Pantheon Report

Generated at 2019-02-12 11:05:36 (UTC).

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

Repeated the test of 21 congestion control schemes 5 times.

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

NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.
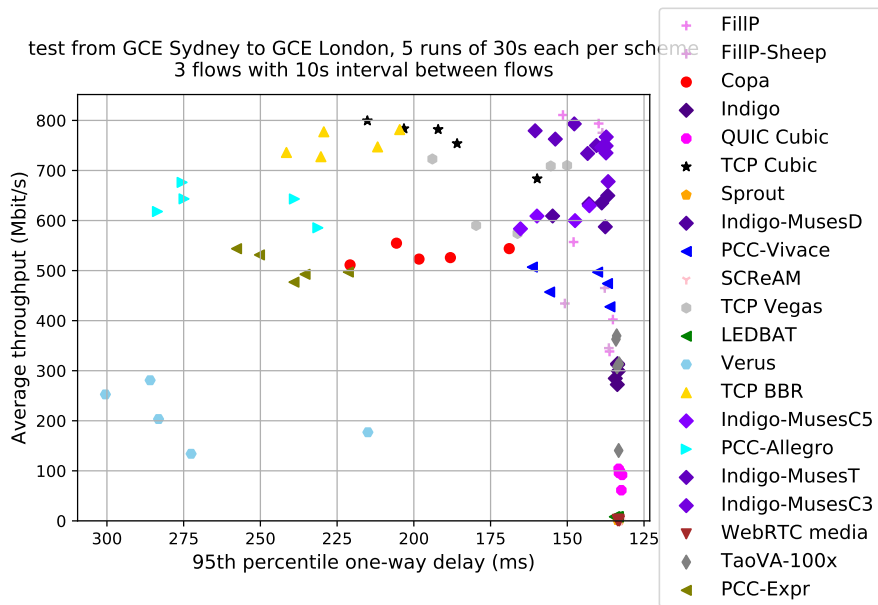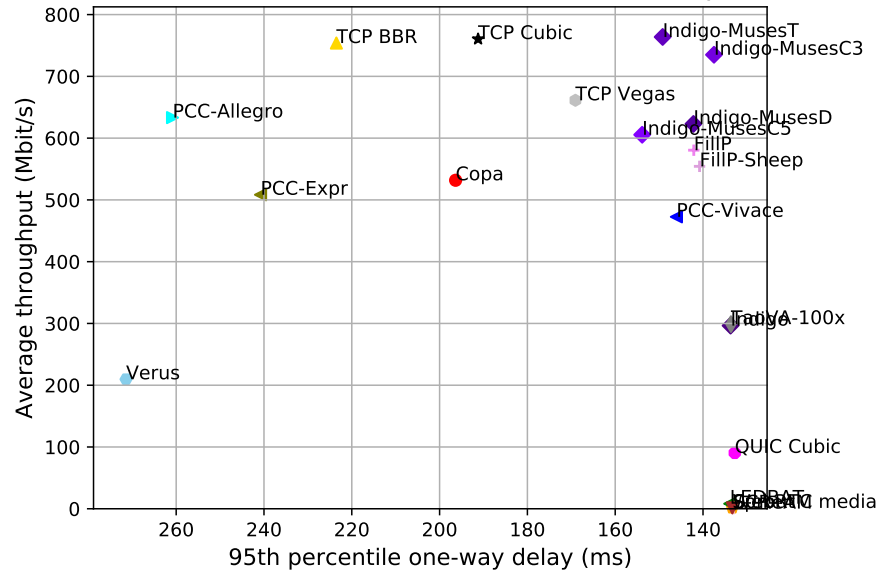
```
System info:
Linux 4.15.0-1026-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
```

```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from GCE Sydney to GCE London, 5 runs of 30s each per scheme
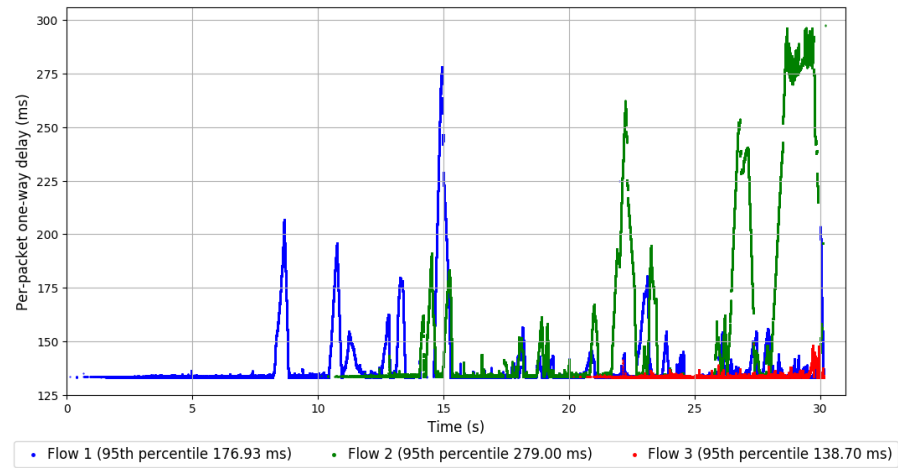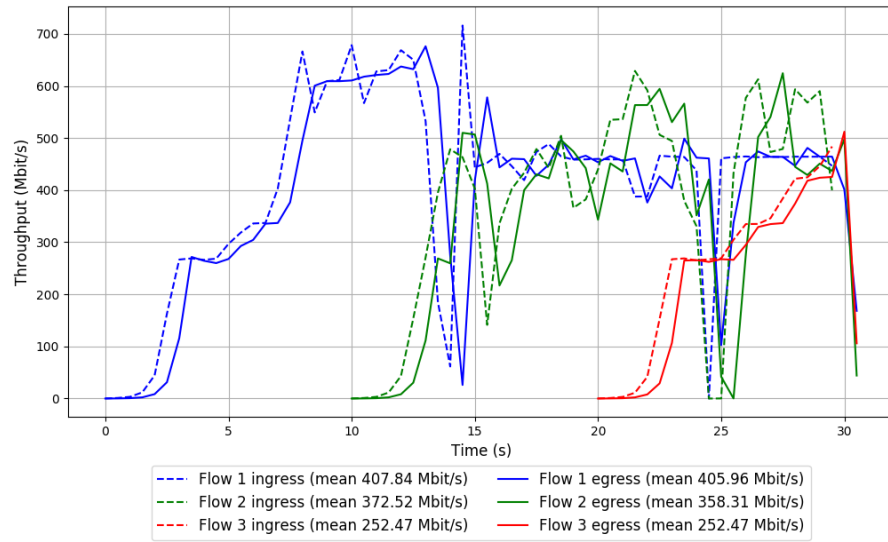3 flows with 10s interval between flows (mean of all runs by scheme)

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

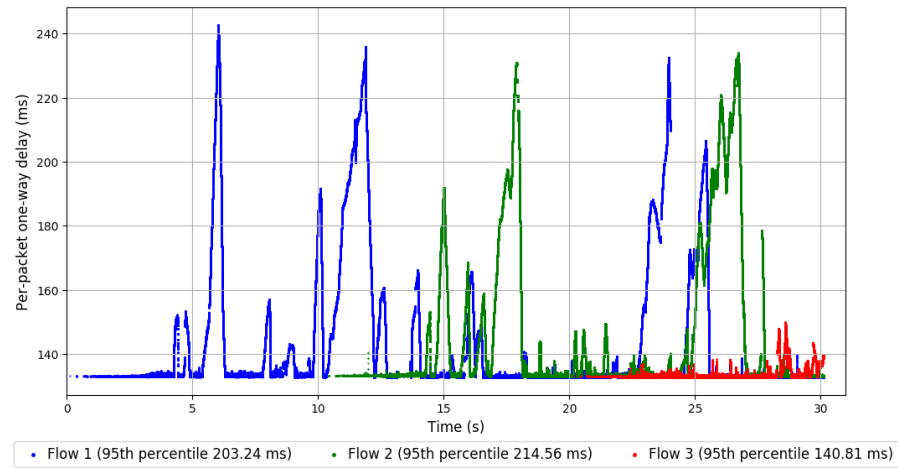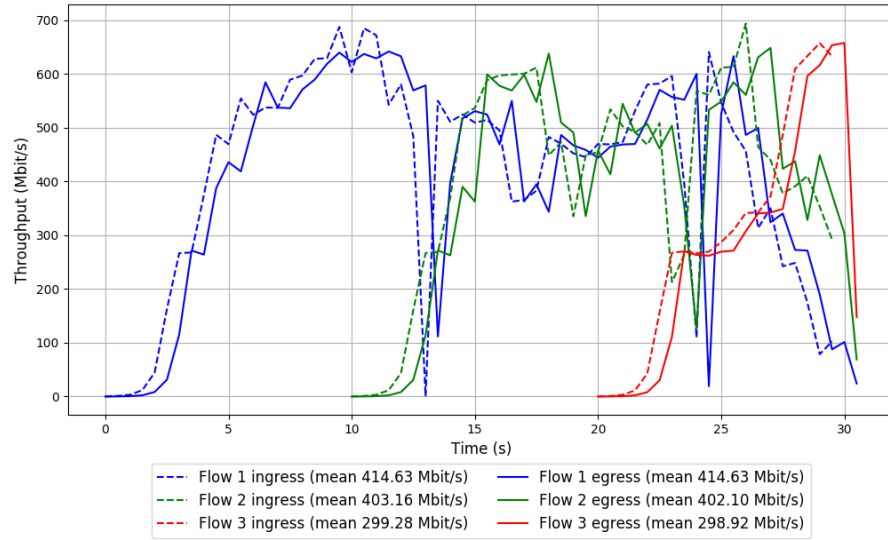| scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	414.52	374.85	270.69	202.72	242.77	163.18	0.34	1.37	0.02
Copa	5	283.84	261.43	222.47	201.85	180.73	180.48	0.04	0.06	0.14
TCP Cubic	5	422.82	383.56	247.39	176.42	190.72	157.37	0.04	0.13	0.17
FillP	5	276.55	339.42	236.18	148.18	137.69	136.58	0.00	0.00	0.00
FillP-Sheep	5	270.07	314.34	226.32	146.05	135.94	135.38	0.00	0.00	0.00
Indigo	5	161.42	139.51	133.44	133.44	134.00	134.69	0.00	0.00	0.01
Indigo-MusesC3	5	430.86	362.44	265.57	137.97	137.00	136.31	0.01	0.00	0.03
Indigo-MusesC5	4	375.57	320.41	88.46	154.57	152.84	133.39	0.00	0.02	0.00
Indigo-MusesD	5	374.08	354.41	76.35	143.03	141.58	134.27	0.00	0.00	0.00
Indigo-MusesT	5	479.84	400.50	96.65	150.89	145.76	133.98	0.00	0.00	0.00
LEDBAT	5	5.29	3.49	1.71	133.99	133.61	133.60	0.00	0.00	0.00
PCC-Allegro	5	348.54	307.22	244.29	254.71	249.04	250.05	4.30	6.90	3.03
PCC-Expr	5	301.71	229.22	163.60	238.65	237.98	205.23	3.95	3.43	1.99
QUIC Cubic	5	39.85	54.60	44.53	132.80	132.76	132.61	0.00	0.00	0.00
SCReAM	5	0.15	0.15	0.16	133.08	132.91	132.96	0.00	0.00	0.00
Sprout	5	0.64	0.64	0.63	133.11	133.23	133.23	0.00	0.00	0.00
TaoVA-100x	5	152.99	180.29	77.66	133.58	133.64	133.16	0.00	0.00	0.00
TCP Vegas	5	381.51	279.34	281.60	162.07	156.66	207.00	0.01	0.05	0.26
Verus	5	126.38	98.09	58.51	213.26	226.80	252.59	3.15	3.88	2.23
PCC-Vivace	5	287.51	212.93	131.66	143.81	155.48	140.07	0.26	0.29	0.02
WebRTC media	5	0.77	0.46	0.16	133.03	133.01	133.11	0.00	0.00	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2019-02-12 04:18:45
End at: 2019-02-12 04:19:15
Local clock offset: -0.522 ms
Remote clock offset: -0.164 ms


# Below is generated by plot.py at 2019-02-12 08:16:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 727.56 Mbit/s
95th percentile per-packet one-way delay: 230.281 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 405.96 Mbit/s
95th percentile per-packet one-way delay: 176.925 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 358.31 Mbit/s
95th percentile per-packet one-way delay: 278.999 ms
Loss rate: 3.44%
-- Flow 3:
Average throughput: 252.47 Mbit/s
95th percentile per-packet one-way delay: 138.702 ms
Loss rate: 0.00%
```
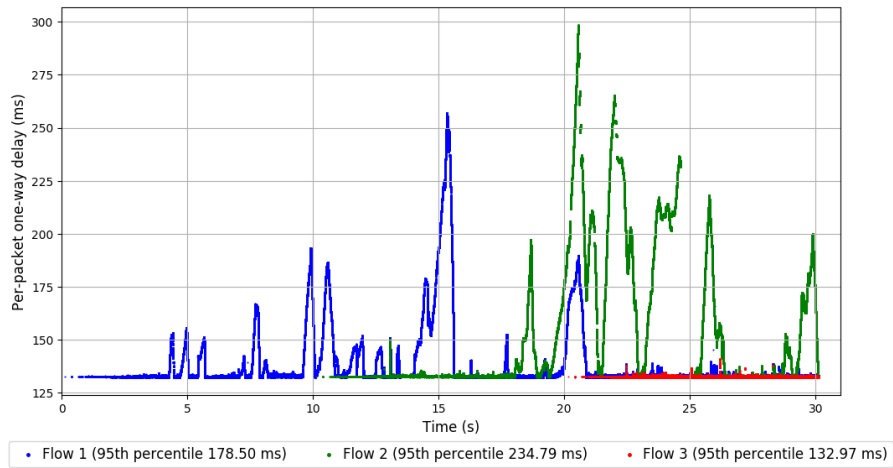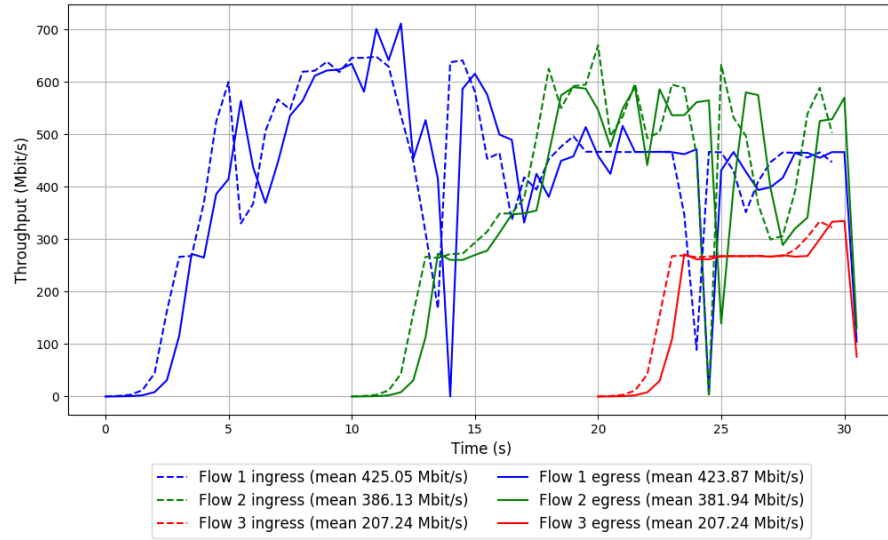
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-02-12 05:00:58
End at: 2019-02-12 05:01:28
Local clock offset: -0.195 ms
Remote clock offset: -0.119 ms


# Below is generated by plot.py at 2019-02-12 08:18:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 781.75 Mbit/s
95th percentile per-packet one-way delay: 204.601 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 414.63 Mbit/s
95th percentile per-packet one-way delay: 203.242 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 402.10 Mbit/s
95th percentile per-packet one-way delay: 214.560 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 298.92 Mbit/s
95th percentile per-packet one-way delay: 140.811 ms
Loss rate: 0.11%
```

Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-02-12 05:47:16
End at: 2019-02-12 05:47:46
Local clock offset: -0.205 ms
Remote clock offset: -0.387 ms


# Below is generated by plot.py at 2019-02-12 08:18:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 747.15 Mbit/s
95th percentile per-packet one-way delay: 211.804 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 423.87 Mbit/s
95th percentile per-packet one-way delay: 178.505 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 381.94 Mbit/s
95th percentile per-packet one-way delay: 234.786 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 207.24 Mbit/s
95th percentile per-packet one-way delay: 132.969 ms
Loss rate: 0.00%
```
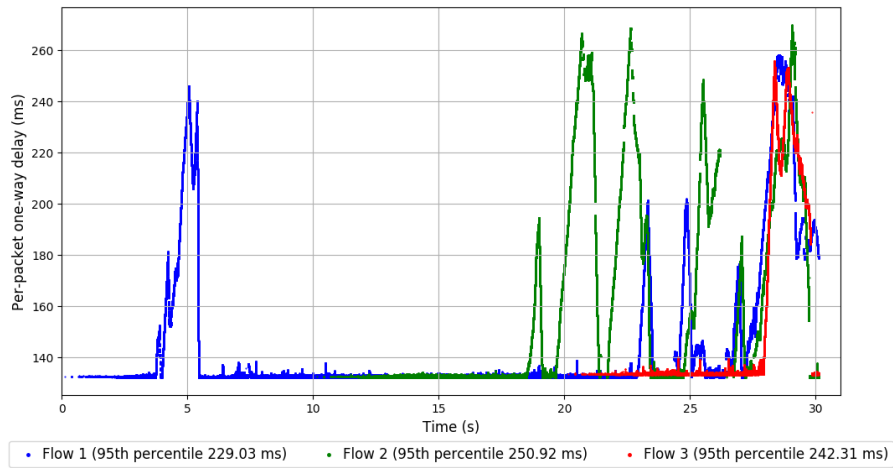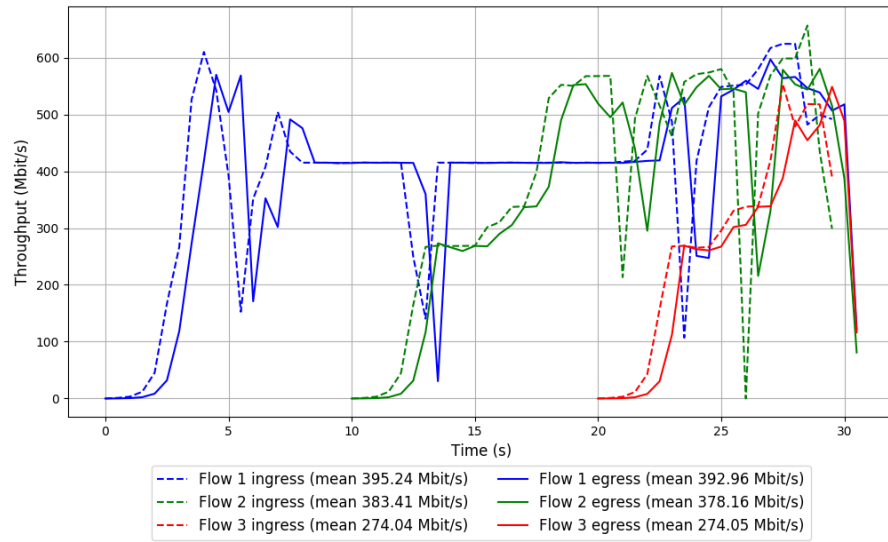
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2019-02-12 06:32:03
End at: 2019-02-12 06:32:33
Local clock offset: -0.317 ms
Remote clock offset: -0.17 ms


# Below is generated by plot.py at 2019-02-12 08:18:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 735.97 Mbit/s
95th percentile per-packet one-way delay: 241.511 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 392.96 Mbit/s
95th percentile per-packet one-way delay: 229.031 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 378.16 Mbit/s
95th percentile per-packet one-way delay: 250.922 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 274.05 Mbit/s
95th percentile per-packet one-way delay: 242.314 ms
Loss rate: 0.00%
```
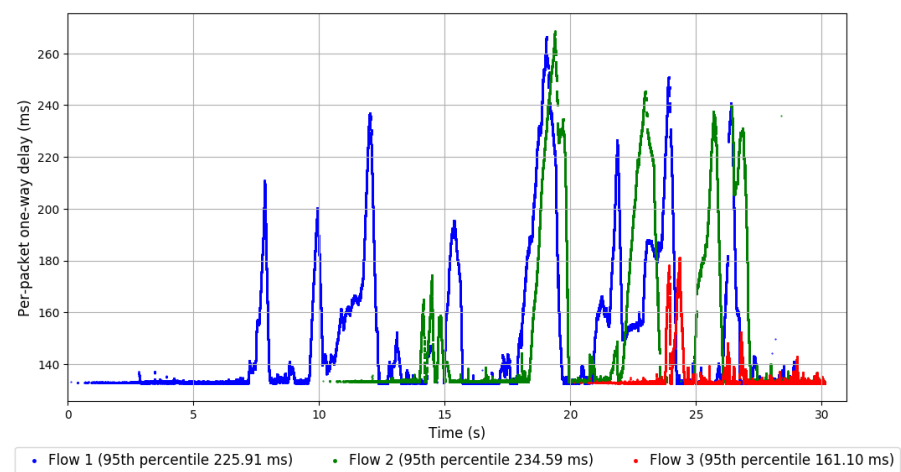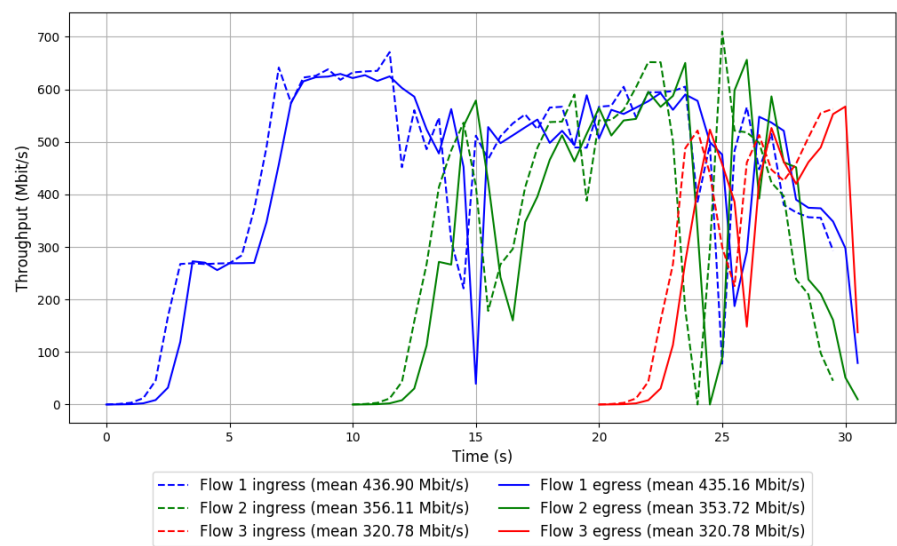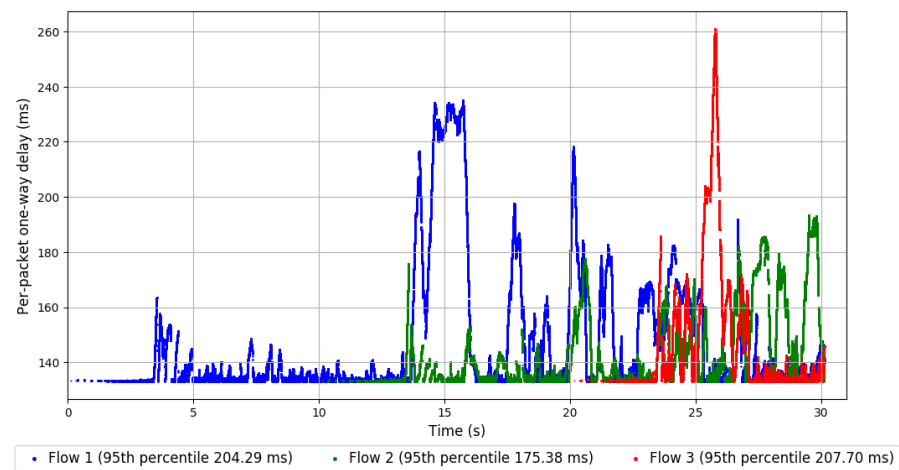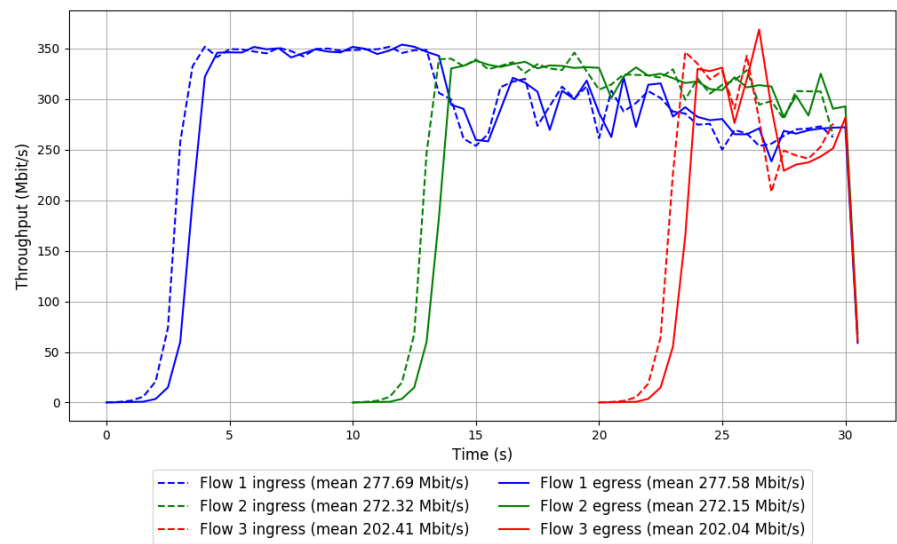
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 395.24 Mbit/s) — — — — Flow 1 egress (mean 392.96 Mbit/s) ———
Flow 2 ingress (mean 383.41 Mbit/s) — — — — Flow 2 egress (mean 378.16 Mbit/s) ———
Flow 3 ingress (mean 274.04 Mbit/s) — — — — Flow 3 egress (mean 274.05 Mbit/s) ———

Flow 1 (95th percentile 229.03 ms) • Flow 2 (95th percentile 250.92 ms) • Flow 3 (95th percentile 242.31 ms)
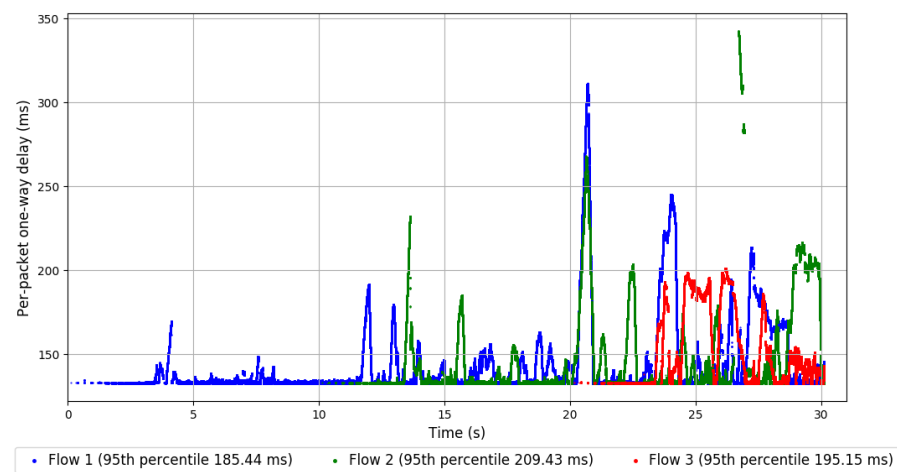
```
Run 5: Statistics of TCP BBR

Start at: 2019-02-12 07:16:14
End at: 2019-02-12 07:16:44
Local clock offset: -0.514 ms
Remote clock offset: -0.11 ms


# Below is generated by plot.py at 2019-02-12 08:18:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 777.34 Mbit/s
95th percentile per-packet one-way delay: 229.335 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 435.16 Mbit/s
95th percentile per-packet one-way delay: 225.915 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 353.72 Mbit/s
95th percentile per-packet one-way delay: 234.587 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 320.78 Mbit/s
95th percentile per-packet one-way delay: 161.097 ms
Loss rate: 0.00%
```

Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 436.90 Mbit/s) ---- Flow 1 egress (mean 435.16 Mbit/s) ——
Flow 2 ingress (mean 356.11 Mbit/s) ---- Flow 2 egress (mean 353.72 Mbit/s) ——
Flow 3 ingress (mean 320.78 Mbit/s) ---- Flow 3 egress (mean 320.78 Mbit/s) ——

Flow 1 (95th percentile 225.91 ms)   Flow 2 (95th percentile 234.59 ms)   Flow 3 (95th percentile 161.10 ms)
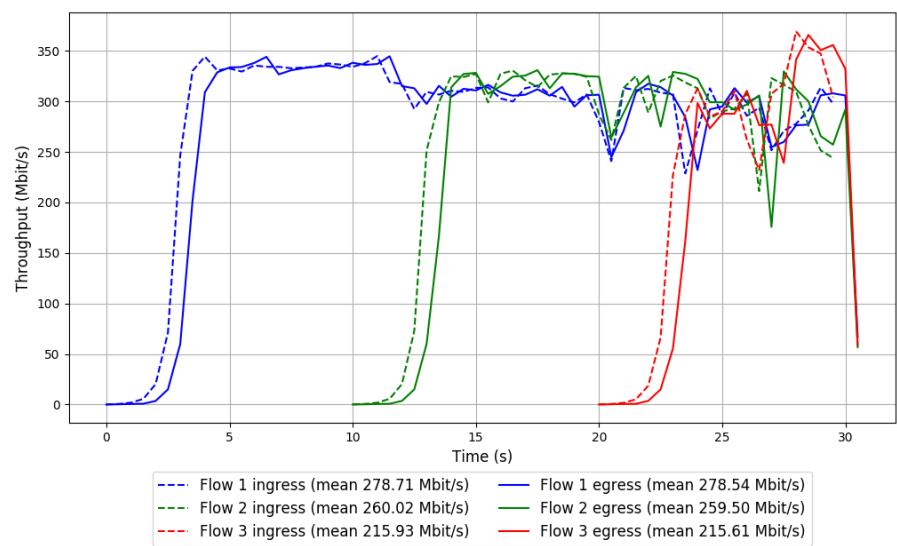
14

```
Run 1: Statistics of Copa

Start at: 2019-02-12 04:32:06
End at: 2019-02-12 04:32:36
Local clock offset: -0.555 ms
Remote clock offset: -0.249 ms


# Below is generated by plot.py at 2019-02-12 08:23:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 525.93 Mbit/s
95th percentile per-packet one-way delay: 188.088 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 277.58 Mbit/s
95th percentile per-packet one-way delay: 204.289 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 272.15 Mbit/s
95th percentile per-packet one-way delay: 175.377 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 202.04 Mbit/s
95th percentile per-packet one-way delay: 207.696 ms
Loss rate: 0.18%
```

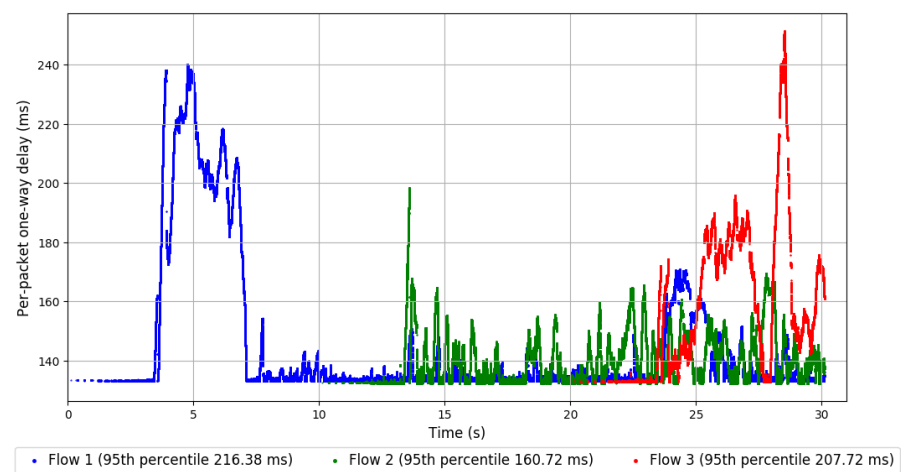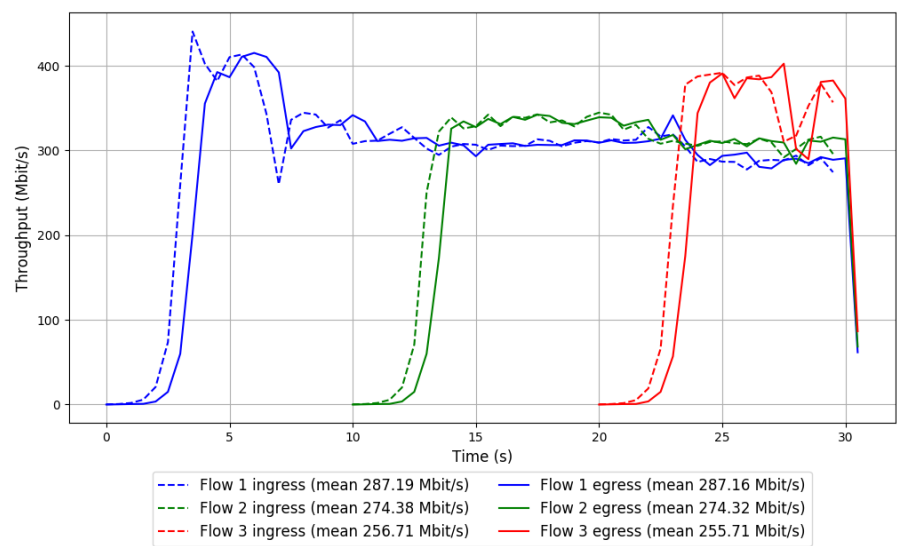Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-02-12 05:14:25
End at: 2019-02-12 05:14:55
Local clock offset: -0.245 ms
Remote clock offset: -0.058 ms


# Below is generated by plot.py at 2019-02-12 08:23:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 522.96 Mbit/s
95th percentile per-packet one-way delay: 198.316 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 278.54 Mbit/s
95th percentile per-packet one-way delay: 185.444 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 259.50 Mbit/s
95th percentile per-packet one-way delay: 209.427 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 215.61 Mbit/s
95th percentile per-packet one-way delay: 195.149 ms
Loss rate: 0.14%
```

Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-02-12 06:01:27
End at: 2019-02-12 06:01:57
Local clock offset: -0.193 ms
Remote clock offset: -0.044 ms


# Below is generated by plot.py at 2019-02-12 08:24:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 554.76 Mbit/s
95th percentile per-packet one-way delay: 205.658 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 287.16 Mbit/s
95th percentile per-packet one-way delay: 216.384 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 274.32 Mbit/s
95th percentile per-packet one-way delay: 160.720 ms
Loss rate: 0.02%
-- Flow 3:
Average throughput: 255.71 Mbit/s
95th percentile per-packet one-way delay: 207.718 ms
Loss rate: 0.39%
```
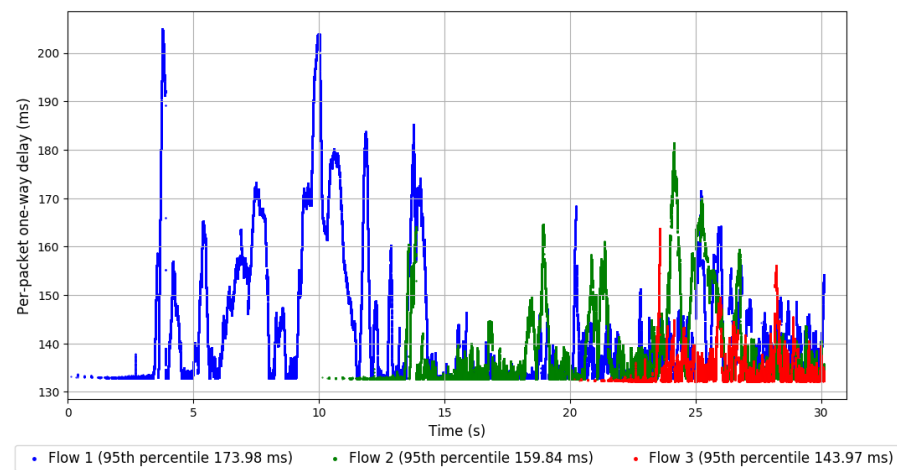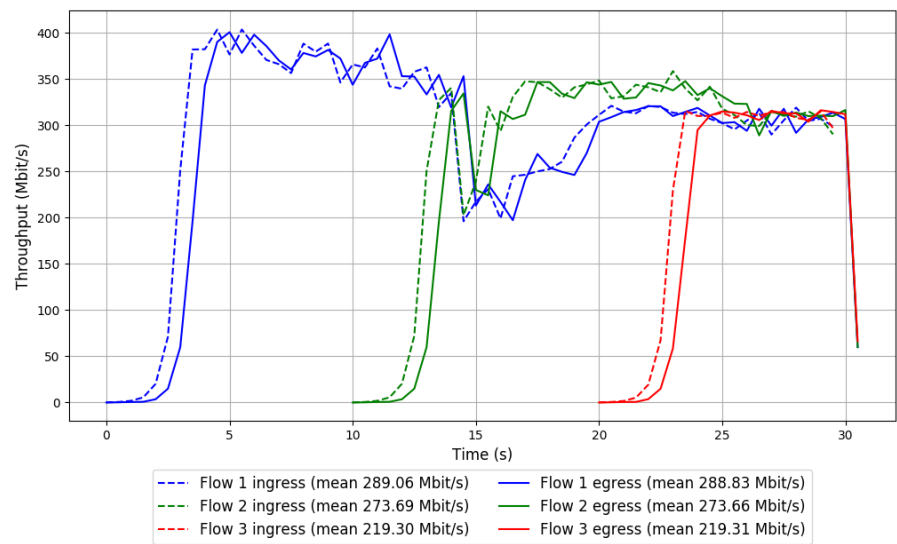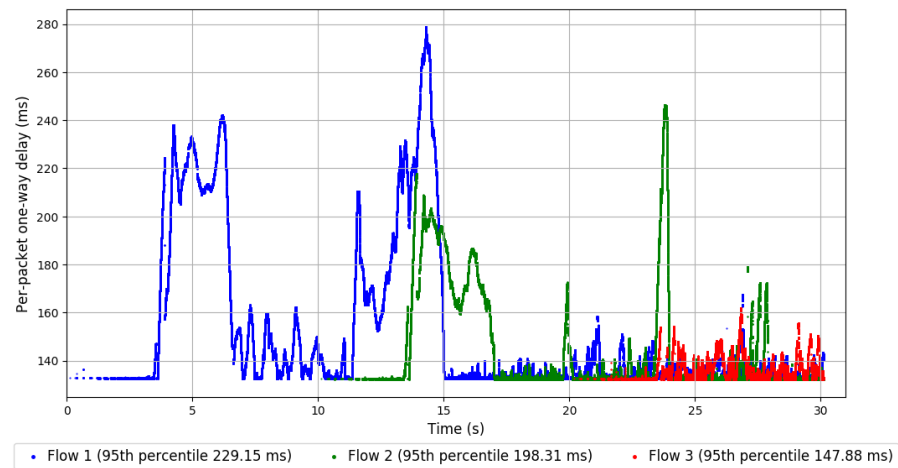
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 287.19 Mbit/s) — Flow 1 egress (mean 287.16 Mbit/s)
Flow 2 ingress (mean 274.38 Mbit/s) — Flow 2 egress (mean 274.32 Mbit/s)
Flow 3 ingress (mean 256.71 Mbit/s) — Flow 3 egress (mean 255.71 Mbit/s)

Flow 1 (95th percentile 216.38 ms)   Flow 2 (95th percentile 160.72 ms)   Flow 3 (95th percentile 207.72 ms)
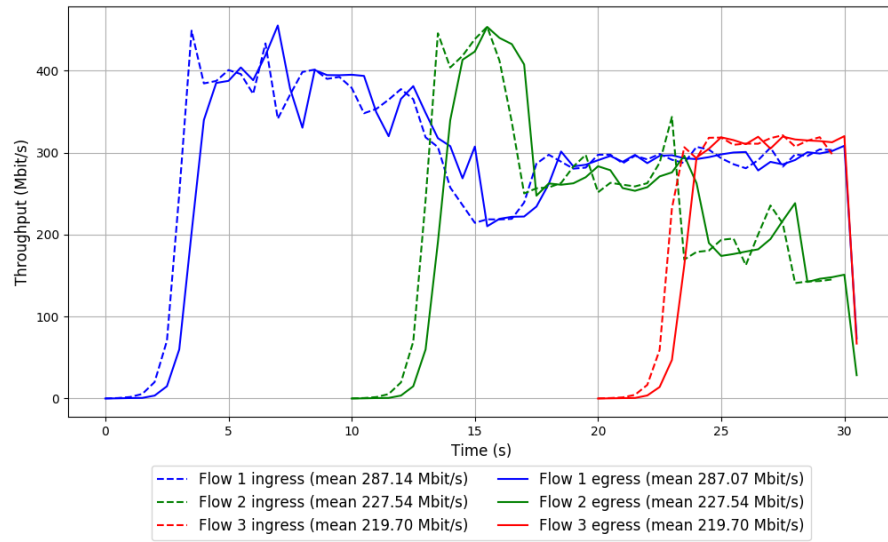
```
Run 4: Statistics of Copa

Start at: 2019-02-12 06:45:13
End at: 2019-02-12 06:45:43
Local clock offset: -0.155 ms
Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2019-02-12 08:43:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 543.89 Mbit/s
95th percentile per-packet one-way delay: 168.916 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 288.83 Mbit/s
95th percentile per-packet one-way delay: 173.976 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 273.66 Mbit/s
95th percentile per-packet one-way delay: 159.835 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 219.31 Mbit/s
95th percentile per-packet one-way delay: 143.967 ms
Loss rate: 0.00%
```
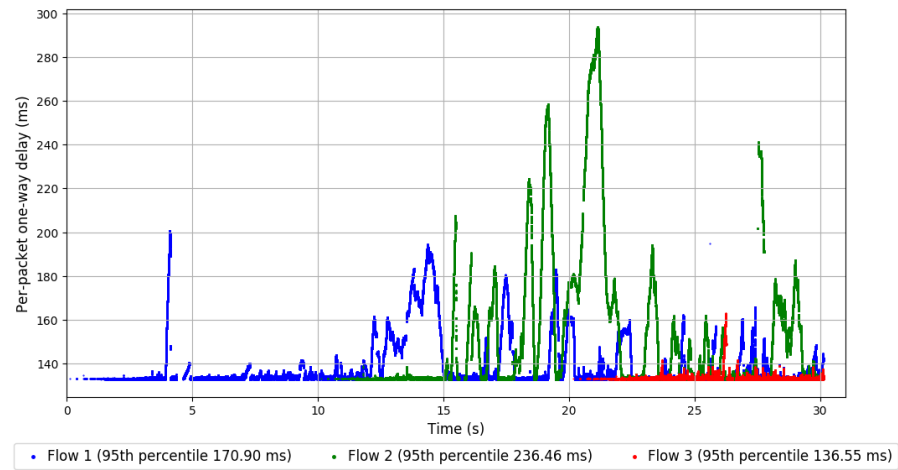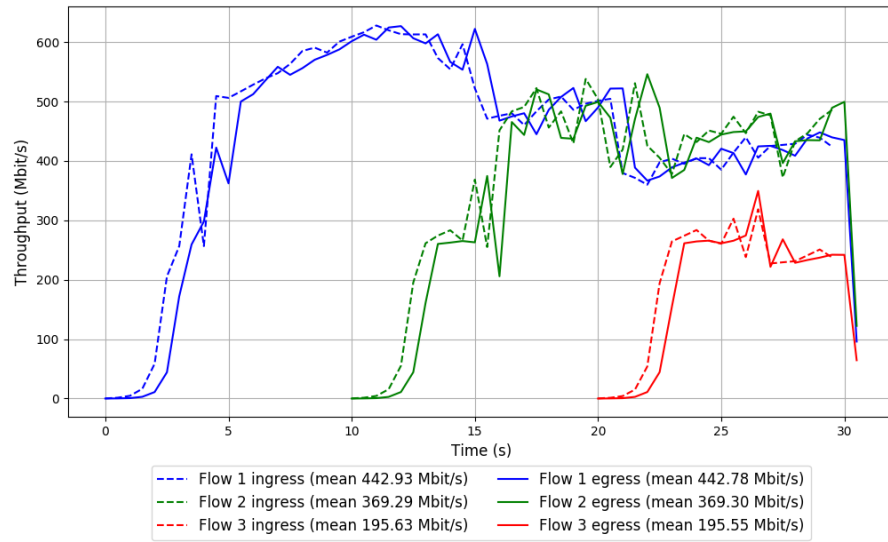
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-02-12 07:29:14
End at: 2019-02-12 07:29:44
Local clock offset: 0.388 ms
Remote clock offset: -0.092 ms


# Below is generated by plot.py at 2019-02-12 08:43:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 511.37 Mbit/s
95th percentile per-packet one-way delay: 220.781 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 287.07 Mbit/s
95th percentile per-packet one-way delay: 229.154 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 227.54 Mbit/s
95th percentile per-packet one-way delay: 198.308 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 219.70 Mbit/s
95th percentile per-packet one-way delay: 147.885 ms
Loss rate: 0.00%
```

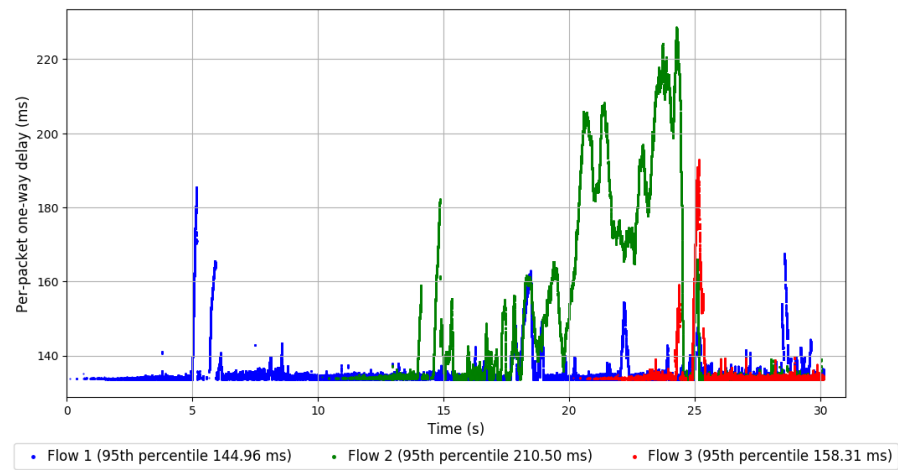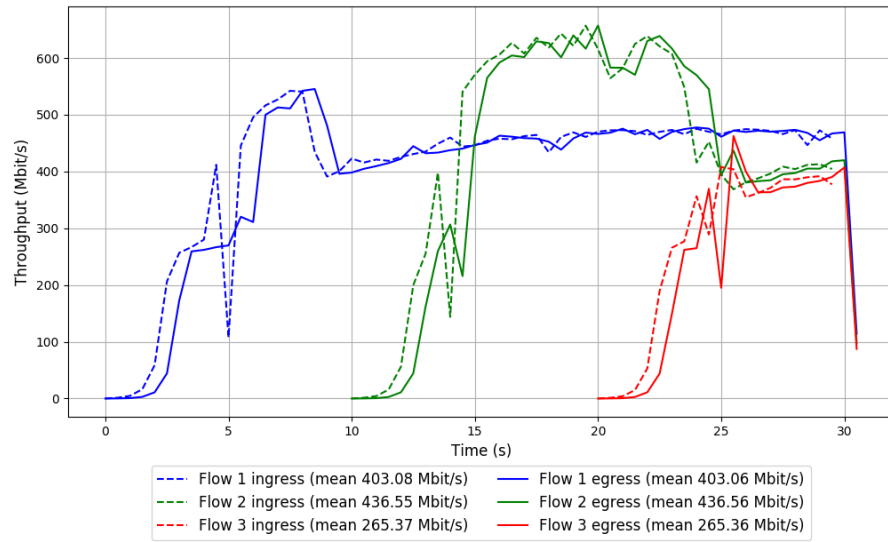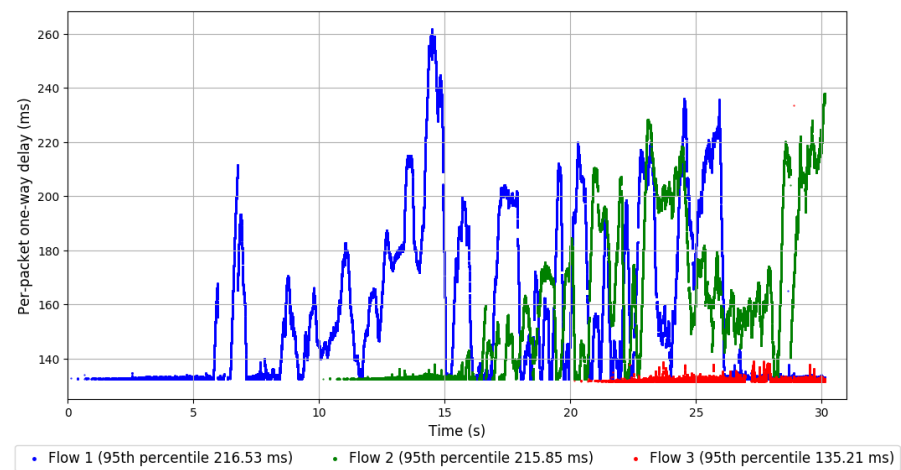## Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-02-12 04:34:52
End at: 2019-02-12 04:35:22
Local clock offset: -0.174 ms
Remote clock offset: -0.191 ms


