

Pantheon Report

Generated at 2018-10-02 09:05:33 (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:

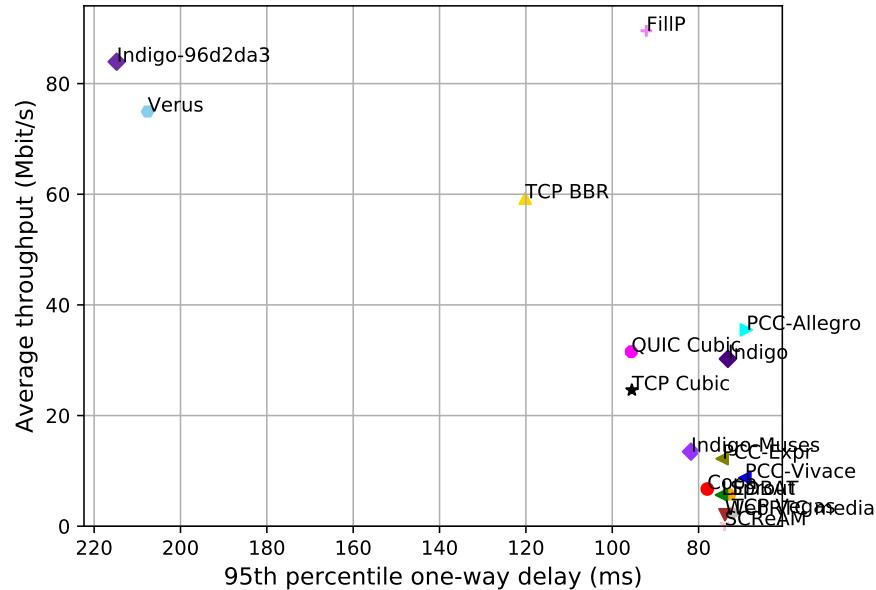
```
Linux 4.15.0-1021-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

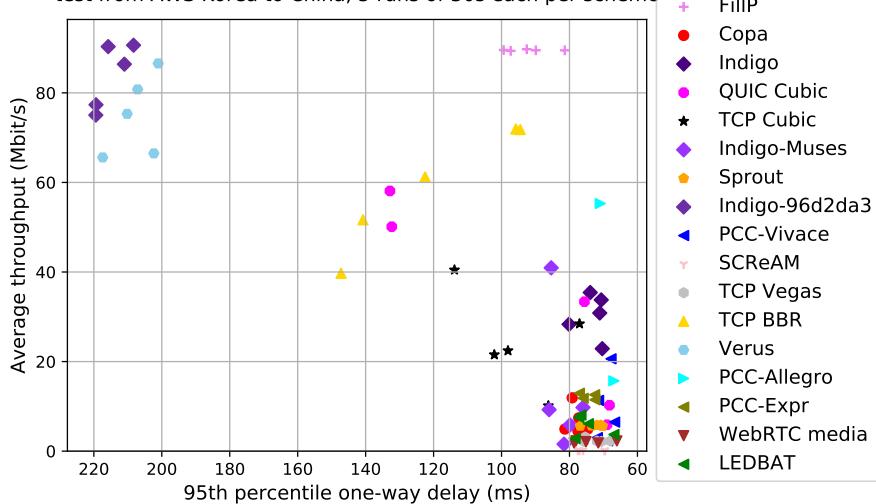
```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95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

third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from AWS Korea to China, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS Korea to China, 5 runs of 30s each per scheme



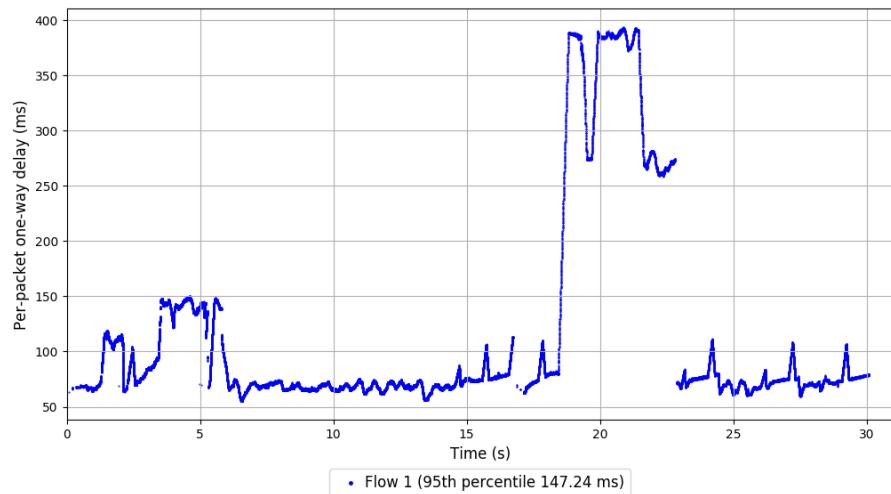
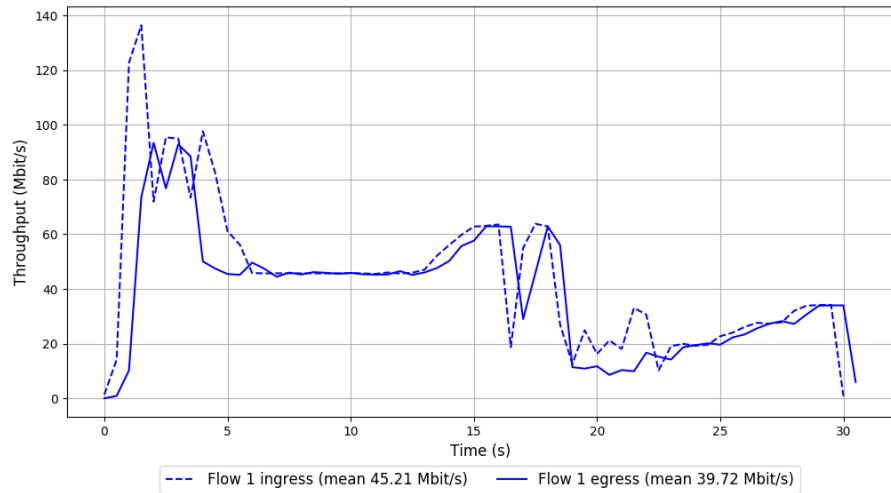
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	59.27	120.16	8.85
Copa	5	6.72	77.99	1.86
TCP Cubic	5	24.60	95.47	0.93
FillP	5	89.54	92.11	1.22
Indigo	5	30.25	73.22	0.18
Indigo-96d2da3	5	83.95	214.78	23.59
LEDBAT	5	5.65	74.71	0.14
Indigo-Muses	5	13.47	81.77	0.13
PCC-Allegro	2	35.49	68.94	11.81
PCC-Expr	4	12.21	74.55	31.13
QUIC Cubic	5	31.55	95.58	0.14
SCReAM	5	0.18	73.97	0.06
Sprout	5	5.69	72.67	0.16
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	2.40	72.32	0.19
Verus	5	74.95	207.62	7.86
PCC-Vivace	5	8.75	69.29	0.18
WebRTC media	5	2.07	73.89	0.13

Run 1: Statistics of TCP BBR

```
Start at: 2018-10-02 07:13:11
End at: 2018-10-02 07:13:41
Local clock offset: 4.347 ms
Remote clock offset: 62.778 ms

# Below is generated by plot.py at 2018-10-02 09:01:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.72 Mbit/s
95th percentile per-packet one-way delay: 147.237 ms
Loss rate: 12.10%
-- Flow 1:
Average throughput: 39.72 Mbit/s
95th percentile per-packet one-way delay: 147.237 ms
Loss rate: 12.10%
```

Run 1: Report of TCP BBR — Data Link

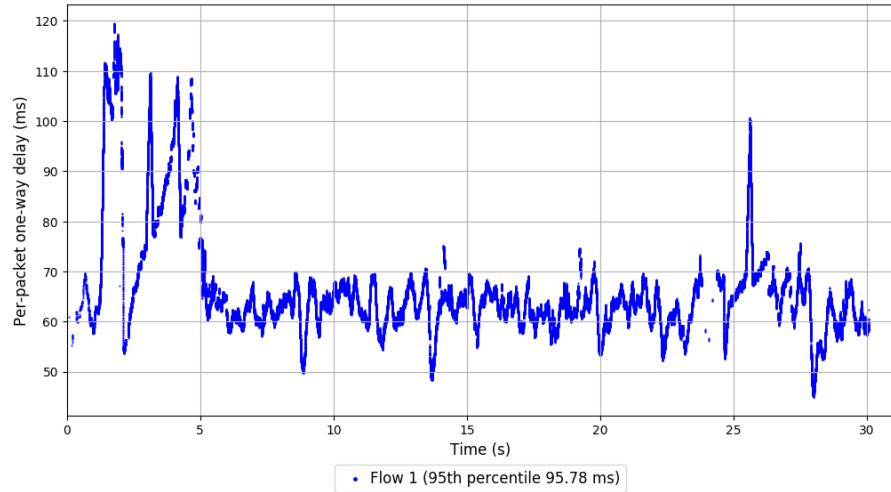
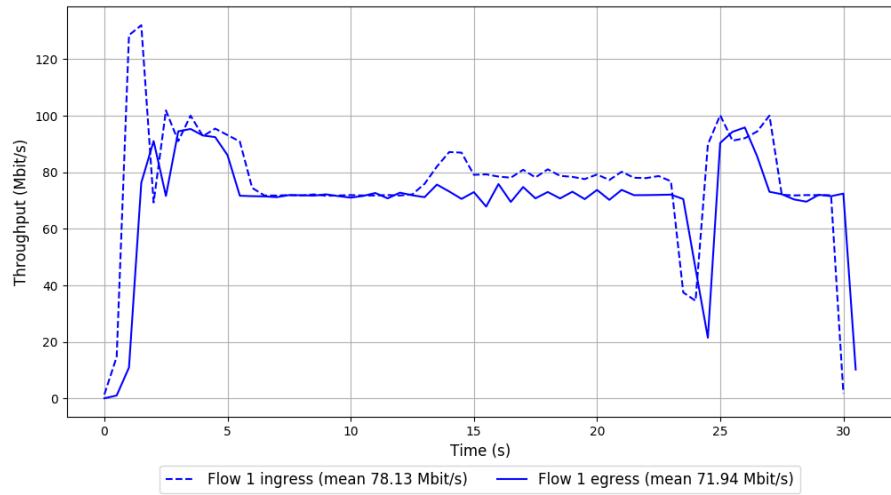


Run 2: Statistics of TCP BBR

```
Start at: 2018-10-02 07:34:50
End at: 2018-10-02 07:35:20
Local clock offset: -4.263 ms
Remote clock offset: 4.724 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.94 Mbit/s
95th percentile per-packet one-way delay: 95.781 ms
Loss rate: 7.93%
-- Flow 1:
Average throughput: 71.94 Mbit/s
95th percentile per-packet one-way delay: 95.781 ms
Loss rate: 7.93%
```

Run 2: Report of TCP BBR — Data Link

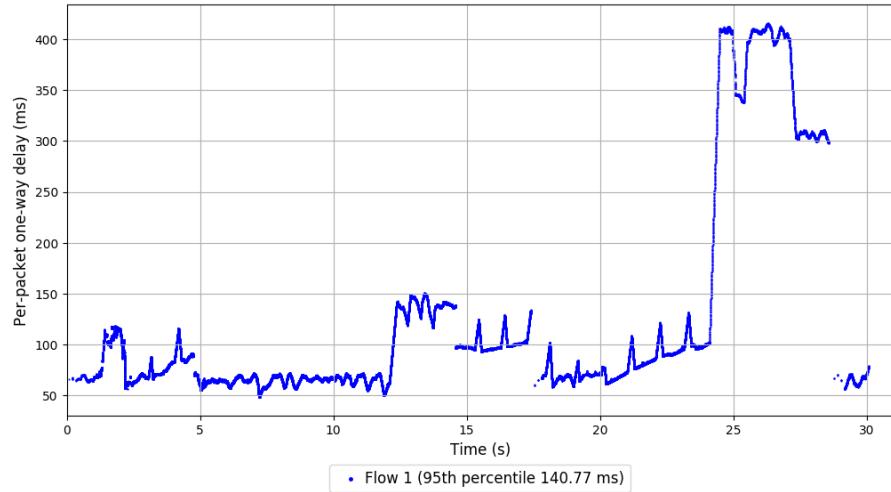
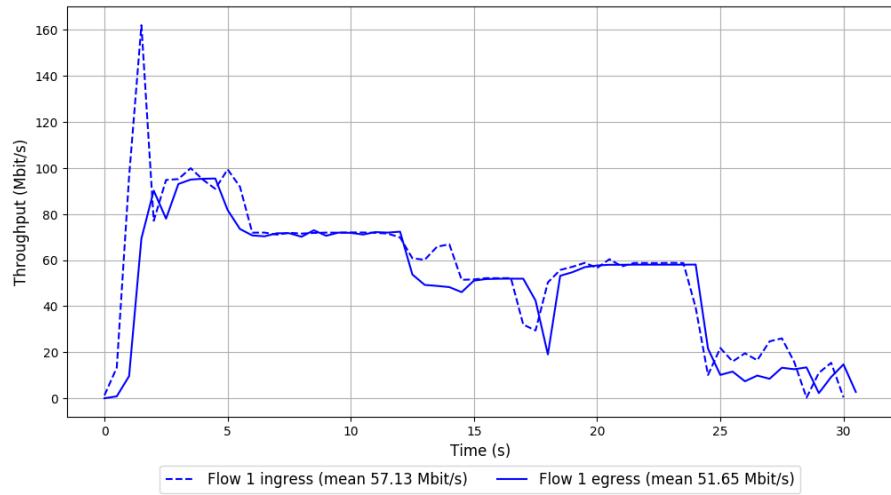


Run 3: Statistics of TCP BBR

```
Start at: 2018-10-02 07:56:32
End at: 2018-10-02 07:57:02
Local clock offset: -8.321 ms
Remote clock offset: -0.664 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 51.65 Mbit/s
95th percentile per-packet one-way delay: 140.773 ms
Loss rate: 9.56%
-- Flow 1:
Average throughput: 51.65 Mbit/s
95th percentile per-packet one-way delay: 140.773 ms
Loss rate: 9.56%
```

Run 3: Report of TCP BBR — Data Link

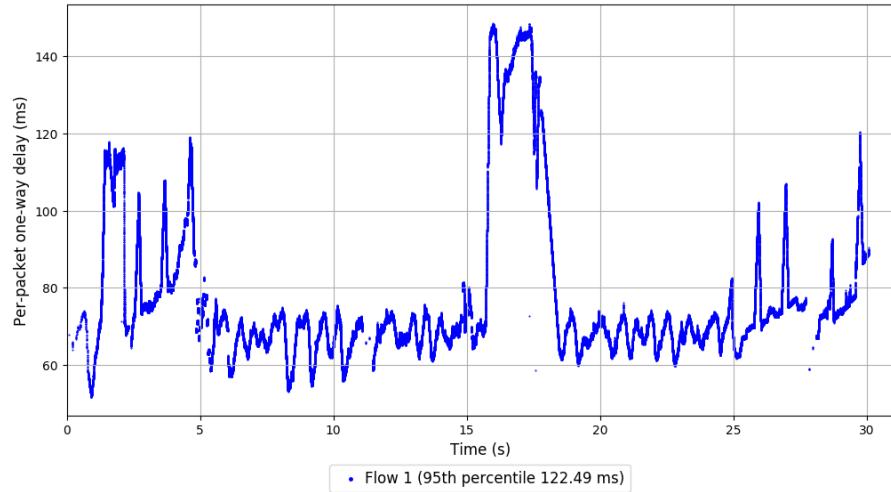
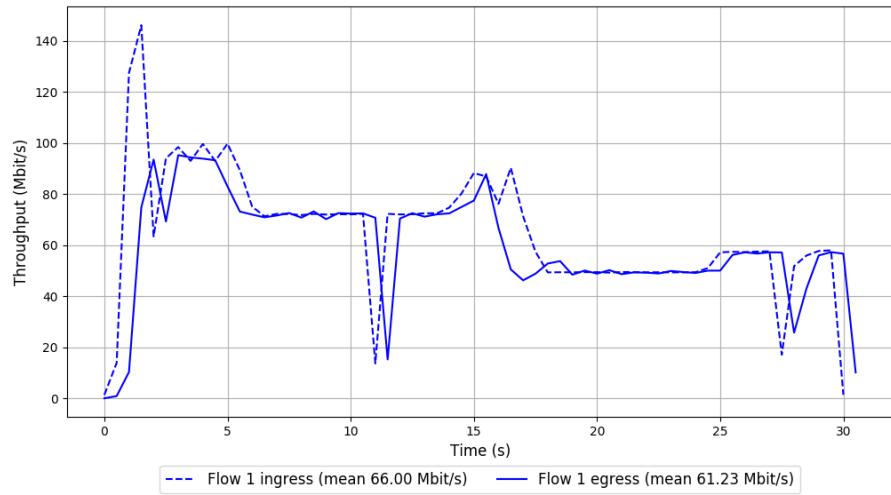


Run 4: Statistics of TCP BBR

```
Start at: 2018-10-02 08:18:49
End at: 2018-10-02 08:19:19
Local clock offset: -11.032 ms
Remote clock offset: 0.496 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.23 Mbit/s
95th percentile per-packet one-way delay: 122.491 ms
Loss rate: 7.20%
-- Flow 1:
Average throughput: 61.23 Mbit/s
95th percentile per-packet one-way delay: 122.491 ms
Loss rate: 7.20%
```

Run 4: Report of TCP BBR — Data Link

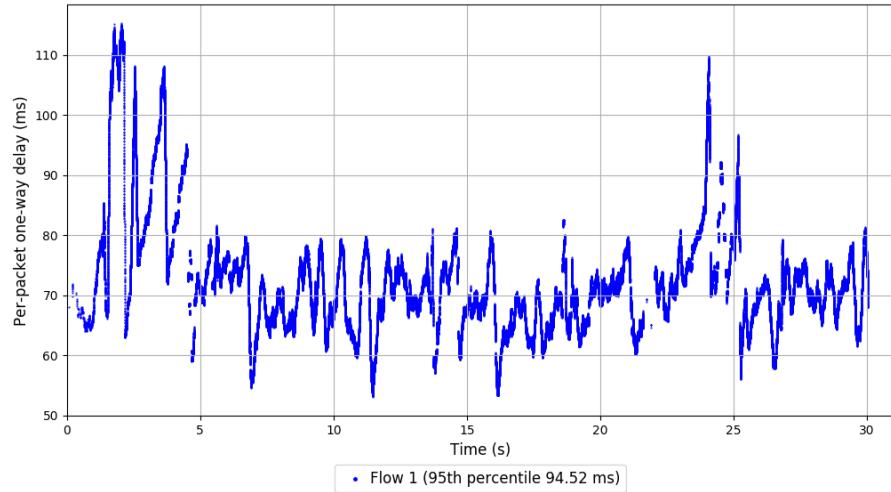
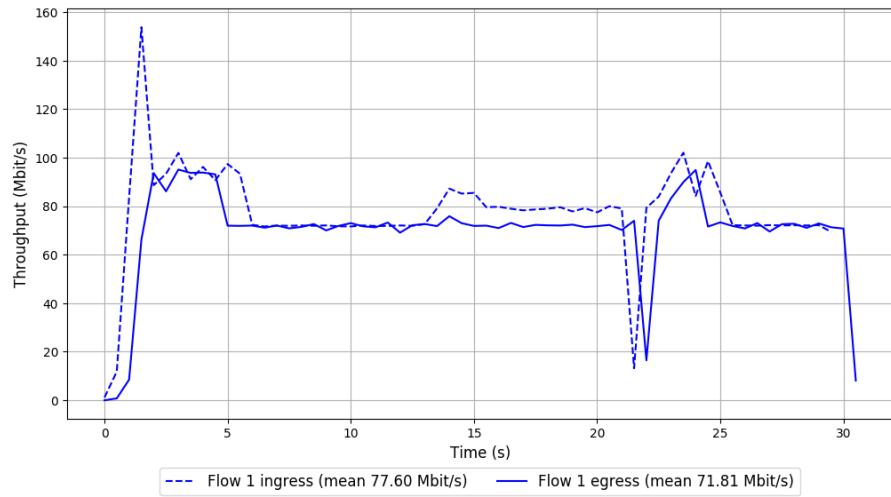


Run 5: Statistics of TCP BBR

```
Start at: 2018-10-02 08:40:35
End at: 2018-10-02 08:41:05
Local clock offset: -14.019 ms
Remote clock offset: 70.694 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.81 Mbit/s
95th percentile per-packet one-way delay: 94.517 ms
Loss rate: 7.45%
-- Flow 1:
Average throughput: 71.81 Mbit/s
95th percentile per-packet one-way delay: 94.517 ms
Loss rate: 7.45%
```

Run 5: Report of TCP BBR — Data Link

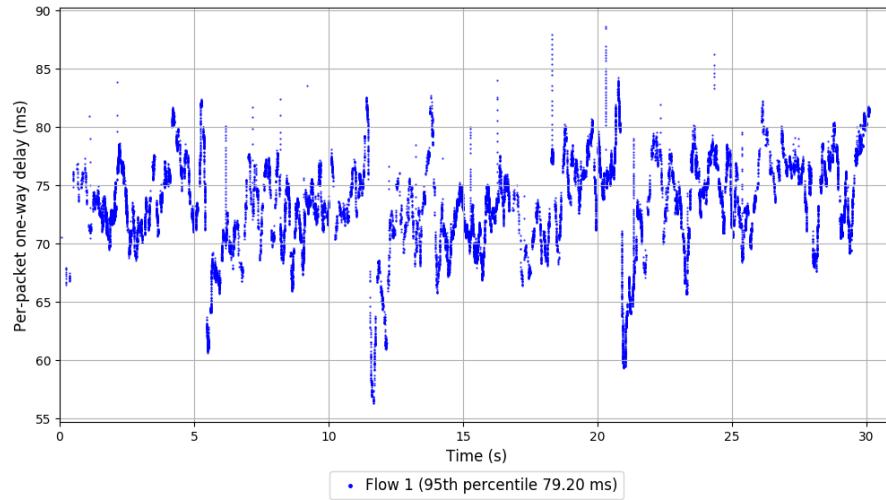
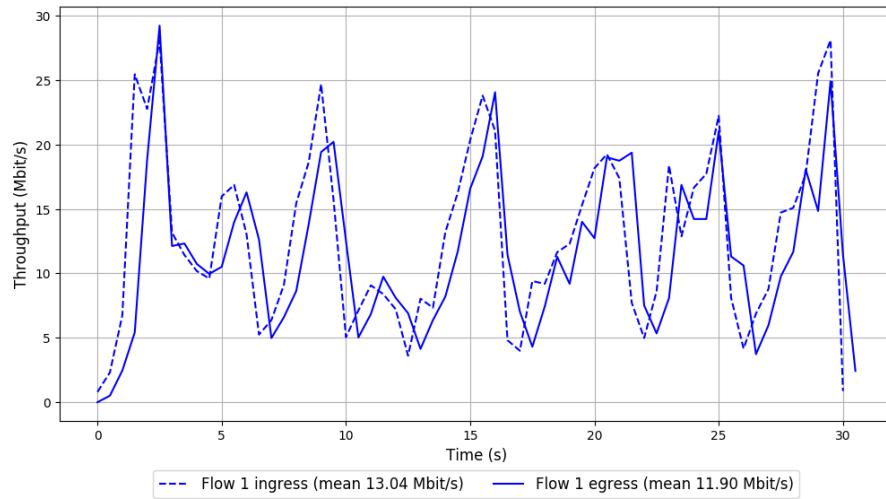


Run 1: Statistics of Copa

```
Start at: 2018-10-02 07:32:30
End at: 2018-10-02 07:33:00
Local clock offset: -3.798 ms
Remote clock offset: 11.746 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.90 Mbit/s
95th percentile per-packet one-way delay: 79.198 ms
Loss rate: 8.71%
-- Flow 1:
Average throughput: 11.90 Mbit/s
95th percentile per-packet one-way delay: 79.198 ms
Loss rate: 8.71%
```

Run 1: Report of Copa — Data Link

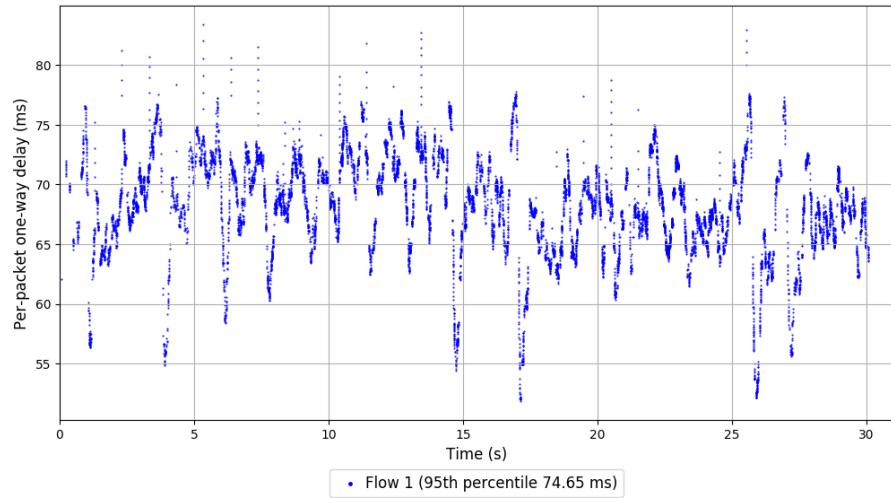
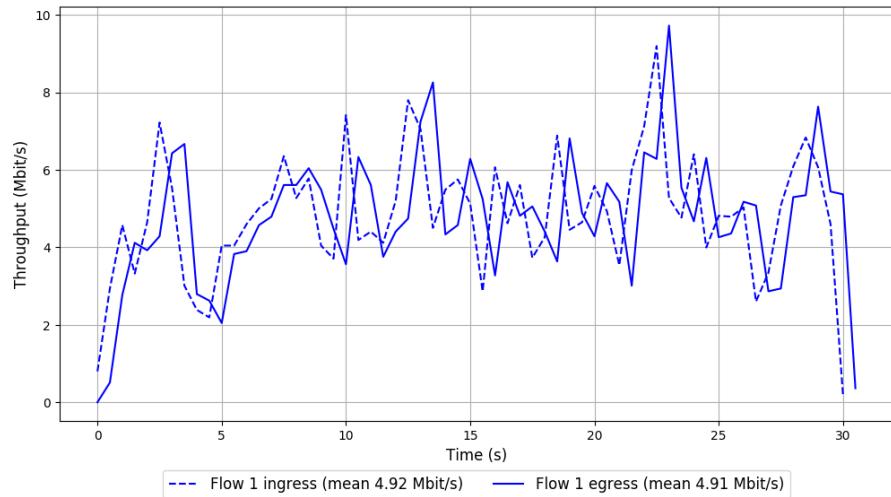


Run 2: Statistics of Copa

```
Start at: 2018-10-02 07:54:11
End at: 2018-10-02 07:54:41
Local clock offset: -7.725 ms
Remote clock offset: -3.58 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.91 Mbit/s
95th percentile per-packet one-way delay: 74.648 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 4.91 Mbit/s
95th percentile per-packet one-way delay: 74.648 ms
Loss rate: 0.19%
```

Run 2: Report of Copa — Data Link

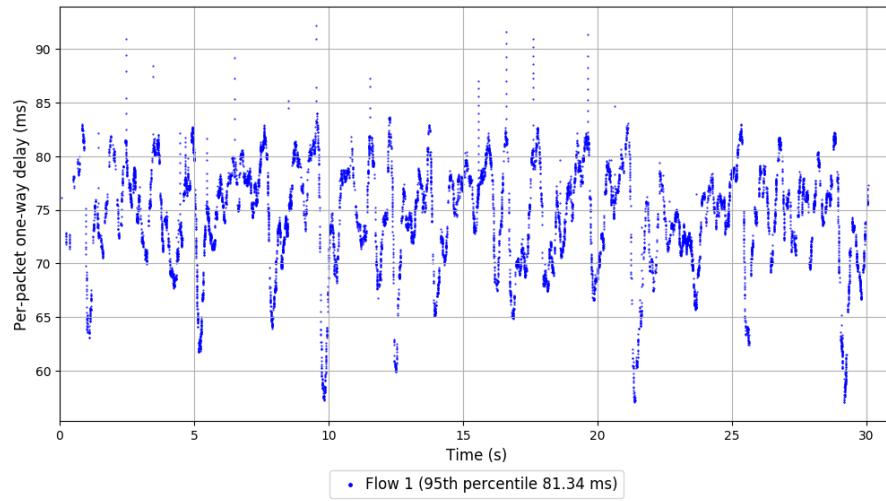
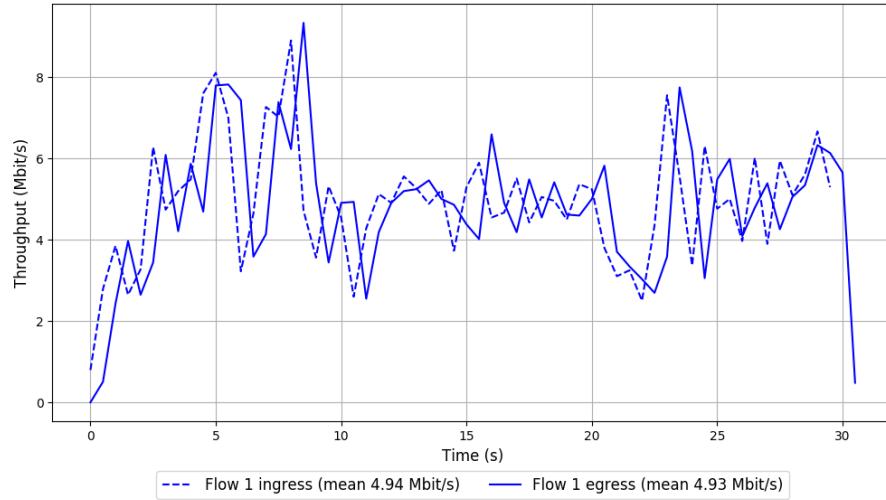


Run 3: Statistics of Copa

```
Start at: 2018-10-02 08:16:29
End at: 2018-10-02 08:16:59
Local clock offset: -10.798 ms
Remote clock offset: 0.172 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 81.337 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 81.337 ms
Loss rate: 0.16%
```

Run 3: Report of Copa — Data Link

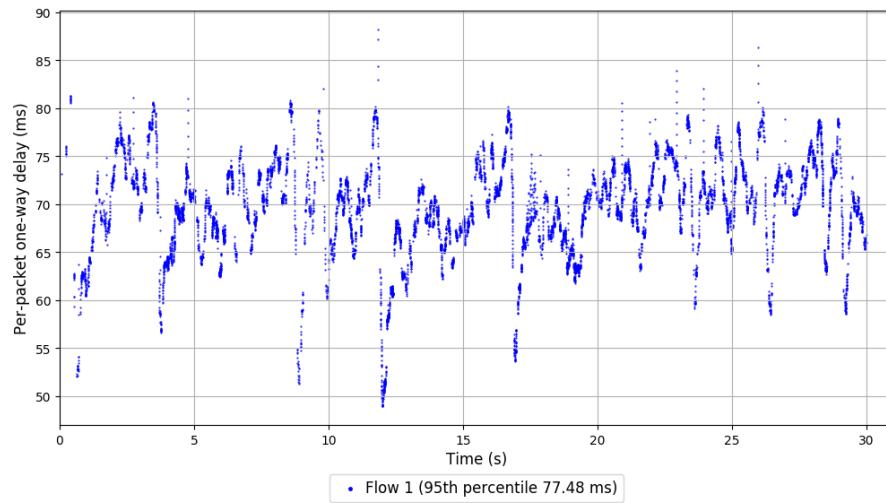
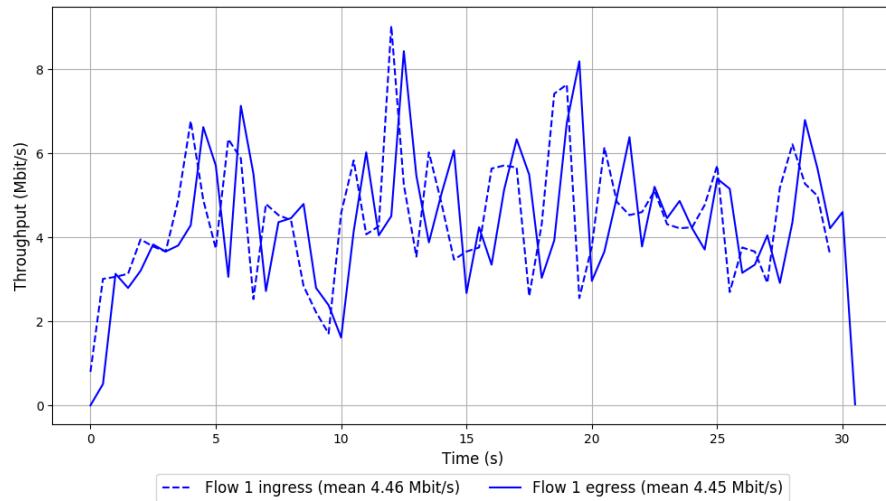


Run 4: Statistics of Copa

```
Start at: 2018-10-02 08:38:15
End at: 2018-10-02 08:38:45
Local clock offset: -13.81 ms
Remote clock offset: 67.051 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.45 Mbit/s
95th percentile per-packet one-way delay: 77.484 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 4.45 Mbit/s
95th percentile per-packet one-way delay: 77.484 ms
Loss rate: 0.13%
```

Run 4: Report of Copa — Data Link

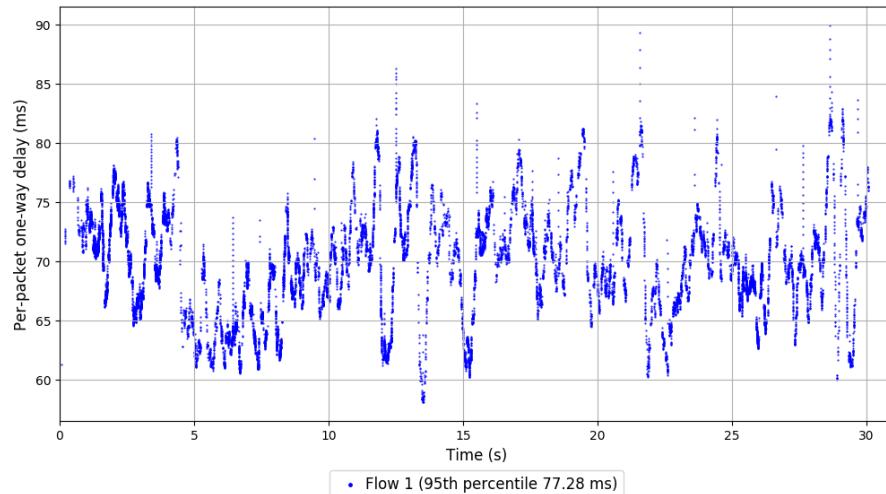
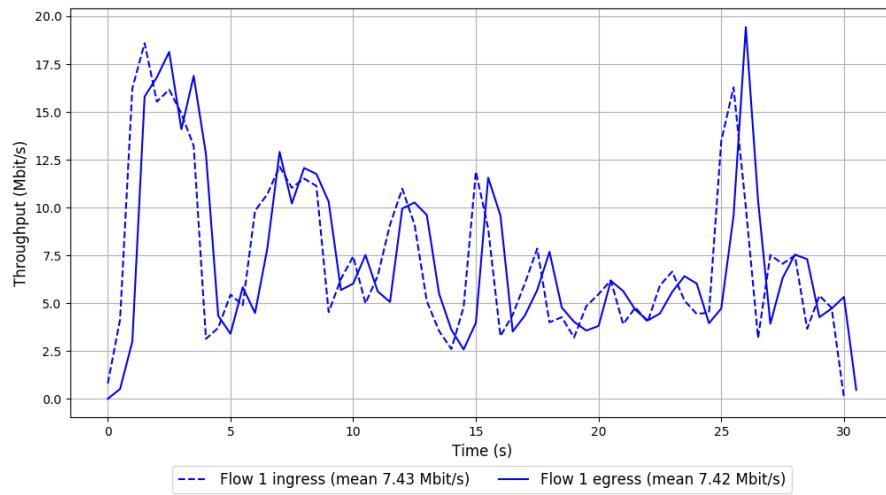


