

Pantheon Report

Generated at 2018-11-30 12:58:51 (UTC).
Data path: Colombia on p4p1 (*remote*) → AWS Brazil 2 on ens5 (*local*).
Repeated the test of 19 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against gps.ntp.br and have been applied to correct the timestamps in logs.

System info:

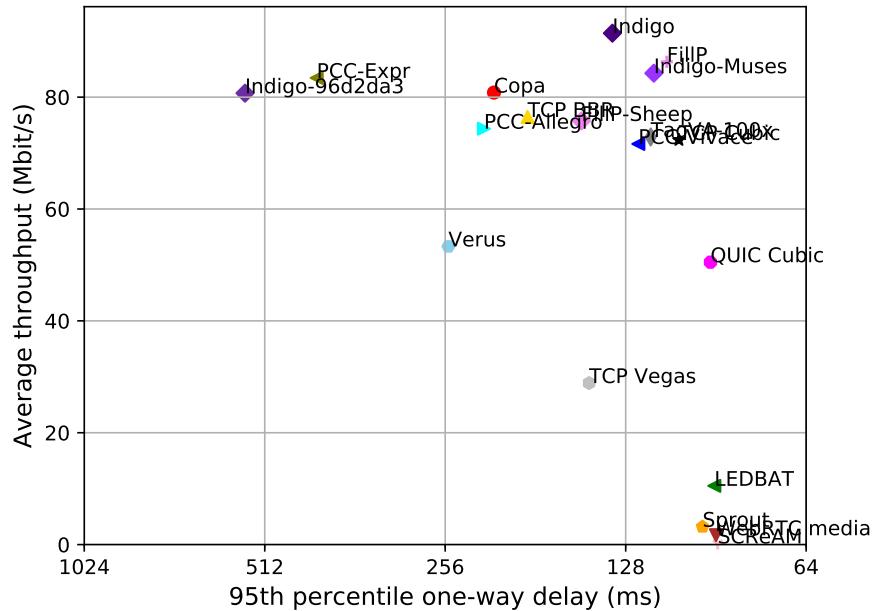
```
Linux 4.15.0-1027-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

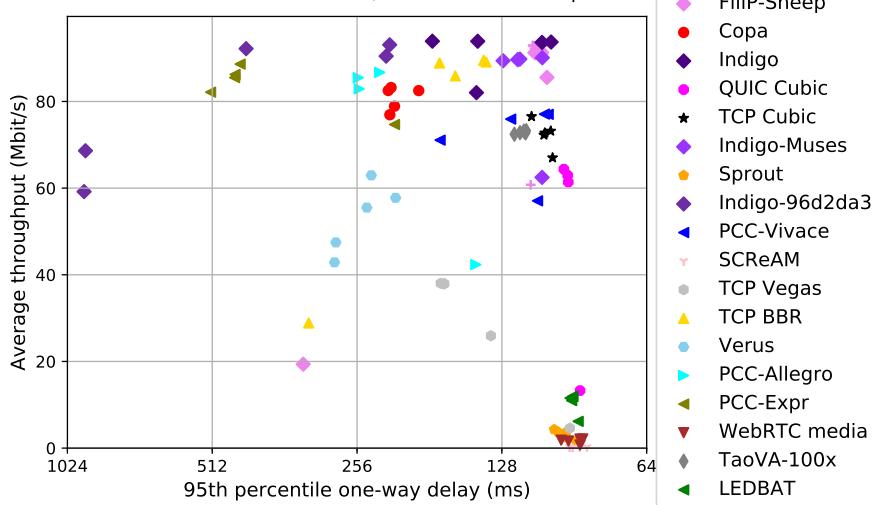
```
branch: muses @ 7b6dad87cde3ab65f7c4052140eb54098aa58e9d
third_party/fillp @ d6da1459332fce56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fc45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

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



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



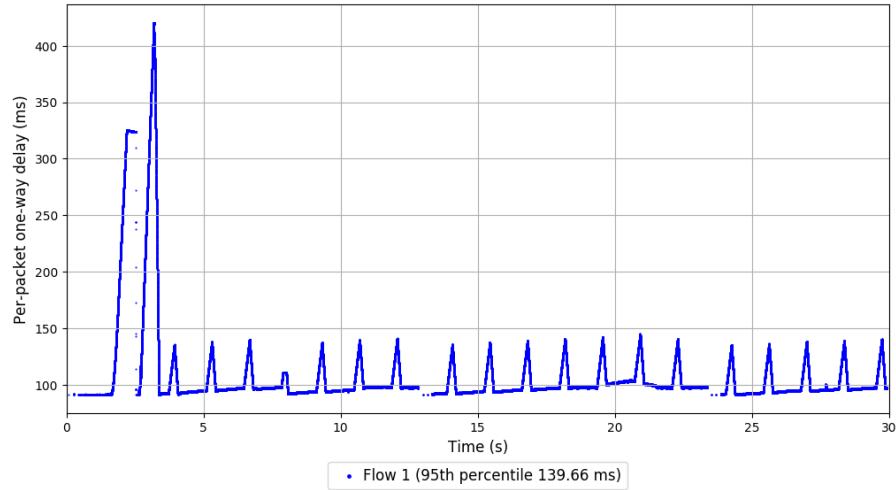
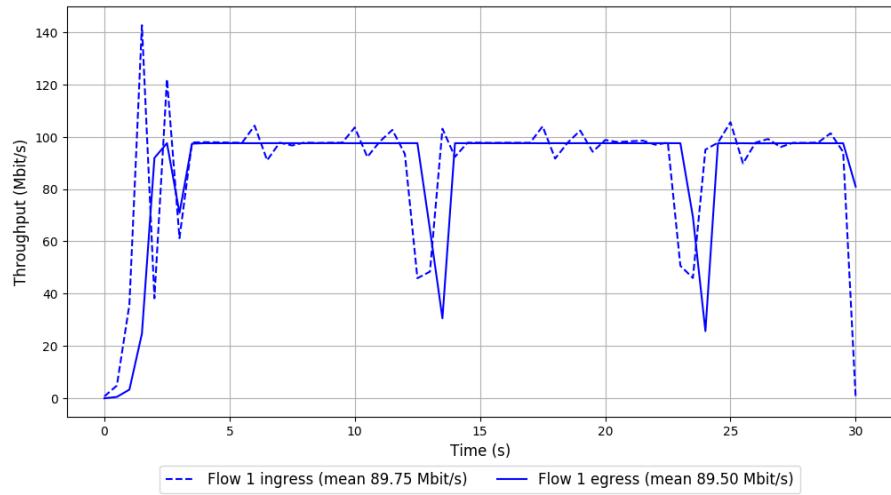
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	76.46	186.55	0.70
Copa	5	80.82	212.27	0.61
TCP Cubic	5	72.35	104.34	0.63
FillP	5	86.32	109.29	0.72
FillP-Sheep	5	75.74	151.69	0.56
Indigo	5	91.44	134.70	1.14
Indigo-96d2da3	5	80.71	552.33	6.03
LEDBAT	5	10.51	91.07	1.10
Indigo-Muses	5	84.28	114.88	0.97
PCC-Allegro	4	74.36	220.61	0.89
PCC-Expr	5	83.44	419.44	1.25
QUIC Cubic	4	50.49	92.43	0.92
SCReAM	5	0.21	89.90	0.51
Sprout	5	3.19	95.29	0.75
TaoVA-100x	5	72.87	116.27	0.57
TCP Vegas	5	28.88	147.30	0.53
Verus	5	53.31	252.95	0.79
PCC-Vivace	5	71.64	121.93	0.69
WebRTC media	5	1.68	90.48	1.11

Run 1: Statistics of TCP BBR

```
Start at: 2018-11-30 10:54:36
End at: 2018-11-30 10:55:06
Local clock offset: -3.972 ms
Remote clock offset: -99.323 ms

# Below is generated by plot.py at 2018-11-30 12:49:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.50 Mbit/s
95th percentile per-packet one-way delay: 139.655 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 89.50 Mbit/s
95th percentile per-packet one-way delay: 139.655 ms
Loss rate: 0.87%
```

Run 1: Report of TCP BBR — Data Link

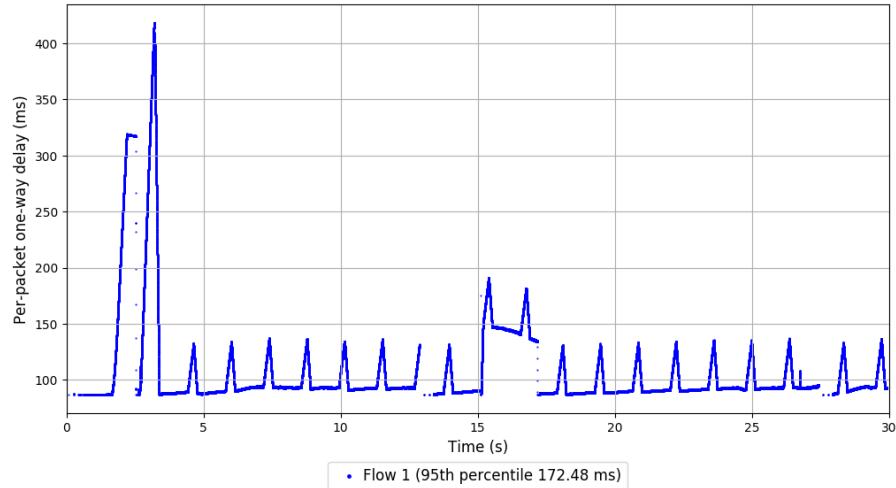
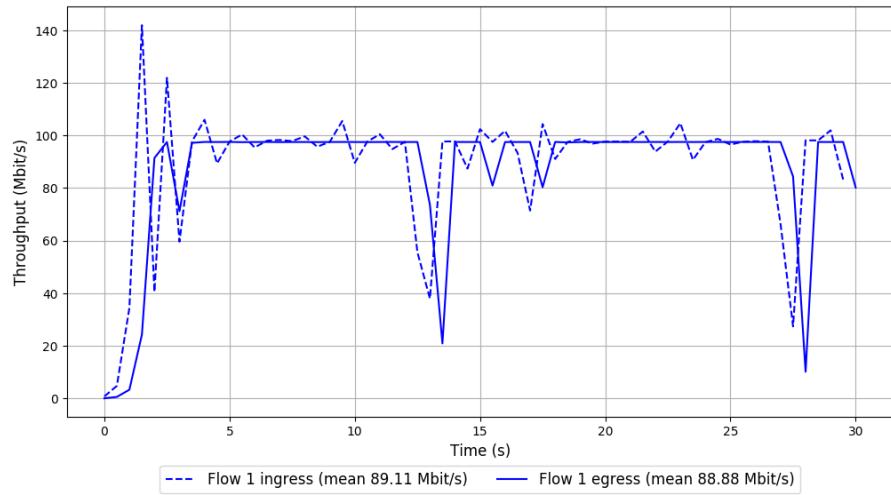


Run 2: Statistics of TCP BBR

```
Start at: 2018-11-30 11:17:10
End at: 2018-11-30 11:17:40
Local clock offset: -4.306 ms
Remote clock offset: -100.52 ms

# Below is generated by plot.py at 2018-11-30 12:49:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.88 Mbit/s
95th percentile per-packet one-way delay: 172.481 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 88.88 Mbit/s
95th percentile per-packet one-way delay: 172.481 ms
Loss rate: 0.67%
```

Run 2: Report of TCP BBR — Data Link

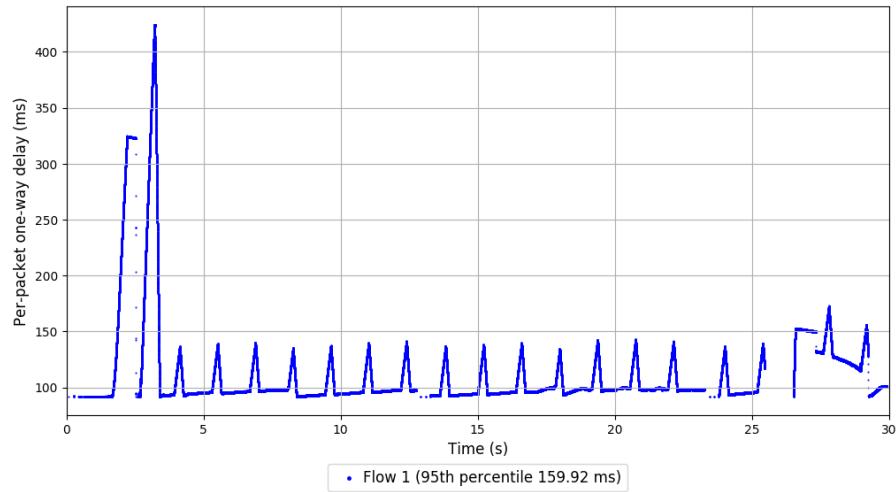
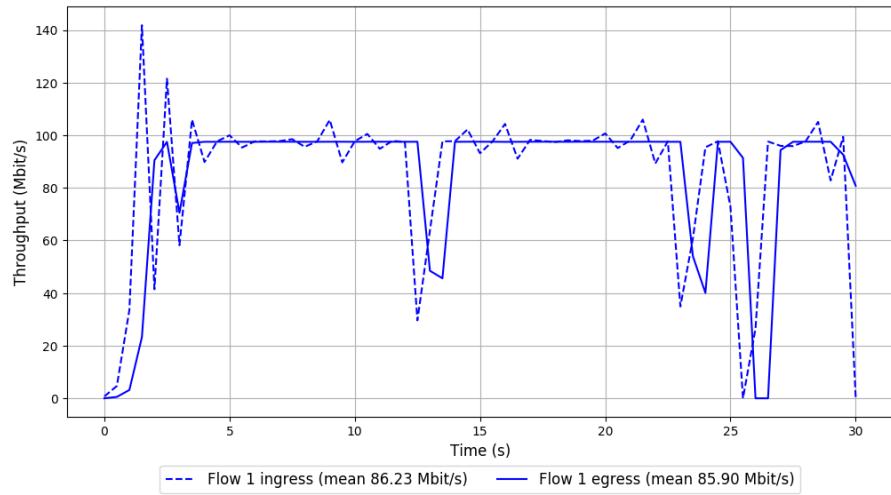


Run 3: Statistics of TCP BBR

```
Start at: 2018-11-30 11:39:42
End at: 2018-11-30 11:40:12
Local clock offset: -4.514 ms
Remote clock offset: -111.1 ms

# Below is generated by plot.py at 2018-11-30 12:49:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.90 Mbit/s
95th percentile per-packet one-way delay: 159.917 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 85.90 Mbit/s
95th percentile per-packet one-way delay: 159.917 ms
Loss rate: 0.98%
```

Run 3: Report of TCP BBR — Data Link

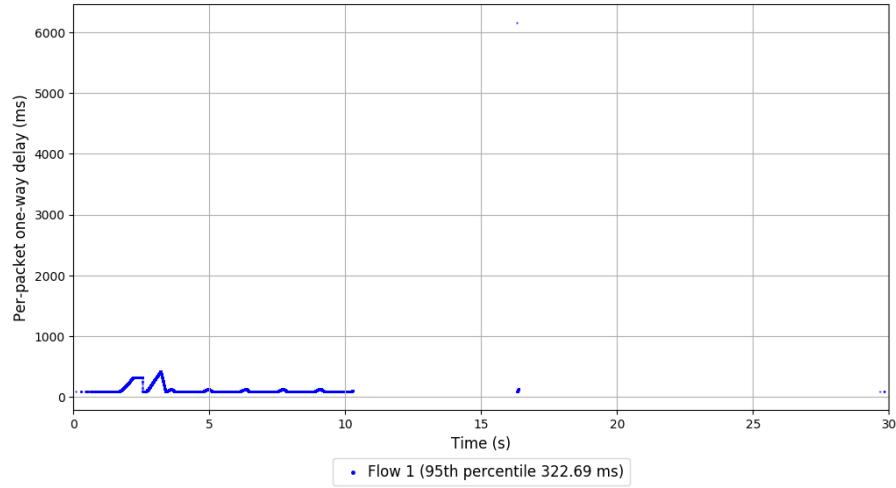
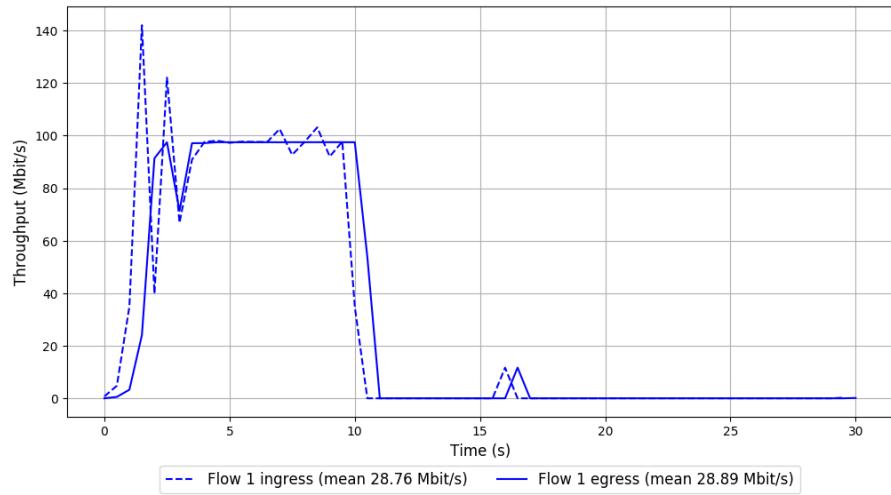


Run 4: Statistics of TCP BBR

```
Start at: 2018-11-30 12:02:27
End at: 2018-11-30 12:02:57
Local clock offset: -5.947 ms
Remote clock offset: -117.087 ms

# Below is generated by plot.py at 2018-11-30 12:49:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.89 Mbit/s
95th percentile per-packet one-way delay: 322.686 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 28.89 Mbit/s
95th percentile per-packet one-way delay: 322.686 ms
Loss rate: 0.15%
```

Run 4: Report of TCP BBR — Data Link

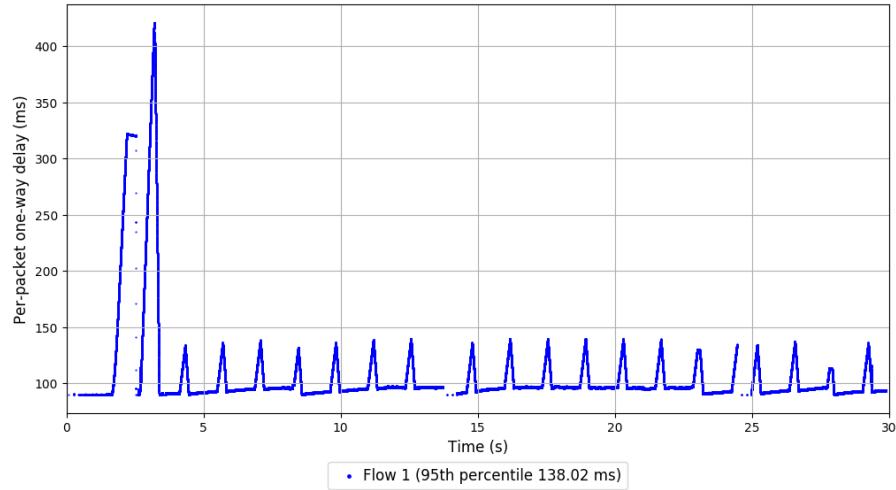
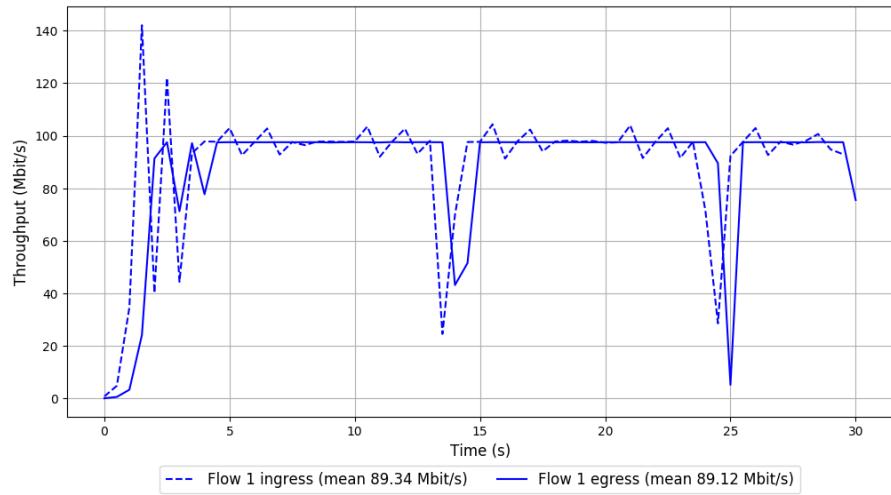


Run 5: Statistics of TCP BBR

```
Start at: 2018-11-30 12:25:13
End at: 2018-11-30 12:25:43
Local clock offset: -5.75 ms
Remote clock offset: -121.909 ms

# Below is generated by plot.py at 2018-11-30 12:49:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.12 Mbit/s
95th percentile per-packet one-way delay: 138.016 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 89.12 Mbit/s
95th percentile per-packet one-way delay: 138.016 ms
Loss rate: 0.84%
```

Run 5: Report of TCP BBR — Data Link

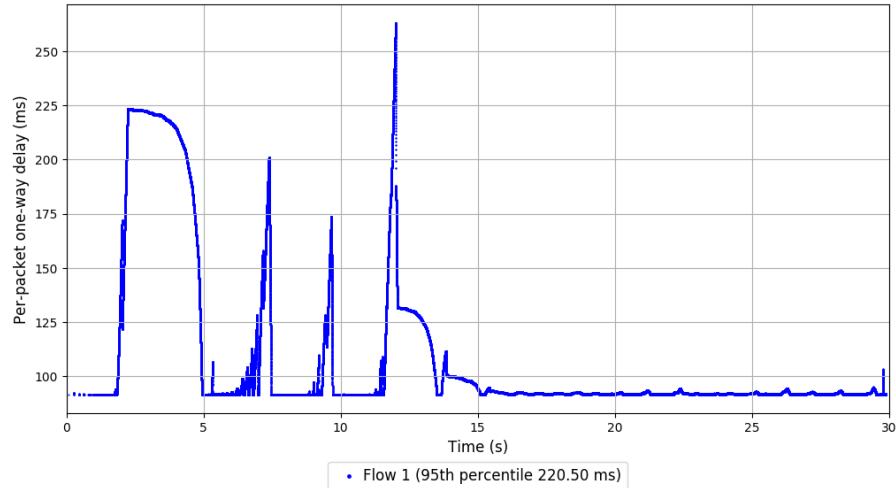
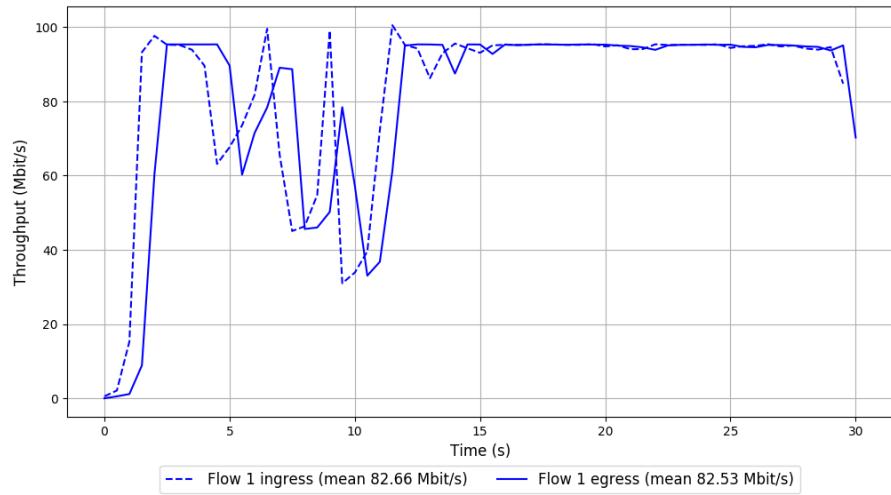


Run 1: Statistics of Copa

```
Start at: 2018-11-30 11:08:56
End at: 2018-11-30 11:09:26
Local clock offset: -4.224 ms
Remote clock offset: -103.283 ms

# Below is generated by plot.py at 2018-11-30 12:50:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.53 Mbit/s
95th percentile per-packet one-way delay: 220.497 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 82.53 Mbit/s
95th percentile per-packet one-way delay: 220.497 ms
Loss rate: 0.73%
```

Run 1: Report of Copa — Data Link

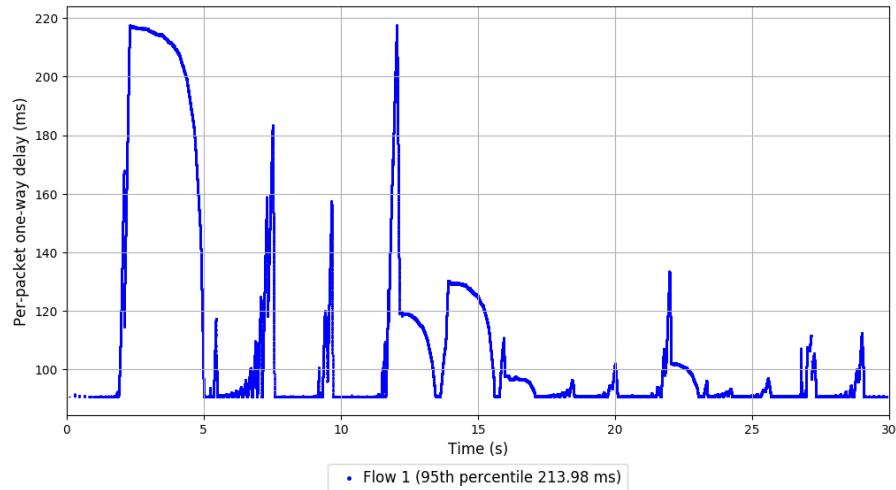
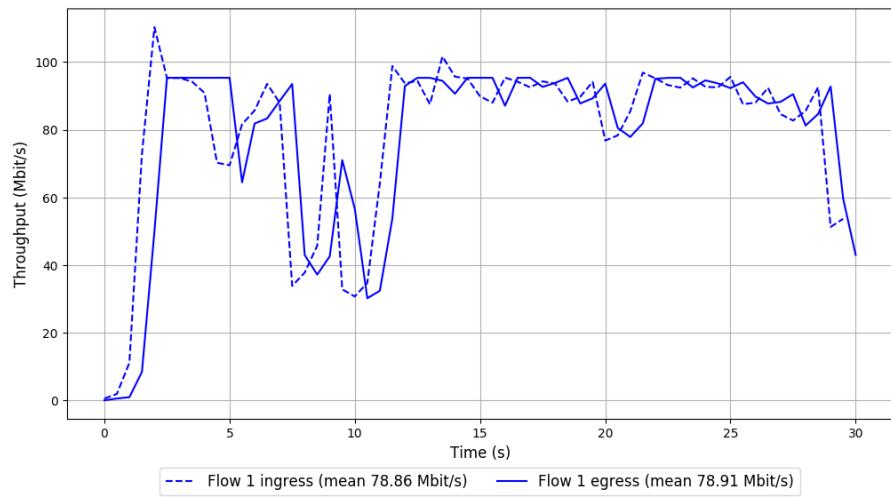


Run 2: Statistics of Copa

```
Start at: 2018-11-30 11:31:26
End at: 2018-11-30 11:31:56
Local clock offset: -4.48 ms
Remote clock offset: -107.872 ms

# Below is generated by plot.py at 2018-11-30 12:50:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.91 Mbit/s
95th percentile per-packet one-way delay: 213.980 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 78.91 Mbit/s
95th percentile per-packet one-way delay: 213.980 ms
Loss rate: 0.53%
```

Run 2: Report of Copa — Data Link

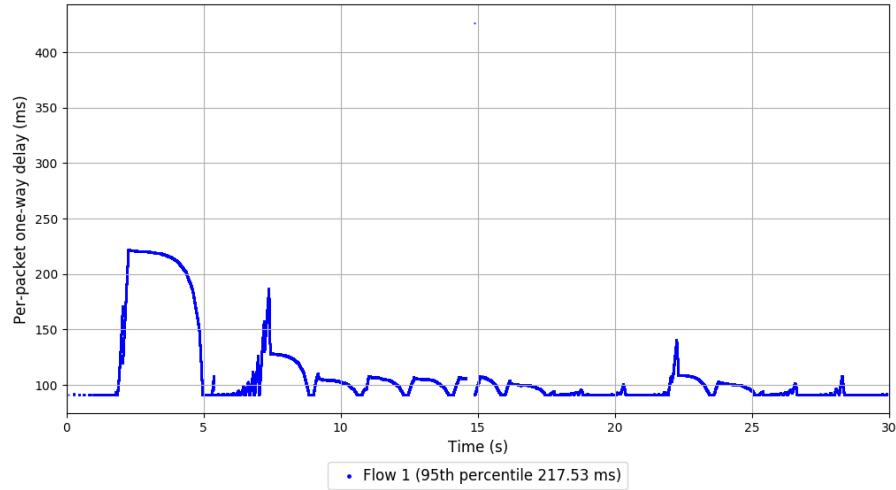
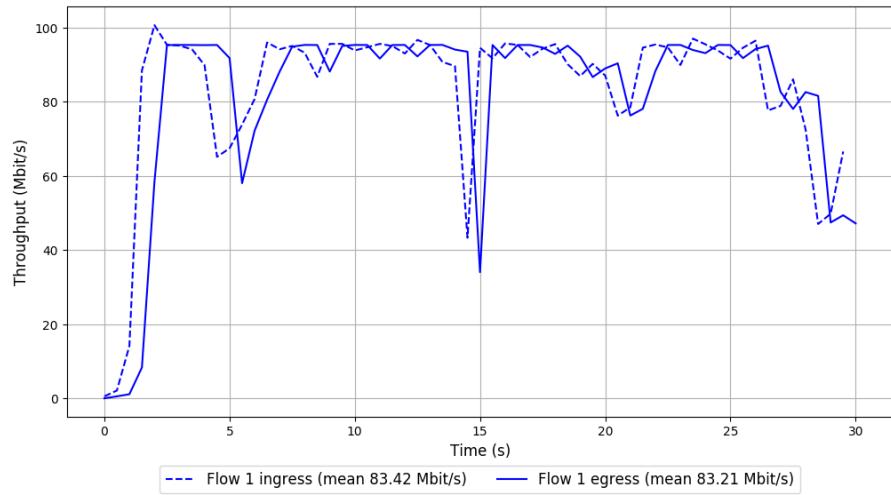


Run 3: Statistics of Copa

```
Start at: 2018-11-30 11:54:12
End at: 2018-11-30 11:54:42
Local clock offset: -4.79 ms
Remote clock offset: -113.922 ms

# Below is generated by plot.py at 2018-11-30 12:50:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.21 Mbit/s
95th percentile per-packet one-way delay: 217.531 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 83.21 Mbit/s
95th percentile per-packet one-way delay: 217.531 ms
Loss rate: 0.82%
```

Run 3: Report of Copa — Data Link

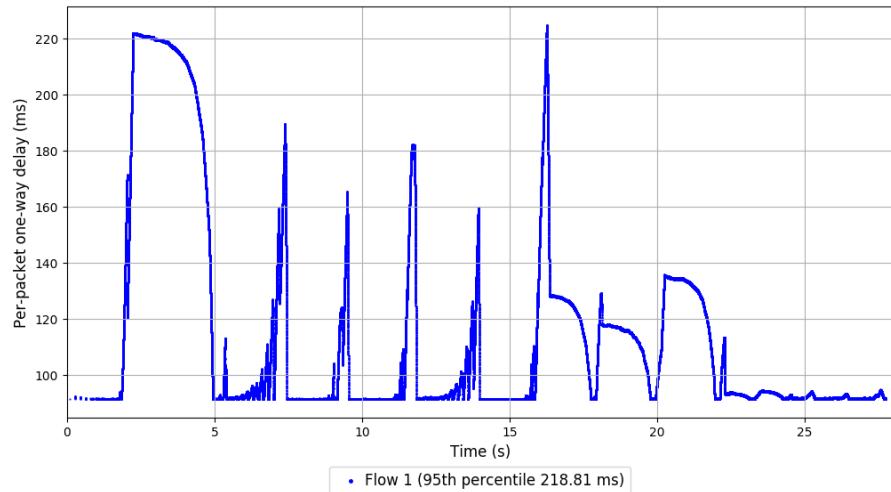
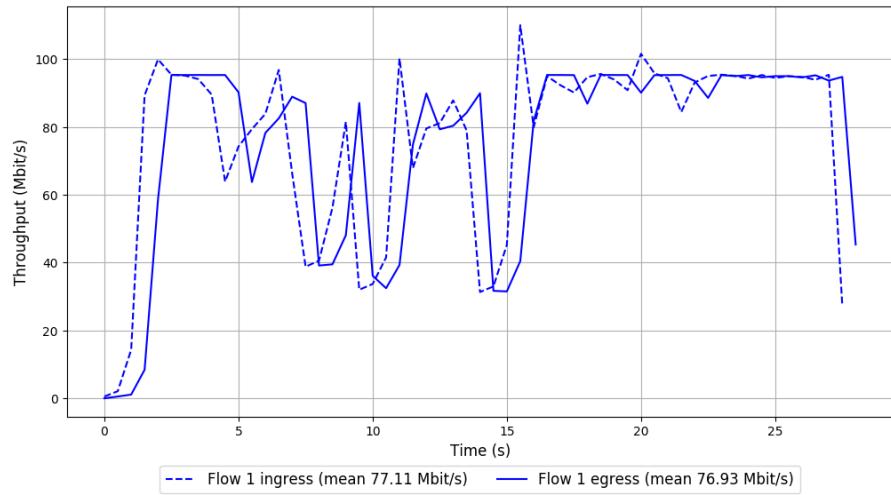


Run 4: Statistics of Copa

```
Start at: 2018-11-30 12:16:51
End at: 2018-11-30 12:17:21
Local clock offset: -6.033 ms
Remote clock offset: -120.906 ms

# Below is generated by plot.py at 2018-11-30 12:50:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.93 Mbit/s
95th percentile per-packet one-way delay: 218.812 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 76.93 Mbit/s
95th percentile per-packet one-way delay: 218.812 ms
Loss rate: 0.23%
```

Run 4: Report of Copa — Data Link

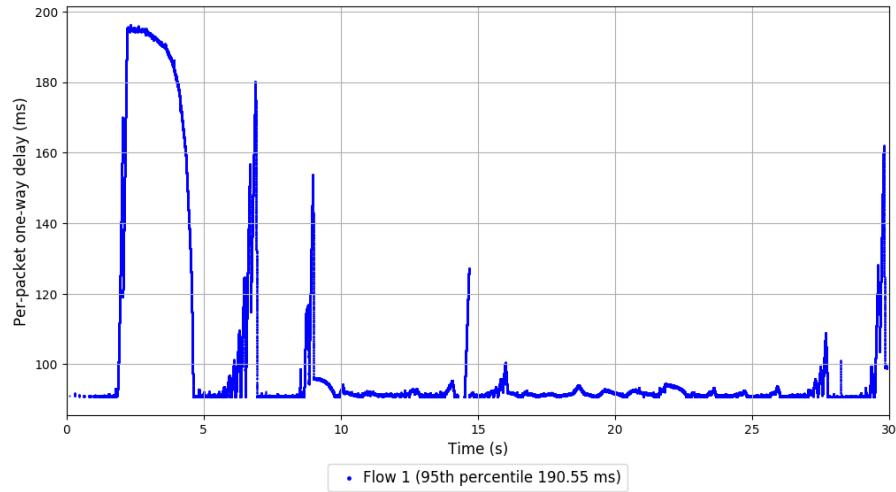
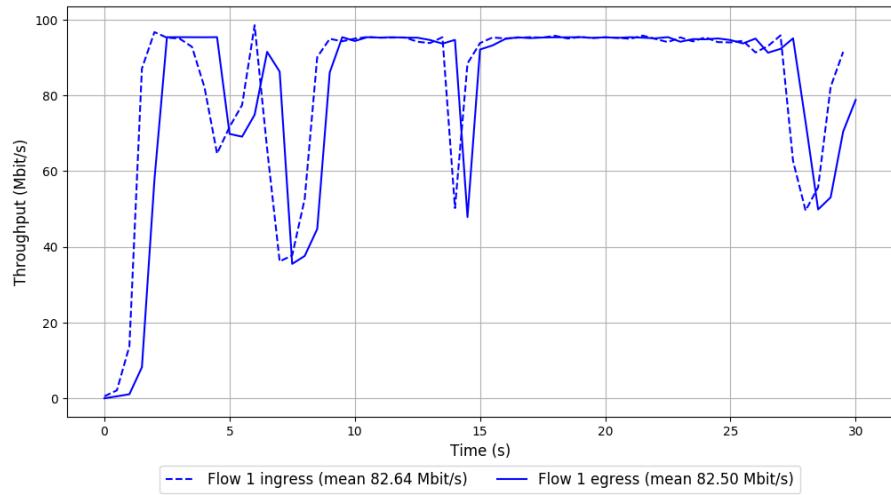


Run 5: Statistics of Copa

```
Start at: 2018-11-30 12:39:35
End at: 2018-11-30 12:40:05
Local clock offset: -4.854 ms
Remote clock offset: -125.701 ms

# Below is generated by plot.py at 2018-11-30 12:51:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.50 Mbit/s
95th percentile per-packet one-way delay: 190.551 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 82.50 Mbit/s
95th percentile per-packet one-way delay: 190.551 ms
Loss rate: 0.74%
```

