

## Pantheon Report

Generated at 2018-10-09 20:02:30 (UTC).  
Data path: AWS California 2 on `ens5` (*local*) → Mexico on `em1` (*remote*).  
Repeated the test of 18 congestion control schemes 5 times.  
Each test lasted for 30 seconds running 1 flow.  
NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.

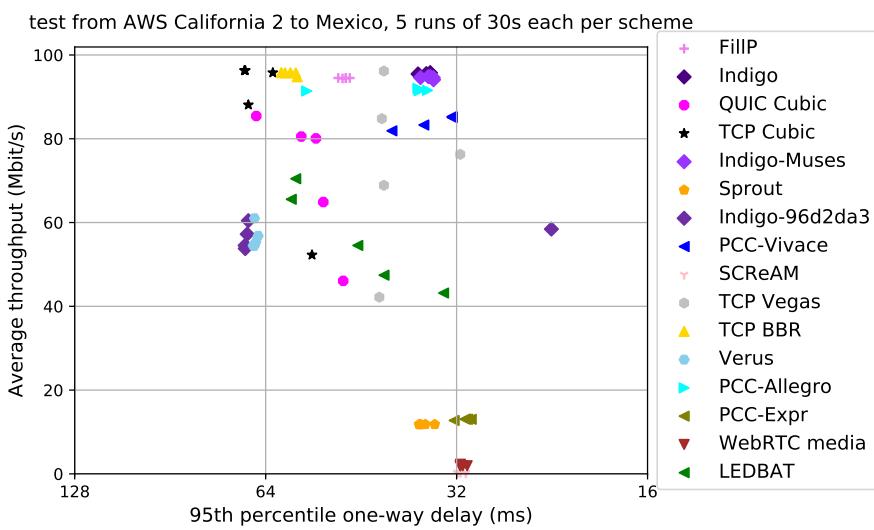
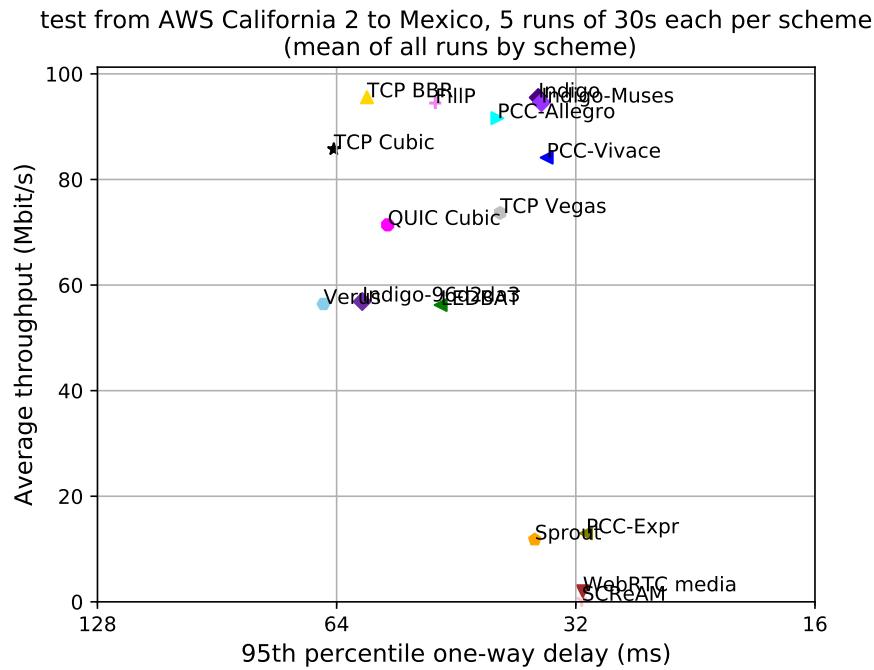
System info:

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

Git summary:

```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbfed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ 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



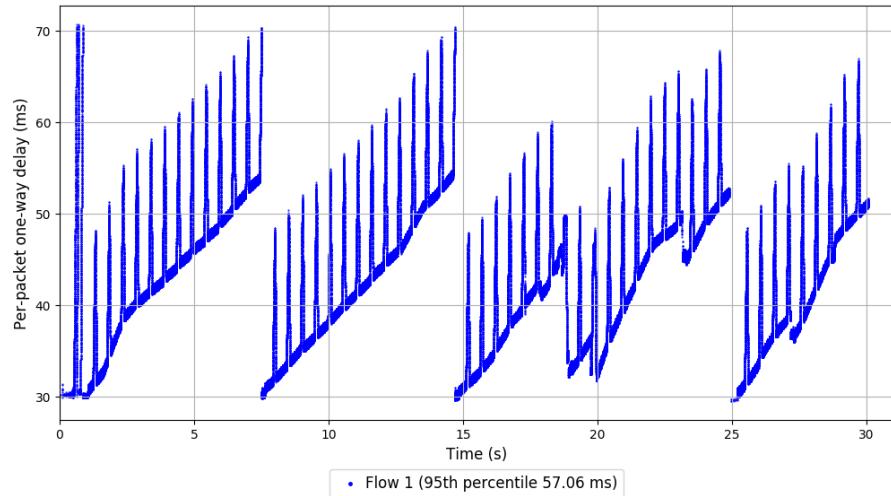
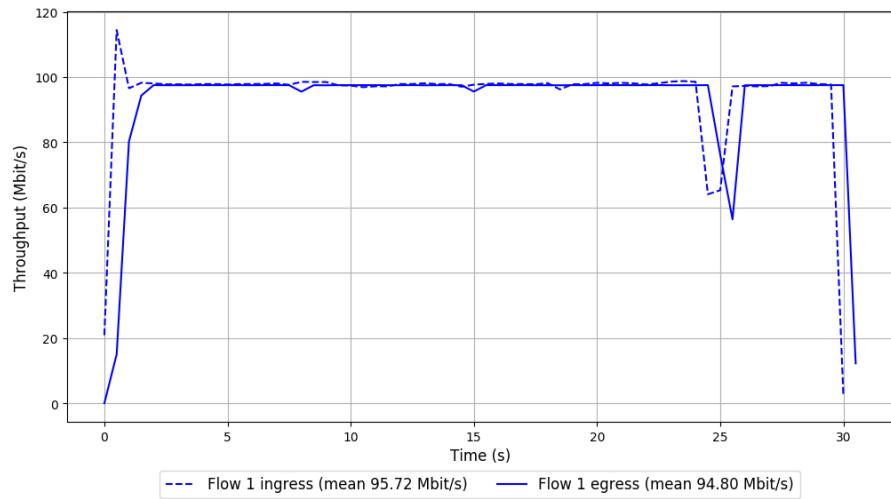
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	95.57	58.61	1.15
Copa	0	N/A	N/A	N/A
TCP Cubic	5	85.75	64.53	0.64
FillP	5	94.47	48.09	0.94
Indigo	5	95.52	35.68	0.04
Indigo-96d2da3	5	56.89	59.43	57.63
LEDBAT	5	56.23	47.35	0.02
Indigo-Muses	5	94.58	35.35	0.30
PCC-Allegro	5	91.61	40.16	0.72
PCC-Expr	5	12.98	31.07	45.51
QUIC Cubic	5	71.40	55.20	1.33
SCReAM	5	0.21	31.45	0.00
Sprout	5	11.80	36.04	0.00
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	73.66	39.85	0.48
Verus	5	56.42	66.48	25.27
PCC-Vivace	5	84.14	34.82	0.03
WebRTC media	5	2.00	31.36	0.02

Run 1: Statistics of TCP BBR

```
Start at: 2018-10-09 18:02:28
End at: 2018-10-09 18:02:58
Local clock offset: -2.415 ms
Remote clock offset: -5.13 ms

# Below is generated by plot.py at 2018-10-09 19:55:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.80 Mbit/s
95th percentile per-packet one-way delay: 57.061 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 94.80 Mbit/s
95th percentile per-packet one-way delay: 57.061 ms
Loss rate: 0.88%
```

## Run 1: Report of TCP BBR — Data Link

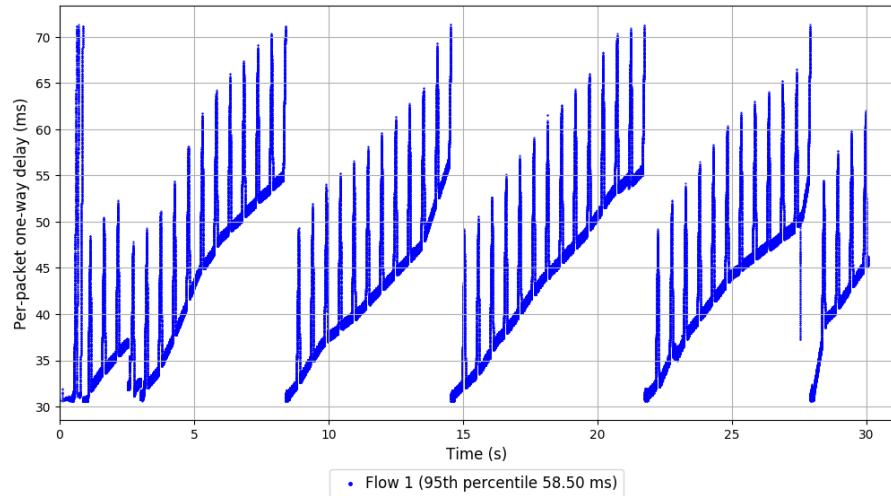
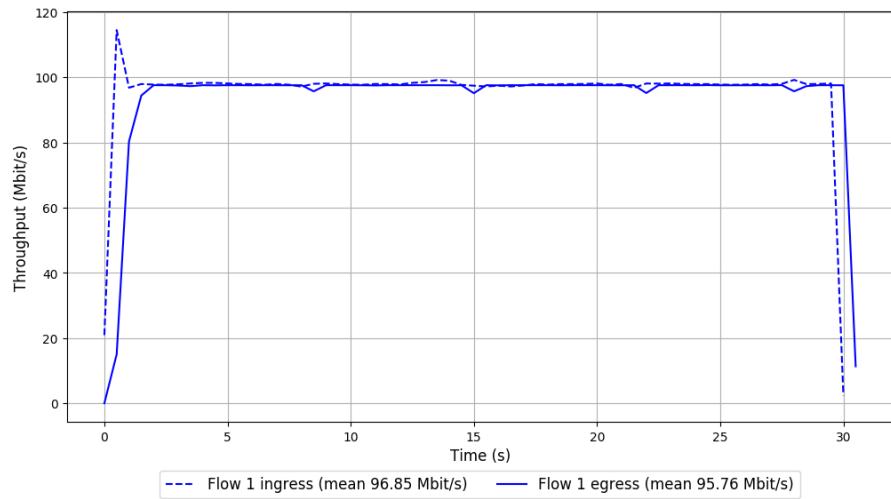


Run 2: Statistics of TCP BBR

```
Start at: 2018-10-09 18:25:54
End at: 2018-10-09 18:26:24
Local clock offset: -4.014 ms
Remote clock offset: -5.019 ms

# Below is generated by plot.py at 2018-10-09 19:55:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.76 Mbit/s
95th percentile per-packet one-way delay: 58.499 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 95.76 Mbit/s
95th percentile per-packet one-way delay: 58.499 ms
Loss rate: 1.08%
```

## Run 2: Report of TCP BBR — Data Link

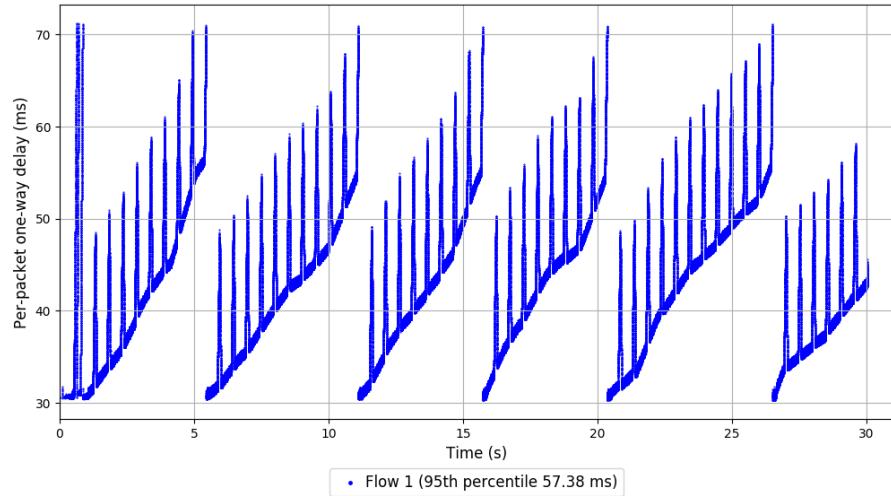
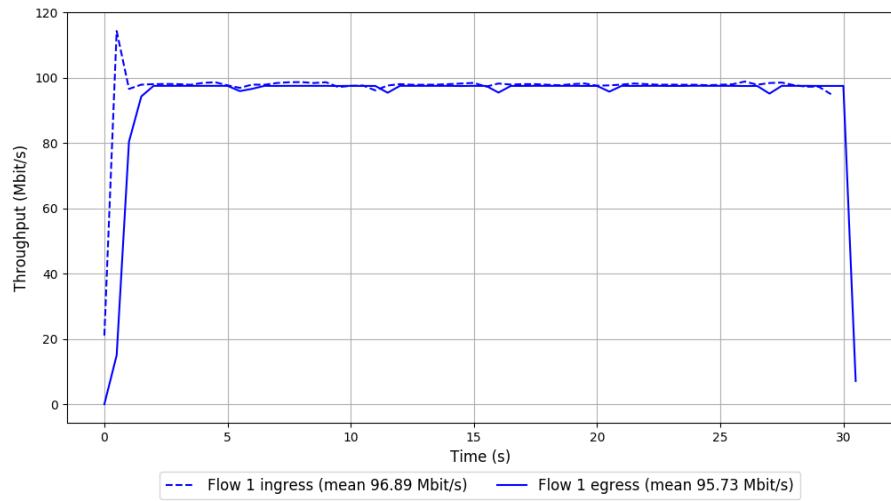


Run 3: Statistics of TCP BBR

```
Start at: 2018-10-09 18:49:56
End at: 2018-10-09 18:50:26
Local clock offset: -12.263 ms
Remote clock offset: -4.452 ms

# Below is generated by plot.py at 2018-10-09 19:55:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.73 Mbit/s
95th percentile per-packet one-way delay: 57.380 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 95.73 Mbit/s
95th percentile per-packet one-way delay: 57.380 ms
Loss rate: 1.15%
```

### Run 3: Report of TCP BBR — Data Link

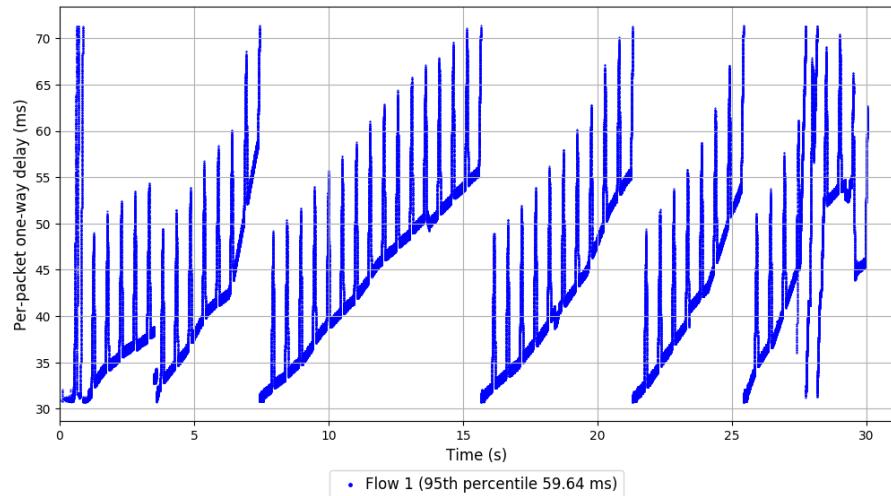
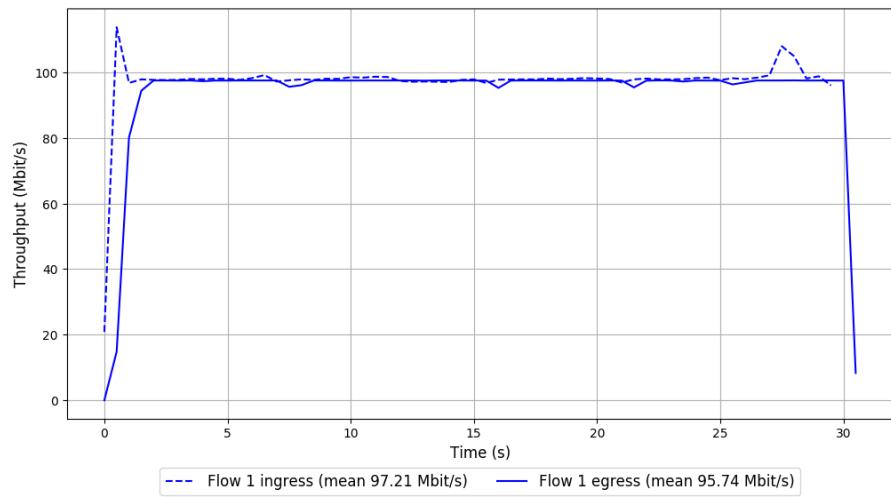


Run 4: Statistics of TCP BBR

```
Start at: 2018-10-09 19:13:28
End at: 2018-10-09 19:13:58
Local clock offset: -5.971 ms
Remote clock offset: -4.2 ms

# Below is generated by plot.py at 2018-10-09 19:55:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.74 Mbit/s
95th percentile per-packet one-way delay: 59.644 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 95.74 Mbit/s
95th percentile per-packet one-way delay: 59.644 ms
Loss rate: 1.41%
```

### Run 4: Report of TCP BBR — Data Link

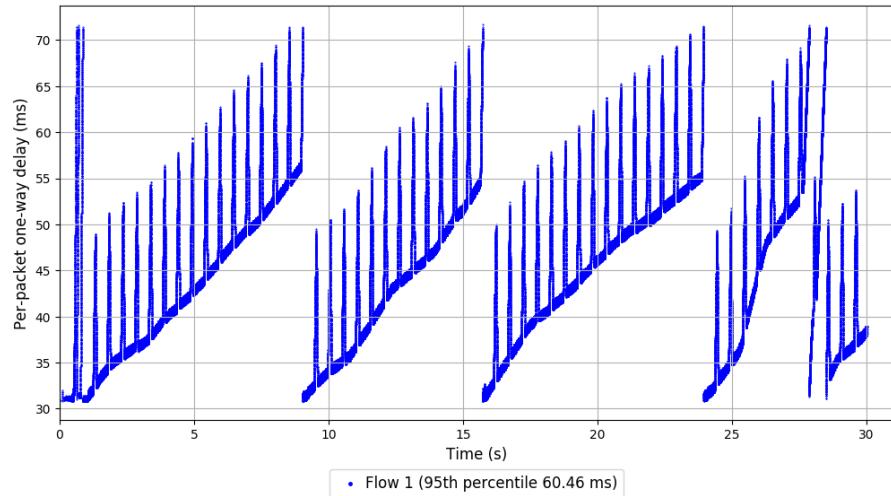
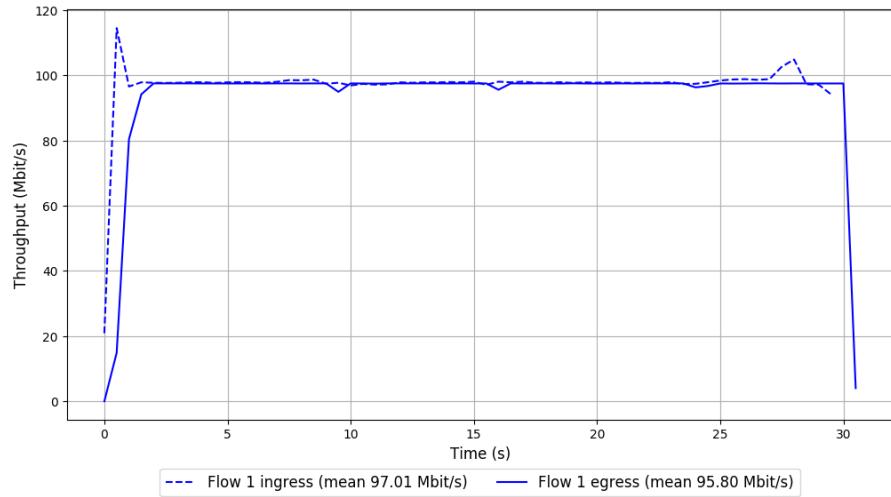


Run 5: Statistics of TCP BBR

```
Start at: 2018-10-09 19:36:56
End at: 2018-10-09 19:37:26
Local clock offset: -2.674 ms
Remote clock offset: -4.1 ms

