# Pantheon Report

Generated at 2019-06-28 09:10:53 (UTC).

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

Repeated the test of 22 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.
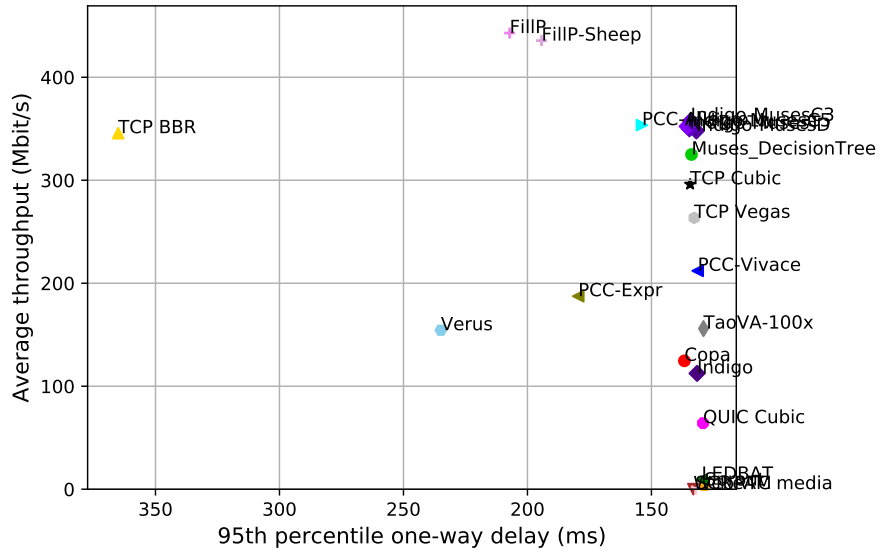
```
System info:
Linux 4.15.0-1039-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ c3953d08f32ec7ebbdede2d2f0cbdeed262571ef
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 @ 11c9498ecb1596b02ccd896791a02d03172af7ed
 M helpers/__init__.pyc
 M helpers/context.pyc
 M helpers/utils.pyc
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
 M src/ScreamClient
 M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
```
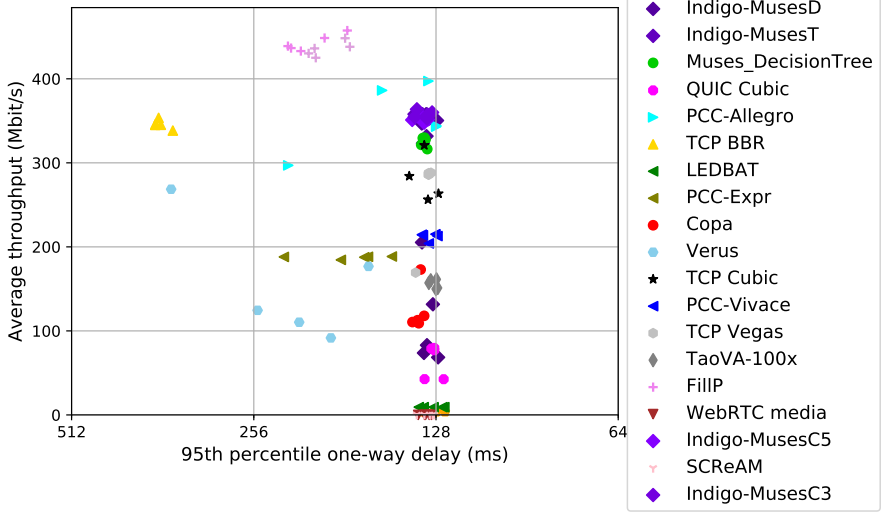
```
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from Saudi Arabia to AWS India 2, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from Saudi Arabia to AWS India 2, 5 runs of 30s each per scheme

3

| scheme | # runs | mean avg tput (Mbit/s) flow 1 | mean 95th-%ile delay (ms) flow 1 | mean loss rate (%) flow 1 |
|---|---|---|---|---|
| TCP BBR | 5 | 345.69 | 365.04 | 1.77 |
| Copa | 5 | 124.65 | 136.71 | 0.66 |
| TCP Cubic | 5 | 296.06 | 134.41 | 0.79 |
| FillP | 5 | 442.90 | 207.20 | 0.88 |
| FillP-Sheep | 5 | 435.58 | 194.34 | 1.42 |
| Indigo | 5 | 112.45 | 131.60 | 0.67 |
| Indigo-MusesC3 | 5 | 357.58 | 134.22 | 0.76 |
| Indigo-MusesC5 | 5 | 352.35 | 135.59 | 0.77 |
| Indigo-MusesD | 5 | 347.92 | 131.89 | 0.71 |
| Indigo-MusesT | 5 | 349.97 | 134.67 | 0.76 |
| LEDBAT | 5 | 9.24 | 129.79 | 1.31 |
| Muses_DecisionTree | 5 | 324.97 | 133.86 | 0.68 |
| PCC-Allegro | 5 | 353.51 | 153.81 | 0.85 |
| PCC-Expr | 5 | 187.39 | 179.52 | 0.75 |
| QUIC Cubic | 5 | 64.16 | 129.20 | 0.60 |
| SCReAM | 5 | 0.22 | 132.23 | 0.64 |
| Sprout | 5 | 3.58 | 128.57 | 0.89 |
| TaoVA-100x | 5 | 155.92 | 129.02 | 0.68 |
| TCP Vegas | 5 | 263.48 | 132.77 | 0.69 |
| Verus | 5 | 154.37 | 234.94 | 0.66 |
| PCC-Vivace | 5 | 212.04 | 131.36 | 0.74 |
| WebRTC media | 5 | 0.05 | 133.09 | 0.00 |

```
Run 1: Statistics of TCP BBR

Start at: 2019-06-28 06:02:30
End at: 2019-06-28 06:03:00
Local clock offset: -0.809 ms
Remote clock offset: -35.08 ms


# Below is generated by plot.py at 2019-06-28 08:35:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 353.52 Mbit/s
95th percentile per-packet one-way delay: 367.710 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 353.52 Mbit/s
95th percentile per-packet one-way delay: 367.710 ms
Loss rate: 1.37%
```
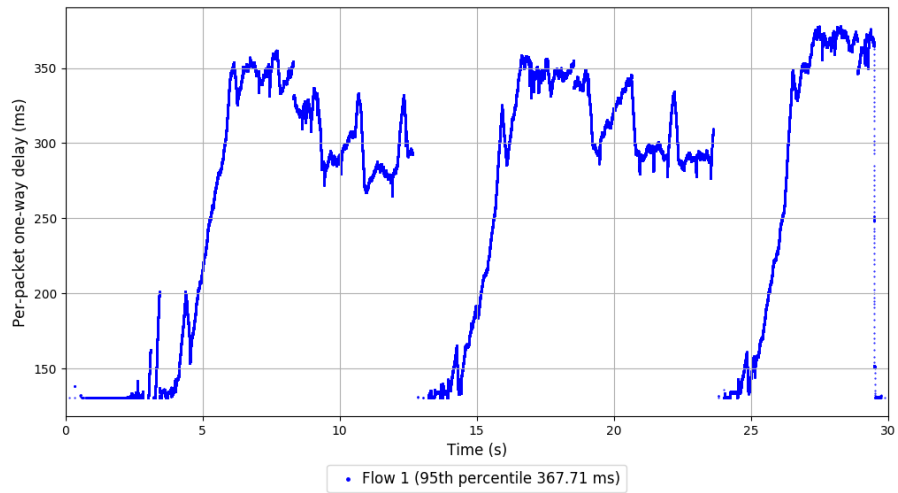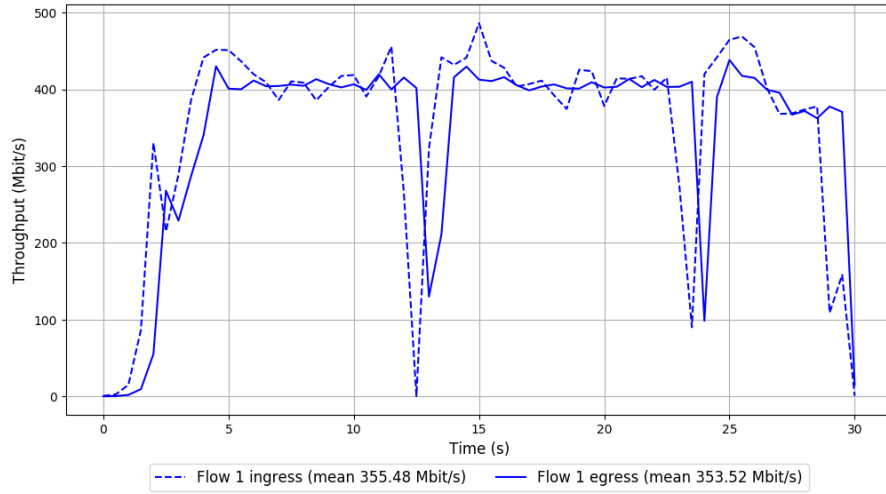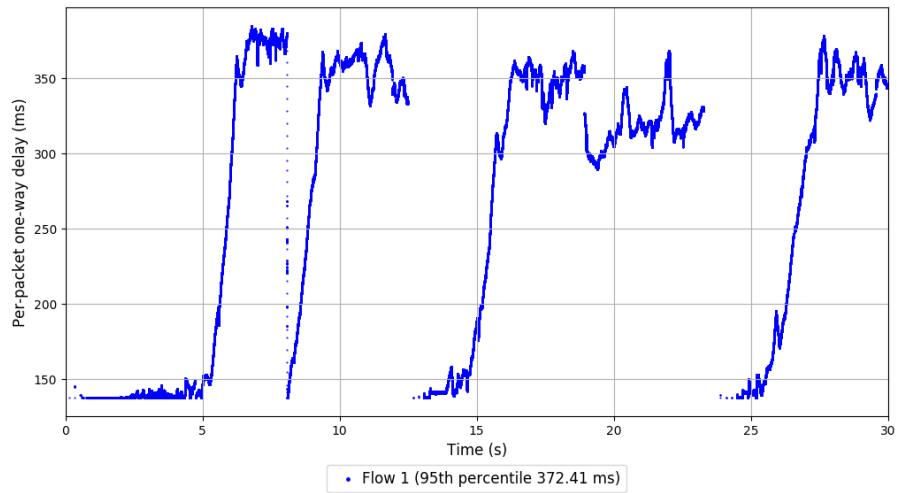
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2019-06-28 06:32:19
End at: 2019-06-28 06:32:49
Local clock offset: -0.851 ms
Remote clock offset: -41.87 ms


# Below is generated by plot.py at 2019-06-28 08:35:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 345.15 Mbit/s
95th percentile per-packet one-way delay: 372.409 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 345.15 Mbit/s
95th percentile per-packet one-way delay: 372.409 ms
Loss rate: 2.04%
```
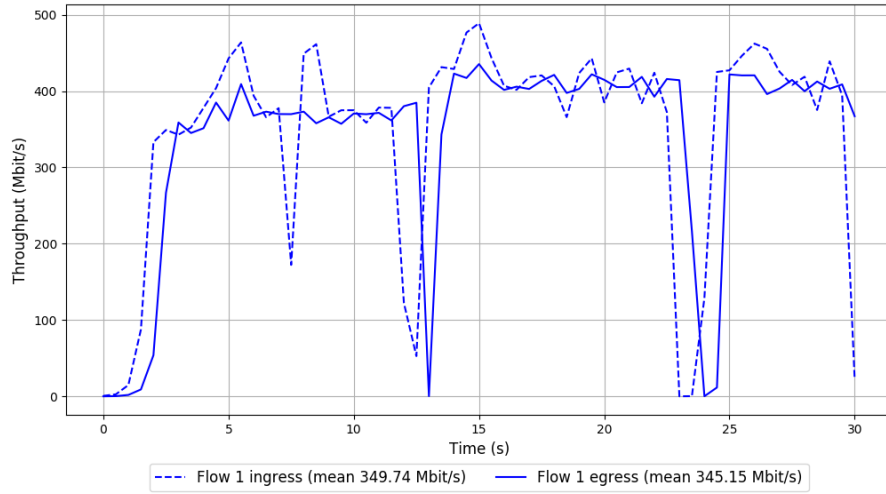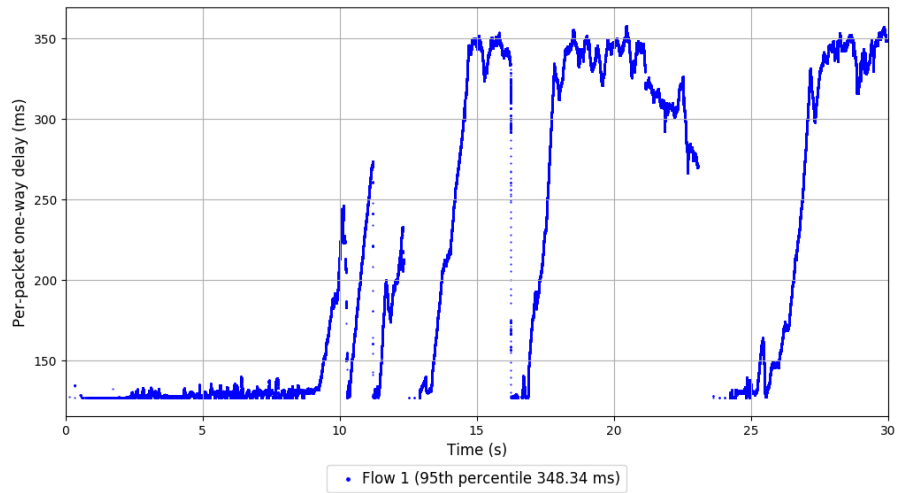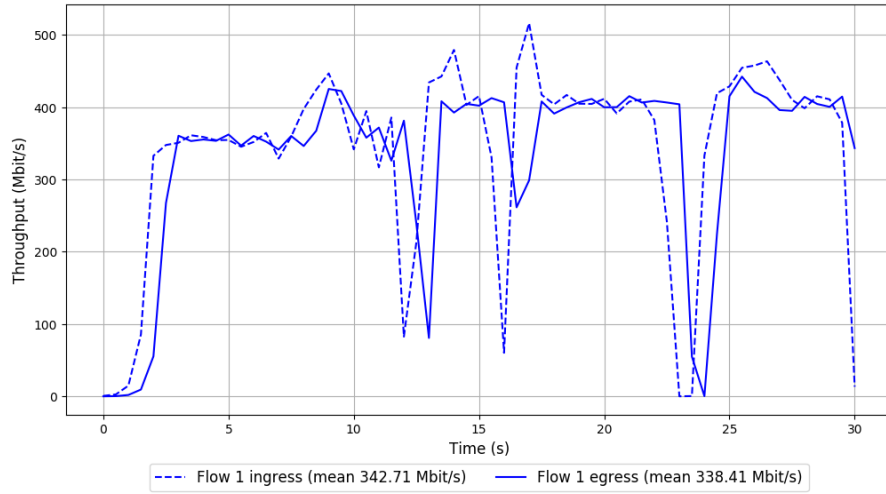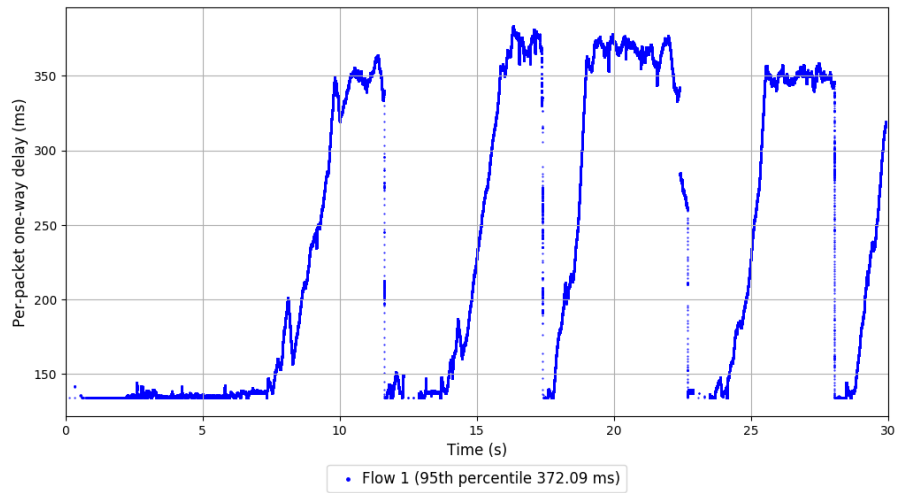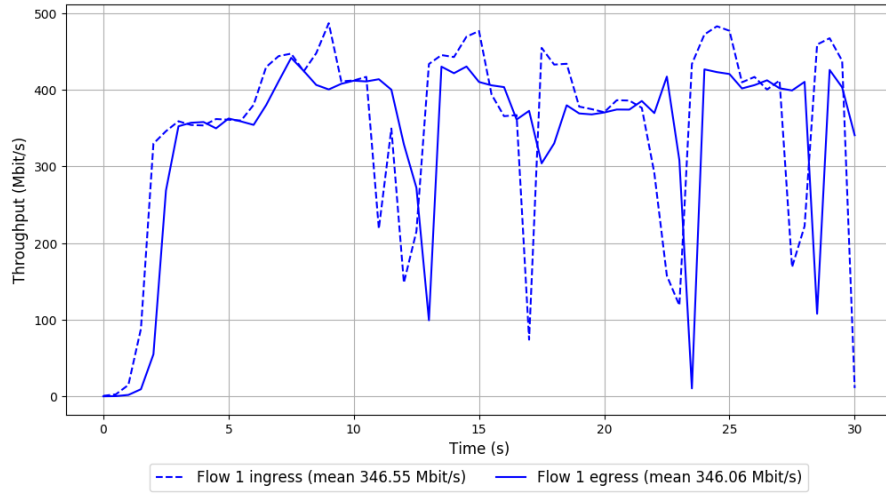
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2019-06-28 07:02:12
End at: 2019-06-28 07:02:42
Local clock offset: -0.59 ms
Remote clock offset: -31.061 ms


# Below is generated by plot.py at 2019-06-28 08:35:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 338.41 Mbit/s
95th percentile per-packet one-way delay: 348.341 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 338.41 Mbit/s
95th percentile per-packet one-way delay: 348.341 ms
Loss rate: 1.96%
```

Run 3: Report of TCP BBR — Data Link



Flow 1 ingress (mean 342.71 Mbit/s)    Flow 1 egress (mean 338.41 Mbit/s)

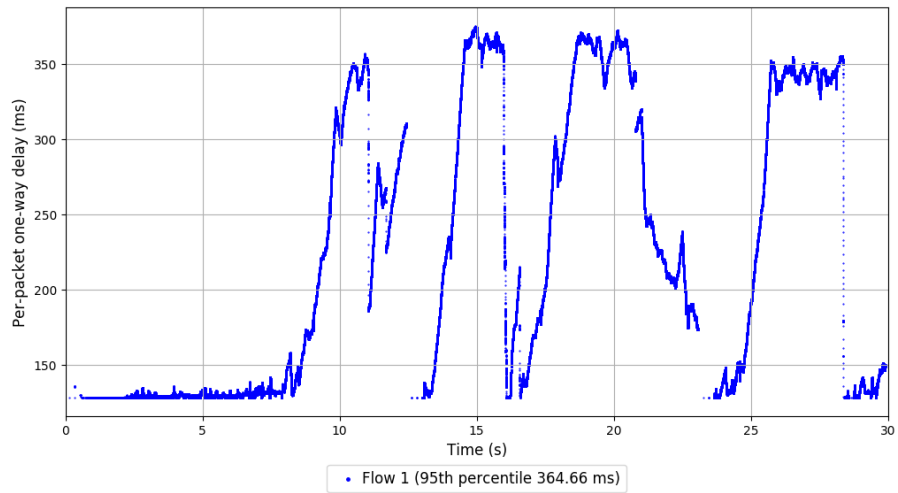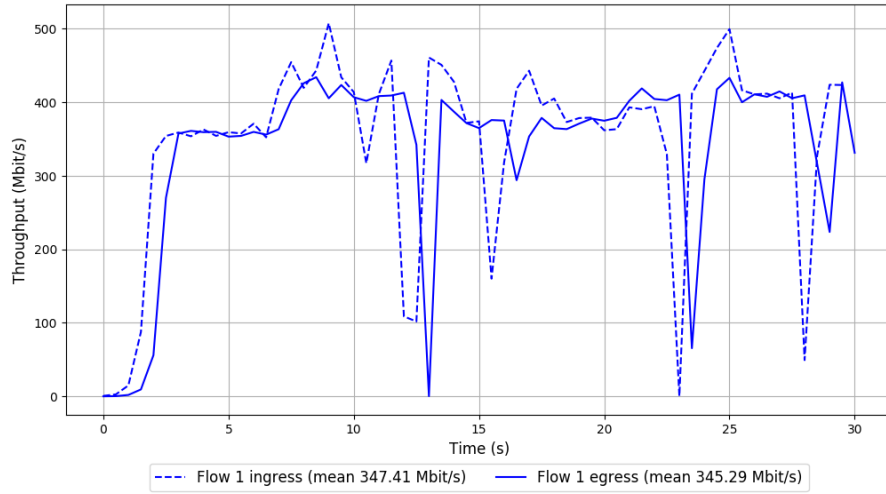

Flow 1 (95th percentile 348.34 ms)

```
Run 4: Statistics of TCP BBR

Start at: 2019-06-28 07:31:52
End at: 2019-06-28 07:32:22
Local clock offset: -1.579 ms
Remote clock offset: -38.562 ms


# Below is generated by plot.py at 2019-06-28 08:35:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 346.06 Mbit/s
95th percentile per-packet one-way delay: 372.086 ms
Loss rate: 2.14%
-- Flow 1:
Average throughput: 346.06 Mbit/s
95th percentile per-packet one-way delay: 372.086 ms
Loss rate: 2.14%
```
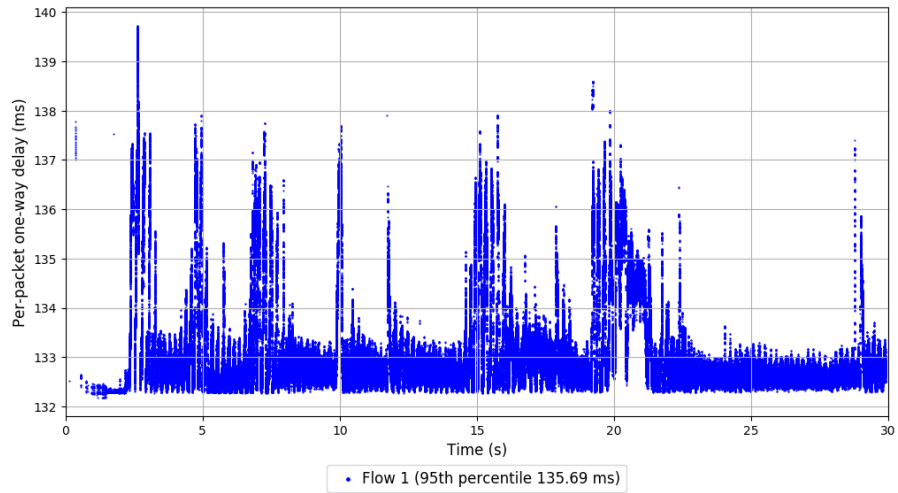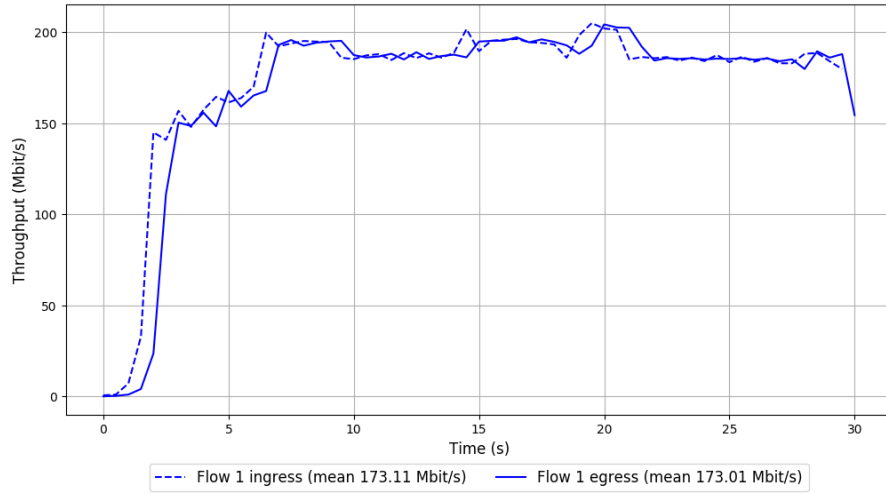
Run 4: Report of TCP BBR — Data Link



Flow 1 ingress (mean 346.55 Mbit/s)    Flow 1 egress (mean 346.06 Mbit/s)



· Flow 1 (95th percentile 372.09 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2019-06-28 08:01:33
End at: 2019-06-28 08:02:03
Local clock offset: -0.815 ms
Remote clock offset: -34.321 ms


# Below is generated by plot.py at 2019-06-28 08:35:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 345.29 Mbit/s
95th percentile per-packet one-way delay: 364.664 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 345.29 Mbit/s
95th percentile per-packet one-way delay: 364.664 ms
Loss rate: 1.34%
```
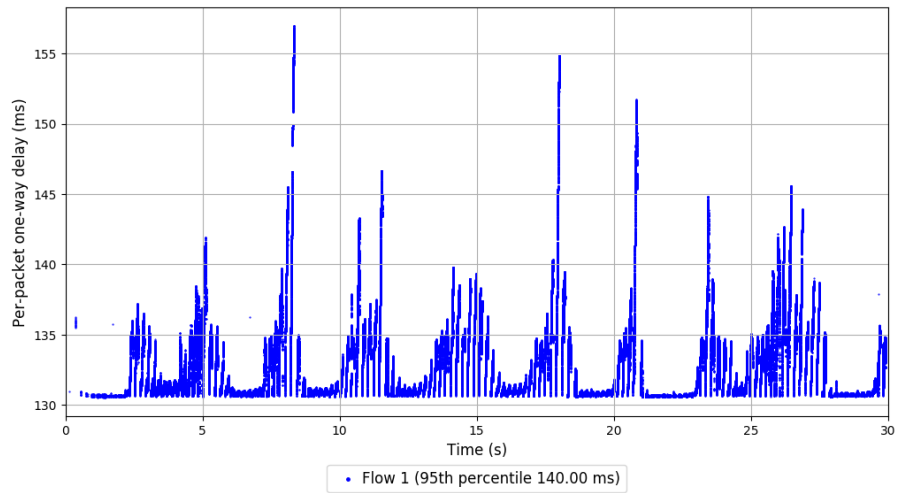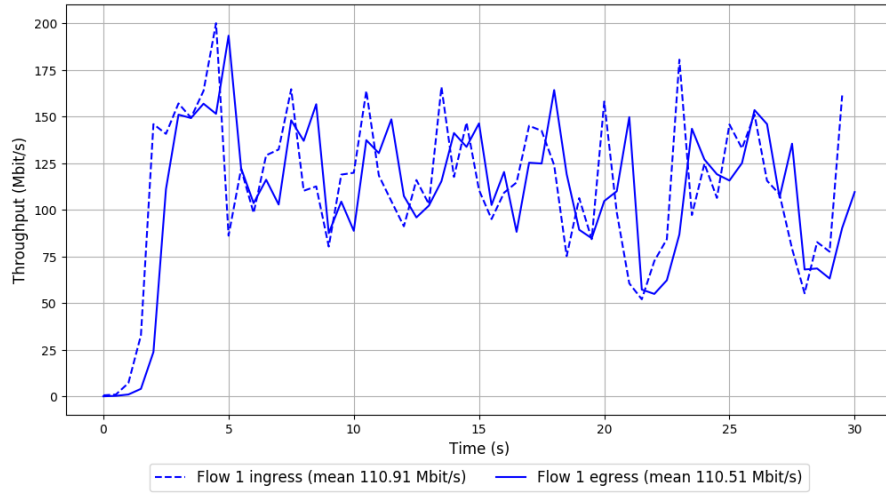
Run 5: Report of TCP BBR — Data Link

```
Run 1: Statistics of Copa

Start at: 2019-06-28 06:19:17
End at: 2019-06-28 06:19:47
Local clock offset: -1.371 ms
Remote clock offset: -37.284 ms


# Below is generated by plot.py at 2019-06-28 08:35:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 173.01 Mbit/s
95th percentile per-packet one-way delay: 135.693 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 173.01 Mbit/s
95th percentile per-packet one-way delay: 135.693 ms
Loss rate: 0.71%
```
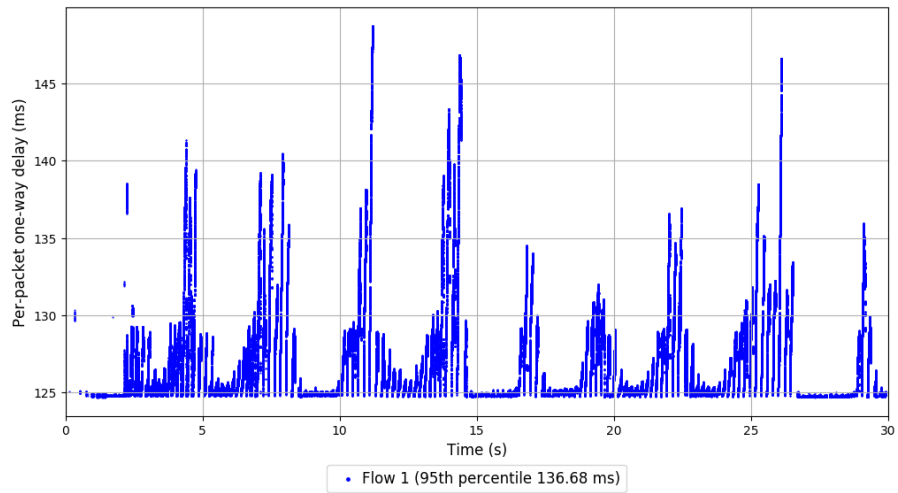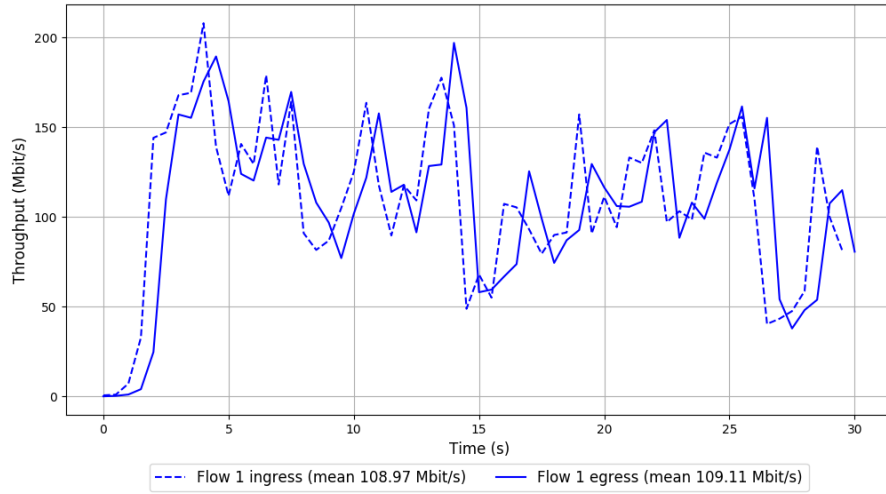
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2019-06-28 06:49:13
End at: 2019-06-28 06:49:43
Local clock offset: -0.817 ms
Remote clock offset: -34.633 ms


# Below is generated by plot.py at 2019-06-28 08:35:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 110.51 Mbit/s
95th percentile per-packet one-way delay: 139.998 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 110.51 Mbit/s
95th percentile per-packet one-way delay: 139.998 ms
Loss rate: 1.02%
```
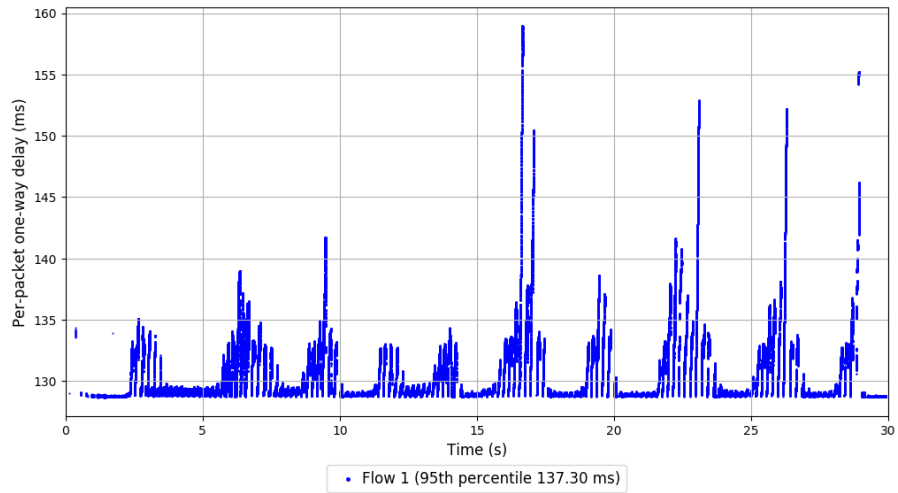
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2019-06-28 07:18:55
End at: 2019-06-28 07:19:25
Local clock offset: -0.786 ms
Remote clock offset: -29.573 ms


# Below is generated by plot.py at 2019-06-28 08:35:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 109.11 Mbit/s
95th percentile per-packet one-way delay: 136.679 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 109.11 Mbit/s
95th percentile per-packet one-way delay: 136.679 ms
Loss rate: 0.53%
```
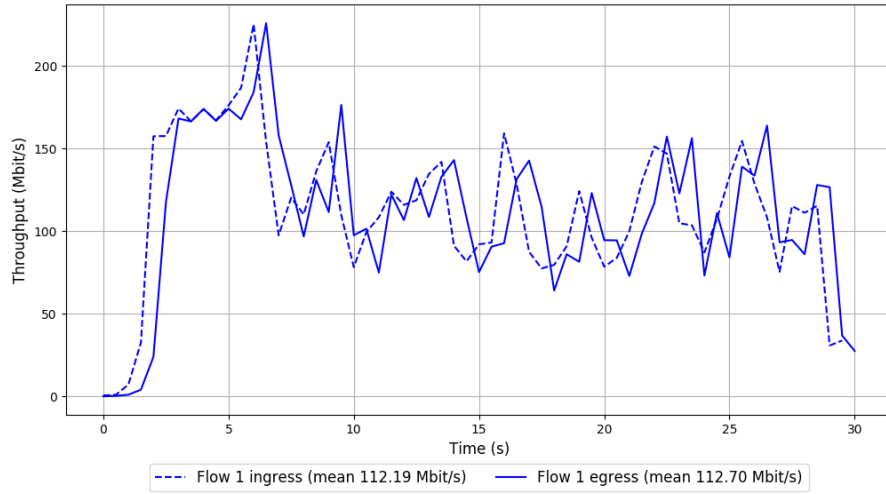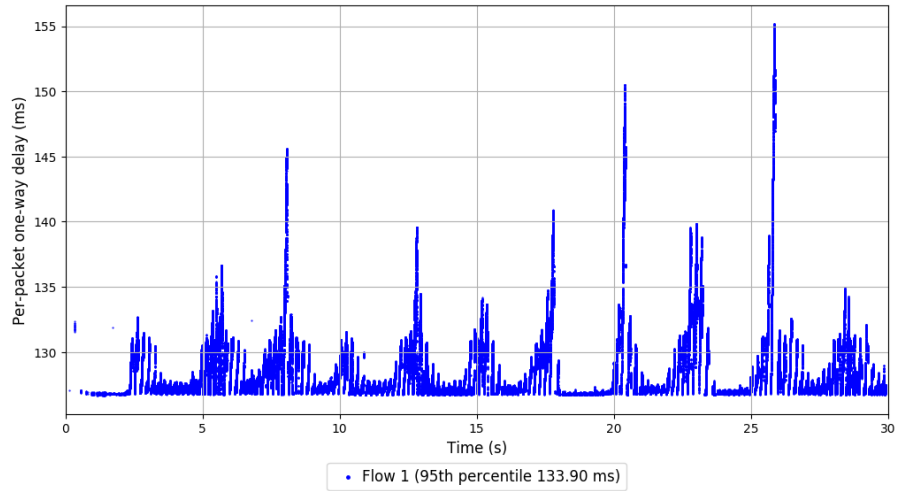
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2019-06-28 07:48:27
End at: 2019-06-28 07:48:57
Local clock offset: -0.781 ms
Remote clock offset: -33.461 ms


# Below is generated by plot.py at 2019-06-28 08:36:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 112.70 Mbit/s
95th percentile per-packet one-way delay: 137.298 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 112.70 Mbit/s
95th percentile per-packet one-way delay: 137.298 ms
Loss rate: 0.20%
```
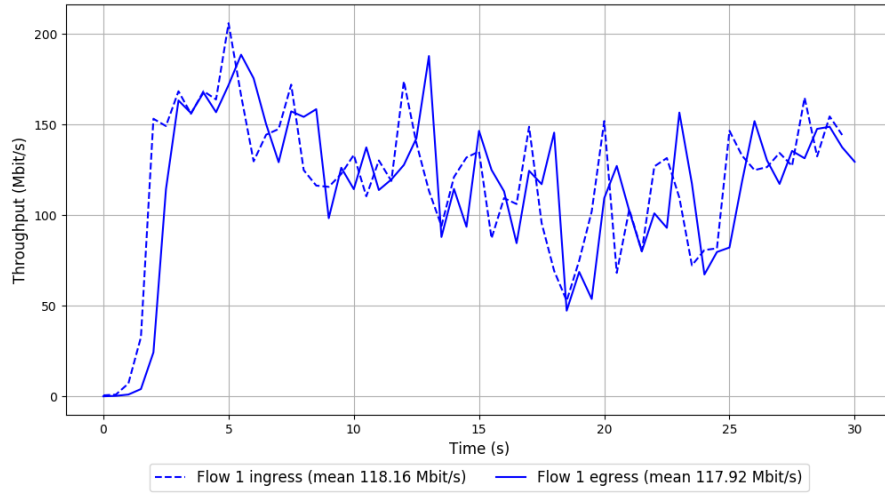
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2019-06-28 08:18:20
End at: 2019-06-28 08:18:50
Local clock offset: -1.072 ms
Remote clock offset: -32.787 ms


# Below is generated by plot.py at 2019-06-28 08:36:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 117.92 Mbit/s
95th percentile per-packet one-way delay: 133.901 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 117.92 Mbit/s
95th percentile per-packet one-way delay: 133.901 ms
Loss rate: 0.86%
```
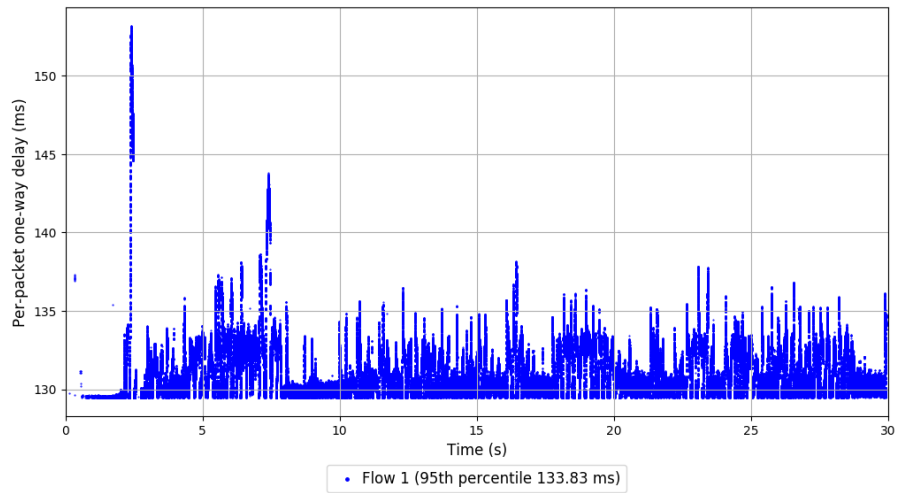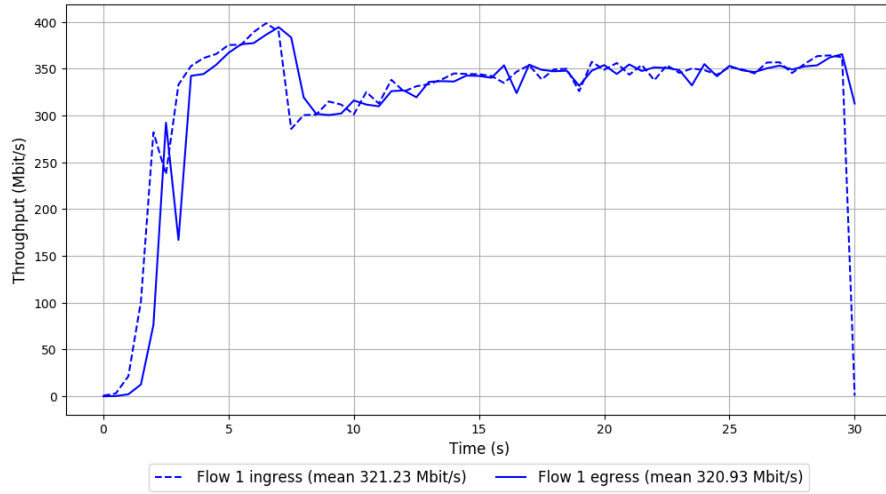
Run 5: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2019-06-28 06:13:36
End at: 2019-06-28 06:14:06
Local clock offset: -0.398 ms
Remote clock offset: -33.633 ms


# Below is generated by plot.py at 2019-06-28 08:38:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 320.93 Mbit/s
95th percentile per-packet one-way delay: 133.831 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 320.93 Mbit/s
95th percentile per-packet one-way delay: 133.831 ms
Loss rate: 0.75%
```

Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2019-06-28 06:43:30
End at: 2019-06-28 06:44:00
Local clock offset: -0.128 ms
Remote clock offset: -32.975 ms


# Below is generated by plot.py at 2019-06-28 08:39:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 355.64 Mbit/s
95th percentile per-packet one-way delay: 137.761 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 355.64 Mbit/s
95th percentile per-packet one-way delay: 137.761 ms
Loss rate: 0.73%
```
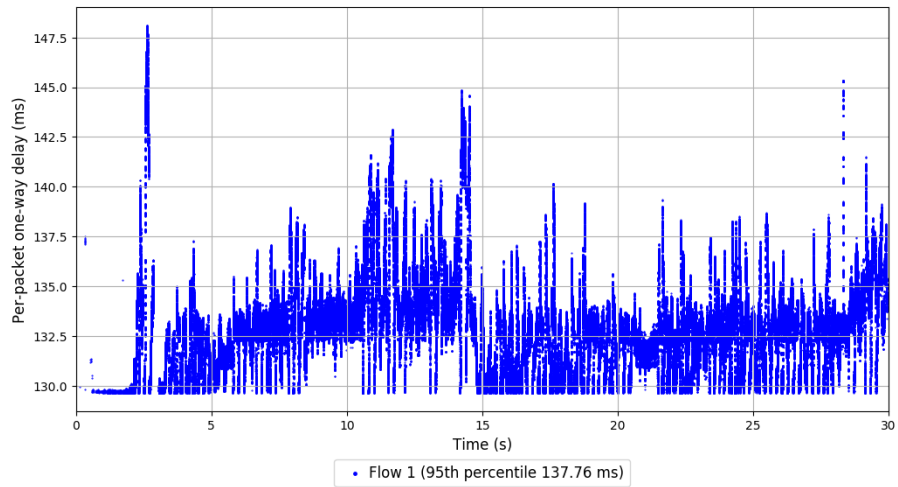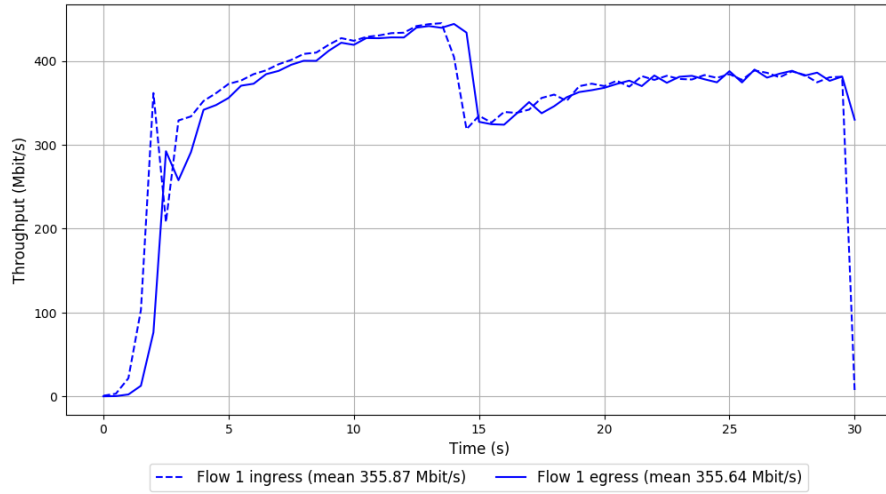
# Run 2: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 355.87 Mbit/s)    Flow 1 egress (mean 355.64 Mbit/s)
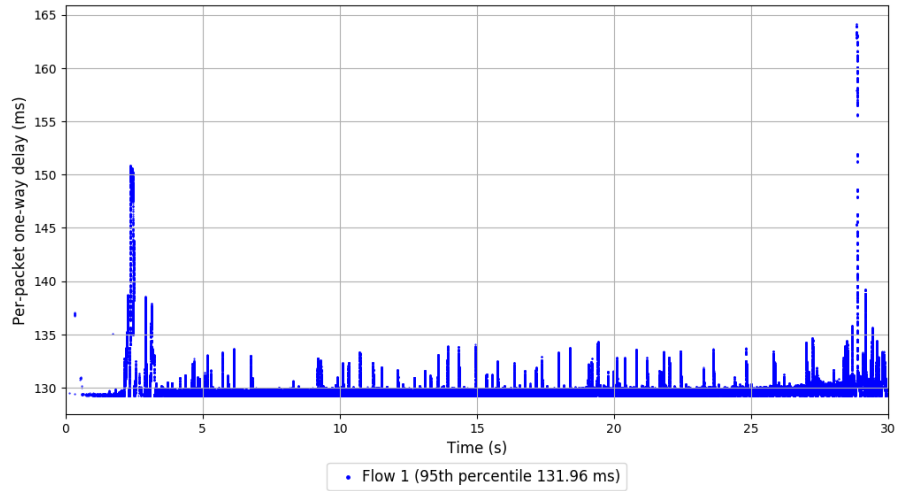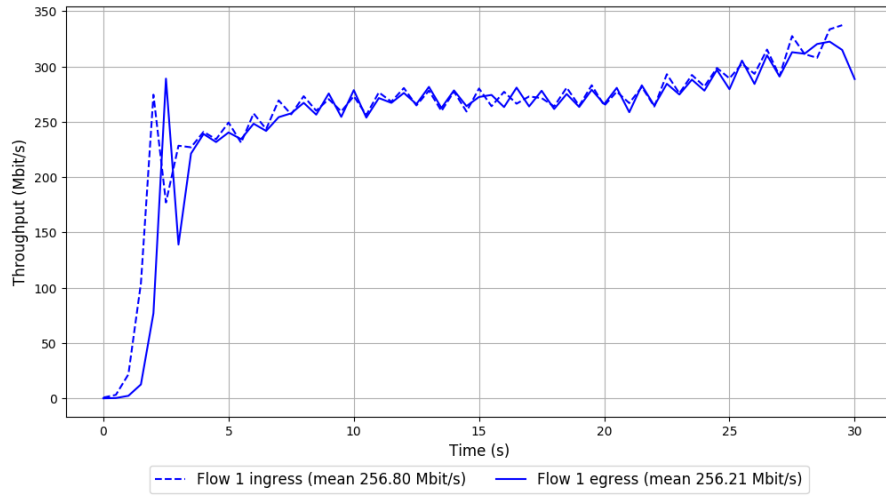


