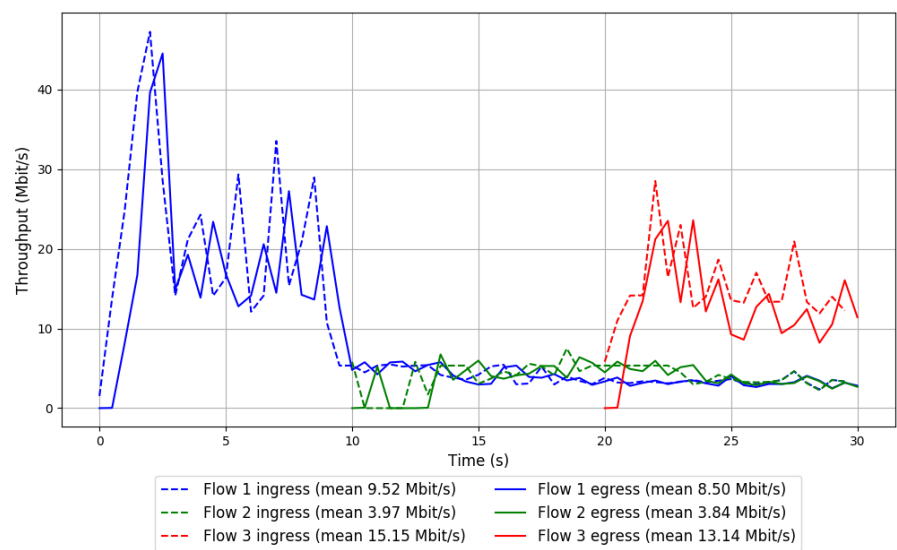
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2018-11-30 19:21:12
End at: 2018-11-30 19:21:42
Local clock offset: 0.3 ms
Remote clock offset: 39.773 ms


# Below is generated by plot.py at 2018-11-30 19:32:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.34 Mbit/s
95th percentile per-packet one-way delay: 170.495 ms
Loss rate: 11.39%
-- Flow 1:
Average throughput: 8.50 Mbit/s
95th percentile per-packet one-way delay: 171.600 ms
Loss rate: 11.45%
-- Flow 2:
Average throughput: 3.84 Mbit/s
95th percentile per-packet one-way delay: 165.730 ms
Loss rate: 4.21%
-- Flow 3:
Average throughput: 13.14 Mbit/s
95th percentile per-packet one-way delay: 169.721 ms
Loss rate: 15.05%
```

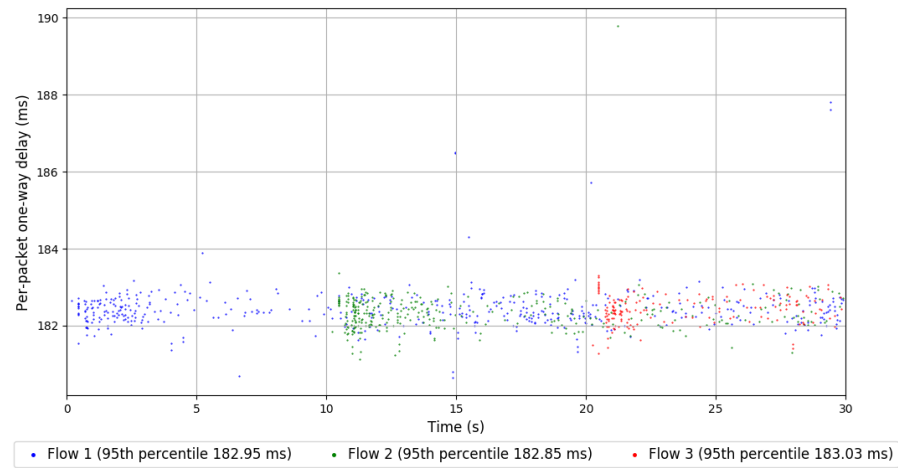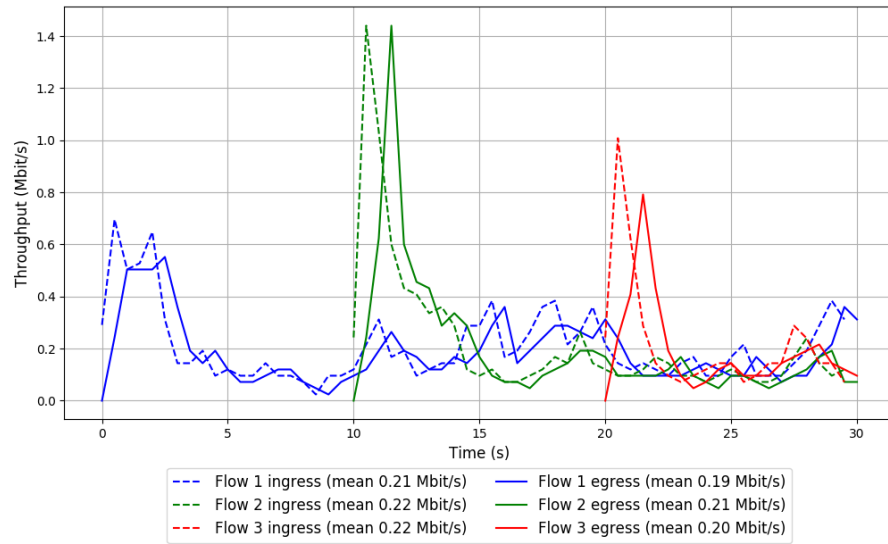Run 5: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2018-11-30 15:32:39
End at: 2018-11-30 15:33:09
Local clock offset: 2.269 ms
Remote clock offset: 32.398 ms


# Below is generated by plot.py at 2018-11-30 19:32:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 182.942 ms
Loss rate: 9.24%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 182.953 ms
Loss rate: 9.21%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 182.853 ms
Loss rate: 9.19%
-- Flow 3:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 183.032 ms
Loss rate: 9.44%
```

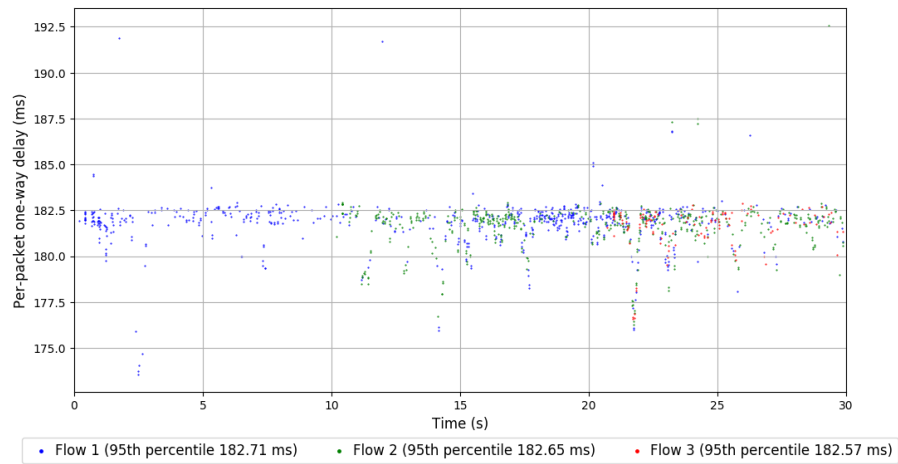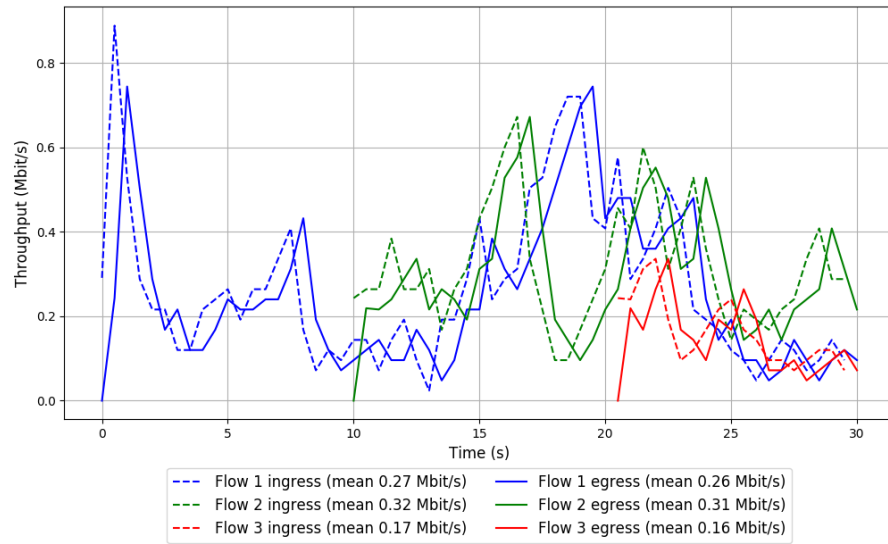Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2018-11-30 16:30:29
End at: 2018-11-30 16:30:59
Local clock offset: 0.756 ms
Remote clock offset: 33.875 ms