# Below is generated by plot.py at 2019-02-12 08:43:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 753.70 Mbit/s
95th percentile per-packet one-way delay: 185.906 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 442.78 Mbit/s
95th percentile per-packet one-way delay: 170.897 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 369.30 Mbit/s
95th percentile per-packet one-way delay: 236.464 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 195.55 Mbit/s
95th percentile per-packet one-way delay: 136.547 ms
Loss rate: 0.02%
```
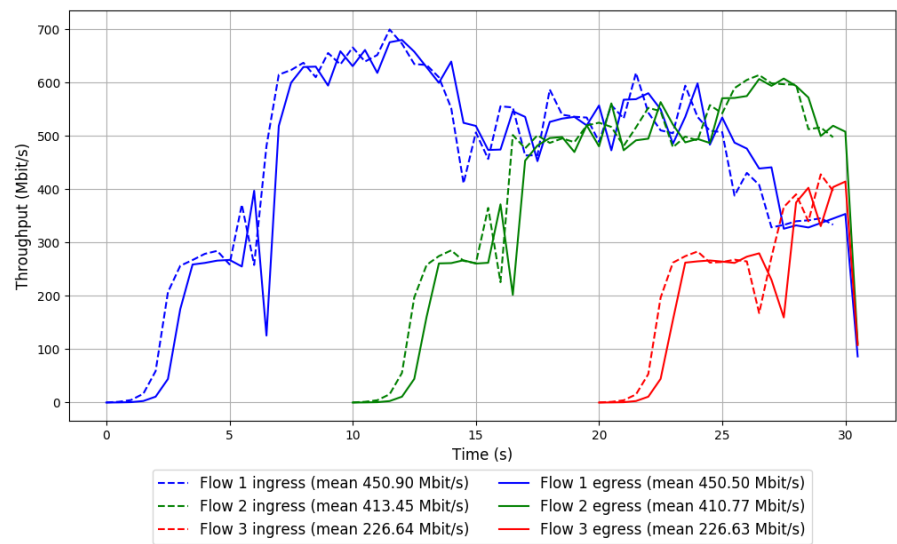
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 442.93 Mbit/s) --- Flow 1 egress (mean 442.78 Mbit/s)
Flow 2 ingress (mean 369.29 Mbit/s) --- Flow 2 egress (mean 369.30 Mbit/s)
Flow 3 ingress (mean 195.63 Mbit/s) --- Flow 3 egress (mean 195.55 Mbit/s)

Flow 1 (95th percentile 170.90 ms)   Flow 2 (95th percentile 236.46 ms)   Flow 3 (95th percentile 136.55 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2019-02-12 05:17:38
End at: 2019-02-12 05:18:08
Local clock offset: -0.646 ms
Remote clock offset: 0.329 ms


# Below is generated by plot.py at 2019-02-12 08:43:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 781.91 Mbit/s
95th percentile per-packet one-way delay: 192.079 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 403.06 Mbit/s
95th percentile per-packet one-way delay: 144.956 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 436.56 Mbit/s
95th percentile per-packet one-way delay: 210.501 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 265.36 Mbit/s
95th percentile per-packet one-way delay: 158.311 ms
Loss rate: 0.00%
```

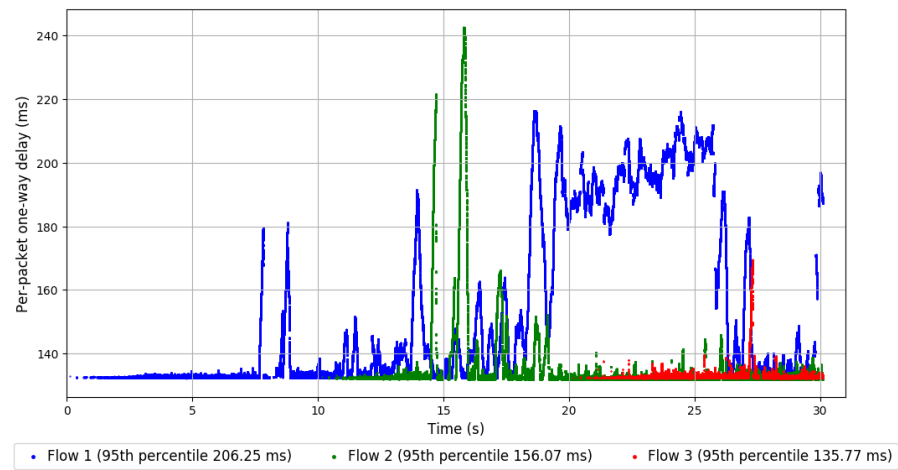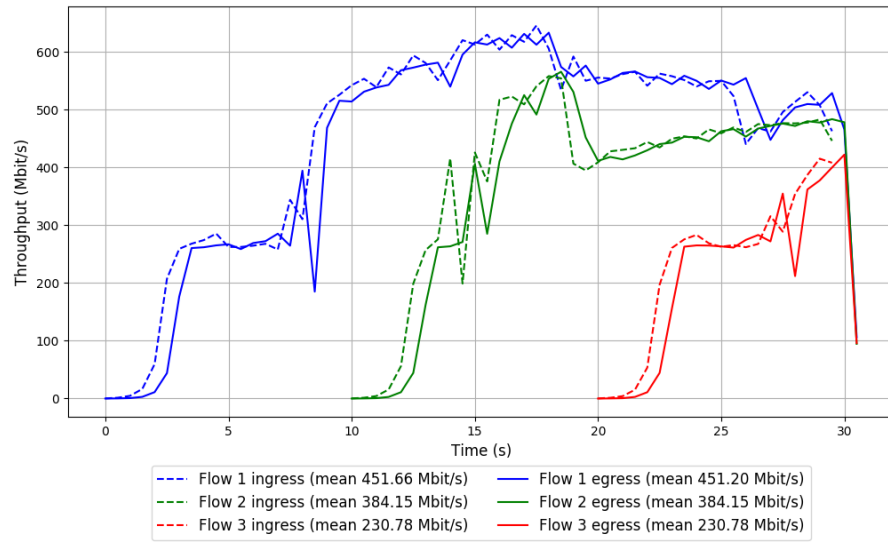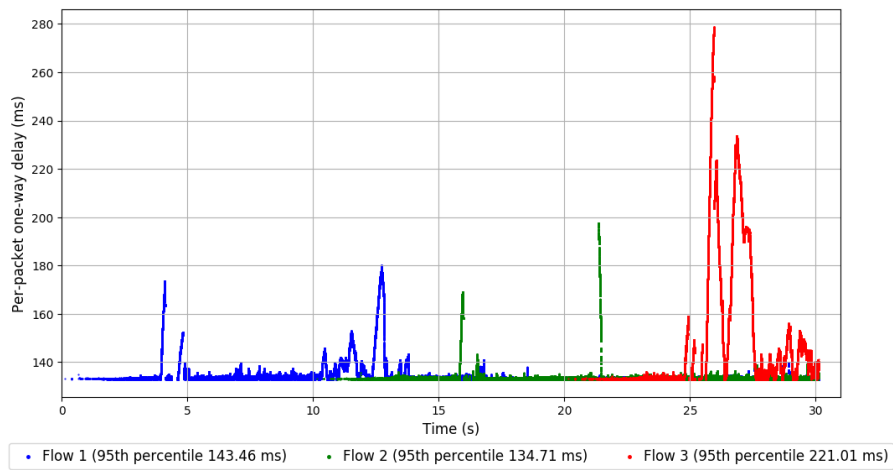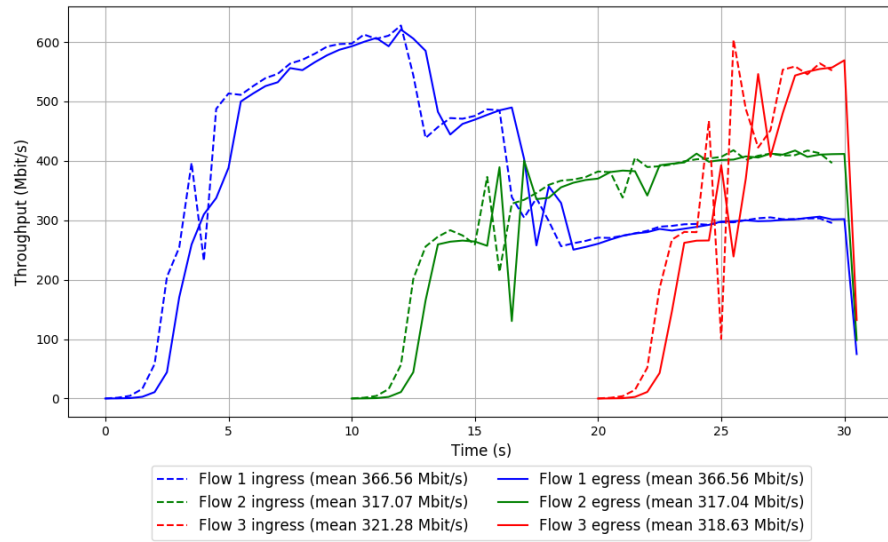Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-02-12 06:04:36
End at: 2019-02-12 06:05:06
Local clock offset: -0.19 ms
Remote clock offset: -0.448 ms


# Below is generated by plot.py at 2019-02-12 08:43:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 799.31 Mbit/s
95th percentile per-packet one-way delay: 215.139 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 450.50 Mbit/s
95th percentile per-packet one-way delay: 216.526 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 410.77 Mbit/s
95th percentile per-packet one-way delay: 215.855 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 226.63 Mbit/s
95th percentile per-packet one-way delay: 135.213 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 450.90 Mbit/s) --- Flow 1 egress (mean 450.50 Mbit/s)
Flow 2 ingress (mean 413.45 Mbit/s) --- Flow 2 egress (mean 410.77 Mbit/s)
Flow 3 ingress (mean 226.64 Mbit/s) --- Flow 3 egress (mean 226.63 Mbit/s)

Flow 1 (95th percentile 216.53 ms)   Flow 2 (95th percentile 215.85 ms)   Flow 3 (95th percentile 135.21 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-02-12 06:48:01
End at: 2019-02-12 06:48:31
Local clock offset: -0.451 ms
Remote clock offset: -0.463 ms


# Below is generated by plot.py at 2019-02-12 08:43:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 783.46 Mbit/s
95th percentile per-packet one-way delay: 203.218 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 451.20 Mbit/s
95th percentile per-packet one-way delay: 206.245 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 384.15 Mbit/s
95th percentile per-packet one-way delay: 156.068 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 230.78 Mbit/s
95th percentile per-packet one-way delay: 135.768 ms
Loss rate: 0.00%
```
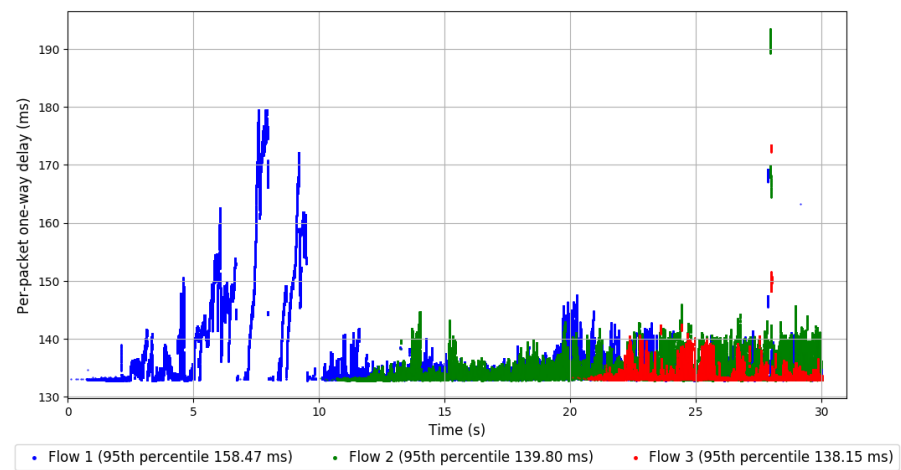
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-02-12 07:31:46
End at: 2019-02-12 07:32:16
Local clock offset: -0.245 ms
Remote clock offset: -0.094 ms


# Below is generated by plot.py at 2019-02-12 08:43:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 683.44 Mbit/s
95th percentile per-packet one-way delay: 159.810 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 366.56 Mbit/s
95th percentile per-packet one-way delay: 143.459 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 317.04 Mbit/s
95th percentile per-packet one-way delay: 134.714 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 318.63 Mbit/s
95th percentile per-packet one-way delay: 221.008 ms
Loss rate: 0.81%
```
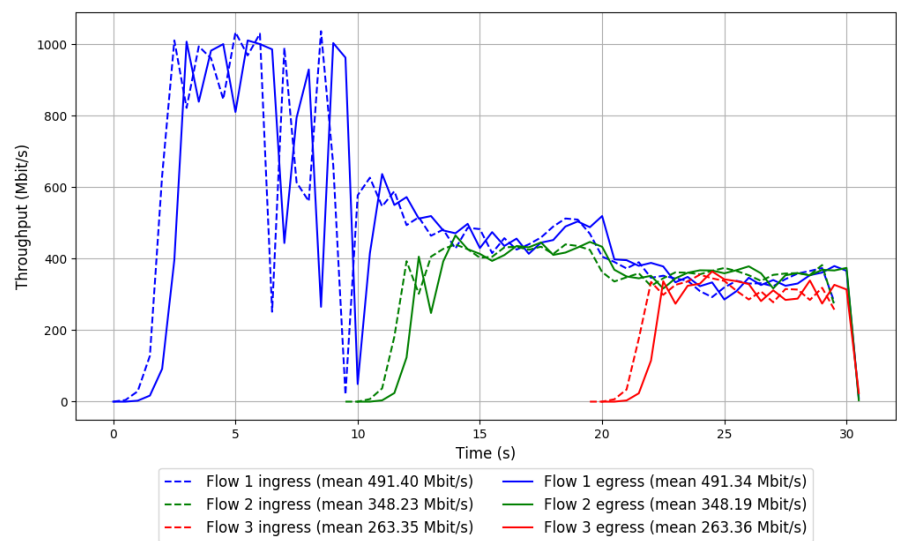
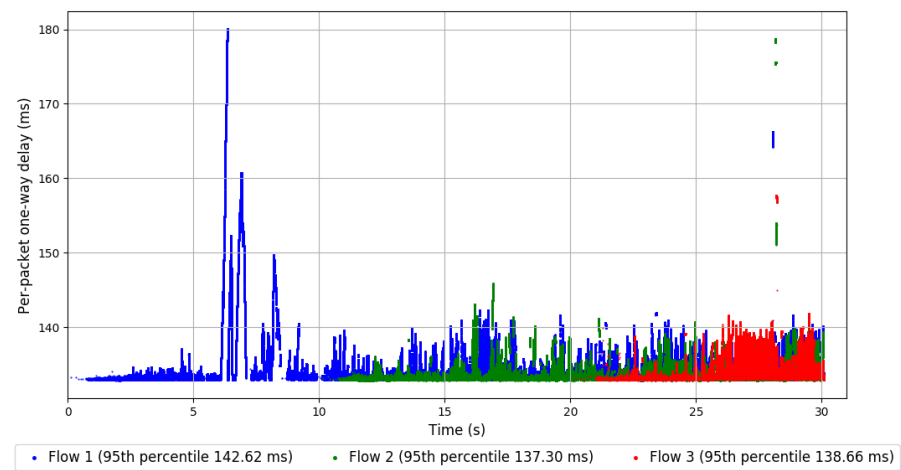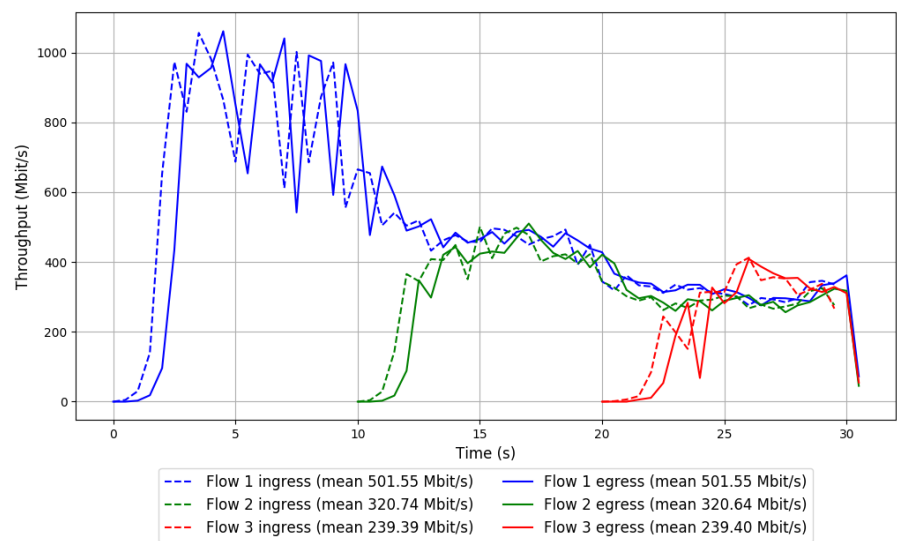Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-02-12 04:25:40
End at: 2019-02-12 04:26:10
Local clock offset: -0.164 ms
Remote clock offset: -0.22 ms

# Below is generated by plot.py at 2019-02-12 08:49:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 810.81 Mbit/s
95th percentile per-packet one-way delay: 151.410 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 491.34 Mbit/s
95th percentile per-packet one-way delay: 158.467 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 348.19 Mbit/s
95th percentile per-packet one-way delay: 139.801 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 263.36 Mbit/s
95th percentile per-packet one-way delay: 138.148 ms
Loss rate: 0.00%
```

Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-02-12 05:07:57
End at: 2019-02-12 05:08:27
Local clock offset: -0.253 ms
Remote clock offset: -0.091 ms


# Below is generated by plot.py at 2019-02-12 09:01:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 793.76 Mbit/s
95th percentile per-packet one-way delay: 139.773 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 501.55 Mbit/s
95th percentile per-packet one-way delay: 142.622 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 320.64 Mbit/s
95th percentile per-packet one-way delay: 137.302 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 239.40 Mbit/s
95th percentile per-packet one-way delay: 138.658 ms
Loss rate: 0.00%
```
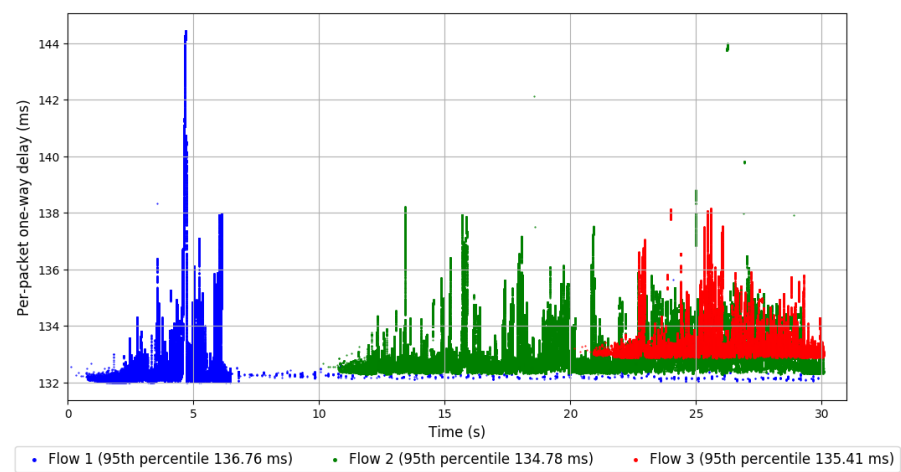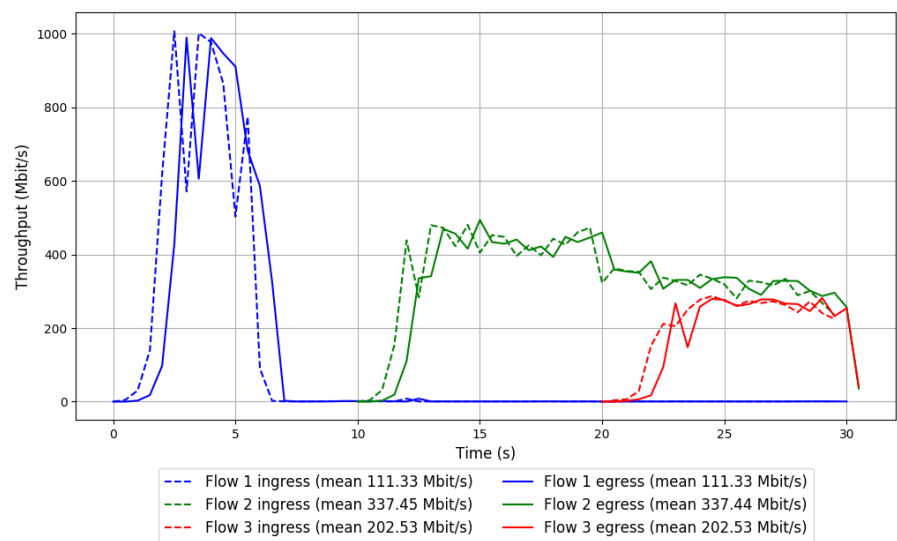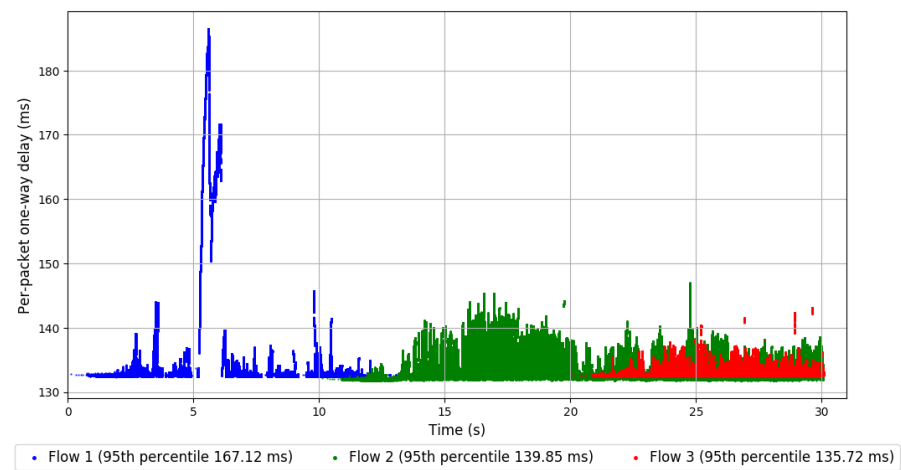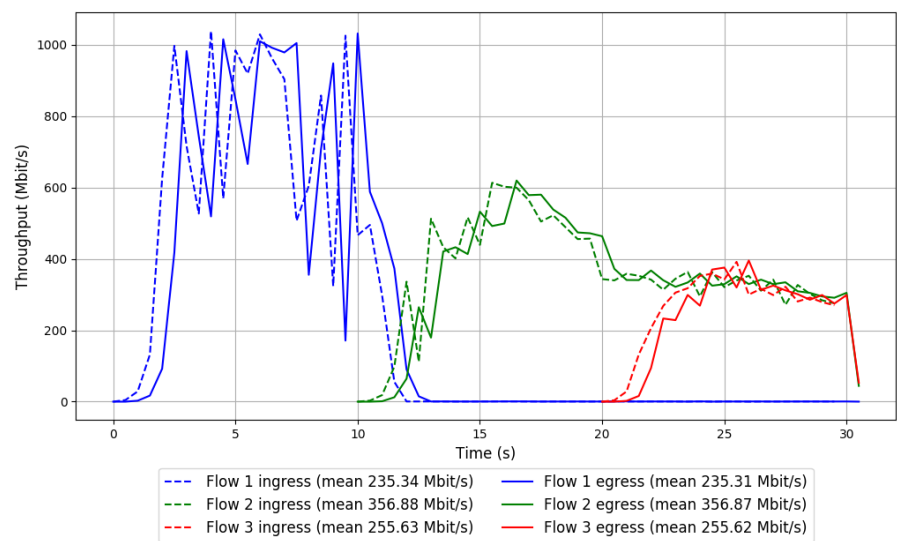
Run 2: Report of FillP — Data Link

- Flow 1 ingress (mean 501.55 Mbit/s)
- Flow 1 egress (mean 501.55 Mbit/s)
- Flow 2 ingress (mean 320.74 Mbit/s)
- Flow 2 egress (mean 320.64 Mbit/s)
- Flow 3 ingress (mean 239.39 Mbit/s)
- Flow 3 egress (mean 239.40 Mbit/s)

- Flow 1 (95th percentile 142.62 ms)
- Flow 2 (95th percentile 137.30 ms)
- Flow 3 (95th percentile 138.66 ms)

```
Run 3: Statistics of FillP

Start at: 2019-02-12 05:54:55
End at: 2019-02-12 05:55:25
Local clock offset: -0.249 ms
Remote clock offset: 0.009 ms


# Below is generated by plot.py at 2019-02-12 09:01:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 402.24 Mbit/s
95th percentile per-packet one-way delay: 135.138 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 111.33 Mbit/s
95th percentile per-packet one-way delay: 136.758 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 337.44 Mbit/s
95th percentile per-packet one-way delay: 134.785 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 202.53 Mbit/s
95th percentile per-packet one-way delay: 135.414 ms
Loss rate: 0.00%
```
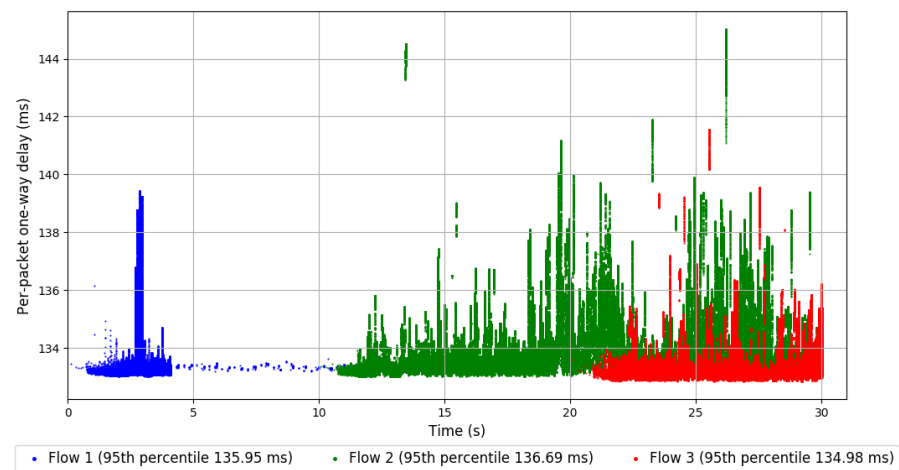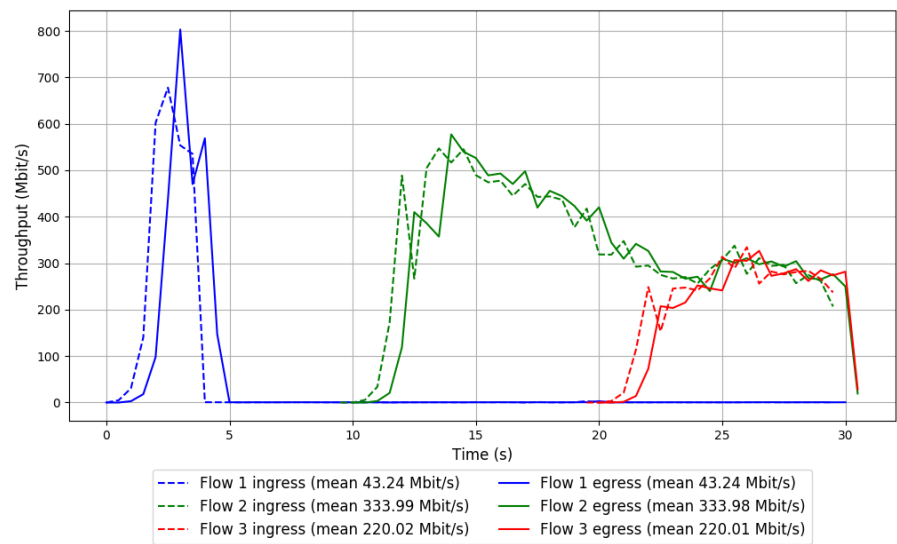
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-02-12 06:39:04
End at: 2019-02-12 06:39:34
Local clock offset: 0.252 ms
Remote clock offset: -0.159 ms


# Below is generated by plot.py at 2019-02-12 09:01:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 557.10 Mbit/s
95th percentile per-packet one-way delay: 147.950 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 235.31 Mbit/s
95th percentile per-packet one-way delay: 167.124 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 356.87 Mbit/s
95th percentile per-packet one-way delay: 139.851 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 255.62 Mbit/s
95th percentile per-packet one-way delay: 135.720 ms
Loss rate: 0.00%
```
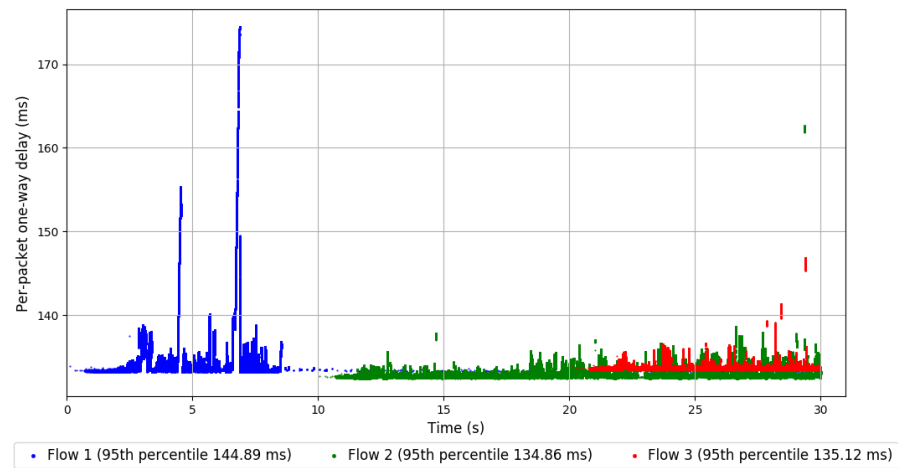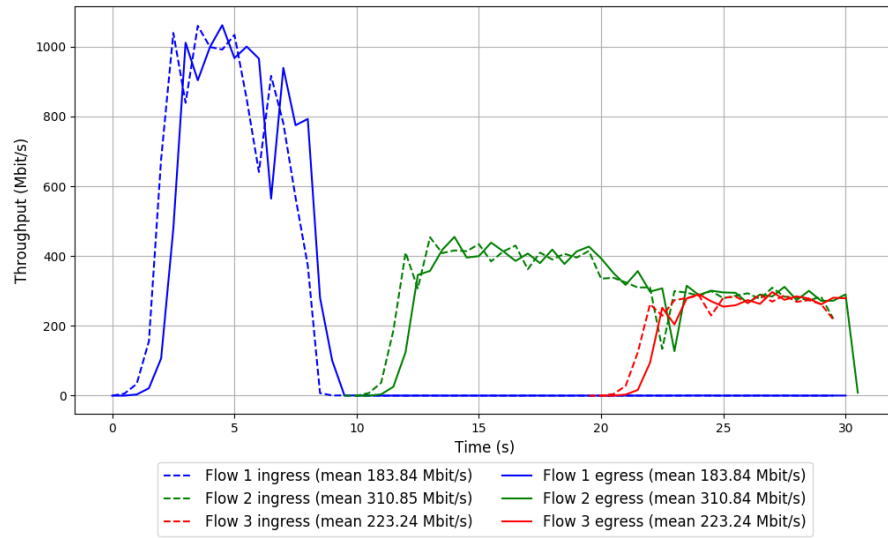
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-02-12 07:23:35
End at: 2019-02-12 07:24:05
Local clock offset: -0.422 ms
Remote clock offset: -0.137 ms


# Below is generated by plot.py at 2019-02-12 09:01:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 338.44 Mbit/s
95th percentile per-packet one-way delay: 136.236 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.24 Mbit/s
95th percentile per-packet one-way delay: 135.951 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 333.98 Mbit/s
95th percentile per-packet one-way delay: 136.686 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 220.01 Mbit/s
95th percentile per-packet one-way delay: 134.980 ms
Loss rate: 0.00%
```
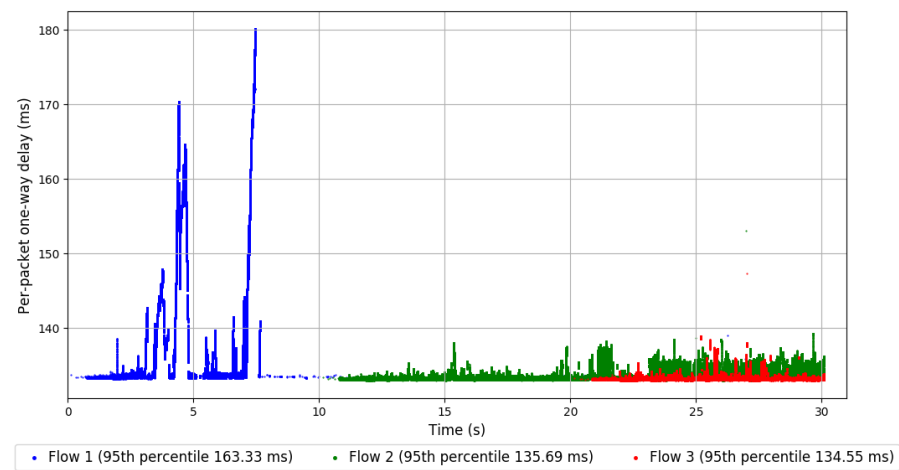
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-02-12 04:28:02
End at: 2019-02-12 04:28:32
Local clock offset: -0.607 ms
Remote clock offset: -0.224 ms


# Below is generated by plot.py at 2019-02-12 09:01:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 465.16 Mbit/s
95th percentile per-packet one-way delay: 137.792 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 183.84 Mbit/s
95th percentile per-packet one-way delay: 144.892 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 310.84 Mbit/s
95th percentile per-packet one-way delay: 134.858 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 223.24 Mbit/s
95th percentile per-packet one-way delay: 135.115 ms
Loss rate: 0.00%
```

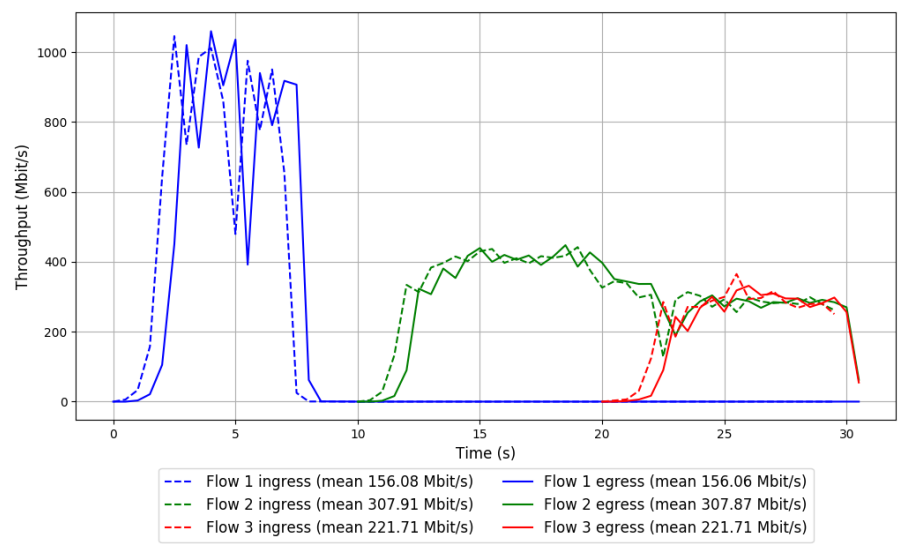## Run 1: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 183.84 Mbit/s) Flow 1 egress (mean 183.84 Mbit/s)
Flow 2 ingress (mean 310.85 Mbit/s) Flow 2 egress (mean 310.84 Mbit/s)
Flow 3 ingress (mean 223.24 Mbit/s) Flow 3 egress (mean 223.24 Mbit/s)

Flow 1 (95th percentile 144.89 ms)   Flow 2 (95th percentile 134.86 ms)   Flow 3 (95th percentile 135.12 ms)
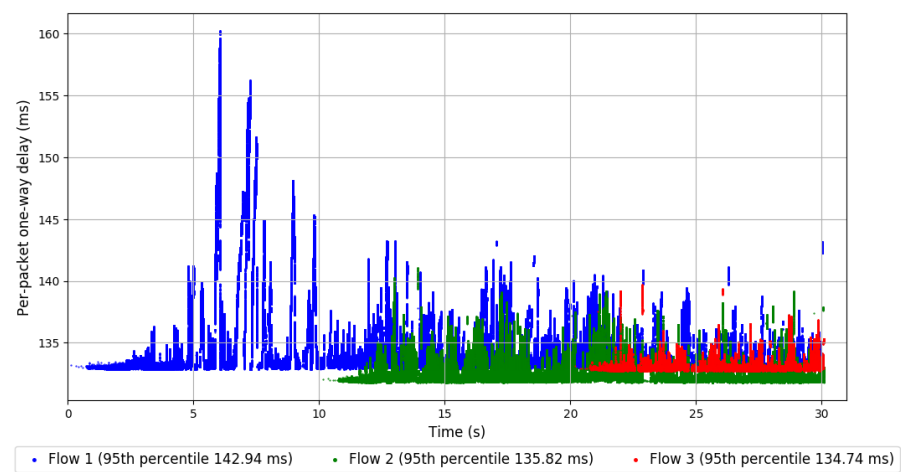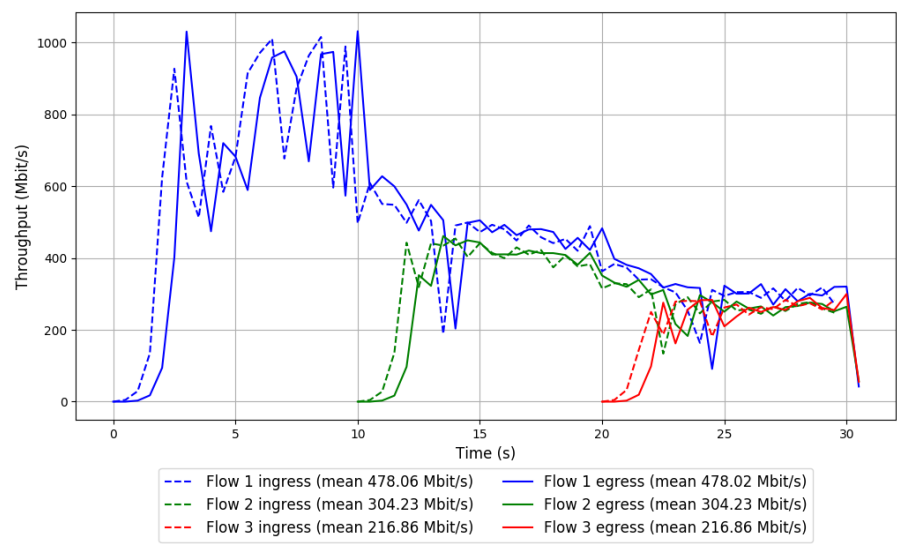
```
Run 2: Statistics of FillP-Sheep

Start at: 2019-02-12 05:10:12
End at: 2019-02-12 05:10:42
Local clock offset: -0.431 ms
Remote clock offset: -0.057 ms


# Below is generated by plot.py at 2019-02-12 09:01:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 434.26 Mbit/s
95th percentile per-packet one-way delay: 150.794 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 156.06 Mbit/s
95th percentile per-packet one-way delay: 163.330 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 307.87 Mbit/s
95th percentile per-packet one-way delay: 135.695 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 221.71 Mbit/s
95th percentile per-packet one-way delay: 134.546 ms
Loss rate: 0.00%
```

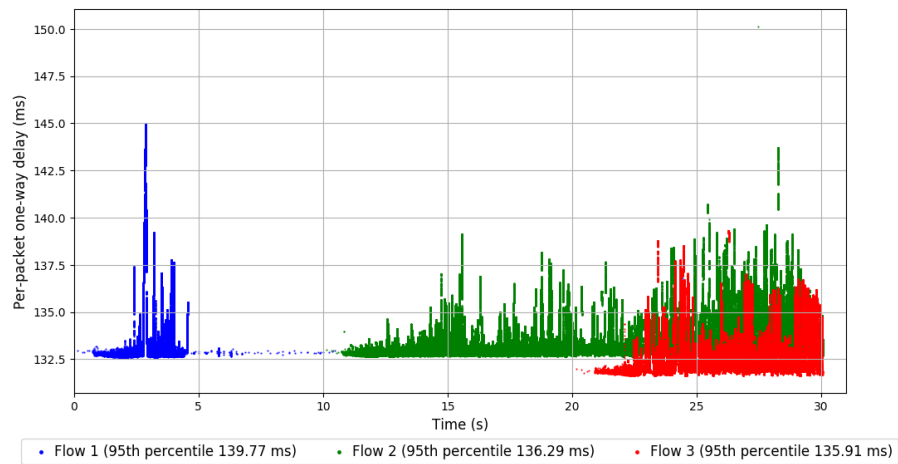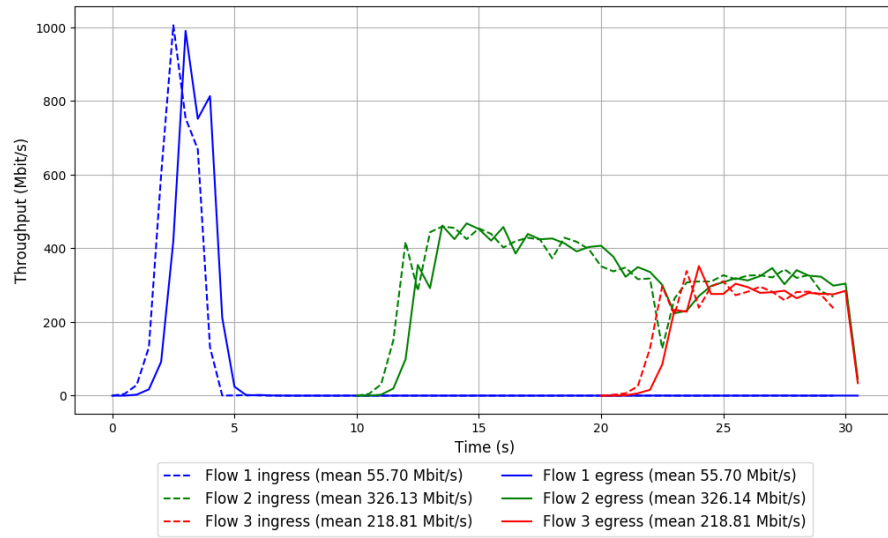# Run 2: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 156.08 Mbit/s) — — — Flow 1 egress (mean 156.06 Mbit/s)
Flow 2 ingress (mean 307.91 Mbit/s) — — — Flow 2 egress (mean 307.87 Mbit/s)
Flow 3 ingress (mean 221.71 Mbit/s) — — — Flow 3 egress (mean 221.71 Mbit/s)

Flow 1 (95th percentile 163.33 ms) • Flow 2 (95th percentile 135.69 ms) • Flow 3 (95th percentile 134.55 ms)

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-02-12 05:56:51
End at: 2019-02-12 05:57:21
Local clock offset: -0.442 ms
Remote clock offset: -0.355 ms


# Below is generated by plot.py at 2019-02-12 09:07:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 751.69 Mbit/s
95th percentile per-packet one-way delay: 140.298 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 478.02 Mbit/s
95th percentile per-packet one-way delay: 142.943 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 304.23 Mbit/s
95th percentile per-packet one-way delay: 135.822 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 216.86 Mbit/s
95th percentile per-packet one-way delay: 134.740 ms
Loss rate: 0.00%
```

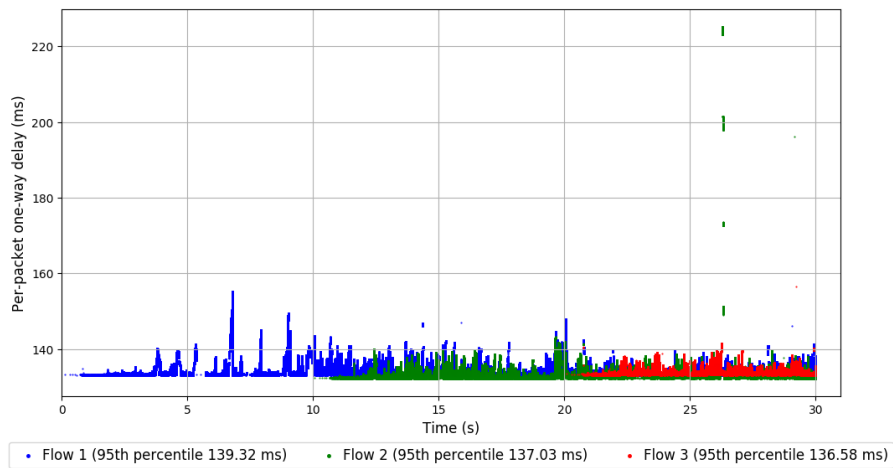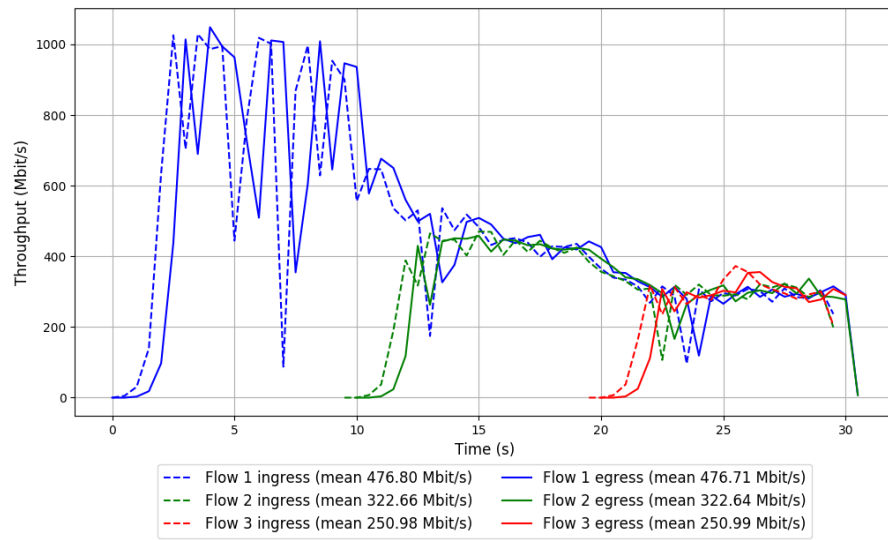Run 3: Report of FillP-Sheep — Data Link

