Pantheon Report

Generated at 2018-10-02 15:22:07 (UTC).

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

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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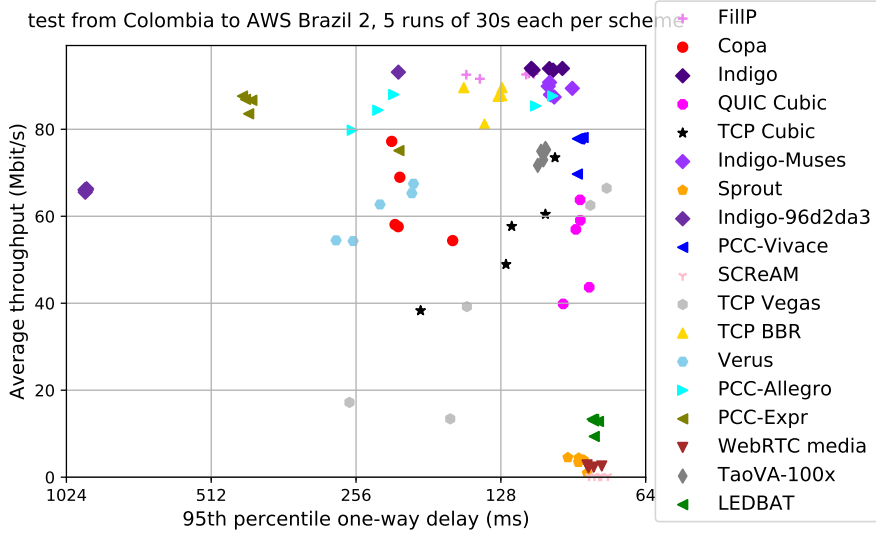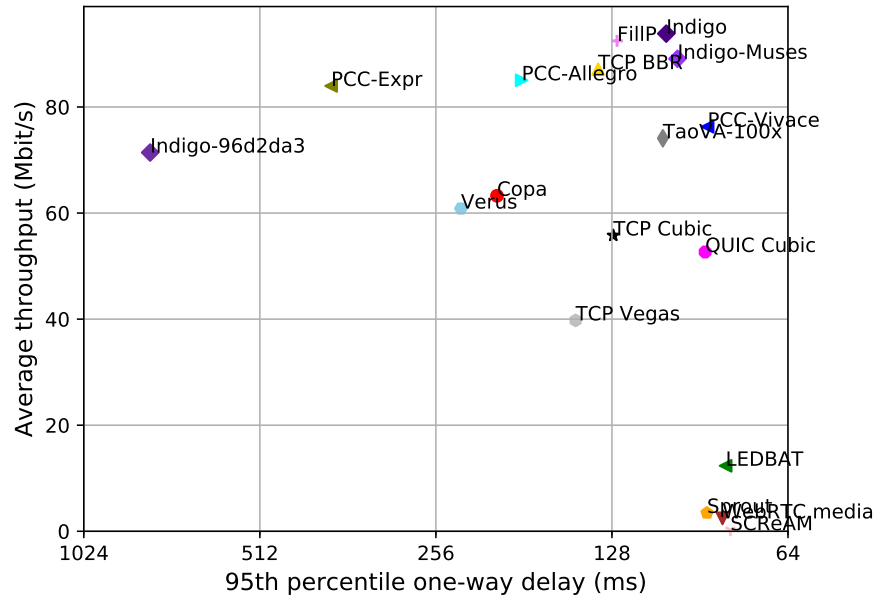
```
System info:
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

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

third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from Colombia to AWS Brazil 2, 5 runs of 30s each per scheme
(mean of all runs by scheme)

test from Colombia to AWS Brazil 2, 5 runs of 30s each per scheme

scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	87.13	135.16	1.82
Copa	5	63.26	201.26	1.42
TCP Cubic	5	55.78	127.32	0.95
FillP	5	92.47	125.44	1.55
Indigo	5	93.83	103.36	1.04
Indigo-96d2da3	5	71.41	788.58	5.58
LEDBAT	5	12.35	81.82	1.14
Indigo-Muses	5	89.09	98.89	1.57
PCC-Allegro	5	85.04	182.65	1.15
PCC-Expr	5	83.97	386.74	1.83
QUIC Cubic	5	52.67	88.67	1.03
SCReAM	5	0.20	80.30	0.73
Sprout	5	3.46	88.04	0.75
TaoVA-100x	5	74.10	104.75	0.83
TCP Vegas	5	39.76	147.69	1.06
Verus	5	60.85	231.99	0.95
PCC-Vivace	5	76.28	87.84	0.80
WebRTC media	5	2.43	82.83	0.55

```
Run 1: Statistics of TCP BBR

Start at: 2018-10-02 13:34:05
End at: 2018-10-02 13:34:35
Local clock offset: -4.851 ms
Remote clock offset: 1.164 ms

# Below is generated by plot.py at 2018-10-02 15:13:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.75 Mbit/s
95th percentile per-packet one-way delay: 127.560 ms
Loss rate: 2.20%
-- Flow 1:
Average throughput: 87.75 Mbit/s
95th percentile per-packet one-way delay: 127.560 ms
Loss rate: 2.20%
```
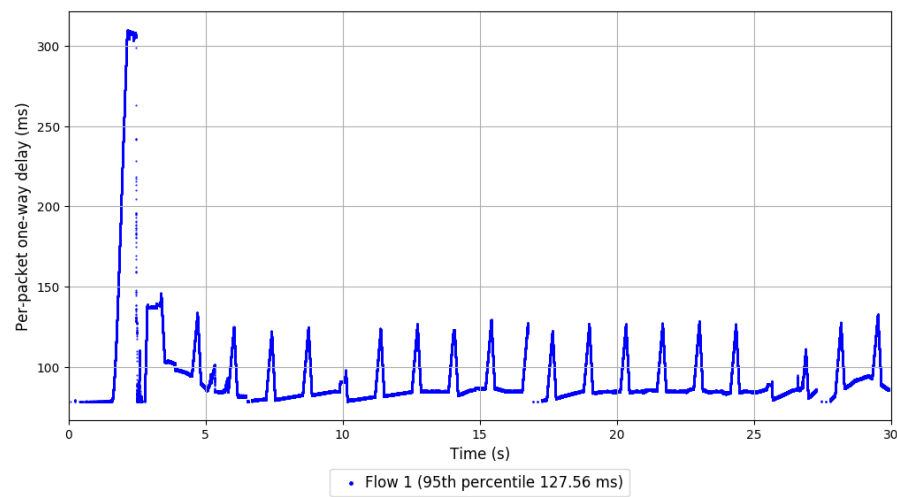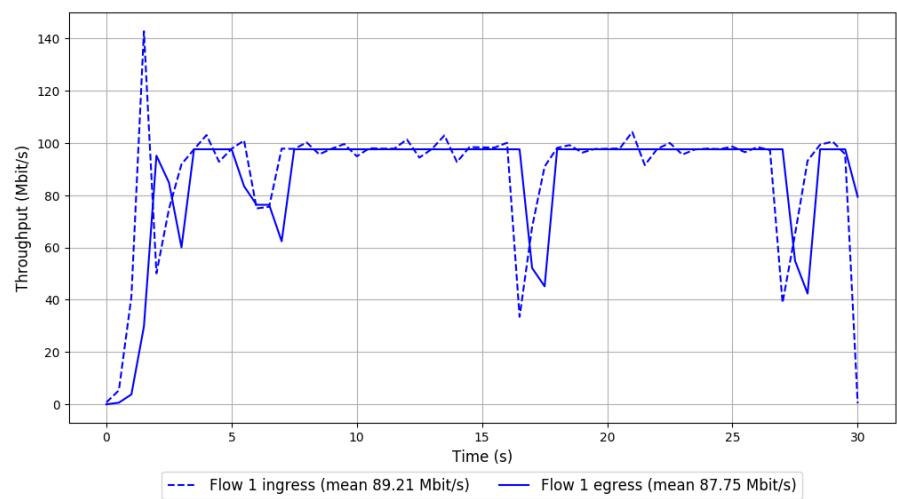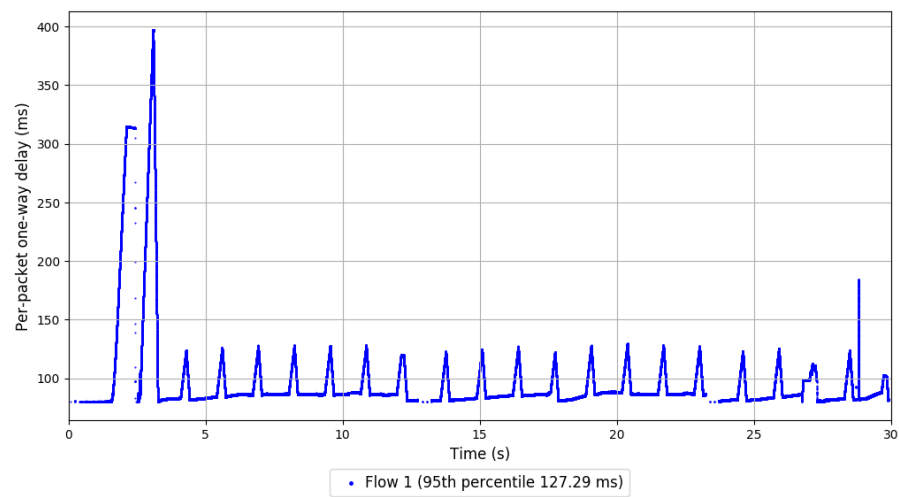
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2018-10-02 13:55:40
End at: 2018-10-02 13:56:10
Local clock offset: -5.607 ms
Remote clock offset: 2.116 ms


# Below is generated by plot.py at 2018-10-02 15:13:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.59 Mbit/s
95th percentile per-packet one-way delay: 127.294 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 89.59 Mbit/s
95th percentile per-packet one-way delay: 127.294 ms
Loss rate: 1.09%
```
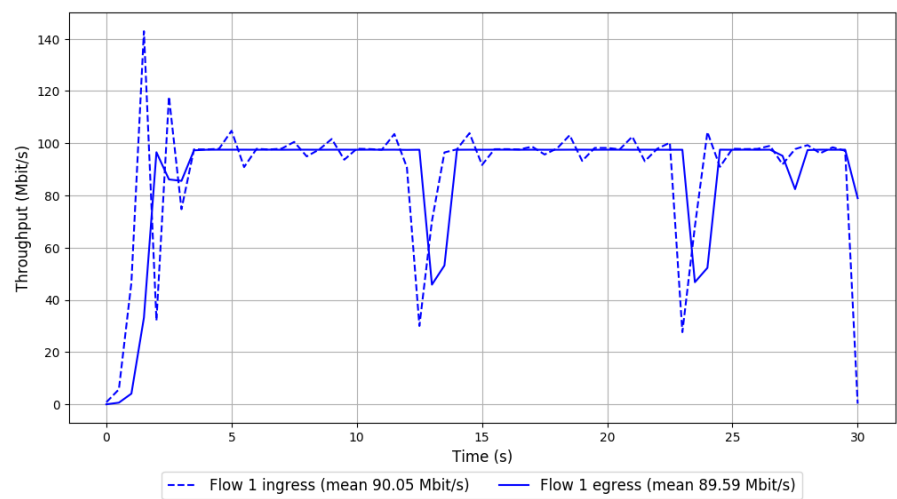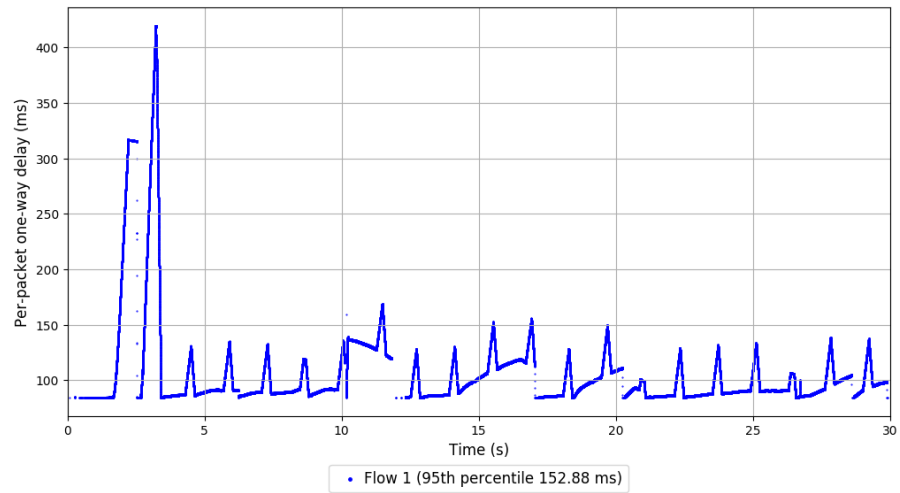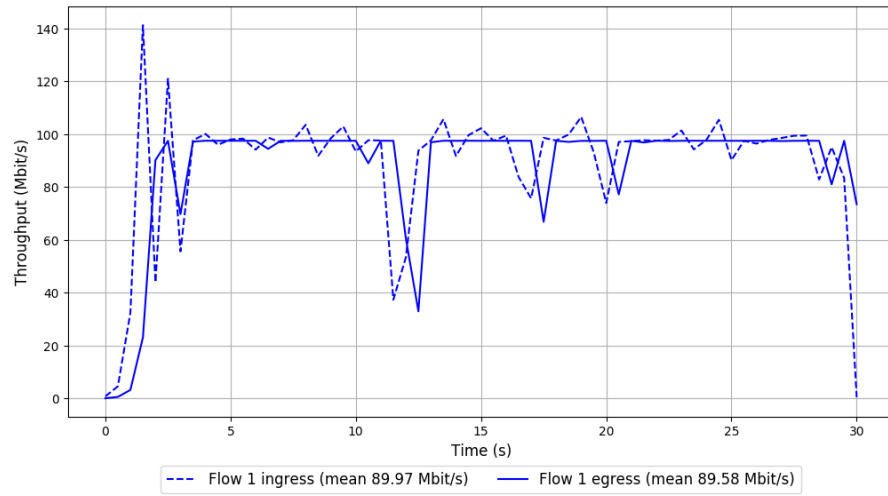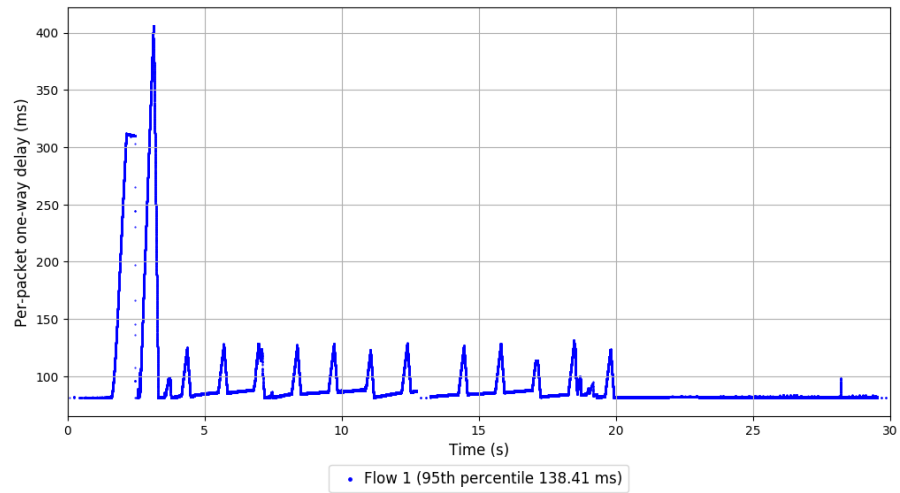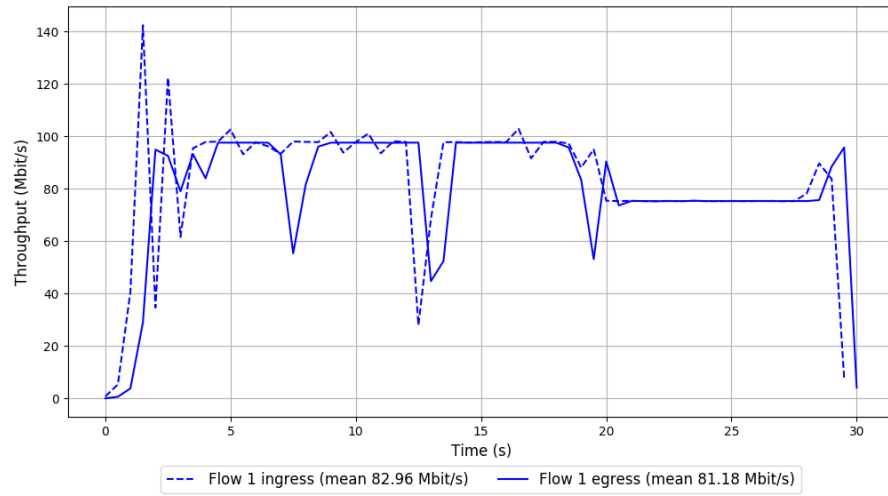
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2018-10-02 14:17:23
End at: 2018-10-02 14:17:53
Local clock offset: -6.017 ms
Remote clock offset: -2.728 ms


# Below is generated by plot.py at 2018-10-02 15:13:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.58 Mbit/s
95th percentile per-packet one-way delay: 152.882 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 89.58 Mbit/s
95th percentile per-packet one-way delay: 152.882 ms
Loss rate: 1.02%
```

Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 89.97 Mbit/s)   Flow 1 egress (mean 89.58 Mbit/s)

• Flow 1 (95th percentile 152.88 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2018-10-02 14:39:04
End at: 2018-10-02 14:39:34
Local clock offset: -6.495 ms
Remote clock offset: -1.619 ms


# Below is generated by plot.py at 2018-10-02 15:13:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.18 Mbit/s
95th percentile per-packet one-way delay: 138.411 ms
Loss rate: 2.82%
-- Flow 1:
Average throughput: 81.18 Mbit/s
95th percentile per-packet one-way delay: 138.411 ms
Loss rate: 2.82%
```
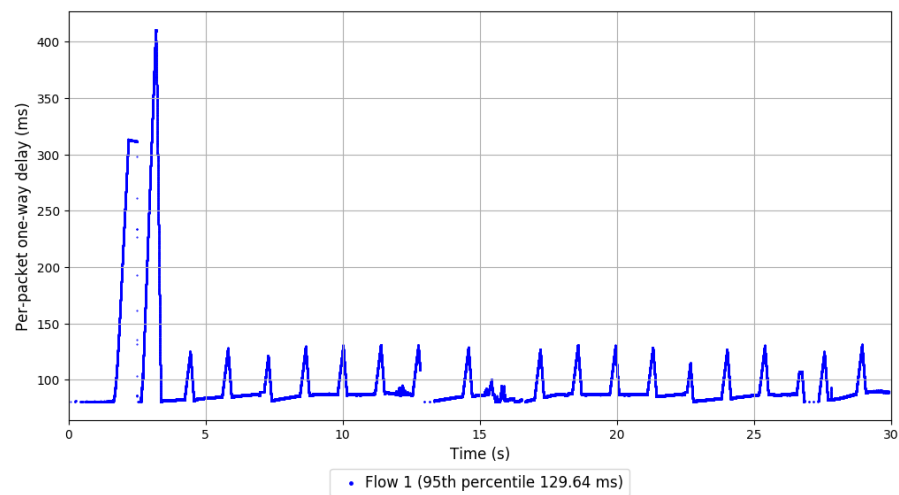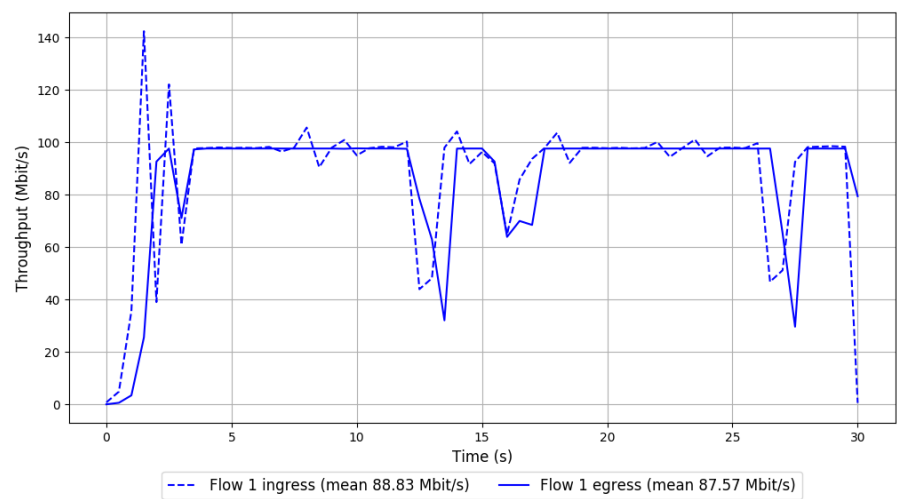
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 82.96 Mbit/s) ——— Flow 1 egress (mean 81.18 Mbit/s)

• Flow 1 (95th percentile 138.41 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2018-10-02 15:00:55
End at: 2018-10-02 15:01:25
Local clock offset: -6.445 ms
Remote clock offset: 1.22 ms


# Below is generated by plot.py at 2018-10-02 15:13:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.57 Mbit/s
95th percentile per-packet one-way delay: 129.644 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 87.57 Mbit/s
95th percentile per-packet one-way delay: 129.644 ms
Loss rate: 1.99%
```
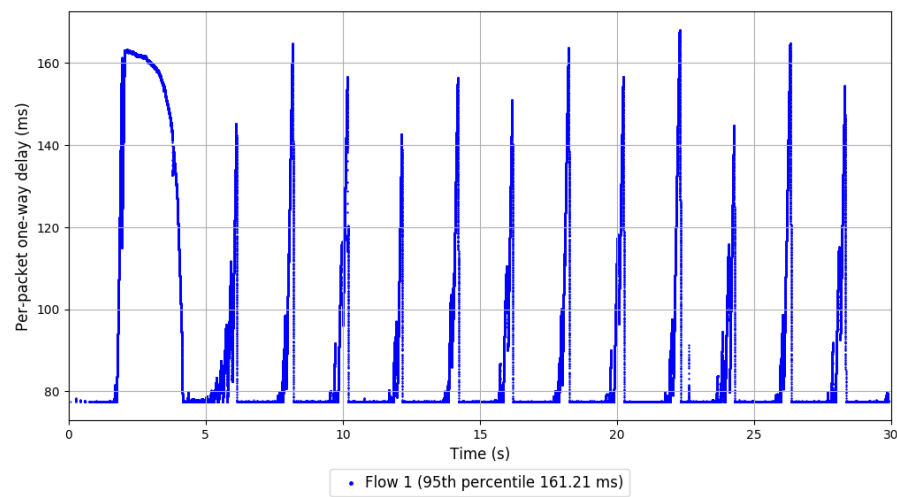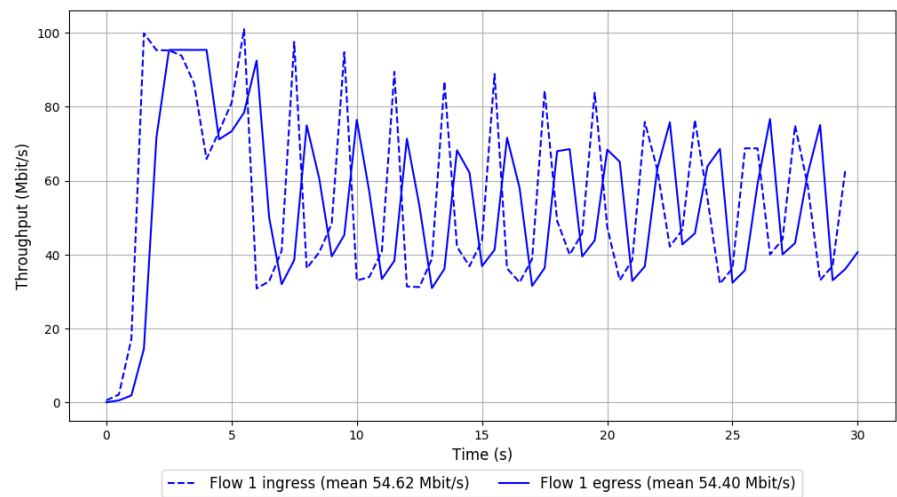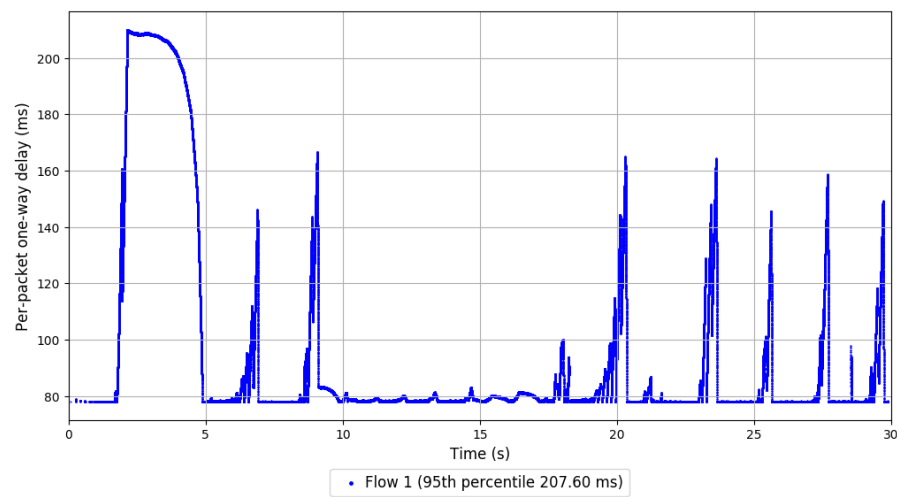
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 88.83 Mbit/s)   Flow 1 egress (mean 87.57 Mbit/s)

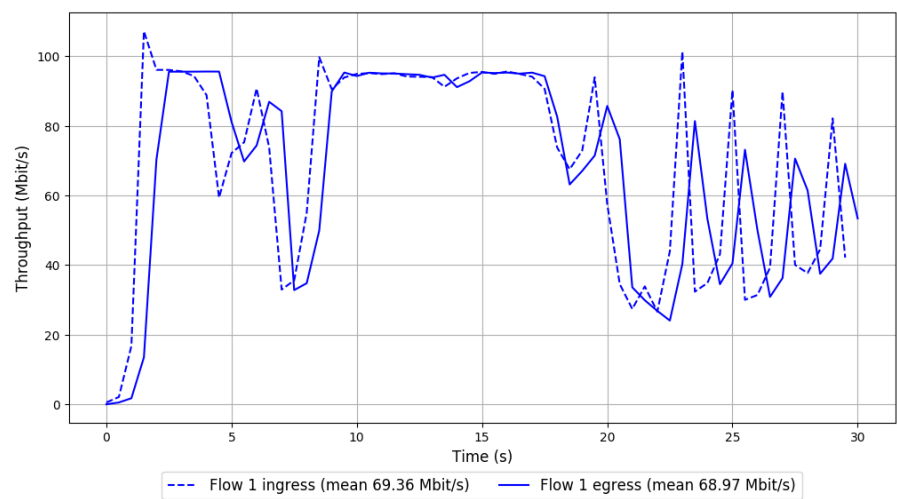• Flow 1 (95th percentile 129.64 ms)

```
Run 1: Statistics of Copa

Start at: 2018-10-02 13:40:14
End at: 2018-10-02 13:40:44
Local clock offset: -4.832 ms
Remote clock offset: 2.158 ms


# Below is generated by plot.py at 2018-10-02 15:13:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.40 Mbit/s
95th percentile per-packet one-way delay: 161.205 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 54.40 Mbit/s
95th percentile per-packet one-way delay: 161.205 ms
Loss rate: 0.94%
```
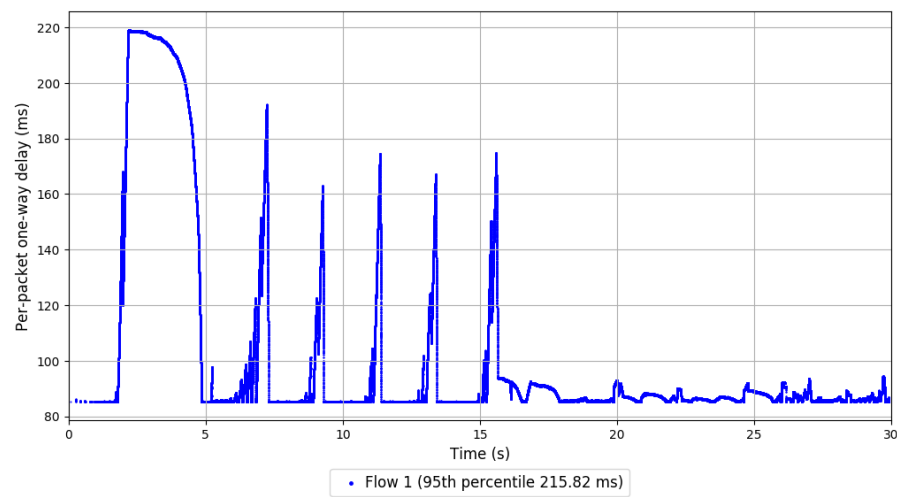
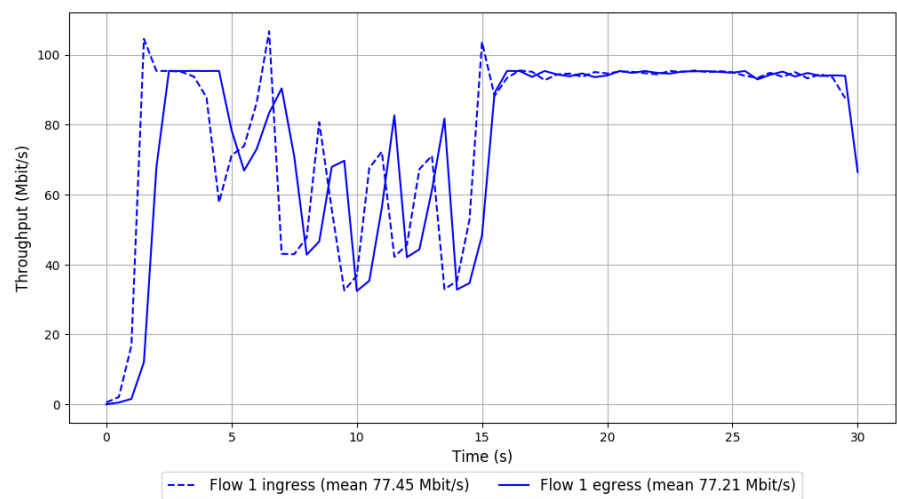Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2018-10-02 14:01:49
End at: 2018-10-02 14:02:19
Local clock offset: -5.743 ms
Remote clock offset: 2.246 ms


# Below is generated by plot.py at 2018-10-02 15:13:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.97 Mbit/s
95th percentile per-packet one-way delay: 207.598 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 68.97 Mbit/s
95th percentile per-packet one-way delay: 207.598 ms
Loss rate: 1.11%
```
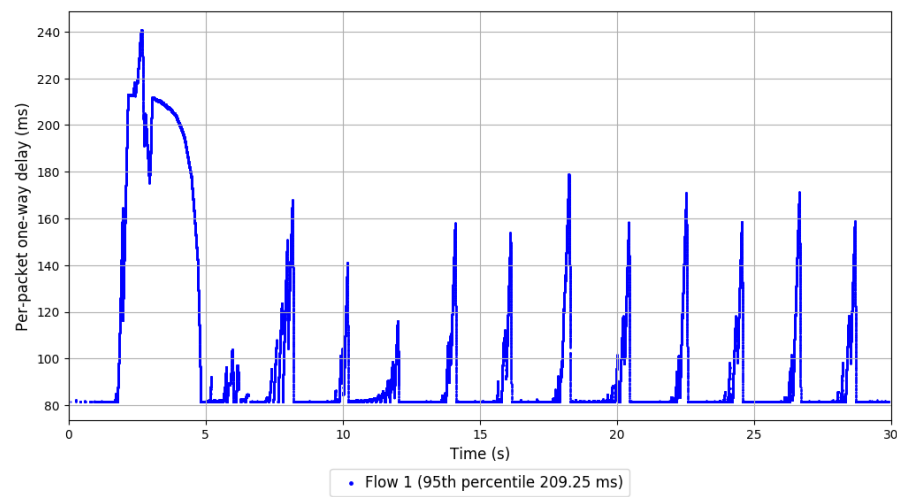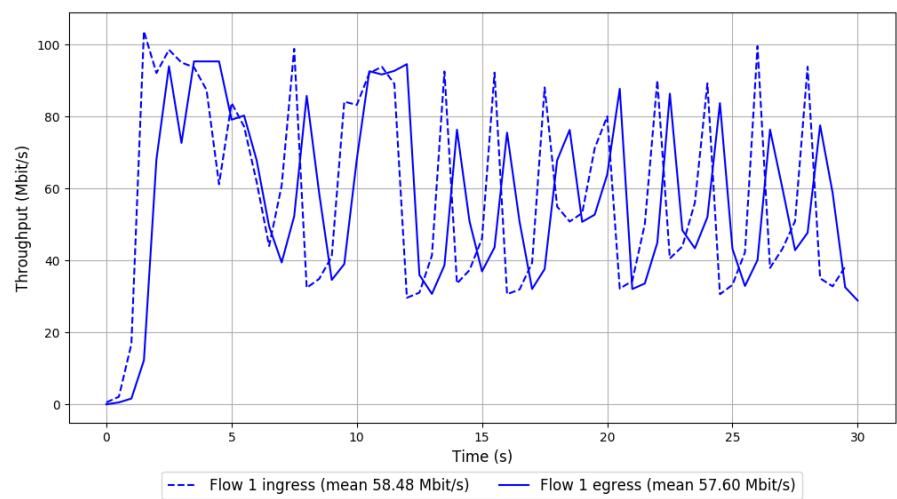
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2018-10-02 14:23:38
End at: 2018-10-02 14:24:08
Local clock offset: -6.193 ms
Remote clock offset: -2.795 ms


# Below is generated by plot.py at 2018-10-02 15:14:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.21 Mbit/s
95th percentile per-packet one-way delay: 215.825 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 77.21 Mbit/s
95th percentile per-packet one-way delay: 215.825 ms
Loss rate: 0.86%
```

Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 77.45 Mbit/s)   Flow 1 egress (mean 77.21 Mbit/s)

• Flow 1 (95th percentile 215.82 ms)

```
Run 4: Statistics of Copa

Start at: 2018-10-02 14:45:05
End at: 2018-10-02 14:45:35
Local clock offset: -6.562 ms
Remote clock offset: 1.188 ms


# Below is generated by plot.py at 2018-10-02 15:14:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.60 Mbit/s
95th percentile per-packet one-way delay: 209.254 ms
Loss rate: 2.05%
-- Flow 1:
Average throughput: 57.60 Mbit/s
95th percentile per-packet one-way delay: 209.254 ms
Loss rate: 2.05%
```
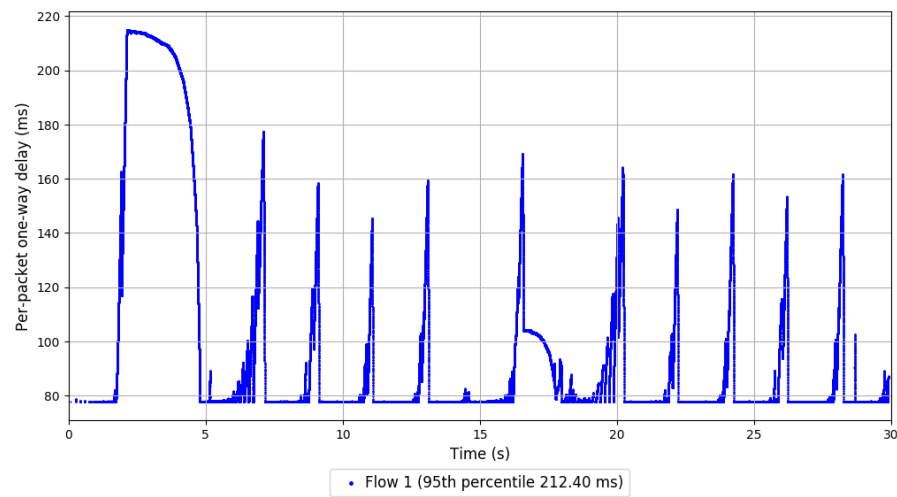
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2018-10-02 15:06:53
End at: 2018-10-02 15:07:23
Local clock offset: -6.385 ms
Remote clock offset: 2.145 ms

# Below is generated by plot.py at 2018-10-02 15:14:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 212.400 ms
Loss rate: 2.13%
-- Flow 1:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 212.400 ms
Loss rate: 2.13%
```
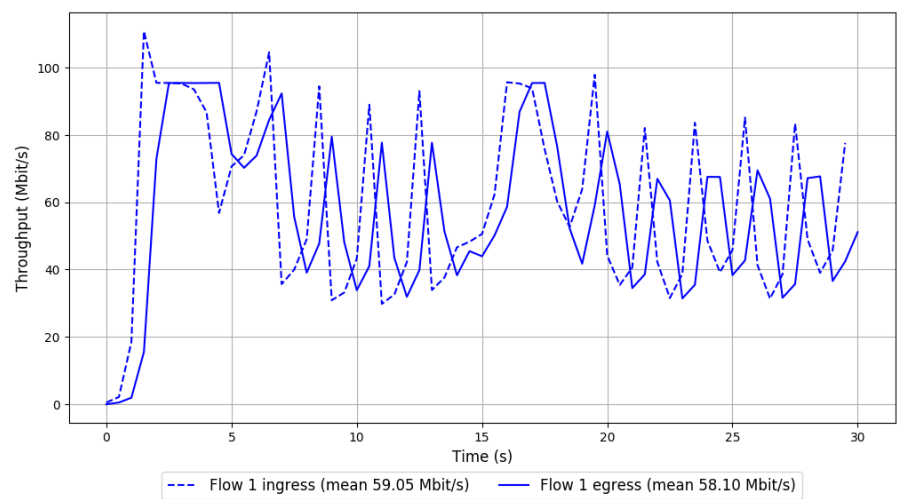
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2018-10-02 13:39:03
End at: 2018-10-02 13:39:33
Local clock offset: -4.893 ms
Remote clock offset: 2.24 ms