# Below is generated by plot.py at 2018-11-30 19:32:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 182.684 ms
Loss rate: 4.79%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 182.708 ms
Loss rate: 4.60%
-- Flow 2:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 182.645 ms
Loss rate: 3.96%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 182.571 ms
Loss rate: 9.15%
```

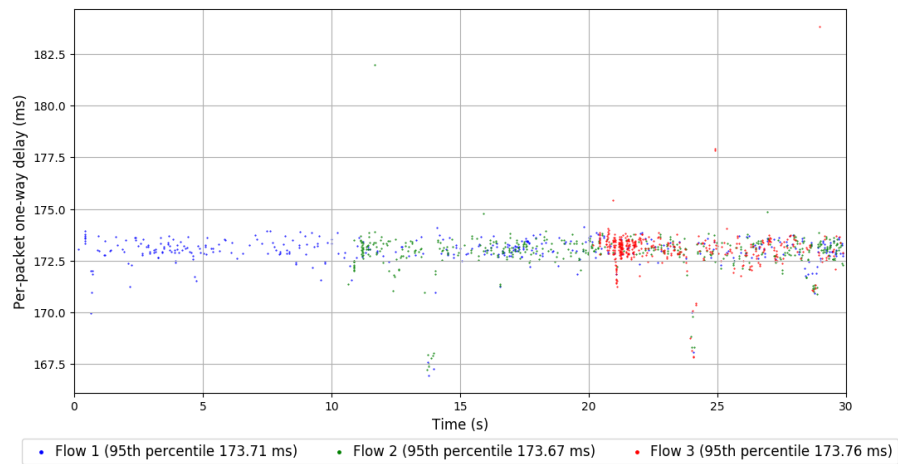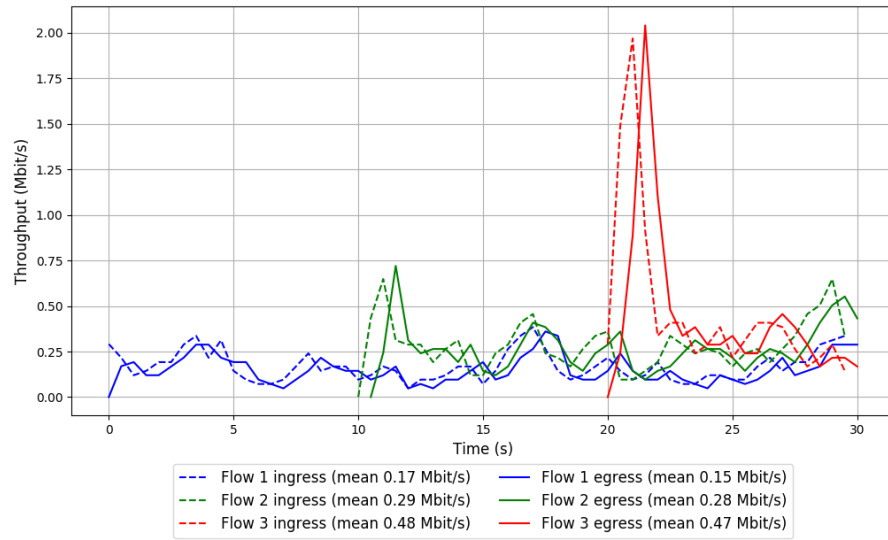## Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-11-30 17:25:42
End at: 2018-11-30 17:26:12
Local clock offset: 7.493 ms
Remote clock offset: 40.236 ms


# Below is generated by plot.py at 2018-11-30 19:32:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 173.714 ms
Loss rate: 6.36%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 173.713 ms
Loss rate: 9.68%
-- Flow 2:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 173.673 ms
Loss rate: 5.33%
-- Flow 3:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 173.759 ms
Loss rate: 4.03%
```
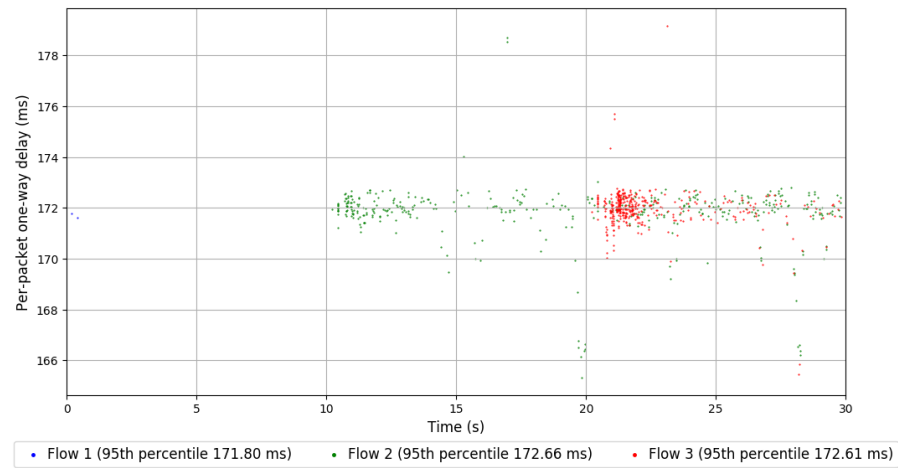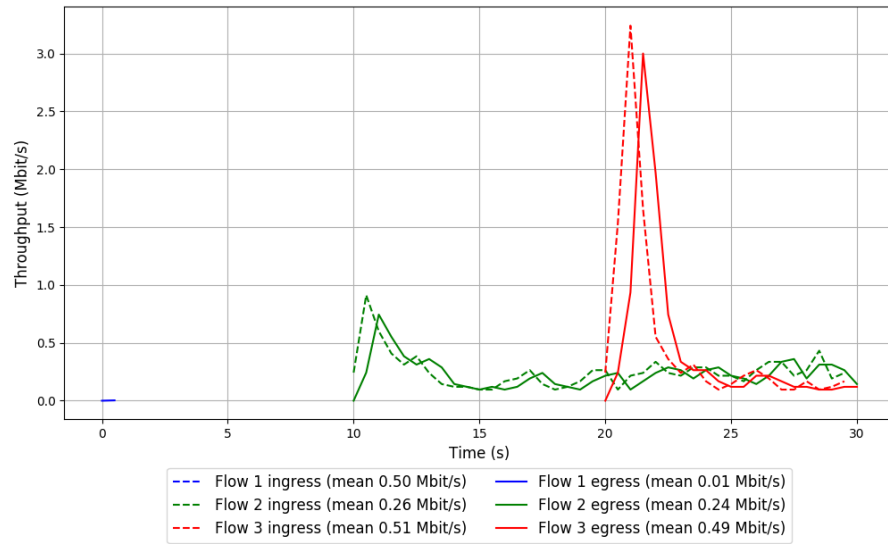
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-11-30 18:13:58
End at: 2018-11-30 18:14:28
Local clock offset: 1.18 ms
Remote clock offset: 41.683 ms


# Below is generated by plot.py at 2018-11-30 19:32:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 172.632 ms
Loss rate: 7.07%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 171.797 ms
Loss rate: 98.79%
-- Flow 2:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 172.658 ms
Loss rate: 6.62%
-- Flow 3:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 172.612 ms
Loss rate: 5.30%
```

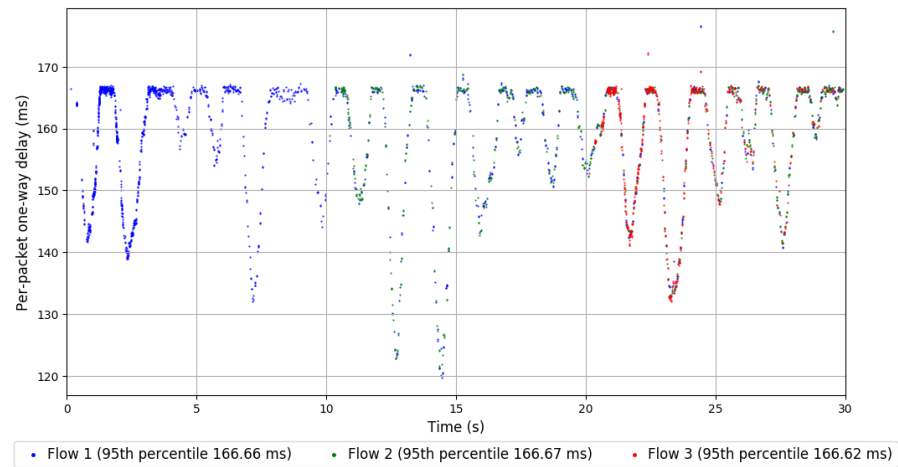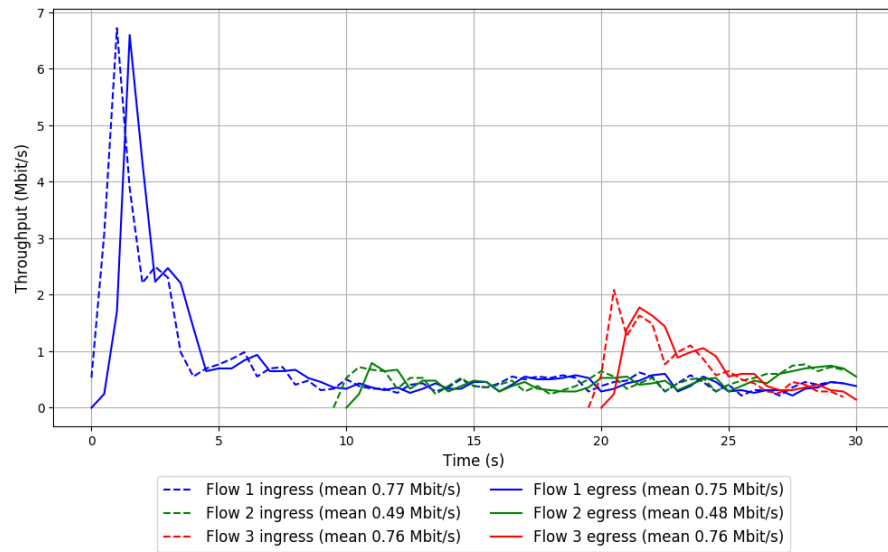# Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-11-30 19:00:06
End at: 2018-11-30 19:00:36
Local clock offset: 0.518 ms
Remote clock offset: 48.058 ms


# Below is generated by plot.py at 2018-11-30 19:32:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 166.655 ms
Loss rate: 3.32%
-- Flow 1:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 166.663 ms
Loss rate: 3.22%
-- Flow 2:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 166.668 ms
Loss rate: 3.44%
-- Flow 3:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 166.618 ms
Loss rate: 3.49%
```

Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2018-11-30 15:34:06
End at: 2018-11-30 15:34:36
Local clock offset: 2.197 ms
Remote clock offset: 32.57 ms

# Below is generated by plot.py at 2018-11-30 19:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.49 Mbit/s
95th percentile per-packet one-way delay: 302.987 ms
Loss rate: 72.88%
-- Flow 1:
Average throughput: 10.91 Mbit/s
95th percentile per-packet one-way delay: 312.189 ms
Loss rate: 75.42%
-- Flow 2:
Average throughput: 9.13 Mbit/s
95th percentile per-packet one-way delay: 287.761 ms
Loss rate: 66.40%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 262.689 ms
Loss rate: 52.63%
```

Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 44.33 Mbit/s) — Flow 1 egress (mean 10.91 Mbit/s)
Flow 2 ingress (mean 23.80 Mbit/s) — Flow 2 egress (mean 9.13 Mbit/s)
Flow 3 ingress (mean 1.42 Mbit/s) — Flow 3 egress (mean 0.69 Mbit/s)

Flow 1 (95th percentile 312.19 ms)   Flow 2 (95th percentile 287.76 ms)   Flow 3 (95th percentile 262.69 ms)

```
Run 2: Statistics of Verus

Start at: 2018-11-30 16:31:56
End at: 2018-11-30 16:32:26
Local clock offset: 0.703 ms
Remote clock offset: 34.73 ms


# Below is generated by plot.py at 2018-11-30 19:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 17.87 Mbit/s
95th percentile per-packet one-way delay: 272.525 ms
Loss rate: 65.27%
-- Flow 1:
Average throughput: 15.62 Mbit/s
95th percentile per-packet one-way delay: 272.458 ms
Loss rate: 67.42%
-- Flow 2:
Average throughput: 2.44 Mbit/s
95th percentile per-packet one-way delay: 283.060 ms
Loss rate: 43.24%
-- Flow 3:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 237.033 ms
Loss rate: 5.75%
```
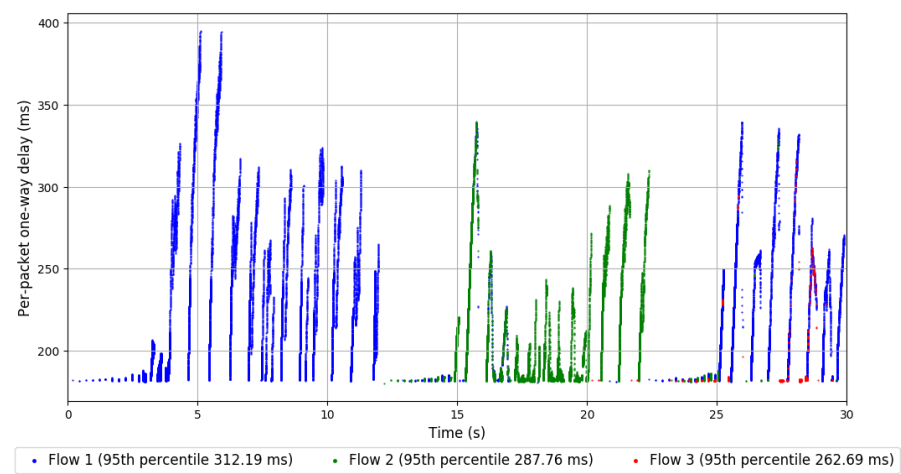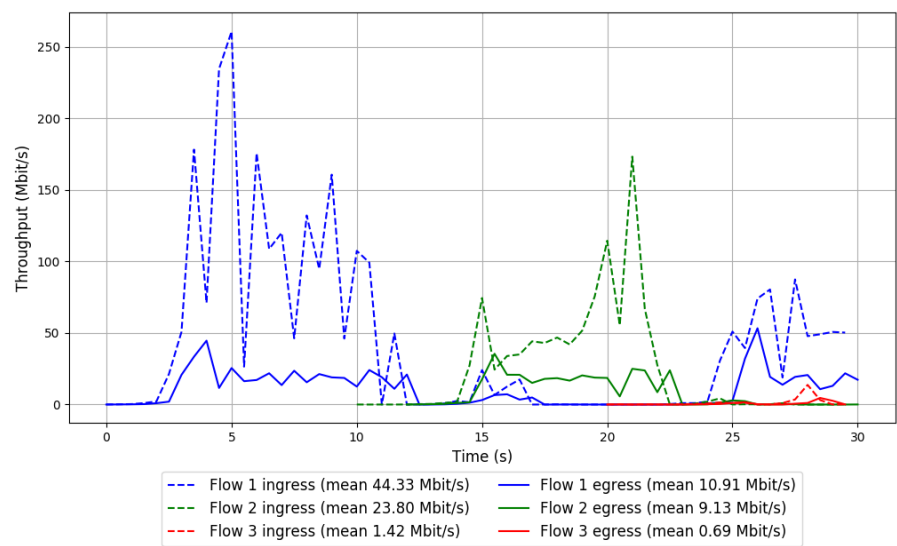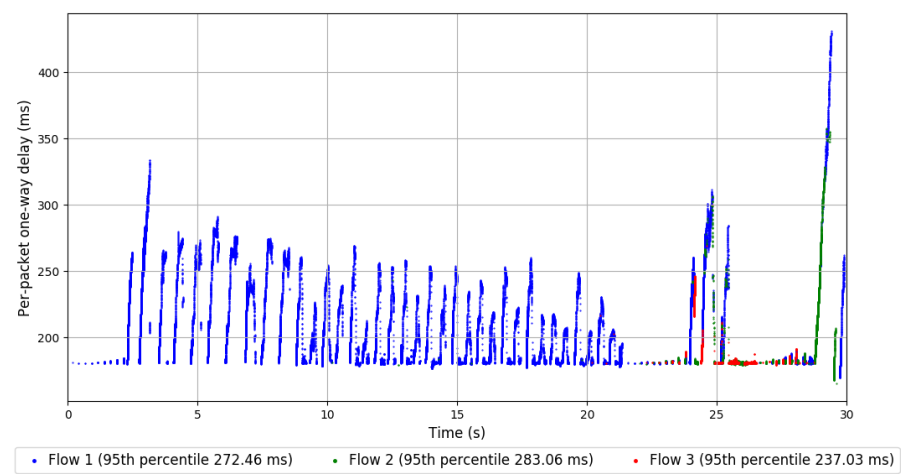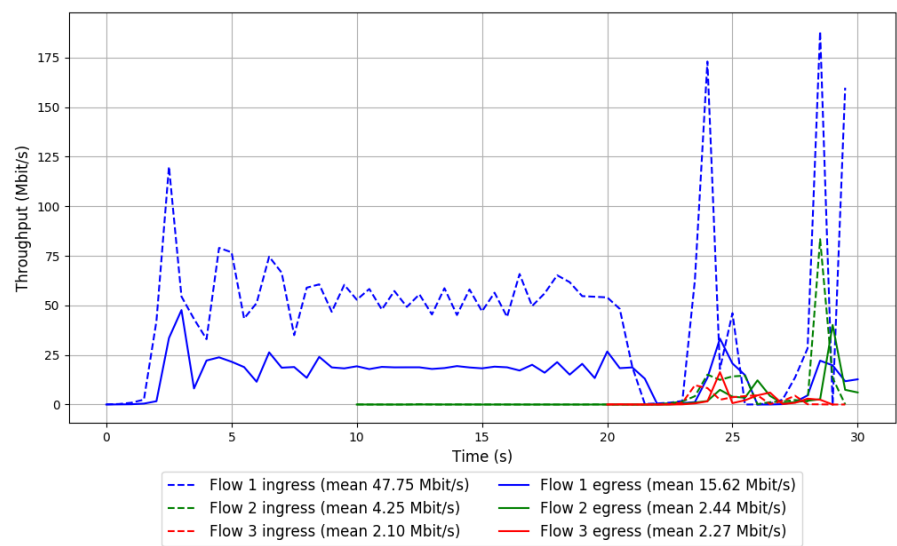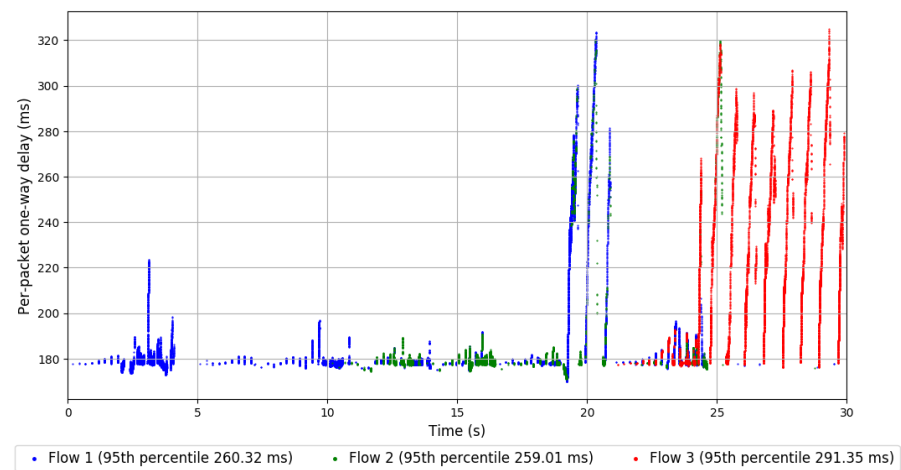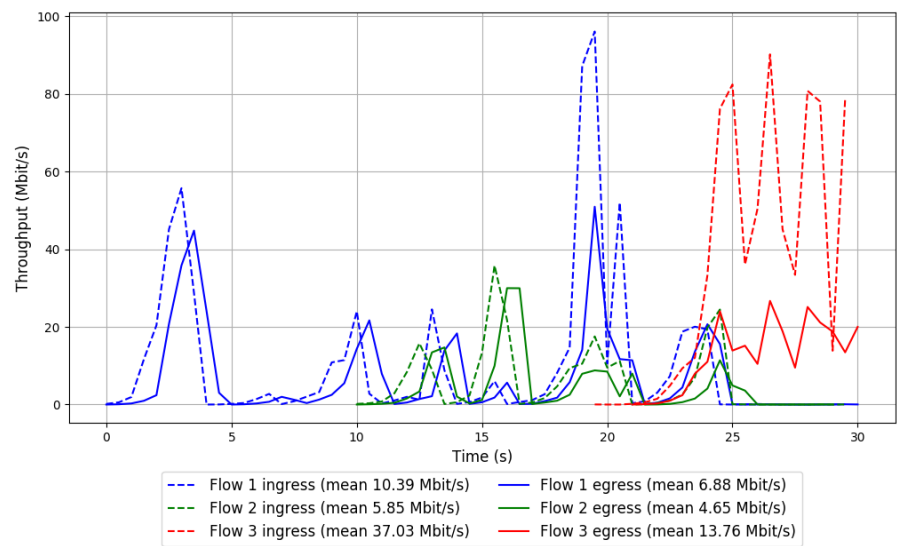
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-11-30 17:27:07
End at: 2018-11-30 17:27:37
Local clock offset: 7.543 ms
Remote clock offset: 35.459 ms


# Below is generated by plot.py at 2018-11-30 19:32:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 13.81 Mbit/s
95th percentile per-packet one-way delay: 276.185 ms
Loss rate: 47.84%
-- Flow 1:
Average throughput: 6.88 Mbit/s
95th percentile per-packet one-way delay: 260.325 ms
Loss rate: 33.61%
-- Flow 2:
Average throughput: 4.65 Mbit/s
95th percentile per-packet one-way delay: 259.010 ms
Loss rate: 25.44%
-- Flow 3:
Average throughput: 13.76 Mbit/s
95th percentile per-packet one-way delay: 291.350 ms
Loss rate: 67.01%
```