Run 5: Report of Copa — Data Link

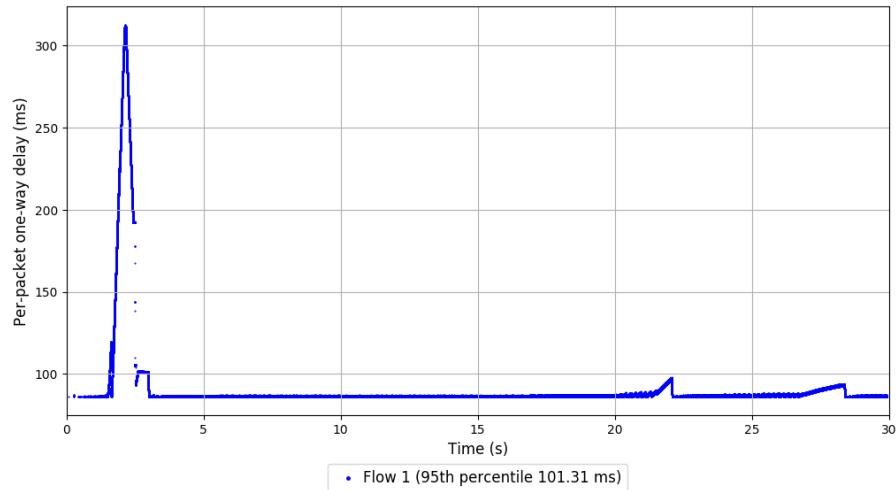
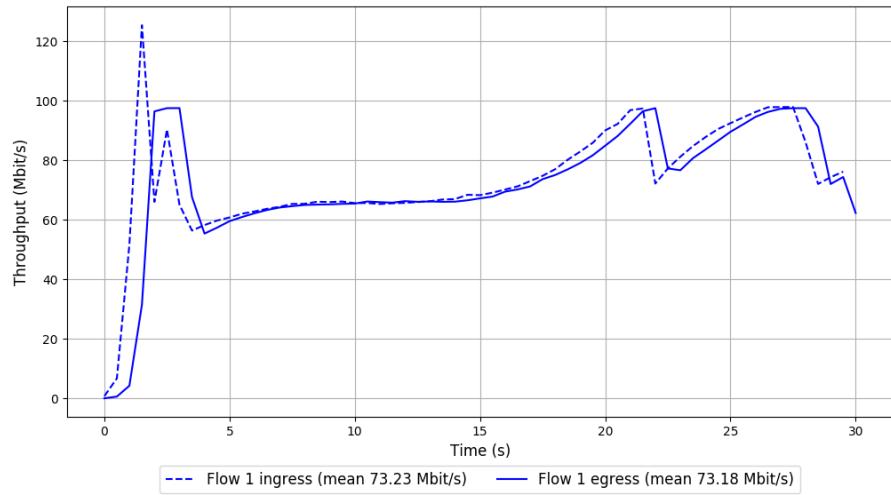


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-11-30 11:15:59
End at: 2018-11-30 11:16:29
Local clock offset: -4.333 ms
Remote clock offset: -100.139 ms

# Below is generated by plot.py at 2018-11-30 12:51:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.18 Mbit/s
95th percentile per-packet one-way delay: 101.314 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 73.18 Mbit/s
95th percentile per-packet one-way delay: 101.314 ms
Loss rate: 0.64%
```

Run 1: Report of TCP Cubic — Data Link

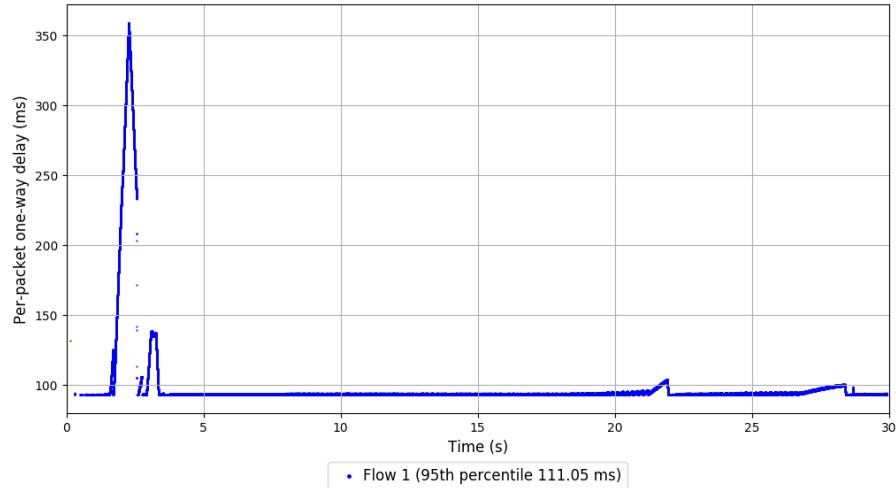
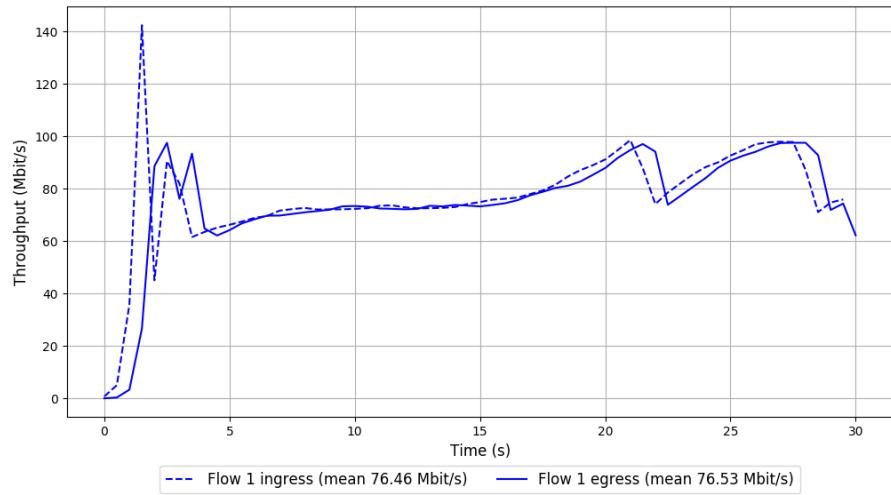


Run 2: Statistics of TCP Cubic

```
Start at: 2018-11-30 11:38:31
End at: 2018-11-30 11:39:01
Local clock offset: -3.734 ms
Remote clock offset: -111.077 ms

# Below is generated by plot.py at 2018-11-30 12:51:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.53 Mbit/s
95th percentile per-packet one-way delay: 111.048 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 76.53 Mbit/s
95th percentile per-packet one-way delay: 111.048 ms
Loss rate: 0.61%
```

Run 2: Report of TCP Cubic — Data Link

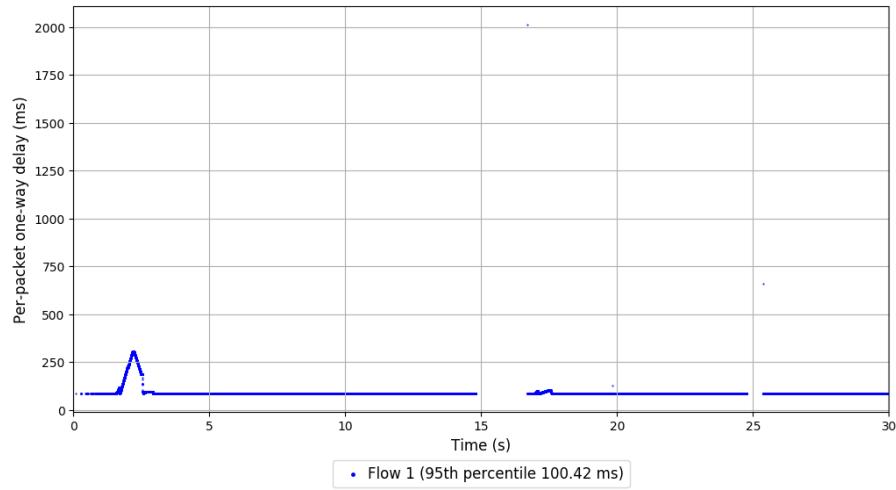
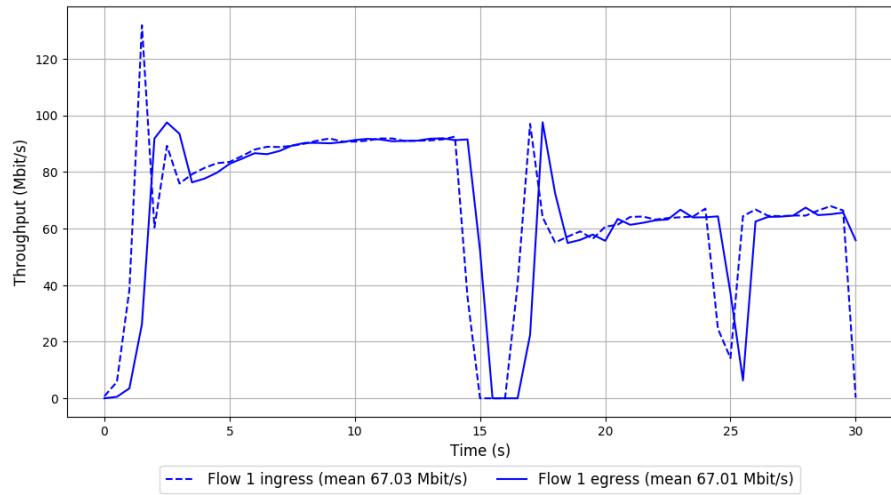


Run 3: Statistics of TCP Cubic

```
Start at: 2018-11-30 12:01:16
End at: 2018-11-30 12:01:46
Local clock offset: -5.835 ms
Remote clock offset: -112.069 ms

# Below is generated by plot.py at 2018-11-30 12:51:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.01 Mbit/s
95th percentile per-packet one-way delay: 100.422 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 67.01 Mbit/s
95th percentile per-packet one-way delay: 100.422 ms
Loss rate: 0.62%
```

Run 3: Report of TCP Cubic — Data Link

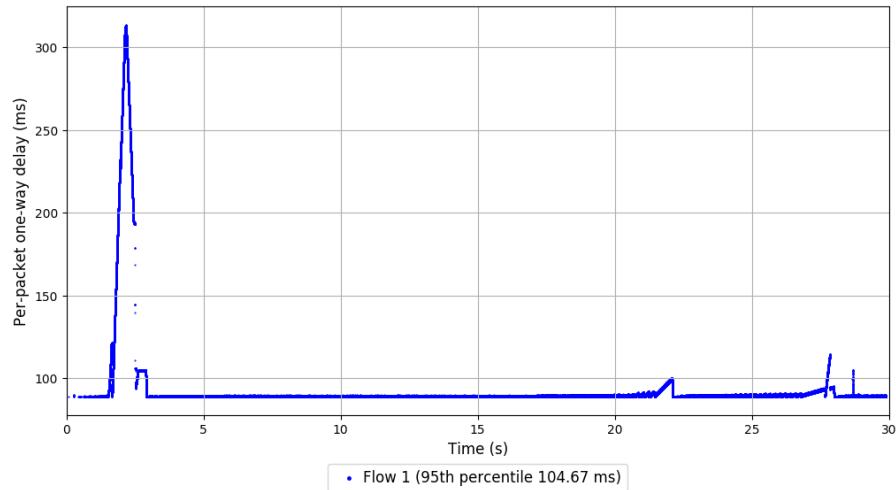
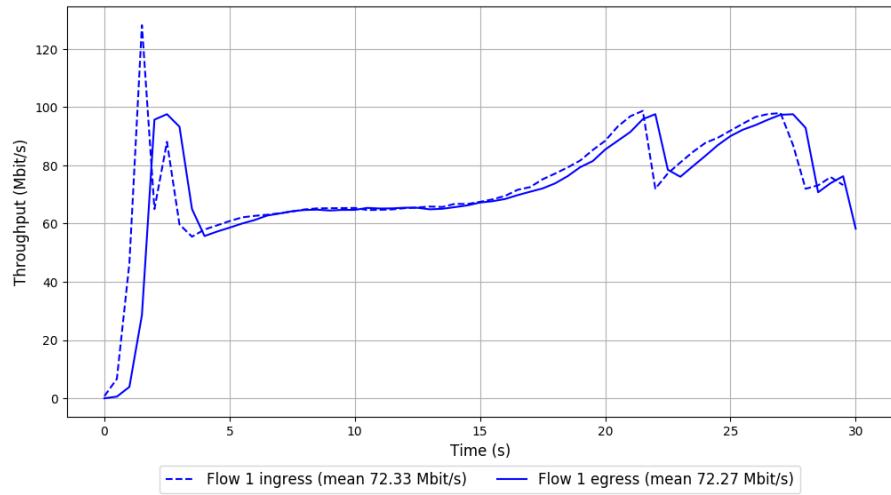


Run 4: Statistics of TCP Cubic

```
Start at: 2018-11-30 12:24:02
End at: 2018-11-30 12:24:32
Local clock offset: -5.006 ms
Remote clock offset: -119.206 ms

# Below is generated by plot.py at 2018-11-30 12:51:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.27 Mbit/s
95th percentile per-packet one-way delay: 104.671 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 72.27 Mbit/s
95th percentile per-packet one-way delay: 104.671 ms
Loss rate: 0.65%
```

Run 4: Report of TCP Cubic — Data Link

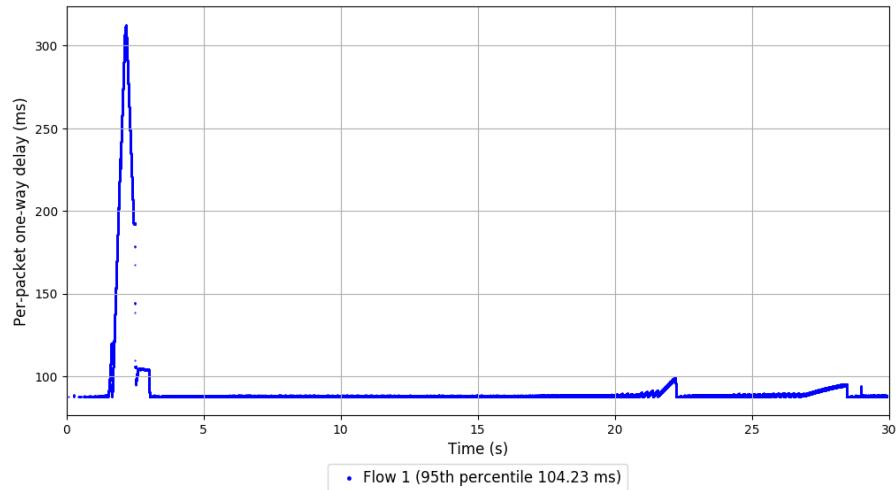
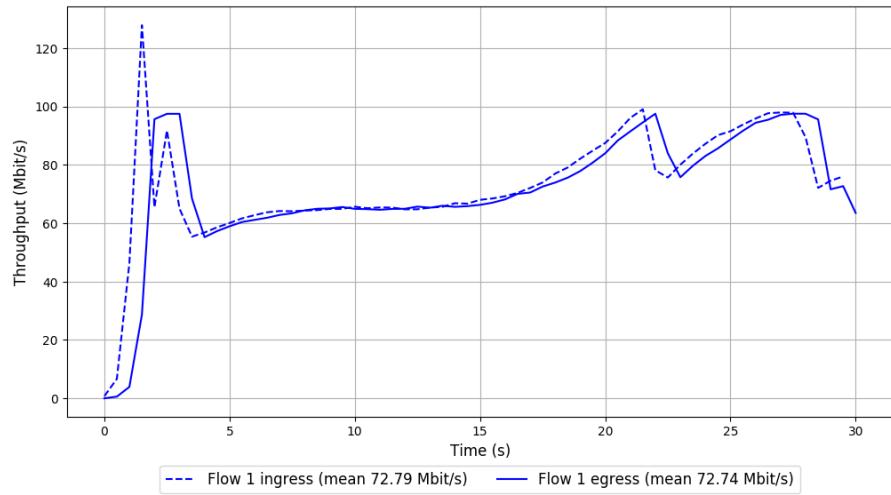


Run 5: Statistics of TCP Cubic

```
Start at: 2018-11-30 12:46:39
End at: 2018-11-30 12:47:09
Local clock offset: -4.929 ms
Remote clock offset: -123.783 ms

# Below is generated by plot.py at 2018-11-30 12:51:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.74 Mbit/s
95th percentile per-packet one-way delay: 104.226 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 72.74 Mbit/s
95th percentile per-packet one-way delay: 104.226 ms
Loss rate: 0.65%
```

Run 5: Report of TCP Cubic — Data Link

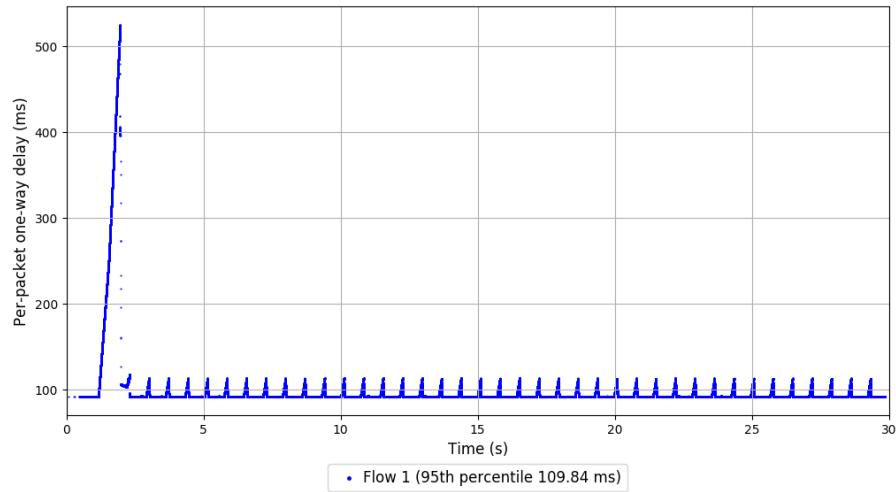
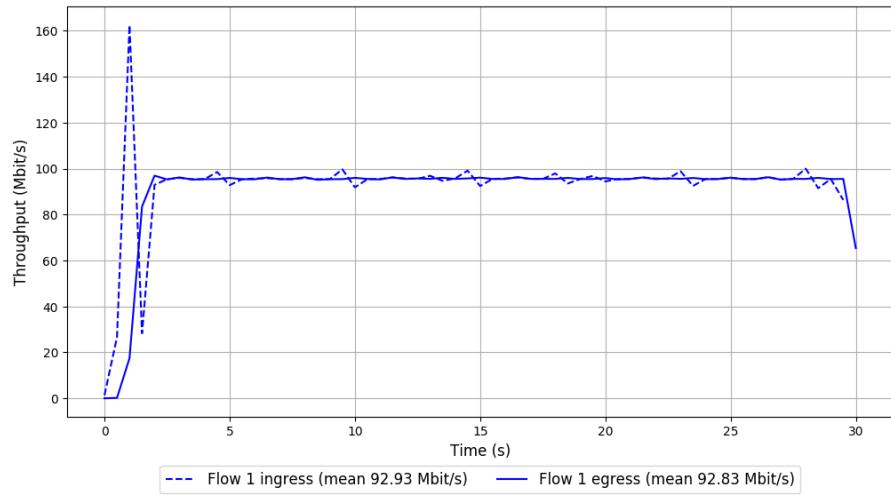


```
Run 1: Statistics of FillP
```

```
Start at: 2018-11-30 11:11:18
End at: 2018-11-30 11:11:48
Local clock offset: -4.241 ms
Remote clock offset: -103.847 ms

# Below is generated by plot.py at 2018-11-30 12:51:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.83 Mbit/s
95th percentile per-packet one-way delay: 109.838 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 92.83 Mbit/s
95th percentile per-packet one-way delay: 109.838 ms
Loss rate: 0.71%
```

Run 1: Report of FillP — Data Link

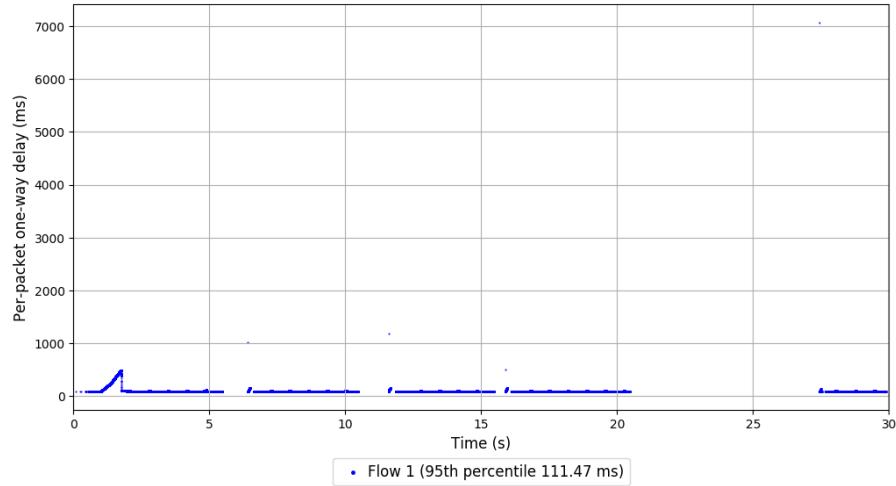
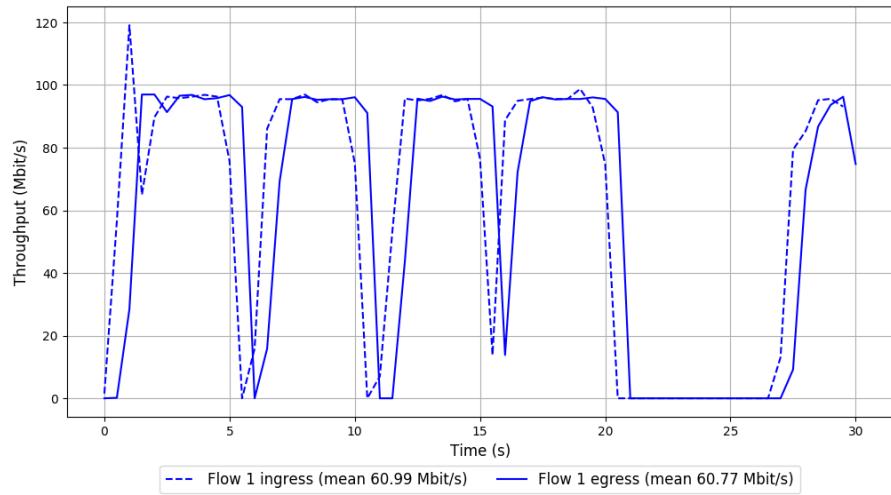


Run 2: Statistics of FillP

```
Start at: 2018-11-30 11:33:49
End at: 2018-11-30 11:34:19
Local clock offset: -4.499 ms
Remote clock offset: -104.817 ms

# Below is generated by plot.py at 2018-11-30 12:51:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.77 Mbit/s
95th percentile per-packet one-way delay: 111.472 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 60.77 Mbit/s
95th percentile per-packet one-way delay: 111.472 ms
Loss rate: 0.96%
```

Run 2: Report of FillP — Data Link

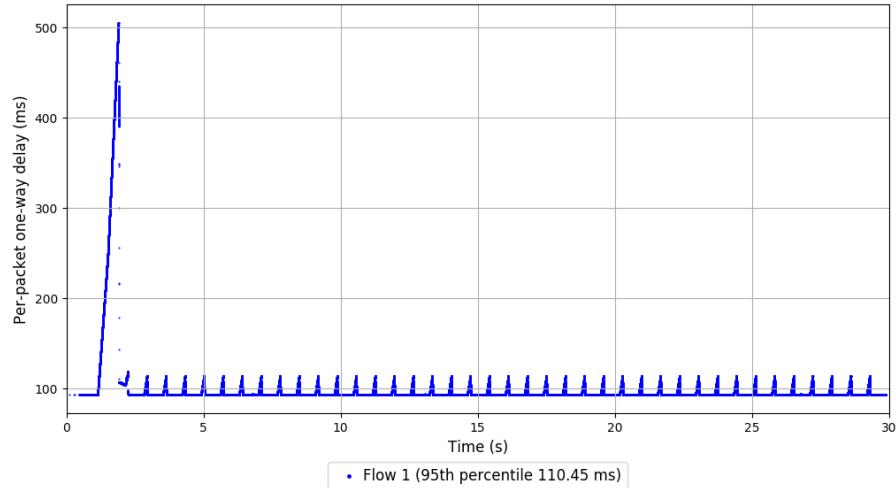
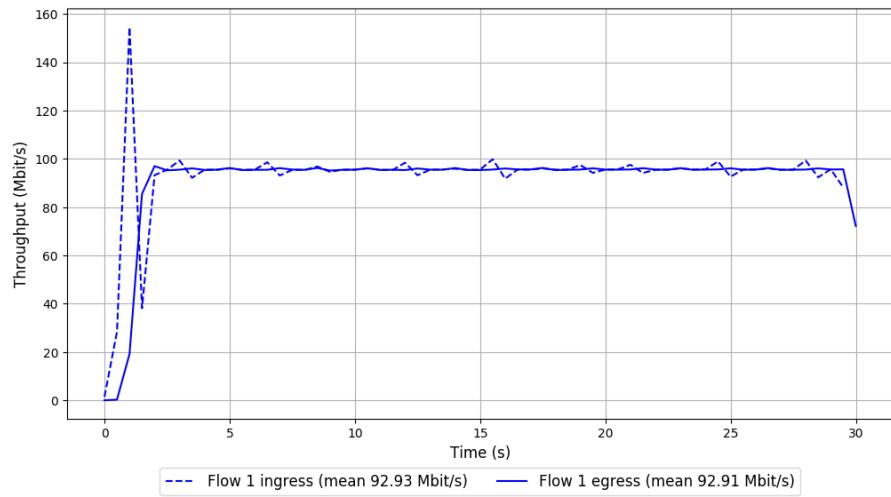


Run 3: Statistics of FillP

```
Start at: 2018-11-30 11:56:35
End at: 2018-11-30 11:57:05
Local clock offset: -4.857 ms
Remote clock offset: -115.877 ms

# Below is generated by plot.py at 2018-11-30 12:51:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.91 Mbit/s
95th percentile per-packet one-way delay: 110.453 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 92.91 Mbit/s
95th percentile per-packet one-way delay: 110.453 ms
Loss rate: 0.62%
```

Run 3: Report of FillP — Data Link

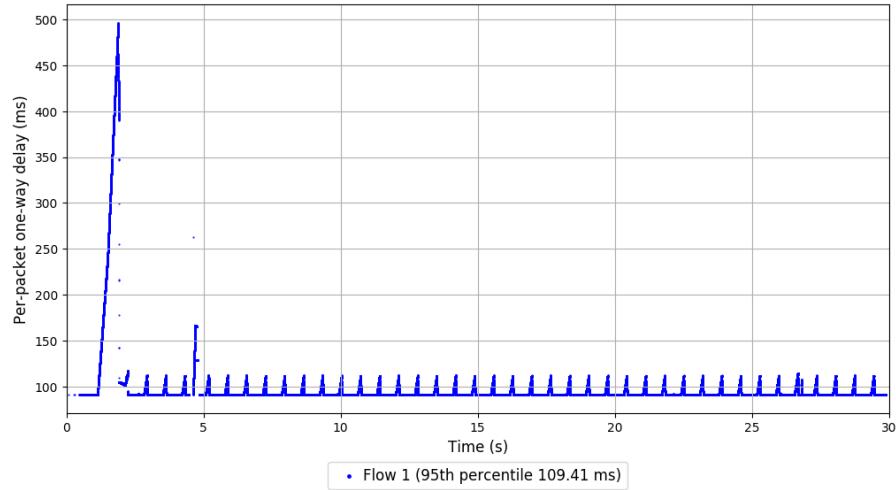
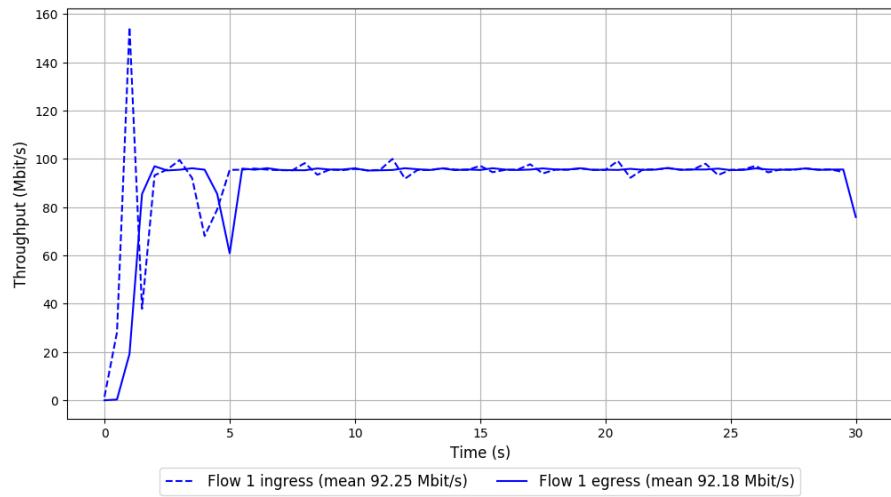


```
Run 4: Statistics of FillP
```

```
Start at: 2018-11-30 12:19:22
End at: 2018-11-30 12:19:52
Local clock offset: -5.963 ms
Remote clock offset: -121.571 ms

# Below is generated by plot.py at 2018-11-30 12:51:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.18 Mbit/s
95th percentile per-packet one-way delay: 109.408 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 92.18 Mbit/s
95th percentile per-packet one-way delay: 109.408 ms
Loss rate: 0.67%
```

Run 4: Report of FillP — Data Link

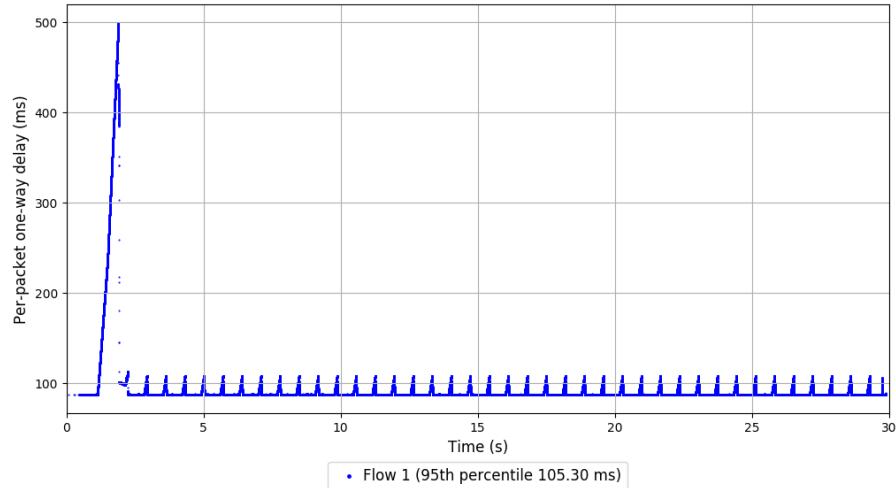
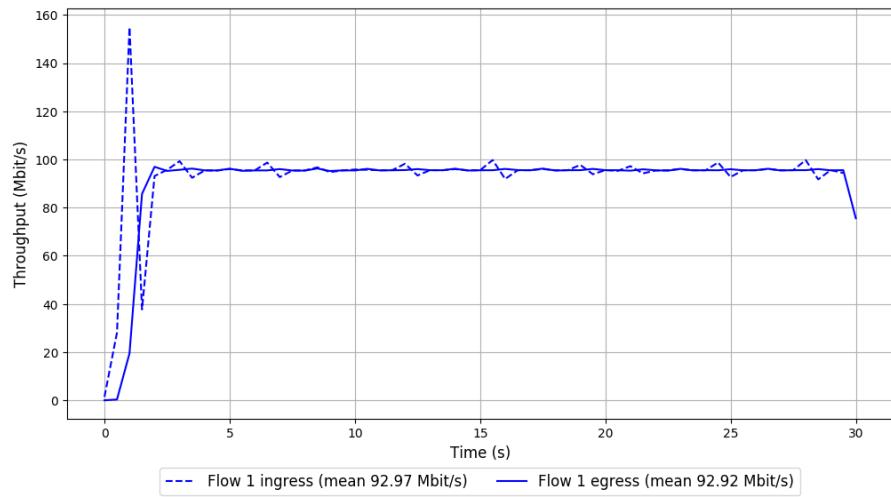


```
Run 5: Statistics of FillP
```

```
Start at: 2018-11-30 12:41:57
End at: 2018-11-30 12:42:27
Local clock offset: -5.557 ms
Remote clock offset: -123.523 ms

# Below is generated by plot.py at 2018-11-30 12:51:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.92 Mbit/s
95th percentile per-packet one-way delay: 105.299 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 92.92 Mbit/s
95th percentile per-packet one-way delay: 105.299 ms
Loss rate: 0.65%
```

Run 5: Report of FillP — Data Link

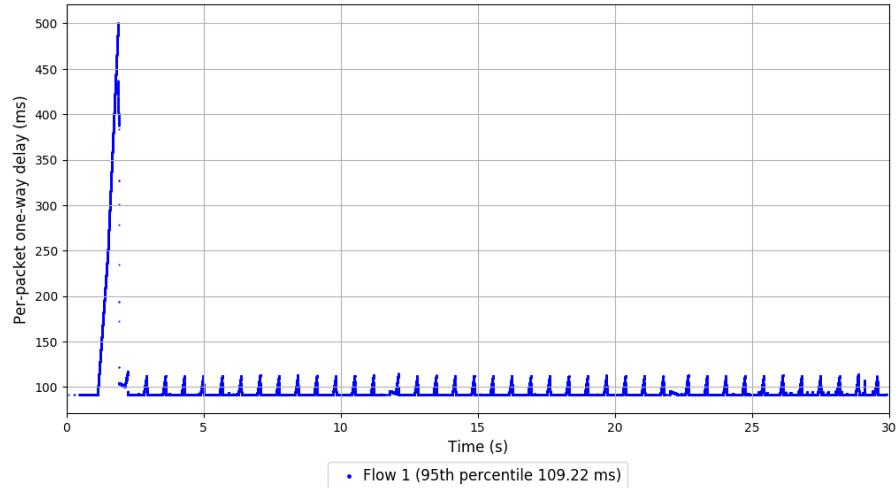
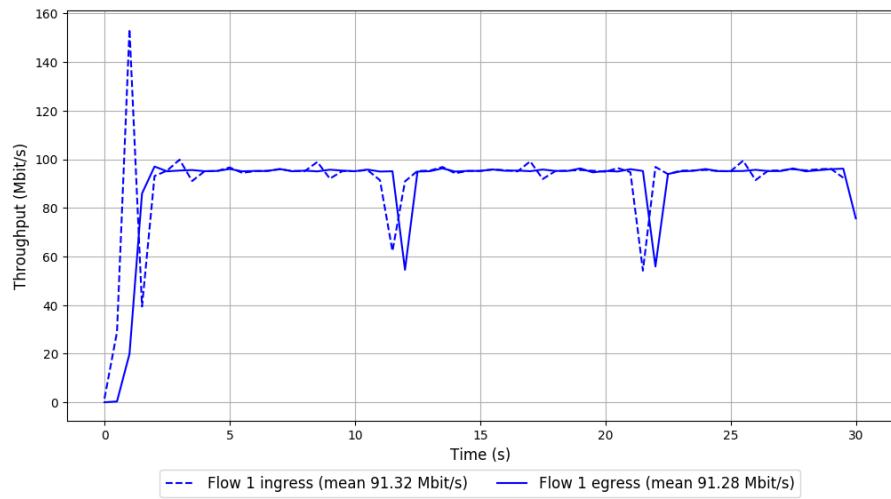


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-11-30 10:59:22
End at: 2018-11-30 10:59:52
Local clock offset: -3.332 ms
Remote clock offset: -99.606 ms

# Below is generated by plot.py at 2018-11-30 12:52:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.28 Mbit/s
95th percentile per-packet one-way delay: 109.225 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 91.28 Mbit/s
95th percentile per-packet one-way delay: 109.225 ms
Loss rate: 0.64%
```

Run 1: Report of FillP-Sheep — Data Link

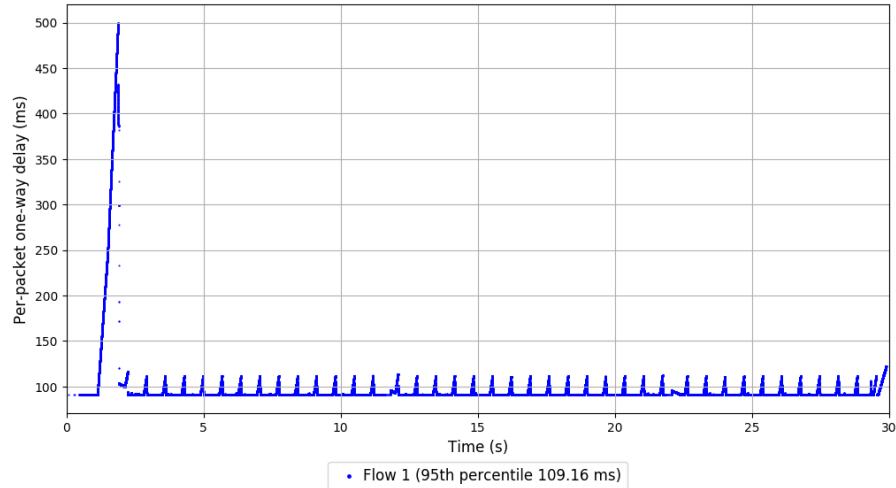
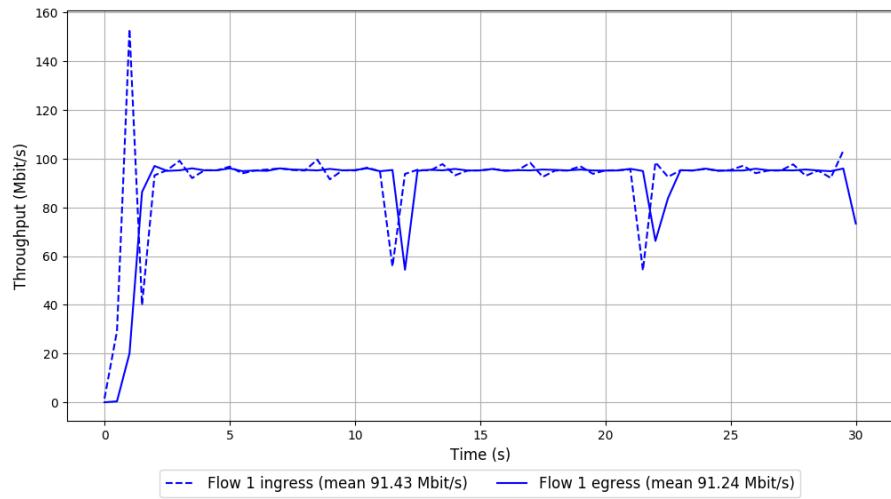


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-11-30 11:21:54
End at: 2018-11-30 11:22:24
Local clock offset: -3.701 ms
Remote clock offset: -105.503 ms

