Pantheon Report

Generated at 2018-10-26 14:02:08 (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.
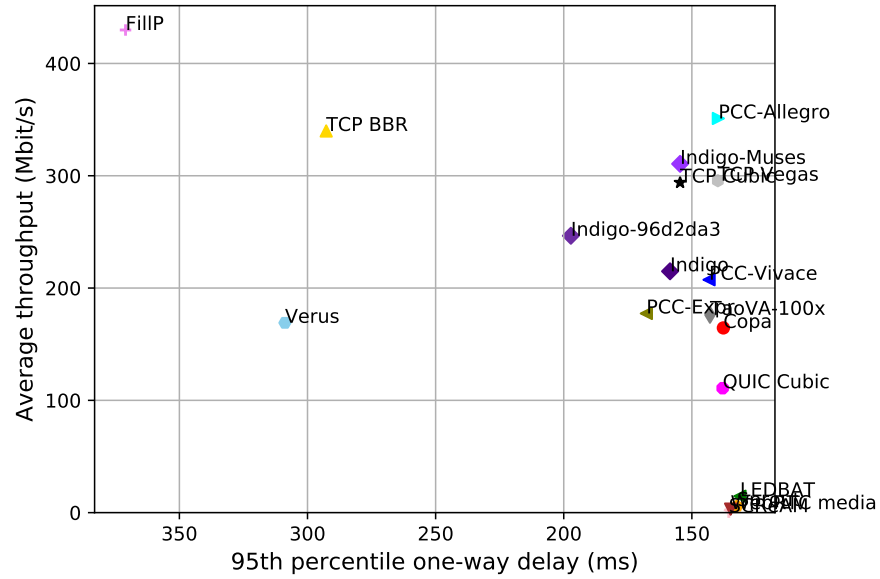
```
System info:
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

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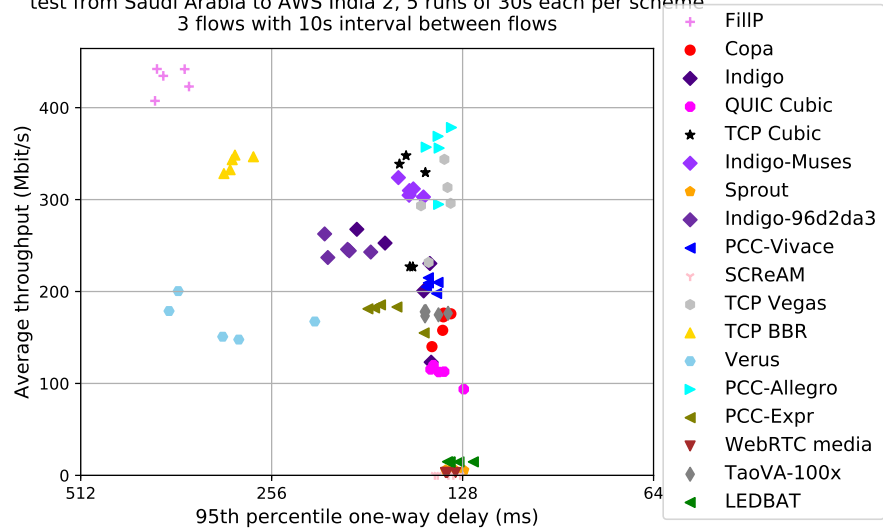
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from 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
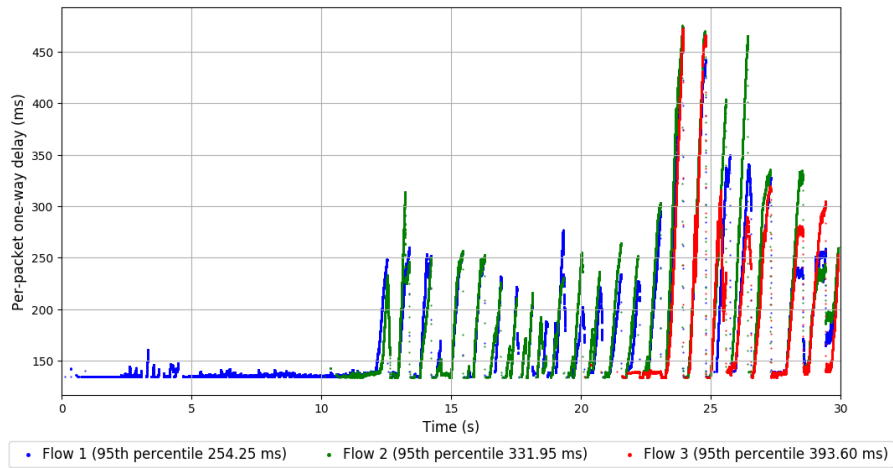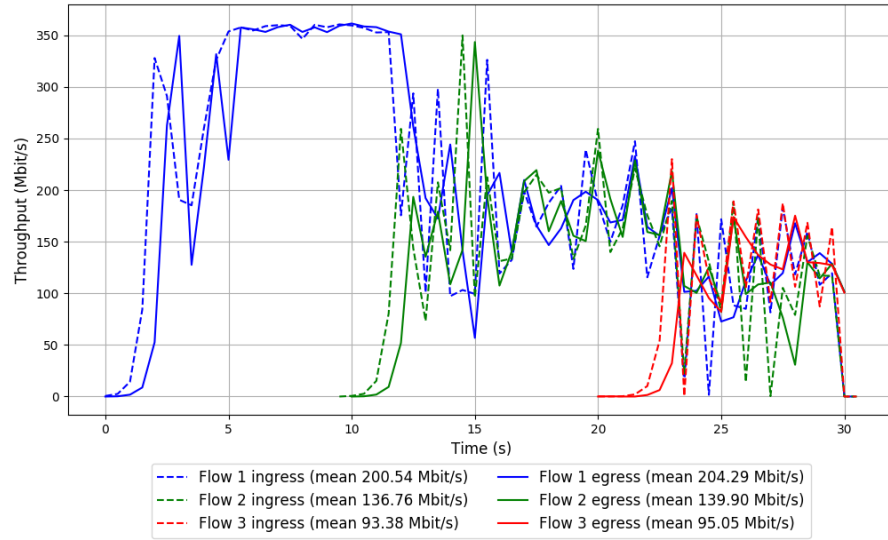3 flows with 10s interval between flows

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	217.77	135.56	98.88	255.67	315.82	370.69	0.55	1.42	3.78
Copa	5	119.30	52.91	30.75	137.51	138.44	139.93	0.32	1.30	4.62
TCP Cubic	5	151.27	156.32	119.44	146.93	164.87	177.25	0.59	0.83	3.12
FillP	5	225.14	252.83	140.19	345.90	364.70	343.20	2.18	10.94	27.88
Indigo	5	126.32	87.15	96.91	157.20	155.66	167.77	0.74	1.16	2.97
Indigo-96d2da3	5	145.62	120.48	66.46	195.57	200.24	209.32	0.51	1.30	3.05
LEDBAT	5	9.50	6.29	3.02	131.01	130.12	130.96	1.30	1.93	3.98
Indigo-Muses	5	213.74	113.27	66.71	155.49	147.95	160.92	0.43	1.03	3.45
PCC-Allegro	5	306.56	59.47	15.43	140.97	139.26	138.57	0.70	1.14	1.92
PCC-Expr	5	166.93	12.83	6.01	173.35	142.80	143.94	0.64	0.89	1.85
QUIC Cubic	5	56.99	55.18	52.99	137.28	137.49	137.85	0.68	1.06	2.31
SCReAM	5	0.22	0.22	0.22	134.96	134.87	135.46	0.64	1.04	1.84
Sprout	5	3.12	3.15	2.15	132.06	132.18	131.97	0.90	1.26	4.05
TaoVA-100x	5	103.30	79.78	60.64	141.47	143.60	144.97	0.44	0.88	1.86
TCP Vegas	5	219.20	86.03	58.58	139.31	144.68	151.69	0.50	0.98	2.52
Verus	5	81.86	102.14	62.58	291.10	304.84	329.13	0.38	1.31	5.56
PCC-Vivace	5	171.01	45.89	18.26	143.31	142.74	142.59	0.50	2.30	9.11
WebRTC media	5	1.70	1.04	0.40	134.24	134.73	134.42	0.52	1.05	2.70

```
Run 1: Statistics of TCP BBR

Start at: 2018-10-26 10:04:49
End at: 2018-10-26 10:05:19
Local clock offset: 0.485 ms
Remote clock offset: -37.999 ms


# Below is generated by plot.py at 2018-10-26 13:36:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 328.35 Mbit/s
95th percentile per-packet one-way delay: 304.434 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 204.29 Mbit/s
95th percentile per-packet one-way delay: 254.253 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 139.90 Mbit/s
95th percentile per-packet one-way delay: 331.946 ms
Loss rate: 1.39%
-- Flow 3:
Average throughput: 95.05 Mbit/s
95th percentile per-packet one-way delay: 393.604 ms
Loss rate: 5.40%
```

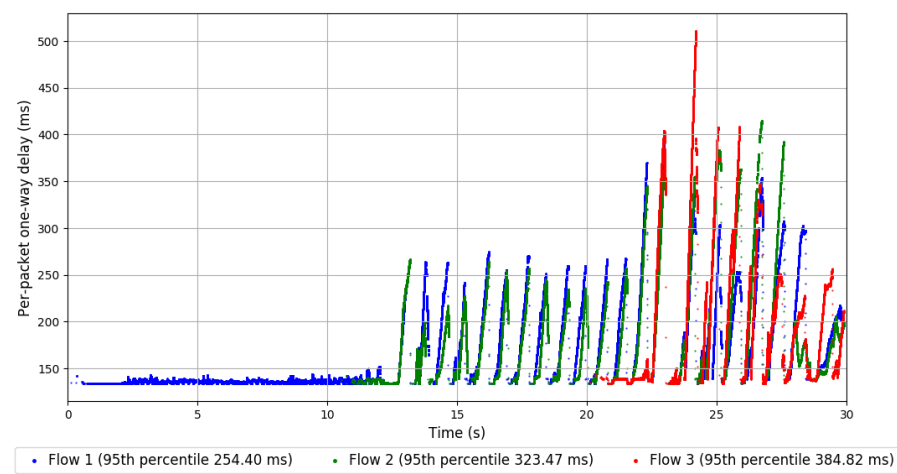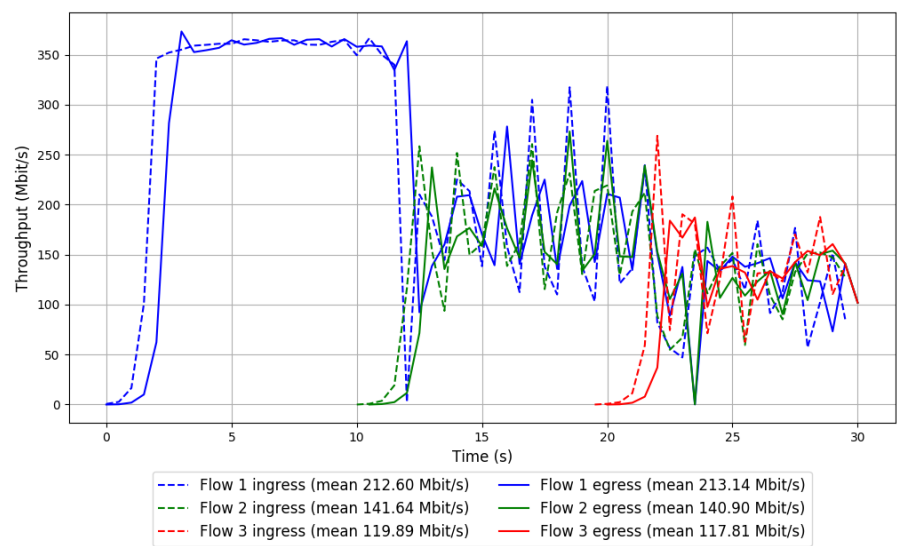Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-10-26 10:57:50
End at: 2018-10-26 10:58:20
Local clock offset: -0.556 ms
Remote clock offset: -39.795 ms


# Below is generated by plot.py at 2018-10-26 13:36:21
# Datalink statistics
-- Total of 3 flows:
Average throughput: 343.45 Mbit/s
95th percentile per-packet one-way delay: 295.391 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 213.14 Mbit/s
95th percentile per-packet one-way delay: 254.402 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 140.90 Mbit/s
95th percentile per-packet one-way delay: 323.466 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 117.81 Mbit/s
95th percentile per-packet one-way delay: 384.824 ms
Loss rate: 3.34%
```
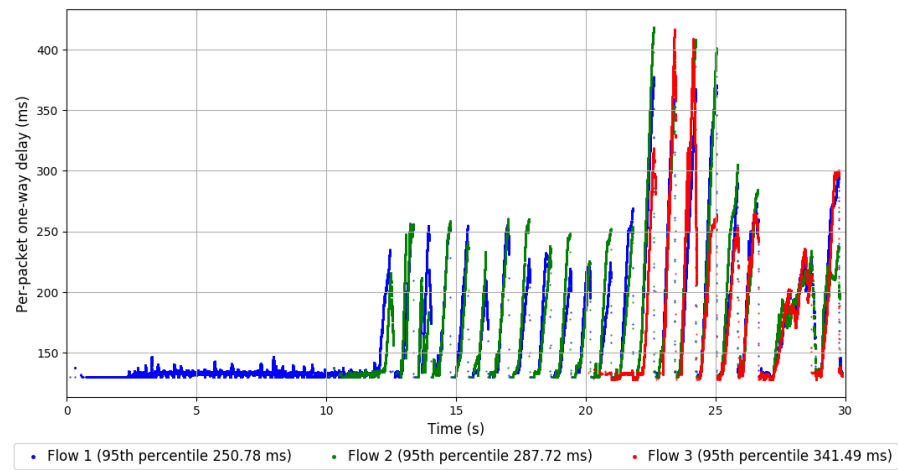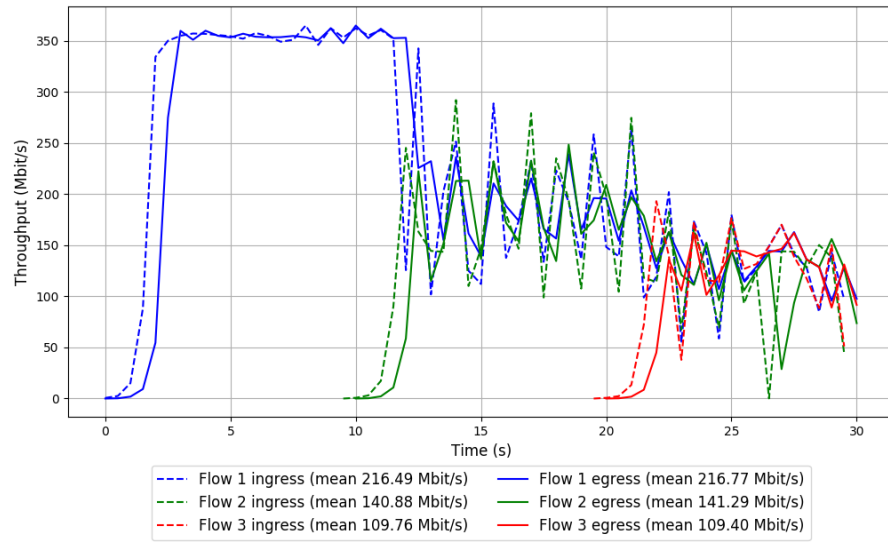
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-10-26 11:34:30
End at: 2018-10-26 11:35:00
Local clock offset: 0.341 ms
Remote clock offset: -32.654 ms


# Below is generated by plot.py at 2018-10-26 13:36:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 346.62 Mbit/s
95th percentile per-packet one-way delay: 273.528 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 216.77 Mbit/s
95th percentile per-packet one-way delay: 250.781 ms
Loss rate: 0.53%
-- Flow 2:
Average throughput: 141.29 Mbit/s
95th percentile per-packet one-way delay: 287.717 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 109.40 Mbit/s
95th percentile per-packet one-way delay: 341.485 ms
Loss rate: 1.19%
```
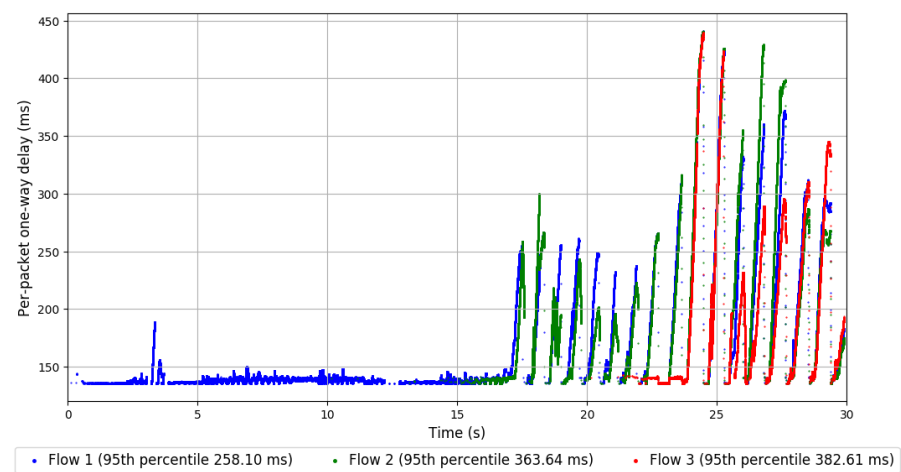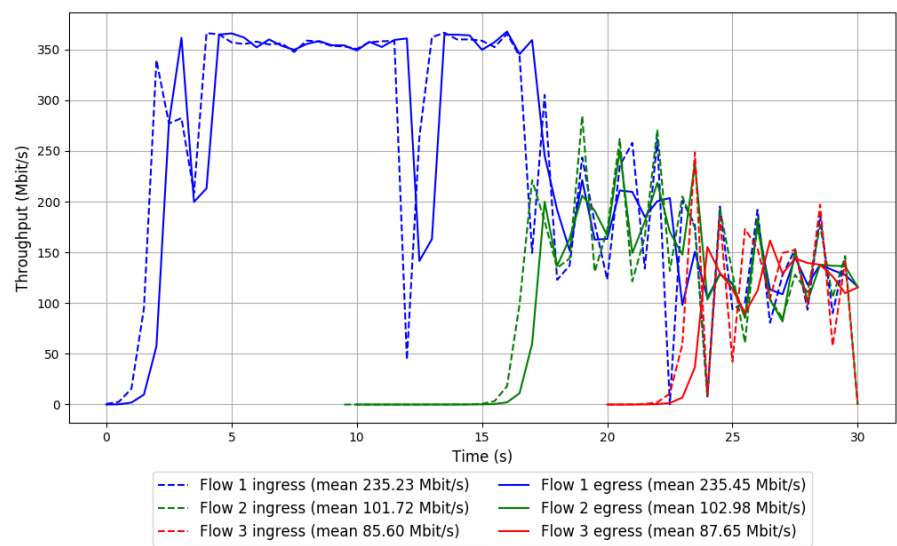
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2018-10-26 12:27:19
End at: 2018-10-26 12:27:49
Local clock offset: 0.376 ms
Remote clock offset: -40.871 ms


# Below is generated by plot.py at 2018-10-26 13:36:24
# Datalink statistics
-- Total of 3 flows:
Average throughput: 332.55 Mbit/s
95th percentile per-packet one-way delay: 297.645 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 235.45 Mbit/s
95th percentile per-packet one-way delay: 258.098 ms
Loss rate: 0.57%
-- Flow 2:
Average throughput: 102.98 Mbit/s
95th percentile per-packet one-way delay: 363.640 ms
Loss rate: 1.93%
-- Flow 3:
Average throughput: 87.65 Mbit/s
95th percentile per-packet one-way delay: 382.607 ms
Loss rate: 4.20%
```
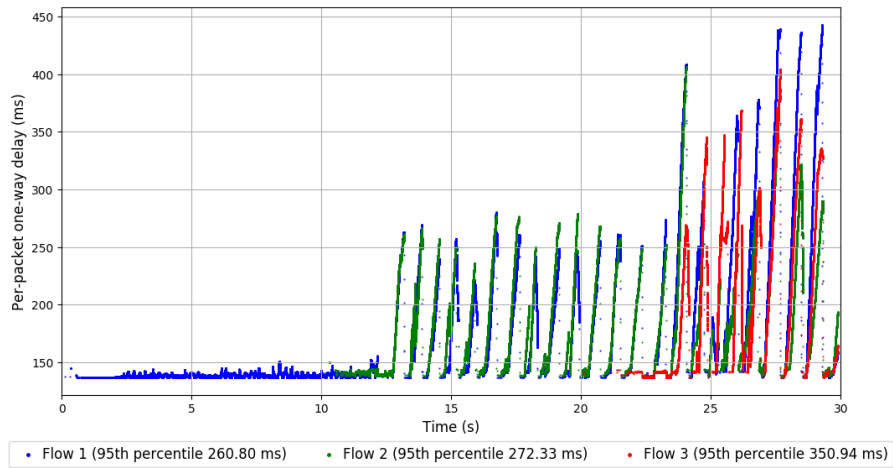
Run 4: Report of TCP BBR — Data Link

- - - Flow 1 ingress (mean 235.23 Mbit/s) —— Flow 1 egress (mean 235.45 Mbit/s)
- - - Flow 2 ingress (mean 101.72 Mbit/s) —— Flow 2 egress (mean 102.98 Mbit/s)
- - - Flow 3 ingress (mean 85.60 Mbit/s) —— Flow 3 egress (mean 87.65 Mbit/s)

• Flow 1 (95th percentile 258.10 ms)   • Flow 2 (95th percentile 363.64 ms)   • Flow 3 (95th percentile 382.61 ms)
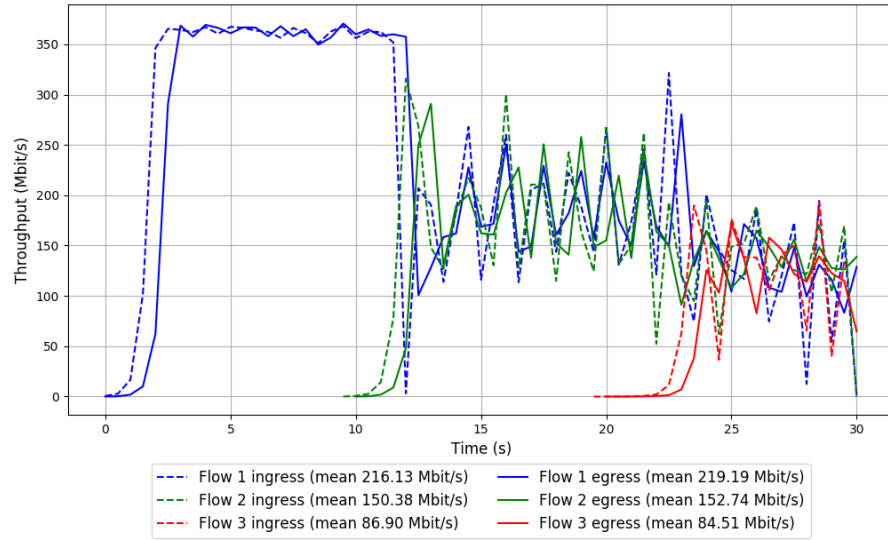
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```
Run 5: Statistics of TCP BBR

Start at: 2018-10-26 13:09:18
End at: 2018-10-26 13:09:48
Local clock offset: 2.083 ms
Remote clock offset: -43.035 ms


# Below is generated by plot.py at 2018-10-26 13:36:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 348.44 Mbit/s
95th percentile per-packet one-way delay: 292.511 ms
Loss rate: 1.24%
-- Flow 1:
Average throughput: 219.19 Mbit/s
95th percentile per-packet one-way delay: 260.802 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 152.74 Mbit/s
95th percentile per-packet one-way delay: 272.333 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 84.51 Mbit/s
95th percentile per-packet one-way delay: 350.935 ms
Loss rate: 4.75%
```
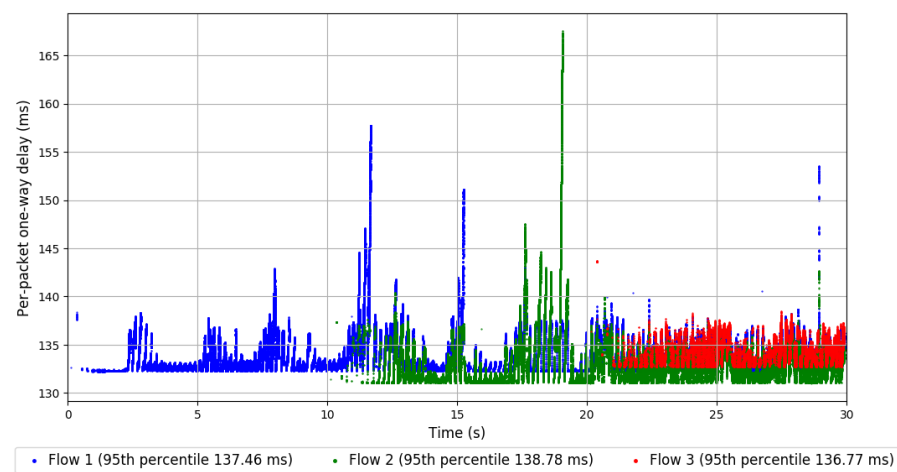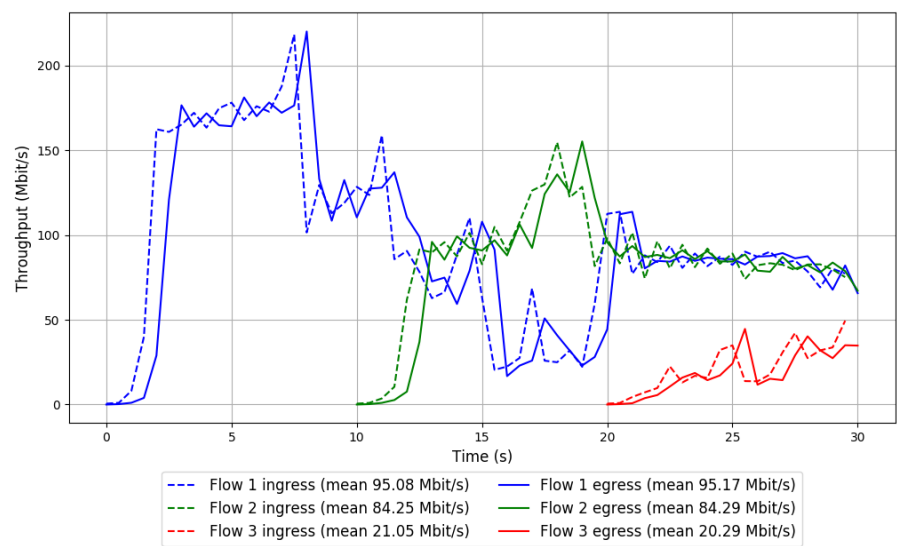
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 216.13 Mbit/s) --- Flow 1 egress (mean 219.19 Mbit/s)
Flow 2 ingress (mean 150.38 Mbit/s) --- Flow 2 egress (mean 152.74 Mbit/s)
Flow 3 ingress (mean 86.90 Mbit/s) --- Flow 3 egress (mean 84.51 Mbit/s)

Flow 1 (95th percentile 260.80 ms)   Flow 2 (95th percentile 272.33 ms)   Flow 3 (95th percentile 350.94 ms)

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```
Run 1: Statistics of Copa

Start at: 2018-10-26 09:36:51
End at: 2018-10-26 09:37:21
Local clock offset: -1.344 ms
Remote clock offset: -39.198 ms

# Below is generated by plot.py at 2018-10-26 13:36:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 157.79 Mbit/s
95th percentile per-packet one-way delay: 137.596 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 137.458 ms
Loss rate: 0.56%
-- Flow 2:
Average throughput: 84.29 Mbit/s
95th percentile per-packet one-way delay: 138.775 ms
Loss rate: 0.93%
-- Flow 3:
Average throughput: 20.29 Mbit/s
95th percentile per-packet one-way delay: 136.770 ms
Loss rate: 5.54%
```

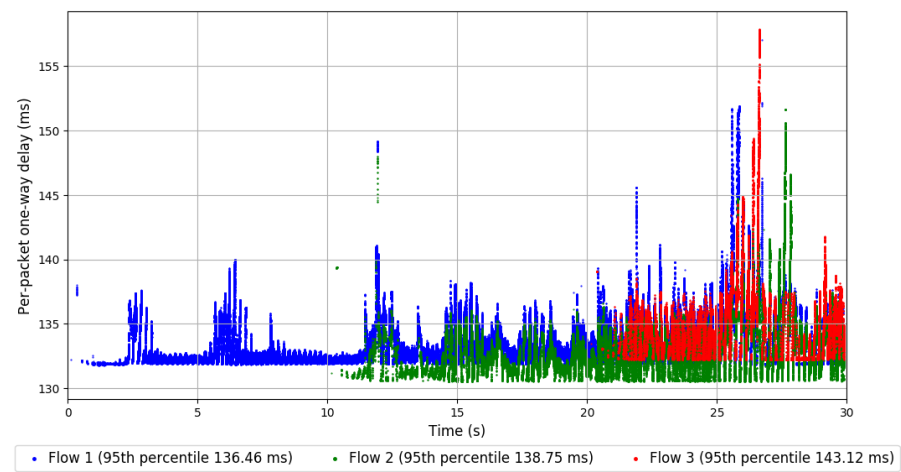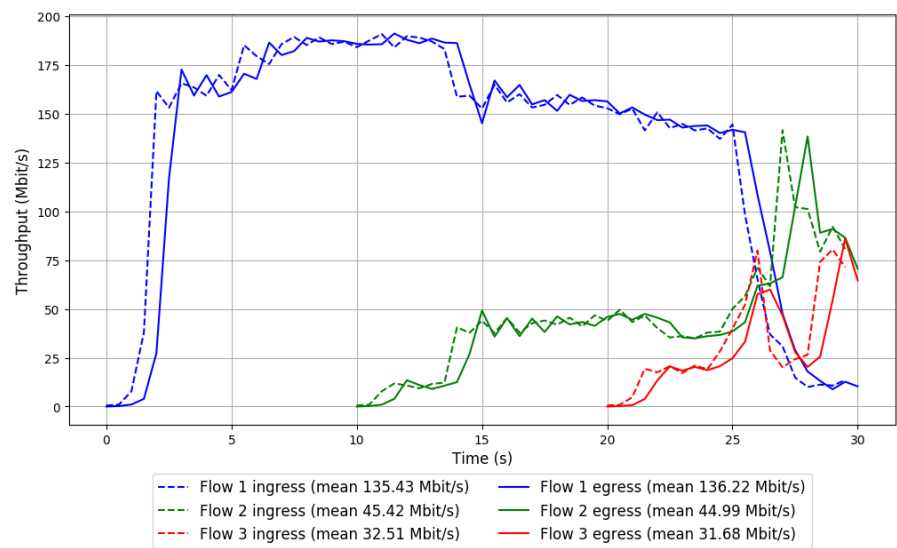Run 1: Report of Copa — Data Link

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```
Run 2: Statistics of Copa

Start at: 2018-10-26 10:24:06
End at: 2018-10-26 10:24:36
Local clock offset: -1.228 ms
Remote clock offset: -37.049 ms


# Below is generated by plot.py at 2018-10-26 13:36:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 176.47 Mbit/s
95th percentile per-packet one-way delay: 137.037 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 136.22 Mbit/s
95th percentile per-packet one-way delay: 136.458 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 44.99 Mbit/s
95th percentile per-packet one-way delay: 138.751 ms
Loss rate: 1.90%
-- Flow 3:
Average throughput: 31.68 Mbit/s
95th percentile per-packet one-way delay: 143.123 ms
Loss rate: 4.48%
```

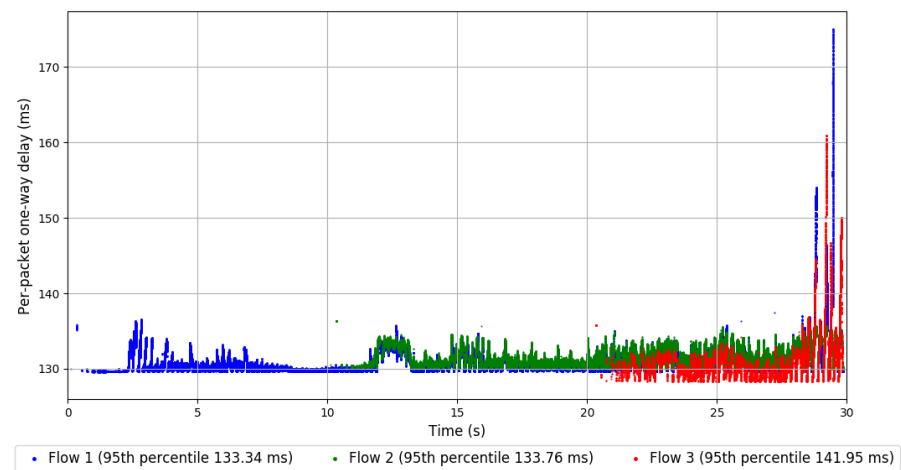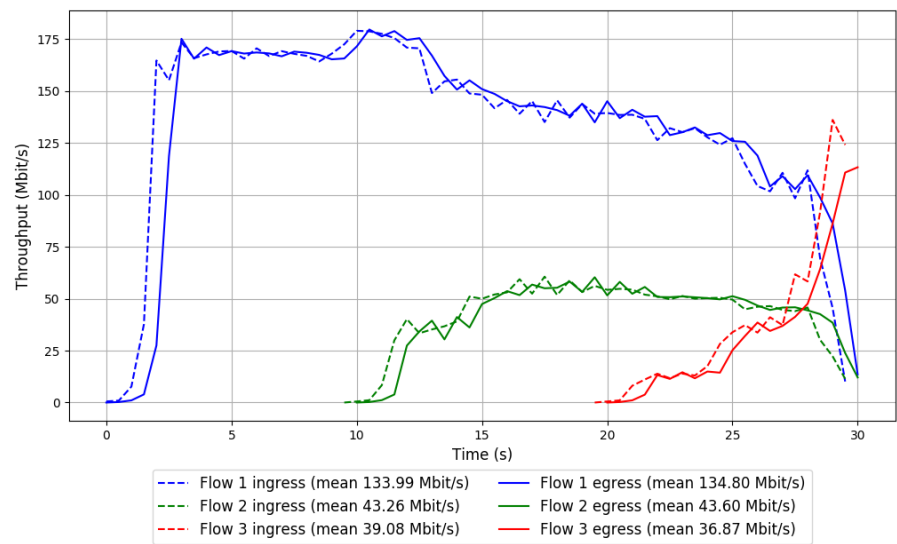Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-10-26 11:11:23
End at: 2018-10-26 11:11:53
Local clock offset: 0.071 ms
Remote clock offset: -33.539 ms


# Below is generated by plot.py at 2018-10-26 13:36:26
# Datalink statistics
-- Total of 3 flows:
Average throughput: 175.77 Mbit/s
95th percentile per-packet one-way delay: 133.562 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 134.80 Mbit/s
95th percentile per-packet one-way delay: 133.335 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 43.60 Mbit/s
95th percentile per-packet one-way delay: 133.764 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 36.87 Mbit/s
95th percentile per-packet one-way delay: 141.949 ms
Loss rate: 7.53%
```
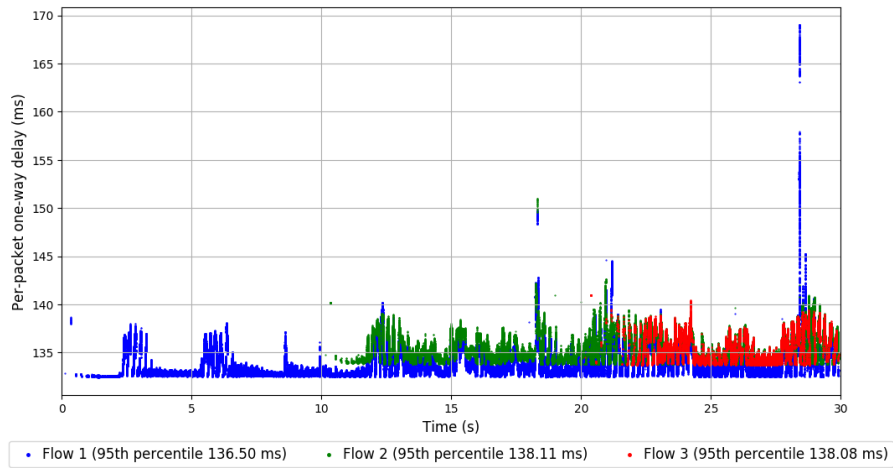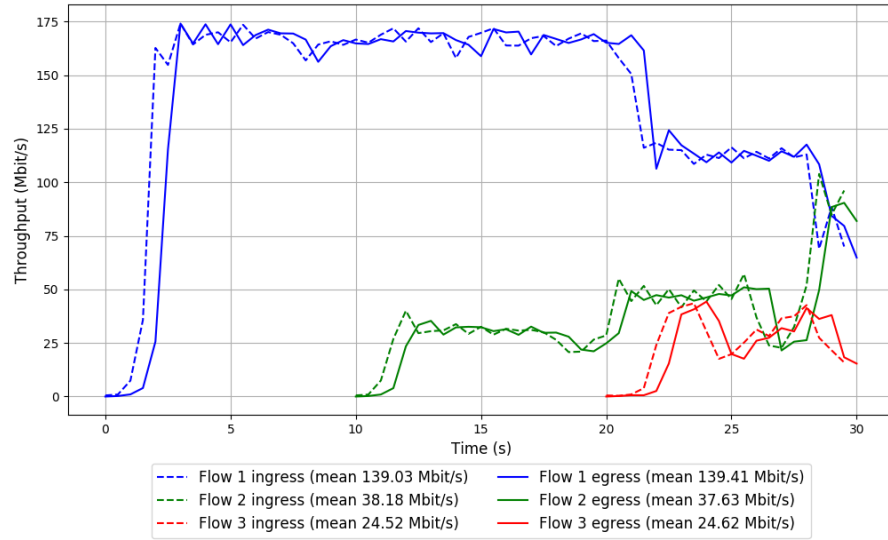
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 133.99 Mbit/s)   Flow 1 egress (mean 134.80 Mbit/s)
Flow 2 ingress (mean 43.26 Mbit/s)   Flow 2 egress (mean 43.60 Mbit/s)
Flow 3 ingress (mean 39.08 Mbit/s)   Flow 3 egress (mean 36.87 Mbit/s)

Flow 1 (95th percentile 133.34 ms)   Flow 2 (95th percentile 133.76 ms)   Flow 3 (95th percentile 141.95 ms)

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```
Run 4: Statistics of Copa

Start at: 2018-10-26 11:53:55
End at: 2018-10-26 11:54:25
Local clock offset: 1.008 ms
Remote clock offset: -37.185 ms

# Below is generated by plot.py at 2018-10-26 13:39:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 172.46 Mbit/s
95th percentile per-packet one-way delay: 137.267 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 139.41 Mbit/s
95th percentile per-packet one-way delay: 136.503 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 37.63 Mbit/s
95th percentile per-packet one-way delay: 138.112 ms
Loss rate: 2.42%
-- Flow 3:
Average throughput: 24.62 Mbit/s
95th percentile per-packet one-way delay: 138.077 ms
Loss rate: 1.56%
```

Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-10-26 12:46:26
End at: 2018-10-26 12:46:56
Local clock offset: 0.199 ms
Remote clock offset: -40.7 ms


# Below is generated by plot.py at 2018-10-26 13:39:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 140.01 Mbit/s
95th percentile per-packet one-way delay: 143.062 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 90.88 Mbit/s
95th percentile per-packet one-way delay: 143.818 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 54.04 Mbit/s
95th percentile per-packet one-way delay: 142.775 ms
Loss rate: 1.00%
-- Flow 3:
Average throughput: 40.28 Mbit/s
95th percentile per-packet one-way delay: 139.743 ms
Loss rate: 3.98%
```
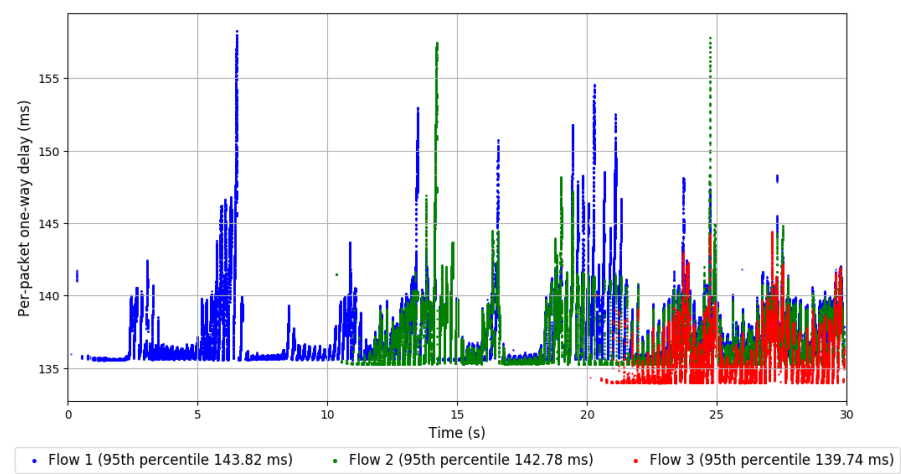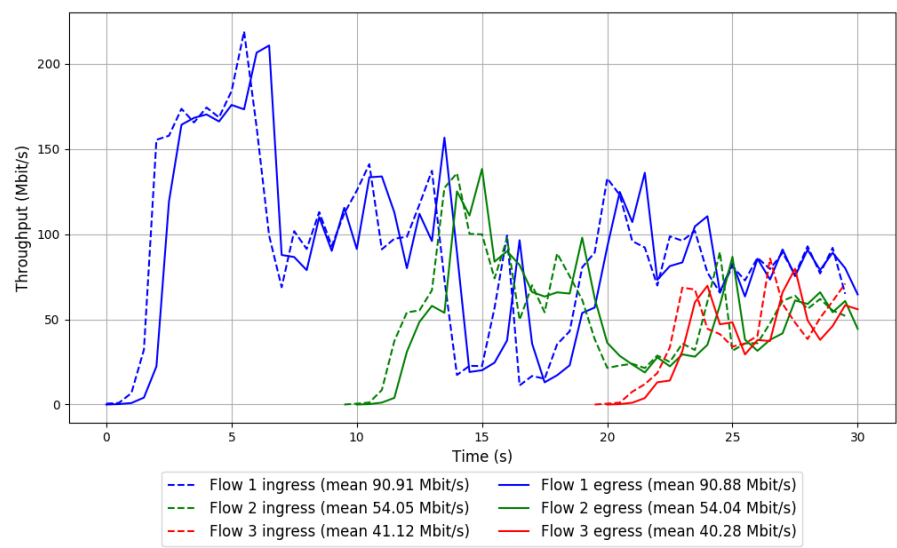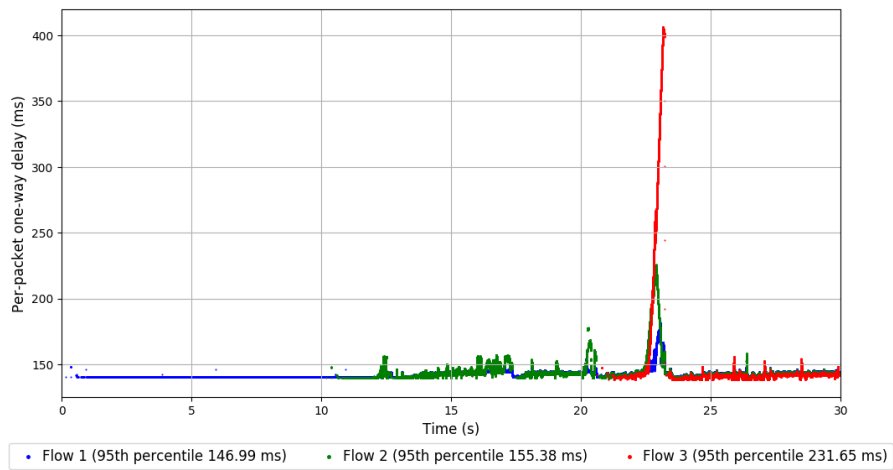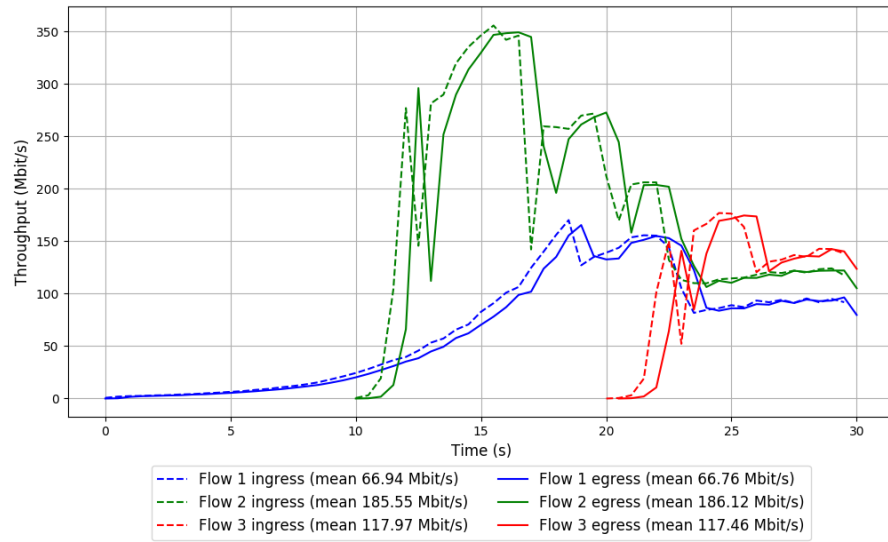
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-10-26 09:43:59
End at: 2018-10-26 09:44:29
Local clock offset: 1.134 ms
Remote clock offset: -43.792 ms


