

Pantheon Report

Generated at 2018-12-02 11:37:46 (UTC).
Data path: Mexico on `em1` (*remote*) → AWS California 2 on `ens5` (*local*).
Repeated the test of 19 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.

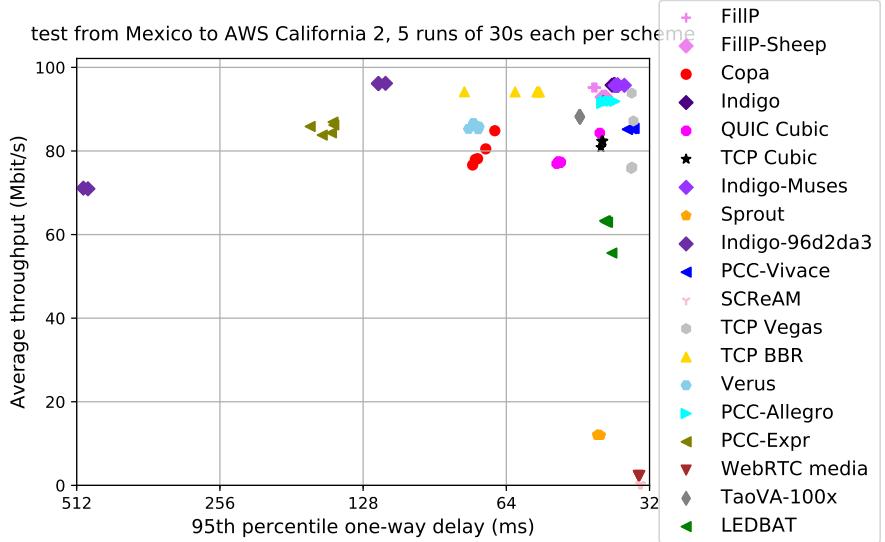
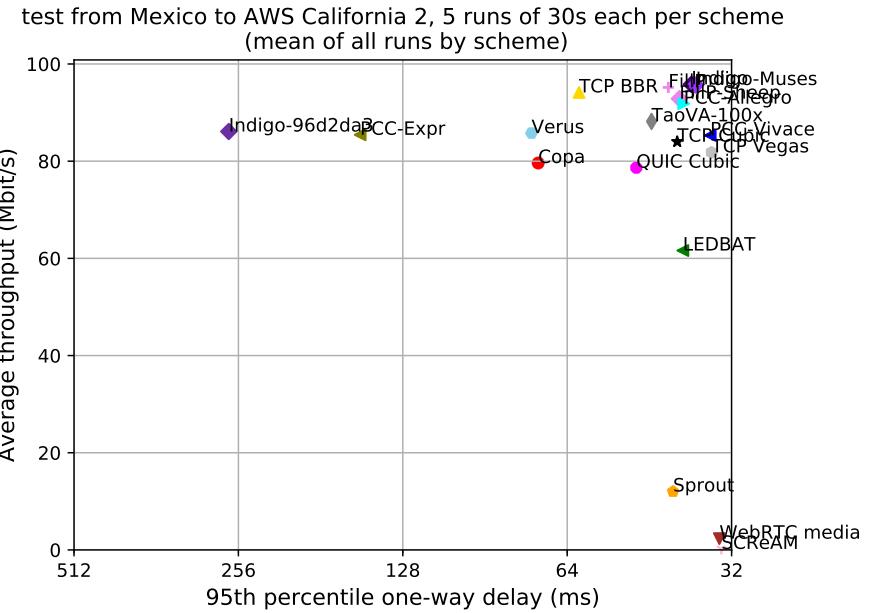
System info:

```
Linux 4.15.0-1027-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 @ 7b6dad87cde3ab65f7c4052140eb54098aa58e9d
third_party/fillp @ d6da1459332fce56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fc45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
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



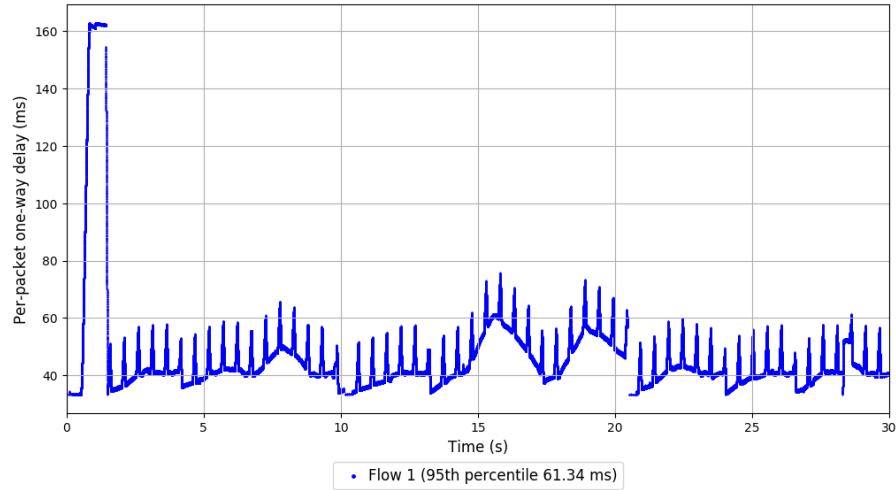
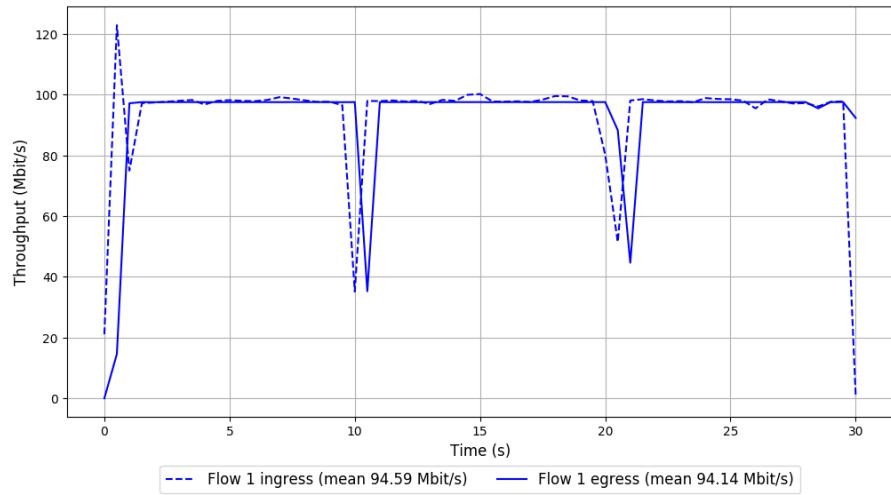
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	94.15	60.88	0.55
Copa	5	79.62	72.33	0.25
TCP Cubic	5	84.00	40.25	0.24
FillP	5	95.18	41.78	0.22
FillP-Sheep	5	92.86	39.88	0.25
Indigo	5	95.81	37.92	0.23
Indigo-96d2da3	5	86.10	266.65	6.32
LEDBAT	5	61.61	39.30	0.23
Indigo-Muses	5	95.68	37.22	0.22
PCC-Allegro	5	91.83	39.15	0.23
PCC-Expr	5	85.43	153.26	0.29
QUIC Cubic	5	78.66	47.82	0.18
SCReAM	5	0.21	33.41	0.23
Sprout	5	12.03	40.96	0.22
TaoVA-100x	5	88.19	44.85	0.22
TCP Vegas	5	81.81	34.82	0.27
Verus	5	85.78	74.40	0.49
PCC-Vivace	5	85.31	35.03	0.24
WebRTC media	5	2.32	33.69	0.24

Run 1: Statistics of TCP BBR

```
Start at: 2018-12-02 09:51:00
End at: 2018-12-02 09:51:30
Local clock offset: -3.521 ms
Remote clock offset: -3.451 ms

# Below is generated by plot.py at 2018-12-02 11:26:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.14 Mbit/s
95th percentile per-packet one-way delay: 61.344 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 94.14 Mbit/s
95th percentile per-packet one-way delay: 61.344 ms
Loss rate: 0.69%
```

Run 1: Report of TCP BBR — Data Link

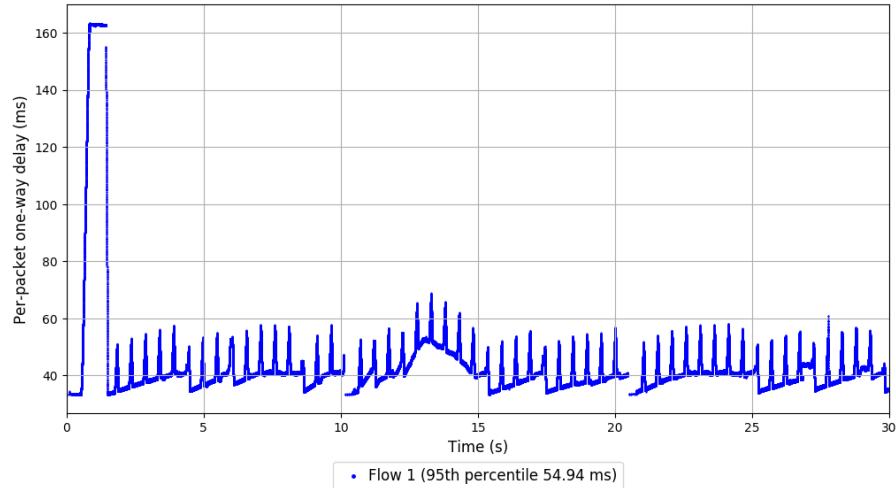
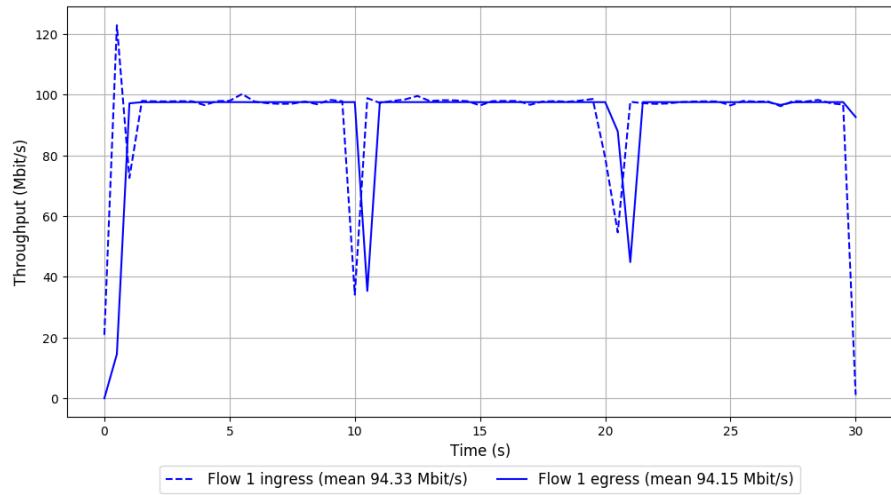


Run 2: Statistics of TCP BBR

```
Start at: 2018-12-02 10:13:08
End at: 2018-12-02 10:13:38
Local clock offset: -3.212 ms
Remote clock offset: -2.624 ms

# Below is generated by plot.py at 2018-12-02 11:26:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.15 Mbit/s
95th percentile per-packet one-way delay: 54.941 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 94.15 Mbit/s
95th percentile per-packet one-way delay: 54.941 ms
Loss rate: 0.40%
```

Run 2: Report of TCP BBR — Data Link

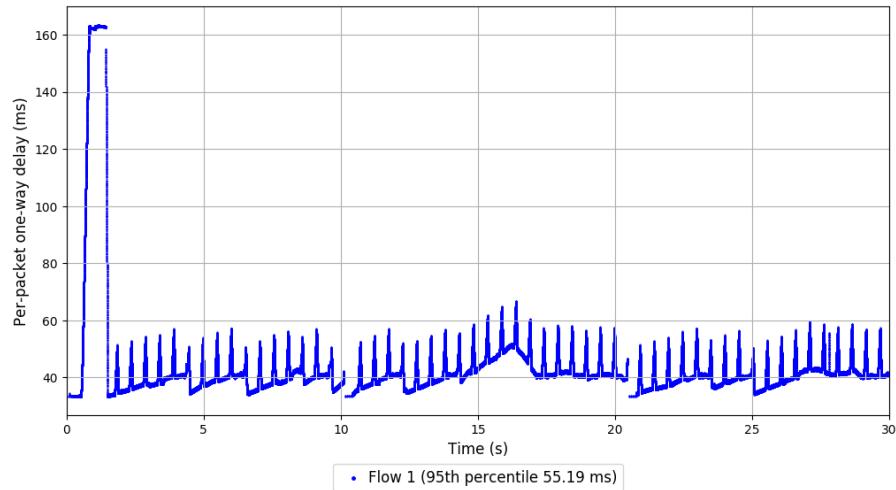
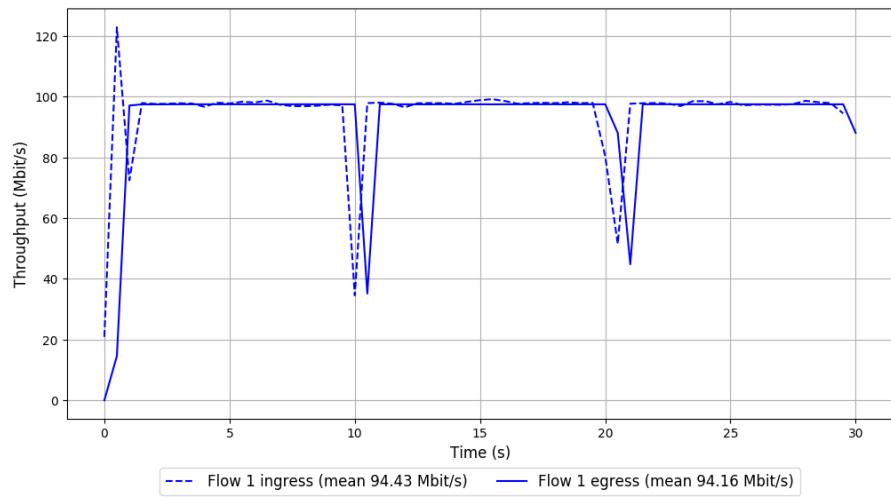


Run 3: Statistics of TCP BBR

```
Start at: 2018-12-02 10:35:11
End at: 2018-12-02 10:35:41
Local clock offset: 0.254 ms
Remote clock offset: -2.228 ms

# Below is generated by plot.py at 2018-12-02 11:26:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.16 Mbit/s
95th percentile per-packet one-way delay: 55.187 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 94.16 Mbit/s
95th percentile per-packet one-way delay: 55.187 ms
Loss rate: 0.49%
```

Run 3: Report of TCP BBR — Data Link

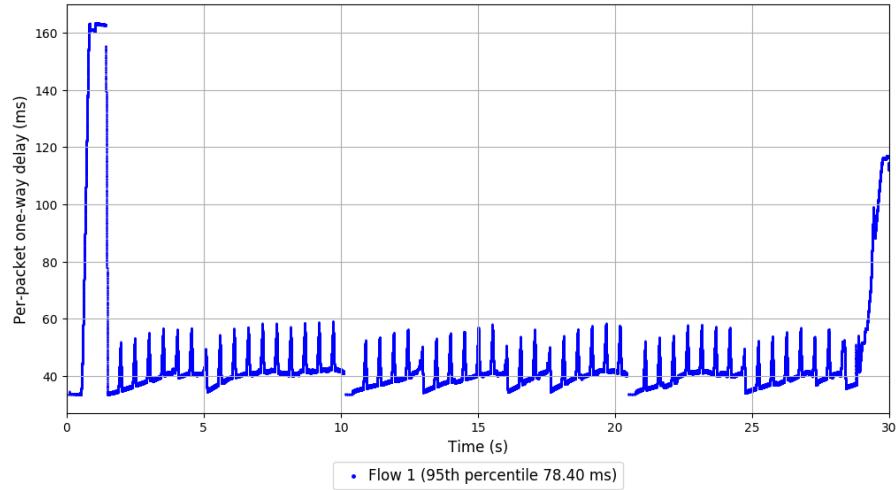
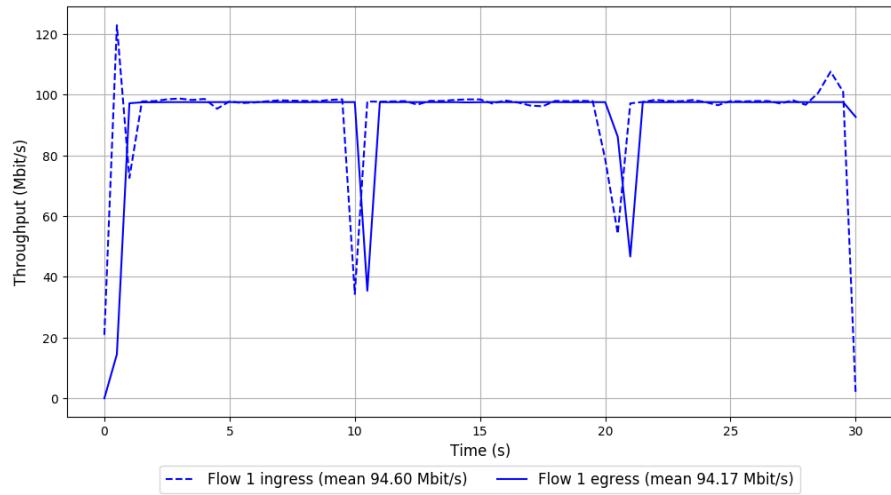


Run 4: Statistics of TCP BBR

```
Start at: 2018-12-02 10:57:11
End at: 2018-12-02 10:57:41
Local clock offset: 0.625 ms
Remote clock offset: -2.343 ms

# Below is generated by plot.py at 2018-12-02 11:26:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 78.402 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 78.402 ms
Loss rate: 0.67%
```

Run 4: Report of TCP BBR — Data Link

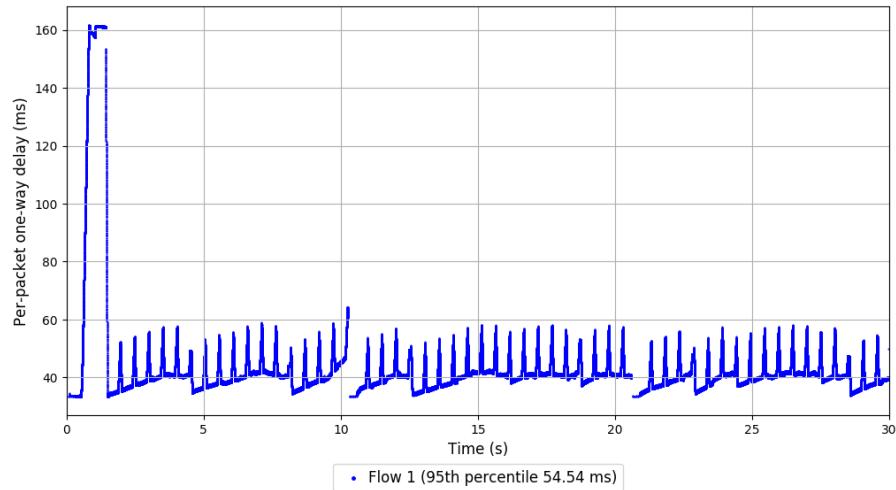
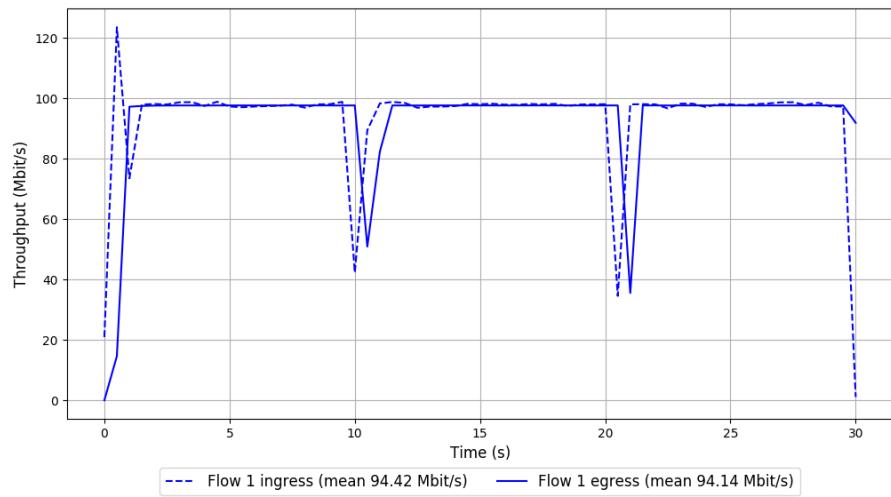


Run 5: Statistics of TCP BBR

```
Start at: 2018-12-02 11:19:12
End at: 2018-12-02 11:19:42
Local clock offset: 0.685 ms
Remote clock offset: -2.009 ms

# Below is generated by plot.py at 2018-12-02 11:26:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.14 Mbit/s
95th percentile per-packet one-way delay: 54.539 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 94.14 Mbit/s
95th percentile per-packet one-way delay: 54.539 ms
Loss rate: 0.49%
```

Run 5: Report of TCP BBR — Data Link

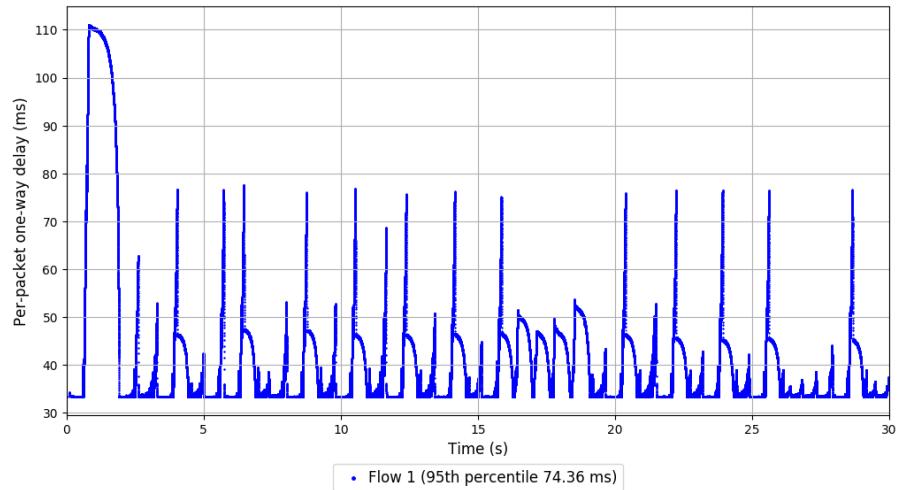
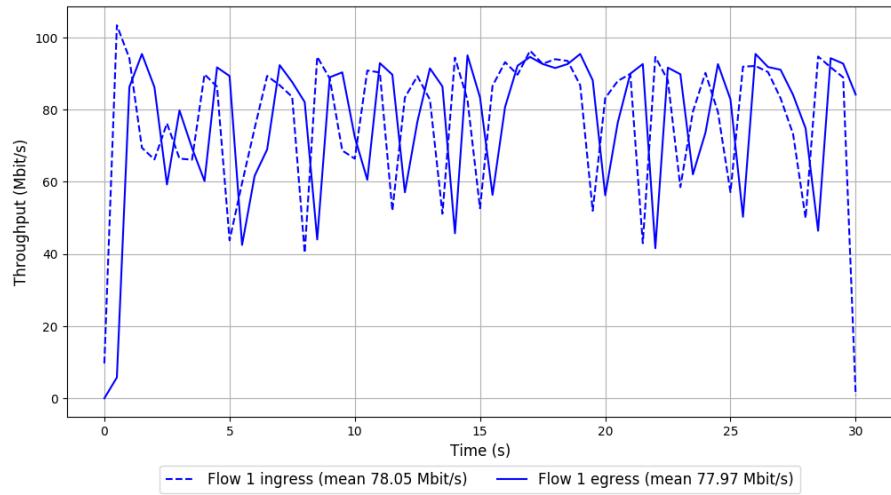


Run 1: Statistics of Copa

```
Start at: 2018-12-02 09:49:48
End at: 2018-12-02 09:50:18
Local clock offset: -3.621 ms
Remote clock offset: -3.482 ms

# Below is generated by plot.py at 2018-12-02 11:26:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.97 Mbit/s
95th percentile per-packet one-way delay: 74.360 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 77.97 Mbit/s
95th percentile per-packet one-way delay: 74.360 ms
Loss rate: 0.32%
```

Run 1: Report of Copa — Data Link

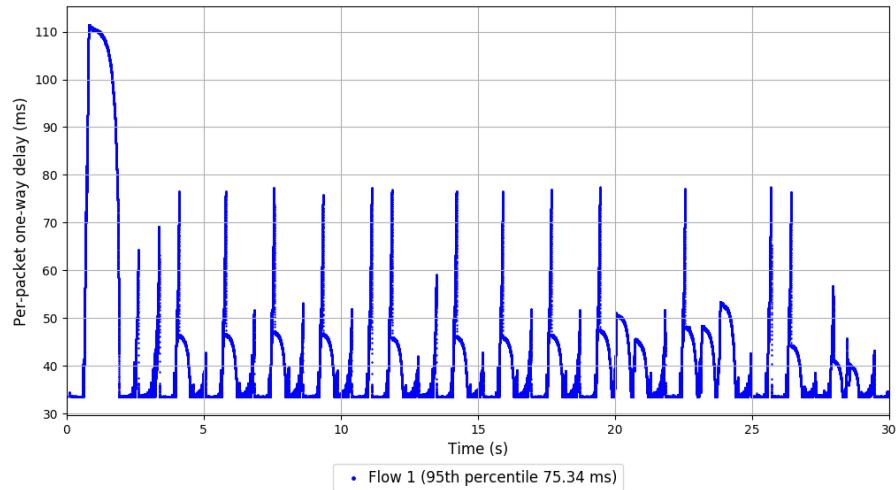
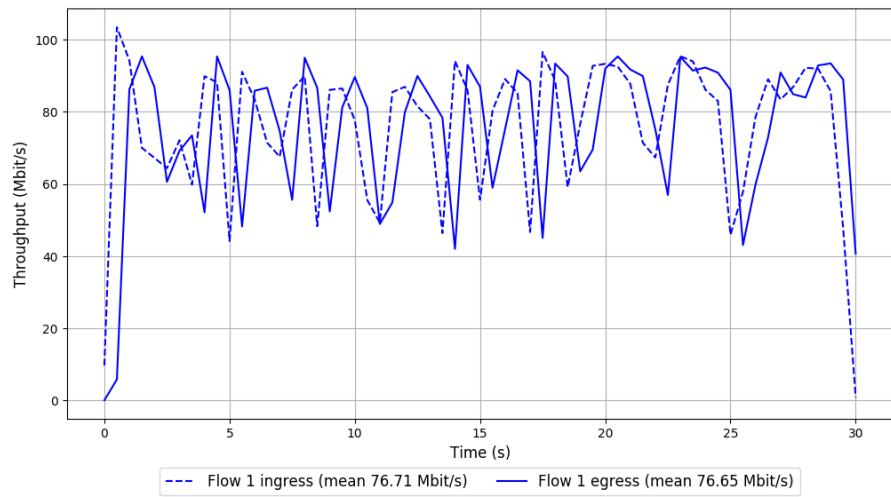


Run 2: Statistics of Copa

```
Start at: 2018-12-02 10:11:56
End at: 2018-12-02 10:12:26
Local clock offset: -3.21 ms
Remote clock offset: -2.8 ms

# Below is generated by plot.py at 2018-12-02 11:26:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.65 Mbit/s
95th percentile per-packet one-way delay: 75.339 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 76.65 Mbit/s
95th percentile per-packet one-way delay: 75.339 ms
Loss rate: 0.29%
```

Run 2: Report of Copa — Data Link

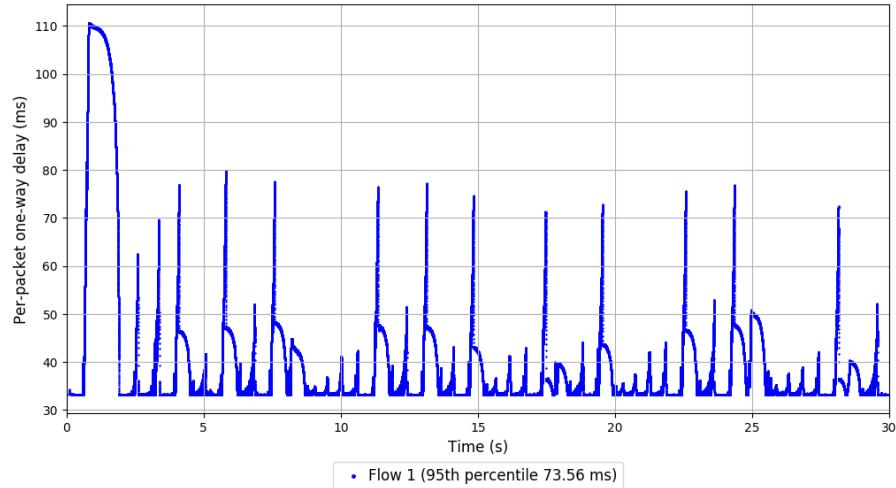
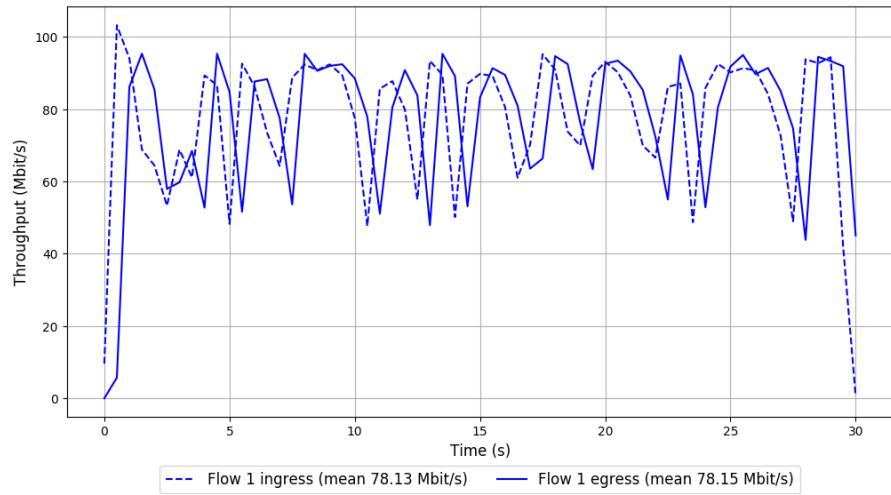


Run 3: Statistics of Copa

```
Start at: 2018-12-02 10:33:59
End at: 2018-12-02 10:34:29
Local clock offset: 0.122 ms
Remote clock offset: -2.204 ms

# Below is generated by plot.py at 2018-12-02 11:26:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.15 Mbit/s
95th percentile per-packet one-way delay: 73.558 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 78.15 Mbit/s
95th percentile per-packet one-way delay: 73.558 ms
Loss rate: 0.18%
```

Run 3: Report of Copa — Data Link

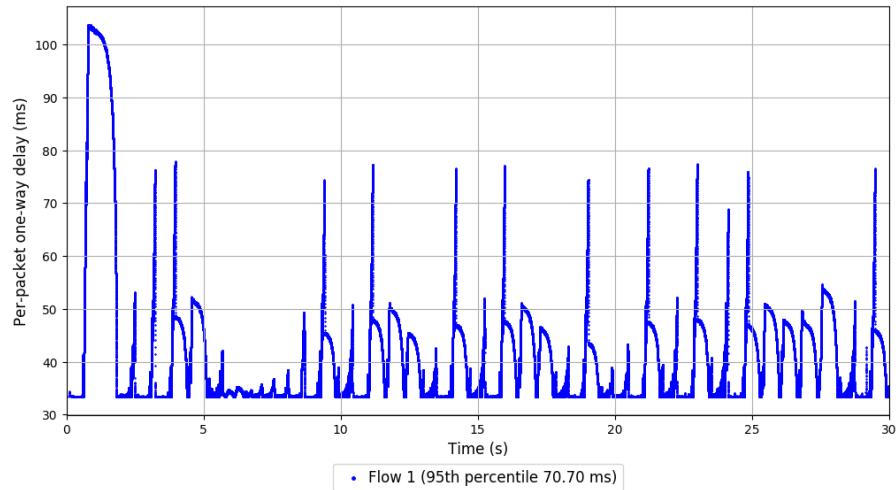
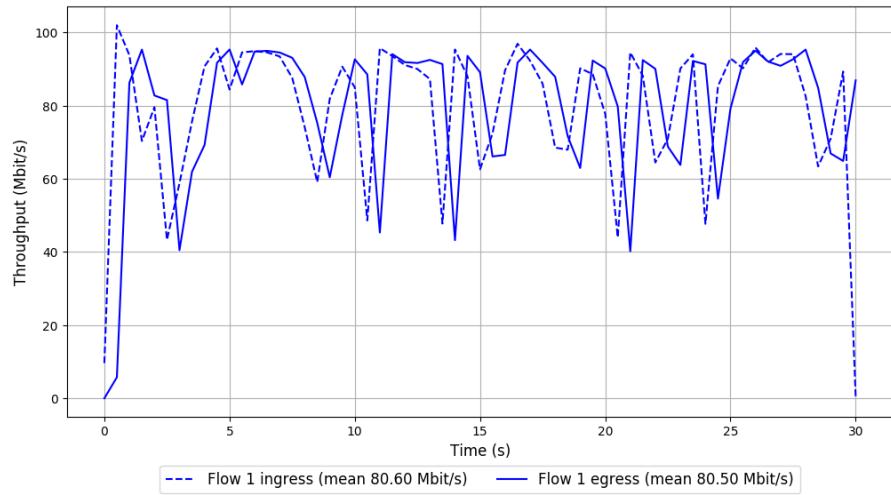


Run 4: Statistics of Copa

```
Start at: 2018-12-02 10:55:59
End at: 2018-12-02 10:56:29
Local clock offset: 0.635 ms
Remote clock offset: -2.234 ms

# Below is generated by plot.py at 2018-12-02 11:27:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.50 Mbit/s
95th percentile per-packet one-way delay: 70.701 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 80.50 Mbit/s
95th percentile per-packet one-way delay: 70.701 ms
Loss rate: 0.33%
```

Run 4: Report of Copa — Data Link

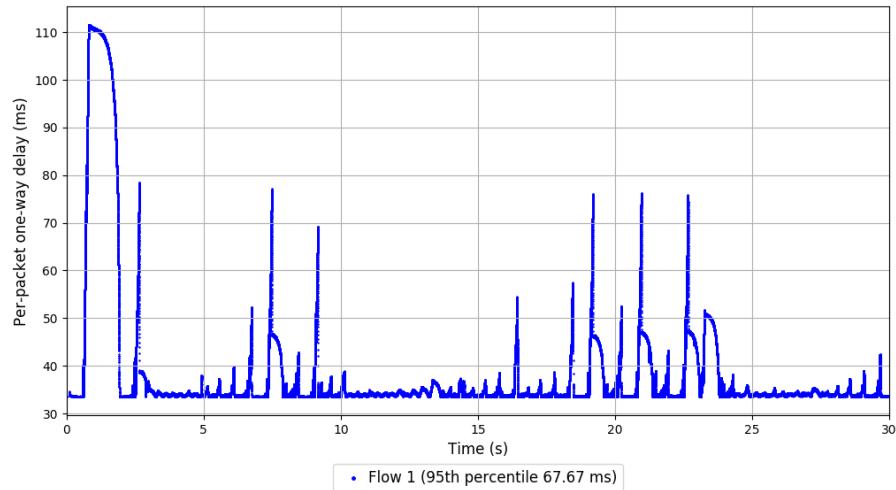
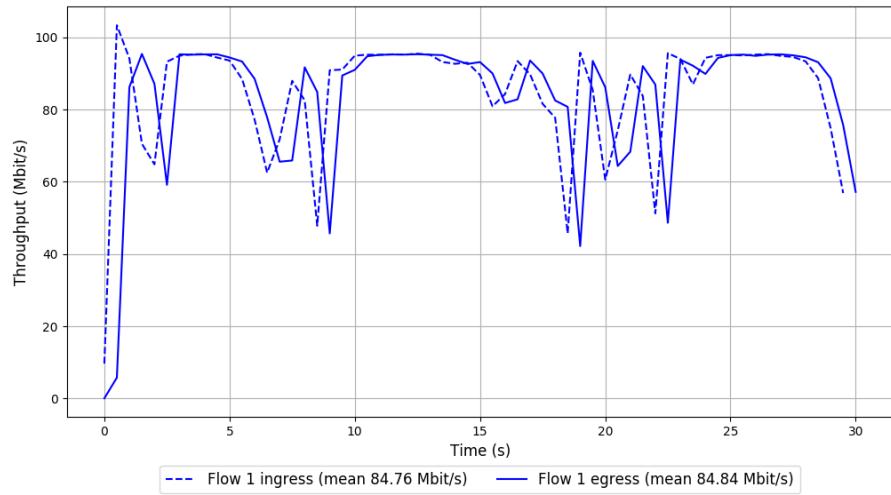


Run 5: Statistics of Copa

```
Start at: 2018-12-02 11:18:00
End at: 2018-12-02 11:18:30
Local clock offset: 0.772 ms
Remote clock offset: -2.186 ms

# Below is generated by plot.py at 2018-12-02 11:27:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.84 Mbit/s
95th percentile per-packet one-way delay: 67.674 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 84.84 Mbit/s
95th percentile per-packet one-way delay: 67.674 ms
Loss rate: 0.12%
```

Run 5: Report of Copa — Data Link

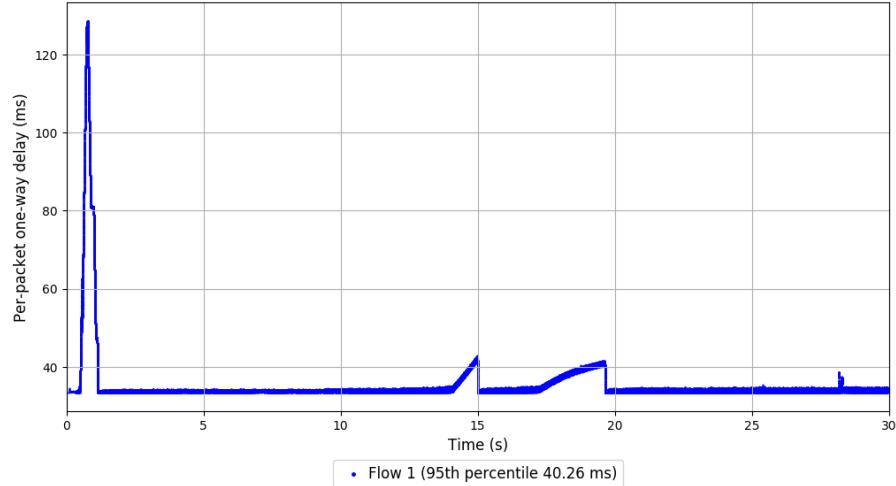
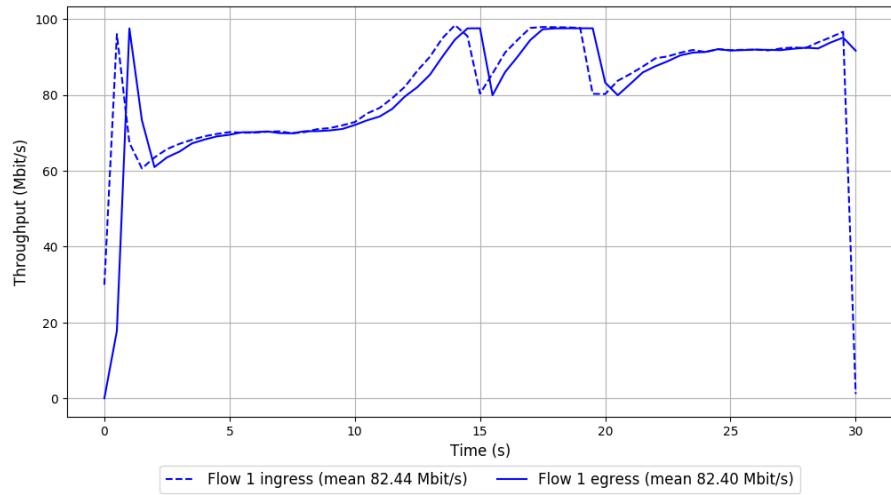


Run 1: Statistics of TCP Cubic