Run 3: Report of Verus — Data Link

Flow 1 ingress (mean 10.39 Mbit/s)   Flow 1 egress (mean 6.88 Mbit/s)
Flow 2 ingress (mean 5.85 Mbit/s)   Flow 2 egress (mean 4.65 Mbit/s)
Flow 3 ingress (mean 37.03 Mbit/s)   Flow 3 egress (mean 13.76 Mbit/s)

Flow 1 (95th percentile 260.32 ms)   Flow 2 (95th percentile 259.01 ms)   Flow 3 (95th percentile 291.35 ms)
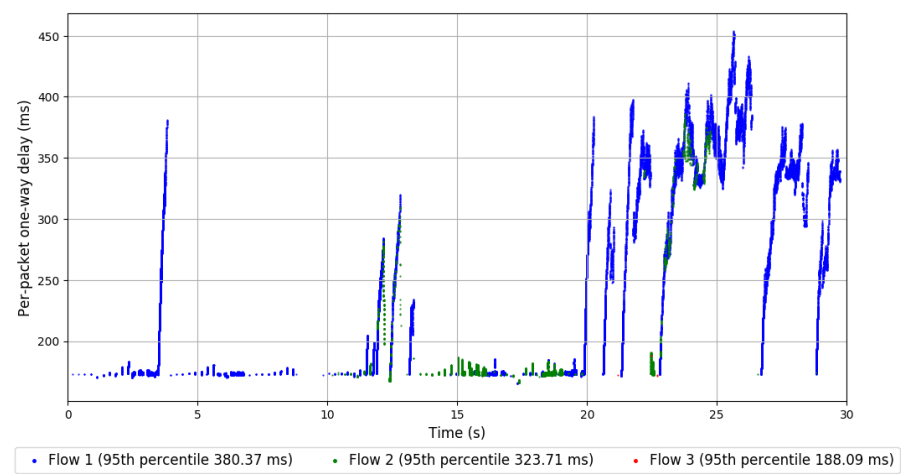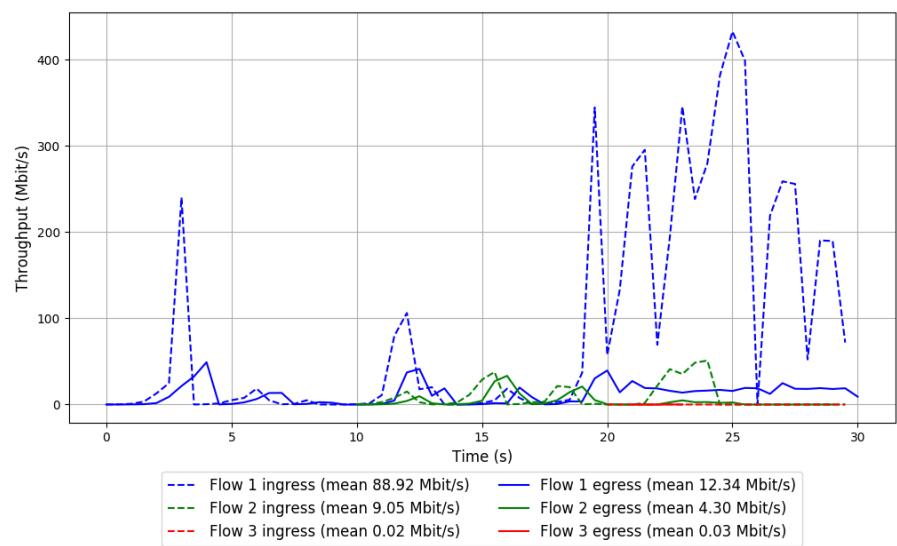
```
Run 4: Statistics of Verus

Start at: 2018-11-30 18:15:21
End at: 2018-11-30 18:15:51
Local clock offset: 1.026 ms
Remote clock offset: 40.467 ms


# Below is generated by plot.py at 2018-11-30 19:32:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 15.06 Mbit/s
95th percentile per-packet one-way delay: 376.114 ms
Loss rate: 84.35%
-- Flow 1:
Average throughput: 12.34 Mbit/s
95th percentile per-packet one-way delay: 380.374 ms
Loss rate: 86.31%
-- Flow 2:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 323.709 ms
Loss rate: 55.42%
-- Flow 3:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 188.087 ms
Loss rate: 78.95%
```
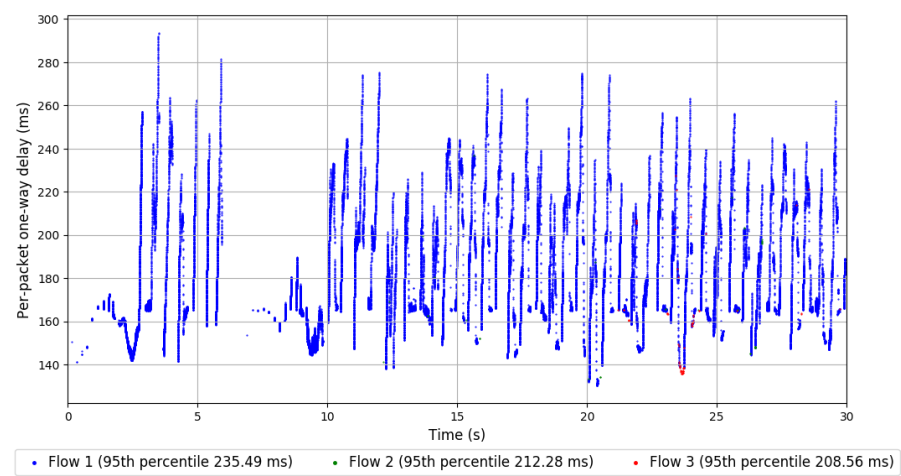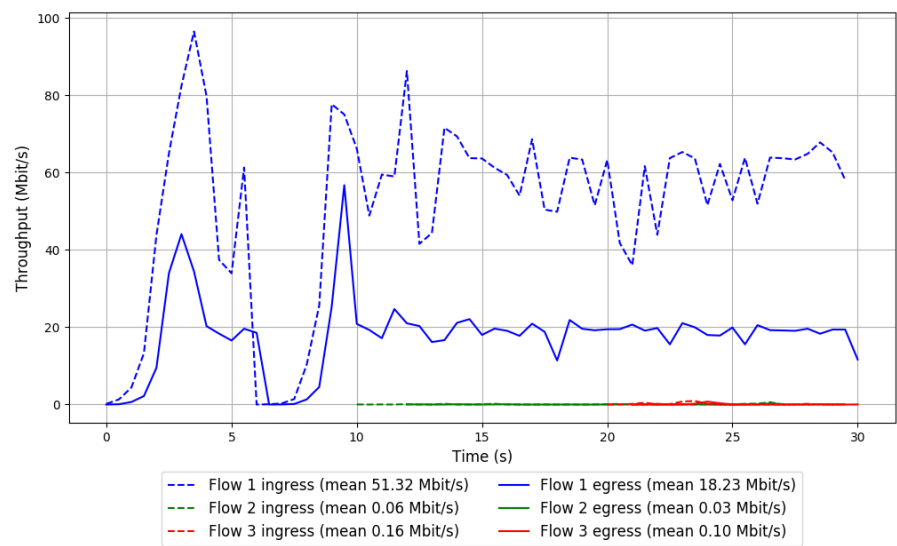
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-11-30 19:01:29
End at: 2018-11-30 19:01:59
Local clock offset: 0.184 ms
Remote clock offset: 48.309 ms


