

Pantheon Report

Generated at 2018-11-15 03:55:10 (UTC).
Data path: AWS Korea on `ens5` (*local*) → China on `eno1` (*remote*).
Repeated the test of 18 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against `ntp.nict.jp` and have been applied to correct the timestamps in logs.

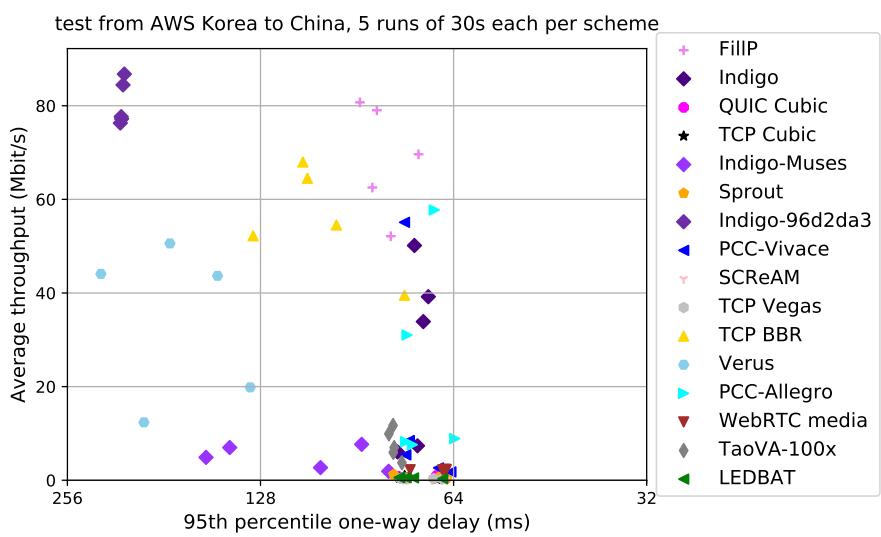
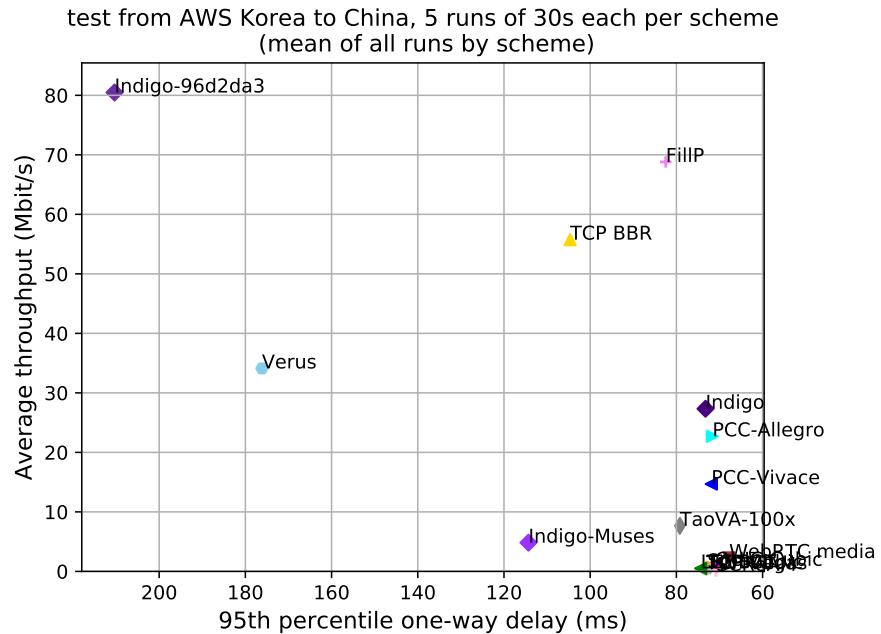
System info:

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

Git summary:

```
branch: muses @ 794ca3866981572cb73700a276691acf79c60f2b
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbfed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
```

third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851



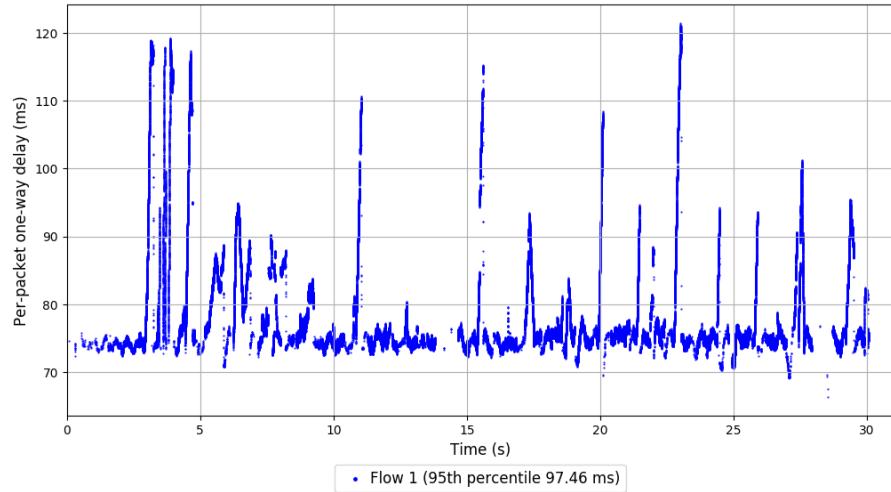
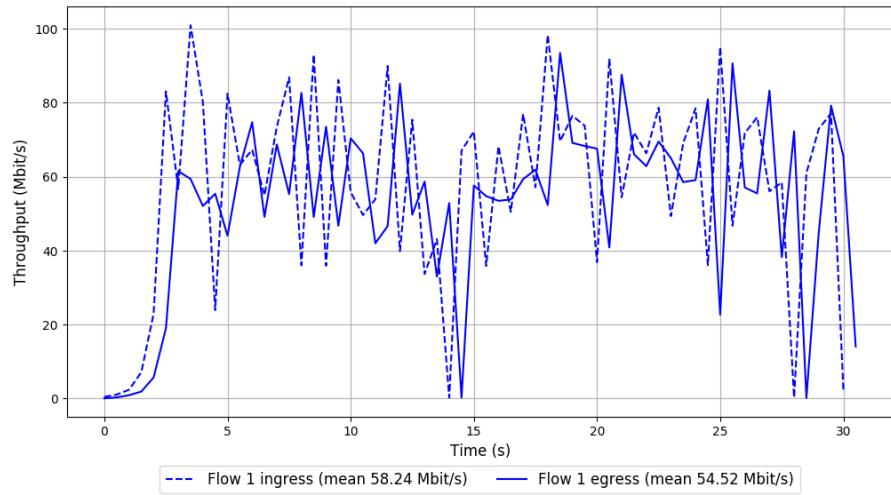
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	55.75	104.66	6.85
Copa	0	N/A	N/A	N/A
TCP Cubic	5	0.50	72.94	3.22
FillP	5	68.81	82.46	2.98
Indigo	5	27.33	73.24	3.27
Indigo-96d2da3	5	80.48	210.35	31.84
LEDBAT	5	0.50	74.36	4.01
Indigo-Muses	5	4.83	114.32	3.42
PCC-Allegro	5	22.69	71.64	6.09
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	0.95	70.99	4.21
SCReAM	5	0.09	70.79	3.49
Sprout	5	0.68	72.85	3.23
TaoVA-100x	5	7.65	79.20	12.25
TCP Vegas	5	0.36	73.12	3.29
Verus	5	34.11	176.17	22.98
PCC-Vivace	5	14.68	71.90	2.85
WebRTC media	5	2.25	67.77	3.65

Run 1: Statistics of TCP BBR

```
Start at: 2018-11-15 02:09:03
End at: 2018-11-15 02:09:33
Local clock offset: 4.181 ms
Remote clock offset: -5.329 ms

# Below is generated by plot.py at 2018-11-15 03:52:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.52 Mbit/s
95th percentile per-packet one-way delay: 97.463 ms
Loss rate: 6.40%
-- Flow 1:
Average throughput: 54.52 Mbit/s
95th percentile per-packet one-way delay: 97.463 ms
Loss rate: 6.40%
```

Run 1: Report of TCP BBR — Data Link

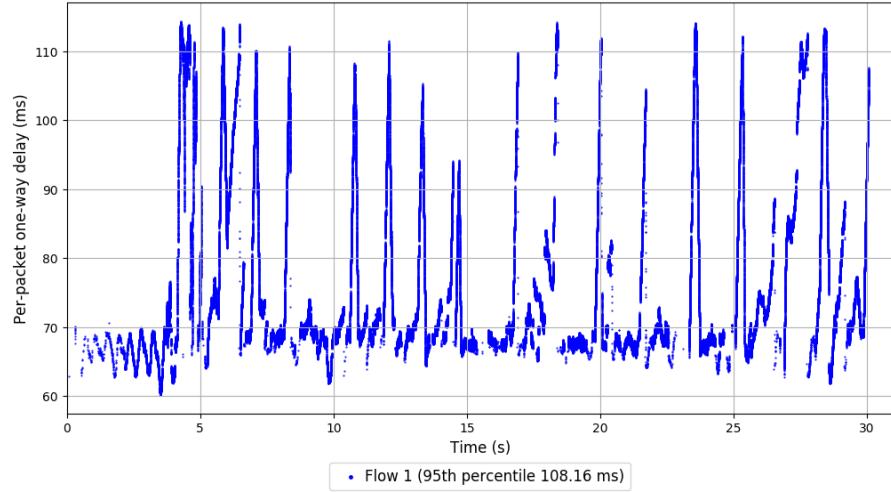
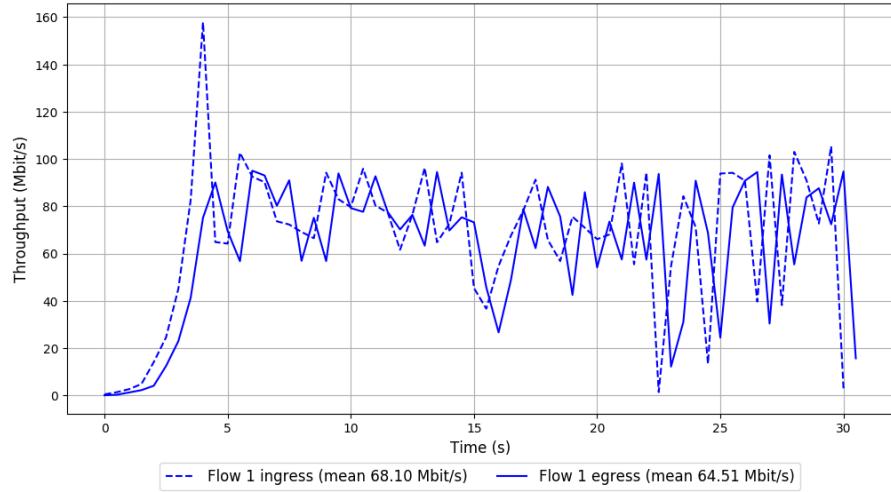


Run 2: Statistics of TCP BBR

```
Start at: 2018-11-15 02:31:58
End at: 2018-11-15 02:32:28
Local clock offset: 9.456 ms
Remote clock offset: -1.305 ms

# Below is generated by plot.py at 2018-11-15 03:52:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.51 Mbit/s
95th percentile per-packet one-way delay: 108.160 ms
Loss rate: 5.25%
-- Flow 1:
Average throughput: 64.51 Mbit/s
95th percentile per-packet one-way delay: 108.160 ms
Loss rate: 5.25%
```

Run 2: Report of TCP BBR — Data Link

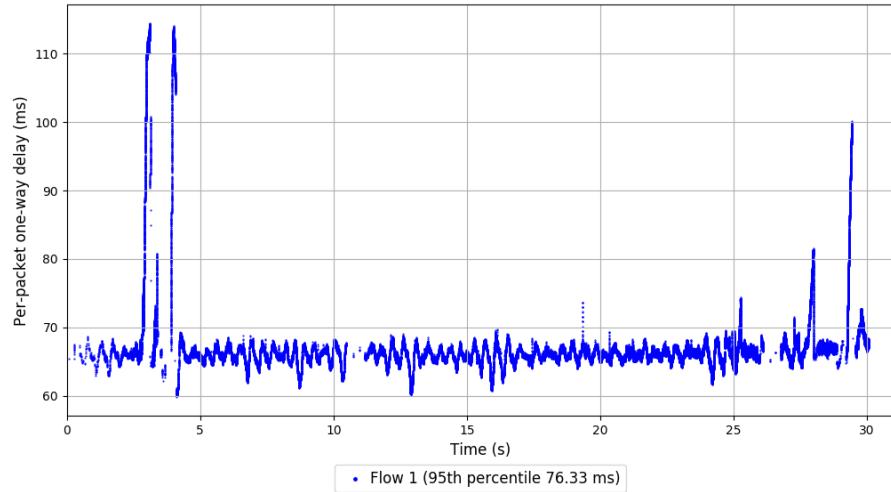
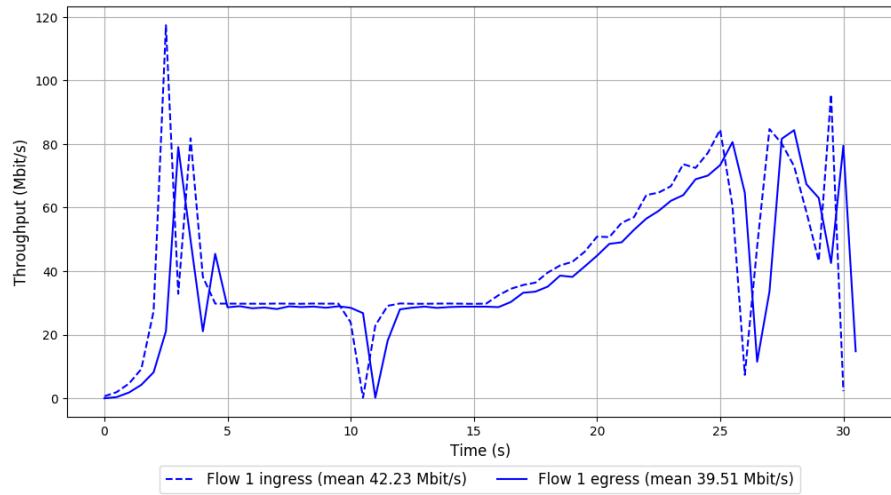


Run 3: Statistics of TCP BBR

```
Start at: 2018-11-15 02:55:06
End at: 2018-11-15 02:55:36
Local clock offset: 9.829 ms
Remote clock offset: -5.155 ms

# Below is generated by plot.py at 2018-11-15 03:52:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.51 Mbit/s
95th percentile per-packet one-way delay: 76.326 ms
Loss rate: 6.43%
-- Flow 1:
Average throughput: 39.51 Mbit/s
95th percentile per-packet one-way delay: 76.326 ms
Loss rate: 6.43%
```

Run 3: Report of TCP BBR — Data Link

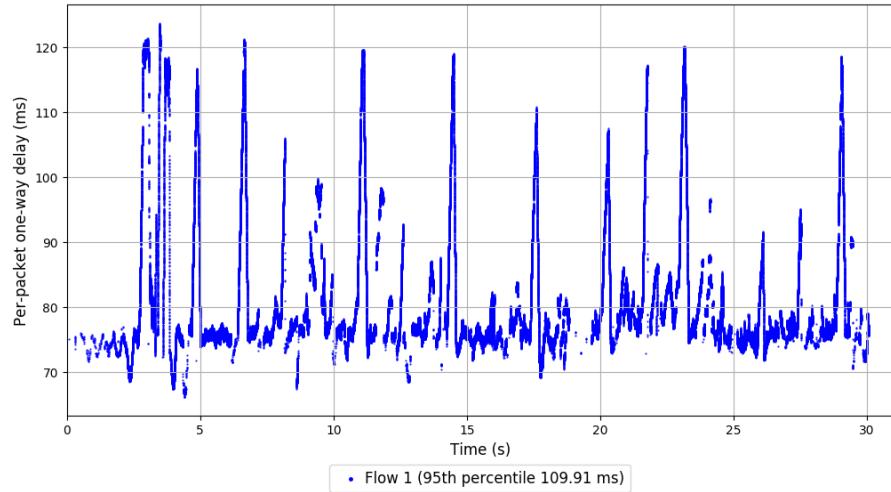
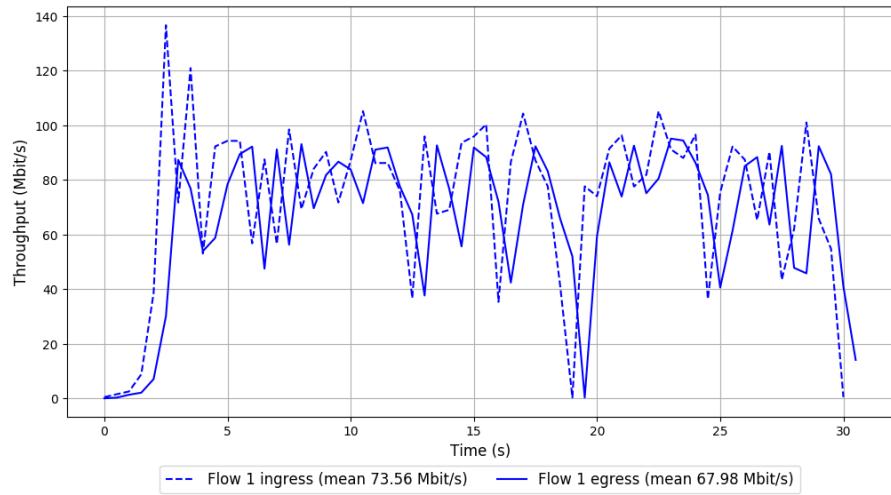


Run 4: Statistics of TCP BBR

```
Start at: 2018-11-15 03:17:47
End at: 2018-11-15 03:18:17
Local clock offset: 4.049 ms
Remote clock offset: -21.088 ms

# Below is generated by plot.py at 2018-11-15 03:52:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.98 Mbit/s
95th percentile per-packet one-way delay: 109.907 ms
Loss rate: 7.59%
-- Flow 1:
Average throughput: 67.98 Mbit/s
95th percentile per-packet one-way delay: 109.907 ms
Loss rate: 7.59%
```

Run 4: Report of TCP BBR — Data Link

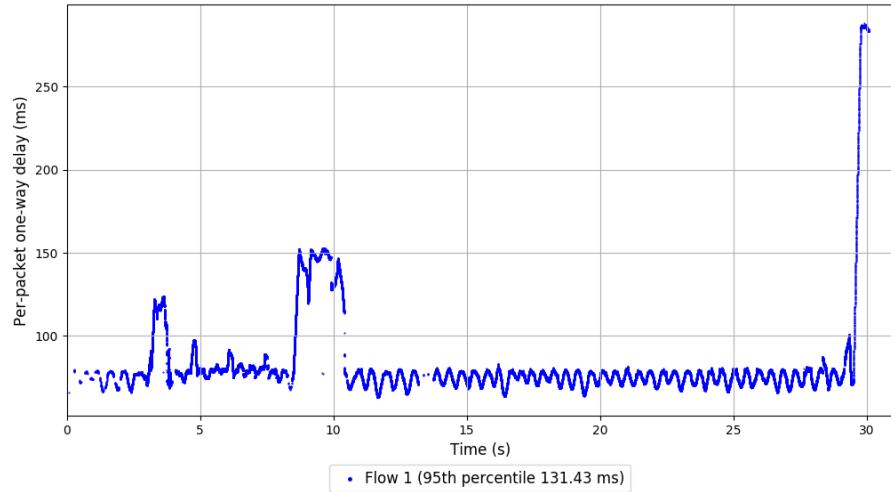
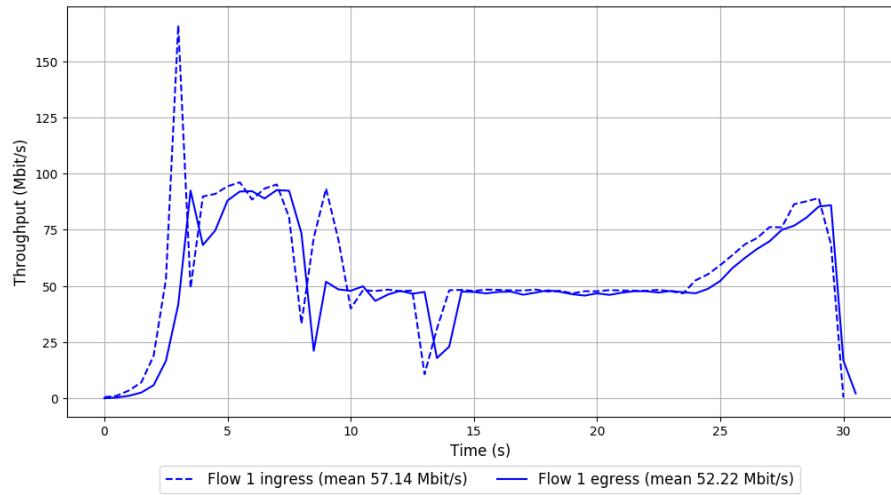


Run 5: Statistics of TCP BBR

```
Start at: 2018-11-15 03:40:43
End at: 2018-11-15 03:41:13
Local clock offset: 17.303 ms
Remote clock offset: -30.508 ms

# Below is generated by plot.py at 2018-11-15 03:52:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.22 Mbit/s
95th percentile per-packet one-way delay: 131.425 ms
Loss rate: 8.57%
-- Flow 1:
Average throughput: 52.22 Mbit/s
95th percentile per-packet one-way delay: 131.425 ms
Loss rate: 8.57%
```

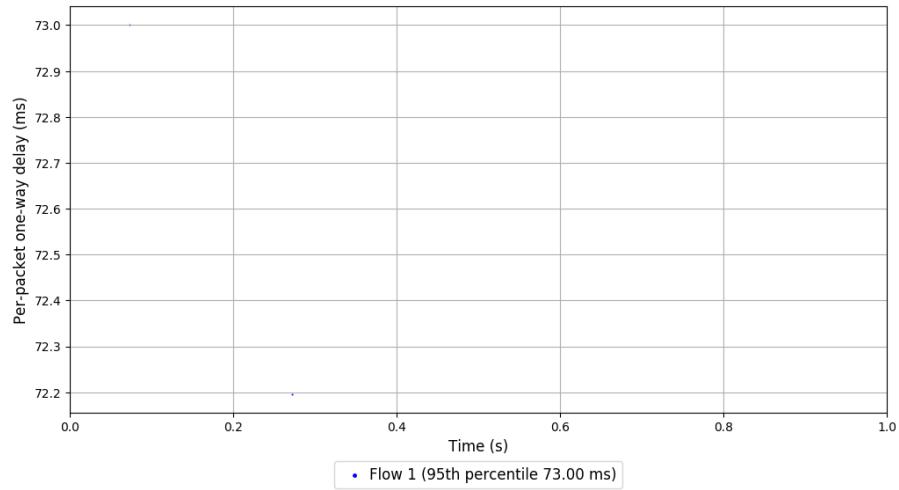
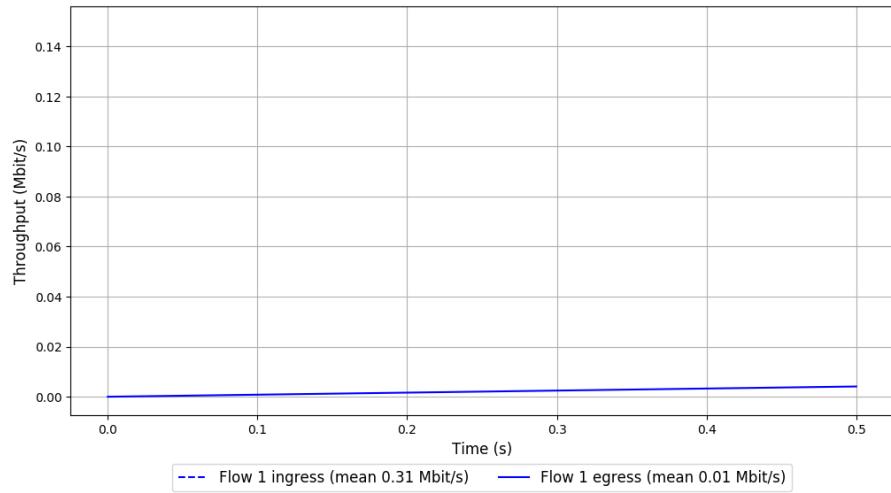
Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-11-15 02:14:15
End at: 2018-11-15 02:14:45
Local clock offset: 7.083 ms
Remote clock offset: -5.892 ms

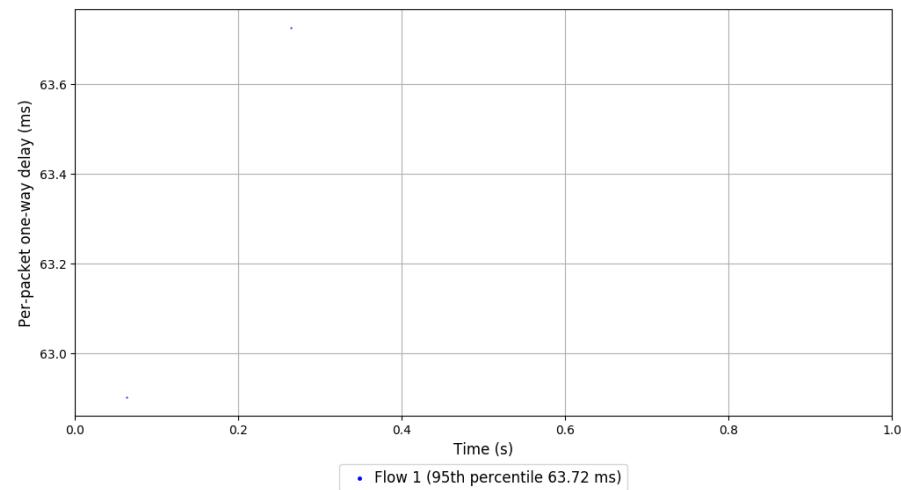
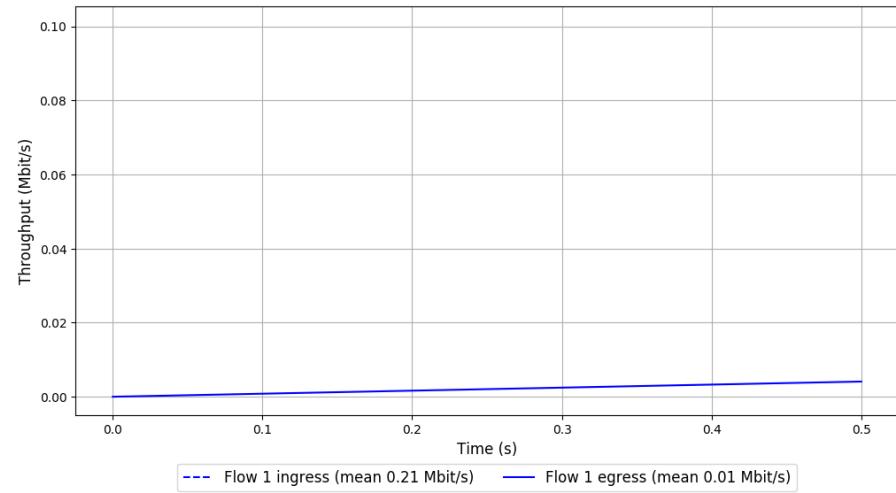
Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-11-15 02:37:06
End at: 2018-11-15 02:37:36
Local clock offset: 7.554 ms
Remote clock offset: -4.523 ms

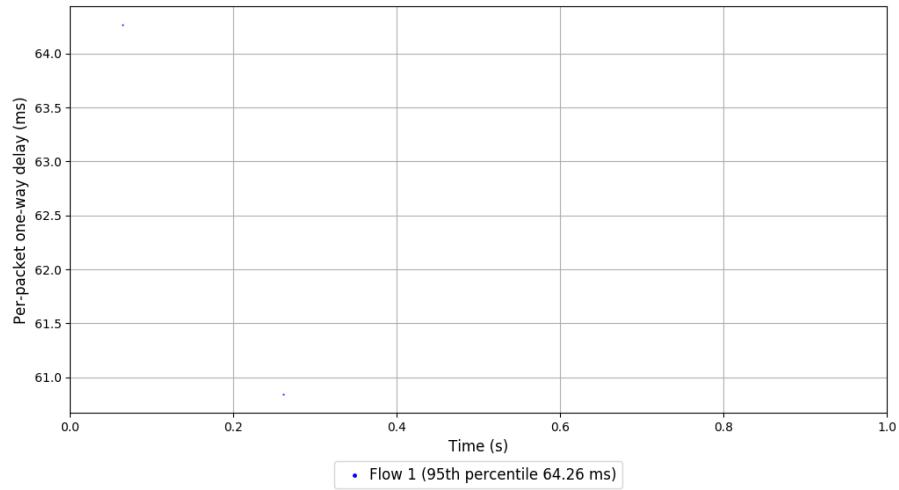
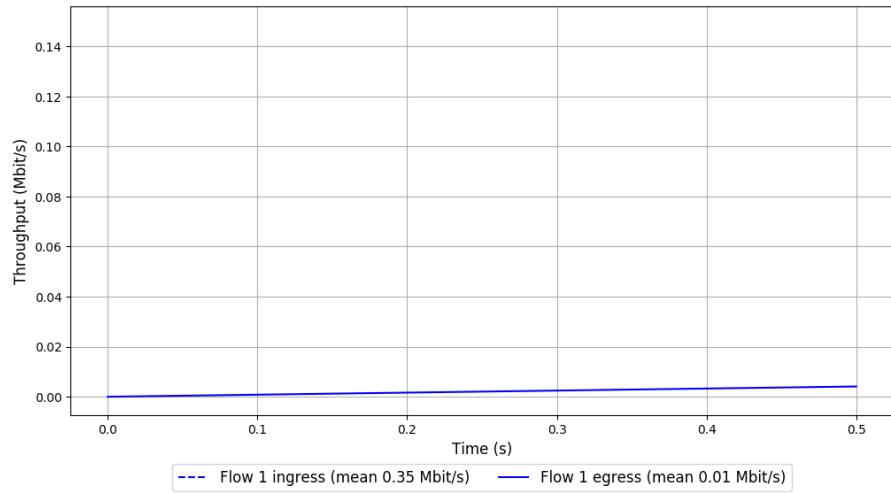
Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-11-15 03:00:11
End at: 2018-11-15 03:00:41
Local clock offset: 7.59 ms
Remote clock offset: -8.045 ms

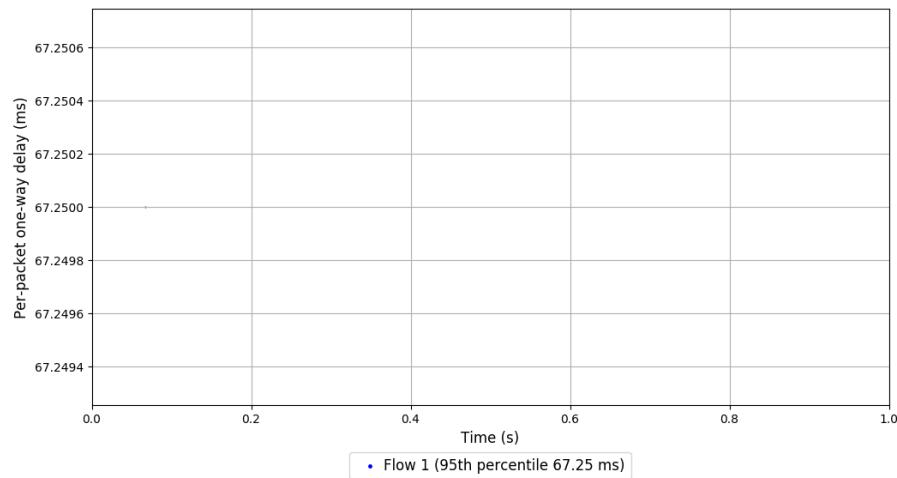
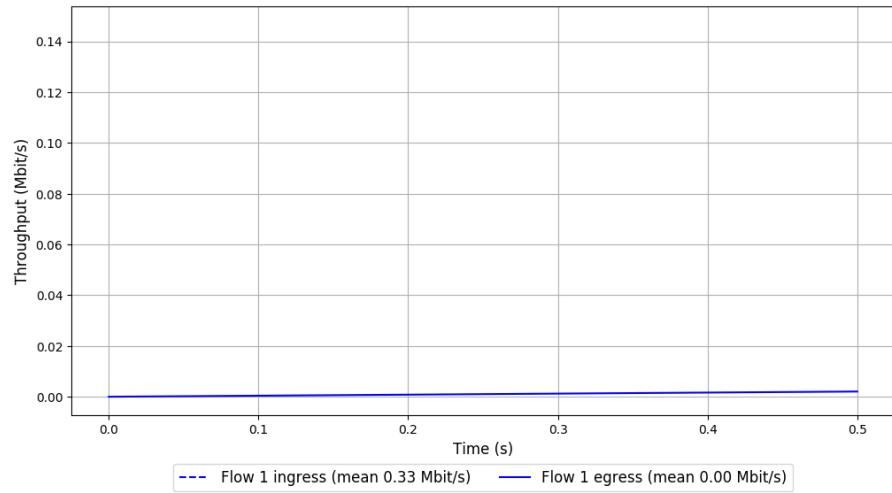
Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-11-15 03:22:56
End at: 2018-11-15 03:23:26
Local clock offset: 4.691 ms
Remote clock offset: -23.75 ms

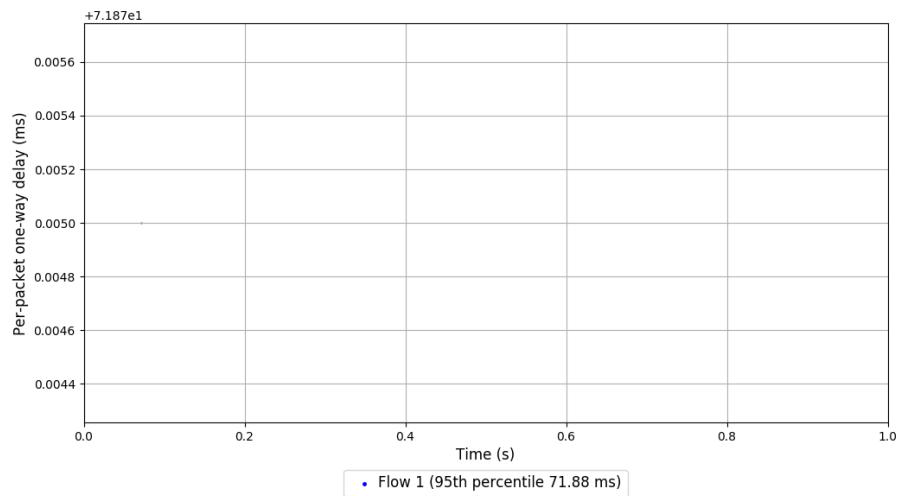
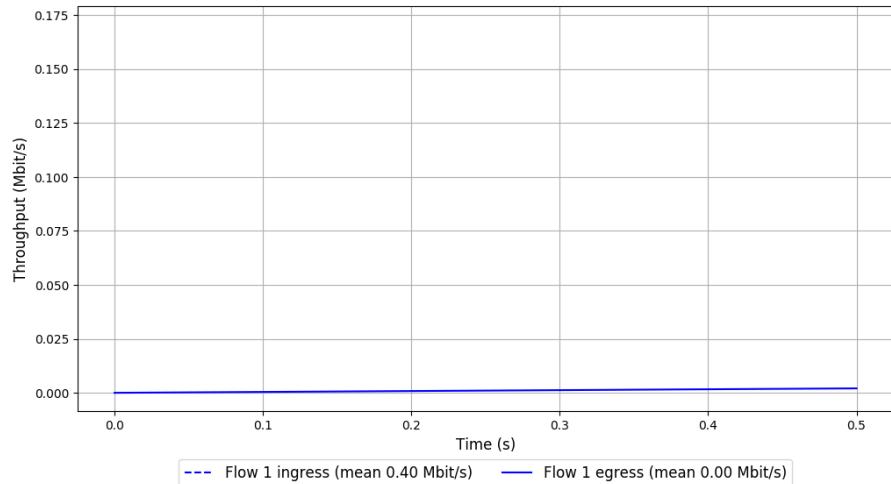
Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-11-15 03:45:41
End at: 2018-11-15 03:46:11
Local clock offset: 19.343 ms
Remote clock offset: -32.911 ms