# Below is generated by plot.py at 2018-10-26 13:39:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 226.96 Mbit/s
95th percentile per-packet one-way delay: 155.031 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 66.76 Mbit/s
95th percentile per-packet one-way delay: 146.990 ms
Loss rate: 0.94%
-- Flow 2:
Average throughput: 186.12 Mbit/s
95th percentile per-packet one-way delay: 155.377 ms
Loss rate: 0.67%
-- Flow 3:
Average throughput: 117.46 Mbit/s
95th percentile per-packet one-way delay: 231.650 ms
Loss rate: 2.50%
```

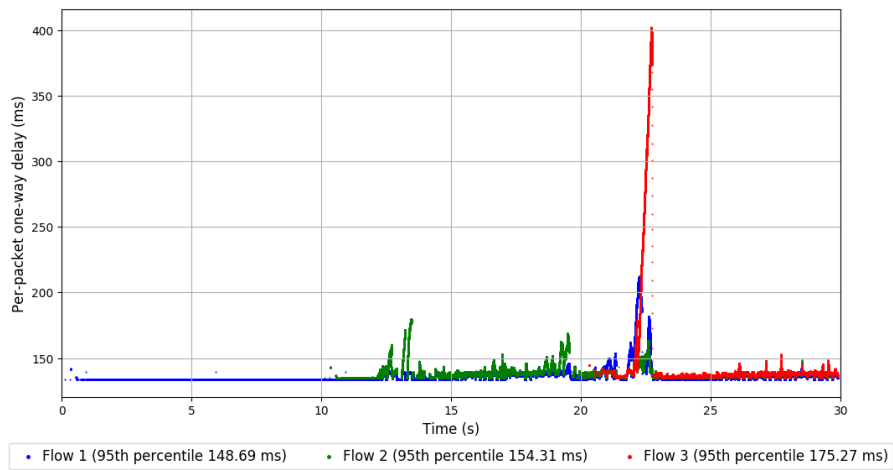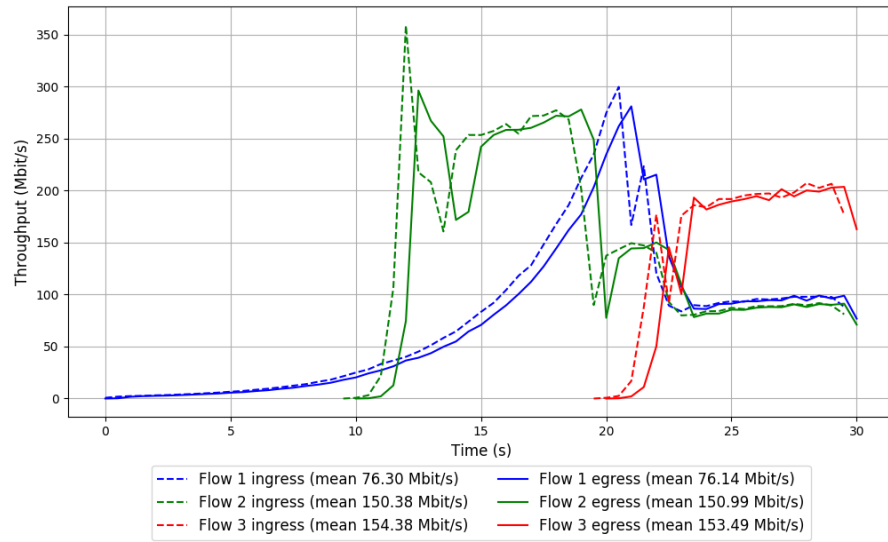Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-10-26 10:42:32
End at: 2018-10-26 10:43:02
Local clock offset: -1.428 ms
Remote clock offset: -40.421 ms


# Below is generated by plot.py at 2018-10-26 13:39:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 226.80 Mbit/s
95th percentile per-packet one-way delay: 153.353 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 76.14 Mbit/s
95th percentile per-packet one-way delay: 148.691 ms
Loss rate: 0.84%
-- Flow 2:
Average throughput: 150.99 Mbit/s
95th percentile per-packet one-way delay: 154.313 ms
Loss rate: 0.59%
-- Flow 3:
Average throughput: 153.49 Mbit/s
95th percentile per-packet one-way delay: 175.271 ms
Loss rate: 2.54%
```

Run 2: Report of TCP Cubic — Data Link

- - - - Flow 1 ingress (mean 76.30 Mbit/s) —— Flow 1 egress (mean 76.14 Mbit/s)
- - - - Flow 2 ingress (mean 150.38 Mbit/s) —— Flow 2 egress (mean 150.99 Mbit/s)
- - - - Flow 3 ingress (mean 154.38 Mbit/s) —— Flow 3 egress (mean 153.49 Mbit/s)

· Flow 1 (95th percentile 148.69 ms)   · Flow 2 (95th percentile 154.31 ms)   · Flow 3 (95th percentile 175.27 ms)
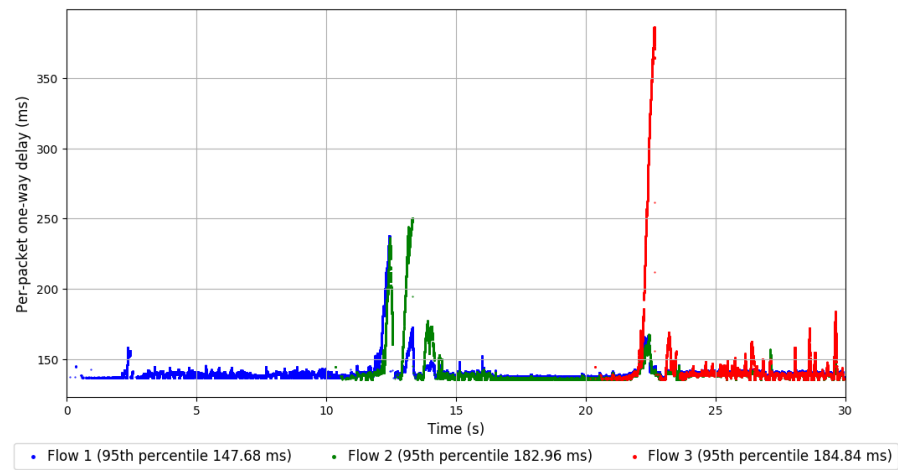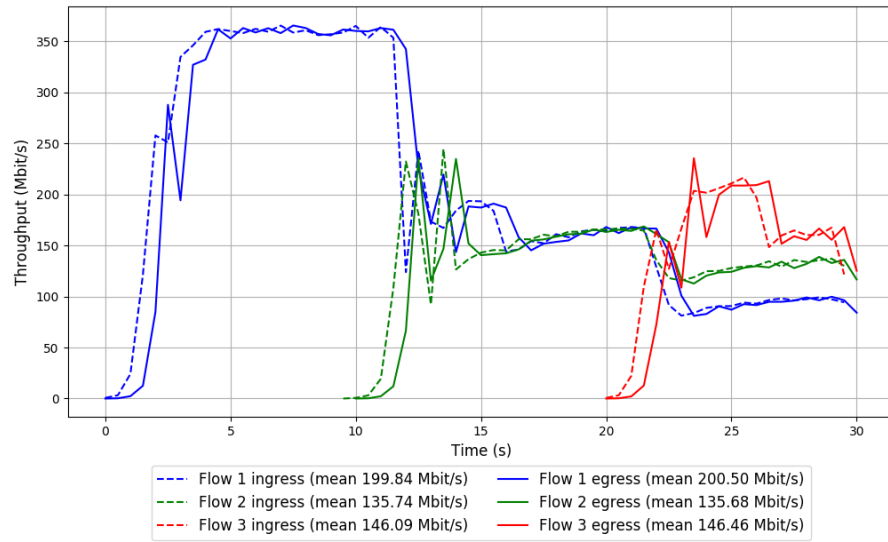
28

```
Run 3: Statistics of TCP Cubic

Start at: 2018-10-26 11:18:38
End at: 2018-10-26 11:19:08
Local clock offset: 0.226 ms
Remote clock offset: -40.66 ms


# Below is generated by plot.py at 2018-10-26 13:39:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 338.67 Mbit/s
95th percentile per-packet one-way delay: 160.965 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 200.50 Mbit/s
95th percentile per-packet one-way delay: 147.676 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 135.68 Mbit/s
95th percentile per-packet one-way delay: 182.956 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 146.46 Mbit/s
95th percentile per-packet one-way delay: 184.835 ms
Loss rate: 1.68%
```

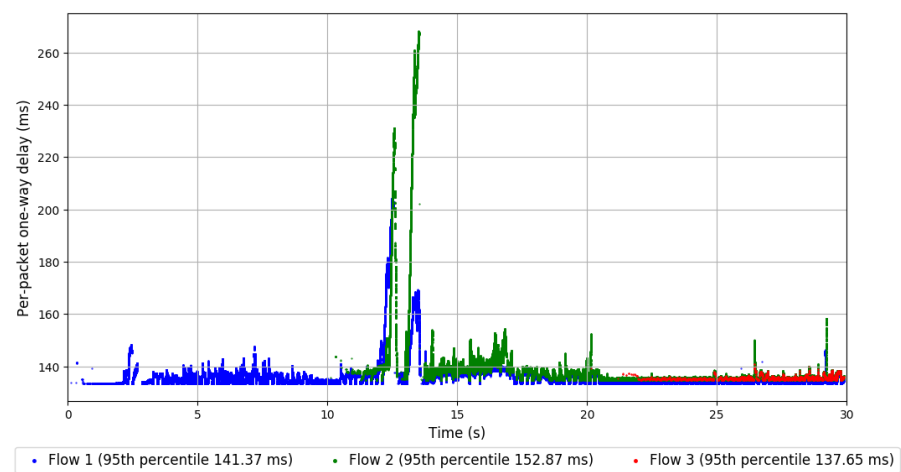Run 3: Report of TCP Cubic — Data Link

- - - Flow 1 ingress (mean 199.84 Mbit/s)   —— Flow 1 egress (mean 200.50 Mbit/s)
- - - Flow 2 ingress (mean 135.74 Mbit/s)   —— Flow 2 egress (mean 135.68 Mbit/s)
- - - Flow 3 ingress (mean 146.09 Mbit/s)   —— Flow 3 egress (mean 146.46 Mbit/s)

• Flow 1 (95th percentile 147.68 ms)   • Flow 2 (95th percentile 182.96 ms)   • Flow 3 (95th percentile 184.84 ms)
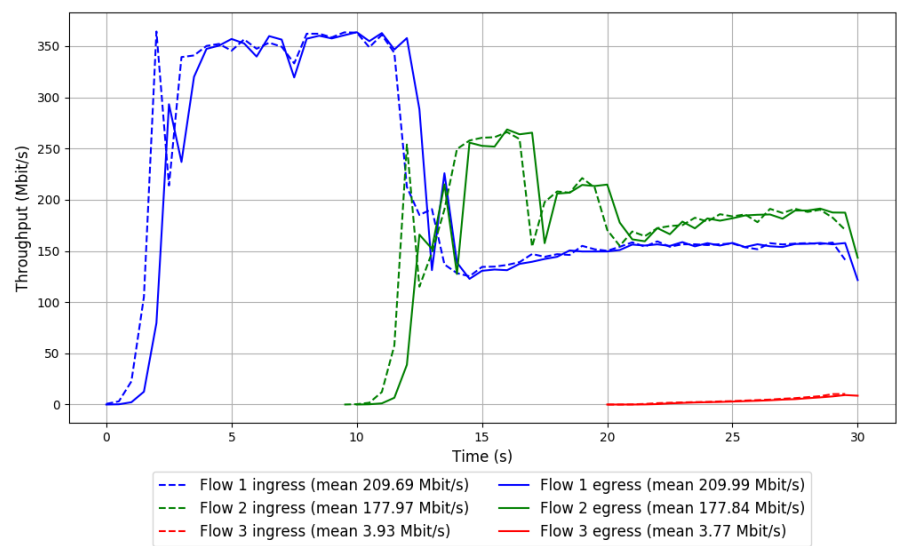
```
Run 4: Statistics of TCP Cubic

Start at: 2018-10-26 12:12:06
End at: 2018-10-26 12:12:36
Local clock offset: 1.846 ms
Remote clock offset: -37.775 ms


# Below is generated by plot.py at 2018-10-26 13:39:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 329.46 Mbit/s
95th percentile per-packet one-way delay: 146.506 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 209.99 Mbit/s
95th percentile per-packet one-way delay: 141.370 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 177.84 Mbit/s
95th percentile per-packet one-way delay: 152.865 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 137.647 ms
Loss rate: 6.17%
```

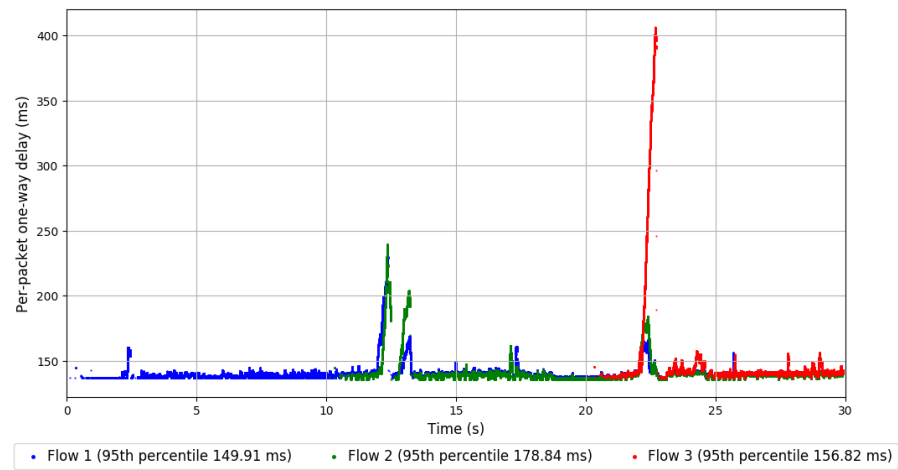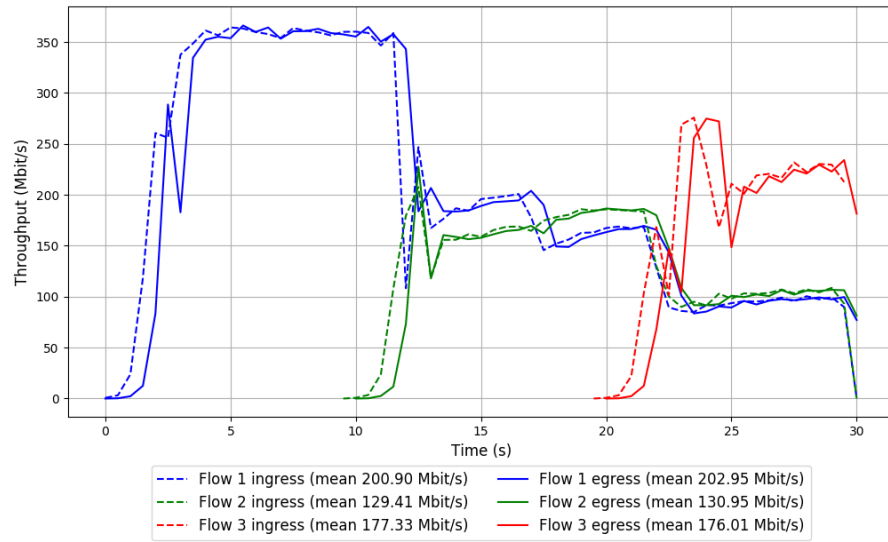Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 209.69 Mbit/s)   Flow 1 egress (mean 209.99 Mbit/s)
Flow 2 ingress (mean 177.97 Mbit/s)   Flow 2 egress (mean 177.84 Mbit/s)
Flow 3 ingress (mean 3.93 Mbit/s)   Flow 3 egress (mean 3.77 Mbit/s)

Flow 1 (95th percentile 141.37 ms)   Flow 2 (95th percentile 152.87 ms)   Flow 3 (95th percentile 137.65 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2018-10-26 12:53:23
End at: 2018-10-26 12:53:53
Local clock offset: 0.699 ms
Remote clock offset: -41.978 ms


# Below is generated by plot.py at 2018-10-26 13:40:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 347.80 Mbit/s
95th percentile per-packet one-way delay: 157.145 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 202.95 Mbit/s
95th percentile per-packet one-way delay: 149.909 ms
Loss rate: 0.34%
-- Flow 2:
Average throughput: 130.95 Mbit/s
95th percentile per-packet one-way delay: 178.845 ms
Loss rate: 0.83%
-- Flow 3:
Average throughput: 176.01 Mbit/s
95th percentile per-packet one-way delay: 156.823 ms
Loss rate: 2.72%
```

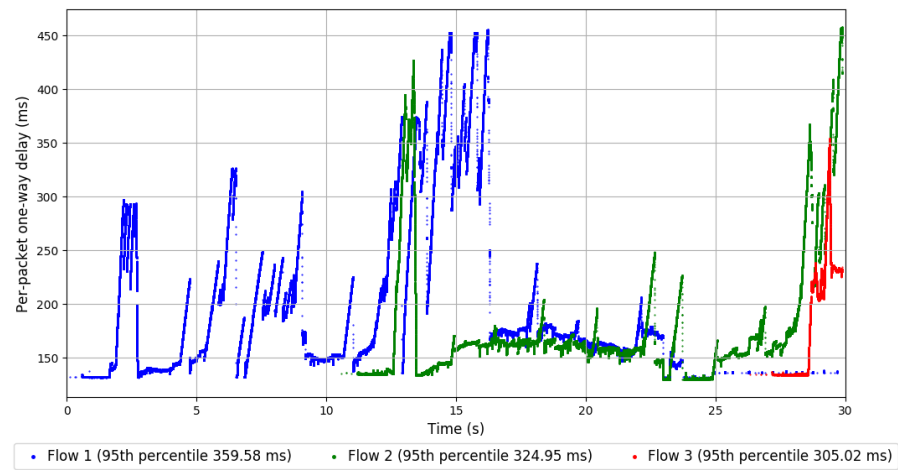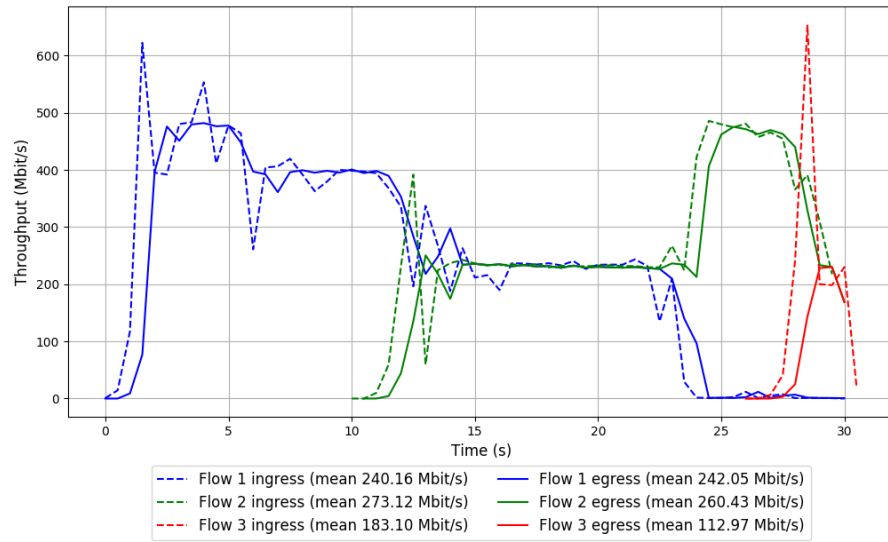# Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 200.90 Mbit/s)   Flow 1 egress (mean 202.95 Mbit/s)
Flow 2 ingress (mean 129.41 Mbit/s)   Flow 2 egress (mean 130.95 Mbit/s)
Flow 3 ingress (mean 177.33 Mbit/s)   Flow 3 egress (mean 176.01 Mbit/s)

Flow 1 (95th percentile 149.91 ms)   Flow 2 (95th percentile 178.84 ms)   Flow 3 (95th percentile 156.82 ms)
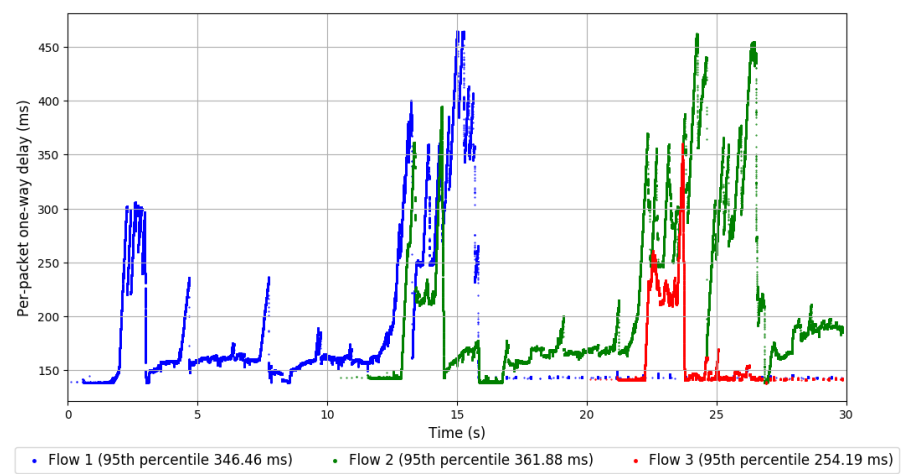
34

```
Run 1: Statistics of FillP

Start at: 2018-10-26 09:41:27
End at: 2018-10-26 09:41:57
Local clock offset: -10.75 ms
Remote clock offset: -47.61 ms


# Below is generated by plot.py at 2018-10-26 13:41:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 423.01 Mbit/s
95th percentile per-packet one-way delay: 345.564 ms
Loss rate: 5.77%
-- Flow 1:
Average throughput: 242.05 Mbit/s
95th percentile per-packet one-way delay: 359.581 ms
Loss rate: 0.90%
-- Flow 2:
Average throughput: 260.43 Mbit/s
95th percentile per-packet one-way delay: 324.949 ms
Loss rate: 5.82%
-- Flow 3:
Average throughput: 112.97 Mbit/s
95th percentile per-packet one-way delay: 305.020 ms
Loss rate: 49.75%
```

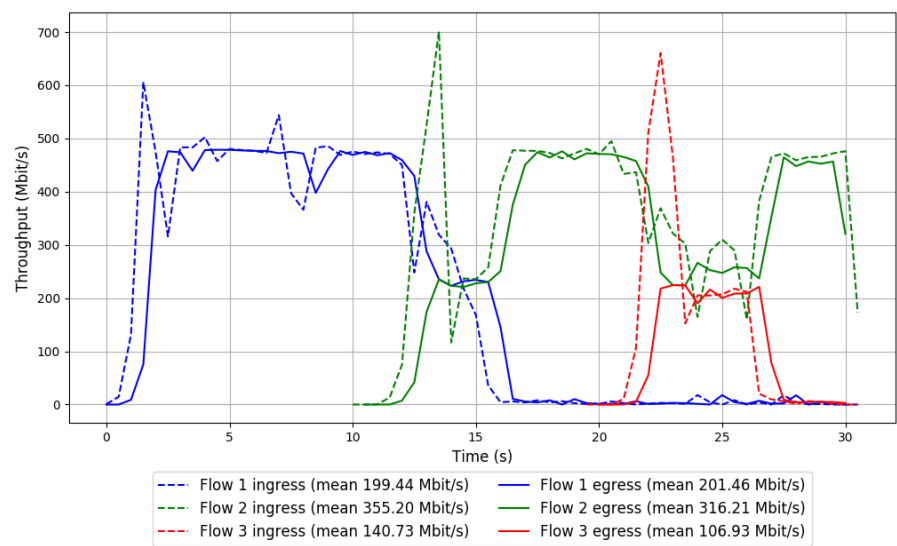# Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-10-26 10:34:18
End at: 2018-10-26 10:34:48
Local clock offset: -0.575 ms
Remote clock offset: -42.891 ms

# Below is generated by plot.py at 2018-10-26 13:44:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 441.91 Mbit/s
95th percentile per-packet one-way delay: 351.047 ms
Loss rate: 11.47%
-- Flow 1:
Average throughput: 201.46 Mbit/s
95th percentile per-packet one-way delay: 346.457 ms
Loss rate: 2.29%
-- Flow 2:
Average throughput: 316.21 Mbit/s
95th percentile per-packet one-way delay: 361.884 ms
Loss rate: 15.25%
-- Flow 3:
Average throughput: 106.93 Mbit/s
95th percentile per-packet one-way delay: 254.188 ms
Loss rate: 30.69%
```

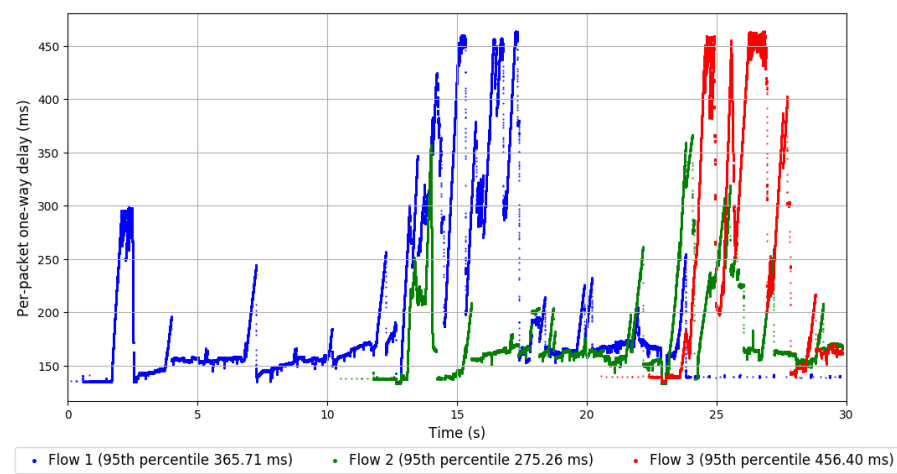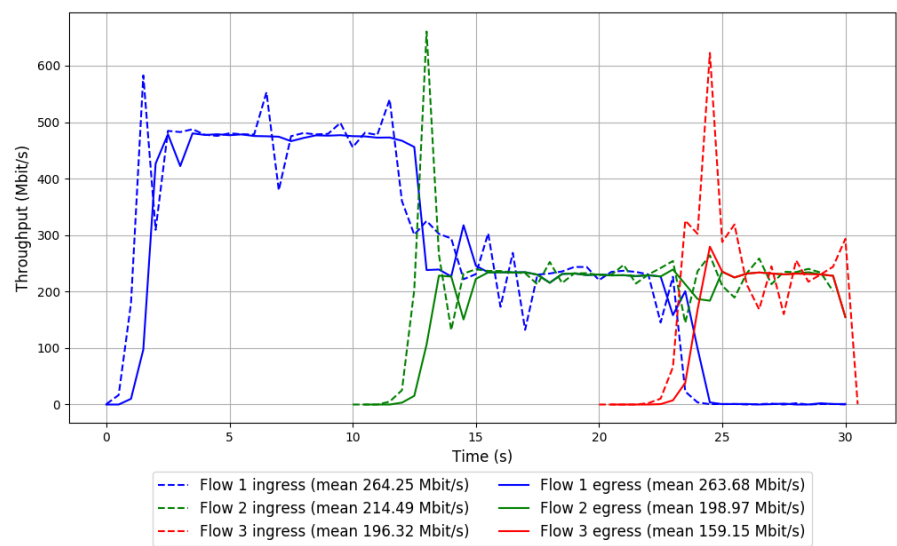Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-10-26 11:15:58
End at: 2018-10-26 11:16:28
Local clock offset: -1.397 ms
Remote clock offset: -40.464 ms

# Below is generated by plot.py at 2018-10-26 13:44:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 442.08 Mbit/s
95th percentile per-packet one-way delay: 388.181 ms
Loss rate: 7.00%
-- Flow 1:
Average throughput: 263.68 Mbit/s
95th percentile per-packet one-way delay: 365.707 ms
Loss rate: 1.72%
-- Flow 2:
Average throughput: 198.97 Mbit/s
95th percentile per-packet one-way delay: 275.262 ms
Loss rate: 8.33%
-- Flow 3:
Average throughput: 159.15 Mbit/s
95th percentile per-packet one-way delay: 456.401 ms
Loss rate: 25.36%
```
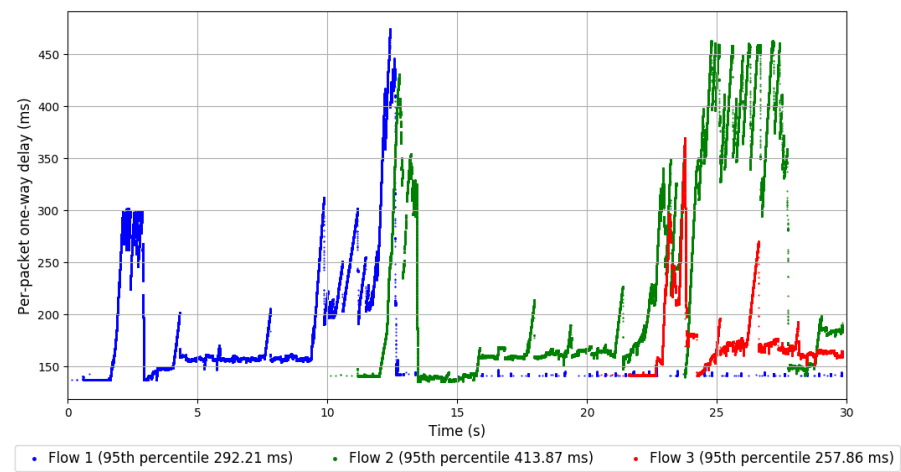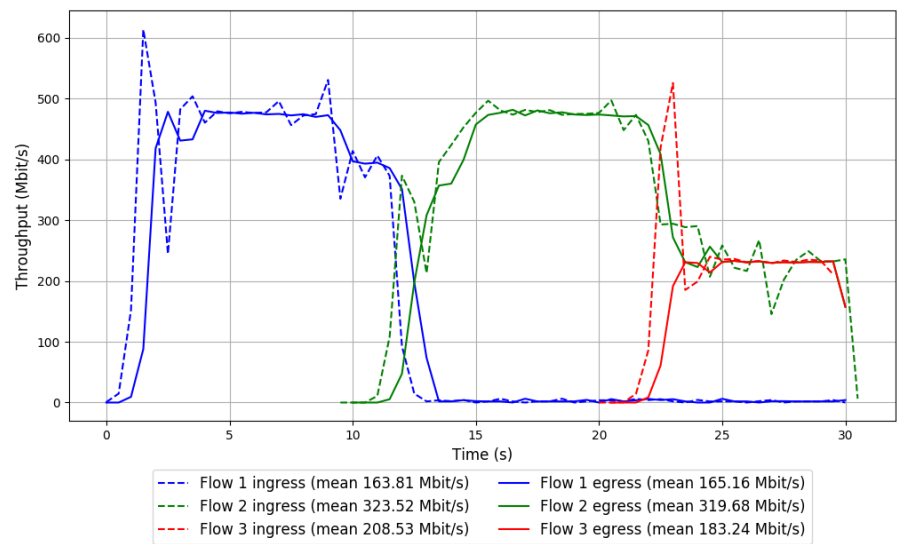
Run 3: Report of FillP — Data Link

Flow 1 ingress (mean 264.25 Mbit/s) — Flow 1 egress (mean 263.68 Mbit/s)
Flow 2 ingress (mean 214.49 Mbit/s) — Flow 2 egress (mean 198.97 Mbit/s)
Flow 3 ingress (mean 196.32 Mbit/s) — Flow 3 egress (mean 159.15 Mbit/s)

Flow 1 (95th percentile 365.71 ms) • Flow 2 (95th percentile 275.26 ms) • Flow 3 (95th percentile 456.40 ms)

```
Run 4: Statistics of FillP

Start at: 2018-10-26 12:04:00
End at: 2018-10-26 12:04:30
Local clock offset: 0.586 ms
Remote clock offset: -41.422 ms

# Below is generated by plot.py at 2018-10-26 13:45:06
# Datalink statistics
-- Total of 3 flows:
Average throughput: 434.56 Mbit/s
95th percentile per-packet one-way delay: 379.361 ms
Loss rate: 4.84%
-- Flow 1:
Average throughput: 165.16 Mbit/s
95th percentile per-packet one-way delay: 292.209 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 319.68 Mbit/s
95th percentile per-packet one-way delay: 413.868 ms
Loss rate: 5.08%
-- Flow 3:
Average throughput: 183.24 Mbit/s
95th percentile per-packet one-way delay: 257.857 ms
Loss rate: 14.40%
```

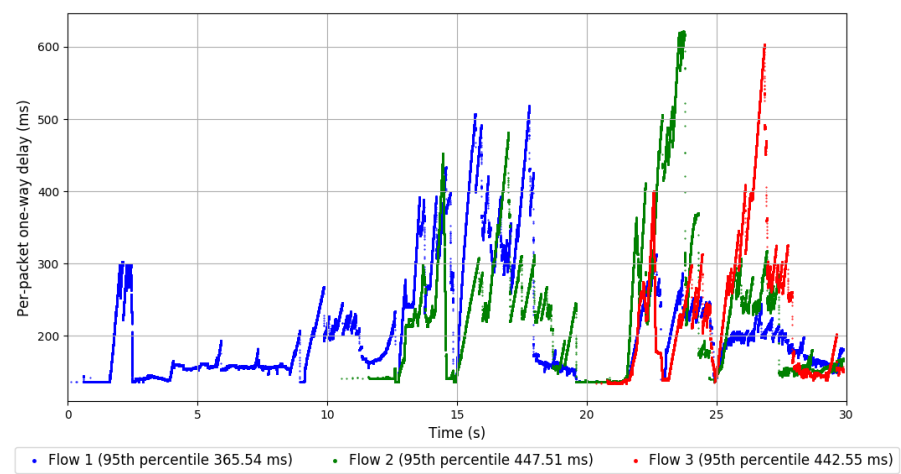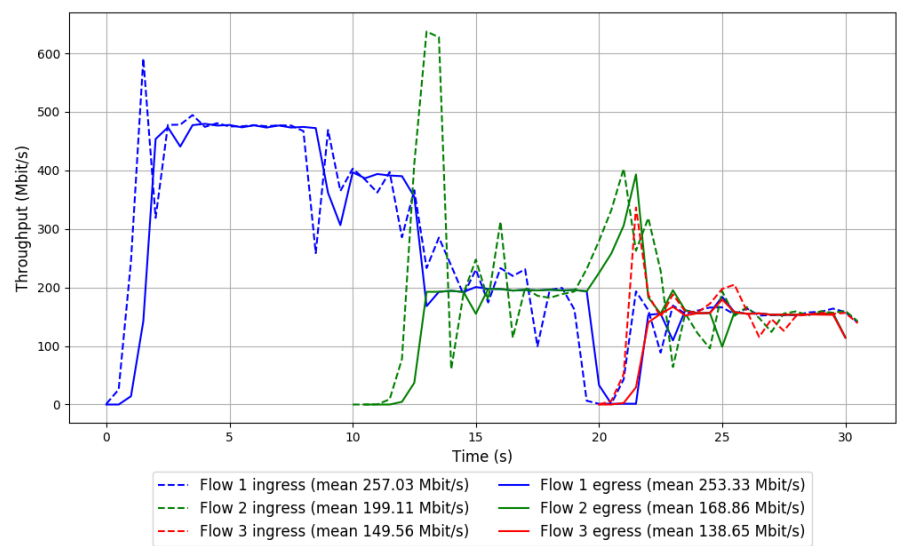Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-10-26 12:50:48
End at: 2018-10-26 12:51:18
Local clock offset: 0.56 ms
Remote clock offset: -41.076 ms


# Below is generated by plot.py at 2018-10-26 13:45:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 407.38 Mbit/s
95th percentile per-packet one-way delay: 390.931 ms
Loss rate: 11.42%
-- Flow 1:
Average throughput: 253.33 Mbit/s
95th percentile per-packet one-way delay: 365.537 ms
Loss rate: 5.30%
-- Flow 2:
Average throughput: 168.86 Mbit/s
95th percentile per-packet one-way delay: 447.514 ms
Loss rate: 20.21%
-- Flow 3:
Average throughput: 138.65 Mbit/s
95th percentile per-packet one-way delay: 442.554 ms
Loss rate: 19.21%
```