Run 5: Statistics of Copa

```
Start at: 2018-10-02 08:59:49
End at: 2018-10-02 09:00:19
Local clock offset: -10.087 ms
Remote clock offset: 84.086 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.42 Mbit/s
95th percentile per-packet one-way delay: 77.279 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 7.42 Mbit/s
95th percentile per-packet one-way delay: 77.279 ms
Loss rate: 0.12%
```

Run 5: Report of Copa — Data Link

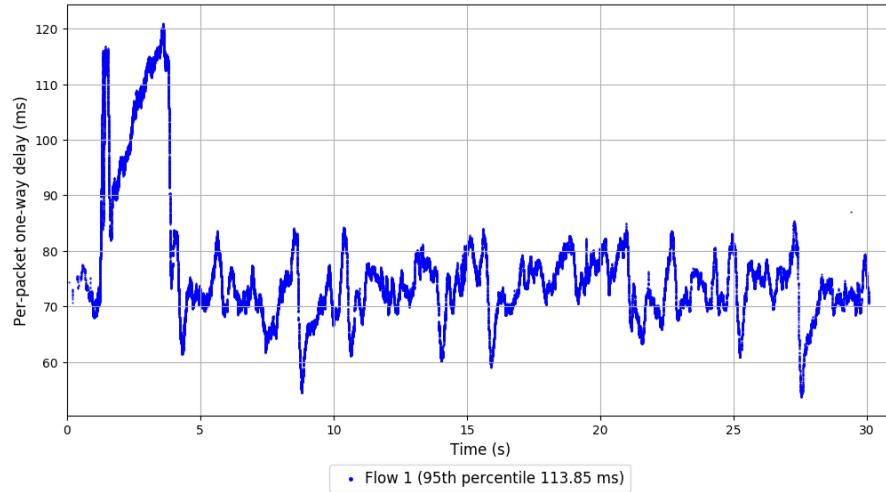
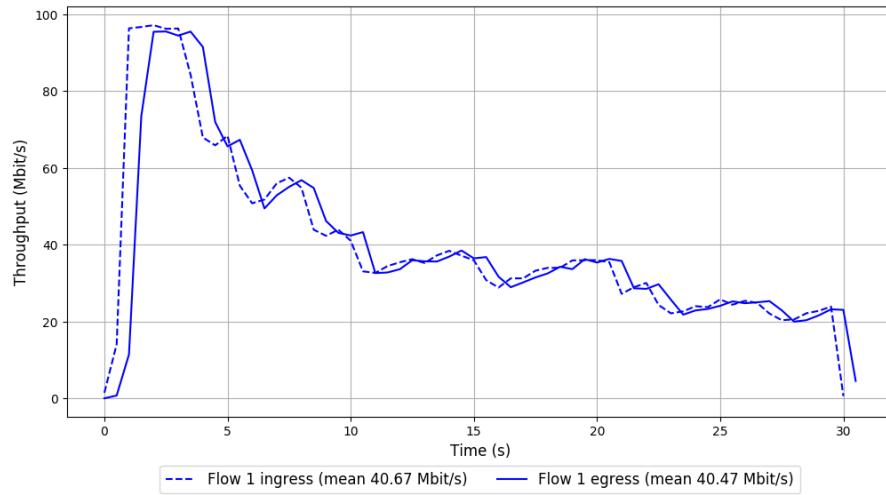


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-10-02 07:25:18
End at: 2018-10-02 07:25:48
Local clock offset: -1.843 ms
Remote clock offset: 23.424 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.47 Mbit/s
95th percentile per-packet one-way delay: 113.850 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 40.47 Mbit/s
95th percentile per-packet one-way delay: 113.850 ms
Loss rate: 0.50%
```

Run 1: Report of TCP Cubic — Data Link

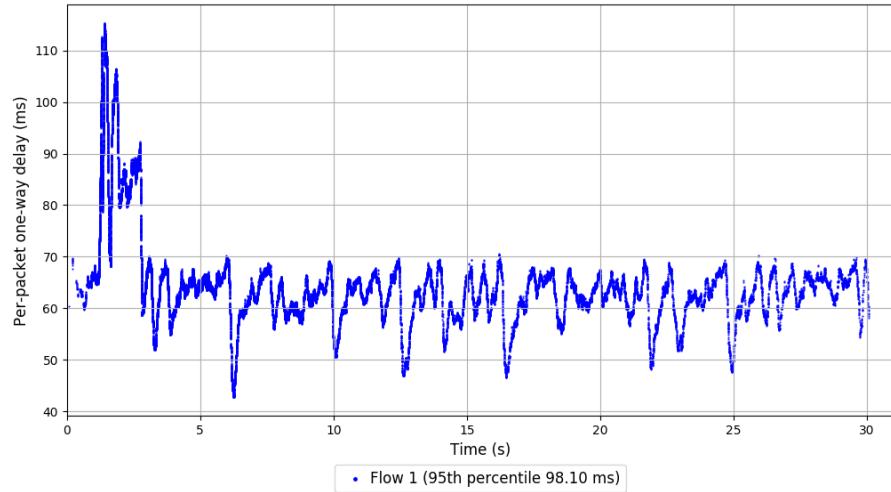
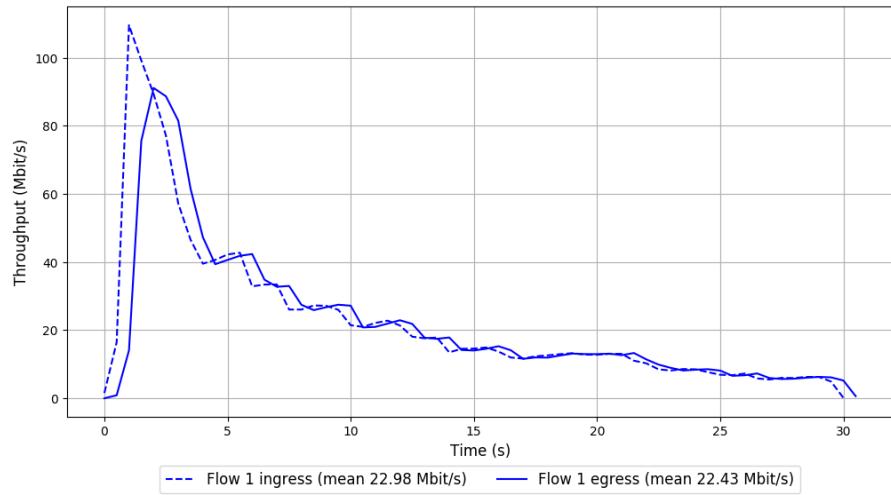


Run 2: Statistics of TCP Cubic

```
Start at: 2018-10-02 07:47:08
End at: 2018-10-02 07:47:38
Local clock offset: -5.985 ms
Remote clock offset: -2.746 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 22.43 Mbit/s
95th percentile per-packet one-way delay: 98.104 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 22.43 Mbit/s
95th percentile per-packet one-way delay: 98.104 ms
Loss rate: 2.40%
```

Run 2: Report of TCP Cubic — Data Link

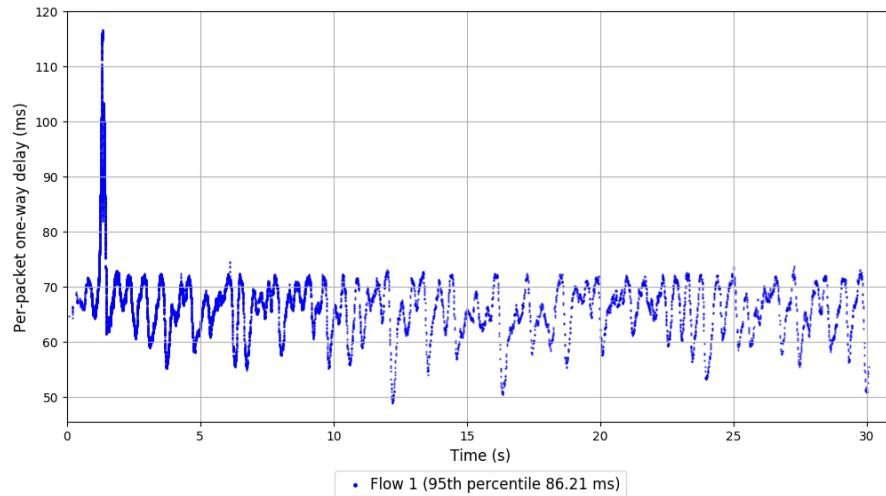
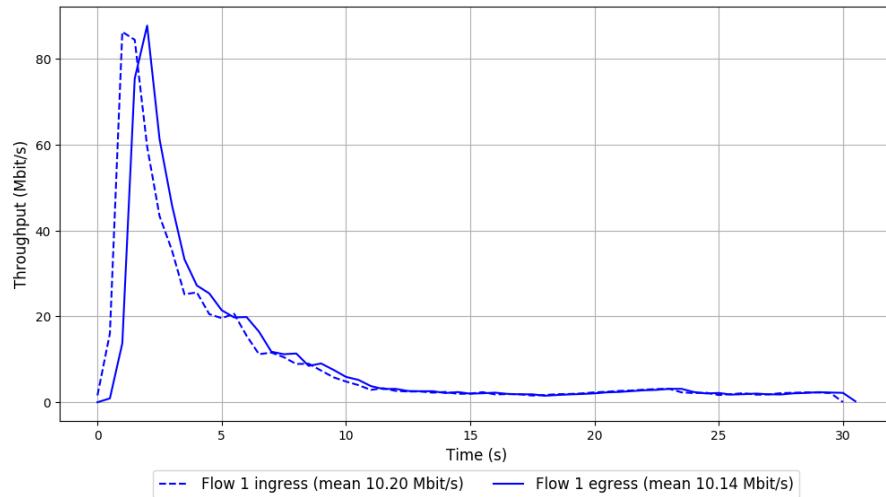


Run 3: Statistics of TCP Cubic

```
Start at: 2018-10-02 08:09:25
End at: 2018-10-02 08:09:55
Local clock offset: -9.85 ms
Remote clock offset: -0.692 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 10.14 Mbit/s
95th percentile per-packet one-way delay: 86.211 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 10.14 Mbit/s
95th percentile per-packet one-way delay: 86.211 ms
Loss rate: 0.65%
```

Run 3: Report of TCP Cubic — Data Link

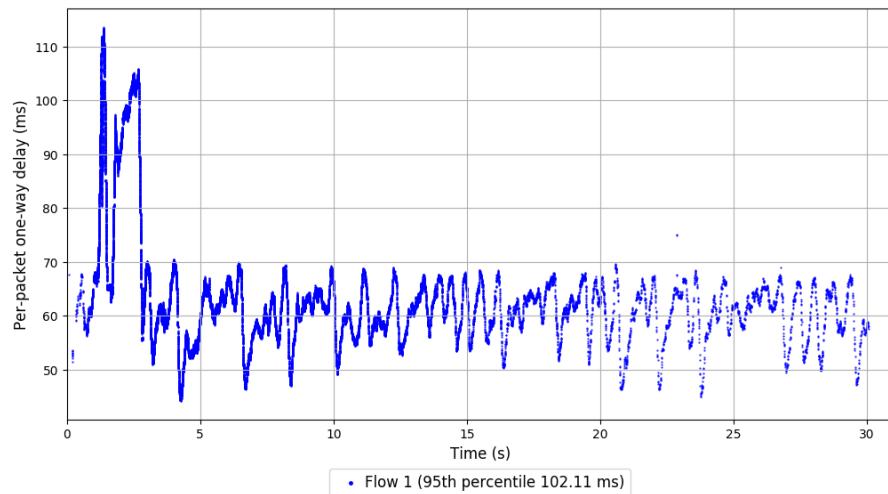
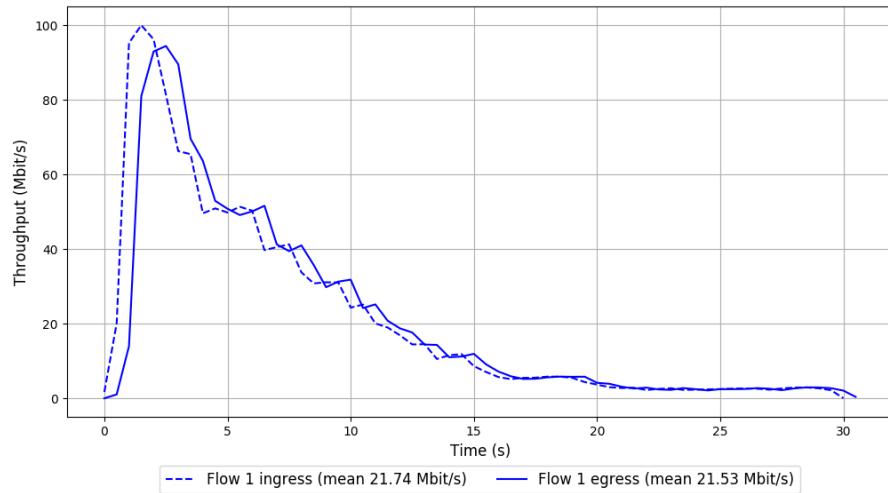


Run 4: Statistics of TCP Cubic

```
Start at: 2018-10-02 08:31:05
End at: 2018-10-02 08:31:35
Local clock offset: -13.043 ms
Remote clock offset: 42.459 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 21.53 Mbit/s
95th percentile per-packet one-way delay: 102.114 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 21.53 Mbit/s
95th percentile per-packet one-way delay: 102.114 ms
Loss rate: 1.01%
```

Run 4: Report of TCP Cubic — Data Link

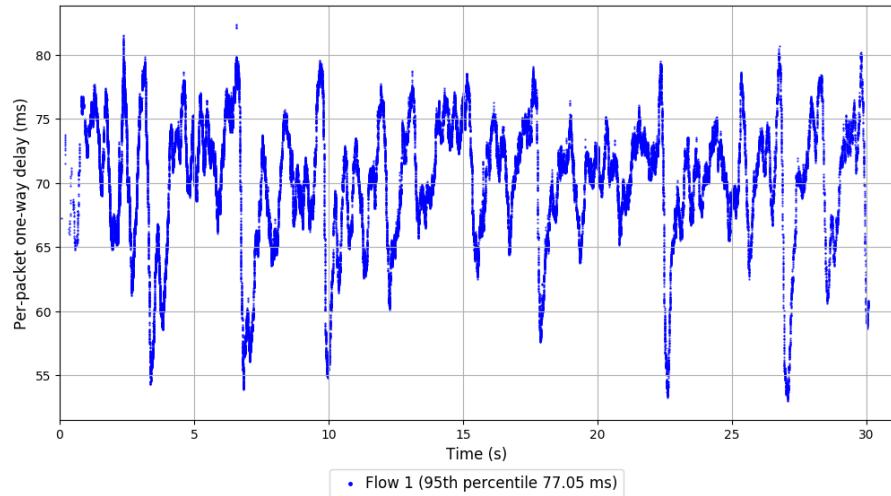
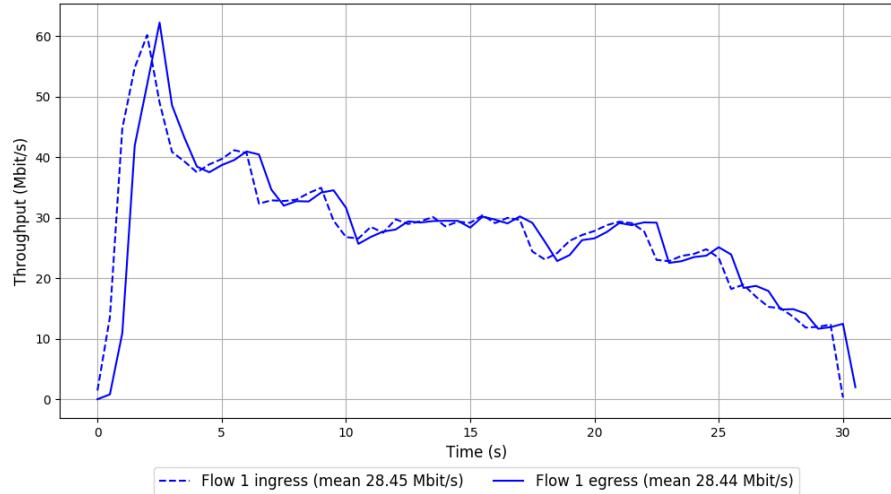


Run 5: Statistics of TCP Cubic

```
Start at: 2018-10-02 08:52:44
End at: 2018-10-02 08:53:14
Local clock offset: -11.488 ms
Remote clock offset: 87.698 ms

# Below is generated by plot.py at 2018-10-02 09:01:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.44 Mbit/s
95th percentile per-packet one-way delay: 77.051 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 28.44 Mbit/s
95th percentile per-packet one-way delay: 77.051 ms
Loss rate: 0.07%
```

Run 5: Report of TCP Cubic — Data Link

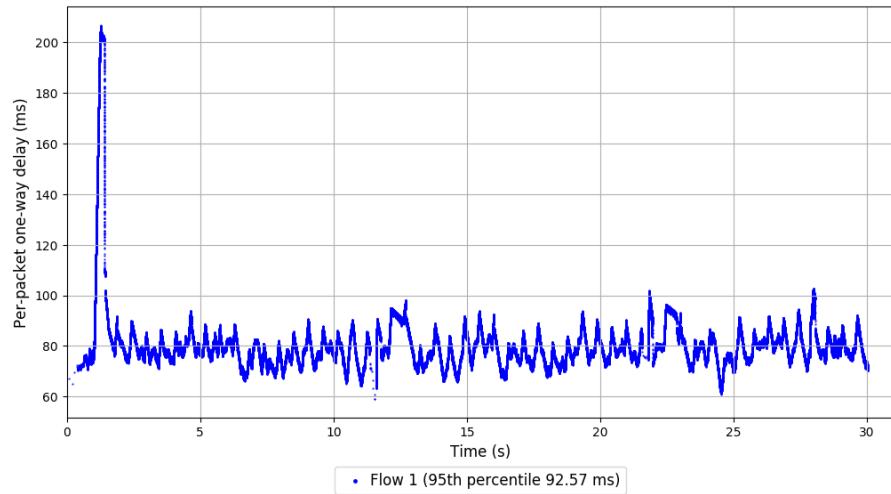
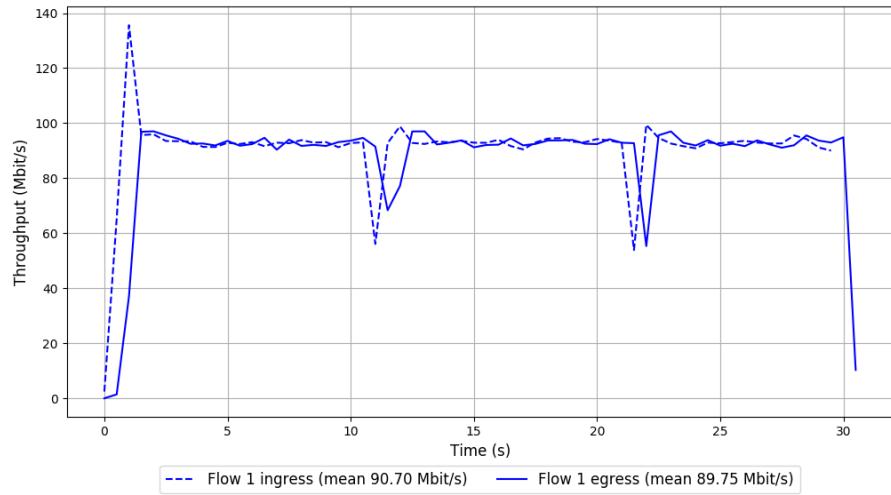


```
Run 1: Statistics of FillP
```

```
Start at: 2018-10-02 07:21:30
End at: 2018-10-02 07:22:00
Local clock offset: 0.075 ms
Remote clock offset: 32.444 ms

# Below is generated by plot.py at 2018-10-02 09:02:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.75 Mbit/s
95th percentile per-packet one-way delay: 92.570 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 89.75 Mbit/s
95th percentile per-packet one-way delay: 92.570 ms
Loss rate: 1.04%
```

Run 1: Report of FillP — Data Link

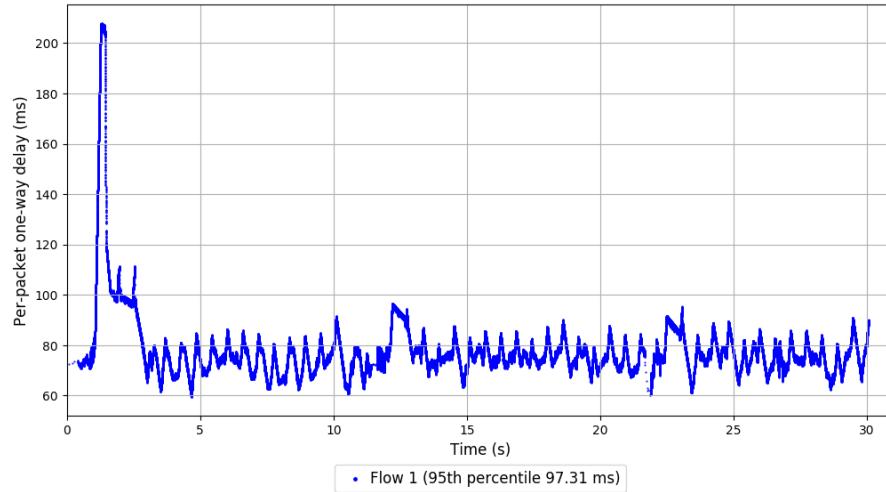
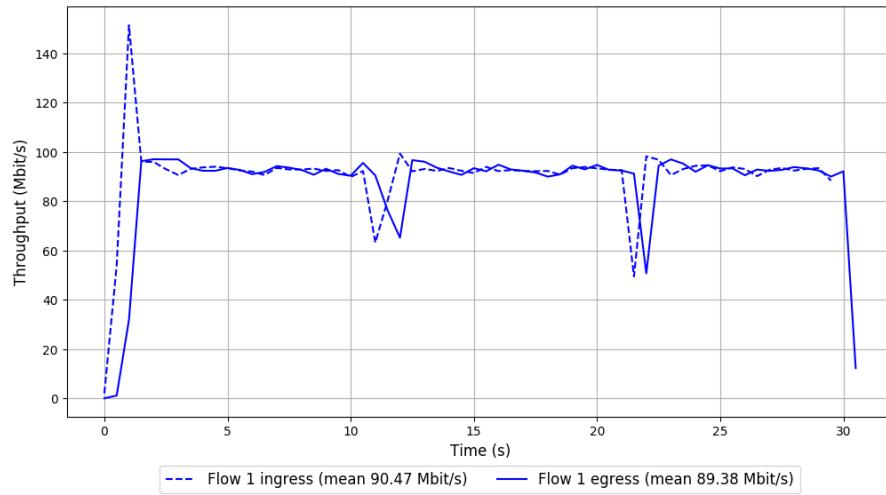


Run 2: Statistics of FillP

```
Start at: 2018-10-02 07:43:15
End at: 2018-10-02 07:43:45
Local clock offset: -5.347 ms
Remote clock offset: 0.738 ms

# Below is generated by plot.py at 2018-10-02 09:02:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.38 Mbit/s
95th percentile per-packet one-way delay: 97.305 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 89.38 Mbit/s
95th percentile per-packet one-way delay: 97.305 ms
Loss rate: 1.15%
```

Run 2: Report of FillP — Data Link

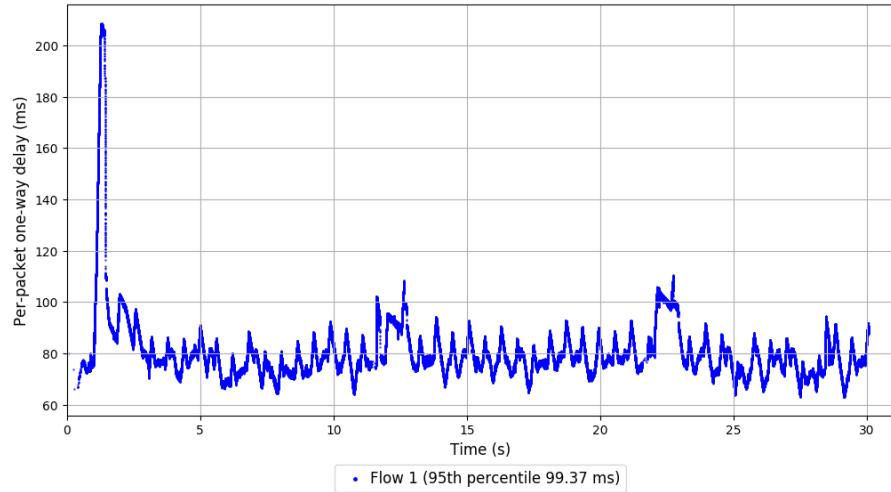
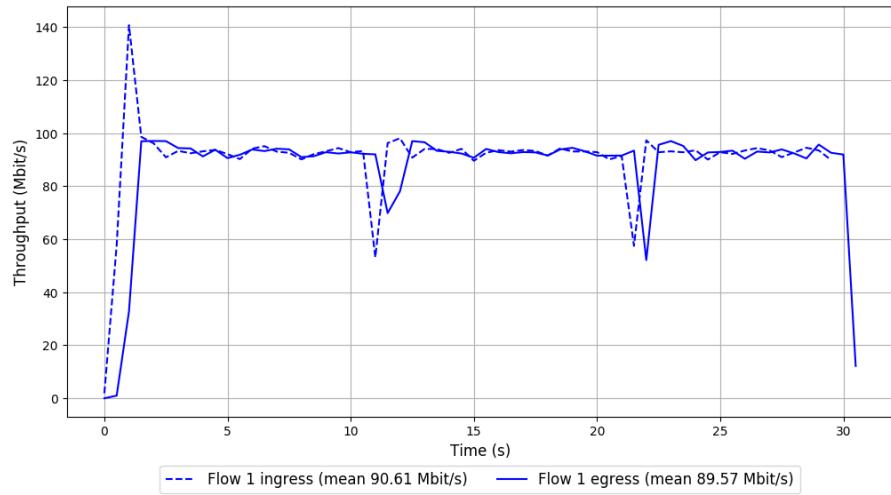


Run 3: Statistics of FillP

```
Start at: 2018-10-02 08:04:49
End at: 2018-10-02 08:05:19
Local clock offset: -9.238 ms
Remote clock offset: 0.211 ms

# Below is generated by plot.py at 2018-10-02 09:03:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.57 Mbit/s
95th percentile per-packet one-way delay: 99.373 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 89.57 Mbit/s
95th percentile per-packet one-way delay: 99.373 ms
Loss rate: 1.11%
```

Run 3: Report of FillP — Data Link

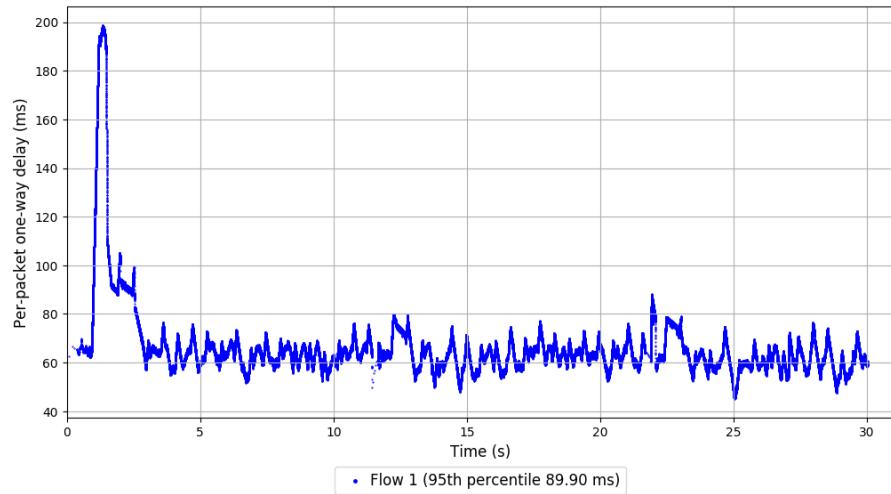
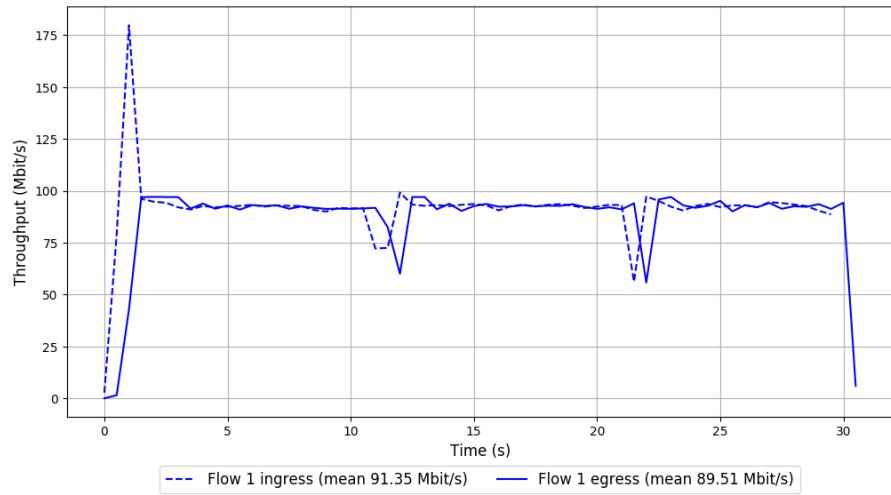


Run 4: Statistics of FillP

```
Start at: 2018-10-02 08:27:16
End at: 2018-10-02 08:27:46
Local clock offset: -12.675 ms
Remote clock offset: 22.773 ms

# Below is generated by plot.py at 2018-10-02 09:03:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.51 Mbit/s
95th percentile per-packet one-way delay: 89.898 ms
Loss rate: 2.02%
-- Flow 1:
Average throughput: 89.51 Mbit/s
95th percentile per-packet one-way delay: 89.898 ms
Loss rate: 2.02%
```

Run 4: Report of FillP — Data Link

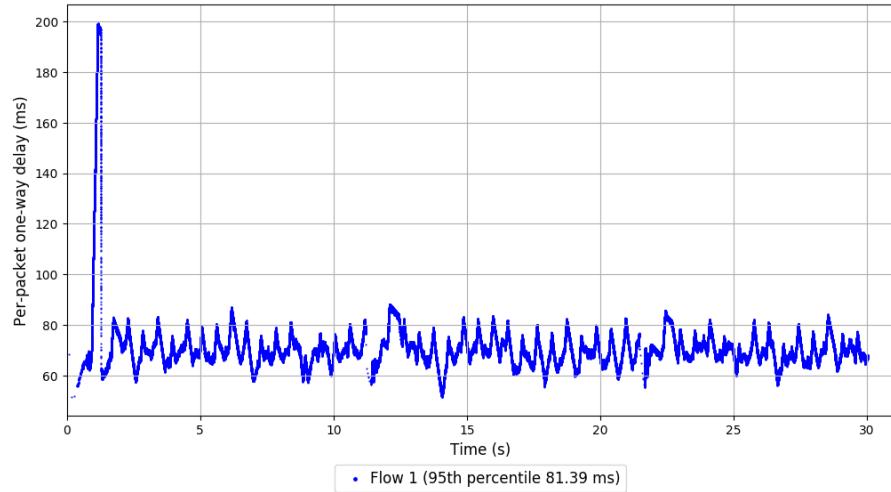
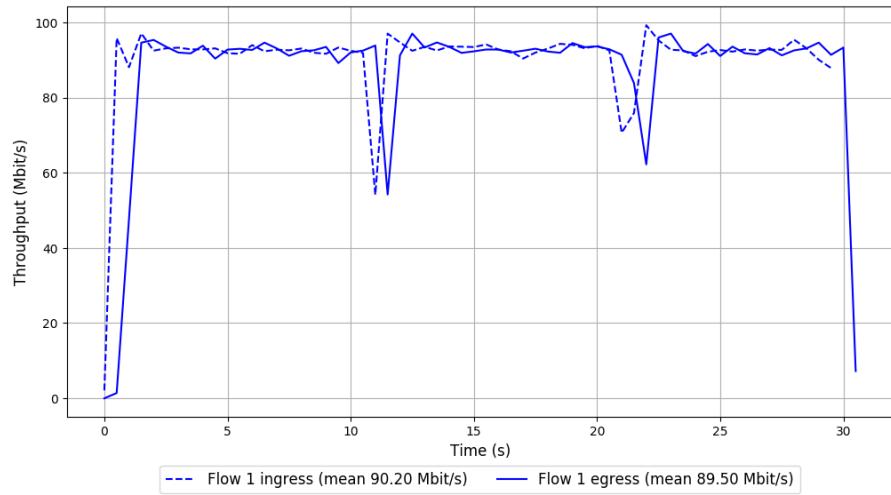


Run 5: Statistics of FillP

```
Start at: 2018-10-02 08:49:00
End at: 2018-10-02 08:49:30
Local clock offset: -13.051 ms
Remote clock offset: 85.784 ms

# Below is generated by plot.py at 2018-10-02 09:03:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.50 Mbit/s
95th percentile per-packet one-way delay: 81.386 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 89.50 Mbit/s
95th percentile per-packet one-way delay: 81.386 ms
Loss rate: 0.78%
```

Run 5: Report of FillP — Data Link

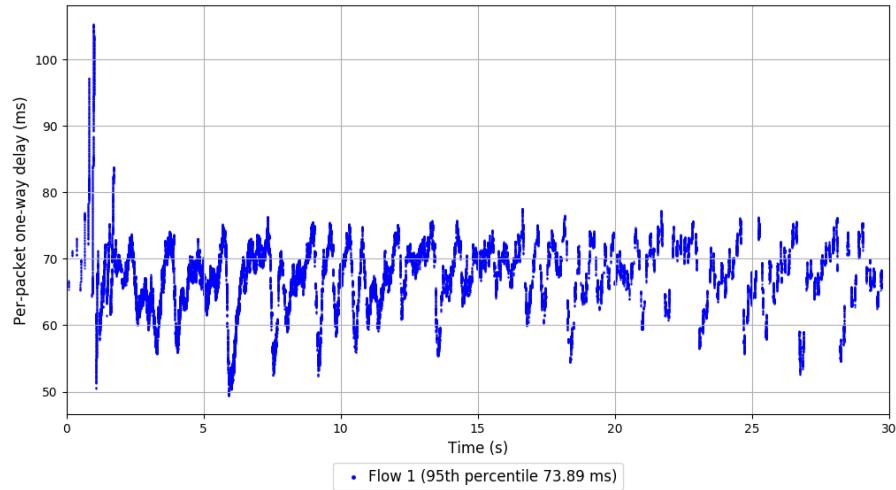
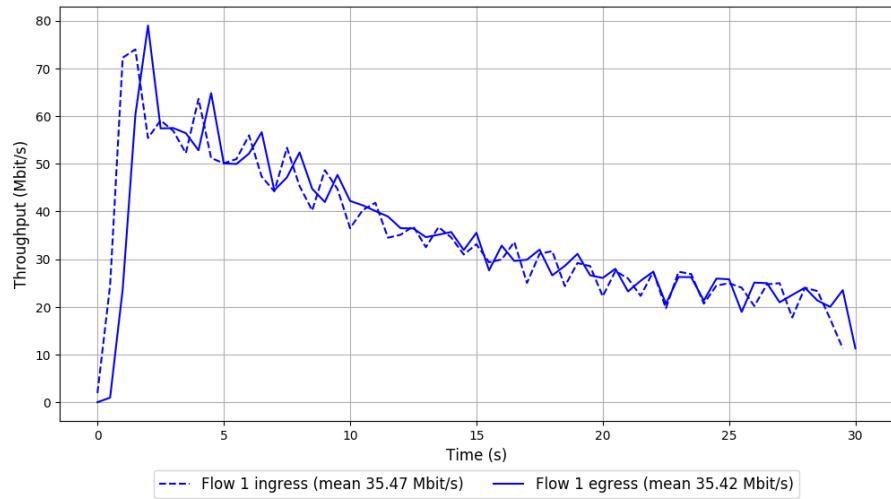


Run 1: Statistics of Indigo