# Below is generated by plot.py at 2018-11-30 19:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 18.28 Mbit/s
95th percentile per-packet one-way delay: 235.456 ms
Loss rate: 64.69%
-- Flow 1:
Average throughput: 18.23 Mbit/s
95th percentile per-packet one-way delay: 235.485 ms
Loss rate: 64.72%
-- Flow 2:
Average throughput: 0.03 Mbit/s
95th percentile per-packet one-way delay: 212.284 ms
Loss rate: 63.46%
-- Flow 3:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 208.564 ms
Loss rate: 43.41%
```

Run 5: Report of Verus — Data Link

Flow 1 ingress (mean 51.32 Mbit/s) — Flow 1 egress (mean 18.23 Mbit/s)
Flow 2 ingress (mean 0.06 Mbit/s) — Flow 2 egress (mean 0.03 Mbit/s)
Flow 3 ingress (mean 0.16 Mbit/s) — Flow 3 egress (mean 0.10 Mbit/s)

Flow 1 (95th percentile 235.49 ms)   Flow 2 (95th percentile 212.28 ms)   Flow 3 (95th percentile 208.56 ms)
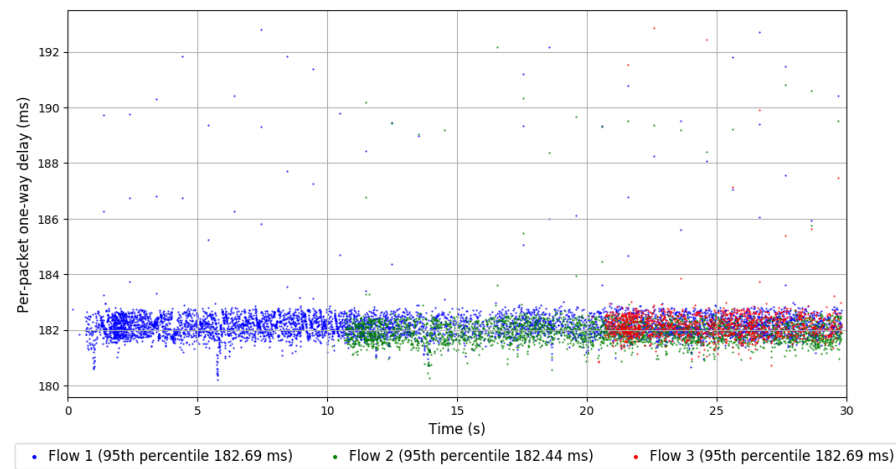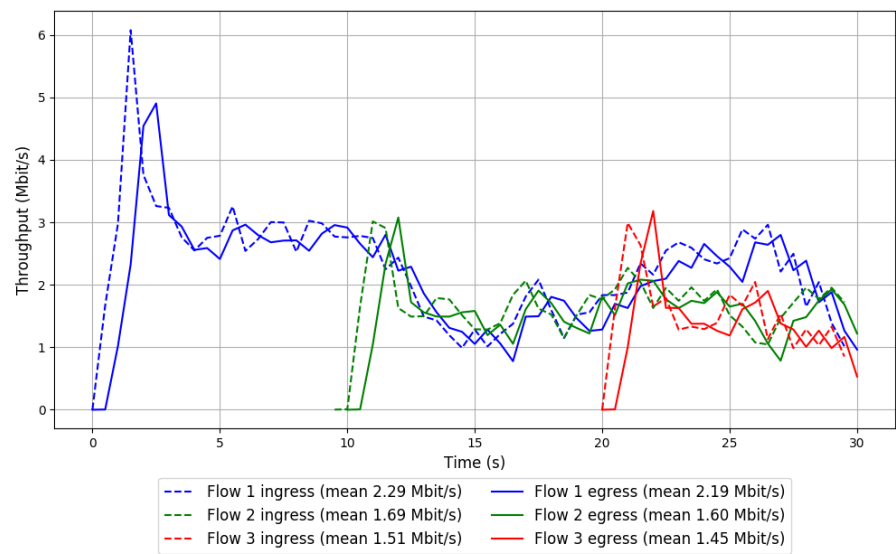
```
Run 1: Statistics of PCC-Vivace

Start at: 2018-11-30 15:54:24
End at: 2018-11-30 15:54:54
Local clock offset: 0.952 ms
Remote clock offset: 32.574 ms

# Below is generated by plot.py at 2018-11-30 19:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.72 Mbit/s
95th percentile per-packet one-way delay: 182.660 ms
Loss rate: 5.71%
-- Flow 1:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 182.691 ms
Loss rate: 5.23%
-- Flow 2:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 182.441 ms
Loss rate: 6.42%
-- Flow 3:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 182.693 ms
Loss rate: 6.26%
```

Run 1: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 2.29 Mbit/s) --- Flow 1 egress (mean 2.19 Mbit/s)
Flow 2 ingress (mean 1.69 Mbit/s) --- Flow 2 egress (mean 1.60 Mbit/s)
Flow 3 ingress (mean 1.51 Mbit/s) --- Flow 3 egress (mean 1.45 Mbit/s)

Flow 1 (95th percentile 182.69 ms)   Flow 2 (95th percentile 182.44 ms)   Flow 3 (95th percentile 182.69 ms)
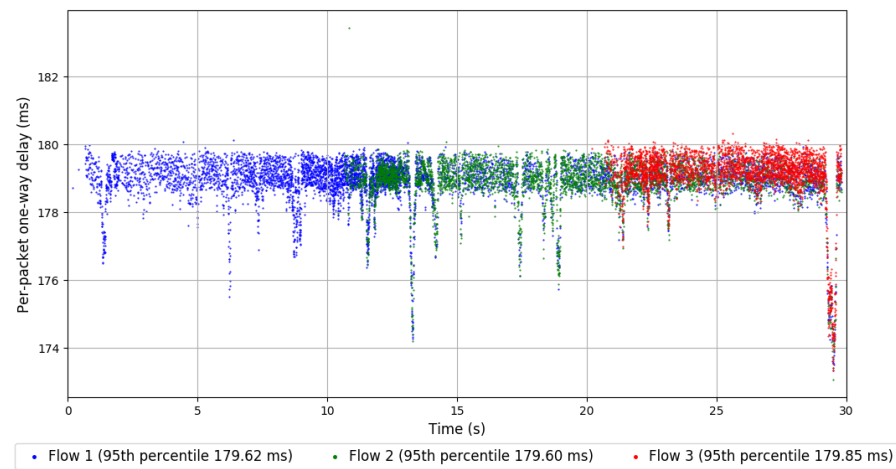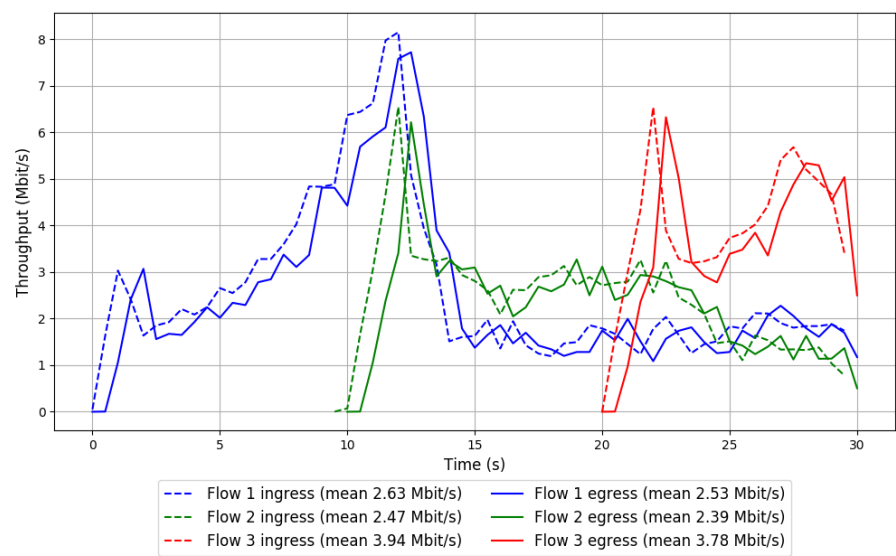
```
Run 2: Statistics of PCC-Vivace