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-02-12 06:41:01
End at: 2019-02-12 06:41:31
Local clock offset: 0.163 ms
Remote clock offset: -0.099 ms


# Below is generated by plot.py at 2019-02-12 09:07:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 345.16 Mbit/s
95th percentile per-packet one-way delay: 136.462 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 55.70 Mbit/s
95th percentile per-packet one-way delay: 139.772 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 326.14 Mbit/s
95th percentile per-packet one-way delay: 136.292 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 218.81 Mbit/s
95th percentile per-packet one-way delay: 135.908 ms
Loss rate: 0.00%
```

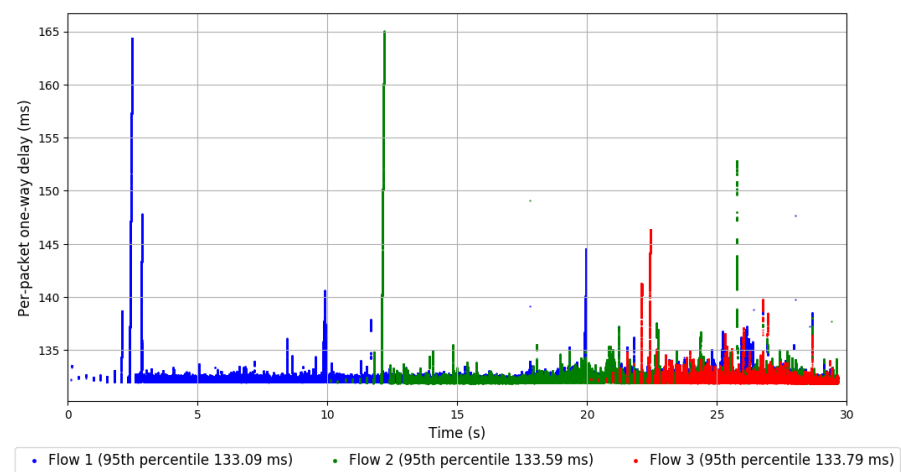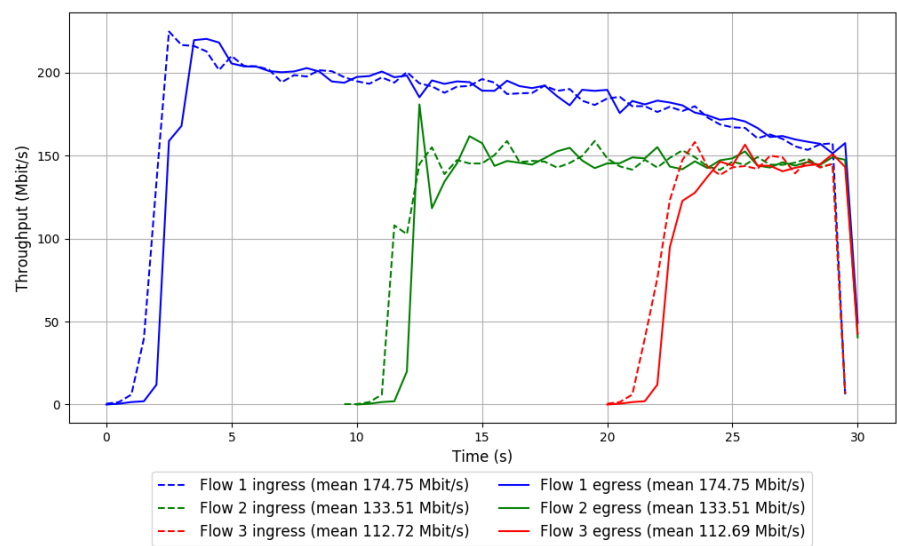Run 4: Report of FillP-Sheep — Data Link

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-02-12 07:25:19
End at: 2019-02-12 07:25:49
Local clock offset: -0.456 ms
Remote clock offset: -0.129 ms


# Below is generated by plot.py at 2019-02-12 09:15:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 775.32 Mbit/s
95th percentile per-packet one-way delay: 138.581 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 476.71 Mbit/s
95th percentile per-packet one-way delay: 139.318 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 322.64 Mbit/s
95th percentile per-packet one-way delay: 137.026 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 250.99 Mbit/s
95th percentile per-packet one-way delay: 136.579 ms
Loss rate: 0.00%
```
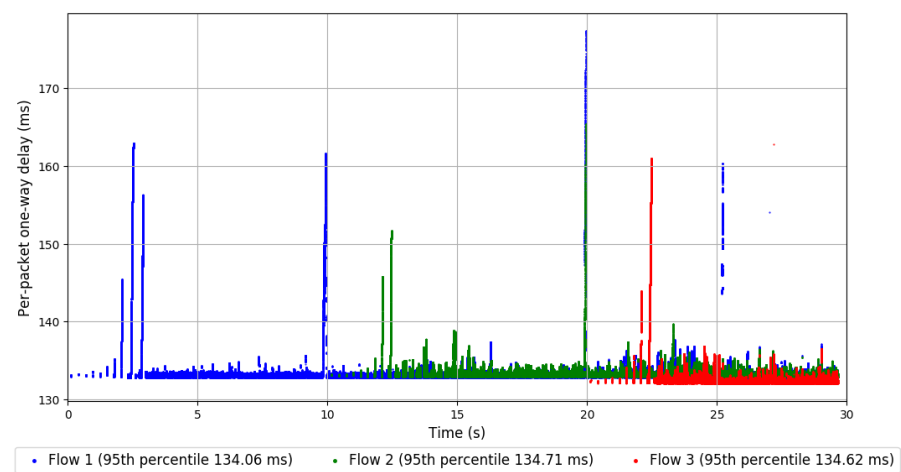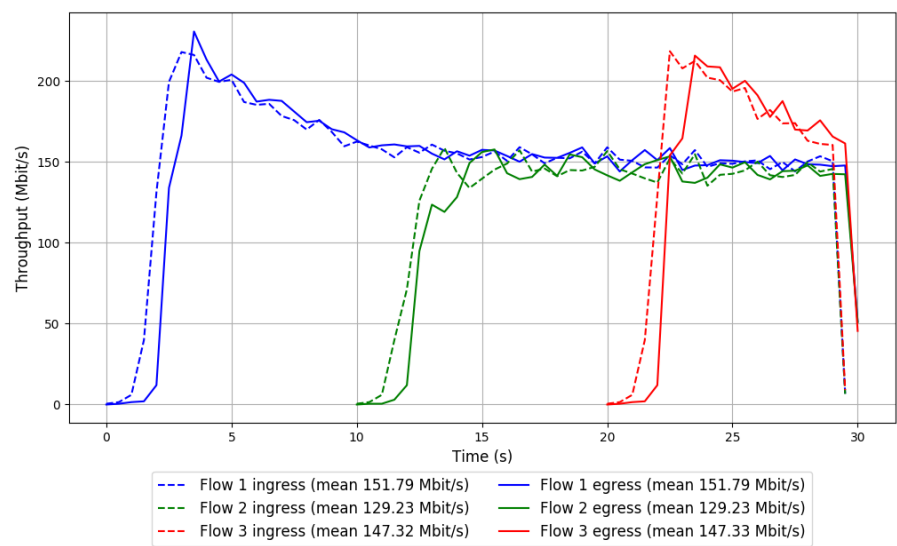
Run 5: Report of FillP-Sheep — Data Link

Flow 1 ingress (mean 476.80 Mbit/s) --- Flow 1 egress (mean 476.71 Mbit/s)
Flow 2 ingress (mean 322.66 Mbit/s) --- Flow 2 egress (mean 322.64 Mbit/s)
Flow 3 ingress (mean 250.98 Mbit/s) --- Flow 3 egress (mean 250.99 Mbit/s)

Flow 1 (95th percentile 139.32 ms)   Flow 2 (95th percentile 137.03 ms)   Flow 3 (95th percentile 136.58 ms)

```
Run 1: Statistics of Indigo

Start at: 2019-02-12 04:15:13
End at: 2019-02-12 04:15:43
Local clock offset: -0.065 ms
Remote clock offset: -0.153 ms


# Below is generated by plot.py at 2019-02-12 09:15:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 299.41 Mbit/s
95th percentile per-packet one-way delay: 133.351 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 174.75 Mbit/s
95th percentile per-packet one-way delay: 133.094 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 133.51 Mbit/s
95th percentile per-packet one-way delay: 133.589 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 112.69 Mbit/s
95th percentile per-packet one-way delay: 133.793 ms
Loss rate: 0.03%
```
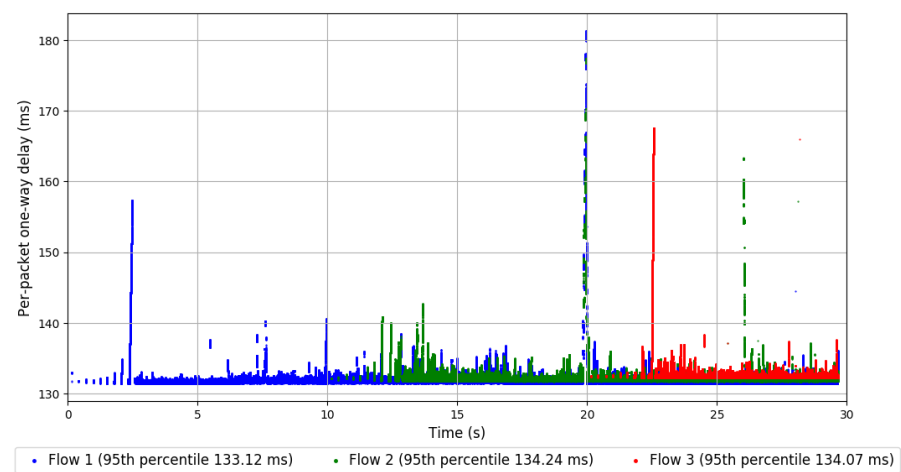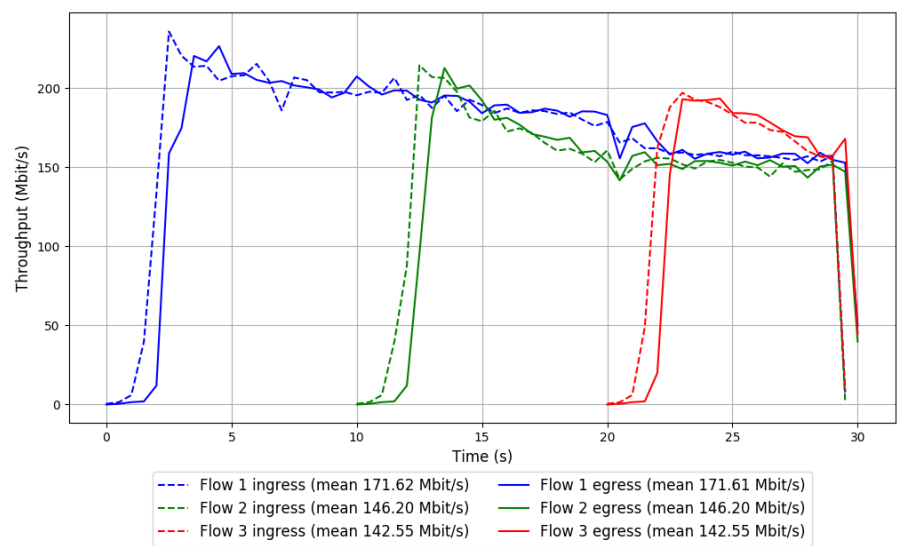
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-02-12 04:57:40
End at: 2019-02-12 04:58:10
Local clock offset: -0.041 ms
Remote clock offset: 0.229 ms


# Below is generated by plot.py at 2019-02-12 09:15:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 284.64 Mbit/s
95th percentile per-packet one-way delay: 134.363 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 151.79 Mbit/s
95th percentile per-packet one-way delay: 134.062 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 129.23 Mbit/s
95th percentile per-packet one-way delay: 134.705 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 147.33 Mbit/s
95th percentile per-packet one-way delay: 134.623 ms
Loss rate: 0.00%
```
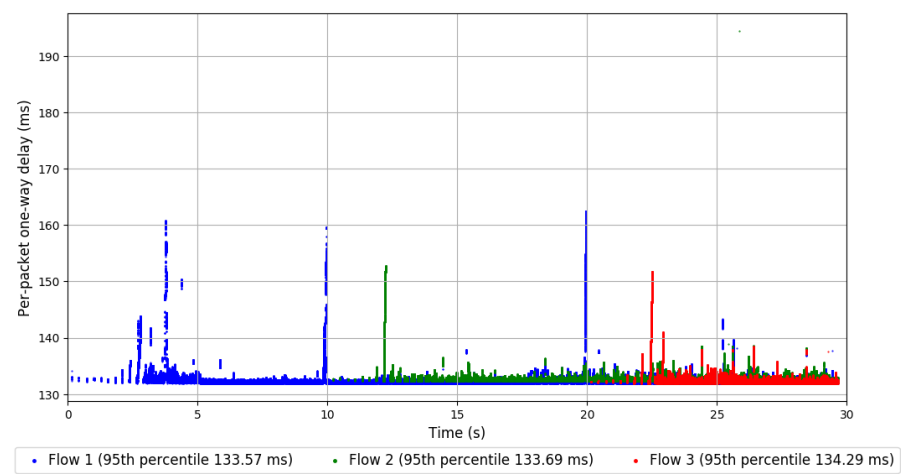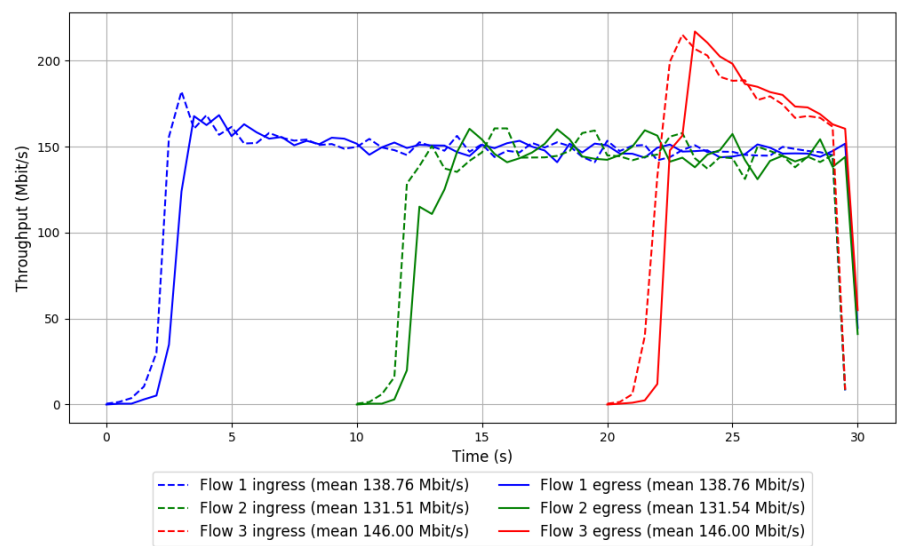
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-02-12 05:43:31
End at: 2019-02-12 05:44:01
Local clock offset: -0.033 ms
Remote clock offset: -0.402 ms


# Below is generated by plot.py at 2019-02-12 09:15:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 314.13 Mbit/s
95th percentile per-packet one-way delay: 133.636 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 171.61 Mbit/s
95th percentile per-packet one-way delay: 133.124 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 146.20 Mbit/s
95th percentile per-packet one-way delay: 134.241 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 142.55 Mbit/s
95th percentile per-packet one-way delay: 134.066 ms
Loss rate: 0.00%
```
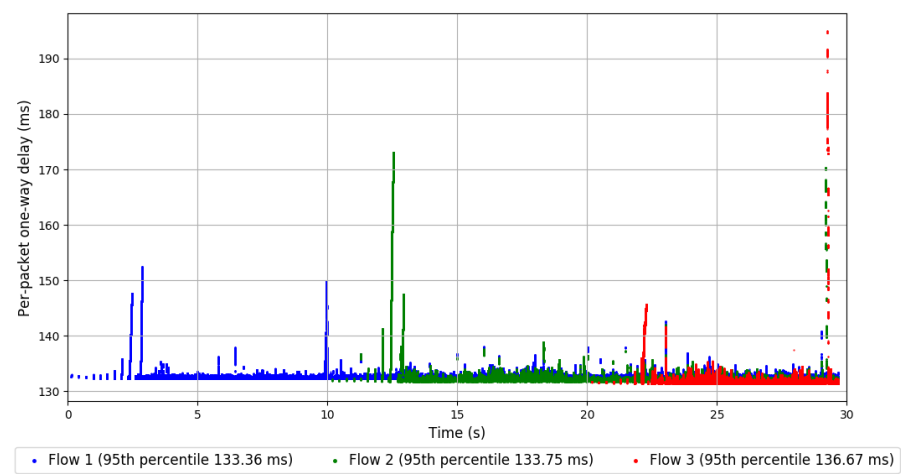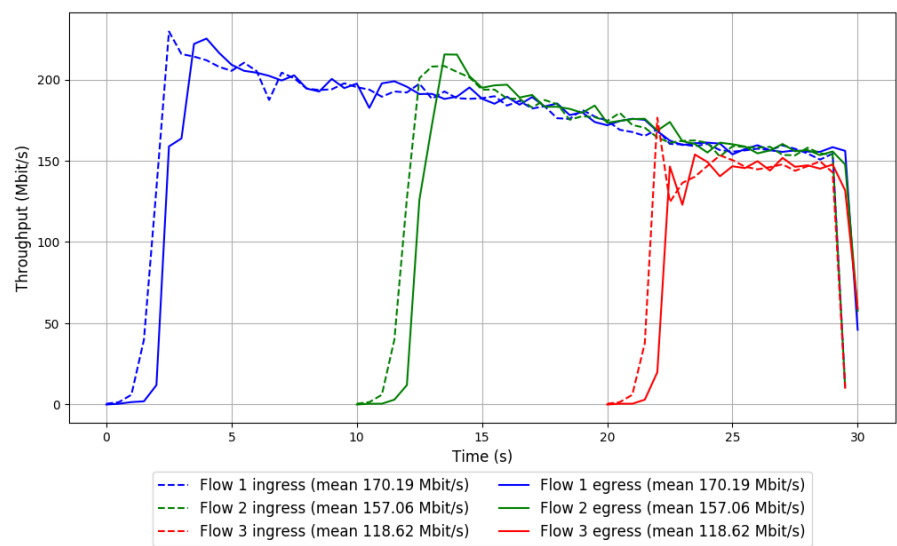
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-02-12 06:28:40
End at: 2019-02-12 06:29:10
Local clock offset: 0.275 ms
Remote clock offset: -0.168 ms


# Below is generated by plot.py at 2019-02-12 09:15:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 272.35 Mbit/s
95th percentile per-packet one-way delay: 133.700 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 138.76 Mbit/s
95th percentile per-packet one-way delay: 133.571 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 131.54 Mbit/s
95th percentile per-packet one-way delay: 133.691 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 146.00 Mbit/s
95th percentile per-packet one-way delay: 134.293 ms
Loss rate: 0.00%
```
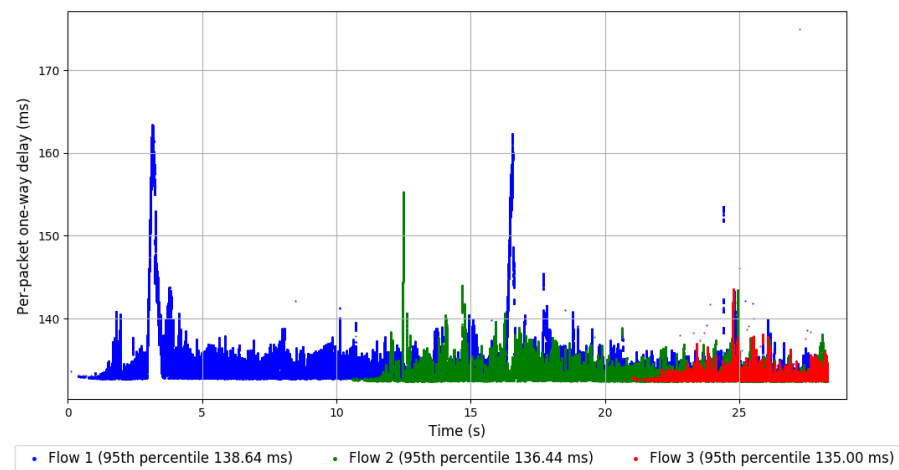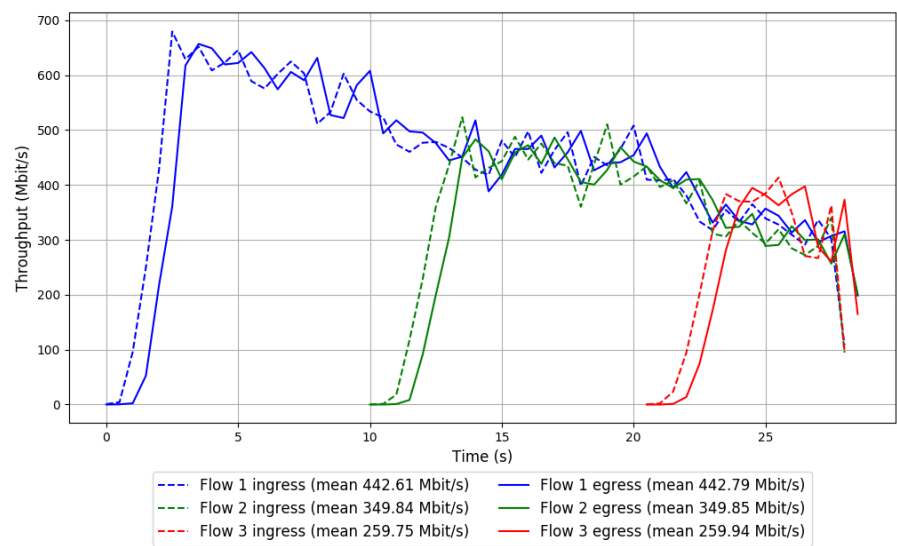
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-02-12 07:12:26
End at: 2019-02-12 07:12:56
Local clock offset: -0.015 ms
Remote clock offset: -0.515 ms


# Below is generated by plot.py at 2019-02-12 09:16:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 312.00 Mbit/s
95th percentile per-packet one-way delay: 133.571 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 170.19 Mbit/s
95th percentile per-packet one-way delay: 133.363 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 157.06 Mbit/s
95th percentile per-packet one-way delay: 133.754 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 118.62 Mbit/s
95th percentile per-packet one-way delay: 136.669 ms
Loss rate: 0.00%
```
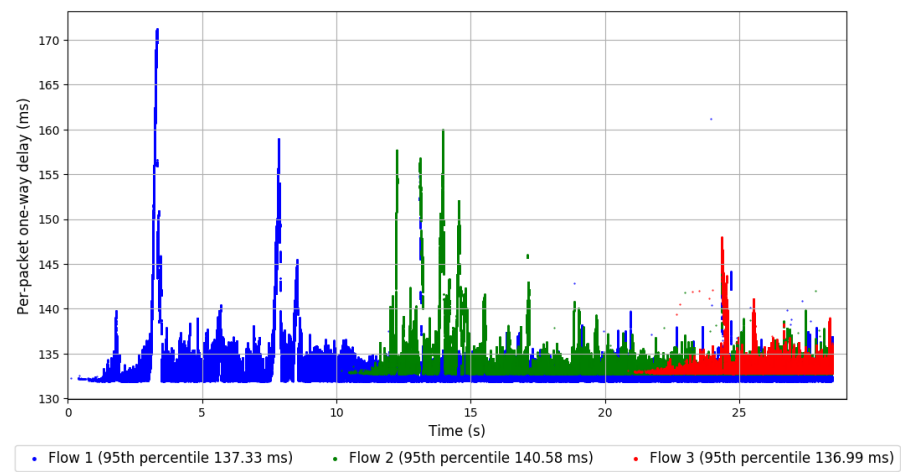
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-12 04:09:42
End at: 2019-02-12 04:10:12
Local clock offset: 0.166 ms
Remote clock offset: -0.158 ms

# Below is generated by plot.py at 2019-02-12 09:19:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 734.99 Mbit/s
95th percentile per-packet one-way delay: 137.383 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 442.79 Mbit/s
95th percentile per-packet one-way delay: 138.638 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 349.85 Mbit/s
95th percentile per-packet one-way delay: 136.438 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 259.94 Mbit/s
95th percentile per-packet one-way delay: 135.000 ms
Loss rate: 0.00%
```
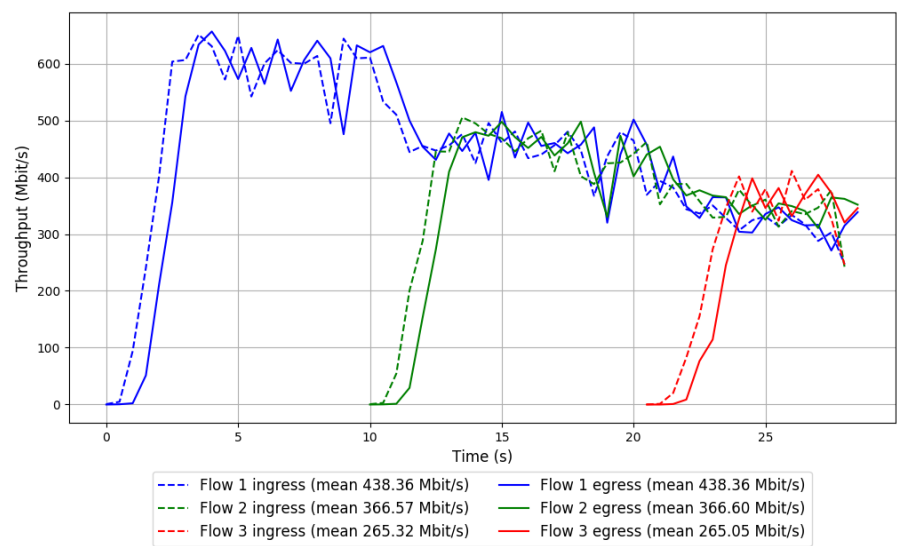
Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-12 04:53:33
End at: 2019-02-12 04:54:03
Local clock offset: -0.193 ms
Remote clock offset: -0.209 ms

# Below is generated by plot.py at 2019-02-12 09:25:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 746.04 Mbit/s
95th percentile per-packet one-way delay: 138.780 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 438.36 Mbit/s
95th percentile per-packet one-way delay: 137.333 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 366.60 Mbit/s
95th percentile per-packet one-way delay: 140.583 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 265.05 Mbit/s
95th percentile per-packet one-way delay: 136.989 ms
Loss rate: 0.10%
```
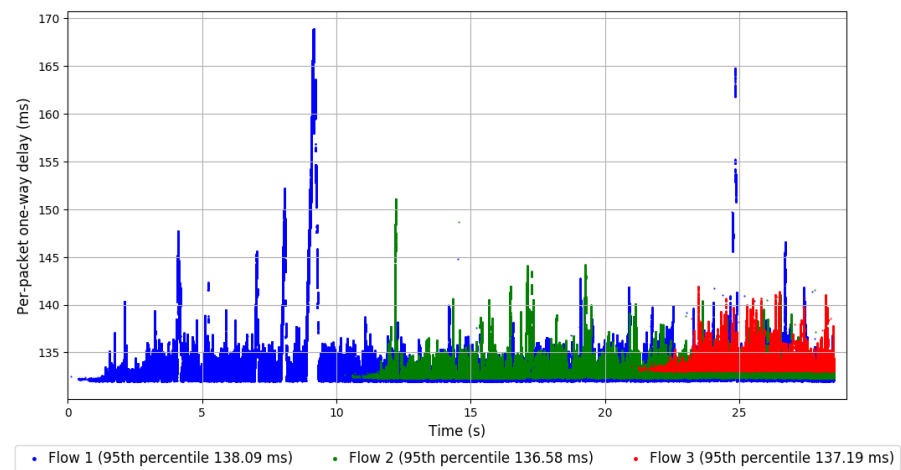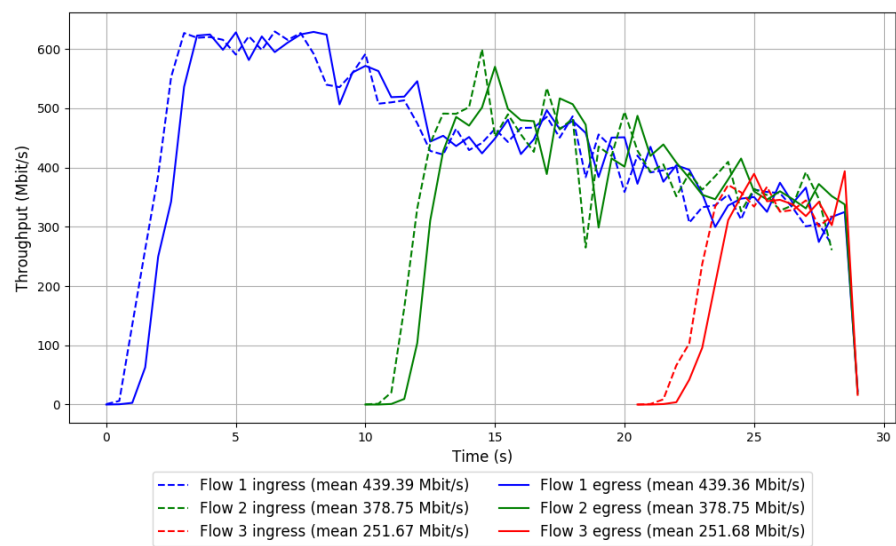
Run 2: Report of Indigo-MusesC3 — Data Link

Flow 1 ingress (mean 438.36 Mbit/s) — Flow 1 egress (mean 438.36 Mbit/s)
Flow 2 ingress (mean 366.57 Mbit/s) — Flow 2 egress (mean 366.60 Mbit/s)
Flow 3 ingress (mean 265.32 Mbit/s) — Flow 3 egress (mean 265.05 Mbit/s)

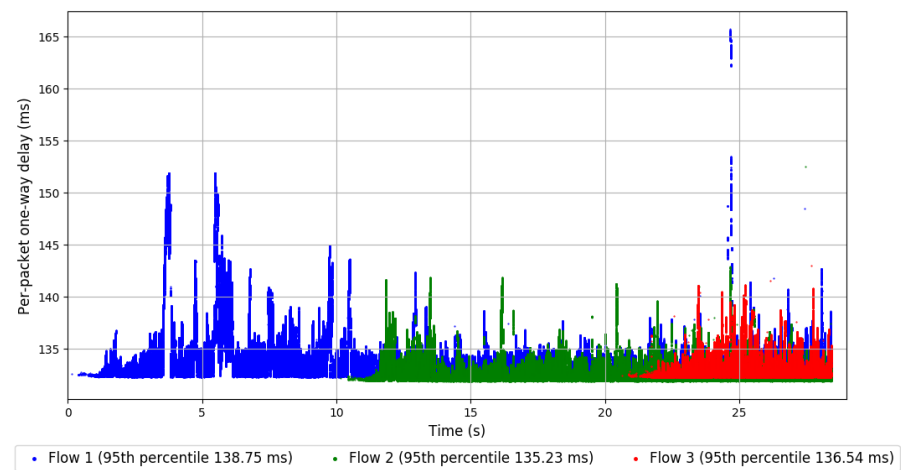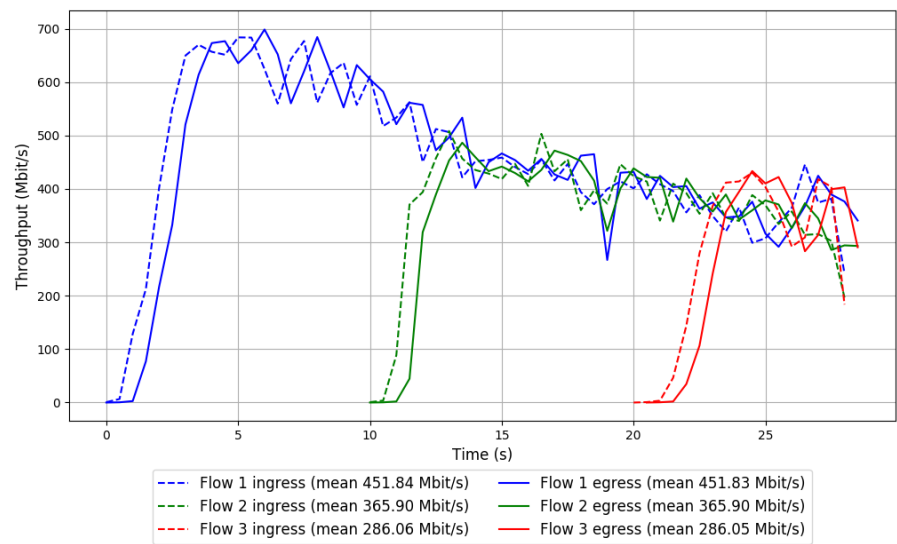Flow 1 (95th percentile 137.33 ms) · Flow 2 (95th percentile 140.58 ms) · Flow 3 (95th percentile 136.99 ms)

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-12 05:38:08
End at: 2019-02-12 05:38:38
Local clock offset: -0.223 ms
Remote clock offset: 0.002 ms


# Below is generated by plot.py at 2019-02-12 09:26:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 749.08 Mbit/s
95th percentile per-packet one-way delay: 137.347 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 439.36 Mbit/s
95th percentile per-packet one-way delay: 138.090 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 378.75 Mbit/s
95th percentile per-packet one-way delay: 136.581 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 251.68 Mbit/s
95th percentile per-packet one-way delay: 137.190 ms
Loss rate: 0.00%
```
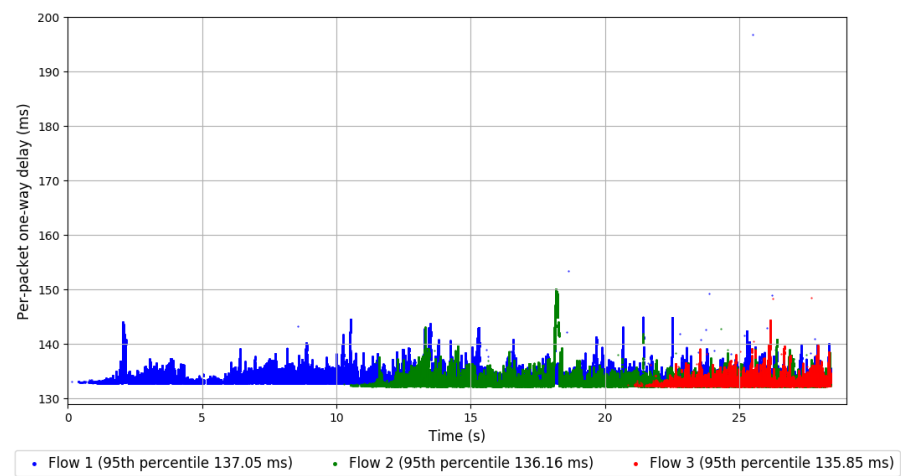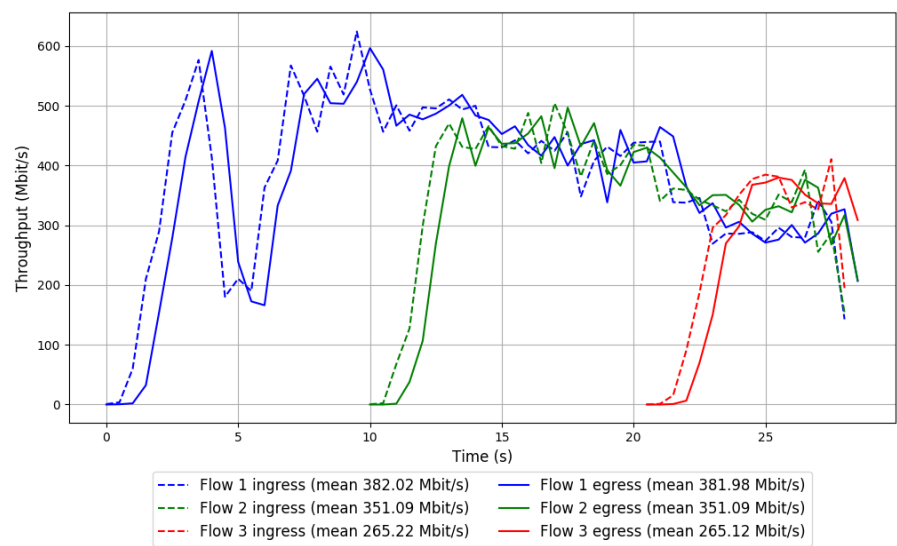
Run 3: Report of Indigo-MusesC3 — Data Link

- - - - Flow 1 ingress (mean 439.39 Mbit/s)   —— Flow 1 egress (mean 439.36 Mbit/s)
- - - - Flow 2 ingress (mean 378.75 Mbit/s)   —— Flow 2 egress (mean 378.75 Mbit/s)
- - - - Flow 3 ingress (mean 251.67 Mbit/s)   —— Flow 3 egress (mean 251.68 Mbit/s)

• Flow 1 (95th percentile 138.09 ms)   • Flow 2 (95th percentile 136.58 ms)   • Flow 3 (95th percentile 137.19 ms)

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```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-02-12 06:24:00
End at: 2019-02-12 06:24:30
Local clock offset: 0.312 ms
Remote clock offset: -0.215 ms


# Below is generated by plot.py at 2019-02-12 09:29:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 766.95 Mbit/s
95th percentile per-packet one-way delay: 137.306 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 451.83 Mbit/s
95th percentile per-packet one-way delay: 138.755 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 365.90 Mbit/s
95th percentile per-packet one-way delay: 135.226 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 286.05 Mbit/s
95th percentile per-packet one-way delay: 136.538 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesC3 — Data Link
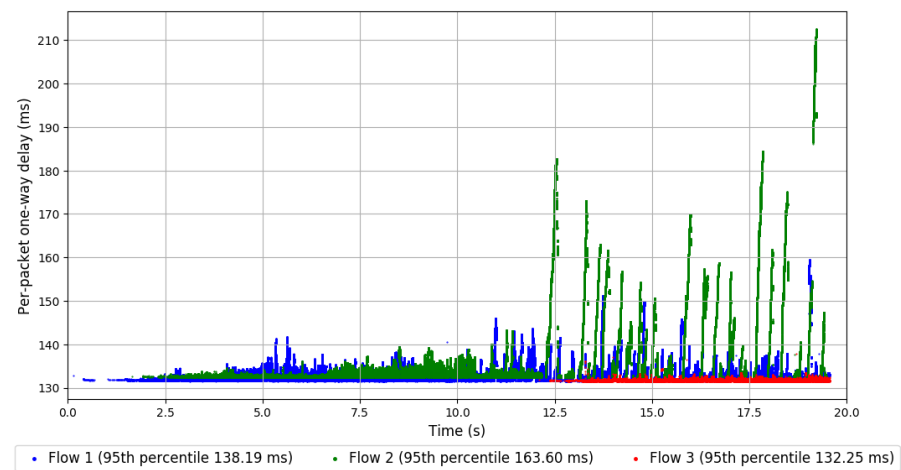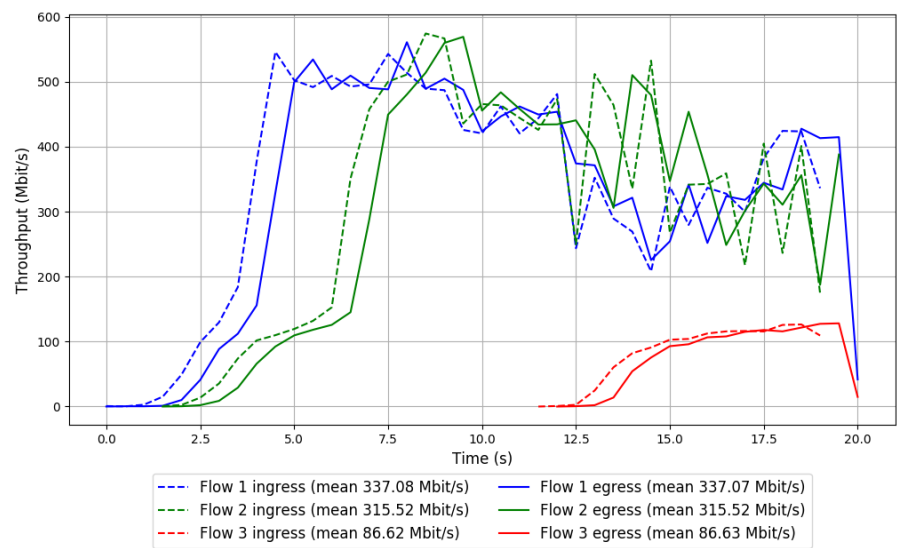
```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-02-12 07:07:44
End at: 2019-02-12 07:08:14
Local clock offset: -0.462 ms
Remote clock offset: -0.475 ms


# Below is generated by plot.py at 2019-02-12 09:29:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 677.82 Mbit/s
95th percentile per-packet one-way delay: 136.690 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 381.98 Mbit/s
95th percentile per-packet one-way delay: 137.047 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 351.09 Mbit/s
95th percentile per-packet one-way delay: 136.159 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 265.12 Mbit/s
95th percentile per-packet one-way delay: 135.854 ms
Loss rate: 0.04%
```
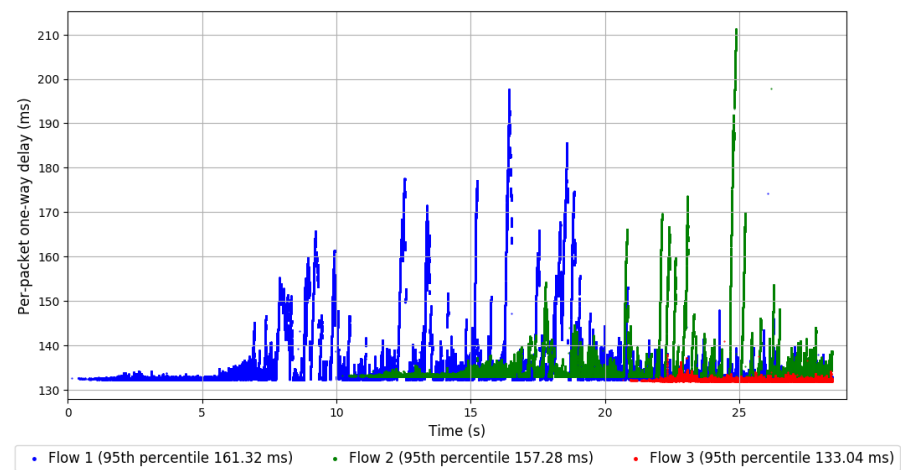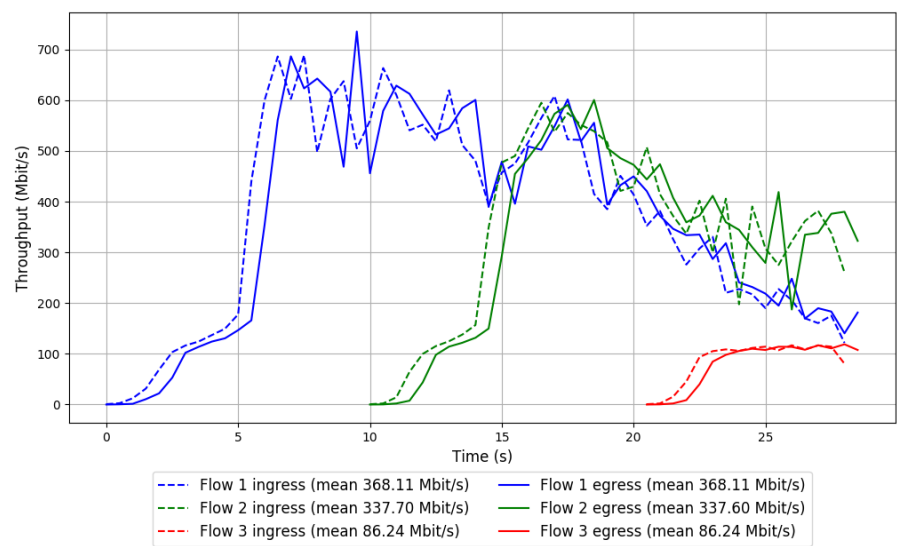
Run 5: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-12 04:05:36
End at: 2019-02-12 04:06:06
Local clock offset: 0.359 ms
Remote clock offset: -0.139 ms
```

Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-12 04:49:08
End at: 2019-02-12 04:49:38
Local clock offset: 0.209 ms
Remote clock offset: 0.096 ms