```
Start at: 2018-10-02 07:17:55
End at: 2018-10-02 07:18:25
Local clock offset: 2.492 ms
Remote clock offset: 45.824 ms

# Below is generated by plot.py at 2018-10-02 09:03:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 35.42 Mbit/s
95th percentile per-packet one-way delay: 73.889 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 35.42 Mbit/s
95th percentile per-packet one-way delay: 73.889 ms
Loss rate: 0.13%
```

Run 1: Report of Indigo — Data Link

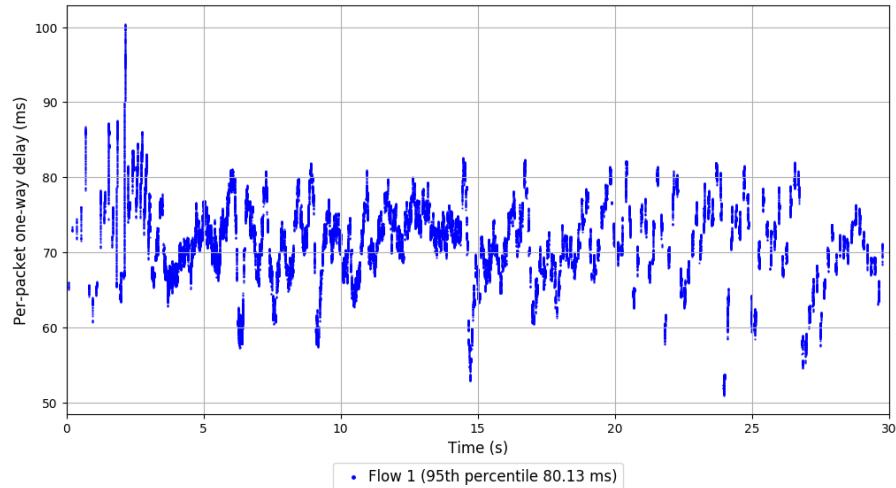
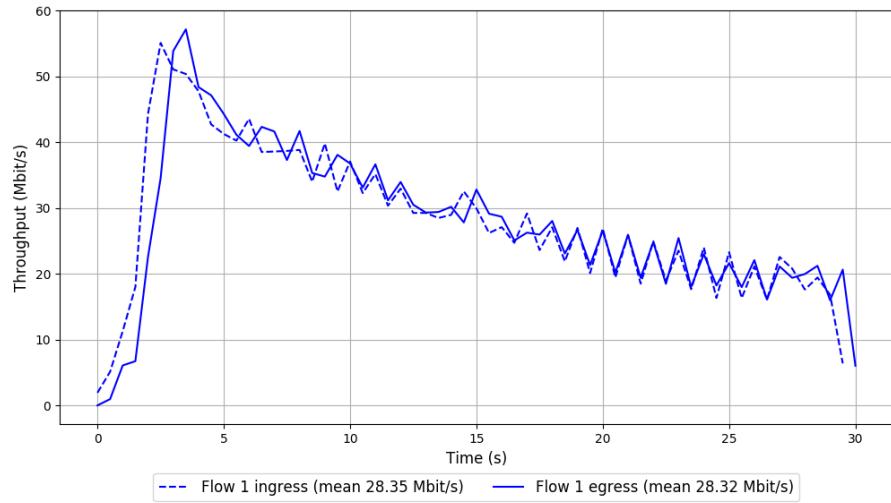


Run 2: Statistics of Indigo

```
Start at: 2018-10-02 07:39:43
End at: 2018-10-02 07:40:14
Local clock offset: -4.879 ms
Remote clock offset: 2.958 ms

# Below is generated by plot.py at 2018-10-02 09:03:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.32 Mbit/s
95th percentile per-packet one-way delay: 80.130 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 28.32 Mbit/s
95th percentile per-packet one-way delay: 80.130 ms
Loss rate: 0.11%
```

Run 2: Report of Indigo — Data Link

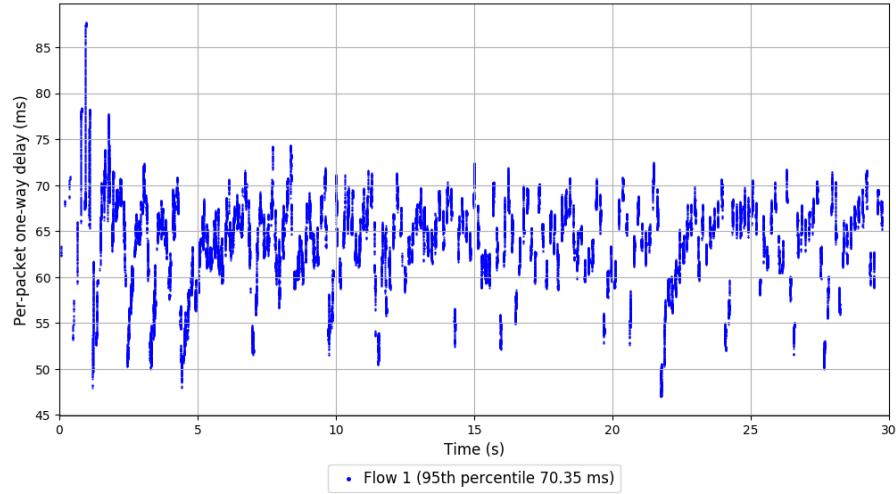
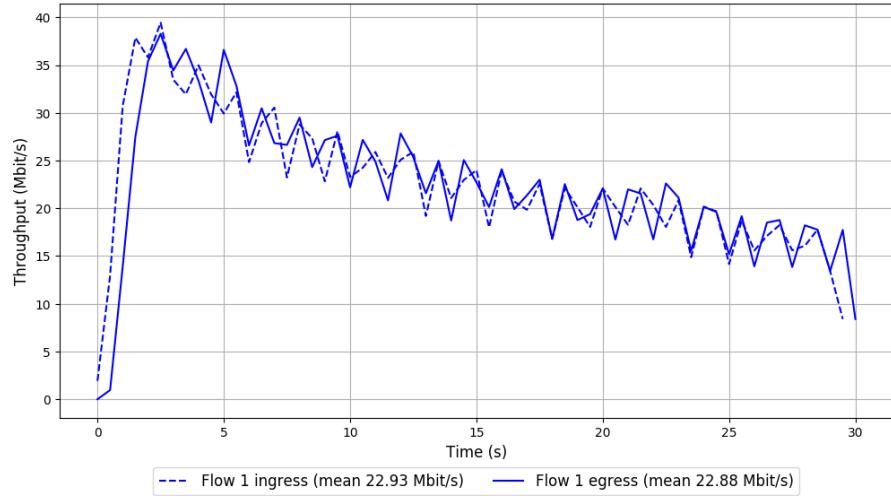


Run 3: Statistics of Indigo

```
Start at: 2018-10-02 08:01:17
End at: 2018-10-02 08:01:47
Local clock offset: -8.862 ms
Remote clock offset: -2.617 ms

# Below is generated by plot.py at 2018-10-02 09:03:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 22.88 Mbit/s
95th percentile per-packet one-way delay: 70.352 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 22.88 Mbit/s
95th percentile per-packet one-way delay: 70.352 ms
Loss rate: 0.20%
```

Run 3: Report of Indigo — Data Link

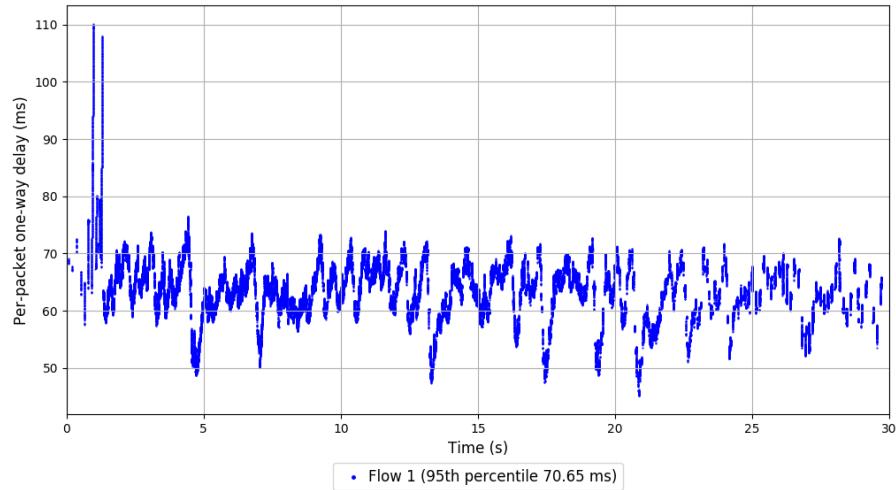
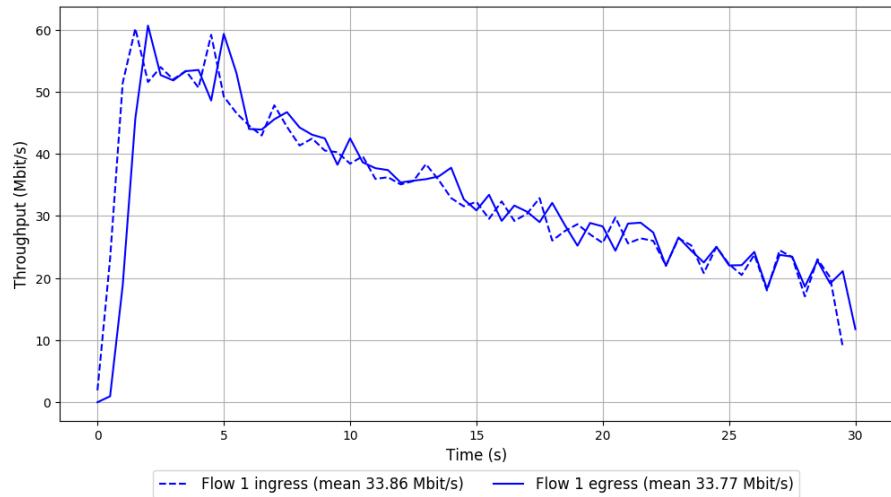


Run 4: Statistics of Indigo

```
Start at: 2018-10-02 08:23:40
End at: 2018-10-02 08:24:10
Local clock offset: -11.915 ms
Remote clock offset: 0.907 ms

# Below is generated by plot.py at 2018-10-02 09:03:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.77 Mbit/s
95th percentile per-packet one-way delay: 70.649 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 33.77 Mbit/s
95th percentile per-packet one-way delay: 70.649 ms
Loss rate: 0.27%
```

Run 4: Report of Indigo — Data Link

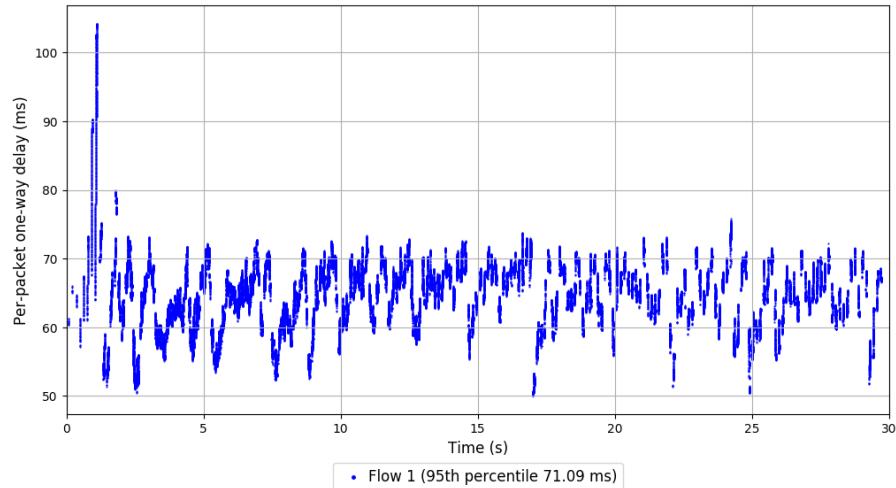
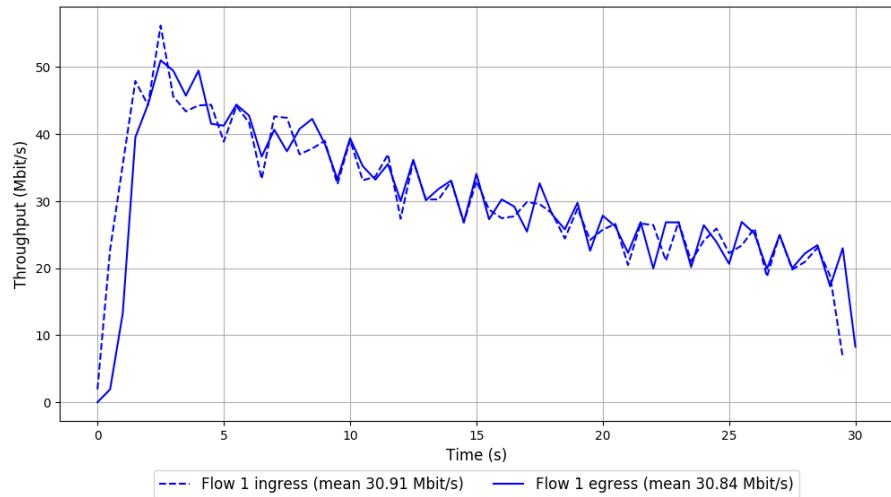


Run 5: Statistics of Indigo

```
Start at: 2018-10-02 08:45:26
End at: 2018-10-02 08:45:56
Local clock offset: -14.494 ms
Remote clock offset: 78.514 ms

# Below is generated by plot.py at 2018-10-02 09:03:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.84 Mbit/s
95th percentile per-packet one-way delay: 71.094 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 30.84 Mbit/s
95th percentile per-packet one-way delay: 71.094 ms
Loss rate: 0.21%
```

Run 5: Report of Indigo — Data Link



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

```
Start at: 2018-10-02 07:24:02
```

```
End at: 2018-10-02 07:24:32
```

```
Local clock offset: -1.276 ms
```

```
Remote clock offset: 22.614 ms
```

```
# Below is generated by plot.py at 2018-10-02 09:03:27
```

```
# Datalink statistics
```

```
-- Total of 1 flow:
```

```
Average throughput: 75.04 Mbit/s
```

```
95th percentile per-packet one-way delay: 219.425 ms
```

```
Loss rate: 34.57%
```

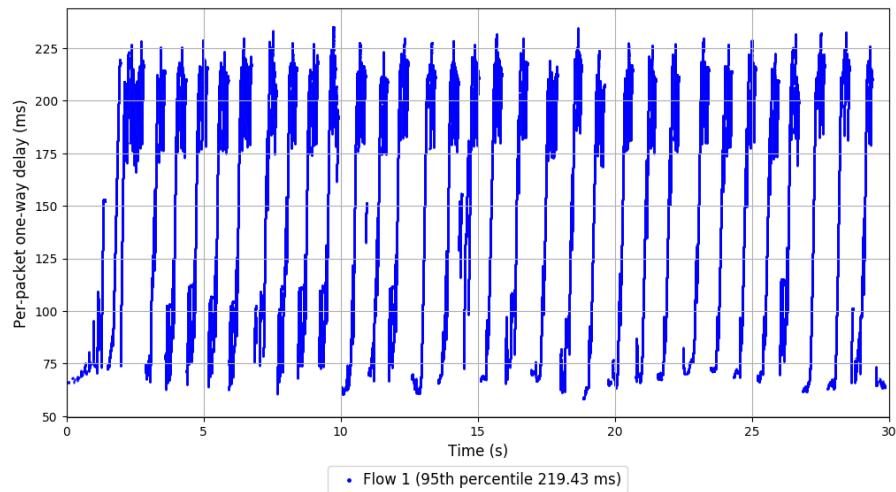
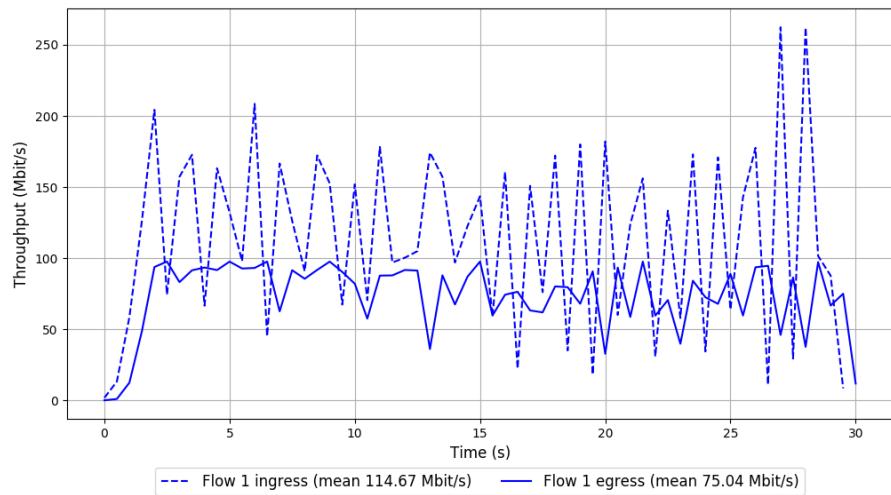
```
-- Flow 1:
```

```
Average throughput: 75.04 Mbit/s
```

```
95th percentile per-packet one-way delay: 219.425 ms
```

```
Loss rate: 34.57%
```

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

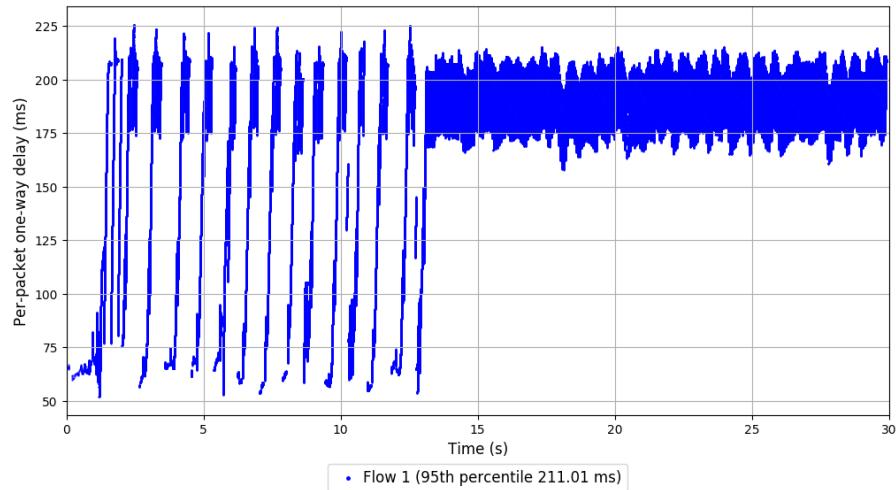
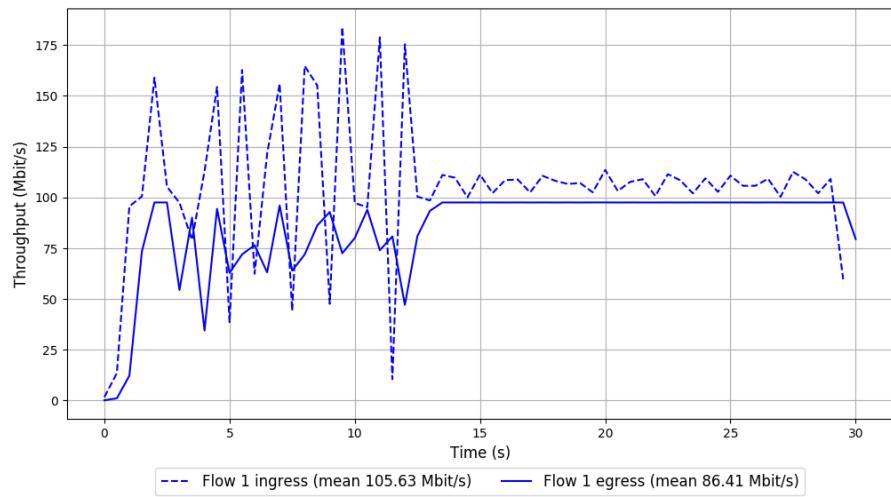


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 07:45:46
End at: 2018-10-02 07:46:16
Local clock offset: -5.467 ms
Remote clock offset: -0.74 ms

# Below is generated by plot.py at 2018-10-02 09:03:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.41 Mbit/s
95th percentile per-packet one-way delay: 211.014 ms
Loss rate: 18.02%
-- Flow 1:
Average throughput: 86.41 Mbit/s
95th percentile per-packet one-way delay: 211.014 ms
Loss rate: 18.02%
```

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

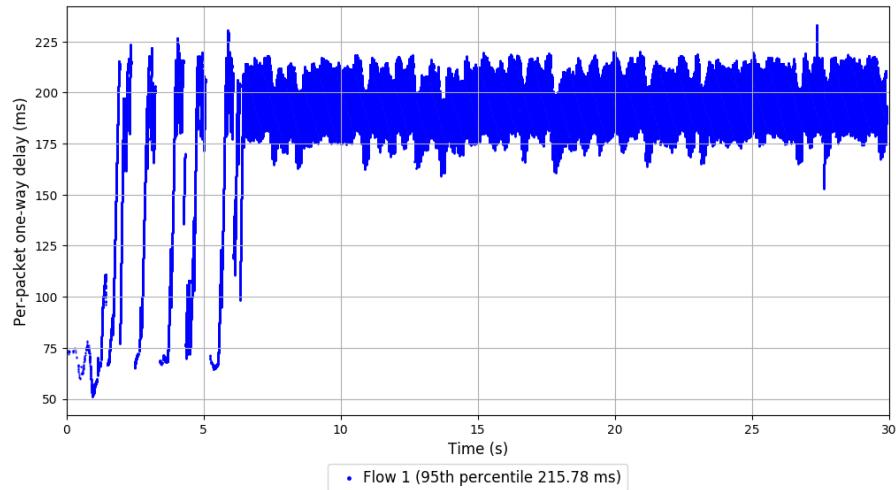
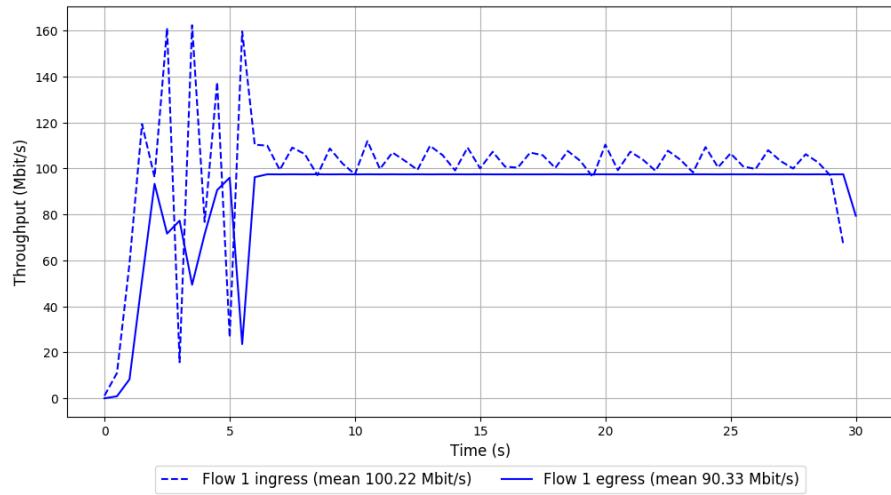


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 08:07:21
End at: 2018-10-02 08:07:51
Local clock offset: -9.748 ms
Remote clock offset: -5.846 ms

# Below is generated by plot.py at 2018-10-02 09:03:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.33 Mbit/s
95th percentile per-packet one-way delay: 215.779 ms
Loss rate: 9.73%
-- Flow 1:
Average throughput: 90.33 Mbit/s
95th percentile per-packet one-way delay: 215.779 ms
Loss rate: 9.73%
```

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

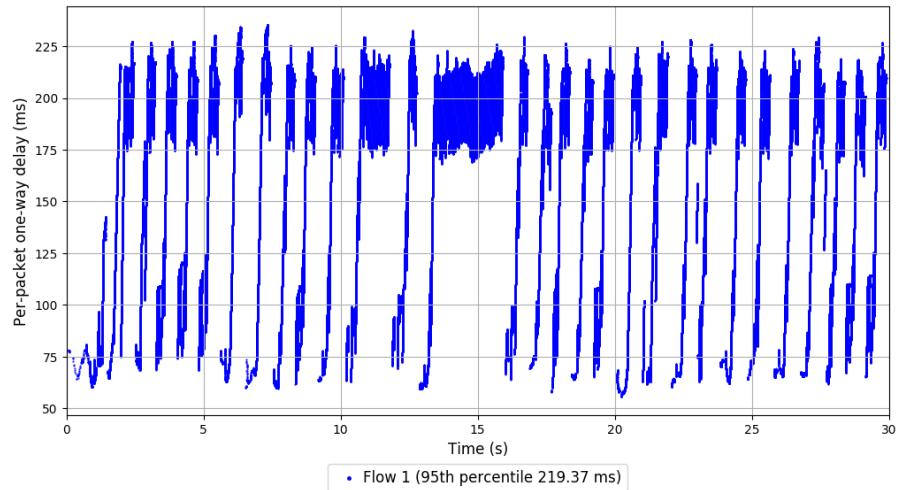
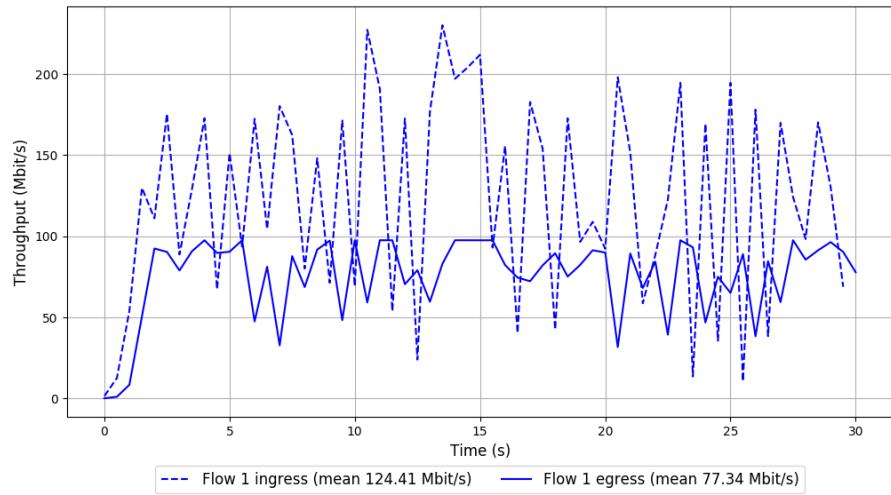


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 08:29:47
End at: 2018-10-02 08:30:17
Local clock offset: -12.989 ms
Remote clock offset: 37.989 ms

# Below is generated by plot.py at 2018-10-02 09:04:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.34 Mbit/s
95th percentile per-packet one-way delay: 219.370 ms
Loss rate: 37.55%
-- Flow 1:
Average throughput: 77.34 Mbit/s
95th percentile per-packet one-way delay: 219.370 ms
Loss rate: 37.55%
```

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

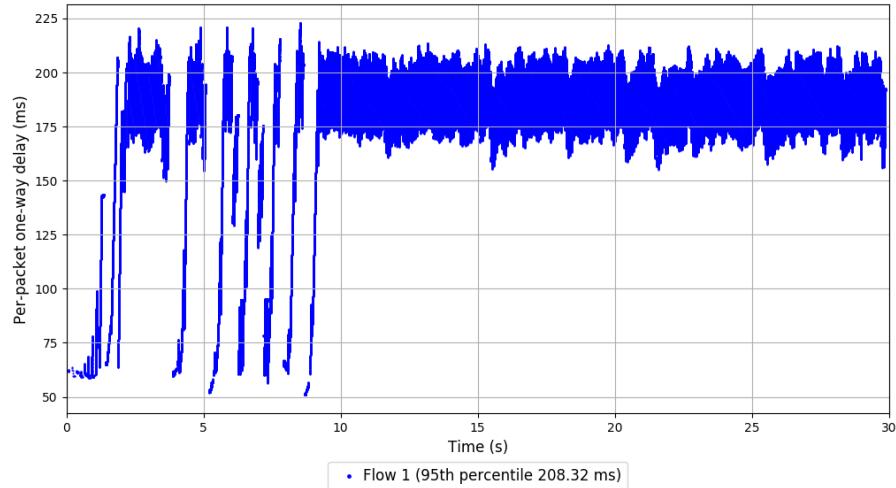
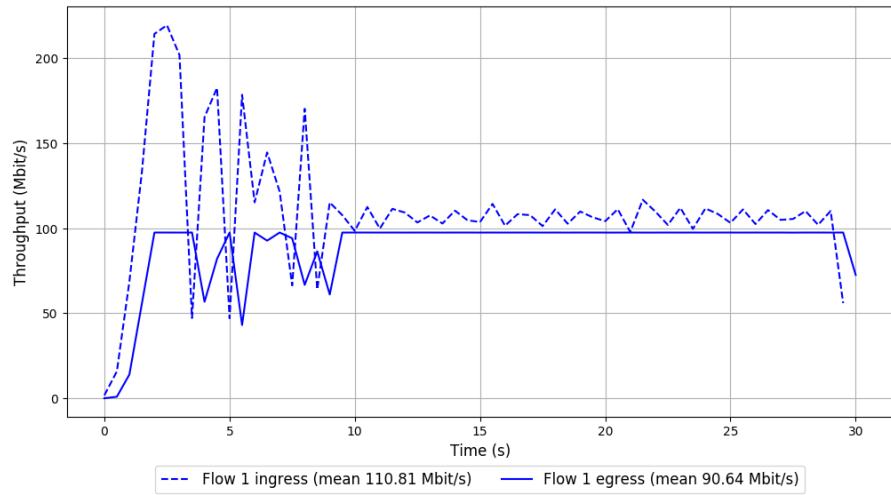


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-10-02 08:51:28
End at: 2018-10-02 08:51:58
Local clock offset: -11.968 ms
Remote clock offset: 83.326 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.64 Mbit/s
95th percentile per-packet one-way delay: 208.318 ms
Loss rate: 18.07%
-- Flow 1:
Average throughput: 90.64 Mbit/s
95th percentile per-packet one-way delay: 208.318 ms
Loss rate: 18.07%
```

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

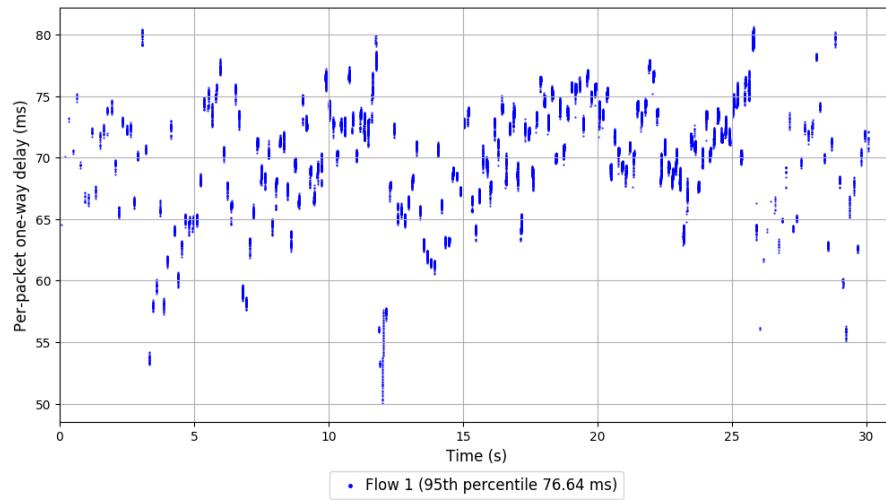
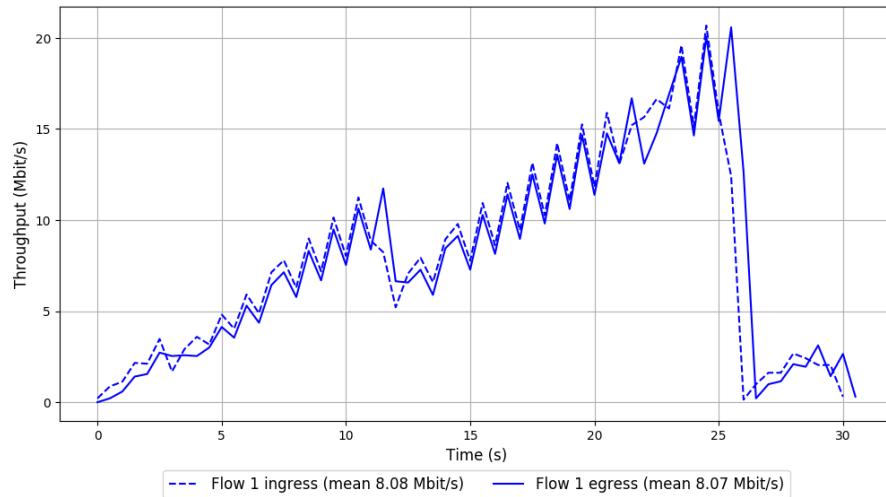


Run 1: Statistics of LEDBAT

```
Start at: 2018-10-02 07:28:50
End at: 2018-10-02 07:29:20
Local clock offset: -2.898 ms
Remote clock offset: 13.208 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.07 Mbit/s
95th percentile per-packet one-way delay: 76.635 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 8.07 Mbit/s
95th percentile per-packet one-way delay: 76.635 ms
Loss rate: 0.07%
```

Run 1: Report of LEDBAT — Data Link

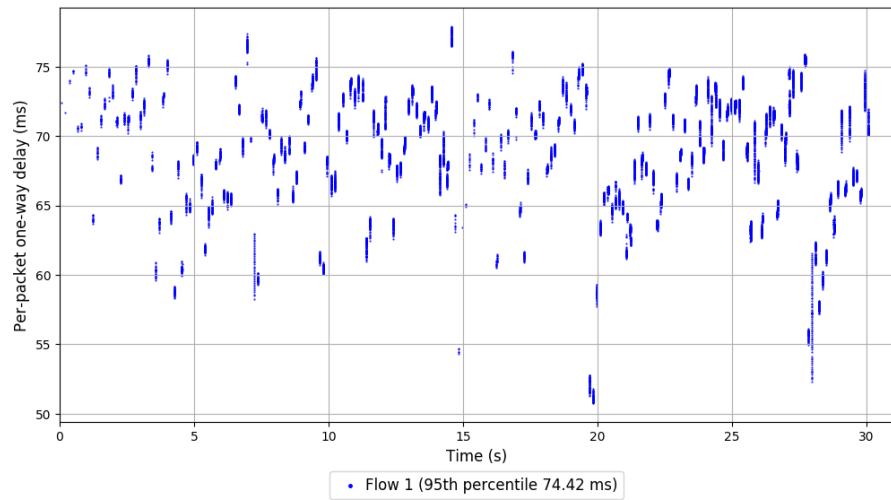
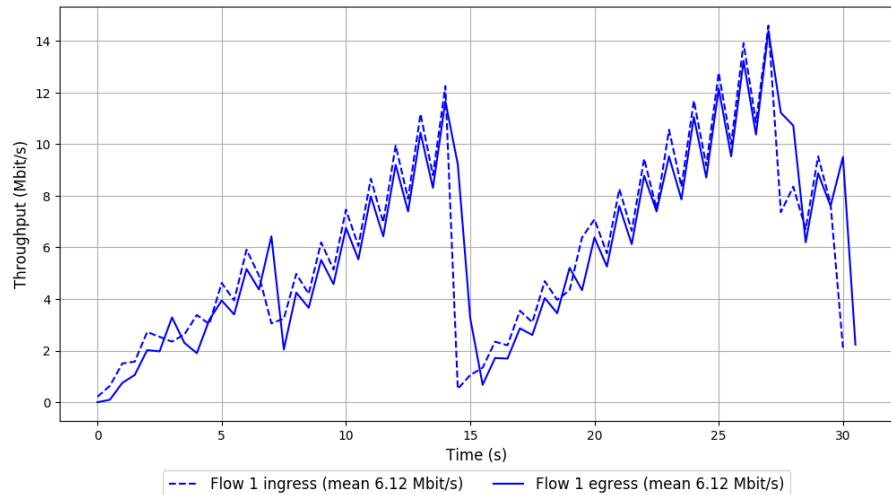


Run 2: Statistics of LEDBAT

