# Pantheon Report

Generated at 2019-07-17 19:53:15 (UTC).

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

Repeated the test of 24 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.
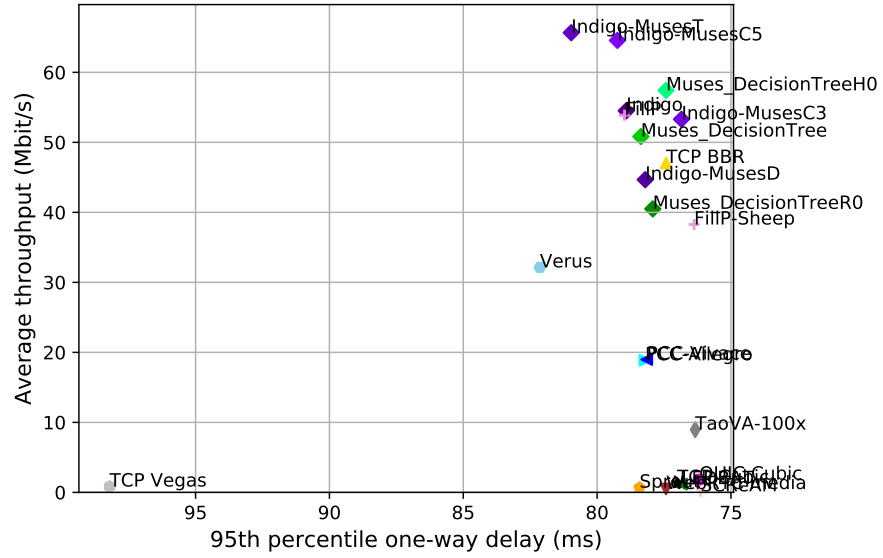
```
System info:
Linux 4.15.0-1043-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ de42328552b3776a75a932a94dfafd722537b0ec
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/muses_dtree @ 387225f7b5f61ddbe92d708a8869ffbb84eb3200
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
```
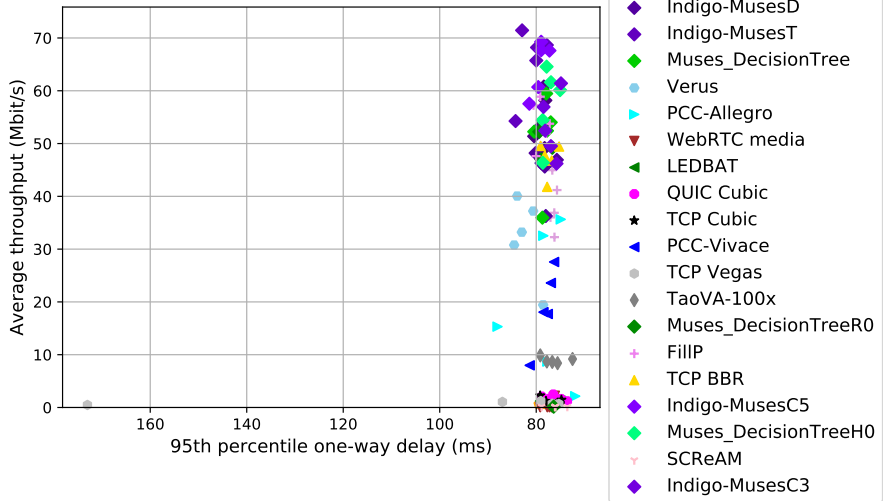
```
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



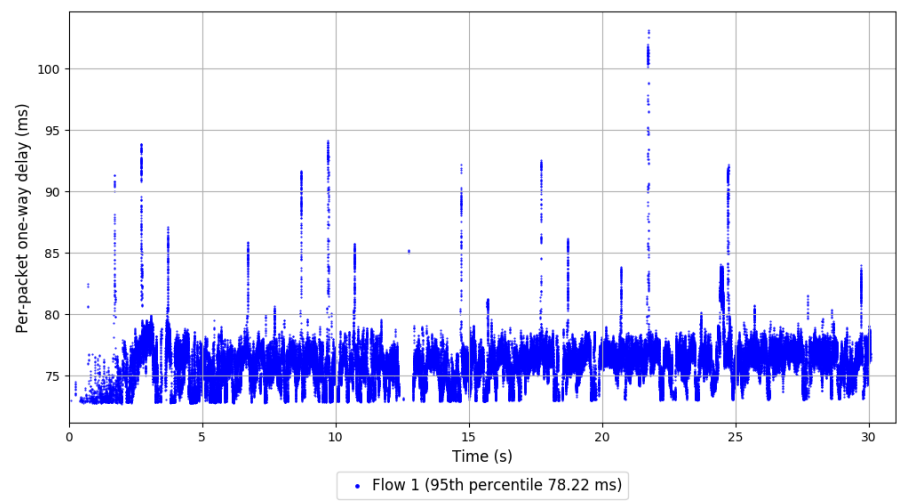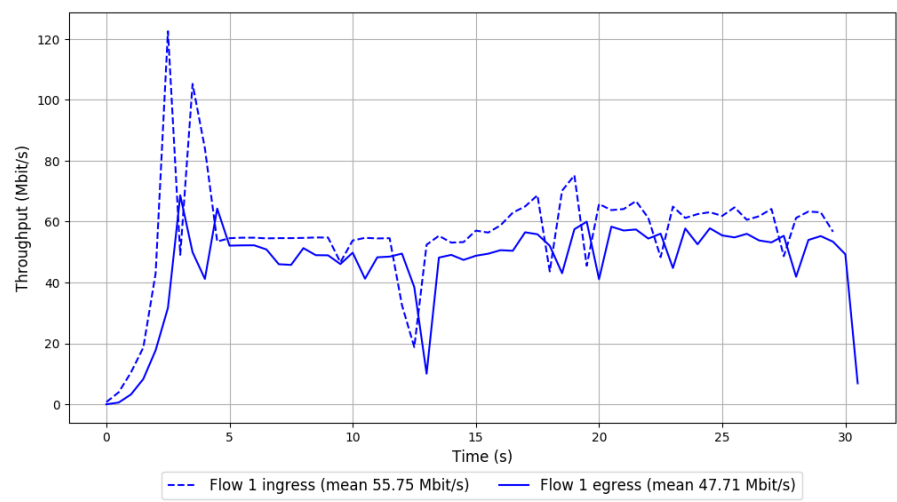test from AWS Brazil 2 to Colombia, 5 runs of 30s each per scheme

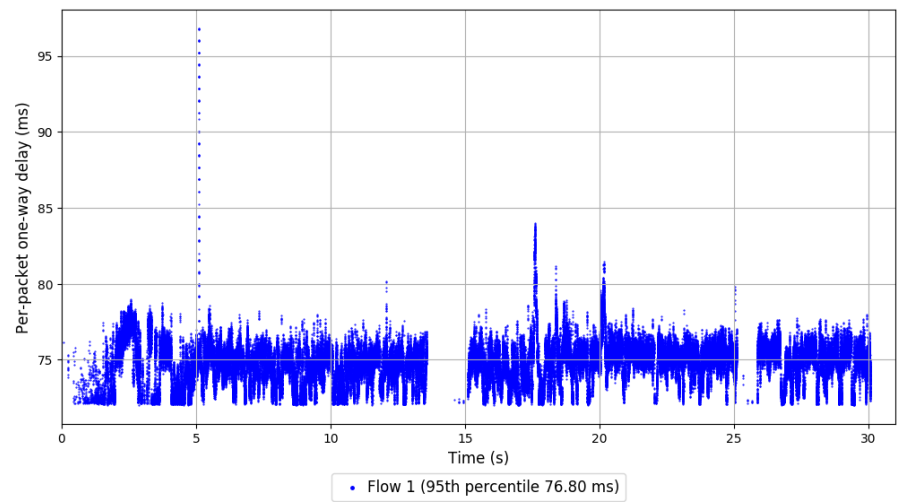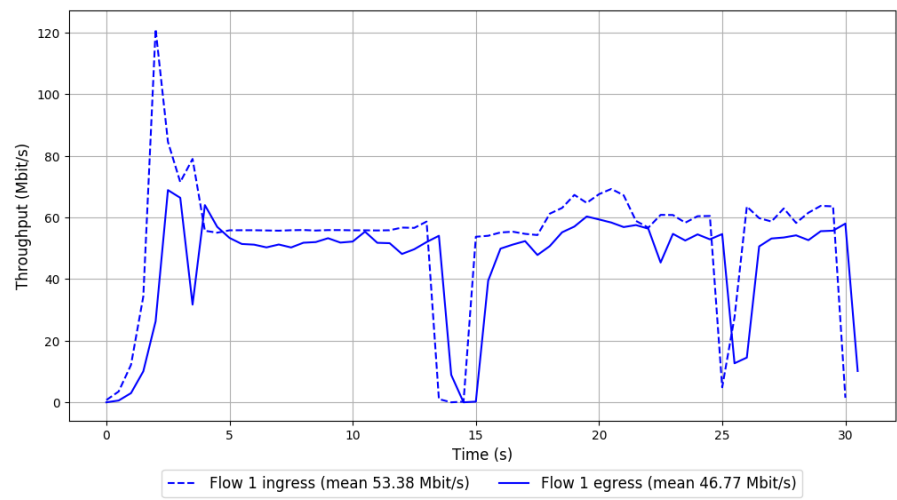| scheme | # runs | mean avg tput (Mbit/s) flow 1 | mean 95th-%ile delay (ms) flow 1 | mean loss rate (%) flow 1 |
|---|---|---|---|---|
| TCP BBR | 5 | 47.05 | 77.42 | 13.54 |
| Copa | 0 | N/A | N/A | N/A |
| TCP Cubic | 5 | 1.33 | 77.01 | 2.01 |
| FillP | 5 | 53.88 | 78.98 | 12.63 |
| FillP-Sheep | 5 | 38.26 | 76.38 | 10.77 |
| Indigo | 5 | 54.51 | 78.91 | 32.27 |
| Indigo-MusesC3 | 5 | 53.30 | 76.85 | 13.69 |
| Indigo-MusesC5 | 5 | 64.56 | 79.24 | 29.59 |
| Indigo-MusesD | 5 | 44.66 | 78.20 | 14.39 |
| Indigo-MusesT | 5 | 65.66 | 80.97 | 27.28 |
| LEDBAT | 5 | 1.18 | 76.85 | 2.95 |
| Muses_DecisionTree | 5 | 50.82 | 78.37 | 12.26 |
| Muses_DecisionTreeH0 | 5 | 57.42 | 77.42 | 13.25 |
| Muses_DecisionTreeR0 | 5 | 40.50 | 77.92 | 10.16 |
| PCC-Allegro | 5 | 18.86 | 78.21 | 2.82 |
| PCC-Expr | 0 | N/A | N/A | N/A |
| QUIC Cubic | 5 | 1.82 | 76.19 | 2.11 |
| SCReAM | 5 | 0.15 | 76.13 | 1.26 |
| Sprout | 5 | 0.68 | 78.42 | 5.33 |
| TaoVA-100x | 5 | 8.96 | 76.34 | 15.33 |
| TCP Vegas | 5 | 0.84 | 98.21 | 1.89 |
| Verus | 5 | 32.14 | 82.14 | 86.67 |
| PCC-Vivace | 5 | 18.98 | 78.15 | 2.22 |
| WebRTC media | 5 | 0.48 | 77.43 | 6.03 |

```
Run 1: Statistics of TCP BBR

Start at: 2019-07-17 17:27:45
End at: 2019-07-17 17:28:15
Local clock offset: -11.312 ms
Remote clock offset: -6.699 ms

# Below is generated by plot.py at 2019-07-17 19:47:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.71 Mbit/s
95th percentile per-packet one-way delay: 78.223 ms
Loss rate: 14.42%
-- Flow 1:
Average throughput: 47.71 Mbit/s
95th percentile per-packet one-way delay: 78.223 ms
Loss rate: 14.42%
```
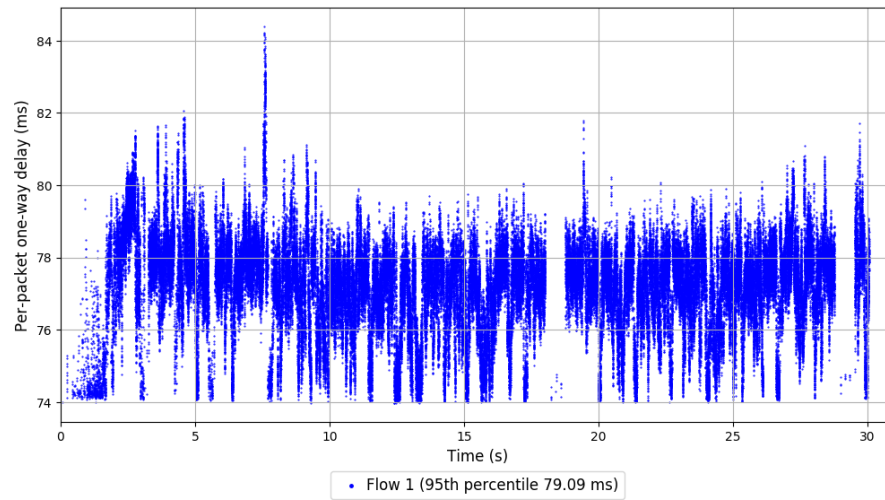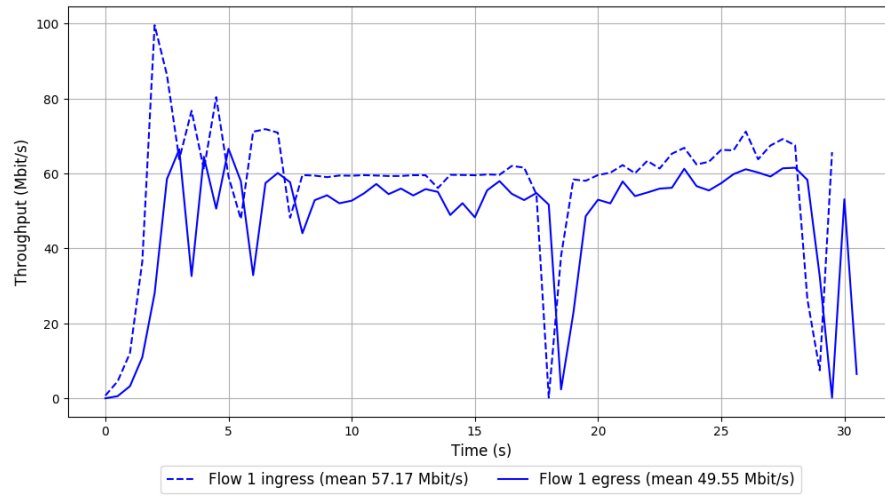
Run 1: Report of TCP BBR — Data Link



Flow 1 ingress (mean 55.75 Mbit/s) ----    Flow 1 egress (mean 47.71 Mbit/s) ——



• Flow 1 (95th percentile 78.22 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2019-07-17 17:55:49
End at: 2019-07-17 17:56:19
Local clock offset: -6.421 ms
Remote clock offset: -9.005 ms


# Below is generated by plot.py at 2019-07-17 19:47:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.77 Mbit/s
95th percentile per-packet one-way delay: 76.801 ms
Loss rate: 12.38%
-- Flow 1:
Average throughput: 46.77 Mbit/s
95th percentile per-packet one-way delay: 76.801 ms
Loss rate: 12.38%
```
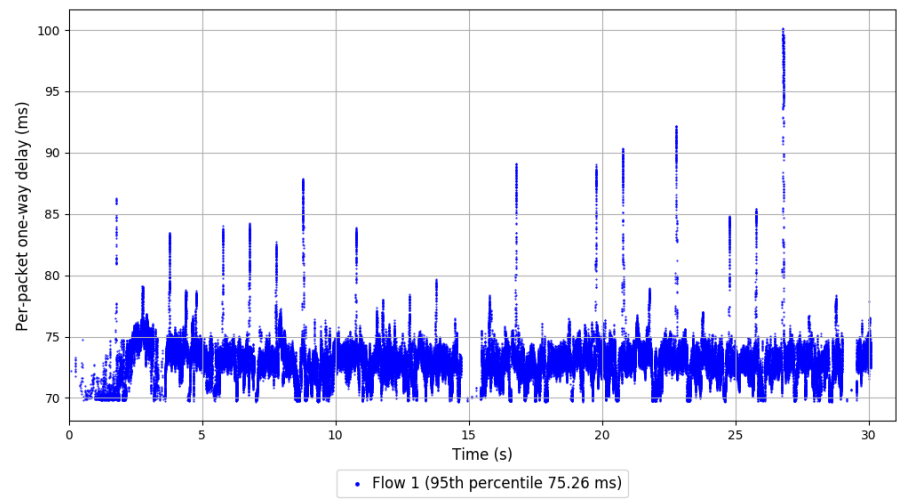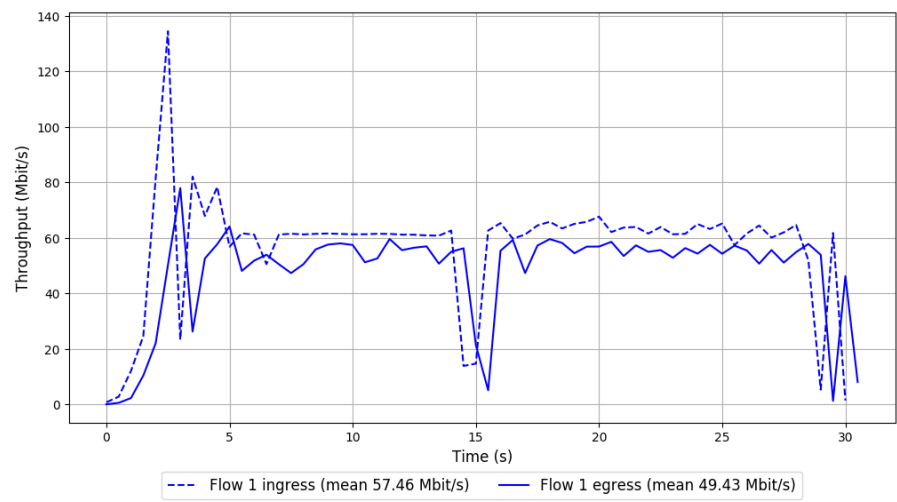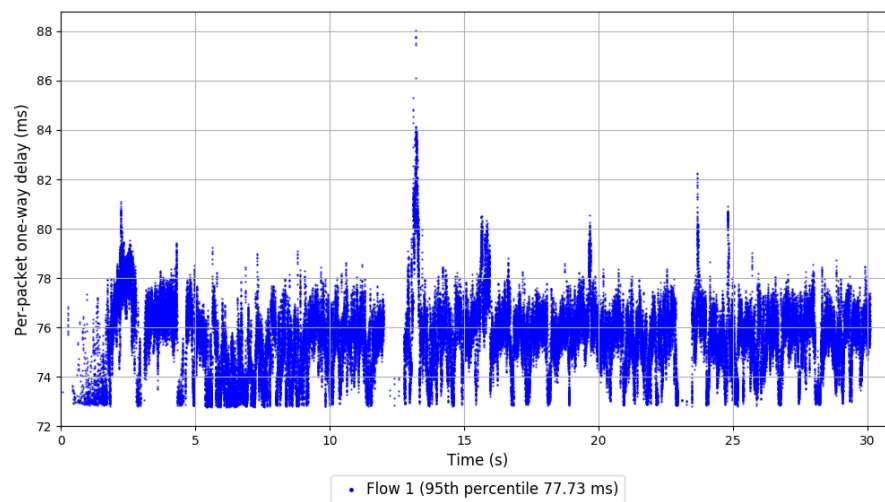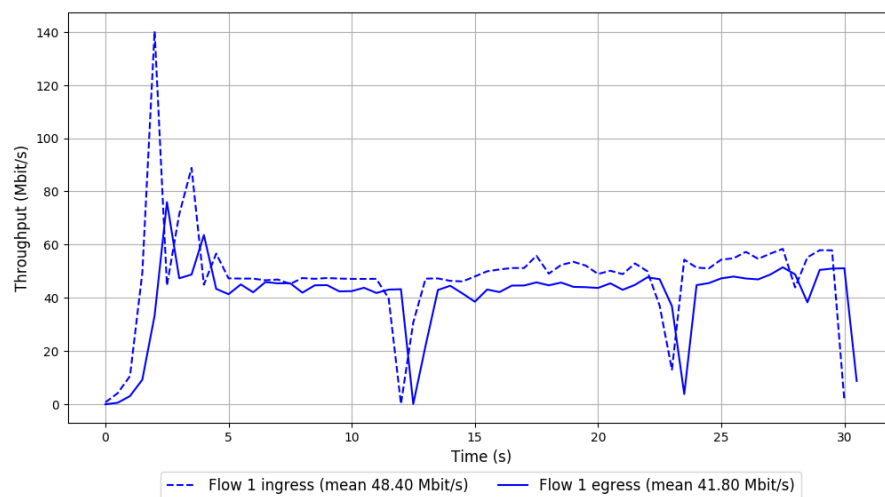
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-07-17 18:23:43
End at: 2019-07-17 18:24:13
Local clock offset: -6.215 ms
Remote clock offset: -5.073 ms


# Below is generated by plot.py at 2019-07-17 19:47:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.55 Mbit/s
95th percentile per-packet one-way delay: 79.095 ms
Loss rate: 13.32%
-- Flow 1:
Average throughput: 49.55 Mbit/s
95th percentile per-packet one-way delay: 79.095 ms
Loss rate: 13.32%
```

Run 3: Report of TCP BBR — Data Link



Flow 1 ingress (mean 57.17 Mbit/s)     Flow 1 egress (mean 49.55 Mbit/s)



Flow 1 (95th percentile 79.09 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-07-17 18:51:33
End at: 2019-07-17 18:52:03
Local clock offset: -6.334 ms
Remote clock offset: -6.909 ms


# Below is generated by plot.py at 2019-07-17 19:47:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.43 Mbit/s
95th percentile per-packet one-way delay: 75.263 ms
Loss rate: 13.96%
-- Flow 1:
Average throughput: 49.43 Mbit/s
95th percentile per-packet one-way delay: 75.263 ms
Loss rate: 13.96%
```

Run 4: Report of TCP BBR — Data Link



Flow 1 ingress (mean 57.46 Mbit/s)   Flow 1 egress (mean 49.43 Mbit/s)



Flow 1 (95th percentile 75.26 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2019-07-17 19:19:43
End at: 2019-07-17 19:20:13
Local clock offset: -6.019 ms
Remote clock offset: -5.576 ms


# Below is generated by plot.py at 2019-07-17 19:47:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.80 Mbit/s
95th percentile per-packet one-way delay: 77.729 ms
Loss rate: 13.63%
-- Flow 1:
Average throughput: 41.80 Mbit/s
95th percentile per-packet one-way delay: 77.729 ms
Loss rate: 13.63%
```

Run 5: Report of TCP BBR — Data Link



Flow 1 ingress (mean 48.40 Mbit/s) --- Flow 1 egress (mean 41.80 Mbit/s)



• Flow 1 (95th percentile 77.73 ms)
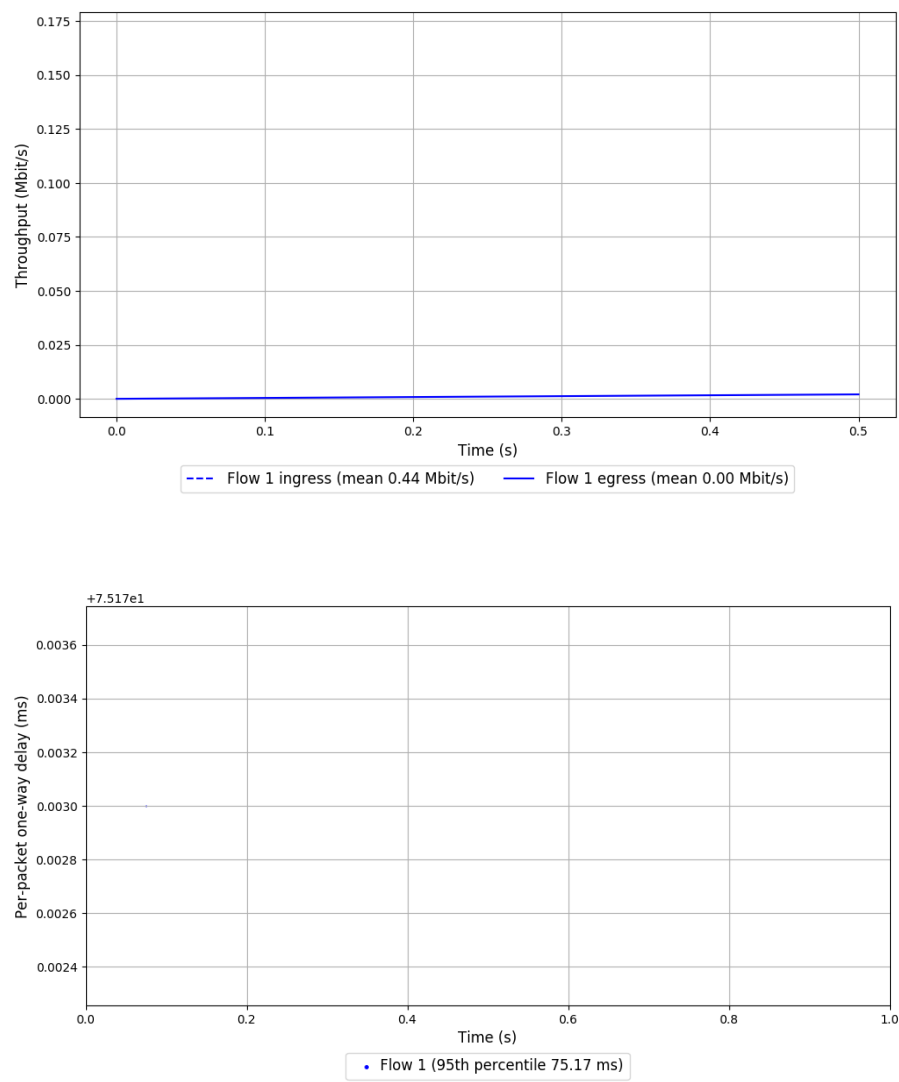
14

```
Run 1: Statistics of Copa

Start at: 2019-07-17 17:51:10
End at: 2019-07-17 17:51:40
Local clock offset: -6.525 ms
Remote clock offset: -9.656 ms
```

## Run 1: Report of Copa — Data Link



Throughput (Mbit/s) vs Time (s)

--- Flow 1 ingress (mean 0.26 Mbit/s)    —— Flow 1 egress (mean 0.00 Mbit/s)



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

+7.142e1

• Flow 1 (95th percentile 71.42 ms)

```
Run 2: Statistics of Copa

Start at: 2019-07-17 18:19:06
End at: 2019-07-17 18:19:36
Local clock offset: -6.244 ms
Remote clock offset: -4.897 ms
```
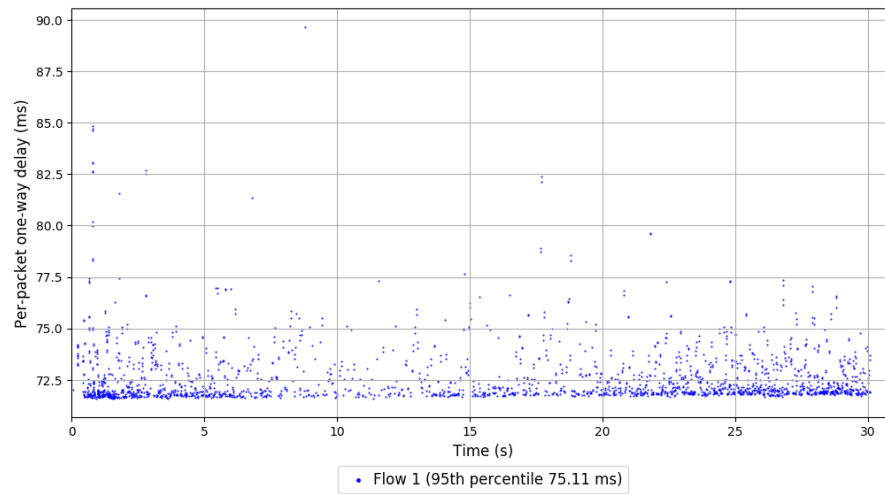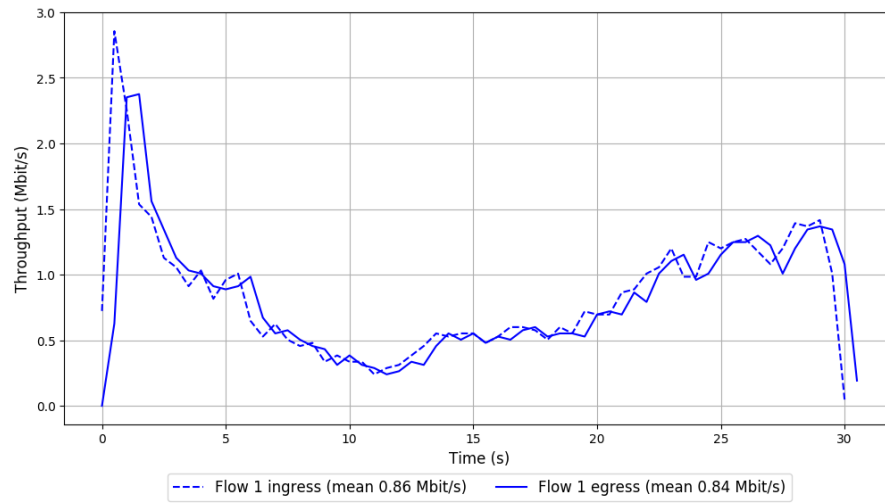
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-07-17 18:46:55
End at: 2019-07-17 18:47:25
Local clock offset: -6.391 ms
Remote clock offset: -3.938 ms
```

## Run 3: Report of Copa — Data Link



Flow 1 ingress (mean 0.19 Mbit/s) — Flow 1 egress (mean 0.00 Mbit/s)
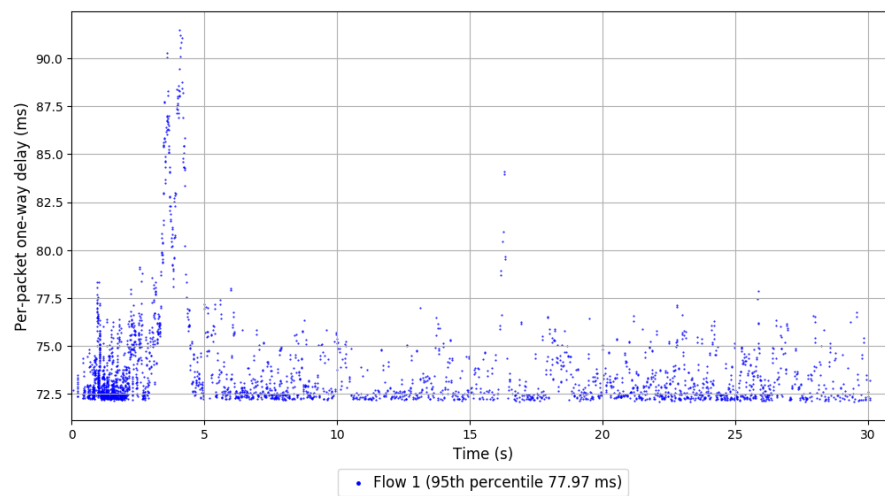


• Flow 1 (95th percentile 74.32 ms)

```
Run 4: Statistics of Copa

Start at: 2019-07-17 19:15:04
End at: 2019-07-17 19:15:34
Local clock offset: -6.075 ms
Remote clock offset: -4.379 ms
```
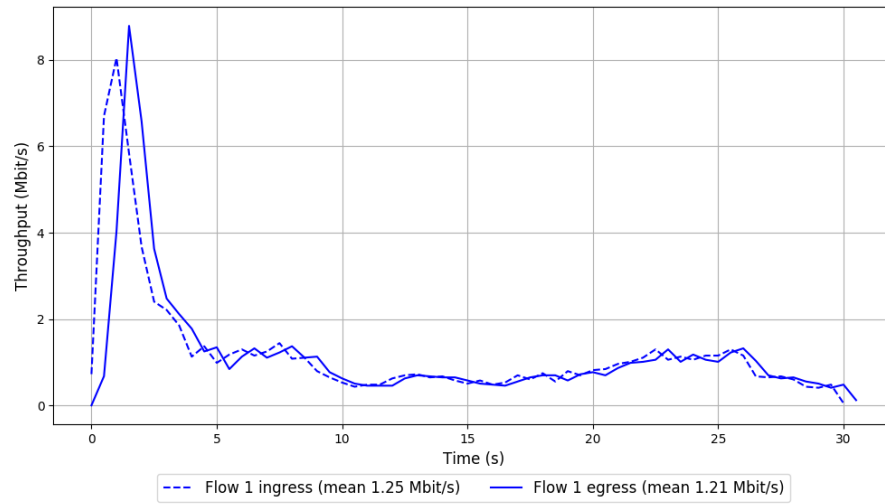
# Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-07-17 19:43:03
End at: 2019-07-17 19:43:33
Local clock offset: -6.717 ms
Remote clock offset: -5.155 ms
```

## Run 5: Report of Copa — Data Link



Flow 1 ingress (mean 0.43 Mbit/s)    Flow 1 egress (mean 0.00 Mbit/s)



Flow 1 (95th percentile 78.78 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2019-07-17 17:35:54
End at: 2019-07-17 17:36:24
Local clock offset: -8.283 ms
Remote clock offset: -8.472 ms


# Below is generated by plot.py at 2019-07-17 19:47:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 75.112 ms
Loss rate: 2.01%
-- Flow 1:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 75.112 ms
Loss rate: 2.01%
```
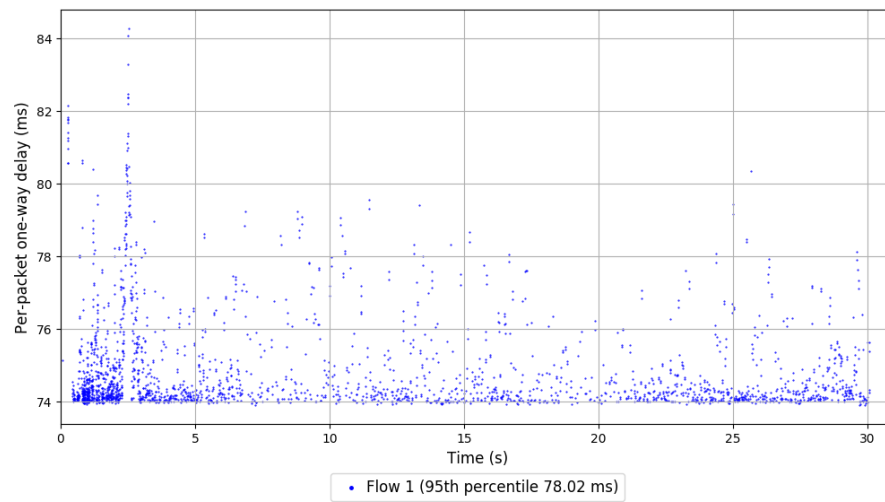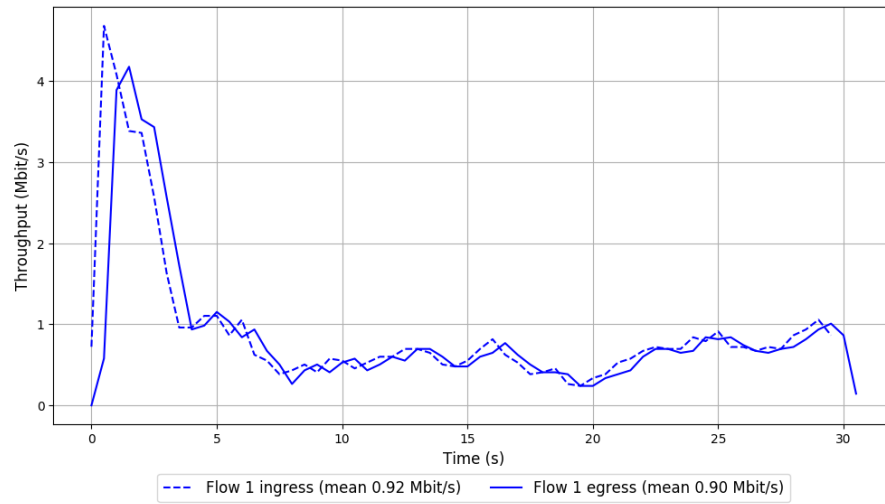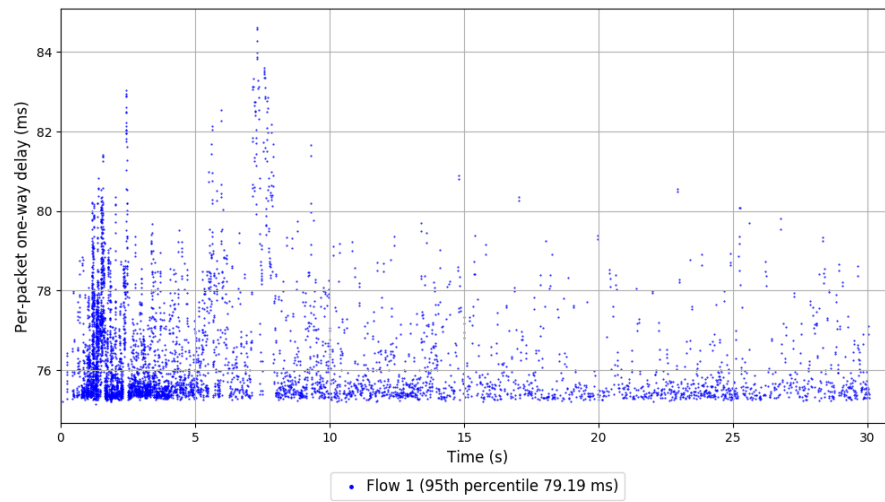
Run 1: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 0.86 Mbit/s) ----    Flow 1 egress (mean 0.84 Mbit/s) ——



• Flow 1 (95th percentile 75.11 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2019-07-17 18:03:57
End at: 2019-07-17 18:04:27
Local clock offset: -6.358 ms
Remote clock offset: -9.106 ms


# Below is generated by plot.py at 2019-07-17 19:47:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 77.975 ms
Loss rate: 2.66%
-- Flow 1:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 77.975 ms
Loss rate: 2.66%
```
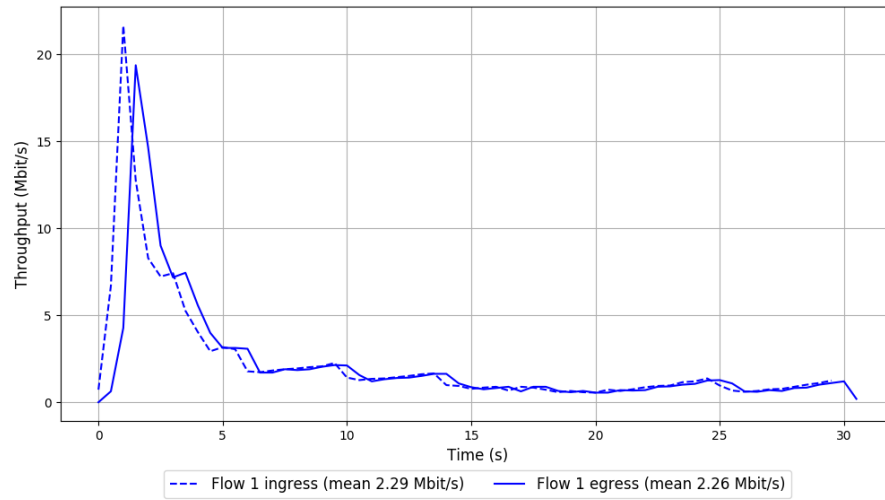
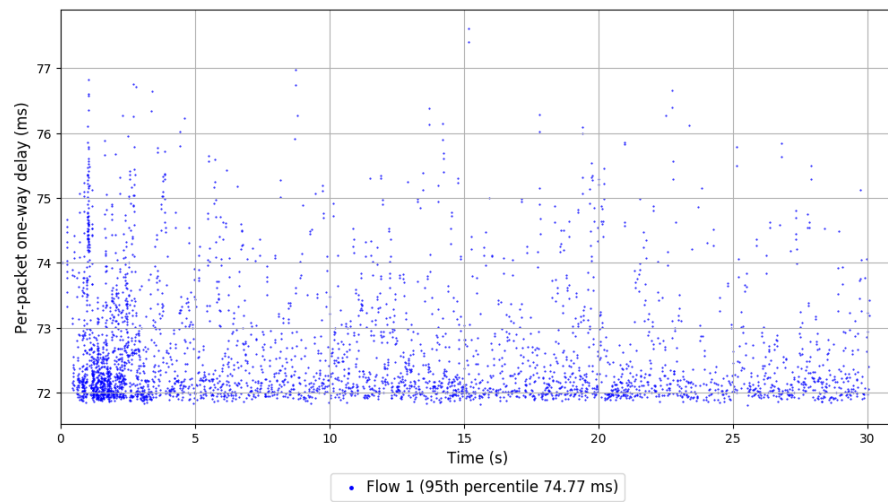Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2019-07-17 18:31:49
End at: 2019-07-17 18:32:19
Local clock offset: -6.402 ms
Remote clock offset: -4.389 ms


# Below is generated by plot.py at 2019-07-17 19:47:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 78.019 ms
Loss rate: 2.44%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 78.019 ms
Loss rate: 2.44%
```
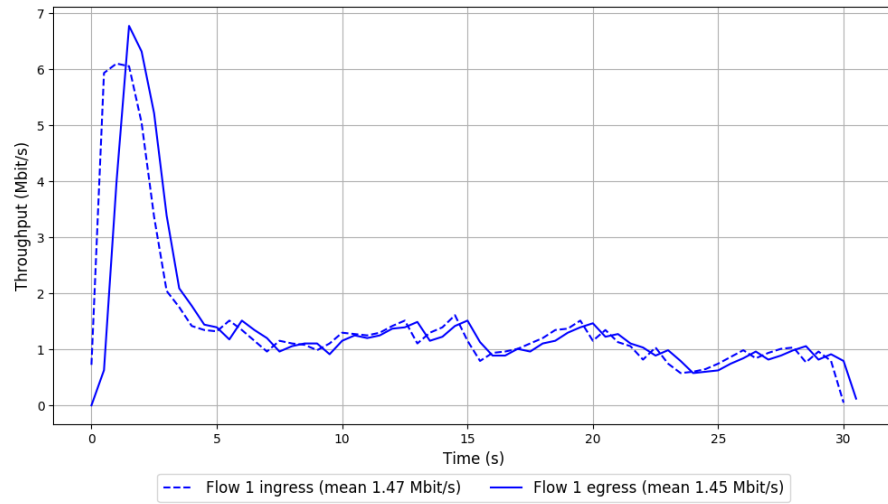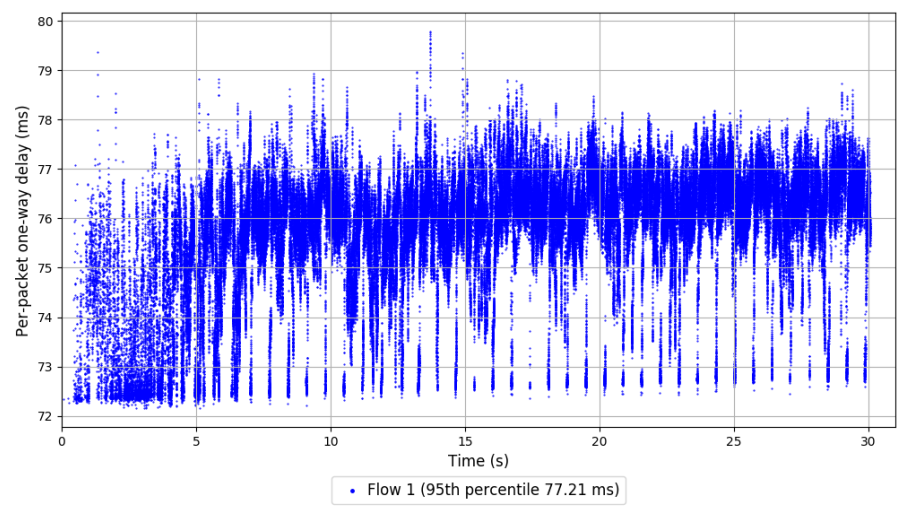
# Run 3: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 0.92 Mbit/s) --- Flow 1 egress (mean 0.90 Mbit/s)



Flow 1 (95th percentile 78.02 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-07-17 18:59:41
End at: 2019-07-17 19:00:11
Local clock offset: -6.259 ms
Remote clock offset: -0.834 ms