# Below is generated by plot.py at 2018-10-09 19:55:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.80 Mbit/s
95th percentile per-packet one-way delay: 60.462 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 95.80 Mbit/s
95th percentile per-packet one-way delay: 60.462 ms
Loss rate: 1.23%
```

### Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

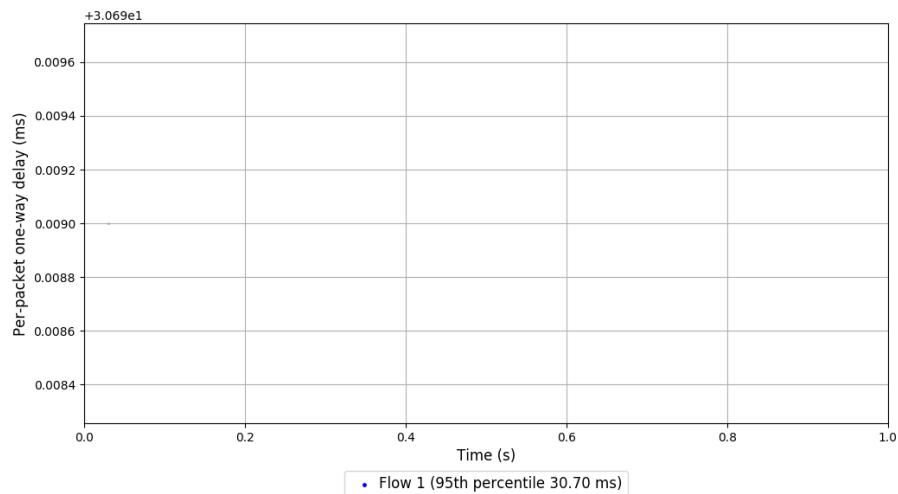
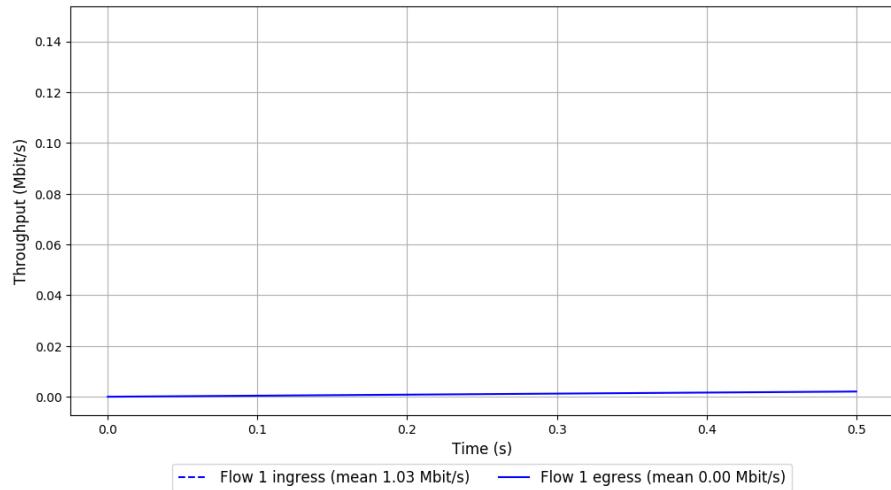
Start at: 2018-10-09 18:11:42

End at: 2018-10-09 18:12:12

Local clock offset: -6.3 ms

Remote clock offset: -5.07 ms

## Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

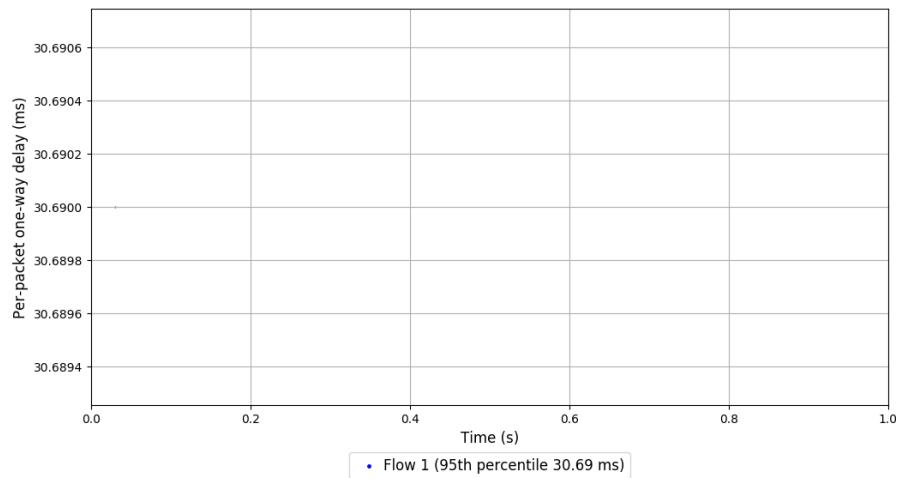
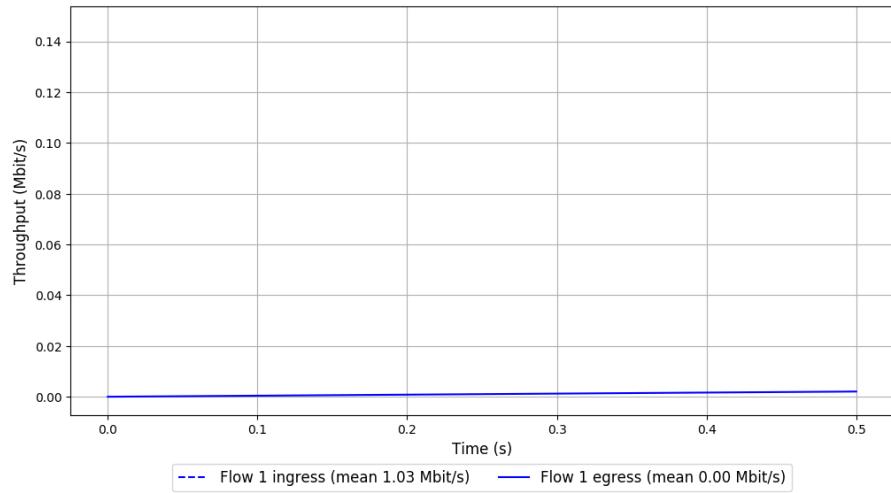
Start at: 2018-10-09 18:35:34

End at: 2018-10-09 18:36:04

Local clock offset: -5.841 ms

Remote clock offset: -4.636 ms

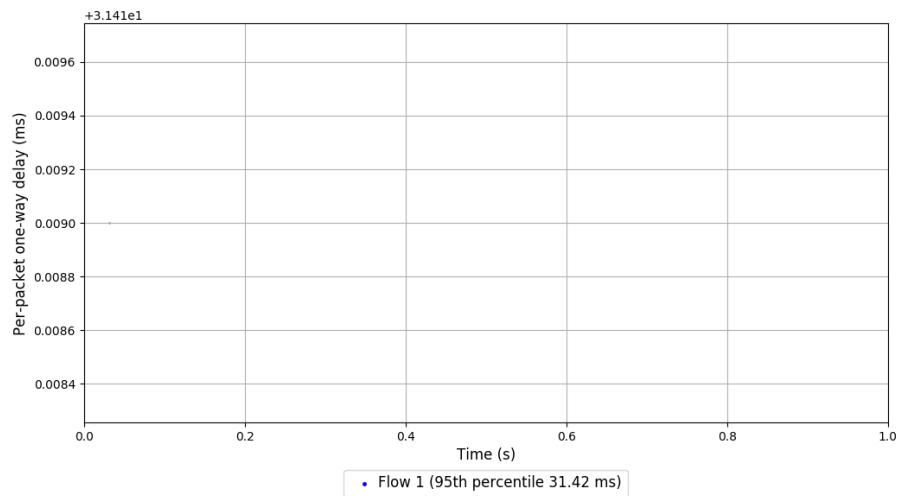
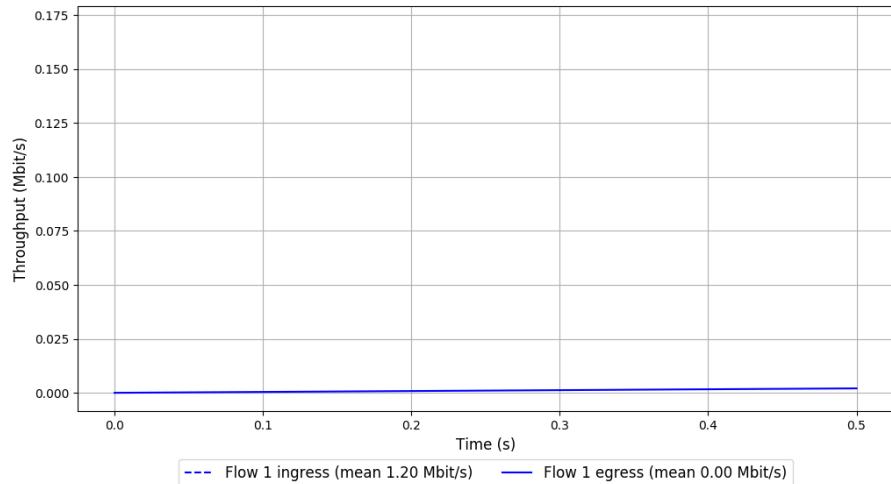
## Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-10-09 18:59:14  
End at: 2018-10-09 18:59:44  
Local clock offset: -10.106 ms  
Remote clock offset: -4.377 ms

### Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

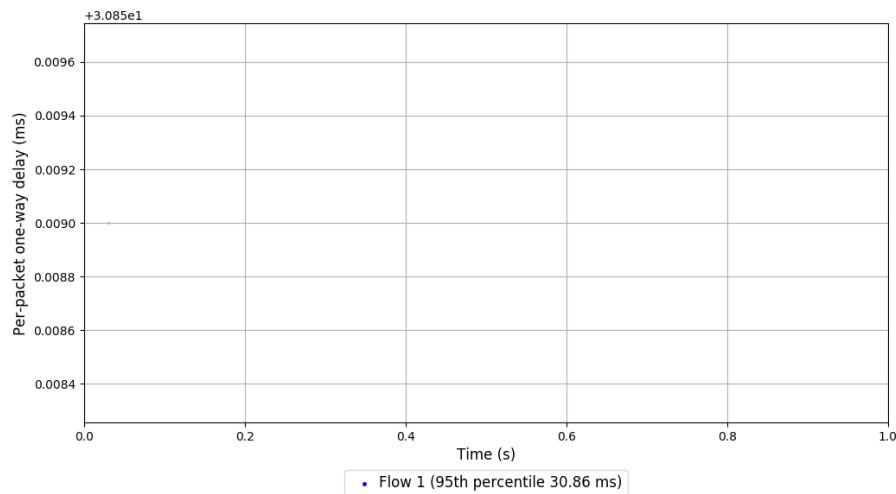
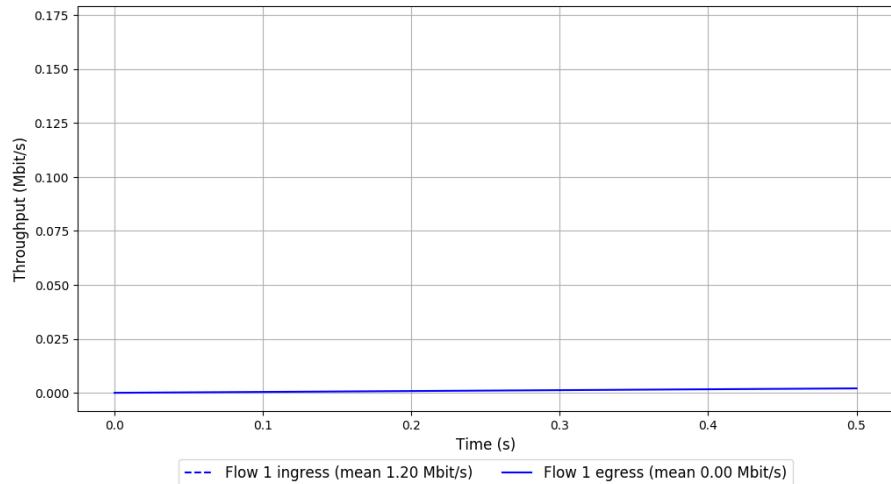
Start at: 2018-10-09 19:22:44

End at: 2018-10-09 19:23:14

Local clock offset: -7.424 ms

Remote clock offset: -4.191 ms

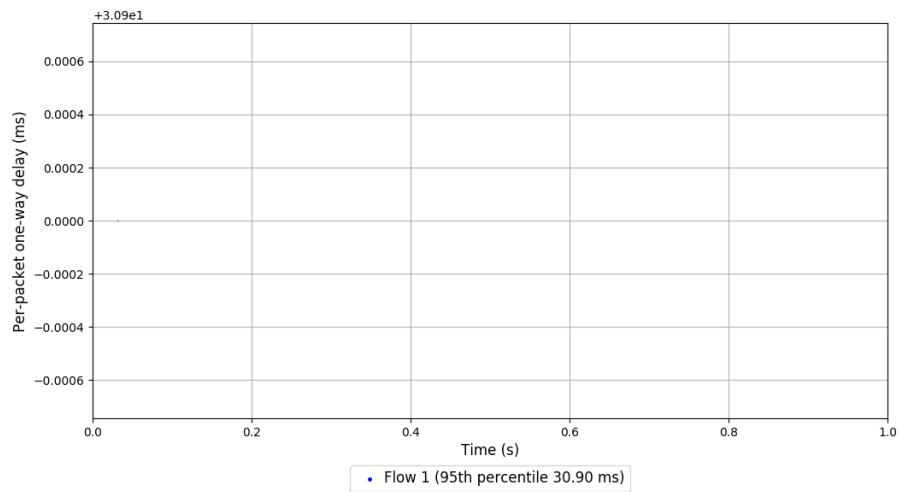
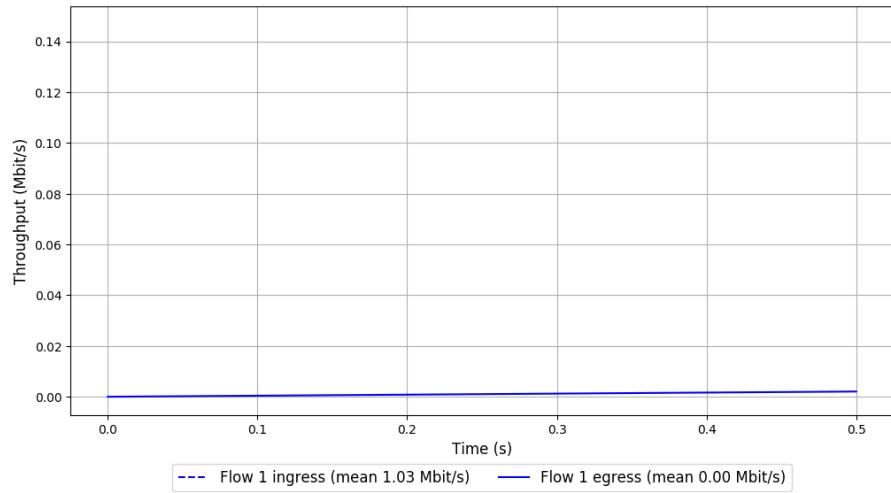
## Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-10-09 19:46:12  
End at: 2018-10-09 19:46:42  
Local clock offset: -2.557 ms  
Remote clock offset: -3.949 ms

## Run 5: Report of Copa — Data Link

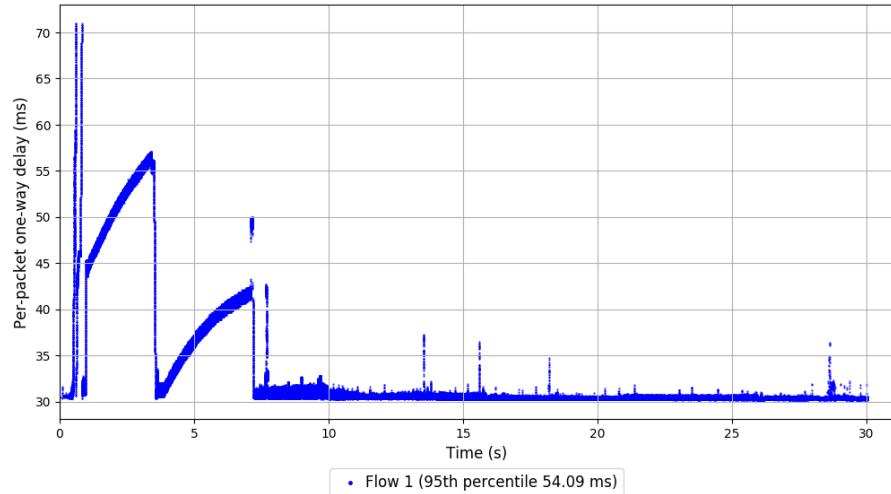
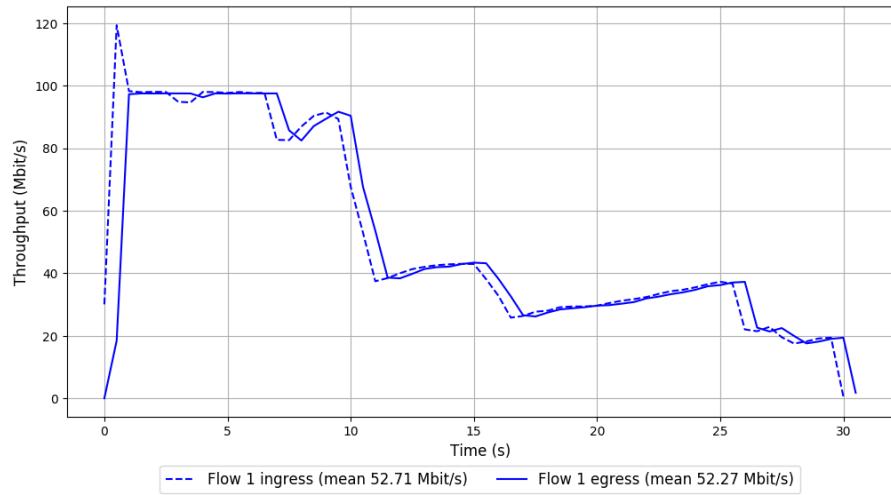


Run 1: Statistics of TCP Cubic

```
Start at: 2018-10-09 18:06:29
End at: 2018-10-09 18:06:59
Local clock offset: -2.632 ms
Remote clock offset: -5.25 ms

# Below is generated by plot.py at 2018-10-09 19:55:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.27 Mbit/s
95th percentile per-packet one-way delay: 54.091 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 52.27 Mbit/s
95th percentile per-packet one-way delay: 54.091 ms
Loss rate: 0.83%
```

### Run 1: Report of TCP Cubic — Data Link

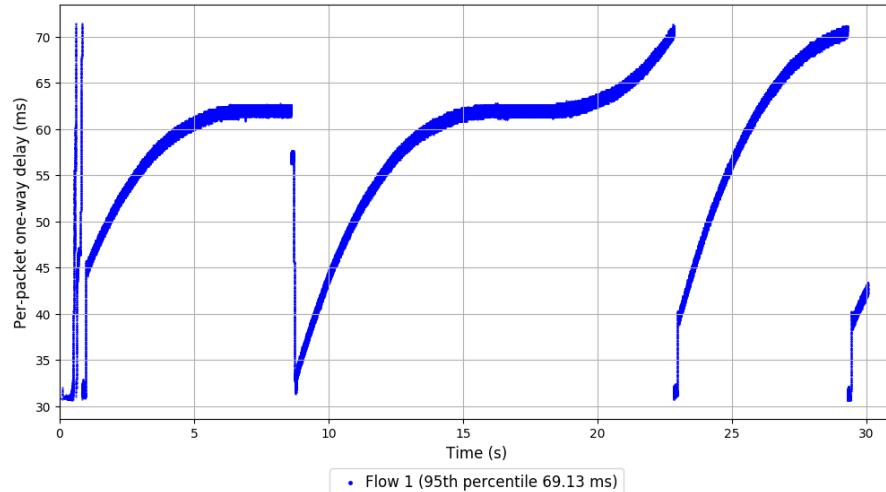
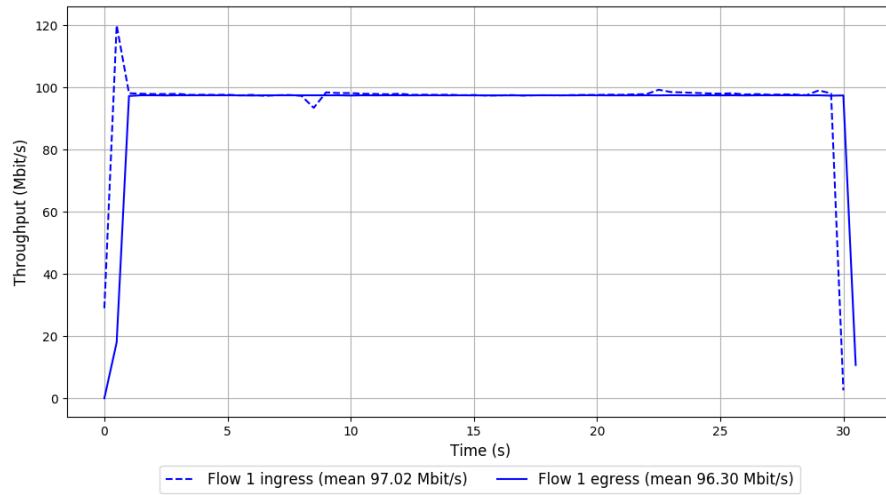


Run 2: Statistics of TCP Cubic

```
Start at: 2018-10-09 18:30:01
End at: 2018-10-09 18:30:31
Local clock offset: -4.302 ms
Remote clock offset: -4.739 ms

# Below is generated by plot.py at 2018-10-09 19:55:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 69.126 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 69.126 ms
Loss rate: 0.71%
```

## Run 2: Report of TCP Cubic — Data Link

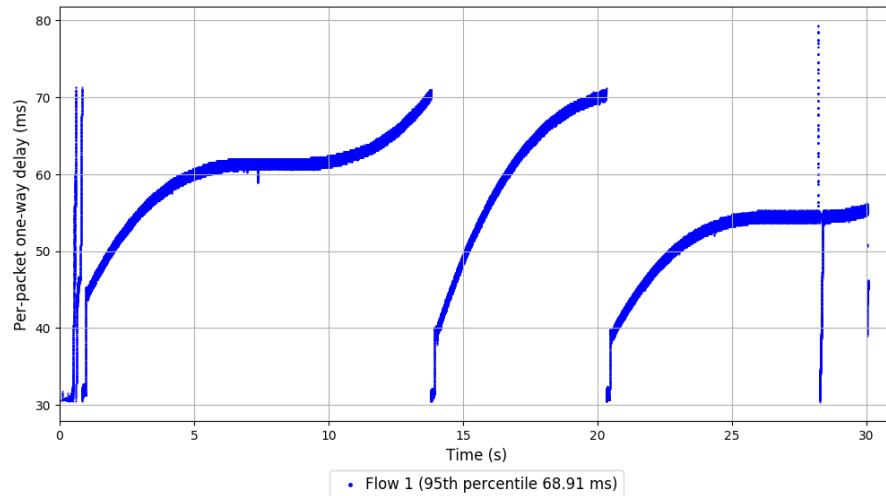
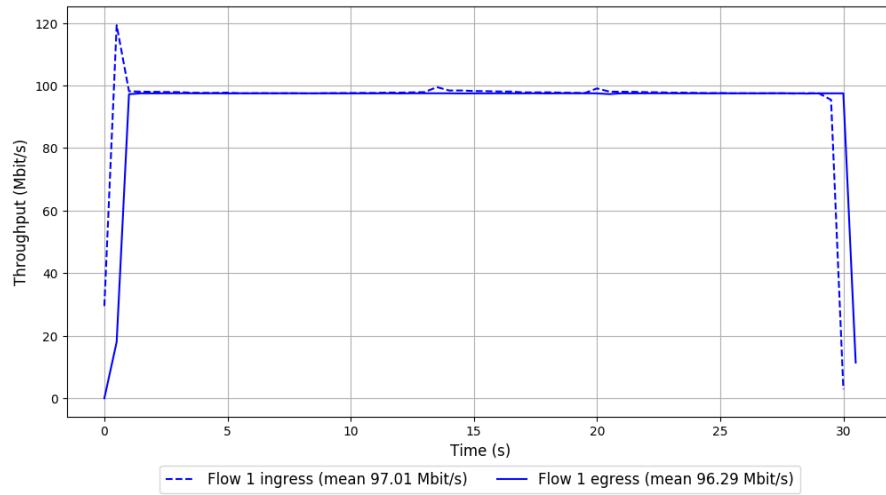


Run 3: Statistics of TCP Cubic