```
Start at: 2018-12-02 09:47:28
End at: 2018-12-02 09:47:58
Local clock offset: -3.758 ms
Remote clock offset: -3.562 ms

# Below is generated by plot.py at 2018-12-02 11:27:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.40 Mbit/s
95th percentile per-packet one-way delay: 40.263 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 82.40 Mbit/s
95th percentile per-packet one-way delay: 40.263 ms
Loss rate: 0.26%
```

Run 1: Report of TCP Cubic — Data Link

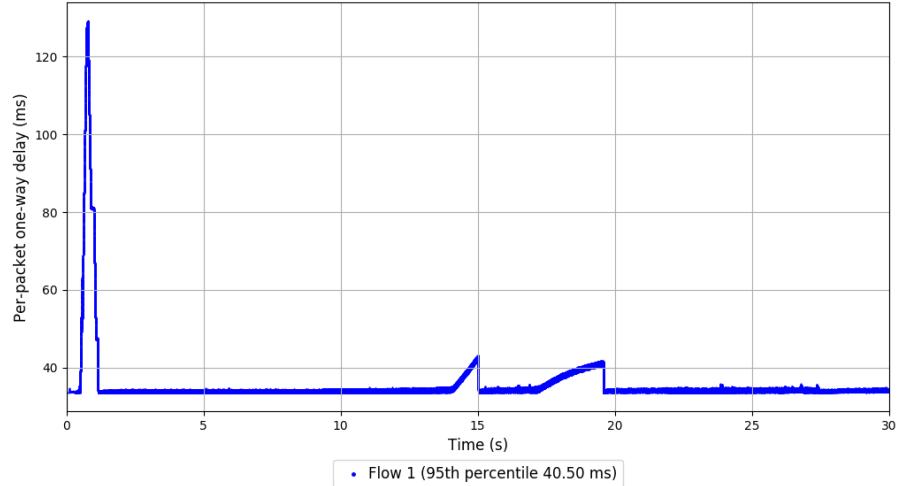
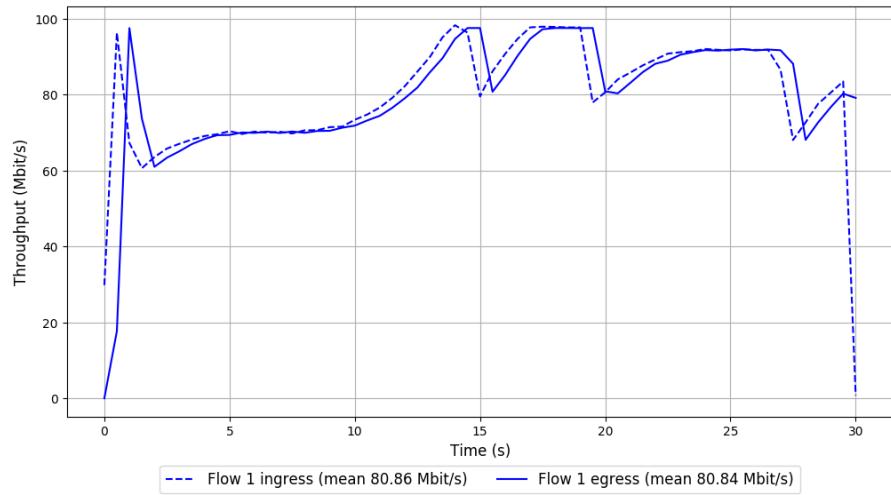


Run 2: Statistics of TCP Cubic

```
Start at: 2018-12-02 10:09:35
End at: 2018-12-02 10:10:05
Local clock offset: -3.177 ms
Remote clock offset: -2.899 ms

# Below is generated by plot.py at 2018-12-02 11:27:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.84 Mbit/s
95th percentile per-packet one-way delay: 40.496 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 80.84 Mbit/s
95th percentile per-packet one-way delay: 40.496 ms
Loss rate: 0.23%
```

Run 2: Report of TCP Cubic — Data Link

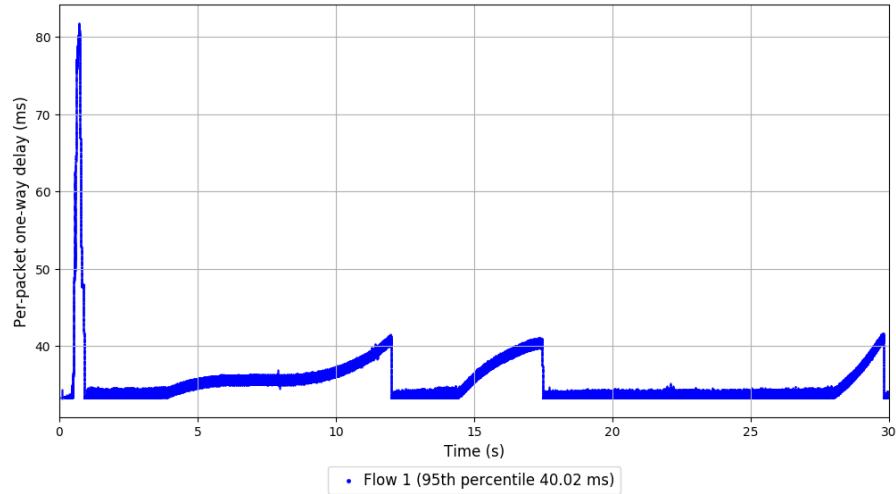
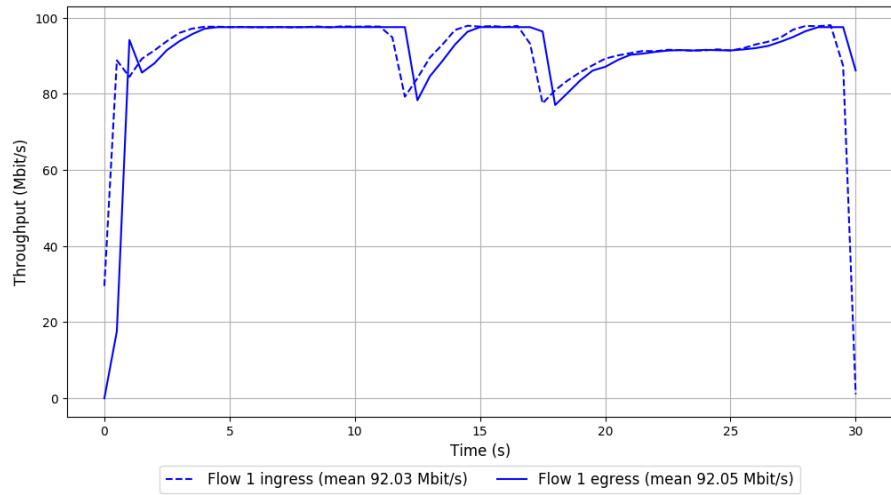


Run 3: Statistics of TCP Cubic

```
Start at: 2018-12-02 10:31:38
End at: 2018-12-02 10:32:08
Local clock offset: -0.092 ms
Remote clock offset: -2.276 ms

# Below is generated by plot.py at 2018-12-02 11:27:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.05 Mbit/s
95th percentile per-packet one-way delay: 40.016 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 92.05 Mbit/s
95th percentile per-packet one-way delay: 40.016 ms
Loss rate: 0.19%
```

Run 3: Report of TCP Cubic — Data Link

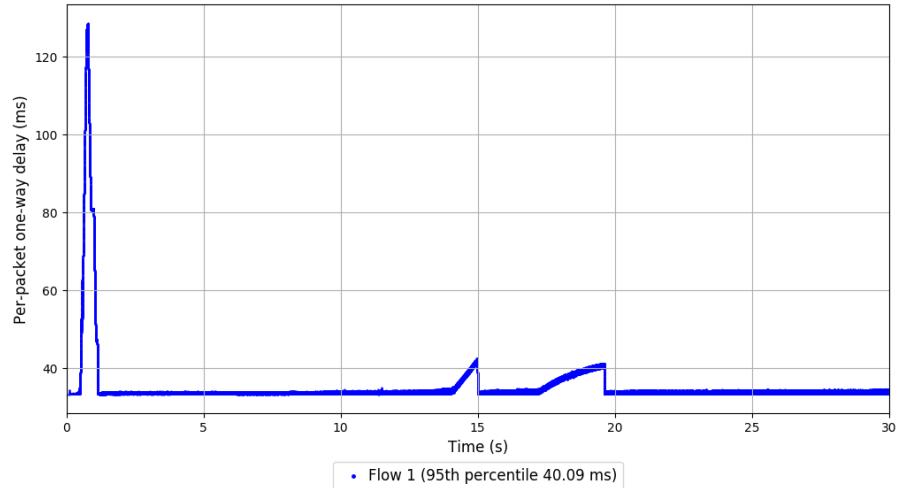
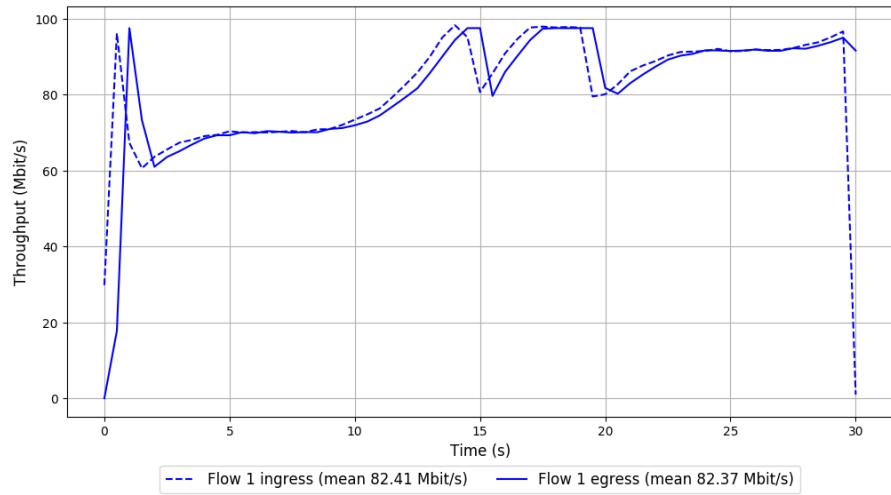


Run 4: Statistics of TCP Cubic

```
Start at: 2018-12-02 10:53:39
End at: 2018-12-02 10:54:09
Local clock offset: 0.693 ms
Remote clock offset: -2.051 ms

# Below is generated by plot.py at 2018-12-02 11:27:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.37 Mbit/s
95th percentile per-packet one-way delay: 40.087 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 82.37 Mbit/s
95th percentile per-packet one-way delay: 40.087 ms
Loss rate: 0.26%
```

Run 4: Report of TCP Cubic — Data Link

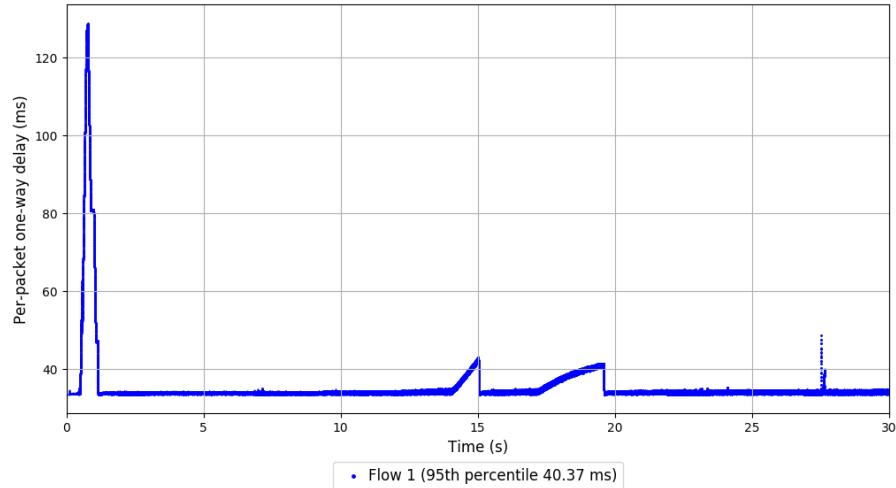
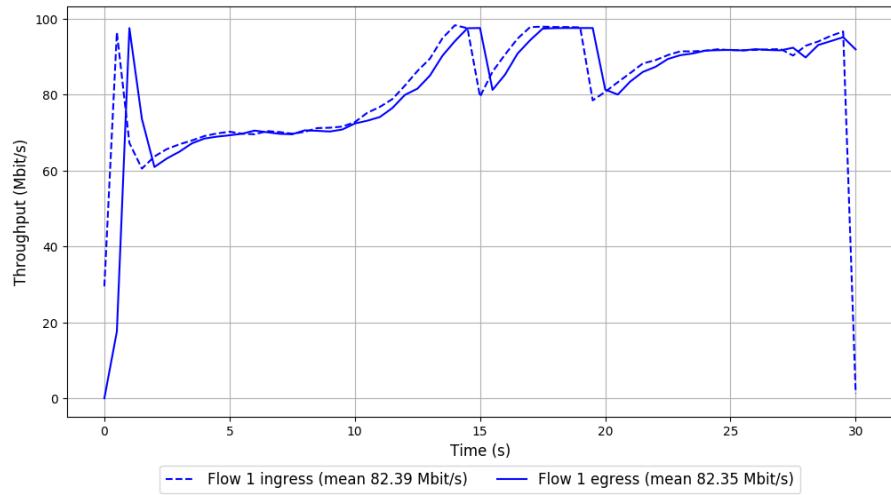


Run 5: Statistics of TCP Cubic

```
Start at: 2018-12-02 11:15:39
End at: 2018-12-02 11:16:10
Local clock offset: 0.717 ms
Remote clock offset: -2.048 ms

# Below is generated by plot.py at 2018-12-02 11:27:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.35 Mbit/s
95th percentile per-packet one-way delay: 40.373 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 82.35 Mbit/s
95th percentile per-packet one-way delay: 40.373 ms
Loss rate: 0.26%
```

Run 5: Report of TCP Cubic — Data Link

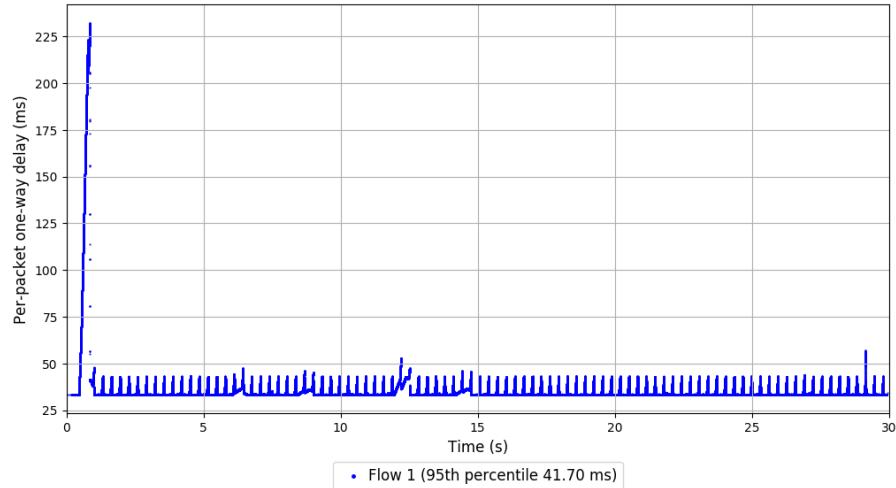
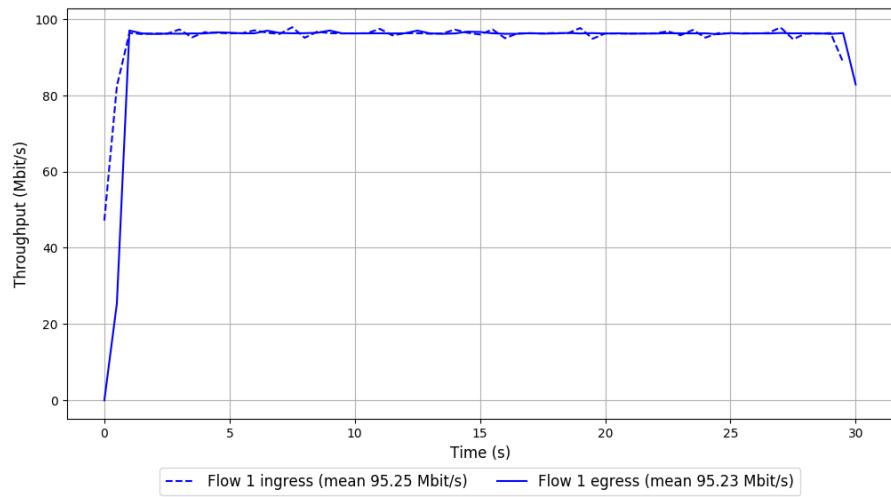


```
Run 1: Statistics of FillP
```

```
Start at: 2018-12-02 09:41:44
End at: 2018-12-02 09:42:14
Local clock offset: -3.467 ms
Remote clock offset: -3.766 ms

# Below is generated by plot.py at 2018-12-02 11:28:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.23 Mbit/s
95th percentile per-packet one-way delay: 41.695 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.23 Mbit/s
95th percentile per-packet one-way delay: 41.695 ms
Loss rate: 0.23%
```

Run 1: Report of FillP — Data Link

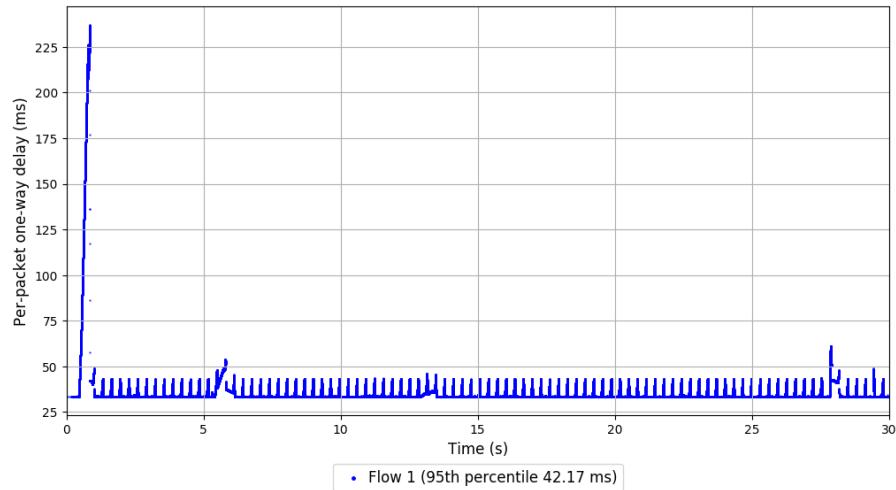
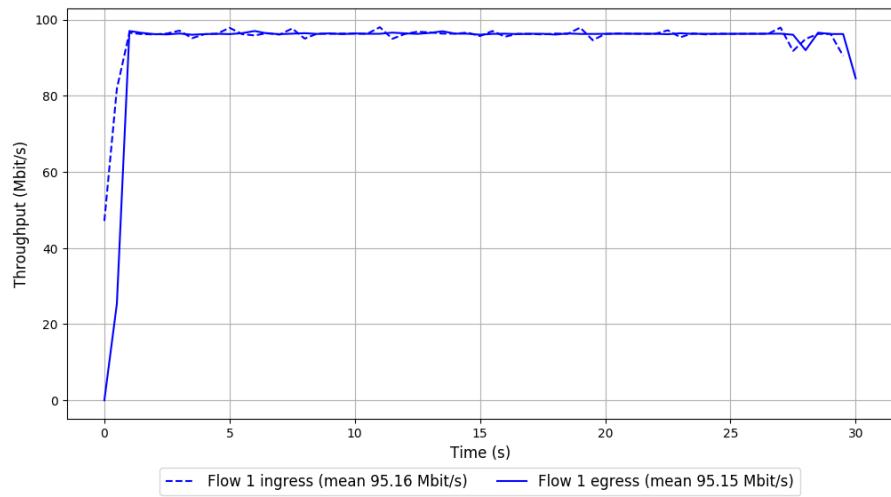


Run 2: Statistics of FillP

```
Start at: 2018-12-02 10:03:48
End at: 2018-12-02 10:04:18
Local clock offset: -3.15 ms
Remote clock offset: -2.967 ms

# Below is generated by plot.py at 2018-12-02 11:28:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.15 Mbit/s
95th percentile per-packet one-way delay: 42.168 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 95.15 Mbit/s
95th percentile per-packet one-way delay: 42.168 ms
Loss rate: 0.22%
```

Run 2: Report of FillP — Data Link

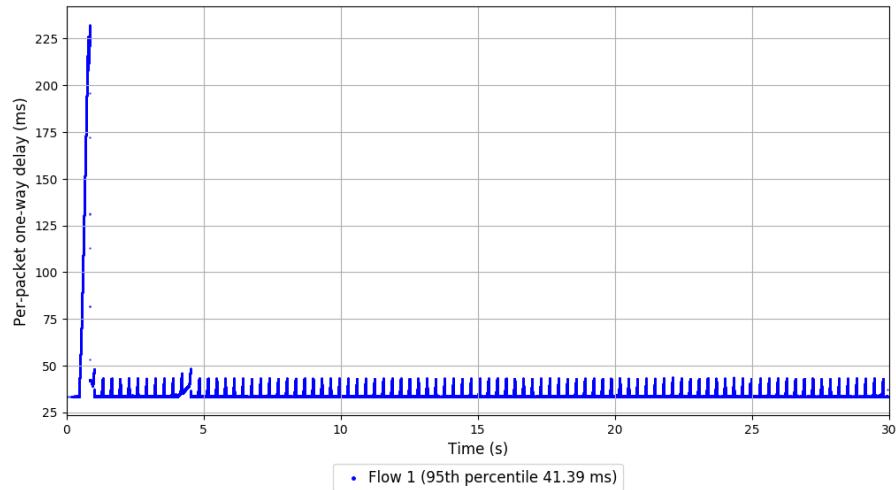
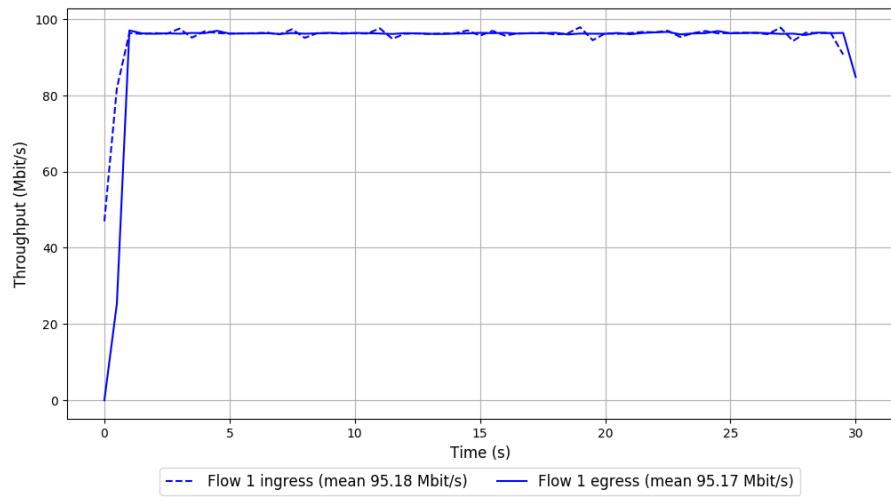


Run 3: Statistics of FillP

```
Start at: 2018-12-02 10:25:54
End at: 2018-12-02 10:26:24
Local clock offset: -0.96 ms
Remote clock offset: -2.548 ms

# Below is generated by plot.py at 2018-12-02 11:28:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 41.393 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 41.393 ms
Loss rate: 0.22%
```

Run 3: Report of FillP — Data Link

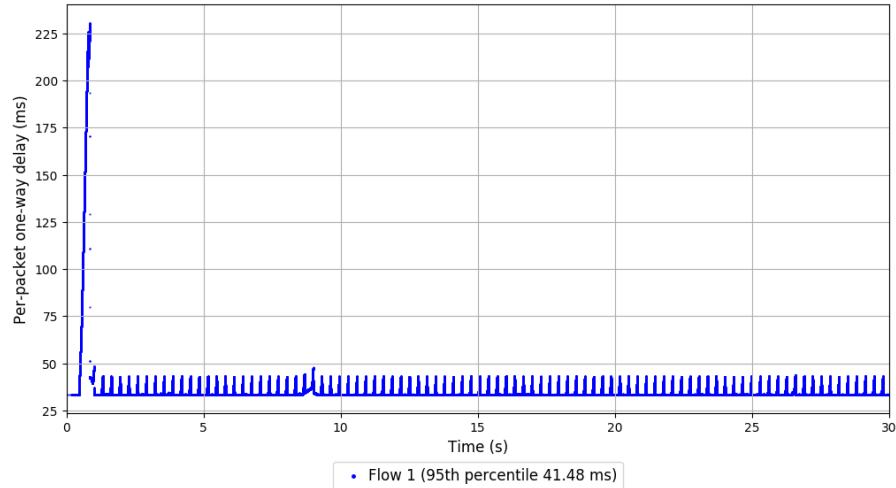
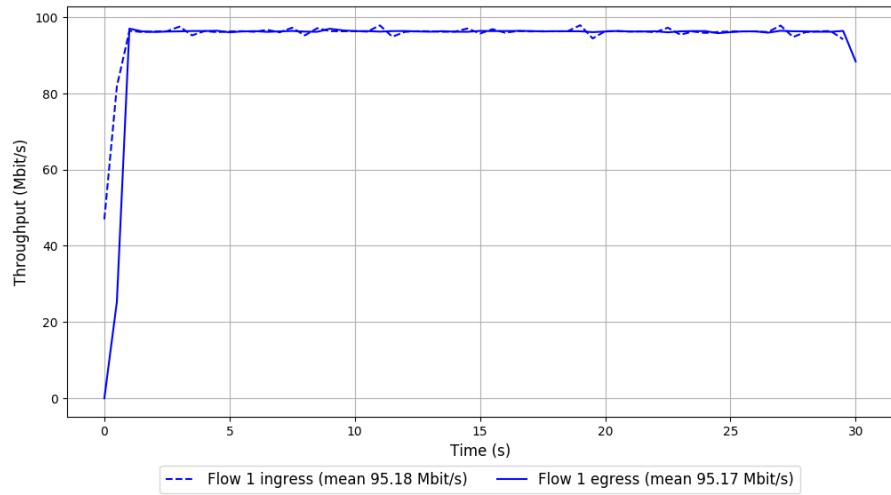


Run 4: Statistics of FillP

```
Start at: 2018-12-02 10:47:55
End at: 2018-12-02 10:48:25
Local clock offset: 0.949 ms
Remote clock offset: -2.395 ms

# Below is generated by plot.py at 2018-12-02 11:28:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 41.485 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 95.17 Mbit/s
95th percentile per-packet one-way delay: 41.485 ms
Loss rate: 0.22%
```

Run 4: Report of FillP — Data Link

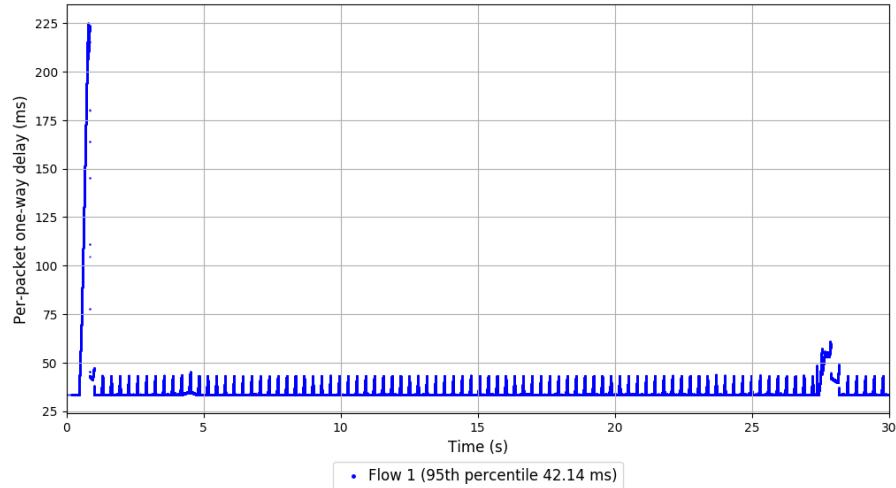
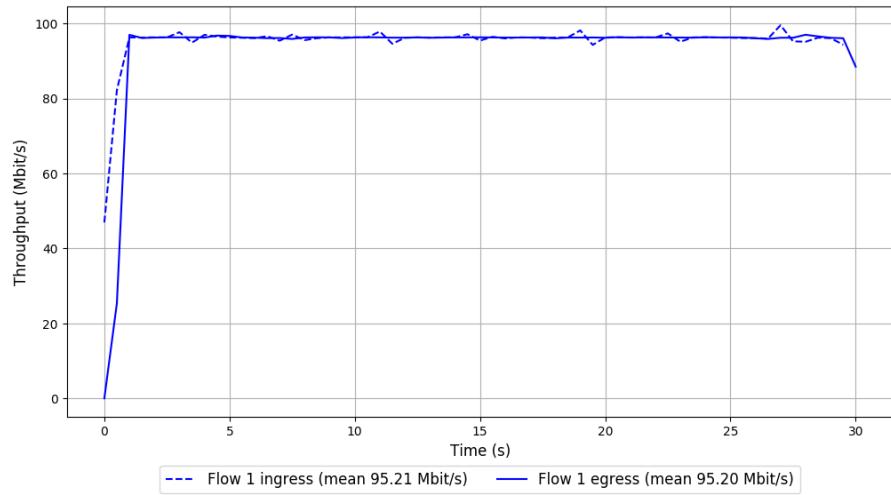


Run 5: Statistics of FillP

```
Start at: 2018-12-02 11:09:56
End at: 2018-12-02 11:10:26
Local clock offset: 0.658 ms
Remote clock offset: -2.174 ms

# Below is generated by plot.py at 2018-12-02 11:29:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 42.142 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 42.142 ms
Loss rate: 0.23%
```

Run 5: Report of FillP — Data Link

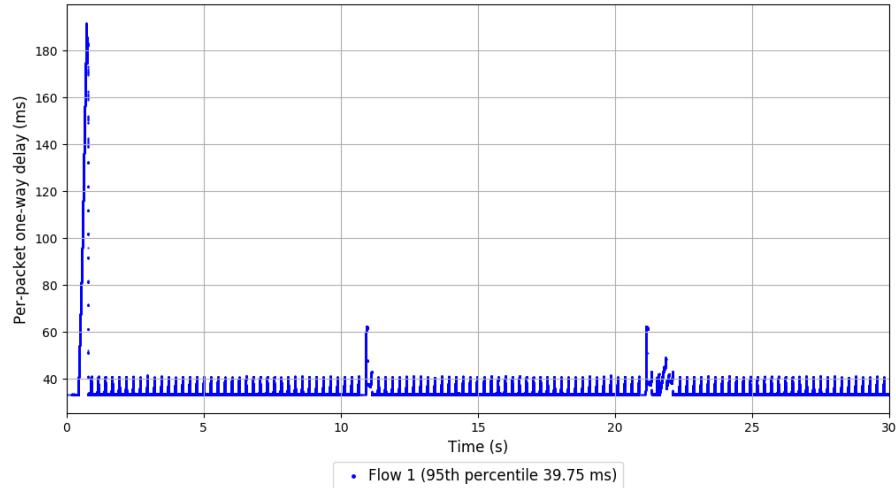
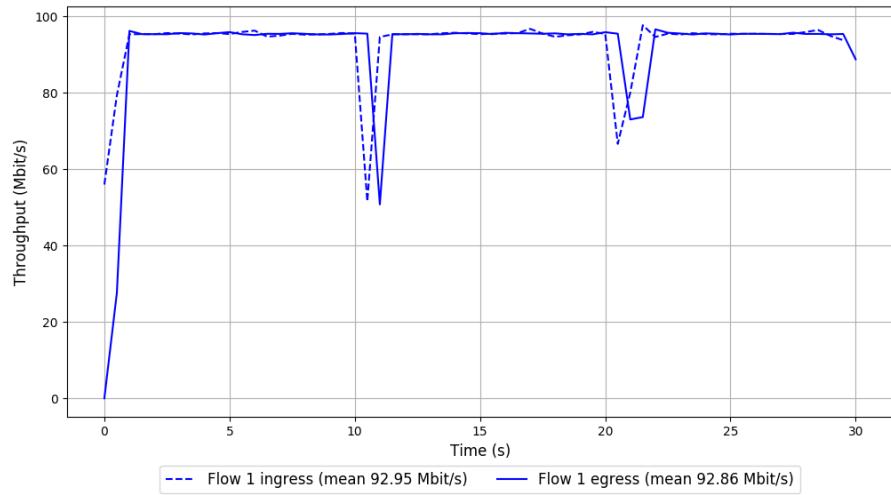


Run 1: Statistics of FillP-Sheep

```
Start at: 2018-12-02 09:40:35
End at: 2018-12-02 09:41:05
Local clock offset: -3.397 ms
Remote clock offset: -3.731 ms

# Below is generated by plot.py at 2018-12-02 11:29:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.86 Mbit/s
95th percentile per-packet one-way delay: 39.749 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 92.86 Mbit/s
95th percentile per-packet one-way delay: 39.749 ms
Loss rate: 0.31%
```

Run 1: Report of FillP-Sheep — Data Link

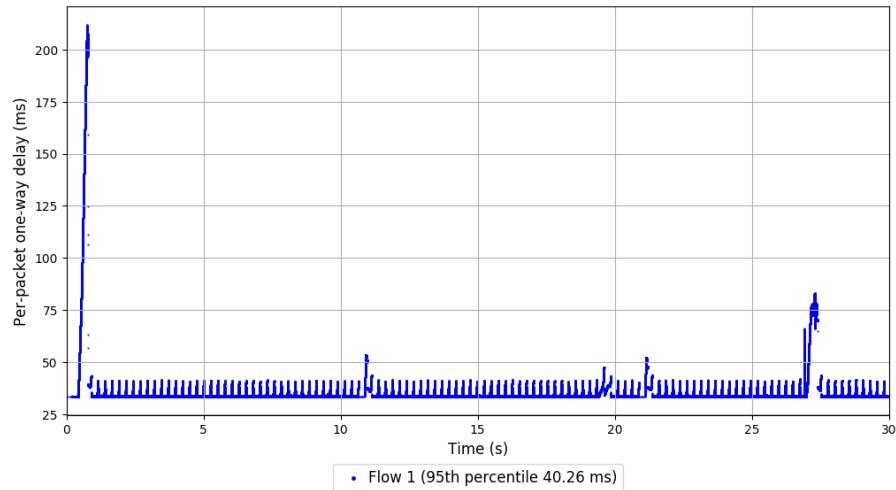
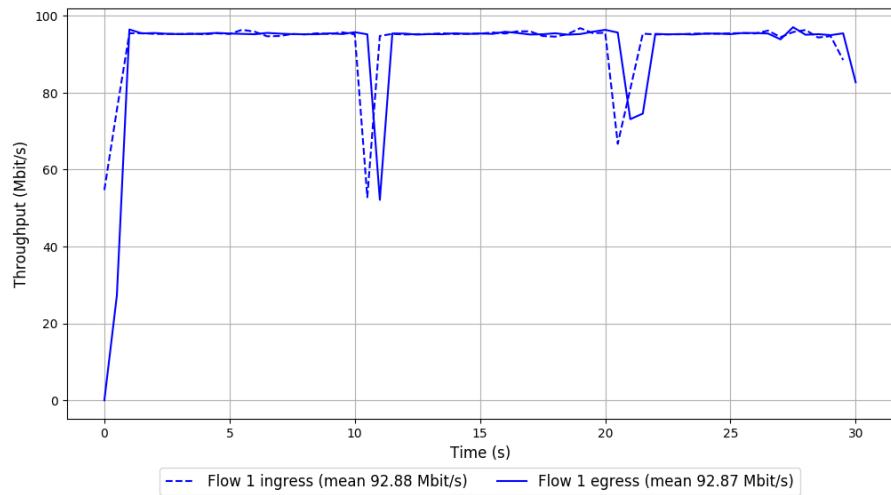


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-12-02 10:02:39
End at: 2018-12-02 10:03:09
Local clock offset: -3.158 ms
Remote clock offset: -2.969 ms

# Below is generated by plot.py at 2018-12-02 11:29:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.87 Mbit/s
95th percentile per-packet one-way delay: 40.263 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 92.87 Mbit/s
95th percentile per-packet one-way delay: 40.263 ms
Loss rate: 0.22%
```