# Below is generated by plot.py at 2019-07-17 19:47:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 79.187 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 79.187 ms
Loss rate: 1.45%
```
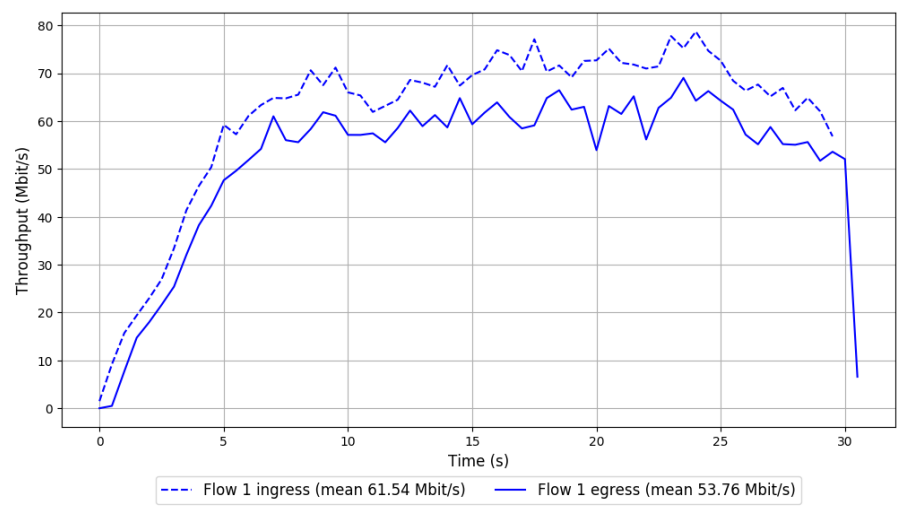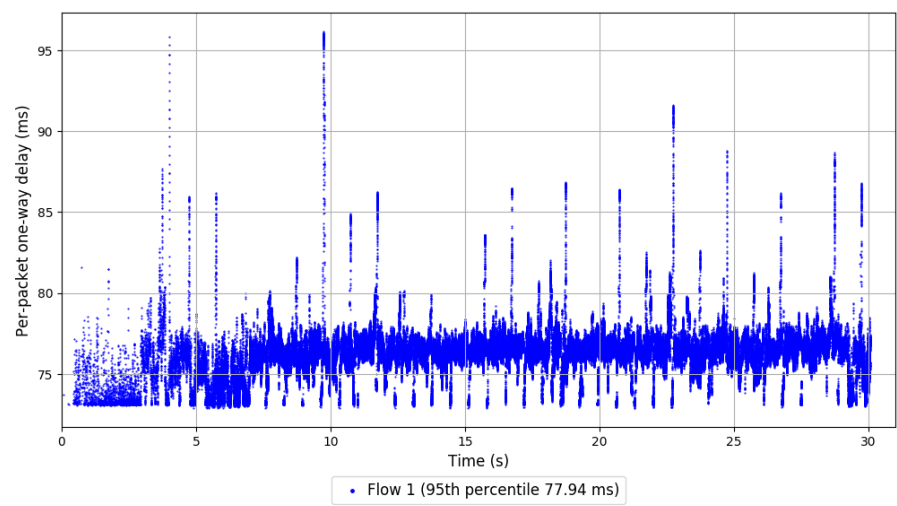
Run 4: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 2.29 Mbit/s) — — —    Flow 1 egress (mean 2.26 Mbit/s) ———



Flow 1 (95th percentile 79.19 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2019-07-17 19:27:58
End at: 2019-07-17 19:28:28
Local clock offset: -6.177 ms
Remote clock offset: -6.187 ms


# Below is generated by plot.py at 2019-07-17 19:47:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 74.774 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 74.774 ms
Loss rate: 1.47%
```
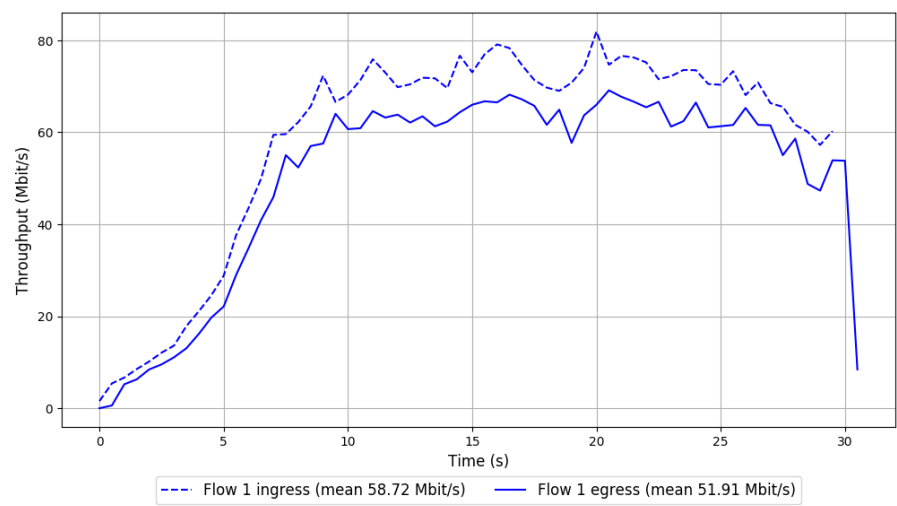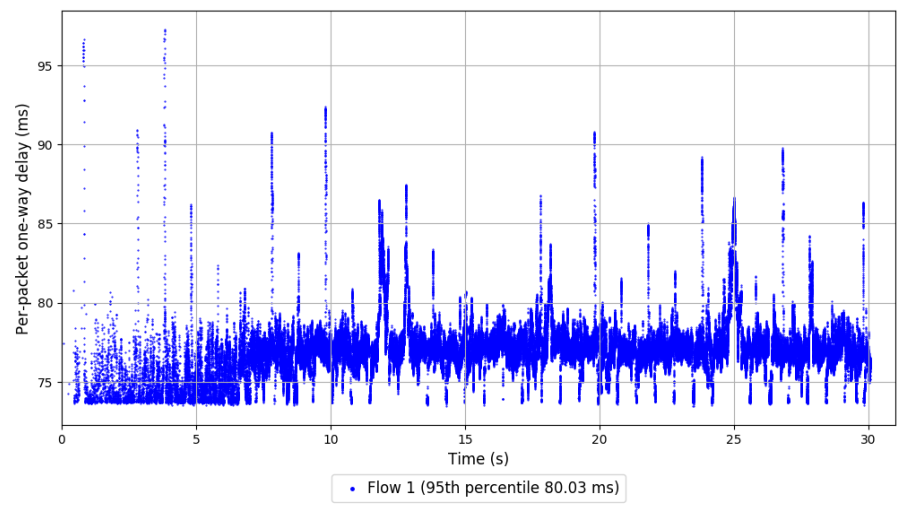
Run 5: Report of TCP Cubic — Data Link

```
Run 1: Statistics of FillP

Start at: 2019-07-17 17:26:33
End at: 2019-07-17 17:27:03
Local clock offset: -12.174 ms
Remote clock offset: -6.239 ms


# Below is generated by plot.py at 2019-07-17 19:47:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 53.76 Mbit/s
95th percentile per-packet one-way delay: 77.209 ms
Loss rate: 12.63%
-- Flow 1:
Average throughput: 53.76 Mbit/s
95th percentile per-packet one-way delay: 77.209 ms
Loss rate: 12.63%
```
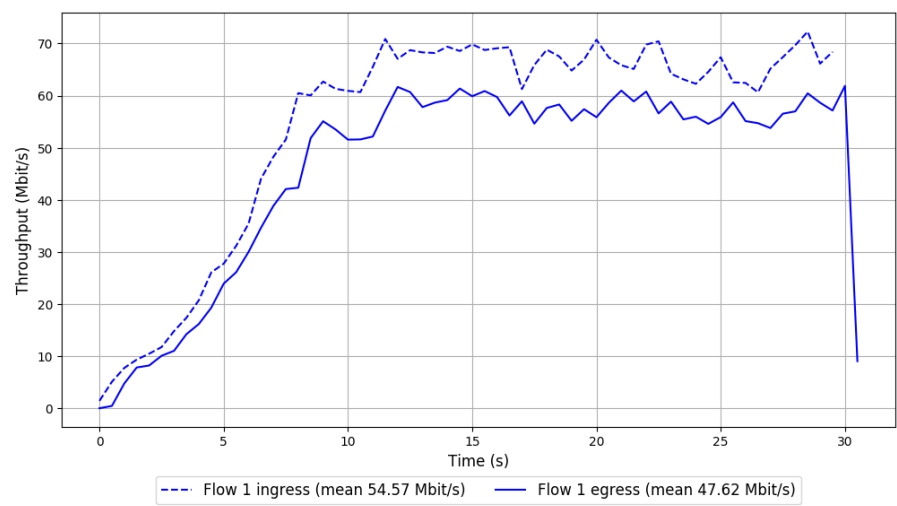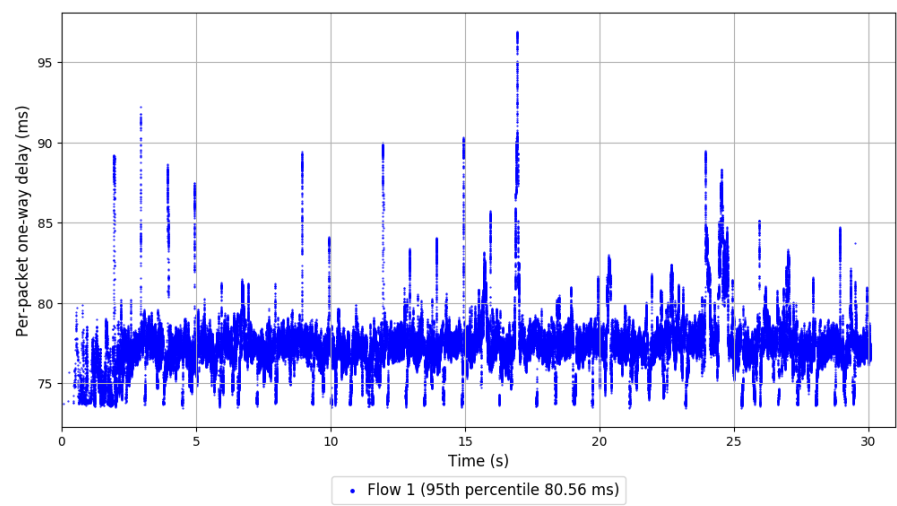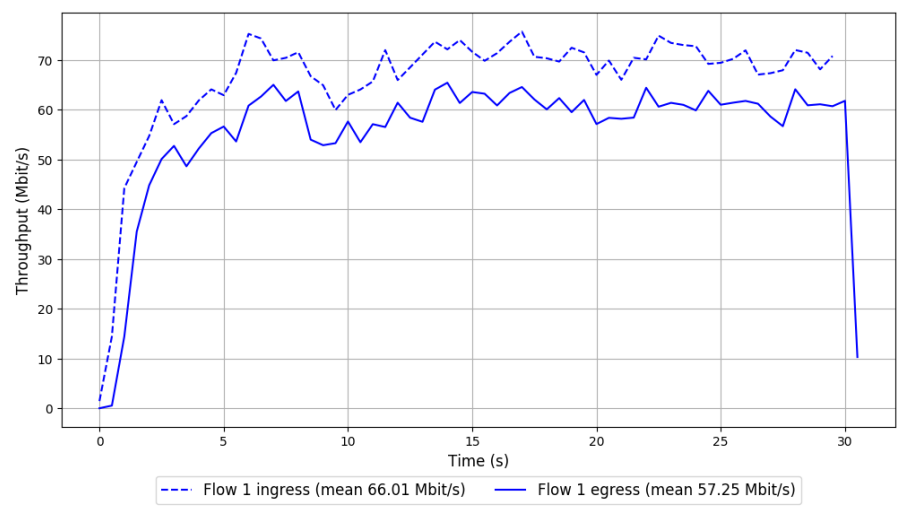
Run 1: Report of FillP — Data Link

```
Run 2: Statistics of FillP

Start at: 2019-07-17 17:54:37
End at: 2019-07-17 17:55:07
Local clock offset: -6.423 ms
Remote clock offset: -7.948 ms


# Below is generated by plot.py at 2019-07-17 19:47:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 51.91 Mbit/s
95th percentile per-packet one-way delay: 77.938 ms
Loss rate: 11.60%
-- Flow 1:
Average throughput: 51.91 Mbit/s
95th percentile per-packet one-way delay: 77.938 ms
Loss rate: 11.60%
```

Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-07-17 18:22:32
End at: 2019-07-17 18:23:02
Local clock offset: -6.221 ms
Remote clock offset: -6.709 ms


# Below is generated by plot.py at 2019-07-17 19:47:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.62 Mbit/s
95th percentile per-packet one-way delay: 80.027 ms
Loss rate: 12.75%
-- Flow 1:
Average throughput: 47.62 Mbit/s
95th percentile per-packet one-way delay: 80.027 ms
Loss rate: 12.75%
```
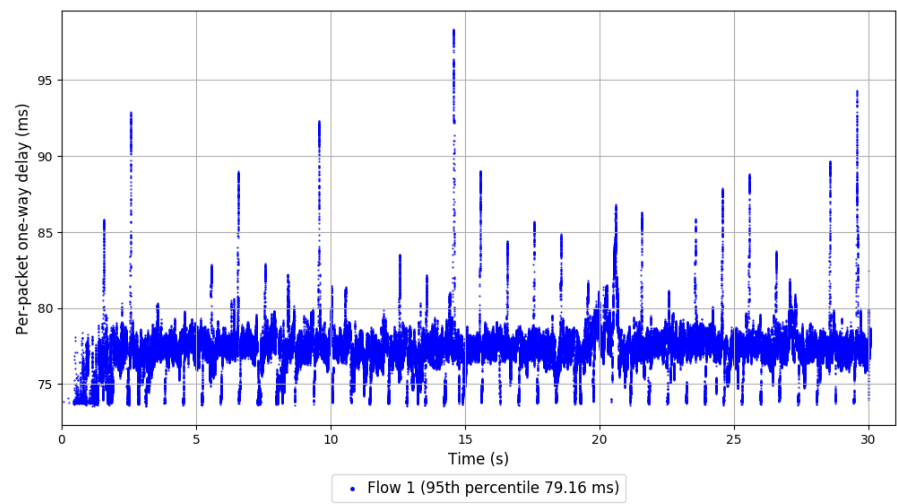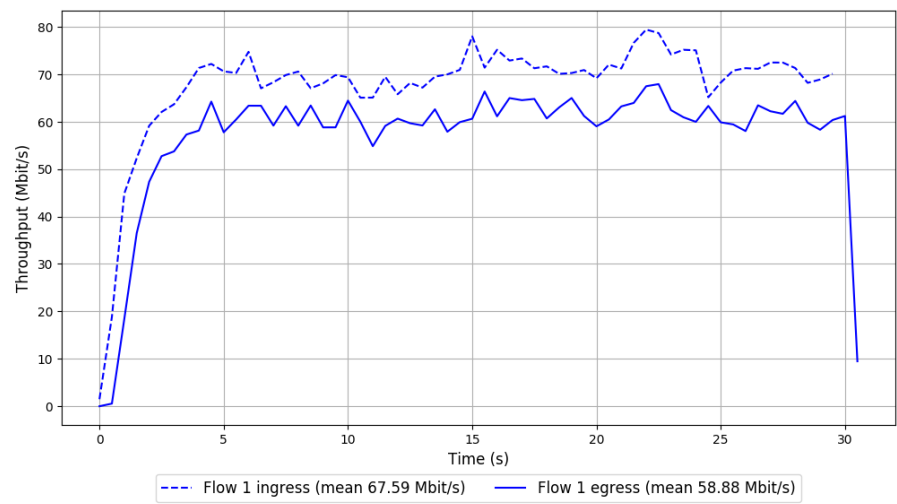
Run 3: Report of FillP — Data Link

```
Run 4: Statistics of FillP

Start at: 2019-07-17 18:50:22
End at: 2019-07-17 18:50:52
Local clock offset: -6.412 ms
Remote clock offset: -1.948 ms


# Below is generated by plot.py at 2019-07-17 19:48:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.25 Mbit/s
95th percentile per-packet one-way delay: 80.560 ms
Loss rate: 13.27%
-- Flow 1:
Average throughput: 57.25 Mbit/s
95th percentile per-packet one-way delay: 80.560 ms
Loss rate: 13.27%
```
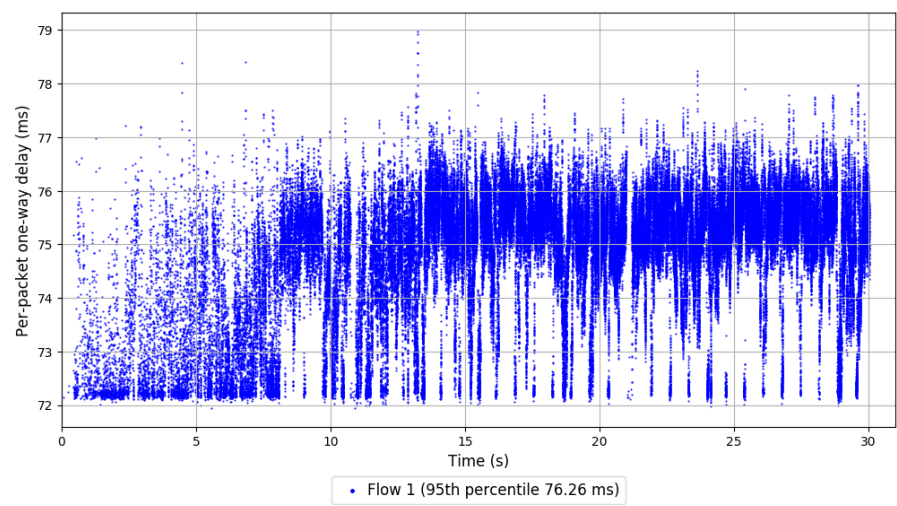
Run 4: Report of FillP — Data Link



Flow 1 ingress (mean 66.01 Mbit/s) ----- Flow 1 egress (mean 57.25 Mbit/s) ———



• Flow 1 (95th percentile 80.56 ms)

```
Run 5: Statistics of FillP

Start at: 2019-07-17 19:18:31
End at: 2019-07-17 19:19:01
Local clock offset: -5.972 ms
Remote clock offset: -3.332 ms


# Below is generated by plot.py at 2019-07-17 19:48:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.88 Mbit/s
95th percentile per-packet one-way delay: 79.155 ms
Loss rate: 12.88%
-- Flow 1:
Average throughput: 58.88 Mbit/s
95th percentile per-packet one-way delay: 79.155 ms
Loss rate: 12.88%
```
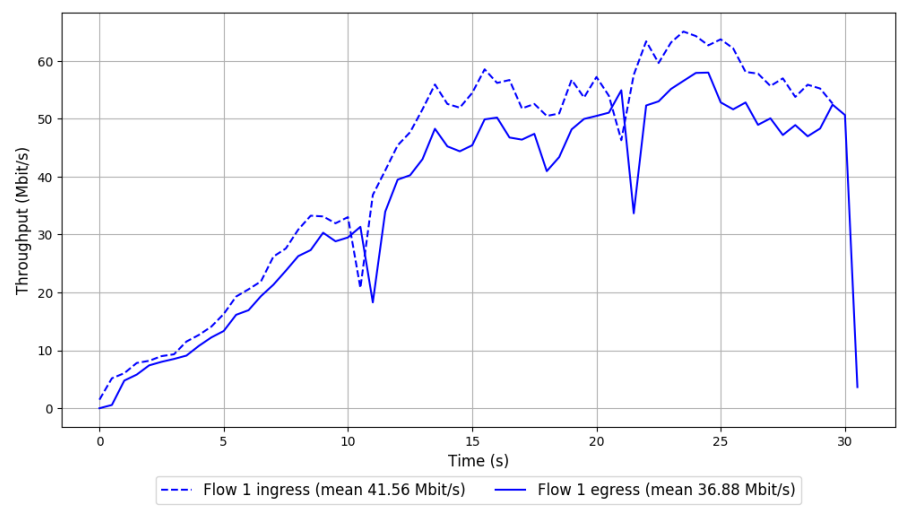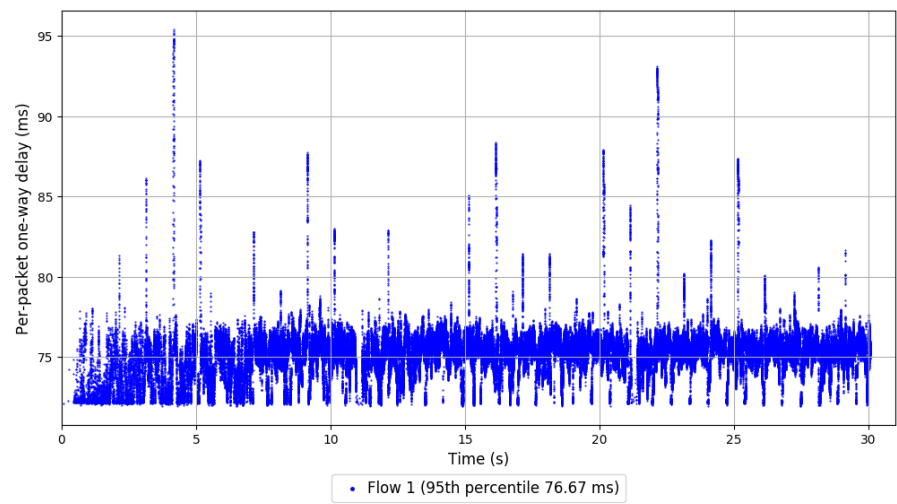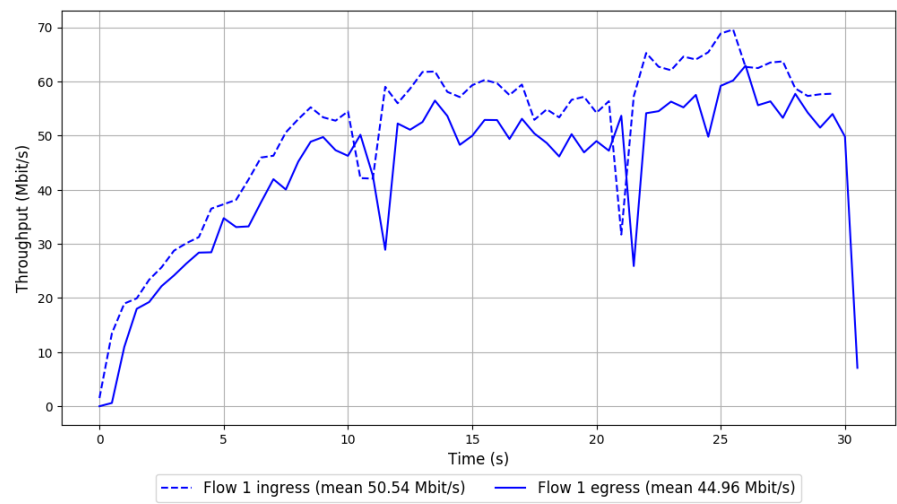
Run 5: Report of FillP — Data Link

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-07-17 17:49:59
End at: 2019-07-17 17:50:29
Local clock offset: -6.578 ms
Remote clock offset: -8.799 ms


# Below is generated by plot.py at 2019-07-17 19:48:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 36.88 Mbit/s
95th percentile per-packet one-way delay: 76.257 ms
Loss rate: 11.24%
-- Flow 1:
Average throughput: 36.88 Mbit/s
95th percentile per-packet one-way delay: 76.257 ms
Loss rate: 11.24%
```
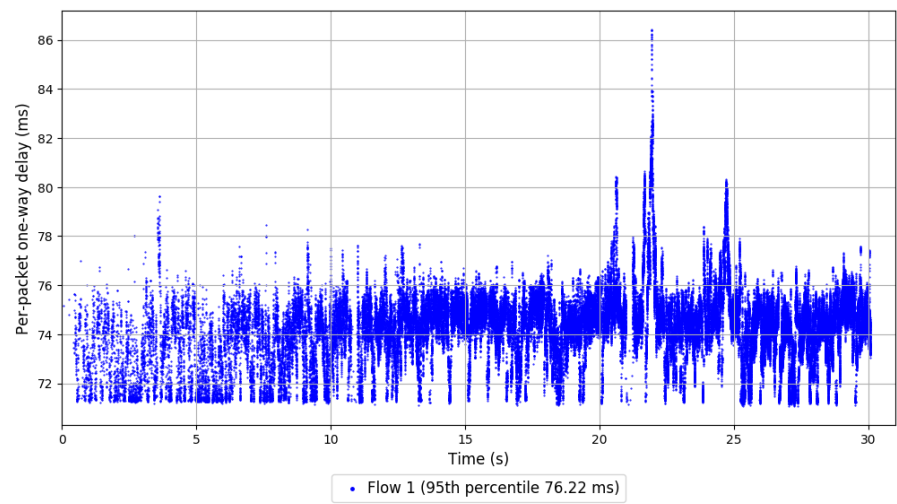
# Run 1: Report of FillP-Sheep — Data Link



Flow 1 ingress (mean 41.56 Mbit/s) — — — — Flow 1 egress (mean 36.88 Mbit/s)



• Flow 1 (95th percentile 76.26 ms)

46

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-07-17 18:17:55
End at: 2019-07-17 18:18:26
Local clock offset: -6.272 ms
Remote clock offset: -7.169 ms


# Below is generated by plot.py at 2019-07-17 19:48:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.96 Mbit/s
95th percentile per-packet one-way delay: 76.667 ms
Loss rate: 11.02%
-- Flow 1:
Average throughput: 44.96 Mbit/s
95th percentile per-packet one-way delay: 76.667 ms
Loss rate: 11.02%
```
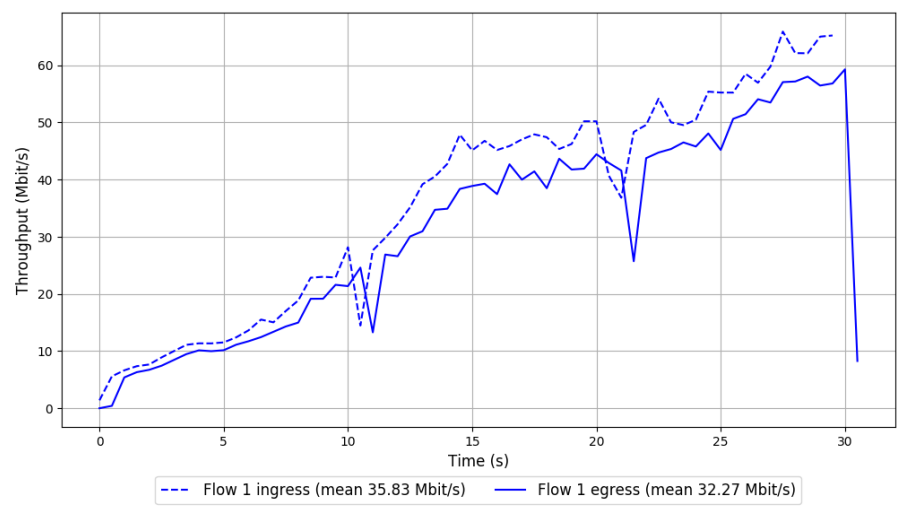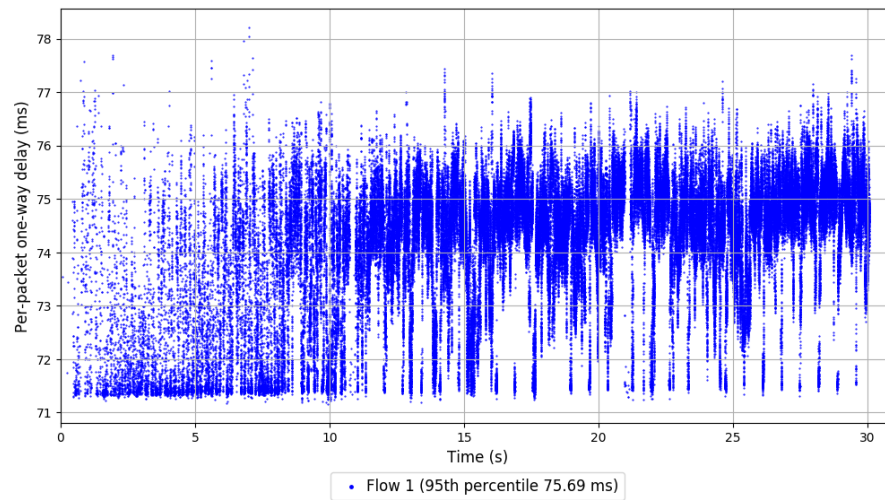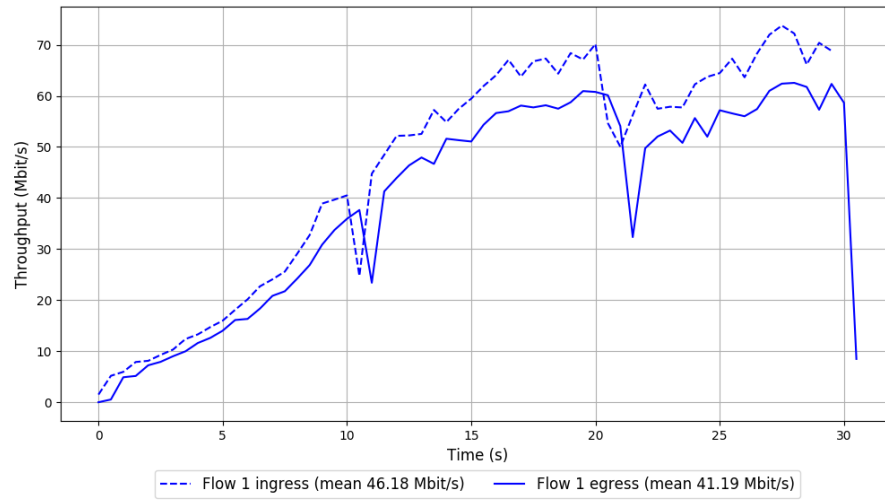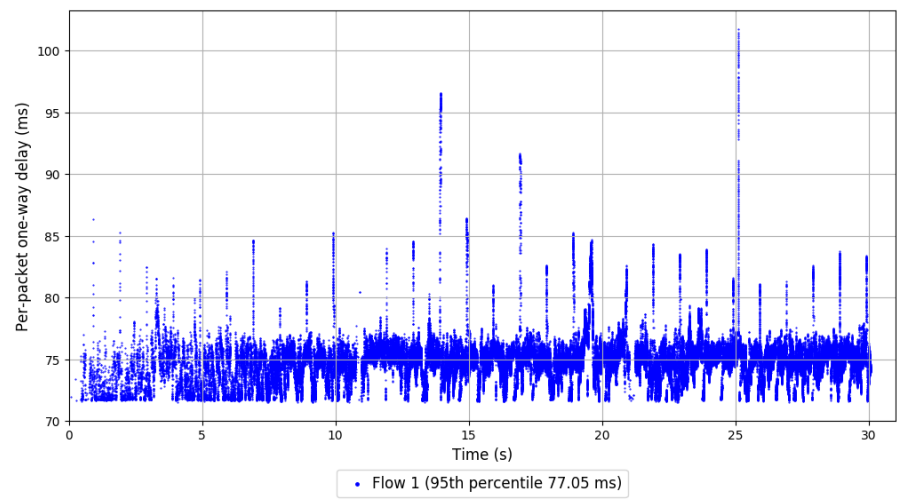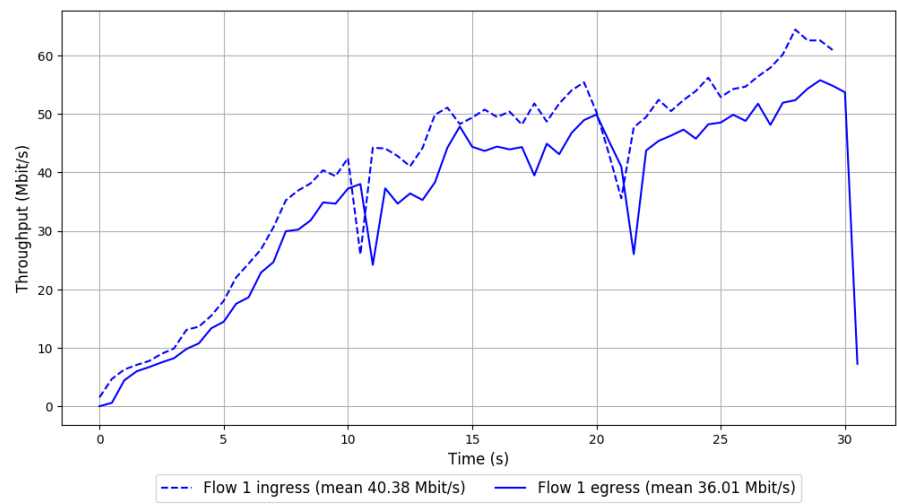
Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-07-17 18:45:45
End at: 2019-07-17 18:46:15
Local clock offset: -6.402 ms
Remote clock offset: -4.89 ms


# Below is generated by plot.py at 2019-07-17 19:48:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 32.27 Mbit/s
95th percentile per-packet one-way delay: 76.217 ms
Loss rate: 9.94%
-- Flow 1:
Average throughput: 32.27 Mbit/s
95th percentile per-packet one-way delay: 76.217 ms
Loss rate: 9.94%
```

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



Flow 1 ingress (mean 35.83 Mbit/s) --- Flow 1 egress (mean 32.27 Mbit/s)



Flow 1 (95th percentile 76.22 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-07-17 19:13:54
End at: 2019-07-17 19:14:24
Local clock offset: -6.018 ms
Remote clock offset: -5.006 ms


# Below is generated by plot.py at 2019-07-17 19:48:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.19 Mbit/s
95th percentile per-packet one-way delay: 75.695 ms
Loss rate: 10.81%
-- Flow 1:
Average throughput: 41.19 Mbit/s
95th percentile per-packet one-way delay: 75.695 ms
Loss rate: 10.81%
```
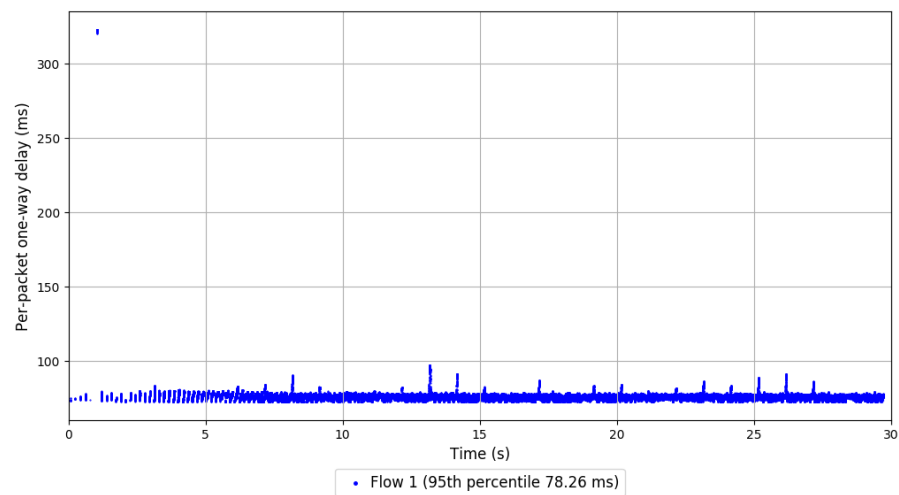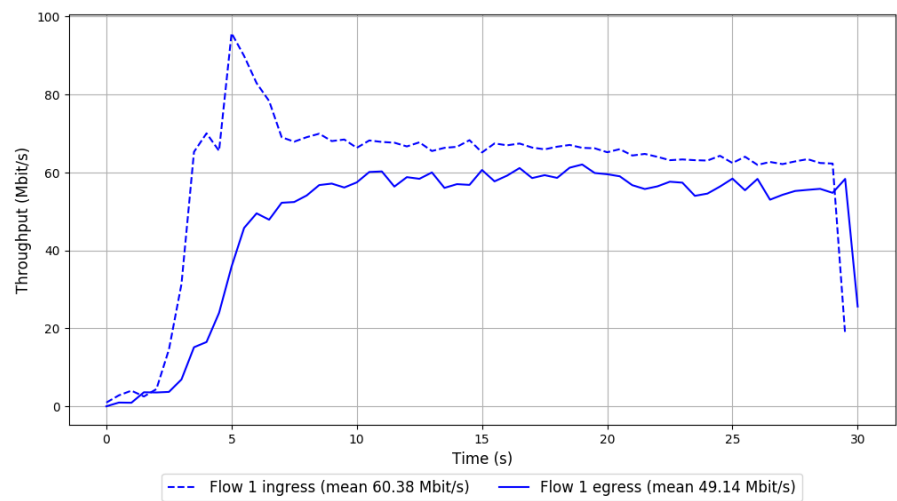
Run 4: Report of FillP-Sheep — Data Link

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-07-17 19:41:53
End at: 2019-07-17 19:42:23
Local clock offset: -6.784 ms
Remote clock offset: -6.774 ms


# Below is generated by plot.py at 2019-07-17 19:48:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 36.01 Mbit/s
95th percentile per-packet one-way delay: 77.053 ms
Loss rate: 10.82%
-- Flow 1:
Average throughput: 36.01 Mbit/s
95th percentile per-packet one-way delay: 77.053 ms
Loss rate: 10.82%
```

Run 5: Report of FillP-Sheep — Data Link



Flow 1 ingress (mean 40.38 Mbit/s)     Flow 1 egress (mean 36.01 Mbit/s)
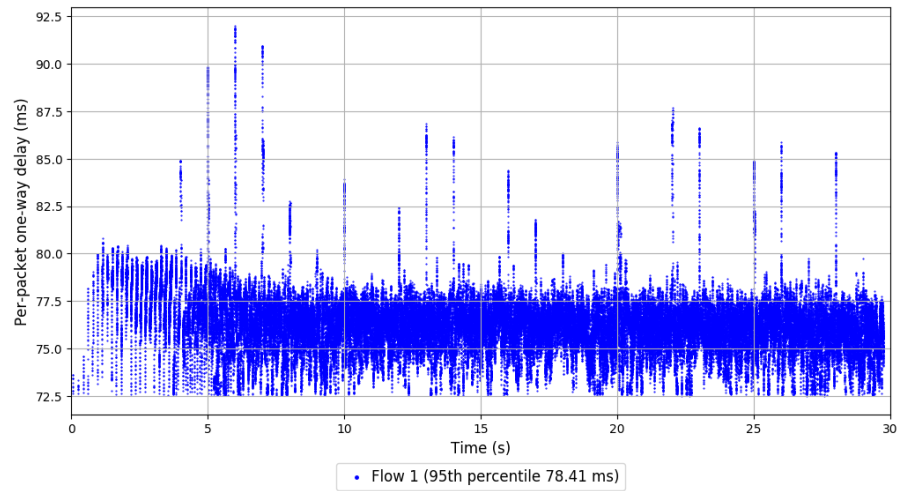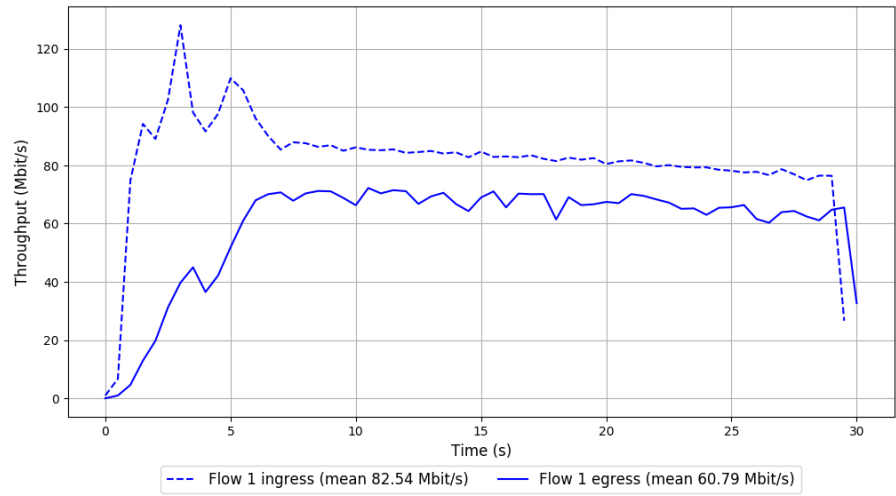


Flow 1 (95th percentile 77.05 ms)

```
Run 1: Statistics of Indigo

Start at: 2019-07-17 17:46:22
End at: 2019-07-17 17:46:52
Local clock offset: -6.904 ms
Remote clock offset: -8.098 ms


# Below is generated by plot.py at 2019-07-17 19:48:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.14 Mbit/s
95th percentile per-packet one-way delay: 78.263 ms
Loss rate: 18.61%
-- Flow 1:
Average throughput: 49.14 Mbit/s
95th percentile per-packet one-way delay: 78.263 ms
Loss rate: 18.61%
```
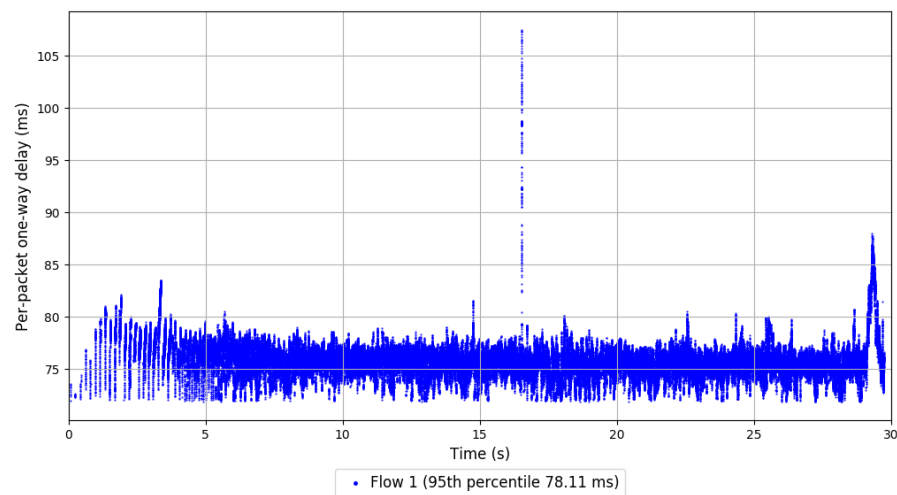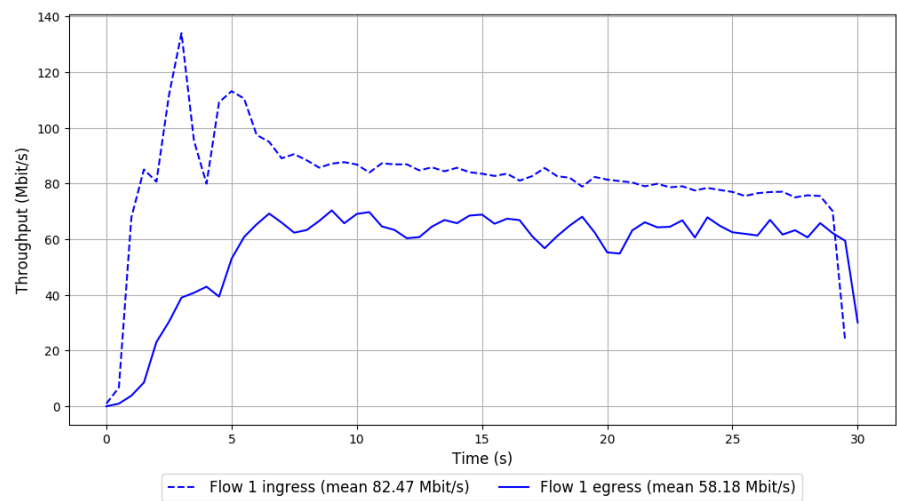
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-07-17 18:14:17
End at: 2019-07-17 18:14:47
Local clock offset: -6.292 ms
Remote clock offset: -6.924 ms


# Below is generated by plot.py at 2019-07-17 19:48:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.79 Mbit/s
95th percentile per-packet one-way delay: 78.414 ms
Loss rate: 26.35%
-- Flow 1:
Average throughput: 60.79 Mbit/s
95th percentile per-packet one-way delay: 78.414 ms
Loss rate: 26.35%
```
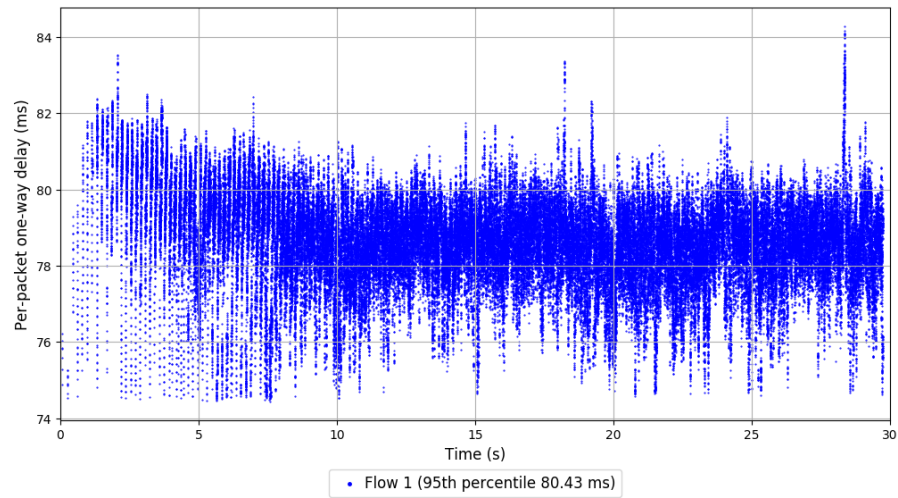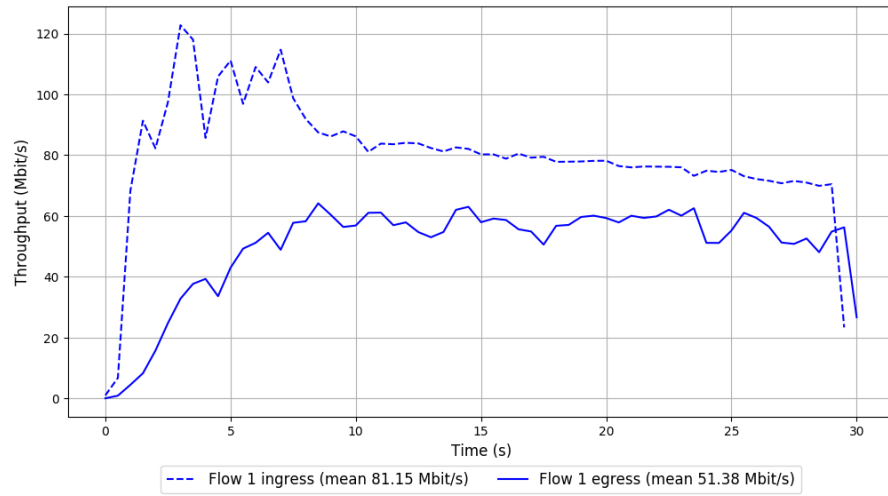
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2019-07-17 18:42:10
End at: 2019-07-17 18:42:40
Local clock offset: -6.365 ms
Remote clock offset: -5.389 ms


# Below is generated by plot.py at 2019-07-17 19:48:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.18 Mbit/s
95th percentile per-packet one-way delay: 78.107 ms
Loss rate: 29.45%
-- Flow 1:
Average throughput: 58.18 Mbit/s
95th percentile per-packet one-way delay: 78.107 ms
Loss rate: 29.45%
```
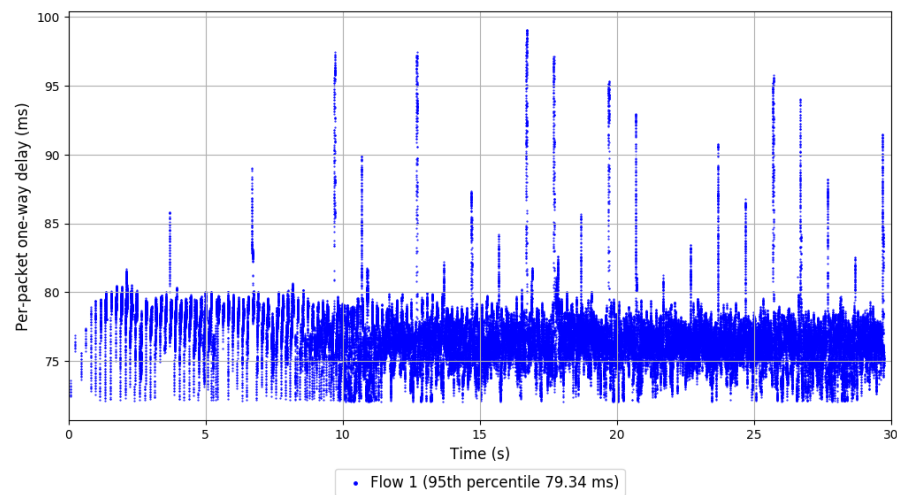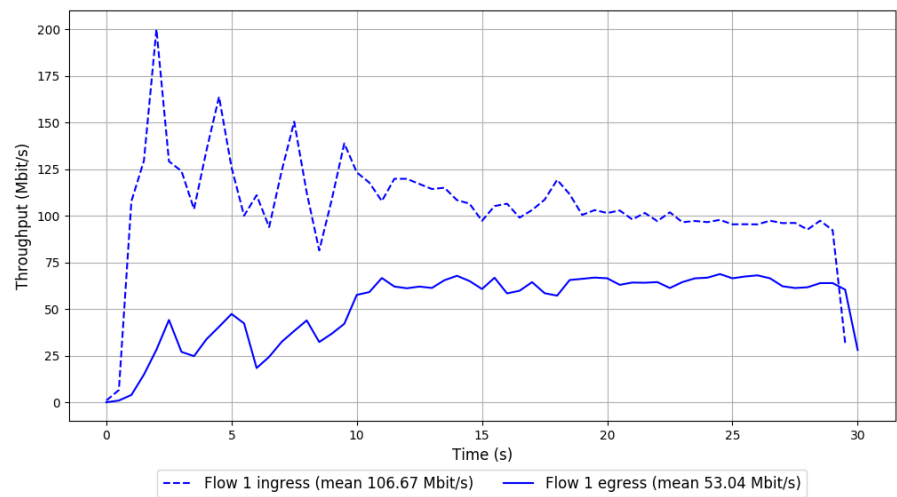
Run 3: Report of Indigo — Data Link



Flow 1 ingress (mean 82.47 Mbit/s)  Flow 1 egress (mean 58.18 Mbit/s)



Flow 1 (95th percentile 78.11 ms)

```
Run 4: Statistics of Indigo

Start at: 2019-07-17 19:10:18
End at: 2019-07-17 19:10:48
Local clock offset: -6.066 ms
Remote clock offset: -1.069 ms


# Below is generated by plot.py at 2019-07-17 19:48:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 51.38 Mbit/s
95th percentile per-packet one-way delay: 80.430 ms
Loss rate: 36.69%
-- Flow 1:
Average throughput: 51.38 Mbit/s
95th percentile per-packet one-way delay: 80.430 ms
Loss rate: 36.69%
```
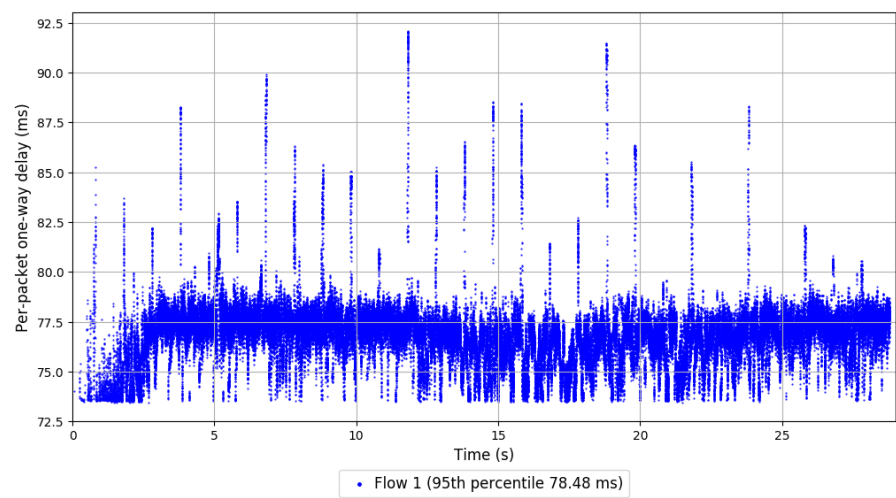
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-07-17 19:38:18
End at: 2019-07-17 19:38:48
Local clock offset: -6.643 ms
Remote clock offset: -6.758 ms