```
Start at: 2018-10-09 18:53:58
End at: 2018-10-09 18:54:28
Local clock offset: -14.387 ms
Remote clock offset: -4.345 ms

# Below is generated by plot.py at 2018-10-09 19:55:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 68.907 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 68.907 ms
Loss rate: 0.69%
```

### Run 3: Report of TCP Cubic — Data Link

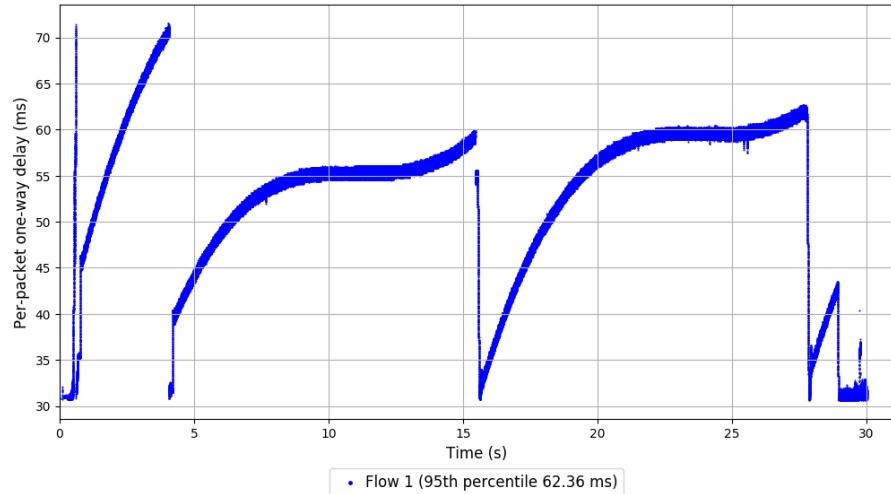
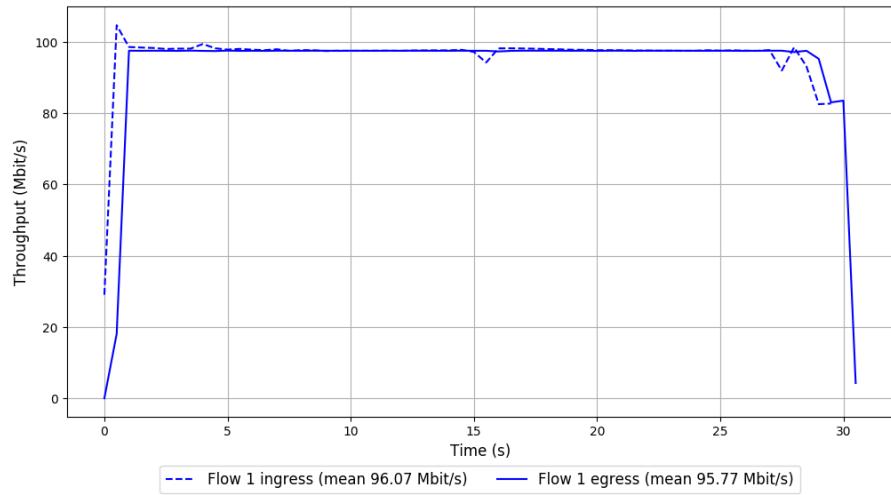


Run 4: Statistics of TCP Cubic

```
Start at: 2018-10-09 19:17:29
End at: 2018-10-09 19:17:59
Local clock offset: -6.427 ms
Remote clock offset: -4.222 ms

# Below is generated by plot.py at 2018-10-09 19:55:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.77 Mbit/s
95th percentile per-packet one-way delay: 62.357 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 95.77 Mbit/s
95th percentile per-packet one-way delay: 62.357 ms
Loss rate: 0.30%
```

### Run 4: Report of TCP Cubic — Data Link

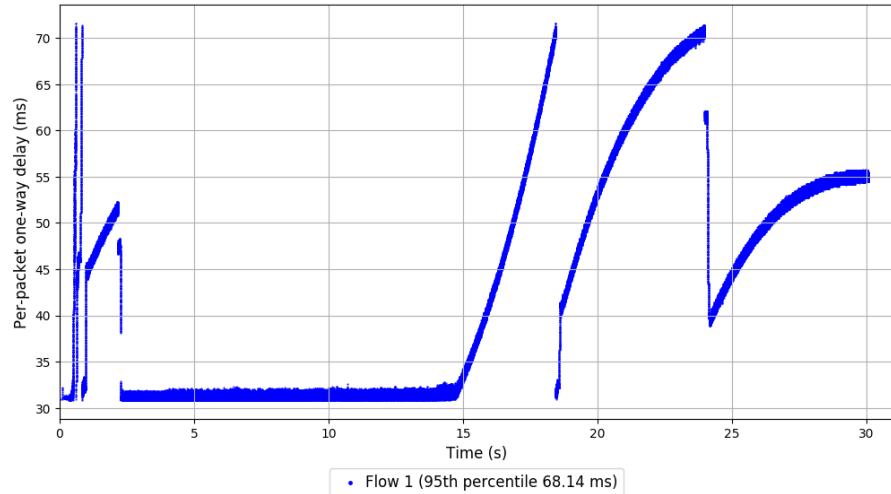
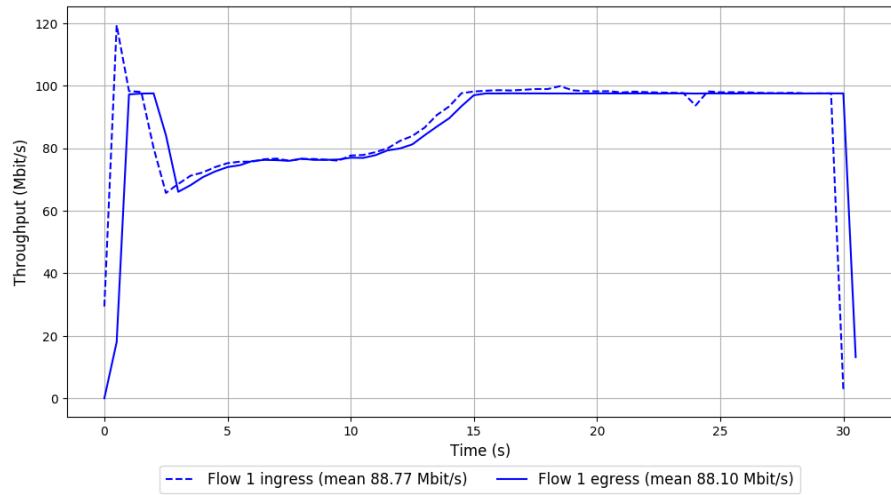


Run 5: Statistics of TCP Cubic

```
Start at: 2018-10-09 19:40:57
End at: 2018-10-09 19:41:27
Local clock offset: -2.409 ms
Remote clock offset: -4.027 ms

# Below is generated by plot.py at 2018-10-09 19:56:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.10 Mbit/s
95th percentile per-packet one-way delay: 68.145 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 88.10 Mbit/s
95th percentile per-packet one-way delay: 68.145 ms
Loss rate: 0.68%
```

### Run 5: Report of TCP Cubic — Data Link

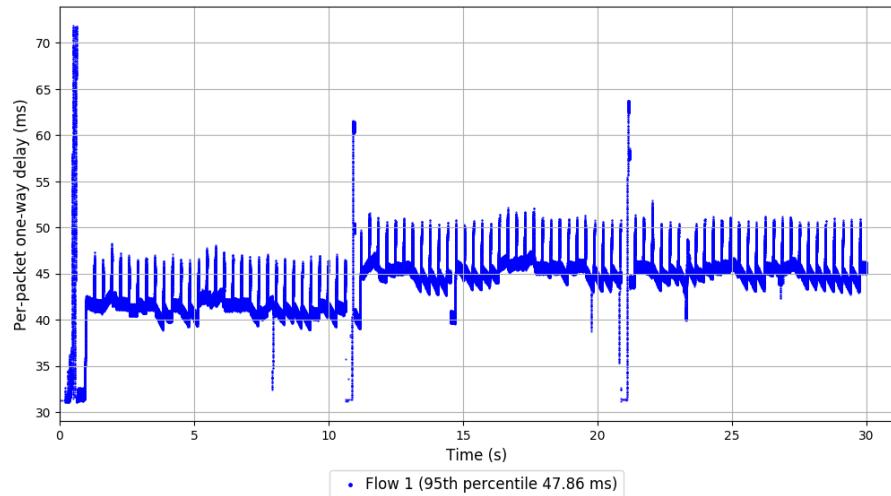
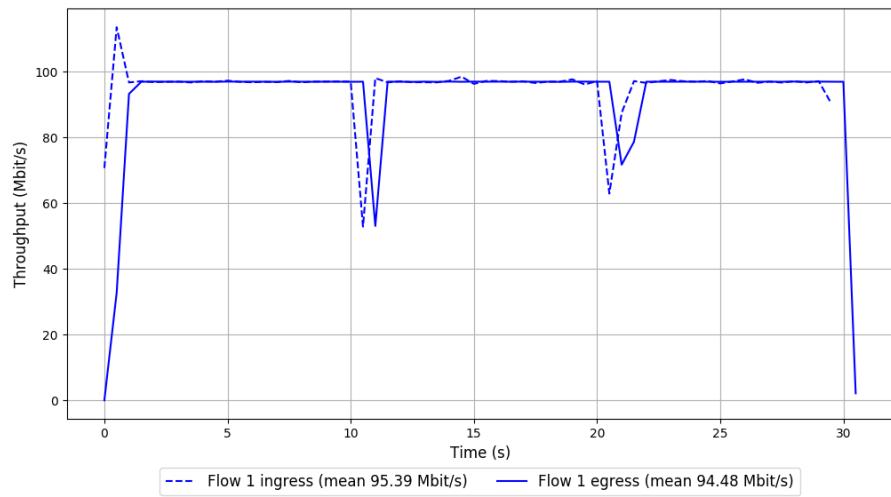


```
Run 1: Statistics of FillP
```

```
Start at: 2018-10-09 18:15:30
End at: 2018-10-09 18:16:00
Local clock offset: -2.834 ms
Remote clock offset: -4.96 ms

# Below is generated by plot.py at 2018-10-09 19:56:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.48 Mbit/s
95th percentile per-packet one-way delay: 47.857 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 94.48 Mbit/s
95th percentile per-packet one-way delay: 47.857 ms
Loss rate: 0.90%
```

### Run 1: Report of FillP — Data Link

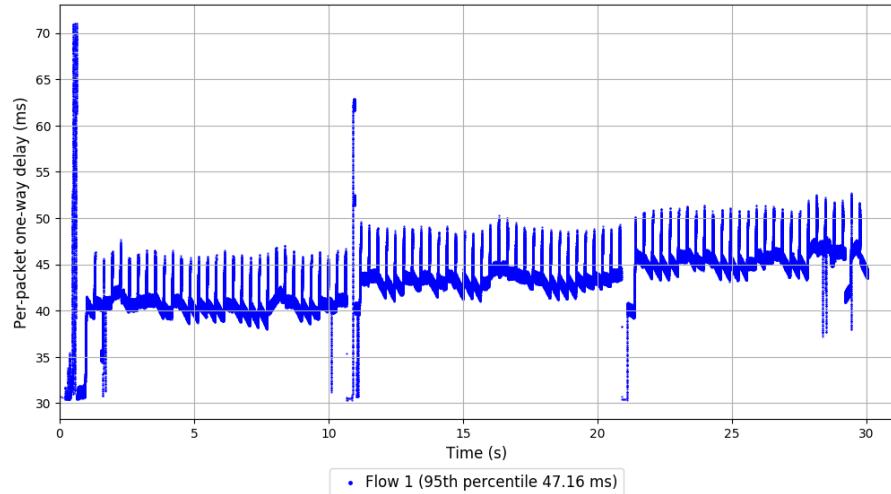
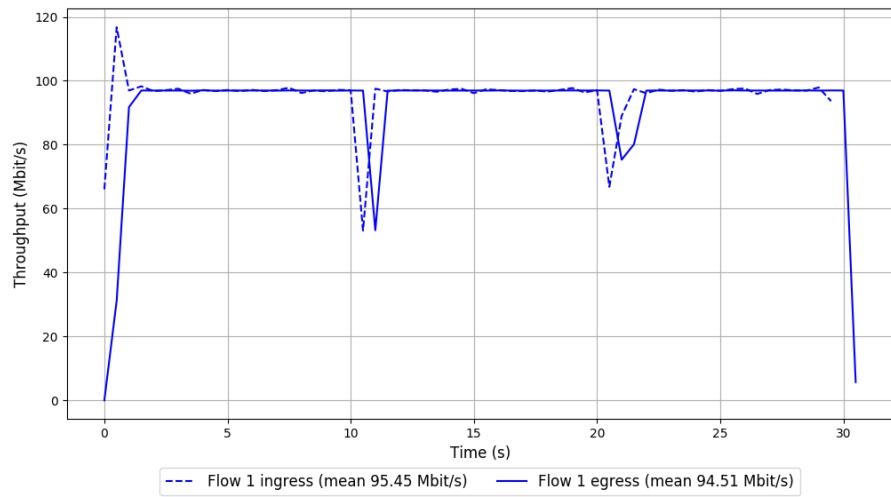


Run 2: Statistics of FillP

```
Start at: 2018-10-09 18:39:29
End at: 2018-10-09 18:39:59
Local clock offset: -7.378 ms
Remote clock offset: -4.592 ms

# Below is generated by plot.py at 2018-10-09 19:56:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.51 Mbit/s
95th percentile per-packet one-way delay: 47.162 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 94.51 Mbit/s
95th percentile per-packet one-way delay: 47.162 ms
Loss rate: 0.94%
```

## Run 2: Report of FillP — Data Link

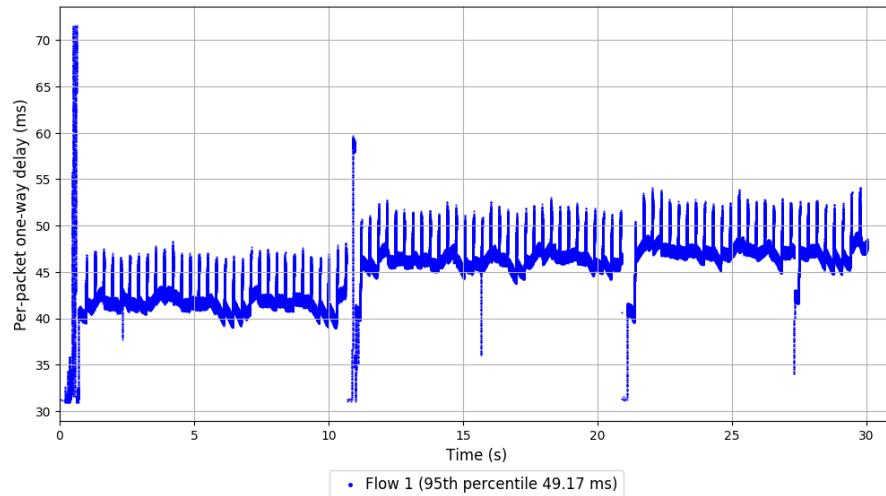
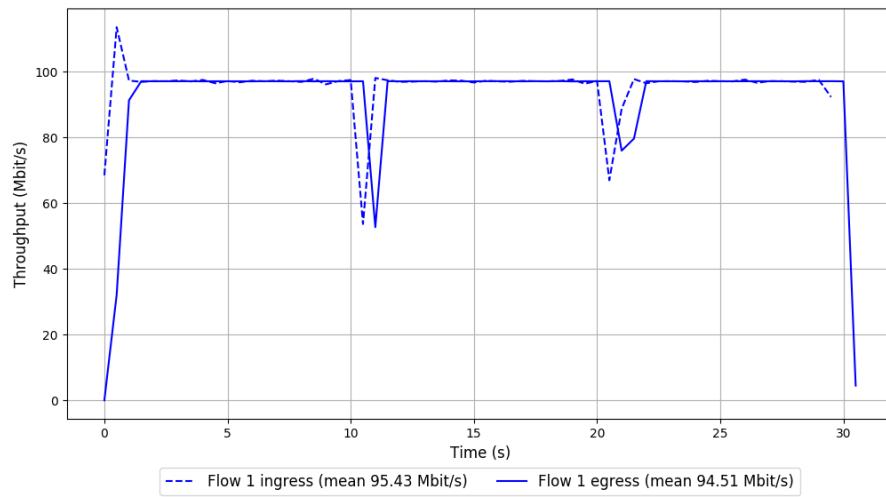


Run 3: Statistics of FillP

```
Start at: 2018-10-09 19:03:05
End at: 2018-10-09 19:03:35
Local clock offset: -7.54 ms
Remote clock offset: -4.34 ms

# Below is generated by plot.py at 2018-10-09 19:56:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.51 Mbit/s
95th percentile per-packet one-way delay: 49.171 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 94.51 Mbit/s
95th percentile per-packet one-way delay: 49.171 ms
Loss rate: 0.90%
```

### Run 3: Report of FillP — Data Link

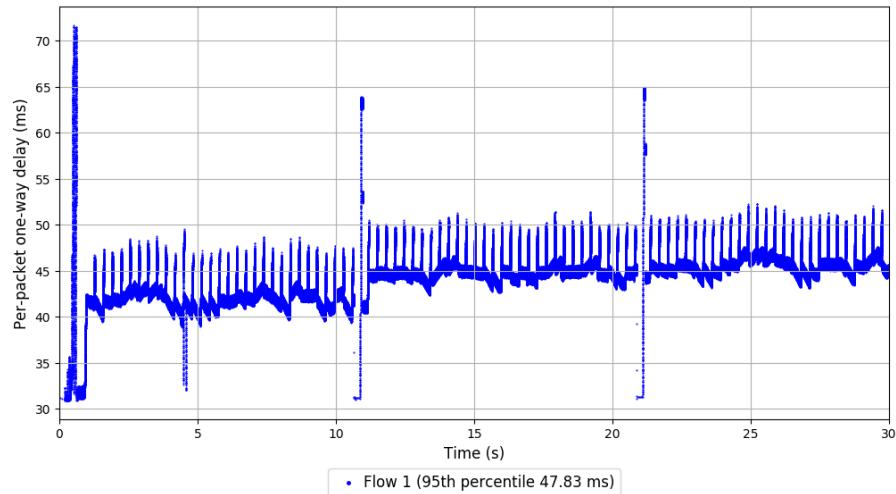
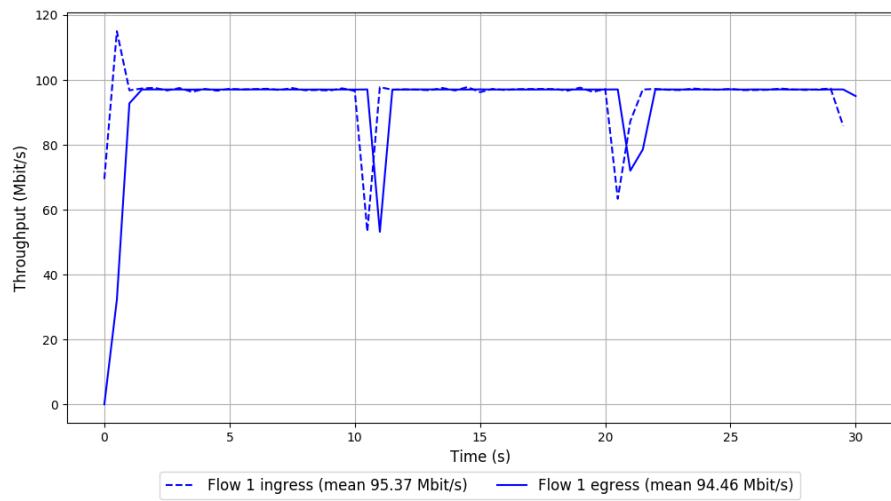


Run 4: Statistics of FillP

```
Start at: 2018-10-09 19:26:33
End at: 2018-10-09 19:27:03
Local clock offset: -6.813 ms
Remote clock offset: -4.364 ms

# Below is generated by plot.py at 2018-10-09 19:56:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.46 Mbit/s
95th percentile per-packet one-way delay: 47.825 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 94.46 Mbit/s
95th percentile per-packet one-way delay: 47.825 ms
Loss rate: 0.90%
```

### Run 4: Report of FillP — Data Link

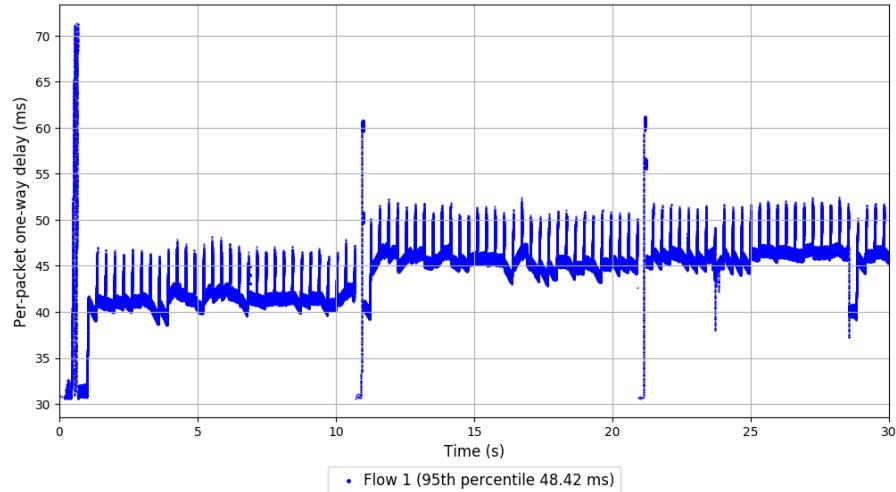
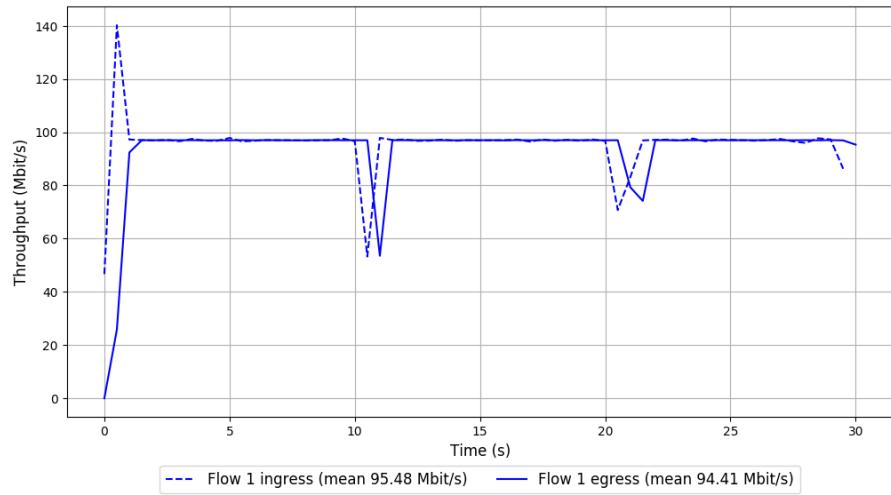


Run 5: Statistics of FillP