# Below is generated by plot.py at 2019-02-12 09:30:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 609.00 Mbit/s
95th percentile per-packet one-way delay: 159.885 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 368.11 Mbit/s
95th percentile per-packet one-way delay: 161.322 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 337.60 Mbit/s
95th percentile per-packet one-way delay: 157.282 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 86.24 Mbit/s
95th percentile per-packet one-way delay: 133.044 ms
Loss rate: 0.00%
```

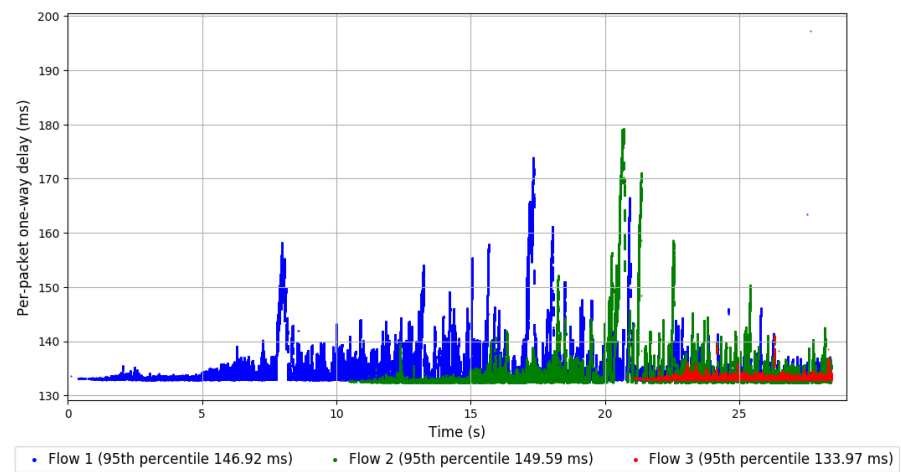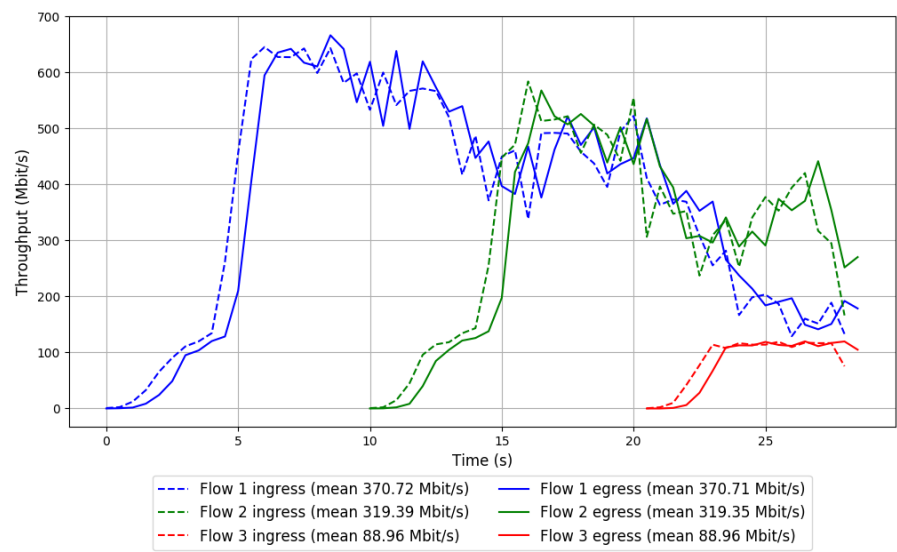Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-12 05:33:37
End at: 2019-02-12 05:34:07
Local clock offset: -0.307 ms
Remote clock offset: -0.031 ms


# Below is generated by plot.py at 2019-02-12 09:31:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 599.82 Mbit/s
95th percentile per-packet one-way delay: 147.472 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 370.71 Mbit/s
95th percentile per-packet one-way delay: 146.918 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 319.35 Mbit/s
95th percentile per-packet one-way delay: 149.591 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 88.96 Mbit/s
95th percentile per-packet one-way delay: 133.972 ms
Loss rate: 0.00%
```
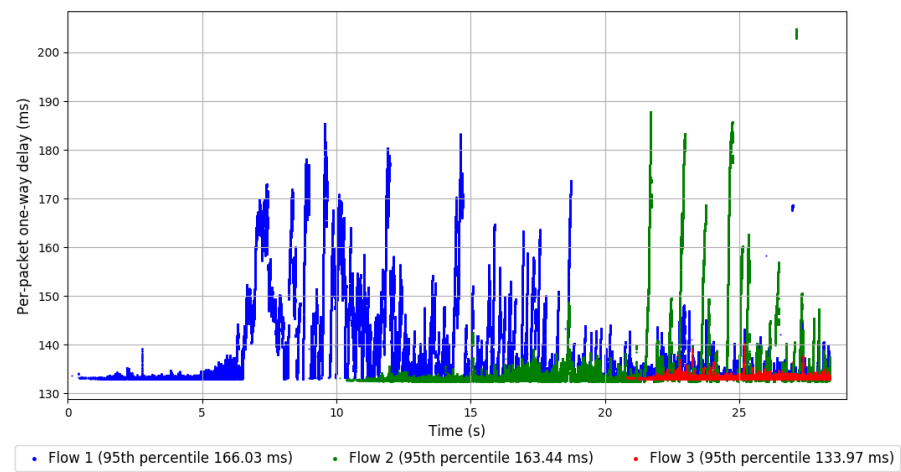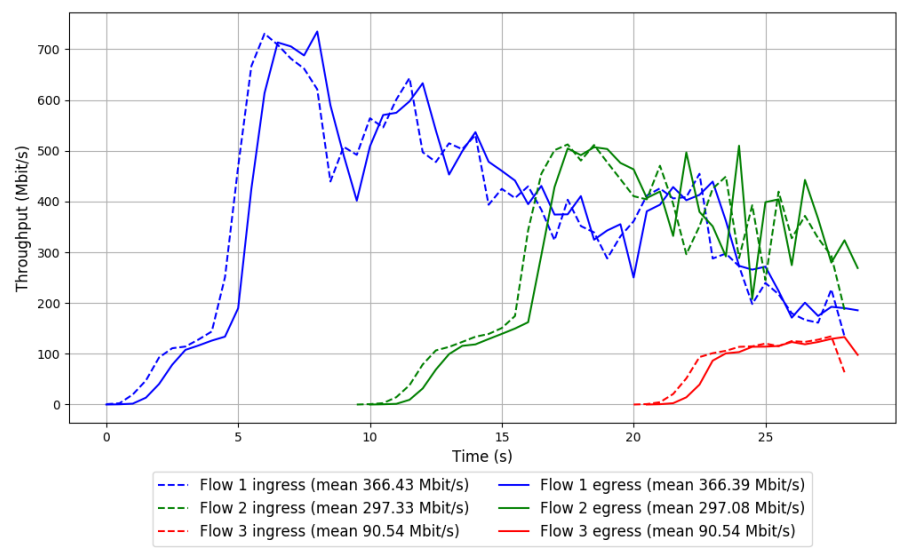
Run 3: Report of Indigo-MusesC5 — Data Link

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-02-12 06:19:46
End at: 2019-02-12 06:20:16
Local clock offset: -0.237 ms
Remote clock offset: -0.128 ms

# Below is generated by plot.py at 2019-02-12 09:34:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 583.54 Mbit/s
95th percentile per-packet one-way delay: 165.259 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 366.39 Mbit/s
95th percentile per-packet one-way delay: 166.027 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 297.08 Mbit/s
95th percentile per-packet one-way delay: 163.442 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 90.54 Mbit/s
95th percentile per-packet one-way delay: 133.965 ms
Loss rate: 0.00%
```
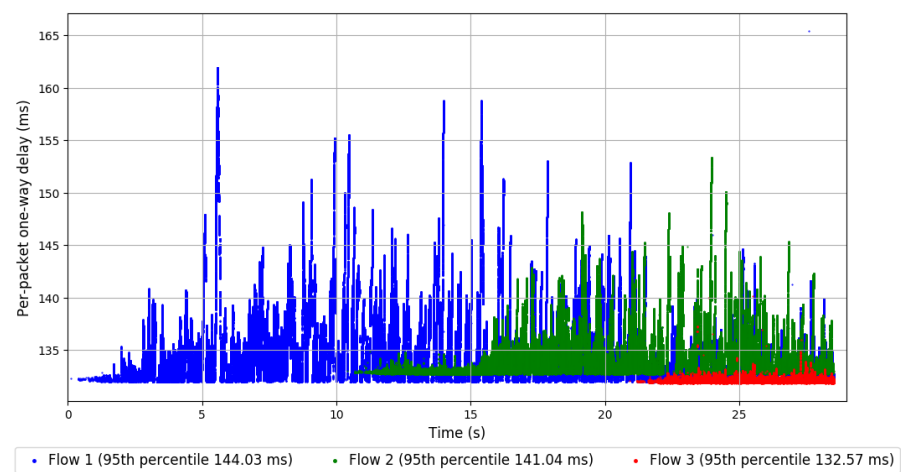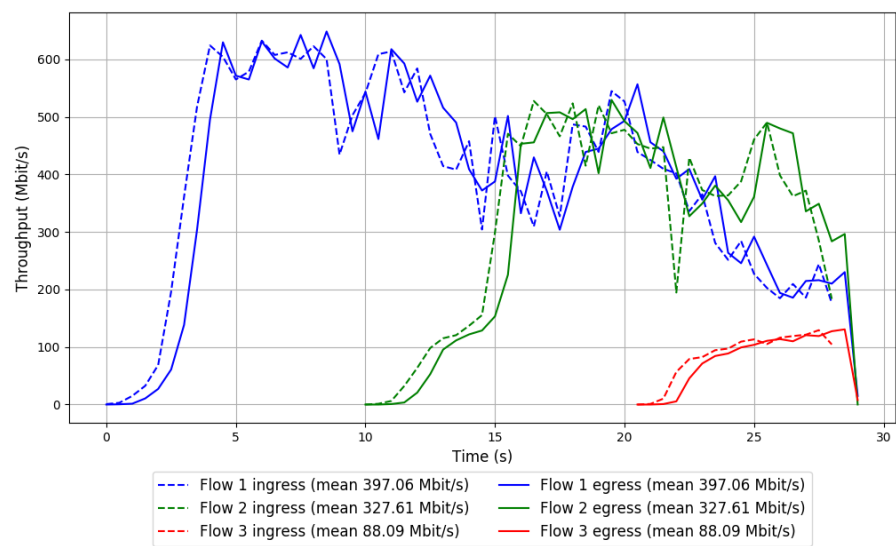
Run 4: Report of Indigo-MusesC5 — Data Link

Flow 1 ingress (mean 366.43 Mbit/s) --- Flow 1 egress (mean 366.39 Mbit/s)
Flow 2 ingress (mean 297.33 Mbit/s) --- Flow 2 egress (mean 297.08 Mbit/s)
Flow 3 ingress (mean 90.54 Mbit/s) --- Flow 3 egress (mean 90.54 Mbit/s)

Flow 1 (95th percentile 166.03 ms)   Flow 2 (95th percentile 163.44 ms)   Flow 3 (95th percentile 133.97 ms)

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-02-12 07:02:53
End at: 2019-02-12 07:03:23
Local clock offset: -0.124 ms
Remote clock offset: -0.099 ms


# Below is generated by plot.py at 2019-02-12 09:39:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 629.56 Mbit/s
95th percentile per-packet one-way delay: 142.814 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 397.06 Mbit/s
95th percentile per-packet one-way delay: 144.033 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 327.61 Mbit/s
95th percentile per-packet one-way delay: 141.045 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 88.09 Mbit/s
95th percentile per-packet one-way delay: 132.568 ms
Loss rate: 0.00%
```
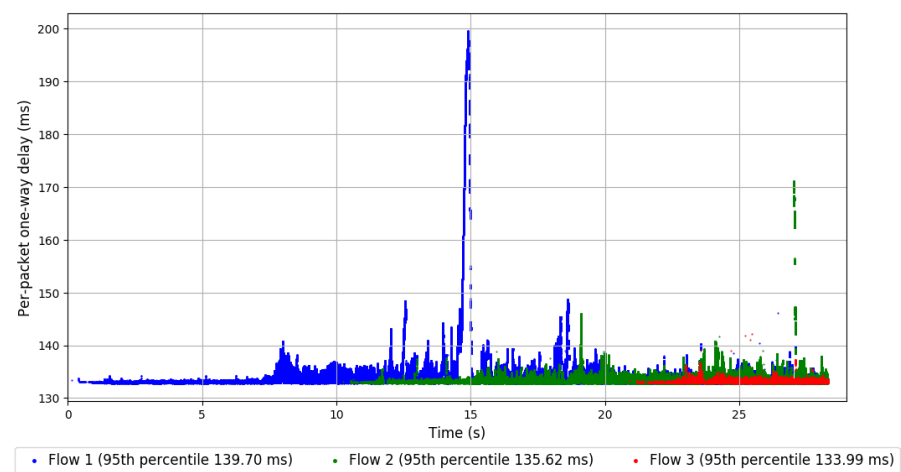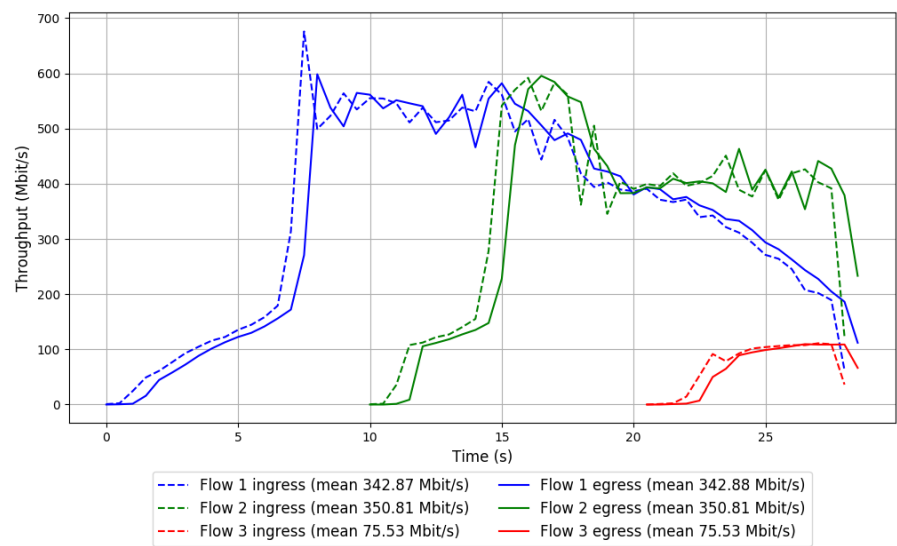
Run 5: Report of Indigo-MusesC5 — Data Link

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-12 04:37:29
End at: 2019-02-12 04:37:59
Local clock offset: -0.166 ms
Remote clock offset: -0.208 ms


# Below is generated by plot.py at 2019-02-12 09:39:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 587.49 Mbit/s
95th percentile per-packet one-way delay: 137.612 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 342.88 Mbit/s
95th percentile per-packet one-way delay: 139.702 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 350.81 Mbit/s
95th percentile per-packet one-way delay: 135.621 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 75.53 Mbit/s
95th percentile per-packet one-way delay: 133.992 ms
Loss rate: 0.00%
```
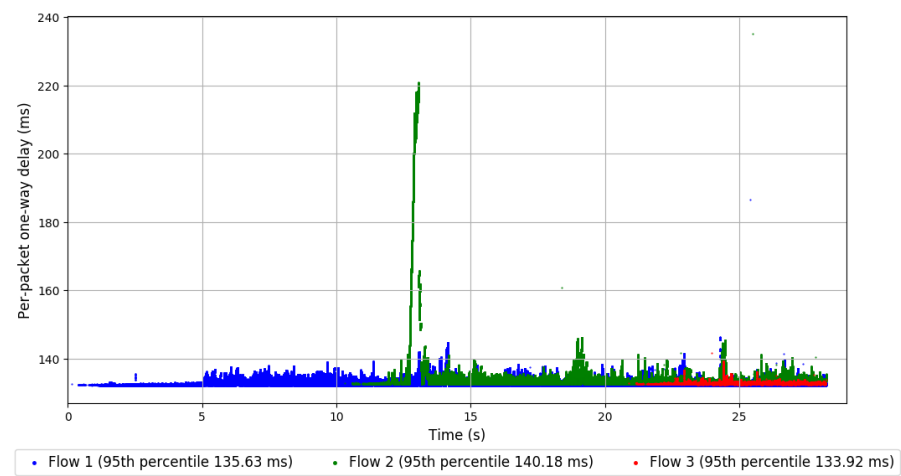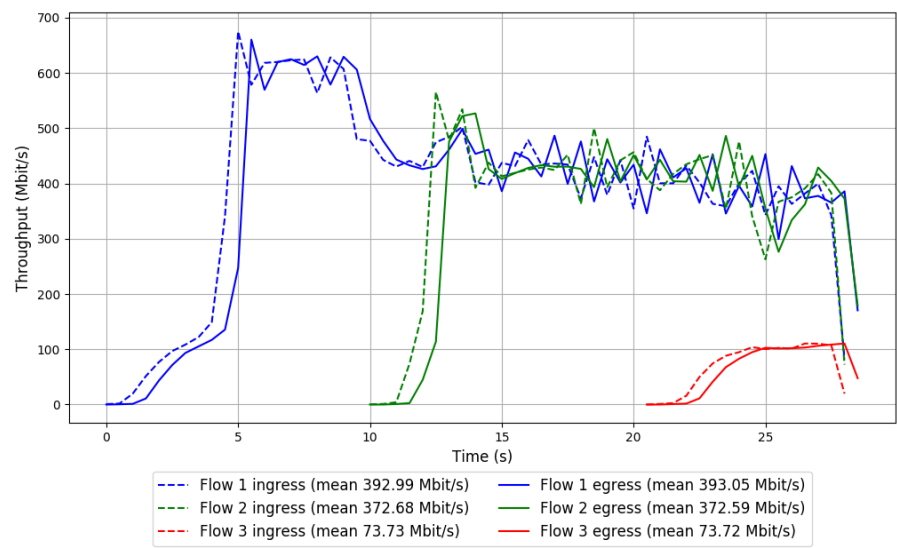
Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-12 05:20:07
End at: 2019-02-12 05:20:37
Local clock offset: 0.026 ms
Remote clock offset: -0.011 ms


# Below is generated by plot.py at 2019-02-12 09:42:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 649.83 Mbit/s
95th percentile per-packet one-way delay: 136.809 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 393.05 Mbit/s
95th percentile per-packet one-way delay: 135.629 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 372.59 Mbit/s
95th percentile per-packet one-way delay: 140.182 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 73.72 Mbit/s
95th percentile per-packet one-way delay: 133.916 ms
Loss rate: 0.00%
```

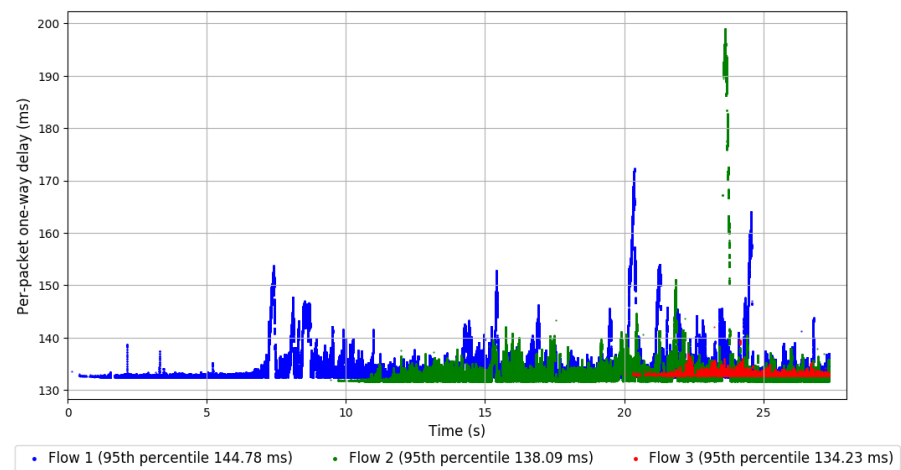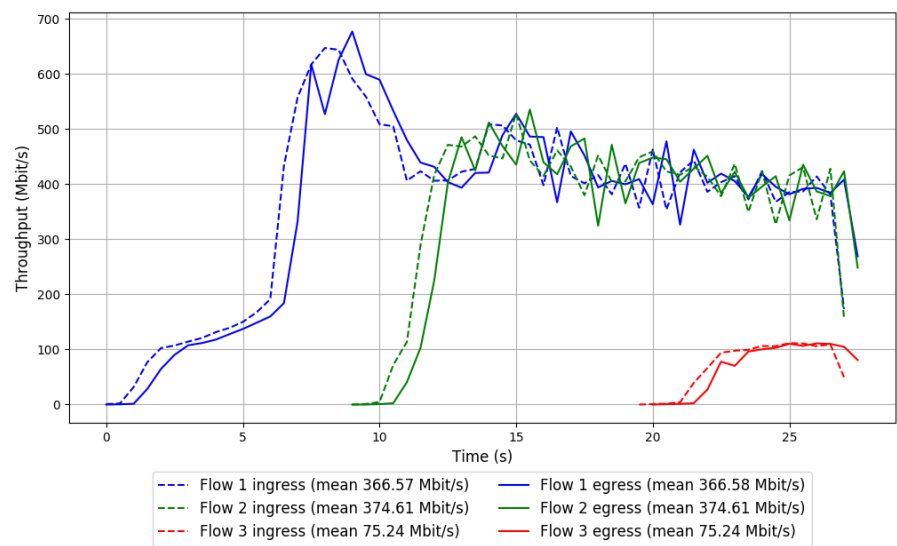Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-12 06:06:58
End at: 2019-02-12 06:07:28
Local clock offset: -0.14 ms
Remote clock offset: -0.435 ms


# Below is generated by plot.py at 2019-02-12 09:42:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 633.30 Mbit/s
95th percentile per-packet one-way delay: 142.920 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 366.58 Mbit/s
95th percentile per-packet one-way delay: 144.783 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 374.61 Mbit/s
95th percentile per-packet one-way delay: 138.093 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 75.24 Mbit/s
95th percentile per-packet one-way delay: 134.231 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-02-12 06:50:26
End at: 2019-02-12 06:50:56
Local clock offset: -0.602 ms
Remote clock offset: 0.256 ms


# Below is generated by plot.py at 2019-02-12 09:44:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 609.08 Mbit/s
95th percentile per-packet one-way delay: 154.782 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 361.61 Mbit/s
95th percentile per-packet one-way delay: 154.447 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 351.89 Mbit/s
95th percentile per-packet one-way delay: 157.658 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 77.12 Mbit/s
95th percentile per-packet one-way delay: 135.042 ms
Loss rate: 0.00%
```
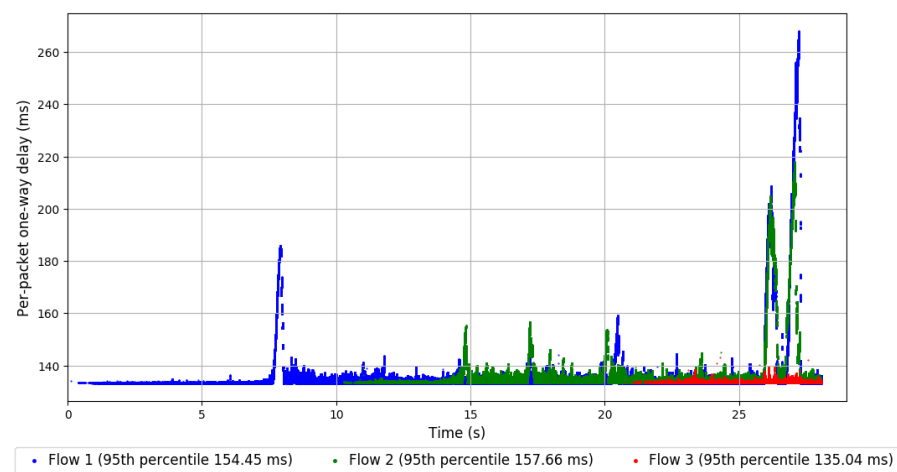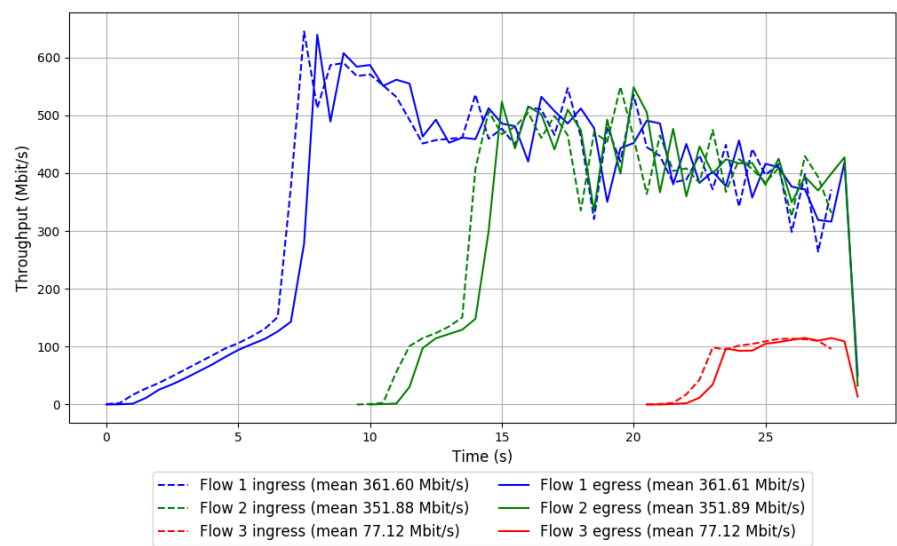
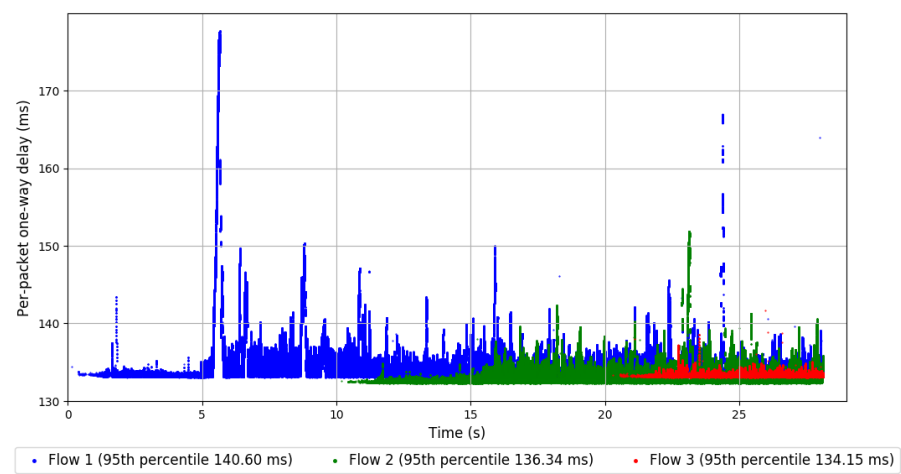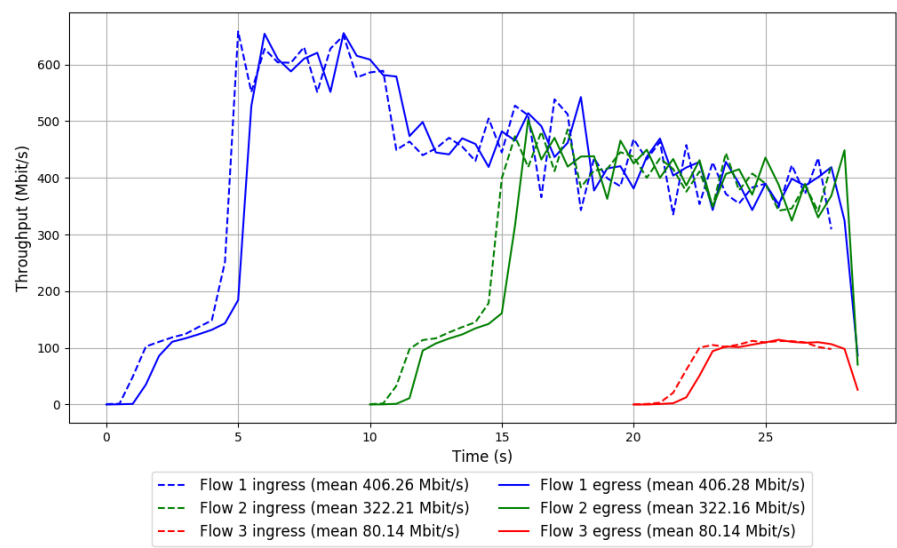# Run 4: Report of Indigo-MusesD — Data Link

- - - - - Flow 1 ingress (mean 361.60 Mbit/s)   —— Flow 1 egress (mean 361.61 Mbit/s)
- - - - - Flow 2 ingress (mean 351.88 Mbit/s)   —— Flow 2 egress (mean 351.89 Mbit/s)
- - - - - Flow 3 ingress (mean 77.12 Mbit/s)   —— Flow 3 egress (mean 77.12 Mbit/s)

- Flow 1 (95th percentile 154.45 ms)   - Flow 2 (95th percentile 157.66 ms)   - Flow 3 (95th percentile 135.04 ms)

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-02-12 07:34:06
End at: 2019-02-12 07:34:36
Local clock offset: -0.435 ms
Remote clock offset: -0.082 ms


# Below is generated by plot.py at 2019-02-12 09:46:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 635.13 Mbit/s
95th percentile per-packet one-way delay: 138.789 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 406.28 Mbit/s
95th percentile per-packet one-way delay: 140.597 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 322.16 Mbit/s
95th percentile per-packet one-way delay: 136.337 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 80.14 Mbit/s
95th percentile per-packet one-way delay: 134.145 ms
Loss rate: 0.00%
```
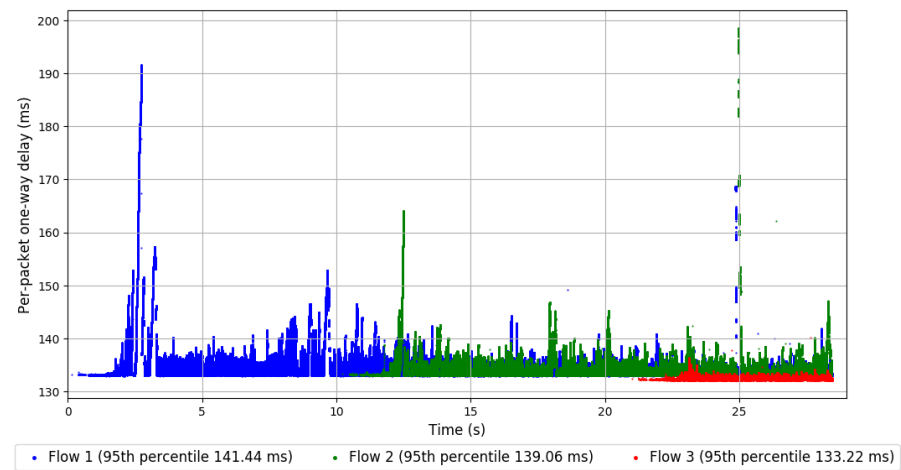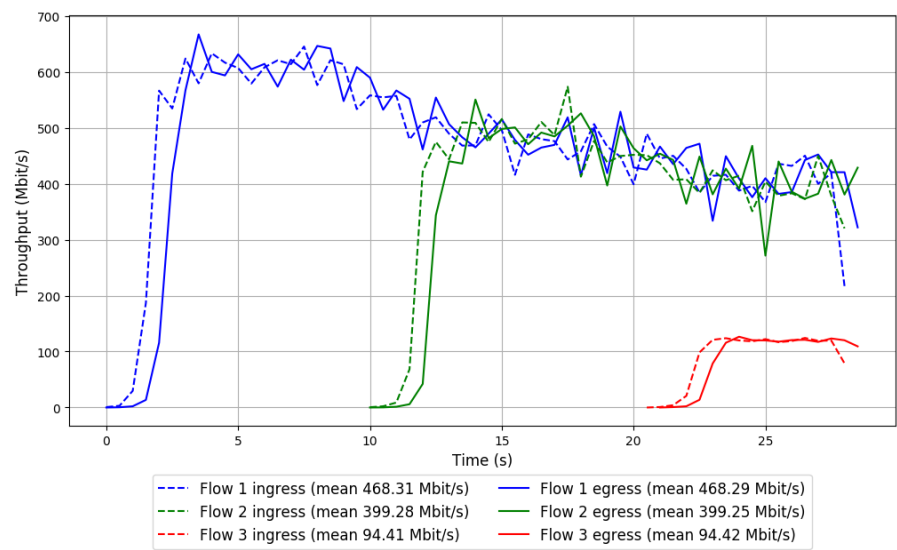
Run 5: Report of Indigo-MusesD — Data Link

Flow 1 ingress (mean 406.26 Mbit/s)   Flow 1 egress (mean 406.28 Mbit/s)
Flow 2 ingress (mean 322.21 Mbit/s)   Flow 2 egress (mean 322.16 Mbit/s)
Flow 3 ingress (mean 80.14 Mbit/s)   Flow 3 egress (mean 80.14 Mbit/s)

Flow 1 (95th percentile 140.60 ms)   Flow 2 (95th percentile 136.34 ms)   Flow 3 (95th percentile 134.15 ms)

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```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-12 04:07:23
End at: 2019-02-12 04:07:53
Local clock offset: -0.292 ms
Remote clock offset: -0.139 ms


# Below is generated by plot.py at 2019-02-12 09:50:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 749.91 Mbit/s
95th percentile per-packet one-way delay: 140.487 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 468.29 Mbit/s
95th percentile per-packet one-way delay: 141.442 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 399.25 Mbit/s
95th percentile per-packet one-way delay: 139.063 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 94.42 Mbit/s
95th percentile per-packet one-way delay: 133.222 ms
Loss rate: 0.00%
```
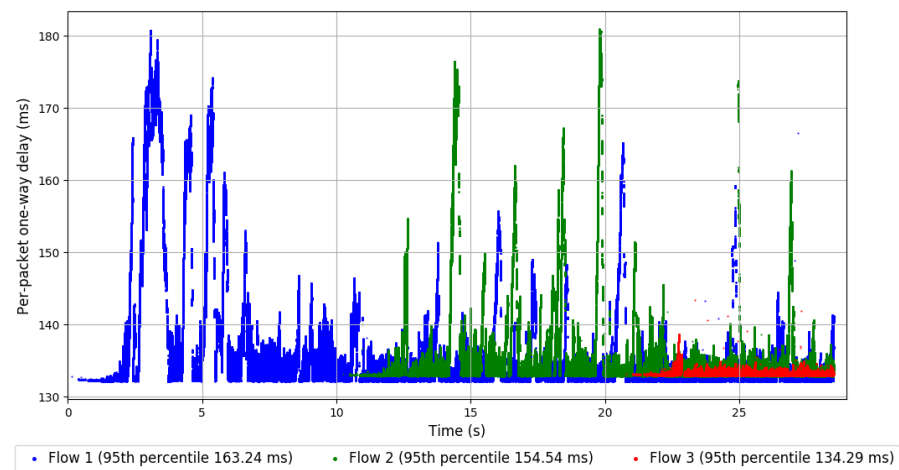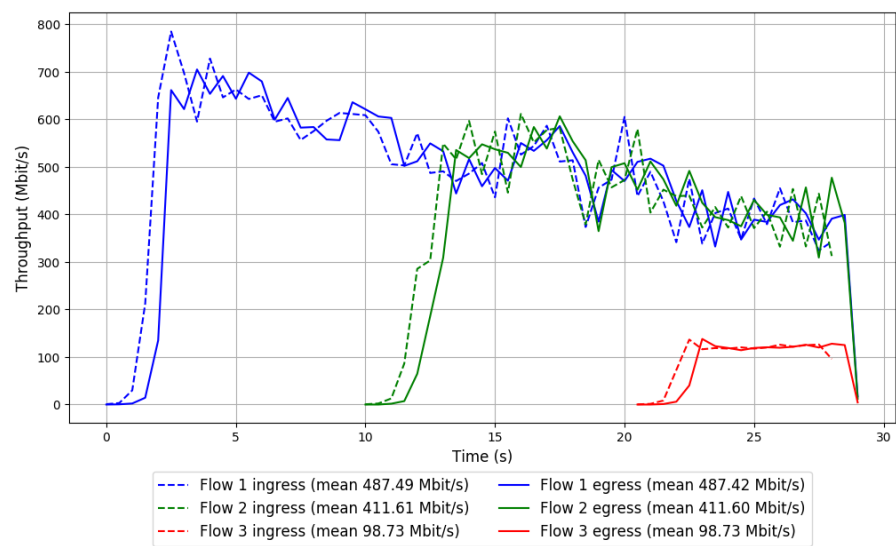
Run 1: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 468.31 Mbit/s)
Flow 1 egress (mean 468.29 Mbit/s)
Flow 2 ingress (mean 399.28 Mbit/s)
Flow 2 egress (mean 399.25 Mbit/s)
Flow 3 ingress (mean 94.41 Mbit/s)
Flow 3 egress (mean 94.42 Mbit/s)

Flow 1 (95th percentile 141.44 ms)
Flow 2 (95th percentile 139.06 ms)
Flow 3 (95th percentile 133.22 ms)

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-12 04:51:06
End at: 2019-02-12 04:51:36
Local clock offset: -0.449 ms
Remote clock offset: -0.26 ms


# Below is generated by plot.py at 2019-02-12 09:54:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 779.33 Mbit/s
95th percentile per-packet one-way delay: 160.473 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 487.42 Mbit/s
95th percentile per-packet one-way delay: 163.236 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 411.60 Mbit/s
95th percentile per-packet one-way delay: 154.543 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 98.73 Mbit/s
95th percentile per-packet one-way delay: 134.292 ms
Loss rate: 0.00%
```
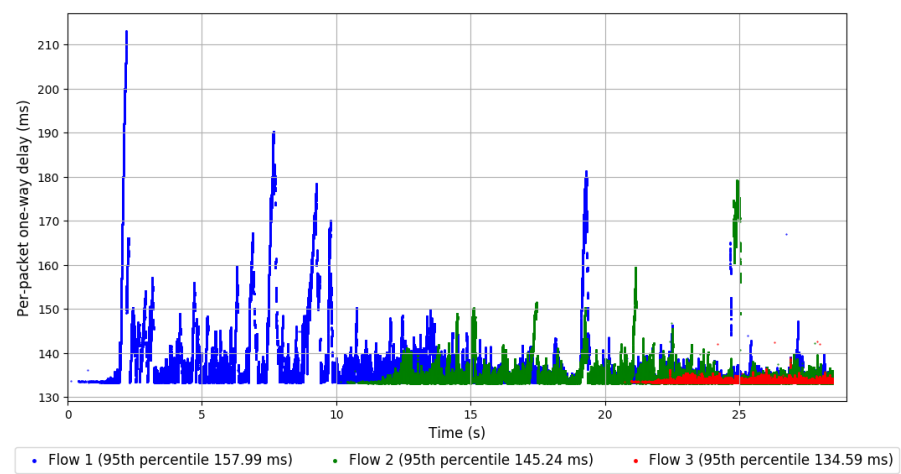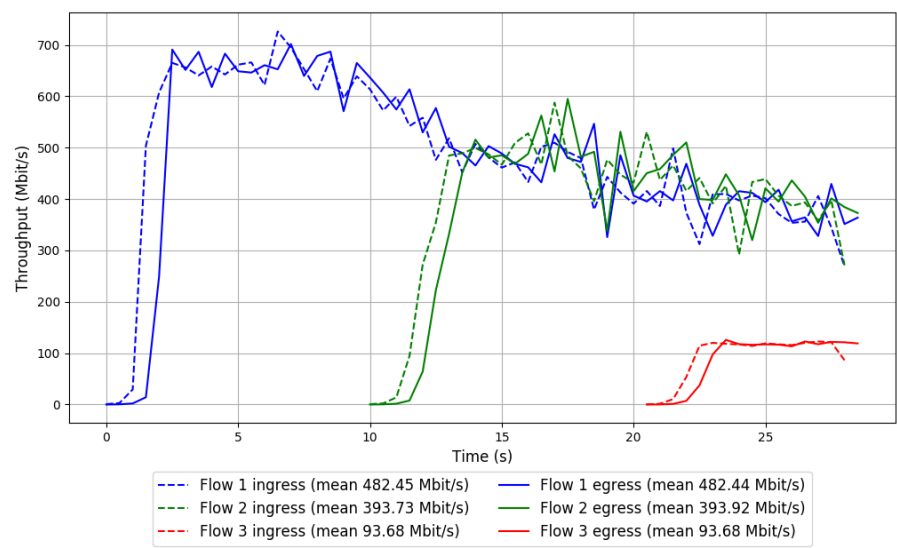
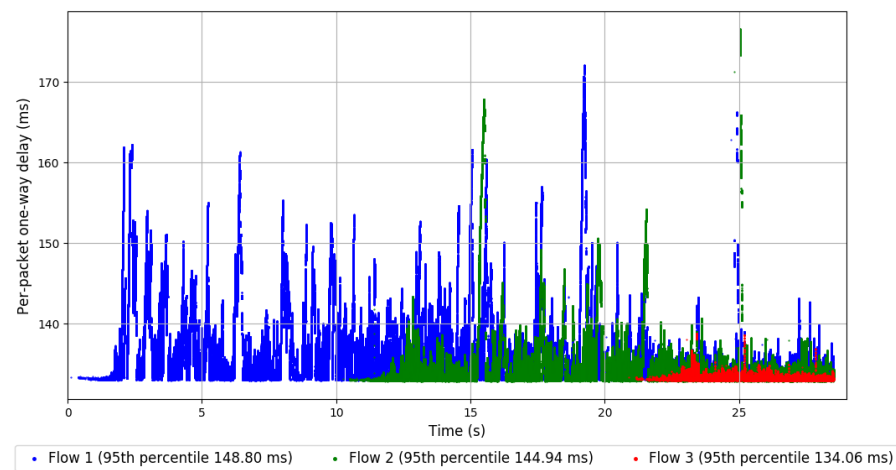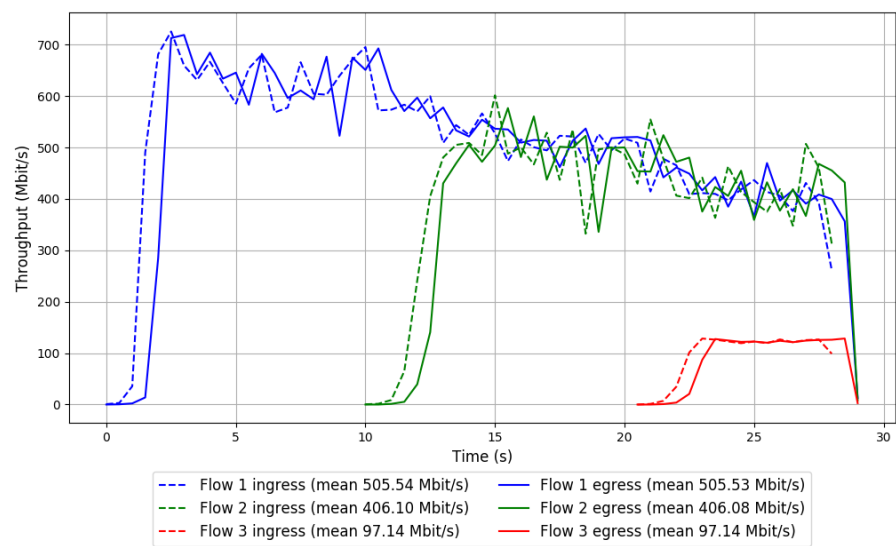Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-02-12 05:35:37
End at: 2019-02-12 05:36:07
Local clock offset: -0.655 ms
Remote clock offset: 0.006 ms


# Below is generated by plot.py at 2019-02-12 09:57:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 762.67 Mbit/s
95th percentile per-packet one-way delay: 153.902 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 482.44 Mbit/s
95th percentile per-packet one-way delay: 157.990 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 393.92 Mbit/s
95th percentile per-packet one-way delay: 145.238 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 93.68 Mbit/s
95th percentile per-packet one-way delay: 134.592 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesT — Data Link

Flow 1 ingress (mean 482.45 Mbit/s)   Flow 1 egress (mean 482.44 Mbit/s)
Flow 2 ingress (mean 393.73 Mbit/s)   Flow 2 egress (mean 393.92 Mbit/s)
Flow 3 ingress (mean 93.68 Mbit/s)   Flow 3 egress (mean 93.68 Mbit/s)

Flow 1 (95th percentile 157.99 ms)   Flow 2 (95th percentile 145.24 ms)   Flow 3 (95th percentile 134.59 ms)

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-02-12 06:21:42
End at: 2019-02-12 06:22:12
Local clock offset: -0.292 ms
Remote clock offset: -0.158 ms