# Below is generated by plot.py at 2018-11-30 12:52:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.24 Mbit/s
95th percentile per-packet one-way delay: 109.161 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 91.24 Mbit/s
95th percentile per-packet one-way delay: 109.161 ms
Loss rate: 0.81%
```

Run 2: Report of FillP-Sheep — Data Link

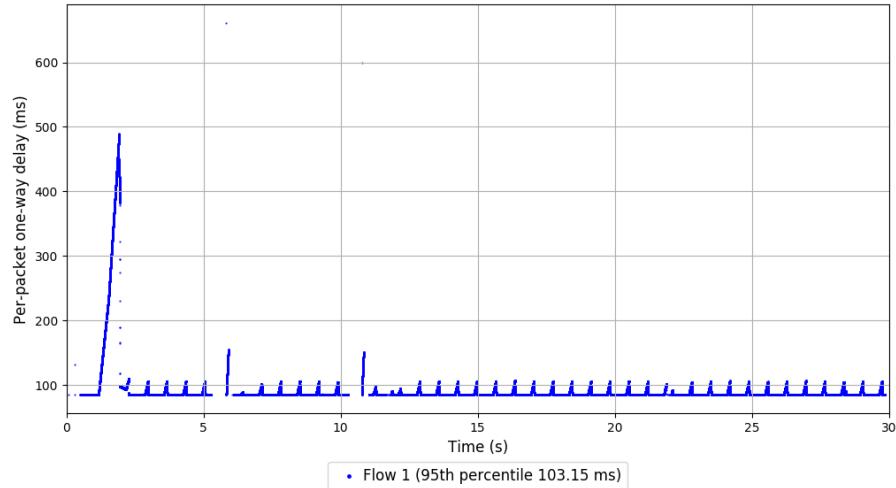
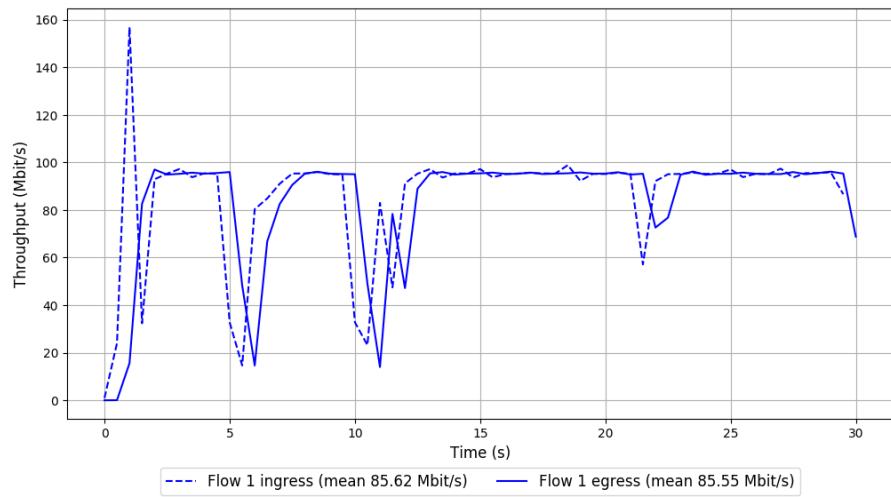


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-11-30 11:44:39
End at: 2018-11-30 11:45:09
Local clock offset: -4.515 ms
Remote clock offset: -106.443 ms

# Below is generated by plot.py at 2018-11-30 12:52:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.55 Mbit/s
95th percentile per-packet one-way delay: 103.146 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 85.55 Mbit/s
95th percentile per-packet one-way delay: 103.146 ms
Loss rate: 0.68%
```

Run 3: Report of FillP-Sheep — Data Link

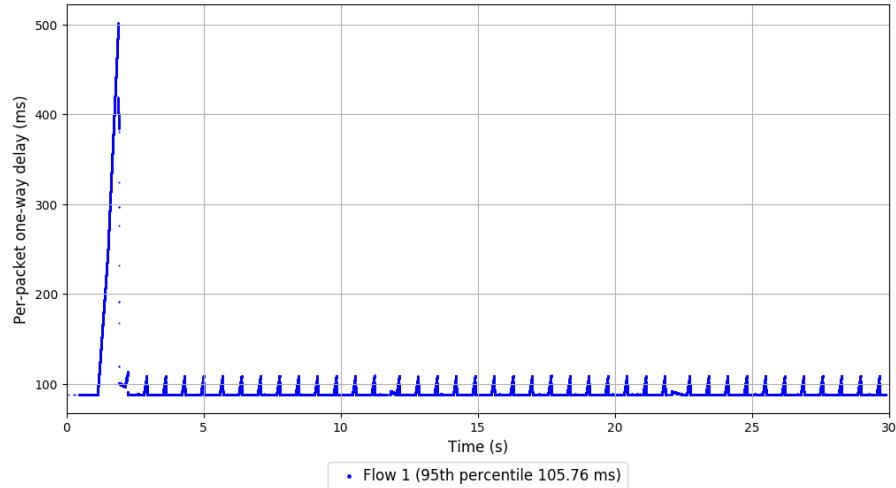
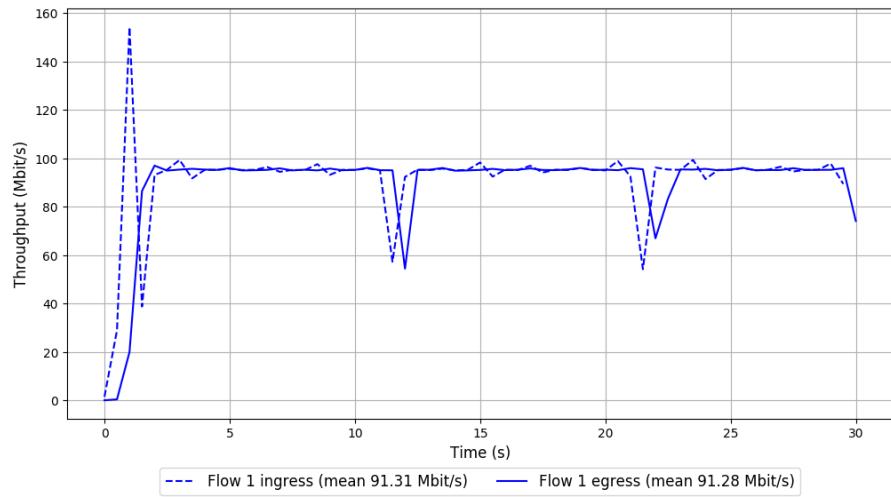


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-11-30 12:07:10
End at: 2018-11-30 12:07:40
Local clock offset: -5.337 ms
Remote clock offset: -114.686 ms

# Below is generated by plot.py at 2018-11-30 12:52:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.28 Mbit/s
95th percentile per-packet one-way delay: 105.760 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 91.28 Mbit/s
95th percentile per-packet one-way delay: 105.760 ms
Loss rate: 0.64%
```

Run 4: Report of FillP-Sheep — Data Link

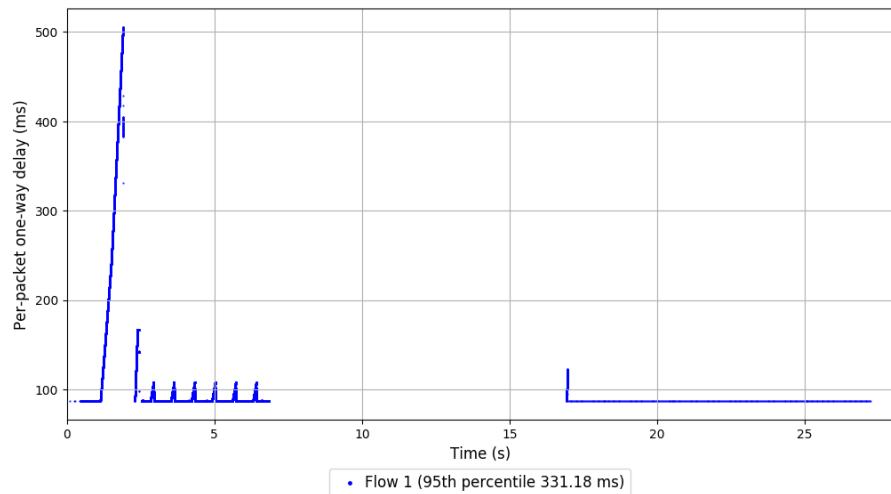
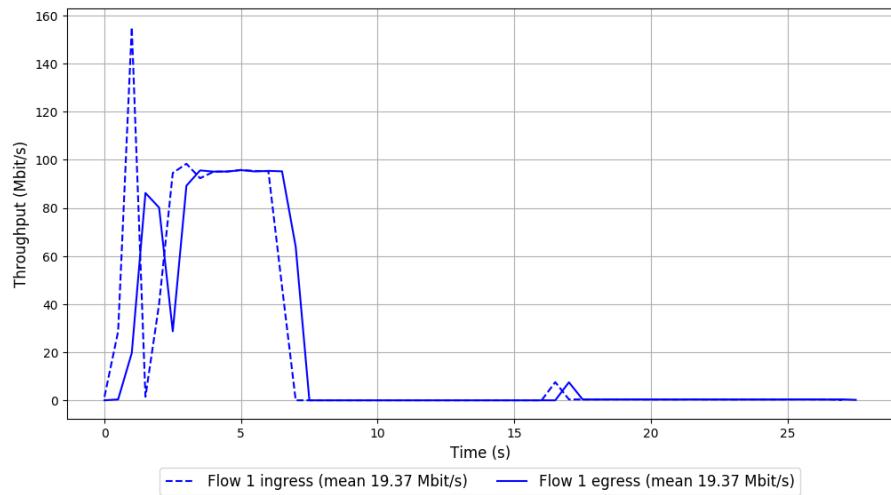


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-11-30 12:29:58
End at: 2018-11-30 12:30:28
Local clock offset: -5.591 ms
Remote clock offset: -119.521 ms

# Below is generated by plot.py at 2018-11-30 12:52:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.37 Mbit/s
95th percentile per-packet one-way delay: 331.175 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 19.37 Mbit/s
95th percentile per-packet one-way delay: 331.175 ms
Loss rate: 0.04%
```

Run 5: Report of FillP-Sheep — Data Link

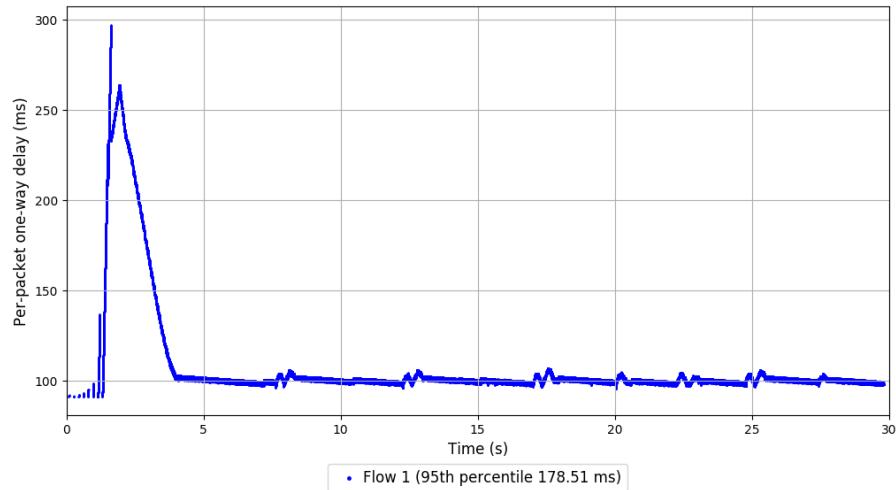
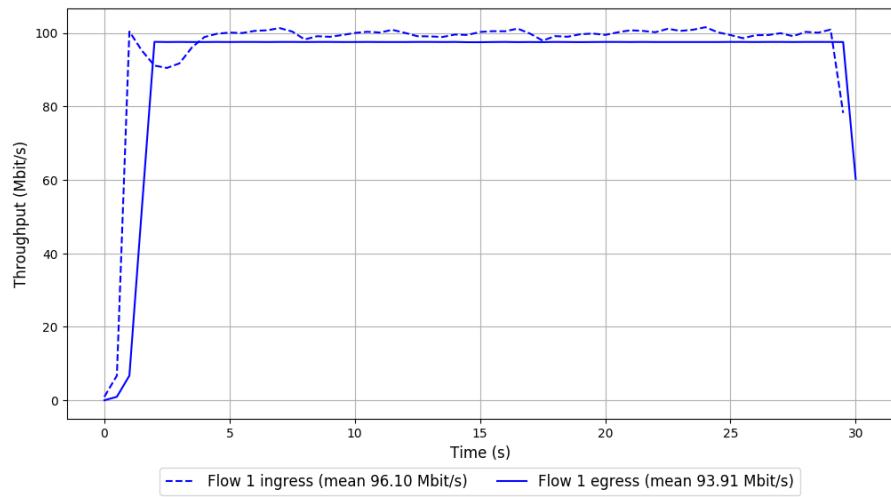


Run 1: Statistics of Indigo

```
Start at: 2018-11-30 11:01:44
End at: 2018-11-30 11:02:14
Local clock offset: -3.392 ms
Remote clock offset: -100.272 ms

# Below is generated by plot.py at 2018-11-30 12:53:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.91 Mbit/s
95th percentile per-packet one-way delay: 178.510 ms
Loss rate: 2.84%
-- Flow 1:
Average throughput: 93.91 Mbit/s
95th percentile per-packet one-way delay: 178.510 ms
Loss rate: 2.84%
```

Run 1: Report of Indigo — Data Link

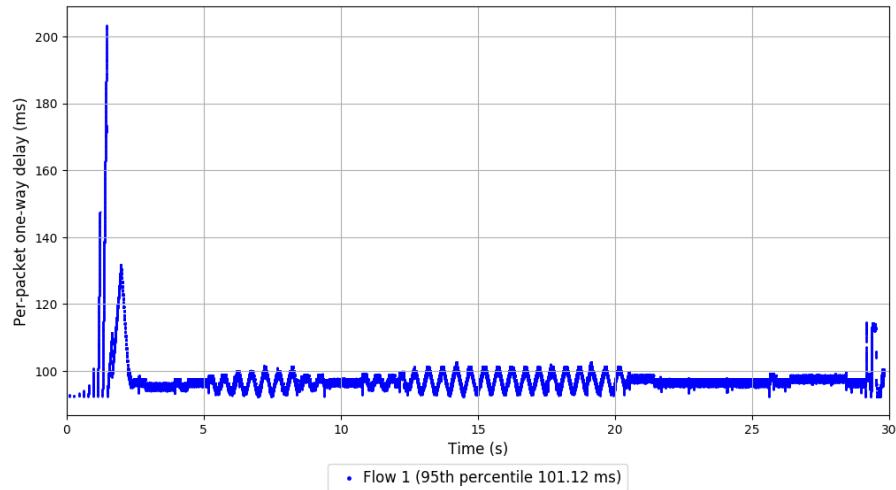
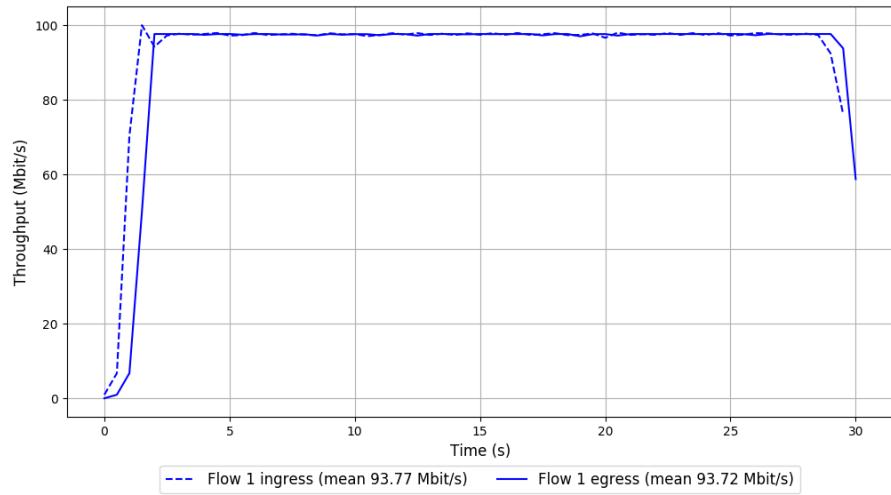


Run 2: Statistics of Indigo

```
Start at: 2018-11-30 11:24:18
End at: 2018-11-30 11:24:48
Local clock offset: -3.673 ms
Remote clock offset: -107.302 ms

# Below is generated by plot.py at 2018-11-30 12:53:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.72 Mbit/s
95th percentile per-packet one-way delay: 101.125 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 93.72 Mbit/s
95th percentile per-packet one-way delay: 101.125 ms
Loss rate: 0.63%
```

Run 2: Report of Indigo — Data Link

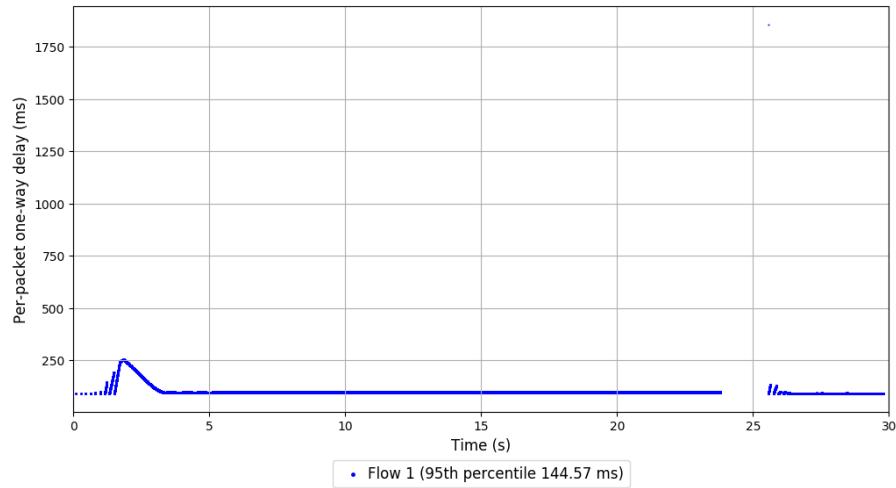
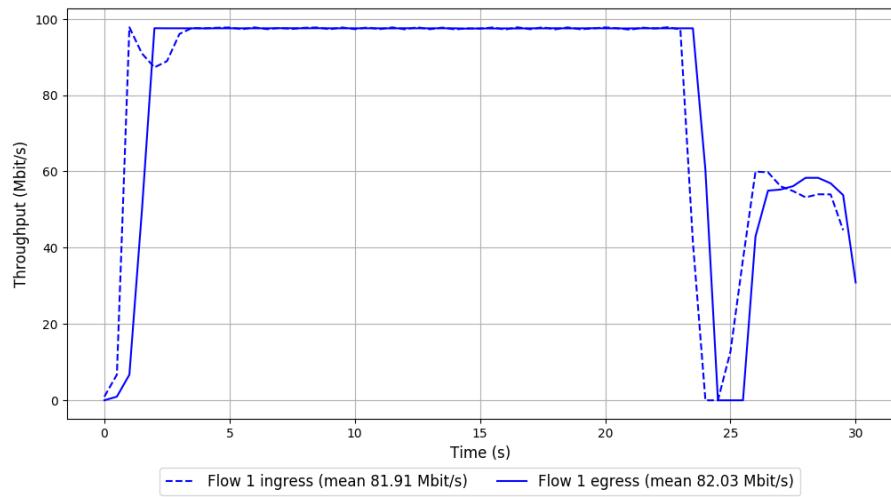


Run 3: Statistics of Indigo

```
Start at: 2018-11-30 11:47:04
End at: 2018-11-30 11:47:34
Local clock offset: -4.063 ms
Remote clock offset: -112.093 ms

# Below is generated by plot.py at 2018-11-30 12:53:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.03 Mbit/s
95th percentile per-packet one-way delay: 144.570 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 82.03 Mbit/s
95th percentile per-packet one-way delay: 144.570 ms
Loss rate: 0.43%
```

Run 3: Report of Indigo — Data Link

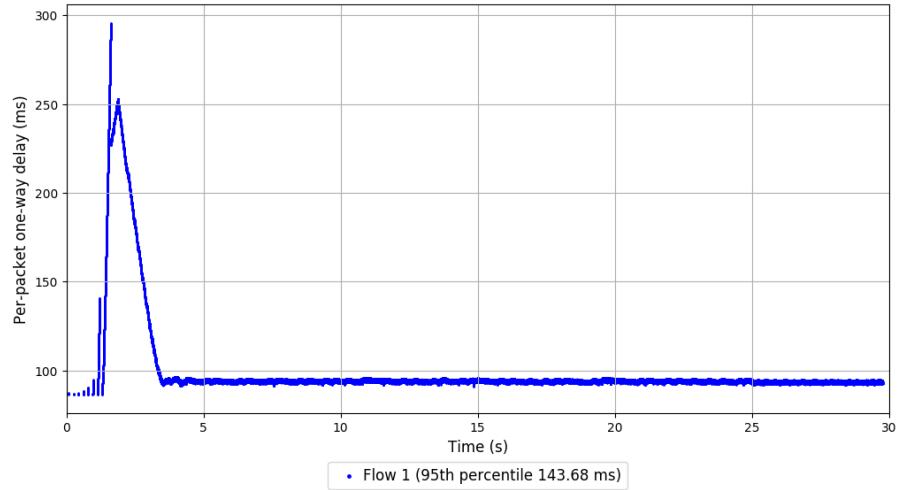
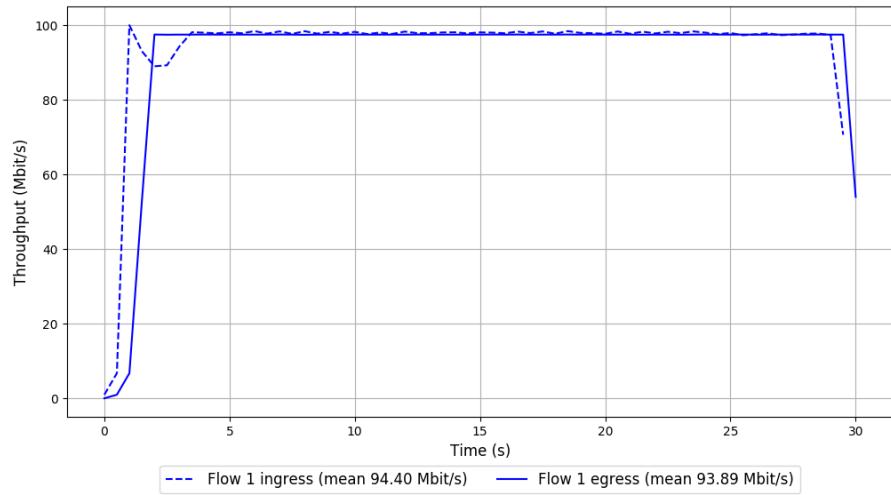


Run 4: Statistics of Indigo

```
Start at: 2018-11-30 12:09:33
End at: 2018-11-30 12:10:03
Local clock offset: -6.158 ms
Remote clock offset: -113.793 ms

# Below is generated by plot.py at 2018-11-30 12:53:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.89 Mbit/s
95th percentile per-packet one-way delay: 143.683 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 93.89 Mbit/s
95th percentile per-packet one-way delay: 143.683 ms
Loss rate: 1.11%
```

Run 4: Report of Indigo — Data Link

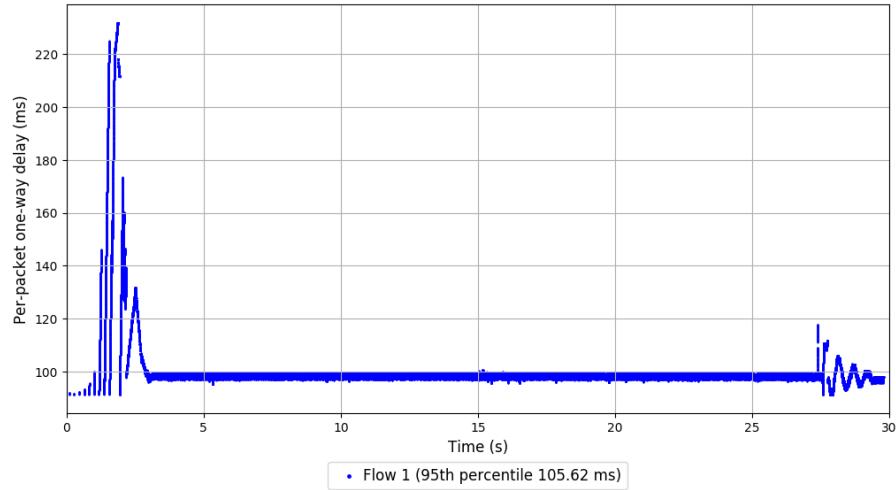
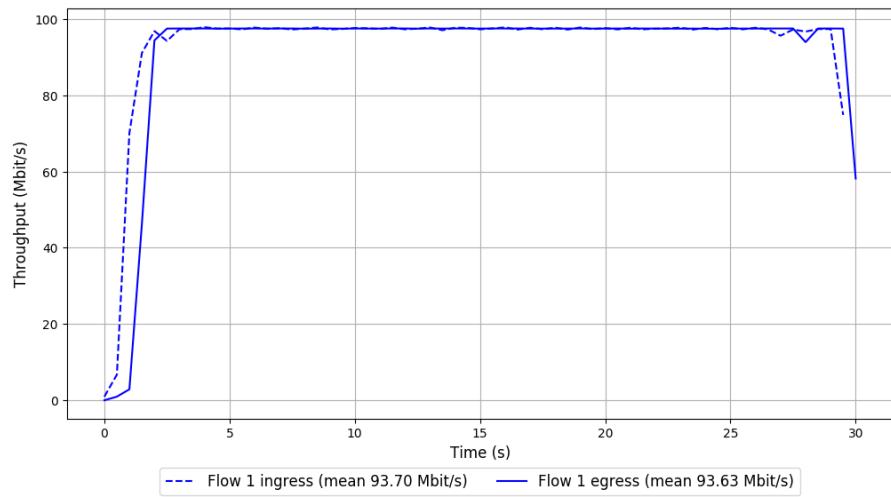


Run 5: Statistics of Indigo

```
Start at: 2018-11-30 12:32:20
End at: 2018-11-30 12:32:50
Local clock offset: -5.569 ms
Remote clock offset: -125.045 ms

# Below is generated by plot.py at 2018-11-30 12:53:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.63 Mbit/s
95th percentile per-packet one-way delay: 105.620 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 93.63 Mbit/s
95th percentile per-packet one-way delay: 105.620 ms
Loss rate: 0.67%
```

Run 5: Report of Indigo — Data Link

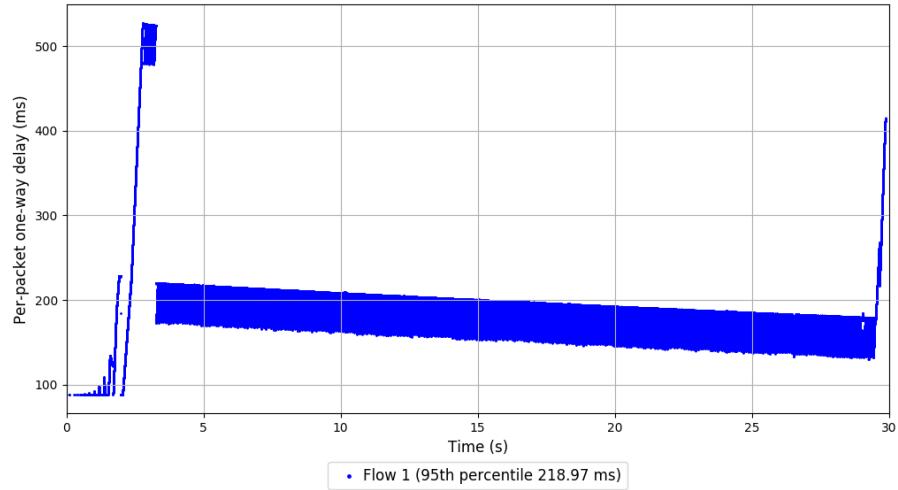
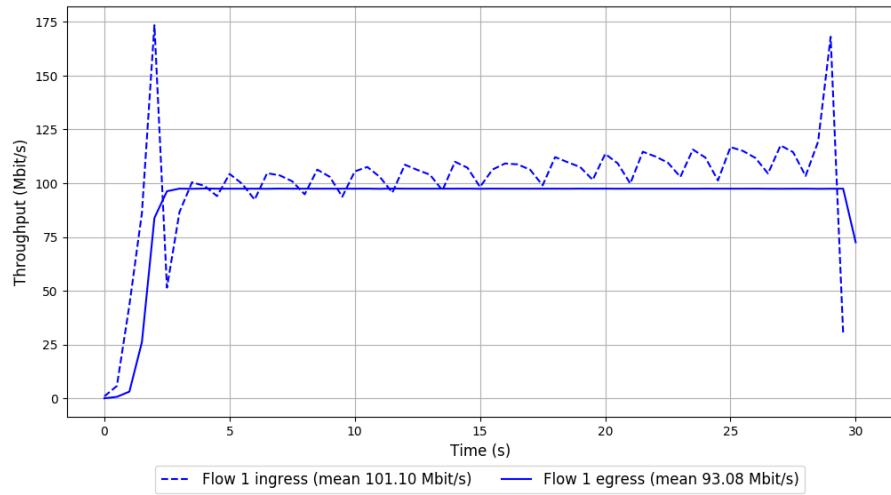


```
Run 1: Statistics of Indigo-96d2da3
```

```
Start at: 2018-11-30 11:12:31
End at: 2018-11-30 11:13:01
Local clock offset: -3.547 ms
Remote clock offset: -99.502 ms

# Below is generated by plot.py at 2018-11-30 12:53:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.08 Mbit/s
95th percentile per-packet one-way delay: 218.970 ms
Loss rate: 8.18%
-- Flow 1:
Average throughput: 93.08 Mbit/s
95th percentile per-packet one-way delay: 218.970 ms
Loss rate: 8.18%
```

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

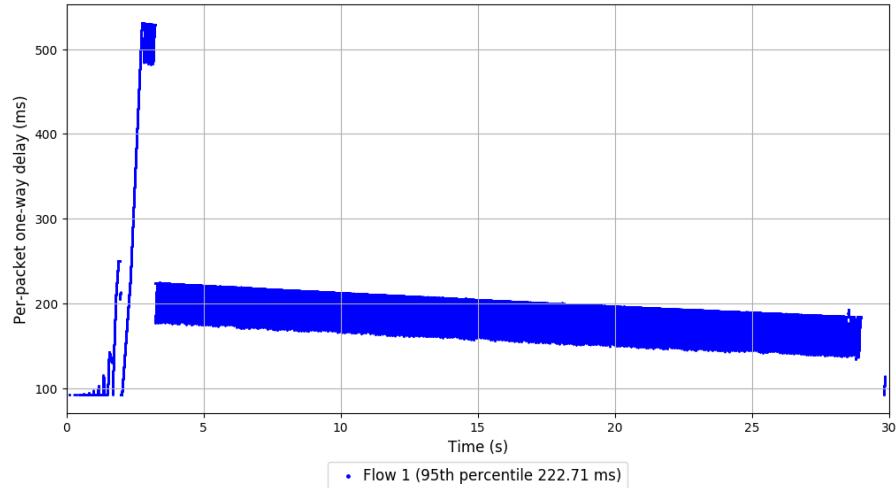
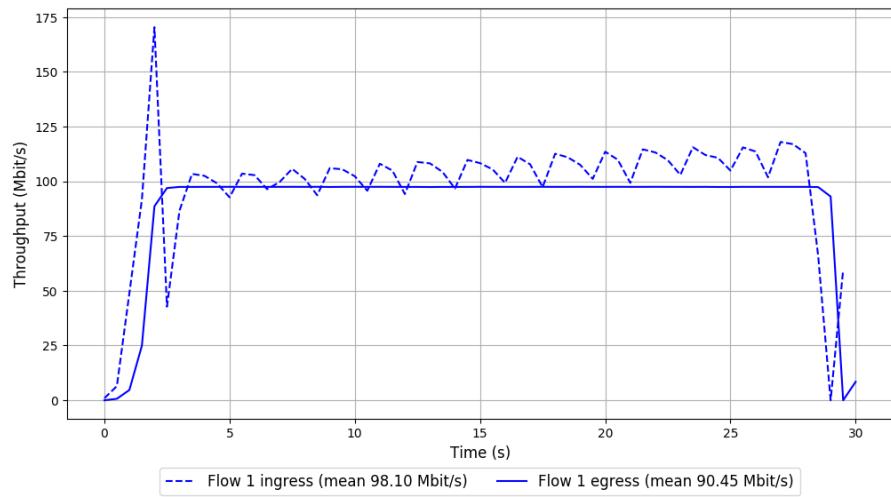


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-11-30 11:34:59
End at: 2018-11-30 11:35:29
Local clock offset: -3.751 ms
Remote clock offset: -109.947 ms

# Below is generated by plot.py at 2018-11-30 12:53:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.45 Mbit/s
95th percentile per-packet one-way delay: 222.710 ms
Loss rate: 8.18%
-- Flow 1:
Average throughput: 90.45 Mbit/s
95th percentile per-packet one-way delay: 222.710 ms
Loss rate: 8.18%
```

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

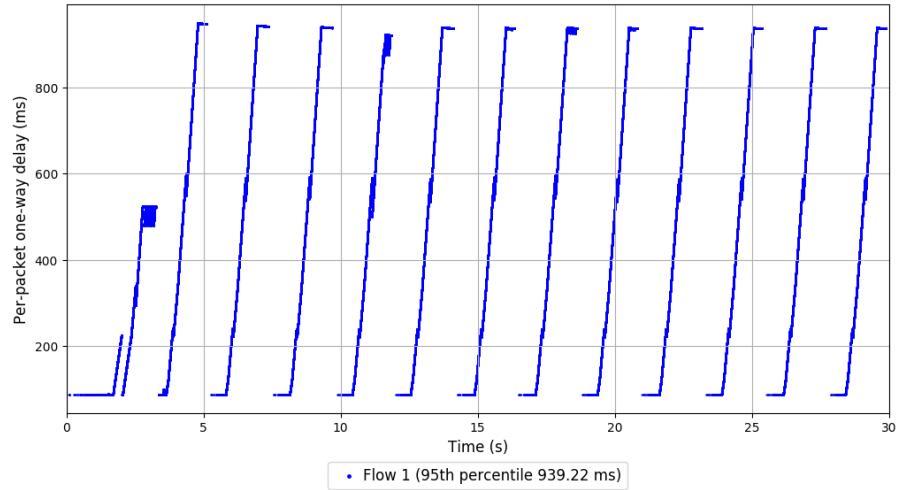
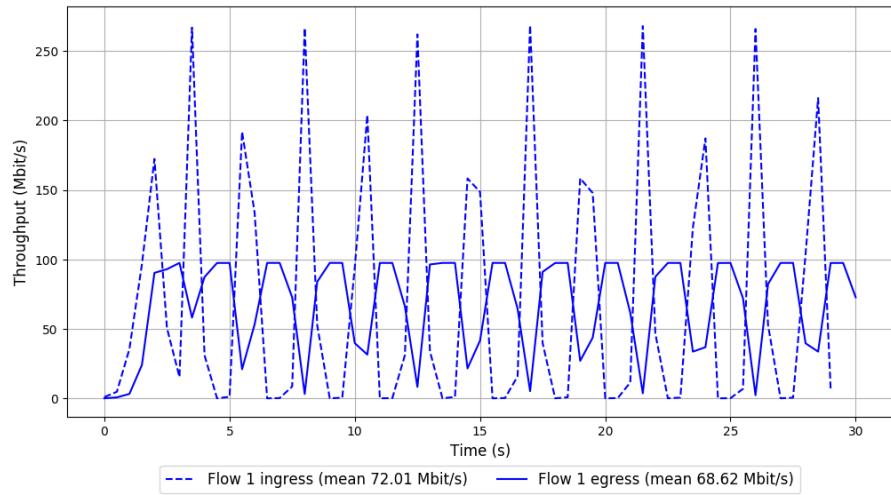


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-11-30 11:57:46
End at: 2018-11-30 11:58:16
Local clock offset: -4.91 ms
Remote clock offset: -111.164 ms

# Below is generated by plot.py at 2018-11-30 12:53:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.62 Mbit/s
95th percentile per-packet one-way delay: 939.217 ms
Loss rate: 2.24%
-- Flow 1:
Average throughput: 68.62 Mbit/s
95th percentile per-packet one-way delay: 939.217 ms
Loss rate: 2.24%
```

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

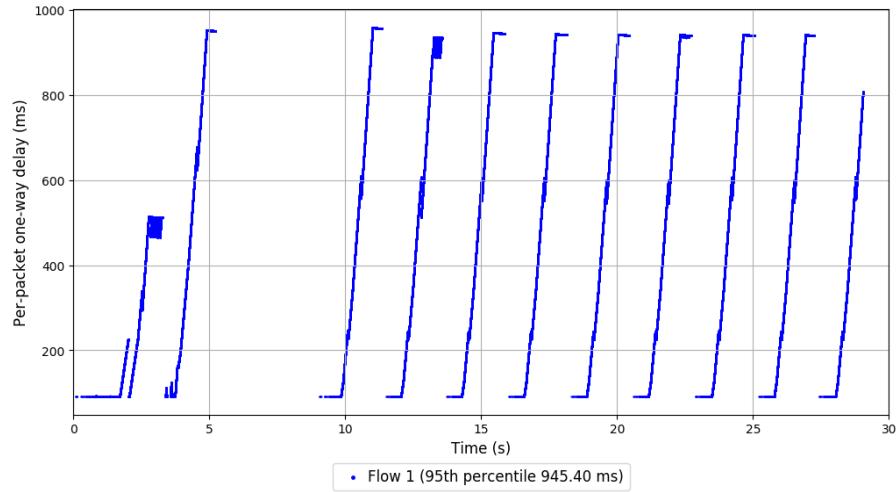
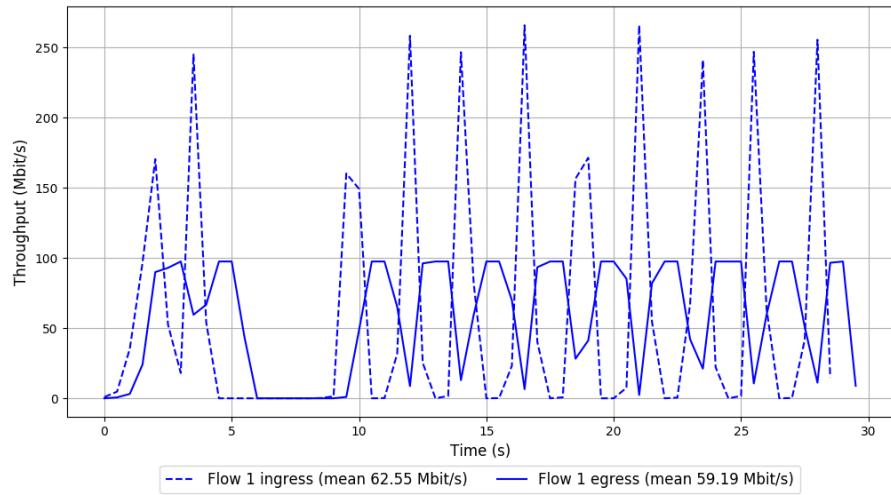


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-11-30 12:20:33
End at: 2018-11-30 12:21:03
Local clock offset: -5.822 ms
Remote clock offset: -121.977 ms