Run 2: Report of FillP-Sheep — Data Link

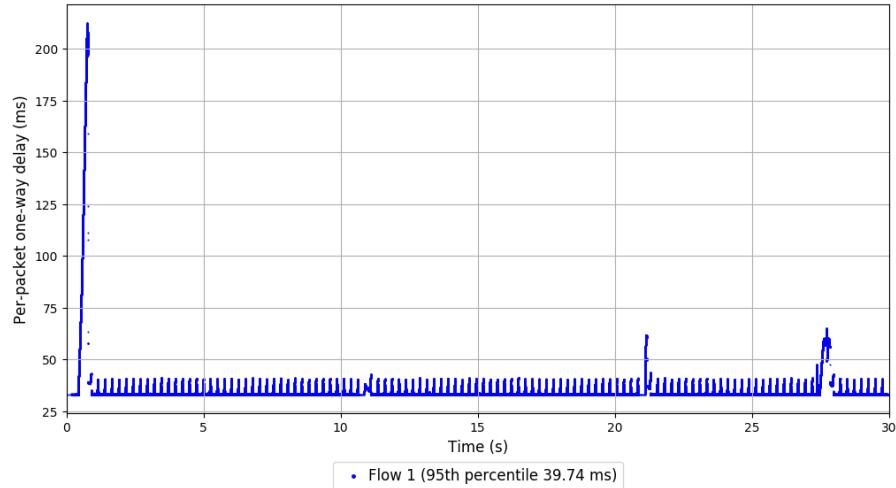
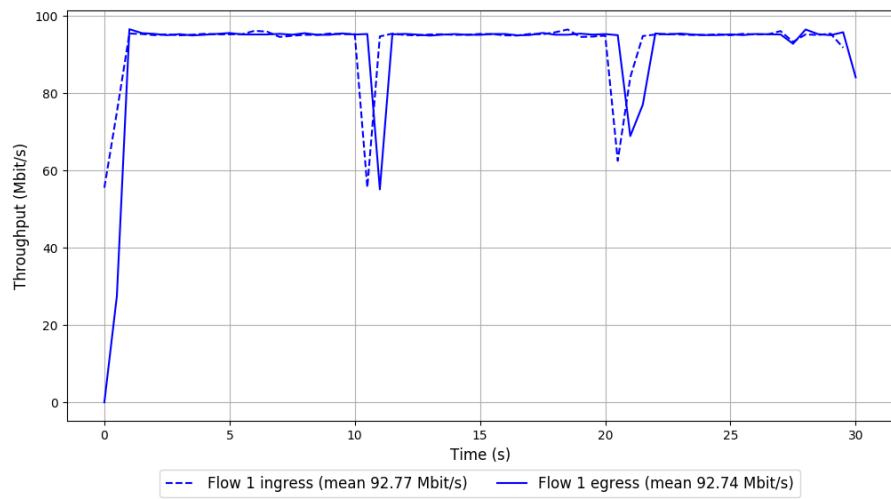


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-12-02 10:24:45
End at: 2018-12-02 10:25:15
Local clock offset: -1.253 ms
Remote clock offset: -2.426 ms

# Below is generated by plot.py at 2018-12-02 11:29:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.74 Mbit/s
95th percentile per-packet one-way delay: 39.738 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 92.74 Mbit/s
95th percentile per-packet one-way delay: 39.738 ms
Loss rate: 0.25%
```

Run 3: Report of FillP-Sheep — Data Link

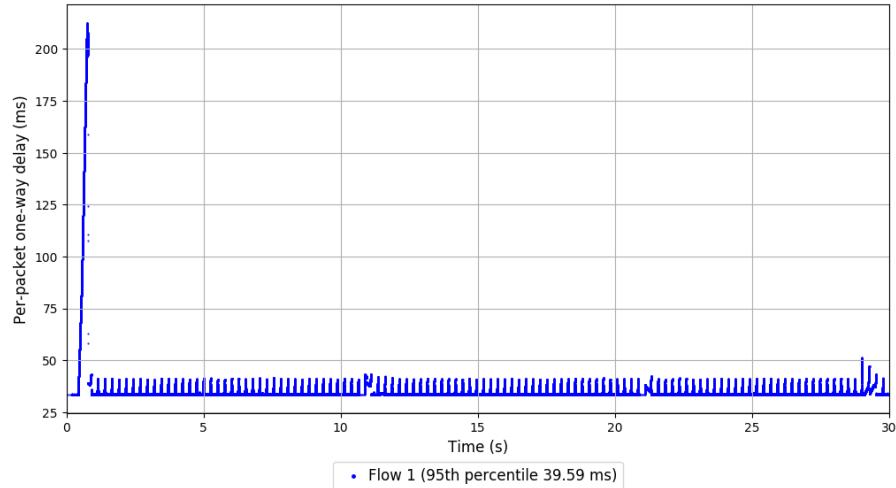
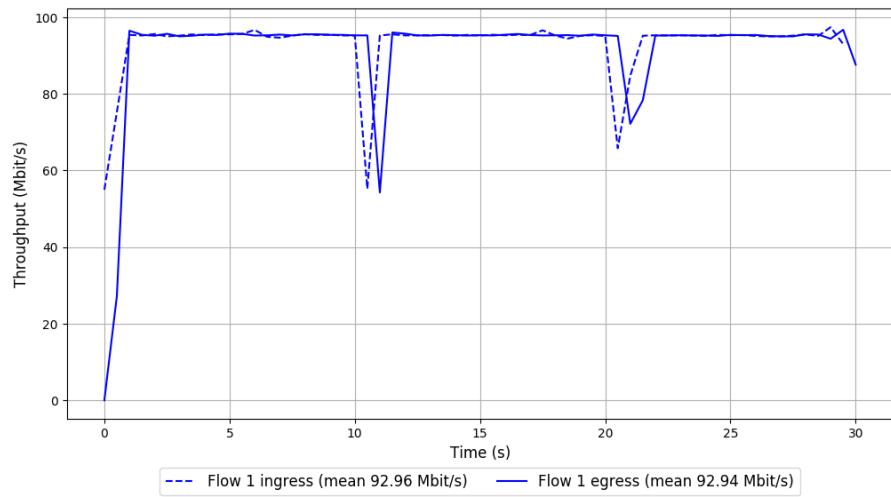


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-12-02 10:46:46
End at: 2018-12-02 10:47:16
Local clock offset: 0.898 ms
Remote clock offset: -2.417 ms

# Below is generated by plot.py at 2018-12-02 11:29:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.94 Mbit/s
95th percentile per-packet one-way delay: 39.588 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 92.94 Mbit/s
95th percentile per-packet one-way delay: 39.588 ms
Loss rate: 0.23%
```

Run 4: Report of FillP-Sheep — Data Link

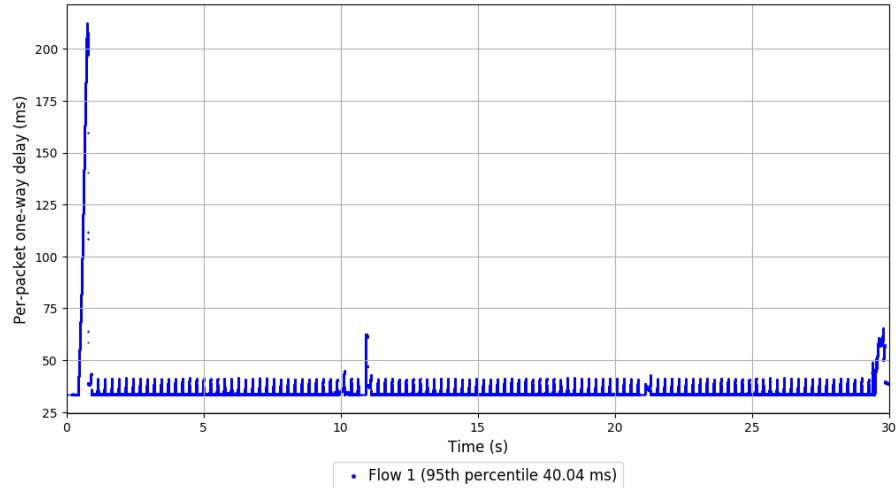
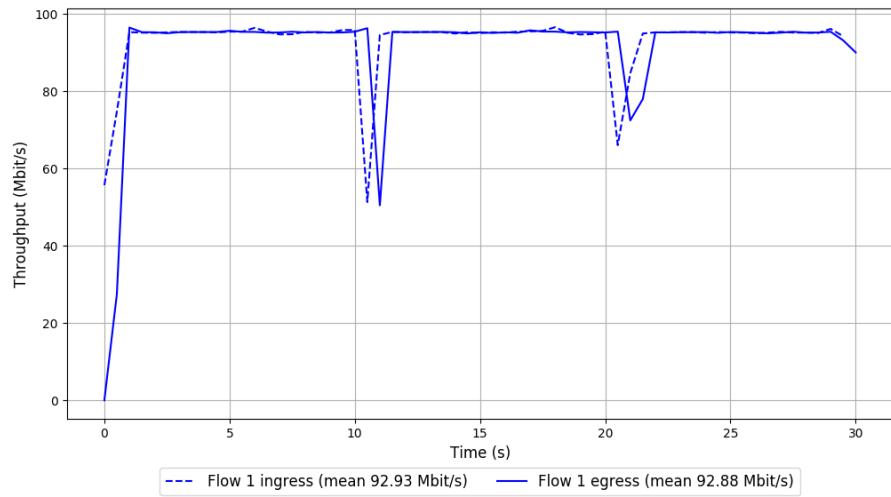


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-12-02 11:08:47
End at: 2018-12-02 11:09:17
Local clock offset: 0.653 ms
Remote clock offset: -2.217 ms

# Below is generated by plot.py at 2018-12-02 11:29:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.88 Mbit/s
95th percentile per-packet one-way delay: 40.041 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 92.88 Mbit/s
95th percentile per-packet one-way delay: 40.041 ms
Loss rate: 0.24%
```

Run 5: Report of FillP-Sheep — Data Link

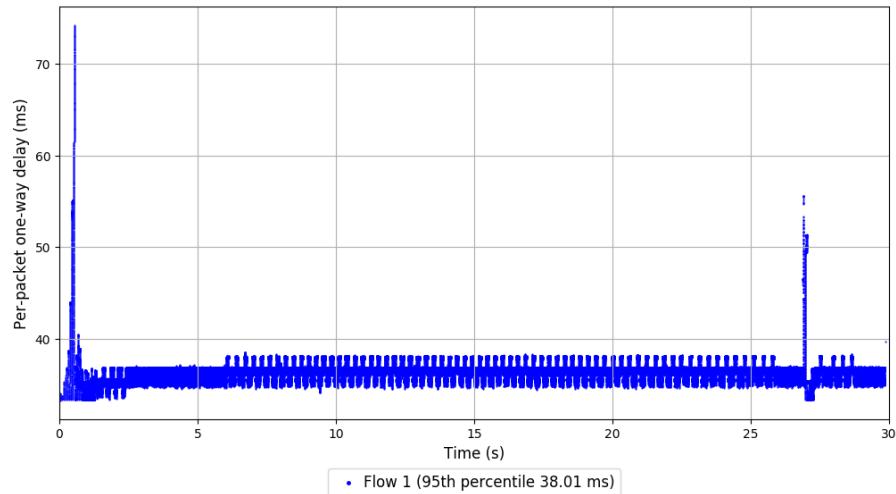
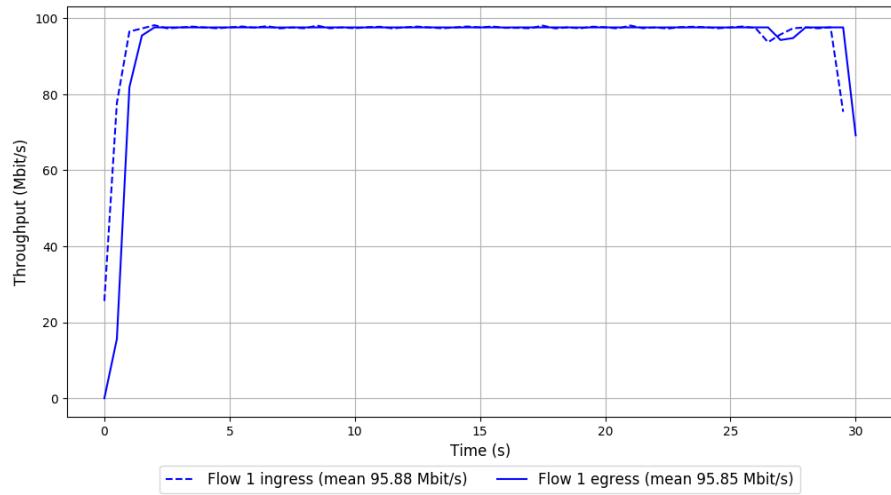


Run 1: Statistics of Indigo

```
Start at: 2018-12-02 09:38:11
End at: 2018-12-02 09:38:41
Local clock offset: -3.256 ms
Remote clock offset: -3.731 ms

# Below is generated by plot.py at 2018-12-02 11:29:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 38.011 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 38.011 ms
Loss rate: 0.23%
```

Run 1: Report of Indigo — Data Link

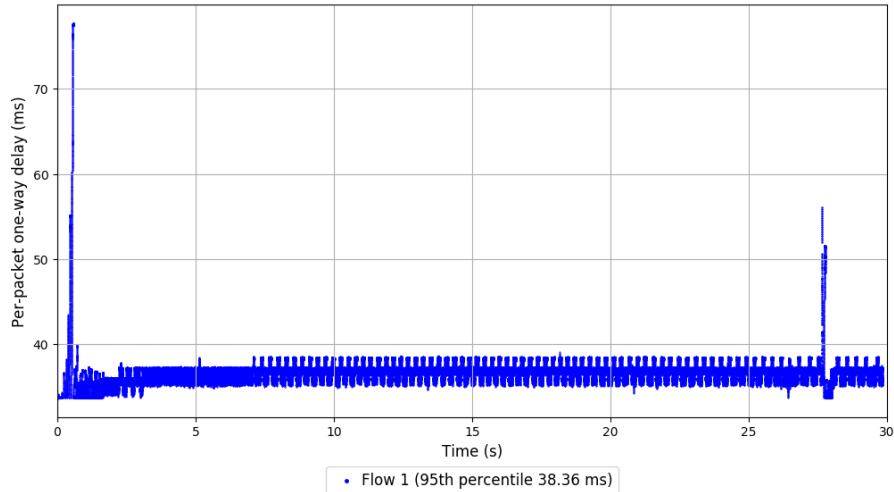
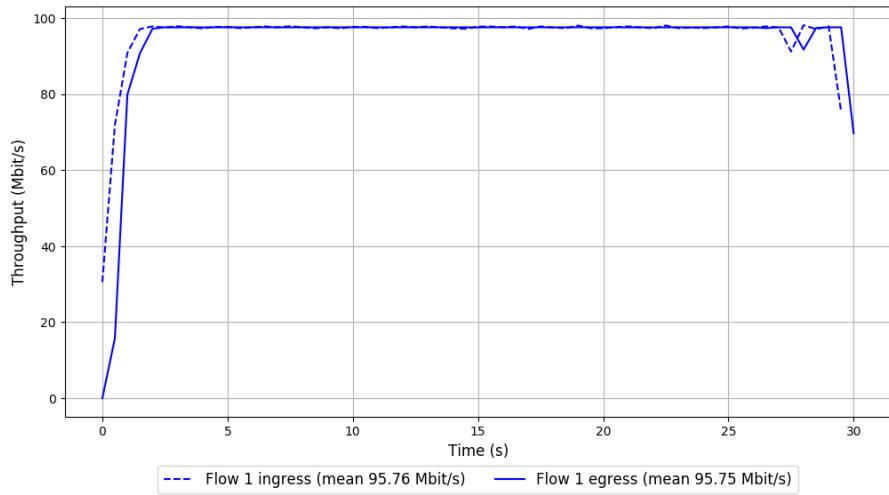


Run 2: Statistics of Indigo

```
Start at: 2018-12-02 10:00:15
End at: 2018-12-02 10:00:45
Local clock offset: -3.191 ms
Remote clock offset: -3.295 ms

# Below is generated by plot.py at 2018-12-02 11:29:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.75 Mbit/s
95th percentile per-packet one-way delay: 38.364 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 95.75 Mbit/s
95th percentile per-packet one-way delay: 38.364 ms
Loss rate: 0.22%
```

Run 2: Report of Indigo — Data Link

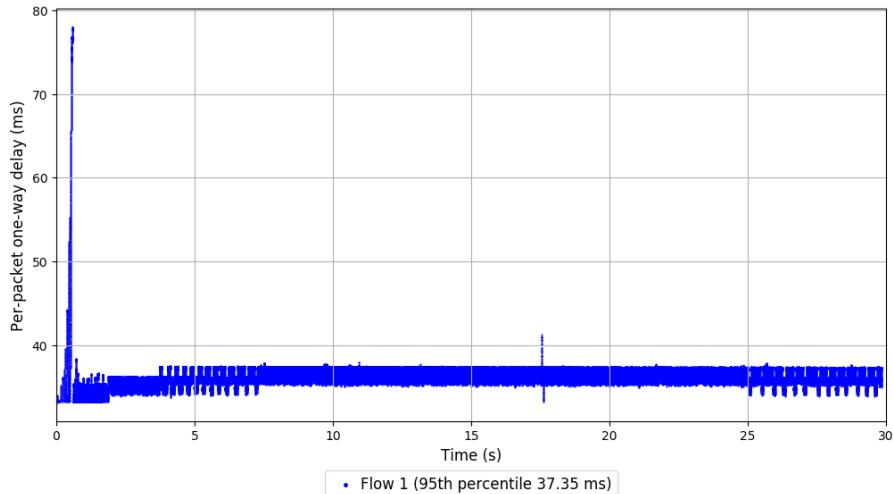
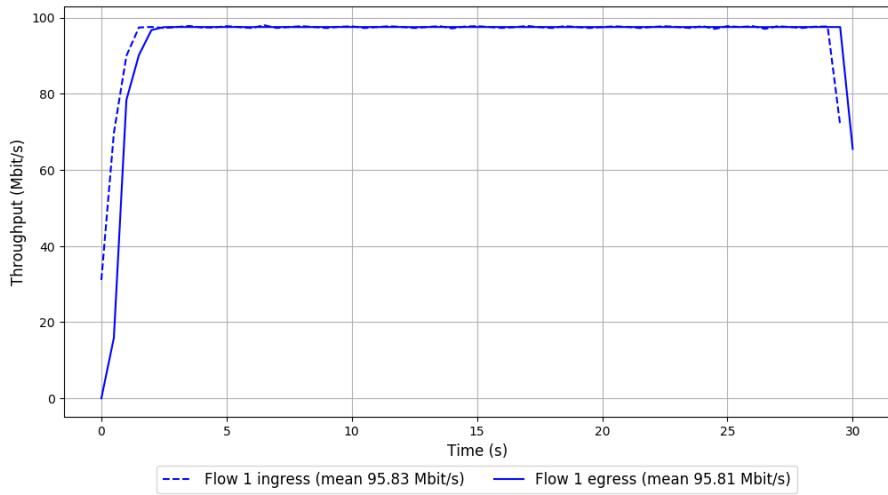


Run 3: Statistics of Indigo

```
Start at: 2018-12-02 10:22:21
End at: 2018-12-02 10:22:51
Local clock offset: -1.75 ms
Remote clock offset: -2.395 ms

# Below is generated by plot.py at 2018-12-02 11:30:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.81 Mbit/s
95th percentile per-packet one-way delay: 37.348 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.81 Mbit/s
95th percentile per-packet one-way delay: 37.348 ms
Loss rate: 0.23%
```

Run 3: Report of Indigo — Data Link

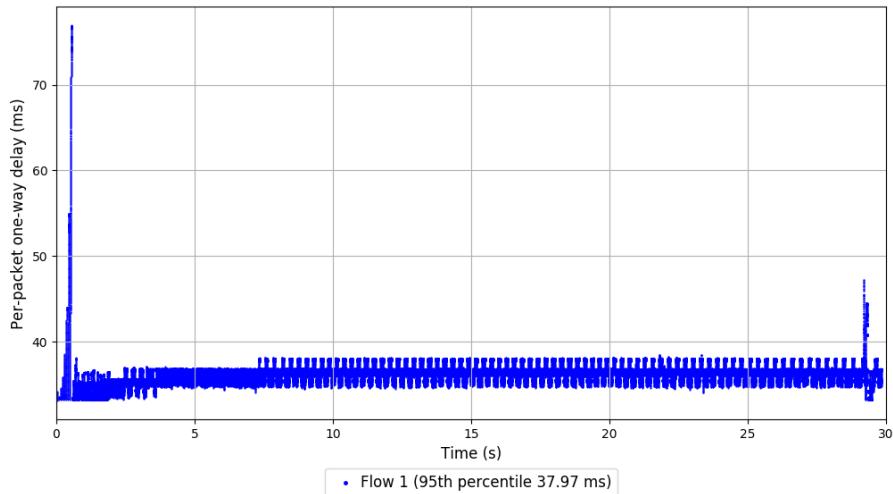
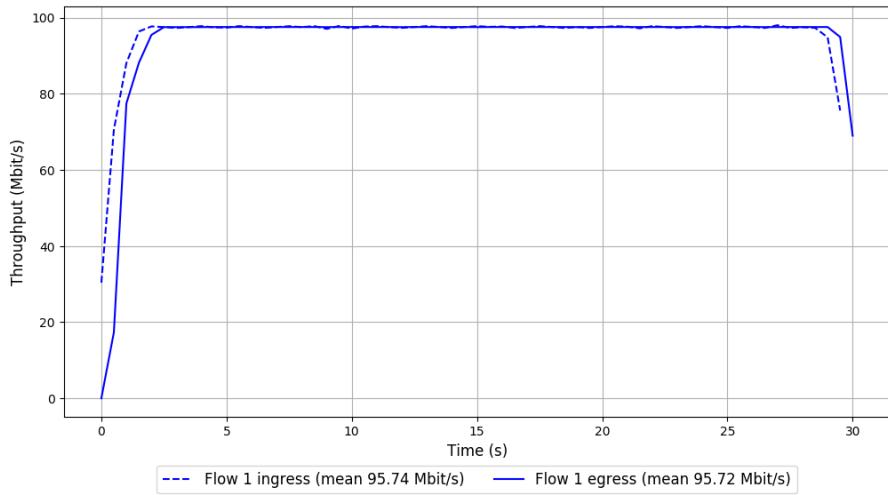


Run 4: Statistics of Indigo

```
Start at: 2018-12-02 10:44:22
End at: 2018-12-02 10:44:53
Local clock offset: 0.793 ms
Remote clock offset: -2.129 ms

# Below is generated by plot.py at 2018-12-02 11:30:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.72 Mbit/s
95th percentile per-packet one-way delay: 37.968 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.72 Mbit/s
95th percentile per-packet one-way delay: 37.968 ms
Loss rate: 0.23%
```

Run 4: Report of Indigo — Data Link

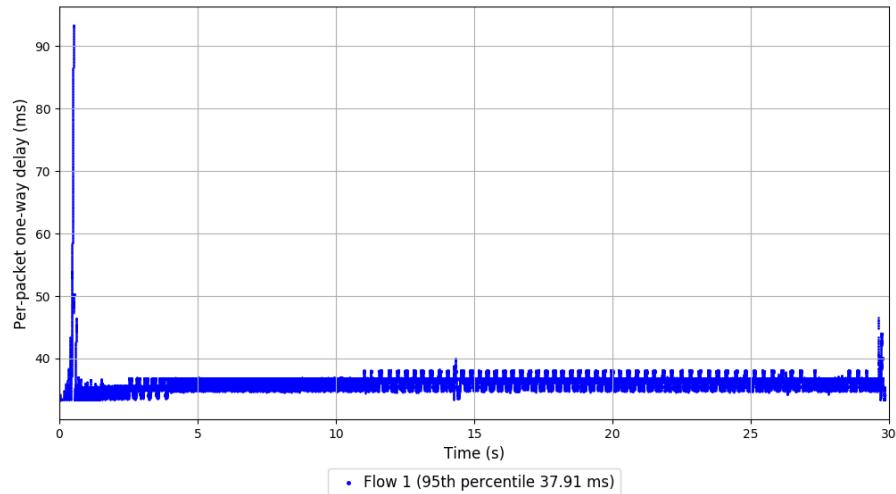
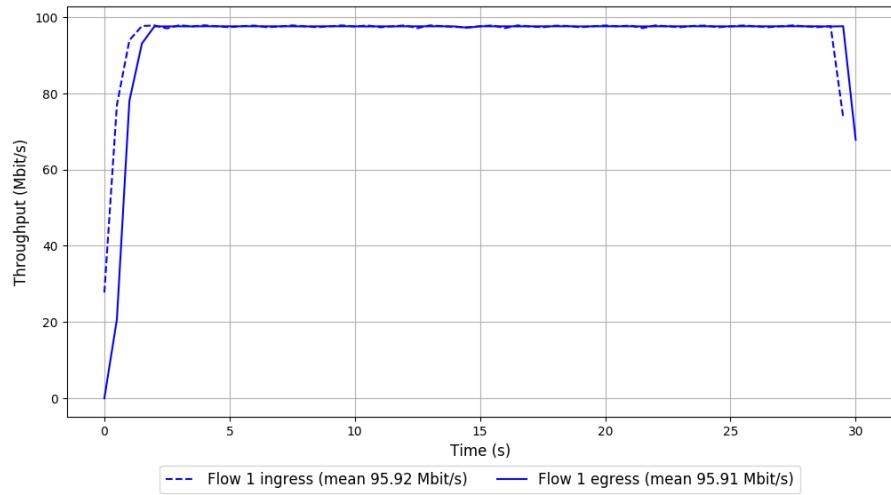


Run 5: Statistics of Indigo

```
Start at: 2018-12-02 11:06:23
End at: 2018-12-02 11:06:53
Local clock offset: 0.637 ms
Remote clock offset: -2.024 ms

# Below is generated by plot.py at 2018-12-02 11:30:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.91 Mbit/s
95th percentile per-packet one-way delay: 37.905 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.91 Mbit/s
95th percentile per-packet one-way delay: 37.905 ms
Loss rate: 0.23%
```

Run 5: Report of Indigo — Data Link

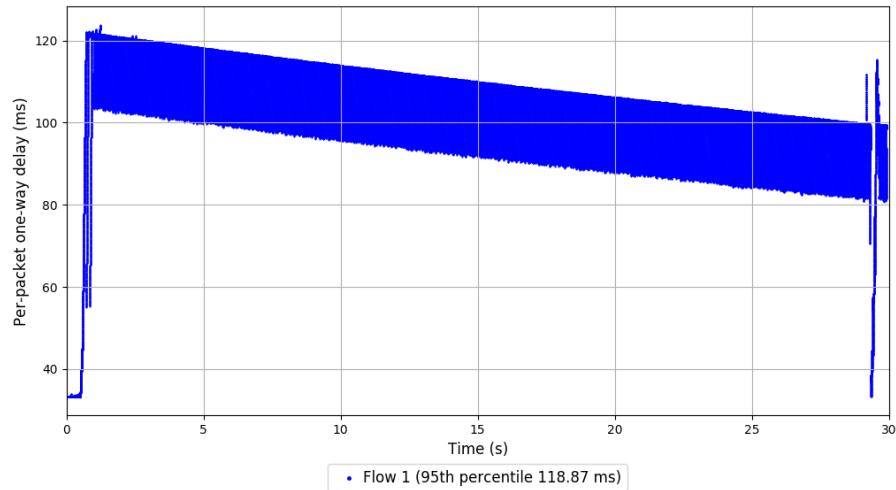
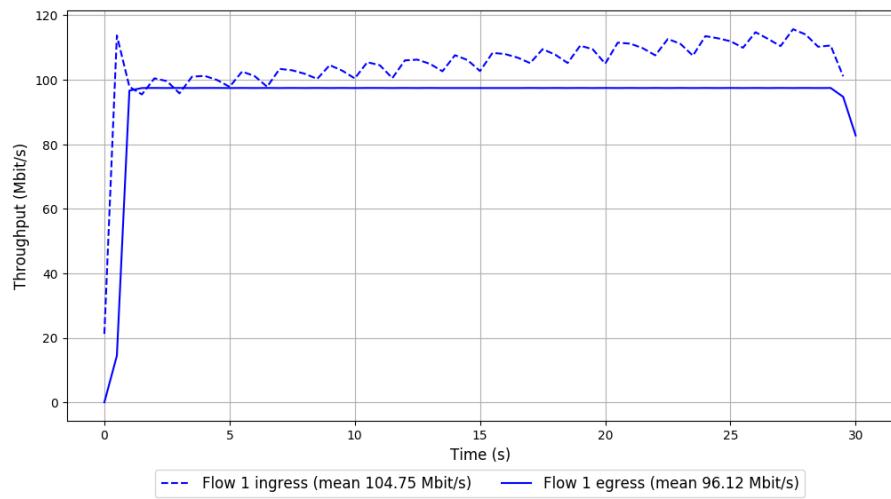


```
Run 1: Statistics of Indigo-96d2da3
```

```
Start at: 2018-12-02 09:34:50
End at: 2018-12-02 09:35:20
Local clock offset: -2.981 ms
Remote clock offset: -3.655 ms

# Below is generated by plot.py at 2018-12-02 11:30:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.12 Mbit/s
95th percentile per-packet one-way delay: 118.871 ms
Loss rate: 8.41%
-- Flow 1:
Average throughput: 96.12 Mbit/s
95th percentile per-packet one-way delay: 118.871 ms
Loss rate: 8.41%
```

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

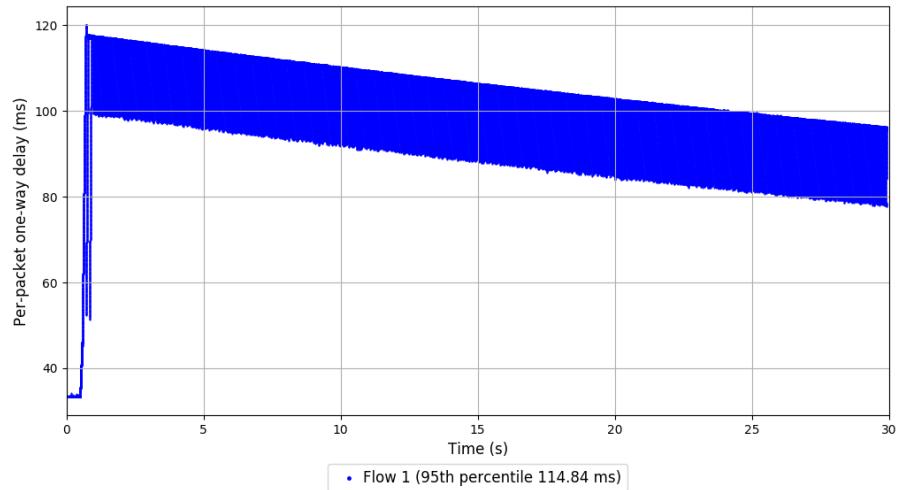
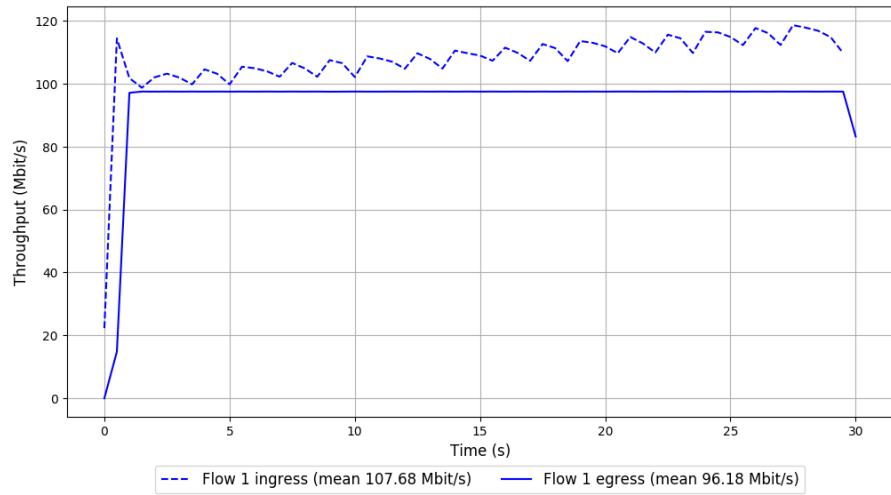


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-12-02 09:56:53
End at: 2018-12-02 09:57:23
Local clock offset: -3.25 ms
Remote clock offset: -3.166 ms

# Below is generated by plot.py at 2018-12-02 11:30:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.18 Mbit/s
95th percentile per-packet one-way delay: 114.845 ms
Loss rate: 10.88%
-- Flow 1:
Average throughput: 96.18 Mbit/s
95th percentile per-packet one-way delay: 114.845 ms
Loss rate: 10.88%
```

Run 2: Report of Indigo-96d2da3 — Data Link

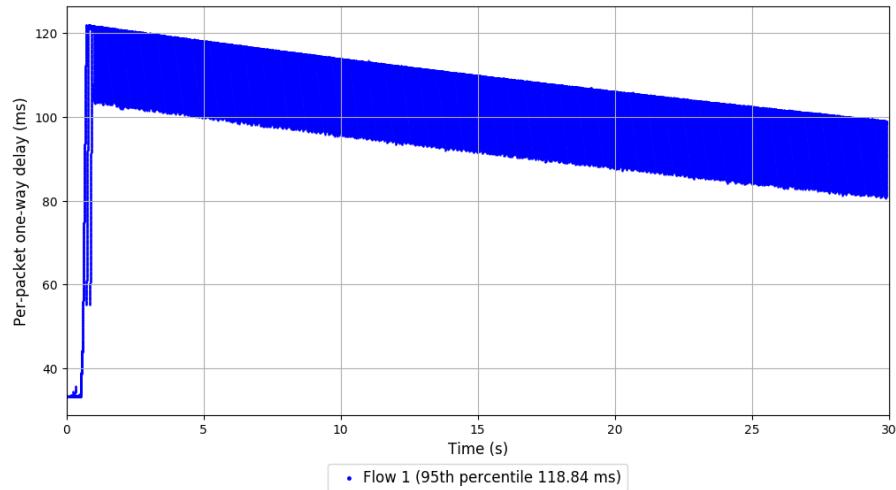
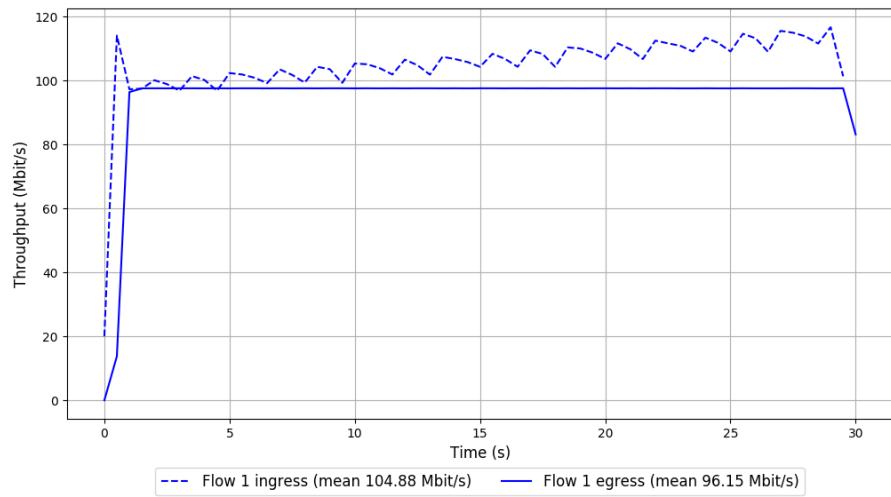


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-12-02 10:18:59
End at: 2018-12-02 10:19:29
Local clock offset: -2.883 ms
Remote clock offset: -2.534 ms

# Below is generated by plot.py at 2018-12-02 11:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.15 Mbit/s
95th percentile per-packet one-way delay: 118.842 ms
Loss rate: 8.47%
-- Flow 1:
Average throughput: 96.15 Mbit/s
95th percentile per-packet one-way delay: 118.842 ms
Loss rate: 8.47%
```

Run 3: Report of Indigo-96d2da3 — Data Link

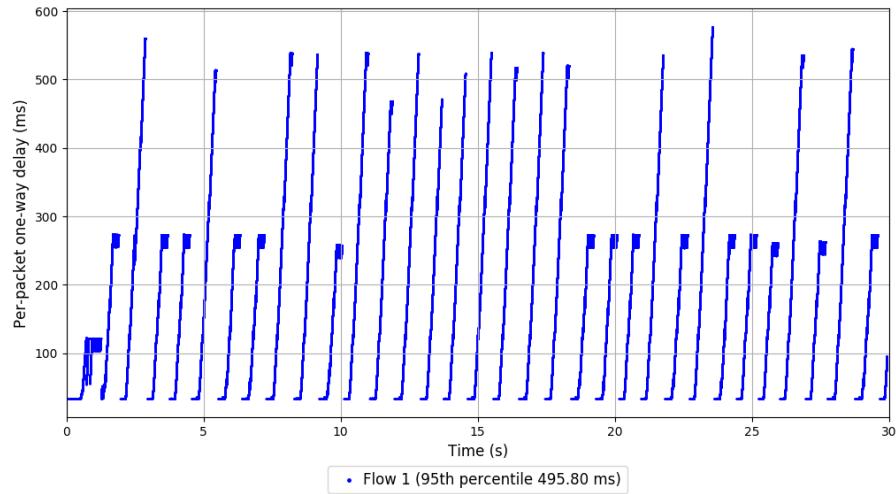
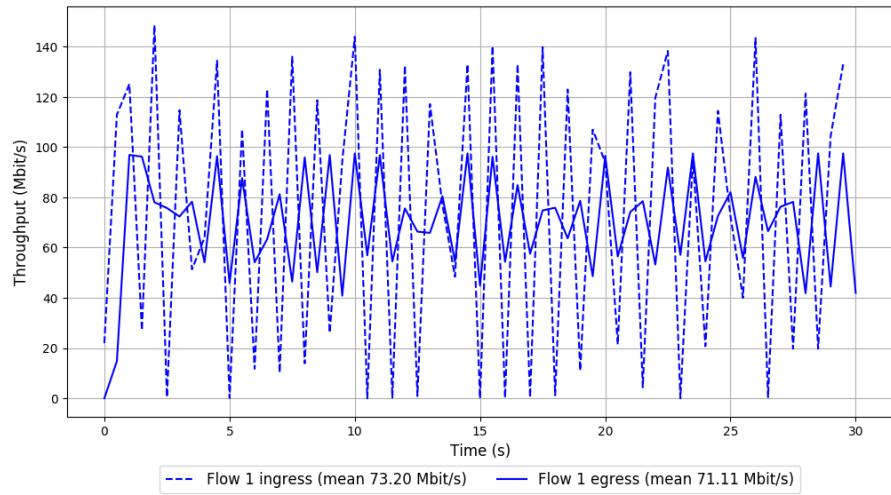


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-12-02 10:41:02
End at: 2018-12-02 10:41:32
Local clock offset: 0.639 ms
Remote clock offset: -2.248 ms

# Below is generated by plot.py at 2018-12-02 11:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.11 Mbit/s
95th percentile per-packet one-way delay: 495.797 ms
Loss rate: 3.05%
-- Flow 1:
Average throughput: 71.11 Mbit/s
95th percentile per-packet one-way delay: 495.797 ms
Loss rate: 3.05%
```