Flow 1 (95th percentile 137.76 ms)

```
Run 3: Statistics of TCP Cubic

Start at: 2019-06-28 07:13:18
End at: 2019-06-28 07:13:48
Local clock offset: 0.323 ms
Remote clock offset: -32.818 ms


# Below is generated by plot.py at 2019-06-28 08:39:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 256.21 Mbit/s
95th percentile per-packet one-way delay: 131.956 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 256.21 Mbit/s
95th percentile per-packet one-way delay: 131.956 ms
Loss rate: 0.88%
```

# Run 3: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 256.80 Mbit/s)   Flow 1 egress (mean 256.21 Mbit/s)
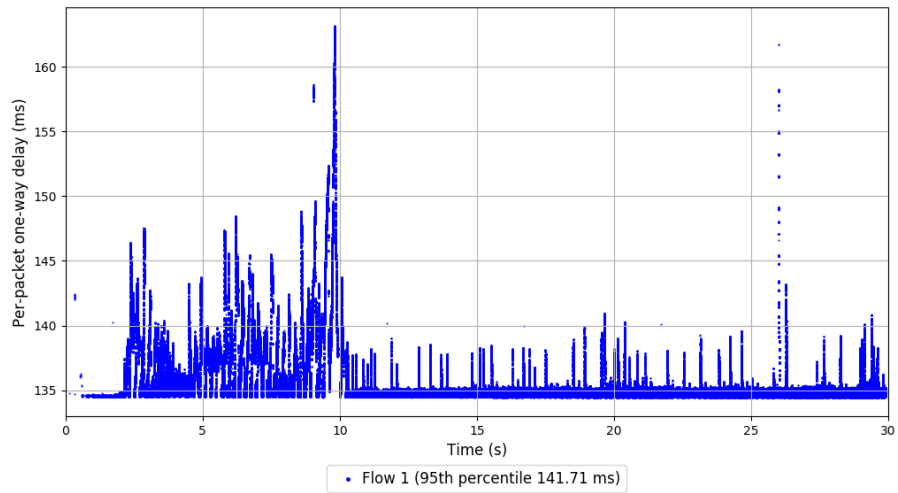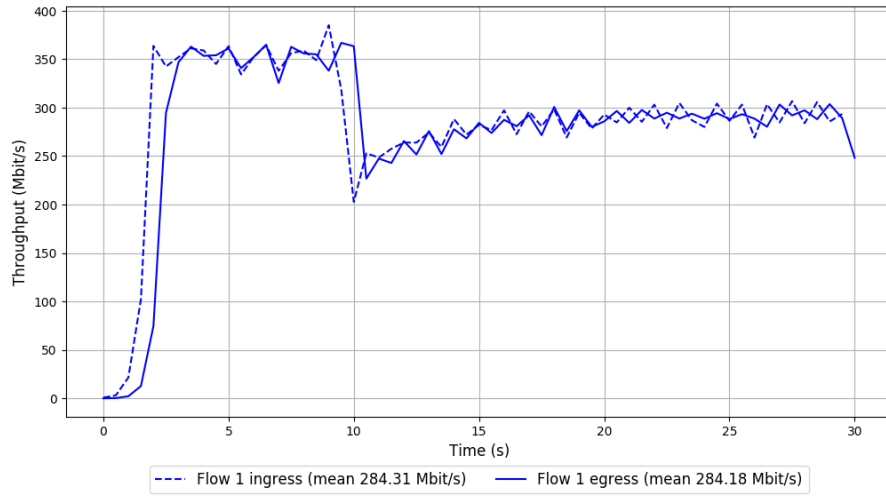


Flow 1 (95th percentile 131.96 ms)

```
Run 4: Statistics of TCP Cubic

Start at: 2019-06-28 07:42:47
End at: 2019-06-28 07:43:17
Local clock offset: -0.175 ms
Remote clock offset: -38.063 ms


# Below is generated by plot.py at 2019-06-28 08:39:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 284.18 Mbit/s
95th percentile per-packet one-way delay: 141.707 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 284.18 Mbit/s
95th percentile per-packet one-way delay: 141.707 ms
Loss rate: 0.70%
```
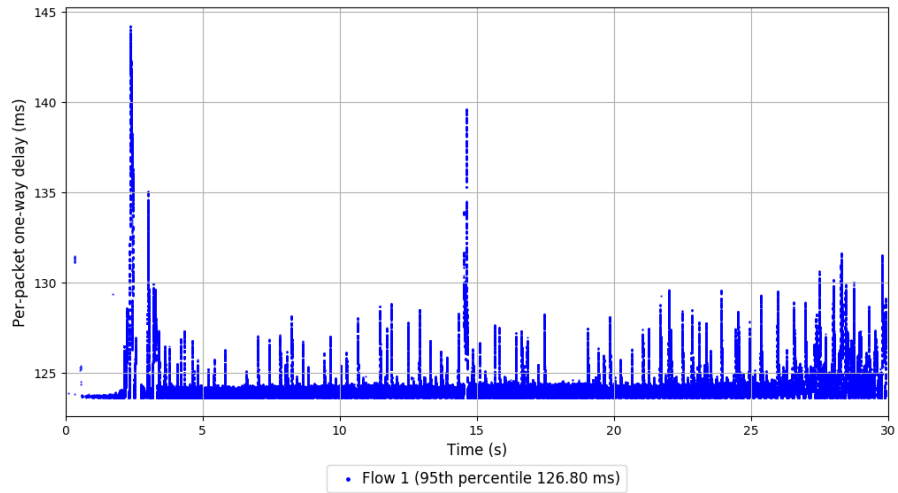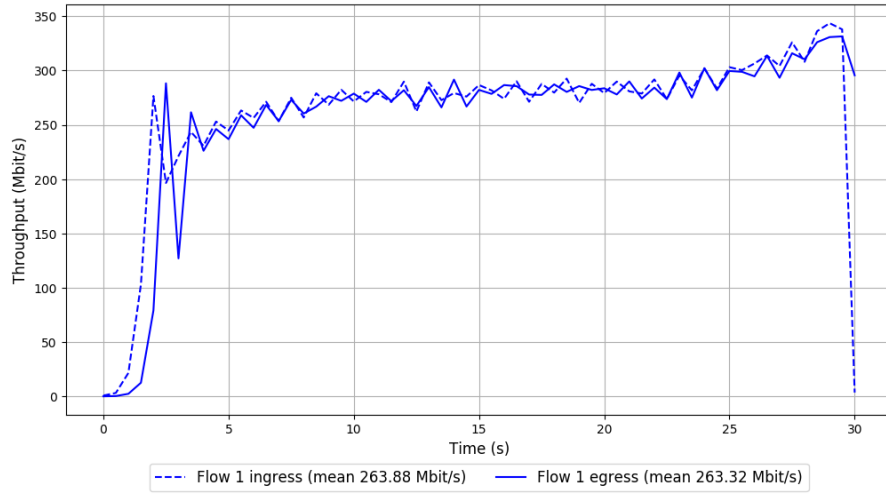
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2019-06-28 08:12:40
End at: 2019-06-28 08:13:10
Local clock offset: -0.234 ms
Remote clock offset: -28.662 ms


# Below is generated by plot.py at 2019-06-28 08:39:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 263.32 Mbit/s
95th percentile per-packet one-way delay: 126.802 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 263.32 Mbit/s
95th percentile per-packet one-way delay: 126.802 ms
Loss rate: 0.87%
```

Run 5: Report of TCP Cubic — Data Link



Flow 1 ingress (mean 263.88 Mbit/s) — Flow 1 egress (mean 263.32 Mbit/s)
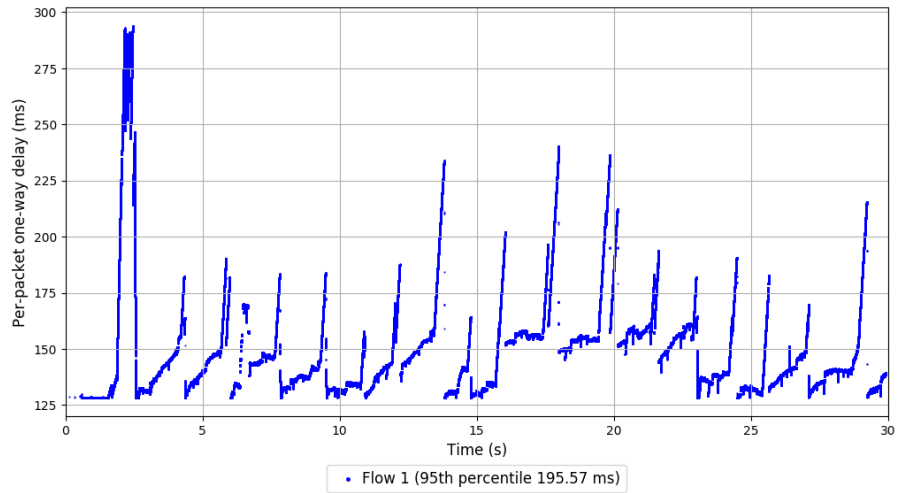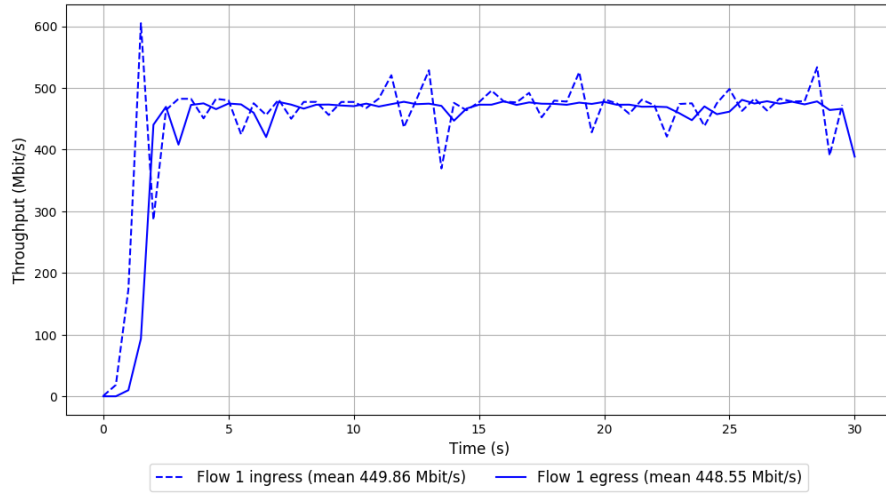


• Flow 1 (95th percentile 126.80 ms)

```
Run 1: Statistics of FillP

Start at: 2019-06-28 06:26:53
End at: 2019-06-28 06:27:23
Local clock offset: -0.575 ms
Remote clock offset: -32.478 ms


# Below is generated by plot.py at 2019-06-28 08:41:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 448.55 Mbit/s
95th percentile per-packet one-way delay: 195.567 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 448.55 Mbit/s
95th percentile per-packet one-way delay: 195.567 ms
Loss rate: 0.95%
```

# Run 1: Report of FillP — Data Link



Flow 1 ingress (mean 449.86 Mbit/s)    Flow 1 egress (mean 448.55 Mbit/s)


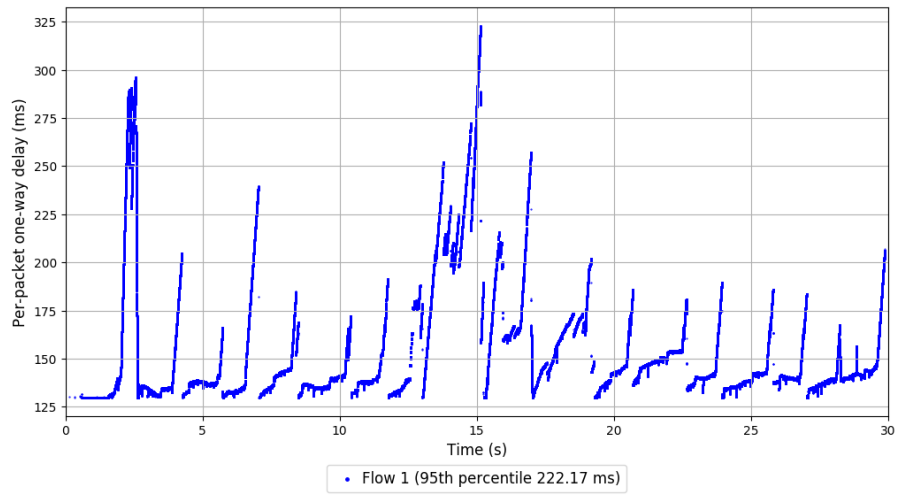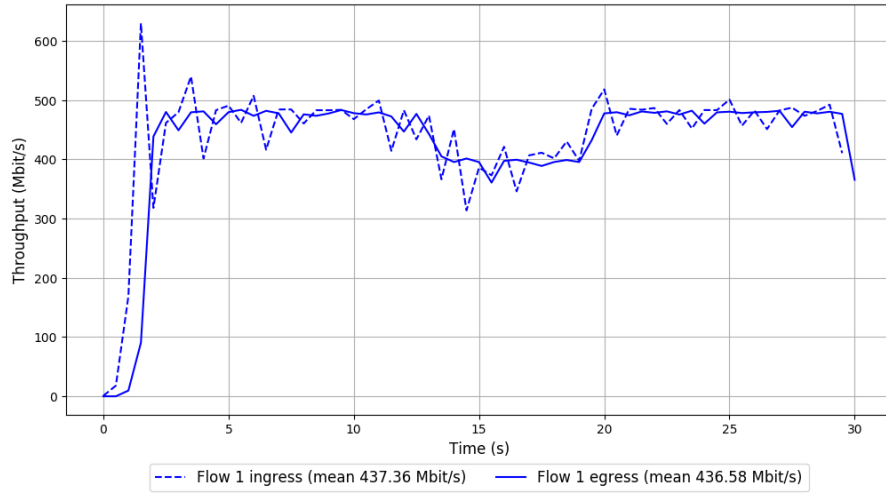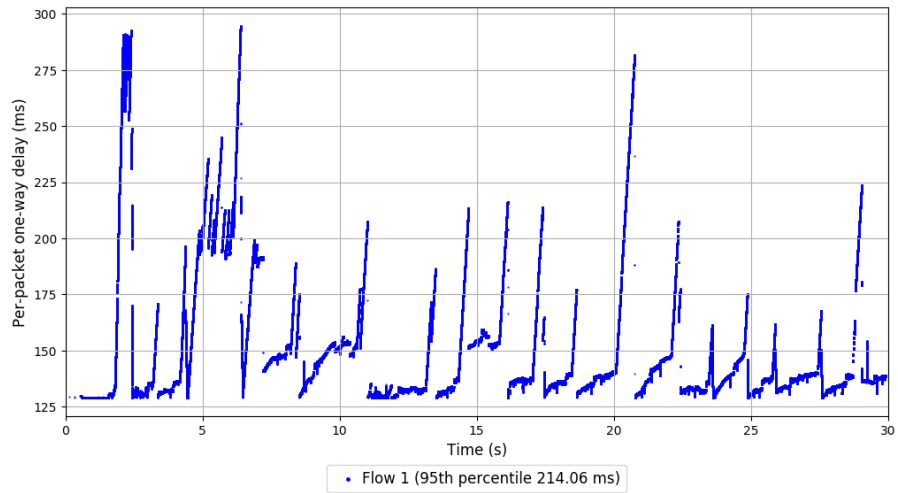
Flow 1 (95th percentile 195.57 ms)

```
Run 2: Statistics of FillP

Start at: 2019-06-28 06:56:45
End at: 2019-06-28 06:57:15
Local clock offset: -1.032 ms
Remote clock offset: -34.176 ms


# Below is generated by plot.py at 2019-06-28 08:41:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 436.58 Mbit/s
95th percentile per-packet one-way delay: 222.172 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 436.58 Mbit/s
95th percentile per-packet one-way delay: 222.172 ms
Loss rate: 0.84%
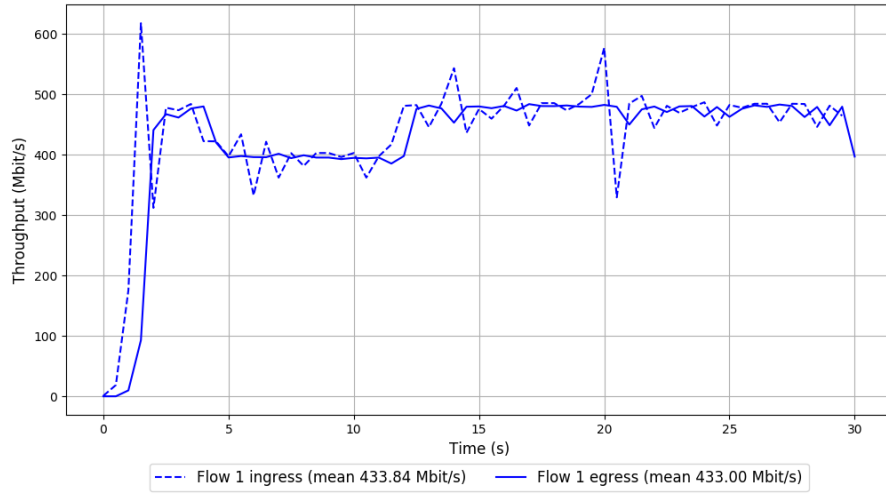```

Run 2: Report of FillP — Data Link

```
Run 3: Statistics of FillP

Start at: 2019-06-28 07:26:28
End at: 2019-06-28 07:26:58
Local clock offset: -0.203 ms
Remote clock offset: -33.703 ms


# Below is generated by plot.py at 2019-06-28 08:42:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 433.00 Mbit/s
95th percentile per-packet one-way delay: 214.057 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 433.00 Mbit/s
95th percentile per-packet one-way delay: 214.057 ms
Loss rate: 0.85%
```

# Run 3: Report of FillP — Data Link



Flow 1 ingress (mean 433.84 Mbit/s)    Flow 1 egress (mean 433.00 Mbit/s)


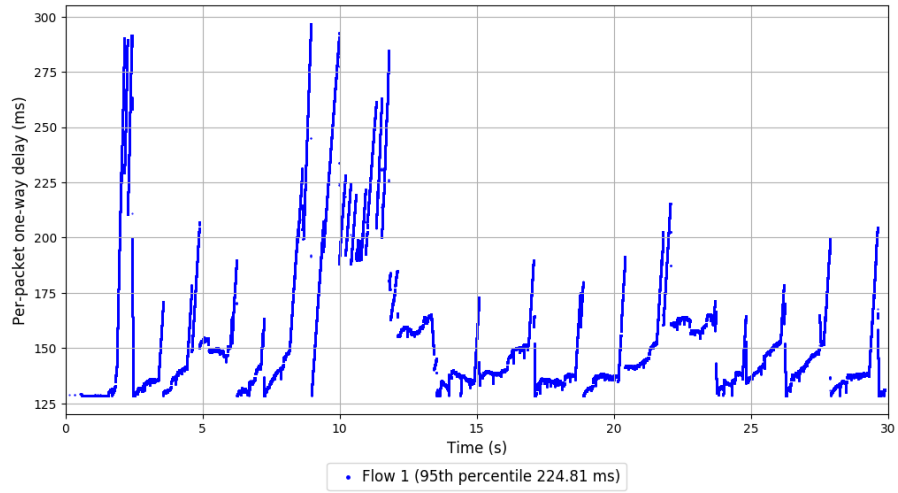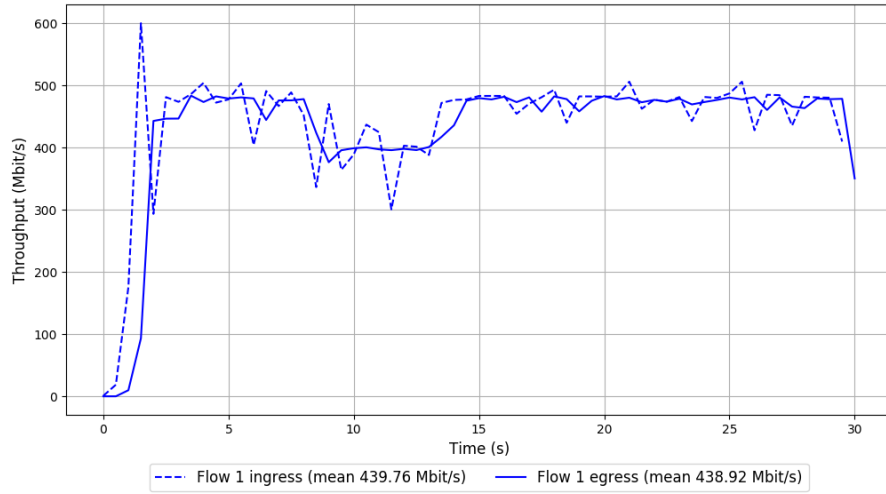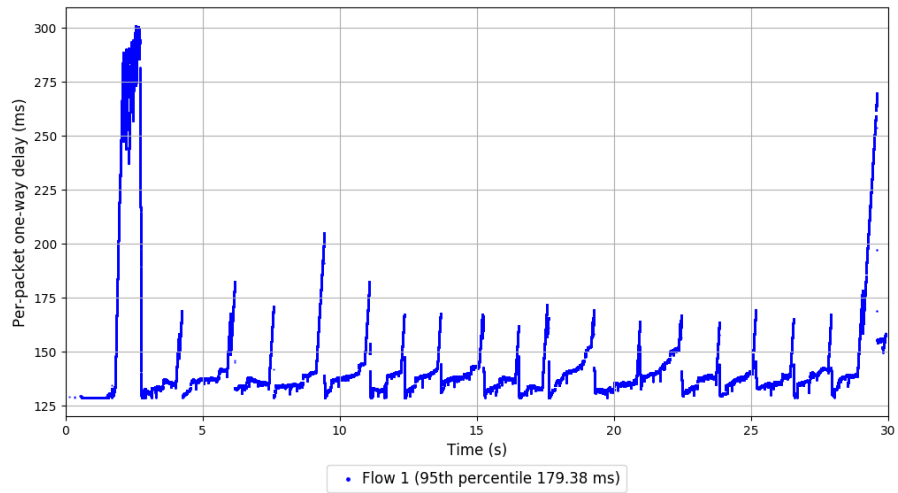
Flow 1 (95th percentile 214.06 ms)

```
Run 4: Statistics of FillP

Start at: 2019-06-28 07:56:07
End at: 2019-06-28 07:56:37
Local clock offset: -0.697 ms
Remote clock offset: -35.045 ms


# Below is generated by plot.py at 2019-06-28 08:44:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 438.92 Mbit/s
95th percentile per-packet one-way delay: 224.811 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 438.92 Mbit/s
95th percentile per-packet one-way delay: 224.811 ms
Loss rate: 0.86%
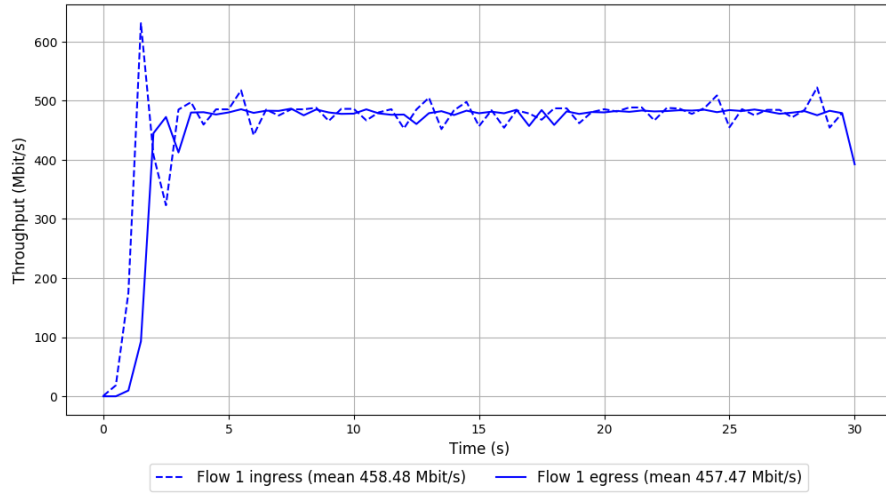```

Run 4: Report of FillP — Data Link

```
Run 5: Statistics of FillP

Start at: 2019-06-28 08:25:58
End at: 2019-06-28 08:26:28
Local clock offset: -0.738 ms
Remote clock offset: -34.964 ms


# Below is generated by plot.py at 2019-06-28 08:44:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 457.47 Mbit/s
95th percentile per-packet one-way delay: 179.377 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 457.47 Mbit/s
95th percentile per-packet one-way delay: 179.377 ms
Loss rate: 0.88%
```
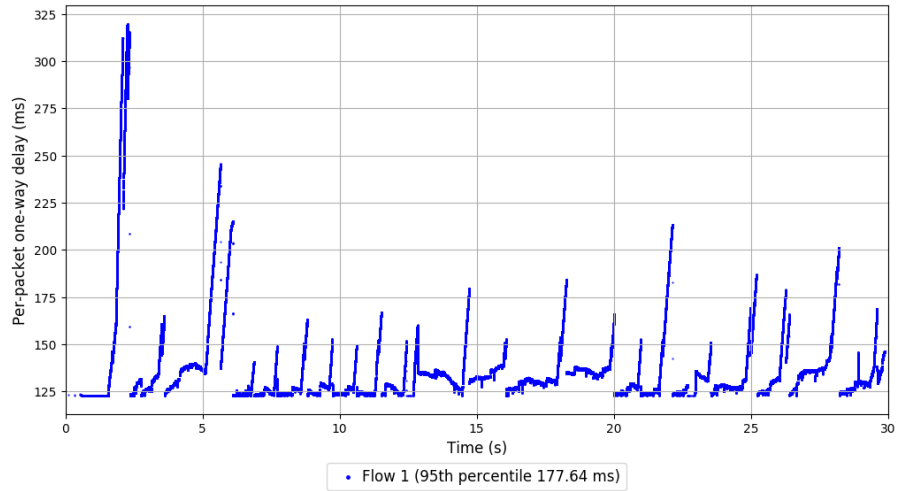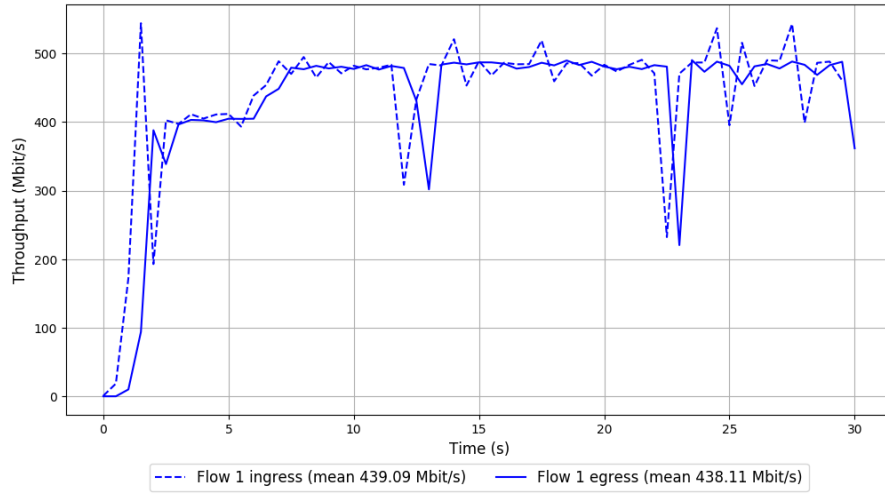
## Run 5: Report of FillP — Data Link



Flow 1 ingress (mean 458.48 Mbit/s)    Flow 1 egress (mean 457.47 Mbit/s)
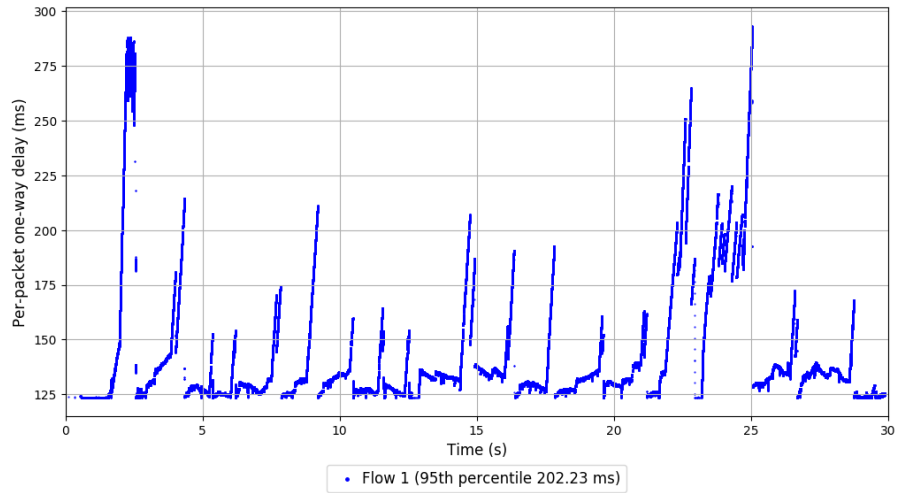


Flow 1 (95th percentile 179.38 ms)

```
Run 1: Statistics of FillP-Sheep

Start at: 2019-06-28 06:05:23
End at: 2019-06-28 06:05:53
Local clock offset: -0.901 ms
Remote clock offset: -27.725 ms


# Below is generated by plot.py at 2019-06-28 08:44:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 438.11 Mbit/s
95th percentile per-packet one-way delay: 177.640 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 438.11 Mbit/s
95th percentile per-packet one-way delay: 177.640 ms
Loss rate: 0.89%
```
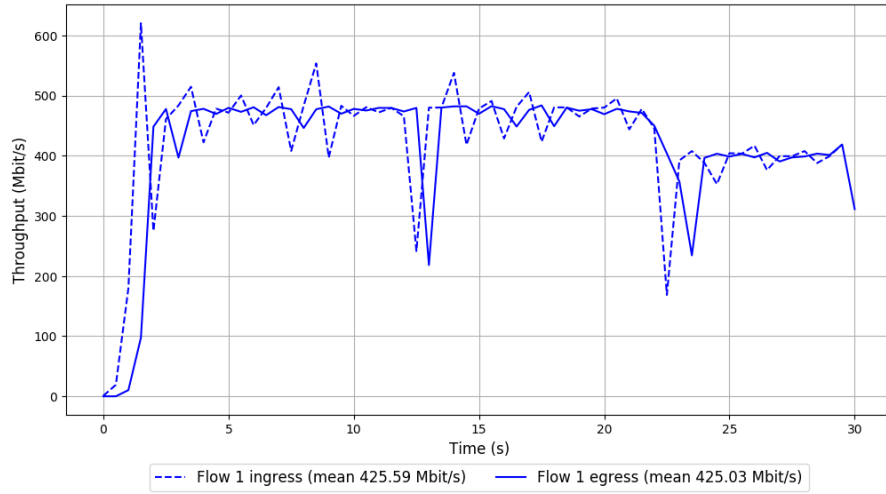
Run 1: Report of FillP-Sheep — Data Link

```
Run 2: Statistics of FillP-Sheep

Start at: 2019-06-28 06:35:12
End at: 2019-06-28 06:35:42
Local clock offset: 0.254 ms
Remote clock offset: -26.432 ms


# Below is generated by plot.py at 2019-06-28 08:44:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 425.03 Mbit/s
95th percentile per-packet one-way delay: 202.229 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 425.03 Mbit/s
95th percentile per-packet one-way delay: 202.229 ms
Loss rate: 0.79%
```

Run 2: Report of FillP-Sheep — Data Link

```
Run 3: Statistics of FillP-Sheep

Start at: 2019-06-28 07:05:05
End at: 2019-06-28 07:05:35
Local clock offset: -0.063 ms
Remote clock offset: -37.169 ms


# Below is generated by plot.py at 2019-06-28 08:45:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 436.19 Mbit/s
95th percentile per-packet one-way delay: 203.141 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 436.19 Mbit/s
95th percentile per-packet one-way delay: 203.141 ms
Loss rate: 0.82%
```
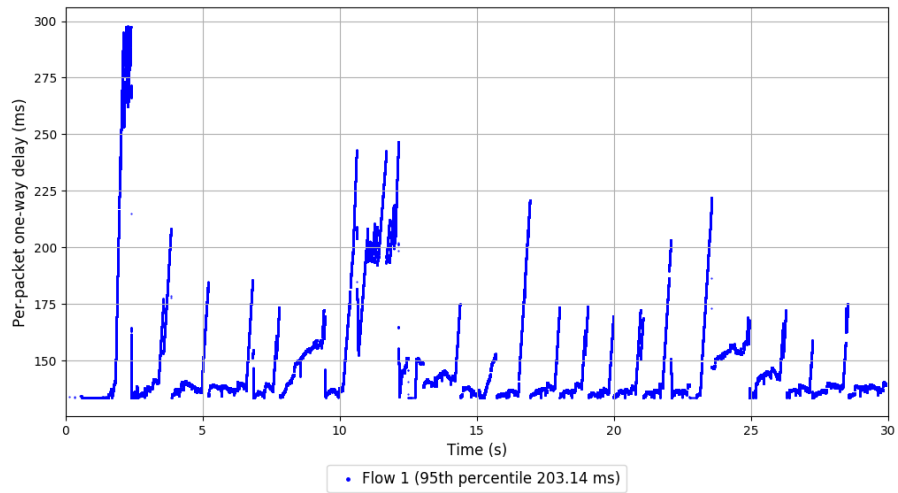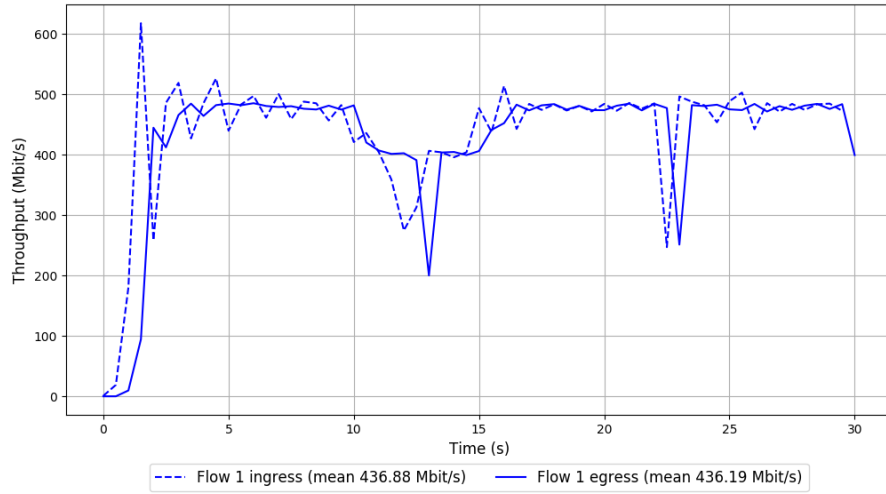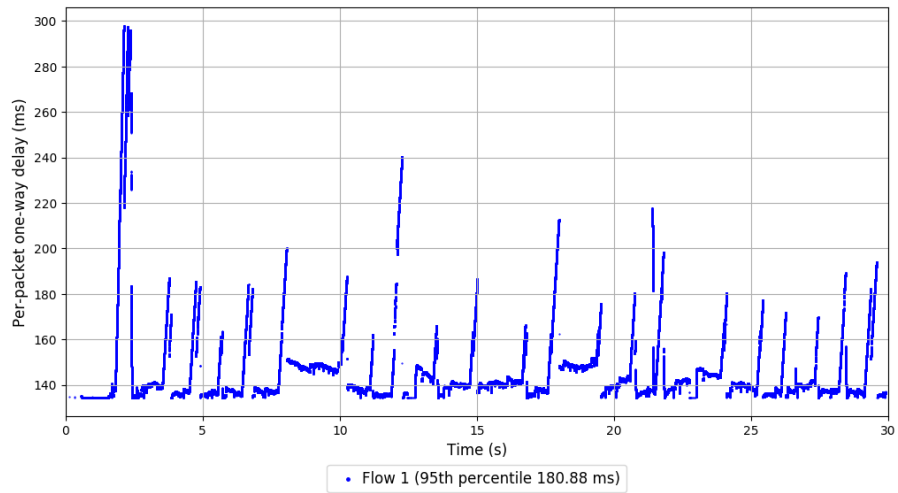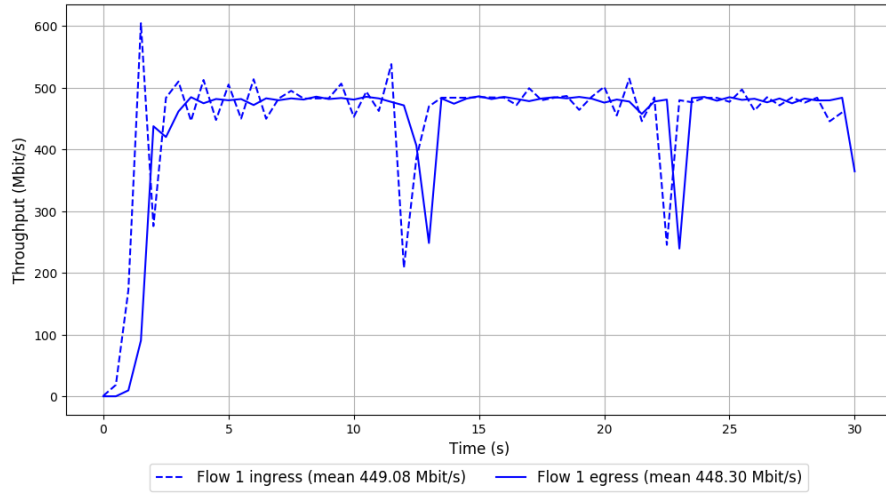
# Run 3: Report of FillP-Sheep — Data Link



Flow 1 ingress (mean 436.88 Mbit/s) --- Flow 1 egress (mean 436.19 Mbit/s)



Flow 1 (95th percentile 203.14 ms)

```
Run 4: Statistics of FillP-Sheep

Start at: 2019-06-28 07:34:44
End at: 2019-06-28 07:35:14
Local clock offset: 0.244 ms
Remote clock offset: -36.927 ms


# Below is generated by plot.py at 2019-06-28 08:47:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 448.30 Mbit/s
95th percentile per-packet one-way delay: 180.877 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 448.30 Mbit/s
95th percentile per-packet one-way delay: 180.877 ms
Loss rate: 0.83%
```
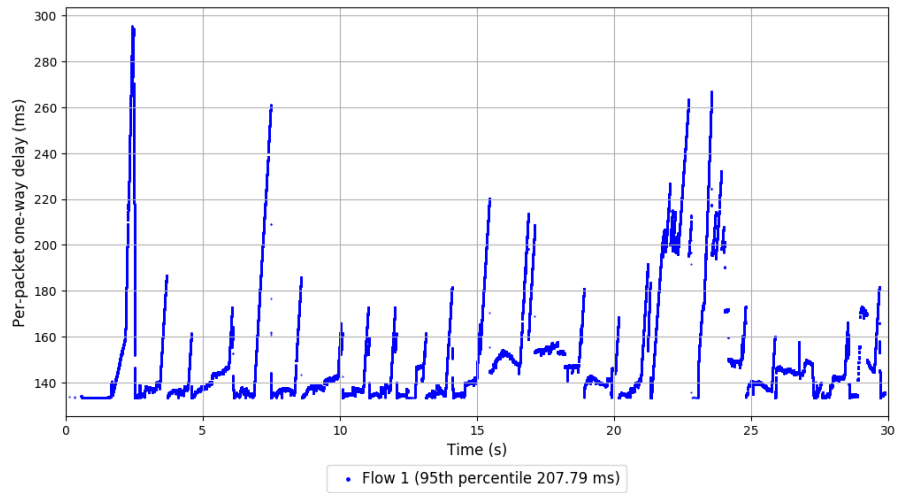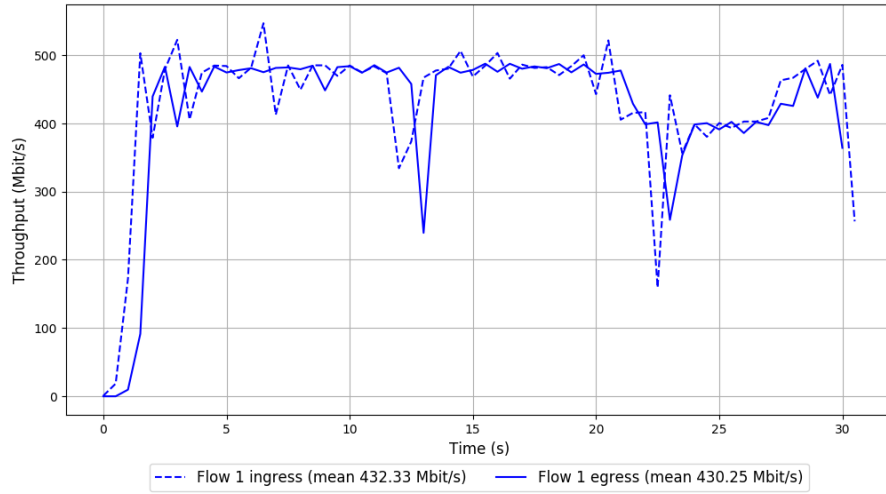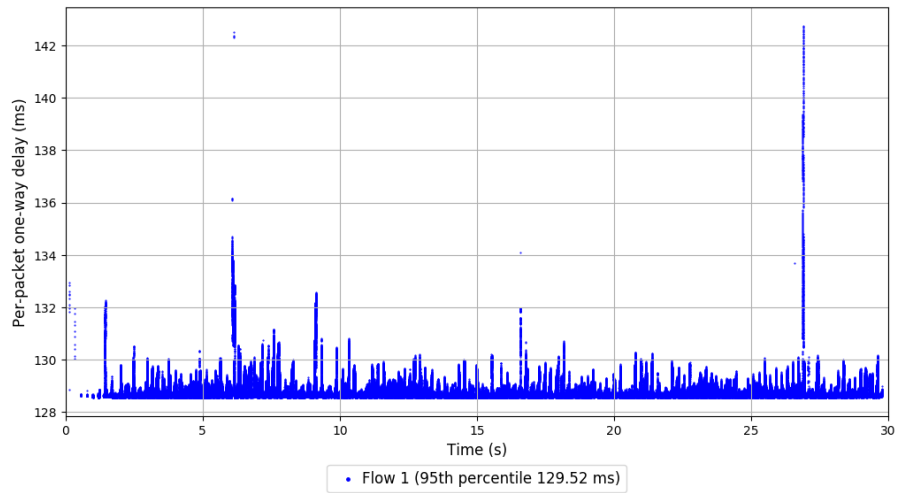
## Run 4: Report of FillP-Sheep — Data Link



Flow 1 ingress (mean 449.08 Mbit/s) --- Flow 1 egress (mean 448.30 Mbit/s)



• Flow 1 (95th percentile 180.88 ms)

```
Run 5: Statistics of FillP-Sheep

Start at: 2019-06-28 08:04:26
End at: 2019-06-28 08:04:56
Local clock offset: -1.016 ms
Remote clock offset: -39.607 ms


# Below is generated by plot.py at 2019-06-28 08:48:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 430.25 Mbit/s
95th percentile per-packet one-way delay: 207.790 ms
Loss rate: 3.78%
-- Flow 1:
Average throughput: 430.25 Mbit/s
95th percentile per-packet one-way delay: 207.790 ms
Loss rate: 3.78%
```

# Run 5: Report of FillP-Sheep — Data Link

```
Run 1: Statistics of Indigo

Start at: 2019-06-28 06:10:54
End at: 2019-06-28 06:11:24
Local clock offset: -1.12 ms
Remote clock offset: -33.423 ms