```
Start at: 2018-10-09 19:50:02
End at: 2018-10-09 19:50:32
Local clock offset: -2.809 ms
Remote clock offset: -3.974 ms

# Below is generated by plot.py at 2018-10-09 19:56:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 48.416 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 94.41 Mbit/s
95th percentile per-packet one-way delay: 48.416 ms
Loss rate: 1.07%
```

### Run 5: Report of FillP — Data Link

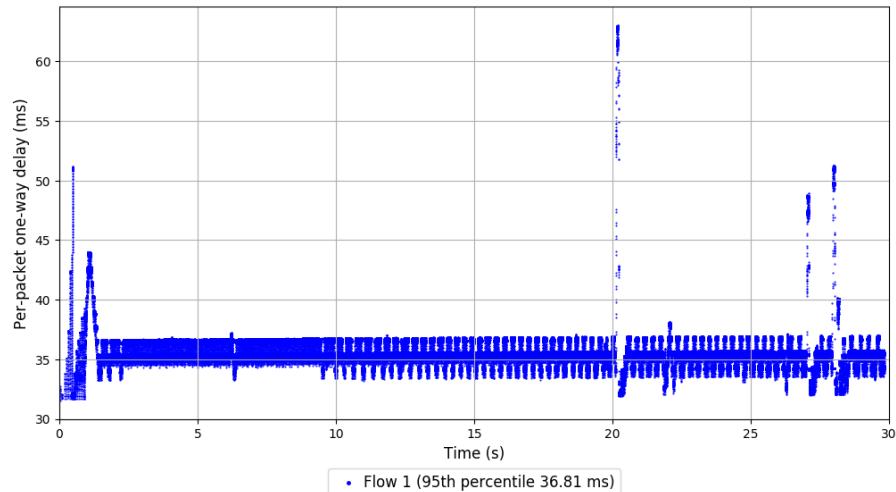
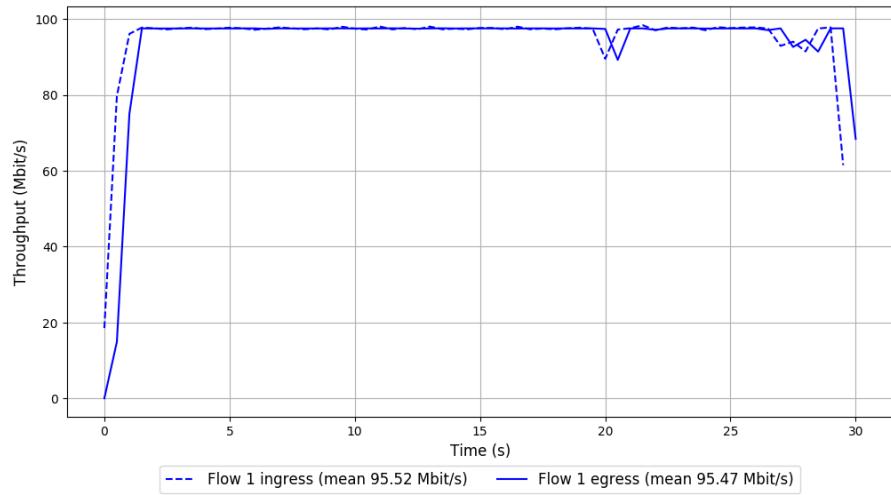


Run 1: Statistics of Indigo

```
Start at: 2018-10-09 18:03:47
End at: 2018-10-09 18:04:17
Local clock offset: -4.025 ms
Remote clock offset: -4.998 ms

# Below is generated by plot.py at 2018-10-09 19:56:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.47 Mbit/s
95th percentile per-packet one-way delay: 36.806 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 95.47 Mbit/s
95th percentile per-packet one-way delay: 36.806 ms
Loss rate: 0.04%
```

### Run 1: Report of Indigo — Data Link

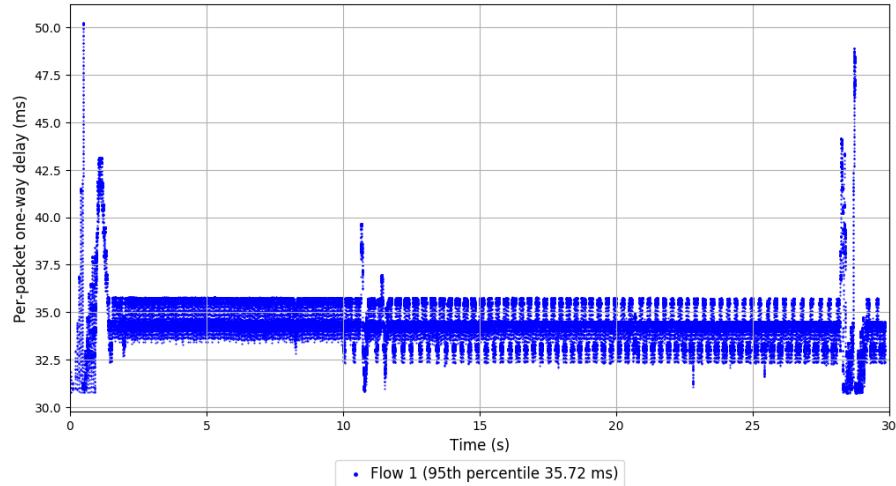
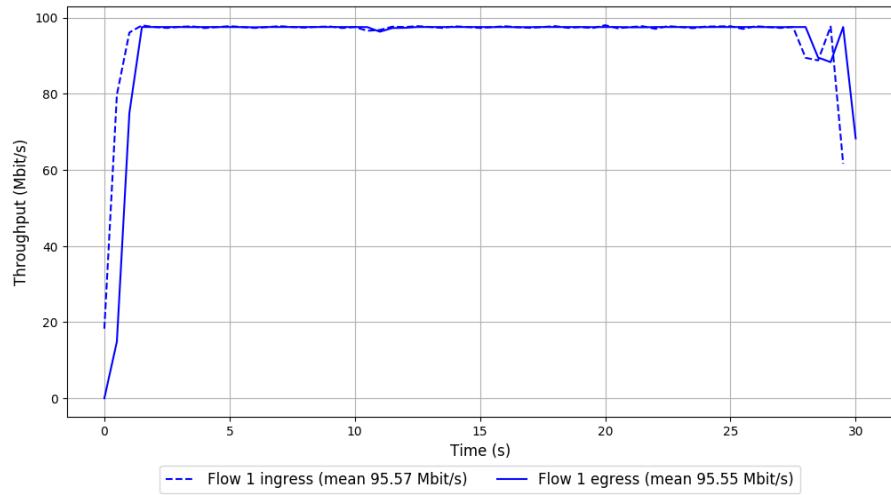


Run 2: Statistics of Indigo

```
Start at: 2018-10-09 18:27:15
End at: 2018-10-09 18:27:45
Local clock offset: -4.012 ms
Remote clock offset: -4.761 ms

# Below is generated by plot.py at 2018-10-09 19:57:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.55 Mbit/s
95th percentile per-packet one-way delay: 35.722 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 95.55 Mbit/s
95th percentile per-packet one-way delay: 35.722 ms
Loss rate: 0.01%
```

## Run 2: Report of Indigo — Data Link

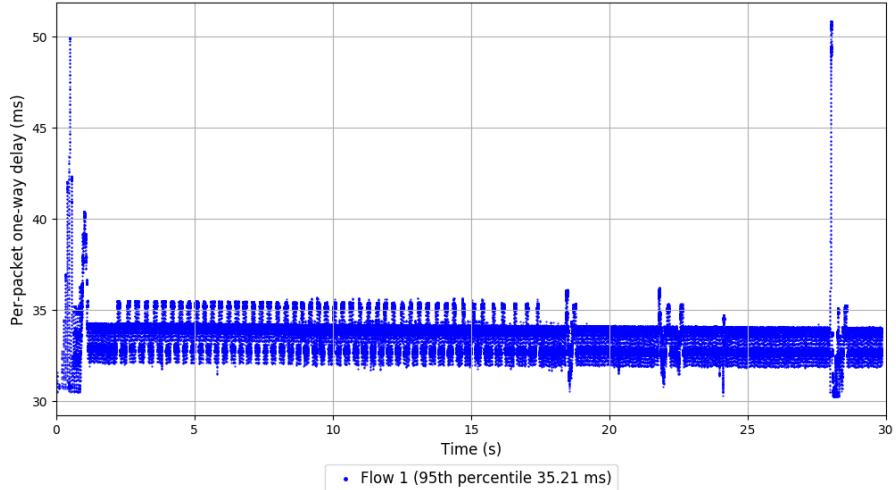
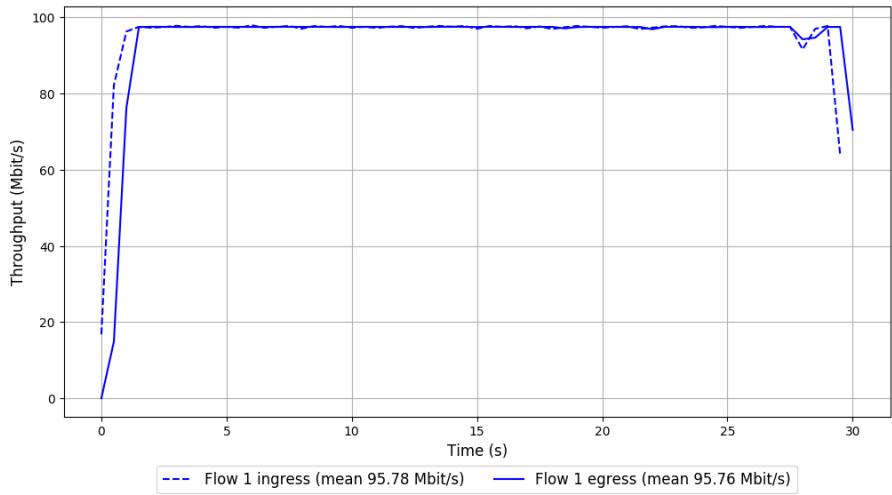


Run 3: Statistics of Indigo

```
Start at: 2018-10-09 18:51:16
End at: 2018-10-09 18:51:46
Local clock offset: -13.036 ms
Remote clock offset: -4.406 ms

# Below is generated by plot.py at 2018-10-09 19:57:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.76 Mbit/s
95th percentile per-packet one-way delay: 35.214 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.76 Mbit/s
95th percentile per-packet one-way delay: 35.214 ms
Loss rate: 0.00%
```

### Run 3: Report of Indigo — Data Link

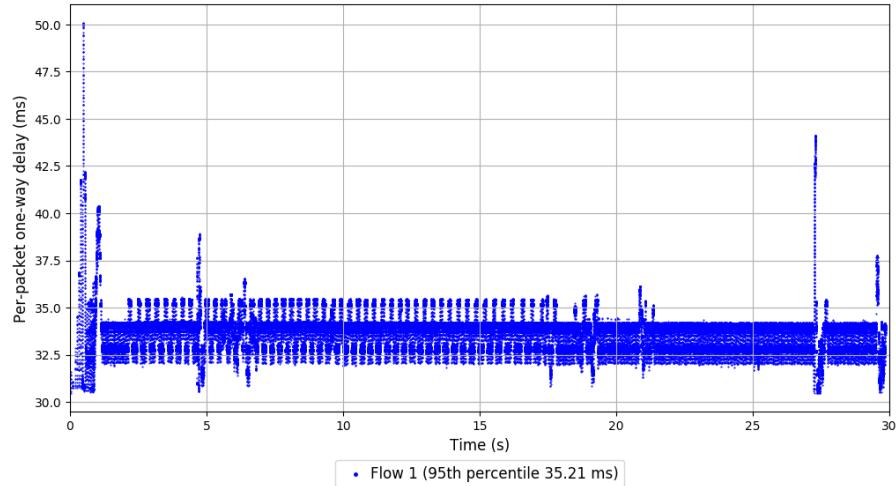
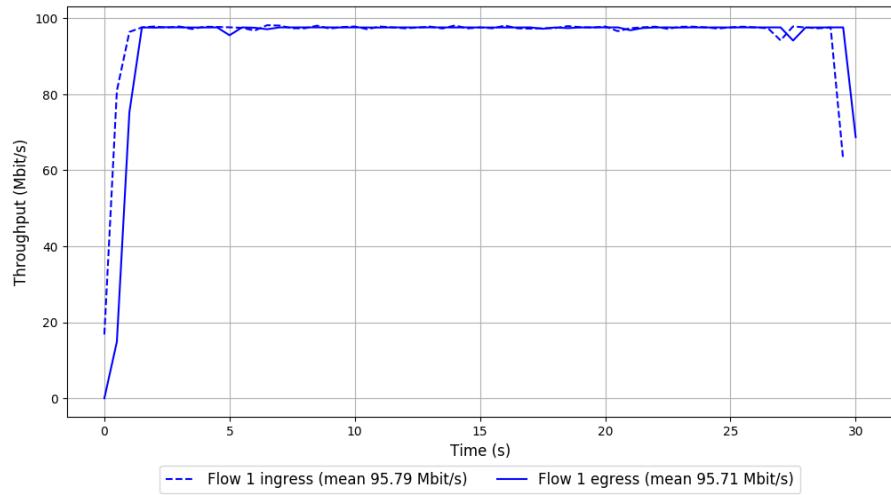


Run 4: Statistics of Indigo

```
Start at: 2018-10-09 19:14:48
End at: 2018-10-09 19:15:18
Local clock offset: -6.077 ms
Remote clock offset: -4.434 ms

# Below is generated by plot.py at 2018-10-09 19:57:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 35.213 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 35.213 ms
Loss rate: 0.07%
```

## Run 4: Report of Indigo — Data Link

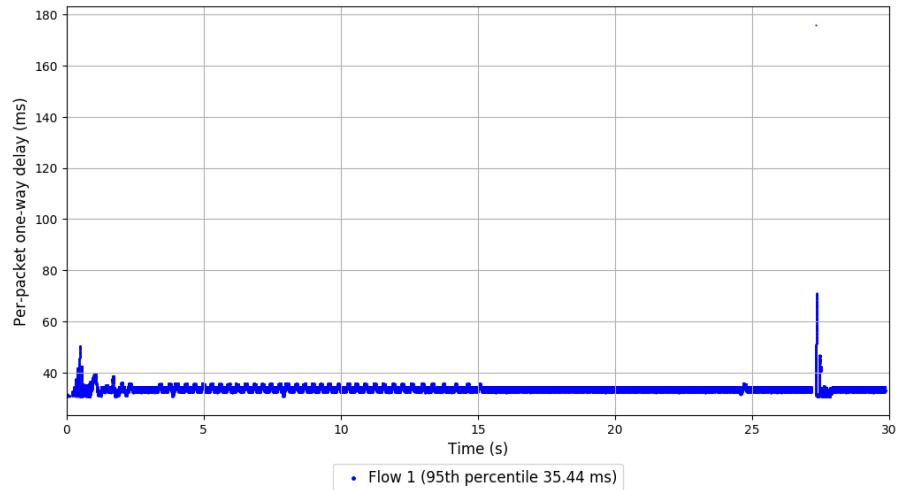
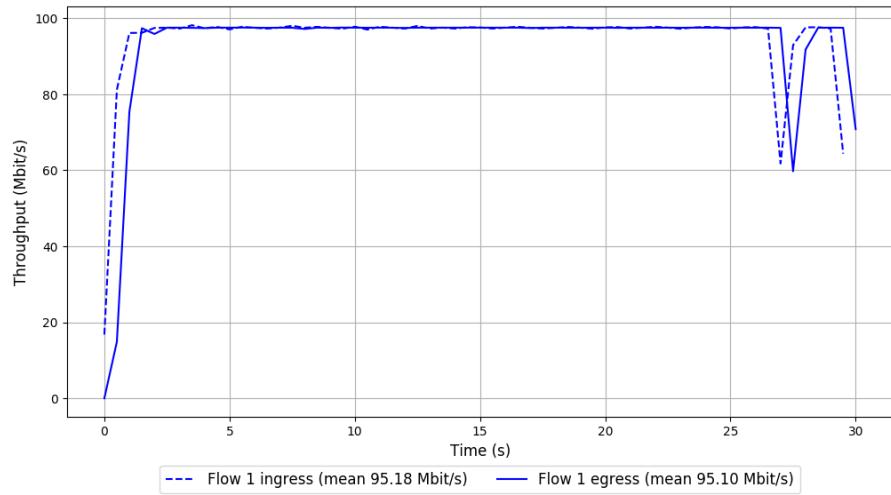


Run 5: Statistics of Indigo

```
Start at: 2018-10-09 19:38:16
End at: 2018-10-09 19:38:46
Local clock offset: -2.531 ms
Remote clock offset: -4.218 ms

# Below is generated by plot.py at 2018-10-09 19:57:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.10 Mbit/s
95th percentile per-packet one-way delay: 35.438 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 95.10 Mbit/s
95th percentile per-packet one-way delay: 35.438 ms
Loss rate: 0.08%
```

## Run 5: Report of Indigo — Data Link

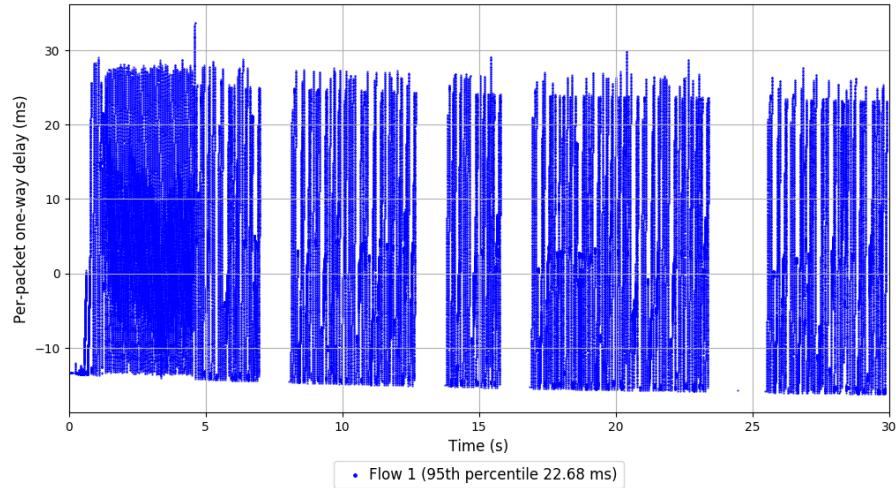
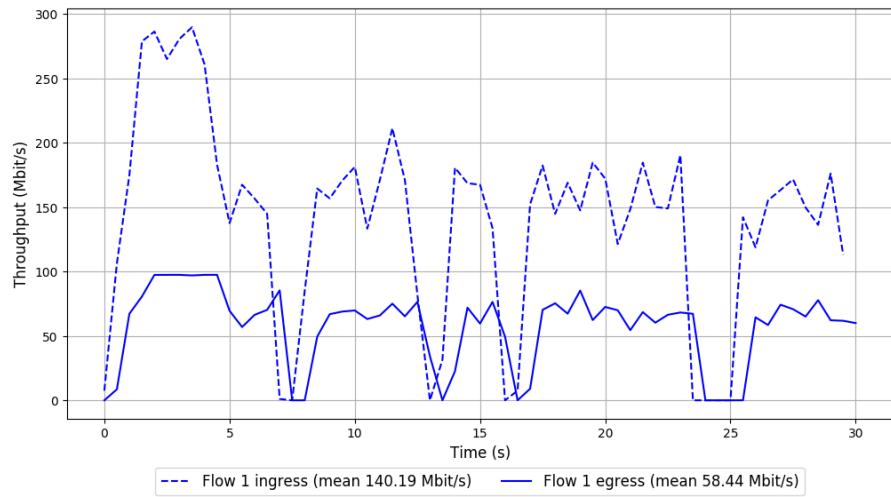


Run 1: Statistics of Indigo-96d2da3

```
Start at: 2018-10-09 17:55:58
End at: 2018-10-09 17:56:28
Local clock offset: 50.194 ms
Remote clock offset: -4.964 ms

# Below is generated by plot.py at 2018-10-09 19:57:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.44 Mbit/s
95th percentile per-packet one-way delay: 22.684 ms
Loss rate: 58.29%
-- Flow 1:
Average throughput: 58.44 Mbit/s
95th percentile per-packet one-way delay: 22.684 ms
Loss rate: 58.29%
```

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

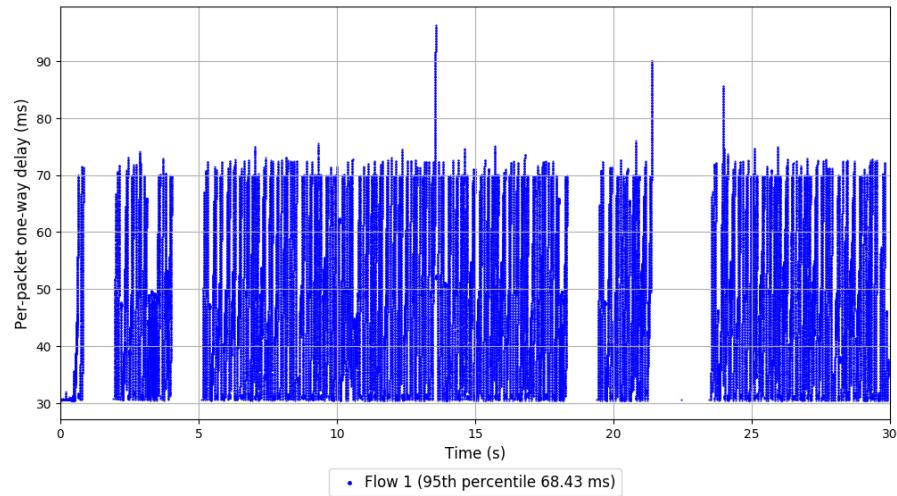
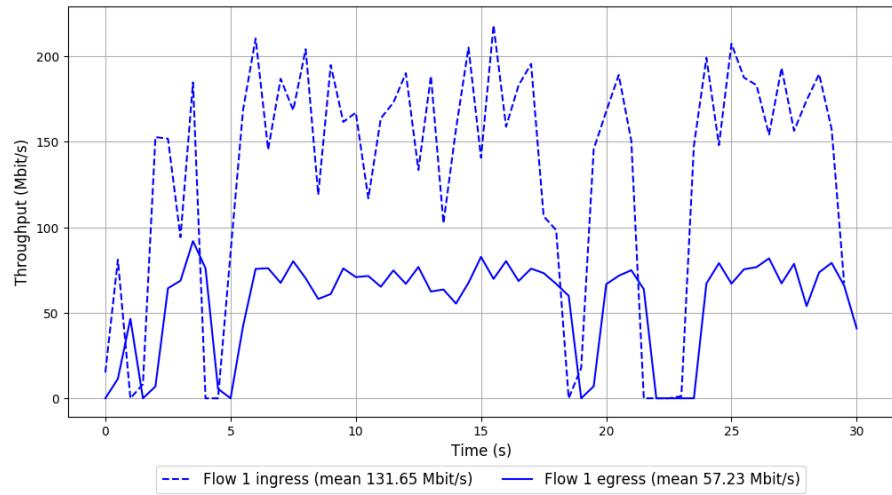


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-10-09 18:19:26
End at: 2018-10-09 18:19:56
Local clock offset: -2.05 ms
Remote clock offset: -5.085 ms

# Below is generated by plot.py at 2018-10-09 19:57:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.23 Mbit/s
95th percentile per-packet one-way delay: 68.427 ms
Loss rate: 56.52%
-- Flow 1:
Average throughput: 57.23 Mbit/s
95th percentile per-packet one-way delay: 68.427 ms
Loss rate: 56.52%
```