# Below is generated by plot.py at 2018-10-02 15:14:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.93 Mbit/s
95th percentile per-packet one-way delay: 124.908 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 48.93 Mbit/s
95th percentile per-packet one-way delay: 124.908 ms
Loss rate: 1.22%
```
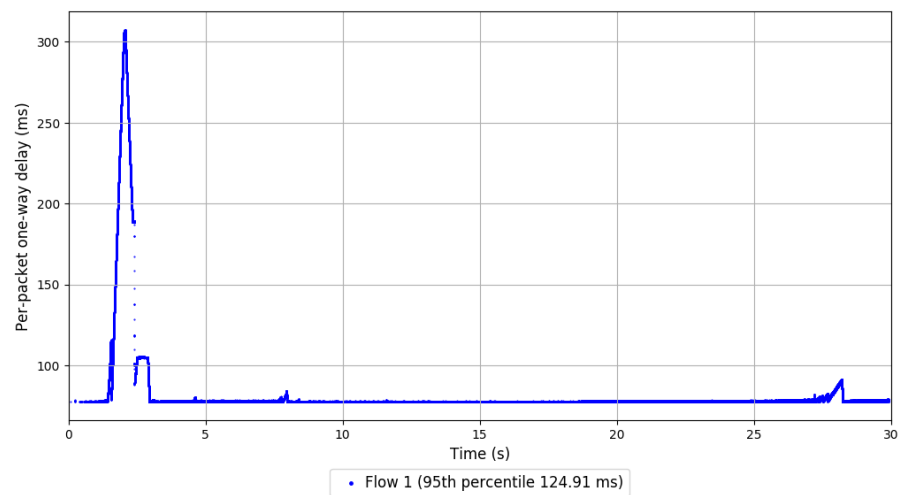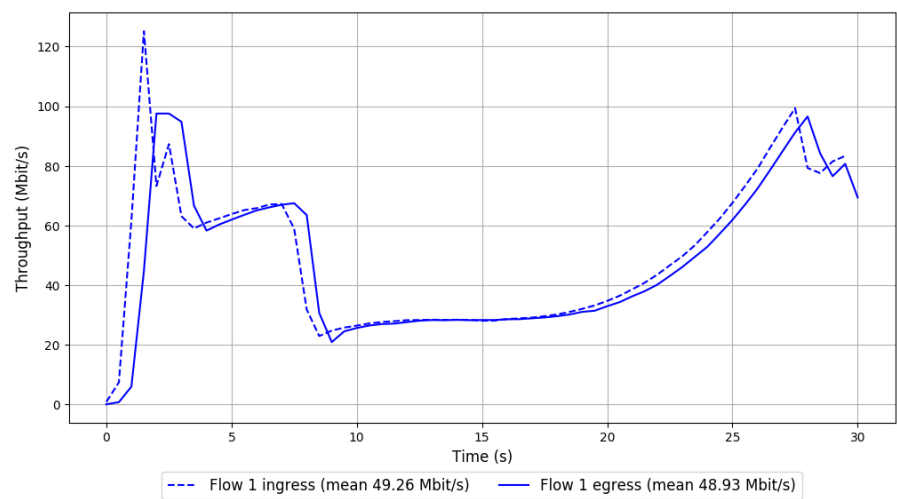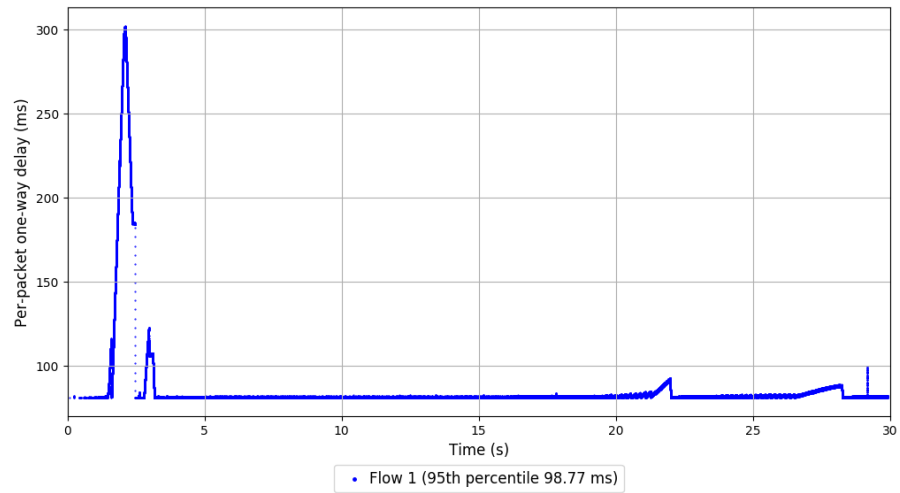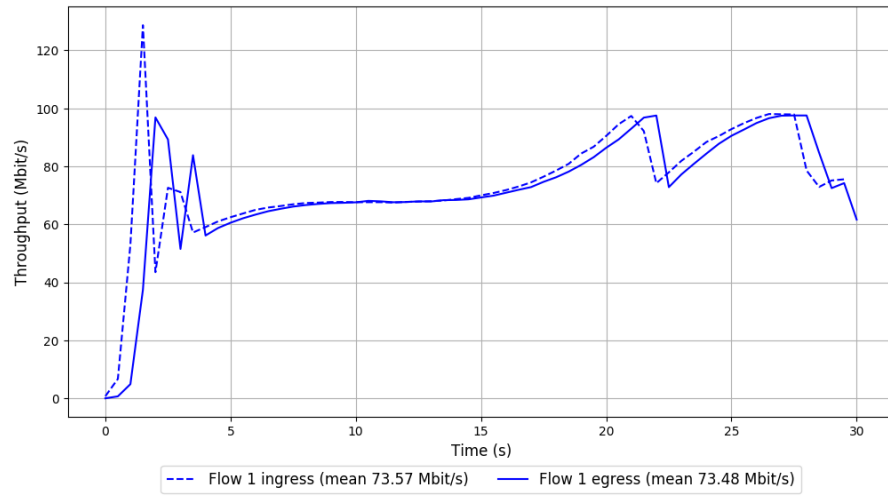
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2018-10-02 14:00:37
End at: 2018-10-02 14:01:07
Local clock offset: -5.722 ms
Remote clock offset: -1.752 ms


# Below is generated by plot.py at 2018-10-02 15:14:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.48 Mbit/s
95th percentile per-packet one-way delay: 98.772 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 73.48 Mbit/s
95th percentile per-packet one-way delay: 98.772 ms
Loss rate: 0.68%
```
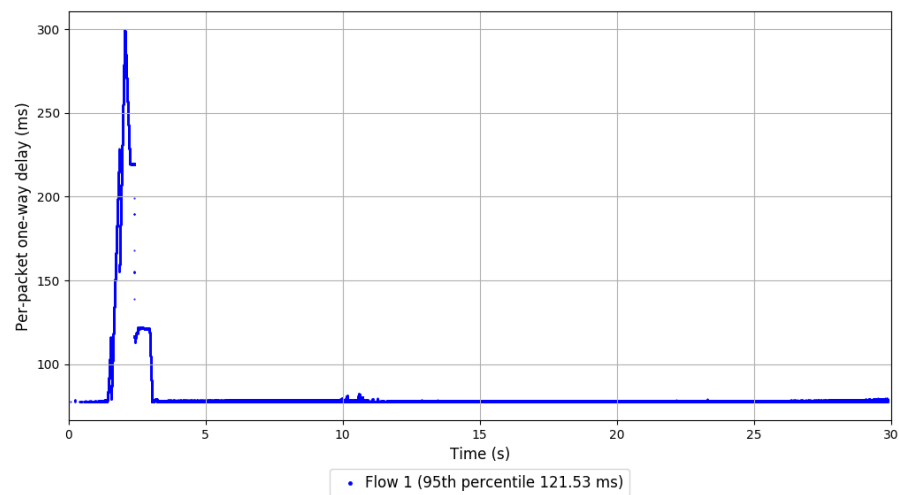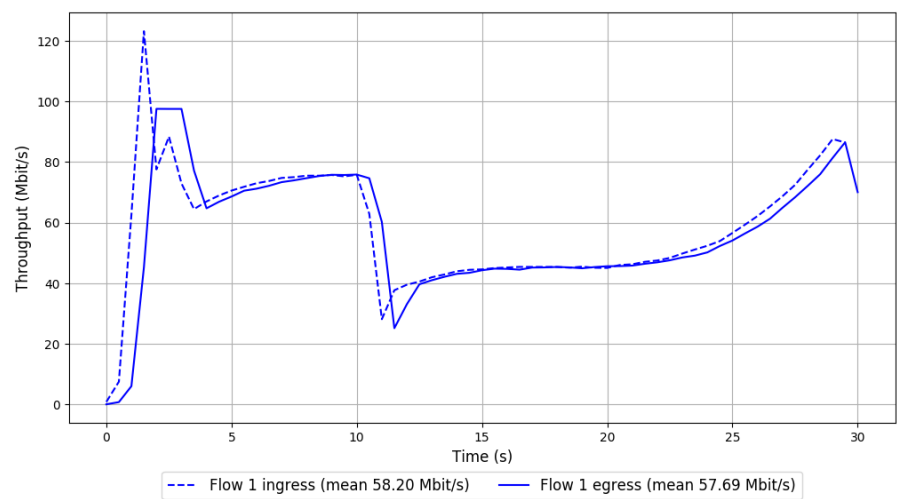
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 73.57 Mbit/s) --- Flow 1 egress (mean 73.48 Mbit/s)

Flow 1 (95th percentile 98.77 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2018-10-02 14:22:27
End at: 2018-10-02 14:22:57
Local clock offset: -6.17 ms
Remote clock offset: 2.37 ms


# Below is generated by plot.py at 2018-10-02 15:14:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.69 Mbit/s
95th percentile per-packet one-way delay: 121.526 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 57.69 Mbit/s
95th percentile per-packet one-way delay: 121.526 ms
Loss rate: 1.41%
```
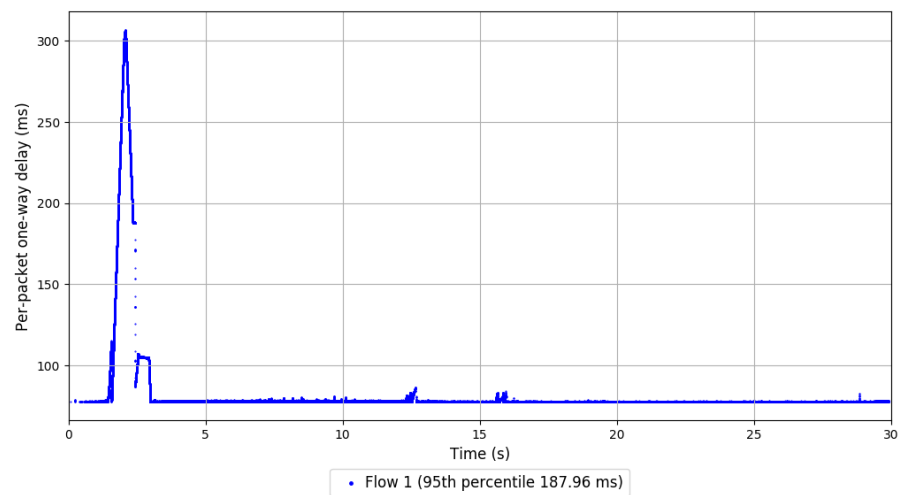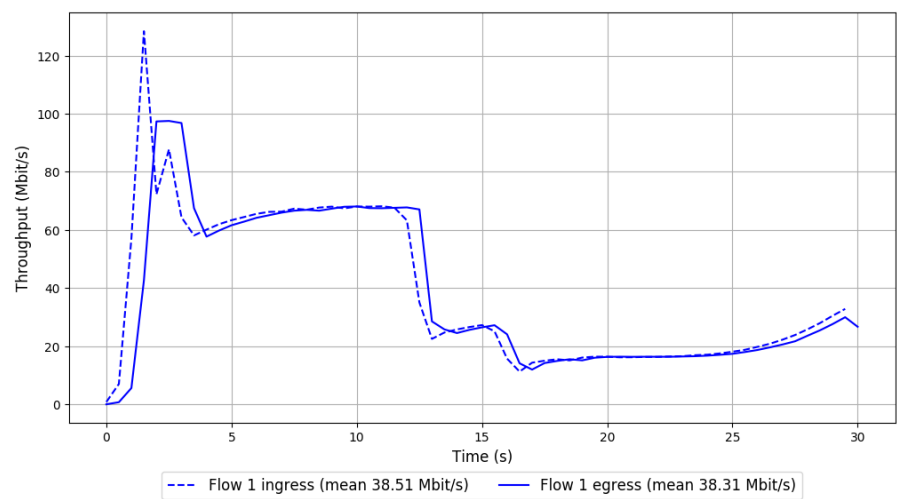
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 58.20 Mbit/s) —— Flow 1 egress (mean 57.69 Mbit/s)

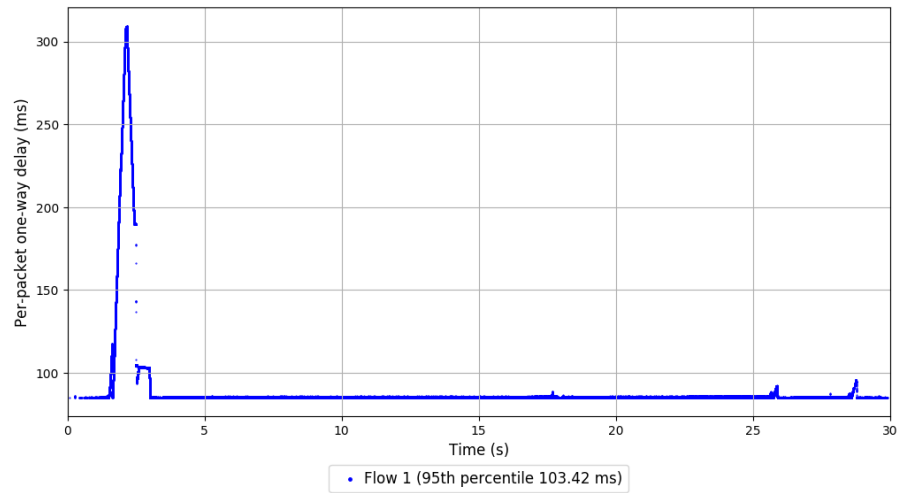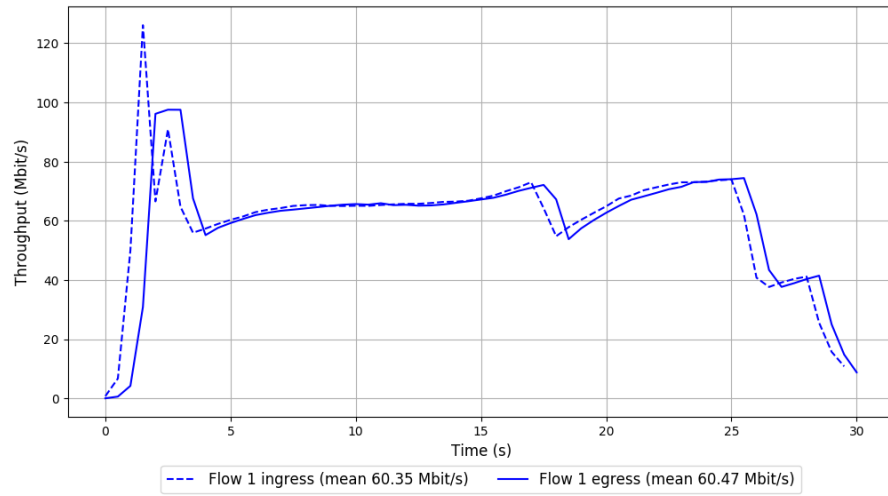
• Flow 1 (95th percentile 121.53 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2018-10-02 14:43:55
End at: 2018-10-02 14:44:25
Local clock offset: -6.492 ms
Remote clock offset: 2.419 ms


# Below is generated by plot.py at 2018-10-02 15:14:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 38.31 Mbit/s
95th percentile per-packet one-way delay: 187.964 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 38.31 Mbit/s
95th percentile per-packet one-way delay: 187.964 ms
Loss rate: 1.07%
```

Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 38.51 Mbit/s)   Flow 1 egress (mean 38.31 Mbit/s)

• Flow 1 (95th percentile 187.96 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2018-10-02 15:05:42
End at: 2018-10-02 15:06:12
Local clock offset: -6.39 ms
Remote clock offset: -2.882 ms


# Below is generated by plot.py at 2018-10-02 15:14:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.47 Mbit/s
95th percentile per-packet one-way delay: 103.415 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 60.47 Mbit/s
95th percentile per-packet one-way delay: 103.415 ms
Loss rate: 0.38%
```
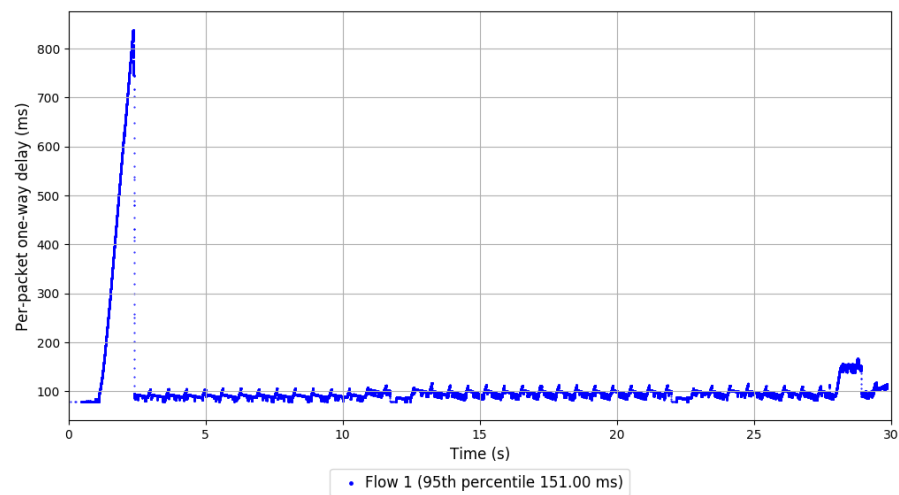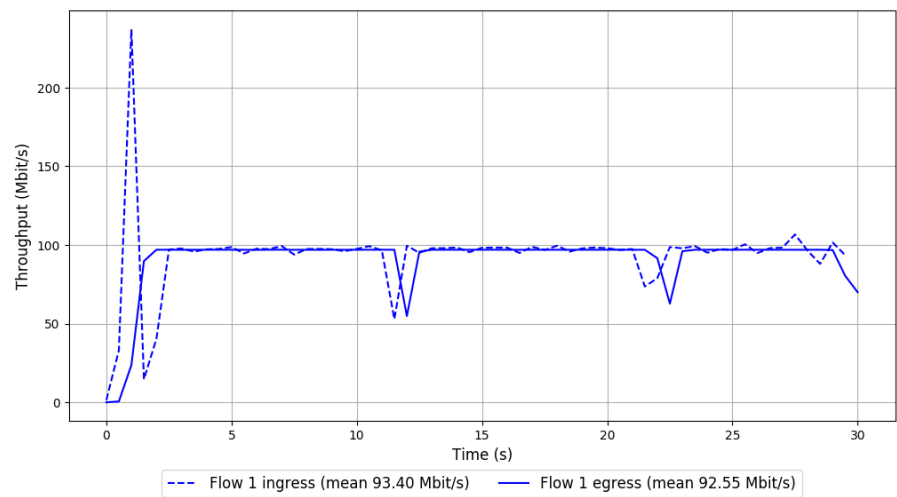
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 60.35 Mbit/s) ---- Flow 1 egress (mean 60.47 Mbit/s) ——
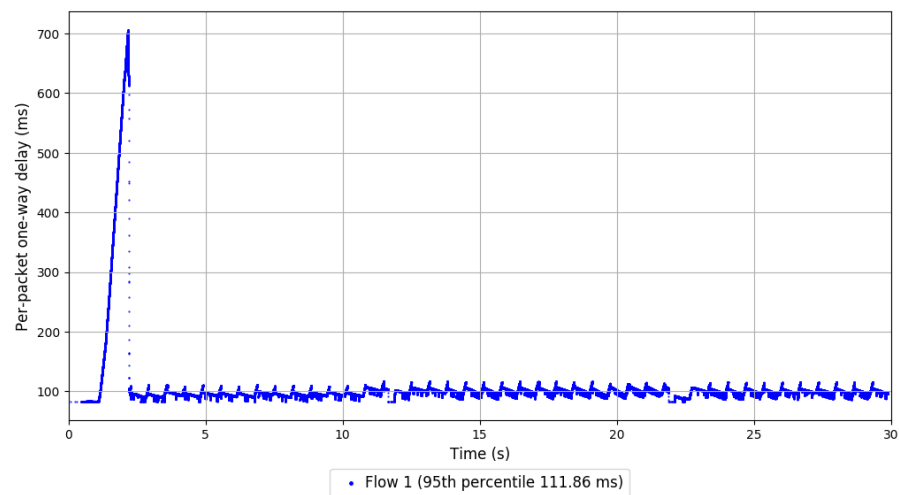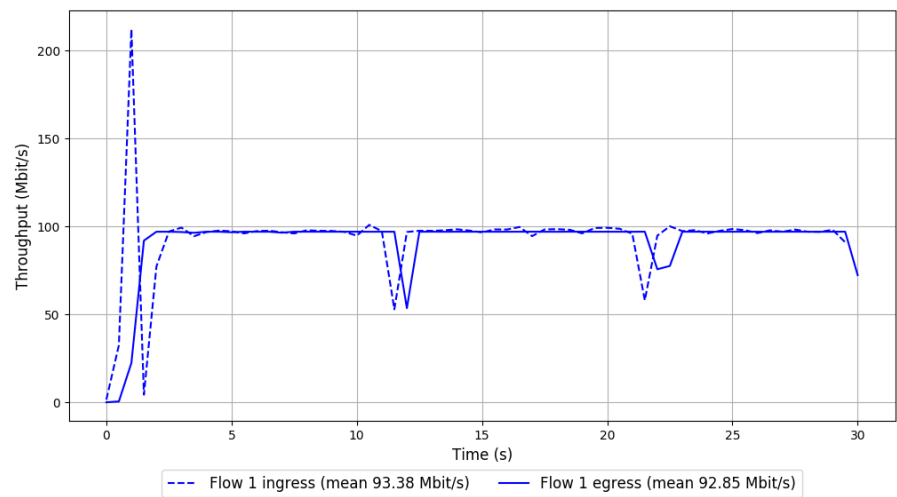

· Flow 1 (95th percentile 103.42 ms)

```
Run 1: Statistics of FillP

Start at: 2018-10-02 13:30:38
End at: 2018-10-02 13:31:08
Local clock offset: -4.927 ms
Remote clock offset: 3.264 ms


# Below is generated by plot.py at 2018-10-02 15:15:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.55 Mbit/s
95th percentile per-packet one-way delay: 151.001 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 92.55 Mbit/s
95th percentile per-packet one-way delay: 151.001 ms
Loss rate: 1.50%
```

Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2018-10-02 13:52:13
End at: 2018-10-02 13:52:43
Local clock offset: -5.431 ms
Remote clock offset: -2.809 ms


# Below is generated by plot.py at 2018-10-02 15:15:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.85 Mbit/s
95th percentile per-packet one-way delay: 111.858 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 92.85 Mbit/s
95th percentile per-packet one-way delay: 111.858 ms
Loss rate: 1.14%
```

Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2018-10-02 14:13:53
End at: 2018-10-02 14:14:23
Local clock offset: -5.947 ms
Remote clock offset: 3.299 ms


# Below is generated by plot.py at 2018-10-02 15:15:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.61 Mbit/s
95th percentile per-packet one-way delay: 141.528 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 91.61 Mbit/s
95th percentile per-packet one-way delay: 141.528 ms
Loss rate: 2.28%
```
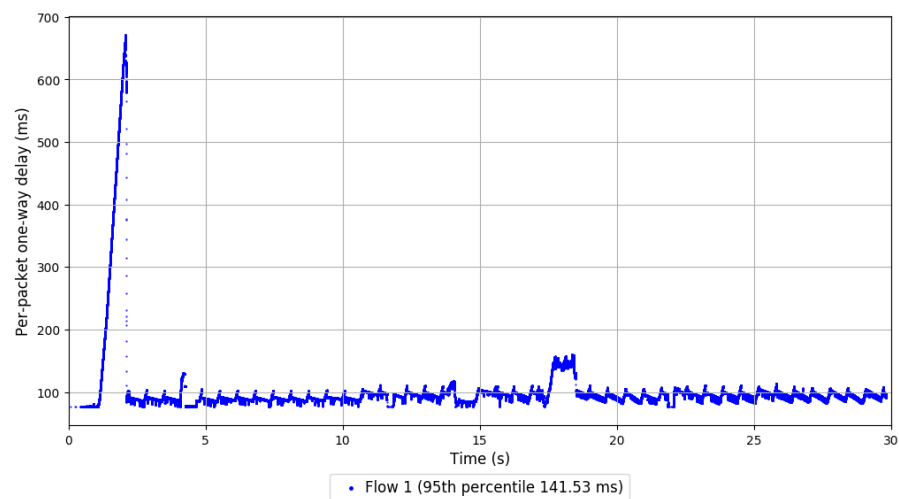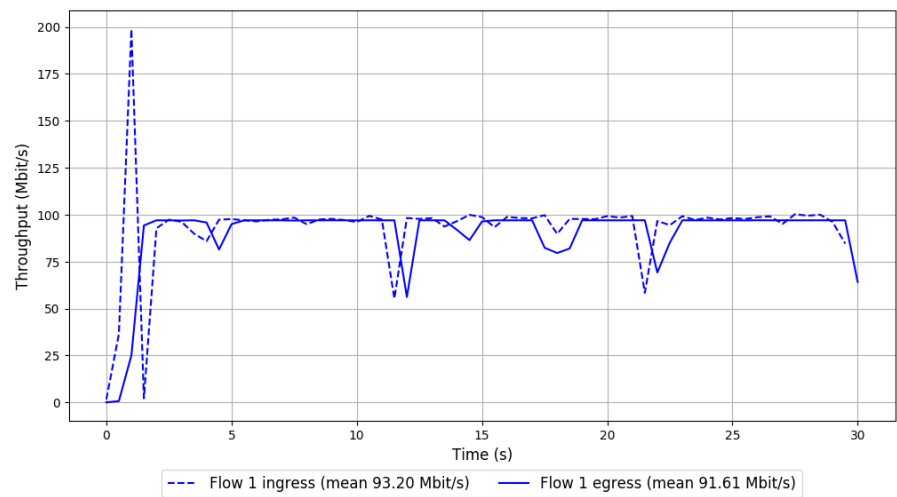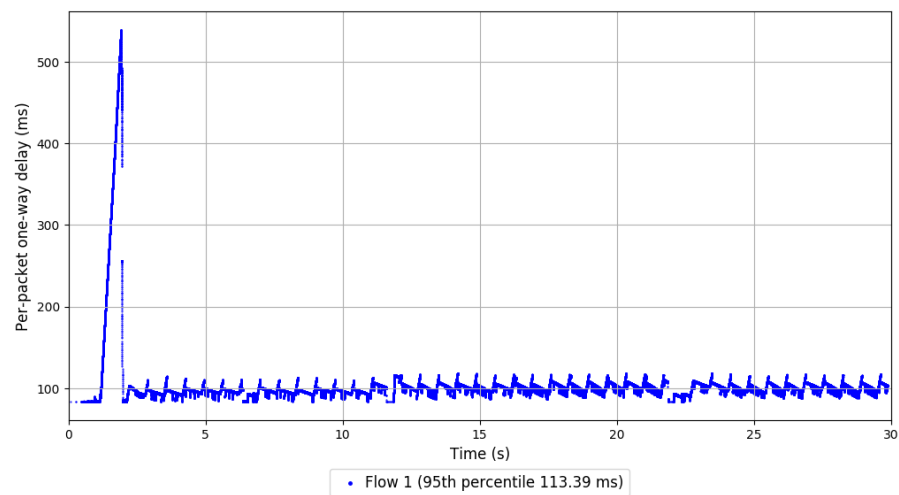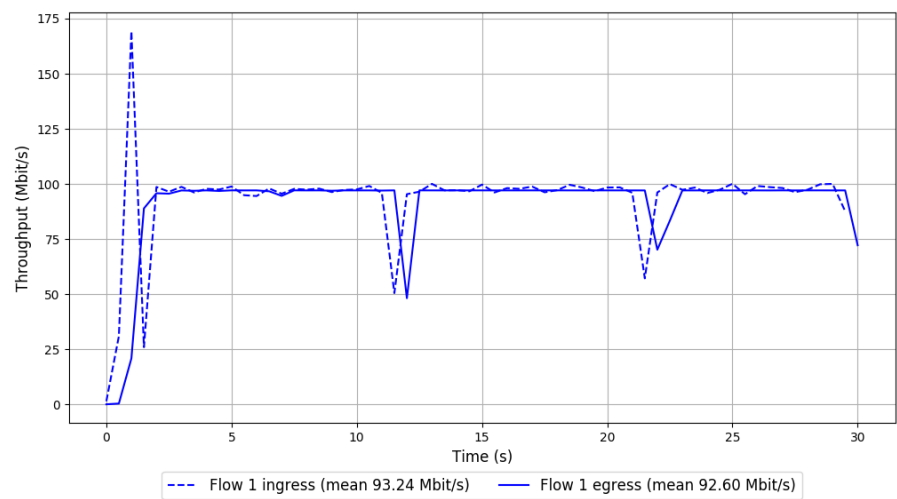
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2018-10-02 14:35:35
End at: 2018-10-02 14:36:05
Local clock offset: -6.431 ms
Remote clock offset: -1.498 ms


# Below is generated by plot.py at 2018-10-02 15:15:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.60 Mbit/s
95th percentile per-packet one-way delay: 113.392 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 92.60 Mbit/s
95th percentile per-packet one-way delay: 113.392 ms
Loss rate: 1.26%
```

Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2018-10-02 14:57:28
End at: 2018-10-02 14:57:58
Local clock offset: -6.378 ms
Remote clock offset: 2.17 ms


# Below is generated by plot.py at 2018-10-02 15:15:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.74 Mbit/s
95th percentile per-packet one-way delay: 109.406 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 92.74 Mbit/s
95th percentile per-packet one-way delay: 109.406 ms
Loss rate: 1.56%
```
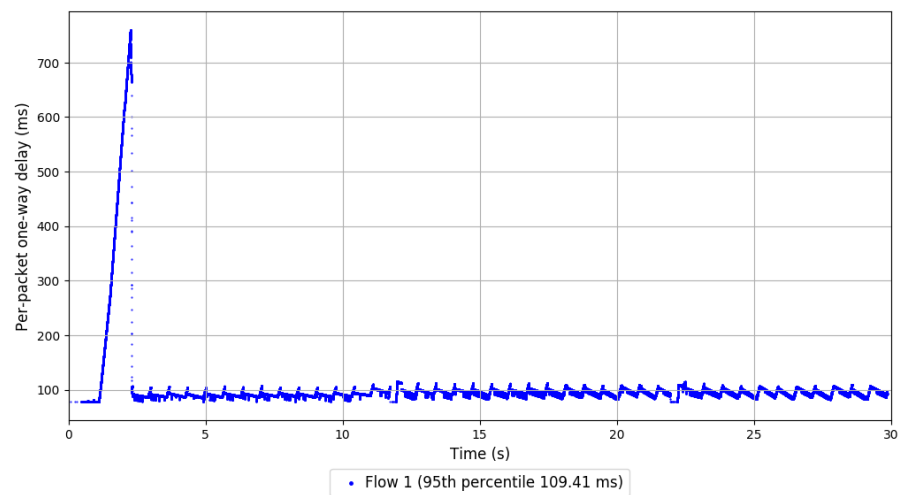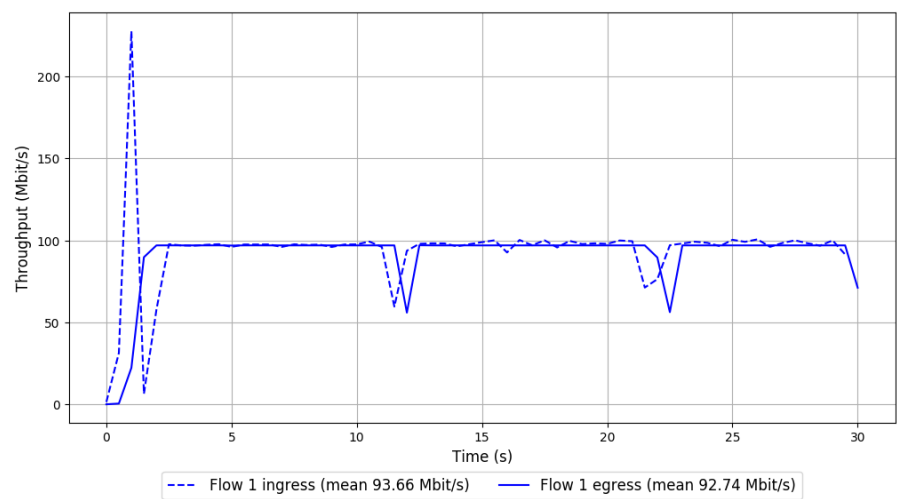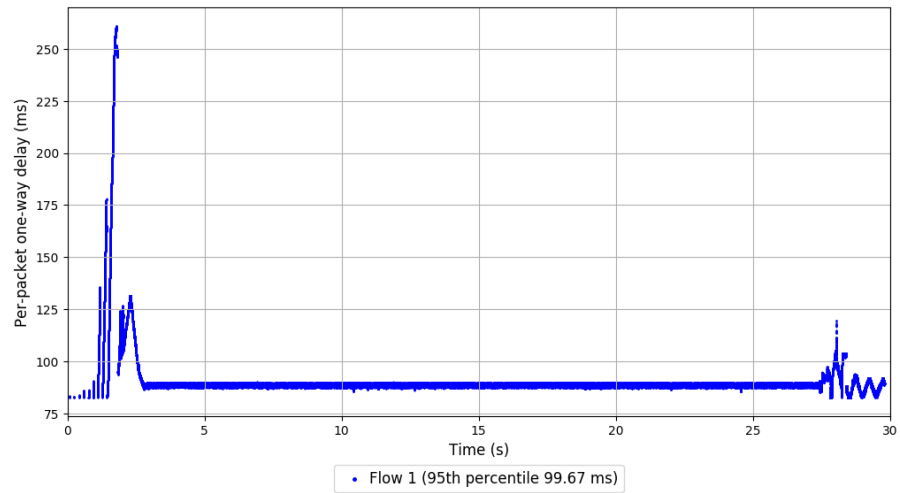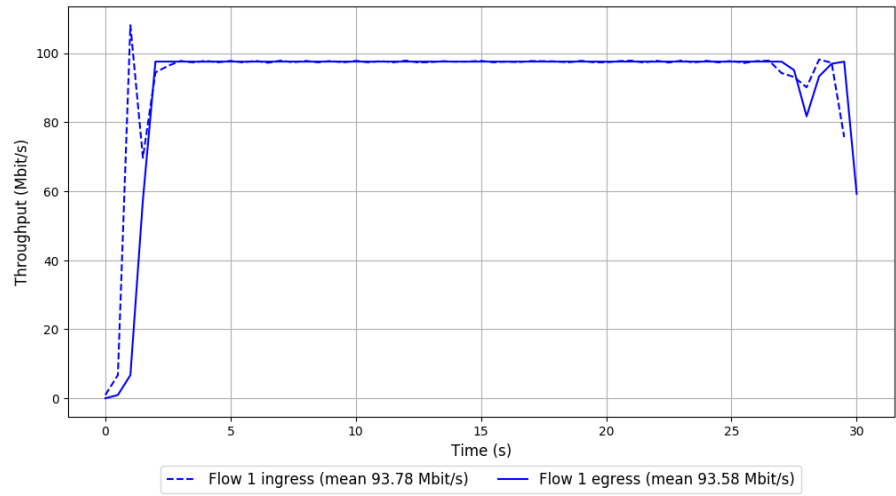
Run 5: Report of FillP — Data Link

Flow 1 ingress (mean 93.66 Mbit/s)   Flow 1 egress (mean 92.74 Mbit/s)

Flow 1 (95th percentile 109.41 ms)

```
Run 1: Statistics of Indigo

Start at: 2018-10-02 13:37:39
End at: 2018-10-02 13:38:10
Local clock offset: -4.91 ms
Remote clock offset: -2.992 ms