# Below is generated by plot.py at 2019-06-28 08:48:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 131.65 Mbit/s
95th percentile per-packet one-way delay: 129.519 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 131.65 Mbit/s
95th percentile per-packet one-way delay: 129.519 ms
Loss rate: 0.72%
```
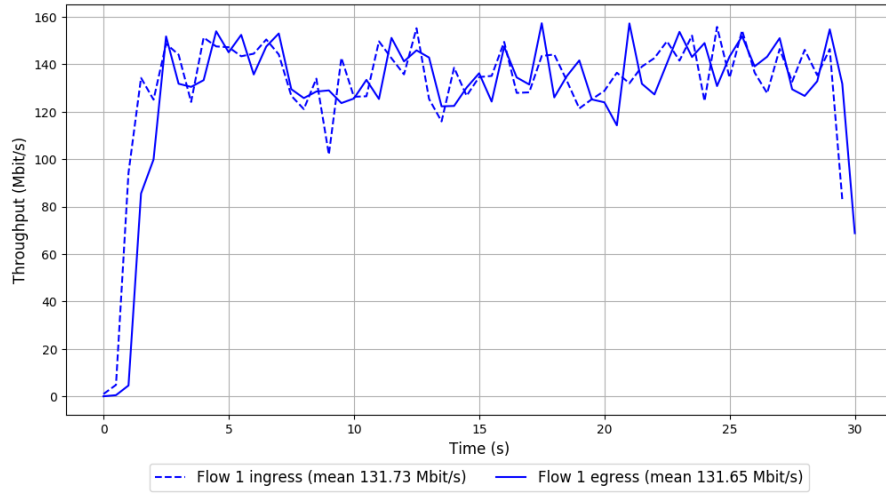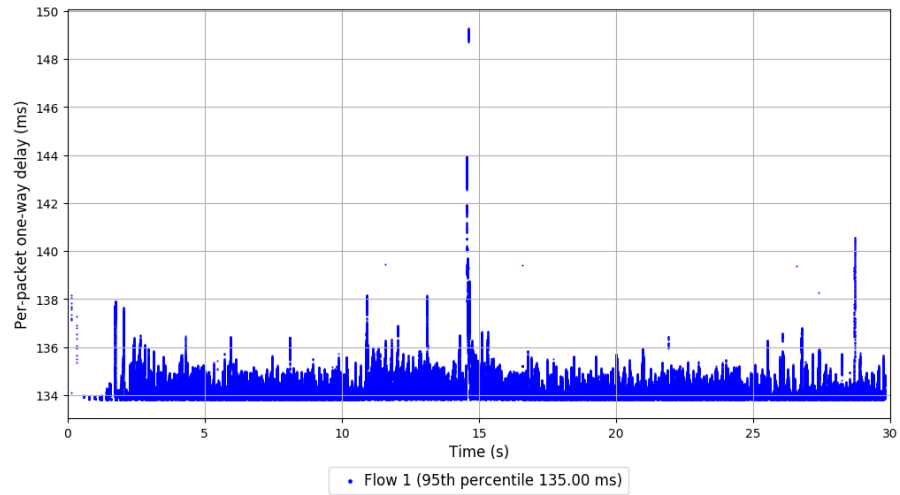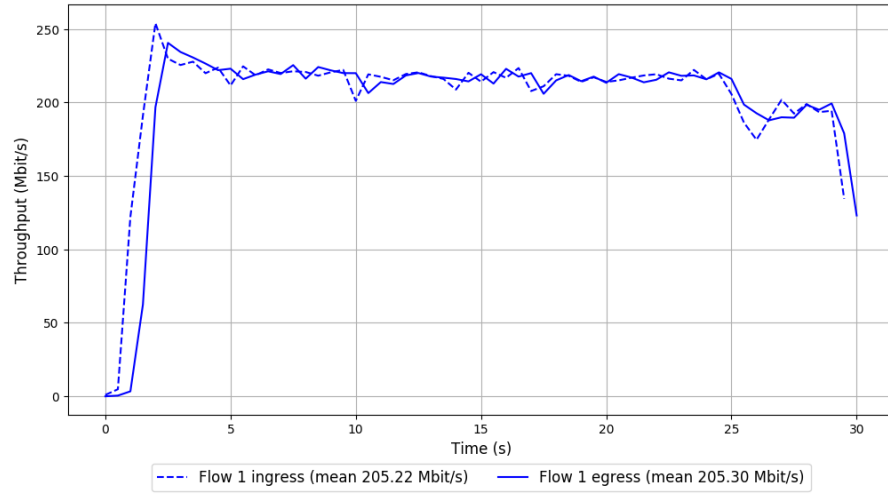
Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2019-06-28 06:40:44
End at: 2019-06-28 06:41:14
Local clock offset: 0.057 ms
Remote clock offset: -36.886 ms


# Below is generated by plot.py at 2019-06-28 08:48:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 205.30 Mbit/s
95th percentile per-packet one-way delay: 135.005 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 205.30 Mbit/s
95th percentile per-packet one-way delay: 135.005 ms
Loss rate: 0.62%
```

Run 2: Report of Indigo — Data Link



Flow 1 ingress (mean 205.22 Mbit/s)        Flow 1 egress (mean 205.30 Mbit/s)
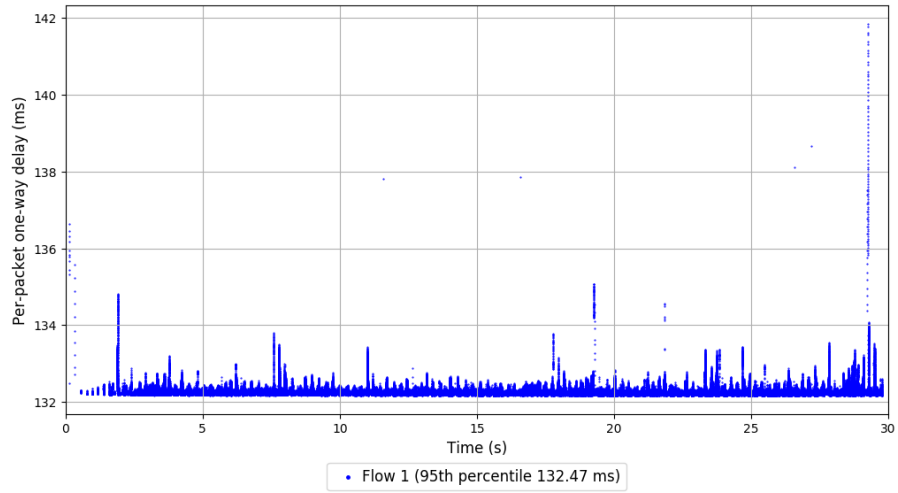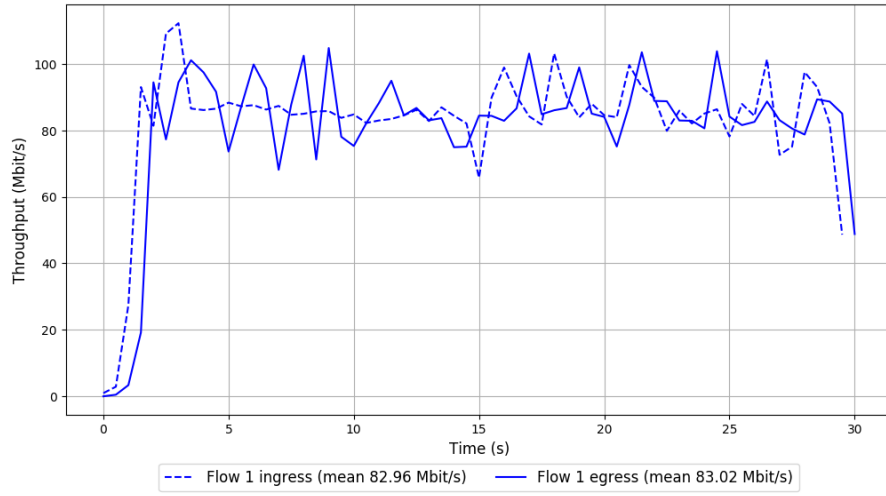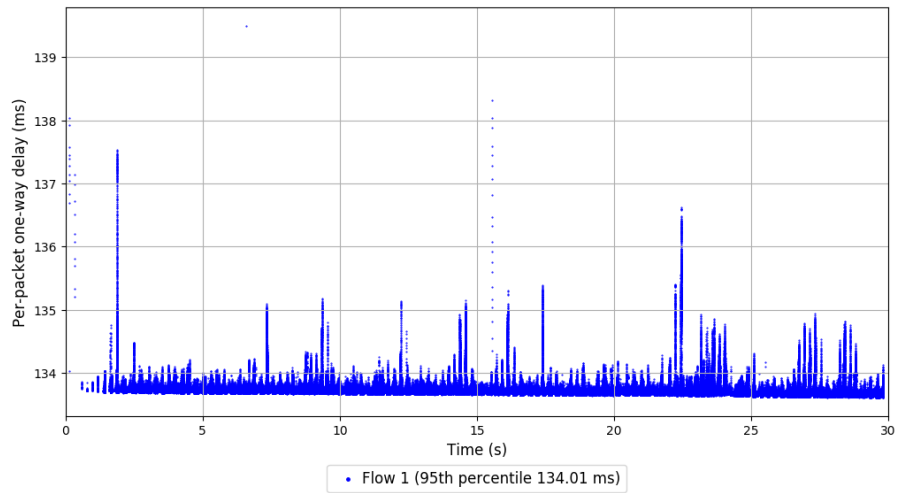


Flow 1 (95th percentile 135.00 ms)

```
Run 3: Statistics of Indigo

Start at: 2019-06-28 07:10:38
End at: 2019-06-28 07:11:08
Local clock offset: -1.773 ms
Remote clock offset: -37.668 ms


# Below is generated by plot.py at 2019-06-28 08:48:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.02 Mbit/s
95th percentile per-packet one-way delay: 132.469 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 83.02 Mbit/s
95th percentile per-packet one-way delay: 132.469 ms
Loss rate: 0.60%
```
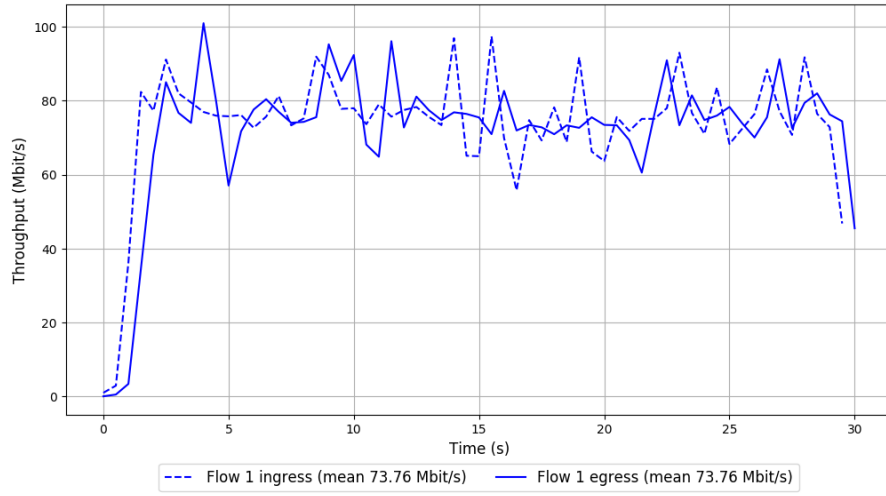
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2019-06-28 07:40:14
End at: 2019-06-28 07:40:44
Local clock offset: -0.378 ms
Remote clock offset: -37.076 ms


# Below is generated by plot.py at 2019-06-28 08:48:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.76 Mbit/s
95th percentile per-packet one-way delay: 134.012 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 73.76 Mbit/s
95th percentile per-packet one-way delay: 134.012 ms
Loss rate: 0.66%
```
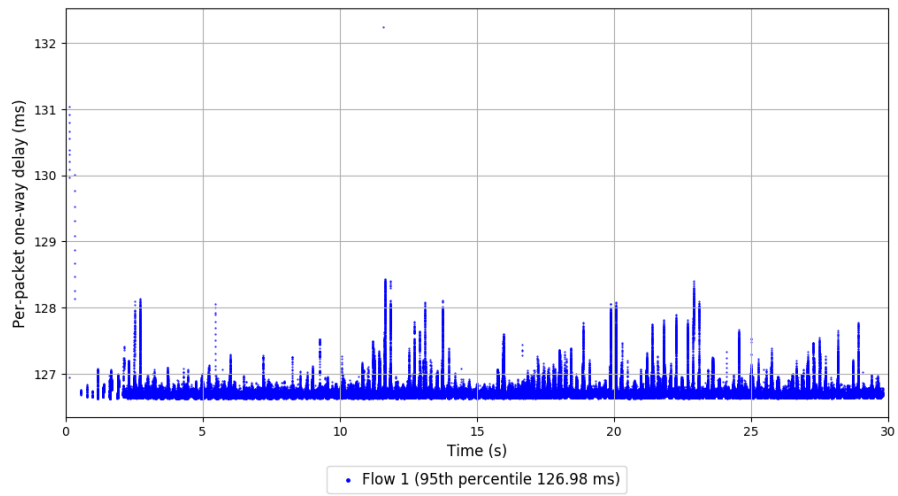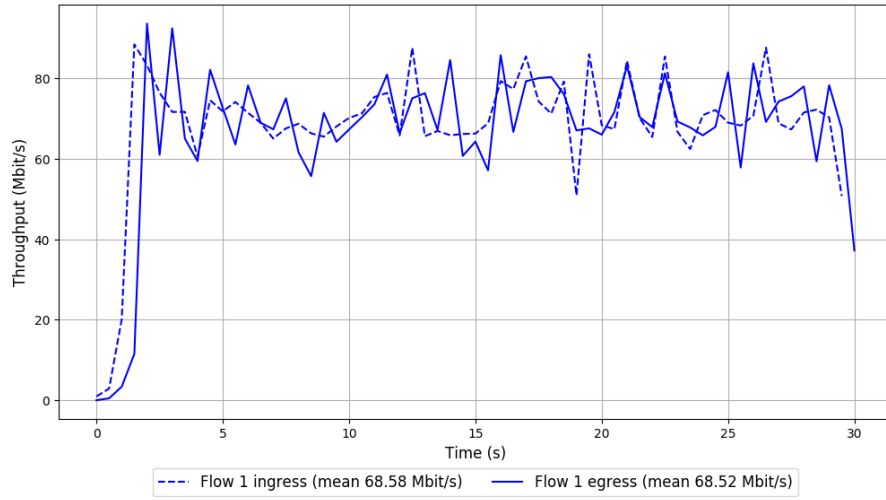
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2019-06-28 08:10:02
End at: 2019-06-28 08:10:32
Local clock offset: -16.474 ms
Remote clock offset: -47.85 ms


# Below is generated by plot.py at 2019-06-28 08:48:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.52 Mbit/s
95th percentile per-packet one-way delay: 126.985 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 68.52 Mbit/s
95th percentile per-packet one-way delay: 126.985 ms
Loss rate: 0.74%
```

Run 5: Report of Indigo — Data Link



Flow 1 ingress (mean 68.58 Mbit/s)    Flow 1 egress (mean 68.52 Mbit/s)



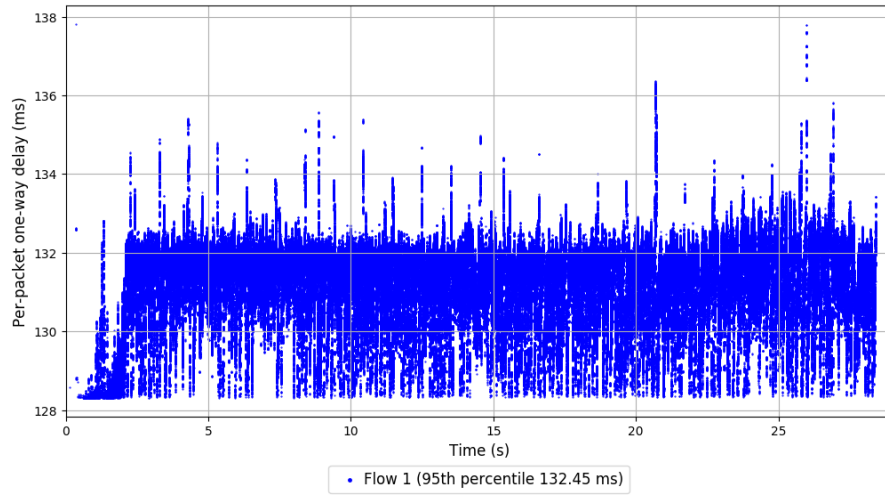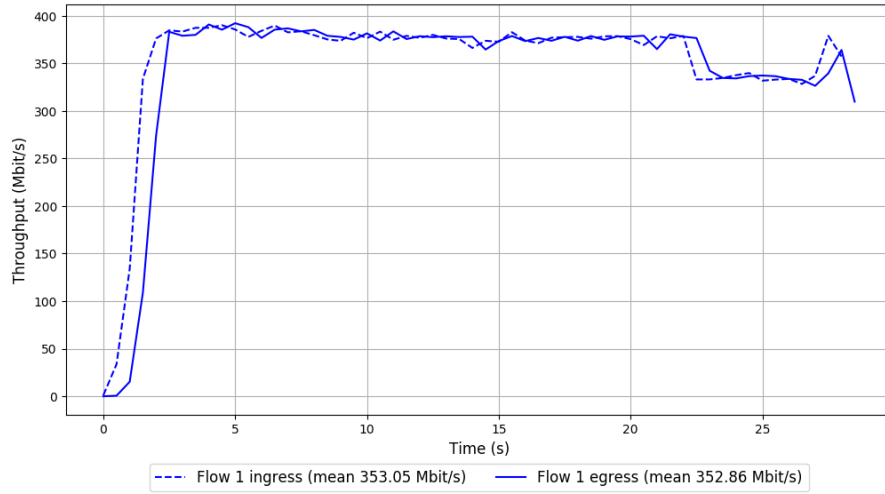Flow 1 (95th percentile 126.98 ms)

```
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-06-28 06:15:01
End at: 2019-06-28 06:15:31
Local clock offset: -1.241 ms
Remote clock offset: -33.292 ms


# Below is generated by plot.py at 2019-06-28 08:48:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 352.86 Mbit/s
95th percentile per-packet one-way delay: 132.448 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 352.86 Mbit/s
95th percentile per-packet one-way delay: 132.448 ms
Loss rate: 0.74%
```

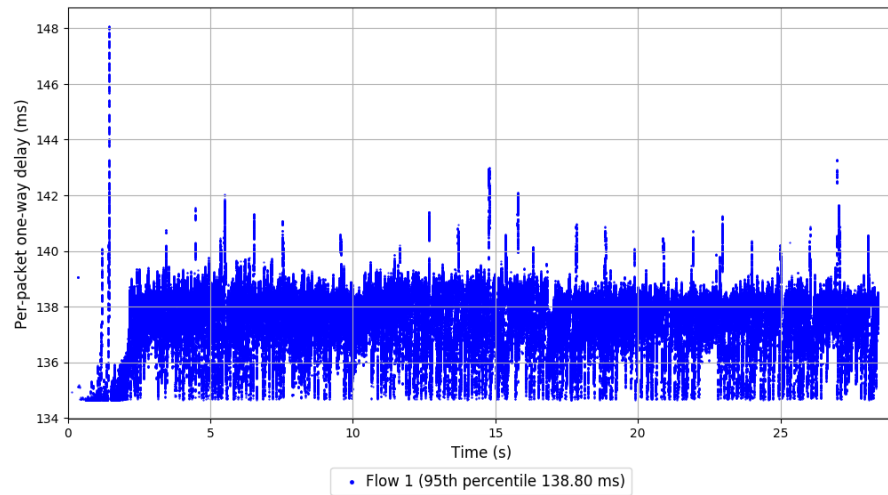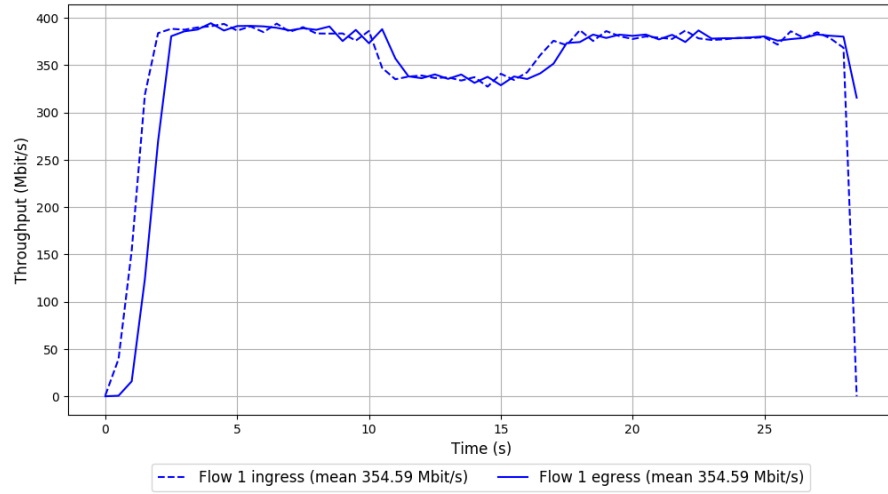Run 1: Report of Indigo-MusesC3 — Data Link

```
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-06-28 06:44:58
End at: 2019-06-28 06:45:28
Local clock offset: -0.063 ms
Remote clock offset: -37.884 ms


# Below is generated by plot.py at 2019-06-28 08:49:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 354.59 Mbit/s
95th percentile per-packet one-way delay: 138.799 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 354.59 Mbit/s
95th percentile per-packet one-way delay: 138.799 ms
Loss rate: 0.78%
```

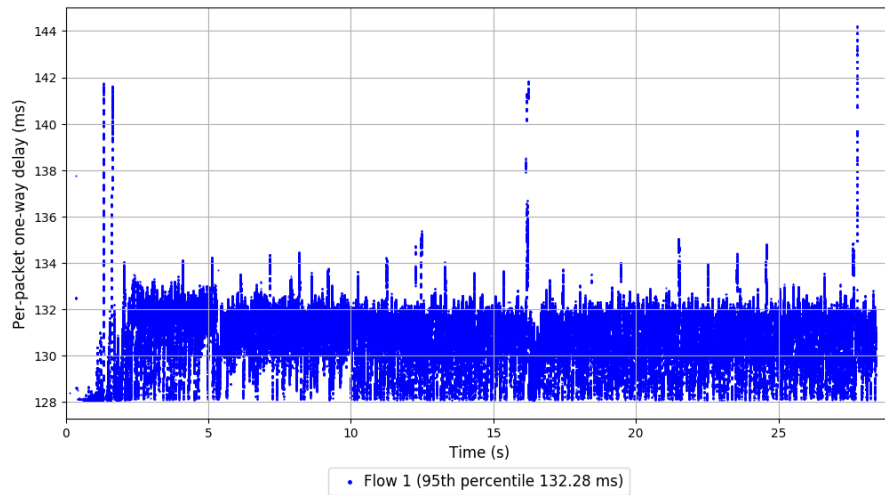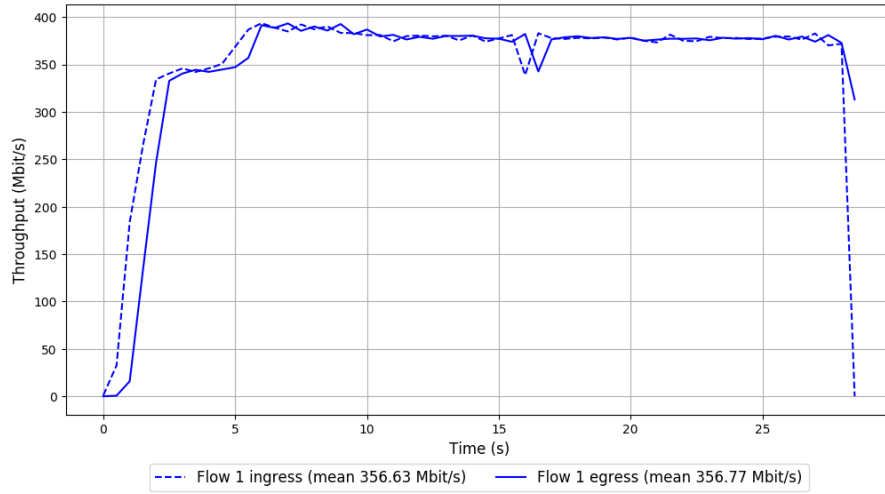Run 2: Report of Indigo-MusesC3 — Data Link

```
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-06-28 07:14:40
End at: 2019-06-28 07:15:10
Local clock offset: -0.995 ms
Remote clock offset: -32.918 ms


# Below is generated by plot.py at 2019-06-28 08:49:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 356.77 Mbit/s
95th percentile per-packet one-way delay: 132.278 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 356.77 Mbit/s
95th percentile per-packet one-way delay: 132.278 ms
Loss rate: 0.78%
```

Run 3: Report of Indigo-MusesC3 — Data Link



- - - Flow 1 ingress (mean 356.63 Mbit/s) —— Flow 1 egress (mean 356.77 Mbit/s)



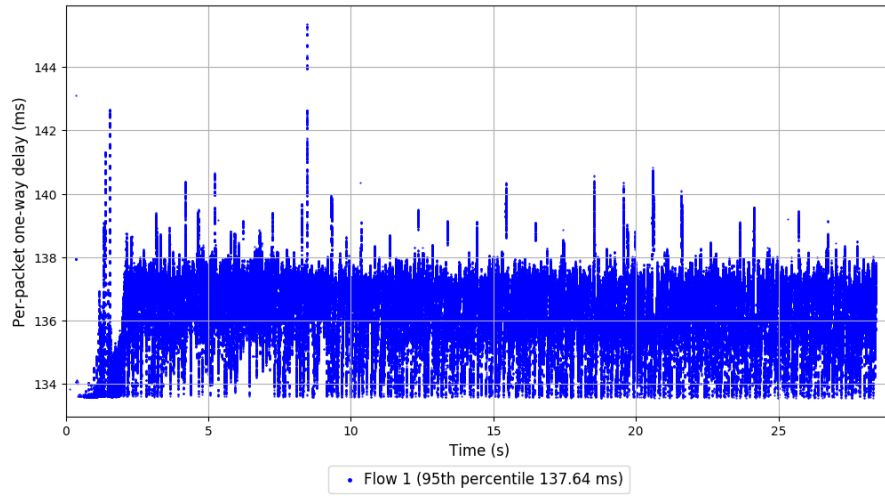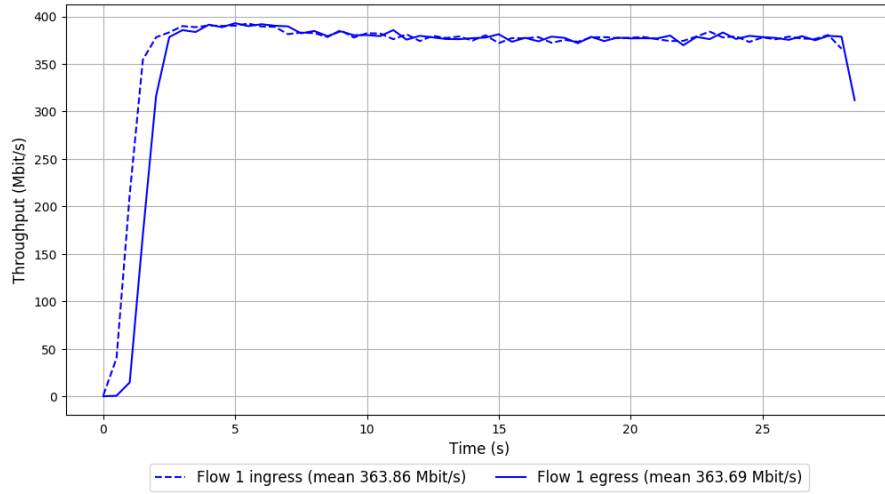• Flow 1 (95th percentile 132.28 ms)

```
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-06-28 07:44:10
End at: 2019-06-28 07:44:40
Local clock offset: -0.43 ms
Remote clock offset: -37.632 ms


# Below is generated by plot.py at 2019-06-28 08:49:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 363.69 Mbit/s
95th percentile per-packet one-way delay: 137.644 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 363.69 Mbit/s
95th percentile per-packet one-way delay: 137.644 ms
Loss rate: 0.75%
```

Run 4: Report of Indigo-MusesC3 — Data Link



Flow 1 ingress (mean 363.86 Mbit/s)    Flow 1 egress (mean 363.69 Mbit/s)
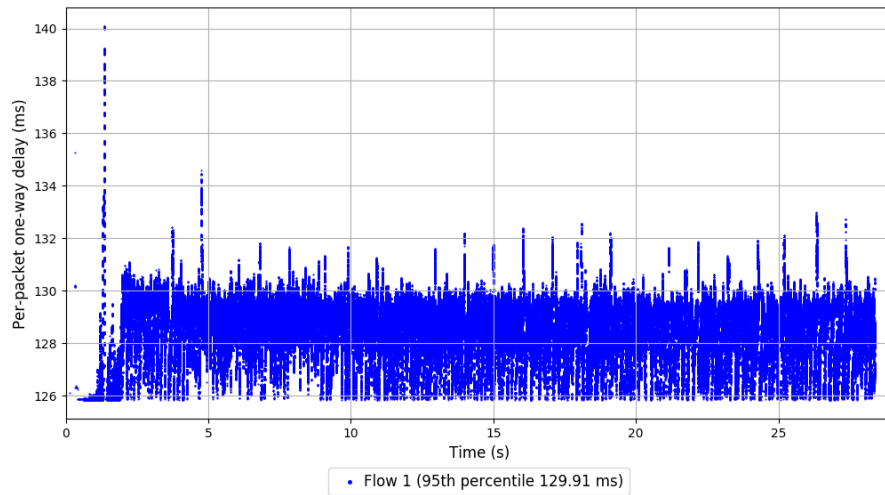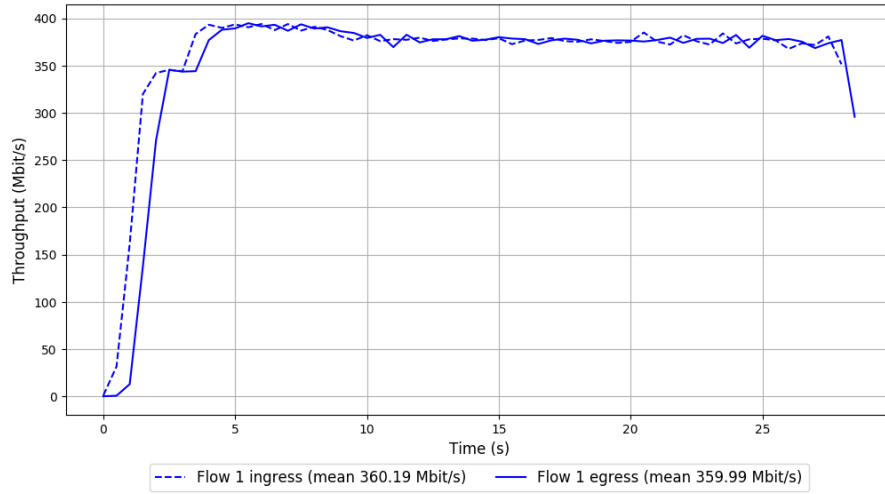


Flow 1 (95th percentile 137.64 ms)

```
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-06-28 08:14:03
End at: 2019-06-28 08:14:33
Local clock offset: -0.685 ms
Remote clock offset: -31.283 ms


# Below is generated by plot.py at 2019-06-28 08:49:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 359.99 Mbit/s
95th percentile per-packet one-way delay: 129.914 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 359.99 Mbit/s
95th percentile per-packet one-way delay: 129.914 ms
Loss rate: 0.75%
```

Run 5: Report of Indigo-MusesC3 — Data Link



- - - - Flow 1 ingress (mean 360.19 Mbit/s) ——— Flow 1 egress (mean 359.99 Mbit/s)



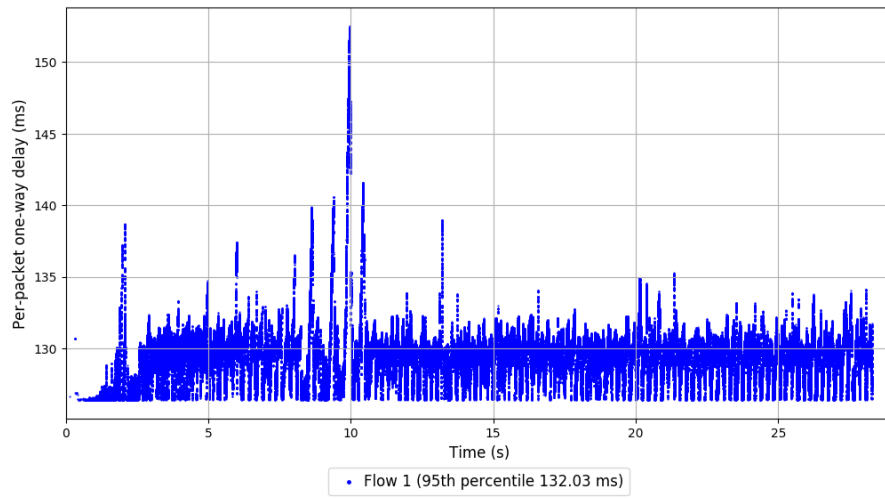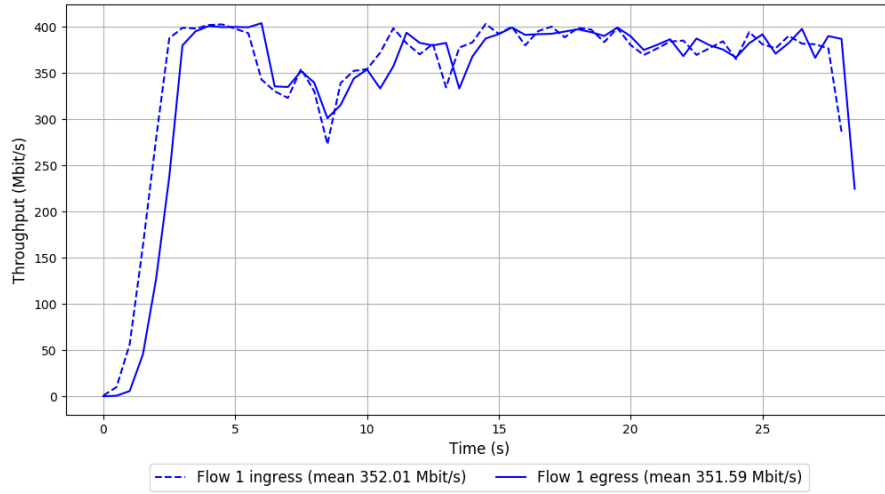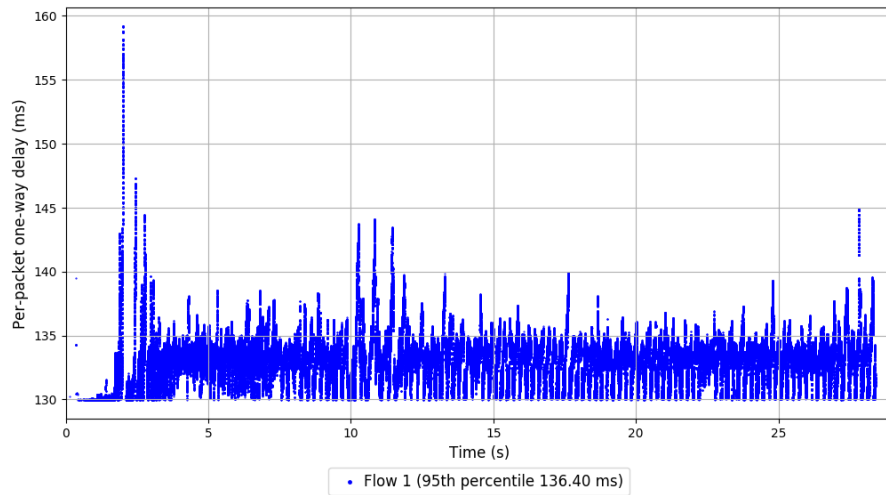• Flow 1 (95th percentile 129.91 ms)

74

```
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-06-28 06:03:58
End at: 2019-06-28 06:04:28
Local clock offset: -0.67 ms
Remote clock offset: -30.848 ms


# Below is generated by plot.py at 2019-06-28 08:50:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 351.59 Mbit/s
95th percentile per-packet one-way delay: 132.028 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 351.59 Mbit/s
95th percentile per-packet one-way delay: 132.028 ms
Loss rate: 0.75%
```

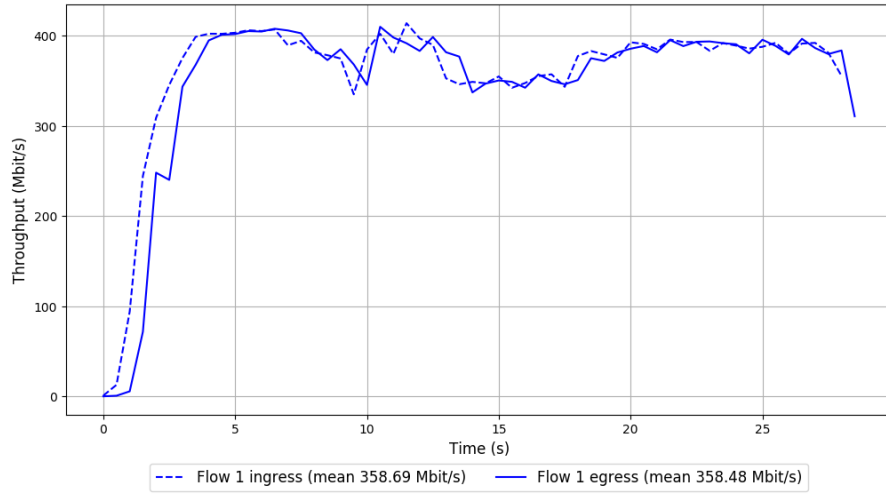Run 1: Report of Indigo-MusesC5 — Data Link

```
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-06-28 06:33:46
End at: 2019-06-28 06:34:17
Local clock offset: -0.685 ms
Remote clock offset: -33.897 ms


# Below is generated by plot.py at 2019-06-28 08:52:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 358.48 Mbit/s
95th percentile per-packet one-way delay: 136.396 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 358.48 Mbit/s
95th percentile per-packet one-way delay: 136.396 ms
Loss rate: 0.75%
```

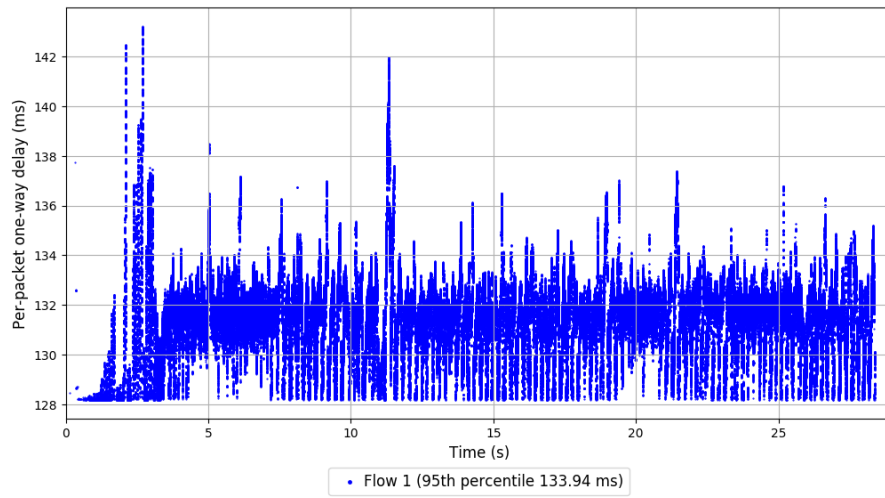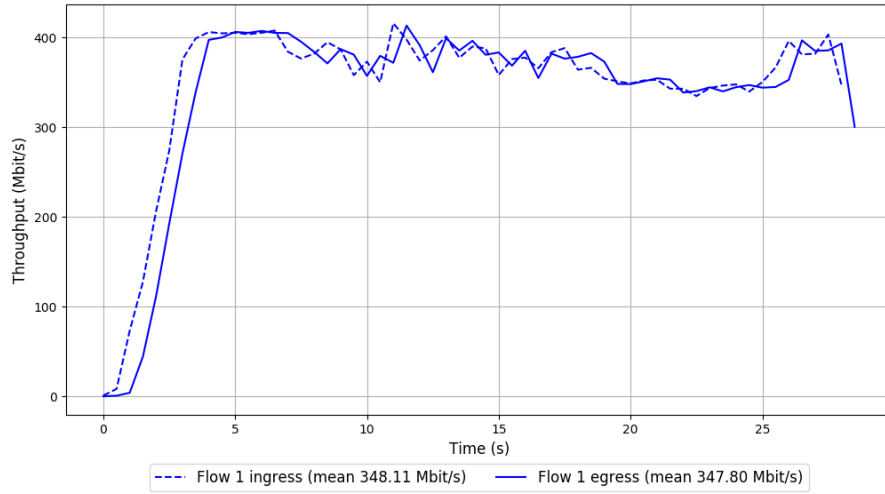Run 2: Report of Indigo-MusesC5 — Data Link

```
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-06-28 07:03:39
End at: 2019-06-28 07:04:09
Local clock offset: -0.871 ms
Remote clock offset: -32.553 ms


# Below is generated by plot.py at 2019-06-28 08:52:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 347.80 Mbit/s
95th percentile per-packet one-way delay: 133.937 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 347.80 Mbit/s
95th percentile per-packet one-way delay: 133.937 ms
Loss rate: 0.79%
```

Run 3: Report of Indigo-MusesC5 — Data Link



Flow 1 ingress (mean 348.11 Mbit/s)    Flow 1 egress (mean 347.80 Mbit/s)
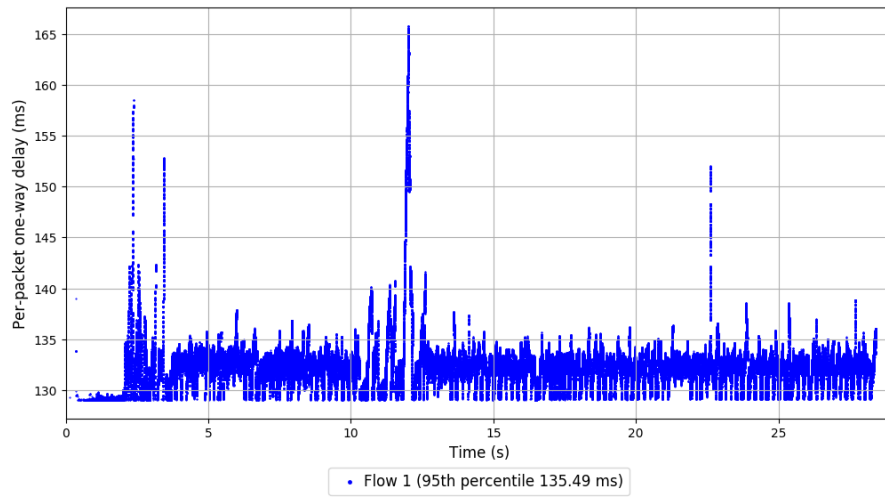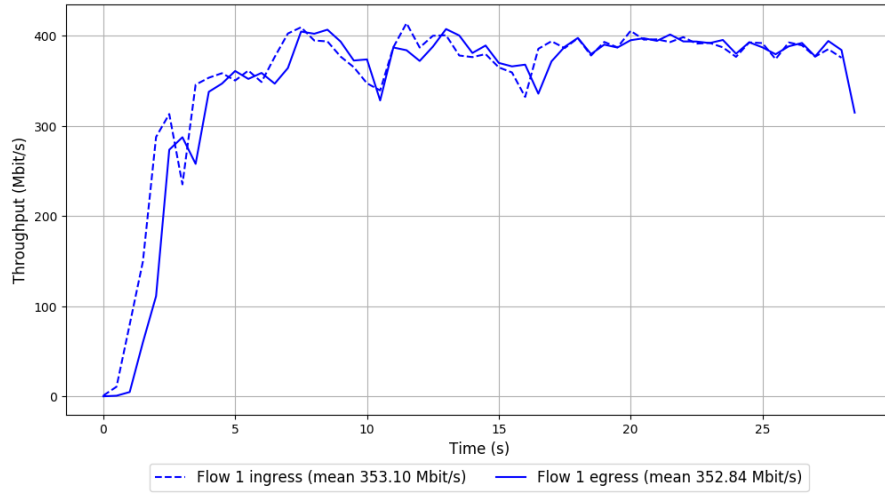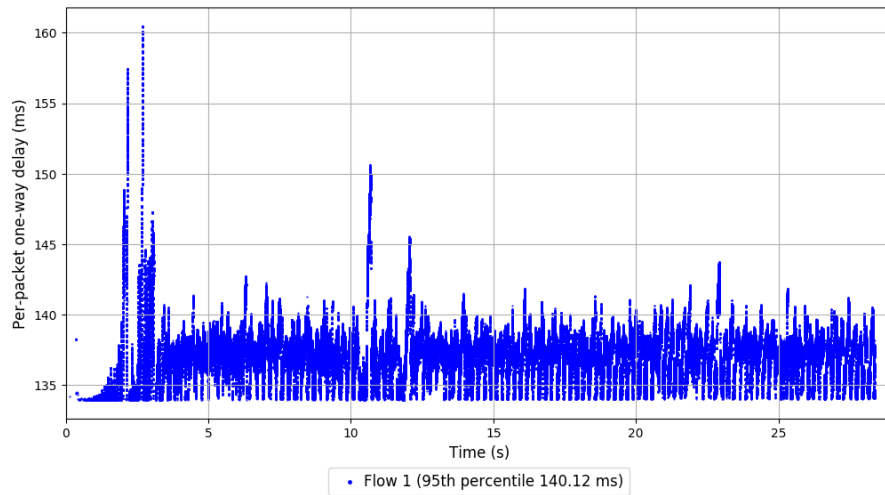


Flow 1 (95th percentile 133.94 ms)

```
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-06-28 07:33:19
End at: 2019-06-28 07:33:49
Local clock offset: -0.528 ms
Remote clock offset: -32.426 ms


# Below is generated by plot.py at 2019-06-28 08:52:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 352.84 Mbit/s
95th percentile per-packet one-way delay: 135.486 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 352.84 Mbit/s
95th percentile per-packet one-way delay: 135.486 ms
Loss rate: 0.77%
```

