

Pantheon Report

Generated at 2018-10-26 01:41:54 (UTC).
Data path: AWS California 2 on `ens5` (*local*) → Mexico on `em1` (*remote*).
Repeated the test of 18 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:

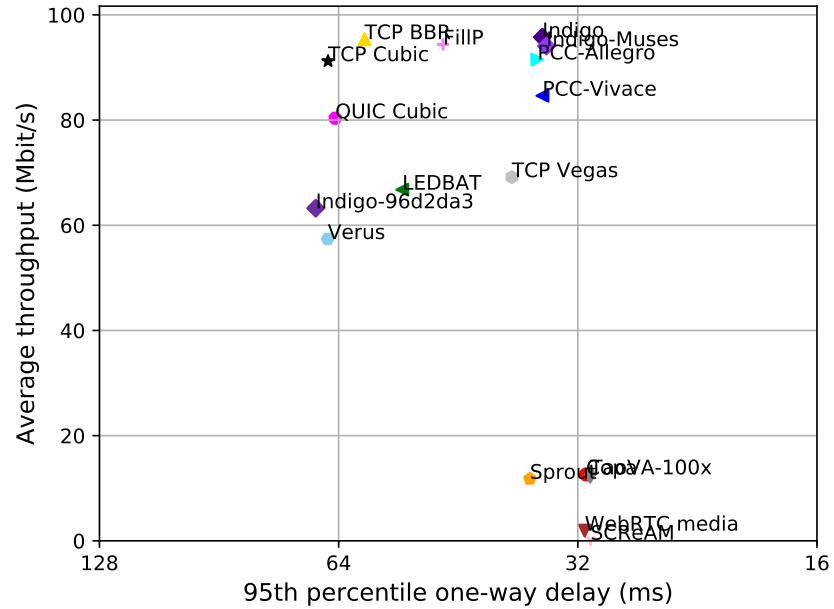
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

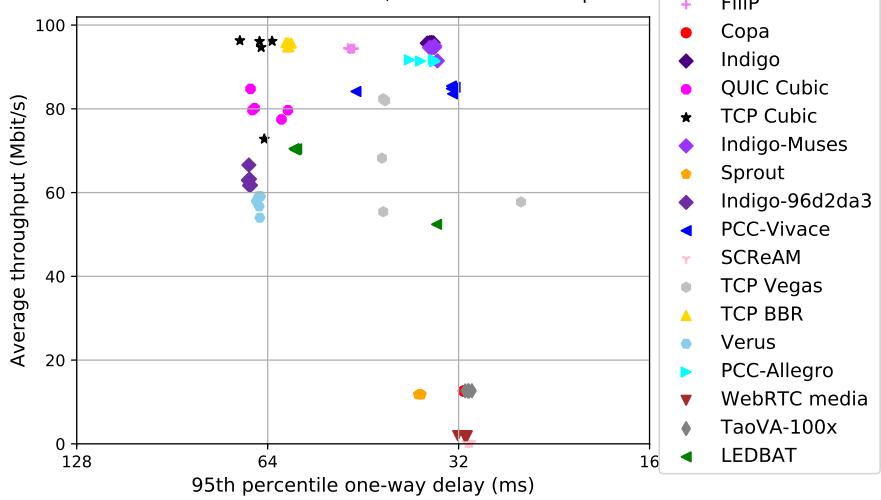
```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbfed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
```

third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

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



test from AWS California 2 to Mexico, 5 runs of 30s each per scheme



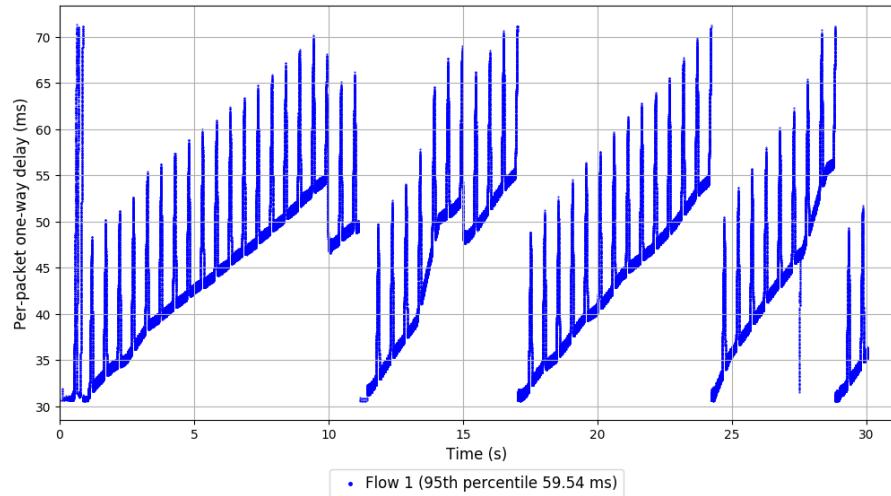
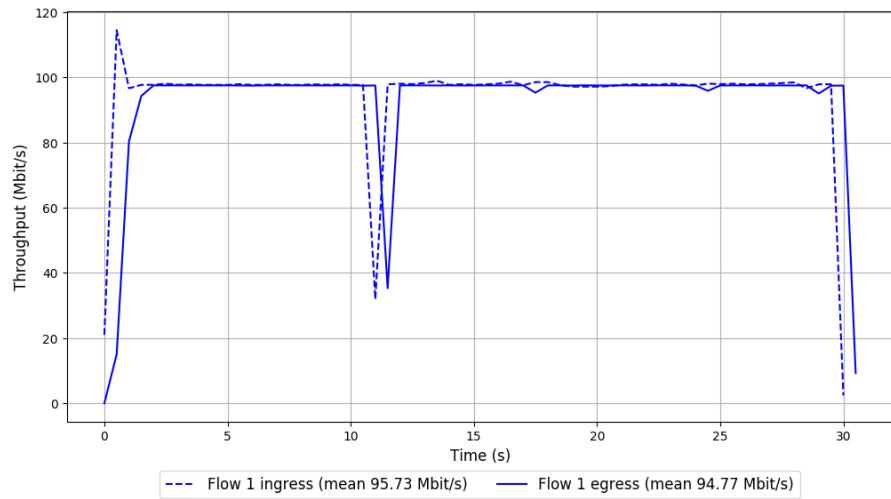
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	95.39	59.36	1.10
Copa	5	12.61	31.24	71.04
TCP Cubic	5	91.21	66.00	0.38
FillP	5	94.38	47.28	1.07
Indigo	5	95.76	35.47	0.01
Indigo-96d2da3	5	63.24	68.40	58.01
LEDBAT	5	66.76	53.23	0.00
Indigo-Muses	5	94.07	35.05	0.45
PCC-Allegro	5	91.54	35.97	0.71
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	80.35	64.63	1.34
SCReAM	5	0.21	30.84	0.00
Sprout	5	11.80	36.77	0.02
TaoVA-100x	5	12.65	30.88	71.69
TCP Vegas	5	69.15	38.74	0.49
Verus	5	57.39	66.06	21.96
PCC-Vivace	5	84.63	35.46	0.01
WebRTC media	5	1.94	31.37	0.01

Run 1: Statistics of TCP BBR

```
Start at: 2018-10-25 23:54:19
End at: 2018-10-25 23:54:49
Local clock offset: -3.799 ms
Remote clock offset: -4.803 ms

# Below is generated by plot.py at 2018-10-26 01:34:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.77 Mbit/s
95th percentile per-packet one-way delay: 59.539 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 94.77 Mbit/s
95th percentile per-packet one-way delay: 59.539 ms
Loss rate: 0.98%
```

Run 1: Report of TCP BBR — Data Link

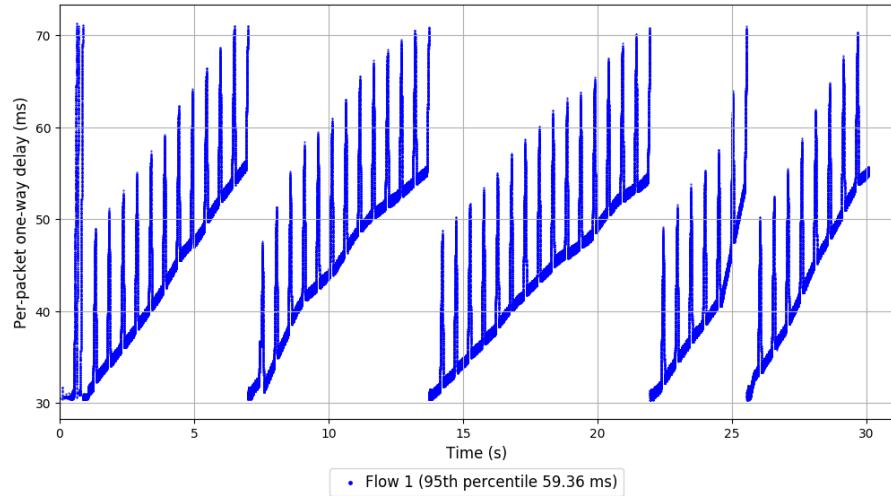
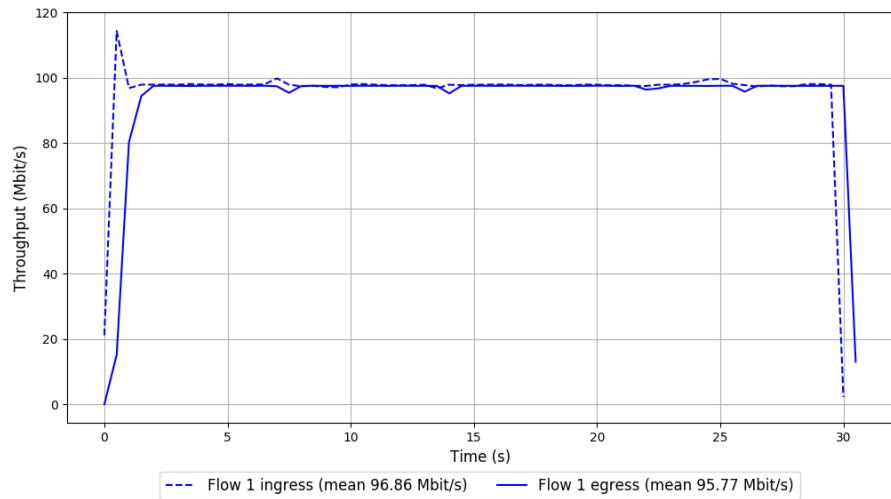


Run 2: Statistics of TCP BBR

```
Start at: 2018-10-26 00:18:06
End at: 2018-10-26 00:18:36
Local clock offset: -7.035 ms
Remote clock offset: -3.581 ms

# Below is generated by plot.py at 2018-10-26 01:34:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.77 Mbit/s
95th percentile per-packet one-way delay: 59.356 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 95.77 Mbit/s
95th percentile per-packet one-way delay: 59.356 ms
Loss rate: 1.04%
```

Run 2: Report of TCP BBR — Data Link

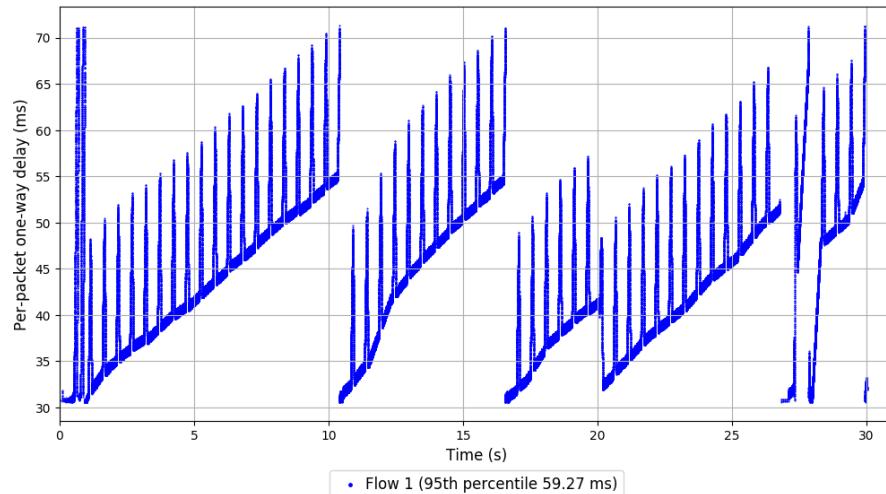
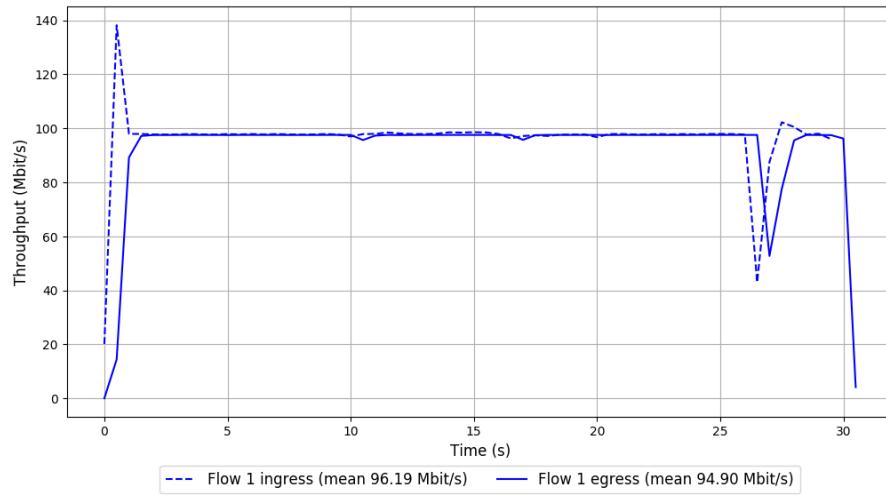


Run 3: Statistics of TCP BBR

```
Start at: 2018-10-26 00:42:11
End at: 2018-10-26 00:42:41
Local clock offset: -8.089 ms
Remote clock offset: -3.244 ms

# Below is generated by plot.py at 2018-10-26 01:34:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.90 Mbit/s
95th percentile per-packet one-way delay: 59.273 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 94.90 Mbit/s
95th percentile per-packet one-way delay: 59.273 ms
Loss rate: 1.34%
```

Run 3: Report of TCP BBR — Data Link

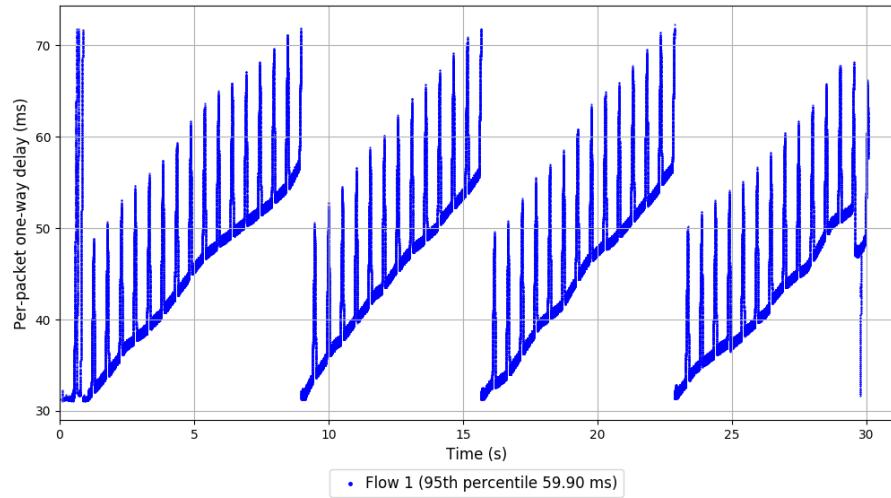
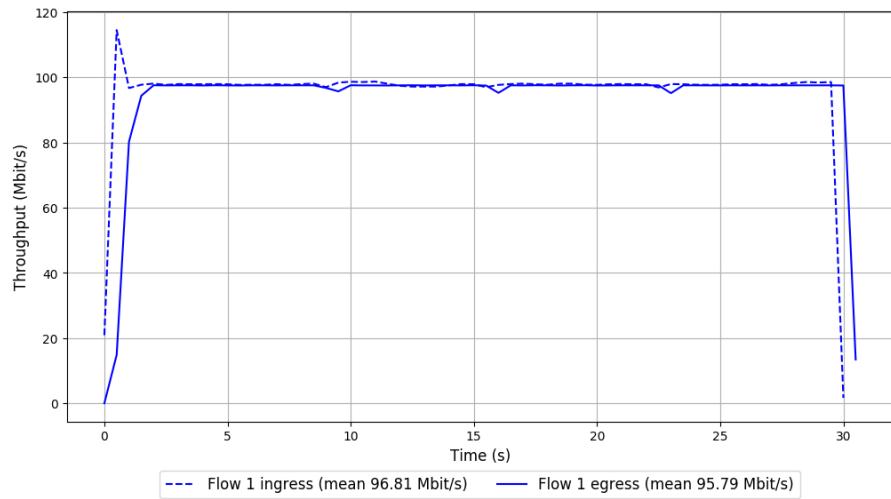


Run 4: Statistics of TCP BBR

```
Start at: 2018-10-26 01:05:51
End at: 2018-10-26 01:06:21
Local clock offset: -7.2 ms
Remote clock offset: -3.002 ms

# Below is generated by plot.py at 2018-10-26 01:34:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.79 Mbit/s
95th percentile per-packet one-way delay: 59.903 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 95.79 Mbit/s
95th percentile per-packet one-way delay: 59.903 ms
Loss rate: 0.97%
```

Run 4: Report of TCP BBR — Data Link

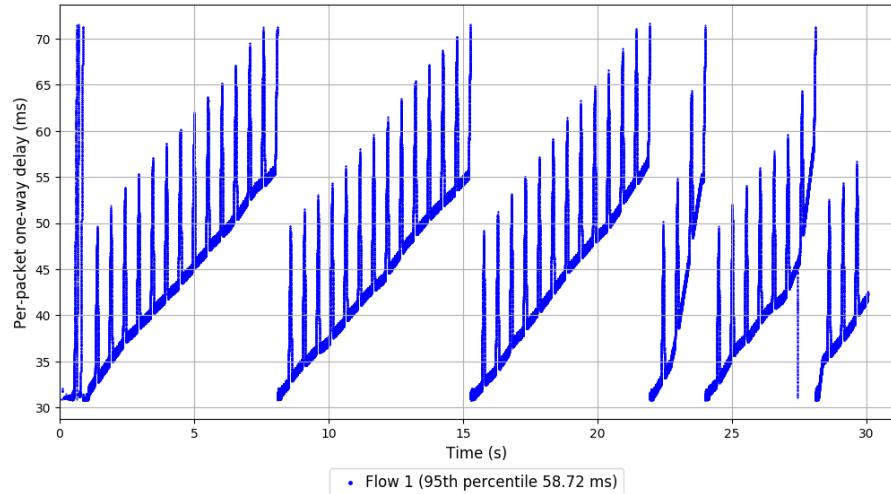
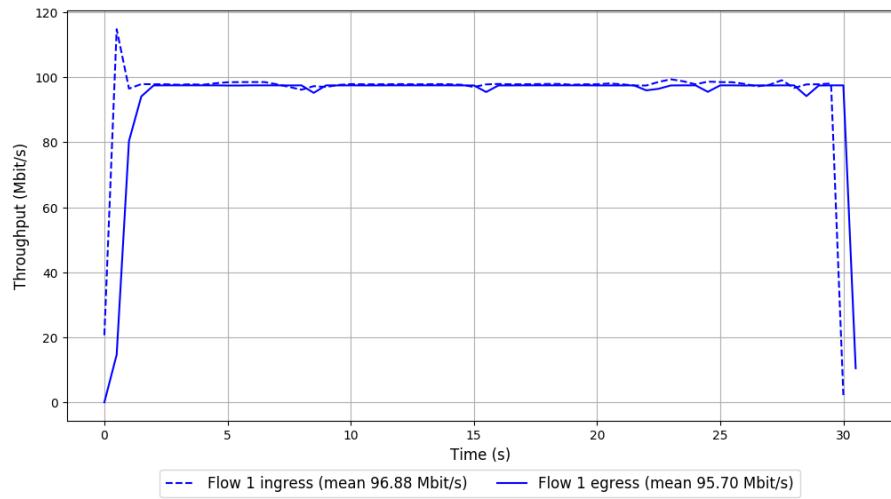


Run 5: Statistics of TCP BBR

```
Start at: 2018-10-26 01:29:46
End at: 2018-10-26 01:30:16
Local clock offset: -3.555 ms
Remote clock offset: -2.862 ms

# Below is generated by plot.py at 2018-10-26 01:34:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.70 Mbit/s
95th percentile per-packet one-way delay: 58.721 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 95.70 Mbit/s
95th percentile per-packet one-way delay: 58.721 ms
Loss rate: 1.18%
```

Run 5: Report of TCP BBR — Data Link

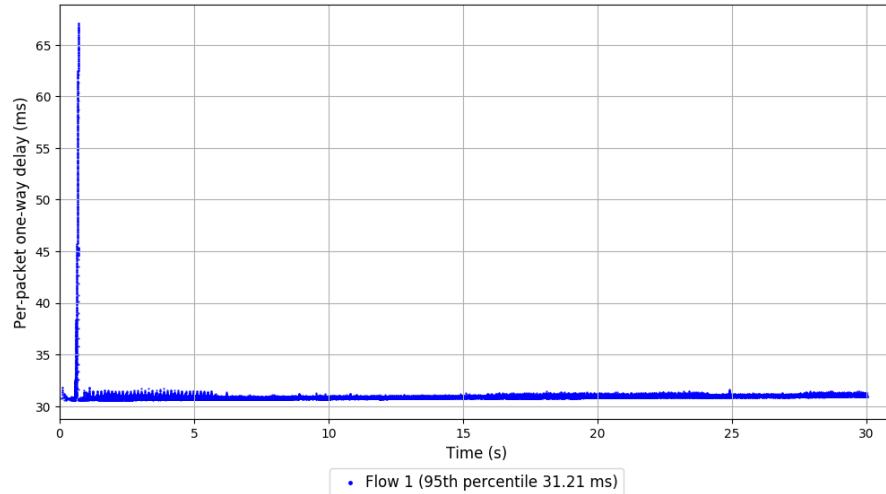
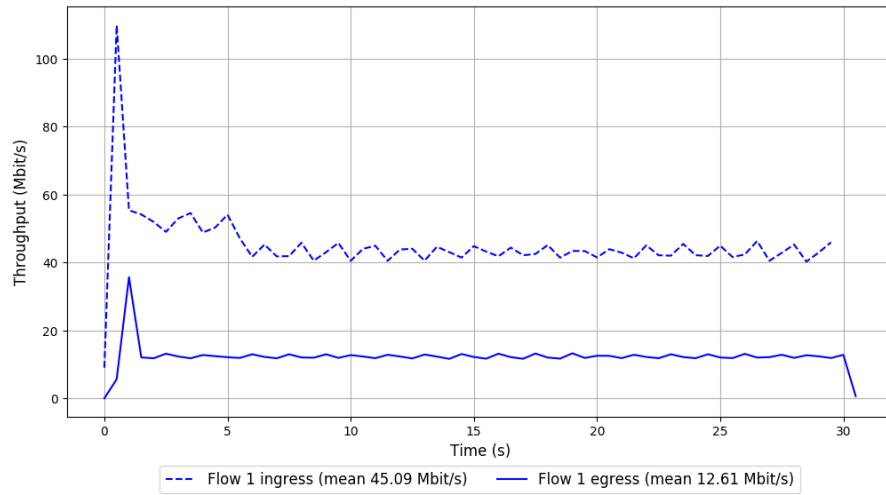


Run 1: Statistics of Copa

```
Start at: 2018-10-25 23:49:03
End at: 2018-10-25 23:49:33
Local clock offset: -4.982 ms
Remote clock offset: -4.956 ms

# Below is generated by plot.py at 2018-10-26 01:34:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.207 ms
Loss rate: 72.03%
-- Flow 1:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.207 ms
Loss rate: 72.03%
```

Run 1: Report of Copa — Data Link

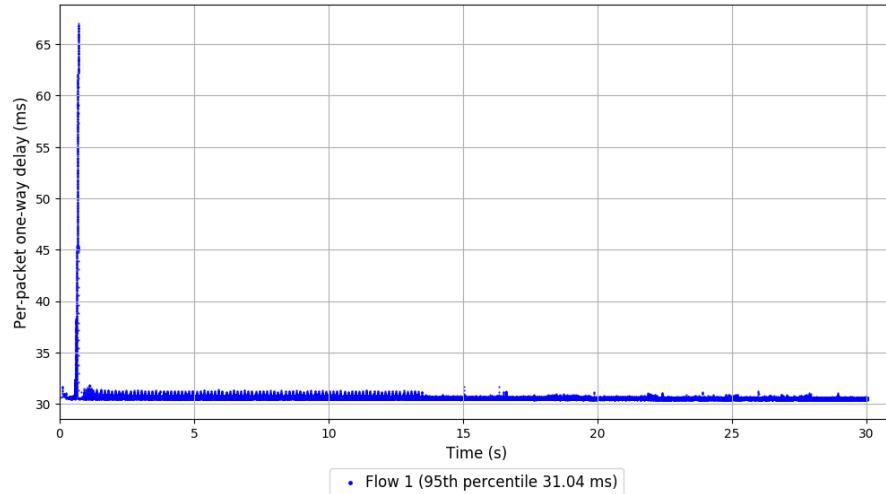
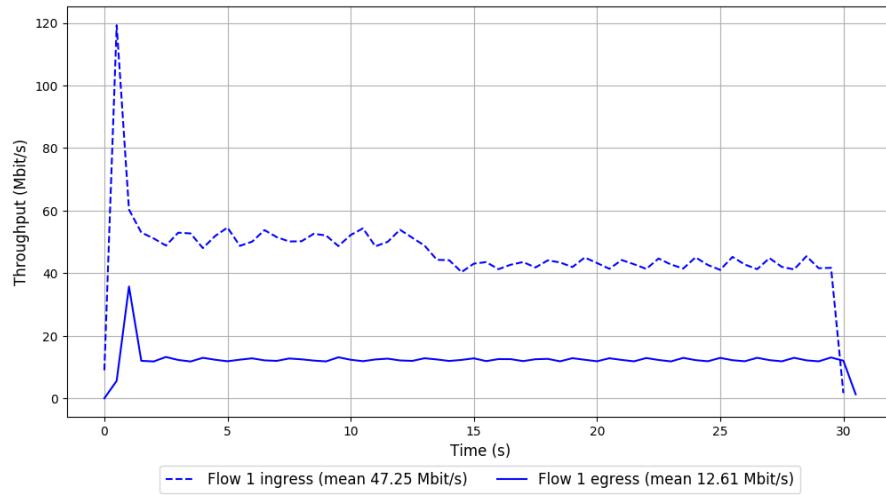


Run 2: Statistics of Copa

```
Start at: 2018-10-26 00:12:48
End at: 2018-10-26 00:13:18
Local clock offset: -5.733 ms
Remote clock offset: -3.816 ms

# Below is generated by plot.py at 2018-10-26 01:34:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.041 ms
Loss rate: 73.31%
-- Flow 1:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.041 ms
Loss rate: 73.31%
```

Run 2: Report of Copa — Data Link

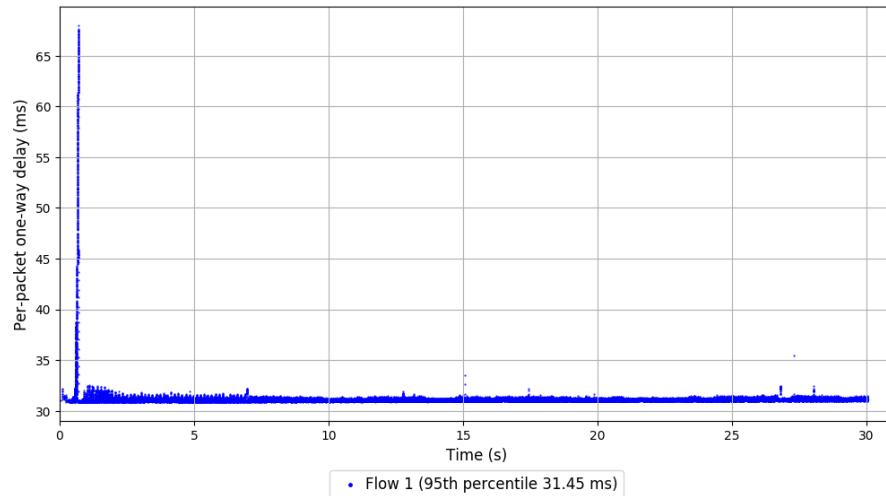
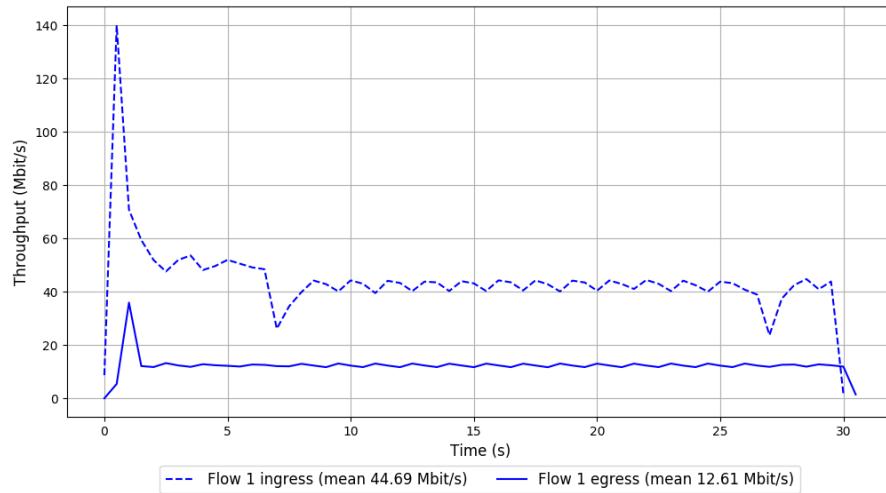


Run 3: Statistics of Copa

```
Start at: 2018-10-26 00:36:59
End at: 2018-10-26 00:37:29
Local clock offset: -9.002 ms
Remote clock offset: -3.166 ms

# Below is generated by plot.py at 2018-10-26 01:34:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.448 ms
Loss rate: 71.78%
-- Flow 1:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.448 ms
Loss rate: 71.78%
```

Run 3: Report of Copa — Data Link

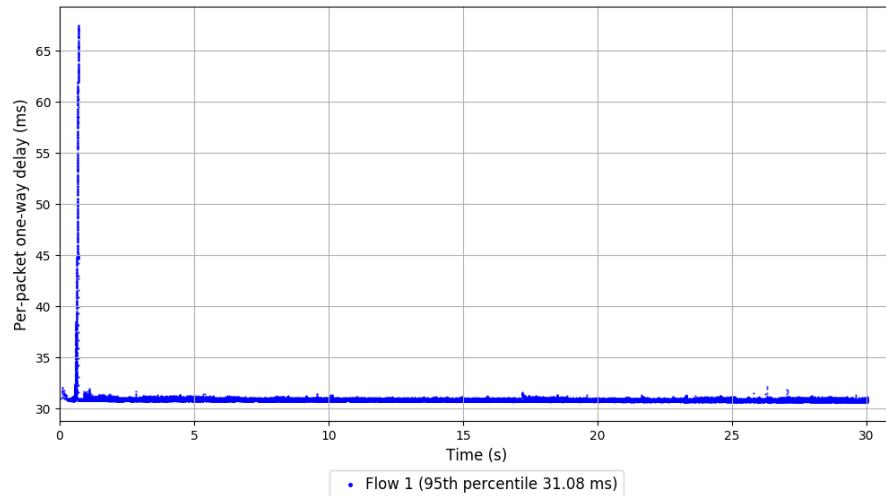
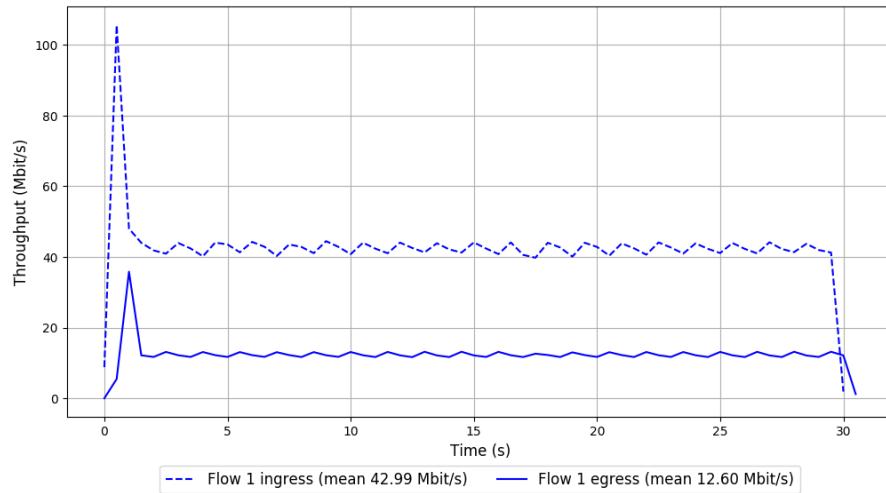


Run 4: Statistics of Copa

```
Start at: 2018-10-26 01:00:39
End at: 2018-10-26 01:01:09
Local clock offset: -10.672 ms
Remote clock offset: -2.91 ms

# Below is generated by plot.py at 2018-10-26 01:34:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 31.080 ms
Loss rate: 70.69%
-- Flow 1:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 31.080 ms
Loss rate: 70.69%
```

Run 4: Report of Copa — Data Link

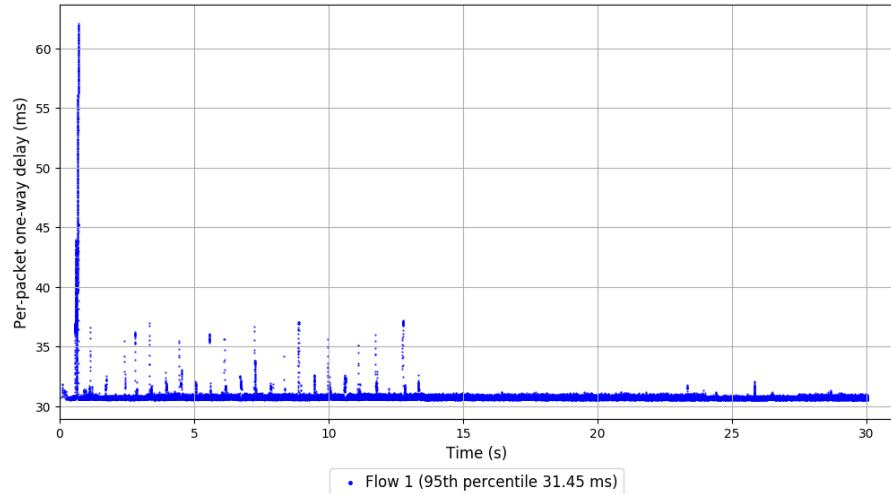
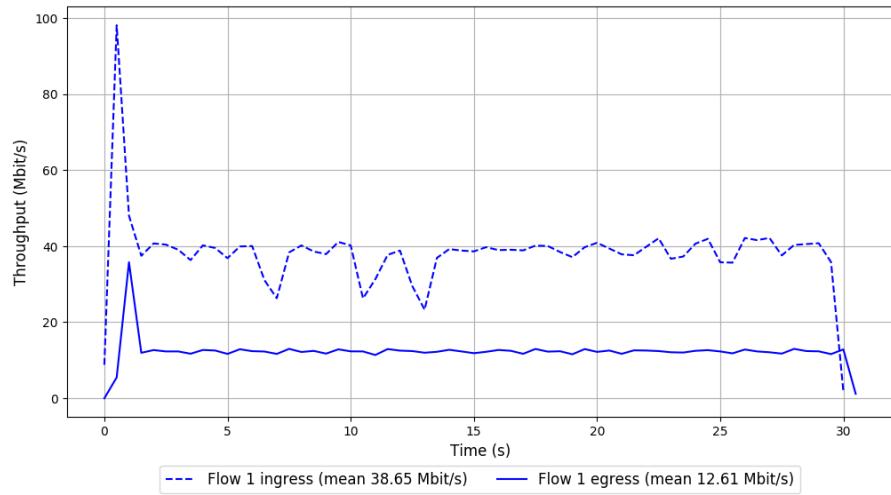