# Below is generated by plot.py at 2018-11-30 12:53:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.19 Mbit/s
95th percentile per-packet one-way delay: 945.404 ms
Loss rate: 4.12%
-- Flow 1:
Average throughput: 59.19 Mbit/s
95th percentile per-packet one-way delay: 945.404 ms
Loss rate: 4.12%
```

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

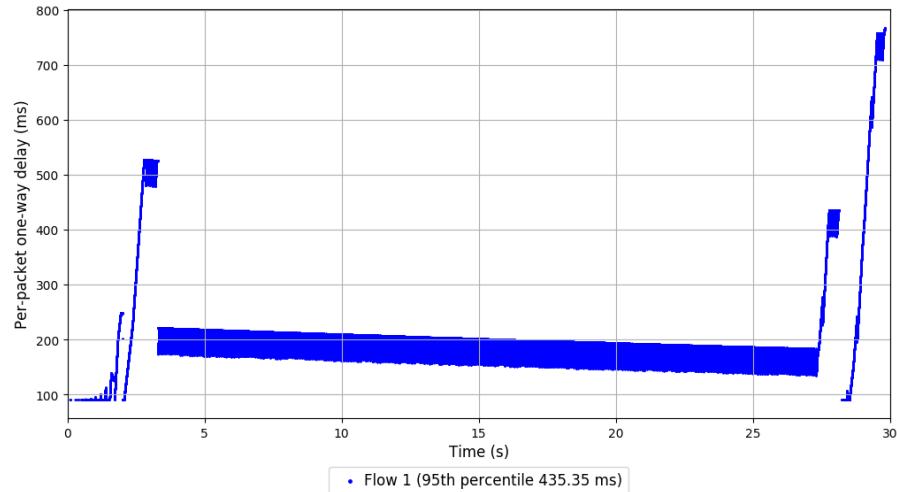
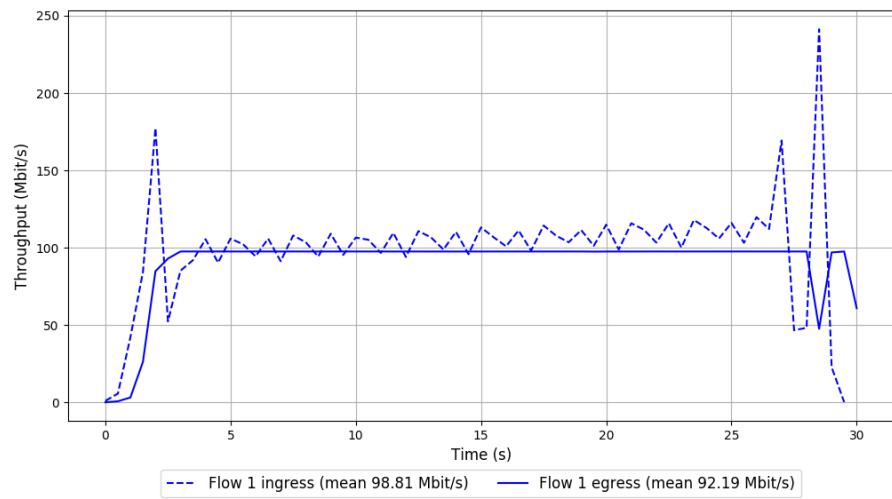


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-11-30 12:43:08
End at: 2018-11-30 12:43:38
Local clock offset: -5.558 ms
Remote clock offset: -126.607 ms

# Below is generated by plot.py at 2018-11-30 12:54:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.19 Mbit/s
95th percentile per-packet one-way delay: 435.351 ms
Loss rate: 7.41%
-- Flow 1:
Average throughput: 92.19 Mbit/s
95th percentile per-packet one-way delay: 435.351 ms
Loss rate: 7.41%
```

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

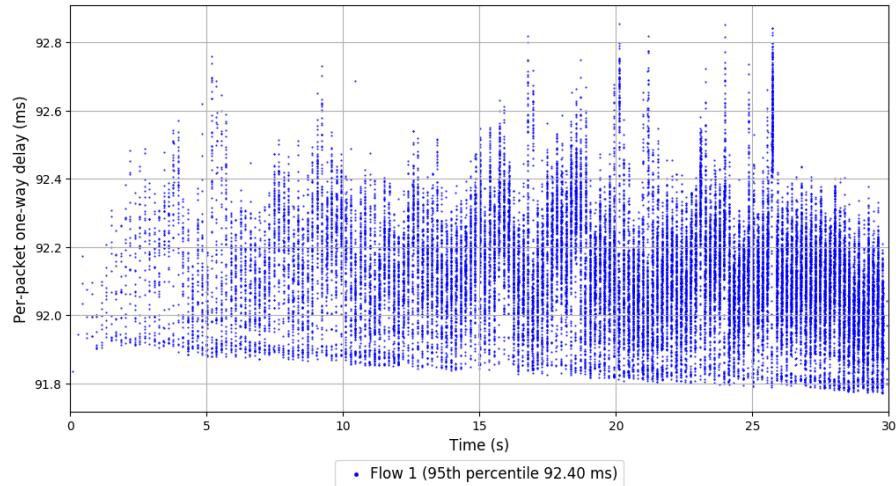
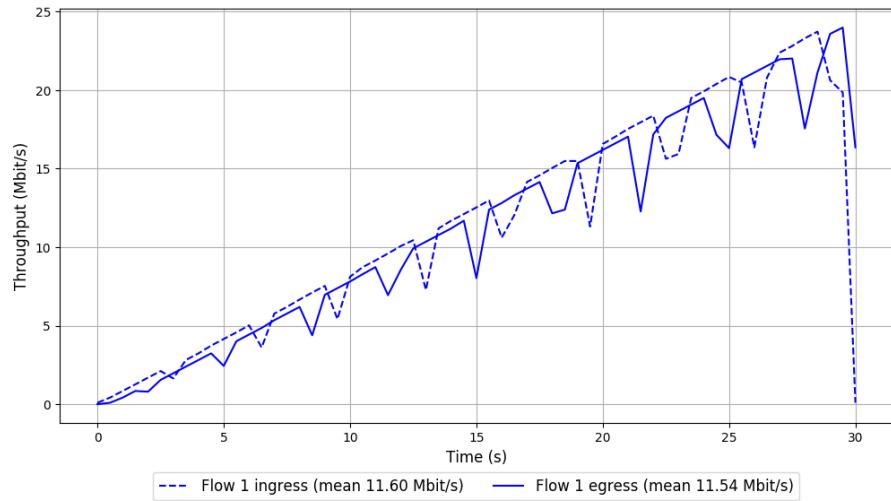


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-11-30 11:07:47
End at: 2018-11-30 11:08:17
Local clock offset: -3.447 ms
Remote clock offset: -102.104 ms

# Below is generated by plot.py at 2018-11-30 12:54:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.54 Mbit/s
95th percentile per-packet one-way delay: 92.404 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 11.54 Mbit/s
95th percentile per-packet one-way delay: 92.404 ms
Loss rate: 1.18%
```

Run 1: Report of LEDBAT — Data Link

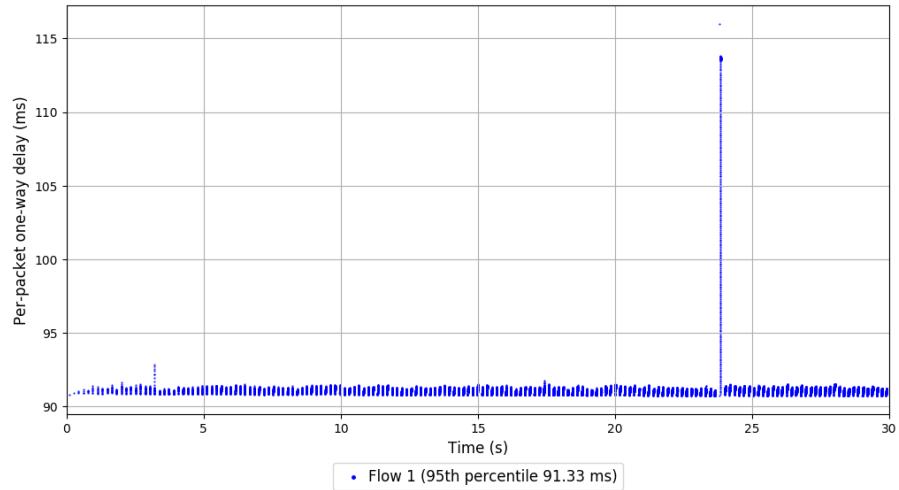
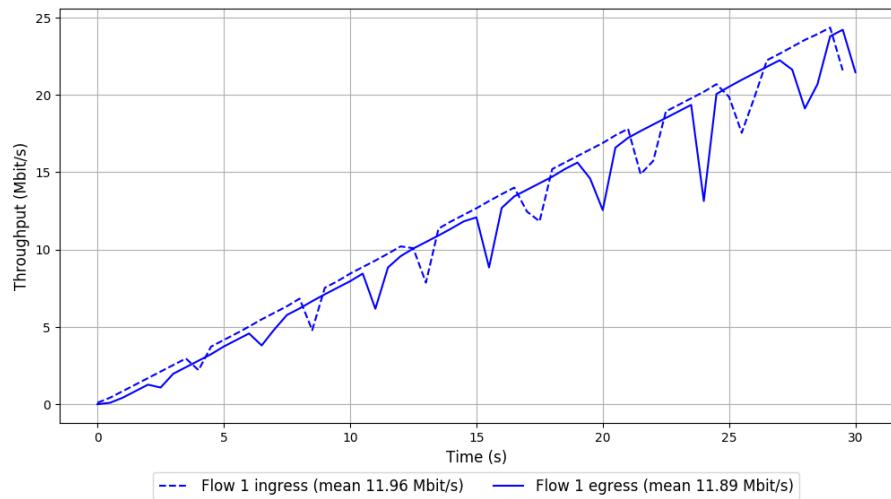


Run 2: Statistics of LEDBAT

```
Start at: 2018-11-30 11:30:17
End at: 2018-11-30 11:30:47
Local clock offset: -4.484 ms
Remote clock offset: -107.69 ms

# Below is generated by plot.py at 2018-11-30 12:54:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.89 Mbit/s
95th percentile per-packet one-way delay: 91.326 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 11.89 Mbit/s
95th percentile per-packet one-way delay: 91.326 ms
Loss rate: 1.15%
```

Run 2: Report of LEDBAT — Data Link

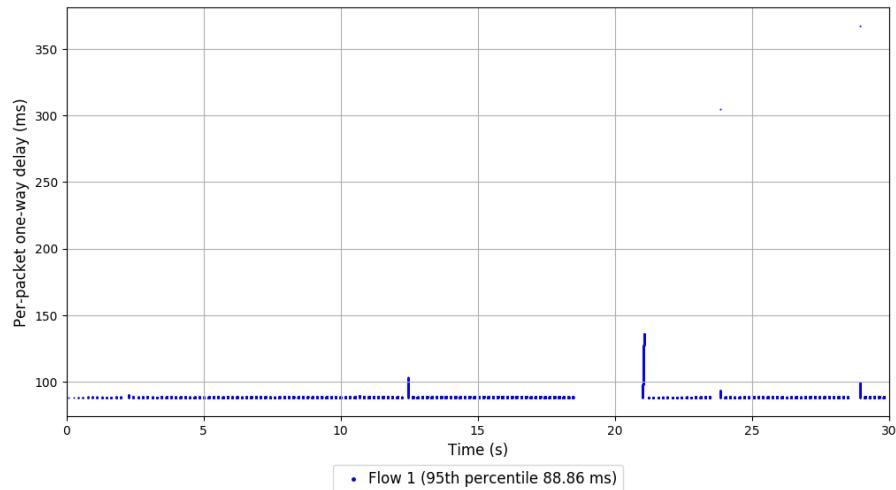
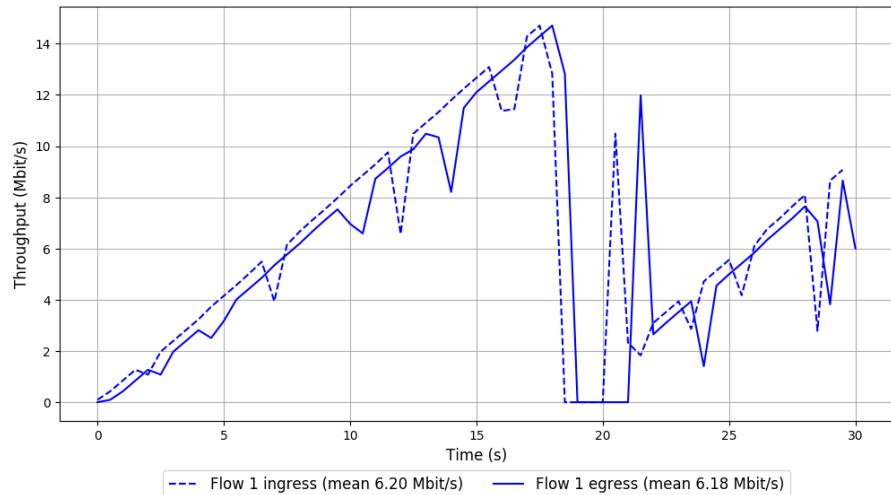


Run 3: Statistics of LEDBAT

```
Start at: 2018-11-30 11:53:04
End at: 2018-11-30 11:53:34
Local clock offset: -5.419 ms
Remote clock offset: -110.985 ms

# Below is generated by plot.py at 2018-11-30 12:54:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.18 Mbit/s
95th percentile per-packet one-way delay: 88.862 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 6.18 Mbit/s
95th percentile per-packet one-way delay: 88.862 ms
Loss rate: 0.83%
```

Run 3: Report of LEDBAT — Data Link

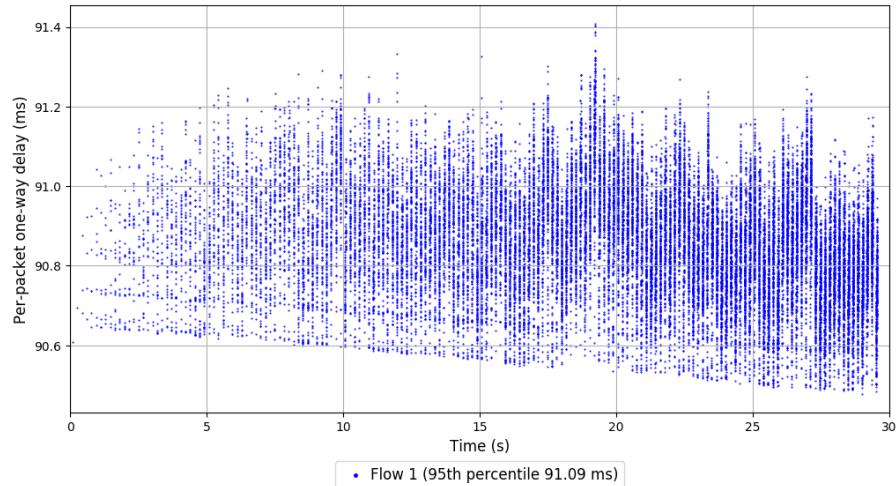
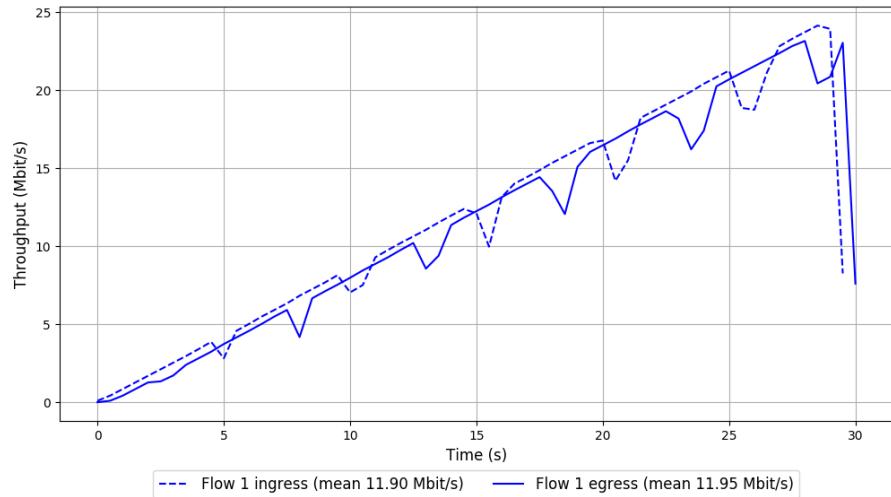


Run 4: Statistics of LEDBAT

```
Start at: 2018-11-30 12:15:42
End at: 2018-11-30 12:16:12
Local clock offset: -6.145 ms
Remote clock offset: -119.556 ms

# Below is generated by plot.py at 2018-11-30 12:54:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.95 Mbit/s
95th percentile per-packet one-way delay: 91.091 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 11.95 Mbit/s
95th percentile per-packet one-way delay: 91.091 ms
Loss rate: 1.16%
```

Run 4: Report of LEDBAT — Data Link

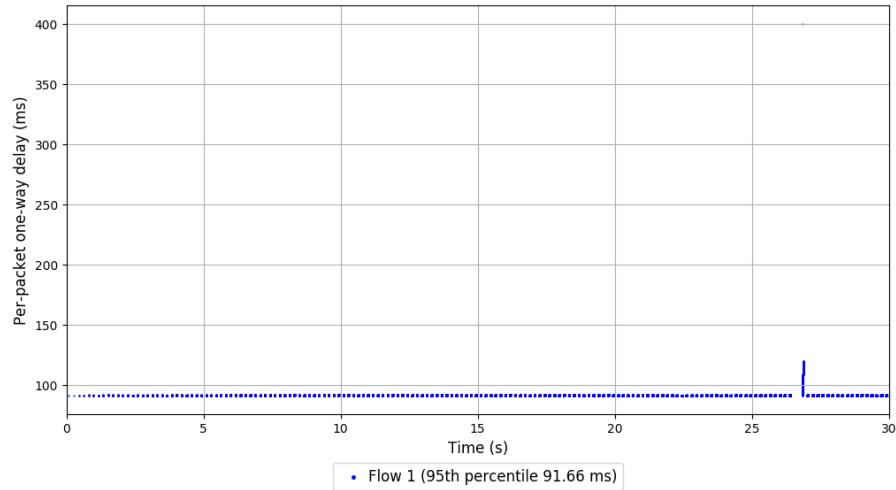
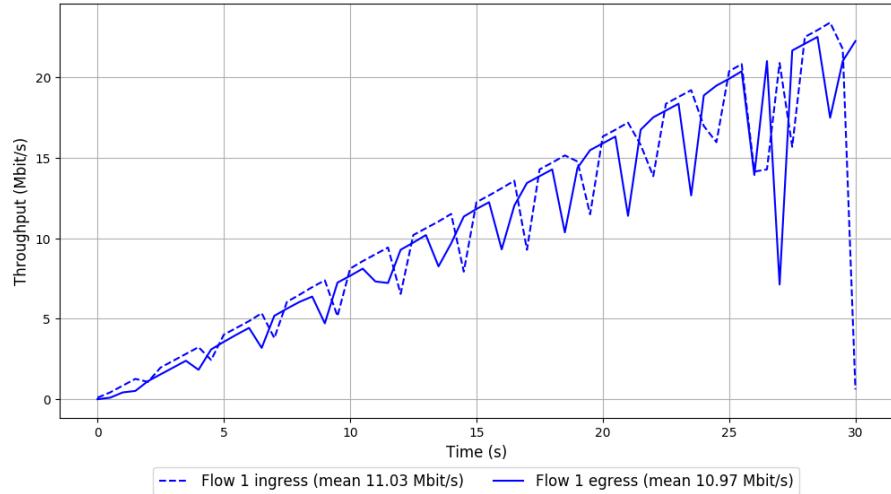


Run 5: Statistics of LEDBAT

```
Start at: 2018-11-30 12:38:26
End at: 2018-11-30 12:38:56
Local clock offset: -5.616 ms
Remote clock offset: -126.419 ms

# Below is generated by plot.py at 2018-11-30 12:54:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 10.97 Mbit/s
95th percentile per-packet one-way delay: 91.659 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 10.97 Mbit/s
95th percentile per-packet one-way delay: 91.659 ms
Loss rate: 1.20%
```

Run 5: Report of LEDBAT — Data Link

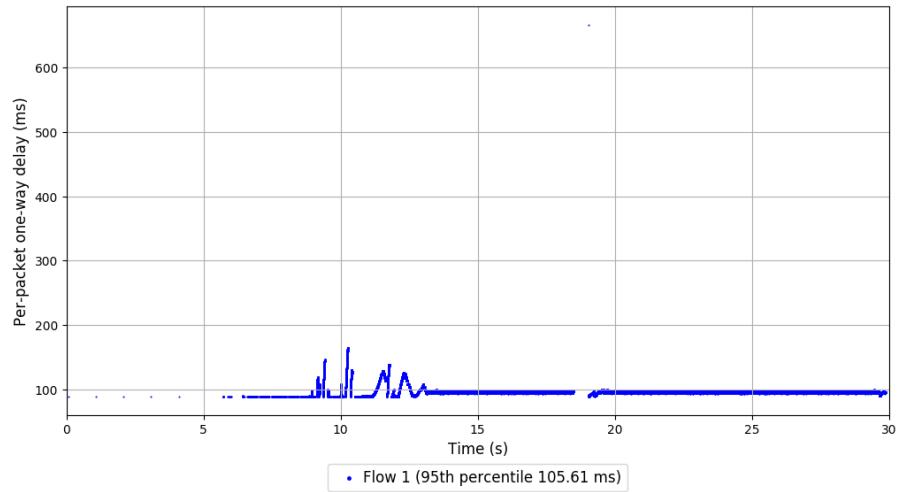
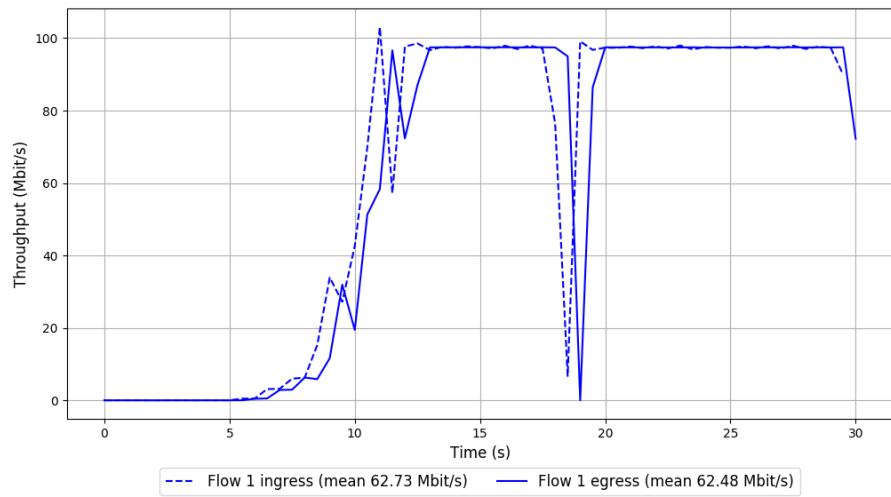


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-11-30 11:00:33
End at: 2018-11-30 11:01:03
Local clock offset: -3.434 ms
Remote clock offset: -97.256 ms

# Below is generated by plot.py at 2018-11-30 12:54:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.48 Mbit/s
95th percentile per-packet one-way delay: 105.605 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 62.48 Mbit/s
95th percentile per-packet one-way delay: 105.605 ms
Loss rate: 0.98%
```

Run 1: Report of Indigo-Muses — Data Link

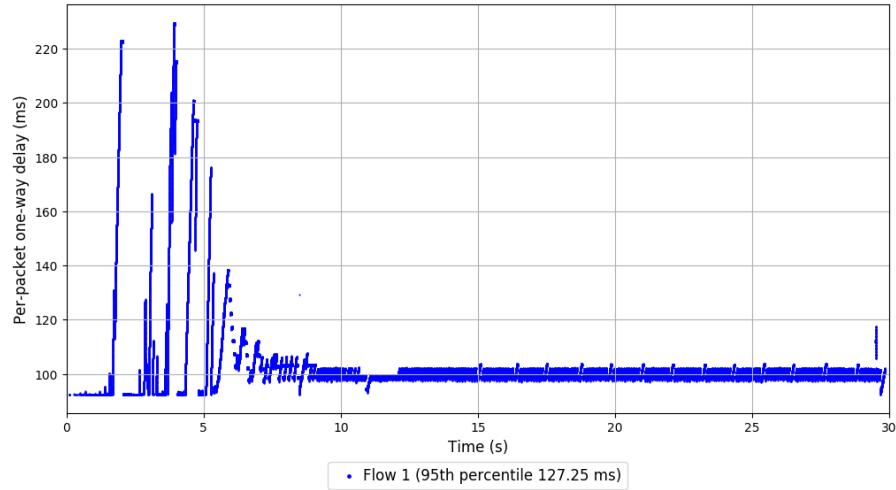
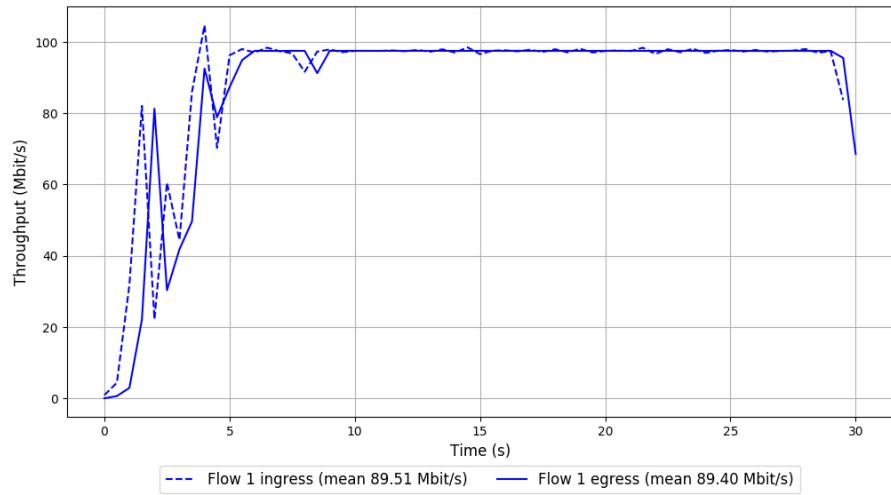


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-11-30 11:23:06
End at: 2018-11-30 11:23:36
Local clock offset: -3.728 ms
Remote clock offset: -107.036 ms

# Below is generated by plot.py at 2018-11-30 12:54:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.40 Mbit/s
95th percentile per-packet one-way delay: 127.252 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 89.40 Mbit/s
95th percentile per-packet one-way delay: 127.252 ms
Loss rate: 0.72%
```

Run 2: Report of Indigo-Muses — Data Link

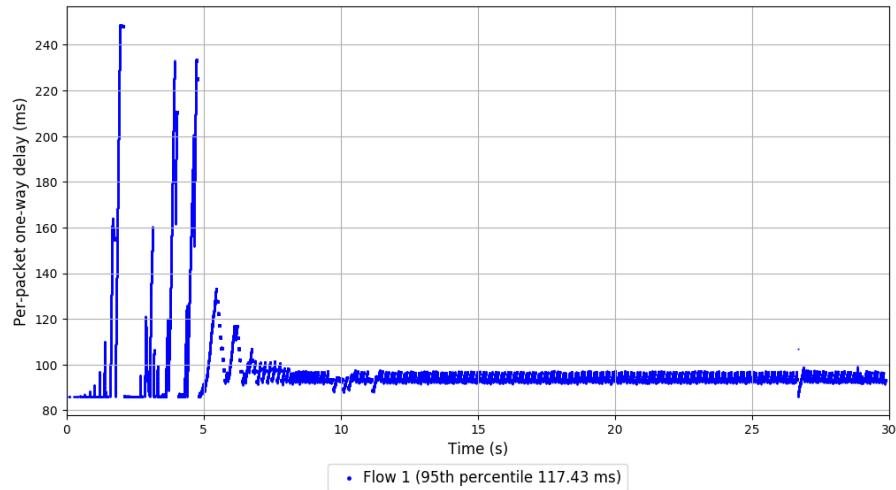
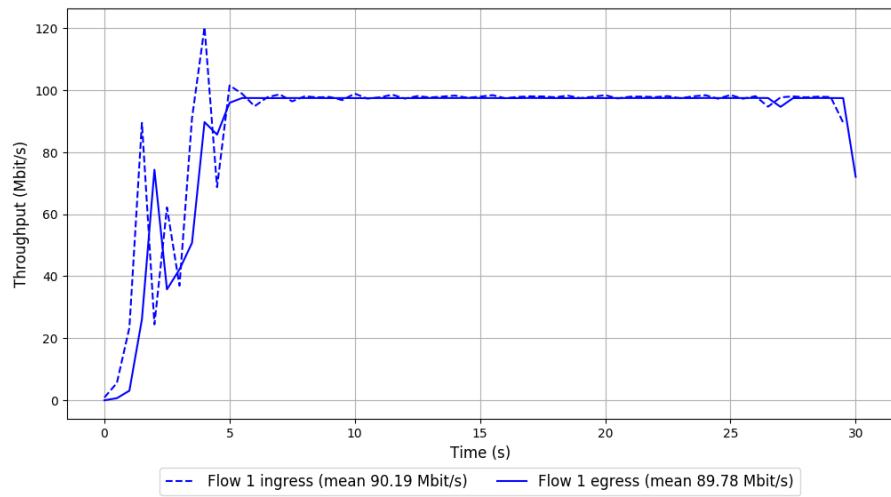


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-11-30 11:45:50
End at: 2018-11-30 11:46:20
Local clock offset: -4.674 ms
Remote clock offset: -106.92 ms

# Below is generated by plot.py at 2018-11-30 12:54:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.78 Mbit/s
95th percentile per-packet one-way delay: 117.431 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 89.78 Mbit/s
95th percentile per-packet one-way delay: 117.431 ms
Loss rate: 1.03%
```

Run 3: Report of Indigo-Muses — Data Link

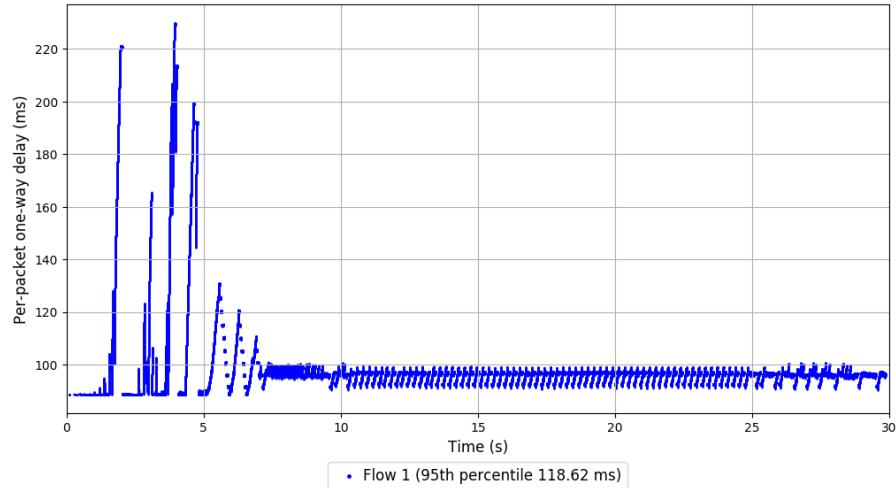
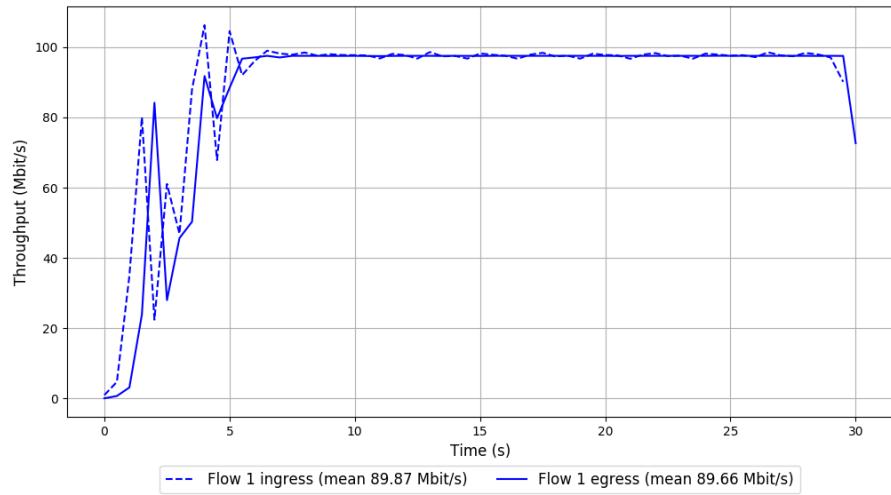


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-11-30 12:08:21
End at: 2018-11-30 12:08:51
Local clock offset: -5.31 ms
Remote clock offset: -114.925 ms

# Below is generated by plot.py at 2018-11-30 12:54:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.66 Mbit/s
95th percentile per-packet one-way delay: 118.620 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 89.66 Mbit/s
95th percentile per-packet one-way delay: 118.620 ms
Loss rate: 0.82%
```

Run 4: Report of Indigo-Muses — Data Link

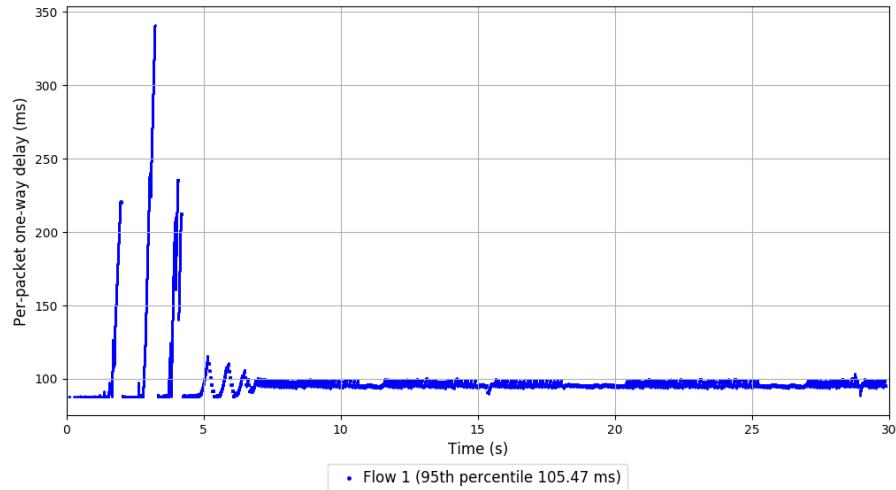
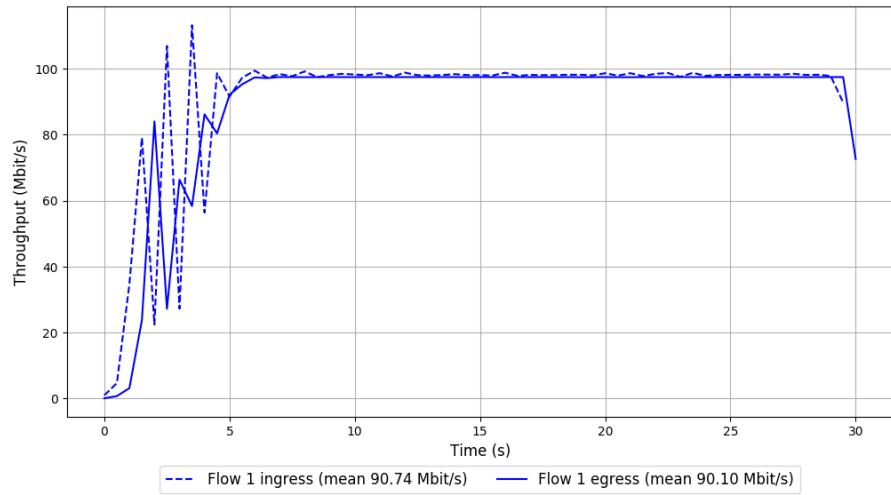


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-11-30 12:31:07
End at: 2018-11-30 12:31:37
Local clock offset: -5.659 ms
Remote clock offset: -120.704 ms

# Below is generated by plot.py at 2018-11-30 12:54:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.10 Mbit/s
95th percentile per-packet one-way delay: 105.468 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 90.10 Mbit/s
95th percentile per-packet one-way delay: 105.468 ms
Loss rate: 1.29%
```

Run 5: Report of Indigo-Muses — Data Link

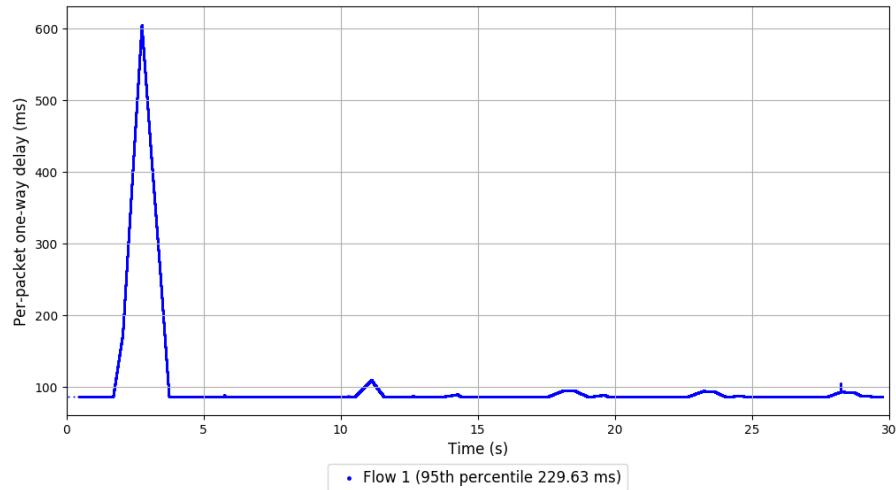
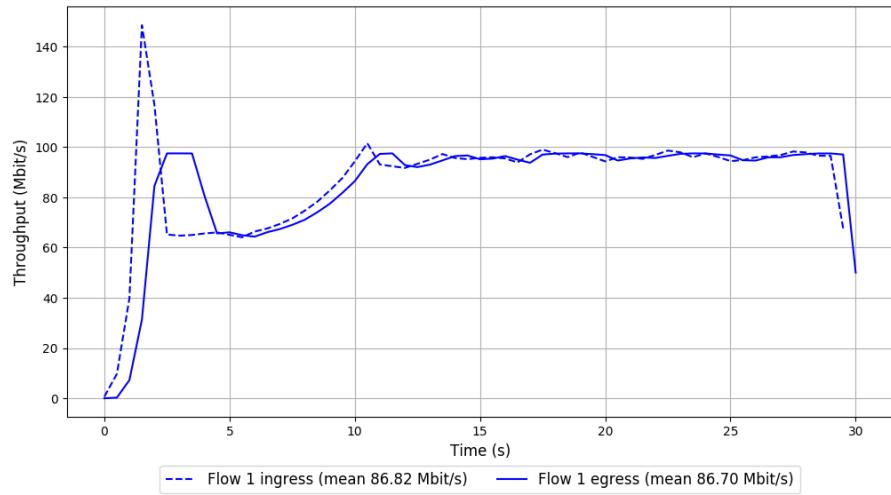