Run 4: Report of Indigo-MusesC5 — Data Link



Flow 1 ingress (mean 353.10 Mbit/s)    Flow 1 egress (mean 352.84 Mbit/s)
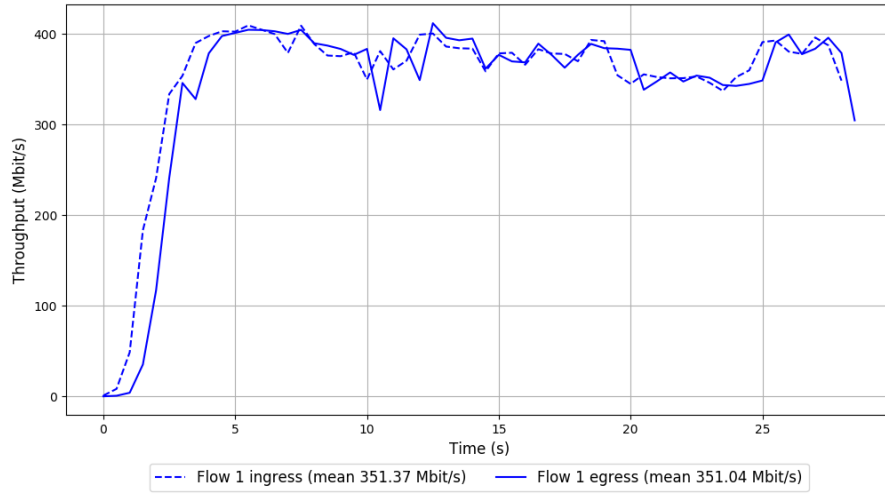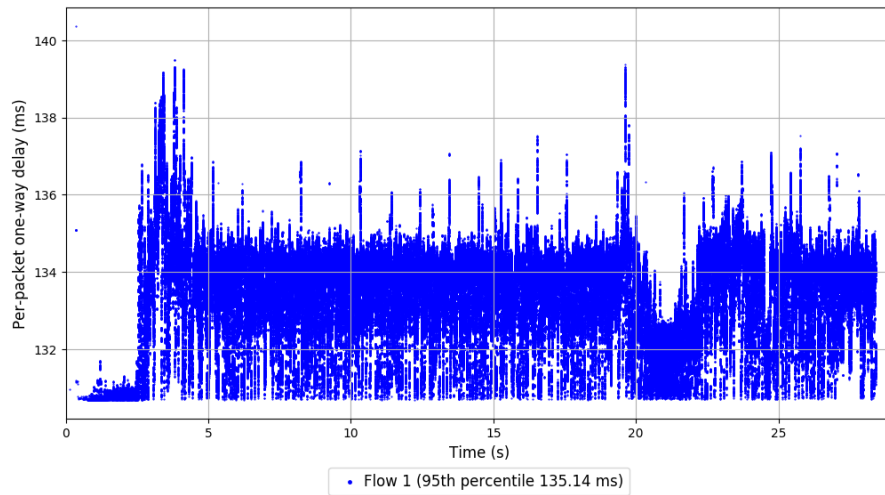


Flow 1 (95th percentile 135.49 ms)

```
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-06-28 08:03:00
End at: 2019-06-28 08:03:30
Local clock offset: -0.609 ms
Remote clock offset: -39.828 ms


# Below is generated by plot.py at 2019-06-28 08:52:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 351.04 Mbit/s
95th percentile per-packet one-way delay: 140.125 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 351.04 Mbit/s
95th percentile per-packet one-way delay: 140.125 ms
Loss rate: 0.78%
```

Run 5: Report of Indigo-MusesC5 — Data Link



Flow 1 ingress (mean 351.37 Mbit/s)        Flow 1 egress (mean 351.04 Mbit/s)



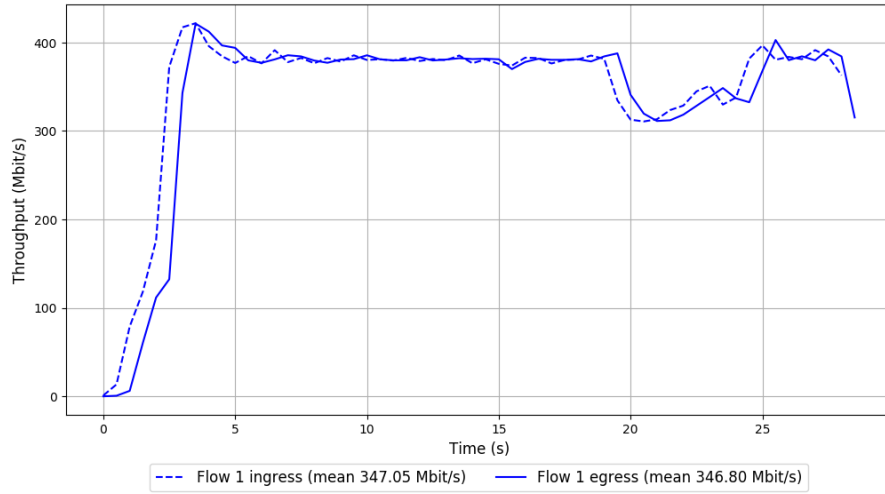Flow 1 (95th percentile 140.12 ms)

```
Run 1: Statistics of Indigo-MusesD

Start at: 2019-06-28 06:08:03
End at: 2019-06-28 06:08:33
Local clock offset: -0.619 ms
Remote clock offset: -35.119 ms


# Below is generated by plot.py at 2019-06-28 08:53:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 346.80 Mbit/s
95th percentile per-packet one-way delay: 135.138 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 346.80 Mbit/s
95th percentile per-packet one-way delay: 135.138 ms
Loss rate: 0.76%
```
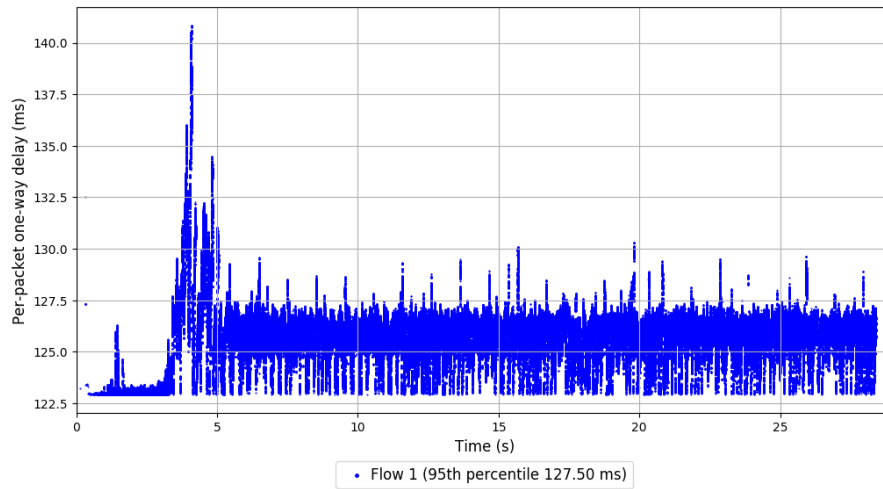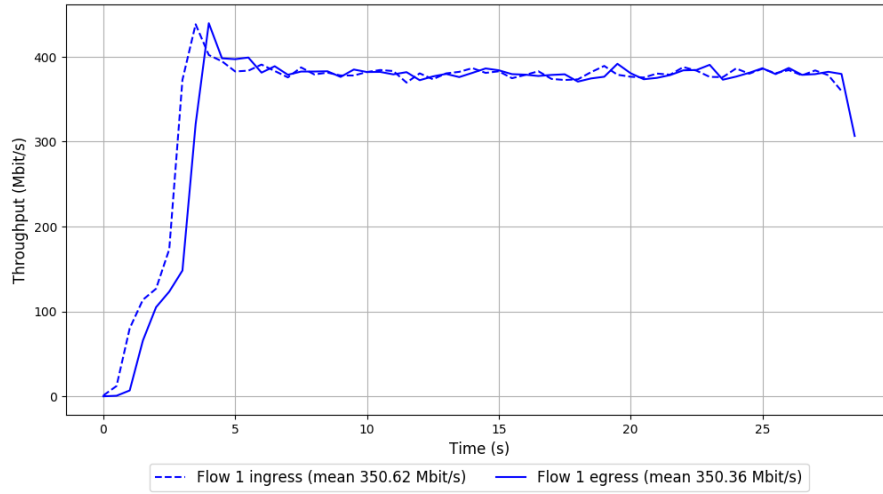
Run 1: Report of Indigo-MusesD — Data Link

```
Run 2: Statistics of Indigo-MusesD

Start at: 2019-06-28 06:37:53
End at: 2019-06-28 06:38:23
Local clock offset: -1.25 ms
Remote clock offset: -27.402 ms


# Below is generated by plot.py at 2019-06-28 08:53:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 350.36 Mbit/s
95th percentile per-packet one-way delay: 127.505 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 350.36 Mbit/s
95th percentile per-packet one-way delay: 127.505 ms
Loss rate: 0.75%
```

Run 2: Report of Indigo-MusesD — Data Link

```
Run 3: Statistics of Indigo-MusesD

Start at: 2019-06-28 07:07:46
End at: 2019-06-28 07:08:16
Local clock offset: -0.305 ms
Remote clock offset: -32.388 ms


# Below is generated by plot.py at 2019-06-28 08:53:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 357.92 Mbit/s
95th percentile per-packet one-way delay: 132.880 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 357.92 Mbit/s
95th percentile per-packet one-way delay: 132.880 ms
Loss rate: 0.63%
```
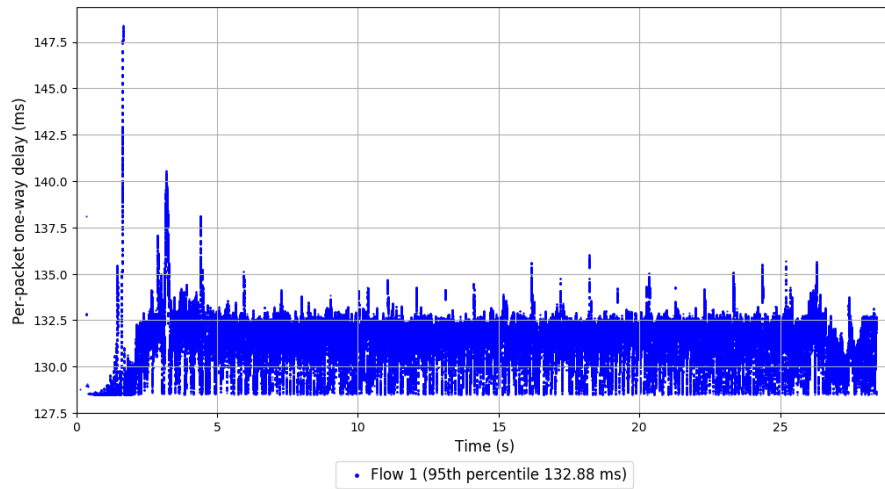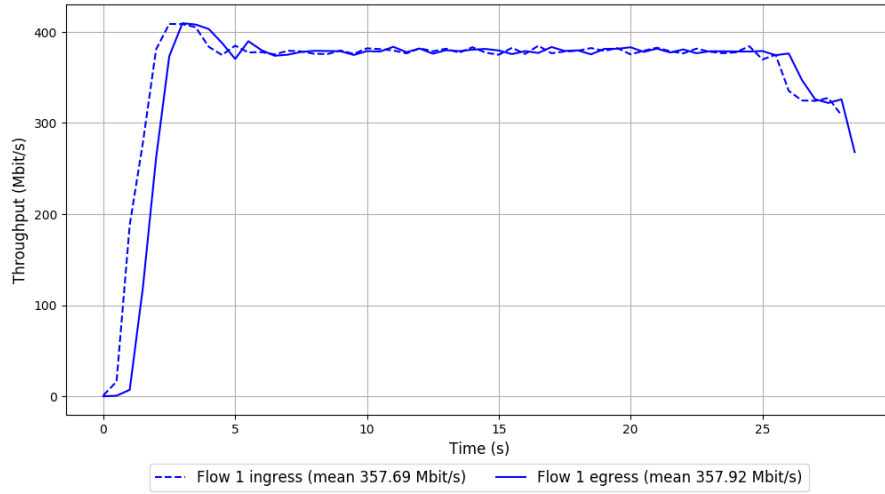
Run 3: Report of Indigo-MusesD — Data Link

```
Run 4: Statistics of Indigo-MusesD

Start at: 2019-06-28 07:37:24
End at: 2019-06-28 07:37:54
Local clock offset: -0.805 ms
Remote clock offset: -31.611 ms


# Below is generated by plot.py at 2019-06-28 08:54:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 331.75 Mbit/s
95th percentile per-packet one-way delay: 132.693 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 331.75 Mbit/s
95th percentile per-packet one-way delay: 132.693 ms
Loss rate: 0.79%
```
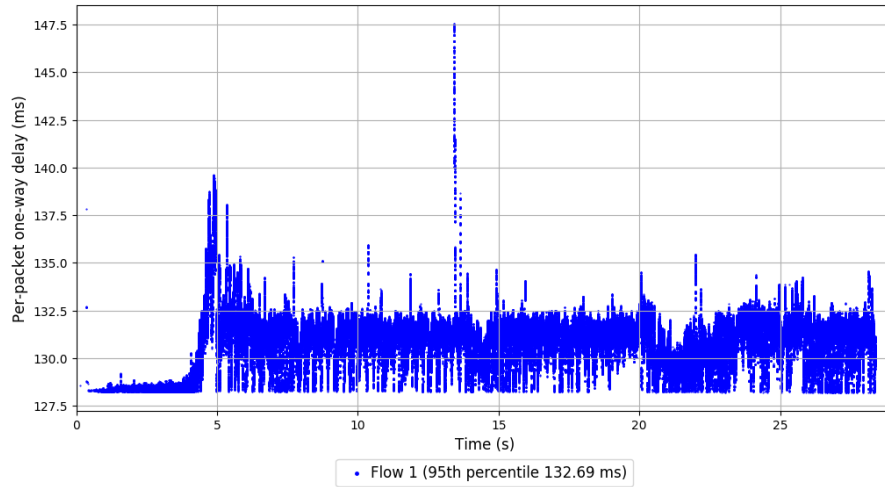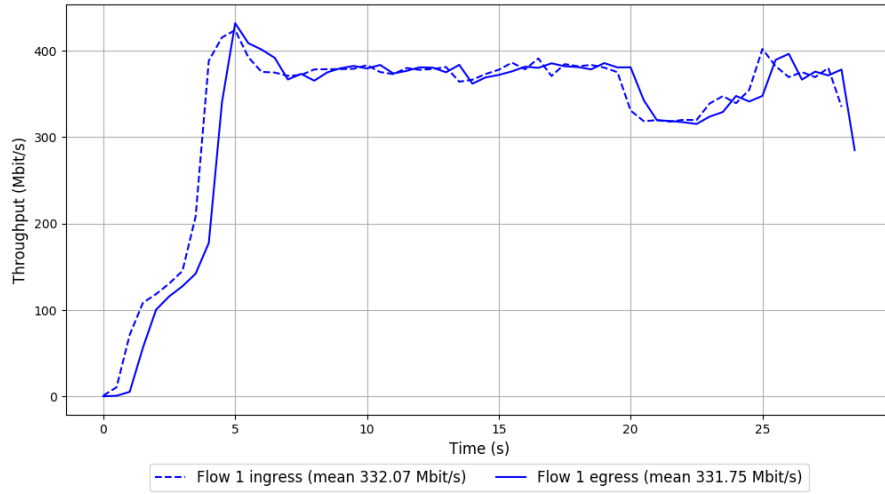
Run 4: Report of Indigo-MusesD — Data Link

```
Run 5: Statistics of Indigo-MusesD

Start at: 2019-06-28 08:07:08
End at: 2019-06-28 08:07:38
Local clock offset: -1.681 ms
Remote clock offset: -33.5 ms


# Below is generated by plot.py at 2019-06-28 08:55:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 352.76 Mbit/s
95th percentile per-packet one-way delay: 131.258 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 352.76 Mbit/s
95th percentile per-packet one-way delay: 131.258 ms
Loss rate: 0.61%
```
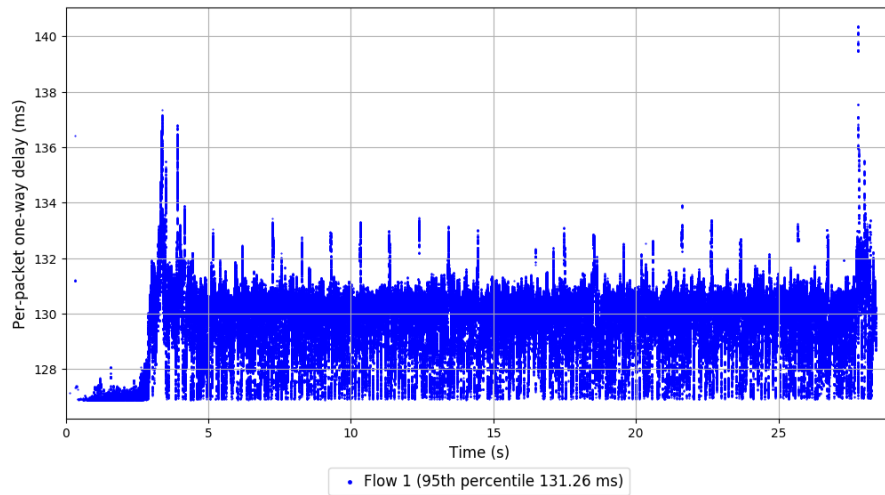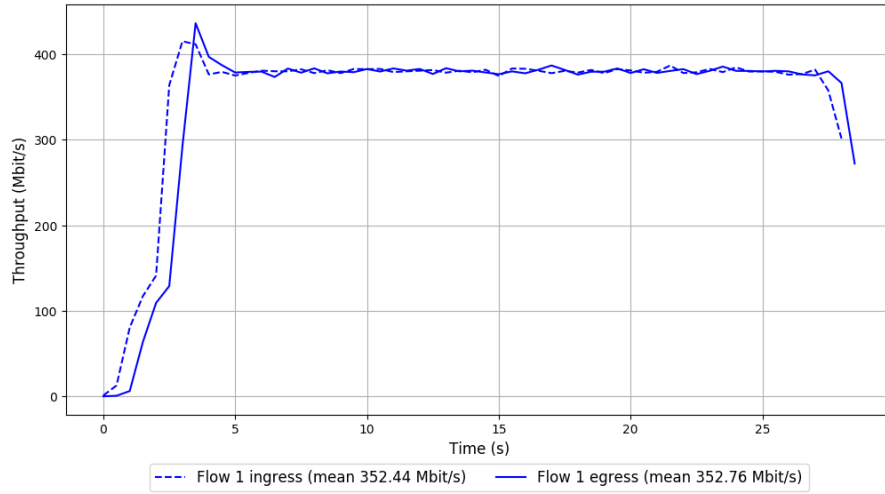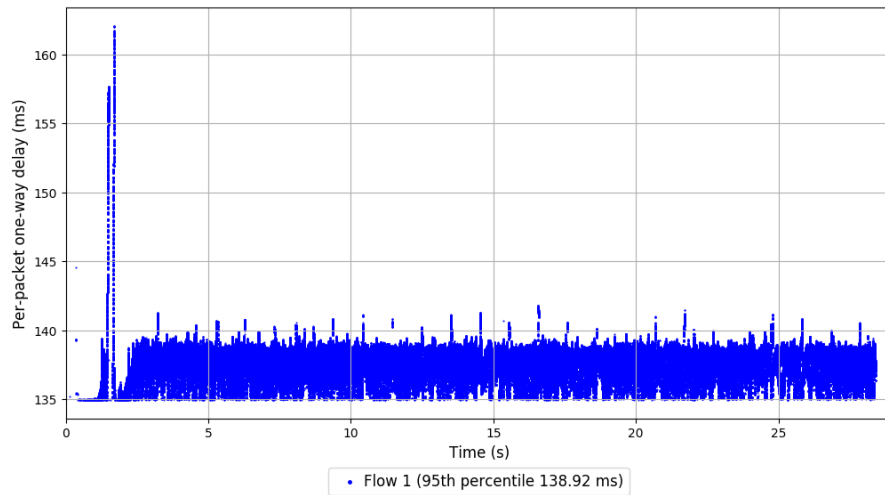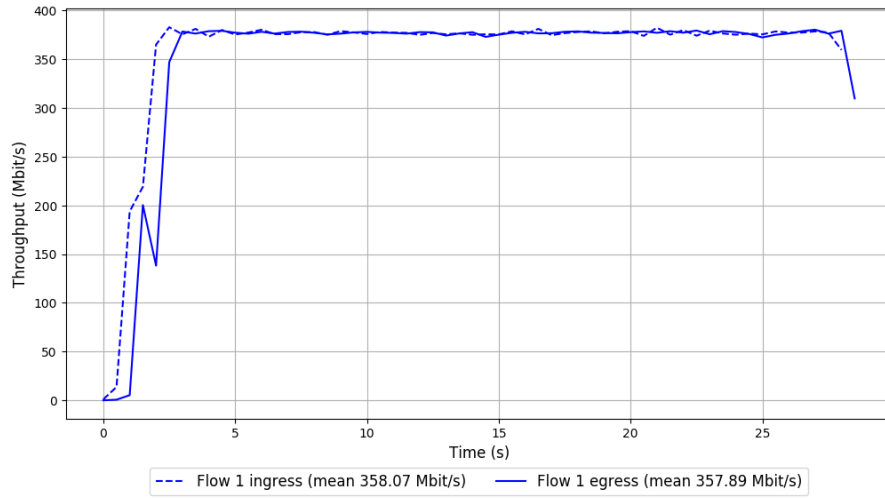
Run 5: Report of Indigo-MusesD — Data Link

```
Run 1: Statistics of Indigo-MusesT

Start at: 2019-06-28 06:09:28
End at: 2019-06-28 06:09:58
Local clock offset: -0.729 ms
Remote clock offset: -39.503 ms


# Below is generated by plot.py at 2019-06-28 08:56:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 357.89 Mbit/s
95th percentile per-packet one-way delay: 138.922 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 357.89 Mbit/s
95th percentile per-packet one-way delay: 138.922 ms
Loss rate: 0.75%
```

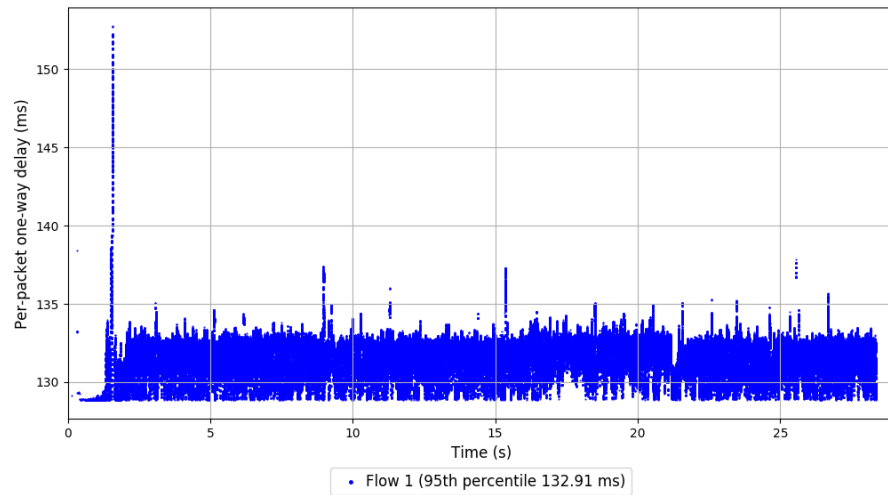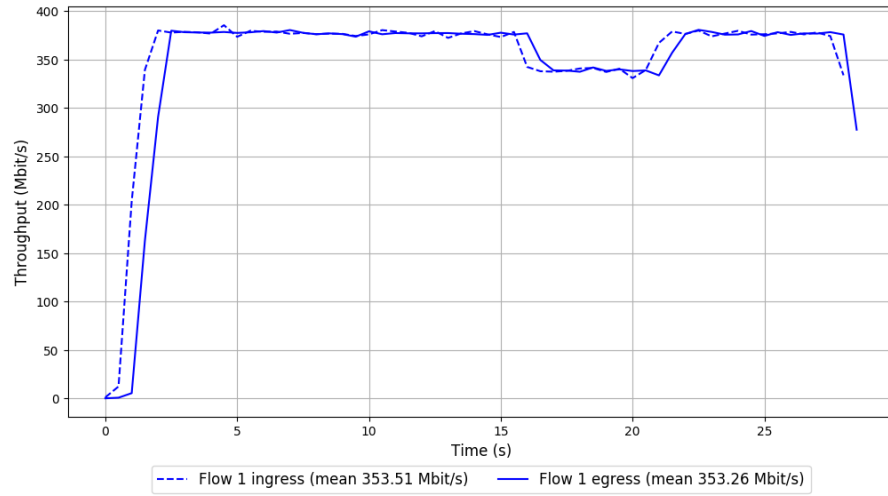Run 1: Report of Indigo-MusesT — Data Link

```
Run 2: Statistics of Indigo-MusesT

Start at: 2019-06-28 06:39:18
End at: 2019-06-28 06:39:48
Local clock offset: -0.219 ms
Remote clock offset: -32.219 ms


# Below is generated by plot.py at 2019-06-28 08:56:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 353.26 Mbit/s
95th percentile per-packet one-way delay: 132.909 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 353.26 Mbit/s
95th percentile per-packet one-way delay: 132.909 ms
Loss rate: 0.77%
```

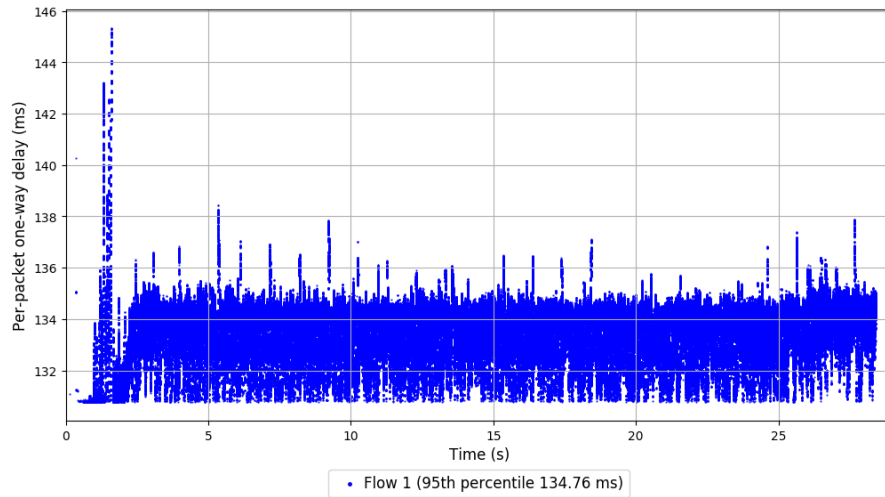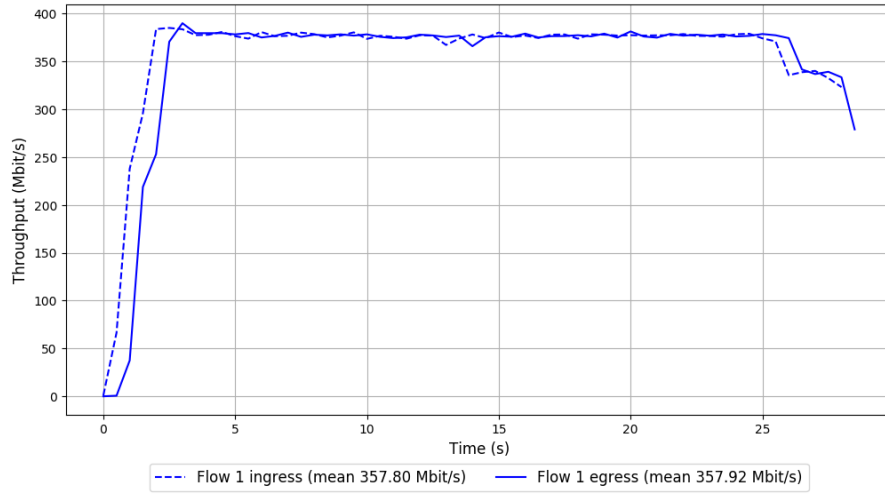Run 2: Report of Indigo-MusesT — Data Link

```
Run 3: Statistics of Indigo-MusesT

Start at: 2019-06-28 07:09:12
End at: 2019-06-28 07:09:42
Local clock offset: -3.265 ms
Remote clock offset: -37.653 ms


# Below is generated by plot.py at 2019-06-28 08:56:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 357.92 Mbit/s
95th percentile per-packet one-way delay: 134.759 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 357.92 Mbit/s
95th percentile per-packet one-way delay: 134.759 ms
Loss rate: 0.66%
```

# Run 3: Report of Indigo-MusesT — Data Link

```
Run 4: Statistics of Indigo-MusesT

Start at: 2019-06-28 07:38:49
End at: 2019-06-28 07:39:19
Local clock offset: -1.215 ms
Remote clock offset: -34.322 ms


# Below is generated by plot.py at 2019-06-28 08:56:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 323.31 Mbit/s
95th percentile per-packet one-way delay: 134.512 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 323.31 Mbit/s
95th percentile per-packet one-way delay: 134.512 ms
Loss rate: 0.84%
```
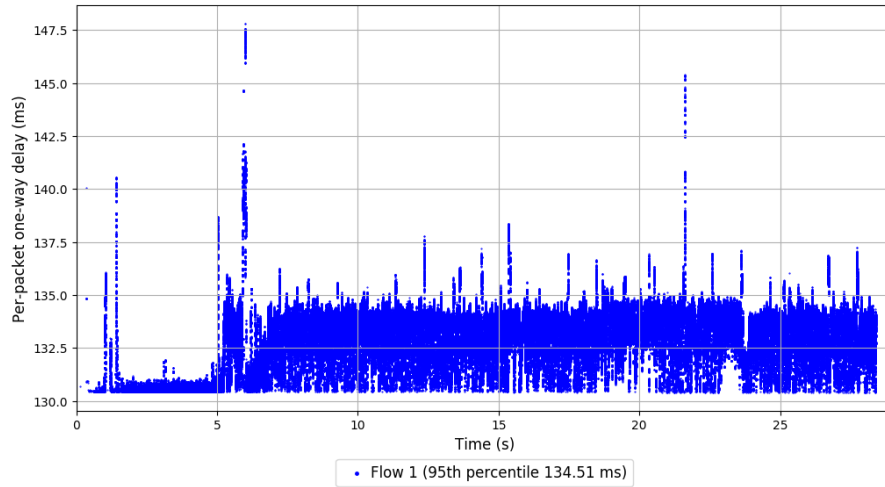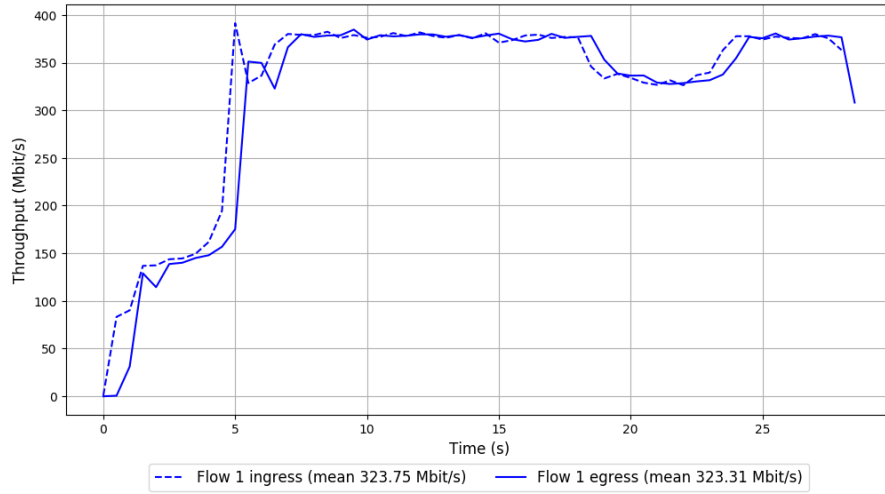
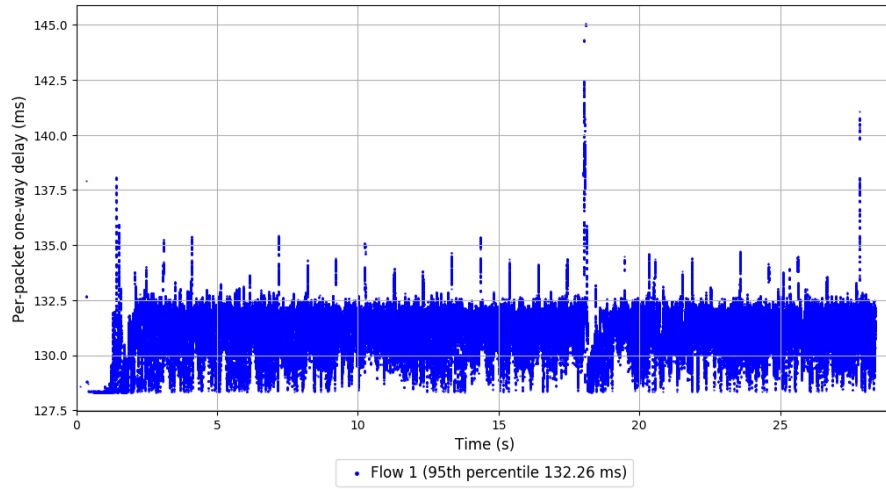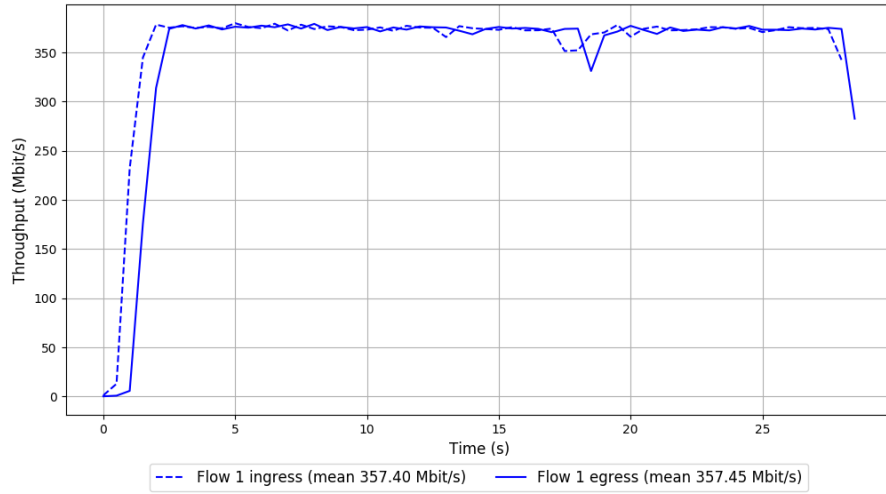# Run 4: Report of Indigo-MusesT — Data Link

```
Run 5: Statistics of Indigo-MusesT

Start at: 2019-06-28 08:08:35
End at: 2019-06-28 08:09:05
Local clock offset: -3.848 ms
Remote clock offset: -37.002 ms


# Below is generated by plot.py at 2019-06-28 08:57:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 357.45 Mbit/s
95th percentile per-packet one-way delay: 132.259 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 357.45 Mbit/s
95th percentile per-packet one-way delay: 132.259 ms
Loss rate: 0.78%
```

# Run 5: Report of Indigo-MusesT — Data Link



Flow 1 ingress (mean 357.40 Mbit/s)    Flow 1 egress (mean 357.45 Mbit/s)
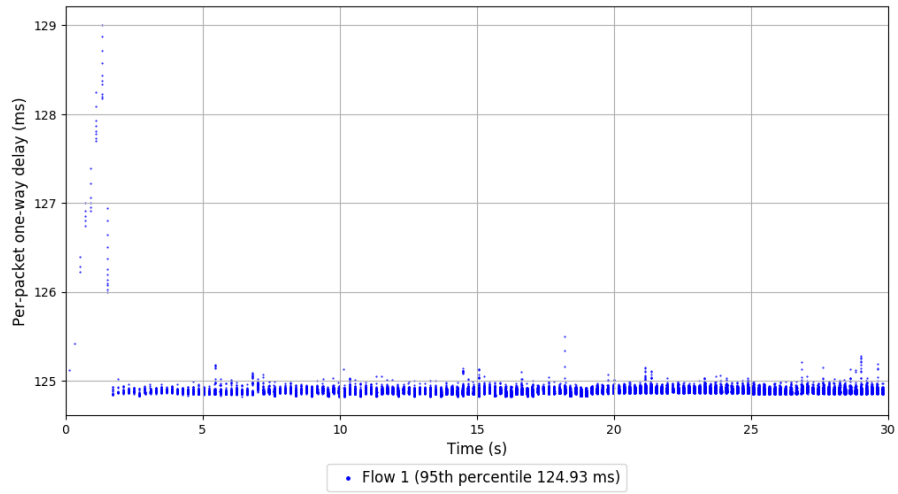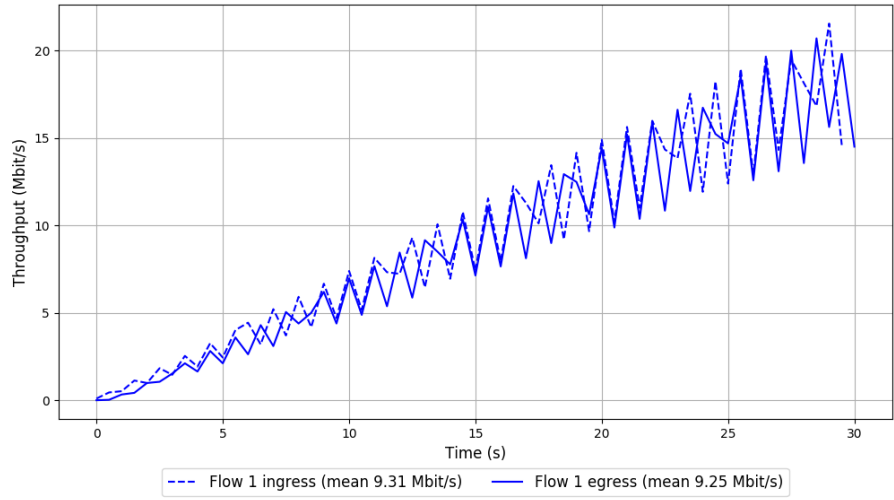


Flow 1 (95th percentile 132.26 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2019-06-28 06:24:25
End at: 2019-06-28 06:24:55
Local clock offset: -1.336 ms
Remote clock offset: -29.663 ms

# Below is generated by plot.py at 2019-06-28 08:57:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.25 Mbit/s
95th percentile per-packet one-way delay: 124.932 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 9.25 Mbit/s
95th percentile per-packet one-way delay: 124.932 ms
Loss rate: 1.31%
```

# Run 1: Report of LEDBAT — Data Link



Flow 1 ingress (mean 9.31 Mbit/s) ---- Flow 1 egress (mean 9.25 Mbit/s) ——
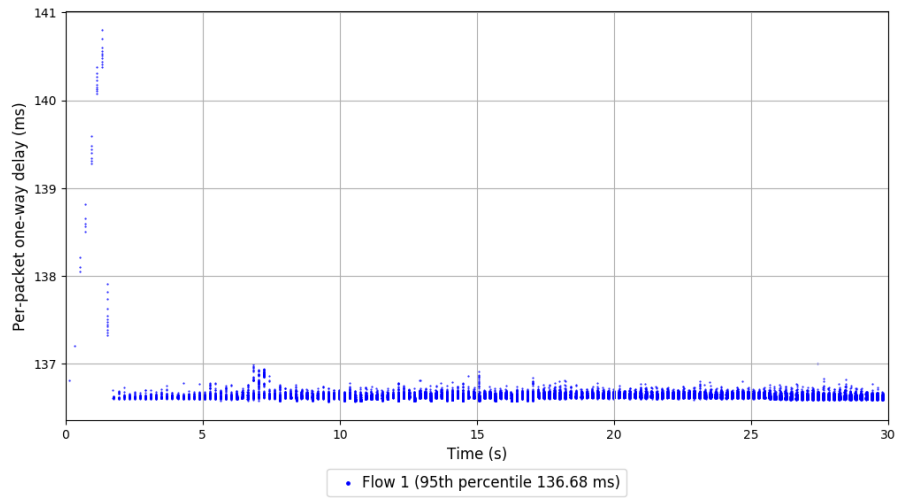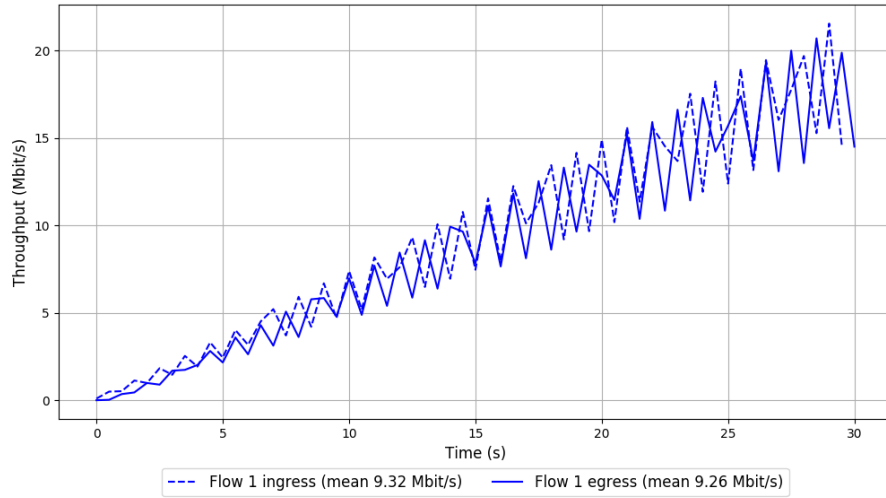


• Flow 1 (95th percentile 124.93 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2019-06-28 06:54:16
End at: 2019-06-28 06:54:46
Local clock offset: -4.934 ms
Remote clock offset: -44.862 ms


# Below is generated by plot.py at 2019-06-28 08:57:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 136.683 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 136.683 ms
Loss rate: 1.31%
```

Run 2: Report of LEDBAT — Data Link



Flow 1 ingress (mean 9.32 Mbit/s)    Flow 1 egress (mean 9.26 Mbit/s)
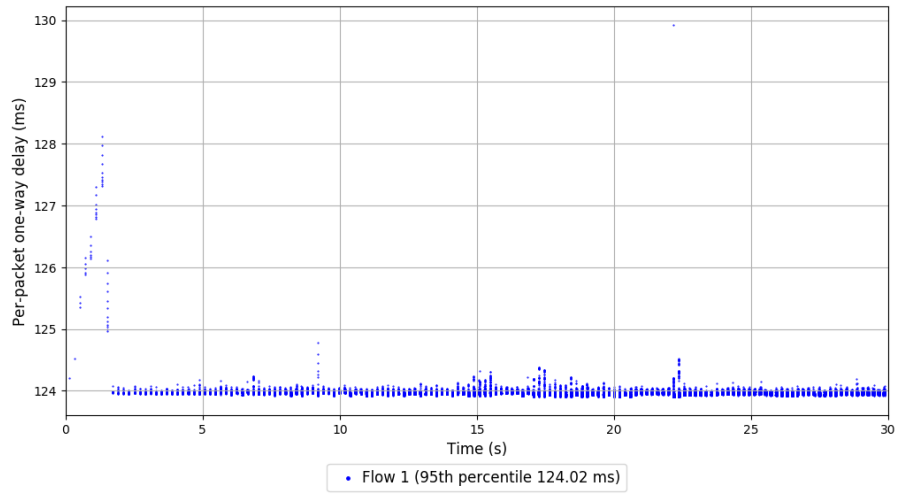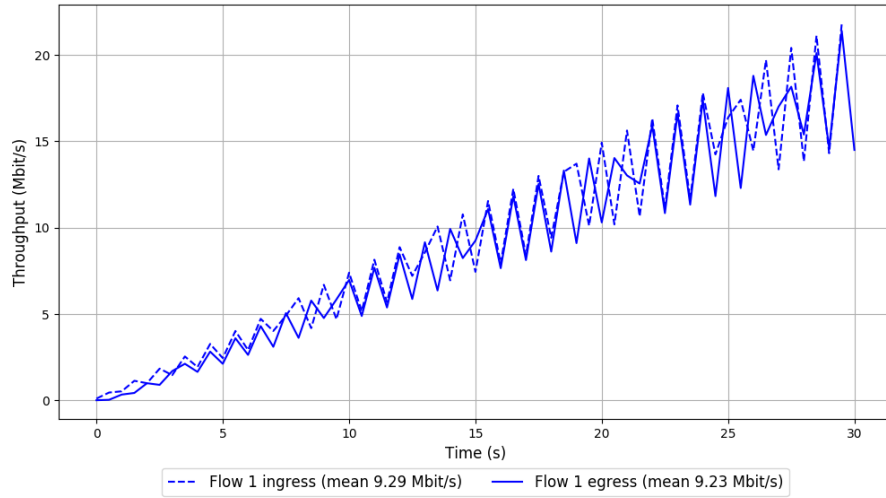


Flow 1 (95th percentile 136.68 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2019-06-28 07:23:58
End at: 2019-06-28 07:24:28
Local clock offset: -1.439 ms
Remote clock offset: -29.862 ms