Run 5: Statistics of Copa

```
Start at: 2018-10-26 01:24:30
End at: 2018-10-26 01:25:00
Local clock offset: -3.255 ms
Remote clock offset: -3.135 ms

# Below is generated by plot.py at 2018-10-26 01:34:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.446 ms
Loss rate: 67.37%
-- Flow 1:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.446 ms
Loss rate: 67.37%
```

Run 5: Report of Copa — Data Link

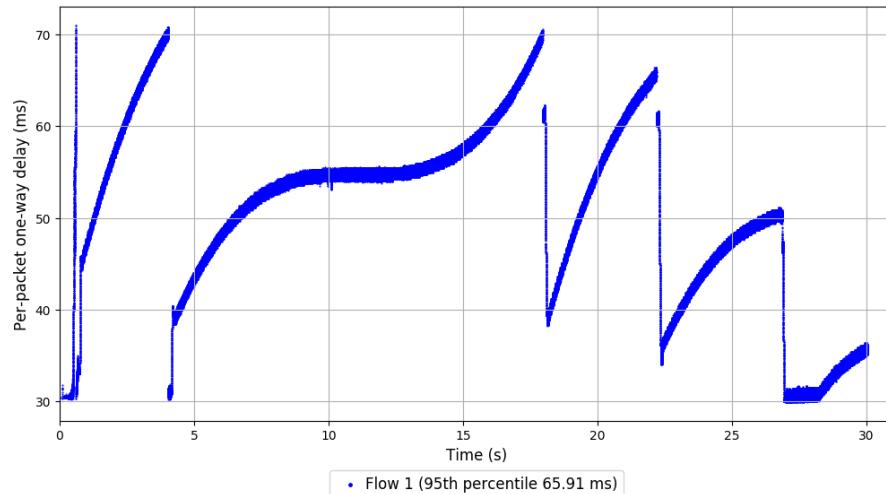
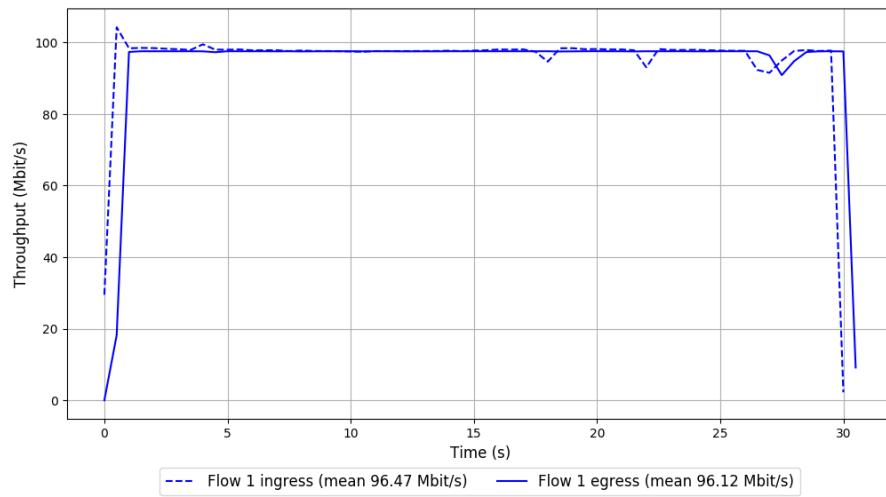


```
Run 1: Statistics of TCP Cubic

Start at: 2018-10-25 23:38:07
End at: 2018-10-25 23:38:37
Local clock offset: -1.93 ms
Remote clock offset: -5.367 ms

# Below is generated by plot.py at 2018-10-26 01:34:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.12 Mbit/s
95th percentile per-packet one-way delay: 65.914 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 96.12 Mbit/s
95th percentile per-packet one-way delay: 65.914 ms
Loss rate: 0.35%
```

Run 1: Report of TCP Cubic — Data Link

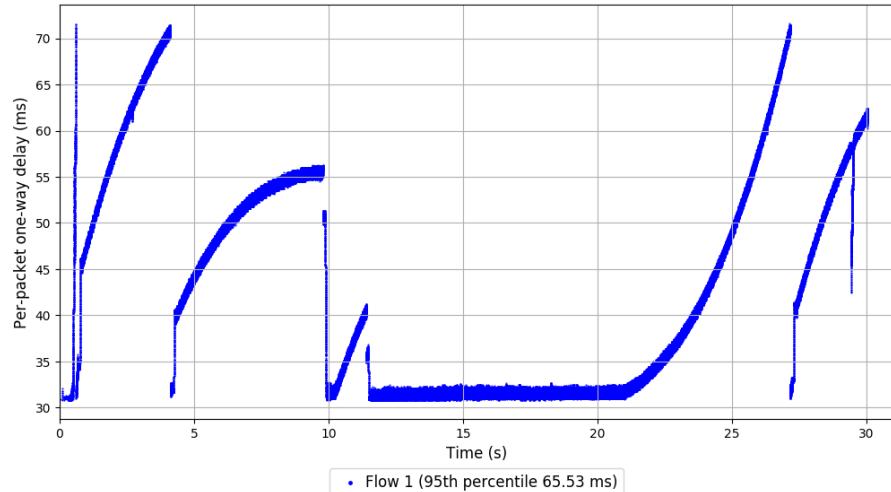
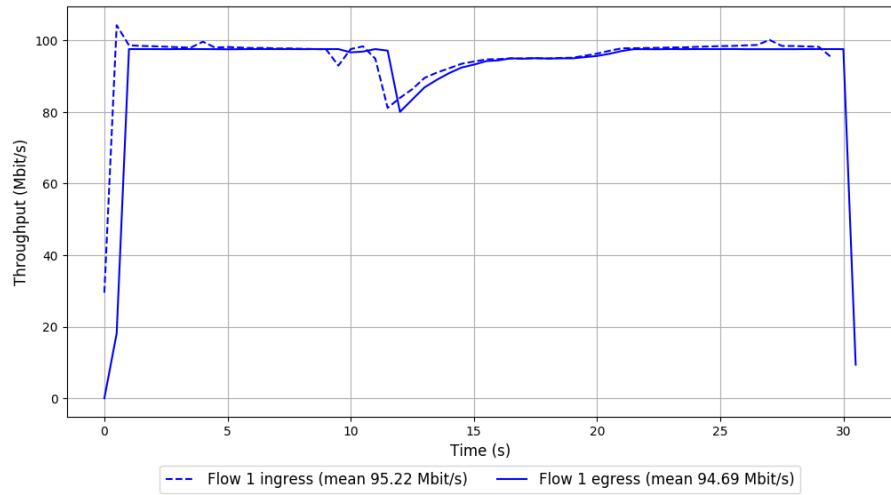


Run 2: Statistics of TCP Cubic

```
Start at: 2018-10-26 00:02:14
End at: 2018-10-26 00:02:44
Local clock offset: -5.659 ms
Remote clock offset: -4.301 ms

# Below is generated by plot.py at 2018-10-26 01:34:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.69 Mbit/s
95th percentile per-packet one-way delay: 65.526 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 94.69 Mbit/s
95th percentile per-packet one-way delay: 65.526 ms
Loss rate: 0.46%
```

Run 2: Report of TCP Cubic — Data Link

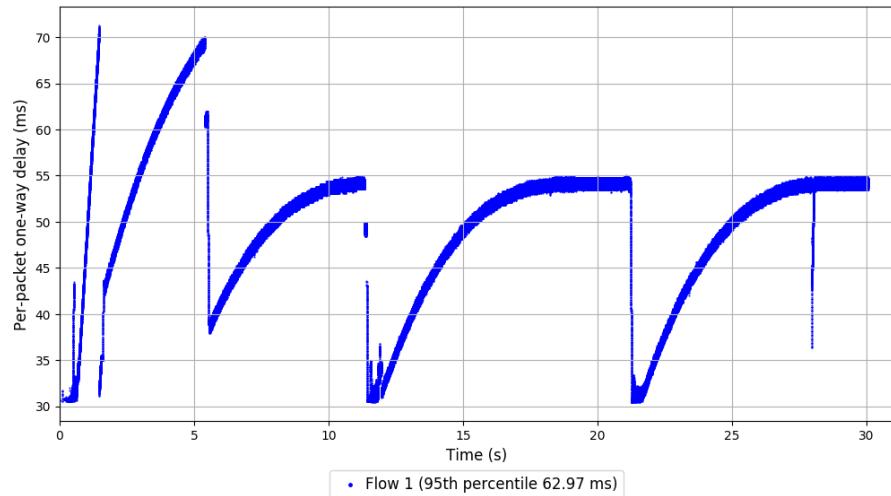
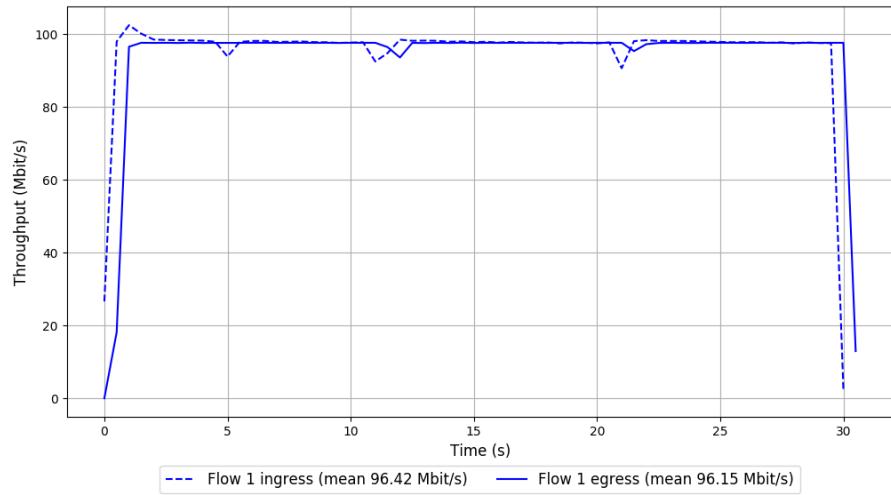


Run 3: Statistics of TCP Cubic

```
Start at: 2018-10-26 00:26:20
End at: 2018-10-26 00:26:50
Local clock offset: -9.784 ms
Remote clock offset: -3.295 ms

# Below is generated by plot.py at 2018-10-26 01:34:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.15 Mbit/s
95th percentile per-packet one-way delay: 62.969 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 96.15 Mbit/s
95th percentile per-packet one-way delay: 62.969 ms
Loss rate: 0.20%
```

Run 3: Report of TCP Cubic — Data Link

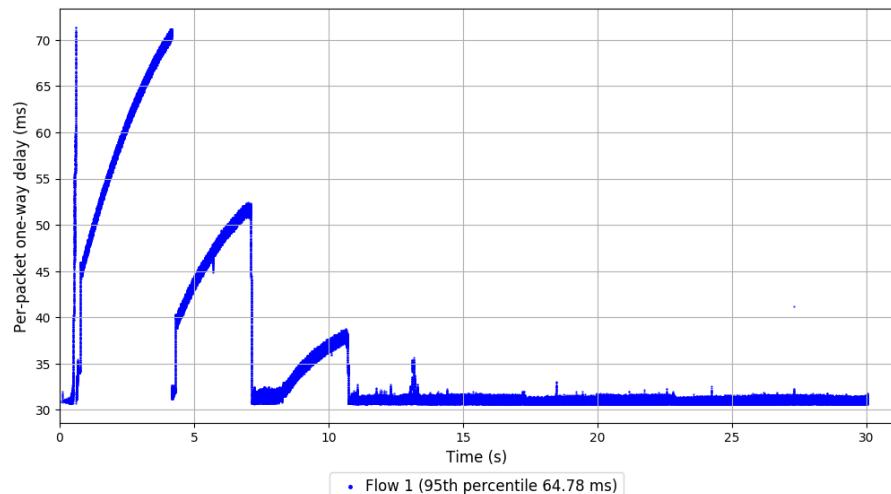
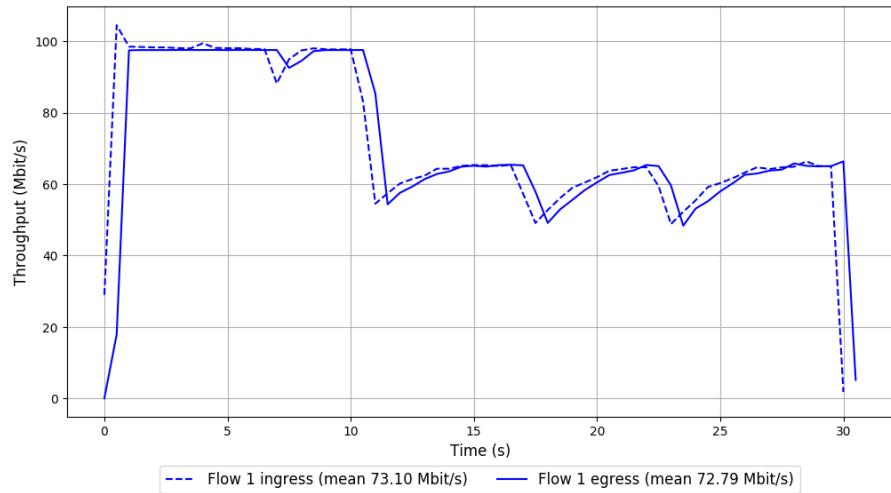


Run 4: Statistics of TCP Cubic

```
Start at: 2018-10-26 00:50:05
End at: 2018-10-26 00:50:35
Local clock offset: -8.555 ms
Remote clock offset: -3.036 ms

# Below is generated by plot.py at 2018-10-26 01:34:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.79 Mbit/s
95th percentile per-packet one-way delay: 64.778 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 72.79 Mbit/s
95th percentile per-packet one-way delay: 64.778 ms
Loss rate: 0.43%
```

Run 4: Report of TCP Cubic — Data Link

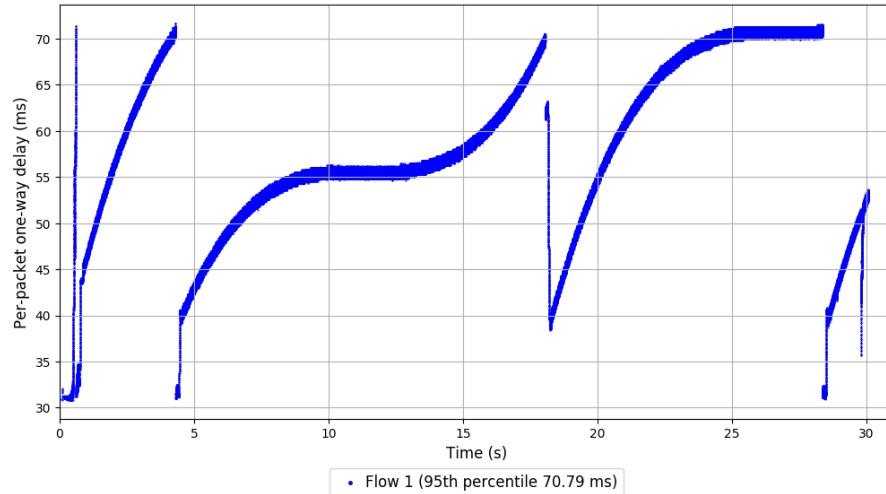
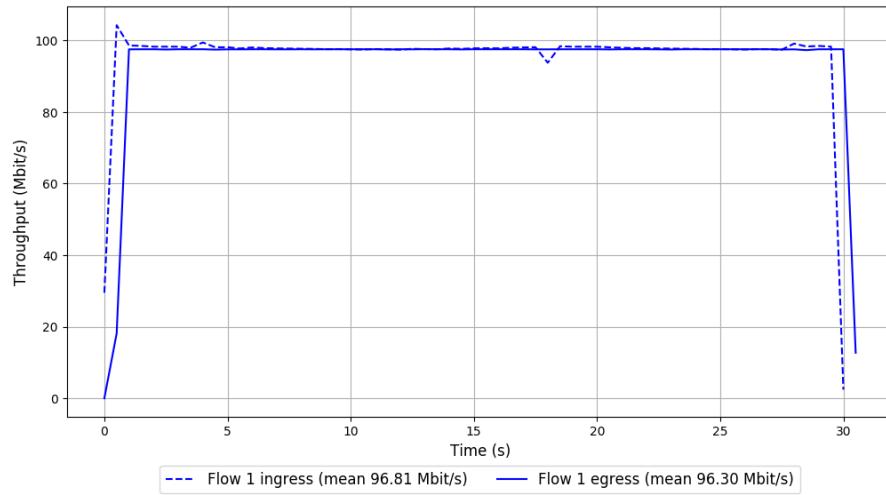


Run 5: Statistics of TCP Cubic

```
Start at: 2018-10-26 01:13:47
End at: 2018-10-26 01:14:18
Local clock offset: -3.925 ms
Remote clock offset: -2.987 ms

# Below is generated by plot.py at 2018-10-26 01:35:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 70.788 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 70.788 ms
Loss rate: 0.45%
```

Run 5: Report of TCP Cubic — Data Link

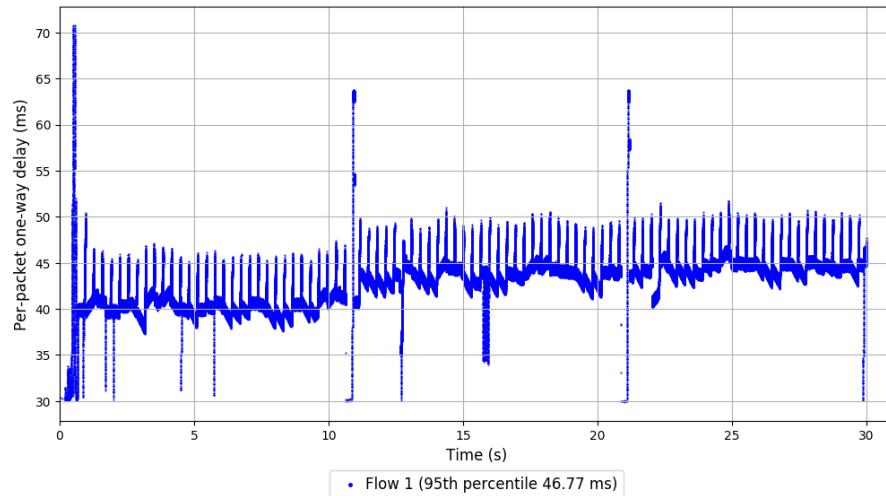
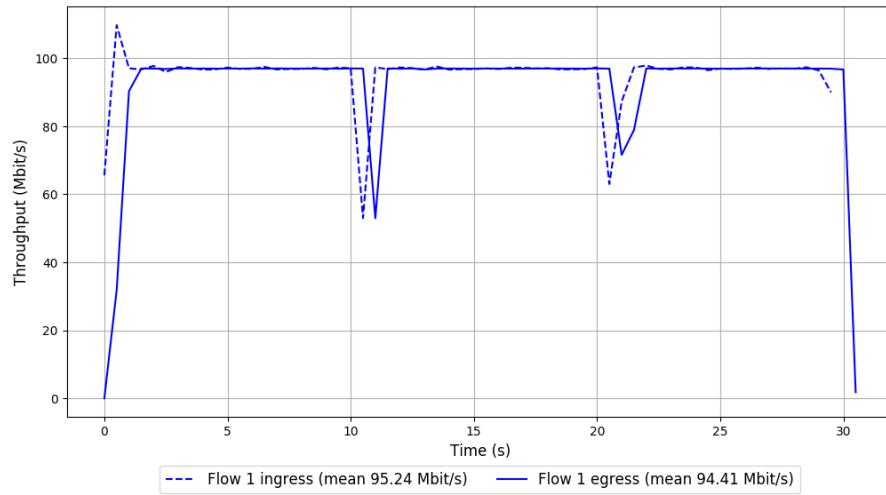


```
Run 1: Statistics of FillP
```

```
Start at: 2018-10-25 23:39:30
End at: 2018-10-25 23:40:00
Local clock offset: -2.788 ms
Remote clock offset: -5.194 ms

# Below is generated by plot.py at 2018-10-26 01:35:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 46.774 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 46.774 ms
Loss rate: 0.81%
```

Run 1: Report of FillP — Data Link

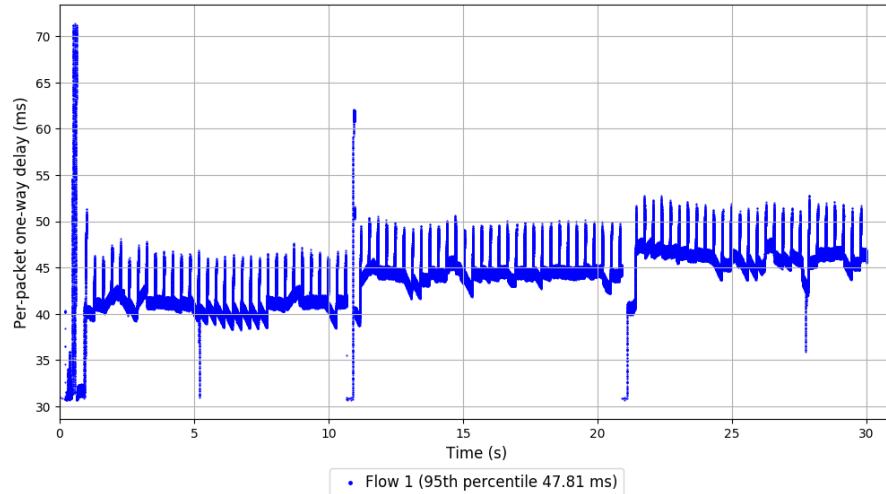
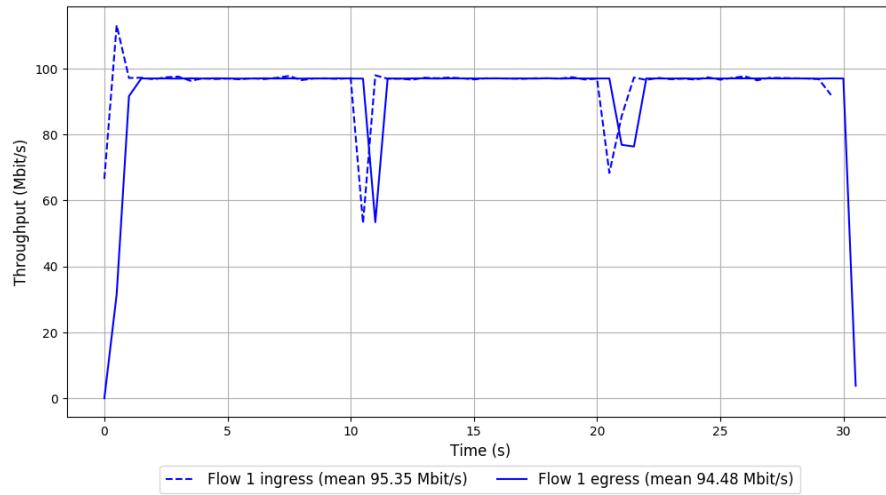


```
Run 2: Statistics of FillP
```

```
Start at: 2018-10-26 00:03:34
End at: 2018-10-26 00:04:04
Local clock offset: -5.354 ms
Remote clock offset: -4.192 ms

# Below is generated by plot.py at 2018-10-26 01:35:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.48 Mbit/s
95th percentile per-packet one-way delay: 47.814 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 94.48 Mbit/s
95th percentile per-packet one-way delay: 47.814 ms
Loss rate: 0.86%
```

Run 2: Report of FillP — Data Link

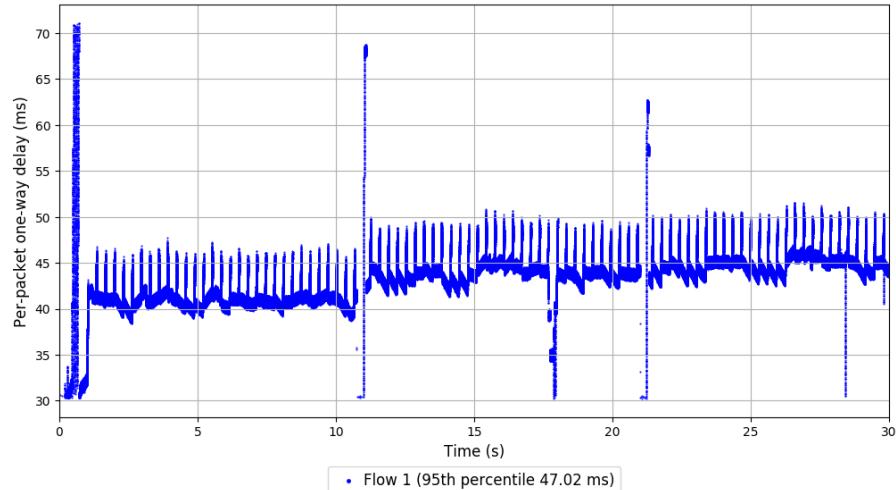
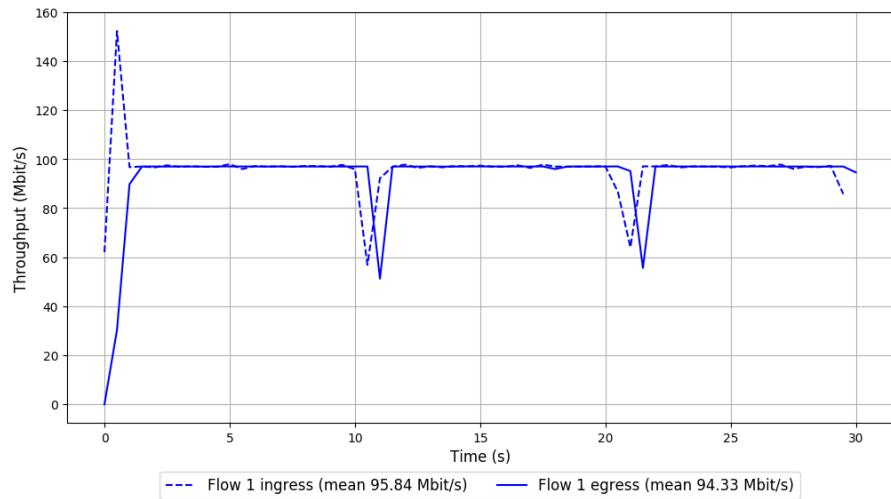


Run 3: Statistics of FillP

```
Start at: 2018-10-26 00:27:42
End at: 2018-10-26 00:28:12
Local clock offset: -10.303 ms
Remote clock offset: -3.343 ms

# Below is generated by plot.py at 2018-10-26 01:35:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.33 Mbit/s
95th percentile per-packet one-way delay: 47.015 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 94.33 Mbit/s
95th percentile per-packet one-way delay: 47.015 ms
Loss rate: 1.53%
```

Run 3: Report of FillP — Data Link

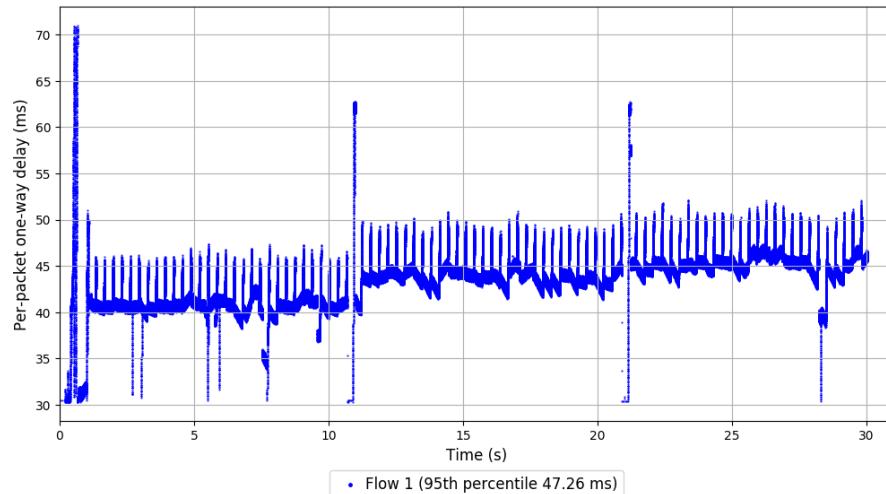
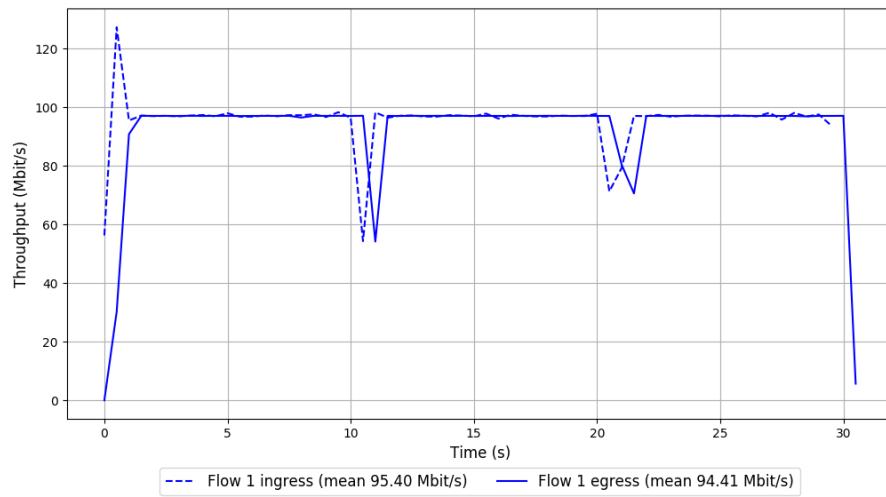


```
Run 4: Statistics of FillP
```

```
Start at: 2018-10-26 00:51:29
End at: 2018-10-26 00:51:59
Local clock offset: -8.741 ms
Remote clock offset: -3.274 ms

# Below is generated by plot.py at 2018-10-26 01:35:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 47.261 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 47.261 ms
Loss rate: 0.99%
```

Run 4: Report of FillP — Data Link

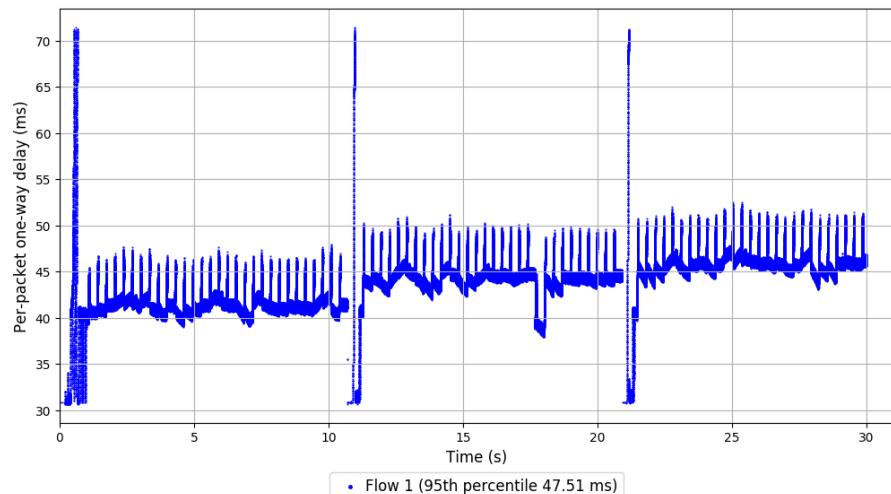
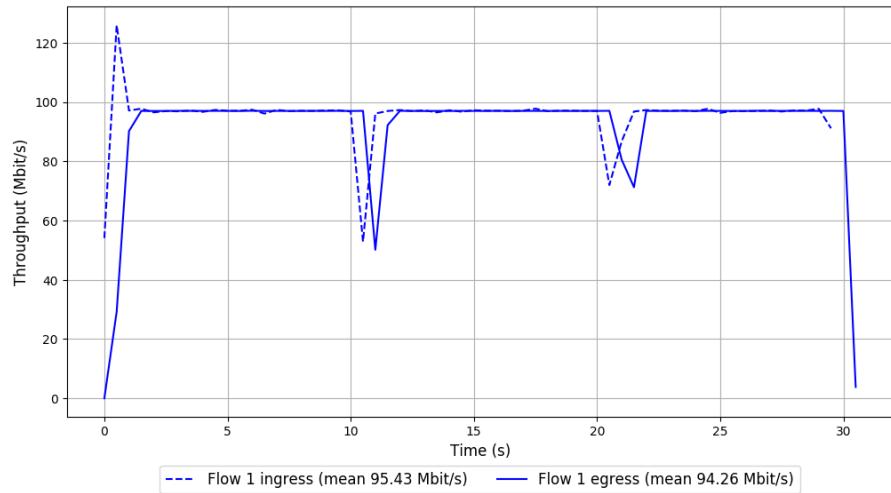


Run 5: Statistics of FillP

```
Start at: 2018-10-26 01:15:09
End at: 2018-10-26 01:15:39
Local clock offset: -3.669 ms
Remote clock offset: -2.946 ms

# Below is generated by plot.py at 2018-10-26 01:36:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.26 Mbit/s
95th percentile per-packet one-way delay: 47.514 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 94.26 Mbit/s
95th percentile per-packet one-way delay: 47.514 ms
Loss rate: 1.17%
```

Run 5: Report of FillP — Data Link

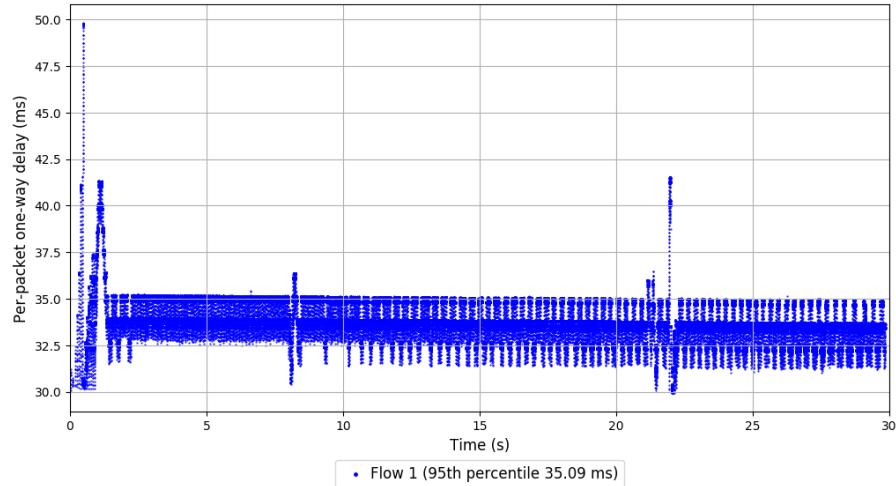
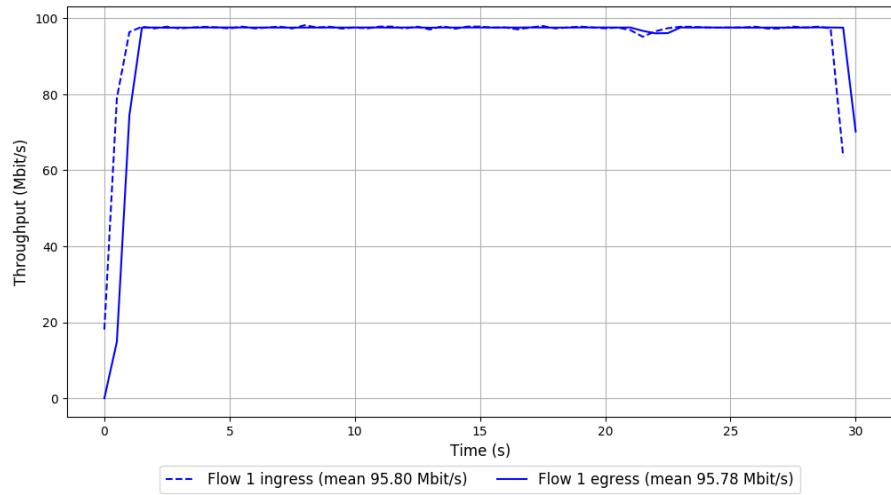