# Below is generated by plot.py at 2018-10-02 15:15:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.58 Mbit/s
95th percentile per-packet one-way delay: 99.673 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 93.58 Mbit/s
95th percentile per-packet one-way delay: 99.673 ms
Loss rate: 0.77%
```
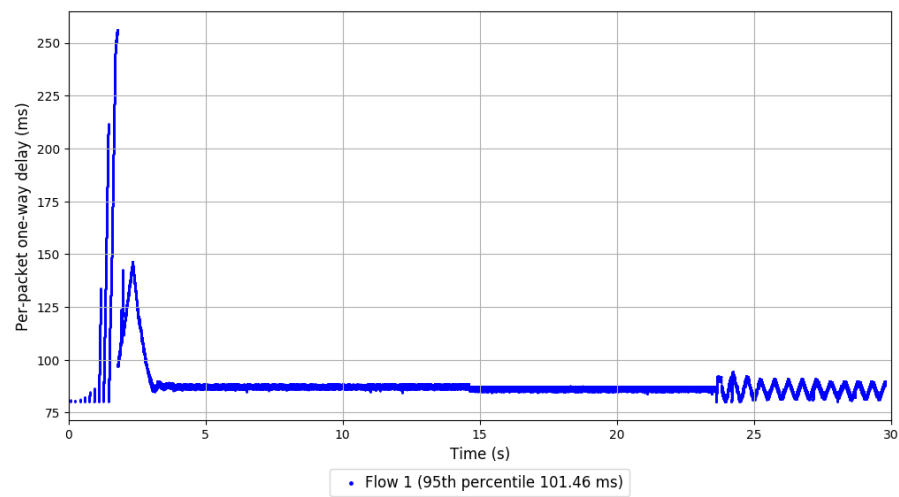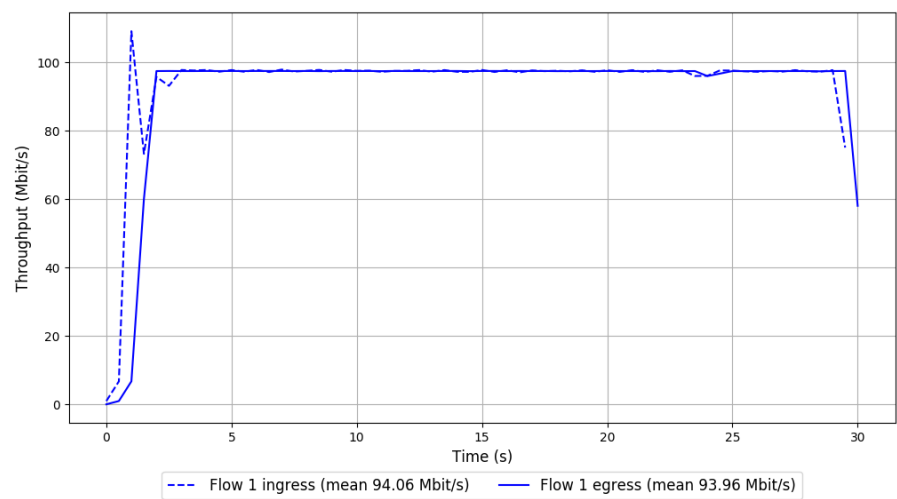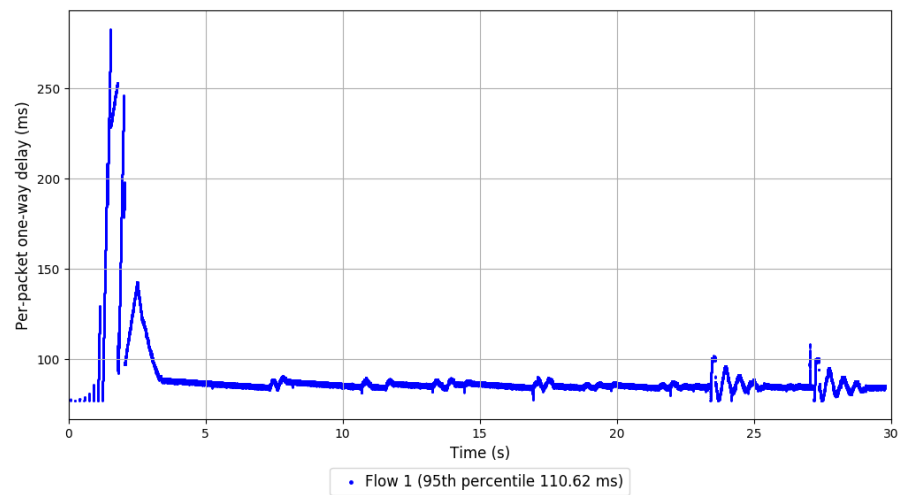
Run 1: Report of Indigo — Data Link

Flow 1 ingress (mean 93.78 Mbit/s)   Flow 1 egress (mean 93.58 Mbit/s)

Flow 1 (95th percentile 99.67 ms)

```
Run 2: Statistics of Indigo

Start at: 2018-10-02 13:59:23
End at: 2018-10-02 13:59:54
Local clock offset: -5.673 ms
Remote clock offset: 2.202 ms


# Below is generated by plot.py at 2018-10-02 15:15:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.96 Mbit/s
95th percentile per-packet one-way delay: 101.460 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 93.96 Mbit/s
95th percentile per-packet one-way delay: 101.460 ms
Loss rate: 0.66%
```

Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 94.06 Mbit/s) ——— Flow 1 egress (mean 93.96 Mbit/s)

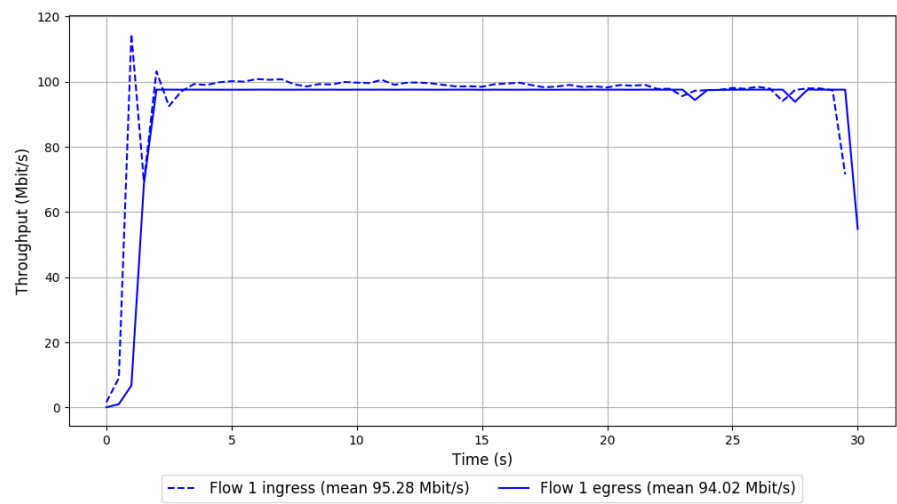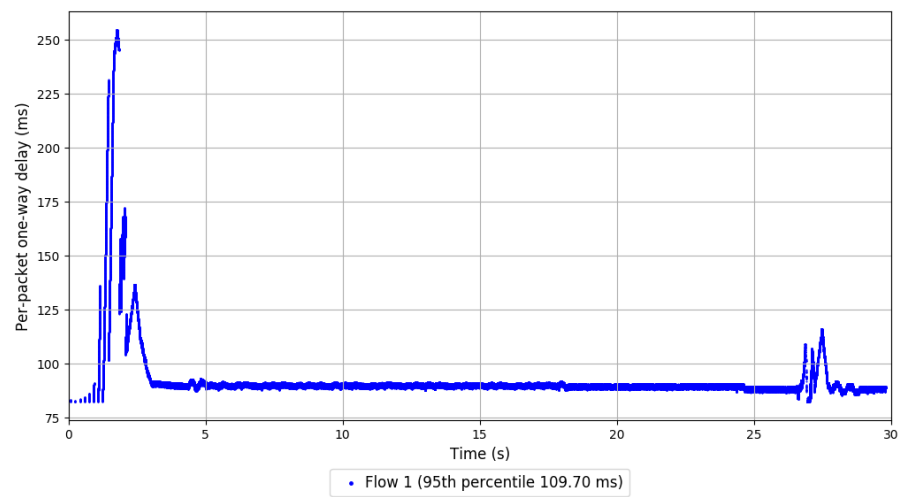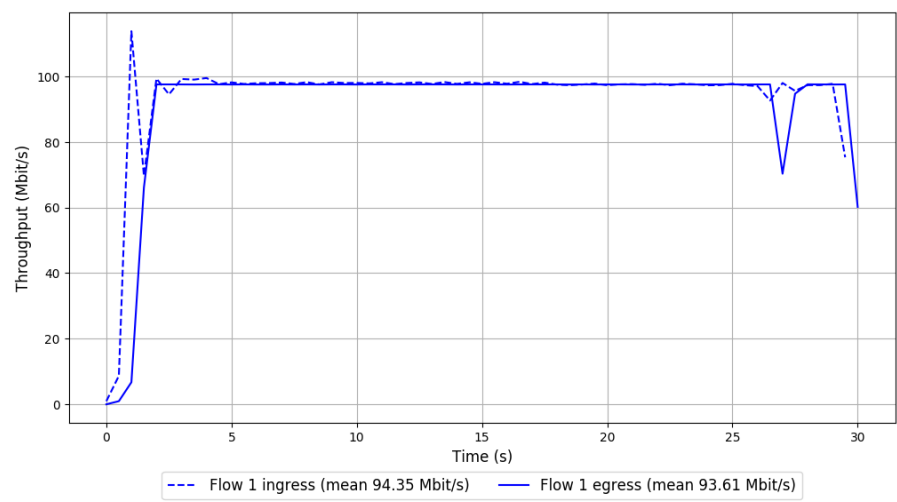• Flow 1 (95th percentile 101.46 ms)

```
Run 3: Statistics of Indigo

Start at: 2018-10-02 14:21:13
End at: 2018-10-02 14:21:43
Local clock offset: -6.124 ms
Remote clock offset: 2.26 ms


# Below is generated by plot.py at 2018-10-02 15:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.02 Mbit/s
95th percentile per-packet one-way delay: 110.625 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 94.02 Mbit/s
95th percentile per-packet one-way delay: 110.625 ms
Loss rate: 1.86%
```

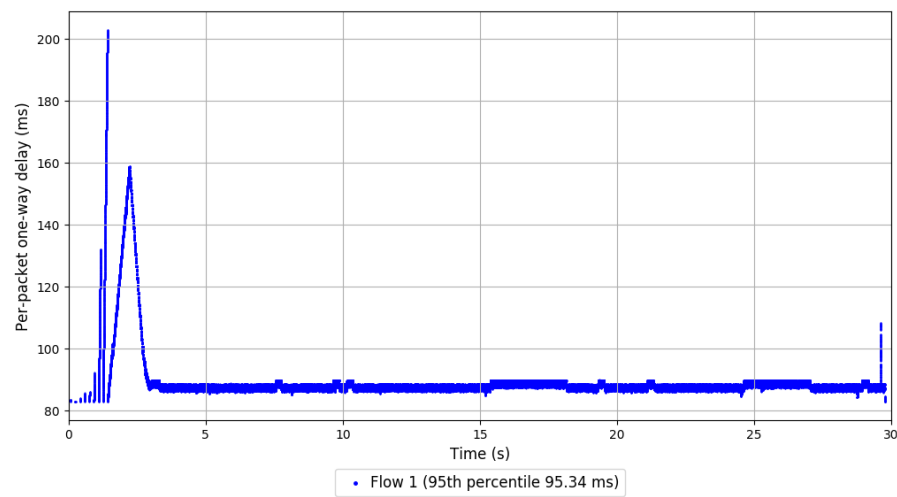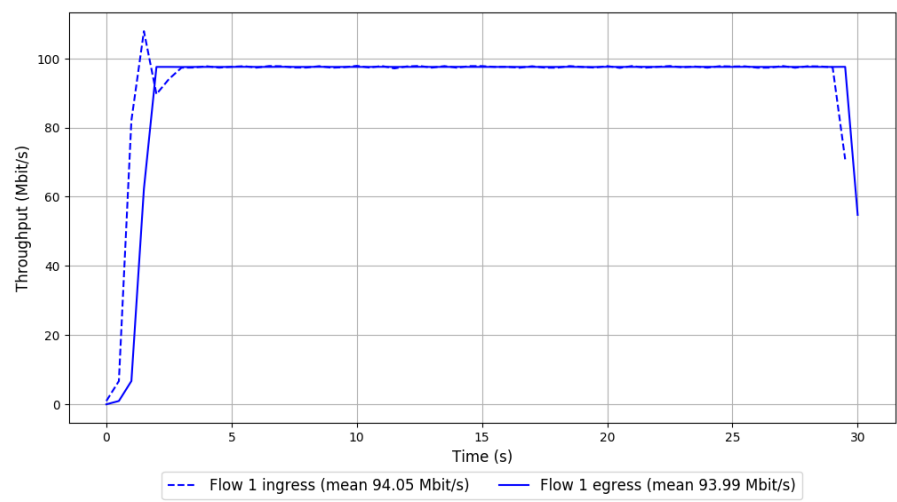Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 95.28 Mbit/s) ——— Flow 1 egress (mean 94.02 Mbit/s)

• Flow 1 (95th percentile 110.62 ms)

```
Run 4: Statistics of Indigo

Start at: 2018-10-02 14:42:40
End at: 2018-10-02 14:43:10
Local clock offset: -6.457 ms
Remote clock offset: -2.662 ms


# Below is generated by plot.py at 2018-10-02 15:16:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.61 Mbit/s
95th percentile per-packet one-way delay: 109.697 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 93.61 Mbit/s
95th percentile per-packet one-way delay: 109.697 ms
Loss rate: 1.32%
```

Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2018-10-02 15:04:28
End at: 2018-10-02 15:04:58
Local clock offset: -6.446 ms
Remote clock offset: -2.838 ms


# Below is generated by plot.py at 2018-10-02 15:16:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.99 Mbit/s
95th percentile per-packet one-way delay: 95.339 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 93.99 Mbit/s
95th percentile per-packet one-way delay: 95.339 ms
Loss rate: 0.61%
```

Run 5: Report of Indigo — Data Link

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

Start at: 2018-10-02 13:26:58
End at: 2018-10-02 13:27:28
Local clock offset: -4.844 ms
Remote clock offset: -1.952 ms


# Below is generated by plot.py at 2018-10-02 15:16:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.53 Mbit/s
95th percentile per-packet one-way delay: 935.560 ms
Loss rate: 3.81%
-- Flow 1:
Average throughput: 65.53 Mbit/s
95th percentile per-packet one-way delay: 935.560 ms
Loss rate: 3.81%
```
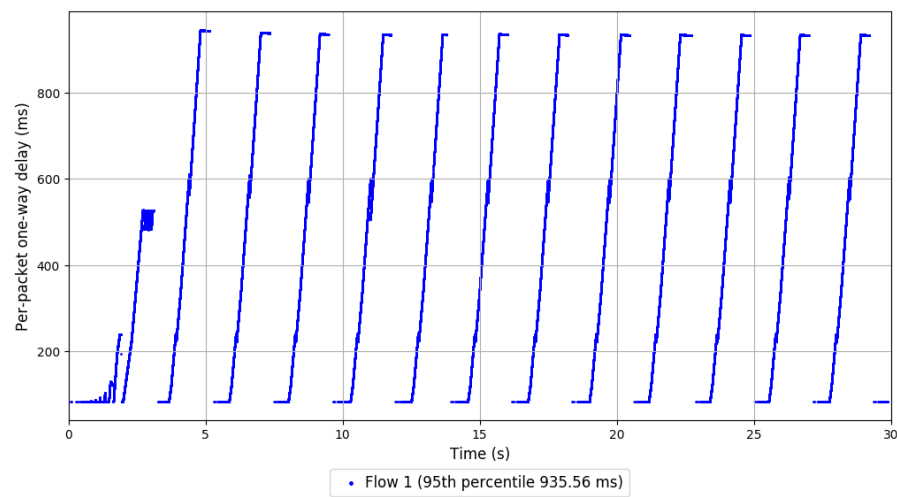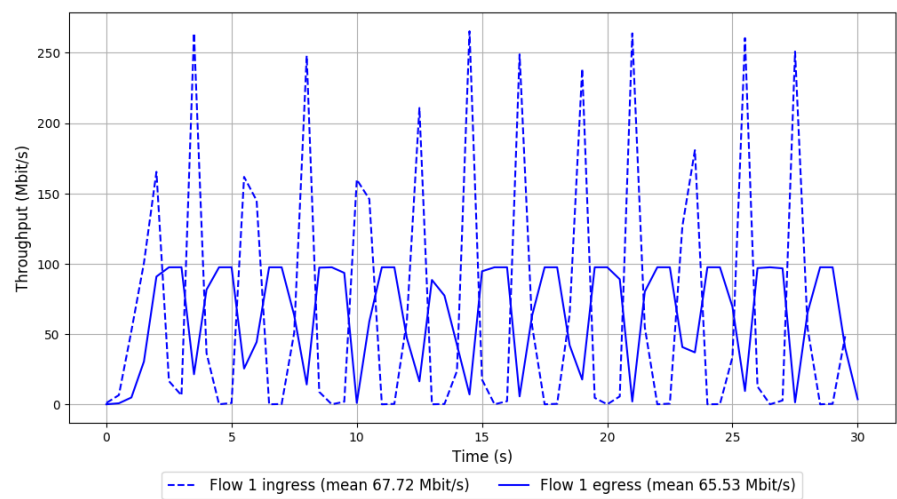
Run 1: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-10-02 13:48:35
End at: 2018-10-02 13:49:05
Local clock offset: -5.072 ms
Remote clock offset: 2.067 ms


# Below is generated by plot.py at 2018-10-02 15:16:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.14 Mbit/s
95th percentile per-packet one-way delay: 209.029 ms
Loss rate: 8.62%
-- Flow 1:
Average throughput: 93.14 Mbit/s
95th percentile per-packet one-way delay: 209.029 ms
Loss rate: 8.62%
```
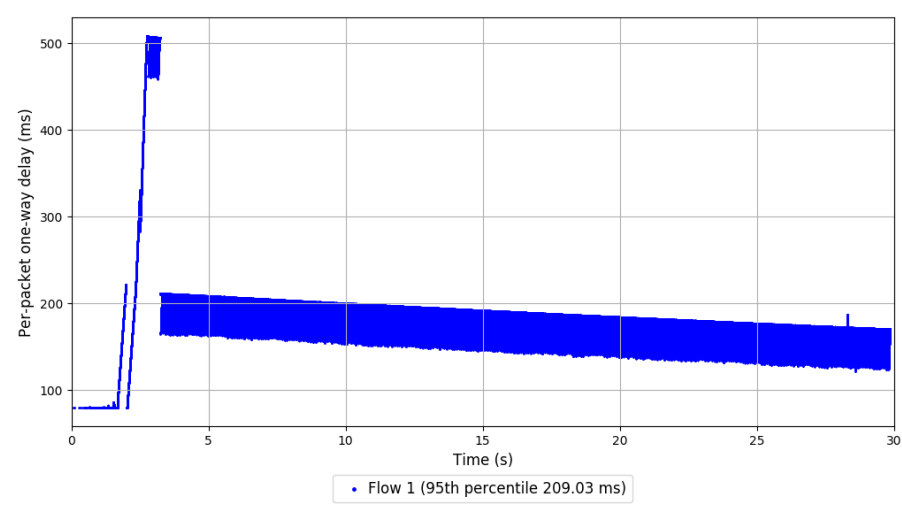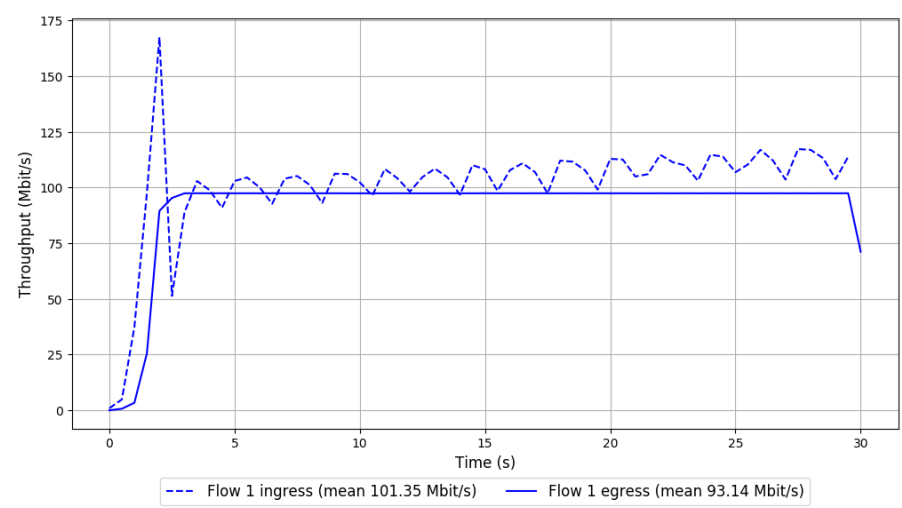
Run 2: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-10-02 14:10:13
End at: 2018-10-02 14:10:43
Local clock offset: -5.966 ms
Remote clock offset: 2.174 ms


# Below is generated by plot.py at 2018-10-02 15:16:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.32 Mbit/s
95th percentile per-packet one-way delay: 929.684 ms
Loss rate: 6.38%
-- Flow 1:
Average throughput: 66.32 Mbit/s
95th percentile per-packet one-way delay: 929.684 ms
Loss rate: 6.38%
```
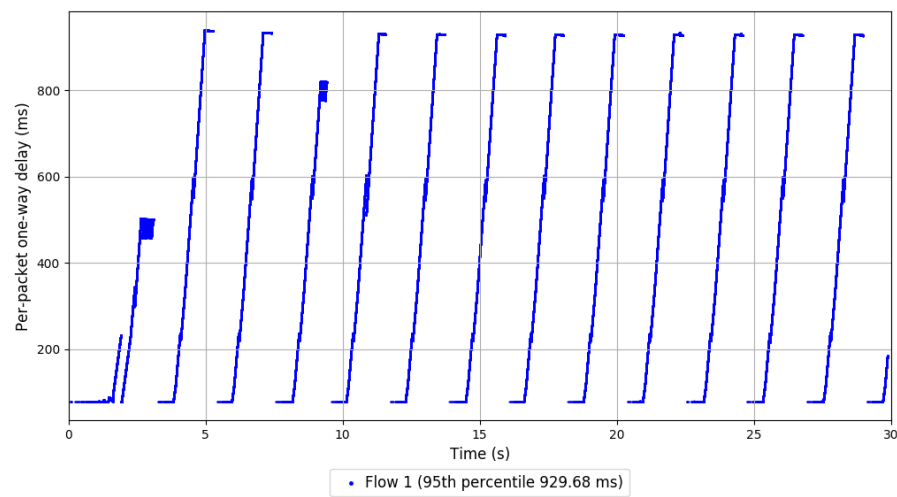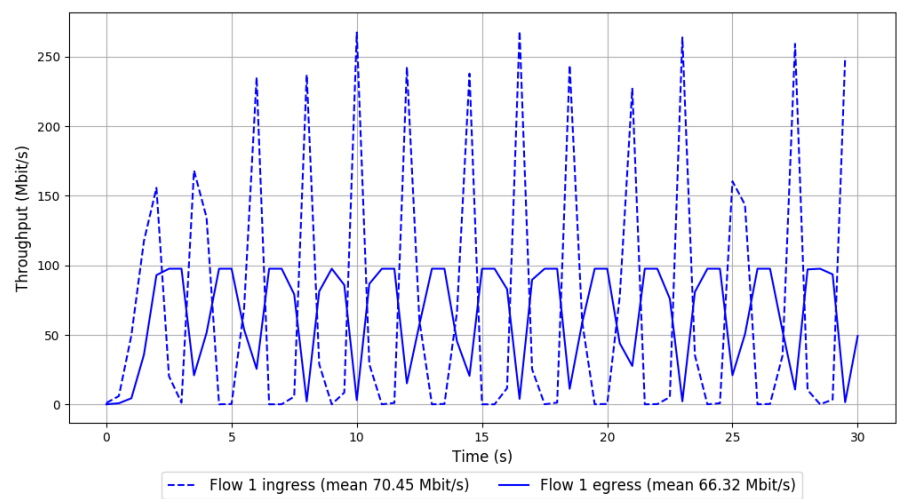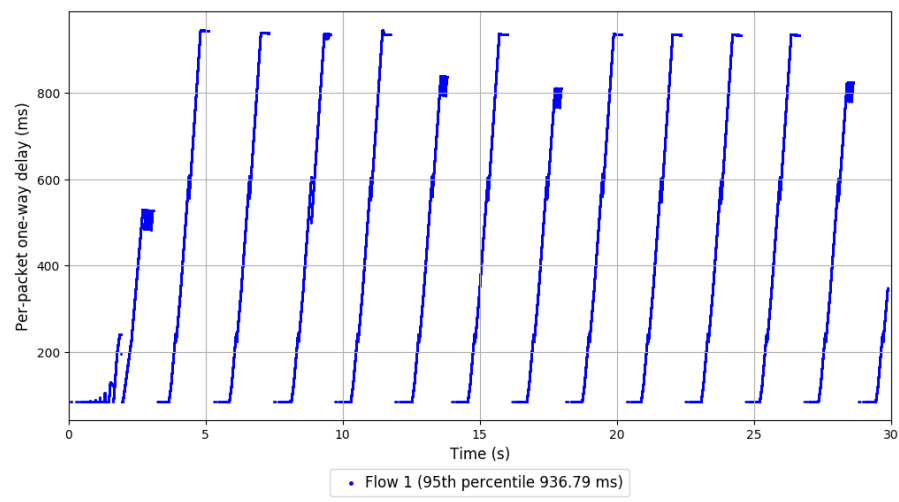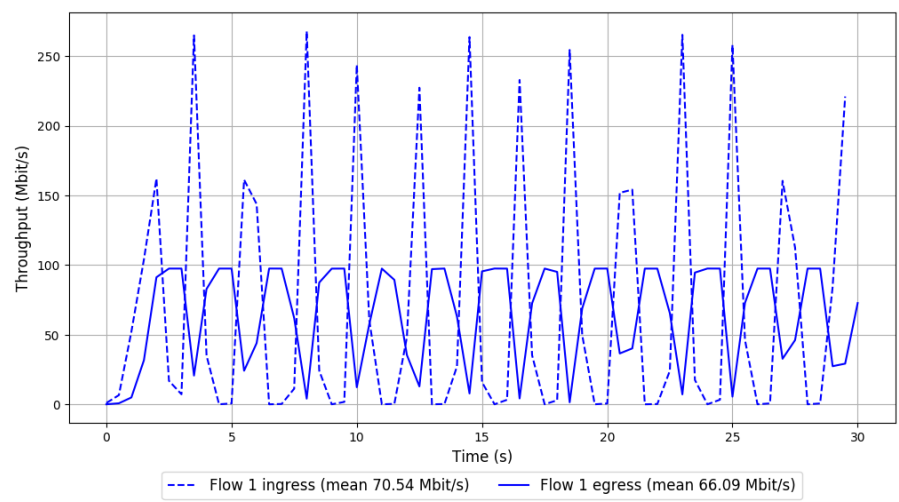
Run 3: Report of Indigo-96d2da3 — Data Link

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

Start at: 2018-10-02 14:31:59
End at: 2018-10-02 14:32:29
Local clock offset: -6.321 ms
Remote clock offset: -1.592 ms


# Below is generated by plot.py at 2018-10-02 15:16:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.09 Mbit/s
95th percentile per-packet one-way delay: 936.787 ms
Loss rate: 6.83%
-- Flow 1:
Average throughput: 66.09 Mbit/s
95th percentile per-packet one-way delay: 936.787 ms
Loss rate: 6.83%
```

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

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

Start at: 2018-10-02 14:53:40
End at: 2018-10-02 14:54:10
Local clock offset: -6.46 ms
Remote clock offset: 2.23 ms


# Below is generated by plot.py at 2018-10-02 15:16:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.98 Mbit/s
95th percentile per-packet one-way delay: 931.820 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 65.98 Mbit/s
95th percentile per-packet one-way delay: 931.820 ms
Loss rate: 2.27%
```
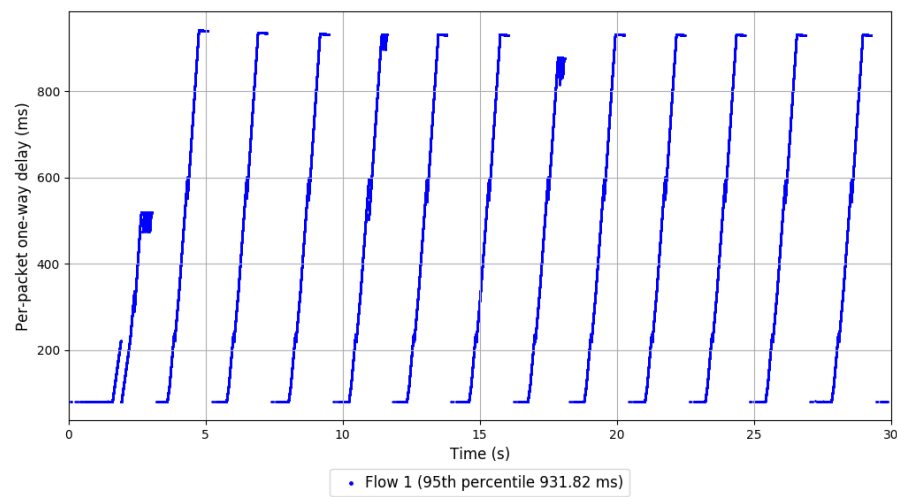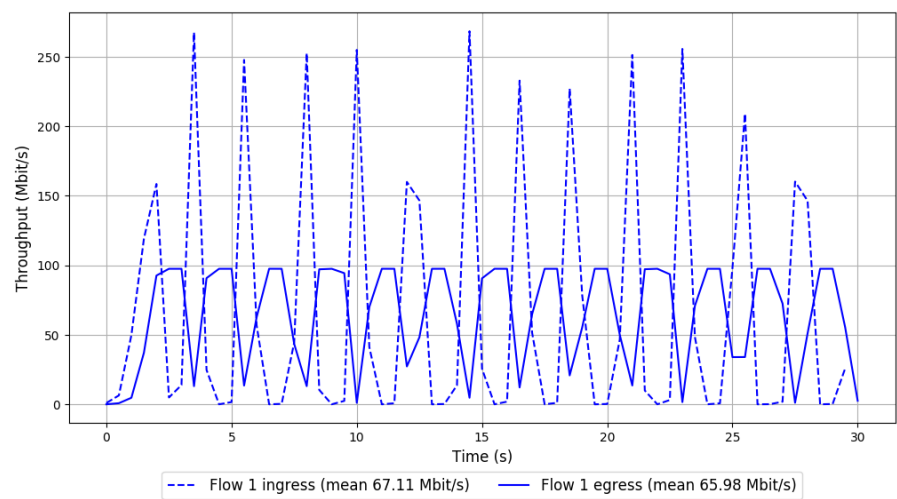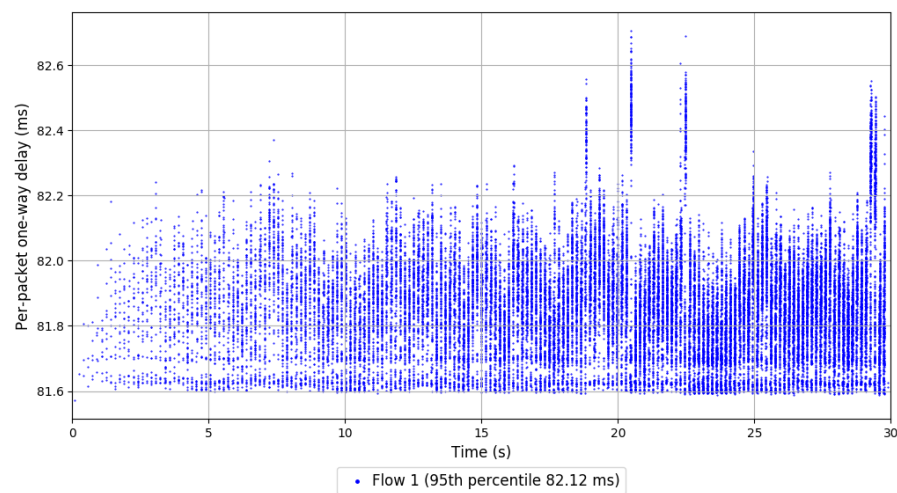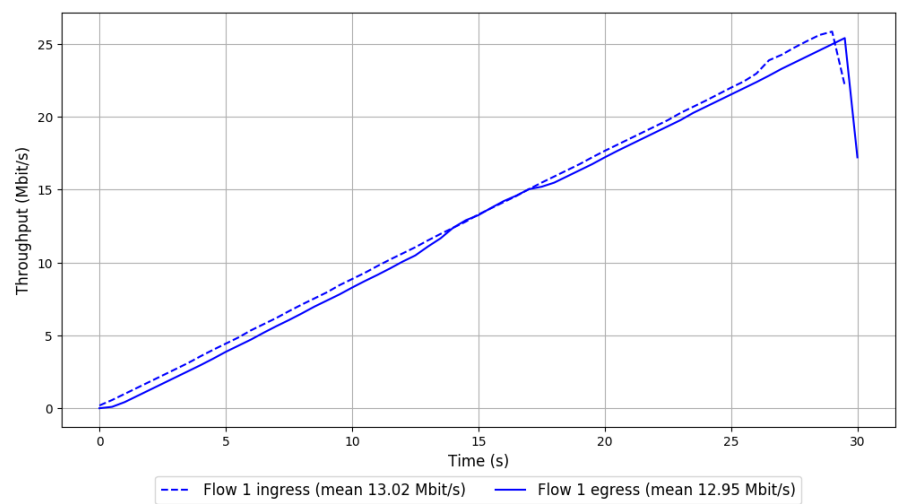
Run 5: Report of Indigo-96d2da3 — Data Link

```
Run 1: Statistics of LEDBAT

Start at: 2018-10-02 13:42:38
End at: 2018-10-02 13:43:08
Local clock offset: -4.831 ms
Remote clock offset: 0.936 ms

# Below is generated by plot.py at 2018-10-02 15:16:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.95 Mbit/s
95th percentile per-packet one-way delay: 82.125 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 12.95 Mbit/s
95th percentile per-packet one-way delay: 82.125 ms
Loss rate: 1.11%
```

Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2018-10-02 14:04:15
End at: 2018-10-02 14:04:45
Local clock offset: -5.806 ms
Remote clock offset: -1.83 ms


# Below is generated by plot.py at 2018-10-02 15:16:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.32 Mbit/s
95th percentile per-packet one-way delay: 82.696 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 13.32 Mbit/s
95th percentile per-packet one-way delay: 82.696 ms
Loss rate: 1.09%
```
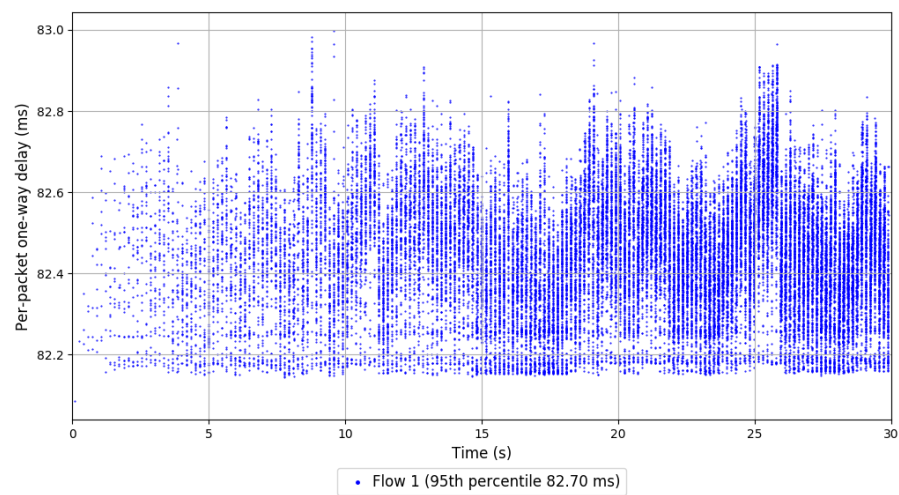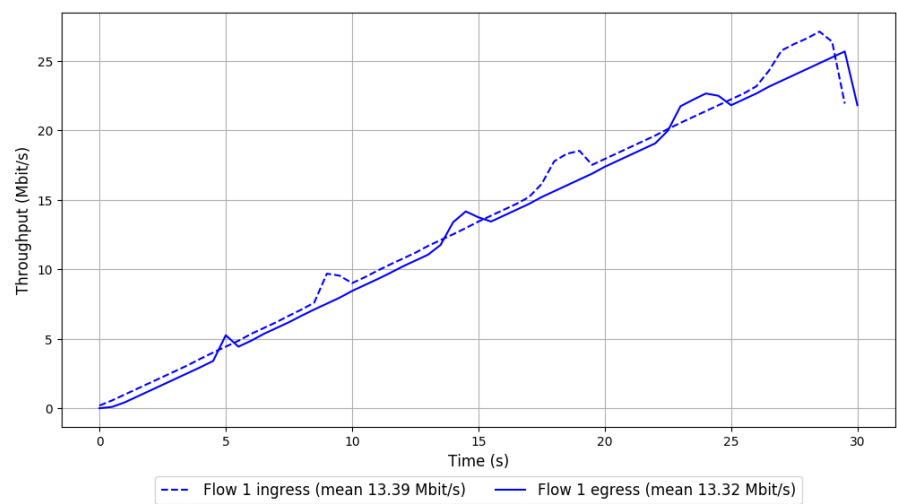
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 13.39 Mbit/s)   Flow 1 egress (mean 13.32 Mbit/s)

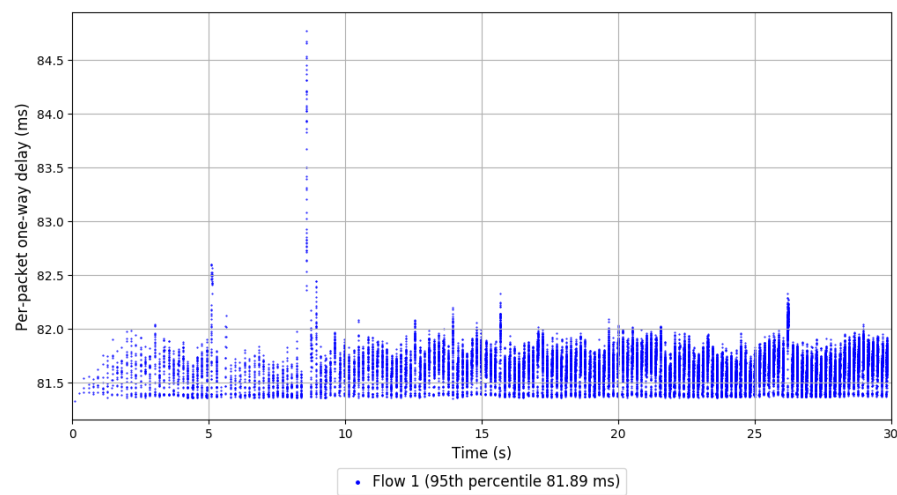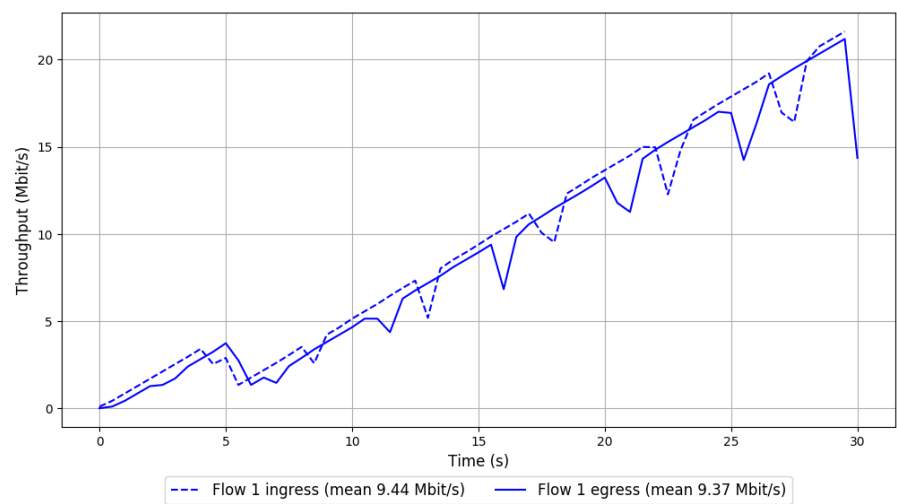Flow 1 (95th percentile 82.70 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2018-10-02 14:26:02
End at: 2018-10-02 14:26:32
Local clock offset: -6.23 ms
Remote clock offset: -1.655 ms