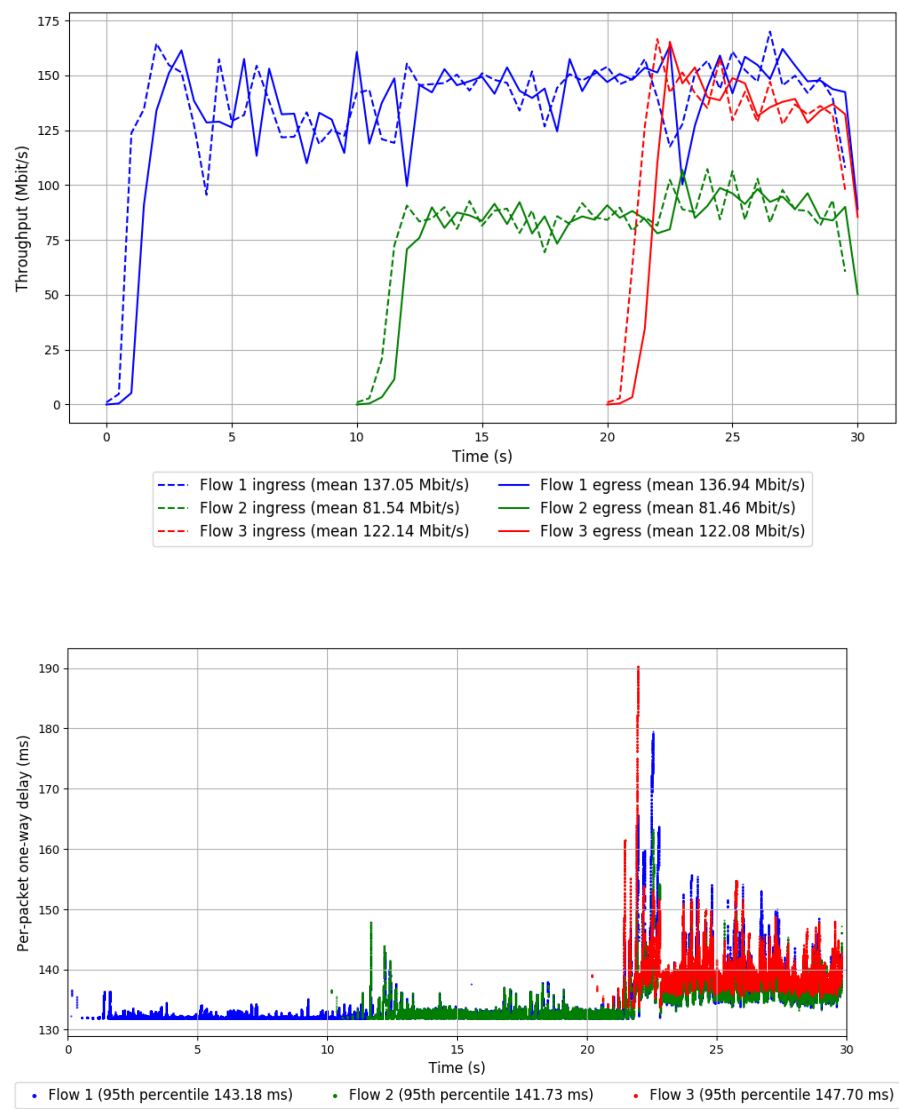Run 5: Report of FillP — Data Link

```
Run 1: Statistics of Indigo

Start at: 2018-10-26 09:51:28
End at: 2018-10-26 09:51:58
Local clock offset: 1.338 ms
Remote clock offset: -36.929 ms

# Below is generated by plot.py at 2018-10-26 13:45:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 230.48 Mbit/s
95th percentile per-packet one-way delay: 144.152 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 136.94 Mbit/s
95th percentile per-packet one-way delay: 143.183 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 81.46 Mbit/s
95th percentile per-packet one-way delay: 141.726 ms
Loss rate: 1.09%
-- Flow 3:
Average throughput: 122.08 Mbit/s
95th percentile per-packet one-way delay: 147.702 ms
Loss rate: 2.10%
```
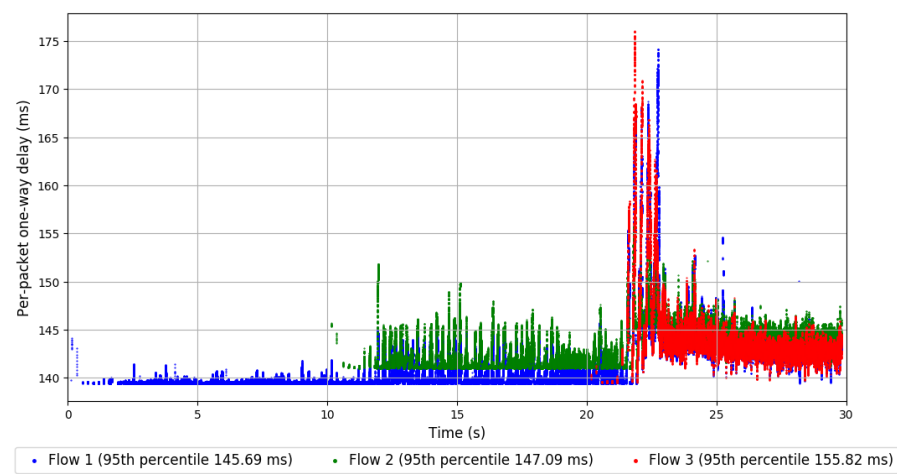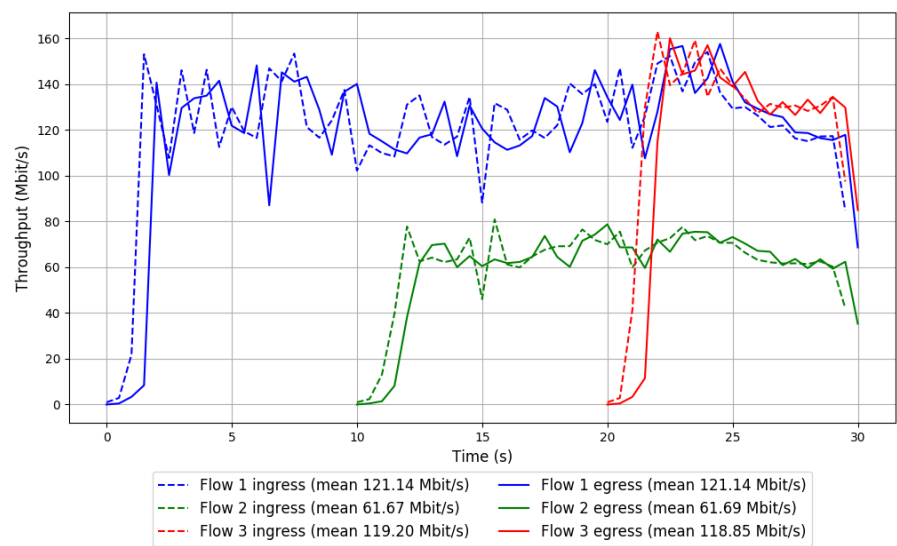
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2018-10-26 10:44:33
End at: 2018-10-26 10:45:03
Local clock offset: 1.602 ms
Remote clock offset: -43.089 ms


# Below is generated by plot.py at 2018-10-26 13:45:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 200.63 Mbit/s
95th percentile per-packet one-way delay: 147.440 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 121.14 Mbit/s
95th percentile per-packet one-way delay: 145.691 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 61.69 Mbit/s
95th percentile per-packet one-way delay: 147.094 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 118.85 Mbit/s
95th percentile per-packet one-way delay: 155.819 ms
Loss rate: 2.27%
```
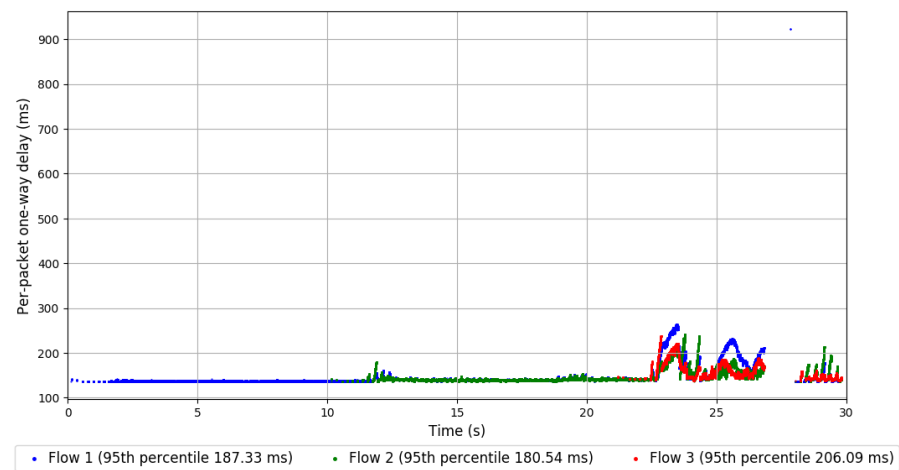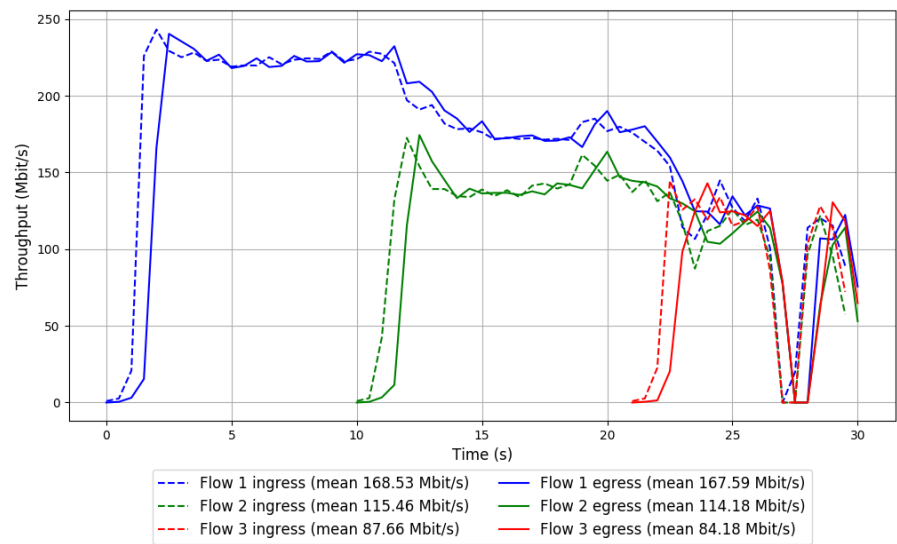
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2018-10-26 11:21:01
End at: 2018-10-26 11:21:31
Local clock offset: -1.029 ms
Remote clock offset: -42.771 ms


# Below is generated by plot.py at 2018-10-26 13:45:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 267.67 Mbit/s
95th percentile per-packet one-way delay: 187.912 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 167.59 Mbit/s
95th percentile per-packet one-way delay: 187.333 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 114.18 Mbit/s
95th percentile per-packet one-way delay: 180.545 ms
Loss rate: 2.07%
-- Flow 3:
Average throughput: 84.18 Mbit/s
95th percentile per-packet one-way delay: 206.089 ms
Loss rate: 6.19%
```
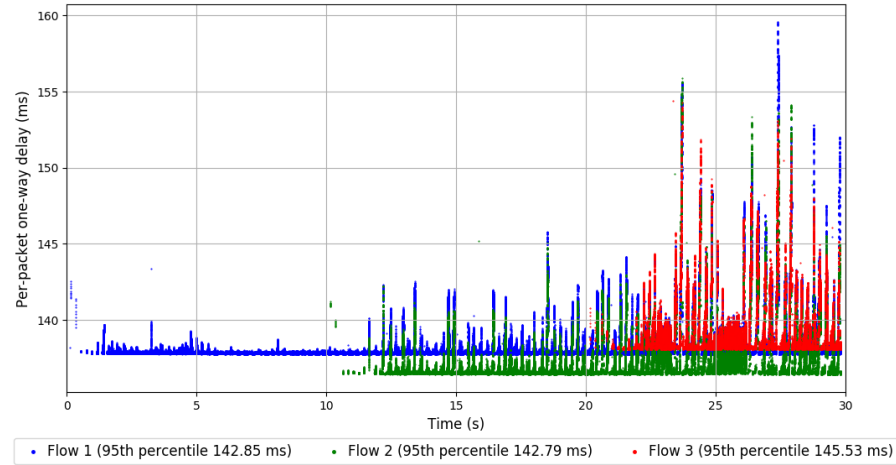
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 168.53 Mbit/s) ----- Flow 1 egress (mean 167.59 Mbit/s)
Flow 2 ingress (mean 115.46 Mbit/s) ----- Flow 2 egress (mean 114.18 Mbit/s)
Flow 3 ingress (mean 87.66 Mbit/s) ----- Flow 3 egress (mean 84.18 Mbit/s)

Flow 1 (95th percentile 187.33 ms)   Flow 2 (95th percentile 180.54 ms)   Flow 3 (95th percentile 206.09 ms)
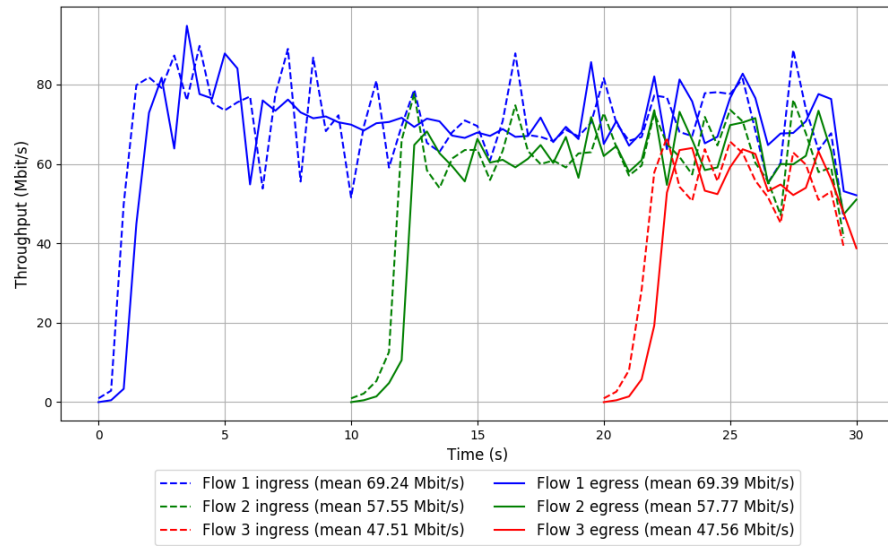
50

```
Run 4: Statistics of Indigo

Start at: 2018-10-26 12:14:27
End at: 2018-10-26 12:14:57
Local clock offset: 2.613 ms
Remote clock offset: -40.257 ms


# Below is generated by plot.py at 2018-10-26 13:45:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 123.11 Mbit/s
95th percentile per-packet one-way delay: 143.466 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 69.39 Mbit/s
95th percentile per-packet one-way delay: 142.852 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 57.77 Mbit/s
95th percentile per-packet one-way delay: 142.791 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 47.56 Mbit/s
95th percentile per-packet one-way delay: 145.525 ms
Loss rate: 1.86%
```
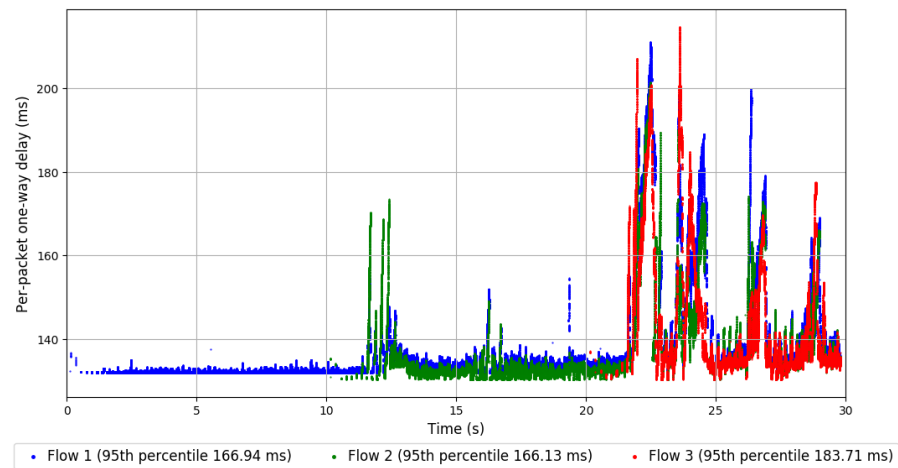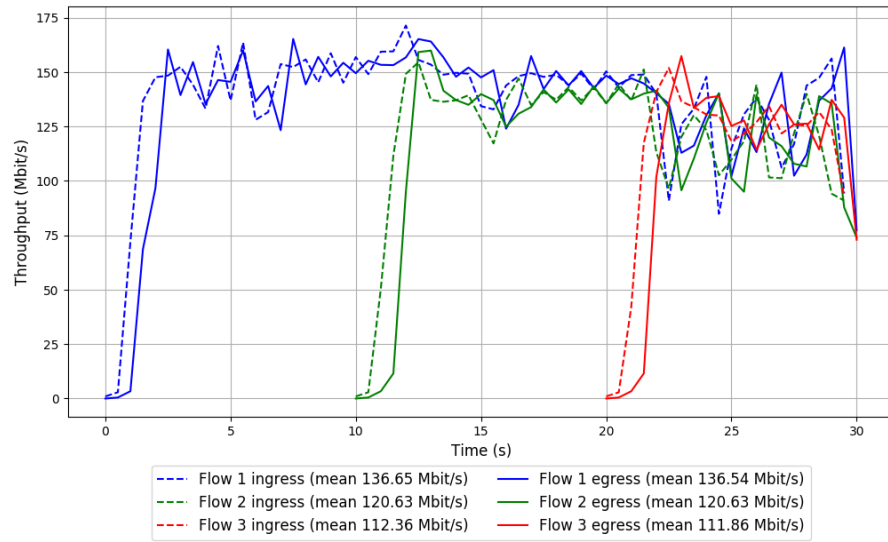
Run 4: Report of Indigo — Data Link

Flow 1 ingress (mean 69.24 Mbit/s) — — —   Flow 1 egress (mean 69.39 Mbit/s) ——
Flow 2 ingress (mean 57.55 Mbit/s) — — —   Flow 2 egress (mean 57.77 Mbit/s) ——
Flow 3 ingress (mean 47.51 Mbit/s) — — —   Flow 3 egress (mean 47.56 Mbit/s) ——

Flow 1 (95th percentile 142.85 ms)   Flow 2 (95th percentile 142.79 ms)   Flow 3 (95th percentile 145.53 ms)

```
Run 5: Statistics of Indigo

Start at: 2018-10-26 12:55:47
End at: 2018-10-26 12:56:17
Local clock offset: 0.417 ms
Remote clock offset: -37.15 ms


# Below is generated by plot.py at 2018-10-26 13:45:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 252.69 Mbit/s
95th percentile per-packet one-way delay: 169.622 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 136.54 Mbit/s
95th percentile per-packet one-way delay: 166.937 ms
Loss rate: 0.70%
-- Flow 2:
Average throughput: 120.63 Mbit/s
95th percentile per-packet one-way delay: 166.134 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 111.86 Mbit/s
95th percentile per-packet one-way delay: 183.707 ms
Loss rate: 2.45%
```

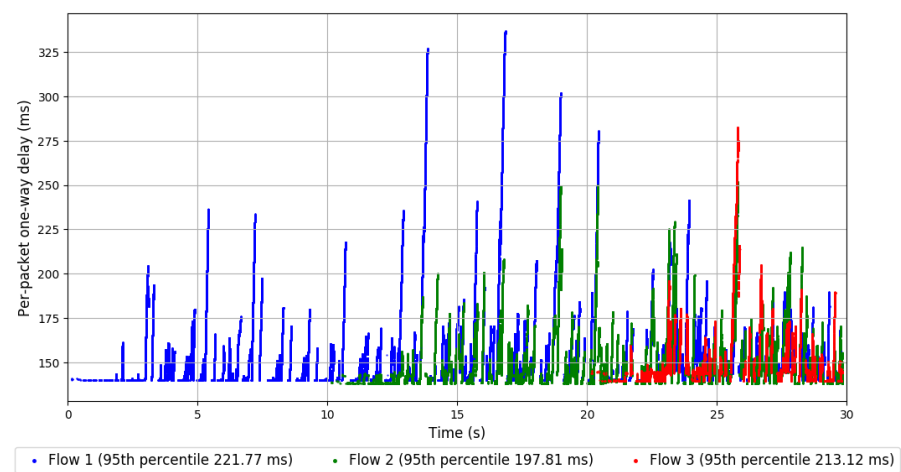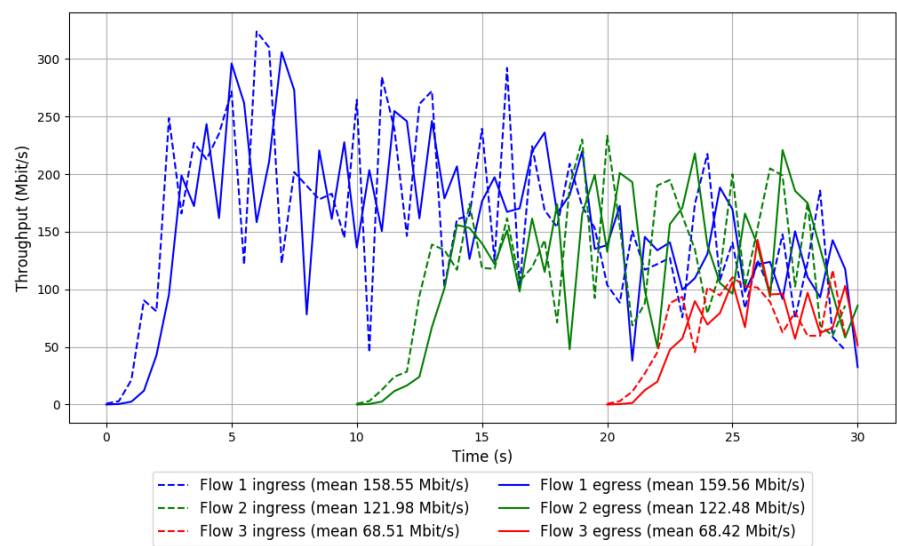Run 5: Report of Indigo — Data Link

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

Start at: 2018-10-26 10:07:17
End at: 2018-10-26 10:07:47
Local clock offset: -1.896 ms
Remote clock offset: -45.613 ms

# Below is generated by plot.py at 2018-10-26 13:45:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 262.64 Mbit/s
95th percentile per-packet one-way delay: 211.211 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 159.56 Mbit/s
95th percentile per-packet one-way delay: 221.771 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 122.48 Mbit/s
95th percentile per-packet one-way delay: 197.814 ms
Loss rate: 0.57%
-- Flow 3:
Average throughput: 68.42 Mbit/s
95th percentile per-packet one-way delay: 213.122 ms
Loss rate: 2.21%
```

Run 1: Report of Indigo-96d2da3 — Data Link
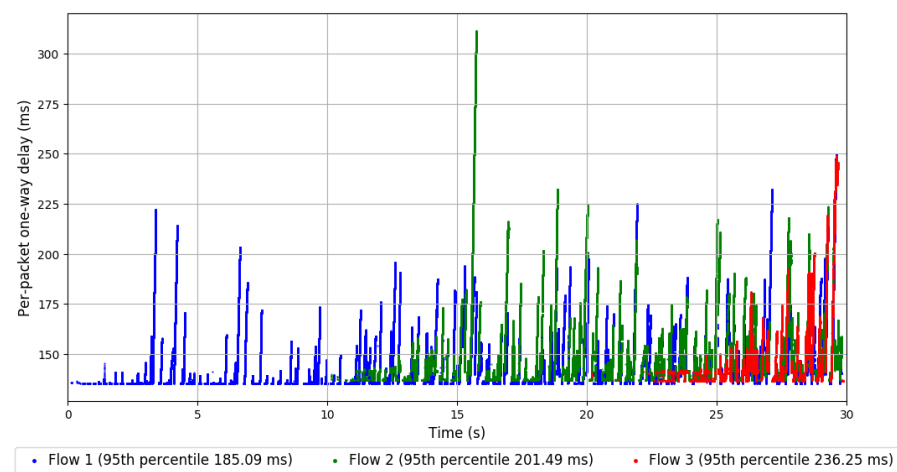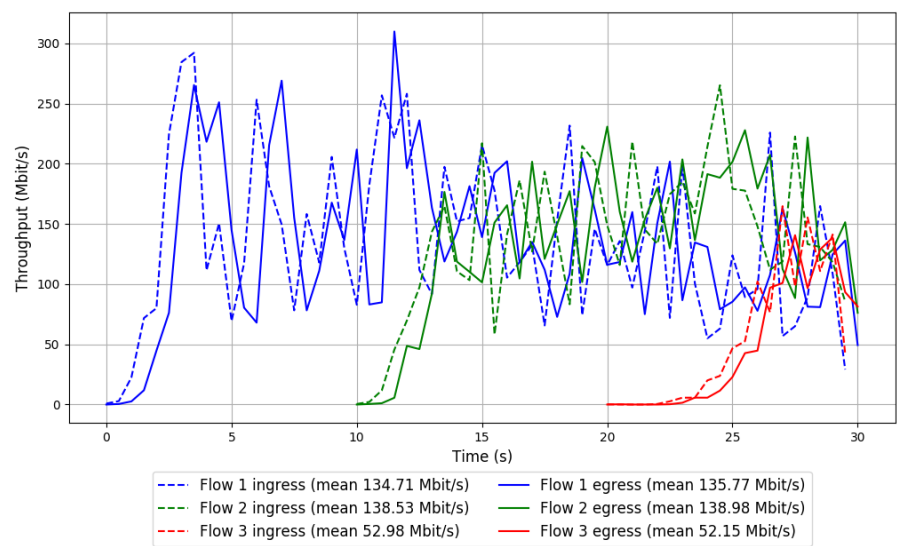

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```
Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-26 11:00:15
End at: 2018-10-26 11:00:45
Local clock offset: 1.457 ms
Remote clock offset: -39.236 ms

# Below is generated by plot.py at 2018-10-26 13:46:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 244.29 Mbit/s
95th percentile per-packet one-way delay: 193.142 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 135.77 Mbit/s
95th percentile per-packet one-way delay: 185.086 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 138.98 Mbit/s
95th percentile per-packet one-way delay: 201.487 ms
Loss rate: 0.66%
-- Flow 3:
Average throughput: 52.15 Mbit/s
95th percentile per-packet one-way delay: 236.247 ms
Loss rate: 3.51%
```
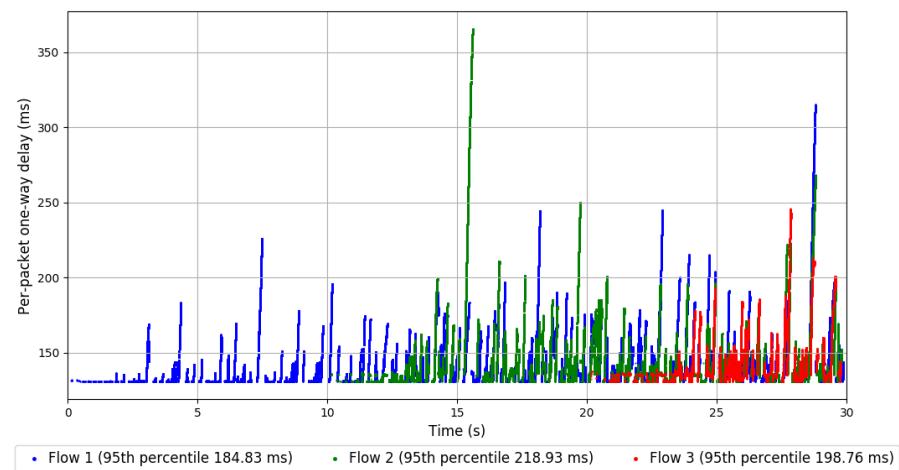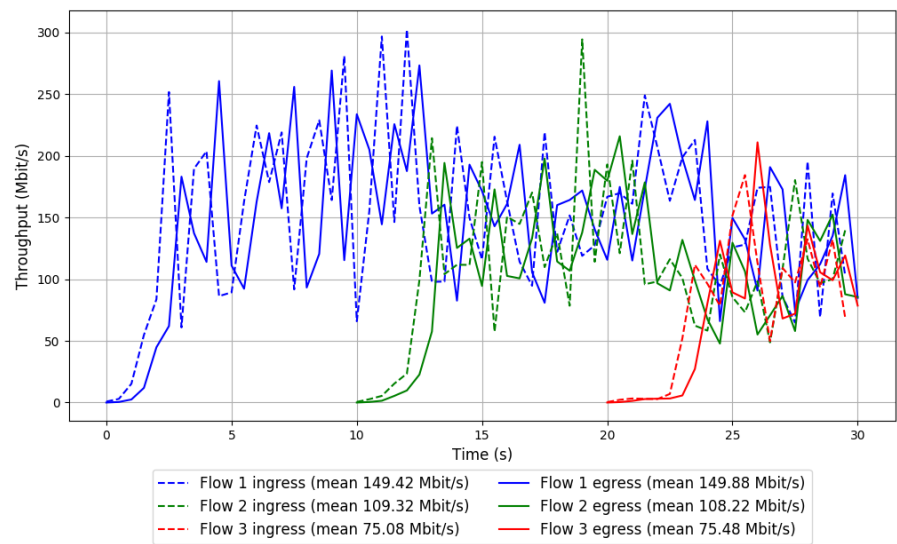
Run 2: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-10-26 11:36:56
End at: 2018-10-26 11:37:26
Local clock offset: 1.535 ms
Remote clock offset: -33.014 ms


# Below is generated by plot.py at 2018-10-26 13:46:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 245.86 Mbit/s
95th percentile per-packet one-way delay: 194.331 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 149.88 Mbit/s
95th percentile per-packet one-way delay: 184.834 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 108.22 Mbit/s
95th percentile per-packet one-way delay: 218.926 ms
Loss rate: 2.18%
-- Flow 3:
Average throughput: 75.48 Mbit/s
95th percentile per-packet one-way delay: 198.764 ms
Loss rate: 2.38%
```
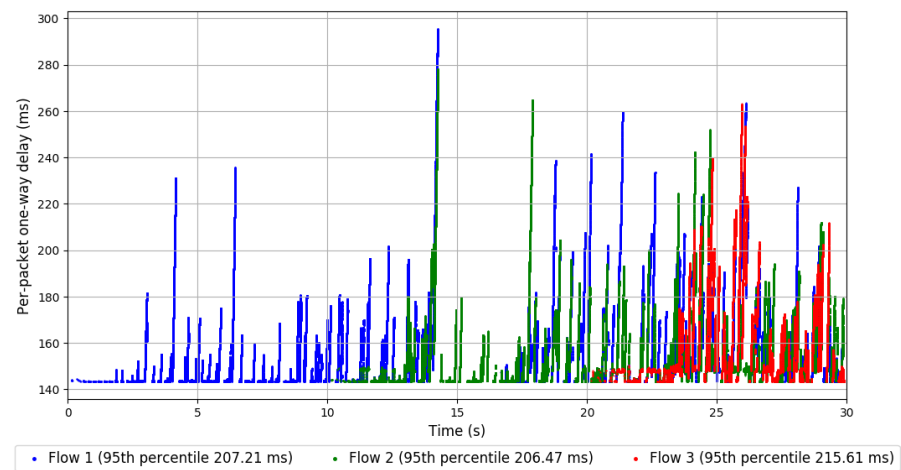
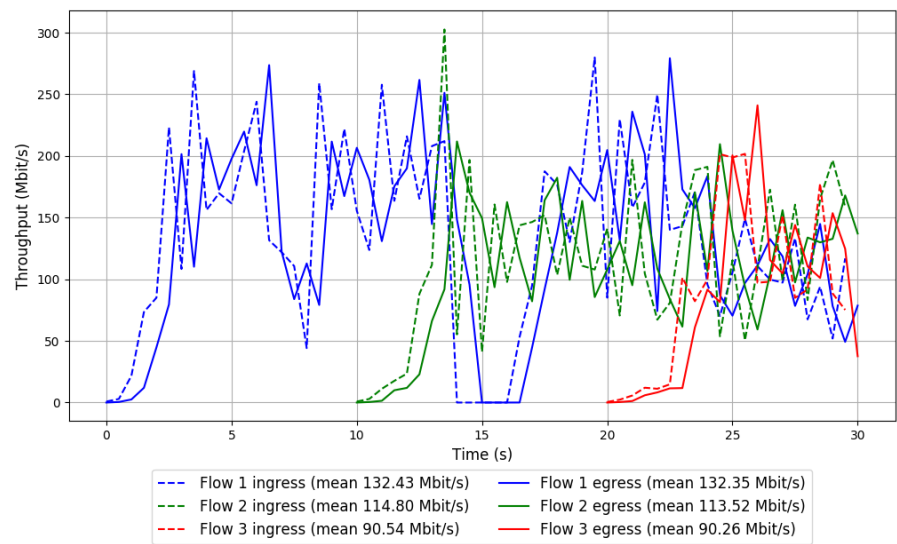Run 3: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-10-26 12:29:46
End at: 2018-10-26 12:30:16
Local clock offset: 2.267 ms
Remote clock offset: -46.671 ms


# Below is generated by plot.py at 2018-10-26 13:47:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 237.00 Mbit/s
95th percentile per-packet one-way delay: 208.779 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 132.35 Mbit/s
95th percentile per-packet one-way delay: 207.205 ms
Loss rate: 0.76%
-- Flow 2:
Average throughput: 113.52 Mbit/s
95th percentile per-packet one-way delay: 206.472 ms
Loss rate: 2.17%
-- Flow 3:
Average throughput: 90.26 Mbit/s
95th percentile per-packet one-way delay: 215.608 ms
Loss rate: 2.37%
```

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

Flow 1 ingress (mean 132.43 Mbit/s)   Flow 1 egress (mean 132.35 Mbit/s)
Flow 2 ingress (mean 114.80 Mbit/s)   Flow 2 egress (mean 113.52 Mbit/s)
Flow 3 ingress (mean 90.54 Mbit/s)   Flow 3 egress (mean 90.26 Mbit/s)

Flow 1 (95th percentile 207.21 ms)   Flow 2 (95th percentile 206.47 ms)   Flow 3 (95th percentile 215.61 ms)
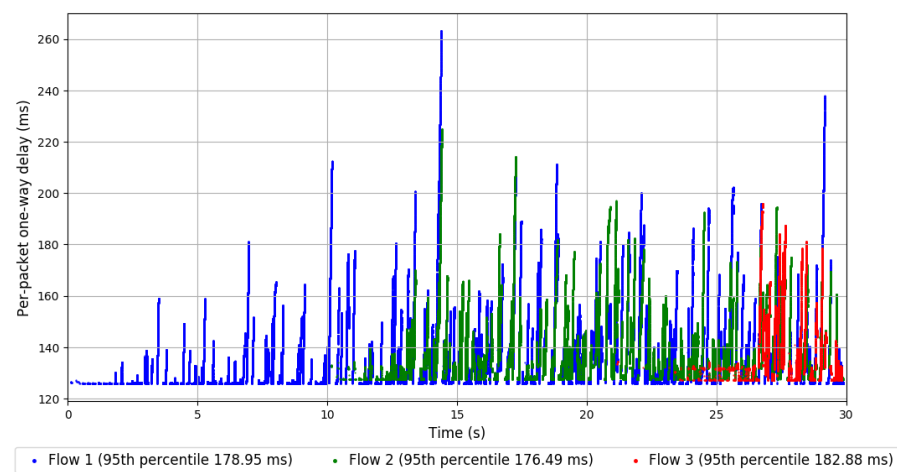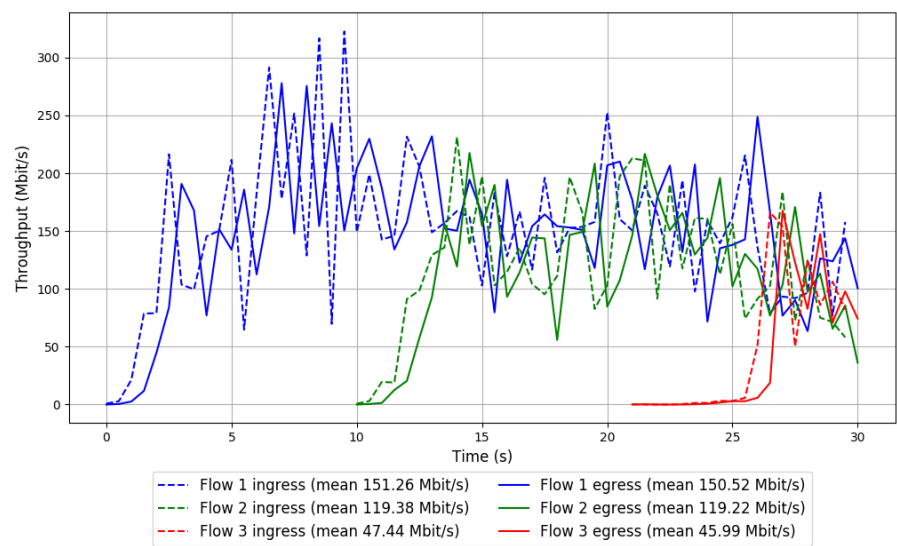
```
Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-26 13:17:21
End at: 2018-10-26 13:17:51
Local clock offset: -4.215 ms
Remote clock offset: -38.789 ms


# Below is generated by plot.py at 2018-10-26 13:47:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 242.94 Mbit/s
95th percentile per-packet one-way delay: 178.663 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 150.52 Mbit/s
95th percentile per-packet one-way delay: 178.946 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 119.22 Mbit/s
95th percentile per-packet one-way delay: 176.490 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 45.99 Mbit/s
95th percentile per-packet one-way delay: 182.882 ms
Loss rate: 4.76%
```
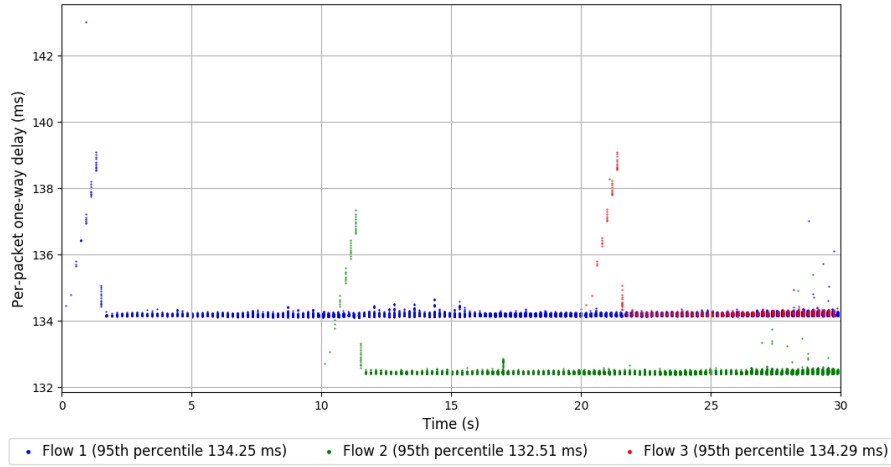
Run 5: Report of Indigo-96d2da3 — Data Link

- - - - Flow 1 ingress (mean 151.26 Mbit/s) —— Flow 1 egress (mean 150.52 Mbit/s)
- - - - Flow 2 ingress (mean 119.38 Mbit/s) —— Flow 2 egress (mean 119.22 Mbit/s)
- - - - Flow 3 ingress (mean 47.44 Mbit/s) —— Flow 3 egress (mean 45.99 Mbit/s)

• Flow 1 (95th percentile 178.95 ms)   • Flow 2 (95th percentile 176.49 ms)   • Flow 3 (95th percentile 182.88 ms)
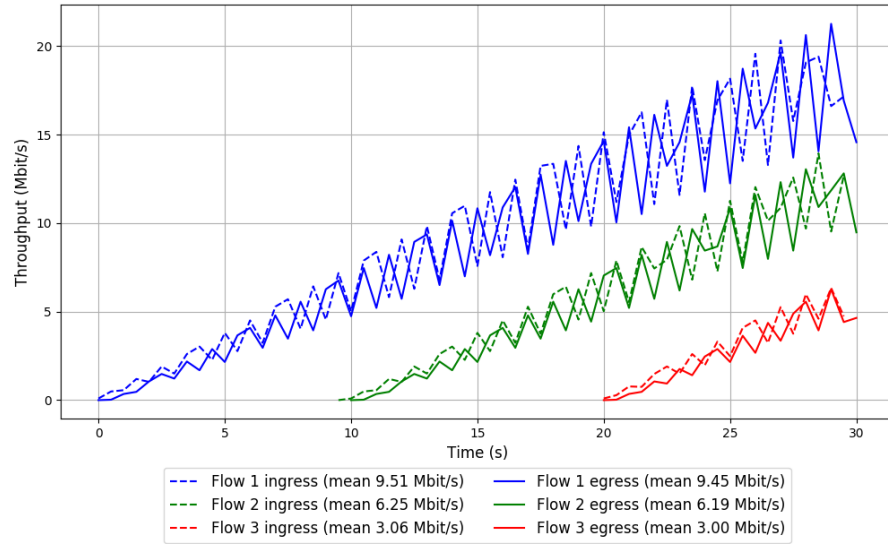
```
Run 1: Statistics of LEDBAT

Start at: 2018-10-26 10:21:29
End at: 2018-10-26 10:21:59
Local clock offset: 1.313 ms
Remote clock offset: -36.353 ms

# Below is generated by plot.py at 2018-10-26 13:47:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.53 Mbit/s
95th percentile per-packet one-way delay: 134.243 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 9.45 Mbit/s
95th percentile per-packet one-way delay: 134.248 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 6.19 Mbit/s
95th percentile per-packet one-way delay: 132.506 ms
Loss rate: 1.84%
-- Flow 3:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 134.290 ms
Loss rate: 4.01%
```
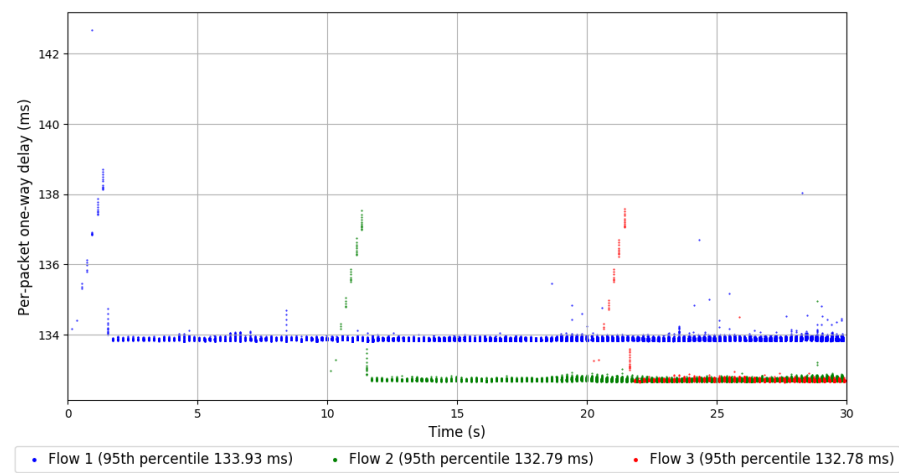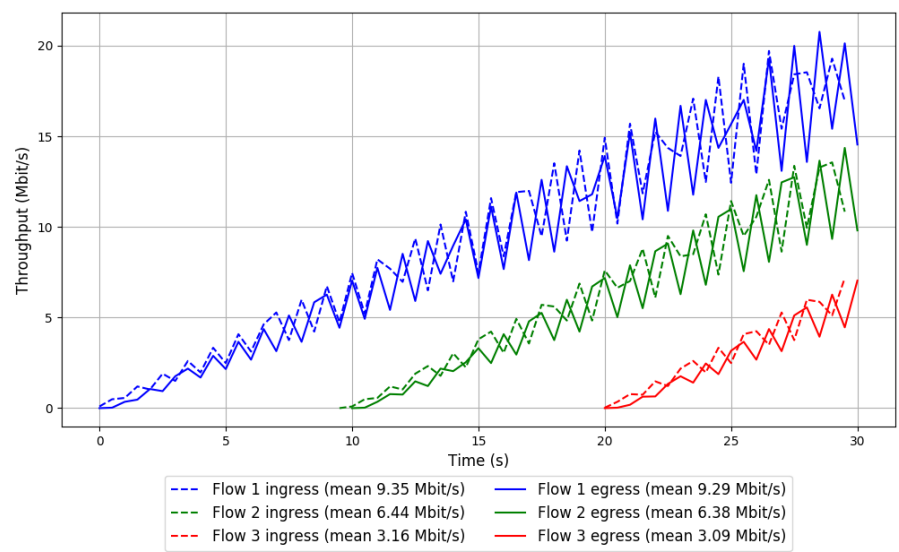
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-10-26 11:08:46
End at: 2018-10-26 11:09:16
Local clock offset: 2.005 ms
Remote clock offset: -35.949 ms