# Below is generated by plot.py at 2019-06-28 08:57:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.23 Mbit/s
95th percentile per-packet one-way delay: 124.020 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 9.23 Mbit/s
95th percentile per-packet one-way delay: 124.020 ms
Loss rate: 1.31%
```
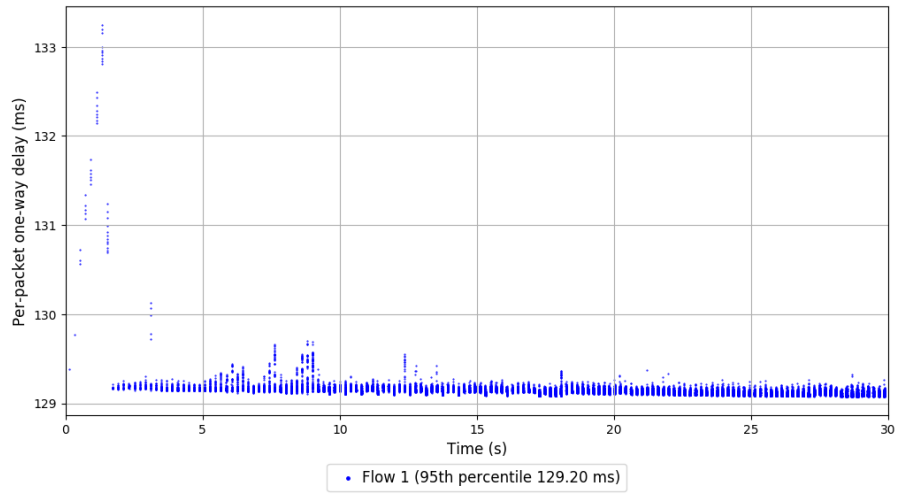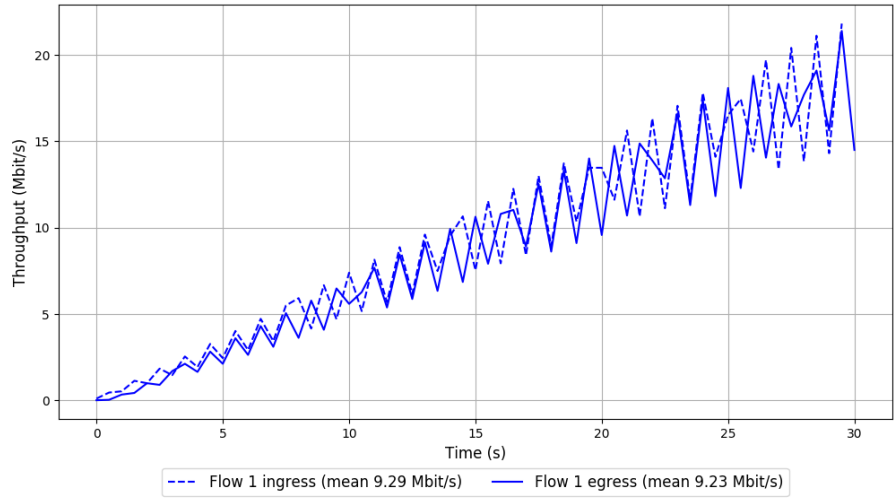
## Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2019-06-28 07:53:30
End at: 2019-06-28 07:54:00
Local clock offset: -1.036 ms
Remote clock offset: -35.548 ms

# Below is generated by plot.py at 2019-06-28 08:57:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.23 Mbit/s
95th percentile per-packet one-way delay: 129.196 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 9.23 Mbit/s
95th percentile per-packet one-way delay: 129.196 ms
Loss rate: 1.31%
```

# Run 4: Report of LEDBAT — Data Link



Flow 1 ingress (mean 9.29 Mbit/s)    Flow 1 egress (mean 9.23 Mbit/s)
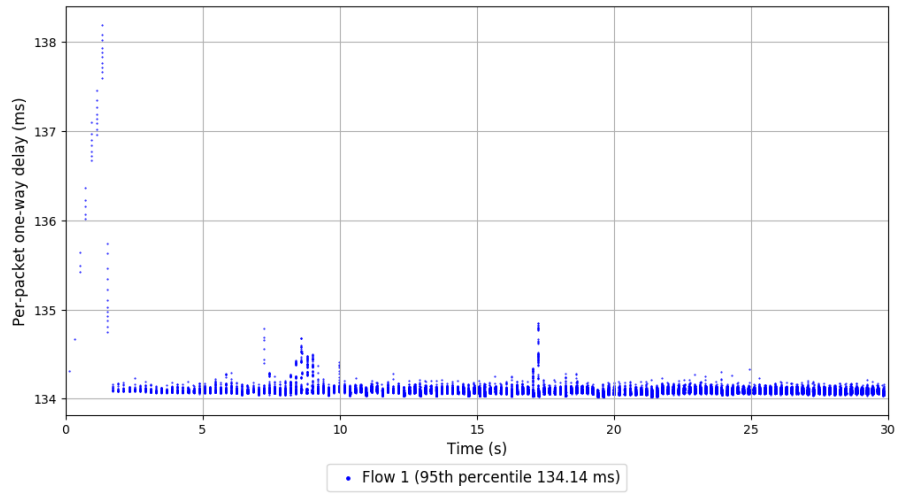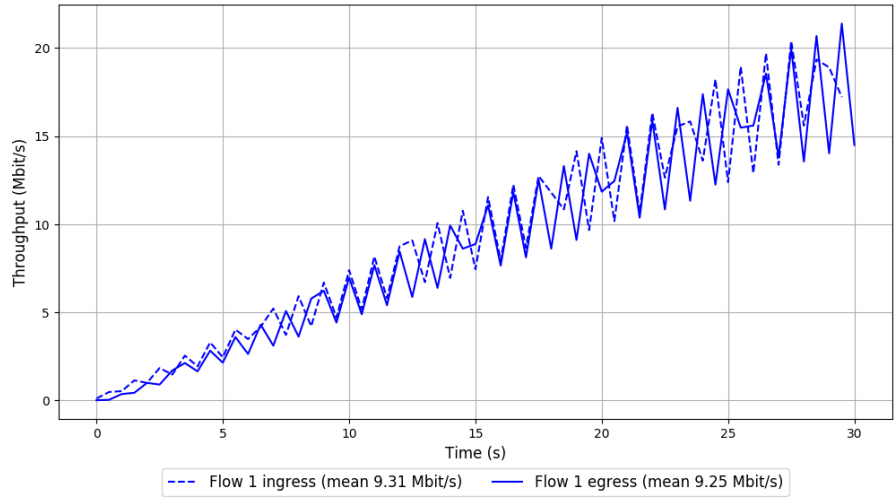


• Flow 1 (95th percentile 129.20 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2019-06-28 08:23:24
End at: 2019-06-28 08:23:54
Local clock offset: -0.024 ms
Remote clock offset: -39.454 ms


# Below is generated by plot.py at 2019-06-28 08:57:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.25 Mbit/s
95th percentile per-packet one-way delay: 134.138 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 9.25 Mbit/s
95th percentile per-packet one-way delay: 134.138 ms
Loss rate: 1.31%
```
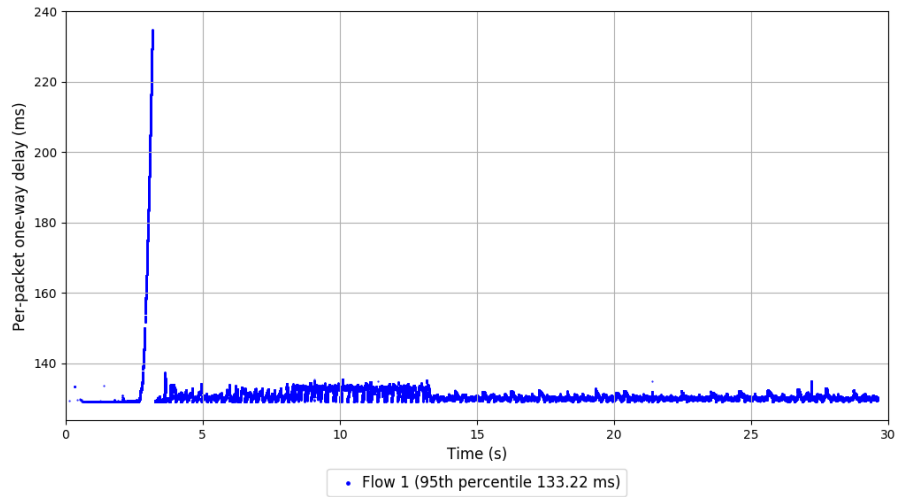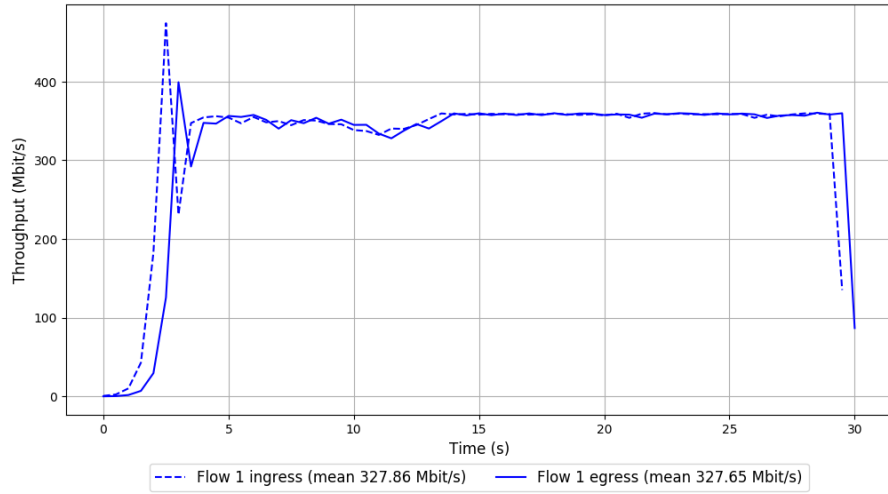
Run 5: Report of LEDBAT — Data Link

```
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 06:17:51
End at: 2019-06-28 06:18:21
Local clock offset: -0.515 ms
Remote clock offset: -33.27 ms


# Below is generated by plot.py at 2019-06-28 08:57:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 327.65 Mbit/s
95th percentile per-packet one-way delay: 133.215 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 327.65 Mbit/s
95th percentile per-packet one-way delay: 133.215 ms
Loss rate: 0.73%
```

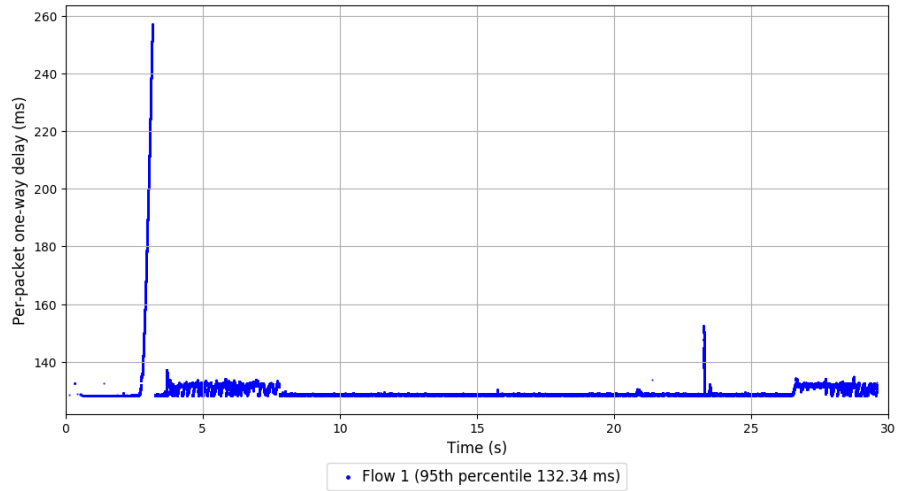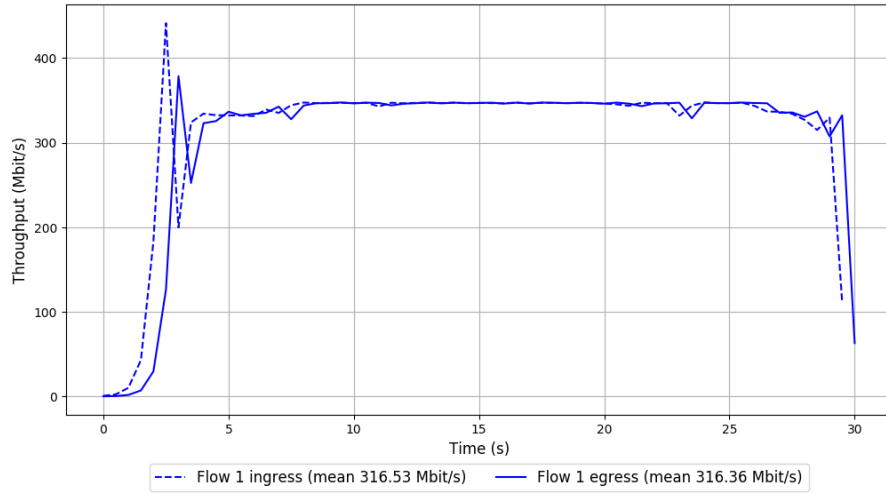Run 1: Report of Muses_DecisionTree — Data Link

```
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 06:47:48
End at: 2019-06-28 06:48:18
Local clock offset: -1.127 ms
Remote clock offset: -32.593 ms


# Below is generated by plot.py at 2019-06-28 08:57:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 316.36 Mbit/s
95th percentile per-packet one-way delay: 132.339 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 316.36 Mbit/s
95th percentile per-packet one-way delay: 132.339 ms
Loss rate: 0.72%
```

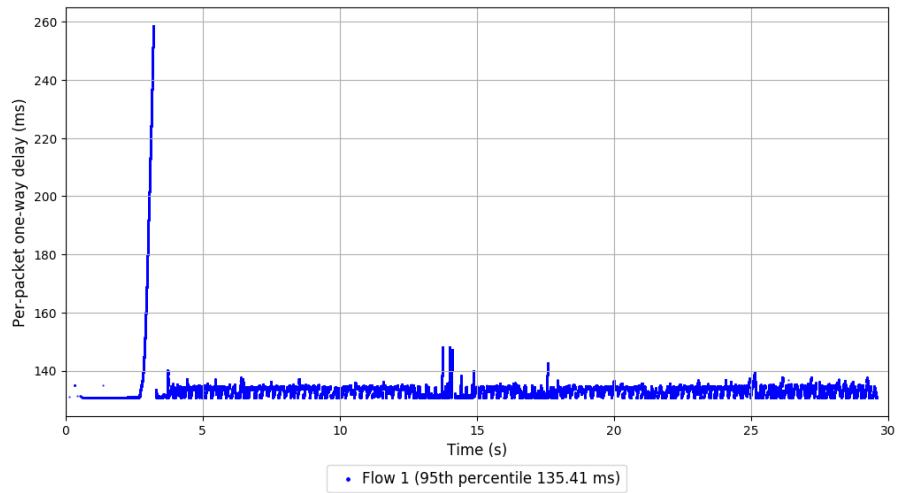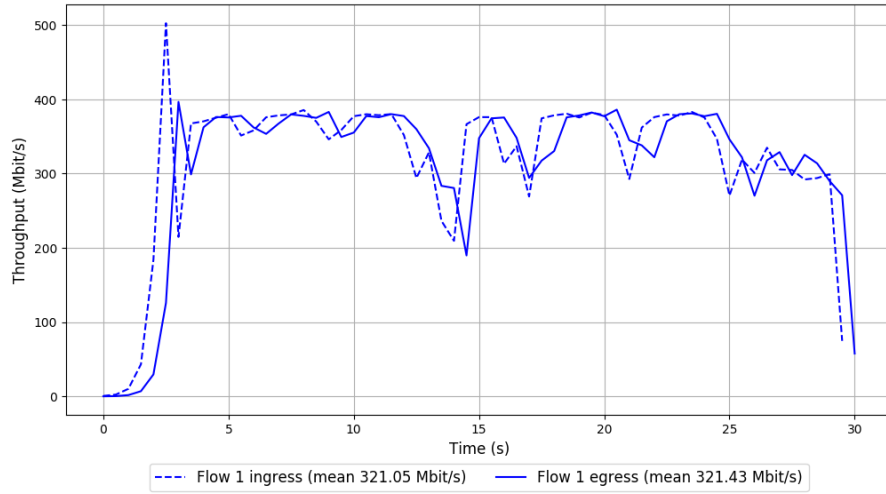Run 2: Report of Muses_DecisionTree — Data Link

```
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 07:17:30
End at: 2019-06-28 07:18:00
Local clock offset: -0.229 ms
Remote clock offset: -34.848 ms


# Below is generated by plot.py at 2019-06-28 08:59:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 321.43 Mbit/s
95th percentile per-packet one-way delay: 135.407 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 321.43 Mbit/s
95th percentile per-packet one-way delay: 135.407 ms
Loss rate: 0.55%
```

Run 3: Report of Muses_DecisionTree — Data Link

```
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 07:47:01
End at: 2019-06-28 07:47:31
Local clock offset: -1.137 ms
Remote clock offset: -35.321 ms


# Below is generated by plot.py at 2019-06-28 08:59:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 329.45 Mbit/s
95th percentile per-packet one-way delay: 134.593 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 329.45 Mbit/s
95th percentile per-packet one-way delay: 134.593 ms
Loss rate: 0.64%
```
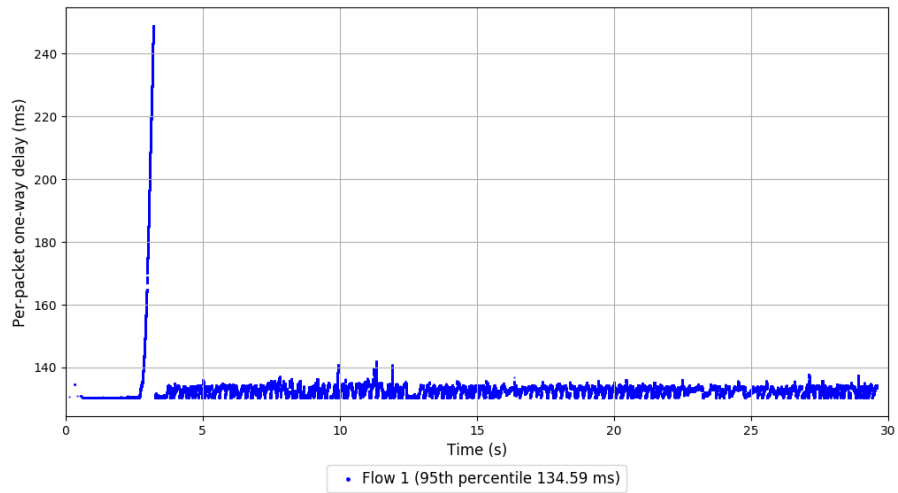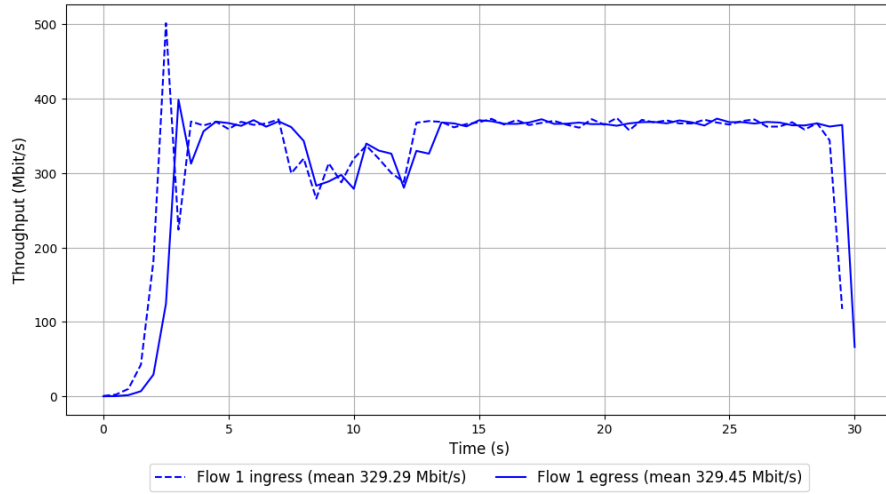
Run 4: Report of Muses_DecisionTree — Data Link



Flow 1 ingress (mean 329.29 Mbit/s)    Flow 1 egress (mean 329.45 Mbit/s)



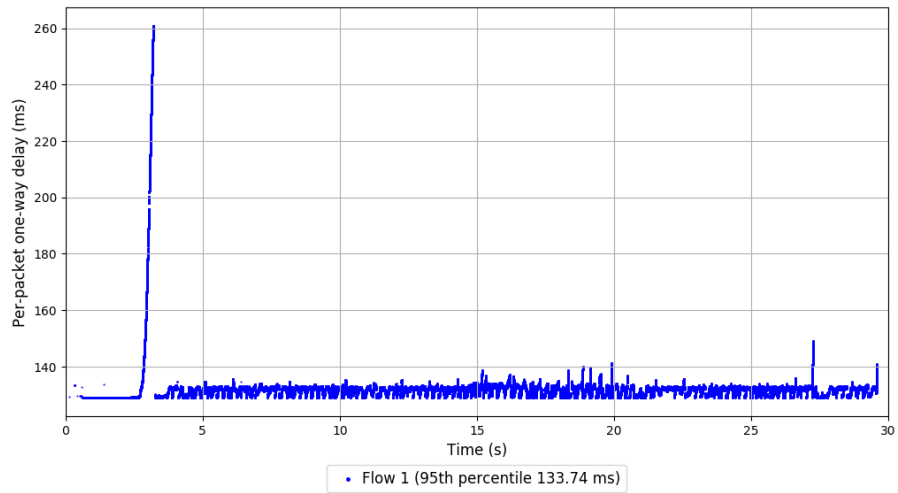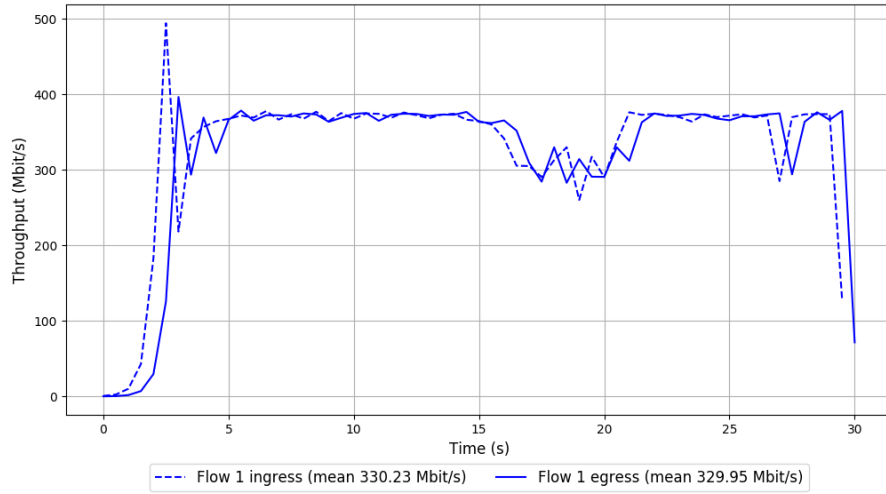Flow 1 (95th percentile 134.59 ms)

Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-06-28 08:16:54
End at: 2019-06-28 08:17:24
Local clock offset: -0.7 ms
Remote clock offset: -34.589 ms


# Below is generated by plot.py at 2019-06-28 09:00:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 329.95 Mbit/s
95th percentile per-packet one-way delay: 133.742 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 329.95 Mbit/s
95th percentile per-packet one-way delay: 133.742 ms
Loss rate: 0.76%

# Run 5: Report of Muses_DecisionTree — Data Link



Flow 1 ingress (mean 330.23 Mbit/s) — Flow 1 egress (mean 329.95 Mbit/s)



Flow 1 (95th percentile 133.74 ms)

```
Run 1: Statistics of PCC-Allegro

Start at: 2019-06-28 06:01:06
End at: 2019-06-28 06:01:36
Local clock offset: -0.692 ms
Remote clock offset: -32.707 ms

# Below is generated by plot.py at 2019-06-28 09:01:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 397.33 Mbit/s
95th percentile per-packet one-way delay: 131.731 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 397.33 Mbit/s
95th percentile per-packet one-way delay: 131.731 ms
Loss rate: 0.86%
```
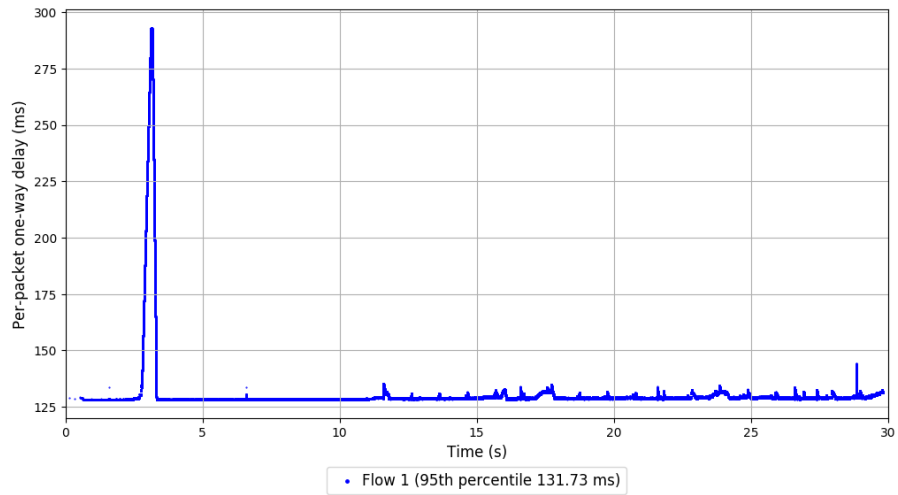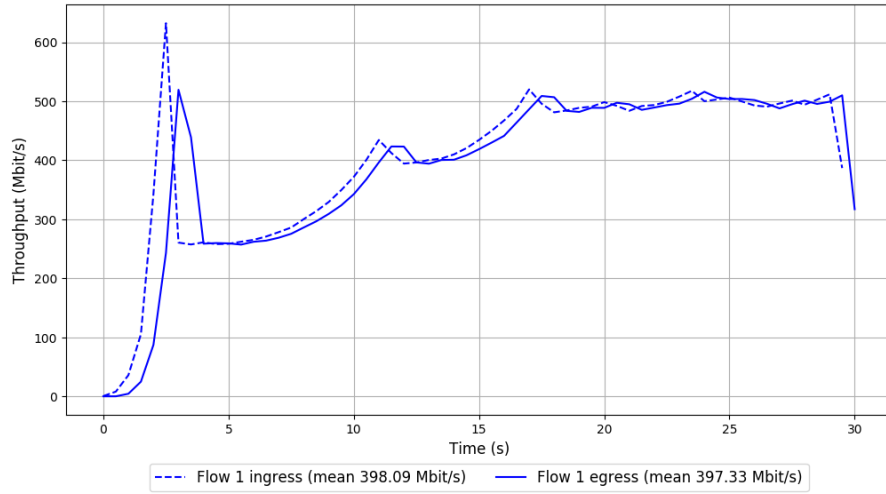
## Run 1: Report of PCC-Allegro — Data Link



Flow 1 ingress (mean 398.09 Mbit/s)    Flow 1 egress (mean 397.33 Mbit/s)



Flow 1 (95th percentile 131.73 ms)

```
Run 2: Statistics of PCC-Allegro

Start at: 2019-06-28 06:30:57
End at: 2019-06-28 06:31:27
Local clock offset: -0.872 ms
Remote clock offset: -28.155 ms


# Below is generated by plot.py at 2019-06-28 09:01:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 343.05 Mbit/s
95th percentile per-packet one-way delay: 127.927 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 343.05 Mbit/s
95th percentile per-packet one-way delay: 127.927 ms
Loss rate: 1.00%
```
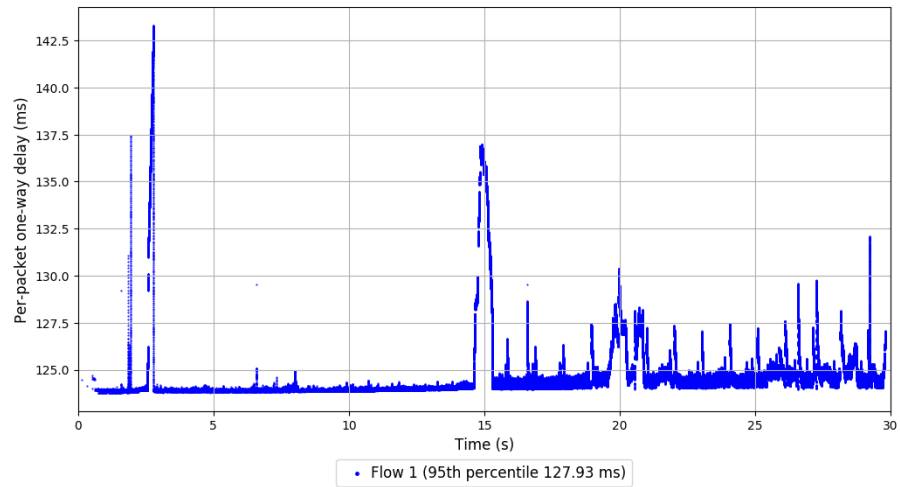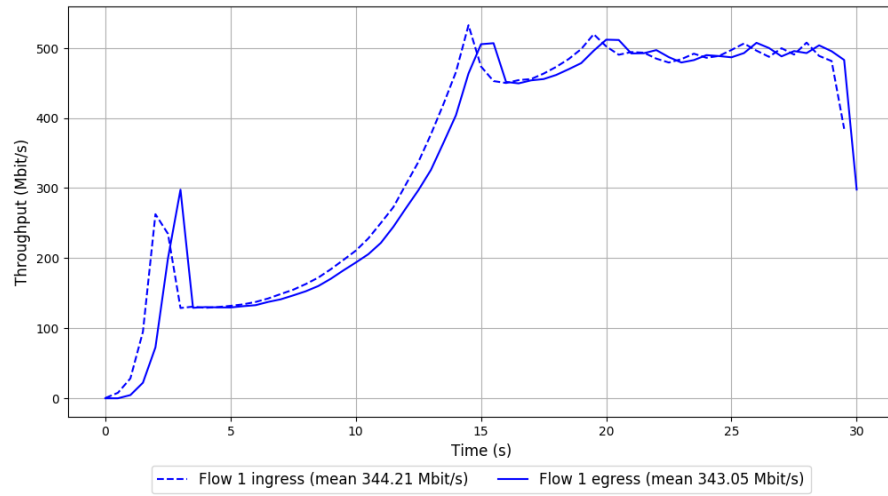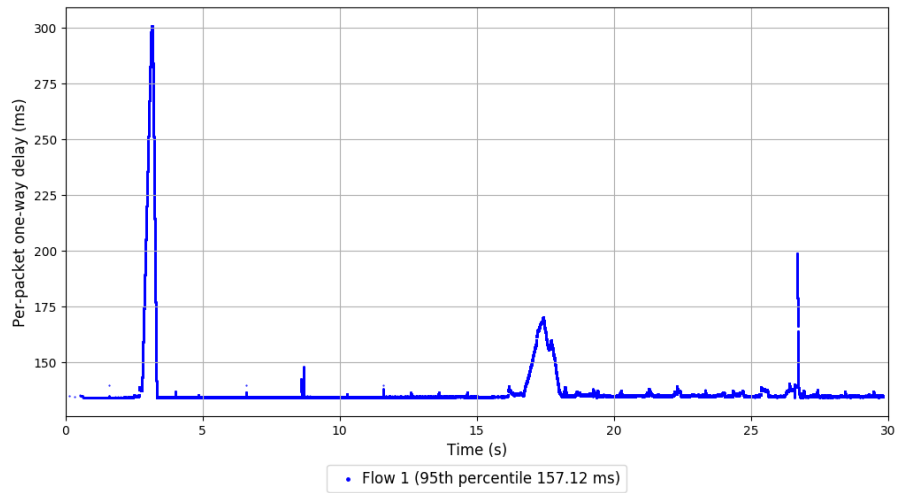
Run 2: Report of PCC-Allegro — Data Link



Flow 1 ingress (mean 344.21 Mbit/s) ----    Flow 1 egress (mean 343.05 Mbit/s) ——



• Flow 1 (95th percentile 127.93 ms)

```
Run 3: Statistics of PCC-Allegro

Start at: 2019-06-28 07:00:49
End at: 2019-06-28 07:01:19
Local clock offset: -0.119 ms
Remote clock offset: -37.515 ms


# Below is generated by plot.py at 2019-06-28 09:01:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 386.21 Mbit/s
95th percentile per-packet one-way delay: 157.115 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 386.21 Mbit/s
95th percentile per-packet one-way delay: 157.115 ms
Loss rate: 0.85%
```
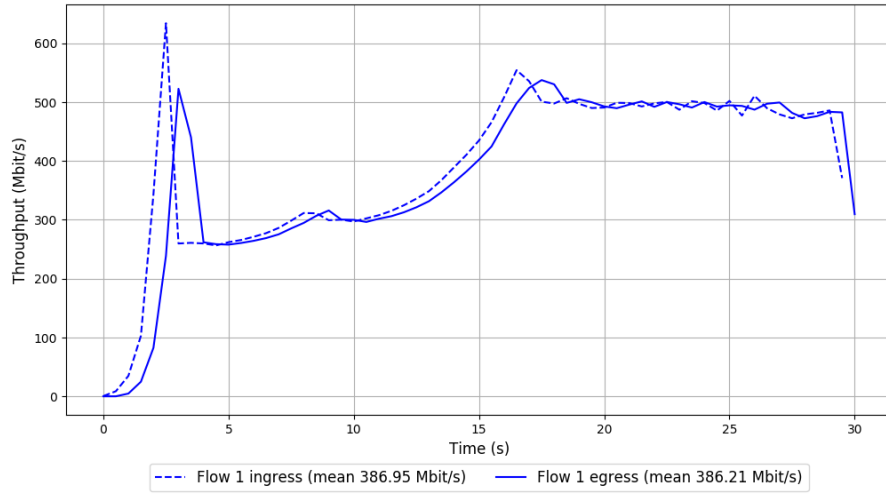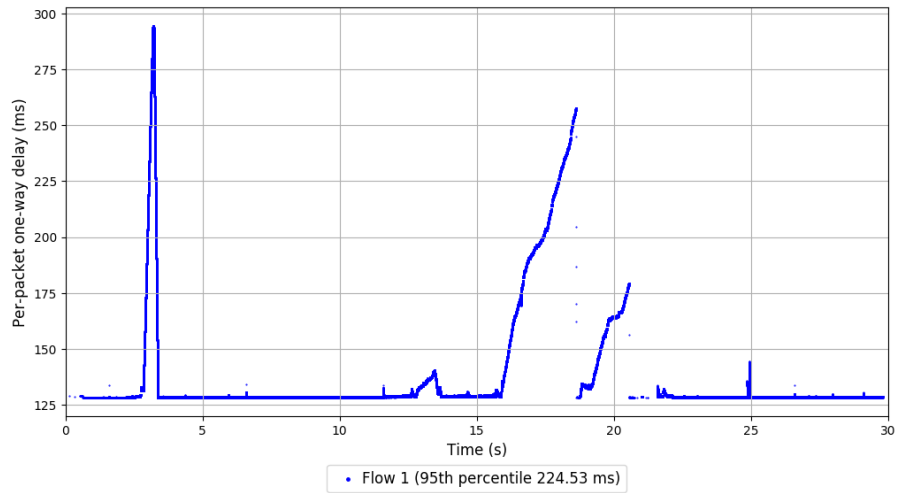
# Run 3: Report of PCC-Allegro — Data Link



Flow 1 ingress (mean 386.95 Mbit/s)    Flow 1 egress (mean 386.21 Mbit/s)



Flow 1 (95th percentile 157.12 ms)

```
Run 4: Statistics of PCC-Allegro

Start at: 2019-06-28 07:30:32
End at: 2019-06-28 07:31:02
Local clock offset: -0.902 ms
Remote clock offset: -32.551 ms


# Below is generated by plot.py at 2019-06-28 09:01:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 296.97 Mbit/s
95th percentile per-packet one-way delay: 224.530 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 296.97 Mbit/s
95th percentile per-packet one-way delay: 224.530 ms
Loss rate: 0.59%
```
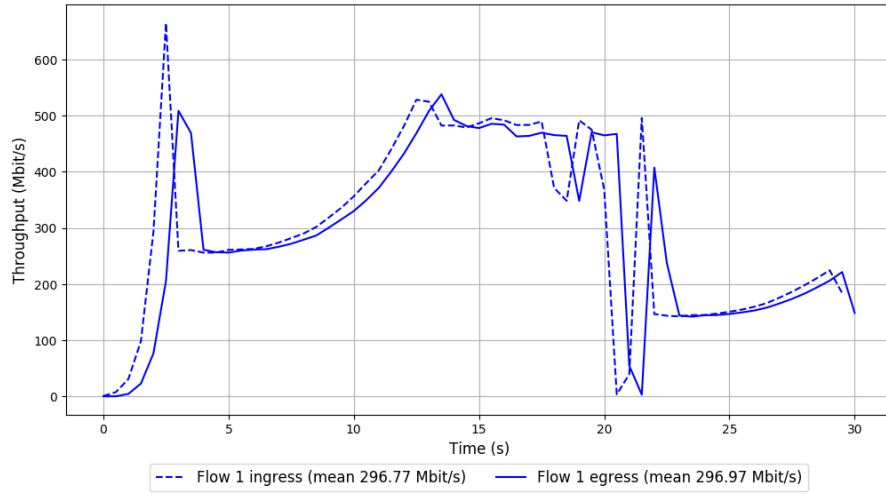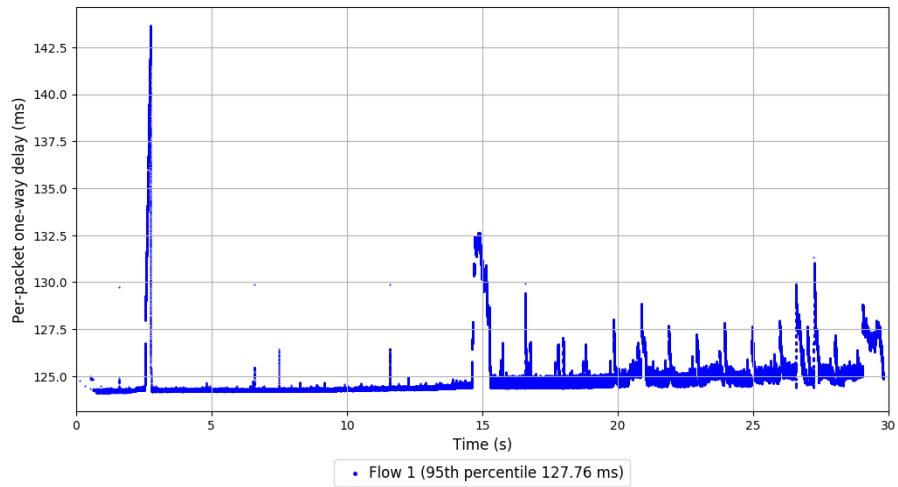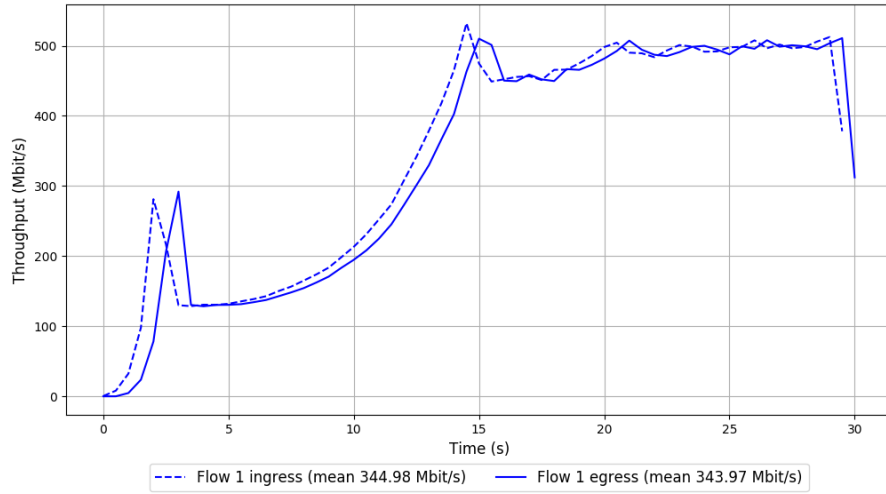
Run 4: Report of PCC-Allegro — Data Link



Flow 1 ingress (mean 296.77 Mbit/s) —— Flow 1 egress (mean 296.97 Mbit/s)



· Flow 1 (95th percentile 224.53 ms)

```
Run 5: Statistics of PCC-Allegro

Start at: 2019-06-28 08:00:11
End at: 2019-06-28 08:00:41
Local clock offset: -0.154 ms
Remote clock offset: -30.161 ms


# Below is generated by plot.py at 2019-06-28 09:01:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 343.97 Mbit/s
95th percentile per-packet one-way delay: 127.763 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 343.97 Mbit/s
95th percentile per-packet one-way delay: 127.763 ms
Loss rate: 0.95%
```
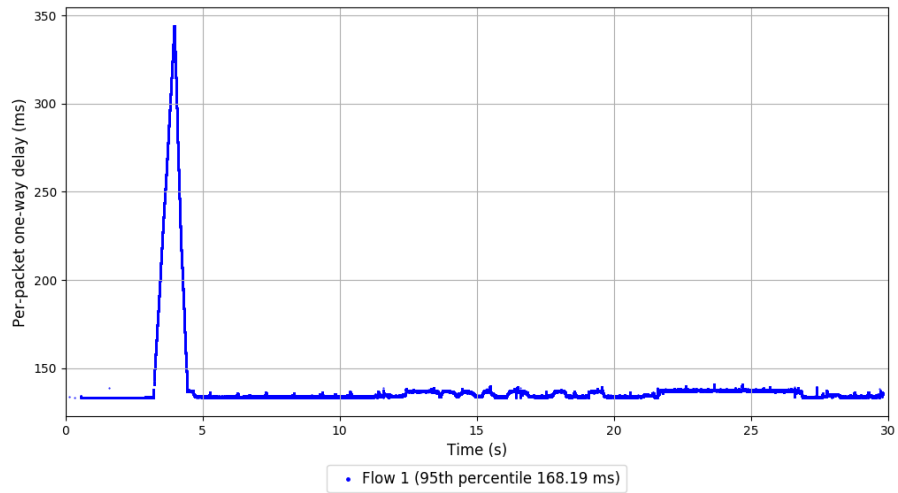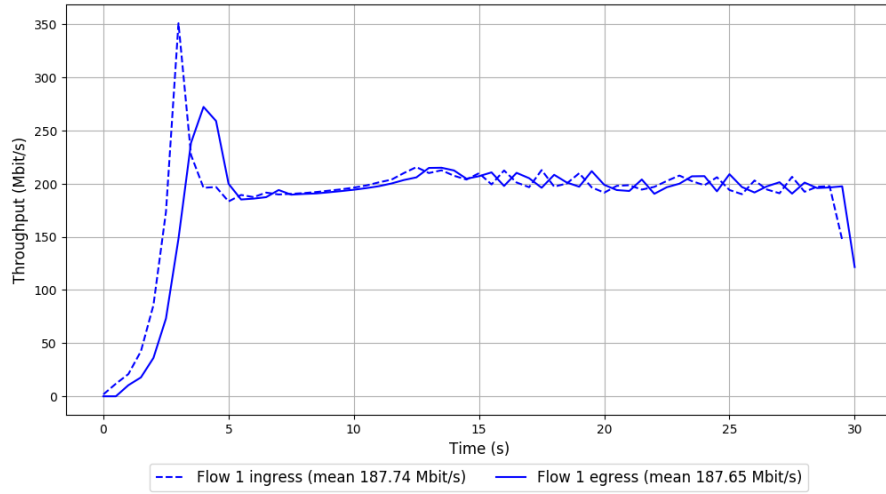
Run 5: Report of PCC-Allegro — Data Link

```
Run 1: Statistics of PCC-Expr

Start at: 2019-06-28 05:59:40
End at: 2019-06-28 06:00:10
Local clock offset: -1.786 ms
Remote clock offset: -38.704 ms


# Below is generated by plot.py at 2019-06-28 09:03:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 187.65 Mbit/s
95th percentile per-packet one-way delay: 168.185 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 187.65 Mbit/s
95th percentile per-packet one-way delay: 168.185 ms
Loss rate: 0.71%
```

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



Flow 1 ingress (mean 187.74 Mbit/s) ----  Flow 1 egress (mean 187.65 Mbit/s) ——
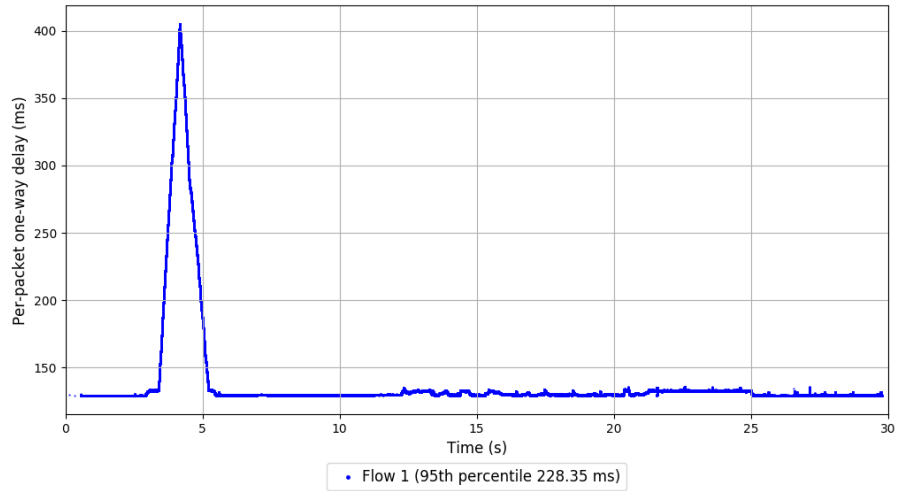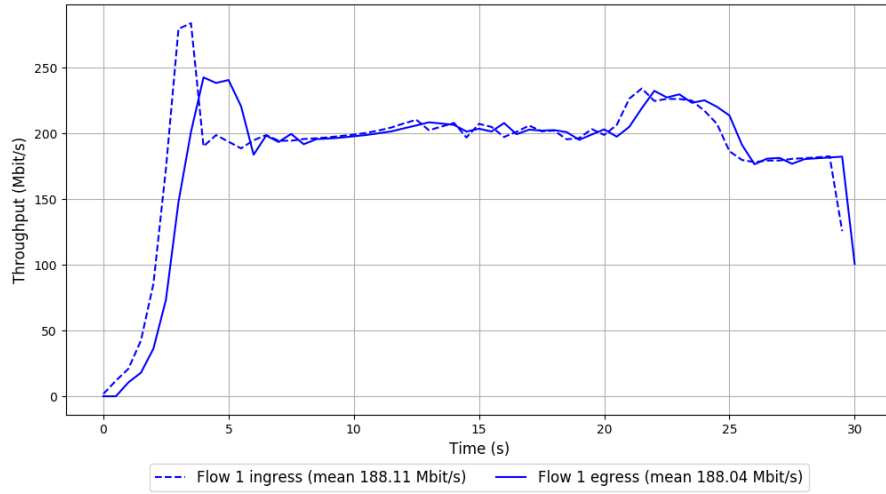


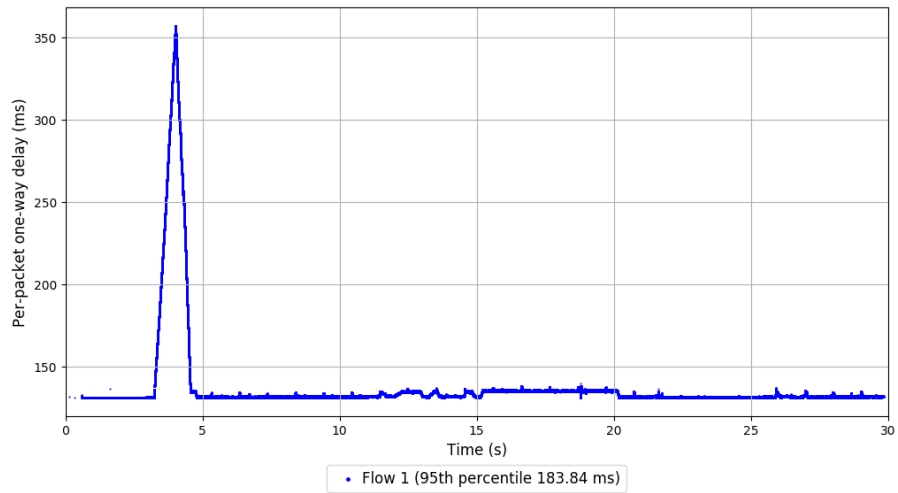• Flow 1 (95th percentile 168.19 ms)