# Below is generated by plot.py at 2018-10-02 15:16:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.37 Mbit/s
95th percentile per-packet one-way delay: 81.887 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 9.37 Mbit/s
95th percentile per-packet one-way delay: 81.887 ms
Loss rate: 1.31%
```

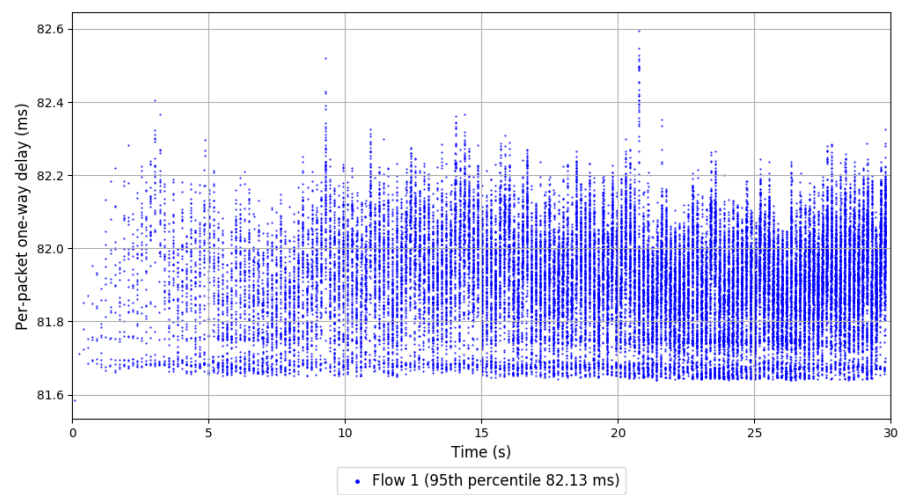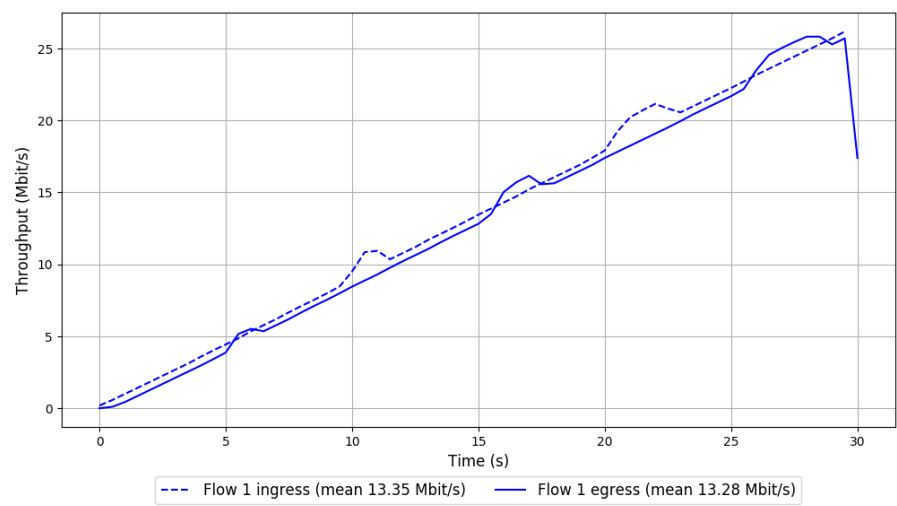Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2018-10-02 14:47:29
End at: 2018-10-02 14:47:59
Local clock offset: -6.516 ms
Remote clock offset: -1.594 ms


# Below is generated by plot.py at 2018-10-02 15:16:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.28 Mbit/s
95th percentile per-packet one-way delay: 82.131 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 13.28 Mbit/s
95th percentile per-packet one-way delay: 82.131 ms
Loss rate: 1.10%
```

Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2018-10-02 15:09:16
End at: 2018-10-02 15:09:46
Local clock offset: -6.391 ms
Remote clock offset: 2.182 ms

# Below is generated by plot.py at 2018-10-02 15:16:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.82 Mbit/s
95th percentile per-packet one-way delay: 80.247 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 12.82 Mbit/s
95th percentile per-packet one-way delay: 80.247 ms
Loss rate: 1.11%
```
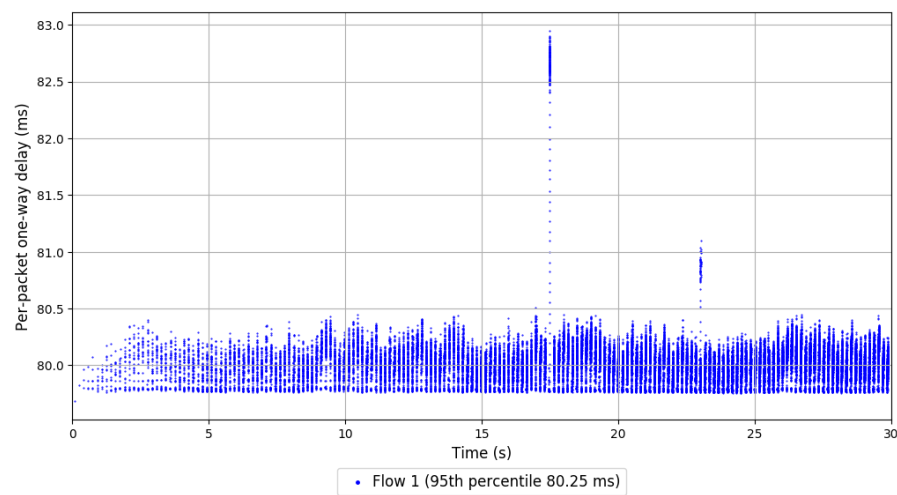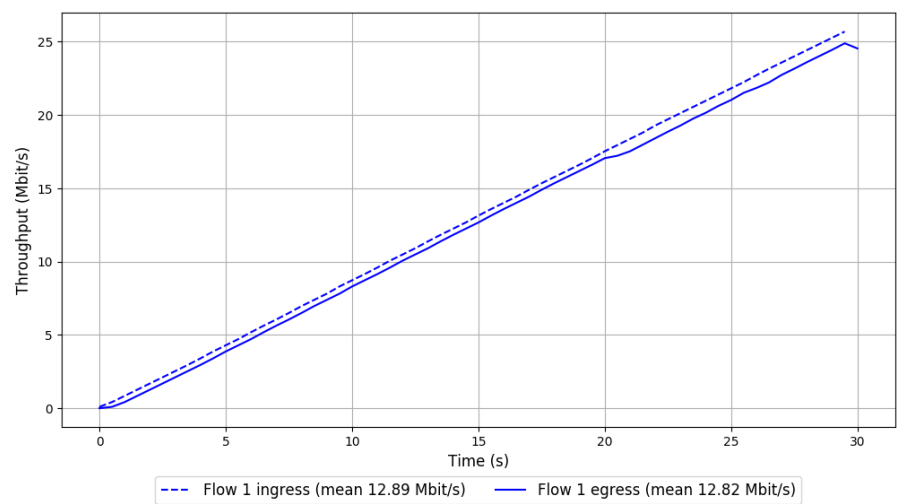
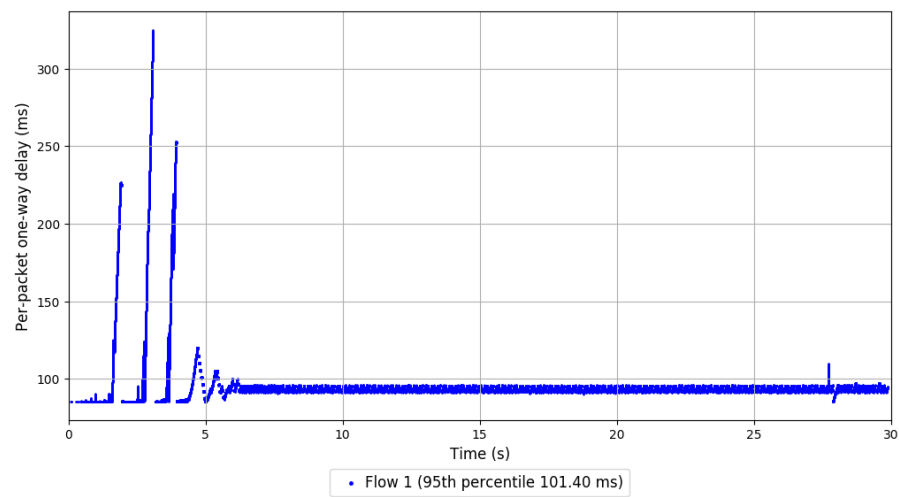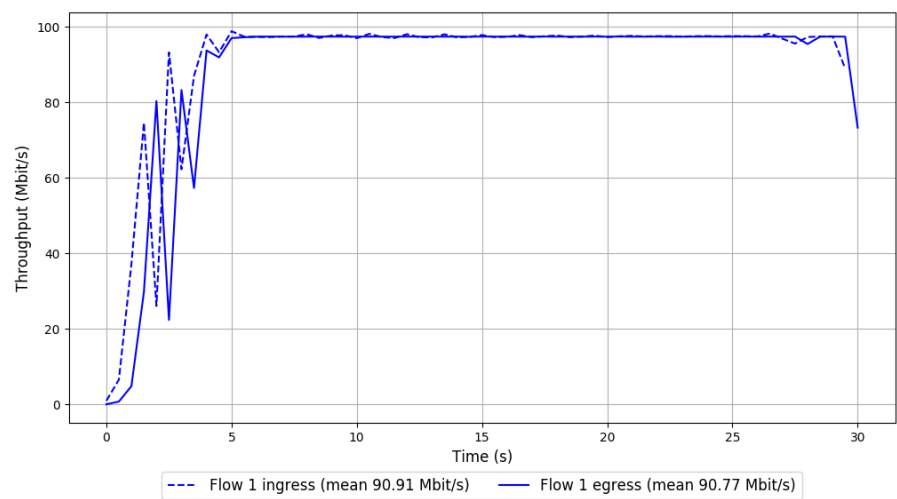# Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-02 13:25:31
End at: 2018-10-02 13:26:01
Local clock offset: -4.852 ms
Remote clock offset: -3.097 ms


# Below is generated by plot.py at 2018-10-02 15:17:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.77 Mbit/s
95th percentile per-packet one-way delay: 101.398 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 90.77 Mbit/s
95th percentile per-packet one-way delay: 101.398 ms
Loss rate: 0.71%
```

Run 1: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 90.91 Mbit/s) — — — Flow 1 egress (mean 90.77 Mbit/s)

• Flow 1 (95th percentile 101.40 ms)

```
Run 2: Statistics of Indigo-Muses

Start at: 2018-10-02 13:47:22
End at: 2018-10-02 13:47:52
Local clock offset: -4.977 ms
Remote clock offset: 3.335 ms

# Below is generated by plot.py at 2018-10-02 15:17:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.42 Mbit/s
95th percentile per-packet one-way delay: 90.938 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 89.42 Mbit/s
95th percentile per-packet one-way delay: 90.938 ms
Loss rate: 0.69%
```
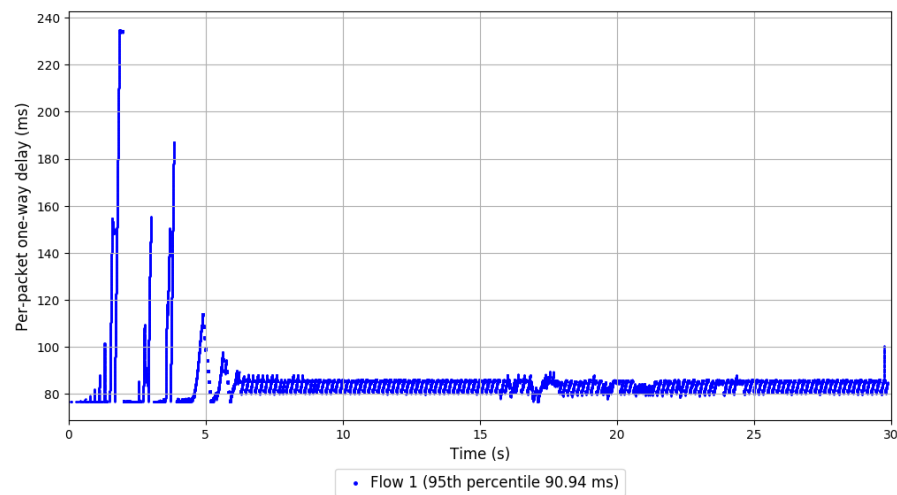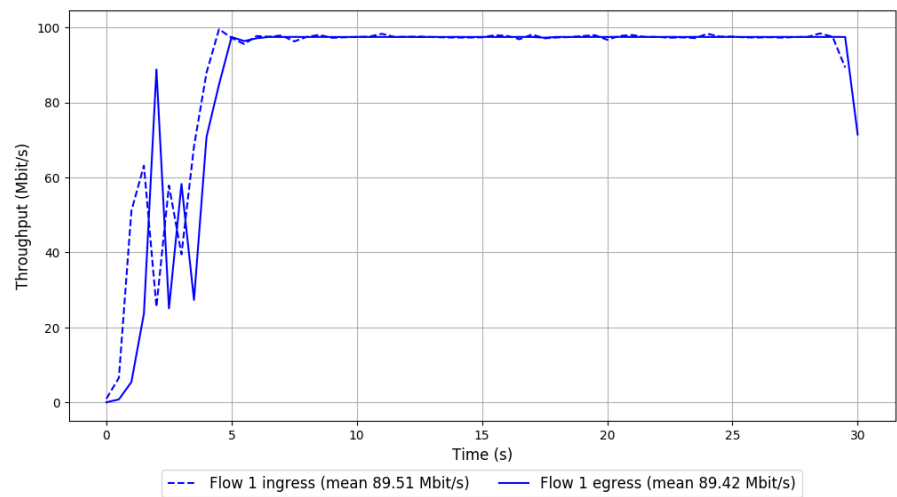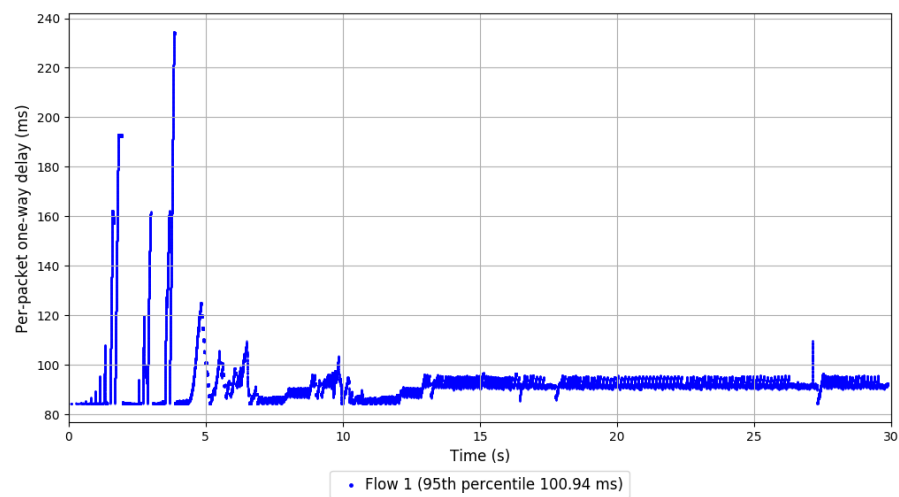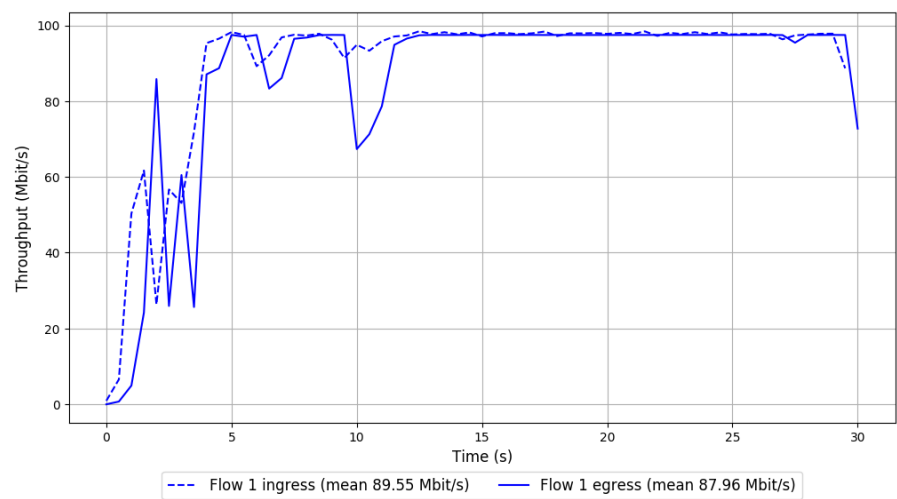
Run 2: Report of Indigo-Muses — Data Link

```
Run 3: Statistics of Indigo-Muses

Start at: 2018-10-02 14:09:01
End at: 2018-10-02 14:09:31
Local clock offset: -5.877 ms
Remote clock offset: -1.777 ms


# Below is generated by plot.py at 2018-10-02 15:17:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.96 Mbit/s
95th percentile per-packet one-way delay: 100.937 ms
Loss rate: 2.31%
-- Flow 1:
Average throughput: 87.96 Mbit/s
95th percentile per-packet one-way delay: 100.937 ms
Loss rate: 2.31%
```

Run 3: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 89.55 Mbit/s) ---- Flow 1 egress (mean 87.96 Mbit/s) ——
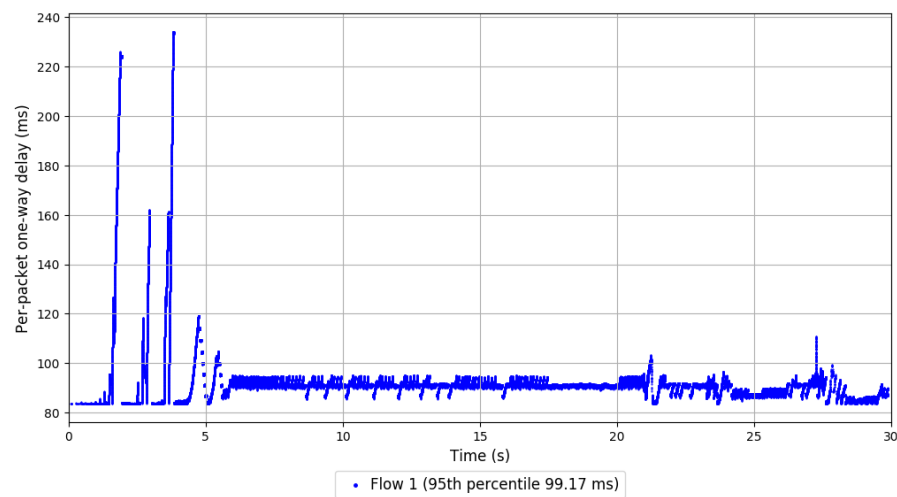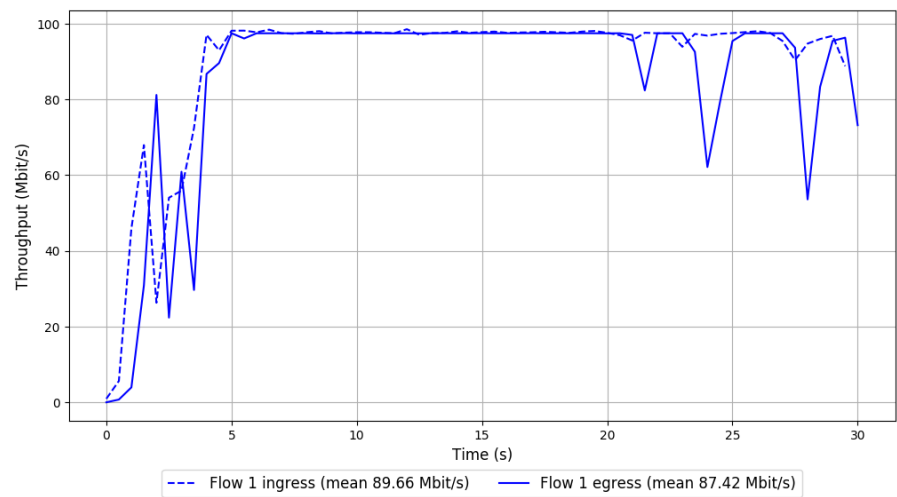

• Flow 1 (95th percentile 100.94 ms)

```
Run 4: Statistics of Indigo-Muses

Start at: 2018-10-02 14:30:47
End at: 2018-10-02 14:31:17
Local clock offset: -6.325 ms
Remote clock offset: -1.541 ms


# Below is generated by plot.py at 2018-10-02 15:17:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.42 Mbit/s
95th percentile per-packet one-way delay: 99.171 ms
Loss rate: 3.03%
-- Flow 1:
Average throughput: 87.42 Mbit/s
95th percentile per-packet one-way delay: 99.171 ms
Loss rate: 3.03%
```

Run 4: Report of Indigo-Muses — Data Link

```
Run 5: Statistics of Indigo-Muses

Start at: 2018-10-02 14:52:28
End at: 2018-10-02 14:52:58
Local clock offset: -6.397 ms
Remote clock offset: 1.148 ms


# Below is generated by plot.py at 2018-10-02 15:17:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.89 Mbit/s
95th percentile per-packet one-way delay: 102.029 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 89.89 Mbit/s
95th percentile per-packet one-way delay: 102.029 ms
Loss rate: 1.13%
```
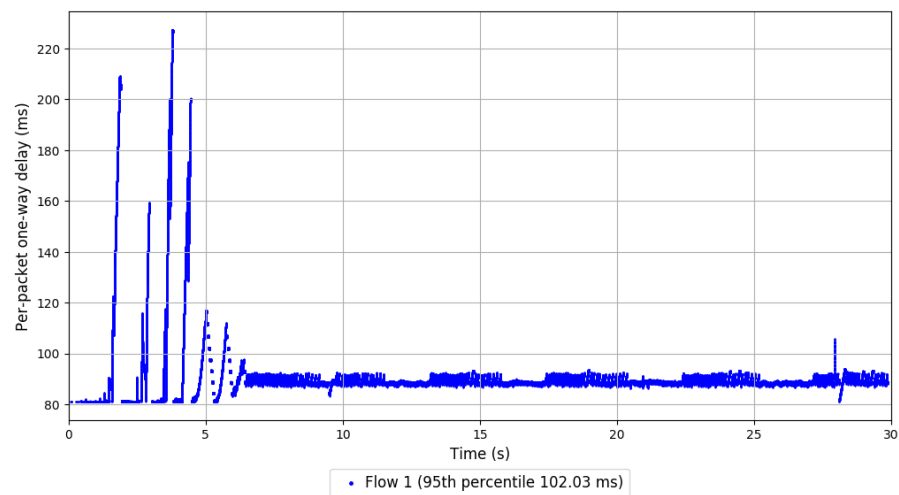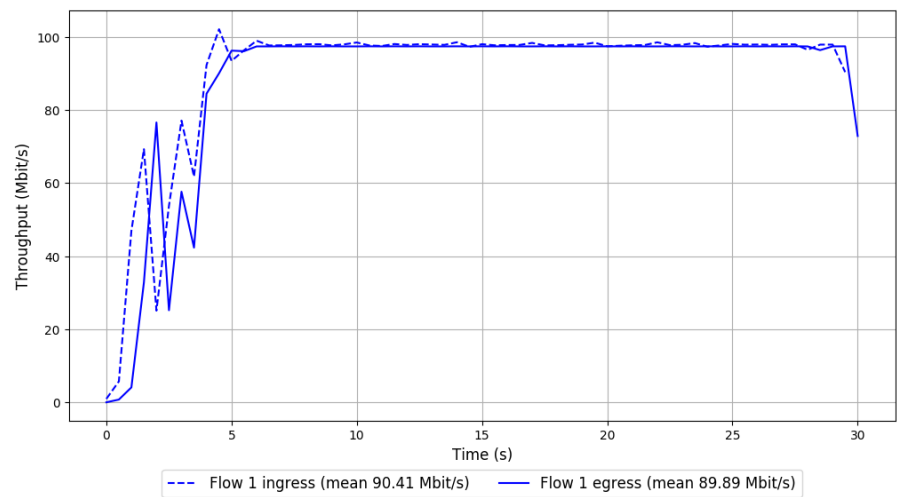
Run 5: Report of Indigo-Muses — Data Link

Flow 1 ingress (mean 90.41 Mbit/s) --- Flow 1 egress (mean 89.89 Mbit/s)

Flow 1 (95th percentile 102.03 ms)

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-02 13:29:27
End at: 2018-10-02 13:29:57
Local clock offset: -4.906 ms
Remote clock offset: -2.979 ms


# Below is generated by plot.py at 2018-10-02 15:17:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.36 Mbit/s
95th percentile per-packet one-way delay: 108.369 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 85.36 Mbit/s
95th percentile per-packet one-way delay: 108.369 ms
Loss rate: 1.33%
```
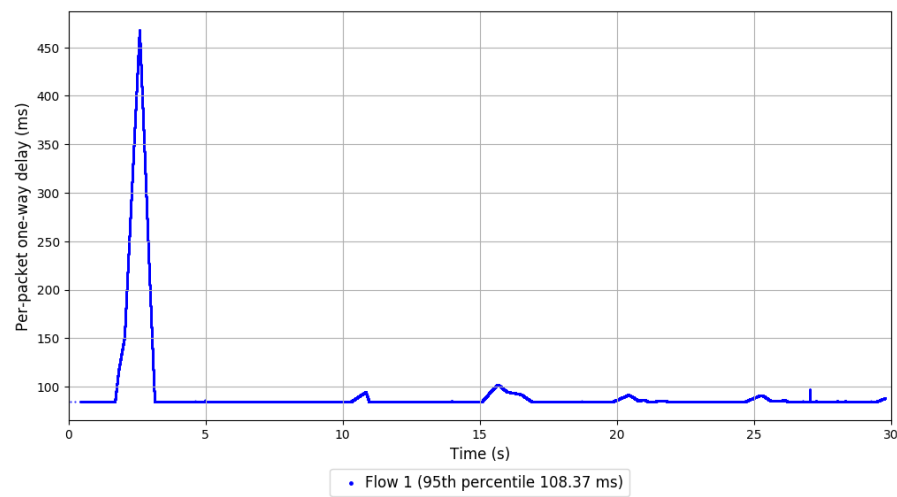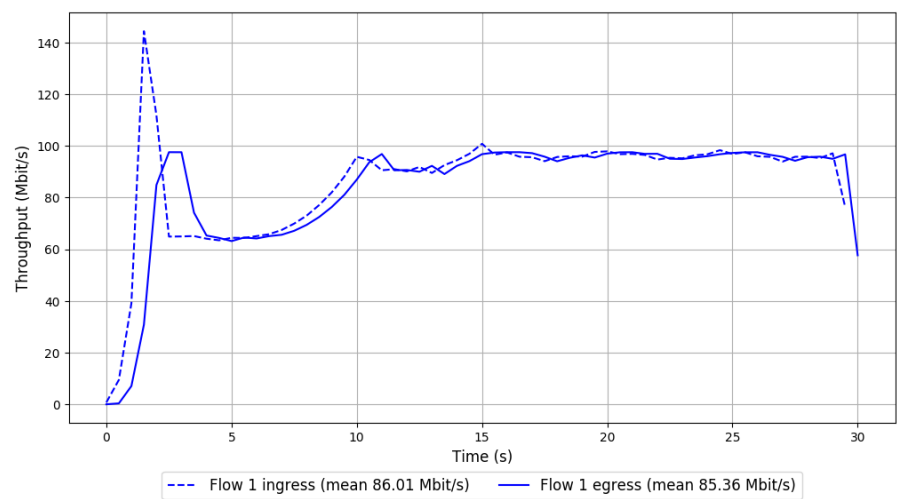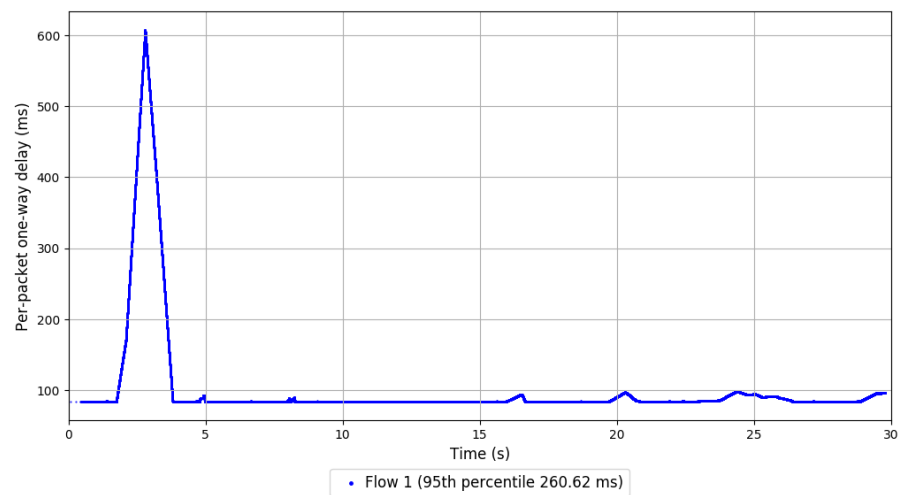
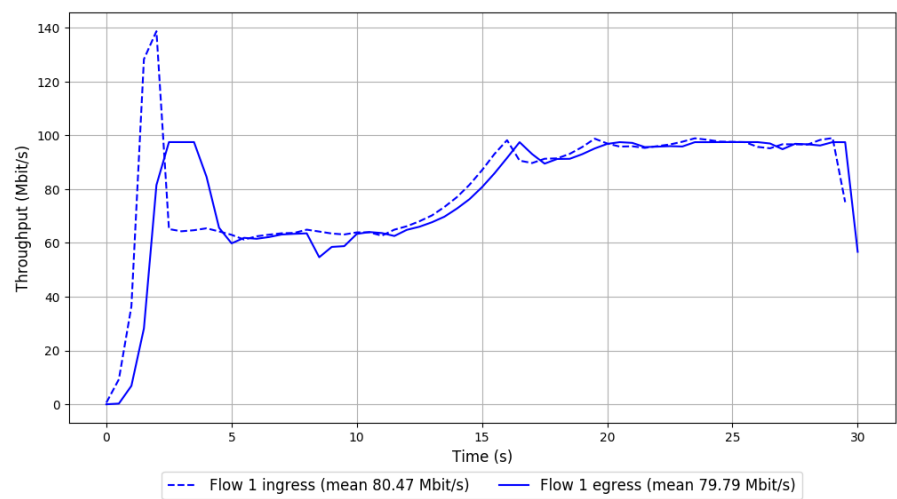Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2018-10-02 13:51:02
End at: 2018-10-02 13:51:32
Local clock offset: -5.286 ms
Remote clock offset: -1.848 ms


# Below is generated by plot.py at 2018-10-02 15:17:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.79 Mbit/s
95th percentile per-packet one-way delay: 260.622 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 79.79 Mbit/s
95th percentile per-packet one-way delay: 260.622 ms
Loss rate: 1.43%
```

Run 2: Report of PCC-Allegro — Data Link

```
Run 3: Statistics of PCC-Allegro

Start at: 2018-10-02 14:12:39
End at: 2018-10-02 14:13:09
Local clock offset: -5.926 ms
Remote clock offset: 3.258 ms


# Below is generated by plot.py at 2018-10-02 15:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.38 Mbit/s
95th percentile per-packet one-way delay: 230.648 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 84.38 Mbit/s
95th percentile per-packet one-way delay: 230.648 ms
Loss rate: 1.07%
```
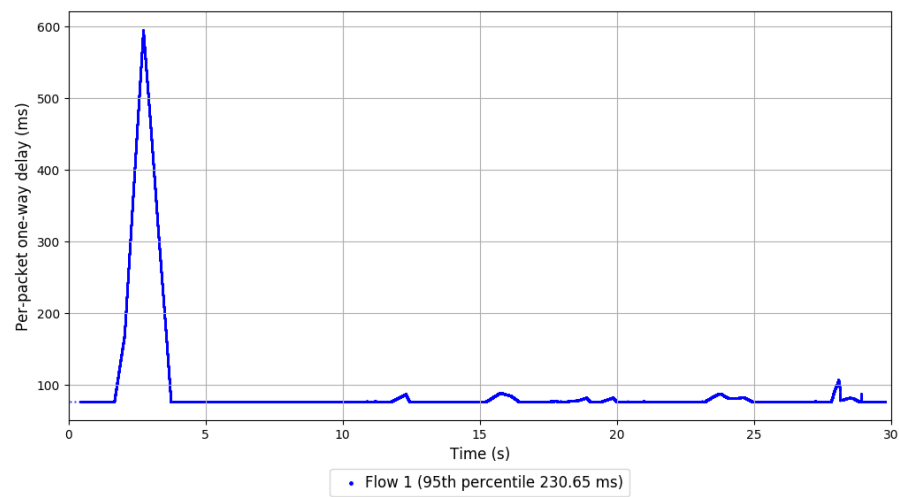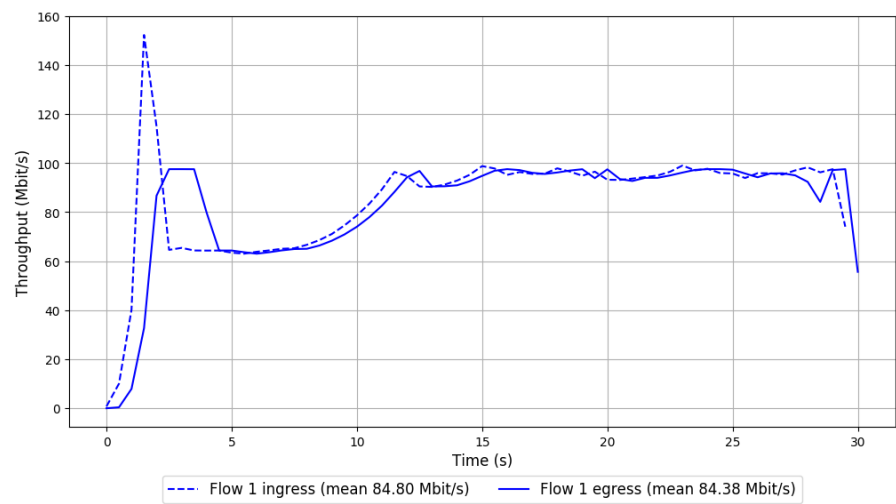
Run 3: Report of PCC-Allegro — Data Link

```
Run 4: Statistics of PCC-Allegro

Start at: 2018-10-02 14:34:24
End at: 2018-10-02 14:34:54
Local clock offset: -6.363 ms
Remote clock offset: -2.665 ms


# Below is generated by plot.py at 2018-10-02 15:18:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.66 Mbit/s
95th percentile per-packet one-way delay: 99.868 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 87.66 Mbit/s
95th percentile per-packet one-way delay: 99.868 ms
Loss rate: 1.25%
```
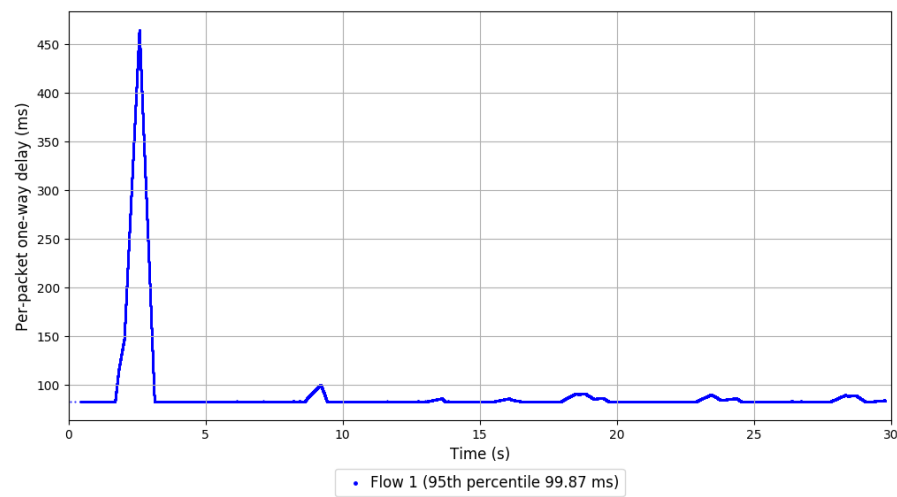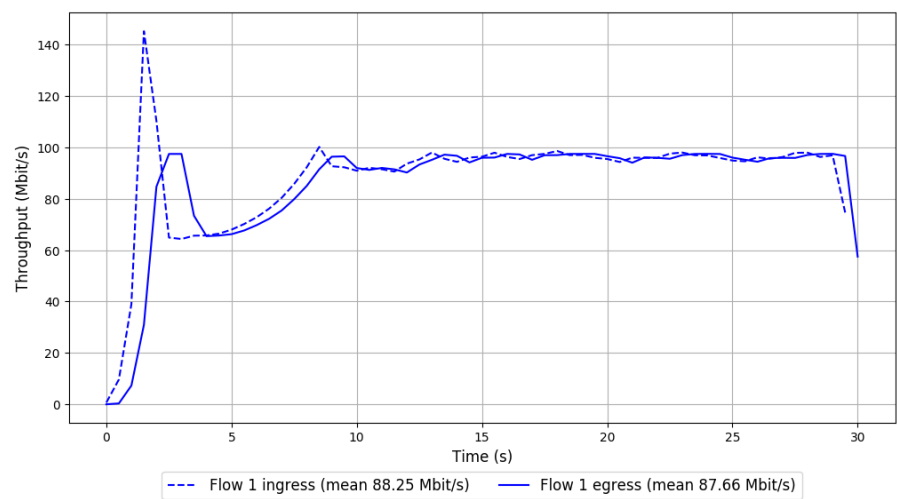
Run 4: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 88.25 Mbit/s) — Flow 1 egress (mean 87.66 Mbit/s)