# Below is generated by plot.py at 2018-10-26 13:47:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.50 Mbit/s
95th percentile per-packet one-way delay: 133.922 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 9.29 Mbit/s
95th percentile per-packet one-way delay: 133.934 ms
Loss rate: 1.31%
-- Flow 2:
Average throughput: 6.38 Mbit/s
95th percentile per-packet one-way delay: 132.786 ms
Loss rate: 1.94%
-- Flow 3:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 132.784 ms
Loss rate: 3.93%
```

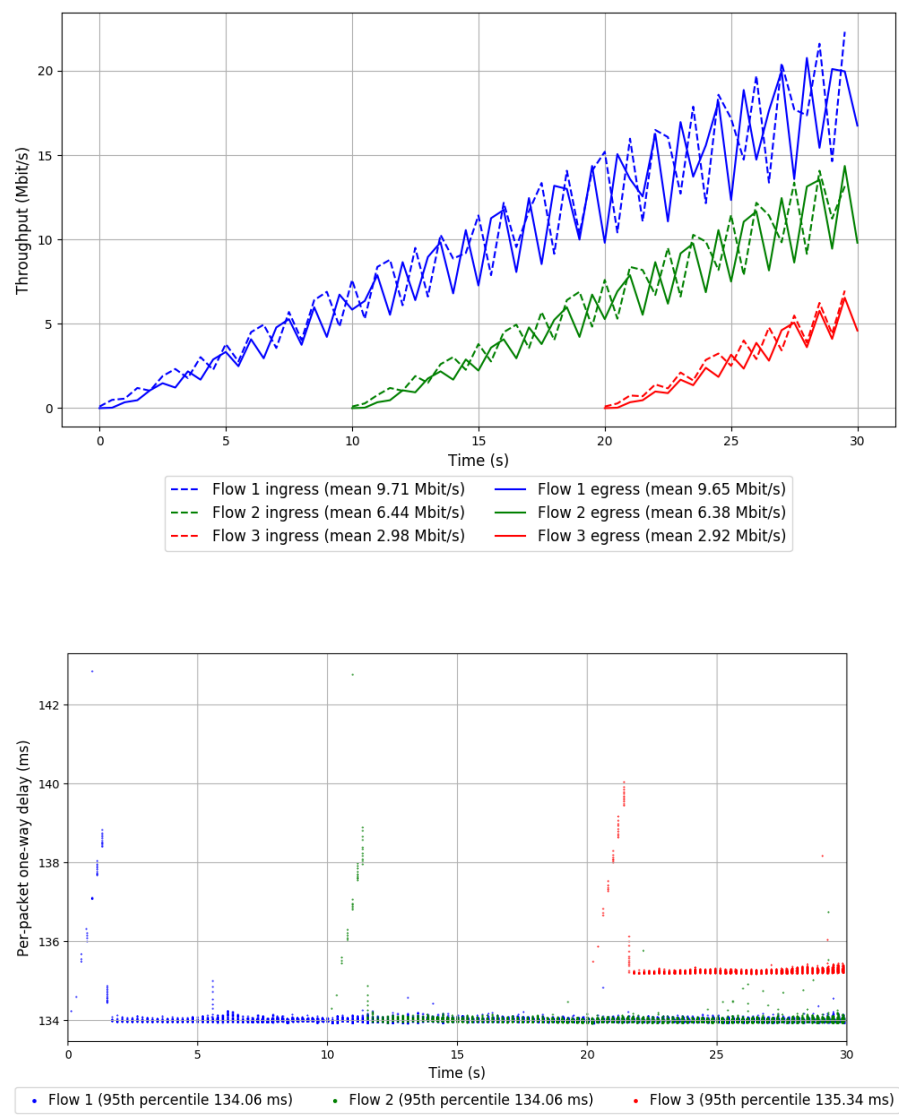# Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2018-10-26 11:51:18
End at: 2018-10-26 11:51:48
Local clock offset: 1.233 ms
Remote clock offset: -38.322 ms


# Below is generated by plot.py at 2018-10-26 13:47:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.83 Mbit/s
95th percentile per-packet one-way delay: 135.219 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 9.65 Mbit/s
95th percentile per-packet one-way delay: 134.059 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 6.38 Mbit/s
95th percentile per-packet one-way delay: 134.065 ms
Loss rate: 1.94%
-- Flow 3:
Average throughput: 2.92 Mbit/s
95th percentile per-packet one-way delay: 135.344 ms
Loss rate: 4.02%
```

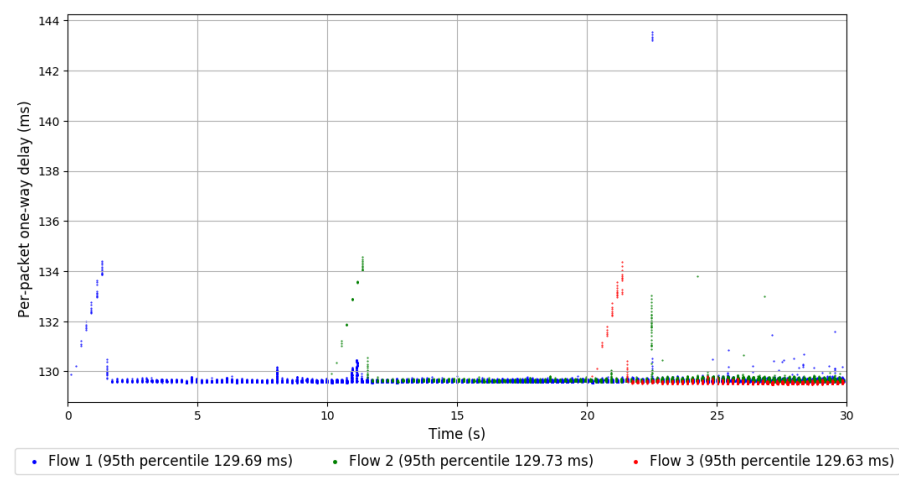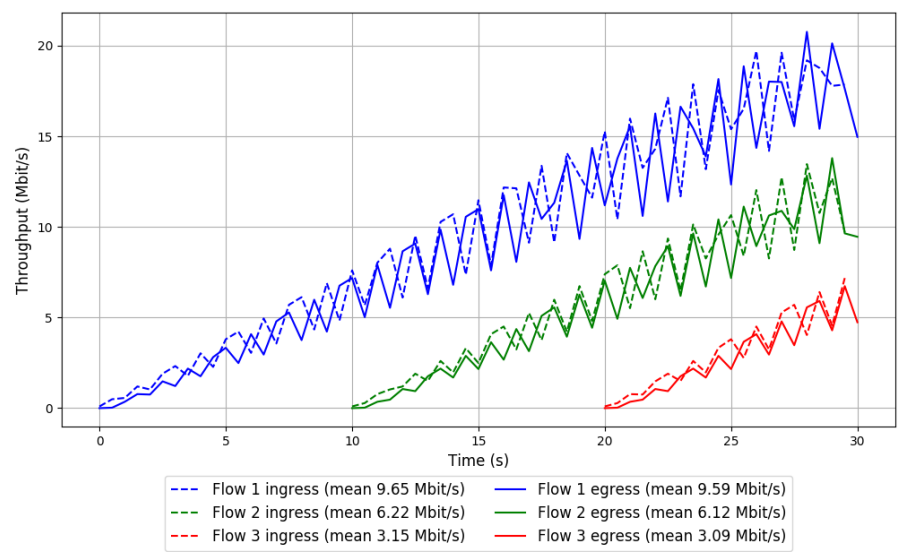# Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-10-26 12:43:49
End at: 2018-10-26 12:44:19
Local clock offset: 0.393 ms
Remote clock offset: -36.059 ms


# Below is generated by plot.py at 2018-10-26 13:47:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.65 Mbit/s
95th percentile per-packet one-way delay: 129.708 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 9.59 Mbit/s
95th percentile per-packet one-way delay: 129.694 ms
Loss rate: 1.29%
-- Flow 2:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 129.732 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 129.634 ms
Loss rate: 3.93%
```
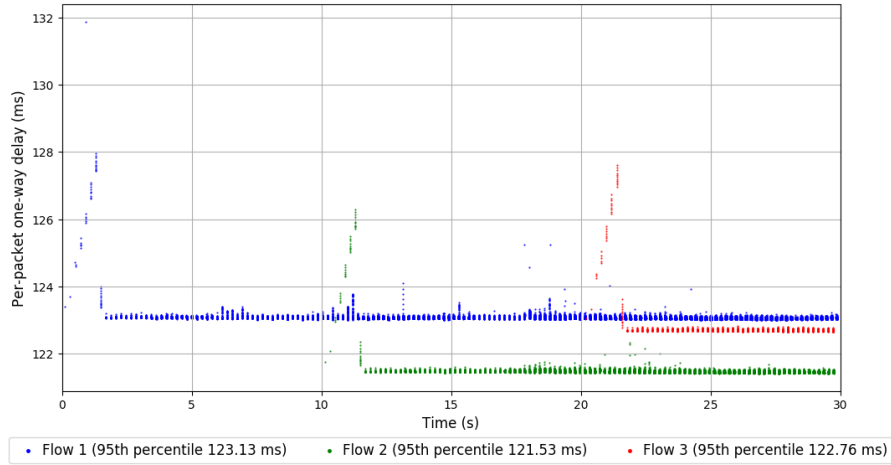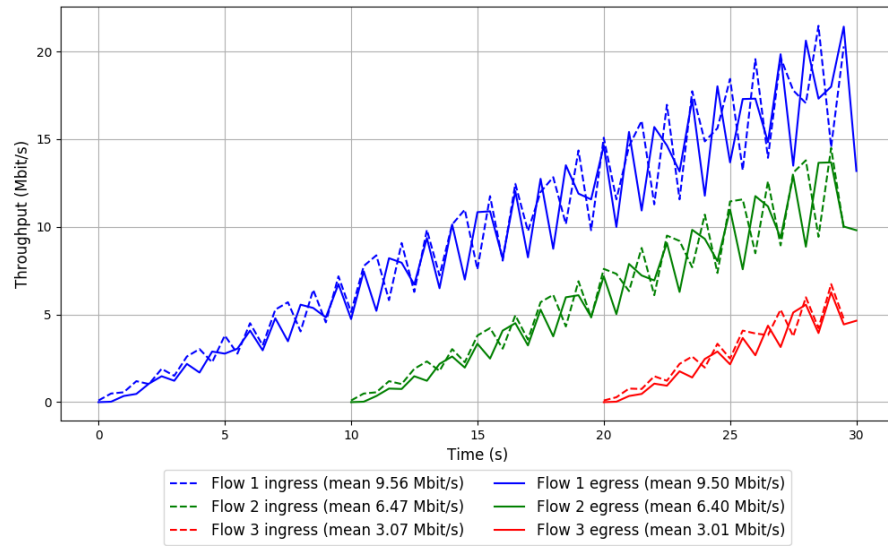
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-10-26 13:26:11
End at: 2018-10-26 13:26:41
Local clock offset: -2.604 ms
Remote clock offset: -33.166 ms

# Below is generated by plot.py at 2018-10-26 13:47:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 14.69 Mbit/s
95th percentile per-packet one-way delay: 123.113 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 9.50 Mbit/s
95th percentile per-packet one-way delay: 123.126 ms
Loss rate: 1.30%
-- Flow 2:
Average throughput: 6.40 Mbit/s
95th percentile per-packet one-way delay: 121.529 ms
Loss rate: 1.95%
-- Flow 3:
Average throughput: 3.01 Mbit/s
95th percentile per-packet one-way delay: 122.758 ms
Loss rate: 4.01%
```
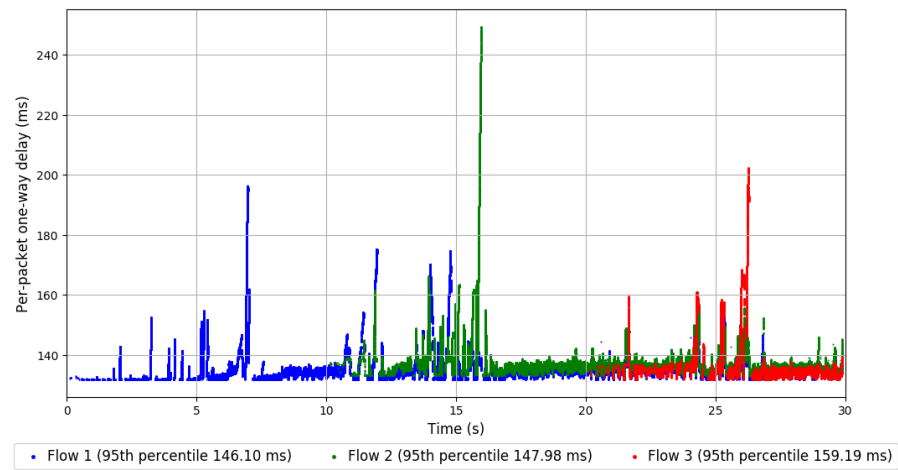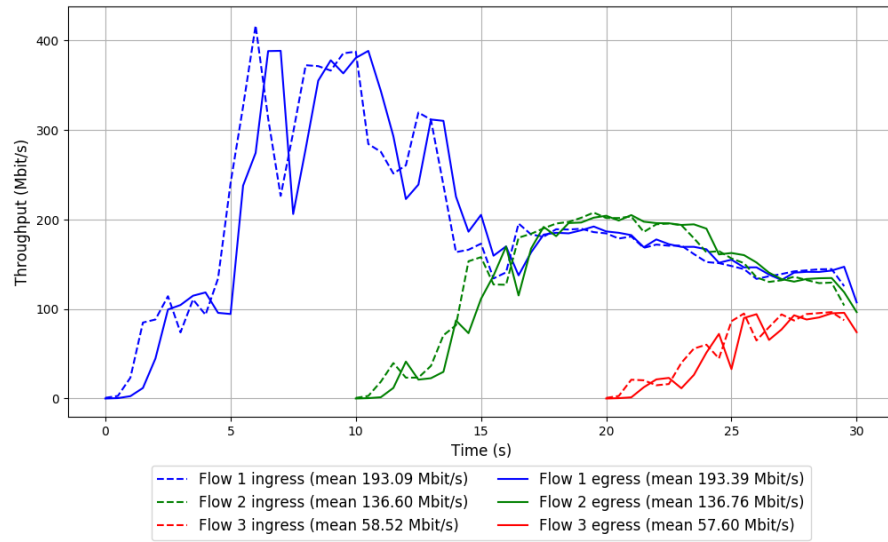
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-26 09:55:53
End at: 2018-10-26 09:56:23
Local clock offset: 0.489 ms
Remote clock offset: -37.635 ms

# Below is generated by plot.py at 2018-10-26 13:48:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 302.84 Mbit/s
95th percentile per-packet one-way delay: 147.543 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 193.39 Mbit/s
95th percentile per-packet one-way delay: 146.105 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 136.76 Mbit/s
95th percentile per-packet one-way delay: 147.978 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 57.60 Mbit/s
95th percentile per-packet one-way delay: 159.187 ms
Loss rate: 3.53%
```

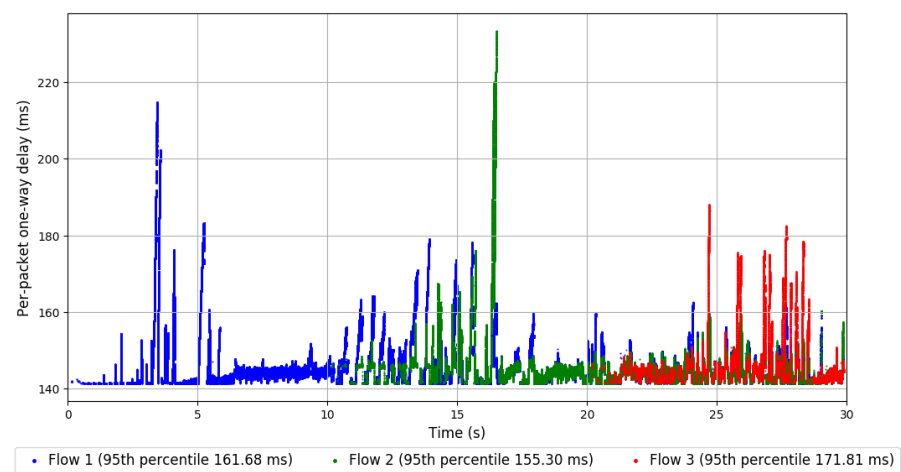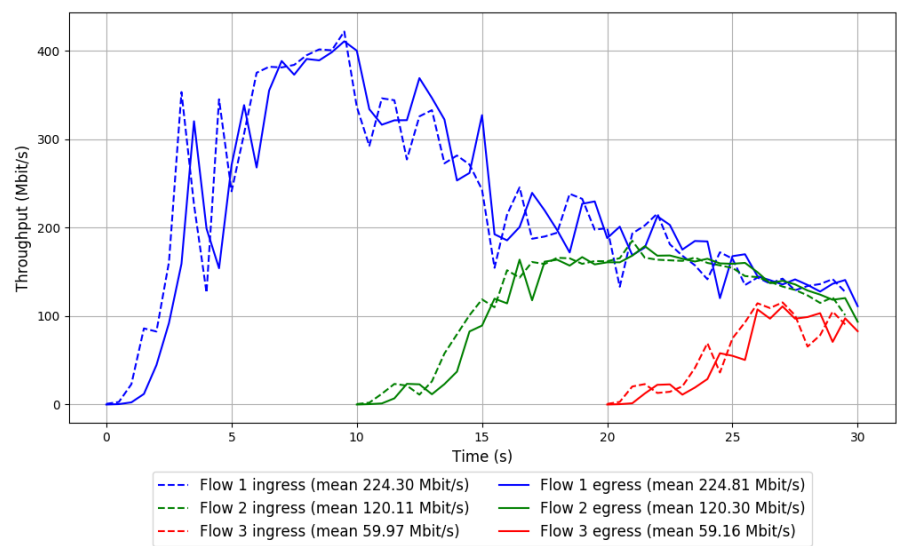Run 1: Report of Indigo-Muses — Data Link

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-10-26 10:48:50
End at: 2018-10-26 10:49:20
Local clock offset: 0.561 ms
Remote clock offset: -44.473 ms


# Below is generated by plot.py at 2018-10-26 13:49:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 323.90 Mbit/s
95th percentile per-packet one-way delay: 161.598 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 224.81 Mbit/s
95th percentile per-packet one-way delay: 161.675 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 120.30 Mbit/s
95th percentile per-packet one-way delay: 155.304 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 59.16 Mbit/s
95th percentile per-packet one-way delay: 171.811 ms
Loss rate: 3.45%
```

Run 2: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 224.30 Mbit/s)   Flow 1 egress (mean 224.81 Mbit/s)
Flow 2 ingress (mean 120.11 Mbit/s)   Flow 2 egress (mean 120.30 Mbit/s)
Flow 3 ingress (mean 59.97 Mbit/s)   Flow 3 egress (mean 59.16 Mbit/s)

Flow 1 (95th percentile 161.68 ms)   Flow 2 (95th percentile 155.30 ms)   Flow 3 (95th percentile 171.81 ms)
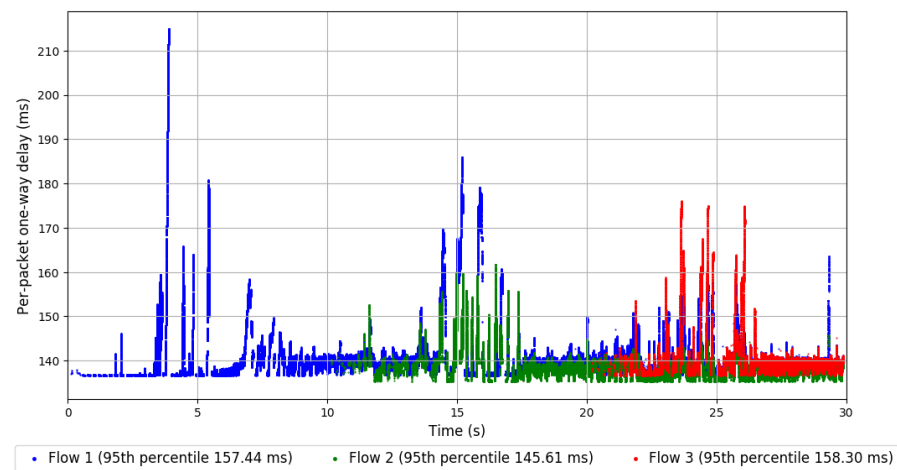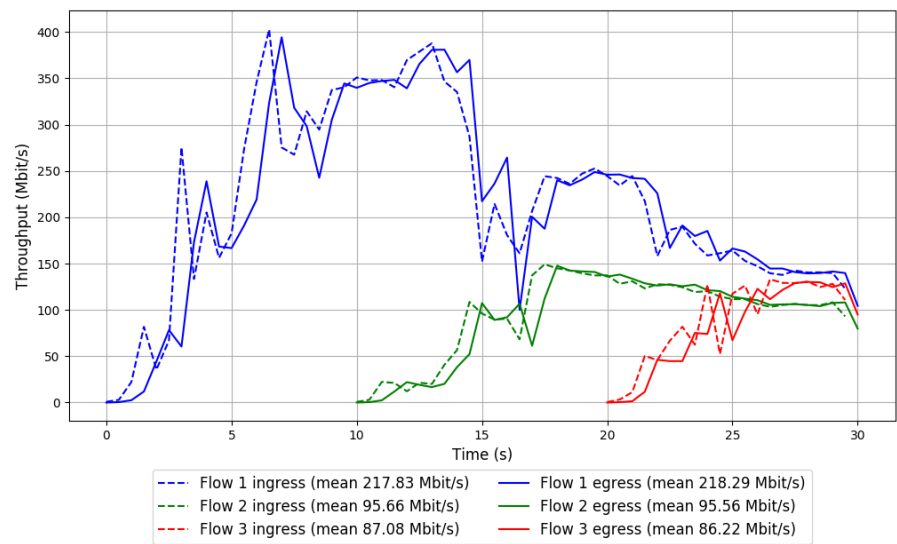
```
Run 3: Statistics of Indigo-Muses

Start at: 2018-10-26 11:25:34
End at: 2018-10-26 11:26:04
Local clock offset: 0.692 ms
Remote clock offset: -39.862 ms


# Below is generated by plot.py at 2018-10-26 13:49:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 309.82 Mbit/s
95th percentile per-packet one-way delay: 155.277 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 218.29 Mbit/s
95th percentile per-packet one-way delay: 157.442 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 145.606 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 86.22 Mbit/s
95th percentile per-packet one-way delay: 158.304 ms
Loss rate: 2.97%
```

Run 3: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 217.83 Mbit/s) --- Flow 1 egress (mean 218.29 Mbit/s)
Flow 2 ingress (mean 95.66 Mbit/s) --- Flow 2 egress (mean 95.56 Mbit/s)
Flow 3 ingress (mean 87.08 Mbit/s) --- Flow 3 egress (mean 86.22 Mbit/s)

Flow 1 (95th percentile 157.44 ms)   Flow 2 (95th percentile 145.61 ms)   Flow 3 (95th percentile 158.30 ms)
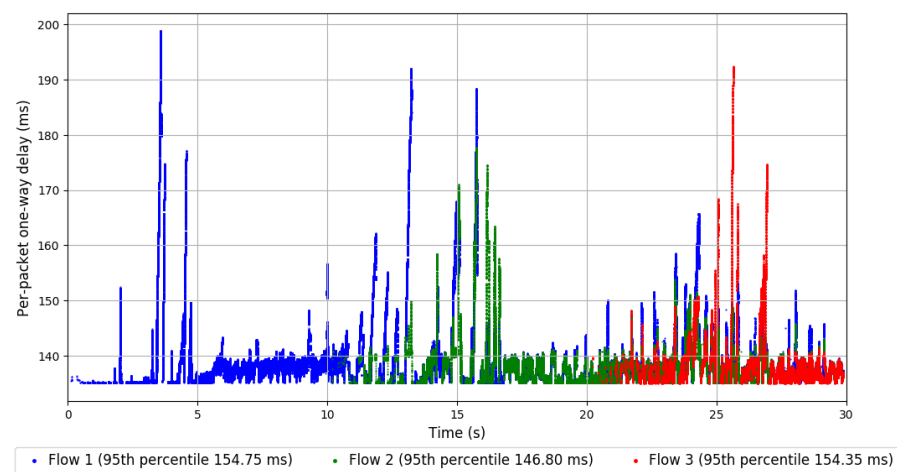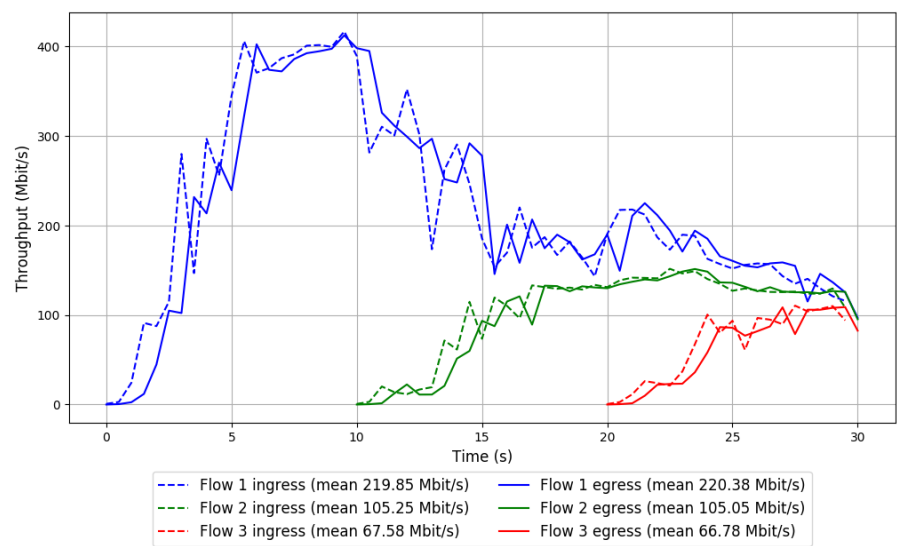
80

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-10-26 12:18:17
End at: 2018-10-26 12:18:47
Local clock offset: -0.794 ms
Remote clock offset: -42.428 ms


# Below is generated by plot.py at 2018-10-26 13:49:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 311.64 Mbit/s
95th percentile per-packet one-way delay: 153.069 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 220.38 Mbit/s
95th percentile per-packet one-way delay: 154.755 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 105.05 Mbit/s
95th percentile per-packet one-way delay: 146.798 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 66.78 Mbit/s
95th percentile per-packet one-way delay: 154.355 ms
Loss rate: 3.10%
```

Run 4: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 219.85 Mbit/s) — Flow 1 egress (mean 220.38 Mbit/s)
Flow 2 ingress (mean 105.25 Mbit/s) — Flow 2 egress (mean 105.05 Mbit/s)
Flow 3 ingress (mean 67.58 Mbit/s) — Flow 3 egress (mean 66.78 Mbit/s)

Flow 1 (95th percentile 154.75 ms)   Flow 2 (95th percentile 146.80 ms)   Flow 3 (95th percentile 154.35 ms)
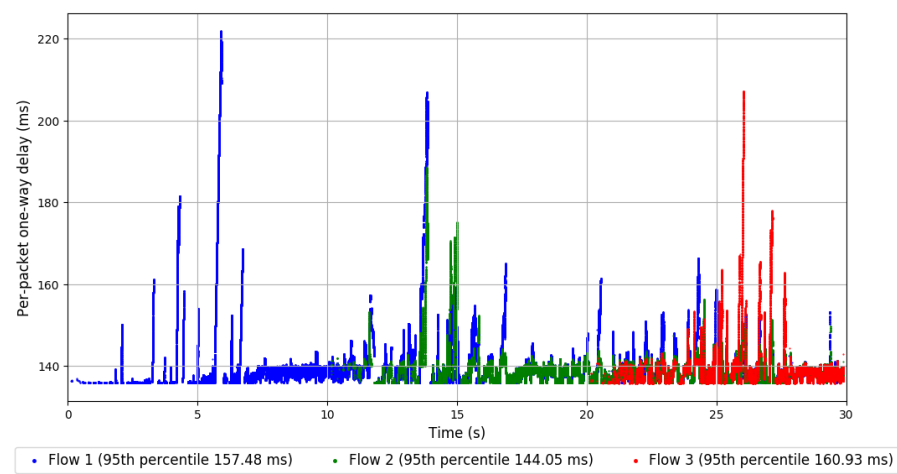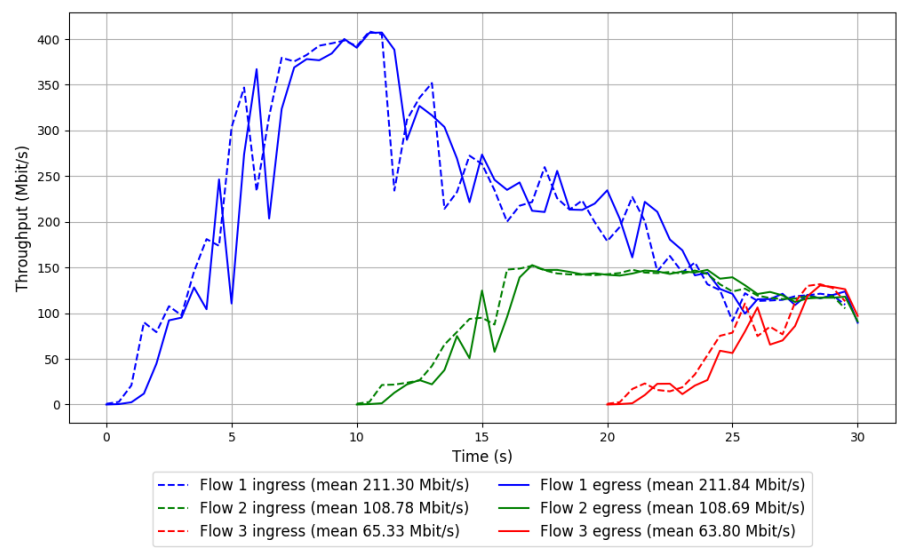
```
Run 5: Statistics of Indigo-Muses

Start at: 2018-10-26 13:00:15
End at: 2018-10-26 13:00:45
Local clock offset: 0.515 ms
Remote clock offset: -41.446 ms


# Below is generated by plot.py at 2018-10-26 13:49:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 304.72 Mbit/s
95th percentile per-packet one-way delay: 155.433 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 211.84 Mbit/s
95th percentile per-packet one-way delay: 157.476 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 108.69 Mbit/s
95th percentile per-packet one-way delay: 144.052 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 63.80 Mbit/s
95th percentile per-packet one-way delay: 160.930 ms
Loss rate: 4.20%
```

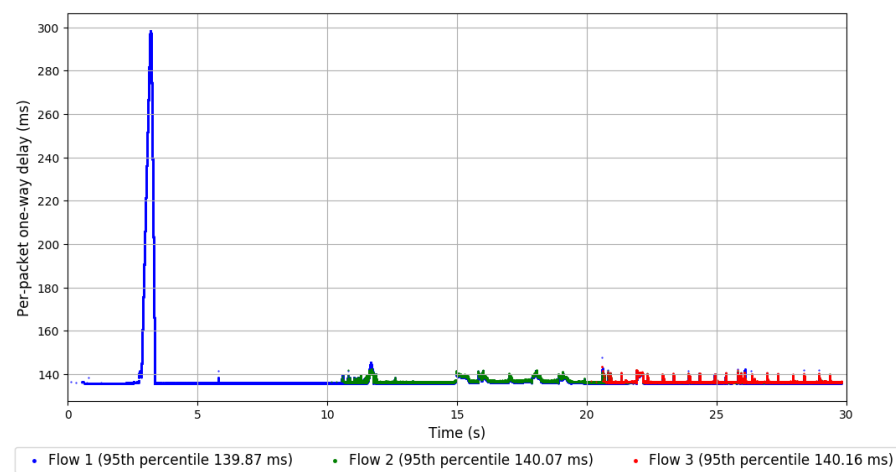Run 5: Report of Indigo-Muses — Data Link

- - - - Flow 1 ingress (mean 211.30 Mbit/s) ——— Flow 1 egress (mean 211.84 Mbit/s)
- - - - Flow 2 ingress (mean 108.78 Mbit/s) ——— Flow 2 egress (mean 108.69 Mbit/s)
- - - - Flow 3 ingress (mean 65.33 Mbit/s) ——— Flow 3 egress (mean 63.80 Mbit/s)

• Flow 1 (95th percentile 157.48 ms)   • Flow 2 (95th percentile 144.05 ms)   • Flow 3 (95th percentile 160.93 ms)
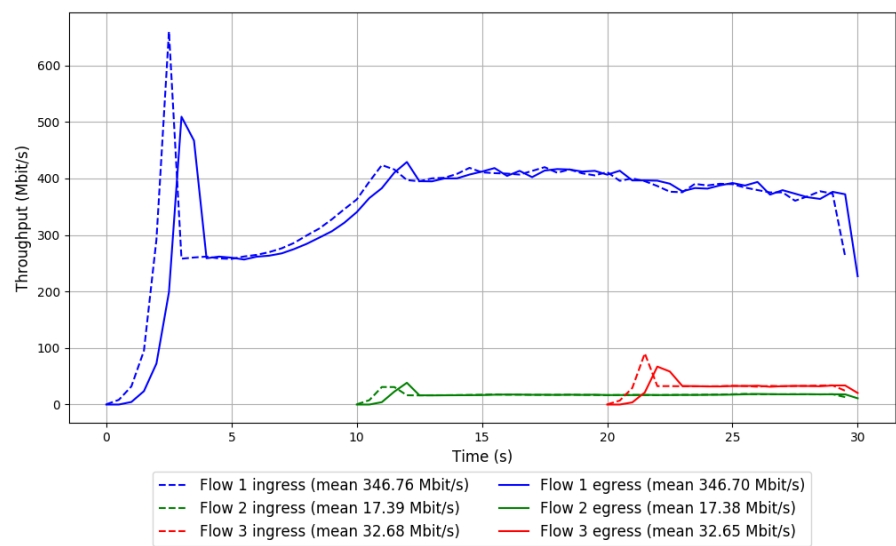
```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-26 09:53:40
End at: 2018-10-26 09:54:10
Local clock offset: 0.393 ms
Remote clock offset: -40.489 ms


# Below is generated by plot.py at 2018-10-26 13:50:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 368.81 Mbit/s
95th percentile per-packet one-way delay: 139.898 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 346.70 Mbit/s
95th percentile per-packet one-way delay: 139.873 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 17.38 Mbit/s
95th percentile per-packet one-way delay: 140.073 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 32.65 Mbit/s
95th percentile per-packet one-way delay: 140.159 ms
Loss rate: 2.07%
```

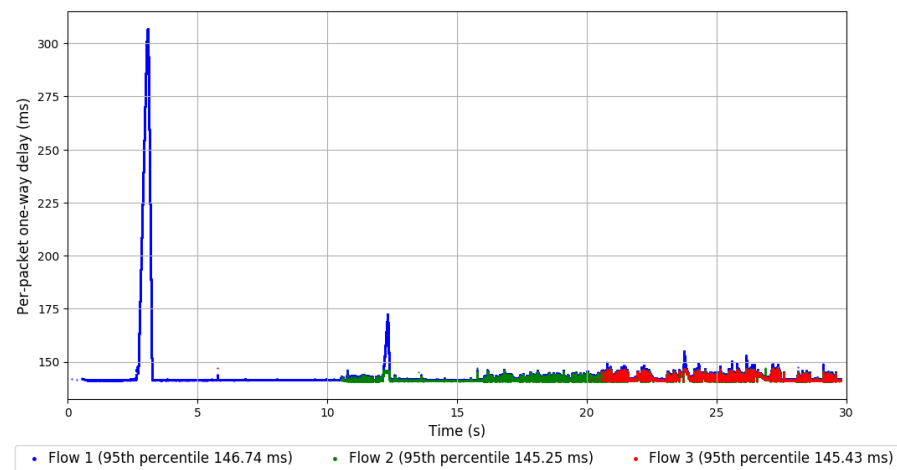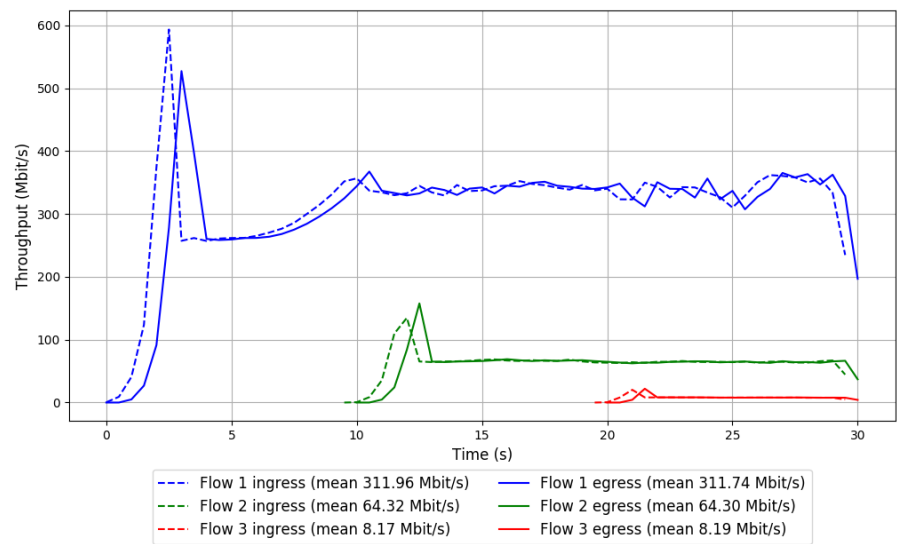## Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-10-26 10:46:39
End at: 2018-10-26 10:47:09
Local clock offset: 1.033 ms
Remote clock offset: -43.933 ms


# Below is generated by plot.py at 2018-10-26 13:51:46
# Datalink statistics
-- Total of 3 flows:
Average throughput: 357.03 Mbit/s
95th percentile per-packet one-way delay: 146.080 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 311.74 Mbit/s
95th percentile per-packet one-way delay: 146.736 ms
Loss rate: 0.75%
-- Flow 2:
Average throughput: 64.30 Mbit/s
95th percentile per-packet one-way delay: 145.255 ms
Loss rate: 1.04%
-- Flow 3:
Average throughput: 8.19 Mbit/s
95th percentile per-packet one-way delay: 145.434 ms
Loss rate: 1.78%
```

Run 2: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 311.96 Mbit/s) Flow 1 egress (mean 311.74 Mbit/s)
Flow 2 ingress (mean 64.32 Mbit/s) Flow 2 egress (mean 64.30 Mbit/s)
Flow 3 ingress (mean 8.17 Mbit/s) Flow 3 egress (mean 8.19 Mbit/s)

Flow 1 (95th percentile 146.74 ms) Flow 2 (95th percentile 145.25 ms) Flow 3 (95th percentile 145.43 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-10-26 11:23:21
End at: 2018-10-26 11:23:51
Local clock offset: -0.55 ms
Remote clock offset: -33.168 ms