Start at: 2018-11-30 16:52:37
End at: 2018-11-30 16:53:07
Local clock offset: 3.944 ms
Remote clock offset: 36.093 ms

# Below is generated by plot.py at 2018-11-30 19:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.34 Mbit/s
95th percentile per-packet one-way delay: 179.691 ms
Loss rate: 5.06%
-- Flow 1:
Average throughput: 2.53 Mbit/s
95th percentile per-packet one-way delay: 179.623 ms
Loss rate: 4.63%
-- Flow 2:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 179.598 ms
Loss rate: 4.58%
-- Flow 3:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 179.854 ms
Loss rate: 6.54%
```

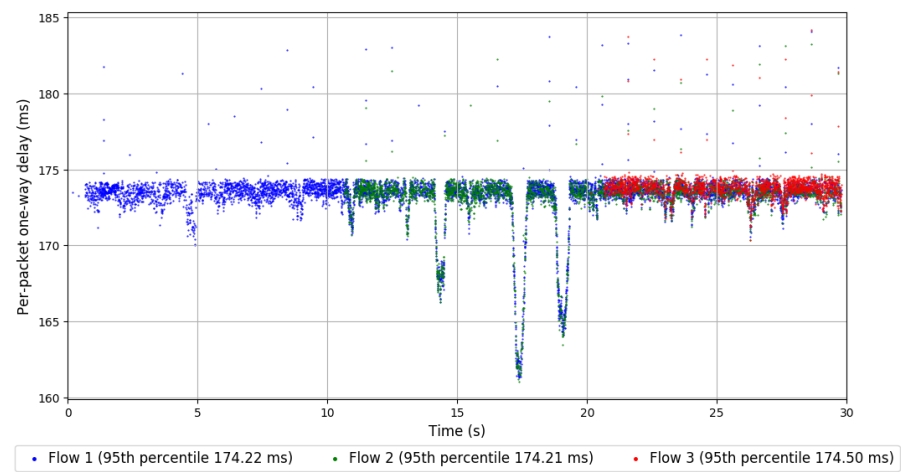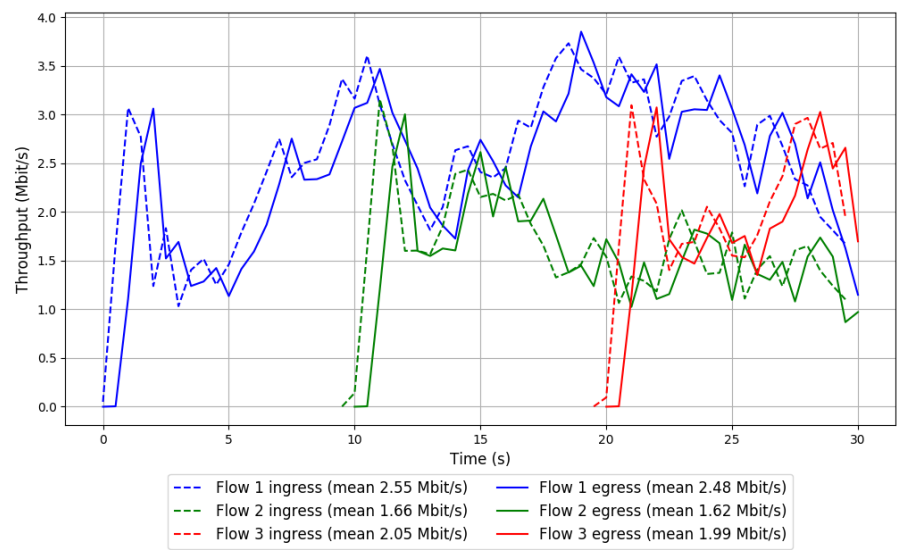## Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-11-30 17:43:21
End at: 2018-11-30 17:43:51
Local clock offset: 8.276 ms
Remote clock offset: 39.053 ms


# Below is generated by plot.py at 2018-11-30 19:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.20 Mbit/s
95th percentile per-packet one-way delay: 174.278 ms
Loss rate: 3.85%
-- Flow 1:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 174.217 ms
Loss rate: 3.57%
-- Flow 2:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 174.214 ms
Loss rate: 3.60%
-- Flow 3:
Average throughput: 1.99 Mbit/s
95th percentile per-packet one-way delay: 174.495 ms
Loss rate: 5.31%
```

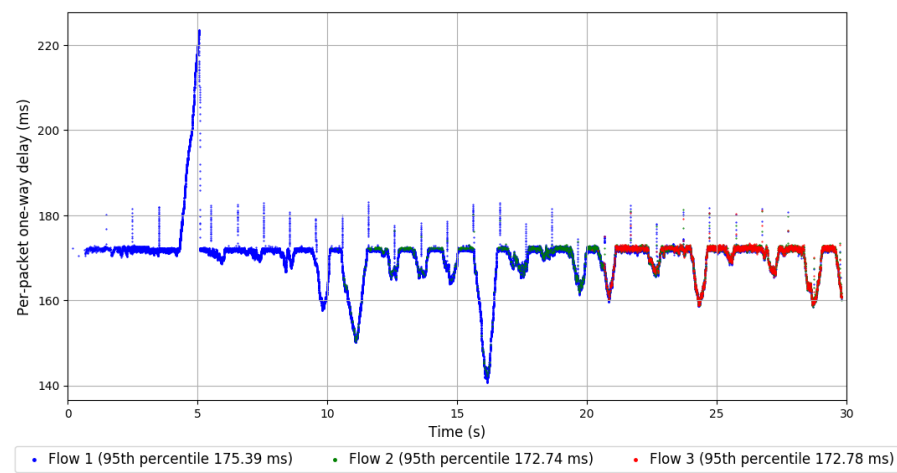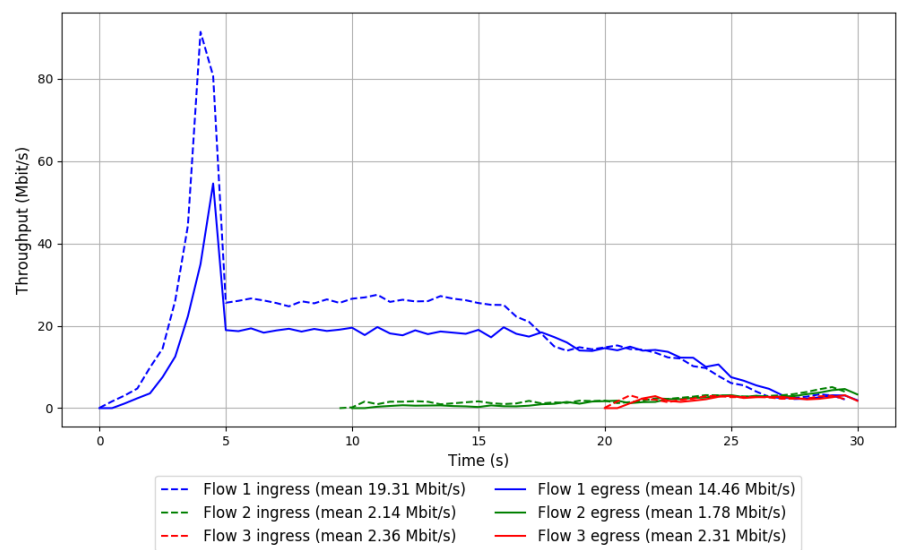# Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-11-30 18:34:22
End at: 2018-11-30 18:34:52
Local clock offset: 1.23 ms
Remote clock offset: 41.215 ms