```
Start at: 2018-10-02 07:50:38
End at: 2018-10-02 07:51:08
Local clock offset: -7.019 ms
Remote clock offset: -4.077 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 74.423 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 74.423 ms
Loss rate: 0.10%
```

Run 2: Report of LEDBAT — Data Link

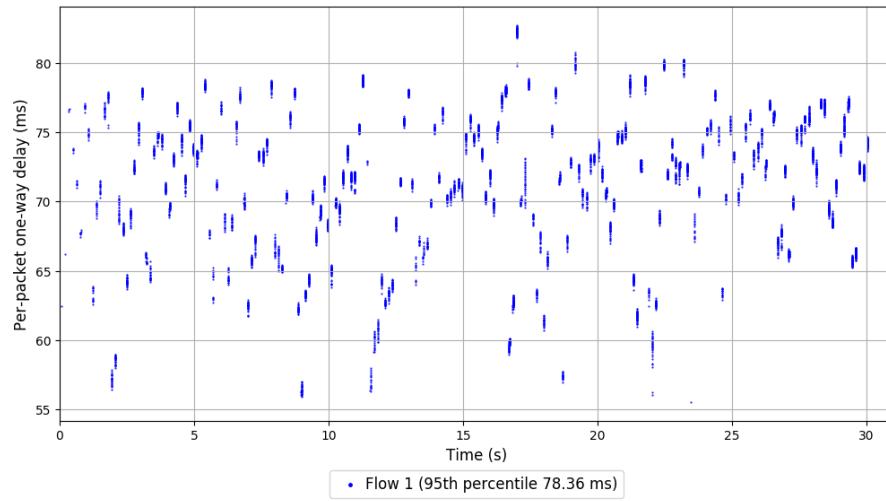
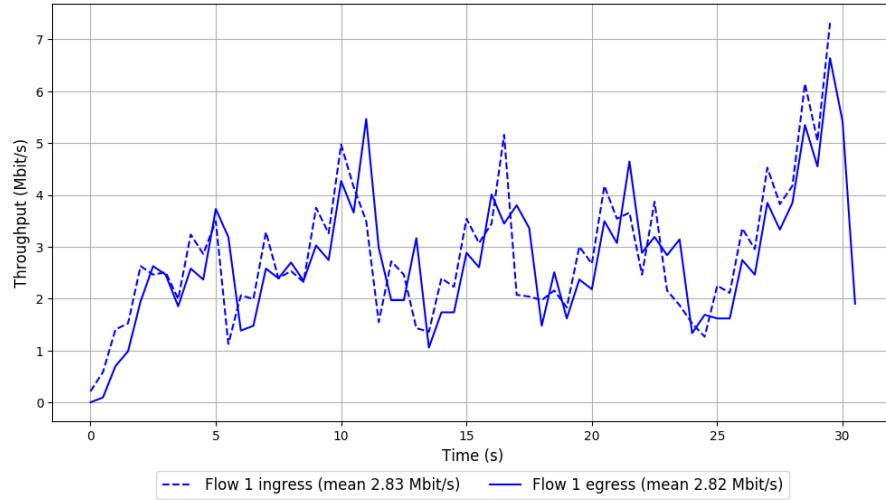


Run 3: Statistics of LEDBAT

```
Start at: 2018-10-02 08:12:54
End at: 2018-10-02 08:13:24
Local clock offset: -10.275 ms
Remote clock offset: -3.36 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 78.362 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 78.362 ms
Loss rate: 0.32%
```

Run 3: Report of LEDBAT — Data Link

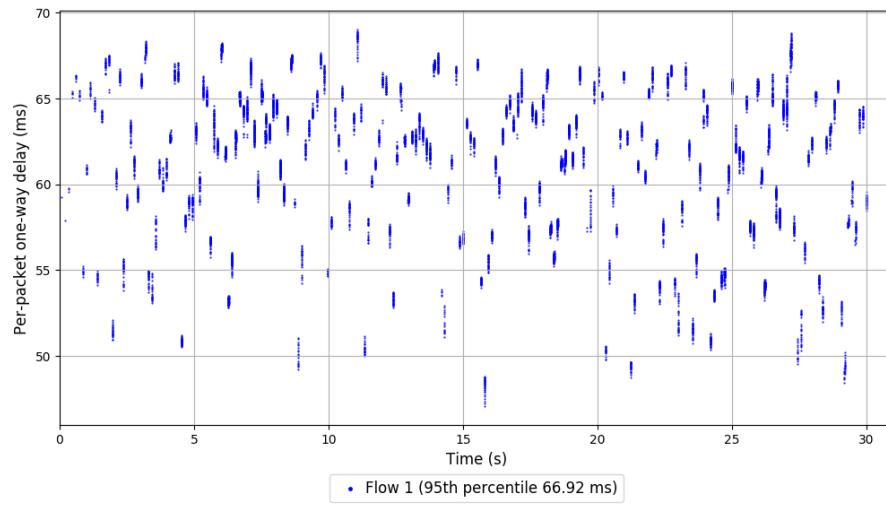
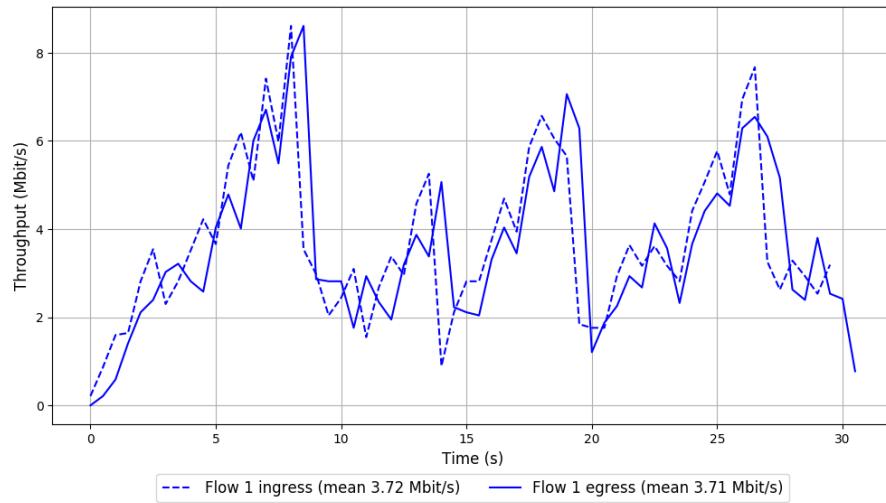


Run 4: Statistics of LEDBAT

```
Start at: 2018-10-02 08:34:34
End at: 2018-10-02 08:35:04
Local clock offset: -13.394 ms
Remote clock offset: 54.309 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.71 Mbit/s
95th percentile per-packet one-way delay: 66.919 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 3.71 Mbit/s
95th percentile per-packet one-way delay: 66.919 ms
Loss rate: 0.19%
```

Run 4: Report of LEDBAT — Data Link

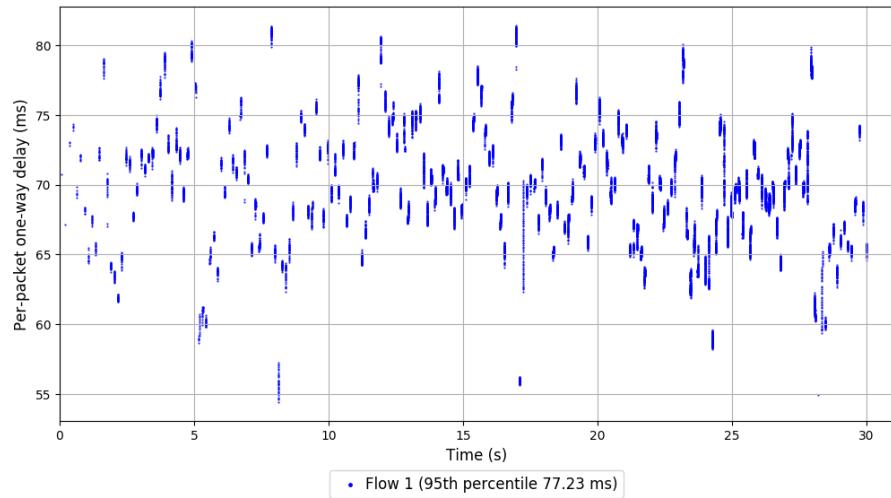
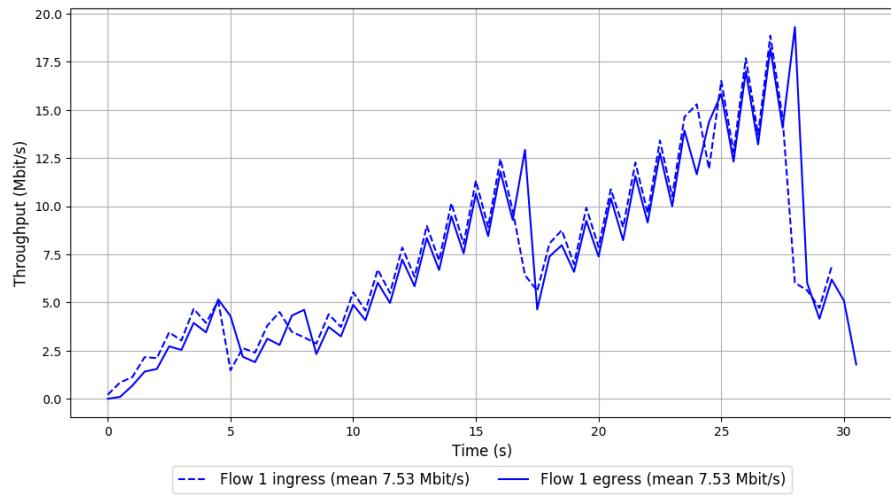


Run 5: Statistics of LEDBAT

```
Start at: 2018-10-02 08:56:13
End at: 2018-10-02 08:56:43
Local clock offset: -10.823 ms
Remote clock offset: 91.898 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 77.235 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 77.235 ms
Loss rate: 0.04%
```

Run 5: Report of LEDBAT — Data Link

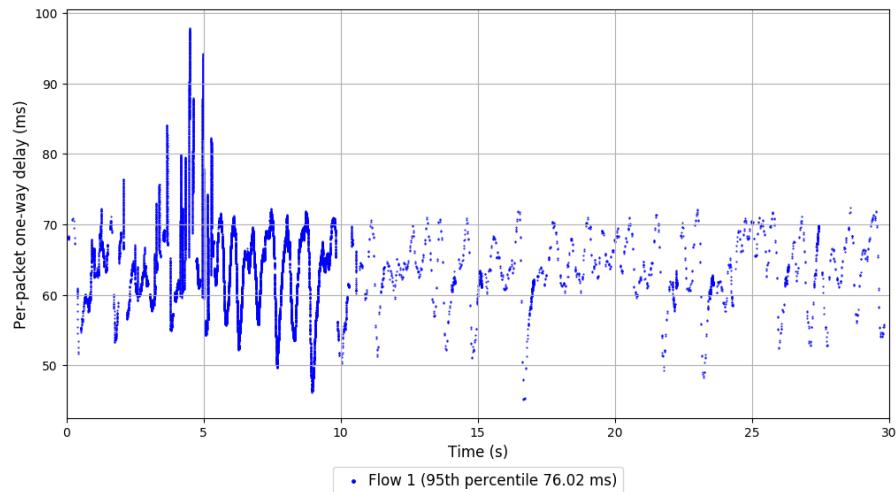
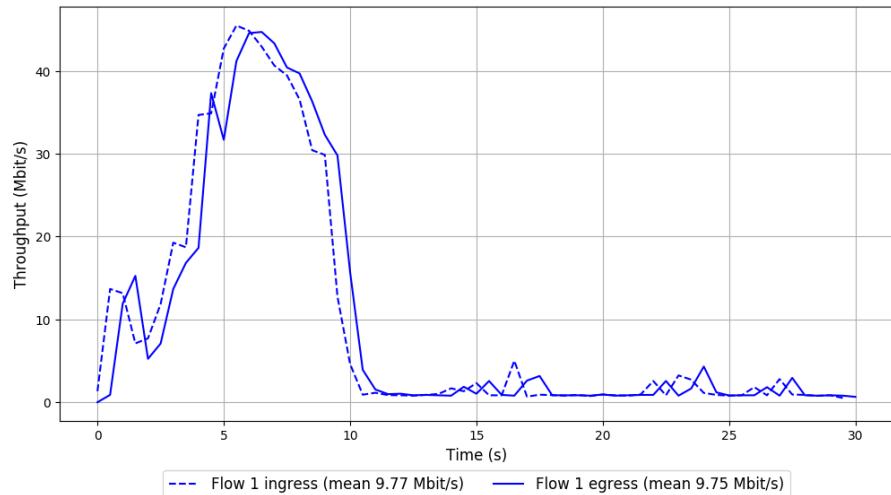


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-10-02 07:19:10
End at: 2018-10-02 07:19:40
Local clock offset: 1.63 ms
Remote clock offset: 38.306 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.75 Mbit/s
95th percentile per-packet one-way delay: 76.022 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 9.75 Mbit/s
95th percentile per-packet one-way delay: 76.022 ms
Loss rate: 0.25%
```

Run 1: Report of Indigo-Muses — Data Link

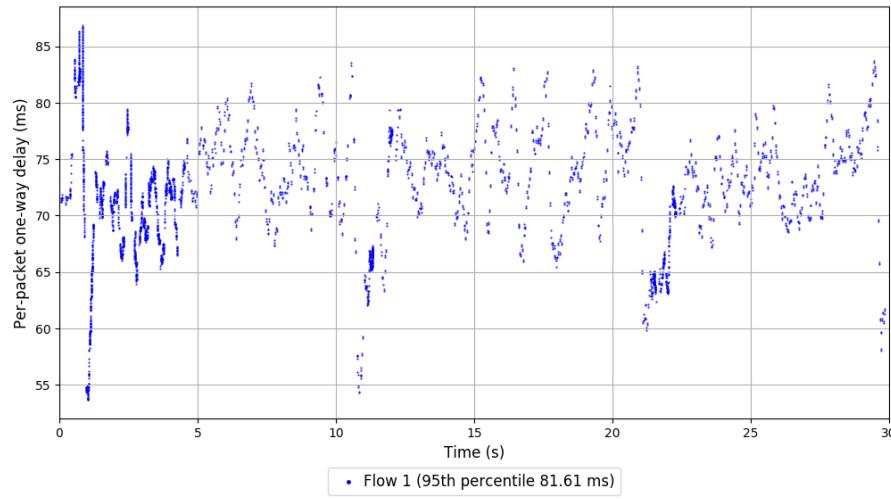
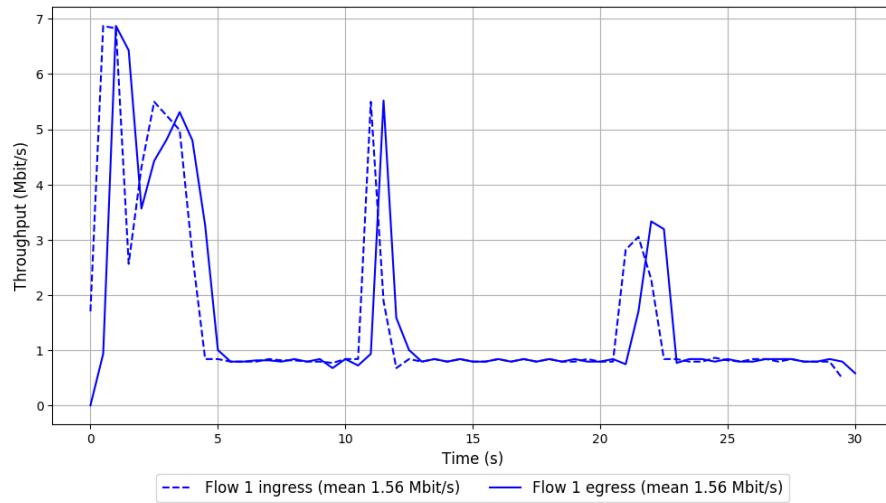


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-10-02 07:40:57
End at: 2018-10-02 07:41:27
Local clock offset: -5.078 ms
Remote clock offset: 5.76 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 81.605 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.56 Mbit/s
95th percentile per-packet one-way delay: 81.605 ms
Loss rate: 0.07%
```

Run 2: Report of Indigo-Muses — Data Link

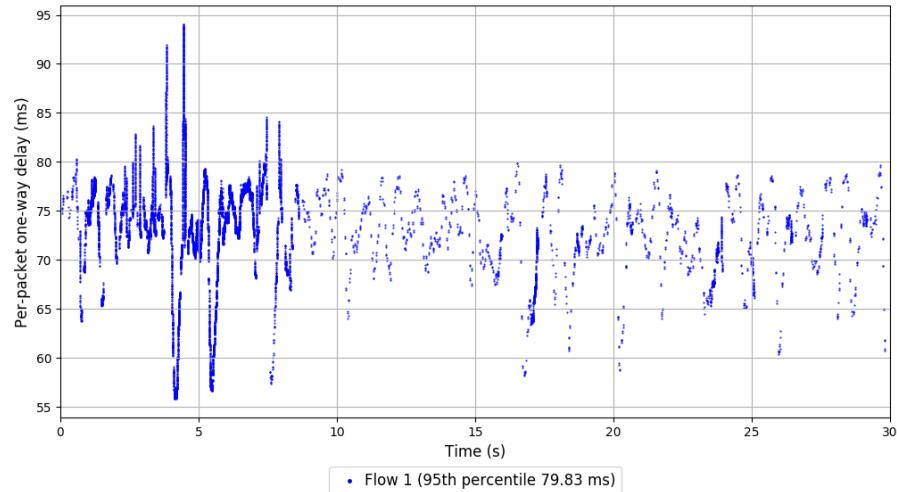
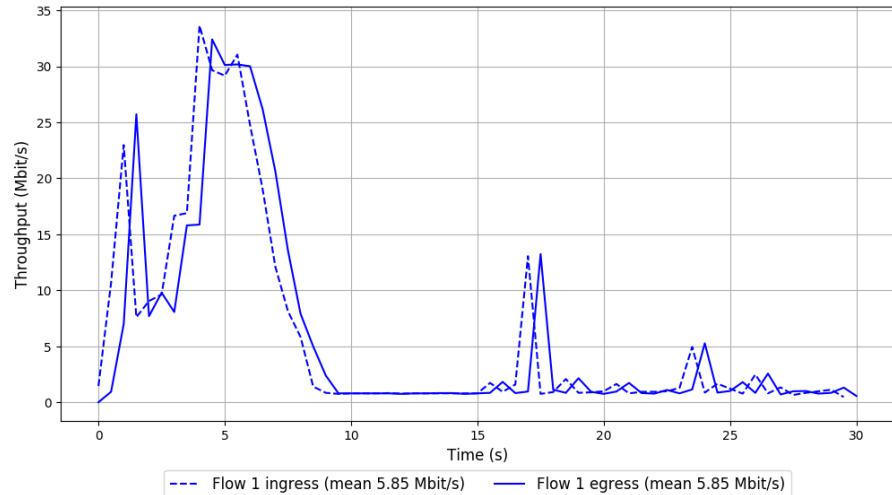


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-10-02 08:02:30
End at: 2018-10-02 08:03:00
Local clock offset: -9.105 ms
Remote clock offset: -0.827 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.85 Mbit/s
95th percentile per-packet one-way delay: 79.833 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 5.85 Mbit/s
95th percentile per-packet one-way delay: 79.833 ms
Loss rate: 0.13%
```

Run 3: Report of Indigo-Muses — Data Link

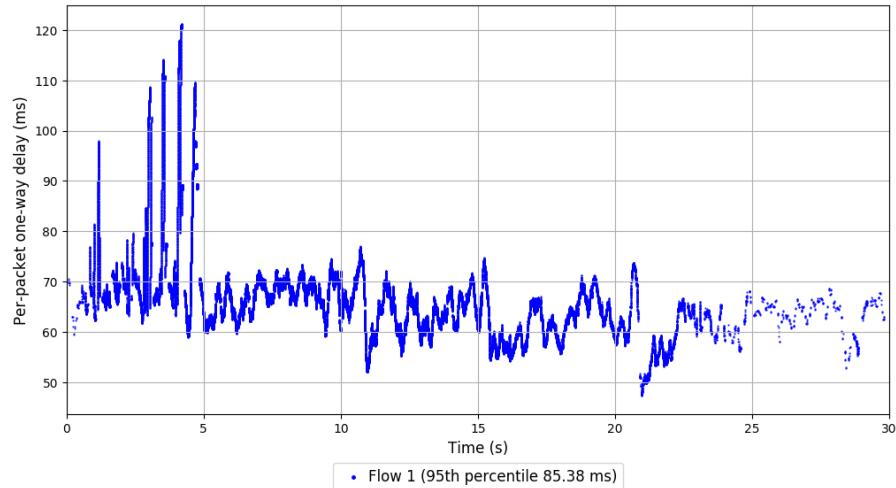
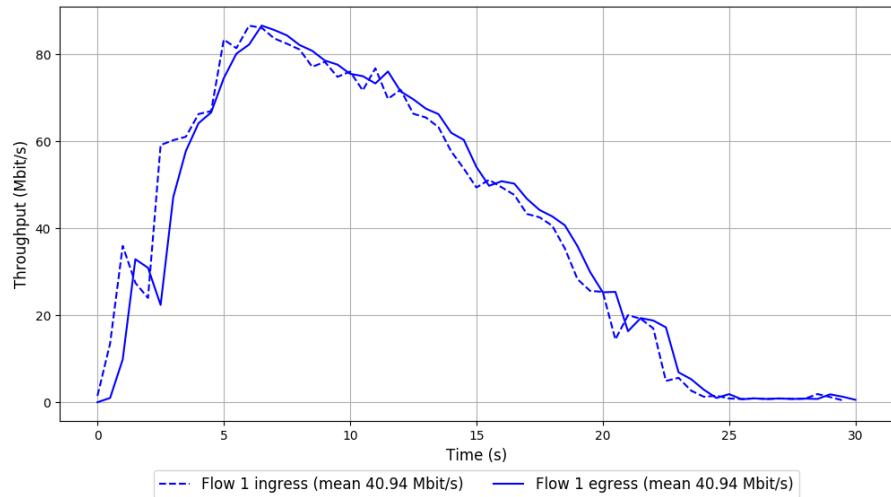


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-10-02 08:24:53
End at: 2018-10-02 08:25:23
Local clock offset: -12.094 ms
Remote clock offset: 6.888 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.94 Mbit/s
95th percentile per-packet one-way delay: 85.379 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 40.94 Mbit/s
95th percentile per-packet one-way delay: 85.379 ms
Loss rate: 0.04%
```

Run 4: Report of Indigo-Muses — Data Link

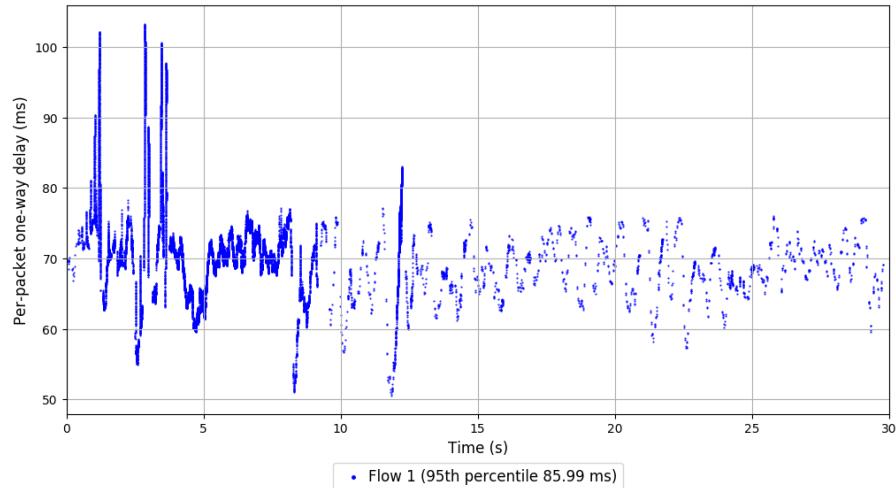
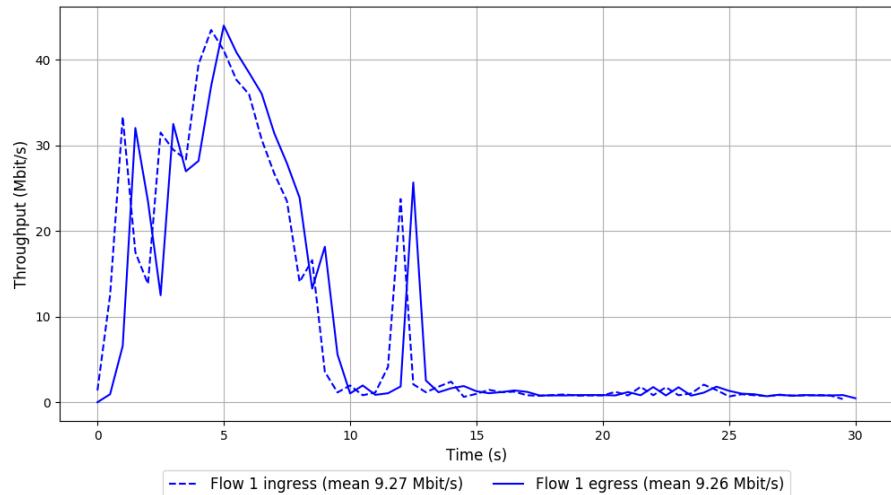


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-10-02 08:46:40
End at: 2018-10-02 08:47:10
Local clock offset: -14.219 ms
Remote clock offset: 78.146 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 85.990 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 9.26 Mbit/s
95th percentile per-packet one-way delay: 85.990 ms
Loss rate: 0.17%
```

Run 5: Report of Indigo-Muses — Data Link

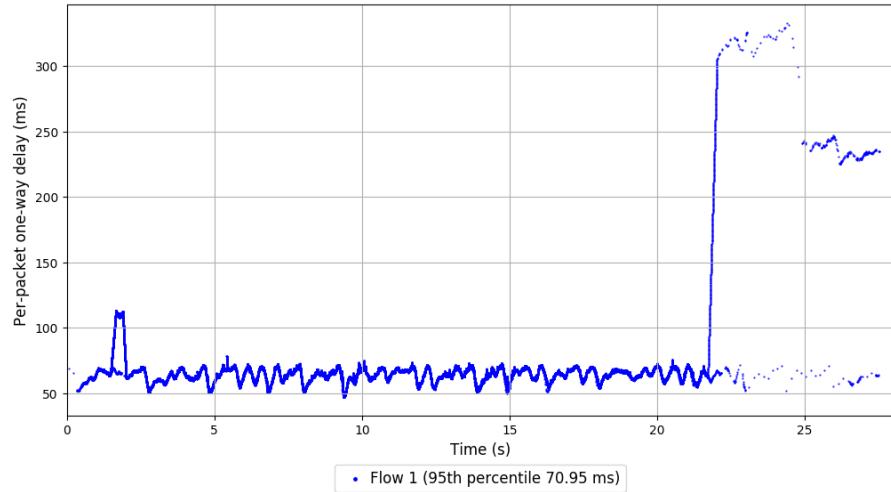
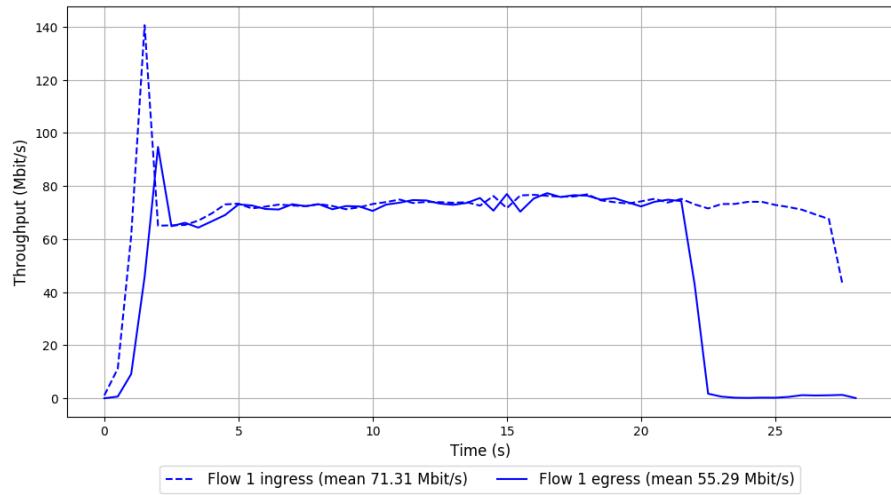


Run 1: Statistics of PCC-Allegro

```
Start at: 2018-10-02 07:22:49
End at: 2018-10-02 07:23:19
Local clock offset: -0.86 ms
Remote clock offset: 25.482 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.29 Mbit/s
95th percentile per-packet one-way delay: 70.948 ms
Loss rate: 23.49%
-- Flow 1:
Average throughput: 55.29 Mbit/s
95th percentile per-packet one-way delay: 70.948 ms
Loss rate: 23.49%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

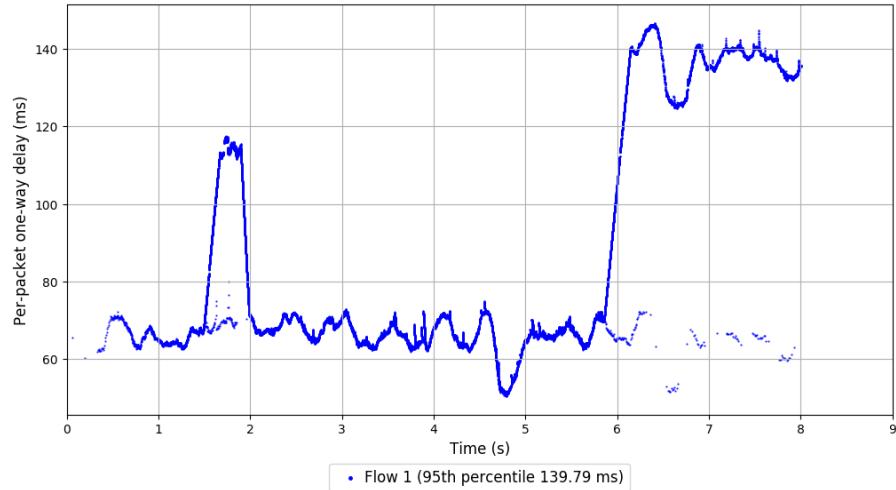
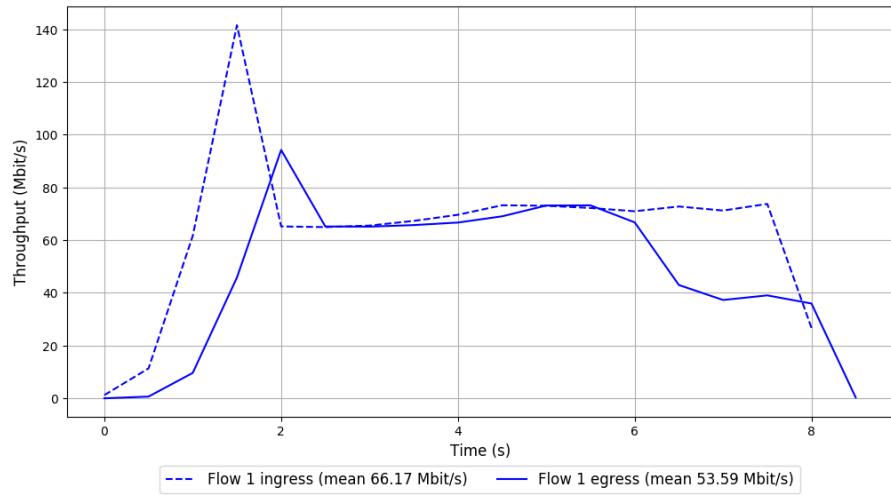
Start at: 2018-10-02 07:44:35

End at: 2018-10-02 07:45:05

Local clock offset: -5.529 ms

Remote clock offset: 2.293 ms

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

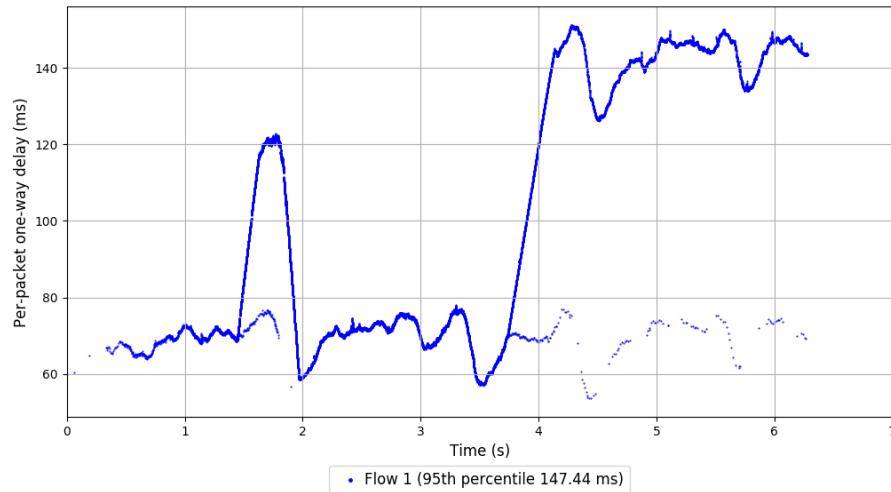
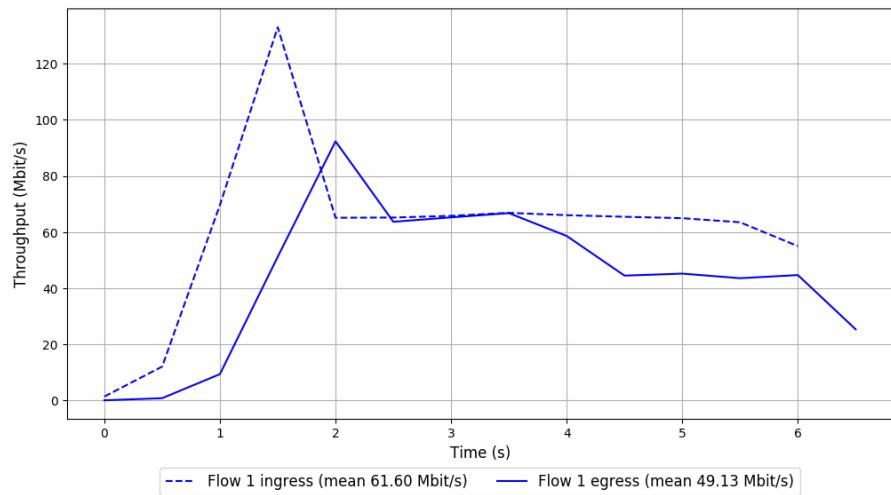
Start at: 2018-10-02 08:06:10

End at: 2018-10-02 08:06:40

Local clock offset: -9.462 ms

Remote clock offset: 5.066 ms

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

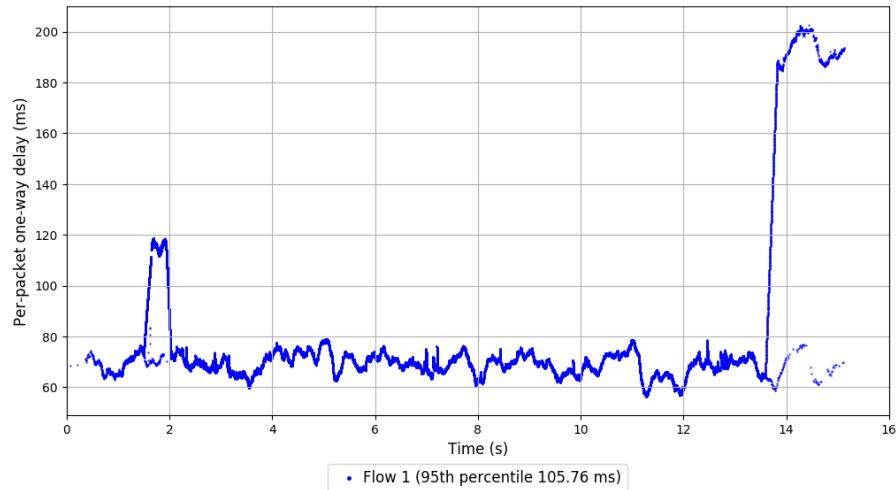
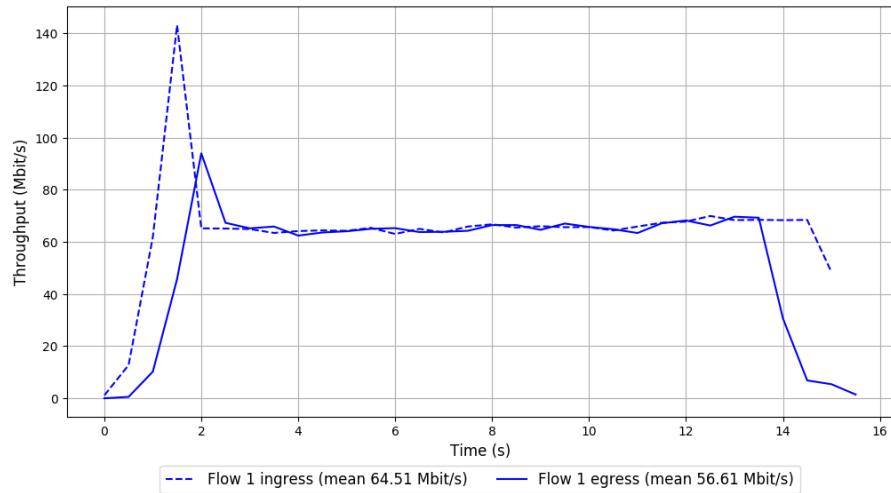
Start at: 2018-10-02 08:28:36

End at: 2018-10-02 08:29:06

Local clock offset: -12.876 ms

Remote clock offset: 32.404 ms

Run 4: Report of PCC-Allegro — Data Link

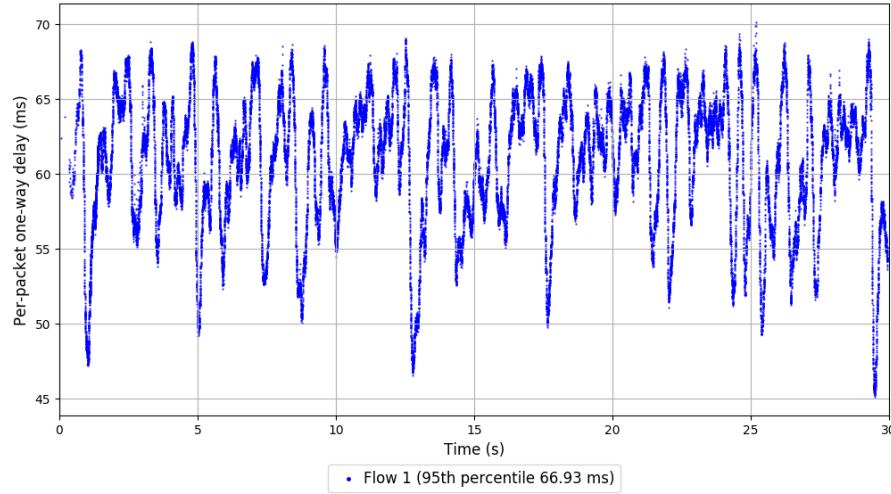
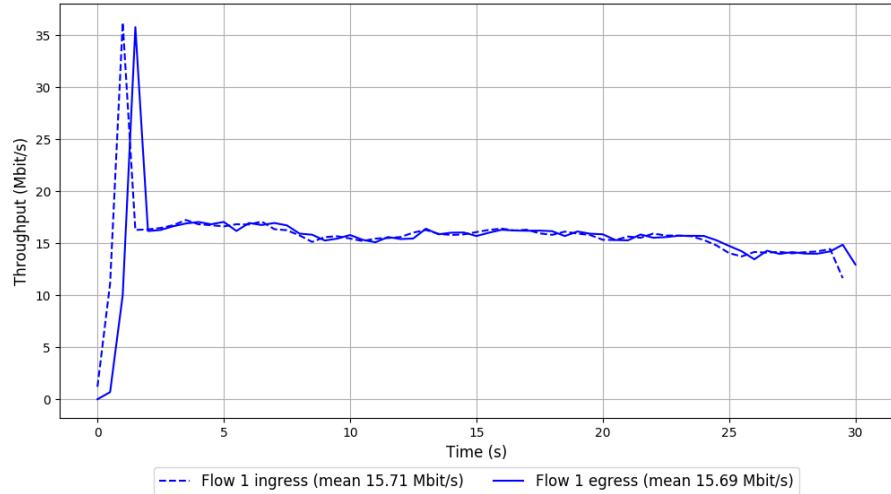


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-10-02 08:50:18
End at: 2018-10-02 08:50:48
Local clock offset: -12.215 ms
Remote clock offset: 83.402 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 15.69 Mbit/s
95th percentile per-packet one-way delay: 66.930 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 15.69 Mbit/s
95th percentile per-packet one-way delay: 66.930 ms
Loss rate: 0.14%
```