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

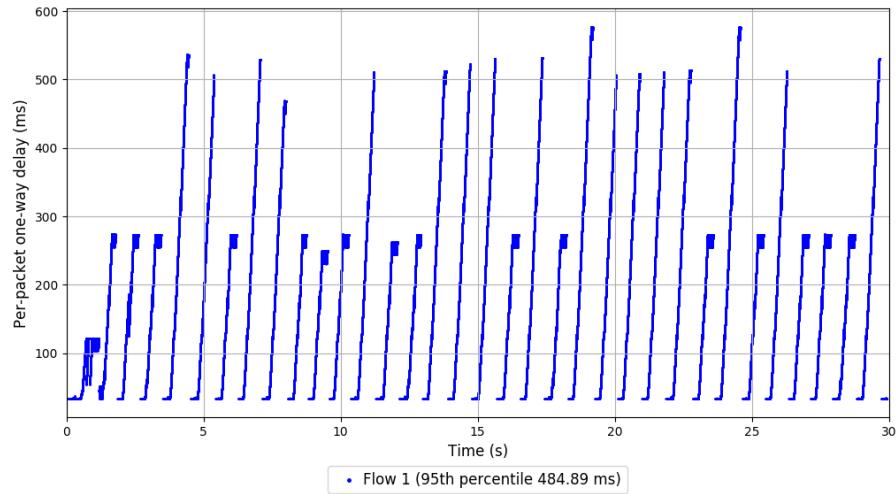
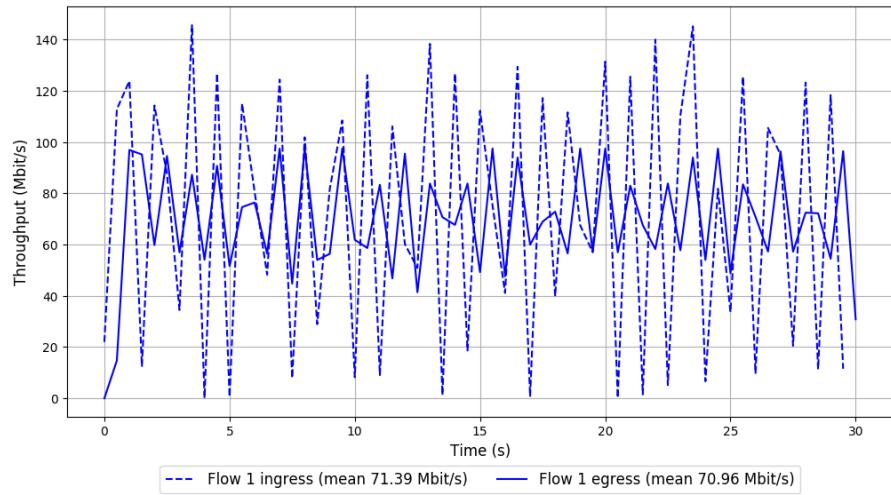


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-12-02 11:03:02
End at: 2018-12-02 11:03:32
Local clock offset: 0.618 ms
Remote clock offset: -2.146 ms

# Below is generated by plot.py at 2018-12-02 11:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.96 Mbit/s
95th percentile per-packet one-way delay: 484.893 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 70.96 Mbit/s
95th percentile per-packet one-way delay: 484.893 ms
Loss rate: 0.81%
```

Run 5: Report of Indigo-96d2da3 — Data Link

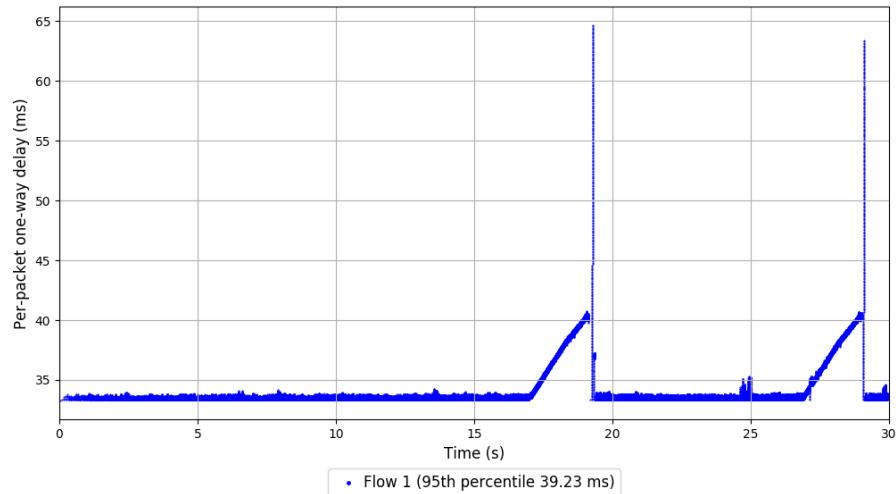
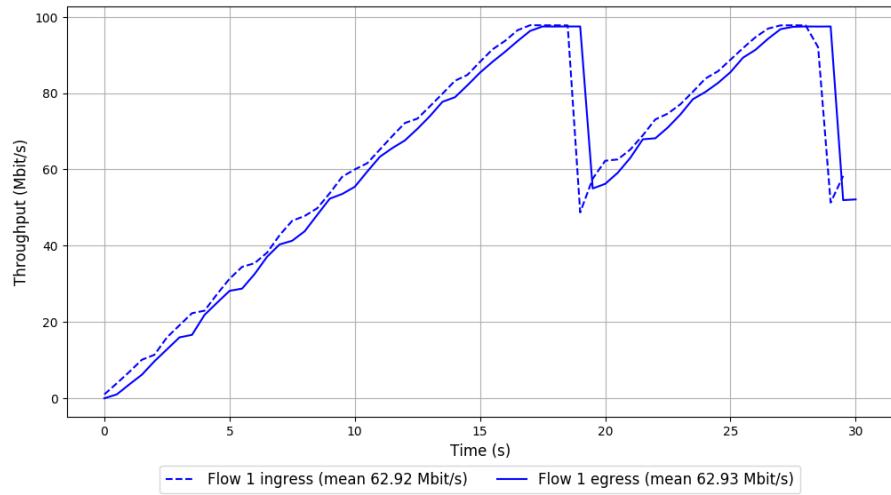


Run 1: Statistics of LEDBAT

```
Start at: 2018-12-02 09:53:20
End at: 2018-12-02 09:53:50
Local clock offset: -3.374 ms
Remote clock offset: -3.226 ms

# Below is generated by plot.py at 2018-12-02 11:31:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.93 Mbit/s
95th percentile per-packet one-way delay: 39.225 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 62.93 Mbit/s
95th percentile per-packet one-way delay: 39.225 ms
Loss rate: 0.20%
```

Run 1: Report of LEDBAT — Data Link

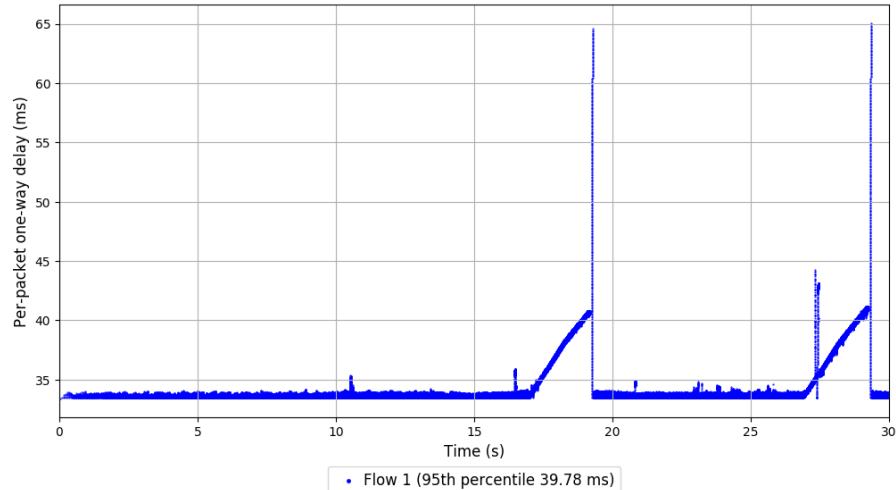
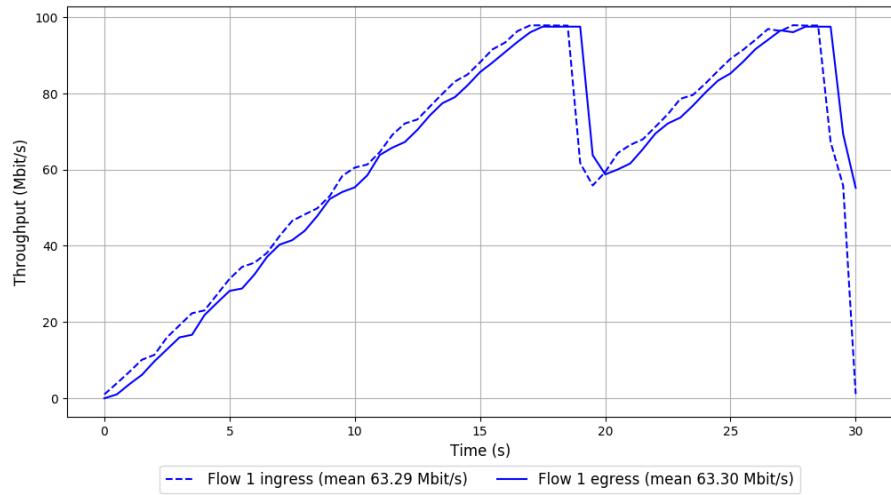


Run 2: Statistics of LEDBAT

```
Start at: 2018-12-02 10:15:27
End at: 2018-12-02 10:15:57
Local clock offset: -3.238 ms
Remote clock offset: -2.604 ms

# Below is generated by plot.py at 2018-12-02 11:31:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.30 Mbit/s
95th percentile per-packet one-way delay: 39.784 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 63.30 Mbit/s
95th percentile per-packet one-way delay: 39.784 ms
Loss rate: 0.20%
```

Run 2: Report of LEDBAT — Data Link

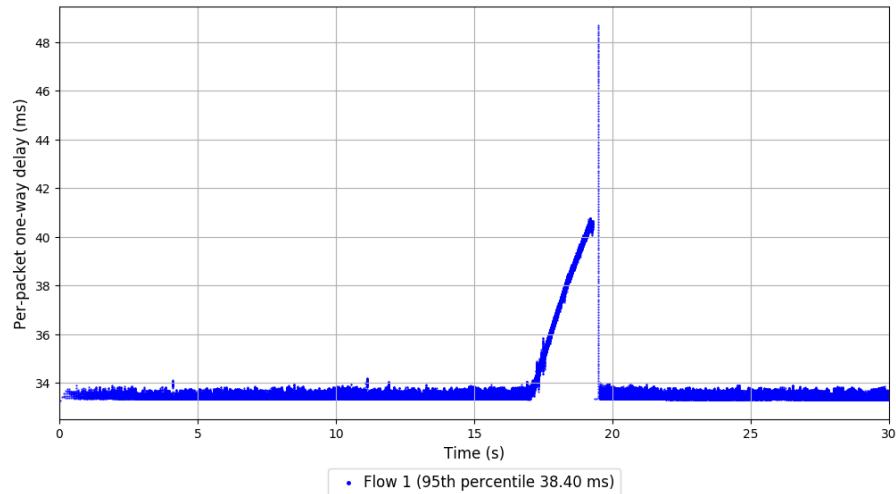
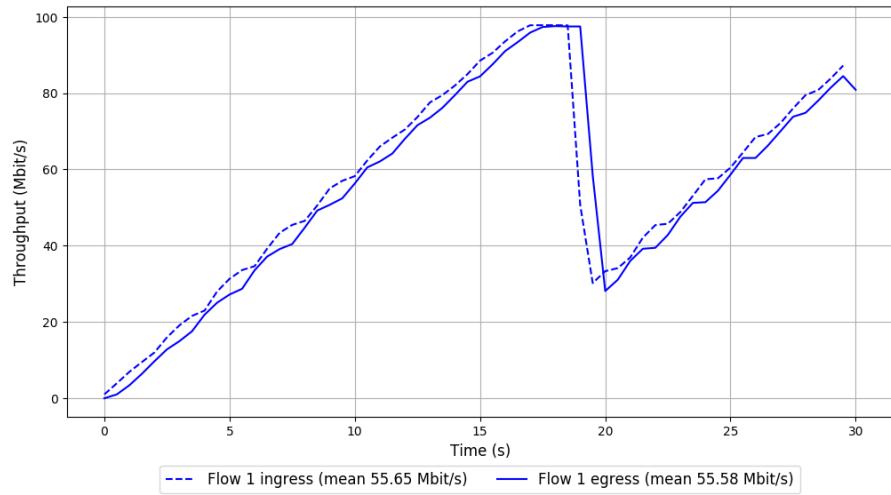


Run 3: Statistics of LEDBAT

```
Start at: 2018-12-02 10:37:30
End at: 2018-12-02 10:38:00
Local clock offset: 0.427 ms
Remote clock offset: -2.227 ms

# Below is generated by plot.py at 2018-12-02 11:31:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.58 Mbit/s
95th percentile per-packet one-way delay: 38.404 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 55.58 Mbit/s
95th percentile per-packet one-way delay: 38.404 ms
Loss rate: 0.34%
```

Run 3: Report of LEDBAT — Data Link

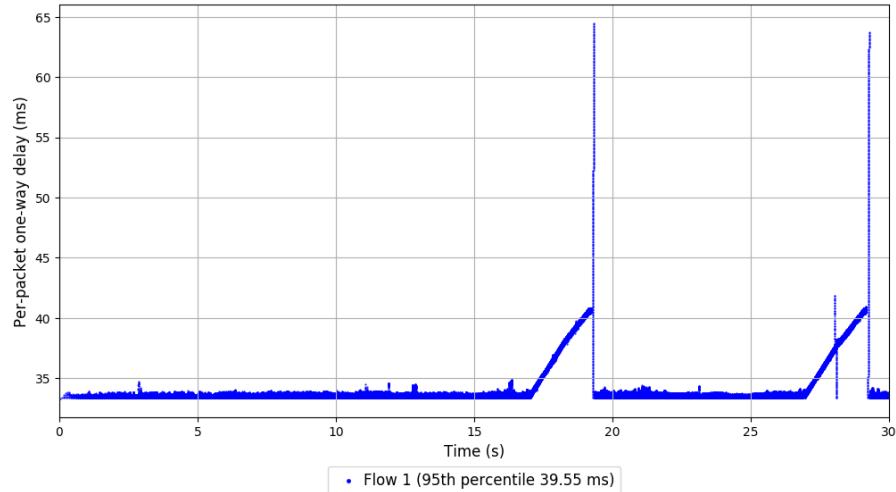
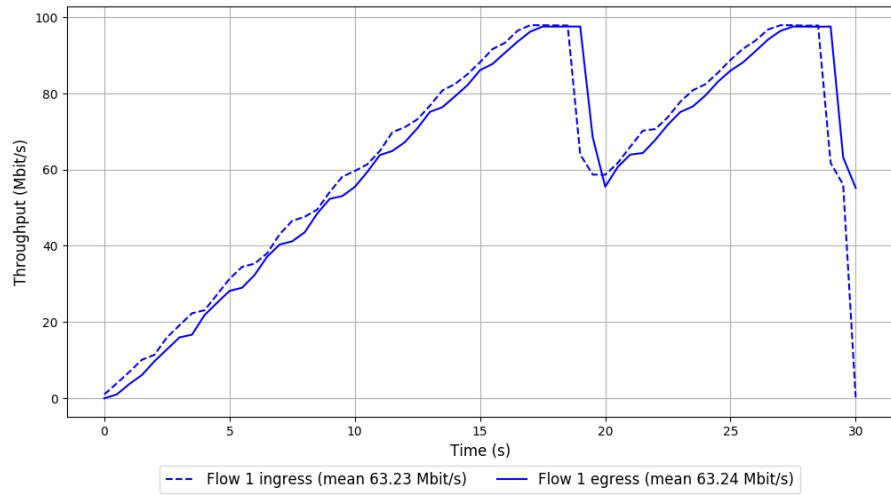


Run 4: Statistics of LEDBAT

```
Start at: 2018-12-02 10:59:30
End at: 2018-12-02 11:00:00
Local clock offset: 0.624 ms
Remote clock offset: -2.152 ms

# Below is generated by plot.py at 2018-12-02 11:31:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.24 Mbit/s
95th percentile per-packet one-way delay: 39.553 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 63.24 Mbit/s
95th percentile per-packet one-way delay: 39.553 ms
Loss rate: 0.20%
```

Run 4: Report of LEDBAT — Data Link

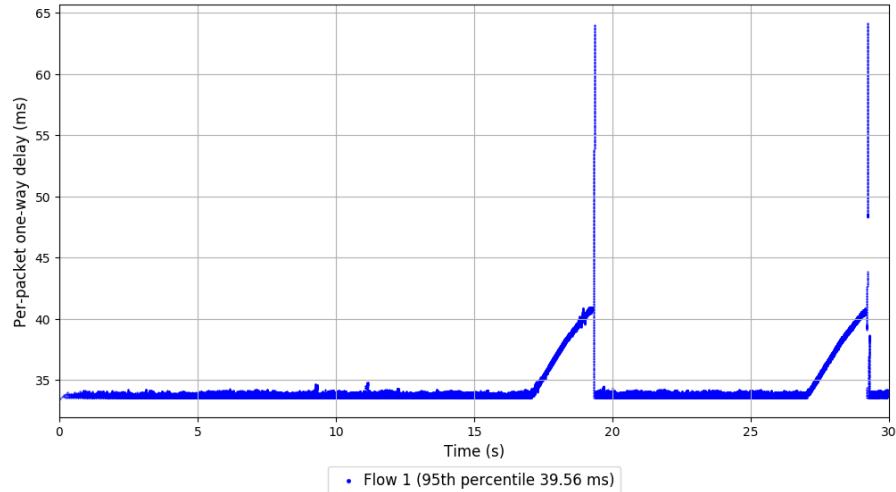
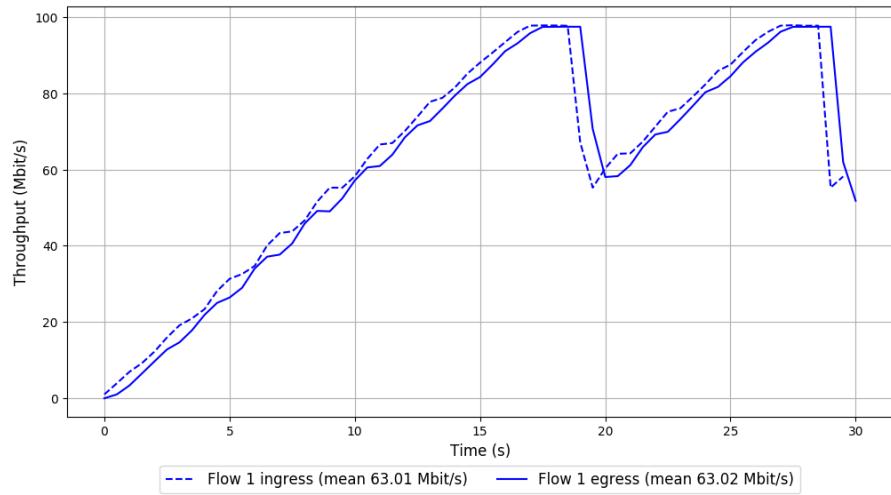


Run 5: Statistics of LEDBAT

```
Start at: 2018-12-02 11:21:31
End at: 2018-12-02 11:22:01
Local clock offset: 0.592 ms
Remote clock offset: -2.027 ms

# Below is generated by plot.py at 2018-12-02 11:31:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.02 Mbit/s
95th percentile per-packet one-way delay: 39.556 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 63.02 Mbit/s
95th percentile per-packet one-way delay: 39.556 ms
Loss rate: 0.20%
```

Run 5: Report of LEDBAT — Data Link

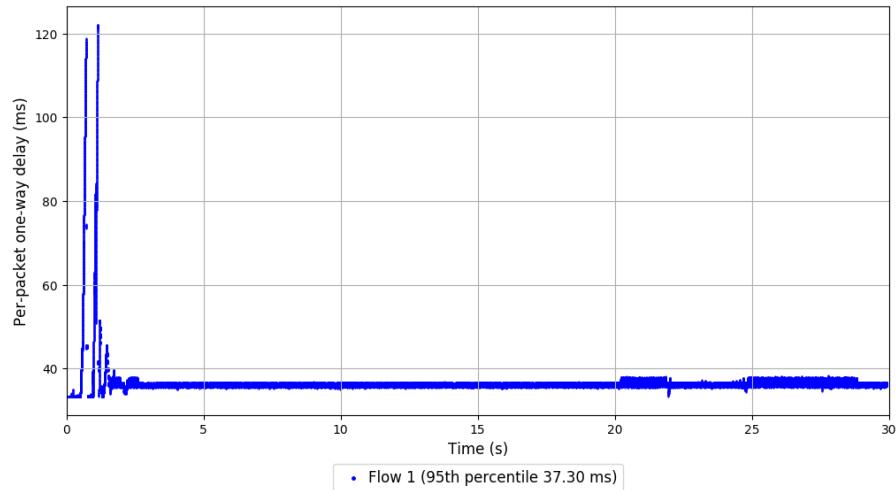
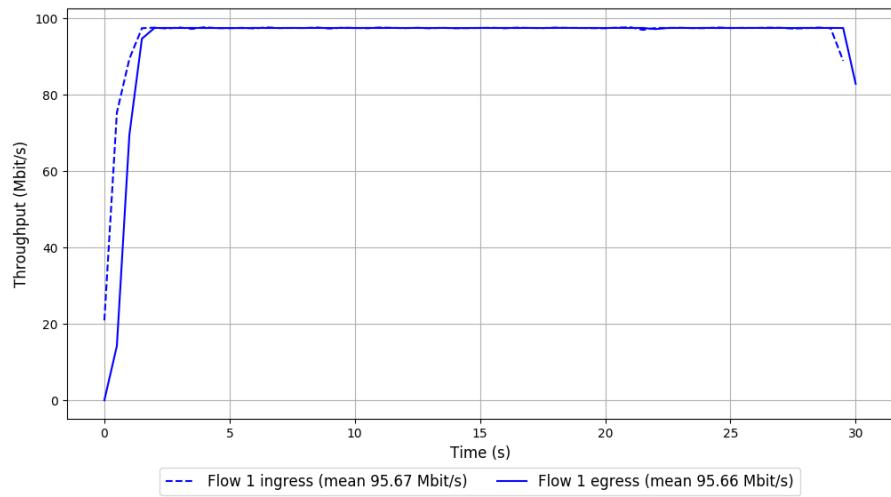


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-12-02 09:42:53
End at: 2018-12-02 09:43:23
Local clock offset: -3.557 ms
Remote clock offset: -3.695 ms

# Below is generated by plot.py at 2018-12-02 11:31:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 37.300 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 37.300 ms
Loss rate: 0.23%
```

Run 1: Report of Indigo-Muses — Data Link

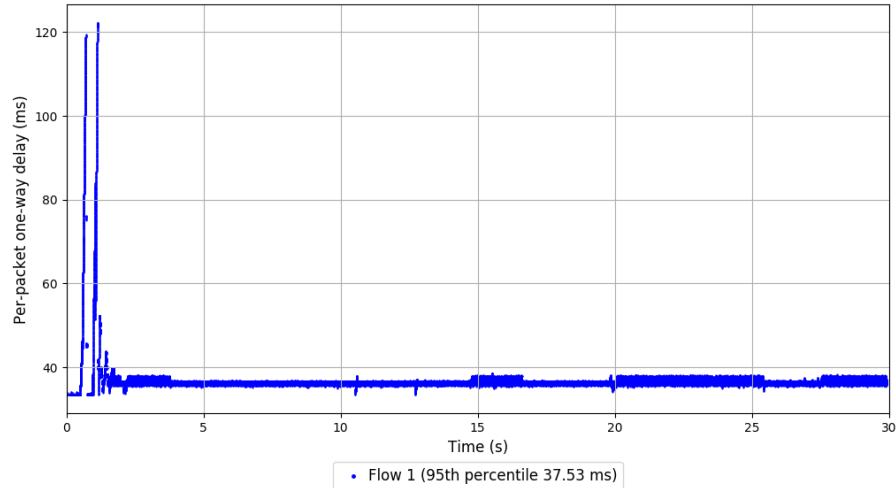
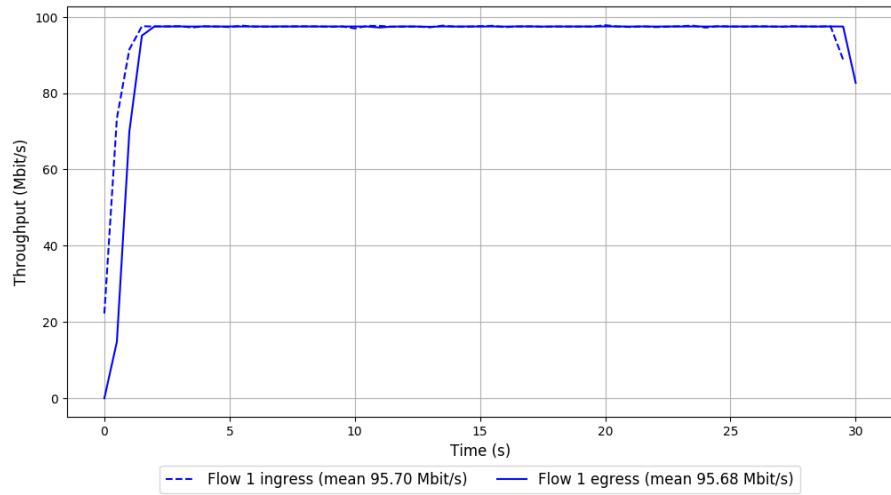


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-12-02 10:04:58
End at: 2018-12-02 10:05:28
Local clock offset: -3.159 ms
Remote clock offset: -2.894 ms

# Below is generated by plot.py at 2018-12-02 11:32:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.68 Mbit/s
95th percentile per-packet one-way delay: 37.532 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.68 Mbit/s
95th percentile per-packet one-way delay: 37.532 ms
Loss rate: 0.23%
```

Run 2: Report of Indigo-Muses — Data Link

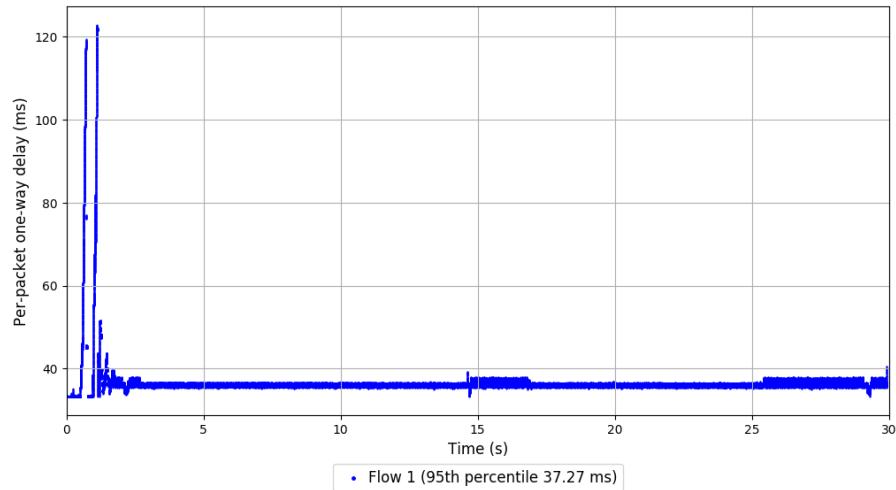
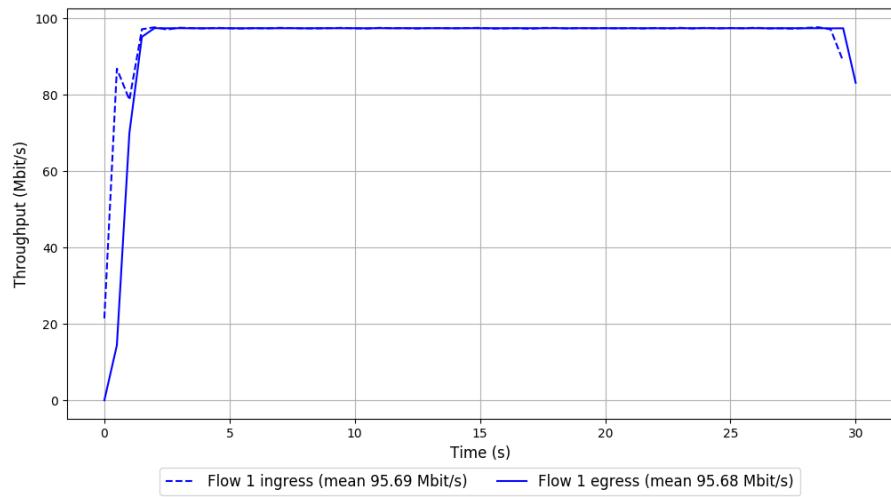


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-12-02 10:27:03
End at: 2018-12-02 10:27:33
Local clock offset: -0.766 ms
Remote clock offset: -2.347 ms

# Below is generated by plot.py at 2018-12-02 11:32:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.68 Mbit/s
95th percentile per-packet one-way delay: 37.270 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 95.68 Mbit/s
95th percentile per-packet one-way delay: 37.270 ms
Loss rate: 0.22%
```

Run 3: Report of Indigo-Muses — Data Link

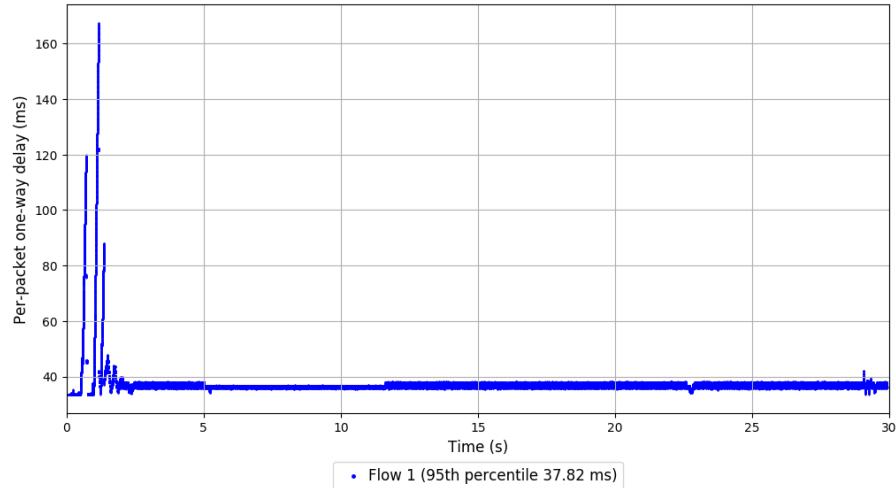
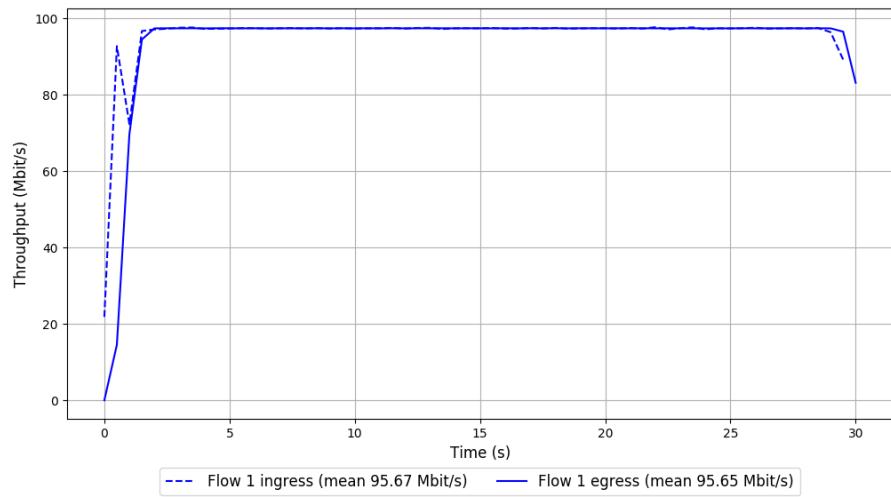


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-12-02 10:49:04
End at: 2018-12-02 10:49:34
Local clock offset: 0.897 ms
Remote clock offset: -2.273 ms

# Below is generated by plot.py at 2018-12-02 11:32:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 37.823 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 37.823 ms
Loss rate: 0.23%
```

Run 4: Report of Indigo-Muses — Data Link

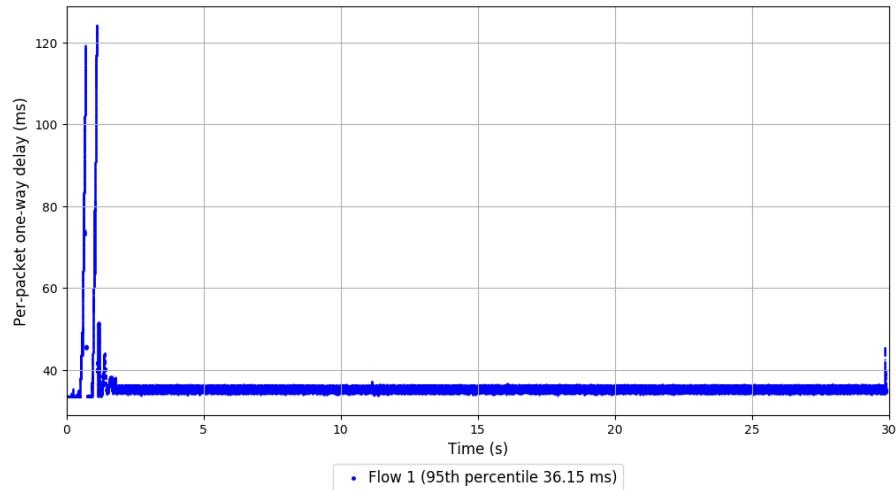
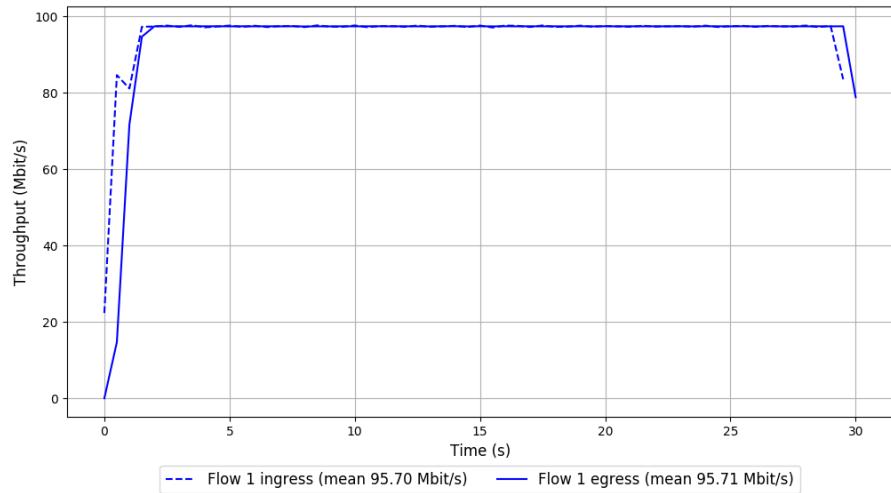


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-12-02 11:11:05
End at: 2018-12-02 11:11:35
Local clock offset: 0.669 ms
Remote clock offset: -2.292 ms

# Below is generated by plot.py at 2018-12-02 11:32:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 36.151 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 36.151 ms
Loss rate: 0.20%
```

Run 5: Report of Indigo-Muses — Data Link

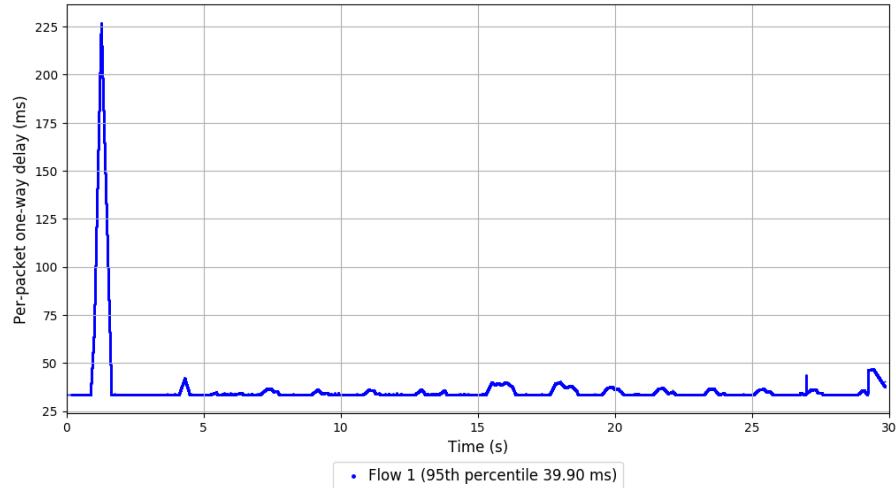
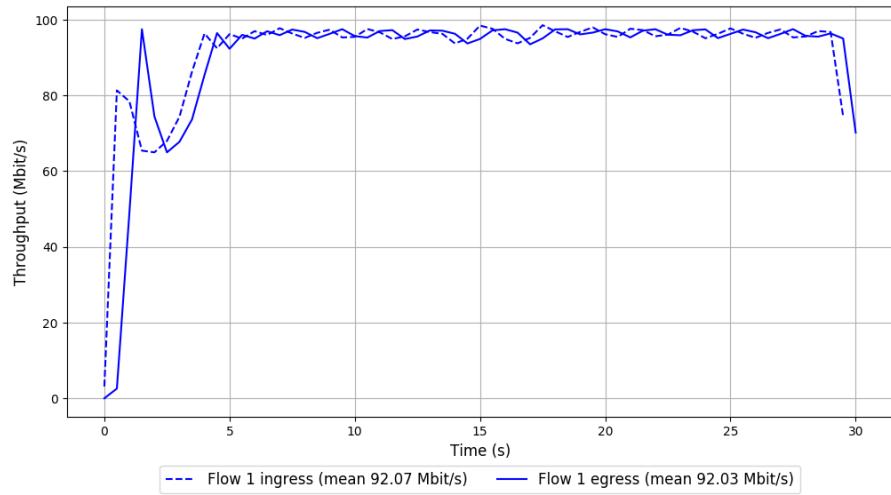


Run 1: Statistics of PCC-Allegro

```
Start at: 2018-12-02 09:52:11
End at: 2018-12-02 09:52:41
Local clock offset: -3.446 ms
Remote clock offset: -3.586 ms

# Below is generated by plot.py at 2018-12-02 11:32:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.03 Mbit/s
95th percentile per-packet one-way delay: 39.895 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 92.03 Mbit/s
95th percentile per-packet one-way delay: 39.895 ms
Loss rate: 0.24%
```