# Below is generated by plot.py at 2018-11-30 19:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 16.40 Mbit/s
95th percentile per-packet one-way delay: 173.976 ms
Loss rate: 24.38%
-- Flow 1:
Average throughput: 14.46 Mbit/s
95th percentile per-packet one-way delay: 175.387 ms
Loss rate: 25.69%
-- Flow 2:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 172.739 ms
Loss rate: 17.61%
-- Flow 3:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 172.783 ms
Loss rate: 4.41%
```

Run 4: Report of PCC-Vivace — Data Link

- - - Flow 1 ingress (mean 19.31 Mbit/s)   —— Flow 1 egress (mean 14.46 Mbit/s)
- - - Flow 2 ingress (mean 2.14 Mbit/s)   —— Flow 2 egress (mean 1.78 Mbit/s)
- - - Flow 3 ingress (mean 2.36 Mbit/s)   —— Flow 3 egress (mean 2.31 Mbit/s)

- Flow 1 (95th percentile 175.39 ms)   • Flow 2 (95th percentile 172.74 ms)   • Flow 3 (95th percentile 172.78 ms)
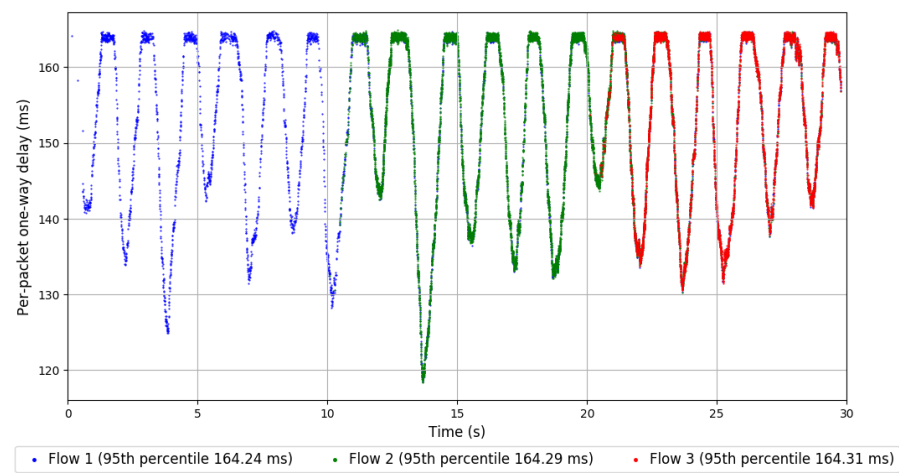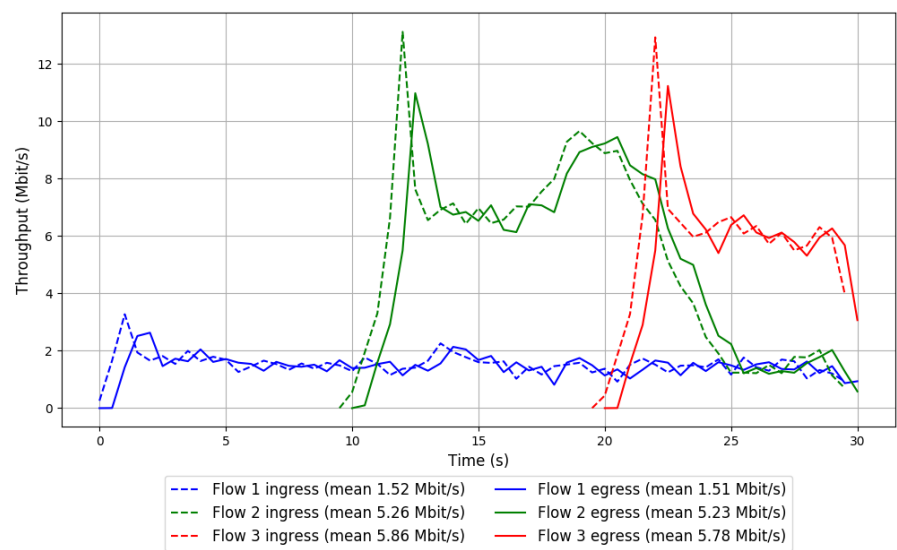
```
Run 5: Statistics of PCC-Vivace

Start at: 2018-11-30 19:14:37
End at: 2018-11-30 19:15:07
Local clock offset: -0.255 ms
Remote clock offset: 49.334 ms


# Below is generated by plot.py at 2018-11-30 19:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.87 Mbit/s
95th percentile per-packet one-way delay: 164.286 ms
Loss rate: 2.14%
-- Flow 1:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 164.241 ms
Loss rate: 1.90%
-- Flow 2:
Average throughput: 5.23 Mbit/s
95th percentile per-packet one-way delay: 164.292 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 5.78 Mbit/s
95th percentile per-packet one-way delay: 164.315 ms
Loss rate: 3.61%
```

Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 1.52 Mbit/s) --- Flow 1 egress (mean 1.51 Mbit/s)
Flow 2 ingress (mean 5.26 Mbit/s) --- Flow 2 egress (mean 5.23 Mbit/s)
Flow 3 ingress (mean 5.86 Mbit/s) --- Flow 3 egress (mean 5.78 Mbit/s)

Flow 1 (95th percentile 164.24 ms) • Flow 2 (95th percentile 164.29 ms) • Flow 3 (95th percentile 164.31 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2018-11-30 16:03:26
End at: 2018-11-30 16:03:56
Local clock offset: 0.643 ms
Remote clock offset: 33.33 ms


# Below is generated by plot.py at 2018-11-30 19:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 182.928 ms
Loss rate: 5.54%
-- Flow 1:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 183.003 ms
Loss rate: 4.59%
-- Flow 2:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 182.785 ms
Loss rate: 6.40%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 182.804 ms
Loss rate: 10.02%
```
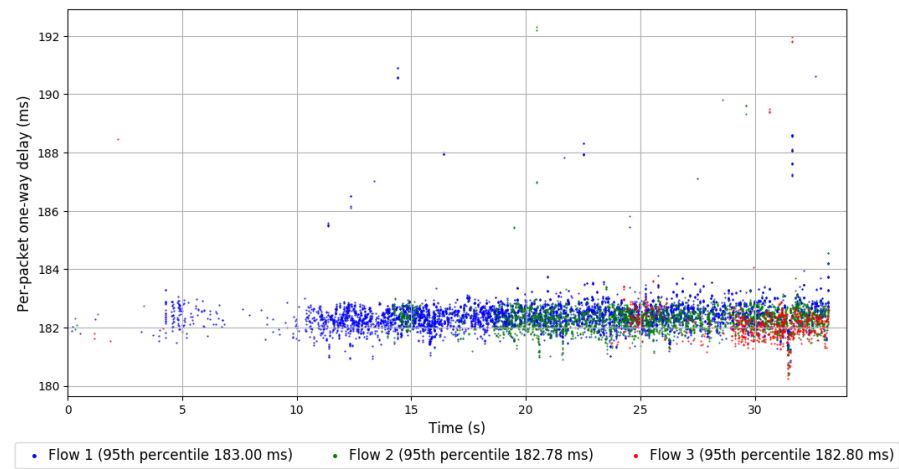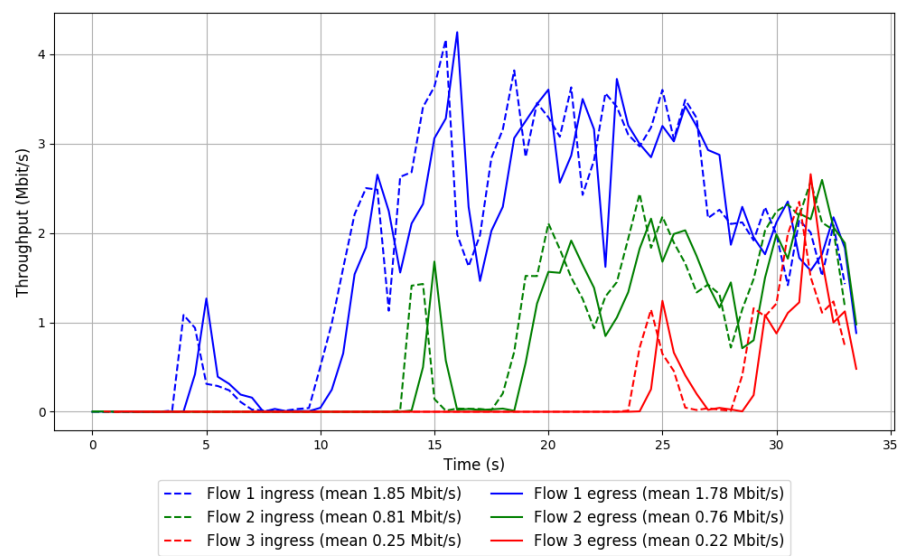
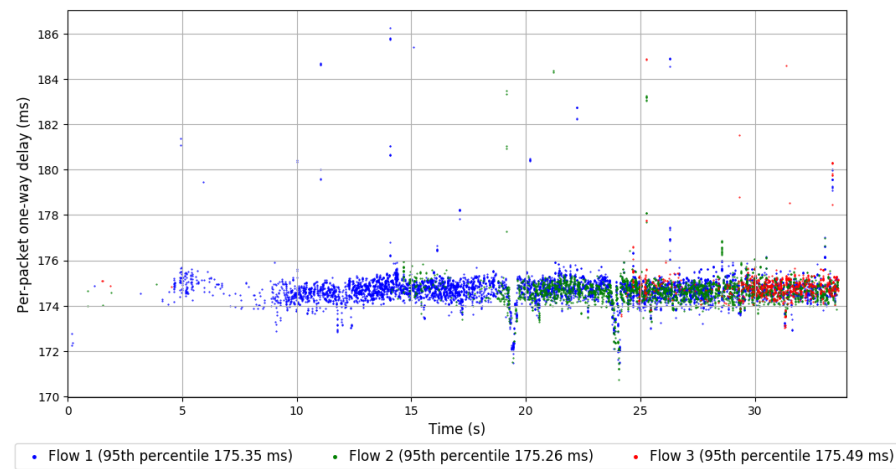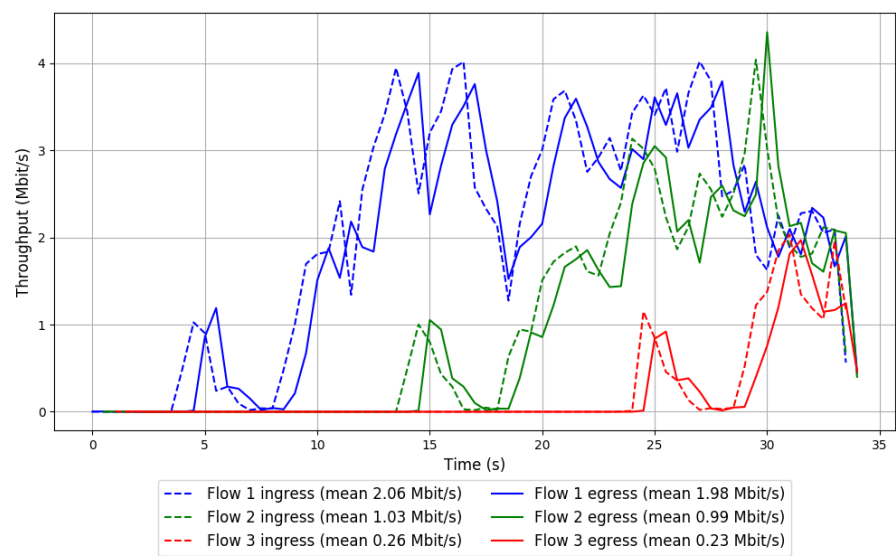Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-11-30 16:59:52
End at: 2018-11-30 17:00:22
Local clock offset: 5.489 ms
Remote clock offset: 41.085 ms