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

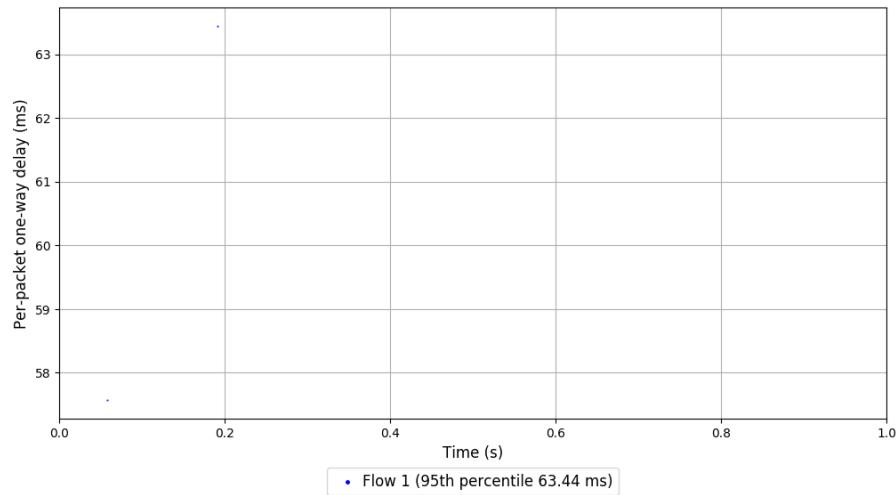
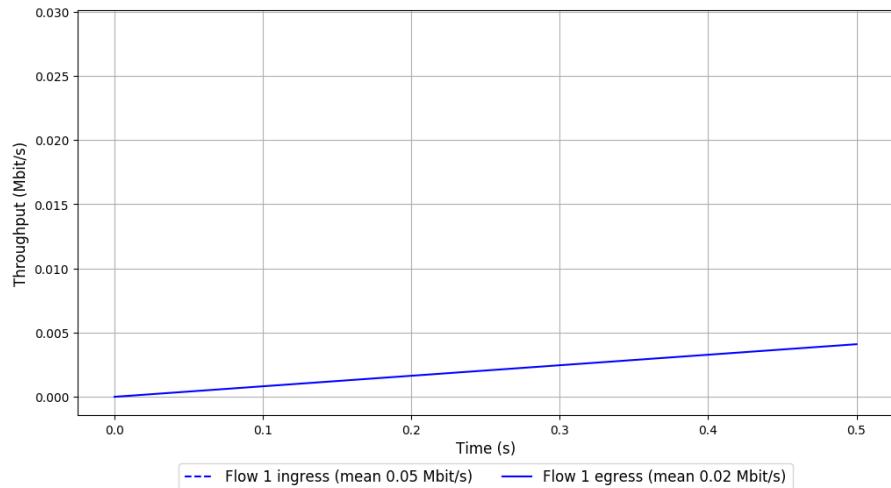
Start at: 2018-10-02 07:14:24

End at: 2018-10-02 07:14:54

Local clock offset: 4.433 ms

Remote clock offset: 62.428 ms

Run 1: Report of PCC-Expr — Data Link

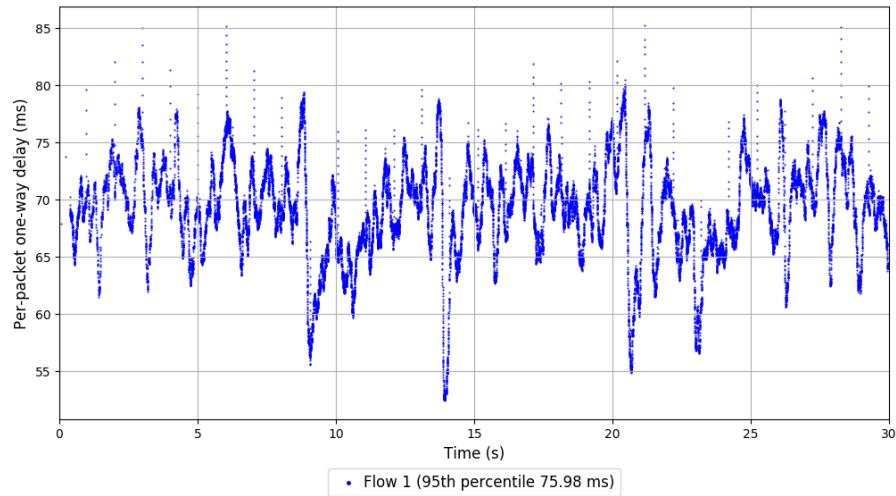
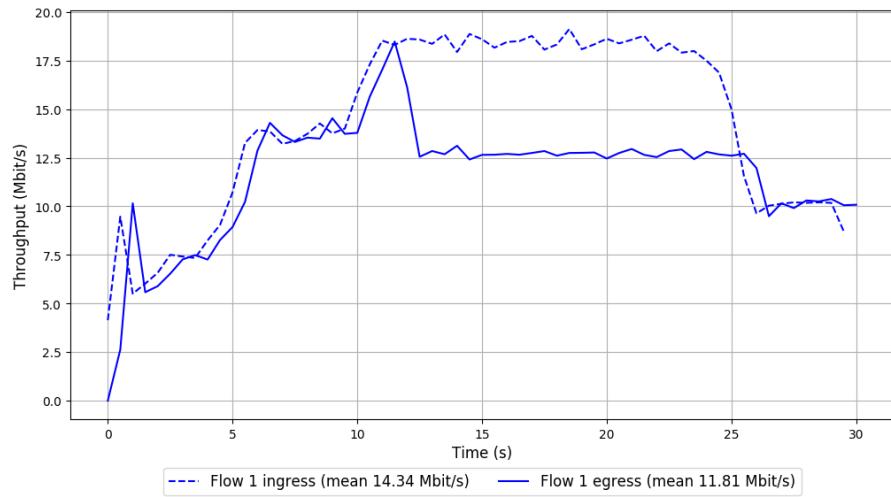


Run 2: Statistics of PCC-Expr

```
Start at: 2018-10-02 07:36:06
End at: 2018-10-02 07:36:36
Local clock offset: -4.289 ms
Remote clock offset: 4.624 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.81 Mbit/s
95th percentile per-packet one-way delay: 75.976 ms
Loss rate: 17.65%
-- Flow 1:
Average throughput: 11.81 Mbit/s
95th percentile per-packet one-way delay: 75.976 ms
Loss rate: 17.65%
```

Run 2: Report of PCC-Expr — Data Link

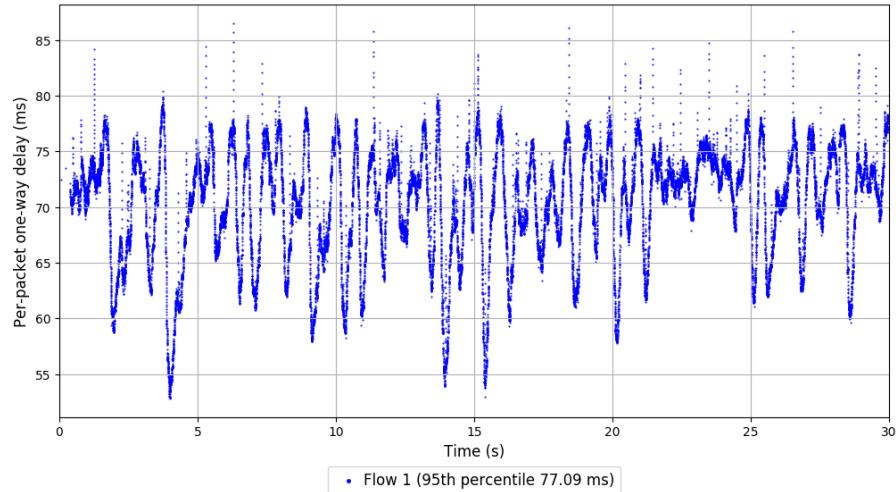
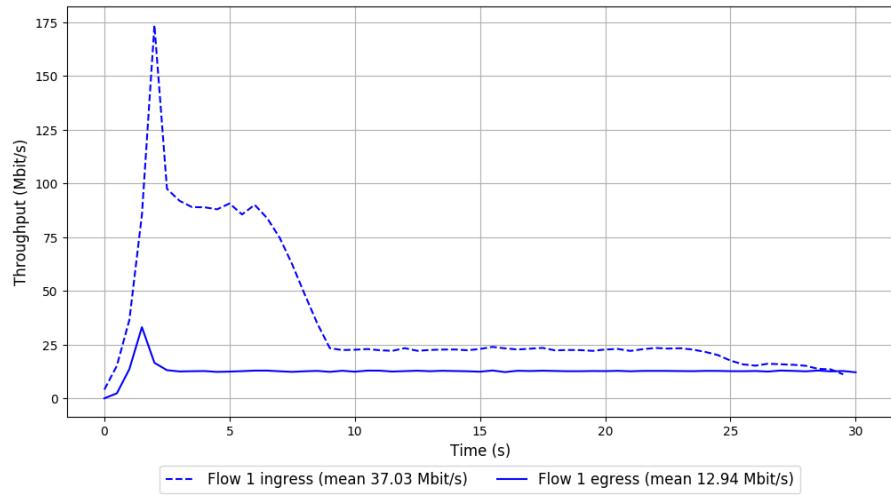


Run 3: Statistics of PCC-Expr

```
Start at: 2018-10-02 07:57:45
End at: 2018-10-02 07:58:15
Local clock offset: -8.39 ms
Remote clock offset: -2.232 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.94 Mbit/s
95th percentile per-packet one-way delay: 77.087 ms
Loss rate: 65.05%
-- Flow 1:
Average throughput: 12.94 Mbit/s
95th percentile per-packet one-way delay: 77.087 ms
Loss rate: 65.05%
```

Run 3: Report of PCC-Expr — Data Link

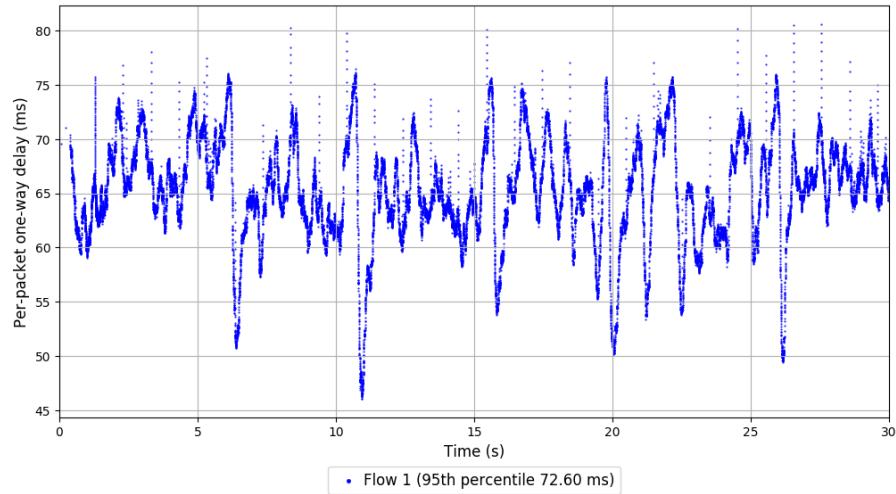
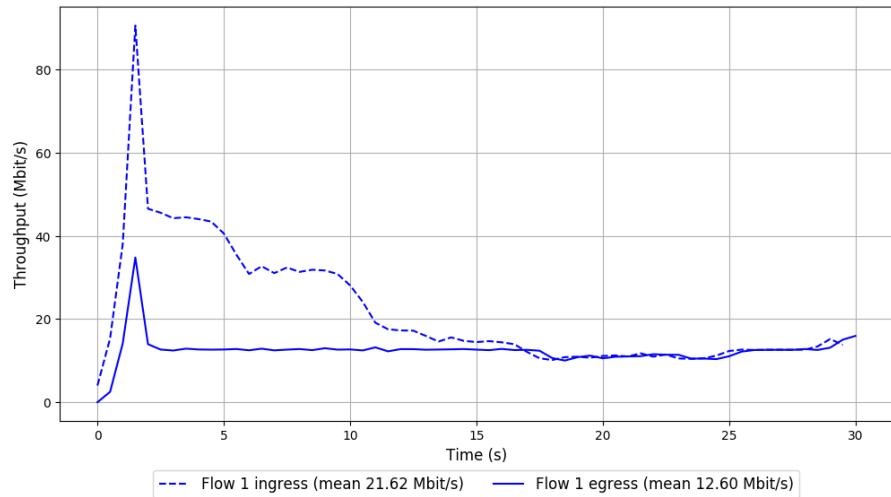


Run 4: Statistics of PCC-Expr

```
Start at: 2018-10-02 08:20:04
End at: 2018-10-02 08:20:34
Local clock offset: -11.412 ms
Remote clock offset: -7.206 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 72.603 ms
Loss rate: 41.75%
-- Flow 1:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 72.603 ms
Loss rate: 41.75%
```

Run 4: Report of PCC-Expr — Data Link

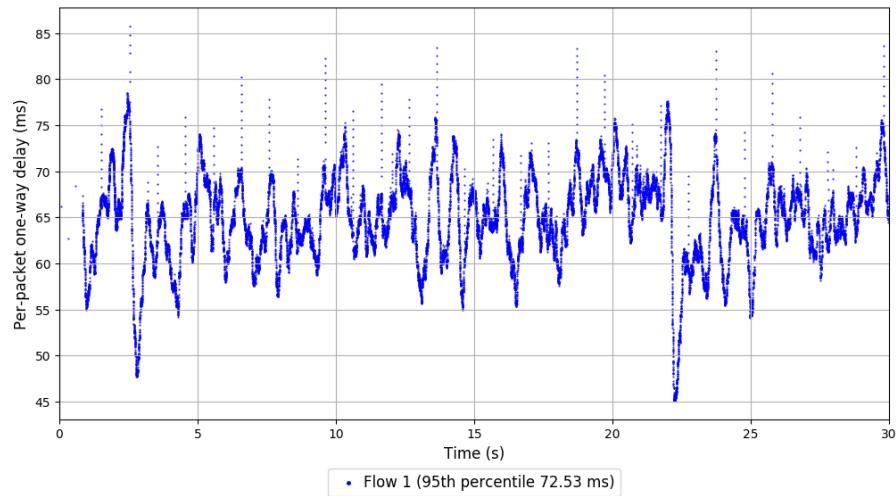
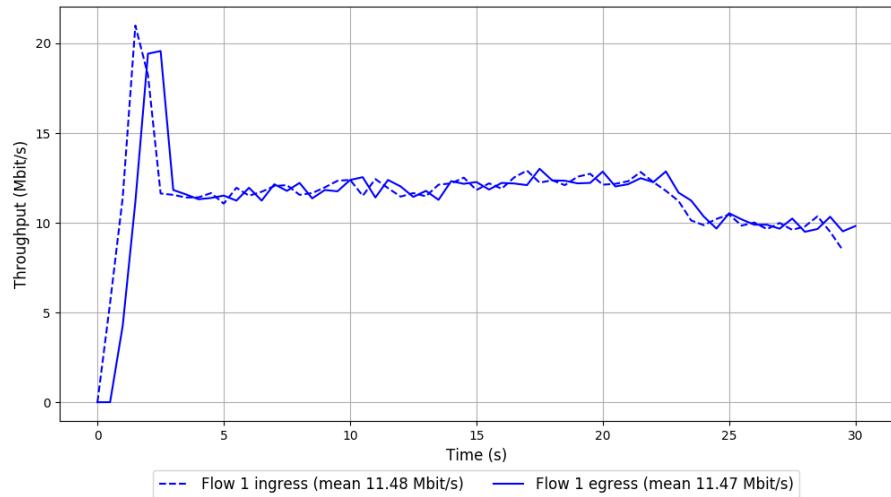


Run 5: Statistics of PCC-Expr

```
Start at: 2018-10-02 08:41:52
End at: 2018-10-02 08:42:22
Local clock offset: -14.418 ms
Remote clock offset: 70.497 ms

# Below is generated by plot.py at 2018-10-02 09:04:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.47 Mbit/s
95th percentile per-packet one-way delay: 72.535 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 11.47 Mbit/s
95th percentile per-packet one-way delay: 72.535 ms
Loss rate: 0.08%
```

Run 5: Report of PCC-Expr — Data Link



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

```
Start at: 2018-10-02 07:16:43
```

```
End at: 2018-10-02 07:17:13
```

```
Local clock offset: 3.594 ms
```

```
Remote clock offset: 48.29 ms
```

```
# Below is generated by plot.py at 2018-10-02 09:04:43
```

```
# Datalink statistics
```

```
-- Total of 1 flow:
```

```
Average throughput: 33.38 Mbit/s
```

```
95th percentile per-packet one-way delay: 75.597 ms
```

```
Loss rate: 0.05%
```

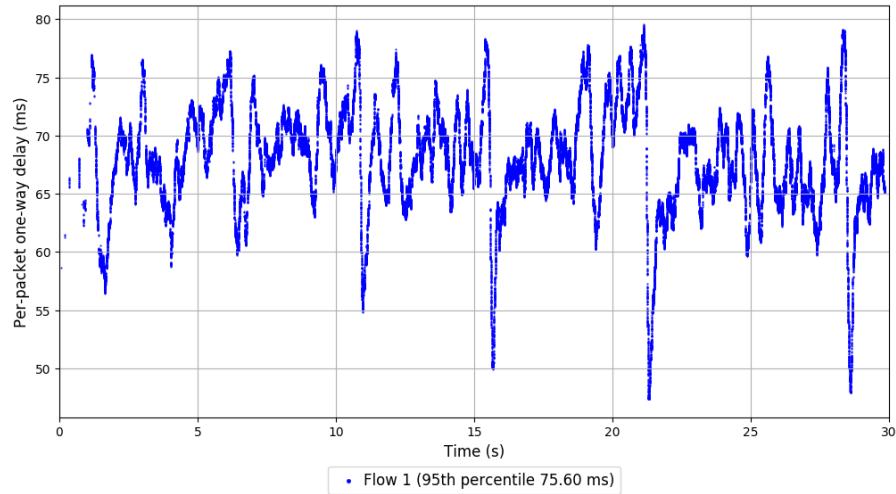
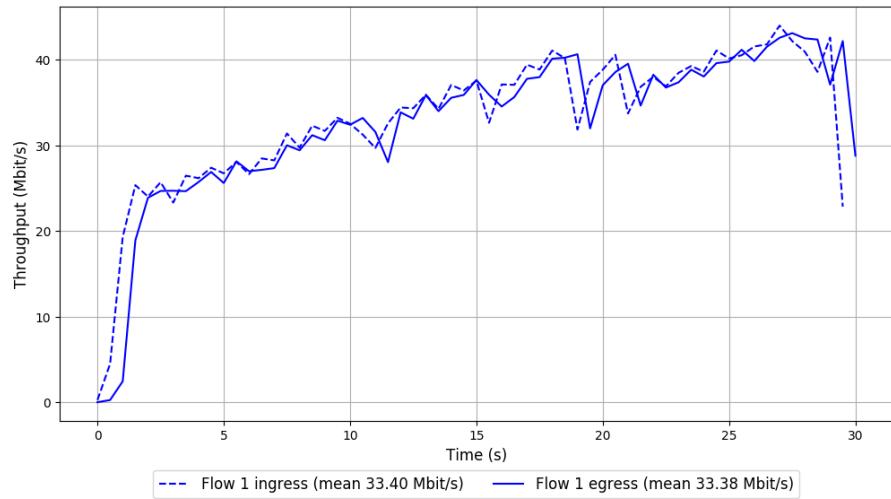
```
-- Flow 1:
```

```
Average throughput: 33.38 Mbit/s
```

```
95th percentile per-packet one-way delay: 75.597 ms
```

```
Loss rate: 0.05%
```

Run 1: Report of QUIC Cubic — Data Link

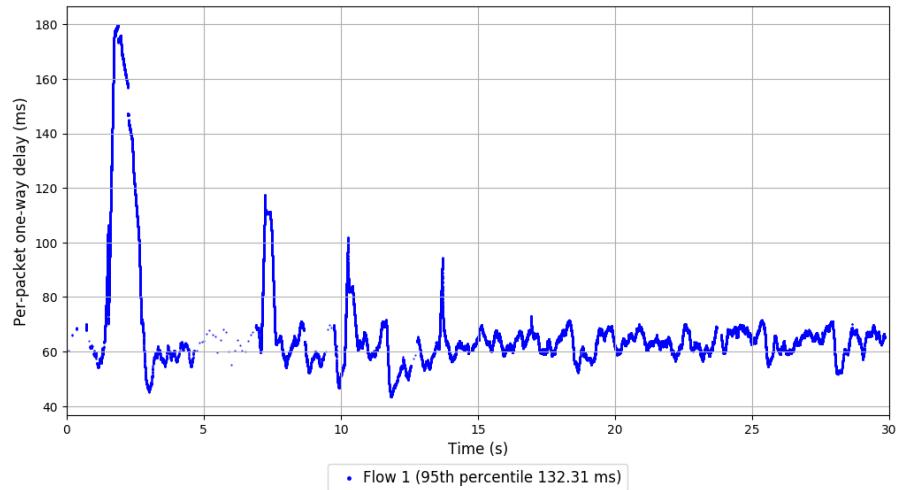
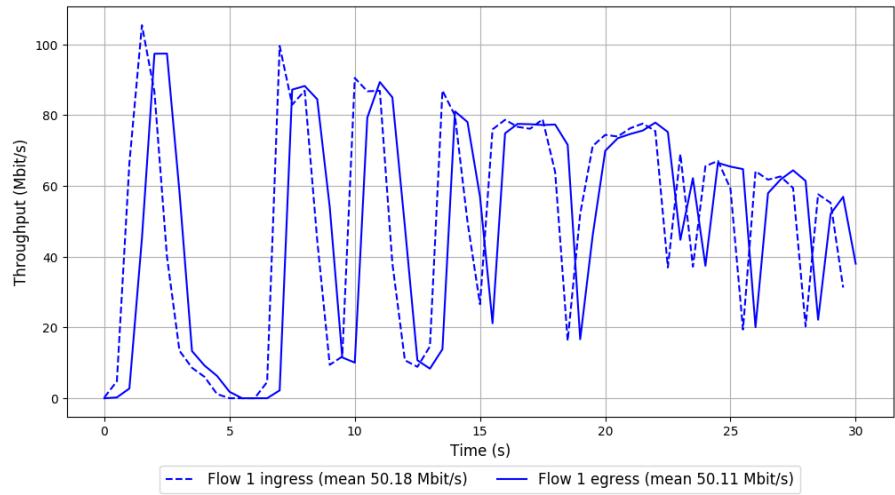


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-10-02 07:38:29
End at: 2018-10-02 07:38:59
Local clock offset: -4.579 ms
Remote clock offset: 3.897 ms

# Below is generated by plot.py at 2018-10-02 09:04:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.11 Mbit/s
95th percentile per-packet one-way delay: 132.314 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 50.11 Mbit/s
95th percentile per-packet one-way delay: 132.314 ms
Loss rate: 0.11%
```

Run 2: Report of QUIC Cubic — Data Link

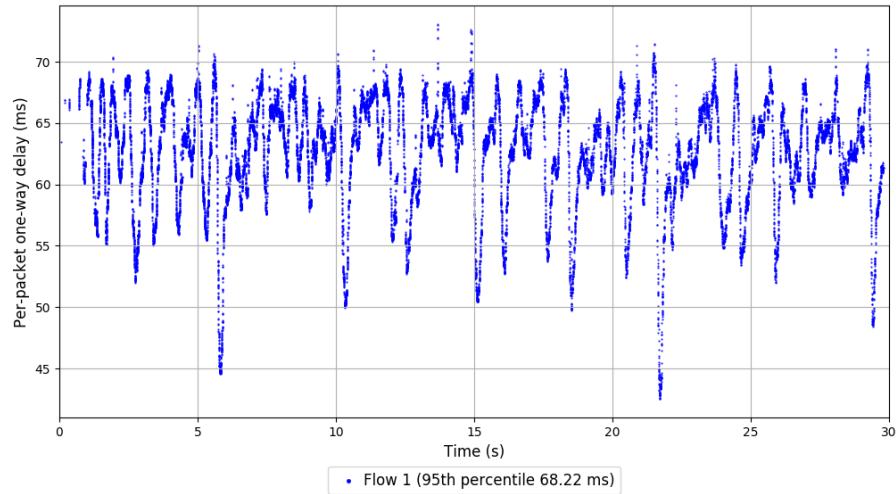
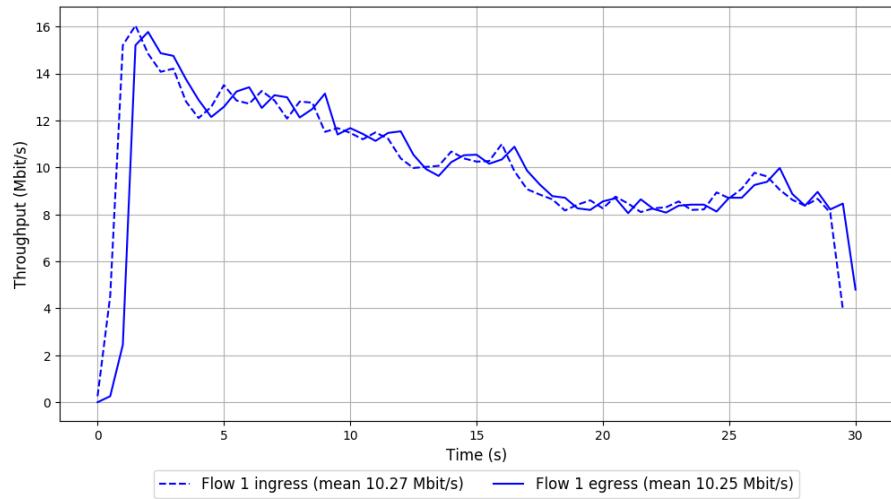


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-10-02 08:00:07
End at: 2018-10-02 08:00:37
Local clock offset: -8.945 ms
Remote clock offset: -1.983 ms

# Below is generated by plot.py at 2018-10-02 09:04:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 10.25 Mbit/s
95th percentile per-packet one-way delay: 68.220 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 10.25 Mbit/s
95th percentile per-packet one-way delay: 68.220 ms
Loss rate: 0.19%
```

Run 3: Report of QUIC Cubic — Data Link

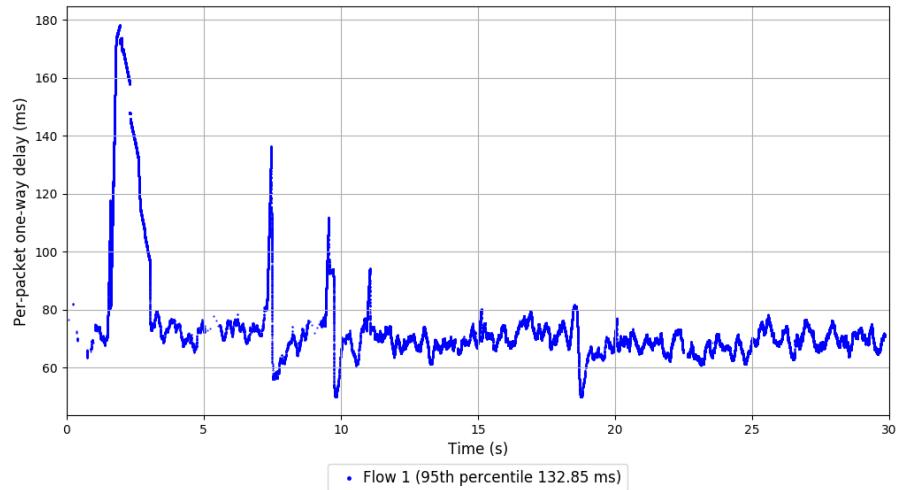
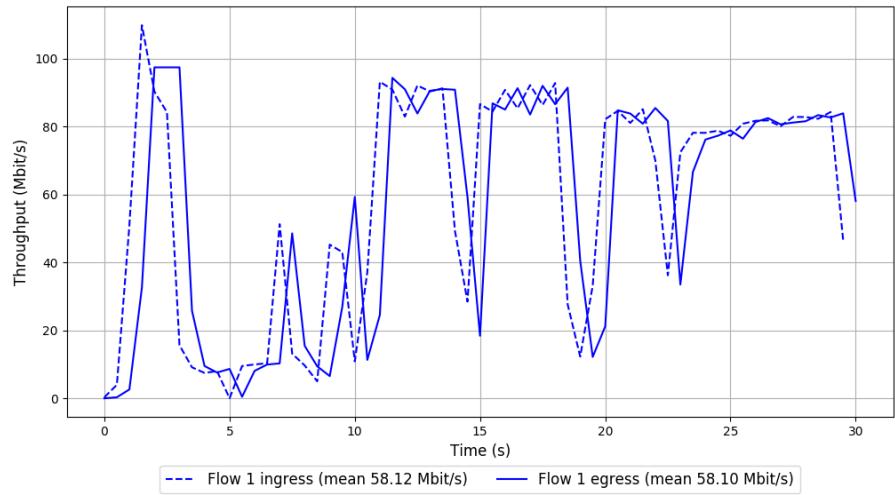


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-10-02 08:22:25
End at: 2018-10-02 08:22:55
Local clock offset: -11.946 ms
Remote clock offset: -1.423 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 132.850 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 132.850 ms
Loss rate: 0.04%
```

Run 4: Report of QUIC Cubic — Data Link

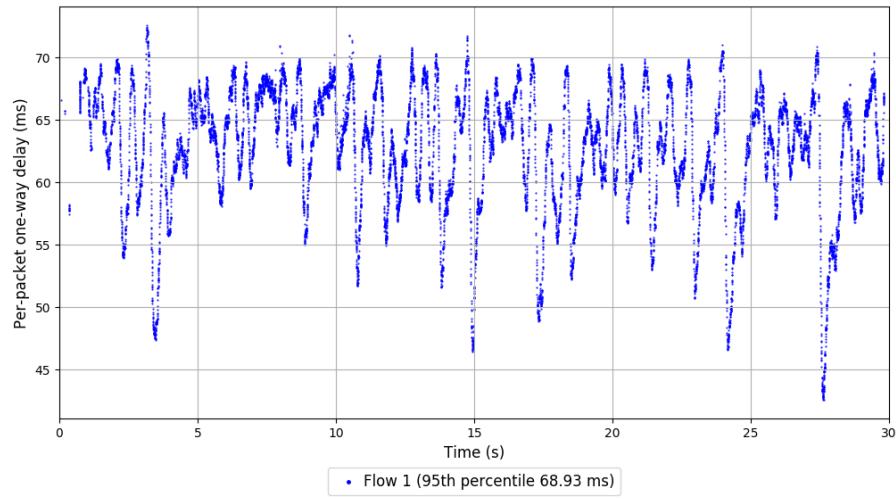
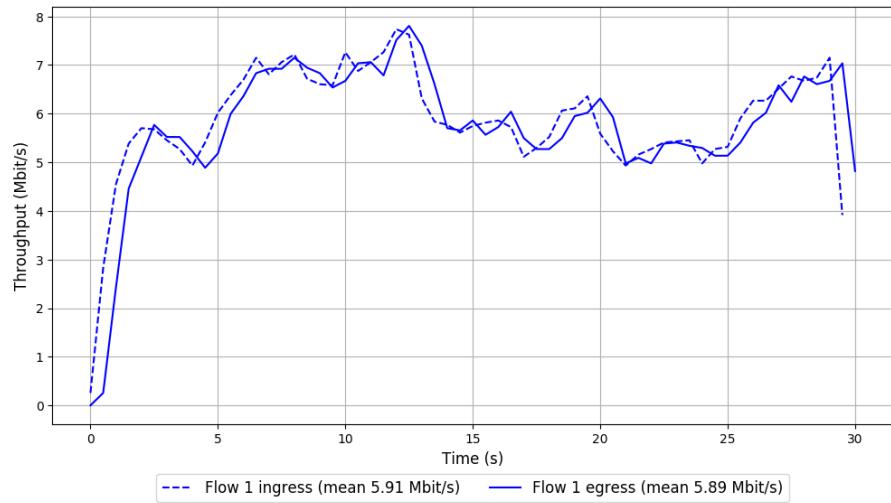


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-10-02 08:44:16
End at: 2018-10-02 08:44:46
Local clock offset: -14.368 ms
Remote clock offset: 77.621 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.89 Mbit/s
95th percentile per-packet one-way delay: 68.934 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 5.89 Mbit/s
95th percentile per-packet one-way delay: 68.934 ms
Loss rate: 0.33%
```