Run 1: Report of PCC-Allegro — Data Link

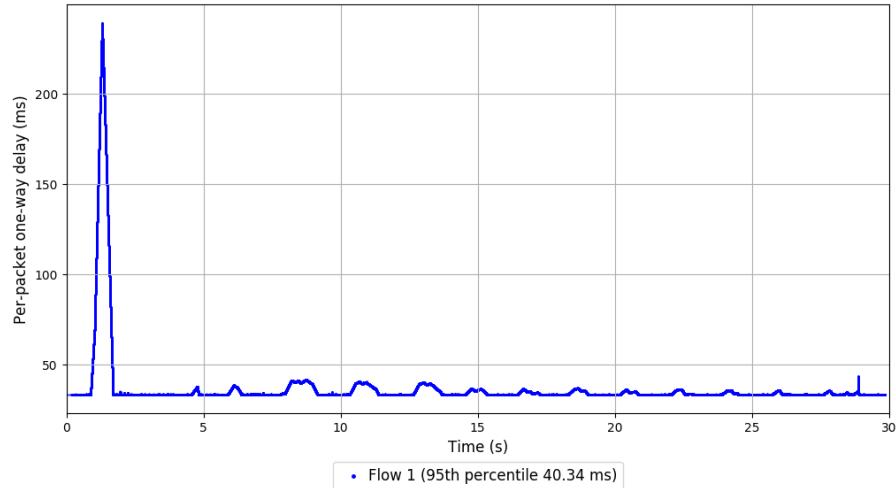
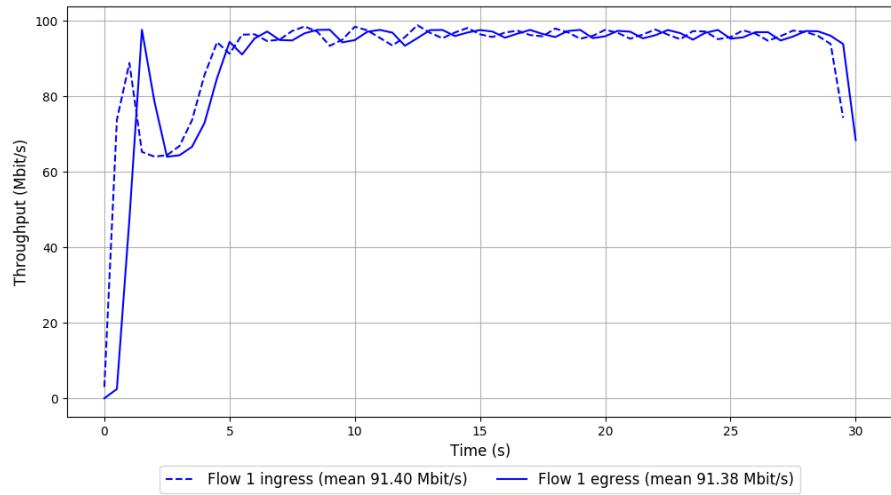


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-12-02 10:14:19
End at: 2018-12-02 10:14:49
Local clock offset: -3.223 ms
Remote clock offset: -2.594 ms

# Below is generated by plot.py at 2018-12-02 11:32:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.38 Mbit/s
95th percentile per-packet one-way delay: 40.342 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 91.38 Mbit/s
95th percentile per-packet one-way delay: 40.342 ms
Loss rate: 0.24%
```

Run 2: Report of PCC-Allegro — Data Link

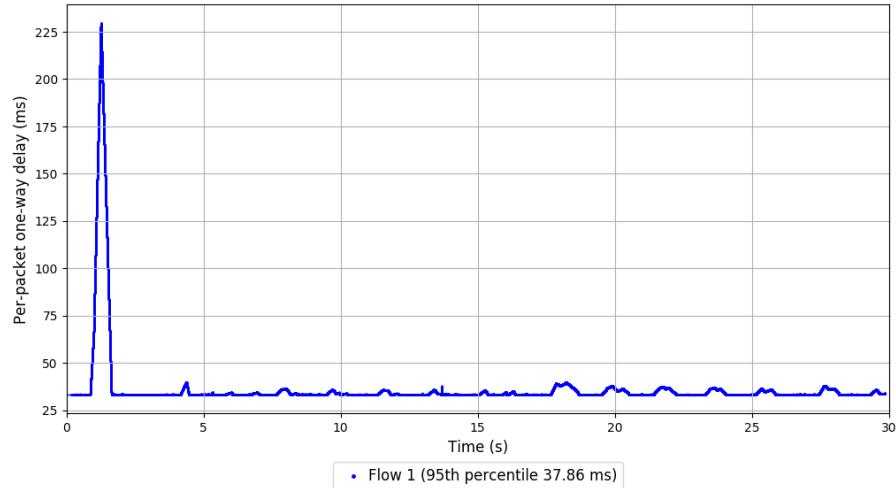
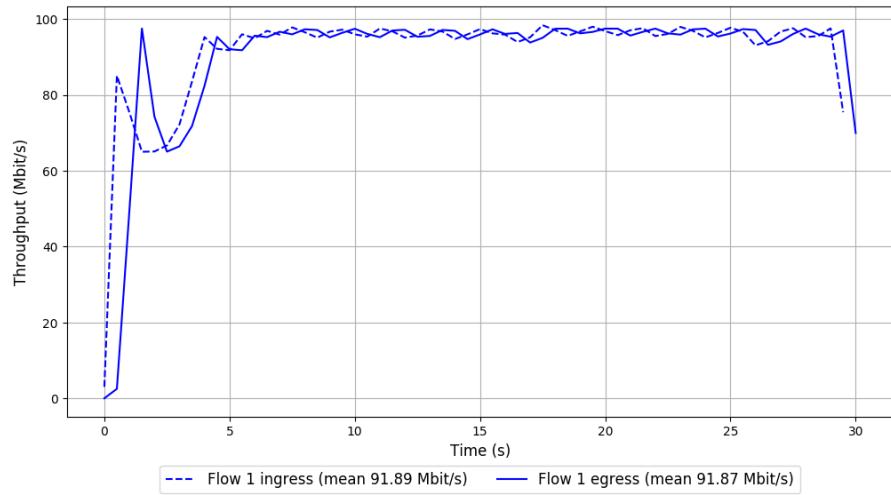


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-12-02 10:36:21
End at: 2018-12-02 10:36:51
Local clock offset: 0.354 ms
Remote clock offset: -2.186 ms

# Below is generated by plot.py at 2018-12-02 11:32:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.87 Mbit/s
95th percentile per-packet one-way delay: 37.859 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 91.87 Mbit/s
95th percentile per-packet one-way delay: 37.859 ms
Loss rate: 0.23%
```

Run 3: Report of PCC-Allegro — Data Link

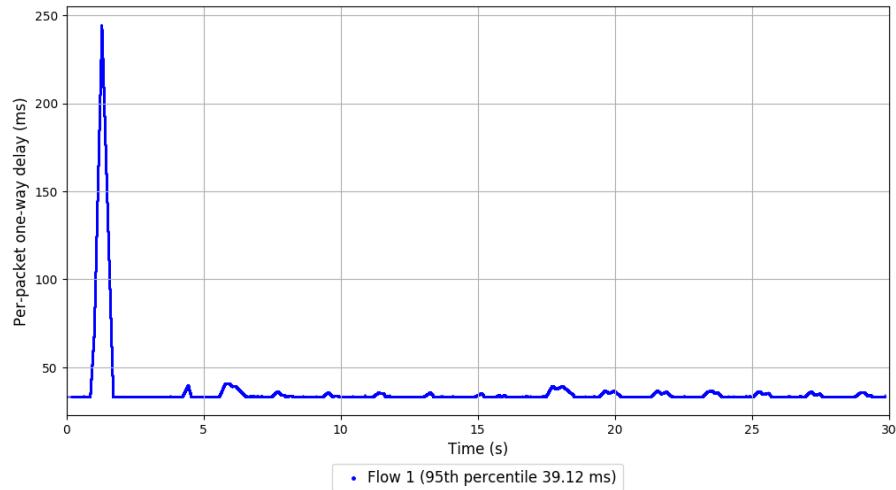
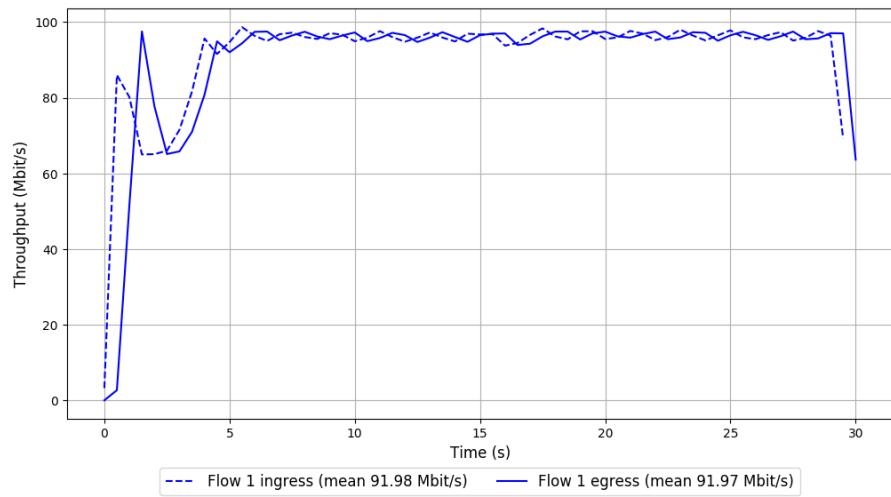


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-12-02 10:58:21
End at: 2018-12-02 10:58:51
Local clock offset: 0.632 ms
Remote clock offset: -2.199 ms

# Below is generated by plot.py at 2018-12-02 11:32:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.97 Mbit/s
95th percentile per-packet one-way delay: 39.115 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 91.97 Mbit/s
95th percentile per-packet one-way delay: 39.115 ms
Loss rate: 0.23%
```

Run 4: Report of PCC-Allegro — Data Link

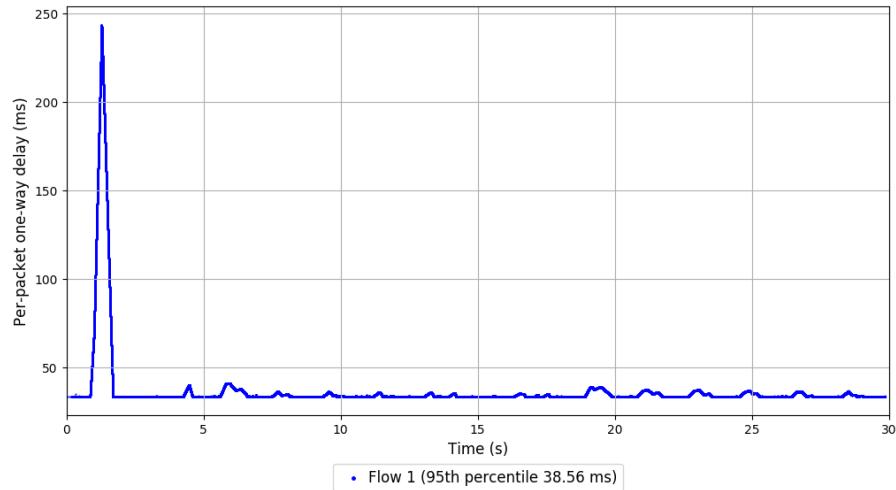
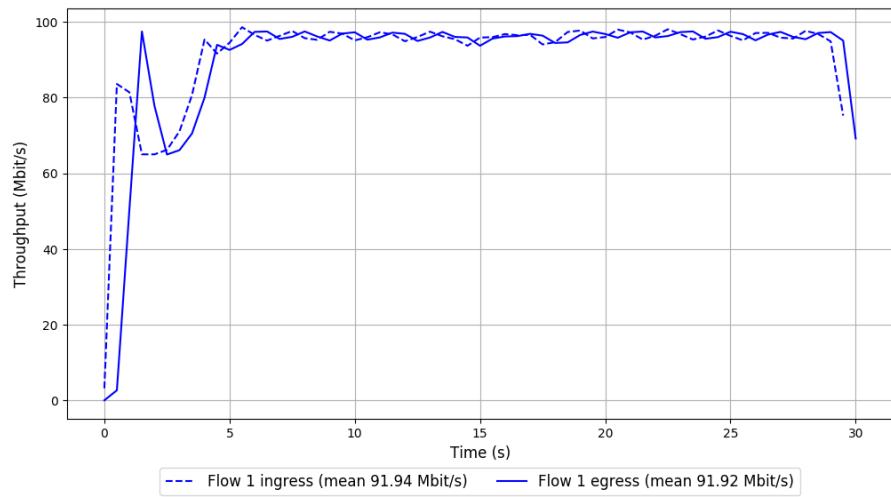


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-12-02 11:20:22
End at: 2018-12-02 11:20:52
Local clock offset: 0.626 ms
Remote clock offset: -2.033 ms

# Below is generated by plot.py at 2018-12-02 11:33:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 38.560 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 38.560 ms
Loss rate: 0.23%
```

Run 5: Report of PCC-Allegro — Data Link

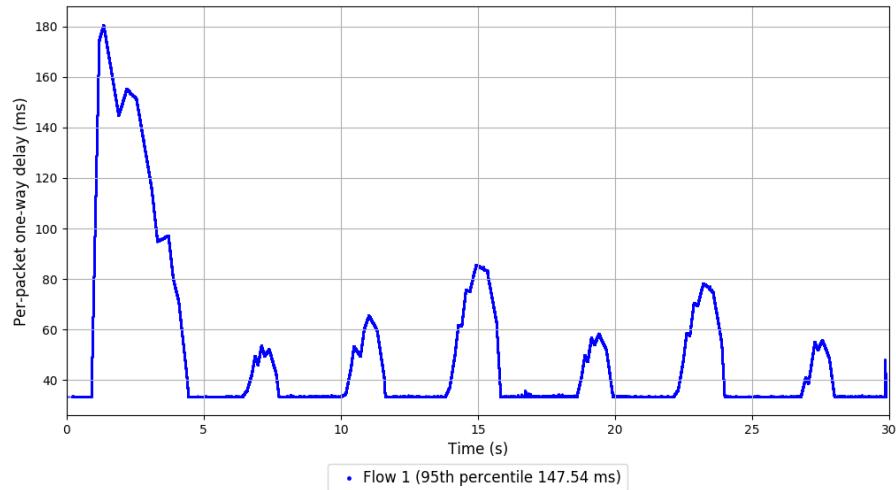
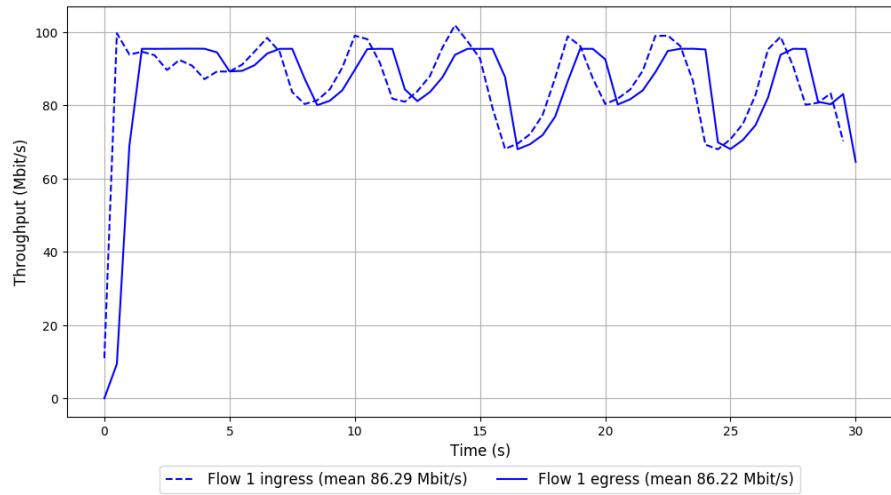


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-12-02 09:33:37
End at: 2018-12-02 09:34:07
Local clock offset: -2.877 ms
Remote clock offset: -3.749 ms

# Below is generated by plot.py at 2018-12-02 11:34:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.22 Mbit/s
95th percentile per-packet one-way delay: 147.541 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 86.22 Mbit/s
95th percentile per-packet one-way delay: 147.541 ms
Loss rate: 0.30%
```

Run 1: Report of PCC-Expr — Data Link

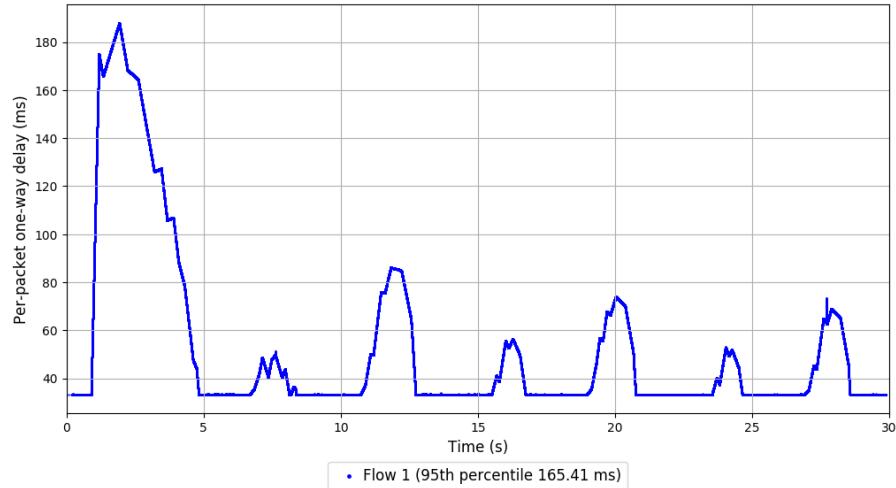
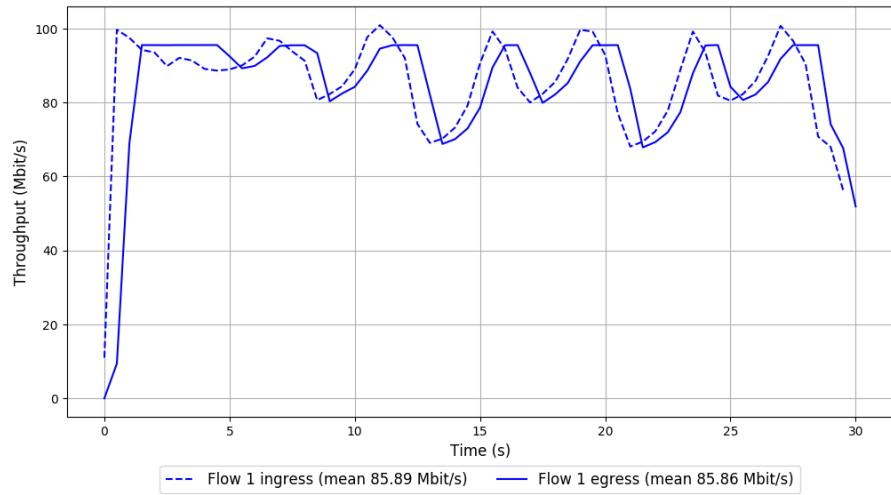


Run 2: Statistics of PCC-Expr

```
Start at: 2018-12-02 09:55:40
End at: 2018-12-02 09:56:10
Local clock offset: -3.285 ms
Remote clock offset: -3.122 ms

# Below is generated by plot.py at 2018-12-02 11:34:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.86 Mbit/s
95th percentile per-packet one-way delay: 165.415 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 85.86 Mbit/s
95th percentile per-packet one-way delay: 165.415 ms
Loss rate: 0.25%
```

Run 2: Report of PCC-Expr — Data Link

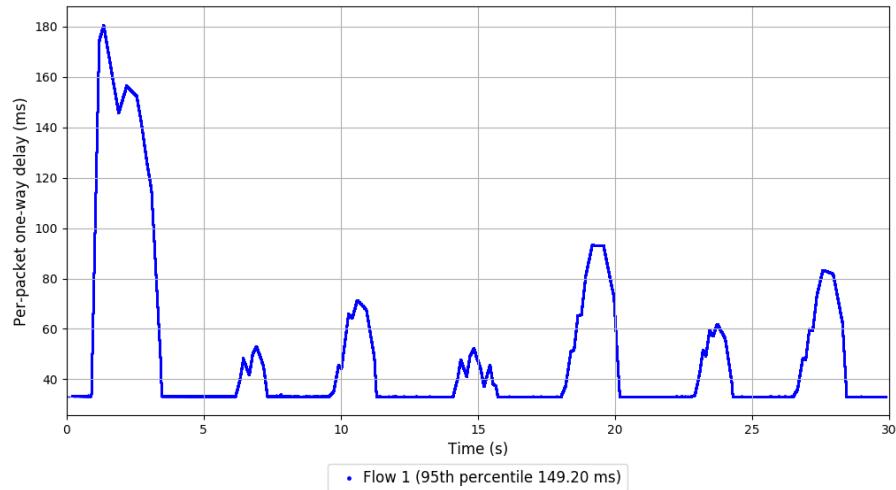
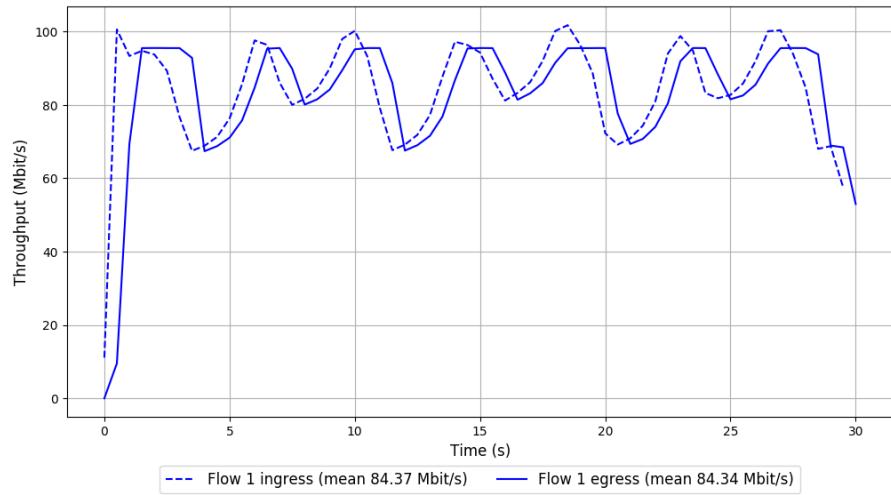


Run 3: Statistics of PCC-Expr

```
Start at: 2018-12-02 10:17:47
End at: 2018-12-02 10:18:17
Local clock offset: -3.29 ms
Remote clock offset: -2.607 ms

# Below is generated by plot.py at 2018-12-02 11:34:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.34 Mbit/s
95th percentile per-packet one-way delay: 149.204 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 84.34 Mbit/s
95th percentile per-packet one-way delay: 149.204 ms
Loss rate: 0.25%
```

Run 3: Report of PCC-Expr — Data Link

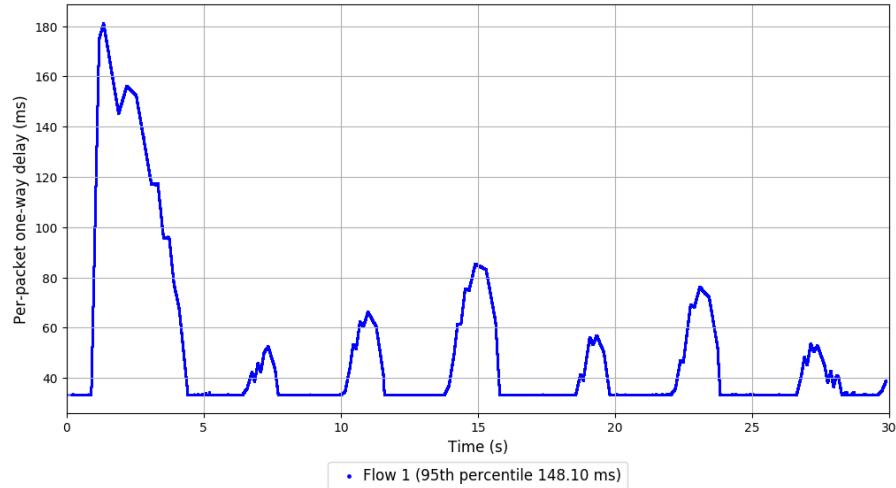
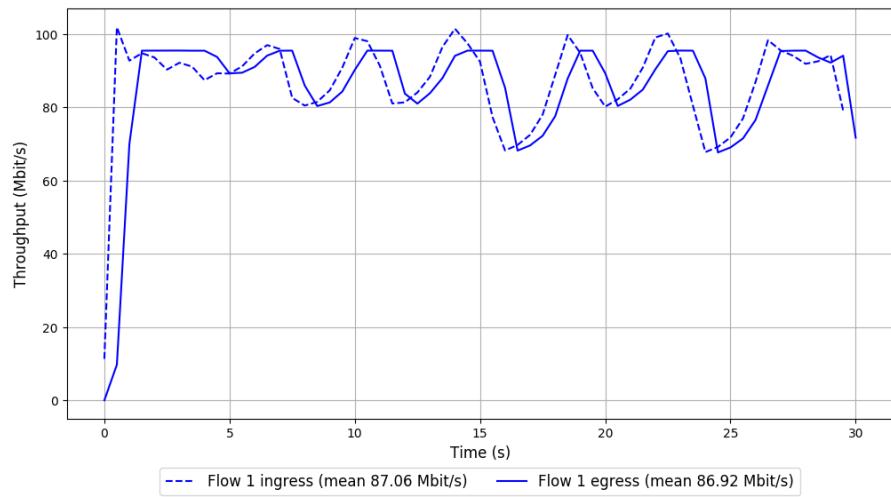


Run 4: Statistics of PCC-Expr

```
Start at: 2018-12-02 10:39:49
End at: 2018-12-02 10:40:19
Local clock offset: 0.553 ms
Remote clock offset: -2.397 ms

# Below is generated by plot.py at 2018-12-02 11:34:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.92 Mbit/s
95th percentile per-packet one-way delay: 148.096 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 86.92 Mbit/s
95th percentile per-packet one-way delay: 148.096 ms
Loss rate: 0.37%
```

Run 4: Report of PCC-Expr — Data Link

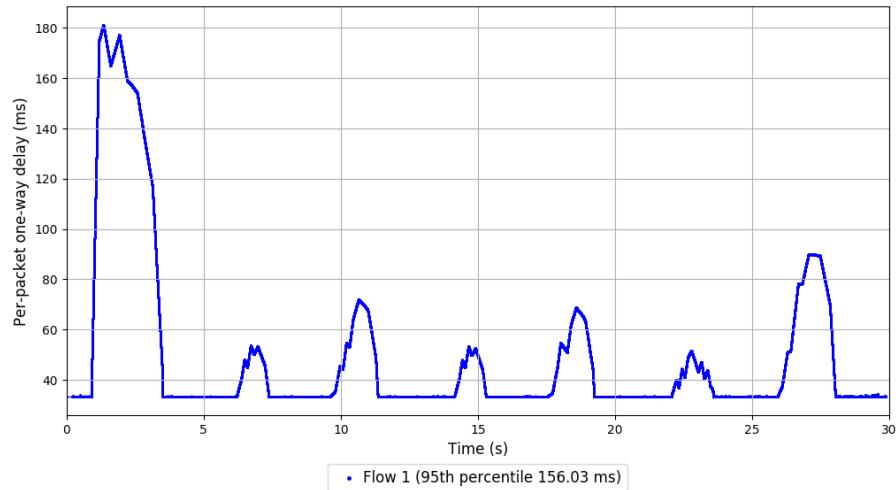
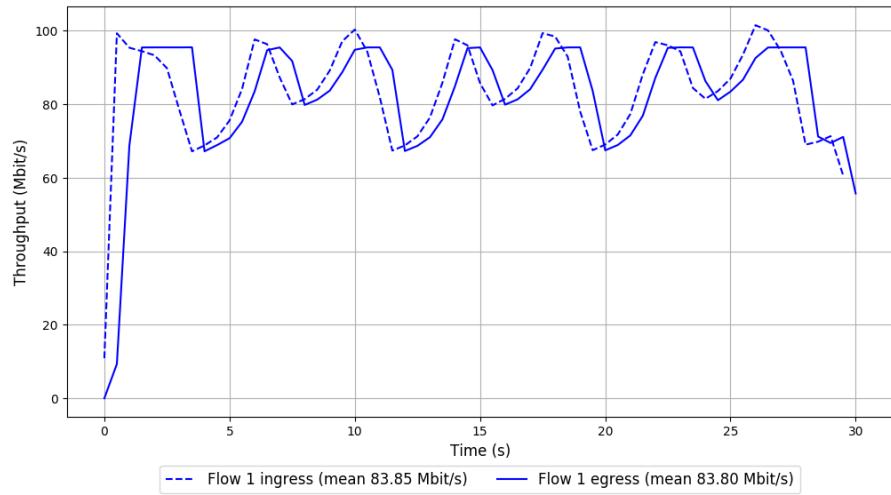


Run 5: Statistics of PCC-Expr

```
Start at: 2018-12-02 11:01:50
End at: 2018-12-02 11:02:20
Local clock offset: 0.62 ms
Remote clock offset: -2.189 ms

# Below is generated by plot.py at 2018-12-02 11:34:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.80 Mbit/s
95th percentile per-packet one-way delay: 156.031 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 83.80 Mbit/s
95th percentile per-packet one-way delay: 156.031 ms
Loss rate: 0.28%
```

Run 5: Report of PCC-Expr — Data Link

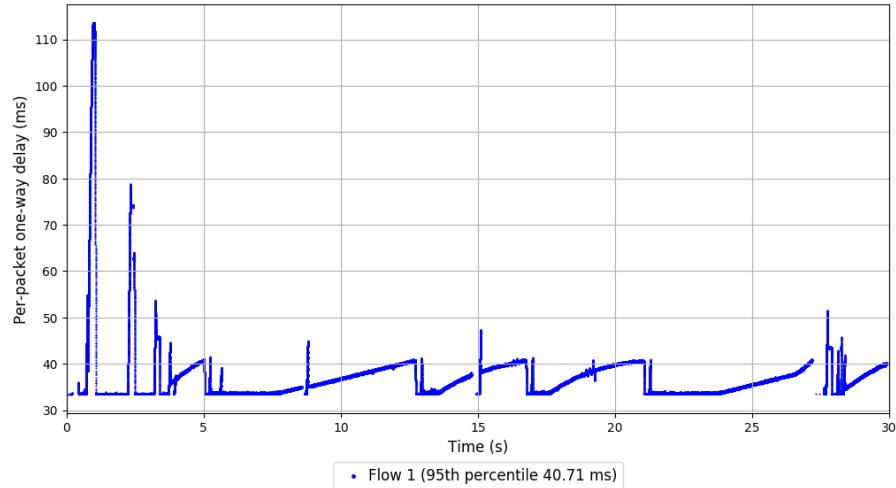
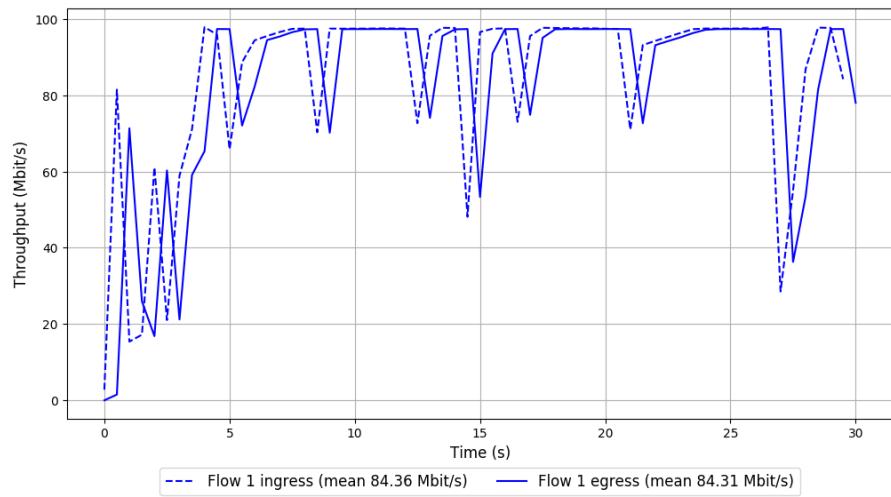


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-12-02 09:44:03
End at: 2018-12-02 09:44:33
Local clock offset: -3.589 ms
Remote clock offset: -3.688 ms

# Below is generated by plot.py at 2018-12-02 11:34:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.31 Mbit/s
95th percentile per-packet one-way delay: 40.708 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 84.31 Mbit/s
95th percentile per-packet one-way delay: 40.708 ms
Loss rate: 0.28%
```

Run 1: Report of QUIC Cubic — Data Link

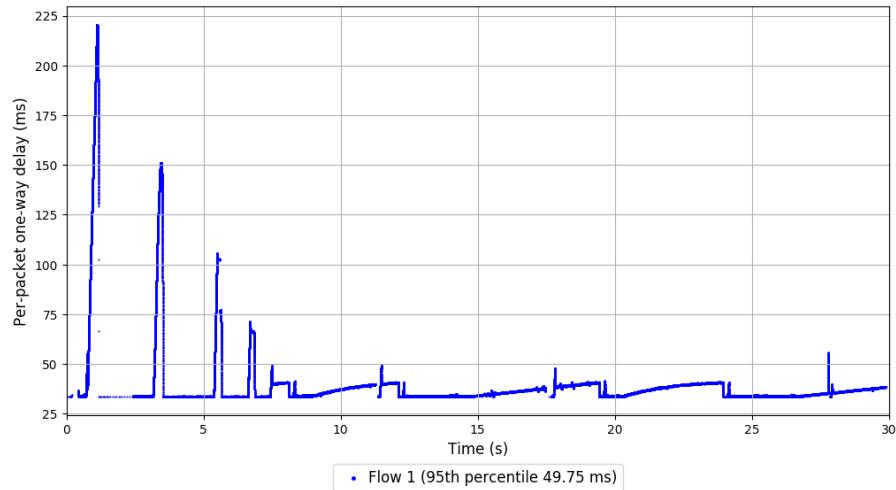
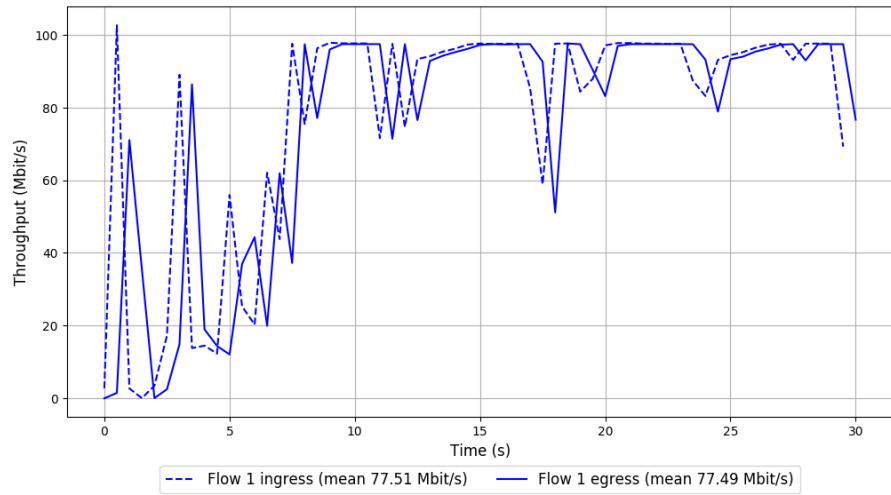


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-12-02 10:06:08
End at: 2018-12-02 10:06:38
Local clock offset: -3.139 ms
Remote clock offset: -3.119 ms

# Below is generated by plot.py at 2018-12-02 11:34:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.49 Mbit/s
95th percentile per-packet one-way delay: 49.746 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 77.49 Mbit/s
95th percentile per-packet one-way delay: 49.746 ms
Loss rate: 0.01%
```

Run 2: Report of QUIC Cubic — Data Link

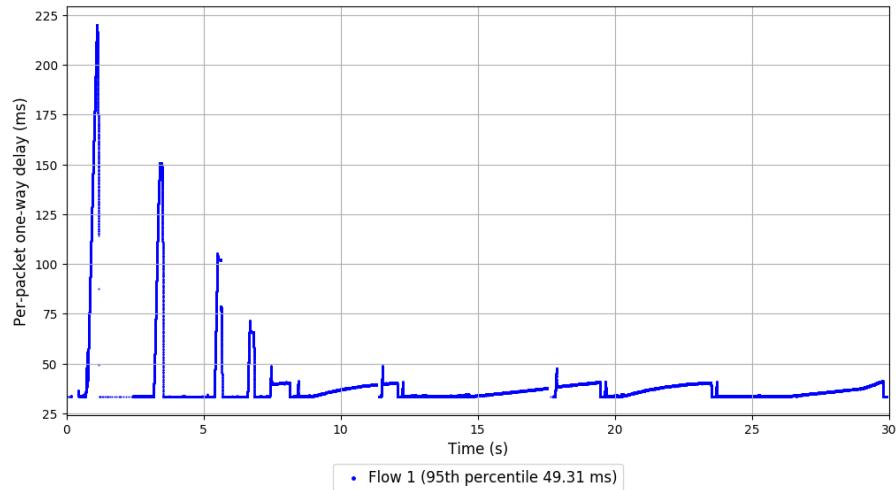
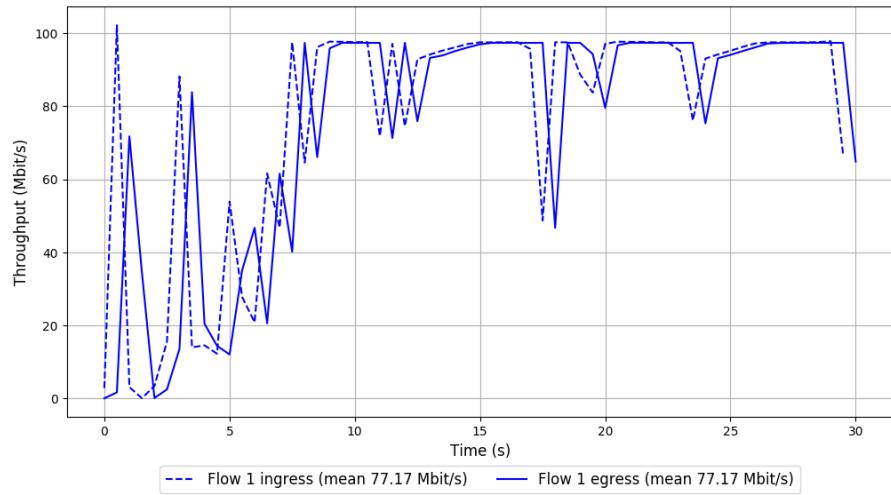


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-12-02 10:28:13
End at: 2018-12-02 10:28:43
Local clock offset: -0.557 ms
Remote clock offset: -2.517 ms

# Below is generated by plot.py at 2018-12-02 11:34:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.17 Mbit/s
95th percentile per-packet one-way delay: 49.312 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 77.17 Mbit/s
95th percentile per-packet one-way delay: 49.312 ms
Loss rate: 0.22%
```