• Flow 1 (95th percentile 99.87 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2018-10-02 14:56:17
End at: 2018-10-02 14:56:47
Local clock offset: -6.383 ms
Remote clock offset: 1.067 ms


# Below is generated by plot.py at 2018-10-02 15:18:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.99 Mbit/s
95th percentile per-packet one-way delay: 213.751 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 87.99 Mbit/s
95th percentile per-packet one-way delay: 213.751 ms
Loss rate: 0.69%
```
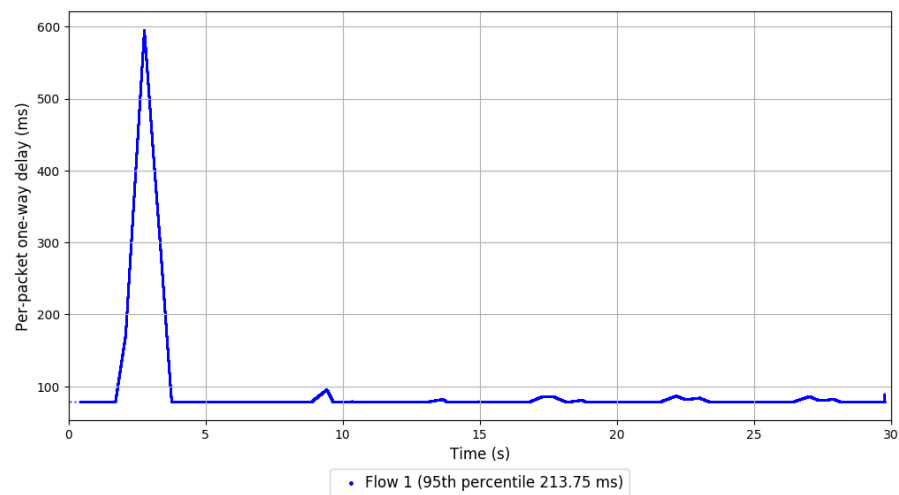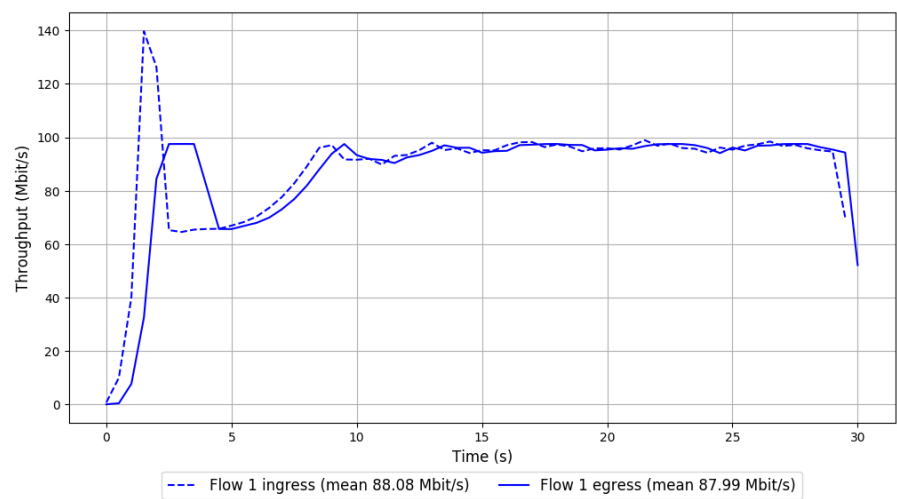
Run 5: Report of PCC-Allegro — Data Link

Flow 1 ingress (mean 88.08 Mbit/s) —— Flow 1 egress (mean 87.99 Mbit/s)
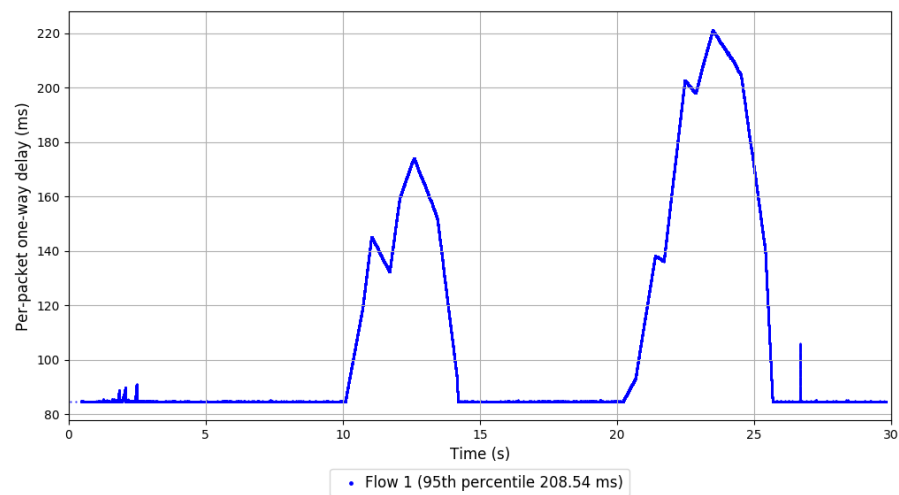

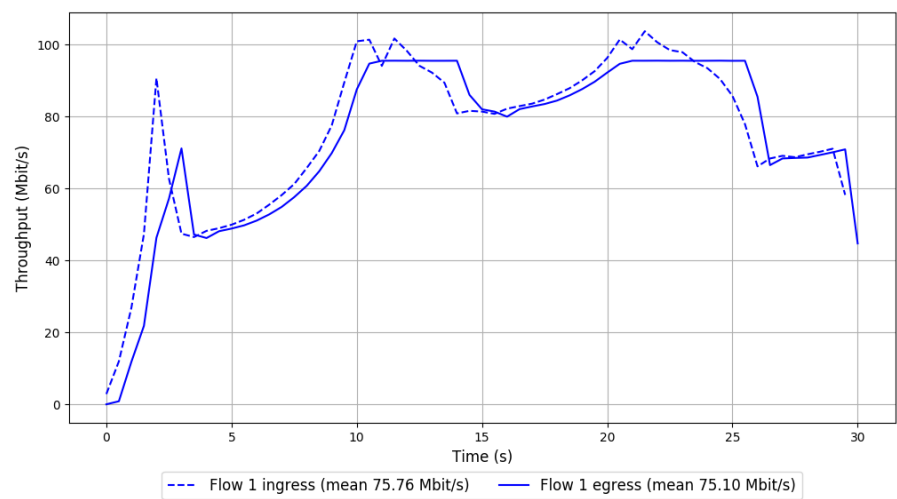
• Flow 1 (95th percentile 213.75 ms)

```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-02 13:23:08
End at: 2018-10-02 13:23:38
Local clock offset: -4.888 ms
Remote clock offset: -2.963 ms


# Below is generated by plot.py at 2018-10-02 15:19:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.10 Mbit/s
95th percentile per-packet one-way delay: 208.536 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 75.10 Mbit/s
95th percentile per-packet one-way delay: 208.536 ms
Loss rate: 1.45%
```

Run 1: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 75.76 Mbit/s)   Flow 1 egress (mean 75.10 Mbit/s)
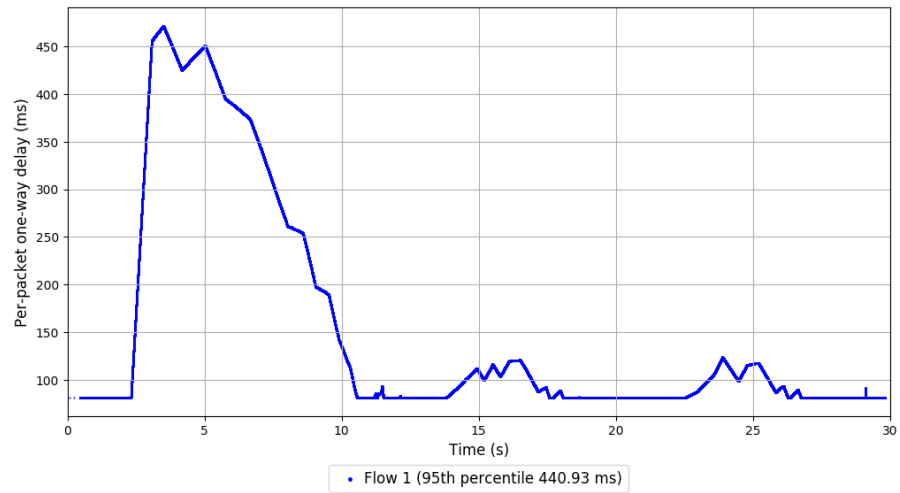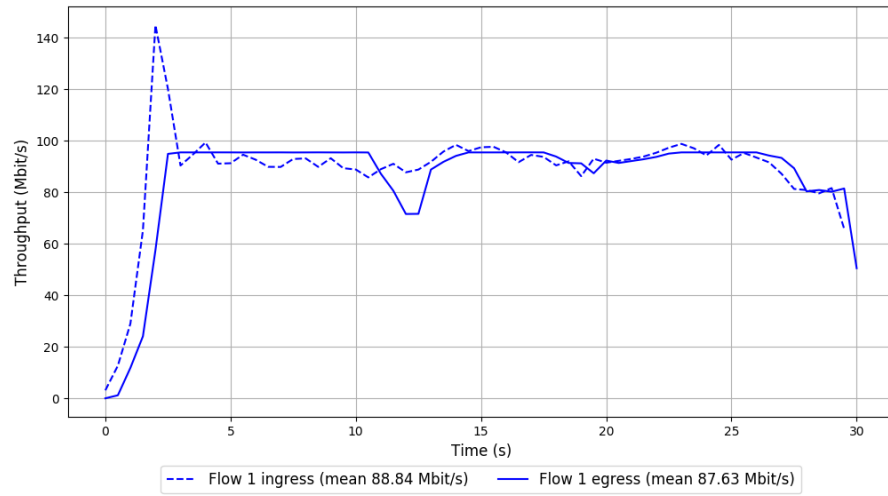

• Flow 1 (95th percentile 208.54 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2018-10-02 13:44:59
End at: 2018-10-02 13:45:29
Local clock offset: -4.803 ms
Remote clock offset: -1.697 ms


# Below is generated by plot.py at 2018-10-02 15:19:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.63 Mbit/s
95th percentile per-packet one-way delay: 440.930 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 87.63 Mbit/s
95th percentile per-packet one-way delay: 440.930 ms
Loss rate: 1.93%
```

Run 2: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 88.84 Mbit/s)   Flow 1 egress (mean 87.63 Mbit/s)

Flow 1 (95th percentile 440.93 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2018-10-02 14:06:37
End at: 2018-10-02 14:07:07
Local clock offset: -5.896 ms
Remote clock offset: 3.215 ms


# Below is generated by plot.py at 2018-10-02 15:19:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.56 Mbit/s
95th percentile per-packet one-way delay: 428.062 ms
Loss rate: 2.10%
-- Flow 1:
Average throughput: 83.56 Mbit/s
95th percentile per-packet one-way delay: 428.062 ms
Loss rate: 2.10%
```
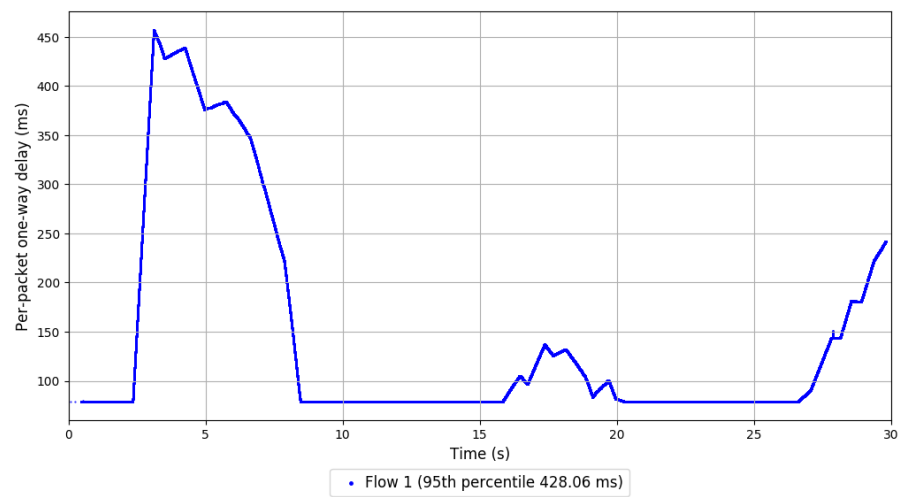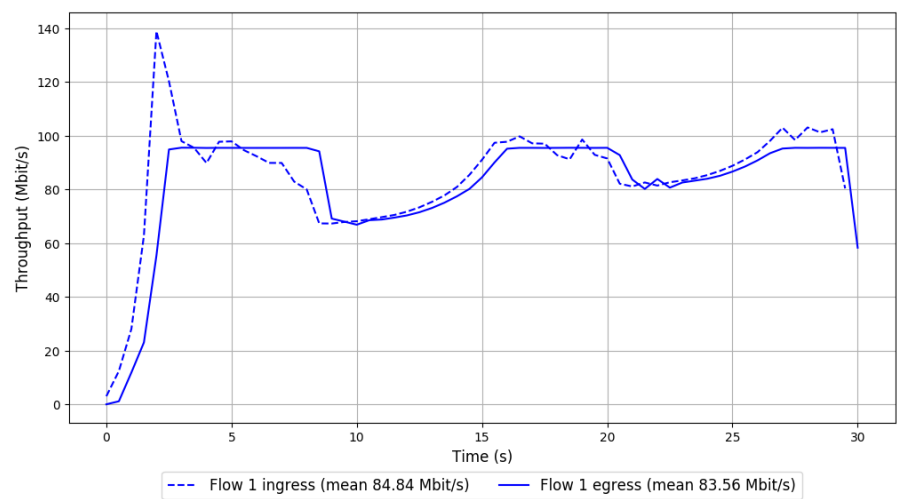
Run 3: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 84.84 Mbit/s)   Flow 1 egress (mean 83.56 Mbit/s)

Flow 1 (95th percentile 428.06 ms)

```
Run 4: Statistics of PCC-Expr

Start at: 2018-10-02 14:28:24
End at: 2018-10-02 14:28:54
Local clock offset: -6.285 ms
Remote clock offset: 1.342 ms


# Below is generated by plot.py at 2018-10-02 15:19:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.66 Mbit/s
95th percentile per-packet one-way delay: 421.641 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 86.66 Mbit/s
95th percentile per-packet one-way delay: 421.641 ms
Loss rate: 1.18%
```
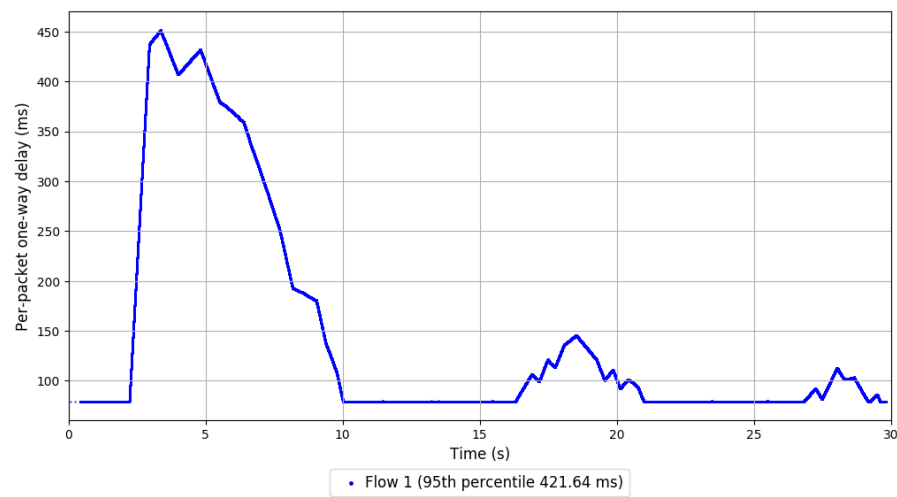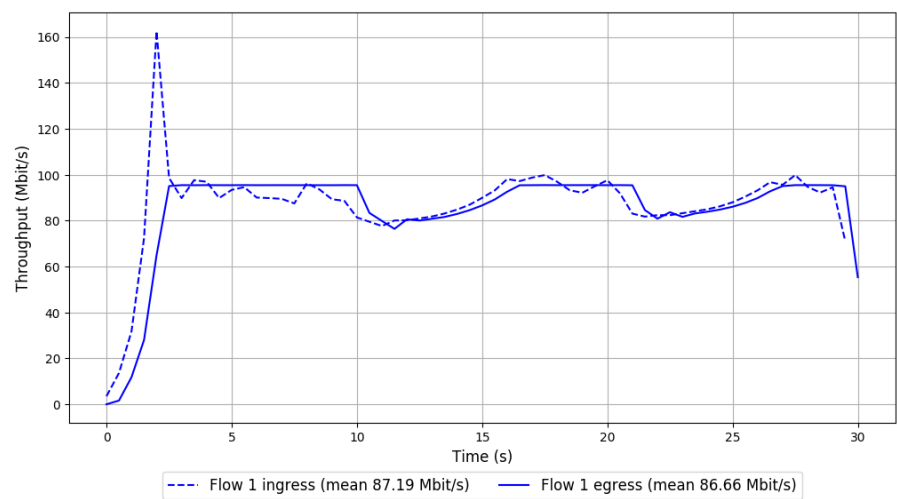
Run 4: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 87.19 Mbit/s) Flow 1 egress (mean 86.66 Mbit/s)

Flow 1 (95th percentile 421.64 ms)

```
Run 5: Statistics of PCC-Expr

Start at: 2018-10-02 14:50:04
End at: 2018-10-02 14:50:34
Local clock offset: -6.44 ms
Remote clock offset: -1.6 ms


# Below is generated by plot.py at 2018-10-02 15:19:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.88 Mbit/s
95th percentile per-packet one-way delay: 434.546 ms
Loss rate: 2.51%
-- Flow 1:
Average throughput: 86.88 Mbit/s
95th percentile per-packet one-way delay: 434.546 ms
Loss rate: 2.51%
```
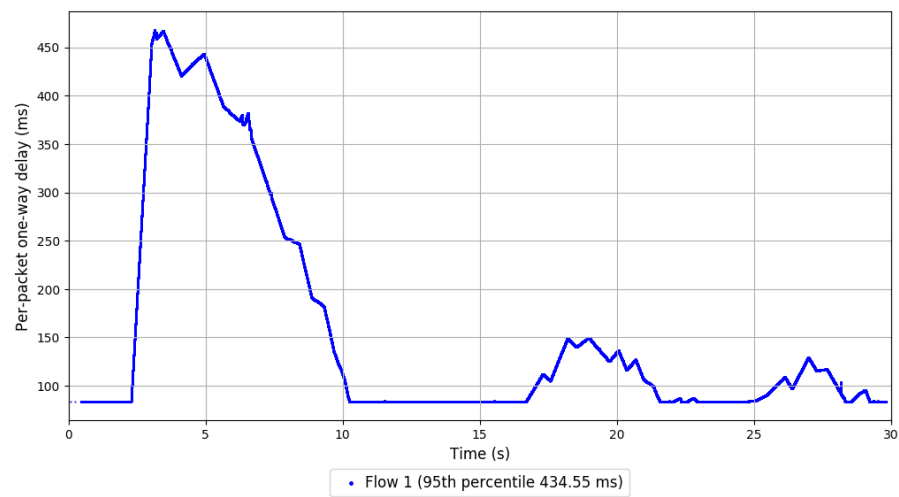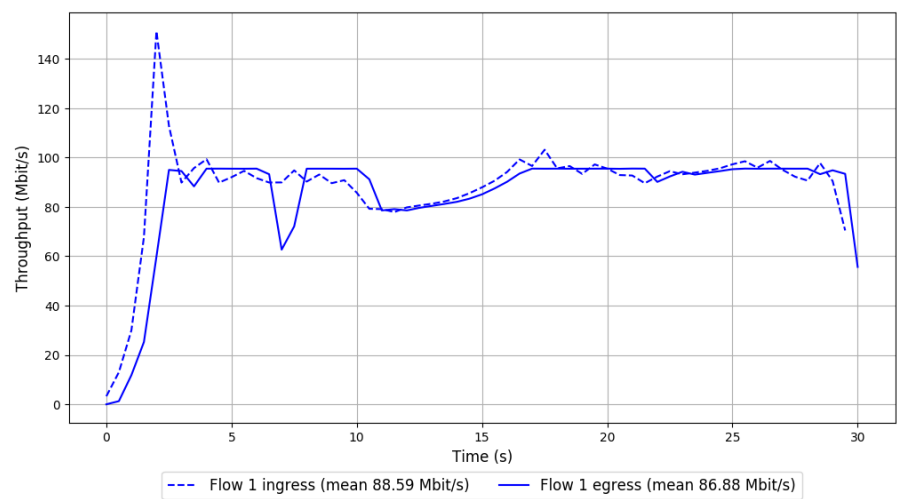
Run 5: Report of PCC-Expr — Data Link

Flow 1 ingress (mean 88.59 Mbit/s)   Flow 1 egress (mean 86.88 Mbit/s)

Flow 1 (95th percentile 434.55 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: 2018-10-02 13:41:27
End at: 2018-10-02 13:41:57
Local clock offset: -4.892 ms
Remote clock offset: 2.228 ms


# Below is generated by plot.py at 2018-10-02 15:19:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.06 Mbit/s
95th percentile per-packet one-way delay: 87.499 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 59.06 Mbit/s
95th percentile per-packet one-way delay: 87.499 ms
Loss rate: 0.83%
```
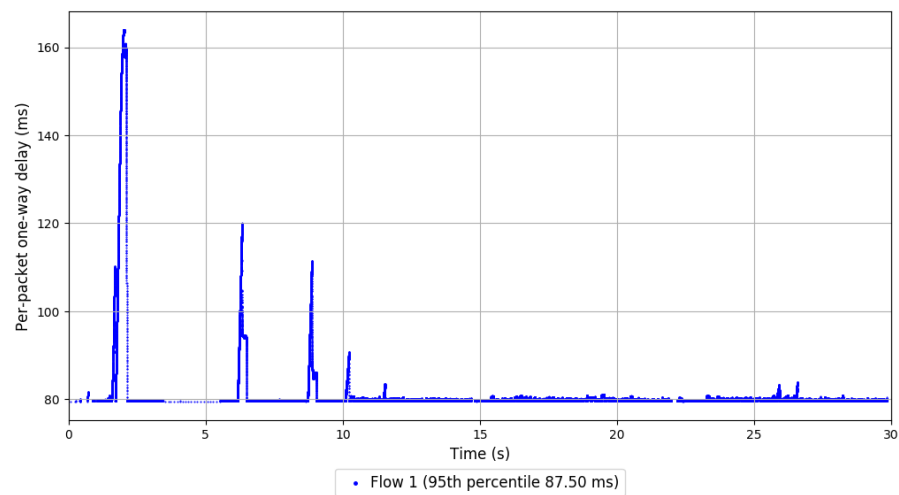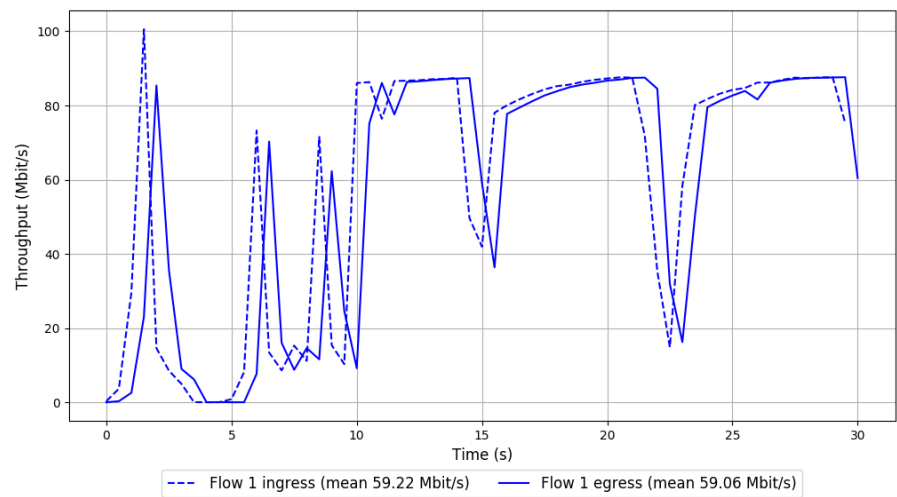
Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2018-10-02 14:03:04
End at: 2018-10-02 14:03:34
Local clock offset: -5.788 ms
Remote clock offset: -2.937 ms


# Below is generated by plot.py at 2018-10-02 15:19:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.98 Mbit/s
95th percentile per-packet one-way delay: 89.407 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 56.98 Mbit/s
95th percentile per-packet one-way delay: 89.407 ms
Loss rate: 0.93%
```
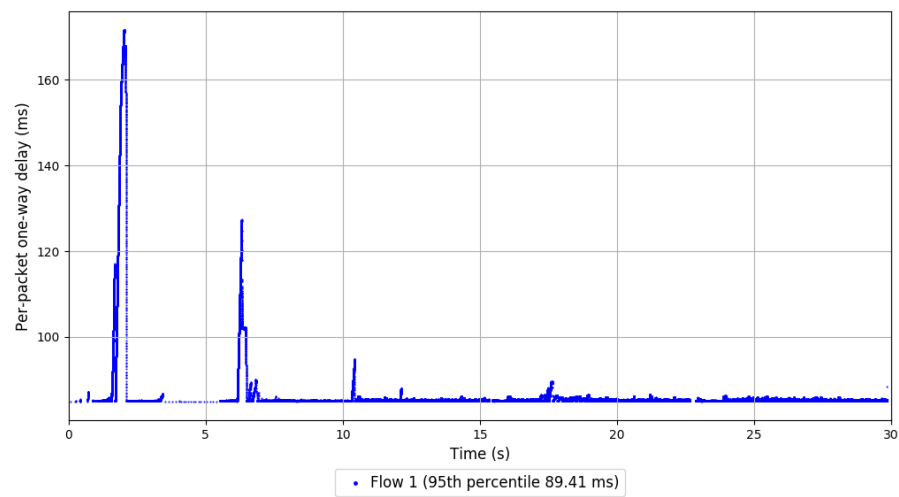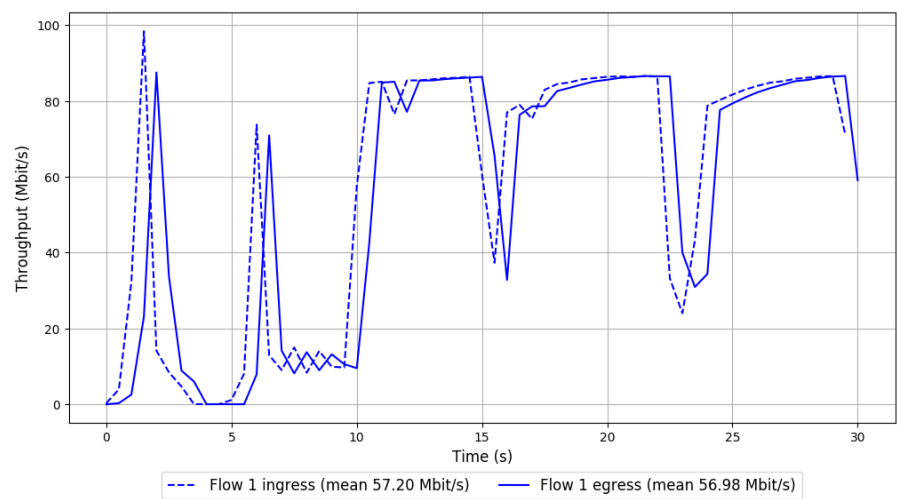
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 57.20 Mbit/s) --- Flow 1 egress (mean 56.98 Mbit/s)

• Flow 1 (95th percentile 89.41 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2018-10-02 14:24:52
End at: 2018-10-02 14:25:22
Local clock offset: -6.282 ms
Remote clock offset: 2.386 ms

# Below is generated by plot.py at 2018-10-02 15:19:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.85 Mbit/s
95th percentile per-packet one-way delay: 94.993 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 39.85 Mbit/s
95th percentile per-packet one-way delay: 94.993 ms
Loss rate: 1.49%
```
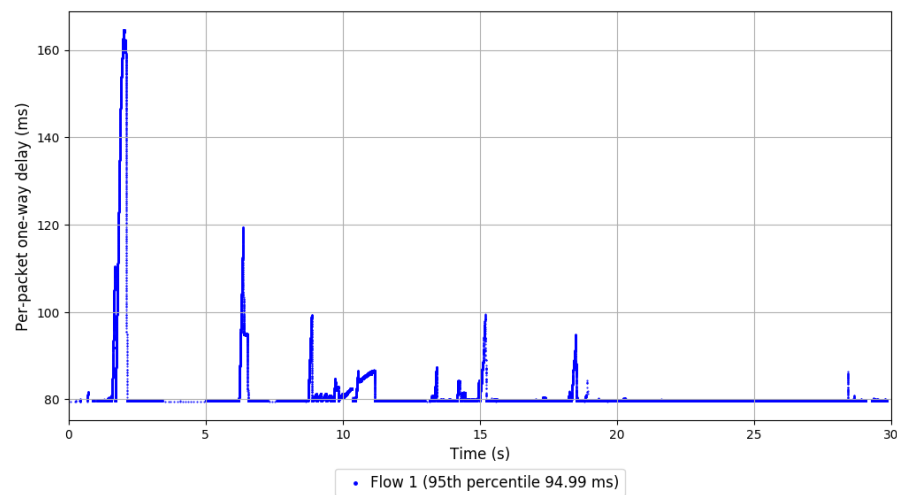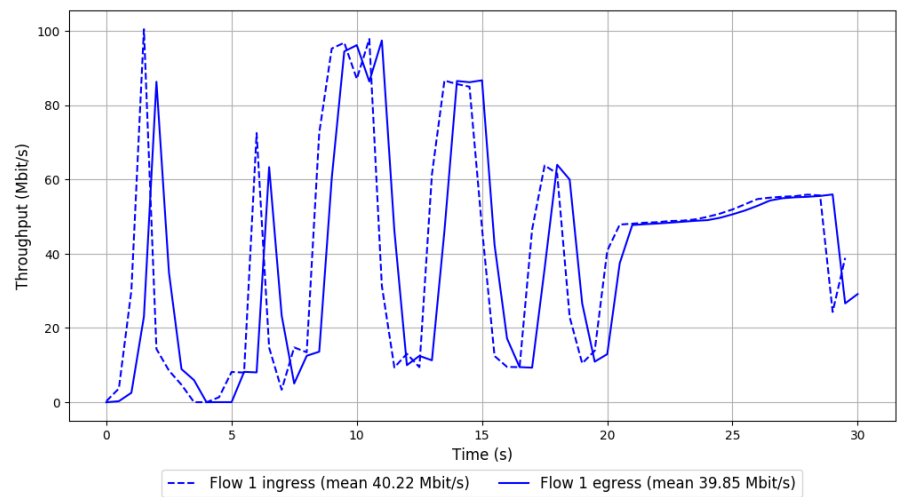
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 40.22 Mbit/s)   Flow 1 egress (mean 39.85 Mbit/s)

Flow 1 (95th percentile 94.99 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2018-10-02 14:46:18
End at: 2018-10-02 14:46:48
Local clock offset: -6.505 ms
Remote clock offset: -1.62 ms

# Below is generated by plot.py at 2018-10-02 15:19:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.77 Mbit/s
95th percentile per-packet one-way delay: 87.613 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 63.77 Mbit/s
95th percentile per-packet one-way delay: 87.613 ms
Loss rate: 0.77%
```
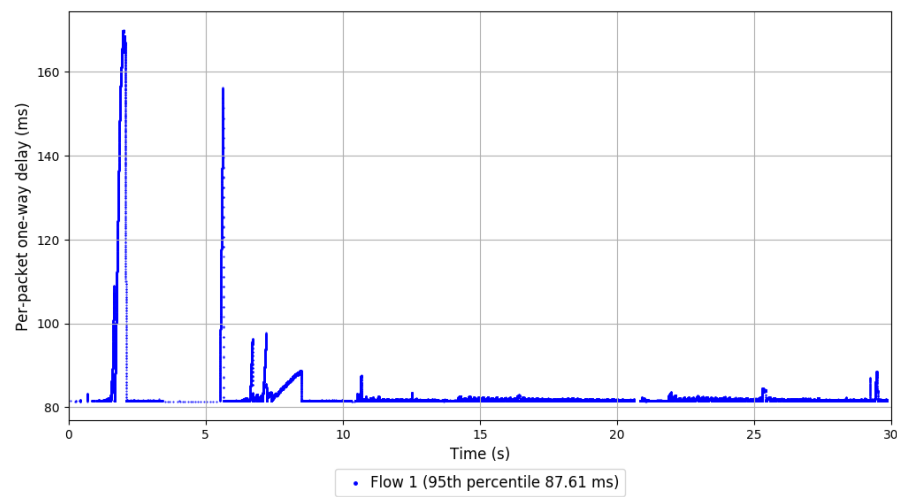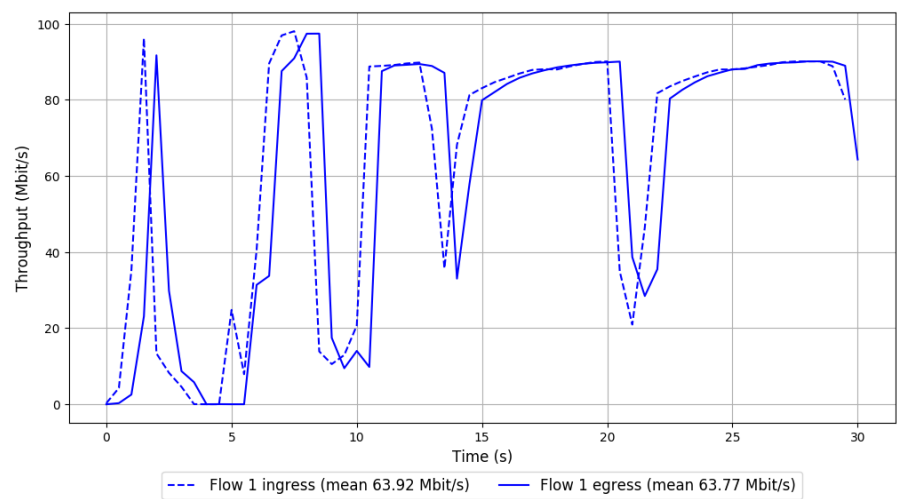
Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 63.92 Mbit/s) --- Flow 1 egress (mean 63.77 Mbit/s)

Flow 1 (95th percentile 87.61 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2018-10-02 15:08:06
End at: 2018-10-02 15:08:36
Local clock offset: -6.393 ms
Remote clock offset: -1.816 ms


# Below is generated by plot.py at 2018-10-02 15:19:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 43.67 Mbit/s
95th percentile per-packet one-way delay: 83.861 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 43.67 Mbit/s
95th percentile per-packet one-way delay: 83.861 ms
Loss rate: 1.11%
```
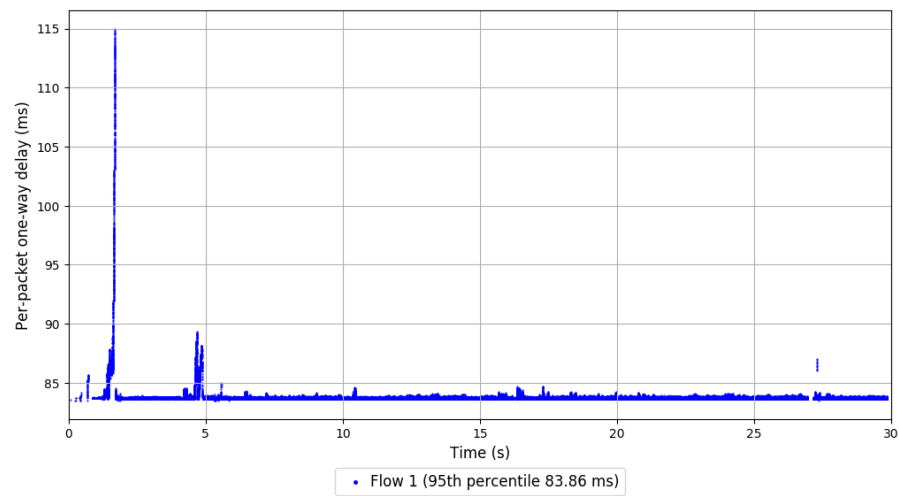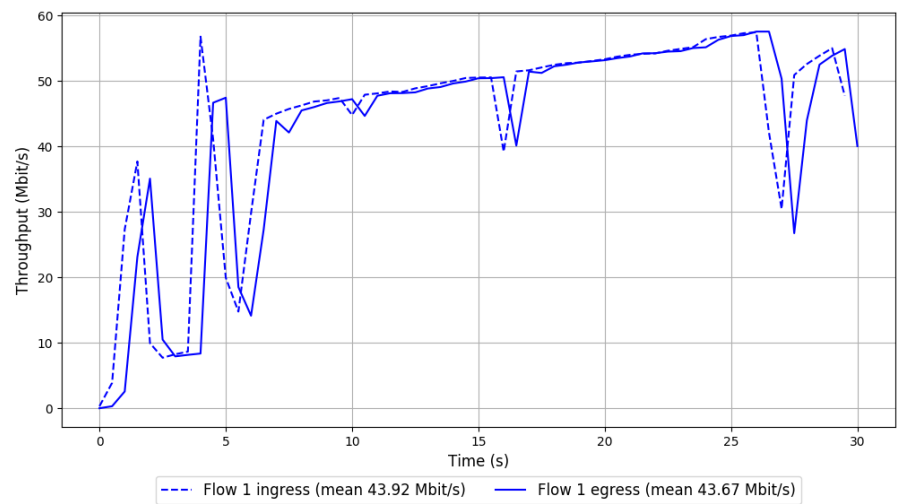
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 43.92 Mbit/s)   Flow 1 egress (mean 43.67 Mbit/s)