Run 5: Report of QUIC Cubic — Data Link

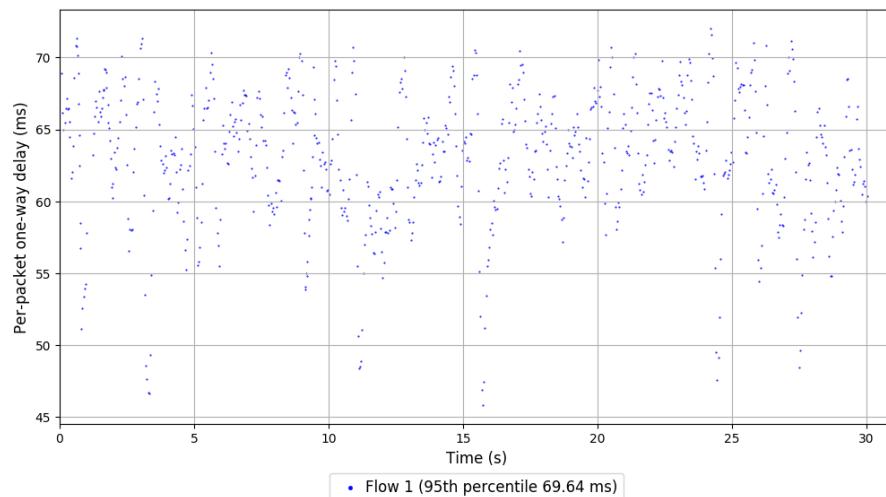
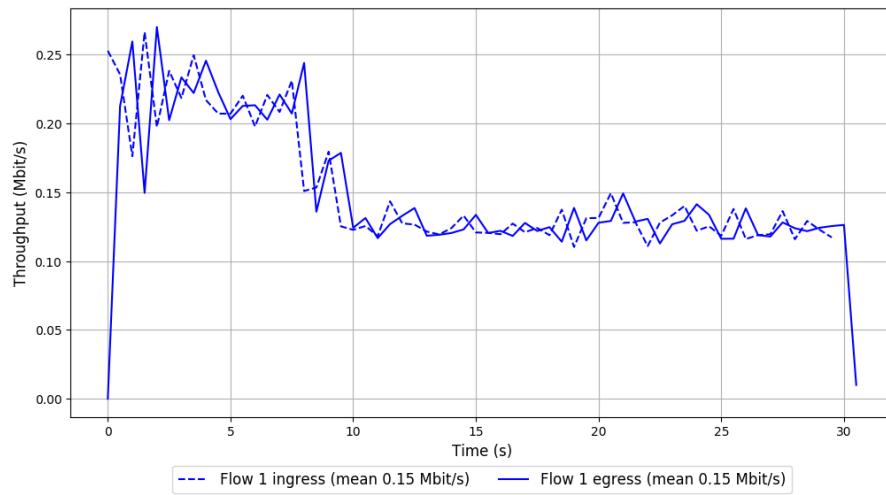


```
Run 1: Statistics of SCReAM
```

```
Start at: 2018-10-02 07:27:41
End at: 2018-10-02 07:28:11
Local clock offset: -2.67 ms
Remote clock offset: 15.453 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 69.638 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 69.638 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

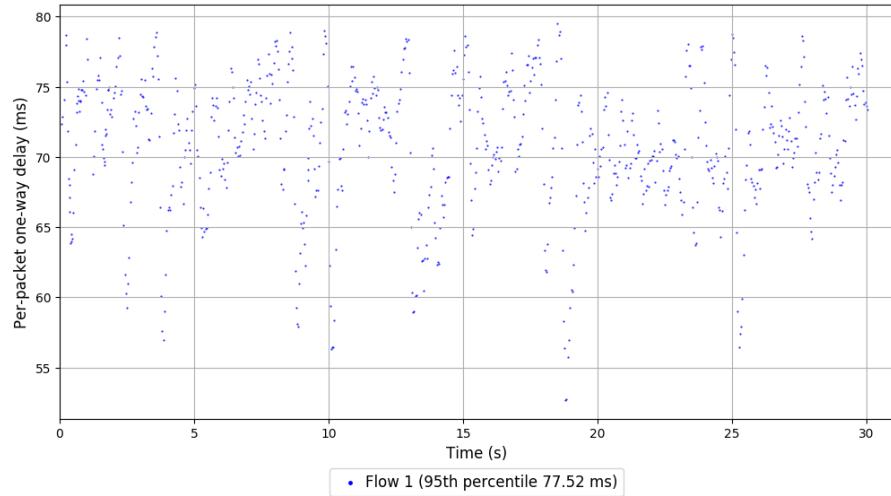
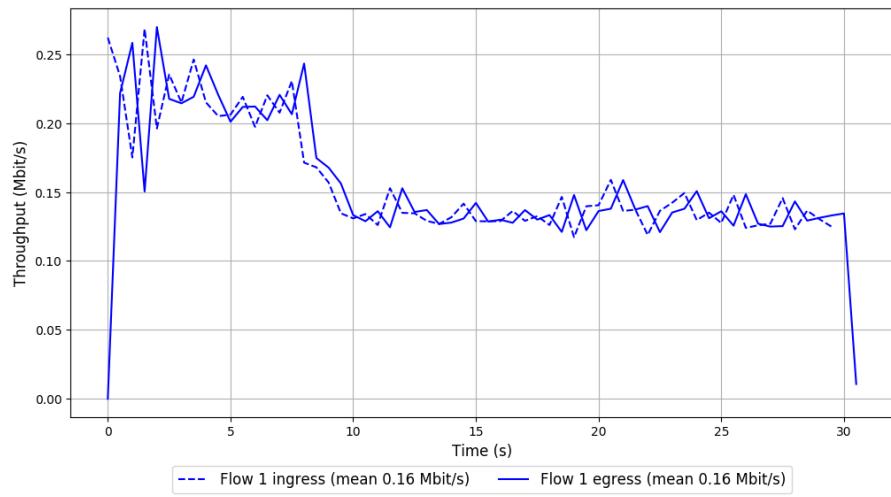


Run 2: Statistics of SCReAM

```
Start at: 2018-10-02 07:49:29
End at: 2018-10-02 07:49:59
Local clock offset: -6.691 ms
Remote clock offset: -1.429 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 77.523 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 77.523 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

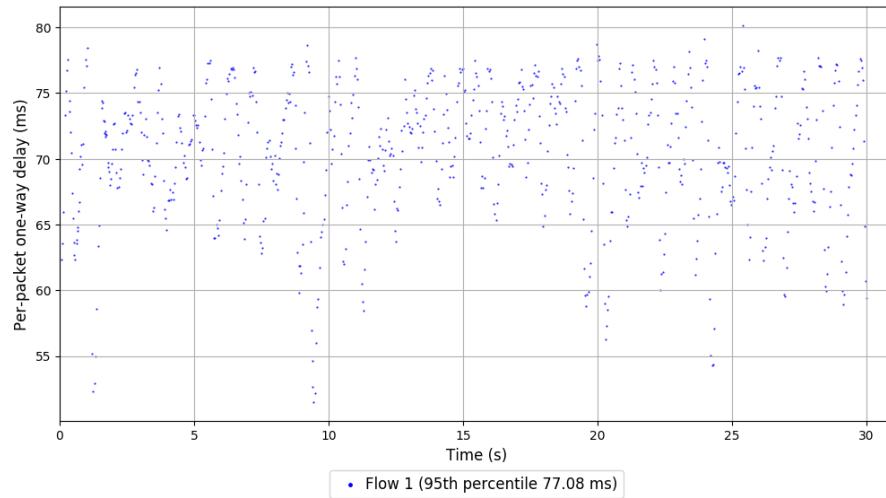
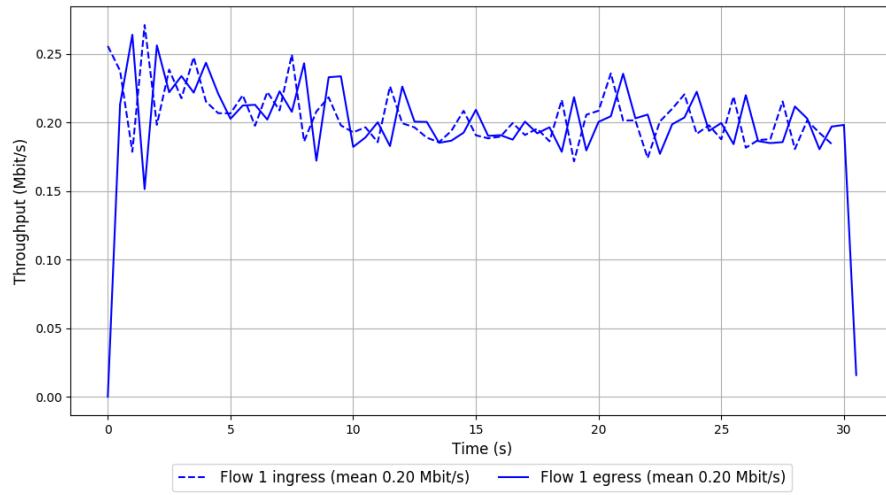


Run 3: Statistics of SCReAM

```
Start at: 2018-10-02 08:11:45
End at: 2018-10-02 08:12:15
Local clock offset: -10.103 ms
Remote clock offset: -3.305 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 77.079 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 77.079 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

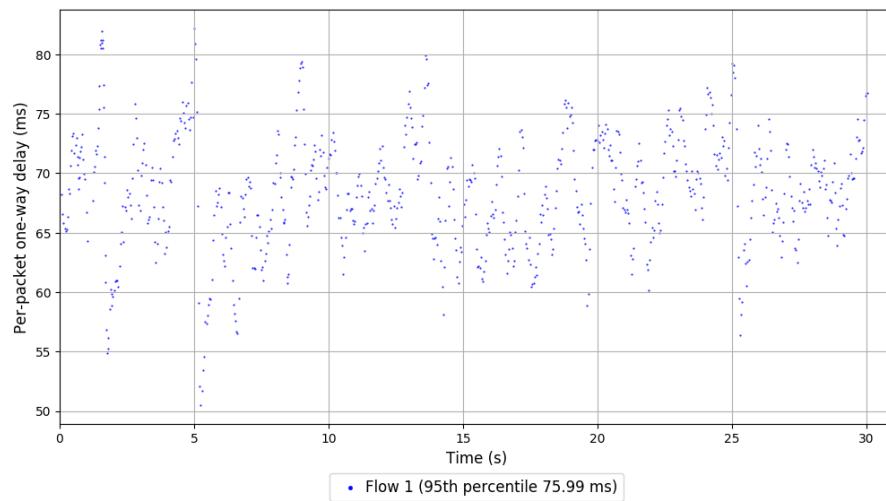
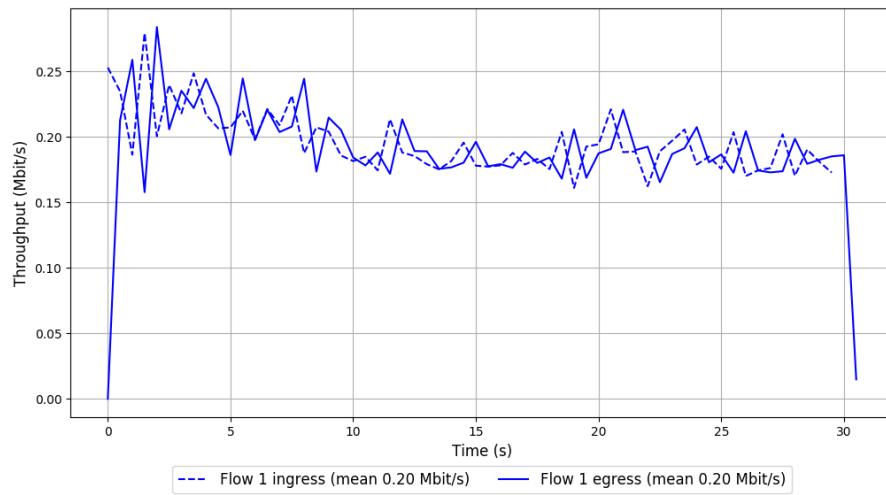


Run 4: Statistics of SCReAM

```
Start at: 2018-10-02 08:33:26
End at: 2018-10-02 08:33:56
Local clock offset: -13.104 ms
Remote clock offset: 55.745 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 75.993 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 75.993 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

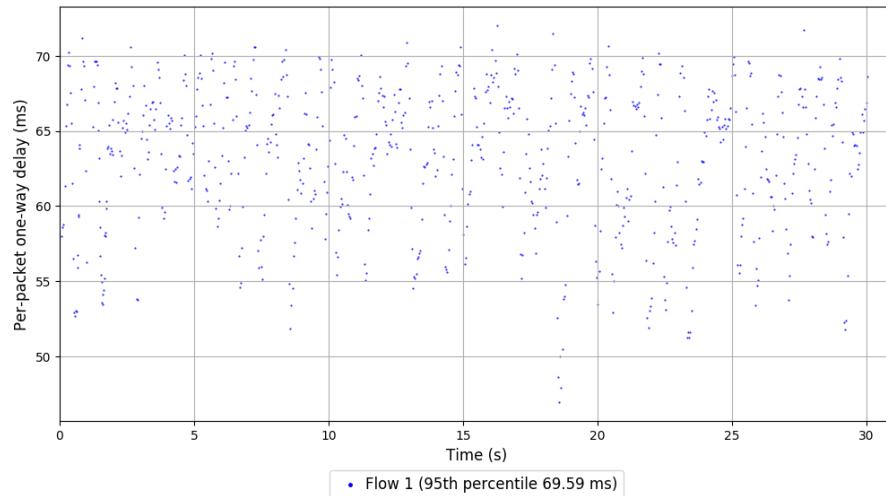
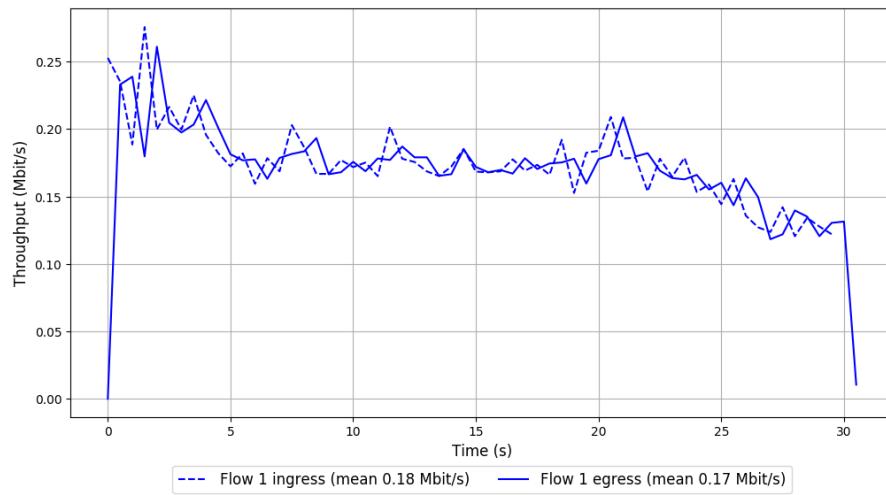


Run 5: Statistics of SCReAM

```
Start at: 2018-10-02 08:55:04
End at: 2018-10-02 08:55:35
Local clock offset: -11.019 ms
Remote clock offset: 90.543 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 69.595 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 69.595 ms
Loss rate: 0.30%
```

Run 5: Report of SCReAM — Data Link

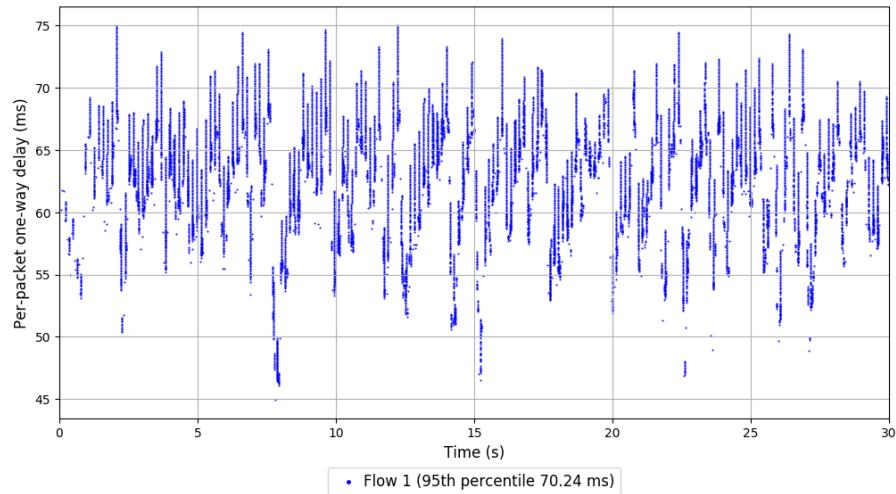
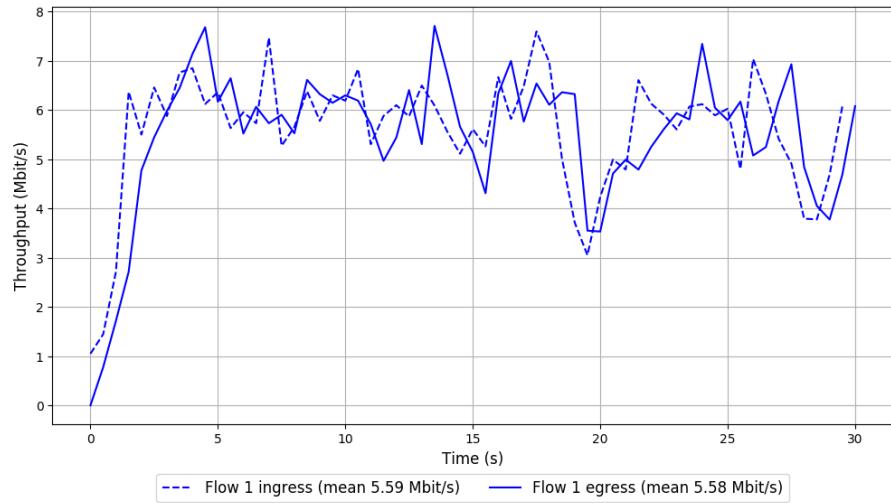


Run 1: Statistics of Sprout

```
Start at: 2018-10-02 07:12:01
End at: 2018-10-02 07:12:31
Local clock offset: 4.187 ms
Remote clock offset: 55.675 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.58 Mbit/s
95th percentile per-packet one-way delay: 70.242 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 5.58 Mbit/s
95th percentile per-packet one-way delay: 70.242 ms
Loss rate: 0.15%
```

Run 1: Report of Sprout — Data Link

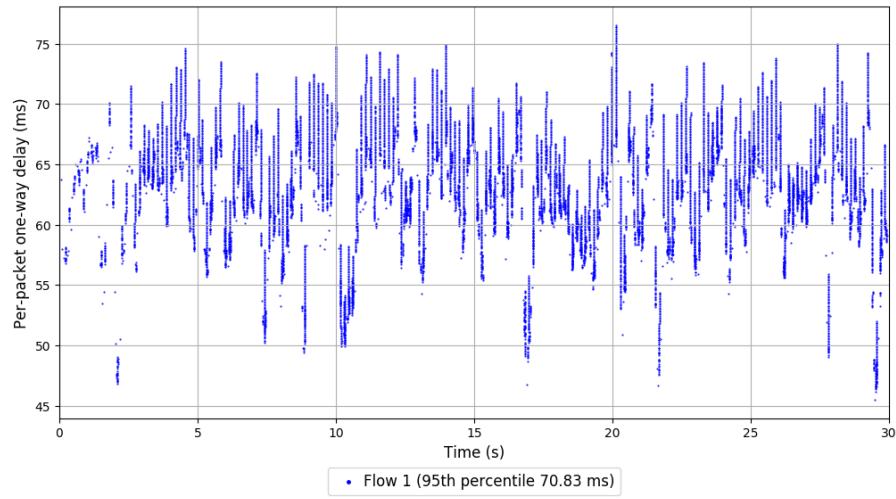
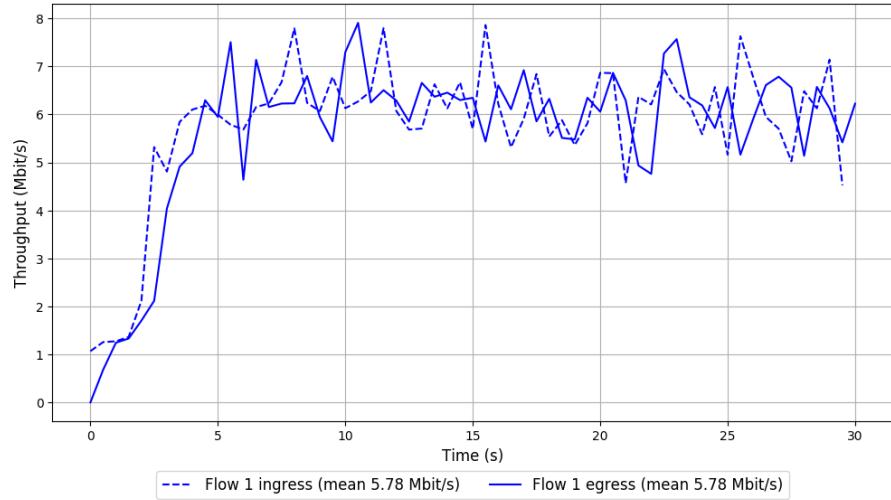


Run 2: Statistics of Sprout

```
Start at: 2018-10-02 07:33:40
End at: 2018-10-02 07:34:10
Local clock offset: -3.994 ms
Remote clock offset: 5.423 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.78 Mbit/s
95th percentile per-packet one-way delay: 70.830 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 5.78 Mbit/s
95th percentile per-packet one-way delay: 70.830 ms
Loss rate: 0.14%
```

Run 2: Report of Sprout — Data Link

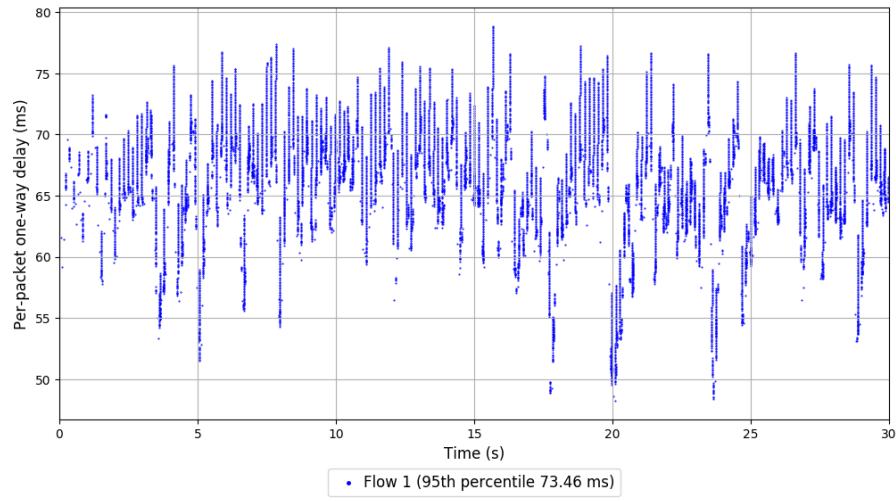
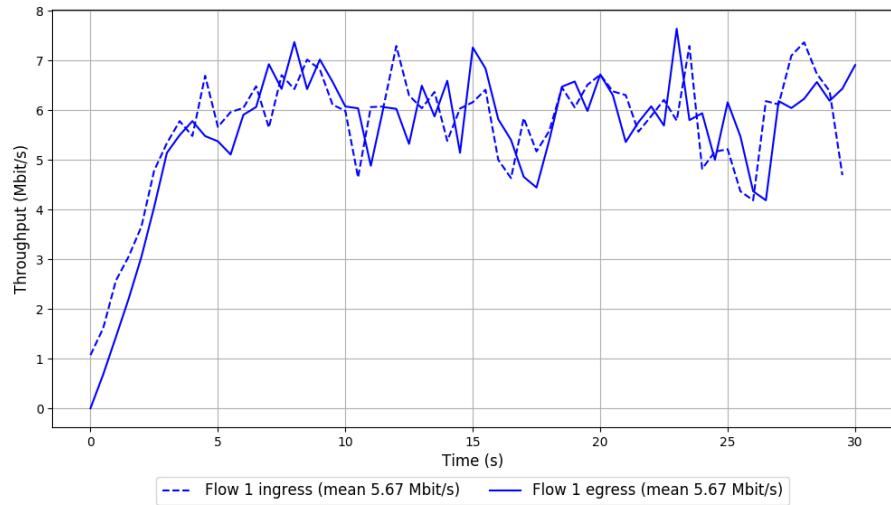


Run 3: Statistics of Sprout

```
Start at: 2018-10-02 07:55:22
End at: 2018-10-02 07:55:52
Local clock offset: -7.863 ms
Remote clock offset: -0.424 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.67 Mbit/s
95th percentile per-packet one-way delay: 73.456 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 5.67 Mbit/s
95th percentile per-packet one-way delay: 73.456 ms
Loss rate: 0.15%
```

Run 3: Report of Sprout — Data Link

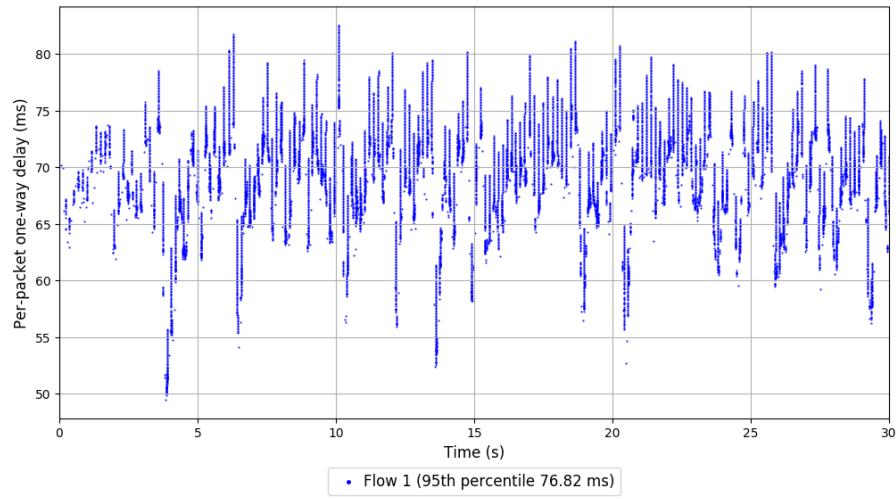
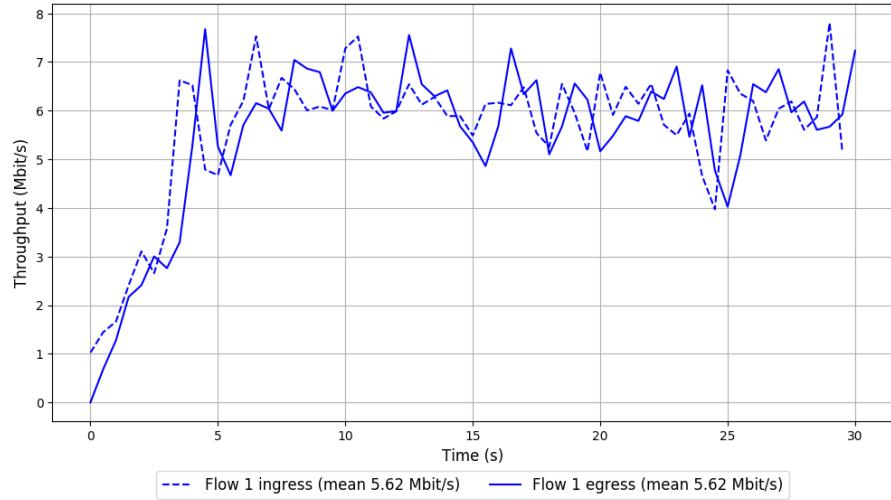


Run 4: Statistics of Sprout

```
Start at: 2018-10-02 08:17:40
End at: 2018-10-02 08:18:10
Local clock offset: -11.075 ms
Remote clock offset: 0.545 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 76.821 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 76.821 ms
Loss rate: 0.13%
```

Run 4: Report of Sprout — Data Link

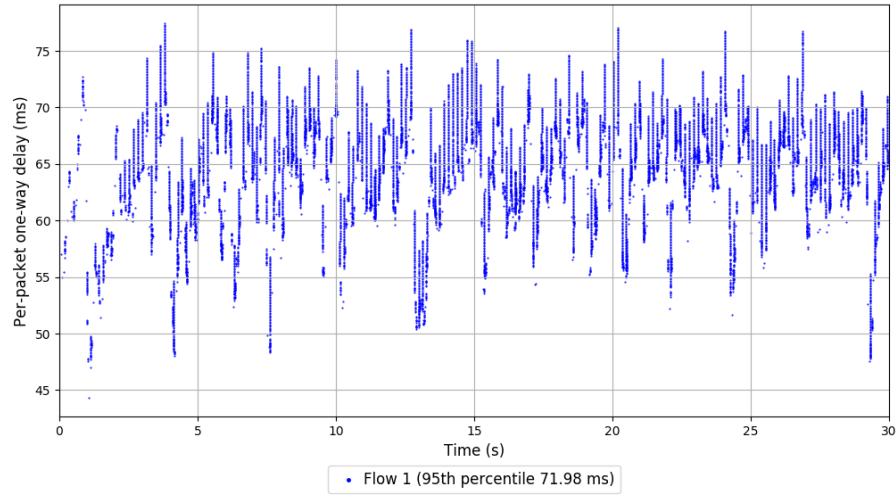
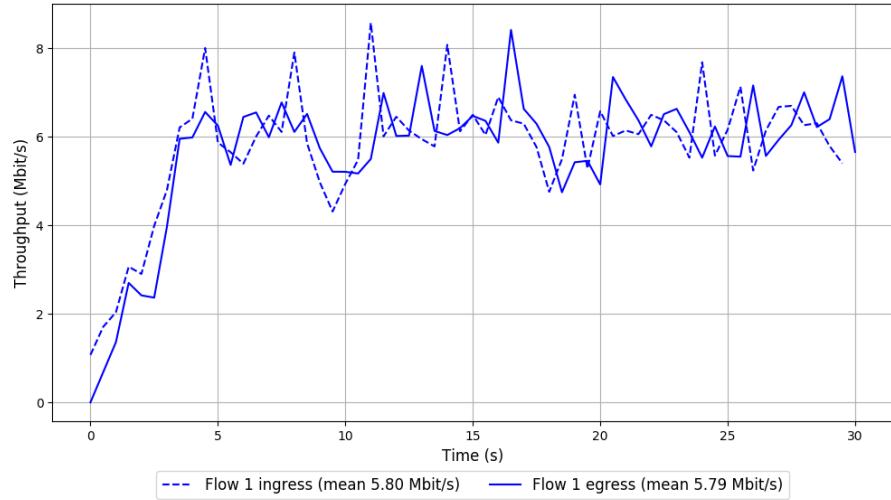


Run 5: Statistics of Sprout

```
Start at: 2018-10-02 08:39:25
End at: 2018-10-02 08:39:55
Local clock offset: -13.919 ms
Remote clock offset: 68.46 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.79 Mbit/s
95th percentile per-packet one-way delay: 71.981 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 5.79 Mbit/s
95th percentile per-packet one-way delay: 71.981 ms
Loss rate: 0.21%
```

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

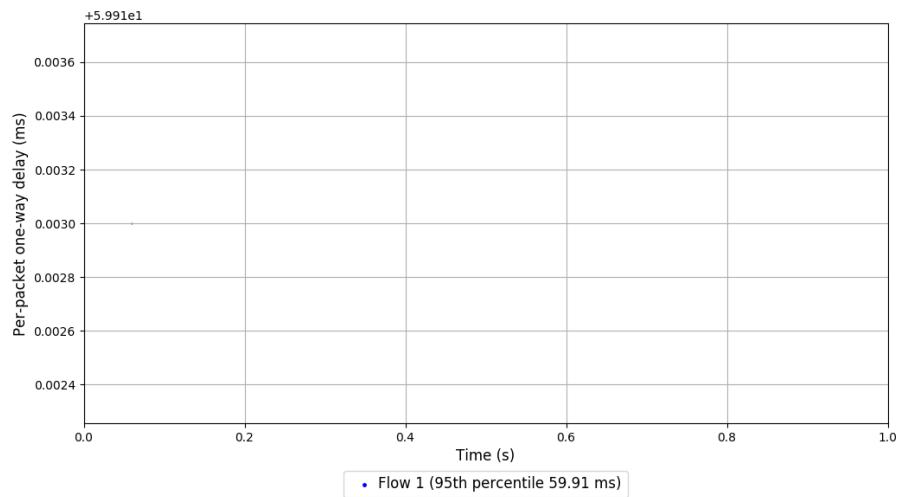
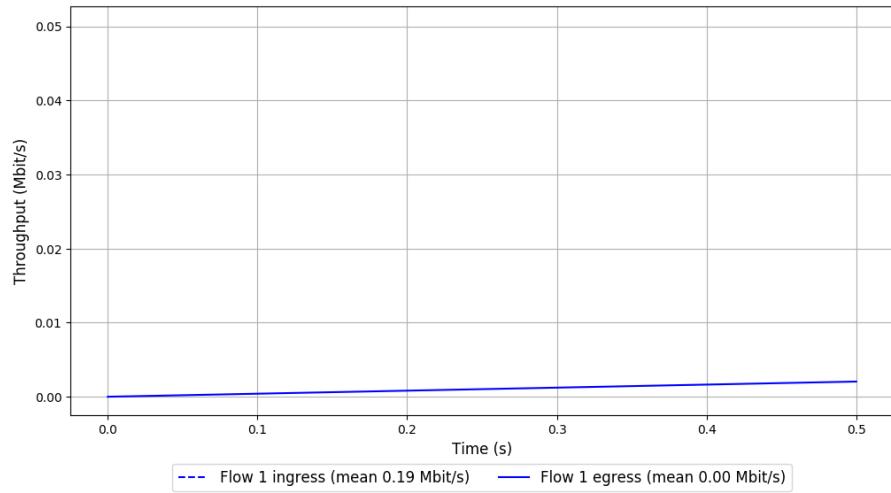
Start at: 2018-10-02 07:31:21