# Below is generated by plot.py at 2019-02-12 09:59:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 793.05 Mbit/s
95th percentile per-packet one-way delay: 147.719 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 505.53 Mbit/s
95th percentile per-packet one-way delay: 148.796 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 406.08 Mbit/s
95th percentile per-packet one-way delay: 144.935 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 97.14 Mbit/s
95th percentile per-packet one-way delay: 134.058 ms
Loss rate: 0.00%
```
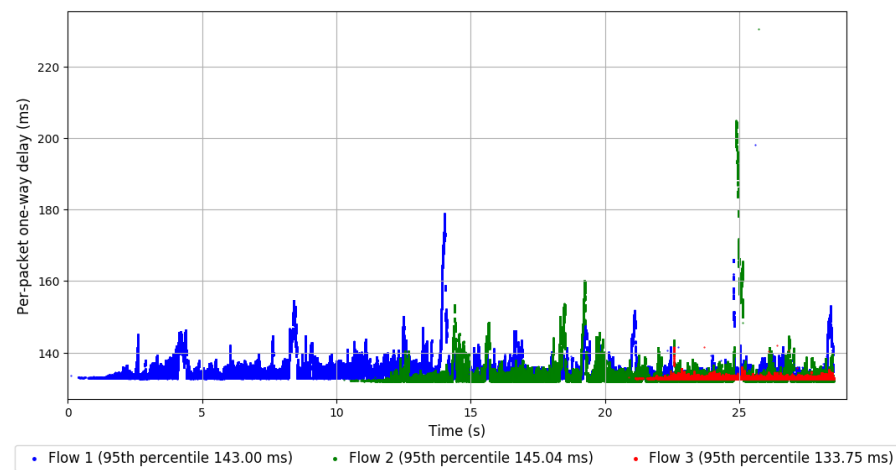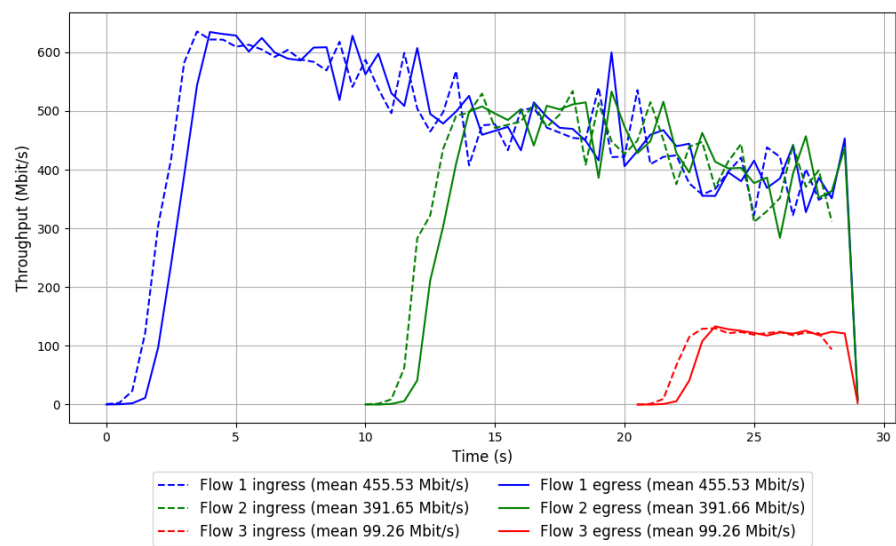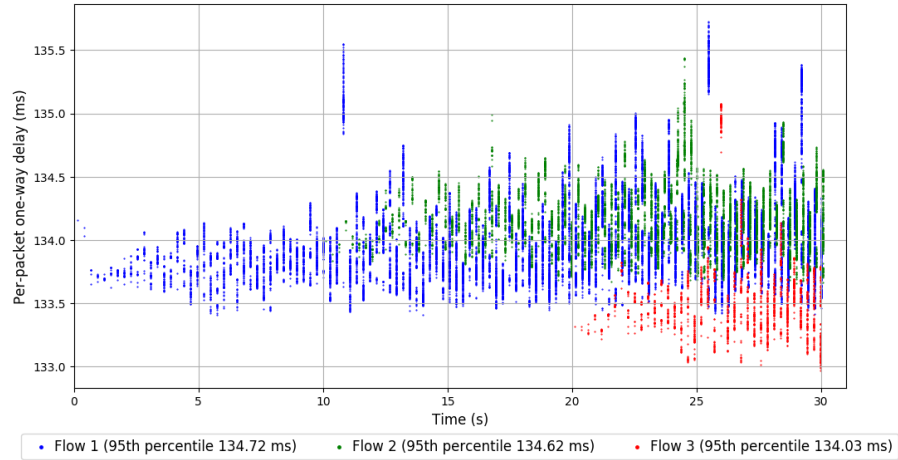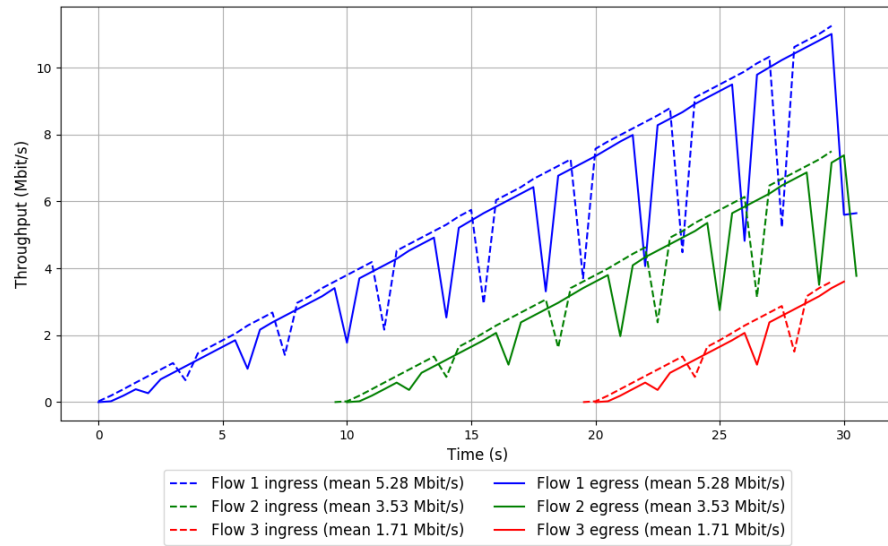
Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-02-12 07:05:19
End at: 2019-02-12 07:05:49
Local clock offset: -0.197 ms
Remote clock offset: -0.09 ms


# Below is generated by plot.py at 2019-02-12 09:59:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 733.93 Mbit/s
95th percentile per-packet one-way delay: 143.374 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 455.53 Mbit/s
95th percentile per-packet one-way delay: 142.995 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 391.66 Mbit/s
95th percentile per-packet one-way delay: 145.037 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 99.26 Mbit/s
95th percentile per-packet one-way delay: 133.754 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-MusesT — Data Link
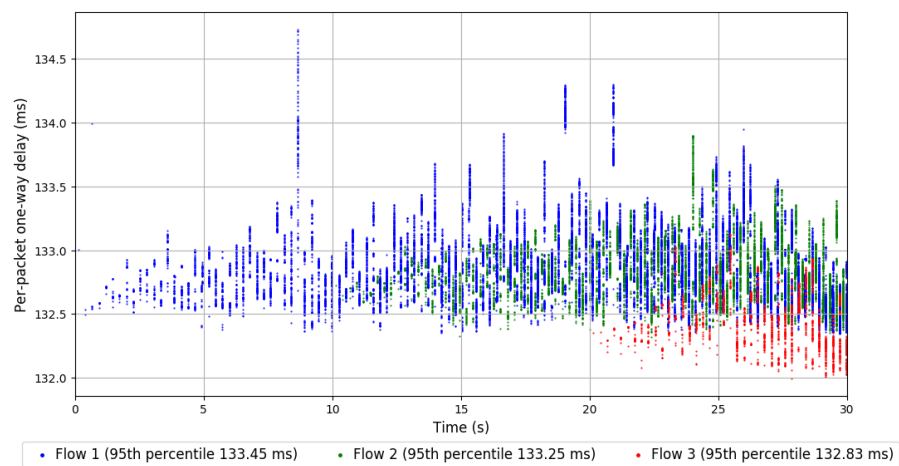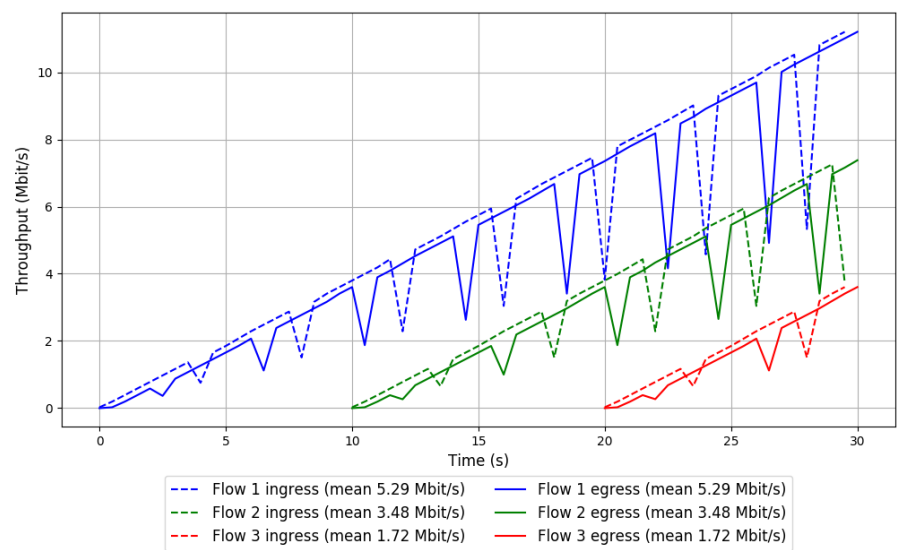

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```
Run 1: Statistics of LEDBAT

Start at: 2019-02-12 04:24:20
End at: 2019-02-12 04:24:50
Local clock offset: -0.397 ms
Remote clock offset: 0.145 ms


# Below is generated by plot.py at 2019-02-12 09:59:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.19 Mbit/s
95th percentile per-packet one-way delay: 134.673 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.28 Mbit/s
95th percentile per-packet one-way delay: 134.716 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.53 Mbit/s
95th percentile per-packet one-way delay: 134.616 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 134.034 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-02-12 05:06:37
End at: 2019-02-12 05:07:07
Local clock offset: -0.205 ms
Remote clock offset: -0.076 ms


# Below is generated by plot.py at 2019-02-12 09:59:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.16 Mbit/s
95th percentile per-packet one-way delay: 133.369 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.29 Mbit/s
95th percentile per-packet one-way delay: 133.450 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 133.251 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 132.832 ms
Loss rate: 0.00%
```
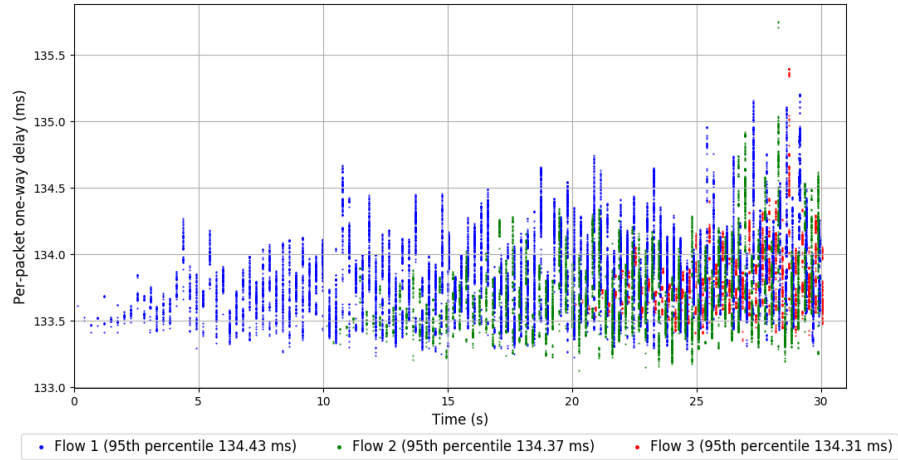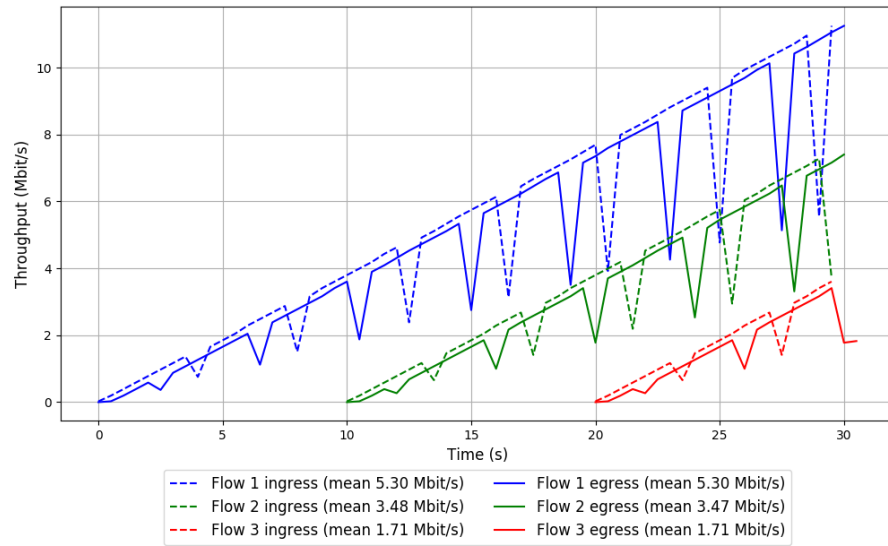
Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-02-12 05:53:35
End at: 2019-02-12 05:54:05
Local clock offset: -0.676 ms
Remote clock offset: 0.013 ms


# Below is generated by plot.py at 2019-02-12 09:59:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.14 Mbit/s
95th percentile per-packet one-way delay: 134.412 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.30 Mbit/s
95th percentile per-packet one-way delay: 134.432 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.47 Mbit/s
95th percentile per-packet one-way delay: 134.365 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 134.305 ms
Loss rate: 0.00%
```

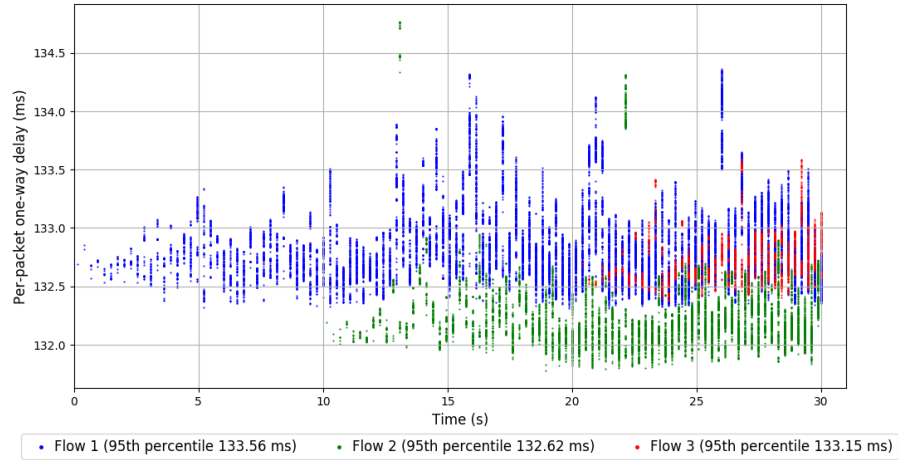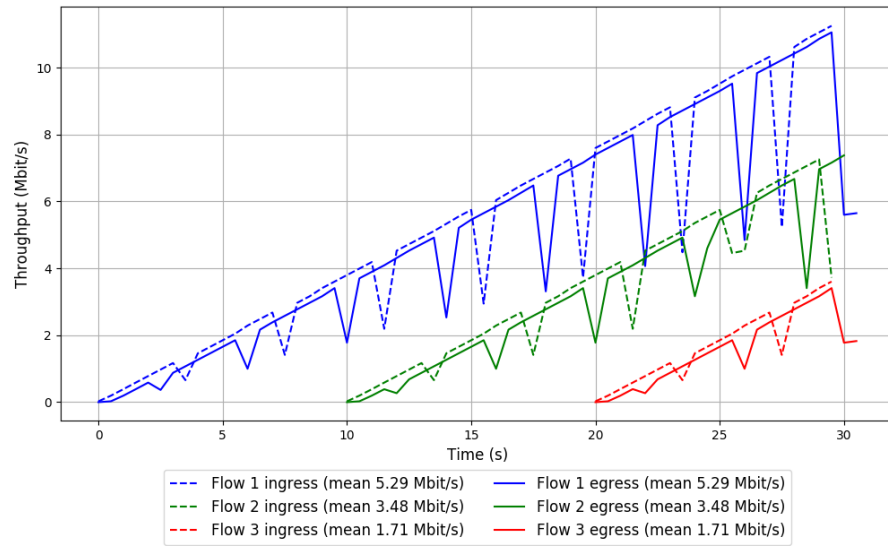# Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-02-12 06:37:44
End at: 2019-02-12 06:38:14
Local clock offset: 0.307 ms
Remote clock offset: -0.128 ms


# Below is generated by plot.py at 2019-02-12 09:59:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.15 Mbit/s
95th percentile per-packet one-way delay: 133.415 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.29 Mbit/s
95th percentile per-packet one-way delay: 133.560 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.48 Mbit/s
95th percentile per-packet one-way delay: 132.620 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 133.147 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2019-02-12 07:22:14
End at: 2019-02-12 07:22:44
Local clock offset: -0.208 ms
Remote clock offset: -0.125 ms

# Below is generated by plot.py at 2019-02-12 09:59:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.16 Mbit/s
95th percentile per-packet one-way delay: 133.657 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.30 Mbit/s
95th percentile per-packet one-way delay: 133.796 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.47 Mbit/s
95th percentile per-packet one-way delay: 133.186 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 133.667 ms
Loss rate: 0.00%
```
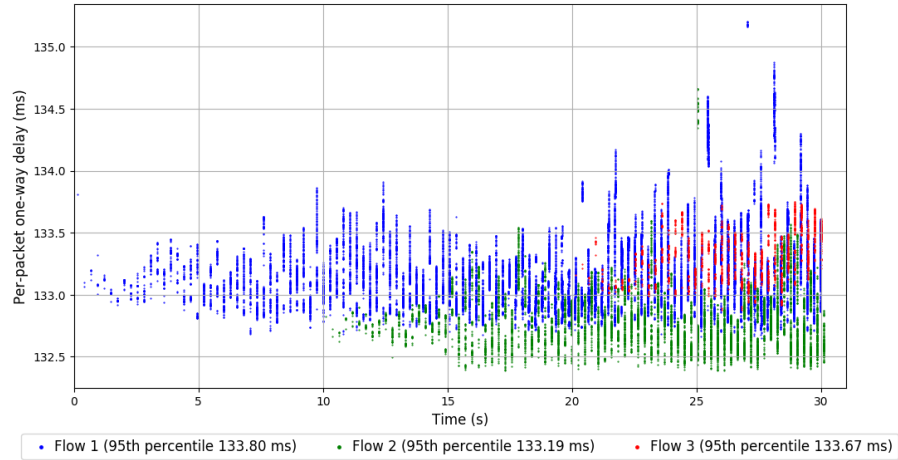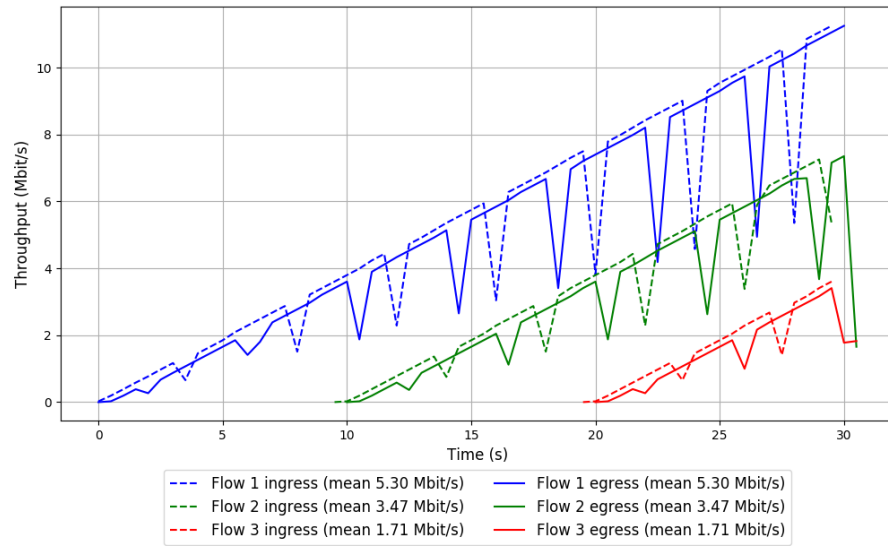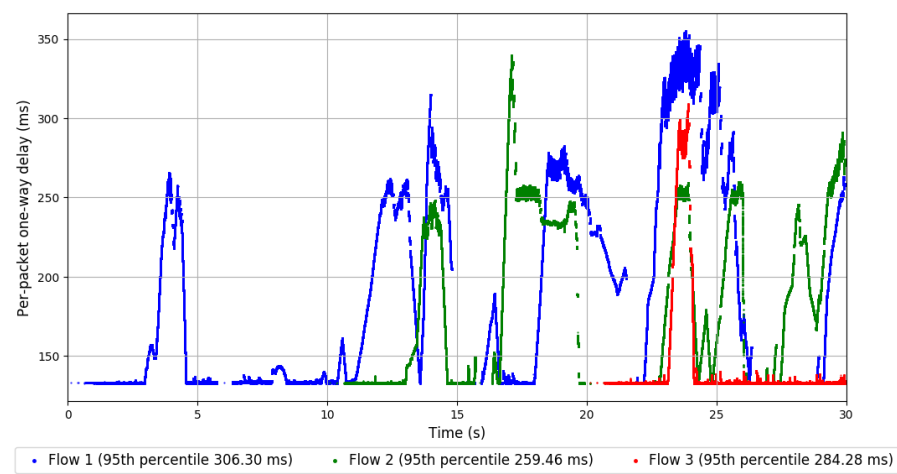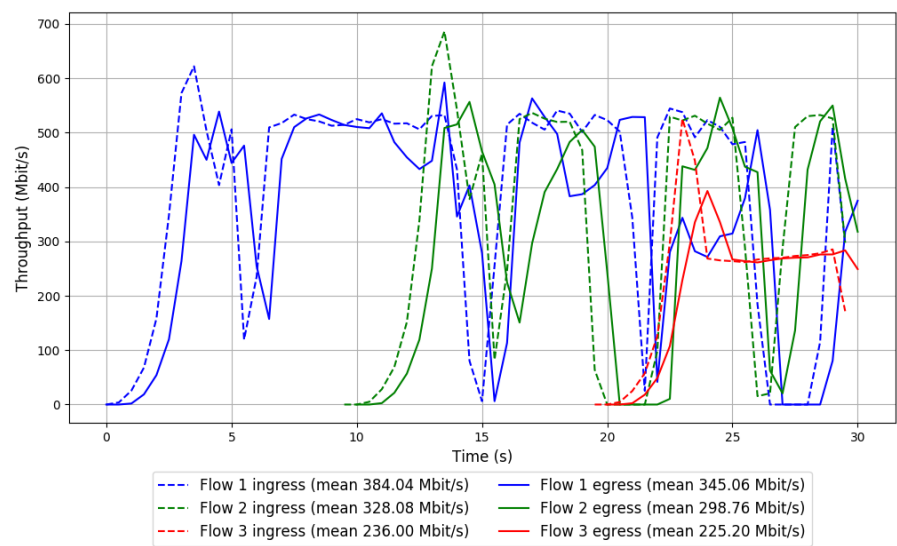
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-02-12 04:03:26
End at: 2019-02-12 04:03:56
Local clock offset: -0.242 ms
Remote clock offset: -0.173 ms


# Below is generated by plot.py at 2019-02-12 10:15:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 618.00 Mbit/s
95th percentile per-packet one-way delay: 283.536 ms
Loss rate: 9.12%
-- Flow 1:
Average throughput: 345.06 Mbit/s
95th percentile per-packet one-way delay: 306.300 ms
Loss rate: 10.14%
-- Flow 2:
Average throughput: 298.76 Mbit/s
95th percentile per-packet one-way delay: 259.456 ms
Loss rate: 8.93%
-- Flow 3:
Average throughput: 225.20 Mbit/s
95th percentile per-packet one-way delay: 284.281 ms
Loss rate: 4.57%
```
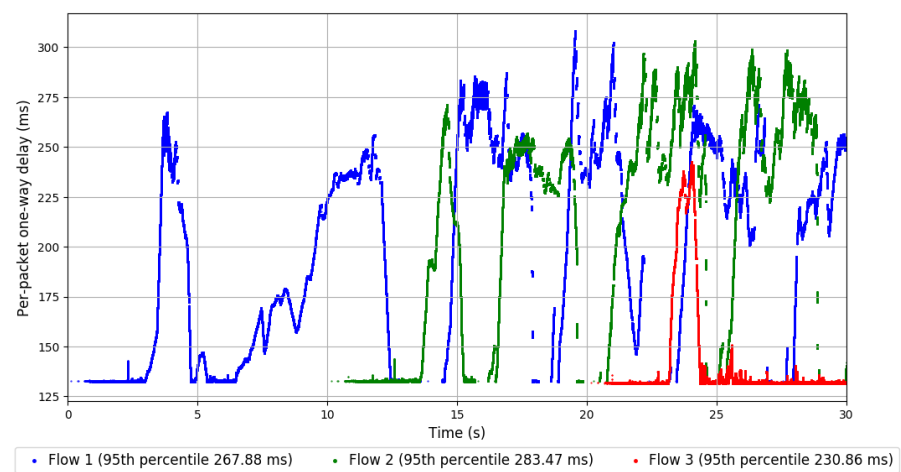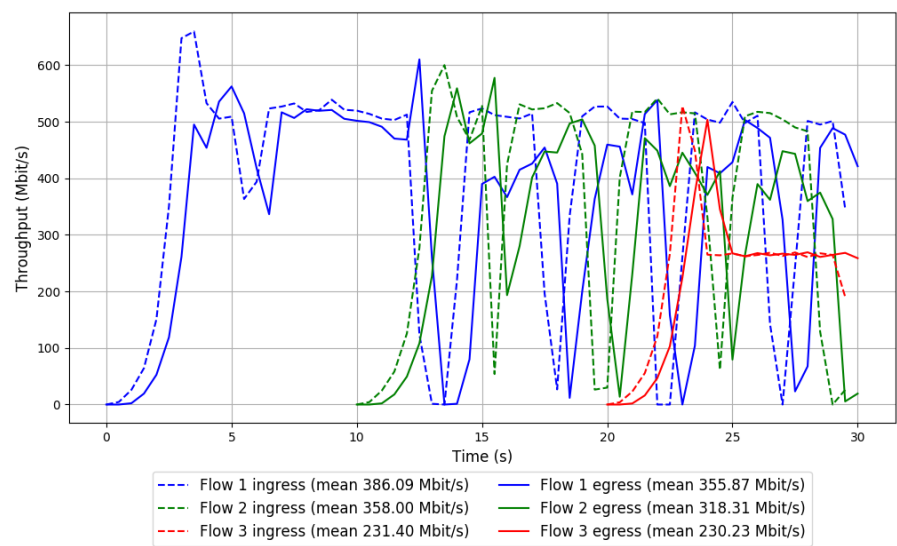
Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-02-12 04:46:55
End at: 2019-02-12 04:47:25
Local clock offset: 0.171 ms
Remote clock offset: -0.224 ms


# Below is generated by plot.py at 2019-02-12 10:16:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 643.31 Mbit/s
95th percentile per-packet one-way delay: 274.874 ms
Loss rate: 8.13%
-- Flow 1:
Average throughput: 355.87 Mbit/s
95th percentile per-packet one-way delay: 267.882 ms
Loss rate: 7.82%
-- Flow 2:
Average throughput: 318.31 Mbit/s
95th percentile per-packet one-way delay: 283.468 ms
Loss rate: 11.08%
-- Flow 3:
Average throughput: 230.23 Mbit/s
95th percentile per-packet one-way delay: 230.859 ms
Loss rate: 0.51%
```

Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-02-12 05:31:04
End at: 2019-02-12 05:31:34
Local clock offset: 0.002 ms
Remote clock offset: 0.02 ms


# Below is generated by plot.py at 2019-02-12 10:20:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 676.19 Mbit/s
95th percentile per-packet one-way delay: 275.502 ms
Loss rate: 5.71%
-- Flow 1:
Average throughput: 381.04 Mbit/s
95th percentile per-packet one-way delay: 259.254 ms
Loss rate: 1.79%
-- Flow 2:
Average throughput: 332.42 Mbit/s
95th percentile per-packet one-way delay: 284.780 ms
Loss rate: 12.49%
-- Flow 3:
Average throughput: 226.13 Mbit/s
95th percentile per-packet one-way delay: 234.809 ms
Loss rate: 3.22%
```
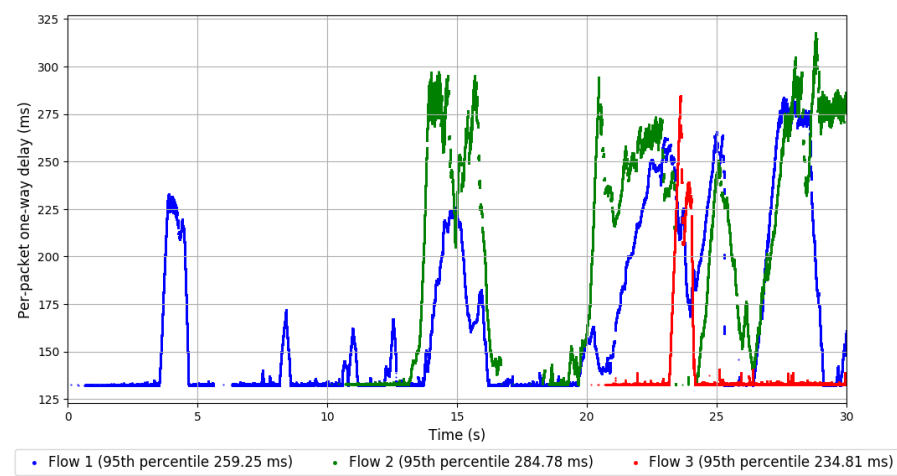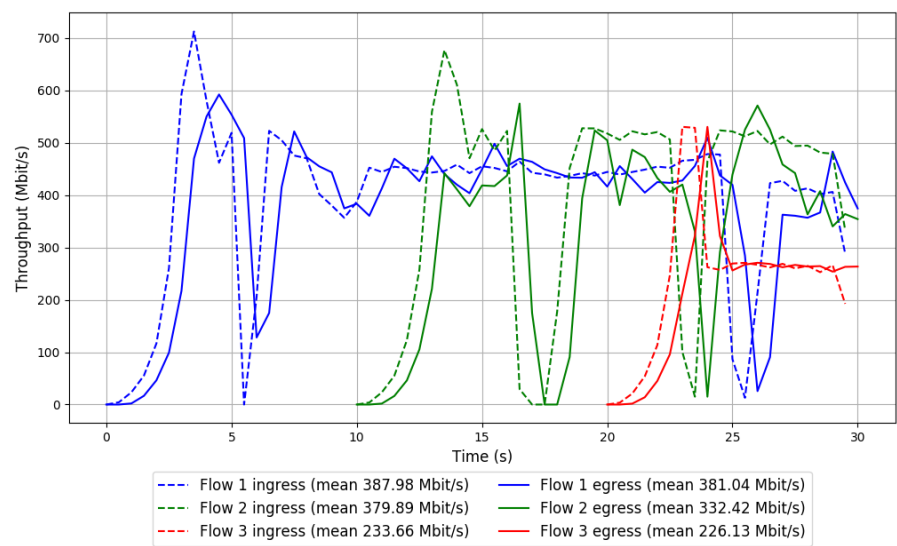
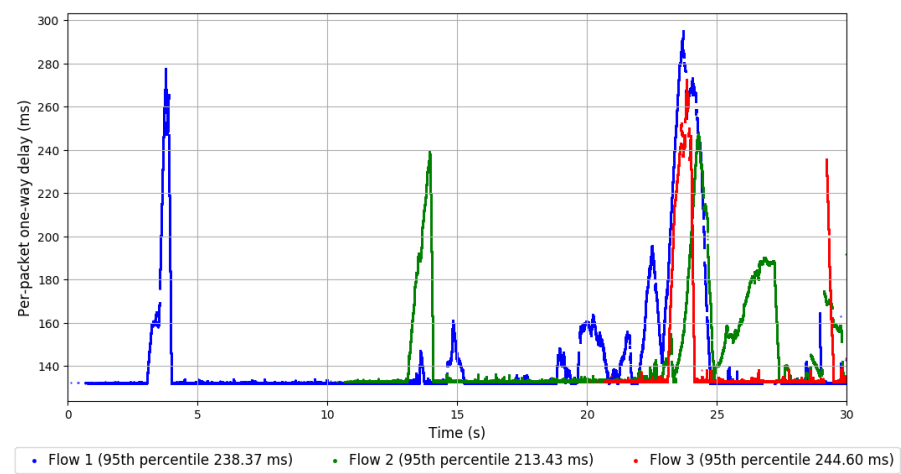Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 387.98 Mbit/s)   Flow 1 egress (mean 381.04 Mbit/s)
Flow 2 ingress (mean 379.89 Mbit/s)   Flow 2 egress (mean 332.42 Mbit/s)
Flow 3 ingress (mean 233.66 Mbit/s)   Flow 3 egress (mean 226.13 Mbit/s)

Flow 1 (95th percentile 259.25 ms)   Flow 2 (95th percentile 284.78 ms)   Flow 3 (95th percentile 234.81 ms)
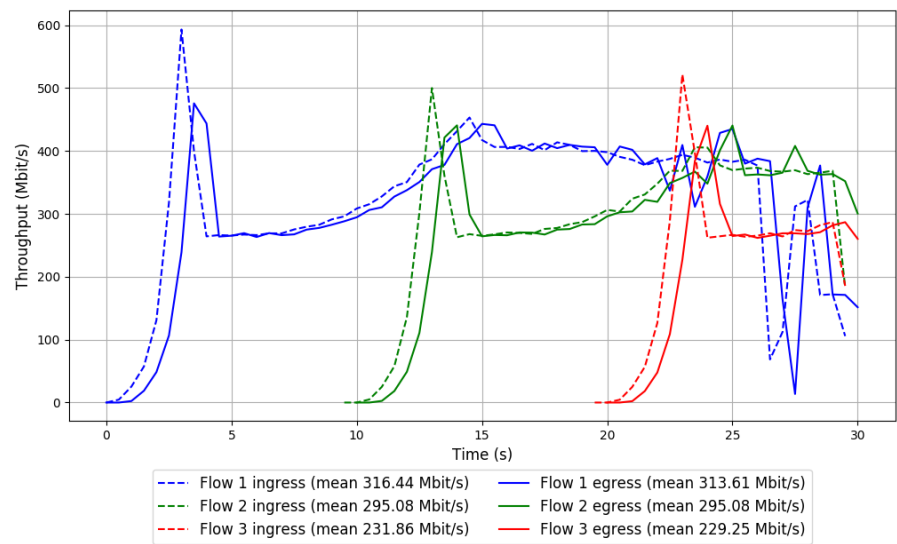
```
Run 4: Statistics of PCC-Allegro

Start at: 2019-02-12 06:17:14
End at: 2019-02-12 06:17:44
Local clock offset: 0.028 ms
Remote clock offset: -0.121 ms


# Below is generated by plot.py at 2019-02-12 10:20:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 585.52 Mbit/s
95th percentile per-packet one-way delay: 231.271 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 313.61 Mbit/s
95th percentile per-packet one-way delay: 238.369 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 295.08 Mbit/s
95th percentile per-packet one-way delay: 213.428 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 229.25 Mbit/s
95th percentile per-packet one-way delay: 244.601 ms
Loss rate: 1.48%
```

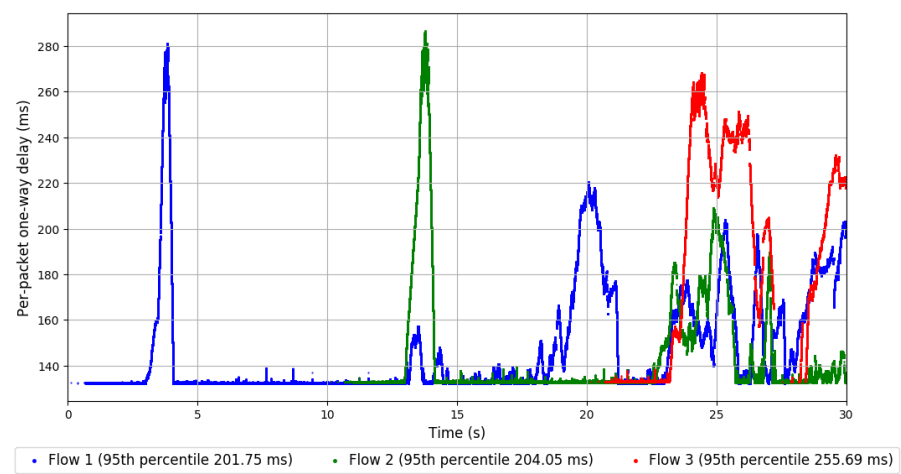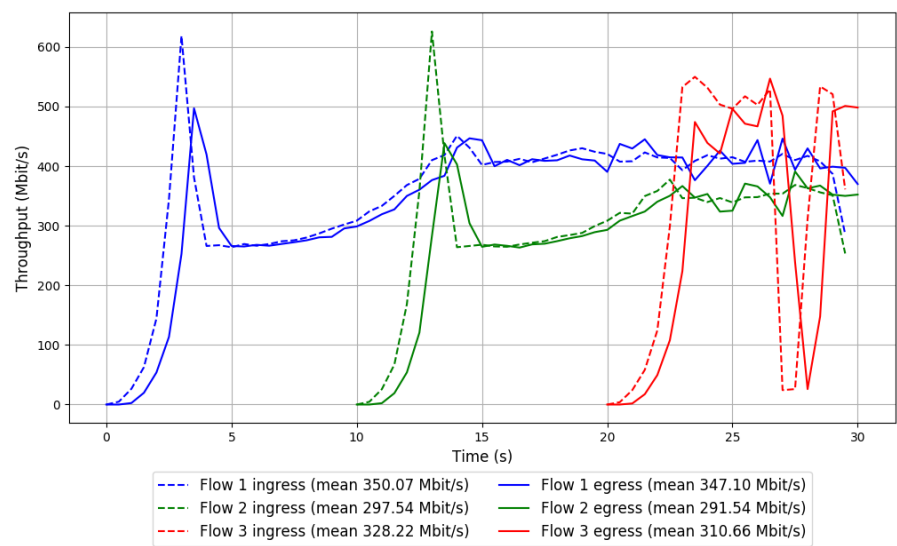# Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-02-12 07:00:27
End at: 2019-02-12 07:00:57
Local clock offset: -0.196 ms
Remote clock offset: -0.118 ms


# Below is generated by plot.py at 2019-02-12 10:27:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 643.10 Mbit/s
95th percentile per-packet one-way delay: 238.926 ms
Loss rate: 1.94%
-- Flow 1:
Average throughput: 347.10 Mbit/s
95th percentile per-packet one-way delay: 201.755 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 291.54 Mbit/s
95th percentile per-packet one-way delay: 204.050 ms
Loss rate: 2.02%
-- Flow 3:
Average throughput: 310.66 Mbit/s
95th percentile per-packet one-way delay: 255.686 ms
Loss rate: 5.35%
```

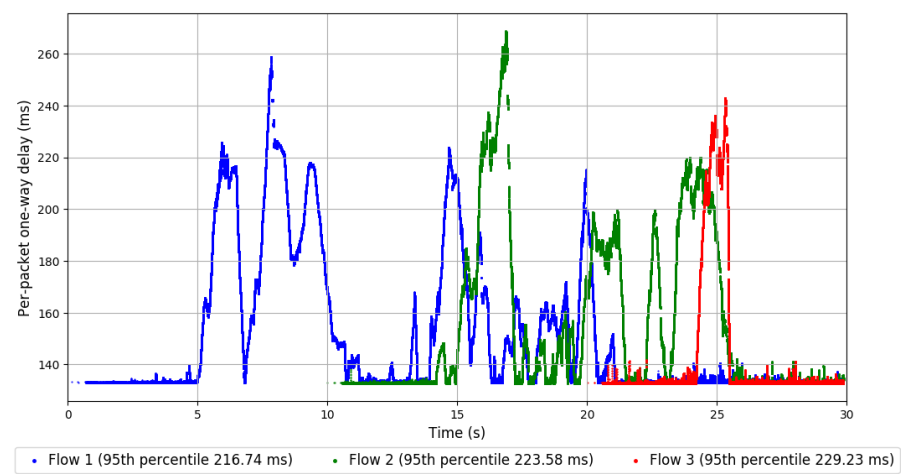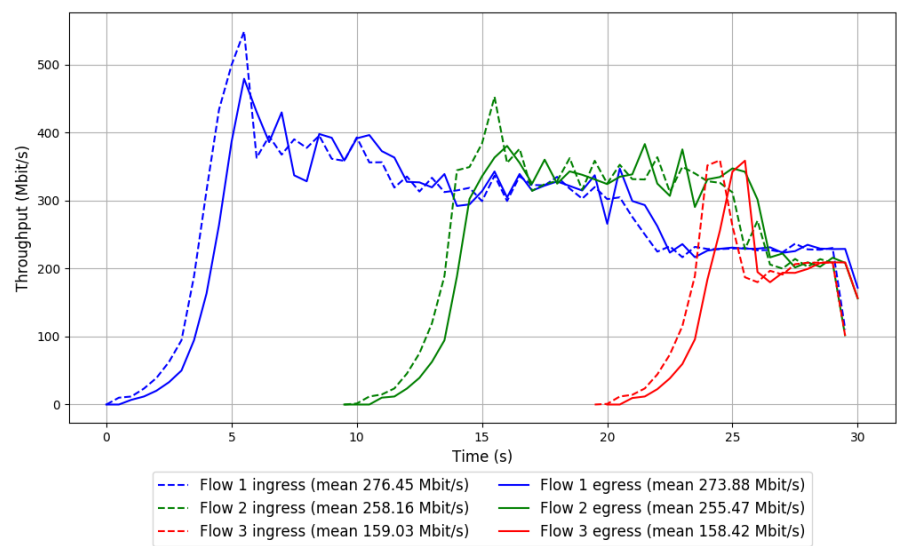Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-02-12 04:44:28
End at: 2019-02-12 04:44:58
Local clock offset: -0.207 ms
Remote clock offset: -0.252 ms


# Below is generated by plot.py at 2019-02-12 10:27:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 497.09 Mbit/s
95th percentile per-packet one-way delay: 221.348 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 273.88 Mbit/s
95th percentile per-packet one-way delay: 216.735 ms
Loss rate: 0.93%
-- Flow 2:
Average throughput: 255.47 Mbit/s
95th percentile per-packet one-way delay: 223.579 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 158.42 Mbit/s
95th percentile per-packet one-way delay: 229.230 ms
Loss rate: 0.38%
```

Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2019-02-12 05:27:38
End at: 2019-02-12 05:28:08
Local clock offset: 0.165 ms
Remote clock offset: 0.291 ms


# Below is generated by plot.py at 2019-02-12 10:27:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 543.74 Mbit/s
95th percentile per-packet one-way delay: 257.774 ms
Loss rate: 6.97%
-- Flow 1:
Average throughput: 307.19 Mbit/s
95th percentile per-packet one-way delay: 253.270 ms
Loss rate: 6.45%
-- Flow 2:
Average throughput: 251.05 Mbit/s
95th percentile per-packet one-way delay: 262.865 ms
Loss rate: 6.85%
-- Flow 3:
Average throughput: 210.89 Mbit/s
95th percentile per-packet one-way delay: 255.535 ms
Loss rate: 9.46%
```
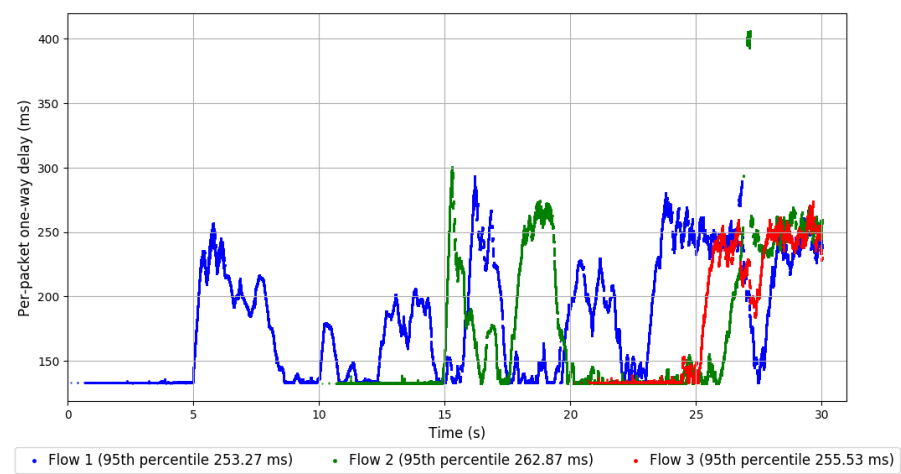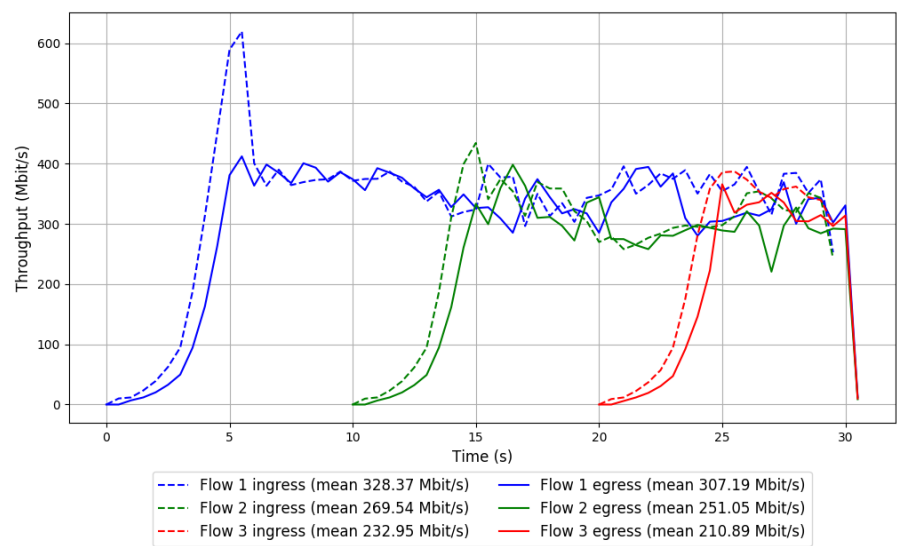
Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 328.37 Mbit/s) — — — Flow 1 egress (mean 307.19 Mbit/s)
Flow 2 ingress (mean 269.54 Mbit/s) — — — Flow 2 egress (mean 251.05 Mbit/s)
Flow 3 ingress (mean 232.95 Mbit/s) — — — Flow 3 egress (mean 210.89 Mbit/s)

Flow 1 (95th percentile 253.27 ms) • Flow 2 (95th percentile 262.87 ms) • Flow 3 (95th percentile 255.53 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-02-12 06:14:38
End at: 2019-02-12 06:15:08
Local clock offset: -0.166 ms
Remote clock offset: -0.12 ms


# Below is generated by plot.py at 2019-02-12 10:27:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 476.91 Mbit/s
95th percentile per-packet one-way delay: 239.062 ms
Loss rate: 3.27%
-- Flow 1:
Average throughput: 306.87 Mbit/s
95th percentile per-packet one-way delay: 243.261 ms
Loss rate: 4.61%
-- Flow 2:
Average throughput: 180.76 Mbit/s
95th percentile per-packet one-way delay: 232.103 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 151.29 Mbit/s
95th percentile per-packet one-way delay: 150.214 ms
Loss rate: 0.00%
```
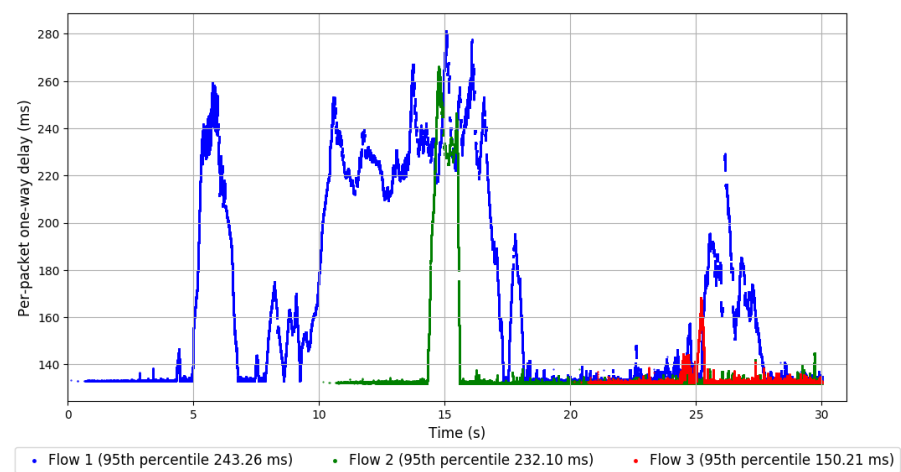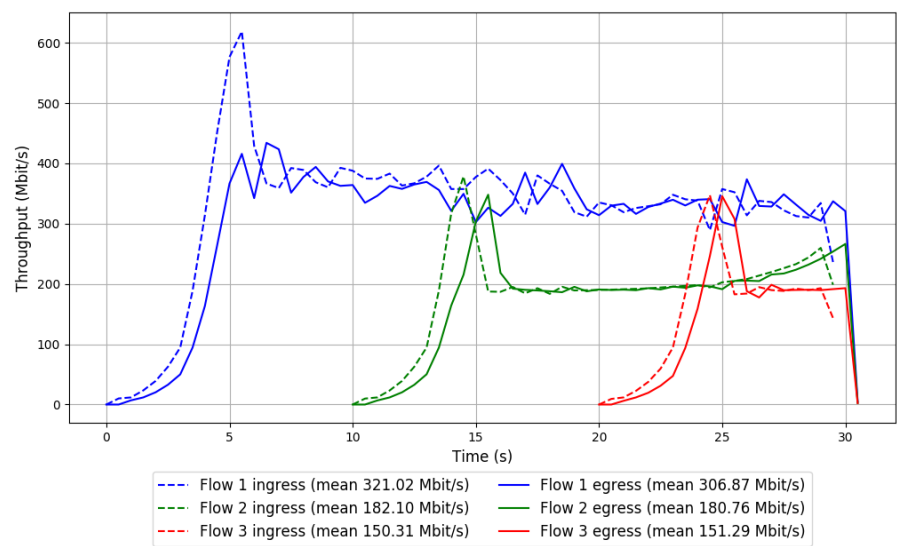
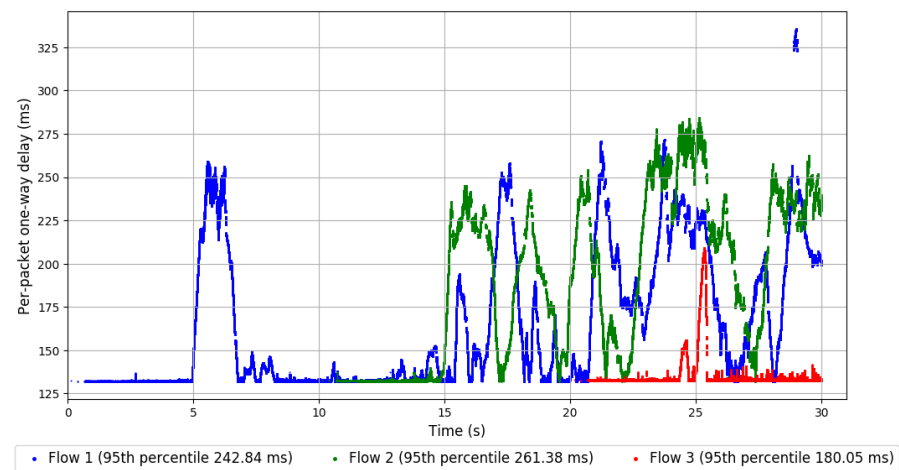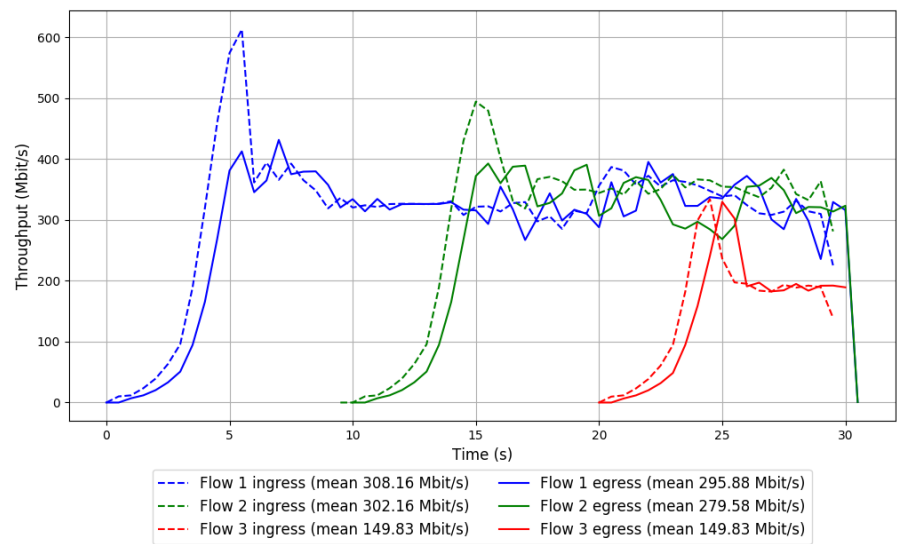## Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2019-02-12 06:57:49
End at: 2019-02-12 06:58:19
Local clock offset: -0.147 ms
Remote clock offset: -0.088 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 531.32 Mbit/s
95th percentile per-packet one-way delay: 250.302 ms
Loss rate: 4.88%
-- Flow 1:
Average throughput: 295.88 Mbit/s
95th percentile per-packet one-way delay: 242.838 ms
Loss rate: 3.97%
-- Flow 2:
Average throughput: 279.58 Mbit/s
95th percentile per-packet one-way delay: 261.380 ms
Loss rate: 7.46%
-- Flow 3:
Average throughput: 149.83 Mbit/s
95th percentile per-packet one-way delay: 180.046 ms
Loss rate: 0.00%
```

