Pantheon Report

Generated at 2018-10-02 19:39:51 (UTC).

Data path: Saudi Arabia on `enp2s0` (*remote*) →AWS India 2 on `ens5` (*local*).

Repeated the test of 18 congestion control schemes 5 times.

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

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.
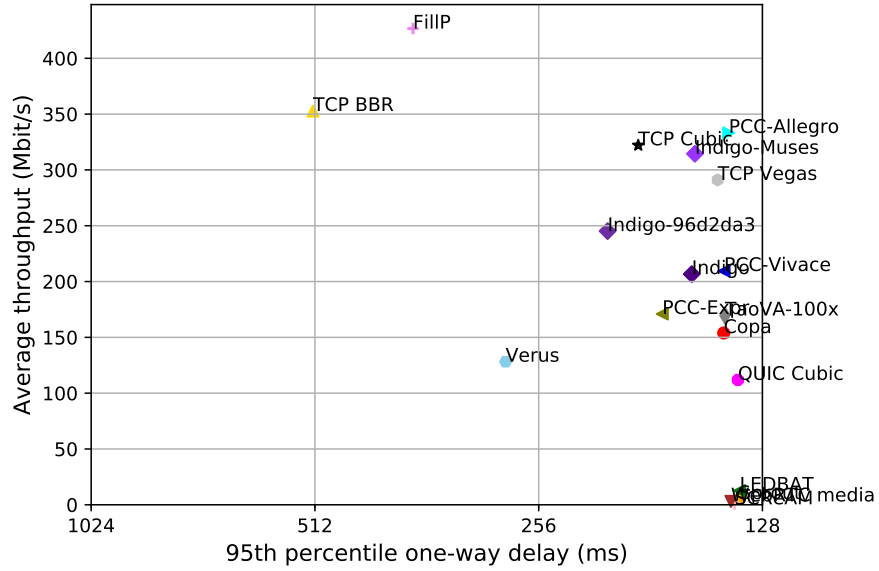
```
System info:
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
```
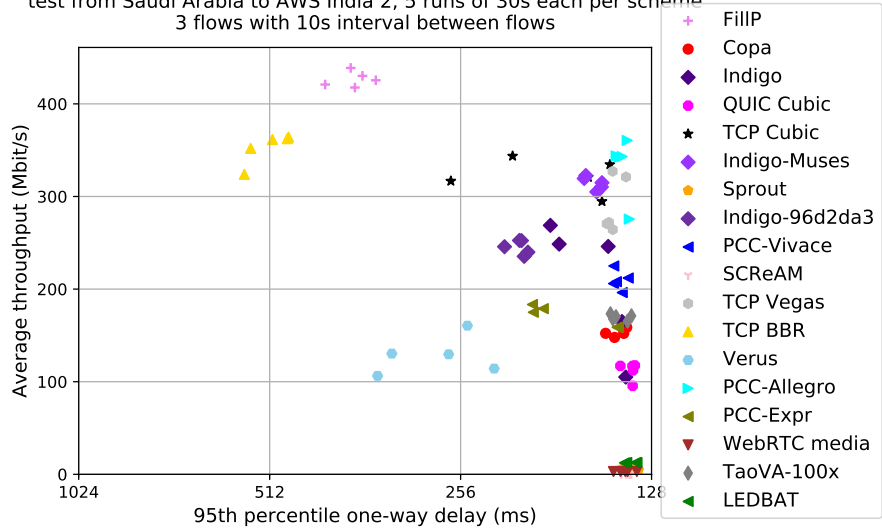
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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

test from Saudi Arabia to AWS India 2, 5 runs of 30s each per scheme
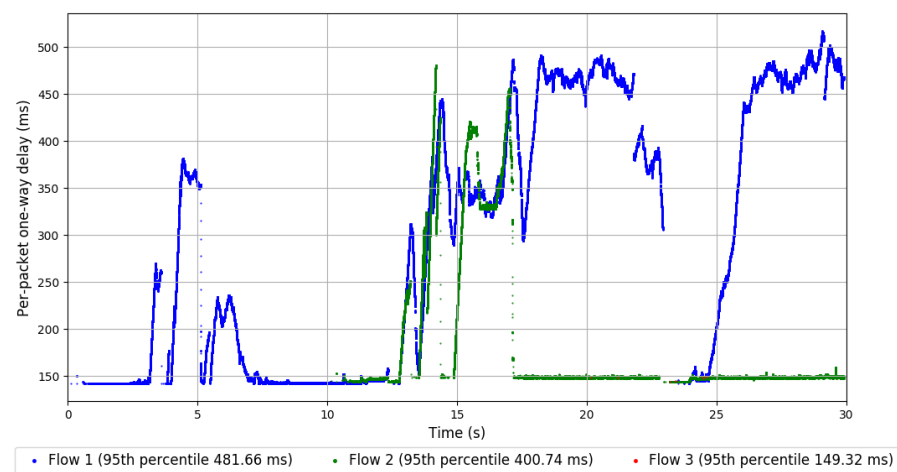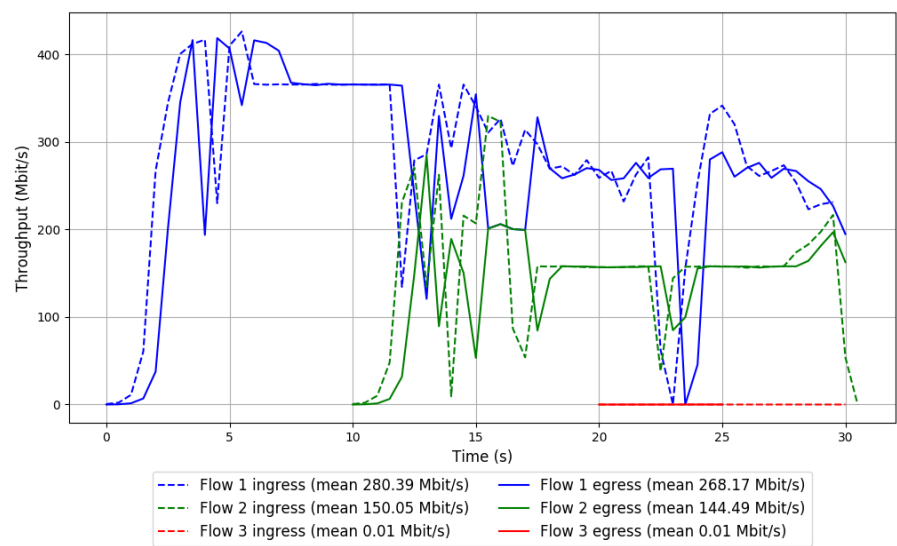### 3 flows with 10s interval between flows

3

scheme	# runs	mean avg tput (Mbit/s)			mean 95th-%ile delay (ms)			mean loss rate (%)		
		flow 1	flow 2	flow 3	flow 1	flow 2	flow 3	flow 1	flow 2	flow 3
TCP BBR	5	257.27	113.12	73.85	527.80	375.77	331.09	5.06	6.13	7.88
Copa	5	97.85	64.46	40.63	144.73	143.03	143.22	0.48	1.02	2.55
TCP Cubic	5	189.49	164.34	71.80	178.41	187.58	190.90	0.48	1.04	4.16
FillP	5	271.87	176.60	131.21	380.42	376.85	311.45	3.26	11.97	19.04
Indigo	5	110.96	109.78	72.78	156.00	161.34	164.86	0.78	1.23	2.72
Indigo-96d2da3	5	143.16	120.08	74.36	200.25	213.30	216.82	0.95	0.83	6.05
LEDBAT	5	8.21	5.44	2.60	136.93	137.02	136.96	1.38	2.11	4.30
Indigo-Muses	5	216.11	113.05	71.68	158.29	154.32	159.57	0.44	1.16	3.53
PCC-Allegro	5	293.30	50.02	20.69	142.14	141.00	142.28	0.70	1.15	2.14
PCC-Expr	5	151.12	26.71	6.51	179.55	142.73	142.54	0.65	1.11	2.26
QUIC Cubic	5	57.39	56.86	51.49	137.32	138.12	138.09	0.77	1.04	2.53
SCReAM	5	0.22	0.22	0.22	139.15	139.03	139.89	0.64	1.04	2.00
Sprout	5	2.79	2.47	2.05	137.37	136.92	136.99	0.56	1.14	2.77
TaoVA-100x	5	102.77	75.03	52.58	143.08	144.34	145.19	0.75	0.93	2.49
TCP Vegas	5	184.76	121.75	78.17	147.46	146.46	166.36	0.58	1.00	2.49
Verus	5	77.46	62.43	29.95	224.78	297.91	209.36	0.40	1.44	6.48
PCC-Vivace	5	179.88	39.71	10.00	144.08	144.03	143.78	0.66	2.55	6.73
WebRTC media	5	1.67	1.01	0.38	140.44	140.77	141.06	0.55	1.28	3.22

```
Run 1: Statistics of TCP BBR

Start at: 2018-10-02 17:09:33
End at: 2018-10-02 17:10:03
Local clock offset: 2.526 ms
Remote clock offset: -41.396 ms


# Below is generated by plot.py at 2018-10-02 19:14:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 364.09 Mbit/s
95th percentile per-packet one-way delay: 478.104 ms
Loss rate: 5.73%
-- Flow 1:
Average throughput: 268.17 Mbit/s
95th percentile per-packet one-way delay: 481.659 ms
Loss rate: 5.03%
-- Flow 2:
Average throughput: 144.49 Mbit/s
95th percentile per-packet one-way delay: 400.741 ms
Loss rate: 7.64%
-- Flow 3:
Average throughput: 0.01 Mbit/s
95th percentile per-packet one-way delay: 149.320 ms
Loss rate: 16.00%
```
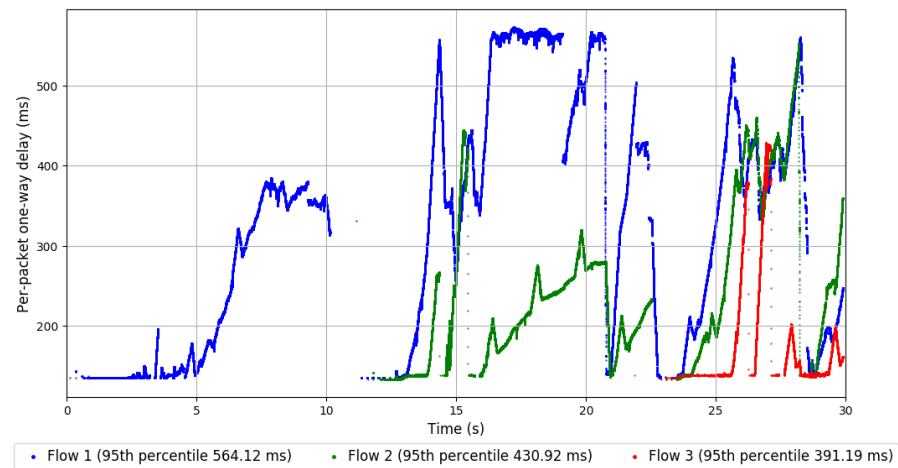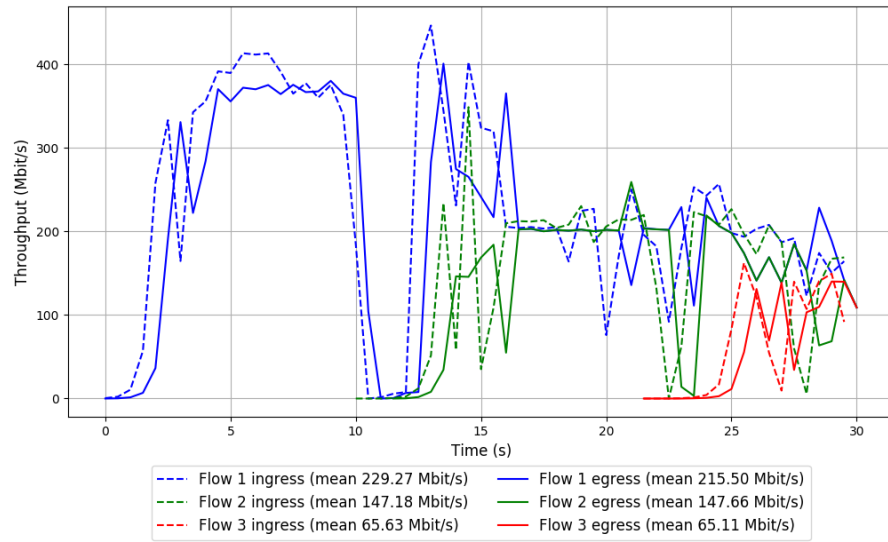
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 280.39 Mbit/s) — Flow 1 egress (mean 268.17 Mbit/s)
Flow 2 ingress (mean 150.05 Mbit/s) — Flow 2 egress (mean 144.49 Mbit/s)
Flow 3 ingress (mean 0.01 Mbit/s) — Flow 3 egress (mean 0.01 Mbit/s)

Flow 1 (95th percentile 481.66 ms) • Flow 2 (95th percentile 400.74 ms) • Flow 3 (95th percentile 149.32 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2018-10-02 17:36:36
End at: 2018-10-02 17:37:06
Local clock offset: -1.499 ms
Remote clock offset: -36.091 ms


# Below is generated by plot.py at 2018-10-02 19:14:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 323.89 Mbit/s
95th percentile per-packet one-way delay: 561.269 ms
Loss rate: 6.32%
-- Flow 1:
Average throughput: 215.50 Mbit/s
95th percentile per-packet one-way delay: 564.121 ms
Loss rate: 6.68%
-- Flow 2:
Average throughput: 147.66 Mbit/s
95th percentile per-packet one-way delay: 430.919 ms
Loss rate: 6.02%
-- Flow 3:
Average throughput: 65.11 Mbit/s
95th percentile per-packet one-way delay: 391.194 ms
Loss rate: 3.36%
```

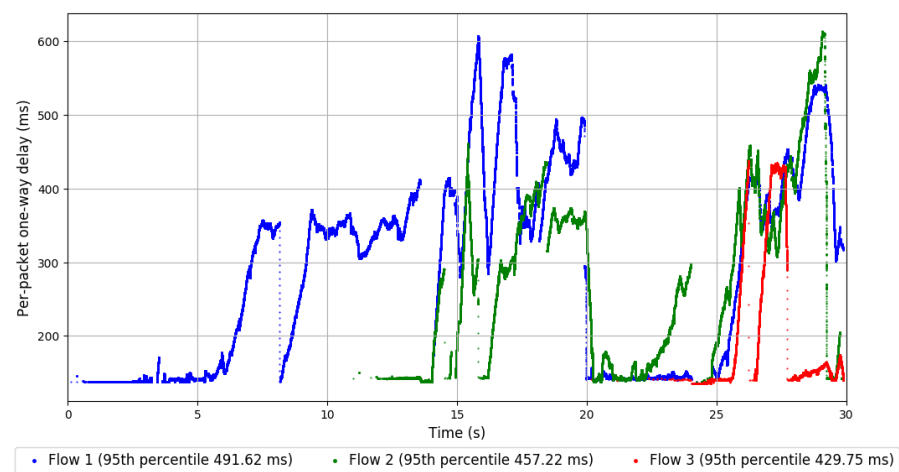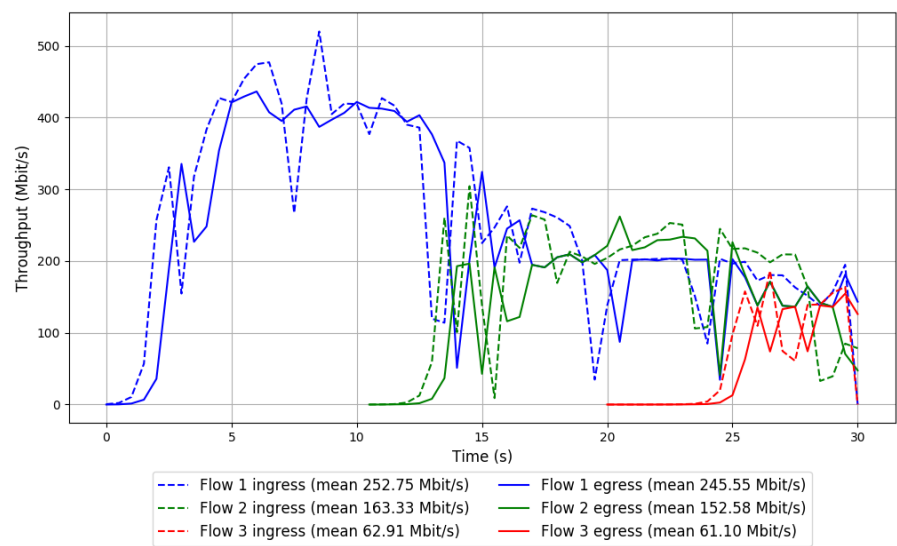Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-10-02 18:09:31
End at: 2018-10-02 18:10:01
Local clock offset: -2.545 ms
Remote clock offset: -39.676 ms


# Below is generated by plot.py at 2018-10-02 19:14:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 362.42 Mbit/s
95th percentile per-packet one-way delay: 480.259 ms
Loss rate: 6.49%
-- Flow 1:
Average throughput: 245.55 Mbit/s
95th percentile per-packet one-way delay: 491.618 ms
Loss rate: 4.89%
-- Flow 2:
Average throughput: 152.58 Mbit/s
95th percentile per-packet one-way delay: 457.219 ms
Loss rate: 9.74%
-- Flow 3:
Average throughput: 61.10 Mbit/s
95th percentile per-packet one-way delay: 429.754 ms
Loss rate: 9.37%
```
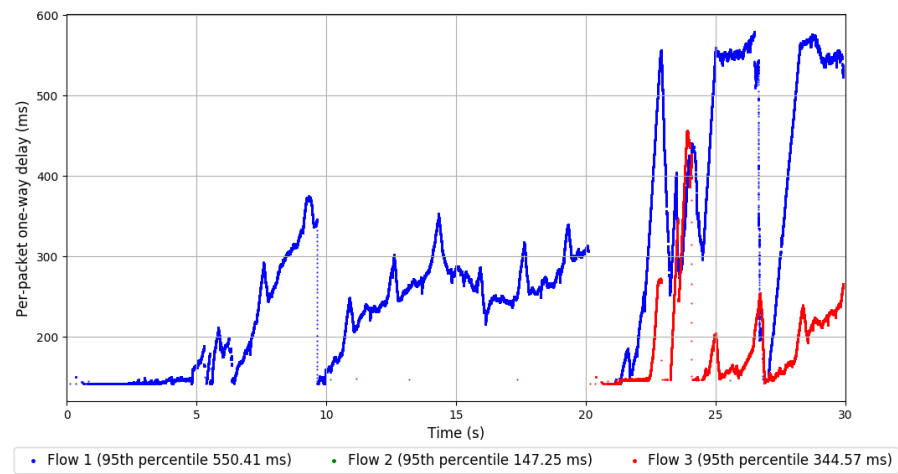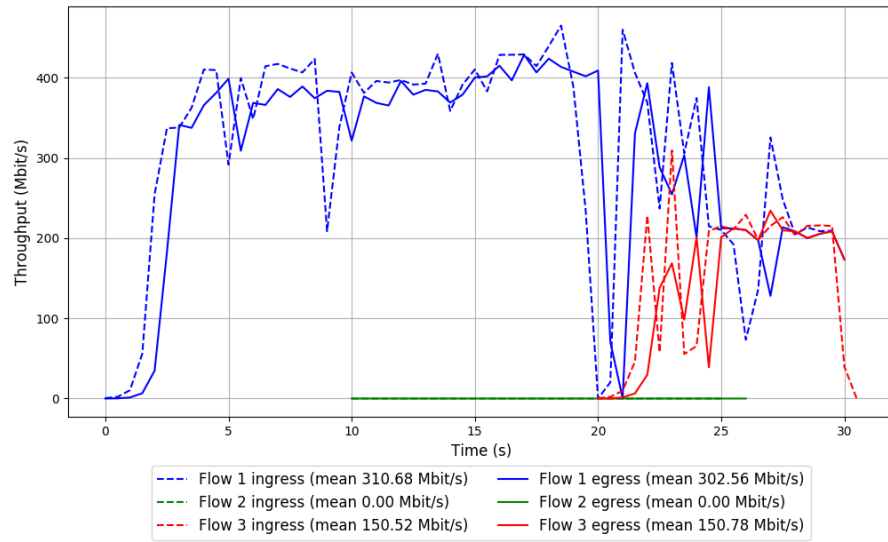
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 252.75 Mbit/s)   Flow 1 egress (mean 245.55 Mbit/s)
Flow 2 ingress (mean 163.33 Mbit/s)   Flow 2 egress (mean 152.58 Mbit/s)
Flow 3 ingress (mean 62.91 Mbit/s)   Flow 3 egress (mean 61.10 Mbit/s)

Flow 1 (95th percentile 491.62 ms)   Flow 2 (95th percentile 457.22 ms)   Flow 3 (95th percentile 429.75 ms)

10

```
Run 4: Statistics of TCP BBR

Start at: 2018-10-02 18:36:26
End at: 2018-10-02 18:36:56
Local clock offset: 3.013 ms
Remote clock offset: -39.025 ms


# Below is generated by plot.py at 2018-10-02 19:14:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 351.98 Mbit/s
95th percentile per-packet one-way delay: 548.577 ms
Loss rate: 3.85%
-- Flow 1:
Average throughput: 302.56 Mbit/s
95th percentile per-packet one-way delay: 550.407 ms
Loss rate: 3.30%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 147.248 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 150.78 Mbit/s
95th percentile per-packet one-way delay: 344.568 ms
Loss rate: 7.10%
```
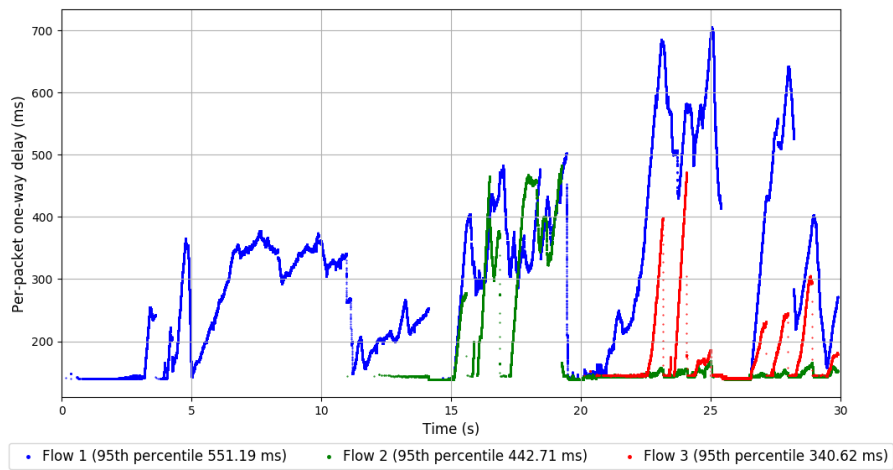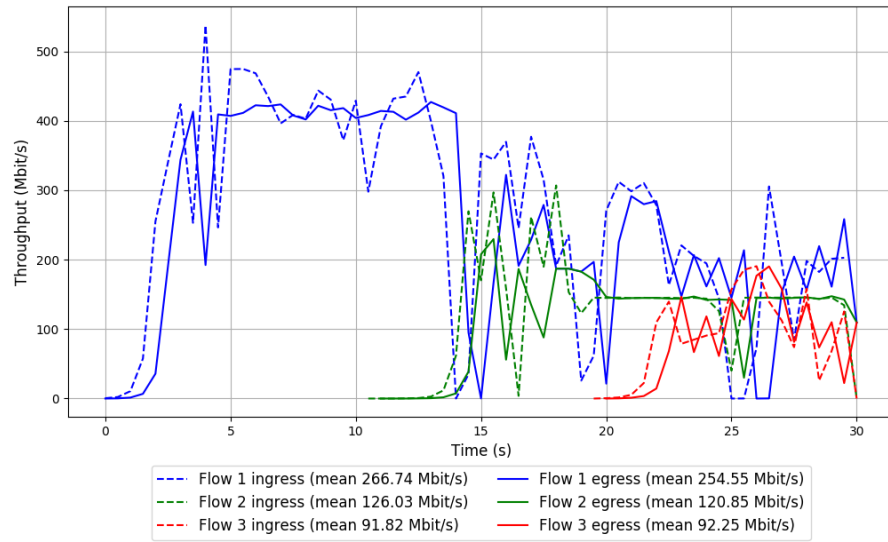
Run 4: Report of TCP BBR — Data Link

- Flow 1 ingress (mean 310.68 Mbit/s) — Flow 1 egress (mean 302.56 Mbit/s)
- Flow 2 ingress (mean 0.00 Mbit/s) — Flow 2 egress (mean 0.00 Mbit/s)
- Flow 3 ingress (mean 150.52 Mbit/s) — Flow 3 egress (mean 150.78 Mbit/s)

- Flow 1 (95th percentile 550.41 ms)
- Flow 2 (95th percentile 147.25 ms)
- Flow 3 (95th percentile 344.57 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2018-10-02 19:03:50
End at: 2018-10-02 19:04:21
Local clock offset: -0.79 ms
Remote clock offset: -38.861 ms


# Below is generated by plot.py at 2018-10-02 19:14:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 361.49 Mbit/s
95th percentile per-packet one-way delay: 506.799 ms
Loss rate: 5.65%
-- Flow 1:
Average throughput: 254.55 Mbit/s
95th percentile per-packet one-way delay: 551.189 ms
Loss rate: 5.39%
-- Flow 2:
Average throughput: 120.85 Mbit/s
95th percentile per-packet one-way delay: 442.711 ms
Loss rate: 7.27%
-- Flow 3:
Average throughput: 92.25 Mbit/s
95th percentile per-packet one-way delay: 340.625 ms
Loss rate: 3.58%
```
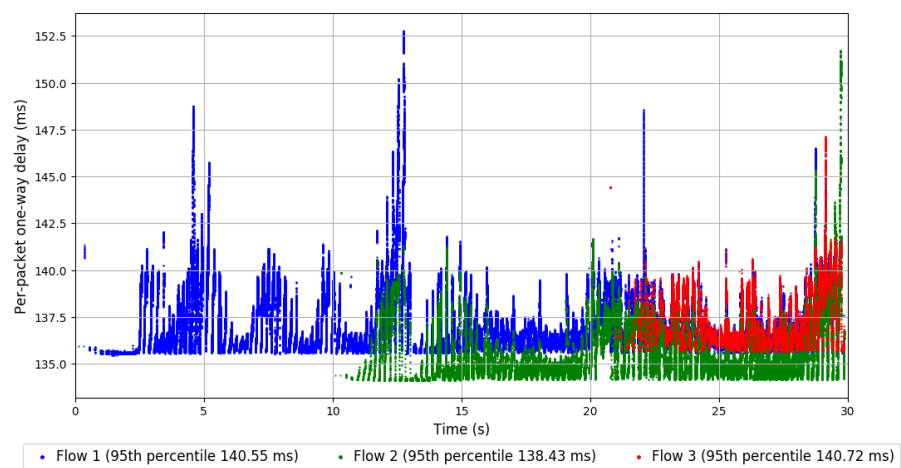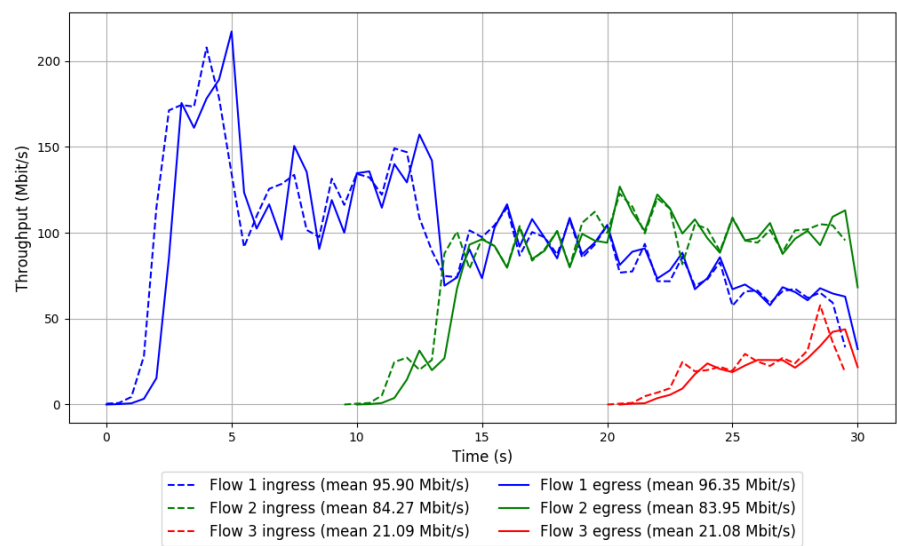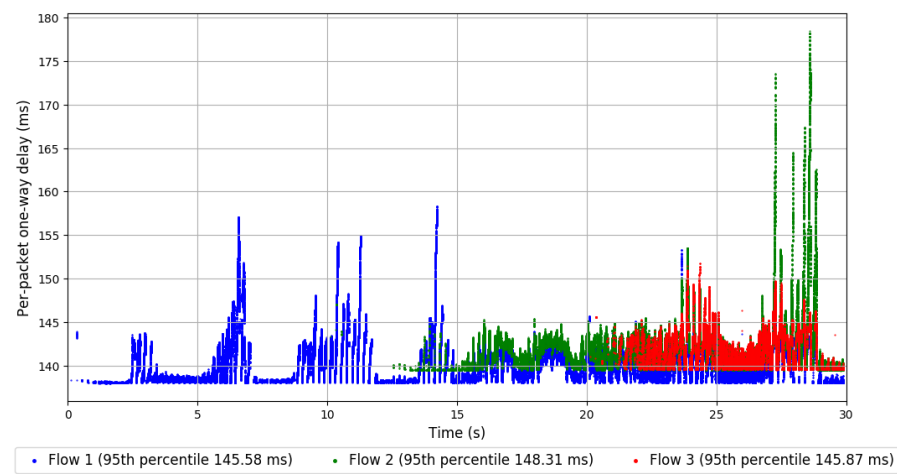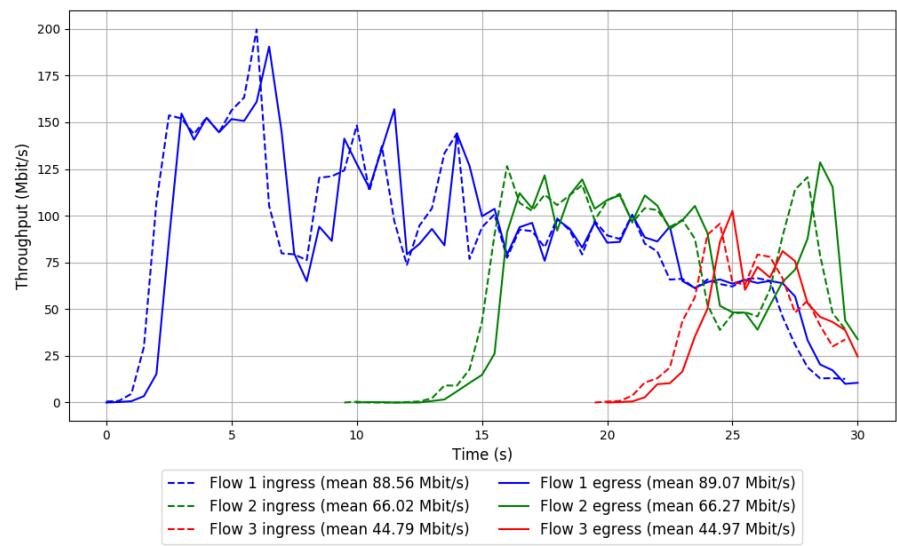
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 266.74 Mbit/s) --- Flow 1 egress (mean 254.55 Mbit/s)
Flow 2 ingress (mean 126.03 Mbit/s) --- Flow 2 egress (mean 120.85 Mbit/s)
Flow 3 ingress (mean 91.82 Mbit/s) --- Flow 3 egress (mean 92.25 Mbit/s)

Flow 1 (95th percentile 551.19 ms)   Flow 2 (95th percentile 442.71 ms)   Flow 3 (95th percentile 340.62 ms)
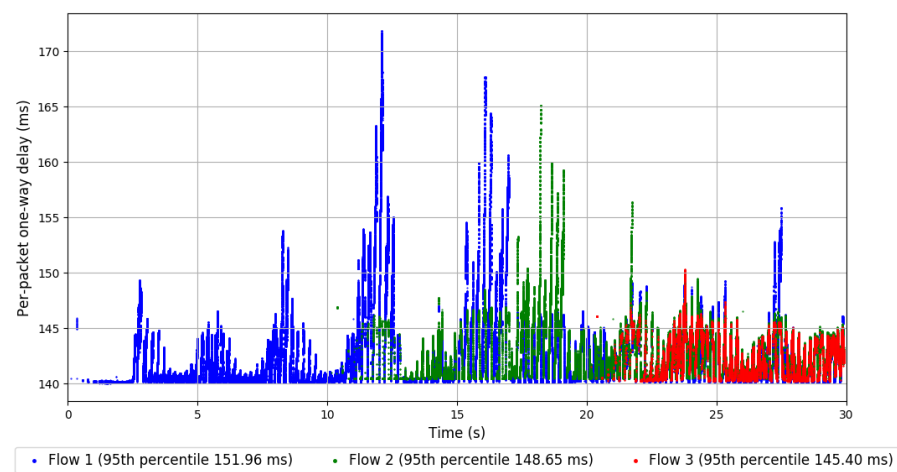
14

```
Run 1: Statistics of Copa

Start at: 2018-10-02 16:53:17
End at: 2018-10-02 16:53:47
Local clock offset: 0.164 ms
Remote clock offset: -36.144 ms


# Below is generated by plot.py at 2018-10-02 19:14:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 158.75 Mbit/s
95th percentile per-packet one-way delay: 140.063 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 96.35 Mbit/s
95th percentile per-packet one-way delay: 140.546 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 83.95 Mbit/s
95th percentile per-packet one-way delay: 138.430 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 21.08 Mbit/s
95th percentile per-packet one-way delay: 140.720 ms
Loss rate: 2.31%
```

Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 95.90 Mbit/s) --- Flow 1 egress (mean 96.35 Mbit/s)
Flow 2 ingress (mean 84.27 Mbit/s) --- Flow 2 egress (mean 83.95 Mbit/s)
Flow 3 ingress (mean 21.09 Mbit/s) --- Flow 3 egress (mean 21.08 Mbit/s)

Flow 1 (95th percentile 140.55 ms) · Flow 2 (95th percentile 138.43 ms) · Flow 3 (95th percentile 140.72 ms)
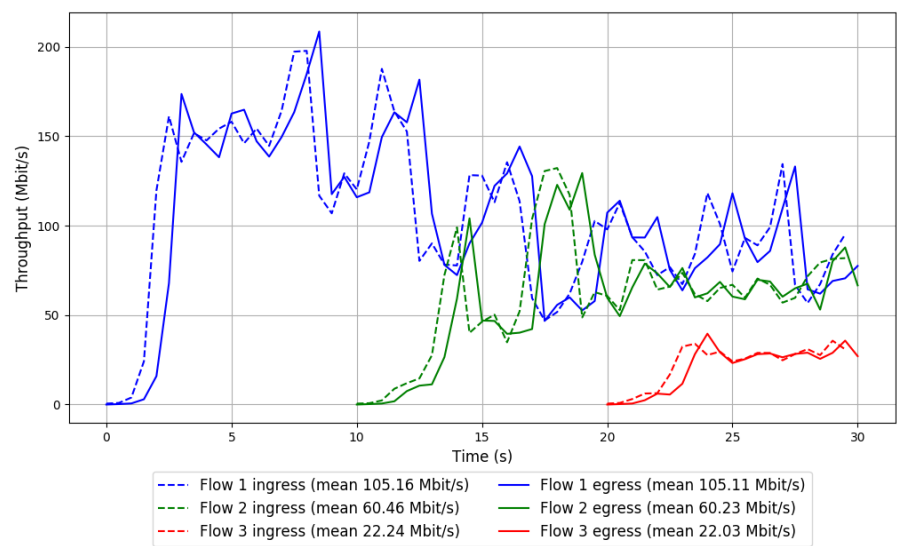
```
Run 2: Statistics of Copa

Start at: 2018-10-02 17:26:02
End at: 2018-10-02 17:26:32
Local clock offset: -0.787 ms
Remote clock offset: -40.282 ms

# Below is generated by plot.py at 2018-10-02 19:14:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 147.83 Mbit/s
95th percentile per-packet one-way delay: 146.405 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 89.07 Mbit/s
95th percentile per-packet one-way delay: 145.582 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 66.27 Mbit/s
95th percentile per-packet one-way delay: 148.314 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 44.97 Mbit/s
95th percentile per-packet one-way delay: 145.867 ms
Loss rate: 1.72%
```
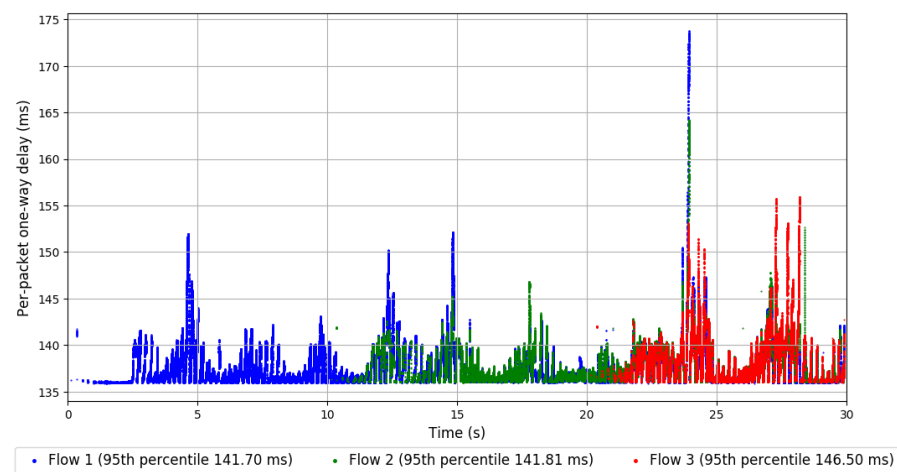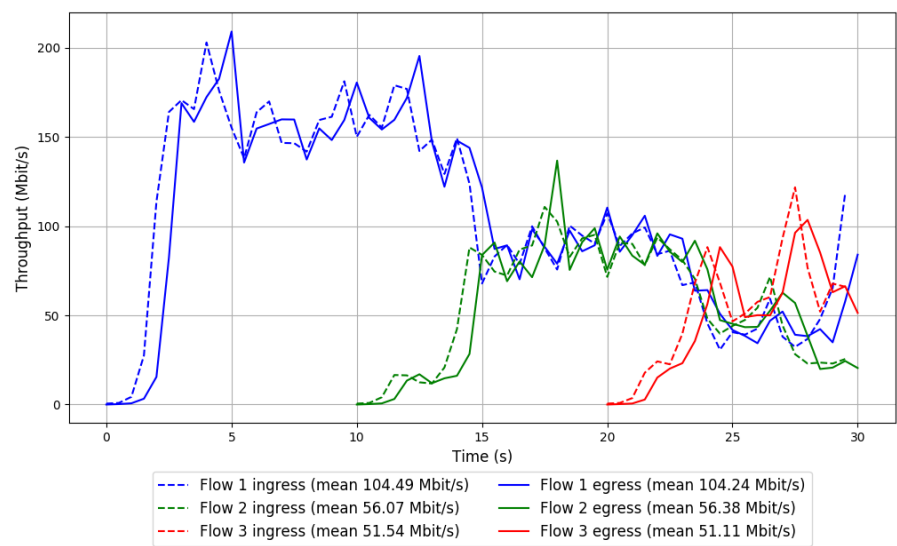
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-10-02 17:53:08
End at: 2018-10-02 17:53:38
Local clock offset: 0.438 ms
Remote clock offset: -39.488 ms


# Below is generated by plot.py at 2018-10-02 19:14:41
# Datalink statistics
-- Total of 3 flows:
Average throughput: 152.24 Mbit/s
95th percentile per-packet one-way delay: 151.221 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 105.11 Mbit/s
95th percentile per-packet one-way delay: 151.961 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 60.23 Mbit/s
95th percentile per-packet one-way delay: 148.645 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 22.03 Mbit/s
95th percentile per-packet one-way delay: 145.402 ms
Loss rate: 3.03%
```

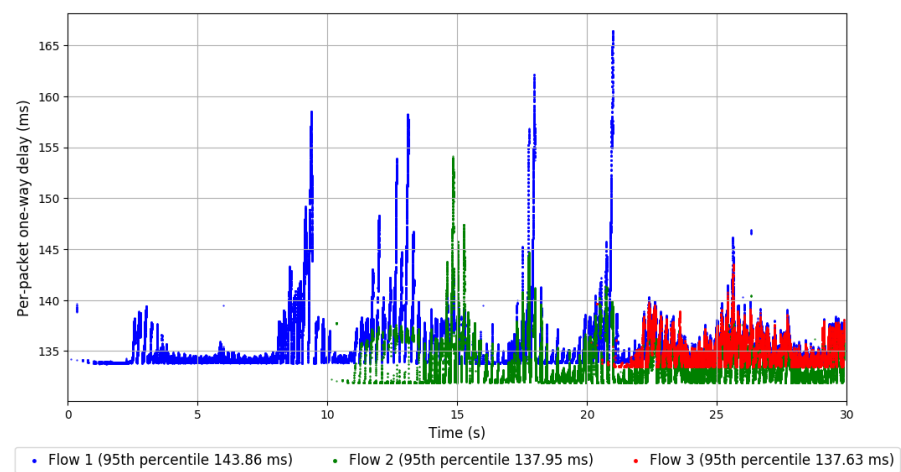Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2018-10-02 18:25:55
End at: 2018-10-02 18:26:25
Local clock offset: 0.04 ms
Remote clock offset: -34.949 ms