# Below is generated by plot.py at 2018-10-26 13:52:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 378.40 Mbit/s
95th percentile per-packet one-way delay: 133.281 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 355.39 Mbit/s
95th percentile per-packet one-way delay: 133.340 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 33.66 Mbit/s
95th percentile per-packet one-way delay: 133.115 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 131.685 ms
Loss rate: 1.90%
```
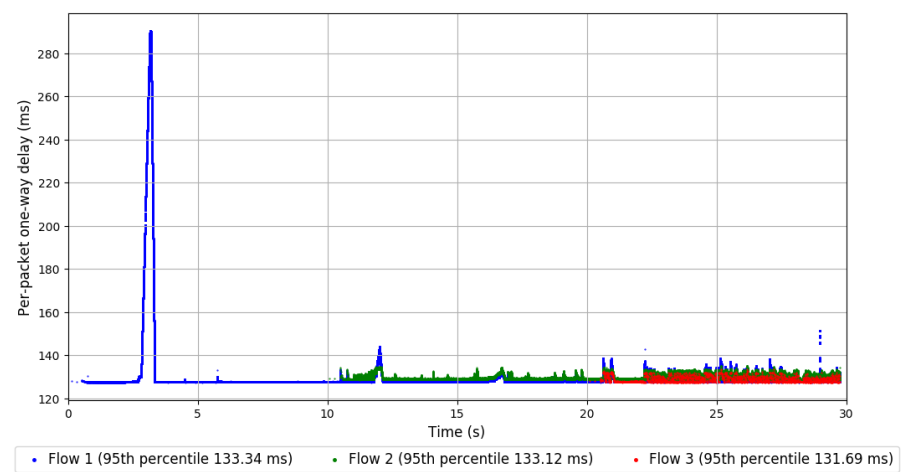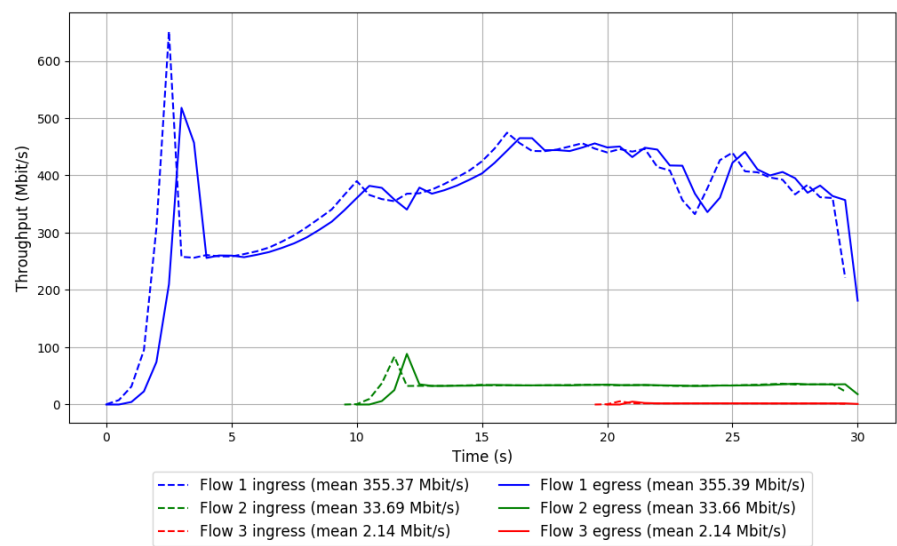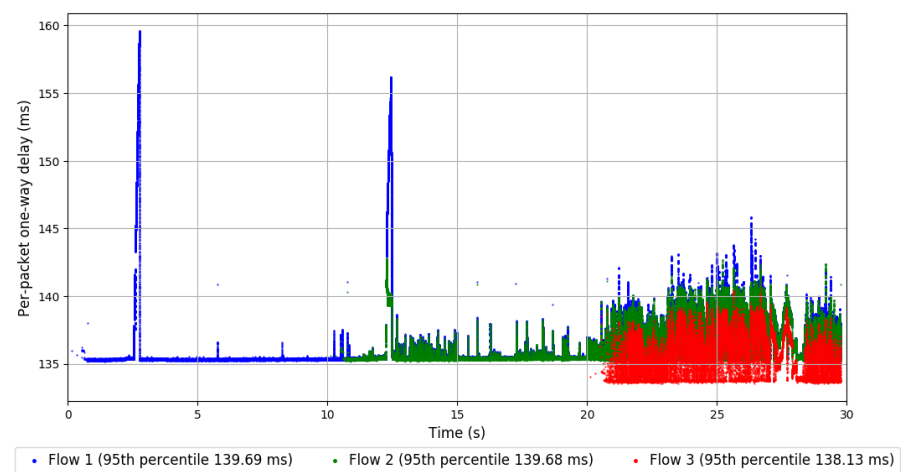
Run 3: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 355.37 Mbit/s)   Flow 1 egress (mean 355.39 Mbit/s)
Flow 2 ingress (mean 33.69 Mbit/s)   Flow 2 egress (mean 33.66 Mbit/s)
Flow 3 ingress (mean 2.14 Mbit/s)   Flow 3 egress (mean 2.14 Mbit/s)

Flow 1 (95th percentile 133.34 ms)   Flow 2 (95th percentile 133.12 ms)   Flow 3 (95th percentile 131.69 ms)

90

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-10-26 12:16:15
End at: 2018-10-26 12:16:45
Local clock offset: -0.892 ms
Remote clock offset: -41.037 ms


# Below is generated by plot.py at 2018-10-26 13:52:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 294.80 Mbit/s
95th percentile per-packet one-way delay: 139.642 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 227.39 Mbit/s
95th percentile per-packet one-way delay: 139.686 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 85.99 Mbit/s
95th percentile per-packet one-way delay: 139.676 ms
Loss rate: 1.21%
-- Flow 3:
Average throughput: 31.96 Mbit/s
95th percentile per-packet one-way delay: 138.135 ms
Loss rate: 1.88%
```
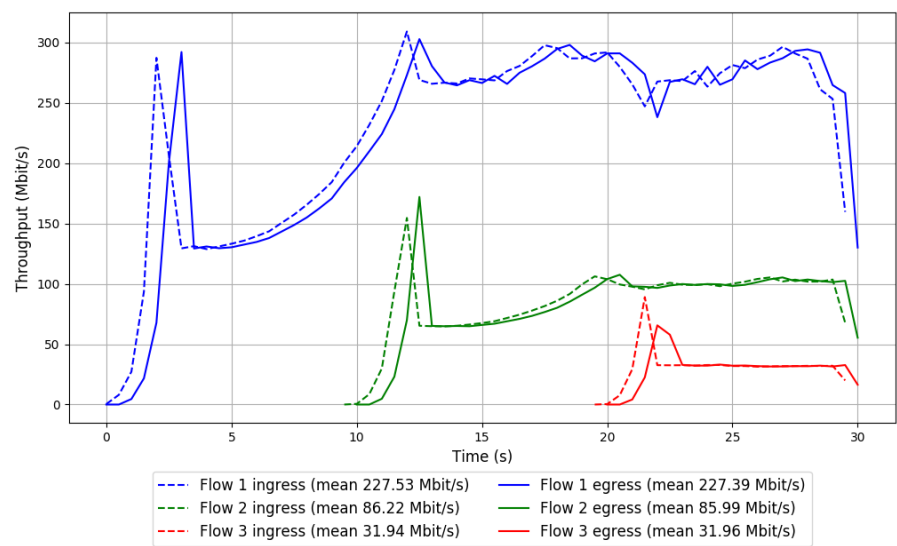
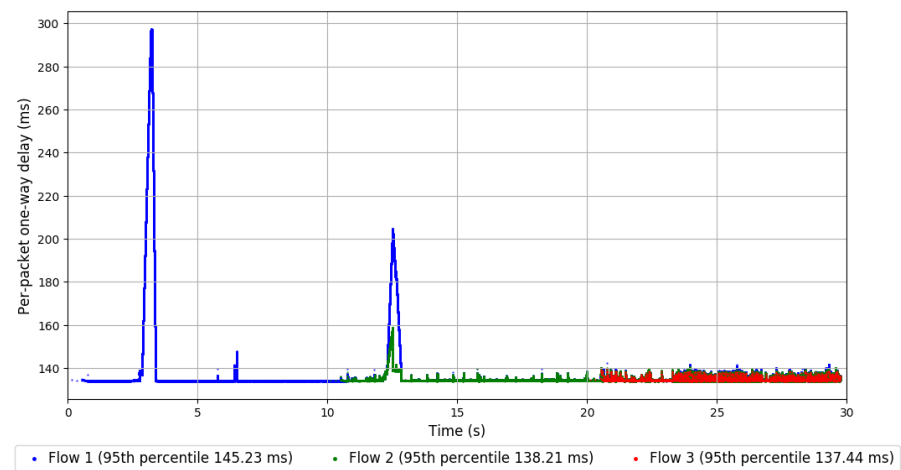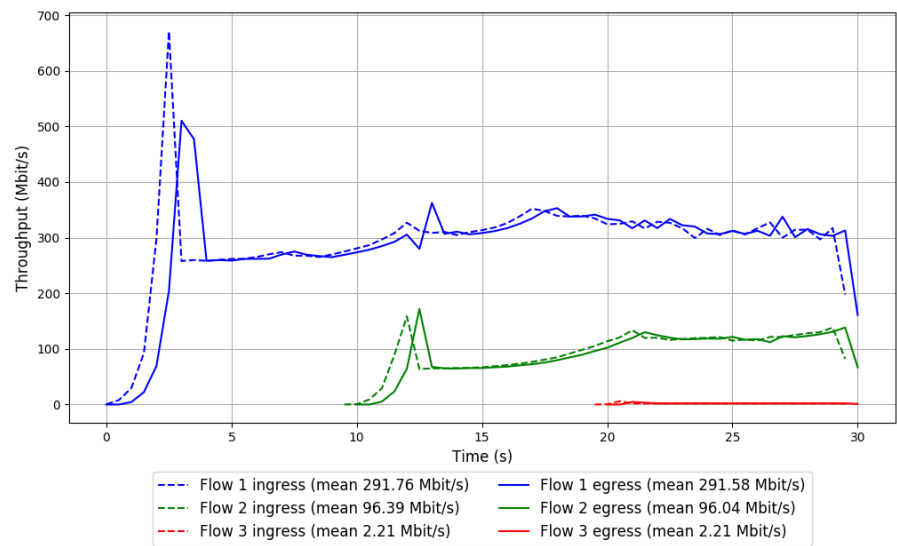Run 4: Report of PCC-Allegro — Data Link

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-10-26 12:58:04
End at: 2018-10-26 12:58:34
Local clock offset: 1.302 ms
Remote clock offset: -38.72 ms


# Below is generated by plot.py at 2018-10-26 13:53:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 356.01 Mbit/s
95th percentile per-packet one-way delay: 139.368 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 291.58 Mbit/s
95th percentile per-packet one-way delay: 145.226 ms
Loss rate: 0.71%
-- Flow 2:
Average throughput: 96.04 Mbit/s
95th percentile per-packet one-way delay: 138.205 ms
Loss rate: 1.33%
-- Flow 3:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 137.443 ms
Loss rate: 1.95%
```

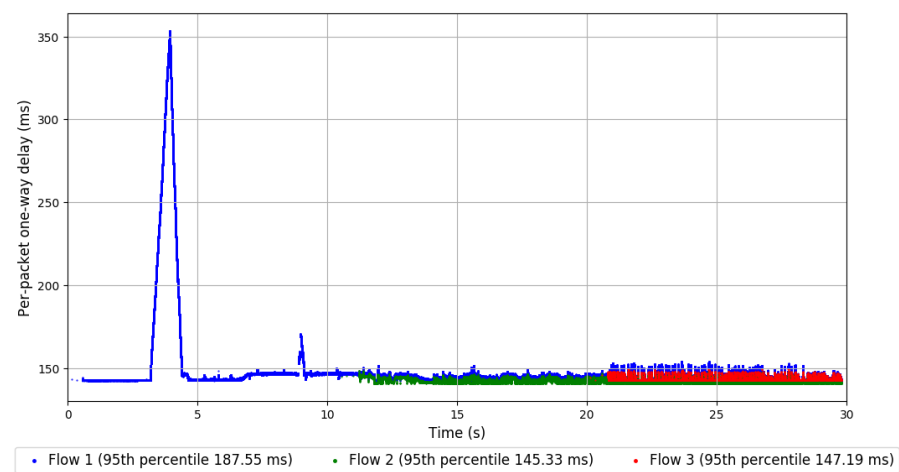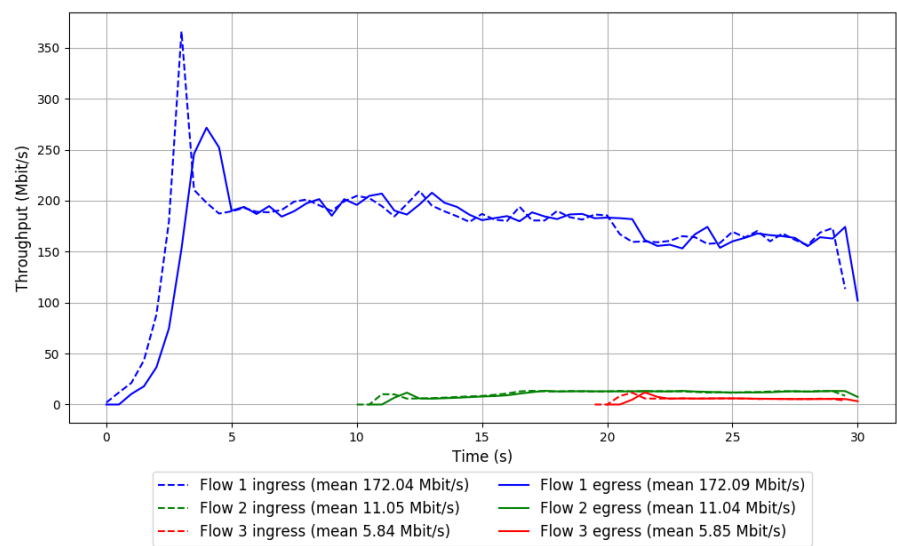Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 291.76 Mbit/s)   Flow 1 egress (mean 291.58 Mbit/s)
Flow 2 ingress (mean 96.39 Mbit/s)   Flow 2 egress (mean 96.04 Mbit/s)
Flow 3 ingress (mean 2.21 Mbit/s)   Flow 3 egress (mean 2.21 Mbit/s)

Flow 1 (95th percentile 145.23 ms)   Flow 2 (95th percentile 138.21 ms)   Flow 3 (95th percentile 137.44 ms)

94

```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-26 09:58:10
End at: 2018-10-26 09:58:40
Local clock offset: 0.436 ms
Remote clock offset: -46.401 ms

# Below is generated by plot.py at 2018-10-26 13:53:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 181.16 Mbit/s
95th percentile per-packet one-way delay: 180.509 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 172.09 Mbit/s
95th percentile per-packet one-way delay: 187.546 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 11.04 Mbit/s
95th percentile per-packet one-way delay: 145.329 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 5.85 Mbit/s
95th percentile per-packet one-way delay: 147.195 ms
Loss rate: 1.91%
```

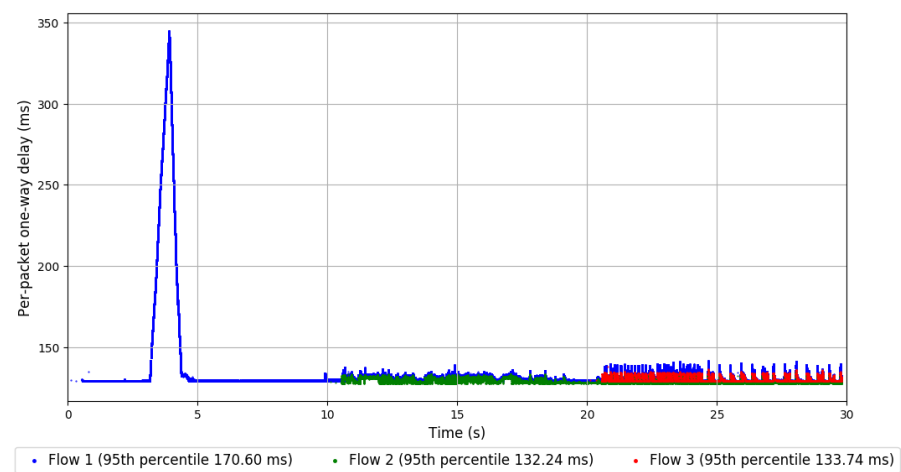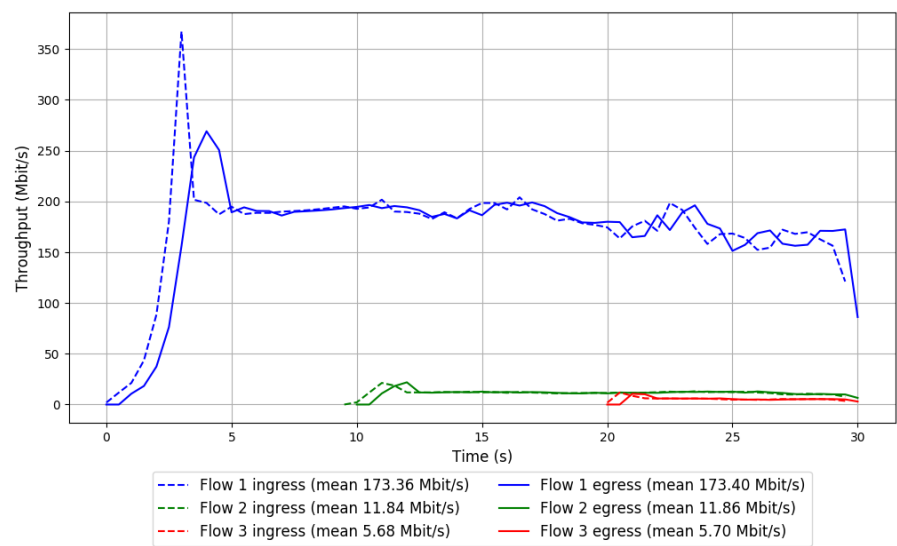# Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2018-10-26 10:51:10
End at: 2018-10-26 10:51:40
Local clock offset: -0.714 ms
Remote clock offset: -33.774 ms


# Below is generated by plot.py at 2018-10-26 13:53:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 183.13 Mbit/s
95th percentile per-packet one-way delay: 162.467 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 173.40 Mbit/s
95th percentile per-packet one-way delay: 170.600 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 11.86 Mbit/s
95th percentile per-packet one-way delay: 132.239 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 5.70 Mbit/s
95th percentile per-packet one-way delay: 133.735 ms
Loss rate: 1.63%
```

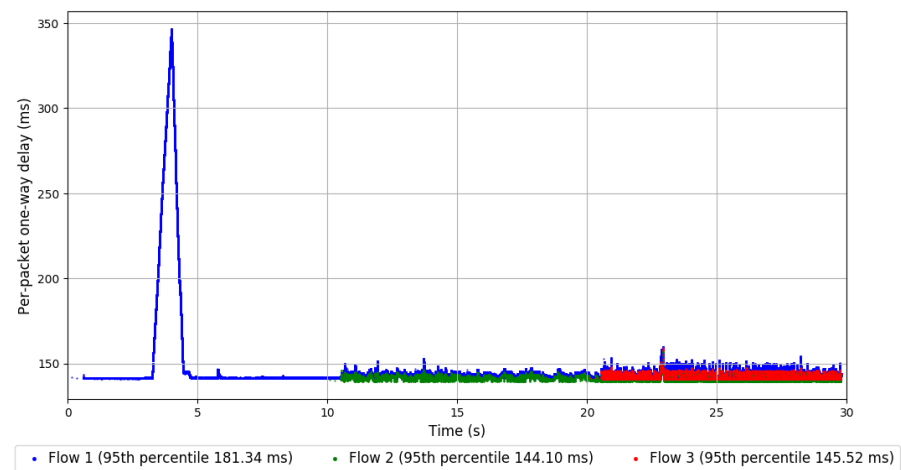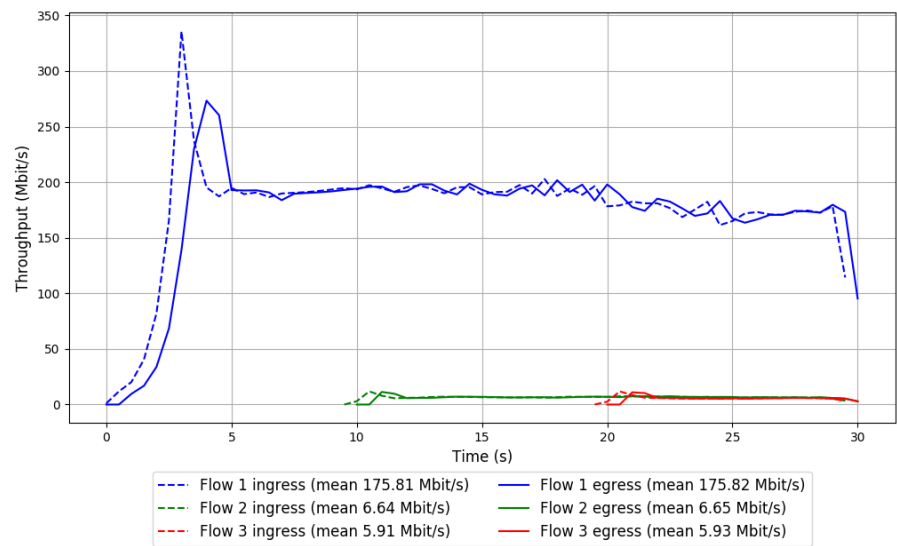Run 2: Report of PCC-Expr — Data Link

```
Run 3: Statistics of PCC-Expr

Start at: 2018-10-26 11:27:52
End at: 2018-10-26 11:28:22
Local clock offset: 1.426 ms
Remote clock offset: -43.204 ms


# Below is generated by plot.py at 2018-10-26 13:53:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 182.17 Mbit/s
95th percentile per-packet one-way delay: 176.204 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 175.82 Mbit/s
95th percentile per-packet one-way delay: 181.338 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 6.65 Mbit/s
95th percentile per-packet one-way delay: 144.098 ms
Loss rate: 0.76%
-- Flow 3:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 145.516 ms
Loss rate: 1.63%
```

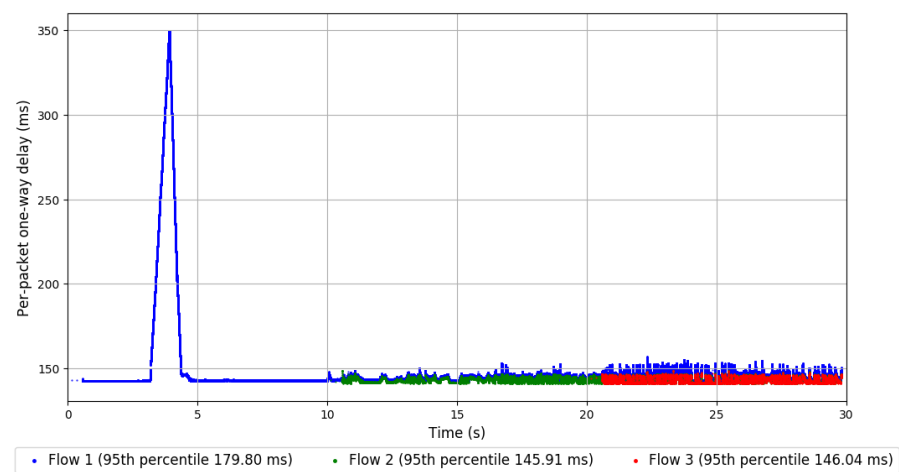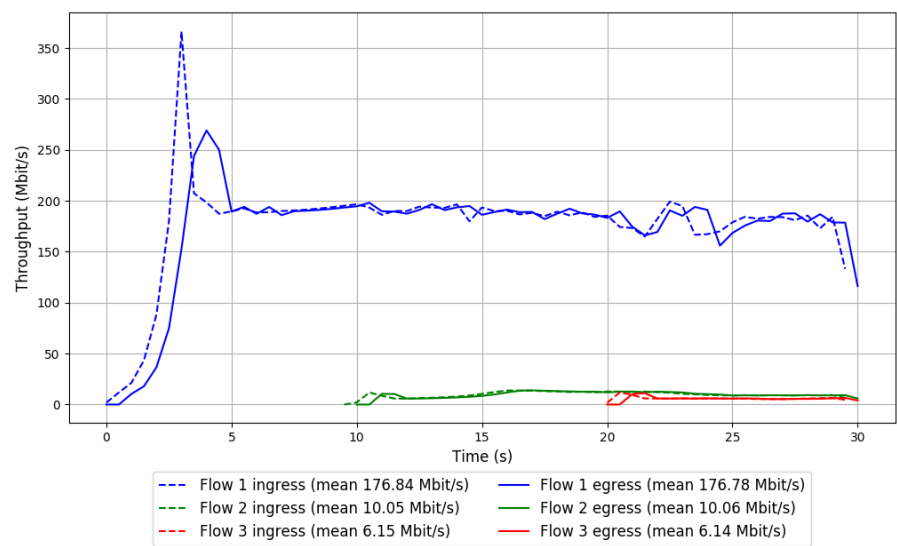Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2018-10-26 12:20:35
End at: 2018-10-26 12:21:05
Local clock offset: 1.222 ms
Remote clock offset: -46.575 ms


# Below is generated by plot.py at 2018-10-26 13:55:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 185.44 Mbit/s
95th percentile per-packet one-way delay: 172.468 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 176.78 Mbit/s
95th percentile per-packet one-way delay: 179.798 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 10.06 Mbit/s
95th percentile per-packet one-way delay: 145.910 ms
Loss rate: 0.85%
-- Flow 3:
Average throughput: 6.14 Mbit/s
95th percentile per-packet one-way delay: 146.042 ms
Loss rate: 2.05%
```

Run 4: Report of PCC-Expr — Data Link

- Flow 1 ingress (mean 176.84 Mbit/s)
- Flow 1 egress (mean 176.78 Mbit/s)
- Flow 2 ingress (mean 10.05 Mbit/s)
- Flow 2 egress (mean 10.06 Mbit/s)
- Flow 3 ingress (mean 6.15 Mbit/s)
- Flow 3 egress (mean 6.14 Mbit/s)

- Flow 1 (95th percentile 179.80 ms)
- Flow 2 (95th percentile 145.91 ms)
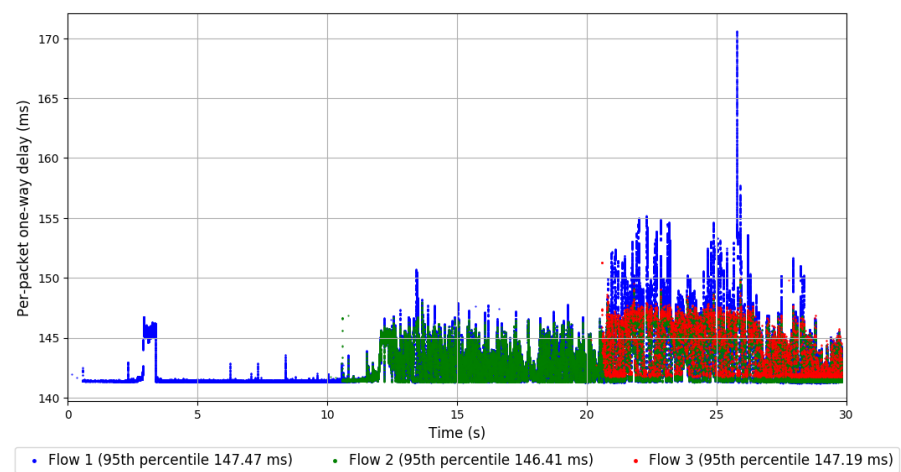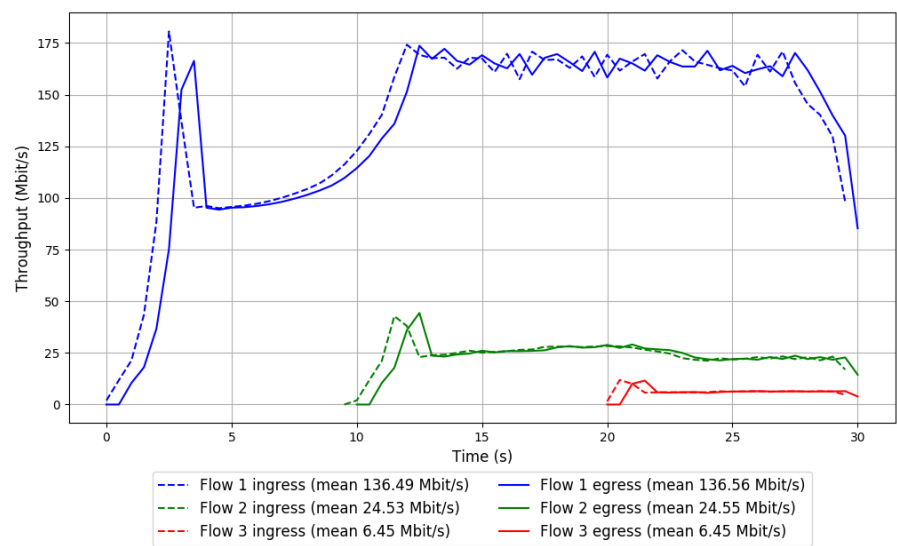- Flow 3 (95th percentile 146.04 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2018-10-26 13:02:31
End at: 2018-10-26 13:03:01
Local clock offset: -0.548 ms
Remote clock offset: -48.262 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 154.94 Mbit/s
95th percentile per-packet one-way delay: 147.193 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 136.56 Mbit/s
95th percentile per-packet one-way delay: 147.469 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 24.55 Mbit/s
95th percentile per-packet one-way delay: 146.411 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 6.45 Mbit/s
95th percentile per-packet one-way delay: 147.188 ms
Loss rate: 2.01%
```
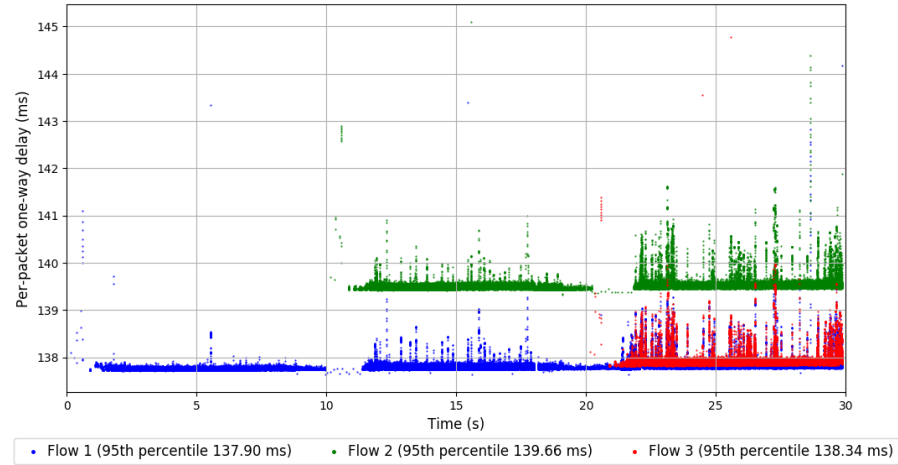
Run 5: Report of PCC-Expr — Data Link

- Flow 1 ingress (mean 136.49 Mbit/s)
- Flow 1 egress (mean 136.56 Mbit/s)
- Flow 2 ingress (mean 24.53 Mbit/s)
- Flow 2 egress (mean 24.55 Mbit/s)
- Flow 3 ingress (mean 6.45 Mbit/s)
- Flow 3 egress (mean 6.45 Mbit/s)

- Flow 1 (95th percentile 147.47 ms)
- Flow 2 (95th percentile 146.41 ms)
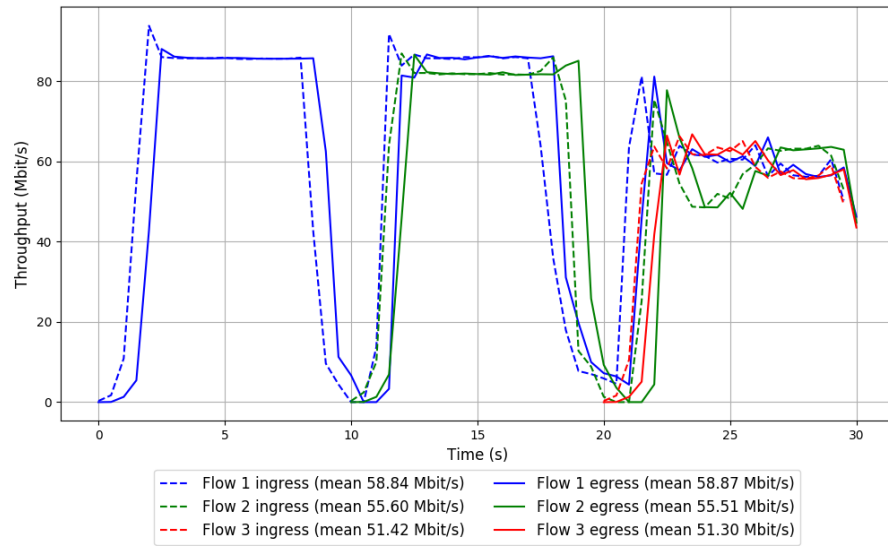- Flow 3 (95th percentile 147.19 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-10-26 10:03:07
End at: 2018-10-26 10:03:37
Local clock offset: -1.824 ms
Remote clock offset: -45.43 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 112.42 Mbit/s
95th percentile per-packet one-way delay: 139.549 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 58.87 Mbit/s
95th percentile per-packet one-way delay: 137.898 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 55.51 Mbit/s
95th percentile per-packet one-way delay: 139.655 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 51.30 Mbit/s
95th percentile per-packet one-way delay: 138.335 ms
Loss rate: 2.16%
```

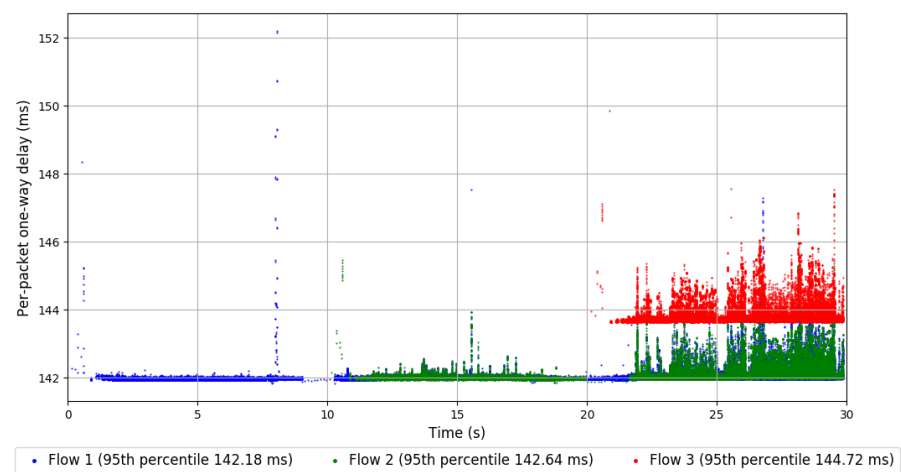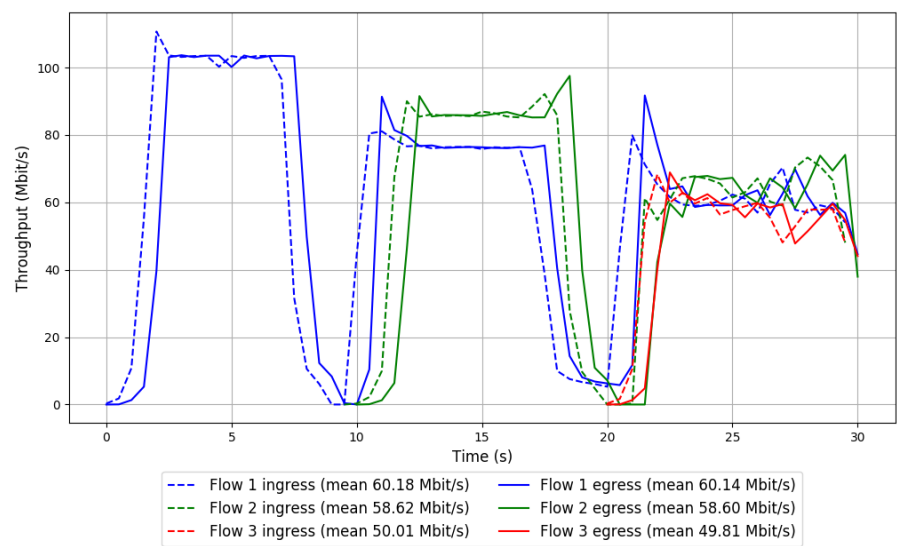Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-10-26 10:56:08
End at: 2018-10-26 10:56:38
Local clock offset: -3.005 ms
Remote clock offset: -50.135 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 115.26 Mbit/s
95th percentile per-packet one-way delay: 143.794 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 60.14 Mbit/s
95th percentile per-packet one-way delay: 142.175 ms
Loss rate: 0.74%
-- Flow 2:
Average throughput: 58.60 Mbit/s
95th percentile per-packet one-way delay: 142.641 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 49.81 Mbit/s
95th percentile per-packet one-way delay: 144.717 ms
Loss rate: 2.36%
```

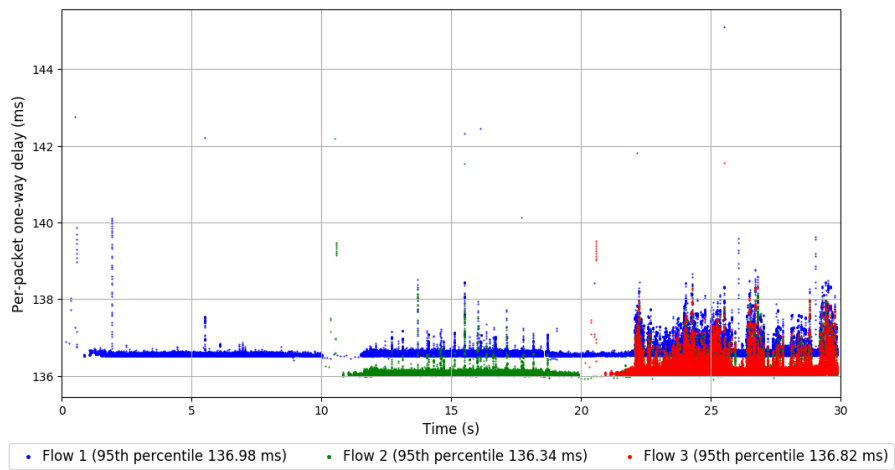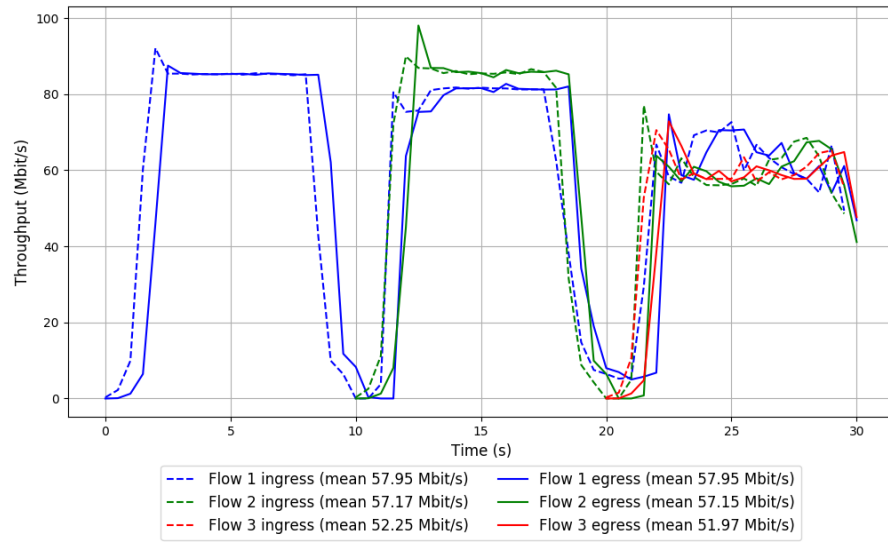Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-10-26 11:32:49
End at: 2018-10-26 11:33:19
Local clock offset: 0.667 ms
Remote clock offset: -39.207 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 112.82 Mbit/s
95th percentile per-packet one-way delay: 136.861 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 57.95 Mbit/s
95th percentile per-packet one-way delay: 136.984 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 57.15 Mbit/s
95th percentile per-packet one-way delay: 136.340 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 51.97 Mbit/s
95th percentile per-packet one-way delay: 136.823 ms
Loss rate: 2.48%
```

Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 57.95 Mbit/s)   Flow 1 egress (mean 57.95 Mbit/s)
Flow 2 ingress (mean 57.17 Mbit/s)   Flow 2 egress (mean 57.15 Mbit/s)
Flow 3 ingress (mean 52.25 Mbit/s)   Flow 3 egress (mean 51.97 Mbit/s)

Flow 1 (95th percentile 136.98 ms)   Flow 2 (95th percentile 136.34 ms)   Flow 3 (95th percentile 136.82 ms)
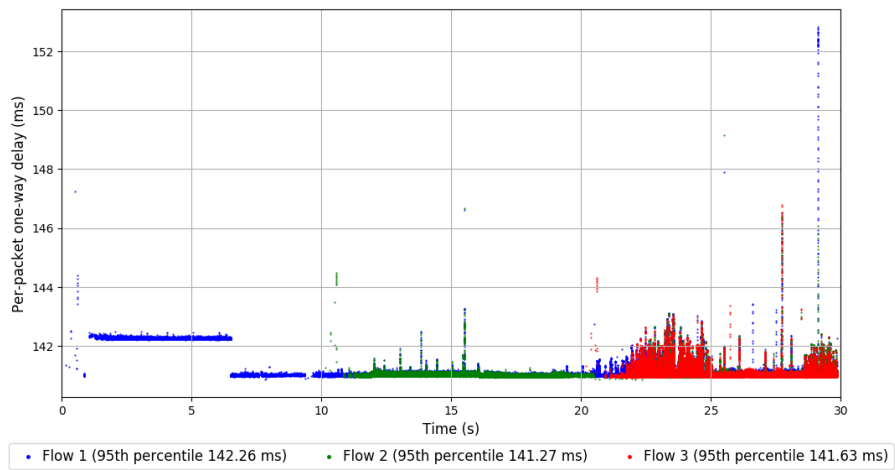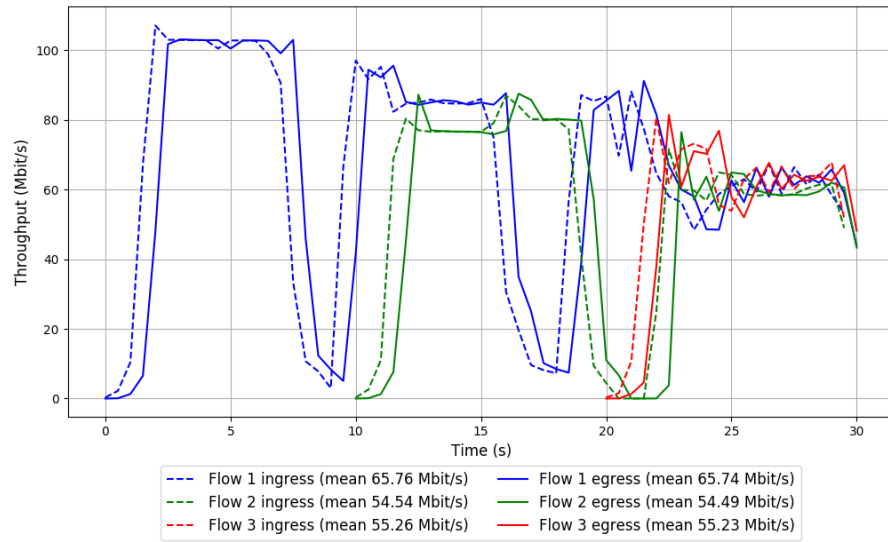
```
Run 4: Statistics of QUIC Cubic

Start at: 2018-10-26 12:25:35
End at: 2018-10-26 12:26:05
Local clock offset: -0.337 ms
Remote clock offset: -47.975 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 119.89 Mbit/s
95th percentile per-packet one-way delay: 142.249 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 65.74 Mbit/s
95th percentile per-packet one-way delay: 142.259 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 54.49 Mbit/s
95th percentile per-packet one-way delay: 141.270 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 55.23 Mbit/s
95th percentile per-packet one-way delay: 141.634 ms
Loss rate: 2.07%
```

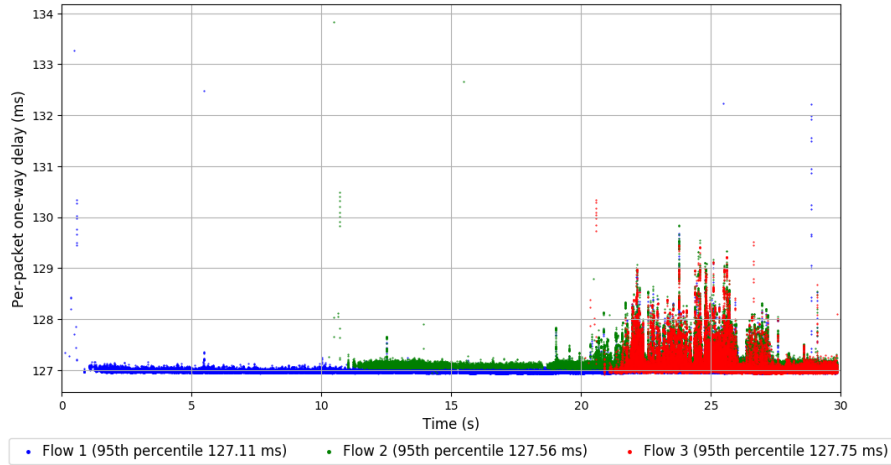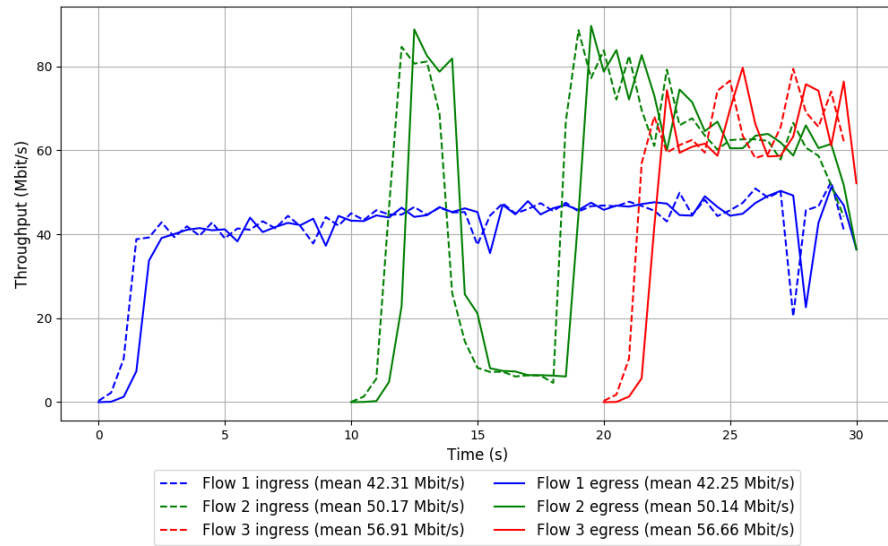# Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-10-26 13:07:40
End at: 2018-10-26 13:08:10
Local clock offset: -0.666 ms
Remote clock offset: -35.809 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.75 Mbit/s
95th percentile per-packet one-way delay: 127.472 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 42.25 Mbit/s
95th percentile per-packet one-way delay: 127.106 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 50.14 Mbit/s
95th percentile per-packet one-way delay: 127.562 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 56.66 Mbit/s
95th percentile per-packet one-way delay: 127.745 ms
Loss rate: 2.48%
```