End at: 2018-10-02 07:31:51

Local clock offset: -3.701 ms

Remote clock offset: 7.868 ms

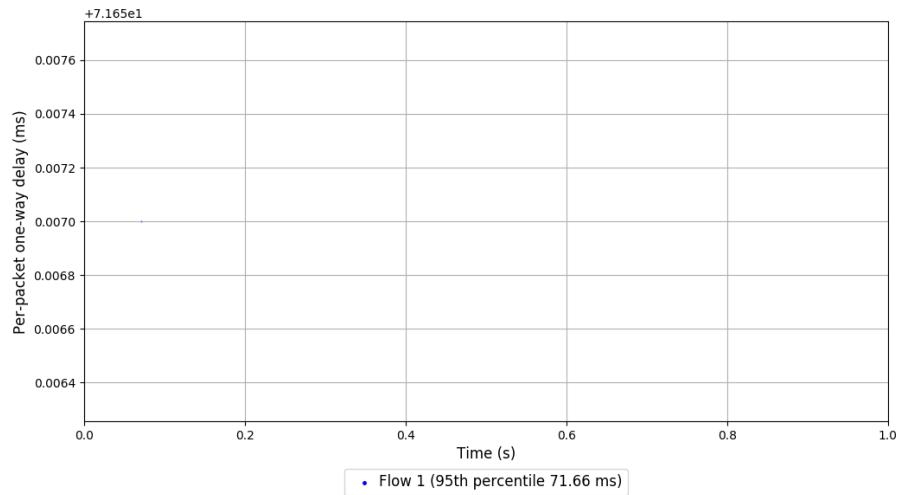
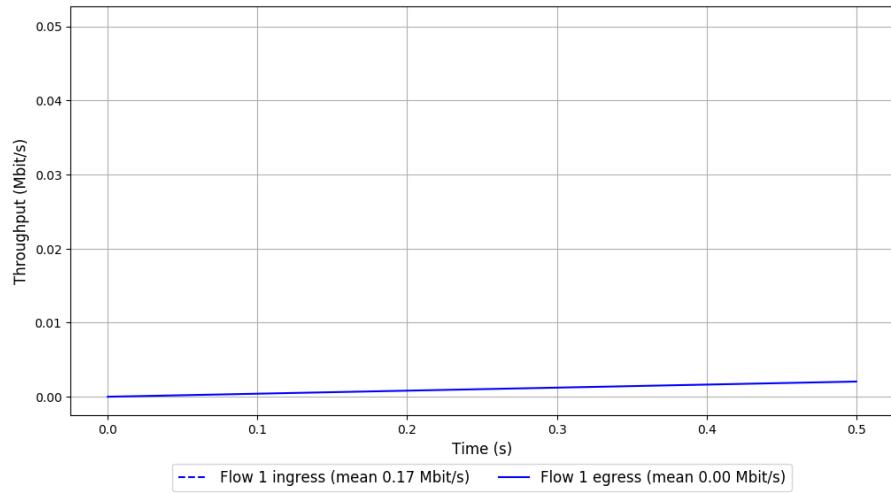
Run 1: Report of TaoVA-100x — Data Link



Run 2: Statistics of TaoVA-100x

Start at: 2018-10-02 07:53:03
End at: 2018-10-02 07:53:33
Local clock offset: -7.392 ms
Remote clock offset: -2.199 ms

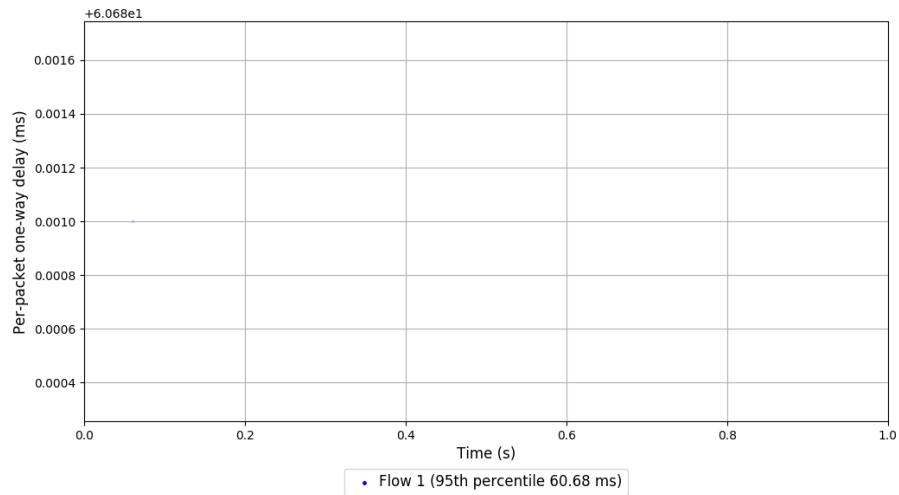
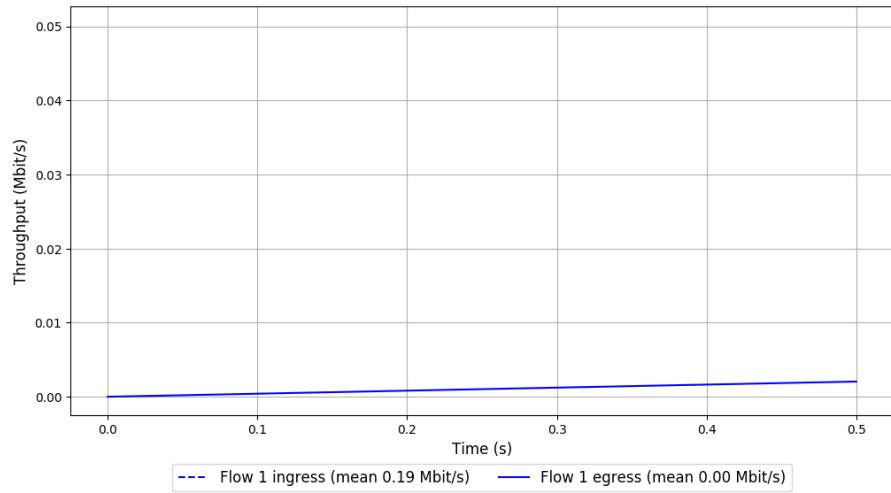
Run 2: Report of TaoVA-100x — Data Link



Run 3: Statistics of TaoVA-100x

Start at: 2018-10-02 08:15:21
End at: 2018-10-02 08:15:51
Local clock offset: -10.39 ms
Remote clock offset: -2.728 ms

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



Run 4: Statistics of TaoVA-100x

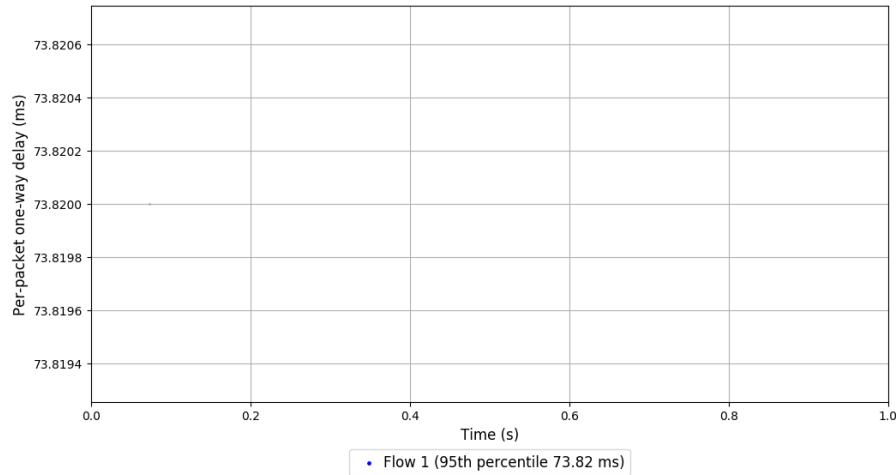
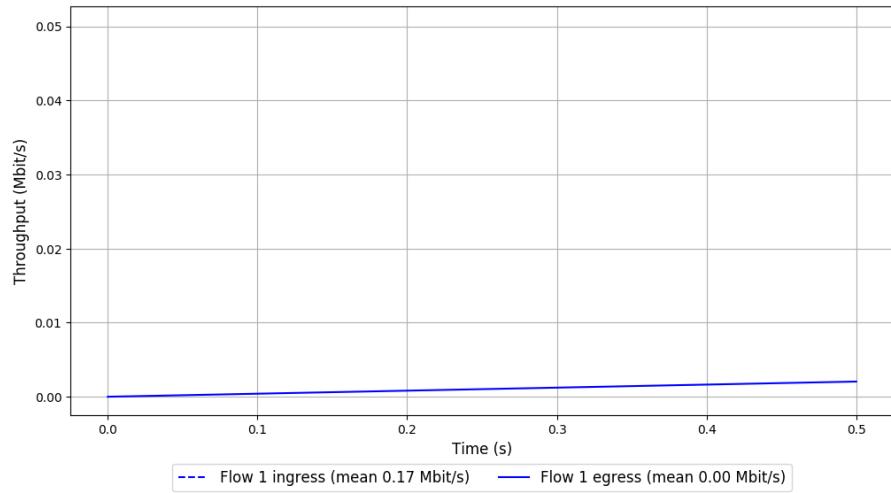
Start at: 2018-10-02 08:37:02

End at: 2018-10-02 08:37:32

Local clock offset: -13.878 ms

Remote clock offset: 63.612 ms

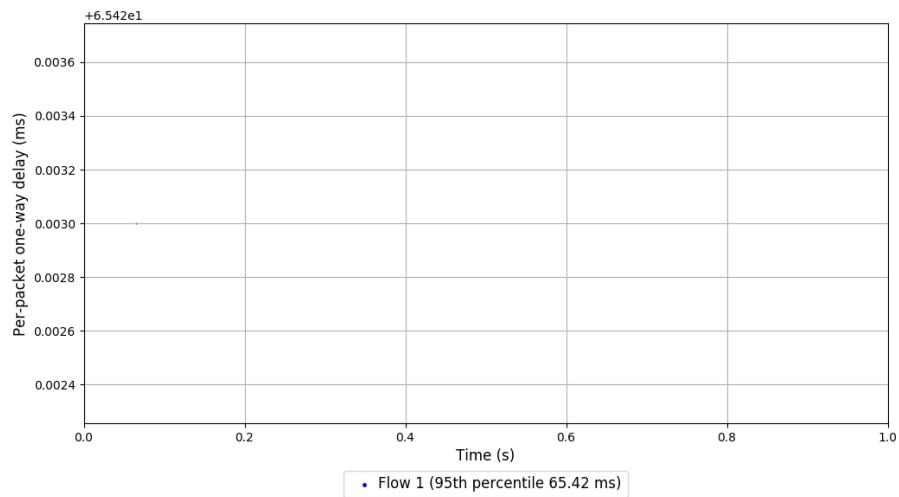
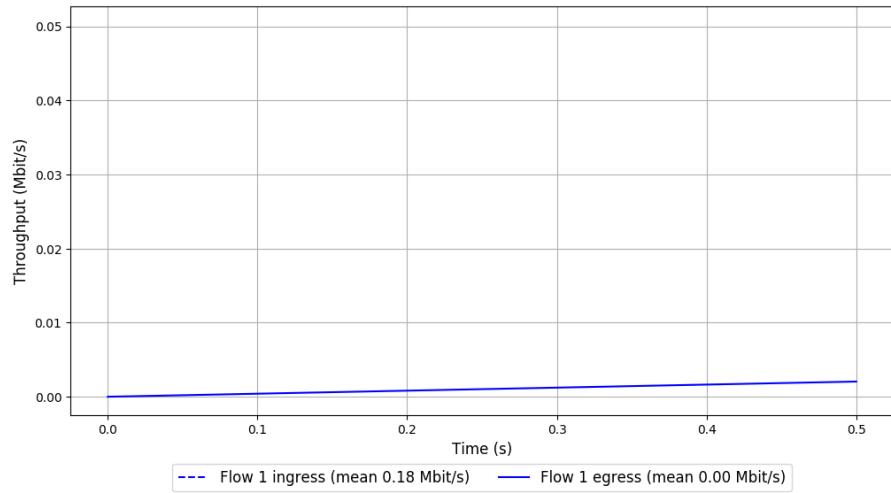
Run 4: Report of TaoVA-100x — Data Link



Run 5: Statistics of TaoVA-100x

Start at: 2018-10-02 08:58:41
End at: 2018-10-02 08:59:11
Local clock offset: -10.278 ms
Remote clock offset: 87.105 ms

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

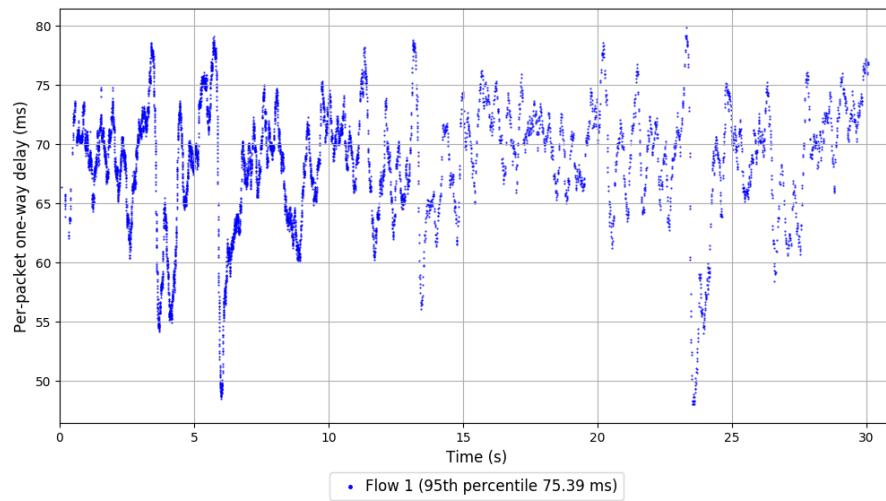
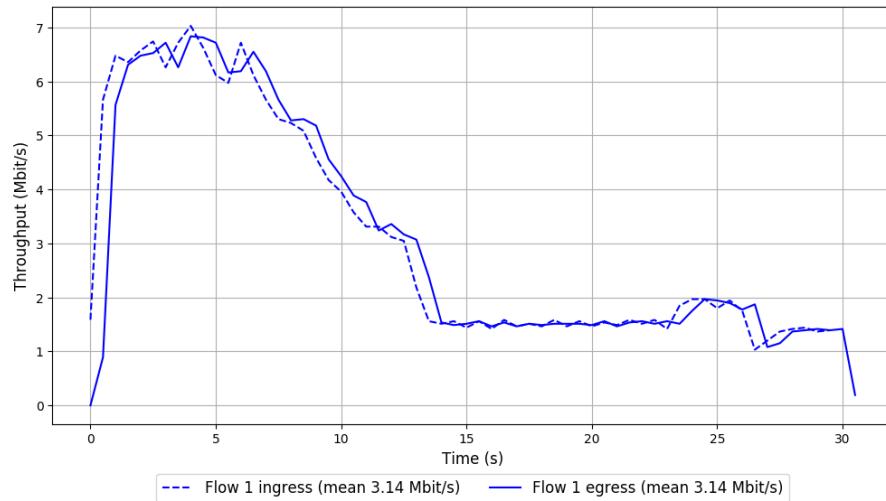


Run 1: Statistics of TCP Vegas

```
Start at: 2018-10-02 07:26:32
End at: 2018-10-02 07:27:02
Local clock offset: -2.218 ms
Remote clock offset: 16.324 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 75.393 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 3.14 Mbit/s
95th percentile per-packet one-way delay: 75.393 ms
Loss rate: 0.03%
```

Run 1: Report of TCP Vegas — Data Link

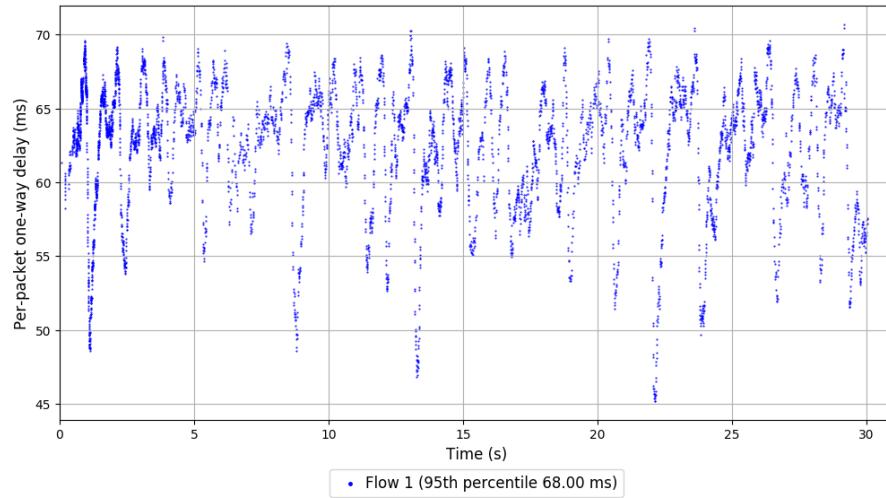
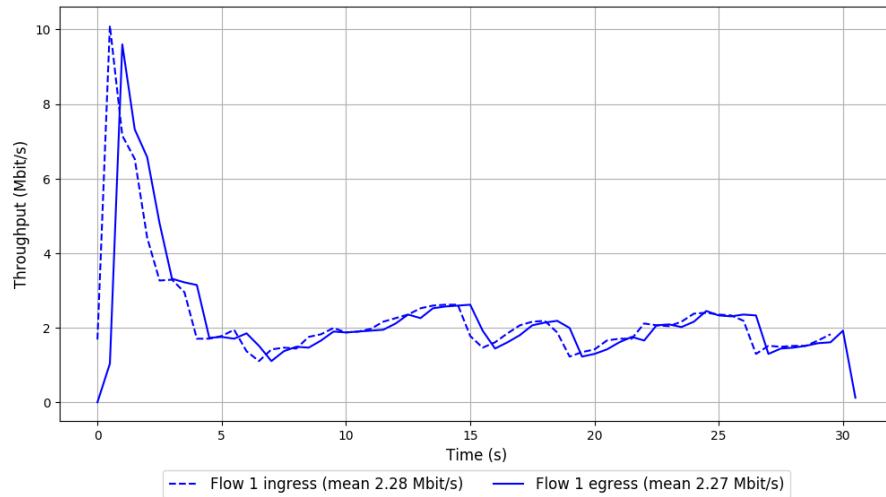


Run 2: Statistics of TCP Vegas

```
Start at: 2018-10-02 07:48:19
End at: 2018-10-02 07:48:49
Local clock offset: -6.297 ms
Remote clock offset: -3.392 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 67.998 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 67.998 ms
Loss rate: 0.19%
```

Run 2: Report of TCP Vegas — Data Link

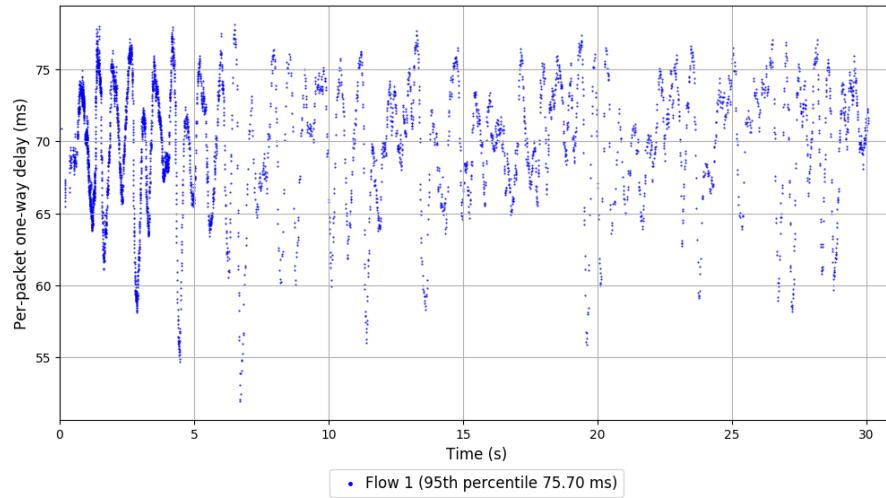
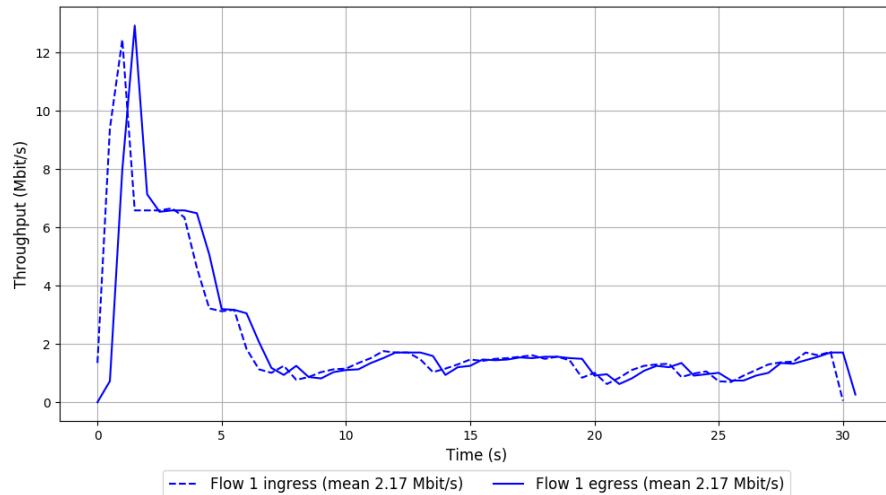


Run 3: Statistics of TCP Vegas

```
Start at: 2018-10-02 08:10:35
End at: 2018-10-02 08:11:05
Local clock offset: -9.993 ms
Remote clock offset: -5.01 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 75.697 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 75.697 ms
Loss rate: 0.29%
```

Run 3: Report of TCP Vegas — Data Link

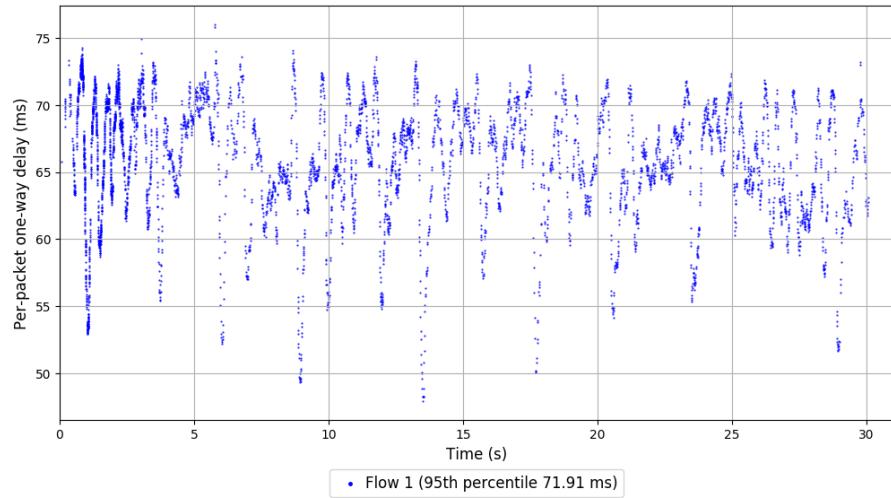
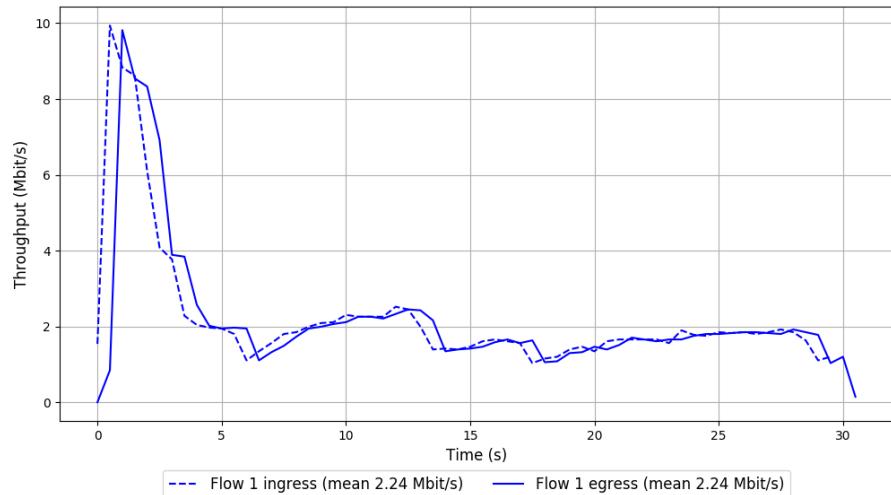


Run 4: Statistics of TCP Vegas

```
Start at: 2018-10-02 08:32:16
End at: 2018-10-02 08:32:46
Local clock offset: -13.246 ms
Remote clock offset: 51.063 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 71.911 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 71.911 ms
Loss rate: 0.18%
```

Run 4: Report of TCP Vegas — Data Link

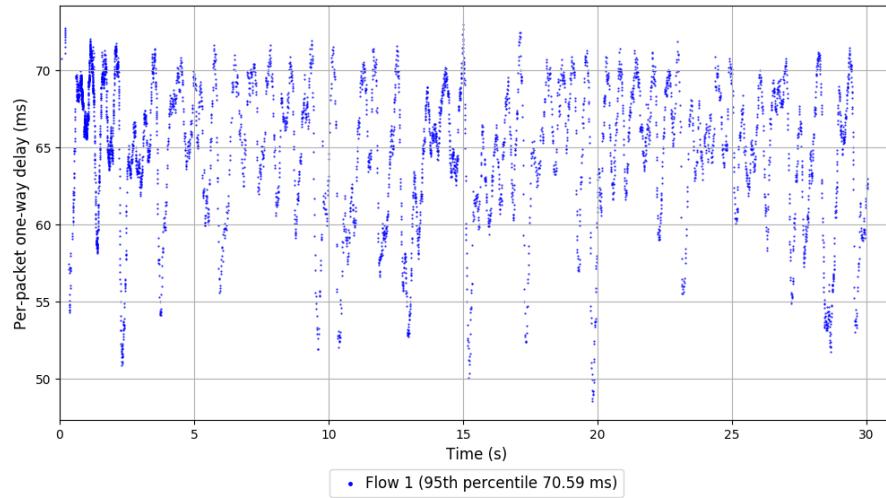
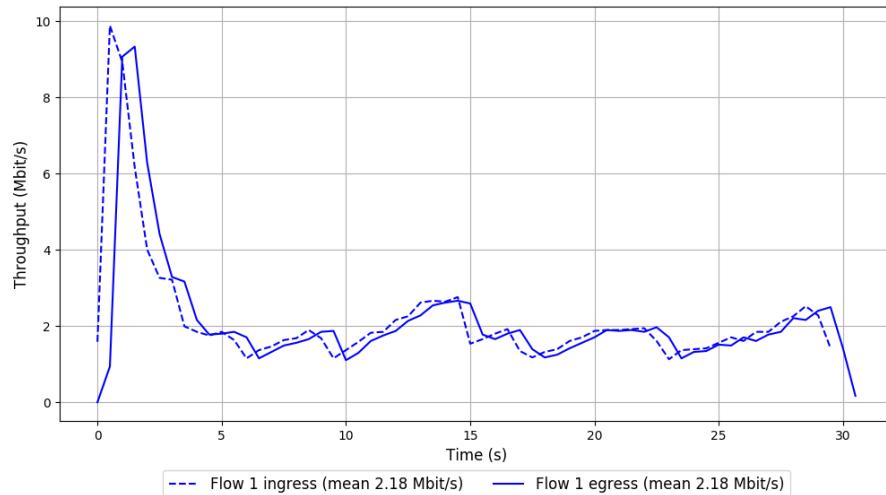


Run 5: Statistics of TCP Vegas

```
Start at: 2018-10-02 08:53:55
End at: 2018-10-02 08:54:25
Local clock offset: -11.213 ms
Remote clock offset: 89.597 ms

# Below is generated by plot.py at 2018-10-02 09:05:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 70.592 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 70.592 ms
Loss rate: 0.28%
```

Run 5: Report of TCP Vegas — Data Link

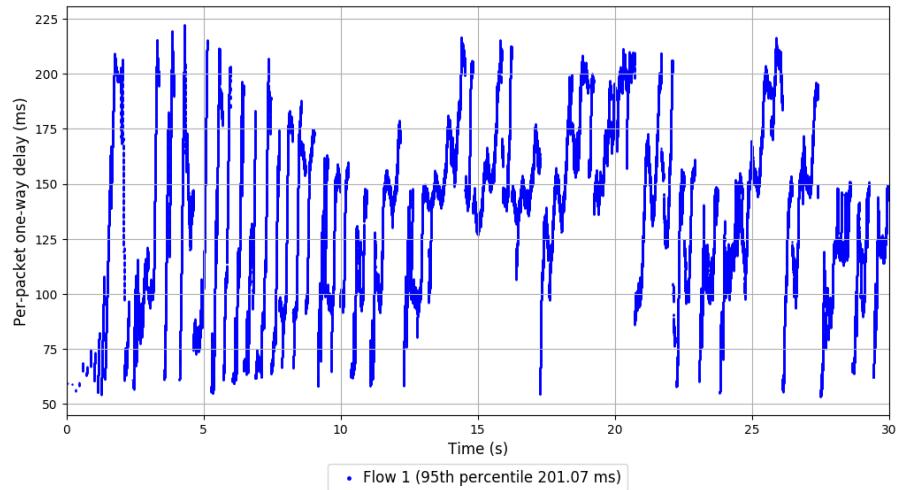
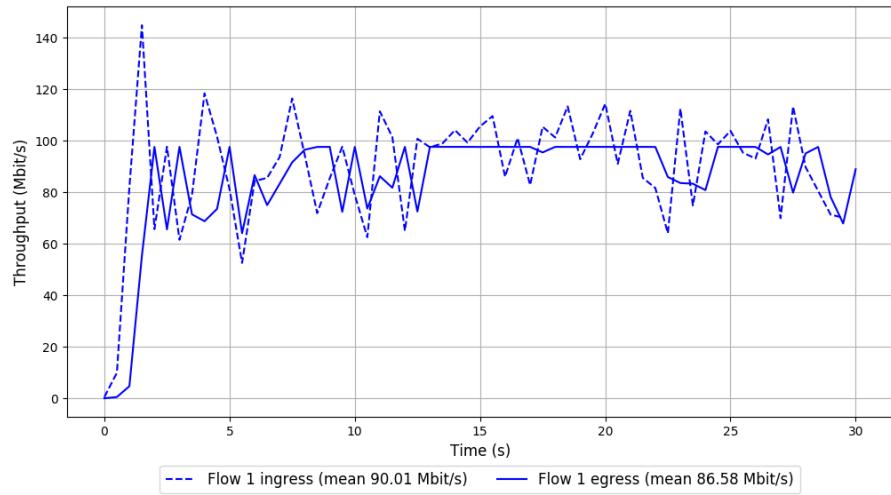


Run 1: Statistics of Verus

```
Start at: 2018-10-02 07:30:00
End at: 2018-10-02 07:30:30
Local clock offset: -3.204 ms
Remote clock offset: 9.323 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.58 Mbit/s
95th percentile per-packet one-way delay: 201.067 ms
Loss rate: 3.63%
-- Flow 1:
Average throughput: 86.58 Mbit/s
95th percentile per-packet one-way delay: 201.067 ms
Loss rate: 3.63%
```

Run 1: Report of Verus — Data Link

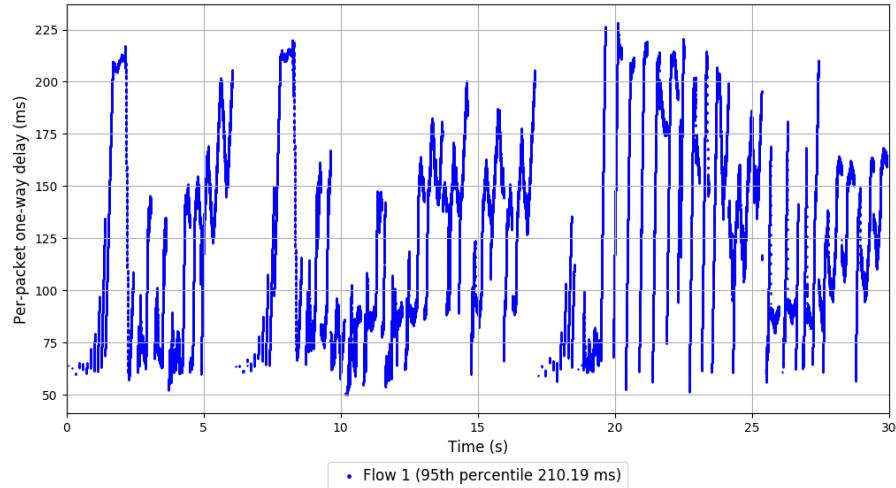
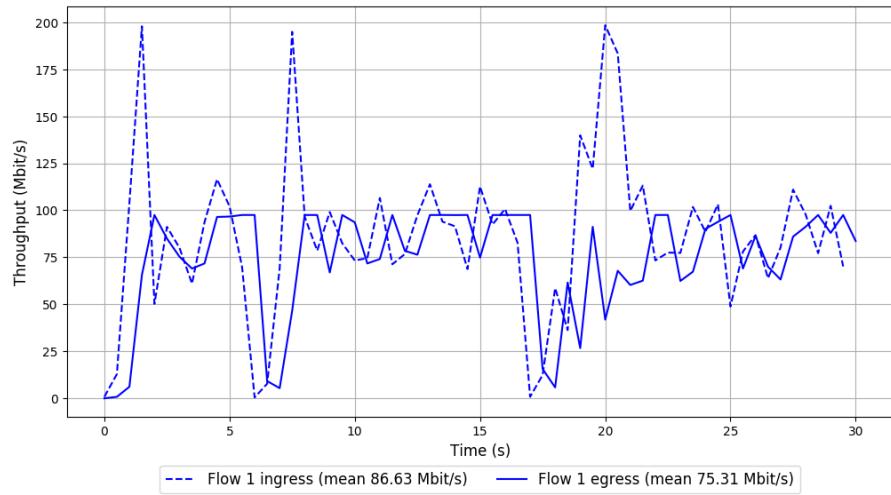


Run 2: Statistics of Verus

```
Start at: 2018-10-02 07:51:48
End at: 2018-10-02 07:52:18
Local clock offset: -7.317 ms
Remote clock offset: -0.624 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.31 Mbit/s
95th percentile per-packet one-way delay: 210.195 ms
Loss rate: 12.96%
-- Flow 1:
Average throughput: 75.31 Mbit/s
95th percentile per-packet one-way delay: 210.195 ms
Loss rate: 12.96%
```

Run 2: Report of Verus — Data Link

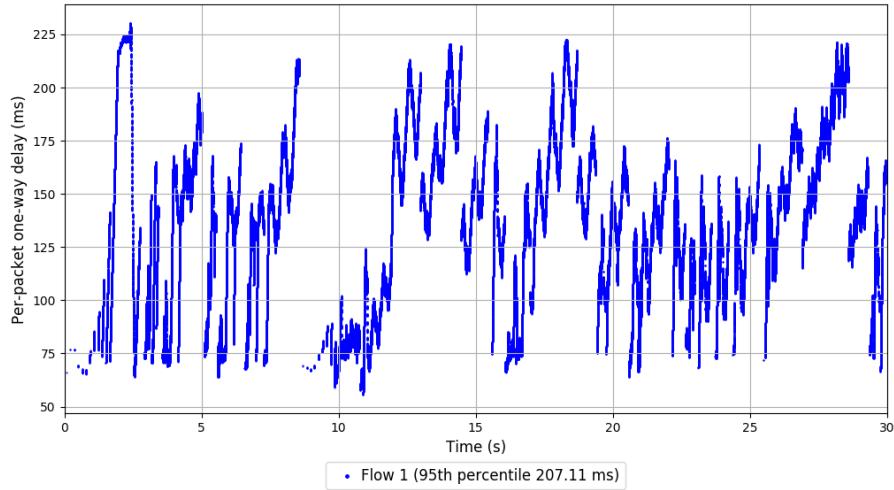
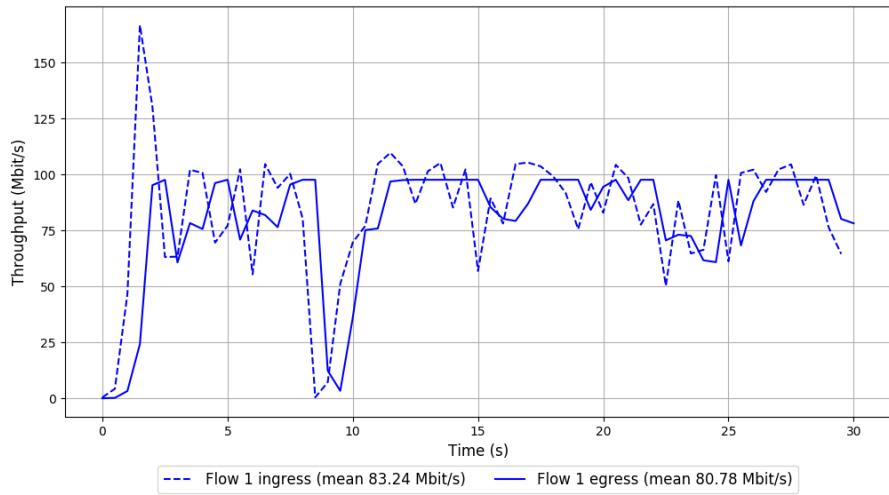