# Below is generated by plot.py at 2018-10-02 19:16:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 158.38 Mbit/s
95th percentile per-packet one-way delay: 142.320 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 104.24 Mbit/s
95th percentile per-packet one-way delay: 141.696 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 56.38 Mbit/s
95th percentile per-packet one-way delay: 141.812 ms
Loss rate: 0.52%
-- Flow 3:
Average throughput: 51.11 Mbit/s
95th percentile per-packet one-way delay: 146.501 ms
Loss rate: 2.93%
```

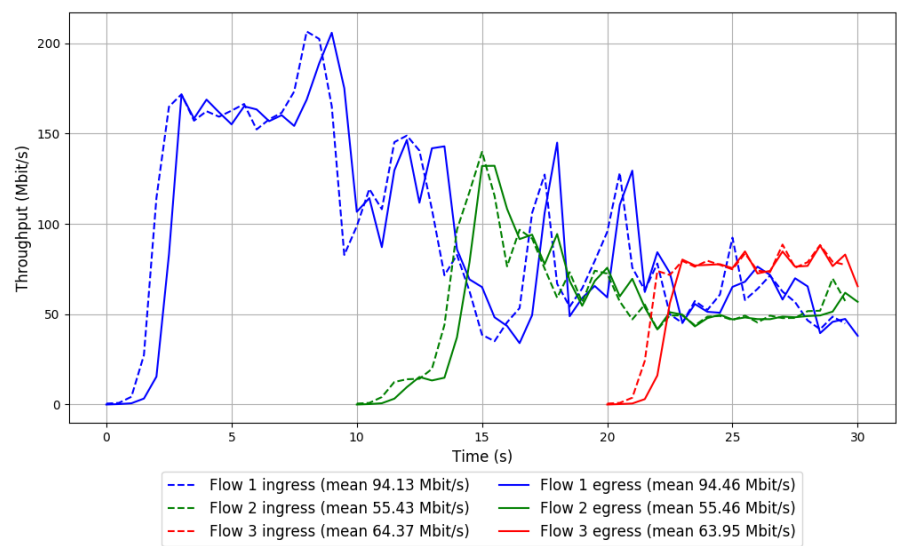# Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-10-02 18:53:15
End at: 2018-10-02 18:53:45
Local clock offset: -2.97 ms
Remote clock offset: -34.373 ms


# Below is generated by plot.py at 2018-10-02 19:16:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 152.21 Mbit/s
95th percentile per-packet one-way delay: 141.595 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 94.46 Mbit/s
95th percentile per-packet one-way delay: 143.862 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 55.46 Mbit/s
95th percentile per-packet one-way delay: 137.950 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 63.95 Mbit/s
95th percentile per-packet one-way delay: 137.630 ms
Loss rate: 2.76%
```
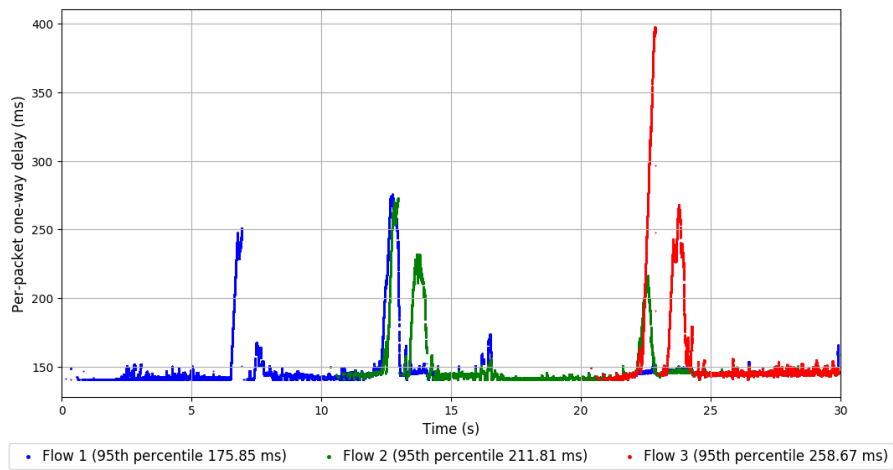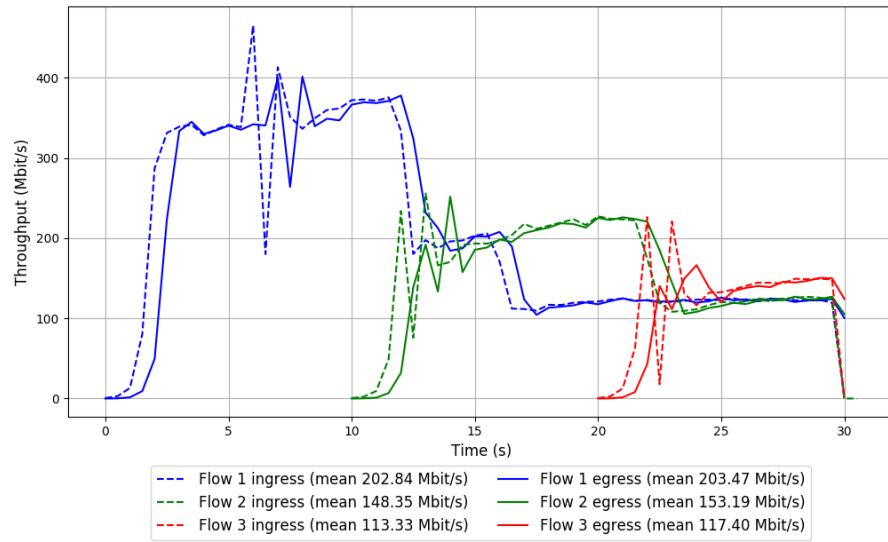
Run 5: Report of Copa — Data Link

- - - - Flow 1 ingress (mean 94.13 Mbit/s)   —— Flow 1 egress (mean 94.46 Mbit/s)
- - - - Flow 2 ingress (mean 55.43 Mbit/s)   —— Flow 2 egress (mean 55.46 Mbit/s)
- - - - Flow 3 ingress (mean 64.37 Mbit/s)   —— Flow 3 egress (mean 63.95 Mbit/s)

- Flow 1 (95th percentile 143.86 ms)   • Flow 2 (95th percentile 137.95 ms)   • Flow 3 (95th percentile 137.63 ms)
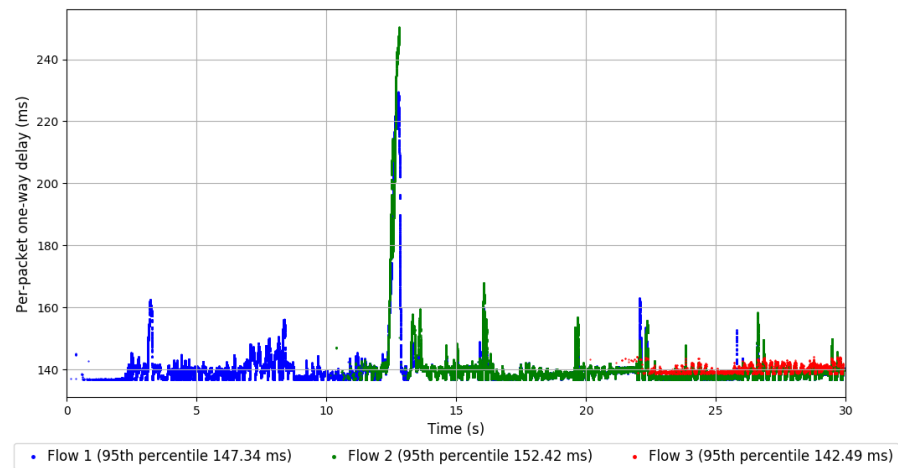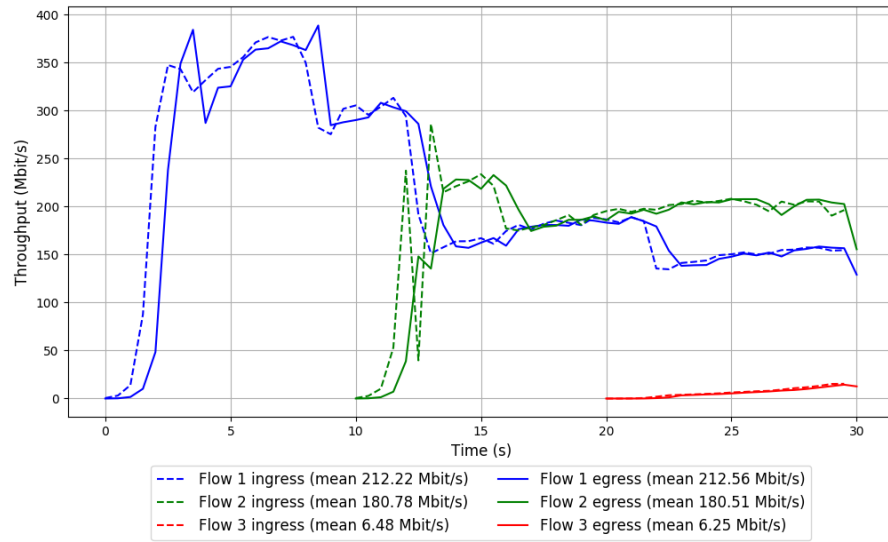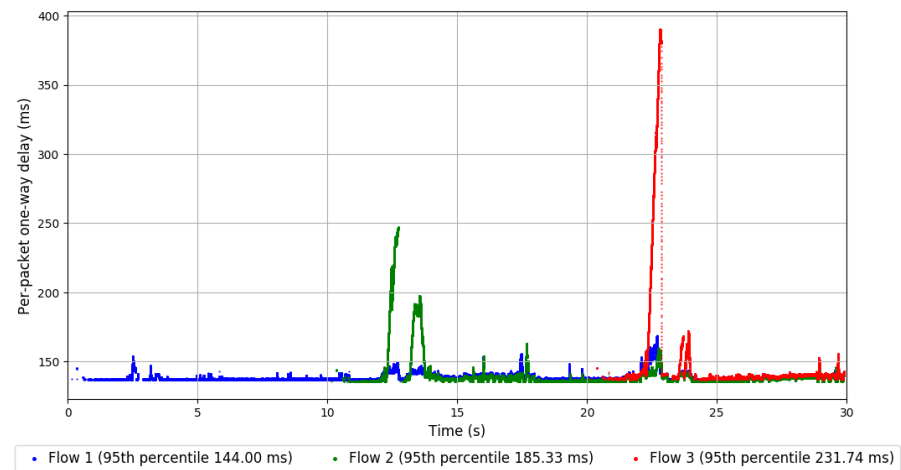
24

```
Run 1: Statistics of TCP Cubic

Start at: 2018-10-02 17:11:10
End at: 2018-10-02 17:11:40
Local clock offset: 0.487 ms
Remote clock offset: -40.54 ms


# Below is generated by plot.py at 2018-10-02 19:17:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 343.67 Mbit/s
95th percentile per-packet one-way delay: 211.973 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 203.47 Mbit/s
95th percentile per-packet one-way delay: 175.851 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 153.19 Mbit/s
95th percentile per-packet one-way delay: 211.810 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 117.40 Mbit/s
95th percentile per-packet one-way delay: 258.669 ms
Loss rate: 2.87%
```

Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-10-02 17:38:22
End at: 2018-10-02 17:38:52
Local clock offset: -2.535 ms
Remote clock offset: -40.515 ms


# Below is generated by plot.py at 2018-10-02 19:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 334.45 Mbit/s
95th percentile per-packet one-way delay: 148.888 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 212.56 Mbit/s
95th percentile per-packet one-way delay: 147.338 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 180.51 Mbit/s
95th percentile per-packet one-way delay: 152.419 ms
Loss rate: 1.19%
-- Flow 3:
Average throughput: 6.25 Mbit/s
95th percentile per-packet one-way delay: 142.490 ms
Loss rate: 5.67%
```

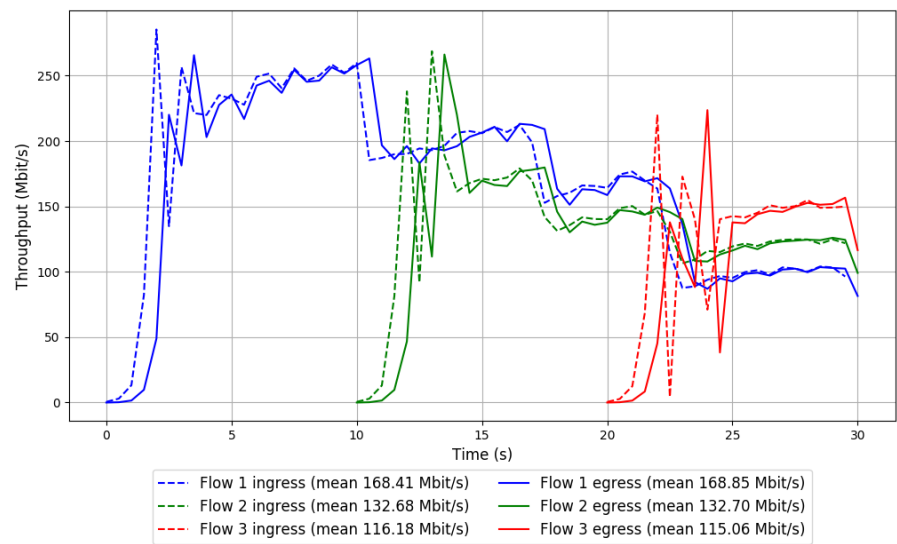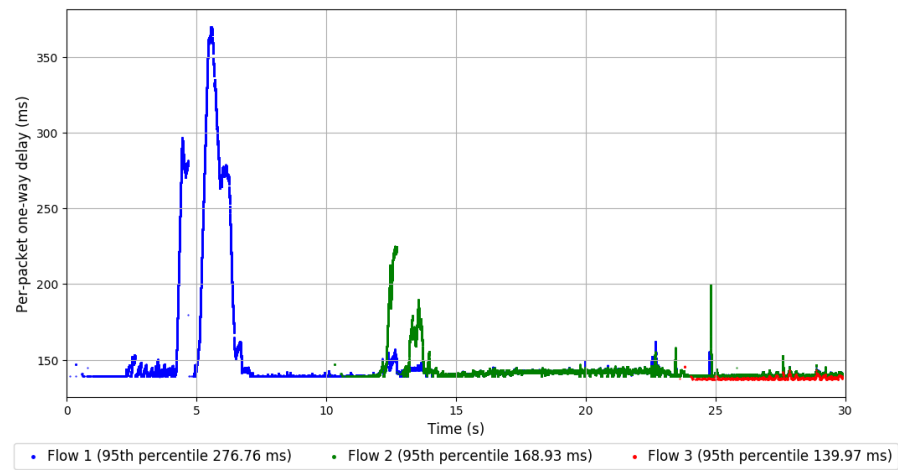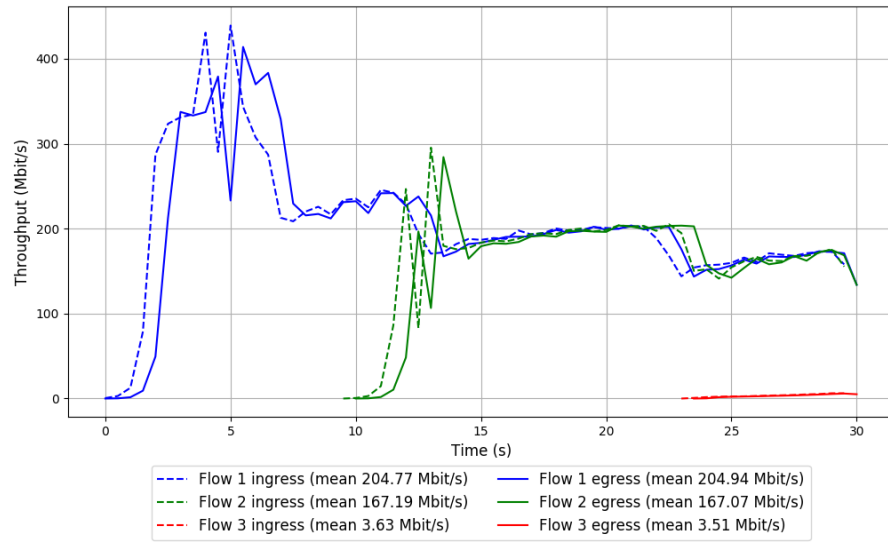Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 212.22 Mbit/s)   Flow 1 egress (mean 212.56 Mbit/s)
Flow 2 ingress (mean 180.78 Mbit/s)   Flow 2 egress (mean 180.51 Mbit/s)
Flow 3 ingress (mean 6.48 Mbit/s)   Flow 3 egress (mean 6.25 Mbit/s)

Flow 1 (95th percentile 147.34 ms)   Flow 2 (95th percentile 152.42 ms)   Flow 3 (95th percentile 142.49 ms)

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```
Run 3: Statistics of TCP Cubic

Start at: 2018-10-02 18:11:10
End at: 2018-10-02 18:11:40
Local clock offset: -0.113 ms
Remote clock offset: -36.797 ms


# Below is generated by plot.py at 2018-10-02 19:17:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.63 Mbit/s
95th percentile per-packet one-way delay: 153.239 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 168.85 Mbit/s
95th percentile per-packet one-way delay: 143.995 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 132.70 Mbit/s
95th percentile per-packet one-way delay: 185.331 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 115.06 Mbit/s
95th percentile per-packet one-way delay: 231.744 ms
Loss rate: 3.07%
```

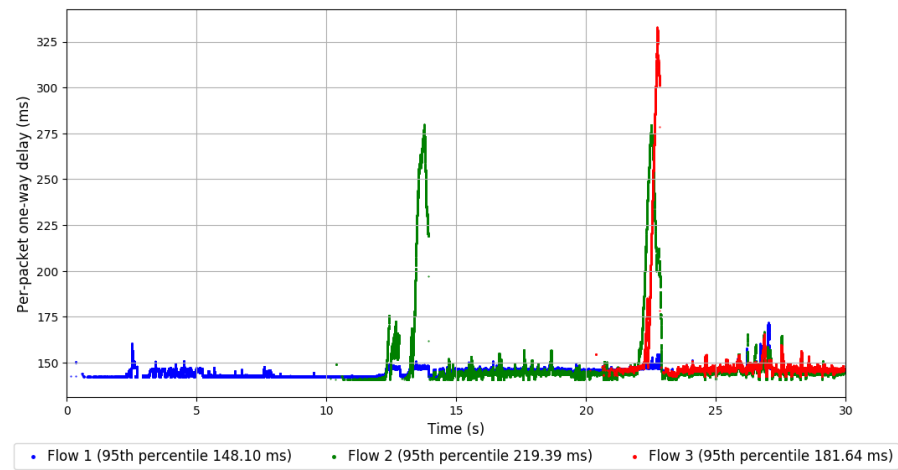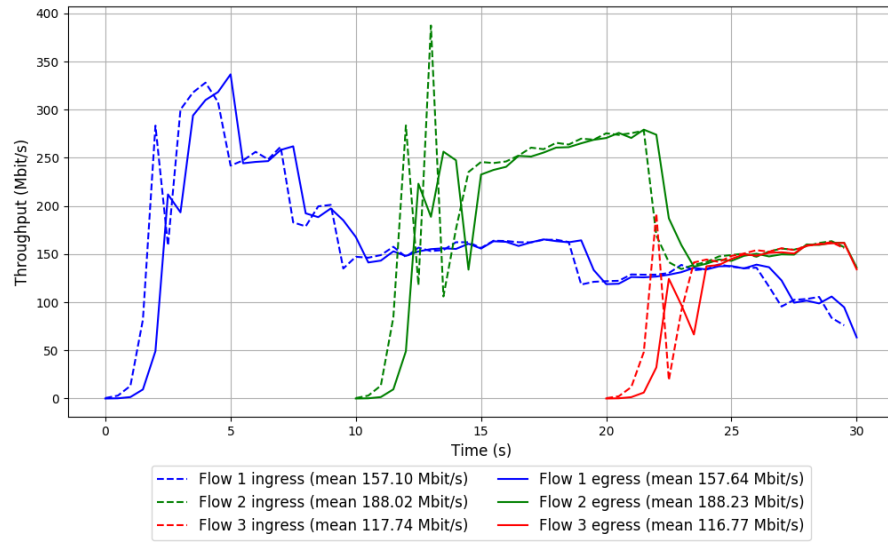Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 168.41 Mbit/s) --- Flow 1 egress (mean 168.85 Mbit/s)
Flow 2 ingress (mean 132.68 Mbit/s) --- Flow 2 egress (mean 132.70 Mbit/s)
Flow 3 ingress (mean 116.18 Mbit/s) --- Flow 3 egress (mean 115.06 Mbit/s)

Flow 1 (95th percentile 144.00 ms)   Flow 2 (95th percentile 185.33 ms)   Flow 3 (95th percentile 231.74 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2018-10-02 18:38:12
End at: 2018-10-02 18:38:42
Local clock offset: 2.696 ms
Remote clock offset: -35.027 ms


# Below is generated by plot.py at 2018-10-02 19:18:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 316.69 Mbit/s
95th percentile per-packet one-way delay: 265.229 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 204.94 Mbit/s
95th percentile per-packet one-way delay: 276.763 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 167.07 Mbit/s
95th percentile per-packet one-way delay: 168.932 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 3.51 Mbit/s
95th percentile per-packet one-way delay: 139.970 ms
Loss rate: 6.28%
```

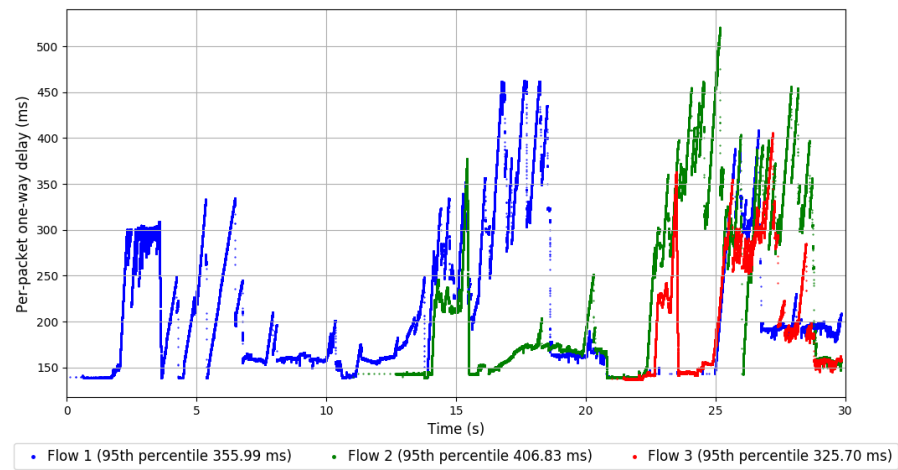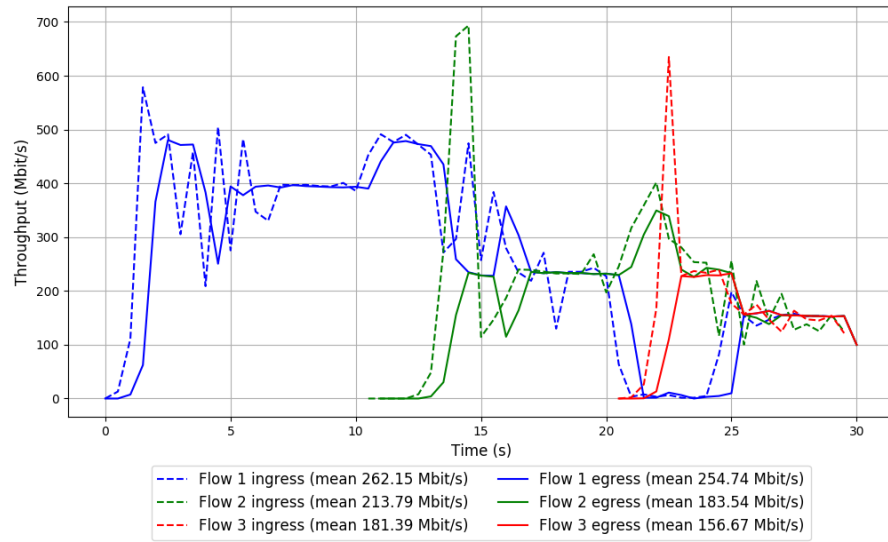Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2018-10-02 19:05:28
End at: 2018-10-02 19:05:59
Local clock offset: 0.416 ms
Remote clock offset: -39.357 ms


# Below is generated by plot.py at 2018-10-02 19:18:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 320.80 Mbit/s
95th percentile per-packet one-way delay: 161.018 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 157.64 Mbit/s
95th percentile per-packet one-way delay: 148.103 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 188.23 Mbit/s
95th percentile per-packet one-way delay: 219.388 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 116.77 Mbit/s
95th percentile per-packet one-way delay: 181.641 ms
Loss rate: 2.93%
```
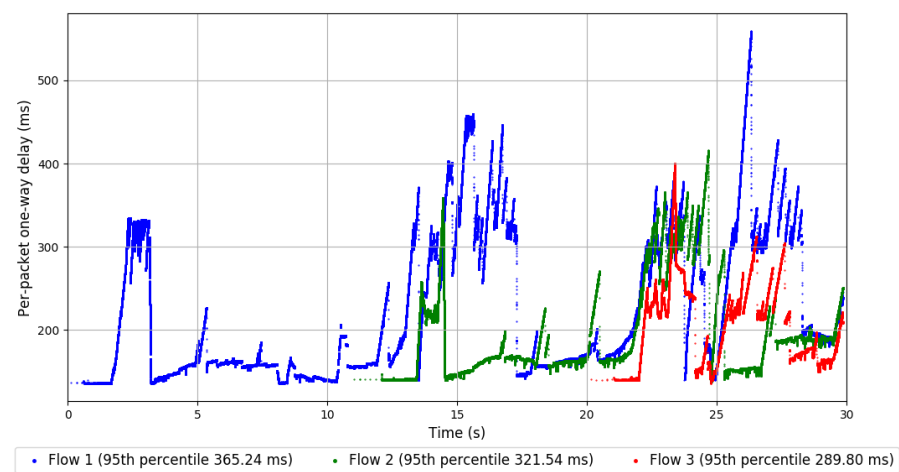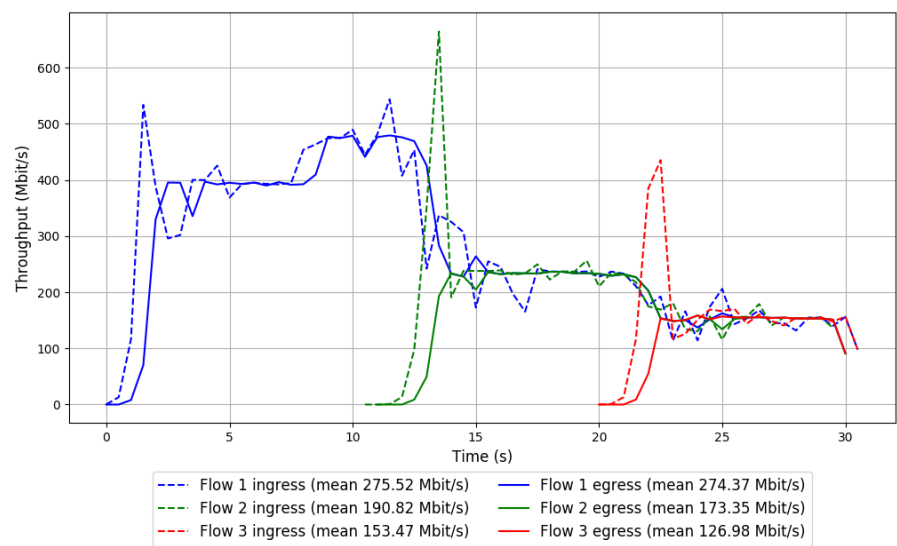
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 157.10 Mbit/s) — Flow 1 egress (mean 157.64 Mbit/s)
Flow 2 ingress (mean 188.02 Mbit/s) — Flow 2 egress (mean 188.23 Mbit/s)
Flow 3 ingress (mean 117.74 Mbit/s) — Flow 3 egress (mean 116.77 Mbit/s)

Flow 1 (95th percentile 148.10 ms)   Flow 2 (95th percentile 219.39 ms)   Flow 3 (95th percentile 181.64 ms)
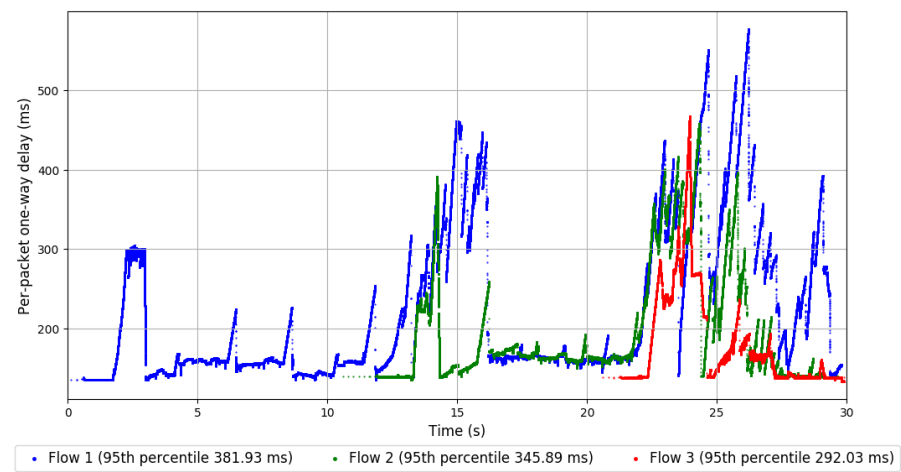
```
Run 1: Statistics of FillP

Start at: 2018-10-02 17:07:56
End at: 2018-10-02 17:08:26
Local clock offset: 2.752 ms
Remote clock offset: -36.27 ms


# Below is generated by plot.py at 2018-10-02 19:20:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 417.65 Mbit/s
95th percentile per-packet one-way delay: 375.757 ms
Loss rate: 8.45%
-- Flow 1:
Average throughput: 254.74 Mbit/s
95th percentile per-packet one-way delay: 355.987 ms
Loss rate: 3.52%
-- Flow 2:
Average throughput: 183.54 Mbit/s
95th percentile per-packet one-way delay: 406.829 ms
Loss rate: 15.10%
-- Flow 3:
Average throughput: 156.67 Mbit/s
95th percentile per-packet one-way delay: 325.704 ms
Loss rate: 15.56%
```
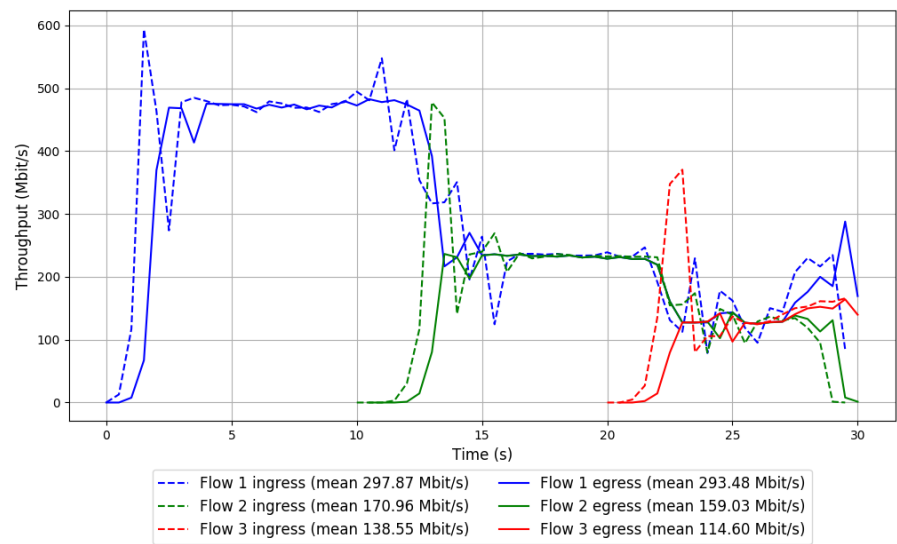
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-10-02 17:34:57
End at: 2018-10-02 17:35:27
Local clock offset: -2.813 ms
Remote clock offset: -38.141 ms

# Below is generated by plot.py at 2018-10-02 19:23:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 425.51 Mbit/s
95th percentile per-packet one-way delay: 348.267 ms
Loss rate: 8.26%
-- Flow 1:
Average throughput: 274.37 Mbit/s
95th percentile per-packet one-way delay: 365.244 ms
Loss rate: 3.94%
-- Flow 2:
Average throughput: 173.35 Mbit/s
95th percentile per-packet one-way delay: 321.541 ms
Loss rate: 10.41%
-- Flow 3:
Average throughput: 126.98 Mbit/s
95th percentile per-packet one-way delay: 289.803 ms
Loss rate: 25.69%
```
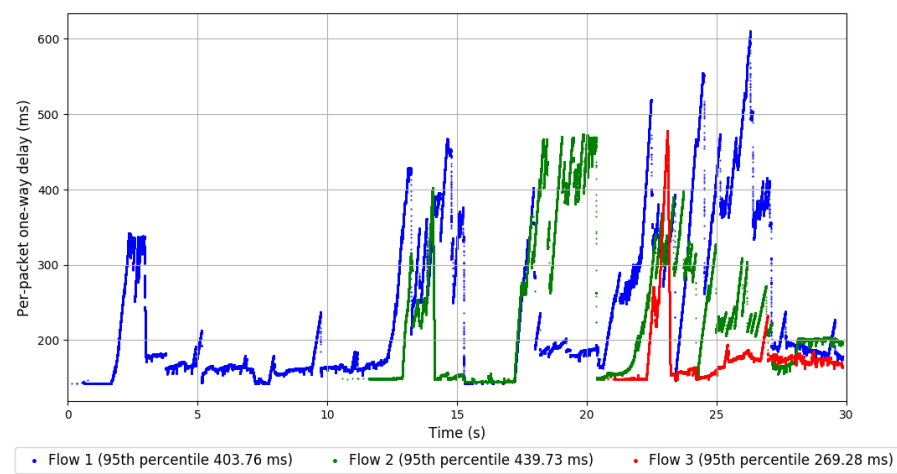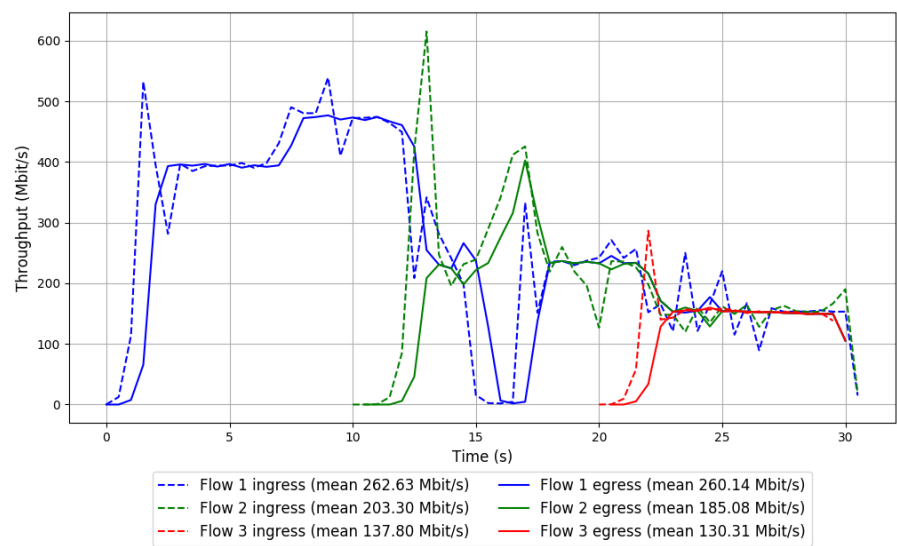
Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-10-02 18:07:53
End at: 2018-10-02 18:08:23
Local clock offset: -0.087 ms
Remote clock offset: -35.158 ms


# Below is generated by plot.py at 2018-10-02 19:23:09
# Datalink statistics
-- Total of 3 flows:
Average throughput: 430.23 Mbit/s
95th percentile per-packet one-way delay: 365.533 ms
Loss rate: 5.54%
-- Flow 1:
Average throughput: 293.48 Mbit/s
95th percentile per-packet one-way delay: 381.927 ms
Loss rate: 2.20%
-- Flow 2:
Average throughput: 159.03 Mbit/s
95th percentile per-packet one-way delay: 345.894 ms
Loss rate: 9.11%
-- Flow 3:
Average throughput: 114.60 Mbit/s
95th percentile per-packet one-way delay: 292.034 ms
Loss rate: 19.08%
```

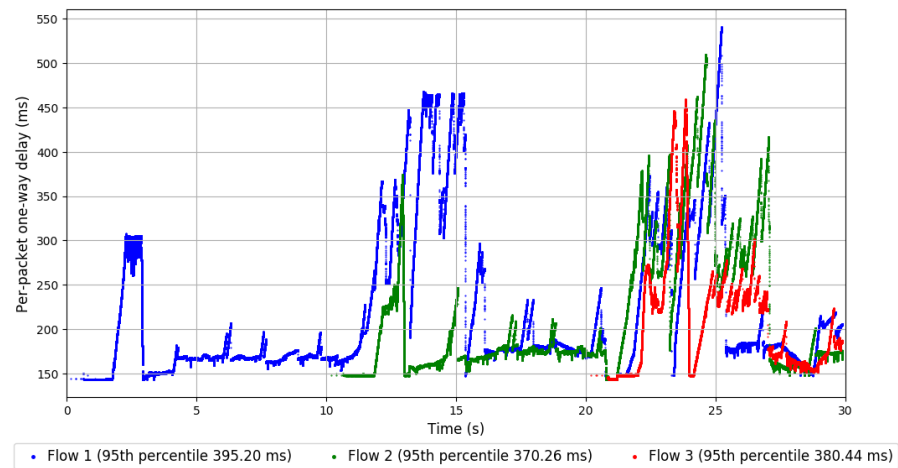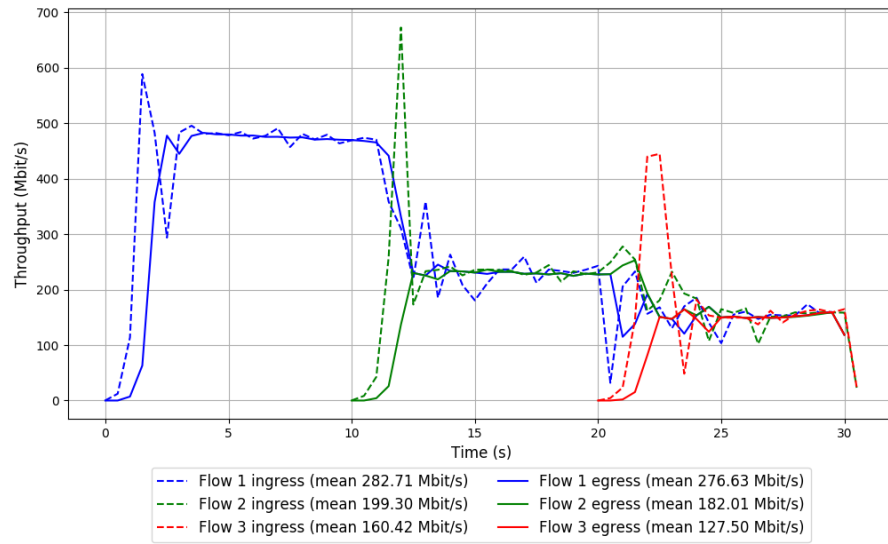## Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2018-10-02 18:34:49
End at: 2018-10-02 18:35:19
Local clock offset: 1.667 ms
Remote clock offset: -41.325 ms


# Below is generated by plot.py at 2018-10-02 19:23:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 420.89 Mbit/s
95th percentile per-packet one-way delay: 418.511 ms
Loss rate: 6.87%
-- Flow 1:
Average throughput: 260.14 Mbit/s
95th percentile per-packet one-way delay: 403.756 ms
Loss rate: 3.67%
-- Flow 2:
Average throughput: 185.08 Mbit/s
95th percentile per-packet one-way delay: 439.734 ms
Loss rate: 12.79%
-- Flow 3:
Average throughput: 130.31 Mbit/s
95th percentile per-packet one-way delay: 269.278 ms
Loss rate: 7.98%
```
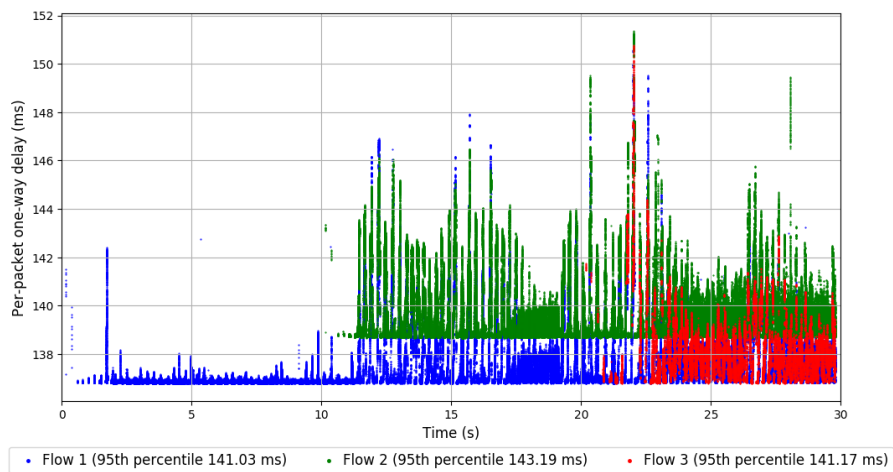
Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-10-02 19:02:12
End at: 2018-10-02 19:02:42
Local clock offset: 1.957 ms
Remote clock offset: -38.836 ms


# Below is generated by plot.py at 2018-10-02 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 438.80 Mbit/s
95th percentile per-packet one-way delay: 381.485 ms
Loss rate: 8.52%
-- Flow 1:
Average throughput: 276.63 Mbit/s
95th percentile per-packet one-way delay: 395.203 ms
Loss rate: 2.98%
-- Flow 2:
Average throughput: 182.01 Mbit/s
95th percentile per-packet one-way delay: 370.258 ms
Loss rate: 12.42%
-- Flow 3:
Average throughput: 127.50 Mbit/s
95th percentile per-packet one-way delay: 380.436 ms
Loss rate: 26.88%
```