# Below is generated by plot.py at 2019-07-17 19:49:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 53.04 Mbit/s
95th percentile per-packet one-way delay: 79.341 ms
Loss rate: 50.27%
-- Flow 1:
Average throughput: 53.04 Mbit/s
95th percentile per-packet one-way delay: 79.341 ms
Loss rate: 50.27%
```
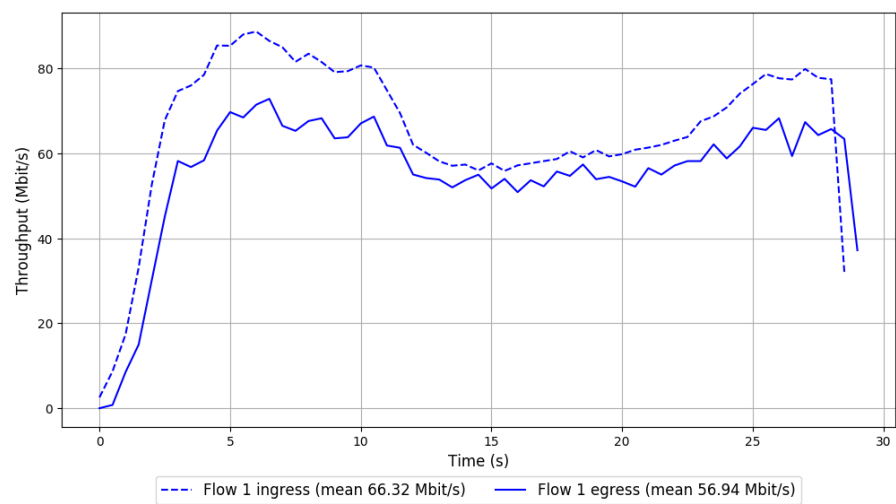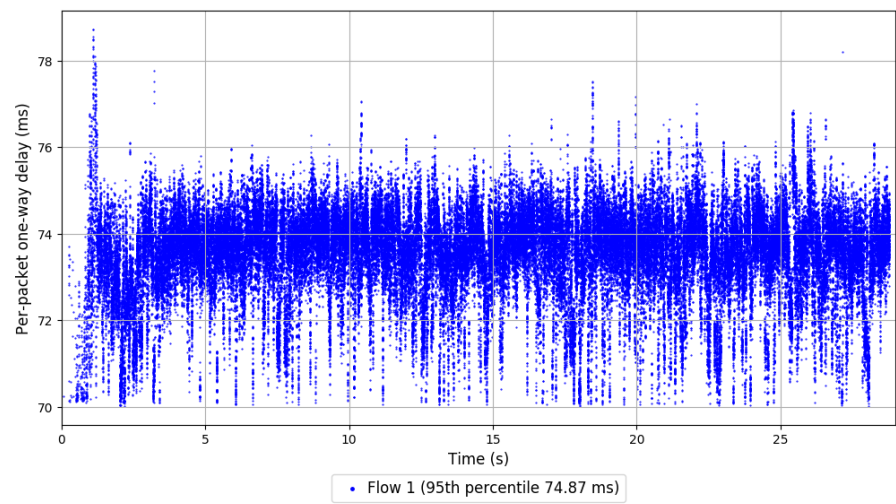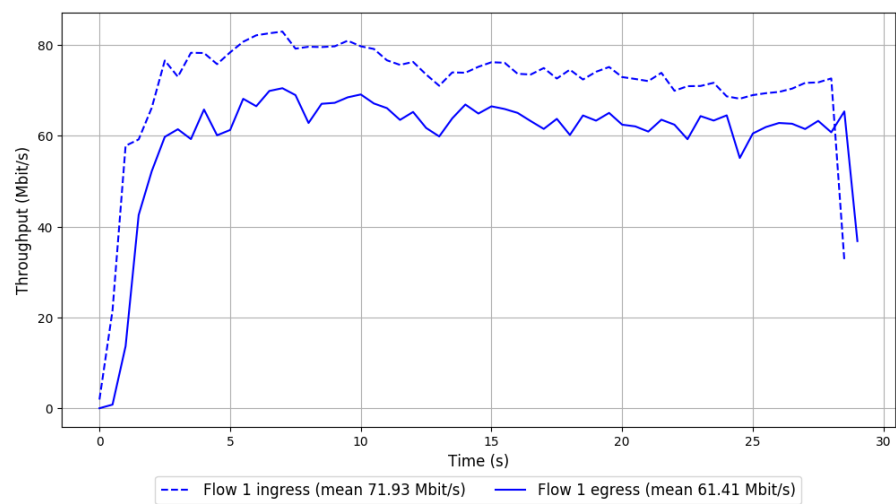
Run 5: Report of Indigo — Data Link

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-07-17 17:44:02
End at: 2019-07-17 17:44:32
Local clock offset: -7.016 ms
Remote clock offset: -7.76 ms


# Below is generated by plot.py at 2019-07-17 19:49:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.94 Mbit/s
95th percentile per-packet one-way delay: 78.484 ms
Loss rate: 14.14%
-- Flow 1:
Average throughput: 56.94 Mbit/s
95th percentile per-packet one-way delay: 78.484 ms
Loss rate: 14.14%
```
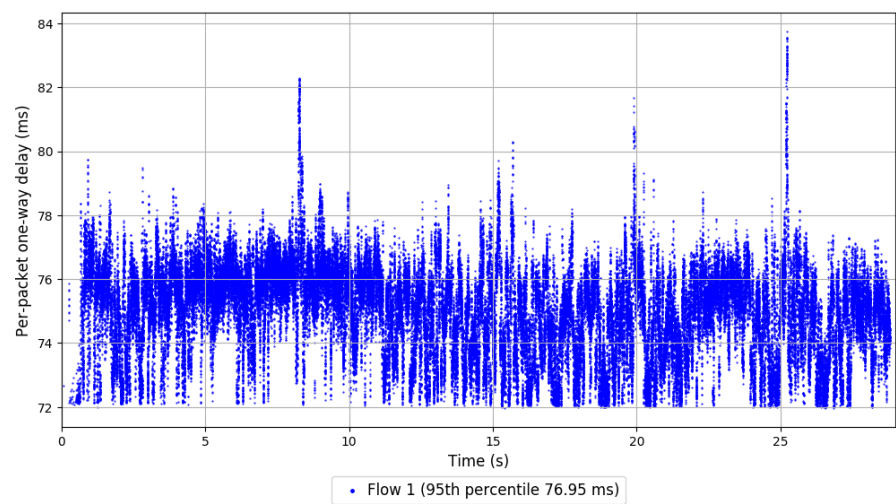
Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-07-17 18:11:57
End at: 2019-07-17 18:12:28
Local clock offset: -6.305 ms
Remote clock offset: -9.165 ms


# Below is generated by plot.py at 2019-07-17 19:49:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.41 Mbit/s
95th percentile per-packet one-way delay: 74.869 ms
Loss rate: 14.62%
-- Flow 1:
Average throughput: 61.41 Mbit/s
95th percentile per-packet one-way delay: 74.869 ms
Loss rate: 14.62%
```
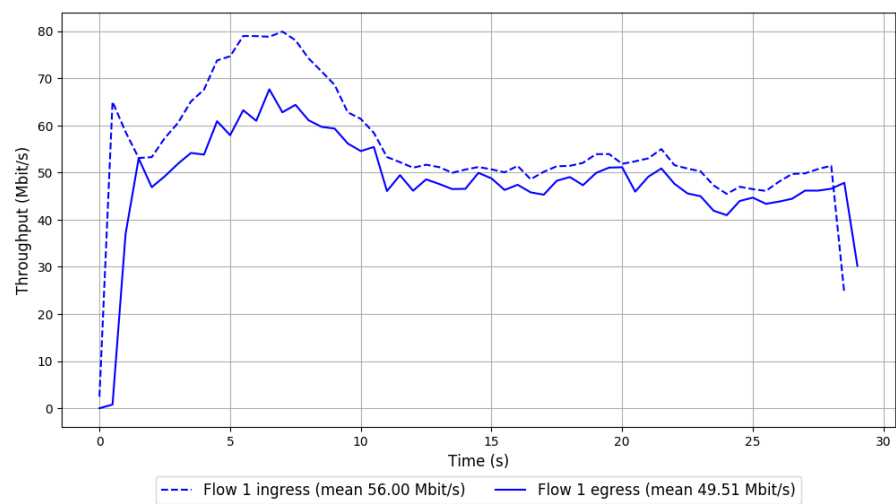
Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-07-17 18:39:50
End at: 2019-07-17 18:40:20
Local clock offset: -6.354 ms
Remote clock offset: -6.721 ms


# Below is generated by plot.py at 2019-07-17 19:49:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.51 Mbit/s
95th percentile per-packet one-way delay: 76.954 ms
Loss rate: 11.58%
-- Flow 1:
Average throughput: 49.51 Mbit/s
95th percentile per-packet one-way delay: 76.954 ms
Loss rate: 11.58%
```
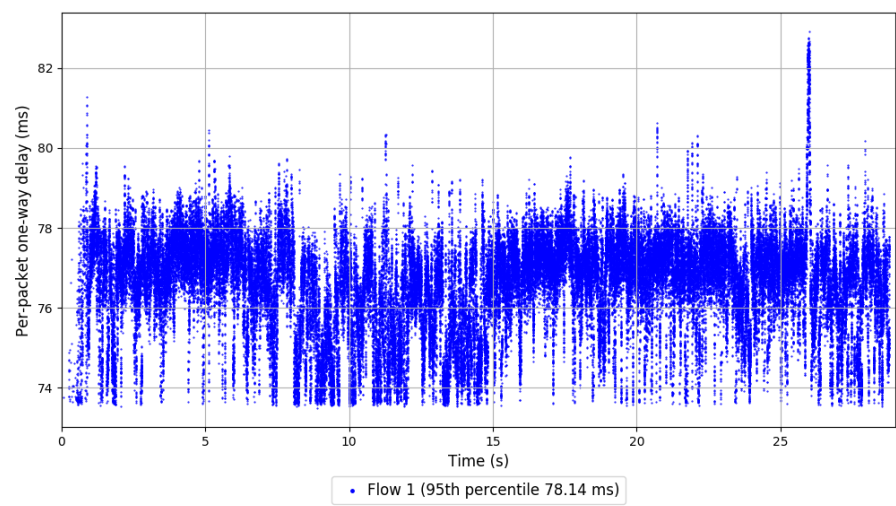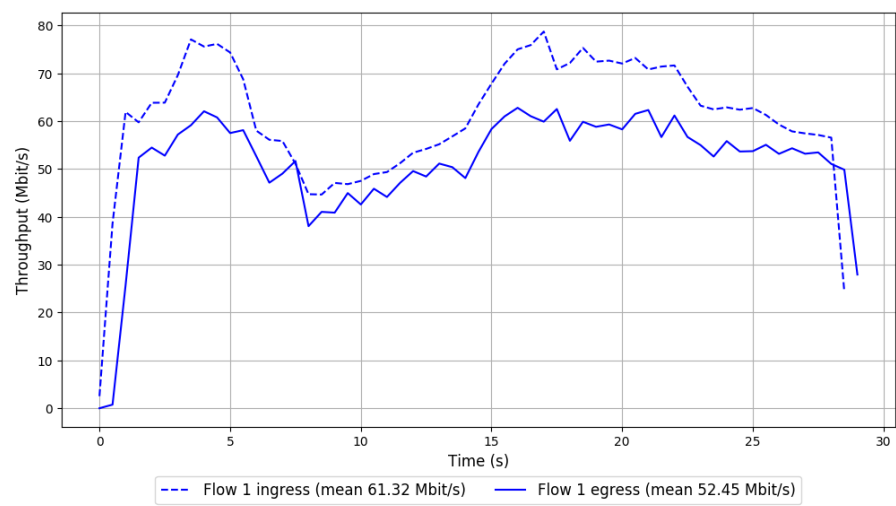
Run 3: Report of Indigo-MusesC3 — Data Link

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-07-17 19:07:54
End at: 2019-07-17 19:08:24
Local clock offset: -6.079 ms
Remote clock offset: -1.116 ms


# Below is generated by plot.py at 2019-07-17 19:49:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.45 Mbit/s
95th percentile per-packet one-way delay: 78.141 ms
Loss rate: 14.47%
-- Flow 1:
Average throughput: 52.45 Mbit/s
95th percentile per-packet one-way delay: 78.141 ms
Loss rate: 14.47%
```
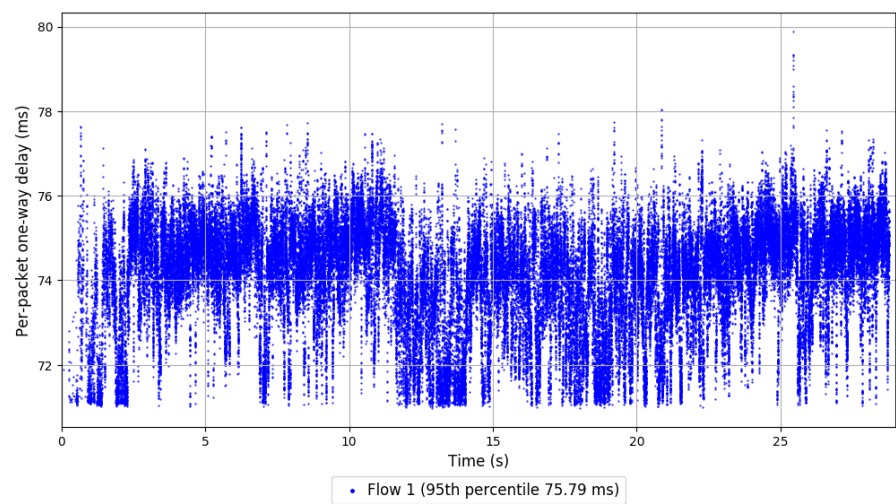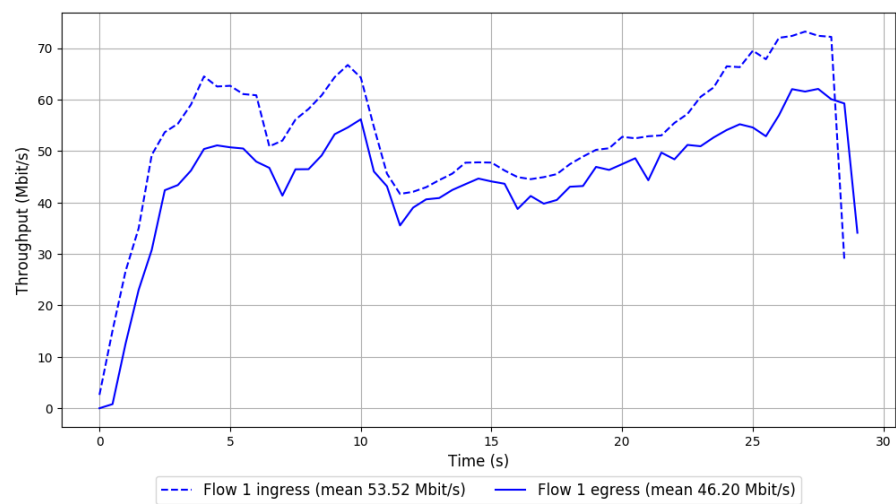
Run 4: Report of Indigo-MusesC3 — Data Link

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-07-17 19:35:58
End at: 2019-07-17 19:36:28
Local clock offset: -6.585 ms
Remote clock offset: -7.285 ms


# Below is generated by plot.py at 2019-07-17 19:49:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.20 Mbit/s
95th percentile per-packet one-way delay: 75.793 ms
Loss rate: 13.66%
-- Flow 1:
Average throughput: 46.20 Mbit/s
95th percentile per-packet one-way delay: 75.793 ms
Loss rate: 13.66%
```
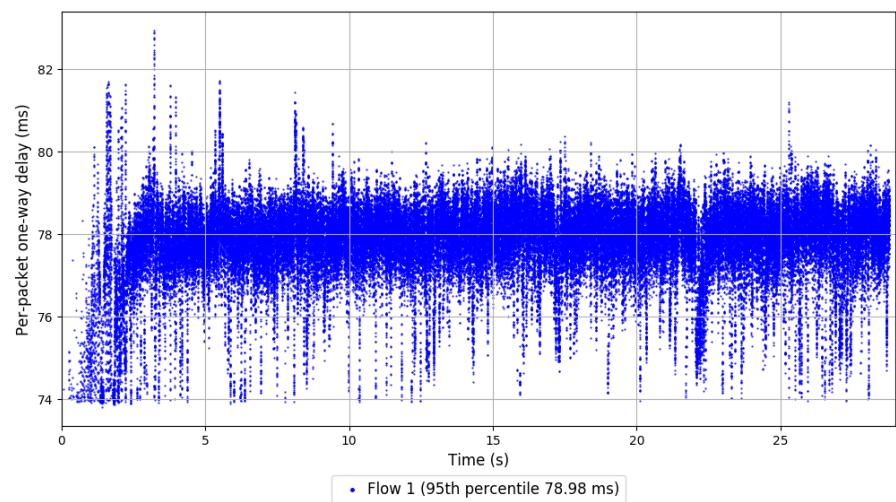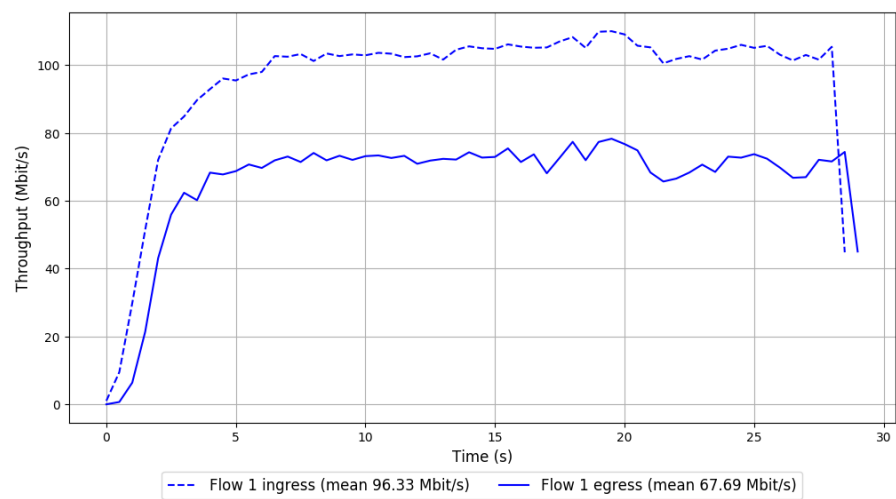
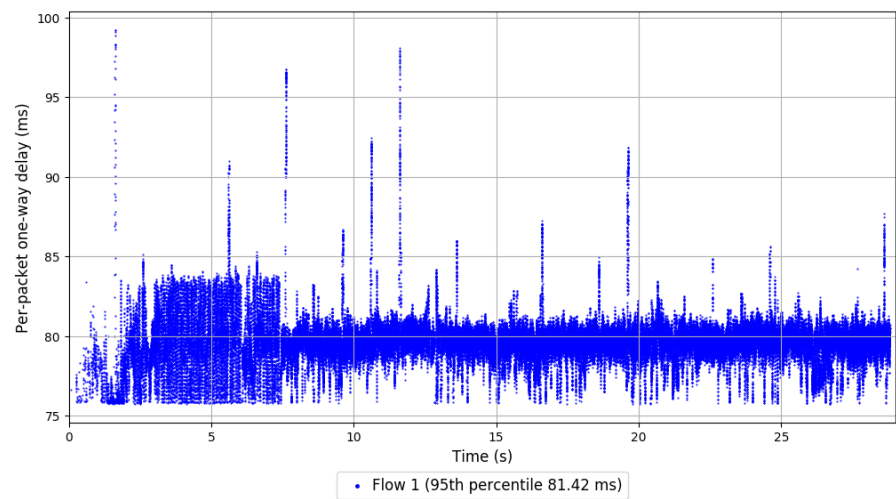Run 5: Report of Indigo-MusesC3 — Data Link

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-07-17 17:41:37
End at: 2019-07-17 17:42:07
Local clock offset: -7.358 ms
Remote clock offset: -6.606 ms


# Below is generated by plot.py at 2019-07-17 19:49:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.69 Mbit/s
95th percentile per-packet one-way delay: 78.977 ms
Loss rate: 29.73%
-- Flow 1:
Average throughput: 67.69 Mbit/s
95th percentile per-packet one-way delay: 78.977 ms
Loss rate: 29.73%
```

Run 1: Report of Indigo-MusesC5 — Data Link



Flow 1 ingress (mean 96.33 Mbit/s)    Flow 1 egress (mean 67.69 Mbit/s)
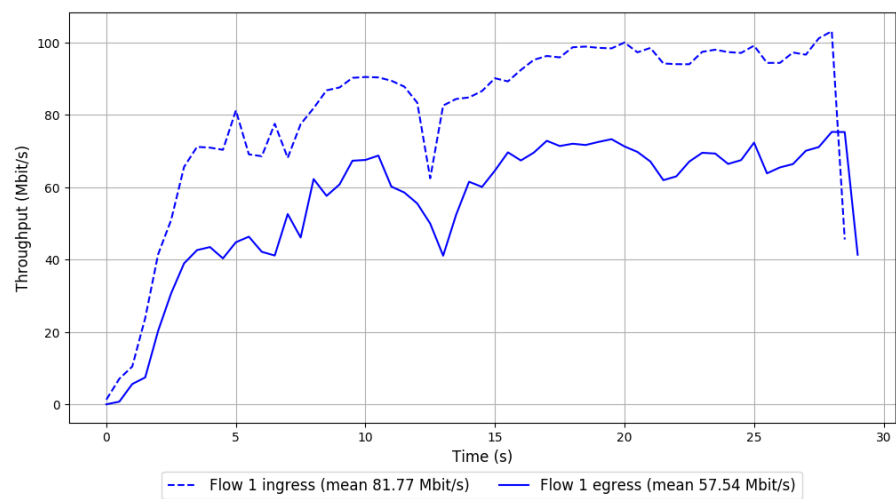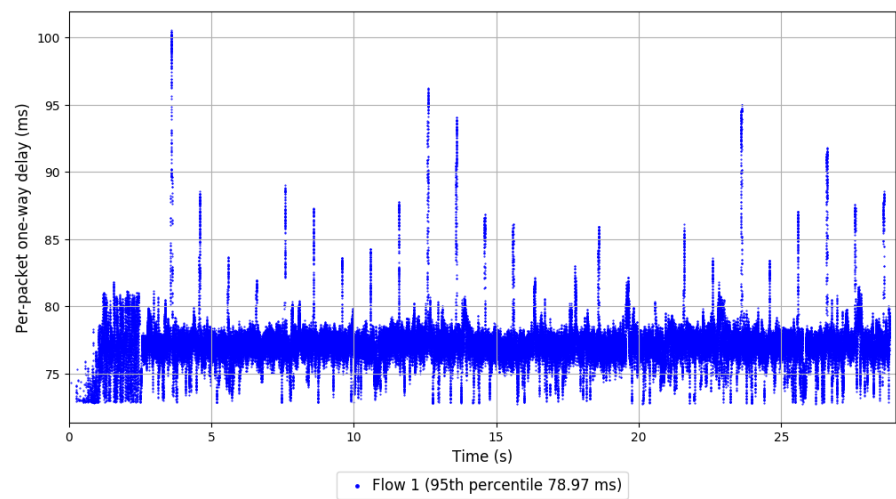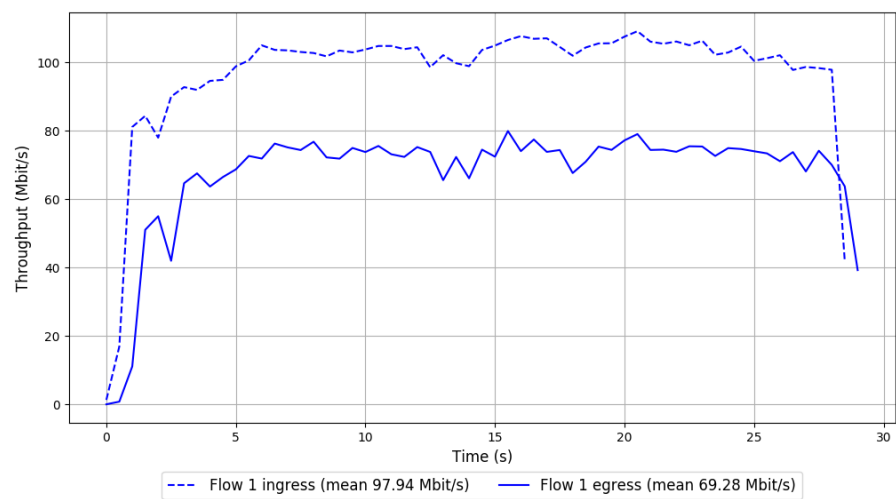


Flow 1 (95th percentile 78.98 ms)

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-07-17 18:09:39
End at: 2019-07-17 18:10:09
Local clock offset: -6.338 ms
Remote clock offset: -5.501 ms


# Below is generated by plot.py at 2019-07-17 19:49:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.54 Mbit/s
95th percentile per-packet one-way delay: 81.423 ms
Loss rate: 29.62%
-- Flow 1:
Average throughput: 57.54 Mbit/s
95th percentile per-packet one-way delay: 81.423 ms
Loss rate: 29.62%
```
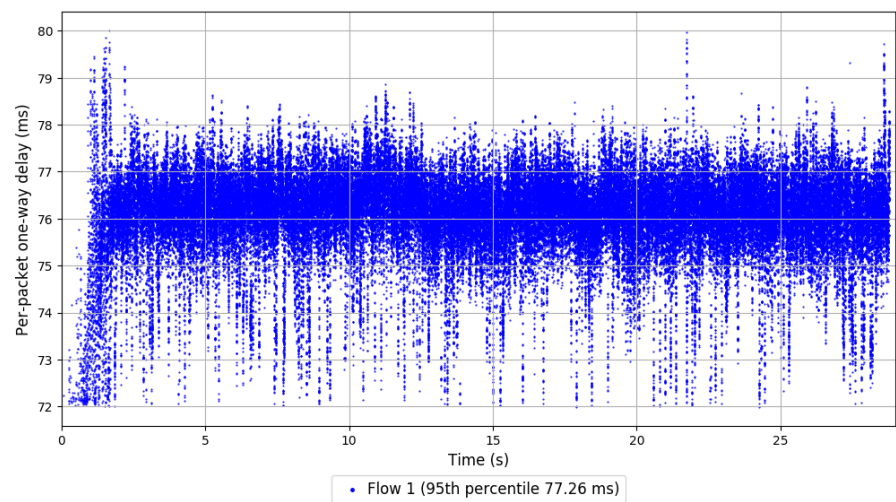
Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-07-17 18:37:31
End at: 2019-07-17 18:38:01
Local clock offset: -6.372 ms
Remote clock offset: -5.408 ms


# Below is generated by plot.py at 2019-07-17 19:49:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 69.28 Mbit/s
95th percentile per-packet one-way delay: 78.975 ms
Loss rate: 29.25%
-- Flow 1:
Average throughput: 69.28 Mbit/s
95th percentile per-packet one-way delay: 78.975 ms
Loss rate: 29.25%
```

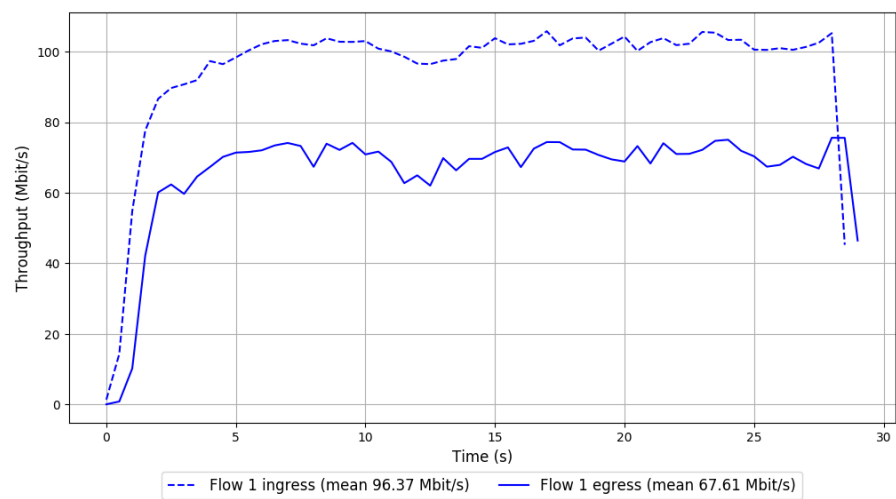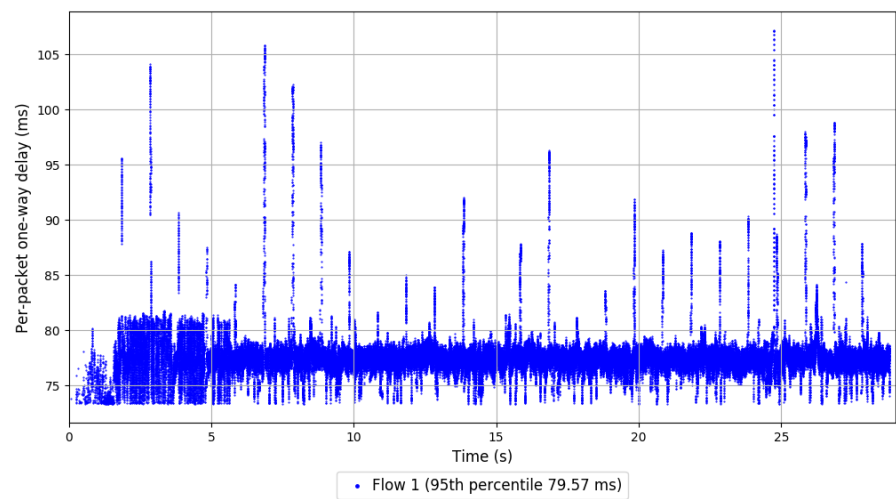Run 3: Report of Indigo-MusesC5 — Data Link



80

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-07-17 19:05:34
End at: 2019-07-17 19:06:04
Local clock offset: -6.108 ms
Remote clock offset: -2.349 ms


# Below is generated by plot.py at 2019-07-17 19:49:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.61 Mbit/s
95th percentile per-packet one-way delay: 77.258 ms
Loss rate: 29.83%
-- Flow 1:
Average throughput: 67.61 Mbit/s
95th percentile per-packet one-way delay: 77.258 ms
Loss rate: 29.83%
```

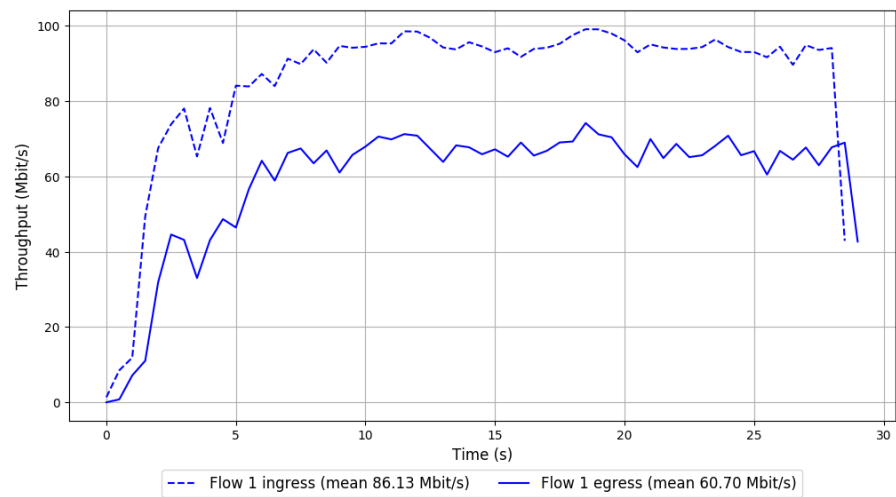Run 4: Report of Indigo-MusesC5 — Data Link

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-07-17 19:33:40
End at: 2019-07-17 19:34:10
Local clock offset: -6.505 ms
Remote clock offset: -6.409 ms


# Below is generated by plot.py at 2019-07-17 19:49:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.70 Mbit/s
95th percentile per-packet one-way delay: 79.574 ms
Loss rate: 29.52%
-- Flow 1:
Average throughput: 60.70 Mbit/s
95th percentile per-packet one-way delay: 79.574 ms
Loss rate: 29.52%
```

Run 5: Report of Indigo-MusesC5 — Data Link



Flow 1 ingress (mean 86.13 Mbit/s)    Flow 1 egress (mean 60.70 Mbit/s)
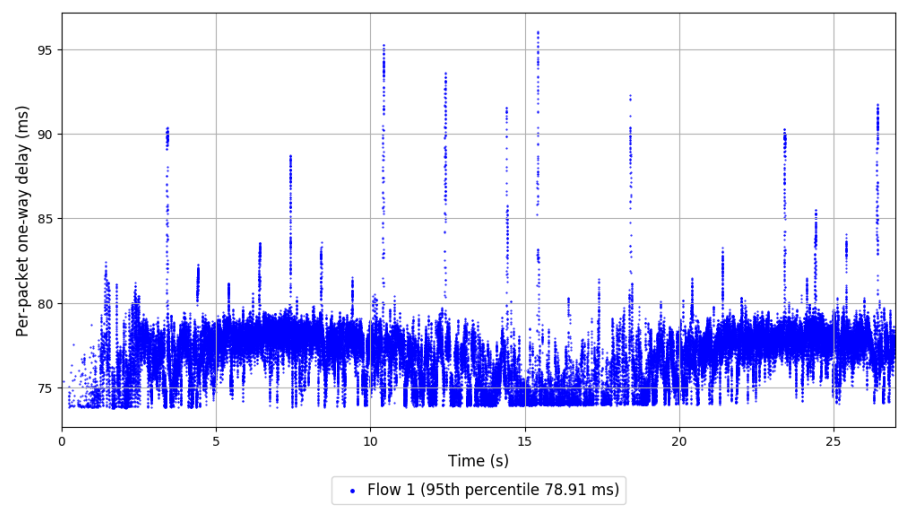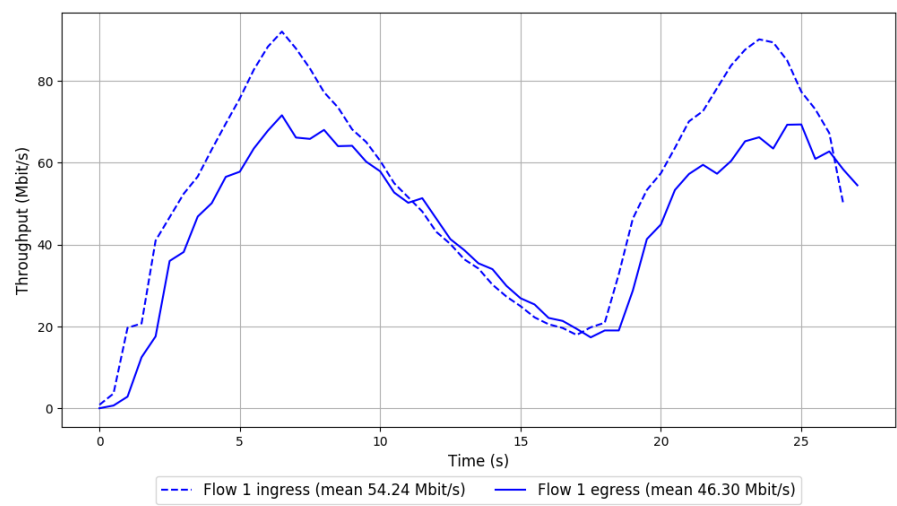


Flow 1 (95th percentile 79.57 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-07-17 17:28:56
End at: 2019-07-17 17:29:26
Local clock offset: -10.826 ms
Remote clock offset: -6.122 ms


# Below is generated by plot.py at 2019-07-17 19:49:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.30 Mbit/s
95th percentile per-packet one-way delay: 78.907 ms
Loss rate: 14.62%
-- Flow 1:
Average throughput: 46.30 Mbit/s
95th percentile per-packet one-way delay: 78.907 ms
Loss rate: 14.62%
```
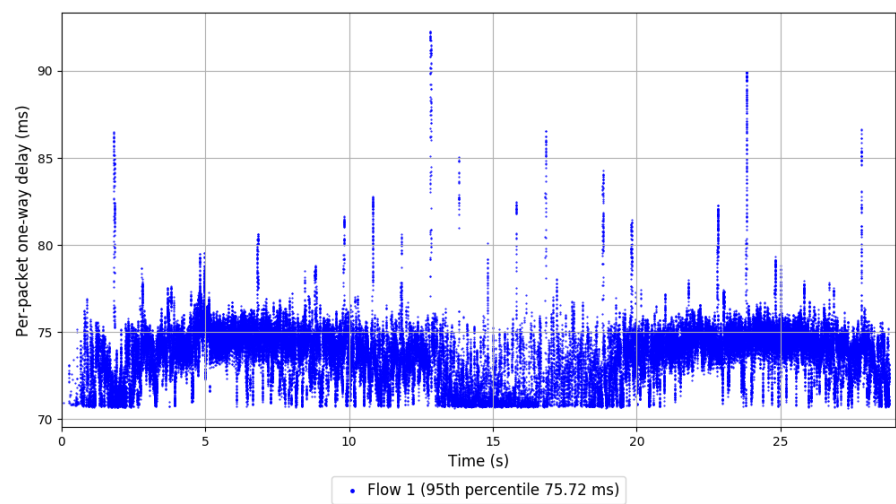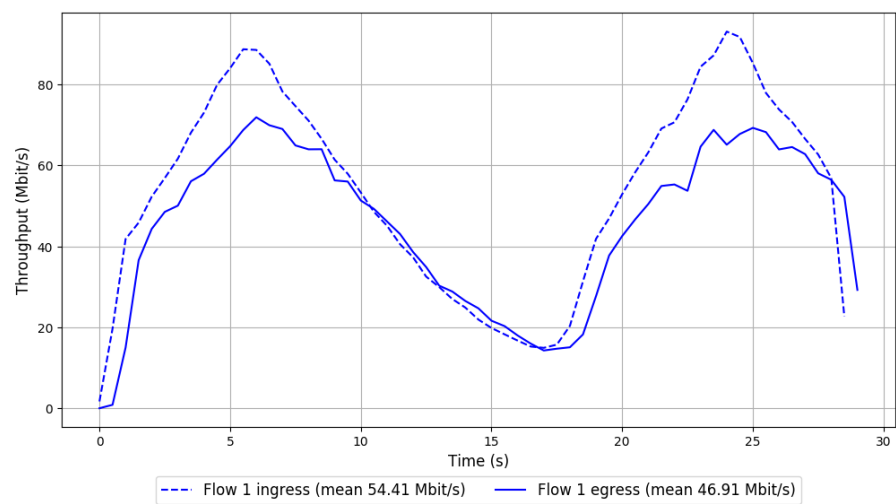
Run 1: Report of Indigo-MusesD — Data Link



Flow 1 ingress (mean 54.24 Mbit/s)    Flow 1 egress (mean 46.30 Mbit/s)

Flow 1 (95th percentile 78.91 ms)

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-07-17 17:57:01
End at: 2019-07-17 17:57:31
Local clock offset: -6.431 ms
Remote clock offset: -10.136 ms


# Below is generated by plot.py at 2019-07-17 19:49:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.91 Mbit/s
95th percentile per-packet one-way delay: 75.725 ms
Loss rate: 13.79%
-- Flow 1:
Average throughput: 46.91 Mbit/s
95th percentile per-packet one-way delay: 75.725 ms
Loss rate: 13.79%
```

Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-07-17 18:24:54
End at: 2019-07-17 18:25:24
Local clock offset: -6.201 ms
Remote clock offset: -5.523 ms


# Below is generated by plot.py at 2019-07-17 19:50:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.19 Mbit/s
95th percentile per-packet one-way delay: 80.127 ms
Loss rate: 14.36%
-- Flow 1:
Average throughput: 48.19 Mbit/s
95th percentile per-packet one-way delay: 80.127 ms
Loss rate: 14.36%
```
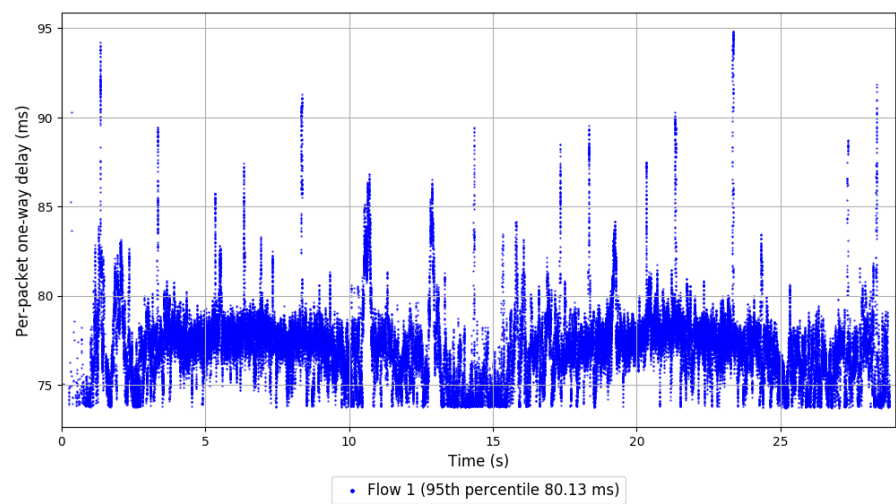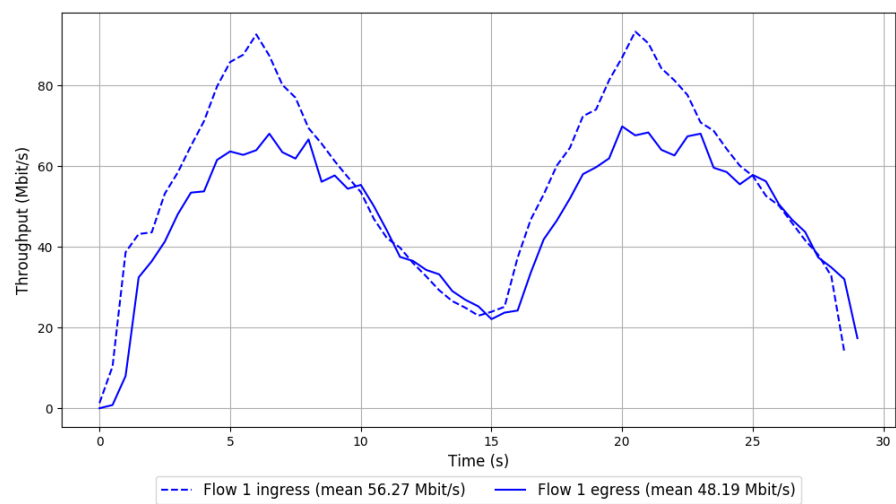
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-07-17 18:52:44
End at: 2019-07-17 18:53:14
Local clock offset: -6.324 ms
Remote clock offset: -3.132 ms


# Below is generated by plot.py at 2019-07-17 19:50:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 36.27 Mbit/s
95th percentile per-packet one-way delay: 78.018 ms
Loss rate: 13.51%
-- Flow 1:
Average throughput: 36.27 Mbit/s
95th percentile per-packet one-way delay: 78.018 ms
Loss rate: 13.51%
```
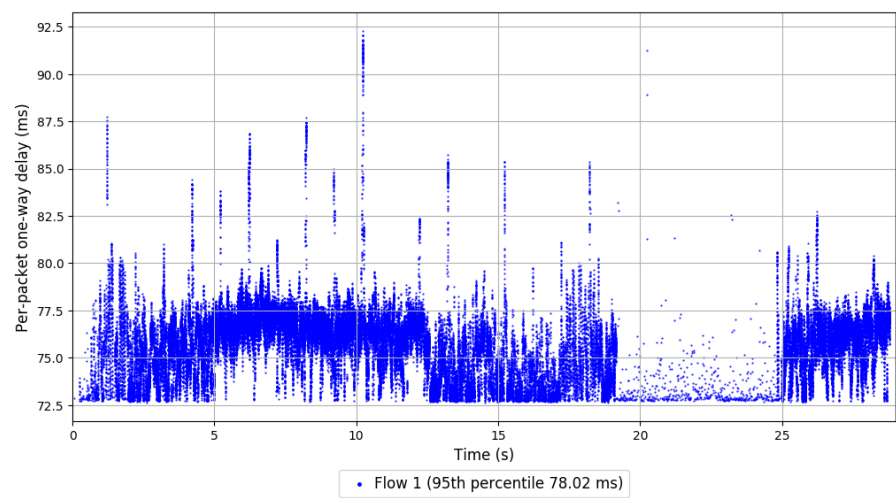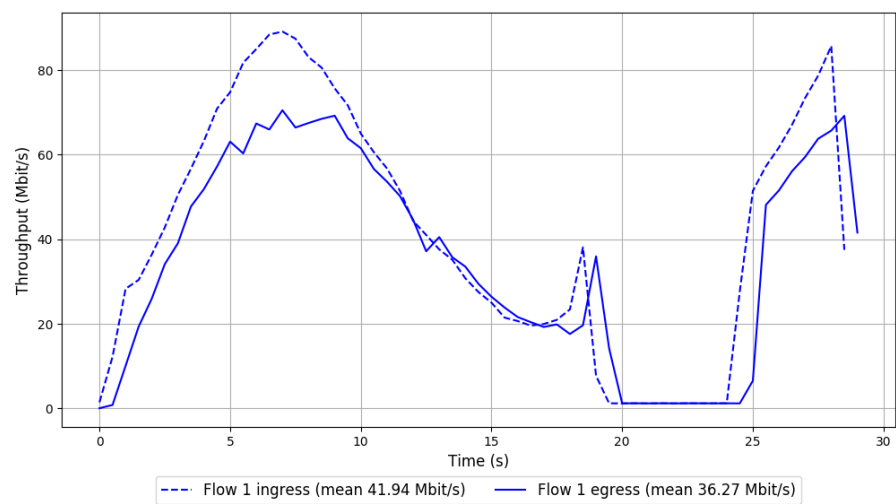
# Run 4: Report of Indigo-MusesD — Data Link



Flow 1 ingress (mean 41.94 Mbit/s) --- Flow 1 egress (mean 36.27 Mbit/s)
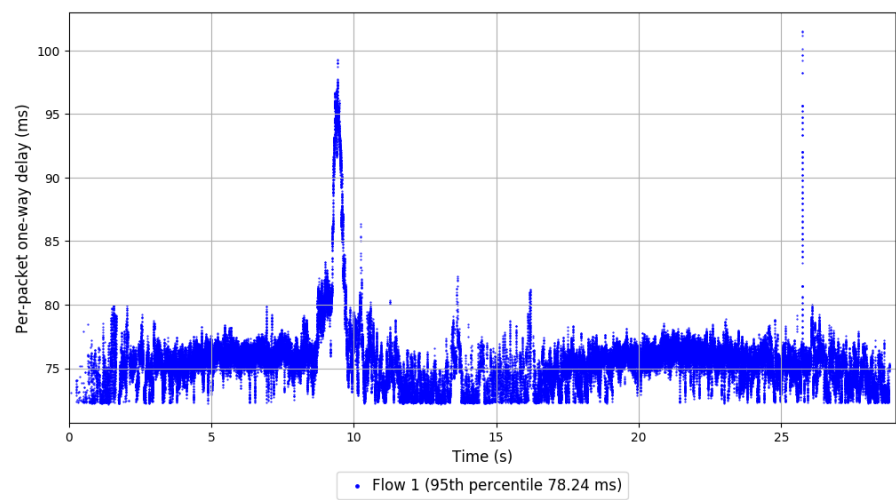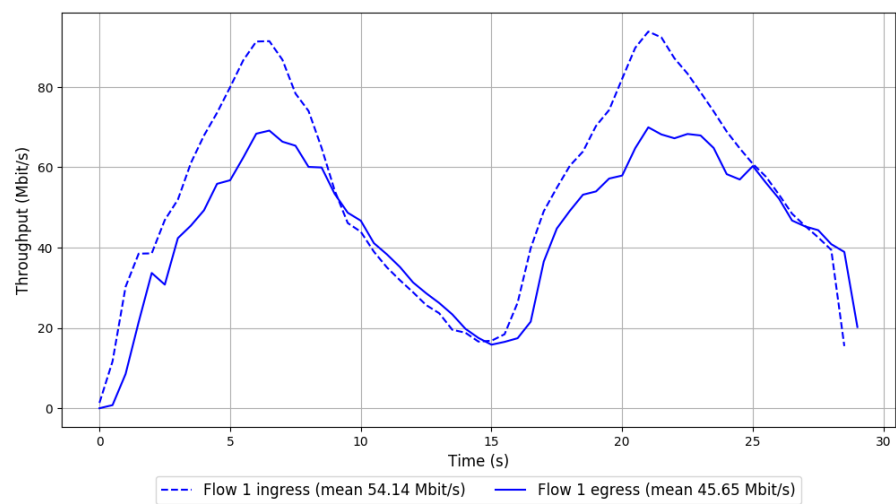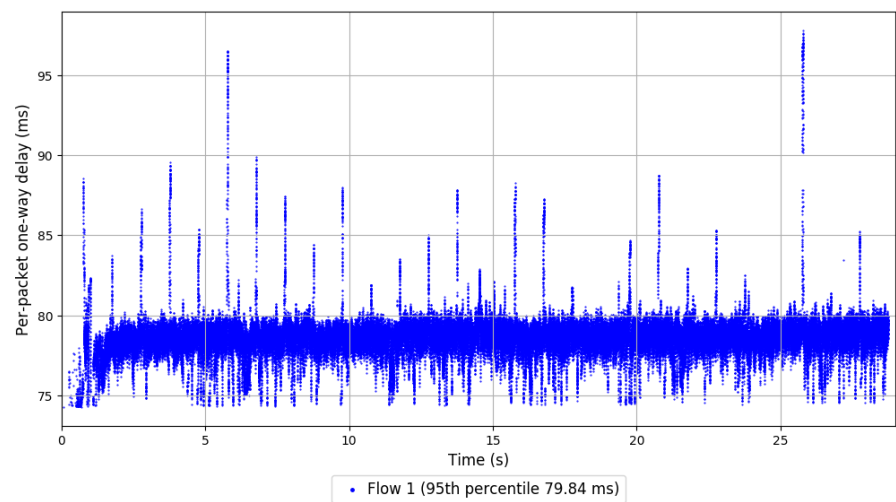


Flow 1 (95th percentile 78.02 ms)

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-07-17 19:20:55
End at: 2019-07-17 19:21:25
Local clock offset: -5.944 ms
Remote clock offset: -5.659 ms


# Below is generated by plot.py at 2019-07-17 19:50:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 45.65 Mbit/s
95th percentile per-packet one-way delay: 78.237 ms
Loss rate: 15.68%
-- Flow 1:
Average throughput: 45.65 Mbit/s
95th percentile per-packet one-way delay: 78.237 ms
Loss rate: 15.68%
```