Run 3: Report of QUIC Cubic — Data Link

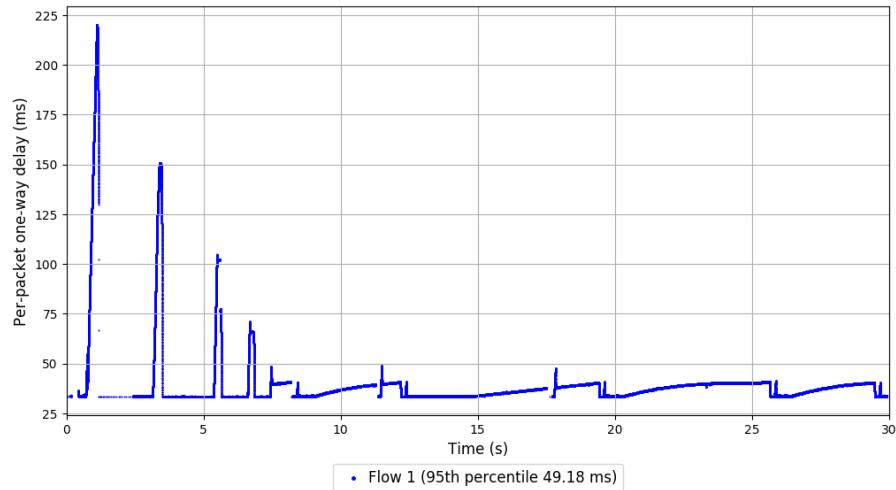
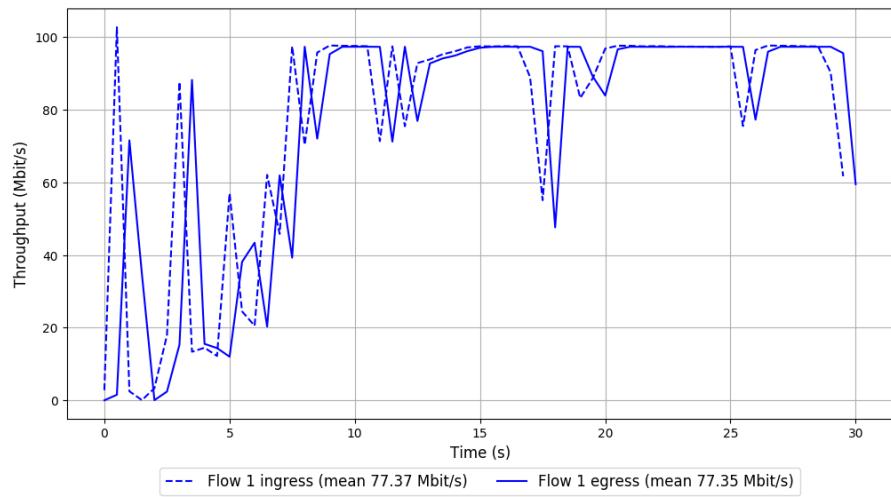


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-12-02 10:50:14
End at: 2018-12-02 10:50:44
Local clock offset: 0.814 ms
Remote clock offset: -2.207 ms

# Below is generated by plot.py at 2018-12-02 11:34:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.35 Mbit/s
95th percentile per-packet one-way delay: 49.179 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 77.35 Mbit/s
95th percentile per-packet one-way delay: 49.179 ms
Loss rate: 0.11%
```

Run 4: Report of QUIC Cubic — Data Link

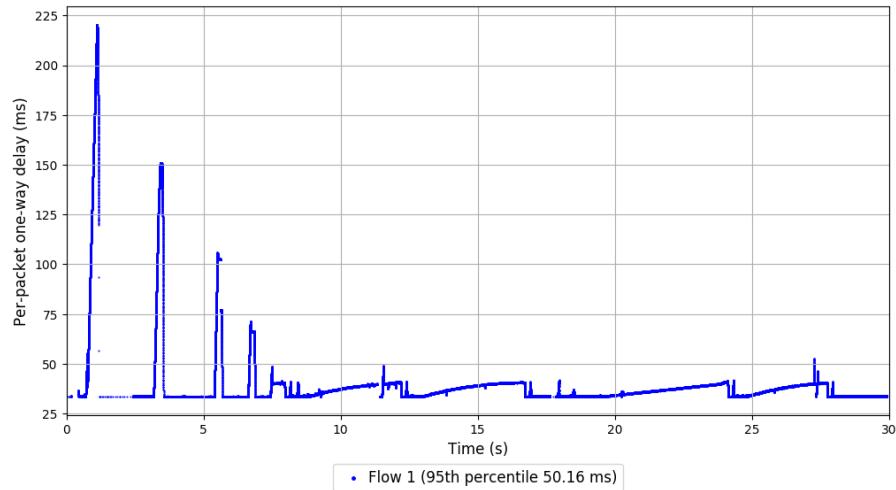
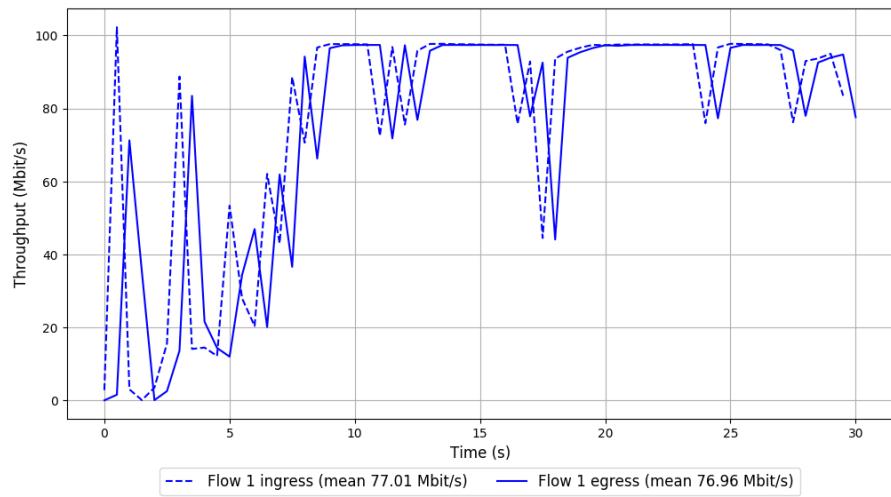


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-12-02 11:12:15
End at: 2018-12-02 11:12:45
Local clock offset: 0.687 ms
Remote clock offset: -2.3 ms

# Below is generated by plot.py at 2018-12-02 11:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.96 Mbit/s
95th percentile per-packet one-way delay: 50.162 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 76.96 Mbit/s
95th percentile per-packet one-way delay: 50.162 ms
Loss rate: 0.28%
```

Run 5: Report of QUIC Cubic — Data Link

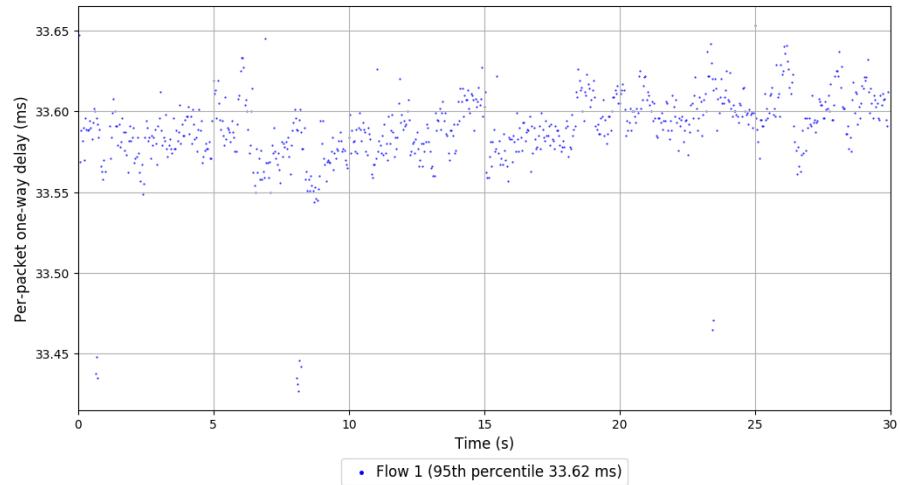
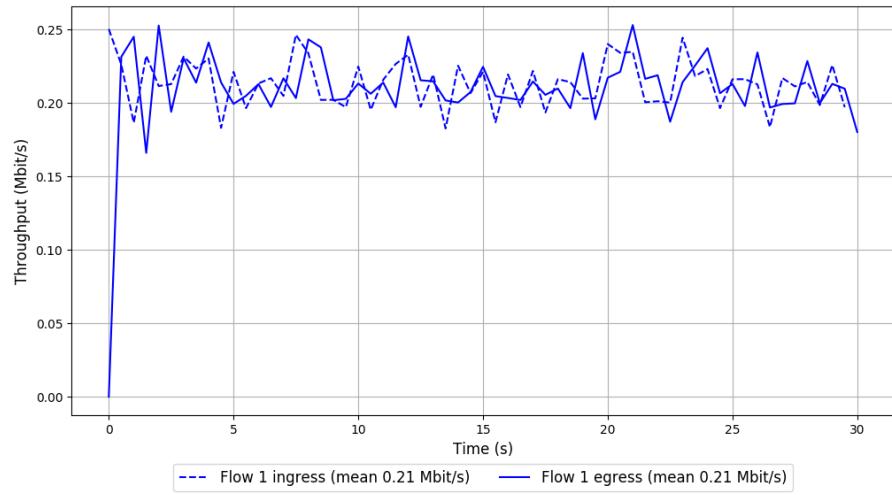


Run 1: Statistics of SCReAM

```
Start at: 2018-12-02 09:37:06
End at: 2018-12-02 09:37:36
Local clock offset: -3.168 ms
Remote clock offset: -3.937 ms

# Below is generated by plot.py at 2018-12-02 11:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.622 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.622 ms
Loss rate: 0.26%
```

Run 1: Report of SCReAM — Data Link

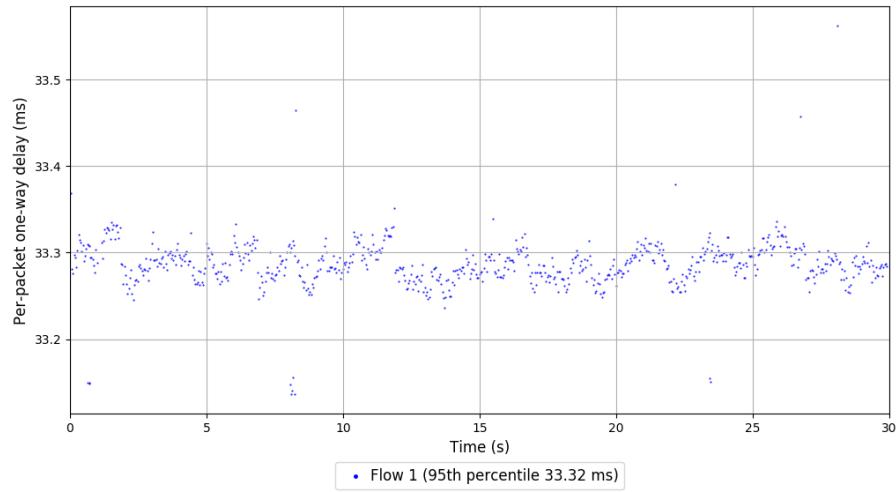
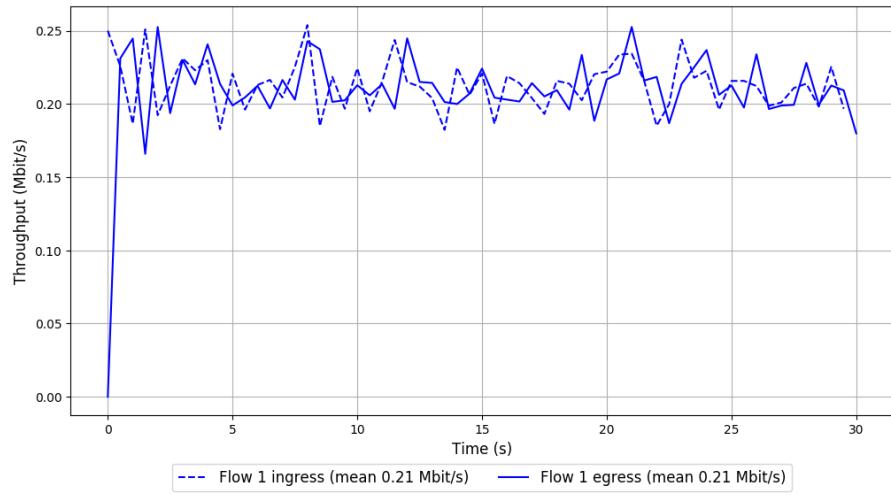


Run 2: Statistics of SCReAM

```
Start at: 2018-12-02 09:59:09
End at: 2018-12-02 09:59:39
Local clock offset: -3.192 ms
Remote clock offset: -2.937 ms

# Below is generated by plot.py at 2018-12-02 11:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.320 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.320 ms
Loss rate: 0.26%
```

Run 2: Report of SCReAM — Data Link

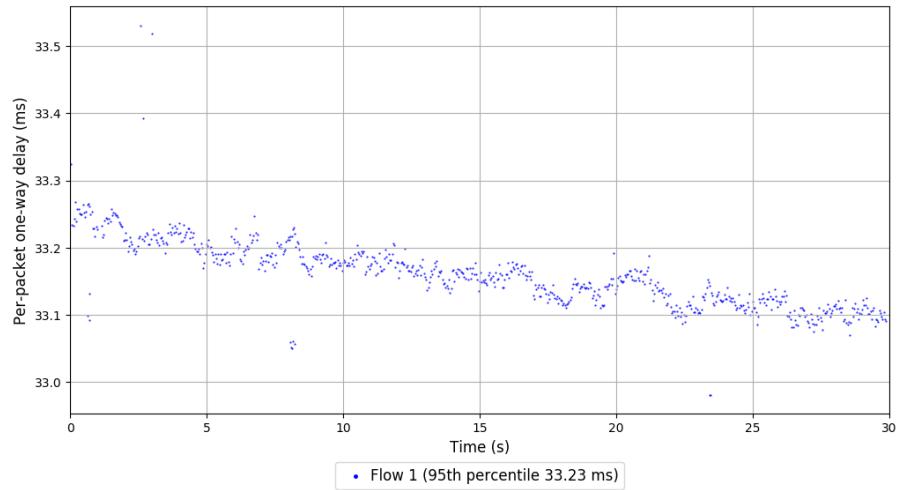
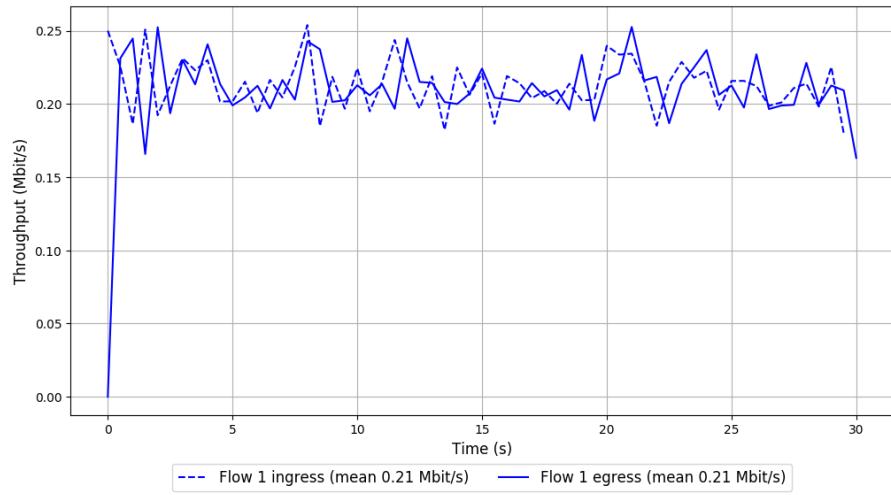


Run 3: Statistics of SCReAM

```
Start at: 2018-12-02 10:21:15
End at: 2018-12-02 10:21:45
Local clock offset: -2.104 ms
Remote clock offset: -2.435 ms

# Below is generated by plot.py at 2018-12-02 11:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.235 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.235 ms
Loss rate: 0.26%
```

Run 3: Report of SCReAM — Data Link

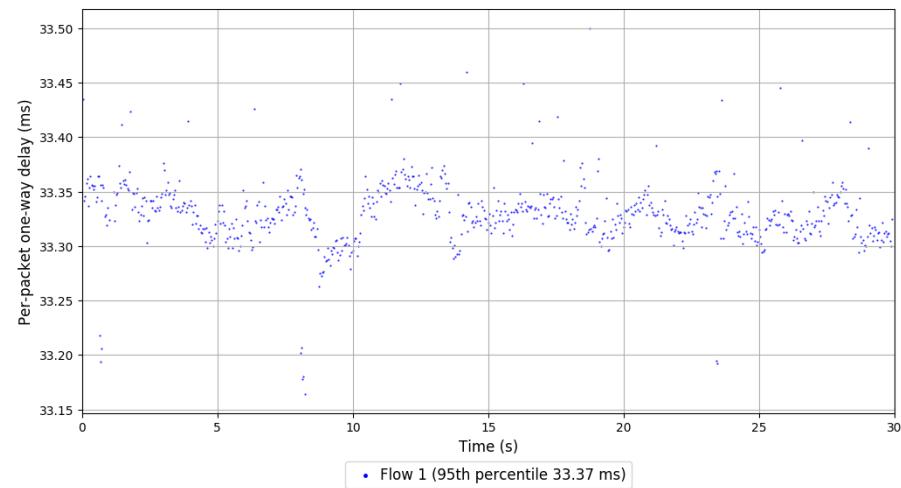
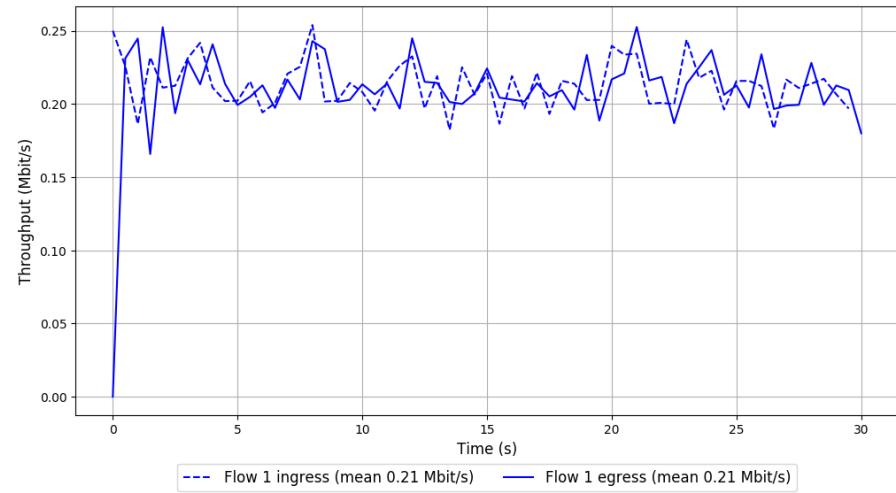


Run 4: Statistics of SCReAM

```
Start at: 2018-12-02 10:43:17
End at: 2018-12-02 10:43:47
Local clock offset: 0.744 ms
Remote clock offset: -2.174 ms

# Below is generated by plot.py at 2018-12-02 11:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.368 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.368 ms
Loss rate: 0.26%
```

Run 4: Report of SCReAM — Data Link

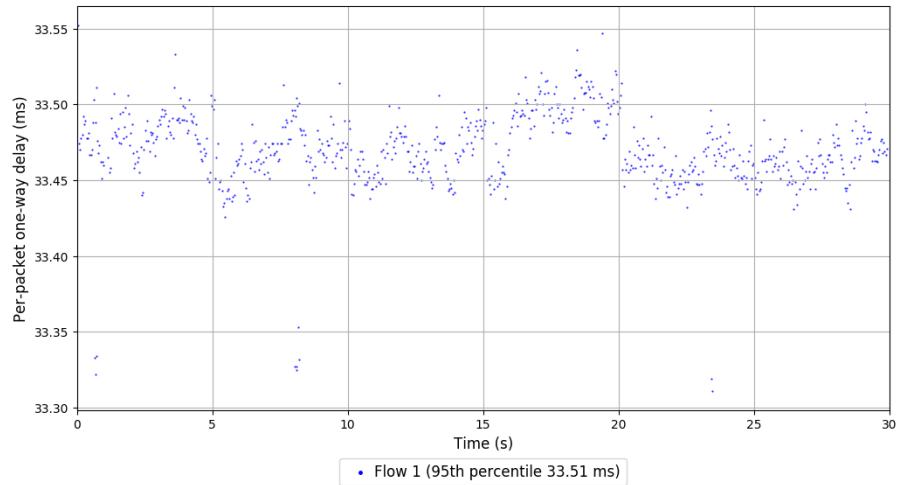
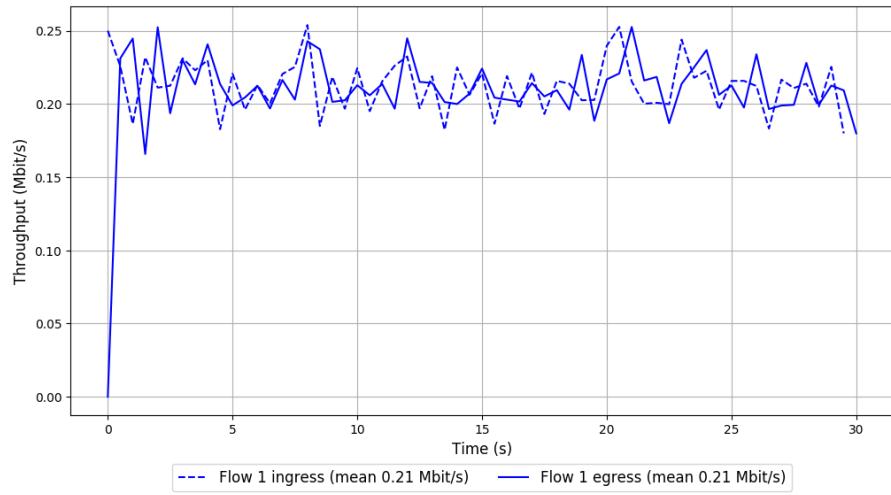


Run 5: Statistics of SCReAM

```
Start at: 2018-12-02 11:05:17
End at: 2018-12-02 11:05:47
Local clock offset: 0.63 ms
Remote clock offset: -2.141 ms

# Below is generated by plot.py at 2018-12-02 11:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.507 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.507 ms
Loss rate: 0.13%
```

Run 5: Report of SCReAM — Data Link

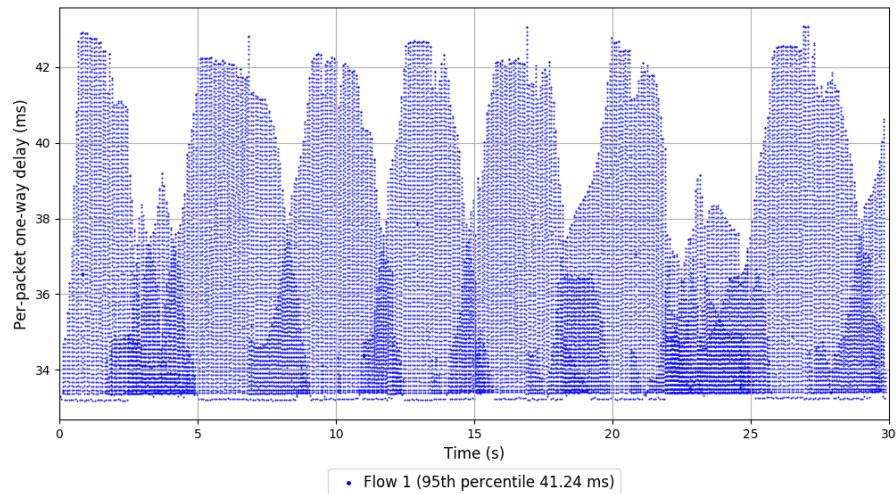
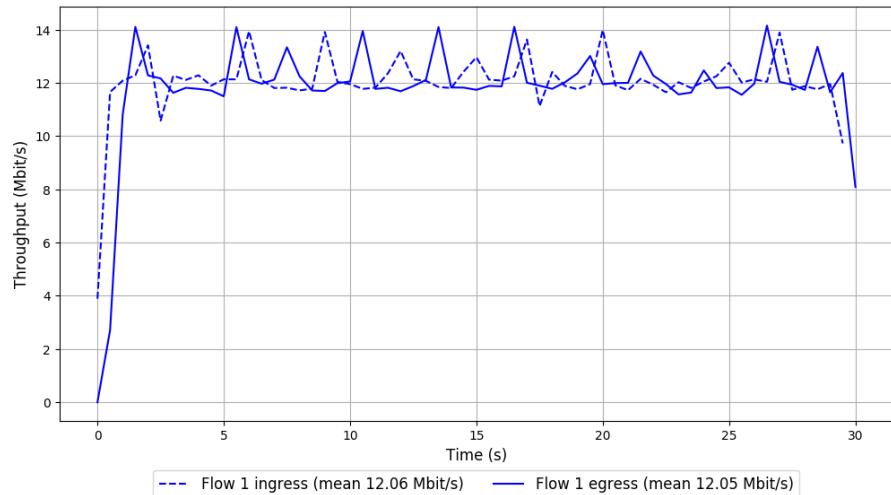


Run 1: Statistics of Sprout

```
Start at: 2018-12-02 09:46:22
End at: 2018-12-02 09:46:52
Local clock offset: -3.703 ms
Remote clock offset: -3.473 ms

# Below is generated by plot.py at 2018-12-02 11:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 41.244 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 41.244 ms
Loss rate: 0.25%
```

Run 1: Report of Sprout — Data Link

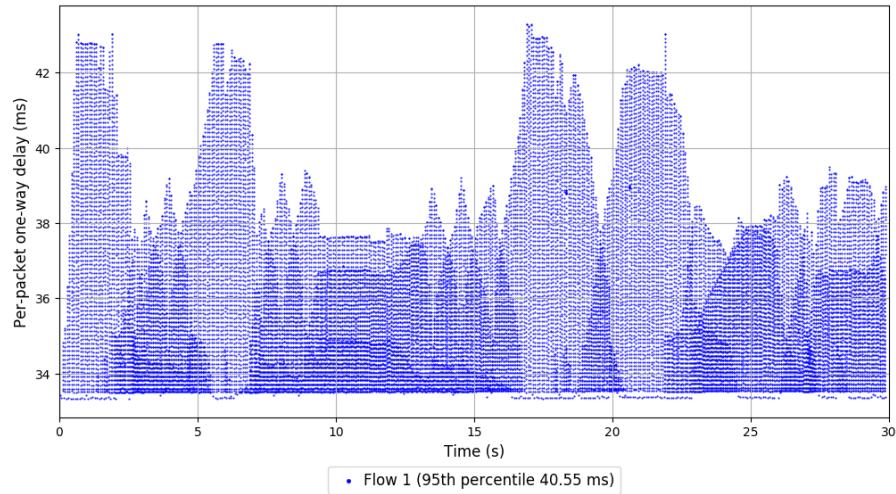
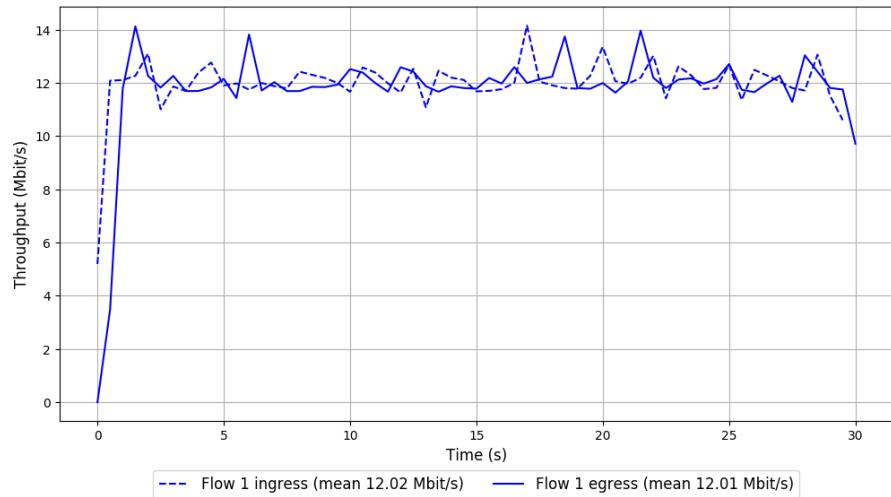


Run 2: Statistics of Sprout

```
Start at: 2018-12-02 10:08:28
End at: 2018-12-02 10:08:58
Local clock offset: -3.166 ms
Remote clock offset: -2.806 ms

# Below is generated by plot.py at 2018-12-02 11:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.01 Mbit/s
95th percentile per-packet one-way delay: 40.546 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 12.01 Mbit/s
95th percentile per-packet one-way delay: 40.546 ms
Loss rate: 0.26%
```

Run 2: Report of Sprout — Data Link

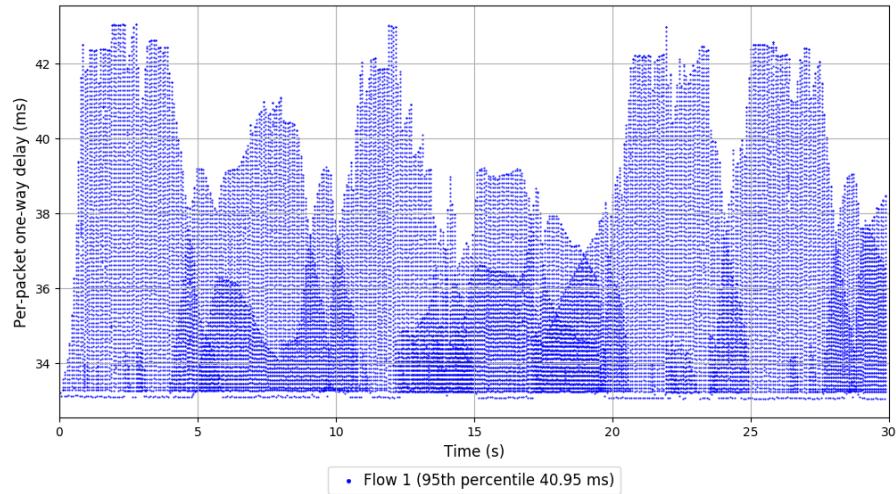
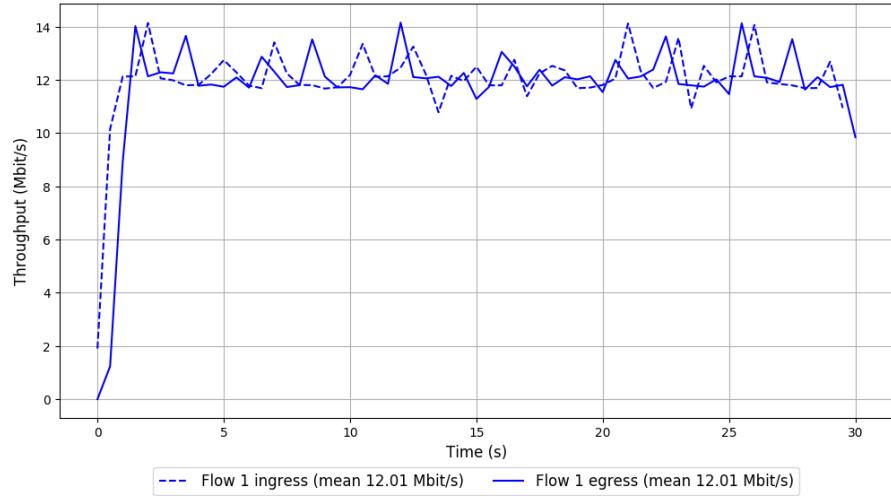


Run 3: Statistics of Sprout

```
Start at: 2018-12-02 10:30:32
End at: 2018-12-02 10:31:02
Local clock offset: -0.228 ms
Remote clock offset: -2.241 ms

# Below is generated by plot.py at 2018-12-02 11:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.01 Mbit/s
95th percentile per-packet one-way delay: 40.953 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 12.01 Mbit/s
95th percentile per-packet one-way delay: 40.953 ms
Loss rate: 0.27%
```

Run 3: Report of Sprout — Data Link

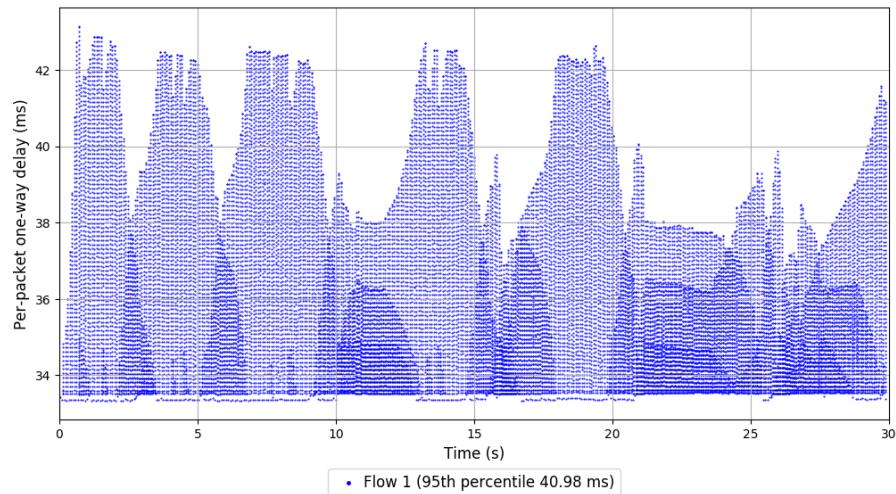
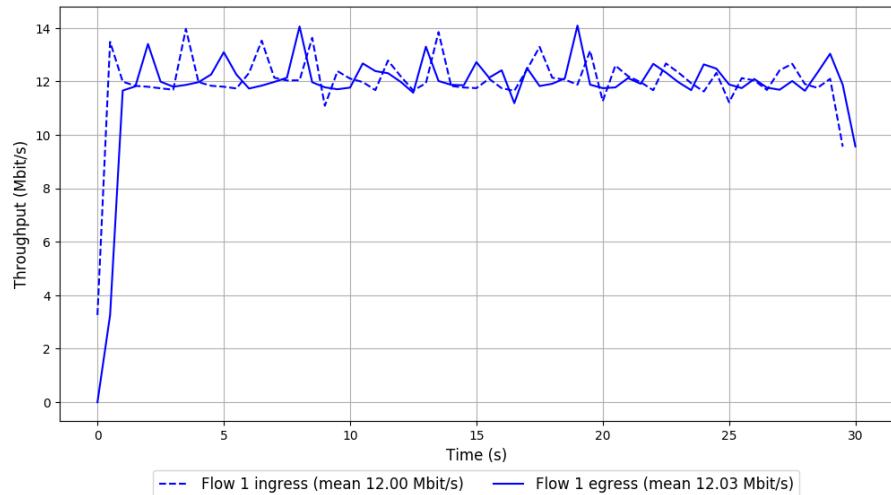


Run 4: Statistics of Sprout

```
Start at: 2018-12-02 10:52:33
End at: 2018-12-02 10:53:03
Local clock offset: 0.744 ms
Remote clock offset: -2.186 ms

# Below is generated by plot.py at 2018-12-02 11:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 40.975 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 40.975 ms
Loss rate: 0.03%
```

Run 4: Report of Sprout — Data Link

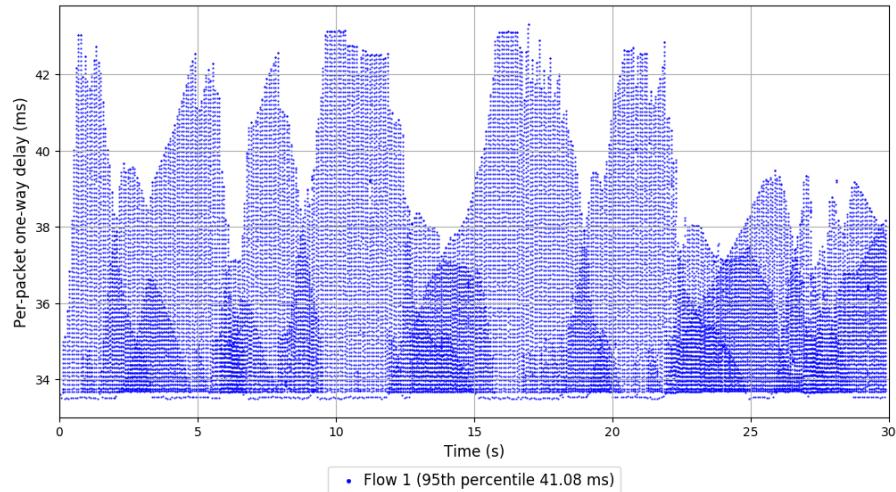
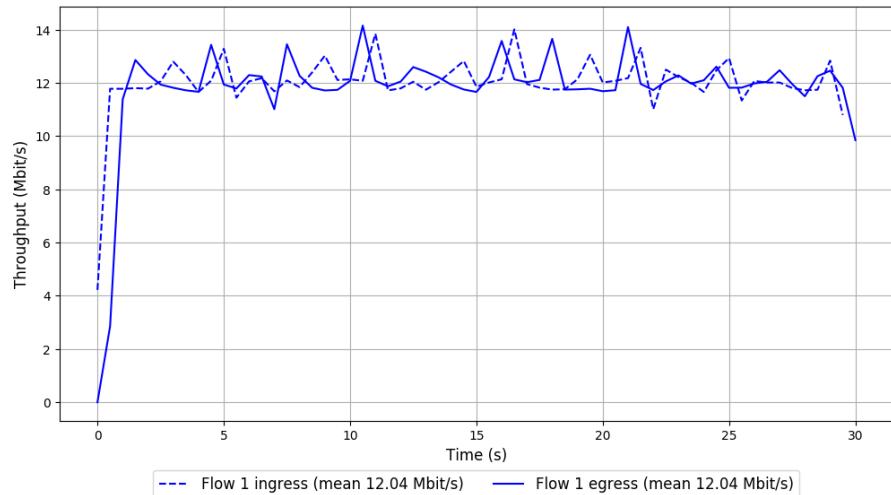


Run 5: Statistics of Sprout

```
Start at: 2018-12-02 11:14:33
End at: 2018-12-02 11:15:03
Local clock offset: 0.72 ms
Remote clock offset: -2.218 ms

# Below is generated by plot.py at 2018-12-02 11:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.04 Mbit/s
95th percentile per-packet one-way delay: 41.077 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 12.04 Mbit/s
95th percentile per-packet one-way delay: 41.077 ms
Loss rate: 0.27%
```