Run 1: Statistics of Indigo

```
Start at: 2018-10-25 23:47:38
End at: 2018-10-25 23:48:08
Local clock offset: -4.136 ms
Remote clock offset: -5.18 ms

# Below is generated by plot.py at 2018-10-26 01:36:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 35.088 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 35.088 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo — Data Link

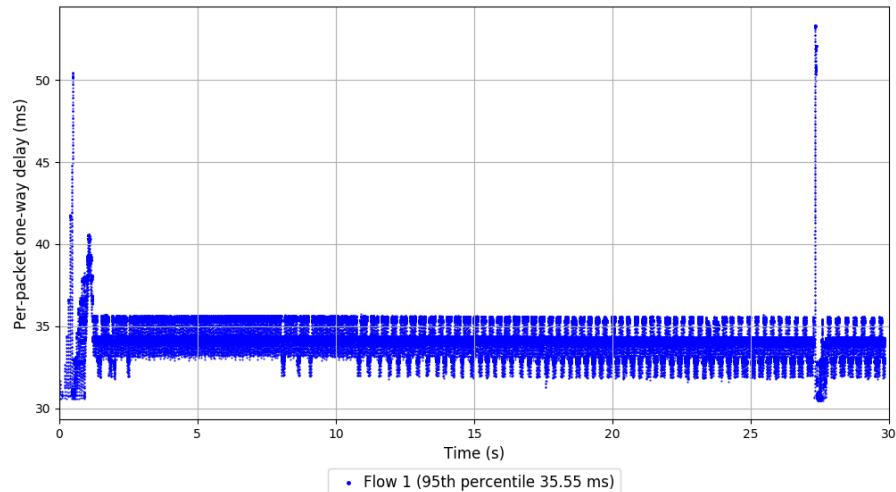
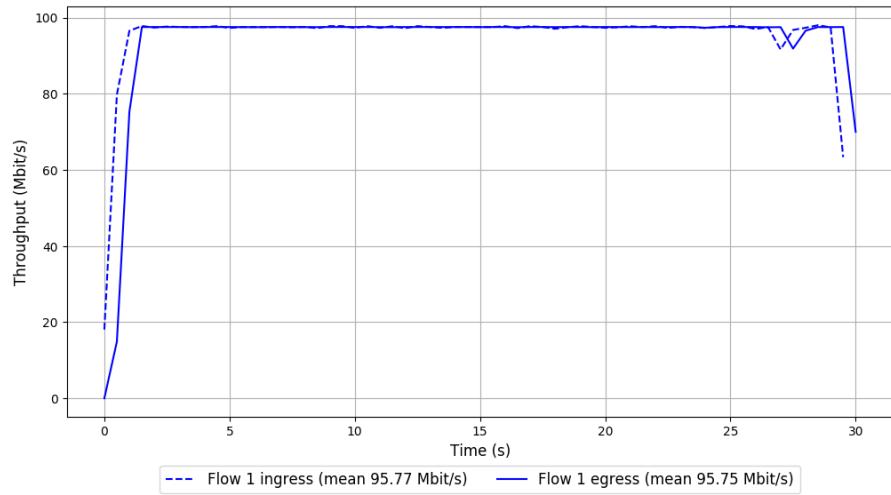


Run 2: Statistics of Indigo

```
Start at: 2018-10-26 00:11:26
End at: 2018-10-26 00:11:56
Local clock offset: -5.512 ms
Remote clock offset: -3.812 ms

# Below is generated by plot.py at 2018-10-26 01:36:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.75 Mbit/s
95th percentile per-packet one-way delay: 35.552 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 95.75 Mbit/s
95th percentile per-packet one-way delay: 35.552 ms
Loss rate: 0.01%
```

Run 2: Report of Indigo — Data Link

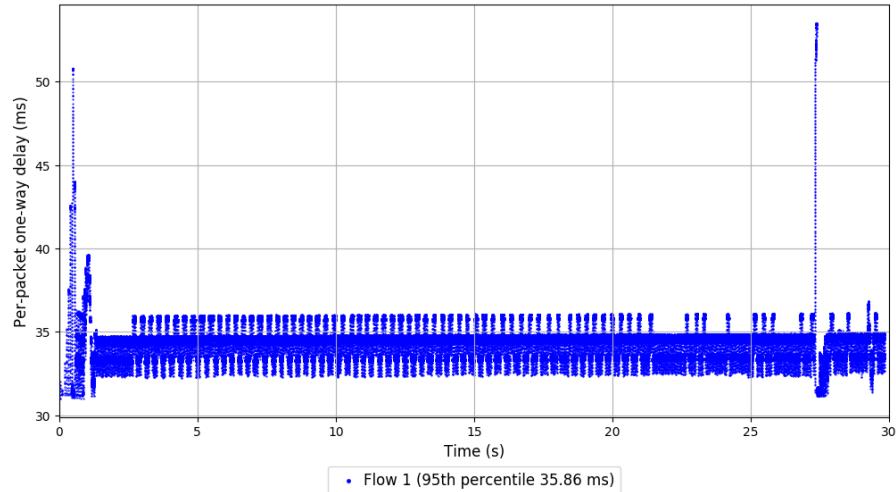
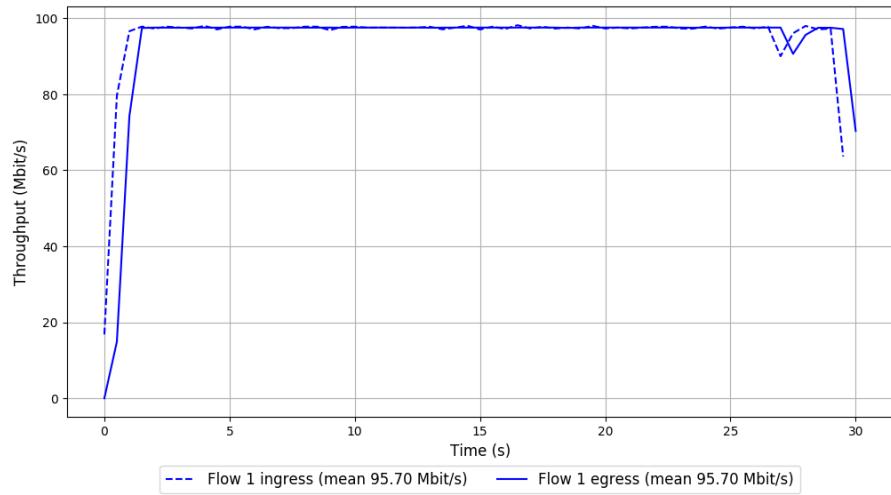


Run 3: Statistics of Indigo

```
Start at: 2018-10-26 00:35:36
End at: 2018-10-26 00:36:06
Local clock offset: -9.563 ms
Remote clock offset: -3.16 ms

# Below is generated by plot.py at 2018-10-26 01:36:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.70 Mbit/s
95th percentile per-packet one-way delay: 35.856 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.70 Mbit/s
95th percentile per-packet one-way delay: 35.856 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo — Data Link

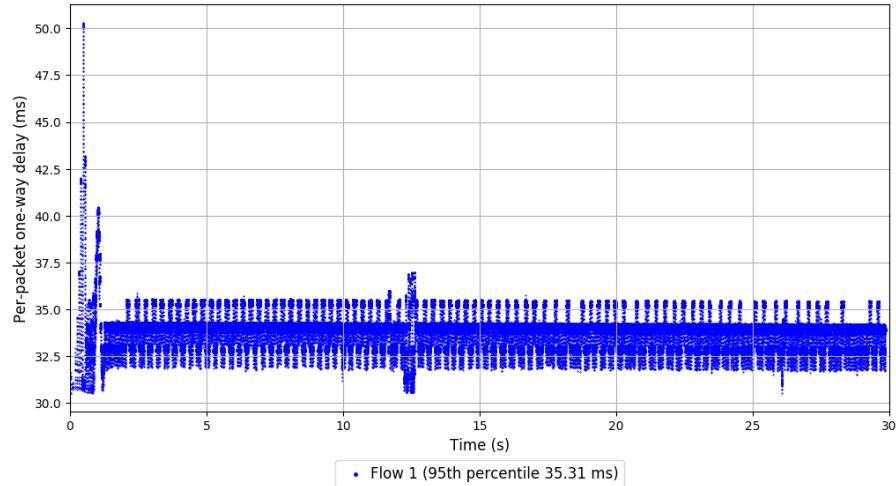
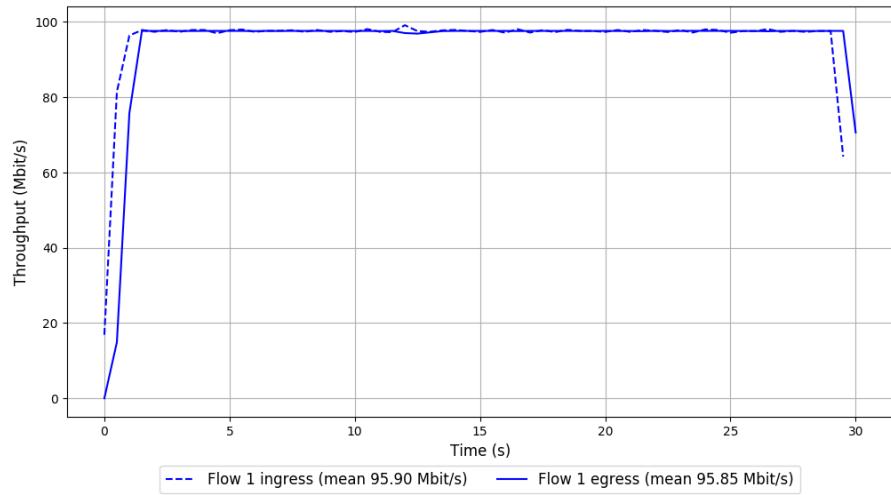


Run 4: Statistics of Indigo

```
Start at: 2018-10-26 00:59:18
End at: 2018-10-26 00:59:48
Local clock offset: -10.335 ms
Remote clock offset: -3.054 ms

# Below is generated by plot.py at 2018-10-26 01:36:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 35.310 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 35.310 ms
Loss rate: 0.05%
```

Run 4: Report of Indigo — Data Link

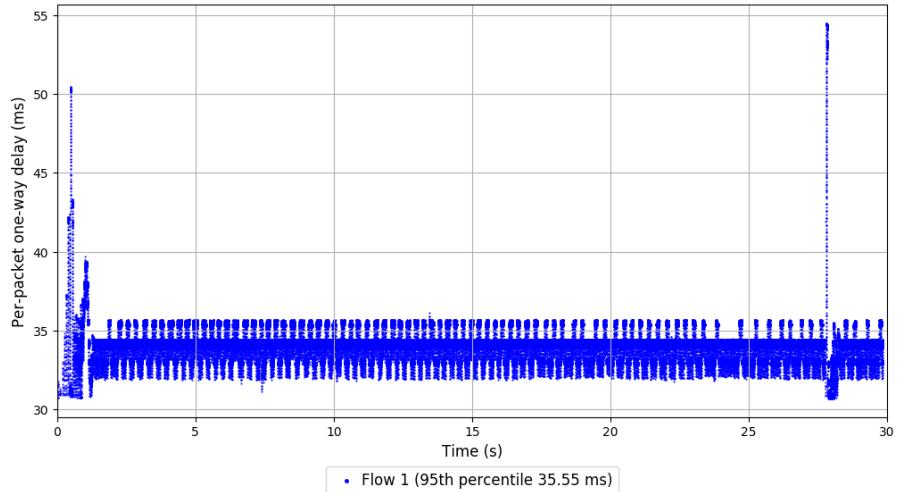
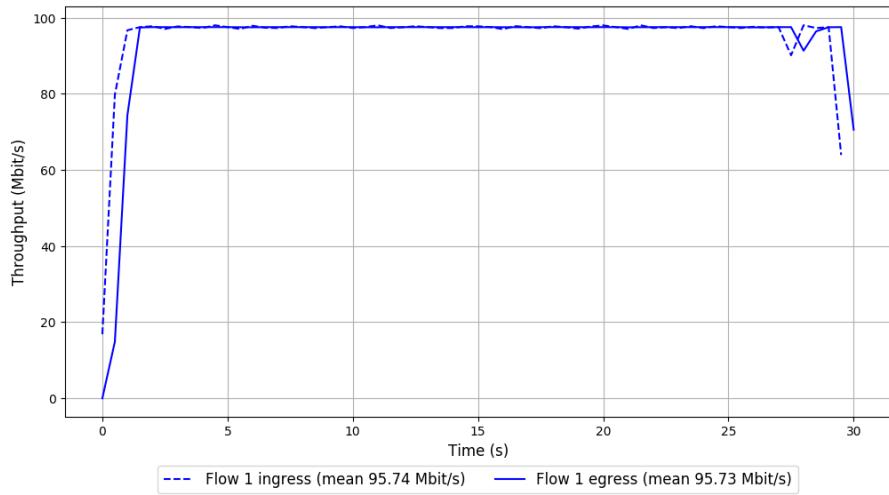


Run 5: Statistics of Indigo

```
Start at: 2018-10-26 01:23:06
End at: 2018-10-26 01:23:36
Local clock offset: -3.223 ms
Remote clock offset: -3.017 ms

# Below is generated by plot.py at 2018-10-26 01:36:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.73 Mbit/s
95th percentile per-packet one-way delay: 35.549 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.73 Mbit/s
95th percentile per-packet one-way delay: 35.549 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo — Data Link

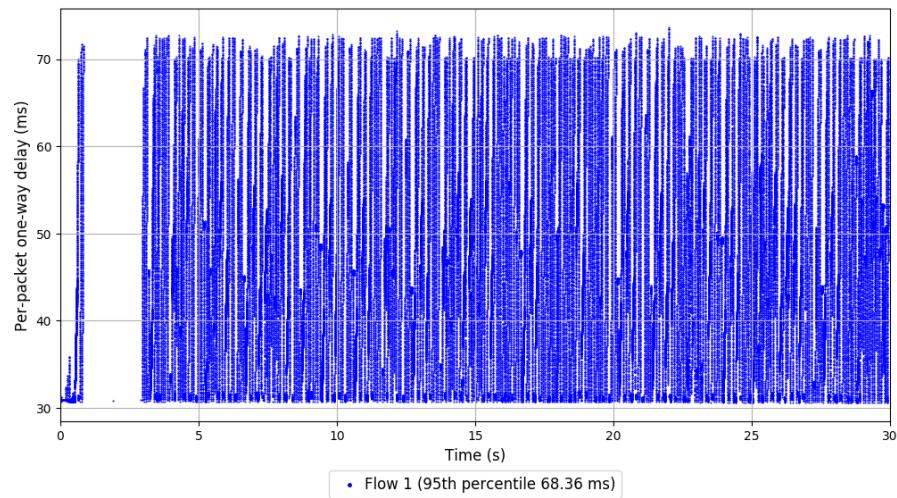
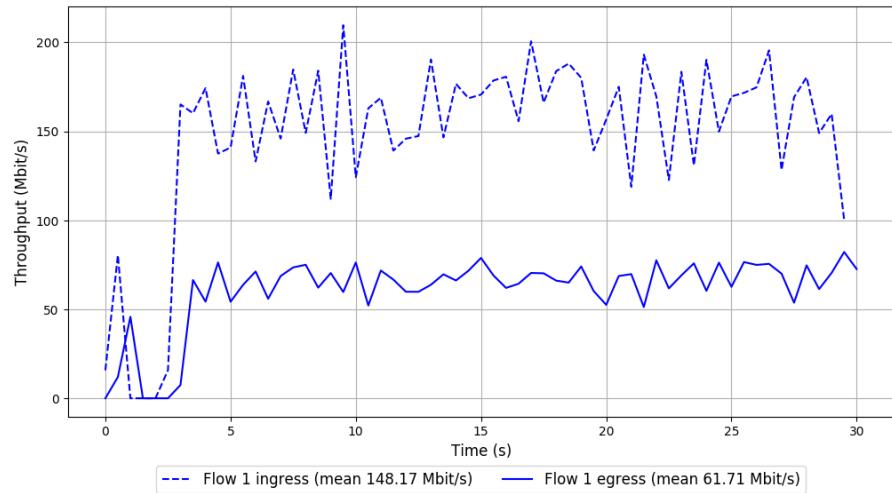


```
Run 1: Statistics of Indigo-96d2da3
```

```
Start at: 2018-10-25 23:36:47
End at: 2018-10-25 23:37:17
Local clock offset: -1.719 ms
Remote clock offset: -5.217 ms

# Below is generated by plot.py at 2018-10-26 01:36:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.71 Mbit/s
95th percentile per-packet one-way delay: 68.364 ms
Loss rate: 58.31%
-- Flow 1:
Average throughput: 61.71 Mbit/s
95th percentile per-packet one-way delay: 68.364 ms
Loss rate: 58.31%
```

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

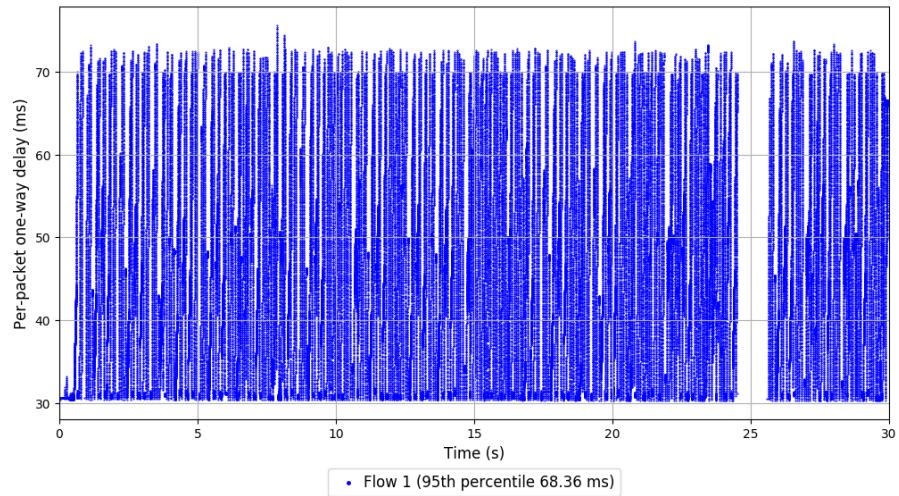
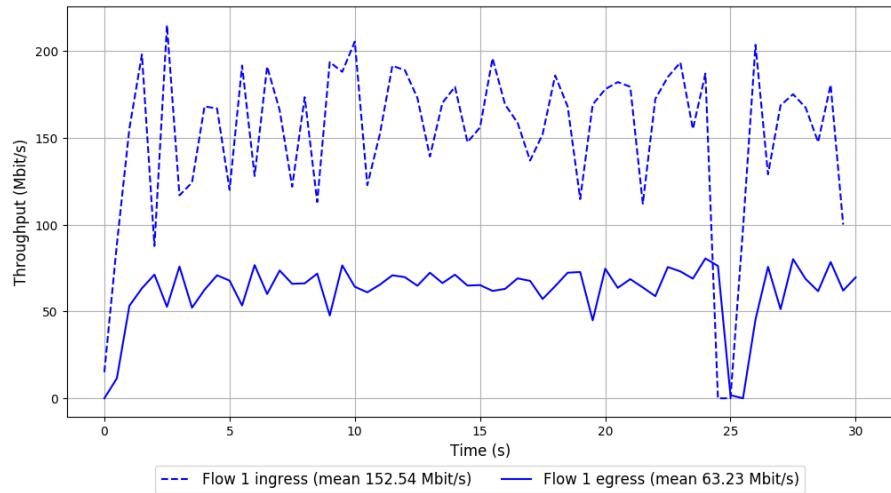


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 00:00:54
End at: 2018-10-26 00:01:24
Local clock offset: -5.471 ms
Remote clock offset: -4.399 ms

# Below is generated by plot.py at 2018-10-26 01:36:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.23 Mbit/s
95th percentile per-packet one-way delay: 68.355 ms
Loss rate: 58.50%
-- Flow 1:
Average throughput: 63.23 Mbit/s
95th percentile per-packet one-way delay: 68.355 ms
Loss rate: 58.50%
```

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

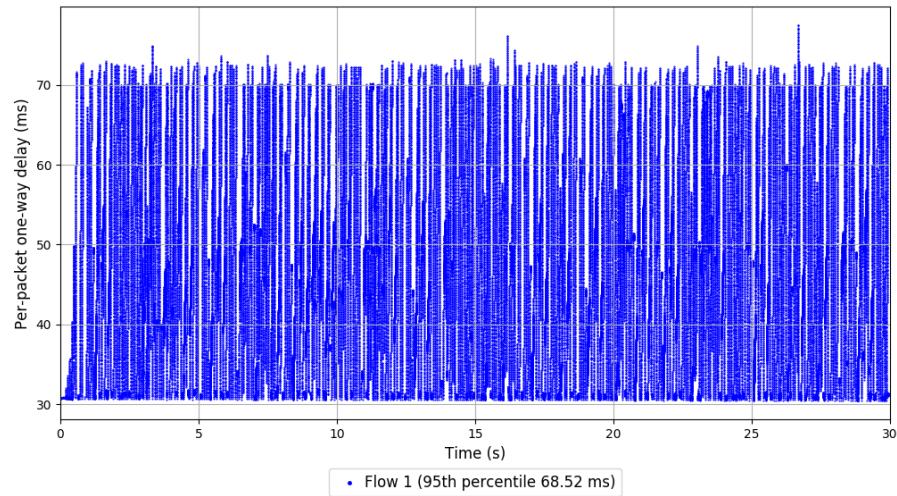
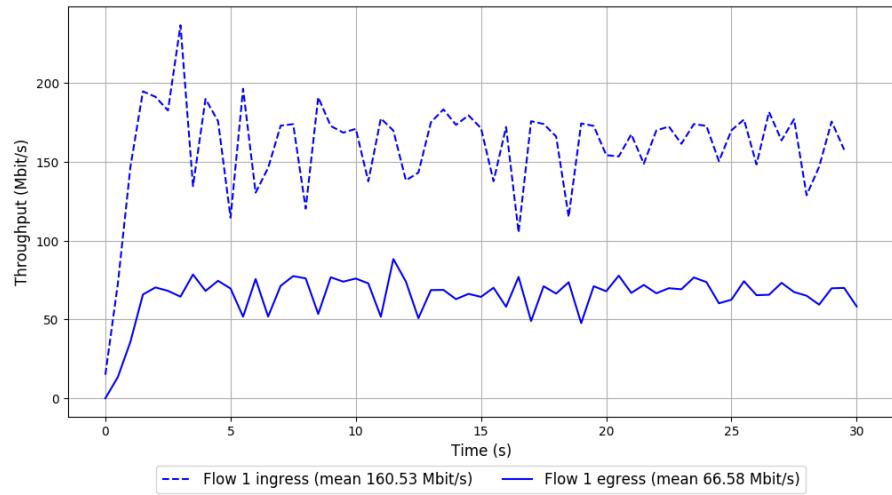


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 00:24:59
End at: 2018-10-26 00:25:29
Local clock offset: -9.331 ms
Remote clock offset: -3.258 ms

# Below is generated by plot.py at 2018-10-26 01:37:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.58 Mbit/s
95th percentile per-packet one-way delay: 68.518 ms
Loss rate: 58.52%
-- Flow 1:
Average throughput: 66.58 Mbit/s
95th percentile per-packet one-way delay: 68.518 ms
Loss rate: 58.52%
```

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

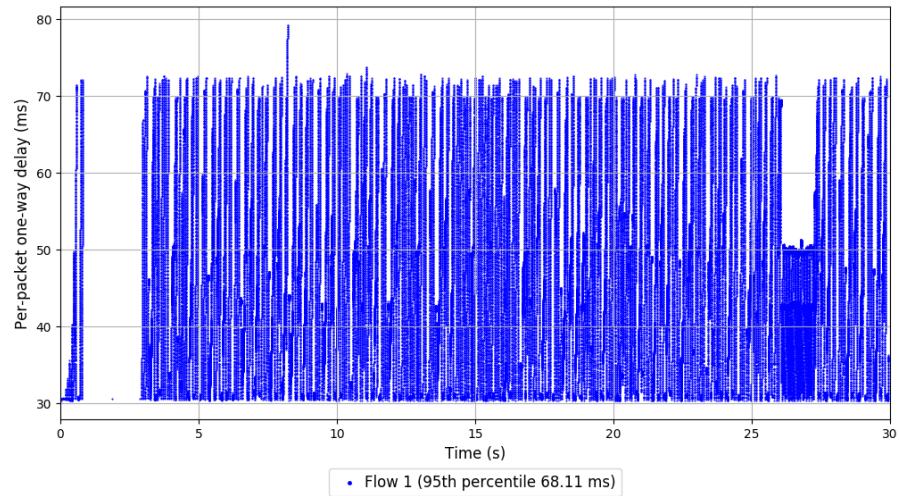
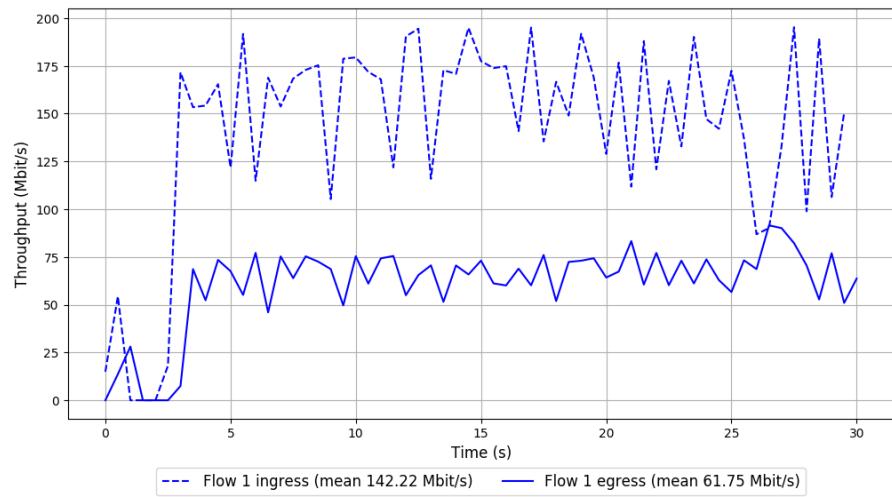


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 00:48:45
End at: 2018-10-26 00:49:15
Local clock offset: -8.383 ms
Remote clock offset: -3.285 ms

# Below is generated by plot.py at 2018-10-26 01:37:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.75 Mbit/s
95th percentile per-packet one-way delay: 68.113 ms
Loss rate: 56.57%
-- Flow 1:
Average throughput: 61.75 Mbit/s
95th percentile per-packet one-way delay: 68.113 ms
Loss rate: 56.57%
```

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

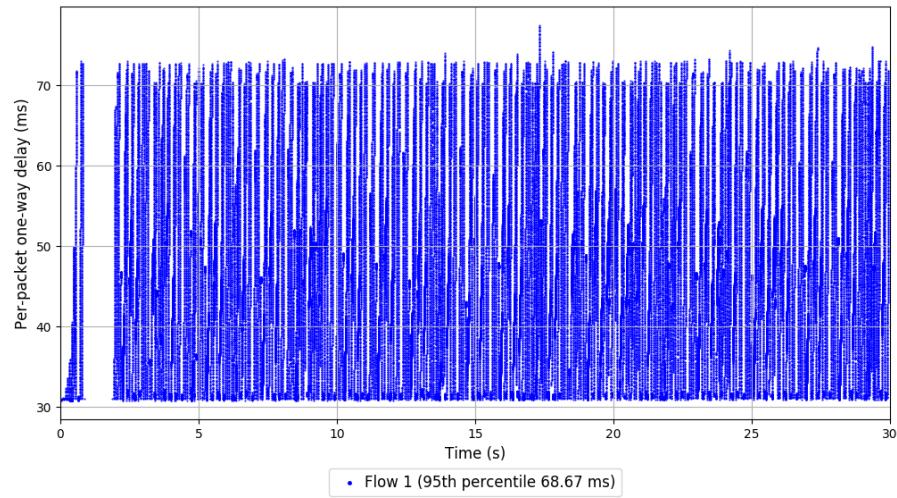
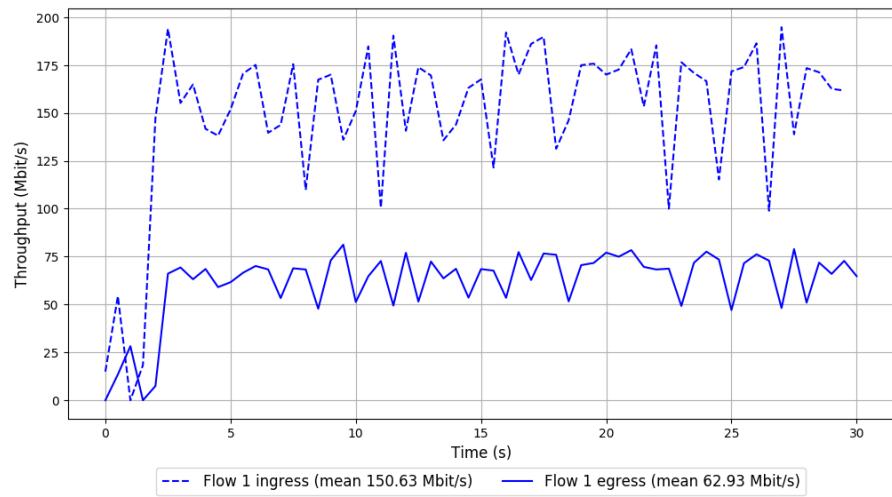


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-10-26 01:12:27
End at: 2018-10-26 01:12:57
Local clock offset: -4.248 ms
Remote clock offset: -3.036 ms

# Below is generated by plot.py at 2018-10-26 01:37:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.93 Mbit/s
95th percentile per-packet one-way delay: 68.666 ms
Loss rate: 58.17%
-- Flow 1:
Average throughput: 62.93 Mbit/s
95th percentile per-packet one-way delay: 68.666 ms
Loss rate: 58.17%
```

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

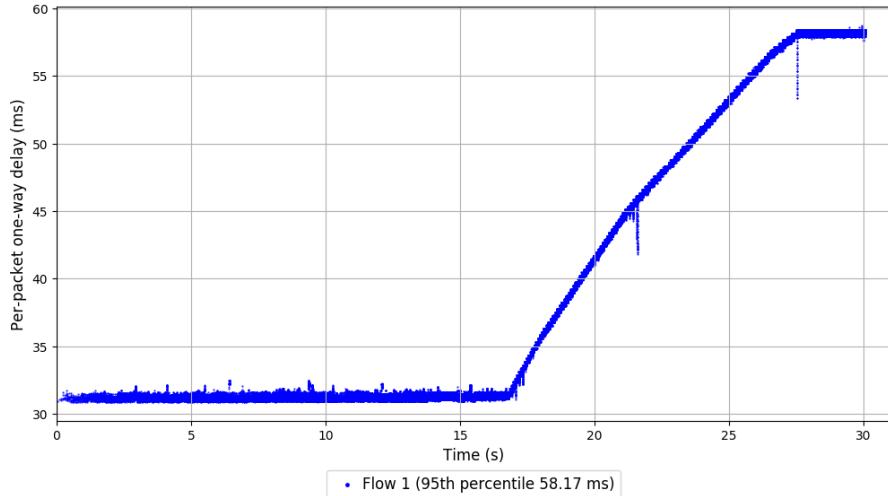
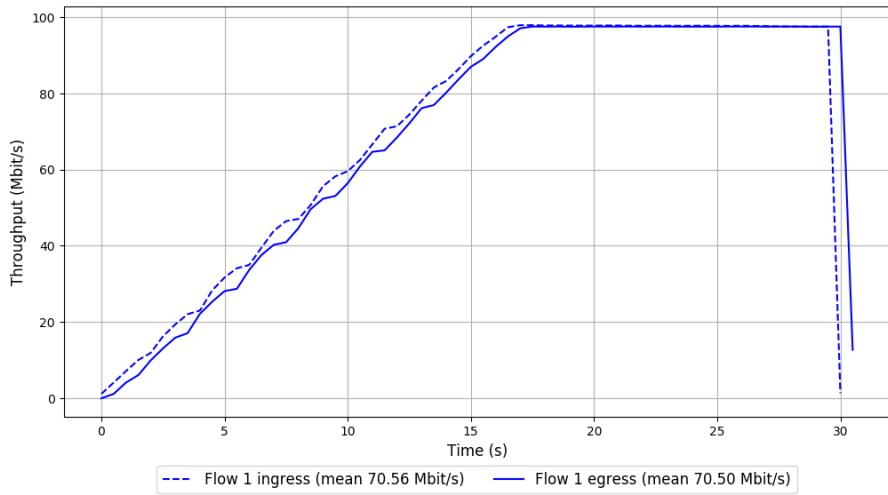


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-10-25 23:50:21
End at: 2018-10-25 23:50:51
Local clock offset: -4.718 ms
Remote clock offset: -5.111 ms

# Below is generated by plot.py at 2018-10-26 01:37:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.50 Mbit/s
95th percentile per-packet one-way delay: 58.172 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.50 Mbit/s
95th percentile per-packet one-way delay: 58.172 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

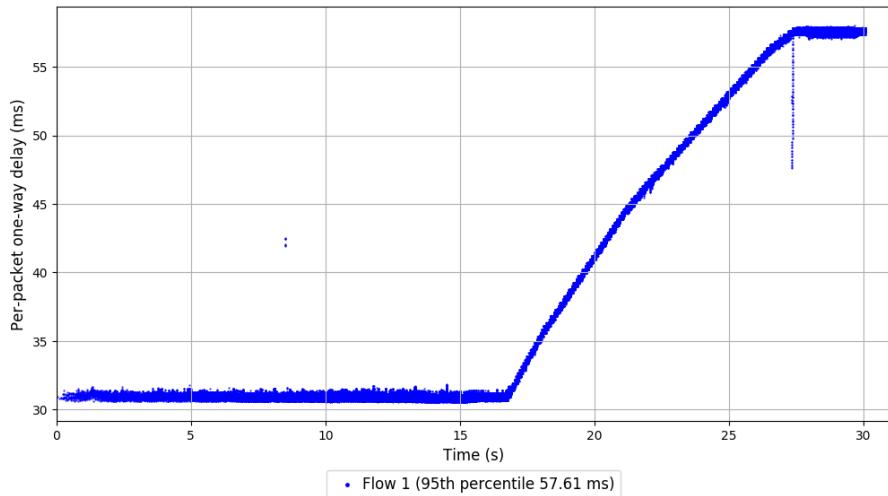
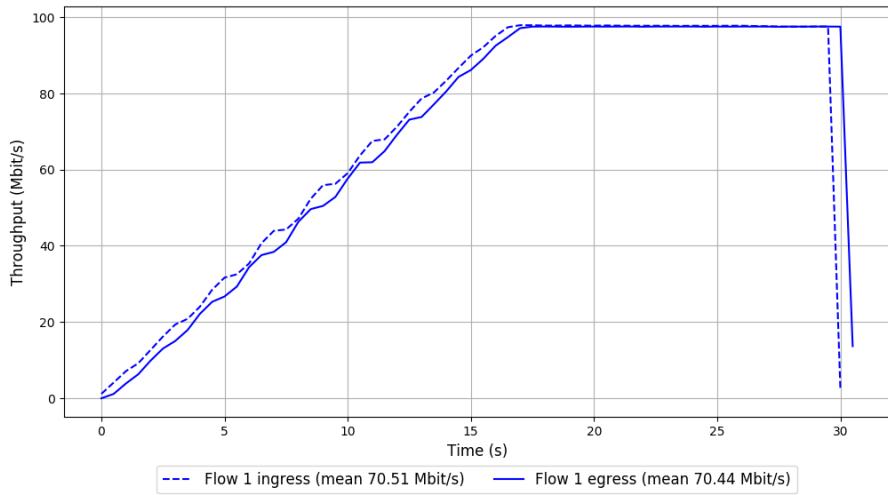


Run 2: Statistics of LEDBAT

```
Start at: 2018-10-26 00:14:05
End at: 2018-10-26 00:14:35
Local clock offset: -6.006 ms
Remote clock offset: -3.652 ms

# Below is generated by plot.py at 2018-10-26 01:37:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.44 Mbit/s
95th percentile per-packet one-way delay: 57.606 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.44 Mbit/s
95th percentile per-packet one-way delay: 57.606 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