Run 5: Report of Indigo-MusesD — Data Link



Flow 1 ingress (mean 54.14 Mbit/s) —— Flow 1 egress (mean 45.65 Mbit/s)
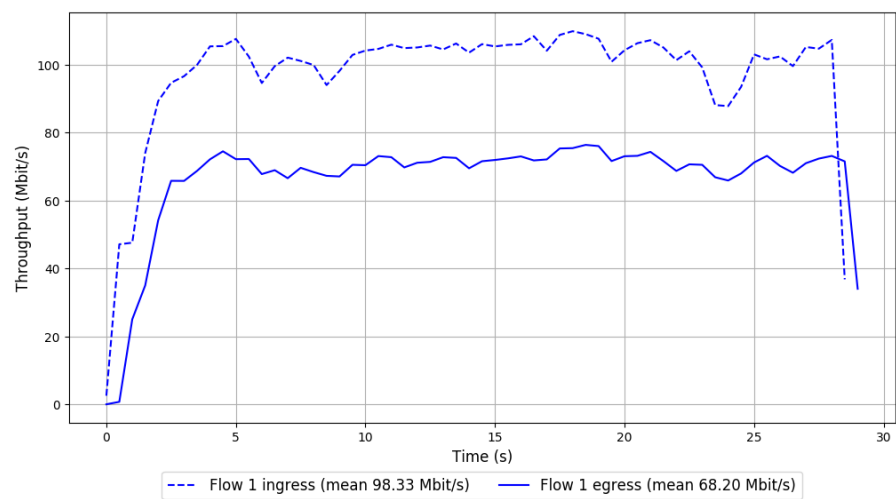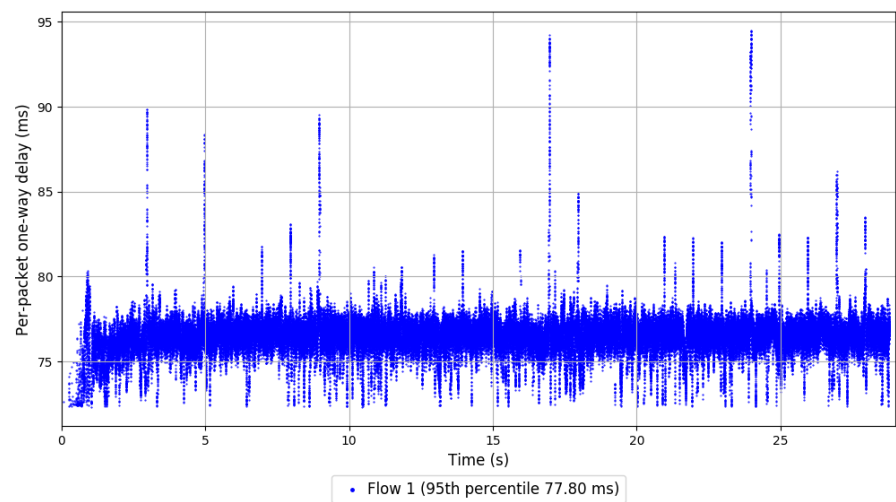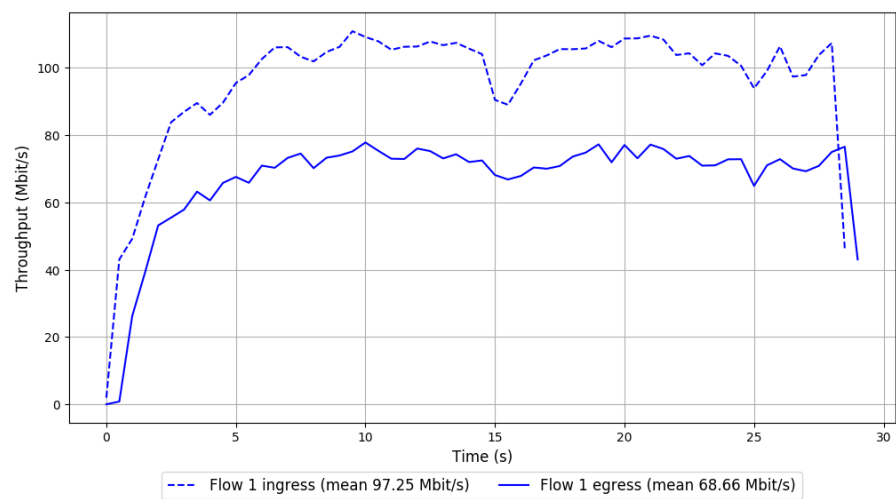


• Flow 1 (95th percentile 78.24 ms)

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-07-17 17:30:07
End at: 2019-07-17 17:30:37
Local clock offset: -10.159 ms
Remote clock offset: -7.059 ms


# Below is generated by plot.py at 2019-07-17 19:50:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.20 Mbit/s
95th percentile per-packet one-way delay: 79.836 ms
Loss rate: 30.64%
-- Flow 1:
Average throughput: 68.20 Mbit/s
95th percentile per-packet one-way delay: 79.836 ms
Loss rate: 30.64%
```
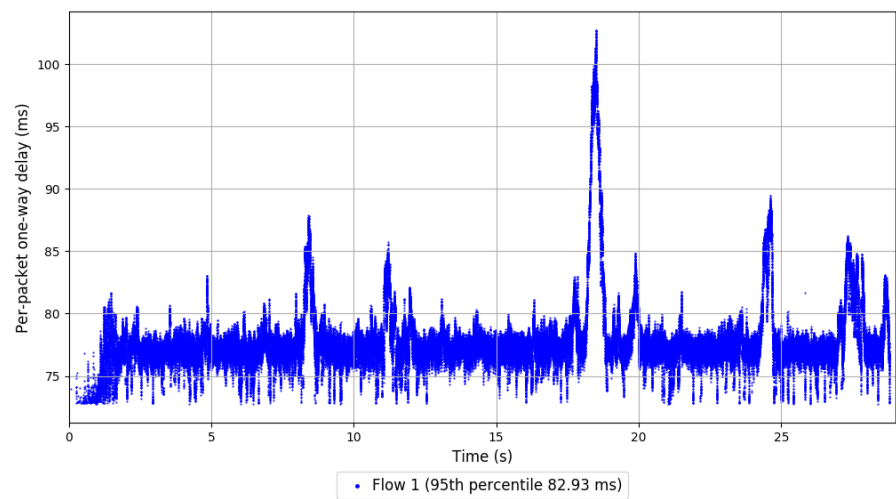
Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-07-17 17:58:11
End at: 2019-07-17 17:58:41
Local clock offset: -6.386 ms
Remote clock offset: -8.926 ms


# Below is generated by plot.py at 2019-07-17 19:50:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.66 Mbit/s
95th percentile per-packet one-way delay: 77.801 ms
Loss rate: 29.39%
-- Flow 1:
Average throughput: 68.66 Mbit/s
95th percentile per-packet one-way delay: 77.801 ms
Loss rate: 29.39%
```
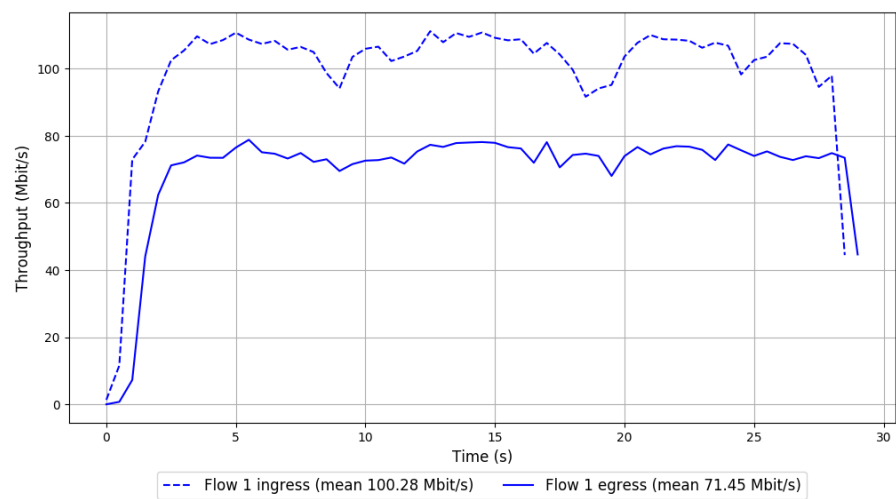
Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-07-17 18:26:05
End at: 2019-07-17 18:26:35
Local clock offset: -6.239 ms
Remote clock offset: -6.217 ms


# Below is generated by plot.py at 2019-07-17 19:50:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.45 Mbit/s
95th percentile per-packet one-way delay: 82.926 ms
Loss rate: 28.75%
-- Flow 1:
Average throughput: 71.45 Mbit/s
95th percentile per-packet one-way delay: 82.926 ms
Loss rate: 28.75%
```

Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-07-17 18:53:54
End at: 2019-07-17 18:54:24
Local clock offset: -6.317 ms
Remote clock offset: -1.552 ms


# Below is generated by plot.py at 2019-07-17 19:50:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.26 Mbit/s
95th percentile per-packet one-way delay: 84.282 ms
Loss rate: 19.96%
-- Flow 1:
Average throughput: 54.26 Mbit/s
95th percentile per-packet one-way delay: 84.282 ms
Loss rate: 19.96%
```
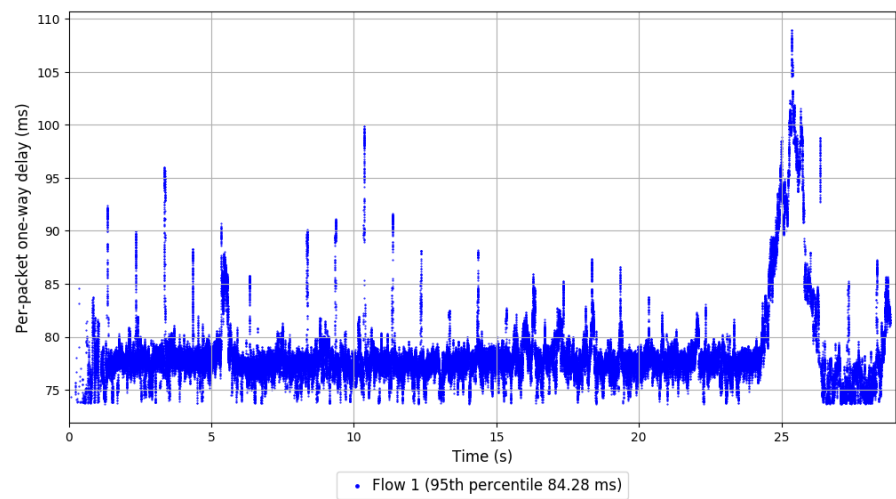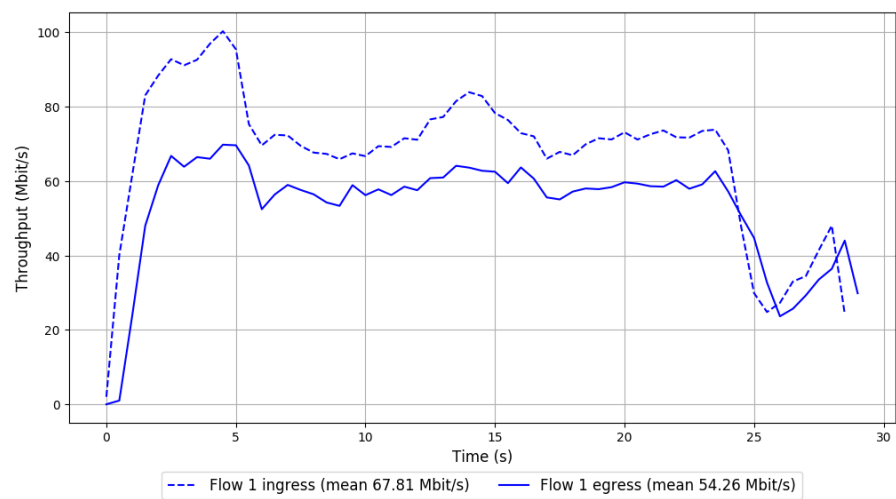
Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-07-17 19:22:05
End at: 2019-07-17 19:22:35
Local clock offset: -5.95 ms
Remote clock offset: -5.643 ms


# Below is generated by plot.py at 2019-07-17 19:50:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.73 Mbit/s
95th percentile per-packet one-way delay: 79.989 ms
Loss rate: 27.65%
-- Flow 1:
Average throughput: 65.73 Mbit/s
95th percentile per-packet one-way delay: 79.989 ms
Loss rate: 27.65%
```
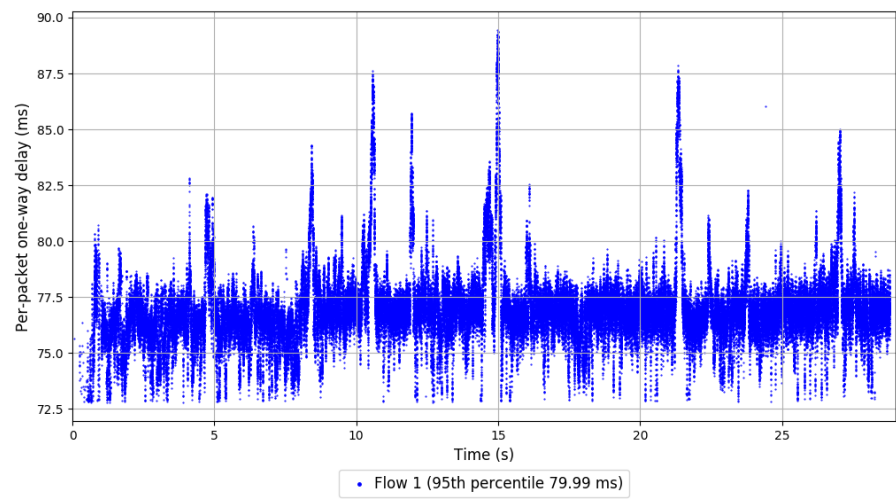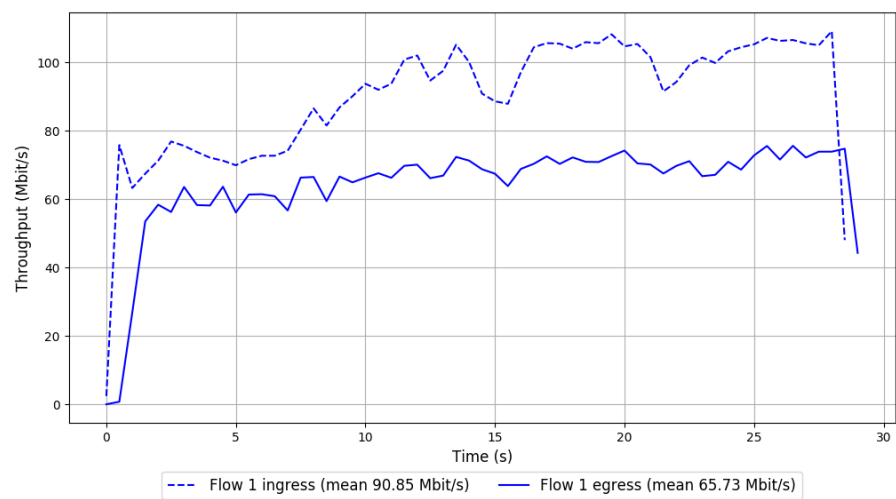
Run 5: Report of Indigo-MusesT — Data Link



Flow 1 ingress (mean 90.85 Mbit/s) — — — Flow 1 egress (mean 65.73 Mbit/s)
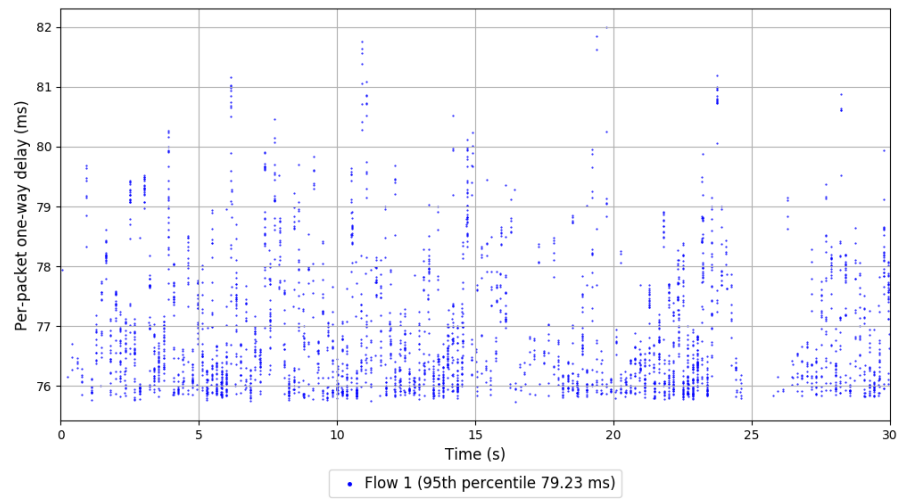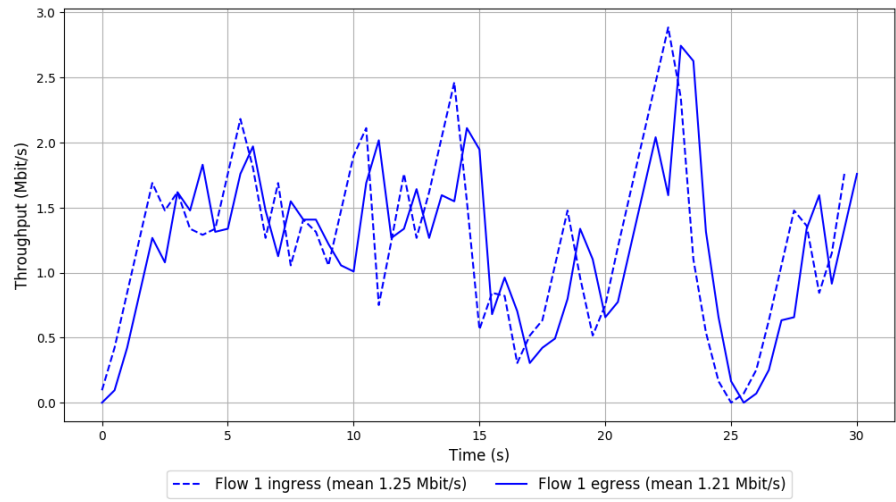


• Flow 1 (95th percentile 79.99 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2019-07-17 17:52:17
End at: 2019-07-17 17:52:47
Local clock offset: -6.477 ms
Remote clock offset: -7.055 ms


# Below is generated by plot.py at 2019-07-17 19:50:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 79.230 ms
Loss rate: 2.77%
-- Flow 1:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 79.230 ms
Loss rate: 2.77%
```

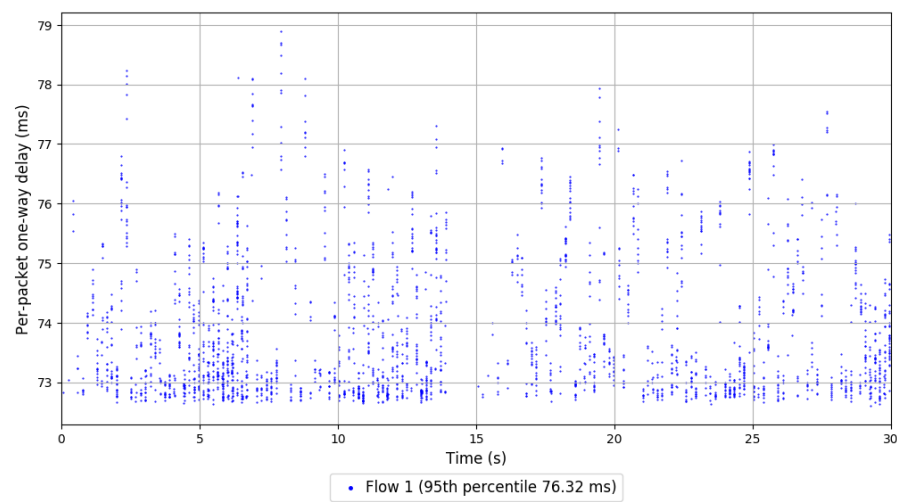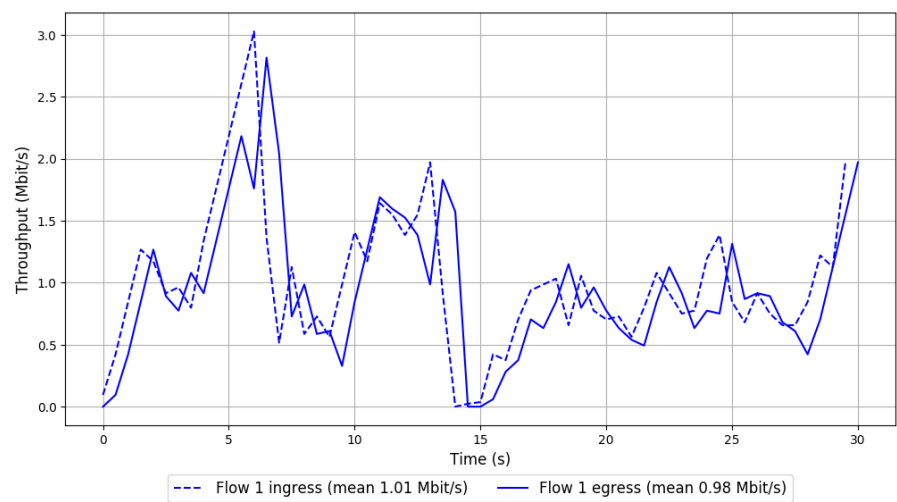Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2019-07-17 18:20:13
End at: 2019-07-17 18:20:43
Local clock offset: -6.329 ms
Remote clock offset: -6.579 ms

# Below is generated by plot.py at 2019-07-17 19:50:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 76.317 ms
Loss rate: 3.22%
-- Flow 1:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 76.317 ms
Loss rate: 3.22%
```

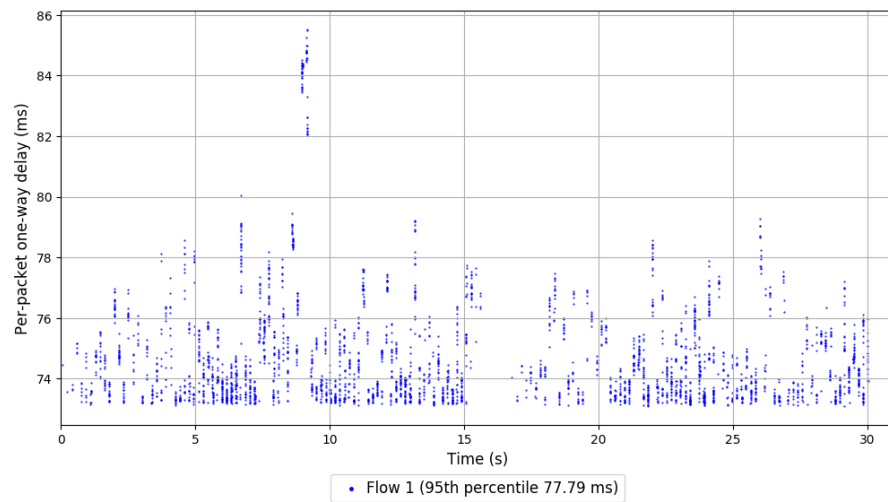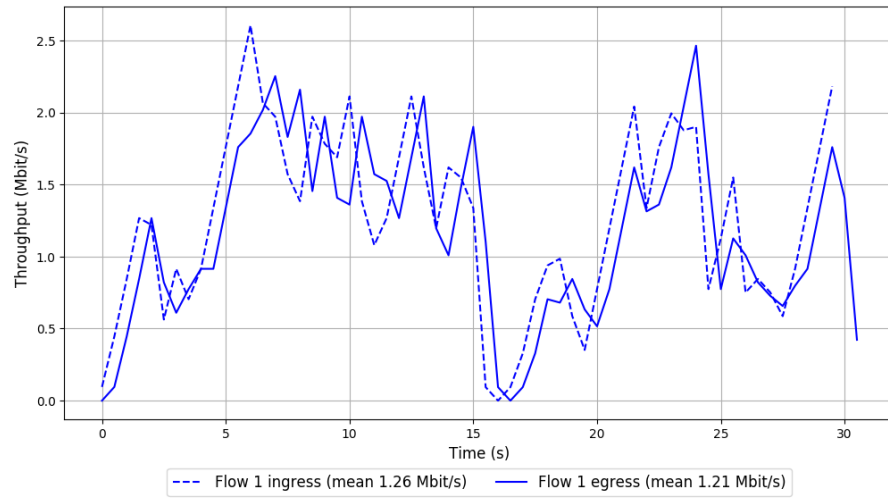# Run 2: Report of LEDBAT — Data Link

```
Run 3: Statistics of LEDBAT

Start at: 2019-07-17 18:48:03
End at: 2019-07-17 18:48:33
Local clock offset: -6.334 ms
Remote clock offset: -4.527 ms


# Below is generated by plot.py at 2019-07-17 19:50:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 77.788 ms
Loss rate: 3.83%
-- Flow 1:
Average throughput: 1.21 Mbit/s
95th percentile per-packet one-way delay: 77.788 ms
Loss rate: 3.83%
```

Run 3: Report of LEDBAT — Data Link



Flow 1 ingress (mean 1.26 Mbit/s)    Flow 1 egress (mean 1.21 Mbit/s)



Flow 1 (95th percentile 77.79 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2019-07-17 19:16:11
End at: 2019-07-17 19:16:41
Local clock offset: -5.985 ms
Remote clock offset: -4.502 ms

# Below is generated by plot.py at 2019-07-17 19:50:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 75.915 ms
Loss rate: 2.72%
-- Flow 1:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 75.915 ms
Loss rate: 2.72%
```
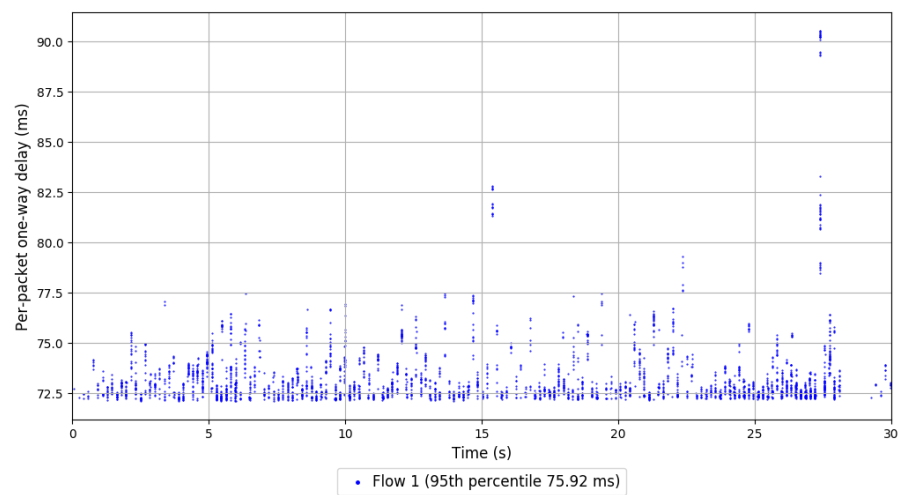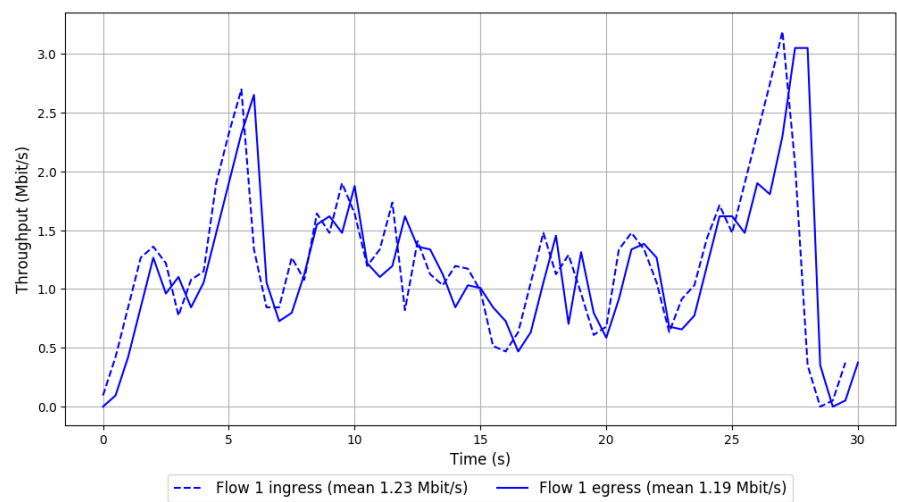
# Run 4: Report of LEDBAT — Data Link



Flow 1 ingress (mean 1.23 Mbit/s)  ——— Flow 1 egress (mean 1.19 Mbit/s)



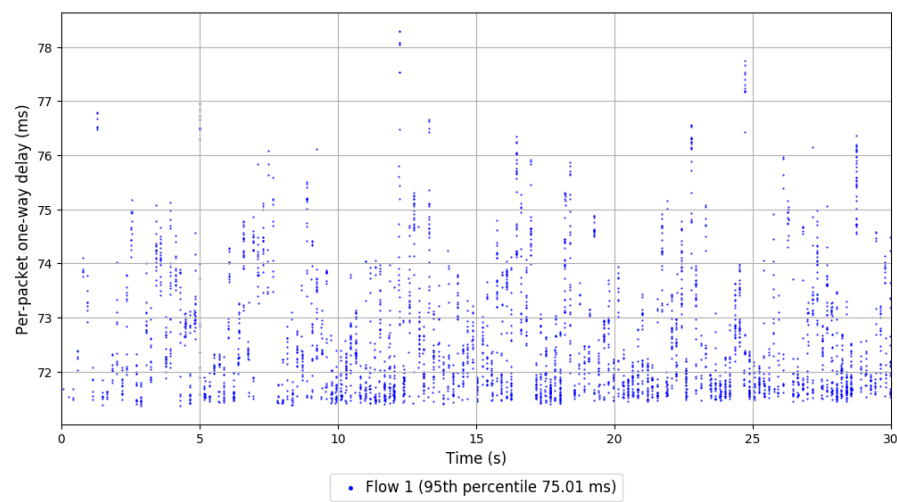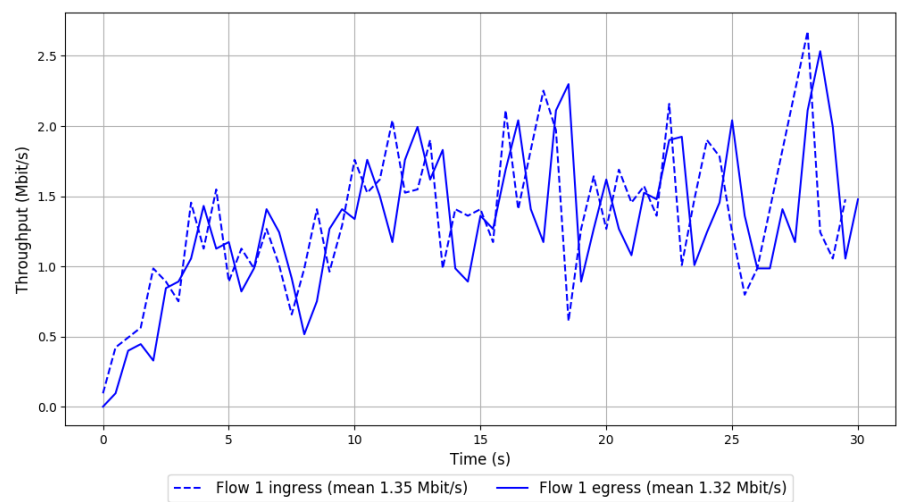• Flow 1 (95th percentile 75.92 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-07-17 19:44:10
End at: 2019-07-17 19:44:40
Local clock offset: -6.787 ms
Remote clock offset: -9.383 ms

# Below is generated by plot.py at 2019-07-17 19:50:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 75.008 ms
Loss rate: 2.23%
-- Flow 1:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 75.008 ms
Loss rate: 2.23%
```

# Run 5: Report of LEDBAT — Data Link



Flow 1 ingress (mean 1.35 Mbit/s)    Flow 1 egress (mean 1.32 Mbit/s)



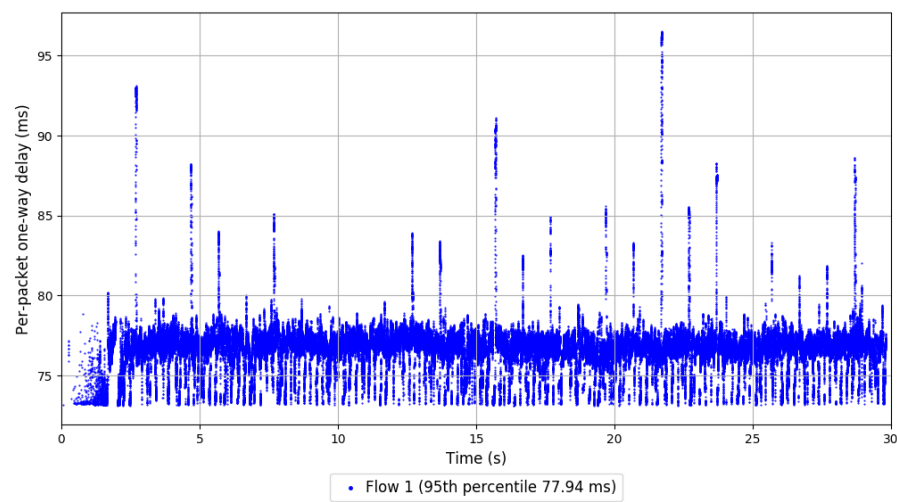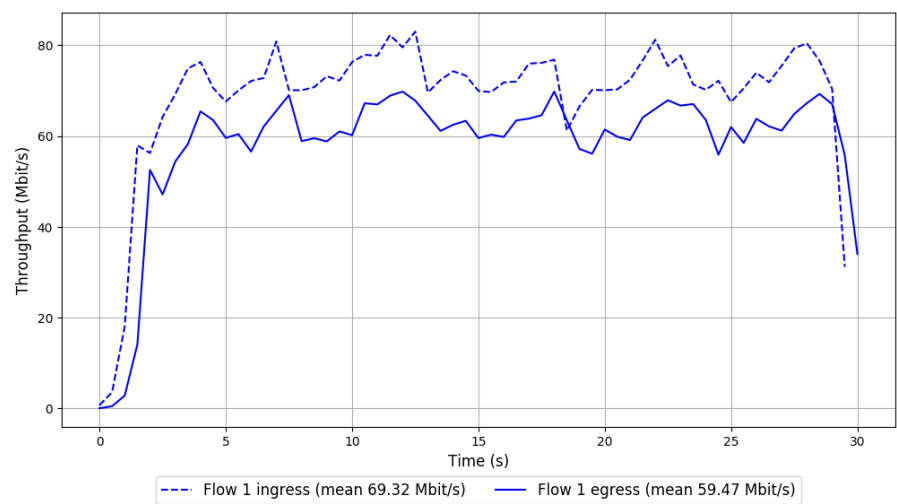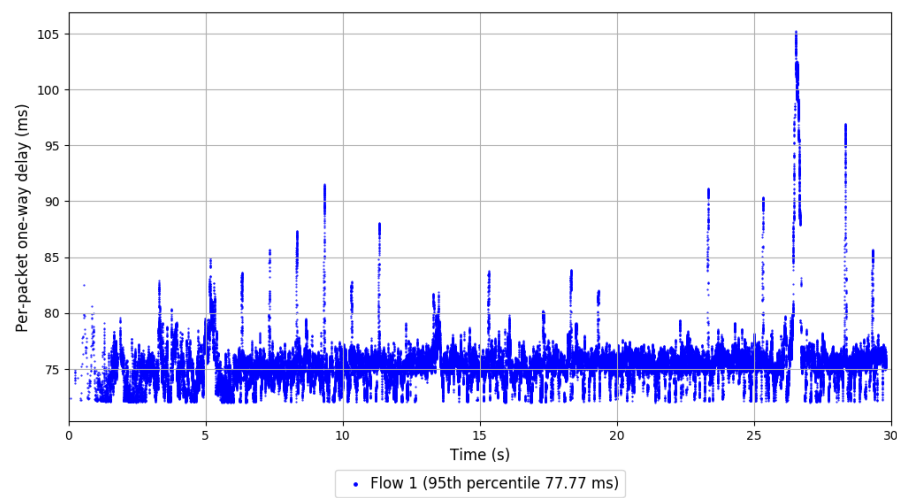Flow 1 (95th percentile 75.01 ms)

```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-07-17 17:53:26
End at: 2019-07-17 17:53:56
Local clock offset: -6.47 ms
Remote clock offset: -8.886 ms


# Below is generated by plot.py at 2019-07-17 19:50:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.47 Mbit/s
95th percentile per-packet one-way delay: 77.936 ms
Loss rate: 14.19%
-- Flow 1:
Average throughput: 59.47 Mbit/s
95th percentile per-packet one-way delay: 77.936 ms
Loss rate: 14.19%
```

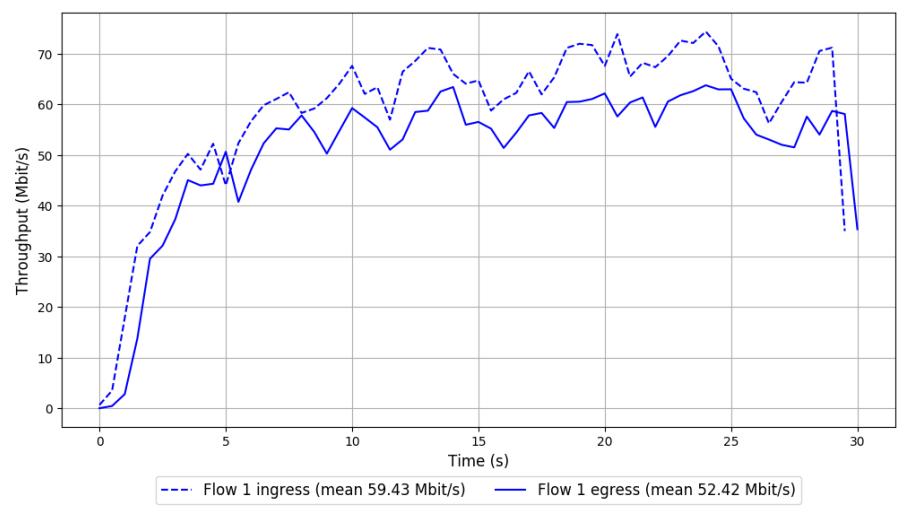Run 1: Report of Muses_DecisionTree — Data Link

```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-07-17 18:21:21
End at: 2019-07-17 18:21:51
Local clock offset: -6.227 ms
Remote clock offset: -6.816 ms


# Below is generated by plot.py at 2019-07-17 19:50:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.42 Mbit/s
95th percentile per-packet one-way delay: 77.769 ms
Loss rate: 11.78%
-- Flow 1:
Average throughput: 52.42 Mbit/s
95th percentile per-packet one-way delay: 77.769 ms
Loss rate: 11.78%
```

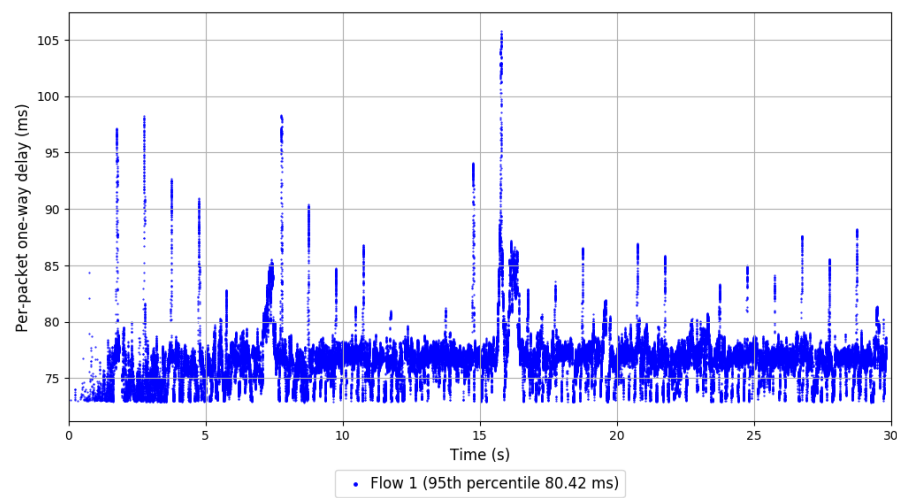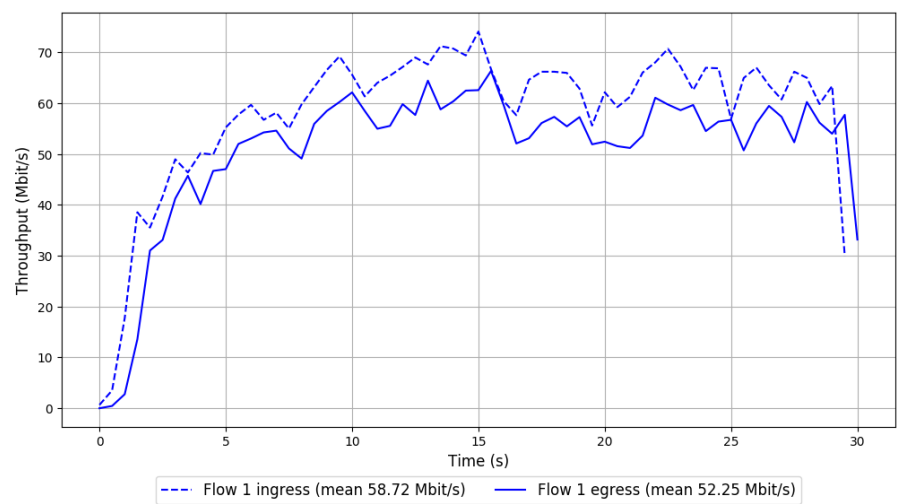Run 2: Report of Muses_DecisionTree — Data Link

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-07-17 18:49:11
End at: 2019-07-17 18:49:41
Local clock offset: -6.331 ms
Remote clock offset: -3.723 ms


# Below is generated by plot.py at 2019-07-17 19:51:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.25 Mbit/s
95th percentile per-packet one-way delay: 80.415 ms
Loss rate: 11.02%
-- Flow 1:
Average throughput: 52.25 Mbit/s
95th percentile per-packet one-way delay: 80.415 ms
Loss rate: 11.02%
```

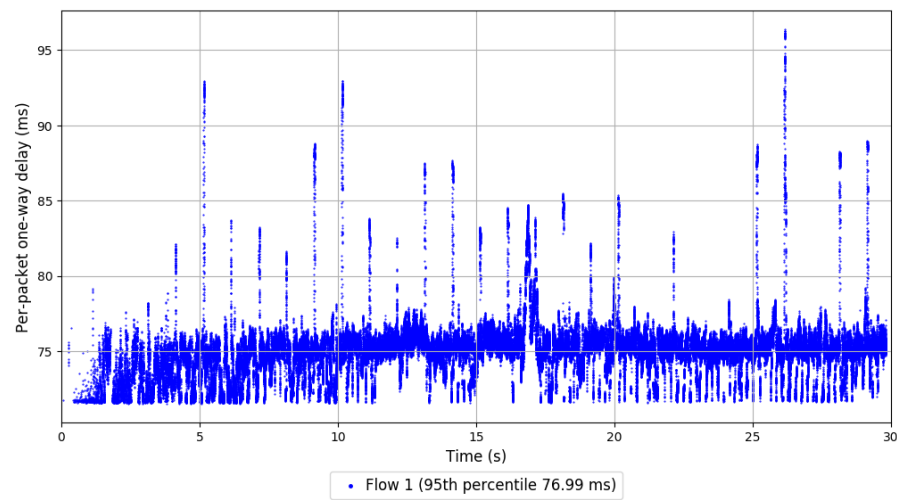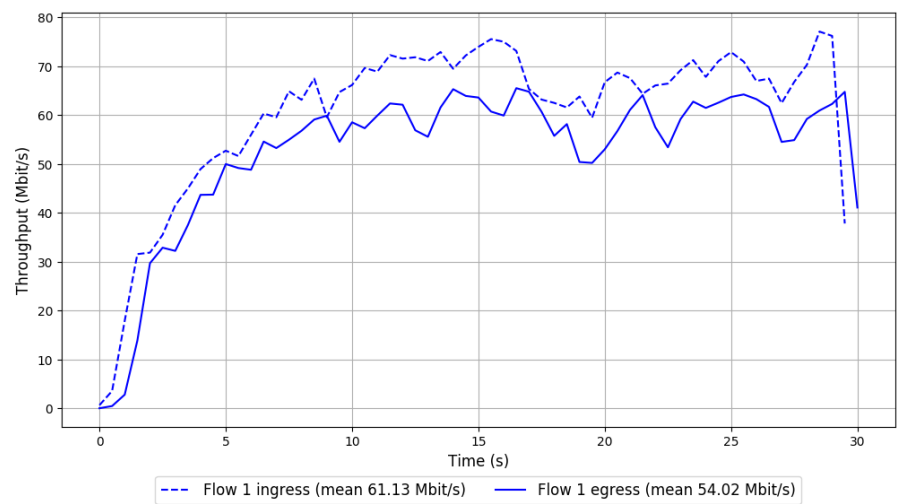Run 3: Report of Muses_DecisionTree — Data Link

Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-07-17 19:17:20
End at: 2019-07-17 19:17:50
Local clock offset: -5.972 ms
Remote clock offset: -5.795 ms


# Below is generated by plot.py at 2019-07-17 19:51:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.02 Mbit/s
95th percentile per-packet one-way delay: 76.992 ms
Loss rate: 11.61%
-- Flow 1:
Average throughput: 54.02 Mbit/s
95th percentile per-packet one-way delay: 76.992 ms
Loss rate: 11.61%
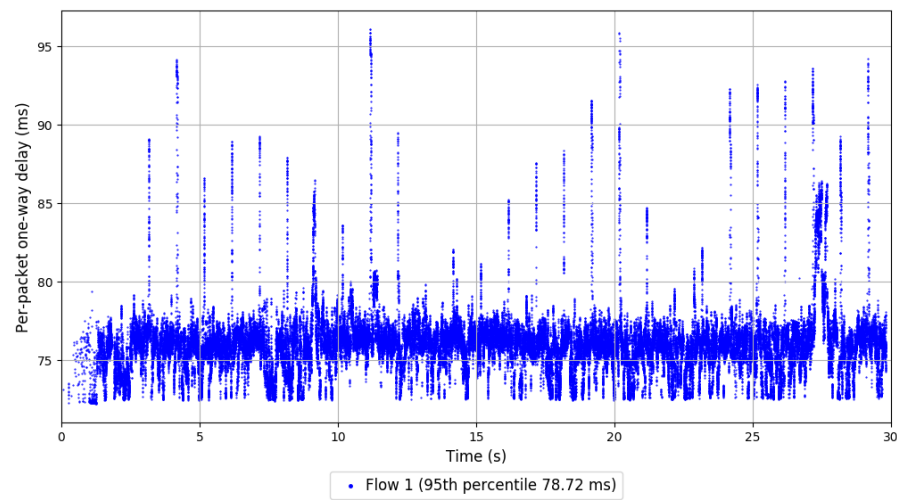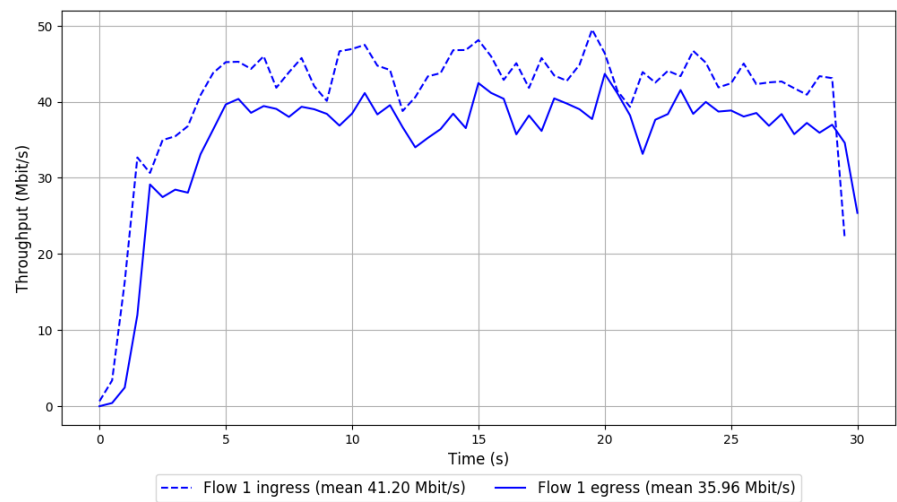
Run 4: Report of Muses_DecisionTree — Data Link

```
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-07-17 19:45:18
End at: 2019-07-17 19:45:48
Local clock offset: -6.819 ms
Remote clock offset: -8.231 ms


# Below is generated by plot.py at 2019-07-17 19:51:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 35.96 Mbit/s
95th percentile per-packet one-way delay: 78.720 ms
Loss rate: 12.71%
-- Flow 1:
Average throughput: 35.96 Mbit/s
95th percentile per-packet one-way delay: 78.720 ms
Loss rate: 12.71%
```