Run 3: Statistics of Verus

```
Start at: 2018-10-02 08:14:04
End at: 2018-10-02 08:14:34
Local clock offset: -10.369 ms
Remote clock offset: -2.52 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.78 Mbit/s
95th percentile per-packet one-way delay: 207.113 ms
Loss rate: 2.82%
-- Flow 1:
Average throughput: 80.78 Mbit/s
95th percentile per-packet one-way delay: 207.113 ms
Loss rate: 2.82%
```

Run 3: Report of Verus — Data Link

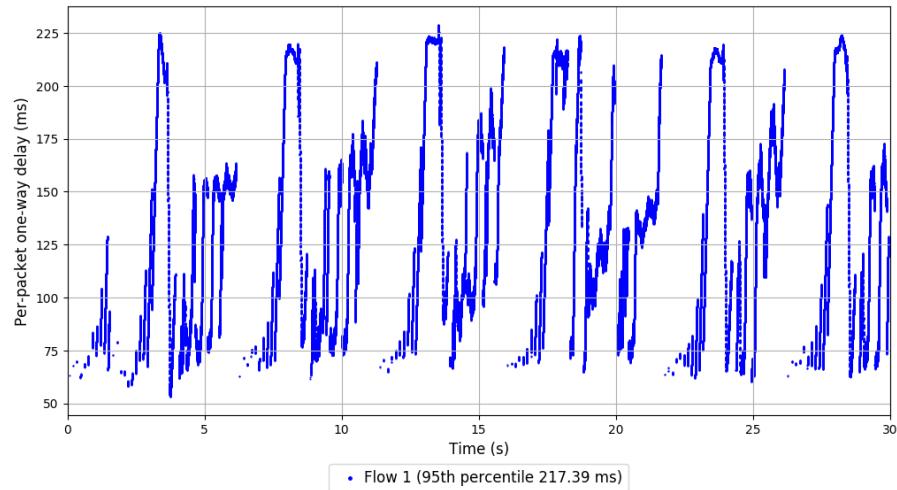
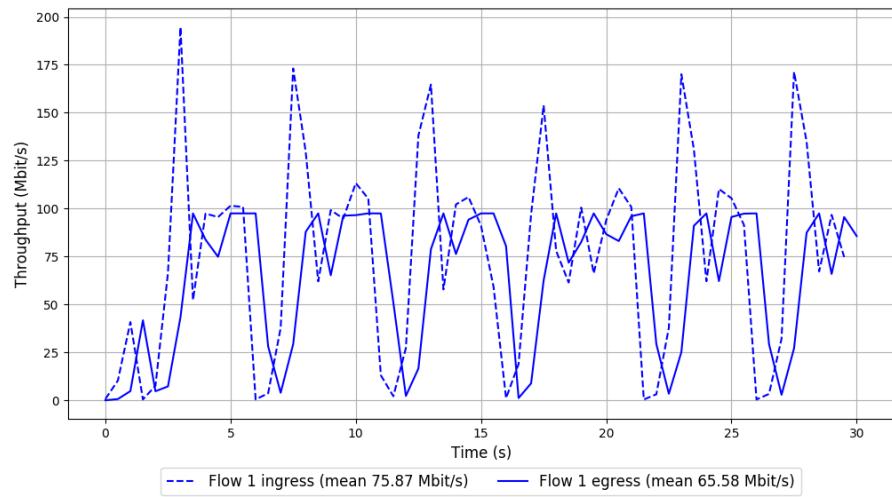


Run 4: Statistics of Verus

```
Start at: 2018-10-02 08:35:44
End at: 2018-10-02 08:36:14
Local clock offset: -13.489 ms
Remote clock offset: 60.128 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.58 Mbit/s
95th percentile per-packet one-way delay: 217.386 ms
Loss rate: 13.38%
-- Flow 1:
Average throughput: 65.58 Mbit/s
95th percentile per-packet one-way delay: 217.386 ms
Loss rate: 13.38%
```

Run 4: Report of Verus — Data Link

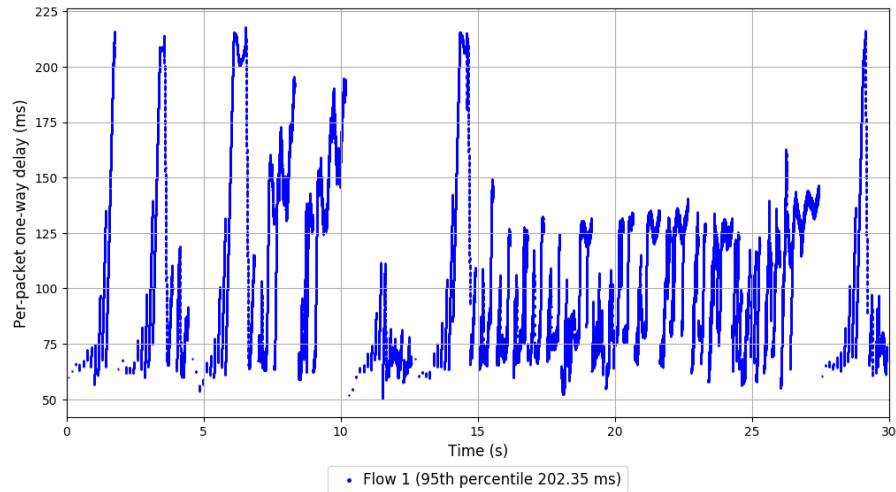
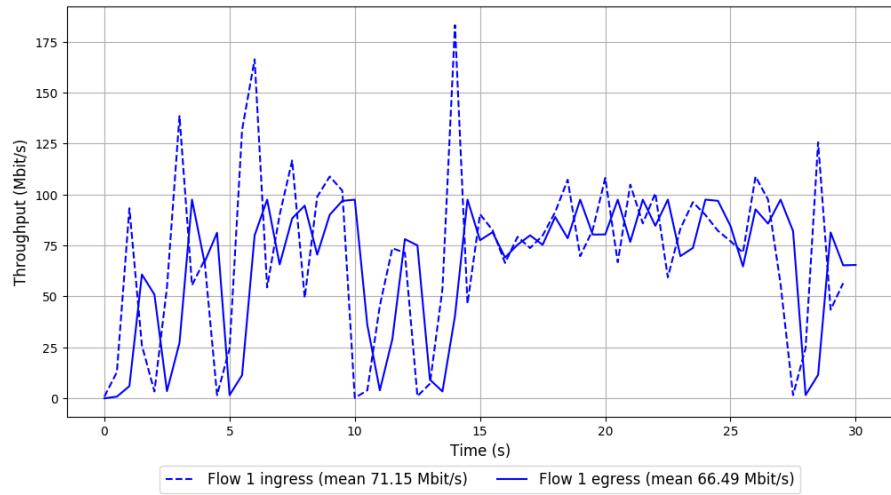


Run 5: Statistics of Verus

```
Start at: 2018-10-02 08:57:23
End at: 2018-10-02 08:57:54
Local clock offset: -10.556 ms
Remote clock offset: 91.743 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.49 Mbit/s
95th percentile per-packet one-way delay: 202.347 ms
Loss rate: 6.50%
-- Flow 1:
Average throughput: 66.49 Mbit/s
95th percentile per-packet one-way delay: 202.347 ms
Loss rate: 6.50%
```

Run 5: Report of Verus — Data Link

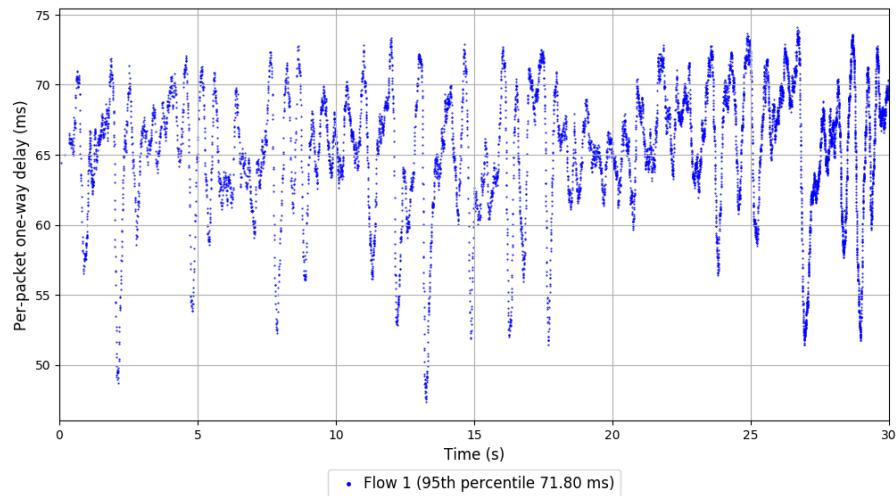
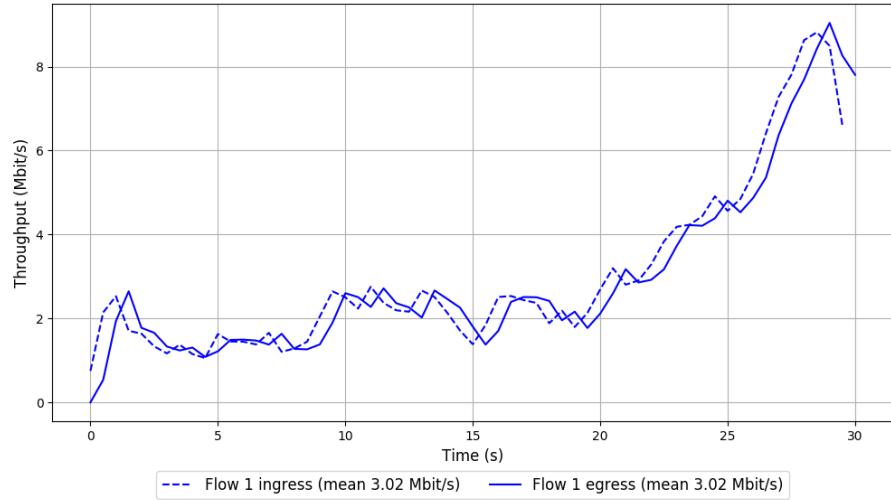


Run 1: Statistics of PCC-Vivace

```
Start at: 2018-10-02 07:15:33
End at: 2018-10-02 07:16:03
Local clock offset: 4.332 ms
Remote clock offset: 57.307 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 71.798 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 3.02 Mbit/s
95th percentile per-packet one-way delay: 71.798 ms
Loss rate: 0.18%
```

Run 1: Report of PCC-Vivace — Data Link

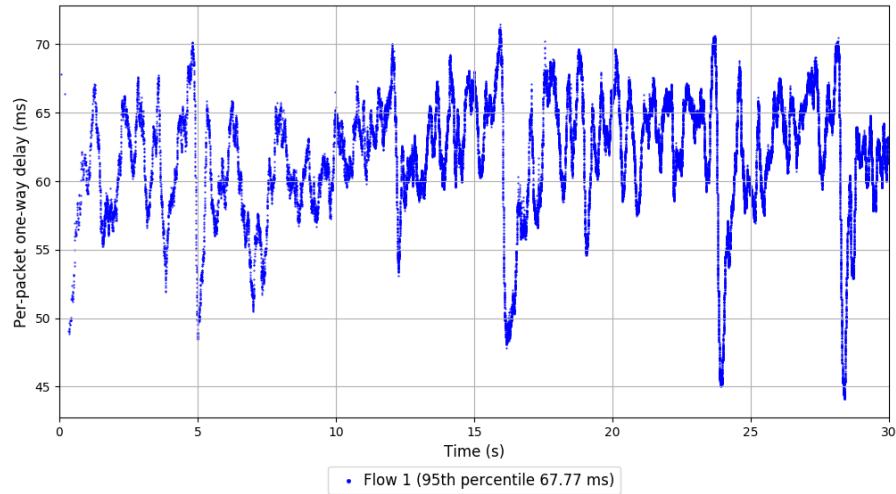
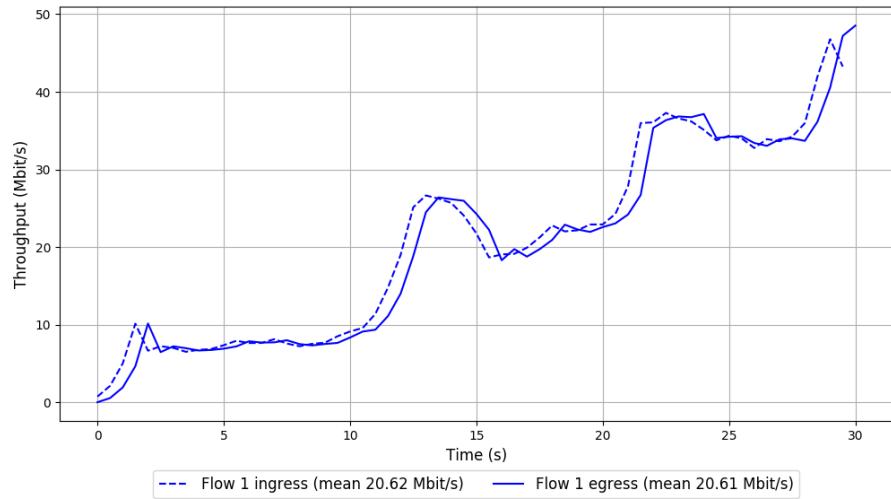


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-10-02 07:37:16
End at: 2018-10-02 07:37:46
Local clock offset: -4.514 ms
Remote clock offset: 3.867 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 20.61 Mbit/s
95th percentile per-packet one-way delay: 67.771 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 20.61 Mbit/s
95th percentile per-packet one-way delay: 67.771 ms
Loss rate: 0.06%
```

Run 2: Report of PCC-Vivace — Data Link

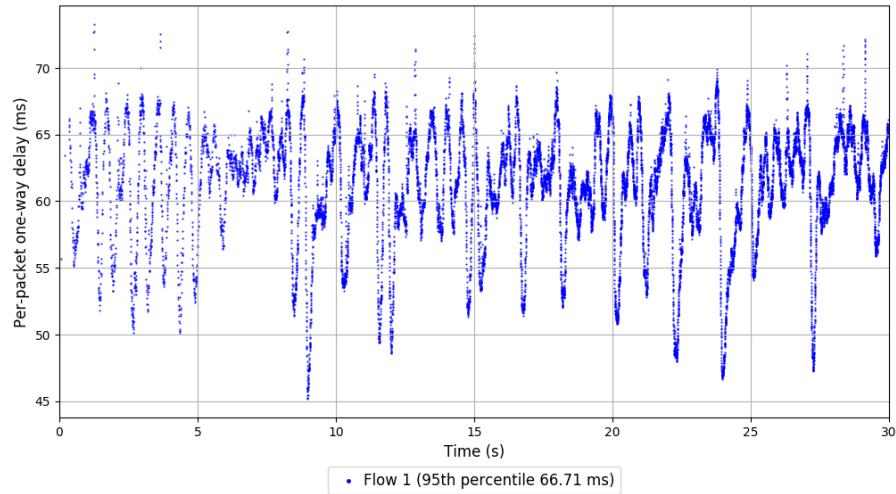
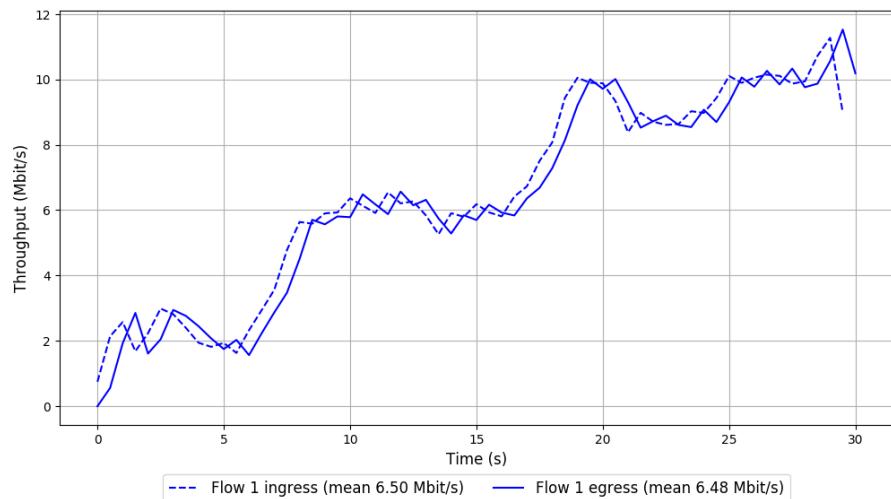


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-10-02 07:58:56
End at: 2018-10-02 07:59:26
Local clock offset: -8.559 ms
Remote clock offset: -3.181 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.48 Mbit/s
95th percentile per-packet one-way delay: 66.710 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 6.48 Mbit/s
95th percentile per-packet one-way delay: 66.710 ms
Loss rate: 0.28%
```

Run 3: Report of PCC-Vivace — Data Link

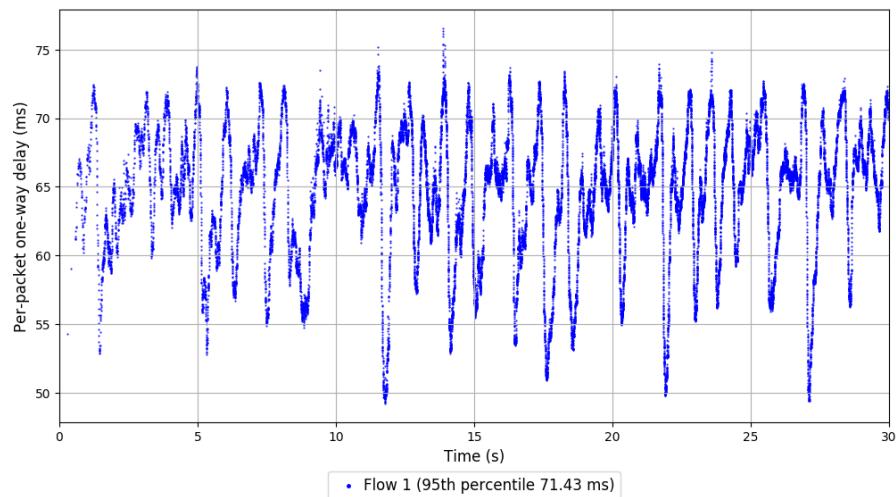
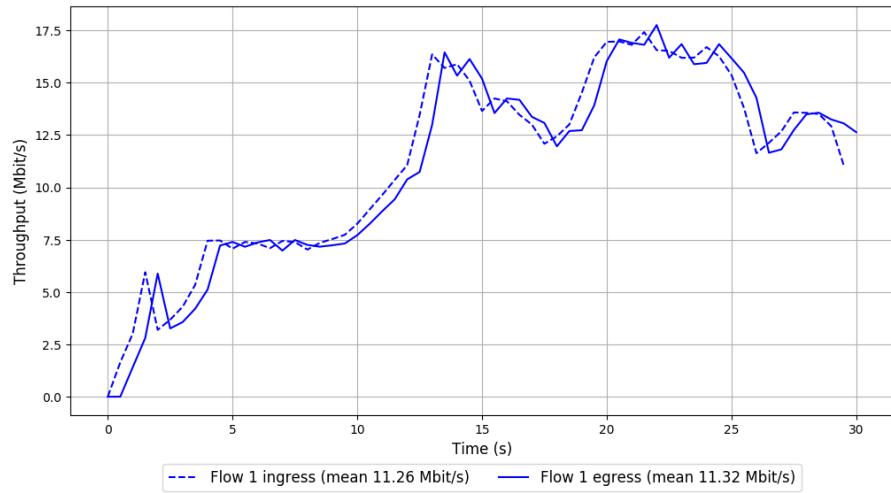


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-10-02 08:21:14
End at: 2018-10-02 08:21:44
Local clock offset: -11.565 ms
Remote clock offset: -1.269 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.32 Mbit/s
95th percentile per-packet one-way delay: 71.433 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 11.32 Mbit/s
95th percentile per-packet one-way delay: 71.433 ms
Loss rate: 0.26%
```

Run 4: Report of PCC-Vivace — Data Link

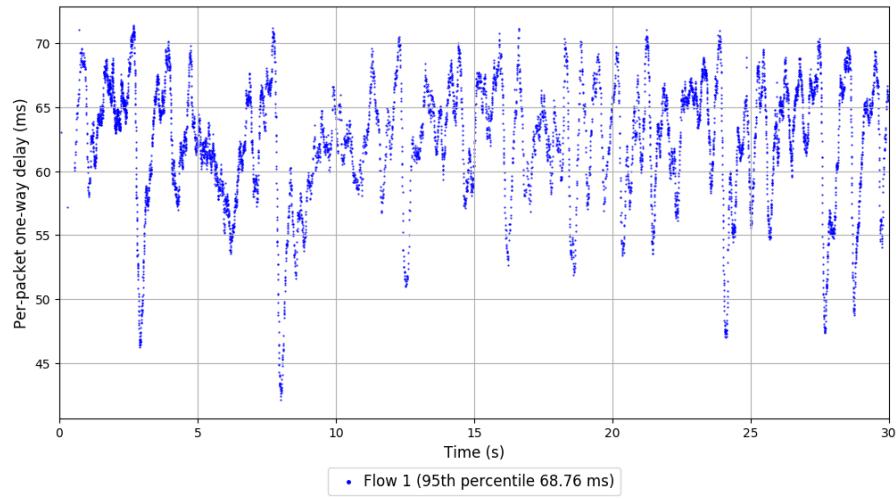
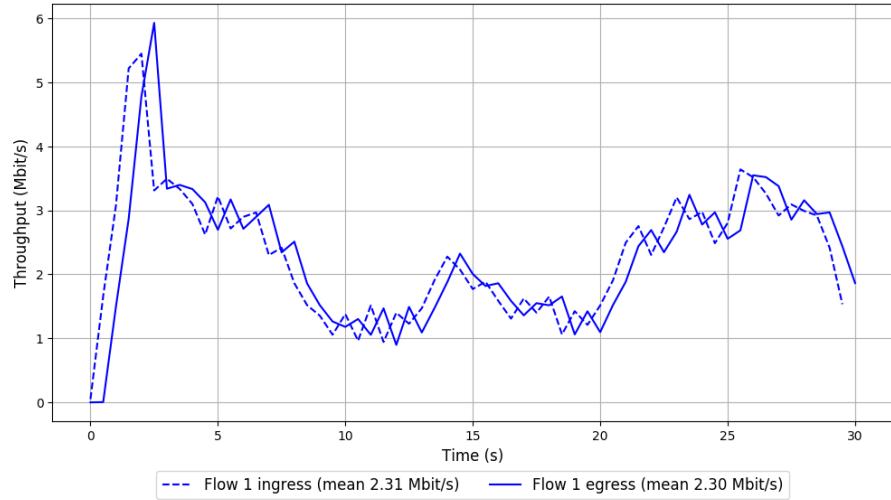


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-10-02 08:43:06
End at: 2018-10-02 08:43:36
Local clock offset: -14.216 ms
Remote clock offset: 75.191 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 68.760 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 68.760 ms
Loss rate: 0.12%
```

Run 5: Report of PCC-Vivace — Data Link

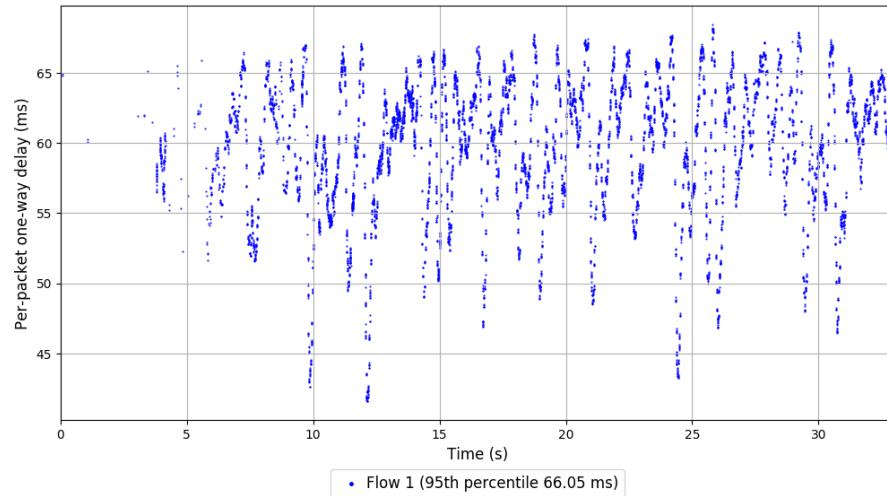
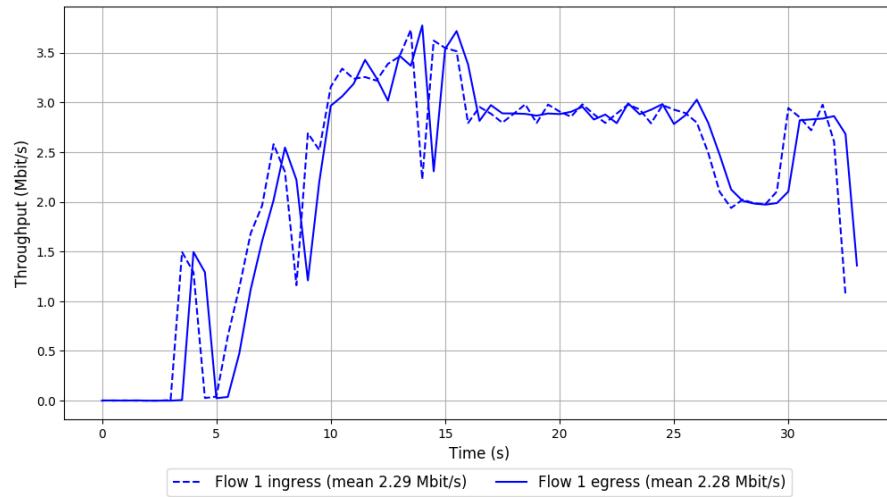


```
Run 1: Statistics of WebRTC media

Start at: 2018-10-02 07:20:20
End at: 2018-10-02 07:20:50
Local clock offset: 0.749 ms
Remote clock offset: 29.947 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 66.051 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 66.051 ms
Loss rate: 0.15%
```

Run 1: Report of WebRTC media — Data Link

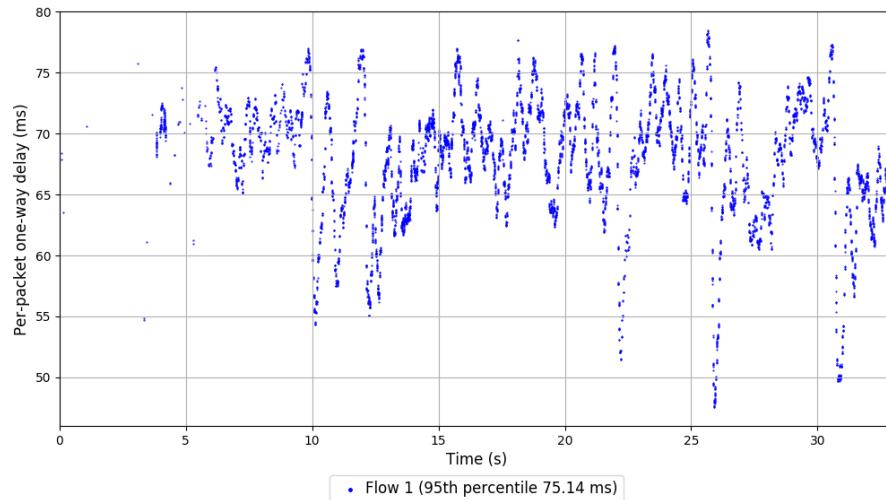
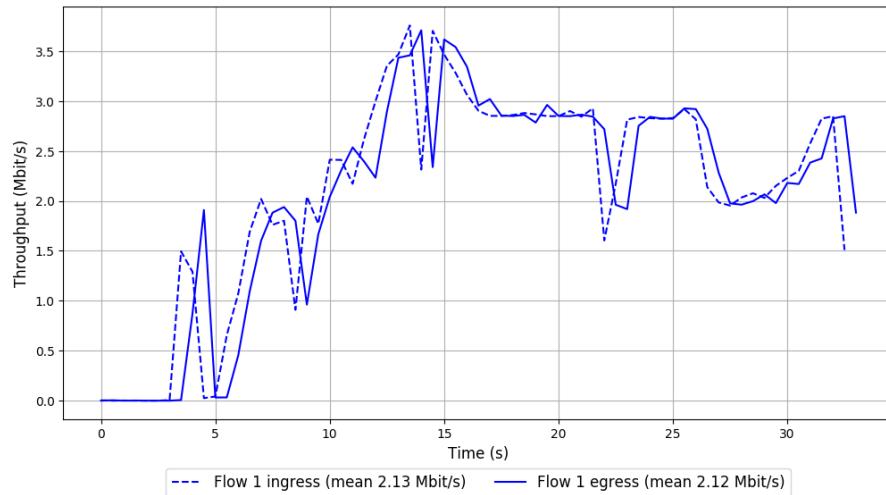


Run 2: Statistics of WebRTC media

```
Start at: 2018-10-02 07:42:06
End at: 2018-10-02 07:42:36
Local clock offset: -5.241 ms
Remote clock offset: -0.472 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 75.138 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 75.138 ms
Loss rate: 0.22%
```

Run 2: Report of WebRTC media — Data Link

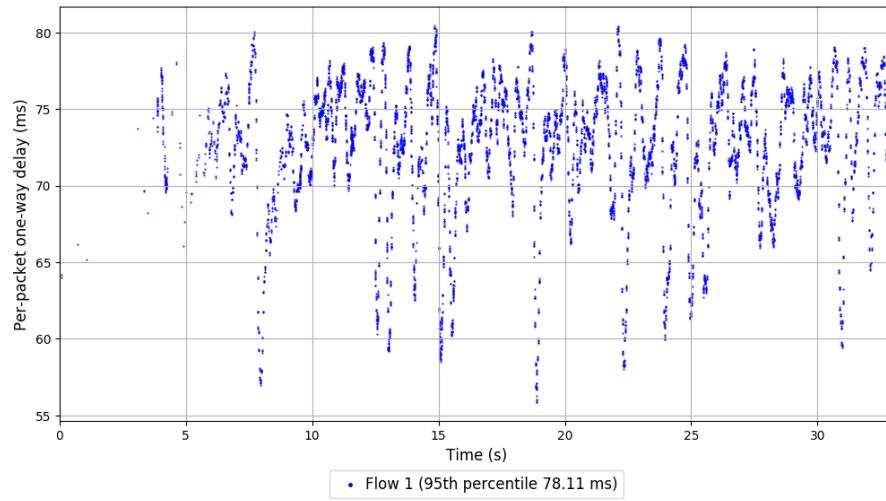
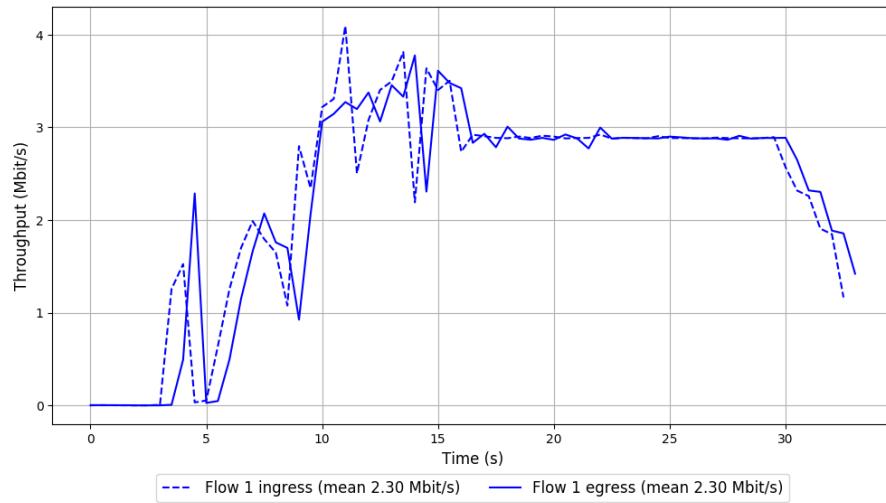


Run 3: Statistics of WebRTC media

```
Start at: 2018-10-02 08:03:40
End at: 2018-10-02 08:04:10
Local clock offset: -9.155 ms
Remote clock offset: -0.743 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 78.107 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 78.107 ms
Loss rate: 0.14%
```

Run 3: Report of WebRTC media — Data Link

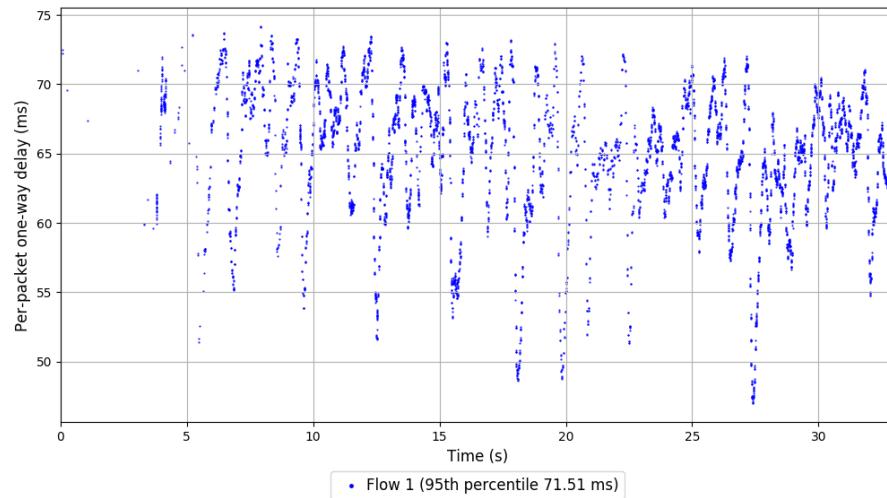
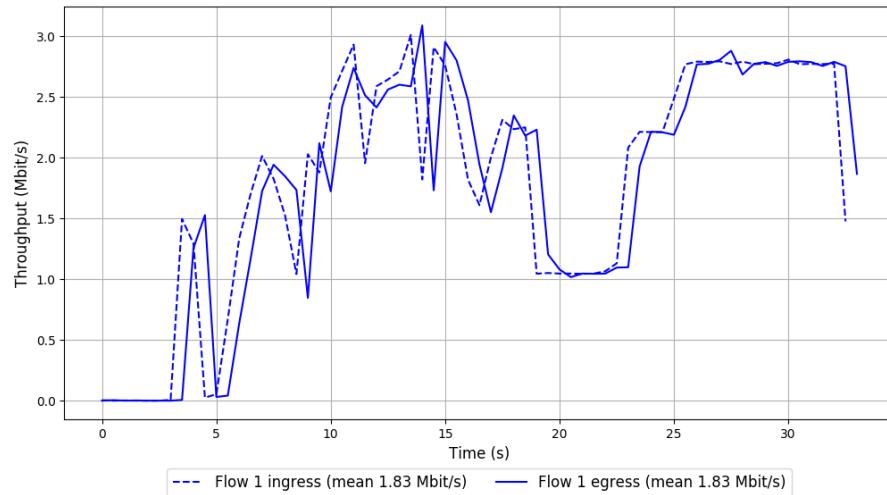


Run 4: Statistics of WebRTC media

```
Start at: 2018-10-02 08:26:07
End at: 2018-10-02 08:26:37
Local clock offset: -12.43 ms
Remote clock offset: 22.133 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 71.508 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 1.83 Mbit/s
95th percentile per-packet one-way delay: 71.508 ms
Loss rate: 0.08%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-10-02 08:47:50
End at: 2018-10-02 08:48:20
Local clock offset: -13.621 ms
Remote clock offset: 83.667 ms

# Below is generated by plot.py at 2018-10-02 09:05:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 78.631 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 1.82 Mbit/s
95th percentile per-packet one-way delay: 78.631 ms
Loss rate: 0.06%
```

Run 5: Report of WebRTC media — Data Link