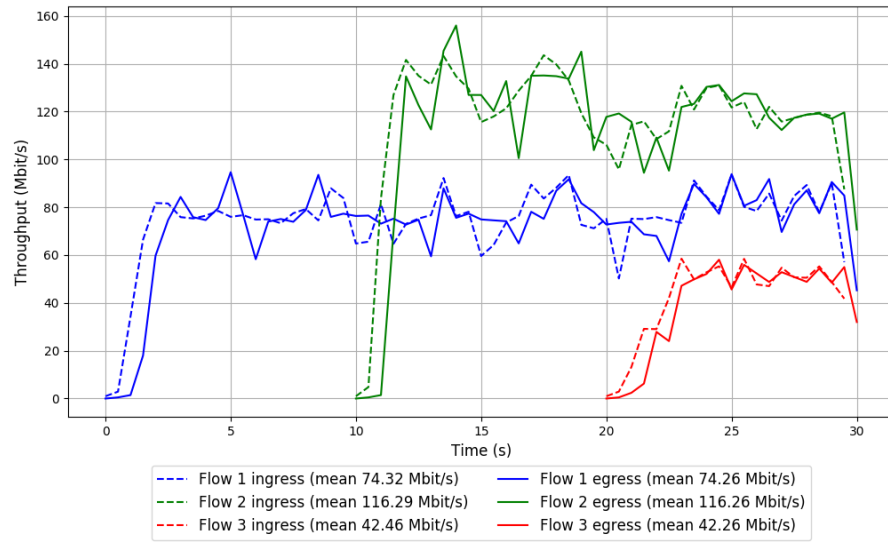Run 5: Report of FillP — Data Link

```
Run 1: Statistics of Indigo

Start at: 2018-10-02 16:59:10
End at: 2018-10-02 16:59:40
Local clock offset: 3.282 ms
Remote clock offset: -35.534 ms


# Below is generated by plot.py at 2018-10-02 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 164.97 Mbit/s
95th percentile per-packet one-way delay: 142.505 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 74.26 Mbit/s
95th percentile per-packet one-way delay: 141.027 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 116.26 Mbit/s
95th percentile per-packet one-way delay: 143.190 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 42.26 Mbit/s
95th percentile per-packet one-way delay: 141.170 ms
Loss rate: 2.64%
```

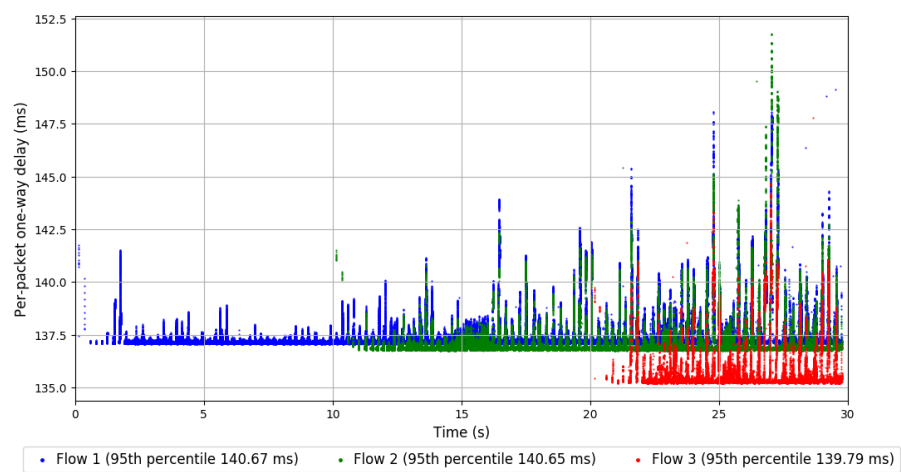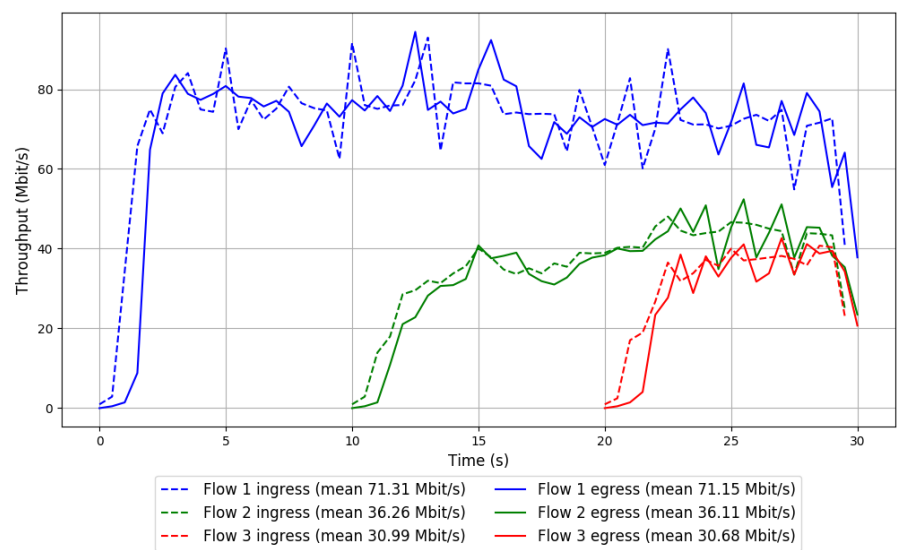Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-10-02 17:31:59
End at: 2018-10-02 17:32:29
Local clock offset: 0.756 ms
Remote clock offset: -35.785 ms


# Below is generated by plot.py at 2018-10-02 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 105.02 Mbit/s
95th percentile per-packet one-way delay: 140.574 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 71.15 Mbit/s
95th percentile per-packet one-way delay: 140.669 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 36.11 Mbit/s
95th percentile per-packet one-way delay: 140.645 ms
Loss rate: 1.48%
-- Flow 3:
Average throughput: 30.68 Mbit/s
95th percentile per-packet one-way delay: 139.790 ms
Loss rate: 3.09%
```

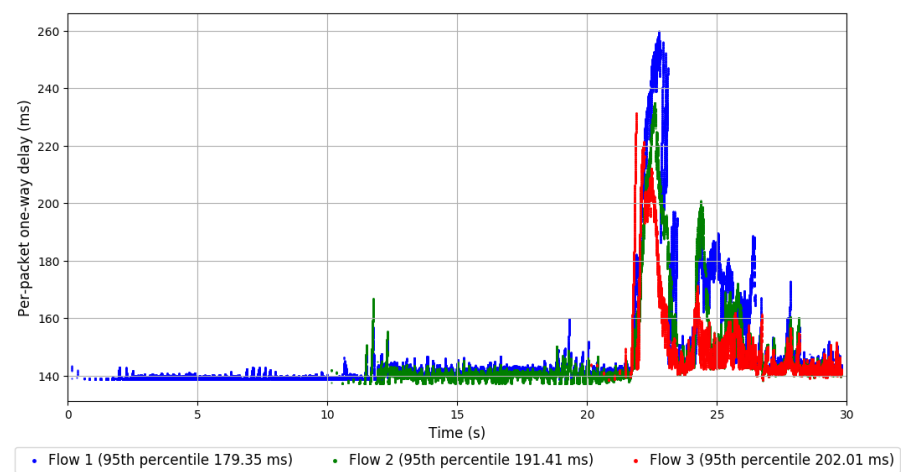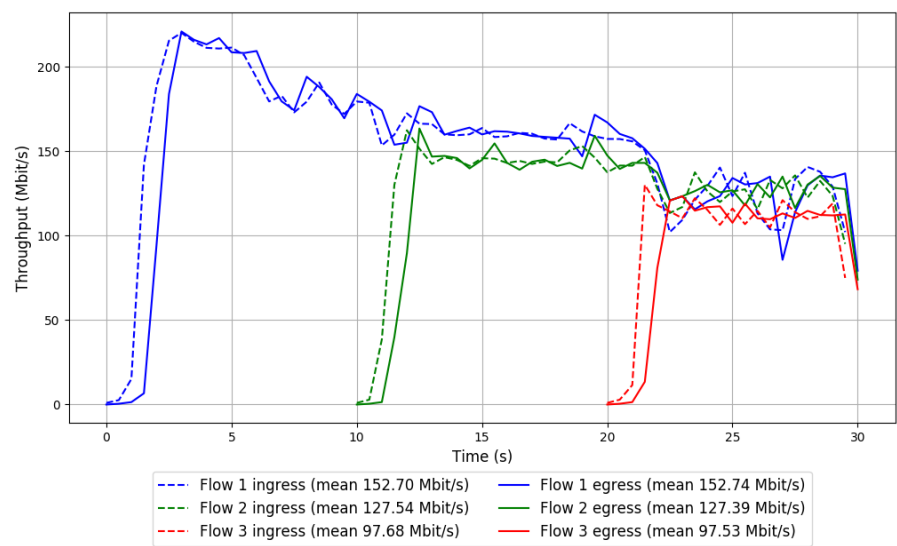Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-10-02 17:58:56
End at: 2018-10-02 17:59:26
Local clock offset: 3.353 ms
Remote clock offset: -35.239 ms


# Below is generated by plot.py at 2018-10-02 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 268.81 Mbit/s
95th percentile per-packet one-way delay: 184.829 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 152.74 Mbit/s
95th percentile per-packet one-way delay: 179.347 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 127.39 Mbit/s
95th percentile per-packet one-way delay: 191.408 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 97.53 Mbit/s
95th percentile per-packet one-way delay: 202.015 ms
Loss rate: 2.35%
```

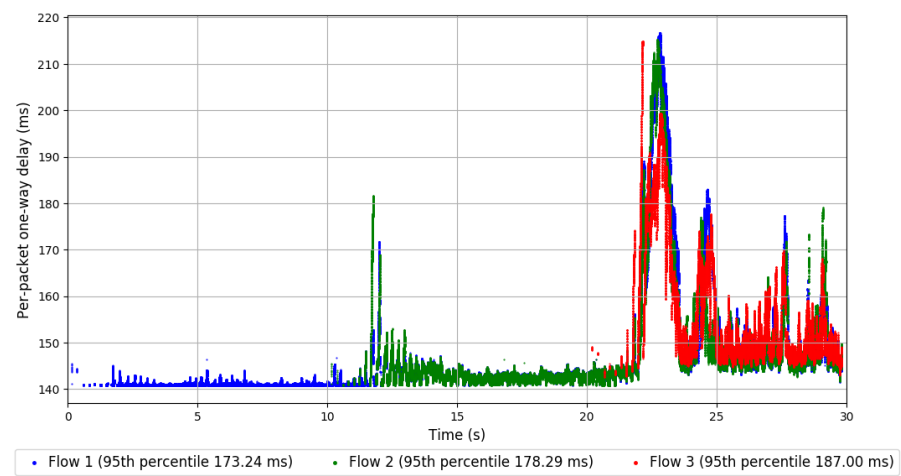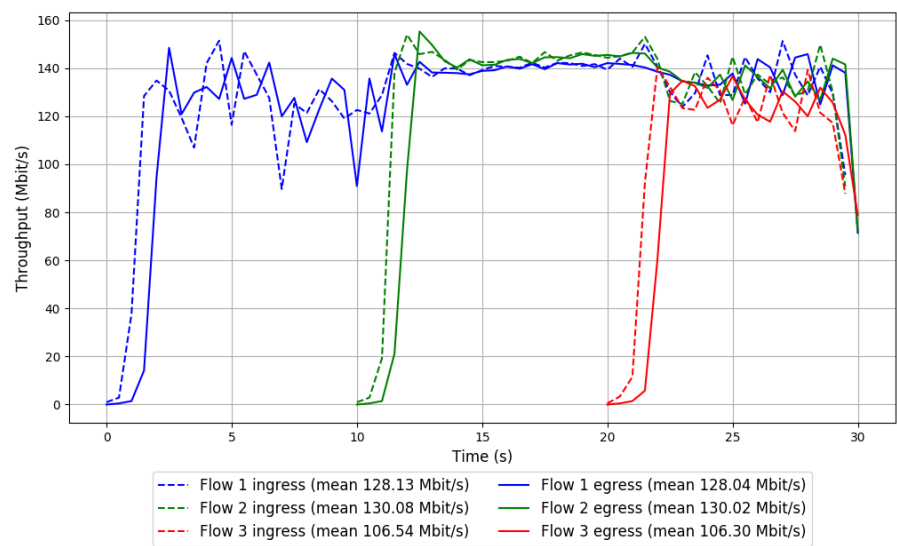## Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2018-10-02 18:31:43
End at: 2018-10-02 18:32:13
Local clock offset: 2.363 ms
Remote clock offset: -39.097 ms


# Below is generated by plot.py at 2018-10-02 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 248.57 Mbit/s
95th percentile per-packet one-way delay: 178.993 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 128.04 Mbit/s
95th percentile per-packet one-way delay: 173.244 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 130.02 Mbit/s
95th percentile per-packet one-way delay: 178.292 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 106.30 Mbit/s
95th percentile per-packet one-way delay: 187.004 ms
Loss rate: 2.43%
```
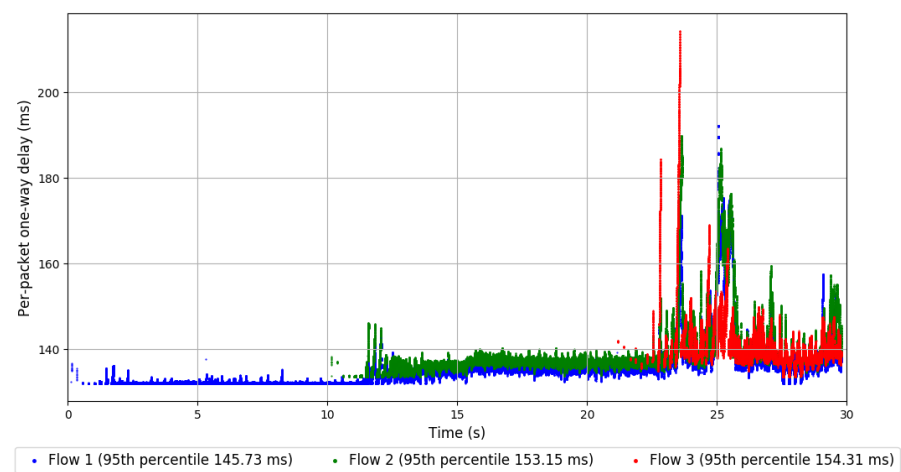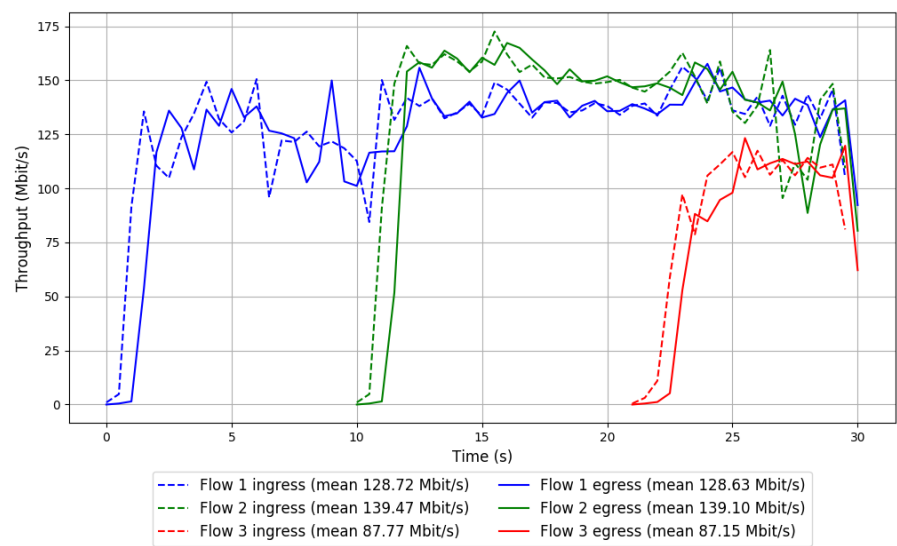
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 128.13 Mbit/s) ---- Flow 1 egress (mean 128.04 Mbit/s) ——
Flow 2 ingress (mean 130.08 Mbit/s) ---- Flow 2 egress (mean 130.02 Mbit/s) ——
Flow 3 ingress (mean 106.54 Mbit/s) ---- Flow 3 egress (mean 106.30 Mbit/s) ——

• Flow 1 (95th percentile 173.24 ms)   • Flow 2 (95th percentile 178.29 ms)   • Flow 3 (95th percentile 187.00 ms)

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```
Run 5: Statistics of Indigo

Start at: 2018-10-02 18:59:04
End at: 2018-10-02 18:59:34
Local clock offset: -8.001 ms
Remote clock offset: -39.283 ms

# Below is generated by plot.py at 2018-10-02 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 246.04 Mbit/s
95th percentile per-packet one-way delay: 149.816 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 128.63 Mbit/s
95th percentile per-packet one-way delay: 145.726 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 139.10 Mbit/s
95th percentile per-packet one-way delay: 153.151 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 87.15 Mbit/s
95th percentile per-packet one-way delay: 154.315 ms
Loss rate: 3.09%
```

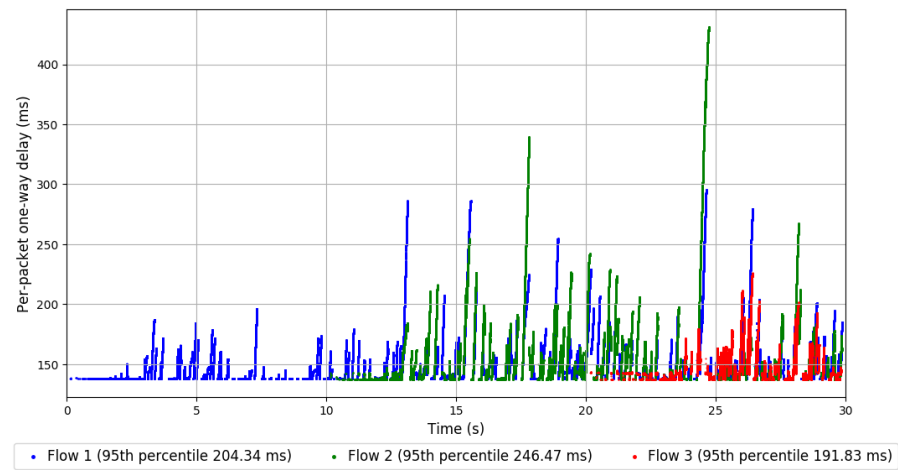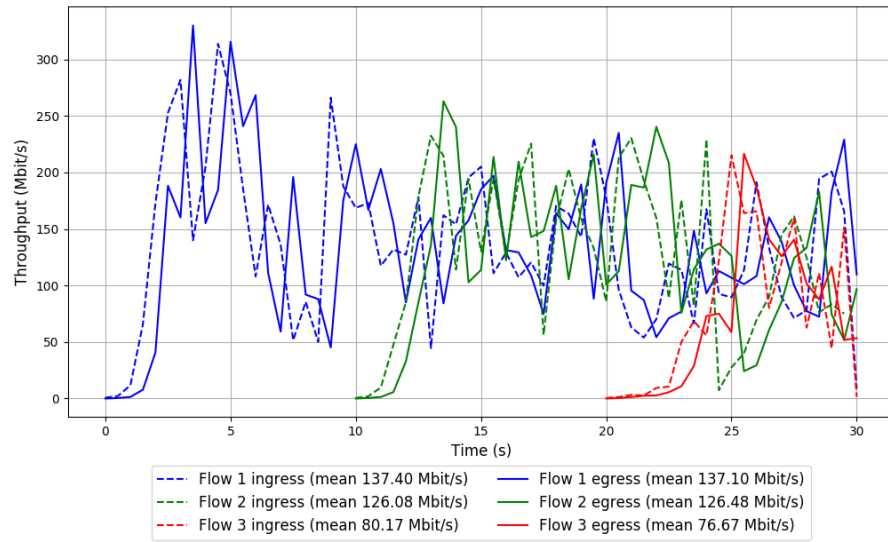Run 5: Report of Indigo — Data Link

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

Start at: 2018-10-02 17:06:22
End at: 2018-10-02 17:06:52
Local clock offset: 1.287 ms
Remote clock offset: -36.602 ms


# Below is generated by plot.py at 2018-10-02 19:24:03
# Datalink statistics
-- Total of 3 flows:
Average throughput: 245.79 Mbit/s
95th percentile per-packet one-way delay: 218.285 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 137.10 Mbit/s
95th percentile per-packet one-way delay: 204.345 ms
Loss rate: 1.18%
-- Flow 2:
Average throughput: 126.48 Mbit/s
95th percentile per-packet one-way delay: 246.469 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 76.67 Mbit/s
95th percentile per-packet one-way delay: 191.831 ms
Loss rate: 7.45%
```
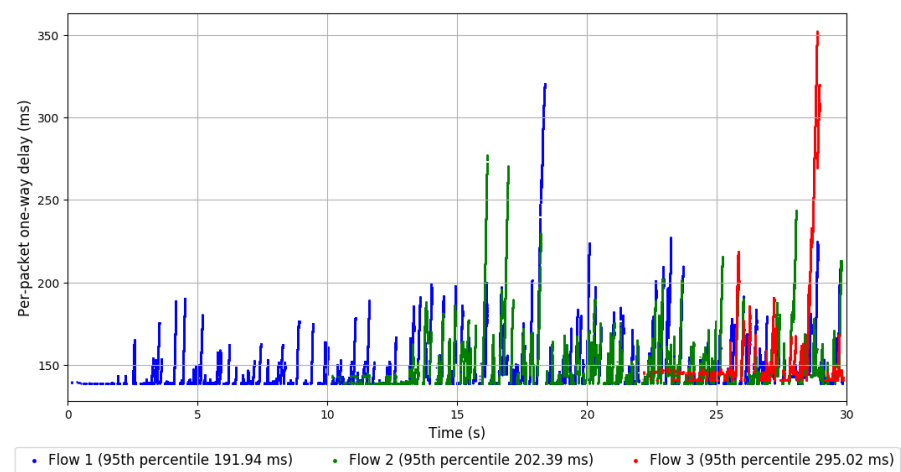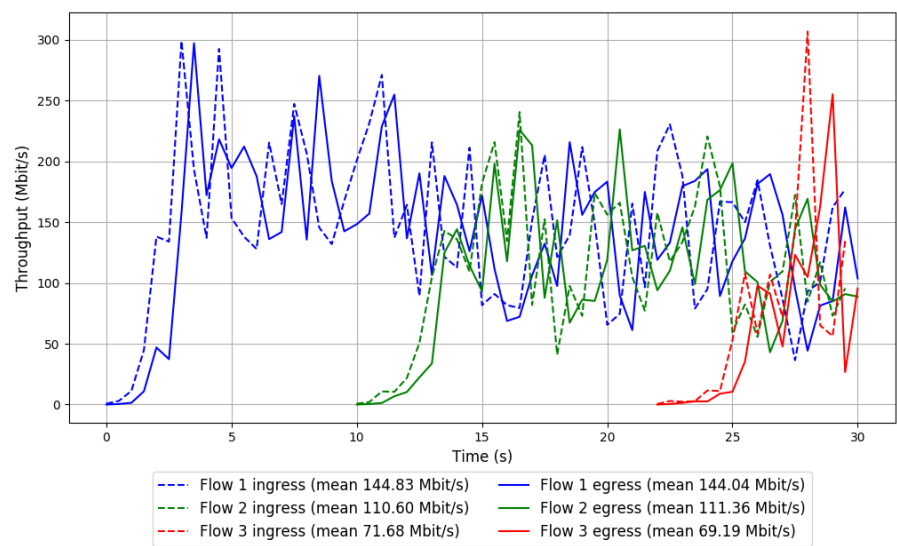
Run 1: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-10-02 17:33:27
End at: 2018-10-02 17:33:57
Local clock offset: -0.259 ms
Remote clock offset: -40.404 ms


# Below is generated by plot.py at 2018-10-02 19:24:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 235.34 Mbit/s
95th percentile per-packet one-way delay: 203.230 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 144.04 Mbit/s
95th percentile per-packet one-way delay: 191.936 ms
Loss rate: 1.41%
-- Flow 2:
Average throughput: 111.36 Mbit/s
95th percentile per-packet one-way delay: 202.389 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 69.19 Mbit/s
95th percentile per-packet one-way delay: 295.023 ms
Loss rate: 6.06%
```
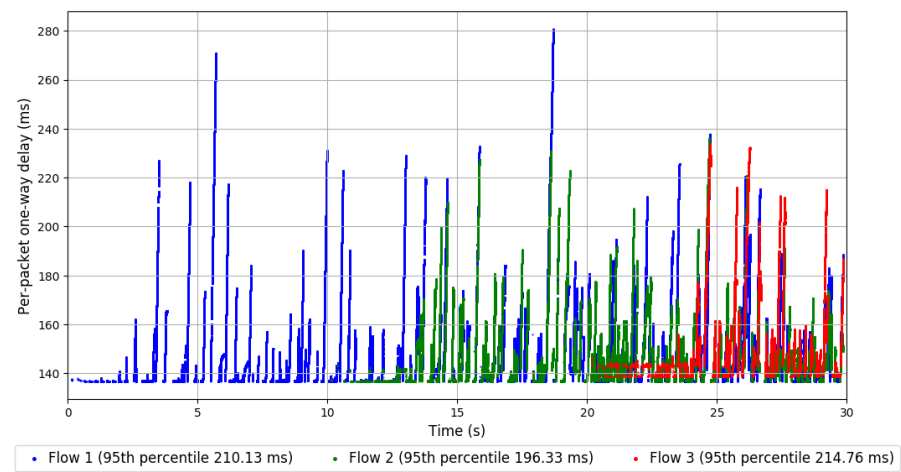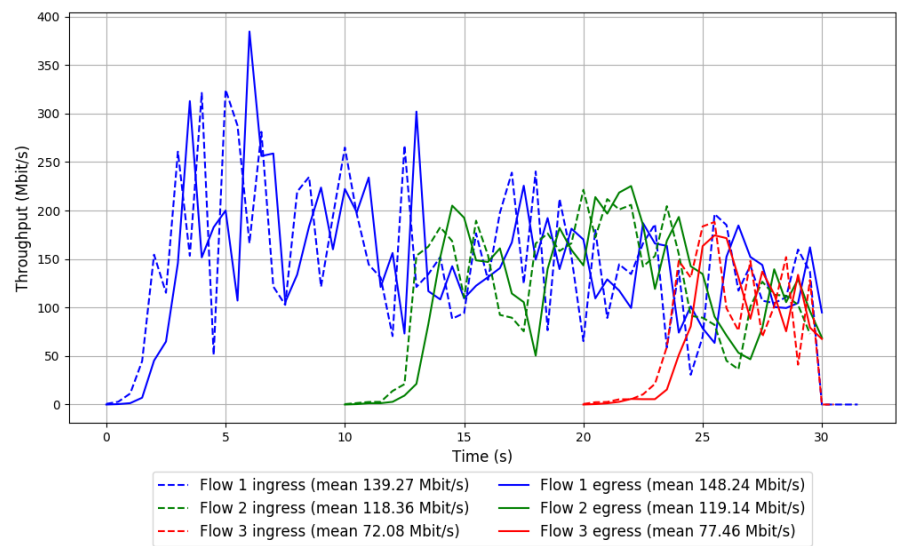
Run 2: Report of Indigo-96d2da3 — Data Link

Flow 1 ingress (mean 144.83 Mbit/s)   Flow 1 egress (mean 144.04 Mbit/s)
Flow 2 ingress (mean 110.60 Mbit/s)   Flow 2 egress (mean 111.36 Mbit/s)
Flow 3 ingress (mean 71.68 Mbit/s)   Flow 3 egress (mean 69.19 Mbit/s)

Flow 1 (95th percentile 191.94 ms)   Flow 2 (95th percentile 202.39 ms)   Flow 3 (95th percentile 295.02 ms)

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

Start at: 2018-10-02 18:06:07
End at: 2018-10-02 18:06:37
Local clock offset: 2.675 ms
Remote clock offset: -35.464 ms


# Below is generated by plot.py at 2018-10-02 19:25:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 252.56 Mbit/s
95th percentile per-packet one-way delay: 206.754 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 148.24 Mbit/s
95th percentile per-packet one-way delay: 210.129 ms
Loss rate: 1.02%
-- Flow 2:
Average throughput: 119.14 Mbit/s
95th percentile per-packet one-way delay: 196.330 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 77.46 Mbit/s
95th percentile per-packet one-way delay: 214.761 ms
Loss rate: 4.47%
```
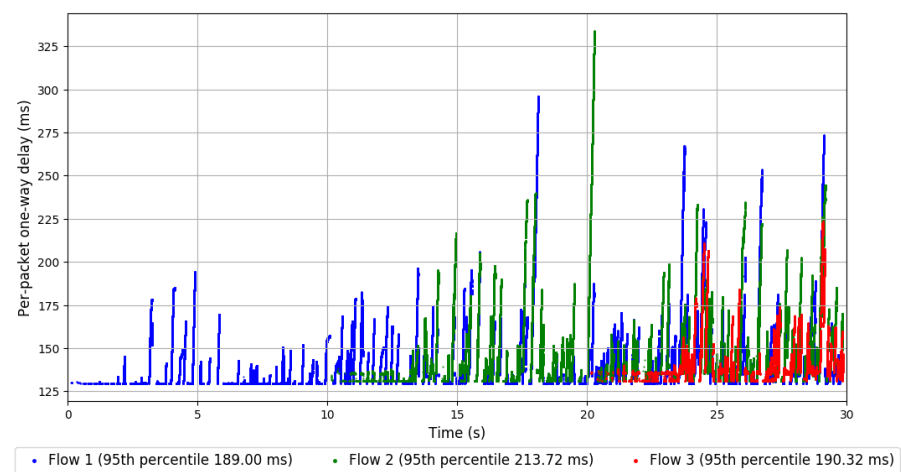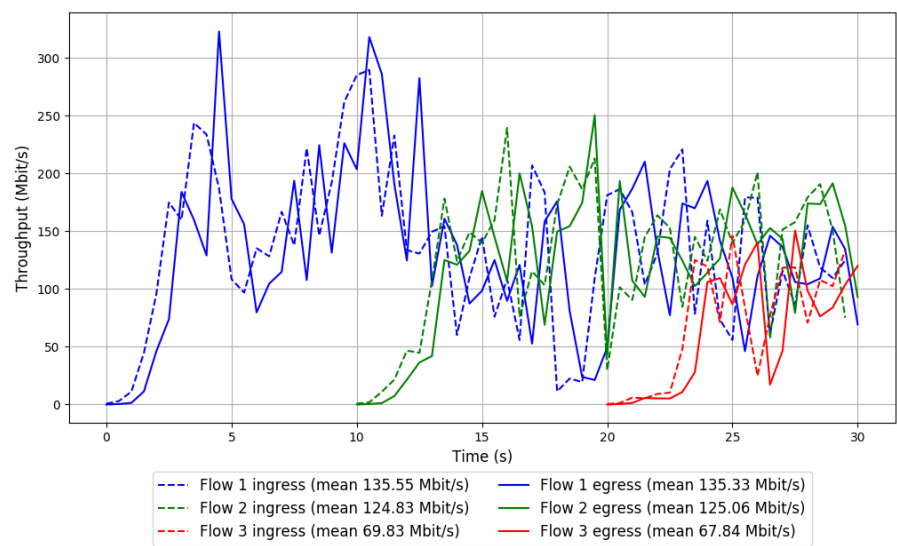
Run 3: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-10-02 18:33:18
End at: 2018-10-02 18:33:48
Local clock offset: -2.253 ms
Remote clock offset: -32.477 ms


# Below is generated by plot.py at 2018-10-02 19:25:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 239.91 Mbit/s
95th percentile per-packet one-way delay: 200.508 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 135.33 Mbit/s
95th percentile per-packet one-way delay: 189.001 ms
Loss rate: 0.86%
-- Flow 2:
Average throughput: 125.06 Mbit/s
95th percentile per-packet one-way delay: 213.723 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 67.84 Mbit/s
95th percentile per-packet one-way delay: 190.317 ms
Loss rate: 4.57%
```
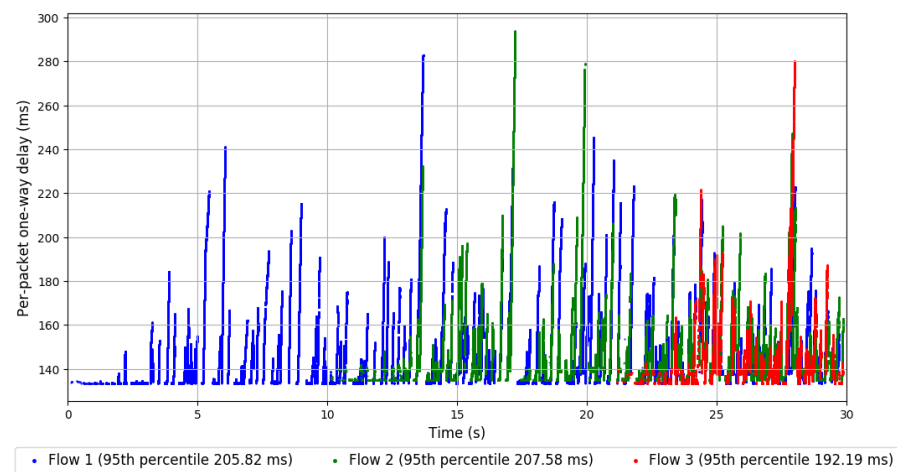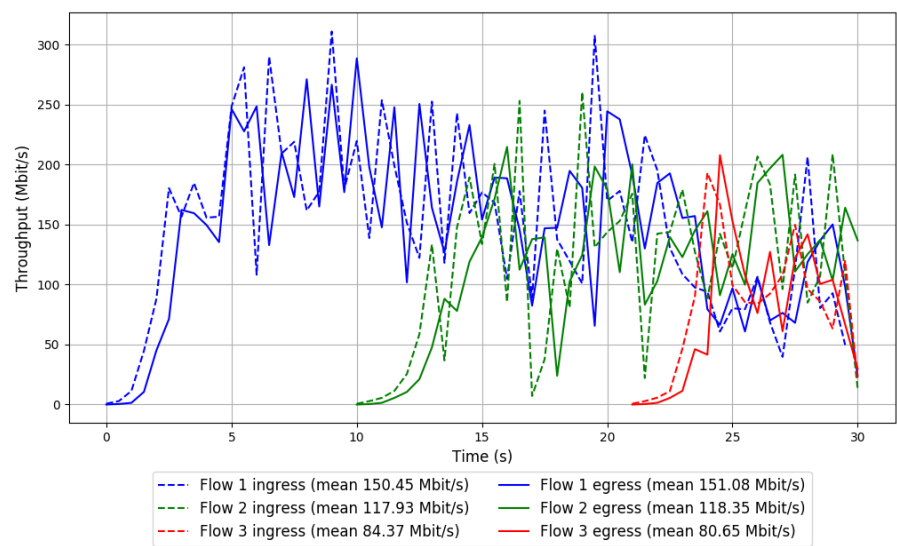
Run 4: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-10-02 19:00:39
End at: 2018-10-02 19:01:09
Local clock offset: -1.749 ms
Remote clock offset: -34.394 ms


# Below is generated by plot.py at 2018-10-02 19:25:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 252.34 Mbit/s
95th percentile per-packet one-way delay: 205.257 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 151.08 Mbit/s
95th percentile per-packet one-way delay: 205.818 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 118.35 Mbit/s
95th percentile per-packet one-way delay: 207.582 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 80.65 Mbit/s
95th percentile per-packet one-way delay: 192.193 ms
Loss rate: 7.70%
```
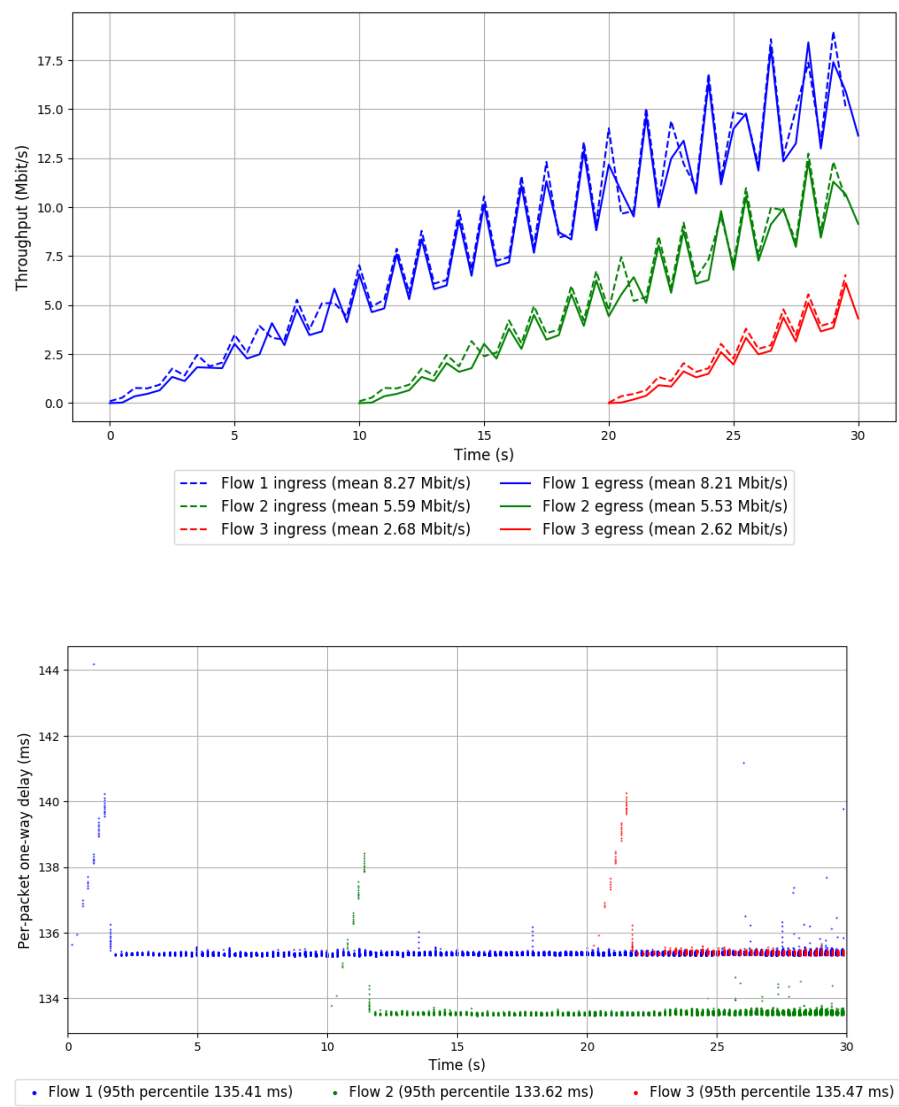
Run 5: Report of Indigo-96d2da3 — Data Link

- - - Flow 1 ingress (mean 150.45 Mbit/s) —— Flow 1 egress (mean 151.08 Mbit/s)
- - - Flow 2 ingress (mean 117.93 Mbit/s) —— Flow 2 egress (mean 118.35 Mbit/s)
- - - Flow 3 ingress (mean 84.37 Mbit/s) —— Flow 3 egress (mean 80.65 Mbit/s)

• Flow 1 (95th percentile 205.82 ms)   • Flow 2 (95th percentile 207.58 ms)   • Flow 3 (95th percentile 192.19 ms)

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```
Run 1: Statistics of LEDBAT

Start at: 2018-10-02 16:47:28
End at: 2018-10-02 16:47:58
Local clock offset: -0.195 ms
Remote clock offset: -35.994 ms

# Below is generated by plot.py at 2018-10-02 19:25:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.72 Mbit/s
95th percentile per-packet one-way delay: 135.414 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 8.21 Mbit/s
95th percentile per-packet one-way delay: 135.414 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 5.53 Mbit/s
95th percentile per-packet one-way delay: 133.620 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 2.62 Mbit/s
95th percentile per-packet one-way delay: 135.474 ms
Loss rate: 4.28%
```
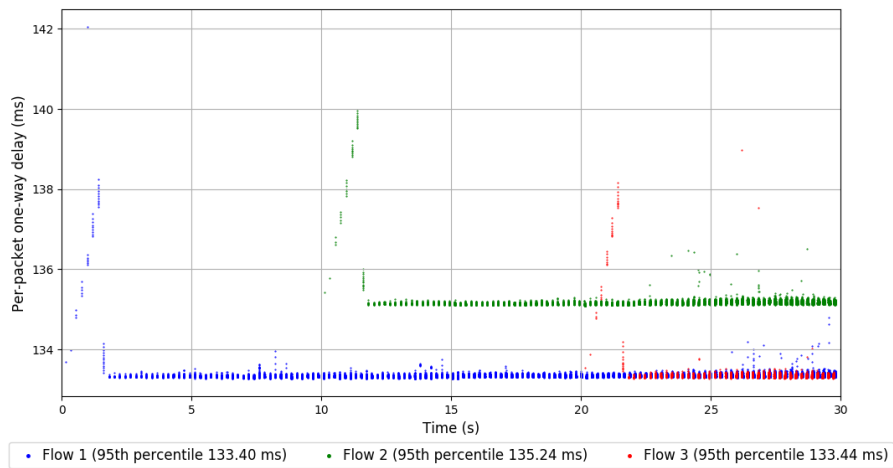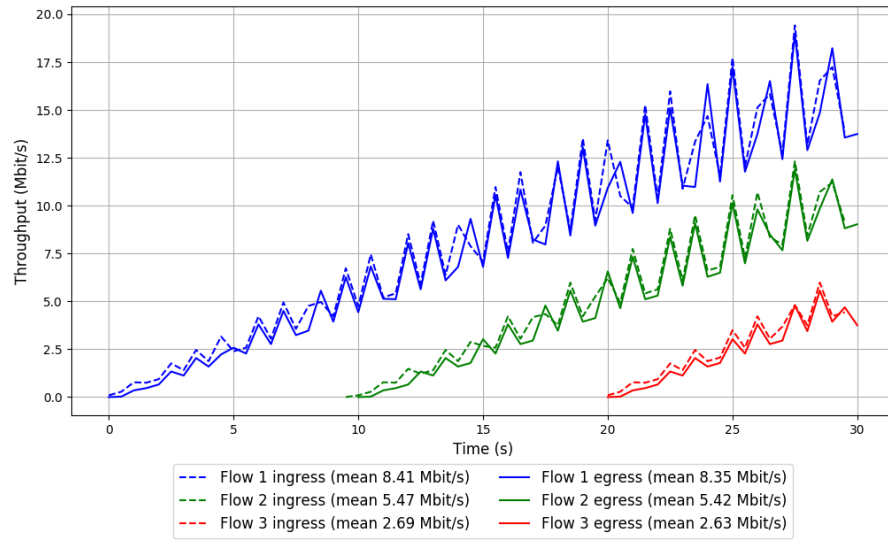
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-10-02 17:20:13
End at: 2018-10-02 17:20:43
Local clock offset: -1.032 ms
Remote clock offset: -35.842 ms