Run 5: Report of Copa — Data Link

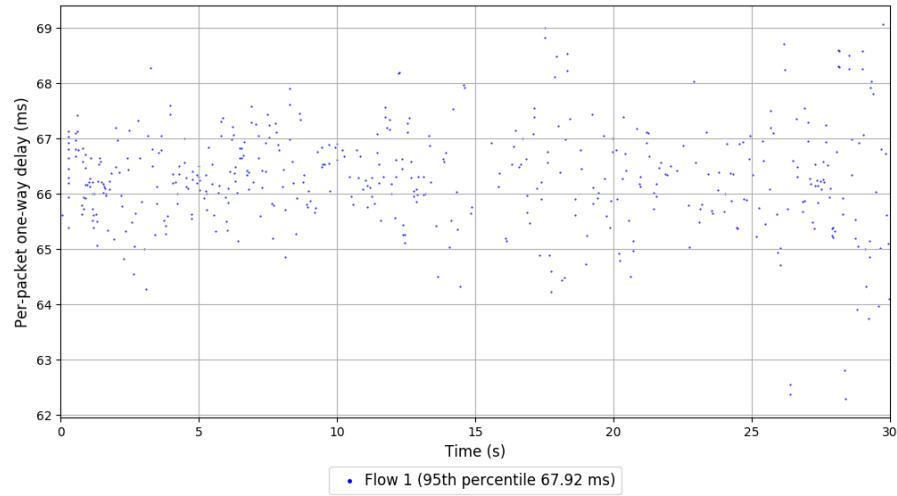
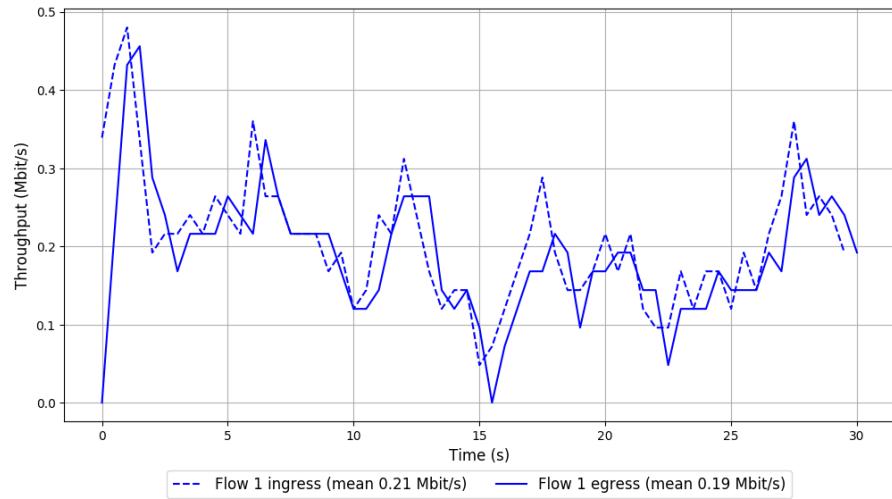


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-11-15 02:11:50
End at: 2018-11-15 02:12:20
Local clock offset: 5.872 ms
Remote clock offset: -4.272 ms

# Below is generated by plot.py at 2018-11-15 03:52:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 67.917 ms
Loss rate: 6.55%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 67.917 ms
Loss rate: 6.55%
```

Run 1: Report of TCP Cubic — Data Link

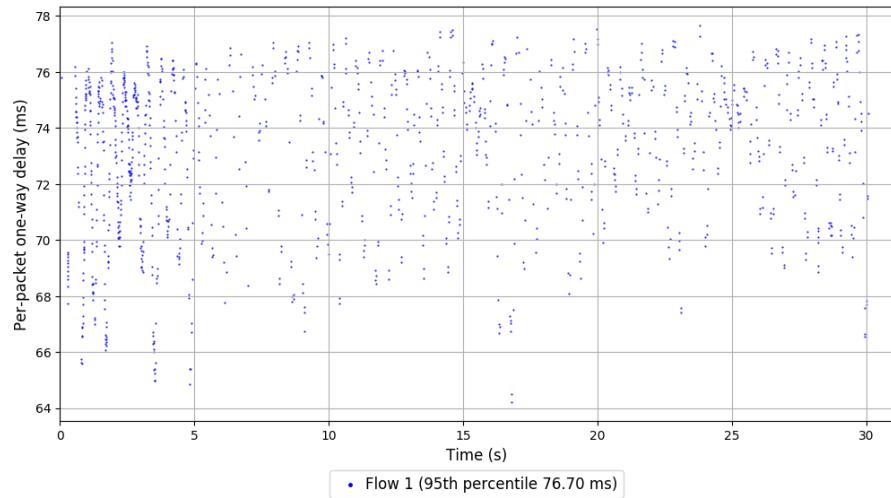
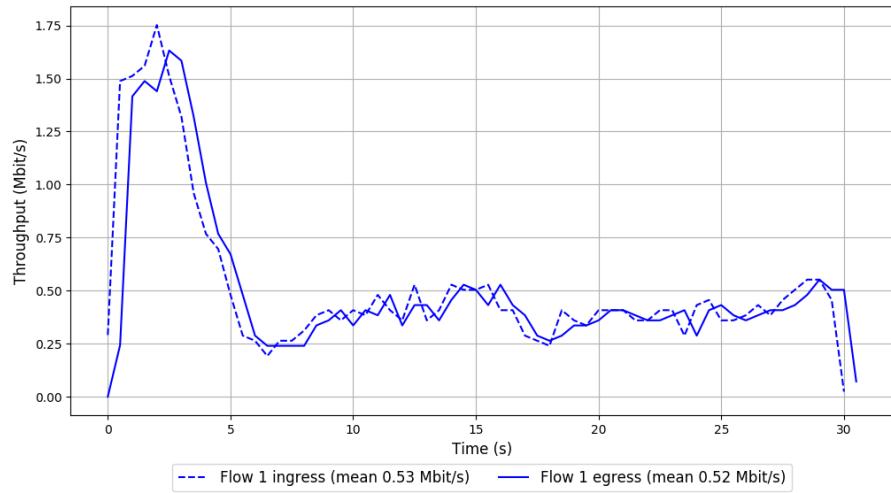


Run 2: Statistics of TCP Cubic

```
Start at: 2018-11-15 02:34:43
End at: 2018-11-15 02:35:13
Local clock offset: 8.098 ms
Remote clock offset: -2.574 ms

# Below is generated by plot.py at 2018-11-15 03:52:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 76.704 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 76.704 ms
Loss rate: 1.75%
```

Run 2: Report of TCP Cubic — Data Link

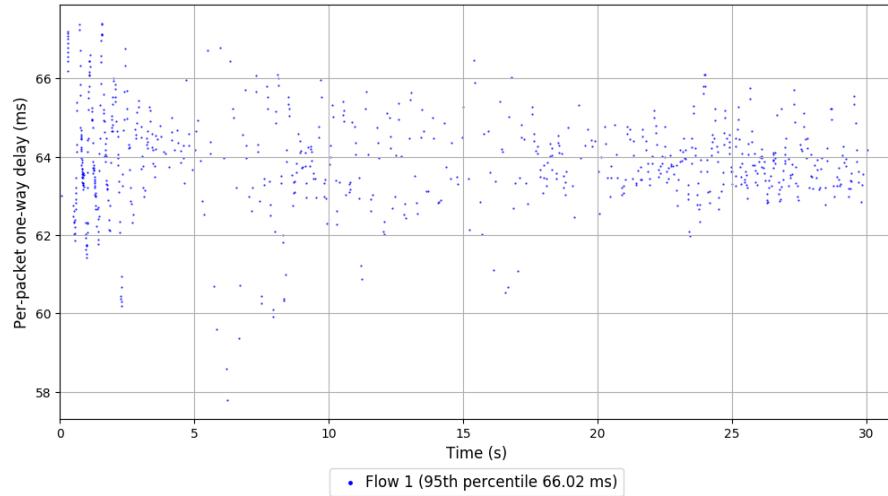
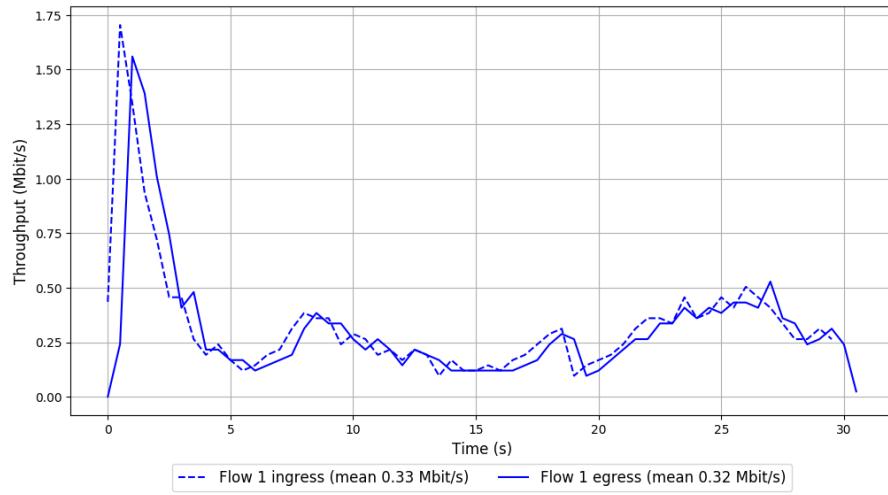


Run 3: Statistics of TCP Cubic

```
Start at: 2018-11-15 02:57:44
End at: 2018-11-15 02:58:14
Local clock offset: 9.717 ms
Remote clock offset: -6.215 ms

# Below is generated by plot.py at 2018-11-15 03:52:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 66.020 ms
Loss rate: 4.00%
-- Flow 1:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 66.020 ms
Loss rate: 4.00%
```

Run 3: Report of TCP Cubic — Data Link

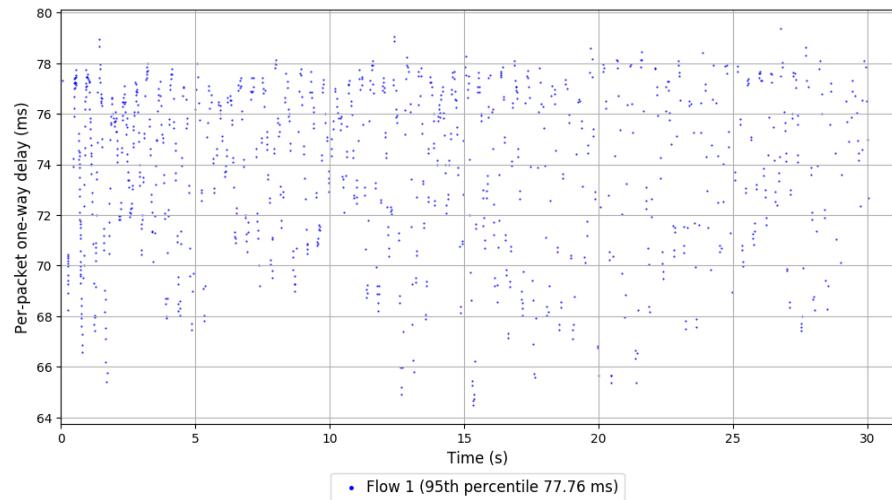
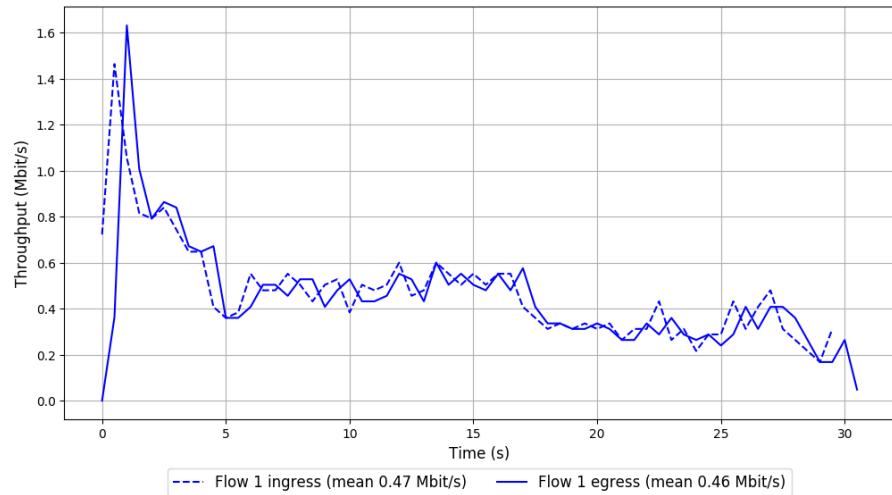


Run 4: Statistics of TCP Cubic

```
Start at: 2018-11-15 03:20:34
End at: 2018-11-15 03:21:04
Local clock offset: 4.371 ms
Remote clock offset: -22.183 ms

# Below is generated by plot.py at 2018-11-15 03:52:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 77.761 ms
Loss rate: 2.70%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 77.761 ms
Loss rate: 2.70%
```

Run 4: Report of TCP Cubic — Data Link

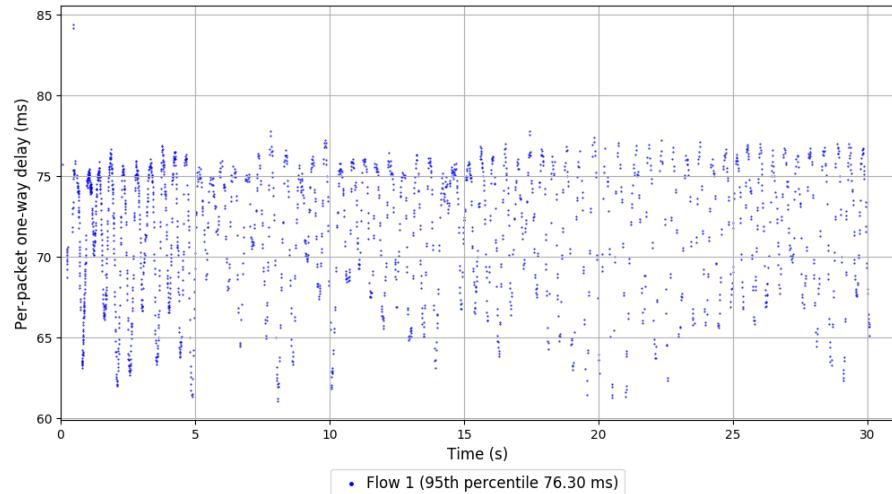
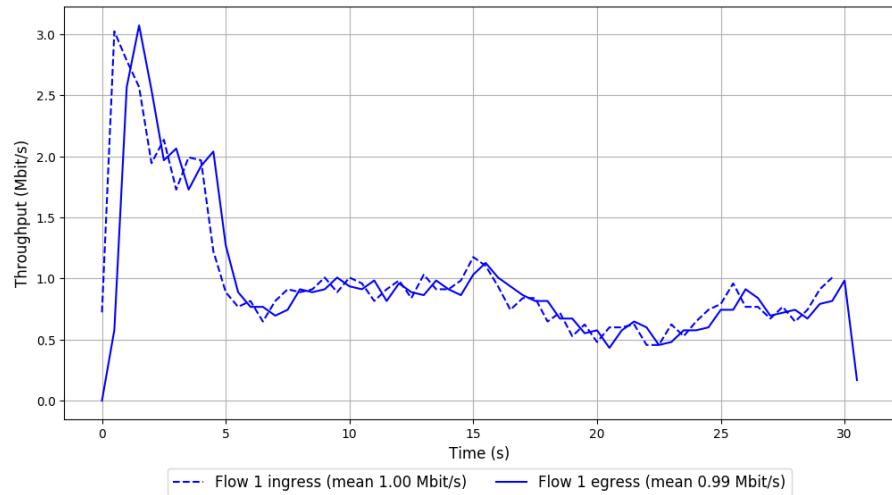


Run 5: Statistics of TCP Cubic

```
Start at: 2018-11-15 03:43:18
End at: 2018-11-15 03:43:48
Local clock offset: 18.28 ms
Remote clock offset: -34.519 ms

# Below is generated by plot.py at 2018-11-15 03:52:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 76.304 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 76.304 ms
Loss rate: 1.08%
```

Run 5: Report of TCP Cubic — Data Link

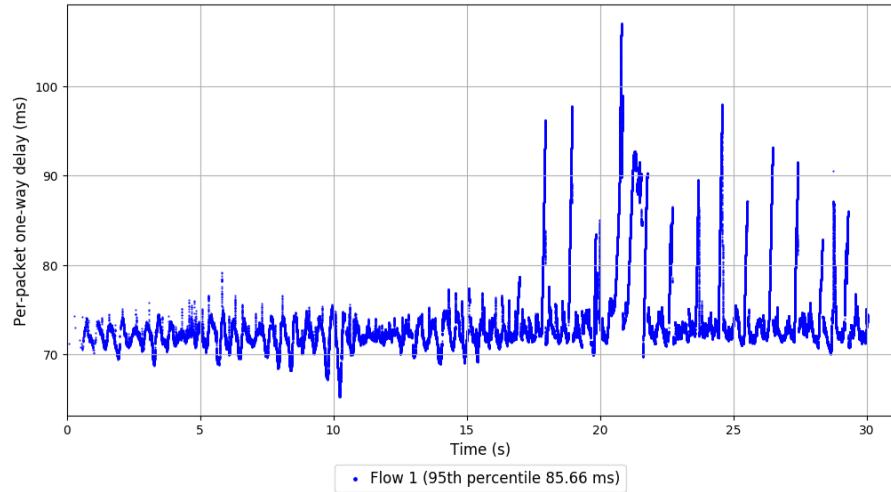
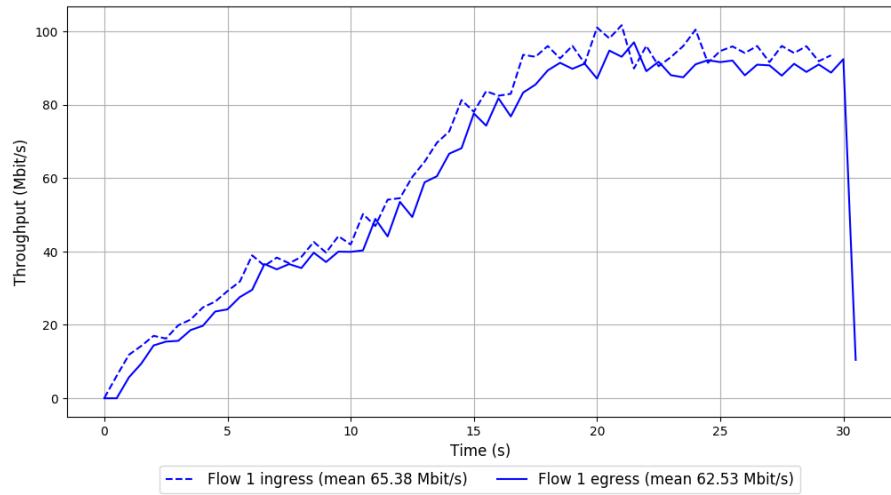


```
Run 1: Statistics of FillP

Start at: 2018-11-15 02:19:25
End at: 2018-11-15 02:19:55
Local clock offset: 10.059 ms
Remote clock offset: -6.082 ms

# Below is generated by plot.py at 2018-11-15 03:52:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.53 Mbit/s
95th percentile per-packet one-way delay: 85.658 ms
Loss rate: 4.35%
-- Flow 1:
Average throughput: 62.53 Mbit/s
95th percentile per-packet one-way delay: 85.658 ms
Loss rate: 4.35%
```

Run 1: Report of FillP — Data Link

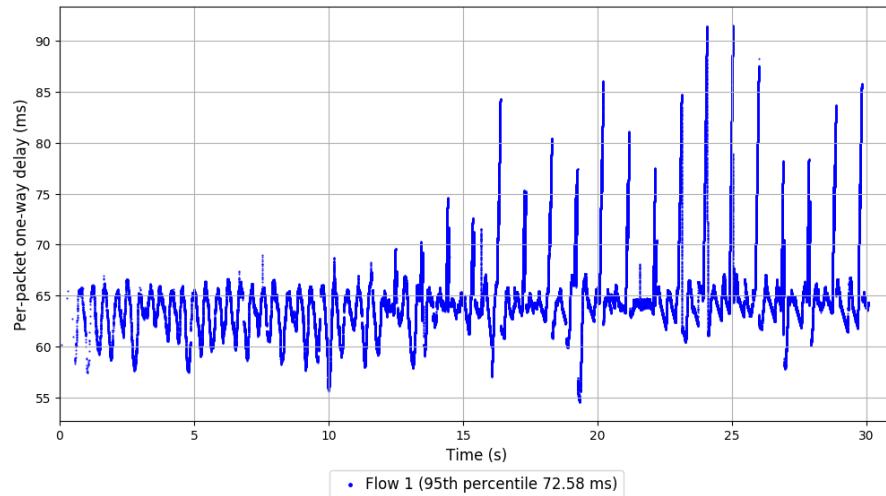
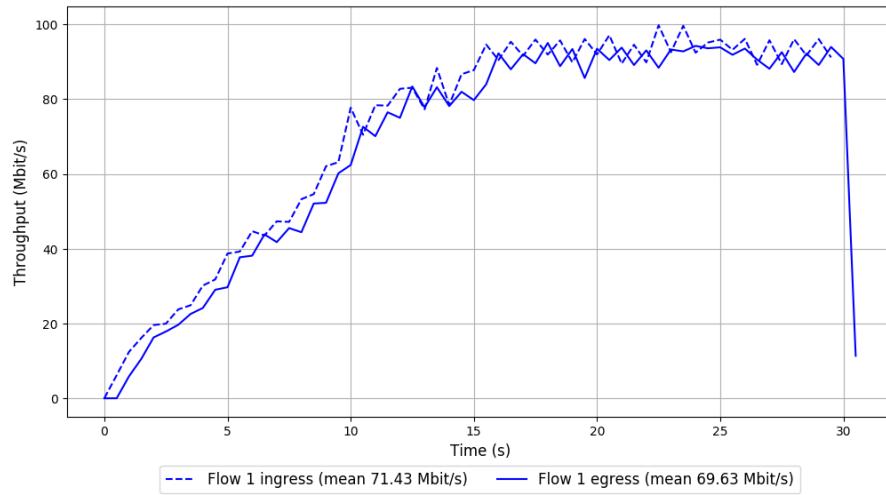


Run 2: Statistics of FillP

```
Start at: 2018-11-15 02:42:33
End at: 2018-11-15 02:43:03
Local clock offset: 7.227 ms
Remote clock offset: -5.157 ms

# Below is generated by plot.py at 2018-11-15 03:52:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 69.63 Mbit/s
95th percentile per-packet one-way delay: 72.578 ms
Loss rate: 2.51%
-- Flow 1:
Average throughput: 69.63 Mbit/s
95th percentile per-packet one-way delay: 72.578 ms
Loss rate: 2.51%
```

Run 2: Report of FillP — Data Link

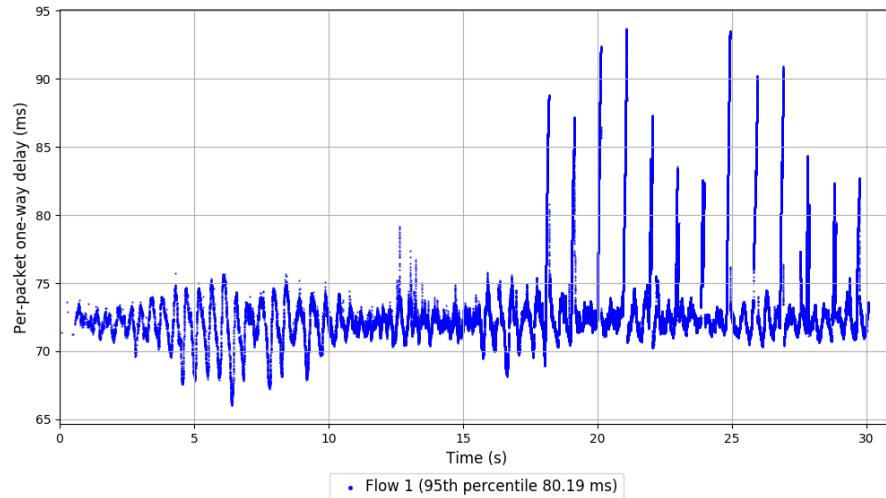
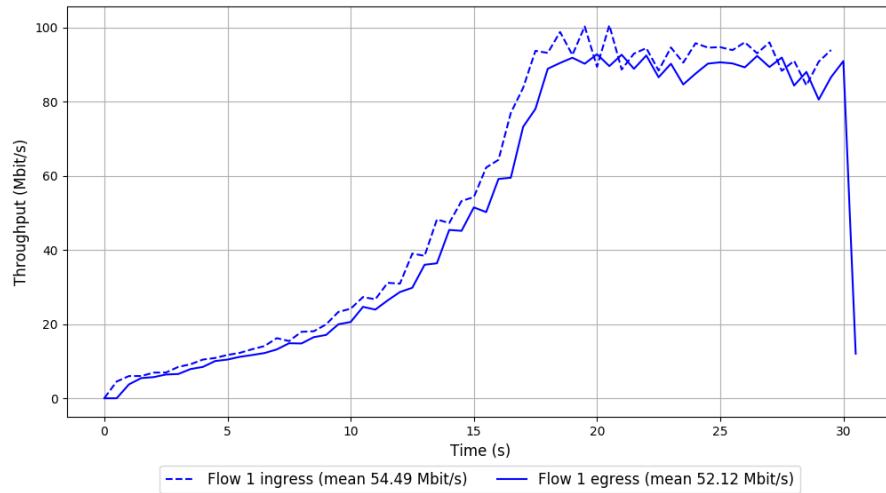


Run 3: Statistics of FillP

```
Start at: 2018-11-15 03:05:21
End at: 2018-11-15 03:05:51
Local clock offset: 4.935 ms
Remote clock offset: -7.048 ms

# Below is generated by plot.py at 2018-11-15 03:52:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.12 Mbit/s
95th percentile per-packet one-way delay: 80.187 ms
Loss rate: 4.34%
-- Flow 1:
Average throughput: 52.12 Mbit/s
95th percentile per-packet one-way delay: 80.187 ms
Loss rate: 4.34%
```

Run 3: Report of FillP — Data Link

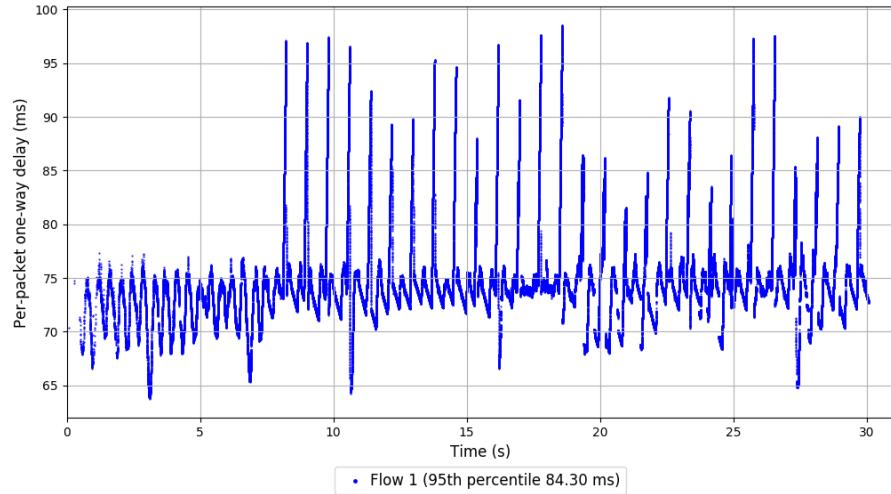
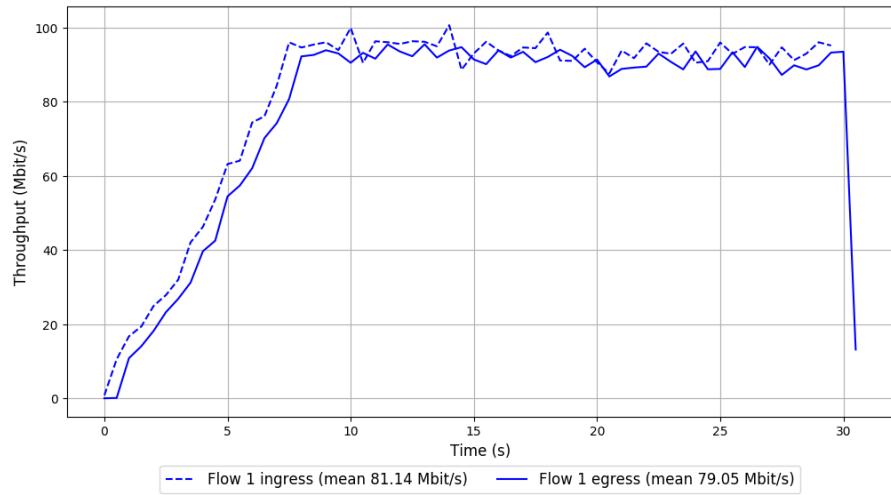


Run 4: Statistics of FillP

```
Start at: 2018-11-15 03:28:10
End at: 2018-11-15 03:28:40
Local clock offset: 7.275 ms
Remote clock offset: -29.007 ms

# Below is generated by plot.py at 2018-11-15 03:53:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.05 Mbit/s
95th percentile per-packet one-way delay: 84.300 ms
Loss rate: 2.57%
-- Flow 1:
Average throughput: 79.05 Mbit/s
95th percentile per-packet one-way delay: 84.300 ms
Loss rate: 2.57%
```

Run 4: Report of FillP — Data Link

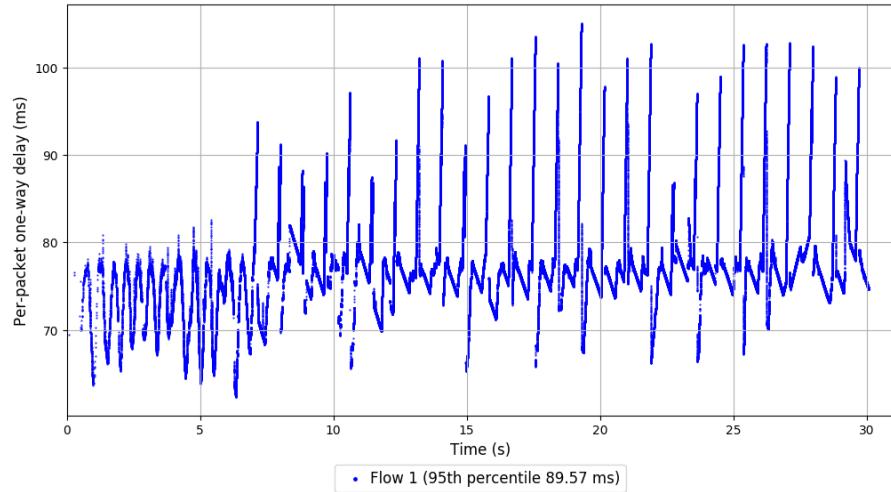
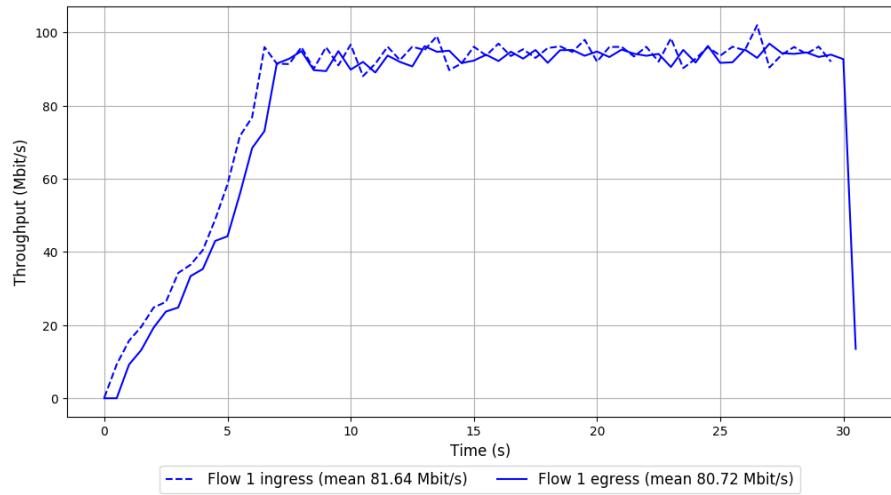


```
Run 5: Statistics of FillP
```

```
Start at: 2018-11-15 03:50:34
End at: 2018-11-15 03:51:04
Local clock offset: 21.367 ms
Remote clock offset: -40.801 ms

# Below is generated by plot.py at 2018-11-15 03:53:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.72 Mbit/s
95th percentile per-packet one-way delay: 89.572 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 80.72 Mbit/s
95th percentile per-packet one-way delay: 89.572 ms
Loss rate: 1.11%
```

Run 5: Report of FillP — Data Link

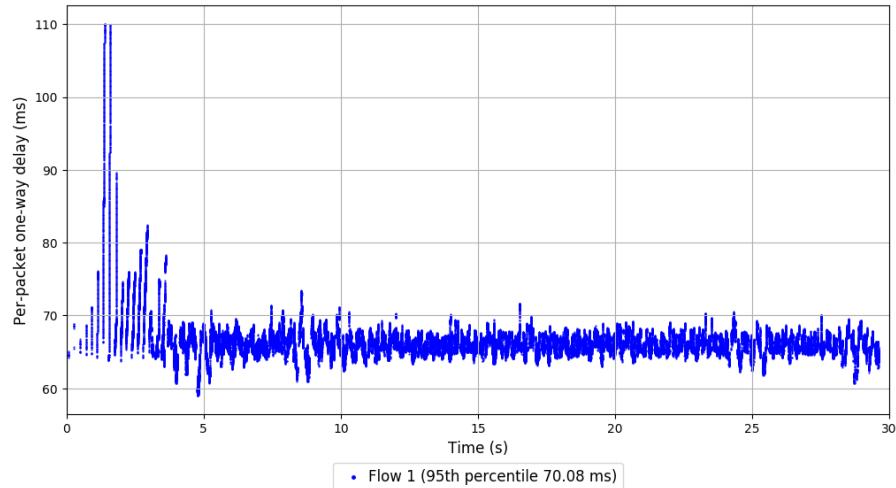
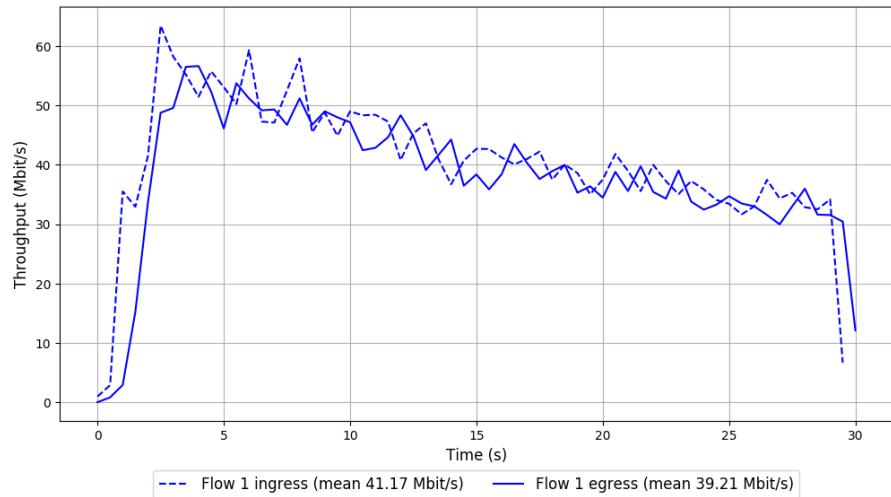


Run 1: Statistics of Indigo

```
Start at: 2018-11-15 02:18:02
End at: 2018-11-15 02:18:32
Local clock offset: 9.389 ms
Remote clock offset: -5.392 ms