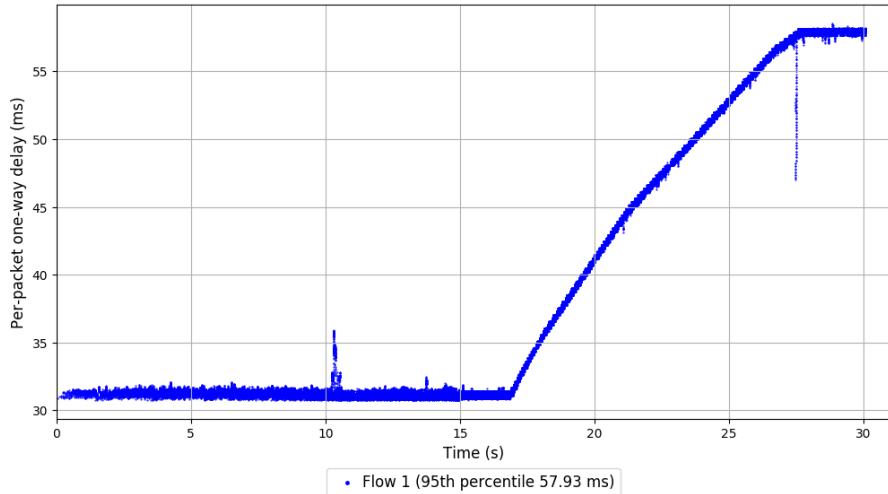
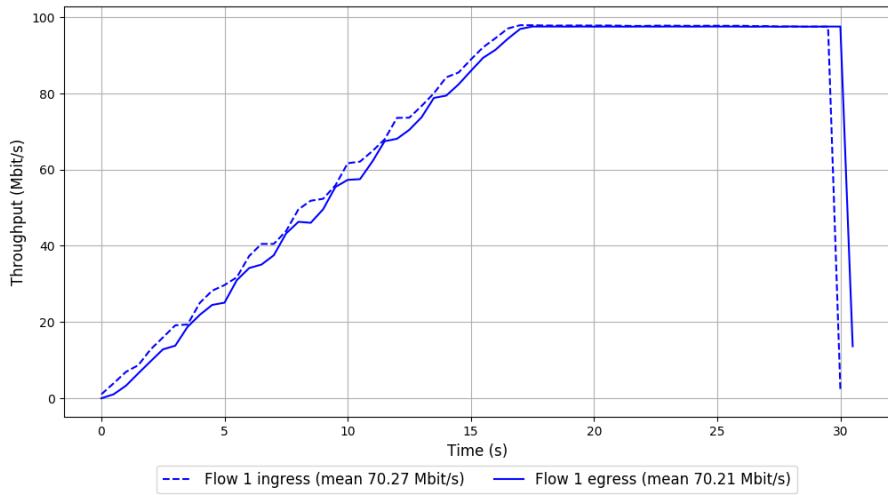


```
Run 3: Statistics of LEDBAT
```

```
Start at: 2018-10-26 00:38:16
End at: 2018-10-26 00:38:46
Local clock offset: -8.654 ms
Remote clock offset: -3.27 ms

# Below is generated by plot.py at 2018-10-26 01:37:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.21 Mbit/s
95th percentile per-packet one-way delay: 57.929 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.21 Mbit/s
95th percentile per-packet one-way delay: 57.929 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link

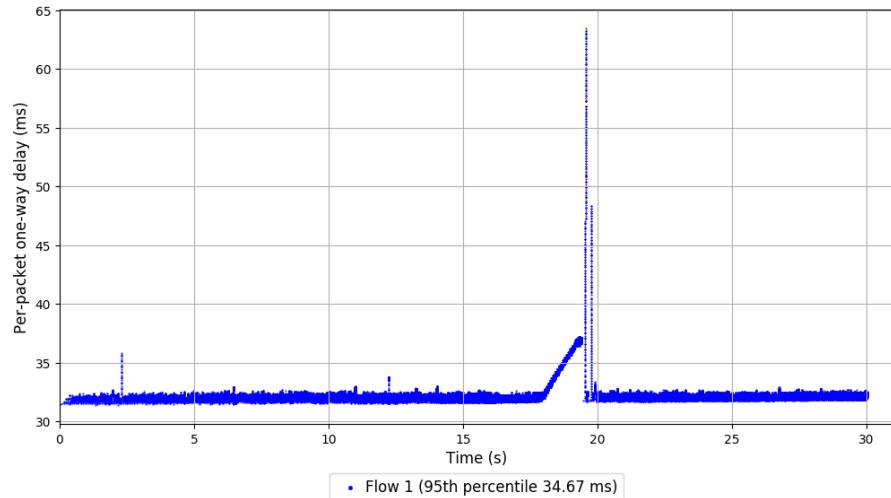
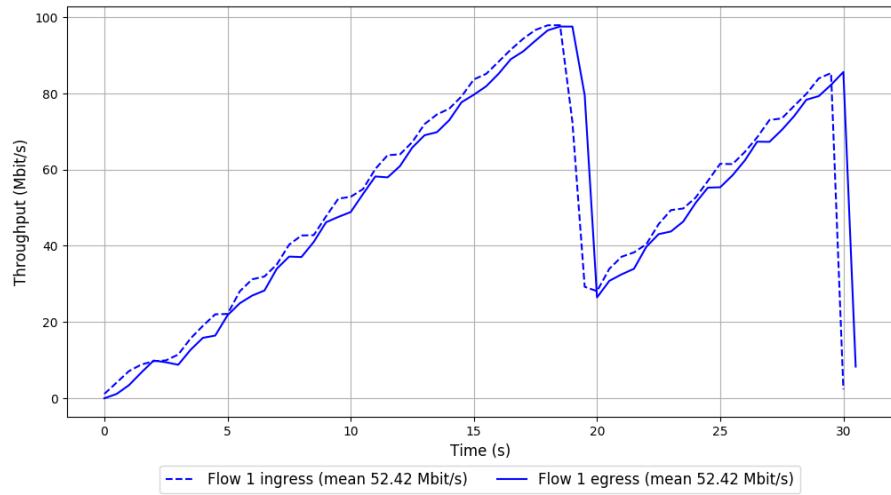


Run 4: Statistics of LEDBAT

```
Start at: 2018-10-26 01:01:57
End at: 2018-10-26 01:02:27
Local clock offset: -10.913 ms
Remote clock offset: -3.224 ms

# Below is generated by plot.py at 2018-10-26 01:37:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.42 Mbit/s
95th percentile per-packet one-way delay: 34.668 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 52.42 Mbit/s
95th percentile per-packet one-way delay: 34.668 ms
Loss rate: 0.01%
```

Run 4: Report of LEDBAT — Data Link

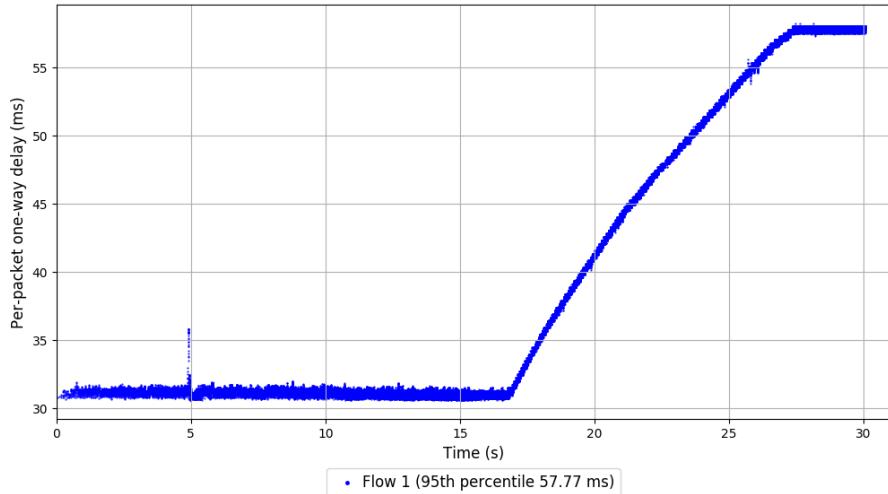
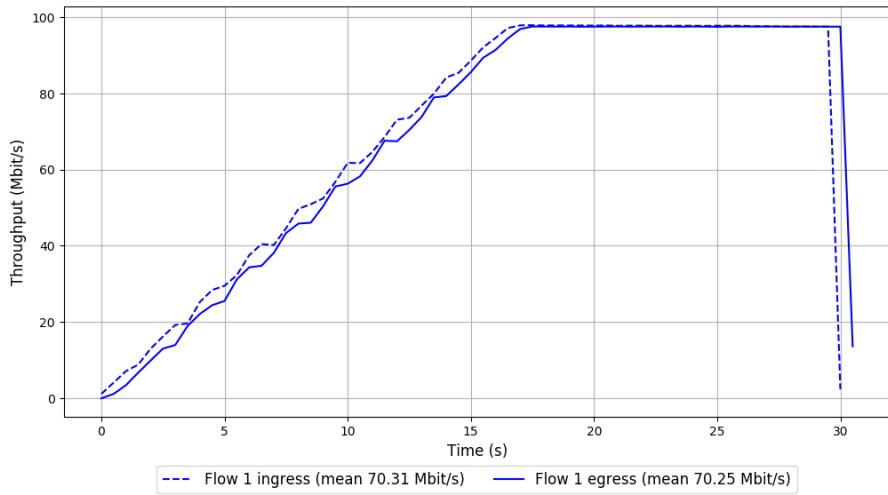


Run 5: Statistics of LEDBAT

```
Start at: 2018-10-26 01:25:48
End at: 2018-10-26 01:26:18
Local clock offset: -3.324 ms
Remote clock offset: -3.012 ms

# Below is generated by plot.py at 2018-10-26 01:37:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.25 Mbit/s
95th percentile per-packet one-way delay: 57.766 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.25 Mbit/s
95th percentile per-packet one-way delay: 57.766 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link

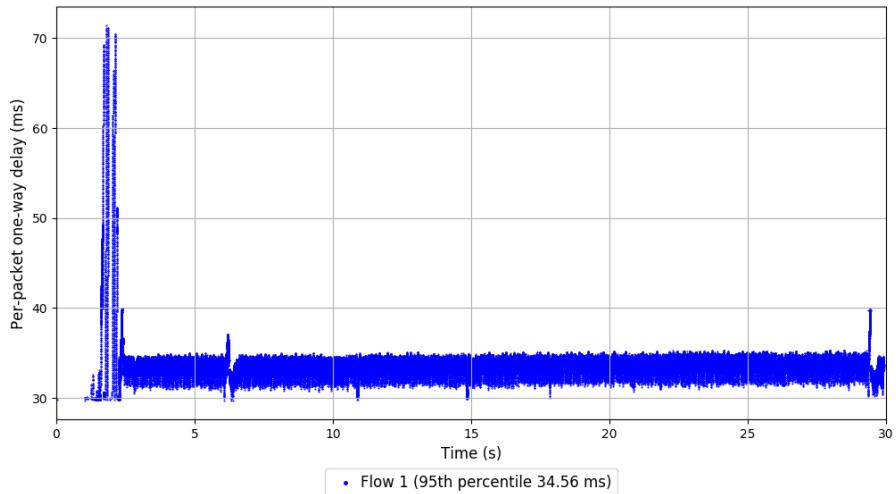
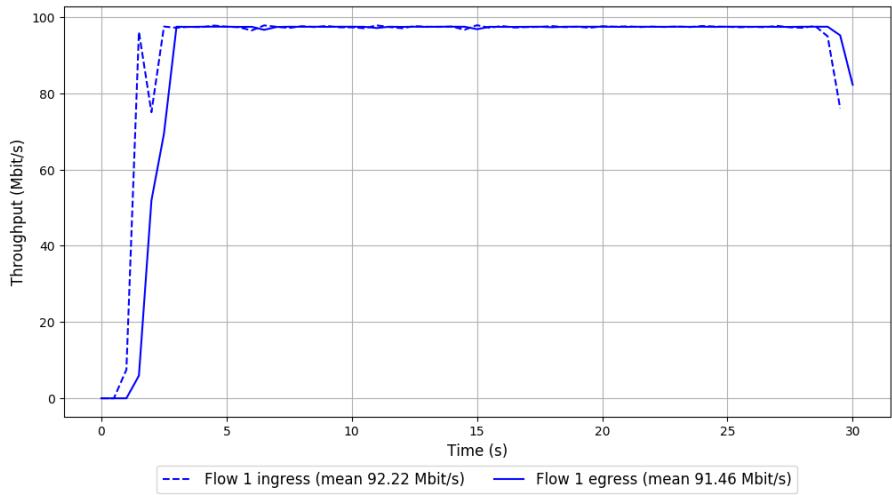


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-10-25 23:35:27
End at: 2018-10-25 23:35:57
Local clock offset: -1.569 ms
Remote clock offset: -5.415 ms

# Below is generated by plot.py at 2018-10-26 01:38:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.46 Mbit/s
95th percentile per-packet one-way delay: 34.562 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 91.46 Mbit/s
95th percentile per-packet one-way delay: 34.562 ms
Loss rate: 0.81%
```

Run 1: Report of Indigo-Muses — Data Link

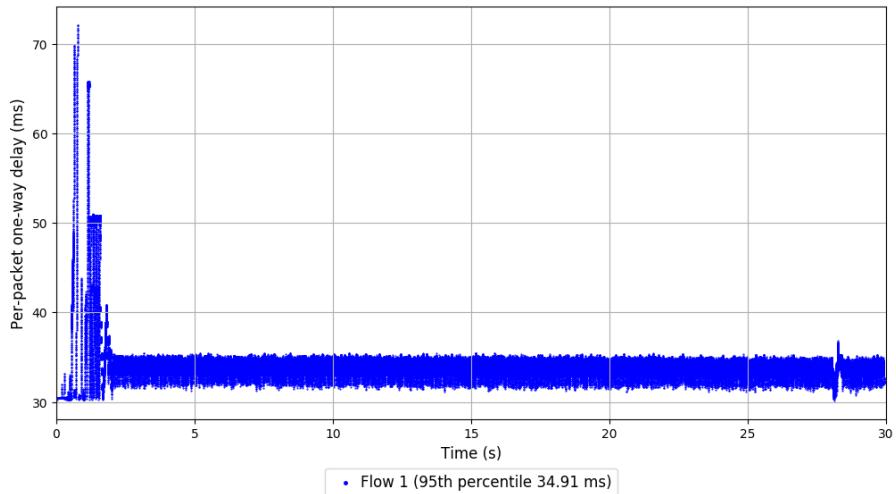
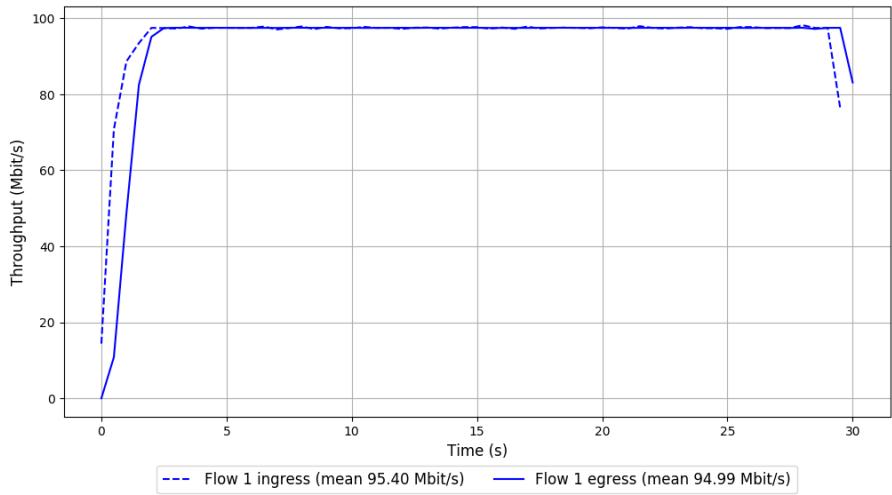


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-10-25 23:59:34
End at: 2018-10-26 00:00:04
Local clock offset: -4.998 ms
Remote clock offset: -4.676 ms

# Below is generated by plot.py at 2018-10-26 01:38:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.99 Mbit/s
95th percentile per-packet one-way delay: 34.908 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 94.99 Mbit/s
95th percentile per-packet one-way delay: 34.908 ms
Loss rate: 0.43%
```

Run 2: Report of Indigo-Muses — Data Link

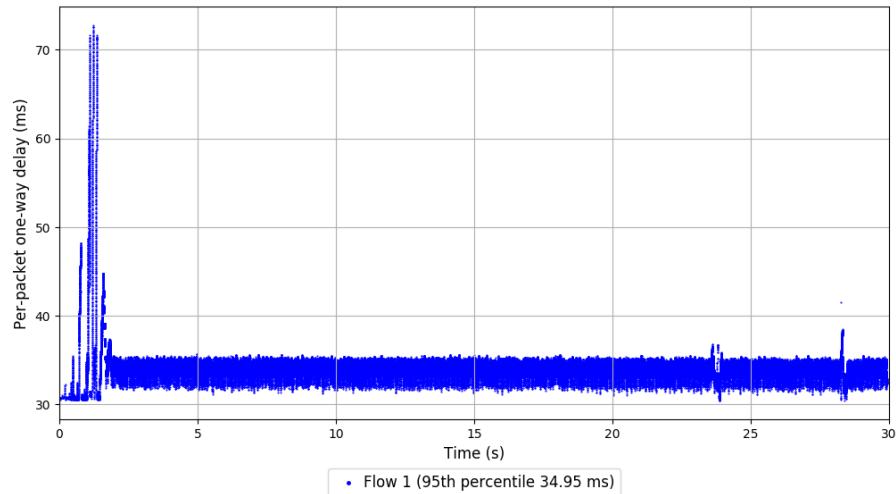
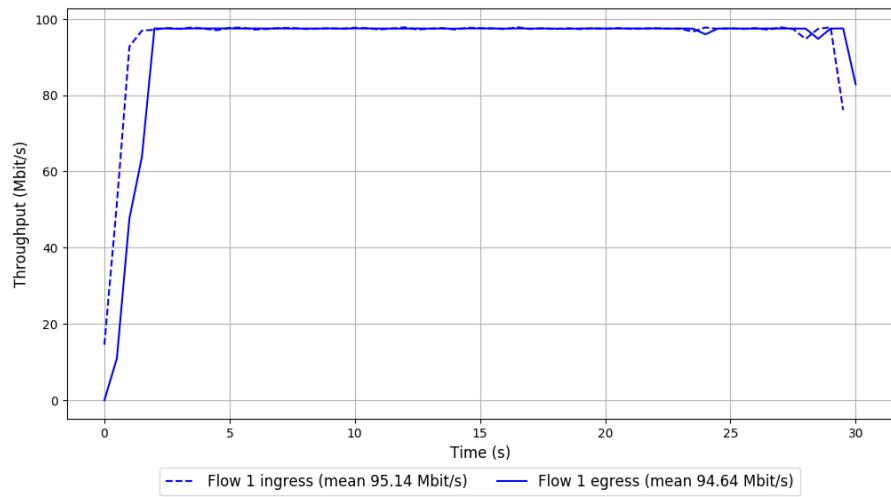


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-10-26 00:23:36
End at: 2018-10-26 00:24:06
Local clock offset: -8.826 ms
Remote clock offset: -3.4 ms

# Below is generated by plot.py at 2018-10-26 01:38:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.64 Mbit/s
95th percentile per-packet one-way delay: 34.949 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 94.64 Mbit/s
95th percentile per-packet one-way delay: 34.949 ms
Loss rate: 0.52%
```

Run 3: Report of Indigo-Muses — Data Link

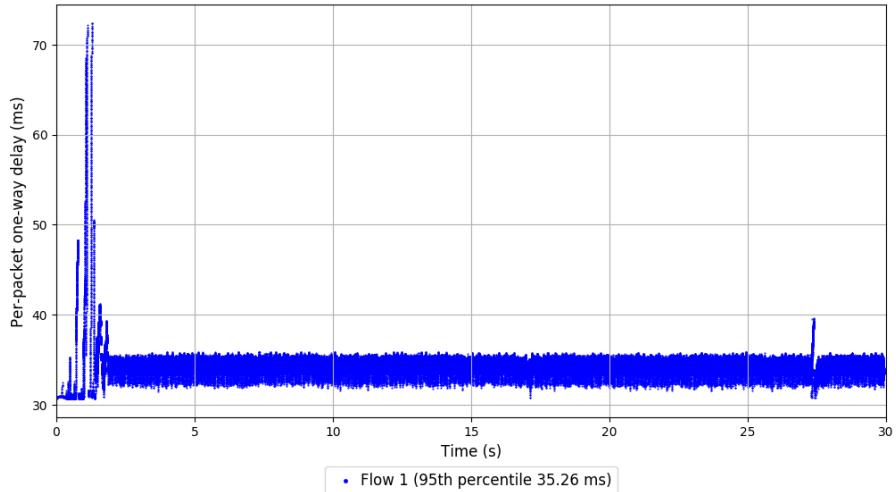
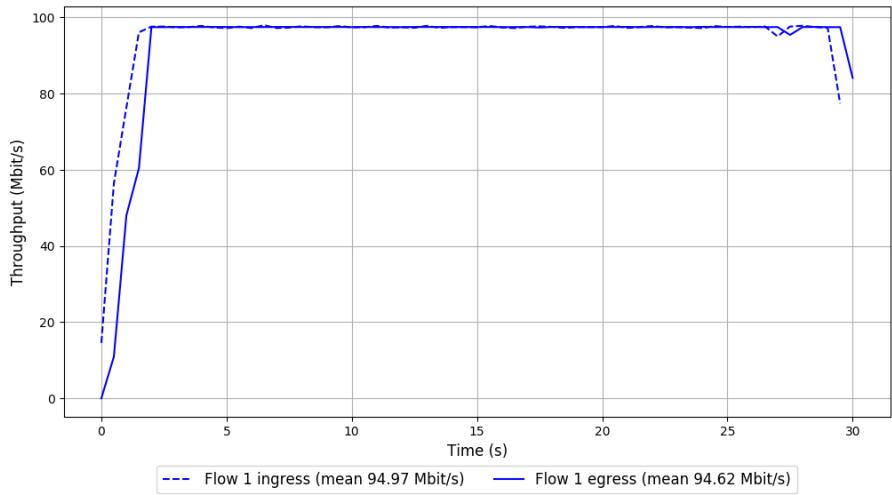


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-10-26 00:47:25
End at: 2018-10-26 00:47:55
Local clock offset: -8.222 ms
Remote clock offset: -3.032 ms

# Below is generated by plot.py at 2018-10-26 01:38:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.62 Mbit/s
95th percentile per-packet one-way delay: 35.264 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 94.62 Mbit/s
95th percentile per-packet one-way delay: 35.264 ms
Loss rate: 0.35%
```

Run 4: Report of Indigo-Muses — Data Link

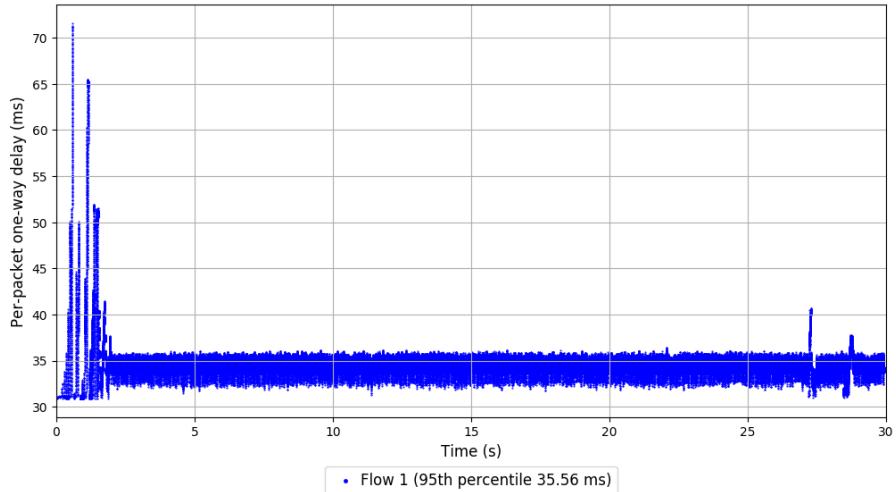
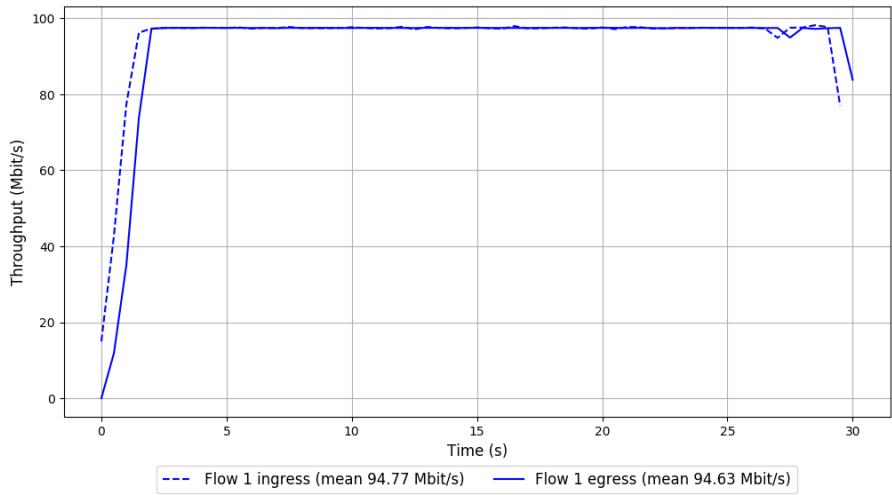


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-10-26 01:11:06
End at: 2018-10-26 01:11:36
Local clock offset: -4.644 ms
Remote clock offset: -3.042 ms

# Below is generated by plot.py at 2018-10-26 01:38:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.63 Mbit/s
95th percentile per-packet one-way delay: 35.558 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 94.63 Mbit/s
95th percentile per-packet one-way delay: 35.558 ms
Loss rate: 0.13%
```

Run 5: Report of Indigo-Muses — Data Link

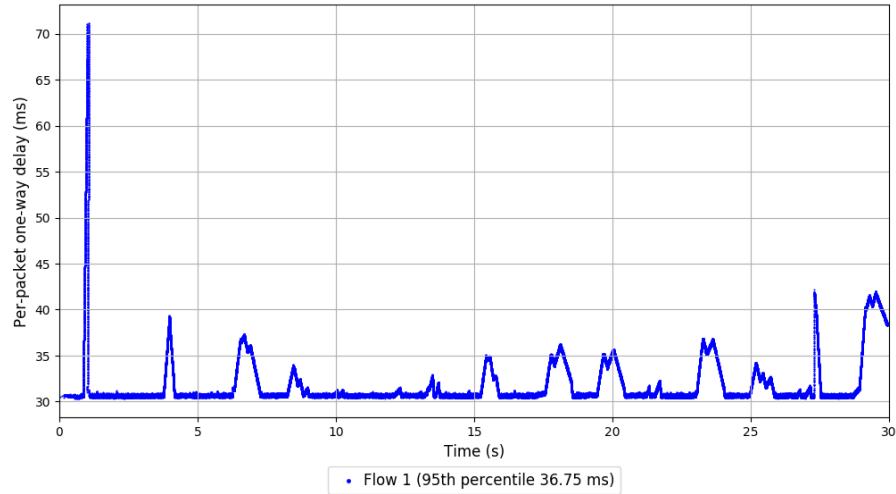
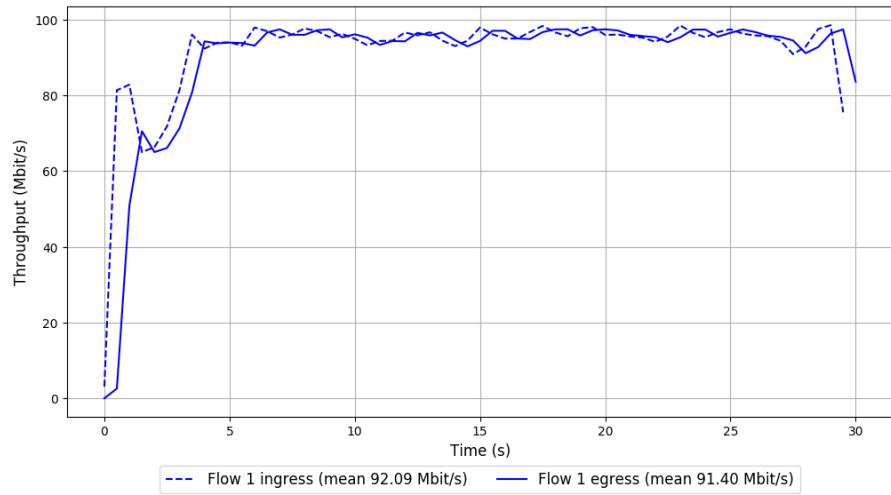


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-10-25 23:52:59
End at: 2018-10-25 23:53:29
Local clock offset: -3.811 ms
Remote clock offset: -5.043 ms

# Below is generated by plot.py at 2018-10-26 01:38:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.40 Mbit/s
95th percentile per-packet one-way delay: 36.753 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 91.40 Mbit/s
95th percentile per-packet one-way delay: 36.753 ms
Loss rate: 0.72%
```

Run 1: Report of PCC-Allegro — Data Link

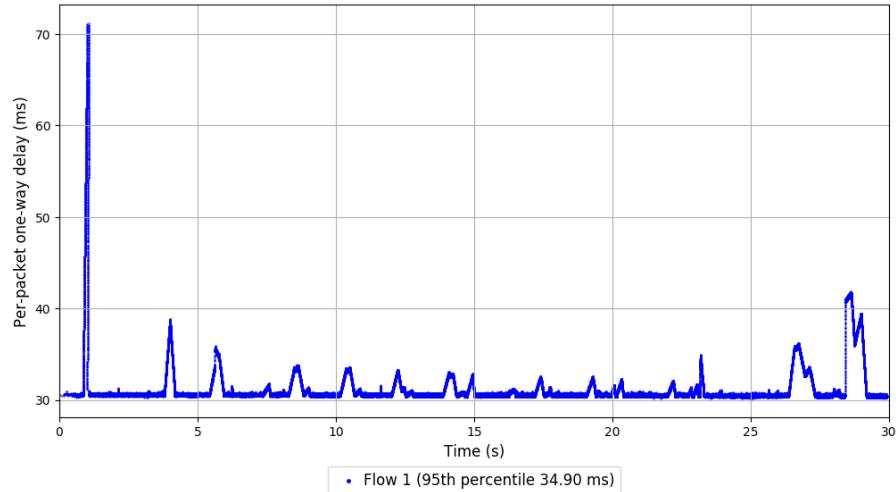
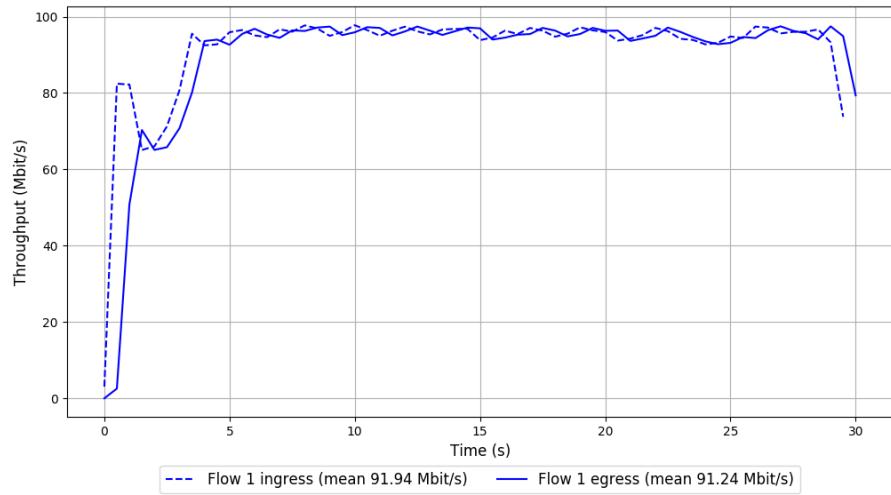


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-10-26 00:16:43
End at: 2018-10-26 00:17:13
Local clock offset: -6.69 ms
Remote clock offset: -3.71 ms

# Below is generated by plot.py at 2018-10-26 01:38:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.24 Mbit/s
95th percentile per-packet one-way delay: 34.902 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 91.24 Mbit/s
95th percentile per-packet one-way delay: 34.902 ms
Loss rate: 0.75%
```

Run 2: Report of PCC-Allegro — Data Link

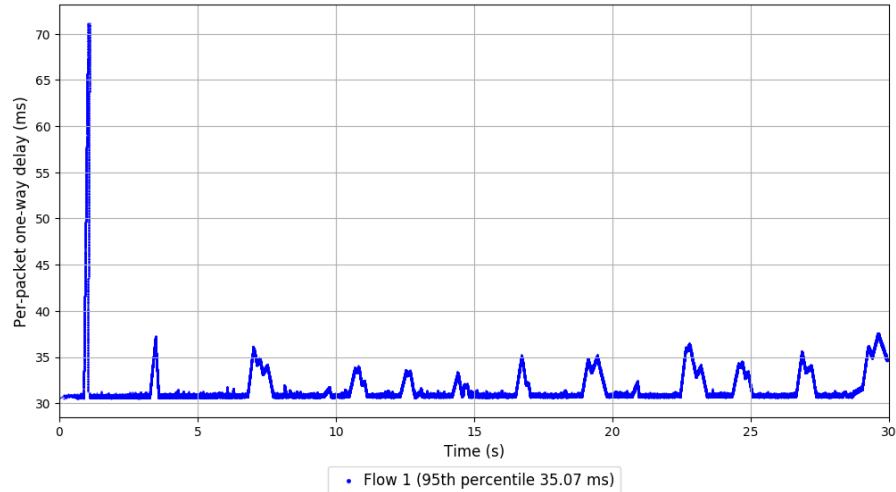
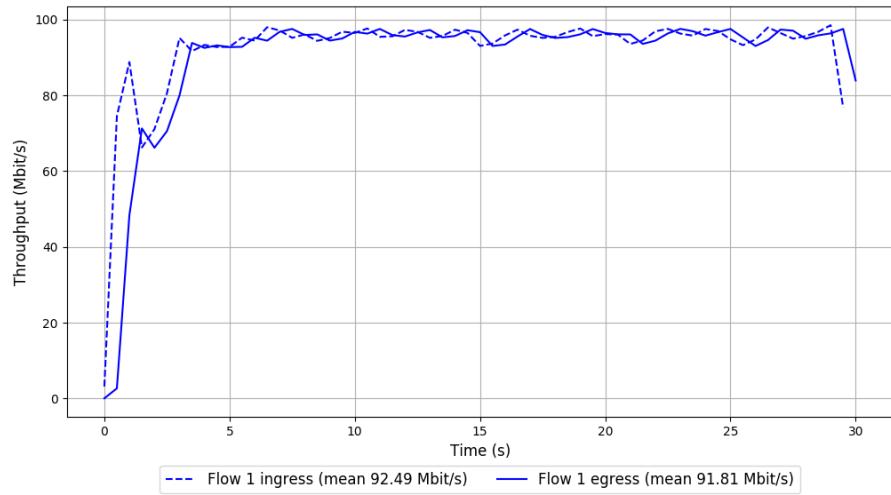


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-10-26 00:40:53
End at: 2018-10-26 00:41:23
Local clock offset: -8.221 ms
Remote clock offset: -3.312 ms

# Below is generated by plot.py at 2018-10-26 01:39:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.81 Mbit/s
95th percentile per-packet one-way delay: 35.068 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 91.81 Mbit/s
95th percentile per-packet one-way delay: 35.068 ms
Loss rate: 0.73%
```