# Below is generated by plot.py at 2018-10-02 19:25:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.79 Mbit/s
95th percentile per-packet one-way delay: 135.198 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 8.35 Mbit/s
95th percentile per-packet one-way delay: 133.404 ms
Loss rate: 1.39%
-- Flow 2:
Average throughput: 5.42 Mbit/s
95th percentile per-packet one-way delay: 135.239 ms
Loss rate: 2.11%
-- Flow 3:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 133.437 ms
Loss rate: 4.28%
```

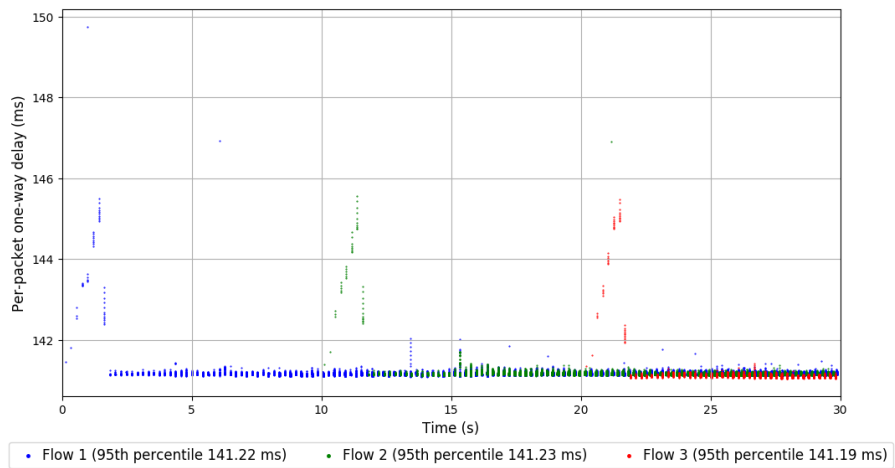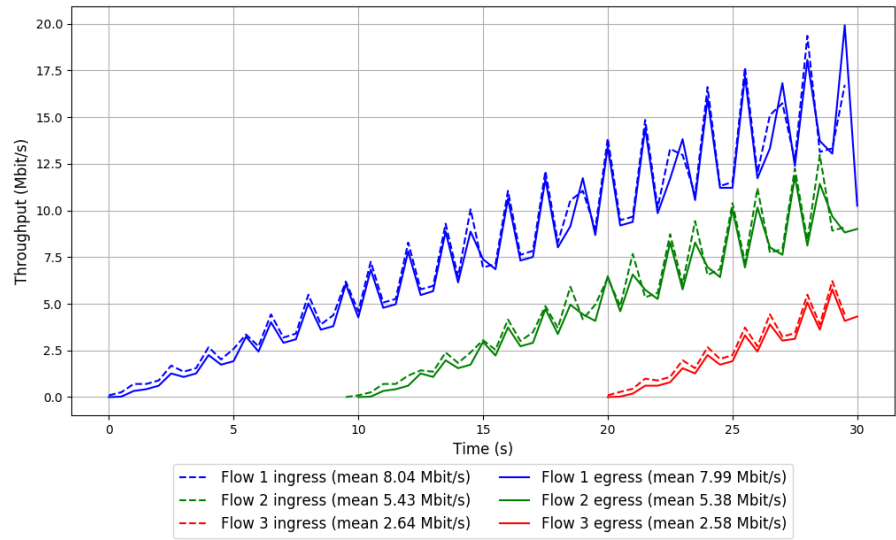# Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-10-02 17:47:21
End at: 2018-10-02 17:47:51
Local clock offset: 0.473 ms
Remote clock offset: -40.37 ms


# Below is generated by plot.py at 2018-10-02 19:25:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 141.225 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 7.99 Mbit/s
95th percentile per-packet one-way delay: 141.224 ms
Loss rate: 1.34%
-- Flow 2:
Average throughput: 5.38 Mbit/s
95th percentile per-packet one-way delay: 141.230 ms
Loss rate: 2.12%
-- Flow 3:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 141.188 ms
Loss rate: 4.30%
```

Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-10-02 18:20:09
End at: 2018-10-02 18:20:39
Local clock offset: 1.368 ms
Remote clock offset: -39.521 ms


# Below is generated by plot.py at 2018-10-02 19:25:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.75 Mbit/s
95th percentile per-packet one-way delay: 140.067 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 8.30 Mbit/s
95th percentile per-packet one-way delay: 140.056 ms
Loss rate: 1.39%
-- Flow 2:
Average throughput: 5.49 Mbit/s
95th percentile per-packet one-way delay: 139.992 ms
Loss rate: 2.09%
-- Flow 3:
Average throughput: 2.59 Mbit/s
95th percentile per-packet one-way delay: 140.124 ms
Loss rate: 4.32%
```
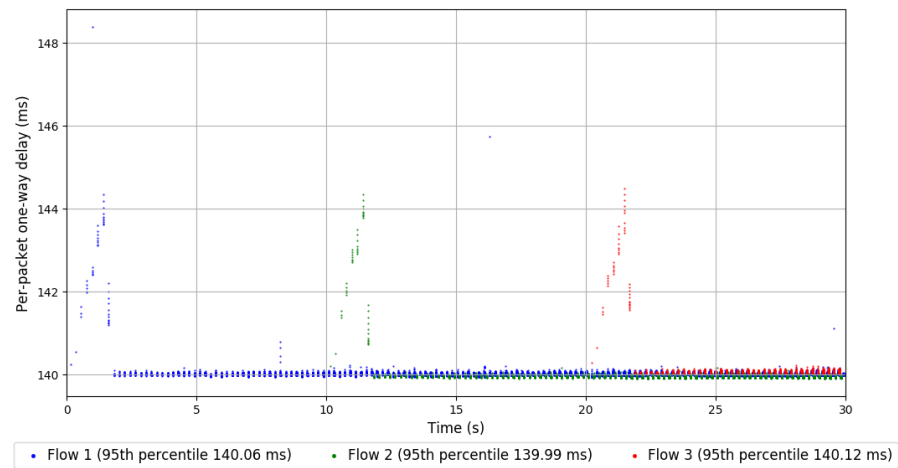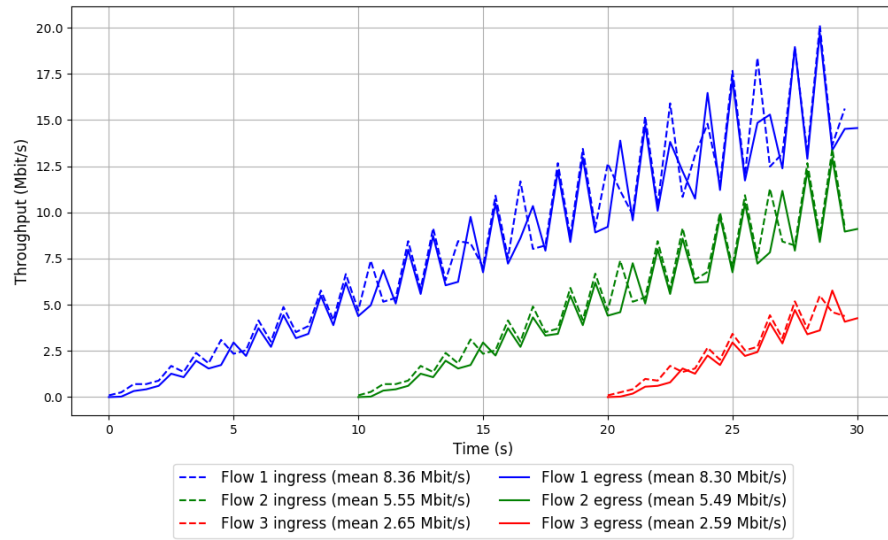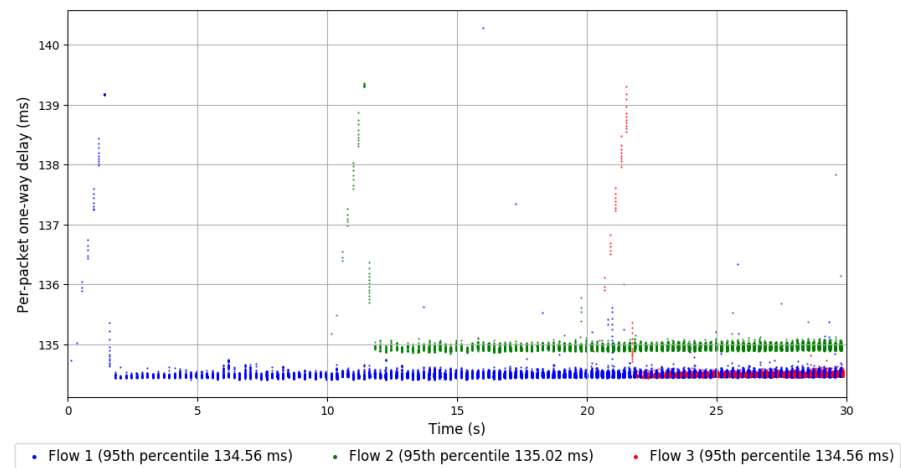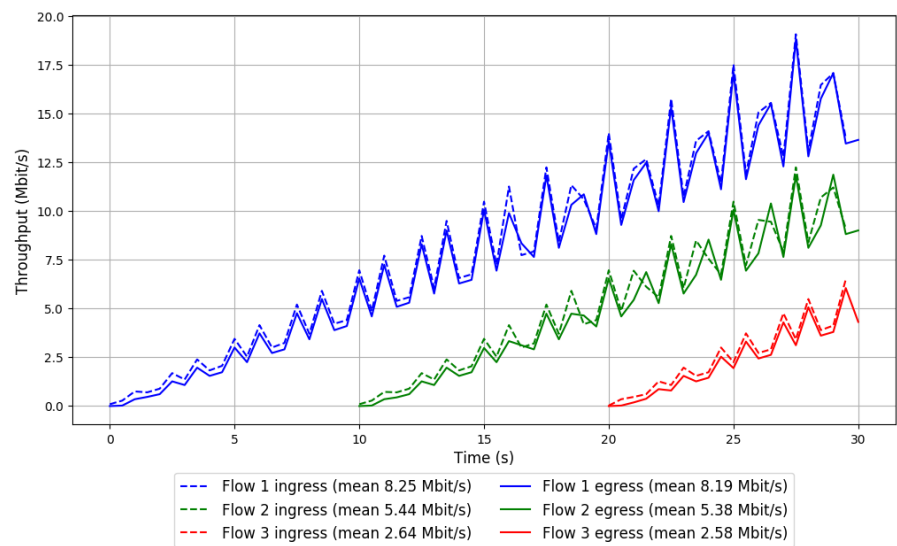
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-10-02 18:47:26
End at: 2018-10-02 18:47:56
Local clock offset: -1.293 ms
Remote clock offset: -34.041 ms


# Below is generated by plot.py at 2018-10-02 19:25:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 12.57 Mbit/s
95th percentile per-packet one-way delay: 134.984 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 8.19 Mbit/s
95th percentile per-packet one-way delay: 134.559 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 5.38 Mbit/s
95th percentile per-packet one-way delay: 135.020 ms
Loss rate: 2.12%
-- Flow 3:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 134.555 ms
Loss rate: 4.30%
```
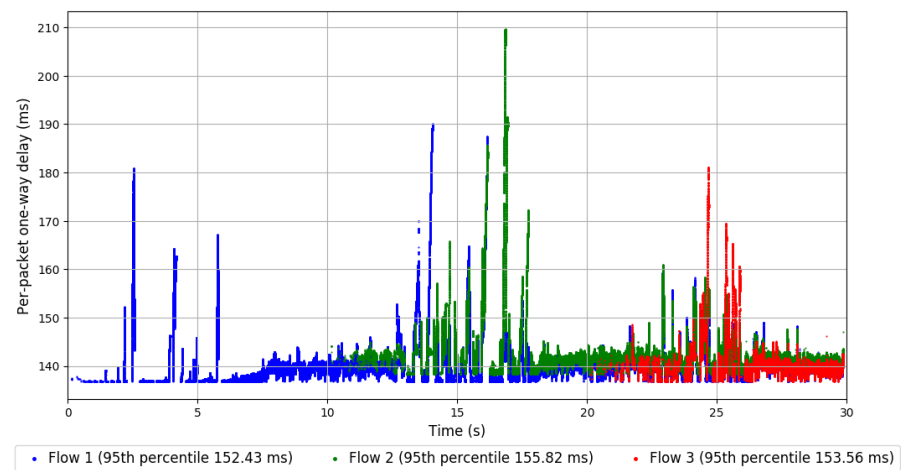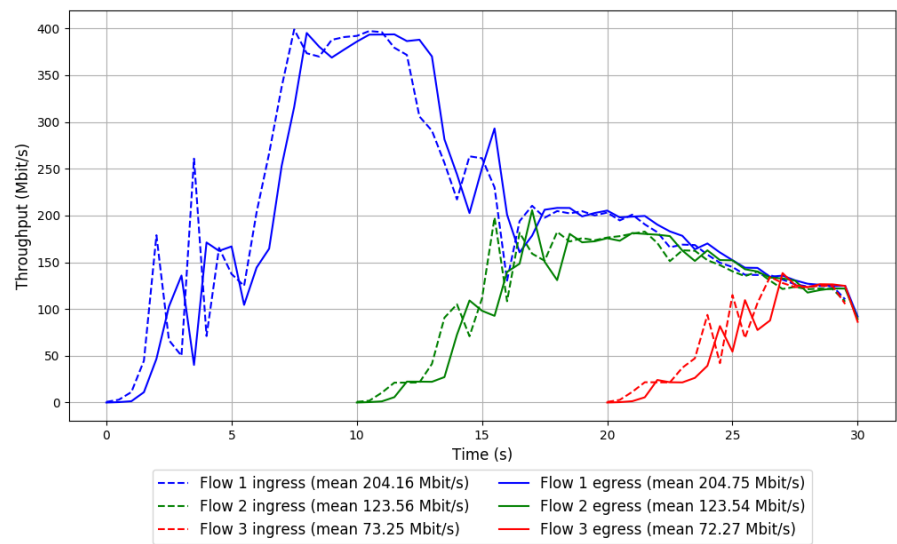
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-02 16:51:43
End at: 2018-10-02 16:52:13
Local clock offset: 2.707 ms
Remote clock offset: -36.291 ms

# Below is generated by plot.py at 2018-10-02 19:27:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 310.23 Mbit/s
95th percentile per-packet one-way delay: 153.551 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 204.75 Mbit/s
95th percentile per-packet one-way delay: 152.426 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 123.54 Mbit/s
95th percentile per-packet one-way delay: 155.824 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 72.27 Mbit/s
95th percentile per-packet one-way delay: 153.555 ms
Loss rate: 3.57%
```

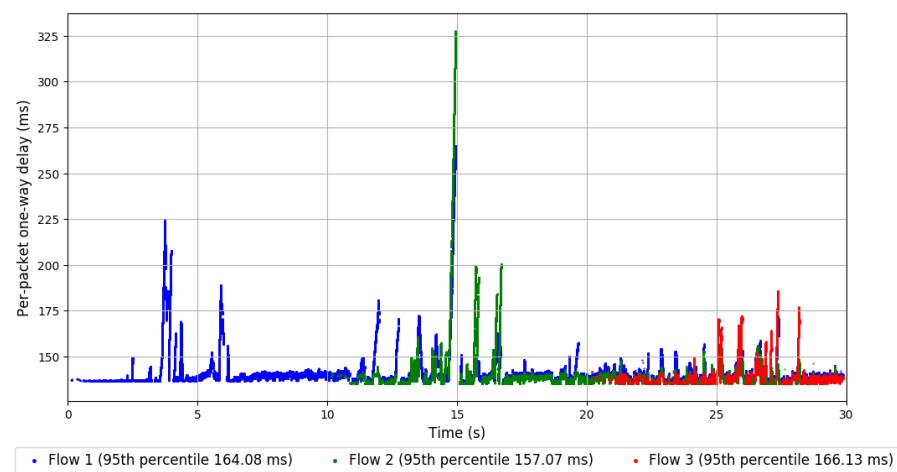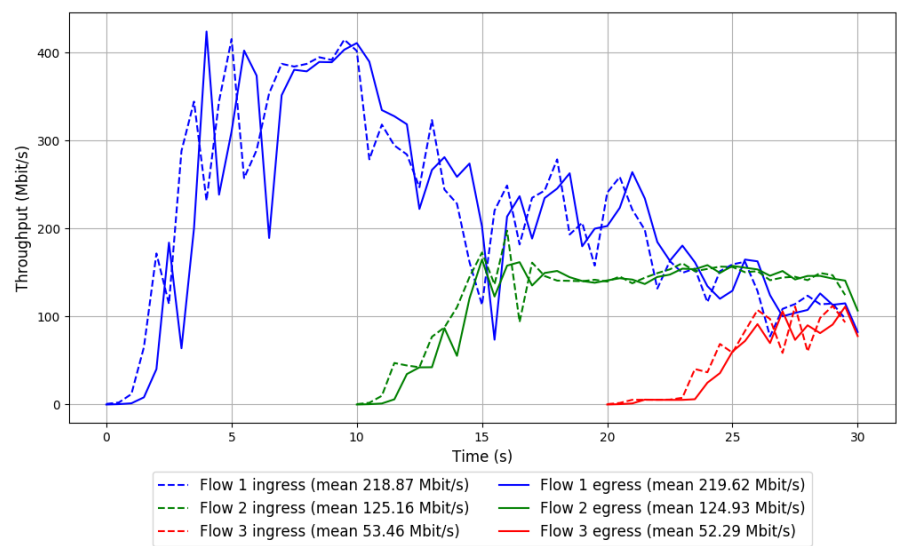Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-10-02 17:24:27
End at: 2018-10-02 17:24:57
Local clock offset: 1.567 ms
Remote clock offset: -35.355 ms

# Below is generated by plot.py at 2018-10-02 19:27:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 319.46 Mbit/s
95th percentile per-packet one-way delay: 163.469 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 219.62 Mbit/s
95th percentile per-packet one-way delay: 164.081 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 124.93 Mbit/s
95th percentile per-packet one-way delay: 157.072 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 52.29 Mbit/s
95th percentile per-packet one-way delay: 166.130 ms
Loss rate: 4.27%
```

Run 2: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 218.87 Mbit/s)   Flow 1 egress (mean 219.62 Mbit/s)
Flow 2 ingress (mean 125.16 Mbit/s)   Flow 2 egress (mean 124.93 Mbit/s)
Flow 3 ingress (mean 53.46 Mbit/s)   Flow 3 egress (mean 52.29 Mbit/s)

Flow 1 (95th percentile 164.08 ms)   Flow 2 (95th percentile 157.07 ms)   Flow 3 (95th percentile 166.13 ms)
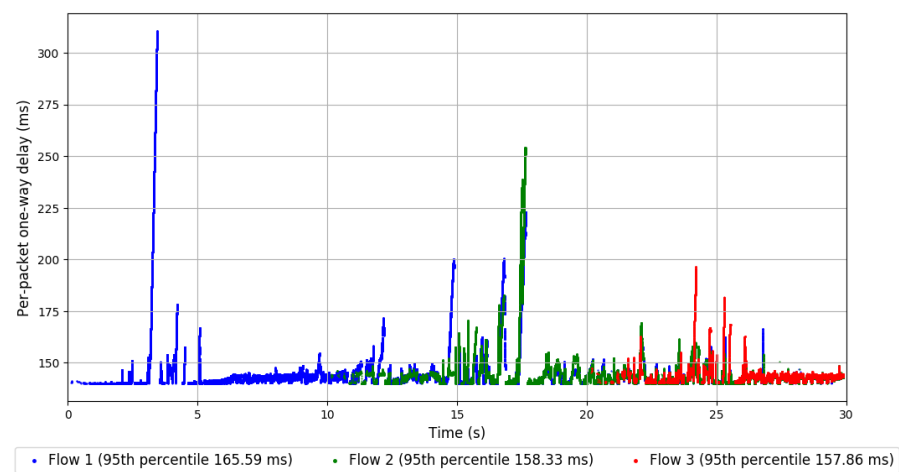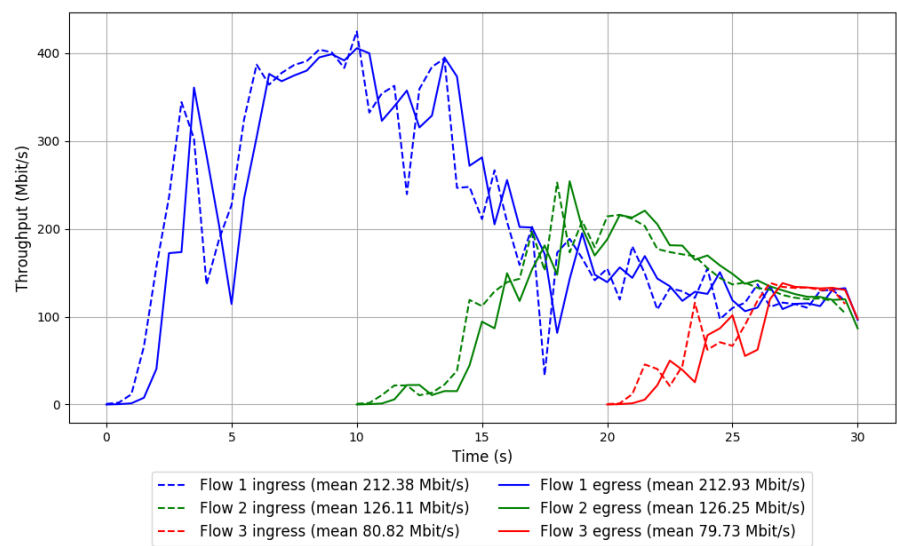
```
Run 3: Statistics of Indigo-Muses

Start at: 2018-10-02 17:51:32
End at: 2018-10-02 17:52:02
Local clock offset: 0.006 ms
Remote clock offset: -39.937 ms

# Below is generated by plot.py at 2018-10-02 19:27:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 322.65 Mbit/s
95th percentile per-packet one-way delay: 162.517 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 212.93 Mbit/s
95th percentile per-packet one-way delay: 165.585 ms
Loss rate: 0.45%
-- Flow 2:
Average throughput: 126.25 Mbit/s
95th percentile per-packet one-way delay: 158.327 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 79.73 Mbit/s
95th percentile per-packet one-way delay: 157.859 ms
Loss rate: 3.47%
```

Run 3: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 212.38 Mbit/s) --- Flow 1 egress (mean 212.93 Mbit/s)
Flow 2 ingress (mean 126.11 Mbit/s) --- Flow 2 egress (mean 126.25 Mbit/s)
Flow 3 ingress (mean 80.82 Mbit/s) --- Flow 3 egress (mean 79.73 Mbit/s)

Flow 1 (95th percentile 165.59 ms)   Flow 2 (95th percentile 158.33 ms)   Flow 3 (95th percentile 157.86 ms)
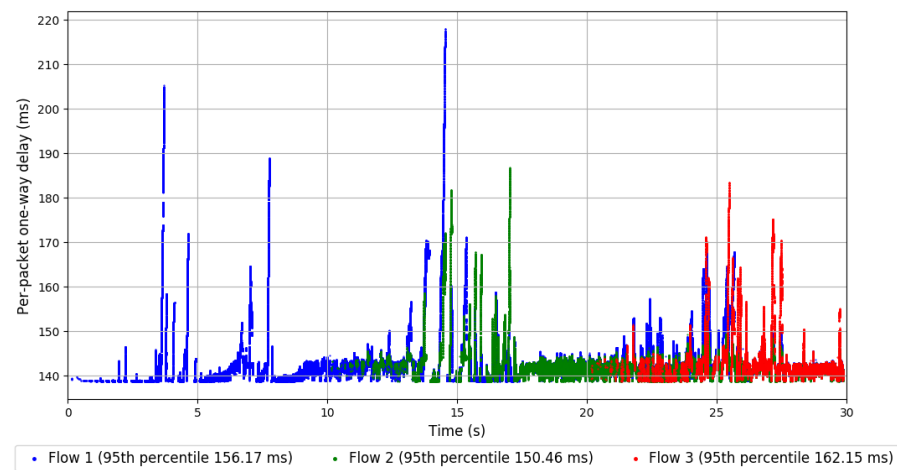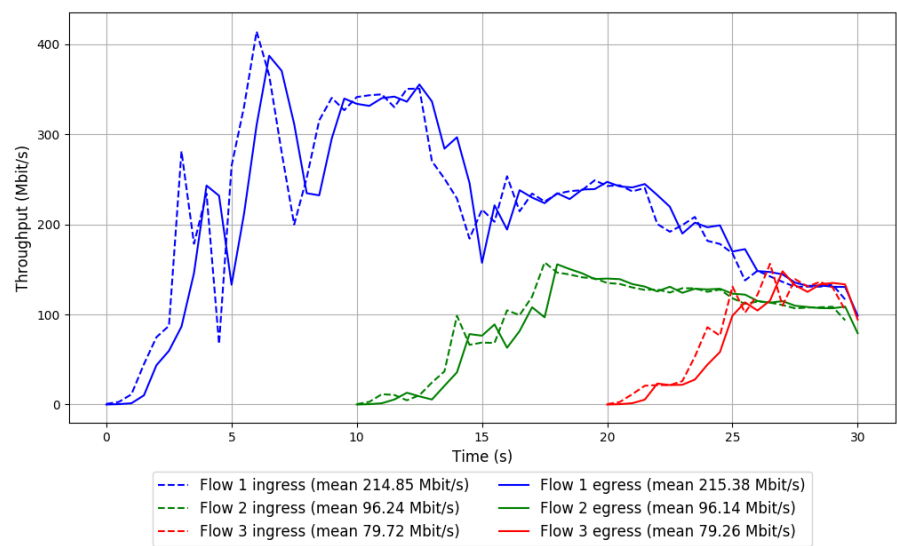
```
Run 4: Statistics of Indigo-Muses

Start at: 2018-10-02 18:24:20
End at: 2018-10-02 18:24:50
Local clock offset: -2.207 ms
Remote clock offset: -41.865 ms


# Below is generated by plot.py at 2018-10-02 19:27:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 304.99 Mbit/s
95th percentile per-packet one-way delay: 156.166 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 215.38 Mbit/s
95th percentile per-packet one-way delay: 156.167 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 96.14 Mbit/s
95th percentile per-packet one-way delay: 150.464 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 79.26 Mbit/s
95th percentile per-packet one-way delay: 162.149 ms
Loss rate: 2.85%
```

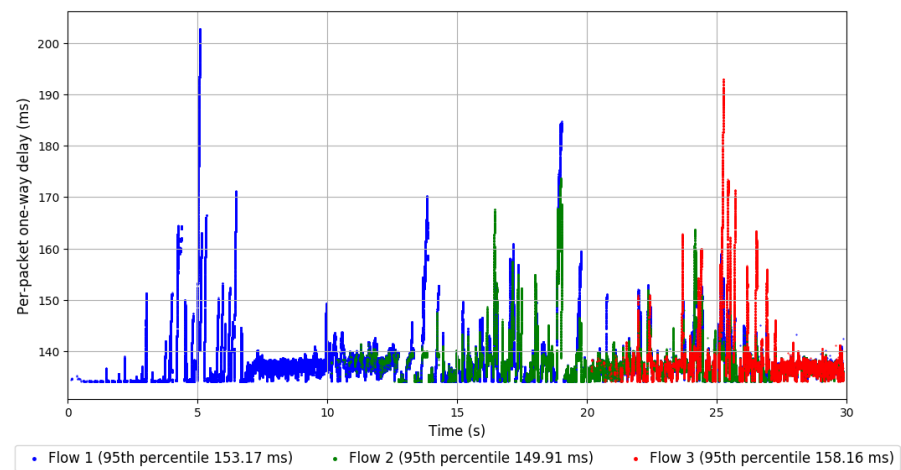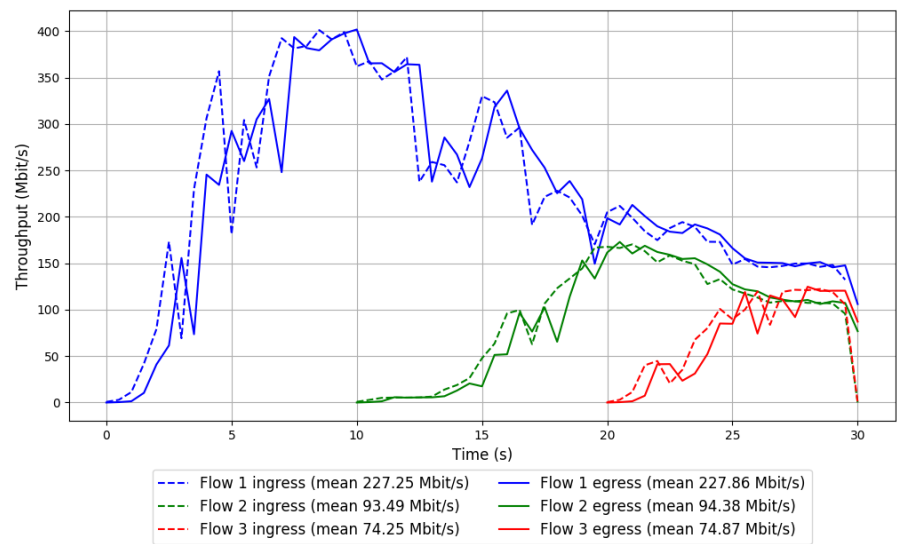Run 4: Report of Indigo-Muses — Data Link

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-10-02 18:51:40
End at: 2018-10-02 18:52:10
Local clock offset: -0.484 ms
Remote clock offset: -34.186 ms

# Below is generated by plot.py at 2018-10-02 19:27:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 314.91 Mbit/s
95th percentile per-packet one-way delay: 153.234 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 227.86 Mbit/s
95th percentile per-packet one-way delay: 153.169 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 94.38 Mbit/s
95th percentile per-packet one-way delay: 149.913 ms
Loss rate: 1.24%
-- Flow 3:
Average throughput: 74.87 Mbit/s
95th percentile per-packet one-way delay: 158.160 ms
Loss rate: 3.50%
```

Run 5: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 227.25 Mbit/s) --- Flow 1 egress (mean 227.86 Mbit/s)
Flow 2 ingress (mean 93.49 Mbit/s) --- Flow 2 egress (mean 94.38 Mbit/s)
Flow 3 ingress (mean 74.25 Mbit/s) --- Flow 3 egress (mean 74.87 Mbit/s)

Flow 1 (95th percentile 153.17 ms) • Flow 2 (95th percentile 149.91 ms) • Flow 3 (95th percentile 158.16 ms)
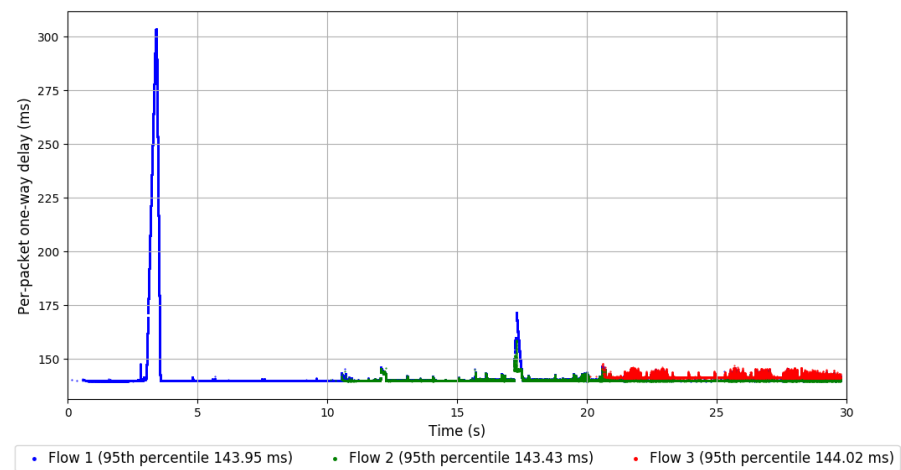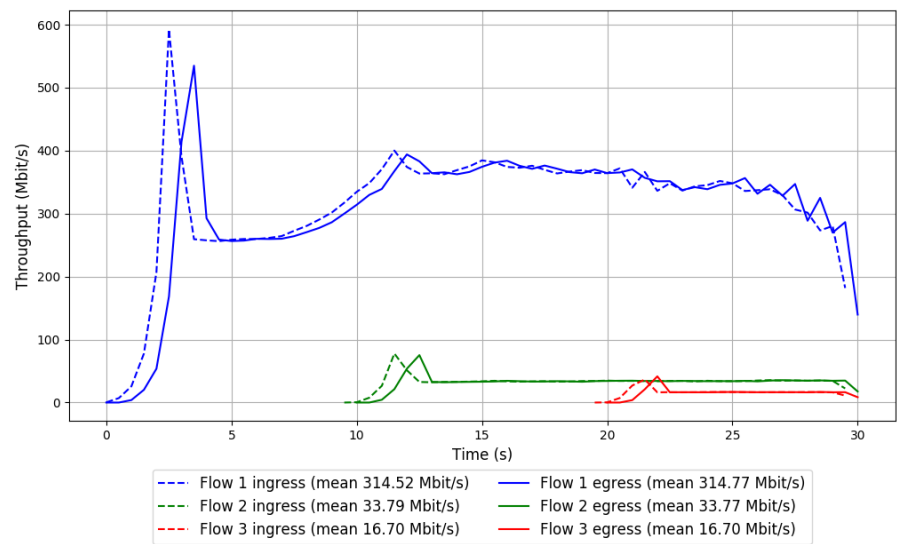
```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-02 16:54:52
End at: 2018-10-02 16:55:22
Local clock offset: 1.231 ms
Remote clock offset: -40.595 ms


# Below is generated by plot.py at 2018-10-02 19:29:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 342.61 Mbit/s
95th percentile per-packet one-way delay: 143.877 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 314.77 Mbit/s
95th percentile per-packet one-way delay: 143.953 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 33.77 Mbit/s
95th percentile per-packet one-way delay: 143.429 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 16.70 Mbit/s
95th percentile per-packet one-way delay: 144.024 ms
Loss rate: 2.16%
```

Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-10-02 17:27:44
End at: 2018-10-02 17:28:14
Local clock offset: -0.361 ms
Remote clock offset: -35.741 ms


# Below is generated by plot.py at 2018-10-02 19:29:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 275.57 Mbit/s
95th percentile per-packet one-way delay: 138.767 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 213.04 Mbit/s
95th percentile per-packet one-way delay: 137.976 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 86.03 Mbit/s
95th percentile per-packet one-way delay: 139.670 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 17.06 Mbit/s
95th percentile per-packet one-way delay: 140.325 ms
Loss rate: 2.16%
```
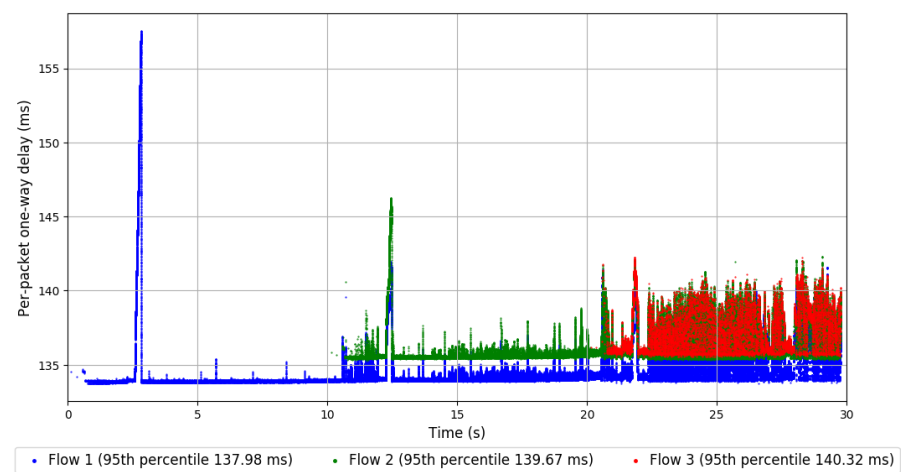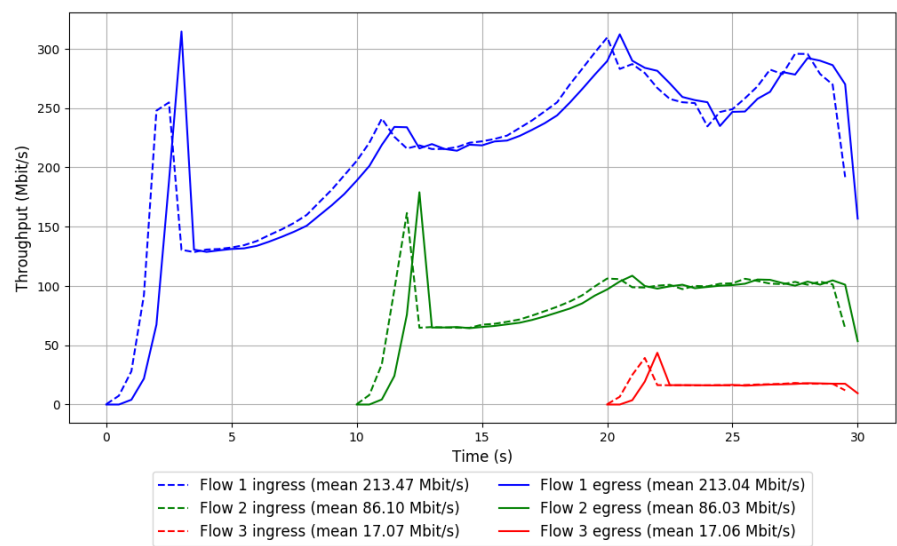
Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-10-02 17:54:41
End at: 2018-10-02 17:55:11
Local clock offset: 0.21 ms
Remote clock offset: -35.234 ms


# Below is generated by plot.py at 2018-10-02 19:30:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 360.51 Mbit/s
95th percentile per-packet one-way delay: 139.824 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 330.23 Mbit/s
95th percentile per-packet one-way delay: 140.037 ms
Loss rate: 0.78%
-- Flow 2:
Average throughput: 43.64 Mbit/s
95th percentile per-packet one-way delay: 138.856 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 4.20 Mbit/s
95th percentile per-packet one-way delay: 139.749 ms
Loss rate: 2.13%
```
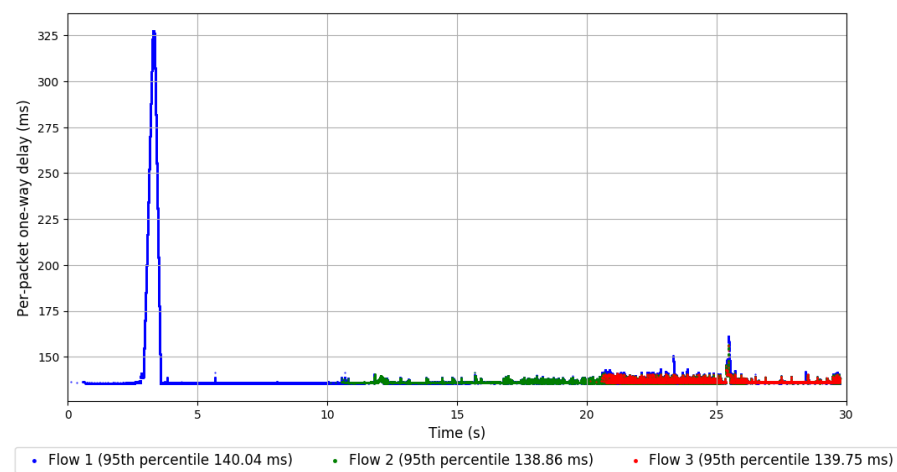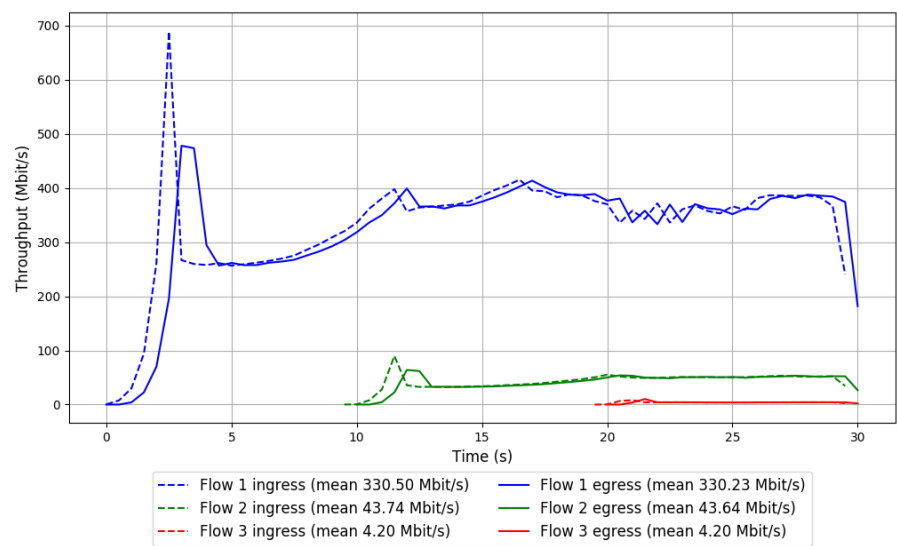
Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-10-02 18:27:29
End at: 2018-10-02 18:27:59
Local clock offset: -0.714 ms
Remote clock offset: -39.599 ms


# Below is generated by plot.py at 2018-10-02 19:31:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 343.87 Mbit/s
95th percentile per-packet one-way delay: 145.543 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 297.63 Mbit/s
95th percentile per-packet one-way delay: 146.252 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 67.80 Mbit/s
95th percentile per-packet one-way delay: 144.074 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 4.28 Mbit/s
95th percentile per-packet one-way delay: 143.035 ms
Loss rate: 1.99%
```
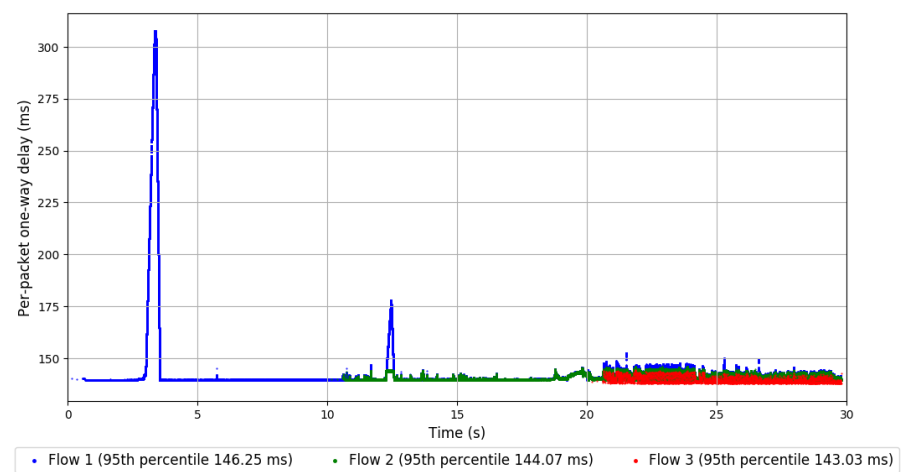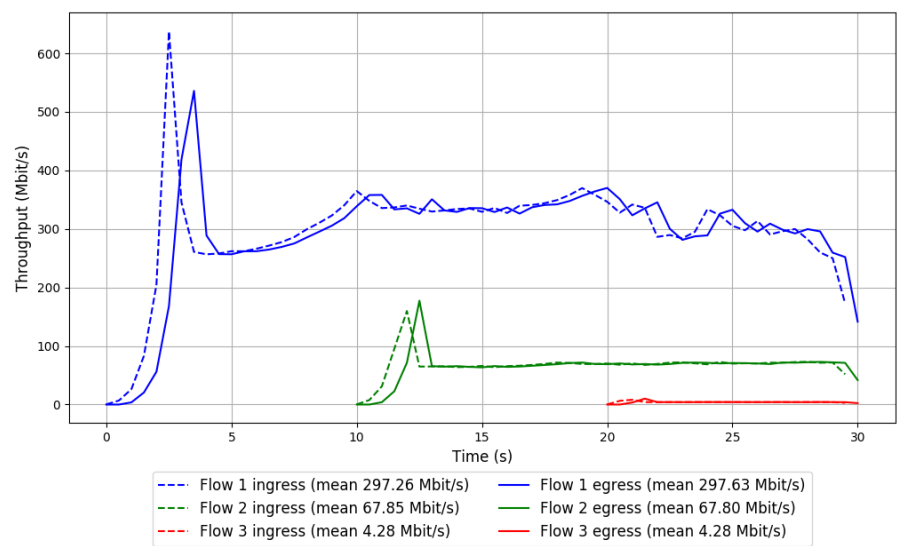
Run 4: Report of PCC-Allegro — Data Link