# Below is generated by plot.py at 2018-11-15 03:53:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.21 Mbit/s
95th percentile per-packet one-way delay: 70.080 ms
Loss rate: 4.78%
-- Flow 1:
Average throughput: 39.21 Mbit/s
95th percentile per-packet one-way delay: 70.080 ms
Loss rate: 4.78%
```

Run 1: Report of Indigo — Data Link

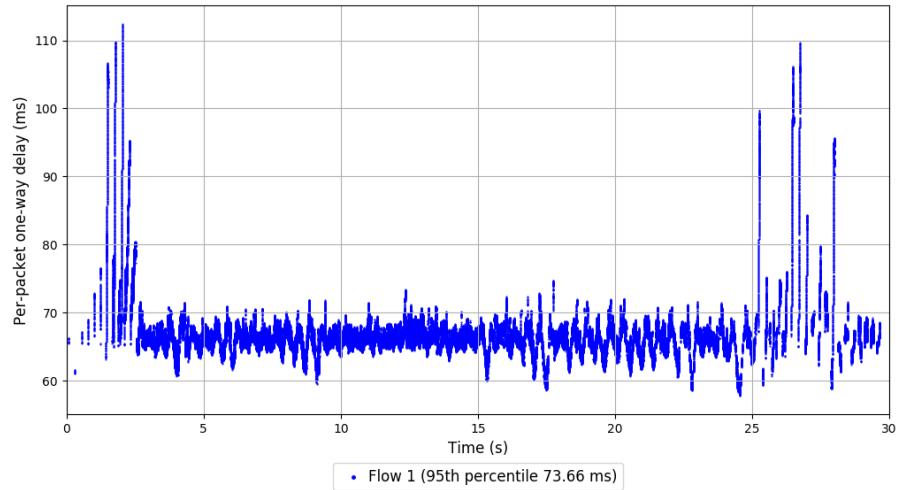
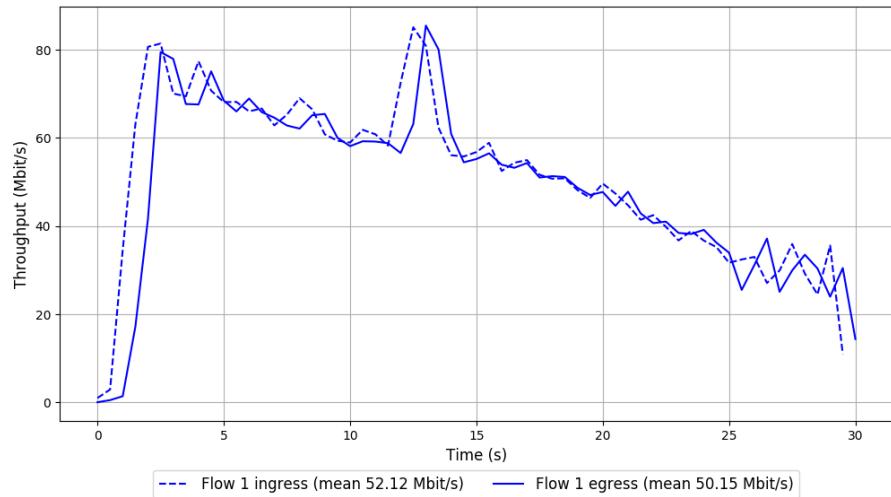


Run 2: Statistics of Indigo

```
Start at: 2018-11-15 02:41:07
End at: 2018-11-15 02:41:37
Local clock offset: 7.377 ms
Remote clock offset: -4.874 ms

# Below is generated by plot.py at 2018-11-15 03:53:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 73.664 ms
Loss rate: 3.79%
-- Flow 1:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 73.664 ms
Loss rate: 3.79%
```

Run 2: Report of Indigo — Data Link

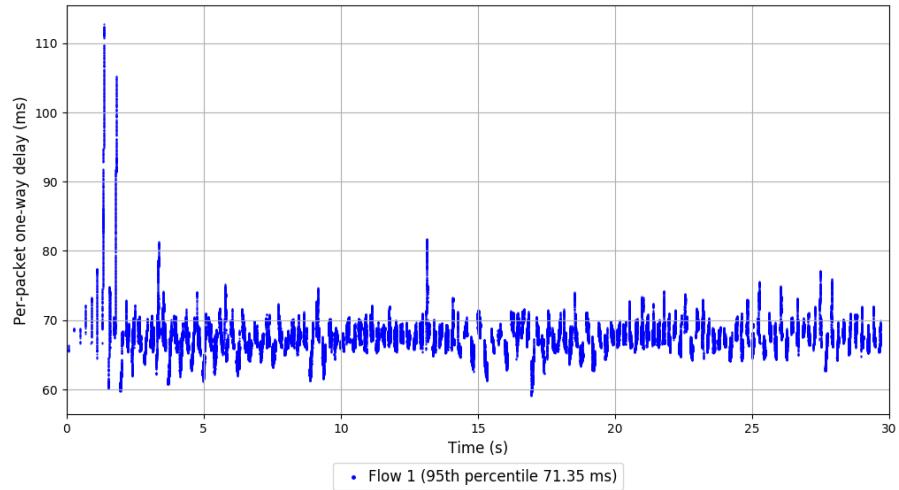
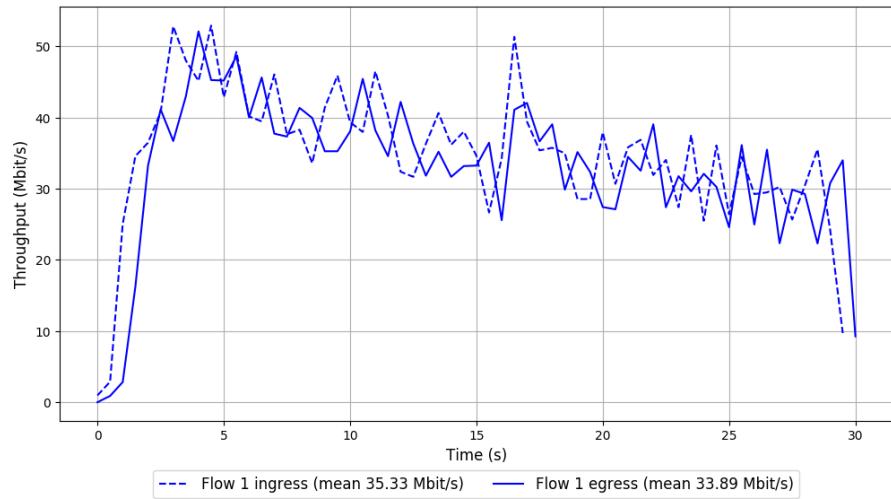


Run 3: Statistics of Indigo

```
Start at: 2018-11-15 03:04:00
End at: 2018-11-15 03:04:30
Local clock offset: 5.434 ms
Remote clock offset: -4.883 ms

# Below is generated by plot.py at 2018-11-15 03:53:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.89 Mbit/s
95th percentile per-packet one-way delay: 71.349 ms
Loss rate: 4.09%
-- Flow 1:
Average throughput: 33.89 Mbit/s
95th percentile per-packet one-way delay: 71.349 ms
Loss rate: 4.09%
```

Run 3: Report of Indigo — Data Link

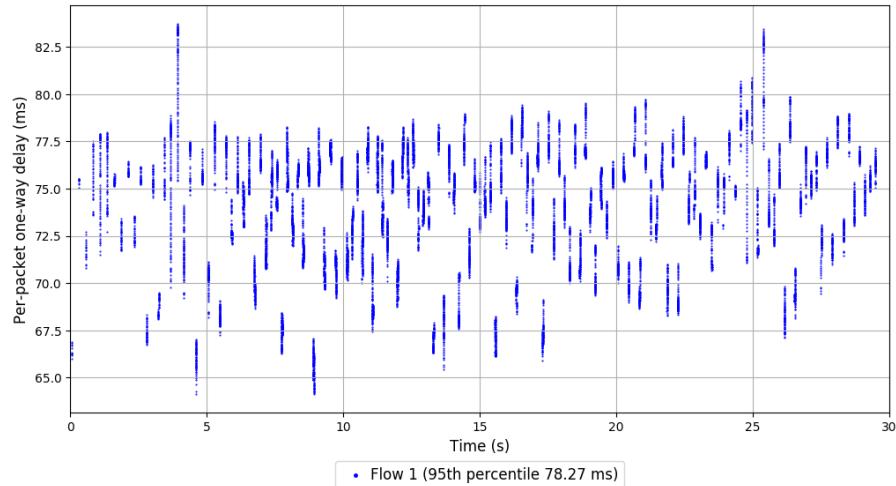
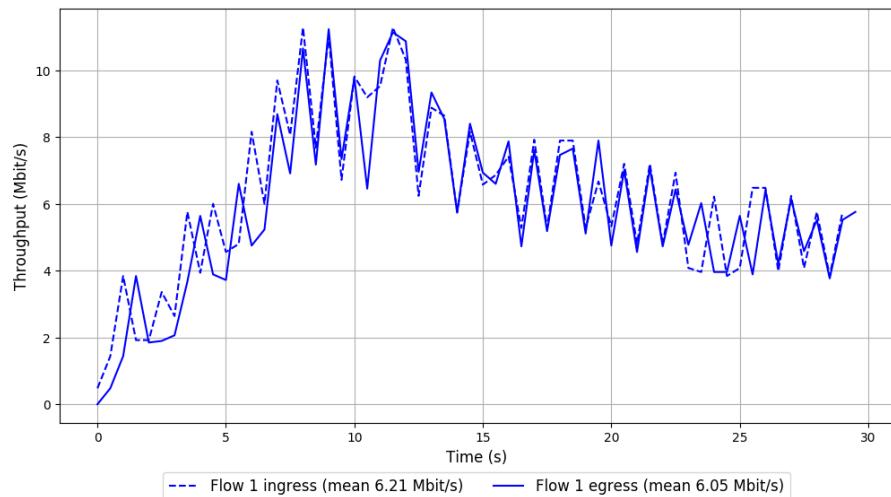


Run 4: Statistics of Indigo

```
Start at: 2018-11-15 03:26:58
End at: 2018-11-15 03:27:28
Local clock offset: 5.409 ms
Remote clock offset: -28.345 ms

# Below is generated by plot.py at 2018-11-15 03:53:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.05 Mbit/s
95th percentile per-packet one-way delay: 78.274 ms
Loss rate: 2.44%
-- Flow 1:
Average throughput: 6.05 Mbit/s
95th percentile per-packet one-way delay: 78.274 ms
Loss rate: 2.44%
```

Run 4: Report of Indigo — Data Link

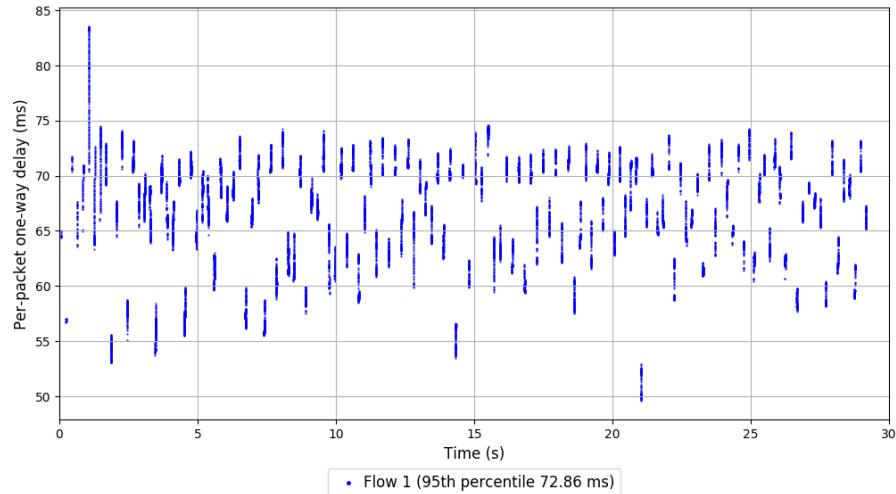
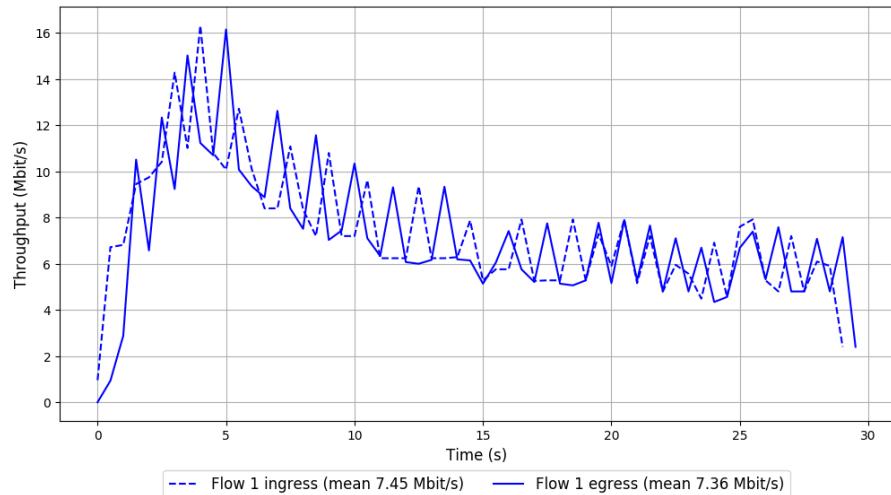


Run 5: Statistics of Indigo

```
Start at: 2018-11-15 03:49:19
End at: 2018-11-15 03:49:50
Local clock offset: 20.976 ms
Remote clock offset: -38.714 ms

# Below is generated by plot.py at 2018-11-15 03:53:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.36 Mbit/s
95th percentile per-packet one-way delay: 72.855 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 7.36 Mbit/s
95th percentile per-packet one-way delay: 72.855 ms
Loss rate: 1.27%
```

Run 5: Report of Indigo — Data Link

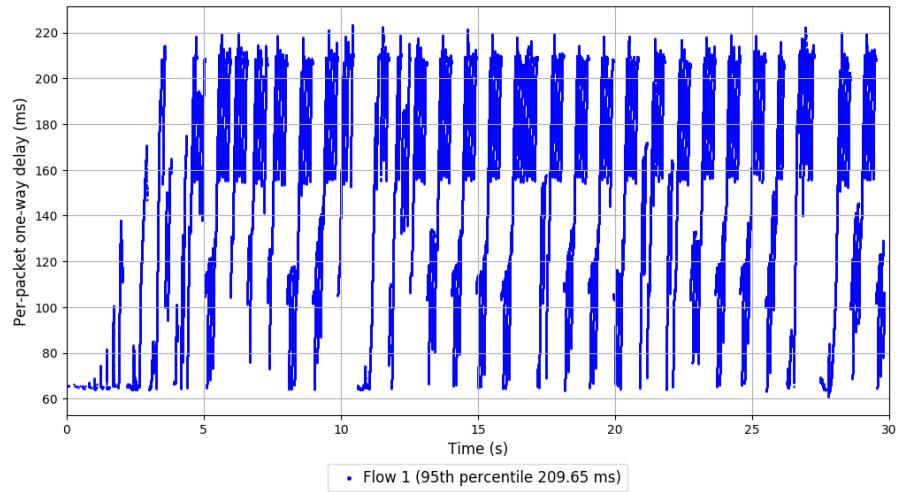
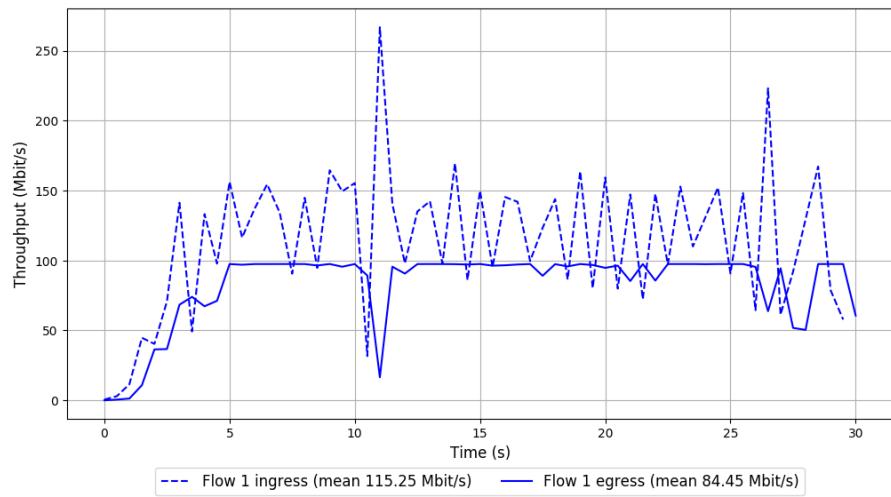


```
Run 1: Statistics of Indigo-96d2da3
```

```
Start at: 2018-11-15 01:58:53
End at: 2018-11-15 01:59:23
Local clock offset: -1.042 ms
Remote clock offset: -3.561 ms

# Below is generated by plot.py at 2018-11-15 03:54:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.45 Mbit/s
95th percentile per-packet one-way delay: 209.646 ms
Loss rate: 26.64%
-- Flow 1:
Average throughput: 84.45 Mbit/s
95th percentile per-packet one-way delay: 209.646 ms
Loss rate: 26.64%
```

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

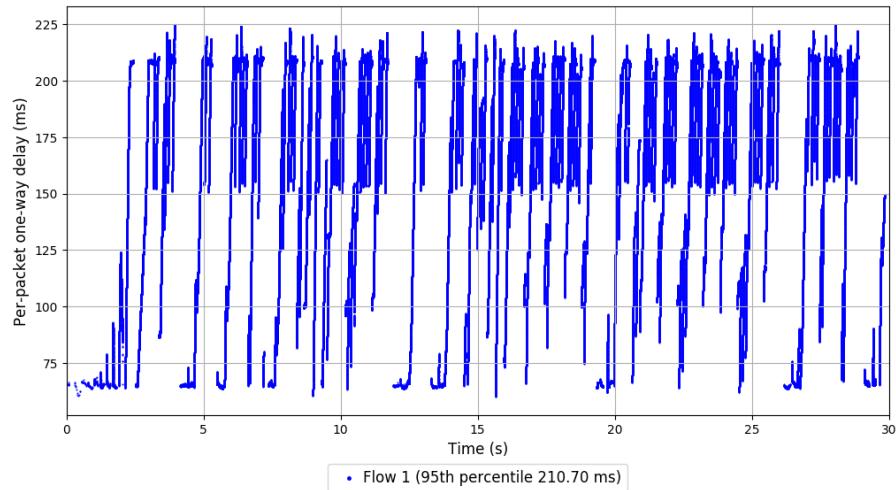
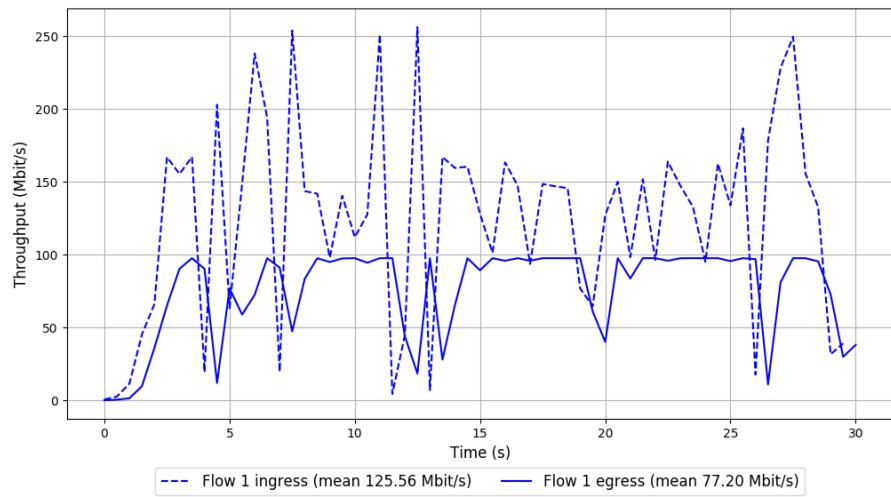


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-11-15 02:22:00
End at: 2018-11-15 02:22:30
Local clock offset: 11.713 ms
Remote clock offset: -4.873 ms

# Below is generated by plot.py at 2018-11-15 03:54:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.20 Mbit/s
95th percentile per-packet one-way delay: 210.696 ms
Loss rate: 38.35%
-- Flow 1:
Average throughput: 77.20 Mbit/s
95th percentile per-packet one-way delay: 210.696 ms
Loss rate: 38.35%
```

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

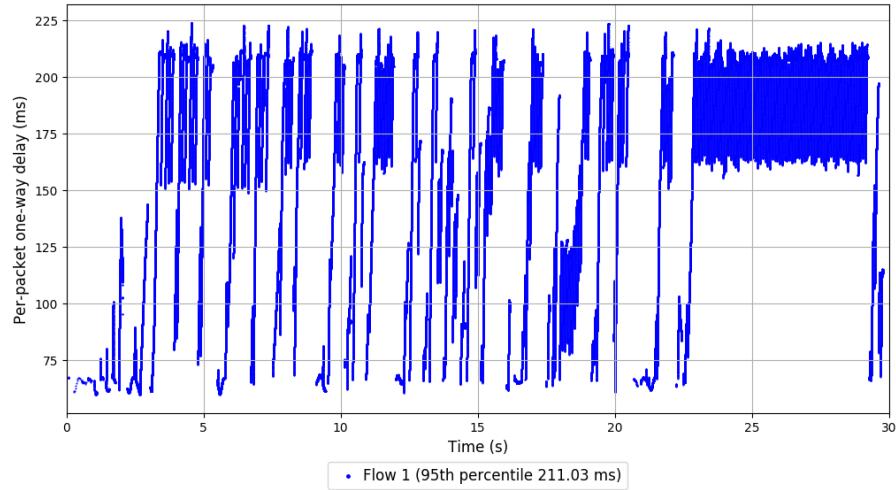
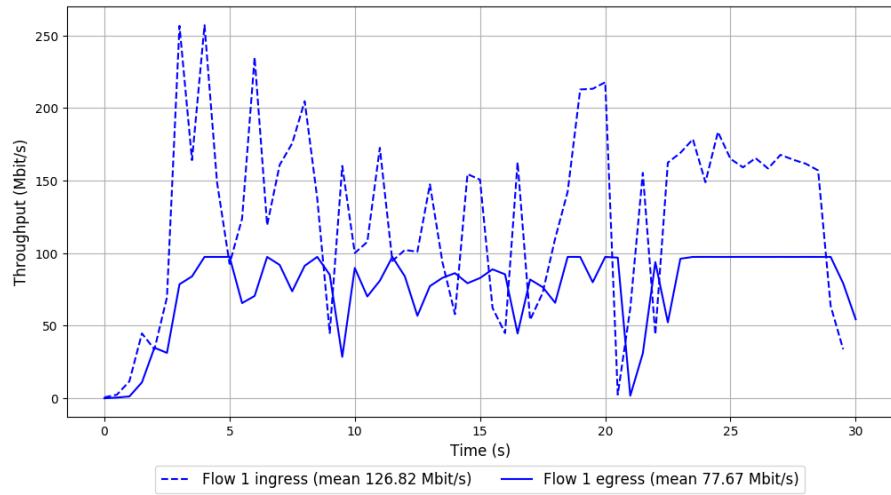


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-11-15 02:45:10
End at: 2018-11-15 02:45:40
Local clock offset: 7.515 ms
Remote clock offset: -4.308 ms

# Below is generated by plot.py at 2018-11-15 03:54:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.67 Mbit/s
95th percentile per-packet one-way delay: 211.030 ms
Loss rate: 38.66%
-- Flow 1:
Average throughput: 77.67 Mbit/s
95th percentile per-packet one-way delay: 211.030 ms
Loss rate: 38.66%
```

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

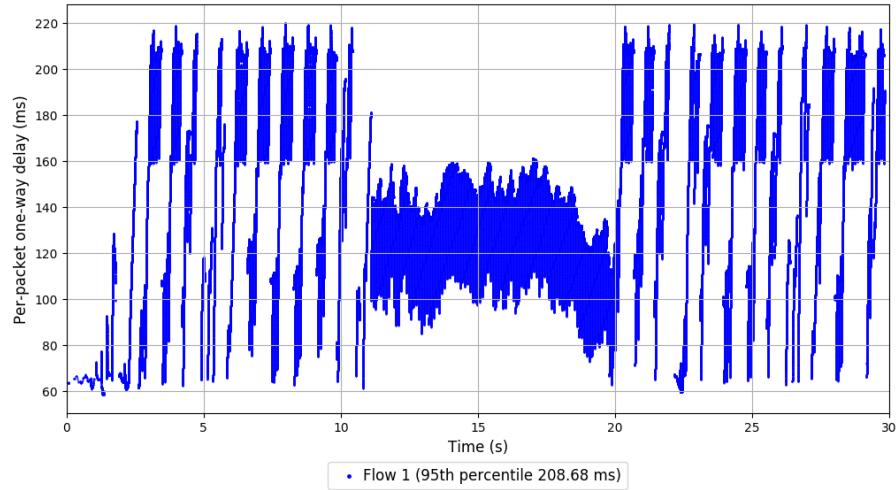
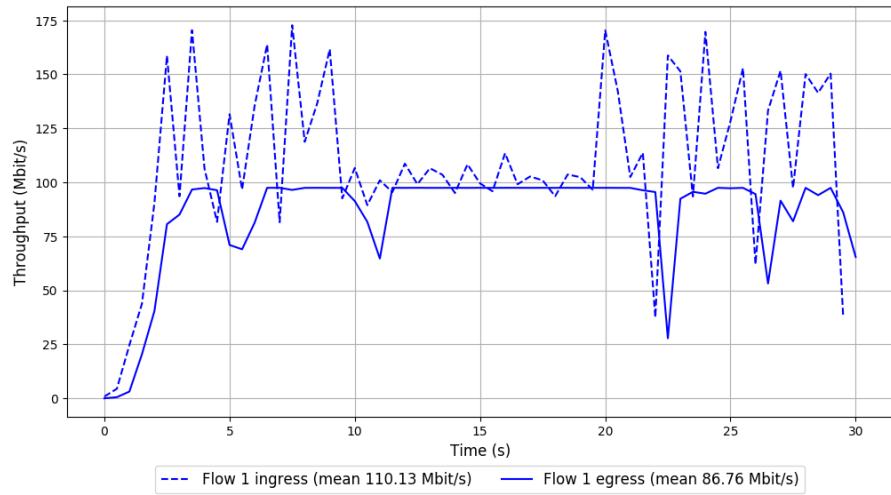


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-11-15 03:07:52
End at: 2018-11-15 03:08:22
Local clock offset: 4.391 ms
Remote clock offset: -6.75 ms

# Below is generated by plot.py at 2018-11-15 03:54:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.76 Mbit/s
95th percentile per-packet one-way delay: 208.684 ms
Loss rate: 20.99%
-- Flow 1:
Average throughput: 86.76 Mbit/s
95th percentile per-packet one-way delay: 208.684 ms
Loss rate: 20.99%
```

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

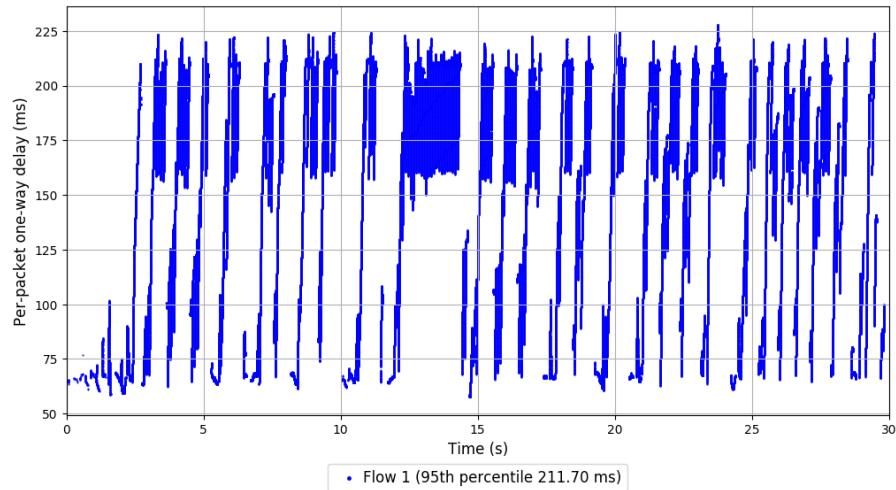
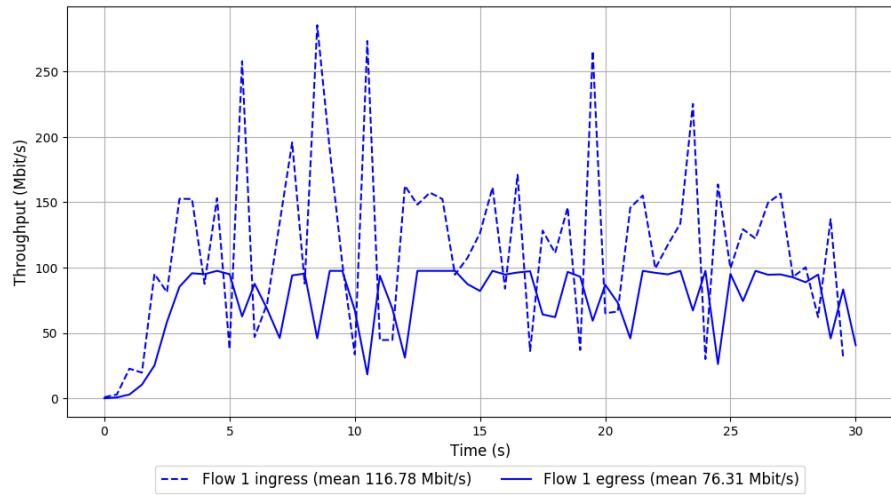


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-11-15 03:30:45
End at: 2018-11-15 03:31:15
Local clock offset: 10.164 ms
Remote clock offset: -28.793 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.31 Mbit/s
95th percentile per-packet one-way delay: 211.704 ms
Loss rate: 34.58%
-- Flow 1:
Average throughput: 76.31 Mbit/s
95th percentile per-packet one-way delay: 211.704 ms
Loss rate: 34.58%
```

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

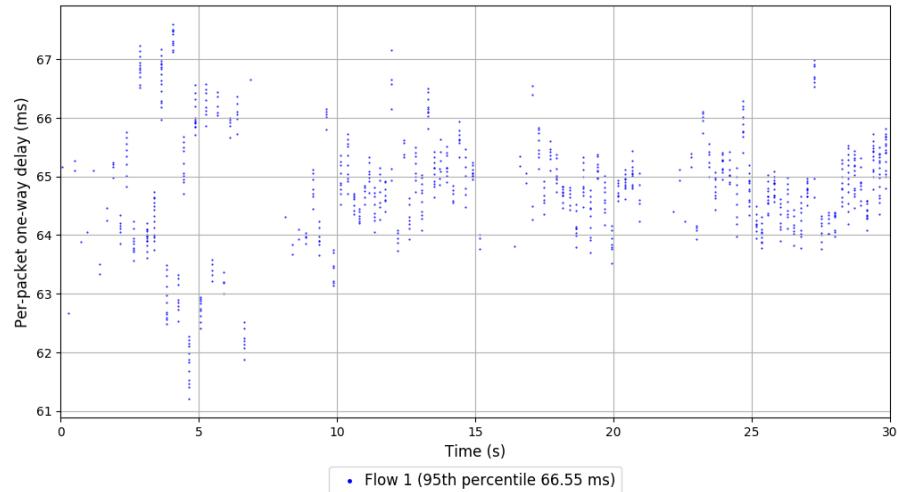
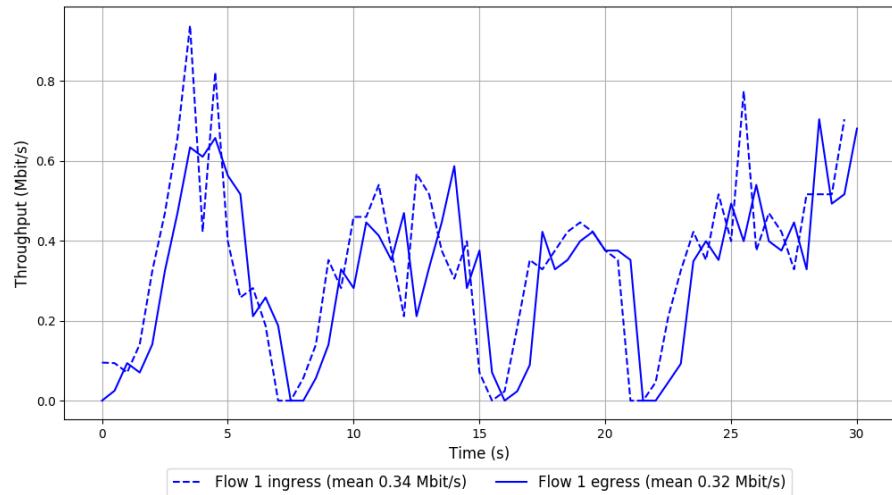


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-11-15 02:04:09
End at: 2018-11-15 02:04:39
Local clock offset: 1.555 ms
Remote clock offset: -5.589 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 66.553 ms
Loss rate: 5.58%
-- Flow 1:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 66.553 ms
Loss rate: 5.58%
```

Run 1: Report of LEDBAT — Data Link

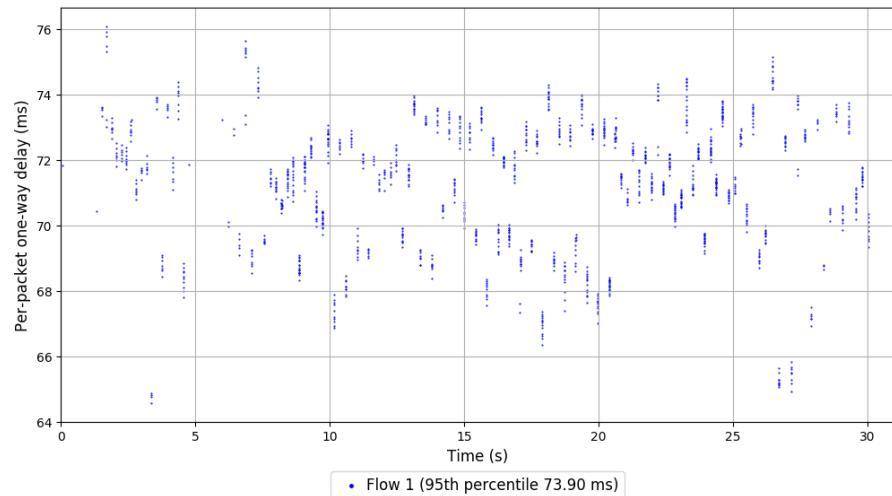
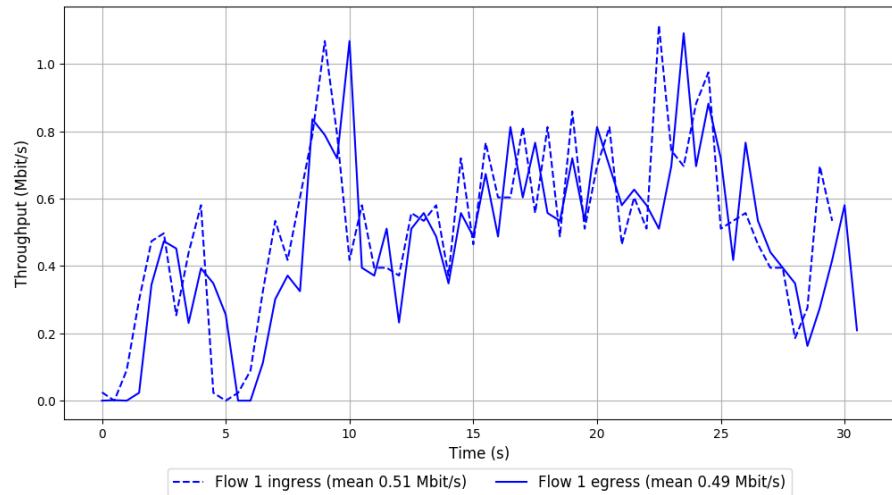


Run 2: Statistics of LEDBAT

```
Start at: 2018-11-15 02:27:11
End at: 2018-11-15 02:27:41
Local clock offset: 13.966 ms
Remote clock offset: -5.235 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 73.902 ms
Loss rate: 3.69%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 73.902 ms
Loss rate: 3.69%
```