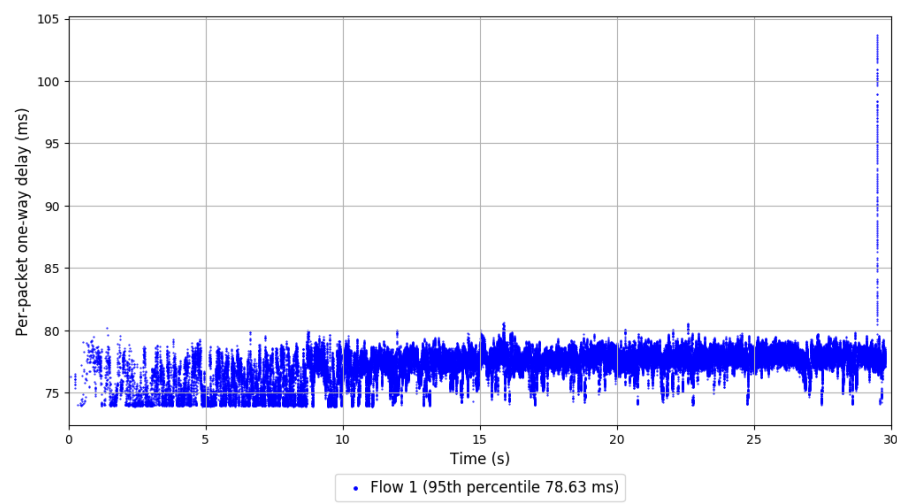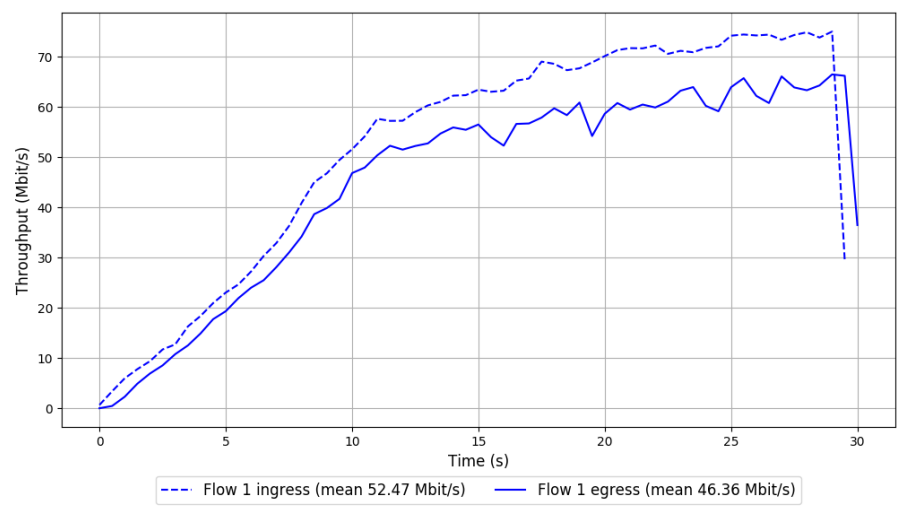Run 5: Report of Muses_DecisionTree — Data Link

```
Run 1: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-17 17:39:18
End at: 2019-07-17 17:39:48
Local clock offset: -7.667 ms
Remote clock offset: -6.44 ms


# Below is generated by plot.py at 2019-07-17 19:51:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.36 Mbit/s
95th percentile per-packet one-way delay: 78.632 ms
Loss rate: 11.65%
-- Flow 1:
Average throughput: 46.36 Mbit/s
95th percentile per-packet one-way delay: 78.632 ms
Loss rate: 11.65%
```

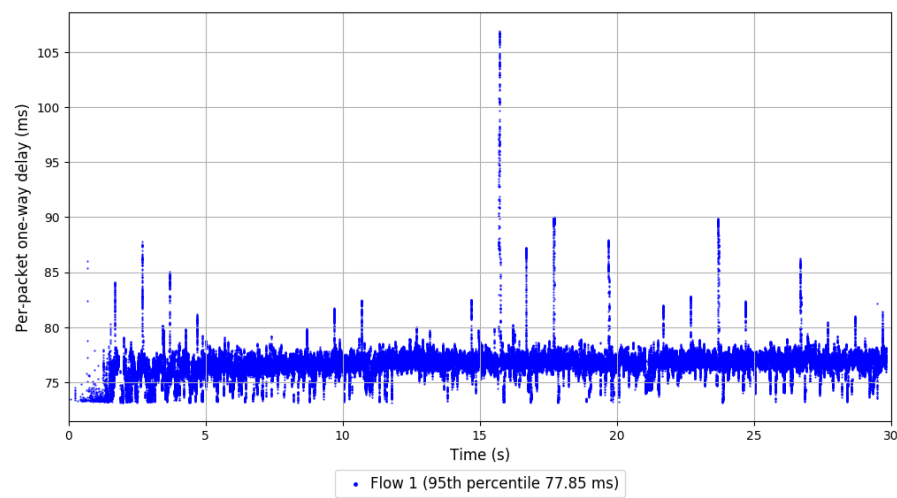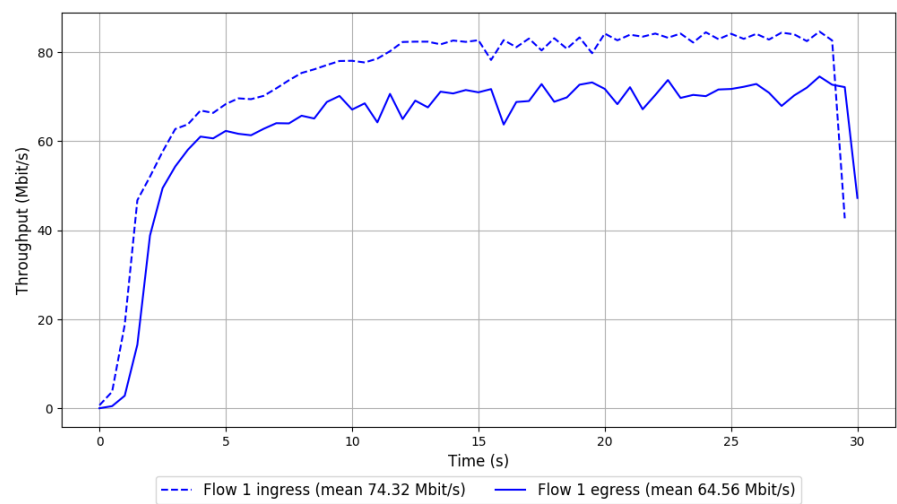Run 1: Report of Muses_DecisionTreeH0 — Data Link

```
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-17 18:07:20
End at: 2019-07-17 18:07:50
Local clock offset: -6.41 ms
Remote clock offset: -6.595 ms


# Below is generated by plot.py at 2019-07-17 19:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.56 Mbit/s
95th percentile per-packet one-way delay: 77.849 ms
Loss rate: 13.11%
-- Flow 1:
Average throughput: 64.56 Mbit/s
95th percentile per-packet one-way delay: 77.849 ms
Loss rate: 13.11%
```

Run 2: Report of Muses_DecisionTreeH0 — Data Link



Flow 1 ingress (mean 74.32 Mbit/s)    Flow 1 egress (mean 64.56 Mbit/s)



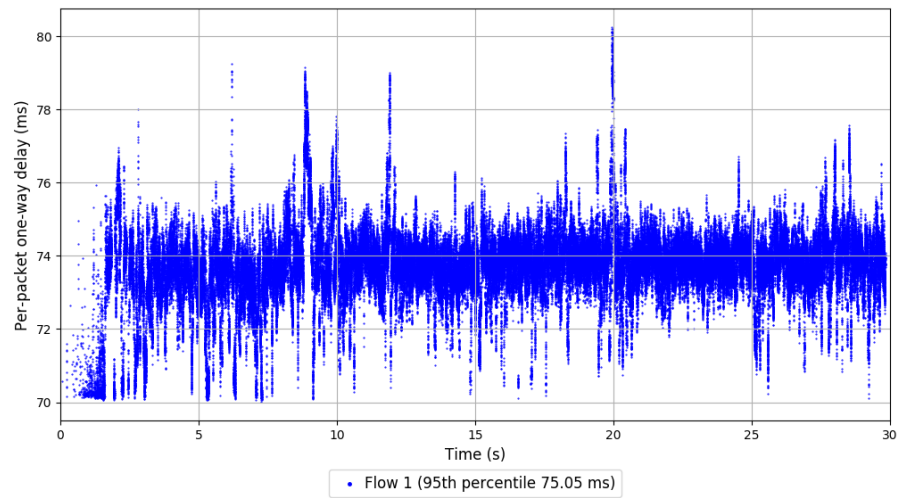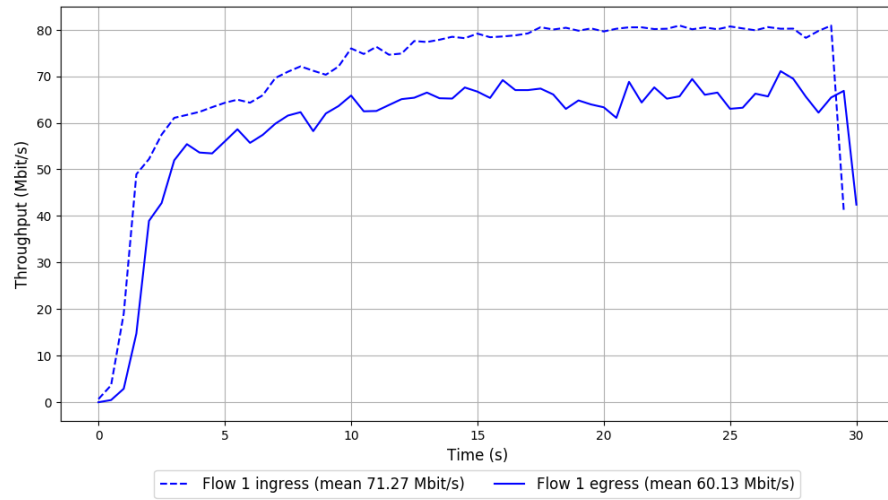Flow 1 (95th percentile 77.85 ms)

```
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-17 18:35:12
End at: 2019-07-17 18:35:42
Local clock offset: -6.368 ms
Remote clock offset: -7.908 ms


# Below is generated by plot.py at 2019-07-17 19:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.13 Mbit/s
95th percentile per-packet one-way delay: 75.050 ms
Loss rate: 15.63%
-- Flow 1:
Average throughput: 60.13 Mbit/s
95th percentile per-packet one-way delay: 75.050 ms
Loss rate: 15.63%
```

Run 3: Report of Muses_DecisionTreeH0 — Data Link



Flow 1 ingress (mean 71.27 Mbit/s)    Flow 1 egress (mean 60.13 Mbit/s)



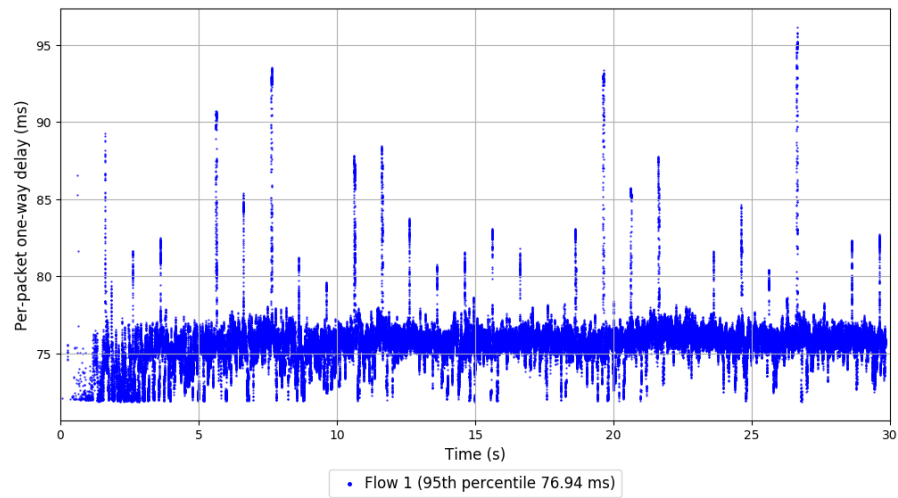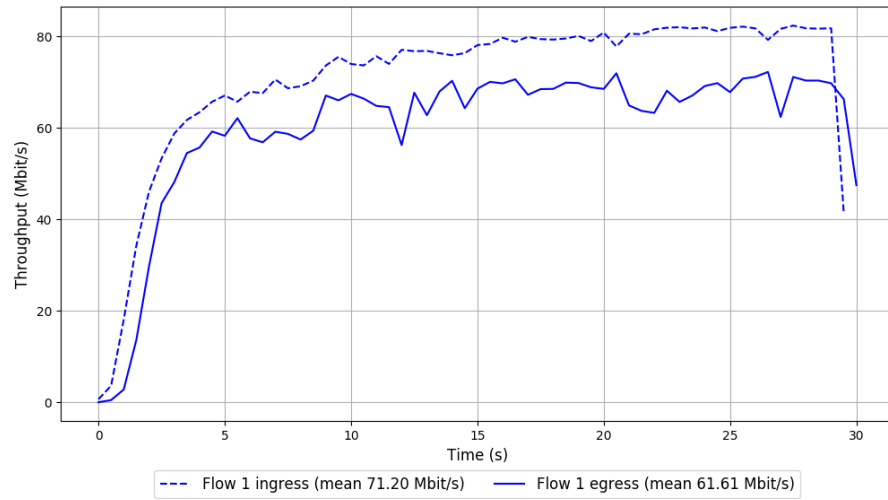Flow 1 (95th percentile 75.05 ms)

```
Run 4: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-17 19:03:09
End at: 2019-07-17 19:03:39
Local clock offset: -6.161 ms
Remote clock offset: -2.397 ms


# Below is generated by plot.py at 2019-07-17 19:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.61 Mbit/s
95th percentile per-packet one-way delay: 76.939 ms
Loss rate: 13.45%
-- Flow 1:
Average throughput: 61.61 Mbit/s
95th percentile per-packet one-way delay: 76.939 ms
Loss rate: 13.45%
```

Run 4: Report of Muses_DecisionTreeH0 — Data Link



Flow 1 ingress (mean 71.20 Mbit/s)    Flow 1 egress (mean 61.61 Mbit/s)



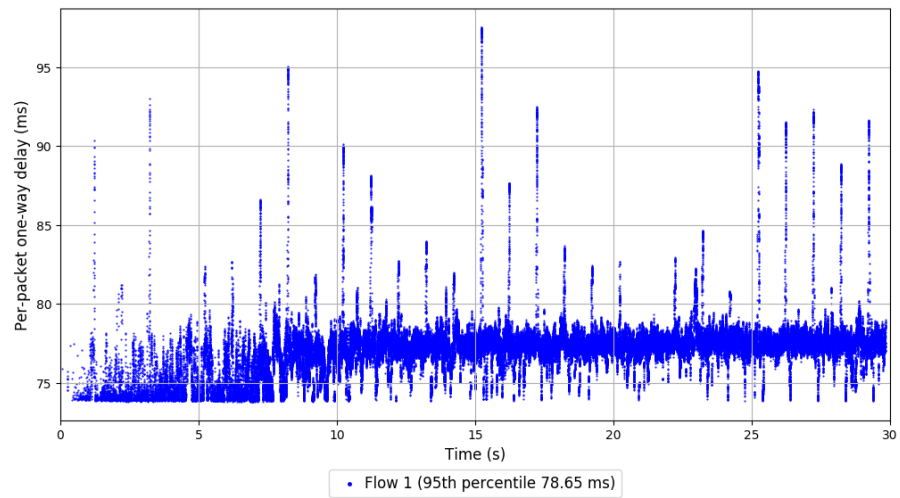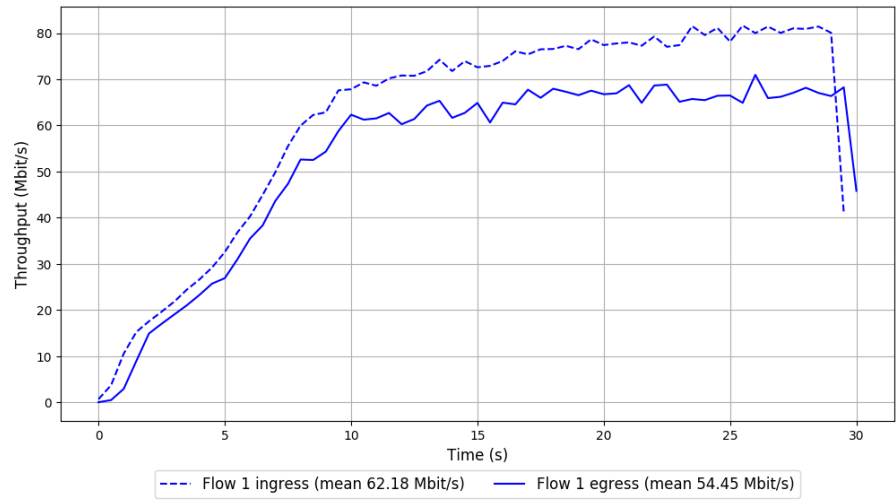Flow 1 (95th percentile 76.94 ms)

```
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-17 19:31:21
End at: 2019-07-17 19:31:51
Local clock offset: -6.405 ms
Remote clock offset: -4.562 ms


# Below is generated by plot.py at 2019-07-17 19:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.45 Mbit/s
95th percentile per-packet one-way delay: 78.654 ms
Loss rate: 12.42%
-- Flow 1:
Average throughput: 54.45 Mbit/s
95th percentile per-packet one-way delay: 78.654 ms
Loss rate: 12.42%
```

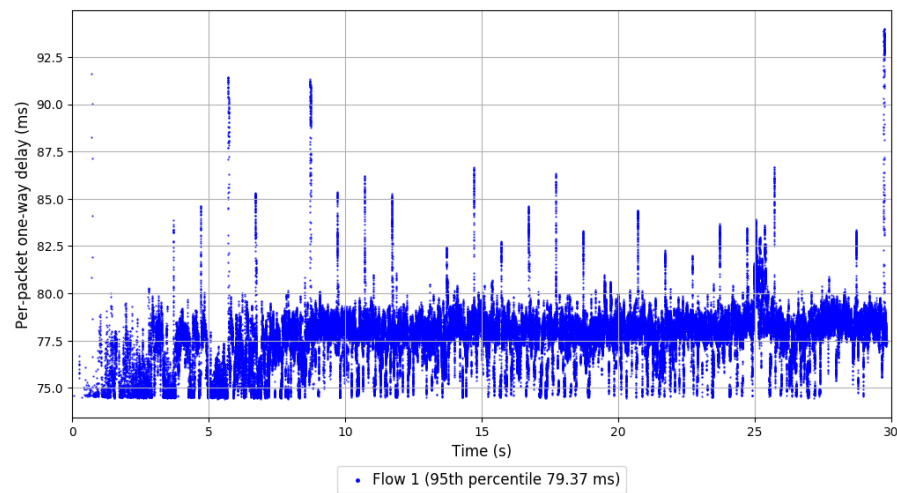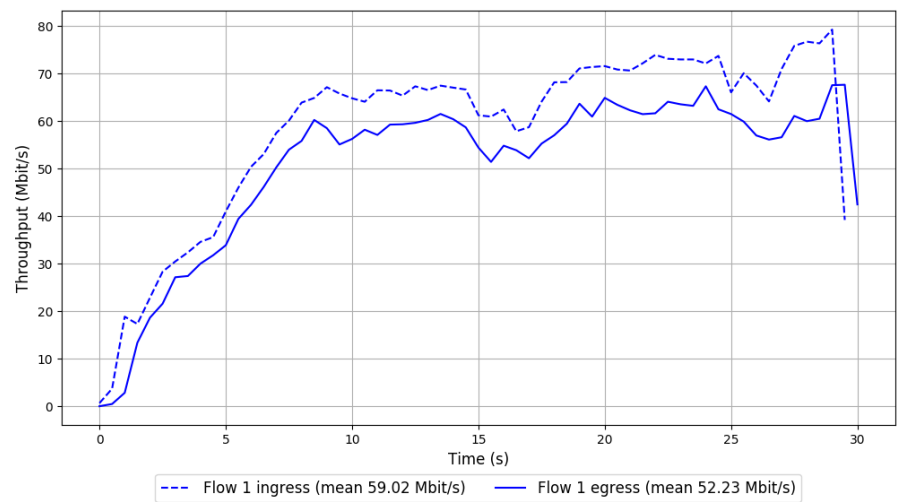Run 5: Report of Muses_DecisionTreeH0 — Data Link



134

```
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-17 17:47:34
End at: 2019-07-17 17:48:04
Local clock offset: -6.783 ms
Remote clock offset: -6.925 ms


# Below is generated by plot.py at 2019-07-17 19:51:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.23 Mbit/s
95th percentile per-packet one-way delay: 79.373 ms
Loss rate: 11.50%
-- Flow 1:
Average throughput: 52.23 Mbit/s
95th percentile per-packet one-way delay: 79.373 ms
Loss rate: 11.50%
```

Run 1: Report of Muses_DecisionTreeR0 — Data Link



Flow 1 ingress (mean 59.02 Mbit/s) --- Flow 1 egress (mean 52.23 Mbit/s)



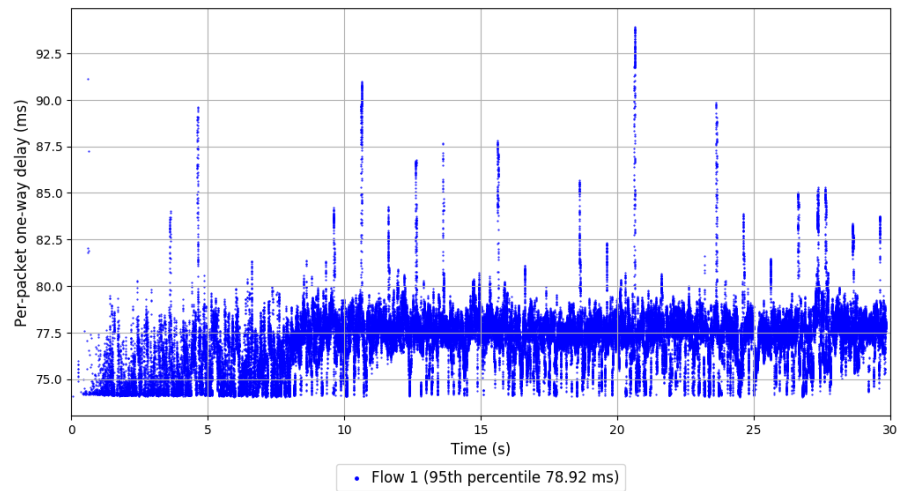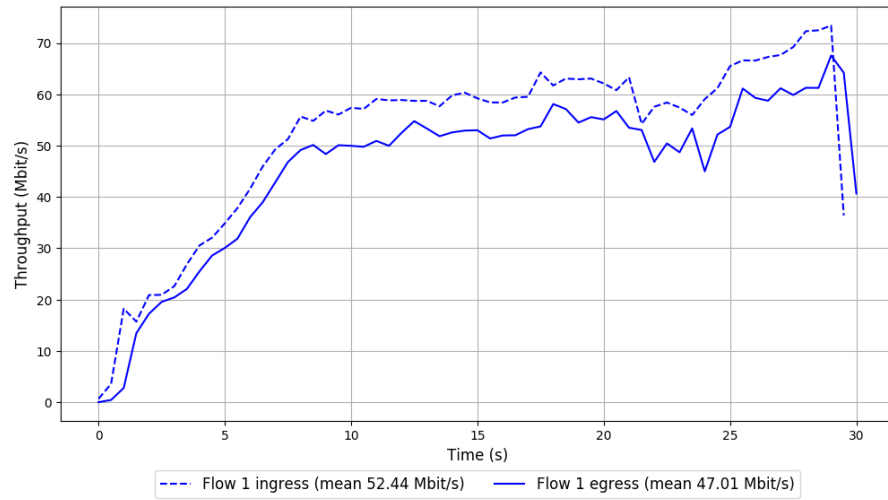Flow 1 (95th percentile 79.37 ms)

```
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-17 18:15:30
End at: 2019-07-17 18:16:00
Local clock offset: -6.301 ms
Remote clock offset: -6.467 ms


# Below is generated by plot.py at 2019-07-17 19:51:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.01 Mbit/s
95th percentile per-packet one-way delay: 78.919 ms
Loss rate: 10.35%
-- Flow 1:
Average throughput: 47.01 Mbit/s
95th percentile per-packet one-way delay: 78.919 ms
Loss rate: 10.35%
```

Run 2: Report of Muses_DecisionTreeR0 — Data Link



Flow 1 ingress (mean 52.44 Mbit/s) ----- Flow 1 egress (mean 47.01 Mbit/s)



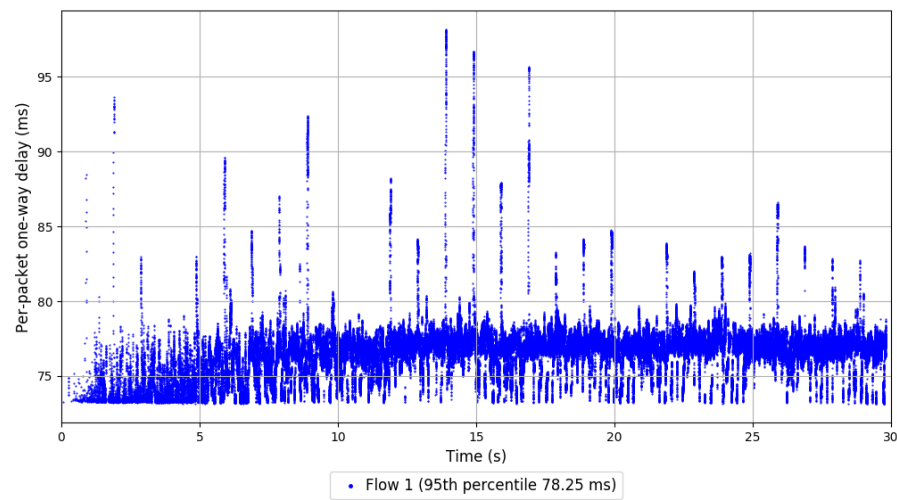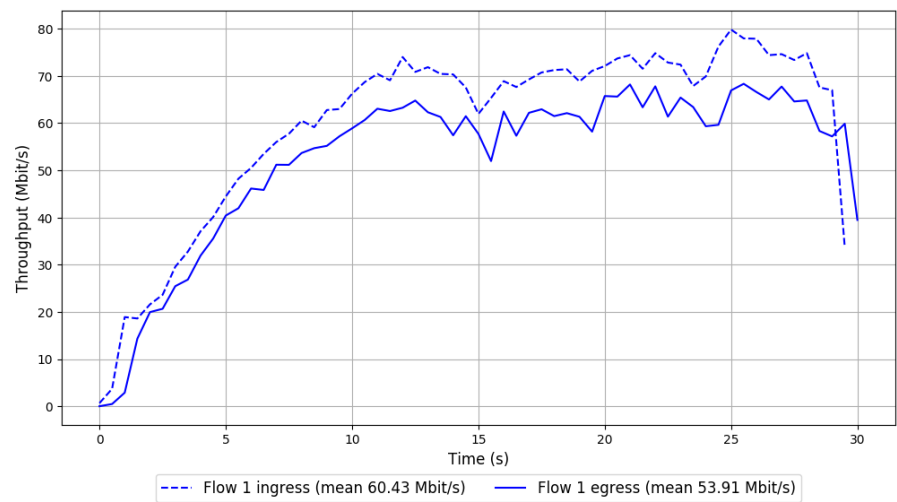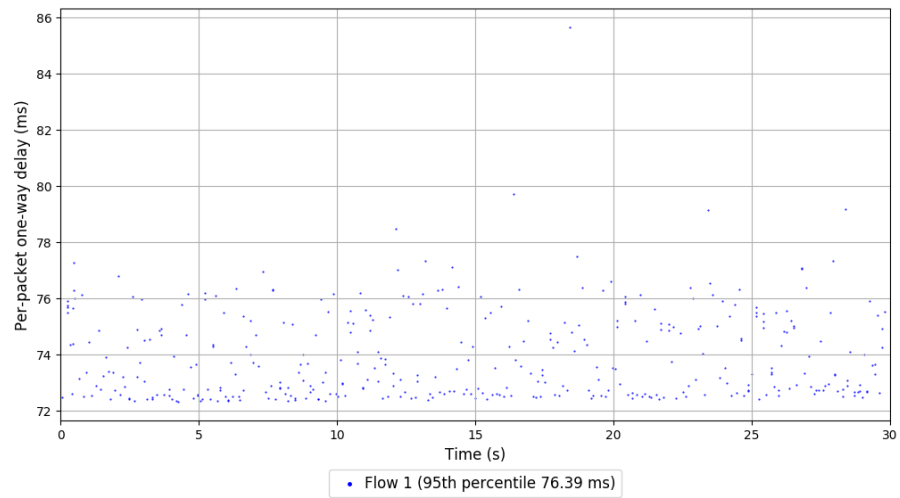Flow 1 (95th percentile 78.92 ms)

```
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-17 18:43:21
End at: 2019-07-17 18:43:52
Local clock offset: -6.388 ms
Remote clock offset: -3.819 ms


# Below is generated by plot.py at 2019-07-17 19:52:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 53.91 Mbit/s
95th percentile per-packet one-way delay: 78.252 ms
Loss rate: 10.78%
-- Flow 1:
Average throughput: 53.91 Mbit/s
95th percentile per-packet one-way delay: 78.252 ms
Loss rate: 10.78%
```

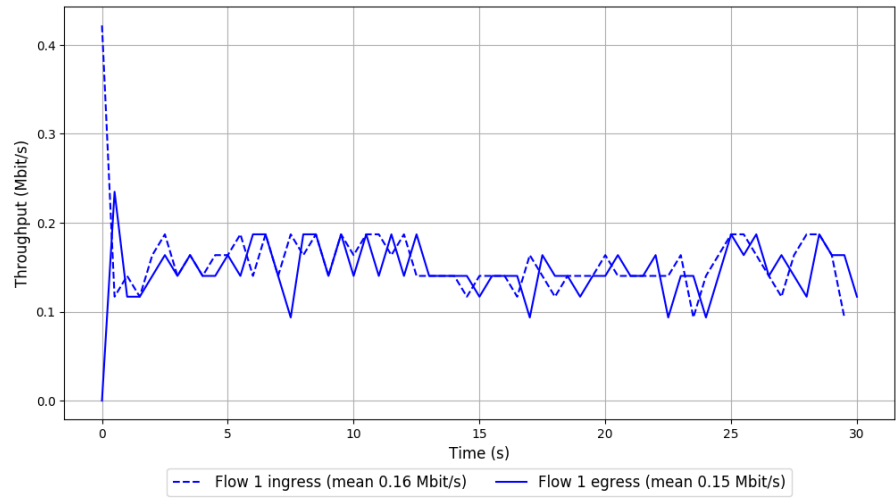Run 3: Report of Muses_DecisionTreeR0 — Data Link

```
Run 4: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-17 19:11:30
End at: 2019-07-17 19:12:00
Local clock offset: -6.026 ms
Remote clock offset: -3.215 ms


# Below is generated by plot.py at 2019-07-17 19:52:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 76.392 ms
Loss rate: 4.97%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 76.392 ms
Loss rate: 4.97%
```

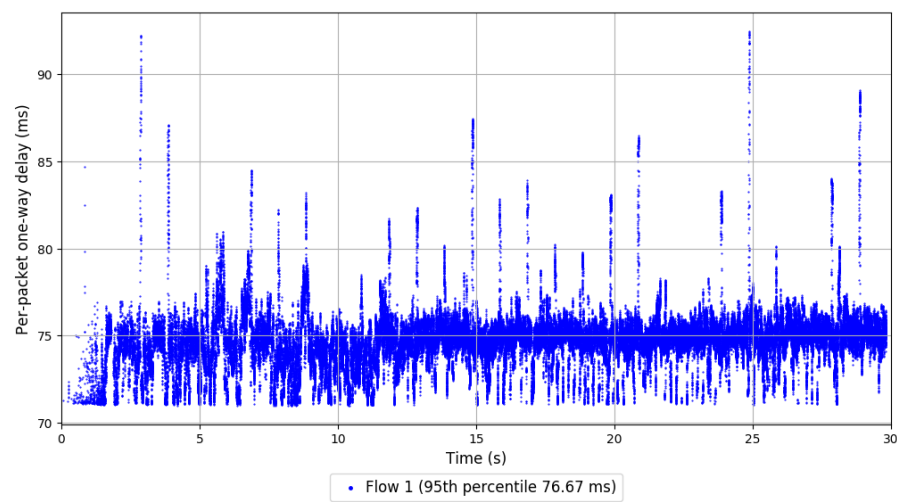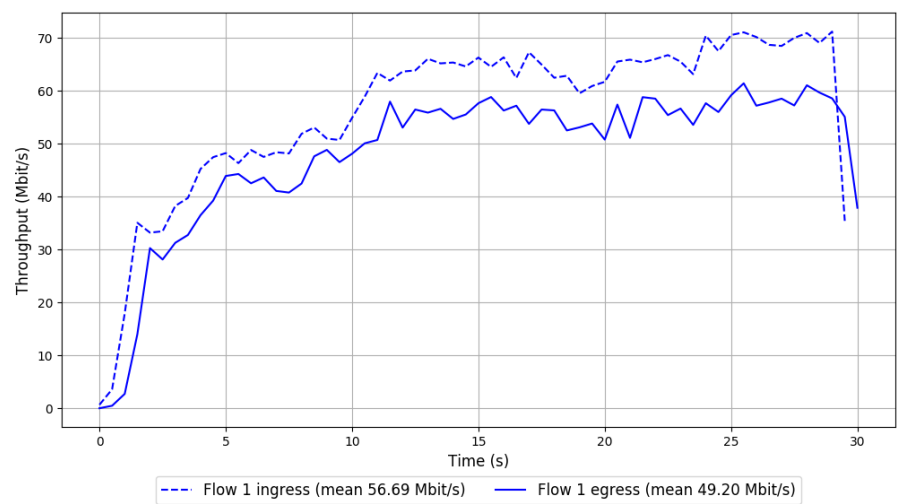Run 4: Report of Muses_DecisionTreeR0 — Data Link

```
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-17 19:39:30
End at: 2019-07-17 19:40:00
Local clock offset: -6.671 ms
Remote clock offset: -7.358 ms


# Below is generated by plot.py at 2019-07-17 19:52:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.20 Mbit/s
95th percentile per-packet one-way delay: 76.666 ms
Loss rate: 13.21%
-- Flow 1:
Average throughput: 49.20 Mbit/s
95th percentile per-packet one-way delay: 76.666 ms
Loss rate: 13.21%
```

Run 5: Report of Muses_DecisionTreeR0 — Data Link



144

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-07-17 17:32:29
End at: 2019-07-17 17:32:59
Local clock offset: -9.292 ms
Remote clock offset: -6.078 ms


# Below is generated by plot.py at 2019-07-17 19:52:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 32.54 Mbit/s
95th percentile per-packet one-way delay: 78.524 ms
Loss rate: 4.18%
-- Flow 1:
Average throughput: 32.54 Mbit/s
95th percentile per-packet one-way delay: 78.524 ms
Loss rate: 4.18%
```
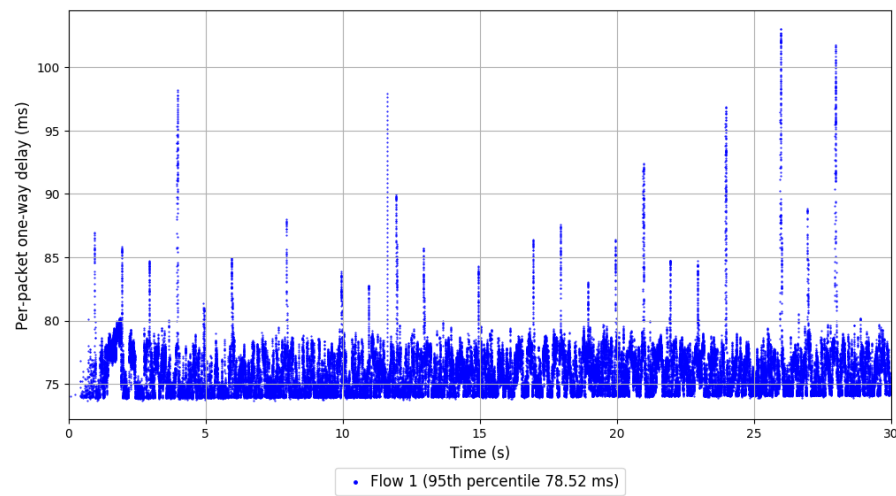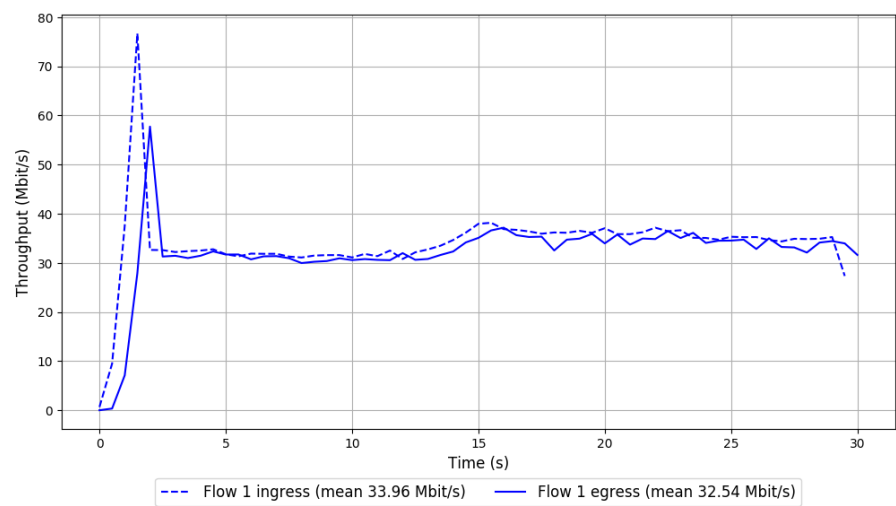
Run 1: Report of PCC-Allegro — Data Link

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-07-17 18:00:33
End at: 2019-07-17 18:01:03
Local clock offset: -6.38 ms
Remote clock offset: -9.07 ms

# Below is generated by plot.py at 2019-07-17 19:52:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 15.32 Mbit/s
95th percentile per-packet one-way delay: 88.014 ms
Loss rate: 3.64%
-- Flow 1:
Average throughput: 15.32 Mbit/s
95th percentile per-packet one-way delay: 88.014 ms
Loss rate: 3.64%
```
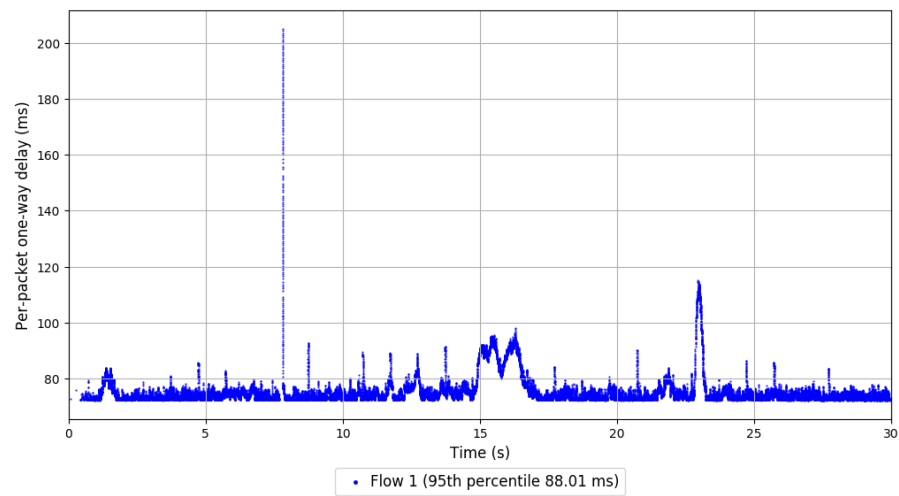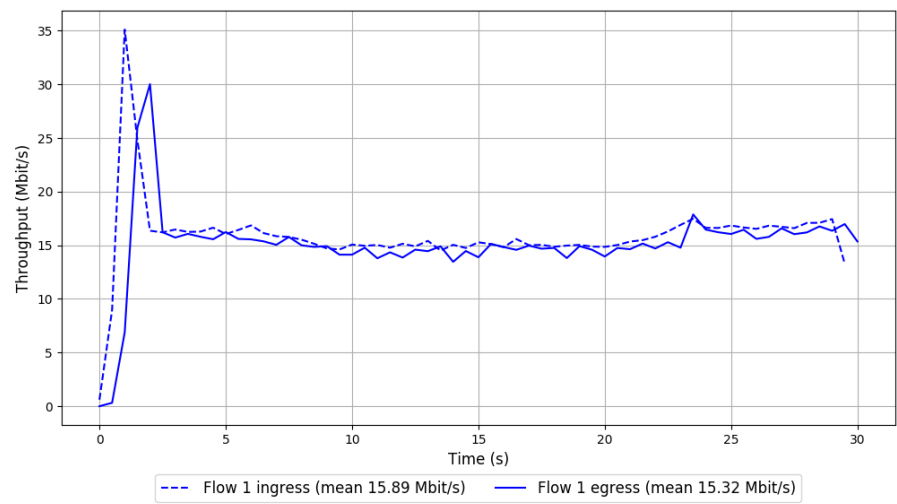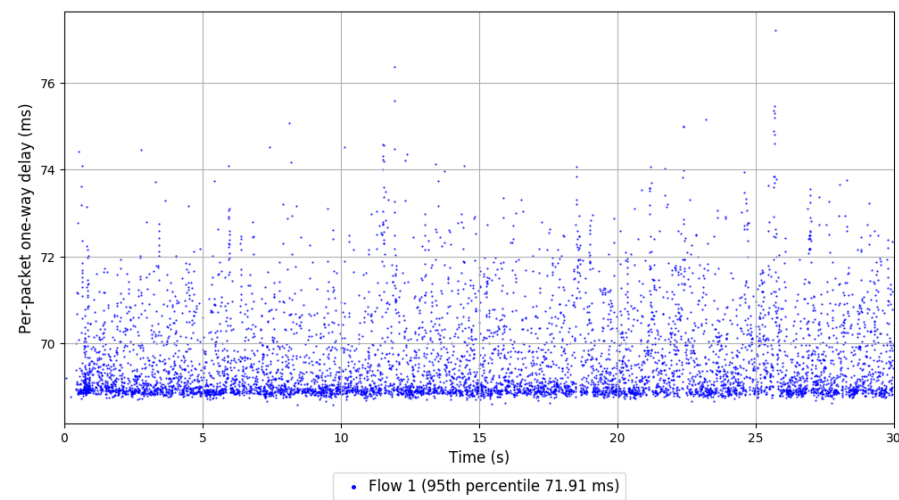
Run 2: Report of PCC-Allegro — Data Link



Flow 1 ingress (mean 15.89 Mbit/s)    Flow 1 egress (mean 15.32 Mbit/s)



Flow 1 (95th percentile 88.01 ms)

148

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-07-17 18:28:26
End at: 2019-07-17 18:28:56
Local clock offset: -6.269 ms
Remote clock offset: -10.59 ms


# Below is generated by plot.py at 2019-07-17 19:52:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 71.912 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 71.912 ms
Loss rate: 1.68%
```
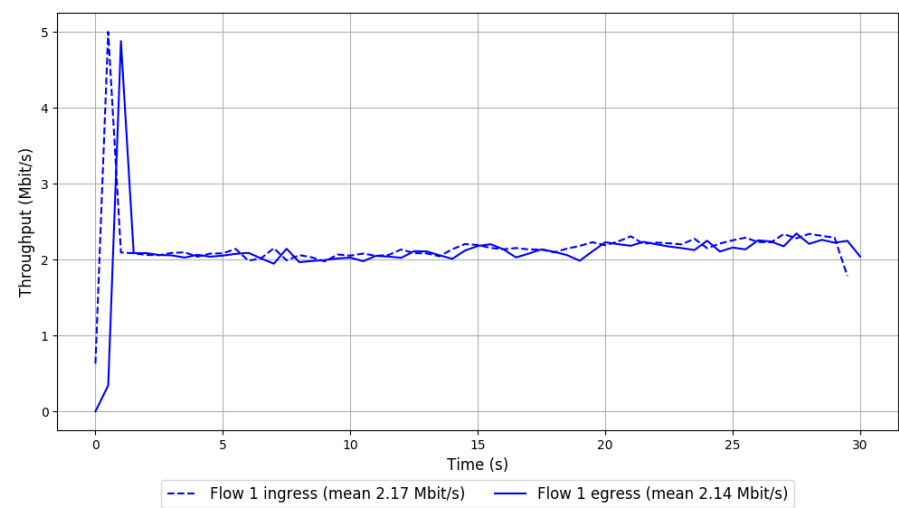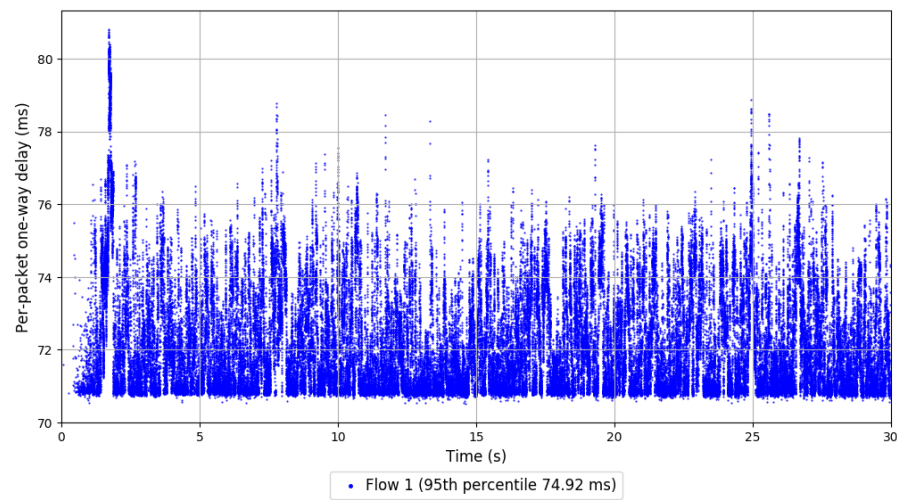
# Run 3: Report of PCC-Allegro — Data Link



Flow 1 ingress (mean 2.17 Mbit/s) --- Flow 1 egress (mean 2.14 Mbit/s)



Flow 1 (95th percentile 71.91 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-07-17 18:56:14
End at: 2019-07-17 18:56:44
Local clock offset: -6.355 ms
Remote clock offset: -5.0 ms

# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 35.63 Mbit/s
95th percentile per-packet one-way delay: 74.915 ms
Loss rate: 3.14%
-- Flow 1:
Average throughput: 35.63 Mbit/s
95th percentile per-packet one-way delay: 74.915 ms
Loss rate: 3.14%
```
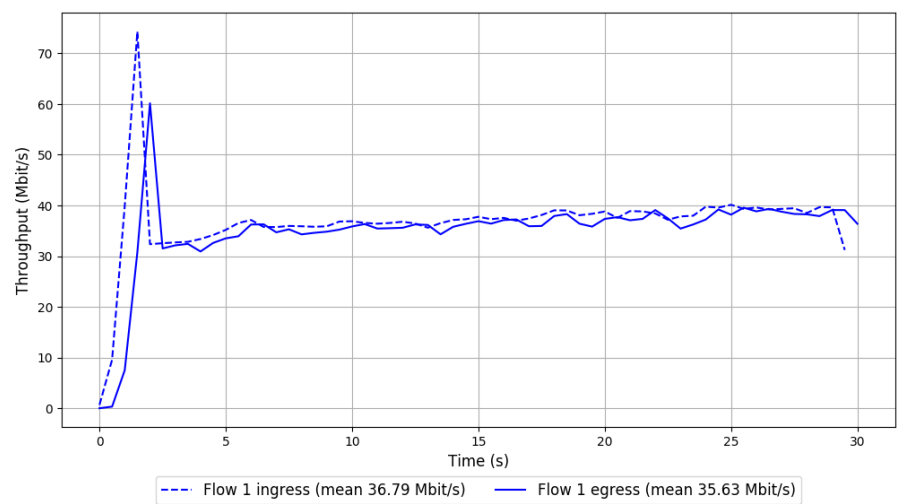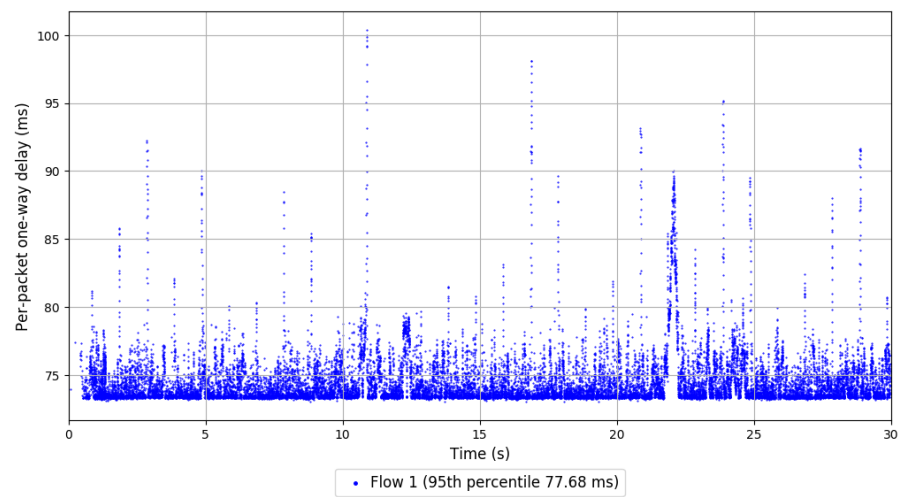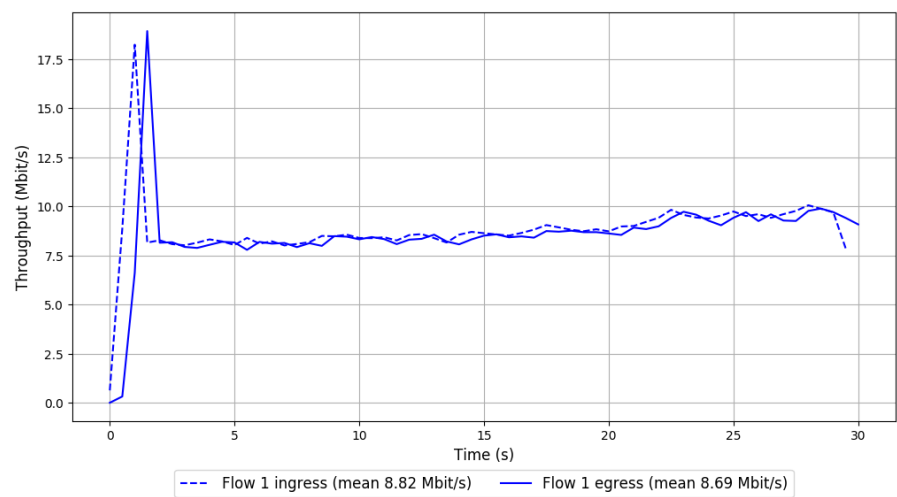
Run 4: Report of PCC-Allegro — Data Link