- - - - Flow 1 ingress (mean 297.26 Mbit/s) ⸻ Flow 1 egress (mean 297.63 Mbit/s)
- - - - Flow 2 ingress (mean 67.85 Mbit/s) ⸻ Flow 2 egress (mean 67.80 Mbit/s)
- - - - Flow 3 ingress (mean 4.28 Mbit/s) ⸻ Flow 3 egress (mean 4.28 Mbit/s)

• Flow 1 (95th percentile 146.25 ms)   • Flow 2 (95th percentile 144.07 ms)   • Flow 3 (95th percentile 143.03 ms)
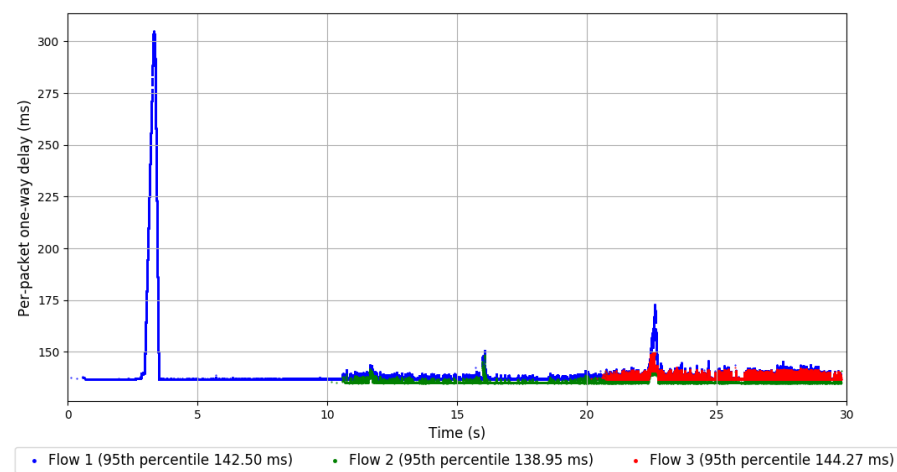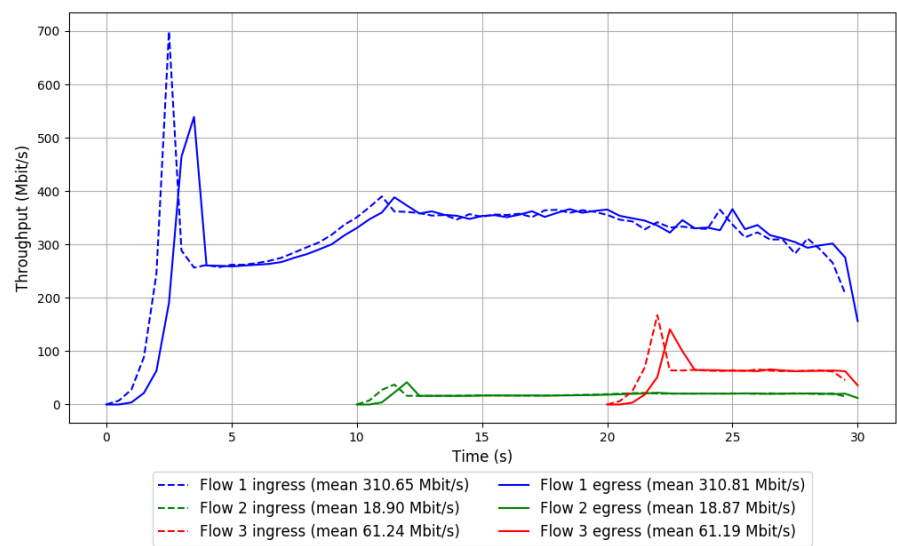
```
Run 5: Statistics of PCC-Allegro

Start at: 2018-10-02 18:54:48
End at: 2018-10-02 18:55:18
Local clock offset: 0.066 ms
Remote clock offset: -34.151 ms


# Below is generated by plot.py at 2018-10-02 19:31:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 343.10 Mbit/s
95th percentile per-packet one-way delay: 142.391 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 310.81 Mbit/s
95th percentile per-packet one-way delay: 142.501 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 18.87 Mbit/s
95th percentile per-packet one-way delay: 138.952 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 61.19 Mbit/s
95th percentile per-packet one-way delay: 144.267 ms
Loss rate: 2.25%
```

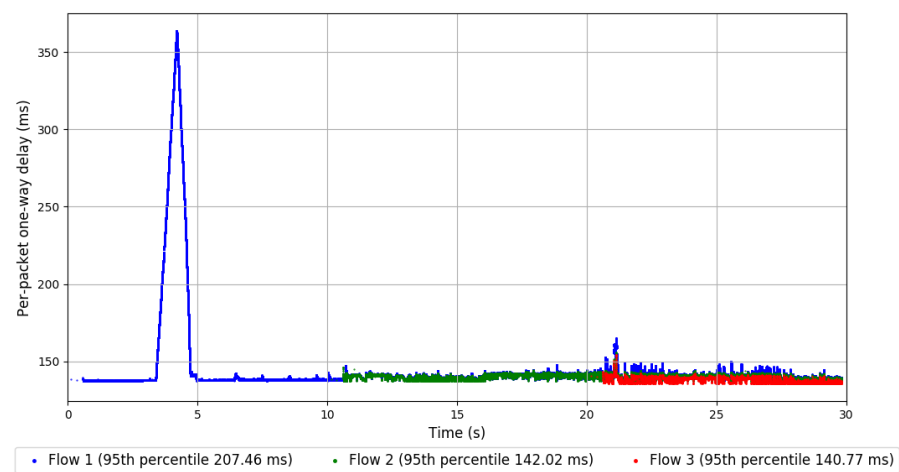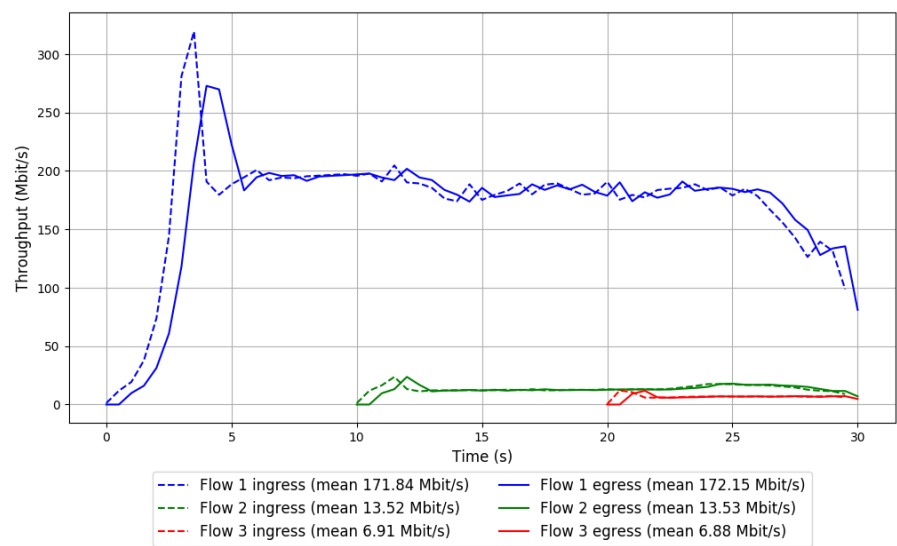# Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-02 16:48:48
End at: 2018-10-02 16:49:18
Local clock offset: 2.414 ms
Remote clock offset: -35.669 ms

# Below is generated by plot.py at 2018-10-02 19:31:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 183.35 Mbit/s
95th percentile per-packet one-way delay: 197.269 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 172.15 Mbit/s
95th percentile per-packet one-way delay: 207.462 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 13.53 Mbit/s
95th percentile per-packet one-way delay: 142.019 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 6.88 Mbit/s
95th percentile per-packet one-way delay: 140.769 ms
Loss rate: 2.49%
```

Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 171.84 Mbit/s) --- Flow 1 egress (mean 172.15 Mbit/s)
Flow 2 ingress (mean 13.52 Mbit/s) --- Flow 2 egress (mean 13.53 Mbit/s)
Flow 3 ingress (mean 6.91 Mbit/s) --- Flow 3 egress (mean 6.88 Mbit/s)

Flow 1 (95th percentile 207.46 ms)   Flow 2 (95th percentile 142.02 ms)   Flow 3 (95th percentile 140.77 ms)
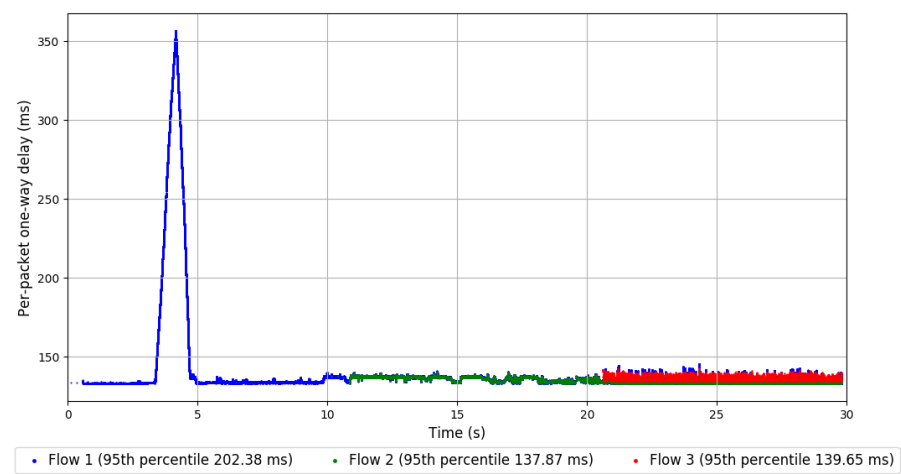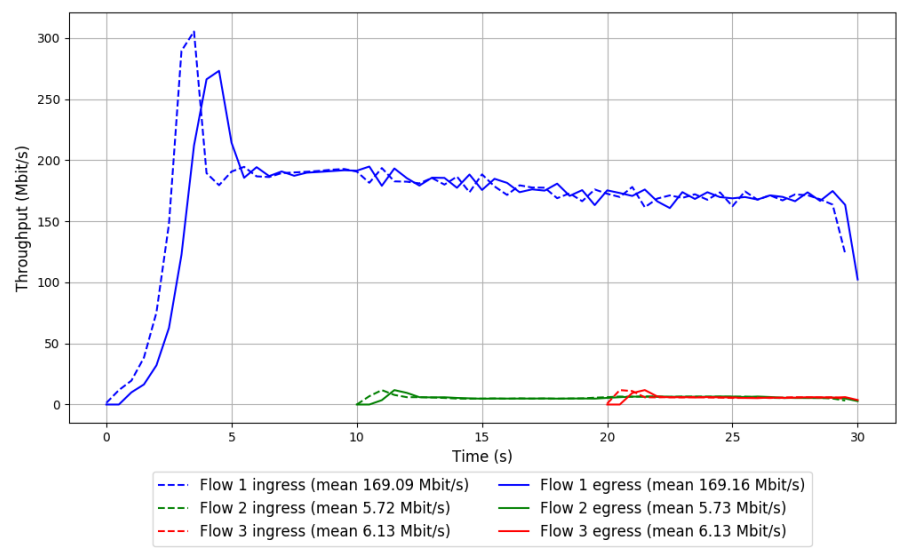
```
Run 2: Statistics of PCC-Expr

Start at: 2018-10-02 17:21:33
End at: 2018-10-02 17:22:03
Local clock offset: -0.432 ms
Remote clock offset: -35.384 ms

# Below is generated by plot.py at 2018-10-02 19:31:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 174.96 Mbit/s
95th percentile per-packet one-way delay: 196.622 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 169.16 Mbit/s
95th percentile per-packet one-way delay: 202.380 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 5.73 Mbit/s
95th percentile per-packet one-way delay: 137.872 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 6.13 Mbit/s
95th percentile per-packet one-way delay: 139.652 ms
Loss rate: 2.22%
```
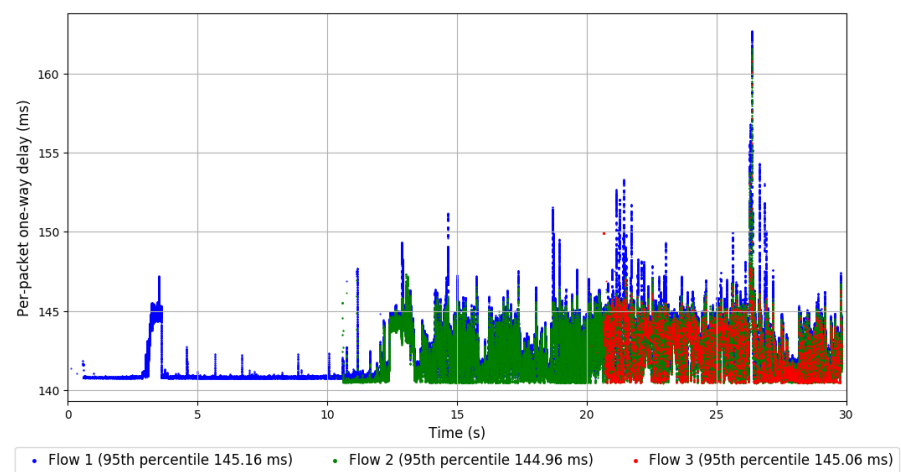
Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 169.09 Mbit/s) --- Flow 1 egress (mean 169.16 Mbit/s)
Flow 2 ingress (mean 5.72 Mbit/s) --- Flow 2 egress (mean 5.73 Mbit/s)
Flow 3 ingress (mean 6.13 Mbit/s) --- Flow 3 egress (mean 6.13 Mbit/s)

Flow 1 (95th percentile 202.38 ms)   Flow 2 (95th percentile 137.87 ms)   Flow 3 (95th percentile 139.65 ms)
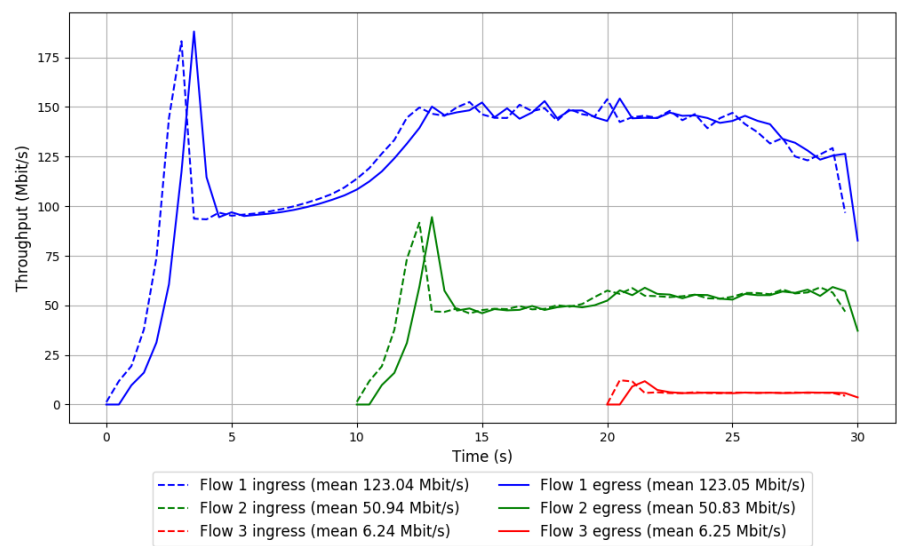
98

```
Run 3: Statistics of PCC-Expr

Start at: 2018-10-02 17:48:41
End at: 2018-10-02 17:49:11
Local clock offset: -0.4 ms
Remote clock offset: -40.672 ms


# Below is generated by plot.py at 2018-10-02 19:31:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 158.78 Mbit/s
95th percentile per-packet one-way delay: 145.116 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 123.05 Mbit/s
95th percentile per-packet one-way delay: 145.164 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 50.83 Mbit/s
95th percentile per-packet one-way delay: 144.961 ms
Loss rate: 1.26%
-- Flow 3:
Average throughput: 6.25 Mbit/s
95th percentile per-packet one-way delay: 145.063 ms
Loss rate: 2.00%
```
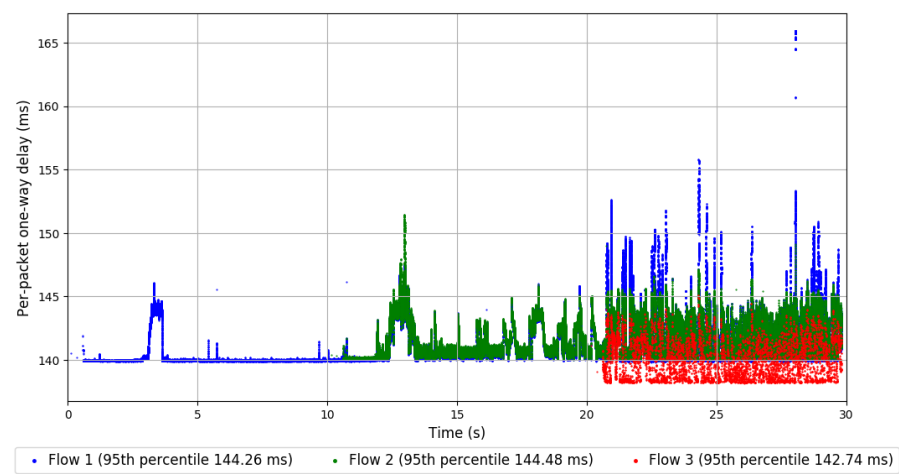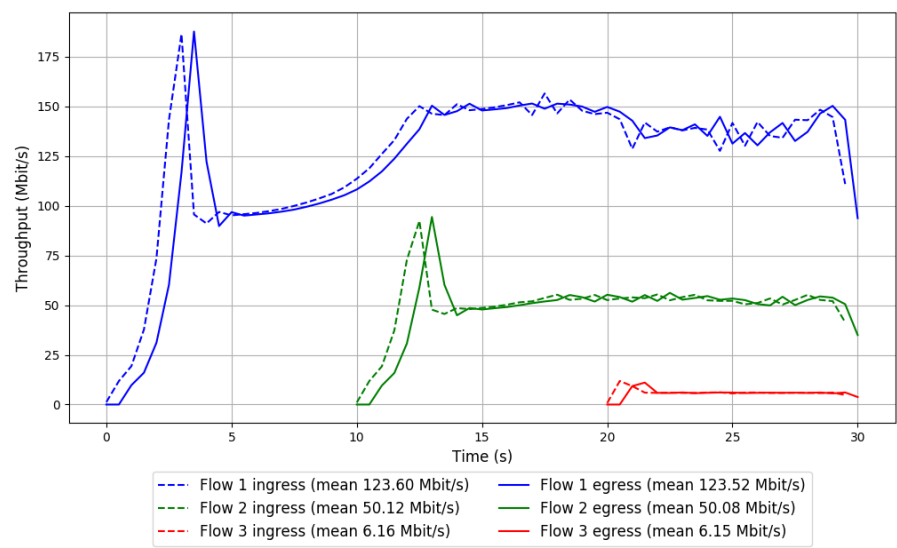
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 123.04 Mbit/s) --- Flow 1 egress (mean 123.05 Mbit/s)
Flow 2 ingress (mean 50.94 Mbit/s) --- Flow 2 egress (mean 50.83 Mbit/s)
Flow 3 ingress (mean 6.24 Mbit/s) --- Flow 3 egress (mean 6.25 Mbit/s)

Flow 1 (95th percentile 145.16 ms)   Flow 2 (95th percentile 144.96 ms)   Flow 3 (95th percentile 145.06 ms)

100

```
Run 4: Statistics of PCC-Expr

Start at: 2018-10-02 18:21:28
End at: 2018-10-02 18:21:58
Local clock offset: -1.136 ms
Remote clock offset: -40.191 ms


# Below is generated by plot.py at 2018-10-02 19:32:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 158.71 Mbit/s
95th percentile per-packet one-way delay: 144.295 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 123.52 Mbit/s
95th percentile per-packet one-way delay: 144.261 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 50.08 Mbit/s
95th percentile per-packet one-way delay: 144.477 ms
Loss rate: 1.13%
-- Flow 3:
Average throughput: 6.15 Mbit/s
95th percentile per-packet one-way delay: 142.736 ms
Loss rate: 2.22%
```
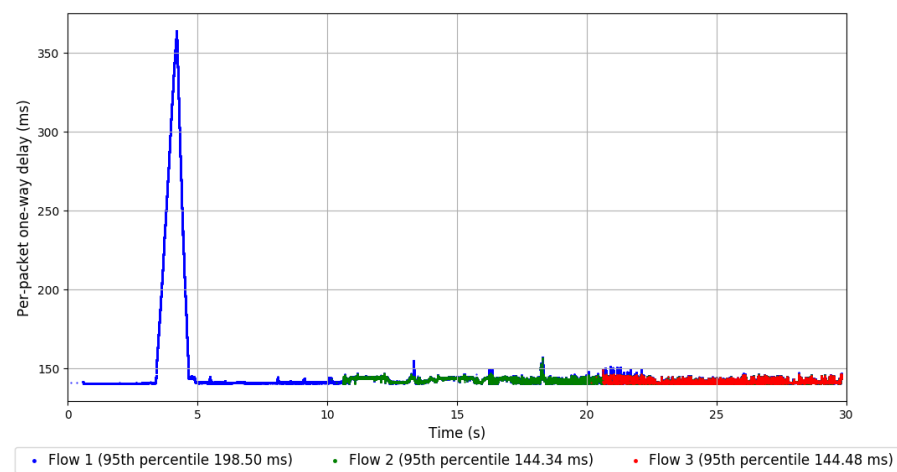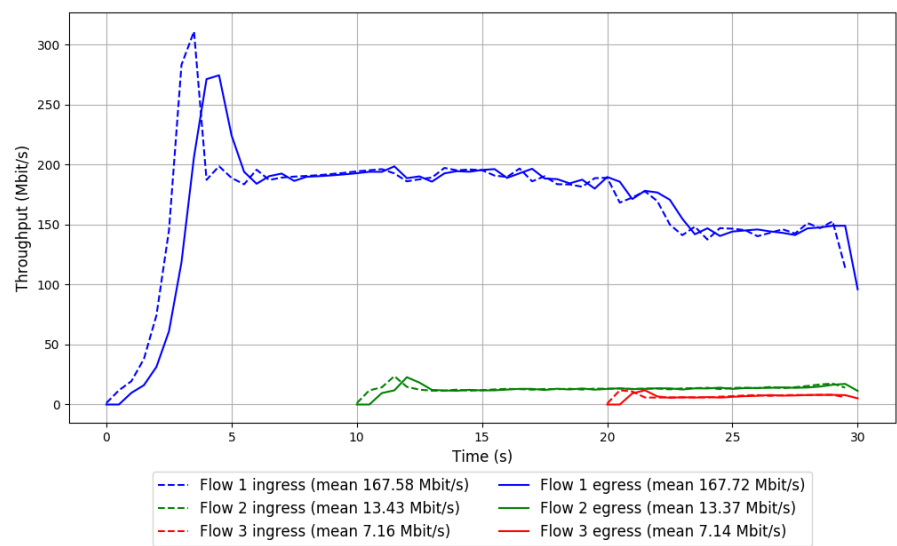
Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 123.60 Mbit/s)   Flow 1 egress (mean 123.52 Mbit/s)
Flow 2 ingress (mean 50.12 Mbit/s)   Flow 2 egress (mean 50.08 Mbit/s)
Flow 3 ingress (mean 6.16 Mbit/s)   Flow 3 egress (mean 6.15 Mbit/s)

Flow 1 (95th percentile 144.26 ms)   Flow 2 (95th percentile 144.48 ms)   Flow 3 (95th percentile 142.74 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2018-10-02 18:48:46
End at: 2018-10-02 18:49:16
Local clock offset: -0.215 ms
Remote clock offset: -38.853 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 178.89 Mbit/s
95th percentile per-packet one-way delay: 189.637 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 167.72 Mbit/s
95th percentile per-packet one-way delay: 198.498 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 13.37 Mbit/s
95th percentile per-packet one-way delay: 144.341 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 7.14 Mbit/s
95th percentile per-packet one-way delay: 144.477 ms
Loss rate: 2.39%
```
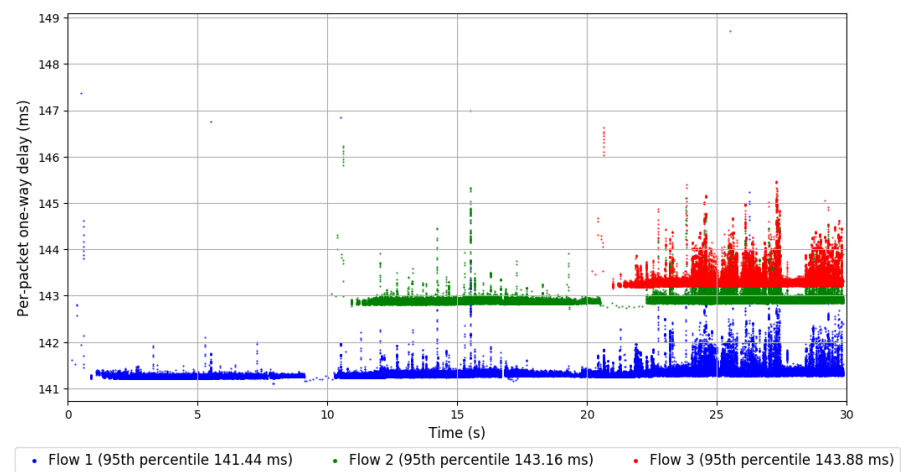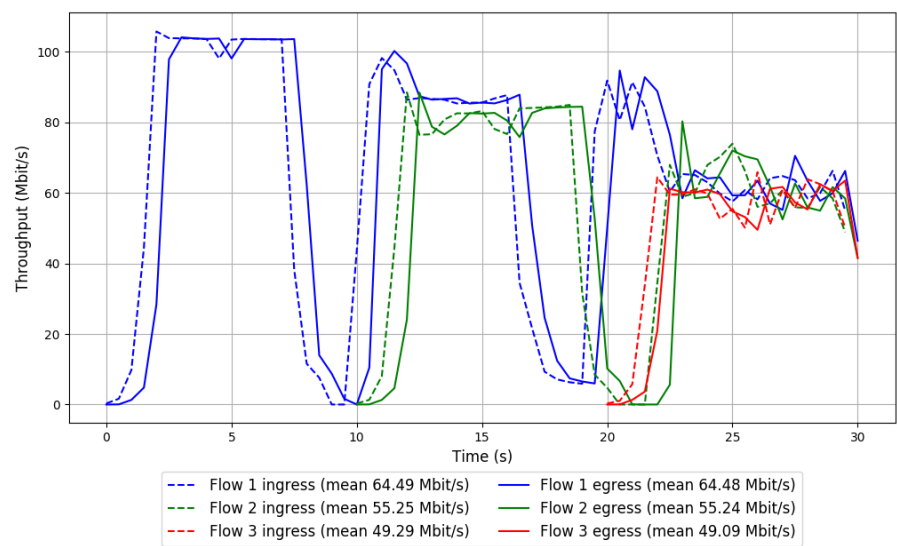
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 167.58 Mbit/s) — Flow 1 egress (mean 167.72 Mbit/s)
Flow 2 ingress (mean 13.43 Mbit/s) — Flow 2 egress (mean 13.37 Mbit/s)
Flow 3 ingress (mean 7.16 Mbit/s) — Flow 3 egress (mean 7.14 Mbit/s)

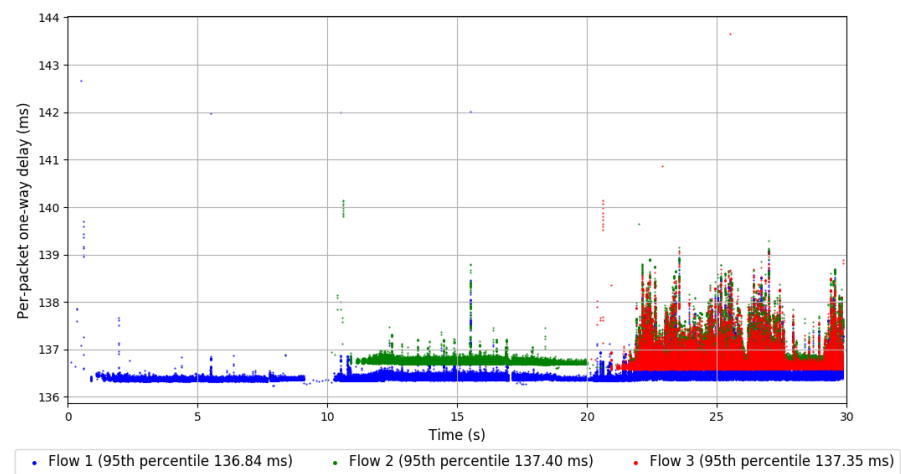Flow 1 (95th percentile 198.50 ms)   Flow 2 (95th percentile 144.34 ms)   Flow 3 (95th percentile 144.48 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-10-02 16:41:36
End at: 2018-10-02 16:42:06
Local clock offset: 2.979 ms
Remote clock offset: -41.169 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 117.07 Mbit/s
95th percentile per-packet one-way delay: 143.334 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 64.48 Mbit/s
95th percentile per-packet one-way delay: 141.444 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 55.24 Mbit/s
95th percentile per-packet one-way delay: 143.163 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 49.09 Mbit/s
95th percentile per-packet one-way delay: 143.885 ms
Loss rate: 2.57%
```

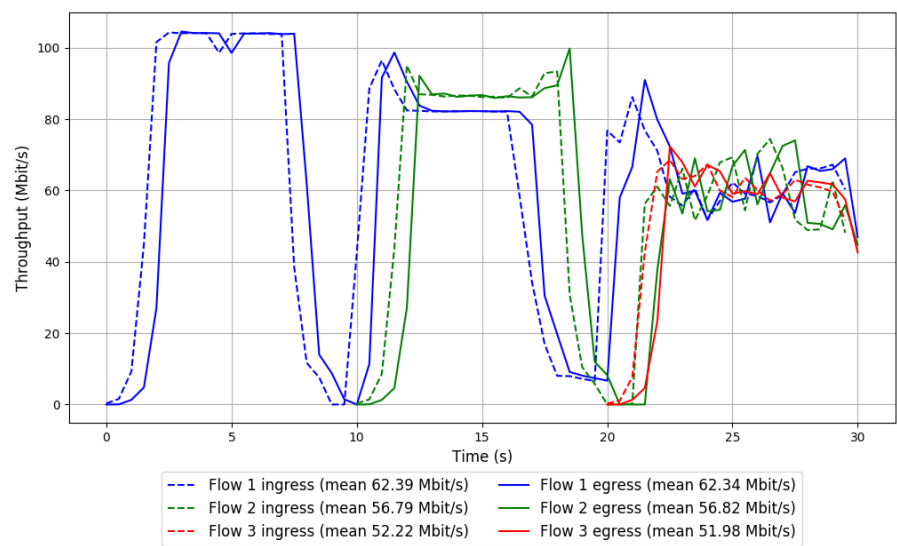Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-10-02 17:14:23
End at: 2018-10-02 17:14:53
Local clock offset: 1.037 ms
Remote clock offset: -35.545 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 116.97 Mbit/s
95th percentile per-packet one-way delay: 137.189 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 62.34 Mbit/s
95th percentile per-packet one-way delay: 136.839 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 56.82 Mbit/s
95th percentile per-packet one-way delay: 137.401 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 51.98 Mbit/s
95th percentile per-packet one-way delay: 137.353 ms
Loss rate: 2.63%
```

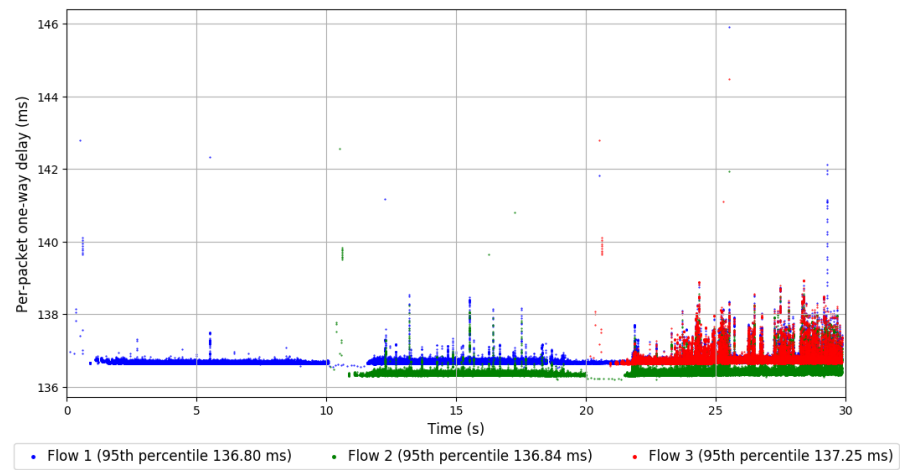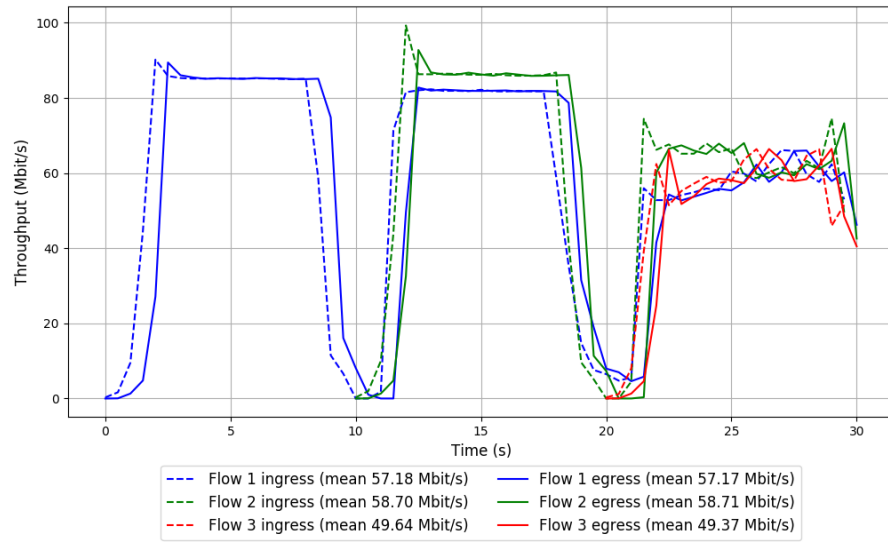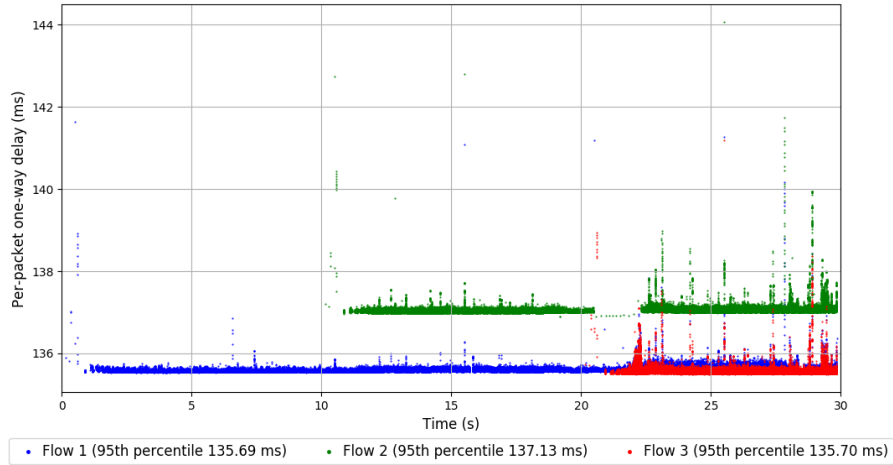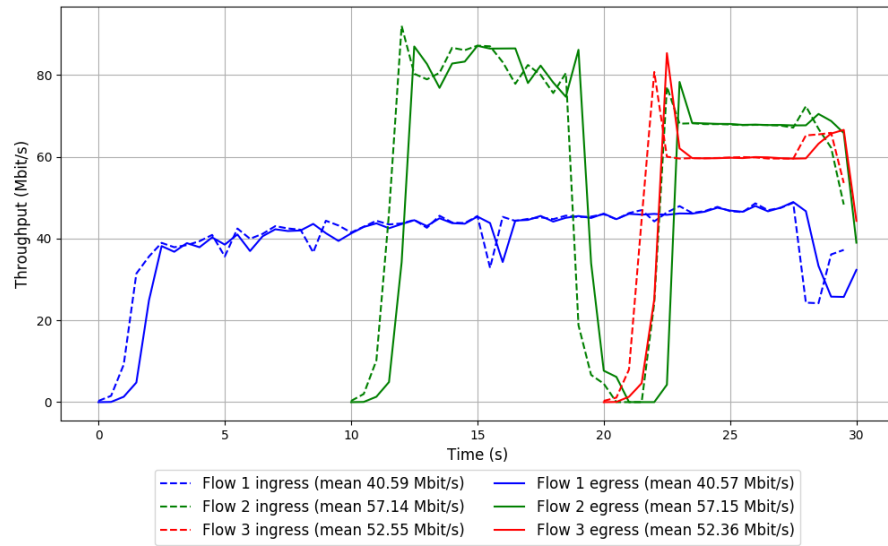# Run 2: Report of QUIC Cubic — Data Link

- - - - Flow 1 ingress (mean 62.39 Mbit/s) —— Flow 1 egress (mean 62.34 Mbit/s)
- - - - Flow 2 ingress (mean 56.79 Mbit/s) —— Flow 2 egress (mean 56.82 Mbit/s)
- - - - Flow 3 ingress (mean 52.22 Mbit/s) —— Flow 3 egress (mean 51.98 Mbit/s)

• Flow 1 (95th percentile 136.84 ms)   • Flow 2 (95th percentile 137.40 ms)   • Flow 3 (95th percentile 137.35 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-10-02 17:41:33
End at: 2018-10-02 17:42:03
Local clock offset: -1.795 ms
Remote clock offset: -37.838 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 112.22 Mbit/s
95th percentile per-packet one-way delay: 136.901 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 57.17 Mbit/s
95th percentile per-packet one-way delay: 136.803 ms
Loss rate: 0.72%
-- Flow 2:
Average throughput: 58.71 Mbit/s
95th percentile per-packet one-way delay: 136.845 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 49.37 Mbit/s
95th percentile per-packet one-way delay: 137.251 ms
Loss rate: 2.71%
```

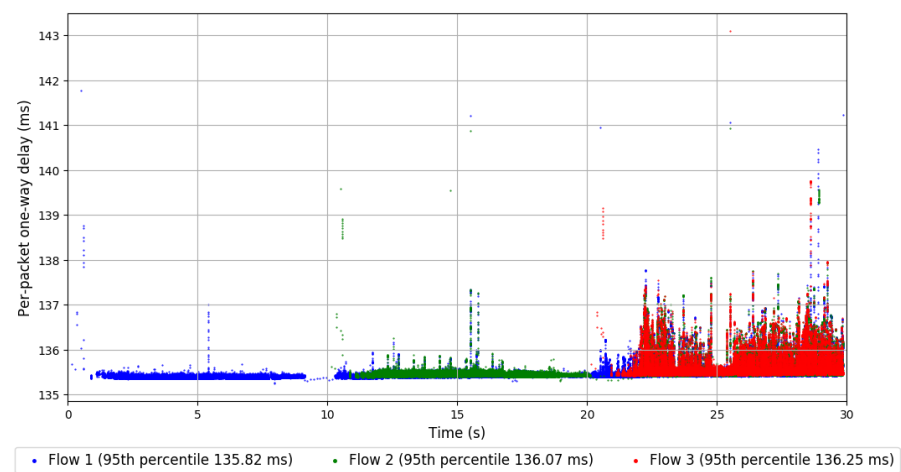Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-10-02 18:14:19
End at: 2018-10-02 18:14:49
Local clock offset: 2.265 ms
Remote clock offset: -34.38 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.55 Mbit/s
95th percentile per-packet one-way delay: 137.092 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 40.57 Mbit/s
95th percentile per-packet one-way delay: 135.692 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 57.15 Mbit/s
95th percentile per-packet one-way delay: 137.129 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 52.36 Mbit/s
95th percentile per-packet one-way delay: 135.701 ms
Loss rate: 2.54%
```