Run 5: Report of Sprout — Data Link

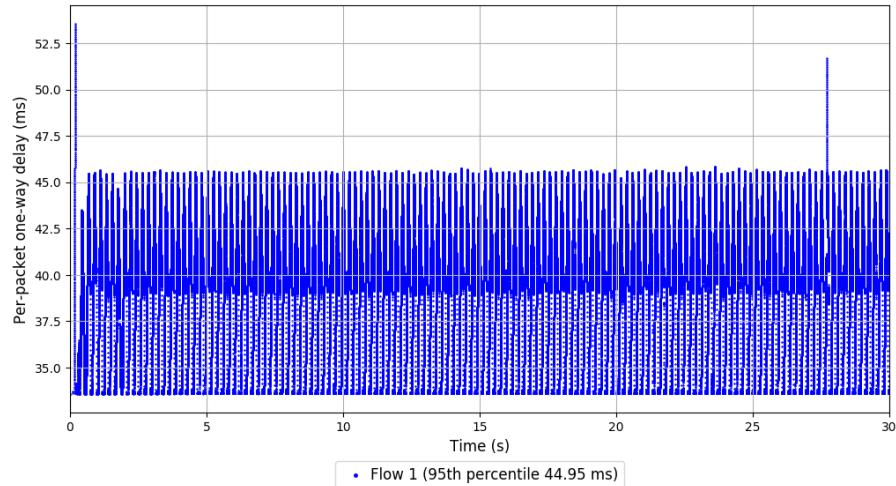
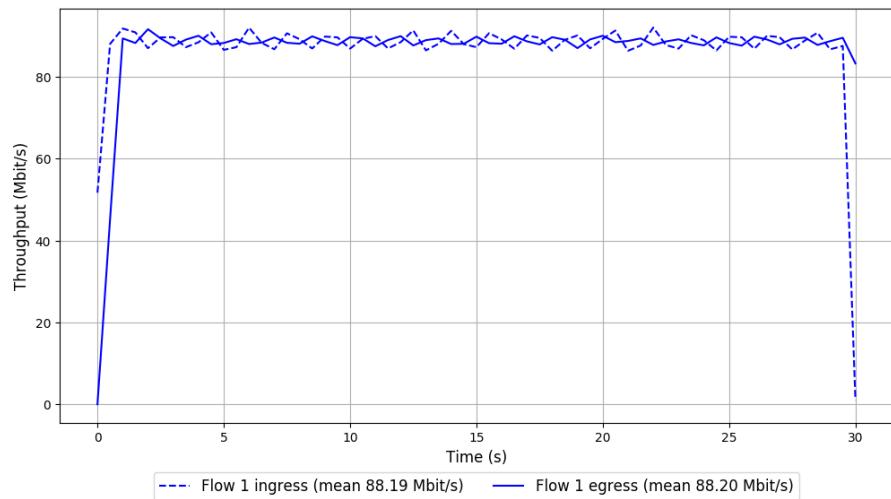


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-12-02 09:39:22
End at: 2018-12-02 09:39:52
Local clock offset: -3.311 ms
Remote clock offset: -3.962 ms

# Below is generated by plot.py at 2018-12-02 11:36:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.20 Mbit/s
95th percentile per-packet one-way delay: 44.946 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 88.20 Mbit/s
95th percentile per-packet one-way delay: 44.946 ms
Loss rate: 0.20%
```

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

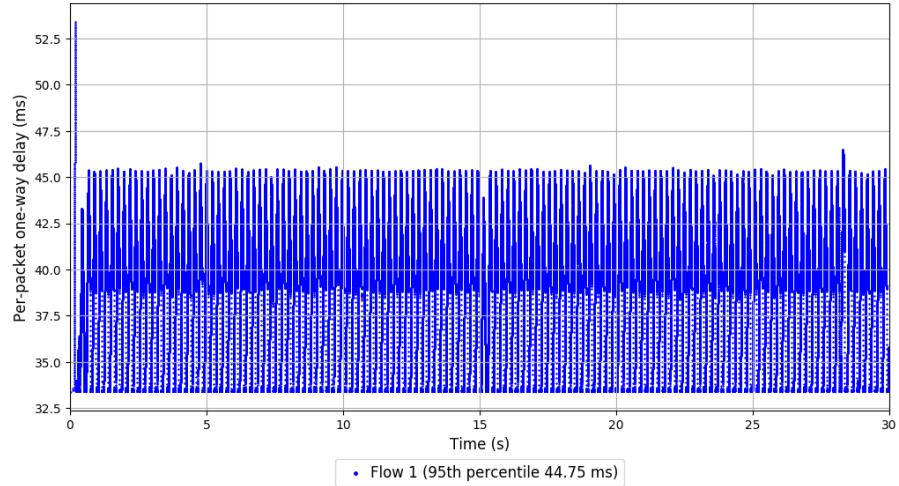
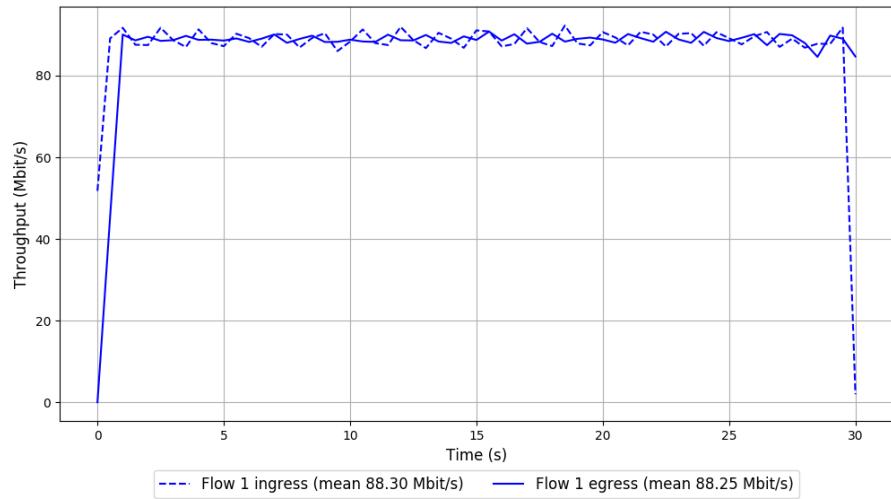


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-12-02 10:01:26
End at: 2018-12-02 10:01:56
Local clock offset: -3.172 ms
Remote clock offset: -3.069 ms

# Below is generated by plot.py at 2018-12-02 11:36:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.25 Mbit/s
95th percentile per-packet one-way delay: 44.746 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 88.25 Mbit/s
95th percentile per-packet one-way delay: 44.746 ms
Loss rate: 0.27%
```

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

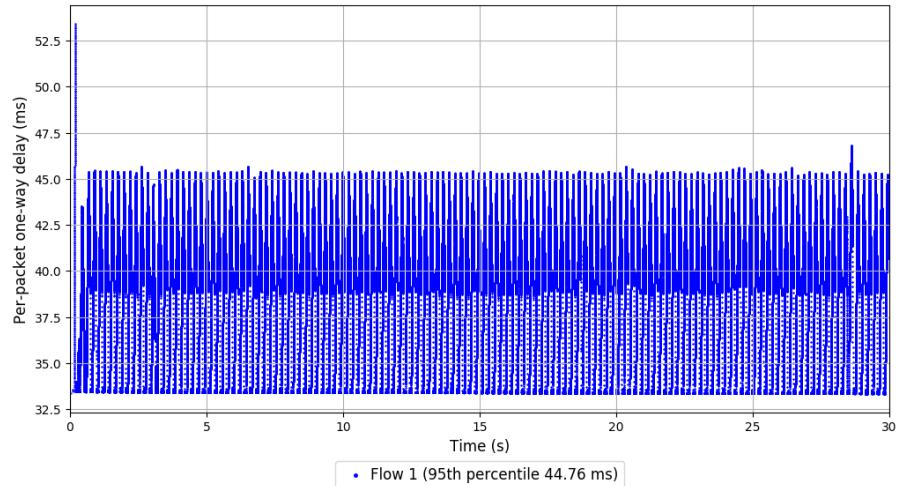
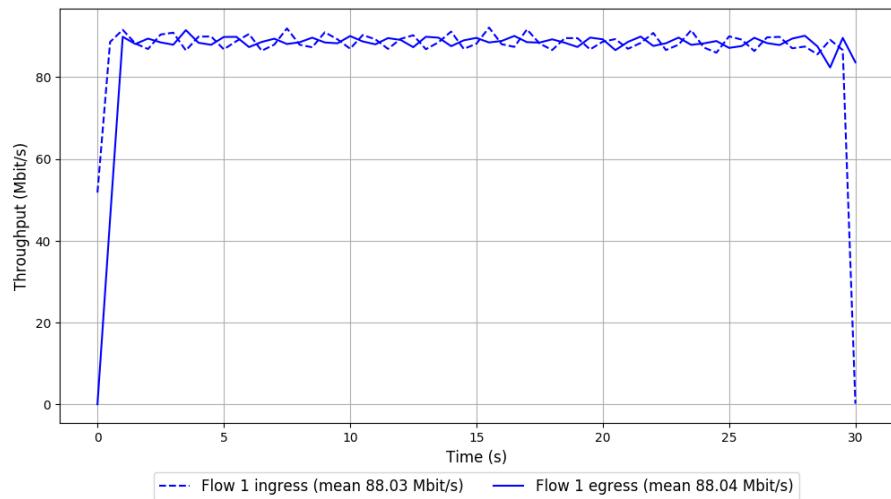


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-12-02 10:23:32
End at: 2018-12-02 10:24:02
Local clock offset: -1.532 ms
Remote clock offset: -2.625 ms

# Below is generated by plot.py at 2018-12-02 11:36:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.04 Mbit/s
95th percentile per-packet one-way delay: 44.761 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 88.04 Mbit/s
95th percentile per-packet one-way delay: 44.761 ms
Loss rate: 0.20%
```

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

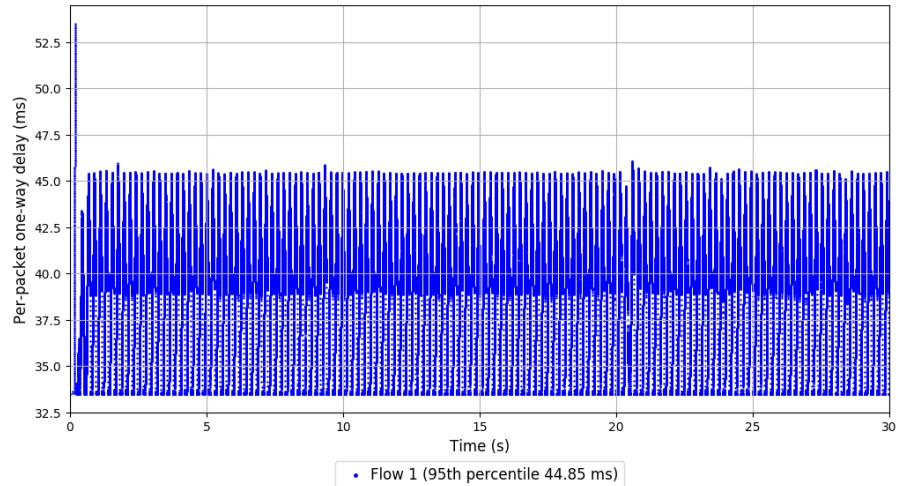
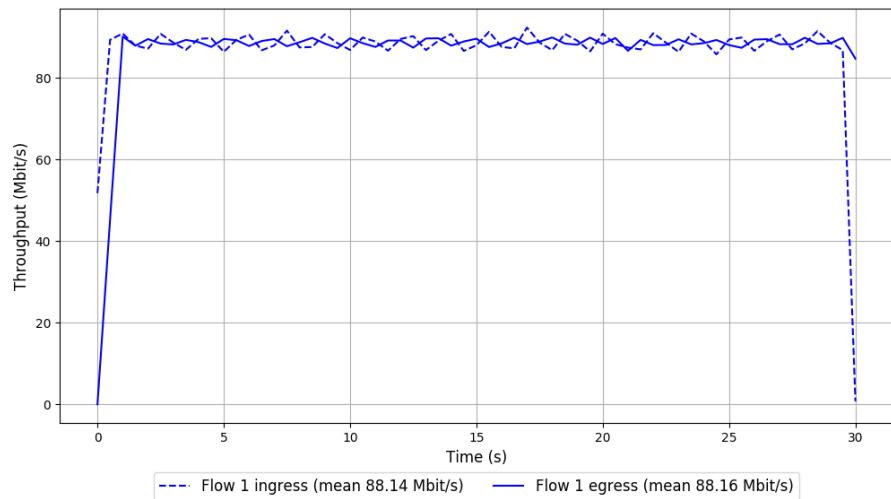


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-12-02 10:45:34
End at: 2018-12-02 10:46:04
Local clock offset: 0.863 ms
Remote clock offset: -2.292 ms

# Below is generated by plot.py at 2018-12-02 11:36:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.16 Mbit/s
95th percentile per-packet one-way delay: 44.846 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 88.16 Mbit/s
95th percentile per-packet one-way delay: 44.846 ms
Loss rate: 0.19%
```

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

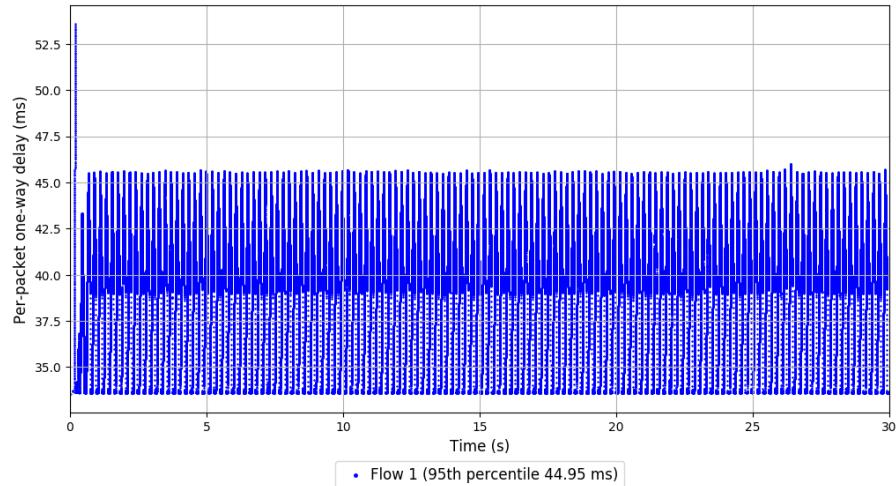
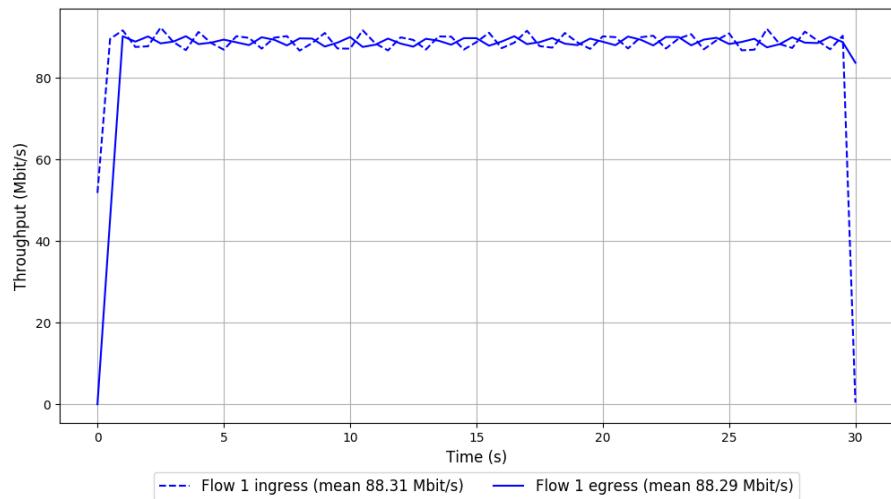


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-12-02 11:07:34
End at: 2018-12-02 11:08:04
Local clock offset: 0.639 ms
Remote clock offset: -2.349 ms

# Below is generated by plot.py at 2018-12-02 11:36:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.29 Mbit/s
95th percentile per-packet one-way delay: 44.951 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 88.29 Mbit/s
95th percentile per-packet one-way delay: 44.951 ms
Loss rate: 0.24%
```

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

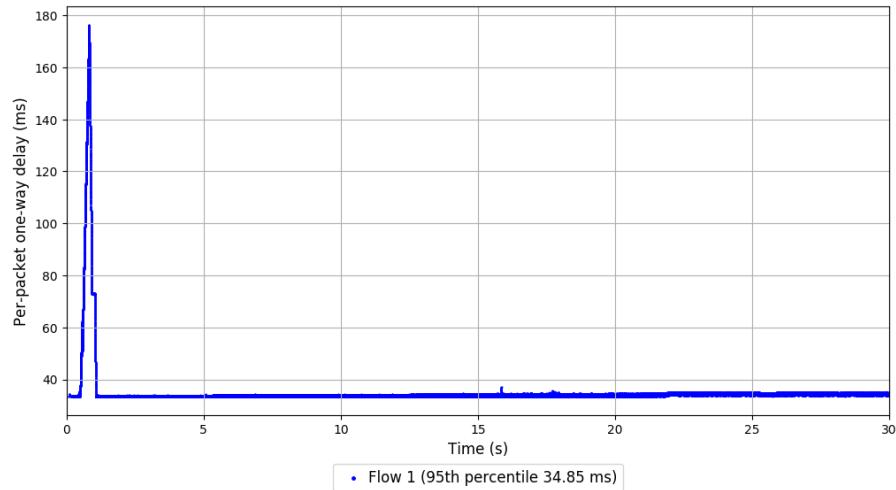
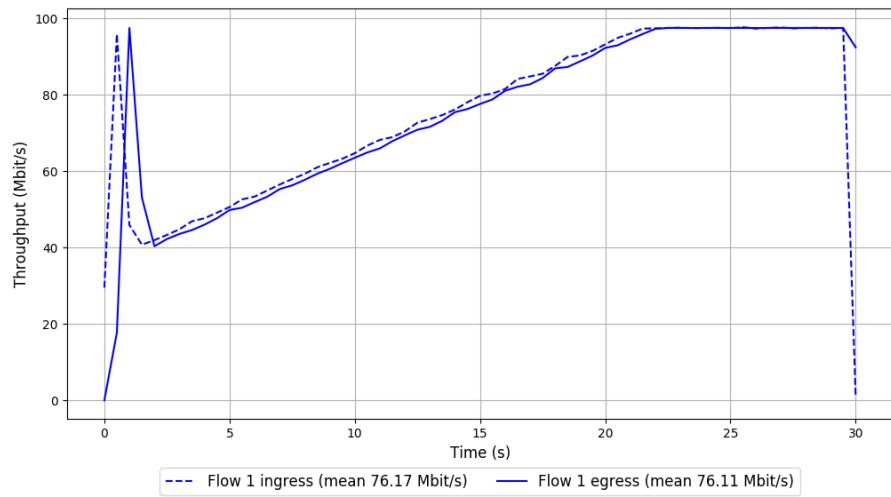


Run 1: Statistics of TCP Vegas

```
Start at: 2018-12-02 09:45:13
End at: 2018-12-02 09:45:43
Local clock offset: -3.672 ms
Remote clock offset: -3.61 ms

# Below is generated by plot.py at 2018-12-02 11:36:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.11 Mbit/s
95th percentile per-packet one-way delay: 34.852 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 76.11 Mbit/s
95th percentile per-packet one-way delay: 34.852 ms
Loss rate: 0.28%
```

Run 1: Report of TCP Vegas — Data Link

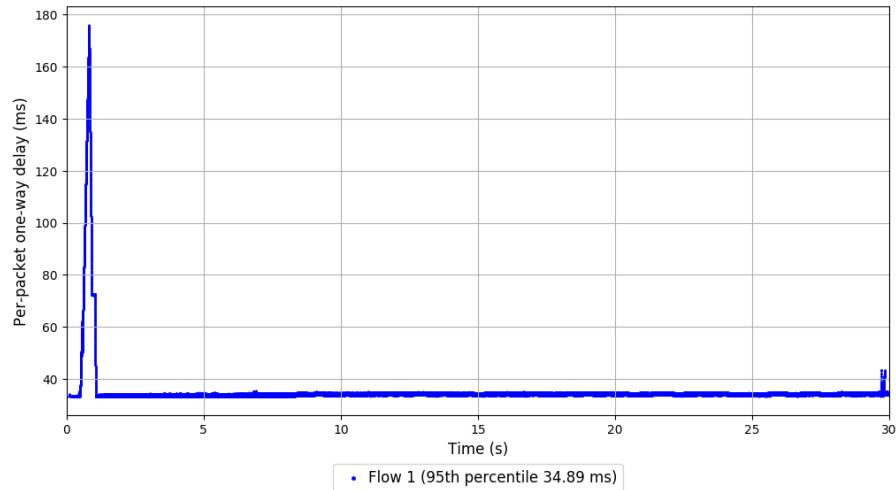
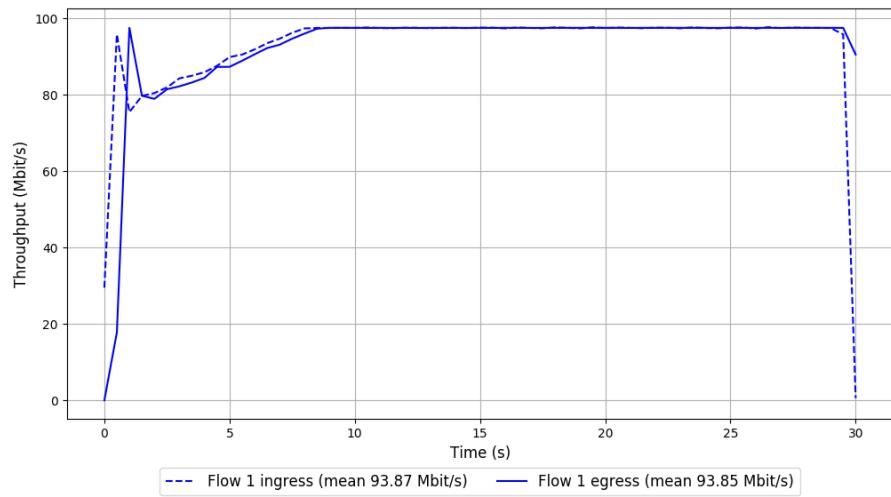


Run 2: Statistics of TCP Vegas

```
Start at: 2018-12-02 10:07:18
End at: 2018-12-02 10:07:48
Local clock offset: -3.17 ms
Remote clock offset: -2.768 ms

# Below is generated by plot.py at 2018-12-02 11:36:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.85 Mbit/s
95th percentile per-packet one-way delay: 34.894 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 93.85 Mbit/s
95th percentile per-packet one-way delay: 34.894 ms
Loss rate: 0.23%
```

Run 2: Report of TCP Vegas — Data Link

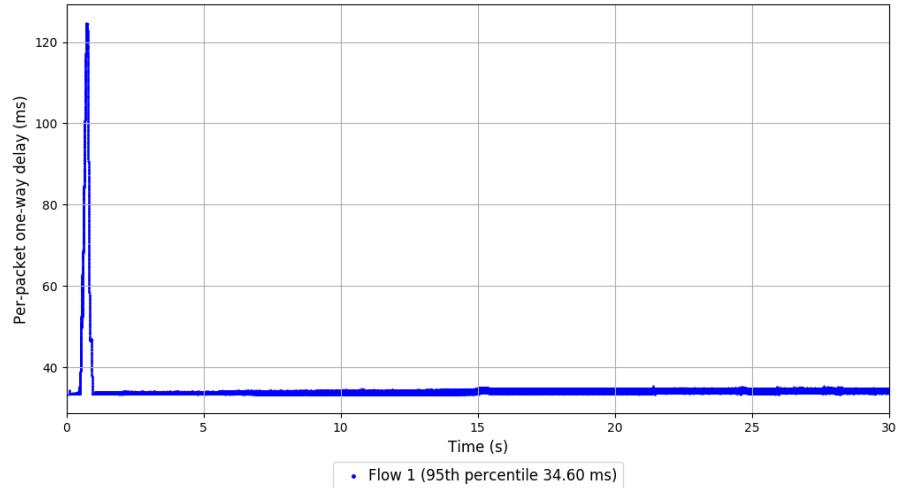
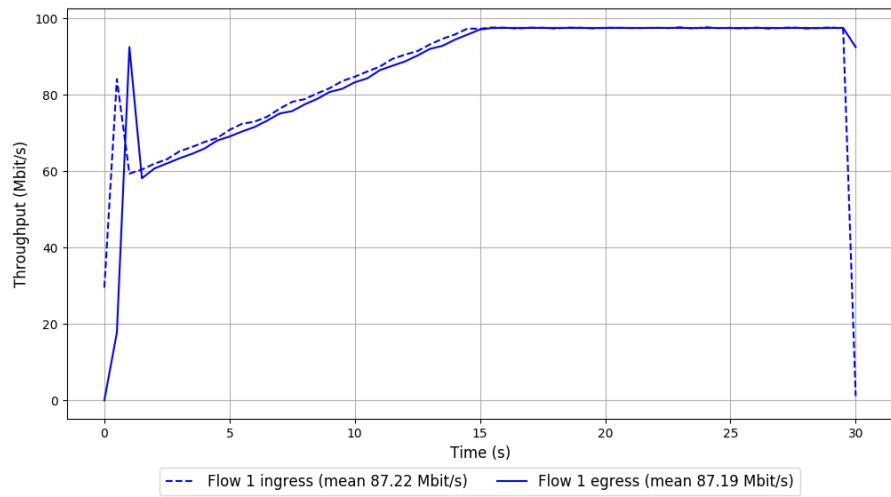


Run 3: Statistics of TCP Vegas

```
Start at: 2018-12-02 10:29:22
End at: 2018-12-02 10:29:53
Local clock offset: -0.416 ms
Remote clock offset: -2.347 ms

# Below is generated by plot.py at 2018-12-02 11:36:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.19 Mbit/s
95th percentile per-packet one-way delay: 34.604 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 87.19 Mbit/s
95th percentile per-packet one-way delay: 34.604 ms
Loss rate: 0.25%
```

Run 3: Report of TCP Vegas — Data Link

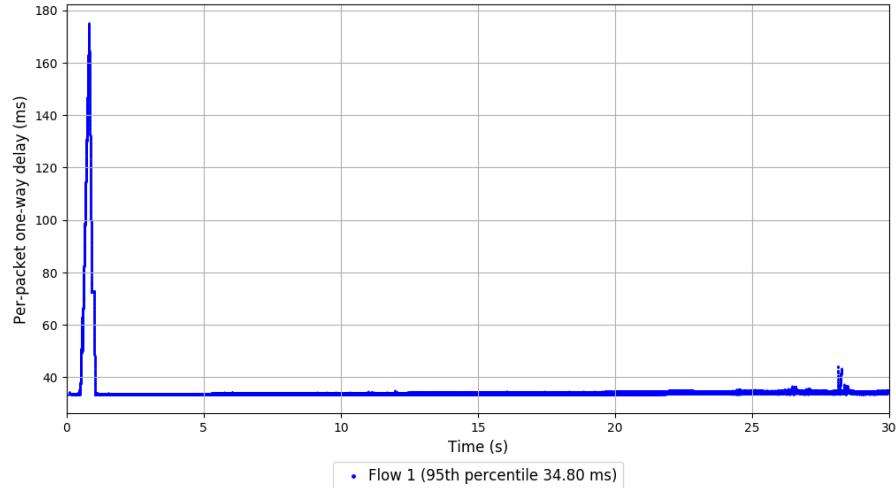
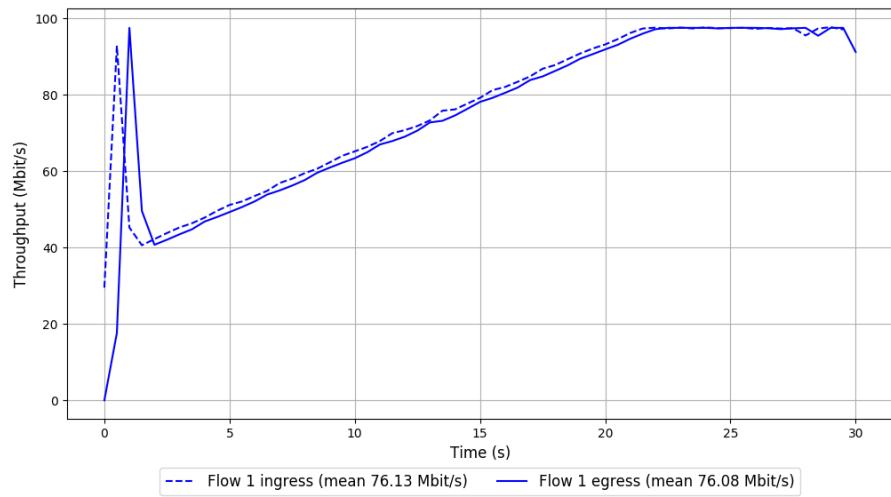


Run 4: Statistics of TCP Vegas

```
Start at: 2018-12-02 10:51:24
End at: 2018-12-02 10:51:54
Local clock offset: 0.771 ms
Remote clock offset: -2.182 ms

# Below is generated by plot.py at 2018-12-02 11:36:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.08 Mbit/s
95th percentile per-packet one-way delay: 34.799 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 76.08 Mbit/s
95th percentile per-packet one-way delay: 34.799 ms
Loss rate: 0.28%
```

Run 4: Report of TCP Vegas — Data Link

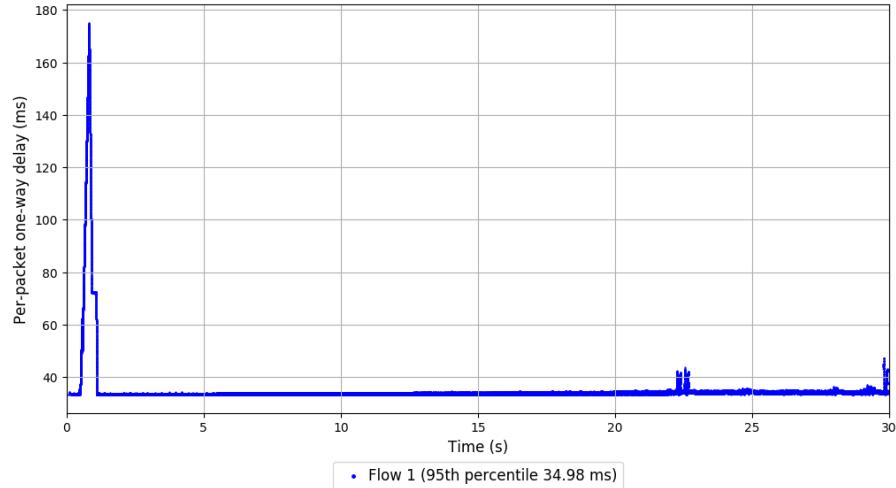
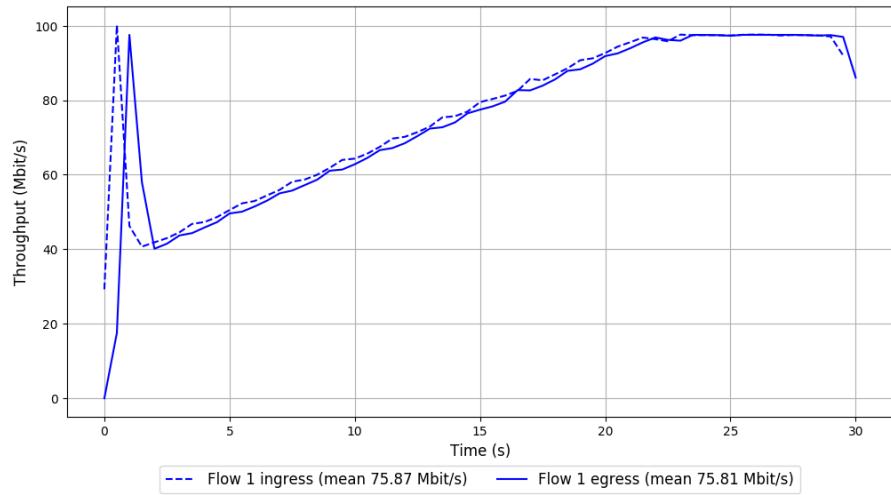


Run 5: Statistics of TCP Vegas

```
Start at: 2018-12-02 11:13:24
End at: 2018-12-02 11:13:54
Local clock offset: 0.708 ms
Remote clock offset: -2.023 ms

# Below is generated by plot.py at 2018-12-02 11:36:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.81 Mbit/s
95th percentile per-packet one-way delay: 34.975 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 75.81 Mbit/s
95th percentile per-packet one-way delay: 34.975 ms
Loss rate: 0.29%
```

Run 5: Report of TCP Vegas — Data Link

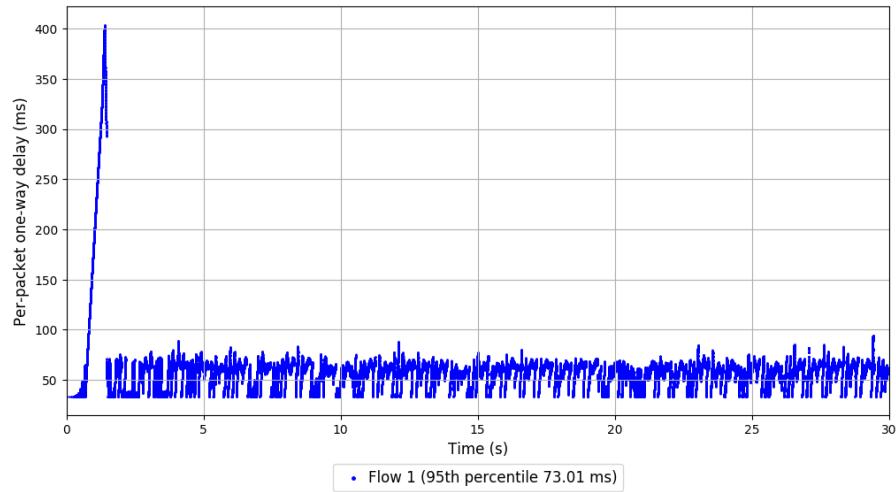
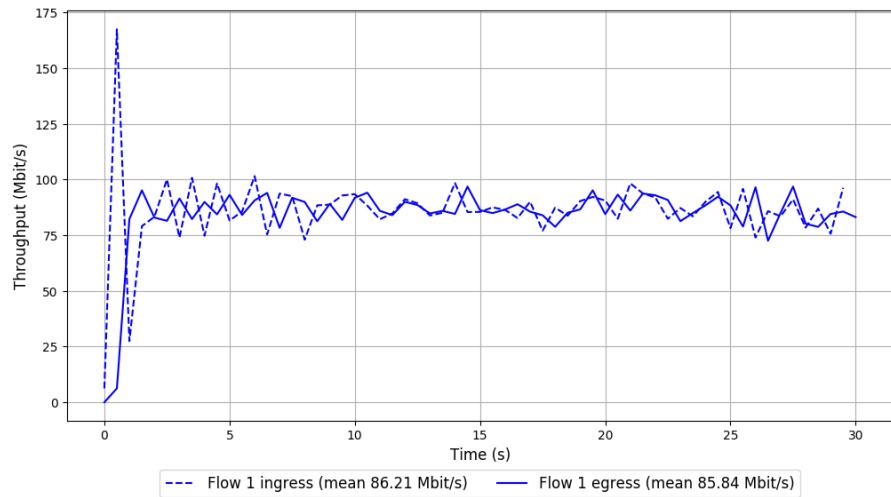


Run 1: Statistics of Verus

```
Start at: 2018-12-02 09:54:29
End at: 2018-12-02 09:54:59
Local clock offset: -3.327 ms
Remote clock offset: -3.251 ms

# Below is generated by plot.py at 2018-12-02 11:37:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.84 Mbit/s
95th percentile per-packet one-way delay: 73.006 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 85.84 Mbit/s
95th percentile per-packet one-way delay: 73.006 ms
Loss rate: 0.63%
```

Run 1: Report of Verus — Data Link

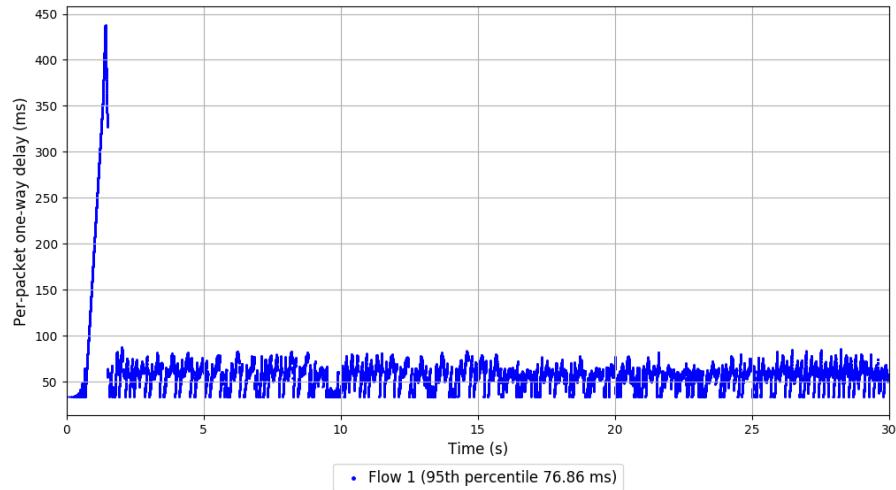
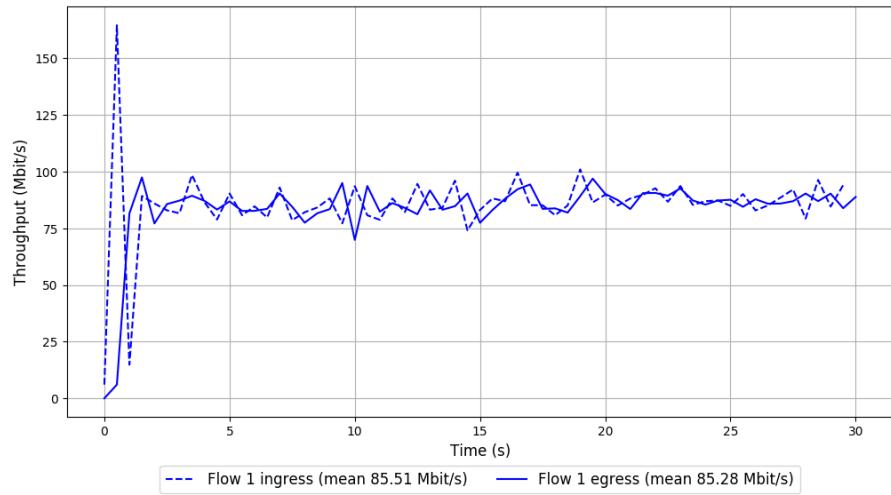


Run 2: Statistics of Verus

```
Start at: 2018-12-02 10:16:37
End at: 2018-12-02 10:17:07
Local clock offset: -3.271 ms
Remote clock offset: -2.634 ms