Run 2: Report of LEDBAT — Data Link

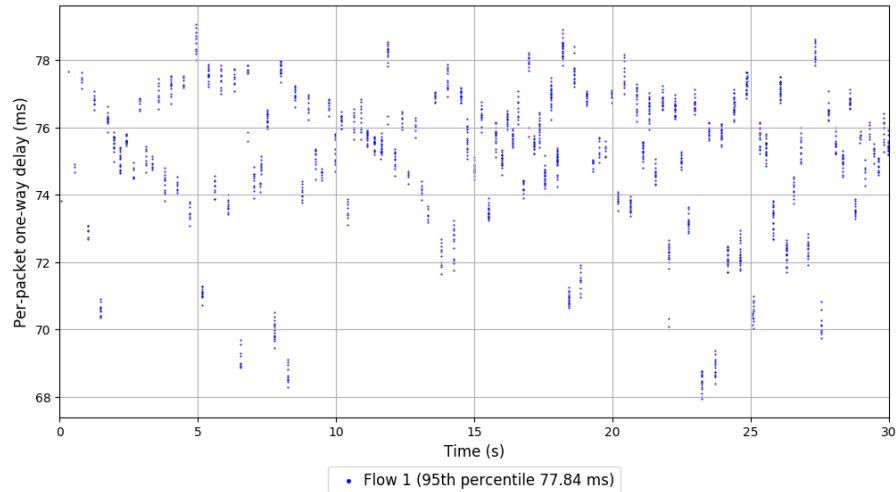
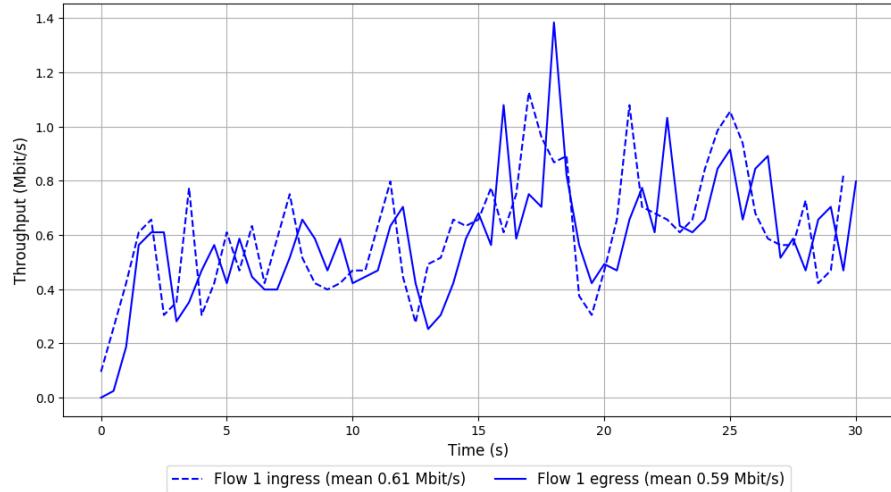


Run 3: Statistics of LEDBAT

```
Start at: 2018-11-15 02:50:19
End at: 2018-11-15 02:50:49
Local clock offset: 8.607 ms
Remote clock offset: -4.471 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 77.843 ms
Loss rate: 2.97%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 77.843 ms
Loss rate: 2.97%
```

Run 3: Report of LEDBAT — Data Link

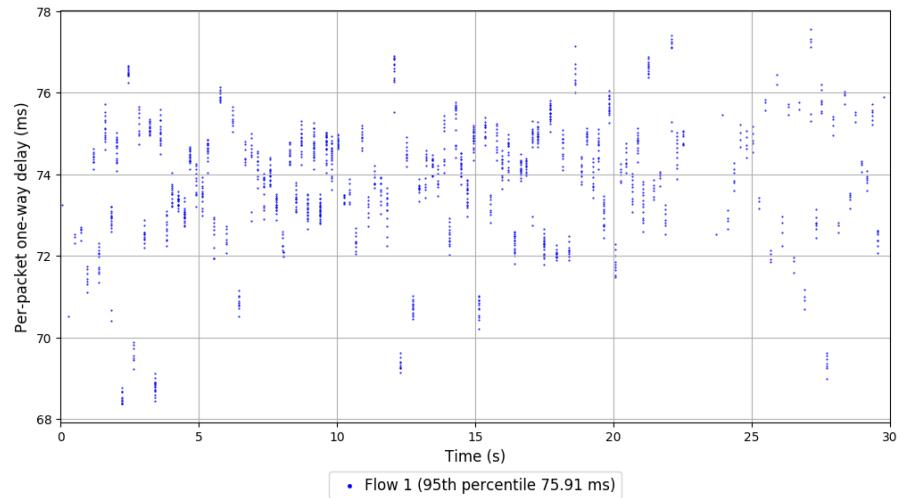
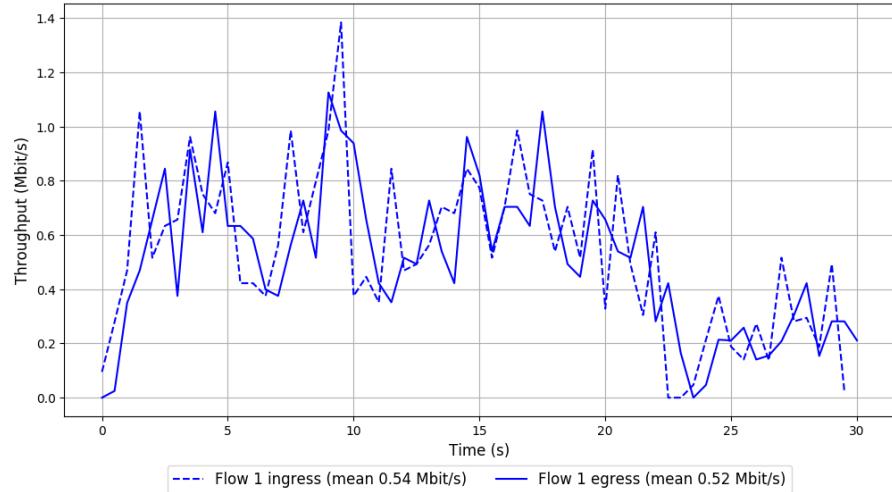


Run 4: Statistics of LEDBAT

```
Start at: 2018-11-15 03:12:57
End at: 2018-11-15 03:13:27
Local clock offset: 3.943 ms
Remote clock offset: -15.721 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 75.908 ms
Loss rate: 3.94%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 75.908 ms
Loss rate: 3.94%
```

Run 4: Report of LEDBAT — Data Link

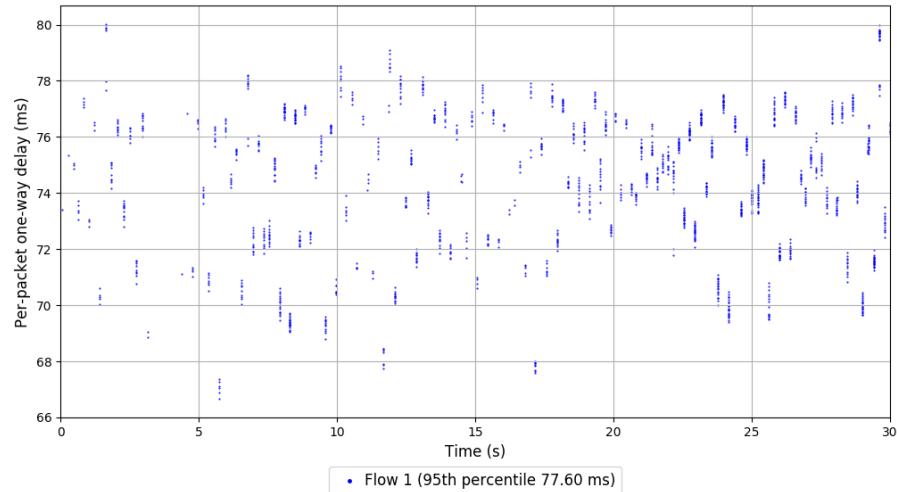
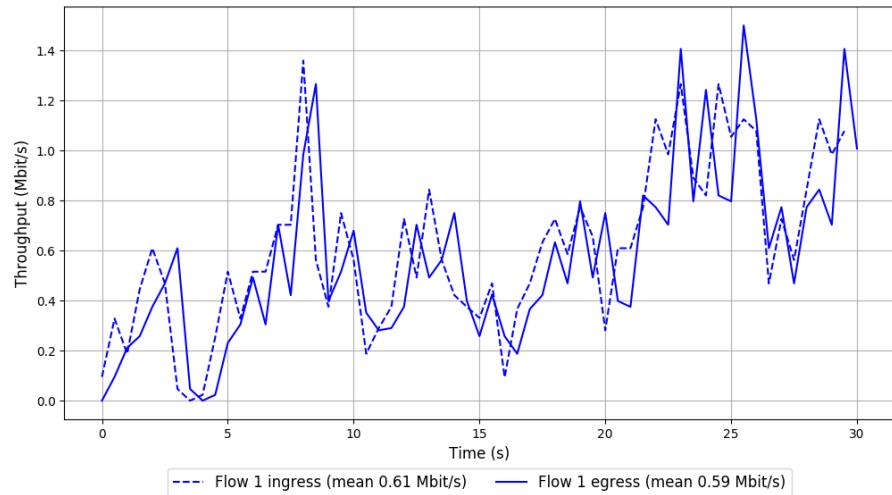


Run 5: Statistics of LEDBAT

```
Start at: 2018-11-15 03:35:51
End at: 2018-11-15 03:36:21
Local clock offset: 14.075 ms
Remote clock offset: -31.906 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 77.596 ms
Loss rate: 3.86%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 77.596 ms
Loss rate: 3.86%
```

Run 5: Report of LEDBAT — Data Link

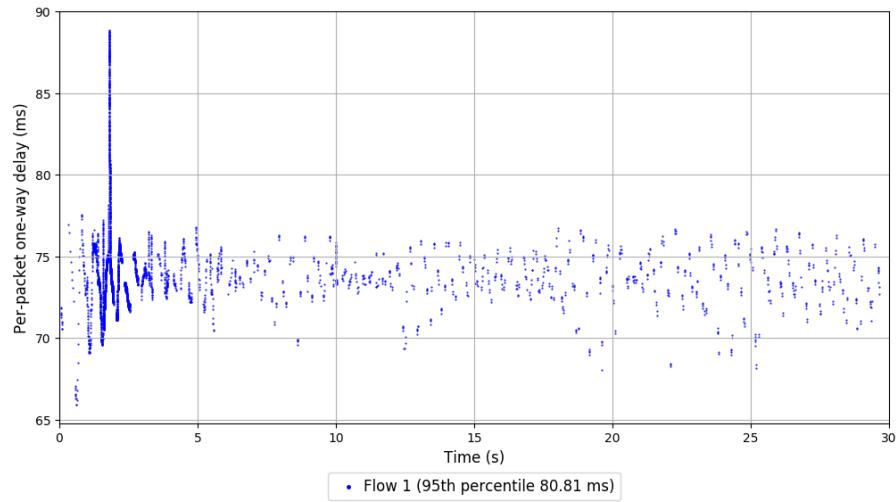
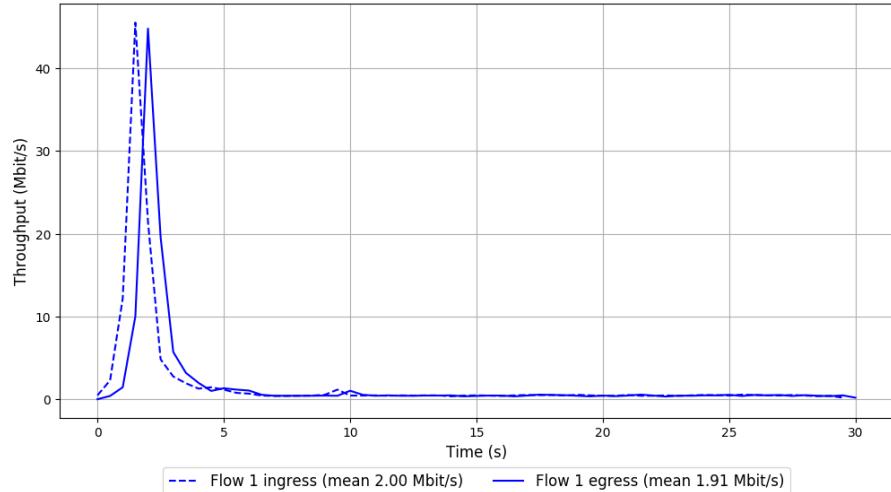


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-11-15 02:13:03
End at: 2018-11-15 02:13:33
Local clock offset: 6.416 ms
Remote clock offset: -4.974 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 80.809 ms
Loss rate: 4.48%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 80.809 ms
Loss rate: 4.48%
```

Run 1: Report of Indigo-Muses — Data Link

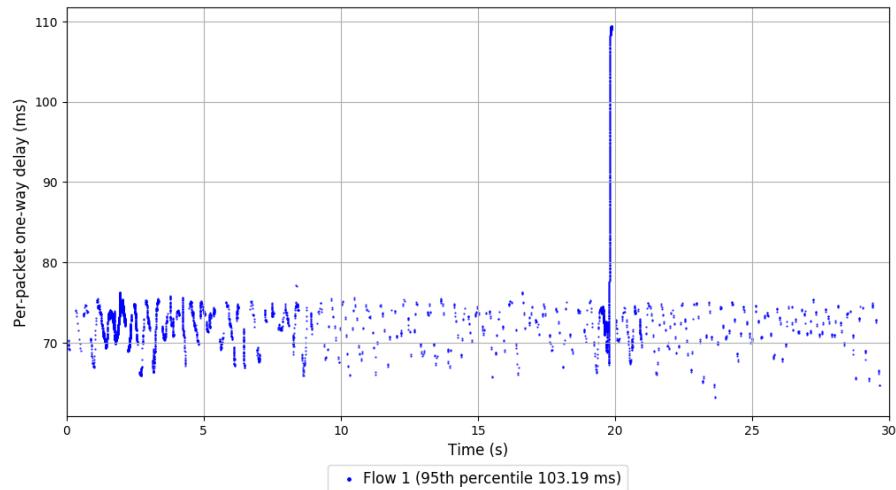
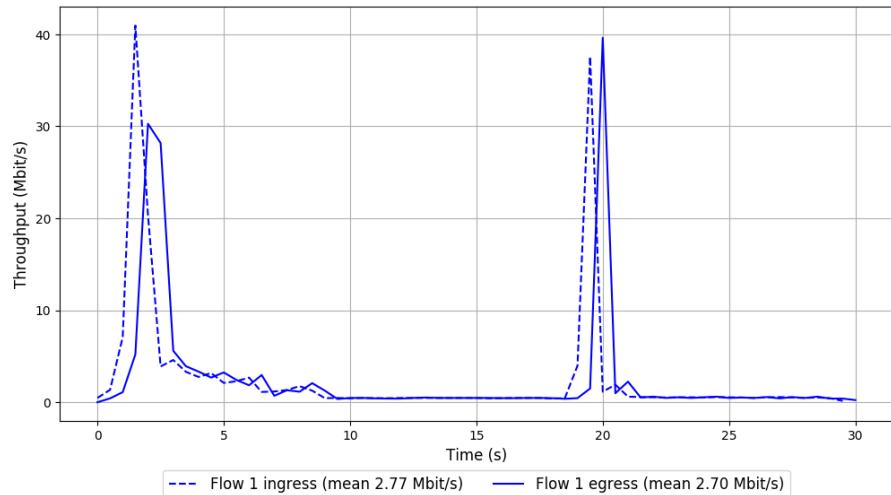


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-11-15 02:35:54
End at: 2018-11-15 02:36:24
Local clock offset: 7.8 ms
Remote clock offset: -3.923 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.70 Mbit/s
95th percentile per-packet one-way delay: 103.192 ms
Loss rate: 2.81%
-- Flow 1:
Average throughput: 2.70 Mbit/s
95th percentile per-packet one-way delay: 103.192 ms
Loss rate: 2.81%
```

Run 2: Report of Indigo-Muses — Data Link

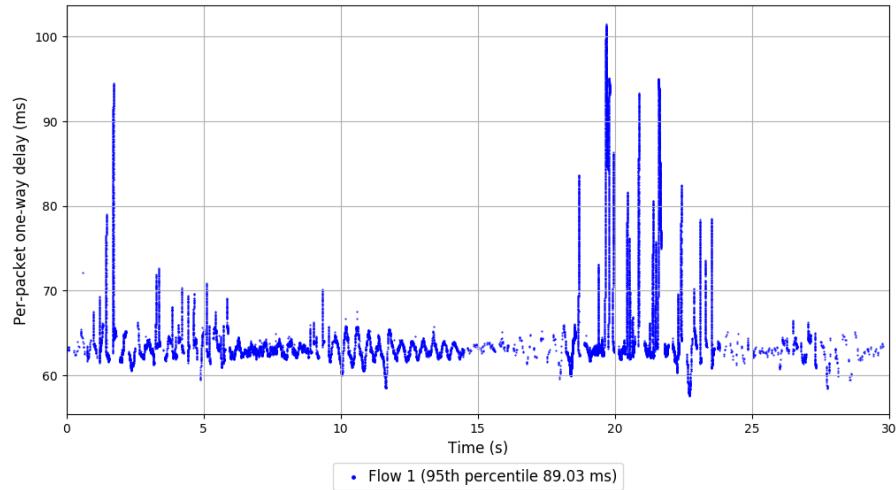
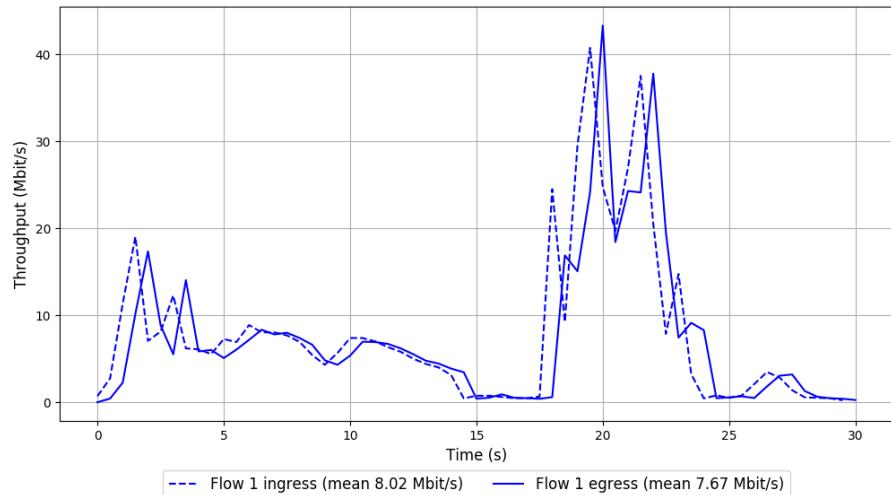


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-11-15 02:58:55
End at: 2018-11-15 02:59:25
Local clock offset: 8.297 ms
Remote clock offset: -7.48 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.67 Mbit/s
95th percentile per-packet one-way delay: 89.025 ms
Loss rate: 4.29%
-- Flow 1:
Average throughput: 7.67 Mbit/s
95th percentile per-packet one-way delay: 89.025 ms
Loss rate: 4.29%
```

Run 3: Report of Indigo-Muses — Data Link

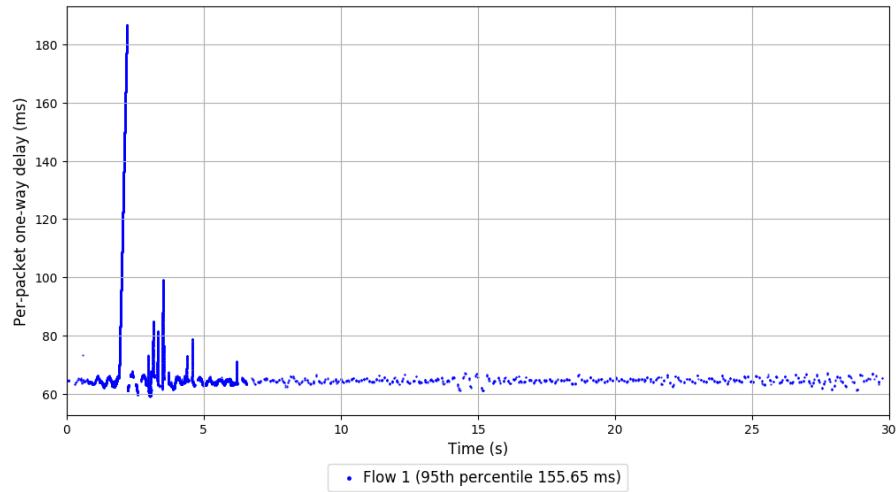
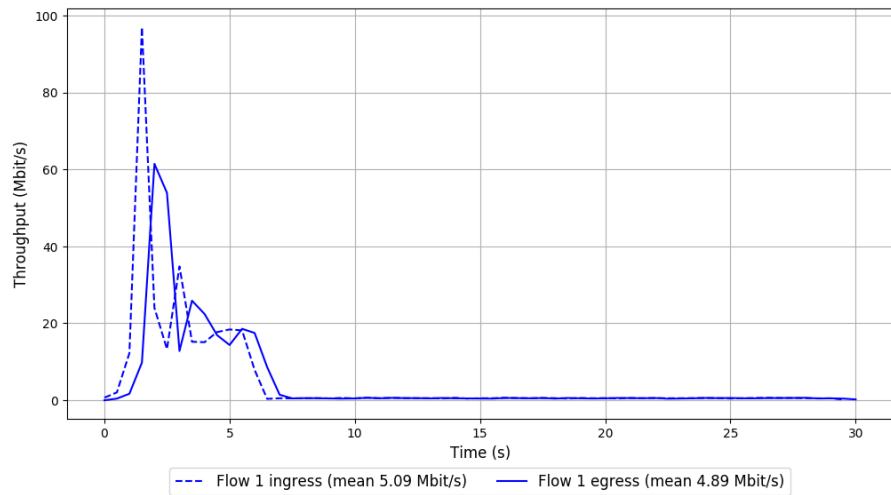


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-11-15 03:21:44
End at: 2018-11-15 03:22:14
Local clock offset: 4.656 ms
Remote clock offset: -25.615 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.89 Mbit/s
95th percentile per-packet one-way delay: 155.645 ms
Loss rate: 3.96%
-- Flow 1:
Average throughput: 4.89 Mbit/s
95th percentile per-packet one-way delay: 155.645 ms
Loss rate: 3.96%
```

Run 4: Report of Indigo-Muses — Data Link

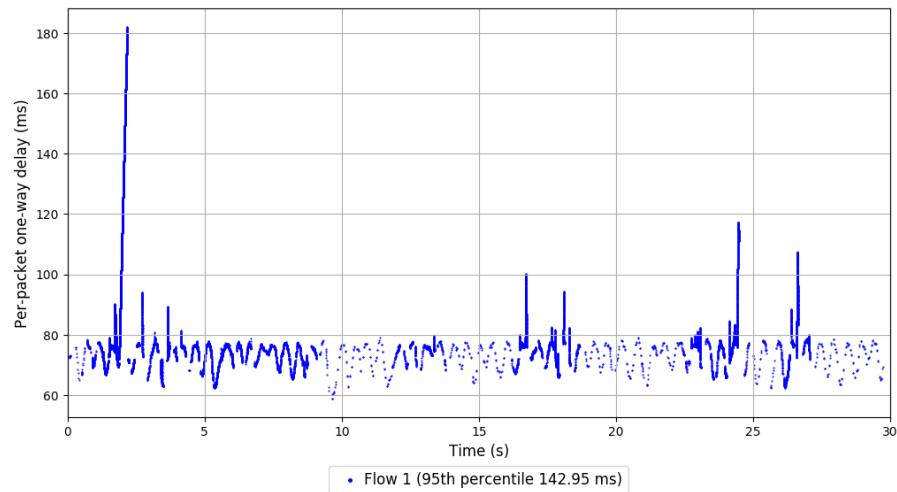
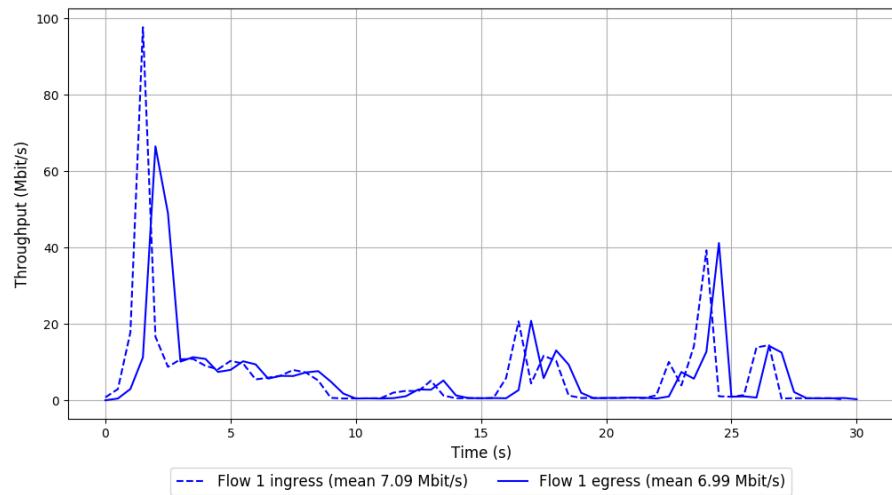


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-11-15 03:44:28
End at: 2018-11-15 03:44:58
Local clock offset: 19.117 ms
Remote clock offset: -34.658 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 142.950 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 142.950 ms
Loss rate: 1.54%
```

Run 5: Report of Indigo-Muses — Data Link

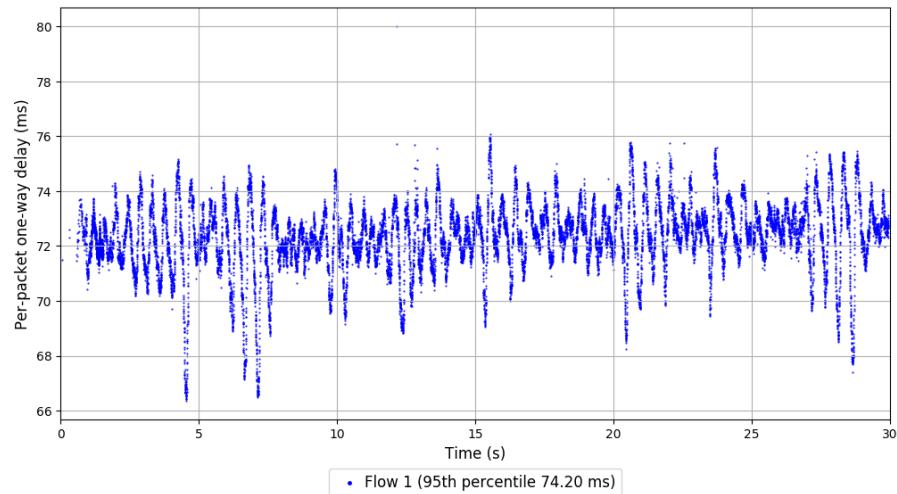
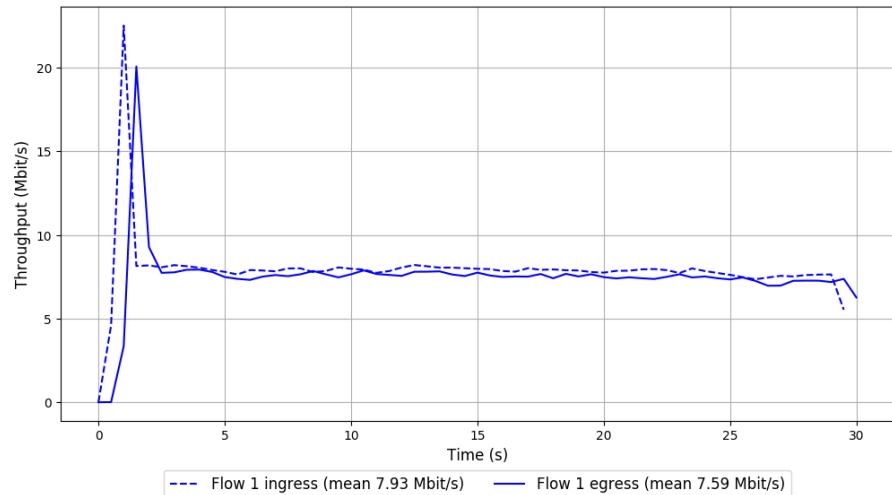


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-11-15 02:05:20
End at: 2018-11-15 02:05:50
Local clock offset: 1.953 ms
Remote clock offset: -6.196 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 74.202 ms
Loss rate: 4.26%
-- Flow 1:
Average throughput: 7.59 Mbit/s
95th percentile per-packet one-way delay: 74.202 ms
Loss rate: 4.26%
```

Run 1: Report of PCC-Allegro — Data Link

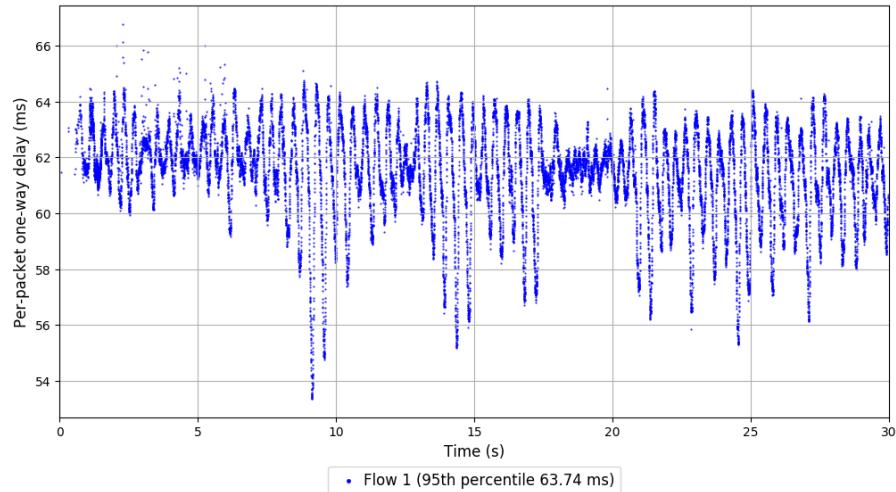
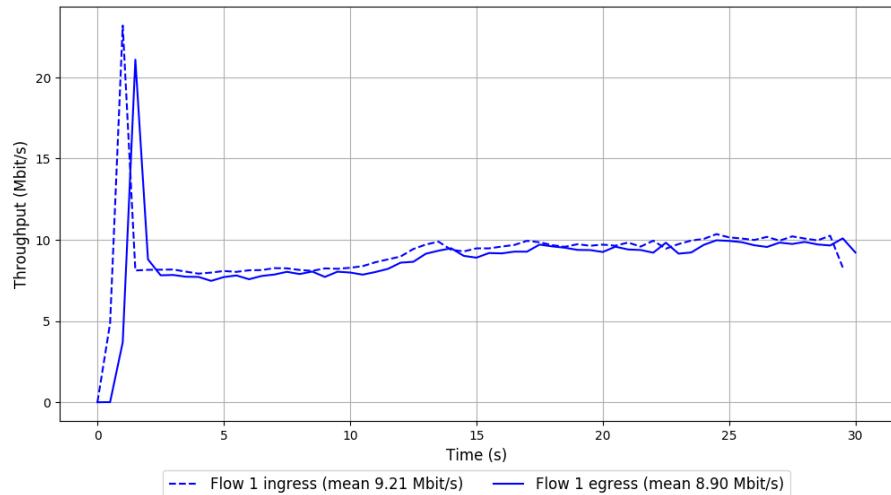


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-11-15 02:28:23
End at: 2018-11-15 02:28:53
Local clock offset: 12.485 ms
Remote clock offset: -6.451 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.90 Mbit/s
95th percentile per-packet one-way delay: 63.741 ms
Loss rate: 3.43%
-- Flow 1:
Average throughput: 8.90 Mbit/s
95th percentile per-packet one-way delay: 63.741 ms
Loss rate: 3.43%
```

Run 2: Report of PCC-Allegro — Data Link

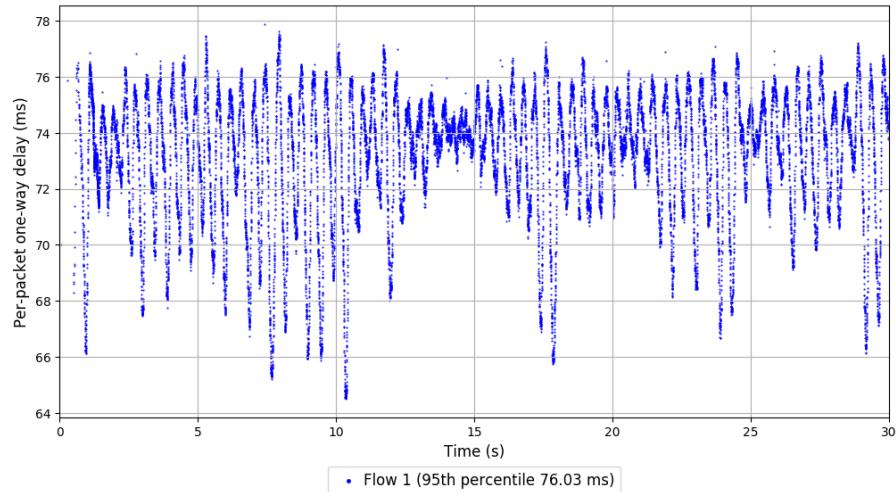
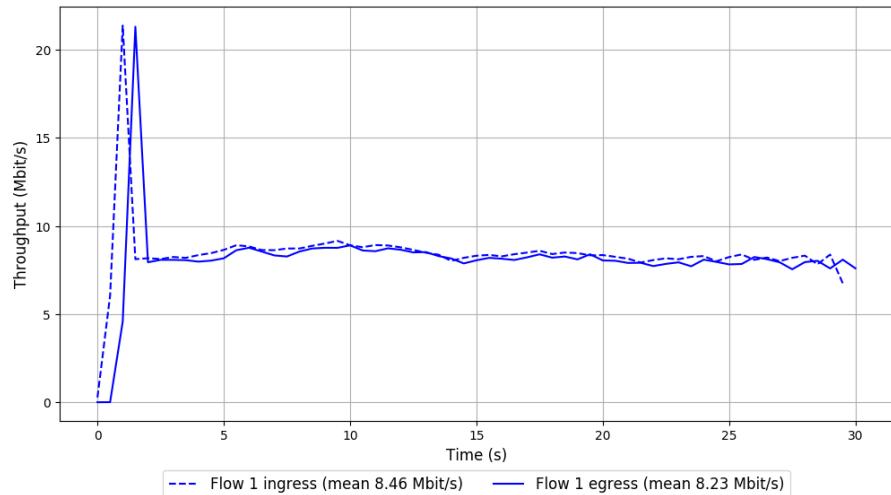


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-11-15 02:51:29
End at: 2018-11-15 02:51:59
Local clock offset: 8.995 ms
Remote clock offset: -5.386 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 76.032 ms
Loss rate: 2.62%
-- Flow 1:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 76.032 ms
Loss rate: 2.62%
```