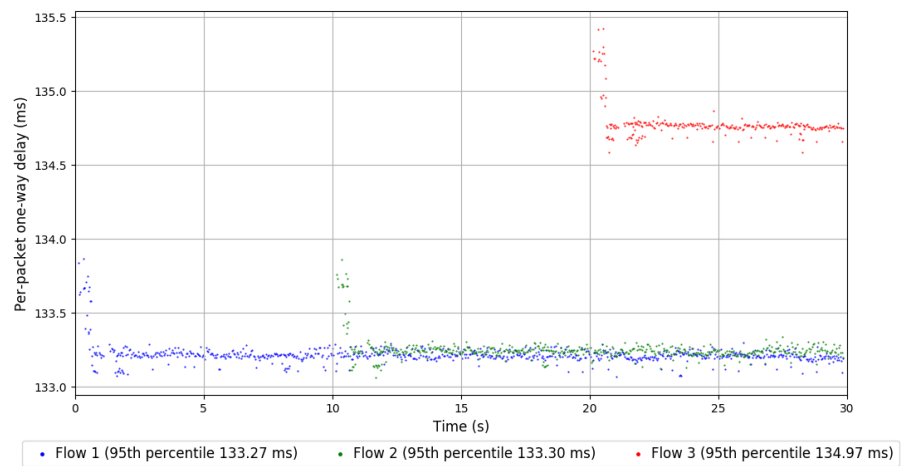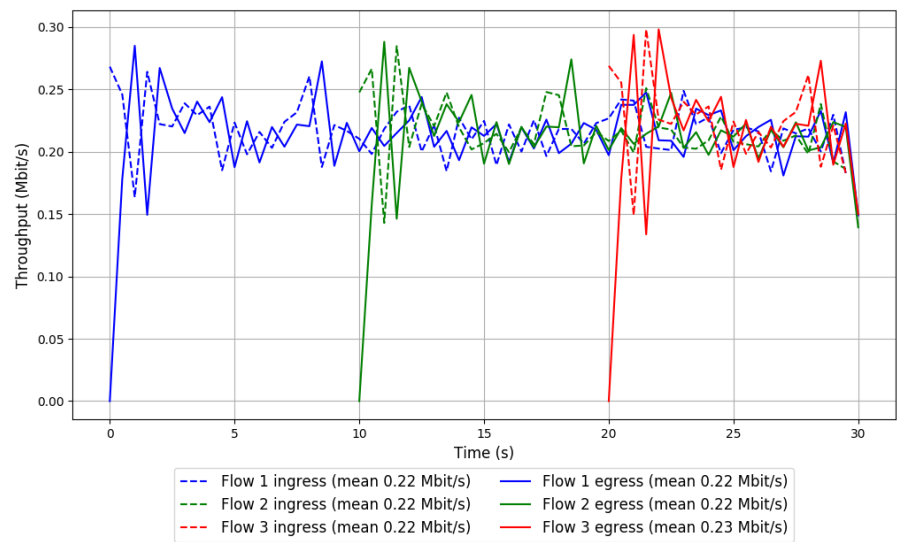Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2018-10-26 10:22:50
End at: 2018-10-26 10:23:20
Local clock offset: 0.812 ms
Remote clock offset: -37.501 ms

# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 134.774 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.270 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.304 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 134.975 ms
Loss rate: 1.82%
```
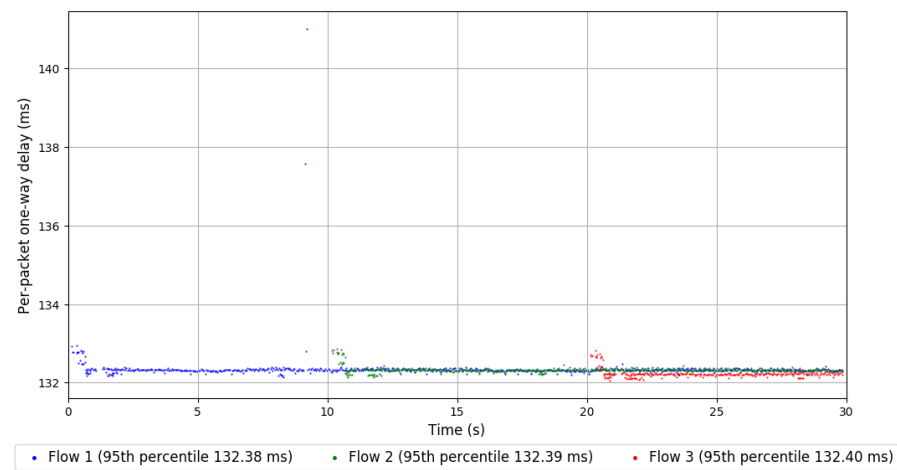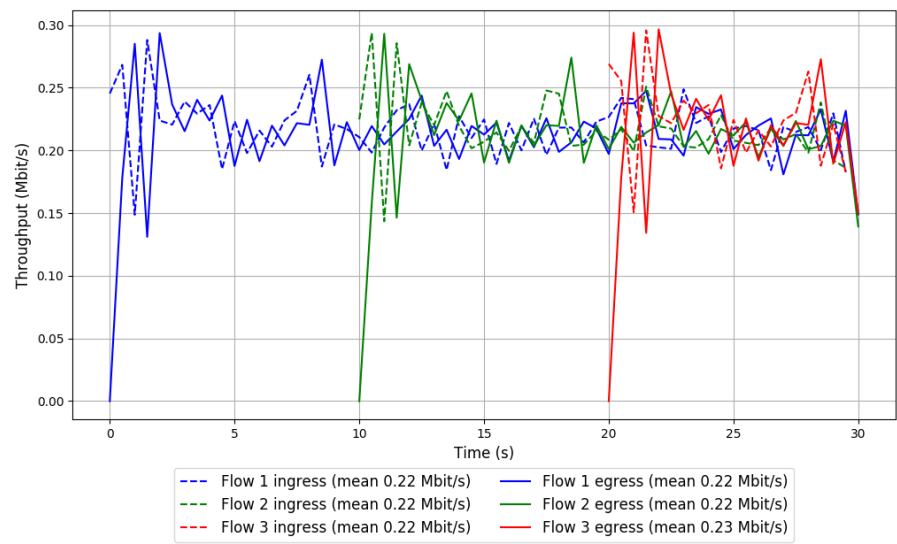
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-10-26 11:10:06
End at: 2018-10-26 11:10:36
Local clock offset: -0.014 ms
Remote clock offset: -35.832 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 132.382 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 132.378 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 132.388 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 132.398 ms
Loss rate: 1.82%
```
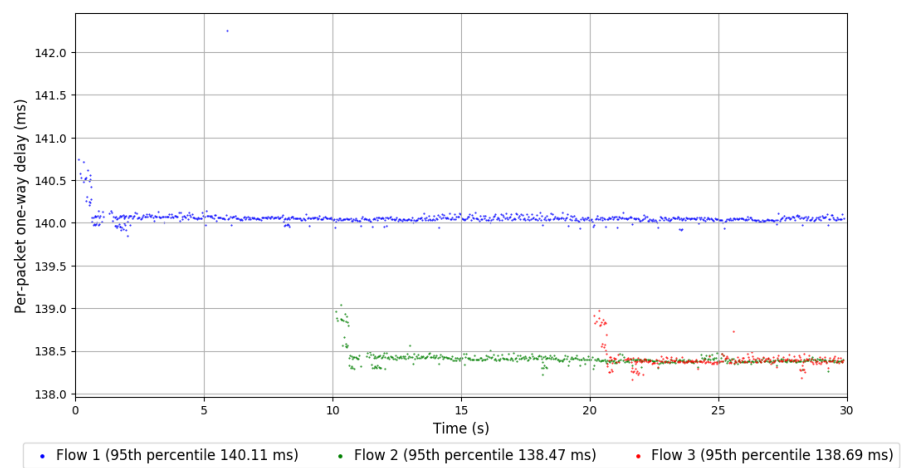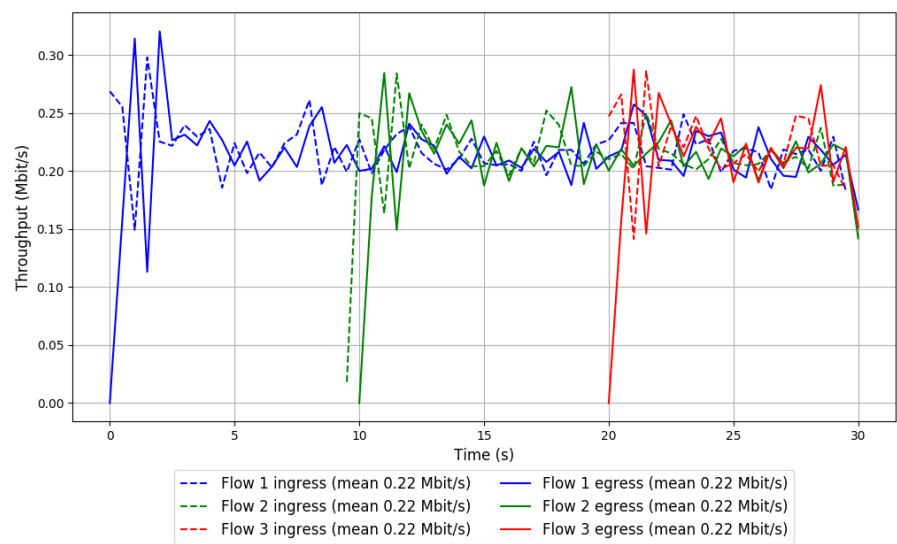
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2018-10-26 11:52:40
End at: 2018-10-26 11:53:10
Local clock offset: 0.705 ms
Remote clock offset: -43.286 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 140.089 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 140.113 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.475 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 138.690 ms
Loss rate: 1.86%
```
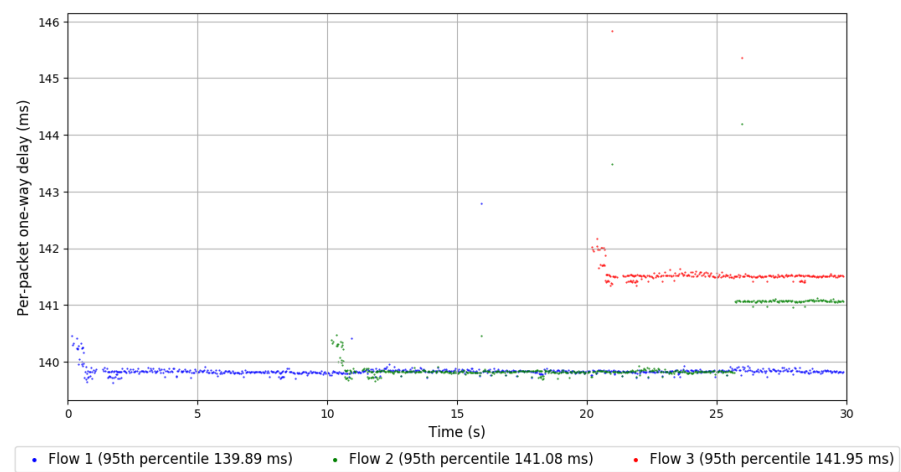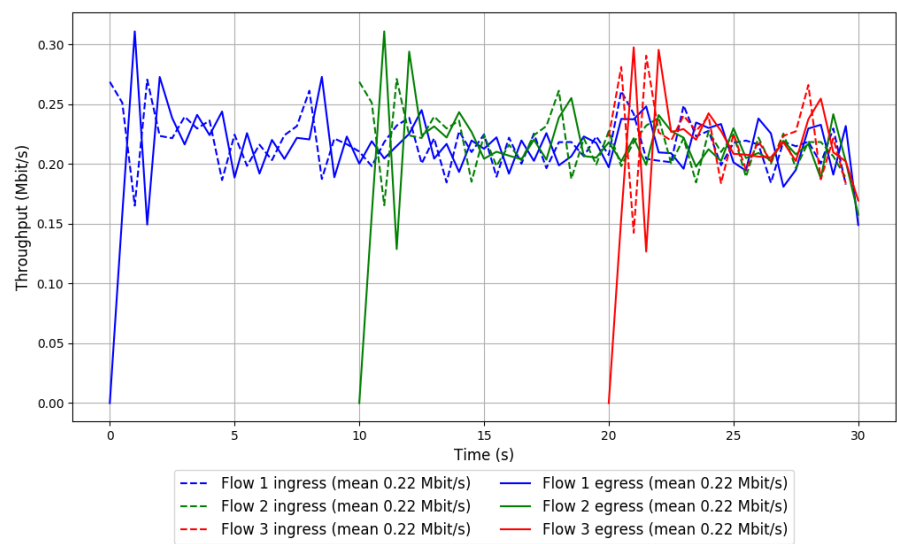
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2018-10-26 12:45:10
End at: 2018-10-26 12:45:40
Local clock offset: -0.831 ms
Remote clock offset: -47.414 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 141.526 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 139.893 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 141.078 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 141.952 ms
Loss rate: 1.85%
```
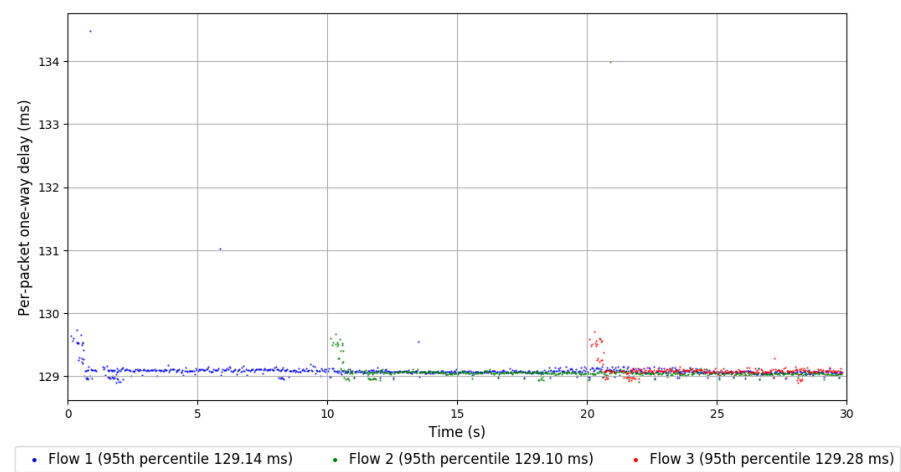
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2018-10-26 13:27:32
End at: 2018-10-26 13:28:02
Local clock offset: -1.025 ms
Remote clock offset: -37.966 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 129.140 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 129.140 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 129.103 ms
Loss rate: 1.05%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 129.279 ms
Loss rate: 1.83%
```
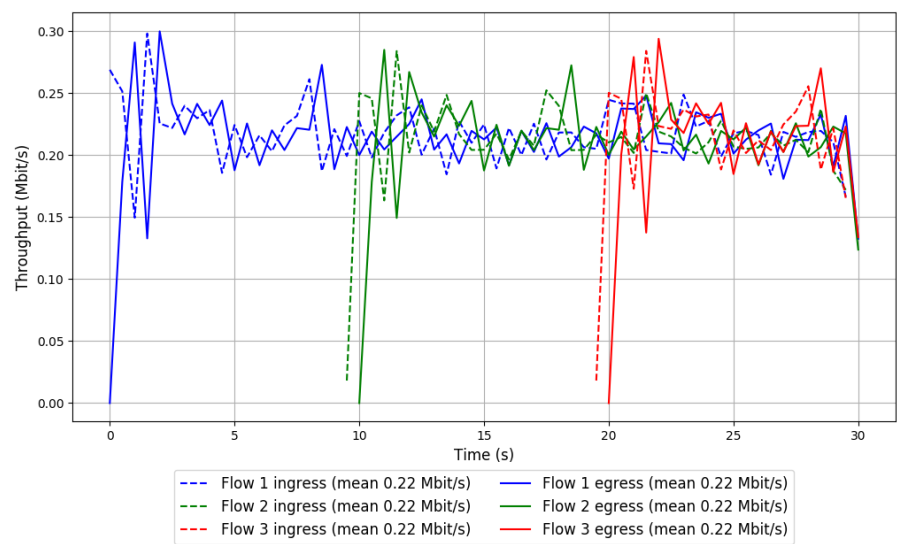
Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2018-10-26 10:00:31
End at: 2018-10-26 10:01:01
Local clock offset: 0.554 ms
Remote clock offset: -39.823 ms

# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.89 Mbit/s
95th percentile per-packet one-way delay: 136.163 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 134.523 ms
Loss rate: 0.92%
-- Flow 2:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 135.724 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 2.76 Mbit/s
95th percentile per-packet one-way delay: 136.214 ms
Loss rate: 3.52%
```

Run 1: Report of Sprout — Data Link

- - - - Flow 1 ingress (mean 3.12 Mbit/s)   —— Flow 1 egress (mean 3.11 Mbit/s)
- - - - Flow 2 ingress (mean 2.84 Mbit/s)   —— Flow 2 egress (mean 2.84 Mbit/s)
- - - - Flow 3 ingress (mean 2.80 Mbit/s)   —— Flow 3 egress (mean 2.76 Mbit/s)

- Flow 1 (95th percentile 134.52 ms)   • Flow 2 (95th percentile 135.72 ms)   • Flow 3 (95th percentile 136.21 ms)
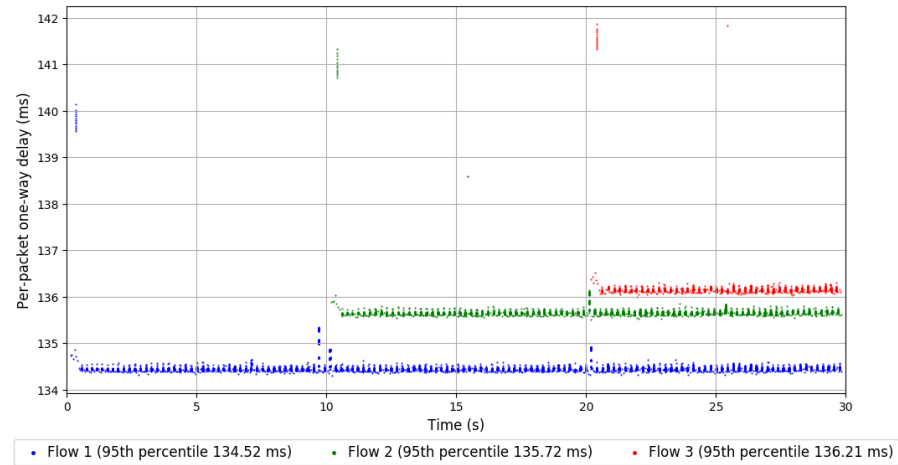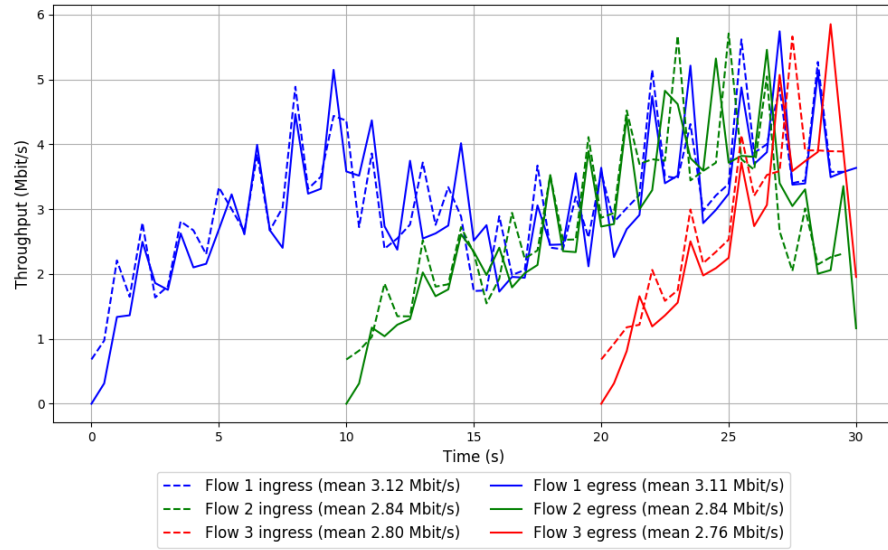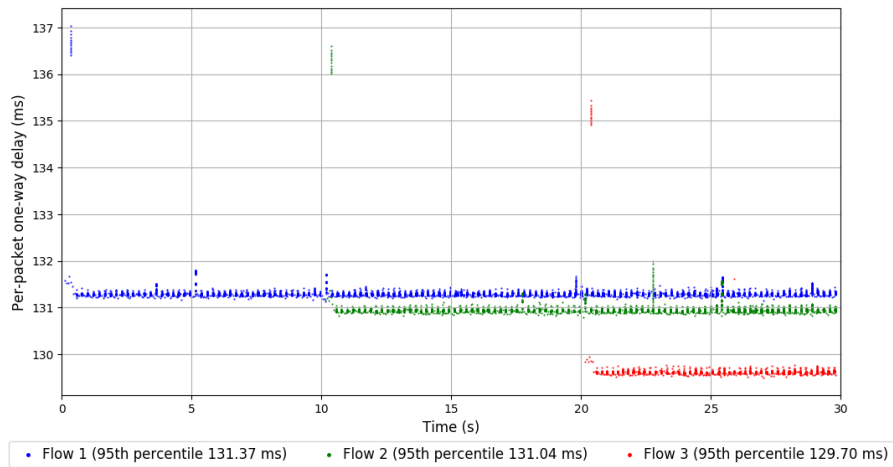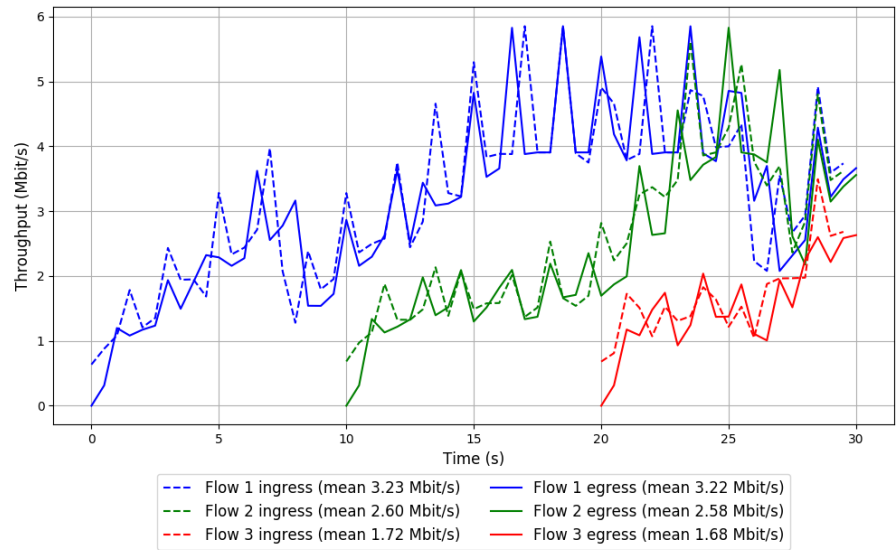
```
Run 2: Statistics of Sprout

Start at: 2018-10-26 10:53:32
End at: 2018-10-26 10:54:02
Local clock offset: -0.804 ms
Remote clock offset: -35.702 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.47 Mbit/s
95th percentile per-packet one-way delay: 131.340 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 3.22 Mbit/s
95th percentile per-packet one-way delay: 131.366 ms
Loss rate: 0.98%
-- Flow 2:
Average throughput: 2.58 Mbit/s
95th percentile per-packet one-way delay: 131.042 ms
Loss rate: 1.77%
-- Flow 3:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 129.702 ms
Loss rate: 4.04%
```
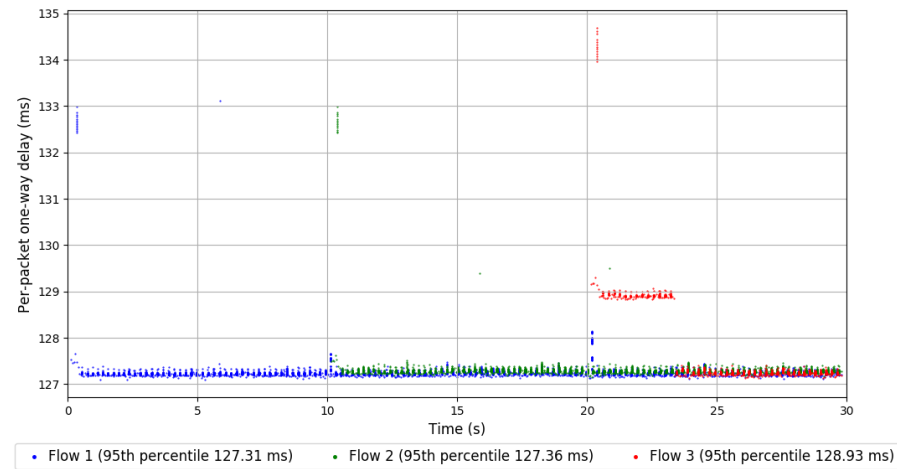
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-10-26 11:30:14
End at: 2018-10-26 11:30:44
Local clock offset: 0.718 ms
Remote clock offset: -31.443 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 5.56 Mbit/s
95th percentile per-packet one-way delay: 127.359 ms
Loss rate: 1.42%
-- Flow 1:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 127.312 ms
Loss rate: 0.87%
-- Flow 2:
Average throughput: 3.19 Mbit/s
95th percentile per-packet one-way delay: 127.361 ms
Loss rate: 1.23%
-- Flow 3:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 128.933 ms
Loss rate: 4.41%
```
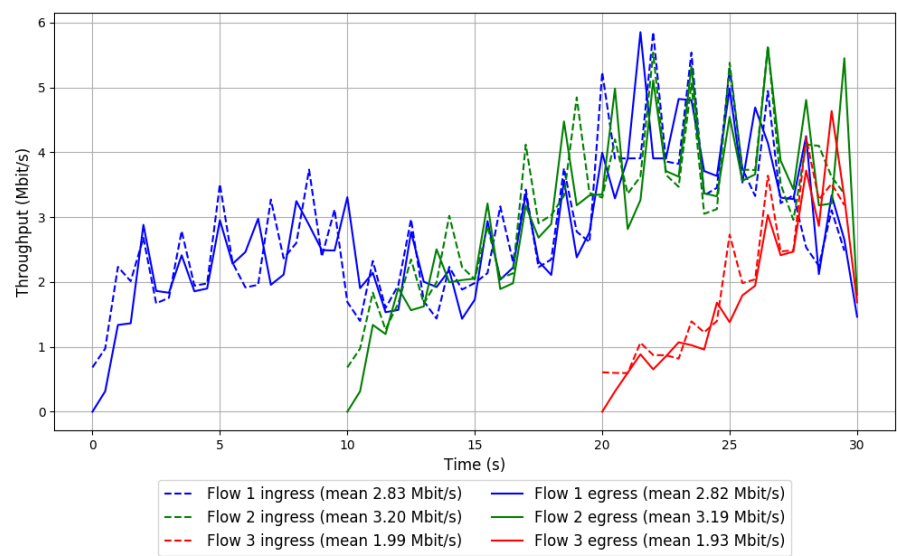
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-10-26 12:22:59
End at: 2018-10-26 12:23:29
Local clock offset: -0.747 ms
Remote clock offset: -39.486 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 133.873 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 3.23 Mbit/s
95th percentile per-packet one-way delay: 133.905 ms
Loss rate: 1.01%
-- Flow 2:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 133.547 ms
Loss rate: 0.89%
-- Flow 3:
Average throughput: 2.73 Mbit/s
95th percentile per-packet one-way delay: 133.488 ms
Loss rate: 2.92%
```
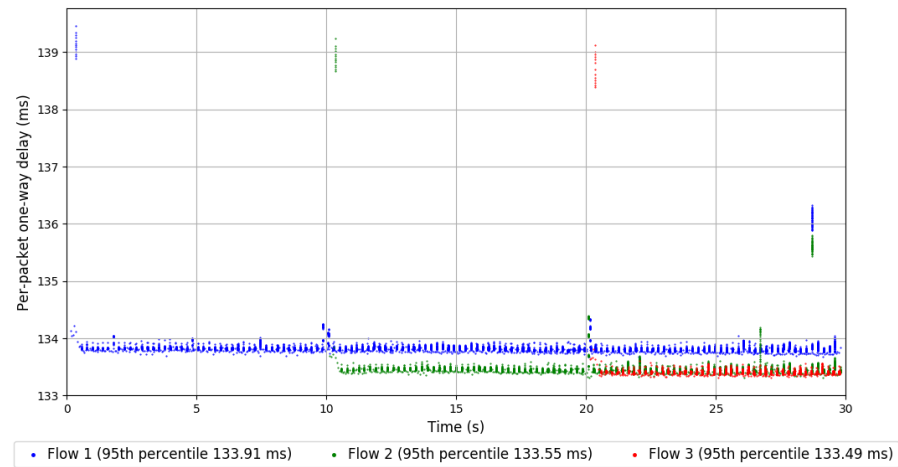
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-10-26 13:05:05
End at: 2018-10-26 13:05:35
Local clock offset: 0.816 ms
Remote clock offset: -38.557 ms


# Below is generated by plot.py at 2018-10-26 13:55:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 6.15 Mbit/s
95th percentile per-packet one-way delay: 133.190 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 3.24 Mbit/s
95th percentile per-packet one-way delay: 133.195 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 133.201 ms
Loss rate: 1.36%
-- Flow 3:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 131.530 ms
Loss rate: 5.38%
```
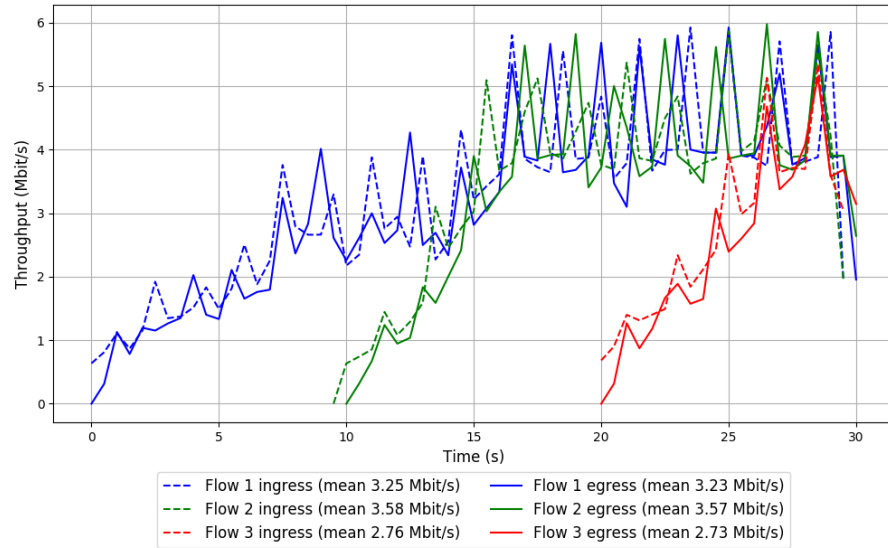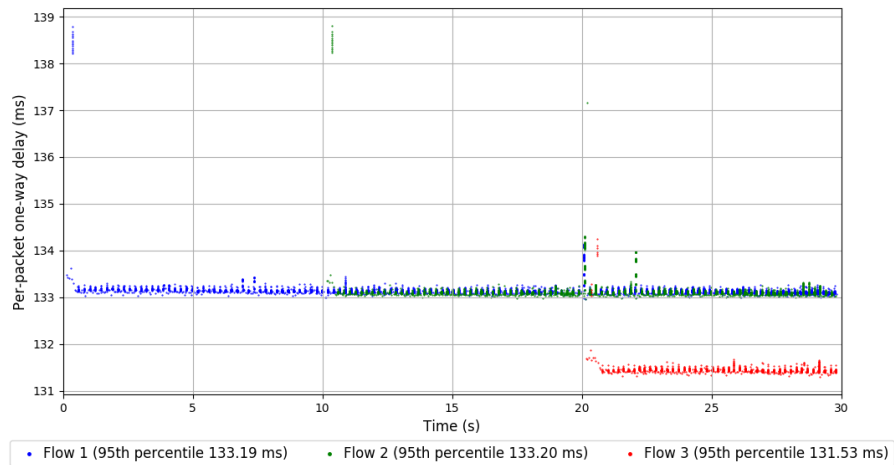
Run 5: Report of Sprout — Data Link

- - - - Flow 1 ingress (mean 3.25 Mbit/s)   —— Flow 1 egress (mean 3.24 Mbit/s)
- - - - Flow 2 ingress (mean 3.59 Mbit/s)   —— Flow 2 egress (mean 3.59 Mbit/s)
- - - - Flow 3 ingress (mean 1.71 Mbit/s)   —— Flow 3 egress (mean 1.65 Mbit/s)

- Flow 1 (95th percentile 133.19 ms)   • Flow 2 (95th percentile 133.20 ms)   • Flow 3 (95th percentile 131.53 ms)

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

Start at: 2018-10-26 10:11:38
End at: 2018-10-26 10:12:08
Local clock offset: 0.767 ms
Remote clock offset: -44.444 ms


# Below is generated by plot.py at 2018-10-26 13:57:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 177.96 Mbit/s
95th percentile per-packet one-way delay: 147.004 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 106.37 Mbit/s
95th percentile per-packet one-way delay: 145.851 ms
Loss rate: 0.32%
-- Flow 2:
Average throughput: 79.51 Mbit/s
95th percentile per-packet one-way delay: 147.858 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 57.19 Mbit/s
95th percentile per-packet one-way delay: 149.215 ms
Loss rate: 2.23%
```

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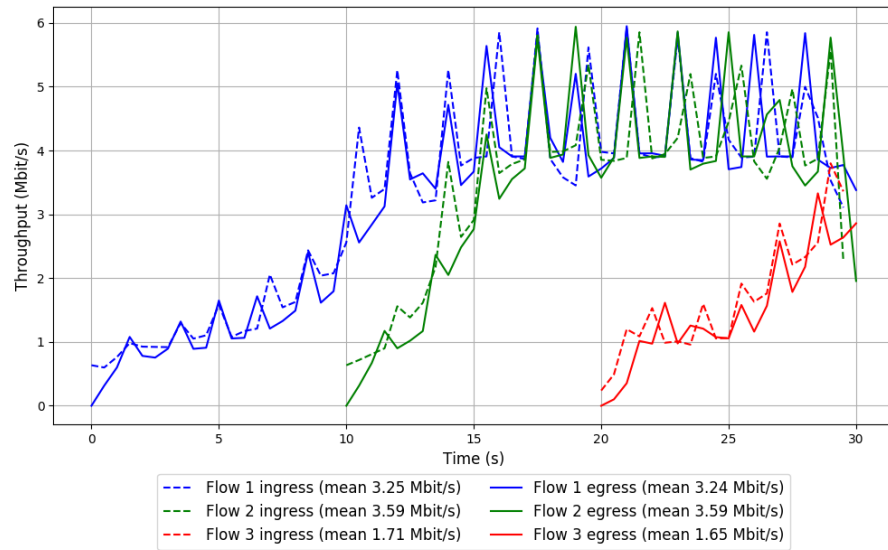

Flow 1 ingress (mean 106.01 Mbit/s) --- Flow 1 egress (mean 106.37 Mbit/s)
Flow 2 ingress (mean 79.45 Mbit/s) --- Flow 2 egress (mean 79.51 Mbit/s)
Flow 3 ingress (mean 57.32 Mbit/s) --- Flow 3 egress (mean 57.19 Mbit/s)

Flow 1 (95th percentile 145.85 ms)   Flow 2 (95th percentile 147.86 ms)   Flow 3 (95th percentile 149.22 ms)
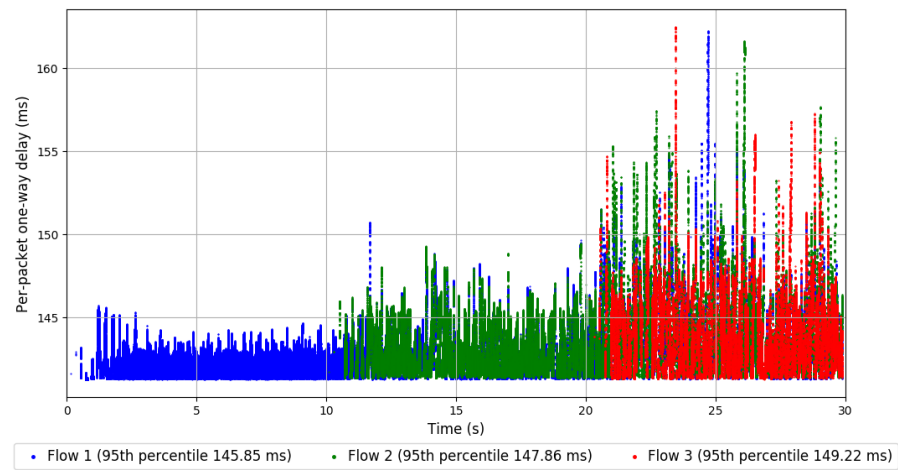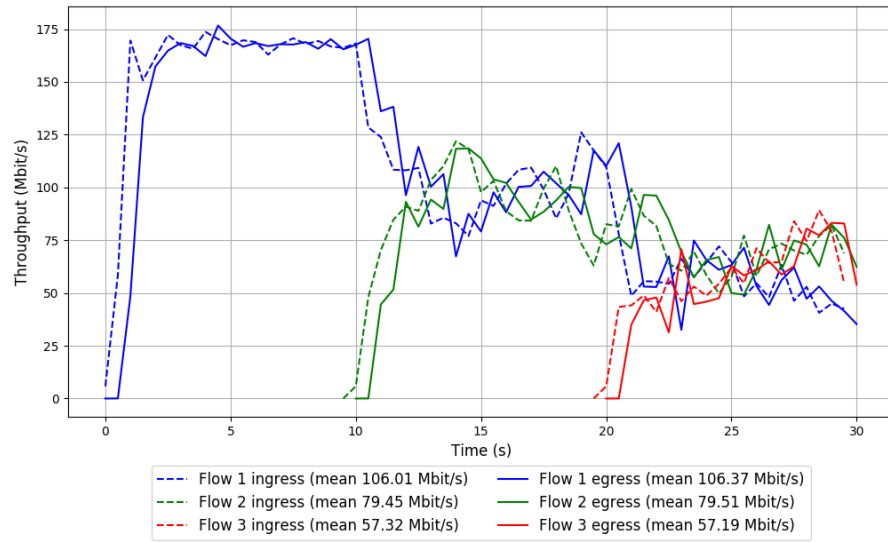
```
Run 2: Statistics of TaoVA-100x

Start at: 2018-10-26 11:04:26
End at: 2018-10-26 11:04:56
Local clock offset: 0.667 ms
Remote clock offset: -45.2 ms


# Below is generated by plot.py at 2018-10-26 13:57:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 173.44 Mbit/s
95th percentile per-packet one-way delay: 146.687 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 100.48 Mbit/s
95th percentile per-packet one-way delay: 144.991 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 79.03 Mbit/s
95th percentile per-packet one-way delay: 147.385 ms
Loss rate: 1.29%
-- Flow 3:
Average throughput: 62.23 Mbit/s
95th percentile per-packet one-way delay: 148.867 ms
Loss rate: 1.59%
```

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

- - - - Flow 1 ingress (mean 100.24 Mbit/s) —— Flow 1 egress (mean 100.48 Mbit/s)
- - - - Flow 2 ingress (mean 79.41 Mbit/s) —— Flow 2 egress (mean 79.03 Mbit/s)
- - - - Flow 3 ingress (mean 61.99 Mbit/s) —— Flow 3 egress (mean 62.23 Mbit/s)

• Flow 1 (95th percentile 144.99 ms)   • Flow 2 (95th percentile 147.38 ms)   • Flow 3 (95th percentile 148.87 ms)

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

Start at: 2018-10-26 11:46:58
End at: 2018-10-26 11:47:28
Local clock offset: -1.119 ms
Remote clock offset: -39.818 ms