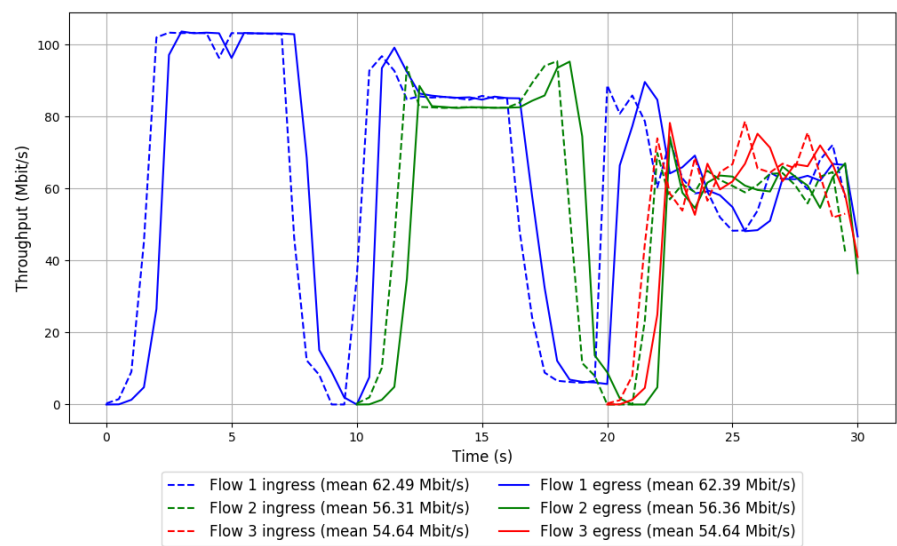Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-10-02 18:41:33
End at: 2018-10-02 18:42:03
Local clock offset: -0.557 ms
Remote clock offset: -34.714 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 117.57 Mbit/s
95th percentile per-packet one-way delay: 136.006 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 62.39 Mbit/s
95th percentile per-packet one-way delay: 135.821 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 56.36 Mbit/s
95th percentile per-packet one-way delay: 136.068 ms
Loss rate: 0.97%
-- Flow 3:
Average throughput: 54.64 Mbit/s
95th percentile per-packet one-way delay: 136.250 ms
Loss rate: 2.21%
```

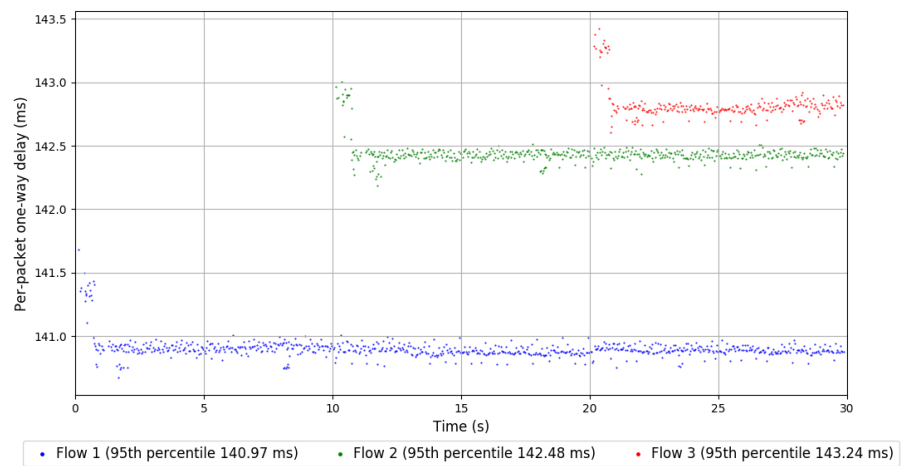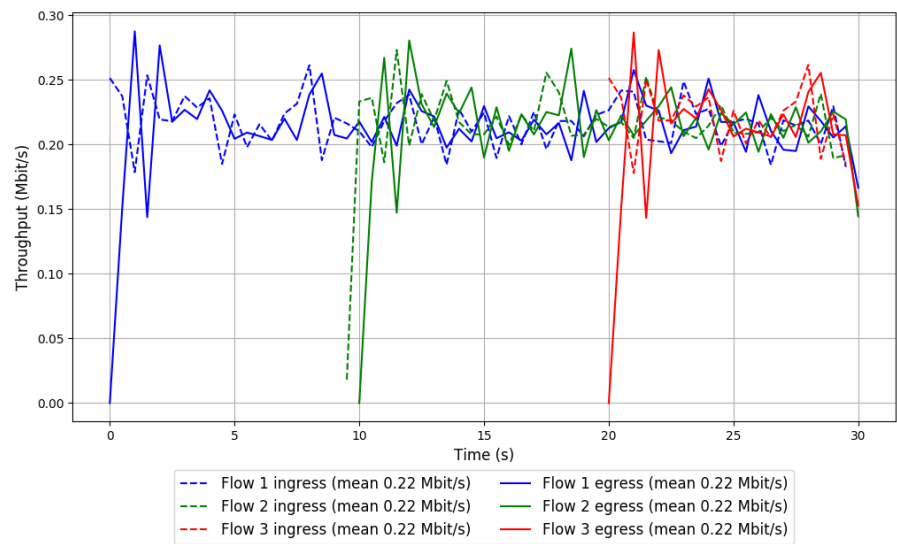Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2018-10-02 16:56:23
End at: 2018-10-02 16:56:53
Local clock offset: 2.094 ms
Remote clock offset: -40.8 ms

# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 142.826 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 140.967 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 142.482 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 143.237 ms
Loss rate: 2.23%
```

Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-10-02 17:29:14
End at: 2018-10-02 17:29:44
Local clock offset: 1.467 ms
Remote clock offset: -36.012 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 138.077 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.072 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 136.186 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.492 ms
Loss rate: 1.83%
```
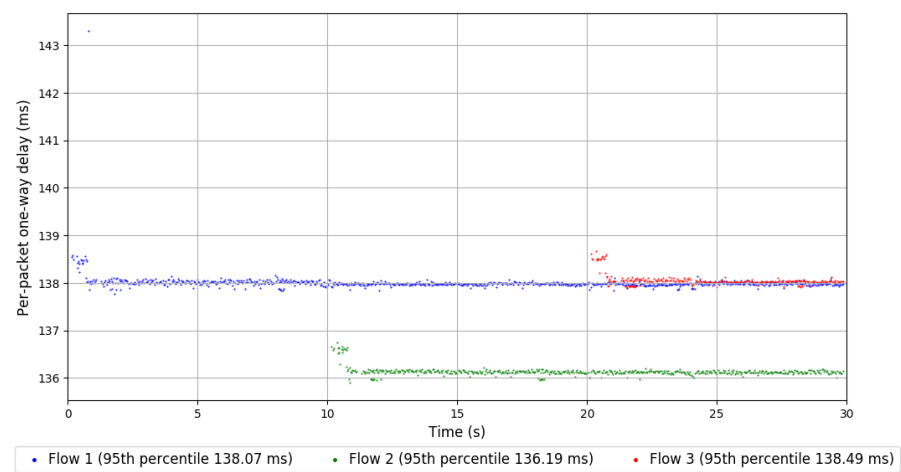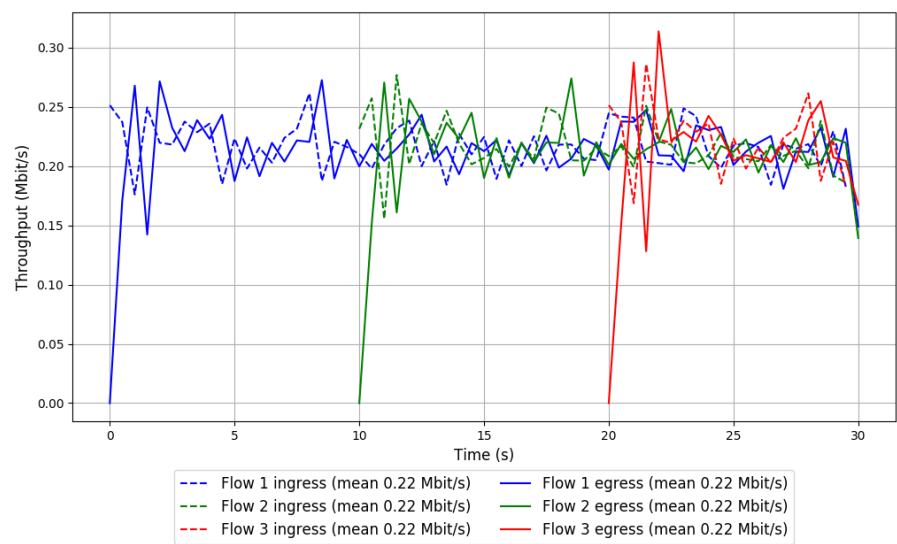
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-10-02 17:56:13
End at: 2018-10-02 17:56:43
Local clock offset: -0.323 ms
Remote clock offset: -39.92 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 140.273 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 140.271 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 140.271 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 140.381 ms
Loss rate: 1.87%
```
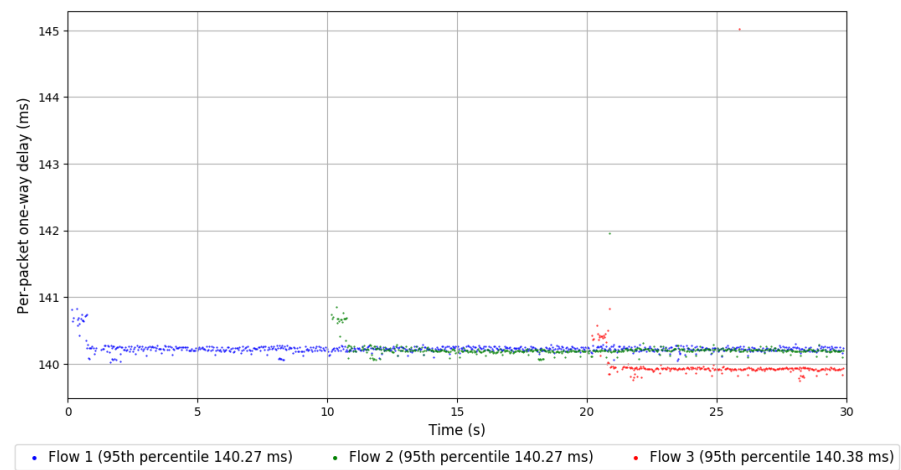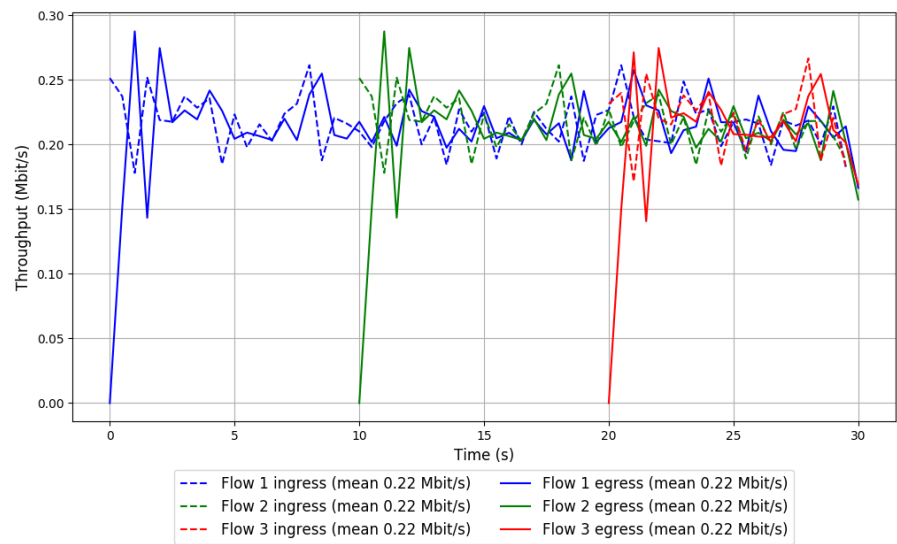
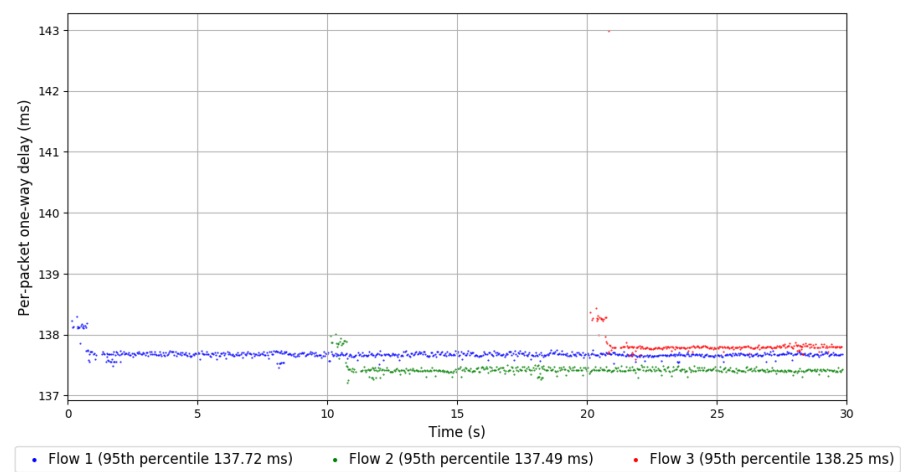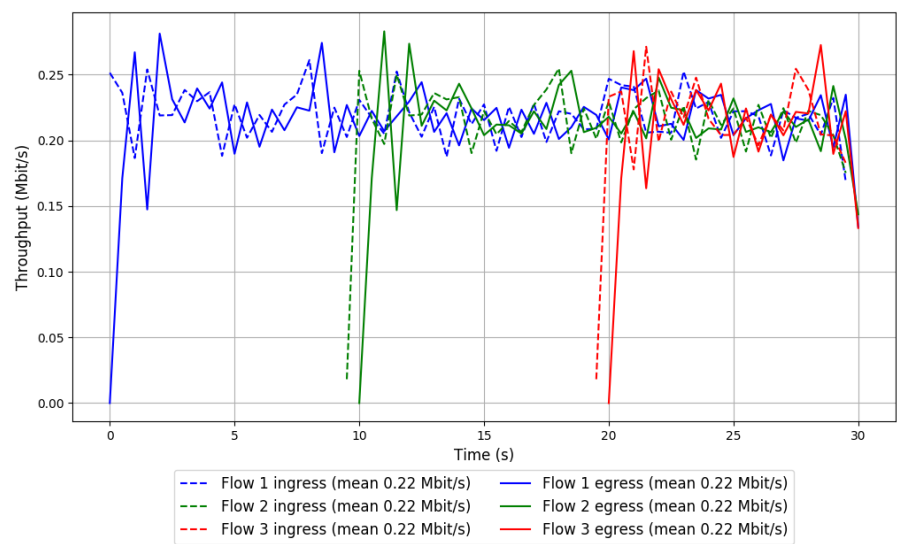## Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-10-02 18:28:59
End at: 2018-10-02 18:29:29
Local clock offset: 1.646 ms
Remote clock offset: -34.877 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 137.819 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.725 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.489 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.253 ms
Loss rate: 2.22%
```

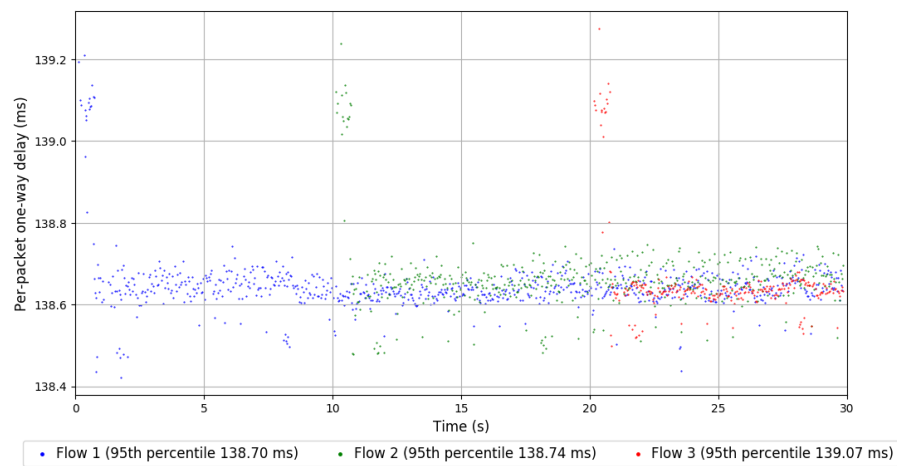# Run 4: Report of SCReAM — Data Link
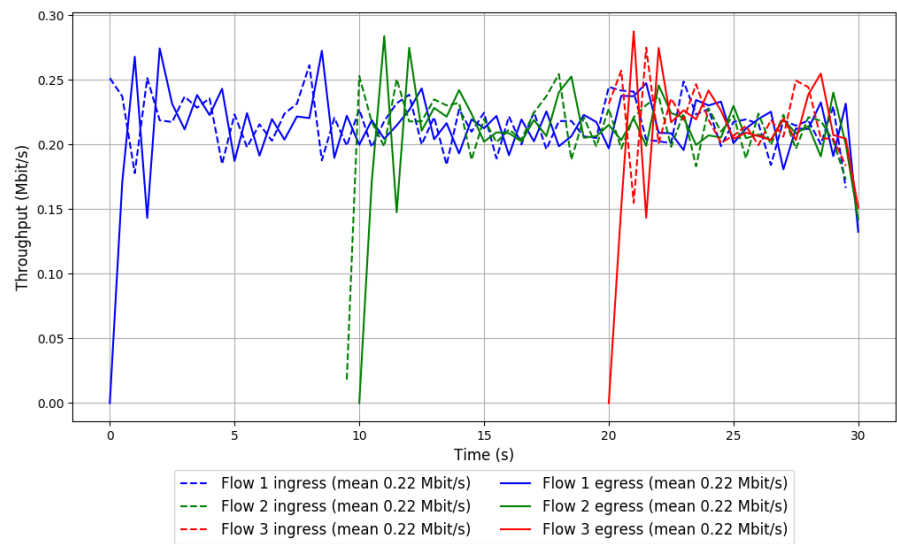

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```
Run 5: Statistics of SCReAM

Start at: 2018-10-02 18:56:20
End at: 2018-10-02 18:56:50
Local clock offset: 1.333 ms
Remote clock offset: -34.645 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 138.725 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.696 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.735 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 139.070 ms
Loss rate: 1.87%
```
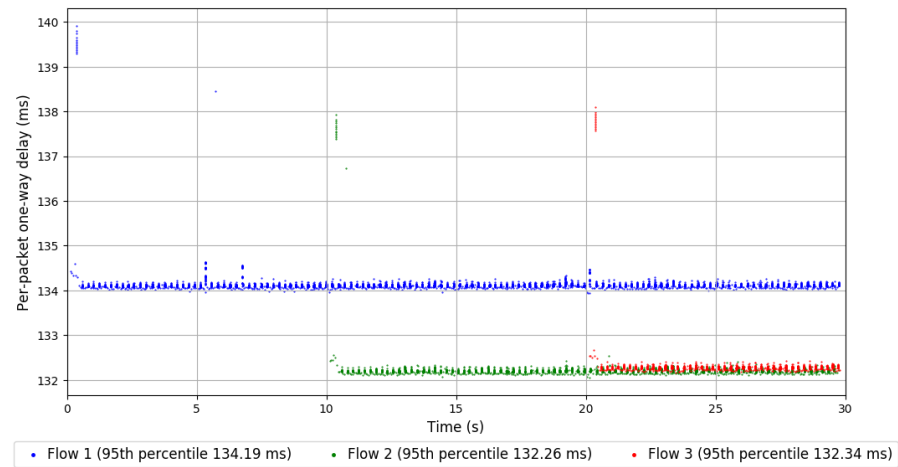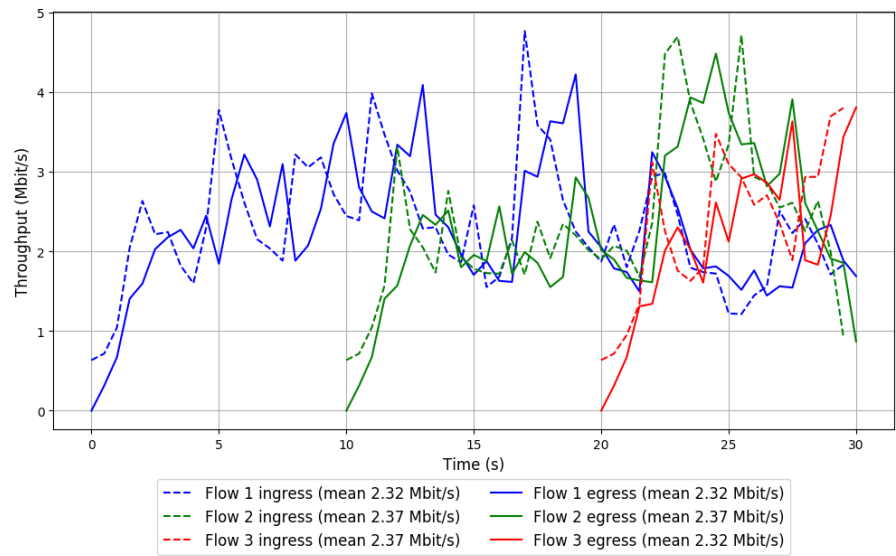
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-10-02 16:50:25
End at: 2018-10-02 16:50:55
Local clock offset: -0.236 ms
Remote clock offset: -34.701 ms

# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.64 Mbit/s
95th percentile per-packet one-way delay: 134.151 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 134.187 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 132.264 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 132.335 ms
Loss rate: 3.97%
```
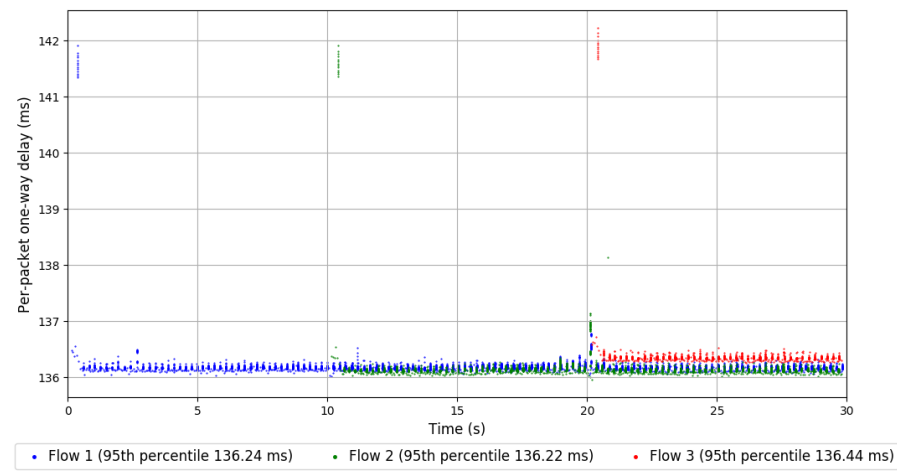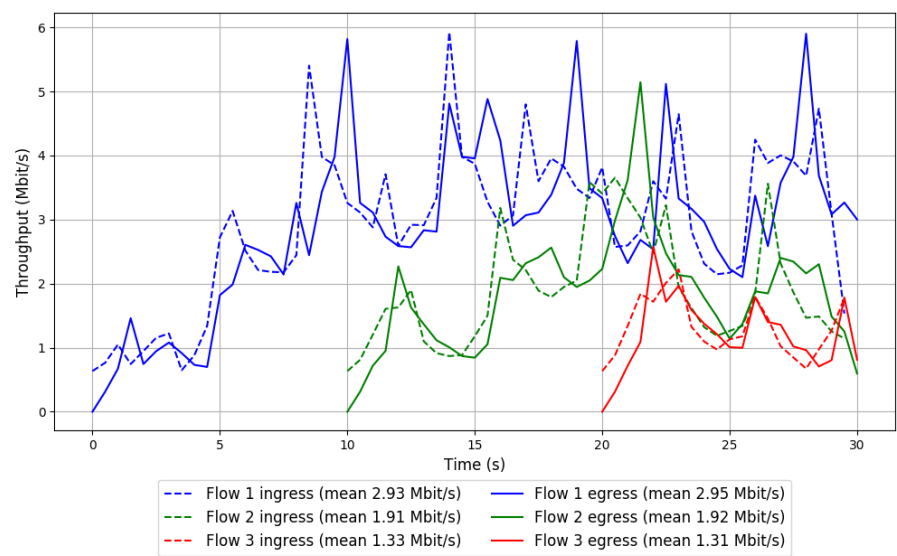
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-10-02 17:23:08
End at: 2018-10-02 17:23:38
Local clock offset: 1.934 ms
Remote clock offset: -34.124 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 4.64 Mbit/s
95th percentile per-packet one-way delay: 136.354 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 2.95 Mbit/s
95th percentile per-packet one-way delay: 136.243 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 136.218 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 136.437 ms
Loss rate: 3.70%
```
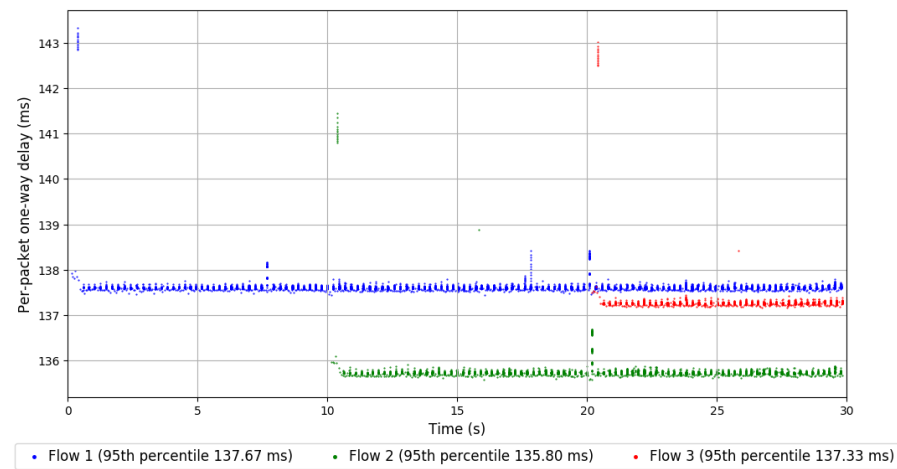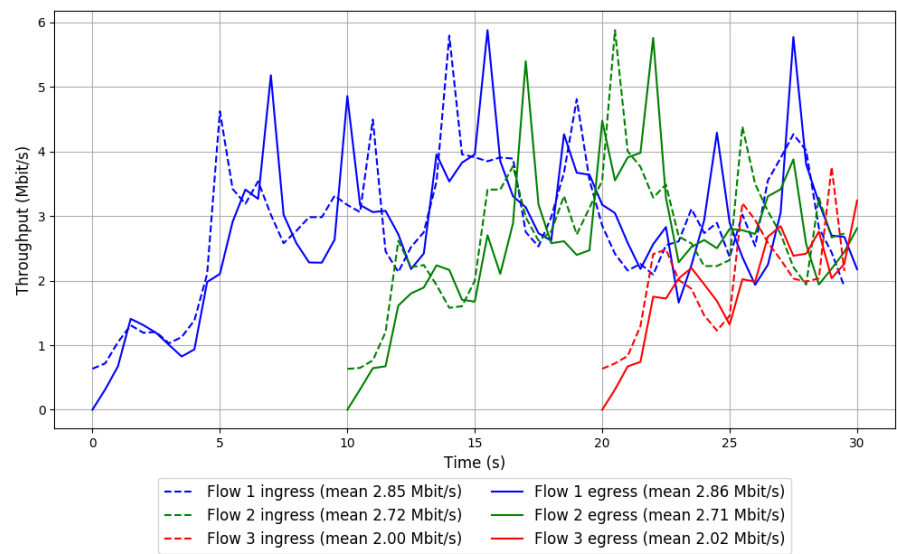
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-10-02 17:50:14
End at: 2018-10-02 17:50:44
Local clock offset: -0.177 ms
Remote clock offset: -37.177 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.31 Mbit/s
95th percentile per-packet one-way delay: 137.644 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 2.86 Mbit/s
95th percentile per-packet one-way delay: 137.672 ms
Loss rate: 0.52%
-- Flow 2:
Average throughput: 2.71 Mbit/s
95th percentile per-packet one-way delay: 135.800 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 137.329 ms
Loss rate: 1.04%
```
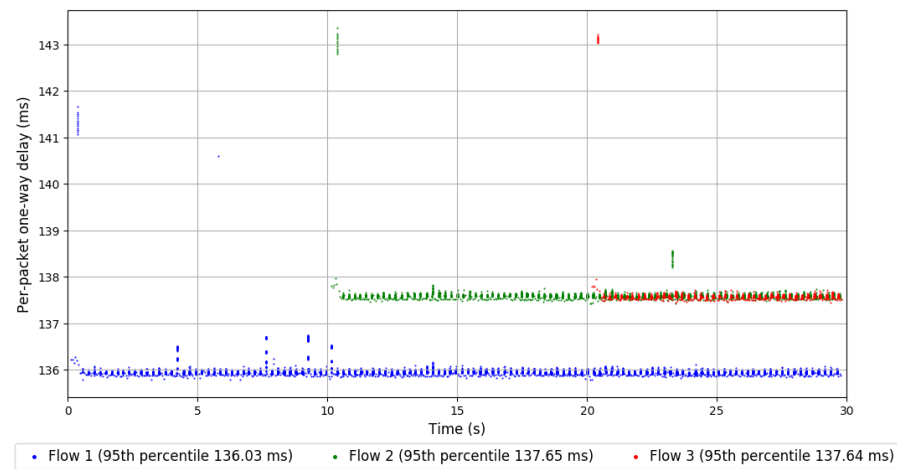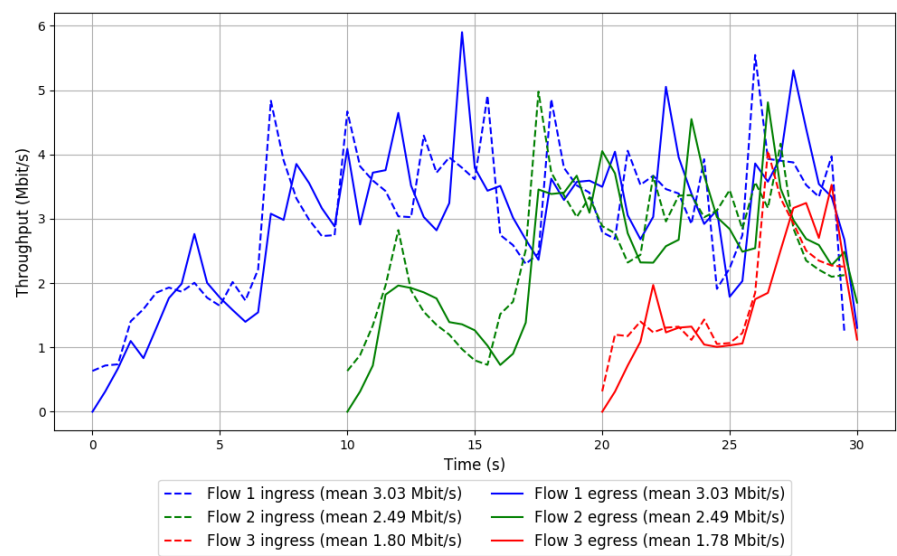
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-10-02 18:23:02
End at: 2018-10-02 18:23:32
Local clock offset: -0.326 ms
Remote clock offset: -37.159 ms


# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.26 Mbit/s
95th percentile per-packet one-way delay: 137.621 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 136.025 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 137.654 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 137.640 ms
Loss rate: 3.21%
```

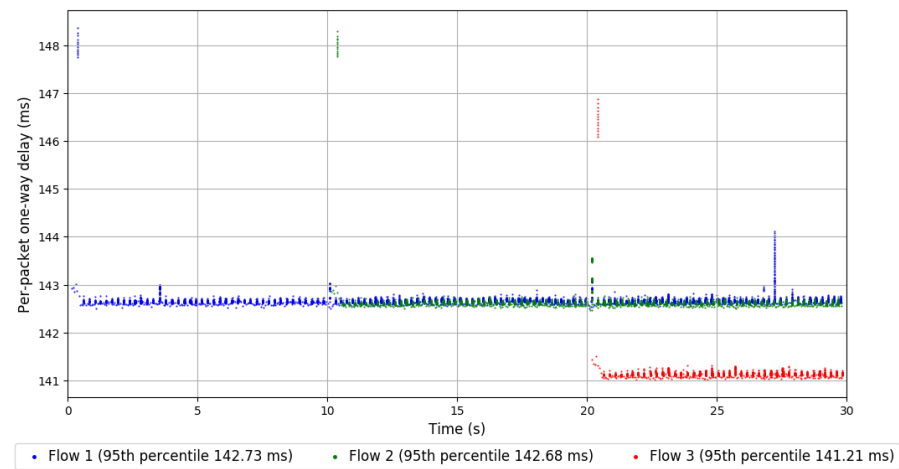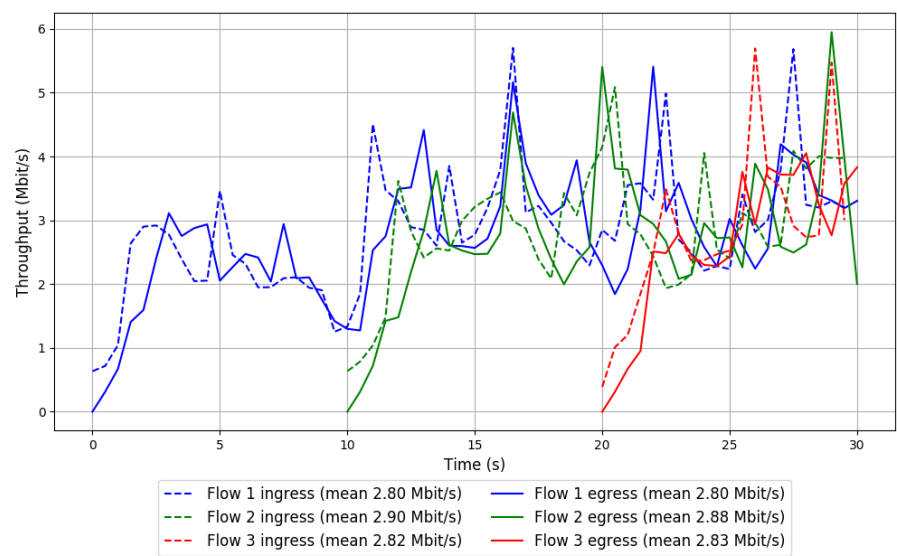## Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-10-02 18:50:21
End at: 2018-10-02 18:50:52
Local clock offset: 0.944 ms
Remote clock offset: -39.705 ms

# Below is generated by plot.py at 2018-10-02 19:33:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.63 Mbit/s
95th percentile per-packet one-way delay: 142.710 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 2.80 Mbit/s
95th percentile per-packet one-way delay: 142.729 ms
Loss rate: 0.91%
-- Flow 2:
Average throughput: 2.88 Mbit/s
95th percentile per-packet one-way delay: 142.679 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 2.83 Mbit/s
95th percentile per-packet one-way delay: 141.214 ms
Loss rate: 1.93%
```
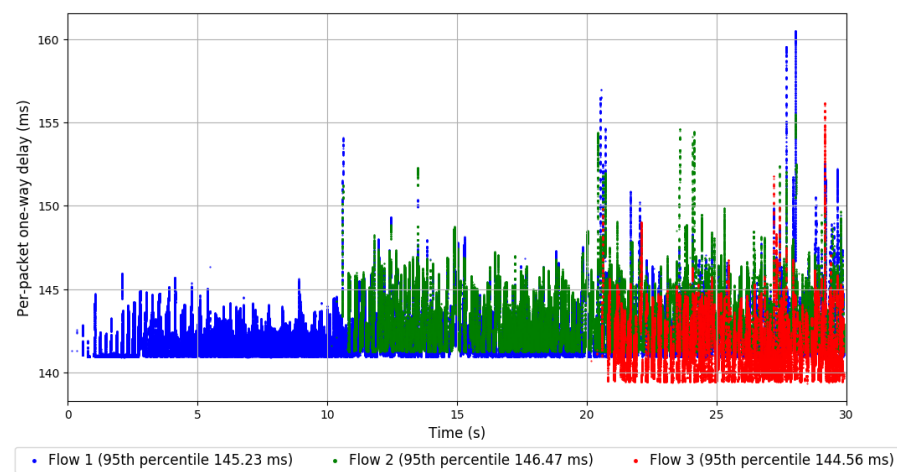
Run 5: Report of Sprout — Data Link

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

Start at: 2018-10-02 16:34:16
End at: 2018-10-02 16:34:46
Local clock offset: 1.271 ms
Remote clock offset: -40.906 ms

# Below is generated by plot.py at 2018-10-02 19:35:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 170.26 Mbit/s
95th percentile per-packet one-way delay: 145.635 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 104.55 Mbit/s
95th percentile per-packet one-way delay: 145.226 ms
Loss rate: 1.57%
-- Flow 2:
Average throughput: 71.85 Mbit/s
95th percentile per-packet one-way delay: 146.468 ms
Loss rate: 1.56%
-- Flow 3:
Average throughput: 55.36 Mbit/s
95th percentile per-packet one-way delay: 144.561 ms
Loss rate: 2.17%
```

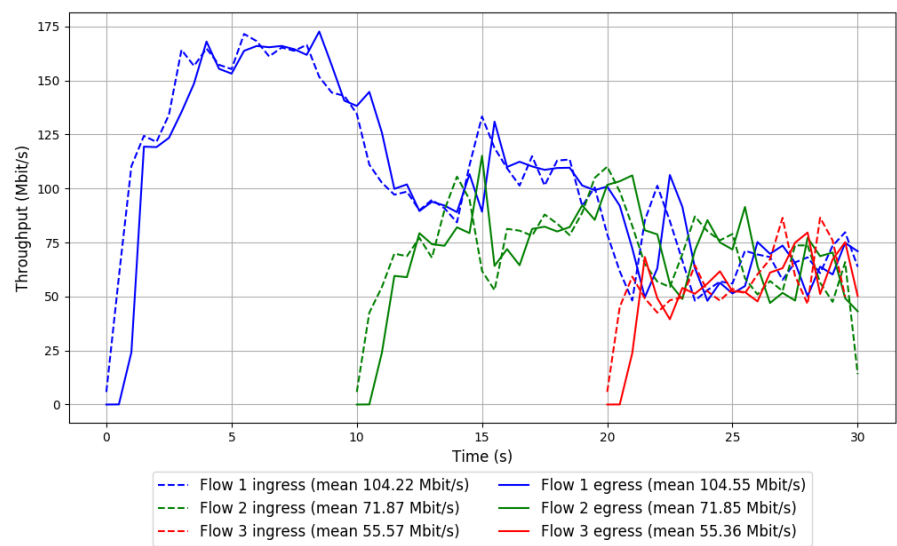Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2018-10-02 17:12:47
End at: 2018-10-02 17:13:17
Local clock offset: 1.419 ms
Remote clock offset: -40.845 ms