Run 3: Report of PCC-Allegro — Data Link

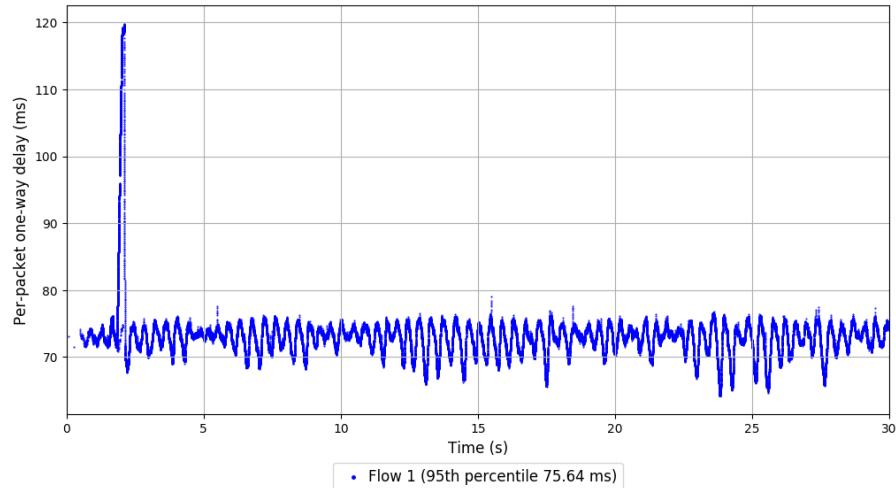
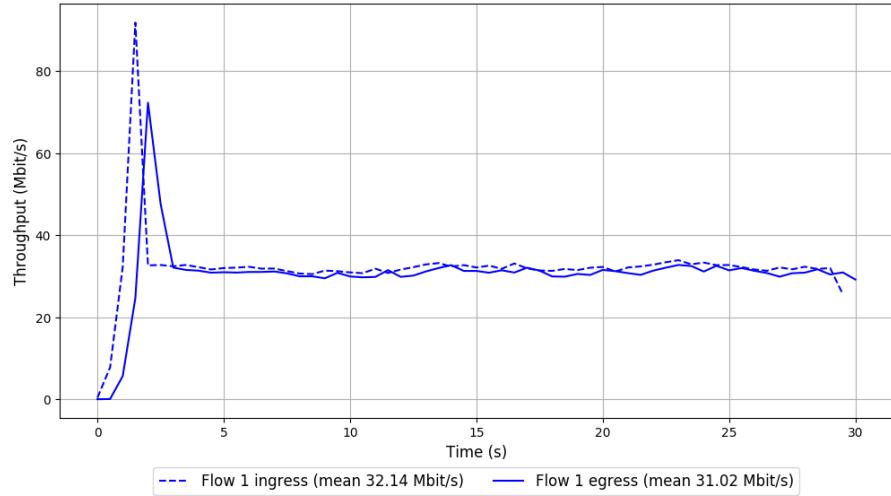


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-11-15 03:14:08
End at: 2018-11-15 03:14:38
Local clock offset: 4.204 ms
Remote clock offset: -17.0 ms

# Below is generated by plot.py at 2018-11-15 03:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 31.02 Mbit/s
95th percentile per-packet one-way delay: 75.638 ms
Loss rate: 3.47%
-- Flow 1:
Average throughput: 31.02 Mbit/s
95th percentile per-packet one-way delay: 75.638 ms
Loss rate: 3.47%
```

Run 4: Report of PCC-Allegro — Data Link

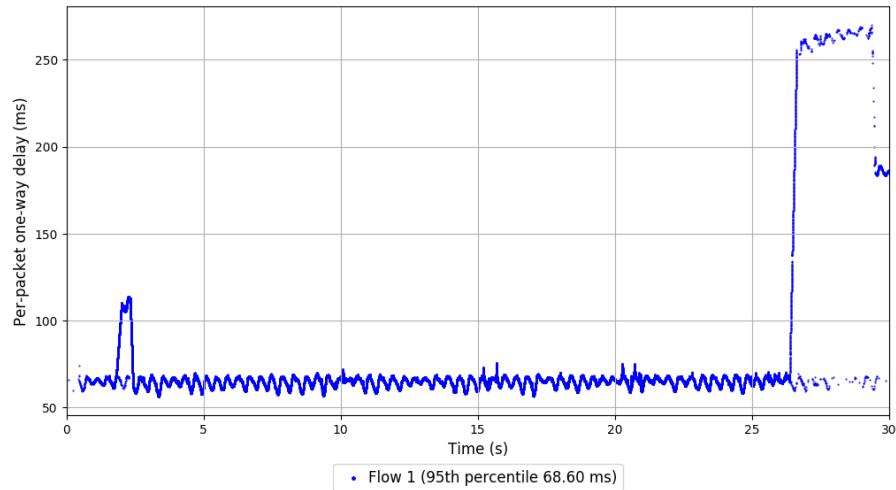
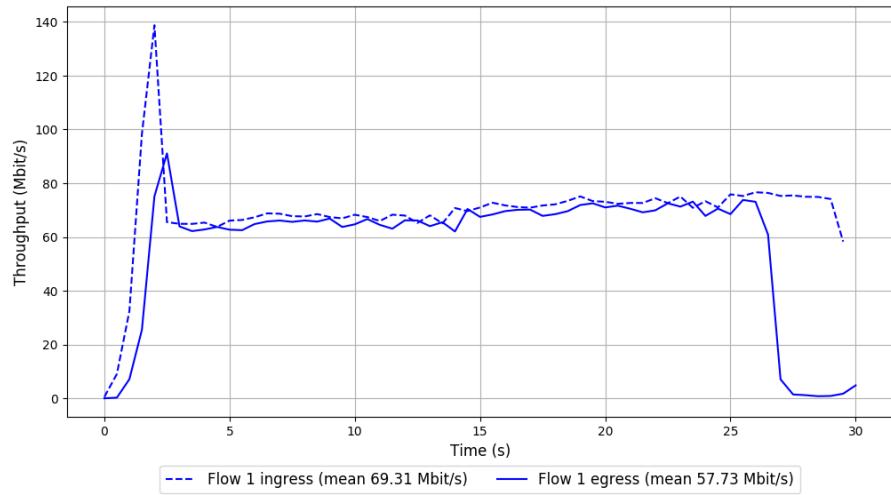


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-11-15 03:37:01
End at: 2018-11-15 03:37:32
Local clock offset: 14.942 ms
Remote clock offset: -31.837 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.73 Mbit/s
95th percentile per-packet one-way delay: 68.601 ms
Loss rate: 16.68%
-- Flow 1:
Average throughput: 57.73 Mbit/s
95th percentile per-packet one-way delay: 68.601 ms
Loss rate: 16.68%
```

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

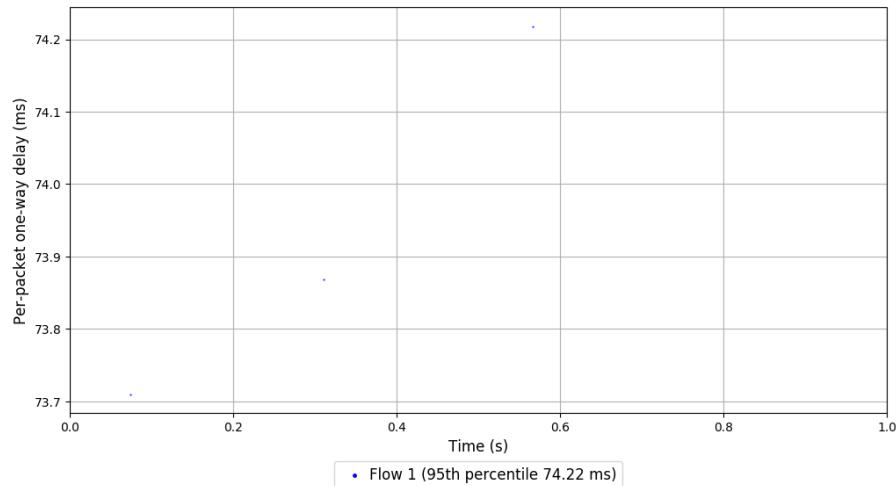
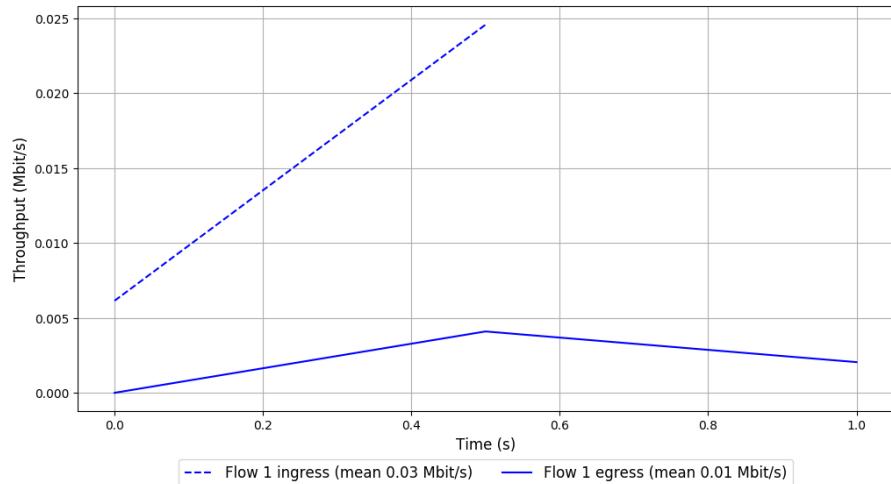
Start at: 2018-11-15 02:01:43

End at: 2018-11-15 02:02:13

Local clock offset: -0.068 ms

Remote clock offset: -4.227 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

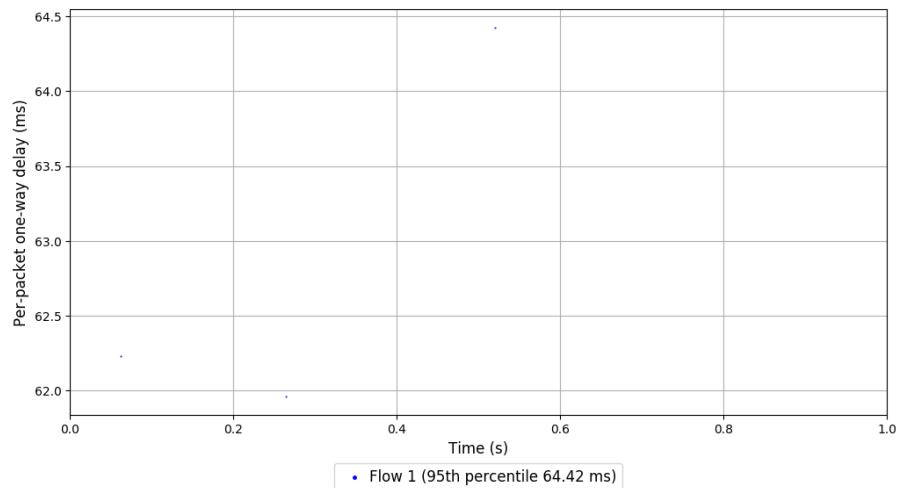
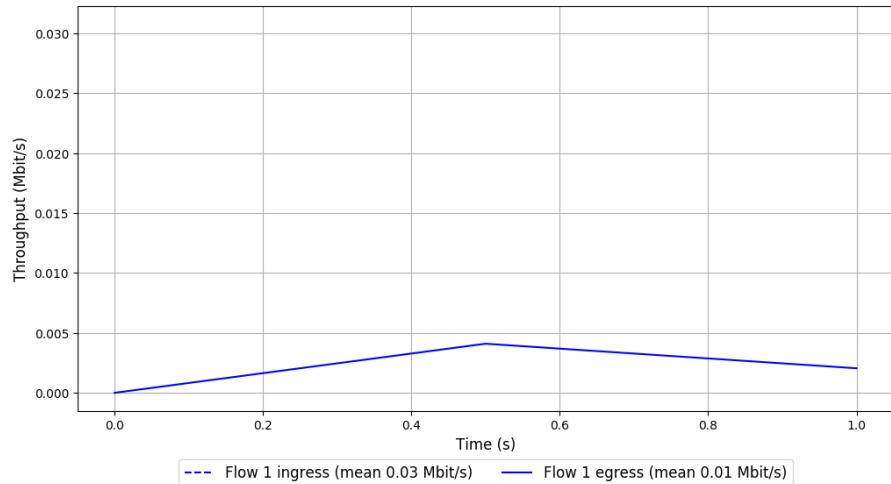
Start at: 2018-11-15 02:24:42

End at: 2018-11-15 02:25:12

Local clock offset: 13.263 ms

Remote clock offset: -6.144 ms

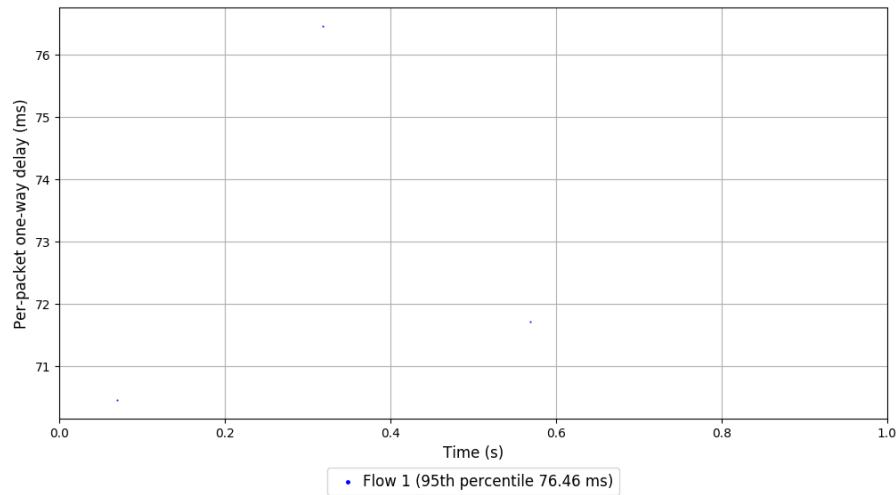
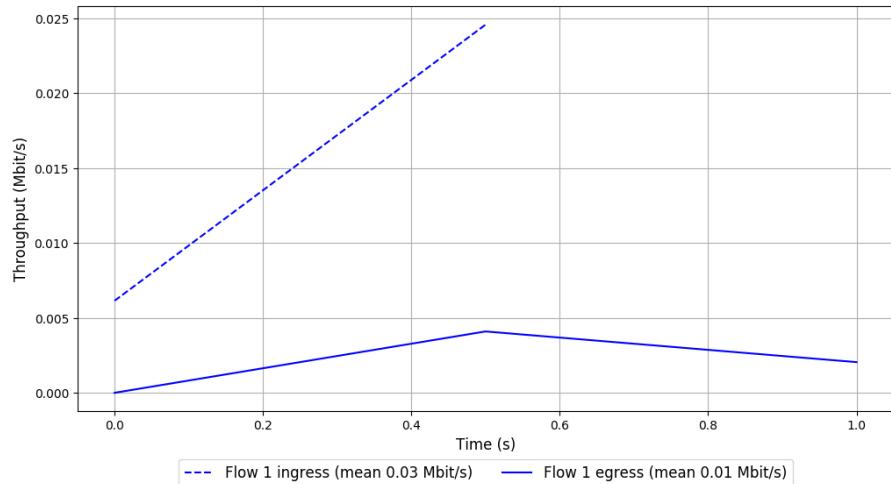
Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-11-15 02:47:53
End at: 2018-11-15 02:48:23
Local clock offset: 7.966 ms
Remote clock offset: -3.224 ms

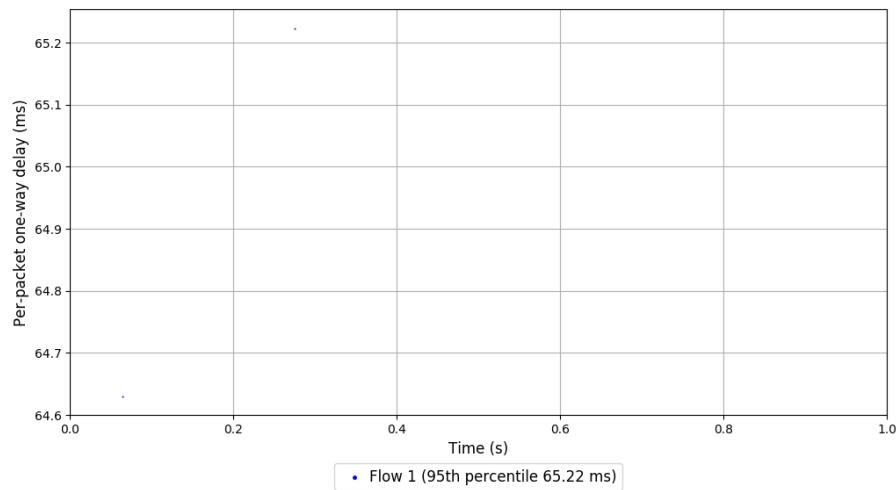
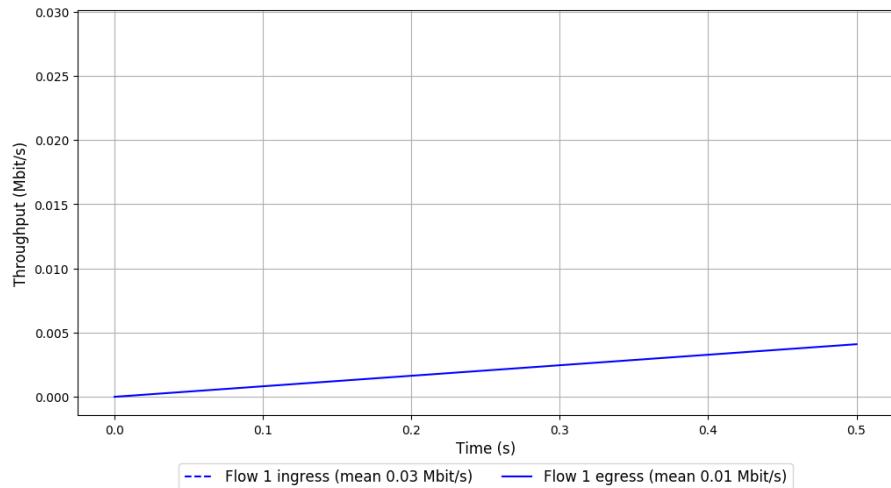
Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-11-15 03:10:35
End at: 2018-11-15 03:11:05
Local clock offset: 4.194 ms
Remote clock offset: -11.131 ms

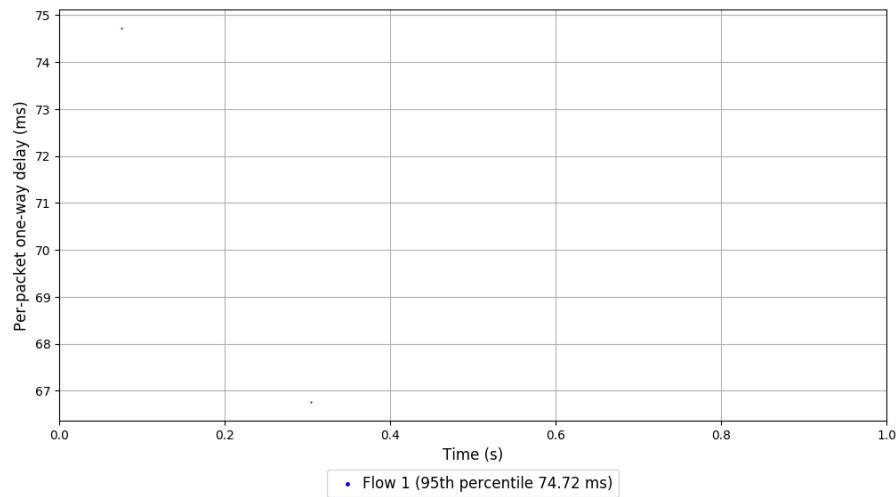
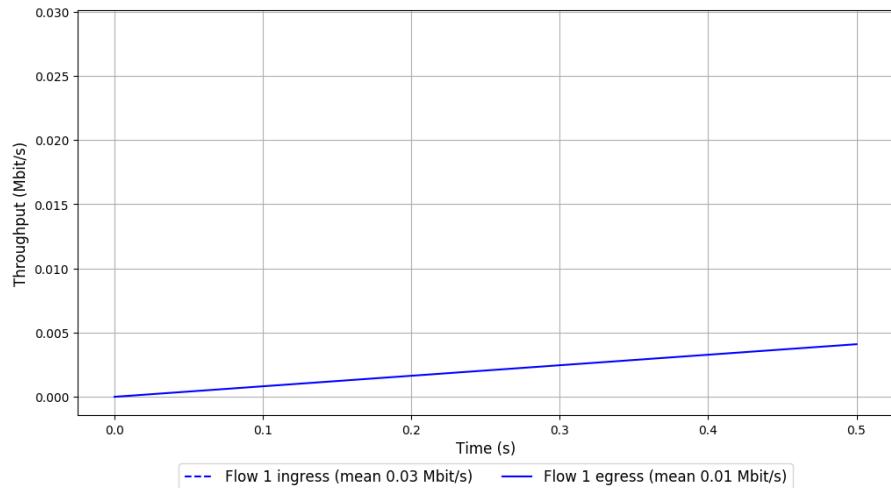
Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-11-15 03:33:26
End at: 2018-11-15 03:33:56
Local clock offset: 12.31 ms
Remote clock offset: -31.833 ms

Run 5: Report of PCC-Expr — Data Link

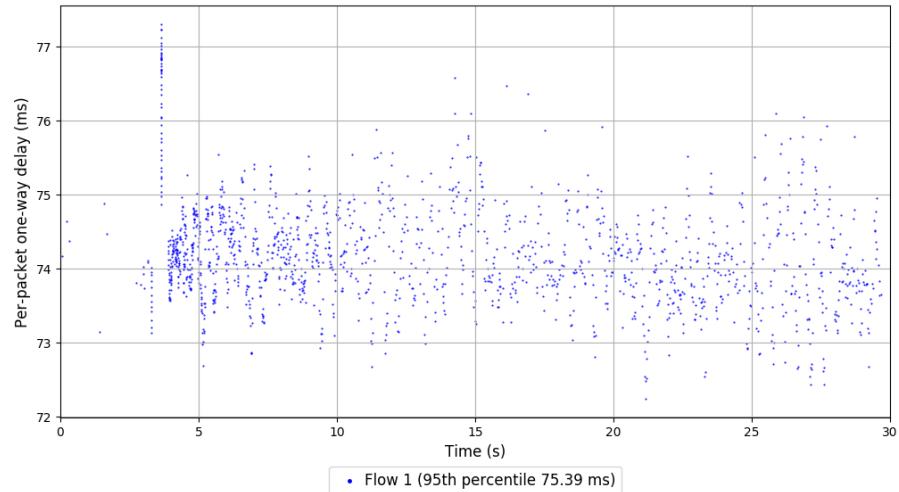
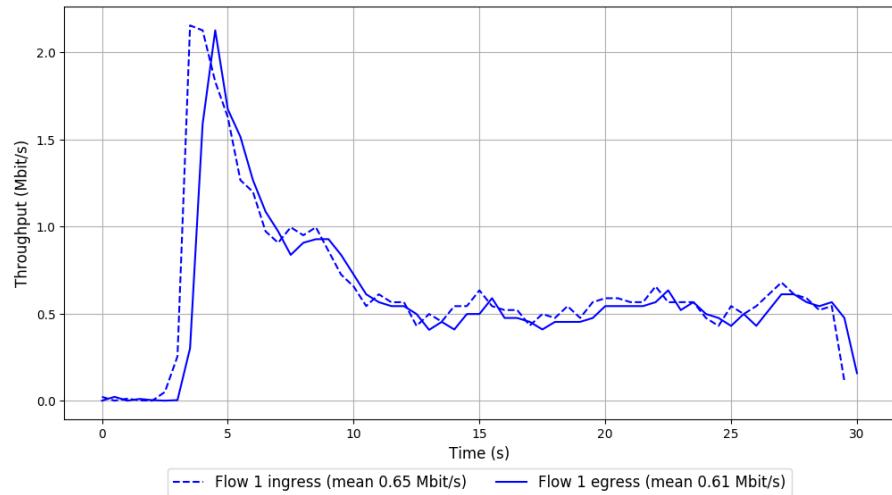


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-11-15 02:00:26
End at: 2018-11-15 02:00:56
Local clock offset: -0.223 ms
Remote clock offset: -3.383 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 75.387 ms
Loss rate: 6.66%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 75.387 ms
Loss rate: 6.66%
```

Run 1: Report of QUIC Cubic — Data Link

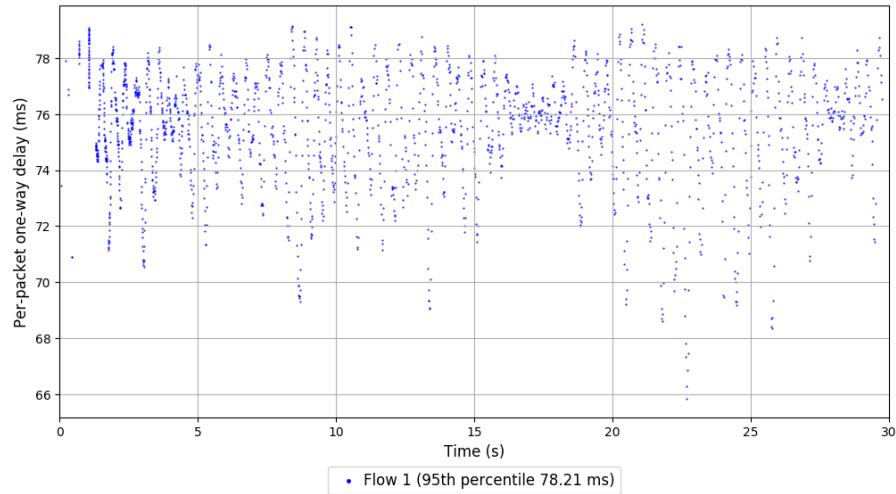
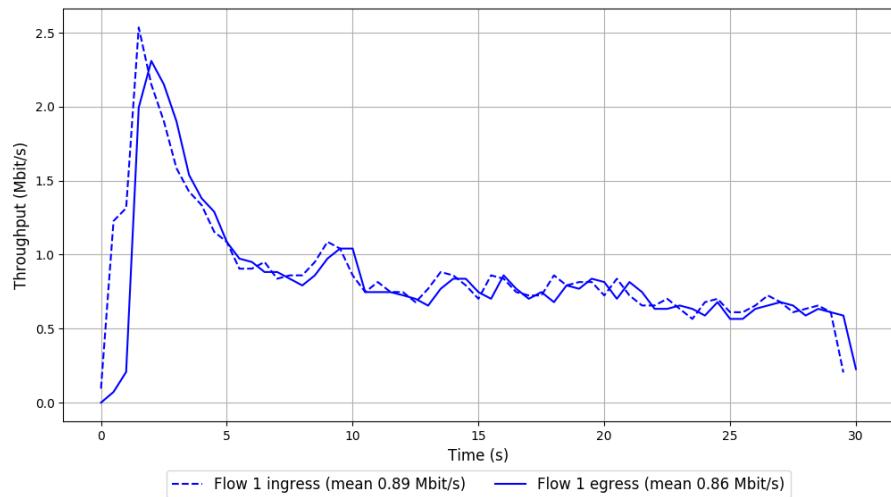


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-11-15 02:23:31
End at: 2018-11-15 02:24:01
Local clock offset: 12.642 ms
Remote clock offset: -1.759 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 78.206 ms
Loss rate: 3.81%
-- Flow 1:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 78.206 ms
Loss rate: 3.81%
```

Run 2: Report of QUIC Cubic — Data Link

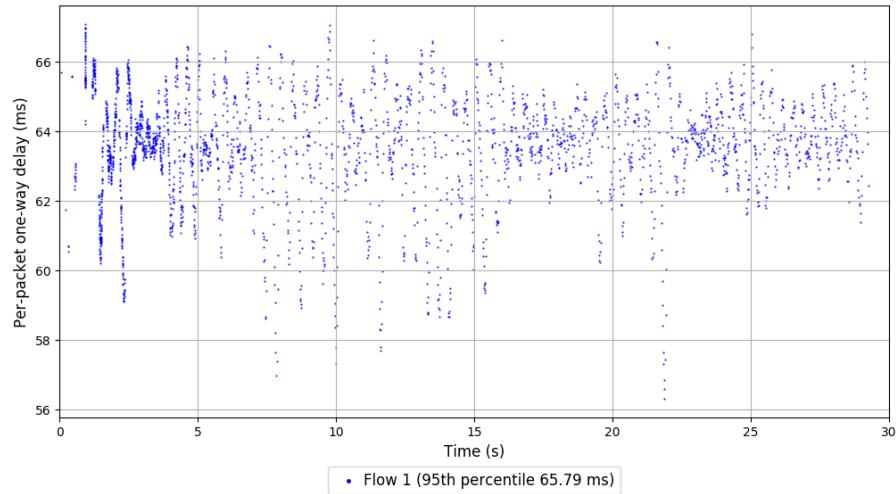
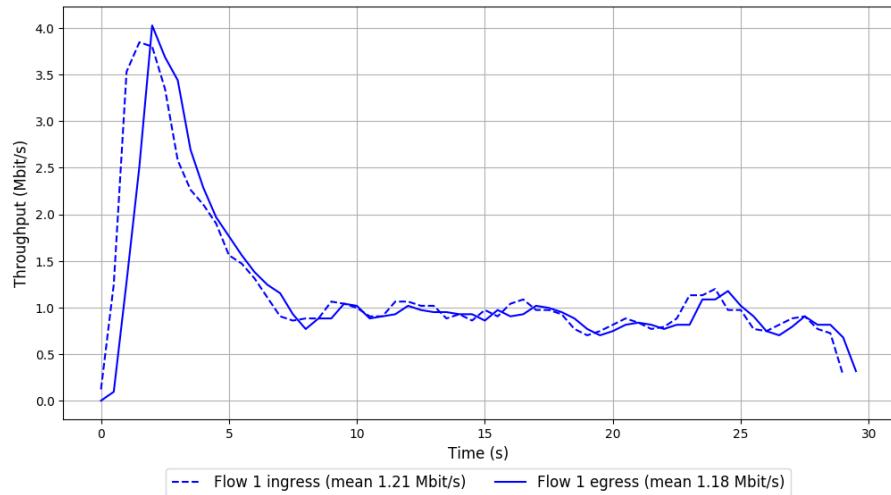


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-11-15 02:46:42
End at: 2018-11-15 02:47:12
Local clock offset: 7.862 ms
Remote clock offset: -6.419 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 65.793 ms
Loss rate: 3.00%
-- Flow 1:
Average throughput: 1.18 Mbit/s
95th percentile per-packet one-way delay: 65.793 ms
Loss rate: 3.00%
```

Run 3: Report of QUIC Cubic — Data Link

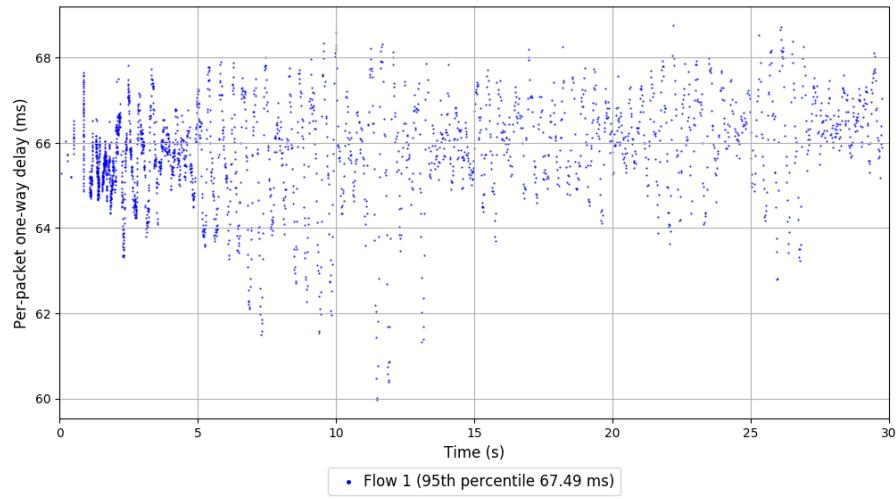
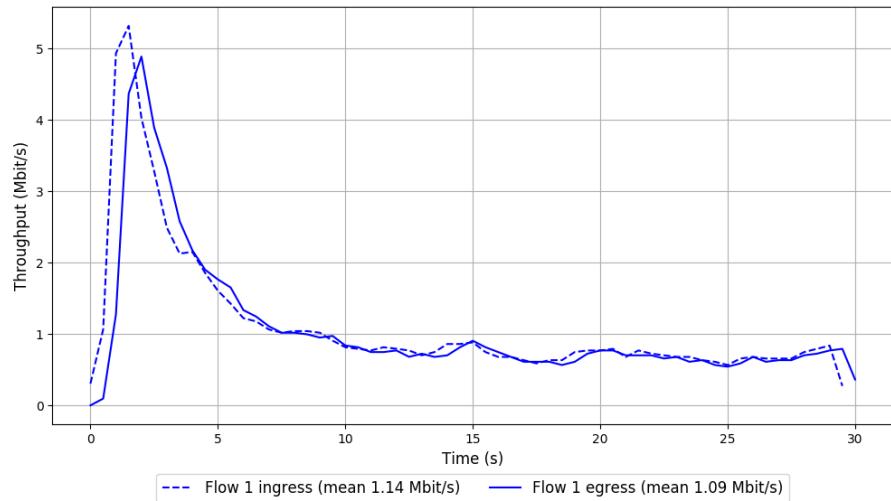


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-11-15 03:09:23
End at: 2018-11-15 03:09:53
Local clock offset: 4.242 ms
Remote clock offset: -8.088 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 67.490 ms
Loss rate: 4.09%
-- Flow 1:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 67.490 ms
Loss rate: 4.09%
```

Run 4: Report of QUIC Cubic — Data Link

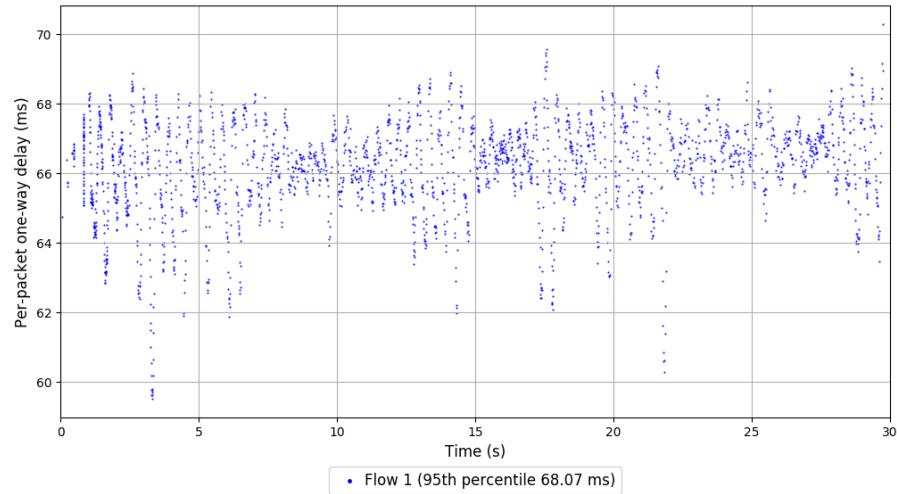
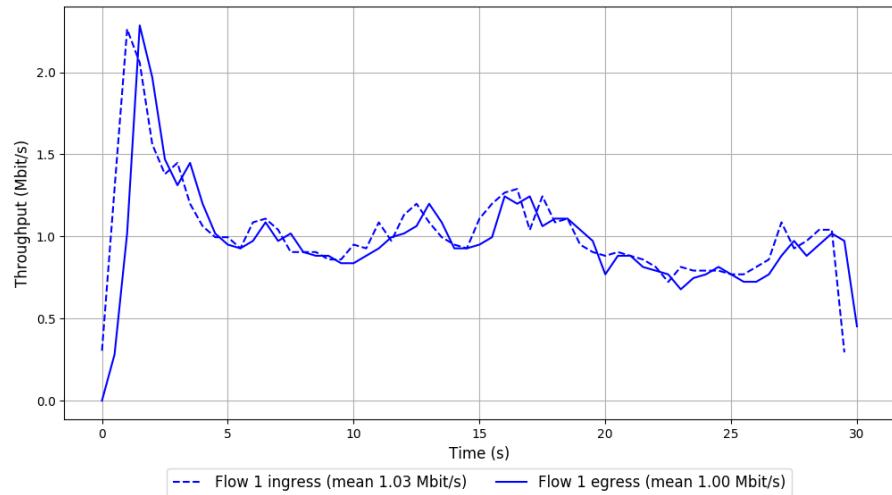