# Below is generated by plot.py at 2018-10-26 13:57:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 174.67 Mbit/s
95th percentile per-packet one-way delay: 139.717 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 108.06 Mbit/s
95th percentile per-packet one-way delay: 139.311 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 70.65 Mbit/s
95th percentile per-packet one-way delay: 139.693 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 60.69 Mbit/s
95th percentile per-packet one-way delay: 140.881 ms
Loss rate: 1.53%
```
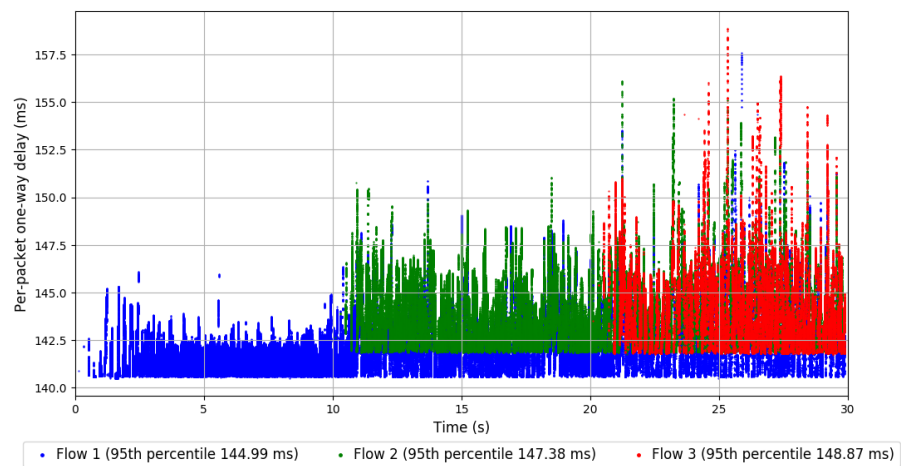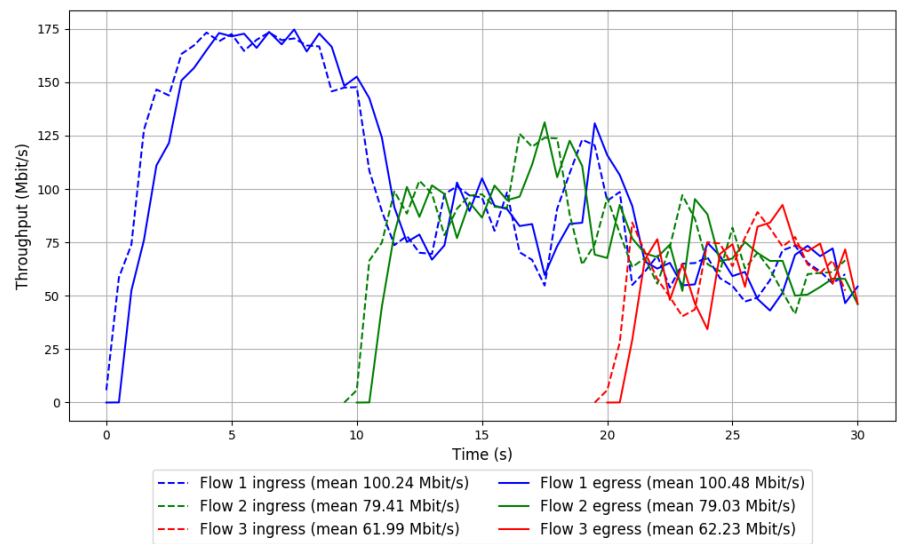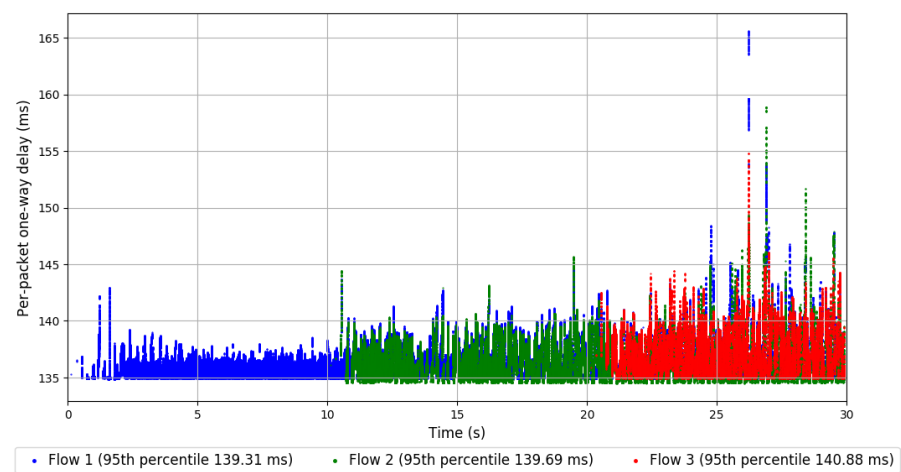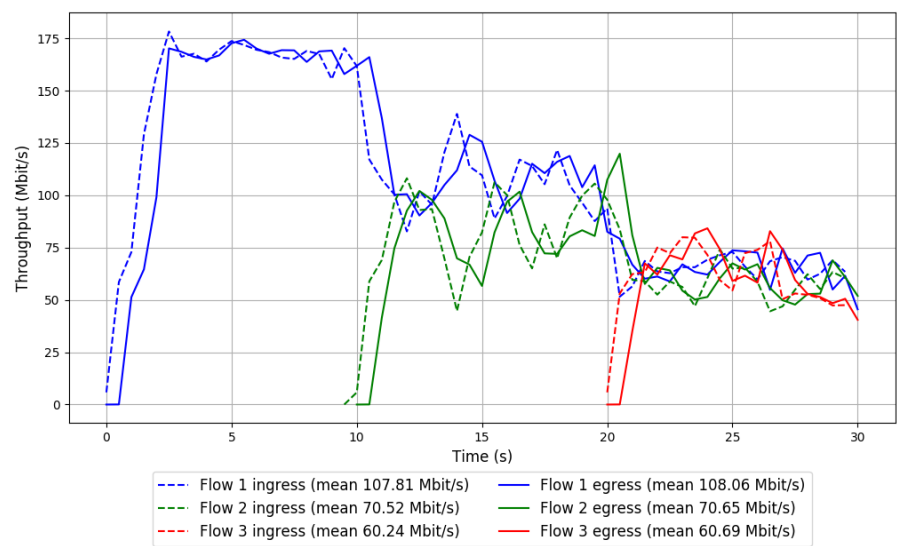
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 107.81 Mbit/s) --- Flow 1 egress (mean 108.06 Mbit/s)
Flow 2 ingress (mean 70.52 Mbit/s) --- Flow 2 egress (mean 70.65 Mbit/s)
Flow 3 ingress (mean 60.24 Mbit/s) --- Flow 3 egress (mean 60.69 Mbit/s)

Flow 1 (95th percentile 139.31 ms)   Flow 2 (95th percentile 139.69 ms)   Flow 3 (95th percentile 140.88 ms)
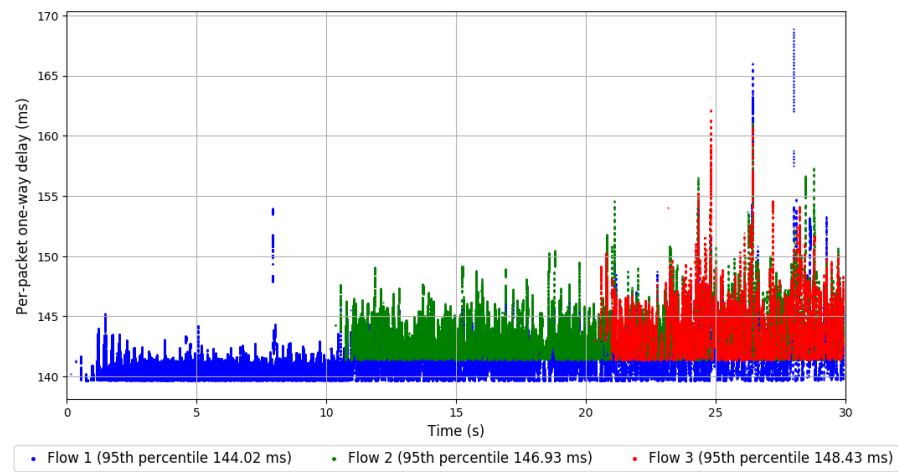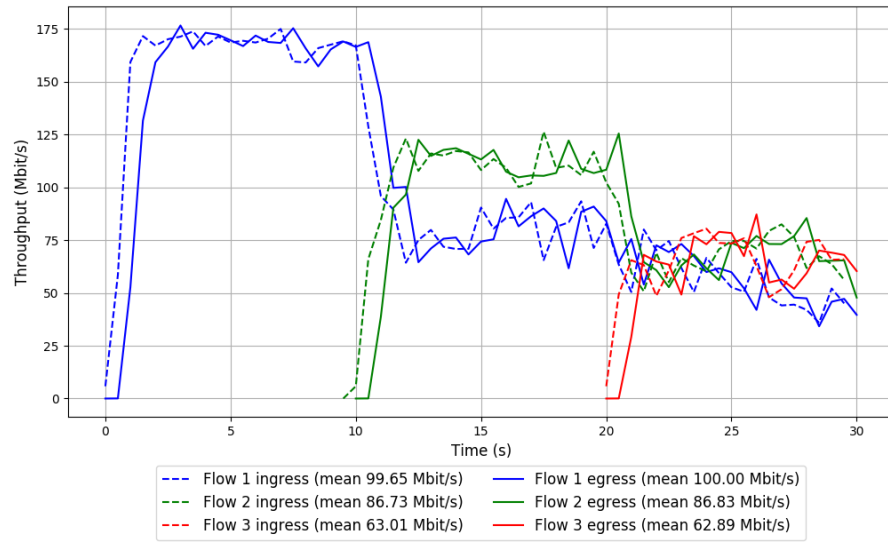
```
Run 4: Statistics of TaoVA-100x

Start at: 2018-10-26 12:34:04
End at: 2018-10-26 12:34:34
Local clock offset: 1.951 ms
Remote clock offset: -44.618 ms


# Below is generated by plot.py at 2018-10-26 13:58:16
# Datalink statistics
-- Total of 3 flows:
Average throughput: 178.26 Mbit/s
95th percentile per-packet one-way delay: 146.307 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 100.00 Mbit/s
95th percentile per-packet one-way delay: 144.016 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 86.83 Mbit/s
95th percentile per-packet one-way delay: 146.926 ms
Loss rate: 0.71%
-- Flow 3:
Average throughput: 62.89 Mbit/s
95th percentile per-packet one-way delay: 148.430 ms
Loss rate: 2.25%
```

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

Flow 1 ingress (mean 99.65 Mbit/s) --- Flow 1 egress (mean 100.00 Mbit/s)
Flow 2 ingress (mean 86.73 Mbit/s) --- Flow 2 egress (mean 86.83 Mbit/s)
Flow 3 ingress (mean 63.01 Mbit/s) --- Flow 3 egress (mean 62.89 Mbit/s)

Flow 1 (95th percentile 144.02 ms) Flow 2 (95th percentile 146.93 ms) Flow 3 (95th percentile 148.43 ms)
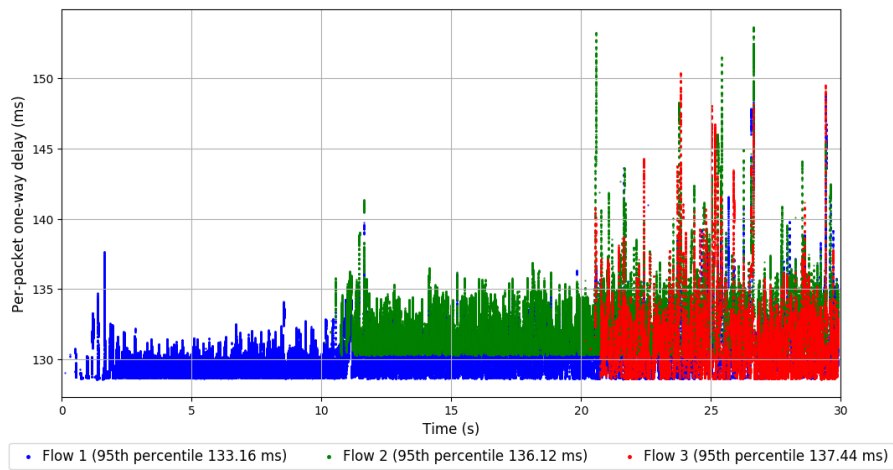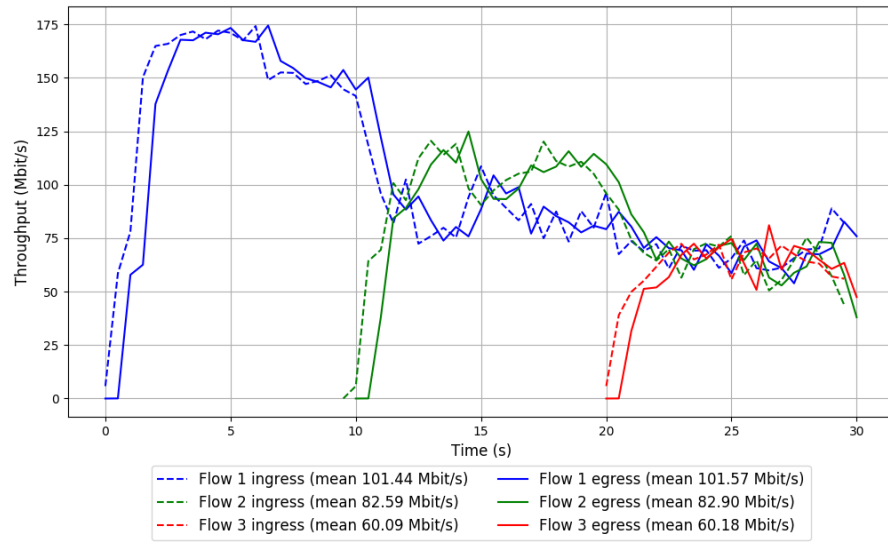
```
Run 5: Statistics of TaoVA-100x

Start at: 2018-10-26 13:21:43
End at: 2018-10-26 13:22:13
Local clock offset: -3.944 ms
Remote clock offset: -41.624 ms


# Below is generated by plot.py at 2018-10-26 13:58:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 176.34 Mbit/s
95th percentile per-packet one-way delay: 134.931 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 101.57 Mbit/s
95th percentile per-packet one-way delay: 133.163 ms
Loss rate: 0.54%
-- Flow 2:
Average throughput: 82.90 Mbit/s
95th percentile per-packet one-way delay: 136.119 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 60.18 Mbit/s
95th percentile per-packet one-way delay: 137.437 ms
Loss rate: 1.71%
```

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

- - - - Flow 1 ingress (mean 101.44 Mbit/s) —— Flow 1 egress (mean 101.57 Mbit/s)
- - - - Flow 2 ingress (mean 82.59 Mbit/s) —— Flow 2 egress (mean 82.90 Mbit/s)
- - - - Flow 3 ingress (mean 60.09 Mbit/s) —— Flow 3 egress (mean 60.18 Mbit/s)

- Flow 1 (95th percentile 133.16 ms)   • Flow 2 (95th percentile 136.12 ms)   • Flow 3 (95th percentile 137.44 ms)
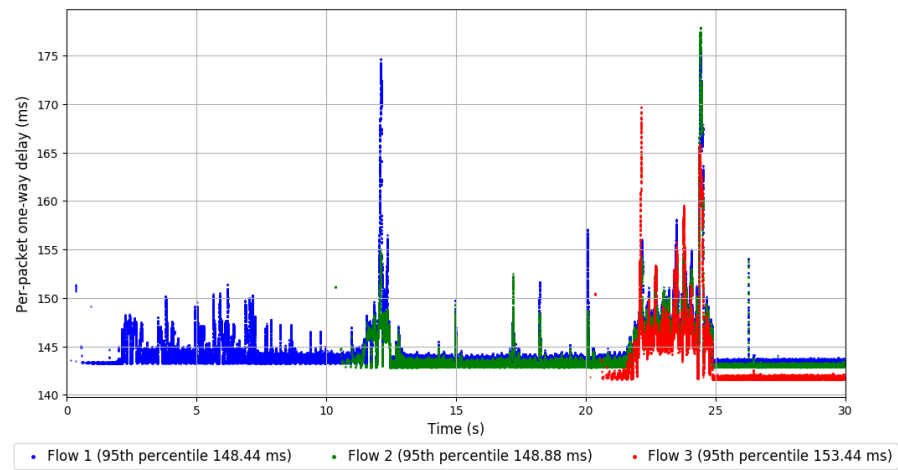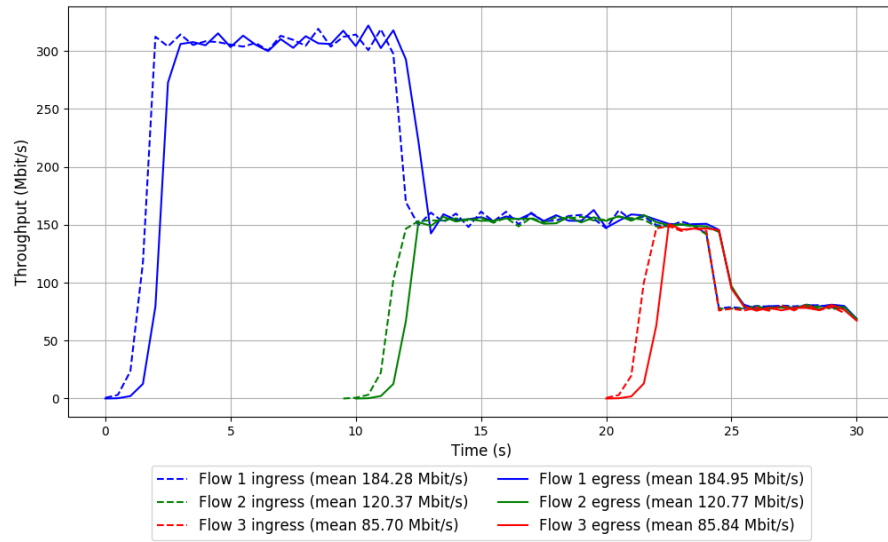
144

```
Run 1: Statistics of TCP Vegas

Start at: 2018-10-26 10:09:24
End at: 2018-10-26 10:09:54
Local clock offset: 1.478 ms
Remote clock offset: -45.695 ms


# Below is generated by plot.py at 2018-10-26 13:58:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 293.31 Mbit/s
95th percentile per-packet one-way delay: 148.851 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 184.95 Mbit/s
95th percentile per-packet one-way delay: 148.441 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 120.77 Mbit/s
95th percentile per-packet one-way delay: 148.879 ms
Loss rate: 0.64%
-- Flow 3:
Average throughput: 85.84 Mbit/s
95th percentile per-packet one-way delay: 153.443 ms
Loss rate: 1.77%
```

Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 184.28 Mbit/s) — Flow 1 egress (mean 184.95 Mbit/s)
Flow 2 ingress (mean 120.37 Mbit/s) — Flow 2 egress (mean 120.77 Mbit/s)
Flow 3 ingress (mean 85.70 Mbit/s) — Flow 3 egress (mean 85.84 Mbit/s)

Flow 1 (95th percentile 148.44 ms) · Flow 2 (95th percentile 148.88 ms) · Flow 3 (95th percentile 153.44 ms)

```
Run 2: Statistics of TCP Vegas

Start at: 2018-10-26 11:02:22
End at: 2018-10-26 11:02:52
Local clock offset: 1.871 ms
Remote clock offset: -42.36 ms


# Below is generated by plot.py at 2018-10-26 13:58:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 231.69 Mbit/s
95th percentile per-packet one-way delay: 144.802 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 154.42 Mbit/s
95th percentile per-packet one-way delay: 143.340 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 78.78 Mbit/s
95th percentile per-packet one-way delay: 169.373 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 75.91 Mbit/s
95th percentile per-packet one-way delay: 198.862 ms
Loss rate: 2.04%
```
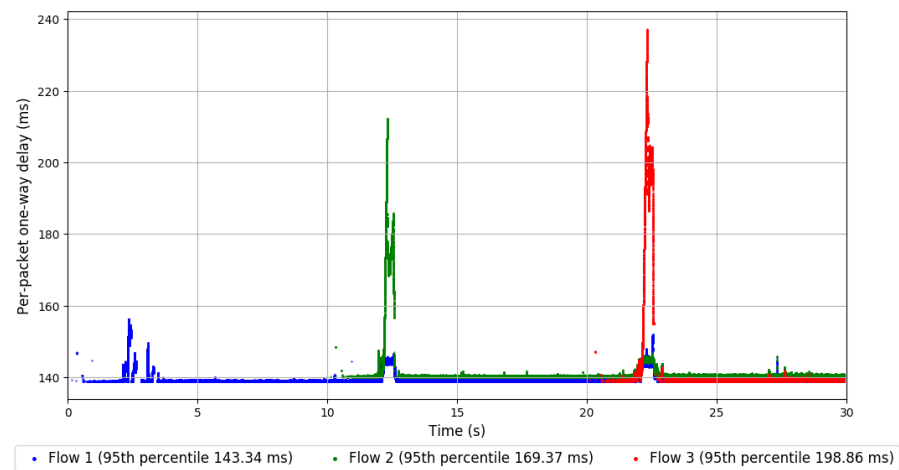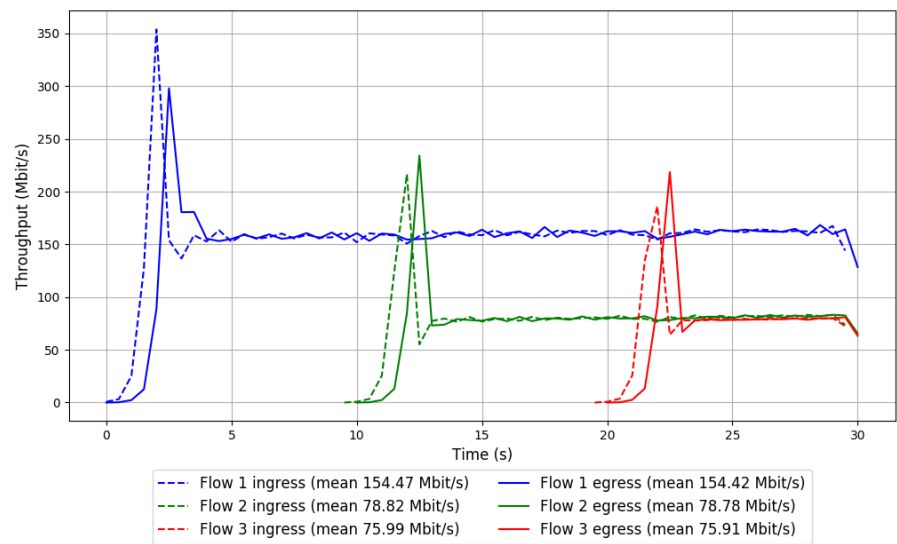
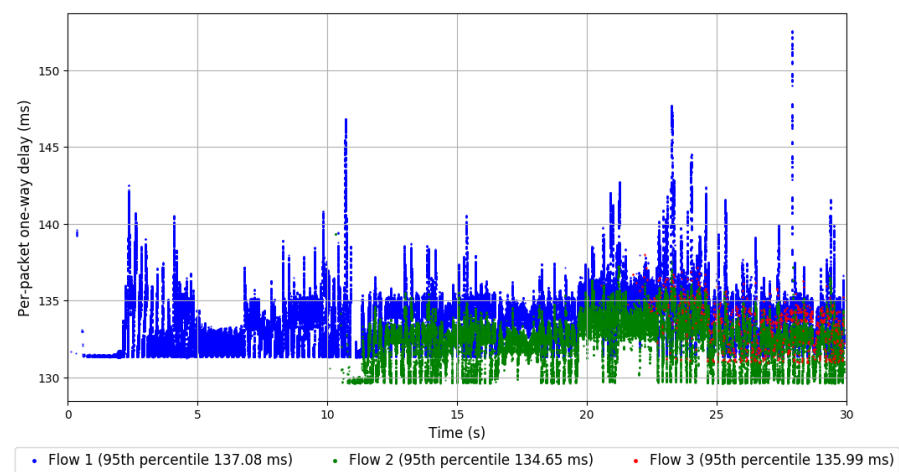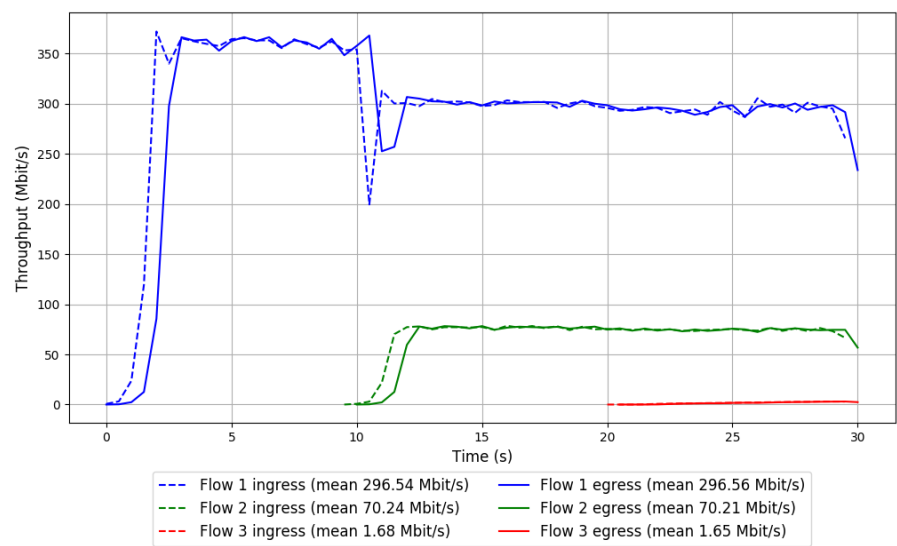## Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2018-10-26 11:39:00
End at: 2018-10-26 11:39:30
Local clock offset: 1.69 ms
Remote clock offset: -32.939 ms


# Below is generated by plot.py at 2018-10-26 13:59:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 343.77 Mbit/s
95th percentile per-packet one-way delay: 136.749 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 296.56 Mbit/s
95th percentile per-packet one-way delay: 137.081 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 70.21 Mbit/s
95th percentile per-packet one-way delay: 134.646 ms
Loss rate: 1.03%
-- Flow 3:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 135.985 ms
Loss rate: 4.18%
```

Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 296.54 Mbit/s)   Flow 1 egress (mean 296.56 Mbit/s)
Flow 2 ingress (mean 70.24 Mbit/s)   Flow 2 egress (mean 70.21 Mbit/s)
Flow 3 ingress (mean 1.68 Mbit/s)   Flow 3 egress (mean 1.65 Mbit/s)

Flow 1 (95th percentile 137.08 ms)   Flow 2 (95th percentile 134.65 ms)   Flow 3 (95th percentile 135.99 ms)
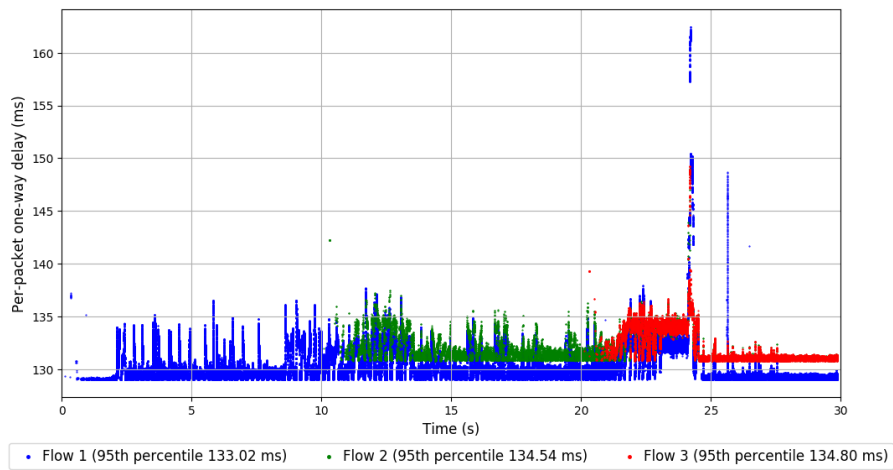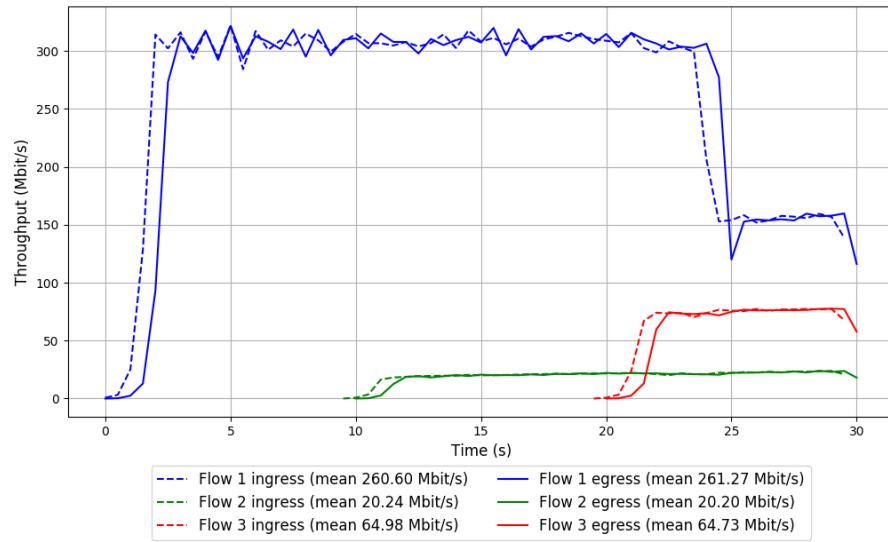
```
Run 4: Statistics of TCP Vegas

Start at: 2018-10-26 12:31:48
End at: 2018-10-26 12:32:18
Local clock offset: 0.383 ms
Remote clock offset: -35.553 ms


# Below is generated by plot.py at 2018-10-26 14:01:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 295.96 Mbit/s
95th percentile per-packet one-way delay: 133.683 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 261.27 Mbit/s
95th percentile per-packet one-way delay: 133.023 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 20.20 Mbit/s
95th percentile per-packet one-way delay: 134.537 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 64.73 Mbit/s
95th percentile per-packet one-way delay: 134.804 ms
Loss rate: 2.32%
```

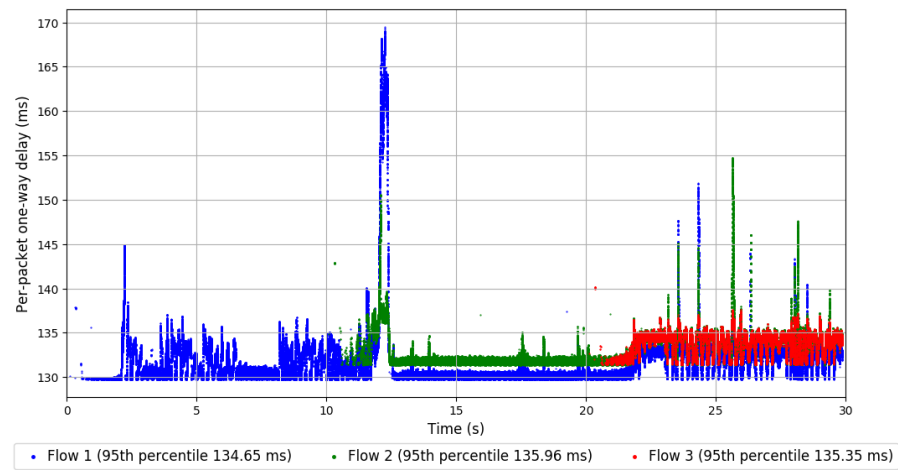# Run 4: Report of TCP Vegas — Data Link

- Flow 1 ingress (mean 260.60 Mbit/s) --- Flow 1 egress (mean 261.27 Mbit/s)
- Flow 2 ingress (mean 20.24 Mbit/s) --- Flow 2 egress (mean 20.20 Mbit/s)
- Flow 3 ingress (mean 64.98 Mbit/s) --- Flow 3 egress (mean 64.73 Mbit/s)

- Flow 1 (95th percentile 133.02 ms) • Flow 2 (95th percentile 134.54 ms) • Flow 3 (95th percentile 134.80 ms)
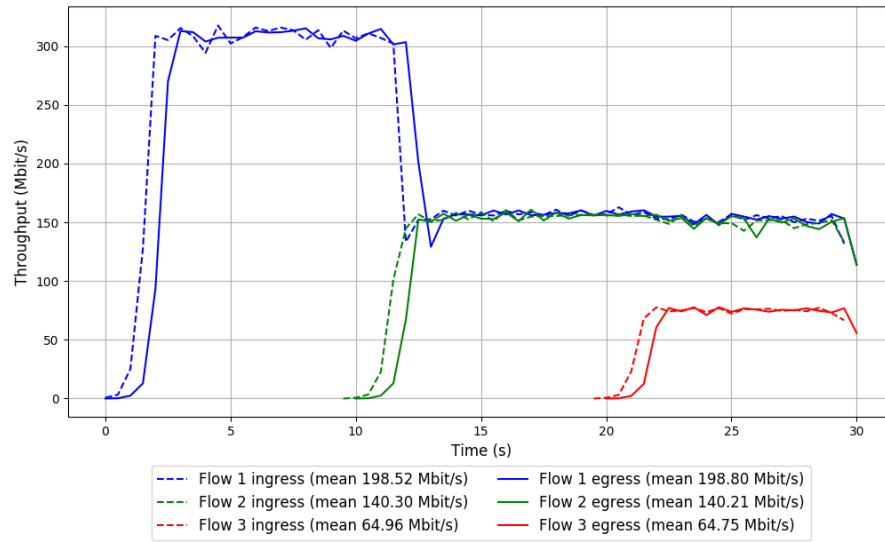
```
Run 5: Statistics of TCP Vegas

Start at: 2018-10-26 13:19:24
End at: 2018-10-26 13:19:54
Local clock offset: -3.867 ms
Remote clock offset: -42.486 ms


# Below is generated by plot.py at 2018-10-26 14:01:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 313.20 Mbit/s
95th percentile per-packet one-way delay: 135.218 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 198.80 Mbit/s
95th percentile per-packet one-way delay: 134.649 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 140.21 Mbit/s
95th percentile per-packet one-way delay: 135.963 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 64.75 Mbit/s
95th percentile per-packet one-way delay: 135.351 ms
Loss rate: 2.31%
```

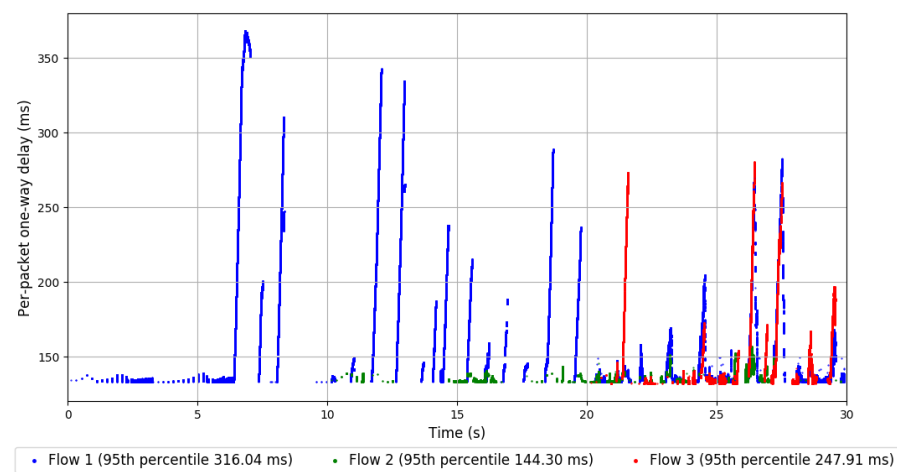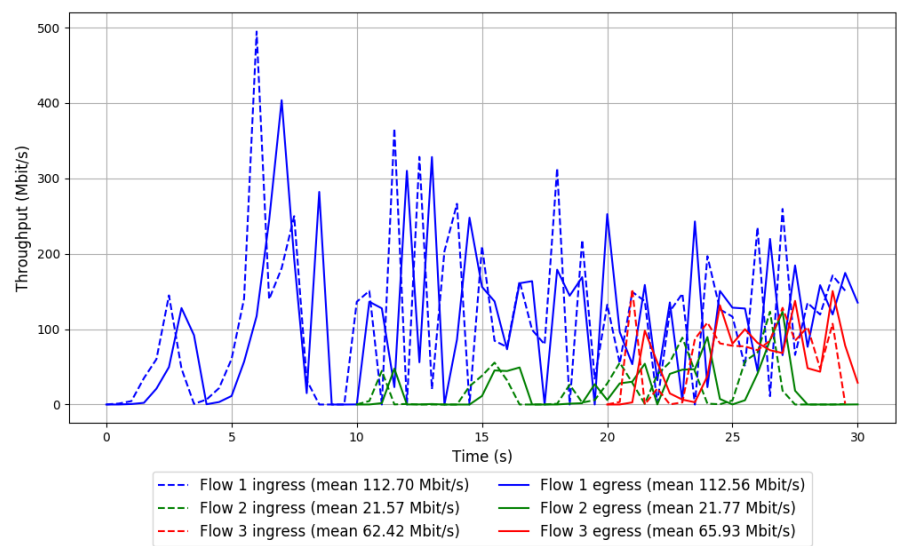Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 198.52 Mbit/s)   Flow 1 egress (mean 198.80 Mbit/s)
Flow 2 ingress (mean 140.30 Mbit/s)   Flow 2 egress (mean 140.21 Mbit/s)
Flow 3 ingress (mean 64.96 Mbit/s)   Flow 3 egress (mean 64.75 Mbit/s)

Flow 1 (95th percentile 134.65 ms)   Flow 2 (95th percentile 135.96 ms)   Flow 3 (95th percentile 135.35 ms)

```
Run 1: Statistics of Verus

Start at: 2018-10-26 10:14:01
End at: 2018-10-26 10:14:31
Local clock offset: 1.139 ms
Remote clock offset: -36.174 ms


# Below is generated by plot.py at 2018-10-26 14:01:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 147.72 Mbit/s
95th percentile per-packet one-way delay: 288.450 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 112.56 Mbit/s
95th percentile per-packet one-way delay: 316.043 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 21.77 Mbit/s
95th percentile per-packet one-way delay: 144.303 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 65.93 Mbit/s
95th percentile per-packet one-way delay: 247.911 ms
Loss rate: 0.12%
```

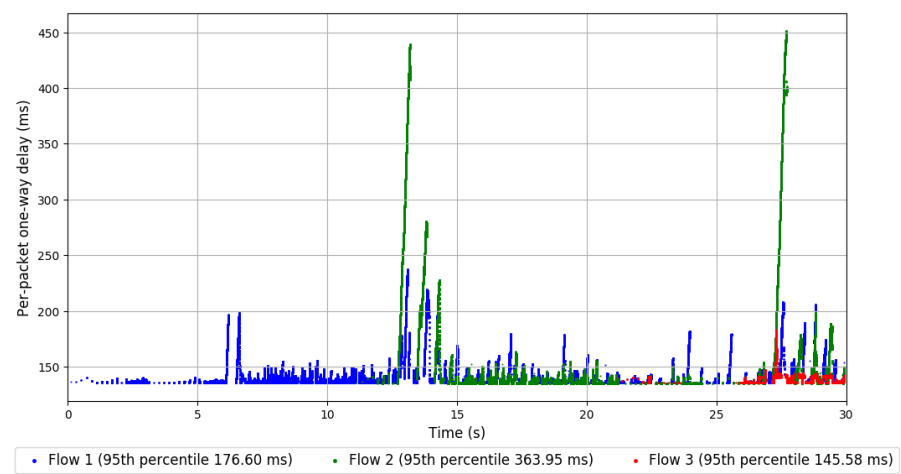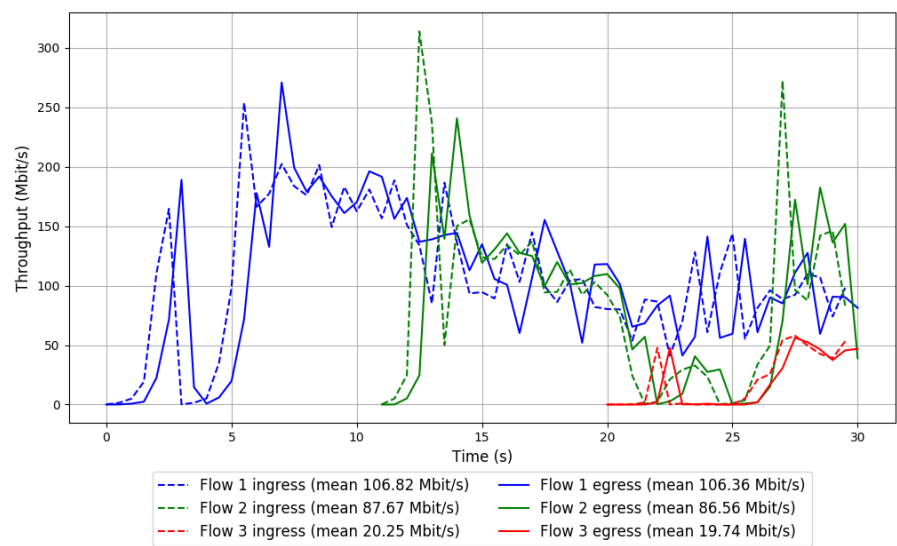Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-10-26 11:06:47
End at: 2018-10-26 11:07:17
Local clock offset: 2.379 ms
Remote clock offset: -36.684 ms


# Below is generated by plot.py at 2018-10-26 14:01:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 167.38 Mbit/s
95th percentile per-packet one-way delay: 218.882 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 106.36 Mbit/s
95th percentile per-packet one-way delay: 176.604 ms
Loss rate: 1.06%
-- Flow 2:
Average throughput: 86.56 Mbit/s
95th percentile per-packet one-way delay: 363.953 ms
Loss rate: 1.37%
-- Flow 3:
Average throughput: 19.74 Mbit/s
95th percentile per-packet one-way delay: 145.582 ms
Loss rate: 3.52%
```

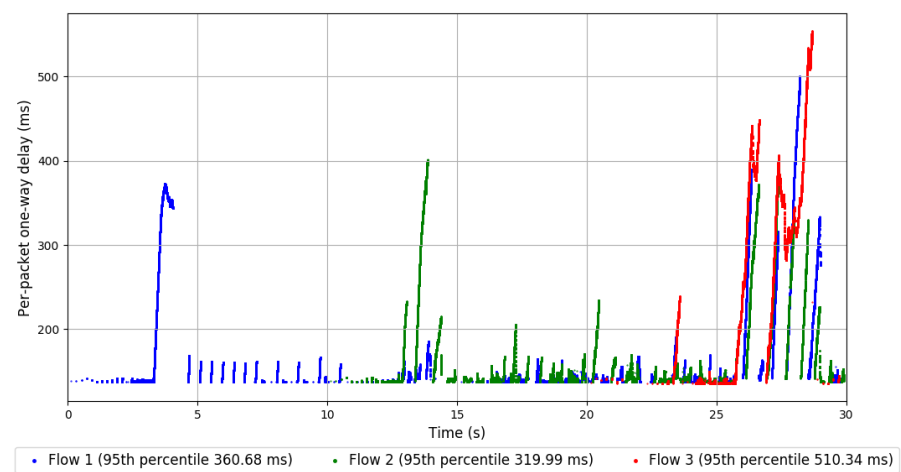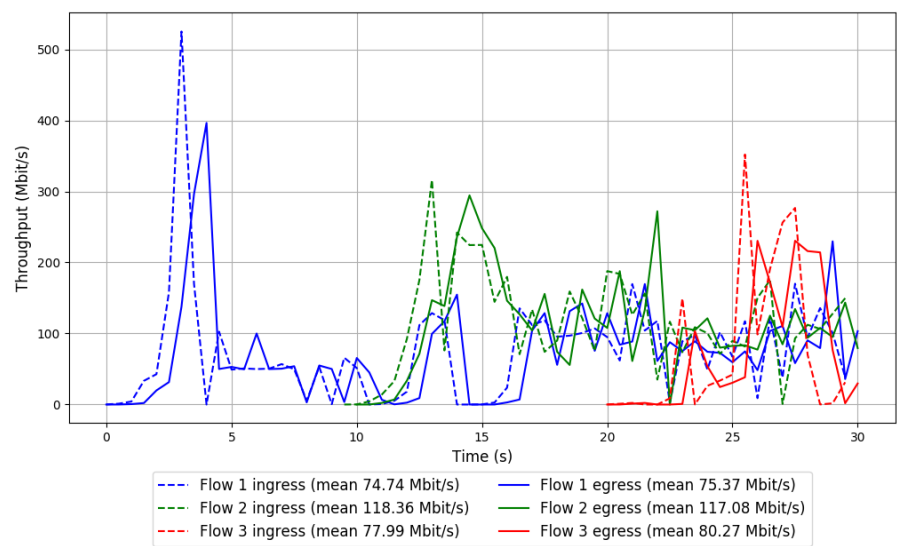# Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-10-26 11:49:20
End at: 2018-10-26 11:49:50
Local clock offset: 0.708 ms
Remote clock offset: -40.678 ms


# Below is generated by plot.py at 2018-10-26 14:01:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 178.77 Mbit/s
95th percentile per-packet one-way delay: 371.548 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 75.37 Mbit/s
95th percentile per-packet one-way delay: 360.681 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 117.08 Mbit/s
95th percentile per-packet one-way delay: 319.992 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 80.27 Mbit/s
95th percentile per-packet one-way delay: 510.344 ms
Loss rate: 0.38%
```