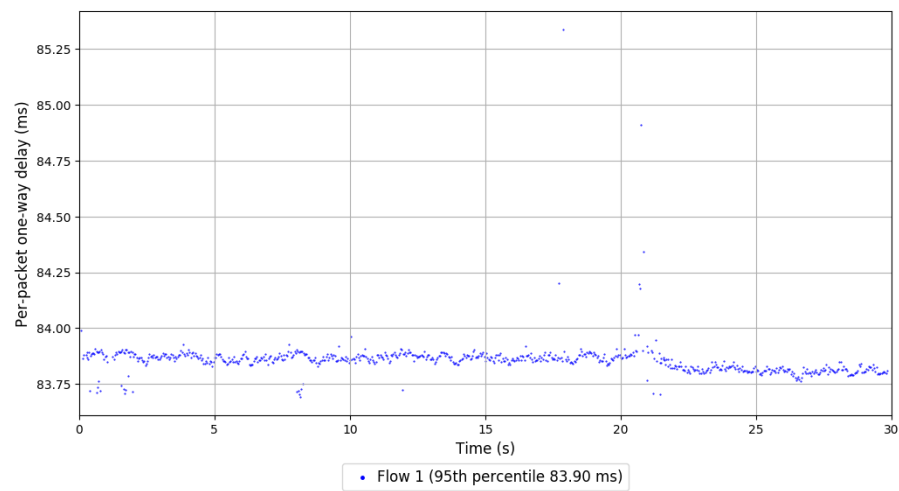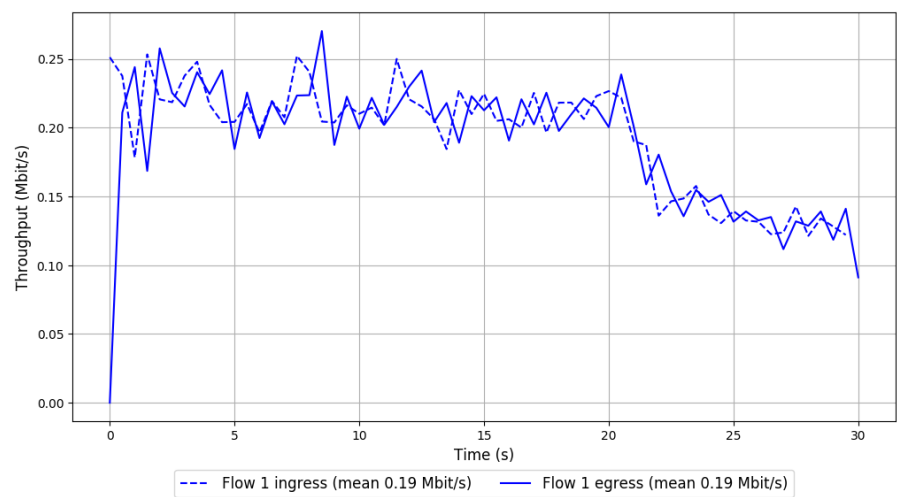

Flow 1 (95th percentile 83.86 ms)

```
Run 1: Statistics of SCReAM

Start at: 2018-10-02 13:31:50
End at: 2018-10-02 13:32:20
Local clock offset: -4.855 ms
Remote clock offset: -1.807 ms


# Below is generated by plot.py at 2018-10-02 15:19:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 83.898 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 83.898 ms
Loss rate: 0.95%
```

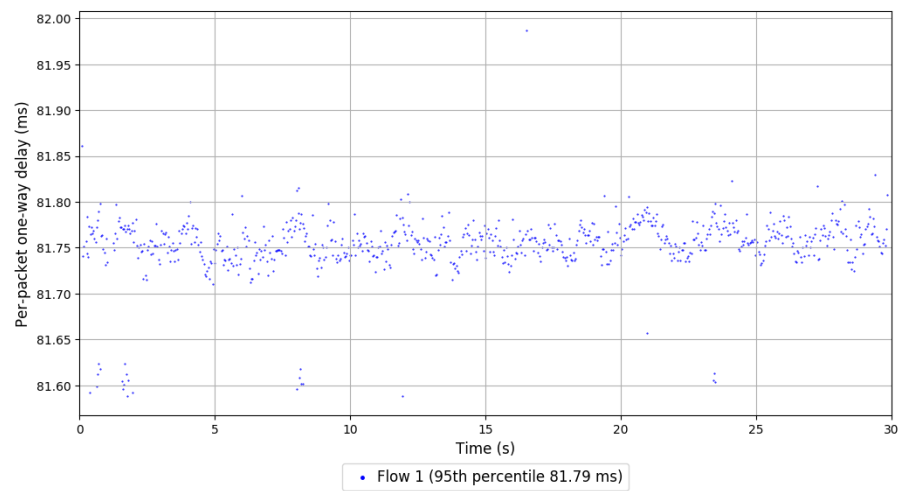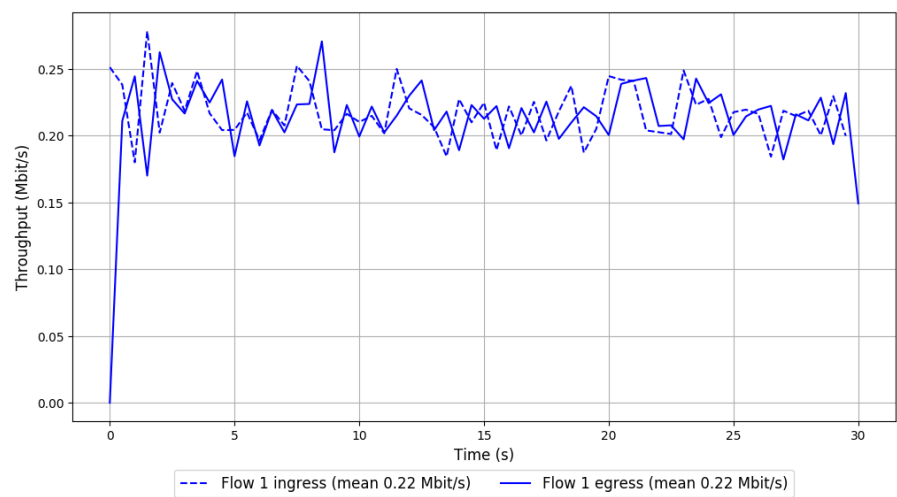# Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2018-10-02 13:53:25
End at: 2018-10-02 13:53:55
Local clock offset: -5.5 ms
Remote clock offset: -1.721 ms


# Below is generated by plot.py at 2018-10-02 15:19:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.787 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.787 ms
Loss rate: 0.64%
```
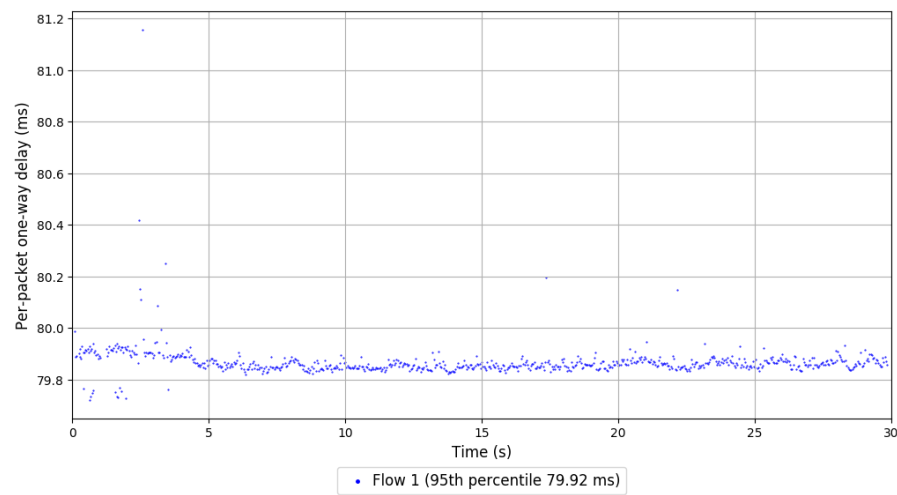
Run 2: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s) --- Flow 1 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile 81.79 ms)

```
Run 3: Statistics of SCReAM

Start at: 2018-10-02 14:15:08
End at: 2018-10-02 14:15:38
Local clock offset: -5.926 ms
Remote clock offset: 2.342 ms


# Below is generated by plot.py at 2018-10-02 15:19:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 79.918 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 79.918 ms
Loss rate: 0.79%
```
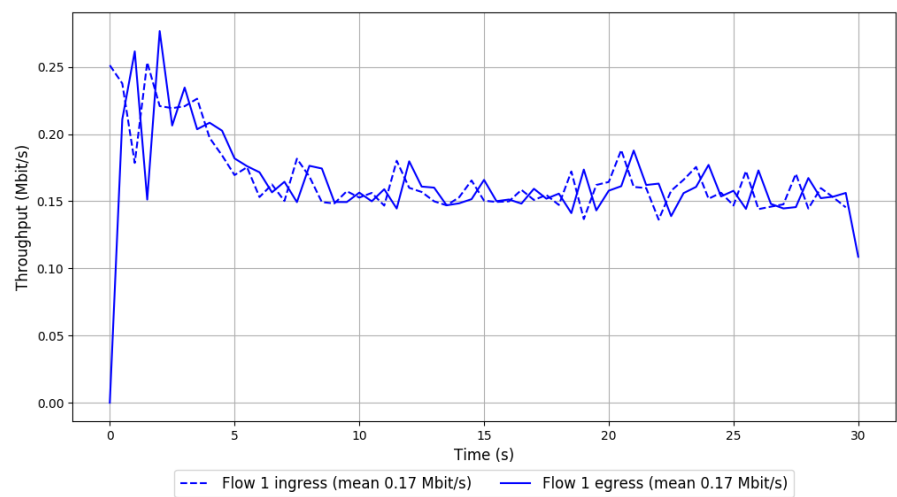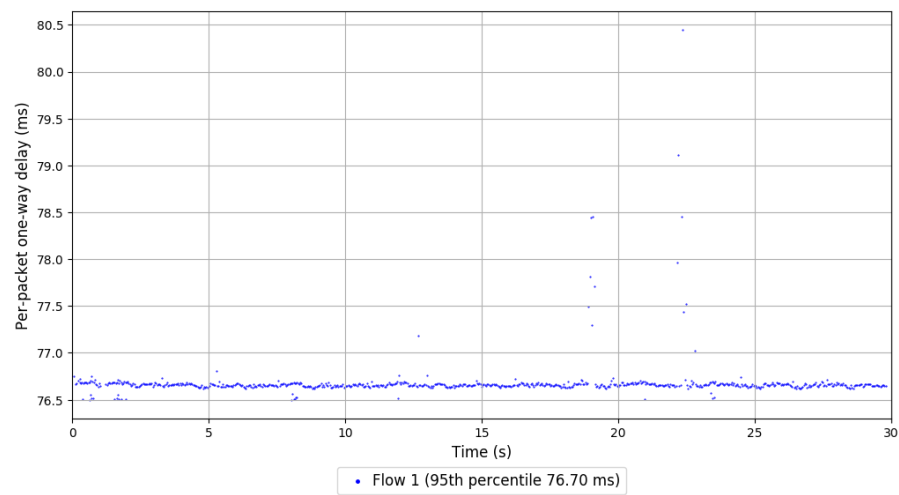
Run 3: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.17 Mbit/s) —— Flow 1 egress (mean 0.17 Mbit/s)

Flow 1 (95th percentile 79.92 ms)

```
Run 4: Statistics of SCReAM

Start at: 2018-10-02 14:36:48
End at: 2018-10-02 14:37:18
Local clock offset: -6.402 ms
Remote clock offset: 3.502 ms


# Below is generated by plot.py at 2018-10-02 15:19:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 76.698 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 76.698 ms
Loss rate: 0.64%
```
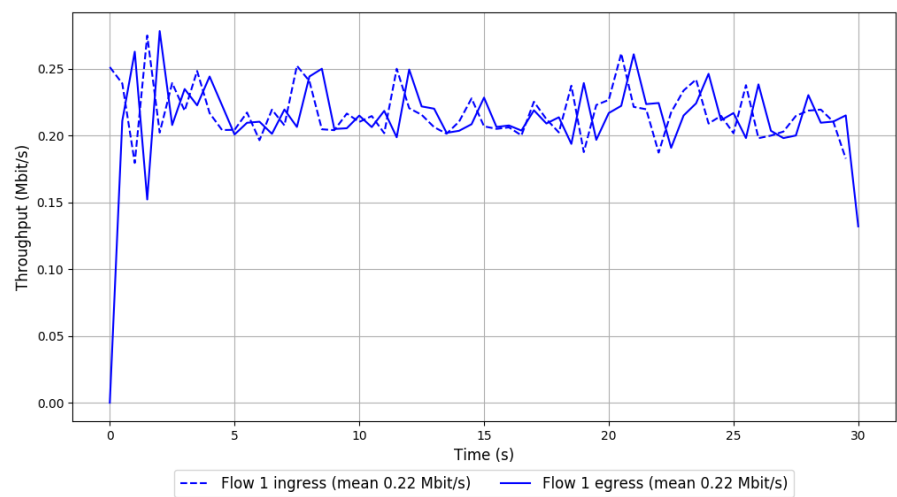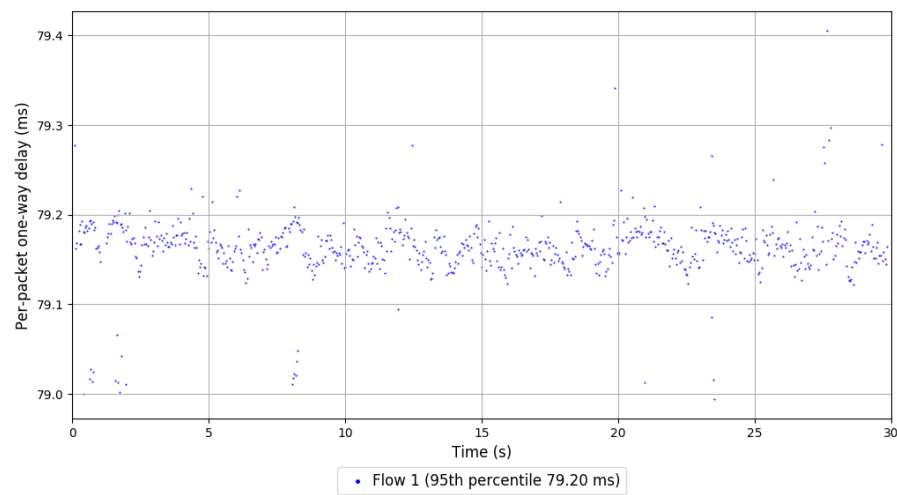
Run 4: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s) — — — Flow 1 egress (mean 0.22 Mbit/s)

Flow 1 (95th percentile 76.70 ms)

```
Run 5: Statistics of SCReAM

Start at: 2018-10-02 14:58:40
End at: 2018-10-02 14:59:10
Local clock offset: -6.435 ms
Remote clock offset: 2.371 ms


# Below is generated by plot.py at 2018-10-02 15:19:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 79.197 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 79.197 ms
Loss rate: 0.64%
```
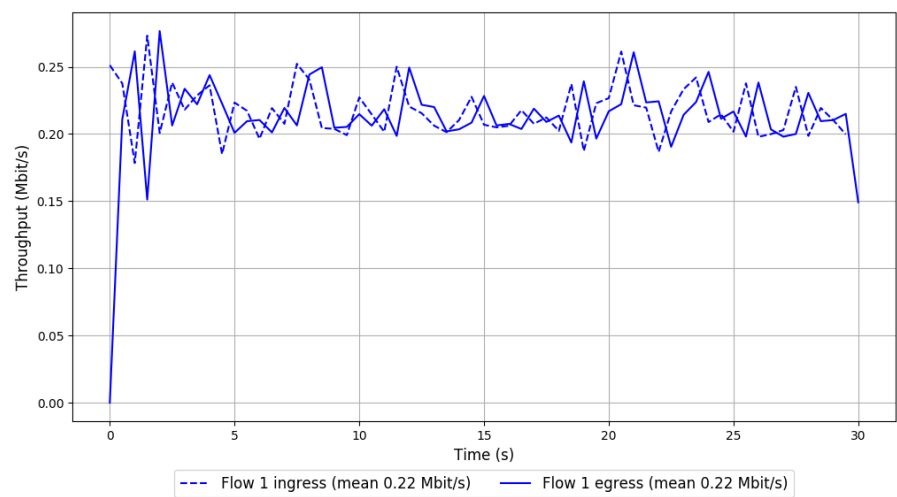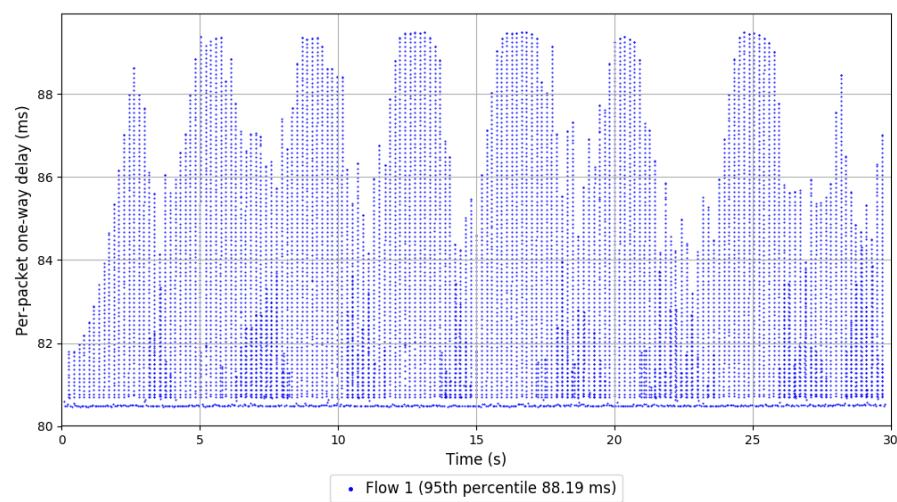
Run 5: Report of SCReAM — Data Link

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```
Run 1: Statistics of Sprout

Start at: 2018-10-02 13:24:22
End at: 2018-10-02 13:24:52
Local clock offset: -4.834 ms
Remote clock offset: 0.864 ms


# Below is generated by plot.py at 2018-10-02 15:19:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.42 Mbit/s
95th percentile per-packet one-way delay: 88.195 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 4.42 Mbit/s
95th percentile per-packet one-way delay: 88.195 ms
Loss rate: 0.64%
```
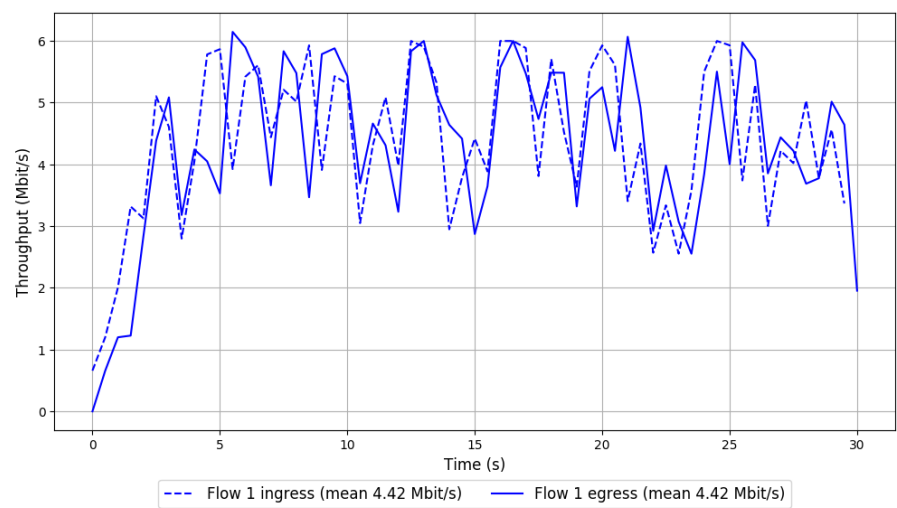
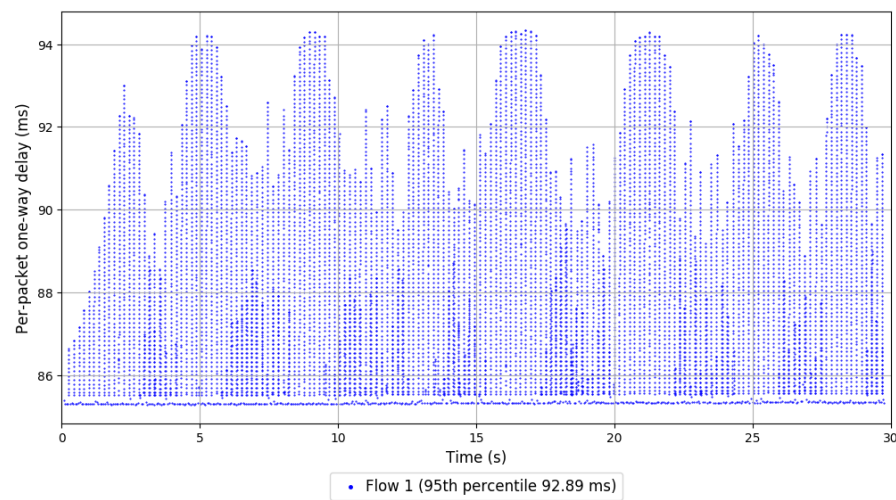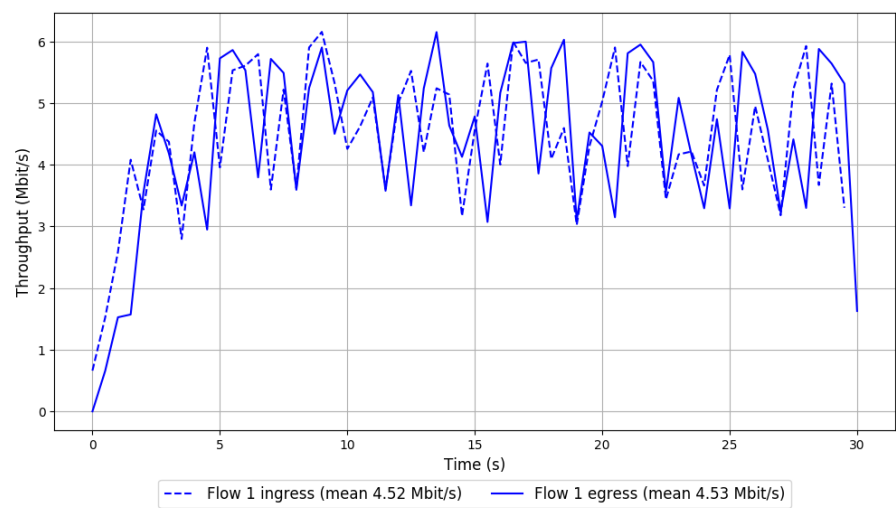# Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2018-10-02 13:46:14
End at: 2018-10-02 13:46:44
Local clock offset: -4.864 ms
Remote clock offset: -2.885 ms


# Below is generated by plot.py at 2018-10-02 15:19:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.53 Mbit/s
95th percentile per-packet one-way delay: 92.892 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 4.53 Mbit/s
95th percentile per-packet one-way delay: 92.892 ms
Loss rate: 0.62%
```

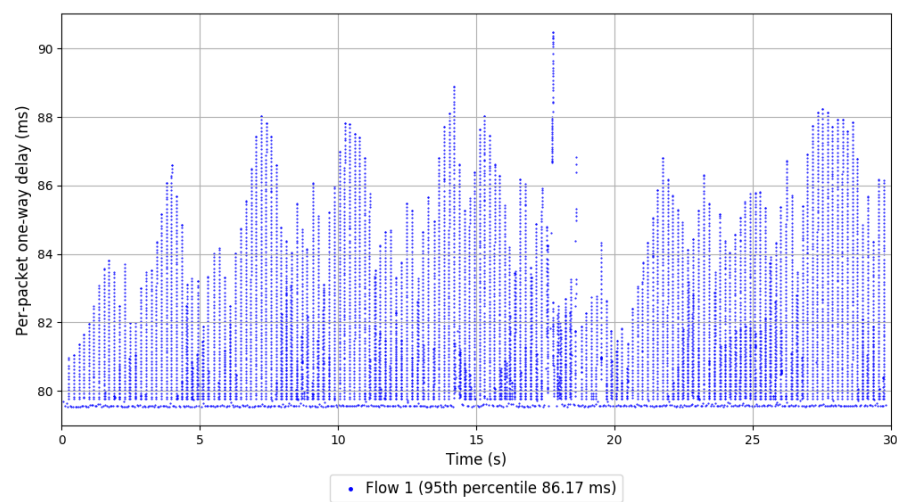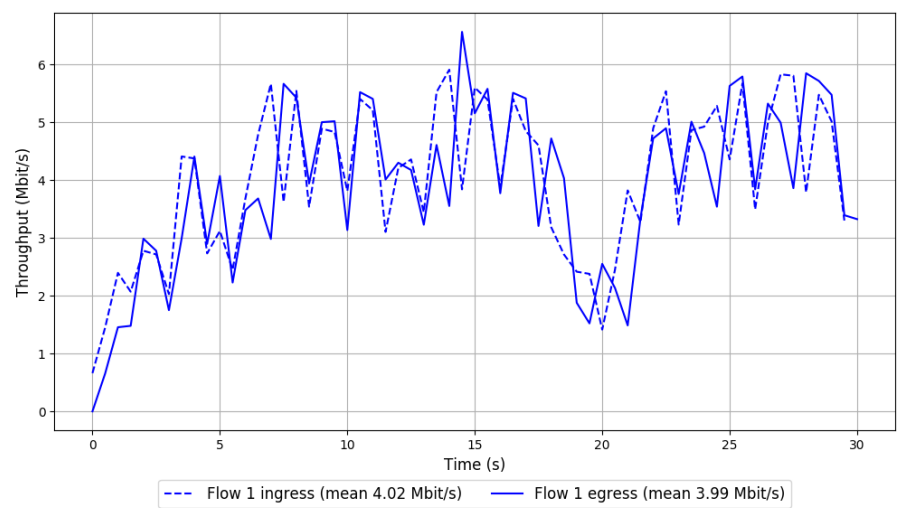Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2018-10-02 14:07:53
End at: 2018-10-02 14:08:23
Local clock offset: -5.861 ms
Remote clock offset: 2.096 ms


# Below is generated by plot.py at 2018-10-02 15:19:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.99 Mbit/s
95th percentile per-packet one-way delay: 86.167 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 3.99 Mbit/s
95th percentile per-packet one-way delay: 86.167 ms
Loss rate: 1.29%
```

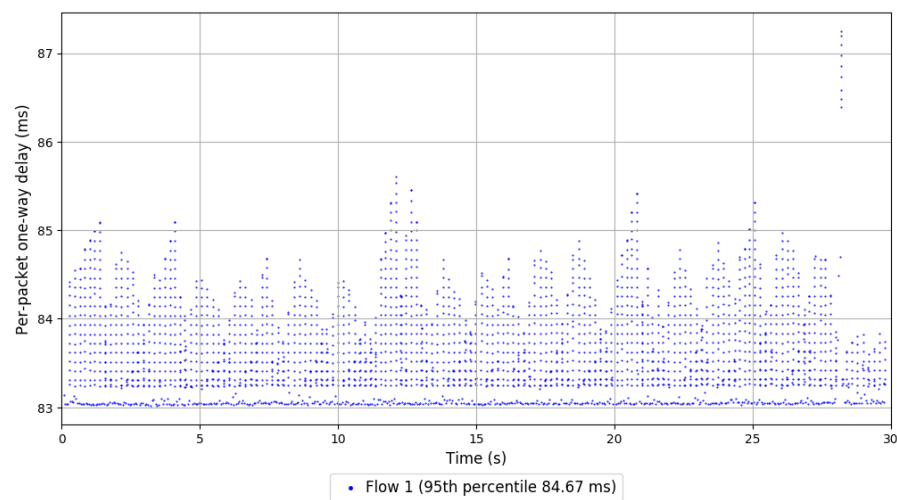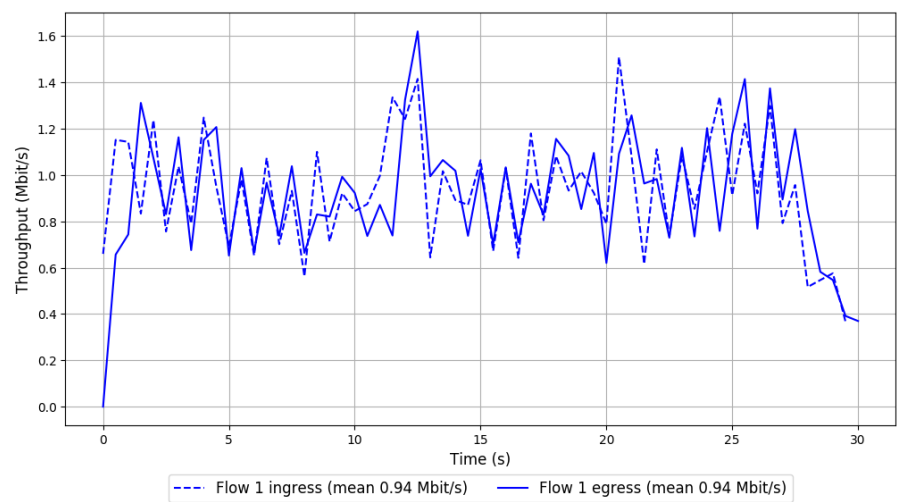Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2018-10-02 14:29:39
End at: 2018-10-02 14:30:09
Local clock offset: -6.373 ms
Remote clock offset: -2.662 ms


# Below is generated by plot.py at 2018-10-02 15:19:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 84.672 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 84.672 ms
Loss rate: 0.41%
```

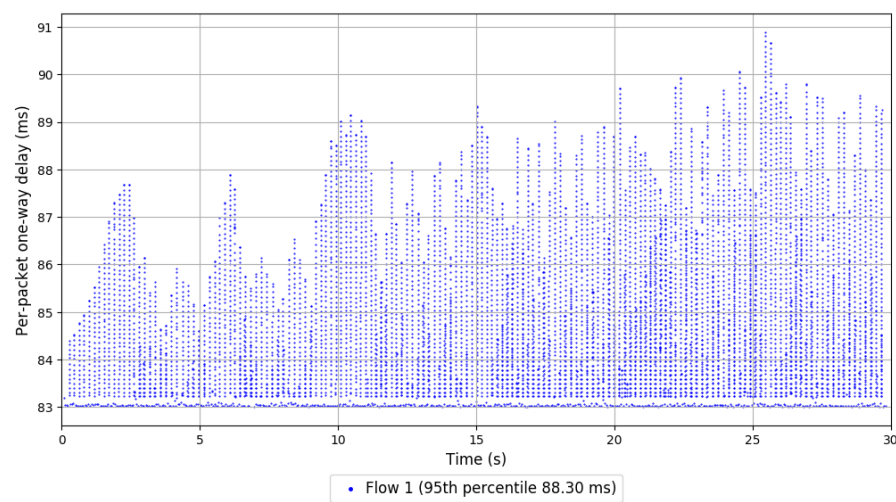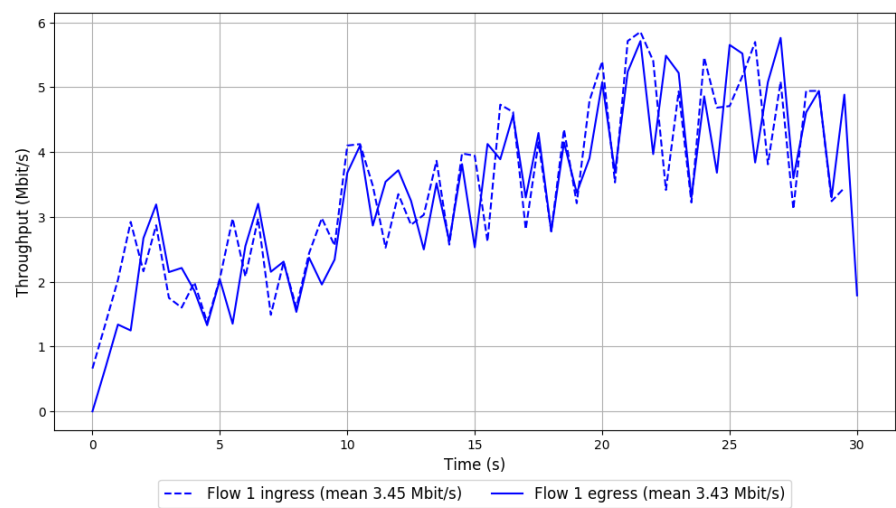Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2018-10-02 14:51:20
End at: 2018-10-02 14:51:50
Local clock offset: -6.42 ms
Remote clock offset: -2.806 ms


# Below is generated by plot.py at 2018-10-02 15:19:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.43 Mbit/s
95th percentile per-packet one-way delay: 88.295 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 3.43 Mbit/s
95th percentile per-packet one-way delay: 88.295 ms
Loss rate: 0.81%
```

Run 5: Report of Sprout — Data Link

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

Start at: 2018-10-02 13:28:11
End at: 2018-10-02 13:28:41
Local clock offset: -4.863 ms
Remote clock offset: 1.976 ms

# Below is generated by plot.py at 2018-10-02 15:21:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.59 Mbit/s
95th percentile per-packet one-way delay: 103.434 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 75.59 Mbit/s
95th percentile per-packet one-way delay: 103.434 ms
Loss rate: 0.56%
```
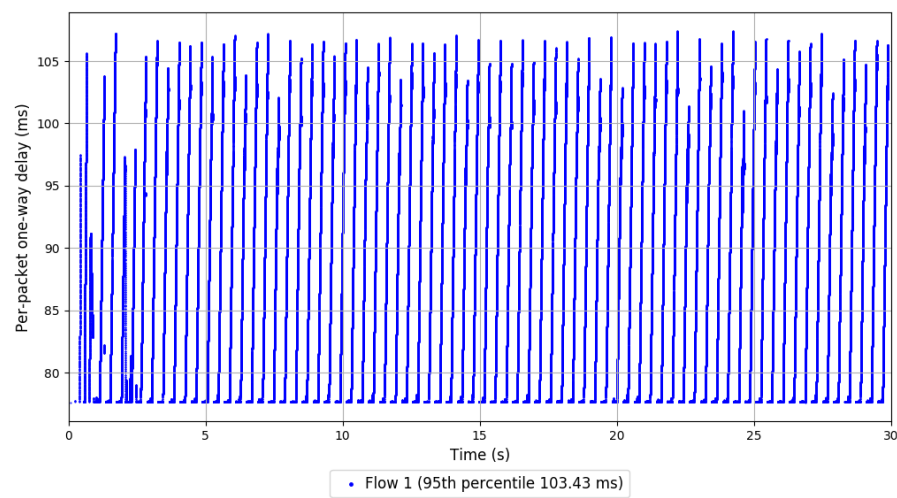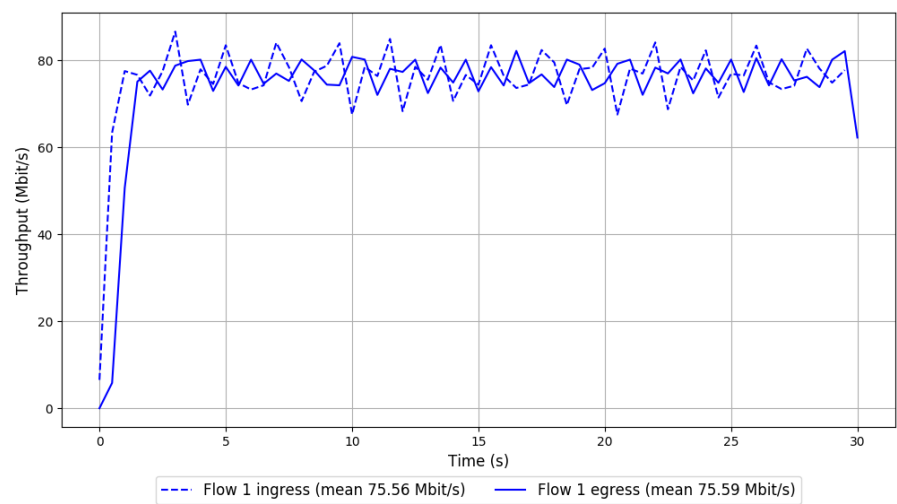
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2018-10-02 13:49:48
End at: 2018-10-02 13:50:18
Local clock offset: -5.202 ms
Remote clock offset: 1.011 ms


# Below is generated by plot.py at 2018-10-02 15:21:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.97 Mbit/s
95th percentile per-packet one-way delay: 104.424 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 72.97 Mbit/s
95th percentile per-packet one-way delay: 104.424 ms
Loss rate: 0.95%
```
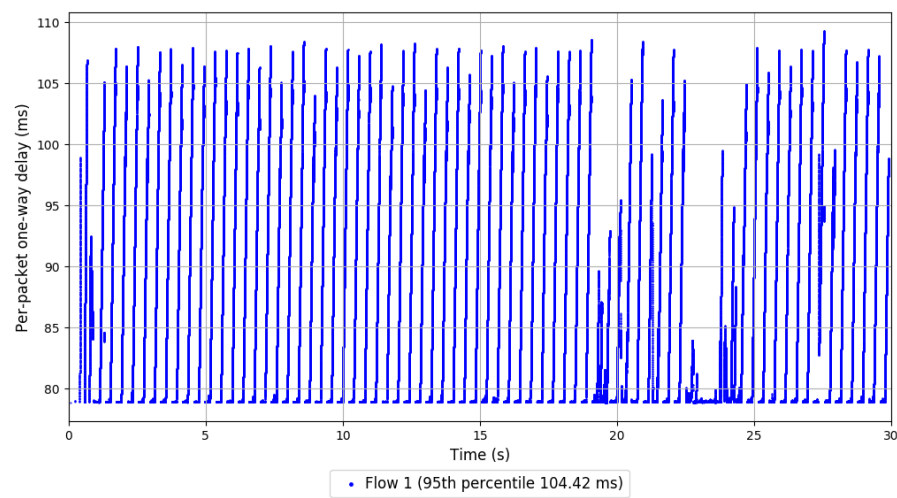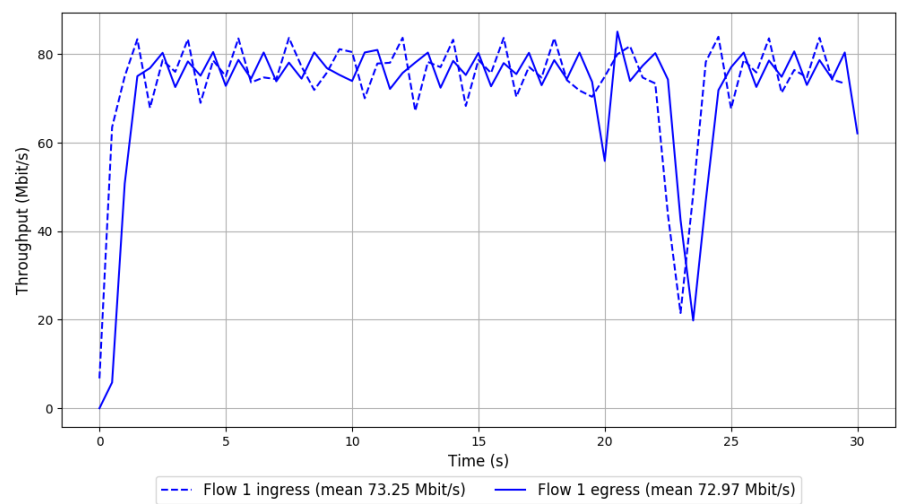
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 73.25 Mbit/s) ----- Flow 1 egress (mean 72.97 Mbit/s)