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

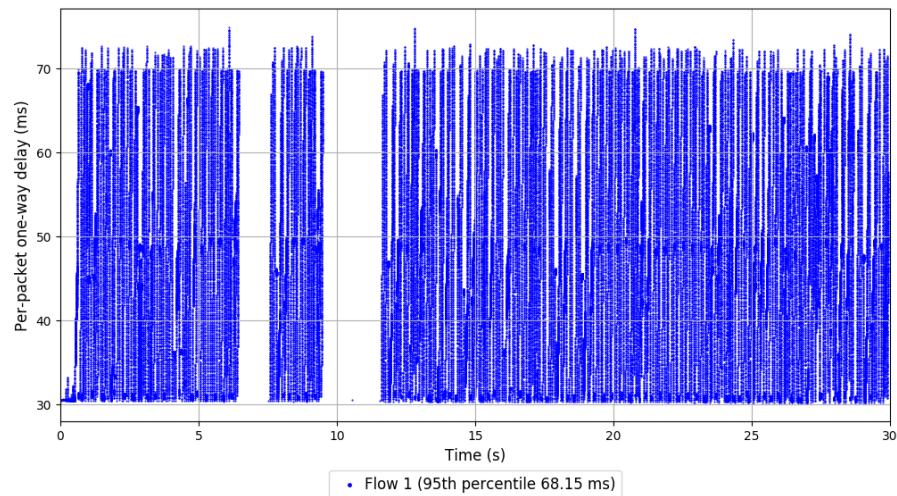
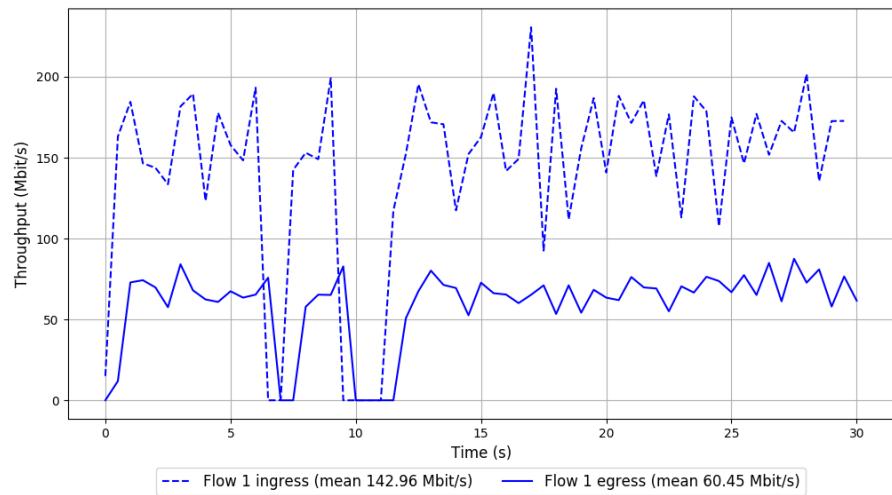


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-10-09 18:43:25
End at: 2018-10-09 18:43:55
Local clock offset: -9.174 ms
Remote clock offset: -4.722 ms

# Below is generated by plot.py at 2018-10-09 19:57:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.45 Mbit/s
95th percentile per-packet one-way delay: 68.150 ms
Loss rate: 57.68%
-- Flow 1:
Average throughput: 60.45 Mbit/s
95th percentile per-packet one-way delay: 68.150 ms
Loss rate: 57.68%
```

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

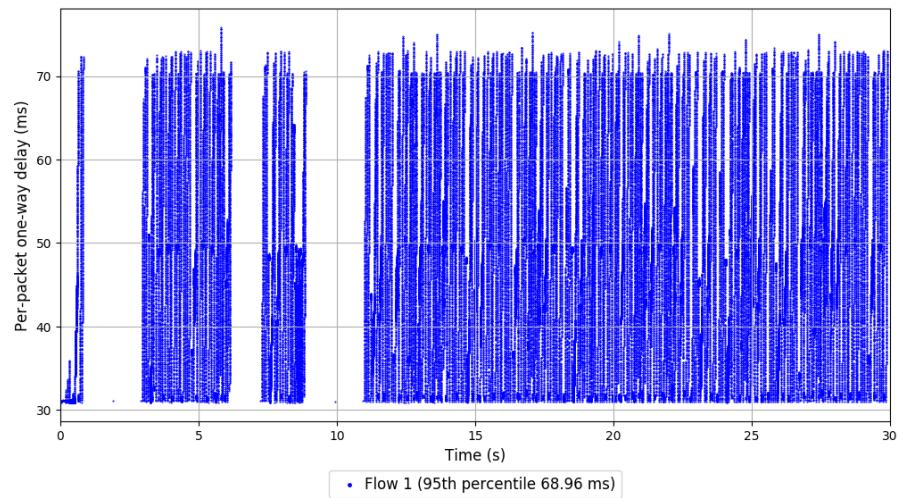
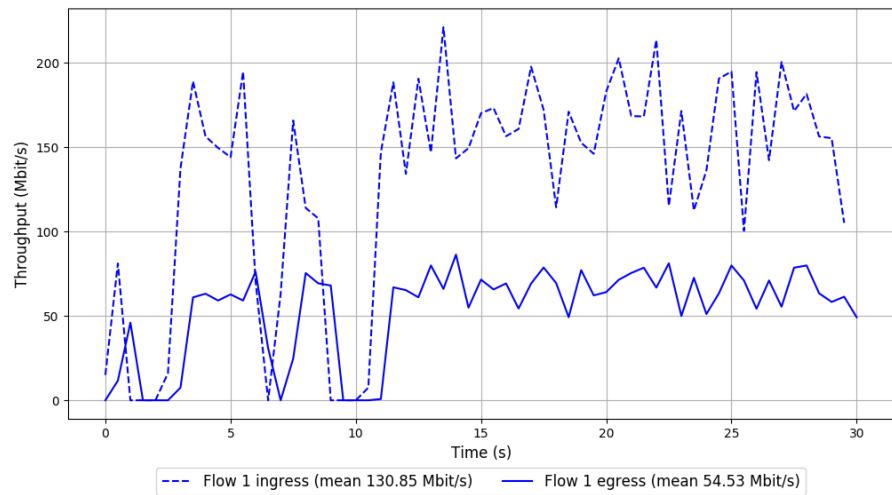


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-10-09 19:06:59
End at: 2018-10-09 19:07:29
Local clock offset: -6.275 ms
Remote clock offset: -4.256 ms

# Below is generated by plot.py at 2018-10-09 19:57:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.53 Mbit/s
95th percentile per-packet one-way delay: 68.958 ms
Loss rate: 58.27%
-- Flow 1:
Average throughput: 54.53 Mbit/s
95th percentile per-packet one-way delay: 68.958 ms
Loss rate: 58.27%
```

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

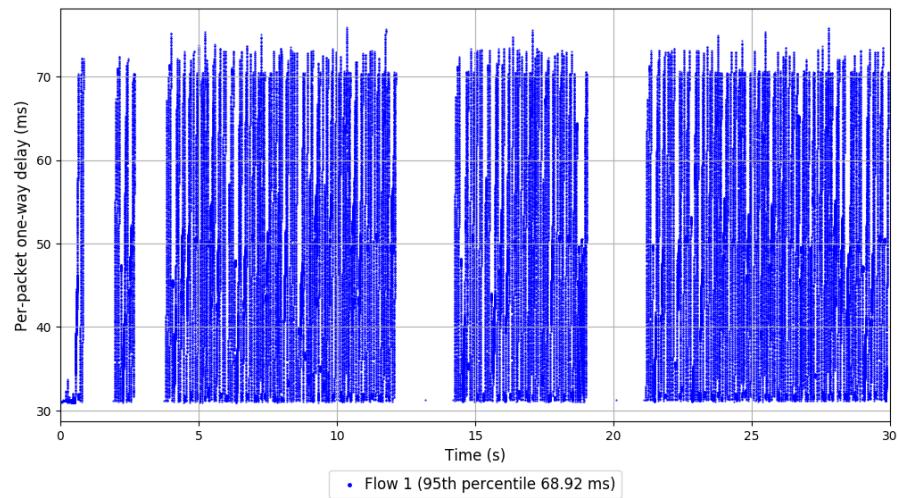
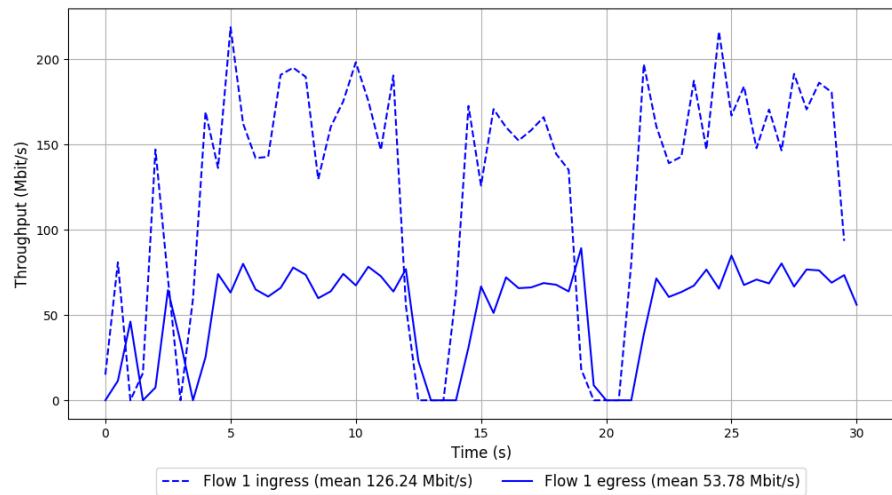


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-10-09 19:30:27
End at: 2018-10-09 19:30:57
Local clock offset: -4.351 ms
Remote clock offset: -4.159 ms

# Below is generated by plot.py at 2018-10-09 19:58:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 53.78 Mbit/s
95th percentile per-packet one-way delay: 68.920 ms
Loss rate: 57.39%
-- Flow 1:
Average throughput: 53.78 Mbit/s
95th percentile per-packet one-way delay: 68.920 ms
Loss rate: 57.39%
```

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

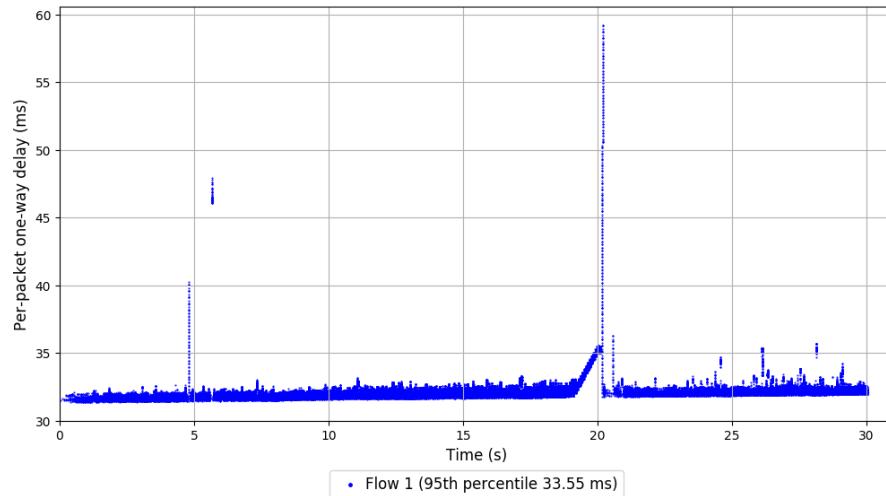
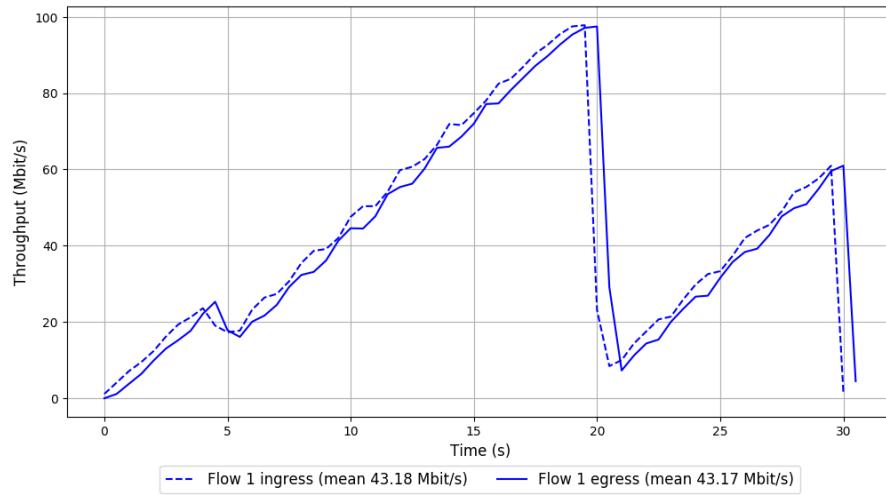


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-10-09 18:12:57
End at: 2018-10-09 18:13:27
Local clock offset: -5.369 ms
Remote clock offset: -5.25 ms

# Below is generated by plot.py at 2018-10-09 19:58:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 43.17 Mbit/s
95th percentile per-packet one-way delay: 33.552 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 43.17 Mbit/s
95th percentile per-packet one-way delay: 33.552 ms
Loss rate: 0.04%
```

## Run 1: Report of LEDBAT — Data Link

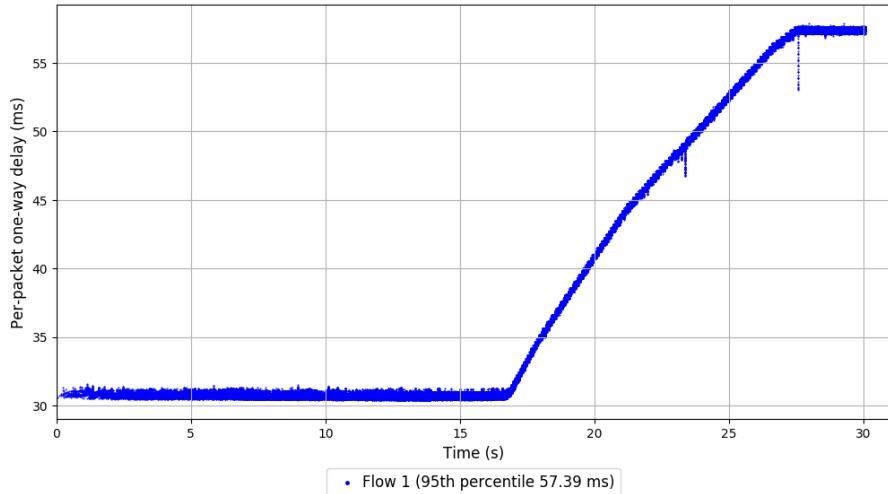
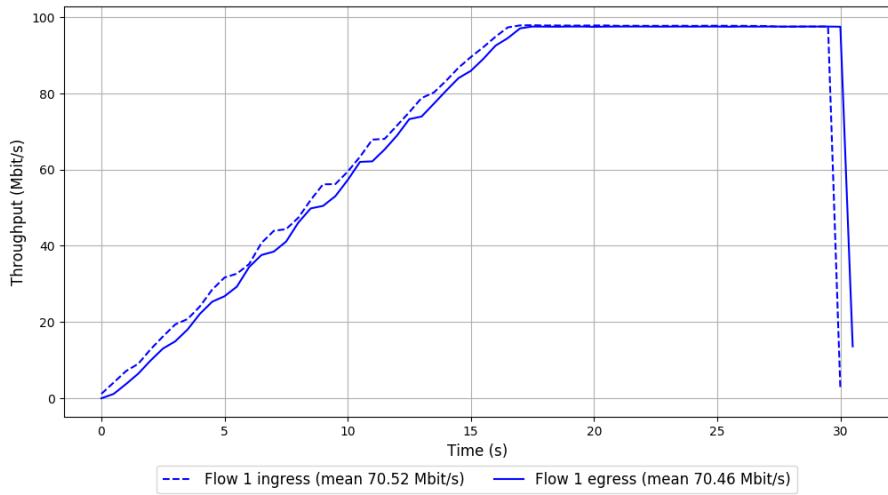


Run 2: Statistics of LEDBAT

```
Start at: 2018-10-09 18:36:50
End at: 2018-10-09 18:37:20
Local clock offset: -6.259 ms
Remote clock offset: -4.654 ms

# Below is generated by plot.py at 2018-10-09 19:58:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.46 Mbit/s
95th percentile per-packet one-way delay: 57.388 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.46 Mbit/s
95th percentile per-packet one-way delay: 57.388 ms
Loss rate: 0.00%
```

## Run 2: Report of LEDBAT — Data Link

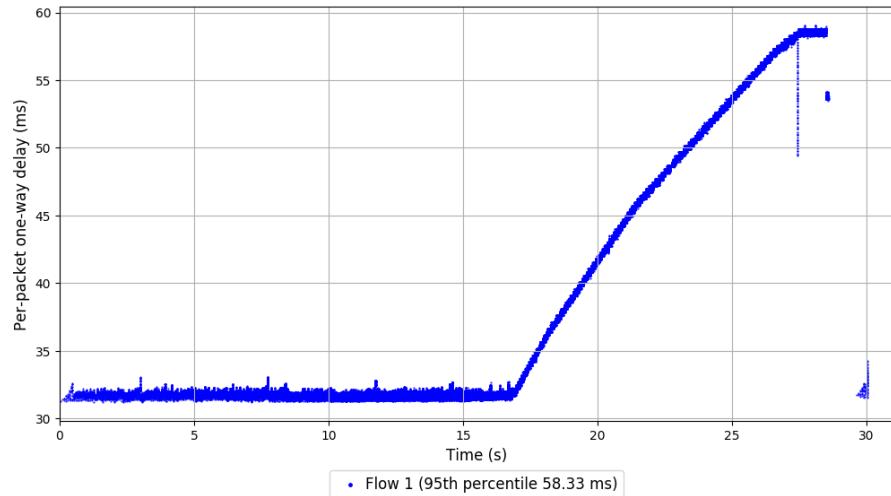
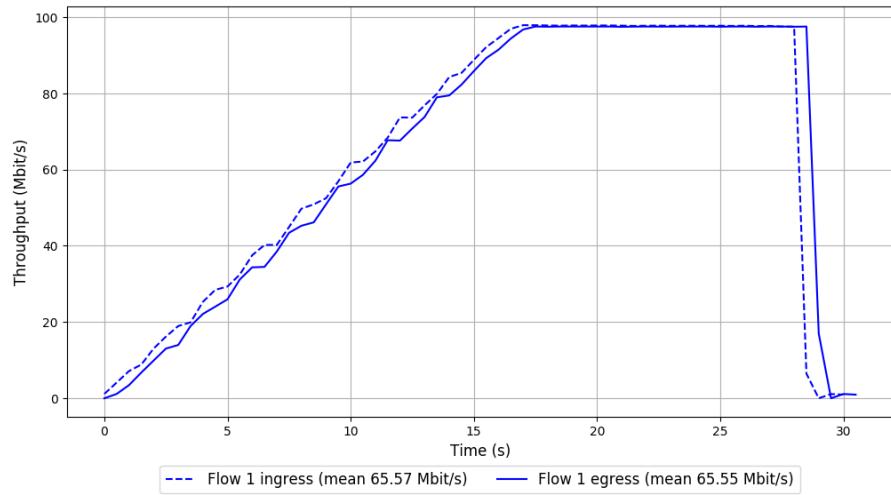


Run 3: Statistics of LEDBAT

```
Start at: 2018-10-09 19:00:30
End at: 2018-10-09 19:01:00
Local clock offset: -8.983 ms
Remote clock offset: -4.288 ms

# Below is generated by plot.py at 2018-10-09 19:58:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.55 Mbit/s
95th percentile per-packet one-way delay: 58.328 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 65.55 Mbit/s
95th percentile per-packet one-way delay: 58.328 ms
Loss rate: 0.02%
```