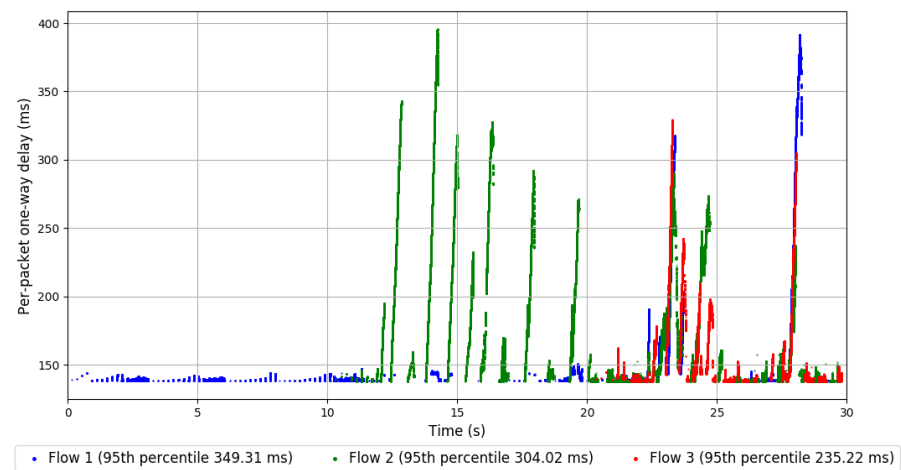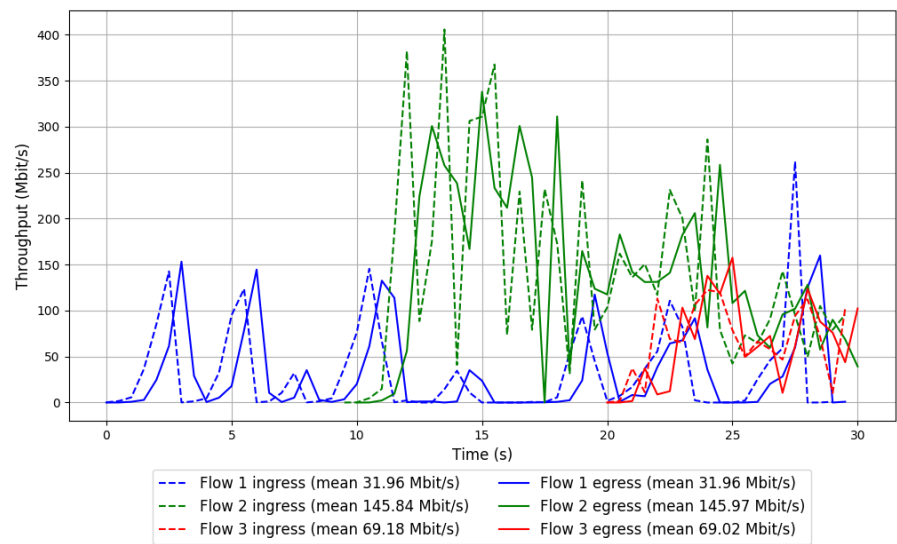Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-10-26 12:41:56
End at: 2018-10-26 12:42:26
Local clock offset: -0.802 ms
Remote clock offset: -44.366 ms


# Below is generated by plot.py at 2018-10-26 14:01:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 150.83 Mbit/s
95th percentile per-packet one-way delay: 305.785 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 31.96 Mbit/s
95th percentile per-packet one-way delay: 349.306 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 145.97 Mbit/s
95th percentile per-packet one-way delay: 304.020 ms
Loss rate: 1.43%
-- Flow 3:
Average throughput: 69.02 Mbit/s
95th percentile per-packet one-way delay: 235.216 ms
Loss rate: 0.18%
```

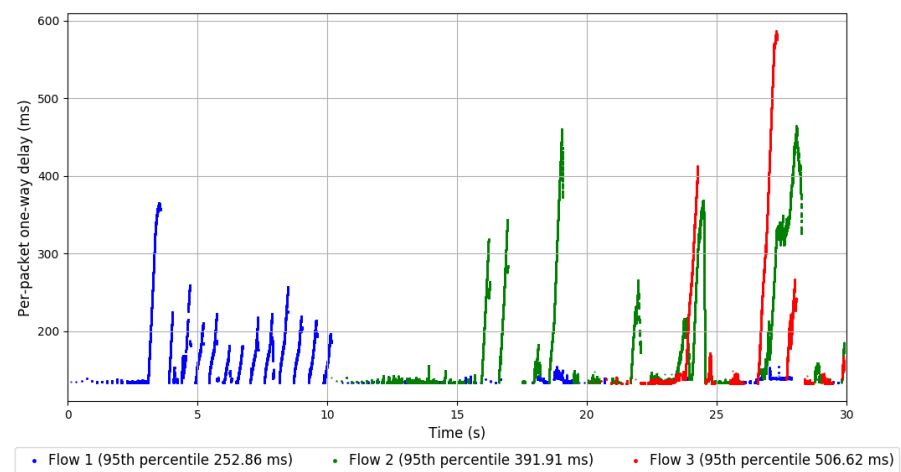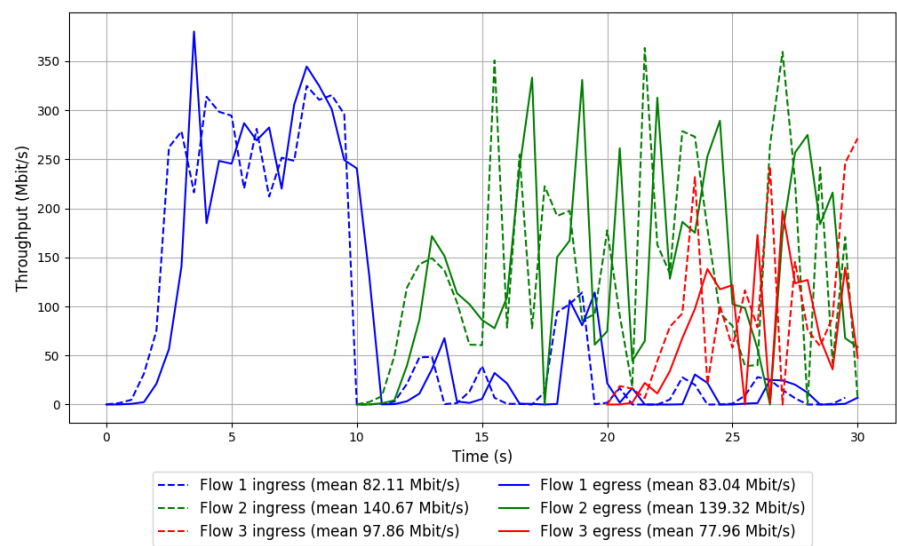Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-10-26 13:24:05
End at: 2018-10-26 13:24:35
Local clock offset: -3.239 ms
Remote clock offset: -44.963 ms


# Below is generated by plot.py at 2018-10-26 14:01:22
# Datalink statistics
-- Total of 3 flows:
Average throughput: 200.46 Mbit/s
95th percentile per-packet one-way delay: 359.358 ms
Loss rate: 4.73%
-- Flow 1:
Average throughput: 83.04 Mbit/s
95th percentile per-packet one-way delay: 252.863 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 139.32 Mbit/s
95th percentile per-packet one-way delay: 391.910 ms
Loss rate: 2.15%
-- Flow 3:
Average throughput: 77.96 Mbit/s
95th percentile per-packet one-way delay: 506.615 ms
Loss rate: 23.60%
```
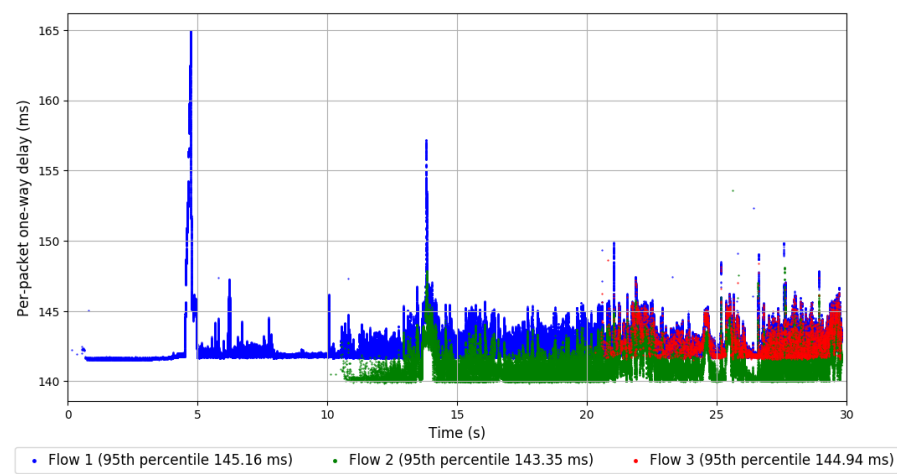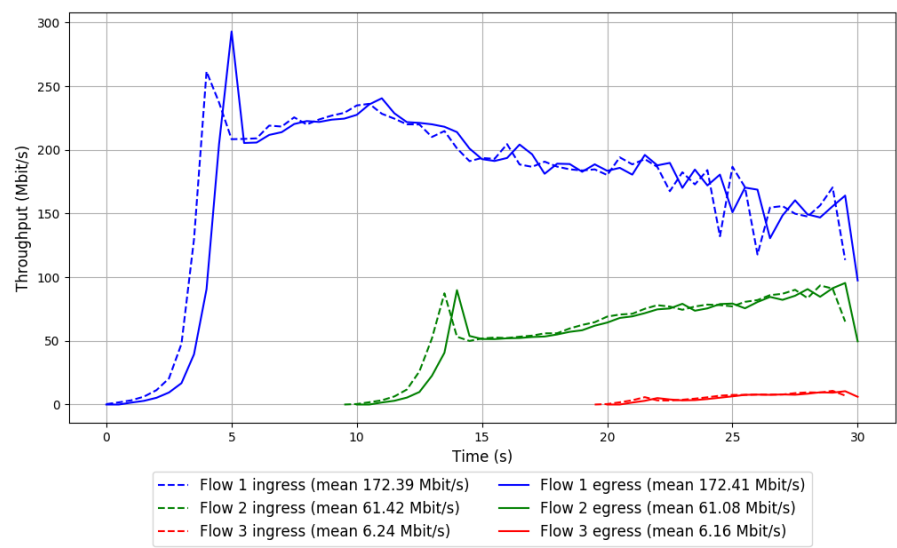
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-10-26 09:39:10
End at: 2018-10-26 09:39:40
Local clock offset: 0.632 ms
Remote clock offset: -46.003 ms


# Below is generated by plot.py at 2018-10-26 14:01:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 214.94 Mbit/s
95th percentile per-packet one-way delay: 144.958 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 172.41 Mbit/s
95th percentile per-packet one-way delay: 145.165 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 61.08 Mbit/s
95th percentile per-packet one-way delay: 143.355 ms
Loss rate: 1.53%
-- Flow 3:
Average throughput: 6.16 Mbit/s
95th percentile per-packet one-way delay: 144.937 ms
Loss rate: 3.20%
```

Run 1: Report of PCC-Vivace — Data Link

- --- Flow 1 ingress (mean 172.39 Mbit/s) — Flow 1 egress (mean 172.41 Mbit/s)
- --- Flow 2 ingress (mean 61.42 Mbit/s) — Flow 2 egress (mean 61.08 Mbit/s)
- --- Flow 3 ingress (mean 6.24 Mbit/s) — Flow 3 egress (mean 6.16 Mbit/s)

- Flow 1 (95th percentile 145.16 ms)   • Flow 2 (95th percentile 143.35 ms)   • Flow 3 (95th percentile 144.94 ms)
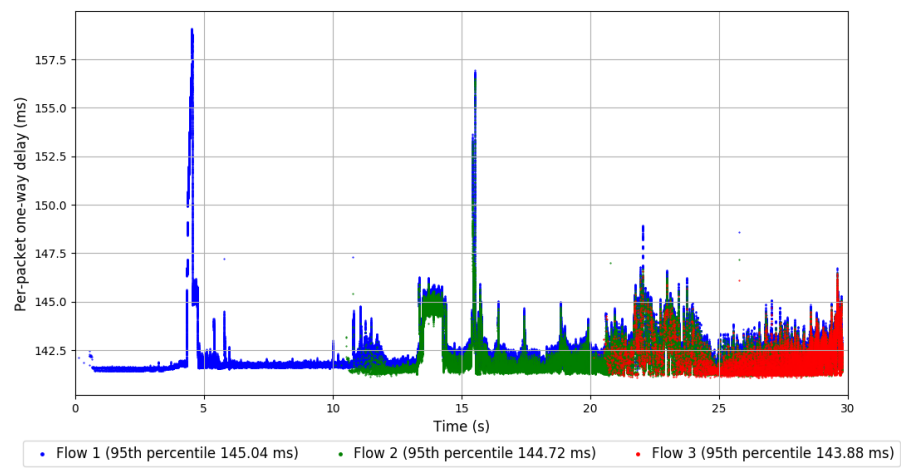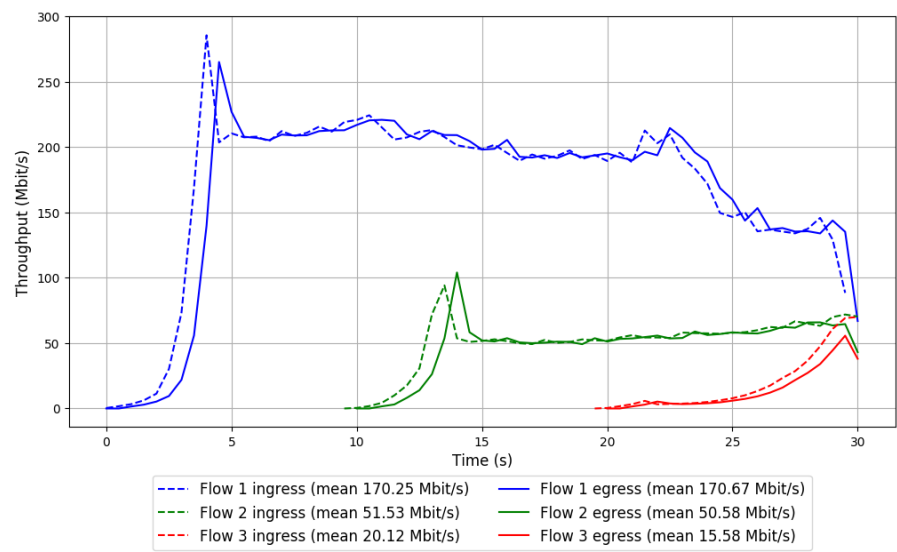
```
Run 2: Statistics of PCC-Vivace

Start at: 2018-10-26 10:32:02
End at: 2018-10-26 10:32:32
Local clock offset: -1.06 ms
Remote clock offset: -46.159 ms


# Below is generated by plot.py at 2018-10-26 14:02:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 209.30 Mbit/s
95th percentile per-packet one-way delay: 144.940 ms
Loss rate: 2.37%
-- Flow 1:
Average throughput: 170.67 Mbit/s
95th percentile per-packet one-way delay: 145.040 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 50.58 Mbit/s
95th percentile per-packet one-way delay: 144.716 ms
Loss rate: 5.78%
-- Flow 3:
Average throughput: 15.58 Mbit/s
95th percentile per-packet one-way delay: 143.876 ms
Loss rate: 28.62%
```

Run 2: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 170.25 Mbit/s) --- Flow 1 egress (mean 170.67 Mbit/s)
Flow 2 ingress (mean 51.53 Mbit/s) --- Flow 2 egress (mean 50.58 Mbit/s)
Flow 3 ingress (mean 20.12 Mbit/s) --- Flow 3 egress (mean 15.58 Mbit/s)

Flow 1 (95th percentile 145.04 ms)   Flow 2 (95th percentile 144.72 ms)   Flow 3 (95th percentile 143.88 ms)
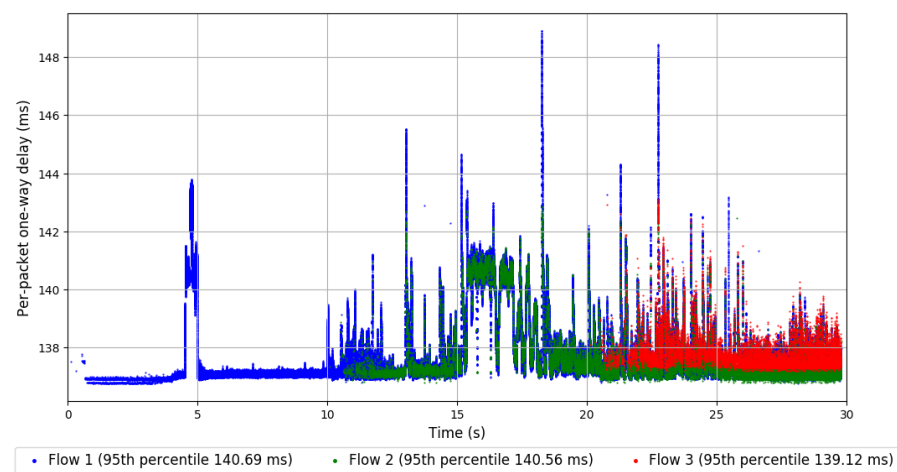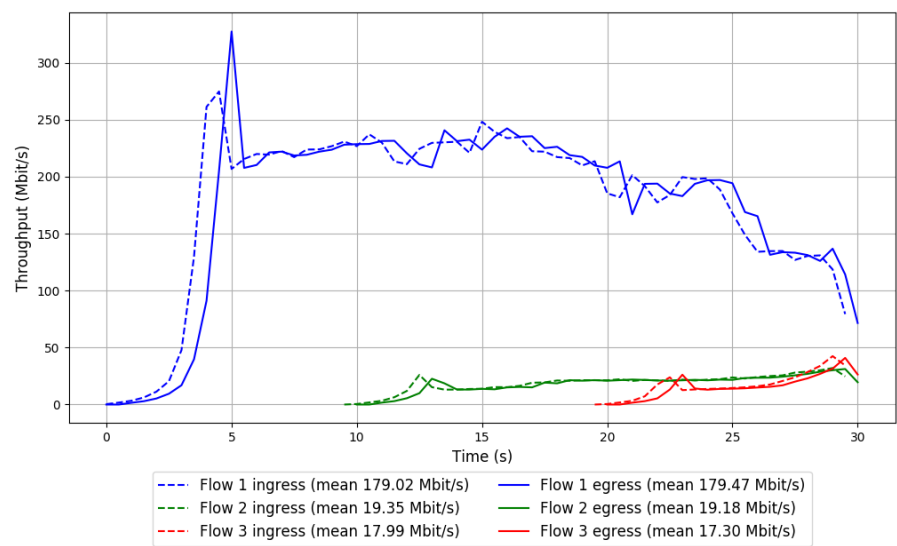
```
Run 3: Statistics of PCC-Vivace

Start at: 2018-10-26 11:13:45
End at: 2018-10-26 11:14:15
Local clock offset: -0.666 ms
Remote clock offset: -41.618 ms


# Below is generated by plot.py at 2018-10-26 14:02:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 197.83 Mbit/s
95th percentile per-packet one-way delay: 140.671 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 179.47 Mbit/s
95th percentile per-packet one-way delay: 140.688 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 19.18 Mbit/s
95th percentile per-packet one-way delay: 140.563 ms
Loss rate: 1.87%
-- Flow 3:
Average throughput: 17.30 Mbit/s
95th percentile per-packet one-way delay: 139.115 ms
Loss rate: 5.74%
```

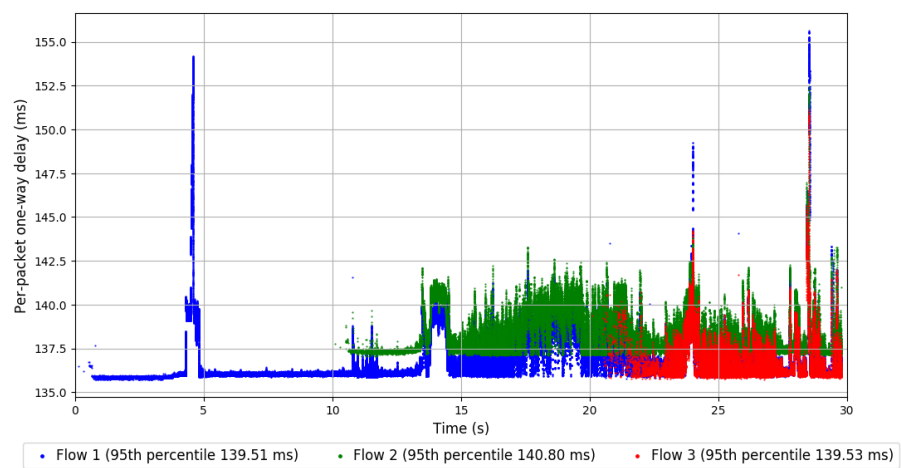Run 3: Report of PCC-Vivace — Data Link

Flow 1 ingress (mean 179.02 Mbit/s) --- Flow 1 egress (mean 179.47 Mbit/s)
Flow 2 ingress (mean 19.35 Mbit/s) --- Flow 2 egress (mean 19.18 Mbit/s)
Flow 3 ingress (mean 17.99 Mbit/s) --- Flow 3 egress (mean 17.30 Mbit/s)

Flow 1 (95th percentile 140.69 ms) Flow 2 (95th percentile 140.56 ms) Flow 3 (95th percentile 139.12 ms)
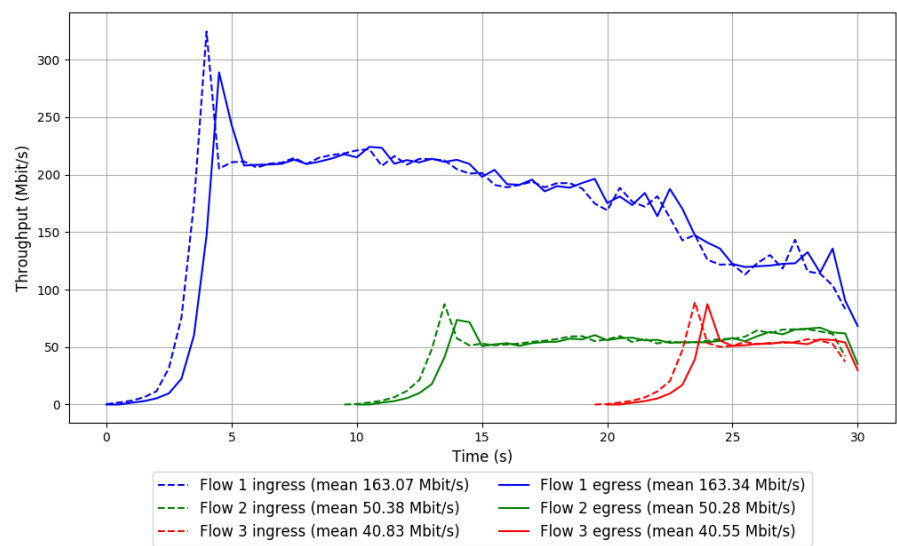
```
Run 4: Statistics of PCC-Vivace

Start at: 2018-10-26 12:01:45
End at: 2018-10-26 12:02:15
Local clock offset: 1.241 ms
Remote clock offset: -40.623 ms


# Below is generated by plot.py at 2018-10-26 14:02:05
# Datalink statistics
-- Total of 3 flows:
Average throughput: 209.92 Mbit/s
95th percentile per-packet one-way delay: 139.949 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 163.34 Mbit/s
95th percentile per-packet one-way delay: 139.511 ms
Loss rate: 0.49%
-- Flow 2:
Average throughput: 50.28 Mbit/s
95th percentile per-packet one-way delay: 140.803 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 40.55 Mbit/s
95th percentile per-packet one-way delay: 139.530 ms
Loss rate: 2.66%
```

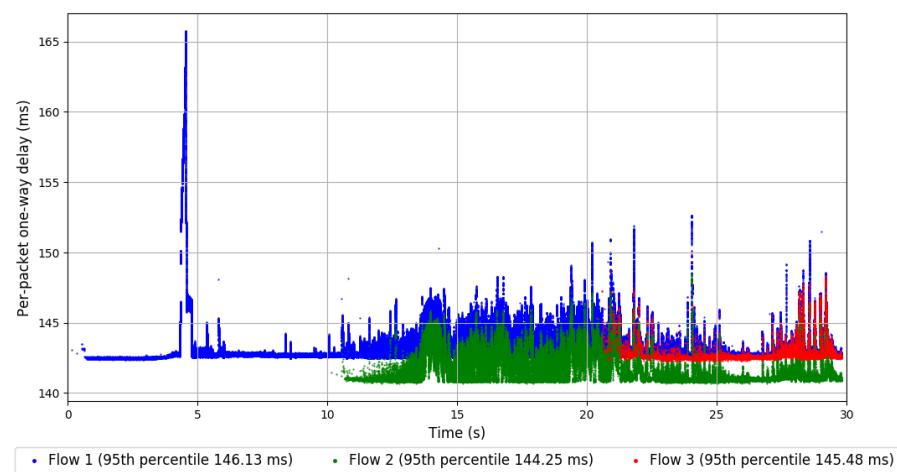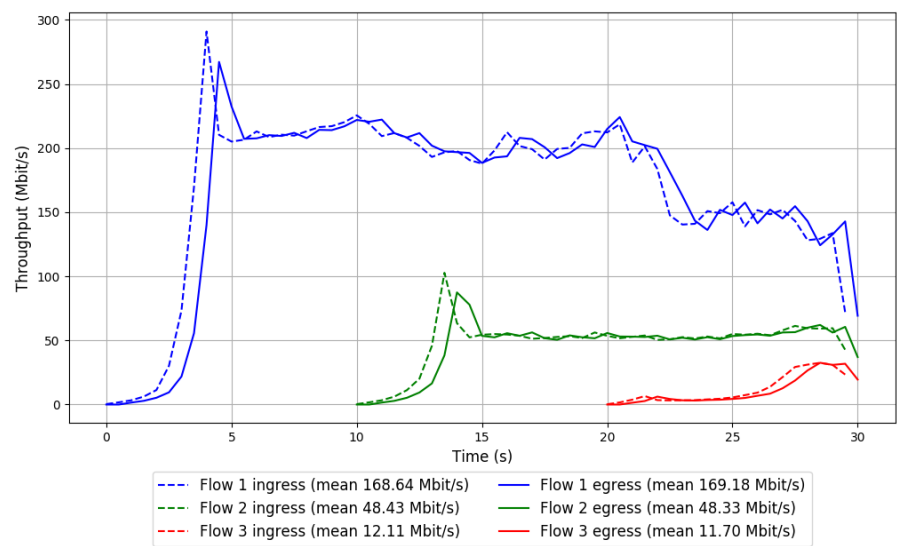Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-10-26 12:48:34
End at: 2018-10-26 12:49:04
Local clock offset: 1.659 ms
Remote clock offset: -46.137 ms


# Below is generated by plot.py at 2018-10-26 14:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 205.02 Mbit/s
95th percentile per-packet one-way delay: 145.958 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 169.18 Mbit/s
95th percentile per-packet one-way delay: 146.126 ms
Loss rate: 0.35%
-- Flow 2:
Average throughput: 48.33 Mbit/s
95th percentile per-packet one-way delay: 144.254 ms
Loss rate: 1.17%
-- Flow 3:
Average throughput: 11.70 Mbit/s
95th percentile per-packet one-way delay: 145.482 ms
Loss rate: 5.31%
```

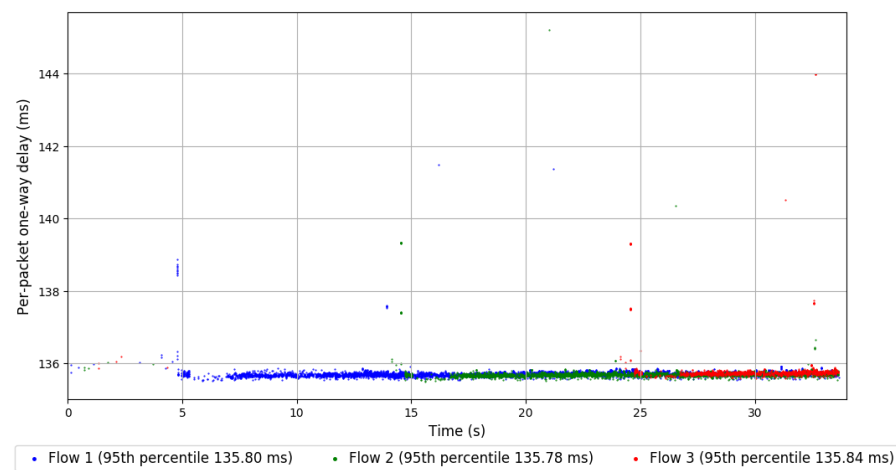# Run 5: Report of PCC-Vivace — Data Link

- Flow 1 ingress (mean 168.64 Mbit/s)
- Flow 1 egress (mean 169.18 Mbit/s)
- Flow 2 ingress (mean 48.43 Mbit/s)
- Flow 2 egress (mean 48.33 Mbit/s)
- Flow 3 ingress (mean 12.11 Mbit/s)
- Flow 3 egress (mean 11.70 Mbit/s)

- Flow 1 (95th percentile 146.13 ms)
- Flow 2 (95th percentile 144.25 ms)
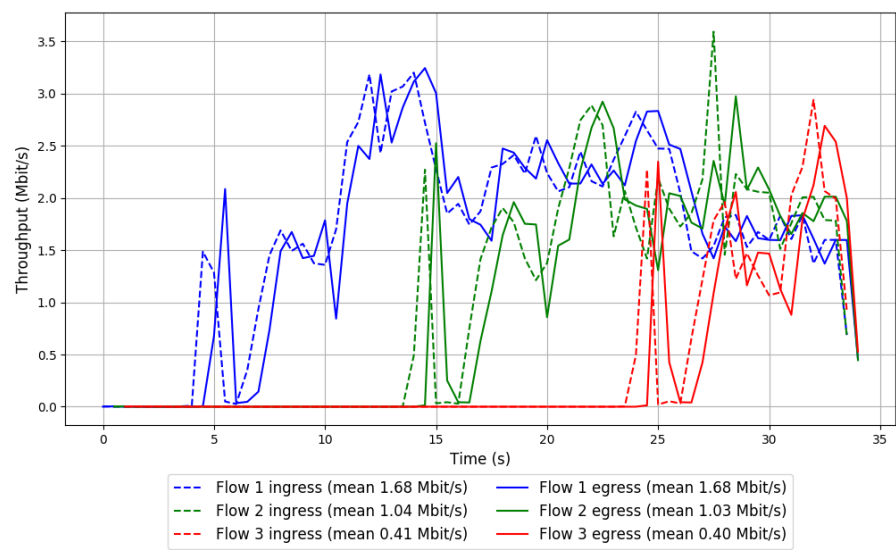- Flow 3 (95th percentile 145.48 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2018-10-26 10:01:50
End at: 2018-10-26 10:02:20
Local clock offset: 0.372 ms
Remote clock offset: -39.519 ms


# Below is generated by plot.py at 2018-10-26 14:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.08 Mbit/s
95th percentile per-packet one-way delay: 135.798 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 135.796 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 135.777 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 135.838 ms
Loss rate: 3.42%
```

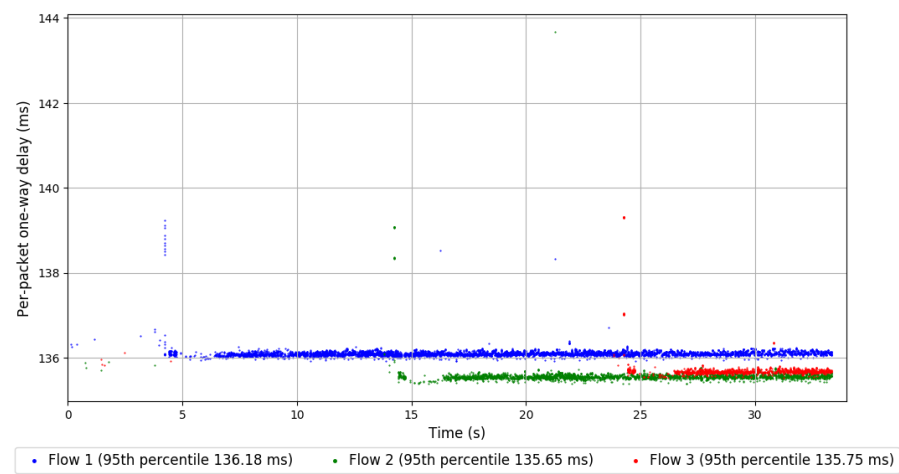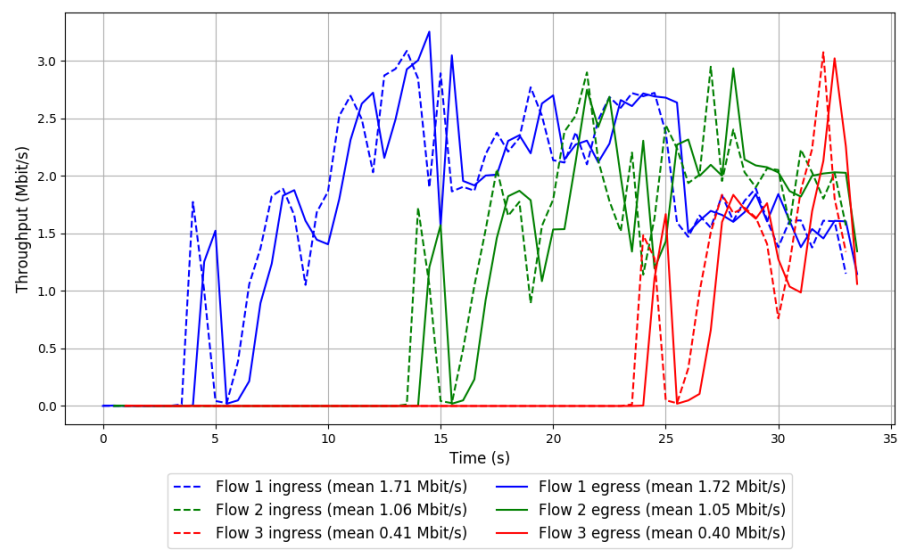Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2018-10-26 10:54:50
End at: 2018-10-26 10:55:20
Local clock offset: -0.308 ms
Remote clock offset: -39.888 ms


# Below is generated by plot.py at 2018-10-26 14:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 136.160 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 1.72 Mbit/s
95th percentile per-packet one-way delay: 136.175 ms
Loss rate: 0.40%
-- Flow 2:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 135.649 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 135.755 ms
Loss rate: 2.57%
```

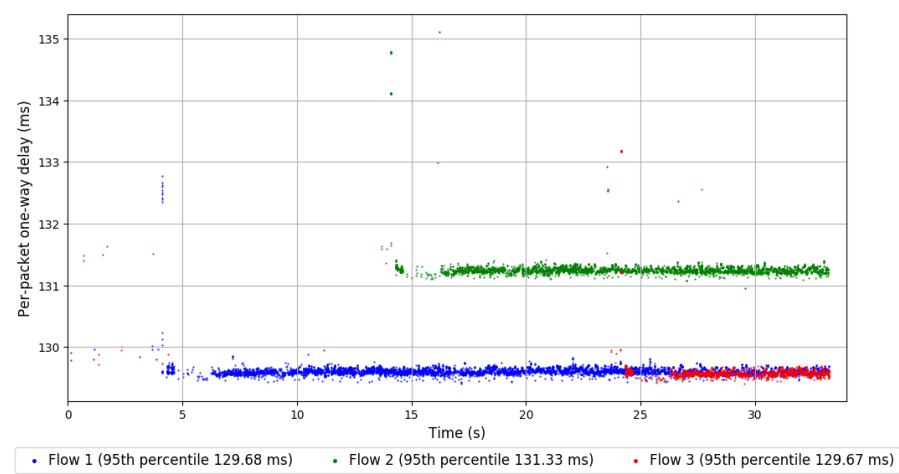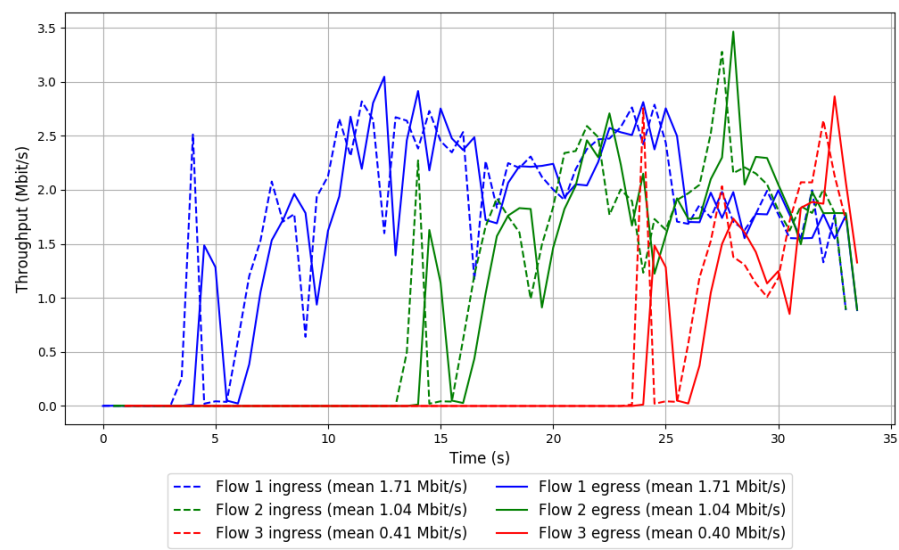# Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2018-10-26 11:31:32
End at: 2018-10-26 11:32:02
Local clock offset: 1.071 ms
Remote clock offset: -33.449 ms


# Below is generated by plot.py at 2018-10-26 14:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.12 Mbit/s
95th percentile per-packet one-way delay: 131.296 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 129.684 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 131.329 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 129.668 ms
Loss rate: 3.48%
```
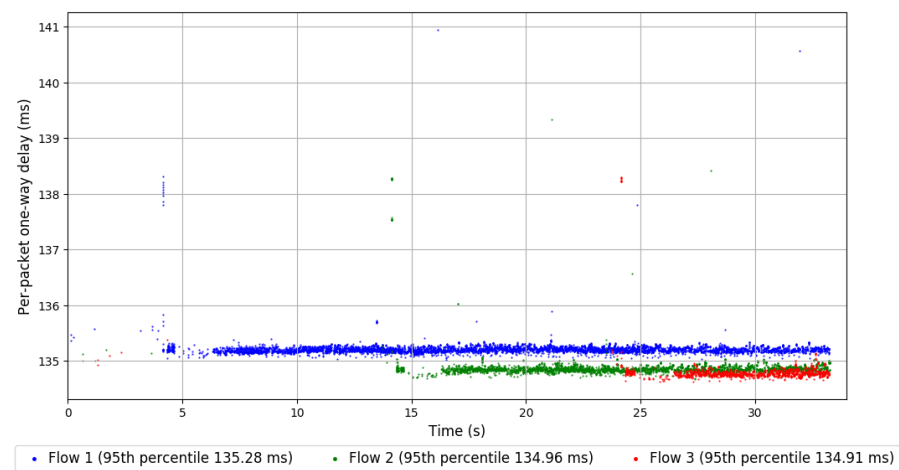
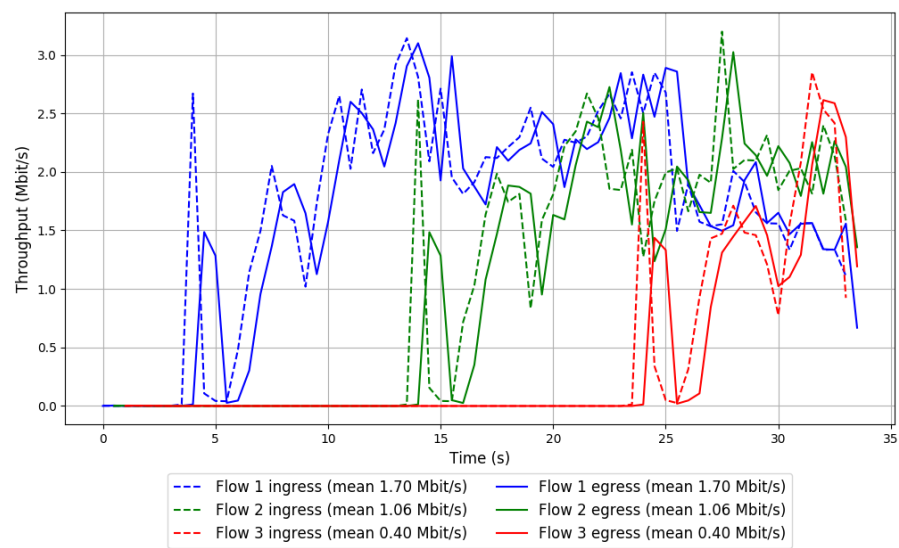# Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2018-10-26 12:24:18
End at: 2018-10-26 12:24:48
Local clock offset: 0.599 ms
Remote clock offset: -39.618 ms


# Below is generated by plot.py at 2018-10-26 14:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 135.267 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 135.282 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 134.960 ms
Loss rate: 1.30%
-- Flow 3:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 134.915 ms
Loss rate: 2.03%
```

Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-10-26 13:06:23
End at: 2018-10-26 13:06:53
Local clock offset: 1.285 ms
Remote clock offset: -40.881 ms


# Below is generated by plot.py at 2018-10-26 14:02:07
# Datalink statistics
-- Total of 3 flows:
Average throughput: 3.09 Mbit/s
95th percentile per-packet one-way delay: 135.898 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 134.254 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 135.932 ms
Loss rate: 0.99%
-- Flow 3:
Average throughput: 0.39 Mbit/s
95th percentile per-packet one-way delay: 135.906 ms
Loss rate: 2.00%
```

Run 5: Report of WebRTC media — Data Link