• Flow 1 (95th percentile 104.42 ms)

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

Start at: 2018-10-02 14:11:24
End at: 2018-10-02 14:11:55
Local clock offset: -5.997 ms
Remote clock offset: 2.169 ms


# Below is generated by plot.py at 2018-10-02 15:21:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 74.95 Mbit/s
95th percentile per-packet one-way delay: 105.636 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 74.95 Mbit/s
95th percentile per-packet one-way delay: 105.636 ms
Loss rate: 0.69%
```
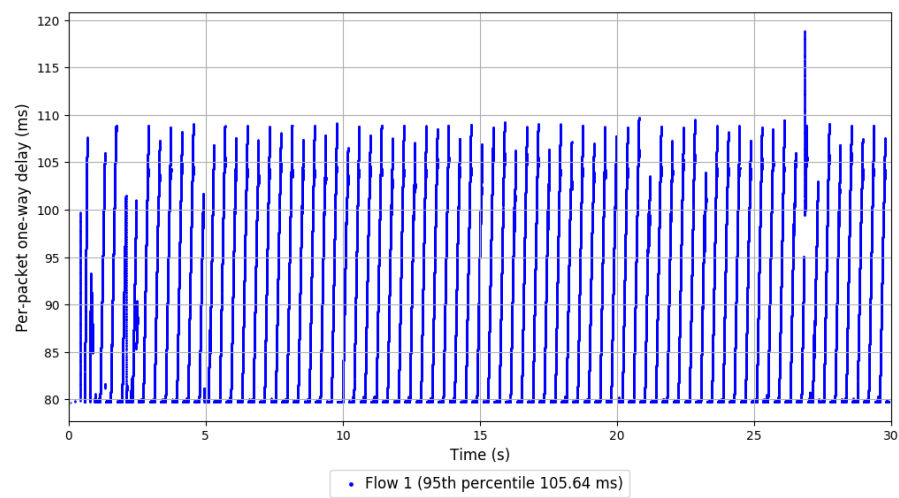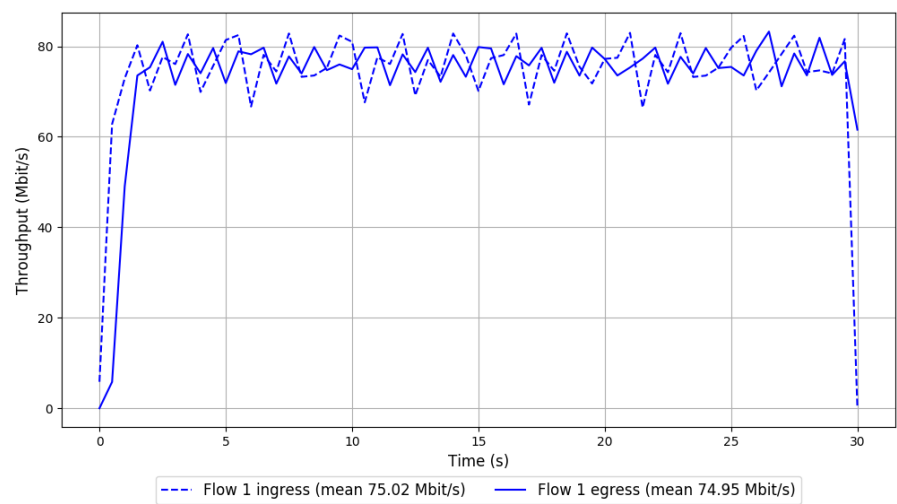
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 75.02 Mbit/s) —— Flow 1 egress (mean 74.95 Mbit/s)

• Flow 1 (95th percentile 105.64 ms)

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

Start at: 2018-10-02 14:33:10
End at: 2018-10-02 14:33:40
Local clock offset: -6.407 ms
Remote clock offset: 2.537 ms


# Below is generated by plot.py at 2018-10-02 15:21:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.29 Mbit/s
95th percentile per-packet one-way delay: 102.976 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 75.29 Mbit/s
95th percentile per-packet one-way delay: 102.976 ms
Loss rate: 0.91%
```
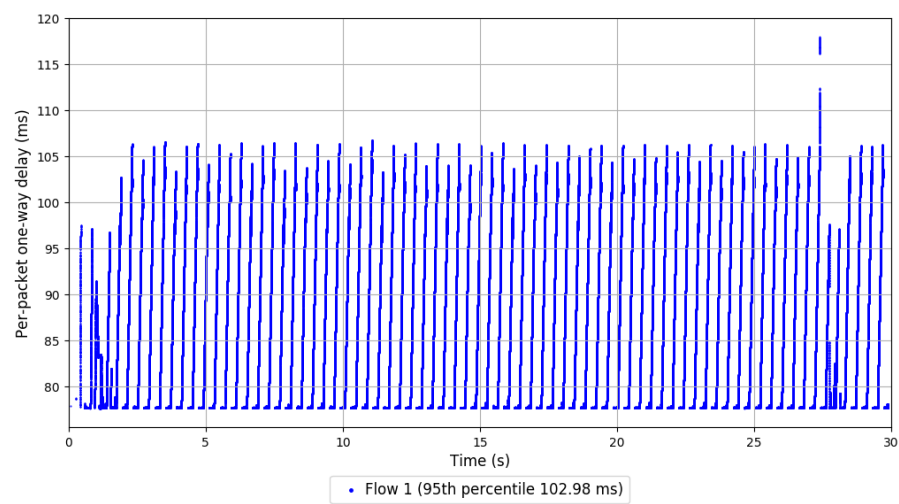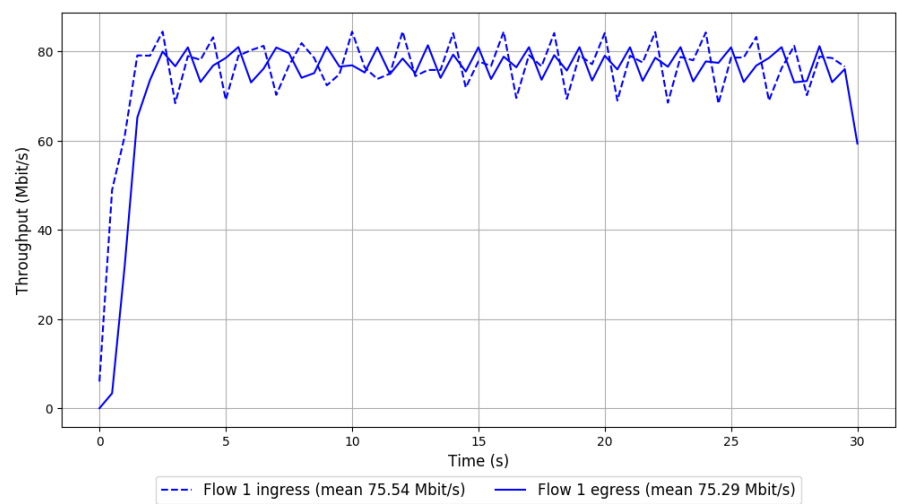
Run 4: Report of TaoVA-100x — Data Link

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

Start at: 2018-10-02 14:55:01
End at: 2018-10-02 14:55:31
Local clock offset: -6.455 ms
Remote clock offset: 1.26 ms


# Below is generated by plot.py at 2018-10-02 15:21:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.70 Mbit/s
95th percentile per-packet one-way delay: 107.281 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 71.70 Mbit/s
95th percentile per-packet one-way delay: 107.281 ms
Loss rate: 1.06%
```
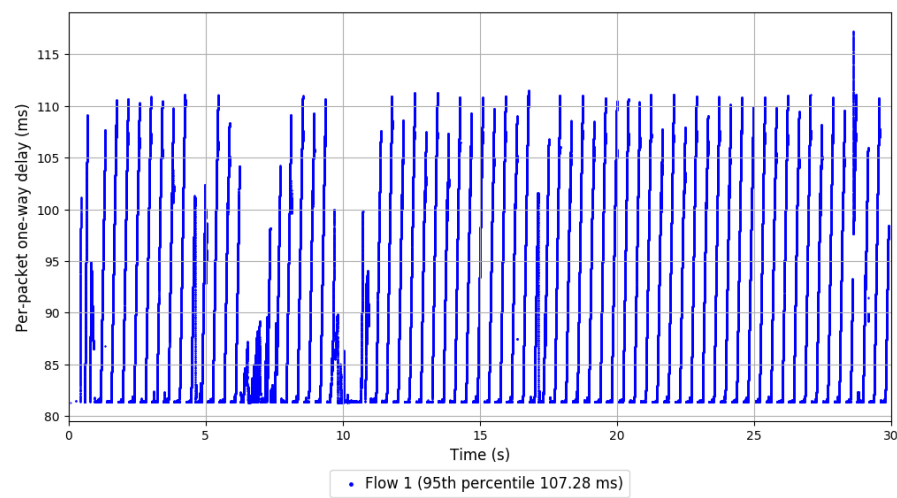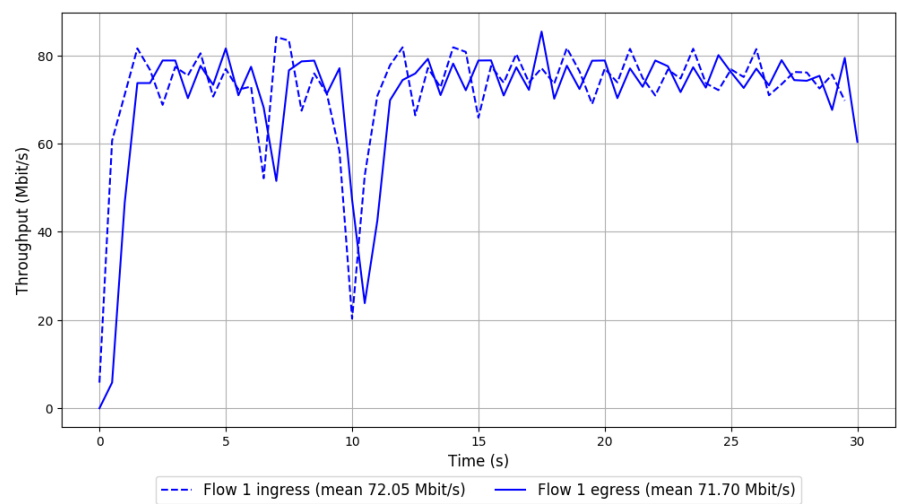
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 72.05 Mbit/s) ——— Flow 1 egress (mean 71.70 Mbit/s)

• Flow 1 (95th percentile 107.28 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2018-10-02 13:35:18
End at: 2018-10-02 13:35:48
Local clock offset: -4.853 ms
Remote clock offset: 2.102 ms


# Below is generated by plot.py at 2018-10-02 15:21:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.21 Mbit/s
95th percentile per-packet one-way delay: 150.590 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 39.21 Mbit/s
95th percentile per-packet one-way delay: 150.590 ms
Loss rate: 0.60%
```
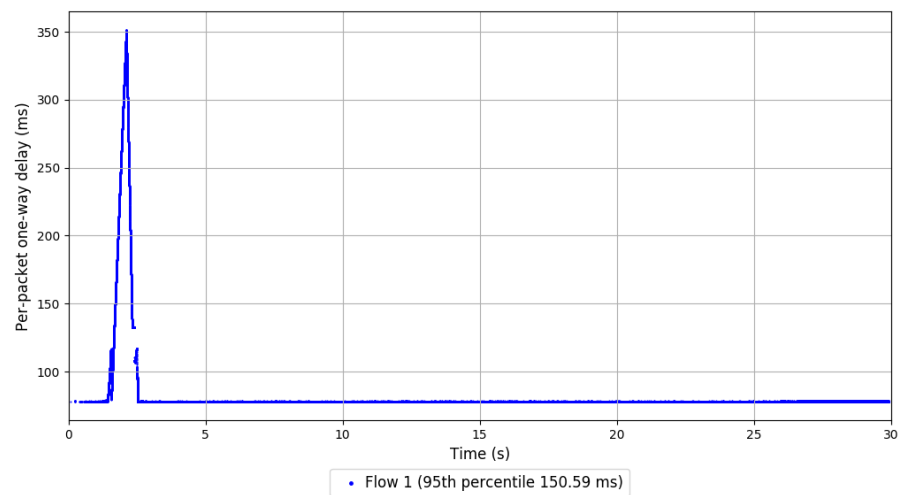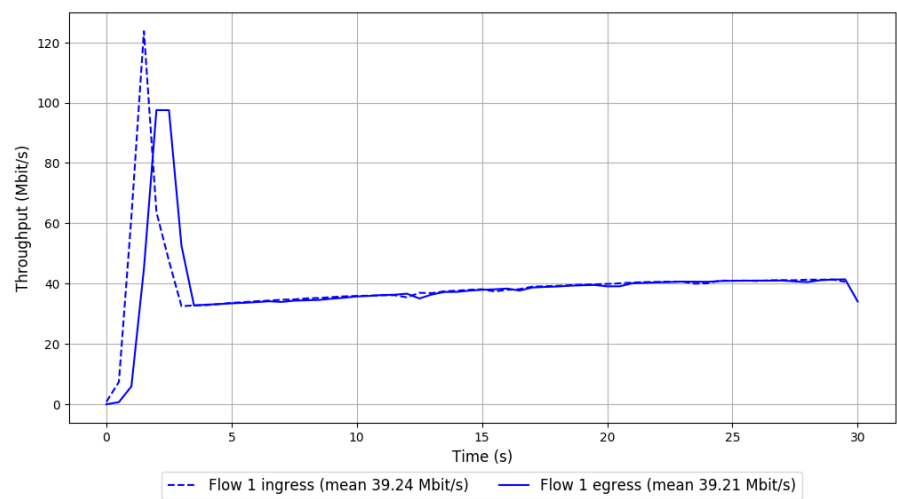
Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 39.24 Mbit/s)   Flow 1 egress (mean 39.21 Mbit/s)
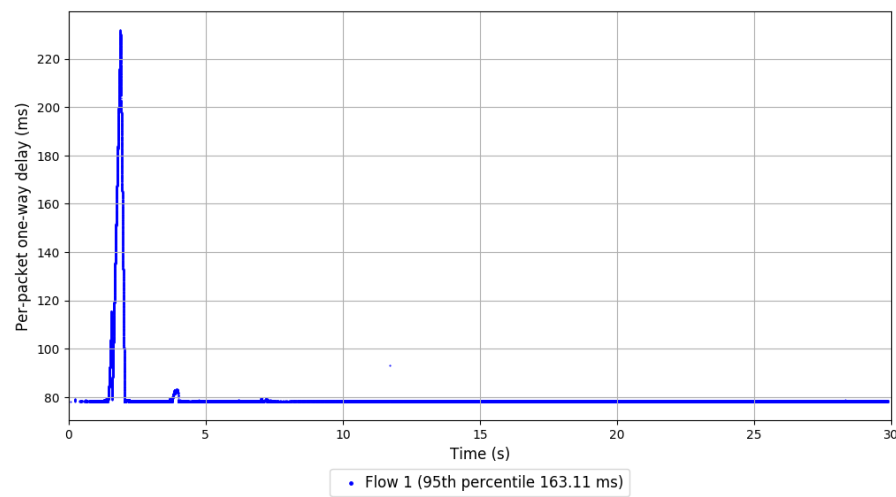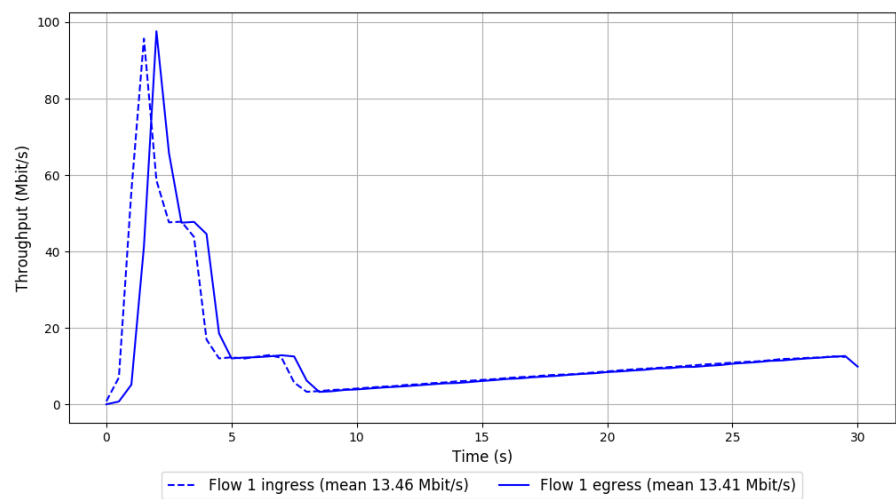

• Flow 1 (95th percentile 150.59 ms)

```
Run 2: Statistics of TCP Vegas

Start at: 2018-10-02 13:57:03
End at: 2018-10-02 13:57:33
Local clock offset: -5.614 ms
Remote clock offset: 2.093 ms


# Below is generated by plot.py at 2018-10-02 15:21:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.41 Mbit/s
95th percentile per-packet one-way delay: 163.107 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 13.41 Mbit/s
95th percentile per-packet one-way delay: 163.107 ms
Loss rate: 0.95%
```

Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 13.46 Mbit/s)   Flow 1 egress (mean 13.41 Mbit/s)

Flow 1 (95th percentile 163.11 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2018-10-02 14:18:37
End at: 2018-10-02 14:19:07
Local clock offset: -6.061 ms
Remote clock offset: 2.286 ms


# Below is generated by plot.py at 2018-10-02 15:21:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.52 Mbit/s
95th percentile per-packet one-way delay: 83.412 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 62.52 Mbit/s
95th percentile per-packet one-way delay: 83.412 ms
Loss rate: 0.64%
```
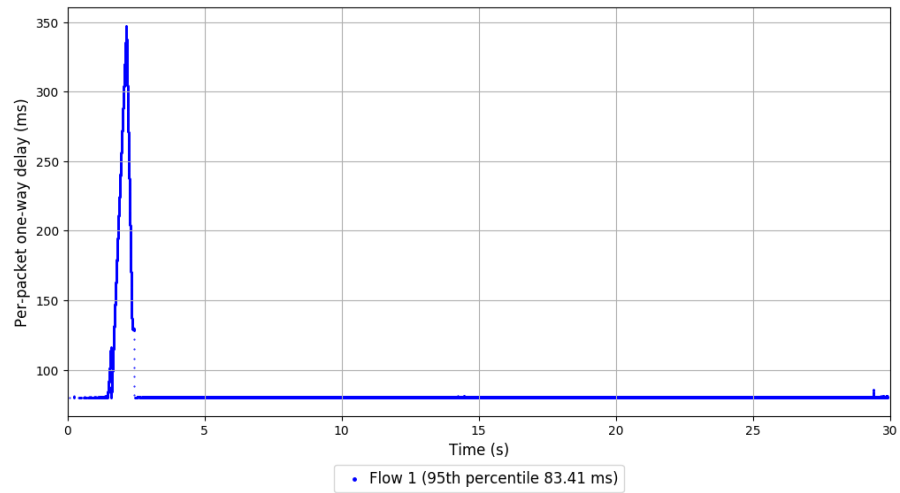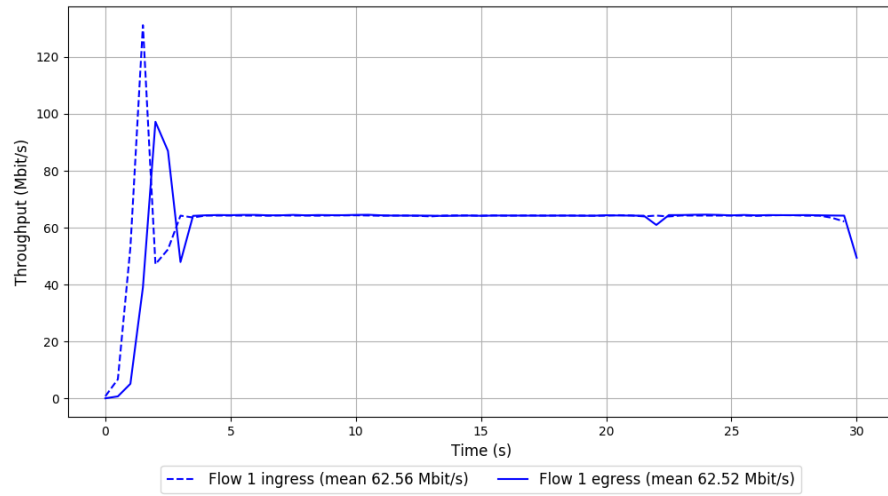
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 62.56 Mbit/s) --- Flow 1 egress (mean 62.52 Mbit/s)

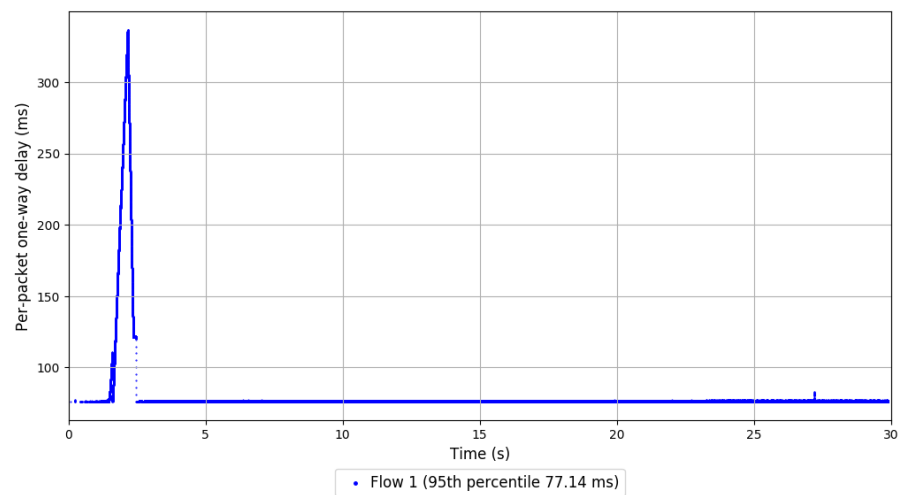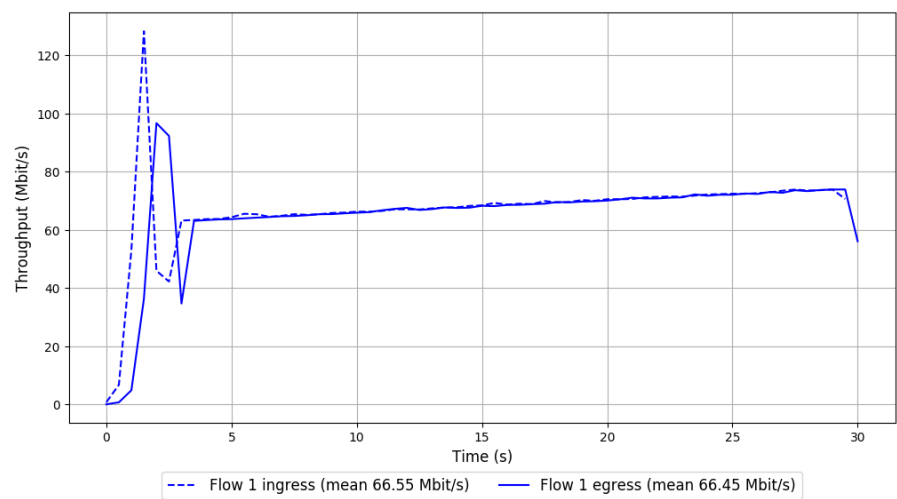

Flow 1 (95th percentile 83.41 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2018-10-02 14:40:16
End at: 2018-10-02 14:40:46
Local clock offset: -6.509 ms
Remote clock offset: 3.493 ms


# Below is generated by plot.py at 2018-10-02 15:21:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.45 Mbit/s
95th percentile per-packet one-way delay: 77.145 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 66.45 Mbit/s
95th percentile per-packet one-way delay: 77.145 ms
Loss rate: 0.72%
```

Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2018-10-02 15:02:08
End at: 2018-10-02 15:02:38
Local clock offset: -6.373 ms
Remote clock offset: 2.323 ms


# Below is generated by plot.py at 2018-10-02 15:21:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 17.20 Mbit/s
95th percentile per-packet one-way delay: 264.188 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 17.20 Mbit/s
95th percentile per-packet one-way delay: 264.188 ms
Loss rate: 2.40%
```
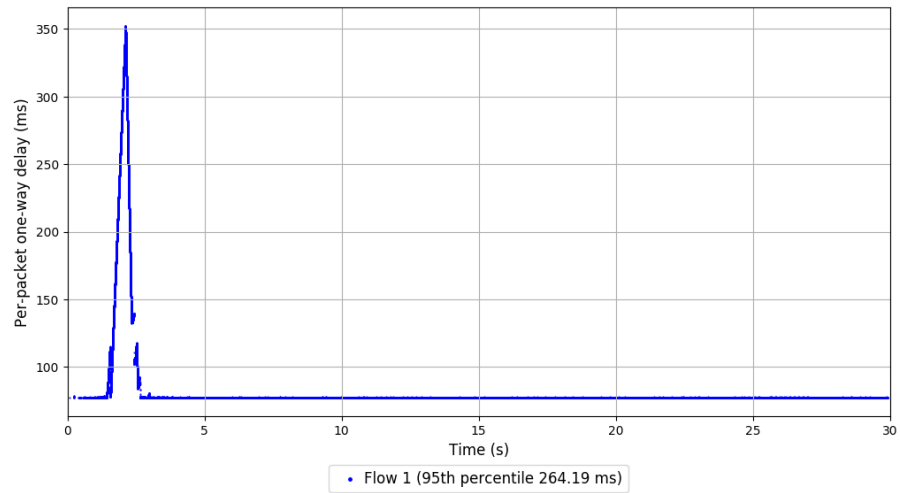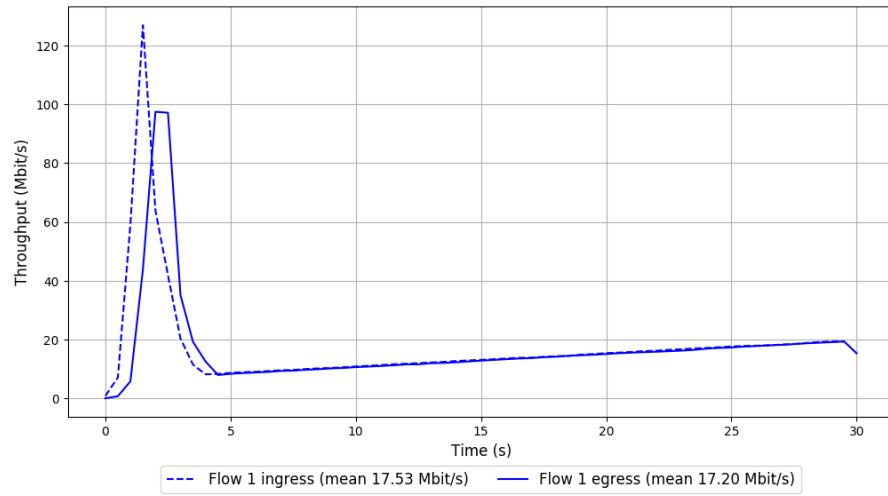
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 17.53 Mbit/s) —— Flow 1 egress (mean 17.20 Mbit/s)
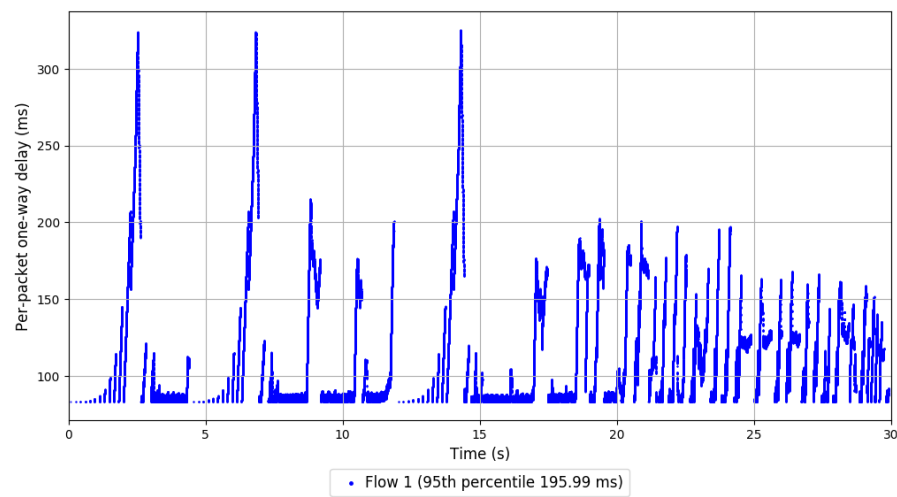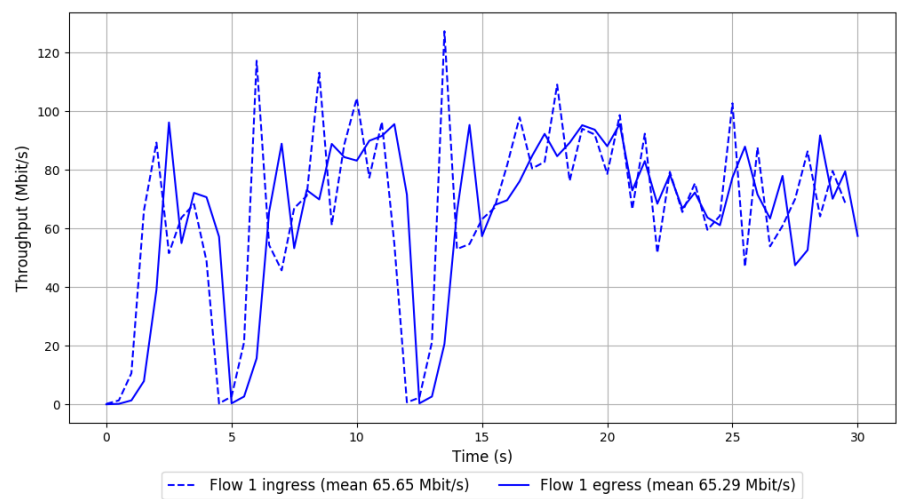

• Flow 1 (95th percentile 264.19 ms)

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```
Run 1: Statistics of Verus

Start at: 2018-10-02 13:36:28
End at: 2018-10-02 13:36:58
Local clock offset: -4.839 ms
Remote clock offset: -2.892 ms


# Below is generated by plot.py at 2018-10-02 15:21:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.29 Mbit/s
95th percentile per-packet one-way delay: 195.986 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 65.29 Mbit/s
95th percentile per-packet one-way delay: 195.986 ms
Loss rate: 0.87%
```

Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2018-10-02 13:58:12
End at: 2018-10-02 13:58:42
Local clock offset: -5.637 ms
Remote clock offset: 3.207 ms


# Below is generated by plot.py at 2018-10-02 15:21:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.30 Mbit/s
95th percentile per-packet one-way delay: 259.584 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 54.30 Mbit/s
95th percentile per-packet one-way delay: 259.584 ms
Loss rate: 0.91%
```
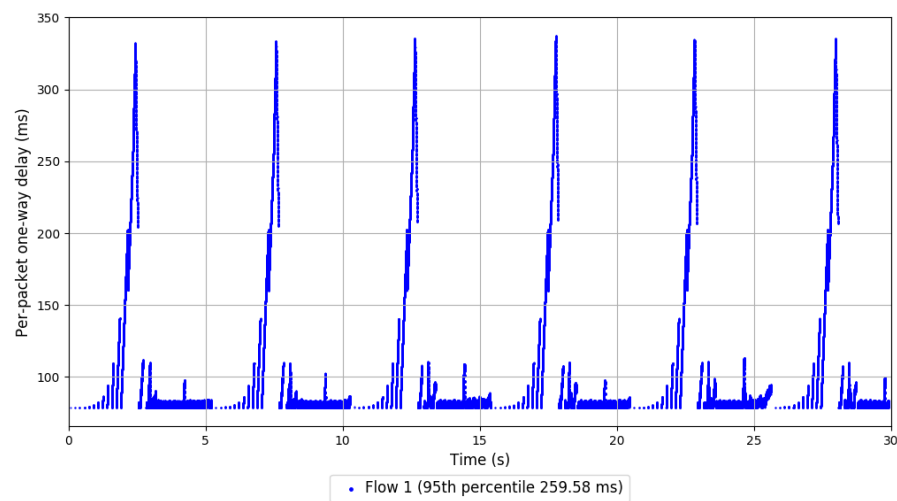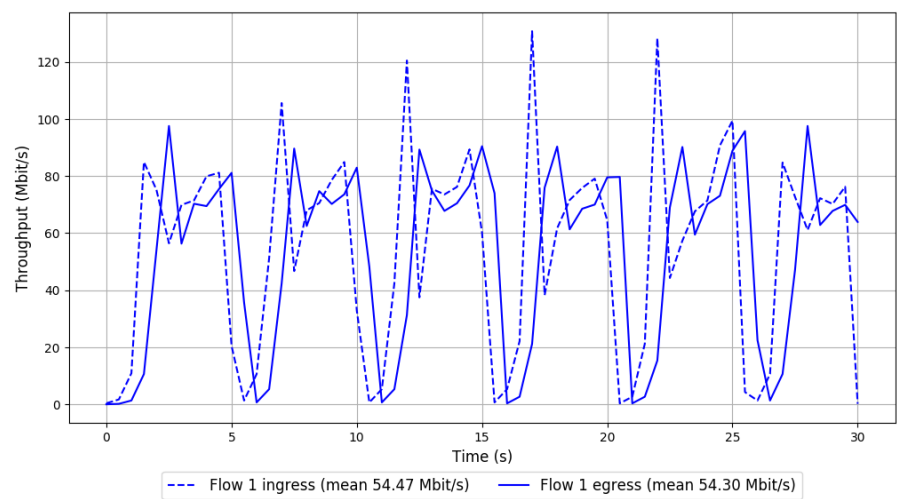
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2018-10-02 14:20:00
End at: 2018-10-02 14:20:30
Local clock offset: -6.103 ms
Remote clock offset: 3.374 ms


# Below is generated by plot.py at 2018-10-02 15:21:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.48 Mbit/s
95th percentile per-packet one-way delay: 194.442 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 67.48 Mbit/s
95th percentile per-packet one-way delay: 194.442 ms
Loss rate: 1.93%
```
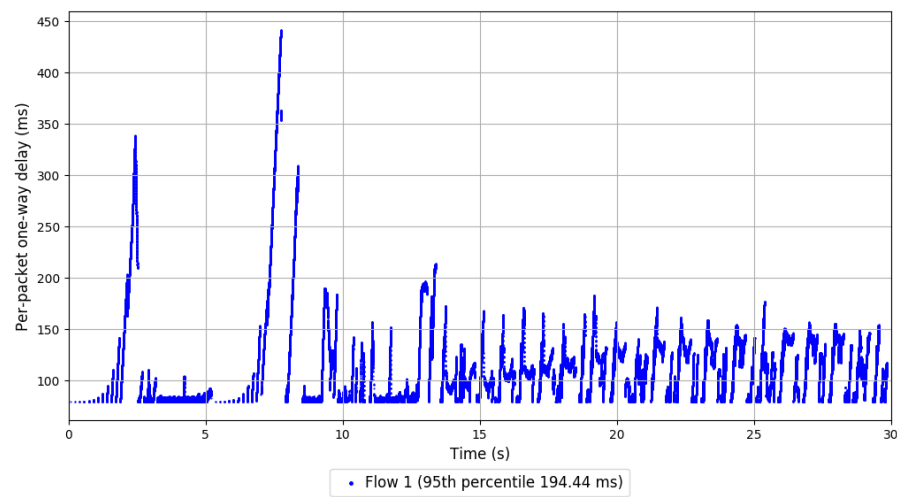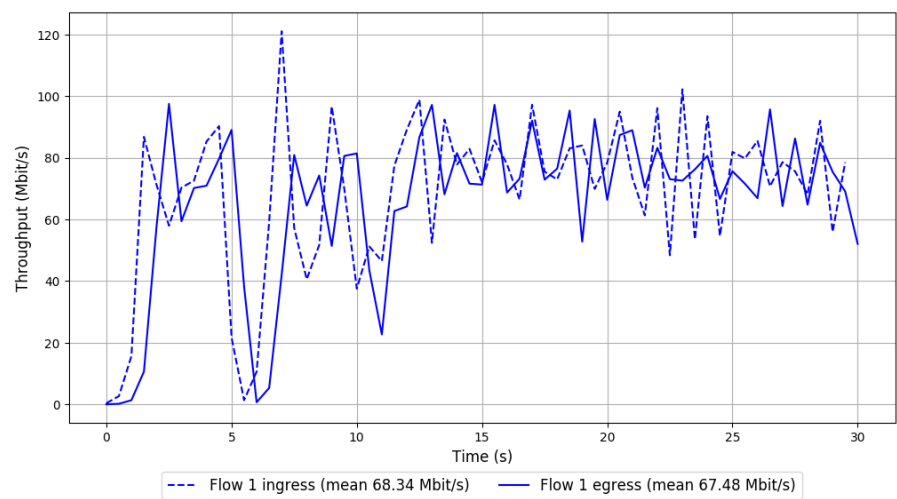
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2018-10-02 14:41:28
End at: 2018-10-02 14:41:58
Local clock offset: -6.53 ms
Remote clock offset: 1.273 ms