### Run 3: Report of LEDBAT — Data Link

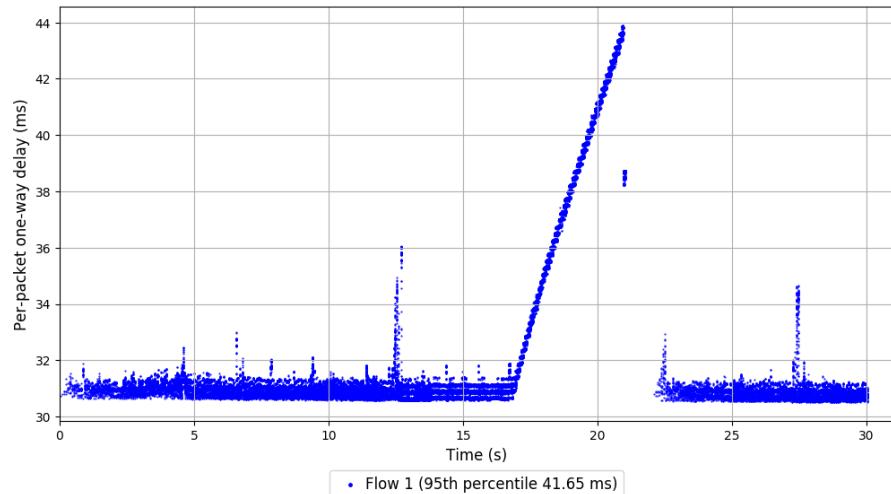
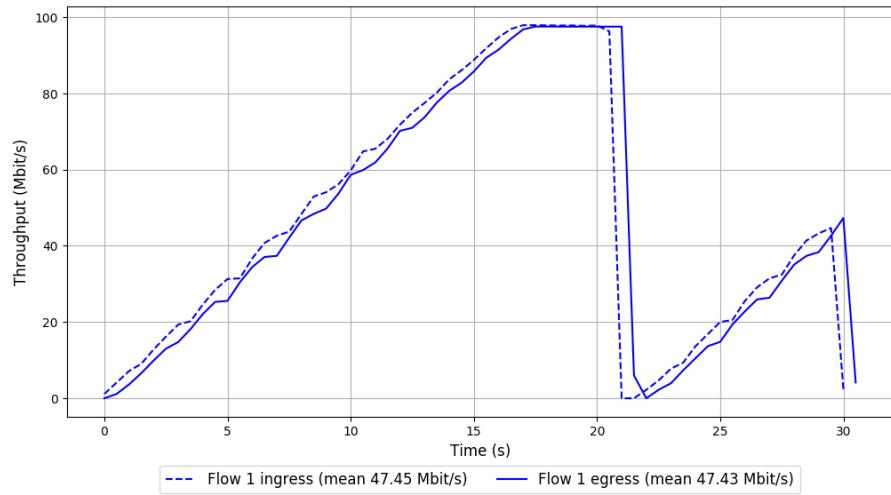


Run 4: Statistics of LEDBAT

```
Start at: 2018-10-09 19:23:59
End at: 2018-10-09 19:24:29
Local clock offset: -7.718 ms
Remote clock offset: -4.206 ms

# Below is generated by plot.py at 2018-10-09 19:58:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.43 Mbit/s
95th percentile per-packet one-way delay: 41.650 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 47.43 Mbit/s
95th percentile per-packet one-way delay: 41.650 ms
Loss rate: 0.04%
```

## Run 4: Report of LEDBAT — Data Link

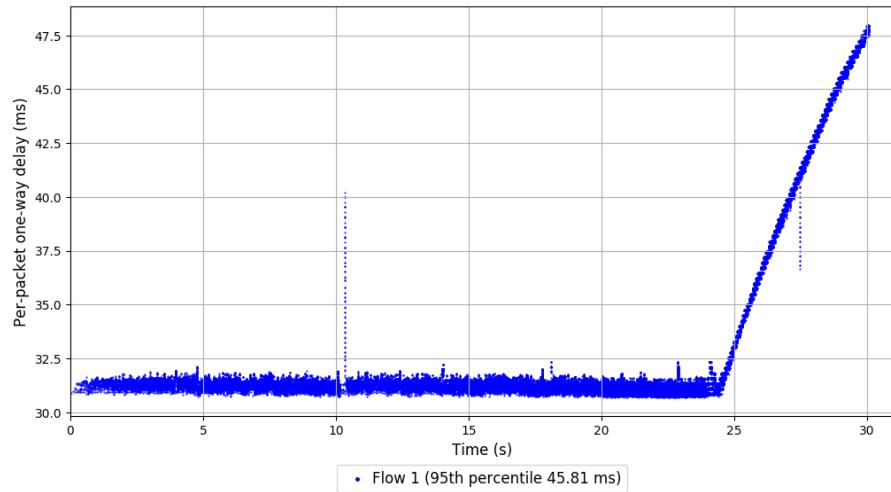
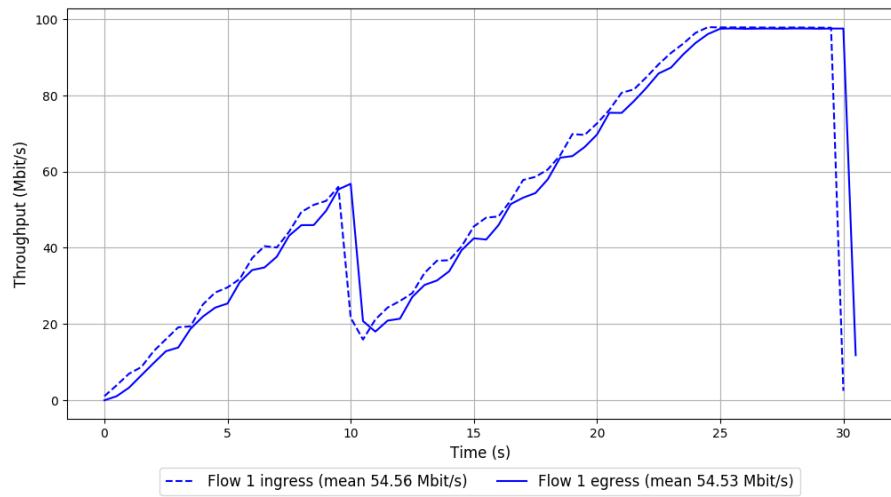


Run 5: Statistics of LEDBAT

```
Start at: 2018-10-09 19:47:28
End at: 2018-10-09 19:47:58
Local clock offset: -2.619 ms
Remote clock offset: -3.967 ms

# Below is generated by plot.py at 2018-10-09 19:58:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.53 Mbit/s
95th percentile per-packet one-way delay: 45.808 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 54.53 Mbit/s
95th percentile per-packet one-way delay: 45.808 ms
Loss rate: 0.01%
```

## Run 5: Report of LEDBAT — Data Link

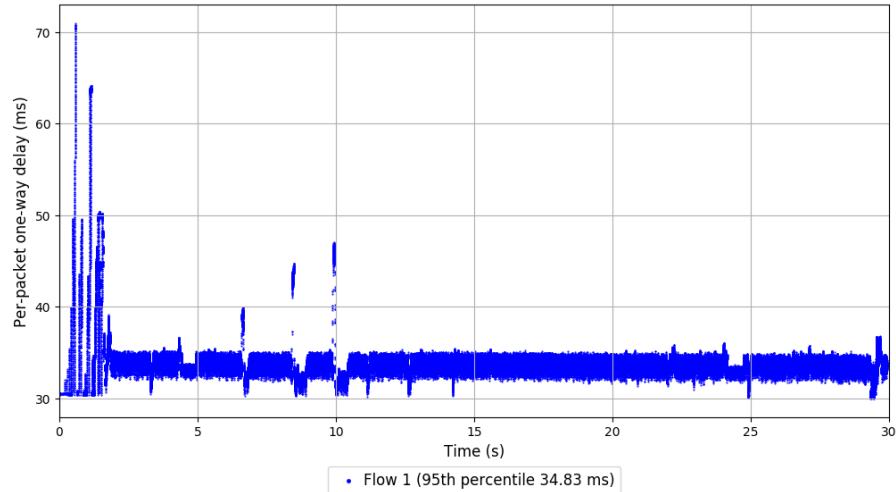
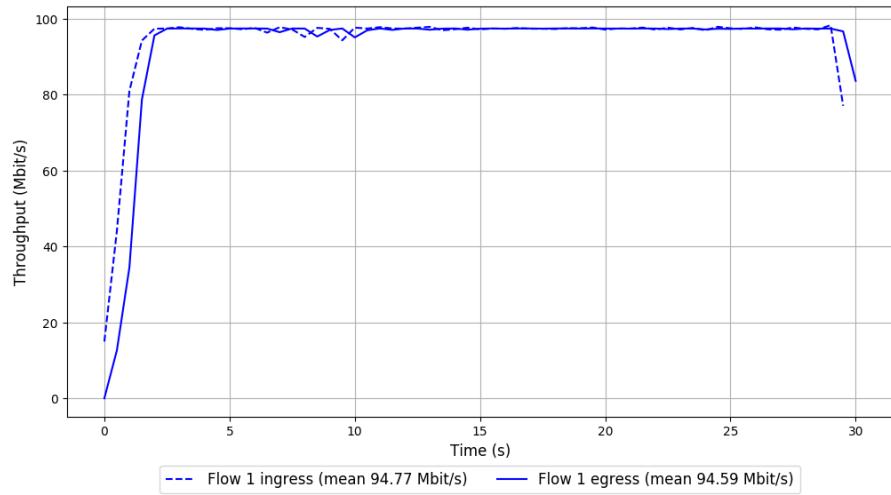


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-10-09 18:10:22
End at: 2018-10-09 18:10:52
Local clock offset: -5.01 ms
Remote clock offset: -4.988 ms

# Below is generated by plot.py at 2018-10-09 19:59:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.59 Mbit/s
95th percentile per-packet one-way delay: 34.829 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 94.59 Mbit/s
95th percentile per-packet one-way delay: 34.829 ms
Loss rate: 0.18%
```

## Run 1: Report of Indigo-Muses — Data Link

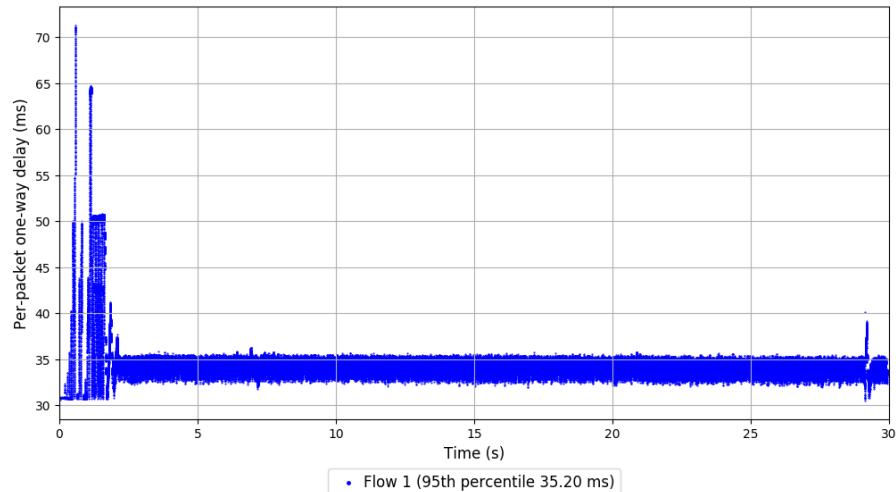
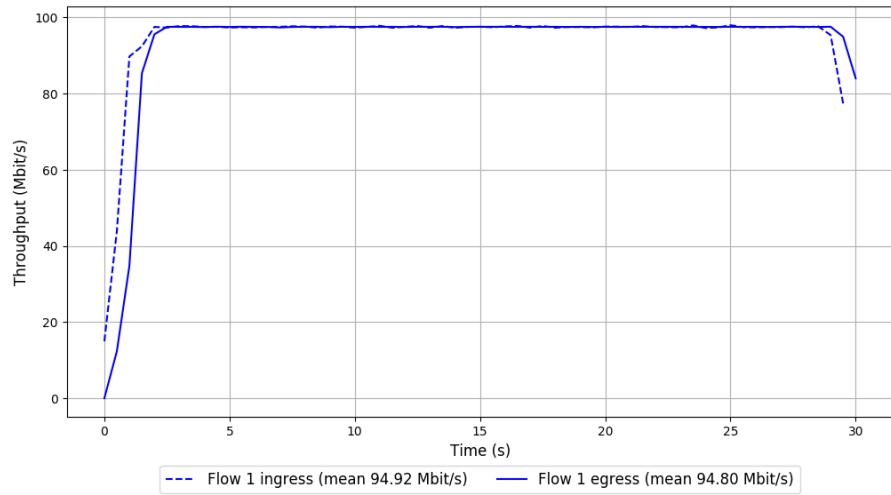


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-10-09 18:34:04
End at: 2018-10-09 18:34:34
Local clock offset: -5.315 ms
Remote clock offset: -4.618 ms

# Below is generated by plot.py at 2018-10-09 19:59:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.80 Mbit/s
95th percentile per-packet one-way delay: 35.200 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 94.80 Mbit/s
95th percentile per-packet one-way delay: 35.200 ms
Loss rate: 0.12%
```

## Run 2: Report of Indigo-Muses — Data Link

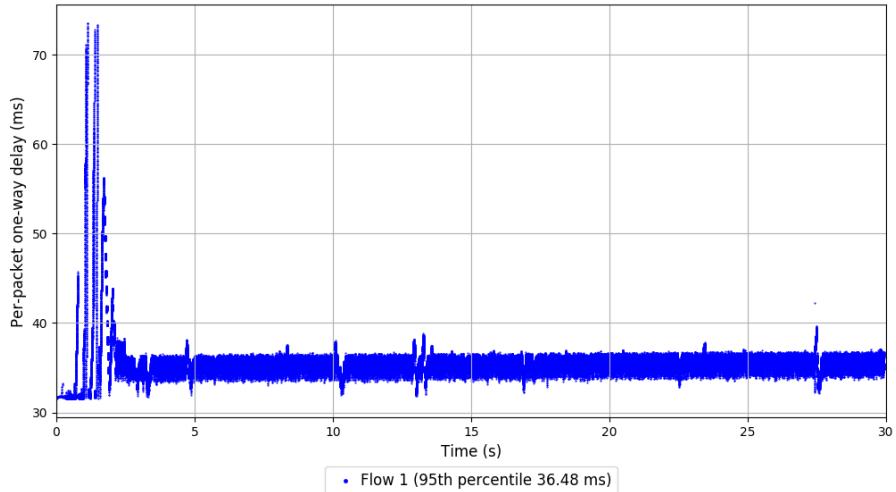
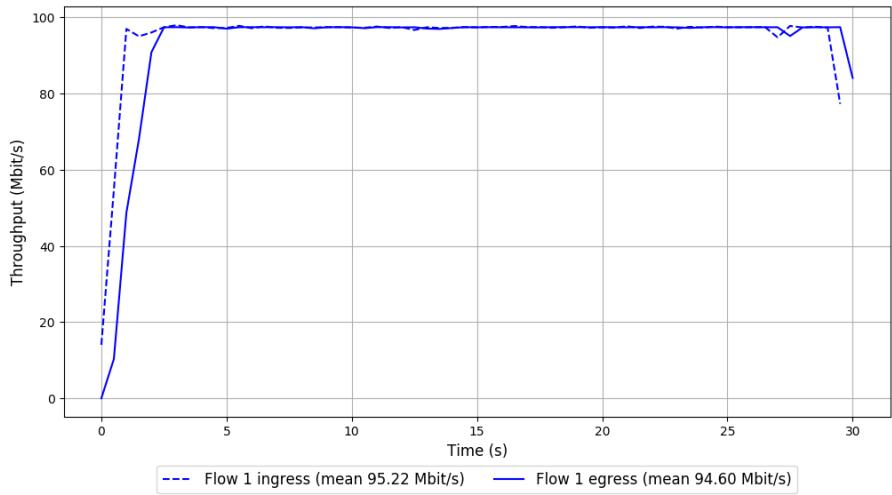


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-10-09 18:57:54
End at: 2018-10-09 18:58:24
Local clock offset: -11.615 ms
Remote clock offset: -4.39 ms

# Below is generated by plot.py at 2018-10-09 19:59:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.60 Mbit/s
95th percentile per-packet one-way delay: 36.478 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 94.60 Mbit/s
95th percentile per-packet one-way delay: 36.478 ms
Loss rate: 0.63%
```

### Run 3: Report of Indigo-Muses — Data Link

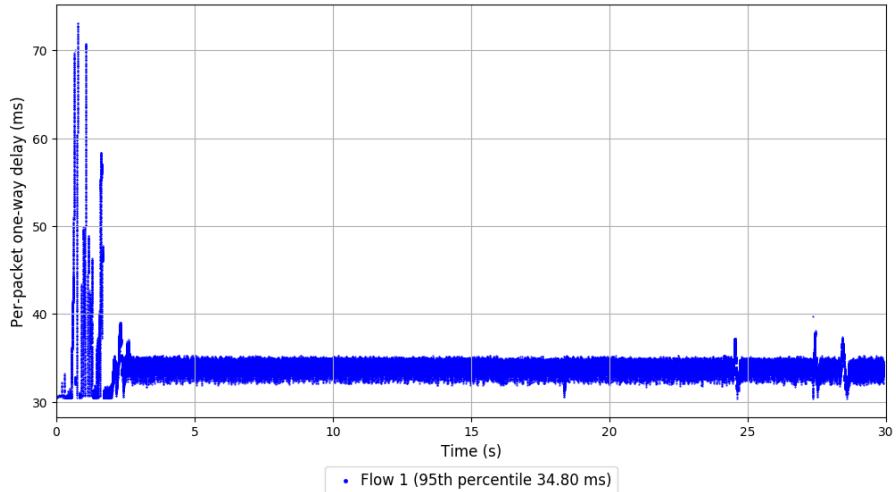
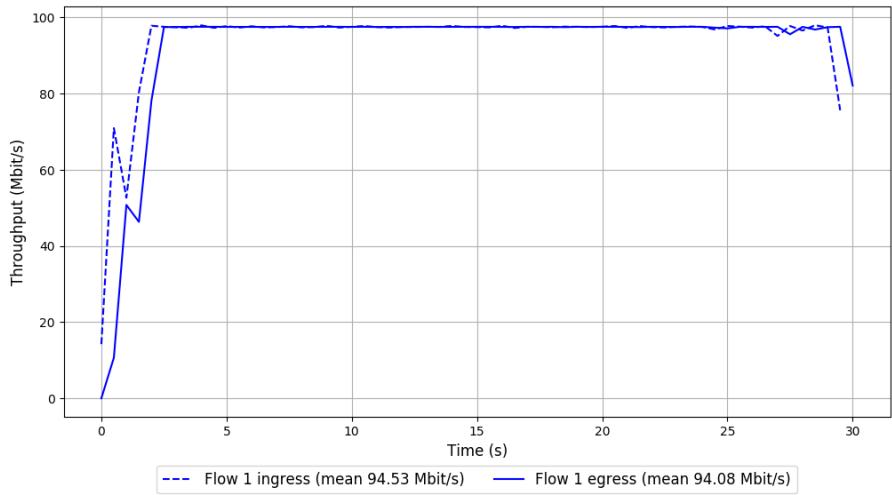


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-10-09 19:21:24
End at: 2018-10-09 19:21:54
Local clock offset: -7.094 ms
Remote clock offset: -4.38 ms

# Below is generated by plot.py at 2018-10-09 19:59:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.08 Mbit/s
95th percentile per-packet one-way delay: 34.799 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 94.08 Mbit/s
95th percentile per-packet one-way delay: 34.799 ms
Loss rate: 0.46%
```

## Run 4: Report of Indigo-Muses — Data Link

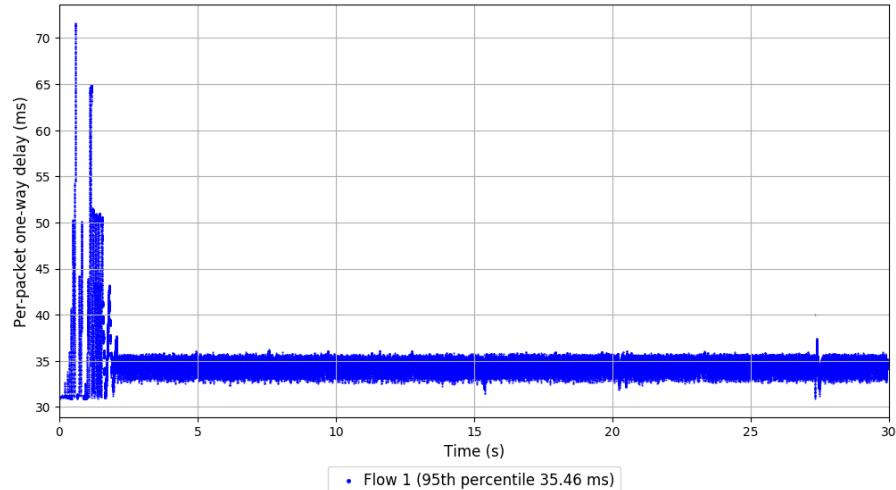
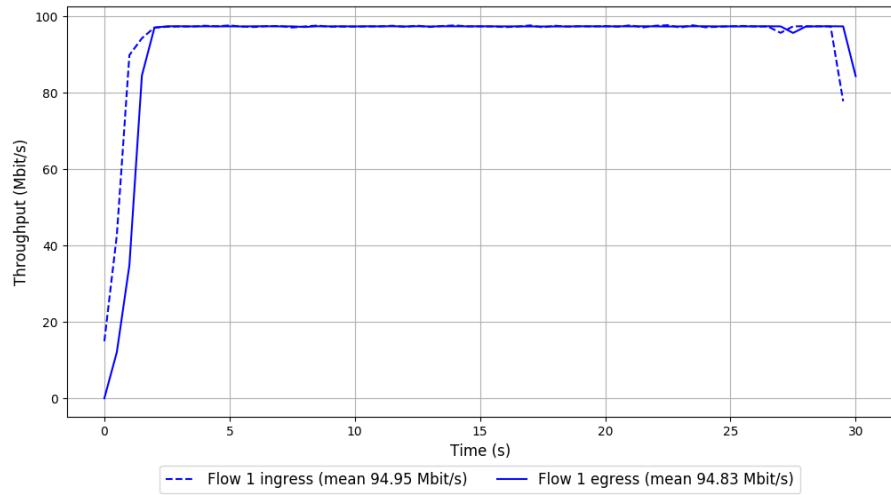


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-10-09 19:44:52
End at: 2018-10-09 19:45:22
Local clock offset: -2.47 ms
Remote clock offset: -3.845 ms