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-11-15 03:32:14
End at: 2018-11-15 03:32:44
Local clock offset: 11.269 ms
Remote clock offset: -30.095 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 68.066 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 68.066 ms
Loss rate: 3.50%
```

Run 5: Report of QUIC Cubic — Data Link

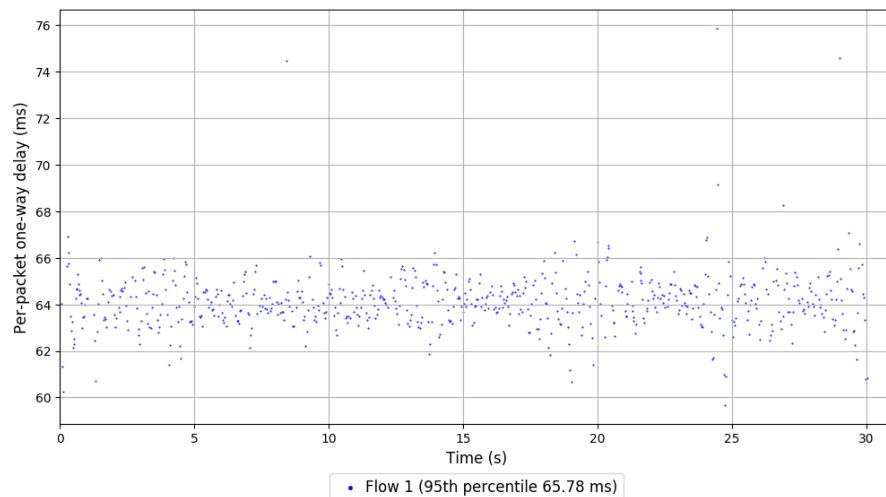
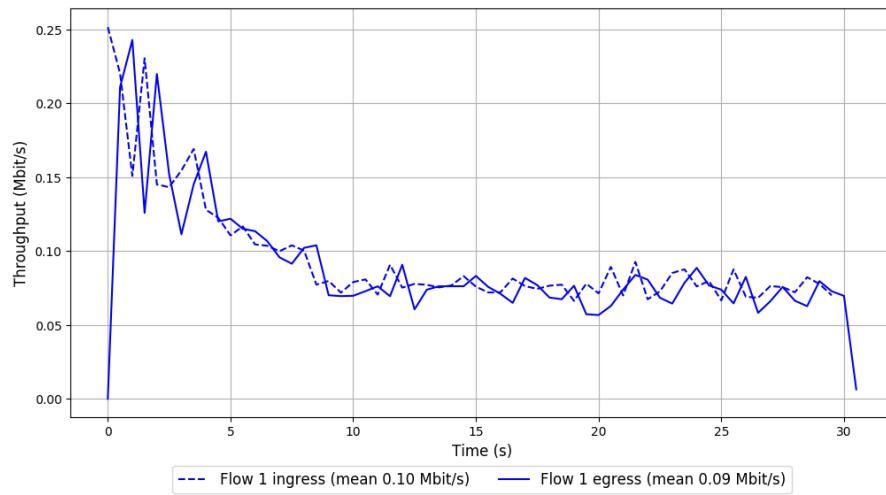


Run 1: Statistics of SCReAM

```
Start at: 2018-11-15 02:07:51
End at: 2018-11-15 02:08:21
Local clock offset: 3.654 ms
Remote clock offset: -5.935 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 65.779 ms
Loss rate: 5.11%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 65.779 ms
Loss rate: 5.11%
```

Run 1: Report of SCReAM — Data Link

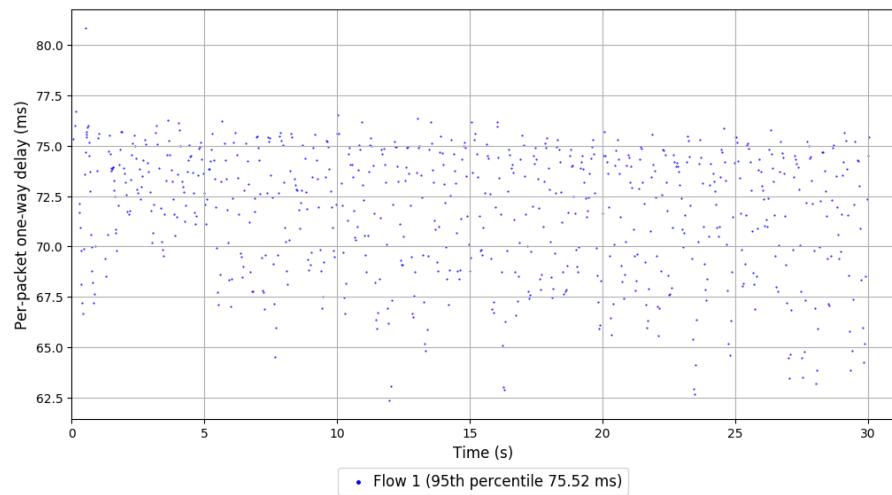
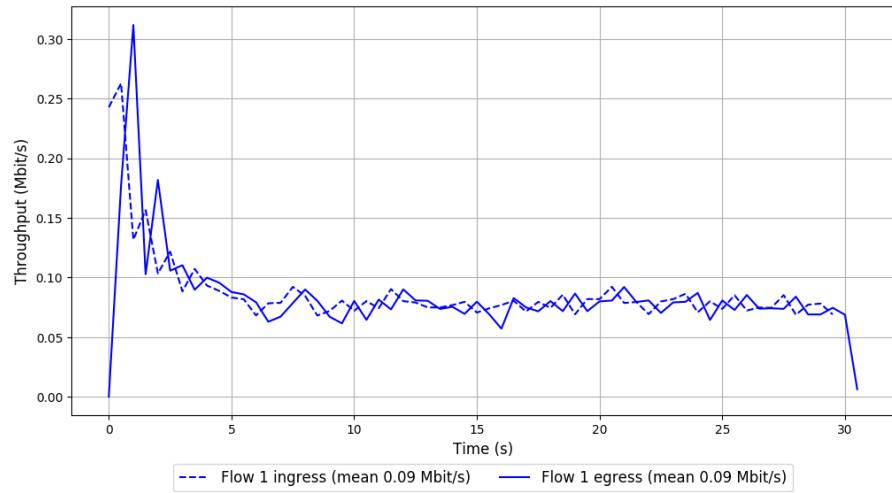


Run 2: Statistics of SCReAM

```
Start at: 2018-11-15 02:30:47
End at: 2018-11-15 02:31:18
Local clock offset: 10.247 ms
Remote clock offset: -2.859 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 75.517 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 75.517 ms
Loss rate: 2.16%
```

Run 2: Report of SCReAM — Data Link

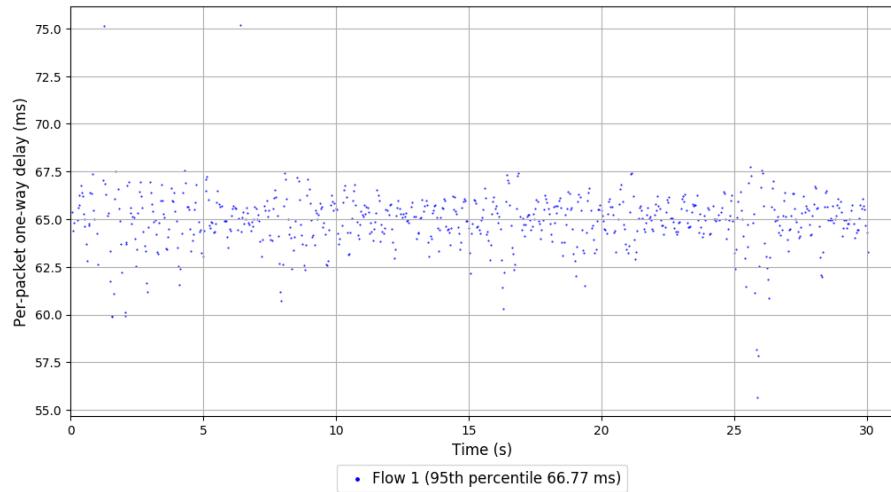
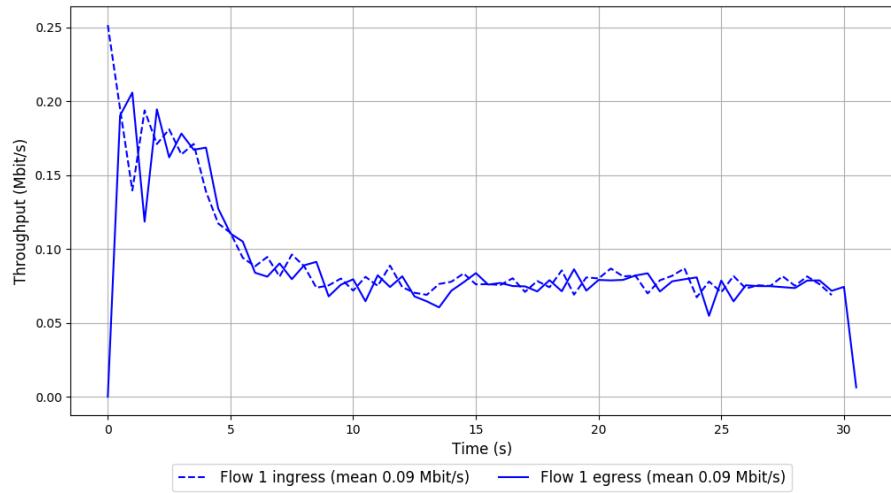


Run 3: Statistics of SCReAM

```
Start at: 2018-11-15 02:53:55
End at: 2018-11-15 02:54:25
Local clock offset: 9.64 ms
Remote clock offset: -5.667 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 66.774 ms
Loss rate: 3.92%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 66.774 ms
Loss rate: 3.92%
```

Run 3: Report of SCReAM — Data Link

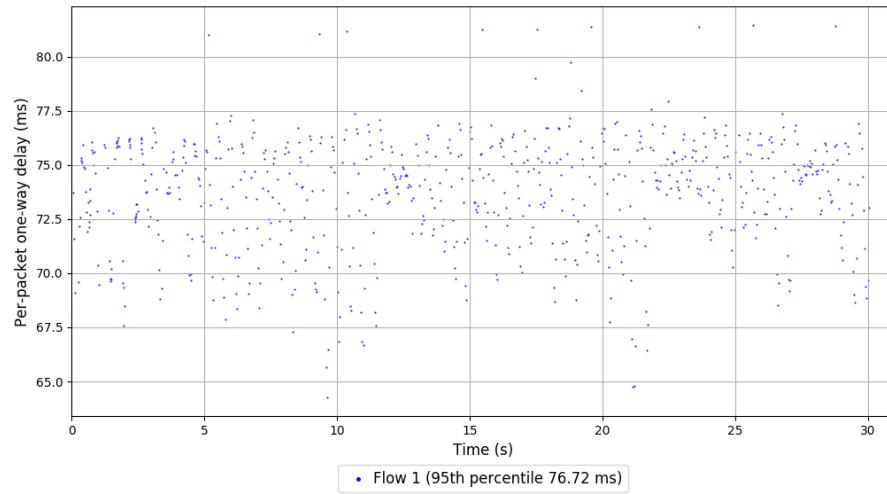
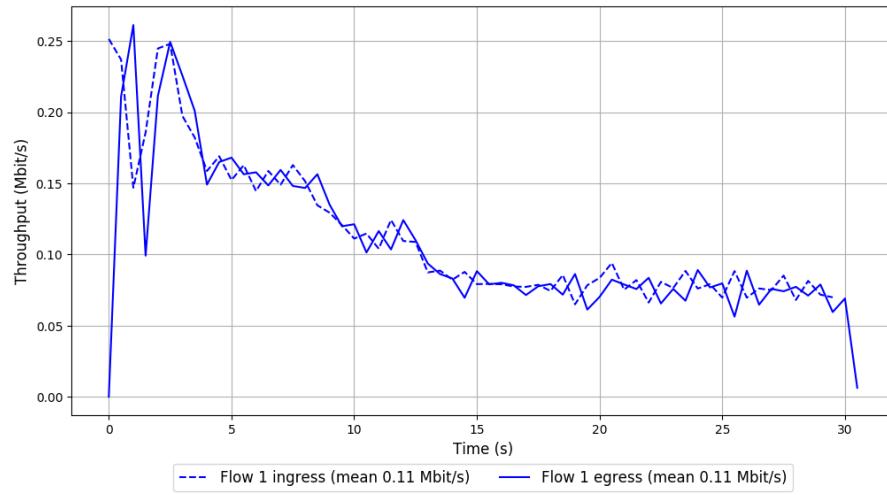


Run 4: Statistics of SCReAM

```
Start at: 2018-11-15 03:16:36
End at: 2018-11-15 03:17:06
Local clock offset: 4.278 ms
Remote clock offset: -18.922 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 76.724 ms
Loss rate: 3.19%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 76.724 ms
Loss rate: 3.19%
```

Run 4: Report of SCReAM — Data Link

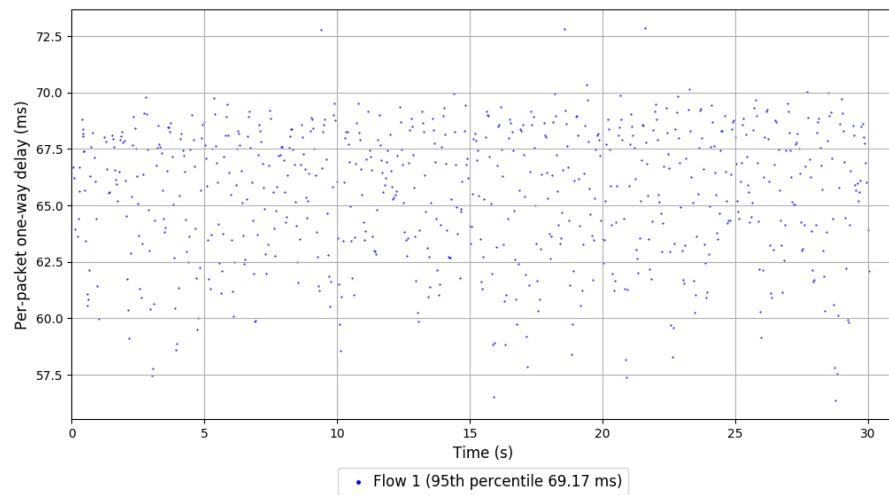
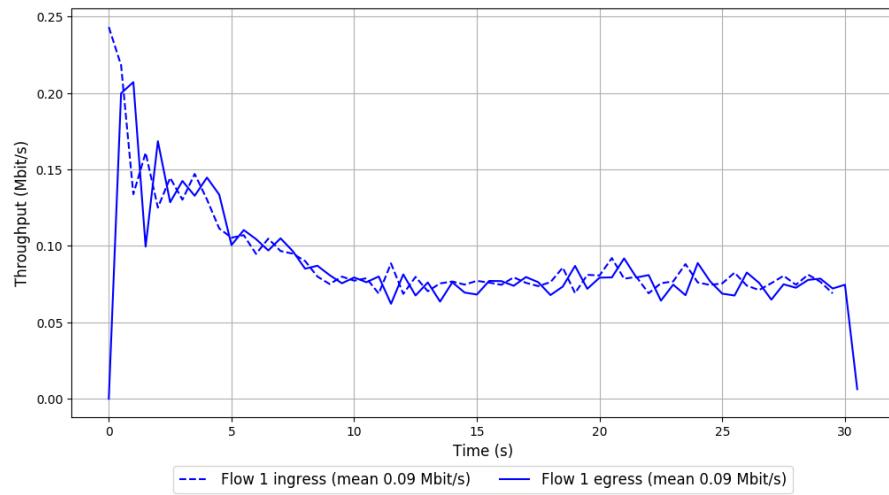


Run 5: Statistics of SCReAM

```
Start at: 2018-11-15 03:39:33
End at: 2018-11-15 03:40:03
Local clock offset: 16.606 ms
Remote clock offset: -30.777 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 69.173 ms
Loss rate: 3.06%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 69.173 ms
Loss rate: 3.06%
```

Run 5: Report of SCReAM — Data Link

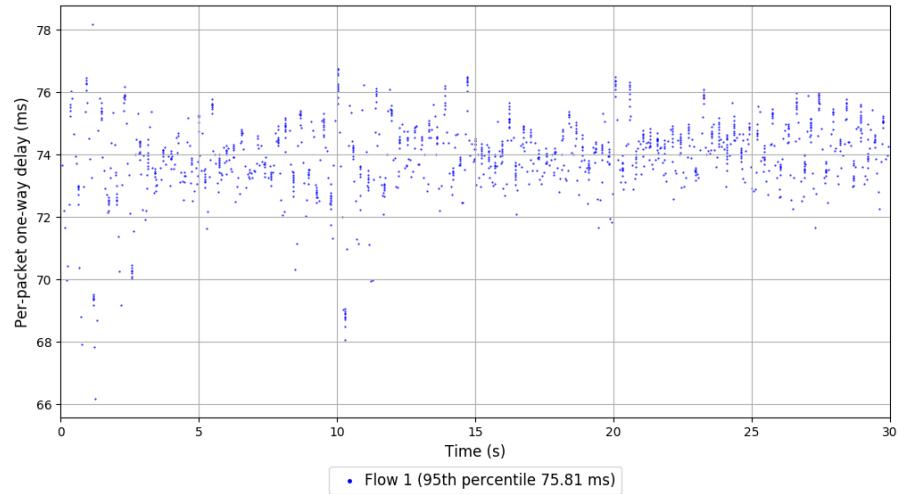
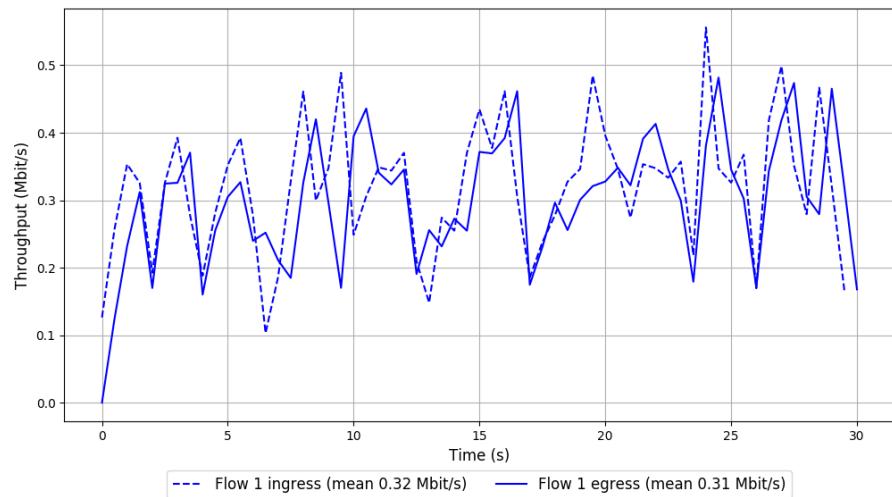


Run 1: Statistics of Sprout

```
Start at: 2018-11-15 02:10:39
End at: 2018-11-15 02:11:09
Local clock offset: 5.155 ms
Remote clock offset: -4.684 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 75.808 ms
Loss rate: 4.46%
-- Flow 1:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 75.808 ms
Loss rate: 4.46%
```

Run 1: Report of Sprout — Data Link

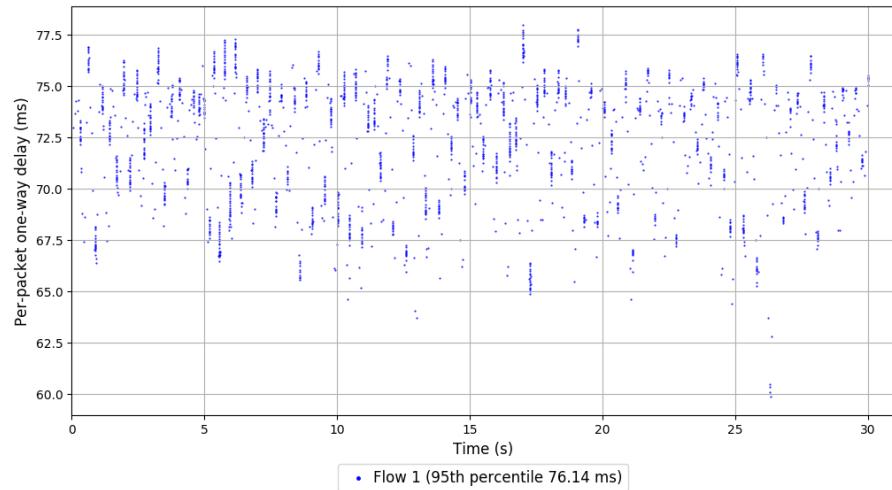
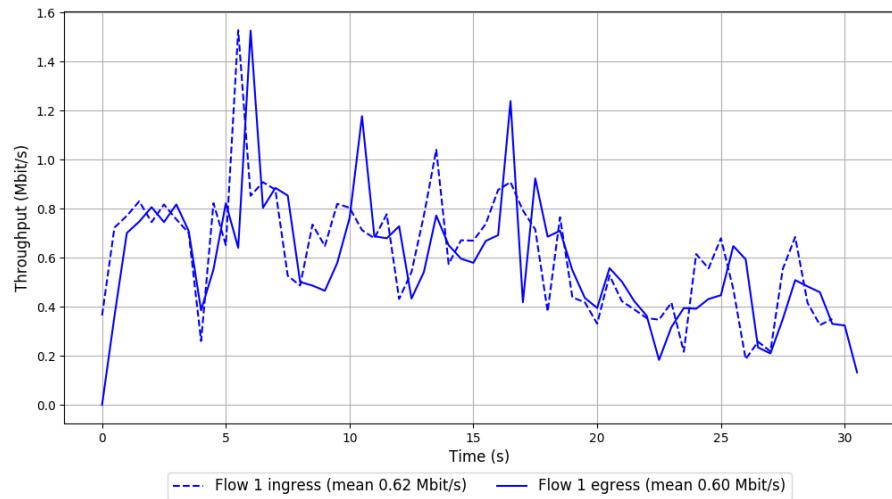


Run 2: Statistics of Sprout

```
Start at: 2018-11-15 02:33:30
End at: 2018-11-15 02:34:00
Local clock offset: 8.784 ms
Remote clock offset: -2.777 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 76.138 ms
Loss rate: 2.32%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 76.138 ms
Loss rate: 2.32%
```

Run 2: Report of Sprout — Data Link

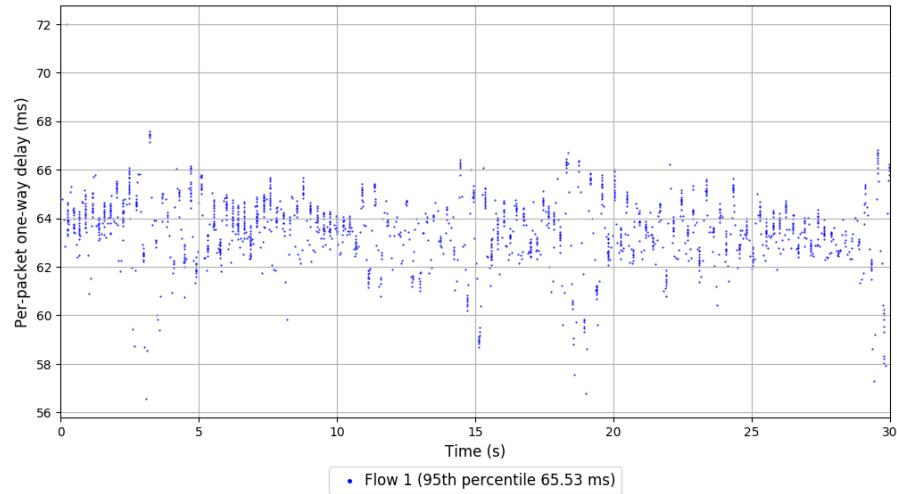
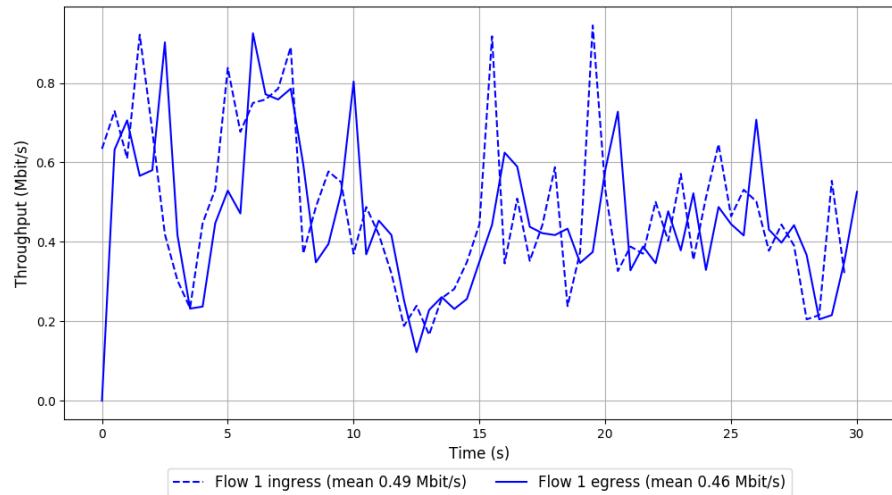


Run 3: Statistics of Sprout

```
Start at: 2018-11-15 02:56:33
End at: 2018-11-15 02:57:03
Local clock offset: 10.19 ms
Remote clock offset: -7.274 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 65.535 ms
Loss rate: 4.52%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 65.535 ms
Loss rate: 4.52%
```

Run 3: Report of Sprout — Data Link

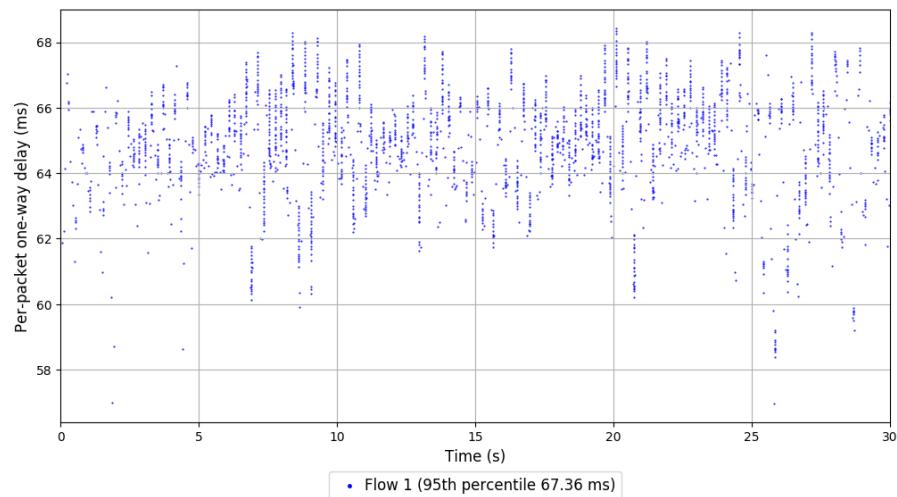
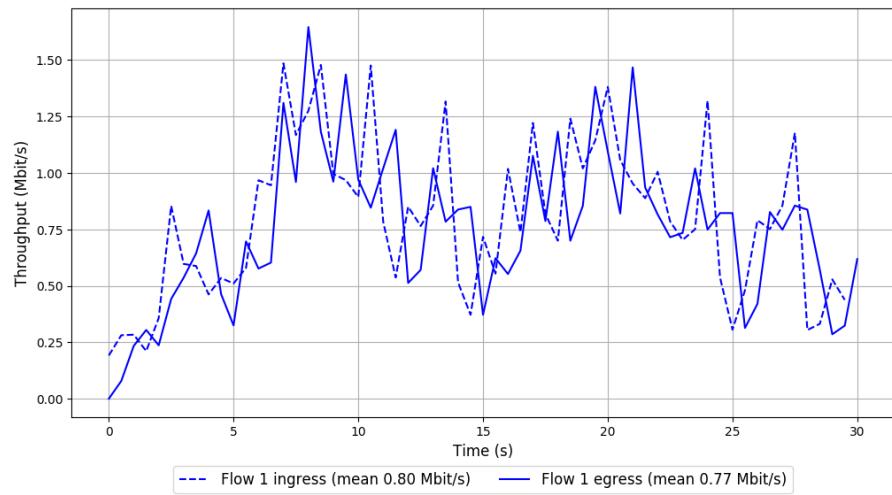


Run 4: Statistics of Sprout

```
Start at: 2018-11-15 03:19:18
End at: 2018-11-15 03:19:49
Local clock offset: 4.25 ms
Remote clock offset: -22.991 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 67.360 ms
Loss rate: 3.26%
-- Flow 1:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 67.360 ms
Loss rate: 3.26%
```

Run 4: Report of Sprout — Data Link

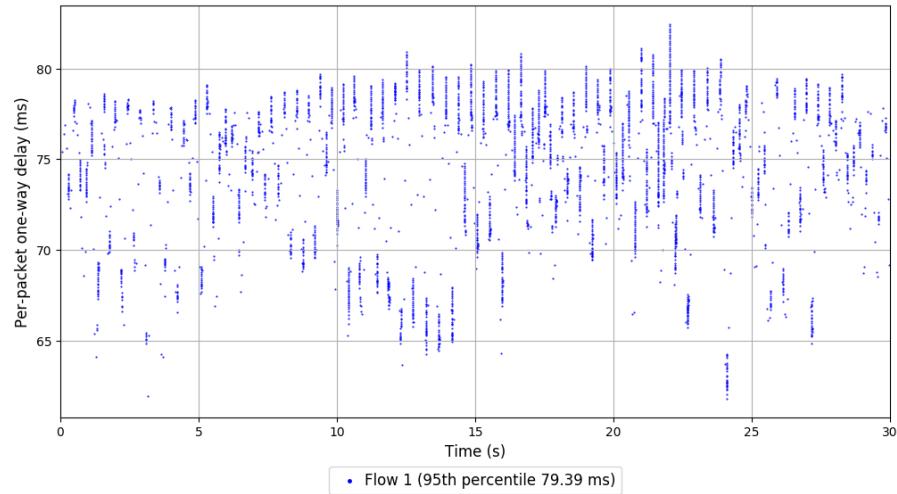
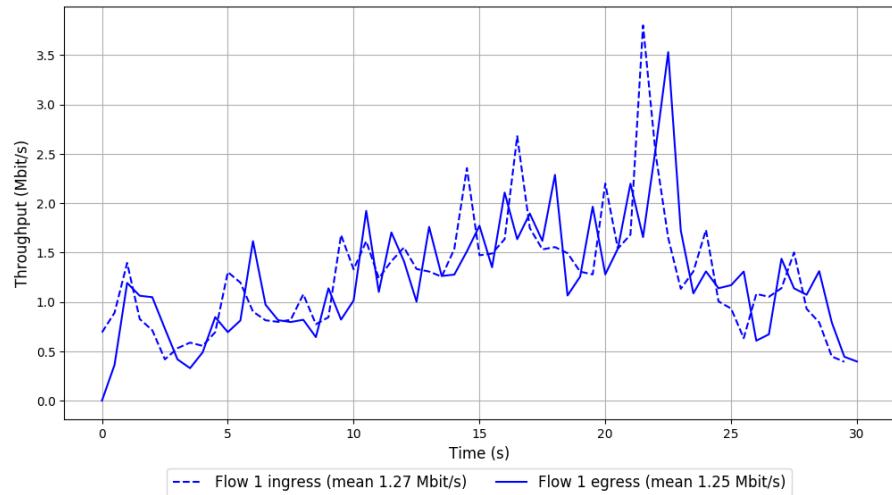


Run 5: Statistics of Sprout

```
Start at: 2018-11-15 03:42:07
End at: 2018-11-15 03:42:37
Local clock offset: 17.896 ms
Remote clock offset: -31.307 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 79.388 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 79.388 ms
Loss rate: 1.57%
```

Run 5: Report of Sprout — Data Link

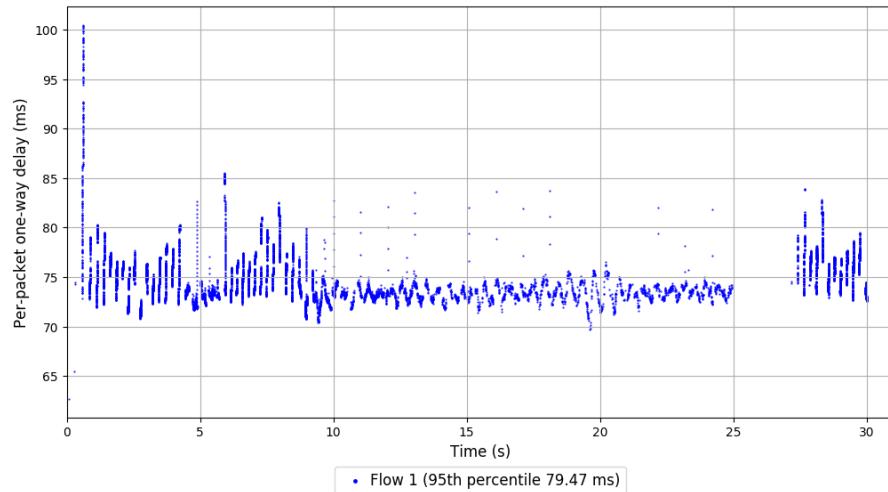
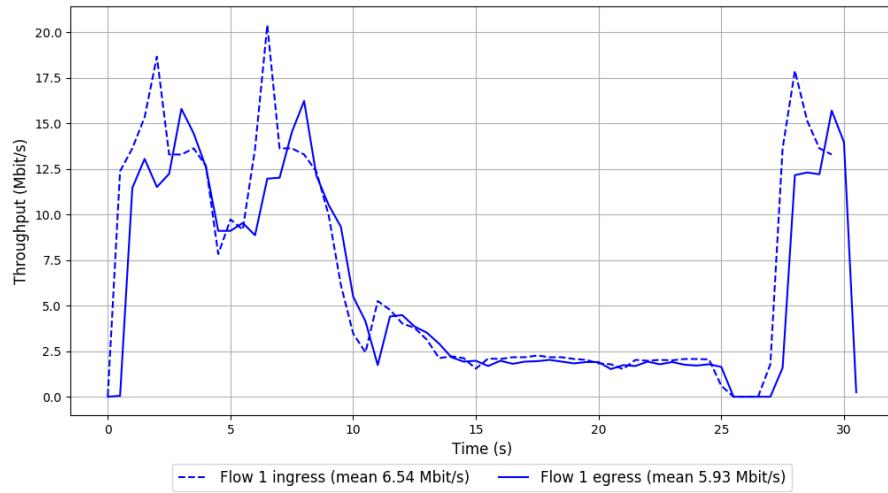


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-11-15 02:02:55
End at: 2018-11-15 02:03:25
Local clock offset: 0.777 ms
Remote clock offset: -5.05 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 79.466 ms
Loss rate: 9.29%
-- Flow 1:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 79.466 ms
Loss rate: 9.29%
```

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

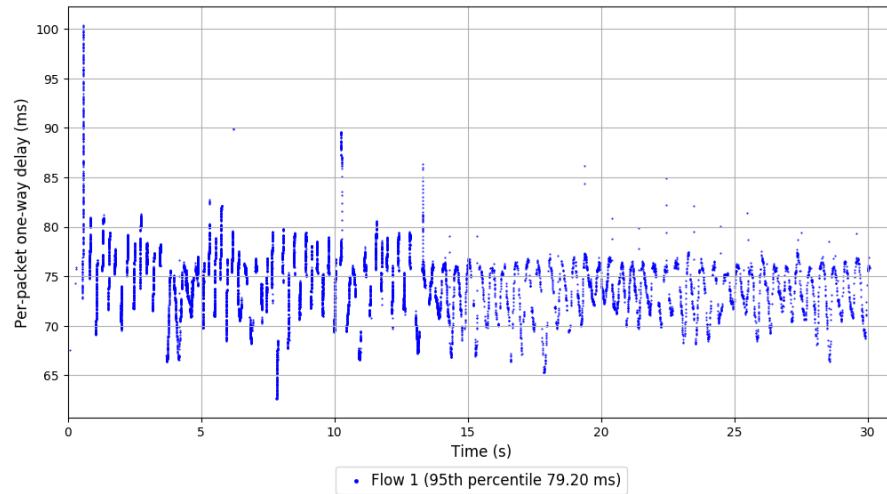
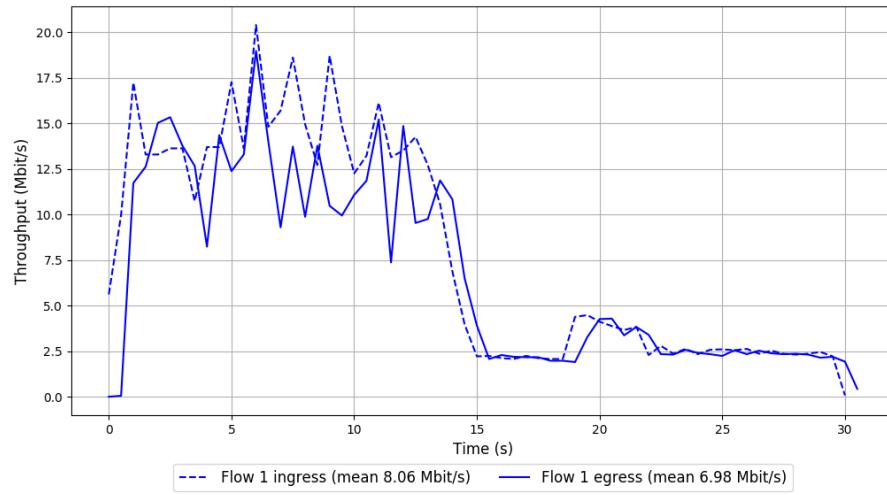