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-11-30 10:58:11
End at: 2018-11-30 10:58:41
Local clock offset: -4.088 ms
Remote clock offset: -95.765 ms

# Below is generated by plot.py at 2018-11-30 12:54:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.70 Mbit/s
95th percentile per-packet one-way delay: 229.634 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 86.70 Mbit/s
95th percentile per-packet one-way delay: 229.634 ms
Loss rate: 0.73%
```

Run 1: Report of PCC-Allegro — Data Link

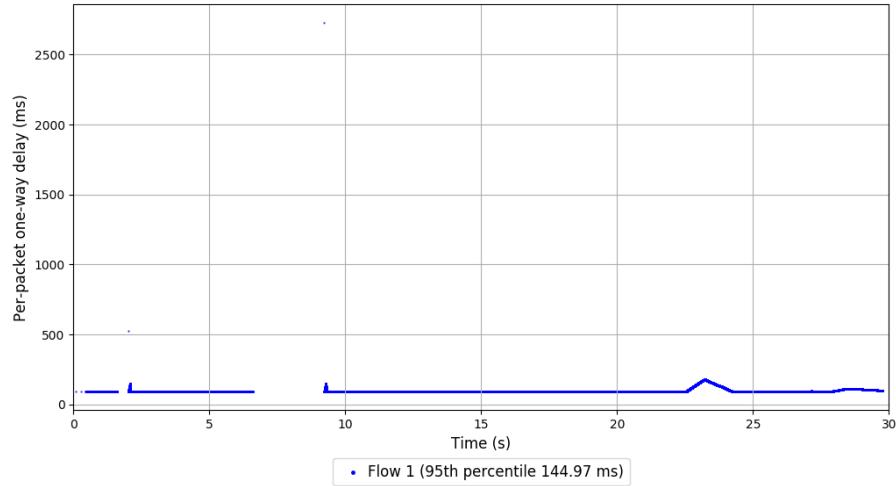
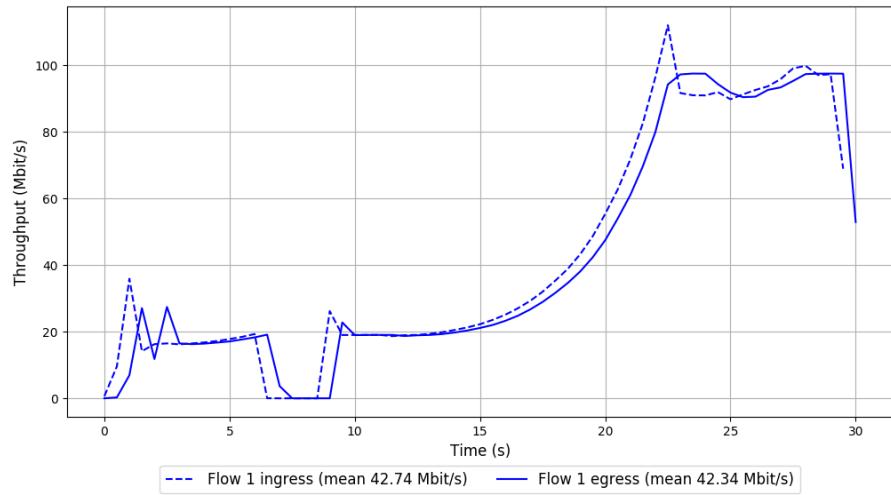


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-11-30 11:20:45
End at: 2018-11-30 11:21:15
Local clock offset: -4.46 ms
Remote clock offset: -106.381 ms

# Below is generated by plot.py at 2018-11-30 12:54:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.34 Mbit/s
95th percentile per-packet one-way delay: 144.965 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 42.34 Mbit/s
95th percentile per-packet one-way delay: 144.965 ms
Loss rate: 1.52%
```

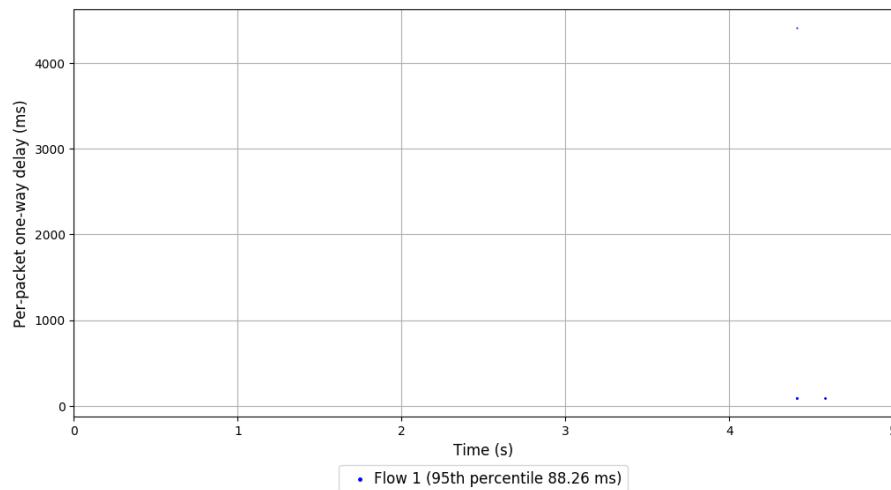
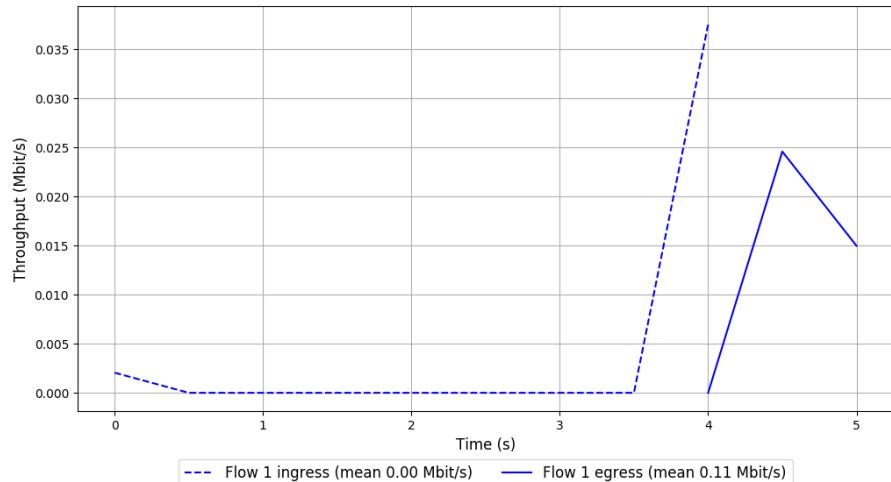
Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-11-30 11:43:32
End at: 2018-11-30 11:44:02
Local clock offset: -3.752 ms
Remote clock offset: -108.512 ms

Run 3: Report of PCC-Allegro — Data Link

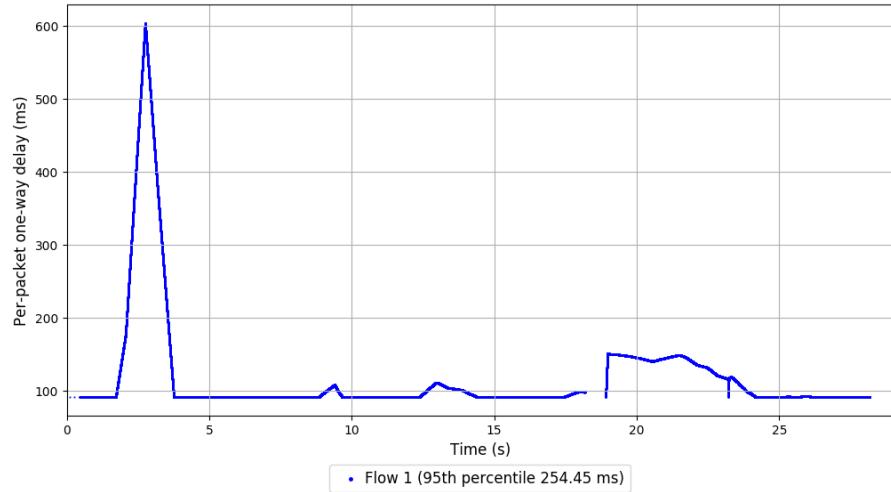
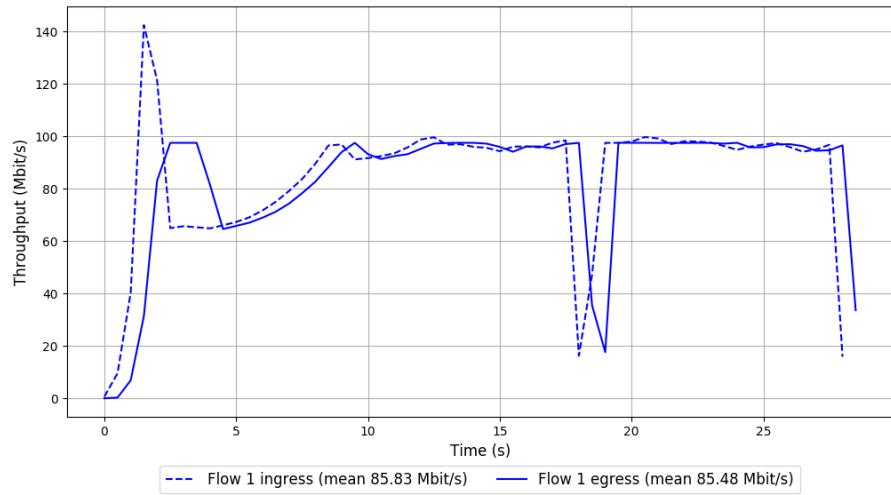


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-11-30 12:05:58
End at: 2018-11-30 12:06:29
Local clock offset: -5.294 ms
Remote clock offset: -118.009 ms

# Below is generated by plot.py at 2018-11-30 12:55:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.48 Mbit/s
95th percentile per-packet one-way delay: 254.450 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 85.48 Mbit/s
95th percentile per-packet one-way delay: 254.450 ms
Loss rate: 0.41%
```

Run 4: Report of PCC-Allegro — Data Link

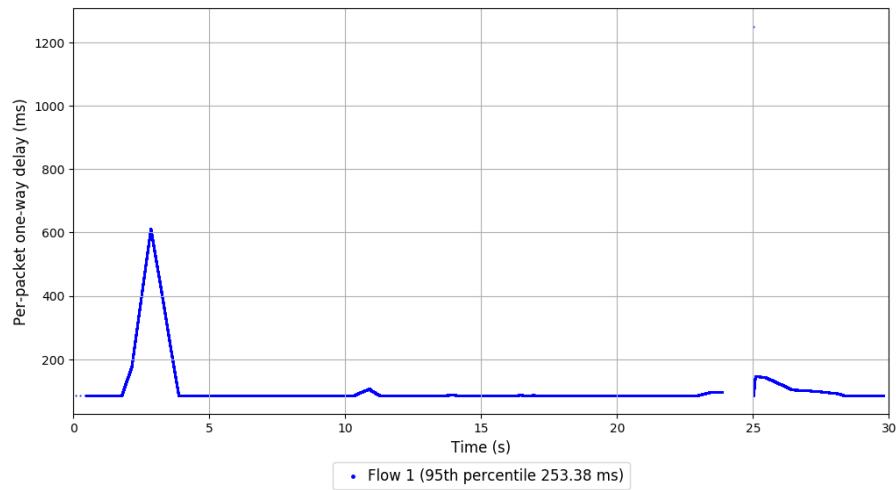
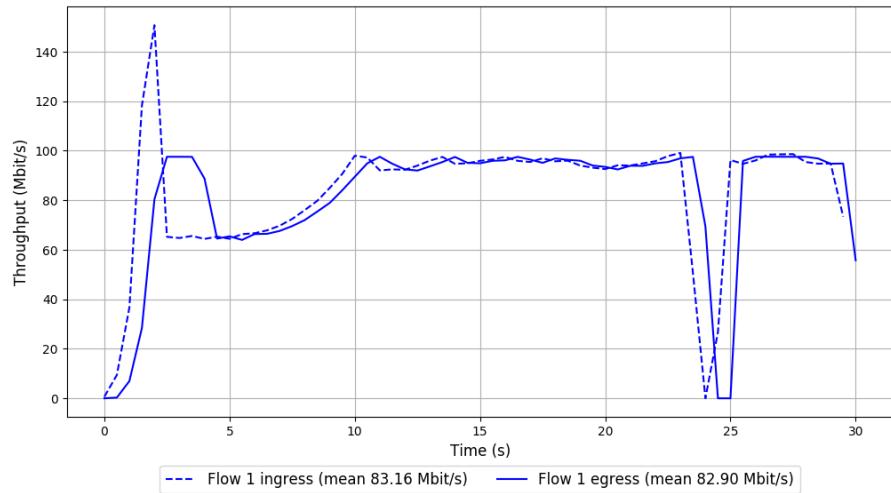


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-11-30 12:28:48
End at: 2018-11-30 12:29:18
Local clock offset: -5.617 ms
Remote clock offset: -117.956 ms

# Below is generated by plot.py at 2018-11-30 12:55:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.90 Mbit/s
95th percentile per-packet one-way delay: 253.379 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 82.90 Mbit/s
95th percentile per-packet one-way delay: 253.379 ms
Loss rate: 0.91%
```

Run 5: Report of PCC-Allegro — Data Link

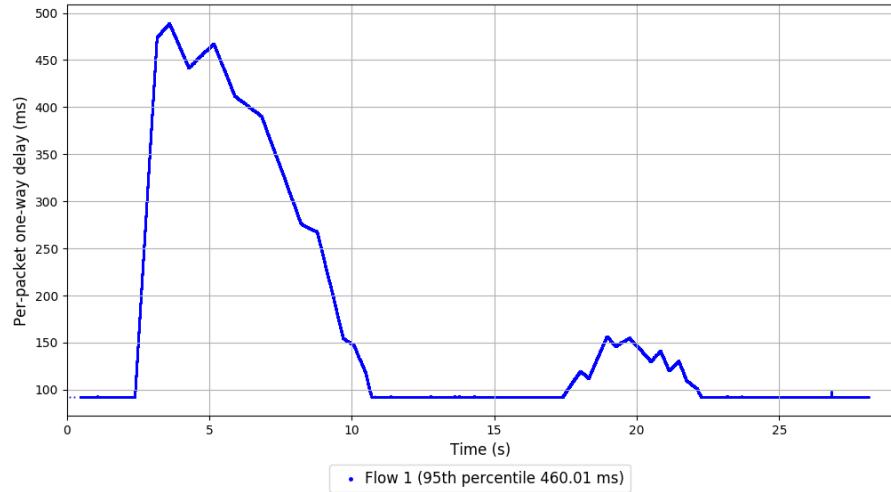
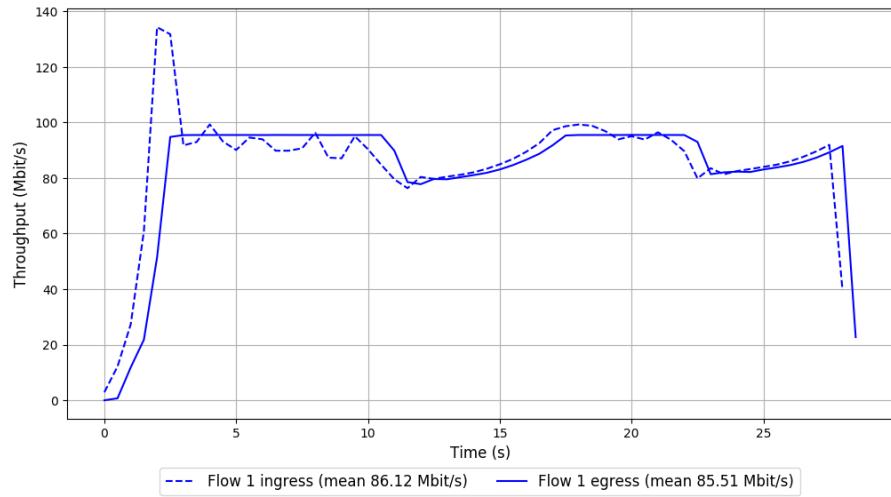


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-11-30 11:06:33
End at: 2018-11-30 11:07:03
Local clock offset: -4.209 ms
Remote clock offset: -102.626 ms

# Below is generated by plot.py at 2018-11-30 12:56:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.51 Mbit/s
95th percentile per-packet one-way delay: 460.011 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 85.51 Mbit/s
95th percentile per-packet one-way delay: 460.011 ms
Loss rate: 1.34%
```

Run 1: Report of PCC-Expr — Data Link

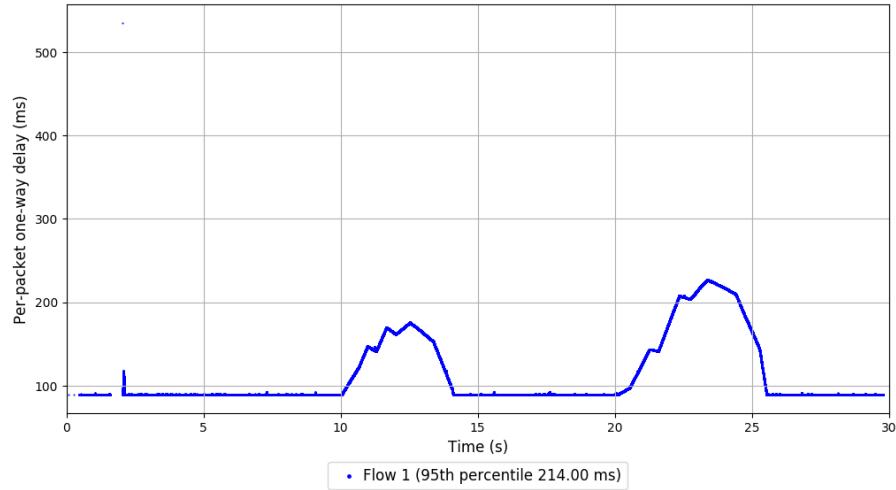
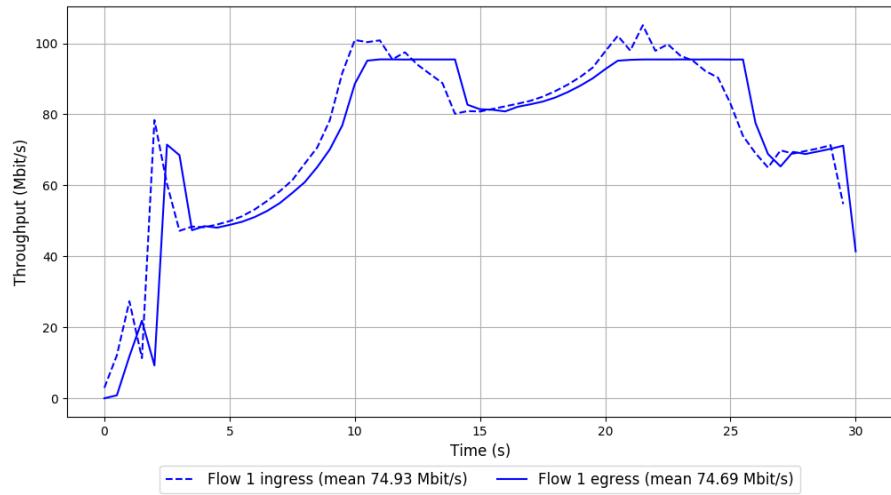


Run 2: Statistics of PCC-Expr

```
Start at: 2018-11-30 11:29:03
End at: 2018-11-30 11:29:33
Local clock offset: -3.721 ms
Remote clock offset: -104.832 ms

# Below is generated by plot.py at 2018-11-30 12:56:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 74.69 Mbit/s
95th percentile per-packet one-way delay: 213.995 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 74.69 Mbit/s
95th percentile per-packet one-way delay: 213.995 ms
Loss rate: 0.92%
```

Run 2: Report of PCC-Expr — Data Link

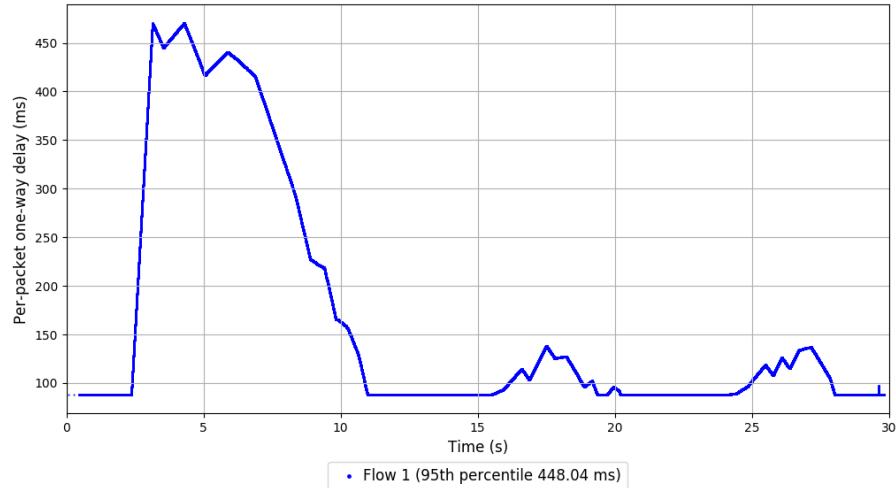
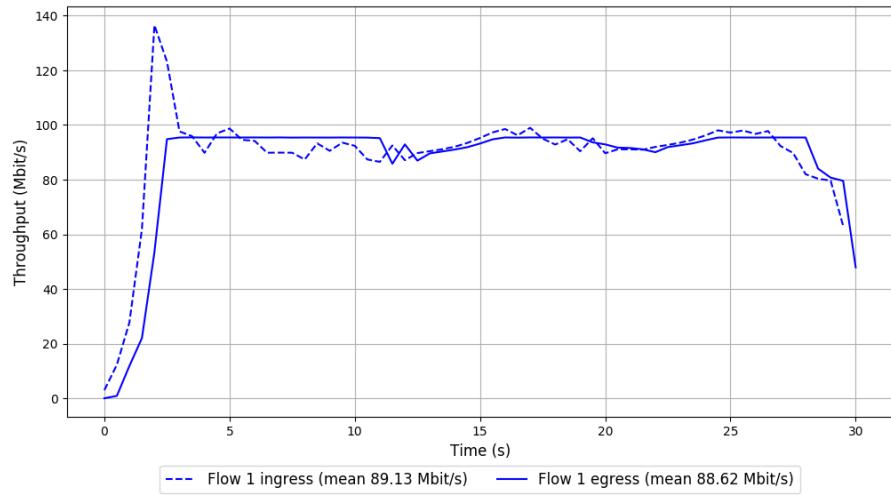


Run 3: Statistics of PCC-Expr

```
Start at: 2018-11-30 11:51:49
End at: 2018-11-30 11:52:19
Local clock offset: -4.634 ms
Remote clock offset: -109.517 ms

# Below is generated by plot.py at 2018-11-30 12:56:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.62 Mbit/s
95th percentile per-packet one-way delay: 448.044 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 88.62 Mbit/s
95th percentile per-packet one-way delay: 448.044 ms
Loss rate: 1.17%
```

Run 3: Report of PCC-Expr — Data Link

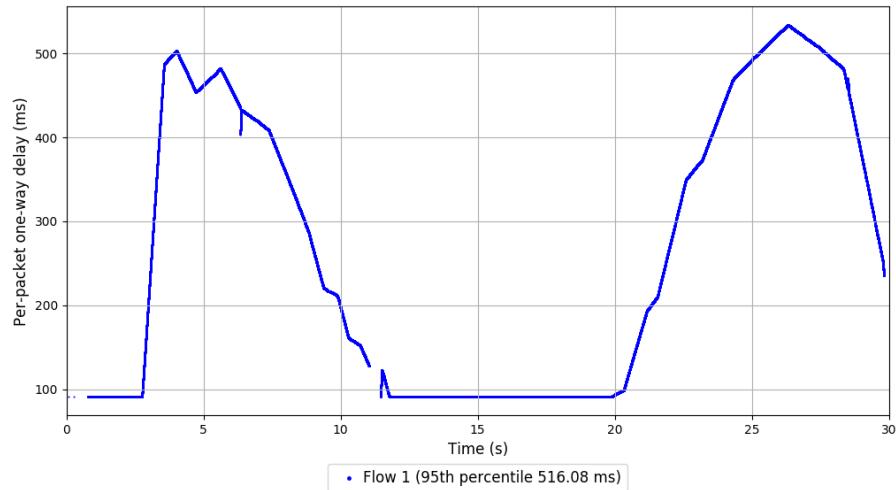
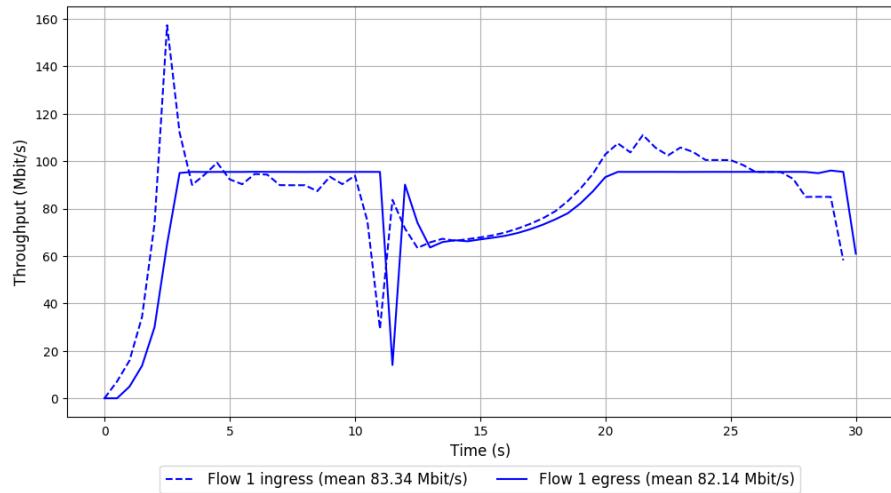


Run 4: Statistics of PCC-Expr

```
Start at: 2018-11-30 12:14:28
End at: 2018-11-30 12:14:58
Local clock offset: -5.443 ms
Remote clock offset: -119.158 ms

# Below is generated by plot.py at 2018-11-30 12:56:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.14 Mbit/s
95th percentile per-packet one-way delay: 516.081 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 82.14 Mbit/s
95th percentile per-packet one-way delay: 516.081 ms
Loss rate: 2.02%
```

Run 4: Report of PCC-Expr — Data Link

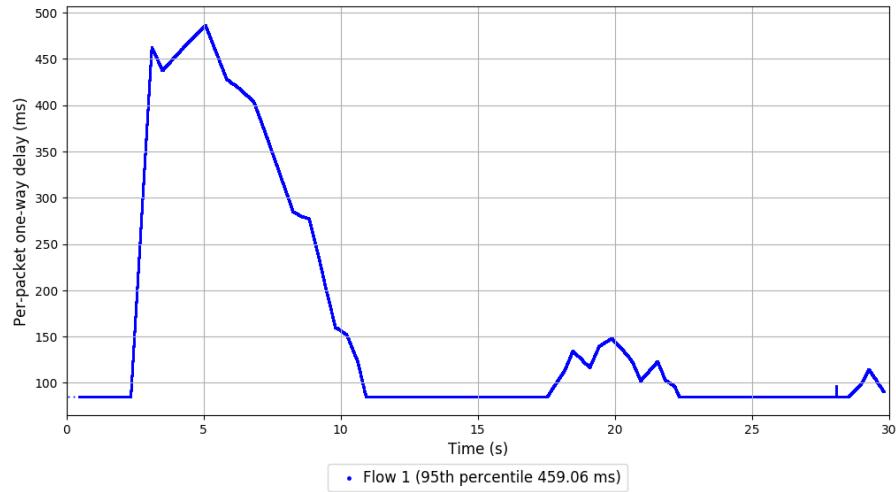
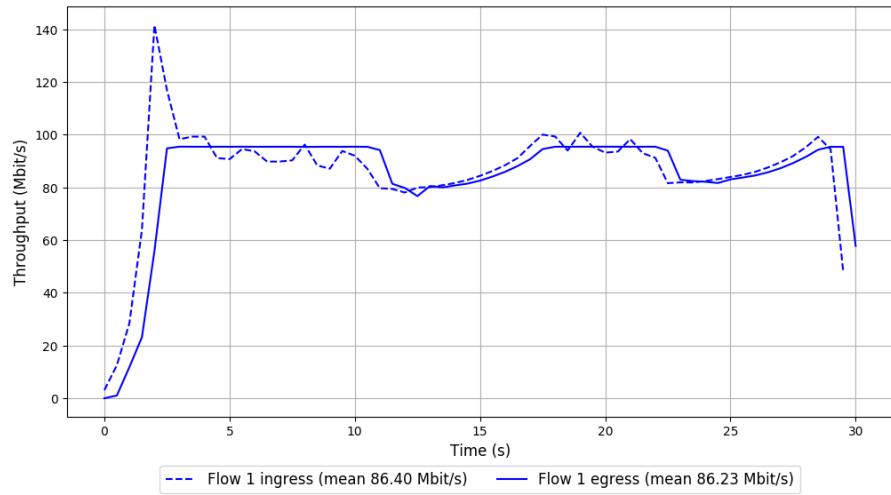


Run 5: Statistics of PCC-Expr

```
Start at: 2018-11-30 12:37:11
End at: 2018-11-30 12:37:41
Local clock offset: -5.612 ms
Remote clock offset: -120.091 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.23 Mbit/s
95th percentile per-packet one-way delay: 459.056 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 86.23 Mbit/s
95th percentile per-packet one-way delay: 459.056 ms
Loss rate: 0.82%
```

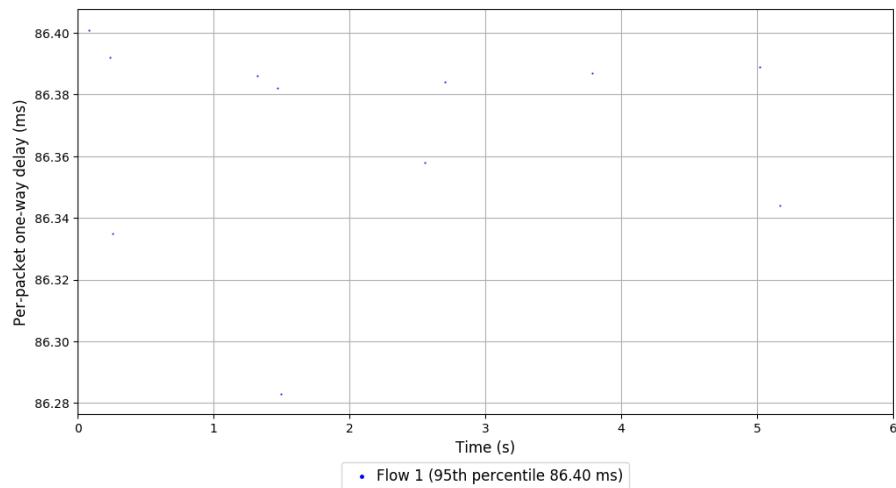
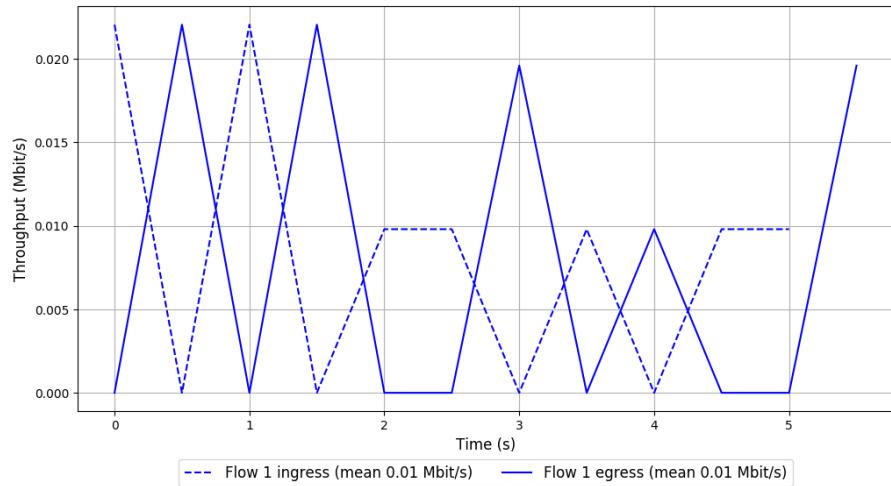
Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-11-30 11:13:44
End at: 2018-11-30 11:14:14
Local clock offset: -4.252 ms
Remote clock offset: -99.666 ms

Run 1: Report of QUIC Cubic — Data Link

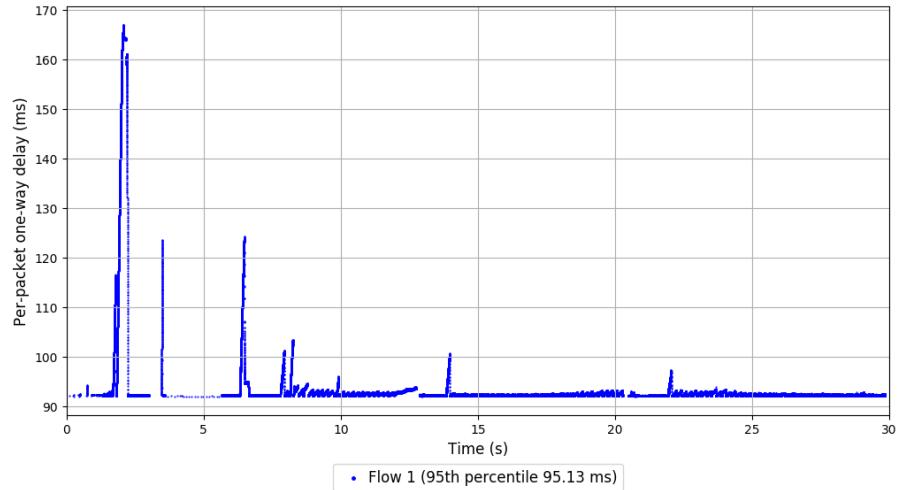
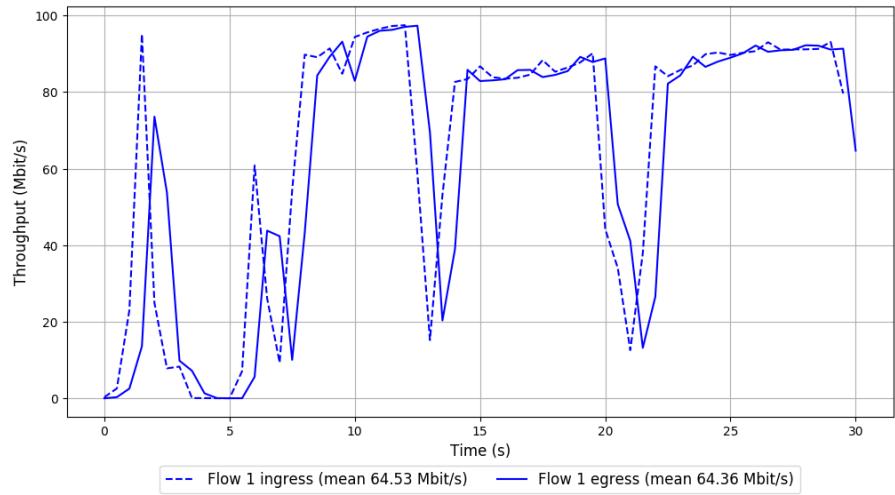


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-11-30 11:36:11
End at: 2018-11-30 11:36:41
Local clock offset: -3.745 ms
Remote clock offset: -110.304 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.36 Mbit/s
95th percentile per-packet one-way delay: 95.131 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 64.36 Mbit/s
95th percentile per-packet one-way delay: 95.131 ms
Loss rate: 0.85%
```

Run 2: Report of QUIC Cubic — Data Link

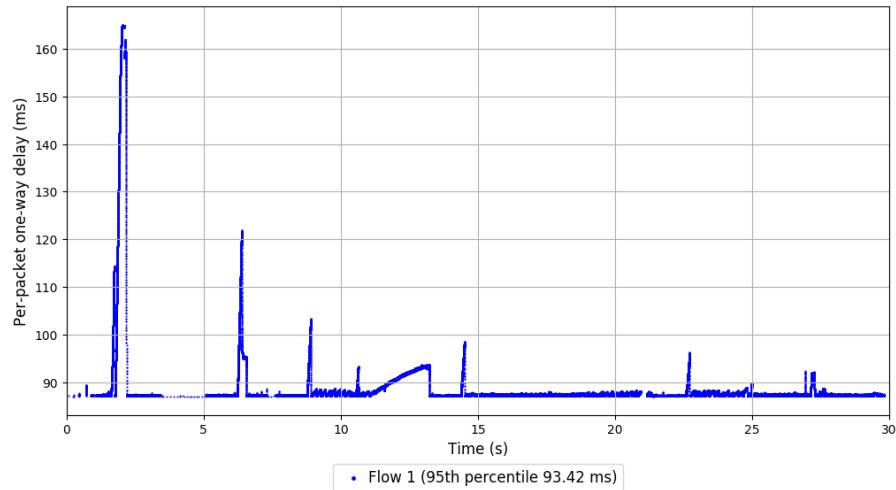
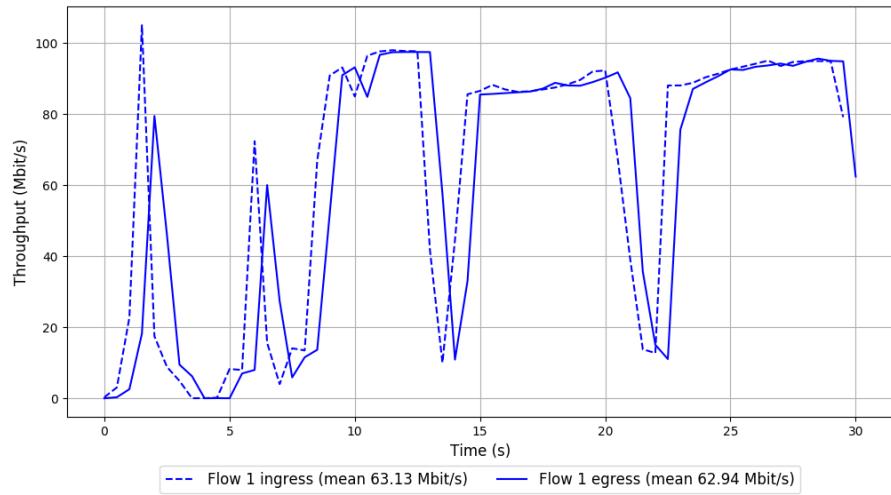