Run 3: Report of PCC-Allegro — Data Link

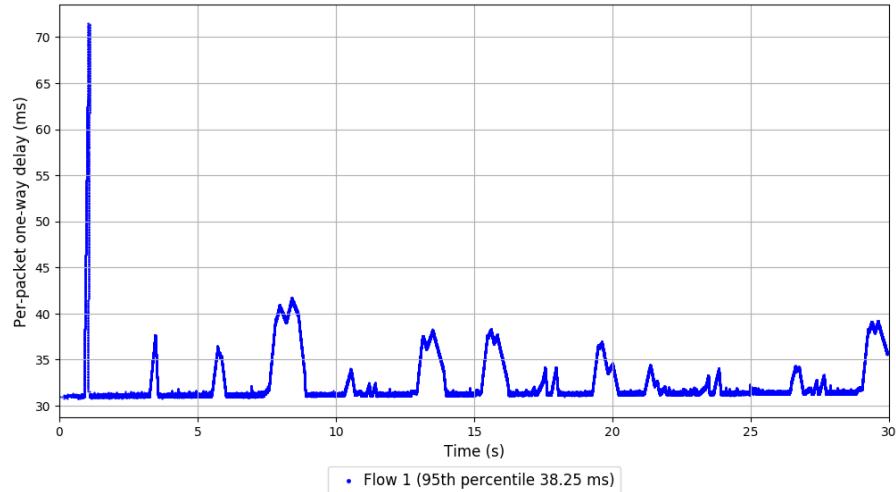
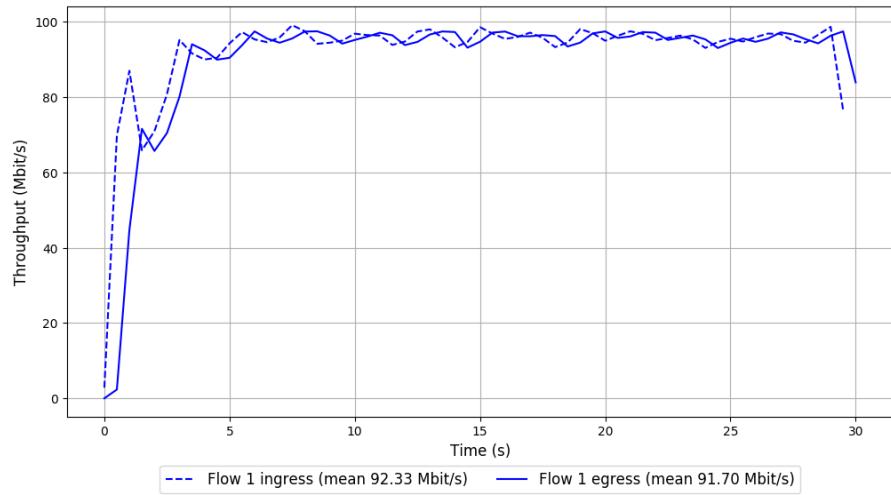


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-10-26 01:04:32
End at: 2018-10-26 01:05:02
Local clock offset: -8.138 ms
Remote clock offset: -3.232 ms

# Below is generated by plot.py at 2018-10-26 01:39:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.70 Mbit/s
95th percentile per-packet one-way delay: 38.251 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 91.70 Mbit/s
95th percentile per-packet one-way delay: 38.251 ms
Loss rate: 0.67%
```

Run 4: Report of PCC-Allegro — Data Link

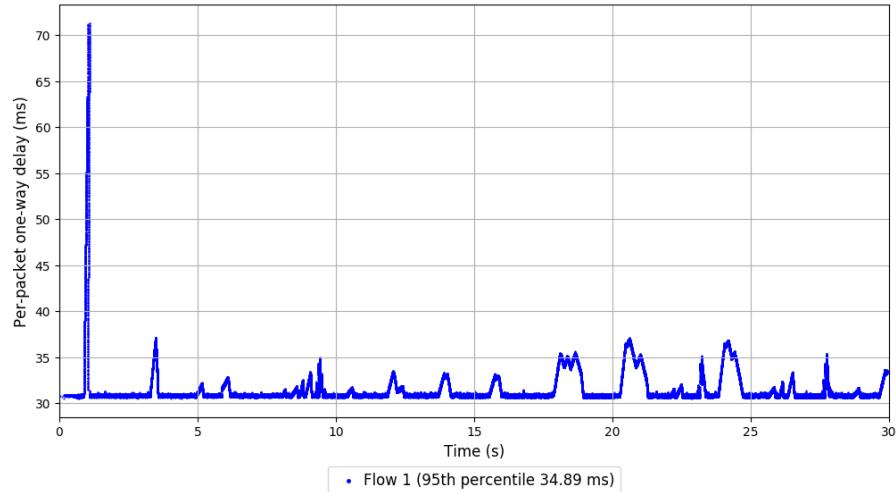
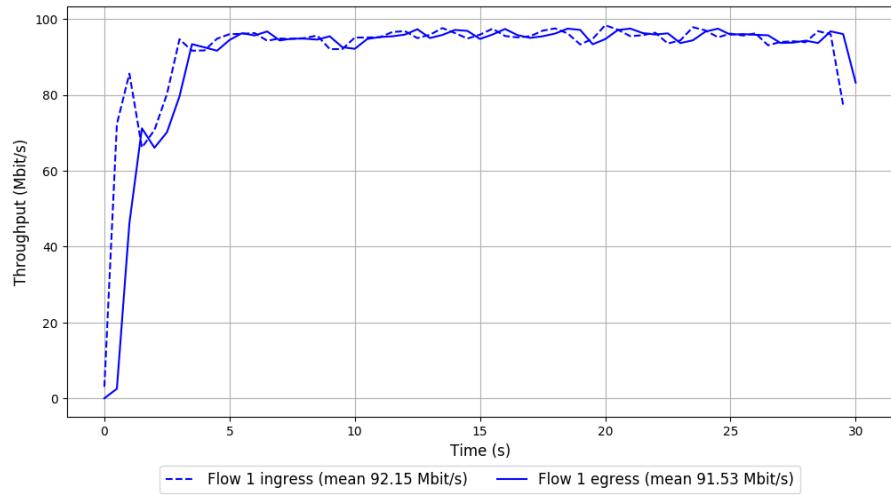


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-10-26 01:28:26
End at: 2018-10-26 01:28:56
Local clock offset: -3.448 ms
Remote clock offset: -2.965 ms

# Below is generated by plot.py at 2018-10-26 01:39:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.53 Mbit/s
95th percentile per-packet one-way delay: 34.892 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 91.53 Mbit/s
95th percentile per-packet one-way delay: 34.892 ms
Loss rate: 0.67%
```

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

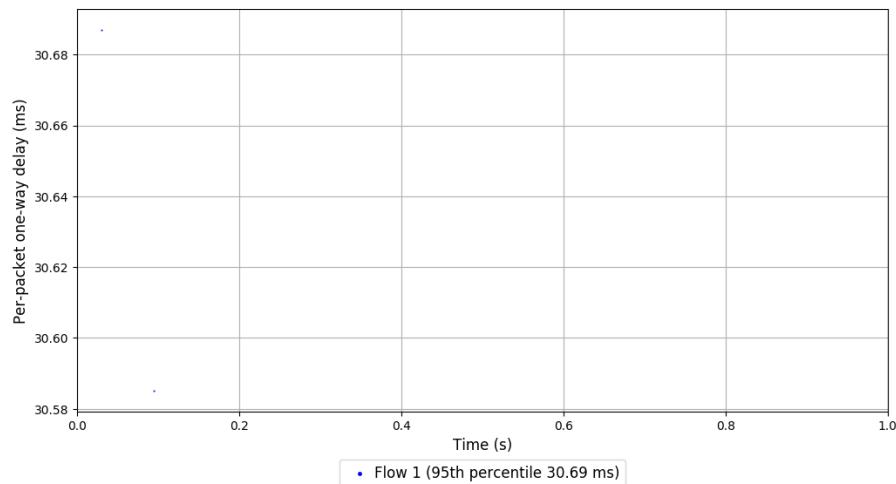
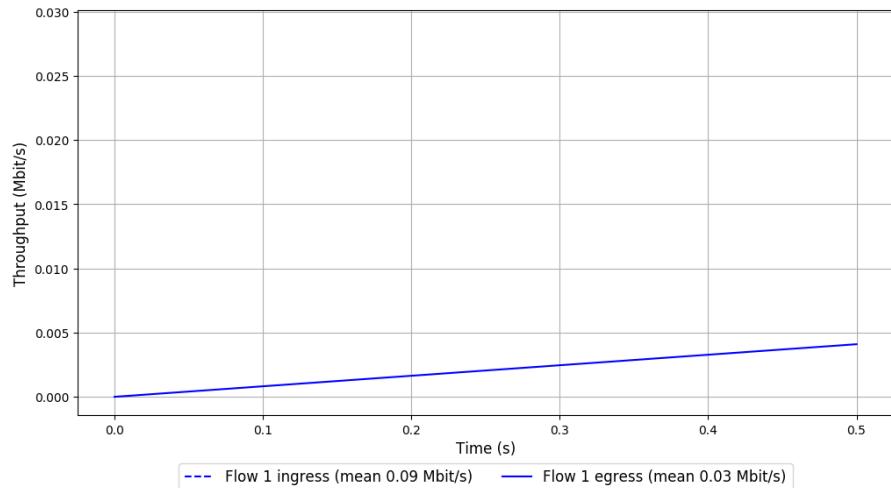
Start at: 2018-10-25 23:45:04

End at: 2018-10-25 23:45:34

Local clock offset: -2.979 ms

Remote clock offset: -5.037 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

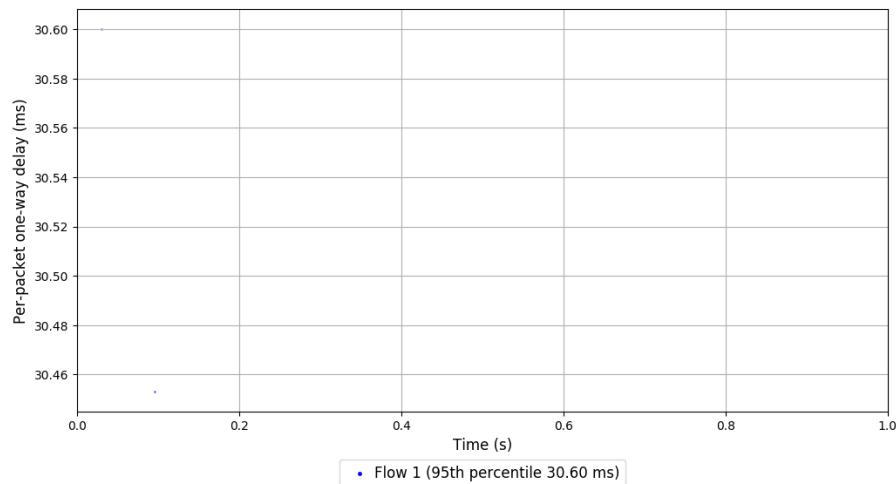
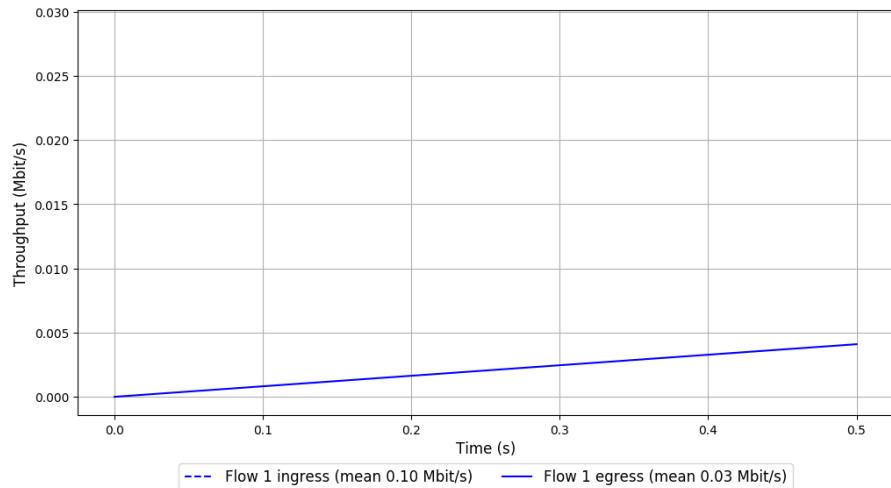
Start at: 2018-10-26 00:08:53

End at: 2018-10-26 00:09:23

Local clock offset: -5.211 ms

Remote clock offset: -4.13 ms

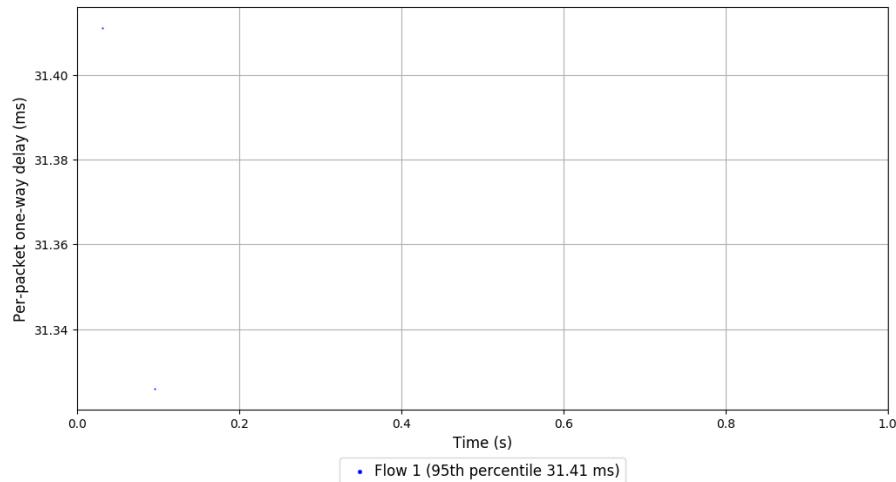
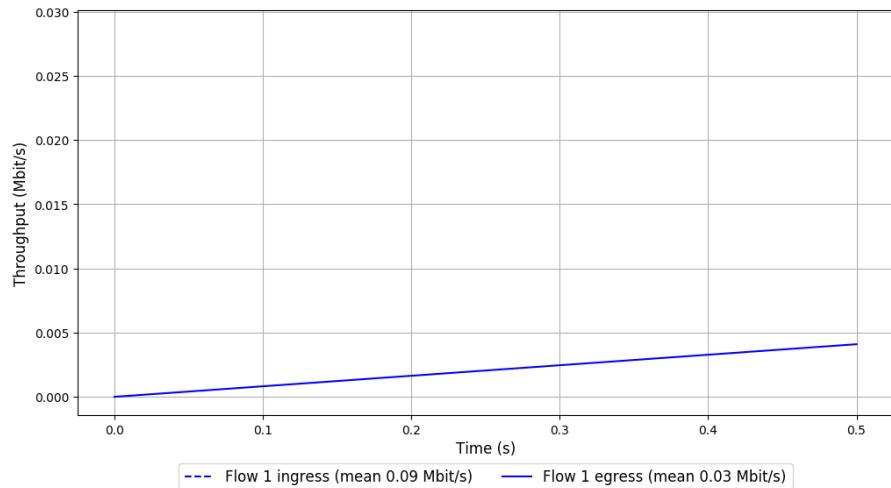
Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-10-26 00:33:03
End at: 2018-10-26 00:33:33
Local clock offset: -10.998 ms
Remote clock offset: -3.092 ms

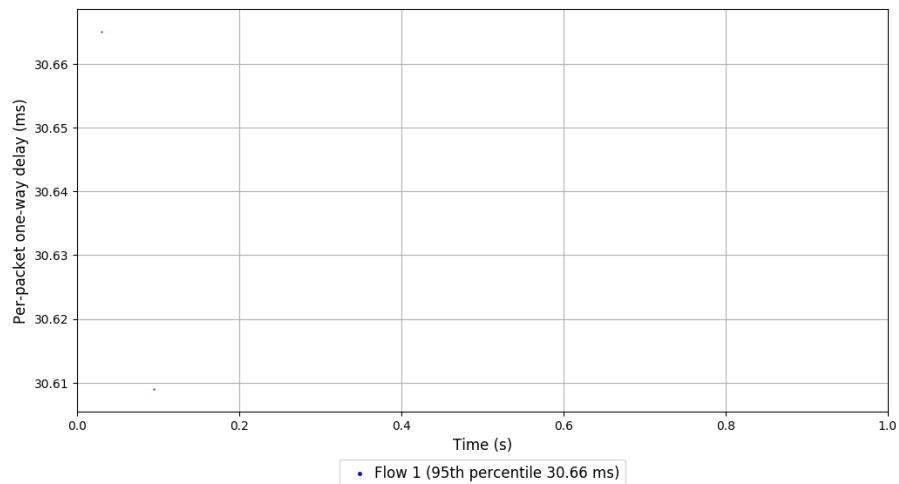
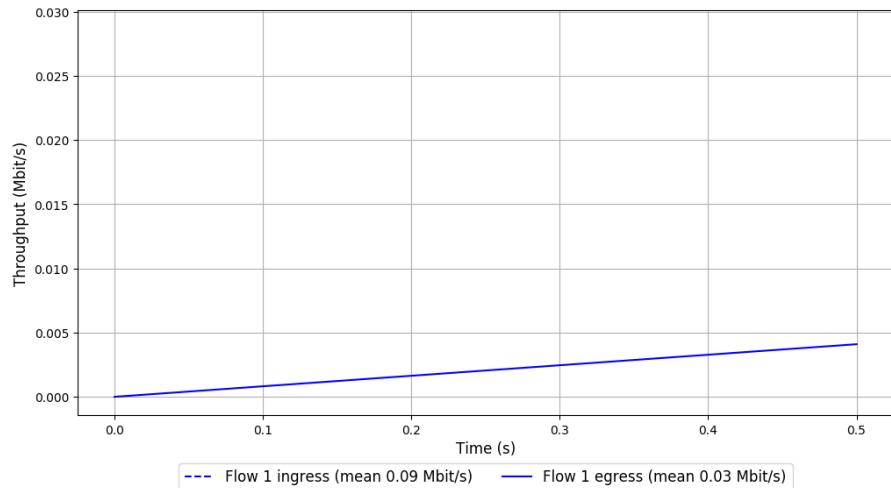
Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-10-26 00:56:45
End at: 2018-10-26 00:57:15
Local clock offset: -9.768 ms
Remote clock offset: -3.087 ms

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

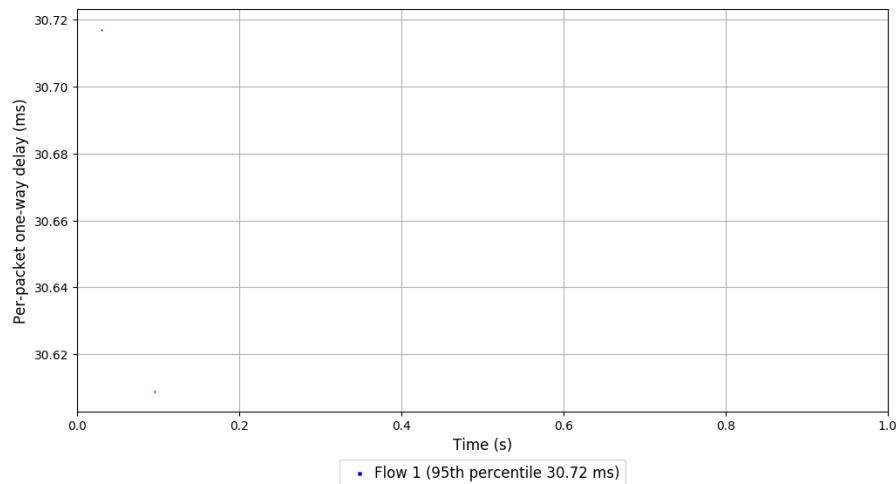
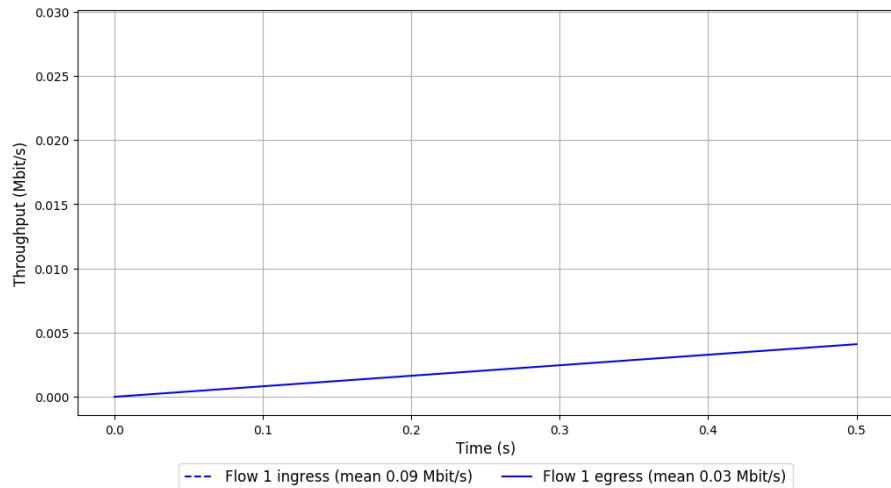
Start at: 2018-10-26 01:20:33

End at: 2018-10-26 01:21:03

Local clock offset: -3.22 ms

Remote clock offset: -3.18 ms

Run 5: Report of PCC-Expr — Data Link

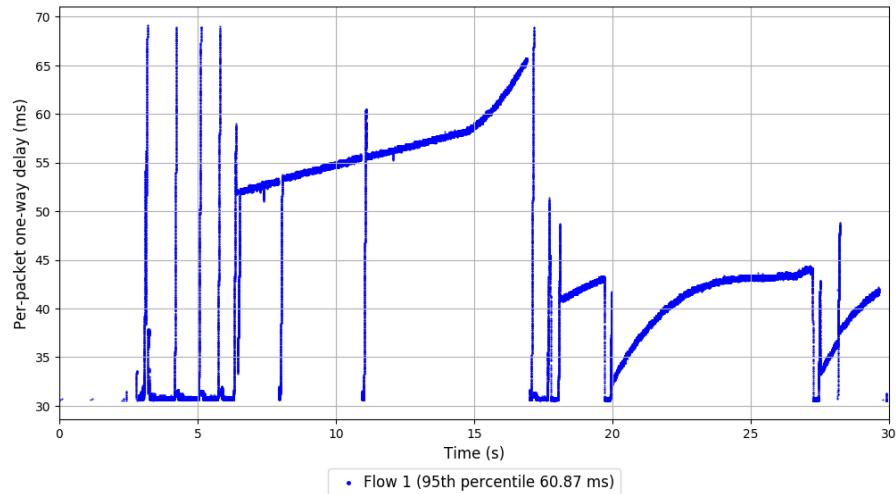
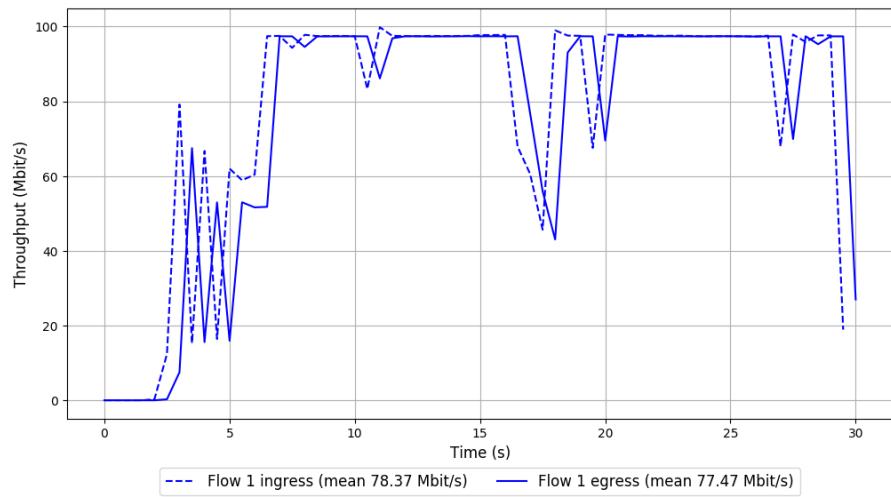


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-10-25 23:43:41
End at: 2018-10-25 23:44:11
Local clock offset: -2.723 ms
Remote clock offset: -5.156 ms

# Below is generated by plot.py at 2018-10-26 01:39:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.47 Mbit/s
95th percentile per-packet one-way delay: 60.865 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 77.47 Mbit/s
95th percentile per-packet one-way delay: 60.865 ms
Loss rate: 1.15%
```

Run 1: Report of QUIC Cubic — Data Link

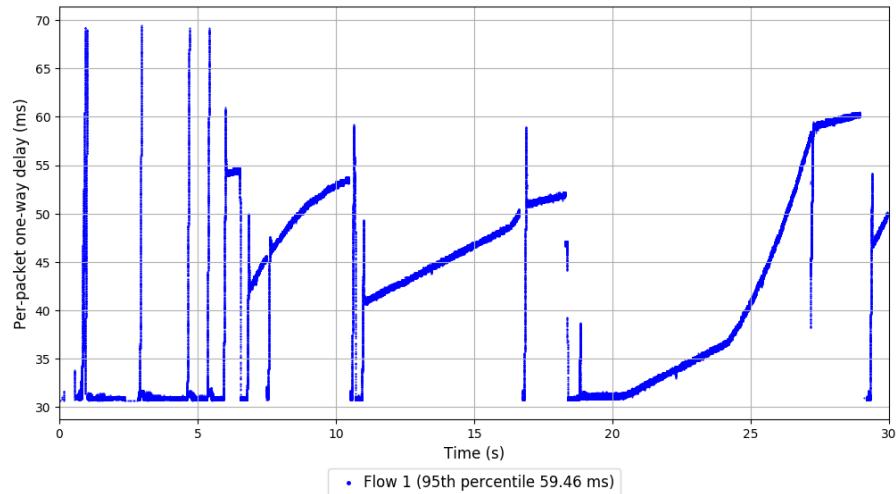
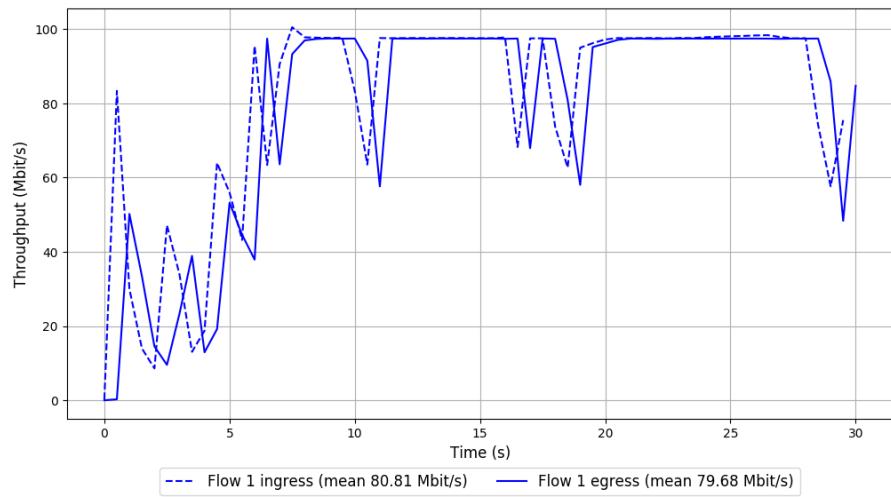


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-10-26 00:07:33
End at: 2018-10-26 00:08:03
Local clock offset: -5.11 ms
Remote clock offset: -3.908 ms

# Below is generated by plot.py at 2018-10-26 01:39:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.68 Mbit/s
95th percentile per-packet one-way delay: 59.460 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 79.68 Mbit/s
95th percentile per-packet one-way delay: 59.460 ms
Loss rate: 1.35%
```

Run 2: Report of QUIC Cubic — Data Link

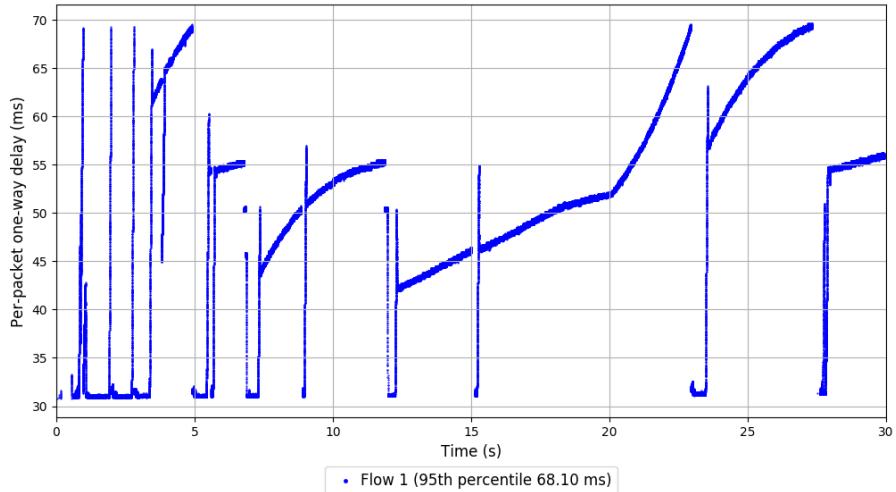
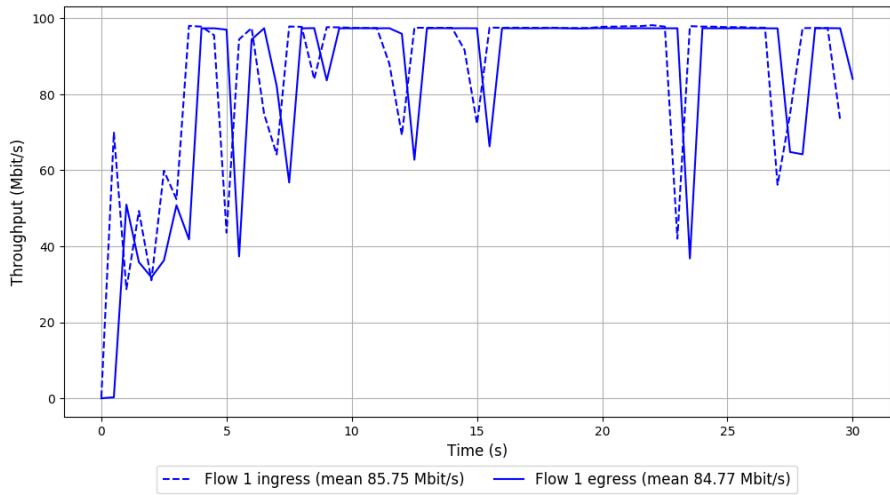


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-10-26 00:31:41
End at: 2018-10-26 00:32:11
Local clock offset: -11.759 ms
Remote clock offset: -3.279 ms

# Below is generated by plot.py at 2018-10-26 01:39:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.77 Mbit/s
95th percentile per-packet one-way delay: 68.104 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 84.77 Mbit/s
95th percentile per-packet one-way delay: 68.104 ms
Loss rate: 1.06%
```

Run 3: Report of QUIC Cubic — Data Link

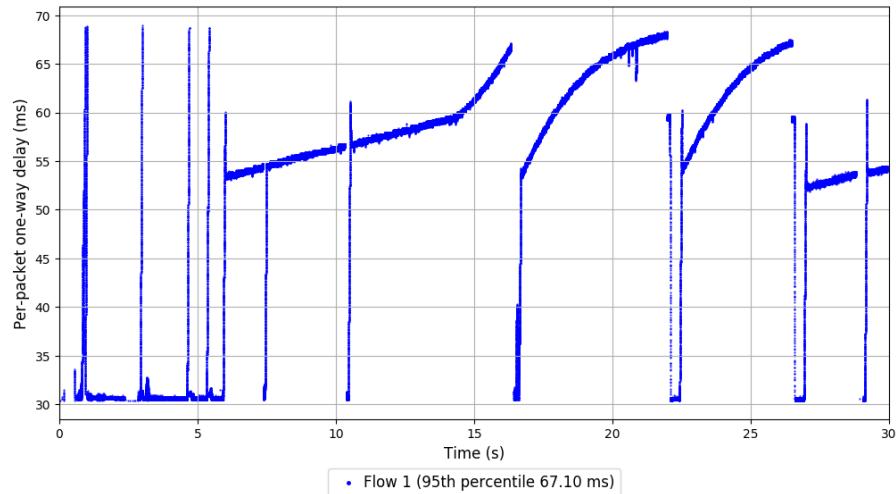
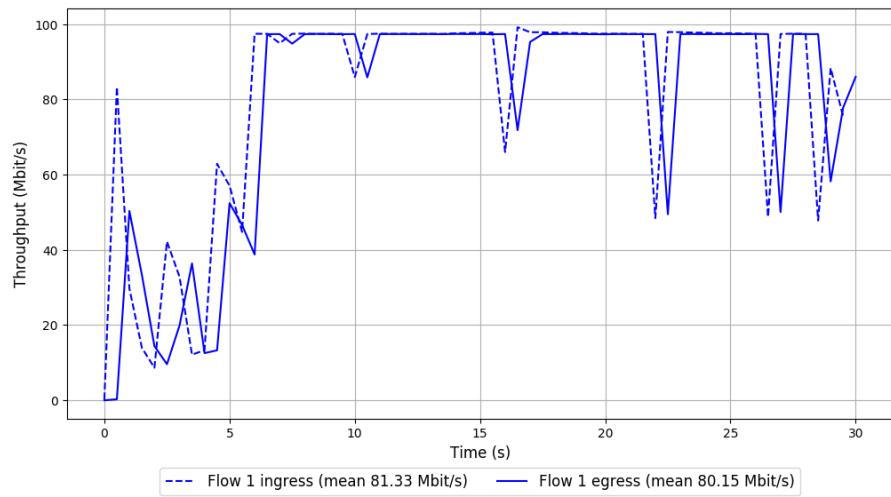


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-10-26 00:55:25
End at: 2018-10-26 00:55:55
Local clock offset: -9.461 ms
Remote clock offset: -3.07 ms

# Below is generated by plot.py at 2018-10-26 01:39:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.15 Mbit/s
95th percentile per-packet one-way delay: 67.097 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 80.15 Mbit/s
95th percentile per-packet one-way delay: 67.097 ms
Loss rate: 1.36%
```

Run 4: Report of QUIC Cubic — Data Link

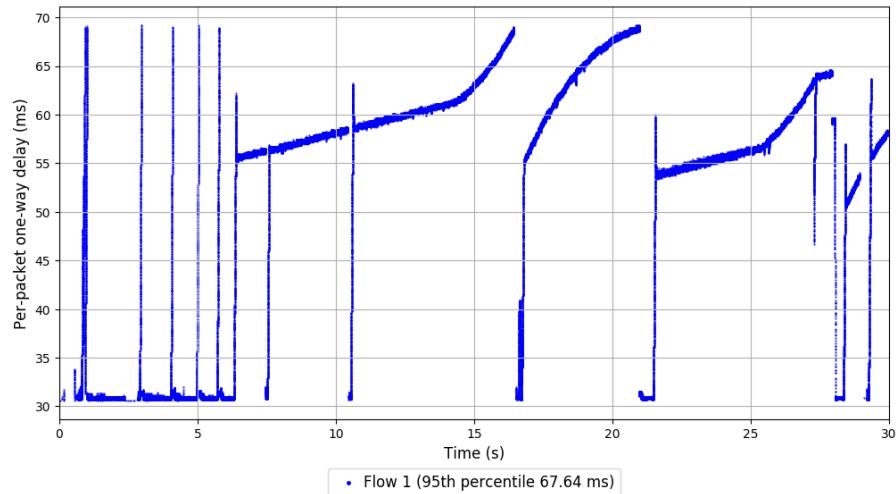
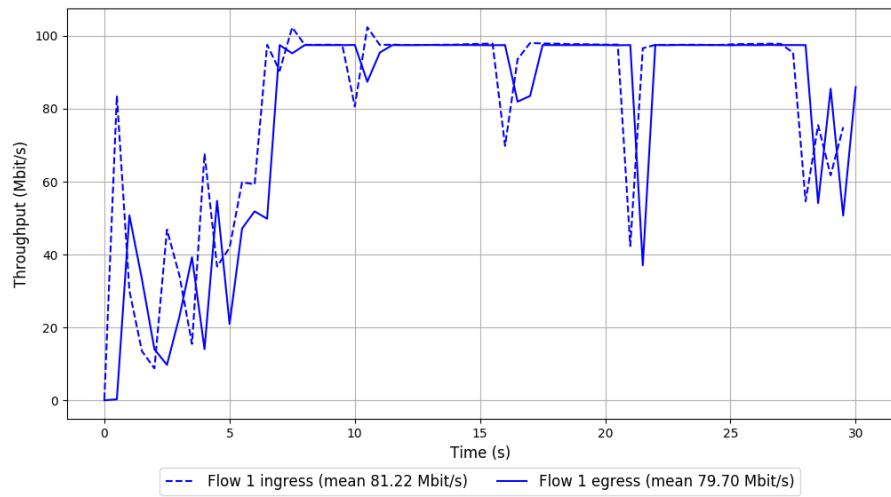


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-10-26 01:19:11
End at: 2018-10-26 01:19:41
Local clock offset: -3.281 ms
Remote clock offset: -3.002 ms