# Below is generated by plot.py at 2018-10-09 19:59:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.83 Mbit/s
95th percentile per-packet one-way delay: 35.460 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 94.83 Mbit/s
95th percentile per-packet one-way delay: 35.460 ms
Loss rate: 0.12%
```

## Run 5: Report of Indigo-Muses — Data Link

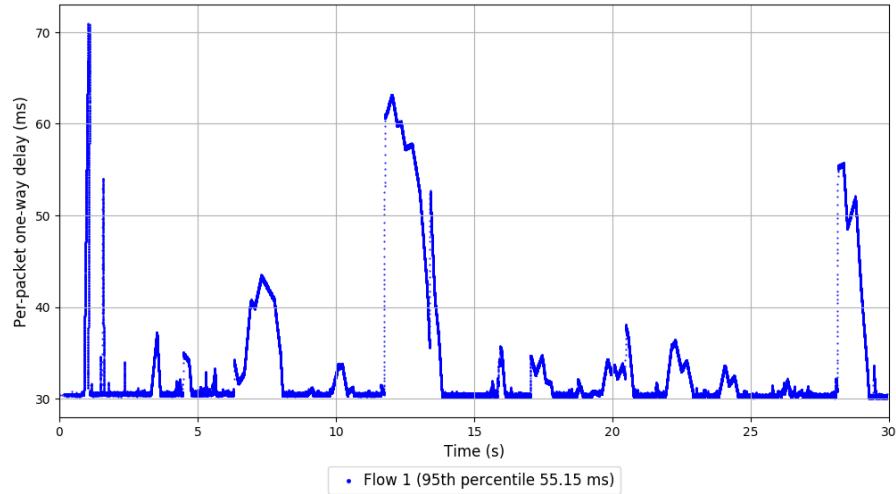
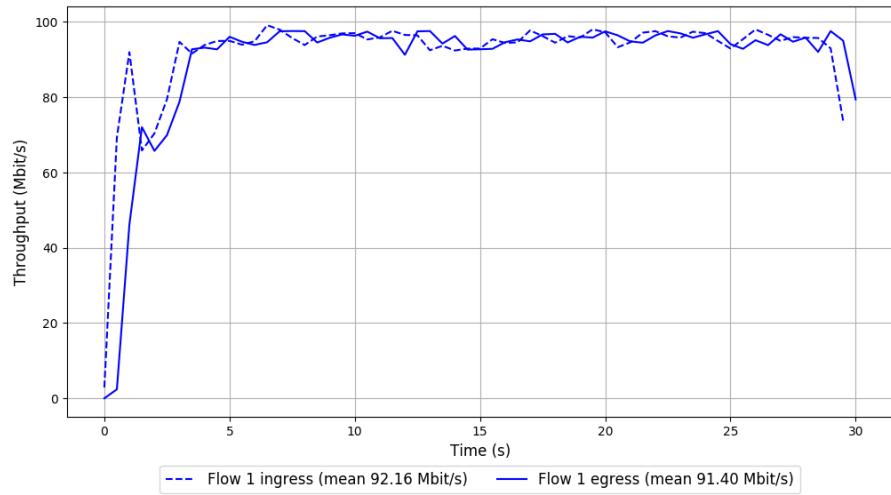


Run 1: Statistics of PCC-Allegro

```
Start at: 2018-10-09 18:07:47
End at: 2018-10-09 18:08:17
Local clock offset: -3.105 ms
Remote clock offset: -5.042 ms

# Below is generated by plot.py at 2018-10-09 19:59:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.40 Mbit/s
95th percentile per-packet one-way delay: 55.147 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 91.40 Mbit/s
95th percentile per-packet one-way delay: 55.147 ms
Loss rate: 0.82%
```

## Run 1: Report of PCC-Allegro — Data Link

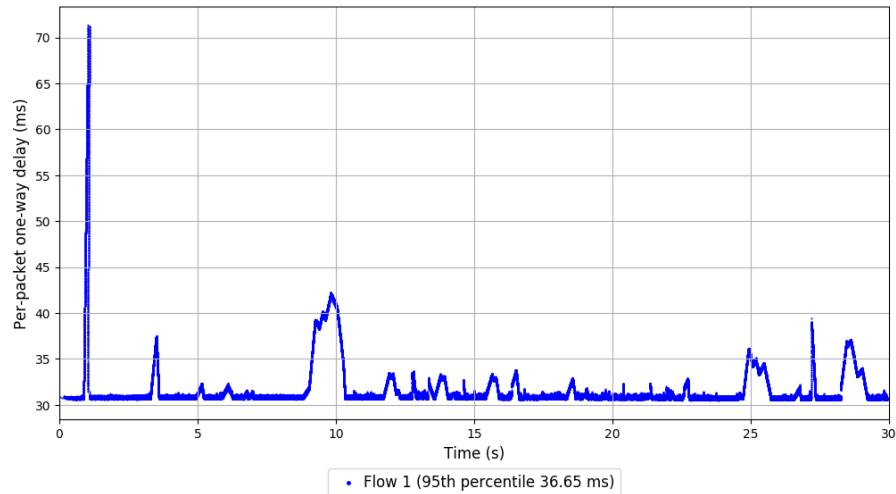
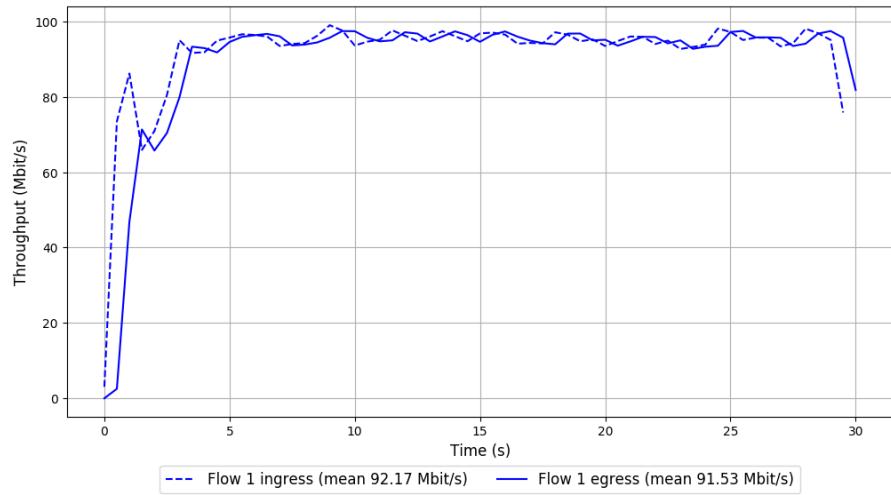


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-10-09 18:31:22
End at: 2018-10-09 18:31:52
Local clock offset: -4.573 ms
Remote clock offset: -4.693 ms

# Below is generated by plot.py at 2018-10-09 19:59:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.53 Mbit/s
95th percentile per-packet one-way delay: 36.651 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 91.53 Mbit/s
95th percentile per-packet one-way delay: 36.651 ms
Loss rate: 0.69%
```

## Run 2: Report of PCC-Allegro — Data Link

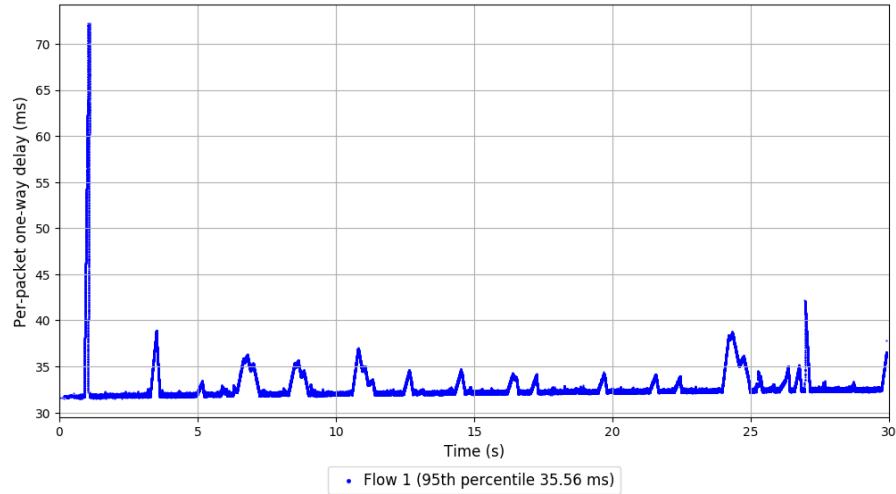
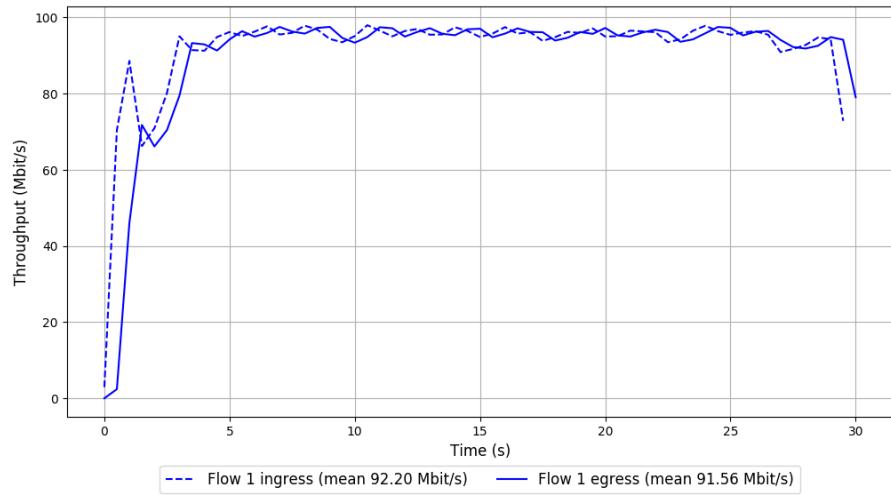


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-10-09 18:55:18
End at: 2018-10-09 18:55:48
Local clock offset: -15.037 ms
Remote clock offset: -4.582 ms

# Below is generated by plot.py at 2018-10-09 19:59:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.56 Mbit/s
95th percentile per-packet one-way delay: 35.559 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 91.56 Mbit/s
95th percentile per-packet one-way delay: 35.559 ms
Loss rate: 0.68%
```

### Run 3: Report of PCC-Allegro — Data Link

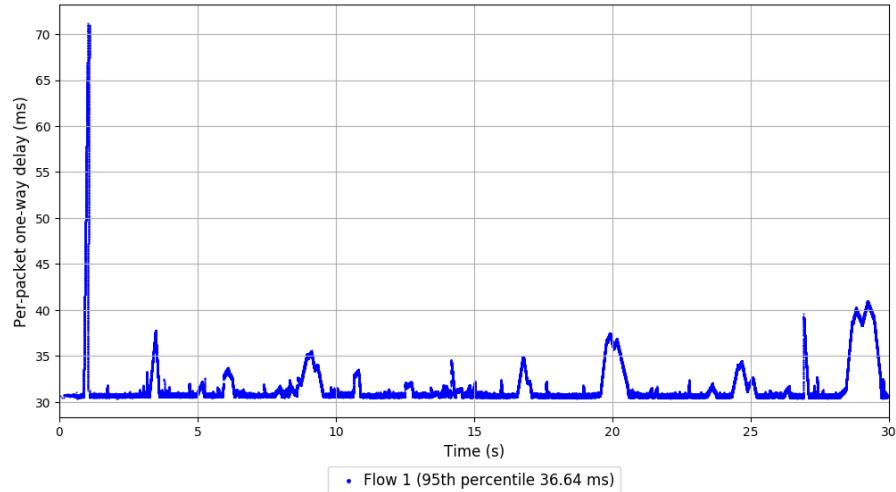
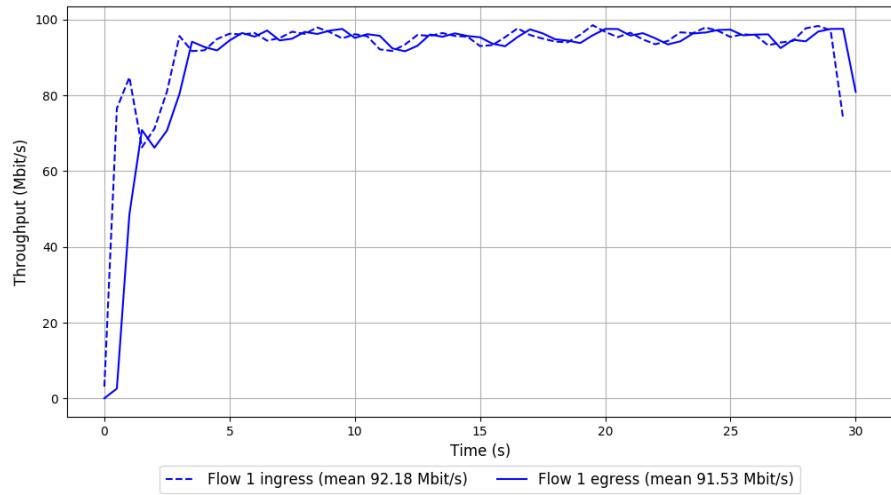


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-10-09 19:18:49
End at: 2018-10-09 19:19:19
Local clock offset: -6.63 ms
Remote clock offset: -4.297 ms

# Below is generated by plot.py at 2018-10-09 20:00:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.53 Mbit/s
95th percentile per-packet one-way delay: 36.640 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 91.53 Mbit/s
95th percentile per-packet one-way delay: 36.640 ms
Loss rate: 0.70%
```

## Run 4: Report of PCC-Allegro — Data Link

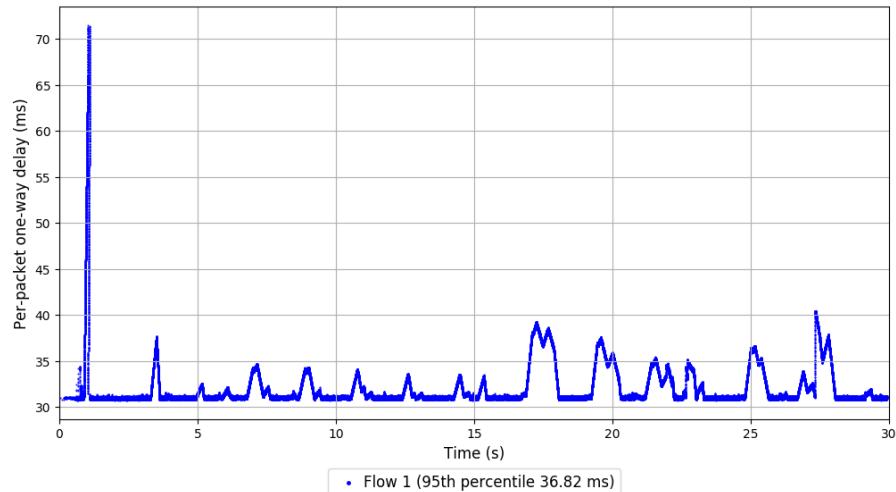
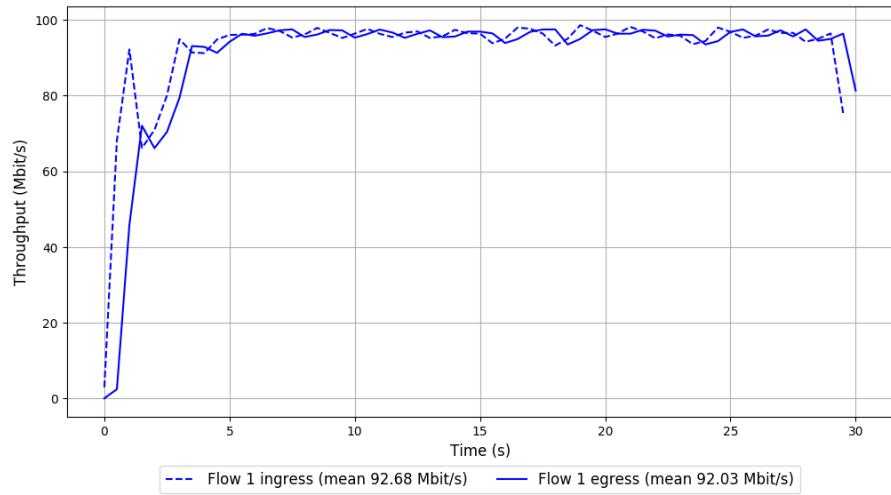


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-10-09 19:42:17
End at: 2018-10-09 19:42:47
Local clock offset: -2.387 ms
Remote clock offset: -3.969 ms

# Below is generated by plot.py at 2018-10-09 20:00:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.03 Mbit/s
95th percentile per-packet one-way delay: 36.820 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 92.03 Mbit/s
95th percentile per-packet one-way delay: 36.820 ms
Loss rate: 0.71%
```

### Run 5: Report of PCC-Allegro — Data Link

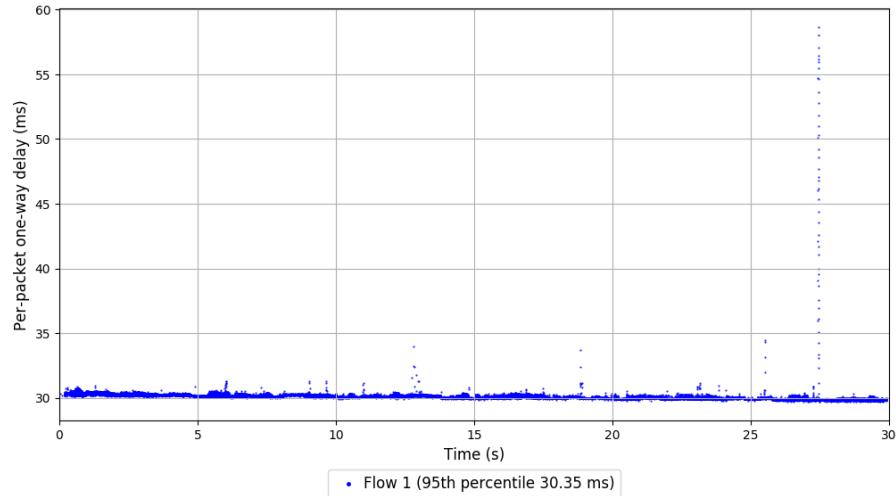
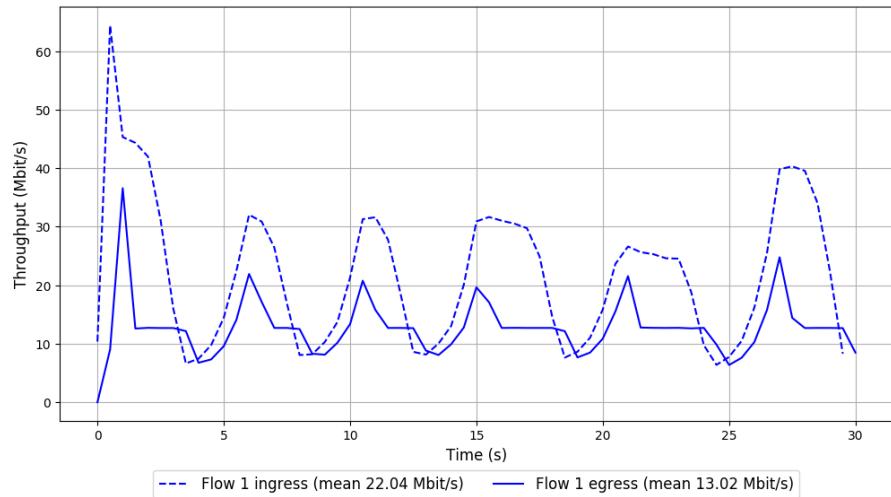


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-10-09 18:09:05
End at: 2018-10-09 18:09:35
Local clock offset: -4.002 ms
Remote clock offset: -5.206 ms

# Below is generated by plot.py at 2018-10-09 20:00:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.02 Mbit/s
95th percentile per-packet one-way delay: 30.347 ms
Loss rate: 40.92%
-- Flow 1:
Average throughput: 13.02 Mbit/s
95th percentile per-packet one-way delay: 30.347 ms
Loss rate: 40.92%
```

Run 1: Report of PCC-Expr — Data Link

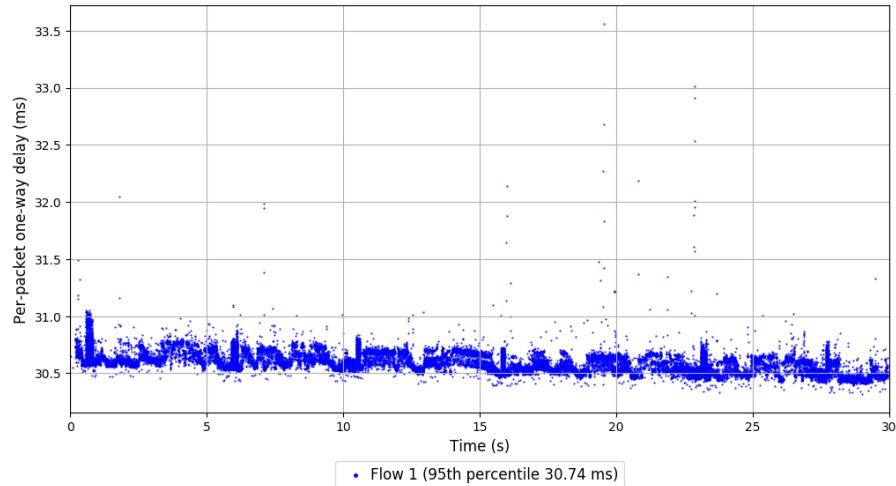
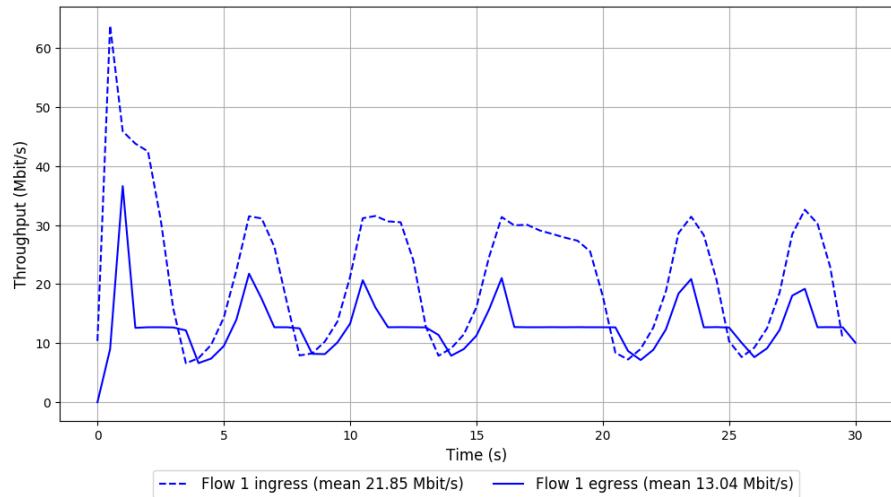


Run 2: Statistics of PCC-Expr

```
Start at: 2018-10-09 18:32:47
End at: 2018-10-09 18:33:17
Local clock offset: -4.93 ms
Remote clock offset: -4.737 ms

# Below is generated by plot.py at 2018-10-09 20:00:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.04 Mbit/s
95th percentile per-packet one-way delay: 30.740 ms
Loss rate: 40.32%
-- Flow 1:
Average throughput: 13.04 Mbit/s
95th percentile per-packet one-way delay: 30.740 ms
Loss rate: 40.32%
```