```
Run 2: Statistics of PCC-Expr

Start at: 2019-06-28 06:29:31
End at: 2019-06-28 06:30:01
Local clock offset: -0.595 ms
Remote clock offset: -32.665 ms


# Below is generated by plot.py at 2019-06-28 09:04:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 188.04 Mbit/s
95th percentile per-packet one-way delay: 228.352 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 188.04 Mbit/s
95th percentile per-packet one-way delay: 228.352 ms
Loss rate: 0.70%
```

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



Flow 1 ingress (mean 188.11 Mbit/s)    Flow 1 egress (mean 188.04 Mbit/s)
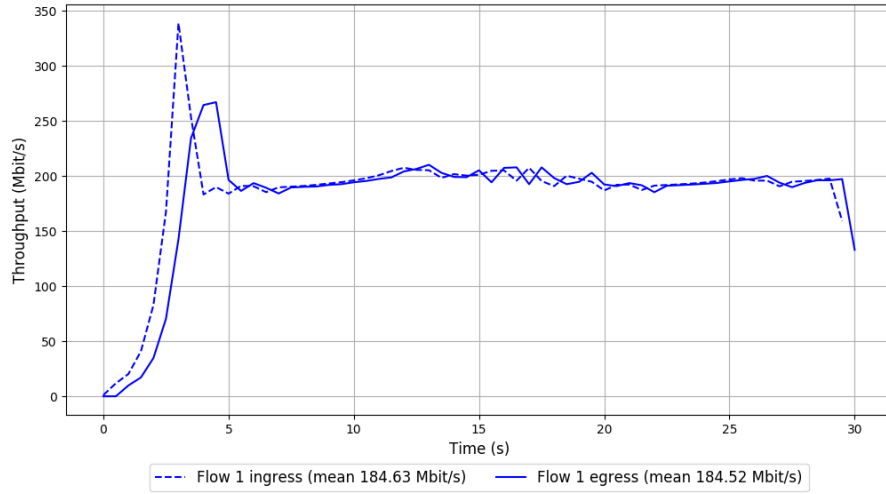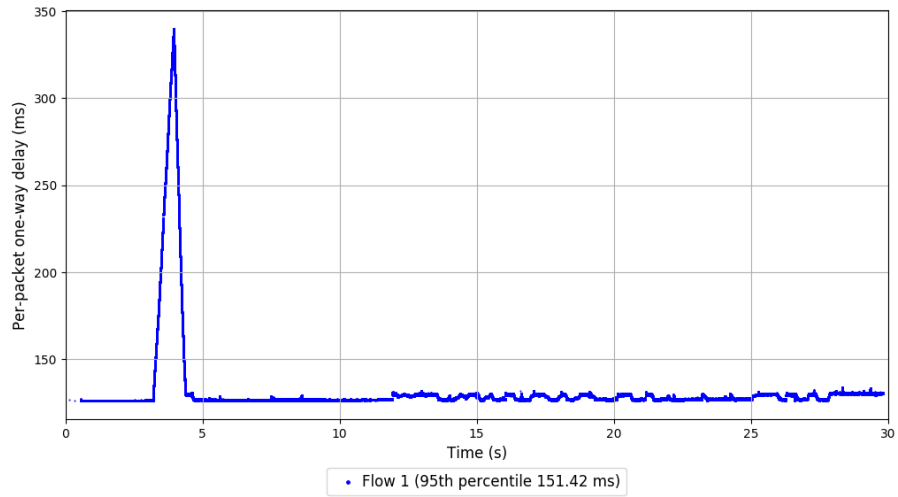


• Flow 1 (95th percentile 228.35 ms)

```
Run 3: Statistics of PCC-Expr

Start at: 2019-06-28 06:59:23
End at: 2019-06-28 06:59:53
Local clock offset: 0.013 ms
Remote clock offset: -34.404 ms


# Below is generated by plot.py at 2019-06-28 09:04:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 184.52 Mbit/s
95th percentile per-packet one-way delay: 183.842 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 184.52 Mbit/s
95th percentile per-packet one-way delay: 183.842 ms
Loss rate: 0.72%
```
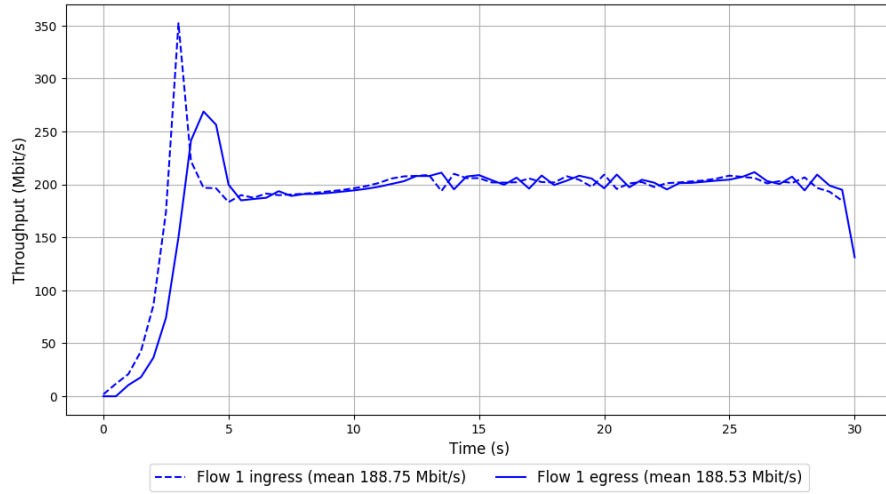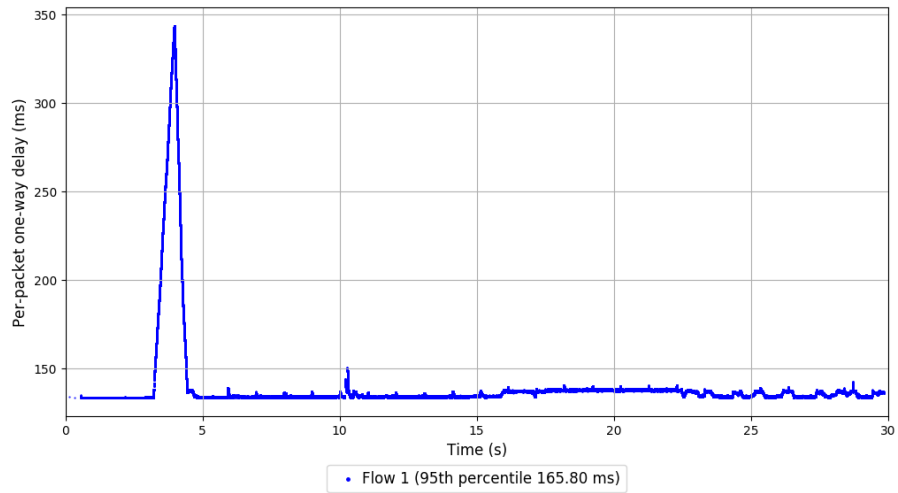
## Run 3: Report of PCC-Expr — Data Link

```
Run 4: Statistics of PCC-Expr

Start at: 2019-06-28 07:29:05
End at: 2019-06-28 07:29:35
Local clock offset: -1.391 ms
Remote clock offset: -31.12 ms


# Below is generated by plot.py at 2019-06-28 09:04:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 188.53 Mbit/s
95th percentile per-packet one-way delay: 151.421 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 188.53 Mbit/s
95th percentile per-packet one-way delay: 151.421 ms
Loss rate: 0.91%
```
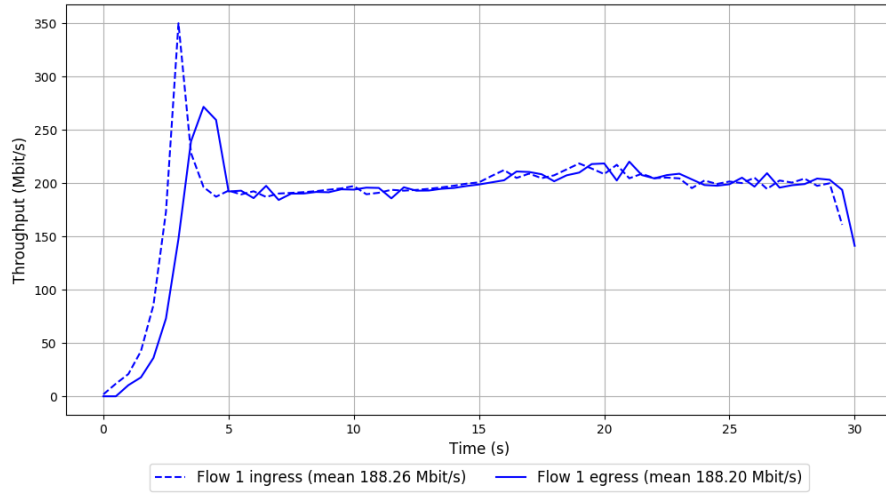
# Run 4: Report of PCC-Expr — Data Link

```
Run 5: Statistics of PCC-Expr

Start at: 2019-06-28 07:58:45
End at: 2019-06-28 07:59:15
Local clock offset: -1.193 ms
Remote clock offset: -40.596 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 188.20 Mbit/s
95th percentile per-packet one-way delay: 165.802 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 188.20 Mbit/s
95th percentile per-packet one-way delay: 165.802 ms
Loss rate: 0.69%
```
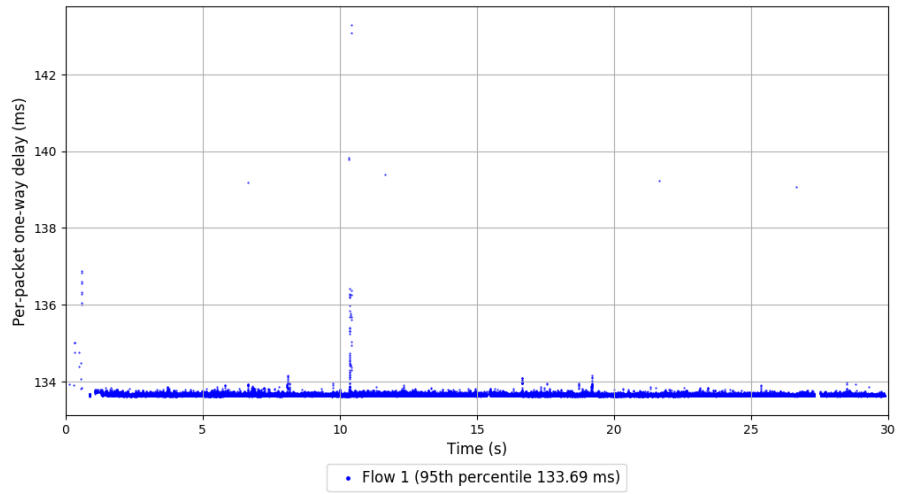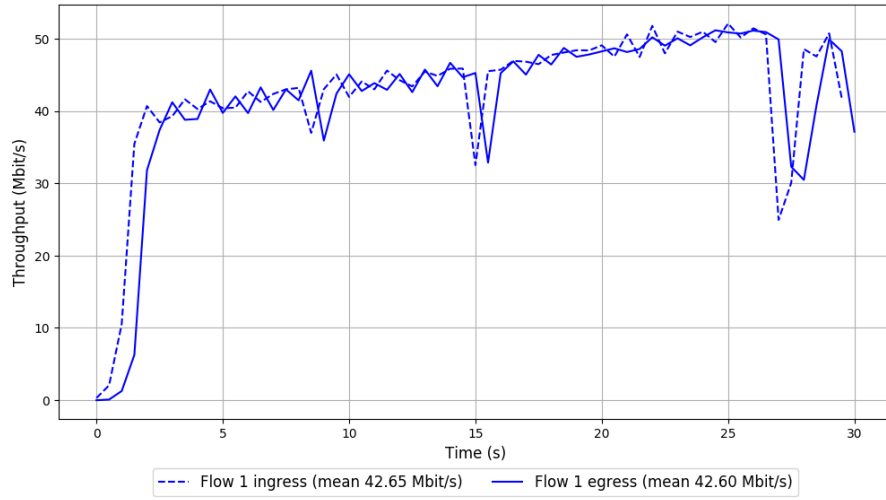
# Run 5: Report of PCC-Expr — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2019-06-28 06:06:50
End at: 2019-06-28 06:07:20
Local clock offset: -0.859 ms
Remote clock offset: -38.392 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.60 Mbit/s
95th percentile per-packet one-way delay: 133.689 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 42.60 Mbit/s
95th percentile per-packet one-way delay: 133.689 ms
Loss rate: 0.76%
```

Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2019-06-28 06:36:38
End at: 2019-06-28 06:37:09
Local clock offset: -0.024 ms
Remote clock offset: -31.969 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.75 Mbit/s
95th percentile per-packet one-way delay: 128.845 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 79.75 Mbit/s
95th percentile per-packet one-way delay: 128.845 ms
Loss rate: 0.24%
```
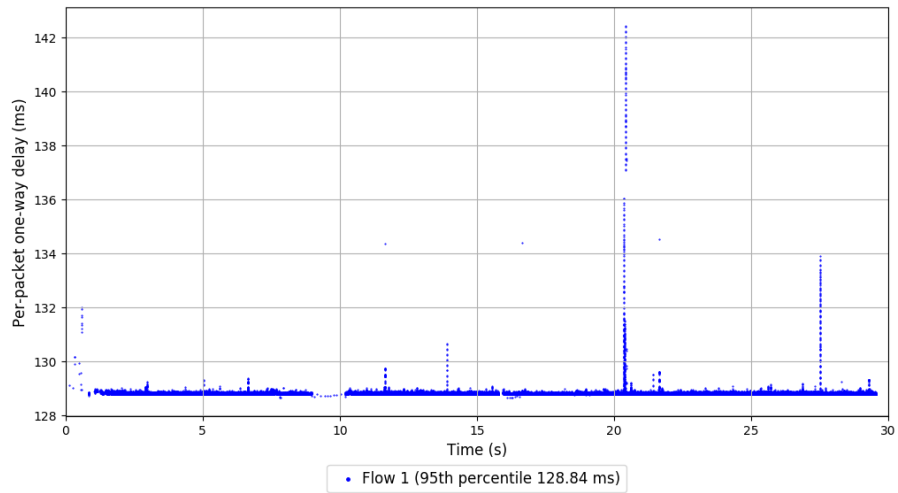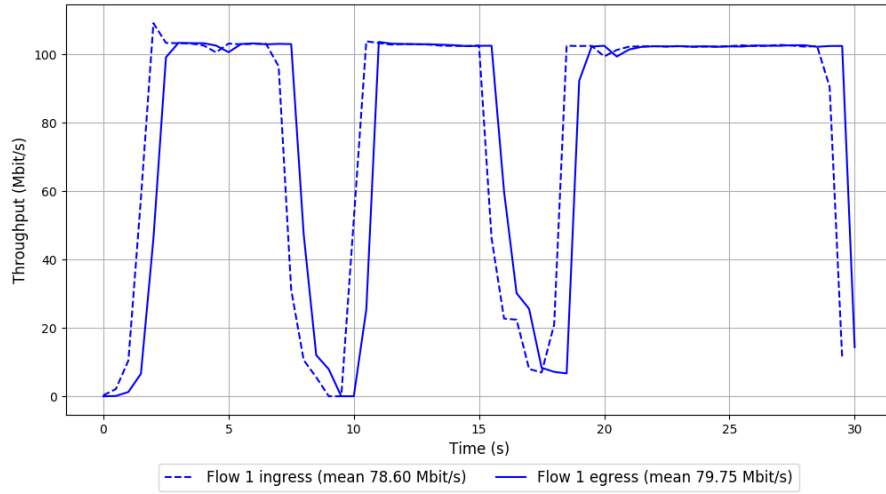
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2019-06-28 07:06:31
End at: 2019-06-28 07:07:01
Local clock offset: 0.906 ms
Remote clock offset: -32.88 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.99 Mbit/s
95th percentile per-packet one-way delay: 130.303 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 78.99 Mbit/s
95th percentile per-packet one-way delay: 130.303 ms
Loss rate: 0.34%
```
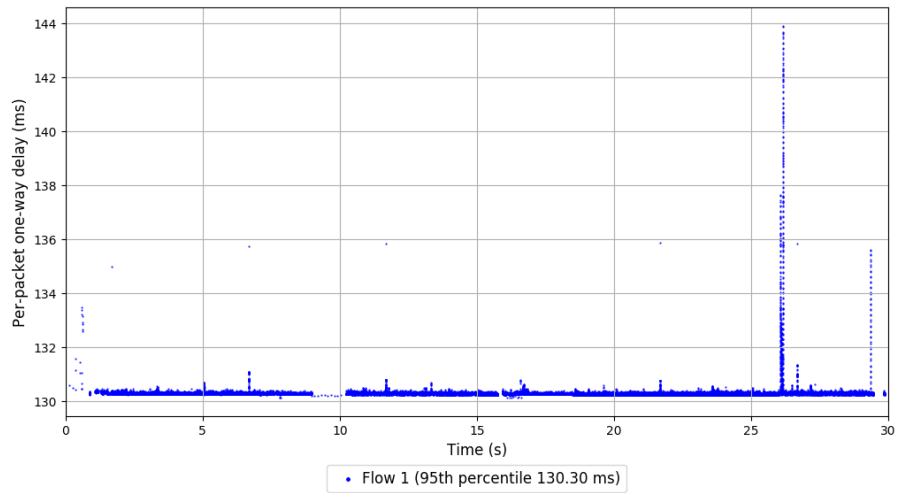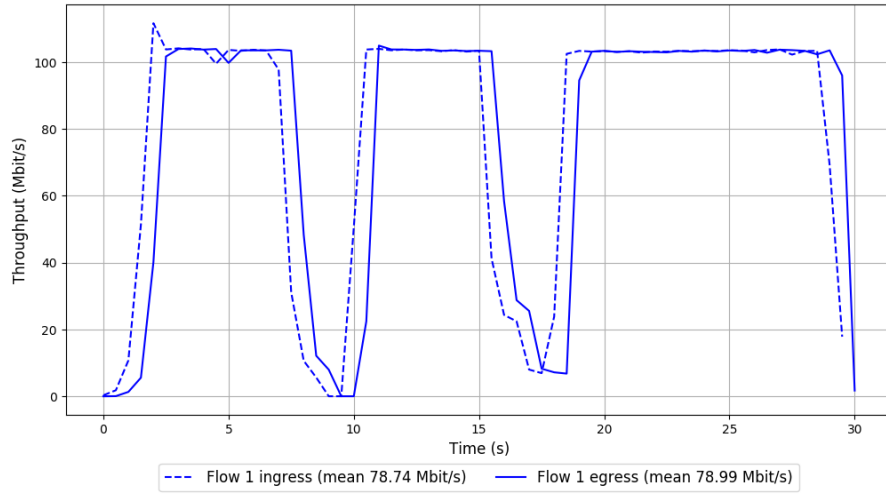
Run 3: Report of QUIC Cubic — Data Link



Flow 1 ingress (mean 78.74 Mbit/s) ----    Flow 1 egress (mean 78.99 Mbit/s) ——



Flow 1 (95th percentile 130.30 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2019-06-28 07:36:11
End at: 2019-06-28 07:36:41
Local clock offset: -0.19 ms
Remote clock offset: -26.926 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.51 Mbit/s
95th percentile per-packet one-way delay: 124.322 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 42.51 Mbit/s
95th percentile per-packet one-way delay: 124.322 ms
Loss rate: 0.78%
```
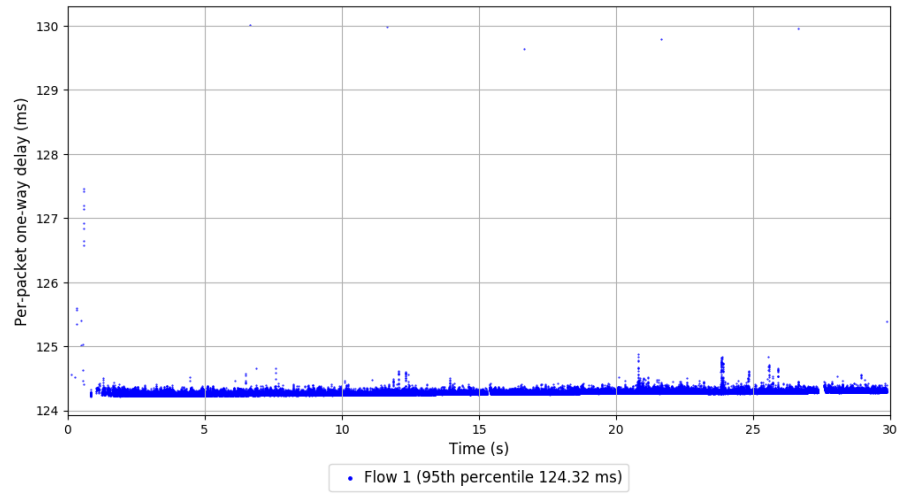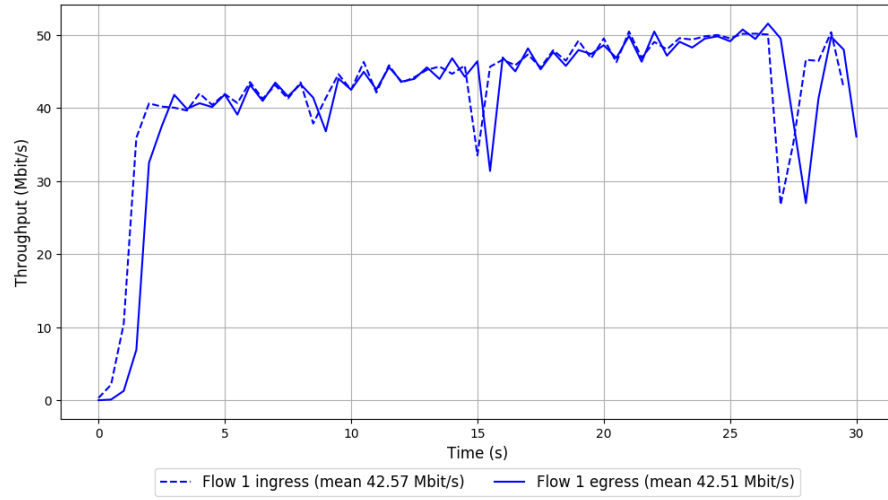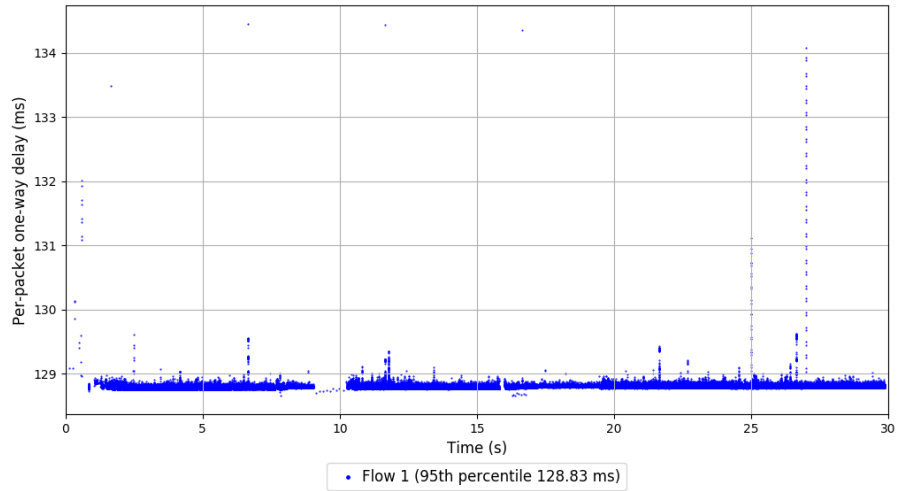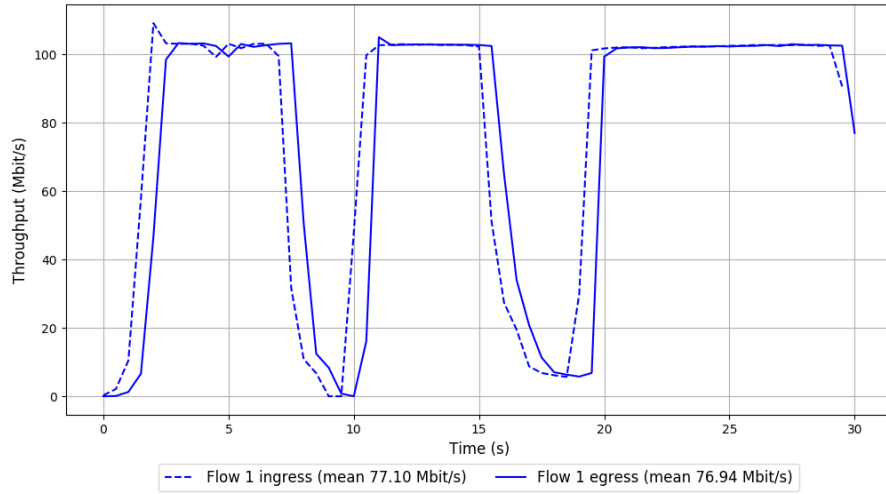
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2019-06-28 08:05:53
End at: 2019-06-28 08:06:24
Local clock offset: -0.949 ms
Remote clock offset: -34.695 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.94 Mbit/s
95th percentile per-packet one-way delay: 128.826 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 76.94 Mbit/s
95th percentile per-packet one-way delay: 128.826 ms
Loss rate: 0.87%
```
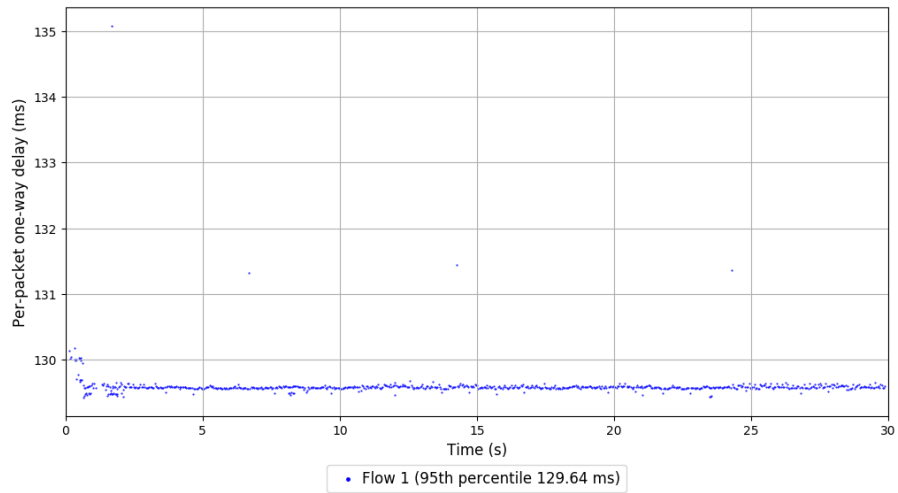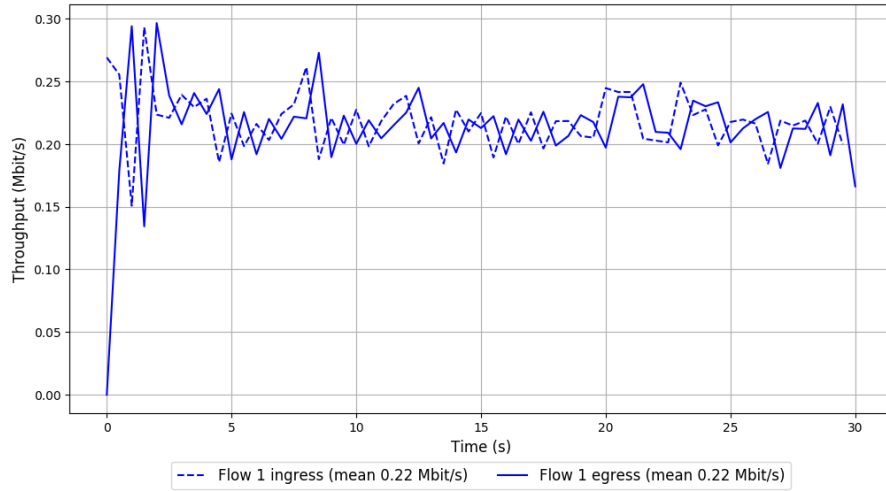
Run 5: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of SCReAM

Start at: 2019-06-28 06:21:52
End at: 2019-06-28 06:22:22
Local clock offset: -0.256 ms
Remote clock offset: -33.316 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 129.640 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 129.640 ms
Loss rate: 0.63%
```

Run 1: Report of SCReAM — Data Link



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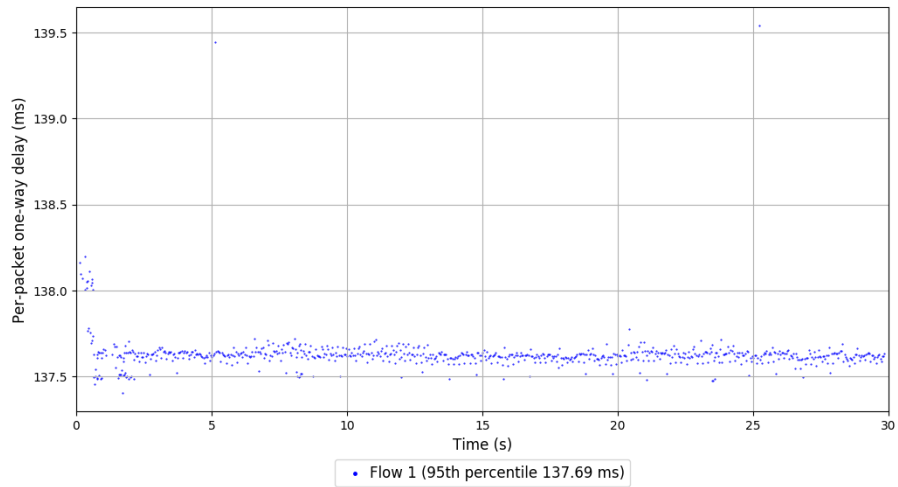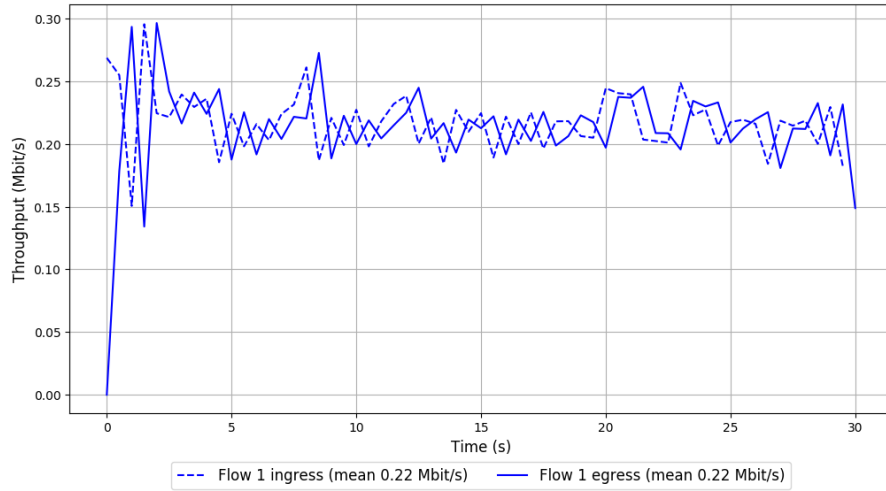


• Flow 1 (95th percentile 129.64 ms)

```
Run 2: Statistics of SCReAM

Start at: 2019-06-28 06:51:43
End at: 2019-06-28 06:52:13
Local clock offset: -0.343 ms
Remote clock offset: -41.137 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.691 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 137.691 ms
Loss rate: 0.64%
```

Run 2: Report of SCReAM — Data Link



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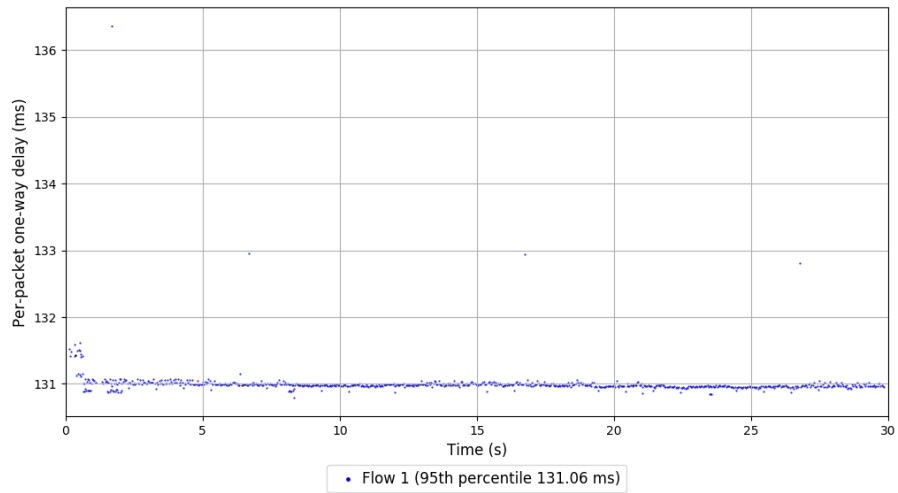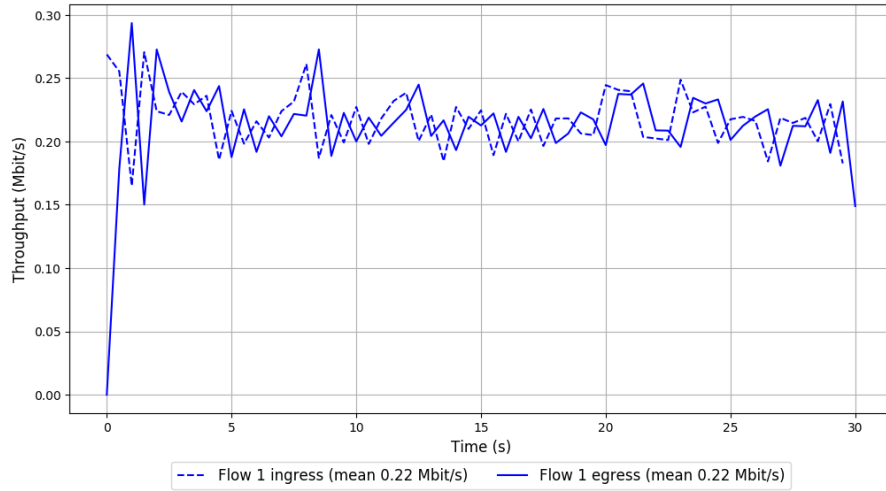


• Flow 1 (95th percentile 137.69 ms)

```
Run 3: Statistics of SCReAM

Start at: 2019-06-28 07:21:24
End at: 2019-06-28 07:21:54
Local clock offset: -0.688 ms
Remote clock offset: -35.787 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.062 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 131.062 ms
Loss rate: 0.64%
```
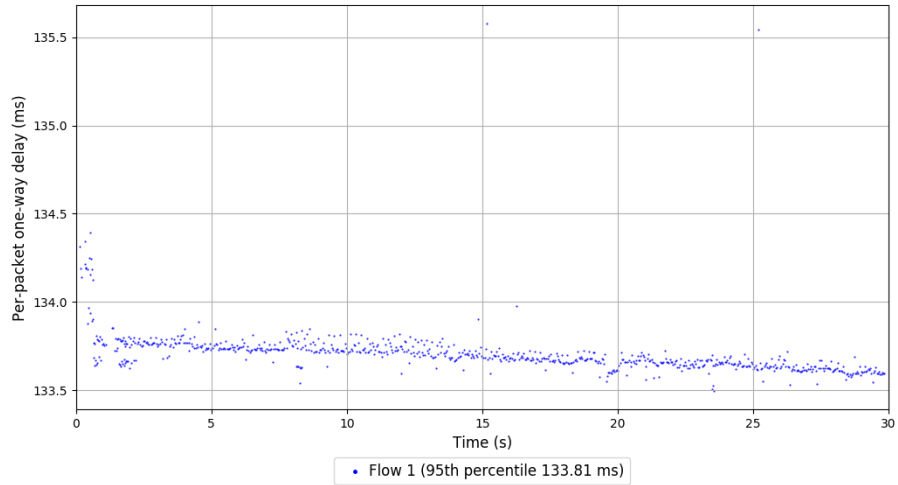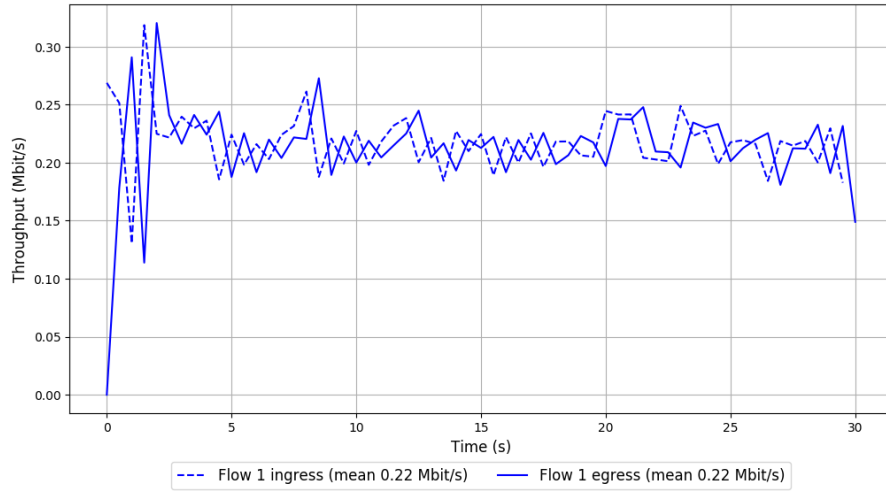
Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2019-06-28 07:50:56
End at: 2019-06-28 07:51:26
Local clock offset: -1.484 ms
Remote clock offset: -39.84 ms

# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.814 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 133.814 ms
Loss rate: 0.64%
```