# Below is generated by plot.py at 2018-10-26 01:40:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.70 Mbit/s
95th percentile per-packet one-way delay: 67.637 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 79.70 Mbit/s
95th percentile per-packet one-way delay: 67.637 ms
Loss rate: 1.79%
```

Run 5: Report of QUIC Cubic — Data Link

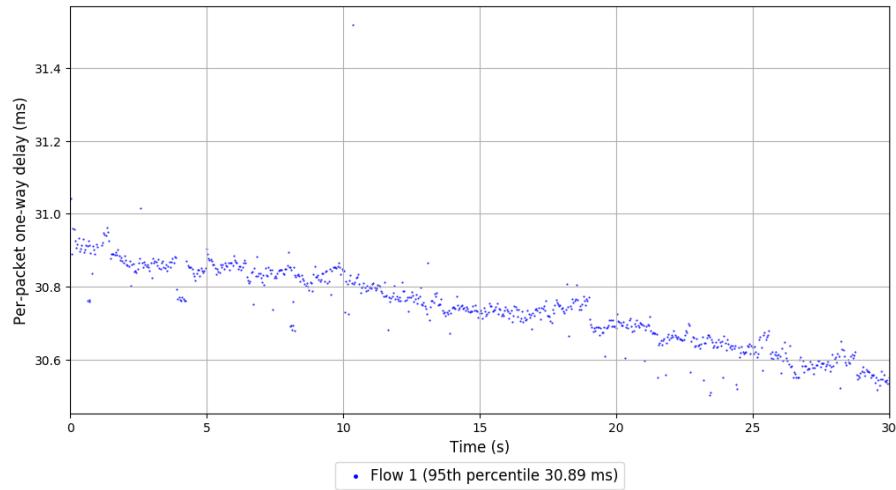
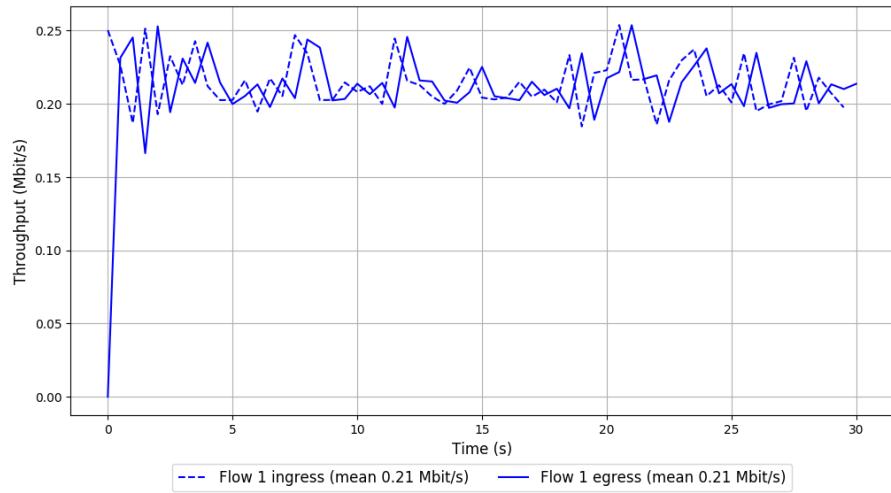


Run 1: Statistics of SCReAM

```
Start at: 2018-10-25 23:34:11
End at: 2018-10-25 23:34:41
Local clock offset: -1.358 ms
Remote clock offset: -5.418 ms

# Below is generated by plot.py at 2018-10-26 01:40:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.890 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.890 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

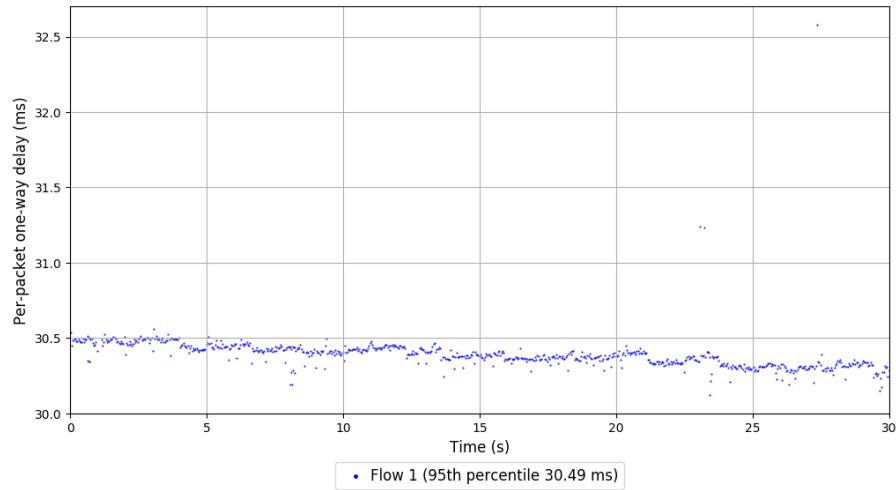
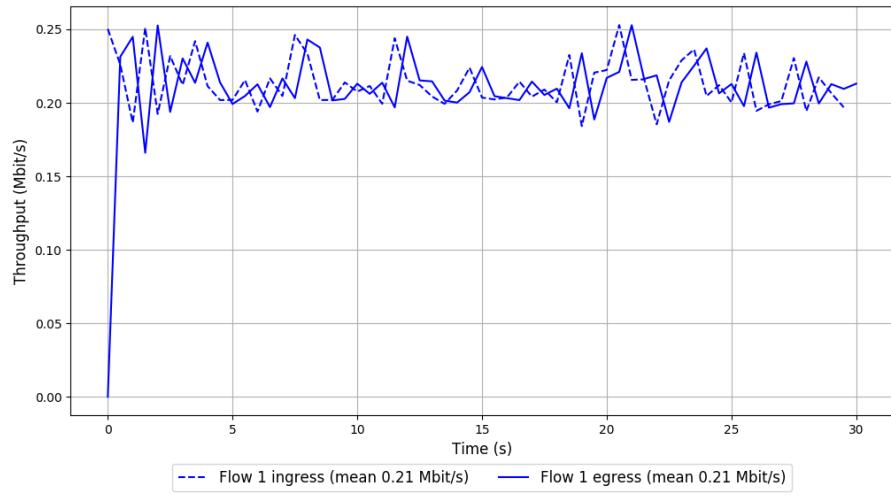


Run 2: Statistics of SCReAM

```
Start at: 2018-10-25 23:58:18
End at: 2018-10-25 23:58:48
Local clock offset: -4.503 ms
Remote clock offset: -4.702 ms

# Below is generated by plot.py at 2018-10-26 01:40:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.492 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.492 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

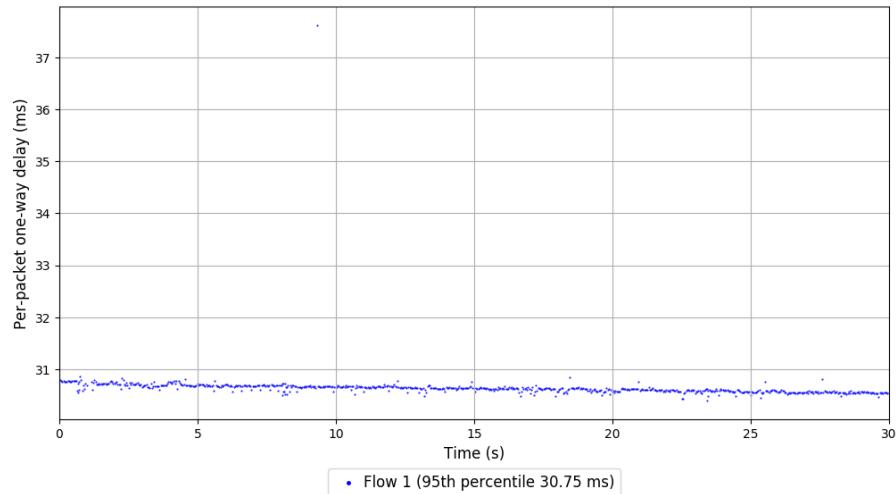
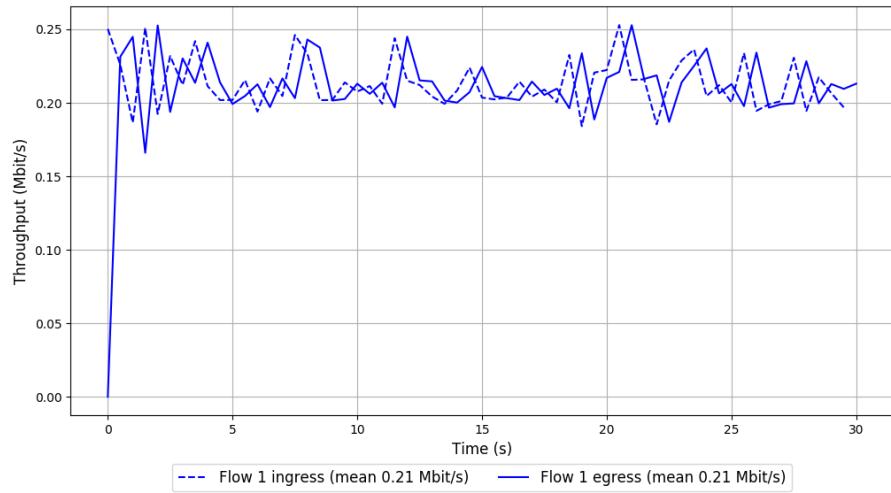


Run 3: Statistics of SCReAM

```
Start at: 2018-10-26 00:22:20
End at: 2018-10-26 00:22:50
Local clock offset: -8.418 ms
Remote clock offset: -3.4 ms

# Below is generated by plot.py at 2018-10-26 01:40:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.754 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.754 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

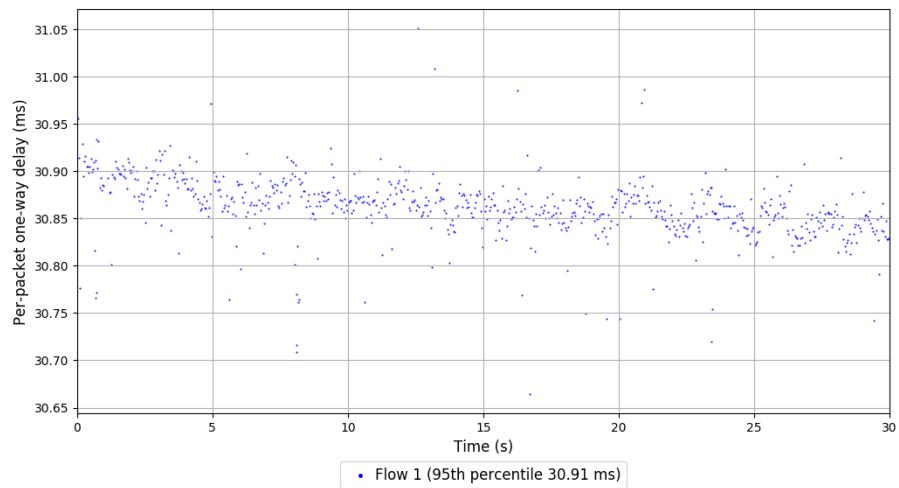
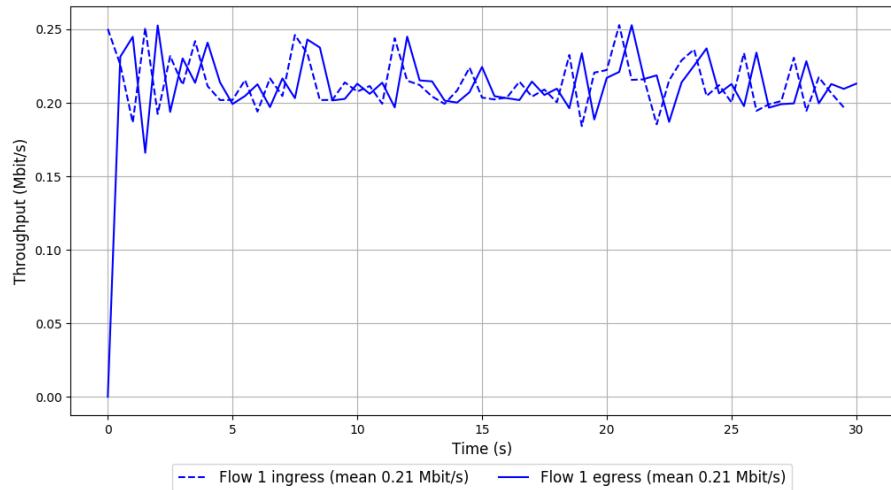


Run 4: Statistics of SCReAM

```
Start at: 2018-10-26 00:46:09
End at: 2018-10-26 00:46:40
Local clock offset: -8.122 ms
Remote clock offset: -3.054 ms

# Below is generated by plot.py at 2018-10-26 01:40:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.907 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.907 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

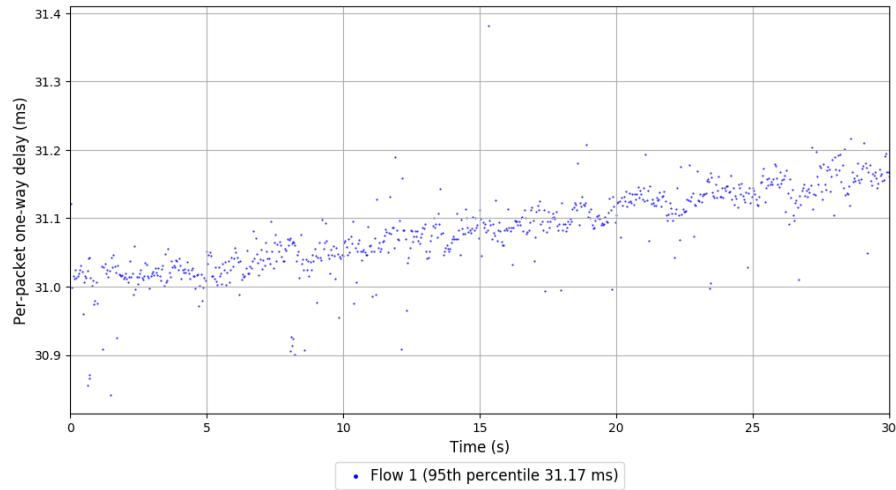
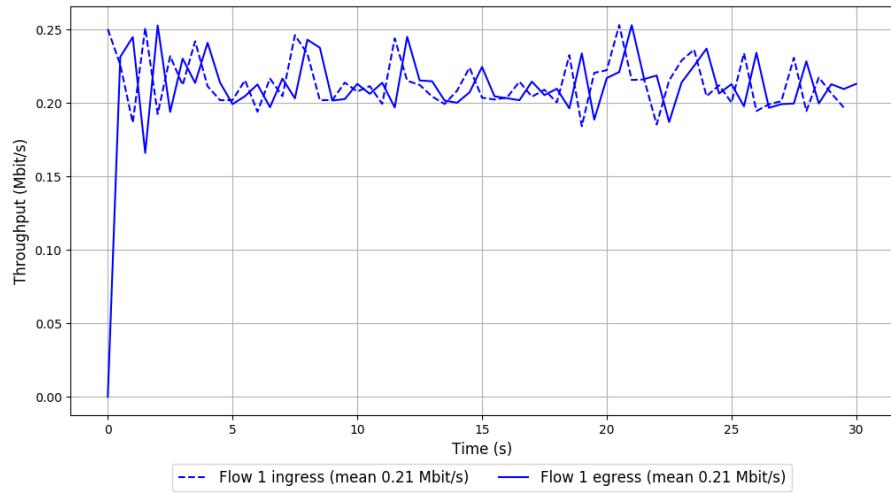


Run 5: Statistics of SCReAM

```
Start at: 2018-10-26 01:09:50
End at: 2018-10-26 01:10:20
Local clock offset: -5.096 ms
Remote clock offset: -3.17 ms

# Below is generated by plot.py at 2018-10-26 01:40:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.169 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.169 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

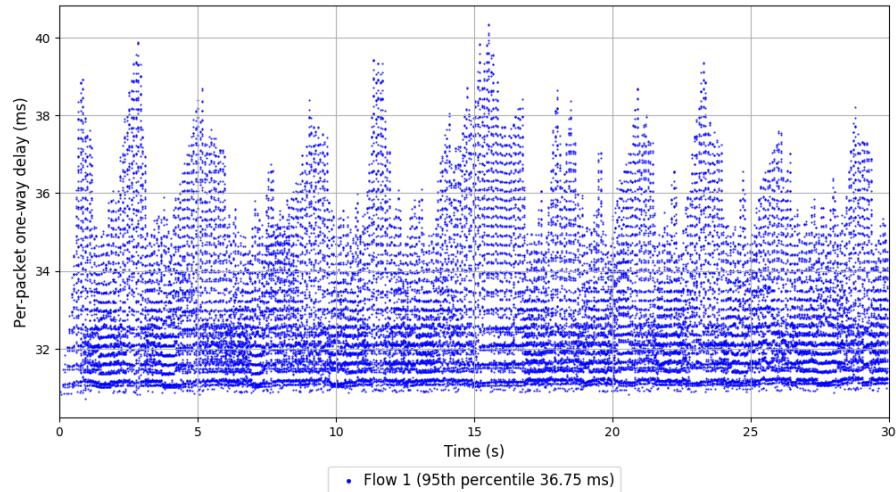
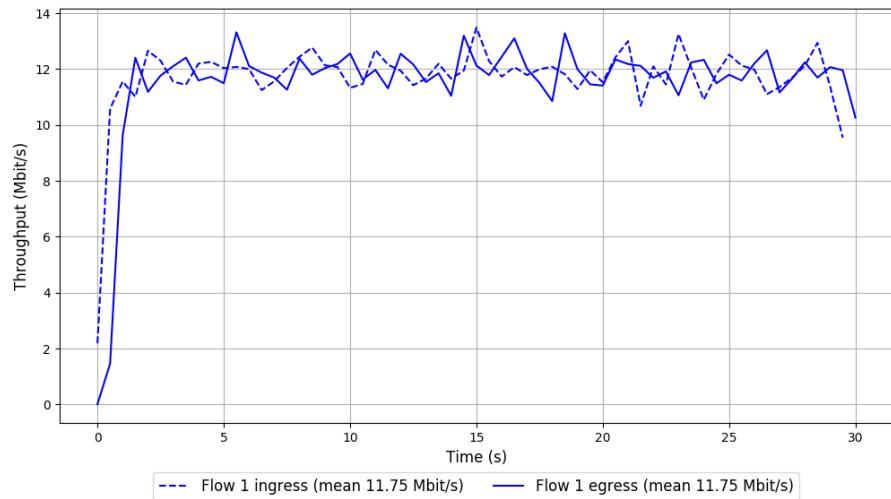


Run 1: Statistics of Sprout

```
Start at: 2018-10-25 23:51:43
End at: 2018-10-25 23:52:13
Local clock offset: -4.075 ms
Remote clock offset: -4.921 ms

# Below is generated by plot.py at 2018-10-26 01:40:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.75 Mbit/s
95th percentile per-packet one-way delay: 36.751 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 11.75 Mbit/s
95th percentile per-packet one-way delay: 36.751 ms
Loss rate: 0.02%
```

Run 1: Report of Sprout — Data Link

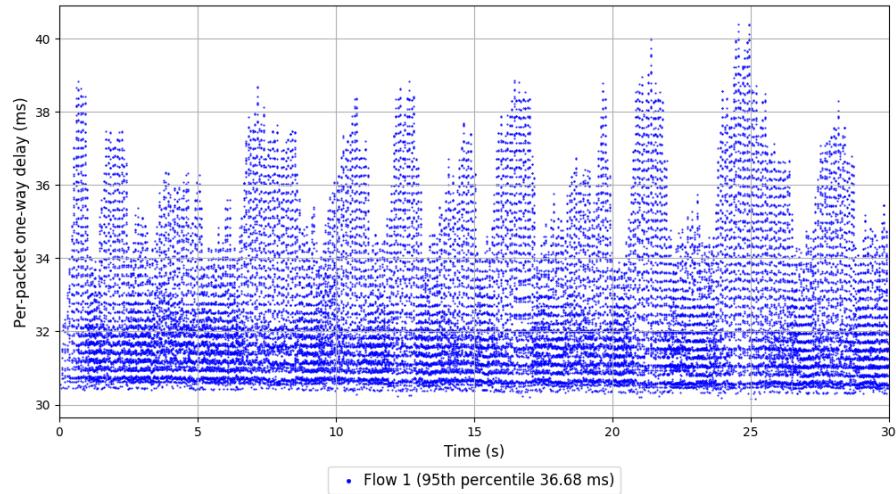
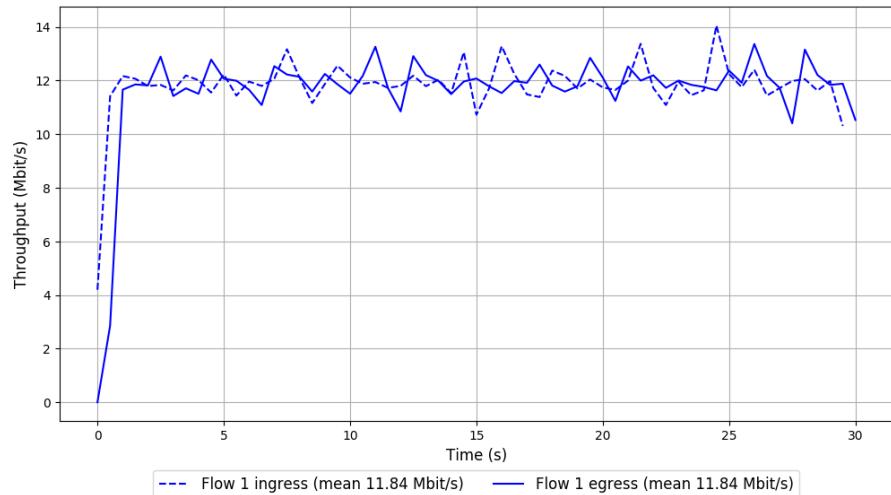


Run 2: Statistics of Sprout

```
Start at: 2018-10-26 00:15:27
End at: 2018-10-26 00:15:57
Local clock offset: -6.377 ms
Remote clock offset: -3.817 ms

# Below is generated by plot.py at 2018-10-26 01:40:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 36.678 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 36.678 ms
Loss rate: 0.01%
```

Run 2: Report of Sprout — Data Link

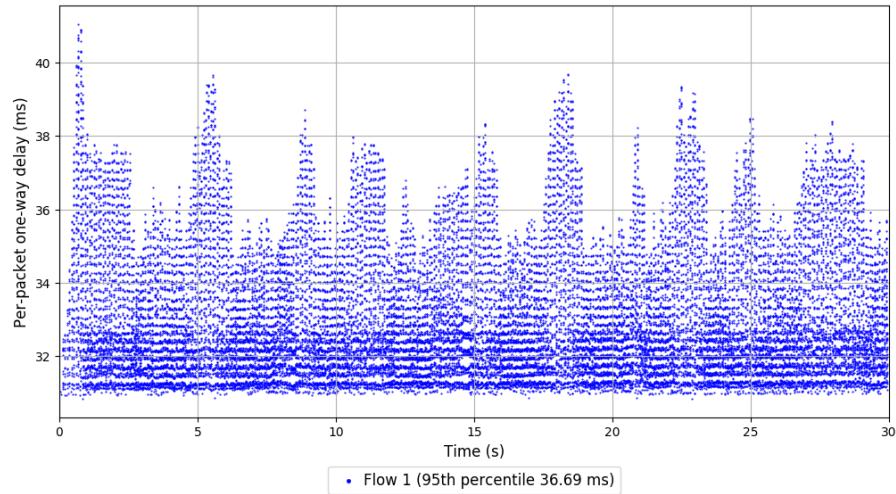
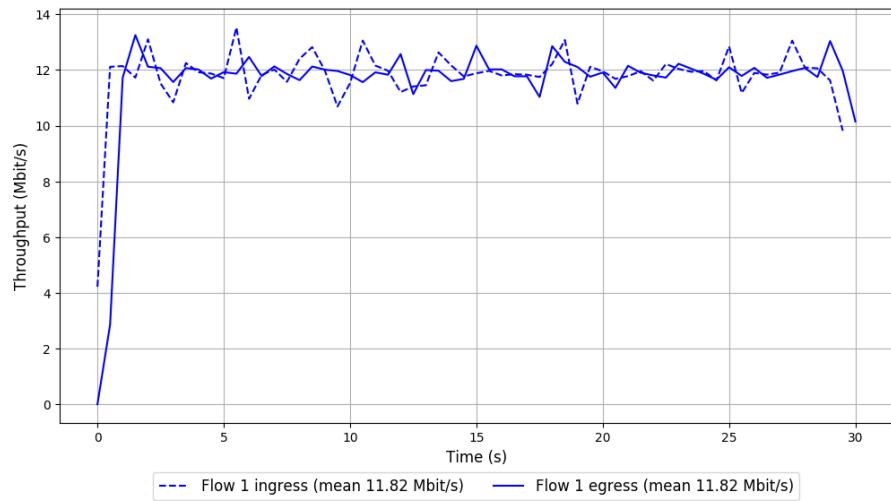


Run 3: Statistics of Sprout

```
Start at: 2018-10-26 00:39:36
End at: 2018-10-26 00:40:07
Local clock offset: -8.387 ms
Remote clock offset: -3.022 ms

# Below is generated by plot.py at 2018-10-26 01:40:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 36.691 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 36.691 ms
Loss rate: 0.01%
```

Run 3: Report of Sprout — Data Link

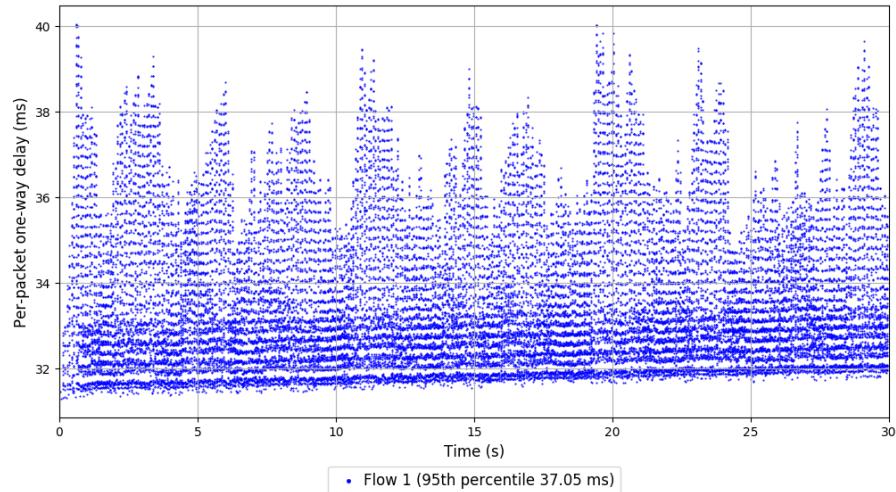
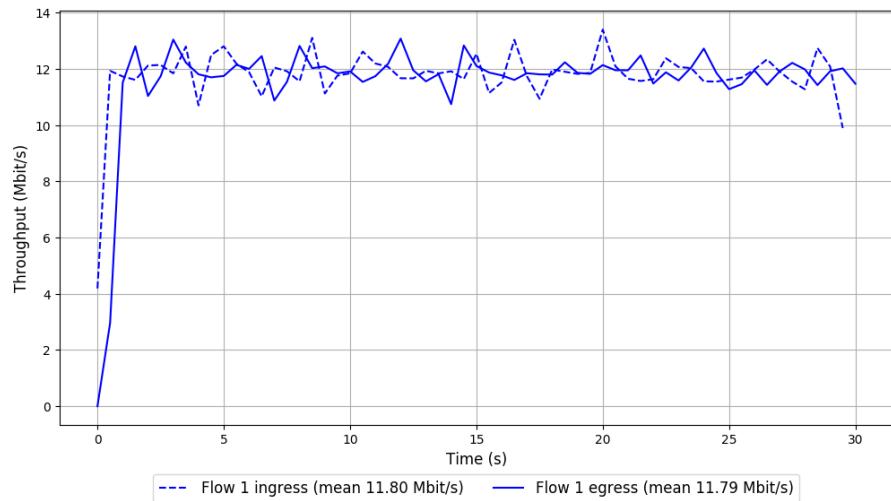


Run 4: Statistics of Sprout

```
Start at: 2018-10-26 01:03:16
End at: 2018-10-26 01:03:46
Local clock offset: -9.401 ms
Remote clock offset: -3.028 ms

# Below is generated by plot.py at 2018-10-26 01:40:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 37.054 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 37.054 ms
Loss rate: 0.04%
```

Run 4: Report of Sprout — Data Link

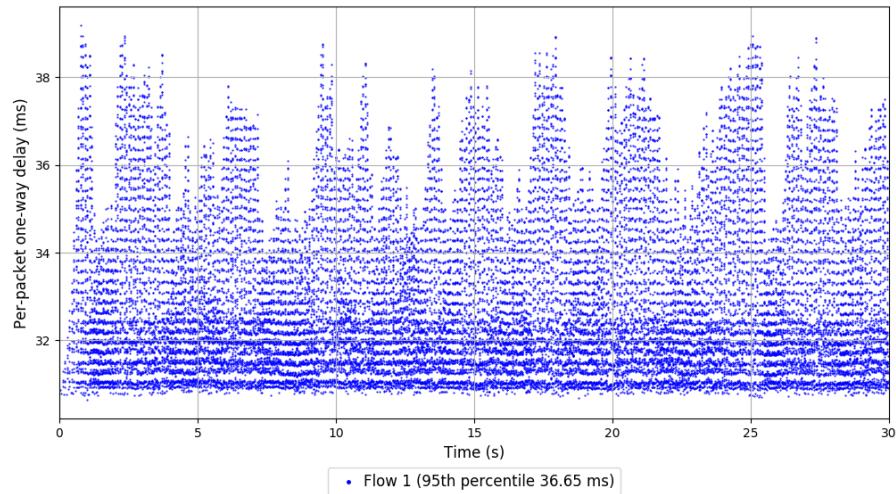
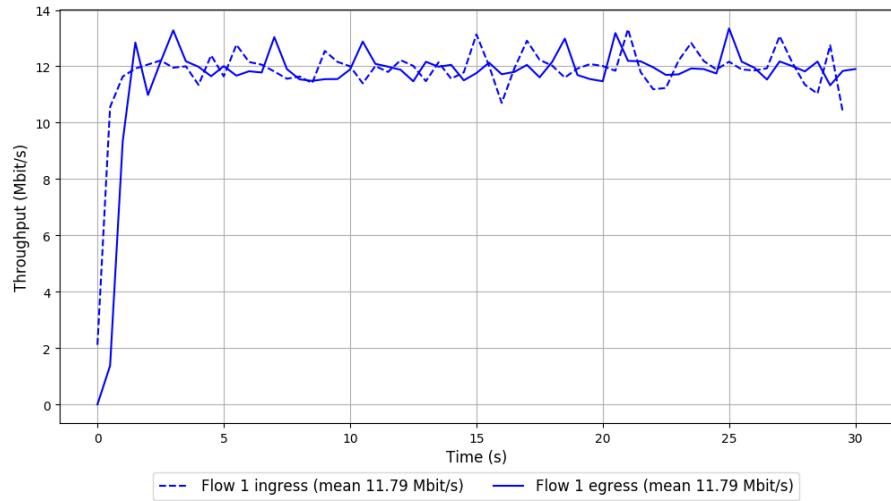


Run 5: Statistics of Sprout

```
Start at: 2018-10-26 01:27:09
End at: 2018-10-26 01:27:39
Local clock offset: -3.387 ms
Remote clock offset: -2.95 ms

# Below is generated by plot.py at 2018-10-26 01:40:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 36.654 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 36.654 ms
Loss rate: 0.03%
```

Run 5: Report of Sprout — Data Link

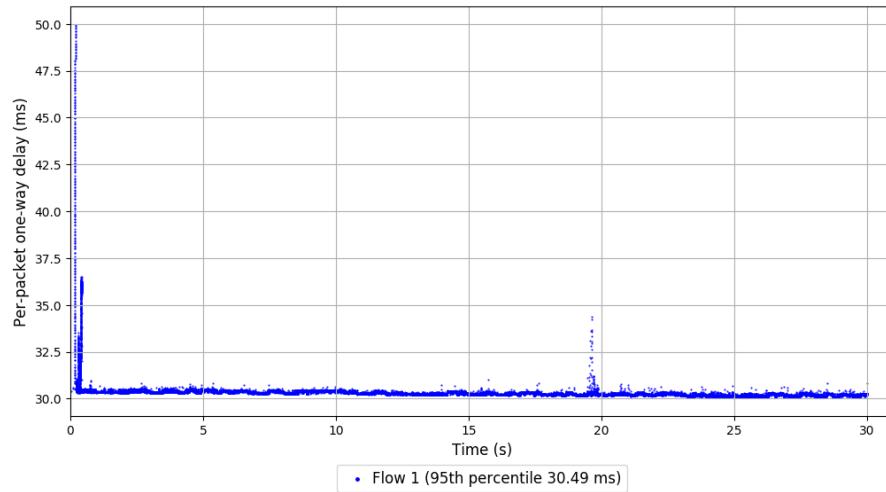
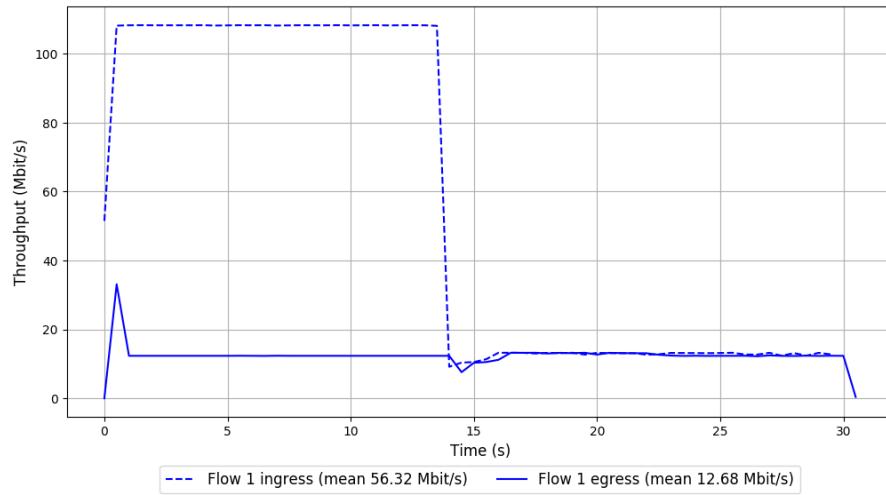


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-10-25 23:46:20
End at: 2018-10-25 23:46:50
Local clock offset: -3.484 ms
Remote clock offset: -5.119 ms

# Below is generated by plot.py at 2018-10-26 01:40:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 30.490 ms
Loss rate: 77.49%
-- Flow 1:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 30.490 ms
Loss rate: 77.49%
```

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

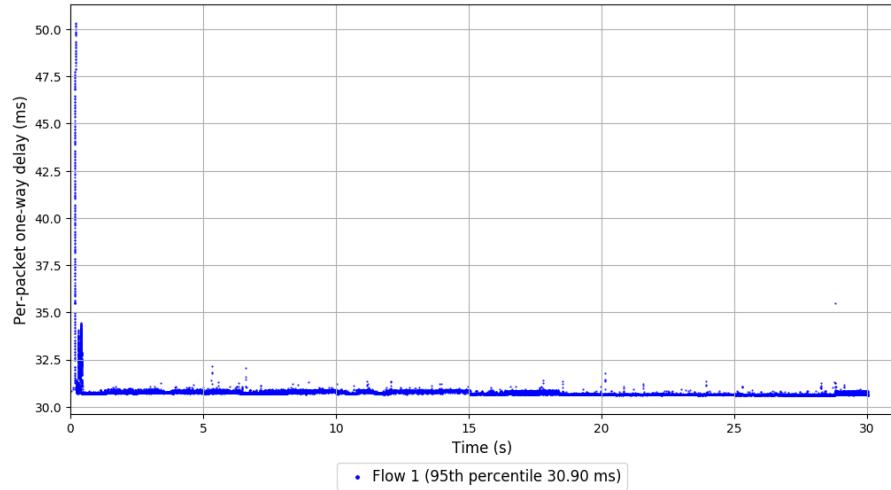
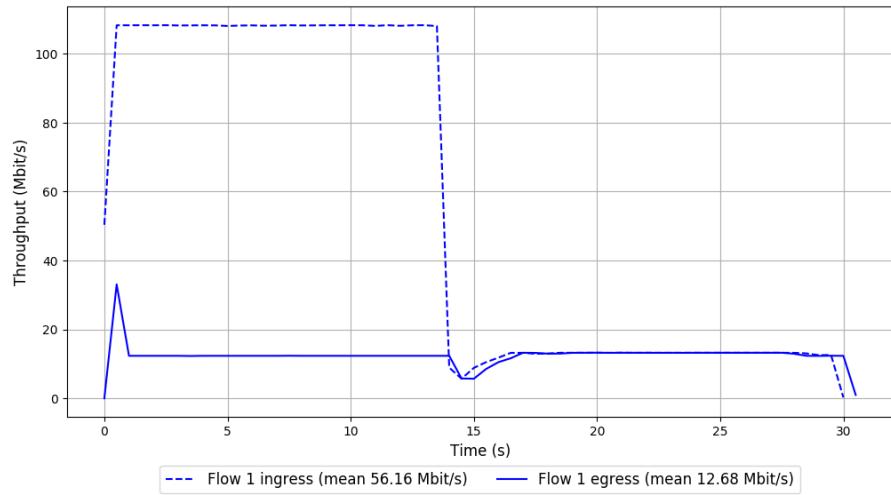


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-10-26 00:10:09
End at: 2018-10-26 00:10:39
Local clock offset: -5.331 ms
Remote clock offset: -3.798 ms

# Below is generated by plot.py at 2018-10-26 01:40:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 30.899 ms
Loss rate: 77.43%
-- Flow 1:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 30.899 ms
Loss rate: 77.43%
```