# Below is generated by plot.py at 2018-10-02 19:35:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 167.83 Mbit/s
95th percentile per-packet one-way delay: 147.301 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 100.45 Mbit/s
95th percentile per-packet one-way delay: 146.524 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 73.98 Mbit/s
95th percentile per-packet one-way delay: 147.450 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 56.24 Mbit/s
95th percentile per-packet one-way delay: 149.737 ms
Loss rate: 1.99%
```

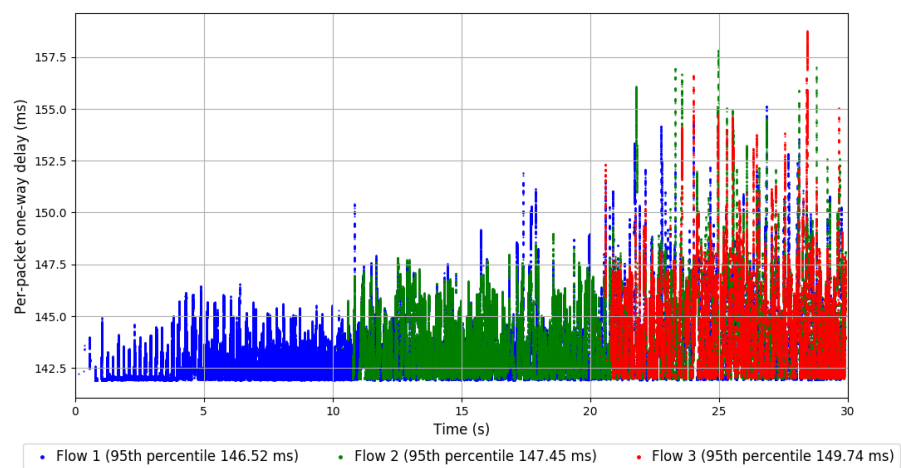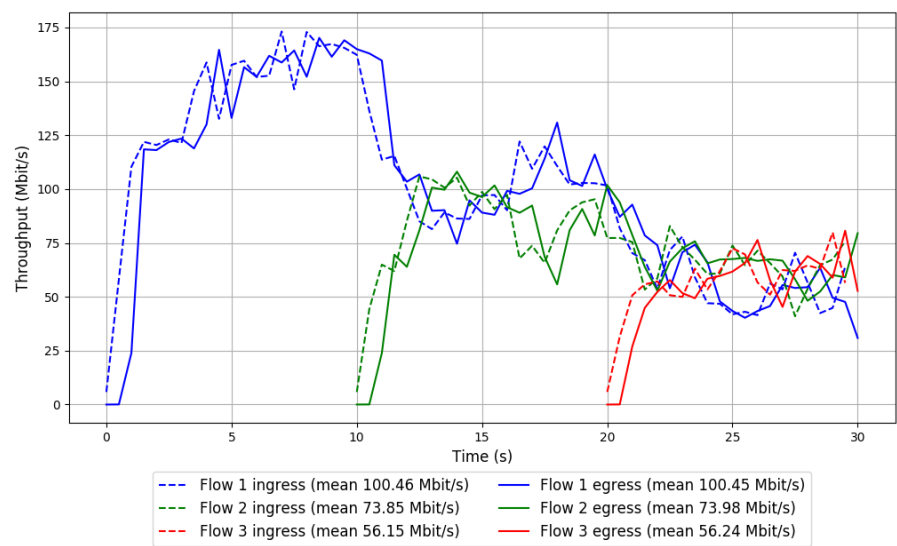Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2018-10-02 17:39:57
End at: 2018-10-02 17:40:27
Local clock offset: 2.004 ms
Remote clock offset: -40.646 ms

# Below is generated by plot.py at 2018-10-02 19:36:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 173.34 Mbit/s
95th percentile per-packet one-way delay: 148.605 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 104.29 Mbit/s
95th percentile per-packet one-way delay: 147.556 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 77.56 Mbit/s
95th percentile per-packet one-way delay: 149.477 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 53.79 Mbit/s
95th percentile per-packet one-way delay: 151.411 ms
Loss rate: 2.50%
```
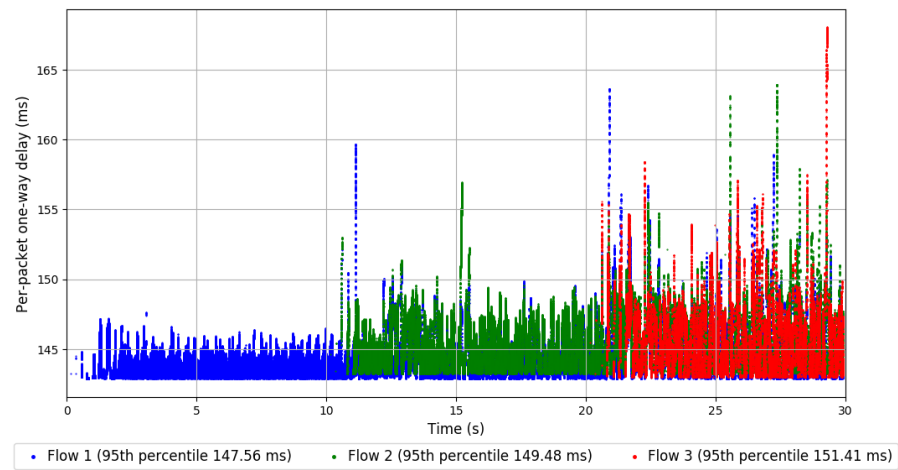
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 103.97 Mbit/s)   Flow 1 egress (mean 104.29 Mbit/s)
Flow 2 ingress (mean 77.47 Mbit/s)   Flow 2 egress (mean 77.56 Mbit/s)
Flow 3 ingress (mean 54.00 Mbit/s)   Flow 3 egress (mean 53.79 Mbit/s)

Flow 1 (95th percentile 147.56 ms)   Flow 2 (95th percentile 149.48 ms)   Flow 3 (95th percentile 151.41 ms)

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

Start at: 2018-10-02 18:12:43
End at: 2018-10-02 18:13:13
Local clock offset: -1.96 ms
Remote clock offset: -36.973 ms


# Below is generated by plot.py at 2018-10-02 19:36:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 165.38 Mbit/s
95th percentile per-packet one-way delay: 139.664 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 99.53 Mbit/s
95th percentile per-packet one-way delay: 138.614 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 77.25 Mbit/s
95th percentile per-packet one-way delay: 141.243 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 46.33 Mbit/s
95th percentile per-packet one-way delay: 140.721 ms
Loss rate: 2.71%
```

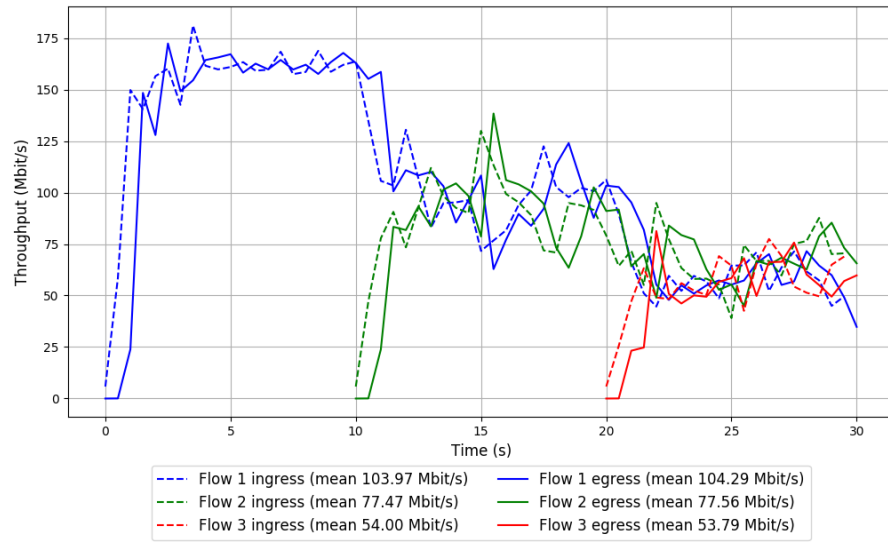# Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 99.52 Mbit/s) — Flow 1 egress (mean 99.53 Mbit/s)
Flow 2 ingress (mean 76.96 Mbit/s) — Flow 2 egress (mean 77.25 Mbit/s)
Flow 3 ingress (mean 46.59 Mbit/s) — Flow 3 egress (mean 46.33 Mbit/s)

Flow 1 (95th percentile 138.61 ms) • Flow 2 (95th percentile 141.24 ms) • Flow 3 (95th percentile 140.72 ms)
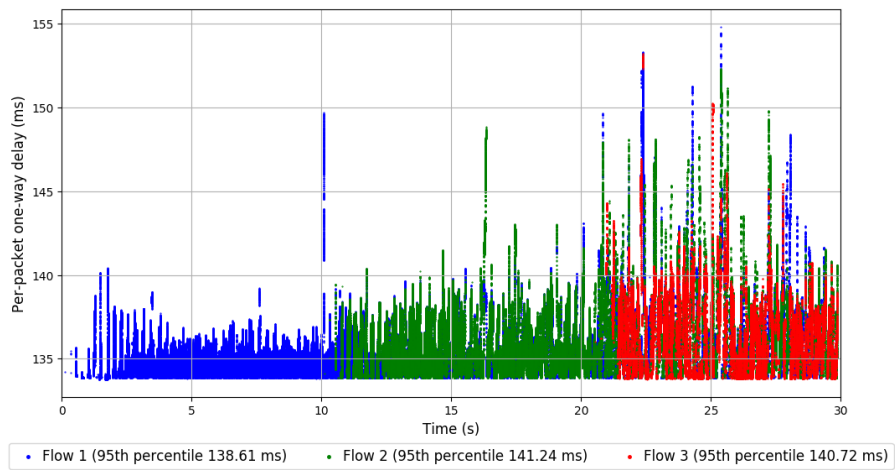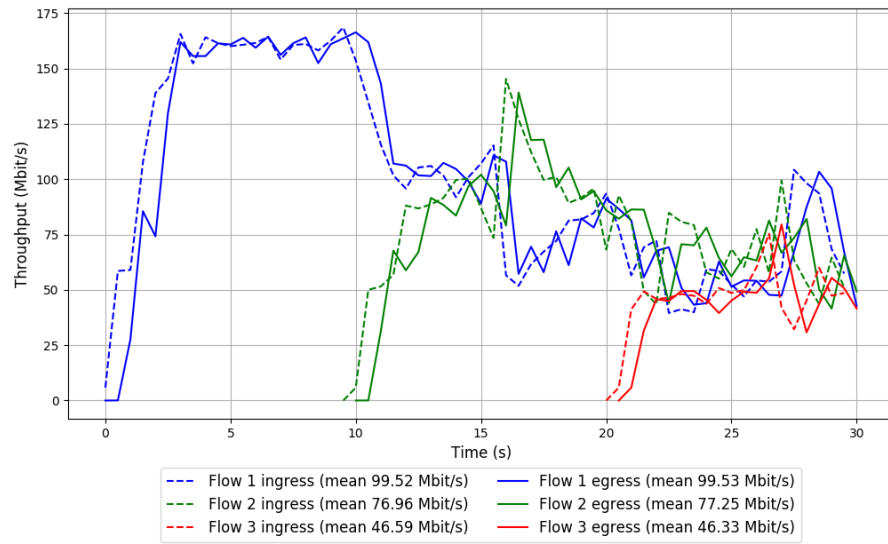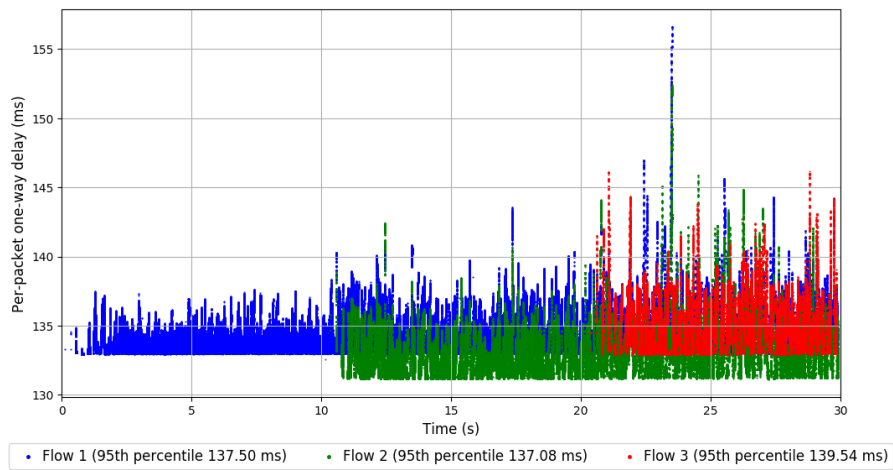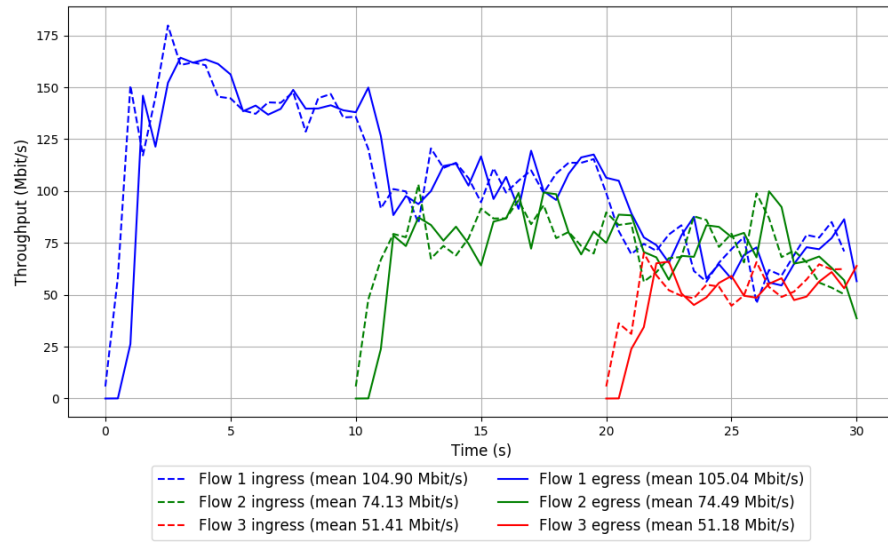
142

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

Start at: 2018-10-02 18:39:46
End at: 2018-10-02 18:40:16
Local clock offset: -2.705 ms
Remote clock offset: -34.382 ms


# Below is generated by plot.py at 2018-10-02 19:36:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 171.12 Mbit/s
95th percentile per-packet one-way delay: 137.681 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 105.04 Mbit/s
95th percentile per-packet one-way delay: 137.503 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 74.49 Mbit/s
95th percentile per-packet one-way delay: 137.081 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 51.18 Mbit/s
95th percentile per-packet one-way delay: 139.542 ms
Loss rate: 3.10%
```

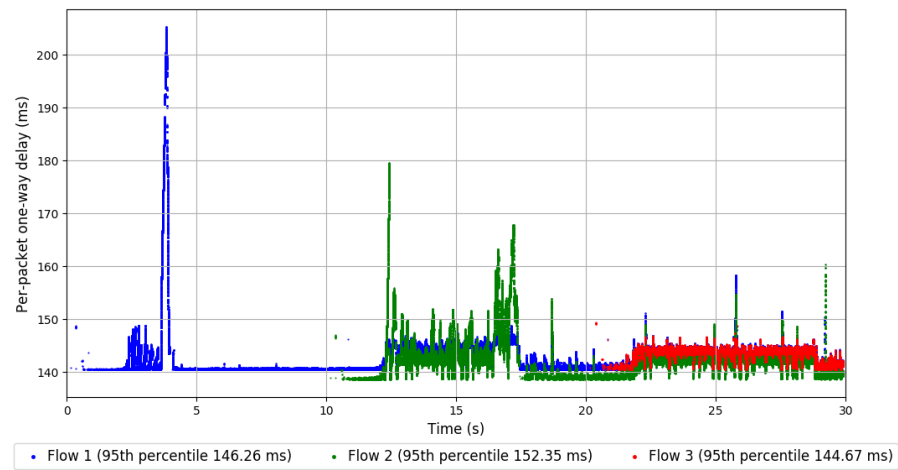Run 5: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: 2018-10-02 16:45:56
End at: 2018-10-02 16:46:26
Local clock offset: 2.586 ms
Remote clock offset: -38.389 ms

# Below is generated by plot.py at 2018-10-02 19:36:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 271.95 Mbit/s
95th percentile per-packet one-way delay: 149.413 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 144.09 Mbit/s
95th percentile per-packet one-way delay: 146.259 ms
Loss rate: 0.69%
-- Flow 2:
Average throughput: 163.40 Mbit/s
95th percentile per-packet one-way delay: 152.353 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 59.28 Mbit/s
95th percentile per-packet one-way delay: 144.671 ms
Loss rate: 2.52%
```

Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 144.08 Mbit/s) — Flow 1 egress (mean 144.09 Mbit/s)
Flow 2 ingress (mean 163.20 Mbit/s) — Flow 2 egress (mean 163.40 Mbit/s)
Flow 3 ingress (mean 59.54 Mbit/s) — Flow 3 egress (mean 59.28 Mbit/s)

Flow 1 (95th percentile 146.26 ms) · Flow 2 (95th percentile 152.35 ms) · Flow 3 (95th percentile 144.67 ms)
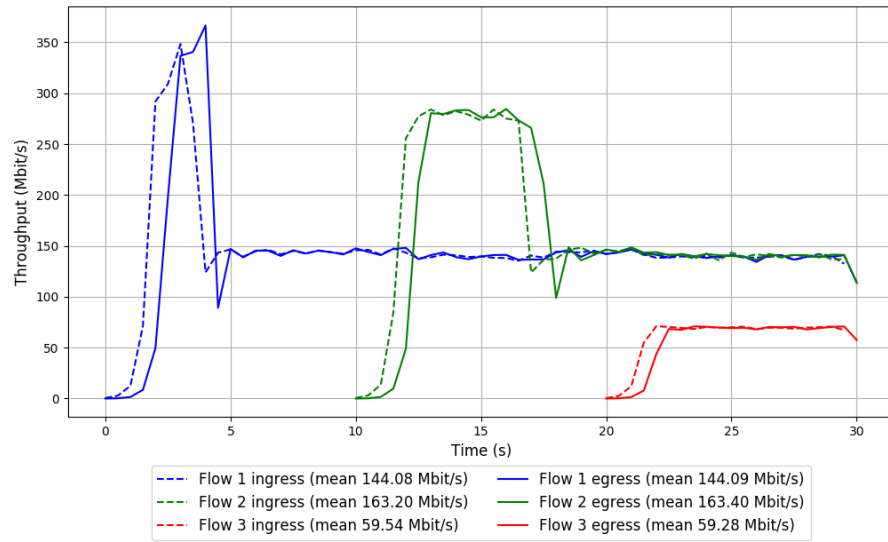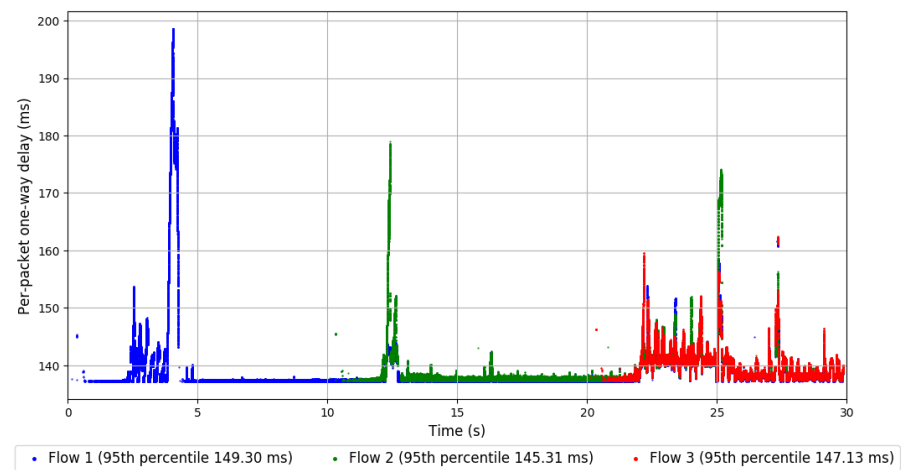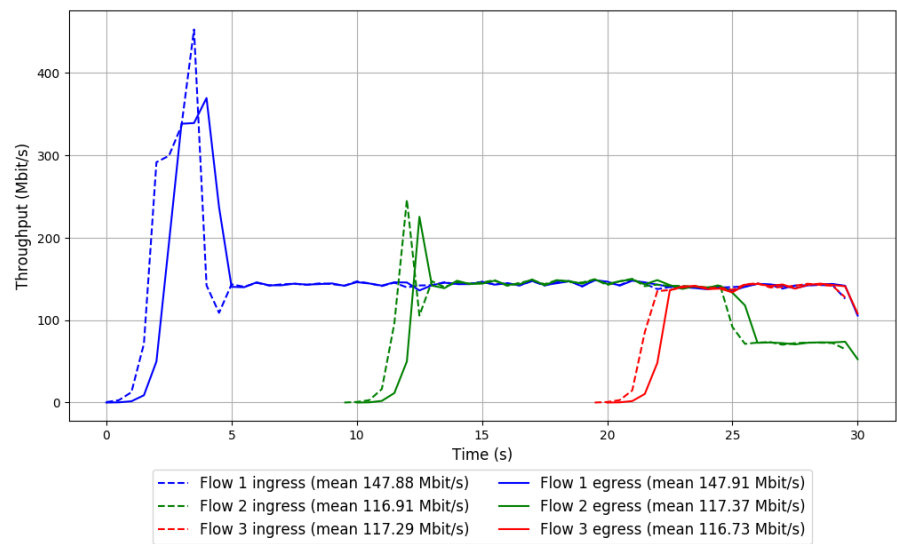
```
Run 2: Statistics of TCP Vegas

Start at: 2018-10-02 17:18:41
End at: 2018-10-02 17:19:11
Local clock offset: -0.354 ms
Remote clock offset: -37.695 ms

# Below is generated by plot.py at 2018-10-02 19:36:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 264.27 Mbit/s
95th percentile per-packet one-way delay: 147.341 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 147.91 Mbit/s
95th percentile per-packet one-way delay: 149.302 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 117.37 Mbit/s
95th percentile per-packet one-way delay: 145.305 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 116.73 Mbit/s
95th percentile per-packet one-way delay: 147.135 ms
Loss rate: 2.58%
```

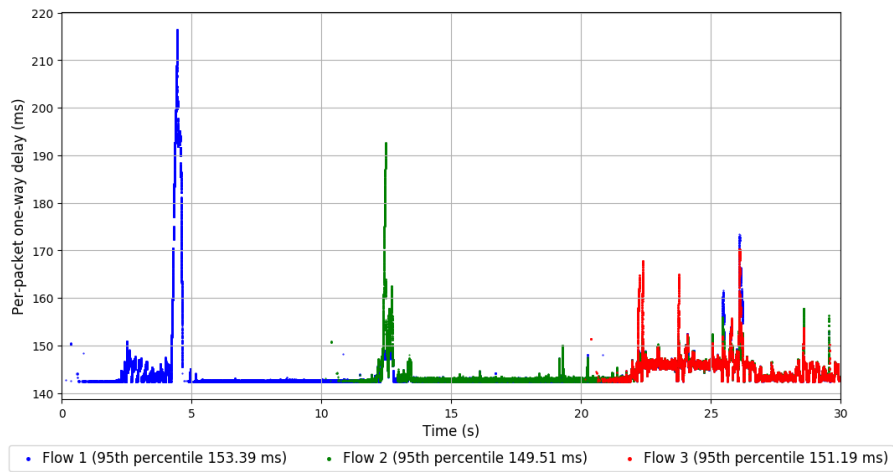# Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-10-02 17:45:49
End at: 2018-10-02 17:46:19
Local clock offset: 2.506 ms
Remote clock offset: -39.691 ms


# Below is generated by plot.py at 2018-10-02 19:36:40
# Datalink statistics
-- Total of 3 flows:
Average throughput: 270.60 Mbit/s
95th percentile per-packet one-way delay: 150.601 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 143.72 Mbit/s
95th percentile per-packet one-way delay: 153.392 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 133.43 Mbit/s
95th percentile per-packet one-way delay: 149.515 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 116.88 Mbit/s
95th percentile per-packet one-way delay: 151.195 ms
Loss rate: 2.58%
```

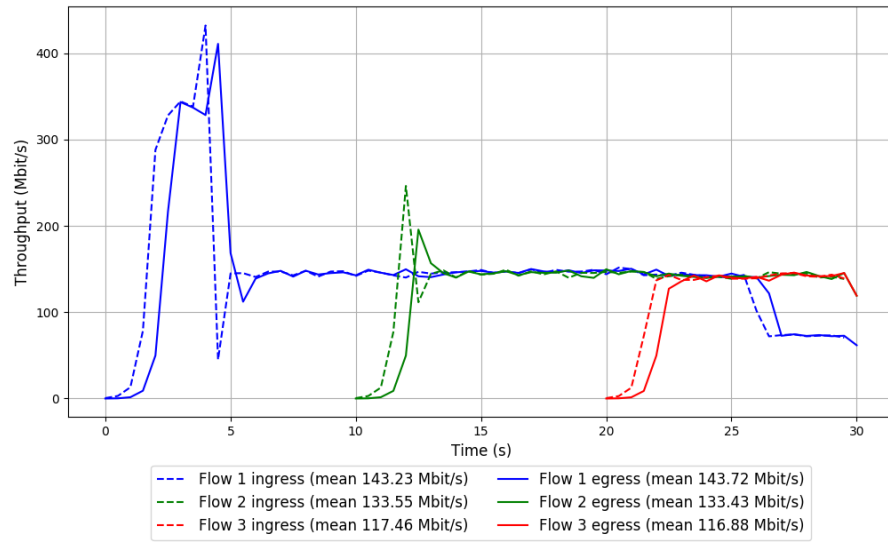# Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2018-10-02 18:18:34
End at: 2018-10-02 18:19:04
Local clock offset: -0.688 ms
Remote clock offset: -35.029 ms

# Below is generated by plot.py at 2018-10-02 19:39:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 321.13 Mbit/s
95th percentile per-packet one-way delay: 140.437 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 267.18 Mbit/s
95th percentile per-packet one-way delay: 140.646 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 66.40 Mbit/s
95th percentile per-packet one-way delay: 140.127 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 30.06 Mbit/s
95th percentile per-packet one-way delay: 138.907 ms
Loss rate: 2.39%
```

Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 267.22 Mbit/s) — Flow 1 egress (mean 267.18 Mbit/s)
Flow 2 ingress (mean 66.44 Mbit/s) — Flow 2 egress (mean 66.40 Mbit/s)
Flow 3 ingress (mean 30.14 Mbit/s) — Flow 3 egress (mean 30.06 Mbit/s)

Flow 1 (95th percentile 140.65 ms) • Flow 2 (95th percentile 140.13 ms) • Flow 3 (95th percentile 138.91 ms)
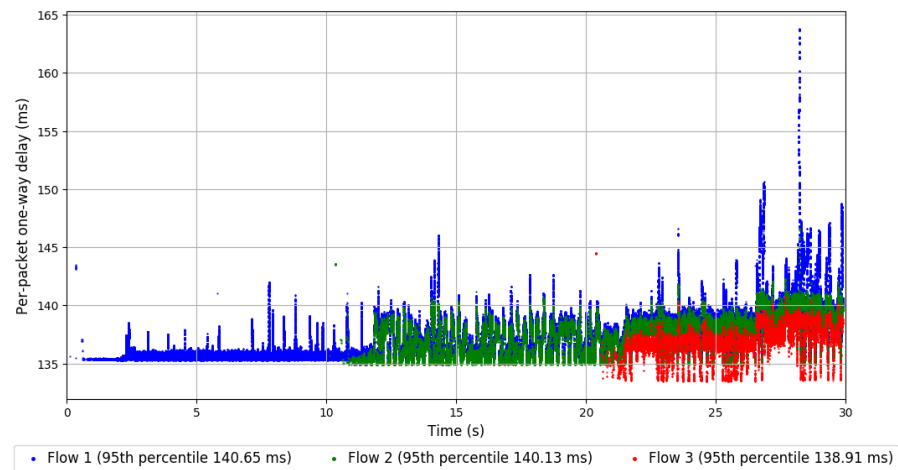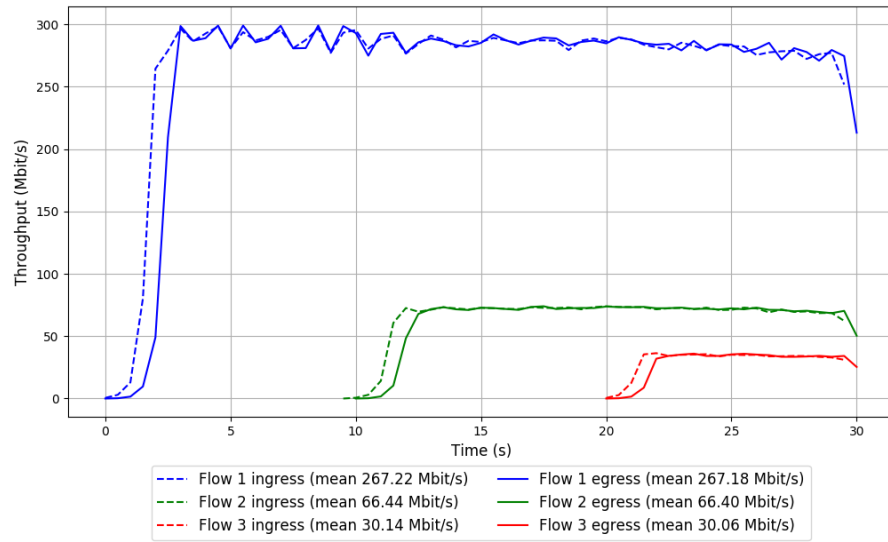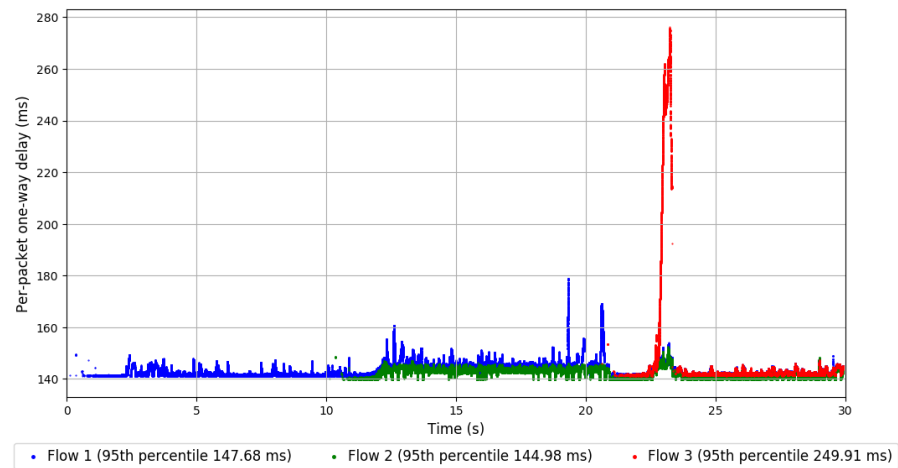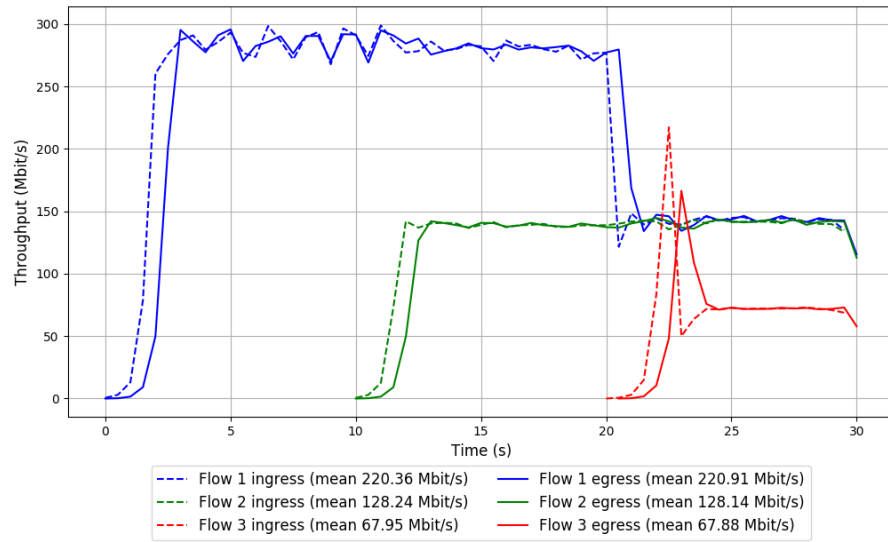
```
Run 5: Statistics of TCP Vegas

Start at: 2018-10-02 18:45:51
End at: 2018-10-02 18:46:21
Local clock offset: 0.202 ms
Remote clock offset: -39.392 ms


# Below is generated by plot.py at 2018-10-02 19:39:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 327.20 Mbit/s
95th percentile per-packet one-way delay: 147.444 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 220.91 Mbit/s
95th percentile per-packet one-way delay: 147.678 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 128.14 Mbit/s
95th percentile per-packet one-way delay: 144.981 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 67.88 Mbit/s
95th percentile per-packet one-way delay: 249.905 ms
Loss rate: 2.38%
```

Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 220.36 Mbit/s)   Flow 1 egress (mean 220.91 Mbit/s)
Flow 2 ingress (mean 128.24 Mbit/s)   Flow 2 egress (mean 128.14 Mbit/s)
Flow 3 ingress (mean 67.95 Mbit/s)   Flow 3 egress (mean 67.88 Mbit/s)

Flow 1 (95th percentile 147.68 ms)   Flow 2 (95th percentile 144.98 ms)   Flow 3 (95th percentile 249.91 ms)
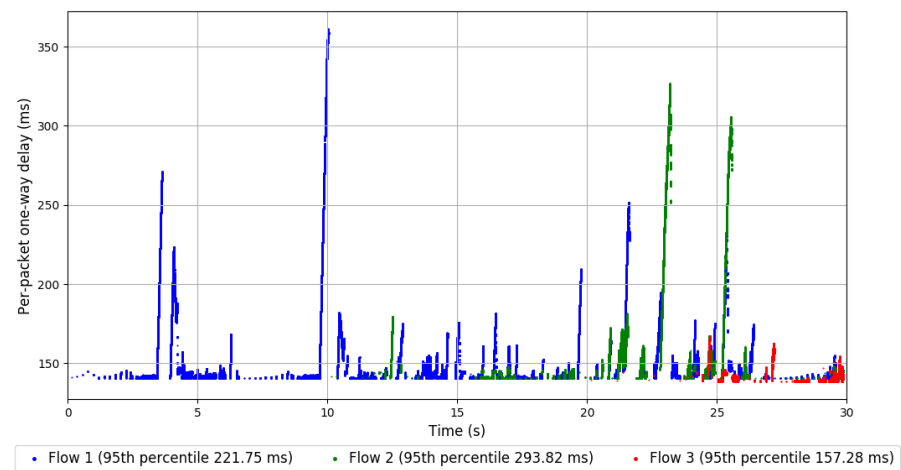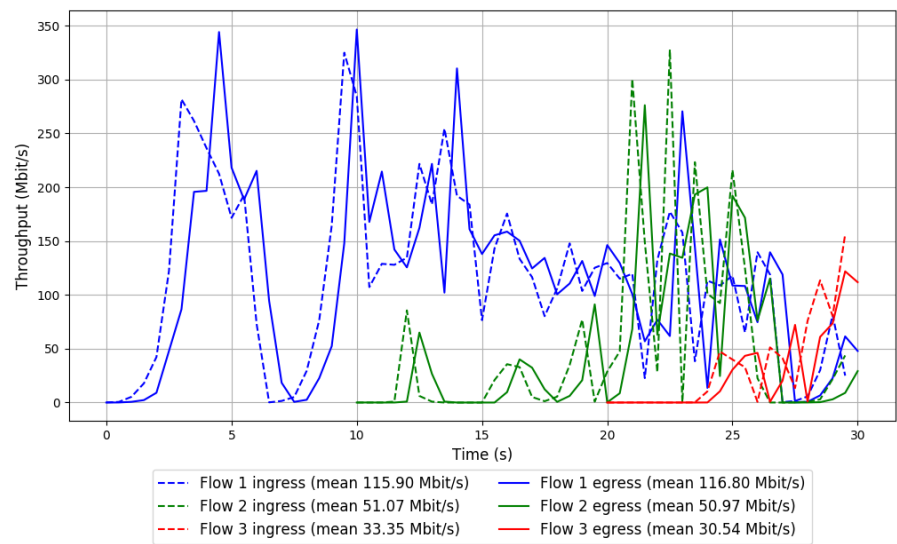
154

```
Run 1: Statistics of Verus

Start at: 2018-10-02 16:57:40
End at: 2018-10-02 16:58:10
Local clock offset: 2.013 ms
Remote clock offset: -38.73 ms


# Below is generated by plot.py at 2018-10-02 19:39:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 160.51 Mbit/s
95th percentile per-packet one-way delay: 249.728 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 116.80 Mbit/s
95th percentile per-packet one-way delay: 221.747 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 50.97 Mbit/s
95th percentile per-packet one-way delay: 293.821 ms
Loss rate: 1.38%
-- Flow 3:
Average throughput: 30.54 Mbit/s
95th percentile per-packet one-way delay: 157.278 ms
Loss rate: 10.62%
```
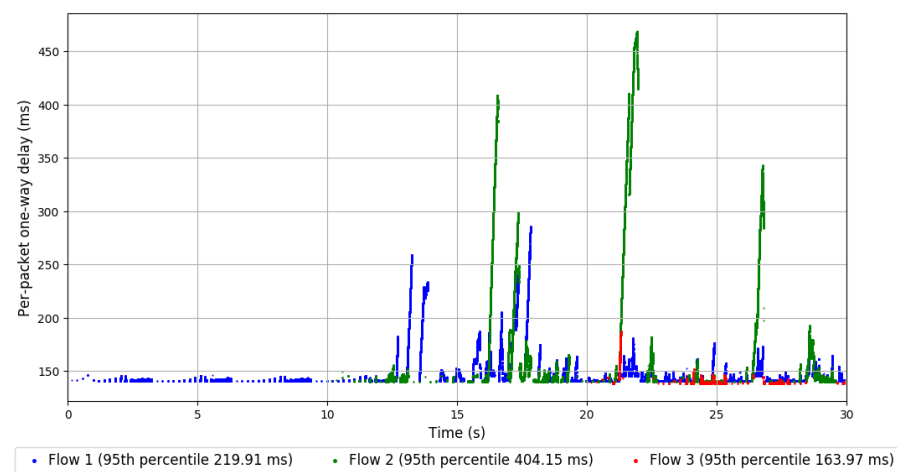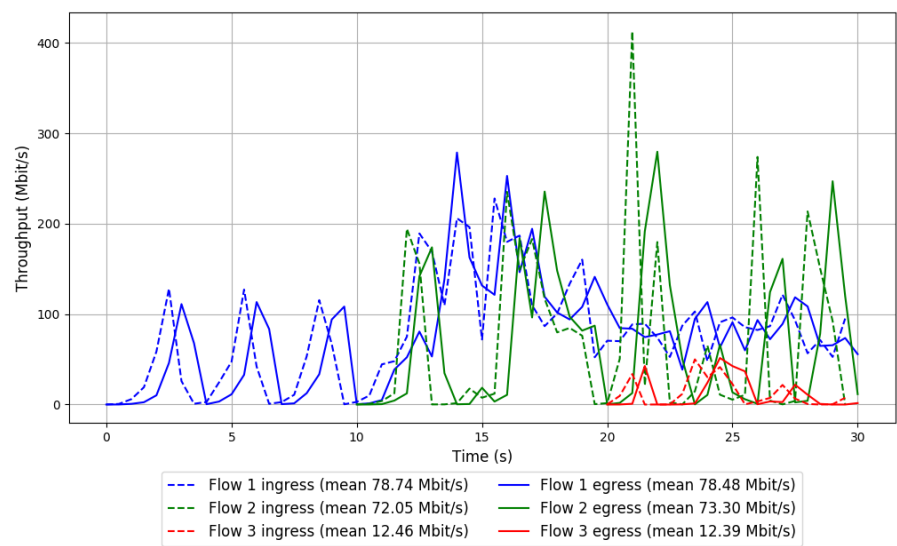
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-10-02 17:30:31
End at: 2018-10-02 17:31:01
Local clock offset: -0.674 ms
Remote clock offset: -40.757 ms


# Below is generated by plot.py at 2018-10-02 19:39:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 130.32 Mbit/s
95th percentile per-packet one-way delay: 328.565 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 78.48 Mbit/s
95th percentile per-packet one-way delay: 219.910 ms
Loss rate: 0.85%
-- Flow 2:
Average throughput: 73.30 Mbit/s
95th percentile per-packet one-way delay: 404.146 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 163.965 ms
Loss rate: 2.50%
```

Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 78.74 Mbit/s) --- Flow 1 egress (mean 78.48 Mbit/s)
Flow 2 ingress (mean 72.05 Mbit/s) --- Flow 2 egress (mean 73.30 Mbit/s)
Flow 3 ingress (mean 12.46 Mbit/s) --- Flow 3 egress (mean 12.39 Mbit/s)

Flow 1 (95th percentile 219.91 ms)   Flow 2 (95th percentile 404.15 ms)   Flow 3 (95th percentile 163.97 ms)
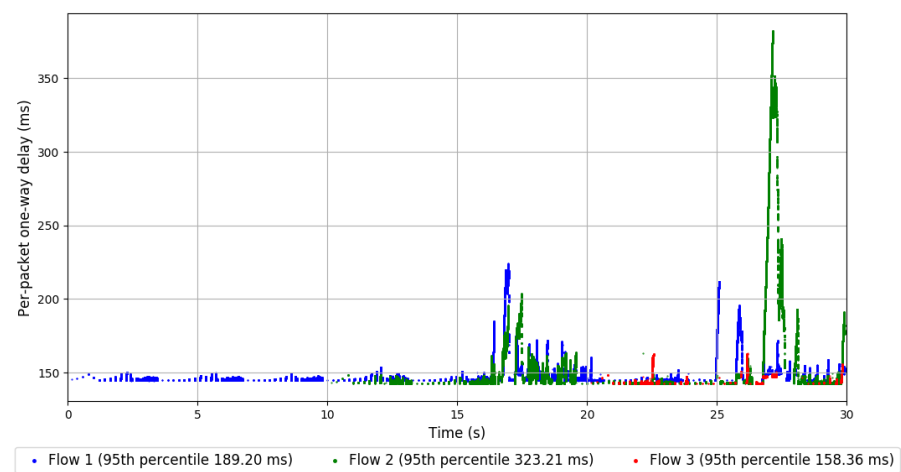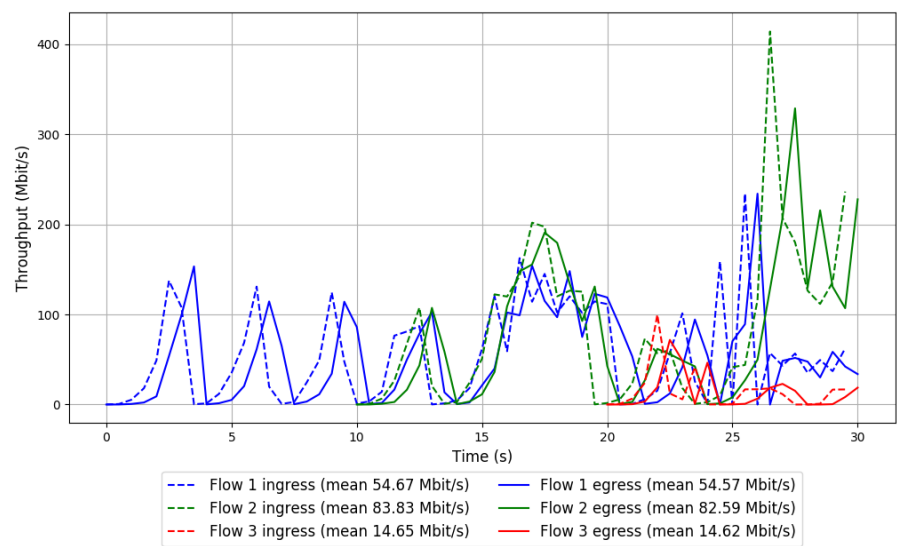
```
Run 3: Statistics of Verus

Start at: 2018-10-02 17:57:30
End at: 2018-10-02 17:58:00
Local clock offset: 3.345 ms
Remote clock offset: -40.561 ms

# Below is generated by plot.py at 2018-10-02 19:39:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 114.15 Mbit/s
95th percentile per-packet one-way delay: 226.621 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 54.57 Mbit/s
95th percentile per-packet one-way delay: 189.200 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 82.59 Mbit/s
95th percentile per-packet one-way delay: 323.210 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 14.62 Mbit/s
95th percentile per-packet one-way delay: 158.362 ms
Loss rate: 2.35%
```