# Below is generated by plot.py at 2018-12-02 11:37:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.28 Mbit/s
95th percentile per-packet one-way delay: 76.857 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 85.28 Mbit/s
95th percentile per-packet one-way delay: 76.857 ms
Loss rate: 0.47%
```

Run 2: Report of Verus — Data Link

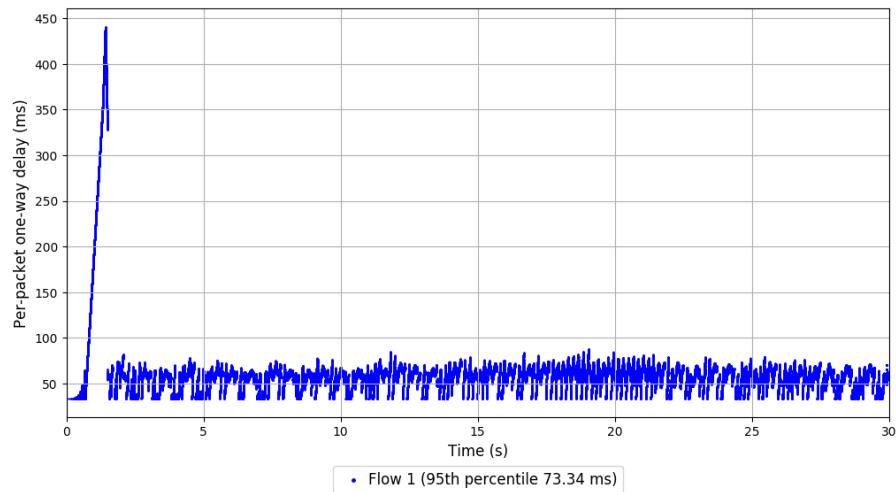
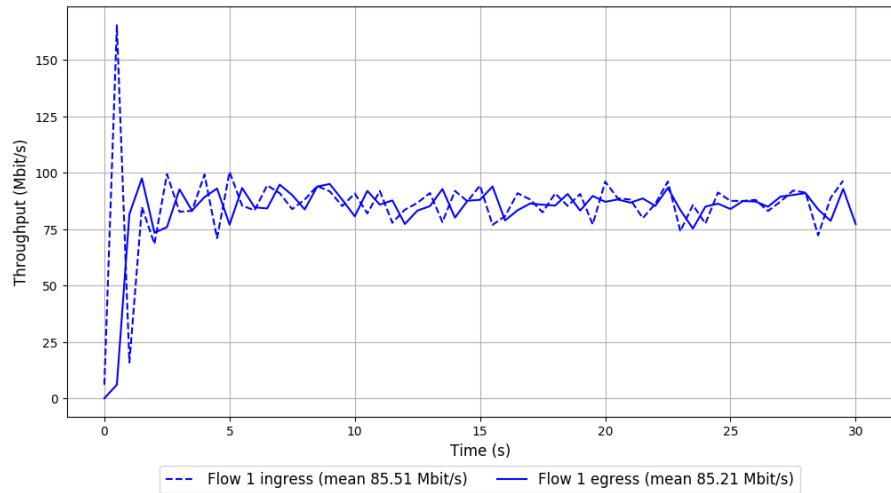


Run 3: Statistics of Verus

```
Start at: 2018-12-02 10:38:39
End at: 2018-12-02 10:39:09
Local clock offset: 0.512 ms
Remote clock offset: -2.215 ms

# Below is generated by plot.py at 2018-12-02 11:37:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.21 Mbit/s
95th percentile per-packet one-way delay: 73.341 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 85.21 Mbit/s
95th percentile per-packet one-way delay: 73.341 ms
Loss rate: 0.57%
```

Run 3: Report of Verus — Data Link

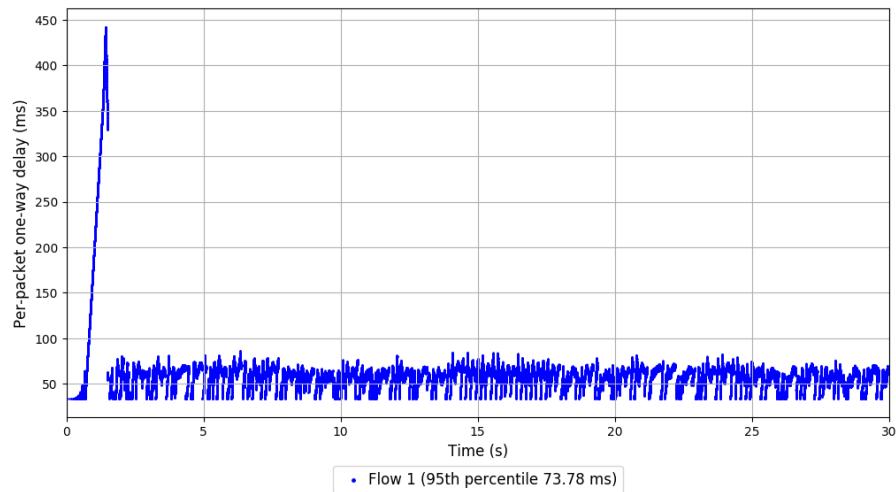
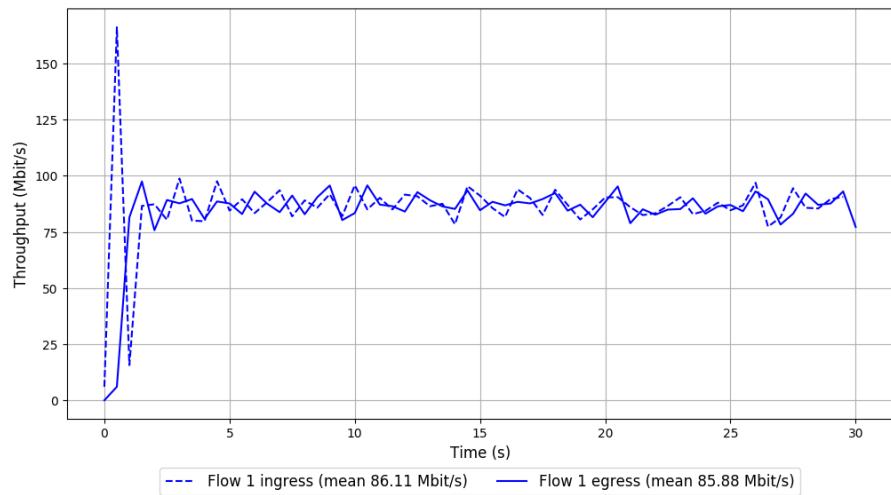


Run 4: Statistics of Verus

```
Start at: 2018-12-02 11:00:39
End at: 2018-12-02 11:01:09
Local clock offset: 0.619 ms
Remote clock offset: -2.189 ms

# Below is generated by plot.py at 2018-12-02 11:37:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 73.776 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 73.776 ms
Loss rate: 0.48%
```

Run 4: Report of Verus — Data Link

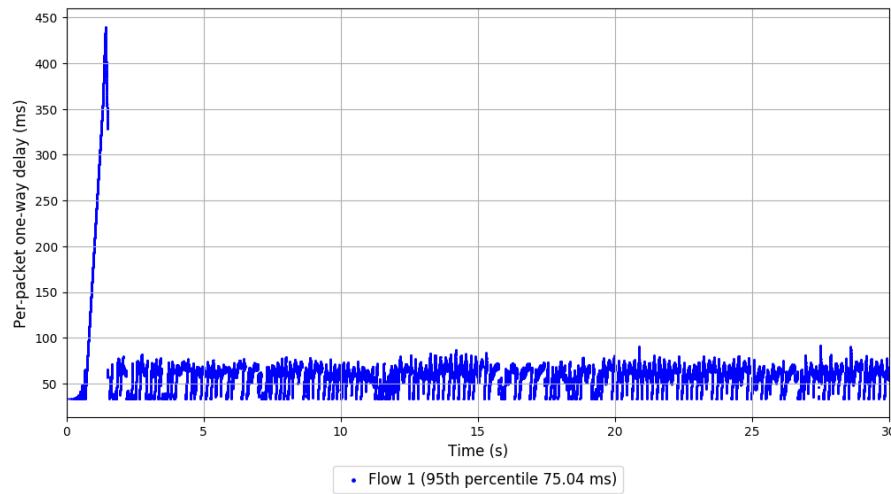
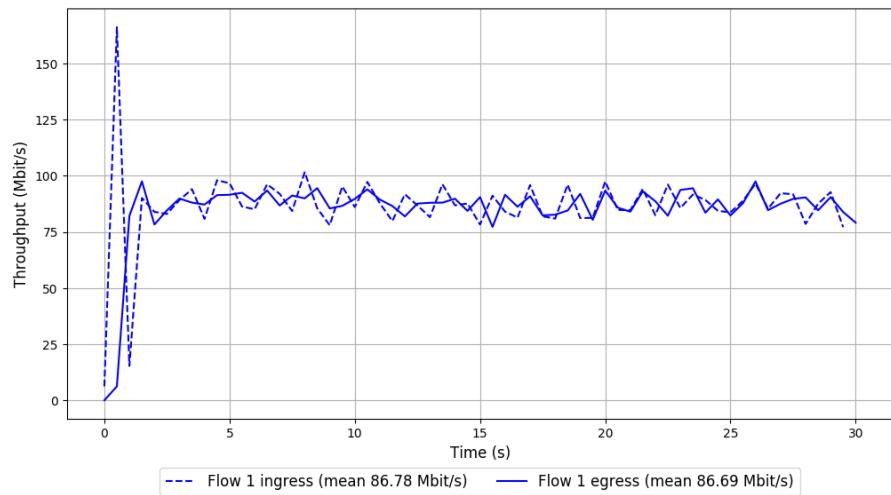


Run 5: Statistics of Verus

```
Start at: 2018-12-02 11:22:40
End at: 2018-12-02 11:23:10
Local clock offset: 0.537 ms
Remote clock offset: -1.872 ms

# Below is generated by plot.py at 2018-12-02 11:37:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.69 Mbit/s
95th percentile per-packet one-way delay: 75.038 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 86.69 Mbit/s
95th percentile per-packet one-way delay: 75.038 ms
Loss rate: 0.32%
```

Run 5: Report of Verus — Data Link

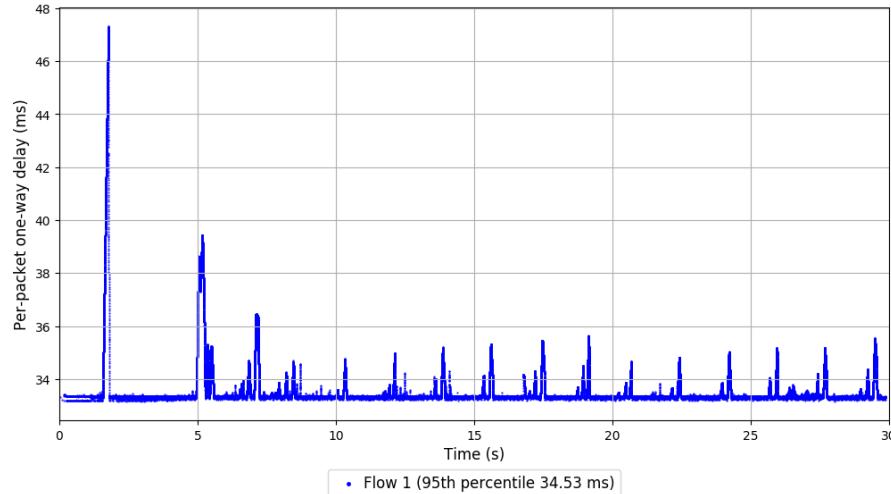
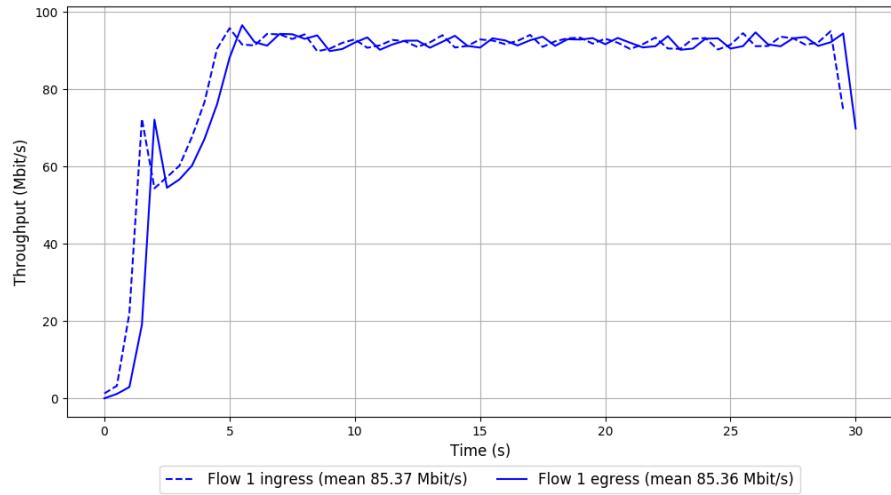


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-12-02 09:48:38
End at: 2018-12-02 09:49:08
Local clock offset: -3.721 ms
Remote clock offset: -3.481 ms

# Below is generated by plot.py at 2018-12-02 11:37:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.36 Mbit/s
95th percentile per-packet one-way delay: 34.527 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 85.36 Mbit/s
95th percentile per-packet one-way delay: 34.527 ms
Loss rate: 0.23%
```

Run 1: Report of PCC-Vivace — Data Link

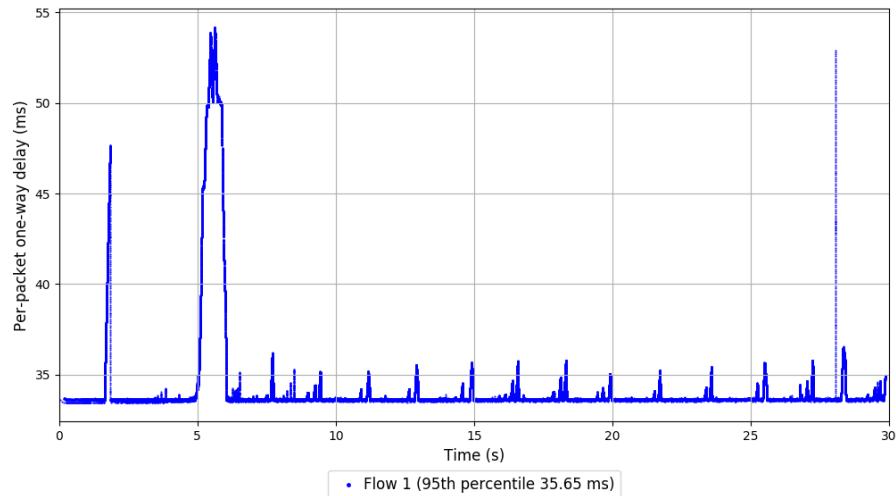
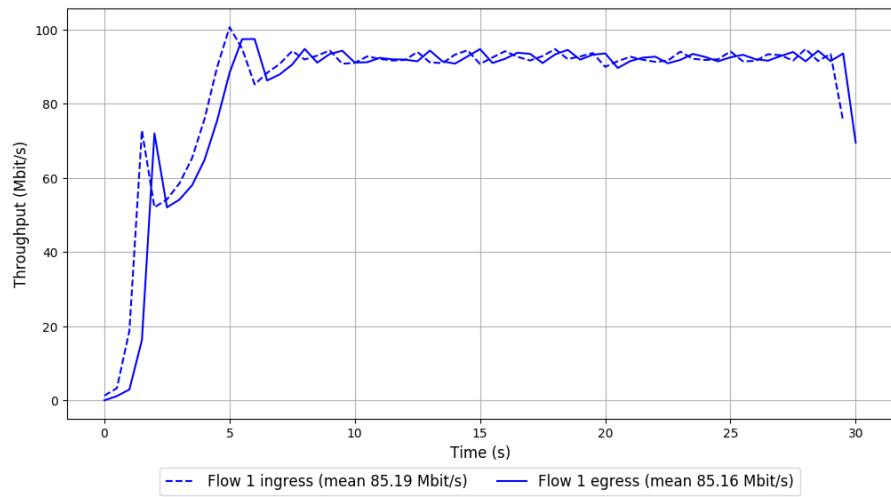


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-12-02 10:10:44
End at: 2018-12-02 10:11:14
Local clock offset: -3.186 ms
Remote clock offset: -2.871 ms

# Below is generated by plot.py at 2018-12-02 11:37:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.16 Mbit/s
95th percentile per-packet one-way delay: 35.648 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 85.16 Mbit/s
95th percentile per-packet one-way delay: 35.648 ms
Loss rate: 0.25%
```

Run 2: Report of PCC-Vivace — Data Link

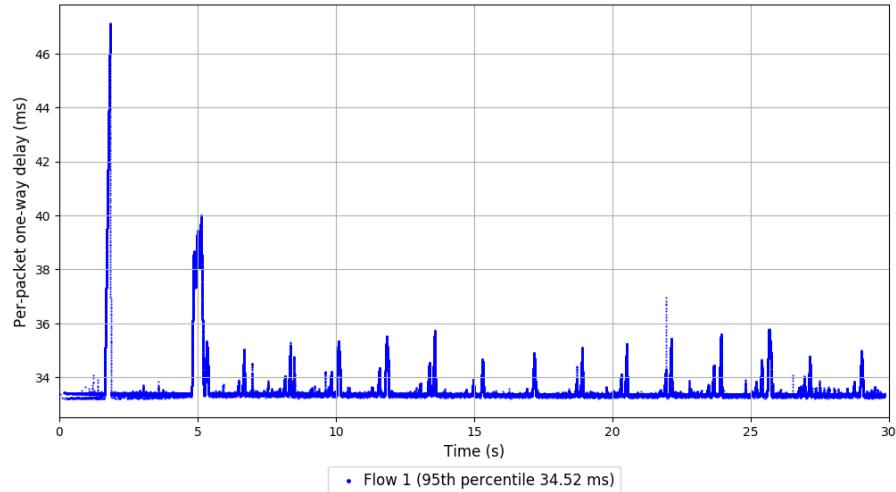
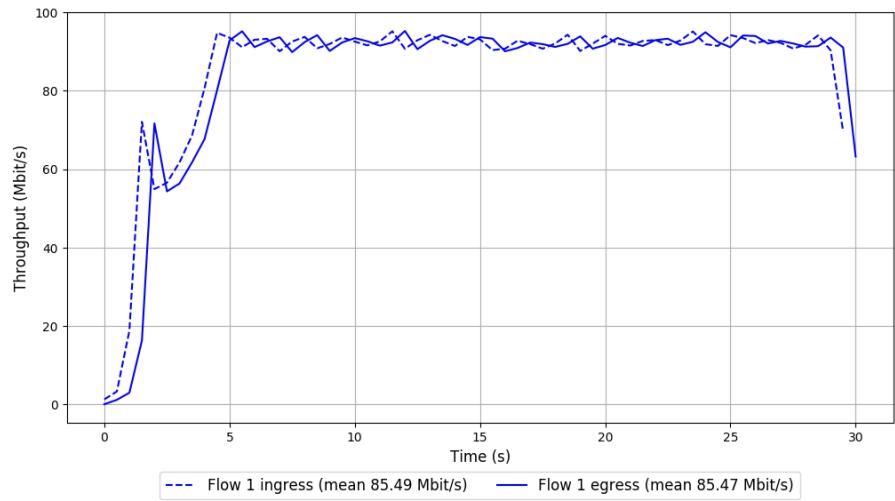


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-12-02 10:32:48
End at: 2018-12-02 10:33:18
Local clock offset: 0.032 ms
Remote clock offset: -2.275 ms

# Below is generated by plot.py at 2018-12-02 11:37:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.47 Mbit/s
95th percentile per-packet one-way delay: 34.523 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 85.47 Mbit/s
95th percentile per-packet one-way delay: 34.523 ms
Loss rate: 0.24%
```

Run 3: Report of PCC-Vivace — Data Link

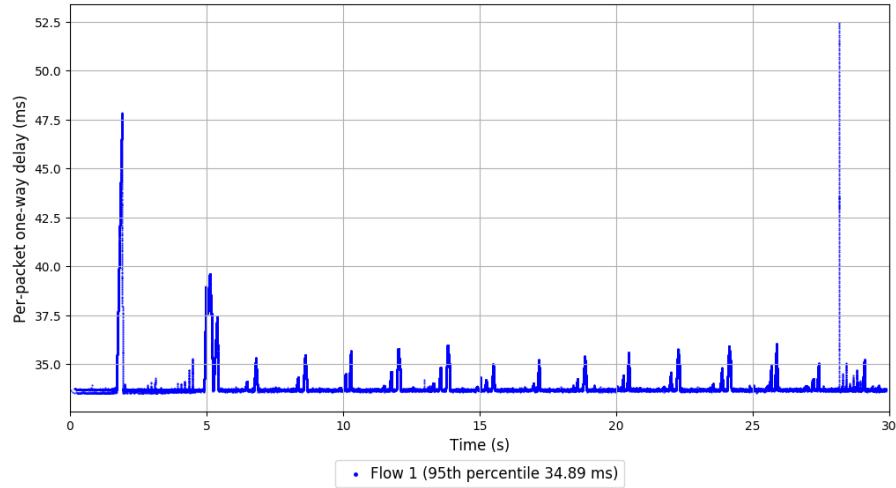
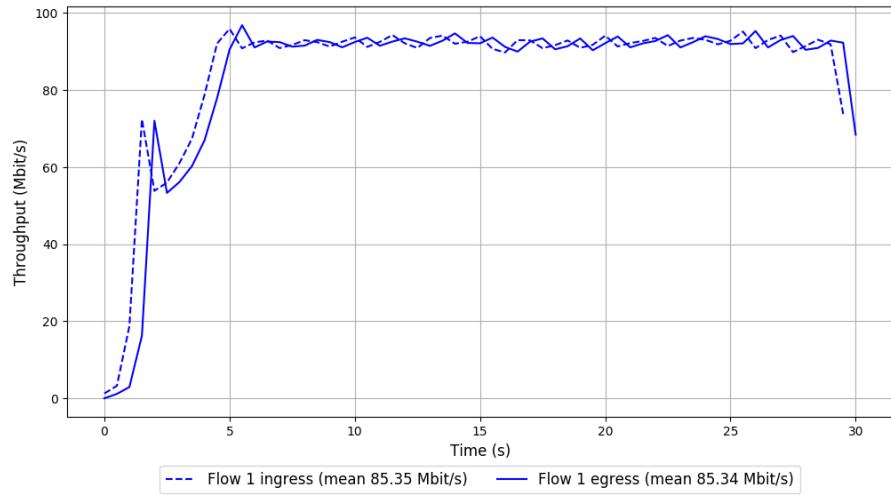


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-12-02 10:54:48
End at: 2018-12-02 10:55:18
Local clock offset: 0.675 ms
Remote clock offset: -2.403 ms

# Below is generated by plot.py at 2018-12-02 11:37:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.34 Mbit/s
95th percentile per-packet one-way delay: 34.888 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 85.34 Mbit/s
95th percentile per-packet one-way delay: 34.888 ms
Loss rate: 0.22%
```

Run 4: Report of PCC-Vivace — Data Link

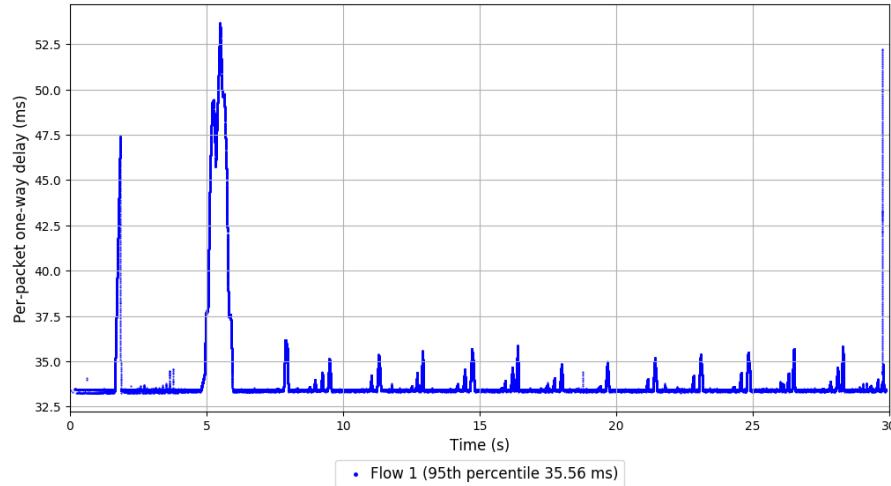
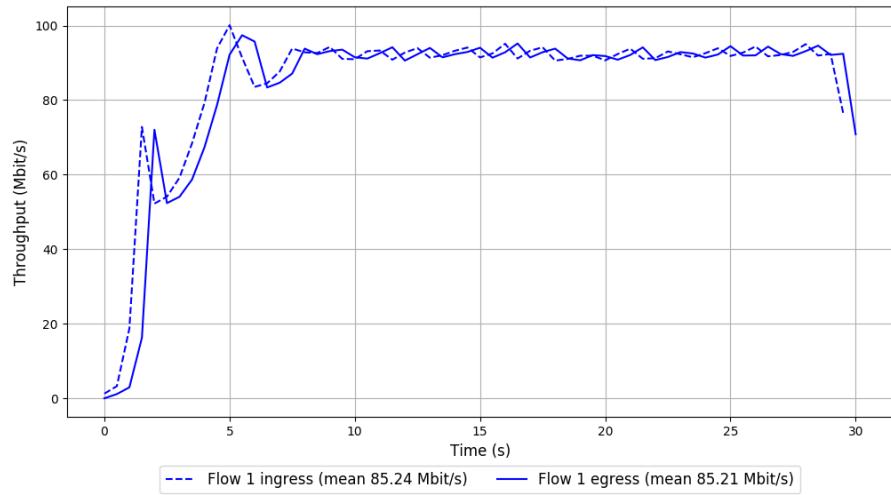


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-12-02 11:16:49
End at: 2018-12-02 11:17:19
Local clock offset: 0.748 ms
Remote clock offset: -1.984 ms

# Below is generated by plot.py at 2018-12-02 11:37:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.21 Mbit/s
95th percentile per-packet one-way delay: 35.564 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 85.21 Mbit/s
95th percentile per-packet one-way delay: 35.564 ms
Loss rate: 0.24%
```

Run 5: Report of PCC-Vivace — Data Link

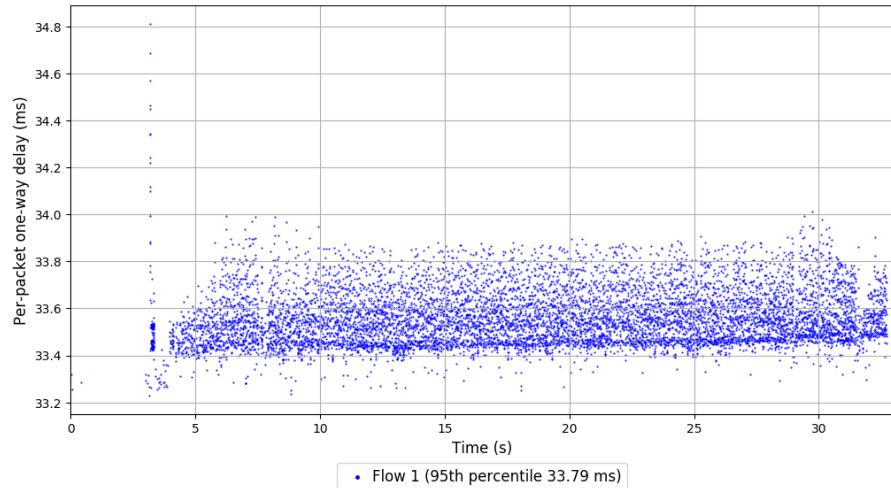
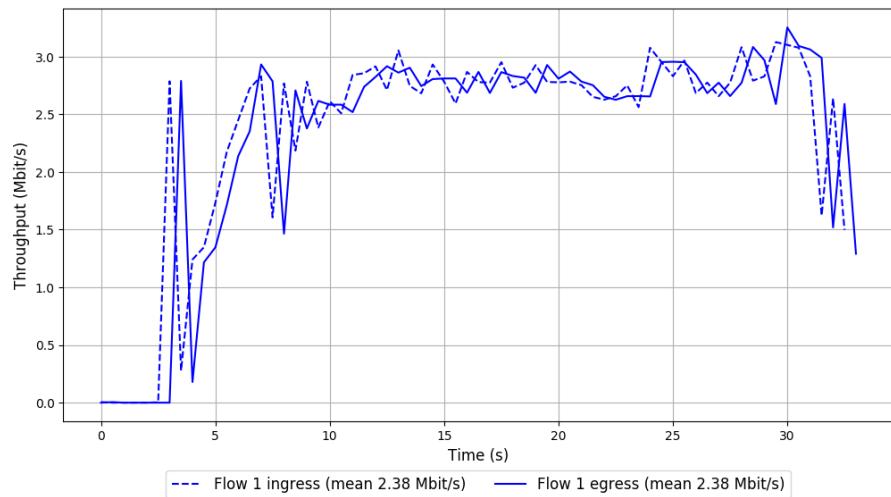


```
Run 1: Statistics of WebRTC media

Start at: 2018-12-02 09:36:00
End at: 2018-12-02 09:36:30
Local clock offset: -3.069 ms
Remote clock offset: -3.821 ms

# Below is generated by plot.py at 2018-12-02 11:37:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 33.787 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 33.787 ms
Loss rate: 0.26%
```

Run 1: Report of WebRTC media — Data Link

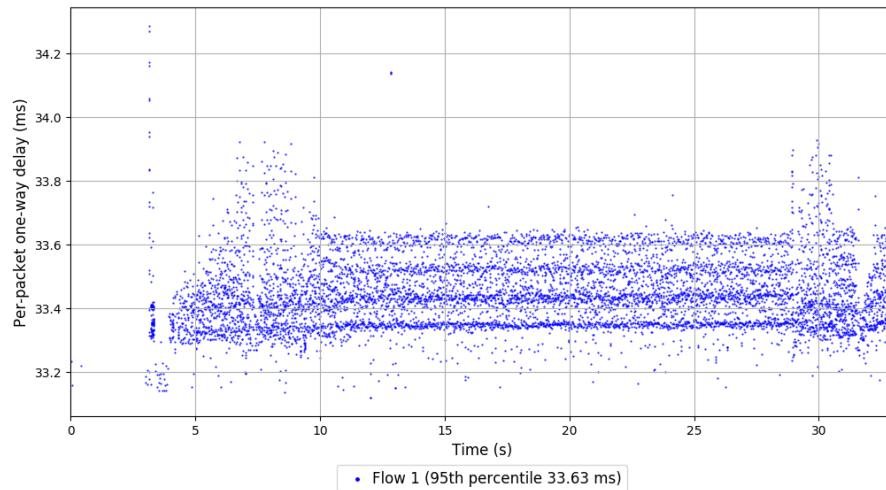
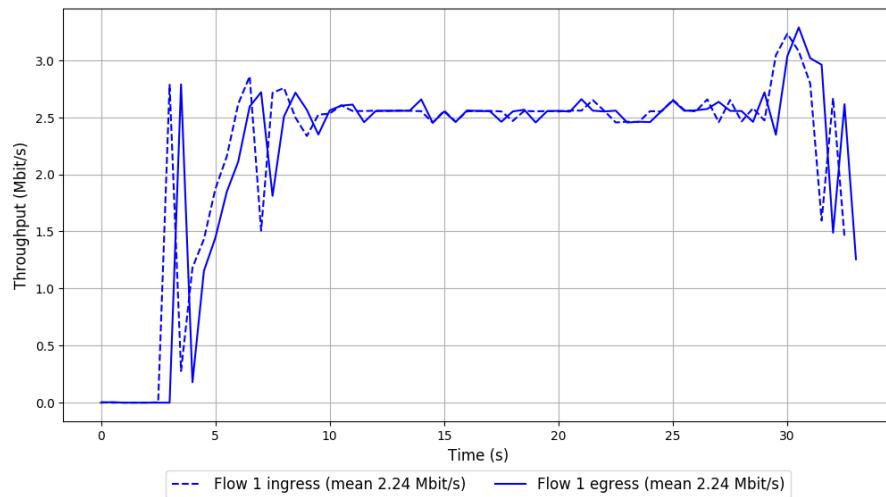


Run 2: Statistics of WebRTC media

```
Start at: 2018-12-02 09:58:03
End at: 2018-12-02 09:58:33
Local clock offset: -3.22 ms
Remote clock offset: -3.033 ms

# Below is generated by plot.py at 2018-12-02 11:37:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 33.629 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 33.629 ms
Loss rate: 0.27%
```

Run 2: Report of WebRTC media — Data Link

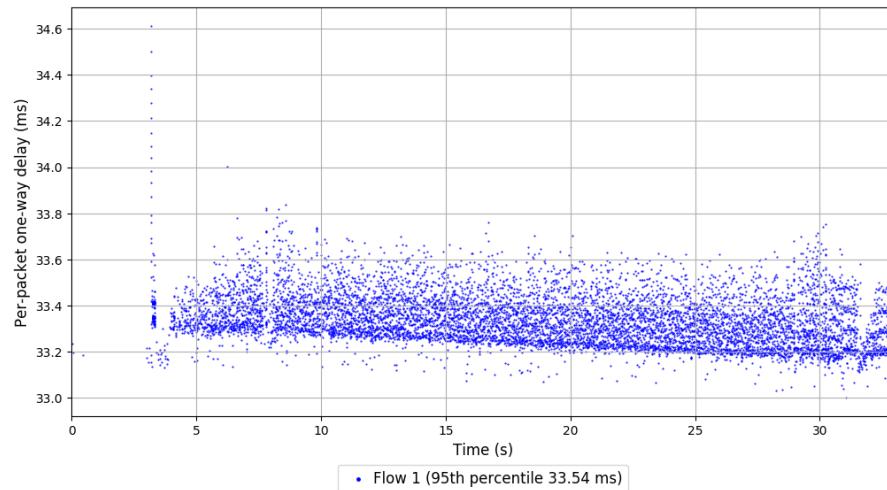
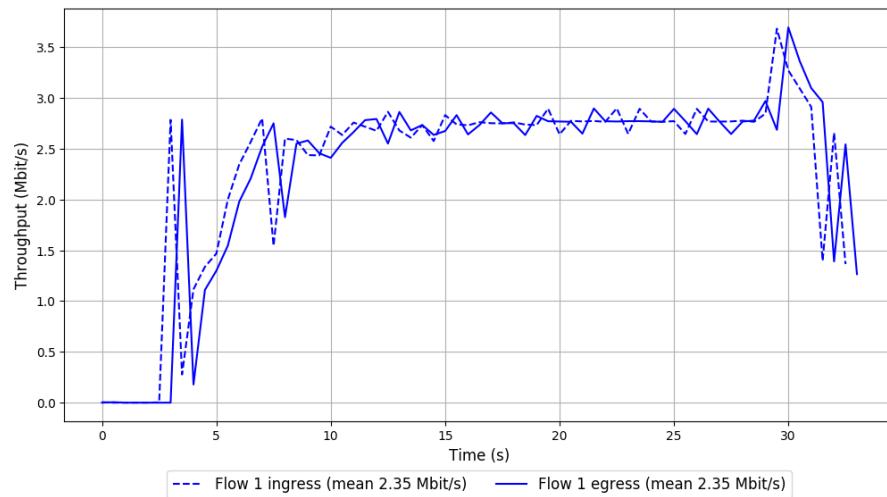


Run 3: Statistics of WebRTC media

```
Start at: 2018-12-02 10:20:09
End at: 2018-12-02 10:20:39
Local clock offset: -2.428 ms
Remote clock offset: -2.452 ms

# Below is generated by plot.py at 2018-12-02 11:37:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 33.543 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 33.543 ms
Loss rate: 0.17%
```

Run 3: Report of WebRTC media — Data Link

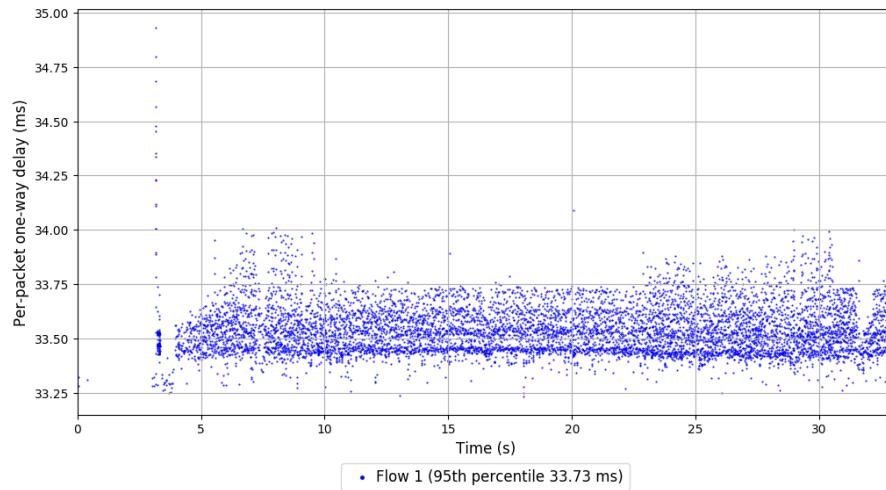
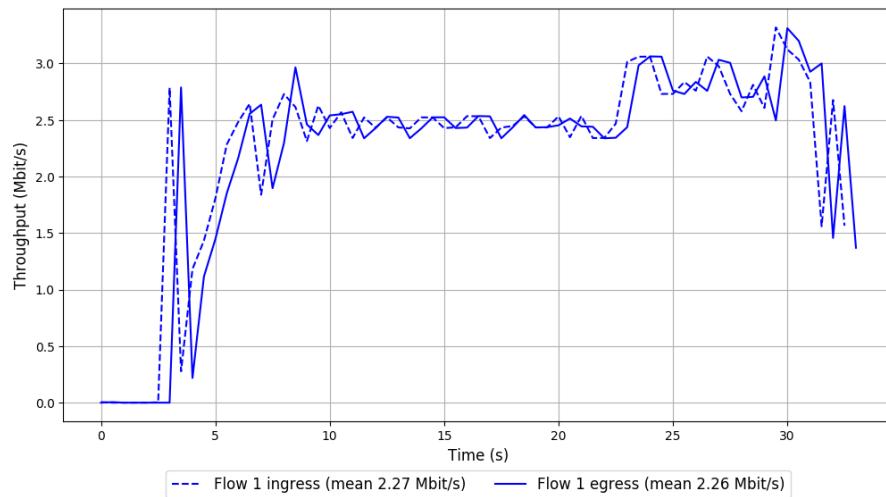


Run 4: Statistics of WebRTC media

```
Start at: 2018-12-02 10:42:11
End at: 2018-12-02 10:42:41
Local clock offset: 0.716 ms
Remote clock offset: -2.195 ms

# Below is generated by plot.py at 2018-12-02 11:37:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 33.731 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 33.731 ms
Loss rate: 0.26%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-12-02 11:04:11
End at: 2018-12-02 11:04:41
Local clock offset: 0.623 ms
Remote clock offset: -2.138 ms

# Below is generated by plot.py at 2018-12-02 11:37:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 33.770 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 33.770 ms
Loss rate: 0.24%
```

Run 5: Report of WebRTC media — Data Link