# Below is generated by plot.py at 2018-10-02 15:21:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.72 Mbit/s
95th percentile per-packet one-way delay: 228.267 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 62.72 Mbit/s
95th percentile per-packet one-way delay: 228.267 ms
Loss rate: 0.99%
```
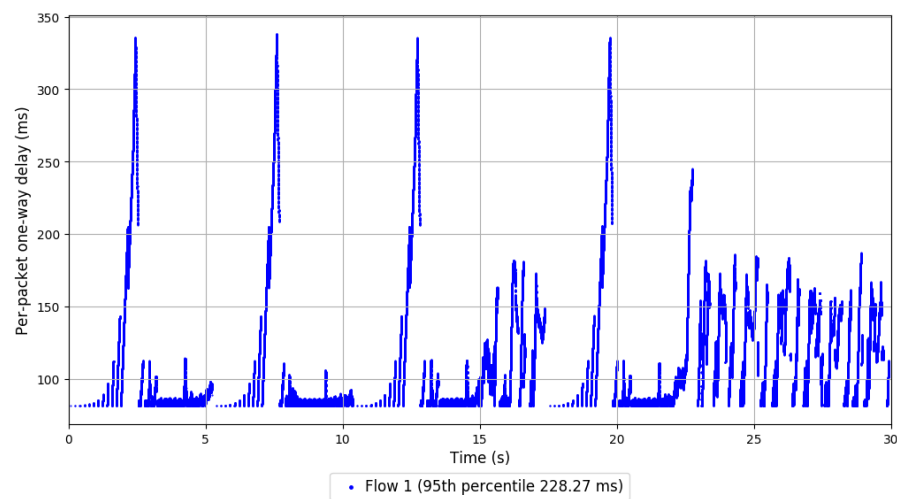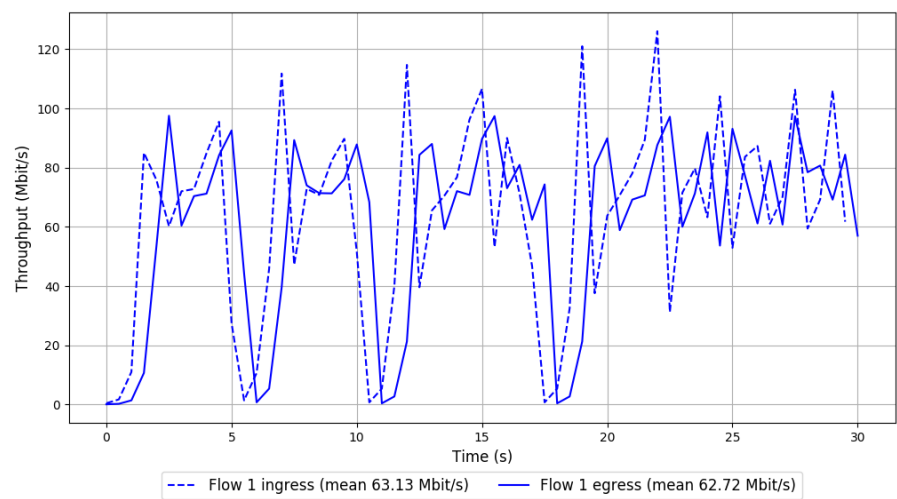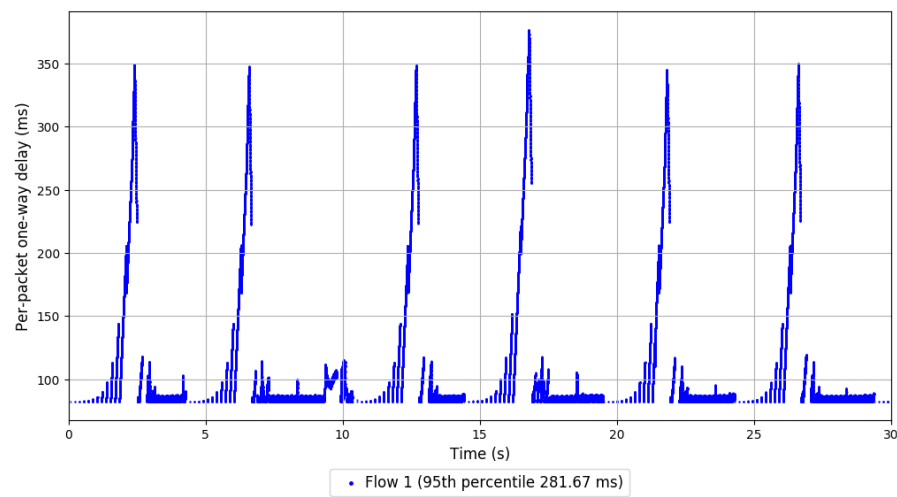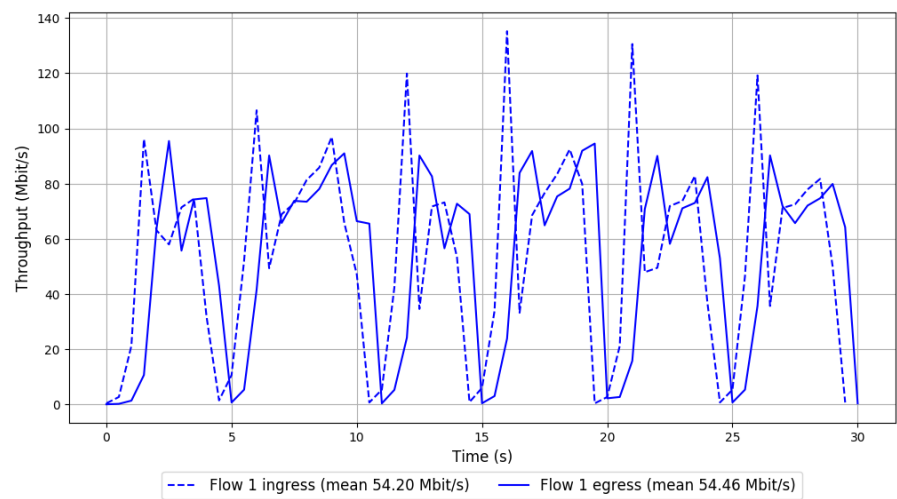
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2018-10-02 15:03:17
End at: 2018-10-02 15:03:47
Local clock offset: -6.391 ms
Remote clock offset: -2.848 ms


# Below is generated by plot.py at 2018-10-02 15:21:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.46 Mbit/s
95th percentile per-packet one-way delay: 281.672 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 54.46 Mbit/s
95th percentile per-packet one-way delay: 281.672 ms
Loss rate: 0.07%
```

Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2018-10-02 13:43:47
End at: 2018-10-02 13:44:17
Local clock offset: -4.817 ms
Remote clock offset: 3.31 ms


# Below is generated by plot.py at 2018-10-02 15:22:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 69.70 Mbit/s
95th percentile per-packet one-way delay: 88.767 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 69.70 Mbit/s
95th percentile per-packet one-way delay: 88.767 ms
Loss rate: 1.13%
```
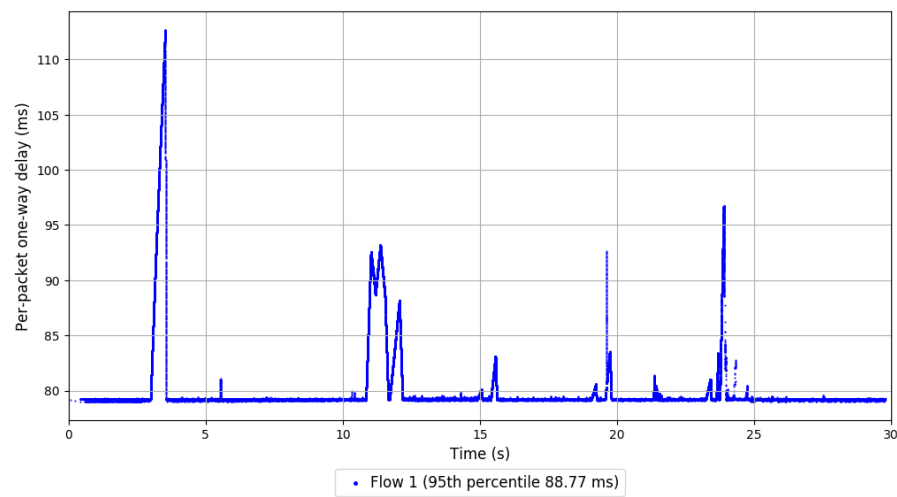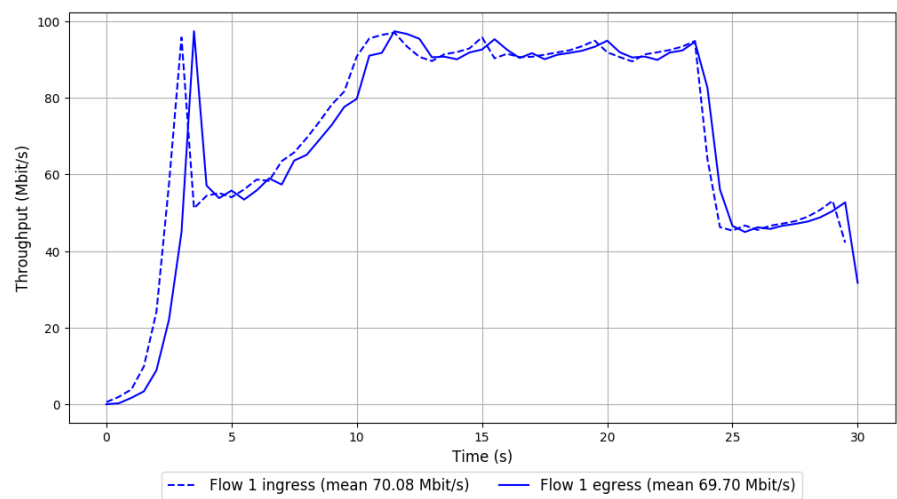
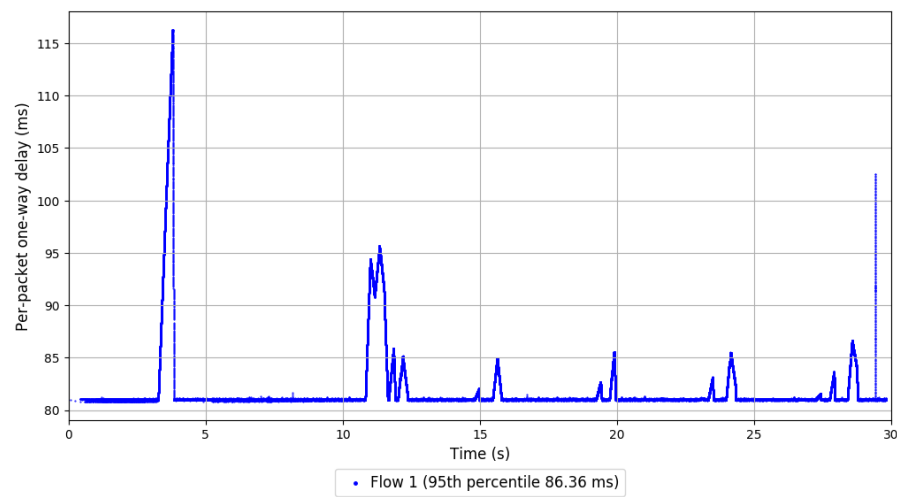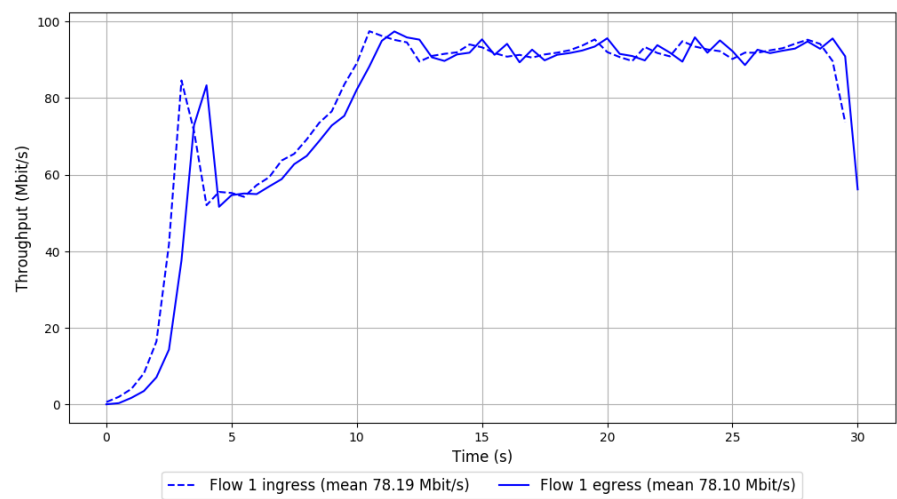Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2018-10-02 14:05:23
End at: 2018-10-02 14:05:53
Local clock offset: -5.817 ms
Remote clock offset: -1.771 ms


# Below is generated by plot.py at 2018-10-02 15:22:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.10 Mbit/s
95th percentile per-packet one-way delay: 86.361 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 78.10 Mbit/s
95th percentile per-packet one-way delay: 86.361 ms
Loss rate: 0.69%
```

Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2018-10-02 14:27:11
End at: 2018-10-02 14:27:41
Local clock offset: -6.315 ms
Remote clock offset: 1.268 ms


# Below is generated by plot.py at 2018-10-02 15:22:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.00 Mbit/s
95th percentile per-packet one-way delay: 87.485 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 78.00 Mbit/s
95th percentile per-packet one-way delay: 87.485 ms
Loss rate: 0.73%
```
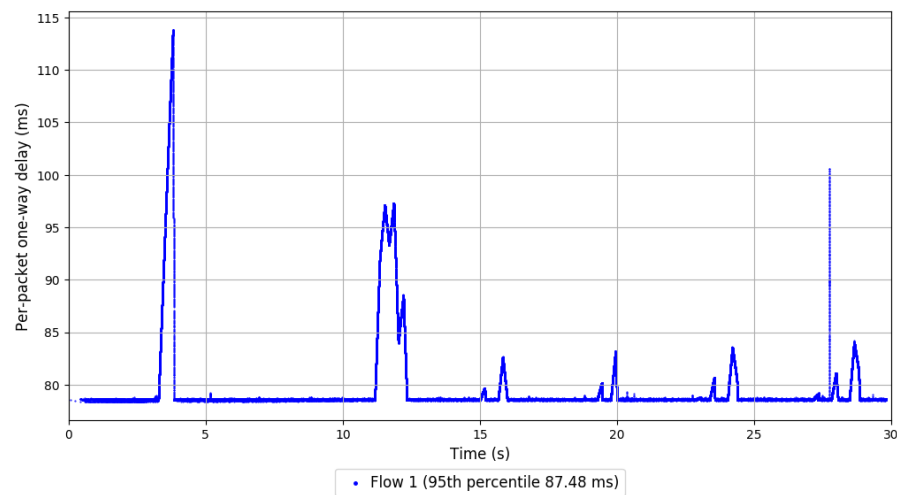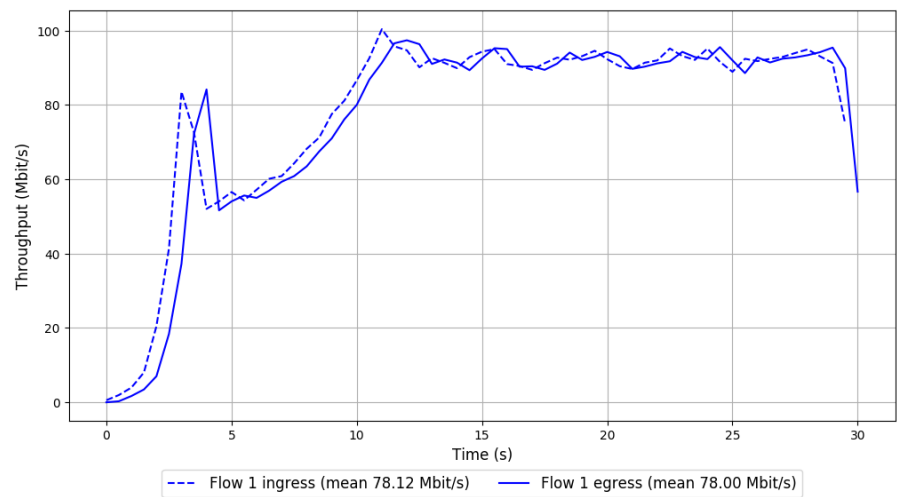
Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2018-10-02 14:48:37
End at: 2018-10-02 14:49:08
Local clock offset: -6.449 ms
Remote clock offset: 2.334 ms


# Below is generated by plot.py at 2018-10-02 15:22:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.75 Mbit/s
95th percentile per-packet one-way delay: 87.879 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 77.75 Mbit/s
95th percentile per-packet one-way delay: 87.879 ms
Loss rate: 0.71%
```
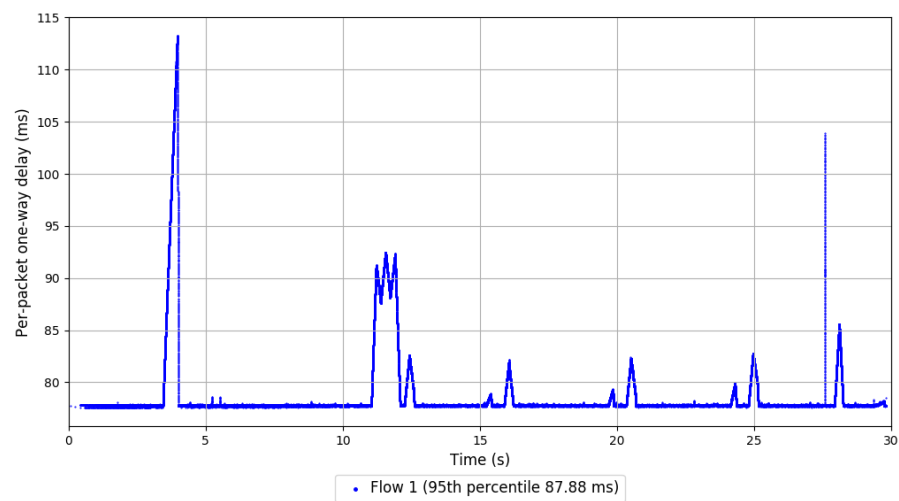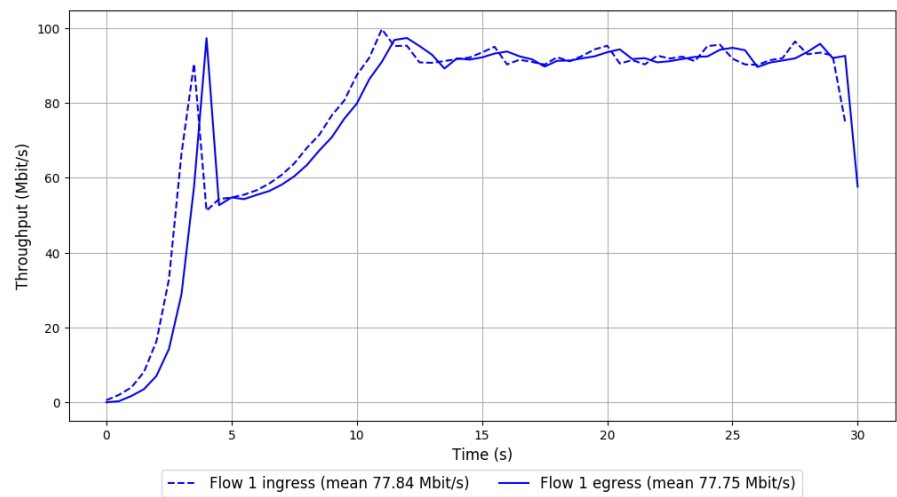
Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2018-10-02 15:10:25
End at: 2018-10-02 15:10:55
Local clock offset: -6.404 ms
Remote clock offset: 2.036 ms


# Below is generated by plot.py at 2018-10-02 15:22:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.83 Mbit/s
95th percentile per-packet one-way delay: 88.727 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 77.83 Mbit/s
95th percentile per-packet one-way delay: 88.727 ms
Loss rate: 0.73%
```
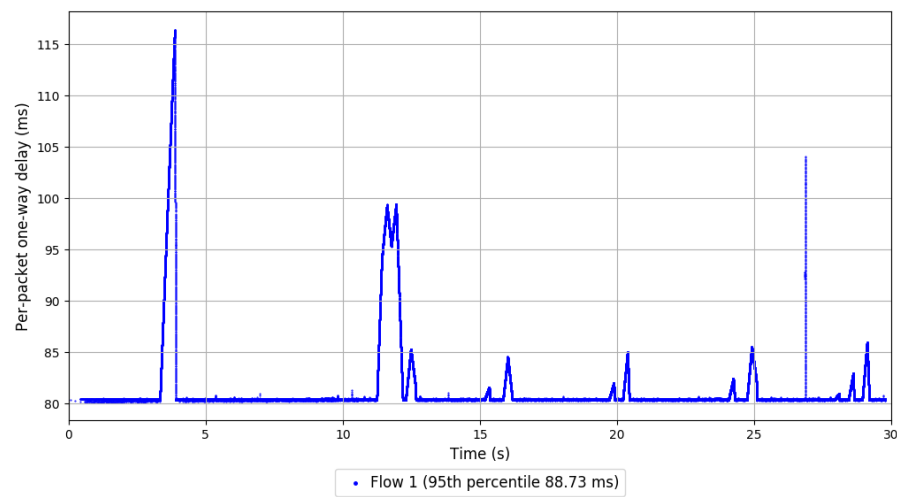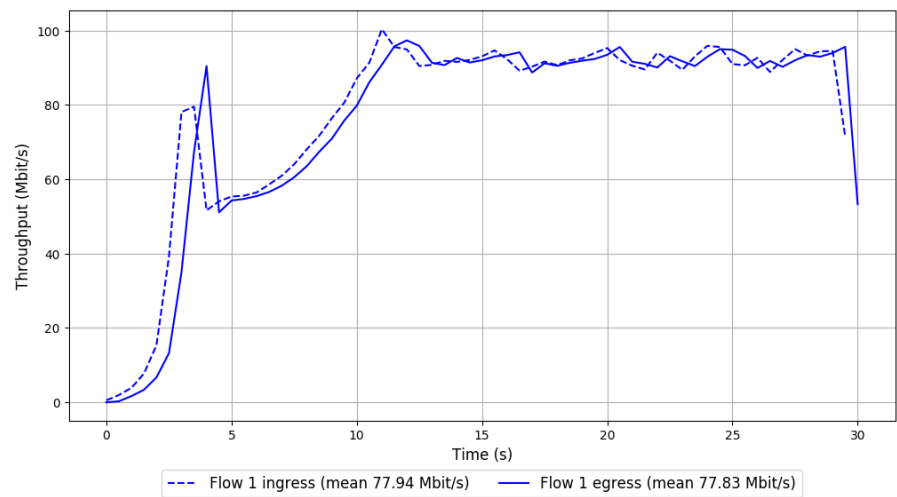
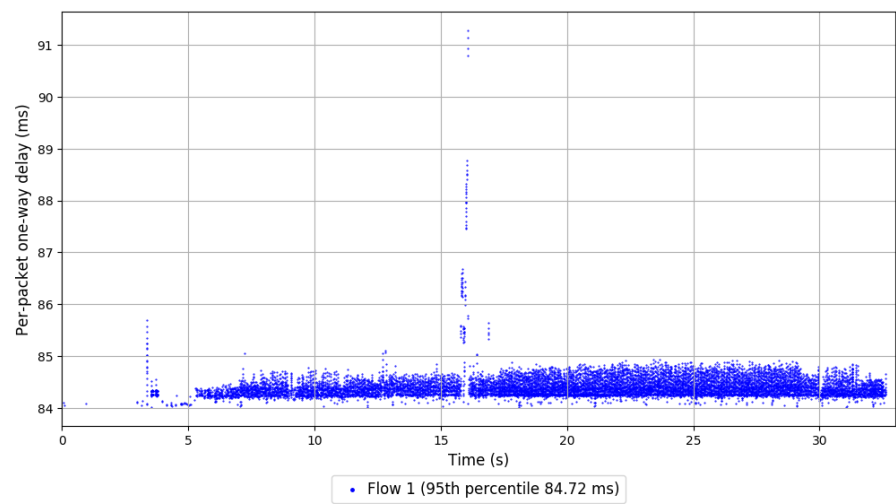## Run 5: Report of PCC-Vivace — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2018-10-02 13:32:57
End at: 2018-10-02 13:33:27
Local clock offset: -4.85 ms
Remote clock offset: -1.891 ms


# Below is generated by plot.py at 2018-10-02 15:22:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 84.722 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 84.722 ms
Loss rate: 0.66%
```

Run 1: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.83 Mbit/s) ——— Flow 1 egress (mean 2.82 Mbit/s)
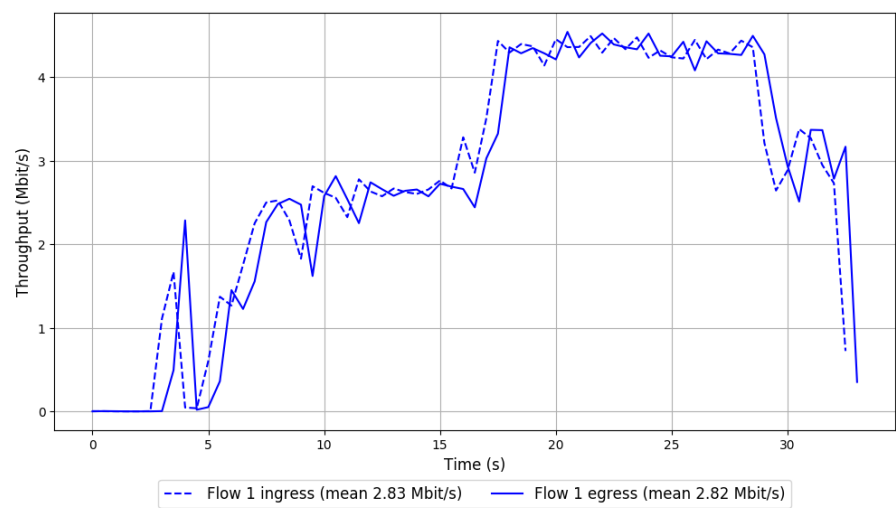
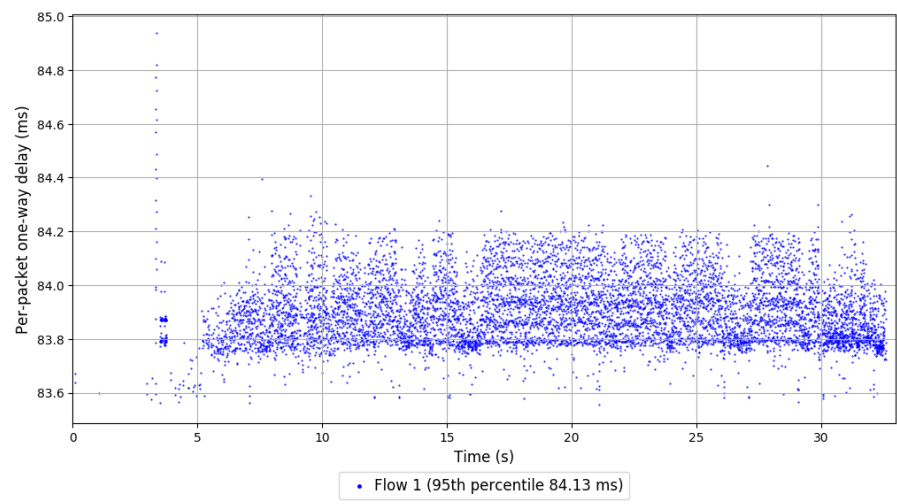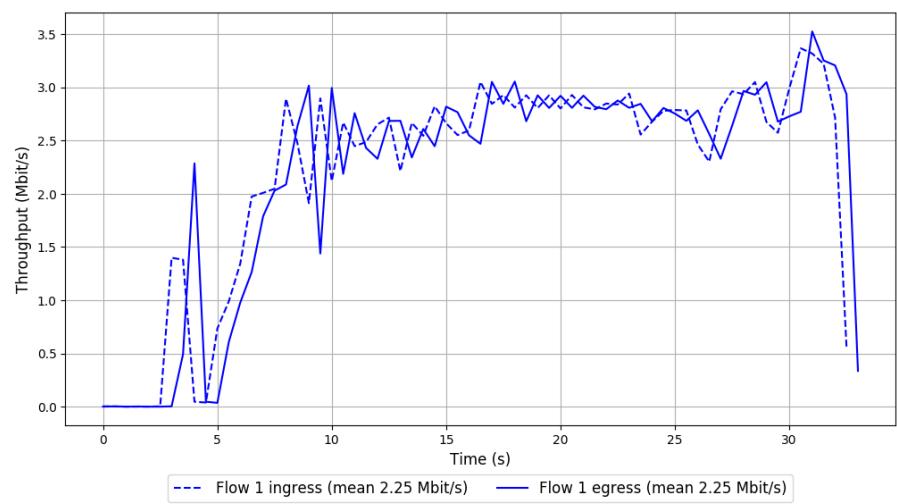

• Flow 1 (95th percentile 84.72 ms)

```
Run 2: Statistics of WebRTC media

Start at: 2018-10-02 13:54:32
End at: 2018-10-02 13:55:02
Local clock offset: -5.509 ms
Remote clock offset: -1.856 ms


# Below is generated by plot.py at 2018-10-02 15:22:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 84.132 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 84.132 ms
Loss rate: 0.34%
```

Run 2: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.25 Mbit/s) ---- Flow 1 egress (mean 2.25 Mbit/s) ——
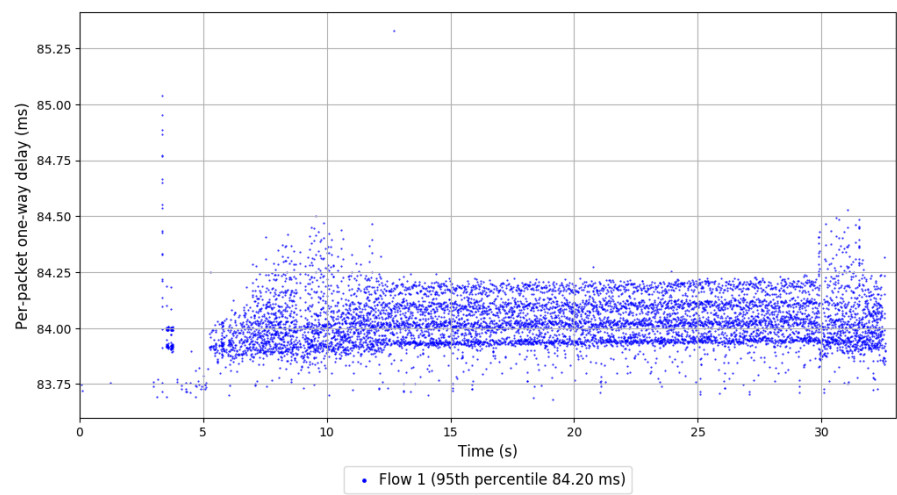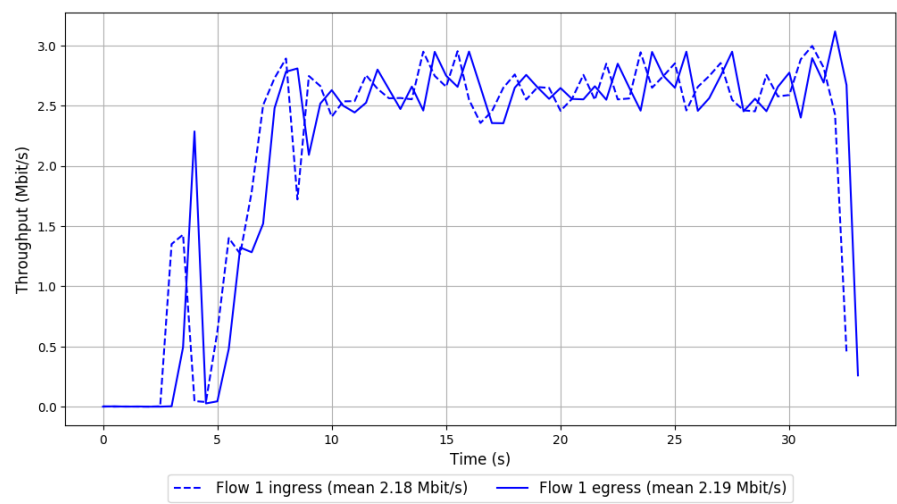

Flow 1 (95th percentile 84.13 ms)

```
Run 3: Statistics of WebRTC media

Start at: 2018-10-02 14:16:15
End at: 2018-10-02 14:16:45
Local clock offset: -5.976 ms
Remote clock offset: -1.639 ms


# Below is generated by plot.py at 2018-10-02 15:22:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 84.204 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 84.204 ms
Loss rate: 0.29%
```

Run 3: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.18 Mbit/s)   Flow 1 egress (mean 2.19 Mbit/s)

Flow 1 (95th percentile 84.20 ms)

```
Run 4: Statistics of WebRTC media

Start at: 2018-10-02 14:37:56
End at: 2018-10-02 14:38:26
Local clock offset: -6.49 ms
Remote clock offset: 1.288 ms


# Below is generated by plot.py at 2018-10-02 15:22:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.57 Mbit/s
95th percentile per-packet one-way delay: 78.980 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 2.57 Mbit/s
95th percentile per-packet one-way delay: 78.980 ms
Loss rate: 0.88%
```
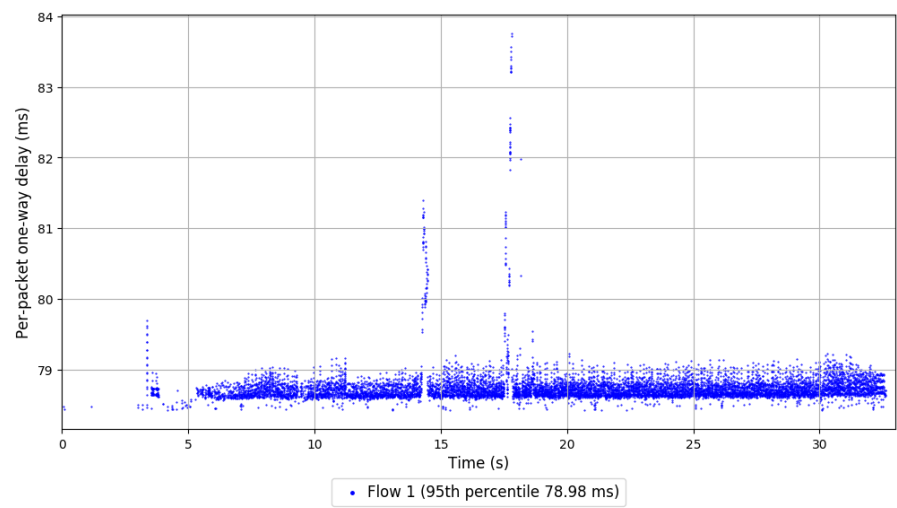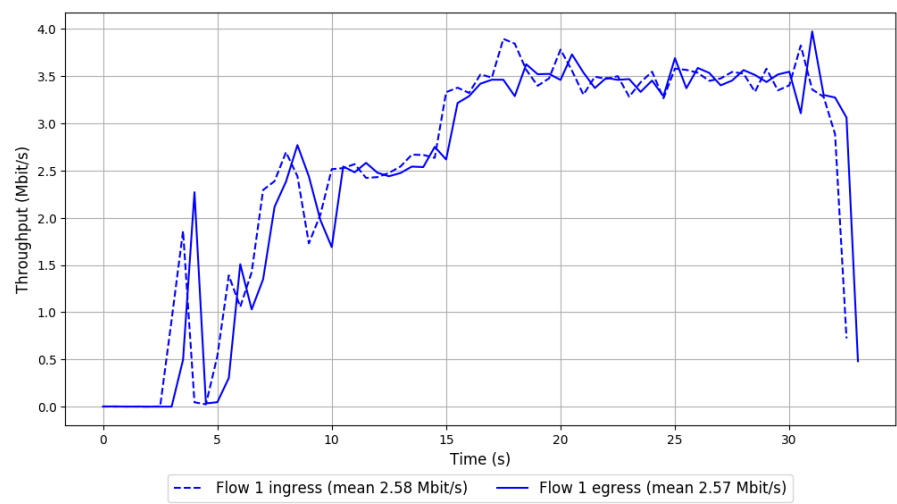
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2018-10-02 14:59:47
End at: 2018-10-02 15:00:17
Local clock offset: -6.379 ms
Remote clock offset: -1.771 ms


# Below is generated by plot.py at 2018-10-02 15:22:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 82.088 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 82.088 ms
Loss rate: 0.56%
```

Run 5: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.30 Mbit/s)   Flow 1 egress (mean 2.30 Mbit/s)

Flow 1 (95th percentile 82.09 ms)