Flow 1 ingress (mean 36.79 Mbit/s) ----    Flow 1 egress (mean 35.63 Mbit/s) ——



Flow 1 (95th percentile 74.92 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-07-17 19:24:32
End at: 2019-07-17 19:25:02
Local clock offset: -5.923 ms
Remote clock offset: -4.837 ms

# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.69 Mbit/s
95th percentile per-packet one-way delay: 77.679 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 8.69 Mbit/s
95th percentile per-packet one-way delay: 77.679 ms
Loss rate: 1.47%
```

Run 5: Report of PCC-Allegro — Data Link



Flow 1 ingress (mean 8.82 Mbit/s) --- Flow 1 egress (mean 8.69 Mbit/s)



Flow 1 (95th percentile 77.68 ms)
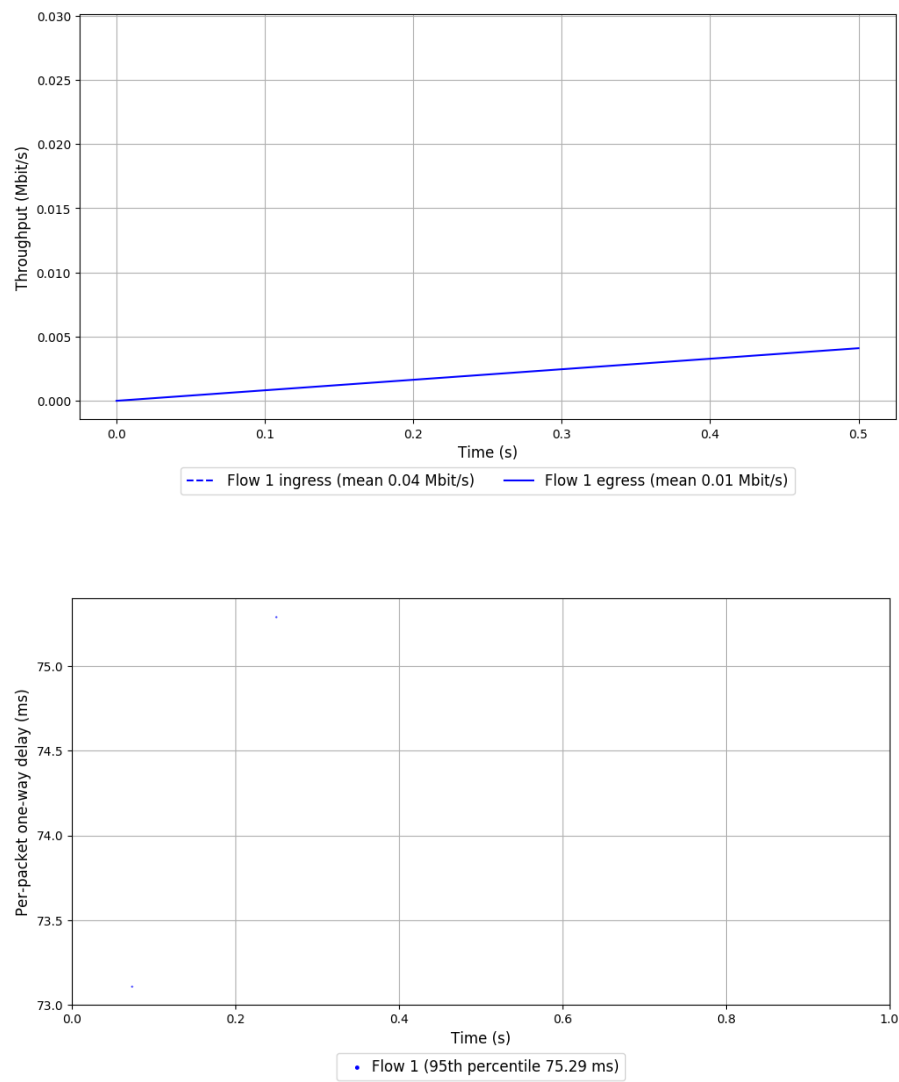
```
Run 1: Statistics of PCC-Expr

Start at: 2019-07-17 17:37:02
End at: 2019-07-17 17:37:32
Local clock offset: -8.028 ms
Remote clock offset: -8.18 ms
```

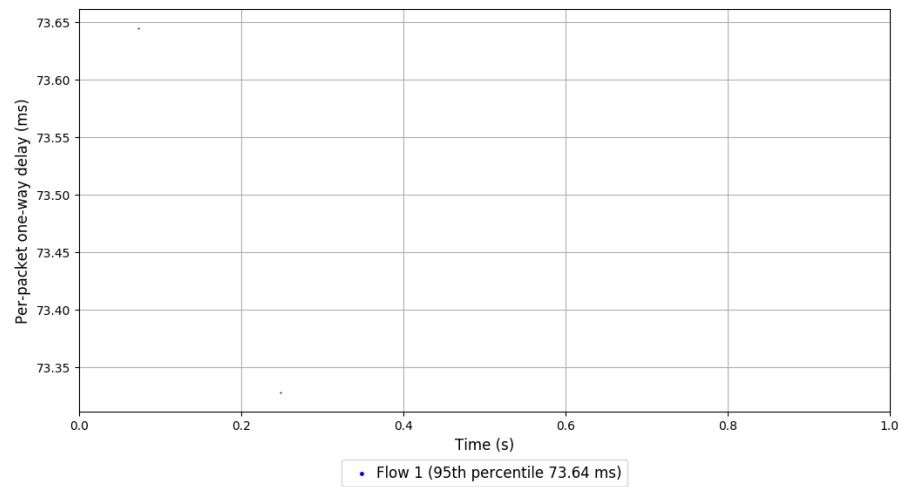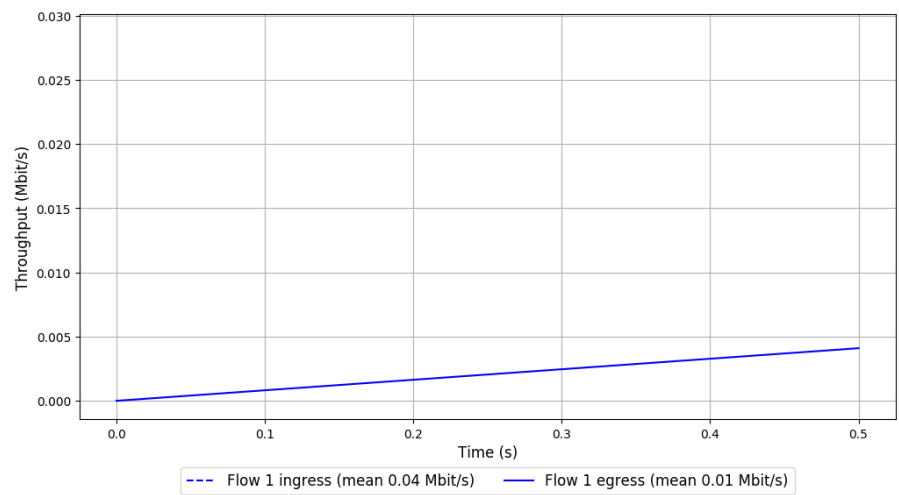Run 1: Report of PCC-Expr — Data Link

```
Run 2: Statistics of PCC-Expr

Start at: 2019-07-17 18:05:04
End at: 2019-07-17 18:05:34
Local clock offset: -6.377 ms
Remote clock offset: -8.412 ms
```

## Run 2: Report of PCC-Expr — Data Link
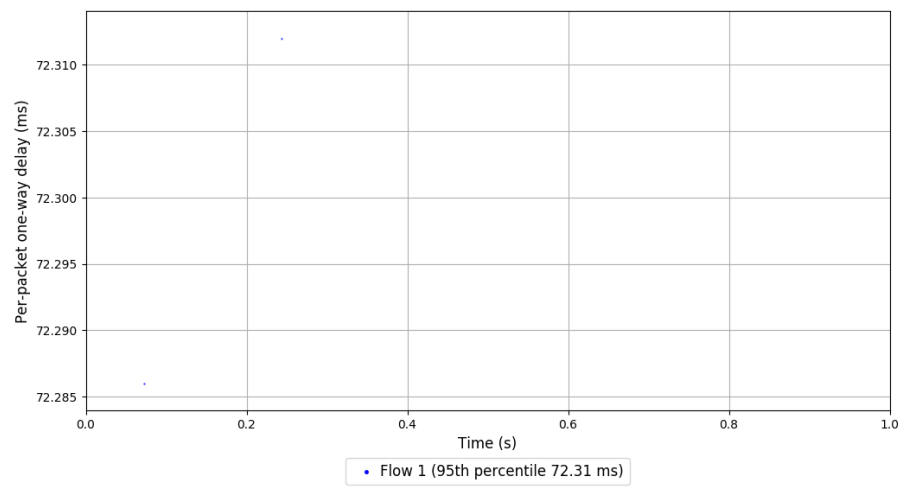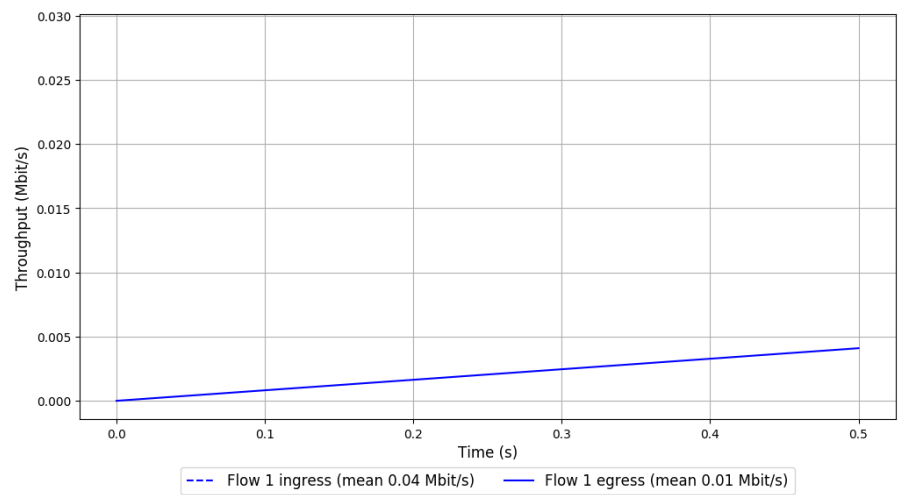
```
Run 3: Statistics of PCC-Expr

Start at: 2019-07-17 18:32:57
End at: 2019-07-17 18:33:27
Local clock offset: -6.33 ms
Remote clock offset: -6.259 ms
```

# Run 3: Report of PCC-Expr — Data Link
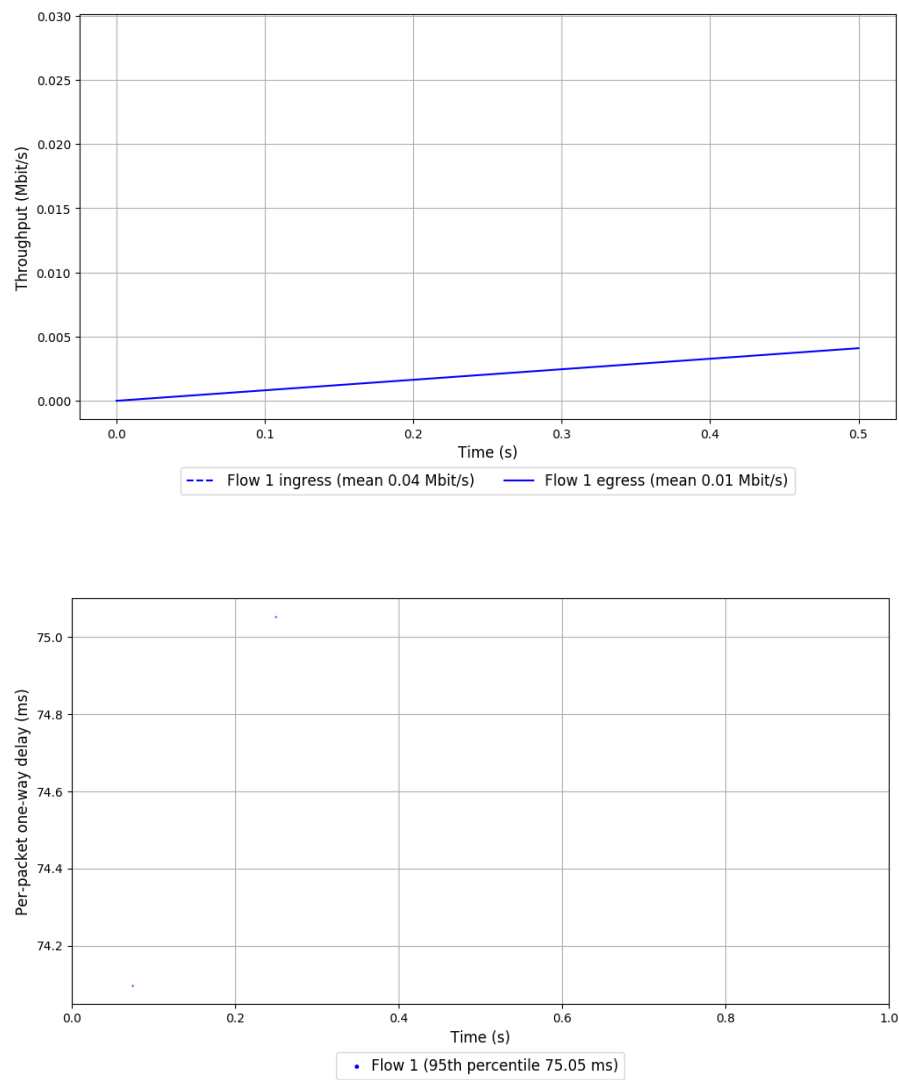
```
Run 4: Statistics of PCC-Expr

Start at: 2019-07-17 19:00:50
End at: 2019-07-17 19:01:20
Local clock offset: -6.185 ms
Remote clock offset: -1.69 ms
```

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

```
Run 5: Statistics of PCC-Expr

Start at: 2019-07-17 19:29:06
End at: 2019-07-17 19:29:36
Local clock offset: -6.309 ms
Remote clock offset: -6.404 ms
```
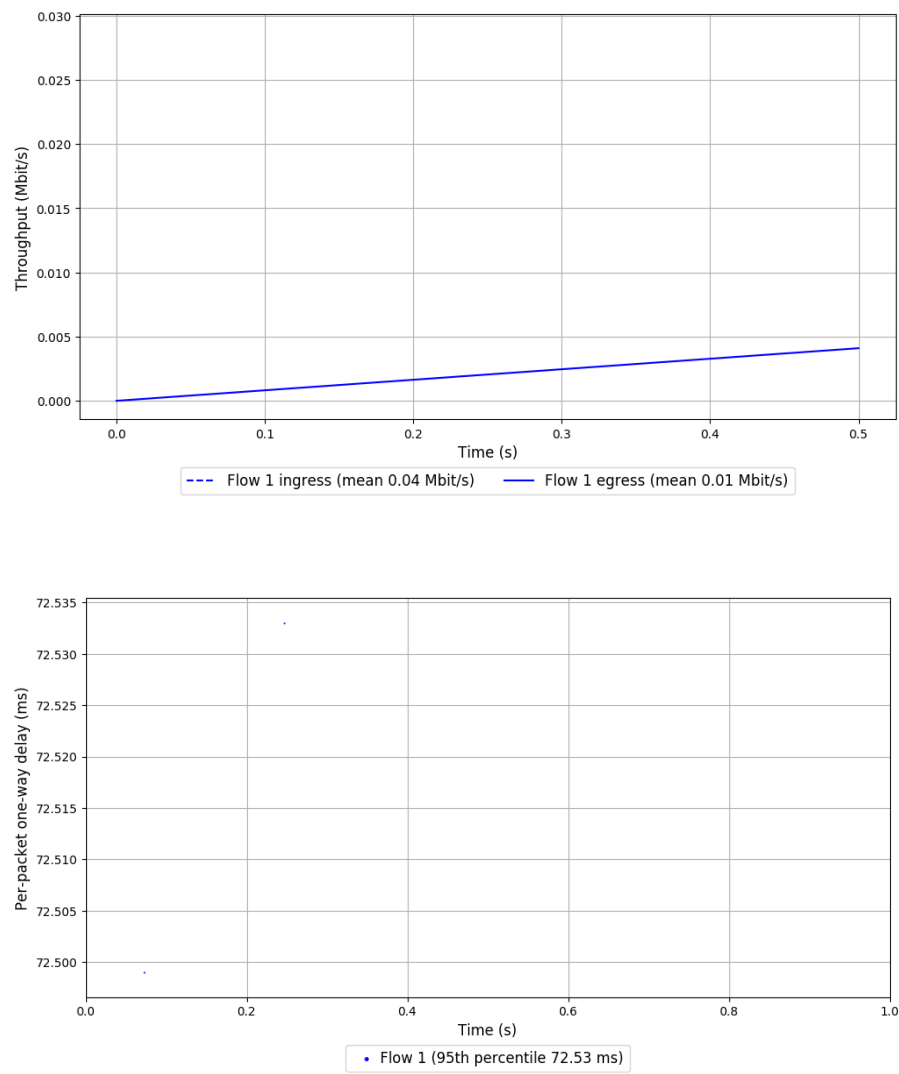
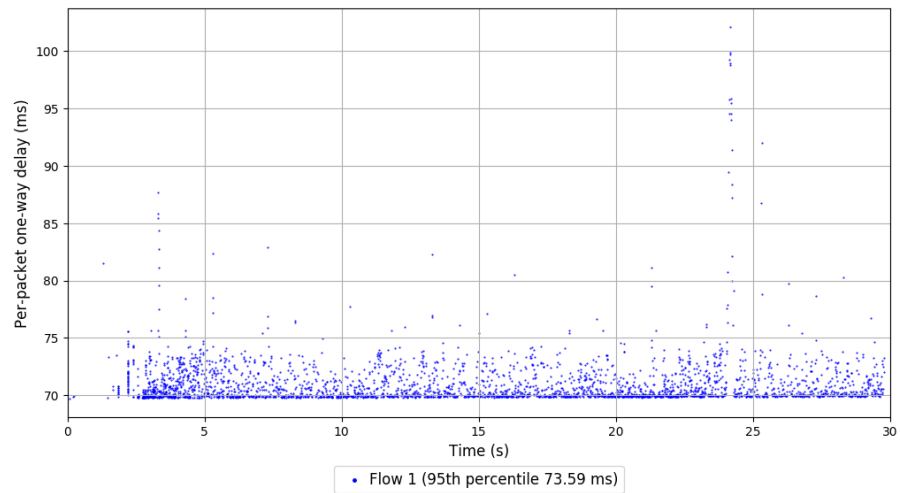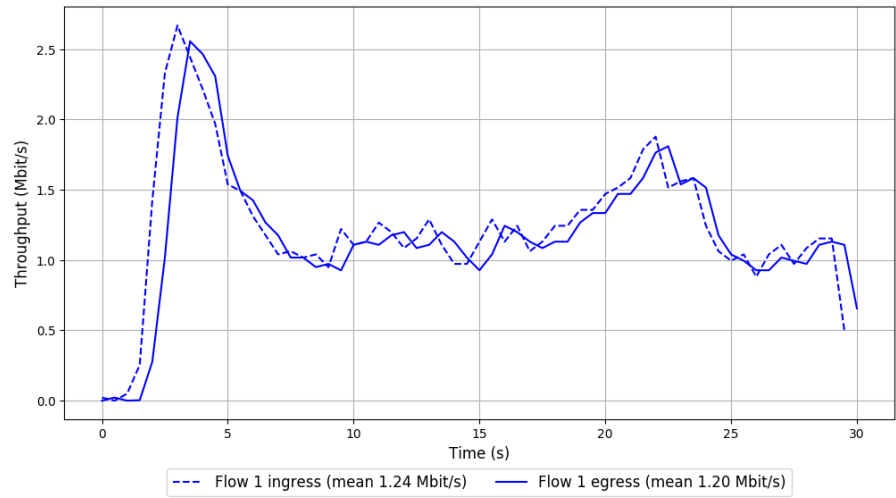# Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-07-17 17:38:09
End at: 2019-07-17 17:38:39
Local clock offset: -7.804 ms
Remote clock offset: -10.689 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 73.587 ms
Loss rate: 3.13%
-- Flow 1:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 73.587 ms
Loss rate: 3.13%
```

Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-07-17 18:06:12
End at: 2019-07-17 18:06:42
Local clock offset: -6.36 ms
Remote clock offset: -5.983 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 77.219 ms
Loss rate: 1.97%
-- Flow 1:
Average throughput: 1.68 Mbit/s
95th percentile per-packet one-way delay: 77.219 ms
Loss rate: 1.97%
```
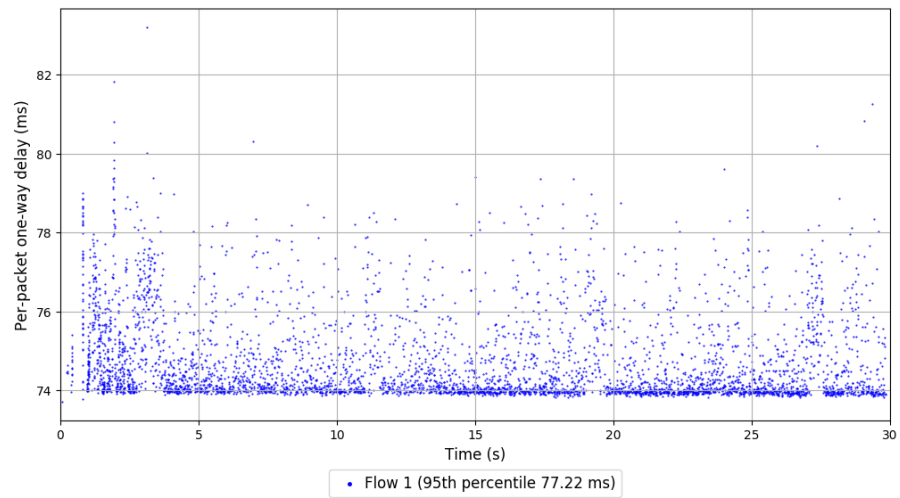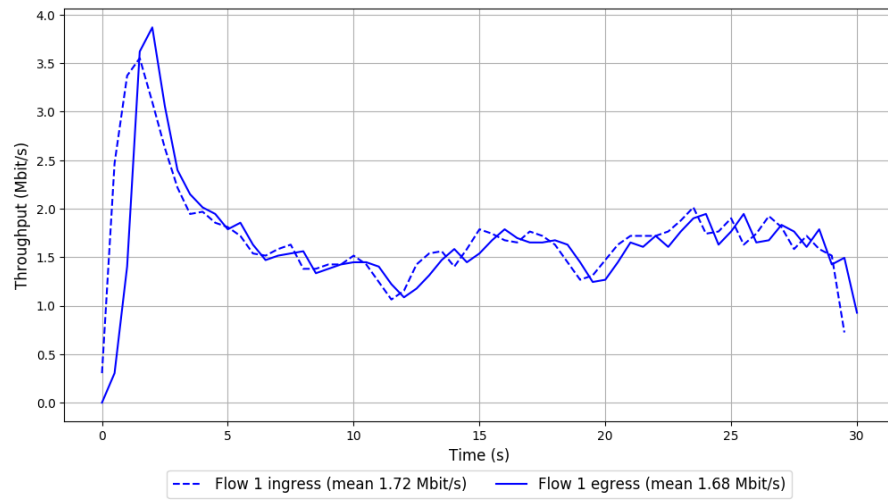
## Run 2: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 1.72 Mbit/s) — — — Flow 1 egress (mean 1.68 Mbit/s)



• Flow 1 (95th percentile 77.22 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-07-17 18:34:04
End at: 2019-07-17 18:34:34
Local clock offset: -6.409 ms
Remote clock offset: -6.181 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 74.829 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 74.829 ms
Loss rate: 1.65%
```
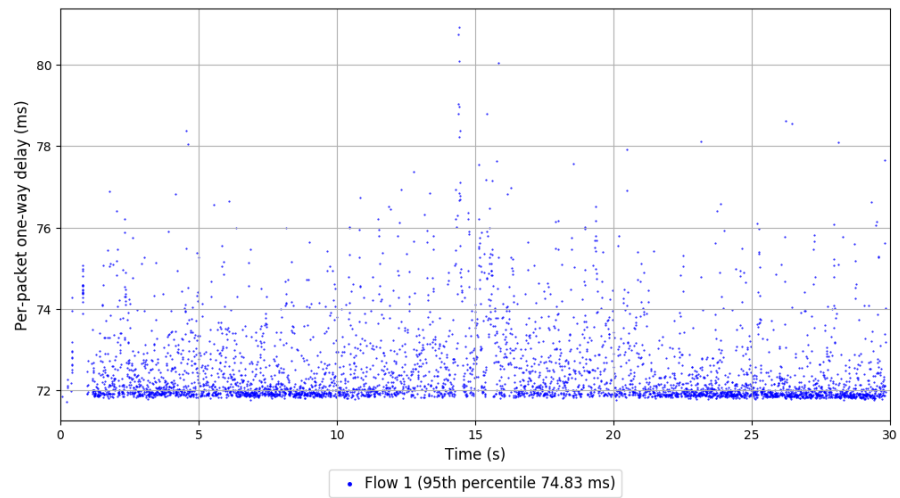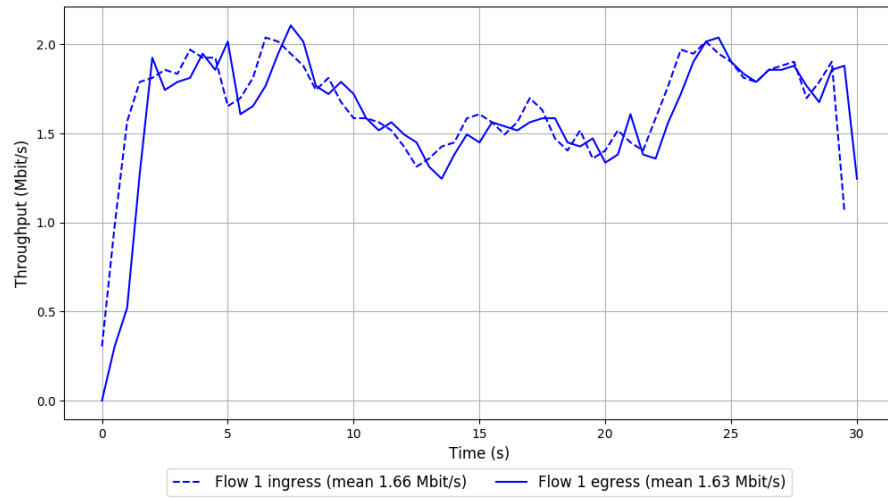
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-07-17 19:01:58
End at: 2019-07-17 19:02:28
Local clock offset: -6.21 ms
Remote clock offset: -2.609 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 76.462 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 76.462 ms
Loss rate: 1.49%
```
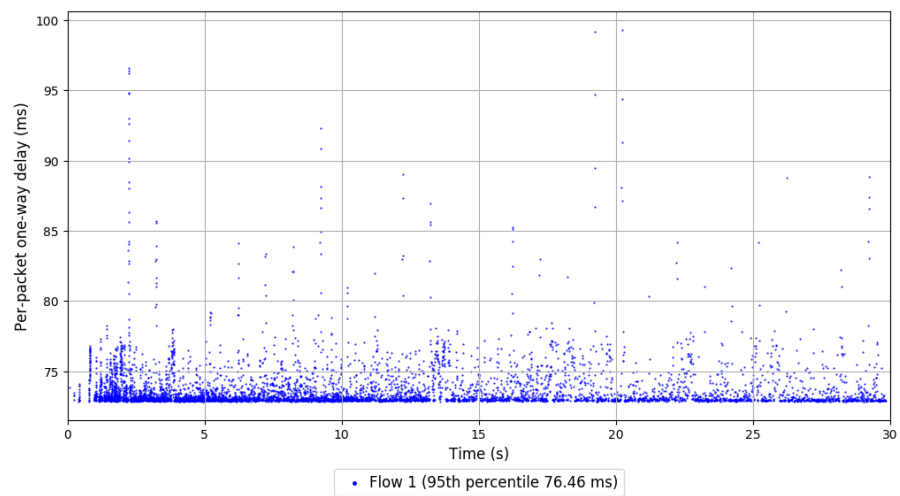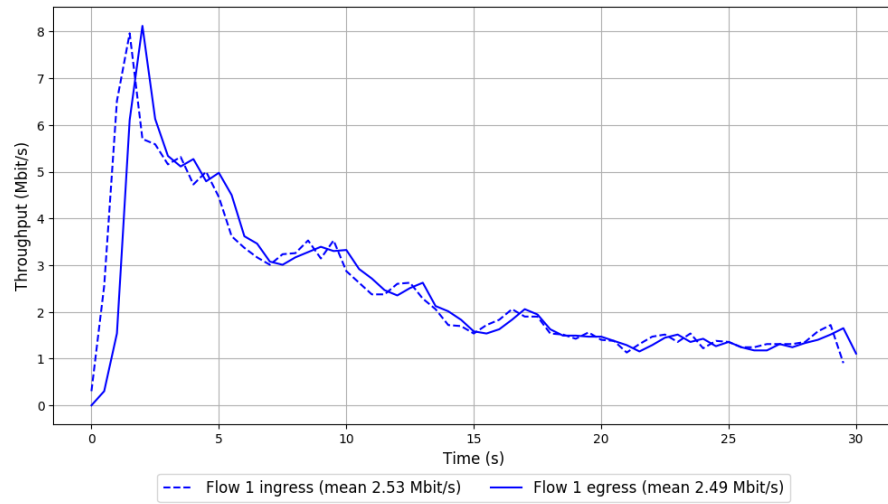
# Run 4: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 2.53 Mbit/s) — — —   Flow 1 egress (mean 2.49 Mbit/s) ———
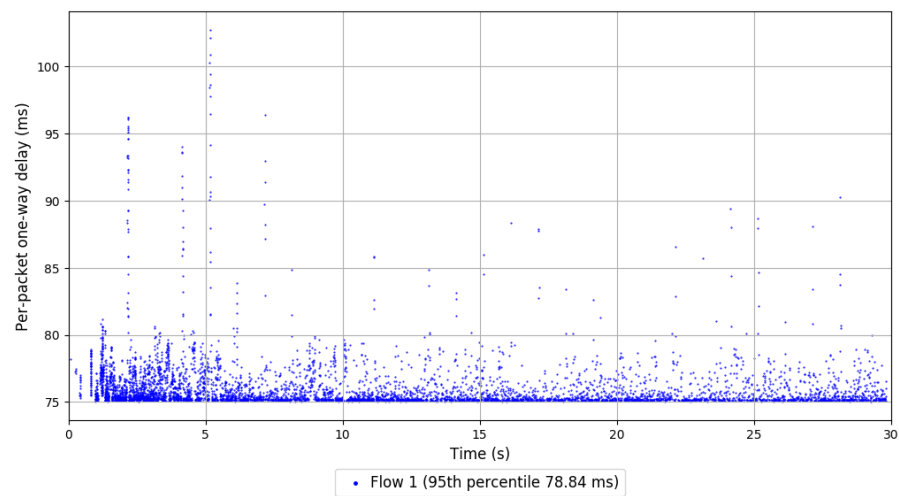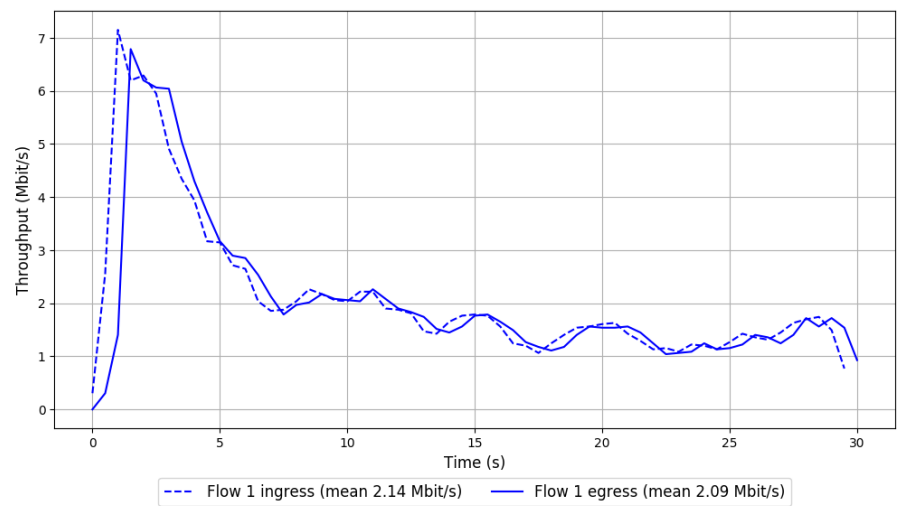


Flow 1 (95th percentile 76.46 ms)

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-07-17 19:30:13
End at: 2019-07-17 19:30:43
Local clock offset: -6.326 ms
Remote clock offset: -4.495 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 78.838 ms
Loss rate: 2.31%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 78.838 ms
Loss rate: 2.31%
```

# Run 5: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 2.14 Mbit/s) ----    Flow 1 egress (mean 2.09 Mbit/s) ——
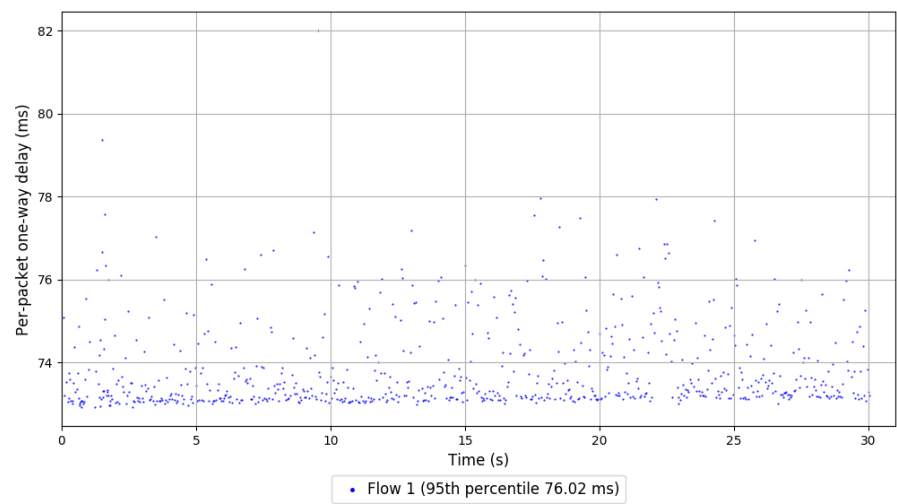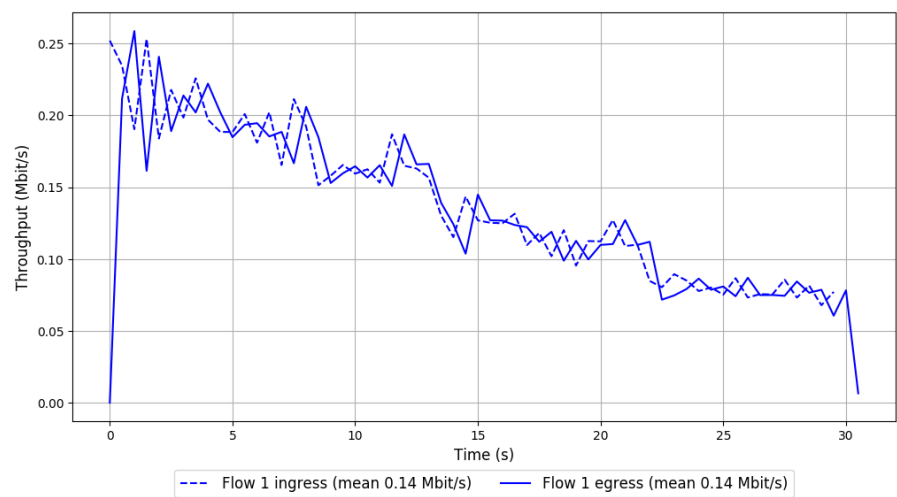


Flow 1 (95th percentile 78.84 ms) •

```
Run 1: Statistics of SCReAM

Start at: 2019-07-17 17:34:46
End at: 2019-07-17 17:35:16
Local clock offset: -8.565 ms
Remote clock offset: -6.992 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 76.023 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 76.023 ms
Loss rate: 1.77%
```

# Run 1: Report of SCReAM — Data Link



Flow 1 ingress (mean 0.14 Mbit/s) —— Flow 1 egress (mean 0.14 Mbit/s)
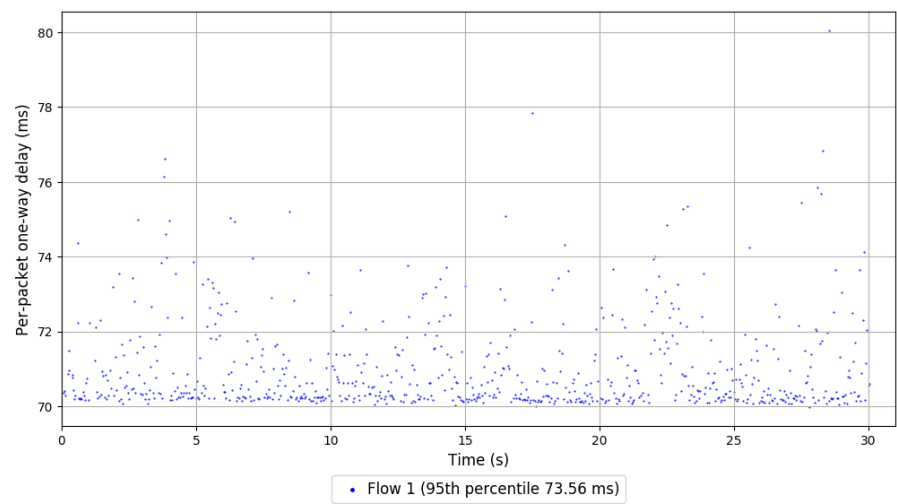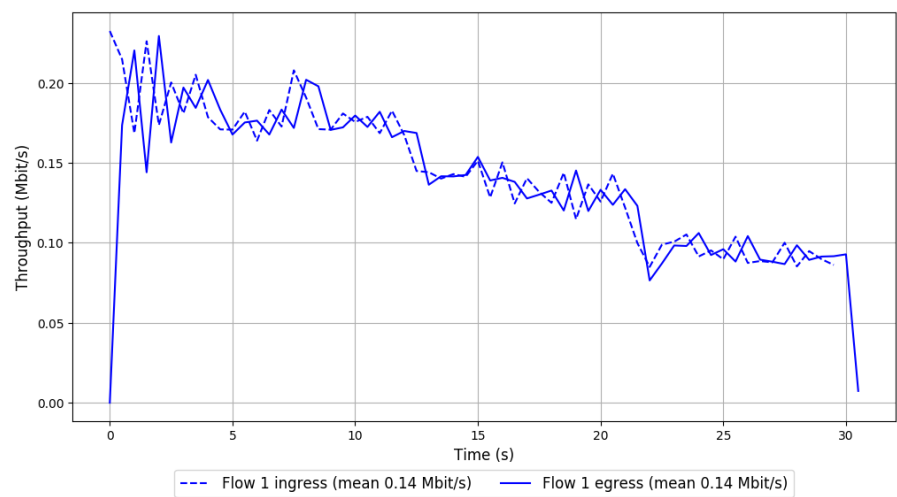


• Flow 1 (95th percentile 76.02 ms)

```
Run 2: Statistics of SCReAM

Start at: 2019-07-17 18:02:49
End at: 2019-07-17 18:03:19
Local clock offset: -6.352 ms
Remote clock offset: -10.105 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 73.556 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 73.556 ms
Loss rate: 1.55%
```

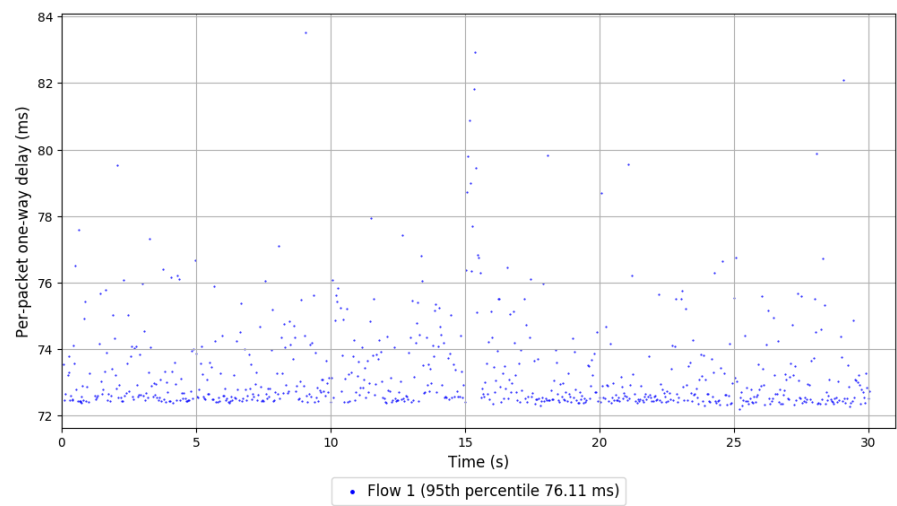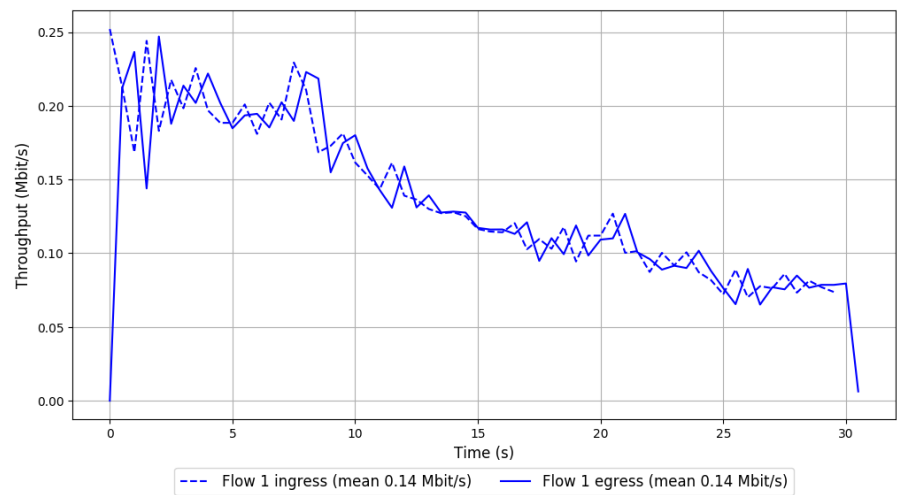Run 2: Report of SCReAM — Data Link



178

```
Run 3: Statistics of SCReAM

Start at: 2019-07-17 18:30:42
End at: 2019-07-17 18:31:12
Local clock offset: -6.298 ms
Remote clock offset: -6.145 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 76.113 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 76.113 ms
Loss rate: 1.40%
```

# Run 3: Report of SCReAM — Data Link



Flow 1 ingress (mean 0.14 Mbit/s)    Flow 1 egress (mean 0.14 Mbit/s)



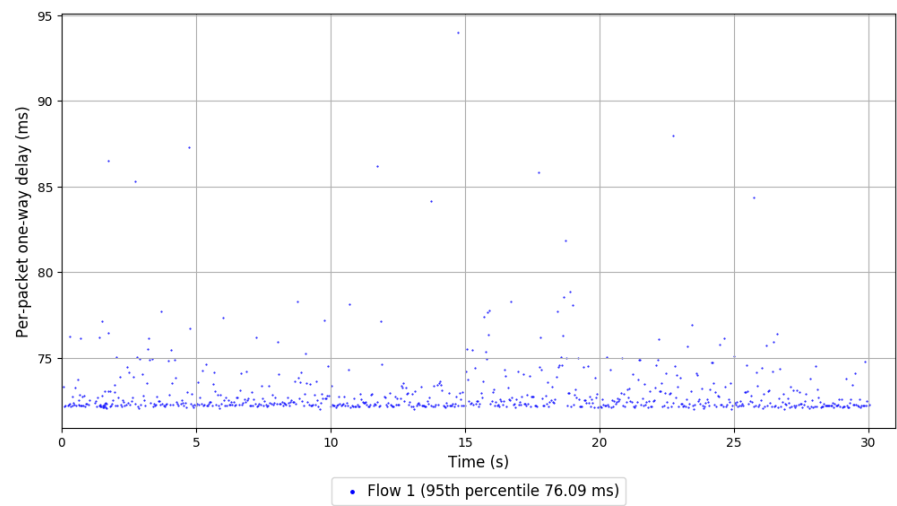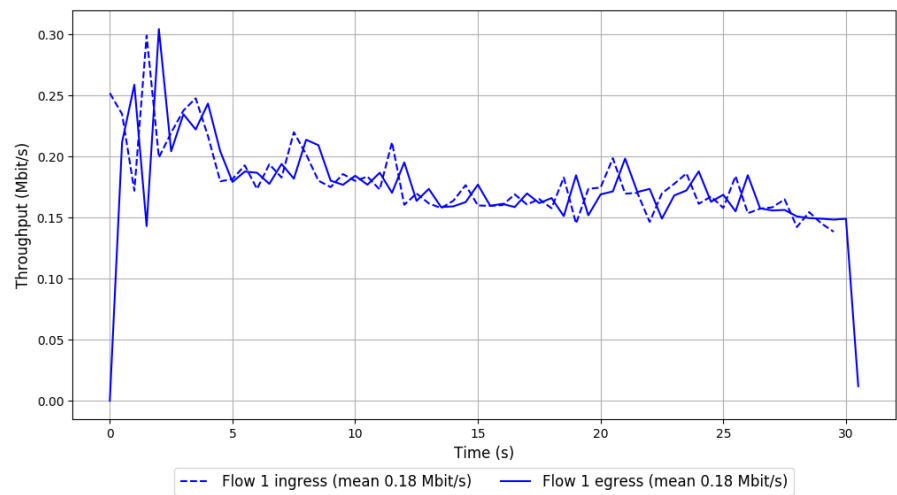Flow 1 (95th percentile 76.11 ms)

```
Run 4: Statistics of SCReAM

Start at: 2019-07-17 18:58:34
End at: 2019-07-17 18:59:04
Local clock offset: -6.238 ms
Remote clock offset: -2.803 ms

# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 76.086 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 76.086 ms
Loss rate: 0.44%
```