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

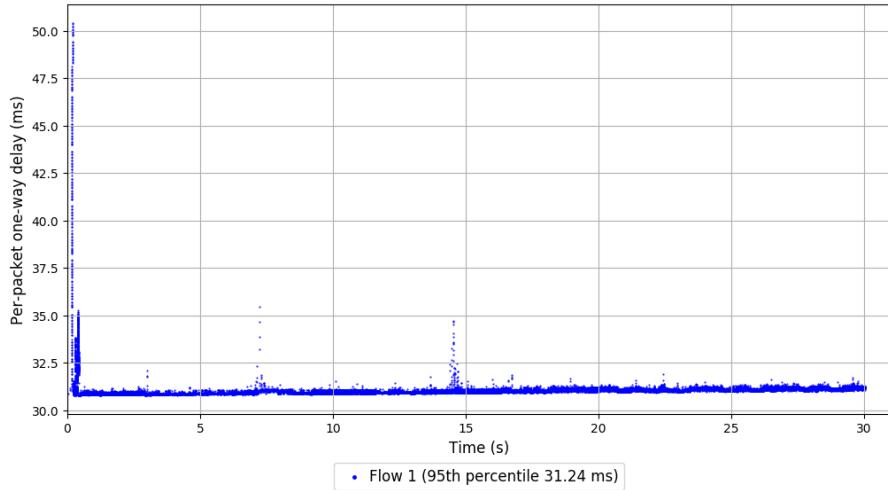
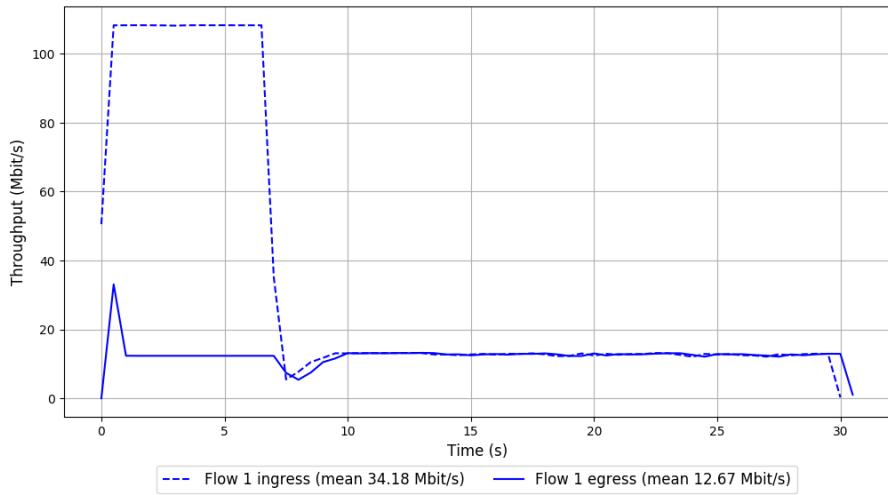


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-10-26 00:34:18
End at: 2018-10-26 00:34:48
Local clock offset: -10.164 ms
Remote clock offset: -3.414 ms

# Below is generated by plot.py at 2018-10-26 01:40:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 31.243 ms
Loss rate: 62.94%
-- Flow 1:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 31.243 ms
Loss rate: 62.94%
```

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

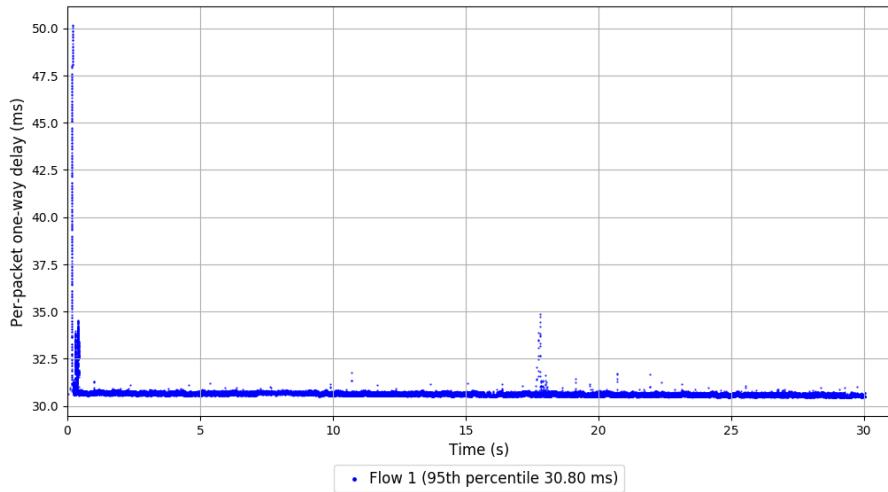
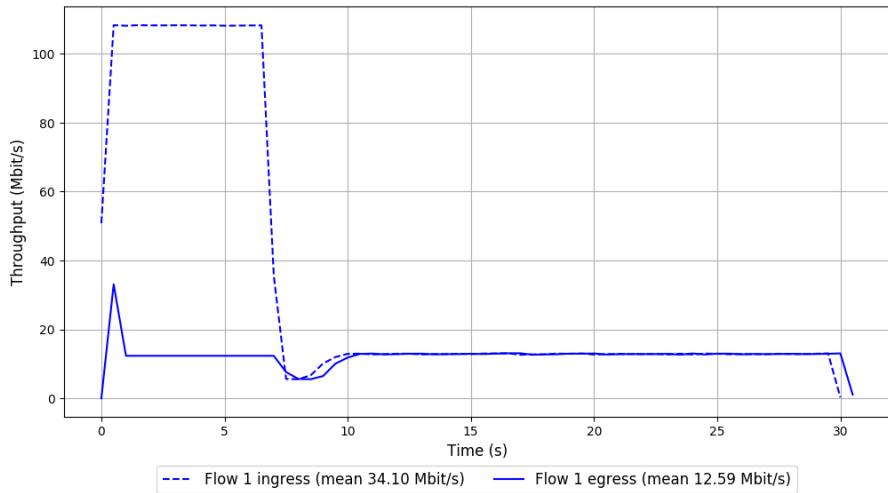


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-10-26 00:58:01
End at: 2018-10-26 00:58:31
Local clock offset: -10.018 ms
Remote clock offset: -3.056 ms

# Below is generated by plot.py at 2018-10-26 01:40:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 30.805 ms
Loss rate: 63.08%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 30.805 ms
Loss rate: 63.08%
```

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

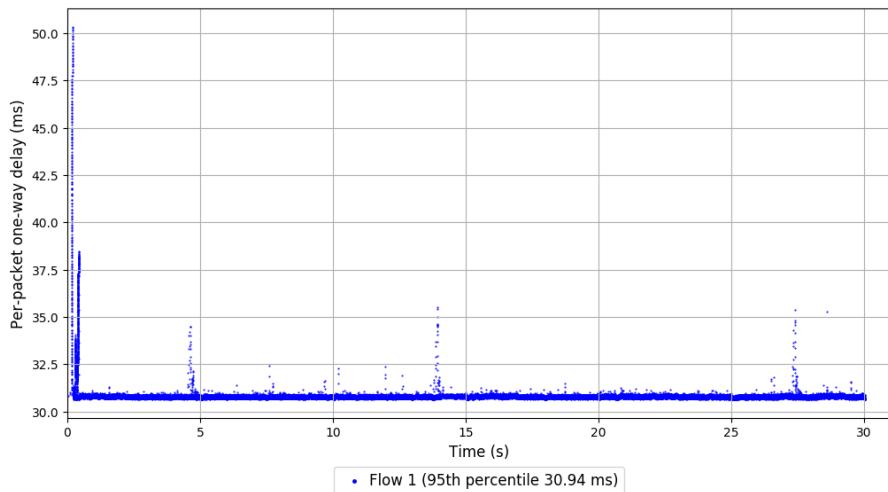
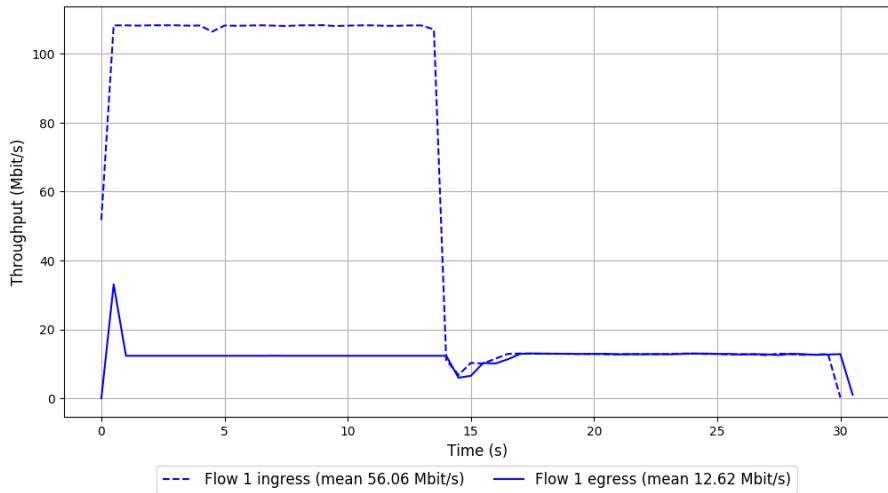


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-10-26 01:21:48
End at: 2018-10-26 01:22:18
Local clock offset: -3.201 ms
Remote clock offset: -3.038 ms

# Below is generated by plot.py at 2018-10-26 01:40:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.62 Mbit/s
95th percentile per-packet one-way delay: 30.941 ms
Loss rate: 77.49%
-- Flow 1:
Average throughput: 12.62 Mbit/s
95th percentile per-packet one-way delay: 30.941 ms
Loss rate: 77.49%
```

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

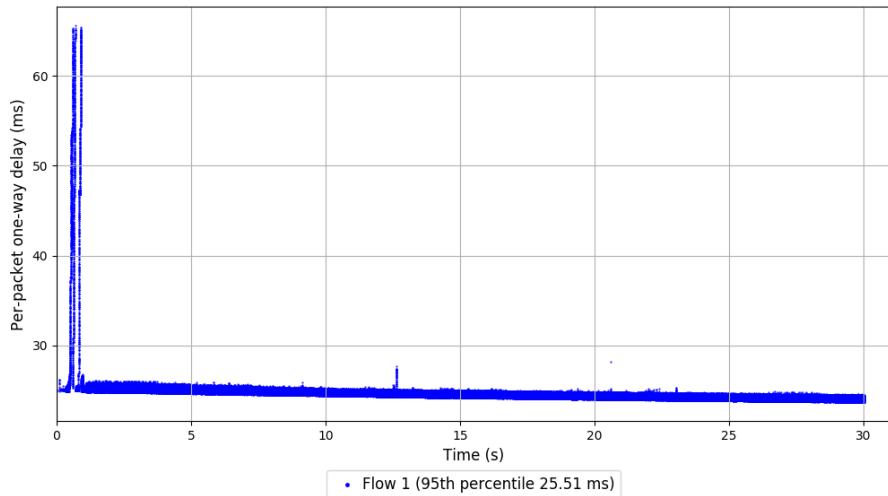
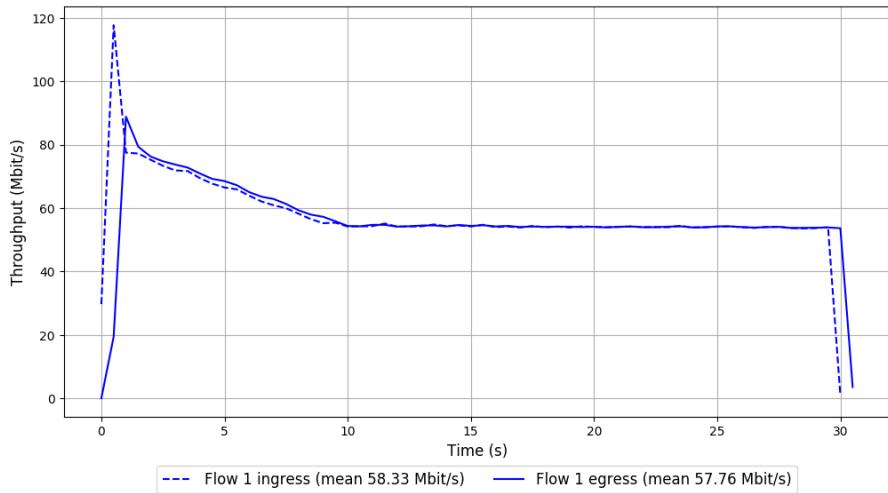


Run 1: Statistics of TCP Vegas

```
Start at: 2018-10-25 23:32:52
End at: 2018-10-25 23:33:22
Local clock offset: 5.521 ms
Remote clock offset: -5.428 ms

# Below is generated by plot.py at 2018-10-26 01:40:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.76 Mbit/s
95th percentile per-packet one-way delay: 25.514 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 57.76 Mbit/s
95th percentile per-packet one-way delay: 25.514 ms
Loss rate: 0.98%
```

Run 1: Report of TCP Vegas — Data Link

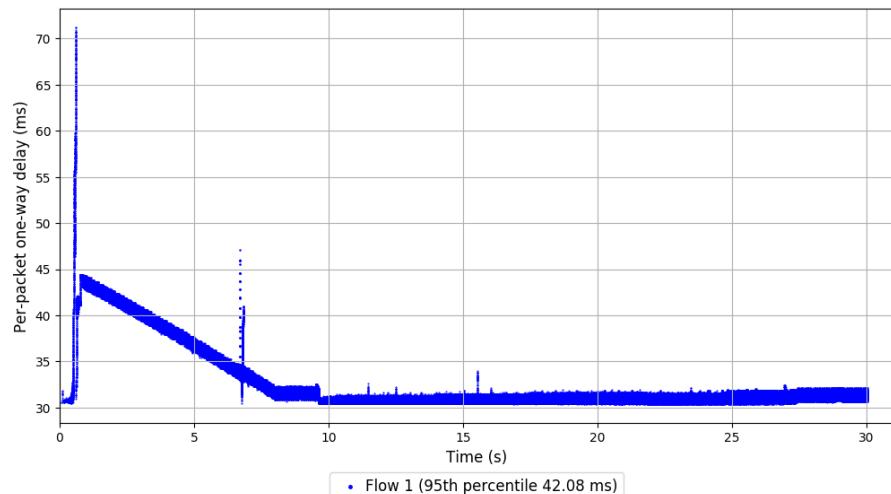
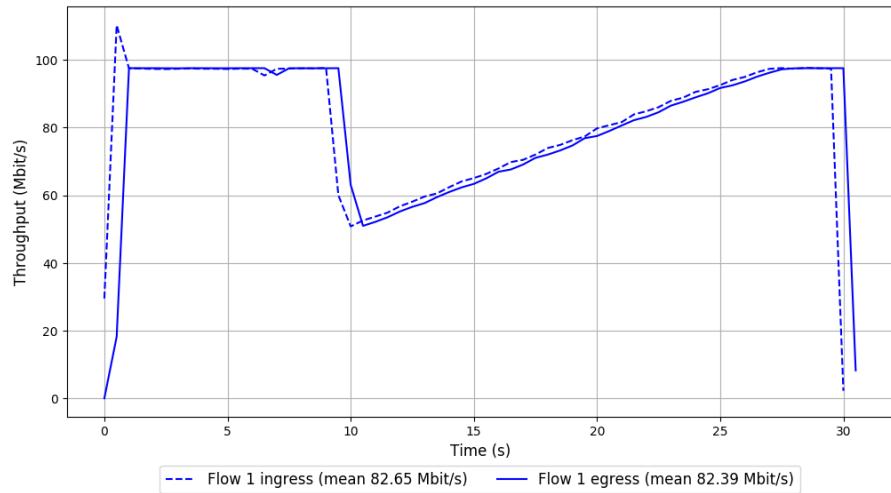


Run 2: Statistics of TCP Vegas

```
Start at: 2018-10-25 23:56:59
End at: 2018-10-25 23:57:29
Local clock offset: -4.185 ms
Remote clock offset: -4.685 ms

# Below is generated by plot.py at 2018-10-26 01:40:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.39 Mbit/s
95th percentile per-packet one-way delay: 42.082 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 82.39 Mbit/s
95th percentile per-packet one-way delay: 42.082 ms
Loss rate: 0.32%
```

Run 2: Report of TCP Vegas — Data Link

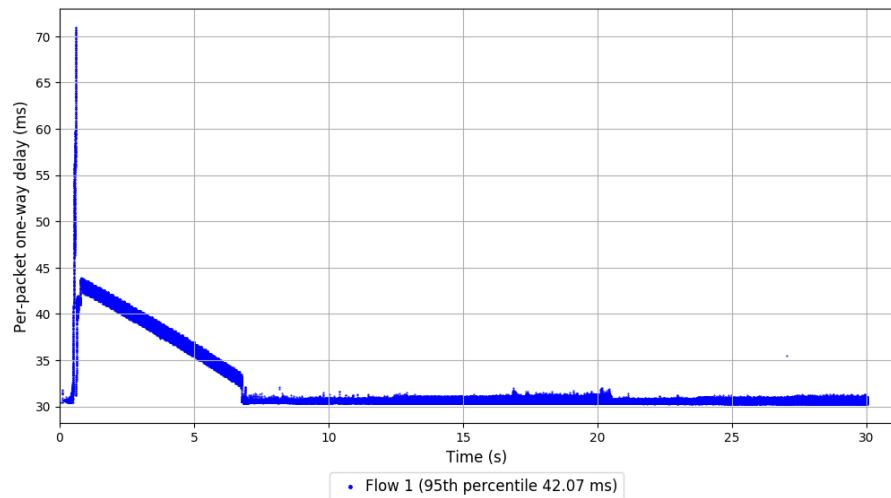
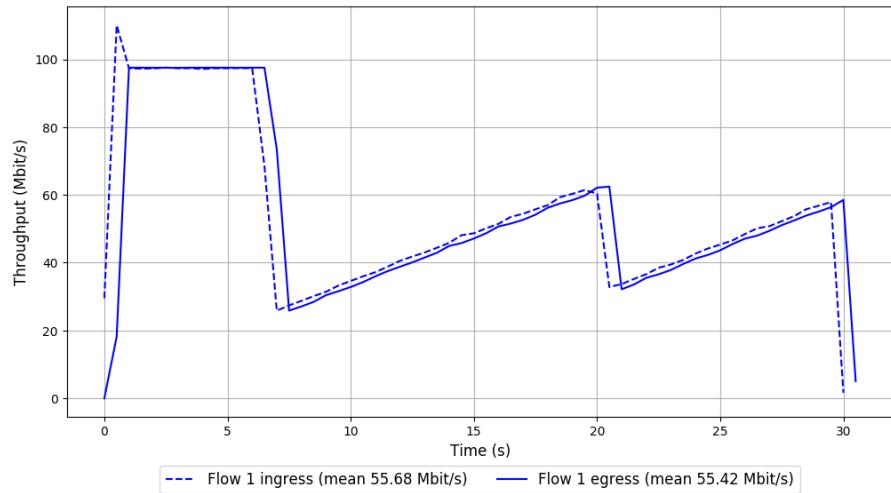


Run 3: Statistics of TCP Vegas

```
Start at: 2018-10-26 00:21:00
End at: 2018-10-26 00:21:30
Local clock offset: -7.918 ms
Remote clock offset: -3.472 ms

# Below is generated by plot.py at 2018-10-26 01:40:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.42 Mbit/s
95th percentile per-packet one-way delay: 42.070 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 55.42 Mbit/s
95th percentile per-packet one-way delay: 42.070 ms
Loss rate: 0.46%
```

Run 3: Report of TCP Vegas — Data Link

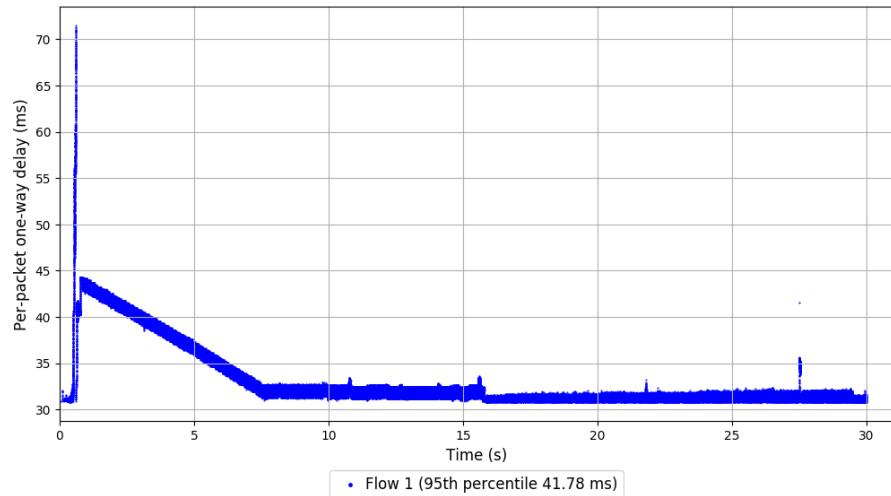
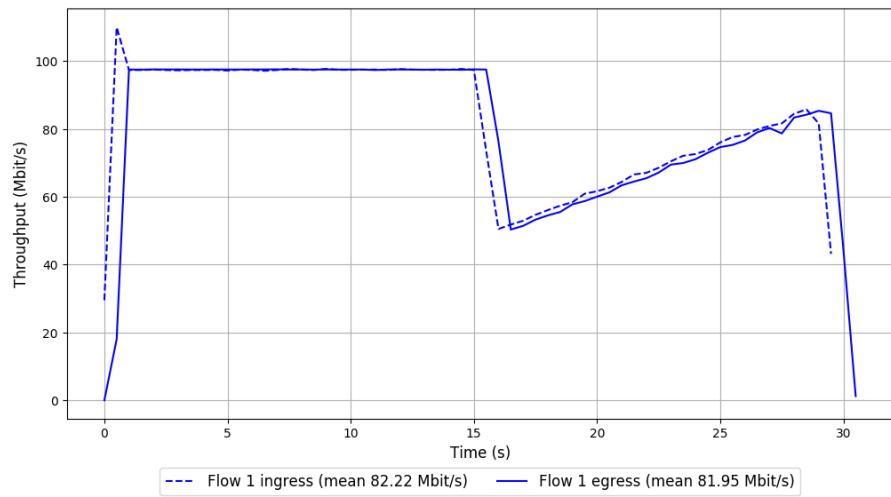


Run 4: Statistics of TCP Vegas

```
Start at: 2018-10-26 00:44:50
End at: 2018-10-26 00:45:20
Local clock offset: -8.05 ms
Remote clock offset: -2.987 ms

# Below is generated by plot.py at 2018-10-26 01:41:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.95 Mbit/s
95th percentile per-packet one-way delay: 41.780 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 81.95 Mbit/s
95th percentile per-packet one-way delay: 41.780 ms
Loss rate: 0.33%
```

Run 4: Report of TCP Vegas — Data Link

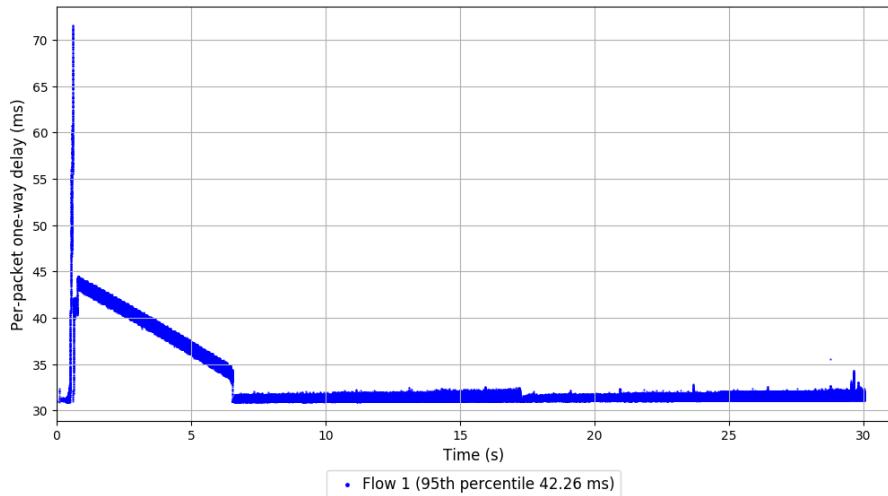
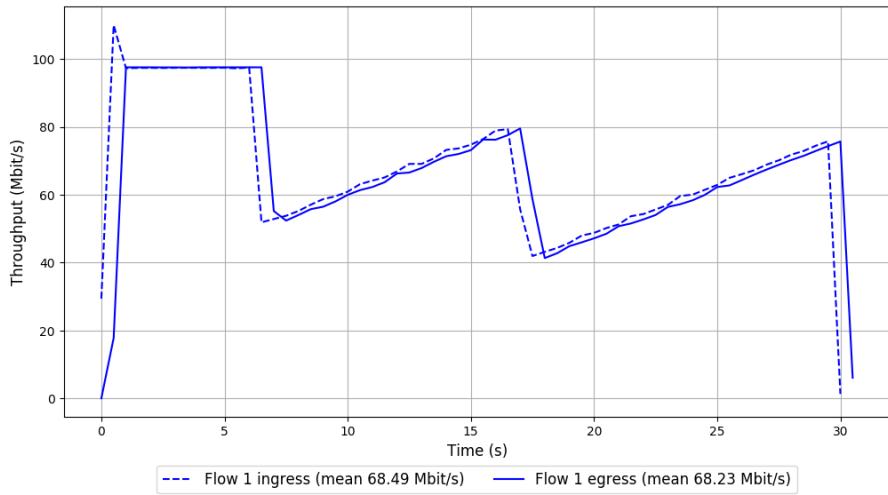


Run 5: Statistics of TCP Vegas

```
Start at: 2018-10-26 01:08:31
End at: 2018-10-26 01:09:01
Local clock offset: -5.685 ms
Remote clock offset: -3.181 ms

# Below is generated by plot.py at 2018-10-26 01:41:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.23 Mbit/s
95th percentile per-packet one-way delay: 42.263 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 68.23 Mbit/s
95th percentile per-packet one-way delay: 42.263 ms
Loss rate: 0.38%
```

Run 5: Report of TCP Vegas — Data Link

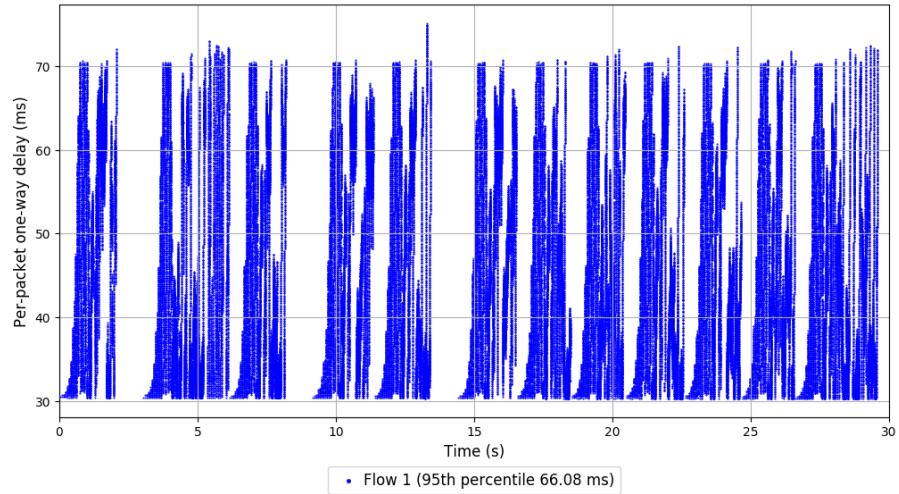
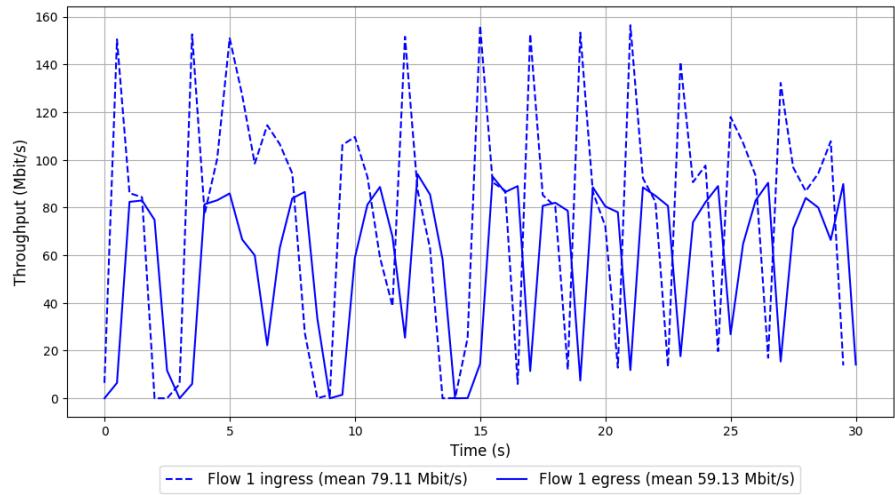


Run 1: Statistics of Verus

```
Start at: 2018-10-25 23:55:39
End at: 2018-10-25 23:56:09
Local clock offset: -3.959 ms
Remote clock offset: -4.891 ms

# Below is generated by plot.py at 2018-10-26 01:41:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.13 Mbit/s
95th percentile per-packet one-way delay: 66.084 ms
Loss rate: 25.20%
-- Flow 1:
Average throughput: 59.13 Mbit/s
95th percentile per-packet one-way delay: 66.084 ms
Loss rate: 25.20%
```

Run 1: Report of Verus — Data Link

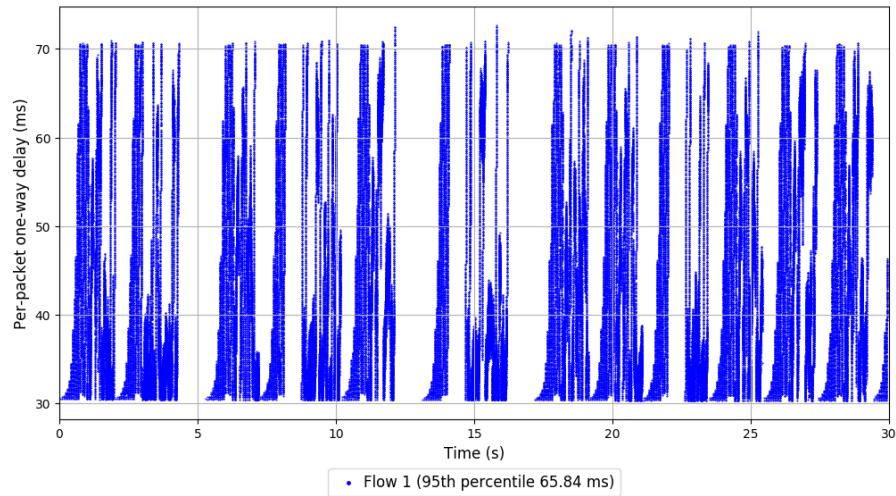
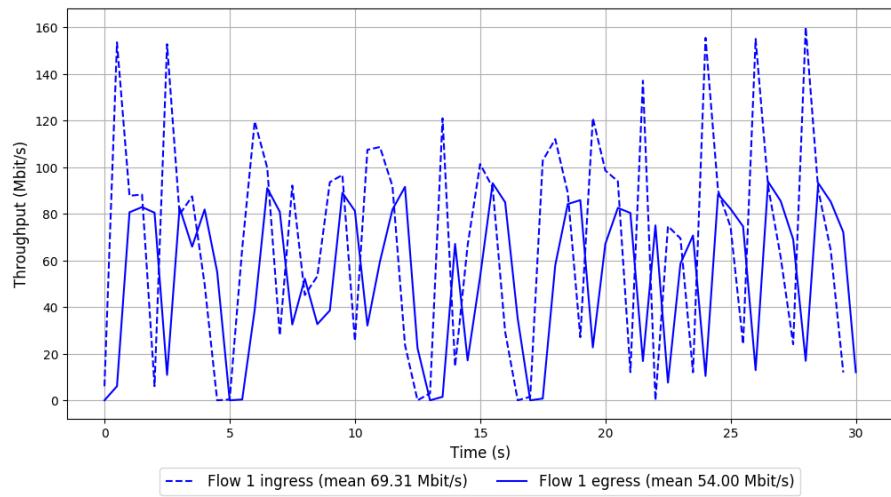


Run 2: Statistics of Verus

```
Start at: 2018-10-26 00:19:33
End at: 2018-10-26 00:20:03
Local clock offset: -7.496 ms
Remote clock offset: -3.535 ms

# Below is generated by plot.py at 2018-10-26 01:41:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.00 Mbit/s
95th percentile per-packet one-way delay: 65.843 ms
Loss rate: 22.05%
-- Flow 1:
Average throughput: 54.00 Mbit/s
95th percentile per-packet one-way delay: 65.843 ms
Loss rate: 22.05%
```

Run 2: Report of Verus — Data Link

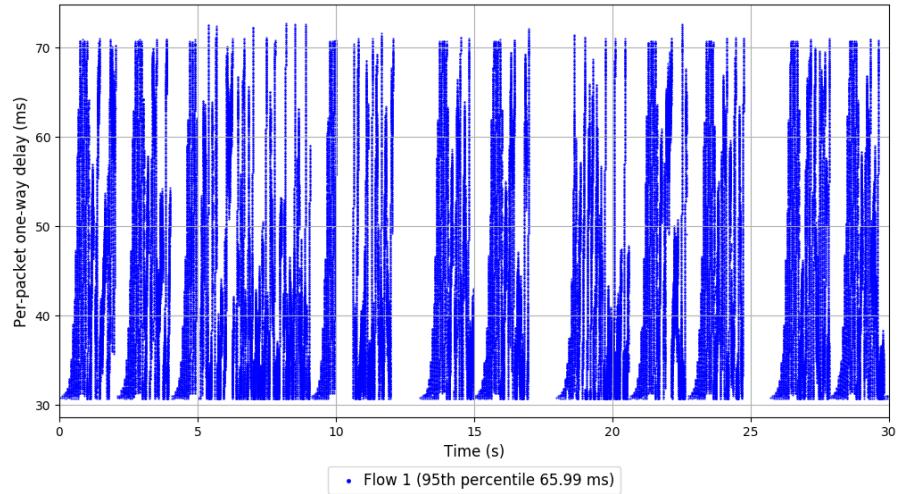
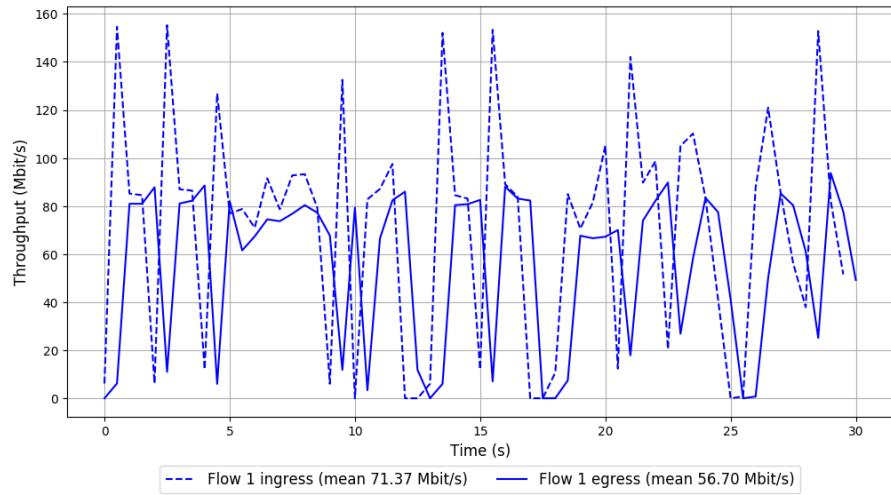


Run 3: Statistics of Verus