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-11-30 11:58:57
End at: 2018-11-30 11:59:27
Local clock offset: -4.973 ms
Remote clock offset: -111.376 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.94 Mbit/s
95th percentile per-packet one-way delay: 93.420 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 62.94 Mbit/s
95th percentile per-packet one-way delay: 93.420 ms
Loss rate: 0.88%
```

Run 3: Report of QUIC Cubic — Data Link

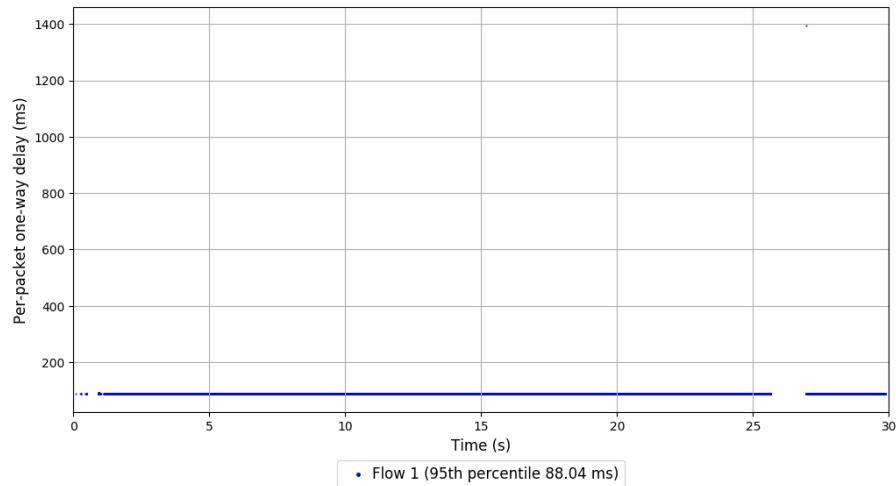
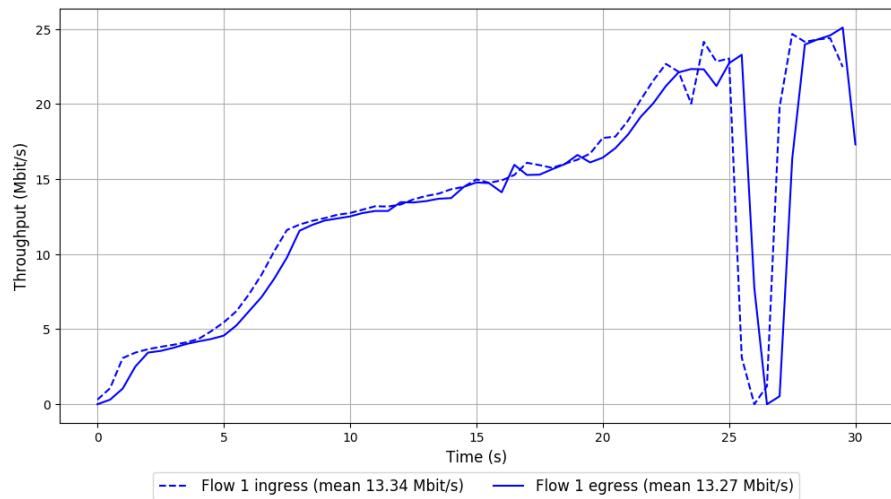


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-11-30 12:21:45
End at: 2018-11-30 12:22:15
Local clock offset: -5.769 ms
Remote clock offset: -118.442 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.27 Mbit/s
95th percentile per-packet one-way delay: 88.042 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 13.27 Mbit/s
95th percentile per-packet one-way delay: 88.042 ms
Loss rate: 1.11%
```

Run 4: Report of QUIC Cubic — Data Link

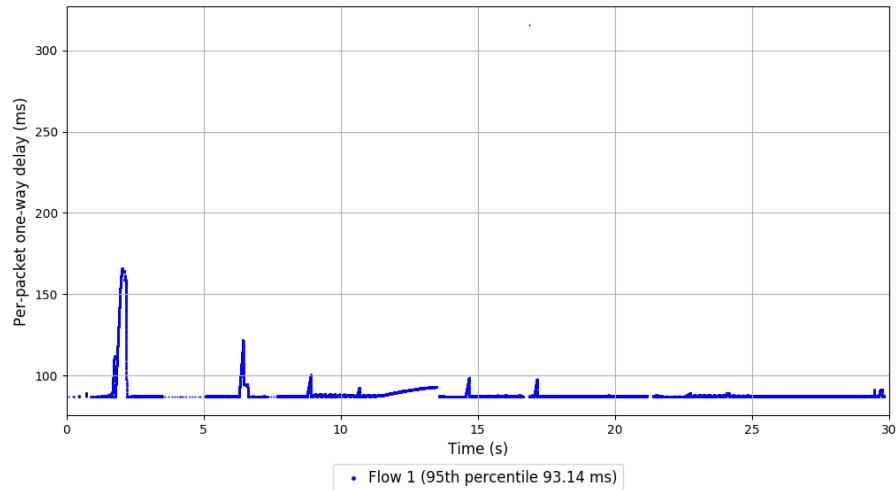
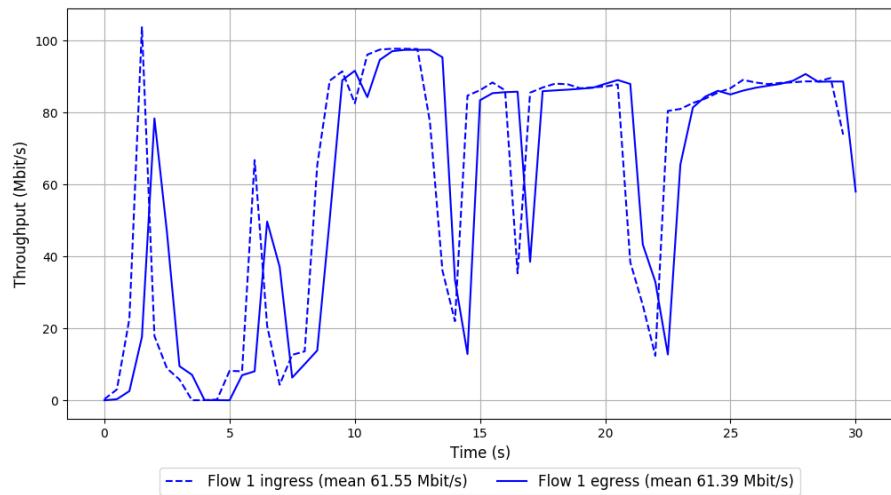


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-11-30 12:44:21
End at: 2018-11-30 12:44:51
Local clock offset: -4.794 ms
Remote clock offset: -123.086 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.39 Mbit/s
95th percentile per-packet one-way delay: 93.138 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 61.39 Mbit/s
95th percentile per-packet one-way delay: 93.138 ms
Loss rate: 0.85%
```

Run 5: Report of QUIC Cubic — Data Link

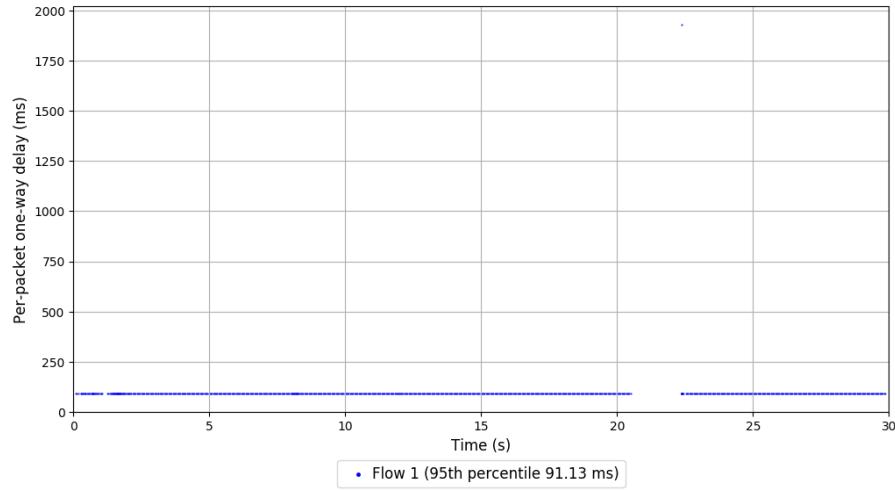
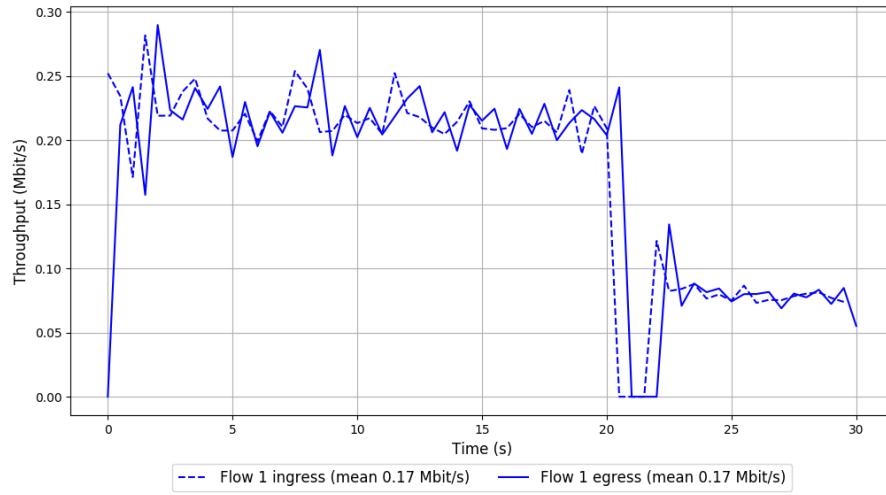


```
Run 1: Statistics of SCReAM
```

```
Start at: 2018-11-30 11:10:10
End at: 2018-11-30 11:10:40
Local clock offset: -3.464 ms
Remote clock offset: -102.406 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 91.133 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 91.133 ms
Loss rate: 0.30%
```

Run 1: Report of SCReAM — Data Link

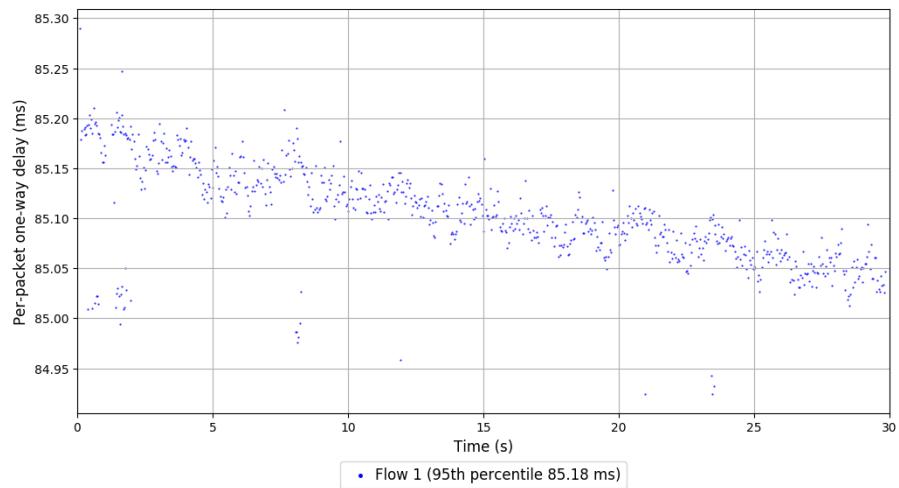
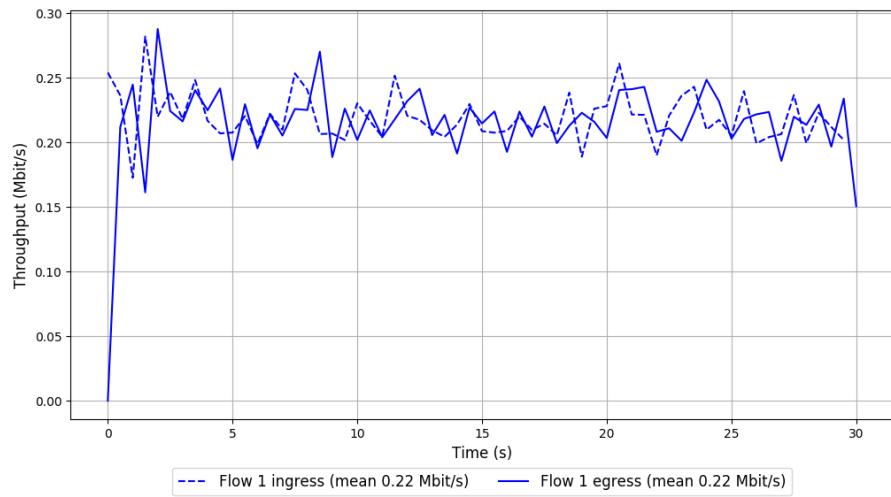


Run 2: Statistics of SCReAM

```
Start at: 2018-11-30 11:32:40
End at: 2018-11-30 11:33:10
Local clock offset: -4.52 ms
Remote clock offset: -103.109 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.184 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 85.184 ms
Loss rate: 0.64%
```

Run 2: Report of SCReAM — Data Link

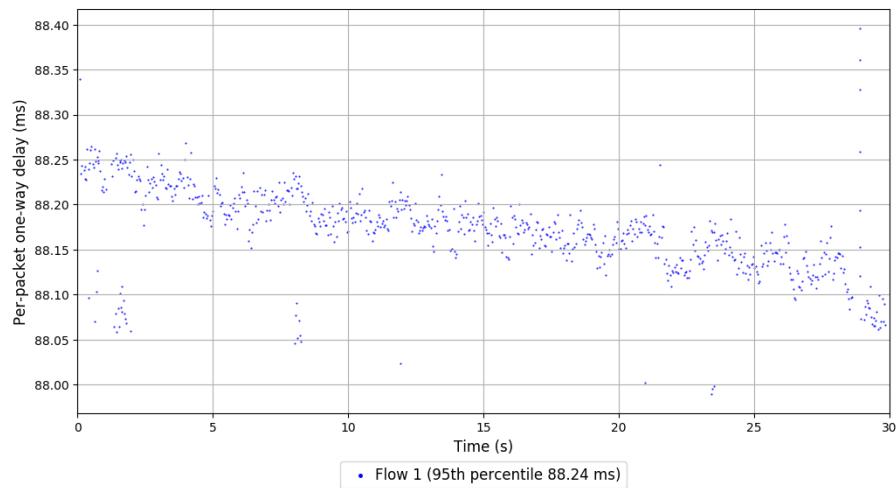
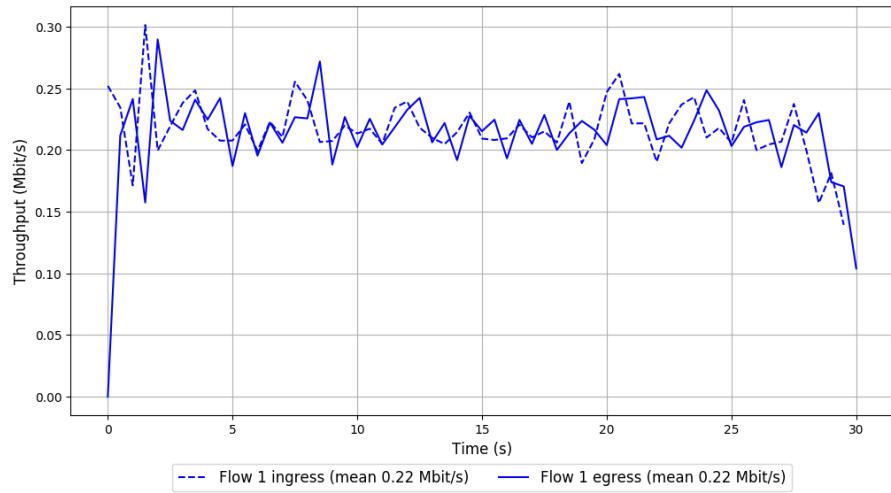


Run 3: Statistics of SCReAM

```
Start at: 2018-11-30 11:55:27
End at: 2018-11-30 11:55:57
Local clock offset: -5.626 ms
Remote clock offset: -111.67 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.242 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.242 ms
Loss rate: 0.44%
```

Run 3: Report of SCReAM — Data Link

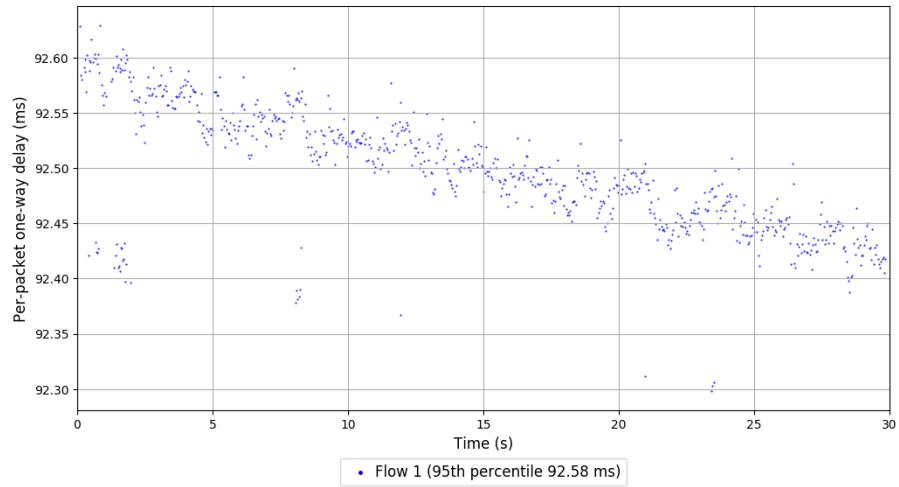
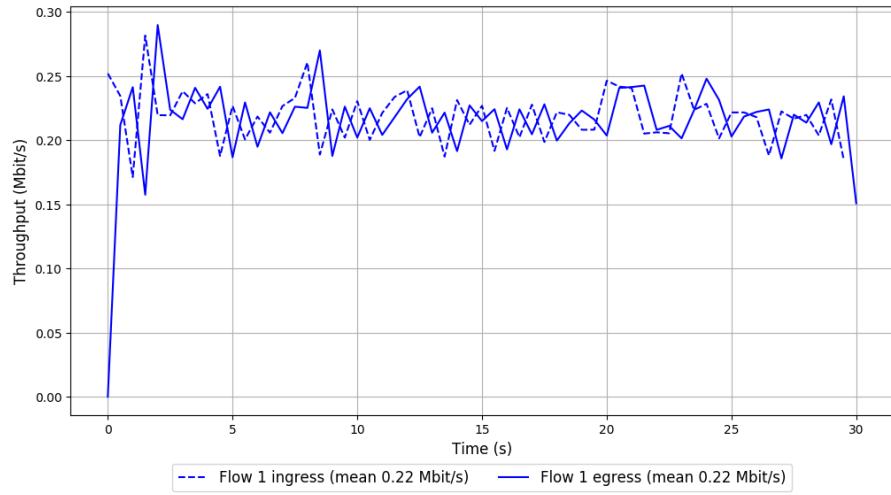


Run 4: Statistics of SCReAM

```
Start at: 2018-11-30 12:18:14
End at: 2018-11-30 12:18:44
Local clock offset: -5.238 ms
Remote clock offset: -121.165 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.584 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.584 ms
Loss rate: 0.51%
```

Run 4: Report of SCReAM — Data Link

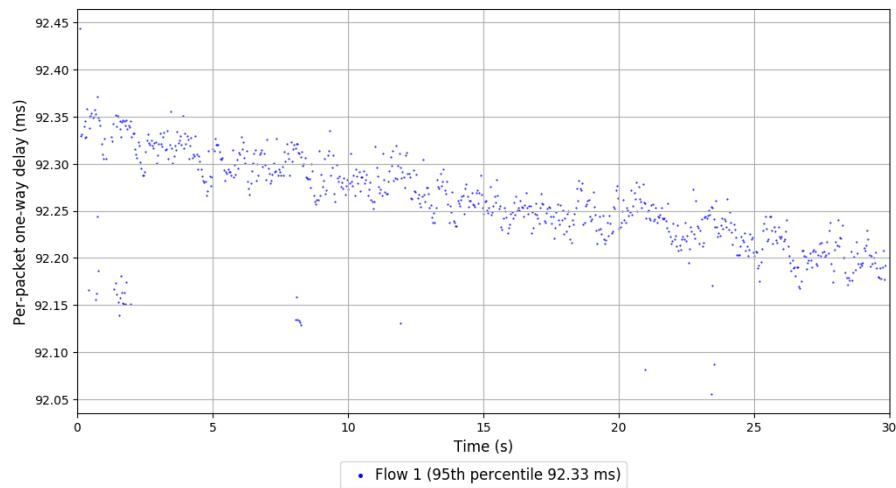
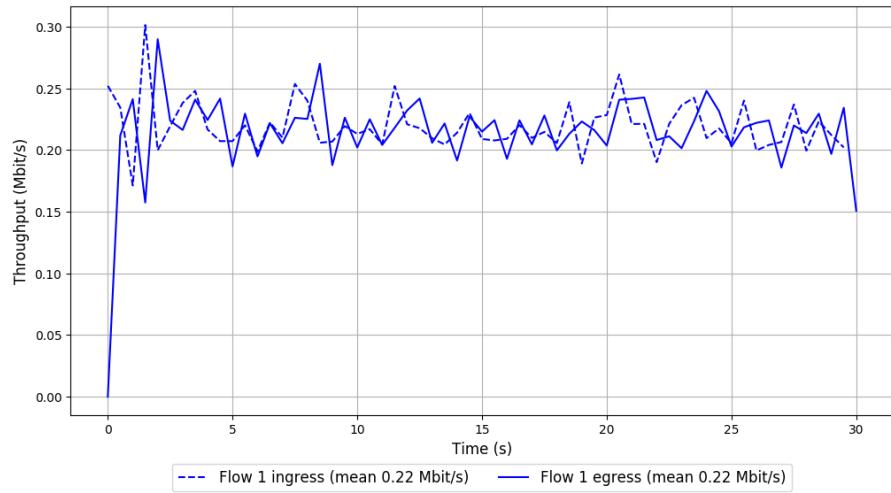


Run 5: Statistics of SCReAM

```
Start at: 2018-11-30 12:40:50
End at: 2018-11-30 12:41:20
Local clock offset: -4.797 ms
Remote clock offset: -127.129 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.332 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 92.332 ms
Loss rate: 0.64%
```

Run 5: Report of SCReAM — Data Link

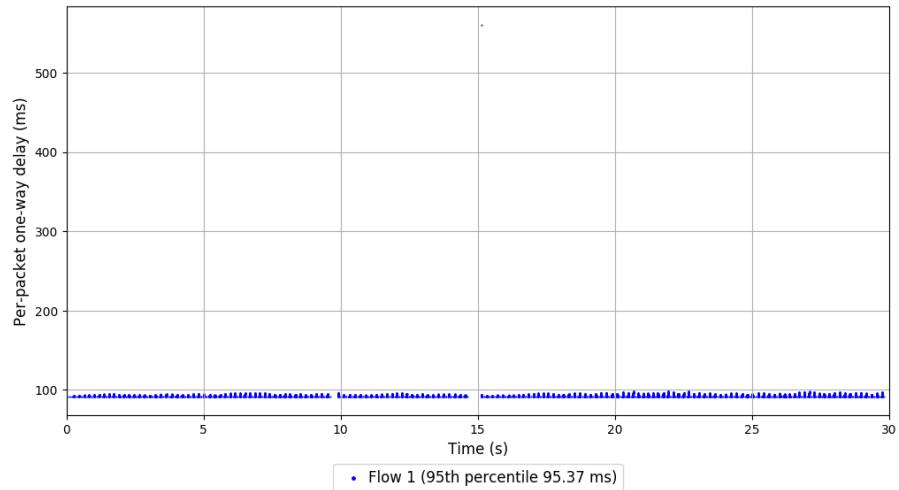
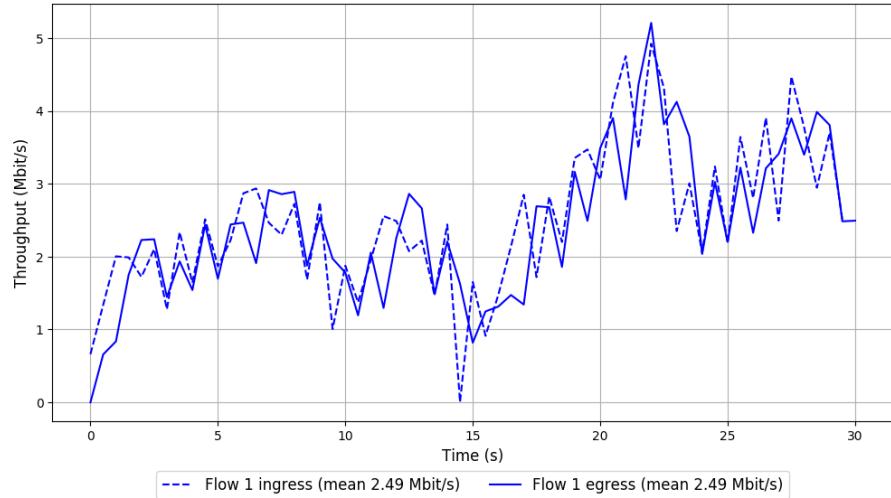


Run 1: Statistics of Sprout

```
Start at: 2018-11-30 11:14:51
End at: 2018-11-30 11:15:21
Local clock offset: -4.298 ms
Remote clock offset: -104.791 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 95.366 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 95.366 ms
Loss rate: 0.83%
```

Run 1: Report of Sprout — Data Link

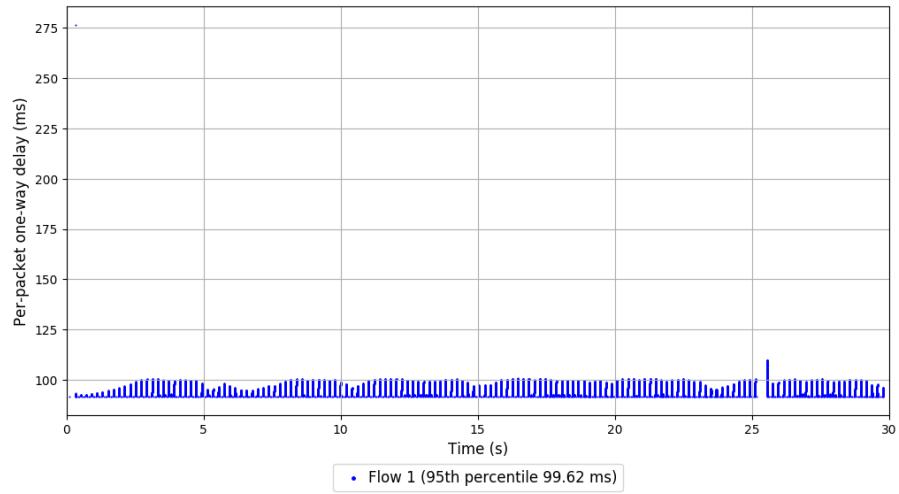
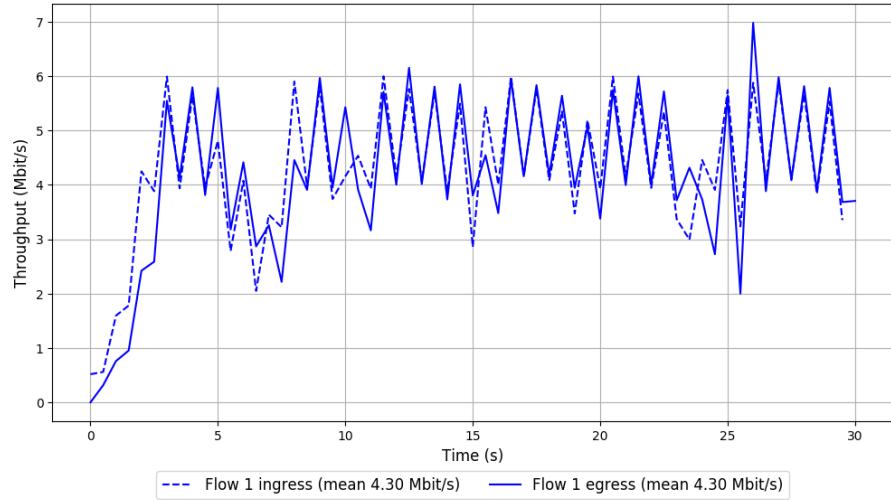


Run 2: Statistics of Sprout

```
Start at: 2018-11-30 11:37:23
End at: 2018-11-30 11:37:53
Local clock offset: -4.578 ms
Remote clock offset: -110.757 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 99.619 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 4.30 Mbit/s
95th percentile per-packet one-way delay: 99.619 ms
Loss rate: 0.58%
```

Run 2: Report of Sprout — Data Link

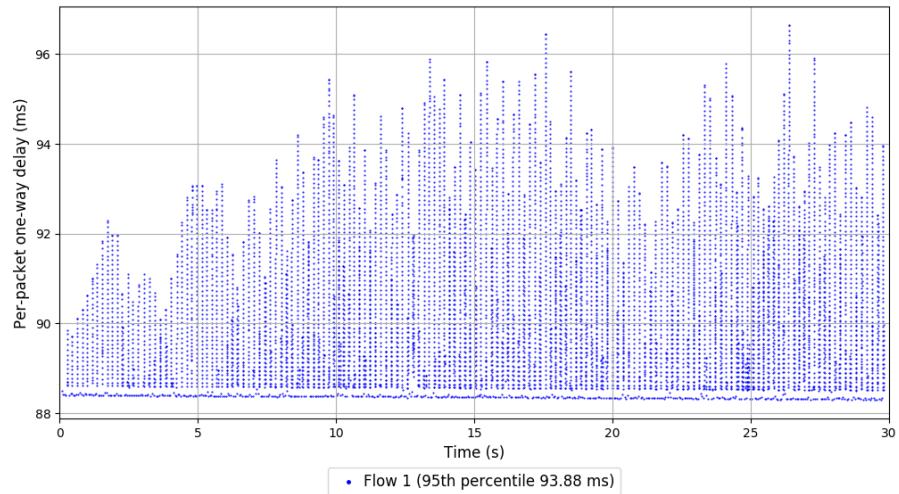
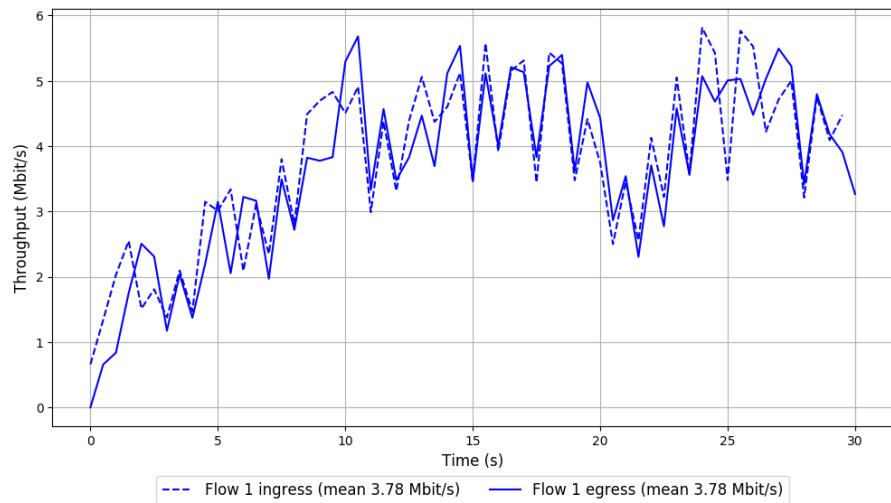


Run 3: Statistics of Sprout

```
Start at: 2018-11-30 12:00:08
End at: 2018-11-30 12:00:38
Local clock offset: -5.026 ms
Remote clock offset: -113.056 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 93.882 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 3.78 Mbit/s
95th percentile per-packet one-way delay: 93.882 ms
Loss rate: 0.87%
```

Run 3: Report of Sprout — Data Link

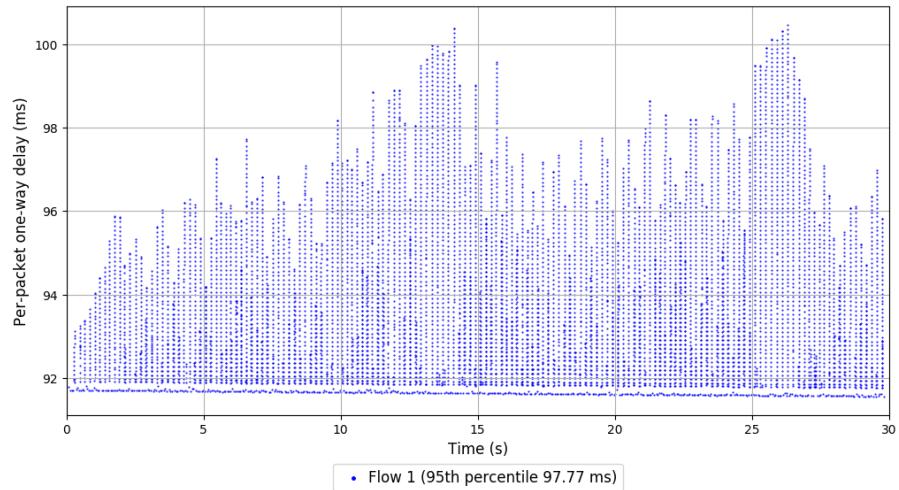
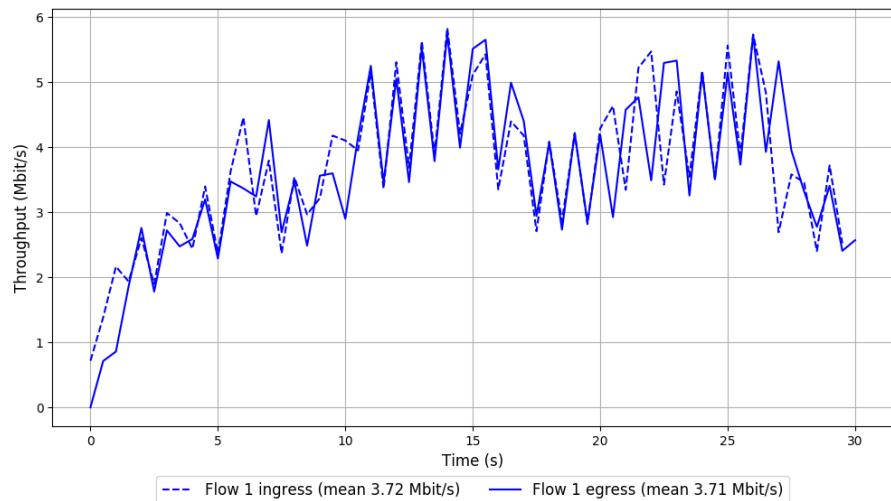


Run 4: Statistics of Sprout

```
Start at: 2018-11-30 12:22:54
End at: 2018-11-30 12:23:24
Local clock offset: -5.75 ms
Remote clock offset: -122.414 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.71 Mbit/s
95th percentile per-packet one-way delay: 97.773 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 3.71 Mbit/s
95th percentile per-packet one-way delay: 97.773 ms
Loss rate: 0.57%
```

Run 4: Report of Sprout — Data Link

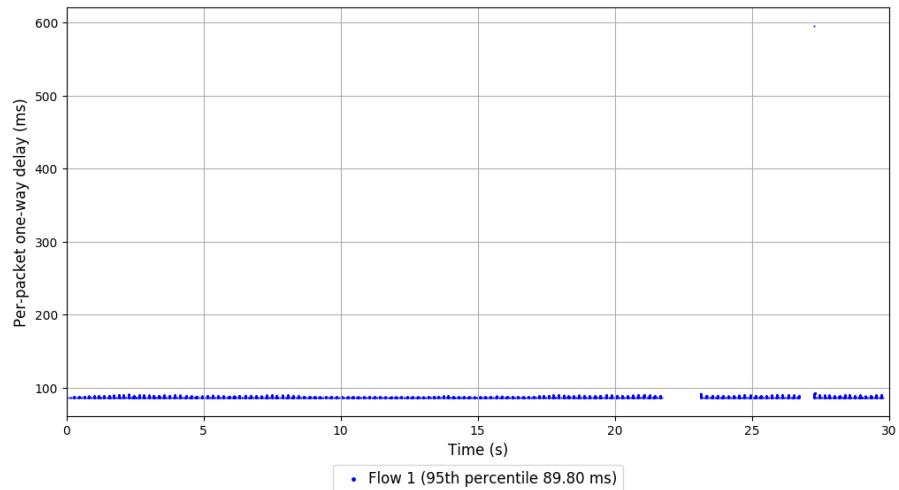
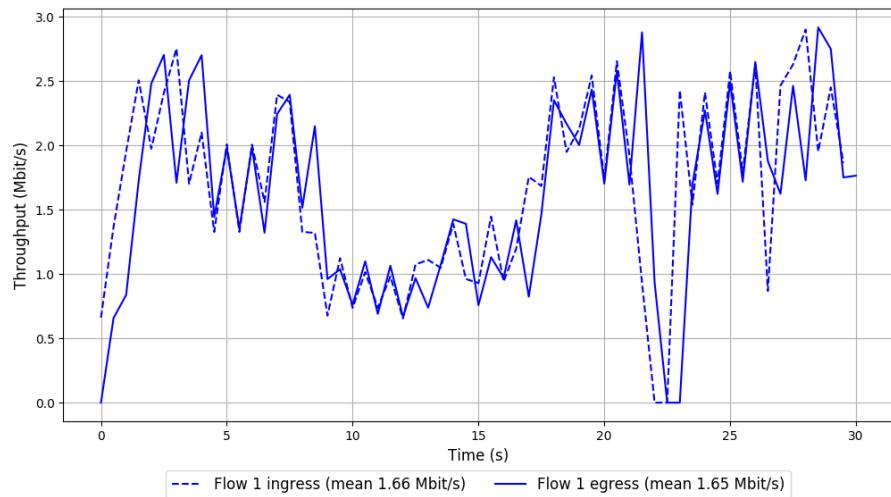


Run 5: Statistics of Sprout

```
Start at: 2018-11-30 12:45:32
End at: 2018-11-30 12:46:02
Local clock offset: -5.606 ms
Remote clock offset: -123.559 ms