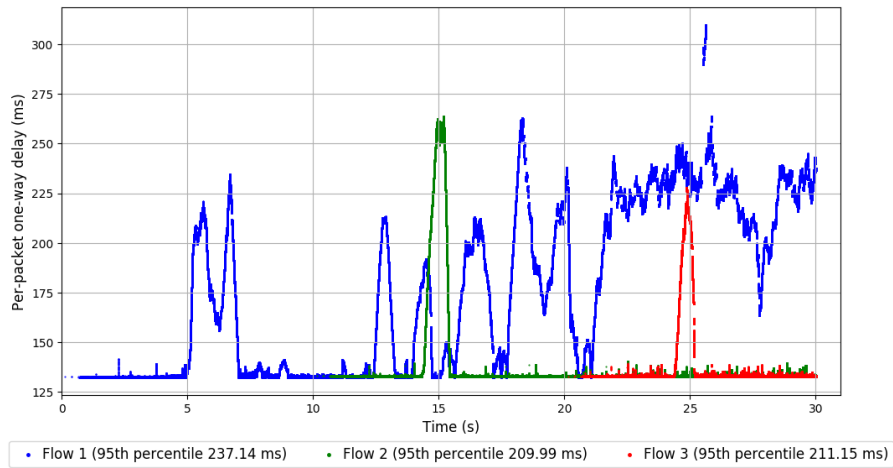# Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 308.16 Mbit/s)   Flow 1 egress (mean 295.88 Mbit/s)
Flow 2 ingress (mean 302.16 Mbit/s)   Flow 2 egress (mean 279.58 Mbit/s)
Flow 3 ingress (mean 149.83 Mbit/s)   Flow 3 egress (mean 149.83 Mbit/s)

Flow 1 (95th percentile 242.84 ms)   Flow 2 (95th percentile 261.38 ms)   Flow 3 (95th percentile 180.05 ms)
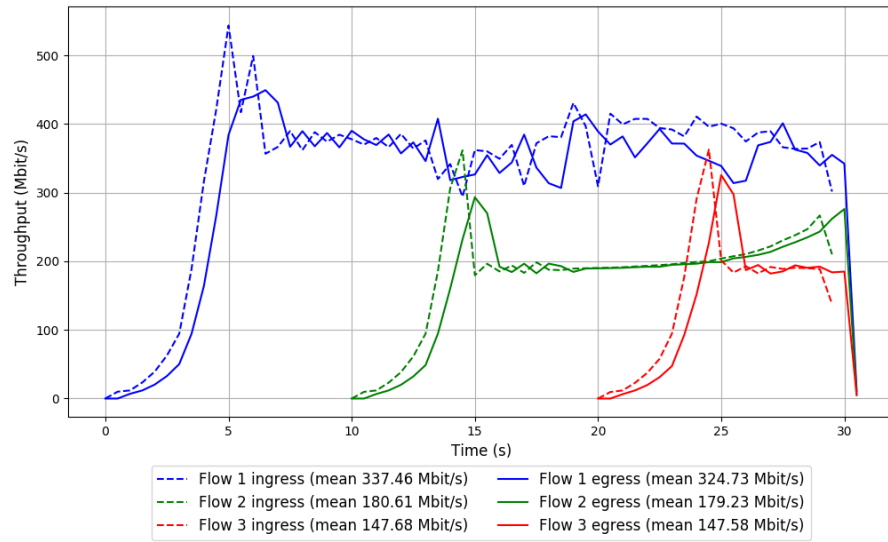
```
Run 5: Statistics of PCC-Expr

Start at: 2019-02-12 07:41:12
End at: 2019-02-12 07:41:42
Local clock offset: -0.21 ms
Remote clock offset: -0.122 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 492.62 Mbit/s
95th percentile per-packet one-way delay: 235.451 ms
Loss rate: 2.71%
-- Flow 1:
Average throughput: 324.73 Mbit/s
95th percentile per-packet one-way delay: 237.142 ms
Loss rate: 3.77%
-- Flow 2:
Average throughput: 179.23 Mbit/s
95th percentile per-packet one-way delay: 209.986 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 147.58 Mbit/s
95th percentile per-packet one-way delay: 211.145 ms
Loss rate: 0.09%
```
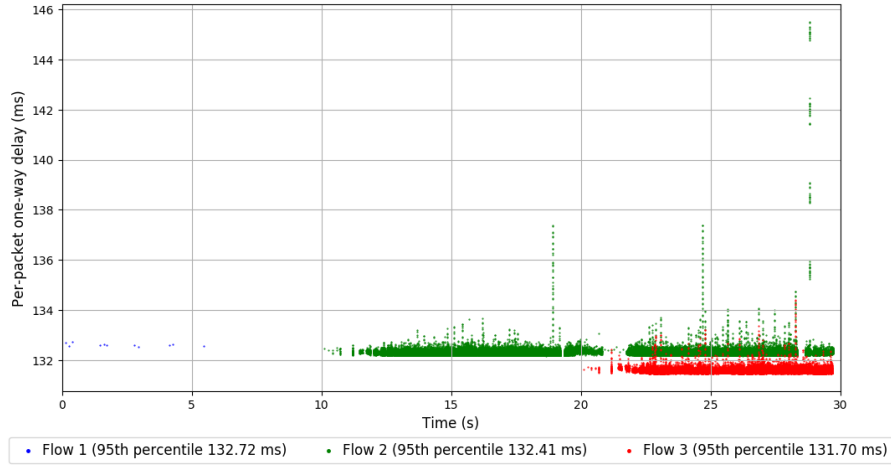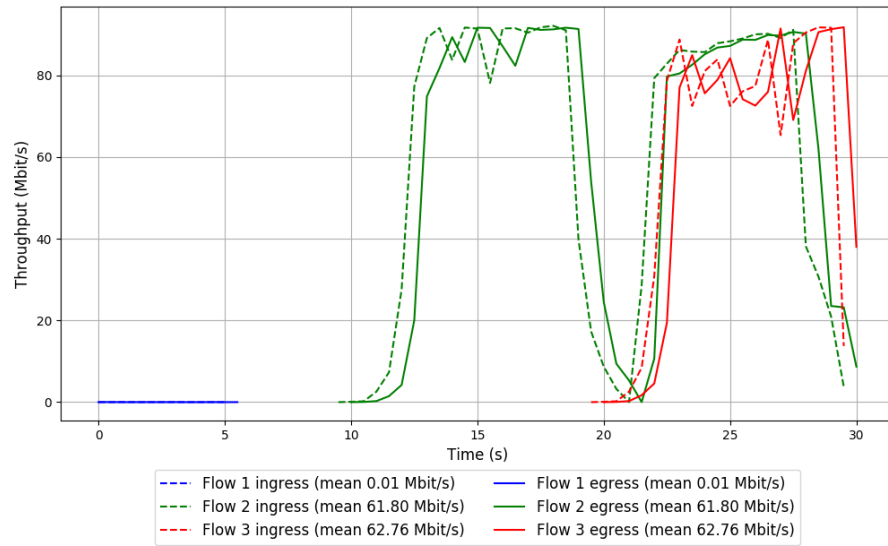
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 337.46 Mbit/s) --- Flow 1 egress (mean 324.73 Mbit/s)
Flow 2 ingress (mean 180.61 Mbit/s) --- Flow 2 egress (mean 179.23 Mbit/s)
Flow 3 ingress (mean 147.68 Mbit/s) --- Flow 3 egress (mean 147.58 Mbit/s)

Flow 1 (95th percentile 237.14 ms) · Flow 2 (95th percentile 209.99 ms) · Flow 3 (95th percentile 211.15 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-02-12 04:43:02
End at: 2019-02-12 04:43:32
Local clock offset: 0.24 ms
Remote clock offset: -0.243 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.26 Mbit/s
95th percentile per-packet one-way delay: 132.386 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 132.720 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 61.80 Mbit/s
95th percentile per-packet one-way delay: 132.414 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 62.76 Mbit/s
95th percentile per-packet one-way delay: 131.698 ms
Loss rate: 0.00%
```

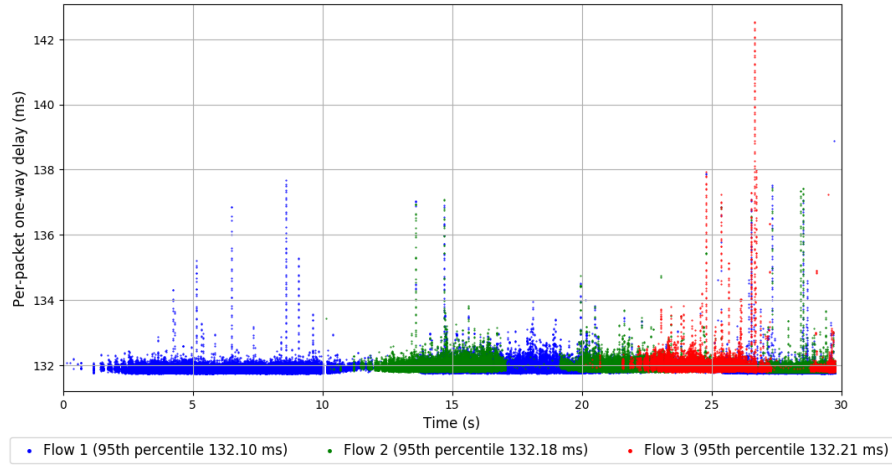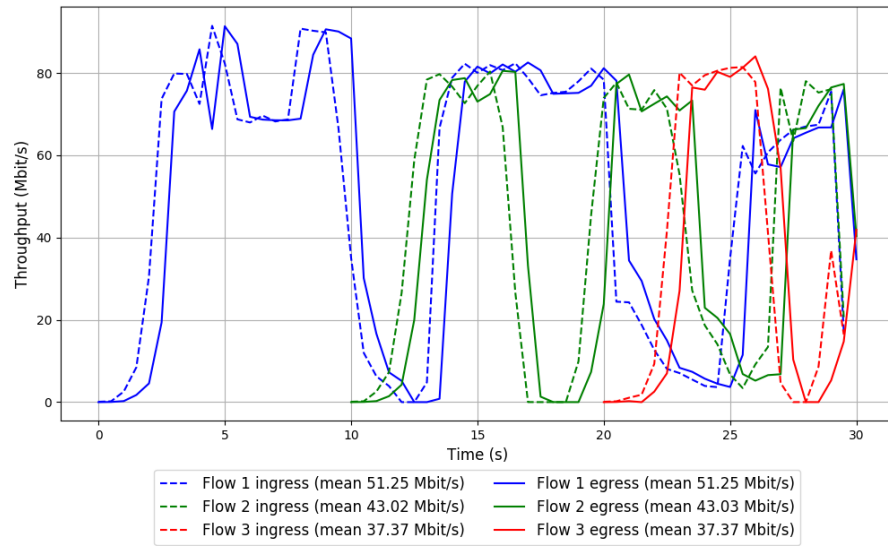Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-02-12 05:26:10
End at: 2019-02-12 05:26:40
Local clock offset: 0.001 ms
Remote clock offset: -0.057 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.87 Mbit/s
95th percentile per-packet one-way delay: 132.147 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 51.25 Mbit/s
95th percentile per-packet one-way delay: 132.102 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 43.03 Mbit/s
95th percentile per-packet one-way delay: 132.179 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 37.37 Mbit/s
95th percentile per-packet one-way delay: 132.209 ms
Loss rate: 0.00%
```

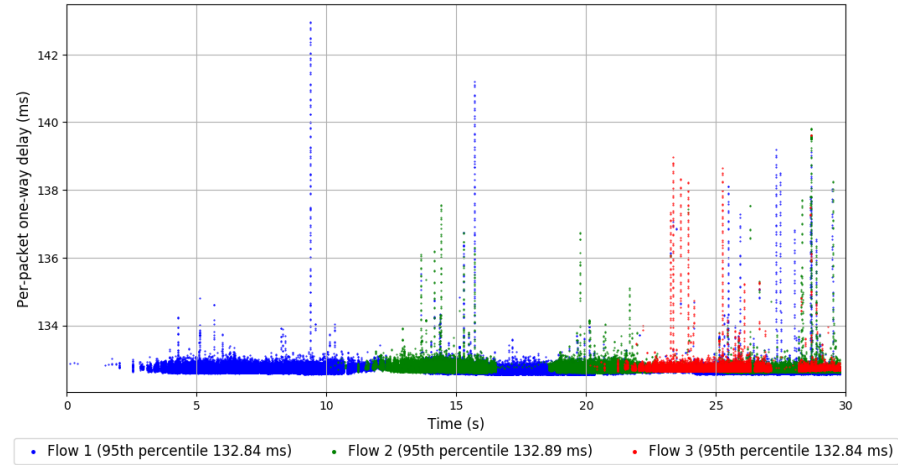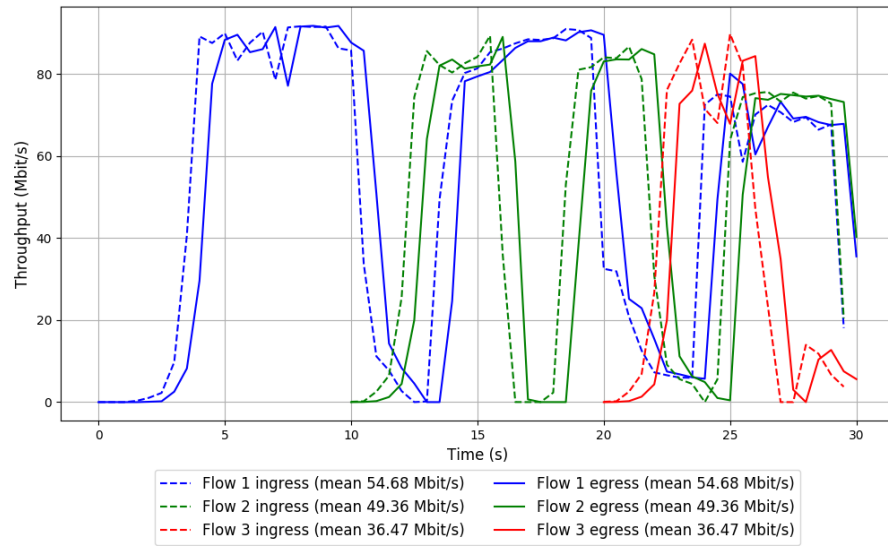Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-02-12 06:13:10
End at: 2019-02-12 06:13:40
Local clock offset: -0.034 ms
Remote clock offset: -0.135 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 99.19 Mbit/s
95th percentile per-packet one-way delay: 132.859 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 54.68 Mbit/s
95th percentile per-packet one-way delay: 132.842 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 49.36 Mbit/s
95th percentile per-packet one-way delay: 132.889 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 36.47 Mbit/s
95th percentile per-packet one-way delay: 132.842 ms
Loss rate: 0.00%
```
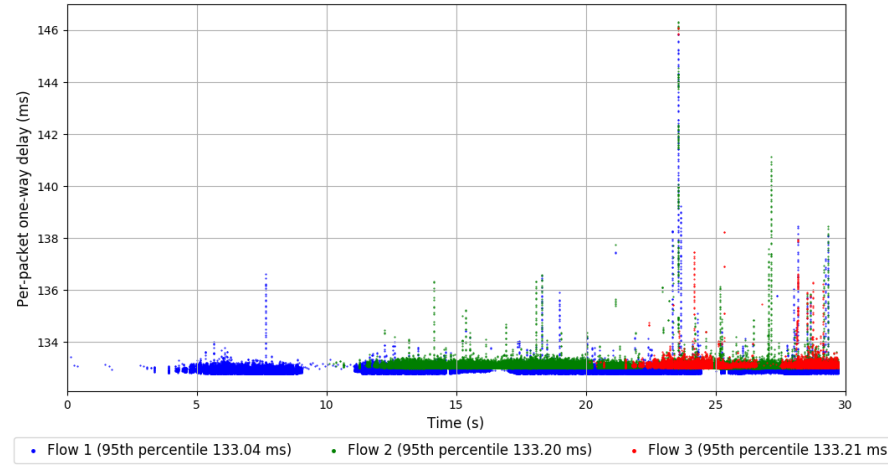
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 54.68 Mbit/s)   Flow 1 egress (mean 54.68 Mbit/s)
Flow 2 ingress (mean 49.36 Mbit/s)   Flow 2 egress (mean 49.36 Mbit/s)
Flow 3 ingress (mean 36.47 Mbit/s)   Flow 3 egress (mean 36.47 Mbit/s)

Flow 1 (95th percentile 132.84 ms)   Flow 2 (95th percentile 132.89 ms)   Flow 3 (95th percentile 132.84 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-02-12 06:56:20
End at: 2019-02-12 06:56:50
Local clock offset: 0.137 ms
Remote clock offset: 0.27 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.86 Mbit/s
95th percentile per-packet one-way delay: 133.167 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.20 Mbit/s
95th percentile per-packet one-way delay: 133.036 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 58.60 Mbit/s
95th percentile per-packet one-way delay: 133.202 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 33.36 Mbit/s
95th percentile per-packet one-way delay: 133.214 ms
Loss rate: 0.00%
```
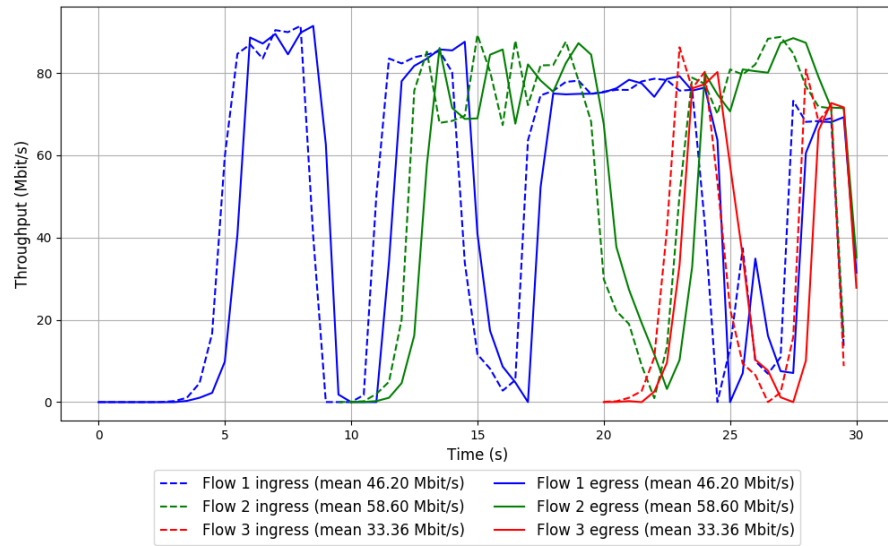
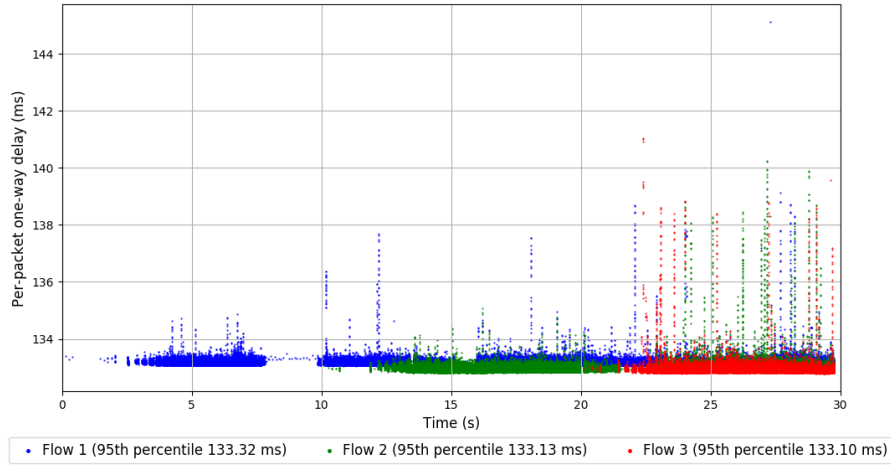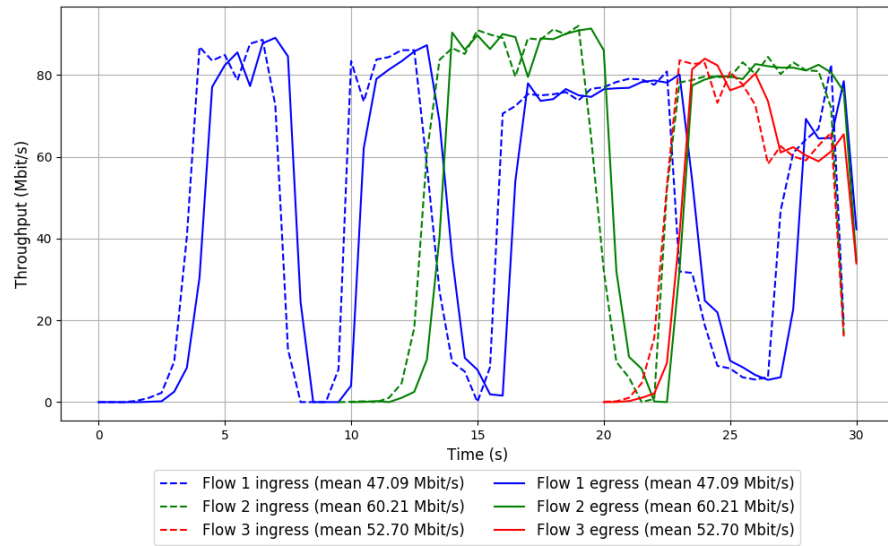# Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-02-12 07:39:44
End at: 2019-02-12 07:40:14
Local clock offset: -0.222 ms
Remote clock offset: -0.125 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 104.09 Mbit/s
95th percentile per-packet one-way delay: 133.276 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.09 Mbit/s
95th percentile per-packet one-way delay: 133.318 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 60.21 Mbit/s
95th percentile per-packet one-way delay: 133.130 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 52.70 Mbit/s
95th percentile per-packet one-way delay: 133.103 ms
Loss rate: 0.00%
```

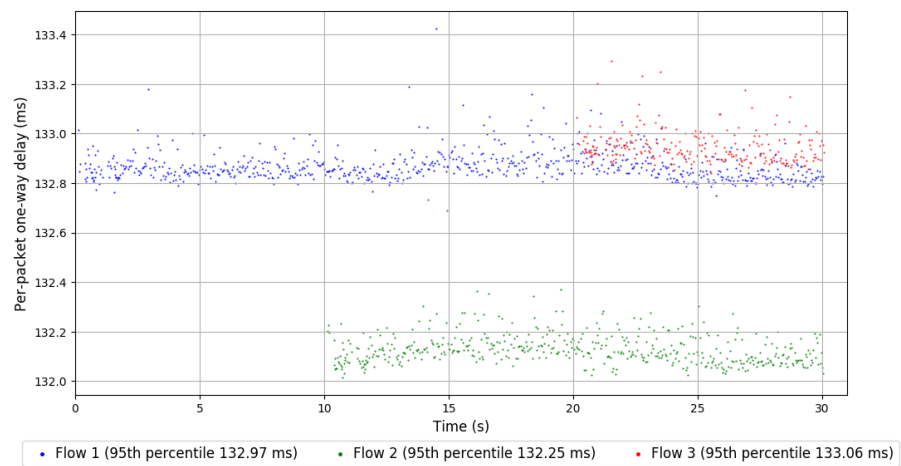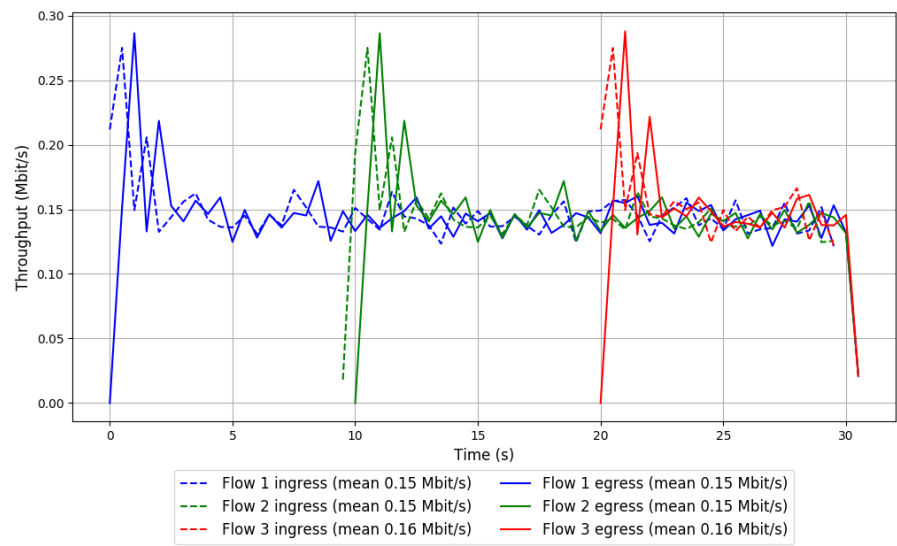Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-02-12 04:39:27
End at: 2019-02-12 04:39:57
Local clock offset: -0.148 ms
Remote clock offset: -0.247 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 132.991 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 132.975 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 132.245 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.065 ms
Loss rate: 0.00%
```

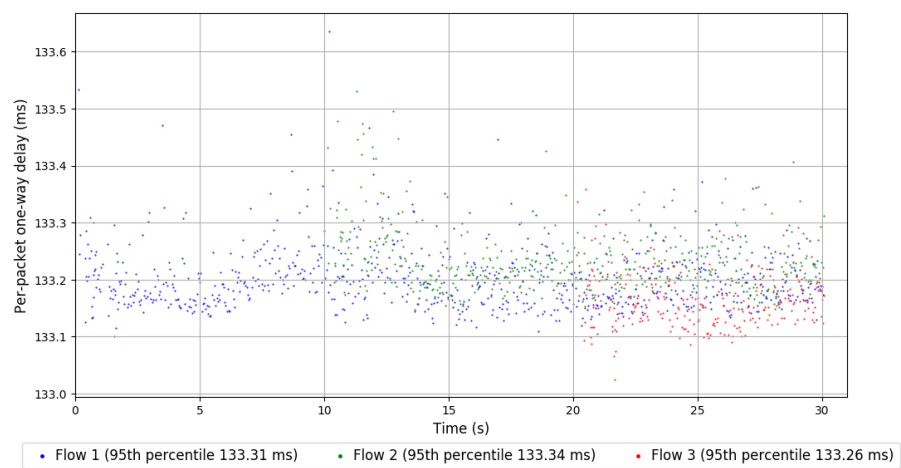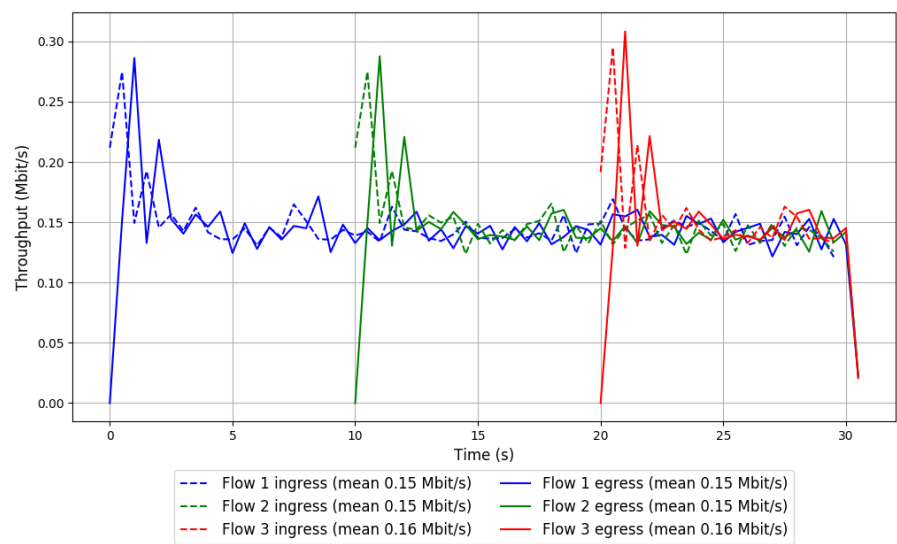# Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2019-02-12 05:22:10
End at: 2019-02-12 05:22:40
Local clock offset: -0.062 ms
Remote clock offset: 0.314 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 133.313 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.308 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.338 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.264 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2019-02-12 06:09:17
End at: 2019-02-12 06:09:47
Local clock offset: -0.564 ms
Remote clock offset: -0.466 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 133.320 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.279 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.307 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.399 ms
Loss rate: 0.00%
```
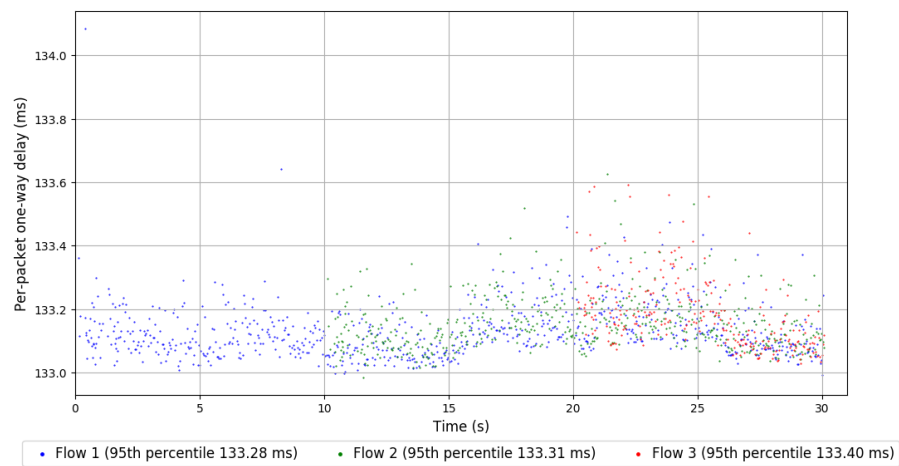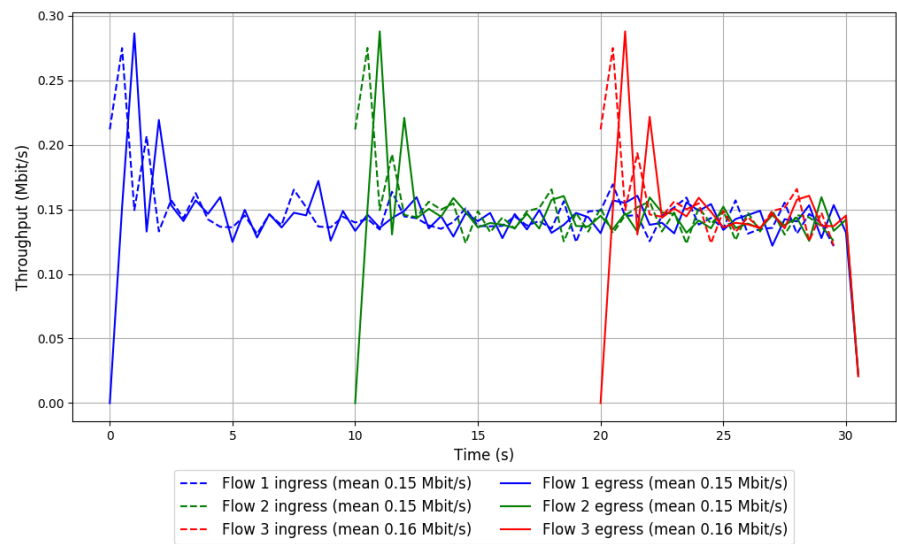
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-02-12 06:52:38
End at: 2019-02-12 06:53:08
Local clock offset: -0.219 ms
Remote clock offset: -0.074 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 133.418 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.446 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 133.248 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 133.047 ms
Loss rate: 0.00%
```
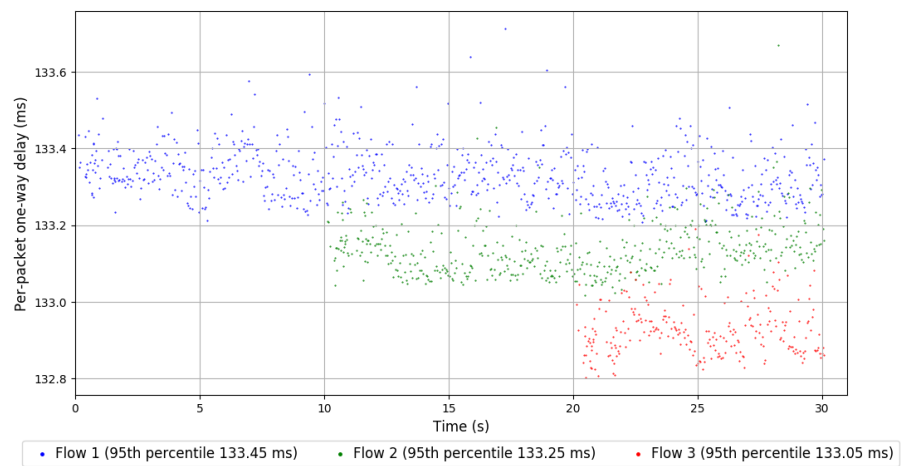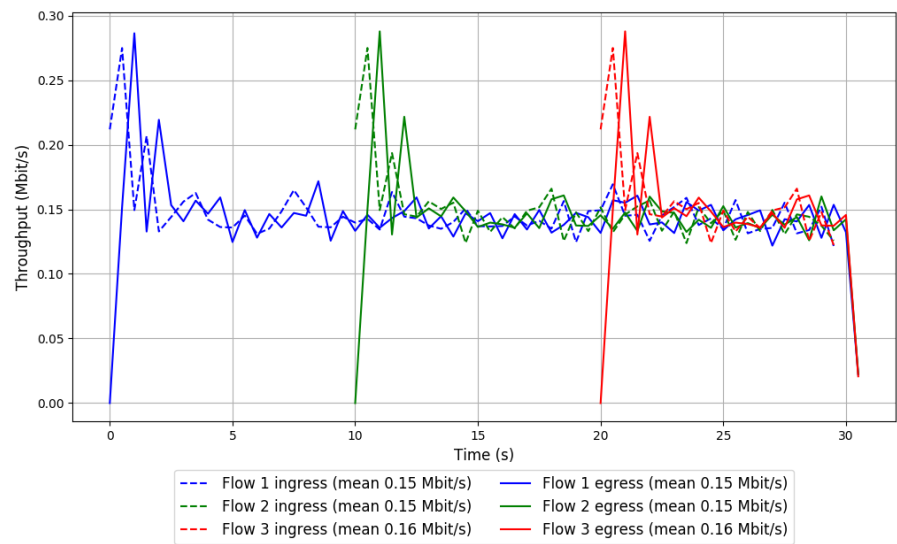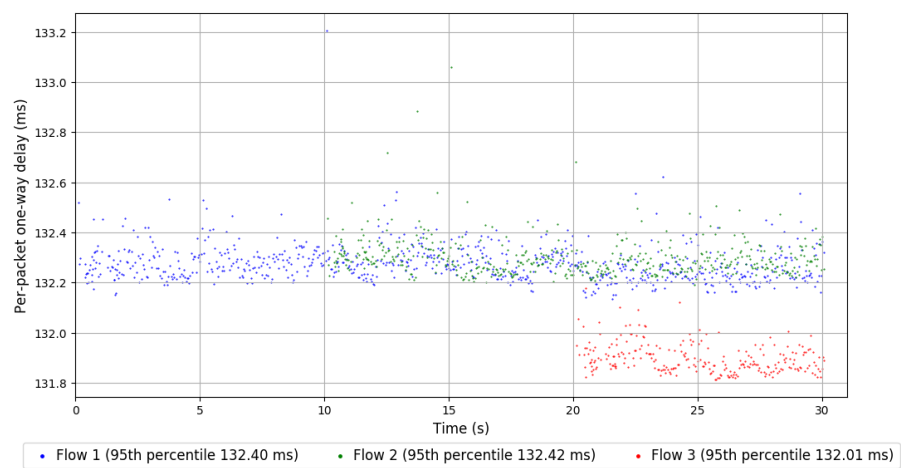
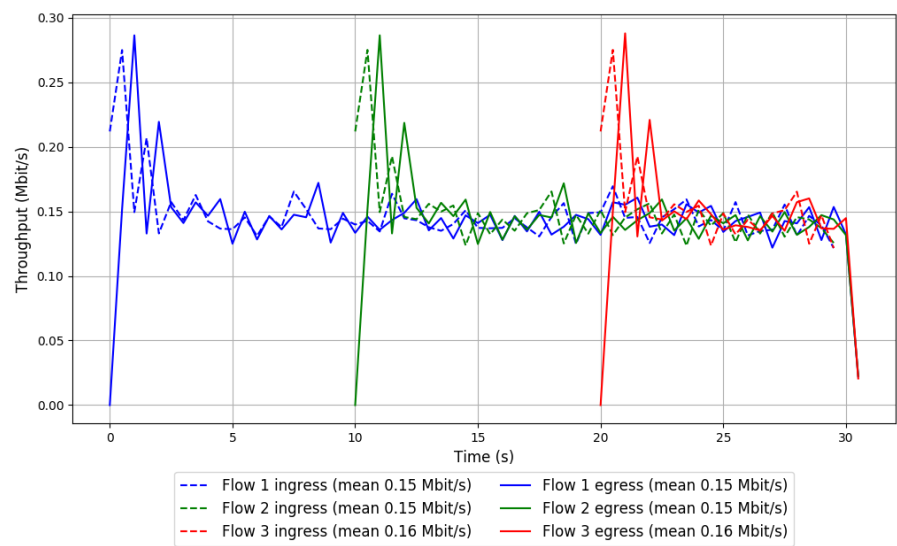## Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-02-12 07:36:20
End at: 2019-02-12 07:36:50
Local clock offset: 0.184 ms
Remote clock offset: -0.477 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 132.401 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 132.404 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 132.421 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 132.006 ms
Loss rate: 0.00%
```

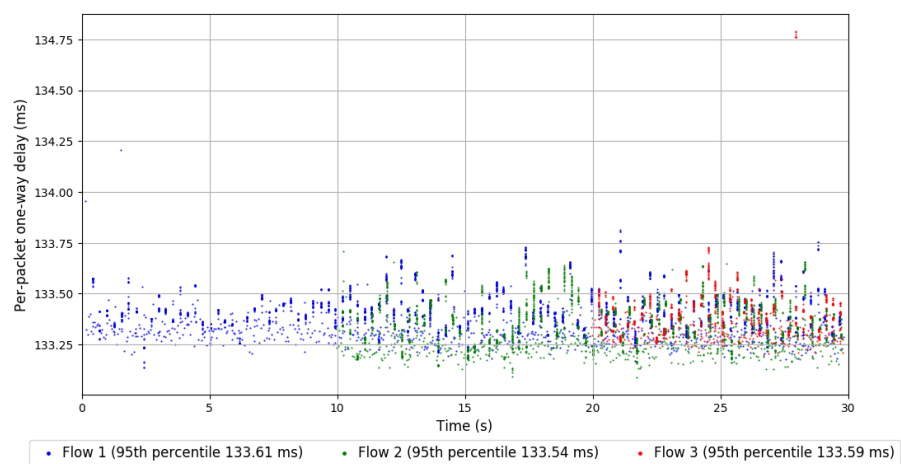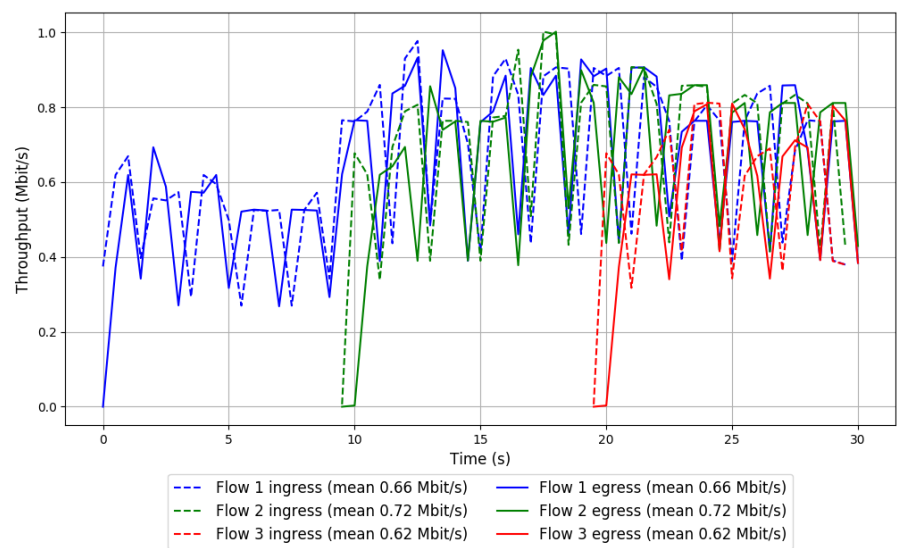# Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-02-12 04:23:01
End at: 2019-02-12 04:23:31
Local clock offset: -0.392 ms
Remote clock offset: -0.177 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 133.588 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 133.608 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 133.539 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.62 Mbit/s
95th percentile per-packet one-way delay: 133.590 ms
Loss rate: 0.00%
```
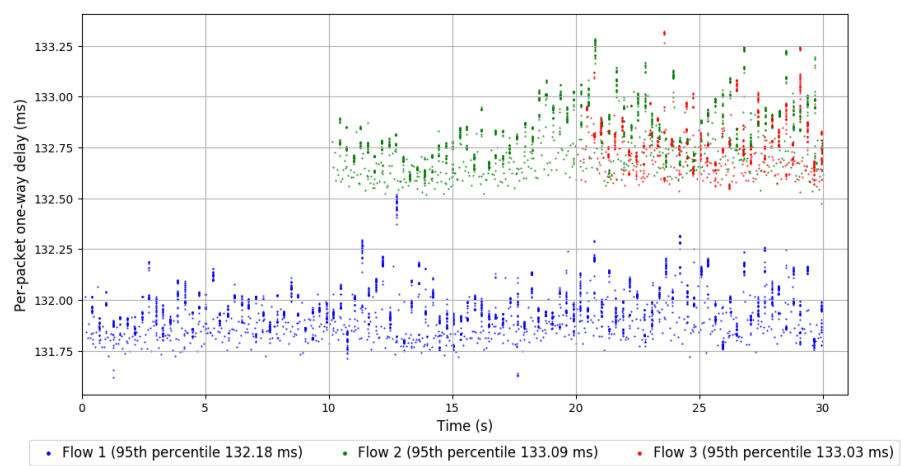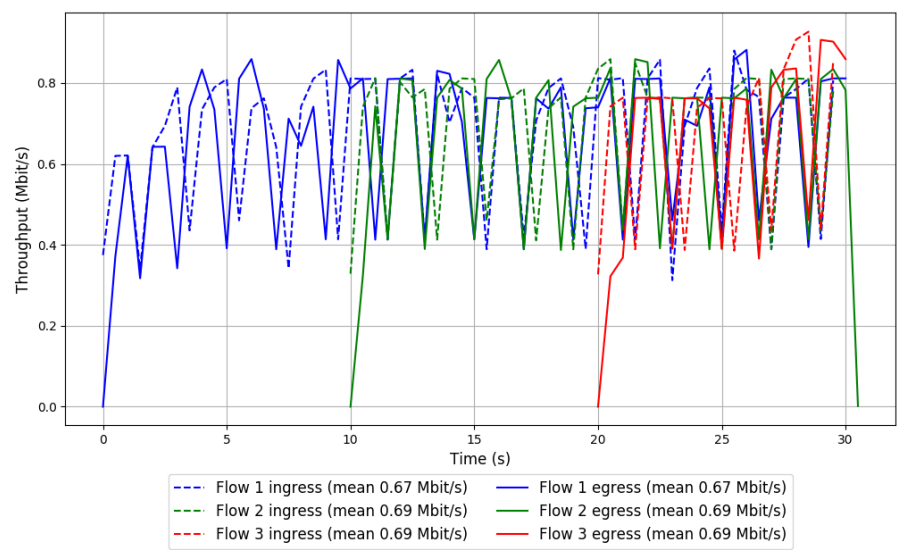
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-02-12 05:05:18
End at: 2019-02-12 05:05:48
Local clock offset: 0.203 ms
Remote clock offset: -0.088 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 133.007 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 132.175 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 133.094 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 133.035 ms
Loss rate: 0.00%
```
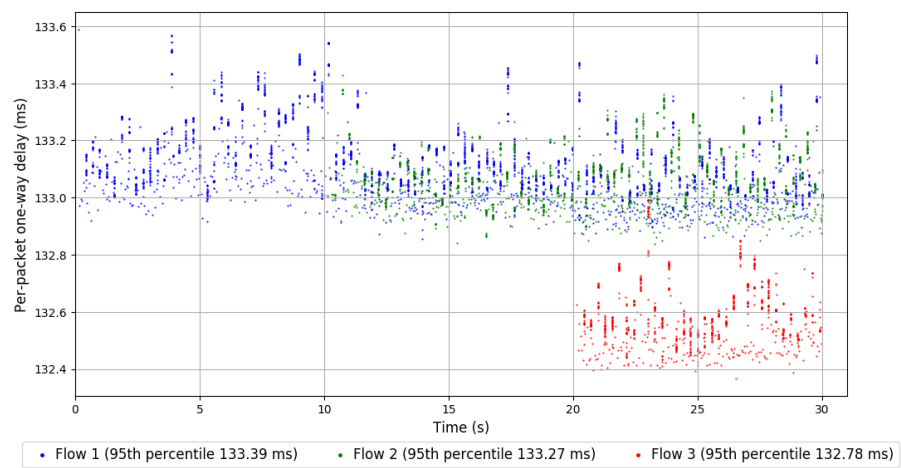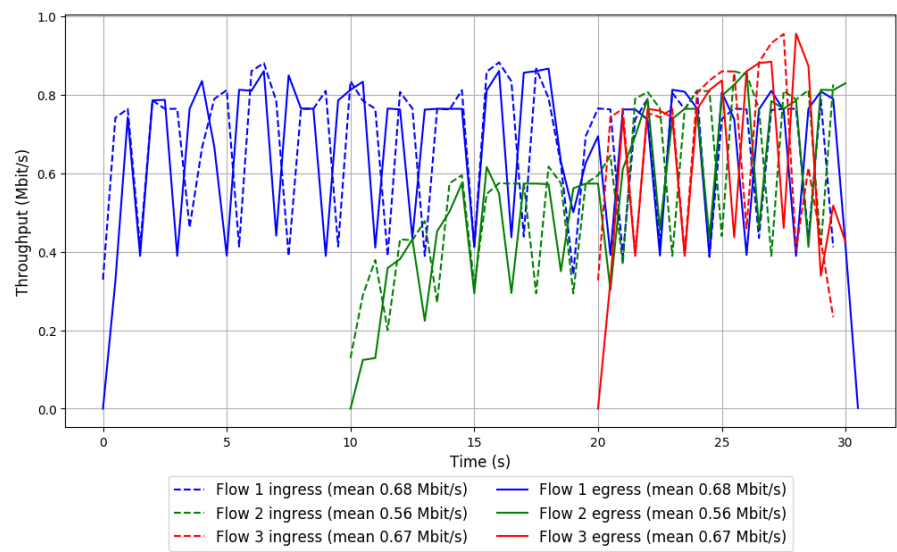
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-02-12 05:52:16
End at: 2019-02-12 05:52:46
Local clock offset: -0.203 ms
Remote clock offset: -0.008 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 133.328 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 133.386 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 133.273 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 132.785 ms
Loss rate: 0.00%
```
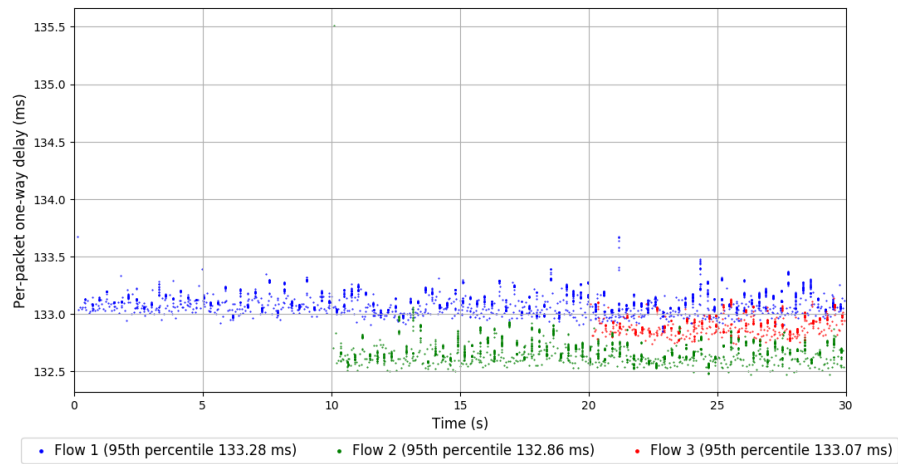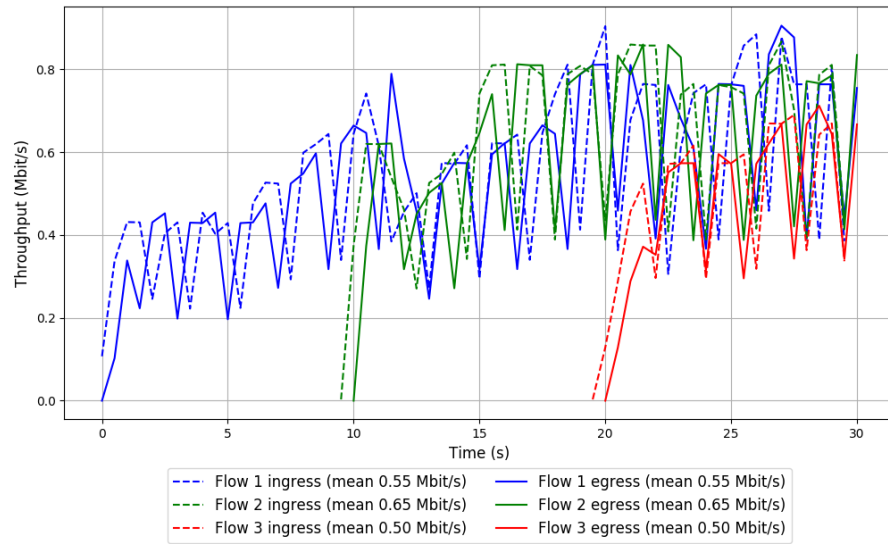
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-02-12 06:36:26
End at: 2019-02-12 06:36:56
Local clock offset: -0.169 ms
Remote clock offset: -0.133 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 133.234 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 133.281 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 132.859 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 133.067 ms
Loss rate: 0.00%
```
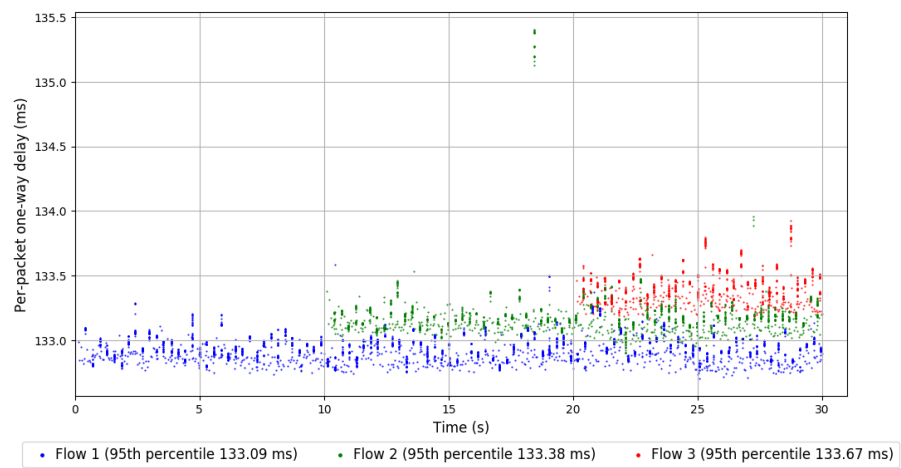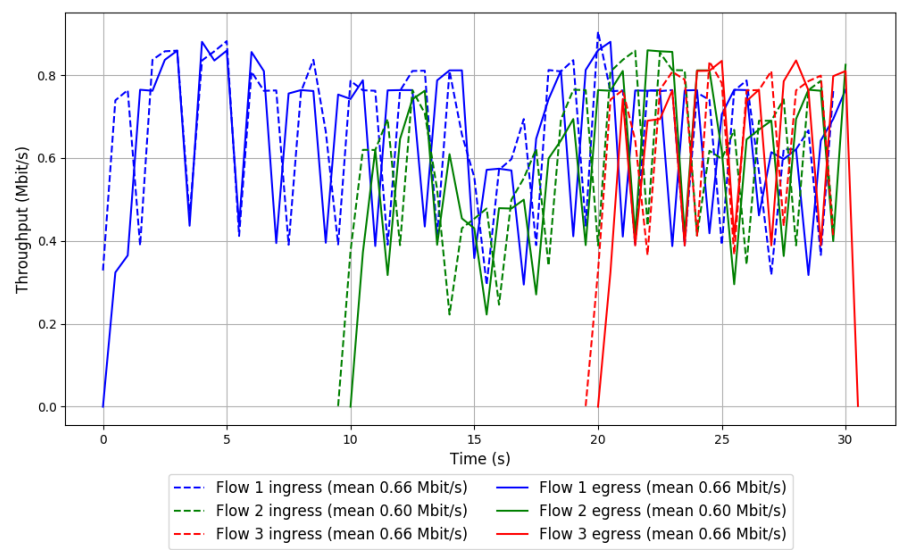
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-02-12 07:20:56
End at: 2019-02-12 07:21:26
Local clock offset: -0.421 ms
Remote clock offset: -0.104 ms


# Below is generated by plot.py at 2019-02-12 10:43:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 1.28 Mbit/s
95th percentile per-packet one-way delay: 133.479 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 133.095 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 133.377 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 133.668 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link

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

Start at: 2019-02-12 04:29:53
End at: 2019-02-12 04:30:23
Local clock offset: -0.176 ms
Remote clock offset: 0.135 ms


# Below is generated by plot.py at 2019-02-12 10:43:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 369.68 Mbit/s
95th percentile per-packet one-way delay: 133.911 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 189.10 Mbit/s
95th percentile per-packet one-way delay: 133.802 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 183.56 Mbit/s
95th percentile per-packet one-way delay: 133.946 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 174.97 Mbit/s
95th percentile per-packet one-way delay: 134.601 ms
Loss rate: 0.01%
```
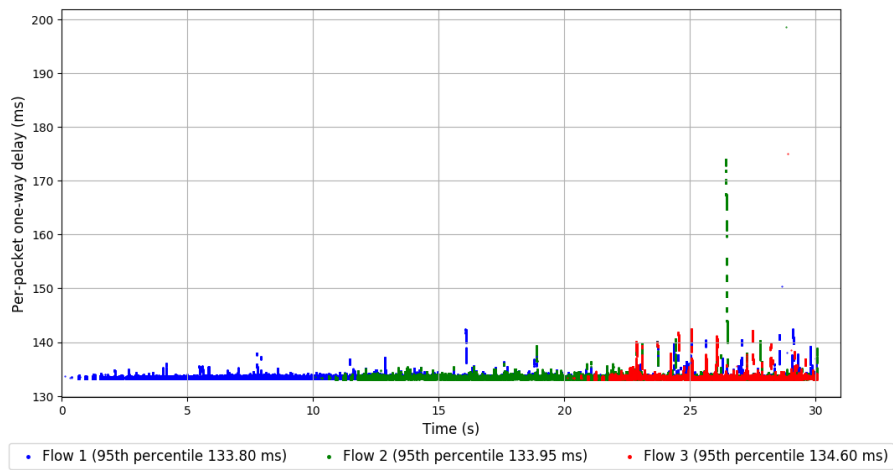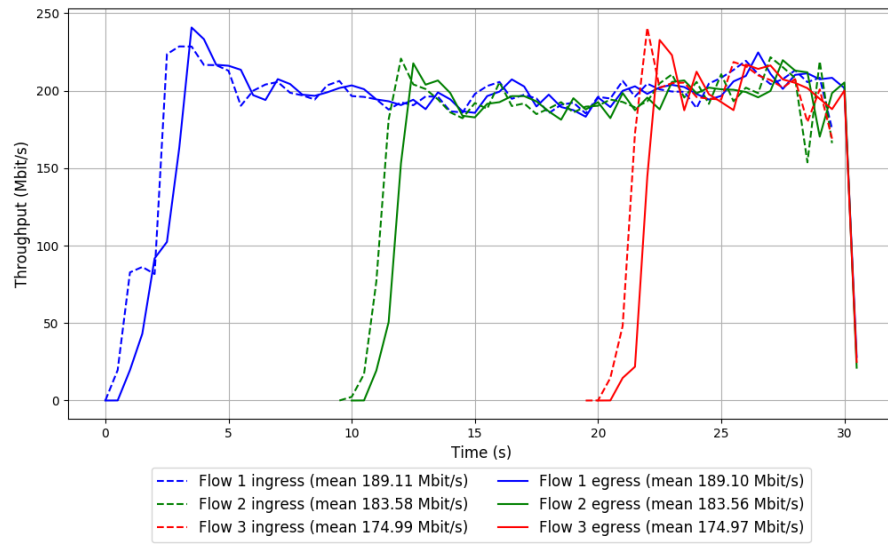
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2019-02-12 05:12:04
End at: 2019-02-12 05:12:34
Local clock offset: -0.518 ms
Remote clock offset: -0.014 ms