# Below is generated by plot.py at 2018-11-30 19:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.16 Mbit/s
95th percentile per-packet one-way delay: 175.336 ms
Loss rate: 5.51%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 175.352 ms
Loss rate: 4.86%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 175.260 ms
Loss rate: 4.95%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 175.486 ms
Loss rate: 13.11%
```

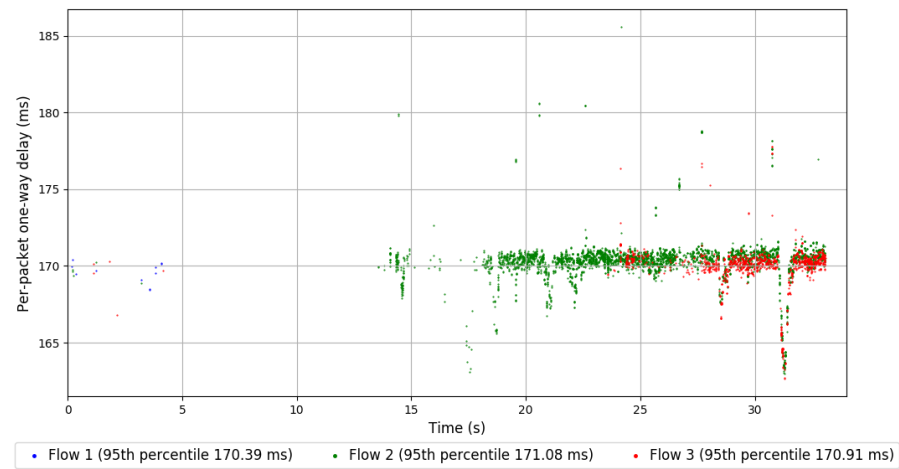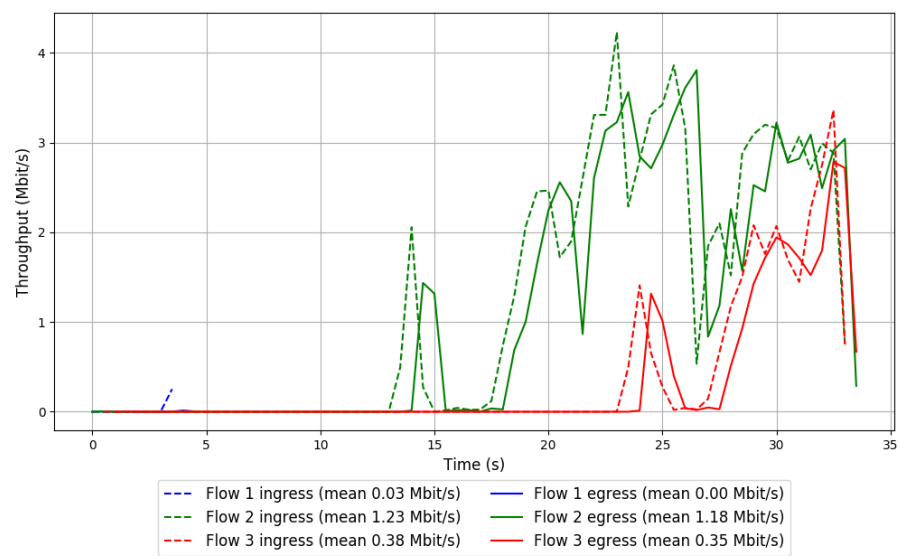Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-11-30 17:49:28
End at: 2018-11-30 17:49:58
Local clock offset: 5.509 ms
Remote clock offset: 43.095 ms


# Below is generated by plot.py at 2018-11-30 19:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 171.055 ms
Loss rate: 6.01%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 170.388 ms
Loss rate: 91.07%
-- Flow 2:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 171.078 ms
Loss rate: 4.94%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 170.908 ms
Loss rate: 8.63%
```

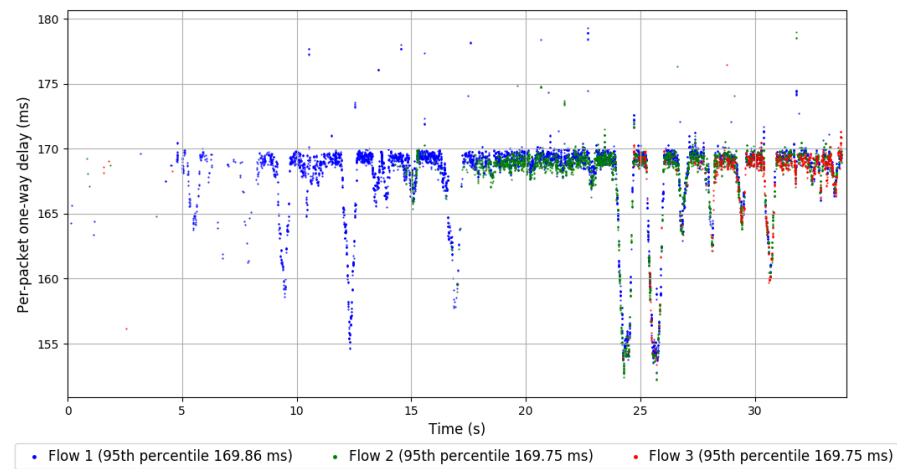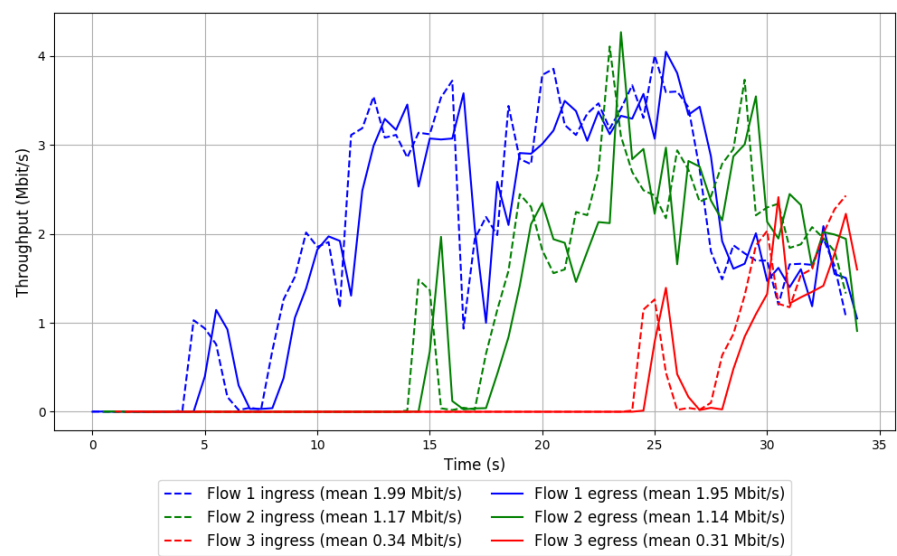Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-11-30 18:42:12
End at: 2018-11-30 18:42:42
Local clock offset: 1.294 ms
Remote clock offset: 44.613 ms


# Below is generated by plot.py at 2018-11-30 19:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.36 Mbit/s
95th percentile per-packet one-way delay: 169.822 ms
Loss rate: 3.70%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 169.859 ms
Loss rate: 2.83%
-- Flow 2:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 169.746 ms
Loss rate: 3.54%
-- Flow 3:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 169.755 ms
Loss rate: 9.58%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-11-30 19:19:52
End at: 2018-11-30 19:20:22
Local clock offset: 0.104 ms
Remote clock offset: 42.195 ms


# Below is generated by plot.py at 2018-11-30 19:32:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 165.185 ms
Loss rate: 2.83%
-- Flow 1:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 165.335 ms
Loss rate: 2.72%
-- Flow 2:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 165.094 ms
Loss rate: 2.42%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 164.740 ms
Loss rate: 4.04%
```

Run 5: Report of WebRTC media — Data Link