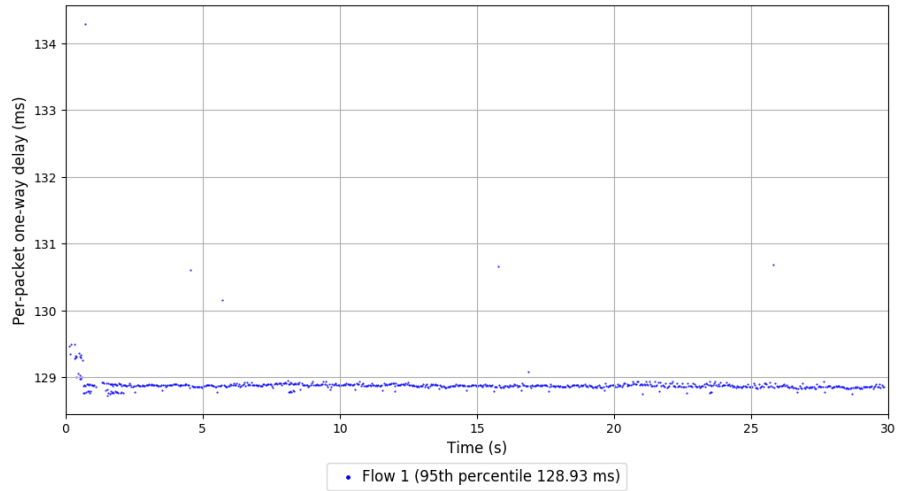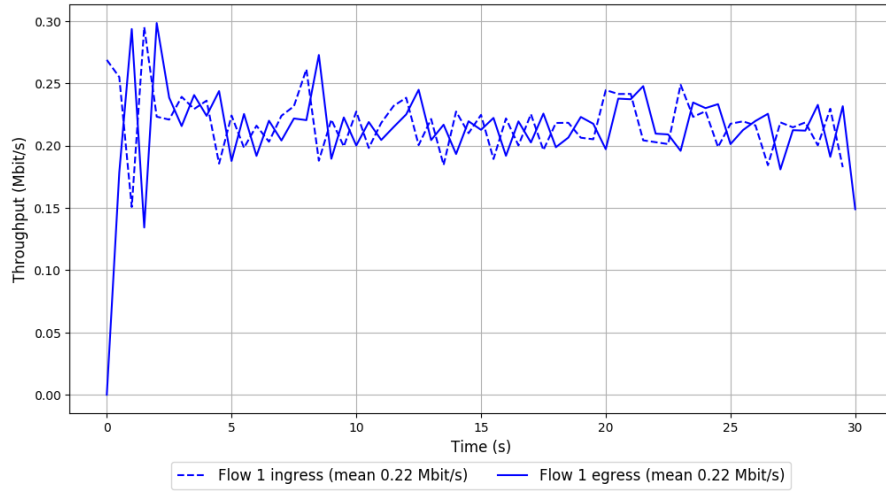# Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2019-06-28 08:20:50
End at: 2019-06-28 08:21:20
Local clock offset: -0.81 ms
Remote clock offset: -34.794 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 128.932 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 128.932 ms
Loss rate: 0.64%
```

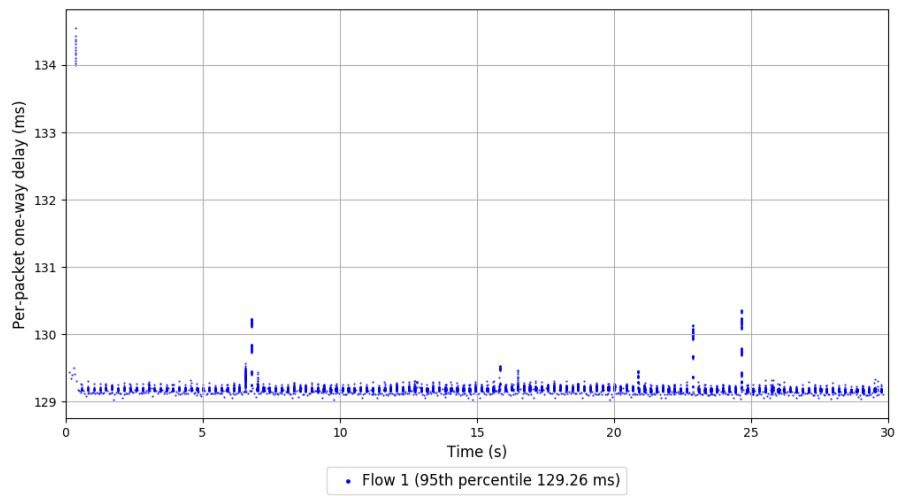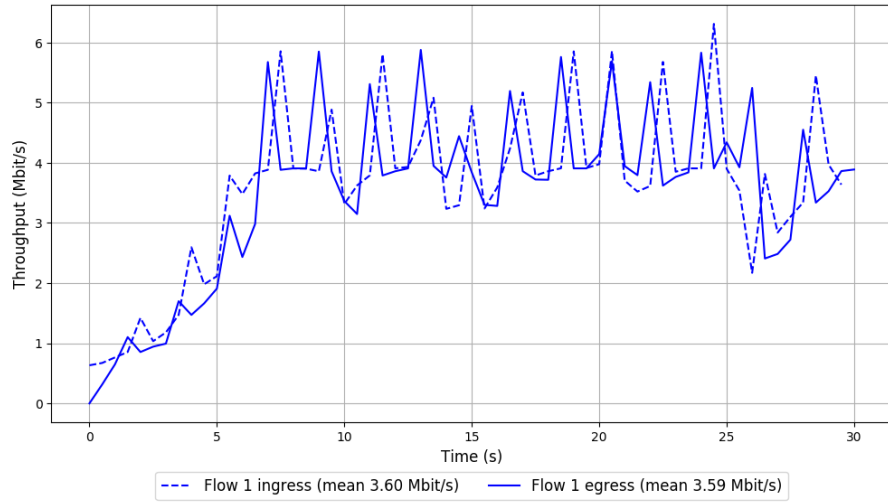Run 5: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: 2019-06-28 05:58:30
End at: 2019-06-28 05:59:00
Local clock offset: -0.336 ms
Remote clock offset: -33.11 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 129.263 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 3.59 Mbit/s
95th percentile per-packet one-way delay: 129.263 ms
Loss rate: 0.83%
```
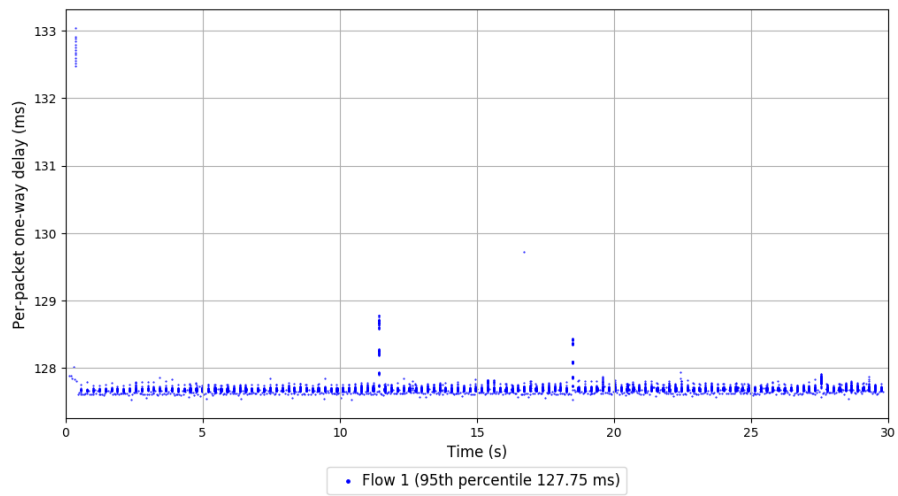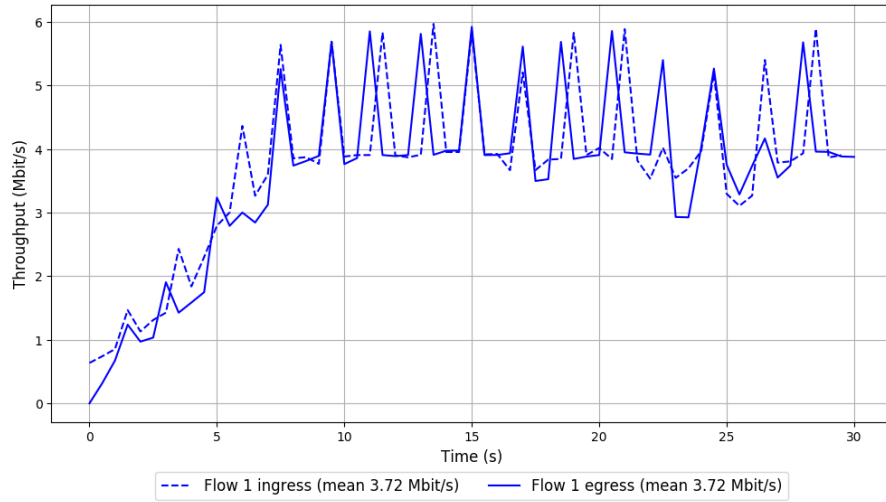
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2019-06-28 06:28:20
End at: 2019-06-28 06:28:50
Local clock offset: -1.335 ms
Remote clock offset: -32.376 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.72 Mbit/s
95th percentile per-packet one-way delay: 127.752 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 3.72 Mbit/s
95th percentile per-packet one-way delay: 127.752 ms
Loss rate: 0.88%
```
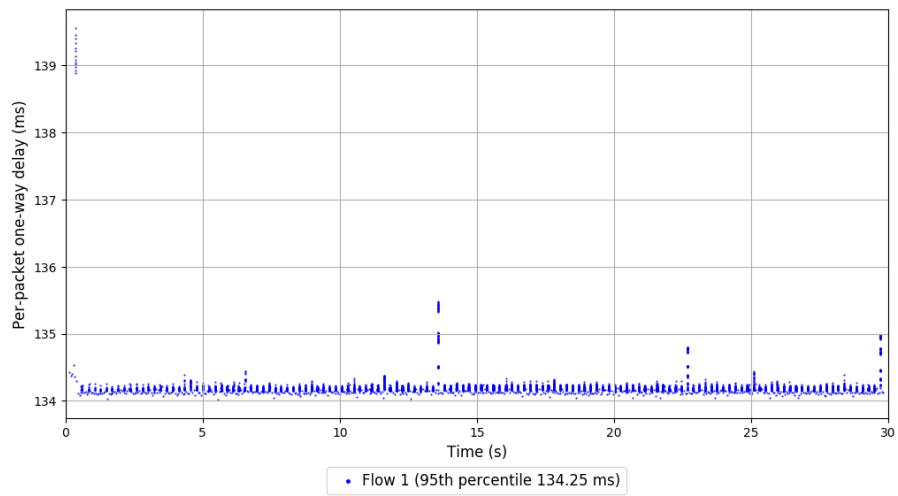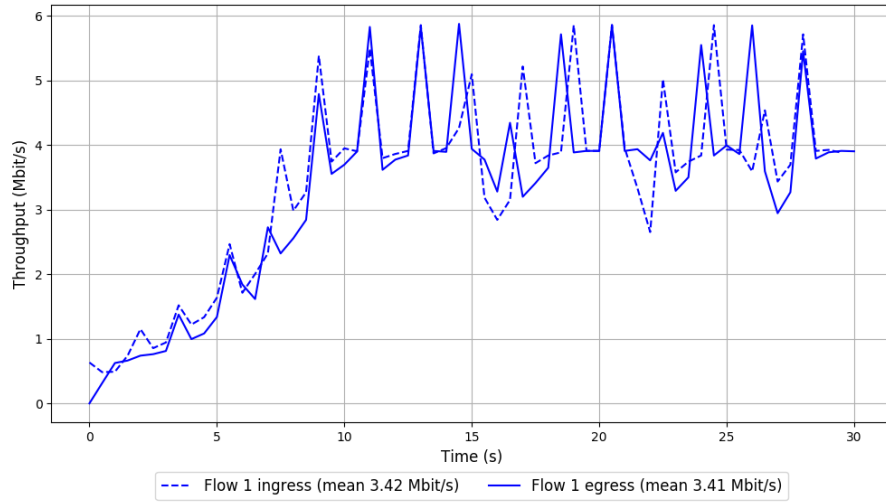
## Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2019-06-28 06:58:12
End at: 2019-06-28 06:58:42
Local clock offset: -0.313 ms
Remote clock offset: -37.757 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.41 Mbit/s
95th percentile per-packet one-way delay: 134.248 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 3.41 Mbit/s
95th percentile per-packet one-way delay: 134.248 ms
Loss rate: 0.95%
```
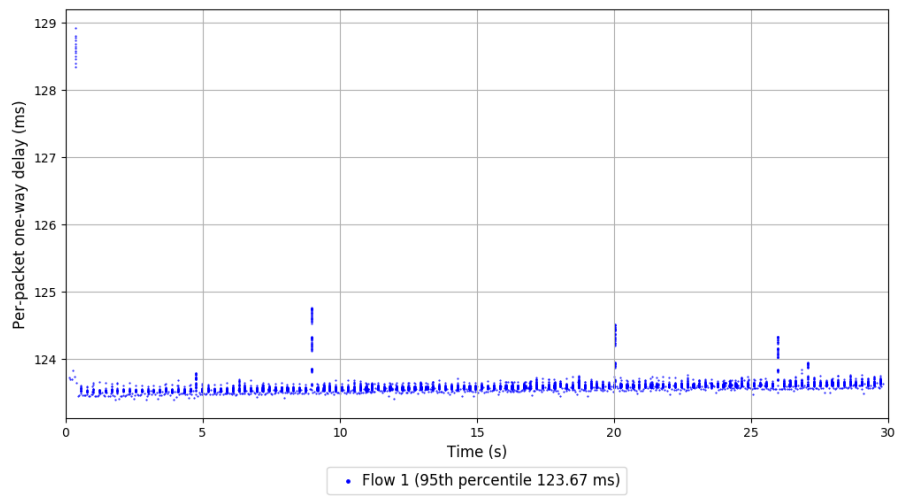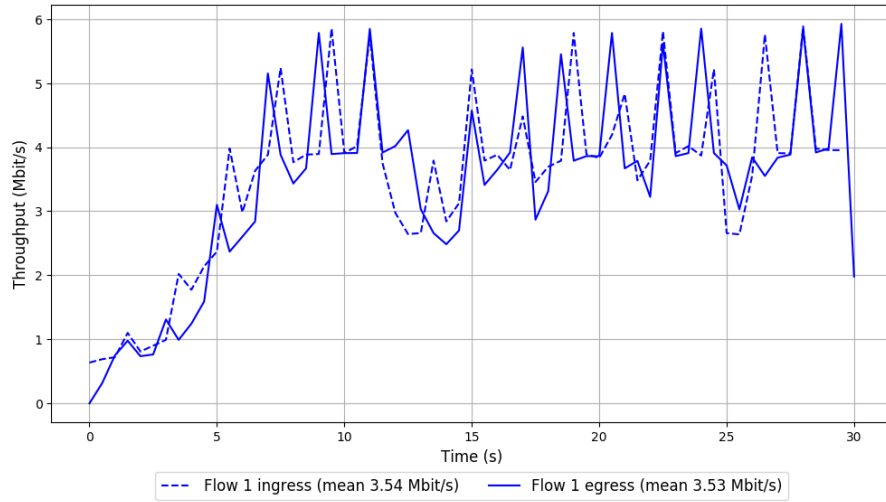
## Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2019-06-28 07:27:55
End at: 2019-06-28 07:28:25
Local clock offset: -0.112 ms
Remote clock offset: -27.509 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.53 Mbit/s
95th percentile per-packet one-way delay: 123.666 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 3.53 Mbit/s
95th percentile per-packet one-way delay: 123.666 ms
Loss rate: 0.93%
```
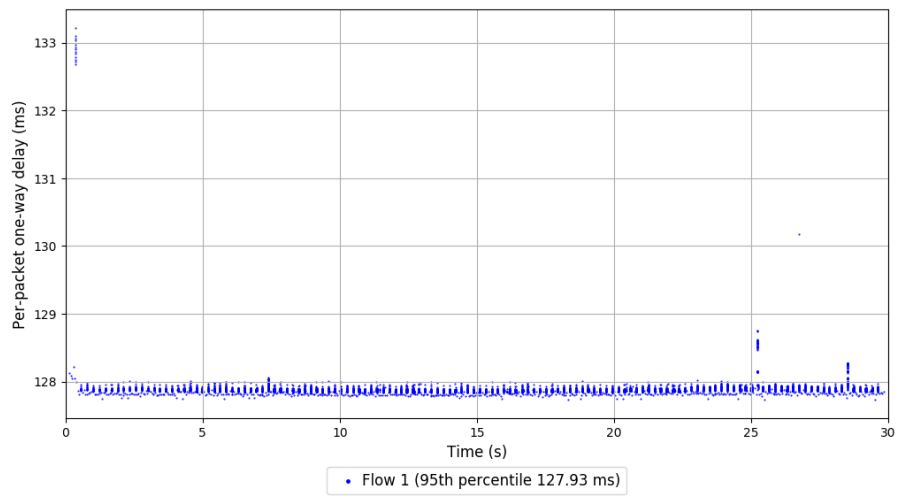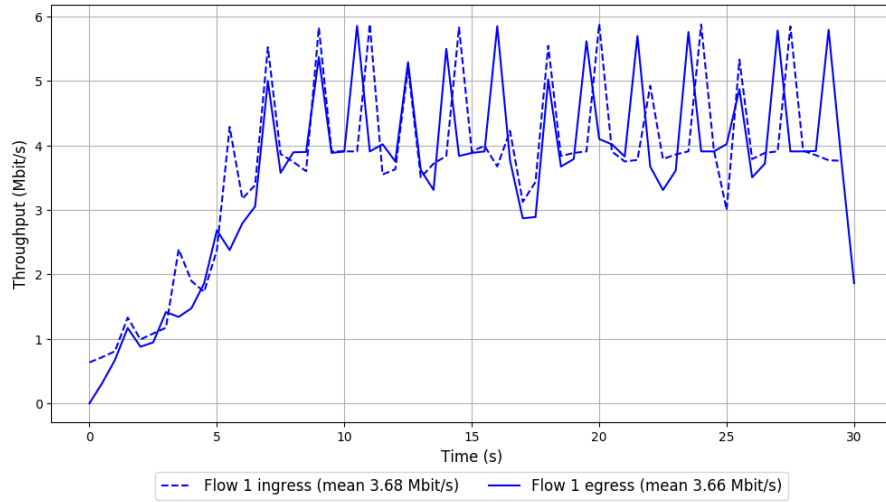
## Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2019-06-28 07:57:34
End at: 2019-06-28 07:58:04
Local clock offset: -0.675 ms
Remote clock offset: -34.378 ms


# Below is generated by plot.py at 2019-06-28 09:05:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 127.933 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 127.933 ms
Loss rate: 0.87%
```

Run 5: Report of Sprout — Data Link



Flow 1 ingress (mean 3.68 Mbit/s)    Flow 1 egress (mean 3.66 Mbit/s)


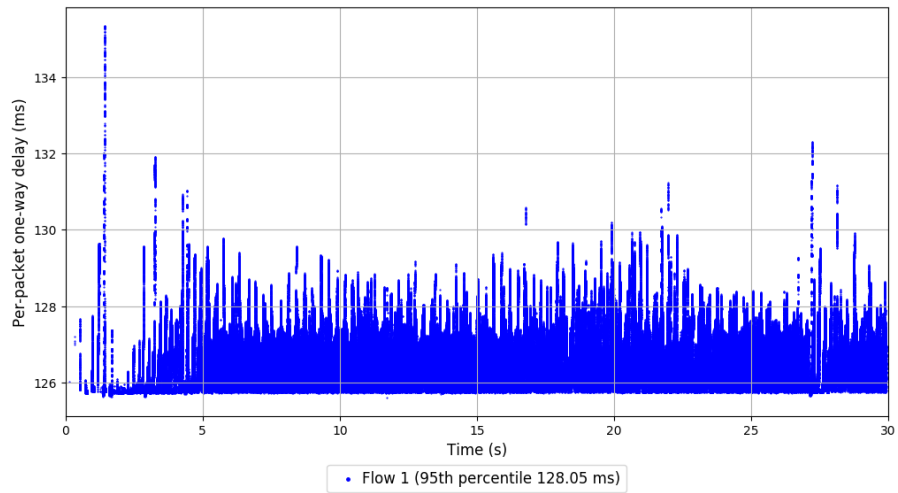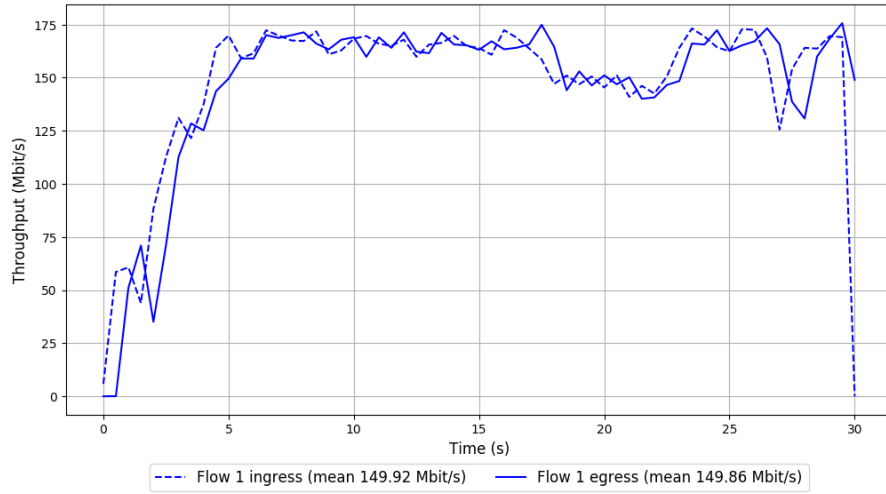
Flow 1 (95th percentile 127.93 ms)

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

Start at: 2019-06-28 06:23:02
End at: 2019-06-28 06:23:32
Local clock offset: -0.892 ms
Remote clock offset: -30.221 ms


# Below is generated by plot.py at 2019-06-28 09:05:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 149.86 Mbit/s
95th percentile per-packet one-way delay: 128.046 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 149.86 Mbit/s
95th percentile per-packet one-way delay: 128.046 ms
Loss rate: 0.70%
```

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



Flow 1 ingress (mean 149.92 Mbit/s)   Flow 1 egress (mean 149.86 Mbit/s)
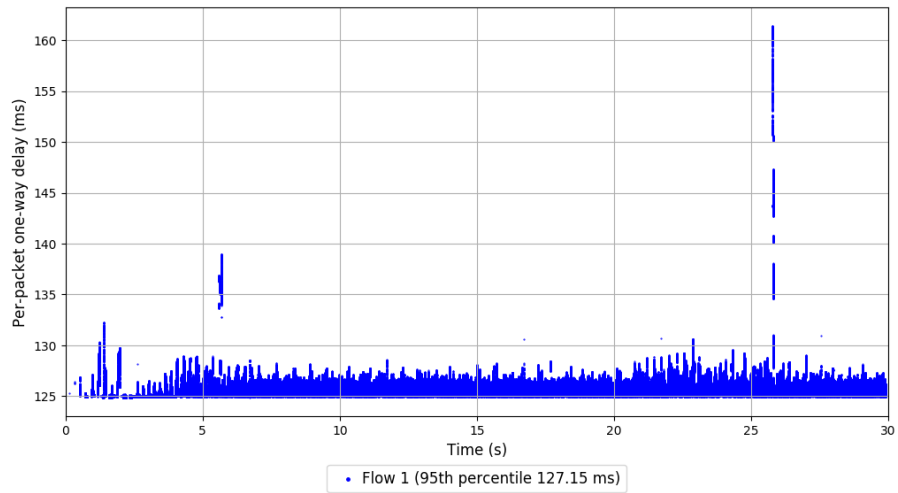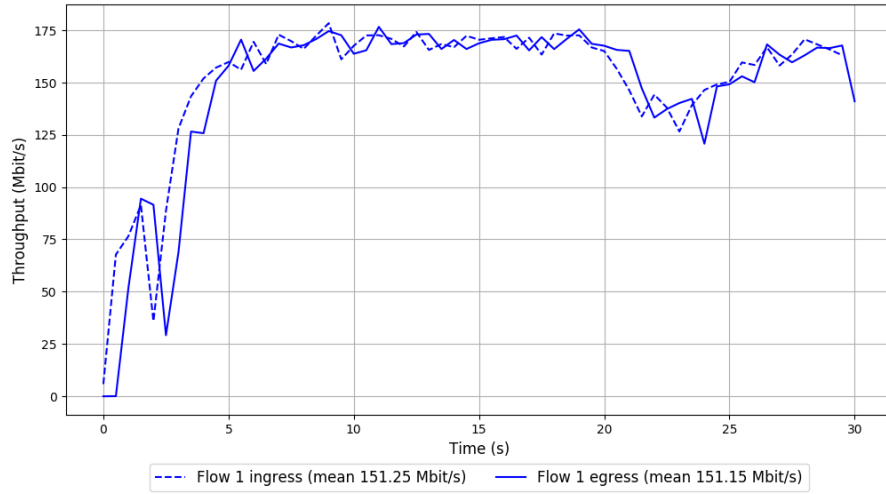


• Flow 1 (95th percentile 128.05 ms)

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

Start at: 2019-06-28 06:52:53
End at: 2019-06-28 06:53:23
Local clock offset: -0.998 ms
Remote clock offset: -29.236 ms


# Below is generated by plot.py at 2019-06-28 09:06:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 151.15 Mbit/s
95th percentile per-packet one-way delay: 127.152 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 151.15 Mbit/s
95th percentile per-packet one-way delay: 127.152 ms
Loss rate: 0.72%
```
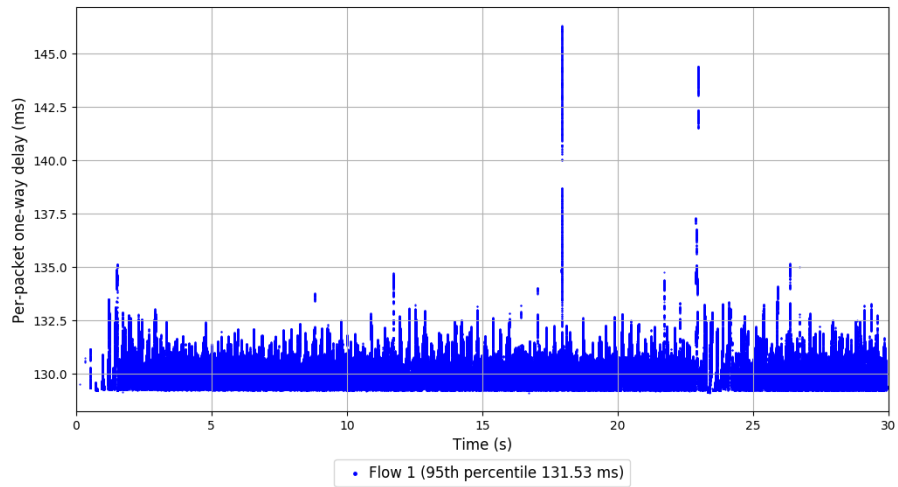
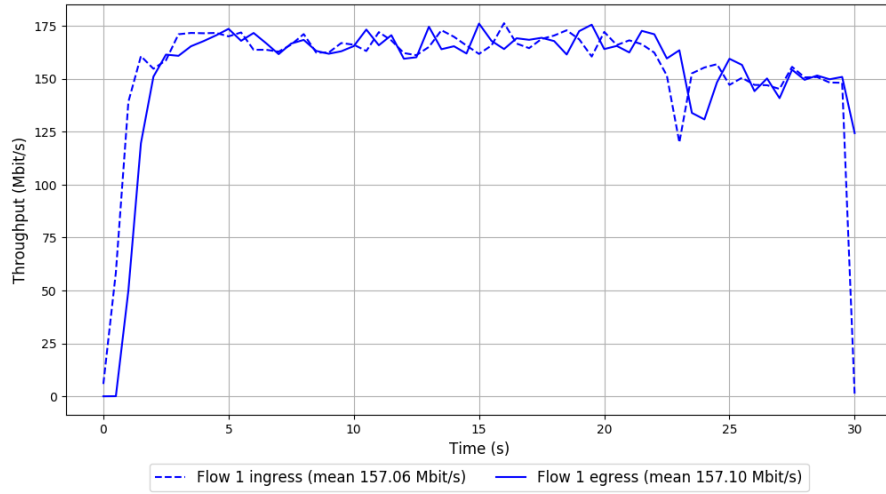# Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2019-06-28 07:22:34
End at: 2019-06-28 07:23:04
Local clock offset: -0.503 ms
Remote clock offset: -34.033 ms


# Below is generated by plot.py at 2019-06-28 09:07:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 157.10 Mbit/s
95th percentile per-packet one-way delay: 131.532 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 157.10 Mbit/s
95th percentile per-packet one-way delay: 131.532 ms
Loss rate: 0.65%
```

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



Flow 1 ingress (mean 157.06 Mbit/s) — Flow 1 egress (mean 157.10 Mbit/s)
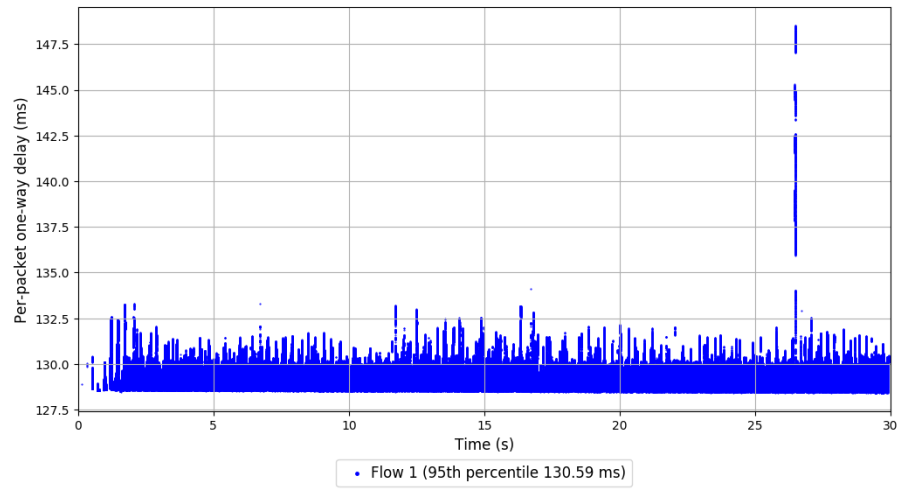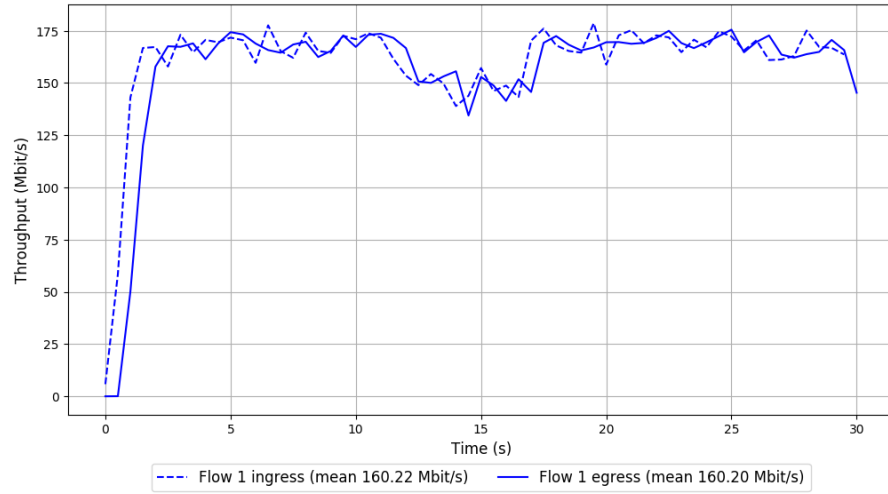


Flow 1 (95th percentile 131.53 ms)

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

Start at: 2019-06-28 07:52:06
End at: 2019-06-28 07:52:36
Local clock offset: -0.761 ms
Remote clock offset: -34.417 ms


# Below is generated by plot.py at 2019-06-28 09:07:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 160.20 Mbit/s
95th percentile per-packet one-way delay: 130.591 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 160.20 Mbit/s
95th percentile per-packet one-way delay: 130.591 ms
Loss rate: 0.66%
```

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



Flow 1 ingress (mean 160.22 Mbit/s)  Flow 1 egress (mean 160.20 Mbit/s)
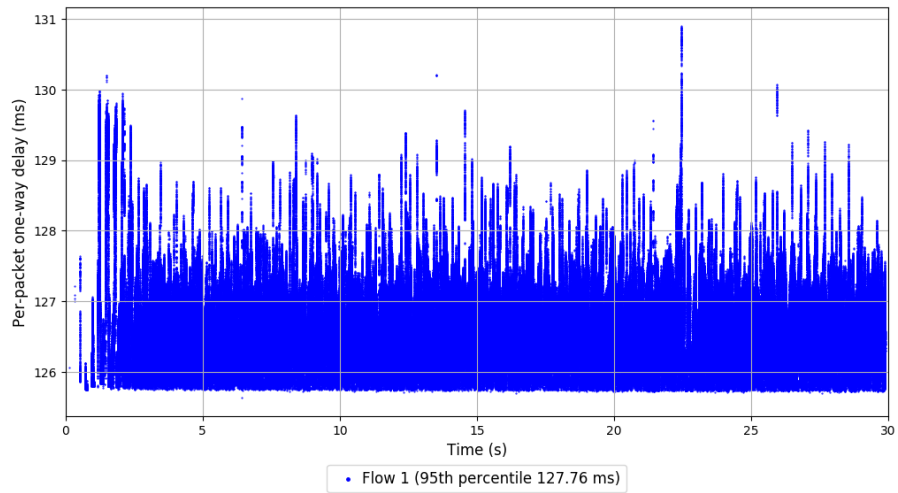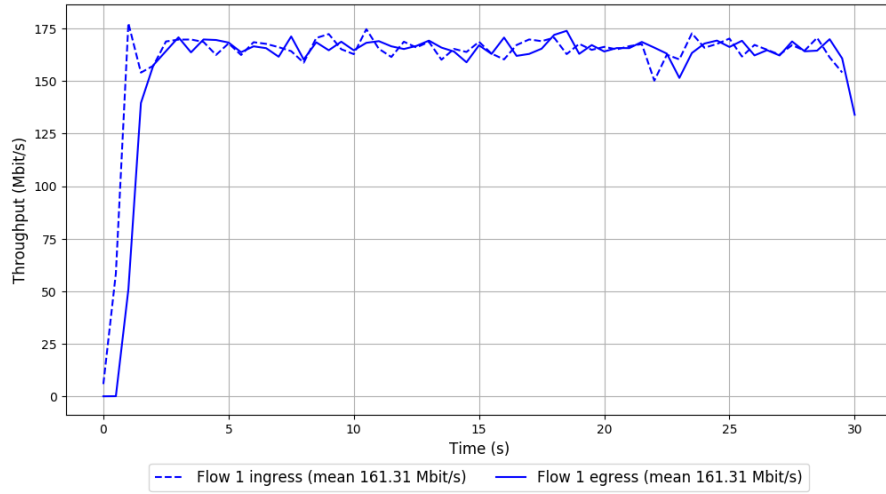


Flow 1 (95th percentile 130.59 ms)

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

Start at: 2019-06-28 08:22:00
End at: 2019-06-28 08:22:30
Local clock offset: -0.582 ms
Remote clock offset: -31.714 ms


# Below is generated by plot.py at 2019-06-28 09:07:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 161.31 Mbit/s
95th percentile per-packet one-way delay: 127.763 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 161.31 Mbit/s
95th percentile per-packet one-way delay: 127.763 ms
Loss rate: 0.66%
```

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



Flow 1 ingress (mean 161.31 Mbit/s)    Flow 1 egress (mean 161.31 Mbit/s)
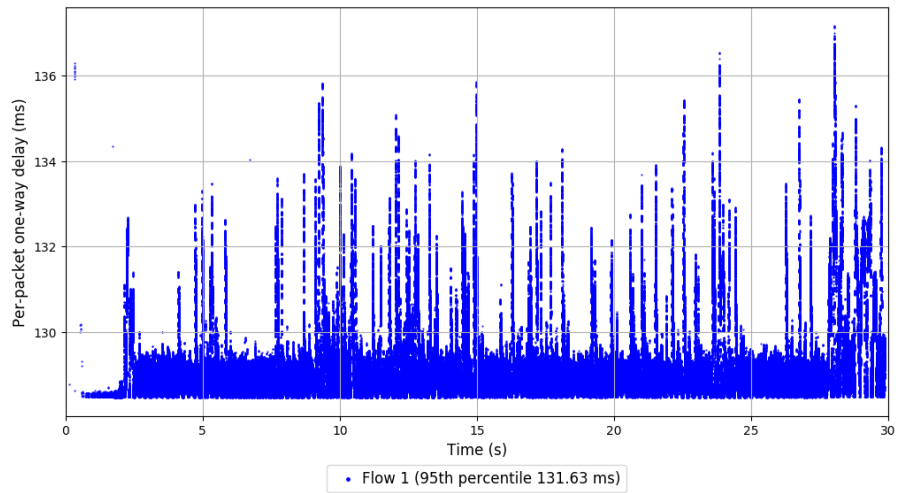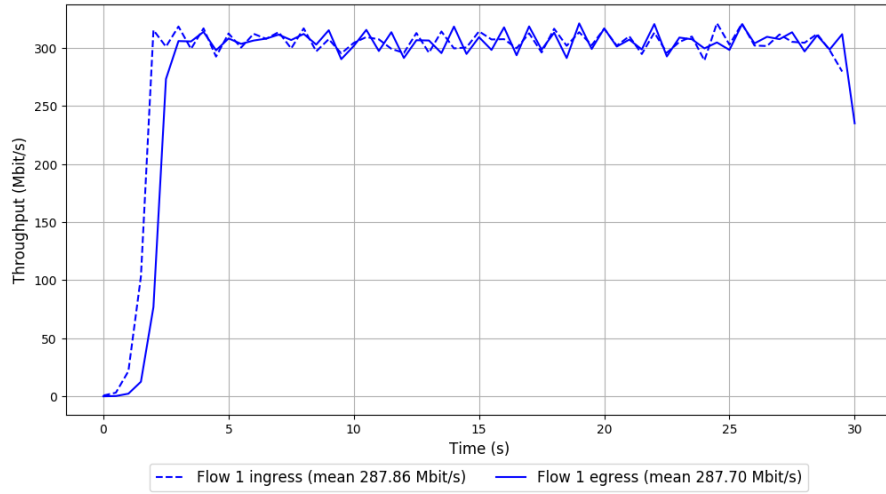


Flow 1 (95th percentile 127.76 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2019-06-28 06:12:12
End at: 2019-06-28 06:12:42
Local clock offset: -1.433 ms
Remote clock offset: -33.727 ms

# Below is generated by plot.py at 2019-06-28 09:07:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 287.70 Mbit/s
95th percentile per-packet one-way delay: 131.627 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 287.70 Mbit/s
95th percentile per-packet one-way delay: 131.627 ms
Loss rate: 0.71%
```
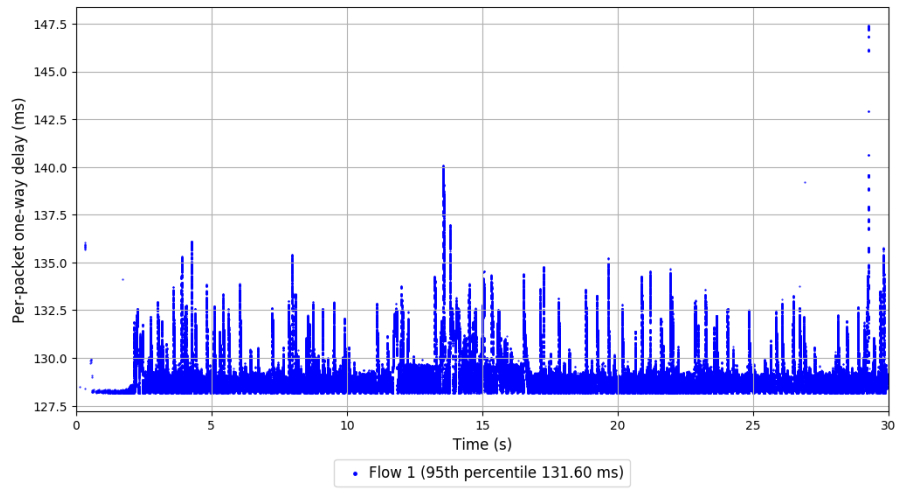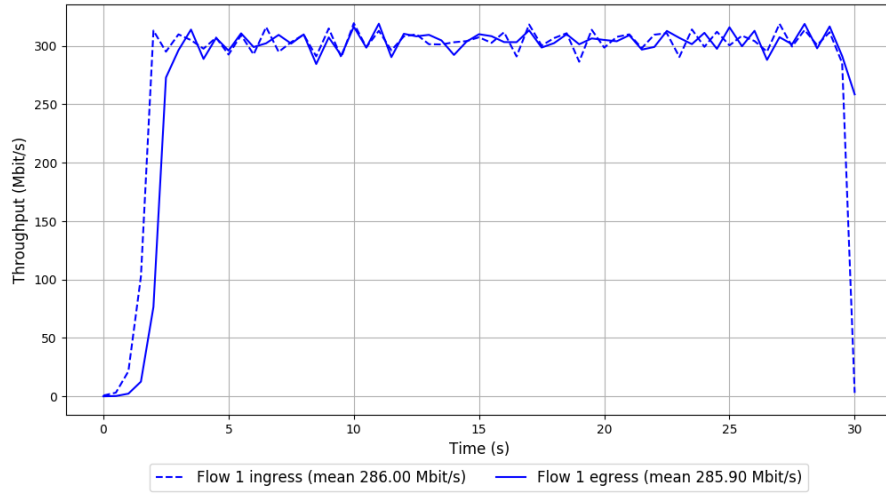
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2019-06-28 06:42:07
End at: 2019-06-28 06:42:37
Local clock offset: -0.491 ms
Remote clock offset: -31.827 ms


# Below is generated by plot.py at 2019-06-28 09:08:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 285.90 Mbit/s
95th percentile per-packet one-way delay: 131.602 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 285.90 Mbit/s
95th percentile per-packet one-way delay: 131.602 ms
Loss rate: 0.70%
```
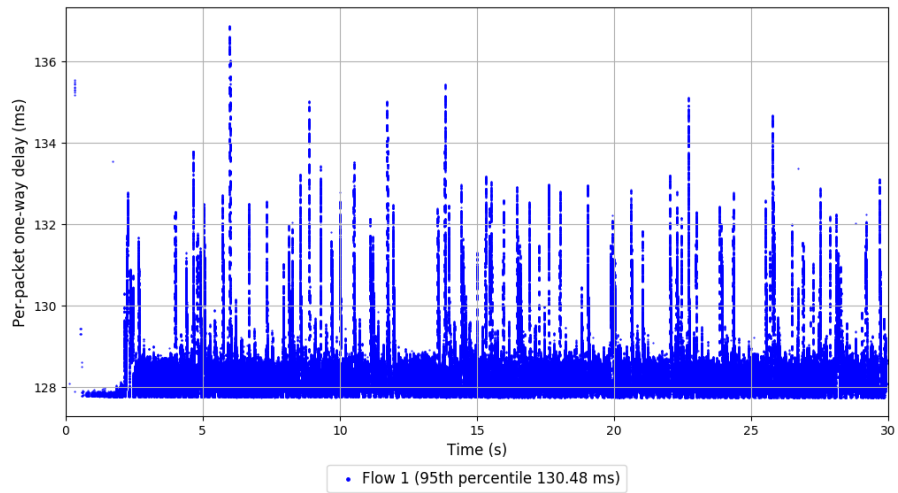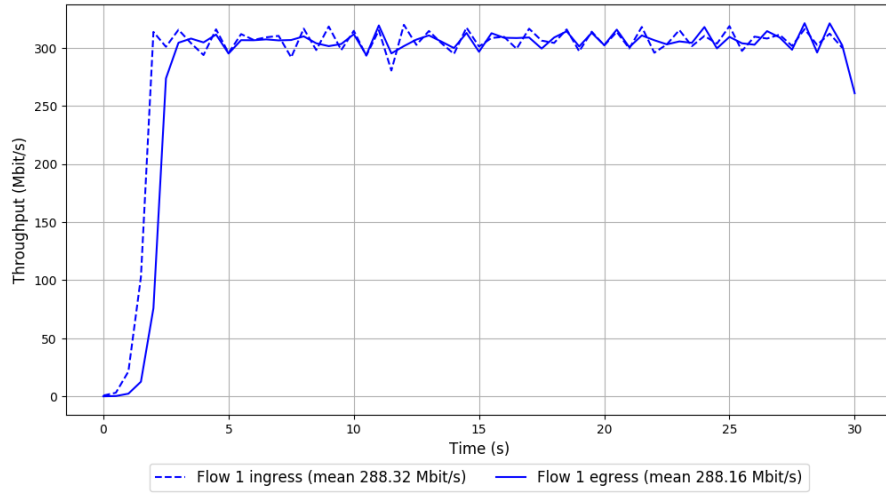
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2019-06-28 07:11:54
End at: 2019-06-28 07:12:24
Local clock offset: -1.02 ms
Remote clock offset: -32.479 ms


# Below is generated by plot.py at 2019-06-28 09:08:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 288.16 Mbit/s
95th percentile per-packet one-way delay: 130.479 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 288.16 Mbit/s
95th percentile per-packet one-way delay: 130.479 ms
Loss rate: 0.71%
```

Run 3: Report of TCP Vegas — Data Link



Flow 1 ingress (mean 288.32 Mbit/s) — — — Flow 1 egress (mean 288.16 Mbit/s)
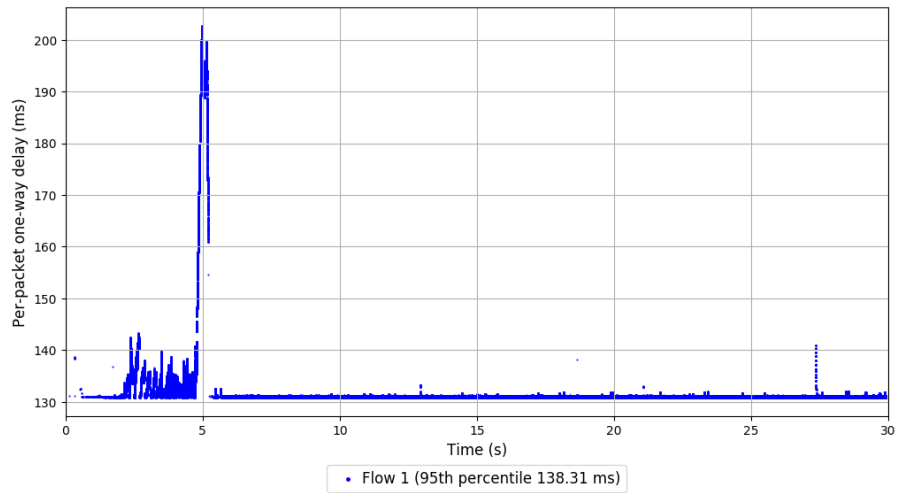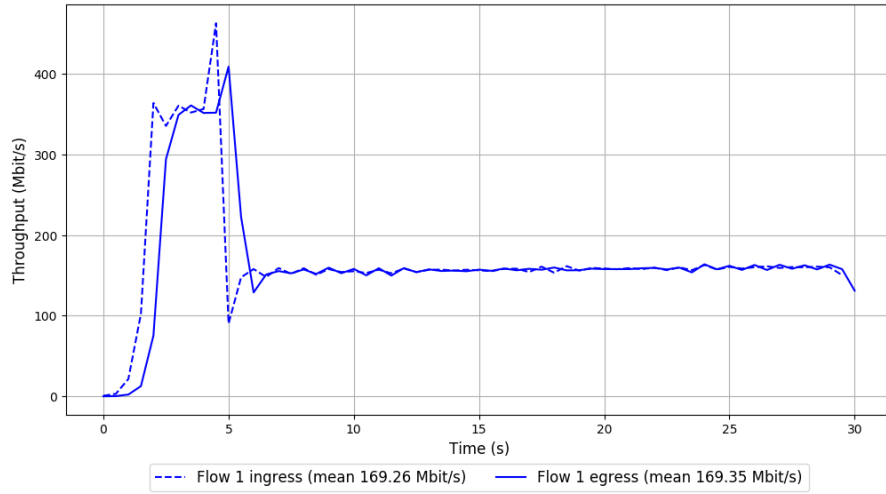


Flow 1 (95th percentile 130.48 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2019-06-28 07:41:29
End at: 2019-06-28 07:41:59
Local clock offset: -0.986 ms
Remote clock offset: -34.972 ms


# Below is generated by plot.py at 2019-06-28 09:08:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 169.35 Mbit/s
95th percentile per-packet one-way delay: 138.315 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 169.35 Mbit/s
95th percentile per-packet one-way delay: 138.315 ms
Loss rate: 0.60%
```
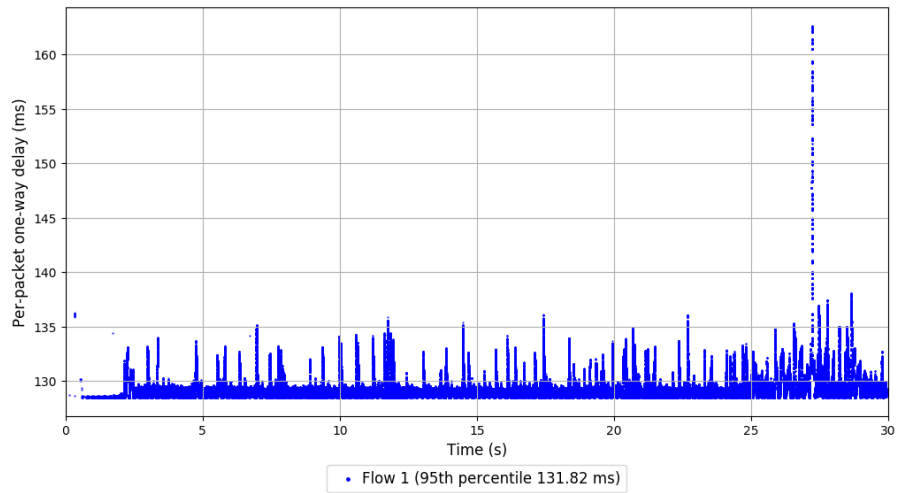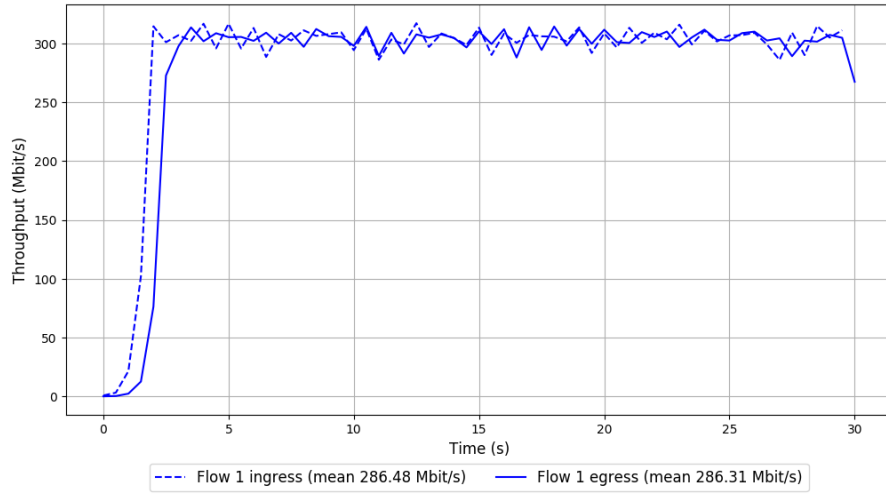
## Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2019-06-28 08:11:16
End at: 2019-06-28 08:11:46
Local clock offset: -1.174 ms
Remote clock offset: -34.366 ms


# Below is generated by plot.py at 2019-06-28 09:09:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 286.31 Mbit/s
95th percentile per-packet one-way delay: 131.820 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 286.31 Mbit/s
95th percentile per-packet one-way delay: 131.820 ms
Loss rate: 0.71%
```
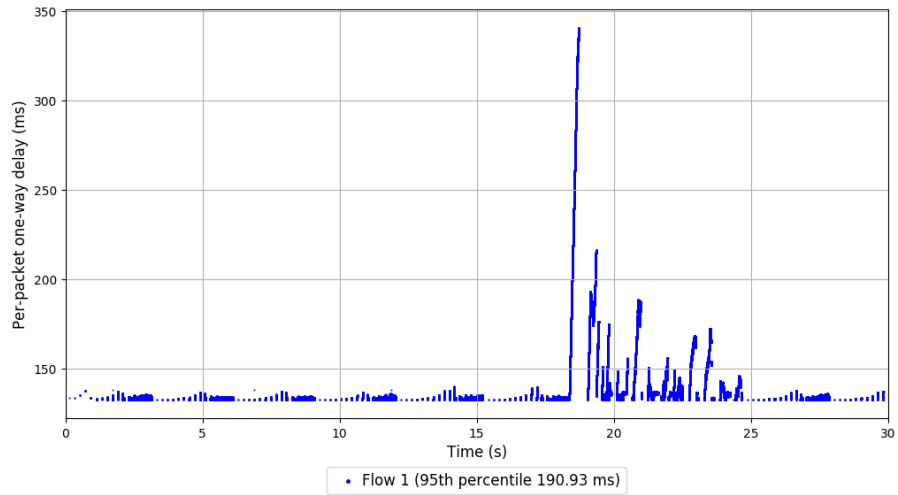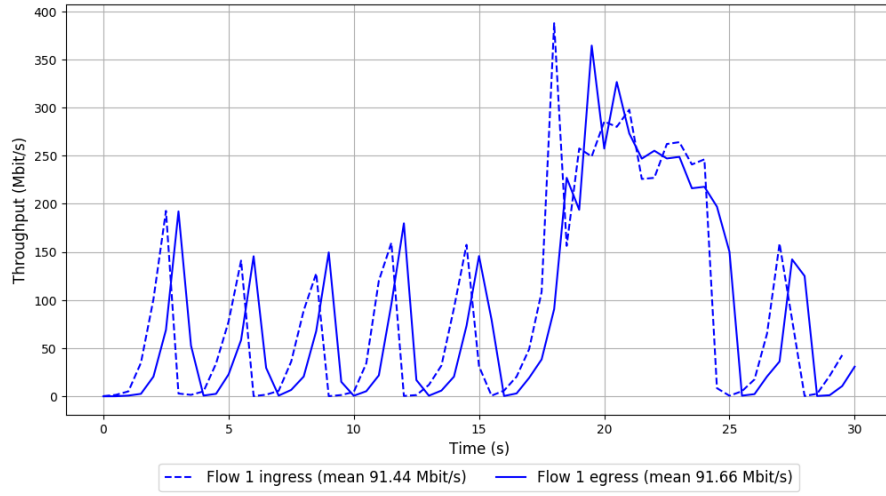
Run 5: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2019-06-28 06:25:37
End at: 2019-06-28 06:26:07
Local clock offset: -0.153 ms
Remote clock offset: -36.06 ms