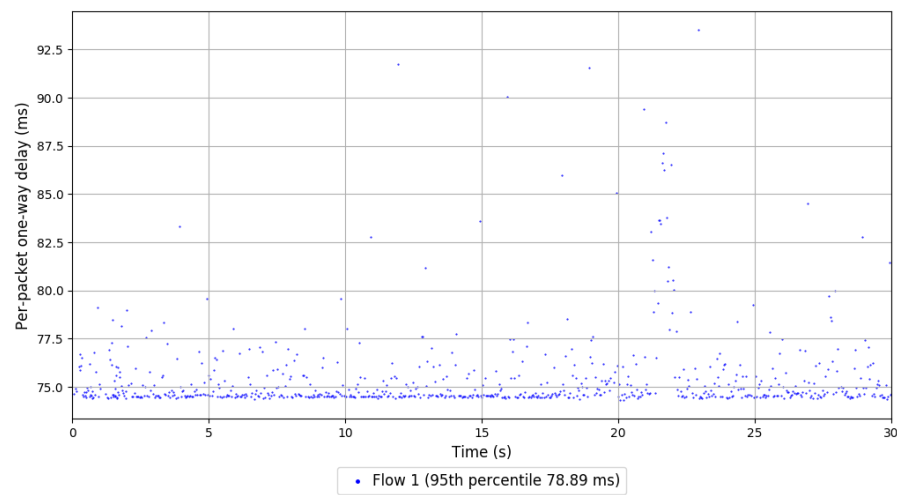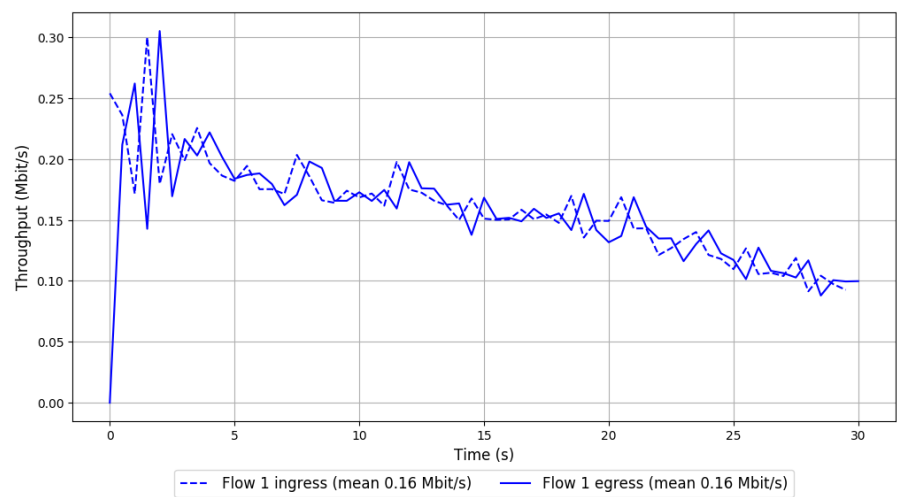Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-07-17 19:26:50
End at: 2019-07-17 19:27:20
Local clock offset: -6.117 ms
Remote clock offset: -4.277 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 78.888 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 78.888 ms
Loss rate: 1.15%
```

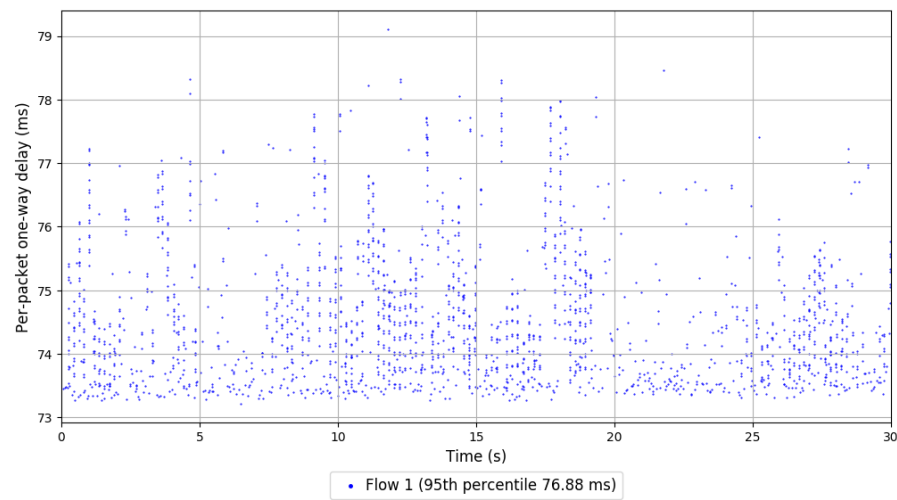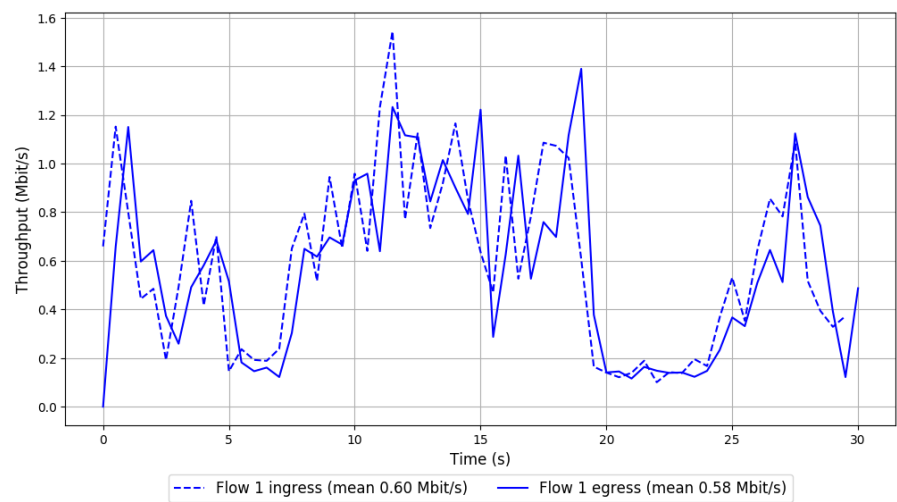Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-07-17 17:40:29
End at: 2019-07-17 17:40:59
Local clock offset: -7.421 ms
Remote clock offset: -8.412 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 76.878 ms
Loss rate: 2.79%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 76.878 ms
Loss rate: 2.79%
```

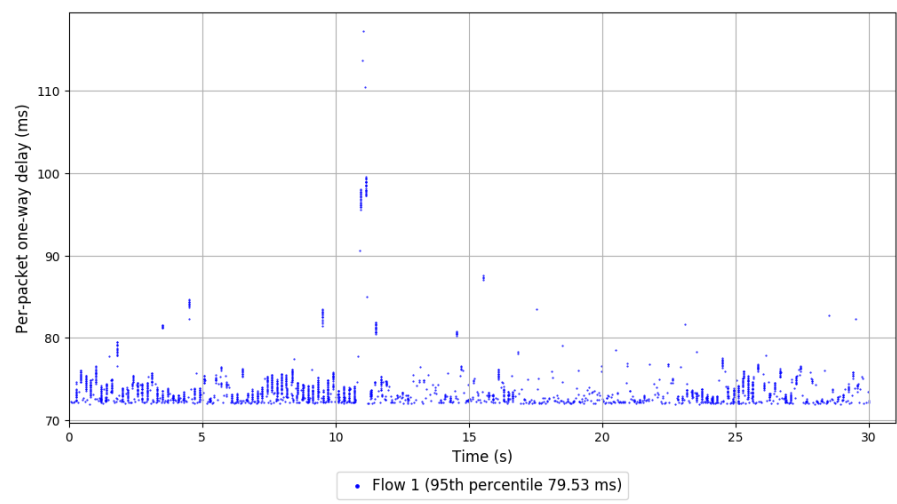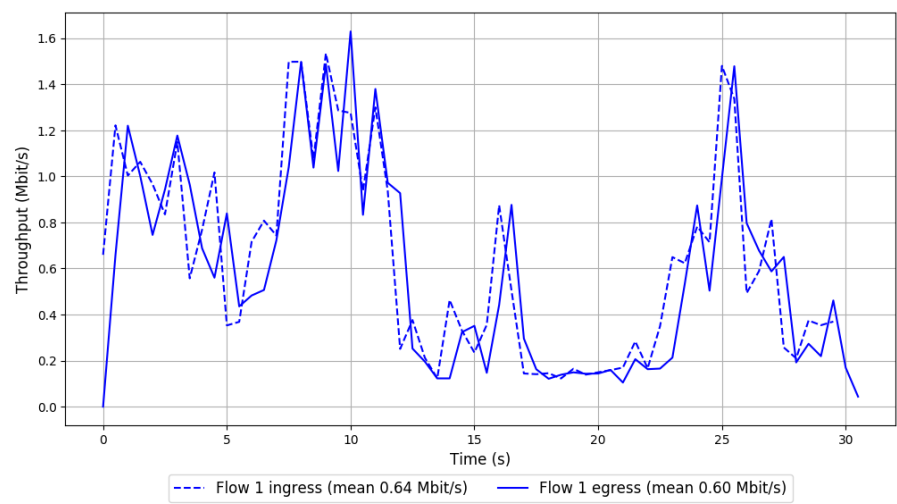Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-07-17 18:08:31
End at: 2019-07-17 18:09:01
Local clock offset: -6.332 ms
Remote clock offset: -7.615 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 79.534 ms
Loss rate: 5.85%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 79.534 ms
Loss rate: 5.85%
```

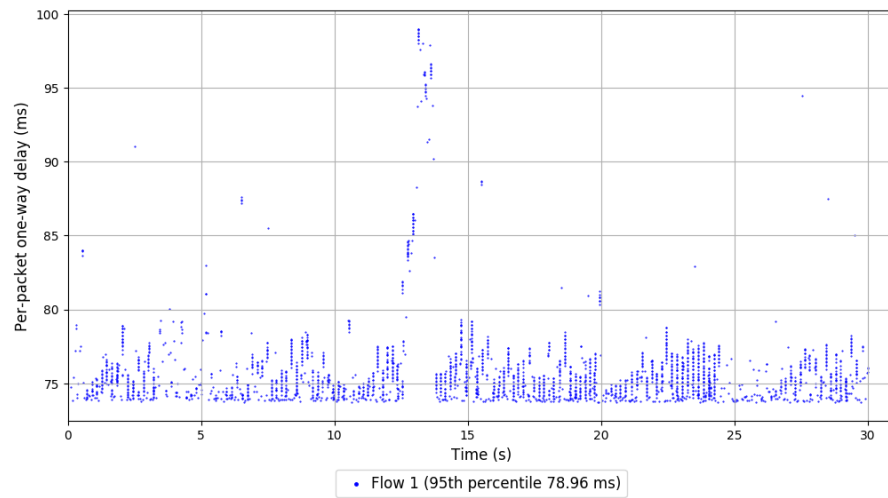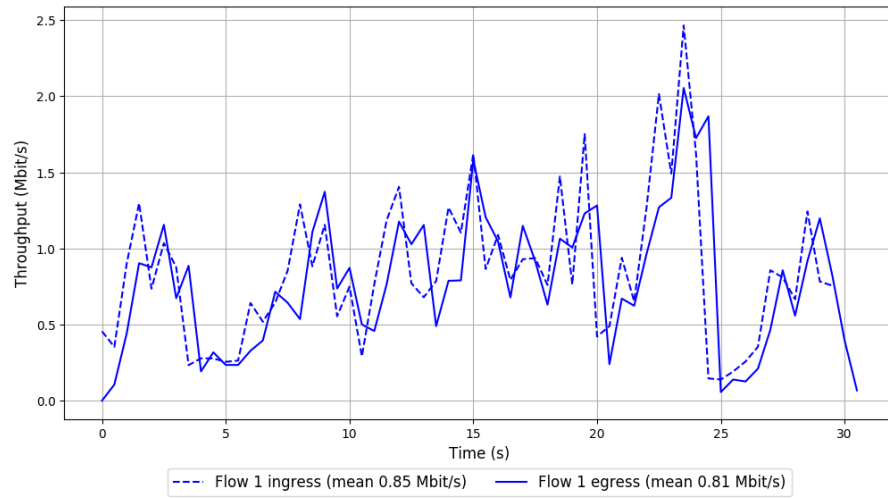Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-07-17 18:36:23
End at: 2019-07-17 18:36:53
Local clock offset: -6.346 ms
Remote clock offset: -3.776 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 78.962 ms
Loss rate: 5.51%
-- Flow 1:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 78.962 ms
Loss rate: 5.51%
```
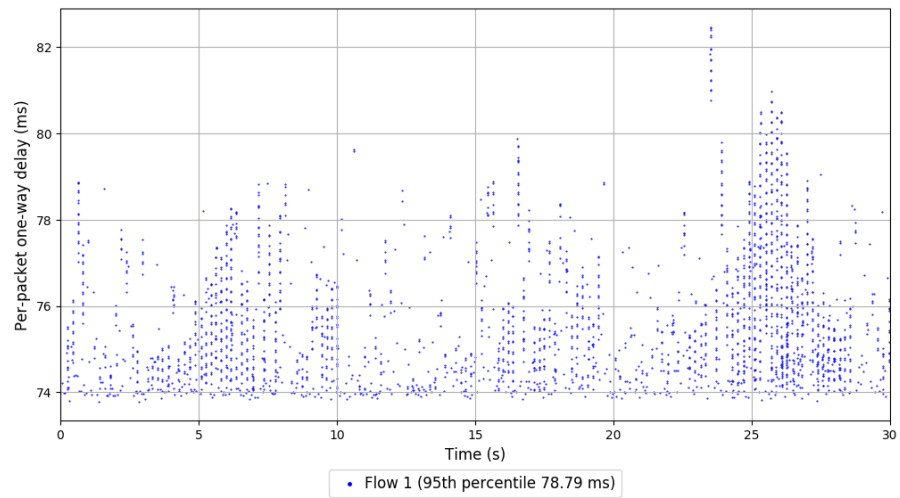
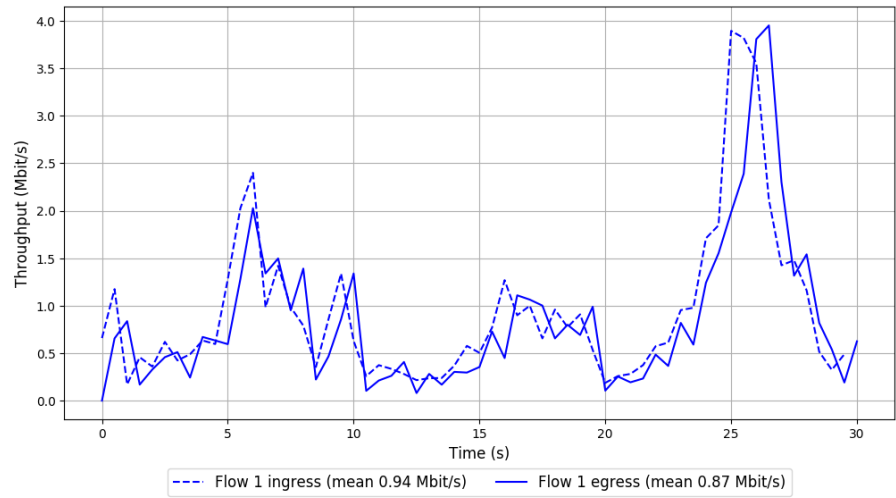## Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-07-17 19:04:26
End at: 2019-07-17 19:04:56
Local clock offset: -6.202 ms
Remote clock offset: -1.026 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 78.794 ms
Loss rate: 8.20%
-- Flow 1:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 78.794 ms
Loss rate: 8.20%
```
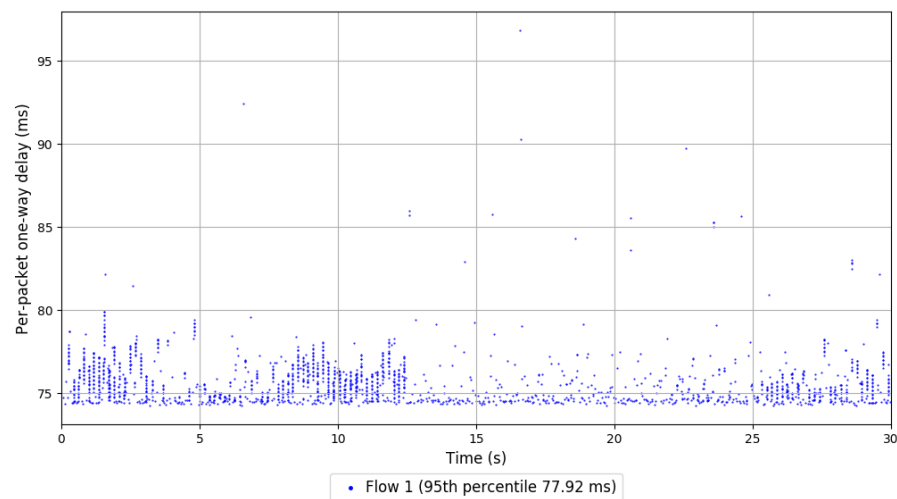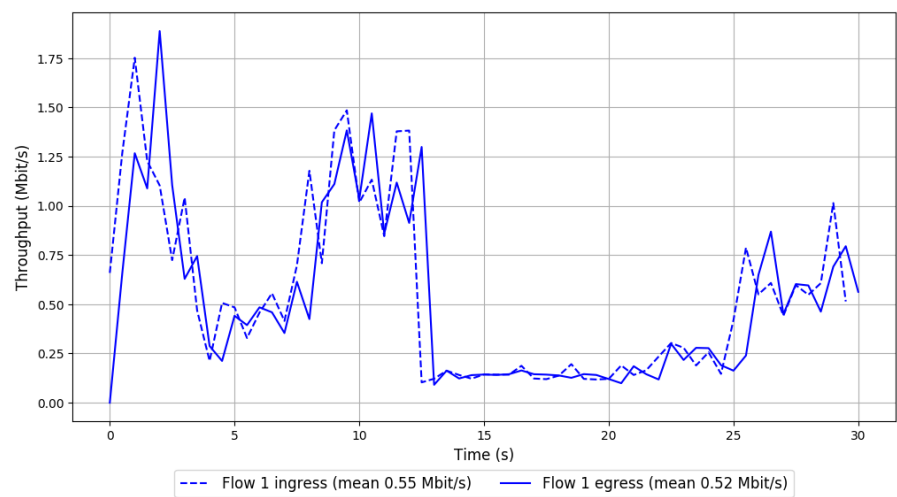
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-07-17 19:32:32
End at: 2019-07-17 19:33:02
Local clock offset: -6.444 ms
Remote clock offset: -4.508 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 77.921 ms
Loss rate: 4.28%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 77.921 ms
Loss rate: 4.28%
```
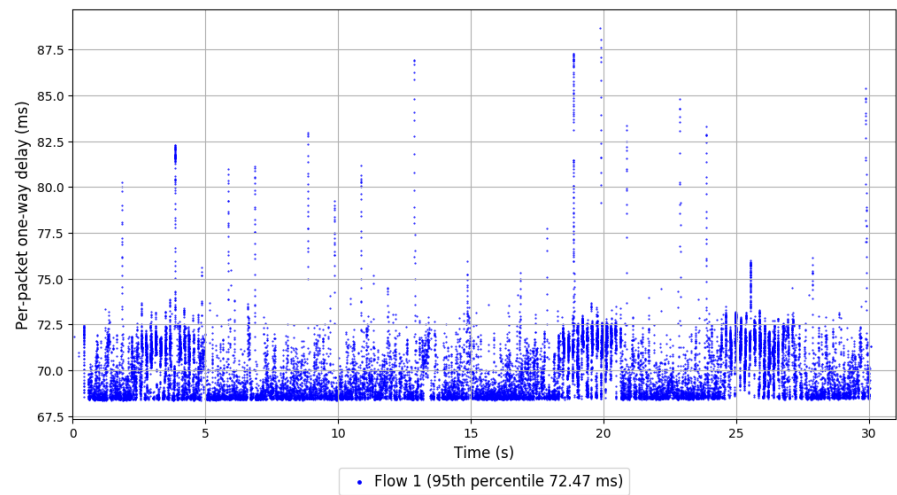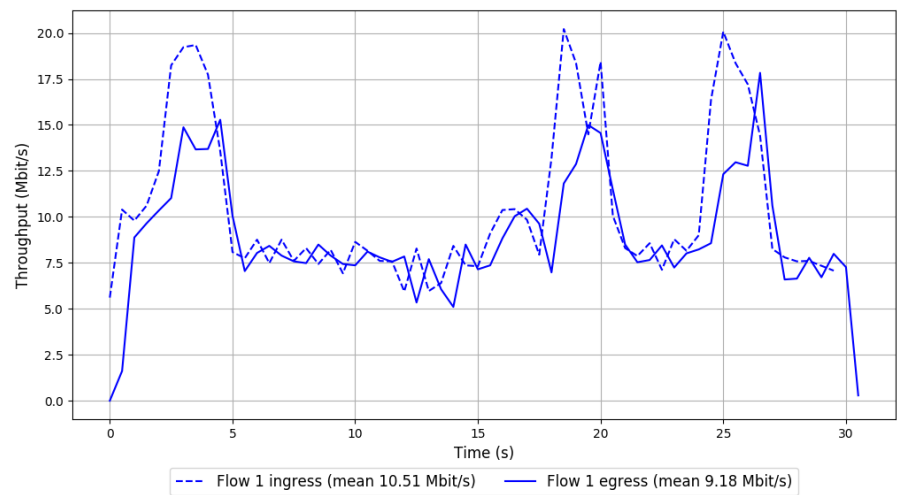
Run 5: Report of Sprout — Data Link

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

Start at: 2019-07-17 17:45:13
End at: 2019-07-17 17:45:43
Local clock offset: -6.965 ms
Remote clock offset: -13.028 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.18 Mbit/s
95th percentile per-packet one-way delay: 72.473 ms
Loss rate: 12.60%
-- Flow 1:
Average throughput: 9.18 Mbit/s
95th percentile per-packet one-way delay: 72.473 ms
Loss rate: 12.60%
```

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

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

Start at: 2019-07-17 18:13:08
End at: 2019-07-17 18:13:38
Local clock offset: -6.306 ms
Remote clock offset: -7.876 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.40 Mbit/s
95th percentile per-packet one-way delay: 75.576 ms
Loss rate: 6.85%
-- Flow 1:
Average throughput: 8.40 Mbit/s
95th percentile per-packet one-way delay: 75.576 ms
Loss rate: 6.85%
```
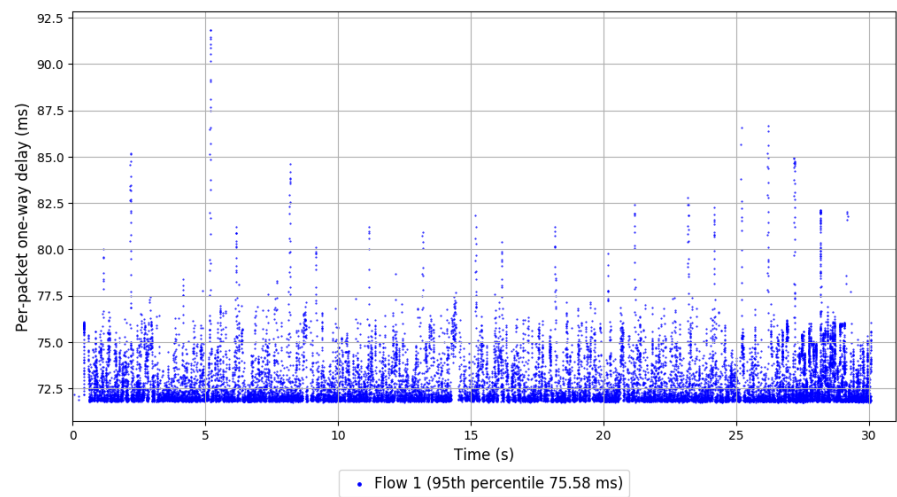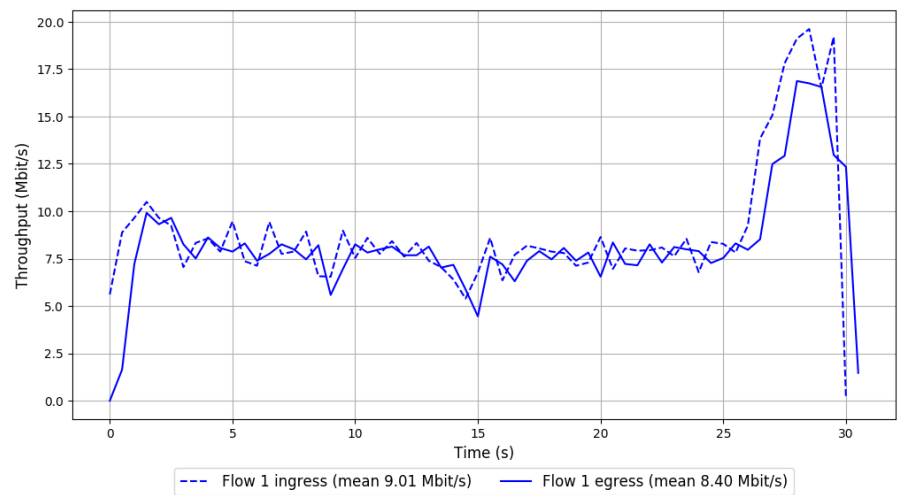
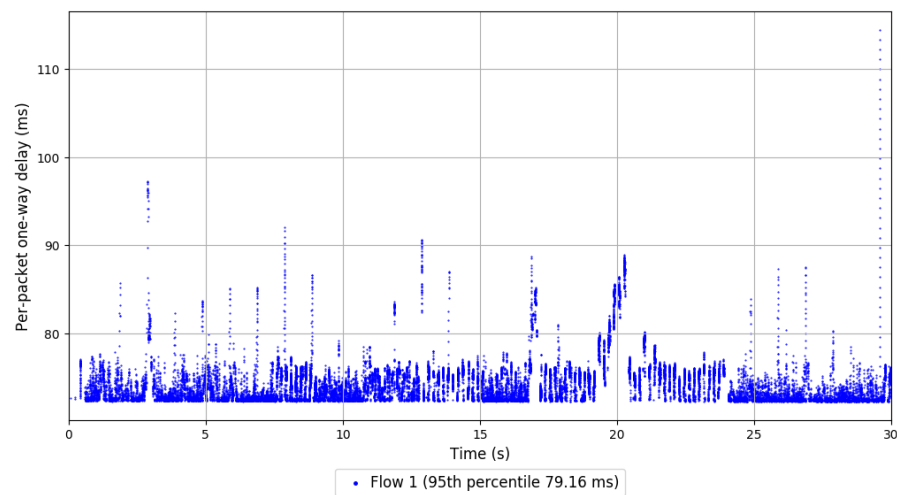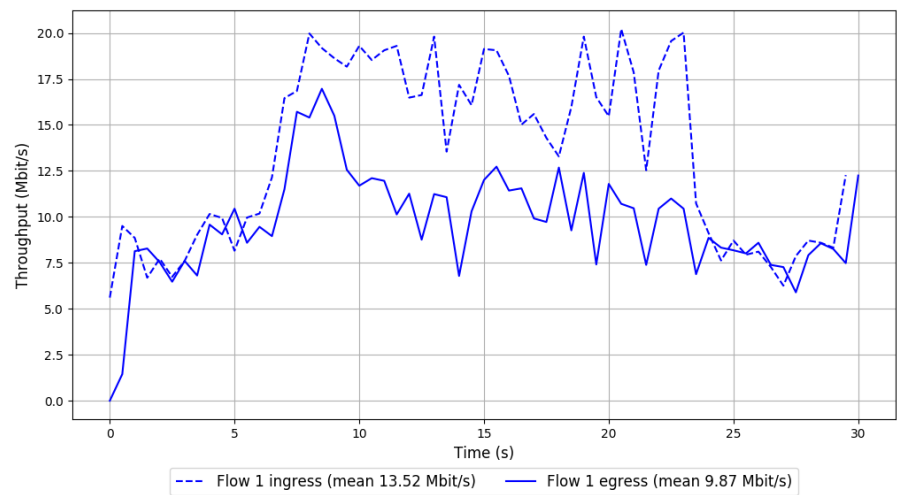Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-07-17 18:41:01
End at: 2019-07-17 18:41:31
Local clock offset: -6.378 ms
Remote clock offset: -5.027 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.87 Mbit/s
95th percentile per-packet one-way delay: 79.155 ms
Loss rate: 27.00%
-- Flow 1:
Average throughput: 9.87 Mbit/s
95th percentile per-packet one-way delay: 79.155 ms
Loss rate: 27.00%
```

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



Flow 1 ingress (mean 13.52 Mbit/s) ----    Flow 1 egress (mean 9.87 Mbit/s) ——



Flow 1 (95th percentile 79.16 ms)

200

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

Start at: 2019-07-17 19:09:10
End at: 2019-07-17 19:09:40
Local clock offset: -6.08 ms
Remote clock offset: -2.318 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 76.676 ms
Loss rate: 11.12%
-- Flow 1:
Average throughput: 8.64 Mbit/s
95th percentile per-packet one-way delay: 76.676 ms
Loss rate: 11.12%
```
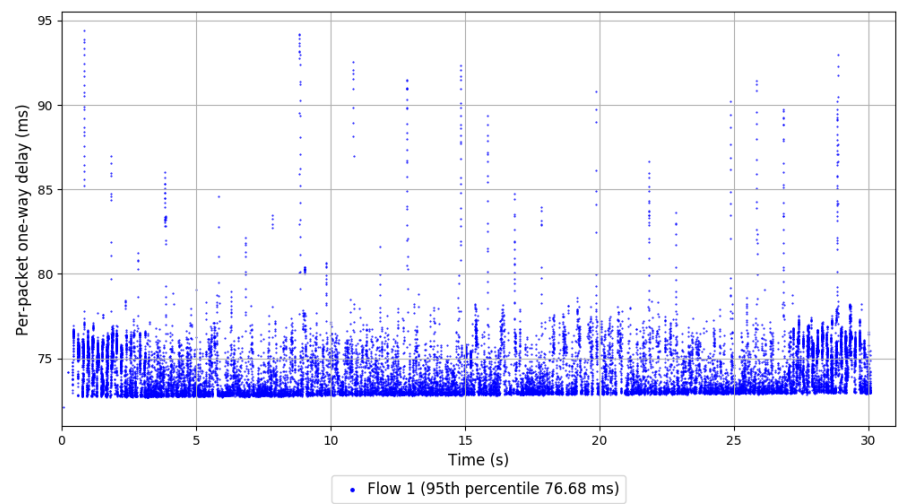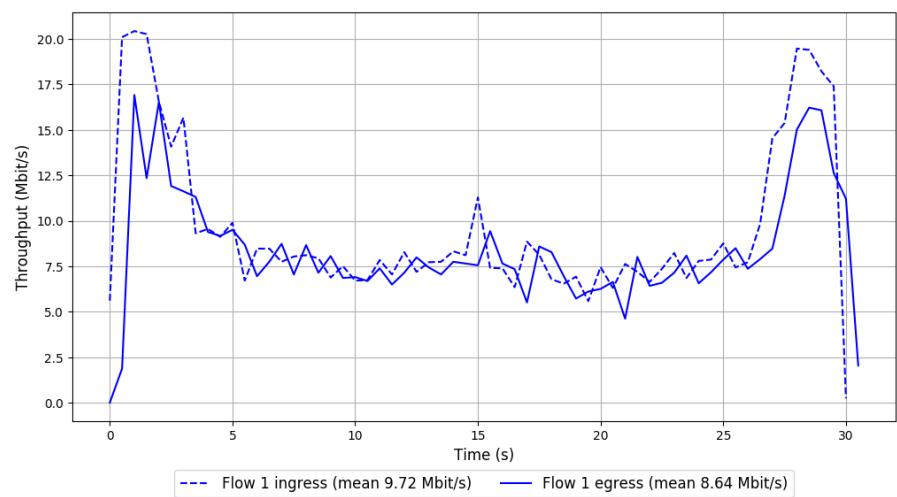
# Run 4: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 9.72 Mbit/s)    Flow 1 egress (mean 8.64 Mbit/s)



Flow 1 (95th percentile 76.68 ms)

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

Start at: 2019-07-17 19:37:09
End at: 2019-07-17 19:37:39
Local clock offset: -6.607 ms
Remote clock offset: -5.55 ms

# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.72 Mbit/s
95th percentile per-packet one-way delay: 77.799 ms
Loss rate: 19.06%
-- Flow 1:
Average throughput: 8.72 Mbit/s
95th percentile per-packet one-way delay: 77.799 ms
Loss rate: 19.06%
```
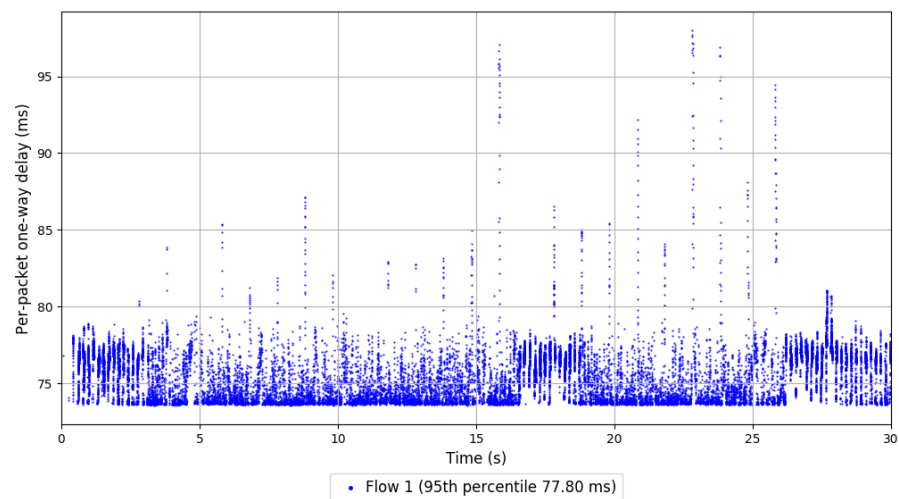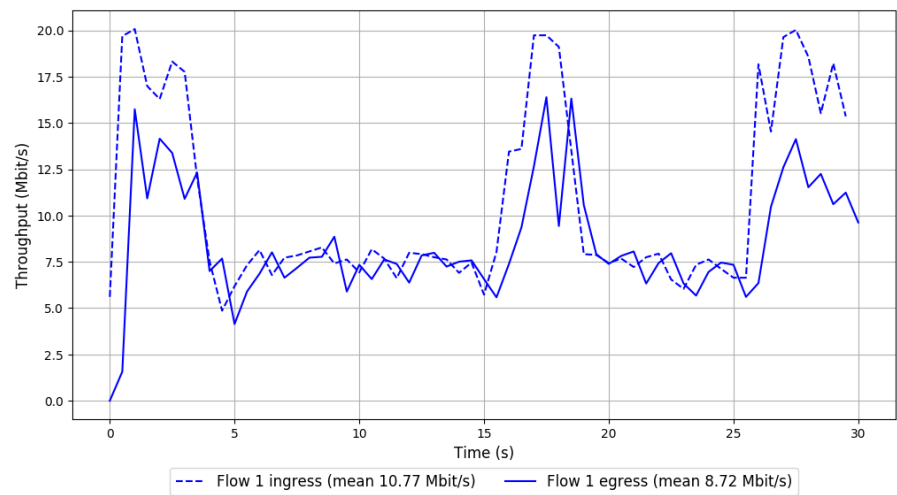
# Run 5: Report of TaoVA-100x — Data Link



Flow 1 ingress (mean 10.77 Mbit/s) --- Flow 1 egress (mean 8.72 Mbit/s) ---
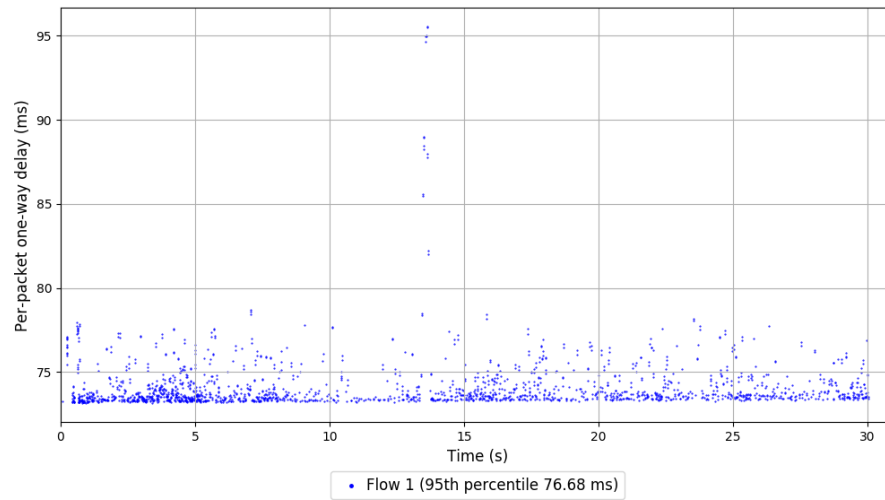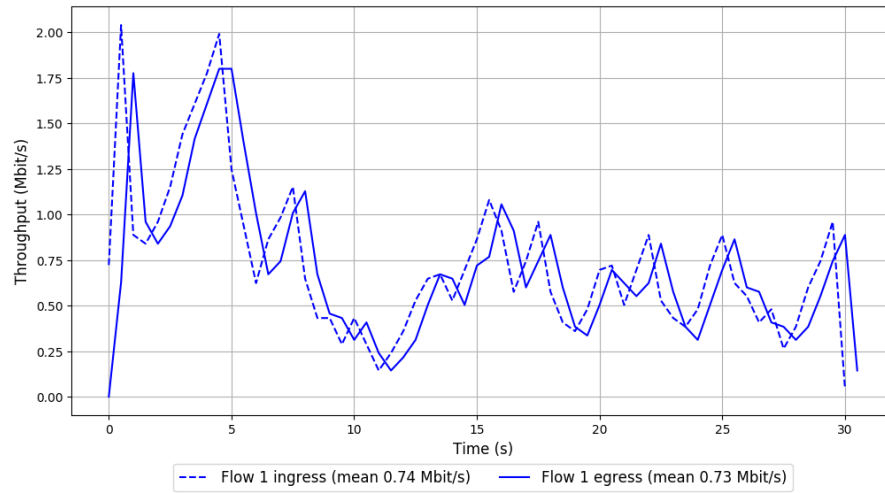


Flow 1 (95th percentile 77.80 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-07-17 17:33:39
End at: 2019-07-17 17:34:09
Local clock offset: -8.834 ms
Remote clock offset: -7.806 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 76.681 ms
Loss rate: 2.26%
-- Flow 1:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 76.681 ms
Loss rate: 2.26%
```

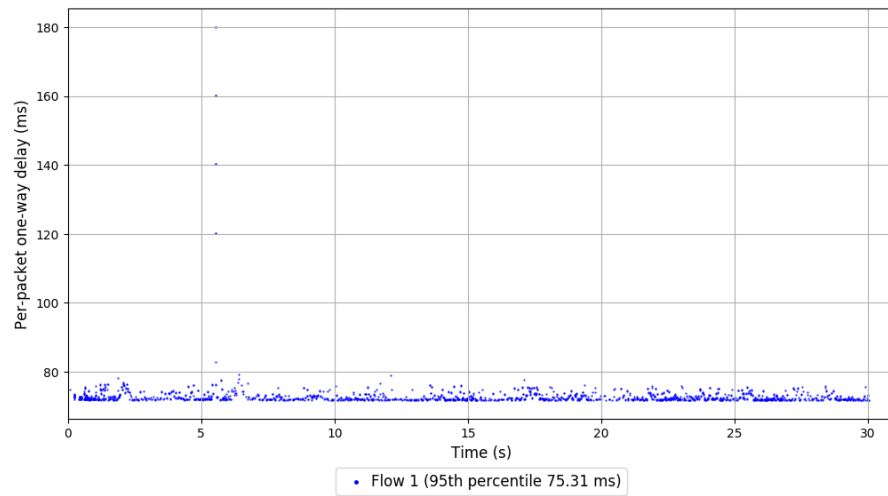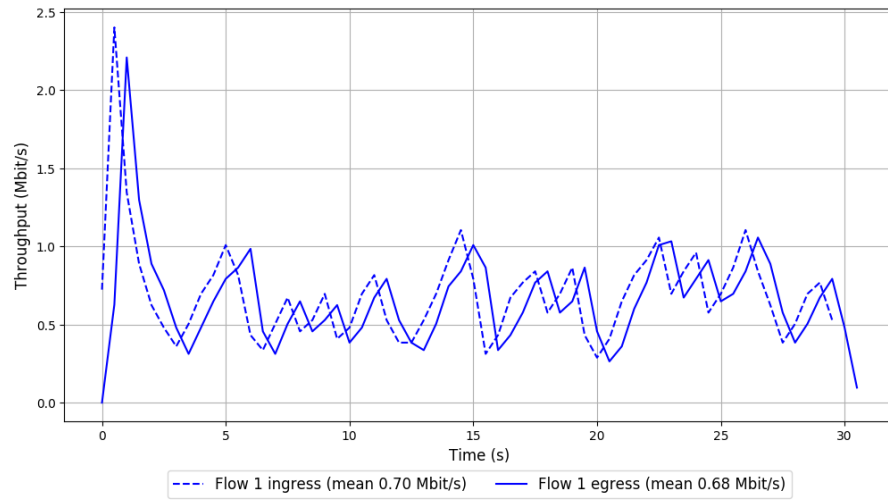Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-07-17 18:01:42
End at: 2019-07-17 18:02:12
Local clock offset: -6.439 ms
Remote clock offset: -9.509 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 75.313 ms
Loss rate: 2.18%
-- Flow 1:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 75.313 ms
Loss rate: 2.18%
```

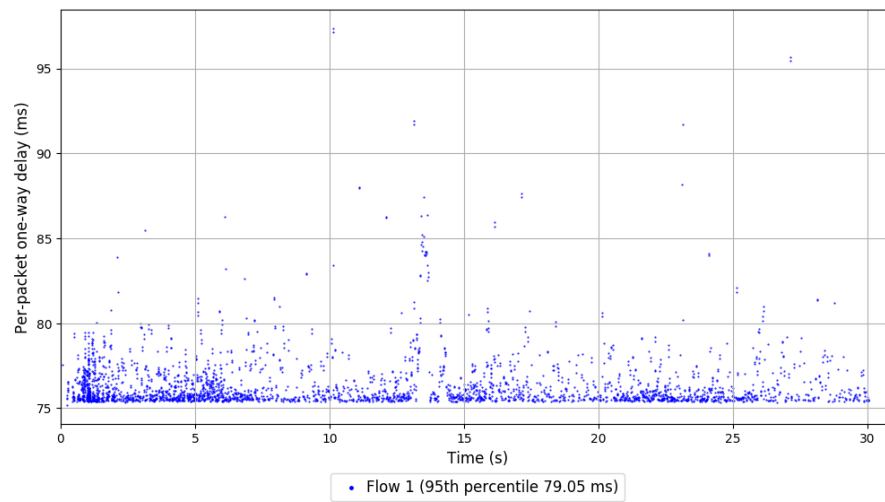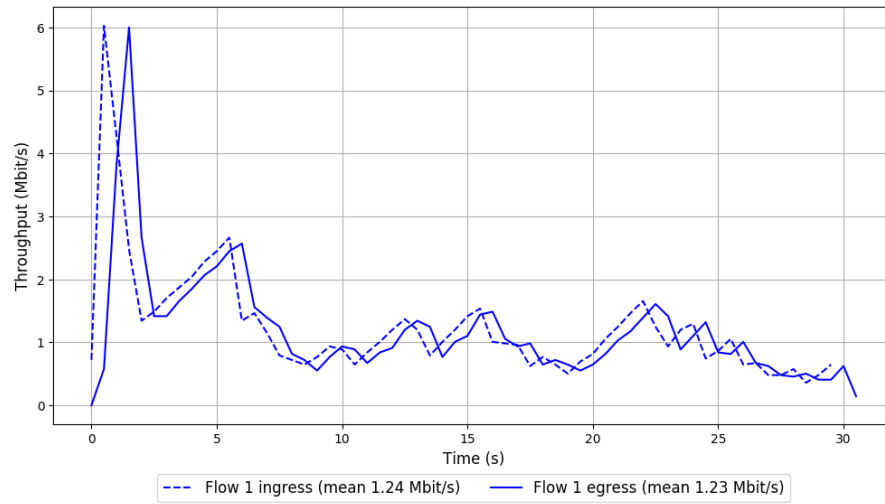Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-07-17 18:29:34
End at: 2019-07-17 18:30:04
Local clock offset: -6.283 ms
Remote clock offset: -4.776 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 79.050 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 79.050 ms
Loss rate: 1.16%
```

# Run 3: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 1.24 Mbit/s)    Flow 1 egress (mean 1.23 Mbit/s)
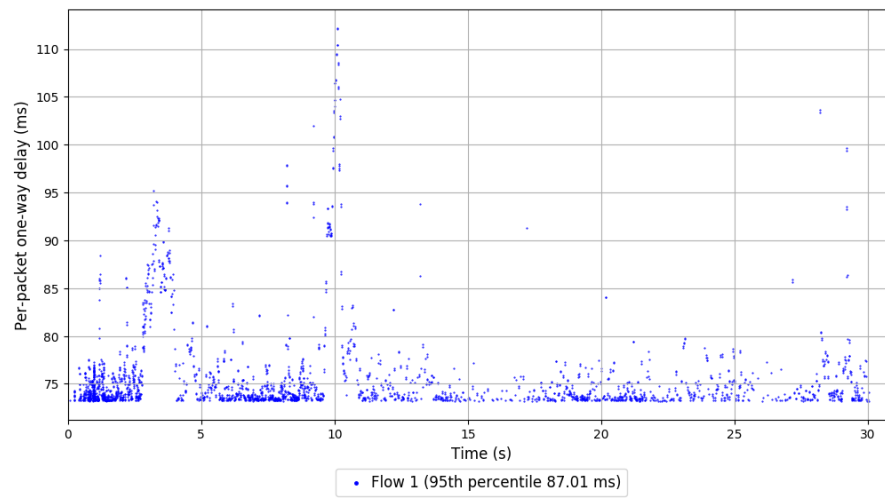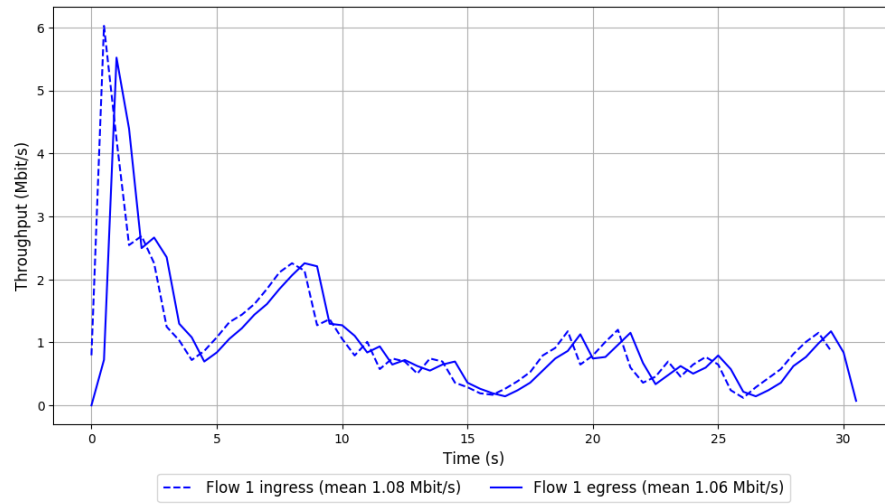