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-11-15 02:25:57
End at: 2018-11-15 02:26:27
Local clock offset: 13.788 ms
Remote clock offset: -3.911 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.98 Mbit/s
95th percentile per-packet one-way delay: 79.202 ms
Loss rate: 13.40%
-- Flow 1:
Average throughput: 6.98 Mbit/s
95th percentile per-packet one-way delay: 79.202 ms
Loss rate: 13.40%
```

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

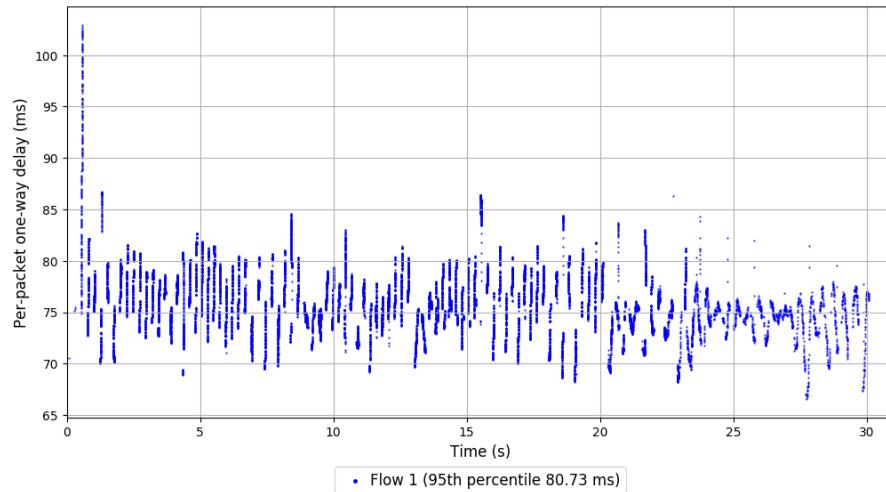
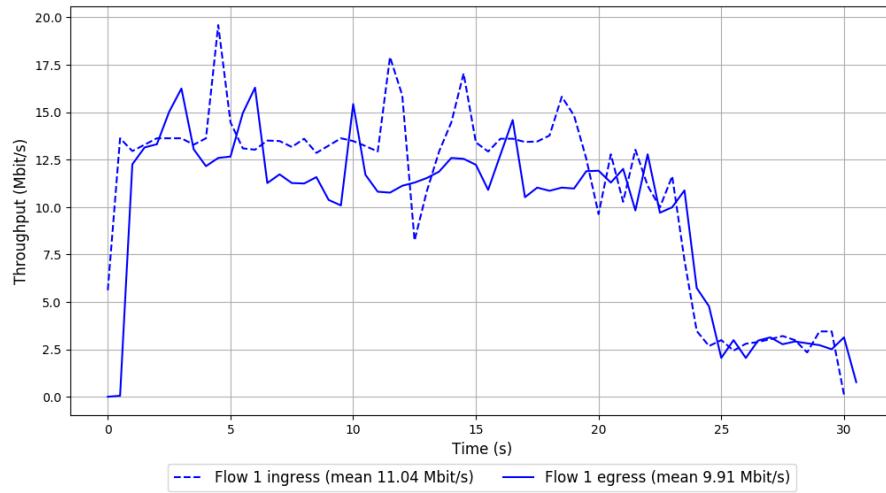


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-11-15 02:49:03
End at: 2018-11-15 02:49:33
Local clock offset: 8.312 ms
Remote clock offset: -4.839 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.91 Mbit/s
95th percentile per-packet one-way delay: 80.731 ms
Loss rate: 10.16%
-- Flow 1:
Average throughput: 9.91 Mbit/s
95th percentile per-packet one-way delay: 80.731 ms
Loss rate: 10.16%
```

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

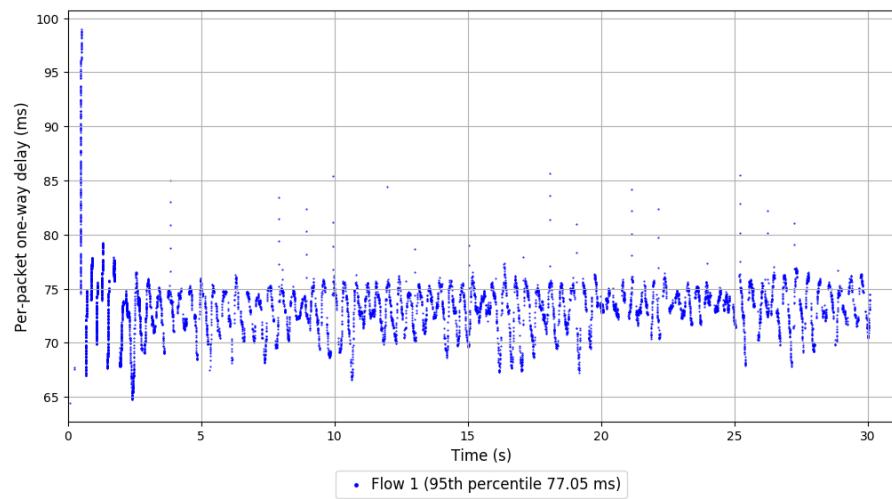
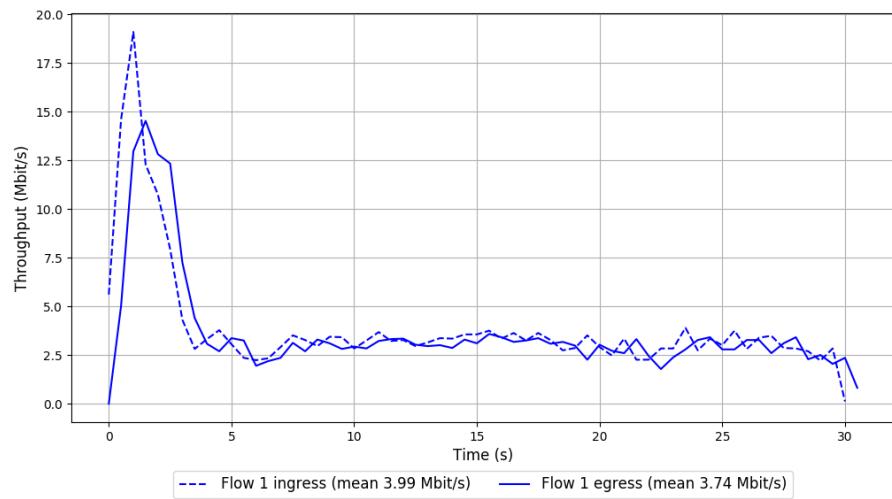


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-11-15 03:11:46
End at: 2018-11-15 03:12:16
Local clock offset: 3.963 ms
Remote clock offset: -13.857 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 77.046 ms
Loss rate: 6.14%
-- Flow 1:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 77.046 ms
Loss rate: 6.14%
```

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

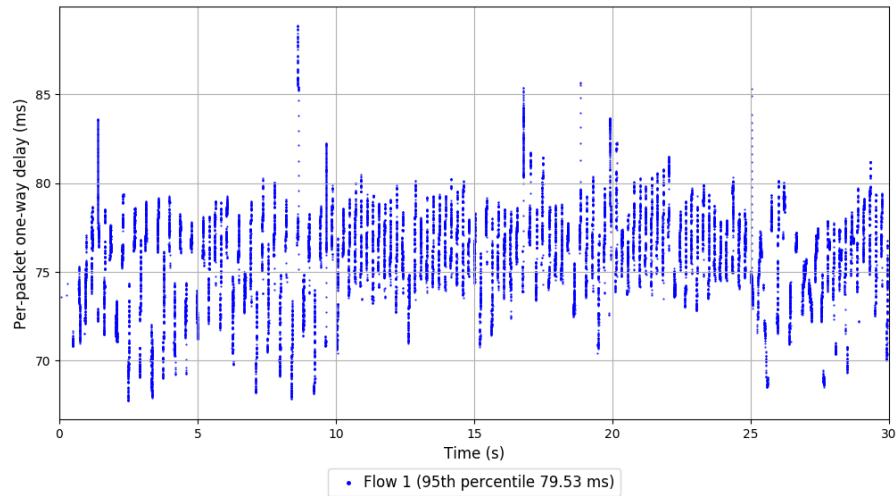
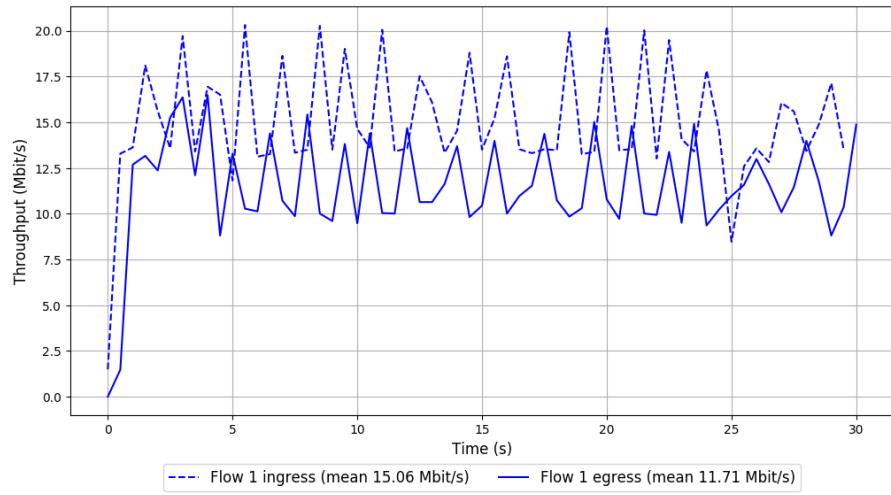


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-11-15 03:34:36
End at: 2018-11-15 03:35:06
Local clock offset: 13.399 ms
Remote clock offset: -31.339 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 79.534 ms
Loss rate: 22.26%
-- Flow 1:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 79.534 ms
Loss rate: 22.26%
```

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

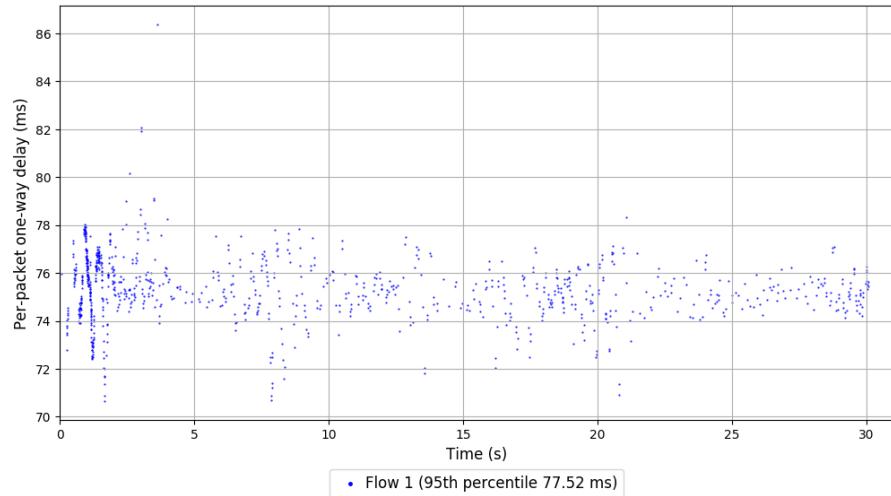
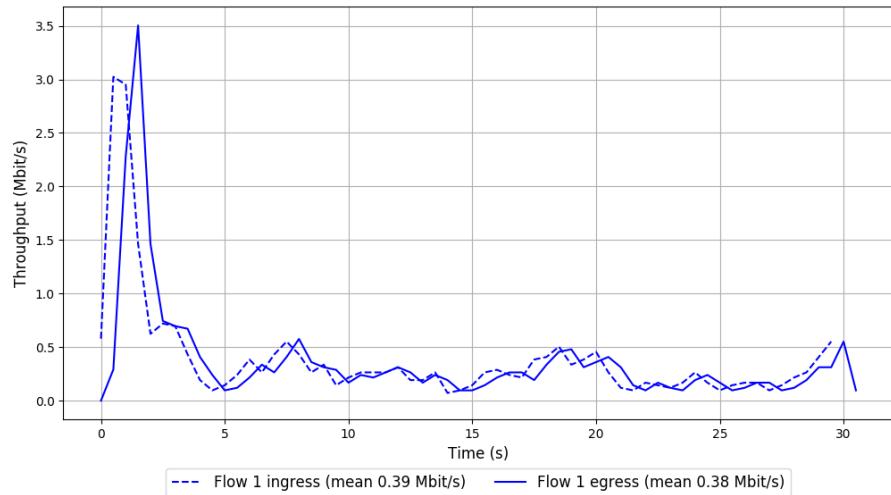


Run 1: Statistics of TCP Vegas

```
Start at: 2018-11-15 01:57:38
End at: 2018-11-15 01:58:08
Local clock offset: -1.345 ms
Remote clock offset: -2.904 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 77.521 ms
Loss rate: 3.27%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 77.521 ms
Loss rate: 3.27%
```

Run 1: Report of TCP Vegas — Data Link

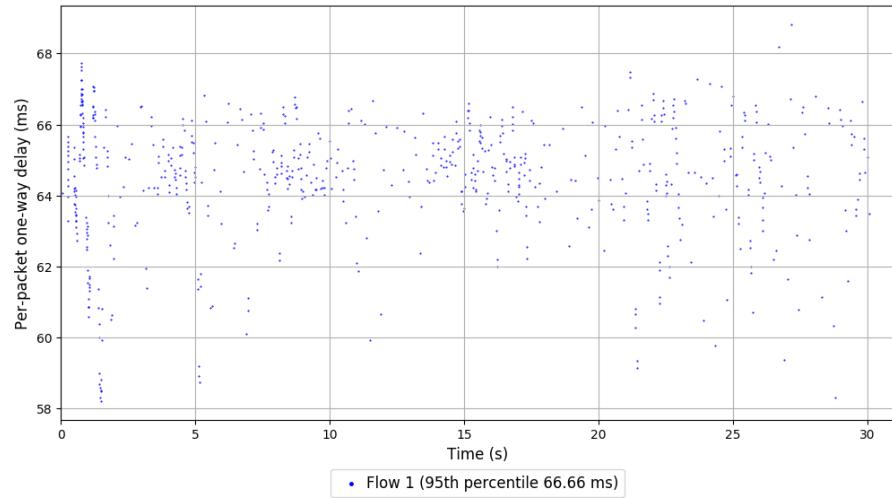
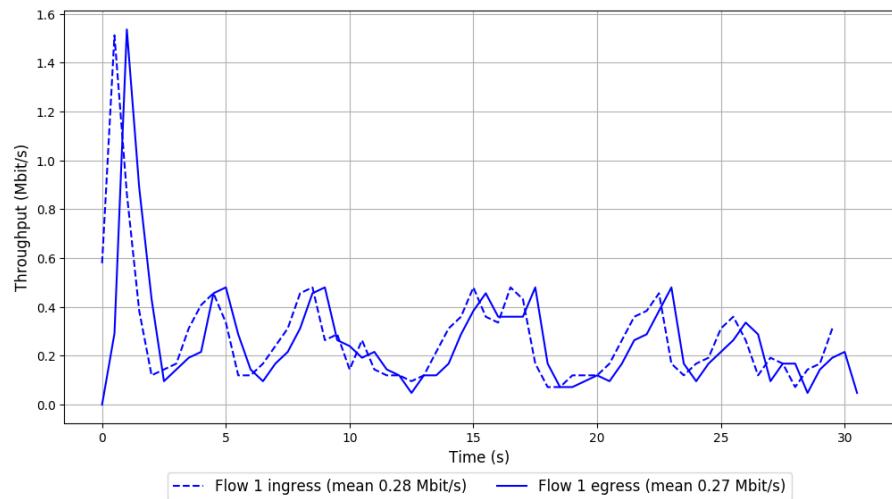


Run 2: Statistics of TCP Vegas

```
Start at: 2018-11-15 02:20:49
End at: 2018-11-15 02:21:20
Local clock offset: 10.971 ms
Remote clock offset: -5.347 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 66.664 ms
Loss rate: 4.43%
-- Flow 1:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 66.664 ms
Loss rate: 4.43%
```

Run 2: Report of TCP Vegas — Data Link

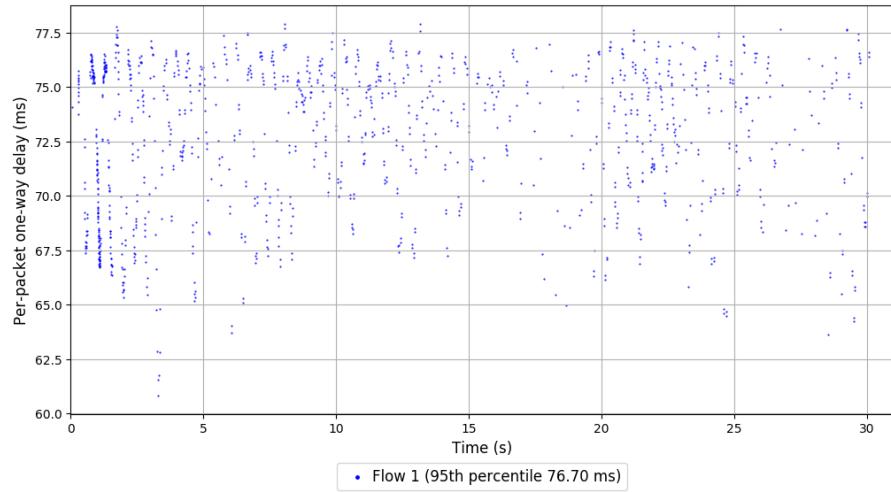
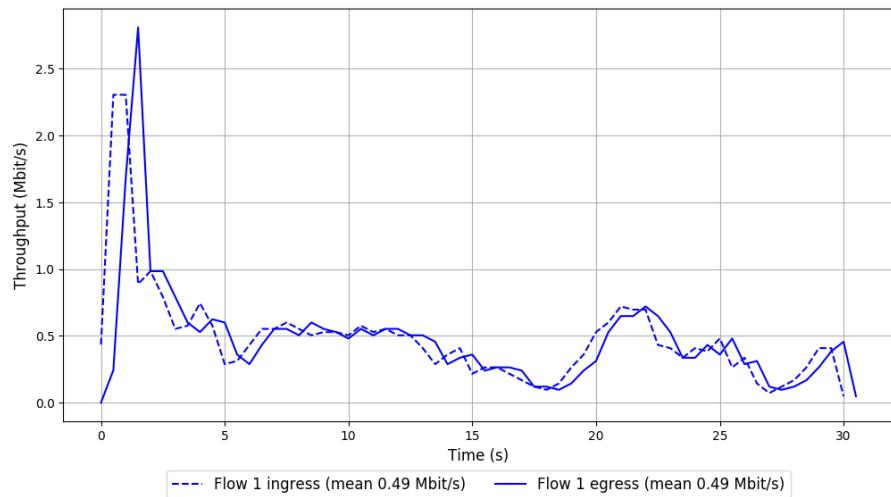


Run 3: Statistics of TCP Vegas

```
Start at: 2018-11-15 02:43:59
End at: 2018-11-15 02:44:29
Local clock offset: 7.586 ms
Remote clock offset: -4.03 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 76.705 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 76.705 ms
Loss rate: 1.38%
```

Run 3: Report of TCP Vegas — Data Link

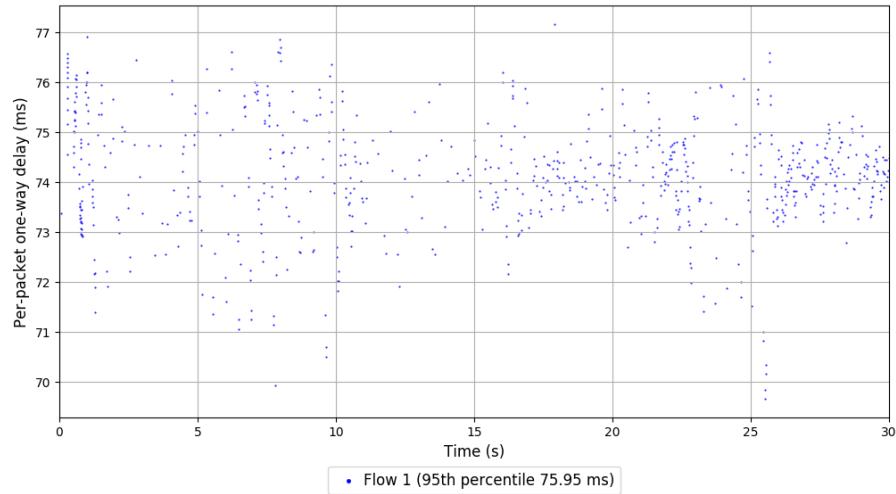
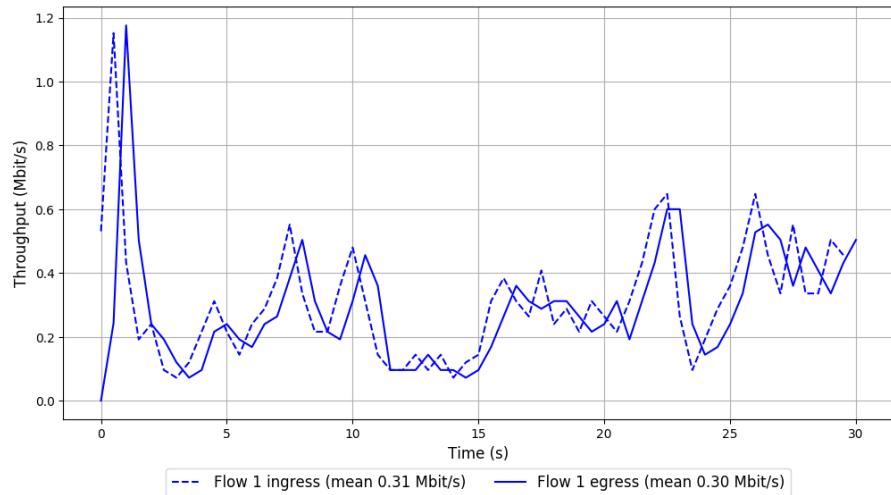


Run 4: Statistics of TCP Vegas

```
Start at: 2018-11-15 03:06:42
End at: 2018-11-15 03:07:12
Local clock offset: 4.627 ms
Remote clock offset: -6.344 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 75.949 ms
Loss rate: 4.11%
-- Flow 1:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 75.949 ms
Loss rate: 4.11%
```

Run 4: Report of TCP Vegas — Data Link

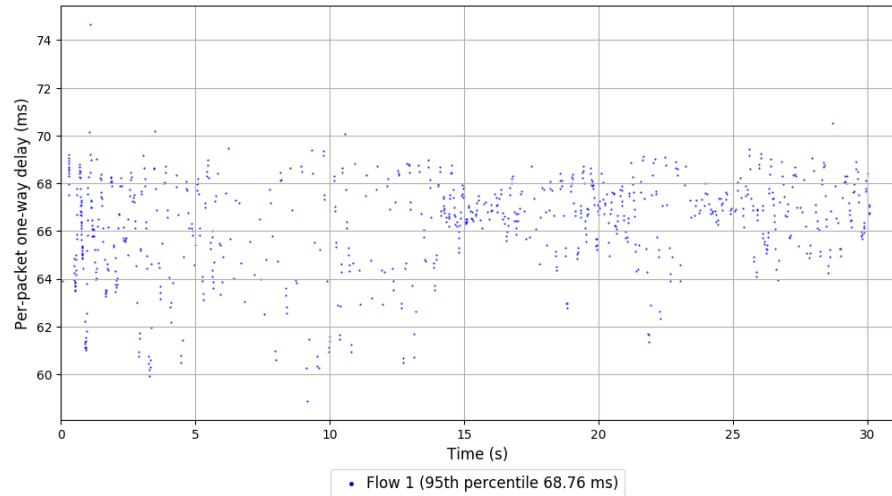
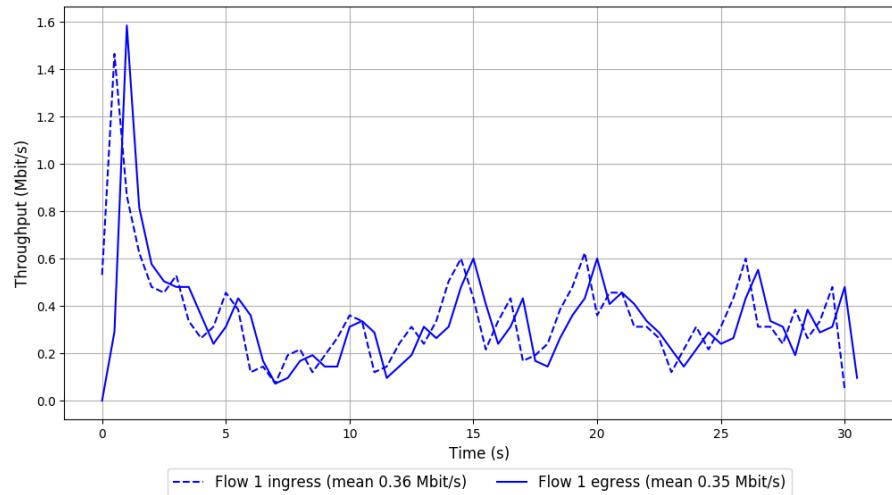


Run 5: Statistics of TCP Vegas

```
Start at: 2018-11-15 03:29:35
End at: 2018-11-15 03:30:05
Local clock offset: 9.01 ms
Remote clock offset: -28.275 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 68.756 ms
Loss rate: 3.24%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 68.756 ms
Loss rate: 3.24%
```

Run 5: Report of TCP Vegas — Data Link

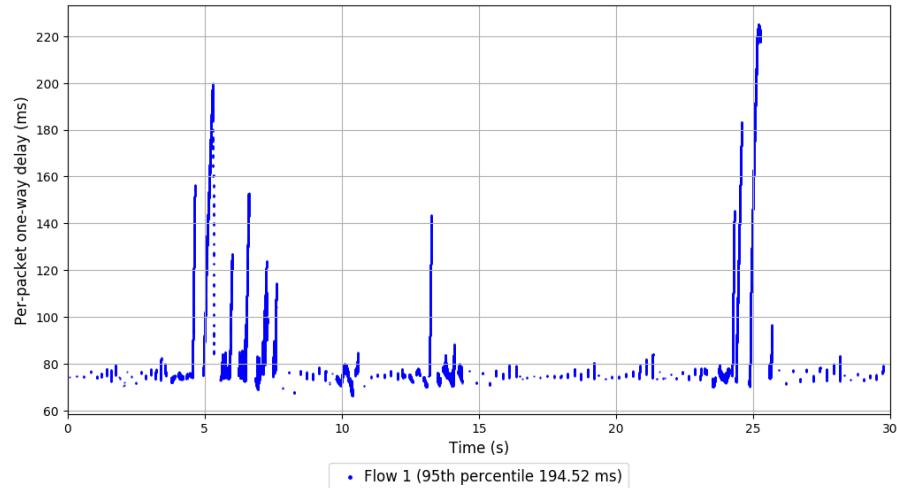
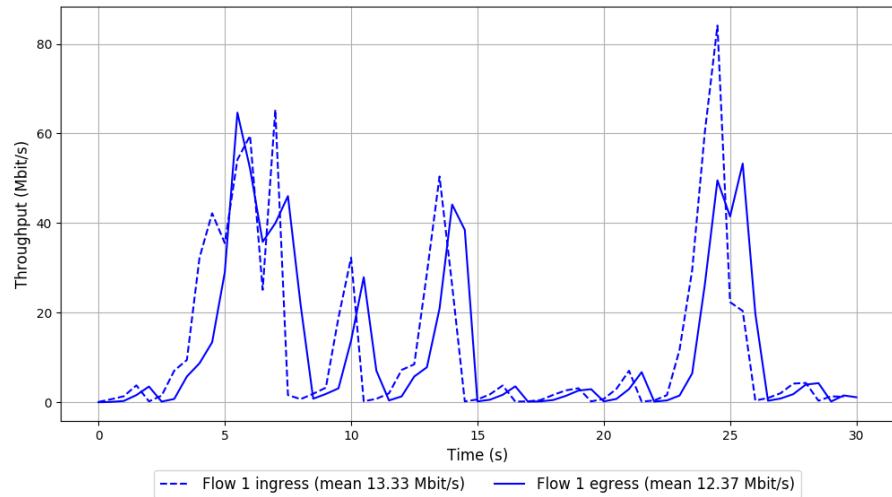


Run 1: Statistics of Verus

```
Start at: 2018-11-15 02:15:26
End at: 2018-11-15 02:15:56
Local clock offset: 8.041 ms
Remote clock offset: -4.1 ms

# Below is generated by plot.py at 2018-11-15 03:54:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 194.516 ms
Loss rate: 7.23%
-- Flow 1:
Average throughput: 12.37 Mbit/s
95th percentile per-packet one-way delay: 194.516 ms
Loss rate: 7.23%
```

Run 1: Report of Verus — Data Link

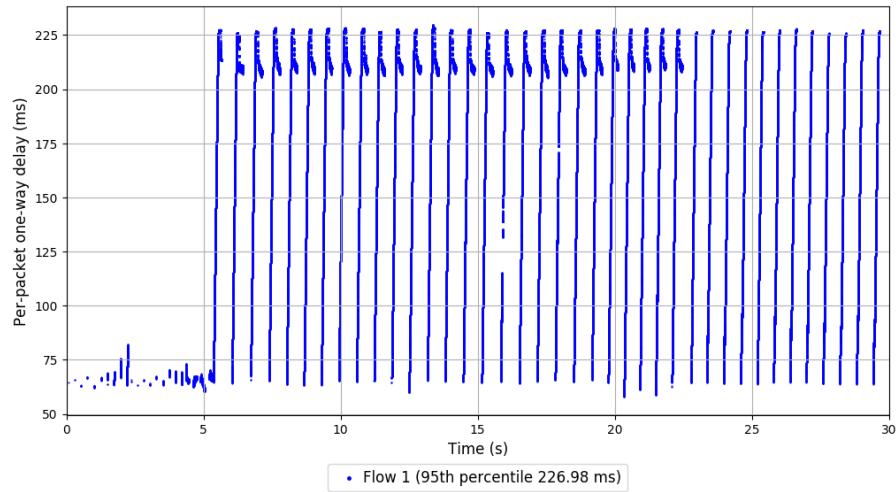
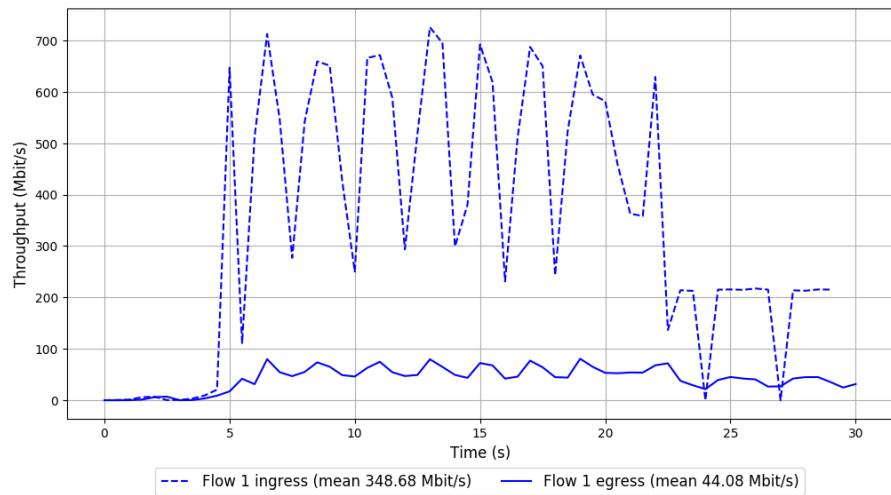


Run 2: Statistics of Verus

```
Start at: 2018-11-15 02:38:21
End at: 2018-11-15 02:38:51
Local clock offset: 7.427 ms
Remote clock offset: -4.78 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.08 Mbit/s
95th percentile per-packet one-way delay: 226.981 ms
Loss rate: 87.29%
-- Flow 1:
Average throughput: 44.08 Mbit/s
95th percentile per-packet one-way delay: 226.981 ms
Loss rate: 87.29%
```

Run 2: Report of Verus — Data Link

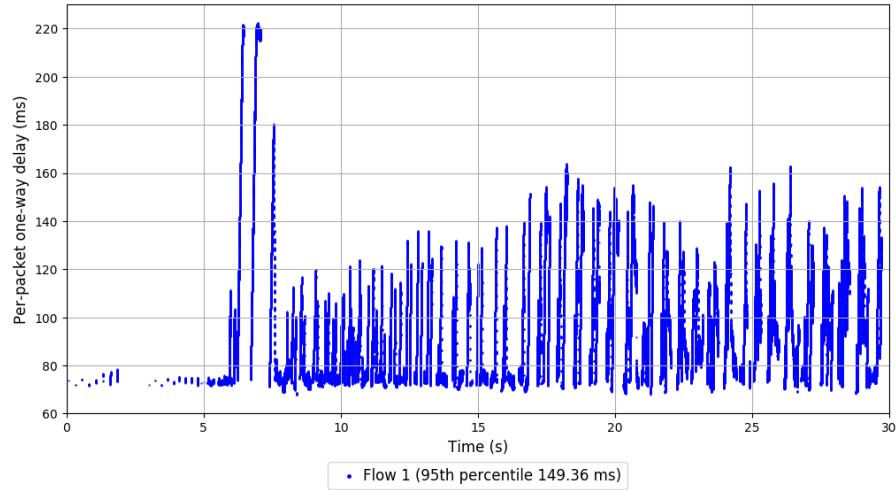
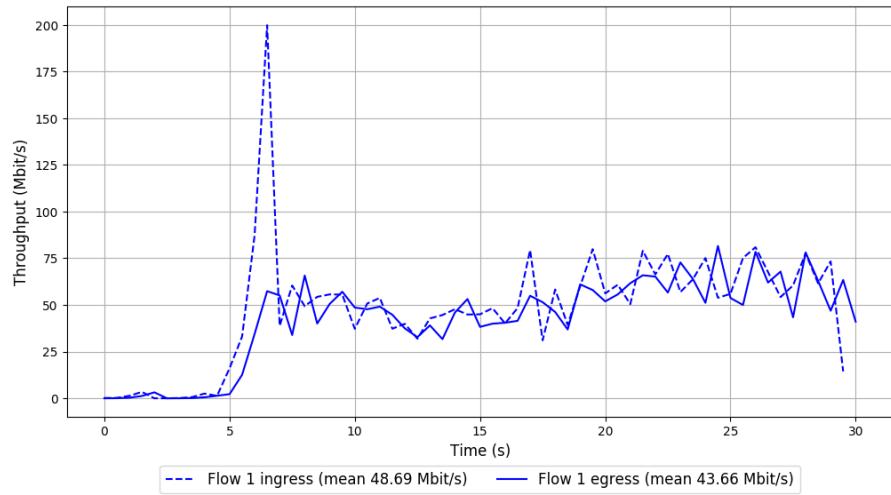