# Below is generated by plot.py at 2019-06-28 09:09:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.66 Mbit/s
95th percentile per-packet one-way delay: 190.929 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 91.66 Mbit/s
95th percentile per-packet one-way delay: 190.929 ms
Loss rate: 0.44%
```
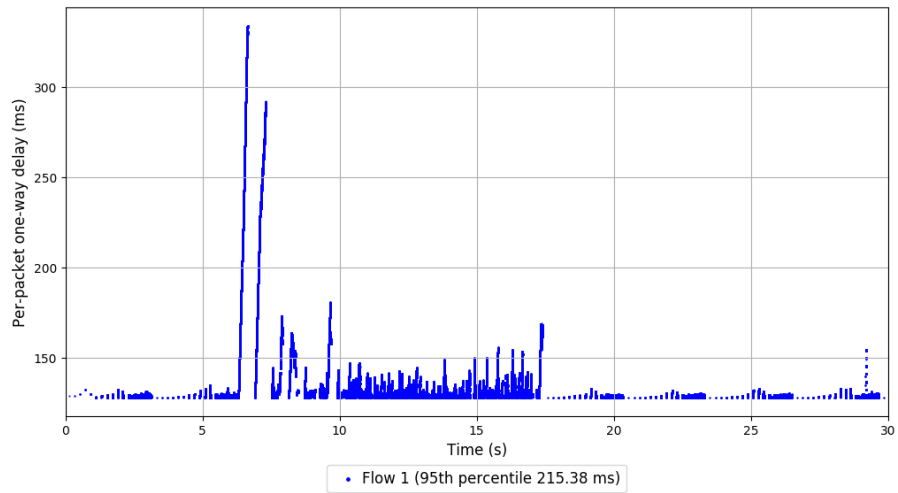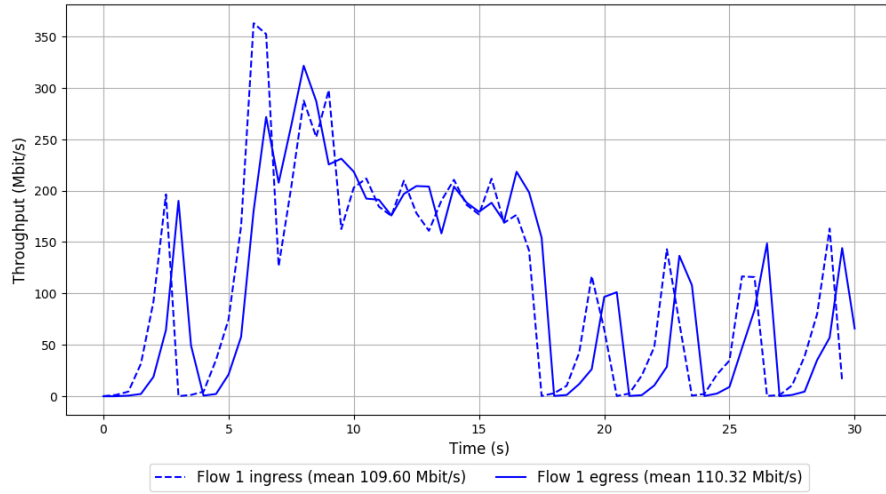
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2019-06-28 06:55:28
End at: 2019-06-28 06:55:58
Local clock offset: -1.256 ms
Remote clock offset: -32.578 ms


# Below is generated by plot.py at 2019-06-28 09:09:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 110.32 Mbit/s
95th percentile per-packet one-way delay: 215.384 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 110.32 Mbit/s
95th percentile per-packet one-way delay: 215.384 ms
Loss rate: 0.01%
```
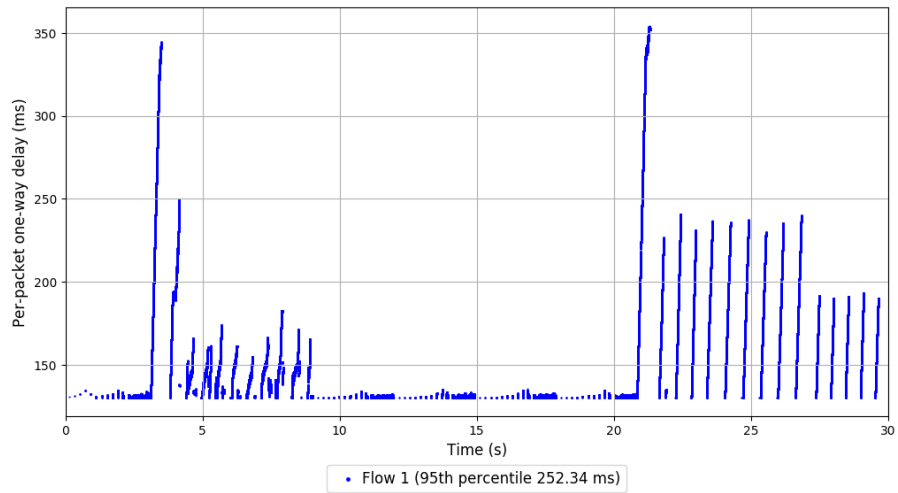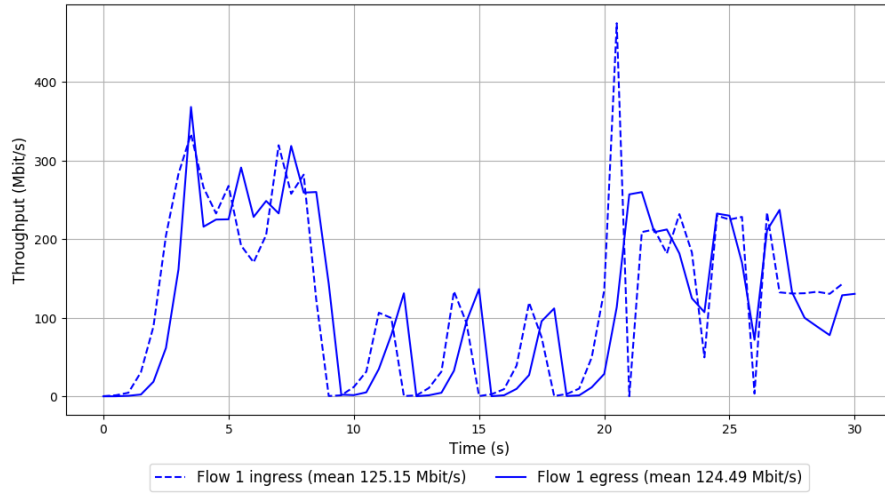
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2019-06-28 07:25:10
End at: 2019-06-28 07:25:40
Local clock offset: -0.667 ms
Remote clock offset: -35.278 ms


# Below is generated by plot.py at 2019-06-28 09:09:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 124.49 Mbit/s
95th percentile per-packet one-way delay: 252.338 ms
Loss rate: 1.92%
-- Flow 1:
Average throughput: 124.49 Mbit/s
95th percentile per-packet one-way delay: 252.338 ms
Loss rate: 1.92%
```
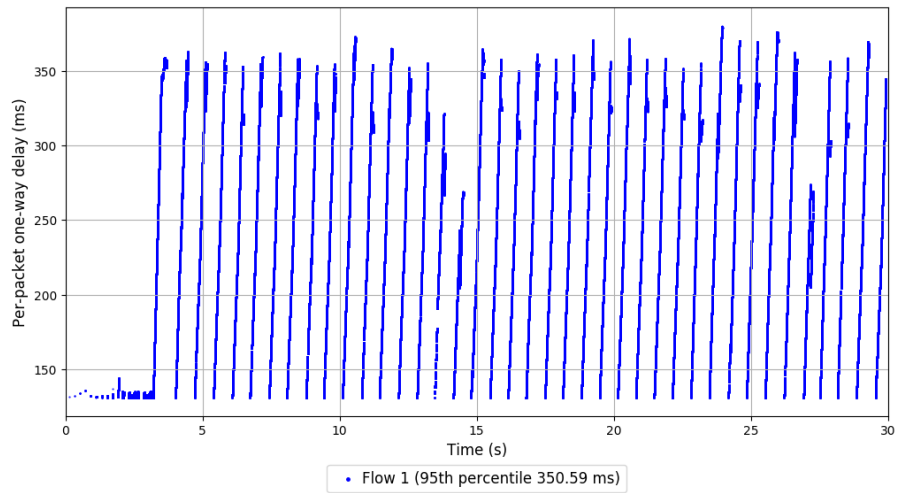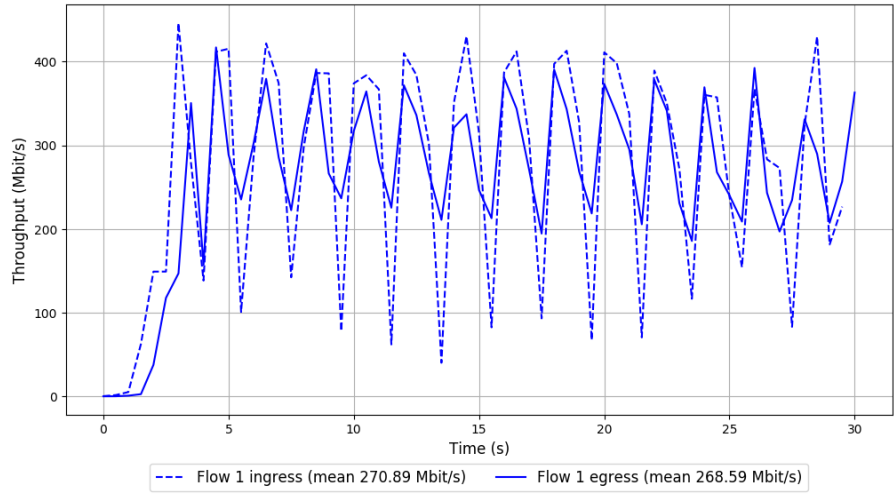
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2019-06-28 07:54:42
End at: 2019-06-28 07:55:12
Local clock offset: -0.346 ms
Remote clock offset: -36.945 ms


# Below is generated by plot.py at 2019-06-28 09:10:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 268.59 Mbit/s
95th percentile per-packet one-way delay: 350.589 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 268.59 Mbit/s
95th percentile per-packet one-way delay: 350.589 ms
Loss rate: 0.36%
```
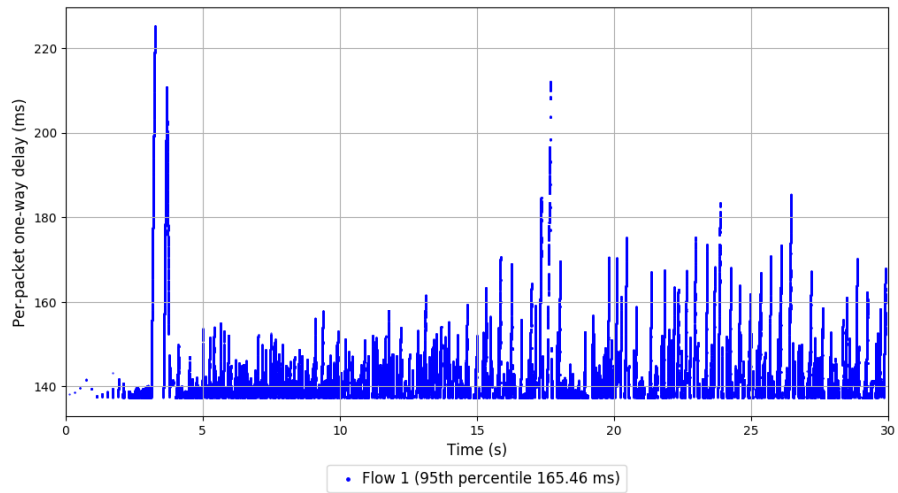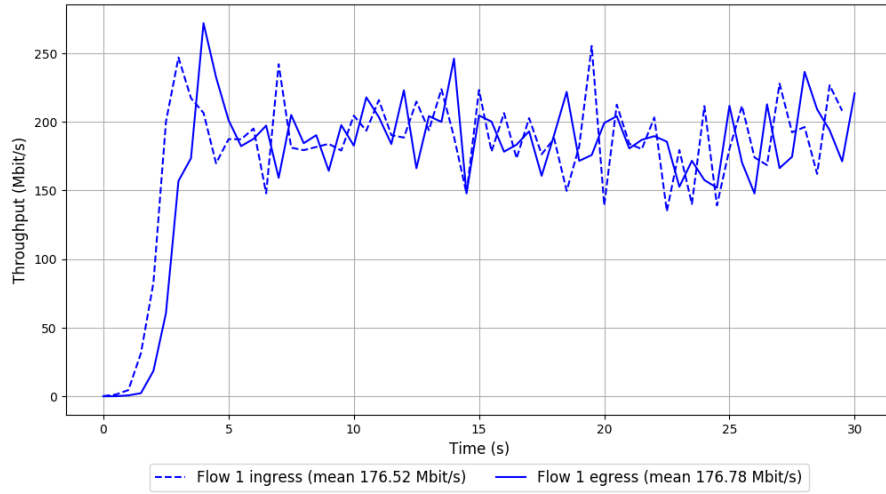
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2019-06-28 08:24:37
End at: 2019-06-28 08:25:07
Local clock offset: -0.686 ms
Remote clock offset: -43.448 ms


# Below is generated by plot.py at 2019-06-28 09:10:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 176.78 Mbit/s
95th percentile per-packet one-way delay: 165.461 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 176.78 Mbit/s
95th percentile per-packet one-way delay: 165.461 ms
Loss rate: 0.56%
```
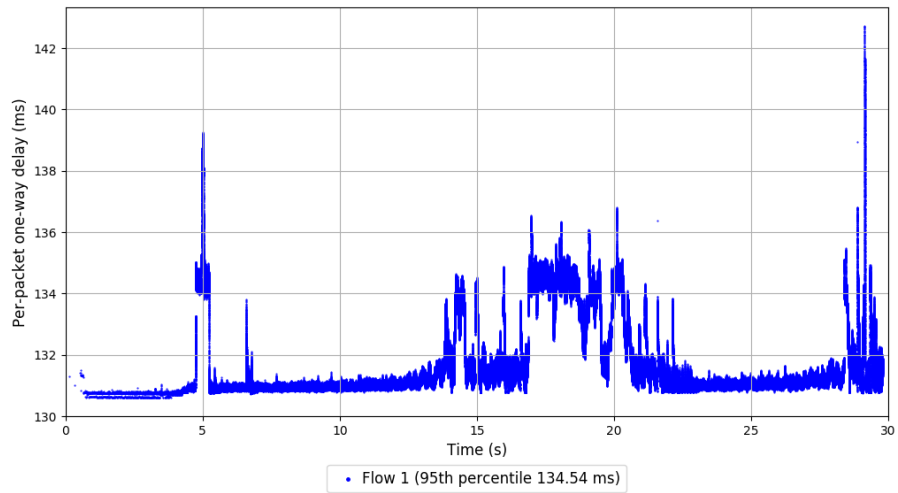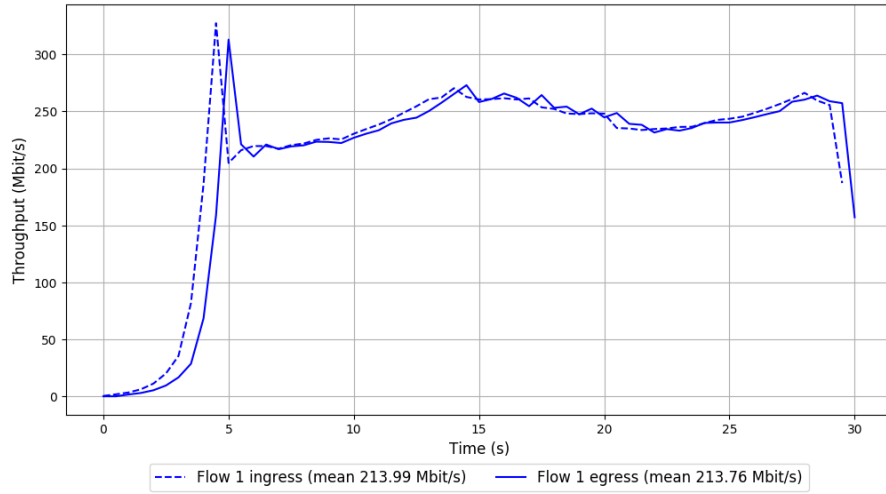
Run 5: Report of Verus — Data Link

```
Run 1: Statistics of PCC-Vivace

Start at: 2019-06-28 06:16:27
End at: 2019-06-28 06:16:57
Local clock offset: -1.0 ms
Remote clock offset: -35.508 ms

# Below is generated by plot.py at 2019-06-28 09:10:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 213.76 Mbit/s
95th percentile per-packet one-way delay: 134.539 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 213.76 Mbit/s
95th percentile per-packet one-way delay: 134.539 ms
Loss rate: 0.76%
```

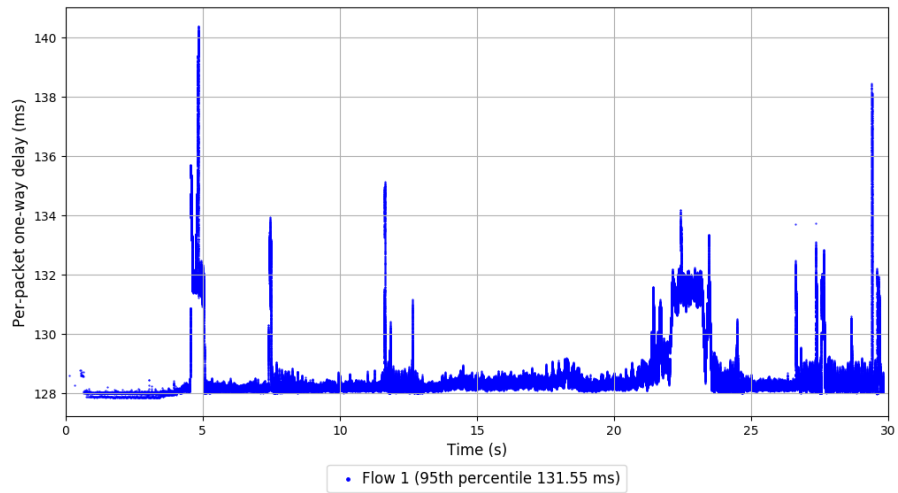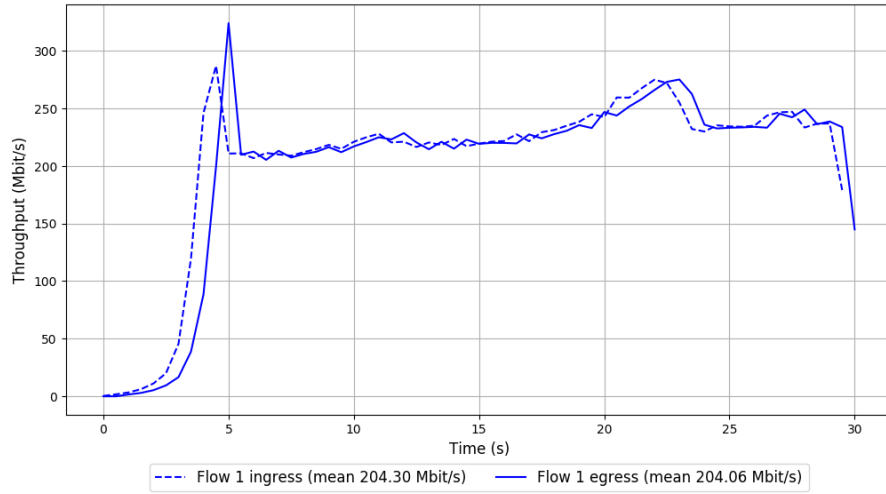Run 1: Report of PCC-Vivace — Data Link

```
Run 2: Statistics of PCC-Vivace

Start at: 2019-06-28 06:46:24
End at: 2019-06-28 06:46:54
Local clock offset: -0.78 ms
Remote clock offset: -31.948 ms


# Below is generated by plot.py at 2019-06-28 09:10:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 204.06 Mbit/s
95th percentile per-packet one-way delay: 131.548 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 204.06 Mbit/s
95th percentile per-packet one-way delay: 131.548 ms
Loss rate: 0.78%
```

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



Flow 1 ingress (mean 204.30 Mbit/s)  Flow 1 egress (mean 204.06 Mbit/s)


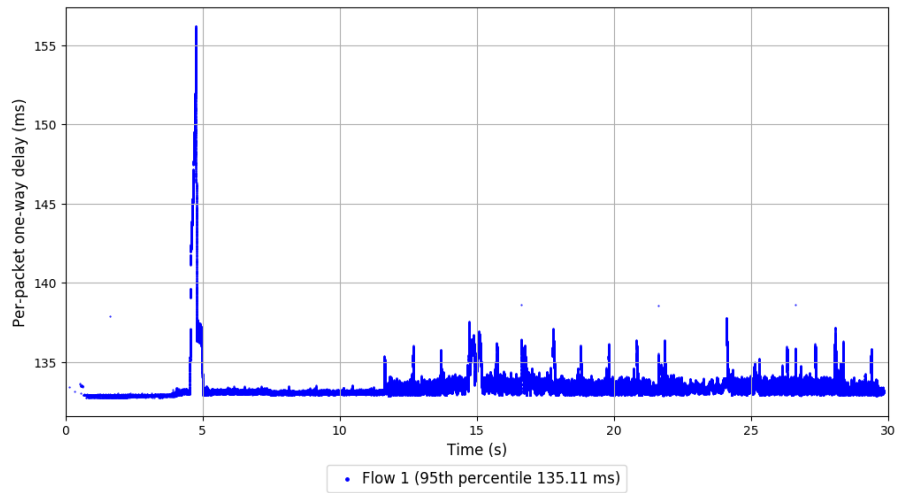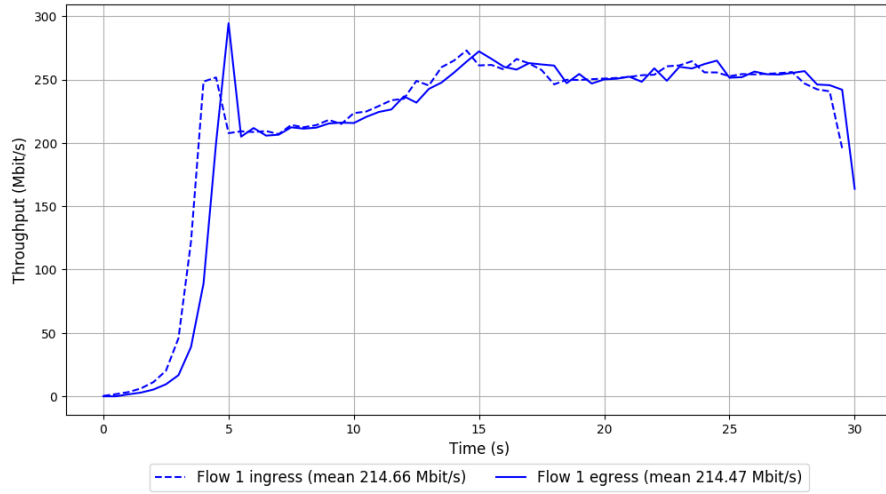
• Flow 1 (95th percentile 131.55 ms)

```
Run 3: Statistics of PCC-Vivace

Start at: 2019-06-28 07:16:06
End at: 2019-06-28 07:16:36
Local clock offset: -1.072 ms
Remote clock offset: -37.835 ms


# Below is generated by plot.py at 2019-06-28 09:10:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 214.47 Mbit/s
95th percentile per-packet one-way delay: 135.113 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 214.47 Mbit/s
95th percentile per-packet one-way delay: 135.113 ms
Loss rate: 0.74%
```

Run 3: Report of PCC-Vivace — Data Link

```
Run 4: Statistics of PCC-Vivace

Start at: 2019-06-28 07:45:36
End at: 2019-06-28 07:46:07
Local clock offset: -0.857 ms
Remote clock offset: -29.42 ms


# Below is generated by plot.py at 2019-06-28 09:10:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 215.07 Mbit/s
95th percentile per-packet one-way delay: 128.300 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 215.07 Mbit/s
95th percentile per-packet one-way delay: 128.300 ms
Loss rate: 0.66%
```
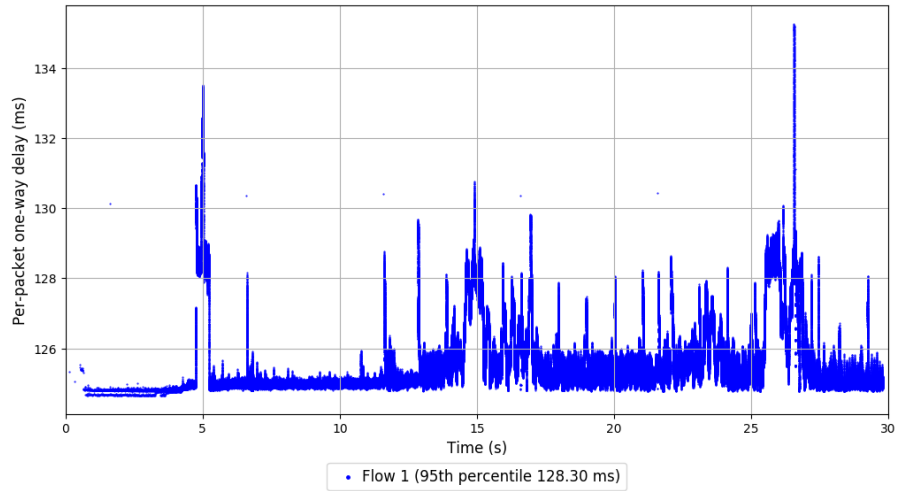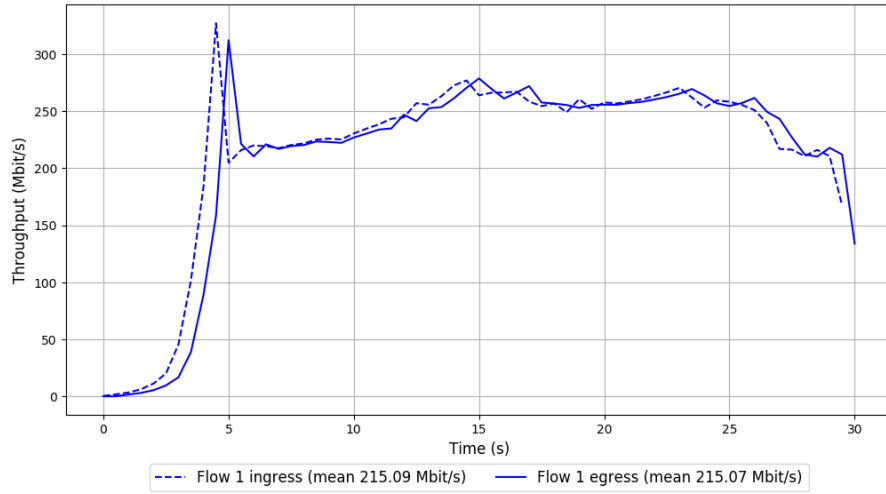
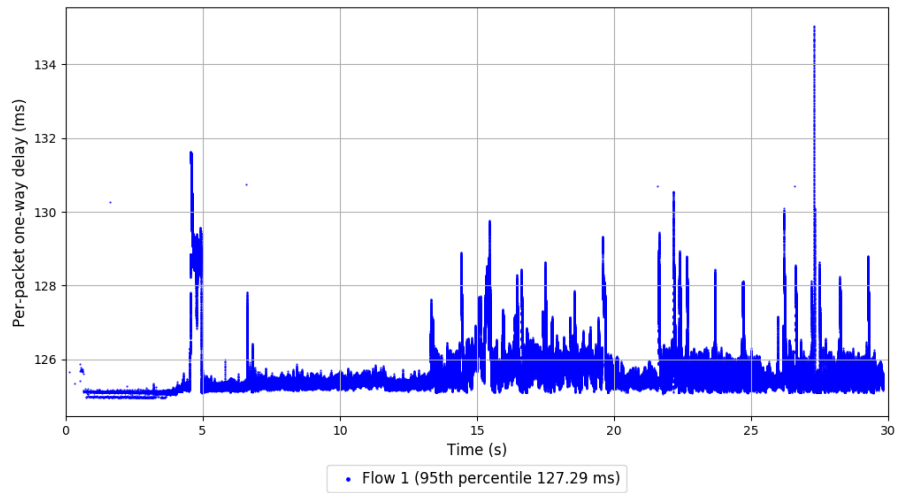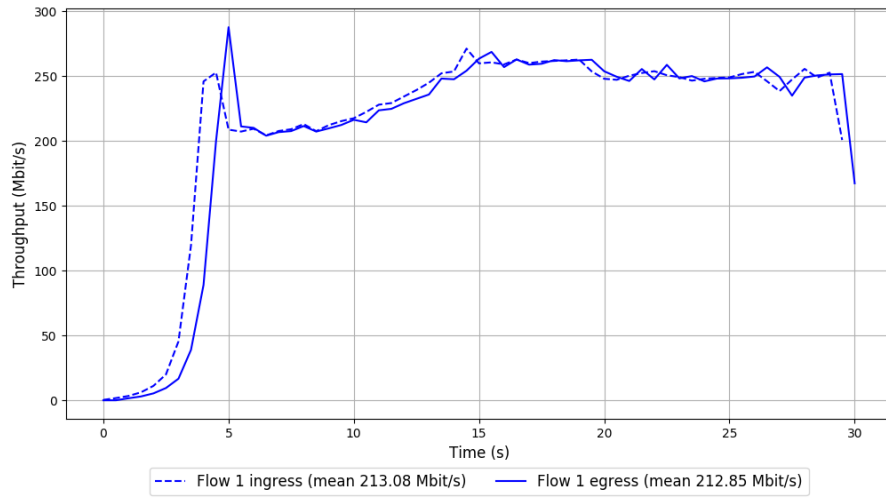Run 4: Report of PCC-Vivace — Data Link

```
Run 5: Statistics of PCC-Vivace

Start at: 2019-06-28 08:15:29
End at: 2019-06-28 08:15:59
Local clock offset: -1.333 ms
Remote clock offset: -31.344 ms


# Below is generated by plot.py at 2019-06-28 09:10:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 212.85 Mbit/s
95th percentile per-packet one-way delay: 127.292 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 212.85 Mbit/s
95th percentile per-packet one-way delay: 127.292 ms
Loss rate: 0.76%
```

Run 5: Report of PCC-Vivace — Data Link



Flow 1 ingress (mean 213.08 Mbit/s)    Flow 1 egress (mean 212.85 Mbit/s)
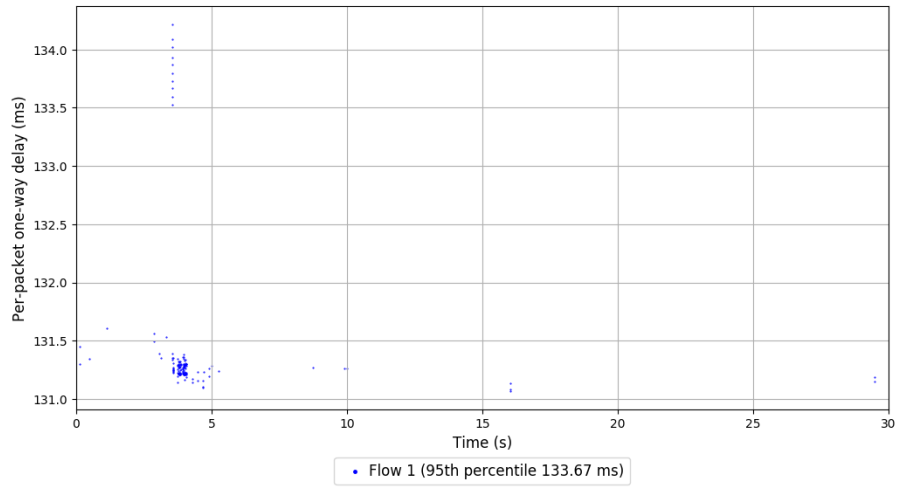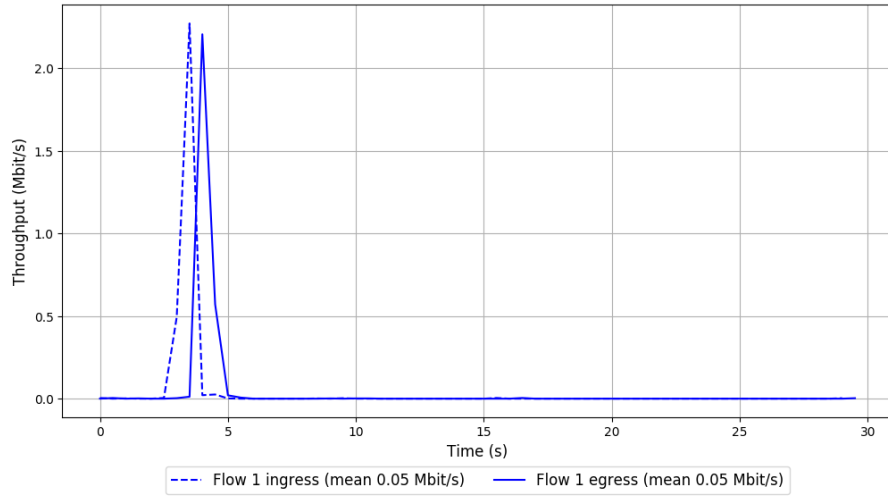


Flow 1 (95th percentile 127.29 ms)

```
Run 1: Statistics of WebRTC media

Start at: 2019-06-28 06:20:42
End at: 2019-06-28 06:21:12
Local clock offset: 0.013 ms
Remote clock offset: -34.792 ms


# Below is generated by plot.py at 2019-06-28 09:10:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.669 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.669 ms
Loss rate: 0.00%
```

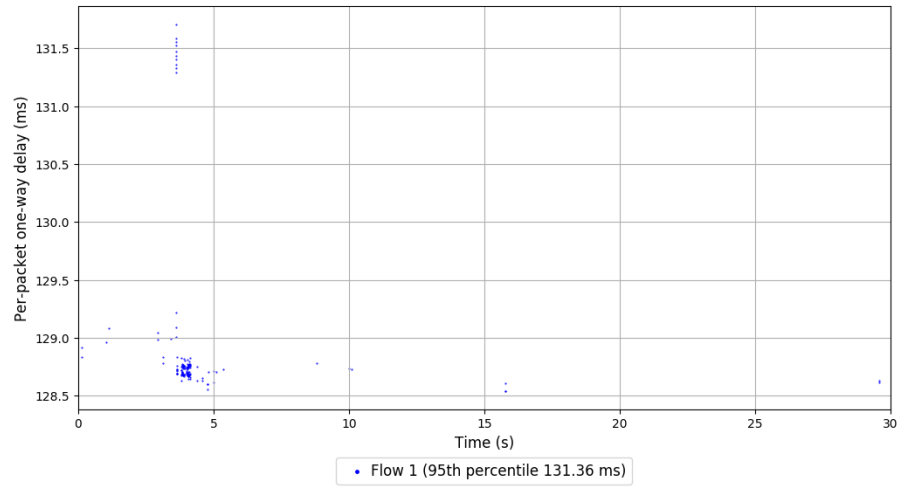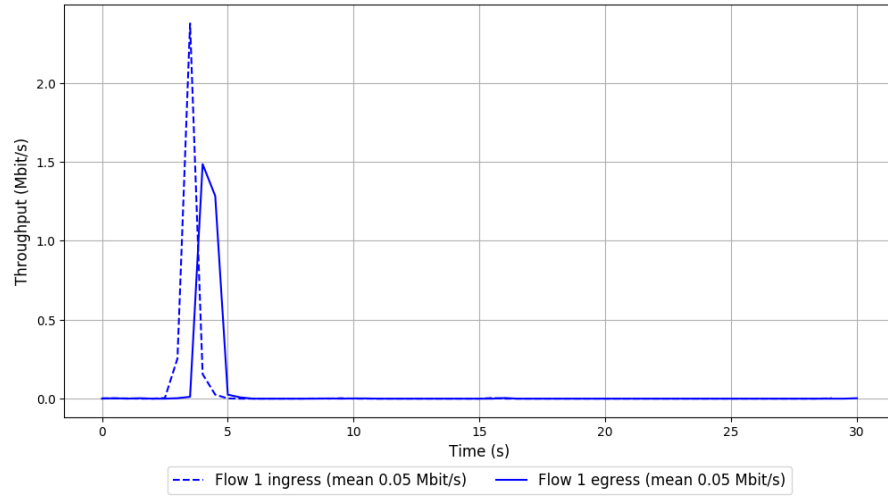Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2019-06-28 06:50:33
End at: 2019-06-28 06:51:03
Local clock offset: -0.705 ms
Remote clock offset: -32.617 ms


# Below is generated by plot.py at 2019-06-28 09:10:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 131.359 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 131.359 ms
Loss rate: 0.00%
```

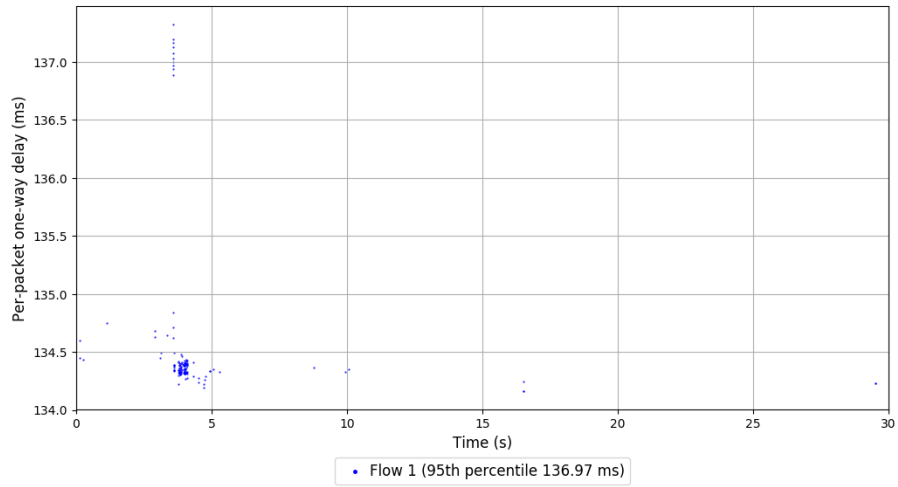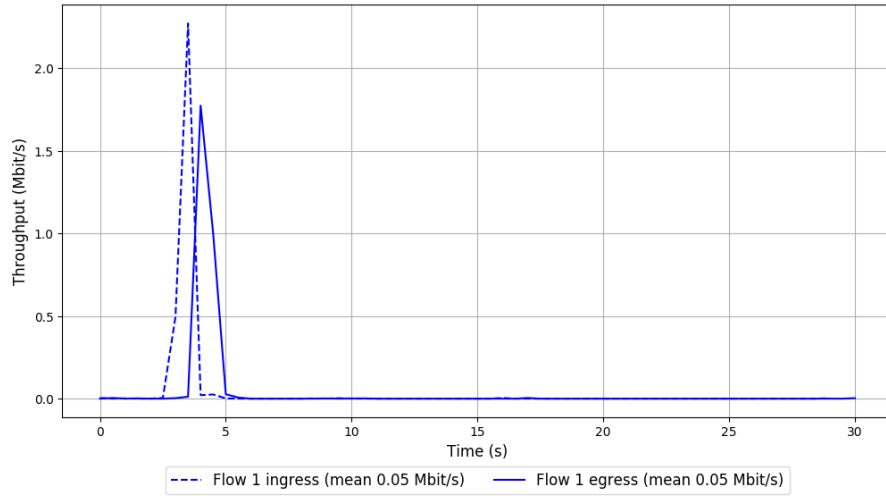Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2019-06-28 07:20:15
End at: 2019-06-28 07:20:45
Local clock offset: -0.249 ms
Remote clock offset: -38.623 ms


# Below is generated by plot.py at 2019-06-28 09:10:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 136.968 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 136.968 ms
Loss rate: 0.00%
```

## Run 3: Report of WebRTC media — Data Link



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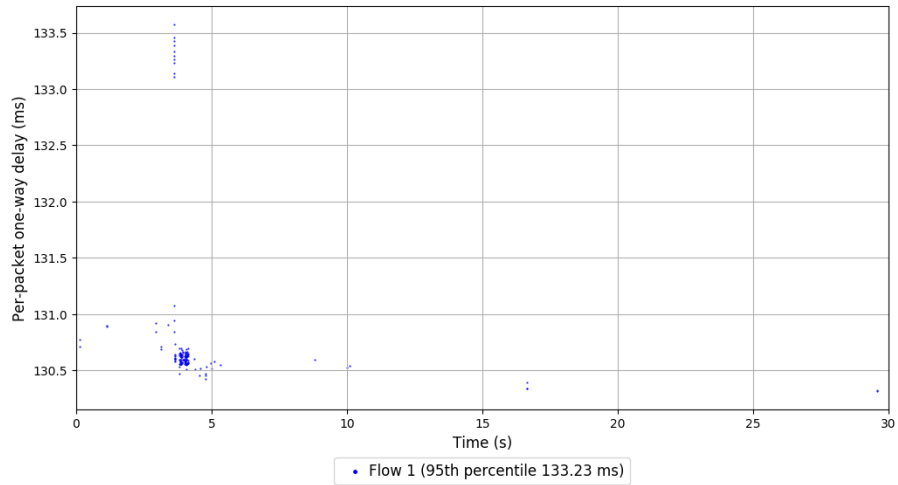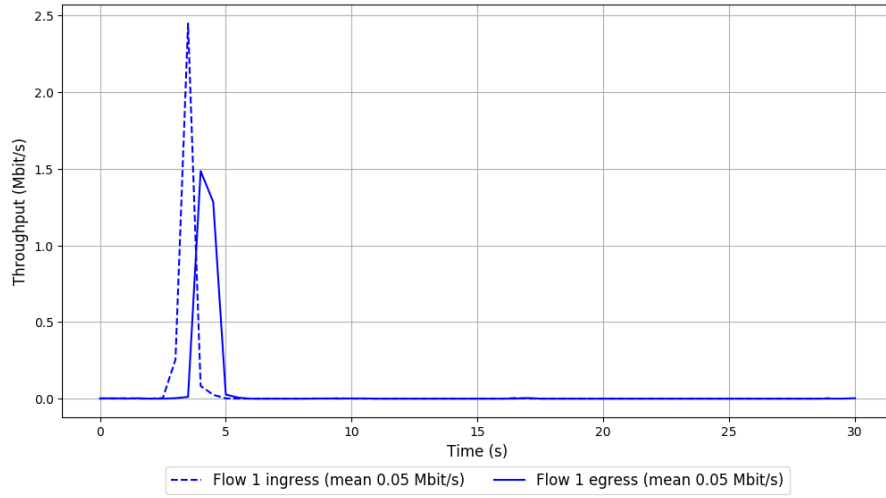


Flow 1 (95th percentile 136.97 ms)

```
Run 4: Statistics of WebRTC media

Start at: 2019-06-28 07:49:47
End at: 2019-06-28 07:50:17
Local clock offset: -0.686 ms
Remote clock offset: -35.442 ms


# Below is generated by plot.py at 2019-06-28 09:10:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.234 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 133.234 ms
Loss rate: 0.00%
```

## 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 133.23 ms)

```
Run 5: Statistics of WebRTC media

Start at: 2019-06-28 08:19:40
End at: 2019-06-28 08:20:10
Local clock offset: -0.804 ms
Remote clock offset: -33.695 ms


# Below is generated by plot.py at 2019-06-28 09:10:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 130.244 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 130.244 ms
Loss rate: 0.00%
```

## Run 5: Report of WebRTC media — Data Link