Flow 1 (95th percentile 79.05 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2019-07-17 18:57:25
End at: 2019-07-17 18:57:55
Local clock offset: -6.332 ms
Remote clock offset: -2.829 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 87.006 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 87.006 ms
Loss rate: 1.41%
```

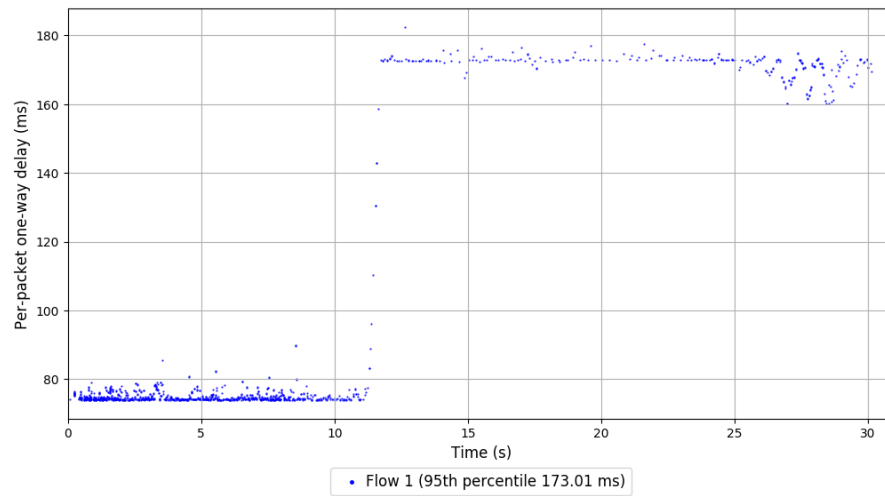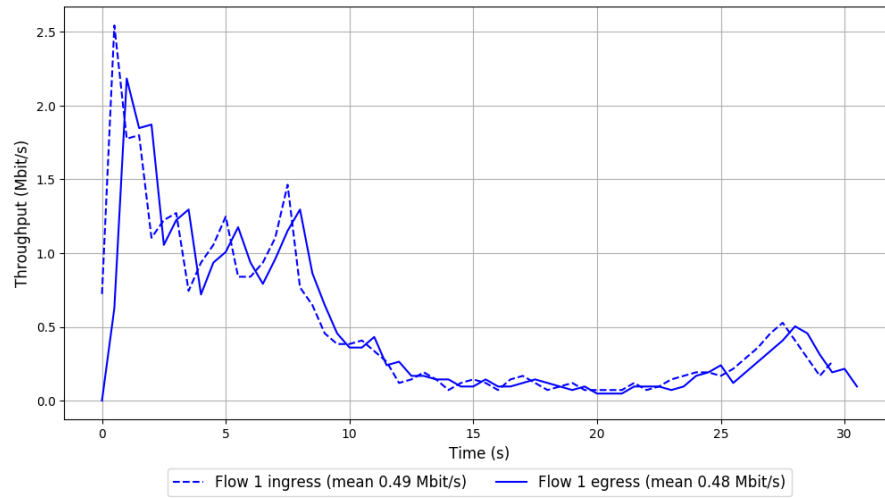Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-07-17 19:25:40
End at: 2019-07-17 19:26:10
Local clock offset: -6.006 ms
Remote clock offset: -4.463 ms


# Below is generated by plot.py at 2019-07-17 19:52:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 173.013 ms
Loss rate: 2.44%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 173.013 ms
Loss rate: 2.44%
```

## Run 5: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 0.49 Mbit/s)    Flow 1 egress (mean 0.48 Mbit/s)
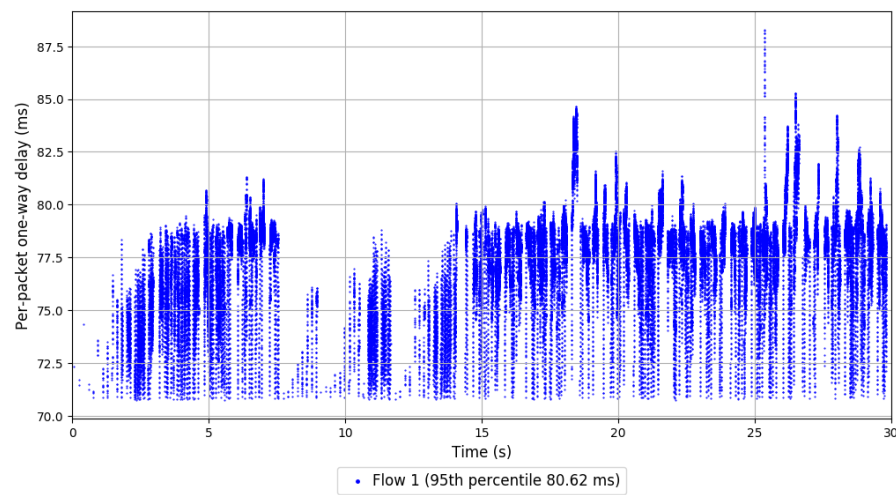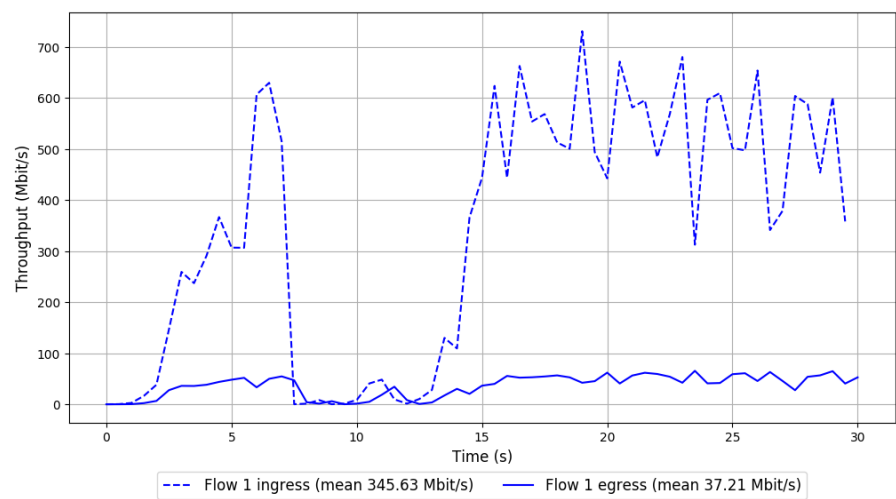


Flow 1 (95th percentile 173.01 ms)

```
Run 1: Statistics of Verus

Start at: 2019-07-17 17:48:45
End at: 2019-07-17 17:49:15
Local clock offset: -6.654 ms
Remote clock offset: -10.105 ms


# Below is generated by plot.py at 2019-07-17 19:53:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.21 Mbit/s
95th percentile per-packet one-way delay: 80.625 ms
Loss rate: 89.23%
-- Flow 1:
Average throughput: 37.21 Mbit/s
95th percentile per-packet one-way delay: 80.625 ms
Loss rate: 89.23%
```

Run 1: Report of Verus — Data Link



Flow 1 ingress (mean 345.63 Mbit/s)    Flow 1 egress (mean 37.21 Mbit/s)
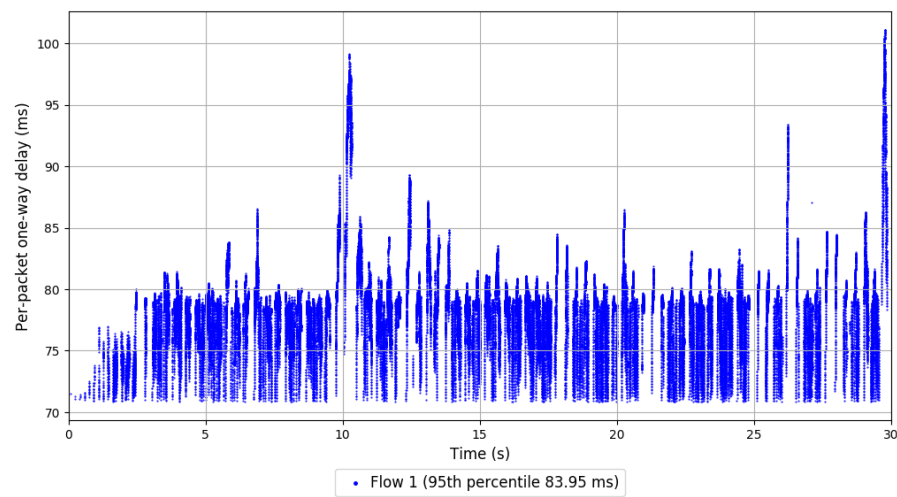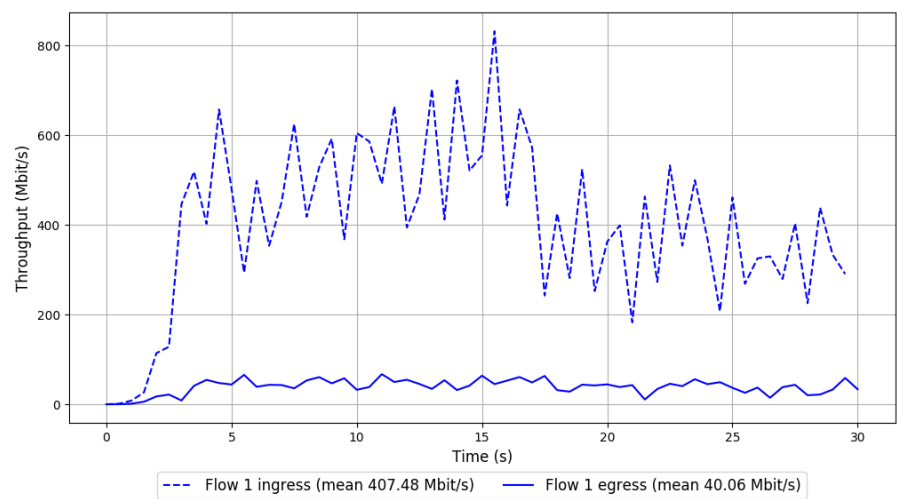


Flow 1 (95th percentile 80.62 ms)

```
Run 2: Statistics of Verus

Start at: 2019-07-17 18:16:40
End at: 2019-07-17 18:17:10
Local clock offset: -6.264 ms
Remote clock offset: -7.746 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.06 Mbit/s
95th percentile per-packet one-way delay: 83.950 ms
Loss rate: 90.17%
-- Flow 1:
Average throughput: 40.06 Mbit/s
95th percentile per-packet one-way delay: 83.950 ms
Loss rate: 90.17%
```
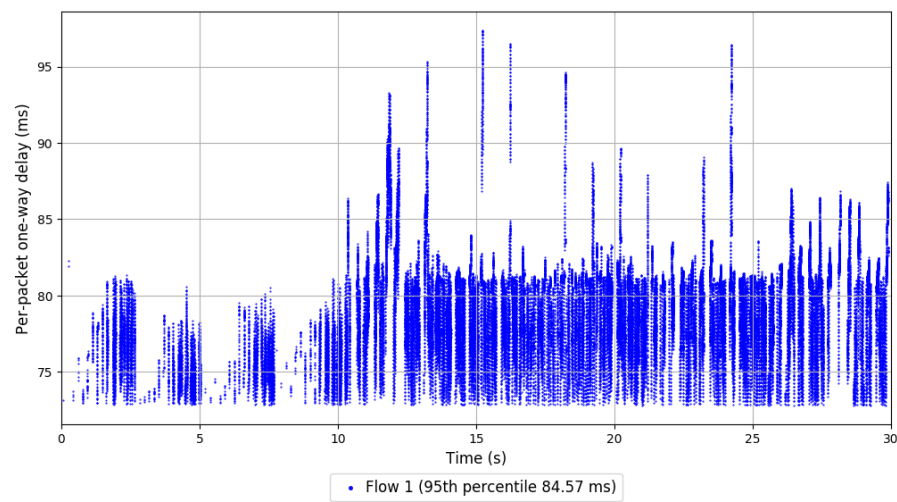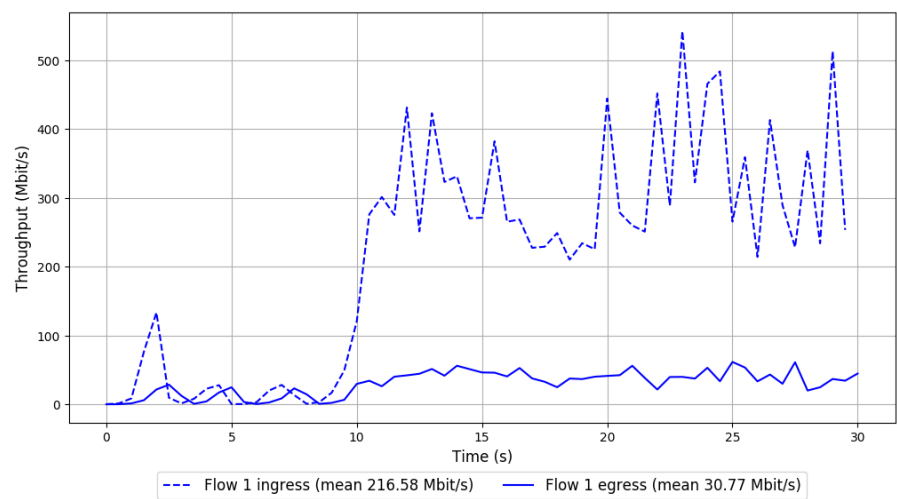
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-07-17 18:44:32
End at: 2019-07-17 18:45:02
Local clock offset: -6.353 ms
Remote clock offset: -4.982 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.77 Mbit/s
95th percentile per-packet one-way delay: 84.574 ms
Loss rate: 85.79%
-- Flow 1:
Average throughput: 30.77 Mbit/s
95th percentile per-packet one-way delay: 84.574 ms
Loss rate: 85.79%
```

Run 3: Report of Verus — Data Link



Flow 1 ingress (mean 216.58 Mbit/s) ---- Flow 1 egress (mean 30.77 Mbit/s)

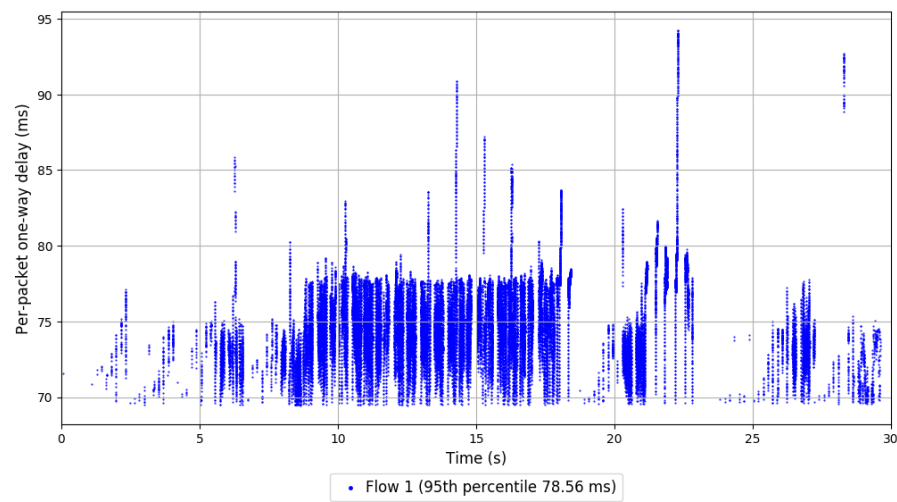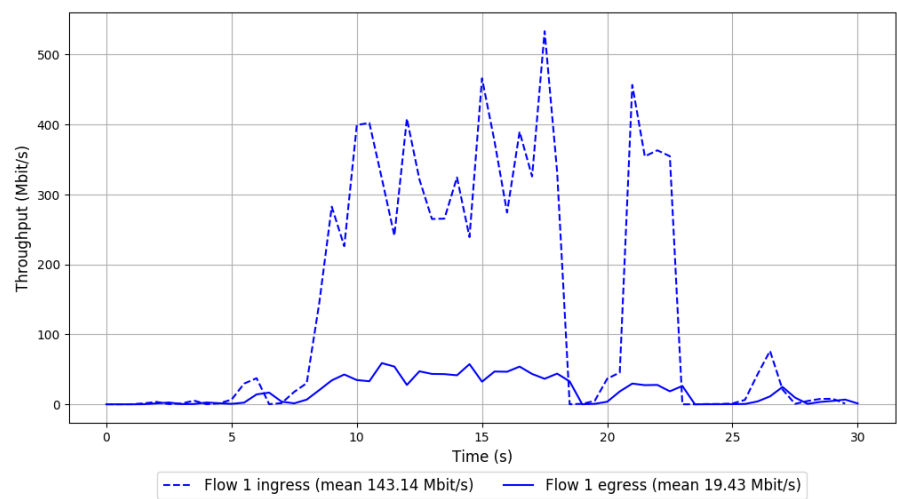

• Flow 1 (95th percentile 84.57 ms)

```
Run 4: Statistics of Verus

Start at: 2019-07-17 19:12:42
End at: 2019-07-17 19:13:12
Local clock offset: -6.021 ms
Remote clock offset: -6.722 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.43 Mbit/s
95th percentile per-packet one-way delay: 78.562 ms
Loss rate: 86.43%
-- Flow 1:
Average throughput: 19.43 Mbit/s
95th percentile per-packet one-way delay: 78.562 ms
Loss rate: 86.43%
```
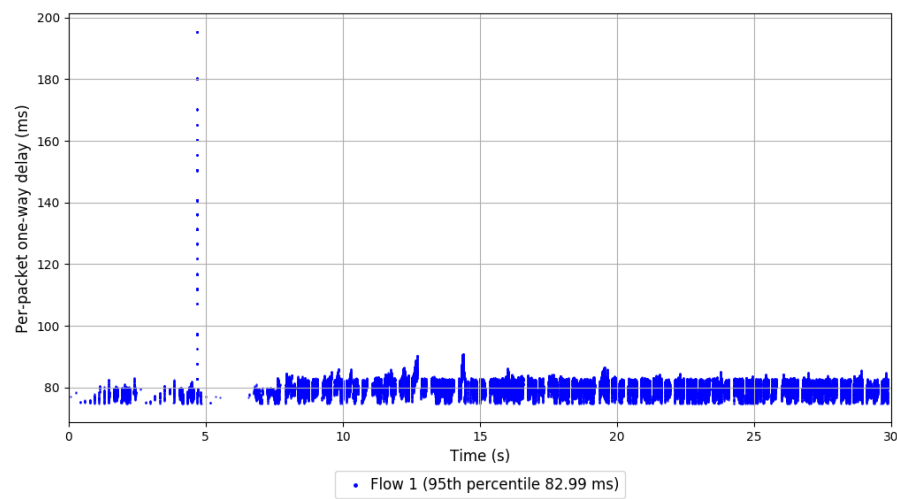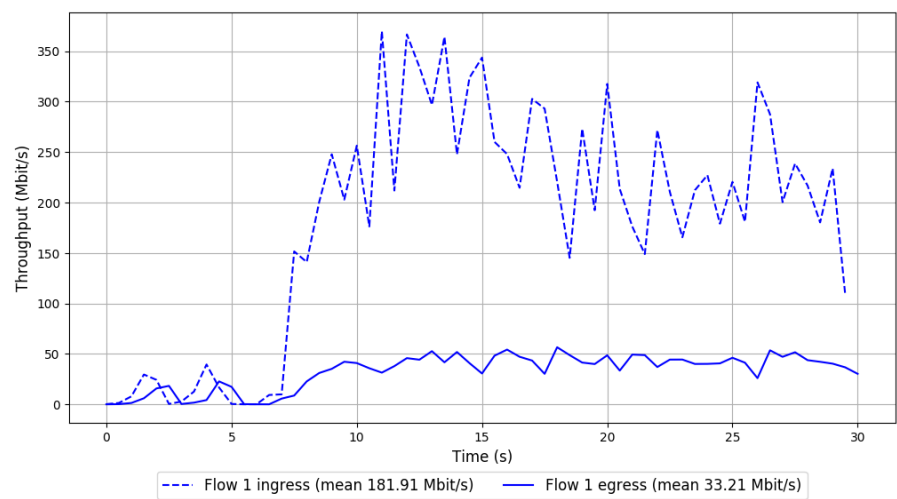
# Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-07-17 19:40:40
End at: 2019-07-17 19:41:10
Local clock offset: -6.692 ms
Remote clock offset: -4.925 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.21 Mbit/s
95th percentile per-packet one-way delay: 82.986 ms
Loss rate: 81.74%
-- Flow 1:
Average throughput: 33.21 Mbit/s
95th percentile per-packet one-way delay: 82.986 ms
Loss rate: 81.74%
```
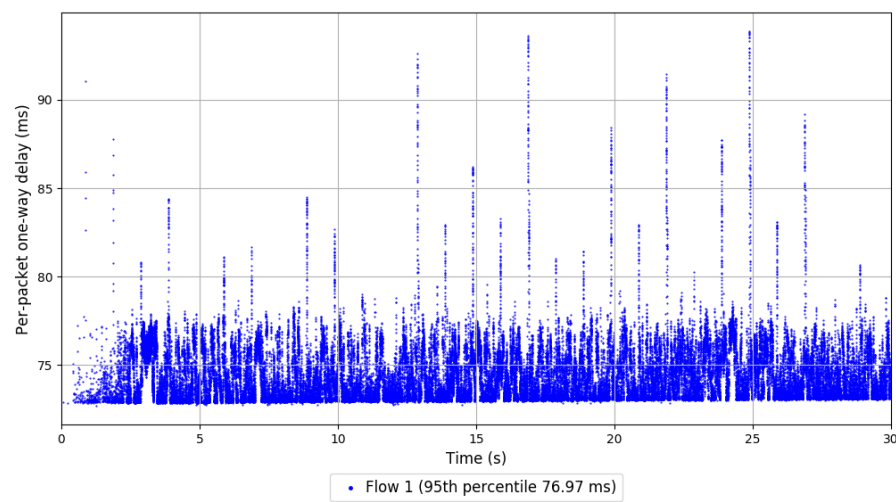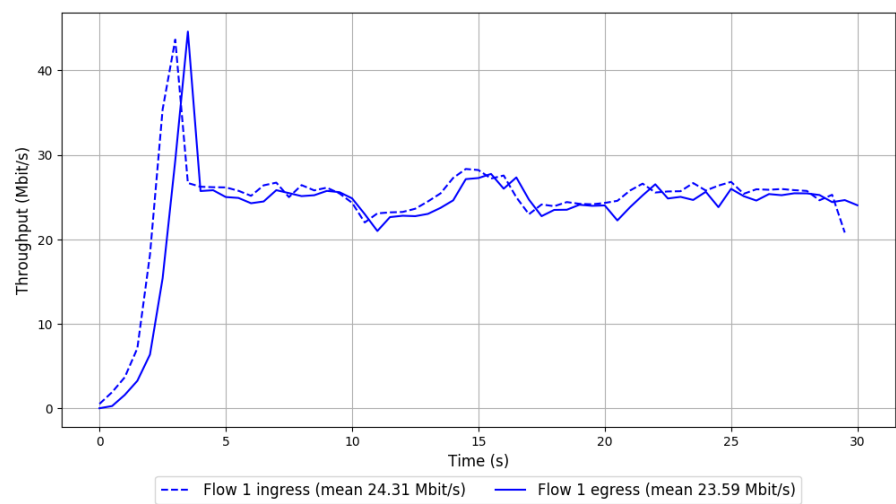
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-07-17 17:31:19
End at: 2019-07-17 17:31:49
Local clock offset: -9.656 ms
Remote clock offset: -7.327 ms

# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 23.59 Mbit/s
95th percentile per-packet one-way delay: 76.968 ms
Loss rate: 2.94%
-- Flow 1:
Average throughput: 23.59 Mbit/s
95th percentile per-packet one-way delay: 76.968 ms
Loss rate: 2.94%
```

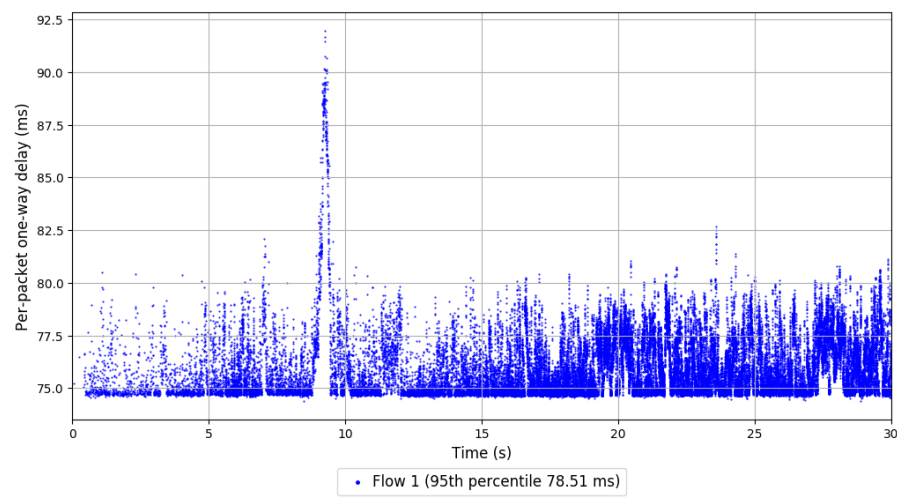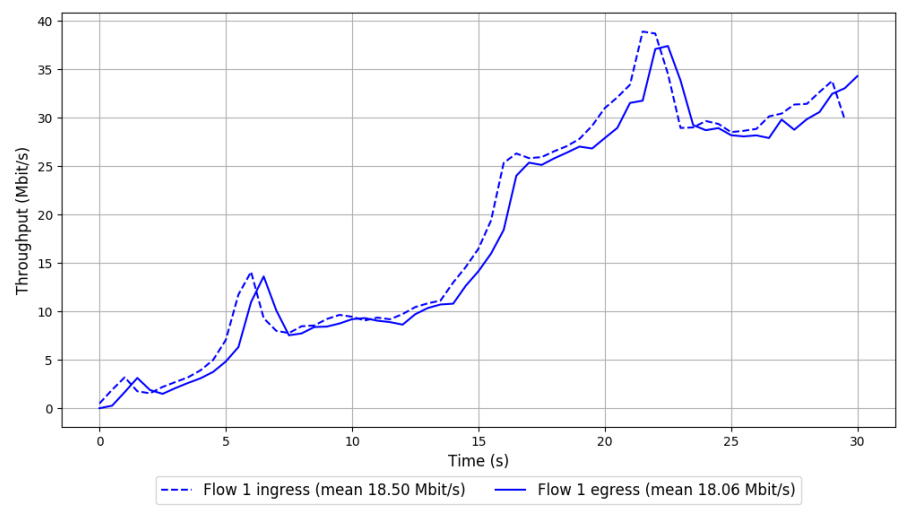Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-07-17 17:59:23
End at: 2019-07-17 17:59:53
Local clock offset: -6.377 ms
Remote clock offset: -7.187 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 18.06 Mbit/s
95th percentile per-packet one-way delay: 78.506 ms
Loss rate: 2.35%
-- Flow 1:
Average throughput: 18.06 Mbit/s
95th percentile per-packet one-way delay: 78.506 ms
Loss rate: 2.35%
```

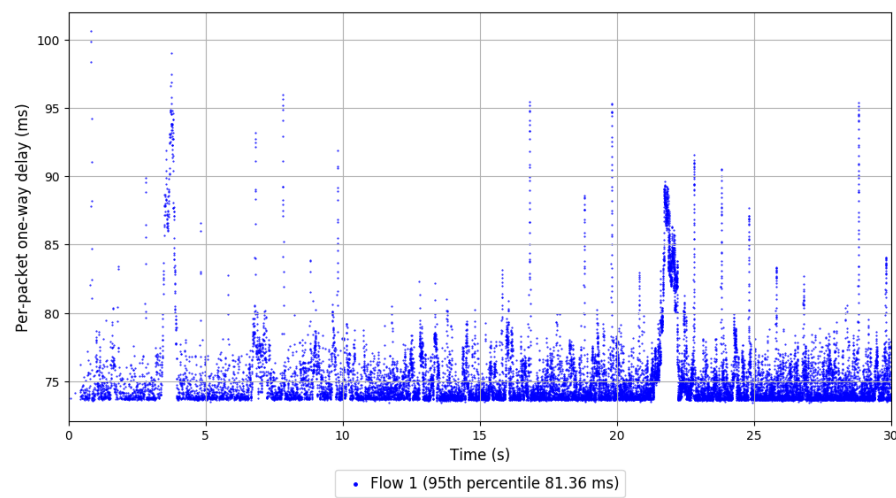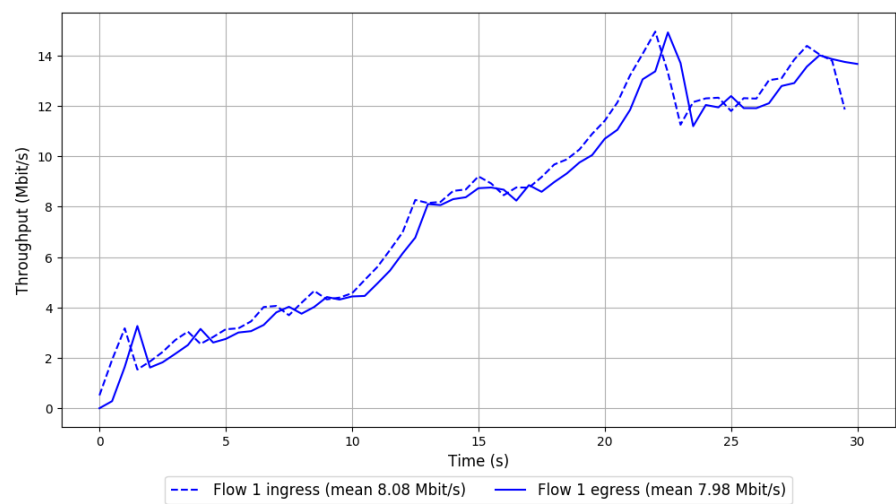Run 2: Report of PCC-Vivace — Data Link

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-07-17 18:27:17
End at: 2019-07-17 18:27:47
Local clock offset: -6.271 ms
Remote clock offset: -5.207 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 81.360 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 81.360 ms
Loss rate: 1.29%
```

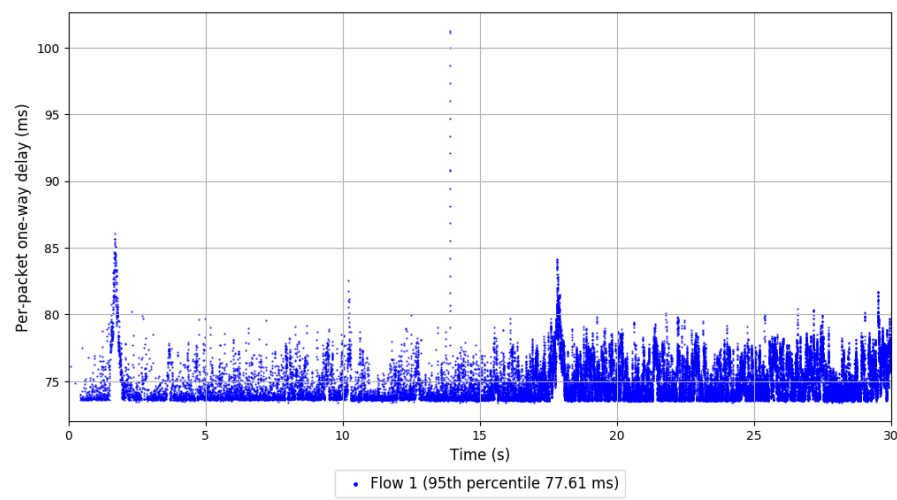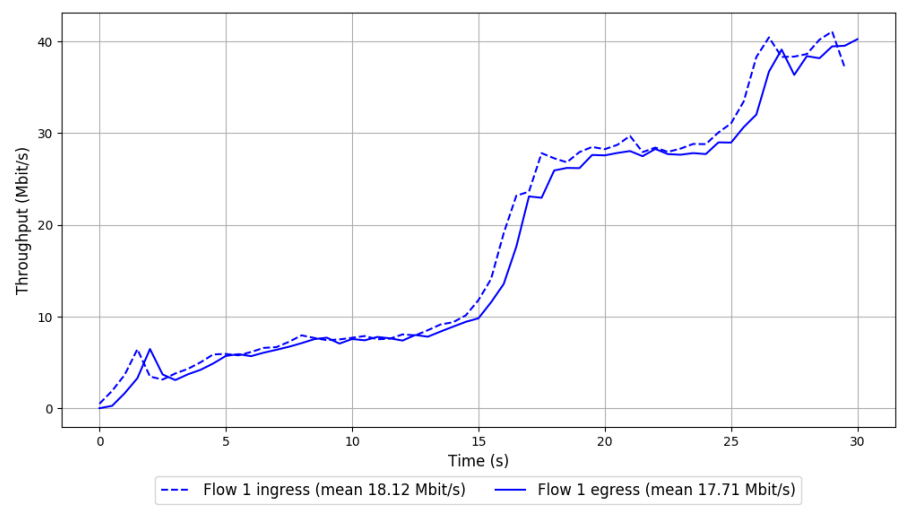Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-07-17 18:55:05
End at: 2019-07-17 18:55:35
Local clock offset: -6.317 ms
Remote clock offset: -1.616 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 17.71 Mbit/s
95th percentile per-packet one-way delay: 77.607 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 17.71 Mbit/s
95th percentile per-packet one-way delay: 77.607 ms
Loss rate: 2.24%
```

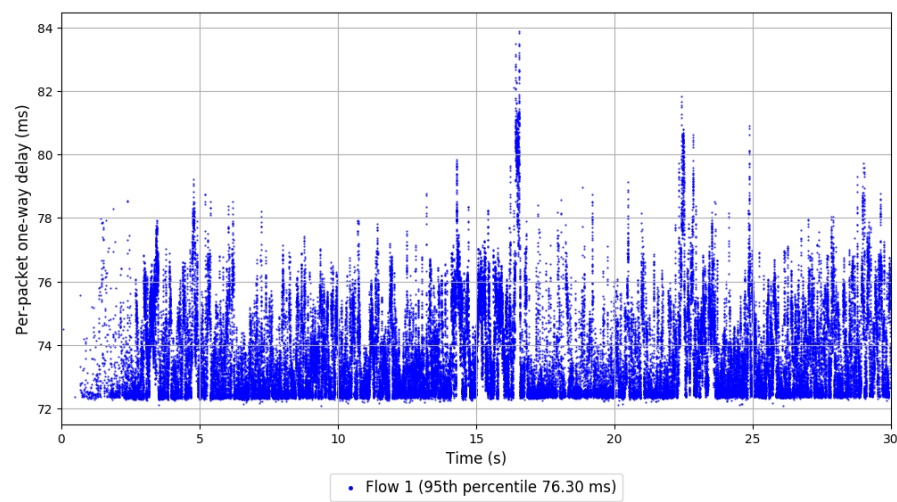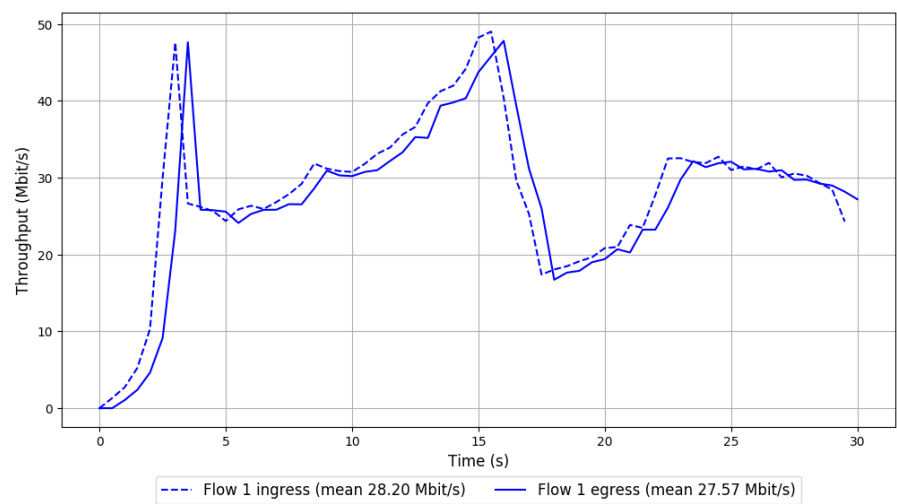Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-07-17 19:23:17
End at: 2019-07-17 19:23:47
Local clock offset: -5.995 ms
Remote clock offset: -5.664 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 27.57 Mbit/s
95th percentile per-packet one-way delay: 76.297 ms
Loss rate: 2.26%
-- Flow 1:
Average throughput: 27.57 Mbit/s
95th percentile per-packet one-way delay: 76.297 ms
Loss rate: 2.26%
```

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



Flow 1 ingress (mean 28.20 Mbit/s)    Flow 1 egress (mean 27.57 Mbit/s)
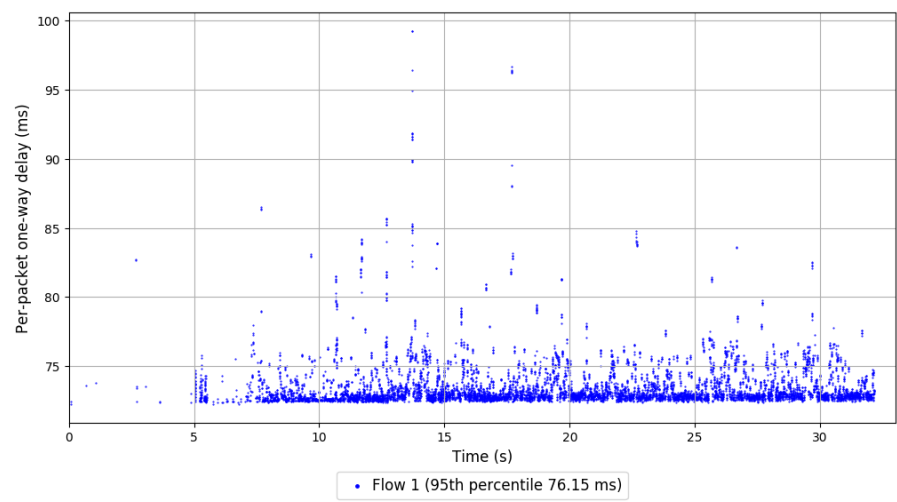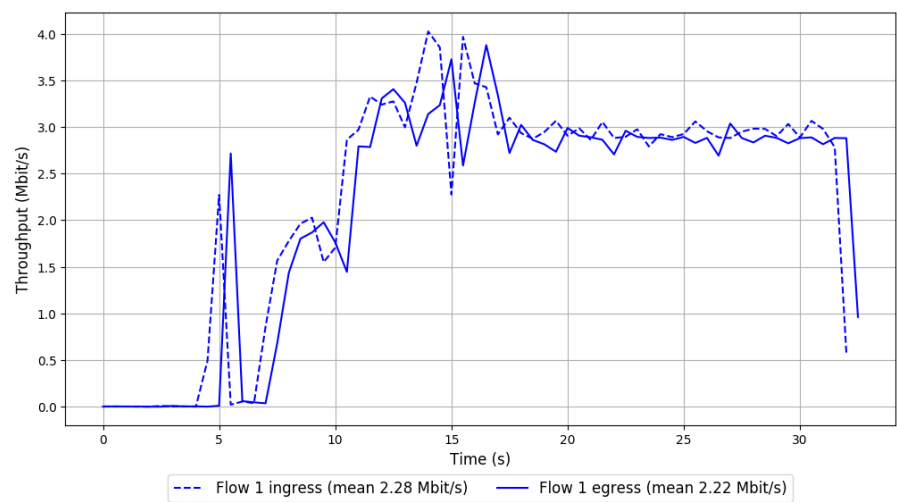


Flow 1 (95th percentile 76.30 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2019-07-17 17:42:53
End at: 2019-07-17 17:43:23
Local clock offset: -7.141 ms
Remote clock offset: -8.609 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 76.154 ms
Loss rate: 2.75%
-- Flow 1:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 76.154 ms
Loss rate: 2.75%
```

Run 1: Report of WebRTC media — Data Link



Flow 1 ingress (mean 2.28 Mbit/s)    Flow 1 egress (mean 2.22 Mbit/s)
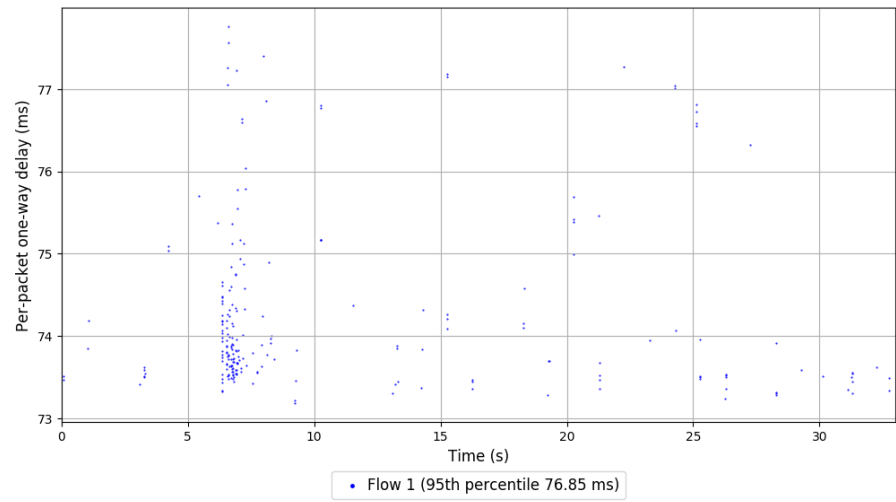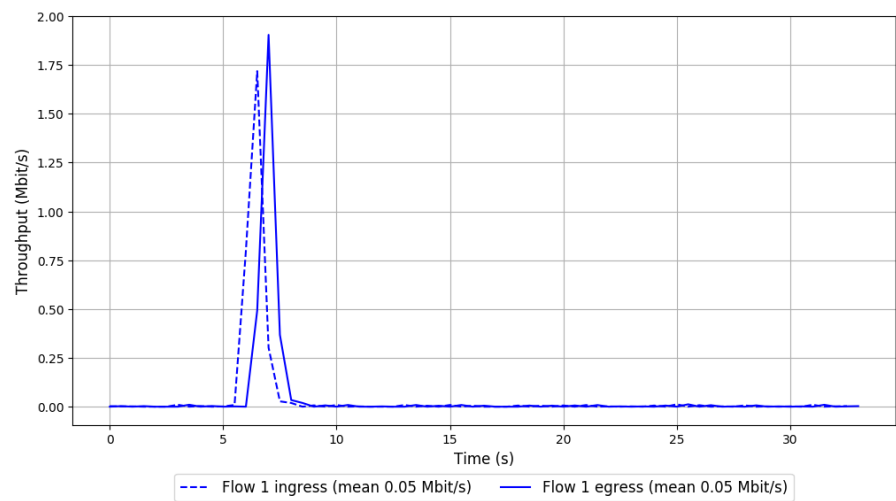


Flow 1 (95th percentile 76.15 ms)

```
Run 2: Statistics of WebRTC media

Start at: 2019-07-17 18:10:50
End at: 2019-07-17 18:11:20
Local clock offset: -6.391 ms
Remote clock offset: -6.802 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 76.854 ms
Loss rate: 1.88%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 76.854 ms
Loss rate: 1.88%
```

Run 2: Report of WebRTC media — Data Link



Flow 1 ingress (mean 0.05 Mbit/s)        Flow 1 egress (mean 0.05 Mbit/s)
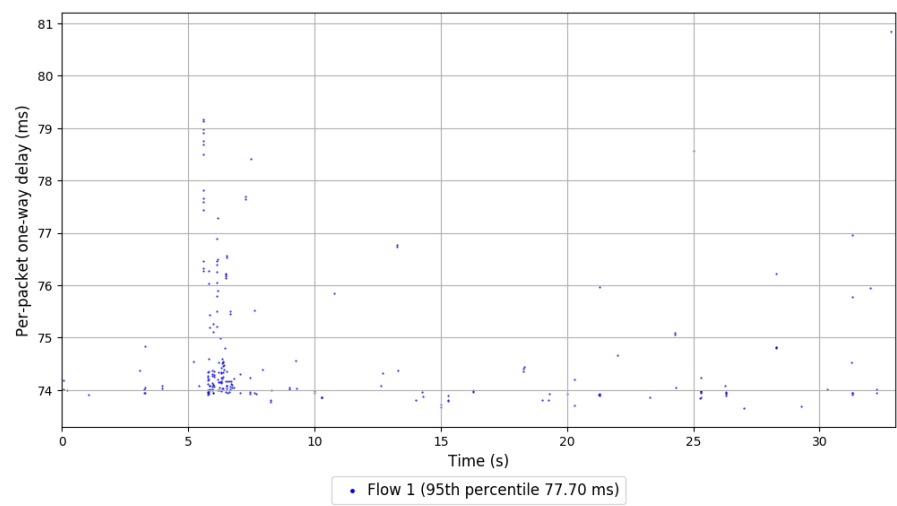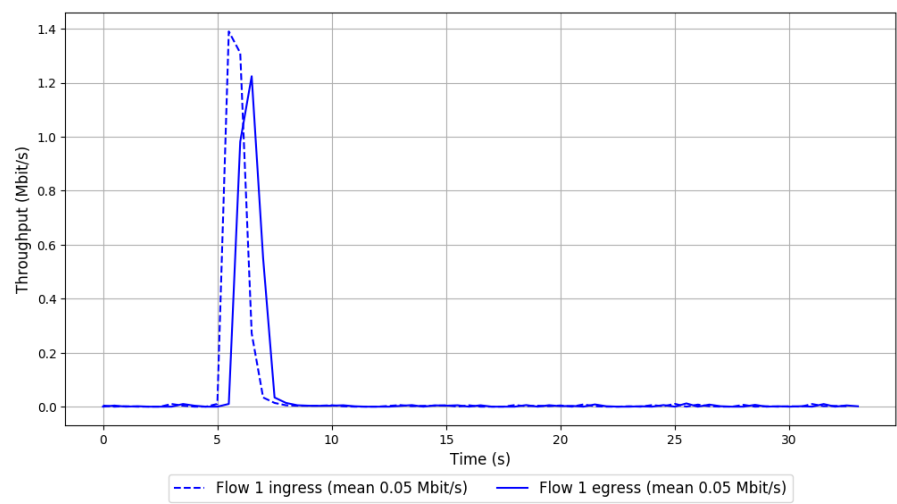


Flow 1 (95th percentile 76.85 ms)

```
Run 3: Statistics of WebRTC media

Start at: 2019-07-17 18:38:43
End at: 2019-07-17 18:39:13
Local clock offset: -6.363 ms
Remote clock offset: -4.248 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 77.696 ms
Loss rate: 6.84%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 77.696 ms
Loss rate: 6.84%
```

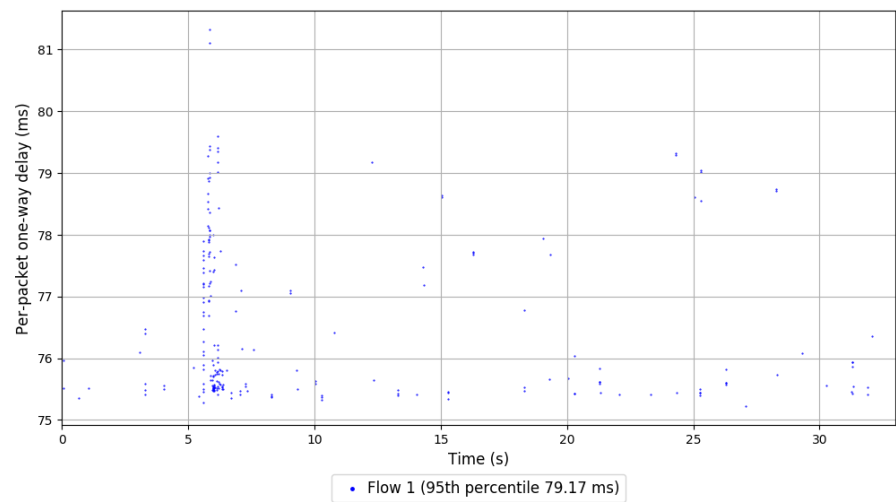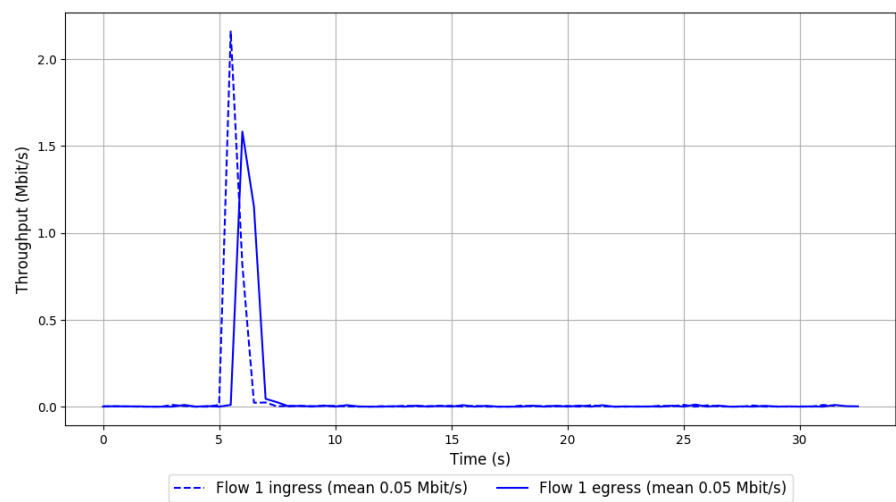Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2019-07-17 19:06:46
End at: 2019-07-17 19:07:16
Local clock offset: -6.091 ms
Remote clock offset: -0.695 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 79.167 ms
Loss rate: 6.90%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 79.167 ms
Loss rate: 6.90%
```

Run 4: Report of WebRTC media — Data Link



Flow 1 ingress (mean 0.05 Mbit/s)   Flow 1 egress (mean 0.05 Mbit/s)



• Flow 1 (95th percentile 79.17 ms)

```
Run 5: Statistics of WebRTC media

Start at: 2019-07-17 19:34:51
End at: 2019-07-17 19:35:21
Local clock offset: -6.626 ms
Remote clock offset: -5.05 ms


# Below is generated by plot.py at 2019-07-17 19:53:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 77.266 ms
Loss rate: 11.78%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 77.266 ms
Loss rate: 11.78%
```

# Run 5: Report of WebRTC media — Data Link