# Below is generated by plot.py at 2018-11-30 12:56:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 89.802 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 89.802 ms
Loss rate: 0.90%
```

Run 5: Report of Sprout — Data Link

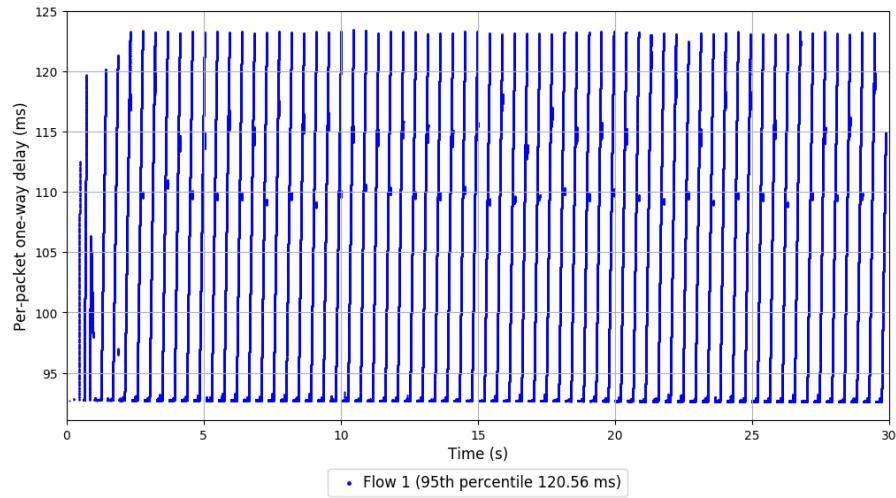
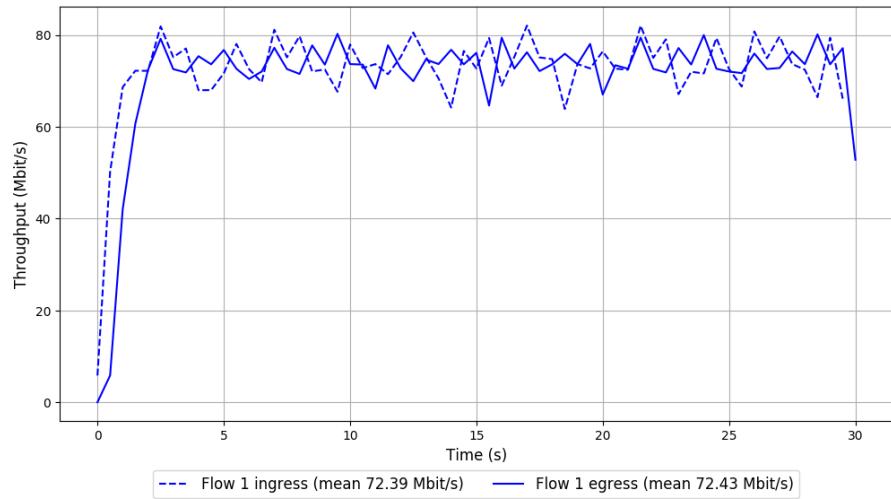


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-11-30 10:56:57
End at: 2018-11-30 10:57:27
Local clock offset: -3.263 ms
Remote clock offset: -100.108 ms

# Below is generated by plot.py at 2018-11-30 12:57:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.43 Mbit/s
95th percentile per-packet one-way delay: 120.557 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 72.43 Mbit/s
95th percentile per-packet one-way delay: 120.557 ms
Loss rate: 0.55%
```

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

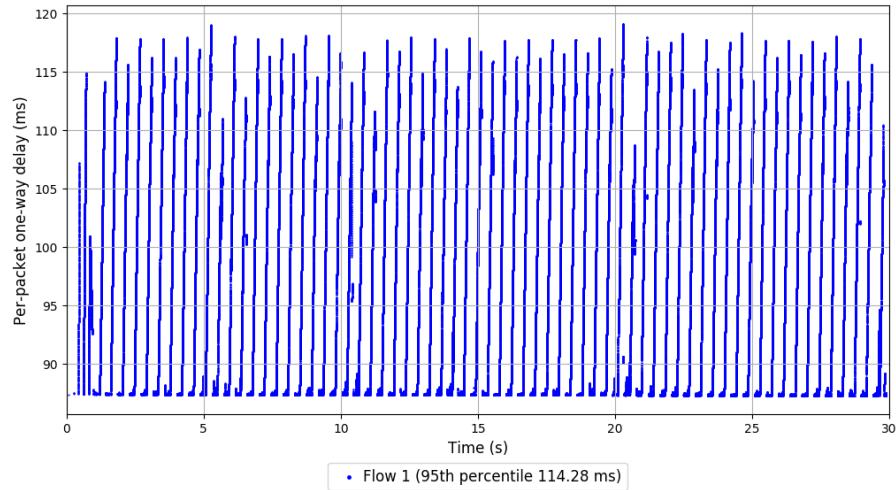
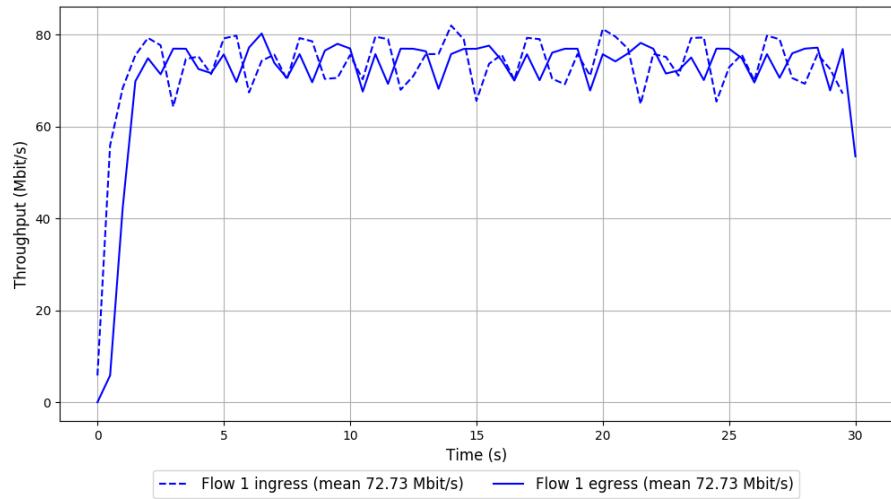


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-11-30 11:19:31
End at: 2018-11-30 11:20:01
Local clock offset: -4.357 ms
Remote clock offset: -101.415 ms

# Below is generated by plot.py at 2018-11-30 12:57:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.73 Mbit/s
95th percentile per-packet one-way delay: 114.281 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 72.73 Mbit/s
95th percentile per-packet one-way delay: 114.281 ms
Loss rate: 0.57%
```

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

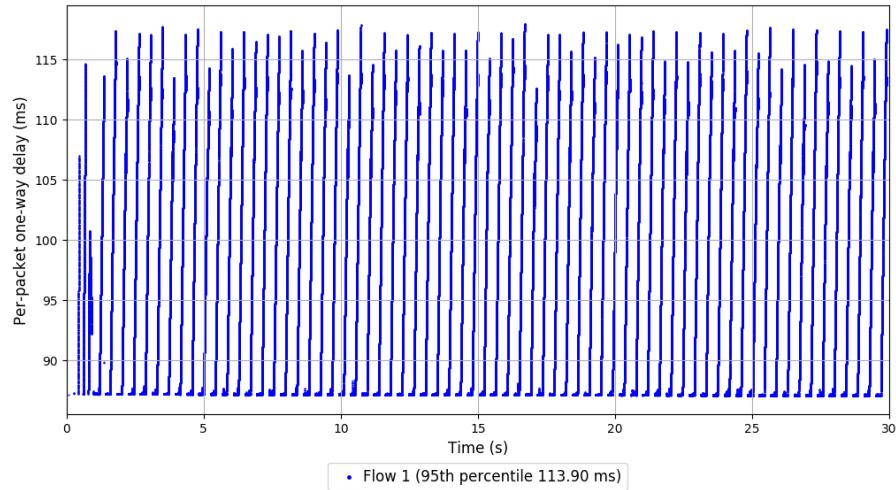
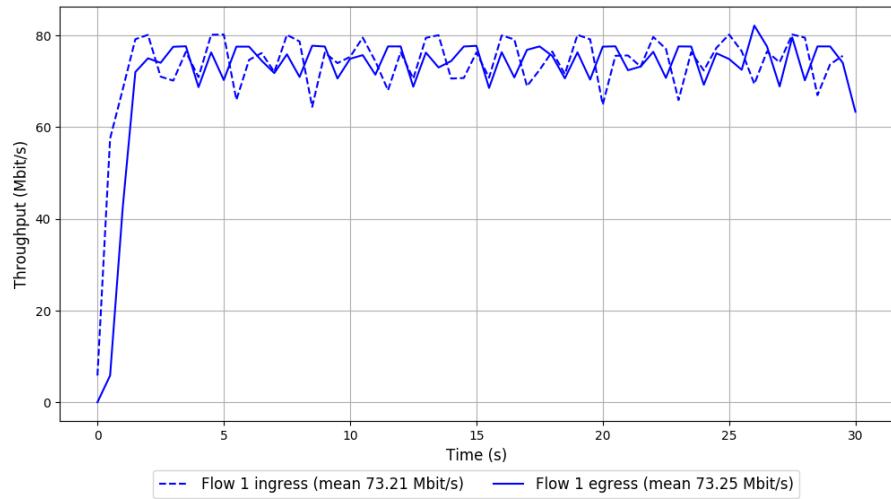


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-11-30 11:42:02
End at: 2018-11-30 11:42:32
Local clock offset: -3.754 ms
Remote clock offset: -107.02 ms

# Below is generated by plot.py at 2018-11-30 12:57:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.25 Mbit/s
95th percentile per-packet one-way delay: 113.902 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 73.25 Mbit/s
95th percentile per-packet one-way delay: 113.902 ms
Loss rate: 0.54%
```

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

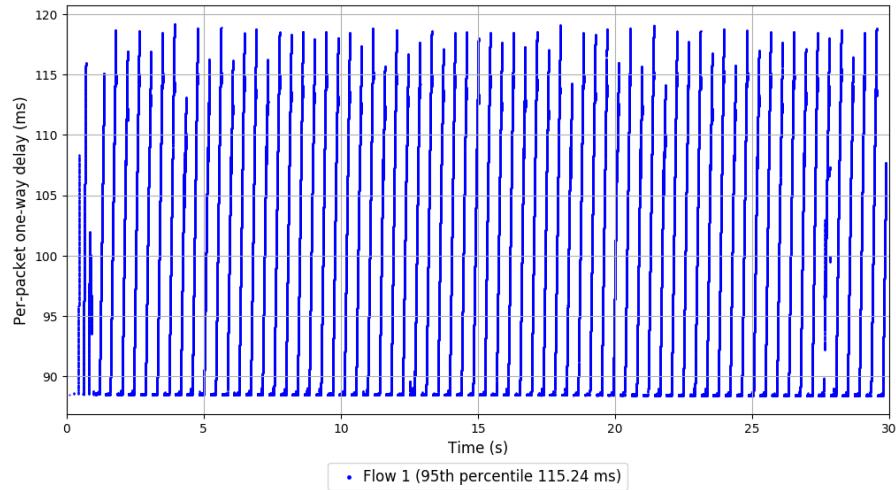
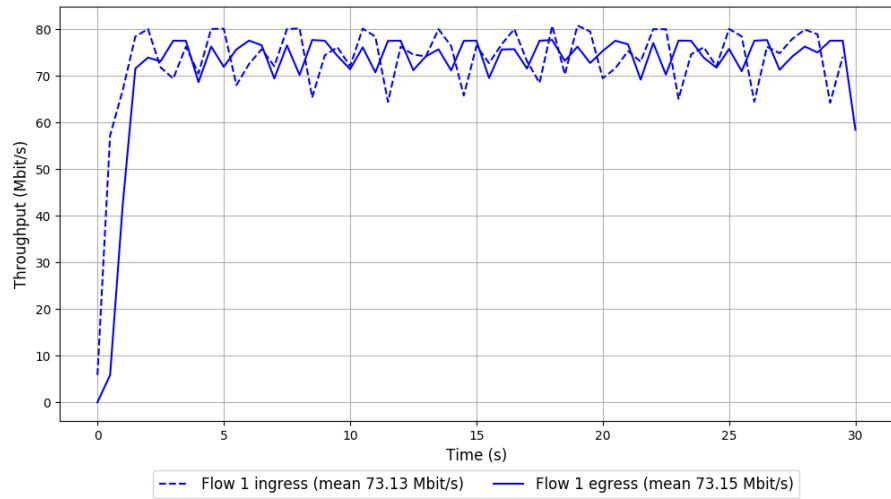


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-11-30 12:04:45
End at: 2018-11-30 12:05:15
Local clock offset: -5.198 ms
Remote clock offset: -114.232 ms

# Below is generated by plot.py at 2018-11-30 12:58:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.15 Mbit/s
95th percentile per-packet one-way delay: 115.244 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 73.15 Mbit/s
95th percentile per-packet one-way delay: 115.244 ms
Loss rate: 0.56%
```

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

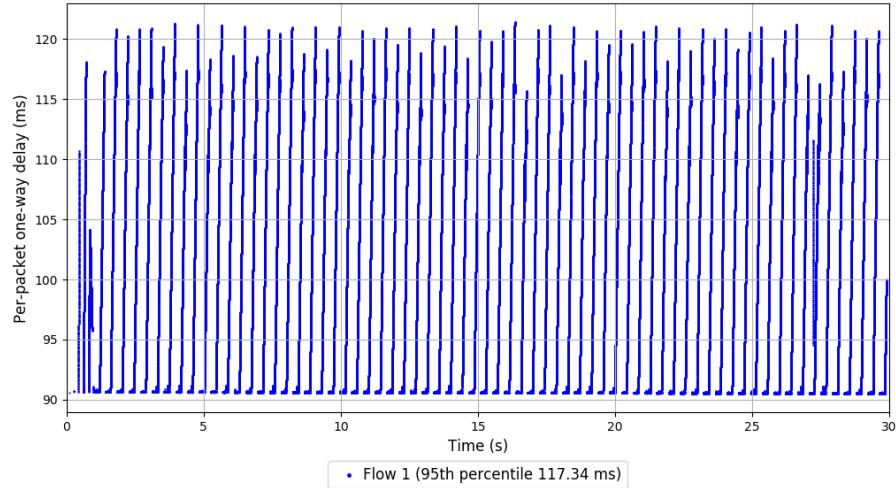
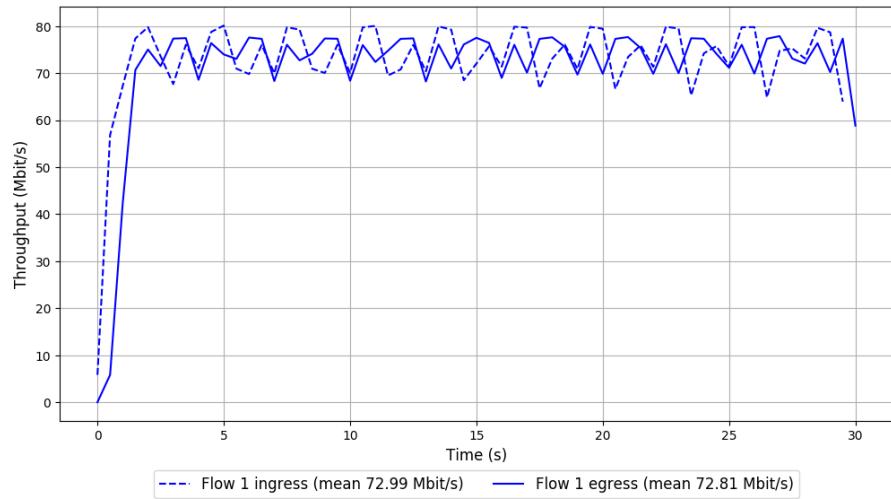


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-11-30 12:27:34
End at: 2018-11-30 12:28:04
Local clock offset: -5.696 ms
Remote clock offset: -122.674 ms

# Below is generated by plot.py at 2018-11-30 12:58:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.81 Mbit/s
95th percentile per-packet one-way delay: 117.342 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 72.81 Mbit/s
95th percentile per-packet one-way delay: 117.342 ms
Loss rate: 0.64%
```

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

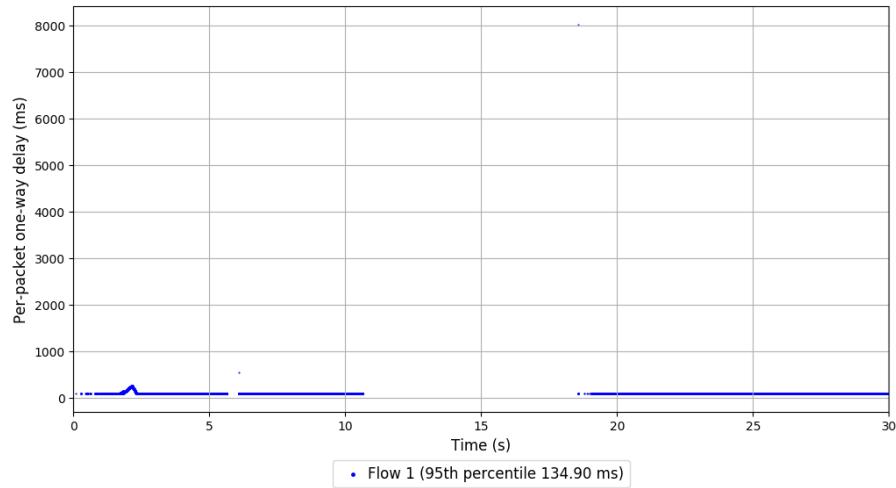
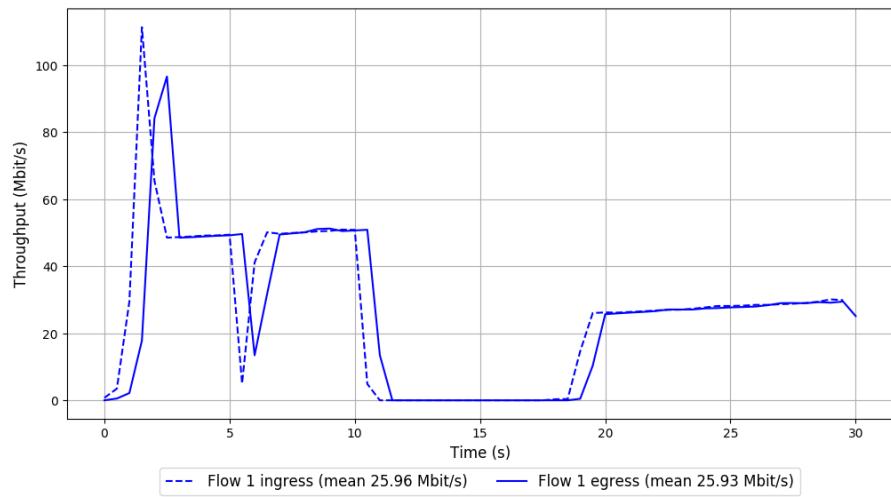


Run 1: Statistics of TCP Vegas

```
Start at: 2018-11-30 11:05:23
End at: 2018-11-30 11:05:53
Local clock offset: -4.192 ms
Remote clock offset: -102.583 ms

# Below is generated by plot.py at 2018-11-30 12:58:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.93 Mbit/s
95th percentile per-packet one-way delay: 134.900 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 25.93 Mbit/s
95th percentile per-packet one-way delay: 134.900 ms
Loss rate: 0.68%
```

Run 1: Report of TCP Vegas — Data Link

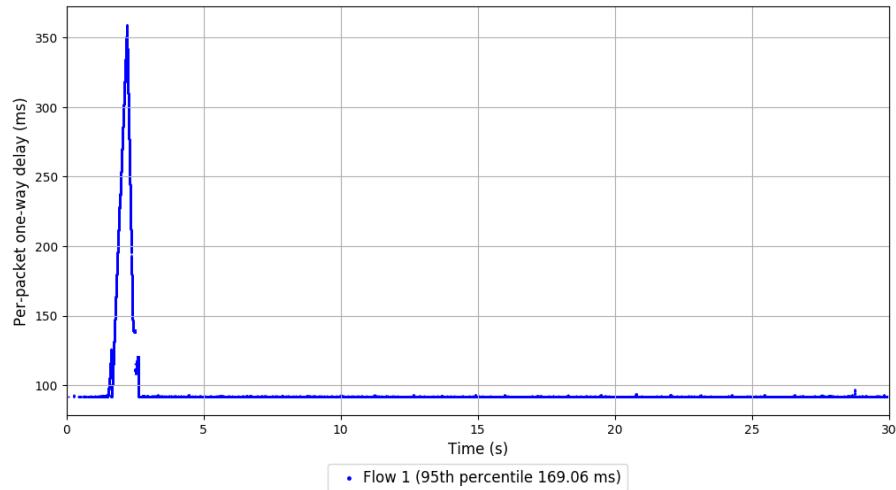
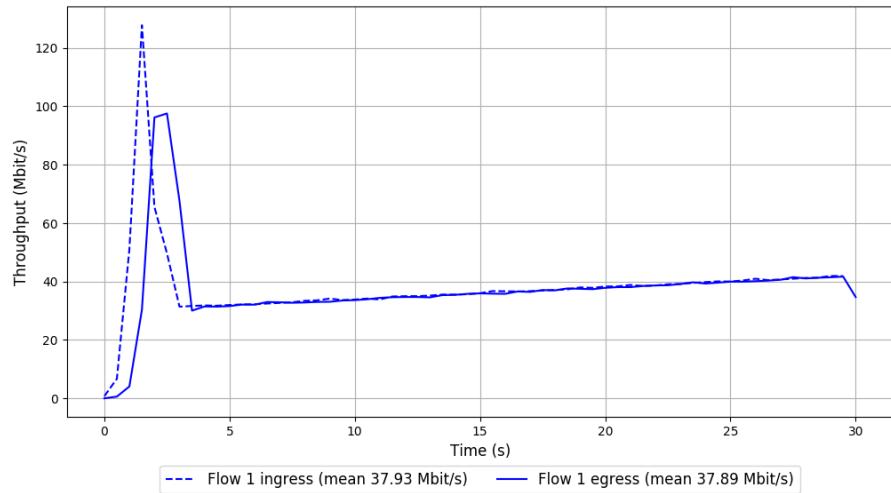


Run 2: Statistics of TCP Vegas

```
Start at: 2018-11-30 11:27:53
End at: 2018-11-30 11:28:23
Local clock offset: -4.471 ms
Remote clock offset: -108.355 ms

# Below is generated by plot.py at 2018-11-30 12:58:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.89 Mbit/s
95th percentile per-packet one-way delay: 169.063 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 37.89 Mbit/s
95th percentile per-packet one-way delay: 169.063 ms
Loss rate: 0.66%
```

Run 2: Report of TCP Vegas — Data Link

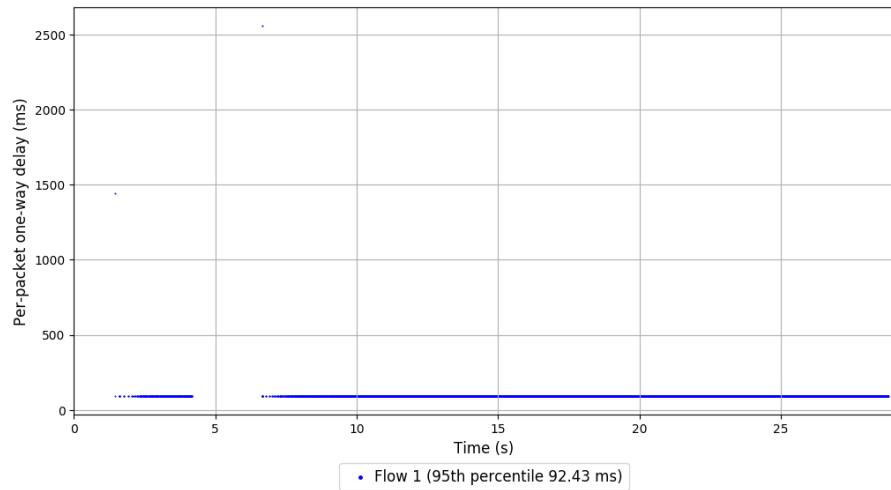
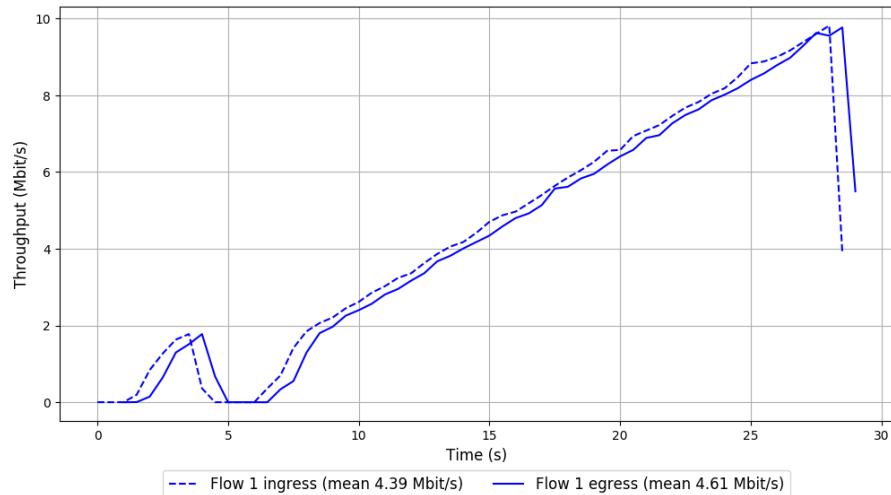


Run 3: Statistics of TCP Vegas

```
Start at: 2018-11-30 11:50:41
End at: 2018-11-30 11:51:11
Local clock offset: -4.464 ms
Remote clock offset: -114.137 ms

# Below is generated by plot.py at 2018-11-30 12:58:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.61 Mbit/s
95th percentile per-packet one-way delay: 92.427 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 4.61 Mbit/s
95th percentile per-packet one-way delay: 92.427 ms
Loss rate: 0.01%
```

Run 3: Report of TCP Vegas — Data Link

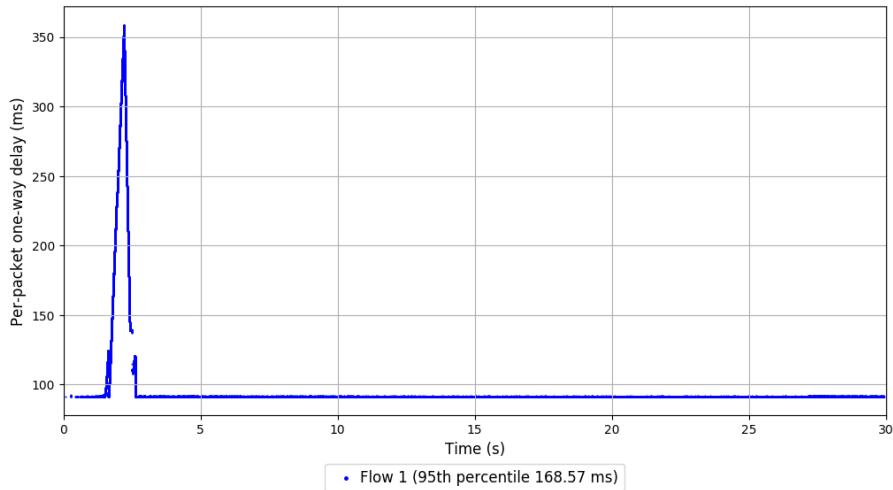
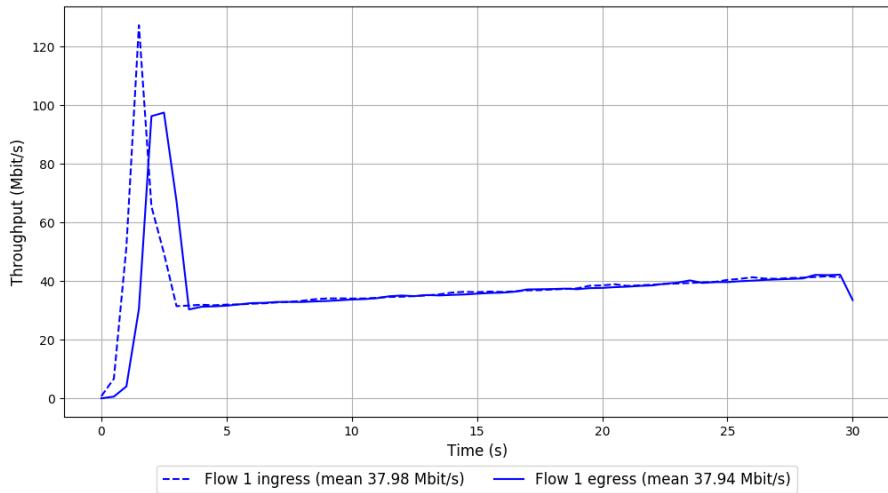


Run 4: Statistics of TCP Vegas

```
Start at: 2018-11-30 12:13:18
End at: 2018-11-30 12:13:48
Local clock offset: -5.418 ms
Remote clock offset: -119.152 ms

# Below is generated by plot.py at 2018-11-30 12:58:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.94 Mbit/s
95th percentile per-packet one-way delay: 168.571 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 37.94 Mbit/s
95th percentile per-packet one-way delay: 168.571 ms
Loss rate: 0.66%
```

Run 4: Report of TCP Vegas — Data Link

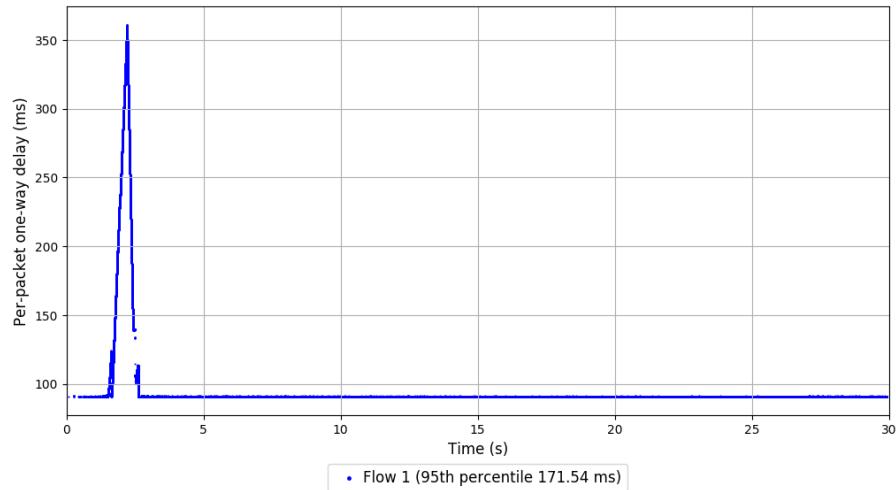
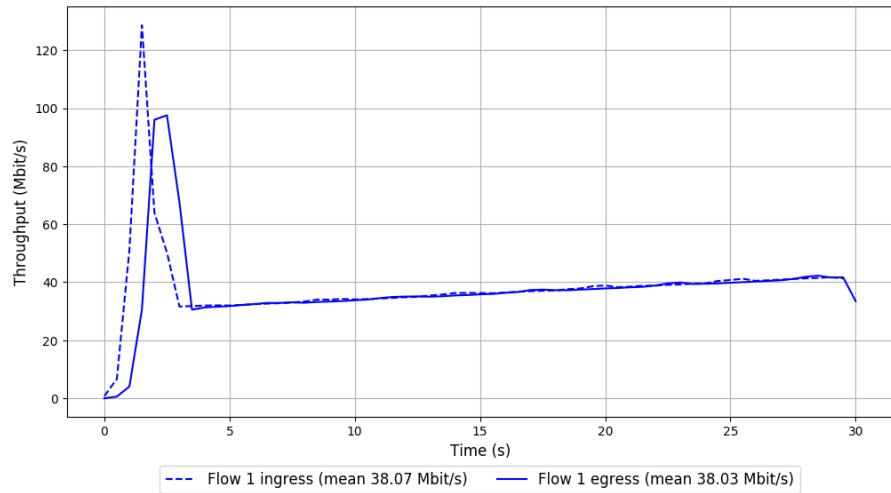


Run 5: Statistics of TCP Vegas

```
Start at: 2018-11-30 12:36:02
End at: 2018-11-30 12:36:32
Local clock offset: -5.548 ms
Remote clock offset: -124.91 ms

# Below is generated by plot.py at 2018-11-30 12:58:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 38.03 Mbit/s
95th percentile per-packet one-way delay: 171.542 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 38.03 Mbit/s
95th percentile per-packet one-way delay: 171.542 ms
Loss rate: 0.66%
```

Run 5: Report of TCP Vegas — Data Link

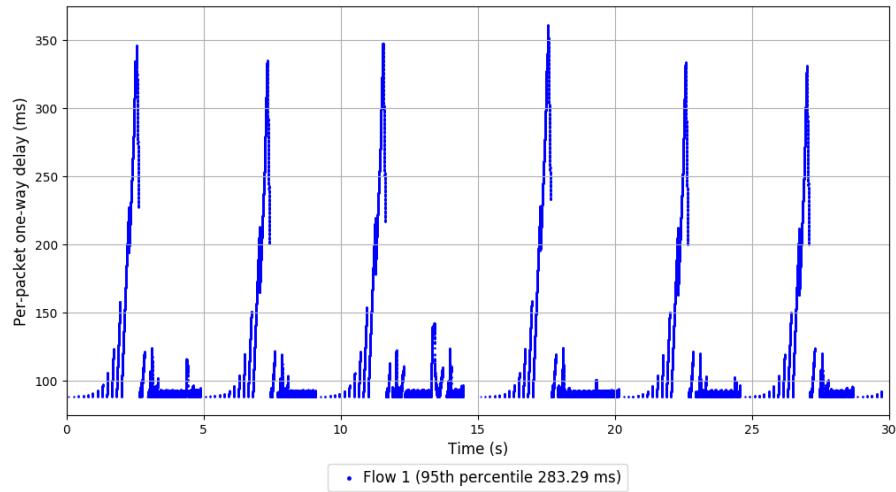
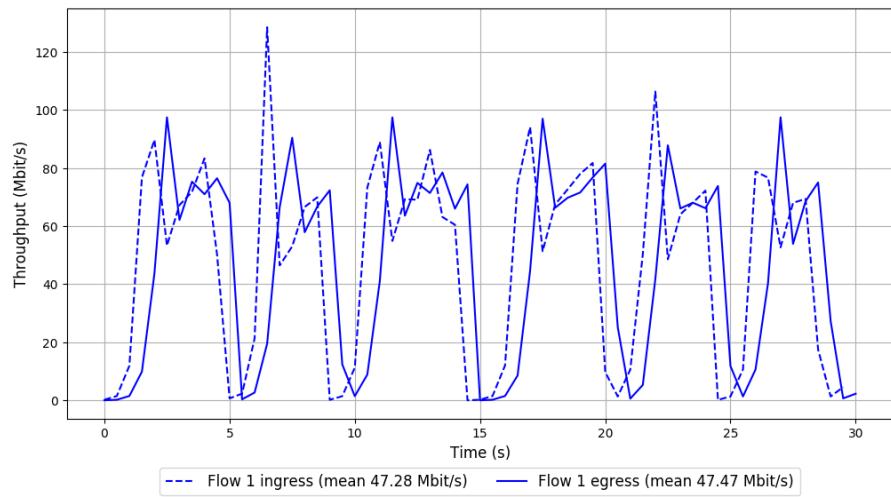


Run 1: Statistics of Verus

```
Start at: 2018-11-30 11:04:12
End at: 2018-11-30 11:04:42
Local clock offset: -4.183 ms
Remote clock offset: -98.263 ms

# Below is generated by plot.py at 2018-11-30 12:58:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.47 Mbit/s
95th percentile per-packet one-way delay: 283.290 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 47.47 Mbit/s
95th percentile per-packet one-way delay: 283.290 ms
Loss rate: 0.17%
```

Run 1: Report of Verus — Data Link

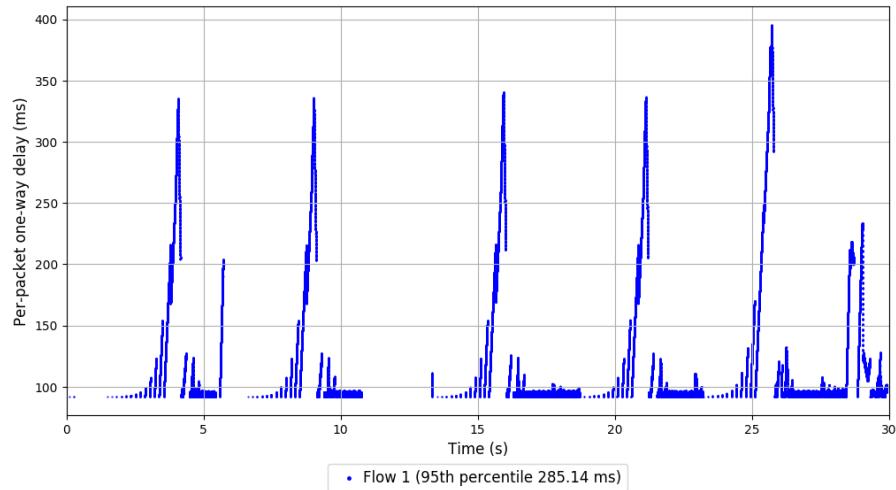
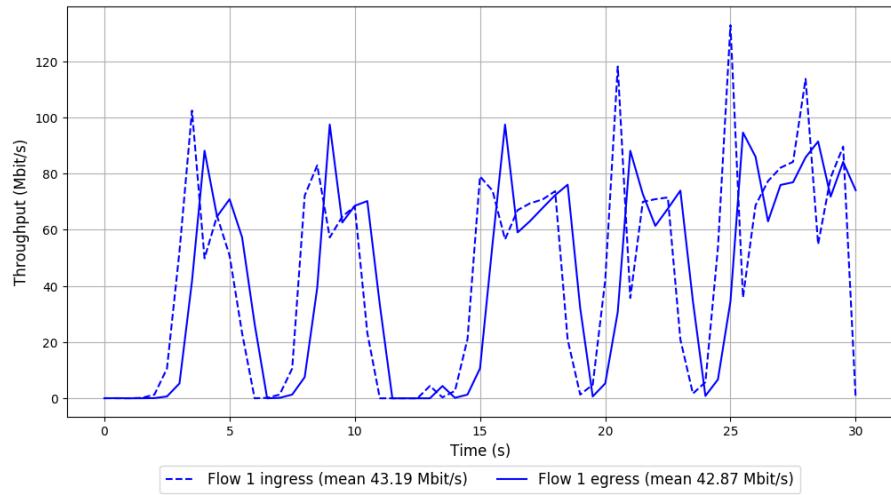


Run 2: Statistics of Verus

```
Start at: 2018-11-30 11:26:43
End at: 2018-11-30 11:27:13
Local clock offset: -4.519 ms
Remote clock offset: -107.919 ms

# Below is generated by plot.py at 2018-11-30 12:58:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.87 Mbit/s
95th percentile per-packet one-way delay: 285.144 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 42.87 Mbit/s
95th percentile per-packet one-way delay: 285.144 ms
Loss rate: 1.32%
```