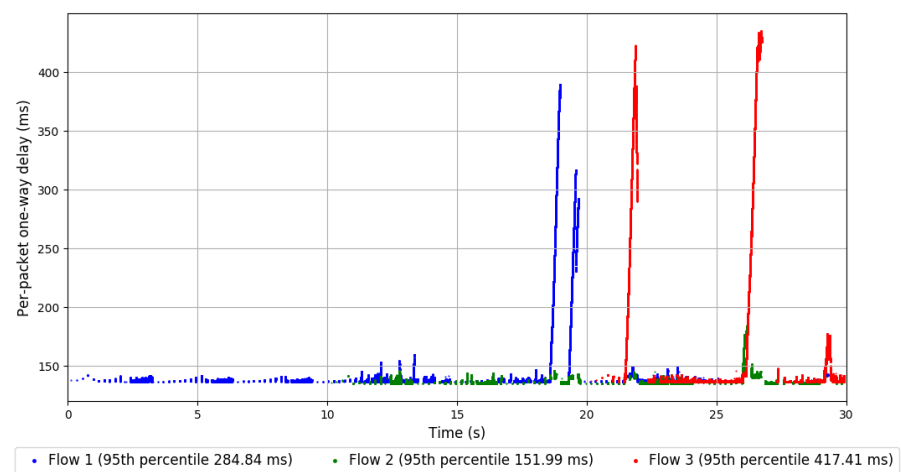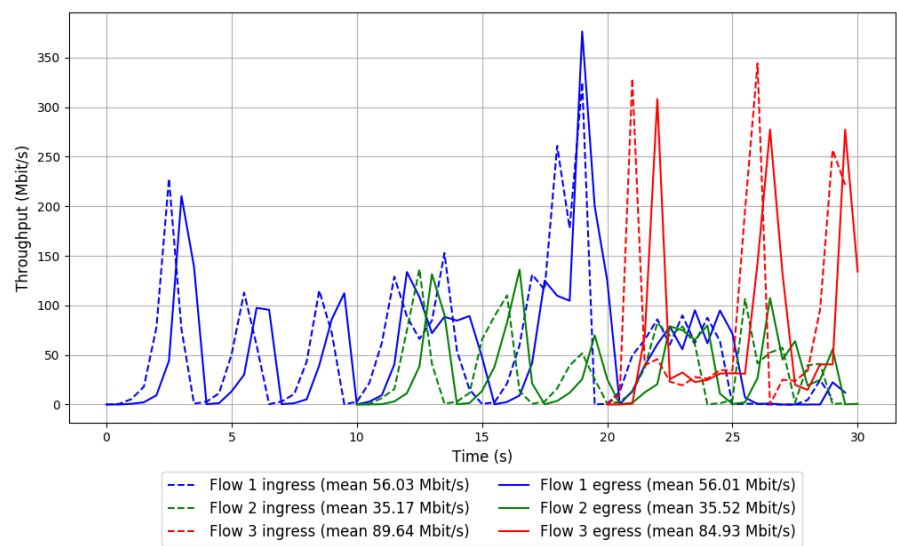## Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-10-02 18:30:17
End at: 2018-10-02 18:30:47
Local clock offset: 1.656 ms
Remote clock offset: -34.377 ms


# Below is generated by plot.py at 2018-10-02 19:39:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 106.30 Mbit/s
95th percentile per-packet one-way delay: 346.032 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 56.01 Mbit/s
95th percentile per-packet one-way delay: 284.840 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 35.52 Mbit/s
95th percentile per-packet one-way delay: 151.986 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 84.93 Mbit/s
95th percentile per-packet one-way delay: 417.408 ms
Loss rate: 7.31%
```

Run 4: Report of Verus — Data Link

- Flow 1 ingress (mean 56.03 Mbit/s)
- Flow 1 egress (mean 56.01 Mbit/s)
- Flow 2 ingress (mean 35.17 Mbit/s)
- Flow 2 egress (mean 35.52 Mbit/s)
- Flow 3 ingress (mean 89.64 Mbit/s)
- Flow 3 egress (mean 84.93 Mbit/s)

- Flow 1 (95th percentile 284.84 ms)
- Flow 2 (95th percentile 151.99 ms)
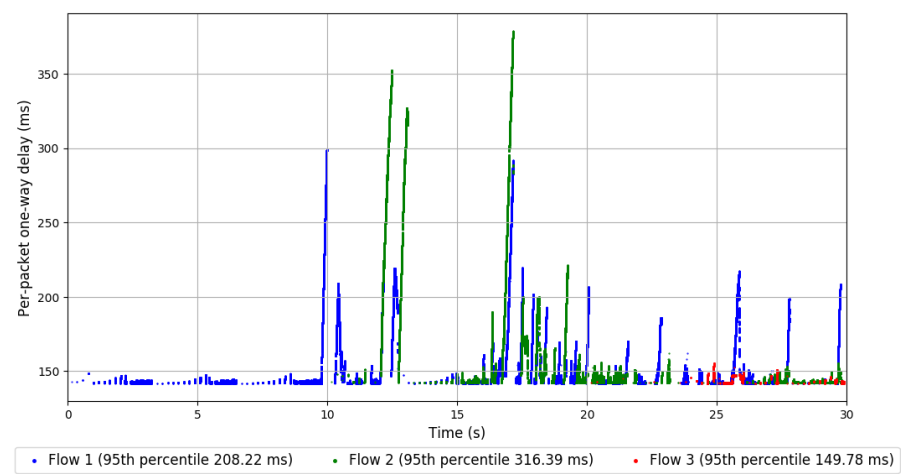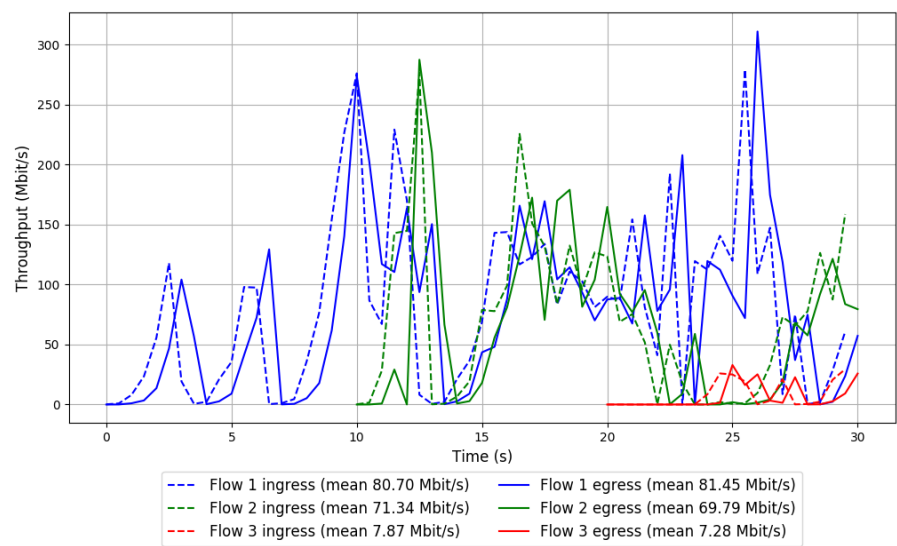- Flow 3 (95th percentile 417.41 ms)

```
Run 5: Statistics of Verus

Start at: 2018-10-02 18:57:37
End at: 2018-10-02 18:58:07
Local clock offset: -0.02 ms
Remote clock offset: -39.734 ms


# Below is generated by plot.py at 2018-10-02 19:39:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 129.60 Mbit/s
95th percentile per-packet one-way delay: 267.327 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 81.45 Mbit/s
95th percentile per-packet one-way delay: 208.219 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 69.79 Mbit/s
95th percentile per-packet one-way delay: 316.390 ms
Loss rate: 3.76%
-- Flow 3:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 149.775 ms
Loss rate: 9.61%
```
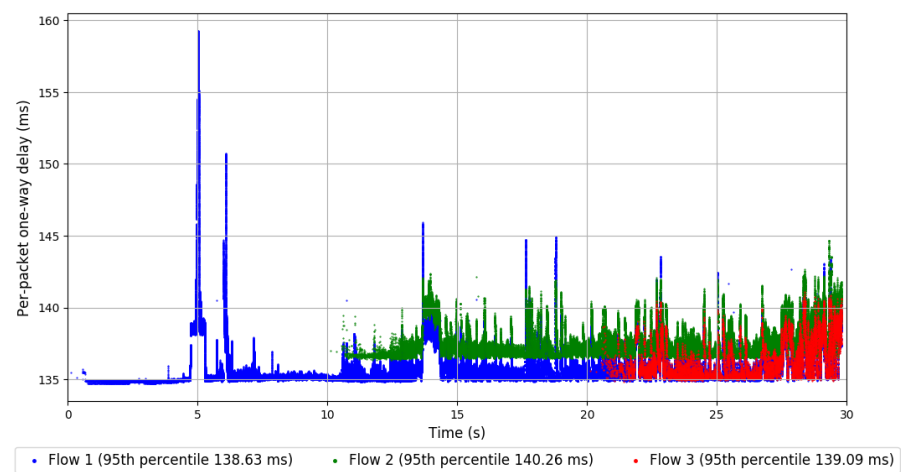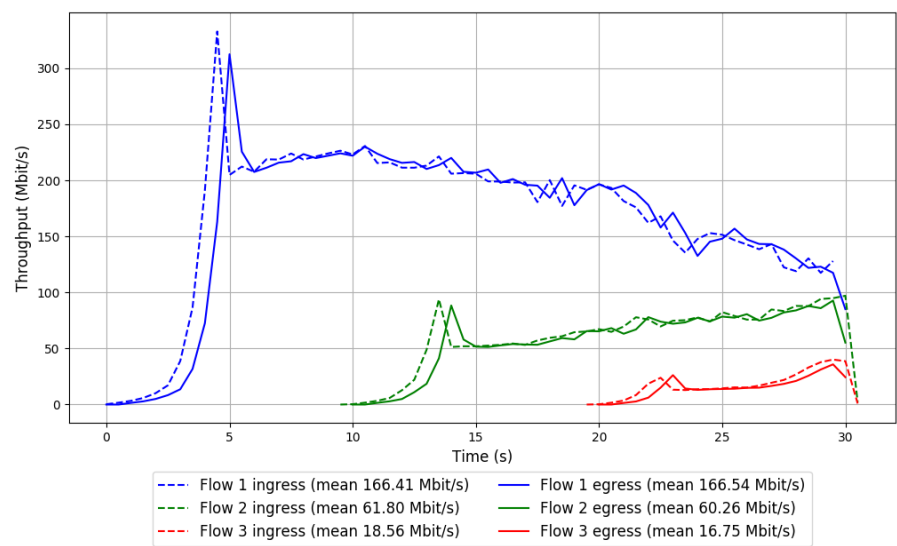
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-10-02 16:43:04
End at: 2018-10-02 16:43:34
Local clock offset: 1.587 ms
Remote clock offset: -36.052 ms

# Below is generated by plot.py at 2018-10-02 19:39:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 211.95 Mbit/s
95th percentile per-packet one-way delay: 139.315 ms
Loss rate: 2.42%
-- Flow 1:
Average throughput: 166.54 Mbit/s
95th percentile per-packet one-way delay: 138.632 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 60.26 Mbit/s
95th percentile per-packet one-way delay: 140.259 ms
Loss rate: 6.52%
-- Flow 3:
Average throughput: 16.75 Mbit/s
95th percentile per-packet one-way delay: 139.092 ms
Loss rate: 17.07%
```

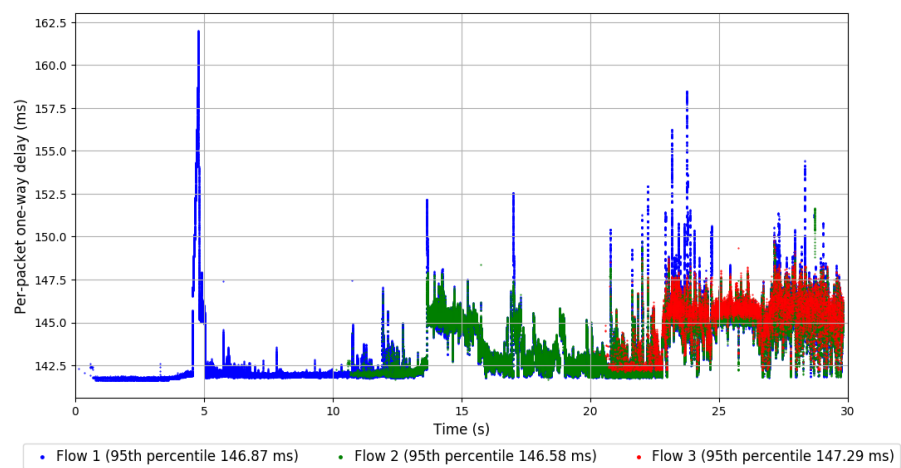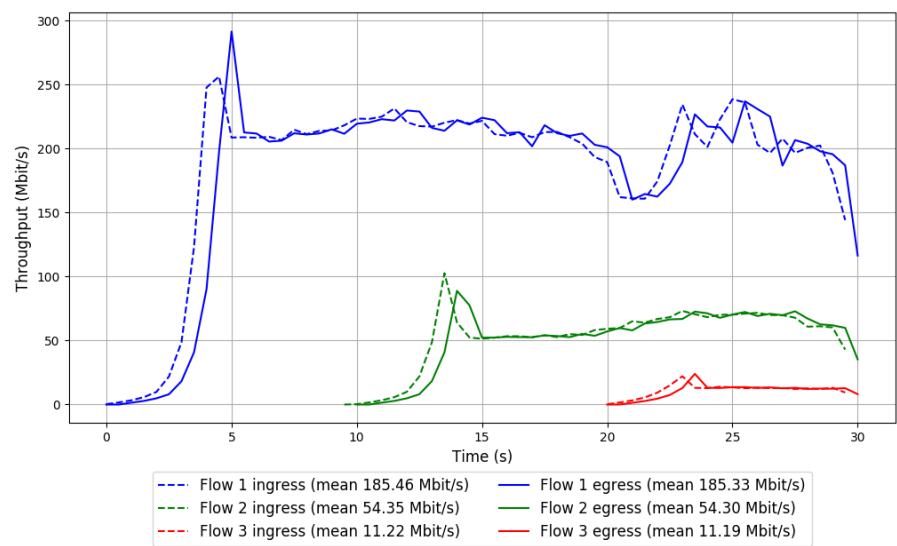Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-10-02 17:15:48
End at: 2018-10-02 17:16:18
Local clock offset: 1.351 ms
Remote clock offset: -40.703 ms


# Below is generated by plot.py at 2018-10-02 19:39:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 224.98 Mbit/s
95th percentile per-packet one-way delay: 146.815 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 185.33 Mbit/s
95th percentile per-packet one-way delay: 146.872 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 54.30 Mbit/s
95th percentile per-packet one-way delay: 146.581 ms
Loss rate: 1.14%
-- Flow 3:
Average throughput: 11.19 Mbit/s
95th percentile per-packet one-way delay: 147.287 ms
Loss rate: 2.33%
```

Run 2: Report of PCC-Vivace — Data Link

- - - Flow 1 ingress (mean 185.46 Mbit/s) ── Flow 1 egress (mean 185.33 Mbit/s)
- - - Flow 2 ingress (mean 54.35 Mbit/s) ── Flow 2 egress (mean 54.30 Mbit/s)
- - - Flow 3 ingress (mean 11.22 Mbit/s) ── Flow 3 egress (mean 11.19 Mbit/s)

• Flow 1 (95th percentile 146.87 ms)   • Flow 2 (95th percentile 146.58 ms)   • Flow 3 (95th percentile 147.29 ms)
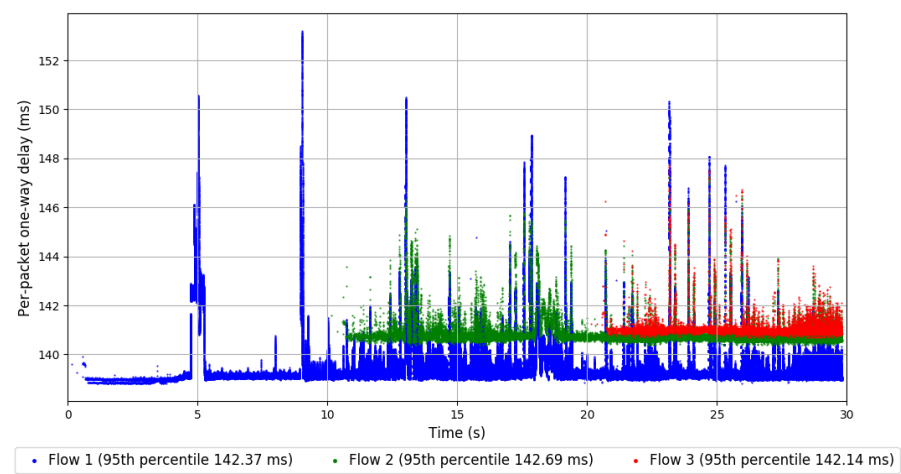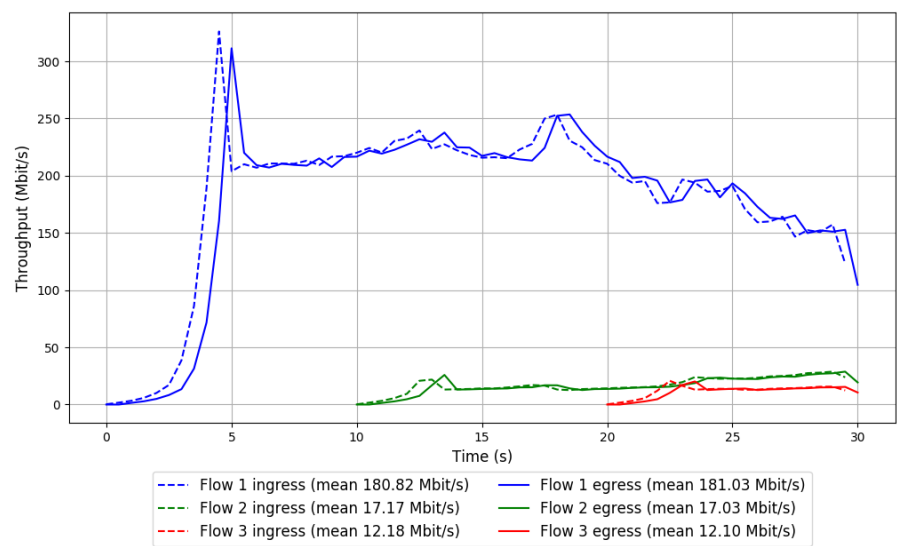
```
Run 3: Statistics of PCC-Vivace

Start at: 2018-10-02 17:42:58
End at: 2018-10-02 17:43:28
Local clock offset: 0.3 ms
Remote clock offset: -39.959 ms


# Below is generated by plot.py at 2018-10-02 19:39:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 196.24 Mbit/s
95th percentile per-packet one-way delay: 142.378 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 181.03 Mbit/s
95th percentile per-packet one-way delay: 142.370 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 17.03 Mbit/s
95th percentile per-packet one-way delay: 142.689 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 12.10 Mbit/s
95th percentile per-packet one-way delay: 142.140 ms
Loss rate: 2.77%
```

Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 180.82 Mbit/s) --- Flow 1 egress (mean 181.03 Mbit/s)
Flow 2 ingress (mean 17.17 Mbit/s) --- Flow 2 egress (mean 17.03 Mbit/s)
Flow 3 ingress (mean 12.18 Mbit/s) --- Flow 3 egress (mean 12.10 Mbit/s)

Flow 1 (95th percentile 142.37 ms)   Flow 2 (95th percentile 142.69 ms)   Flow 3 (95th percentile 142.14 ms)
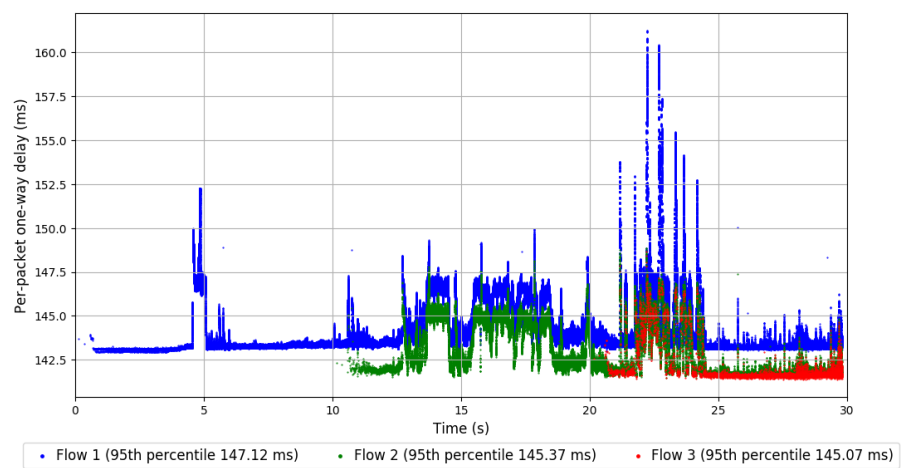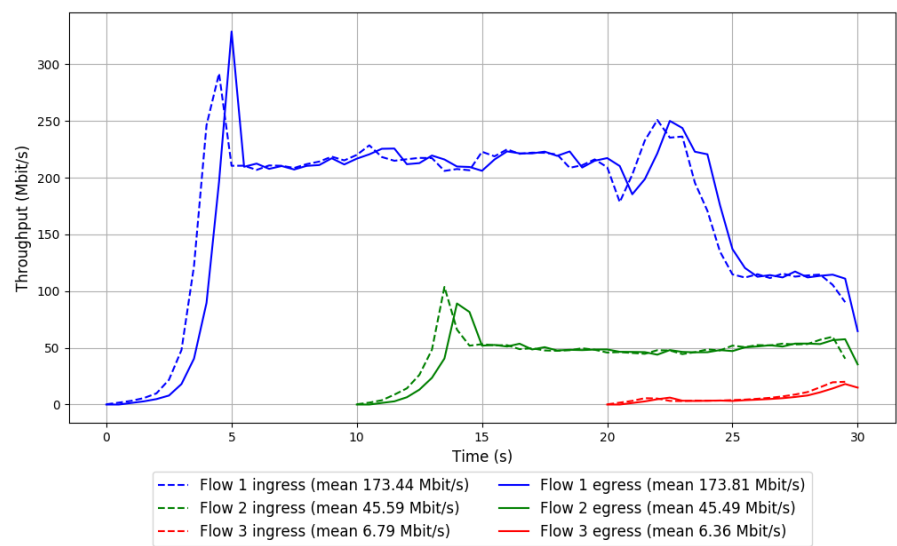
```
Run 4: Statistics of PCC-Vivace

Start at: 2018-10-02 18:15:43
End at: 2018-10-02 18:16:13
Local clock offset: 2.056 ms
Remote clock offset: -40.564 ms


# Below is generated by plot.py at 2018-10-02 19:39:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 205.98 Mbit/s
95th percentile per-packet one-way delay: 146.957 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 173.81 Mbit/s
95th percentile per-packet one-way delay: 147.115 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 45.49 Mbit/s
95th percentile per-packet one-way delay: 145.366 ms
Loss rate: 1.25%
-- Flow 3:
Average throughput: 6.36 Mbit/s
95th percentile per-packet one-way delay: 145.067 ms
Loss rate: 8.22%
```

Run 4: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 173.44 Mbit/s) --- Flow 1 egress (mean 173.81 Mbit/s)
Flow 2 ingress (mean 45.59 Mbit/s) --- Flow 2 egress (mean 45.49 Mbit/s)
Flow 3 ingress (mean 6.79 Mbit/s) --- Flow 3 egress (mean 6.36 Mbit/s)

Flow 1 (95th percentile 147.12 ms)   Flow 2 (95th percentile 145.37 ms)   Flow 3 (95th percentile 145.07 ms)
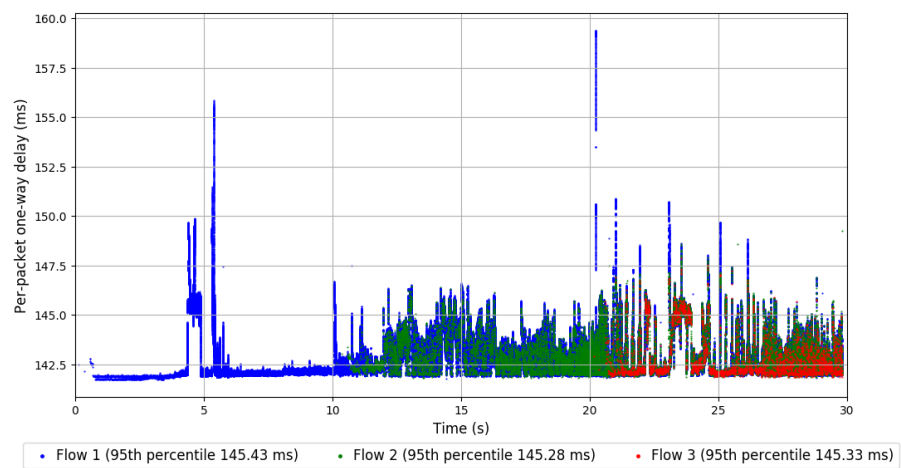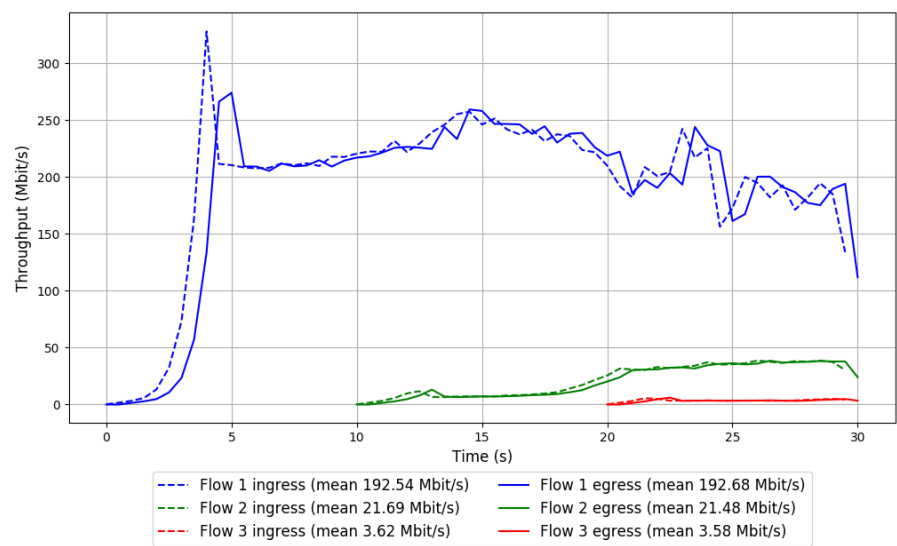
```
Run 5: Statistics of PCC-Vivace

Start at: 2018-10-02 18:42:59
End at: 2018-10-02 18:43:29
Local clock offset: 2.568 ms
Remote clock offset: -39.536 ms


# Below is generated by plot.py at 2018-10-02 19:39:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 208.04 Mbit/s
95th percentile per-packet one-way delay: 145.422 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 192.68 Mbit/s
95th percentile per-packet one-way delay: 145.434 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 21.48 Mbit/s
95th percentile per-packet one-way delay: 145.280 ms
Loss rate: 1.97%
-- Flow 3:
Average throughput: 3.58 Mbit/s
95th percentile per-packet one-way delay: 145.333 ms
Loss rate: 3.28%
```

Run 5: Report of PCC-Vivace — Data Link

- - - - Flow 1 ingress (mean 192.54 Mbit/s) ——— Flow 1 egress (mean 192.68 Mbit/s)
- - - - Flow 2 ingress (mean 21.69 Mbit/s) ——— Flow 2 egress (mean 21.48 Mbit/s)
- - - - Flow 3 ingress (mean 3.62 Mbit/s) ——— Flow 3 egress (mean 3.58 Mbit/s)

• Flow 1 (95th percentile 145.43 ms)   • Flow 2 (95th percentile 145.28 ms)   • Flow 3 (95th percentile 145.33 ms)
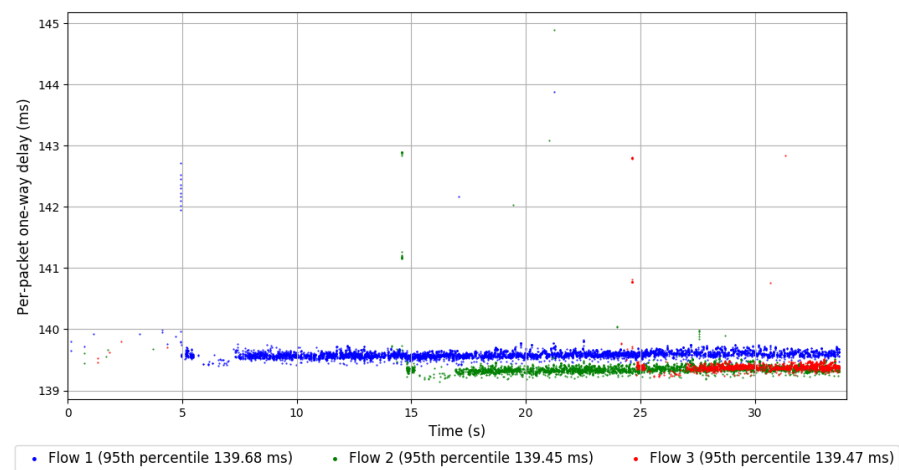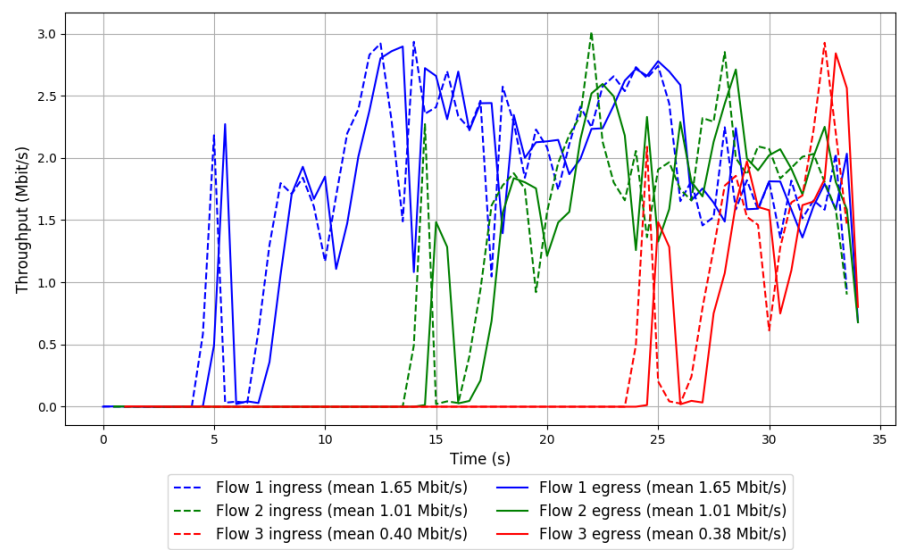
```
Run 1: Statistics of WebRTC media

Start at: 2018-10-02 16:44:38
End at: 2018-10-02 16:45:08
Local clock offset: -0.61 ms
Remote clock offset: -40.889 ms


# Below is generated by plot.py at 2018-10-02 19:39:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 139.661 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 139.679 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 139.448 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 139.469 ms
Loss rate: 4.61%
```

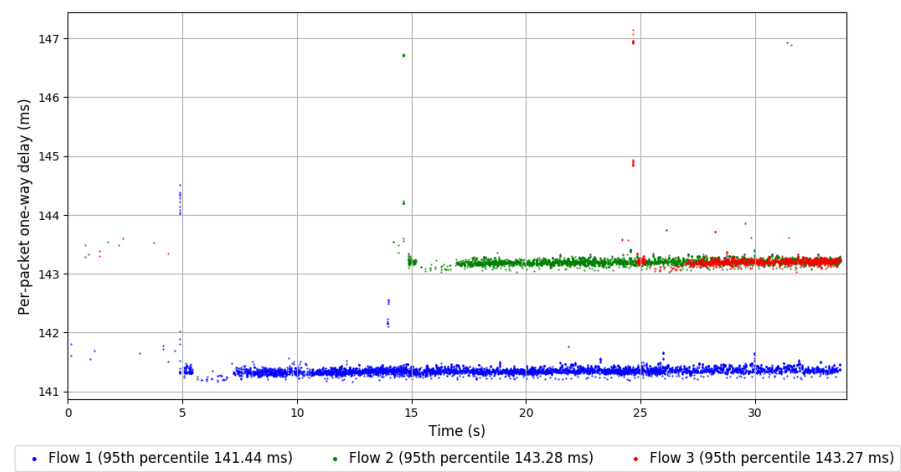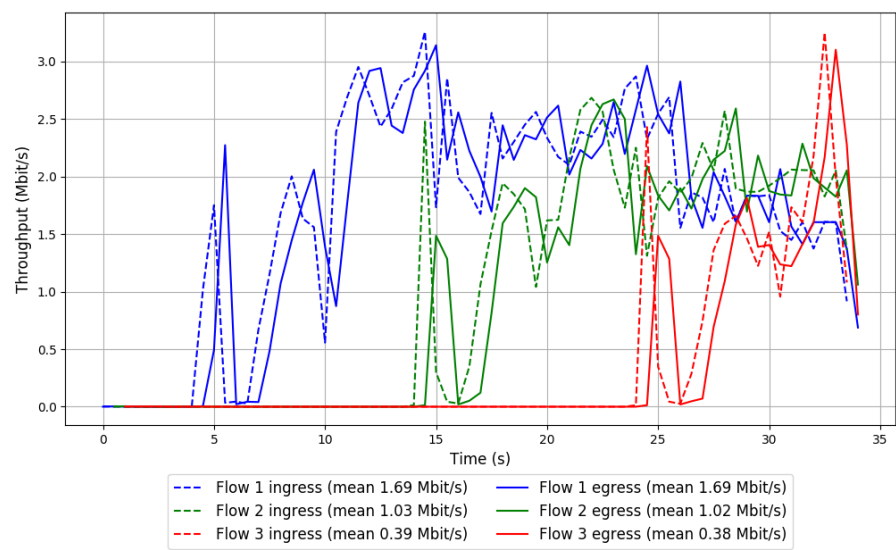Run 1: Report of WebRTC media — Data Link

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```
Run 2: Statistics of WebRTC media

Start at: 2018-10-02 17:17:23
End at: 2018-10-02 17:17:53
Local clock offset: 2.253 ms
Remote clock offset: -40.708 ms


# Below is generated by plot.py at 2018-10-02 19:39:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 143.259 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 141.441 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 143.284 ms
Loss rate: 1.44%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 143.273 ms
Loss rate: 3.11%
```

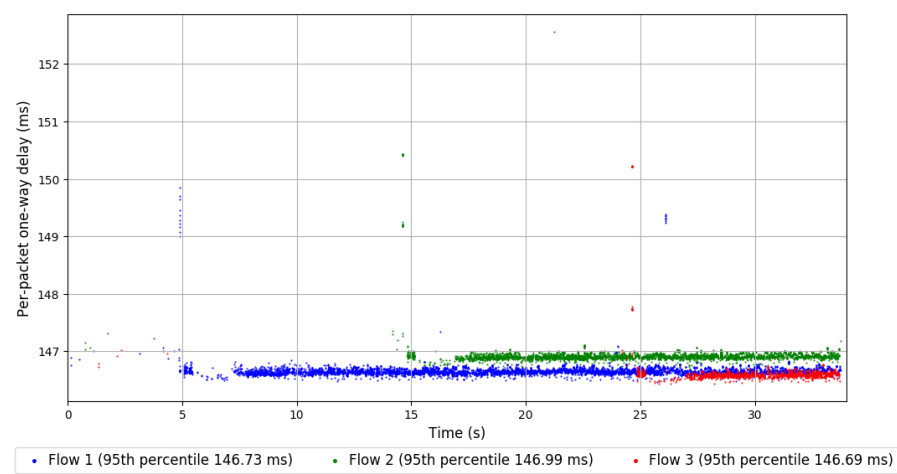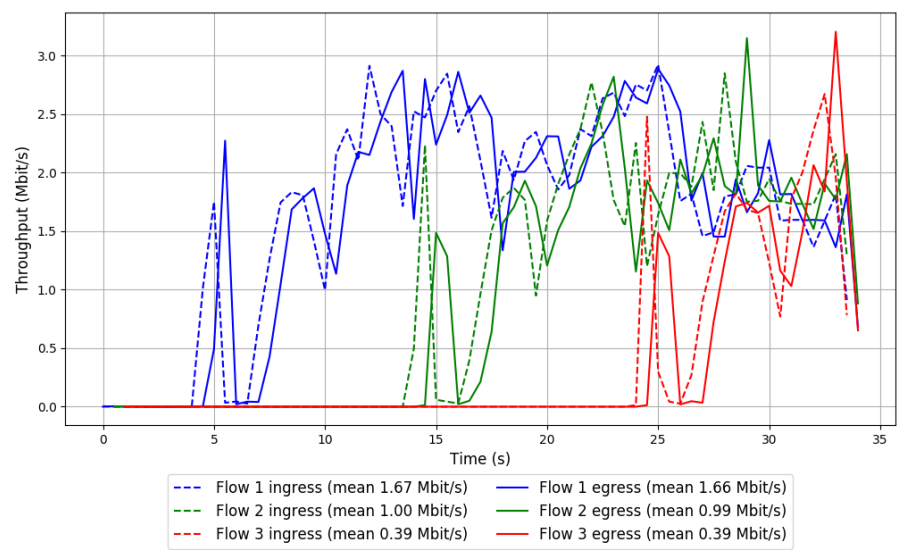Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-10-02 17:44:31
End at: 2018-10-02 17:45:01
Local clock offset: 0.109 ms
Remote clock offset: -46.223 ms


# Below is generated by plot.py at 2018-10-02 19:39:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 146.956 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 1.66 Mbit/s
95th percentile per-packet one-way delay: 146.731 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 146.986 ms
Loss rate: 1.59%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 146.692 ms
Loss rate: 2.53%
```

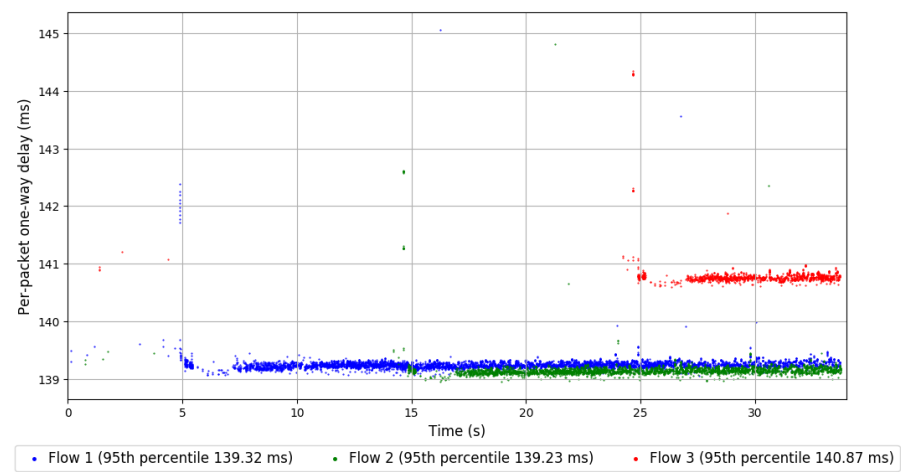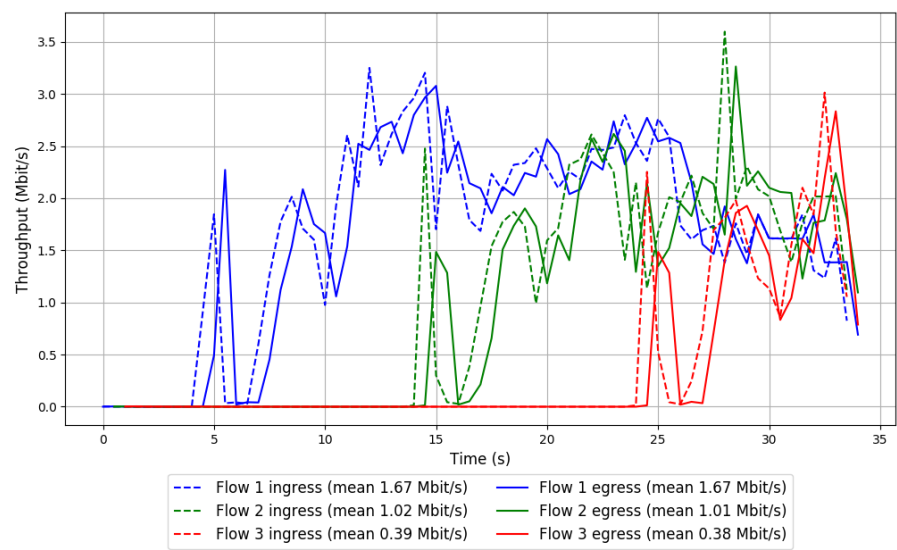Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-10-02 18:17:16
End at: 2018-10-02 18:17:46
Local clock offset: -0.157 ms
Remote clock offset: -40.327 ms


# Below is generated by plot.py at 2018-10-02 19:39:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.03 Mbit/s
95th percentile per-packet one-way delay: 140.771 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 139.323 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 139.227 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 140.869 ms
Loss rate: 3.12%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-10-02 18:44:33
End at: 2018-10-02 18:45:03
Local clock offset: -1.263 ms
Remote clock offset: -34.586 ms

# Below is generated by plot.py at 2018-10-02 19:39:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 135.016 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 135.029 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 134.927 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 134.984 ms
Loss rate: 2.72%
```

Run 5: Report of WebRTC media — Data Link