Run 3: Statistics of Verus

```
Start at: 2018-11-15 03:01:22
End at: 2018-11-15 03:01:52
Local clock offset: 6.532 ms
Remote clock offset: -7.229 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 43.66 Mbit/s
95th percentile per-packet one-way delay: 149.360 ms
Loss rate: 10.16%
-- Flow 1:
Average throughput: 43.66 Mbit/s
95th percentile per-packet one-way delay: 149.360 ms
Loss rate: 10.16%
```

Run 3: Report of Verus — Data Link

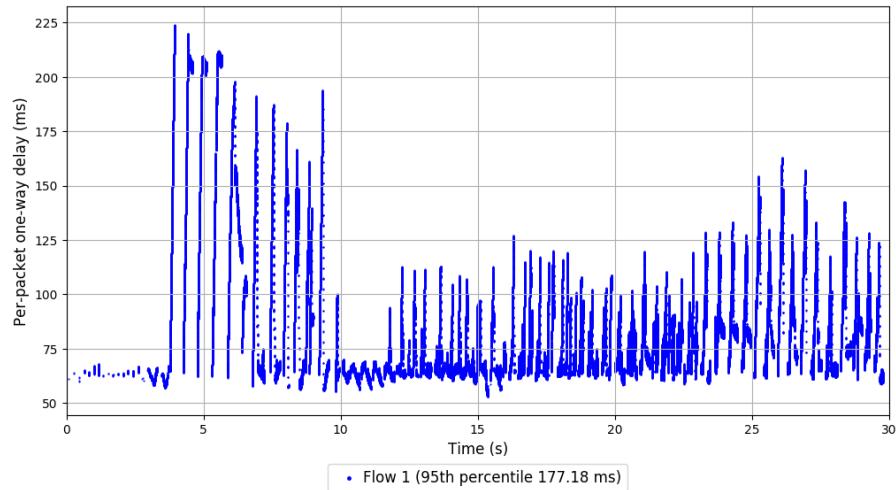
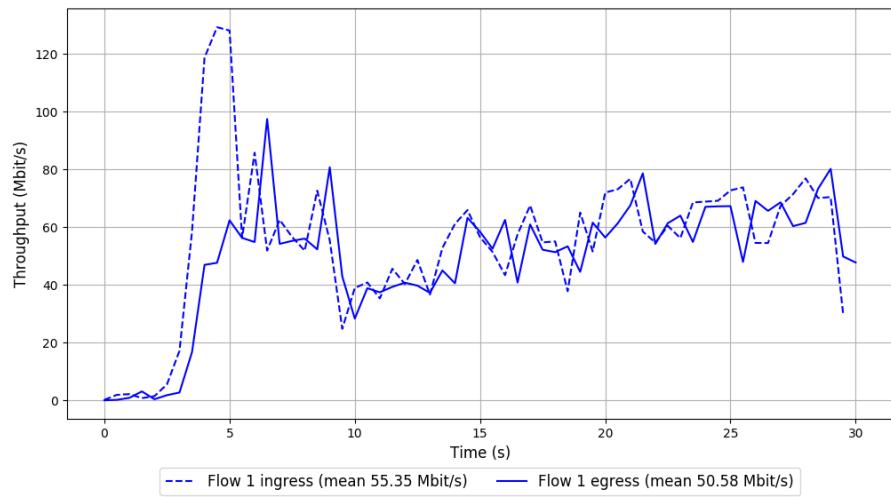


Run 4: Statistics of Verus

```
Start at: 2018-11-15 03:24:07
End at: 2018-11-15 03:24:37
Local clock offset: 5.074 ms
Remote clock offset: -28.219 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.58 Mbit/s
95th percentile per-packet one-way delay: 177.183 ms
Loss rate: 8.59%
-- Flow 1:
Average throughput: 50.58 Mbit/s
95th percentile per-packet one-way delay: 177.183 ms
Loss rate: 8.59%
```

Run 4: Report of Verus — Data Link

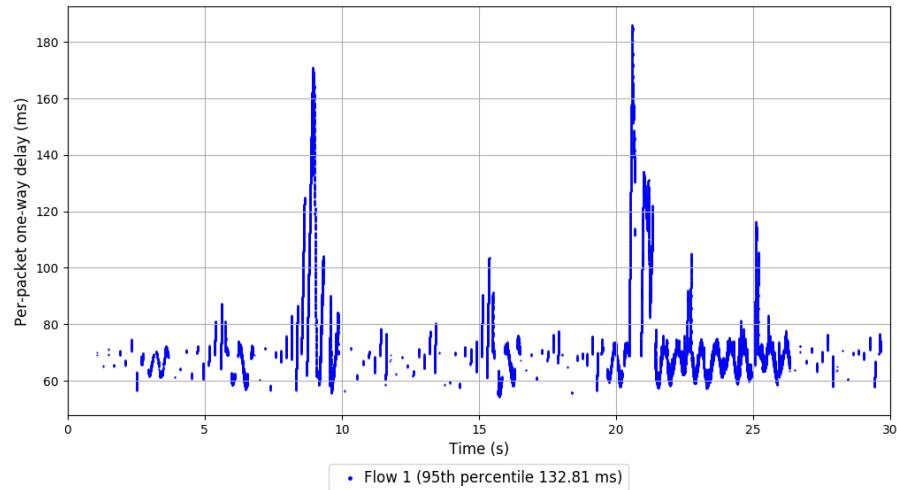
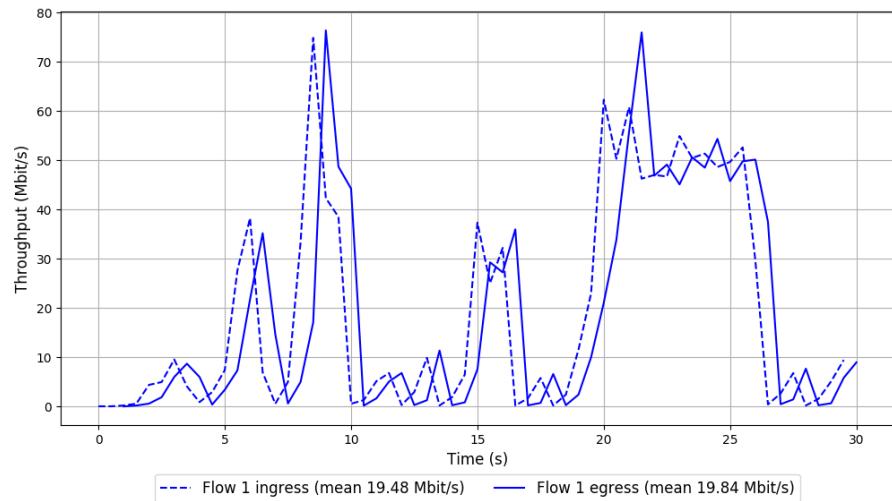


Run 5: Statistics of Verus

```
Start at: 2018-11-15 03:46:51
End at: 2018-11-15 03:47:21
Local clock offset: 19.865 ms
Remote clock offset: -36.061 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.84 Mbit/s
95th percentile per-packet one-way delay: 132.805 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 19.84 Mbit/s
95th percentile per-packet one-way delay: 132.805 ms
Loss rate: 1.61%
```

Run 5: Report of Verus — Data Link

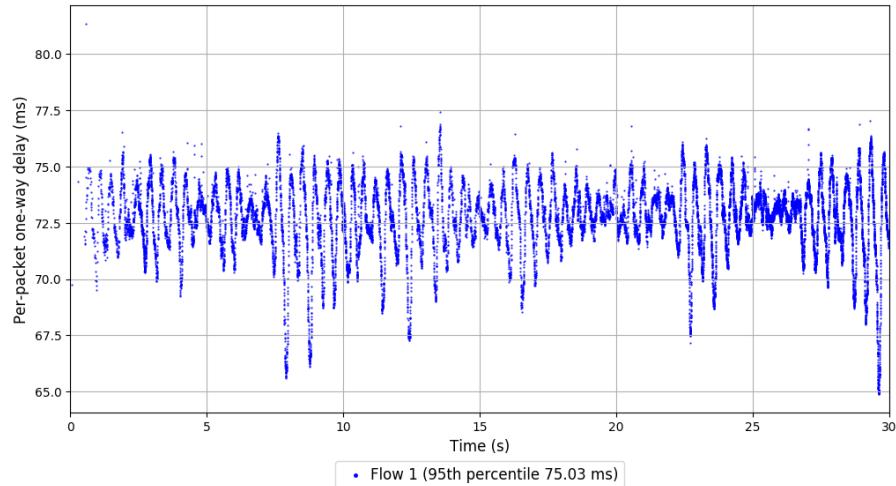
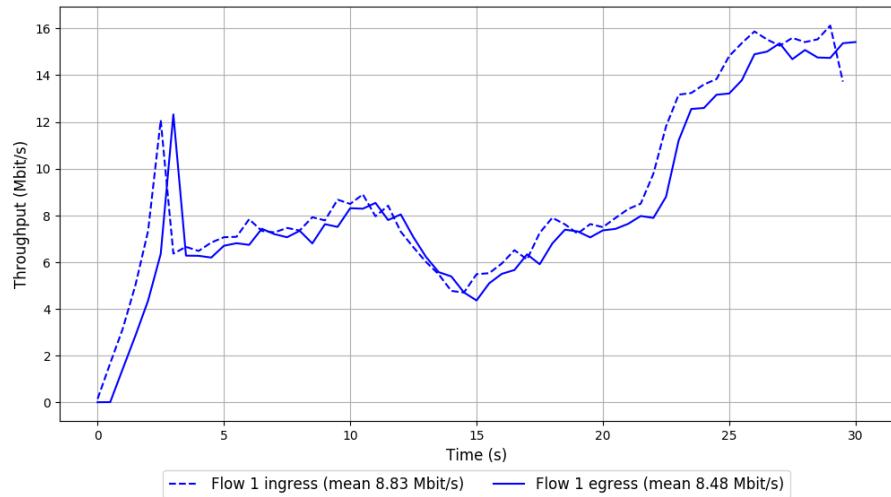


Run 1: Statistics of PCC-Vivace

```
Start at: 2018-11-15 02:16:47
End at: 2018-11-15 02:17:17
Local clock offset: 8.708 ms
Remote clock offset: -5.59 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.48 Mbit/s
95th percentile per-packet one-way delay: 75.027 ms
Loss rate: 3.92%
-- Flow 1:
Average throughput: 8.48 Mbit/s
95th percentile per-packet one-way delay: 75.027 ms
Loss rate: 3.92%
```

Run 1: Report of PCC-Vivace — Data Link

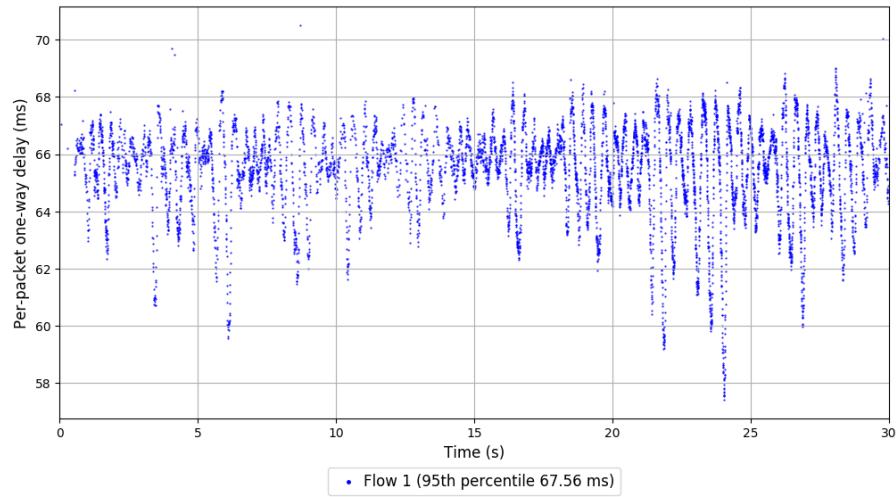
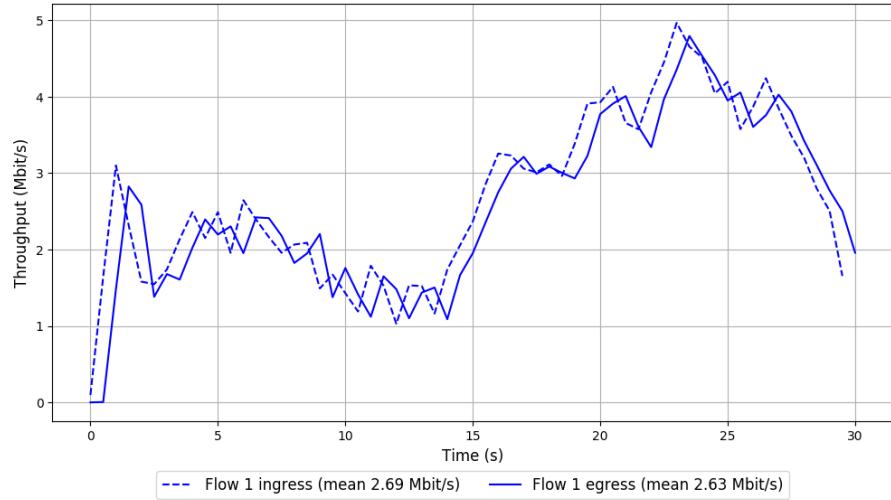


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-11-15 02:39:50
End at: 2018-11-15 02:40:20
Local clock offset: 7.027 ms
Remote clock offset: -3.618 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 67.564 ms
Loss rate: 2.53%
-- Flow 1:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 67.564 ms
Loss rate: 2.53%
```

Run 2: Report of PCC-Vivace — Data Link

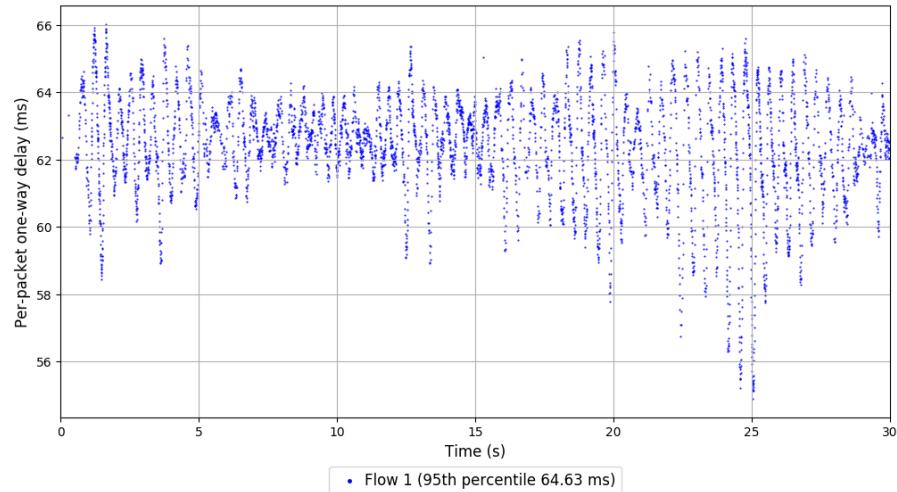
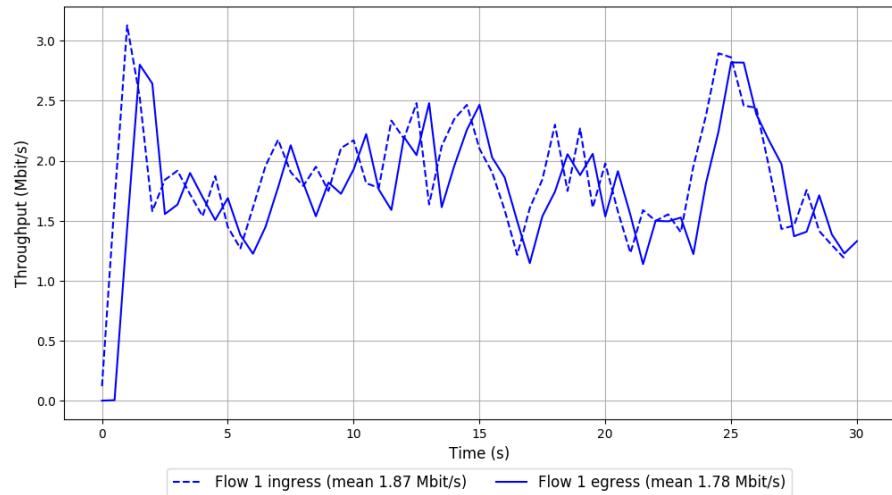


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-11-15 03:02:47
End at: 2018-11-15 03:03:17
Local clock offset: 6.046 ms
Remote clock offset: -8.175 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 64.627 ms
Loss rate: 4.58%
-- Flow 1:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 64.627 ms
Loss rate: 4.58%
```

Run 3: Report of PCC-Vivace — Data Link

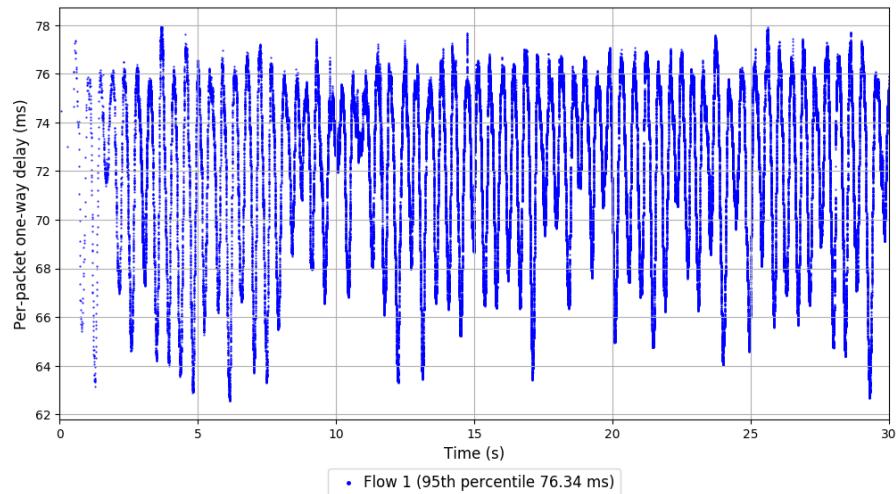
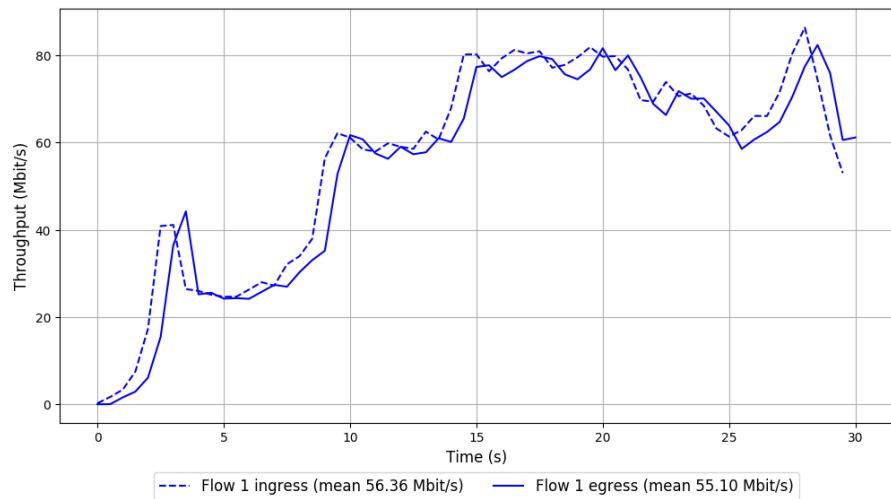


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-11-15 03:25:31
End at: 2018-11-15 03:26:01
Local clock offset: 5.276 ms
Remote clock offset: -26.412 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.10 Mbit/s
95th percentile per-packet one-way delay: 76.337 ms
Loss rate: 2.23%
-- Flow 1:
Average throughput: 55.10 Mbit/s
95th percentile per-packet one-way delay: 76.337 ms
Loss rate: 2.23%
```

Run 4: Report of PCC-Vivace — Data Link

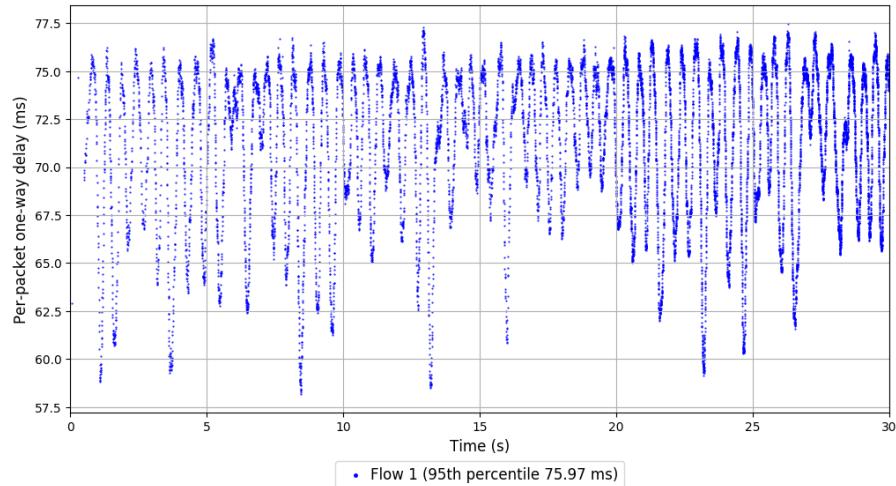
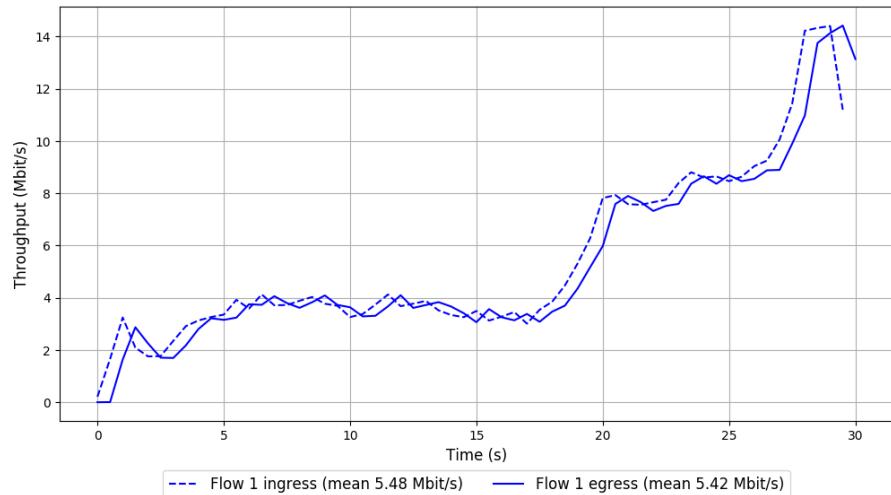


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-11-15 03:48:07
End at: 2018-11-15 03:48:37
Local clock offset: 20.494 ms
Remote clock offset: -40.414 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.42 Mbit/s
95th percentile per-packet one-way delay: 75.967 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 5.42 Mbit/s
95th percentile per-packet one-way delay: 75.967 ms
Loss rate: 0.98%
```

Run 5: Report of PCC-Vivace — Data Link

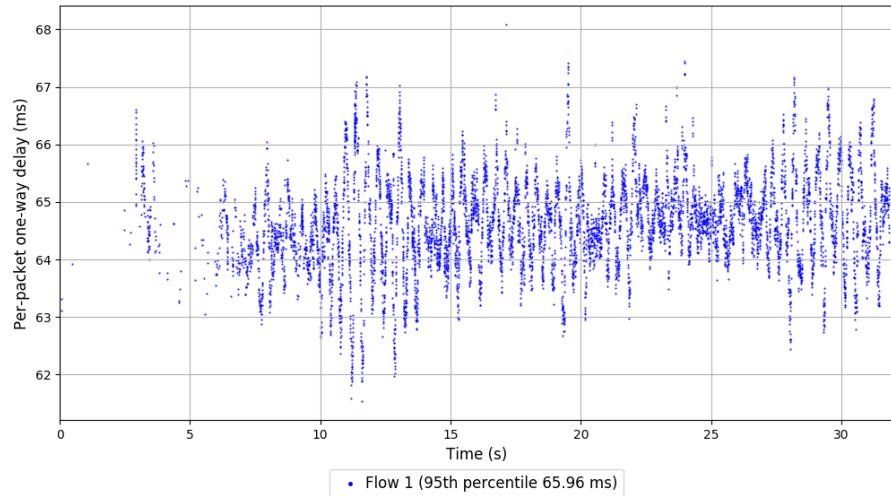
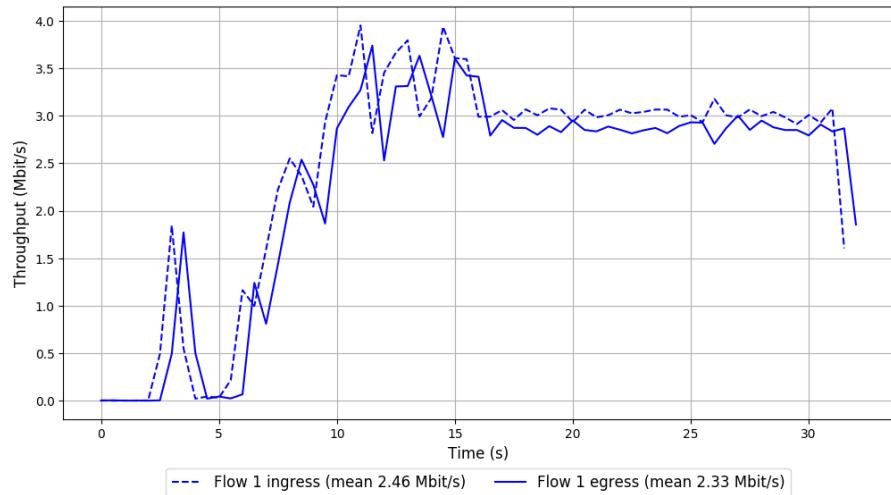


```
Run 1: Statistics of WebRTC media

Start at: 2018-11-15 02:06:33
End at: 2018-11-15 02:07:03
Local clock offset: 2.928 ms
Remote clock offset: -5.76 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 65.964 ms
Loss rate: 5.15%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 65.964 ms
Loss rate: 5.15%
```

Run 1: Report of WebRTC media — Data Link

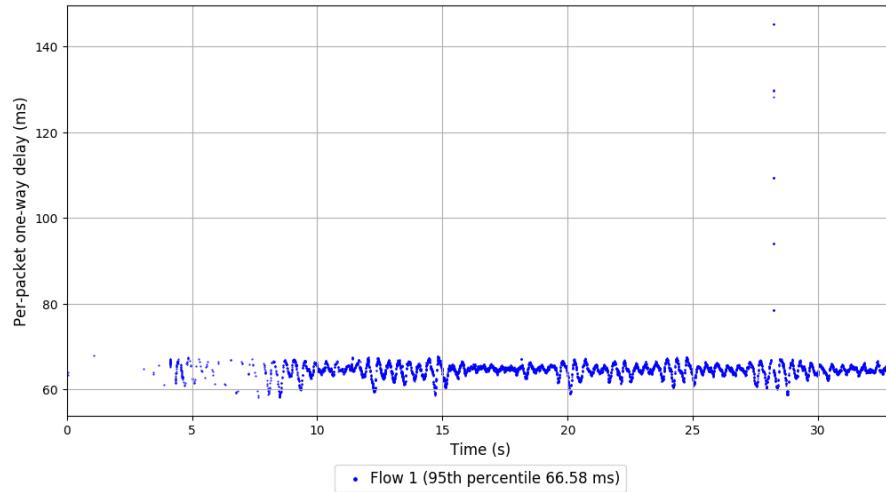
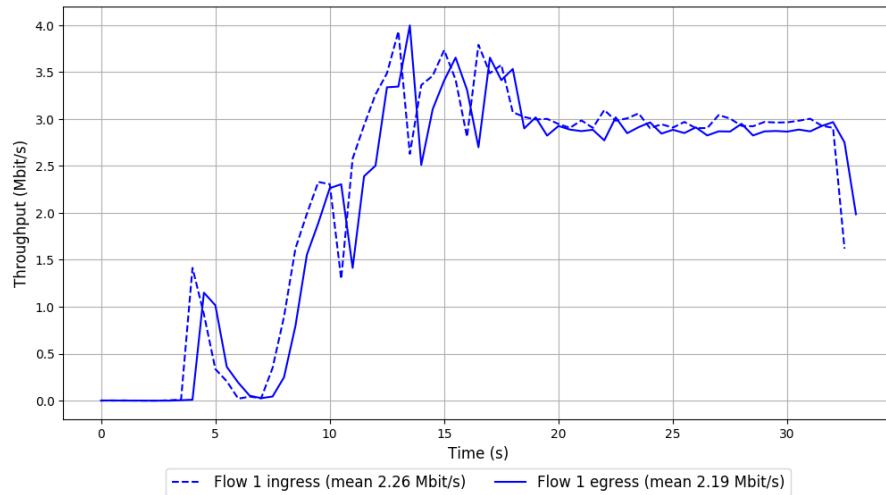


Run 2: Statistics of WebRTC media

```
Start at: 2018-11-15 02:29:36
End at: 2018-11-15 02:30:06
Local clock offset: 11.411 ms
Remote clock offset: -3.045 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 66.575 ms
Loss rate: 2.79%
-- Flow 1:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 66.575 ms
Loss rate: 2.79%
```

Run 2: Report of WebRTC media — Data Link

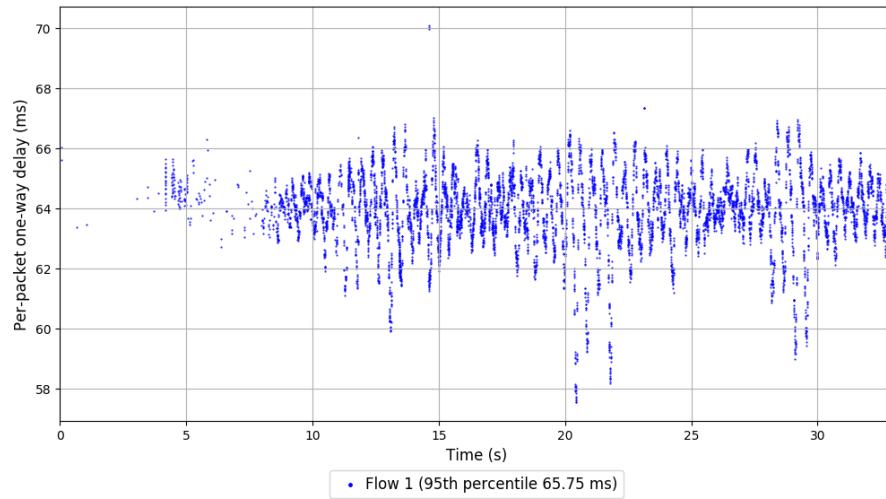
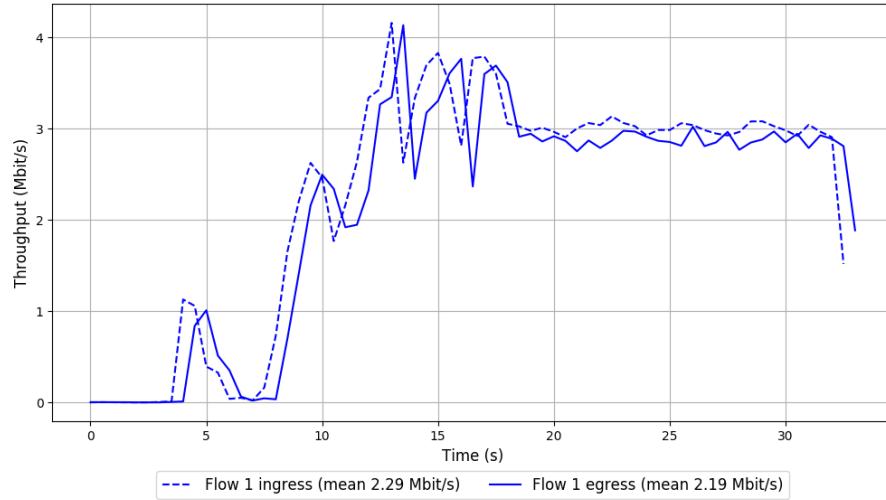


Run 3: Statistics of WebRTC media

```
Start at: 2018-11-15 02:52:42
End at: 2018-11-15 02:53:12
Local clock offset: 9.22 ms
Remote clock offset: -6.89 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 65.750 ms
Loss rate: 4.10%
-- Flow 1:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 65.750 ms
Loss rate: 4.10%
```

Run 3: Report of WebRTC media — Data Link

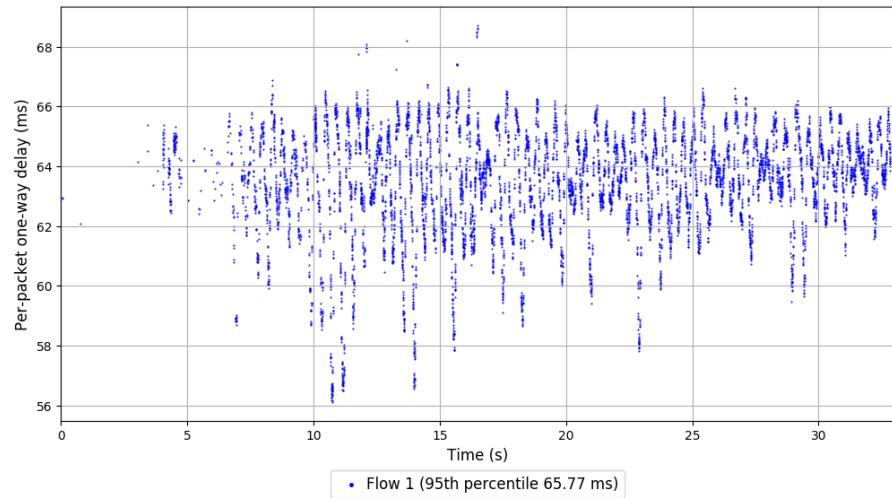
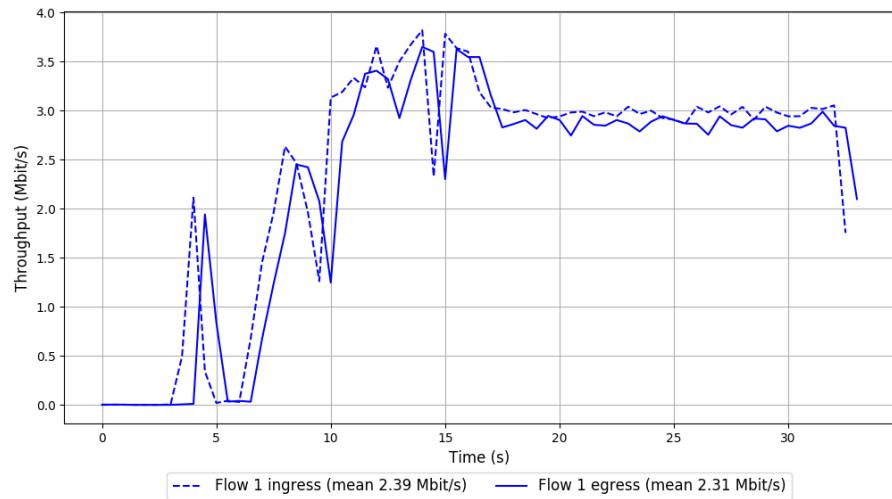


Run 4: Statistics of WebRTC media

```
Start at: 2018-11-15 03:15:25
End at: 2018-11-15 03:15:55
Local clock offset: 4.244 ms
Remote clock offset: -19.85 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 65.765 ms
Loss rate: 3.68%
-- Flow 1:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 65.765 ms
Loss rate: 3.68%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-11-15 03:38:22
End at: 2018-11-15 03:38:52
Local clock offset: 16.01 ms
Remote clock offset: -33.895 ms

# Below is generated by plot.py at 2018-11-15 03:55:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 74.808 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 74.808 ms
Loss rate: 2.55%
```

Run 5: Report of WebRTC media — Data Link