# Below is generated by plot.py at 2019-02-12 10:43:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 307.96 Mbit/s
95th percentile per-packet one-way delay: 133.791 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 185.98 Mbit/s
95th percentile per-packet one-way delay: 133.763 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 176.81 Mbit/s
95th percentile per-packet one-way delay: 133.867 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.72 Mbit/s
95th percentile per-packet one-way delay: 133.015 ms
Loss rate: 0.00%
```
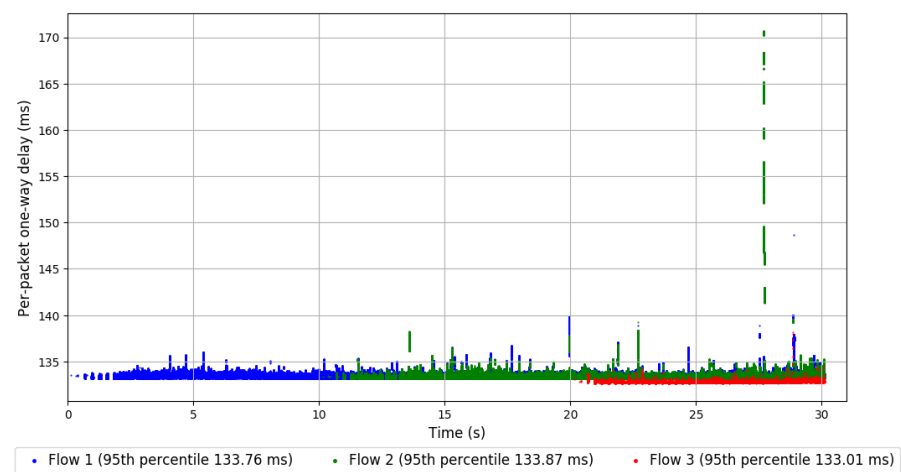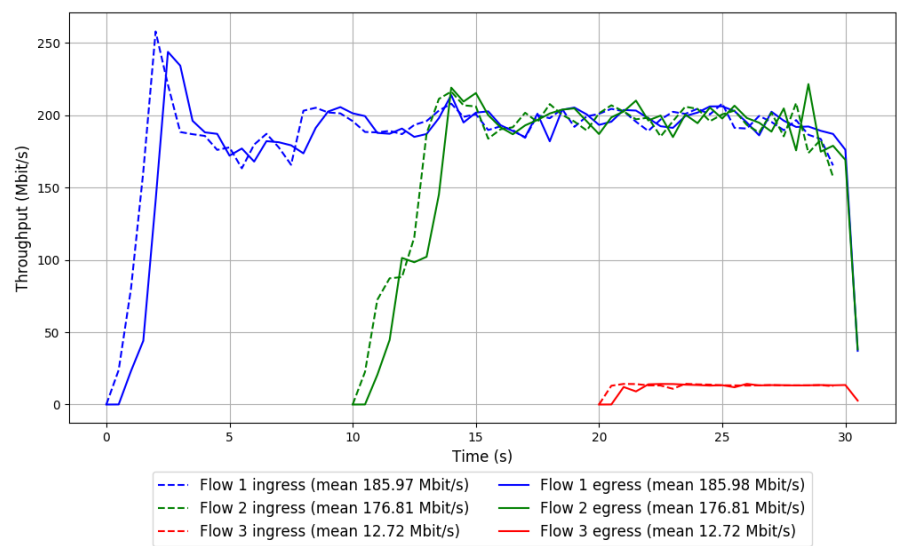
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 185.97 Mbit/s)   Flow 1 egress (mean 185.98 Mbit/s)
Flow 2 ingress (mean 176.81 Mbit/s)   Flow 2 egress (mean 176.81 Mbit/s)
Flow 3 ingress (mean 12.72 Mbit/s)   Flow 3 egress (mean 12.72 Mbit/s)

Flow 1 (95th percentile 133.76 ms)   Flow 2 (95th percentile 133.87 ms)   Flow 3 (95th percentile 133.01 ms)
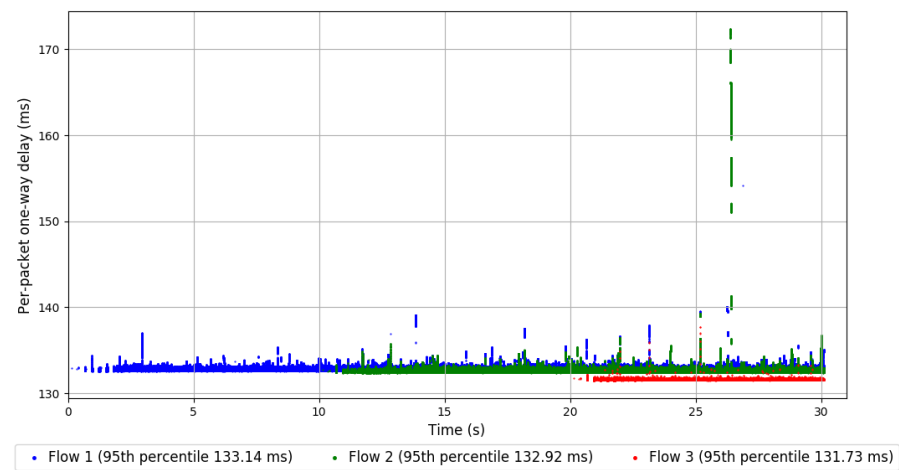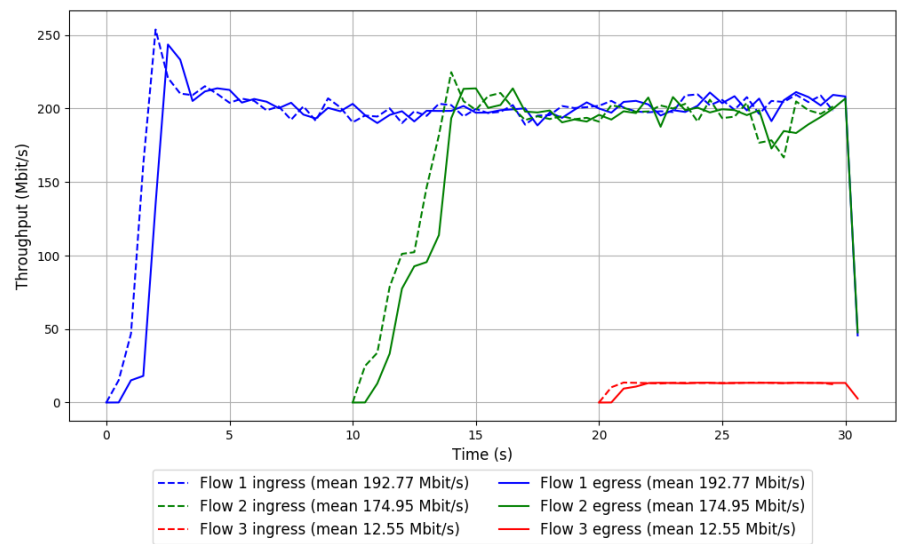
168

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

Start at: 2019-02-12 05:59:30
End at: 2019-02-12 06:00:00
Local clock offset: -0.061 ms
Remote clock offset: -0.346 ms


# Below is generated by plot.py at 2019-02-12 10:43:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.48 Mbit/s
95th percentile per-packet one-way delay: 133.088 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 192.77 Mbit/s
95th percentile per-packet one-way delay: 133.143 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 174.95 Mbit/s
95th percentile per-packet one-way delay: 132.921 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.55 Mbit/s
95th percentile per-packet one-way delay: 131.728 ms
Loss rate: 0.00%
```

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

- - - - Flow 1 ingress (mean 192.77 Mbit/s)   ——— Flow 1 egress (mean 192.77 Mbit/s)
- - - - Flow 2 ingress (mean 174.95 Mbit/s)   ——— Flow 2 egress (mean 174.95 Mbit/s)
- - - - Flow 3 ingress (mean 12.55 Mbit/s)   ——— Flow 3 egress (mean 12.55 Mbit/s)

• Flow 1 (95th percentile 133.14 ms)   • Flow 2 (95th percentile 132.92 ms)   • Flow 3 (95th percentile 131.73 ms)
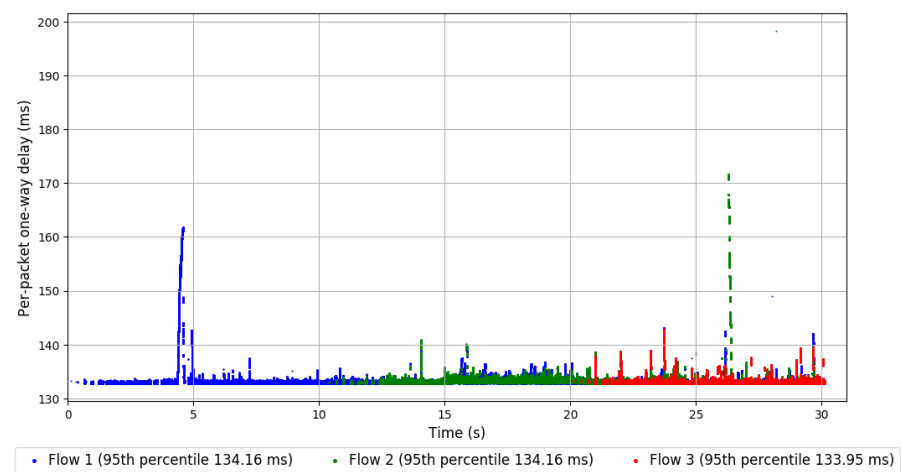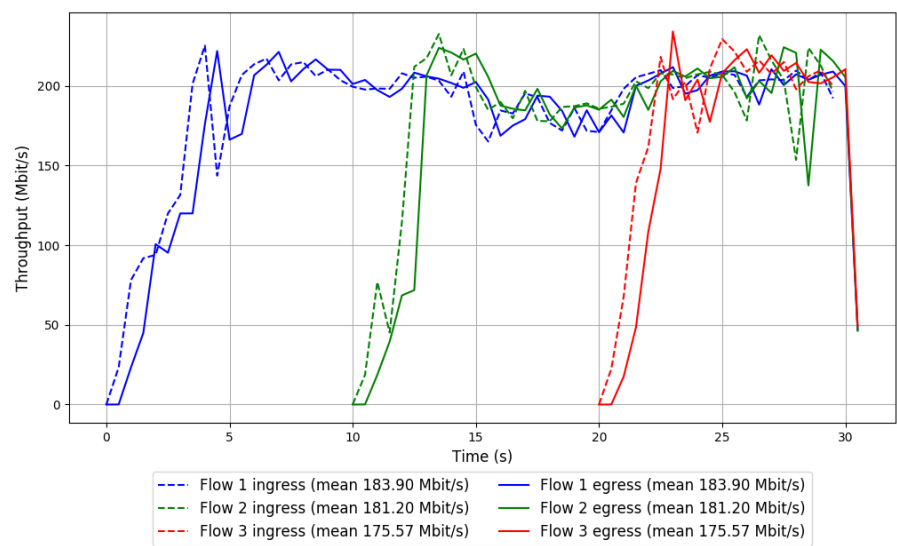
170

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

Start at: 2019-02-12 06:42:48
End at: 2019-02-12 06:43:18
Local clock offset: -0.174 ms
Remote clock offset: -0.095 ms


# Below is generated by plot.py at 2019-02-12 10:44:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 362.88 Mbit/s
95th percentile per-packet one-way delay: 134.142 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 183.90 Mbit/s
95th percentile per-packet one-way delay: 134.164 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 181.20 Mbit/s
95th percentile per-packet one-way delay: 134.163 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 175.57 Mbit/s
95th percentile per-packet one-way delay: 133.951 ms
Loss rate: 0.00%
```

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

Flow 1 ingress (mean 183.90 Mbit/s) — Flow 1 egress (mean 183.90 Mbit/s)
Flow 2 ingress (mean 181.20 Mbit/s) — Flow 2 egress (mean 181.20 Mbit/s)
Flow 3 ingress (mean 175.57 Mbit/s) — Flow 3 egress (mean 175.57 Mbit/s)

Flow 1 (95th percentile 134.16 ms)   Flow 2 (95th percentile 134.16 ms)   Flow 3 (95th percentile 133.95 ms)
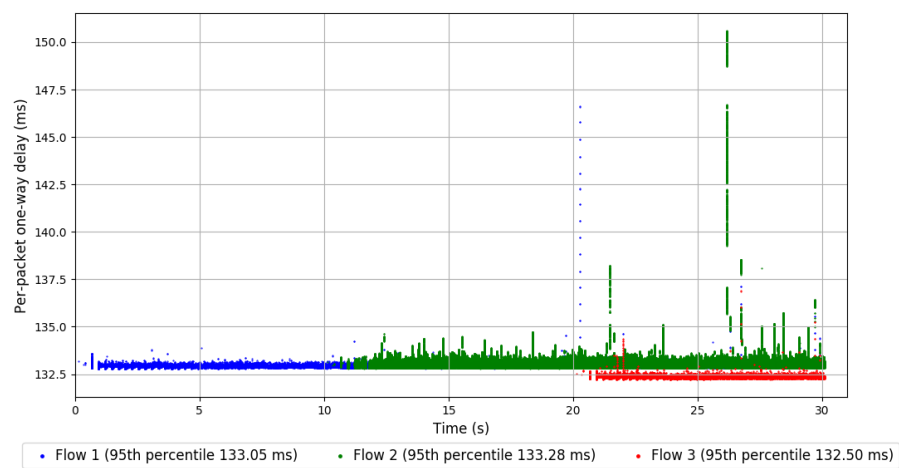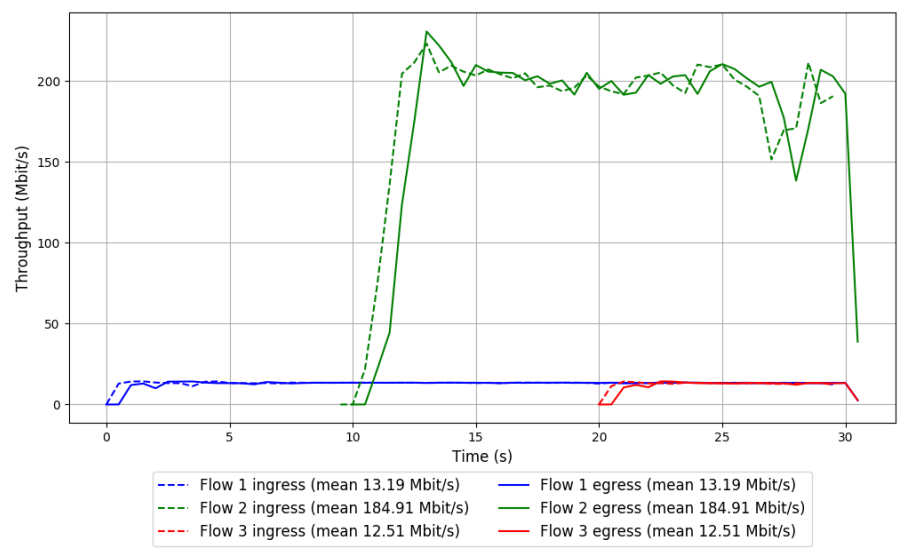
```
Run 5: Statistics of TaoVA-100x

Start at: 2019-02-12 07:27:33
End at: 2019-02-12 07:28:03
Local clock offset: -0.206 ms
Remote clock offset: -0.138 ms


# Below is generated by plot.py at 2019-02-12 10:44:17
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.58 Mbit/s
95th percentile per-packet one-way delay: 133.263 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 13.19 Mbit/s
95th percentile per-packet one-way delay: 133.049 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 184.91 Mbit/s
95th percentile per-packet one-way delay: 133.281 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 12.51 Mbit/s
95th percentile per-packet one-way delay: 132.496 ms
Loss rate: 0.00%
```

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

- - - - Flow 1 ingress (mean 13.19 Mbit/s)   —— Flow 1 egress (mean 13.19 Mbit/s)
- - - - Flow 2 ingress (mean 184.91 Mbit/s)   —— Flow 2 egress (mean 184.91 Mbit/s)
- - - - Flow 3 ingress (mean 12.51 Mbit/s)   —— Flow 3 egress (mean 12.51 Mbit/s)

- Flow 1 (95th percentile 133.05 ms)   • Flow 2 (95th percentile 133.28 ms)   • Flow 3 (95th percentile 132.50 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-02-12 04:12:19
End at: 2019-02-12 04:12:49
Local clock offset: 0.176 ms
Remote clock offset: 0.222 ms


# Below is generated by plot.py at 2019-02-12 10:46:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 722.96 Mbit/s
95th percentile per-packet one-way delay: 193.963 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 432.04 Mbit/s
95th percentile per-packet one-way delay: 206.224 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 290.42 Mbit/s
95th percentile per-packet one-way delay: 163.881 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 292.05 Mbit/s
95th percentile per-packet one-way delay: 138.002 ms
Loss rate: 0.00%
```
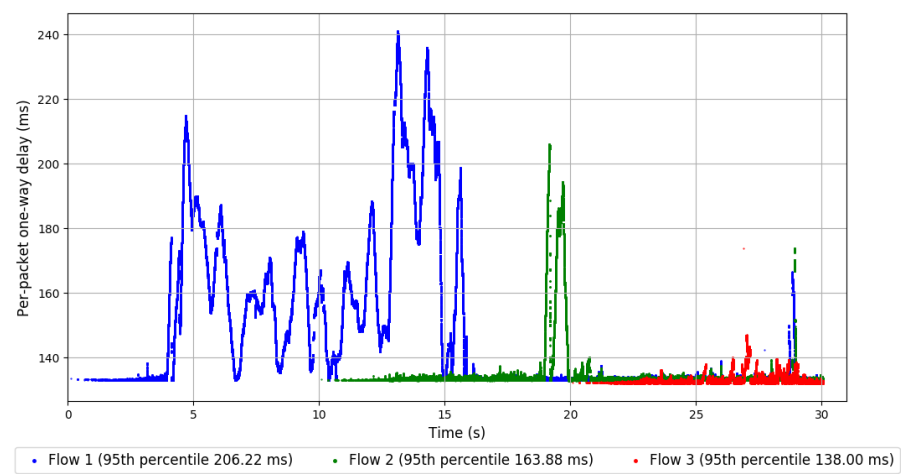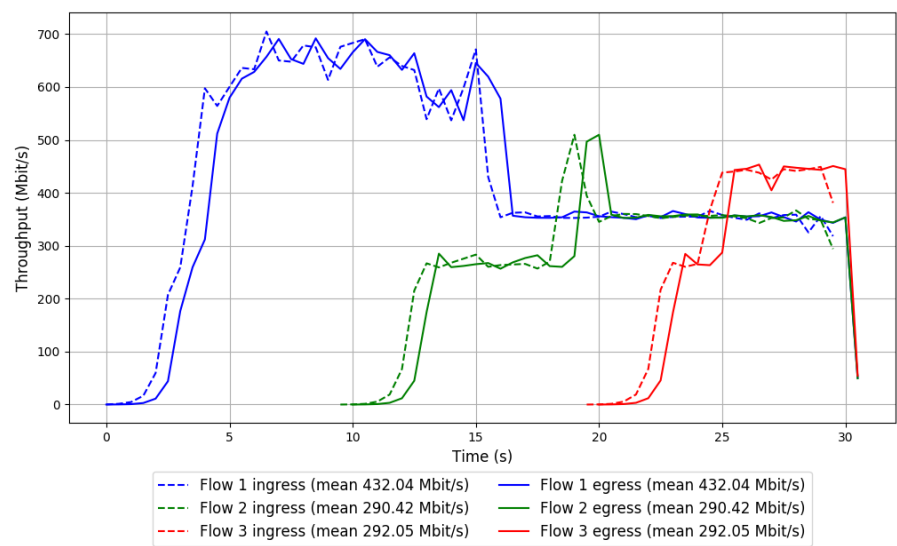
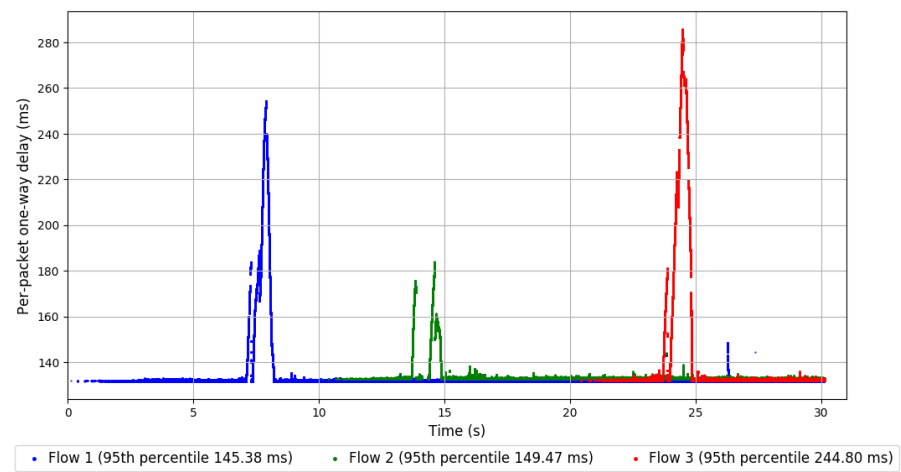# Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 432.04 Mbit/s) —— Flow 1 egress (mean 432.04 Mbit/s)
Flow 2 ingress (mean 290.42 Mbit/s) —— Flow 2 egress (mean 290.42 Mbit/s)
Flow 3 ingress (mean 292.05 Mbit/s) —— Flow 3 egress (mean 292.05 Mbit/s)

• Flow 1 (95th percentile 206.22 ms)   • Flow 2 (95th percentile 163.88 ms)   • Flow 3 (95th percentile 138.00 ms)
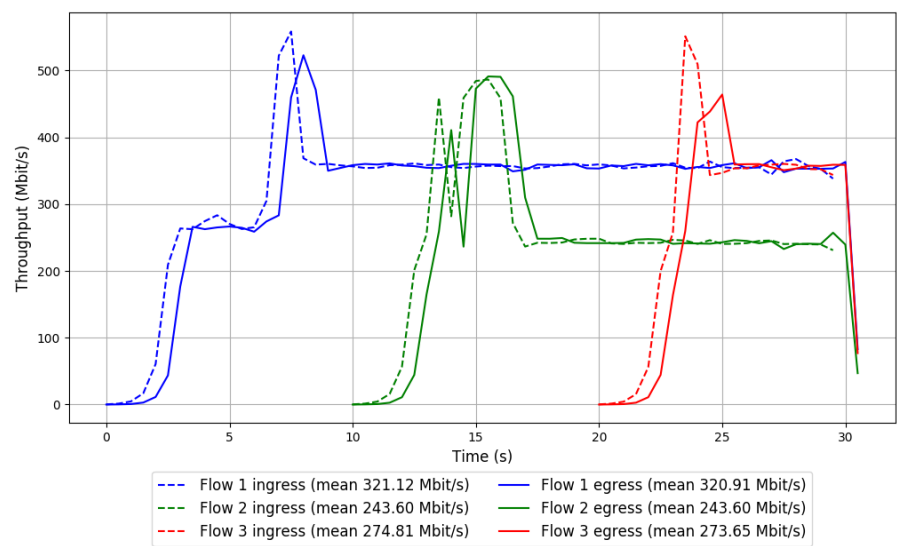
```
Run 2: Statistics of TCP Vegas

Start at: 2019-02-12 04:55:36
End at: 2019-02-12 04:56:06
Local clock offset: 0.198 ms
Remote clock offset: -0.161 ms


# Below is generated by plot.py at 2019-02-12 10:49:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 574.11 Mbit/s
95th percentile per-packet one-way delay: 166.216 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 320.91 Mbit/s
95th percentile per-packet one-way delay: 145.382 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 243.60 Mbit/s
95th percentile per-packet one-way delay: 149.466 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 273.65 Mbit/s
95th percentile per-packet one-way delay: 244.797 ms
Loss rate: 0.42%
```

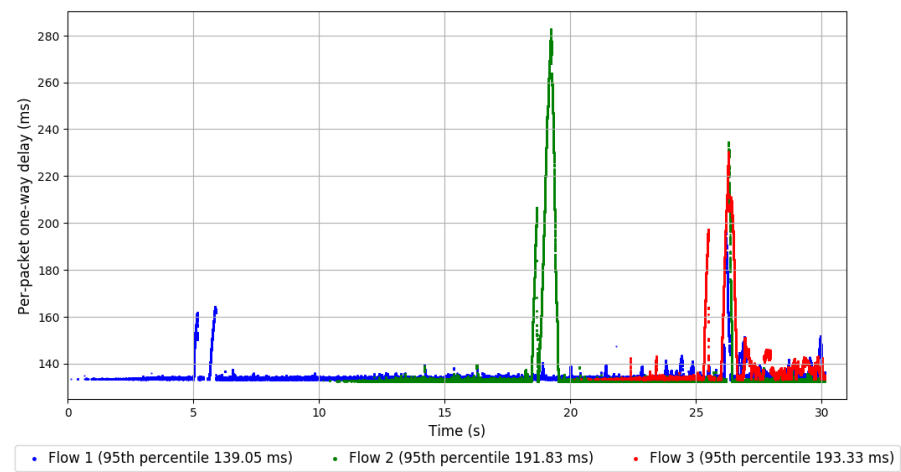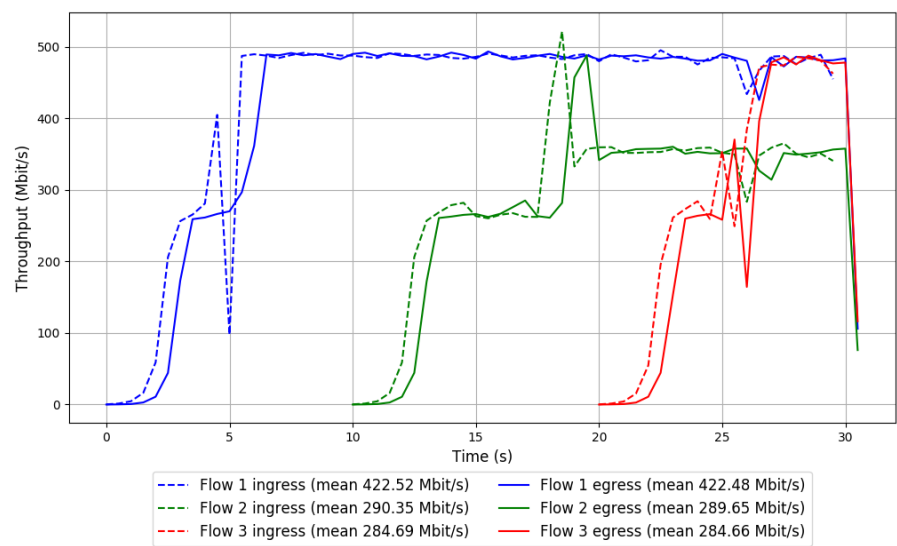# Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 321.12 Mbit/s)   Flow 1 egress (mean 320.91 Mbit/s)
Flow 2 ingress (mean 243.60 Mbit/s)   Flow 2 egress (mean 243.60 Mbit/s)
Flow 3 ingress (mean 274.81 Mbit/s)   Flow 3 egress (mean 273.65 Mbit/s)

Flow 1 (95th percentile 145.38 ms)   Flow 2 (95th percentile 149.47 ms)   Flow 3 (95th percentile 244.80 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2019-02-12 05:40:43
End at: 2019-02-12 05:41:13
Local clock offset: -0.641 ms
Remote clock offset: -0.046 ms


# Below is generated by plot.py at 2019-02-12 10:59:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 710.04 Mbit/s
95th percentile per-packet one-way delay: 150.058 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 422.48 Mbit/s
95th percentile per-packet one-way delay: 139.046 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 289.65 Mbit/s
95th percentile per-packet one-way delay: 191.830 ms
Loss rate: 0.24%
-- Flow 3:
Average throughput: 284.66 Mbit/s
95th percentile per-packet one-way delay: 193.334 ms
Loss rate: 0.01%
```

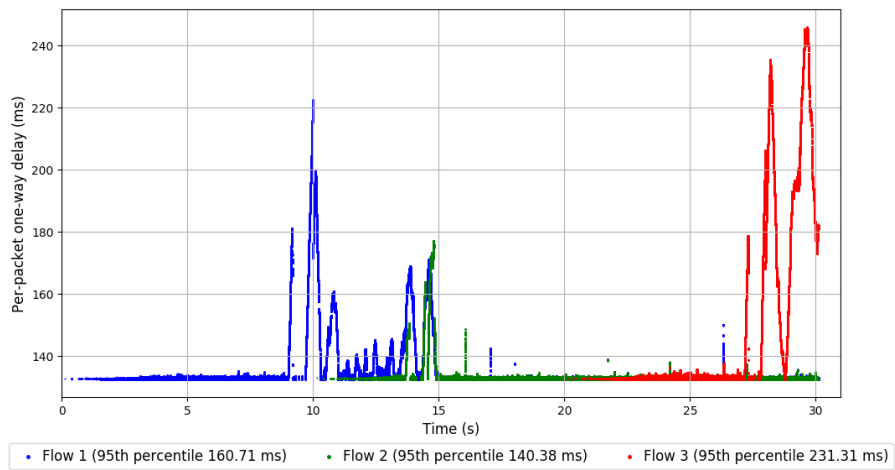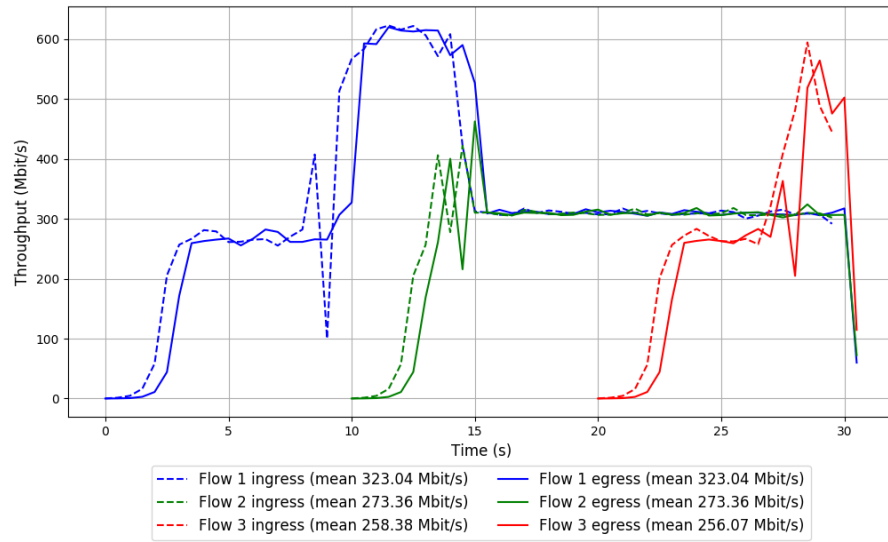# Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2019-02-12 06:26:20
End at: 2019-02-12 06:26:50
Local clock offset: 0.287 ms
Remote clock offset: -0.161 ms


# Below is generated by plot.py at 2019-02-12 10:59:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 590.16 Mbit/s
95th percentile per-packet one-way delay: 179.694 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 323.04 Mbit/s
95th percentile per-packet one-way delay: 160.714 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 273.36 Mbit/s
95th percentile per-packet one-way delay: 140.380 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 256.07 Mbit/s
95th percentile per-packet one-way delay: 231.314 ms
Loss rate: 0.89%
```

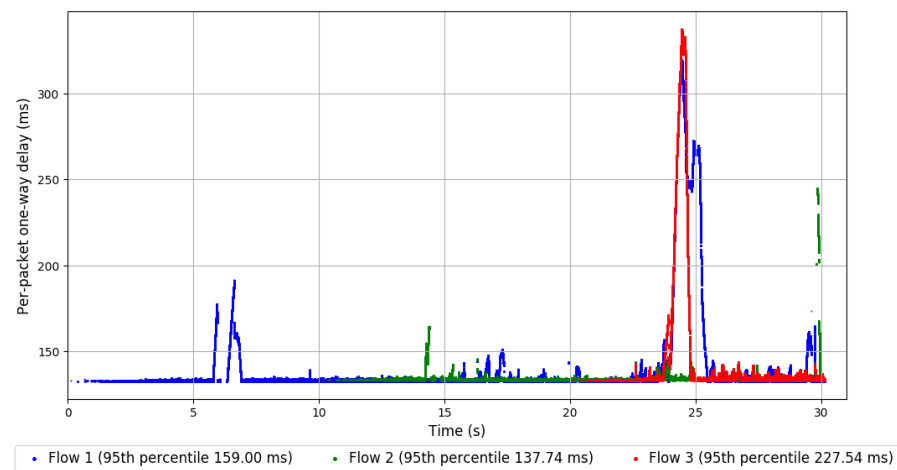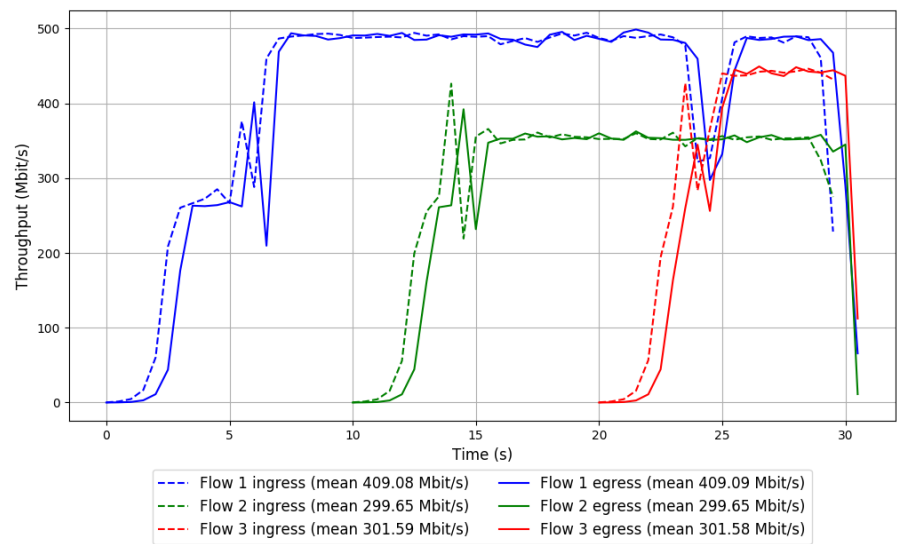# Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-02-12 07:10:02
End at: 2019-02-12 07:10:32
Local clock offset: -0.627 ms
Remote clock offset: -0.095 ms


# Below is generated by plot.py at 2019-02-12 11:01:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 708.93 Mbit/s
95th percentile per-packet one-way delay: 155.390 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 409.09 Mbit/s
95th percentile per-packet one-way delay: 159.005 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 299.65 Mbit/s
95th percentile per-packet one-way delay: 137.736 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 301.58 Mbit/s
95th percentile per-packet one-way delay: 227.544 ms
Loss rate: 0.00%
```

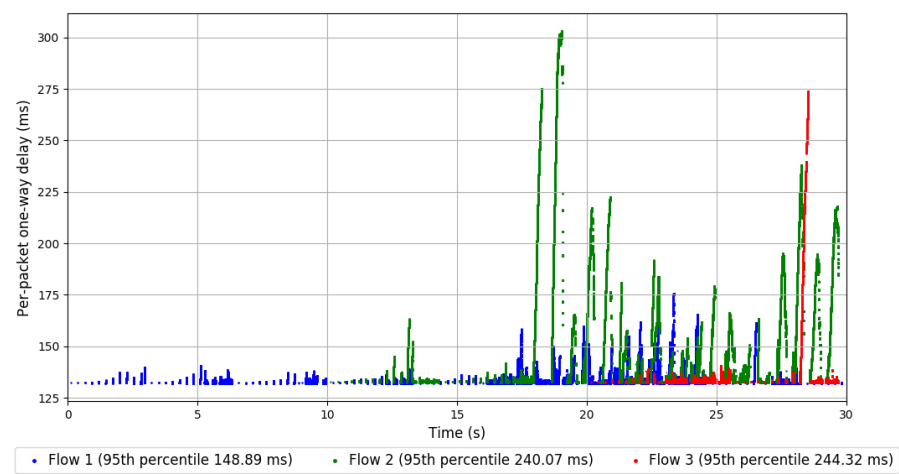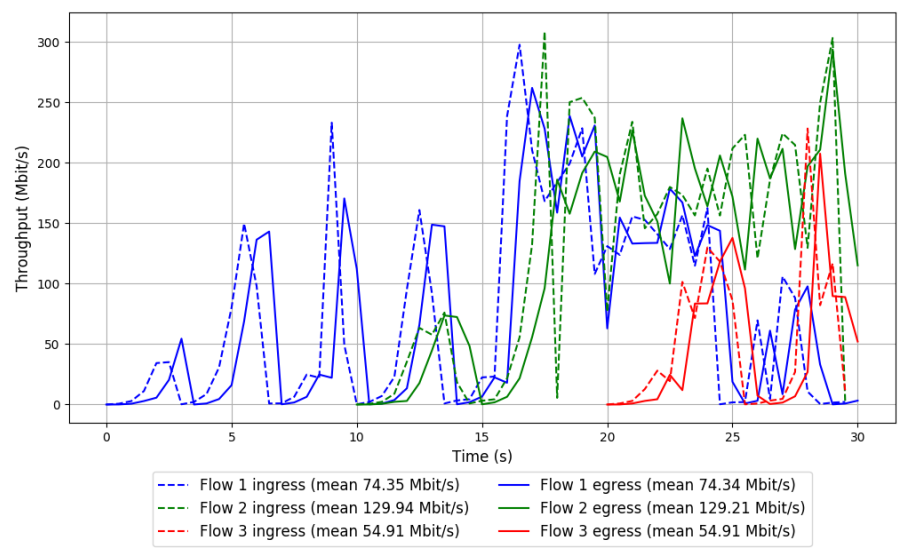# Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-02-12 04:21:12
End at: 2019-02-12 04:21:42
Local clock offset: 0.332 ms
Remote clock offset: -0.148 ms


# Below is generated by plot.py at 2019-02-12 11:01:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 177.06 Mbit/s
95th percentile per-packet one-way delay: 214.970 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 74.34 Mbit/s
95th percentile per-packet one-way delay: 148.894 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 129.21 Mbit/s
95th percentile per-packet one-way delay: 240.069 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 54.91 Mbit/s
95th percentile per-packet one-way delay: 244.321 ms
Loss rate: 0.00%
```