```
Start at: 2018-10-26 00:43:31
End at: 2018-10-26 00:44:01
Local clock offset: -8.034 ms
Remote clock offset: -3.025 ms

# Below is generated by plot.py at 2018-10-26 01:41:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.70 Mbit/s
95th percentile per-packet one-way delay: 65.993 ms
Loss rate: 20.55%
-- Flow 1:
Average throughput: 56.70 Mbit/s
95th percentile per-packet one-way delay: 65.993 ms
Loss rate: 20.55%
```

Run 3: Report of Verus — Data Link

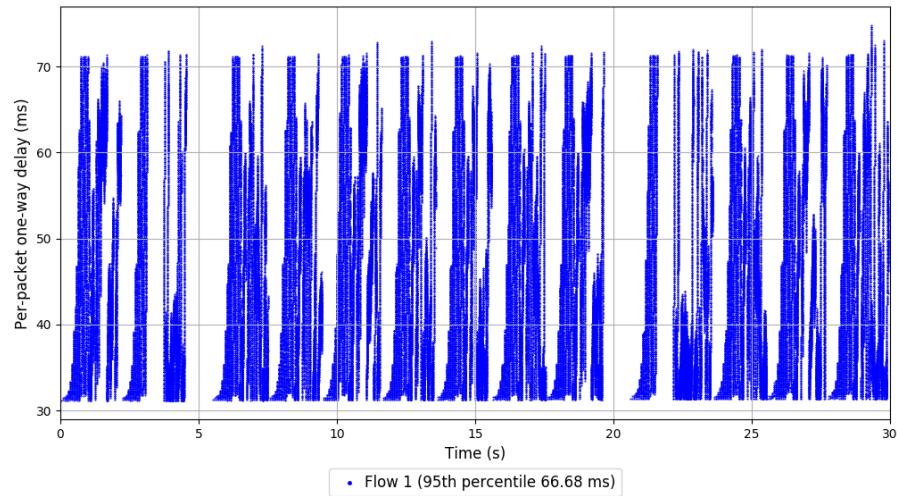
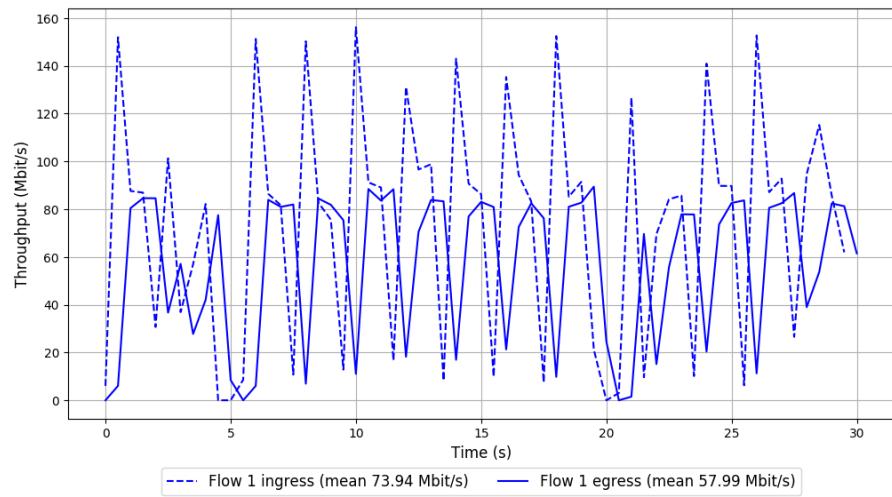


Run 4: Statistics of Verus

```
Start at: 2018-10-26 01:07:11
End at: 2018-10-26 01:07:41
Local clock offset: -6.389 ms
Remote clock offset: -2.992 ms

# Below is generated by plot.py at 2018-10-26 01:41:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.99 Mbit/s
95th percentile per-packet one-way delay: 66.680 ms
Loss rate: 21.54%
-- Flow 1:
Average throughput: 57.99 Mbit/s
95th percentile per-packet one-way delay: 66.680 ms
Loss rate: 21.54%
```

Run 4: Report of Verus — Data Link

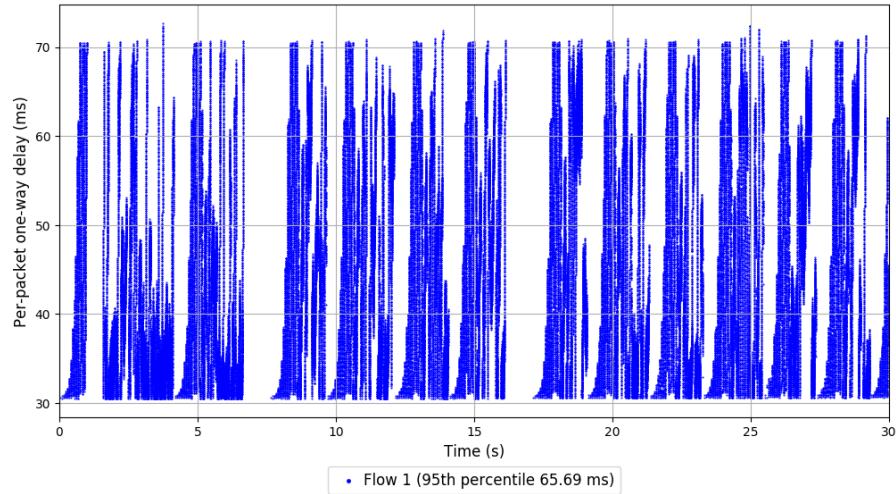
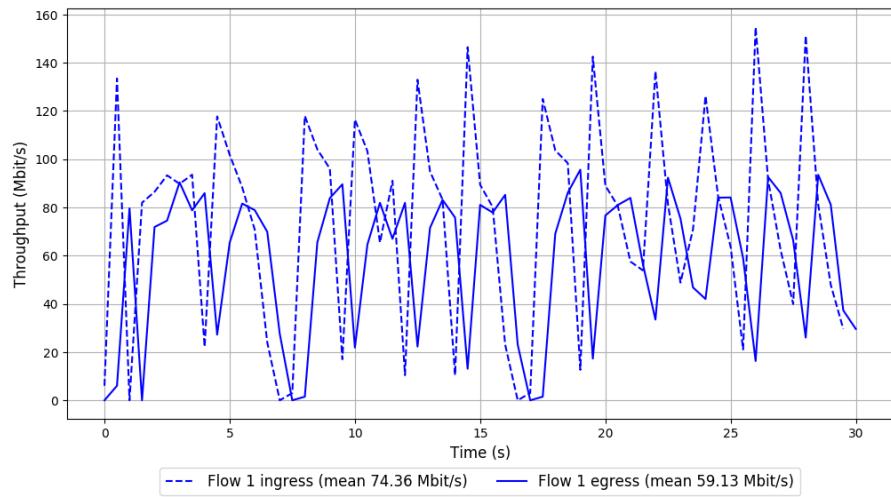


Run 5: Statistics of Verus

```
Start at: 2018-10-26 01:31:07
End at: 2018-10-26 01:31:37
Local clock offset: -3.677 ms
Remote clock offset: -3.186 ms

# Below is generated by plot.py at 2018-10-26 01:41:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.13 Mbit/s
95th percentile per-packet one-way delay: 65.693 ms
Loss rate: 20.45%
-- Flow 1:
Average throughput: 59.13 Mbit/s
95th percentile per-packet one-way delay: 65.693 ms
Loss rate: 20.45%
```

Run 5: Report of Verus — Data Link

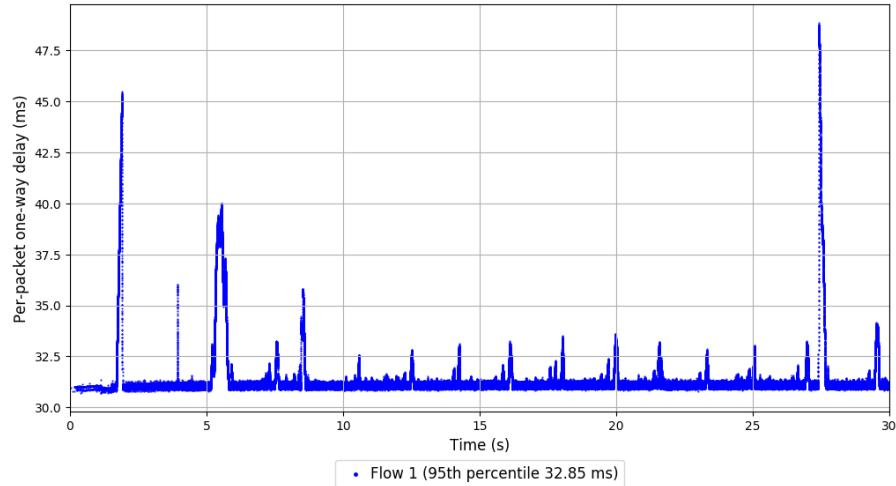
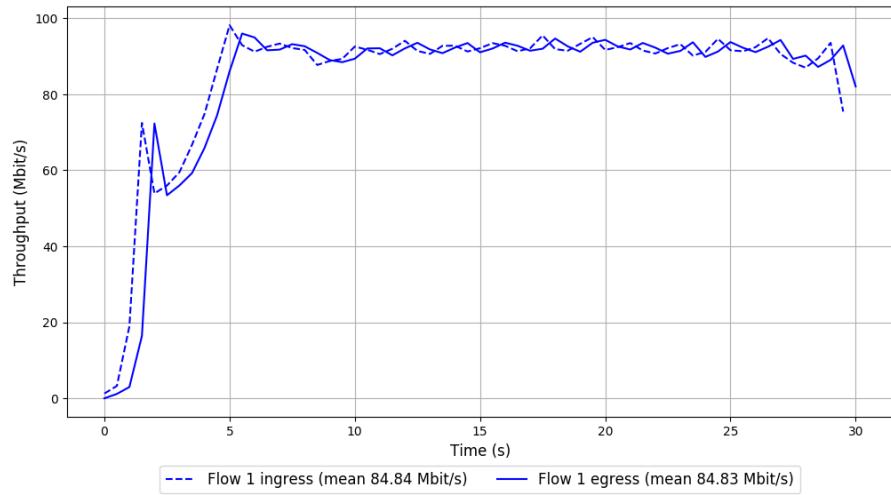


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-10-25 23:42:15
End at: 2018-10-25 23:42:45
Local clock offset: -2.963 ms
Remote clock offset: -5.205 ms

# Below is generated by plot.py at 2018-10-26 01:41:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.83 Mbit/s
95th percentile per-packet one-way delay: 32.848 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 84.83 Mbit/s
95th percentile per-packet one-way delay: 32.848 ms
Loss rate: 0.01%
```

Run 1: Report of PCC-Vivace — Data Link

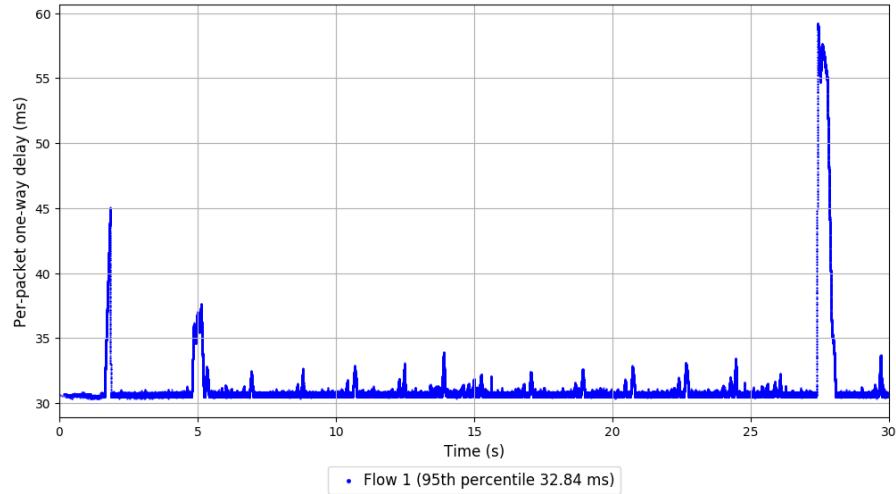
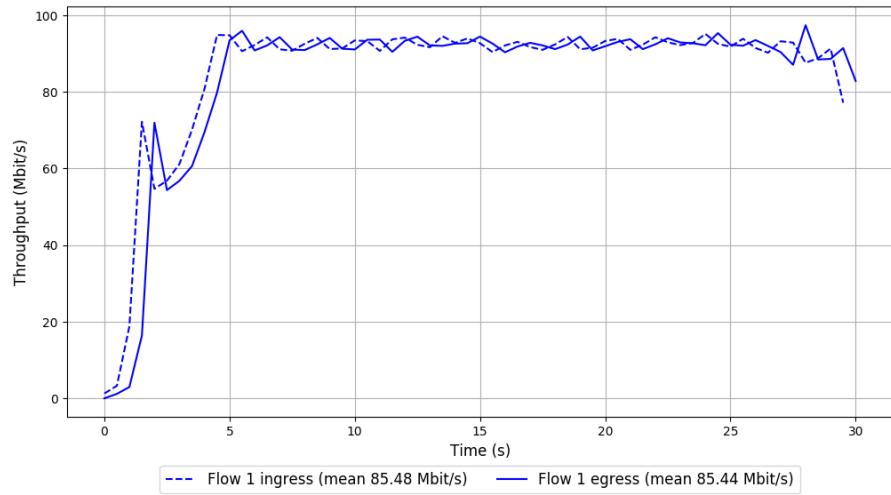


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-10-26 00:06:10
End at: 2018-10-26 00:06:40
Local clock offset: -5.114 ms
Remote clock offset: -4.241 ms

# Below is generated by plot.py at 2018-10-26 01:41:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.44 Mbit/s
95th percentile per-packet one-way delay: 32.844 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 85.44 Mbit/s
95th percentile per-packet one-way delay: 32.844 ms
Loss rate: 0.04%
```

Run 2: Report of PCC-Vivace — Data Link

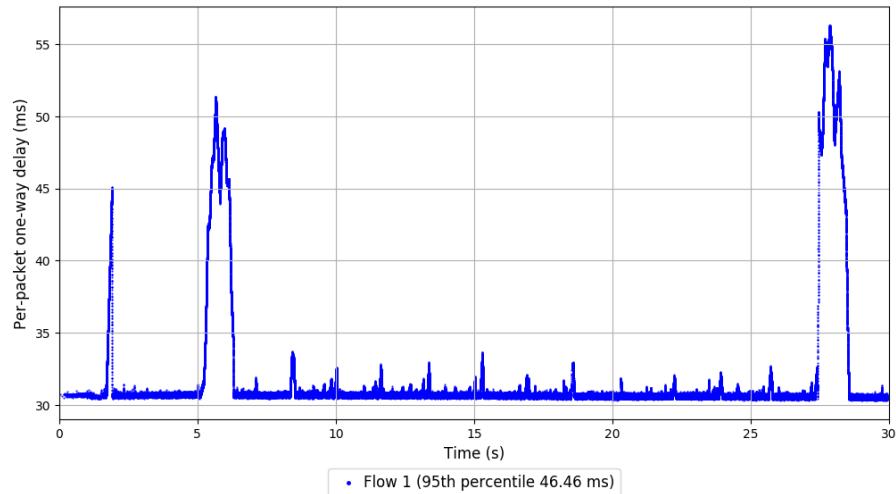
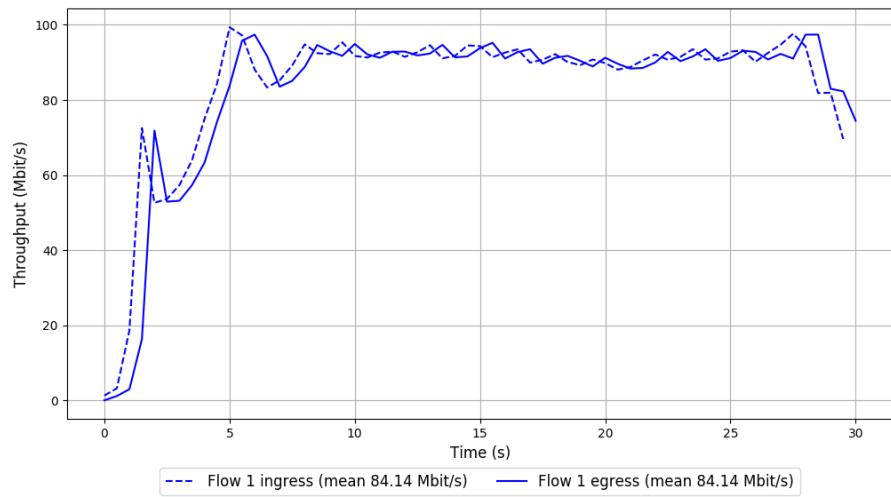


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-10-26 00:30:18
End at: 2018-10-26 00:30:48
Local clock offset: -11.293 ms
Remote clock offset: -3.23 ms

# Below is generated by plot.py at 2018-10-26 01:41:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.14 Mbit/s
95th percentile per-packet one-way delay: 46.459 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 84.14 Mbit/s
95th percentile per-packet one-way delay: 46.459 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Vivace — Data Link

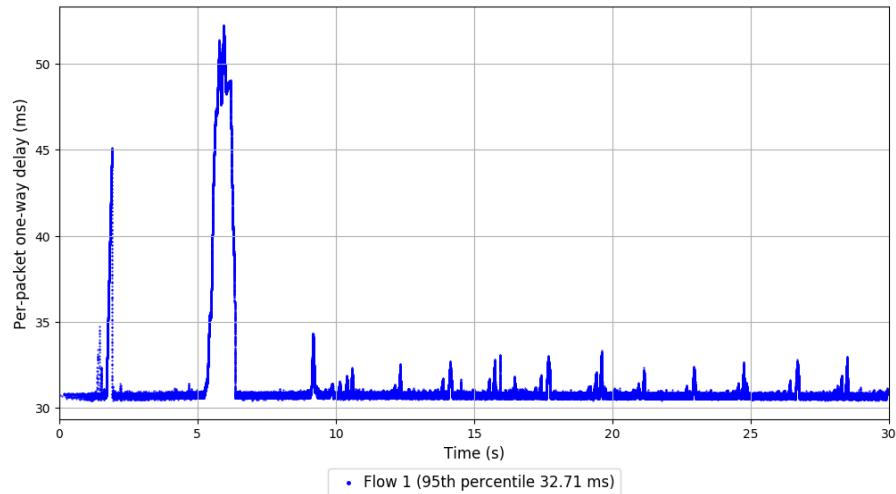
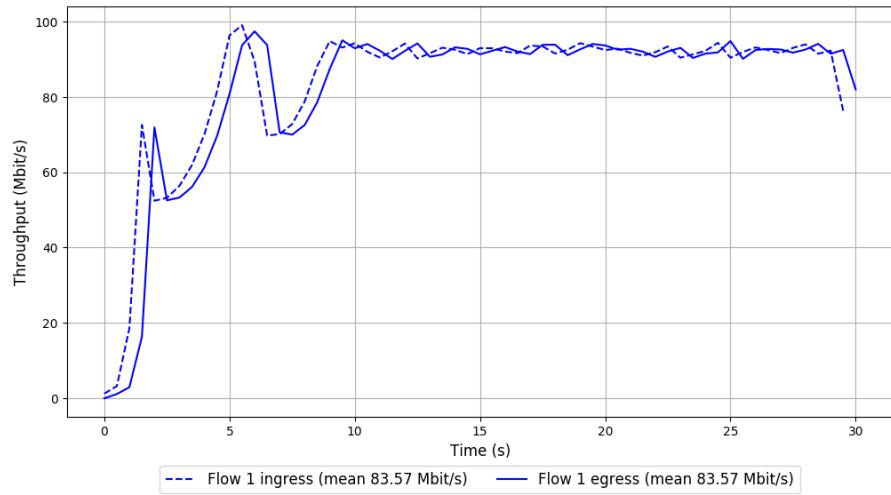


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-10-26 00:54:04
End at: 2018-10-26 00:54:34
Local clock offset: -9.227 ms
Remote clock offset: -3.035 ms

# Below is generated by plot.py at 2018-10-26 01:41:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.57 Mbit/s
95th percentile per-packet one-way delay: 32.708 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 83.57 Mbit/s
95th percentile per-packet one-way delay: 32.708 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link

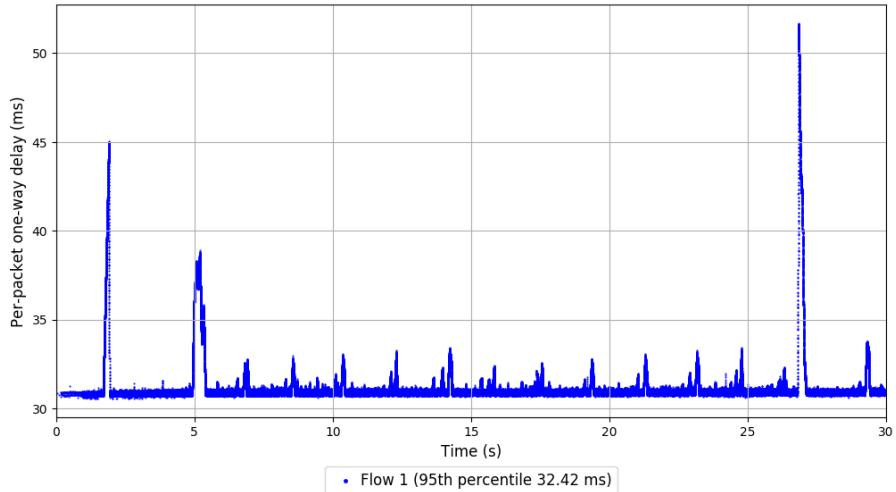
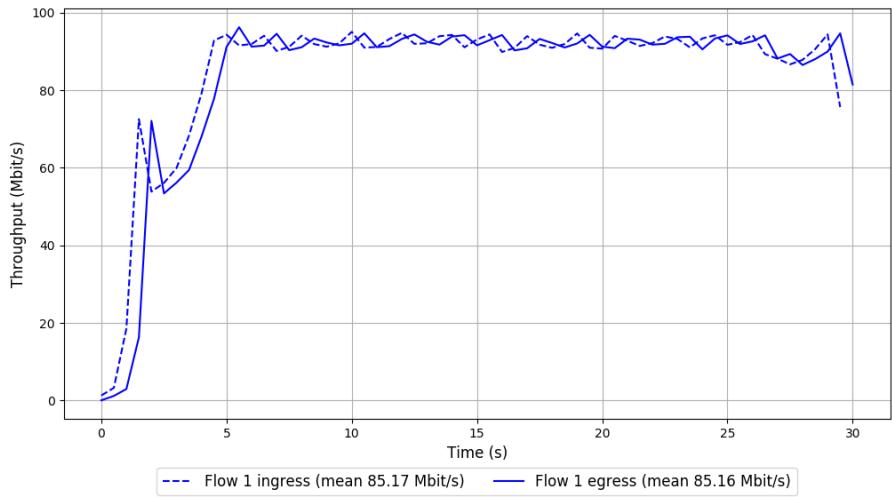


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-10-26 01:17:46
End at: 2018-10-26 01:18:16
Local clock offset: -3.348 ms
Remote clock offset: -3.006 ms

# Below is generated by plot.py at 2018-10-26 01:41:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.16 Mbit/s
95th percentile per-packet one-way delay: 32.420 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 85.16 Mbit/s
95th percentile per-packet one-way delay: 32.420 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Vivace — Data Link

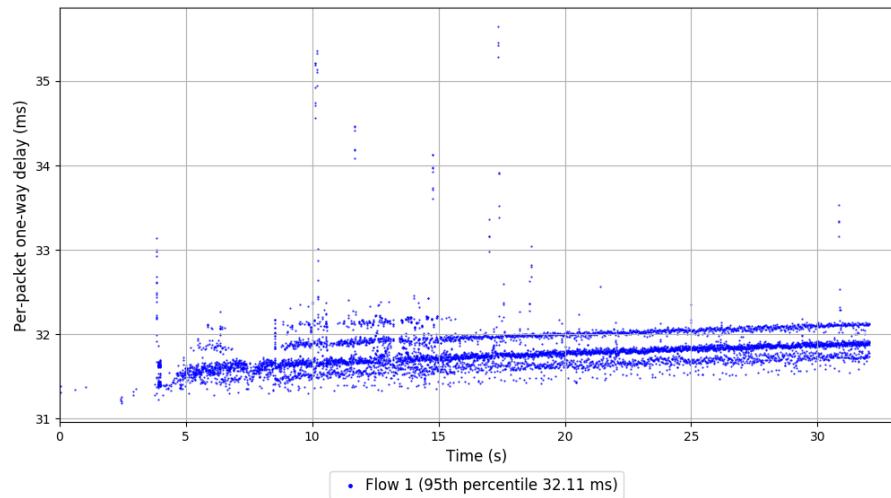
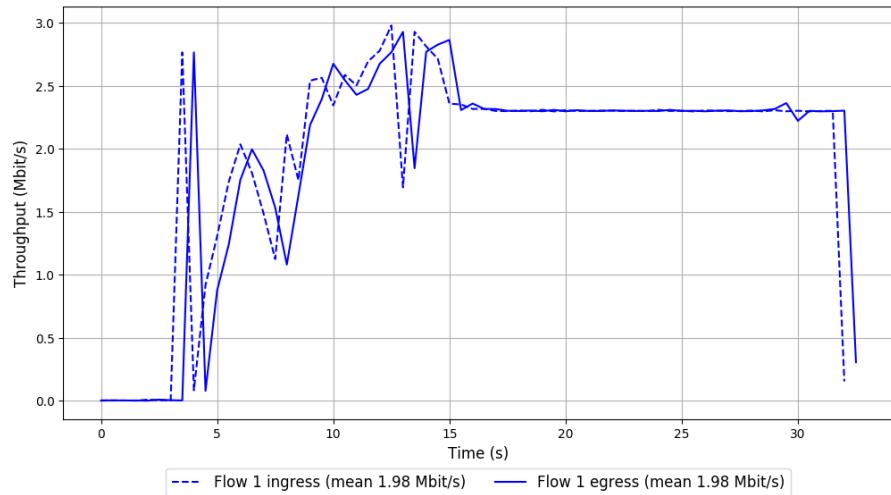


```
Run 1: Statistics of WebRTC media
```

```
Start at: 2018-10-25 23:40:58
End at: 2018-10-25 23:41:28
Local clock offset: -3.953 ms
Remote clock offset: -5.183 ms

# Below is generated by plot.py at 2018-10-26 01:41:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 32.109 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 32.109 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

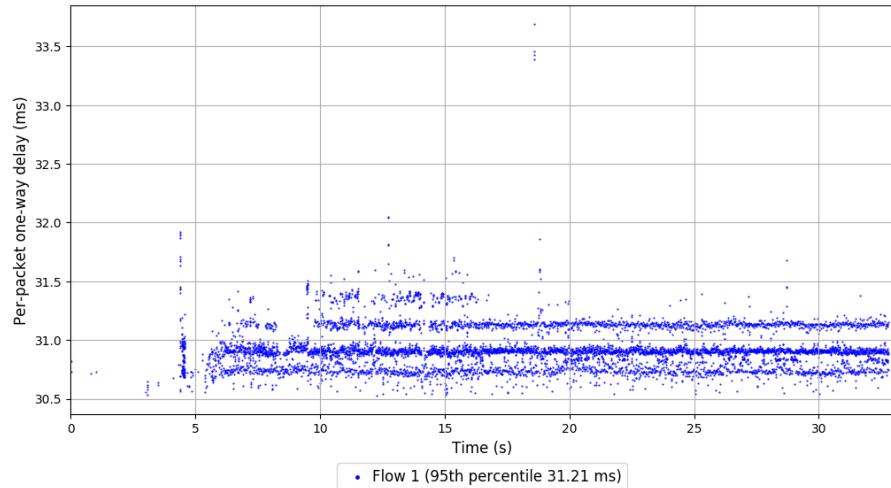
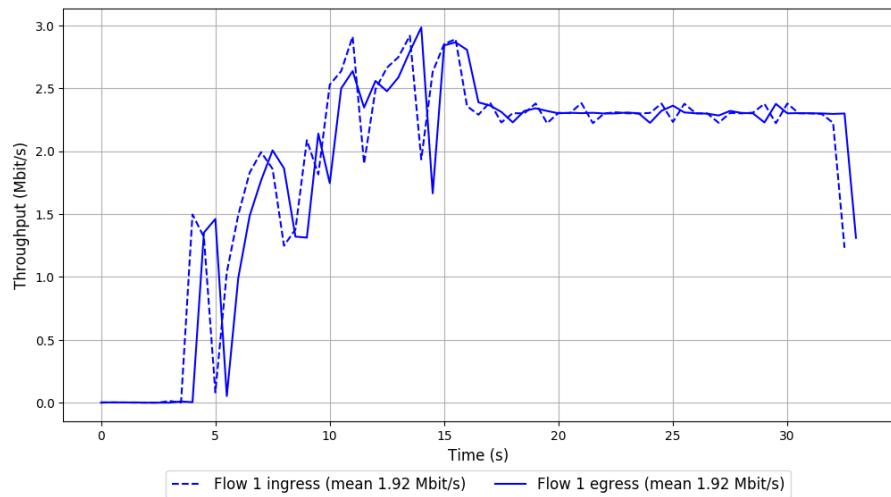


Run 2: Statistics of WebRTC media

```
Start at: 2018-10-26 00:04:54
End at: 2018-10-26 00:05:24
Local clock offset: -5.215 ms
Remote clock offset: -4.211 ms

# Below is generated by plot.py at 2018-10-26 01:41:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 31.210 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 31.210 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

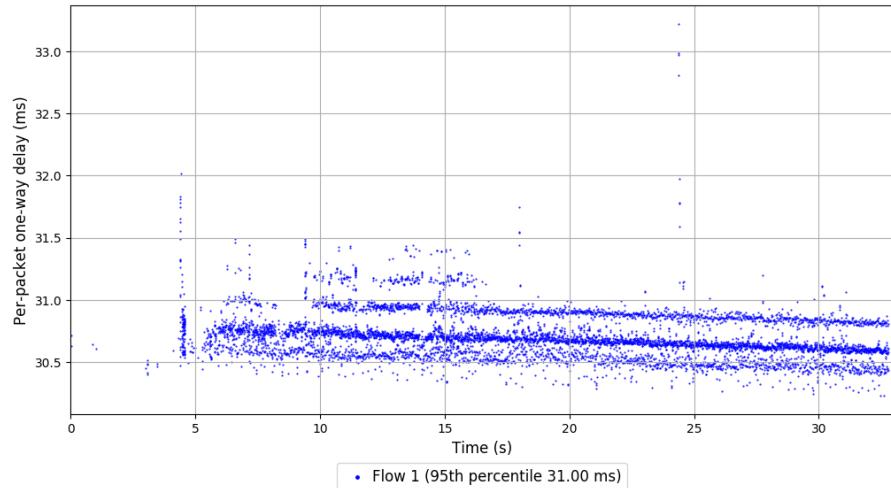
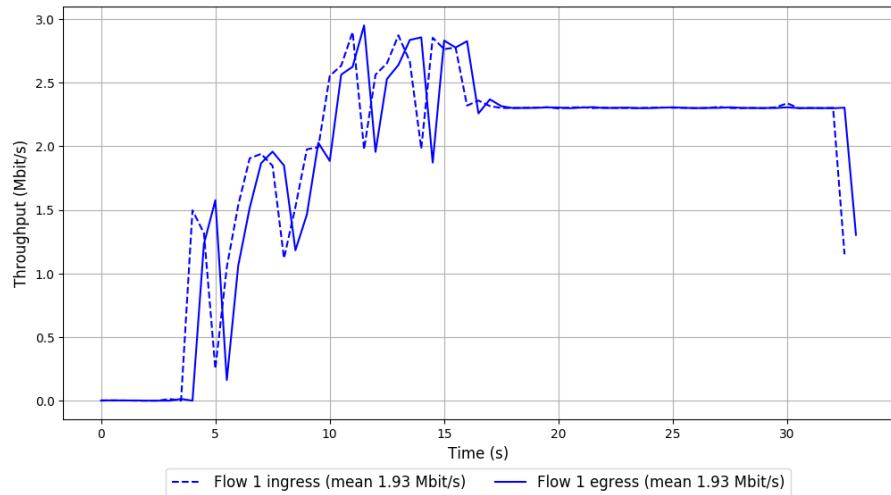


Run 3: Statistics of WebRTC media

```
Start at: 2018-10-26 00:29:02
End at: 2018-10-26 00:29:32
Local clock offset: -10.792 ms
Remote clock offset: -3.275 ms

# Below is generated by plot.py at 2018-10-26 01:41:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 31.003 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 31.003 ms
Loss rate: 0.03%
```

Run 3: Report of WebRTC media — Data Link

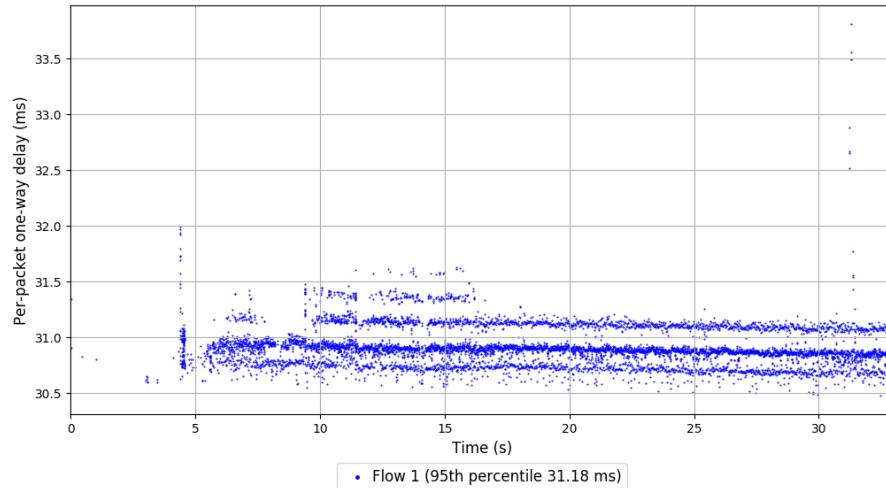
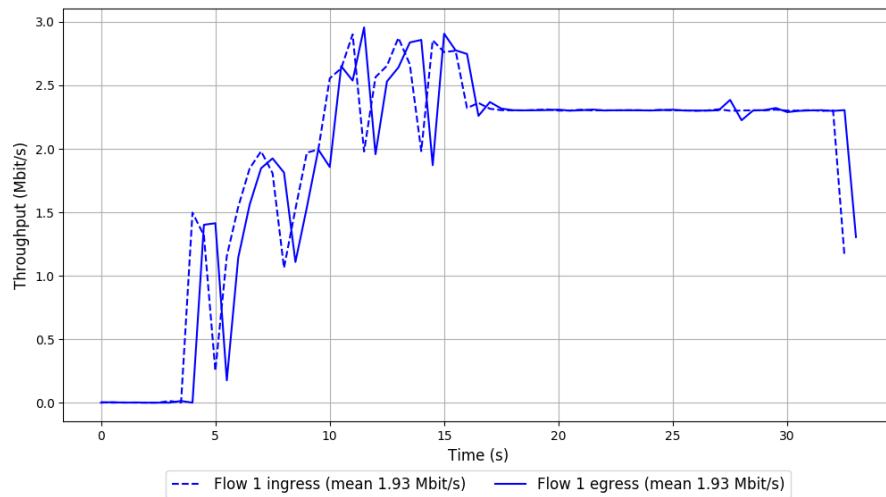


Run 4: Statistics of WebRTC media

```
Start at: 2018-10-26 00:52:48
End at: 2018-10-26 00:53:18
Local clock offset: -9.008 ms
Remote clock offset: -2.954 ms

# Below is generated by plot.py at 2018-10-26 01:41:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 31.184 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 31.184 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-10-26 01:16:29
End at: 2018-10-26 01:17:00
Local clock offset: -3.5 ms
Remote clock offset: -2.996 ms

# Below is generated by plot.py at 2018-10-26 01:41:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 31.329 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 31.329 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