Run 2: Report of Verus — Data Link

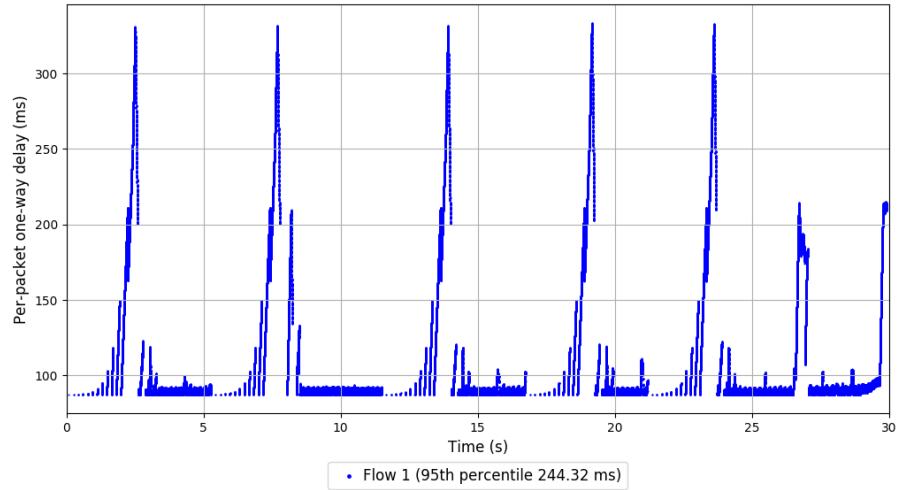
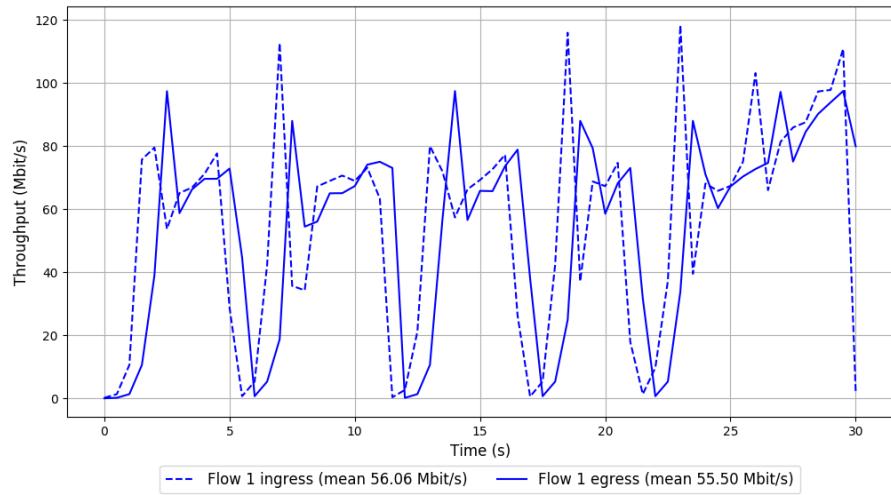


Run 3: Statistics of Verus

```
Start at: 2018-11-30 11:49:30
End at: 2018-11-30 11:50:00
Local clock offset: -4.341 ms
Remote clock offset: -108.898 ms

# Below is generated by plot.py at 2018-11-30 12:58:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.50 Mbit/s
95th percentile per-packet one-way delay: 244.318 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 55.50 Mbit/s
95th percentile per-packet one-way delay: 244.318 ms
Loss rate: 1.59%
```

Run 3: Report of Verus — Data Link

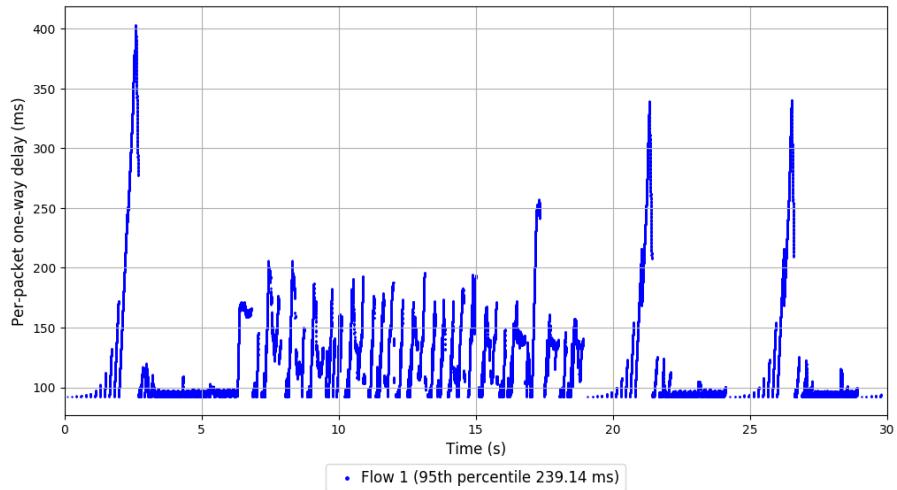
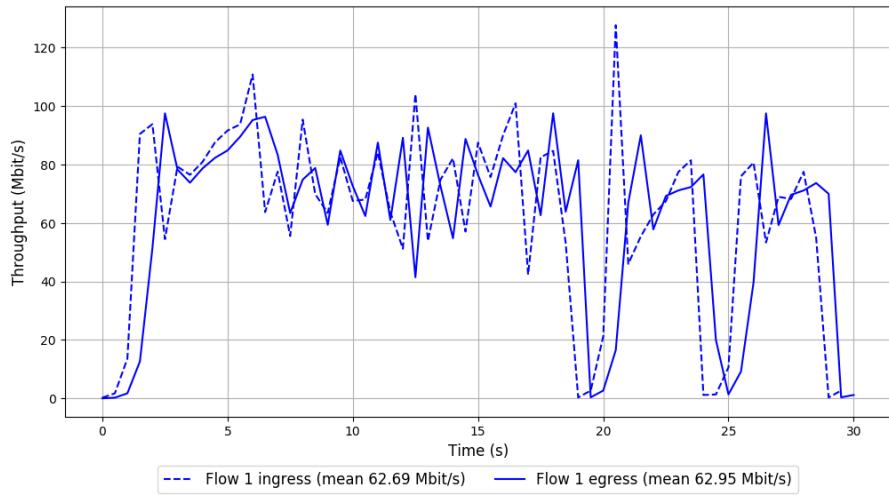


Run 4: Statistics of Verus

```
Start at: 2018-11-30 12:12:02
End at: 2018-11-30 12:12:32
Local clock offset: -5.457 ms
Remote clock offset: -119.668 ms

# Below is generated by plot.py at 2018-11-30 12:58:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.95 Mbit/s
95th percentile per-packet one-way delay: 239.138 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 62.95 Mbit/s
95th percentile per-packet one-way delay: 239.138 ms
Loss rate: 0.17%
```

Run 4: Report of Verus — Data Link

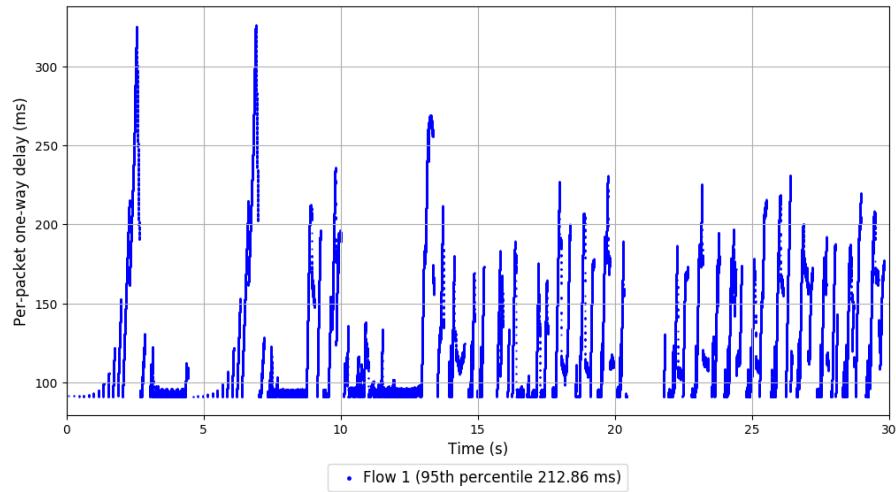
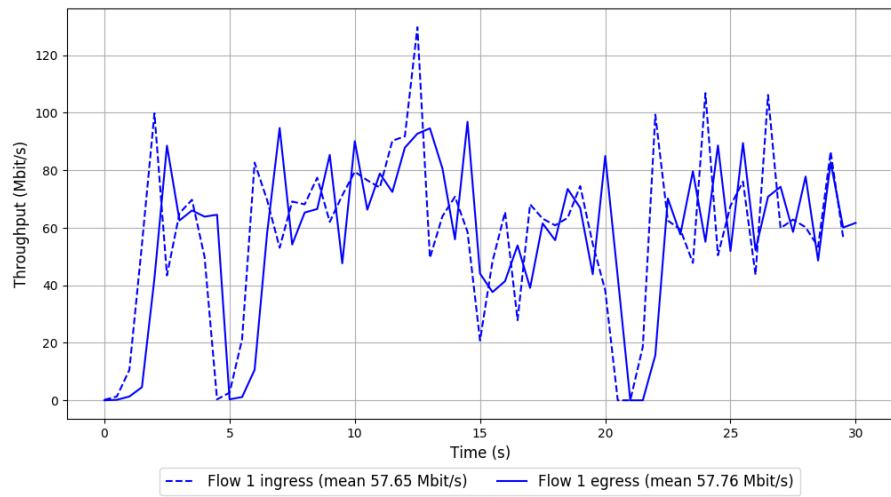


Run 5: Statistics of Verus

```
Start at: 2018-11-30 12:34:46
End at: 2018-11-30 12:35:16
Local clock offset: -5.557 ms
Remote clock offset: -124.619 ms

# Below is generated by plot.py at 2018-11-30 12:58:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.76 Mbit/s
95th percentile per-packet one-way delay: 212.860 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 57.76 Mbit/s
95th percentile per-packet one-way delay: 212.860 ms
Loss rate: 0.72%
```

Run 5: Report of Verus — Data Link

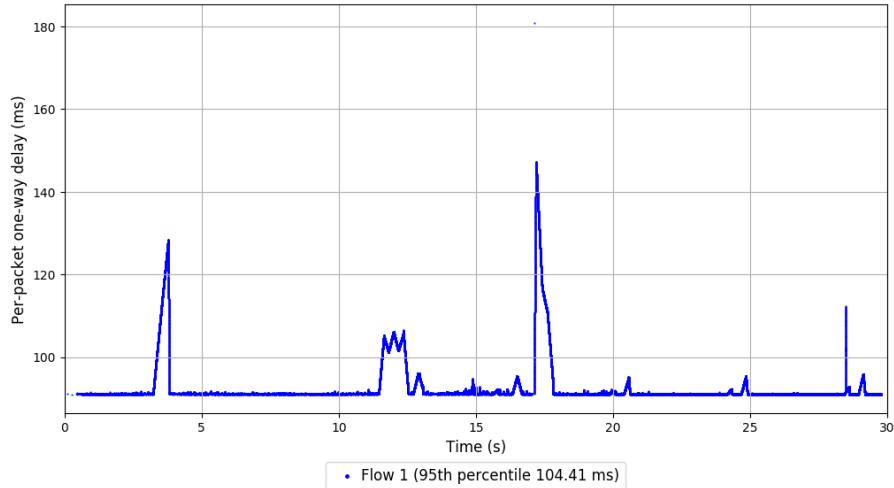
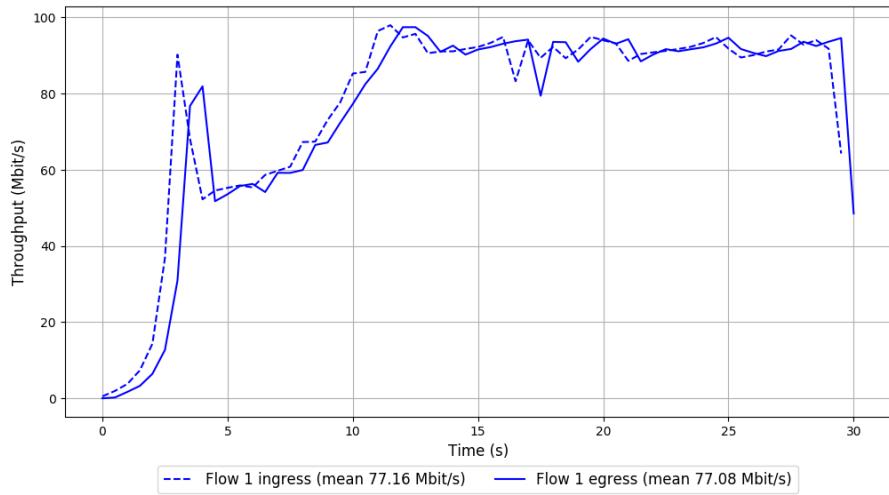


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-11-30 11:02:57
End at: 2018-11-30 11:03:27
Local clock offset: -4.248 ms
Remote clock offset: -101.59 ms

# Below is generated by plot.py at 2018-11-30 12:58:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.08 Mbit/s
95th percentile per-packet one-way delay: 104.410 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 77.08 Mbit/s
95th percentile per-packet one-way delay: 104.410 ms
Loss rate: 0.70%
```

Run 1: Report of PCC-Vivace — Data Link

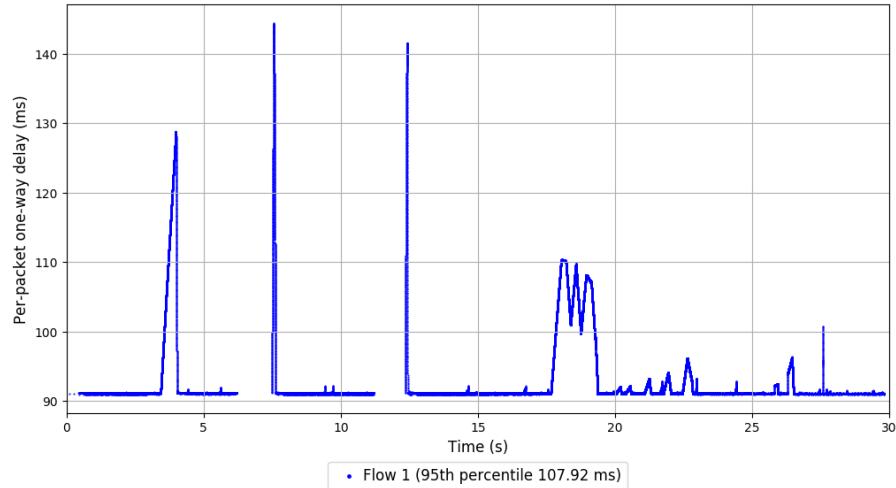
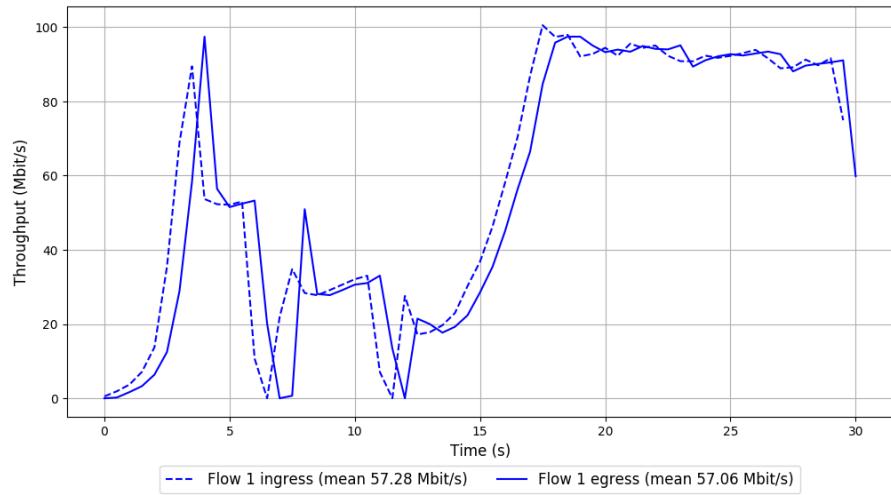


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-11-30 11:25:31
End at: 2018-11-30 11:26:01
Local clock offset: -3.674 ms
Remote clock offset: -106.417 ms

# Below is generated by plot.py at 2018-11-30 12:58:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.06 Mbit/s
95th percentile per-packet one-way delay: 107.919 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 57.06 Mbit/s
95th percentile per-packet one-way delay: 107.919 ms
Loss rate: 0.98%
```

Run 2: Report of PCC-Vivace — Data Link

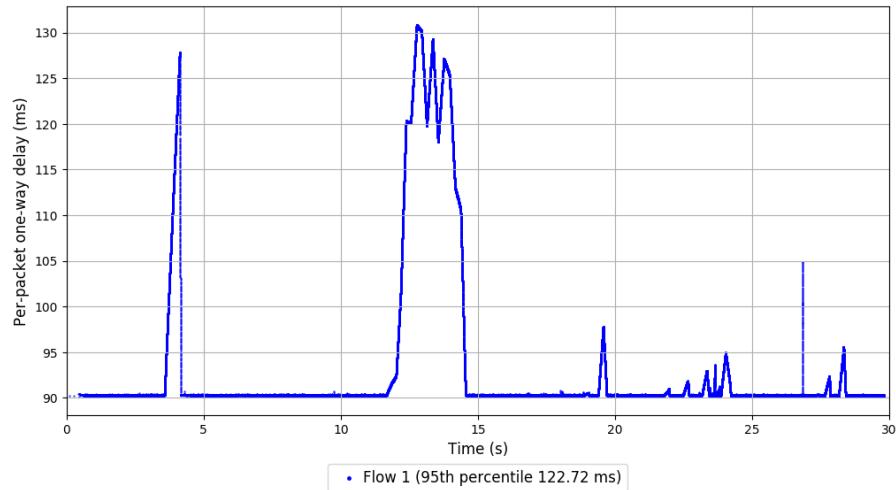
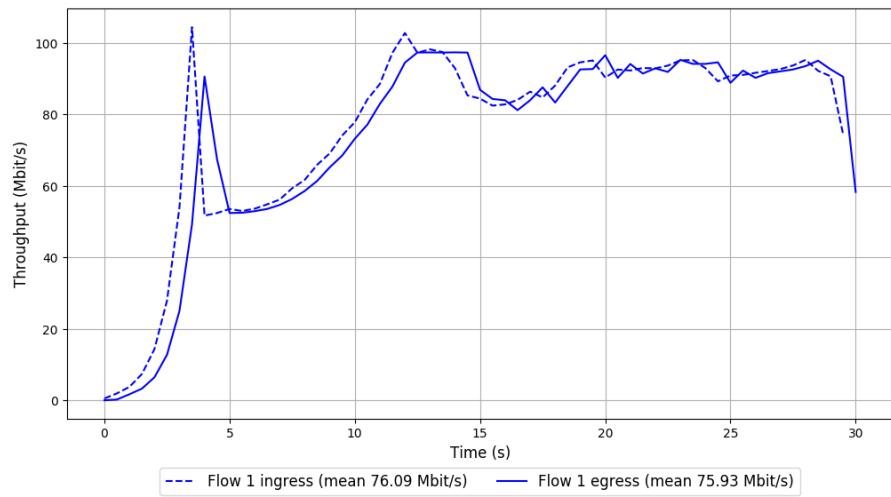


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-11-30 11:48:17
End at: 2018-11-30 11:48:47
Local clock offset: -5.063 ms
Remote clock offset: -112.305 ms

# Below is generated by plot.py at 2018-11-30 12:58:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.93 Mbit/s
95th percentile per-packet one-way delay: 122.719 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 75.93 Mbit/s
95th percentile per-packet one-way delay: 122.719 ms
Loss rate: 0.81%
```

Run 3: Report of PCC-Vivace — Data Link

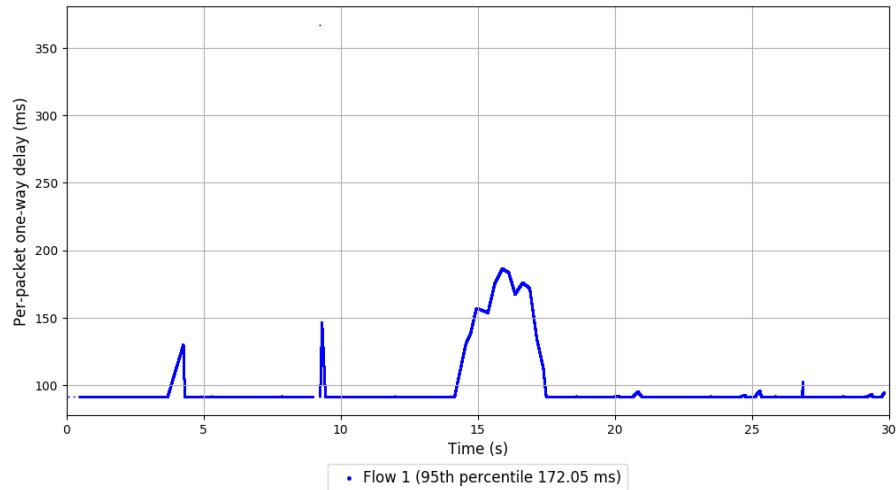
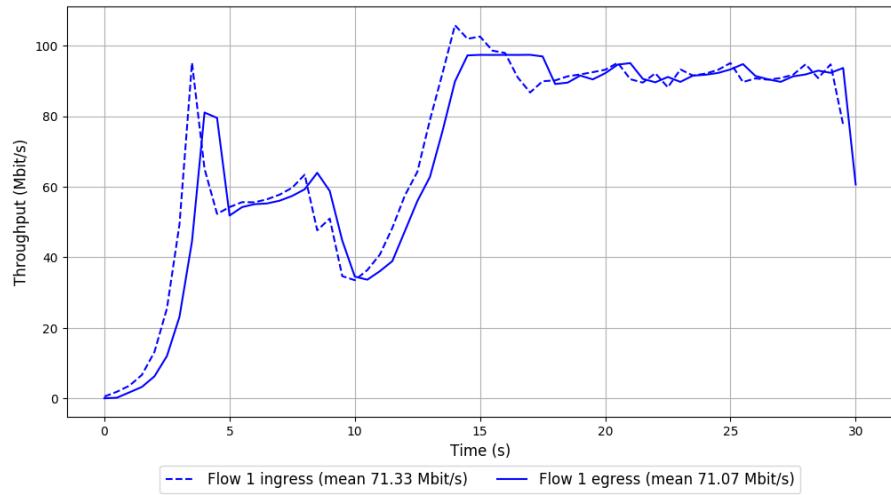


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-11-30 12:10:49
End at: 2018-11-30 12:11:19
Local clock offset: -6.12 ms
Remote clock offset: -119.396 ms

# Below is generated by plot.py at 2018-11-30 12:58:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.07 Mbit/s
95th percentile per-packet one-way delay: 172.050 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 71.07 Mbit/s
95th percentile per-packet one-way delay: 172.050 ms
Loss rate: 0.95%
```

Run 4: Report of PCC-Vivace — Data Link

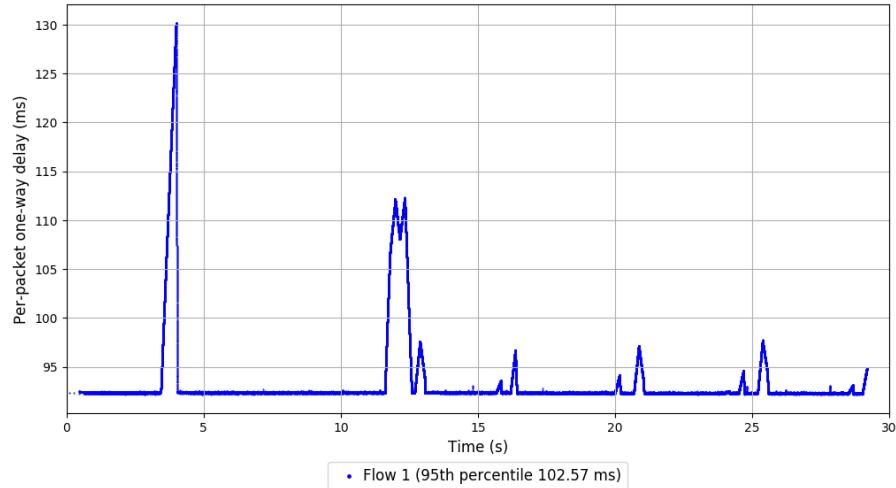
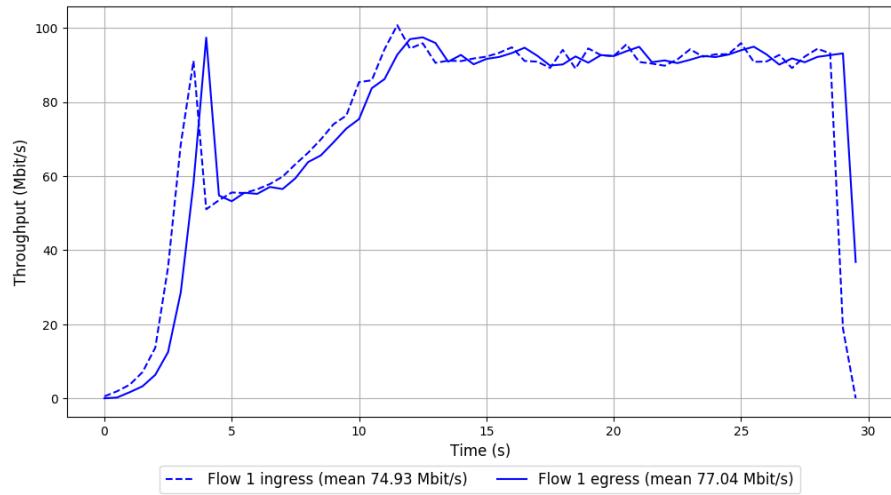


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-11-30 12:33:34
End at: 2018-11-30 12:34:04
Local clock offset: -4.797 ms
Remote clock offset: -125.305 ms

# Below is generated by plot.py at 2018-11-30 12:58:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.04 Mbit/s
95th percentile per-packet one-way delay: 102.566 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 77.04 Mbit/s
95th percentile per-packet one-way delay: 102.566 ms
Loss rate: 0.01%
```

Run 5: Report of PCC-Vivace — Data Link

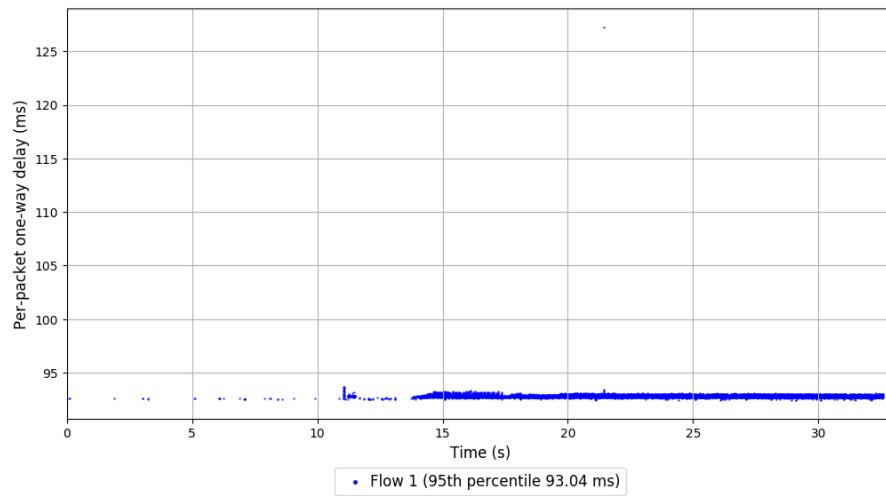
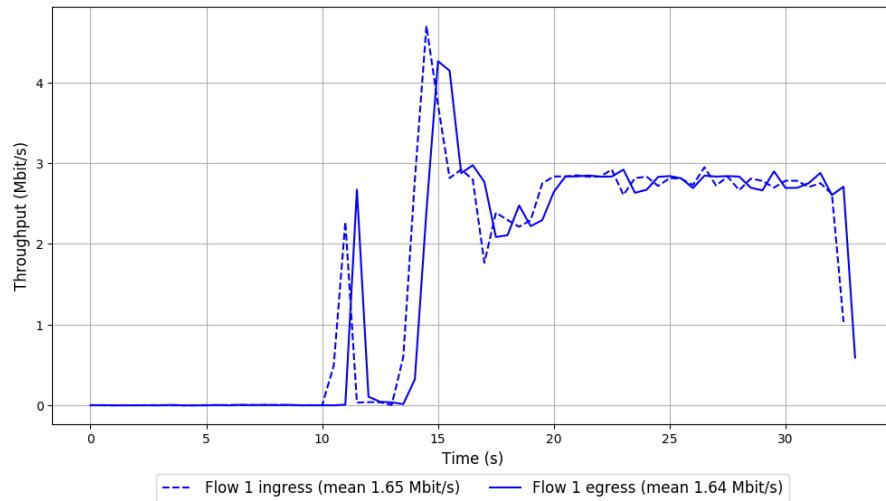


```
Run 1: Statistics of WebRTC media

Start at: 2018-11-30 10:55:49
End at: 2018-11-30 10:56:19
Local clock offset: -3.249 ms
Remote clock offset: -99.81 ms

# Below is generated by plot.py at 2018-11-30 12:58:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 93.044 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 93.044 ms
Loss rate: 0.85%
```

Run 1: Report of WebRTC media — Data Link

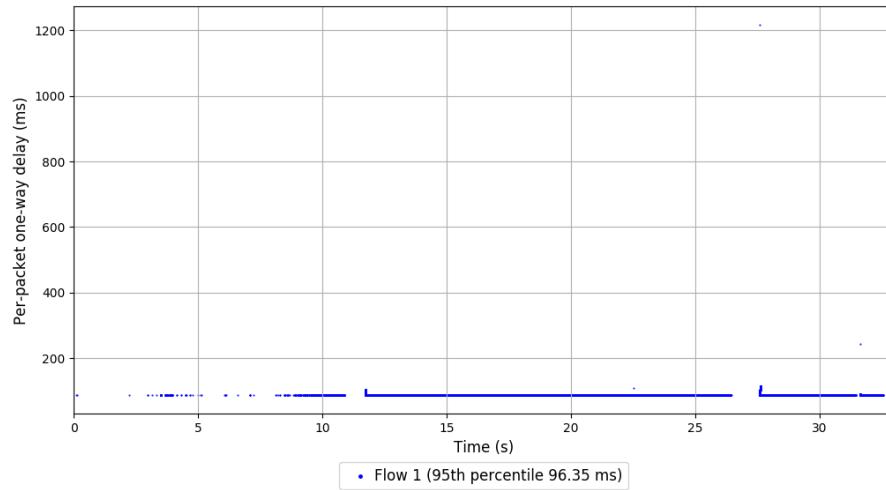
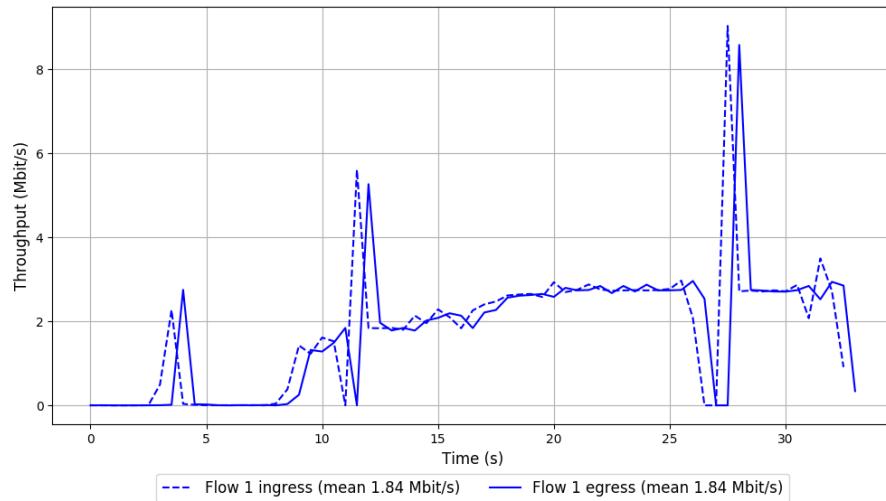


Run 2: Statistics of WebRTC media

```
Start at: 2018-11-30 11:18:23
End at: 2018-11-30 11:18:53
Local clock offset: -4.335 ms
Remote clock offset: -100.588 ms

# Below is generated by plot.py at 2018-11-30 12:58:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 96.353 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 96.353 ms
Loss rate: 0.84%
```

Run 2: Report of WebRTC media — Data Link

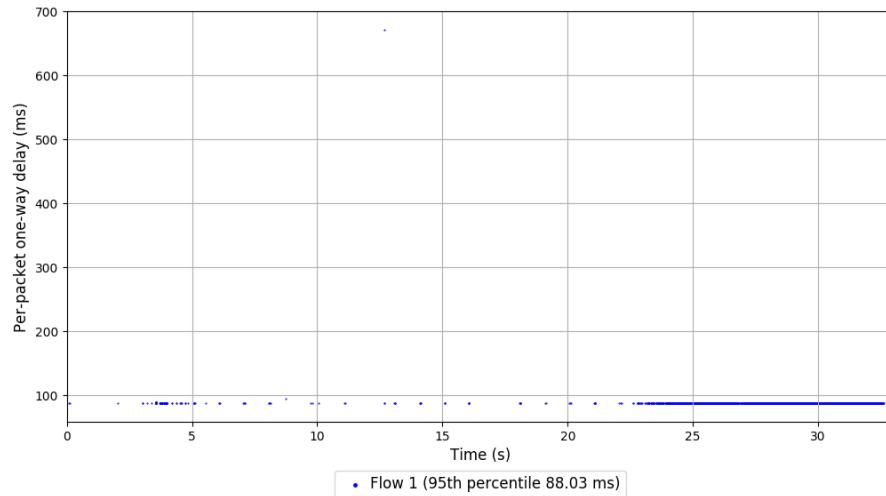
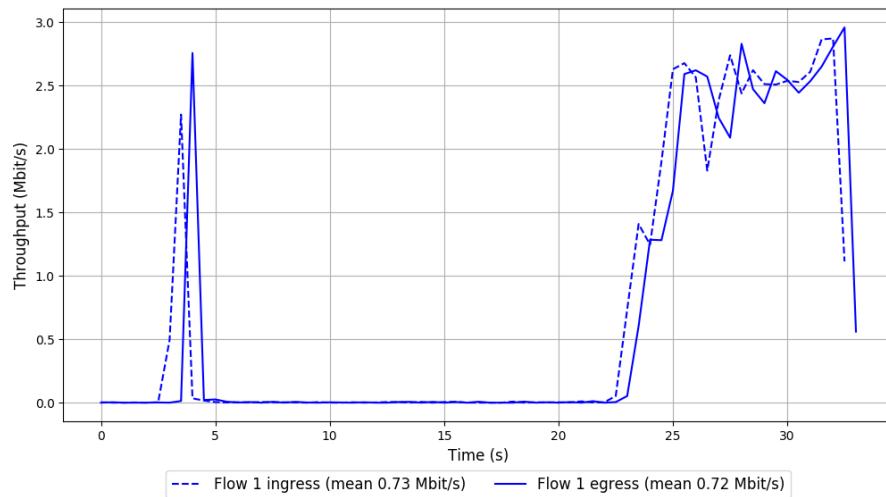


Run 3: Statistics of WebRTC media

```
Start at: 2018-11-30 11:40:54
End at: 2018-11-30 11:41:24
Local clock offset: -4.516 ms
Remote clock offset: -107.774 ms

# Below is generated by plot.py at 2018-11-30 12:58:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 88.029 ms
Loss rate: 2.06%
-- Flow 1:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 88.029 ms
Loss rate: 2.06%
```

Run 3: Report of WebRTC media — Data Link

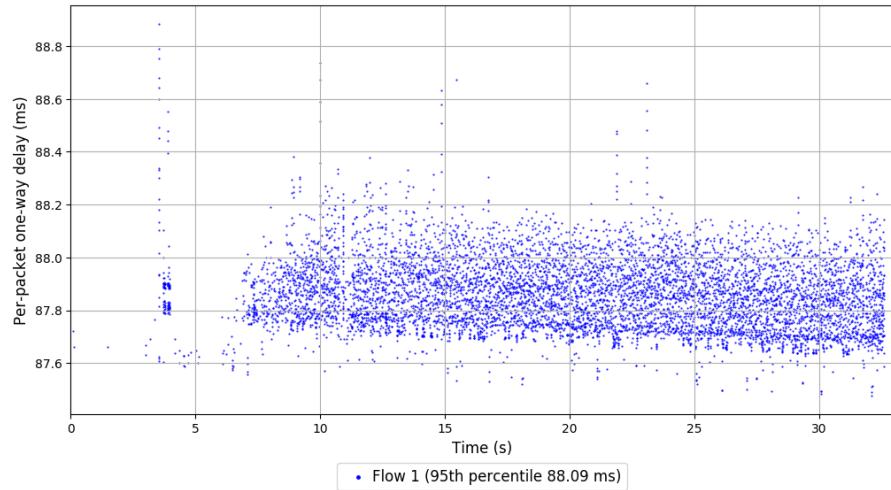
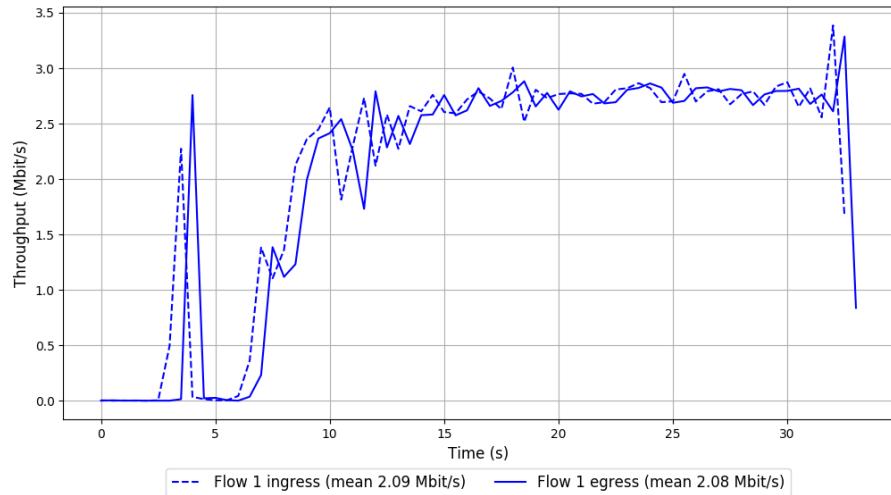


Run 4: Statistics of WebRTC media

```
Start at: 2018-11-30 12:03:37
End at: 2018-11-30 12:04:07
Local clock offset: -5.158 ms
Remote clock offset: -112.488 ms

# Below is generated by plot.py at 2018-11-30 12:58:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 88.089 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 88.089 ms
Loss rate: 1.01%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-11-30 12:26:26
End at: 2018-11-30 12:26:56
Local clock offset: -5.668 ms
Remote clock offset: -118.69 ms

# Below is generated by plot.py at 2018-11-30 12:58:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 86.910 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 86.910 ms
Loss rate: 0.81%
```

Run 5: Report of WebRTC media — Data Link