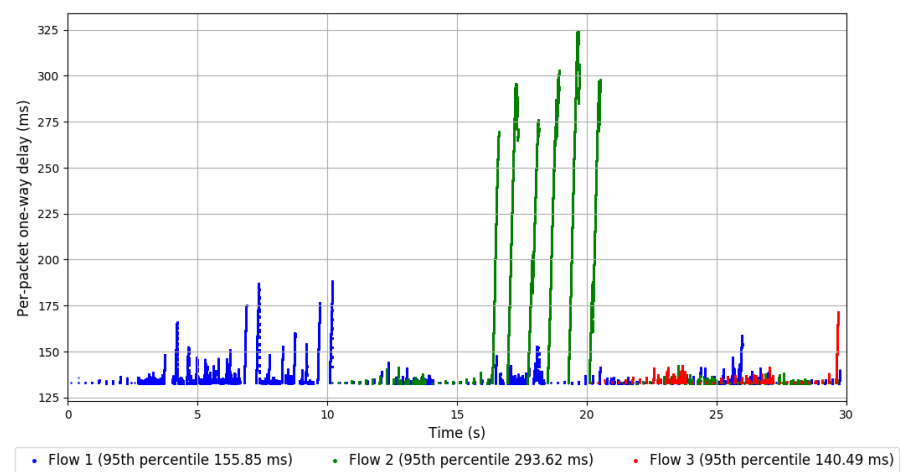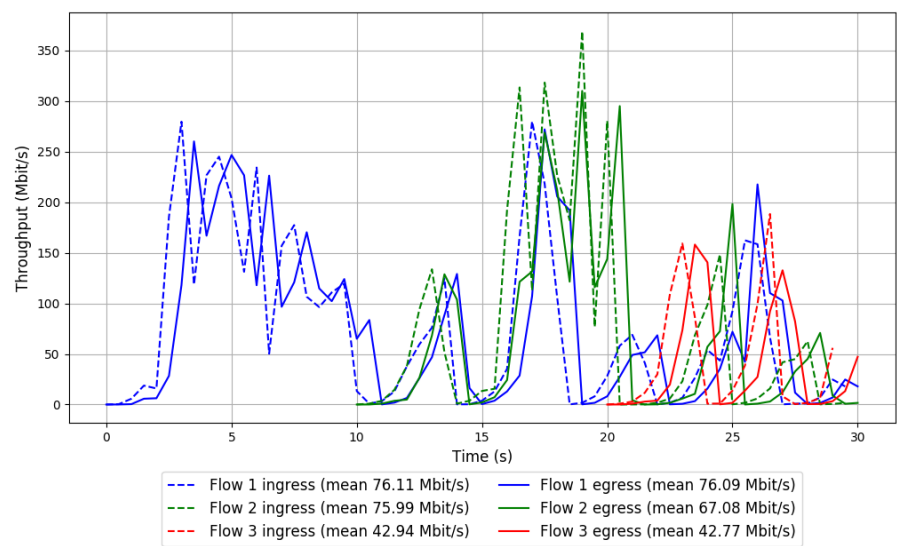# Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-02-12 05:03:37
End at: 2019-02-12 05:04:07
Local clock offset: -0.0 ms
Remote clock offset: -0.059 ms


# Below is generated by plot.py at 2019-02-12 11:01:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 134.05 Mbit/s
95th percentile per-packet one-way delay: 272.573 ms
Loss rate: 4.19%
-- Flow 1:
Average throughput: 76.09 Mbit/s
95th percentile per-packet one-way delay: 155.851 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 67.08 Mbit/s
95th percentile per-packet one-way delay: 293.617 ms
Loss rate: 11.72%
-- Flow 3:
Average throughput: 42.77 Mbit/s
95th percentile per-packet one-way delay: 140.485 ms
Loss rate: 0.00%
```

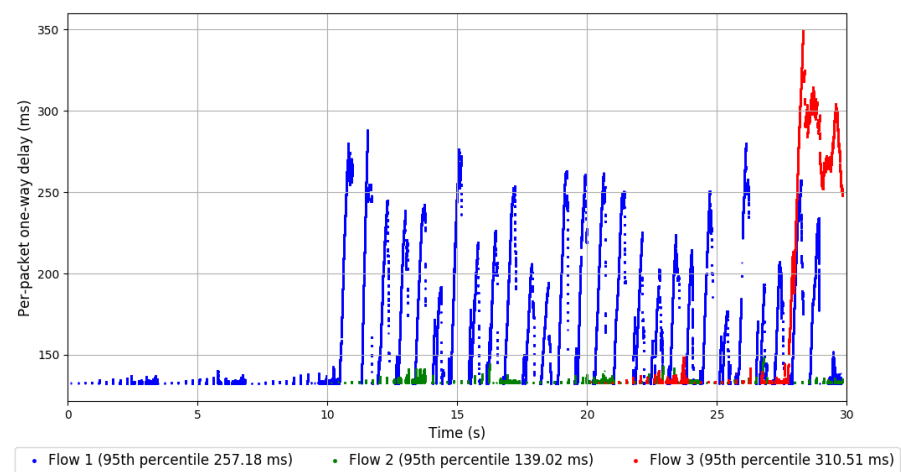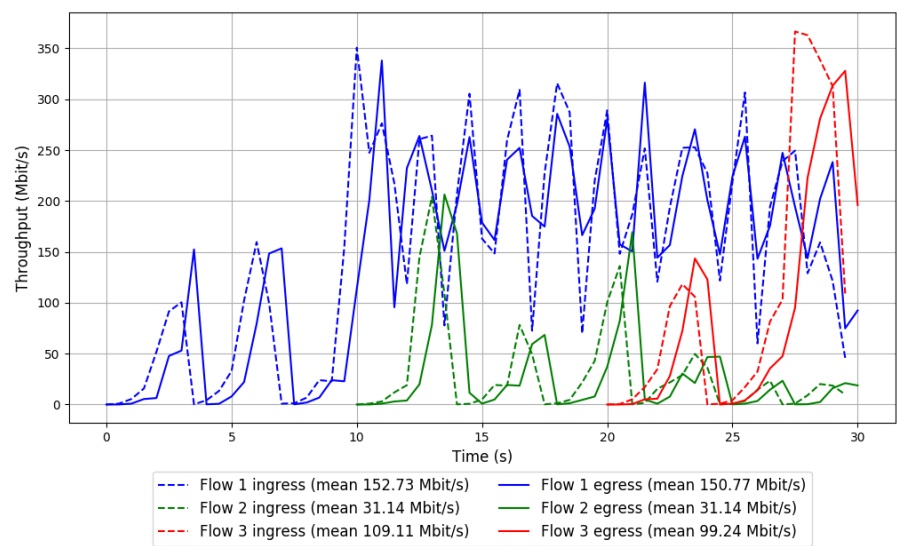# Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-02-12 05:50:10
End at: 2019-02-12 05:50:40
Local clock offset: -0.164 ms
Remote clock offset: -0.018 ms


# Below is generated by plot.py at 2019-02-12 11:01:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 203.45 Mbit/s
95th percentile per-packet one-way delay: 283.177 ms
Loss rate: 2.48%
-- Flow 1:
Average throughput: 150.77 Mbit/s
95th percentile per-packet one-way delay: 257.175 ms
Loss rate: 1.28%
-- Flow 2:
Average throughput: 31.14 Mbit/s
95th percentile per-packet one-way delay: 139.016 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 99.24 Mbit/s
95th percentile per-packet one-way delay: 310.507 ms
Loss rate: 9.05%
```
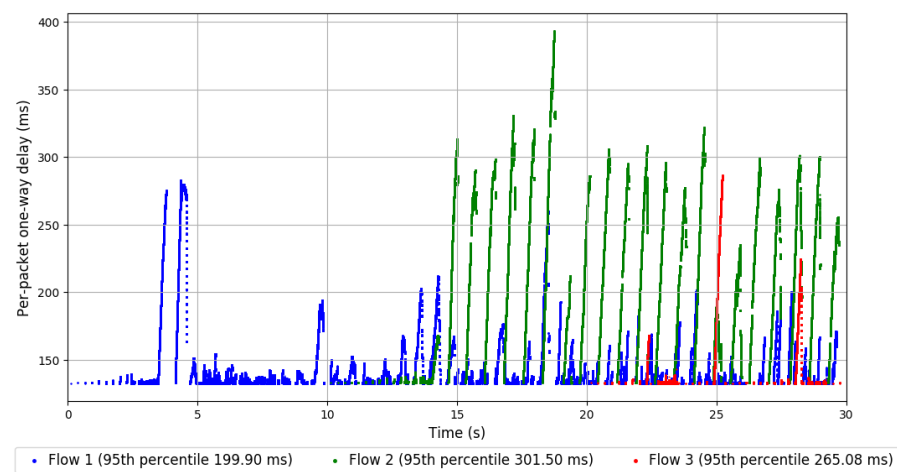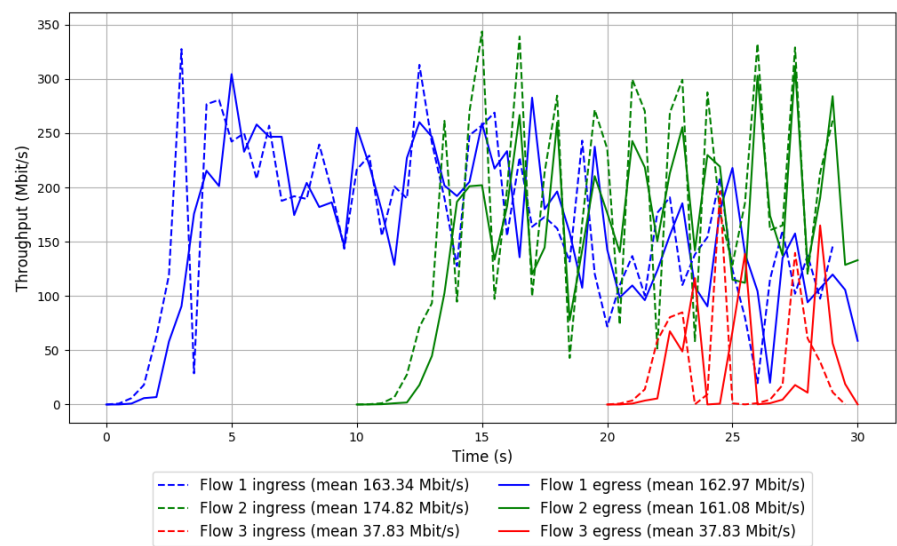
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-02-12 06:34:33
End at: 2019-02-12 06:35:03
Local clock offset: -0.141 ms
Remote clock offset: -0.163 ms


# Below is generated by plot.py at 2019-02-12 11:01:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 280.94 Mbit/s
95th percentile per-packet one-way delay: 285.924 ms
Loss rate: 3.00%
-- Flow 1:
Average throughput: 162.97 Mbit/s
95th percentile per-packet one-way delay: 199.901 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 161.08 Mbit/s
95th percentile per-packet one-way delay: 301.501 ms
Loss rate: 7.38%
-- Flow 3:
Average throughput: 37.83 Mbit/s
95th percentile per-packet one-way delay: 265.080 ms
Loss rate: 0.00%
```
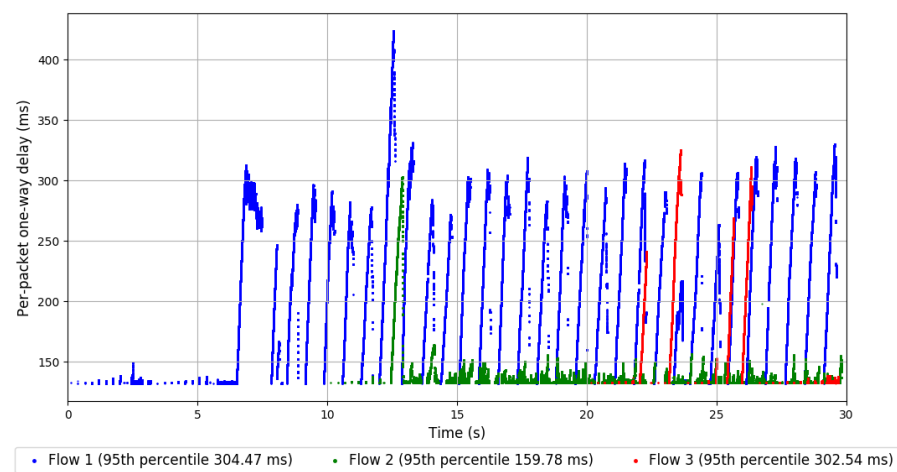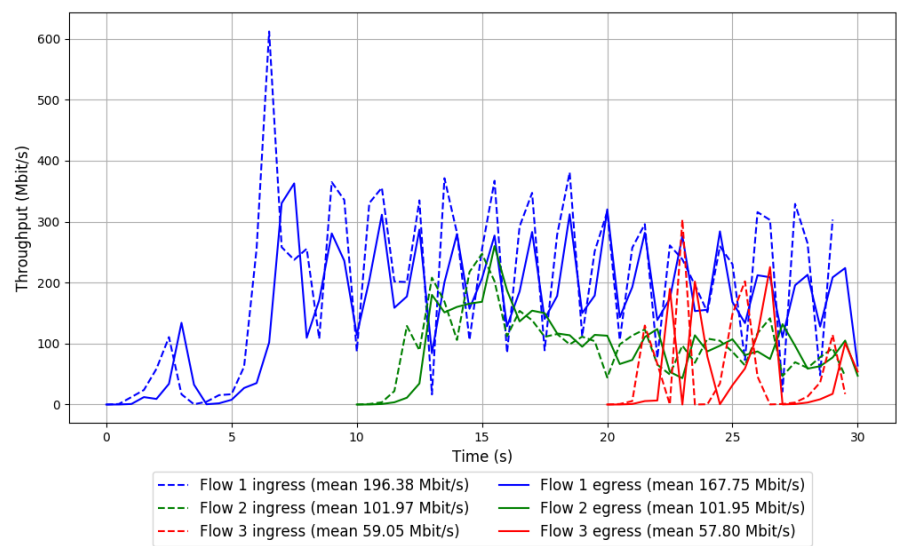
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-02-12 07:18:46
End at: 2019-02-12 07:19:16
Local clock offset: 0.182 ms
Remote clock offset: -0.137 ms


# Below is generated by plot.py at 2019-02-12 11:02:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 252.68 Mbit/s
95th percentile per-packet one-way delay: 300.489 ms
Loss rate: 10.05%
-- Flow 1:
Average throughput: 167.75 Mbit/s
95th percentile per-packet one-way delay: 304.466 ms
Loss rate: 14.32%
-- Flow 2:
Average throughput: 101.95 Mbit/s
95th percentile per-packet one-way delay: 159.775 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 57.80 Mbit/s
95th percentile per-packet one-way delay: 302.543 ms
Loss rate: 2.08%
```

Run 5: Report of Verus — Data Link

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```
Run 1: Statistics of PCC-Vivace

Start at: 2019-02-12 04:40:45
End at: 2019-02-12 04:41:16
Local clock offset: -0.589 ms
Remote clock offset: 0.153 ms


# Below is generated by plot.py at 2019-02-12 11:02:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 427.66 Mbit/s
95th percentile per-packet one-way delay: 136.111 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 258.47 Mbit/s
95th percentile per-packet one-way delay: 135.401 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 176.12 Mbit/s
95th percentile per-packet one-way delay: 134.407 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 156.85 Mbit/s
95th percentile per-packet one-way delay: 138.630 ms
Loss rate: 0.03%
```
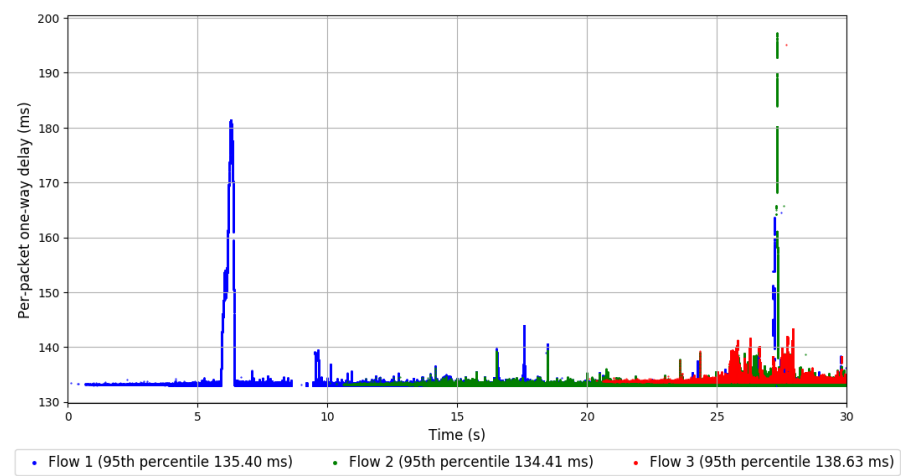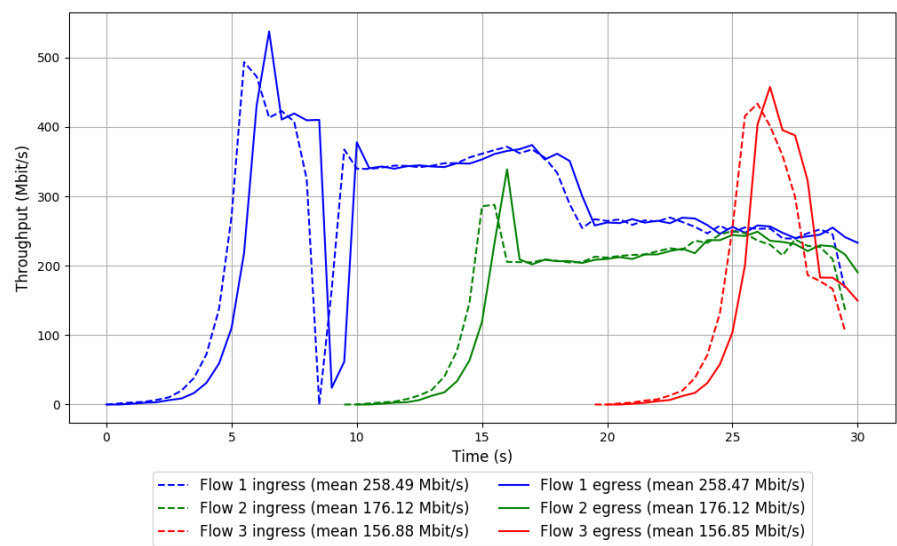
Run 1: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 258.49 Mbit/s) --- Flow 1 egress (mean 258.47 Mbit/s)
Flow 2 ingress (mean 176.12 Mbit/s) --- Flow 2 egress (mean 176.12 Mbit/s)
Flow 3 ingress (mean 156.88 Mbit/s) --- Flow 3 egress (mean 156.85 Mbit/s)

Flow 1 (95th percentile 135.40 ms)   Flow 2 (95th percentile 134.41 ms)   Flow 3 (95th percentile 138.63 ms)
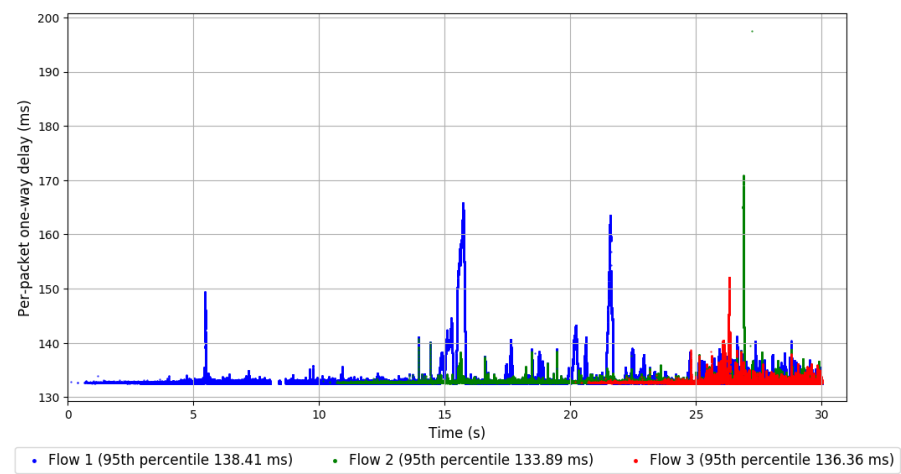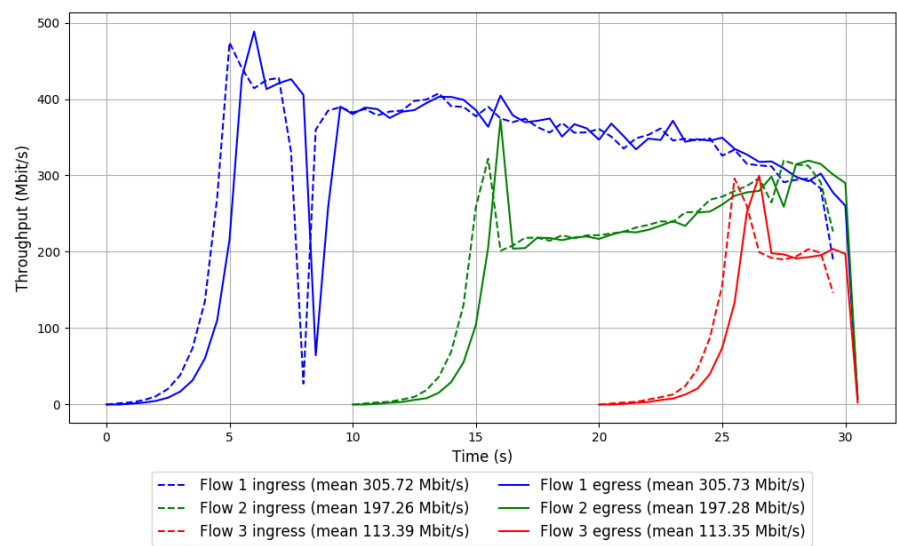
```
Run 2: Statistics of PCC-Vivace

Start at: 2019-02-12 05:23:29
End at: 2019-02-12 05:23:59
Local clock offset: -0.064 ms
Remote clock offset: -0.052 ms


# Below is generated by plot.py at 2019-02-12 11:03:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 474.12 Mbit/s
95th percentile per-packet one-way delay: 136.914 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 305.73 Mbit/s
95th percentile per-packet one-way delay: 138.413 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 197.28 Mbit/s
95th percentile per-packet one-way delay: 133.891 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 113.35 Mbit/s
95th percentile per-packet one-way delay: 136.359 ms
Loss rate: 0.05%
```

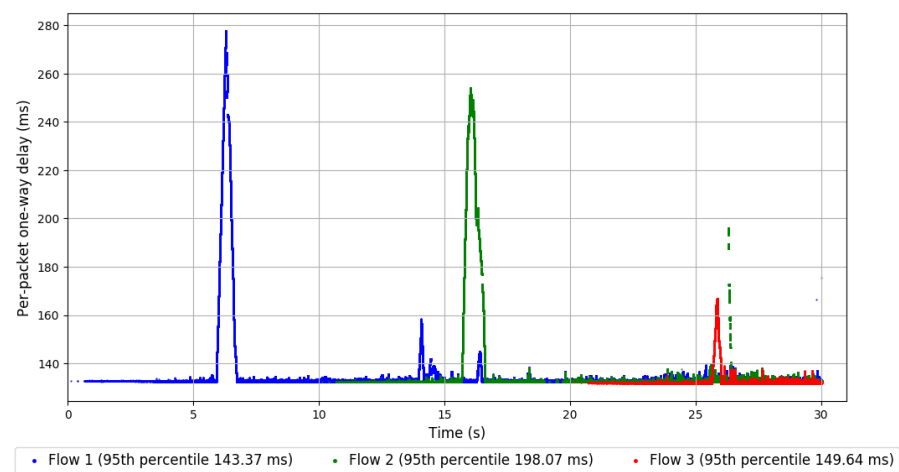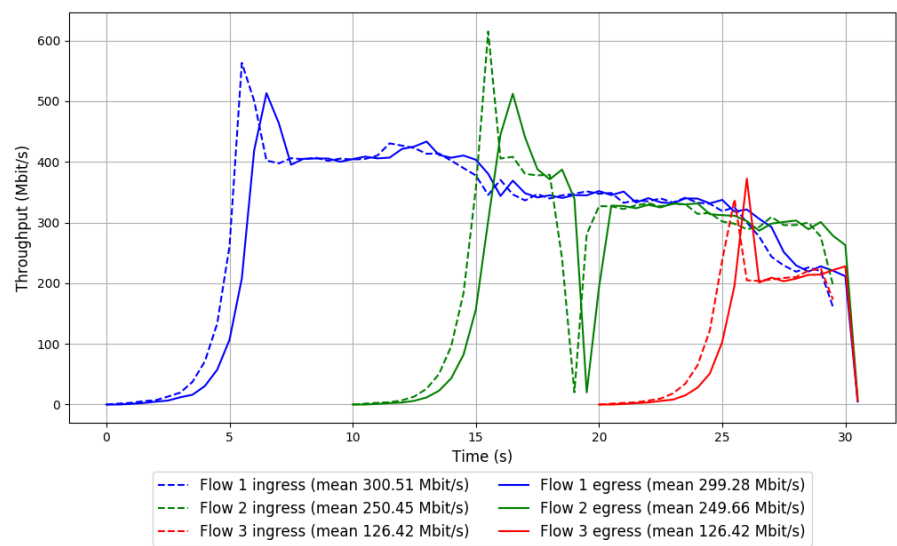## Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-02-12 06:10:36
End at: 2019-02-12 06:11:06
Local clock offset: 0.022 ms
Remote clock offset: -0.484 ms


# Below is generated by plot.py at 2019-02-12 11:04:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 506.99 Mbit/s
95th percentile per-packet one-way delay: 161.388 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 299.28 Mbit/s
95th percentile per-packet one-way delay: 143.366 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 249.66 Mbit/s
95th percentile per-packet one-way delay: 198.075 ms
Loss rate: 0.32%
-- Flow 3:
Average throughput: 126.42 Mbit/s
95th percentile per-packet one-way delay: 149.639 ms
Loss rate: 0.01%
```

Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 300.51 Mbit/s) --- Flow 1 egress (mean 299.28 Mbit/s)
Flow 2 ingress (mean 250.45 Mbit/s) --- Flow 2 egress (mean 249.66 Mbit/s)
Flow 3 ingress (mean 126.42 Mbit/s) --- Flow 3 egress (mean 126.42 Mbit/s)

Flow 1 (95th percentile 143.37 ms) • Flow 2 (95th percentile 198.07 ms) • Flow 3 (95th percentile 149.64 ms)
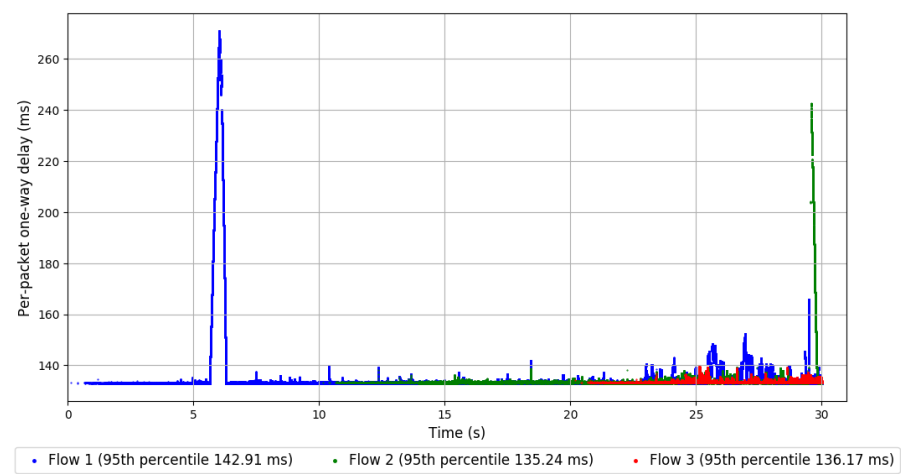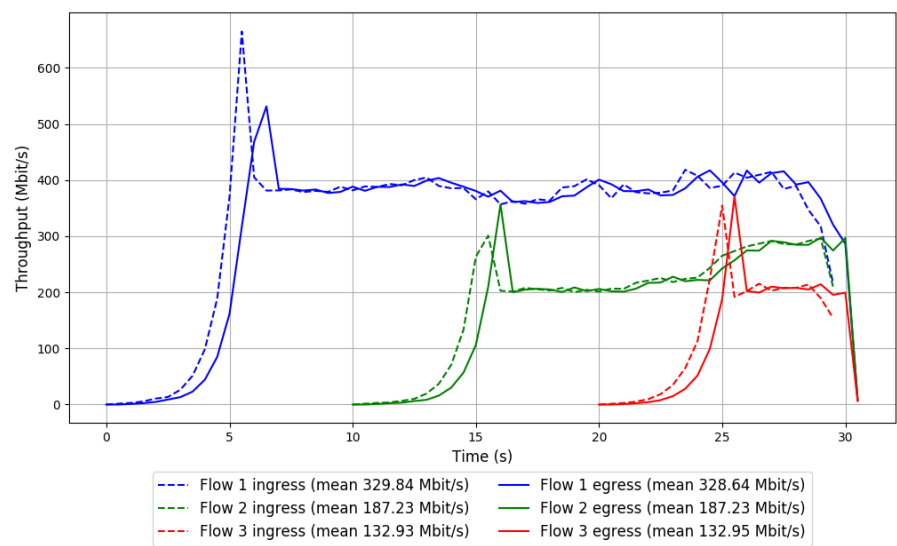
```
Run 4: Statistics of PCC-Vivace

Start at: 2019-02-12 06:53:56
End at: 2019-02-12 06:54:26
Local clock offset: -0.439 ms
Remote clock offset: -0.108 ms


# Below is generated by plot.py at 2019-02-12 11:05:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 496.91 Mbit/s
95th percentile per-packet one-way delay: 140.130 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 328.64 Mbit/s
95th percentile per-packet one-way delay: 142.906 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 187.23 Mbit/s
95th percentile per-packet one-way delay: 135.244 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 132.95 Mbit/s
95th percentile per-packet one-way delay: 136.170 ms
Loss rate: 0.00%
```

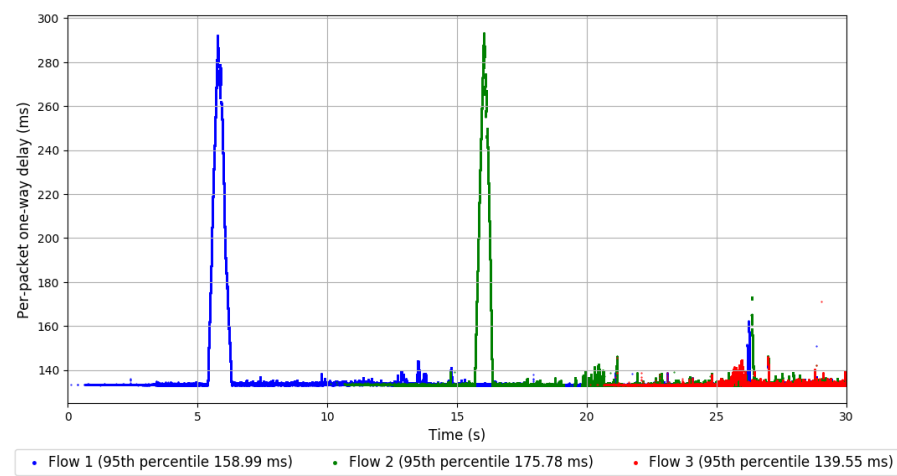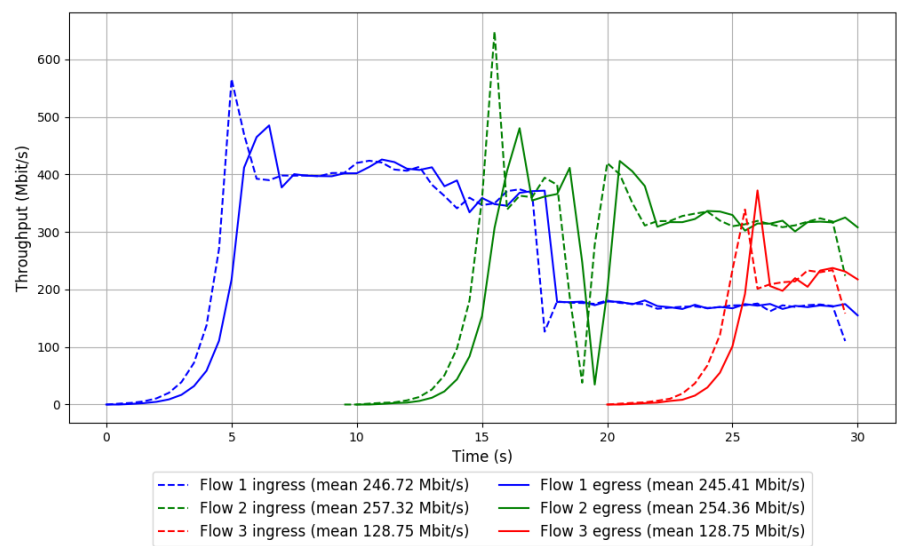## Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-02-12 07:37:38
End at: 2019-02-12 07:38:08
Local clock offset: -0.463 ms
Remote clock offset: -0.104 ms


# Below is generated by plot.py at 2019-02-12 11:05:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 457.16 Mbit/s
95th percentile per-packet one-way delay: 155.761 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 245.41 Mbit/s
95th percentile per-packet one-way delay: 158.985 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 254.36 Mbit/s
95th percentile per-packet one-way delay: 175.785 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 128.75 Mbit/s
95th percentile per-packet one-way delay: 139.553 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 246.72 Mbit/s) --- Flow 1 egress (mean 245.41 Mbit/s)
Flow 2 ingress (mean 257.32 Mbit/s) --- Flow 2 egress (mean 254.36 Mbit/s)
Flow 3 ingress (mean 128.75 Mbit/s) --- Flow 3 egress (mean 128.75 Mbit/s)

Flow 1 (95th percentile 158.99 ms) Flow 2 (95th percentile 175.78 ms) Flow 3 (95th percentile 139.55 ms)
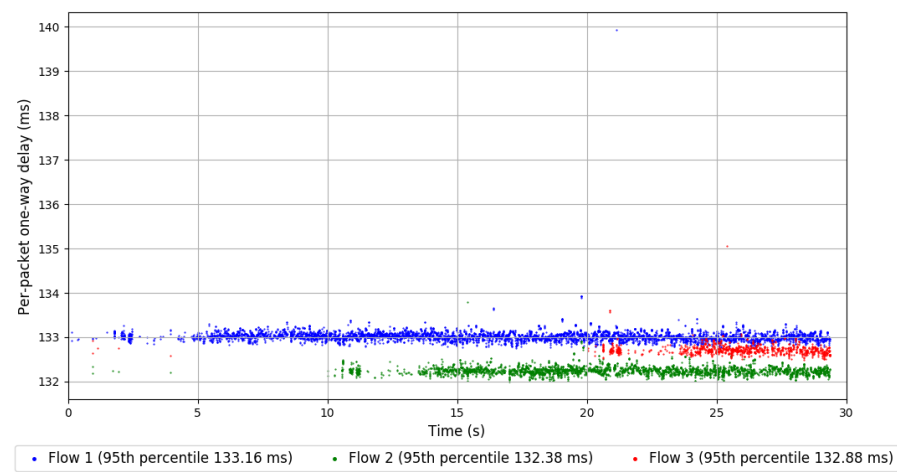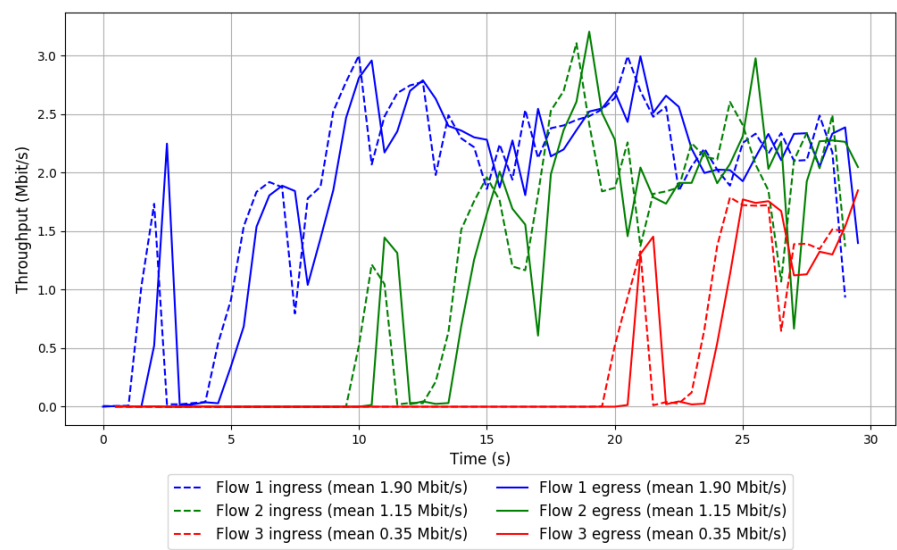
204

```
Run 1: Statistics of WebRTC media

Start at: 2019-02-12 04:17:26
End at: 2019-02-12 04:17:56
Local clock offset: 0.258 ms
Remote clock offset: -0.131 ms


# Below is generated by plot.py at 2019-02-12 11:05:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.36 Mbit/s
95th percentile per-packet one-way delay: 133.130 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 133.158 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.15 Mbit/s
95th percentile per-packet one-way delay: 132.382 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 132.883 ms
Loss rate: 0.00%
```

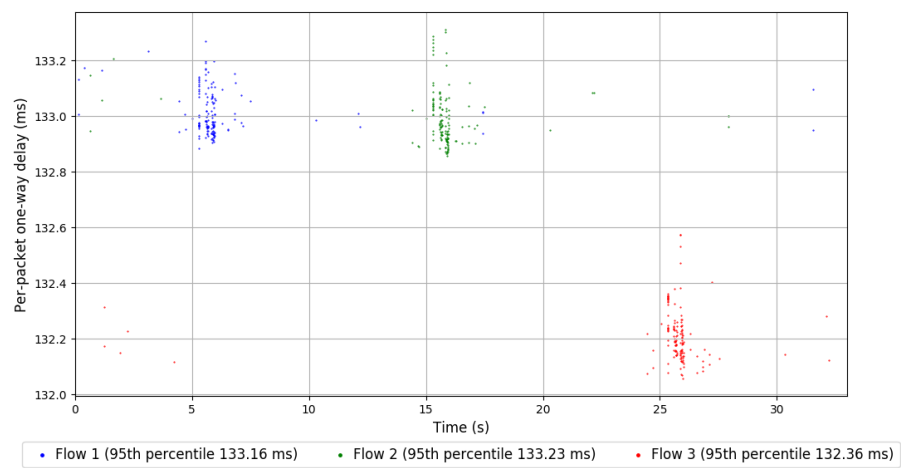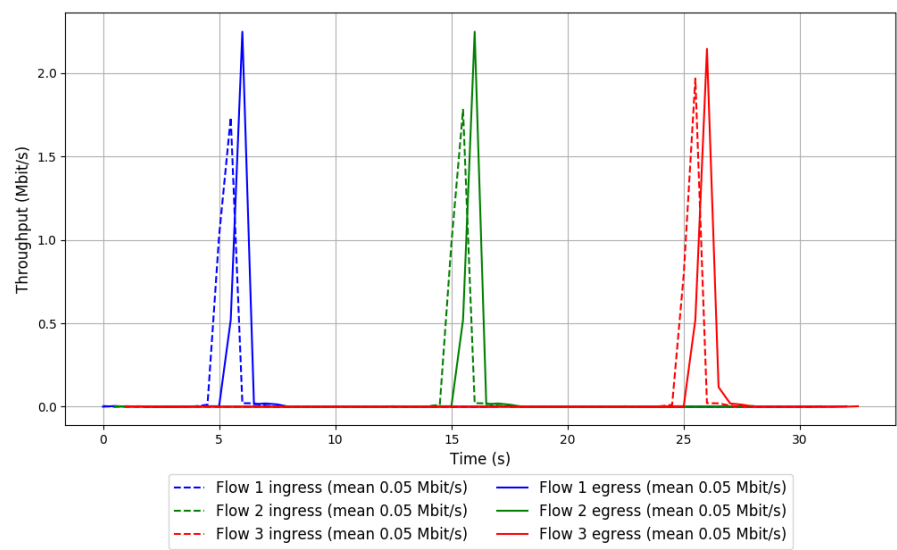Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-02-12 04:59:40
End at: 2019-02-12 05:00:10
Local clock offset: -0.196 ms
Remote clock offset: -0.124 ms


# Below is generated by plot.py at 2019-02-12 11:05:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.148 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.162 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.226 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.360 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-02-12 05:45:58
End at: 2019-02-12 05:46:28
Local clock offset: -0.602 ms
Remote clock offset: 0.006 ms


# Below is generated by plot.py at 2019-02-12 11:05:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.596 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.072 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.875 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.677 ms
Loss rate: 0.00%
```
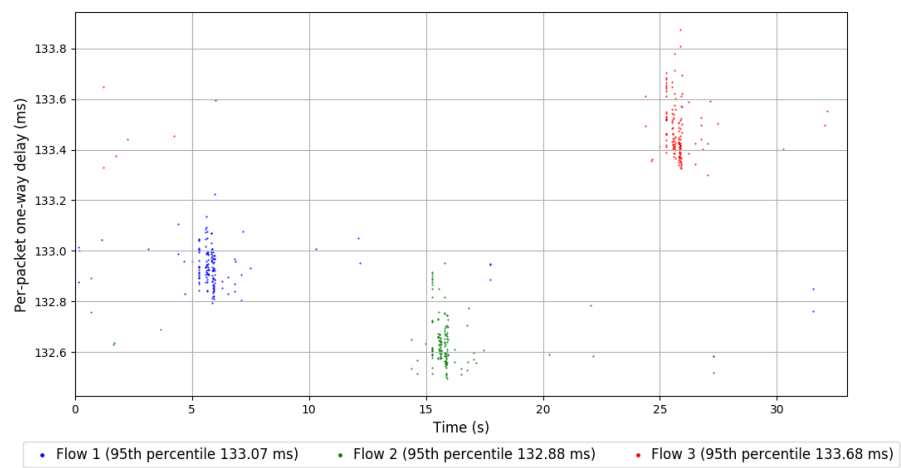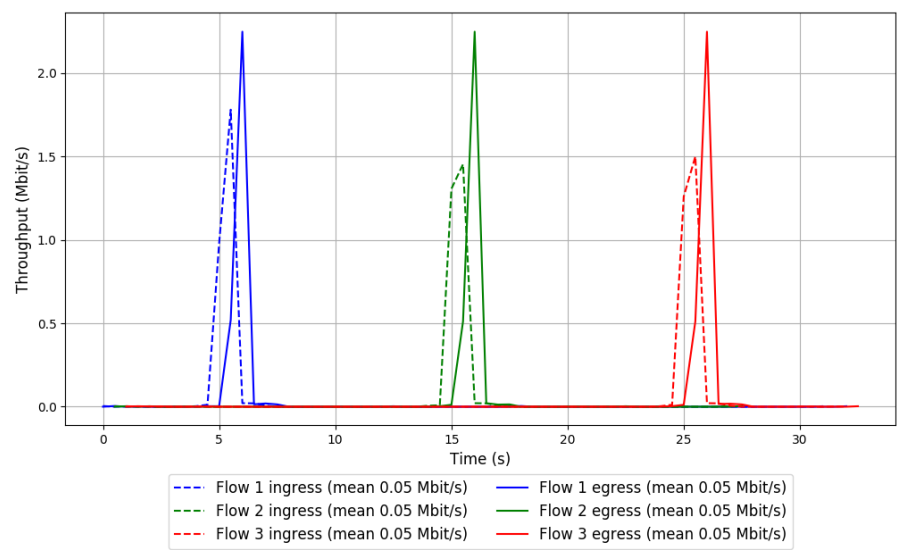
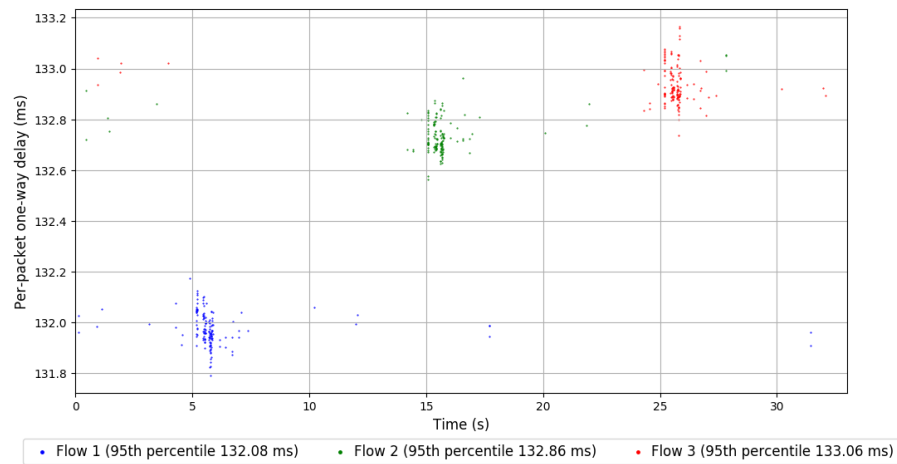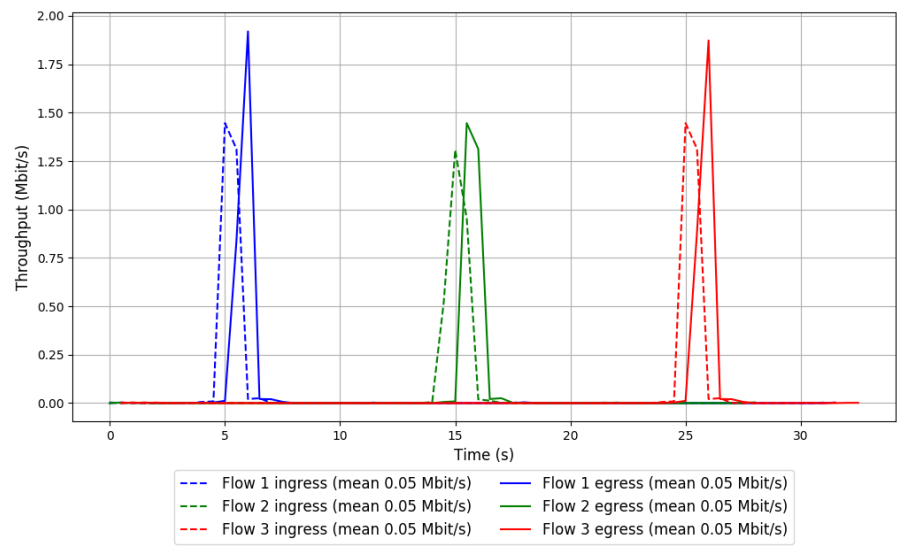## Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-02-12 06:30:45
End at: 2019-02-12 06:31:15
Local clock offset: 0.119 ms
Remote clock offset: -0.178 ms


# Below is generated by plot.py at 2019-02-12 11:05:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 133.032 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.077 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 132.864 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.065 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2019-02-12 07:14:55
End at: 2019-02-12 07:15:25
Local clock offset: -0.592 ms
Remote clock offset: -0.107 ms


# Below is generated by plot.py at 2019-02-12 11:05:34
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.10 Mbit/s
95th percentile per-packet one-way delay: 133.684 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 133.680 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 133.711 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 133.540 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link