## Run 2: Report of PCC-Expr — Data Link

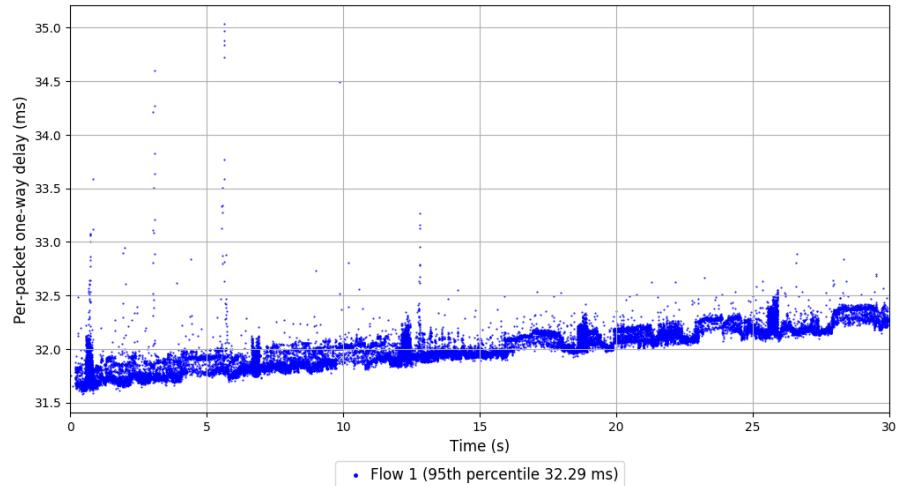
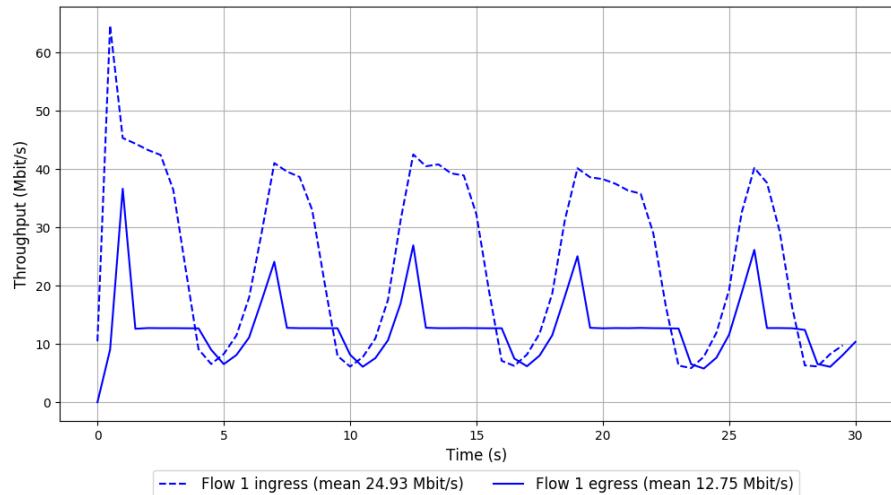


Run 3: Statistics of PCC-Expr

```
Start at: 2018-10-09 18:56:37
End at: 2018-10-09 18:57:07
Local clock offset: -13.209 ms
Remote clock offset: -4.519 ms

# Below is generated by plot.py at 2018-10-09 20:00:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.75 Mbit/s
95th percentile per-packet one-way delay: 32.289 ms
Loss rate: 48.86%
-- Flow 1:
Average throughput: 12.75 Mbit/s
95th percentile per-packet one-way delay: 32.289 ms
Loss rate: 48.86%
```

### Run 3: Report of PCC-Expr — Data Link

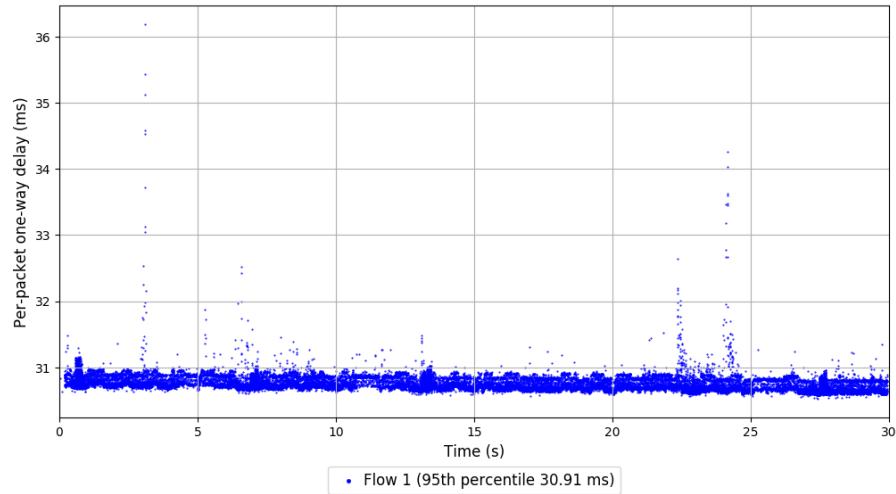
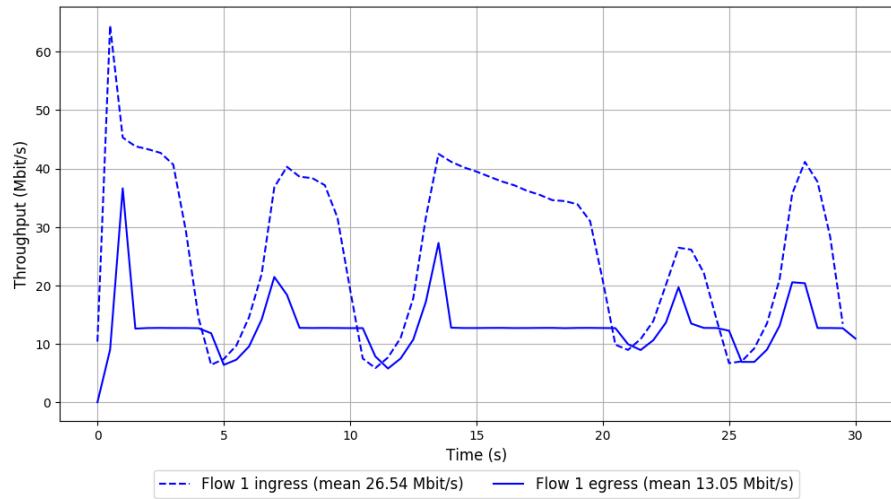


Run 4: Statistics of PCC-Expr

```
Start at: 2018-10-09 19:20:07
End at: 2018-10-09 19:20:37
Local clock offset: -6.897 ms
Remote clock offset: -4.197 ms

# Below is generated by plot.py at 2018-10-09 20:00:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.05 Mbit/s
95th percentile per-packet one-way delay: 30.910 ms
Loss rate: 50.82%
-- Flow 1:
Average throughput: 13.05 Mbit/s
95th percentile per-packet one-way delay: 30.910 ms
Loss rate: 50.82%
```

## Run 4: Report of PCC-Expr — Data Link

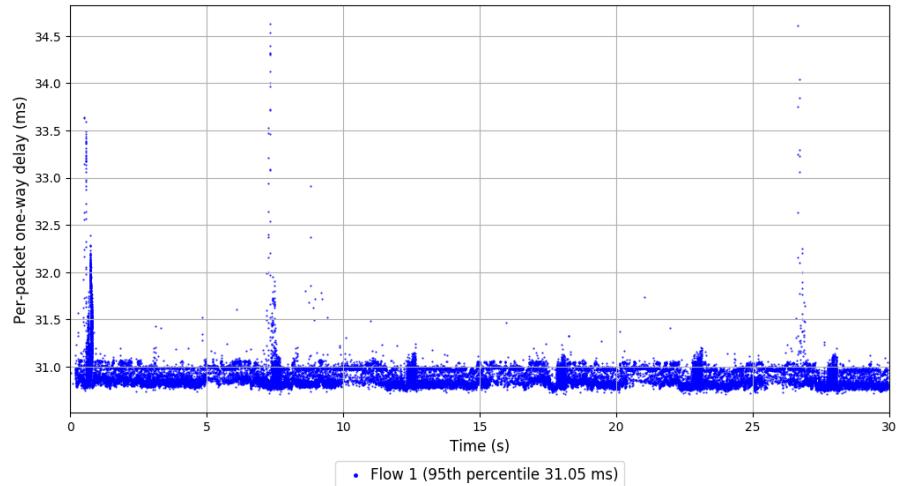
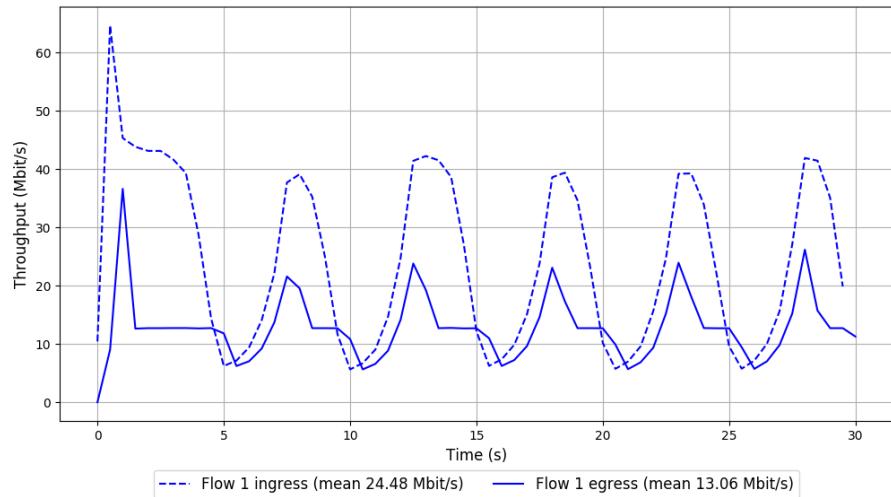


Run 5: Statistics of PCC-Expr

```
Start at: 2018-10-09 19:43:35
End at: 2018-10-09 19:44:05
Local clock offset: -2.444 ms
Remote clock offset: -4.034 ms

# Below is generated by plot.py at 2018-10-09 20:00:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.06 Mbit/s
95th percentile per-packet one-way delay: 31.052 ms
Loss rate: 46.65%
-- Flow 1:
Average throughput: 13.06 Mbit/s
95th percentile per-packet one-way delay: 31.052 ms
Loss rate: 46.65%
```

## Run 5: Report of PCC-Expr — Data Link

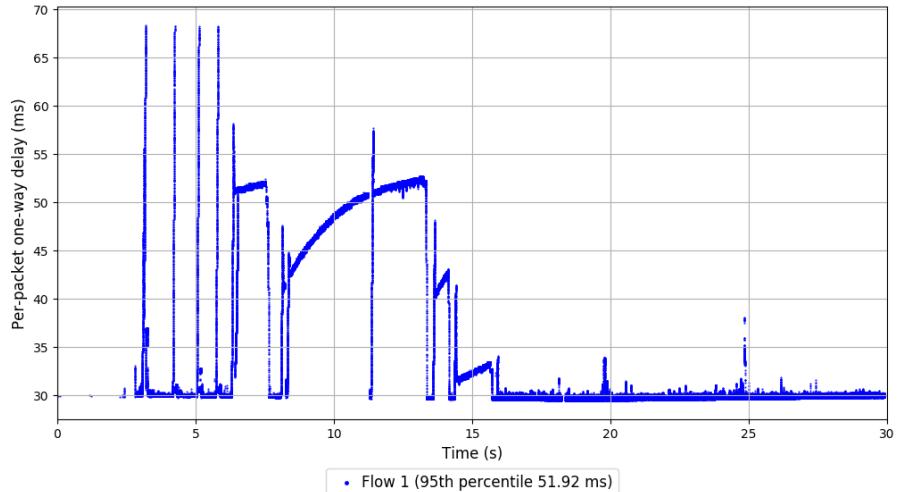
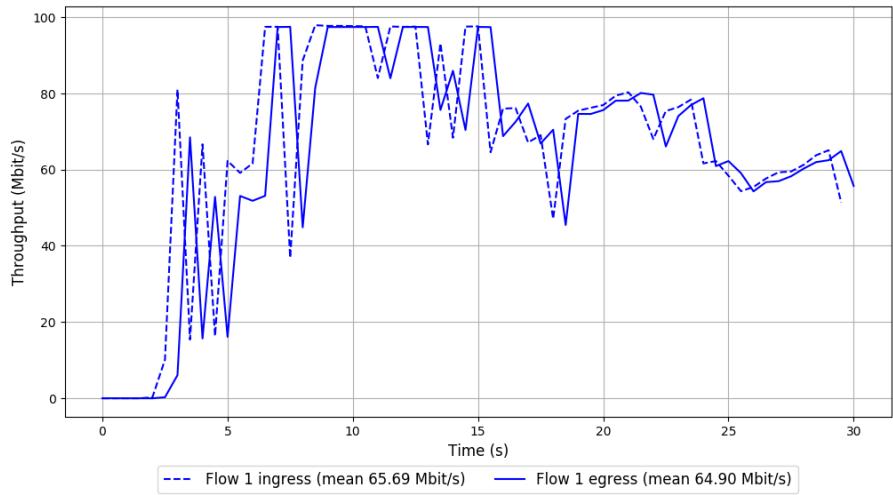


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-10-09 17:58:34
End at: 2018-10-09 17:59:04
Local clock offset: -0.619 ms
Remote clock offset: -4.902 ms

# Below is generated by plot.py at 2018-10-09 20:00:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.90 Mbit/s
95th percentile per-packet one-way delay: 51.916 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 64.90 Mbit/s
95th percentile per-packet one-way delay: 51.916 ms
Loss rate: 1.20%
```

Run 1: Report of QUIC Cubic — Data Link

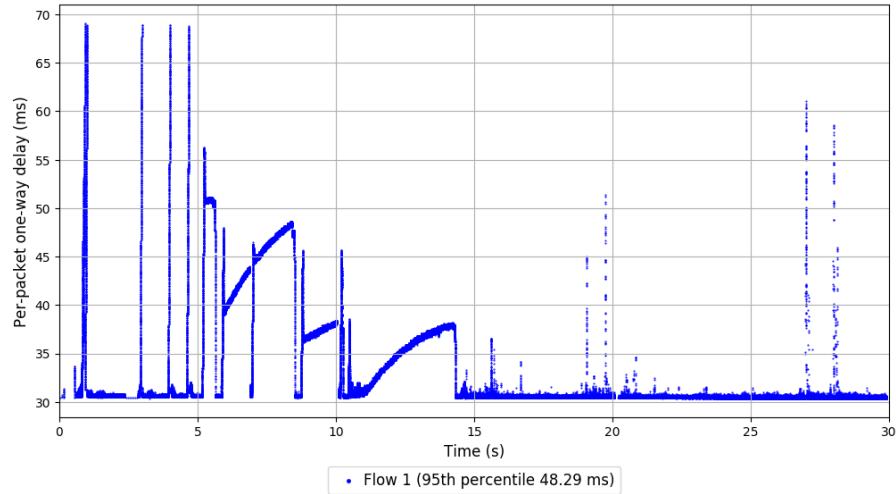
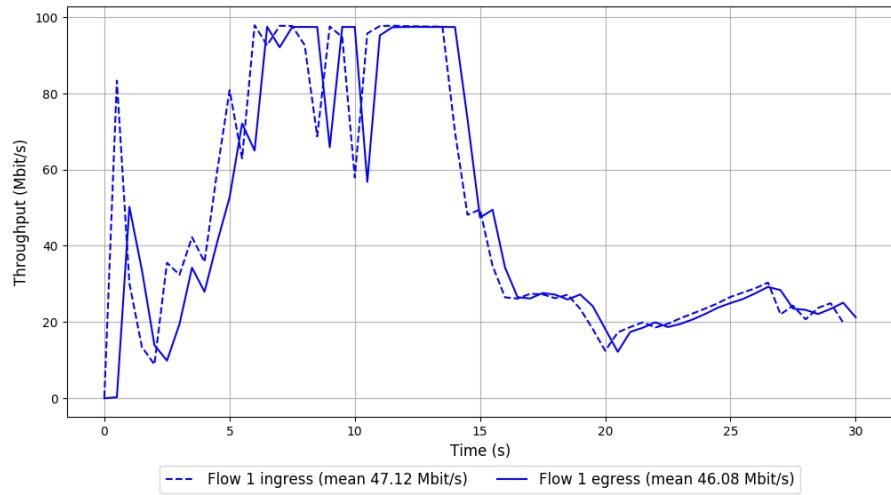


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-10-09 18:22:02
End at: 2018-10-09 18:22:32
Local clock offset: -2.755 ms
Remote clock offset: -4.91 ms

# Below is generated by plot.py at 2018-10-09 20:00:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.08 Mbit/s
95th percentile per-packet one-way delay: 48.294 ms
Loss rate: 2.20%
-- Flow 1:
Average throughput: 46.08 Mbit/s
95th percentile per-packet one-way delay: 48.294 ms
Loss rate: 2.20%
```

## Run 2: Report of QUIC Cubic — Data Link

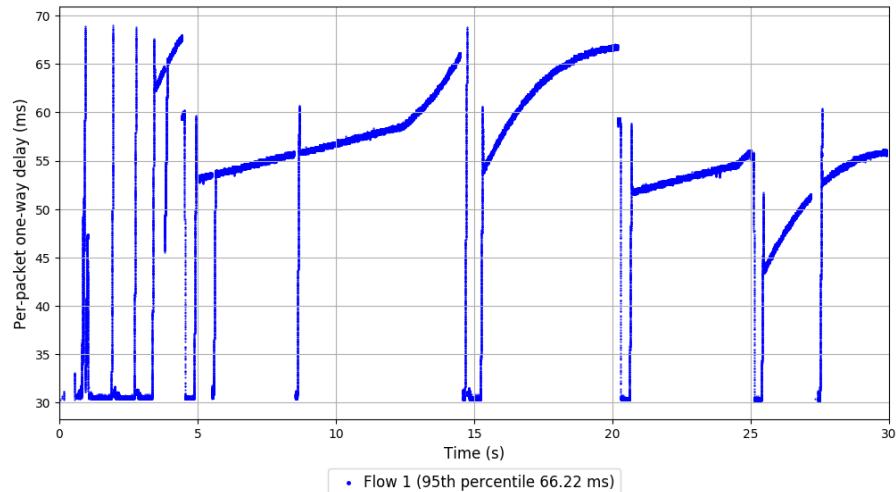
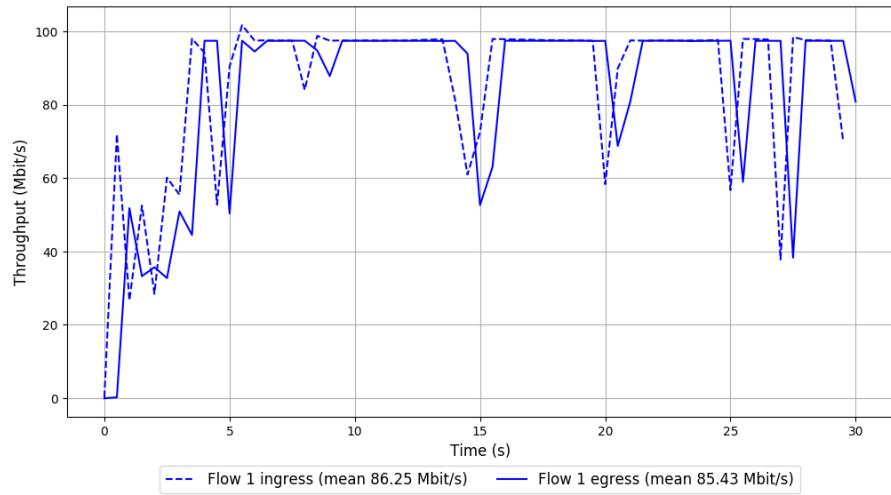


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-10-09 18:46:02
End at: 2018-10-09 18:46:32
Local clock offset: -10.406 ms
Remote clock offset: -4.581 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.43 Mbit/s
95th percentile per-packet one-way delay: 66.216 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 85.43 Mbit/s
95th percentile per-packet one-way delay: 66.216 ms
Loss rate: 0.86%
```

### Run 3: Report of QUIC Cubic — Data Link

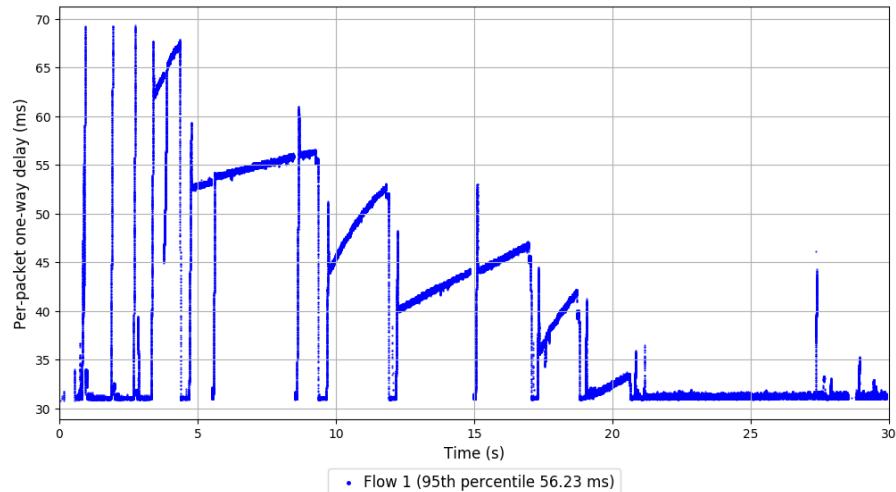
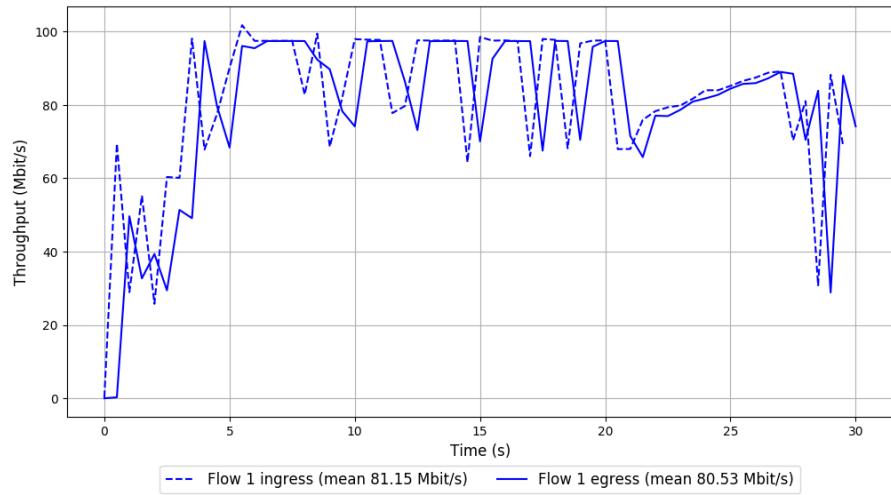


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-10-09 19:09:34
End at: 2018-10-09 19:10:04
Local clock offset: -5.938 ms
Remote clock offset: -4.115 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.53 Mbit/s
95th percentile per-packet one-way delay: 56.233 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 80.53 Mbit/s
95th percentile per-packet one-way delay: 56.233 ms
Loss rate: 0.77%
```

## Run 4: Report of QUIC Cubic — Data Link

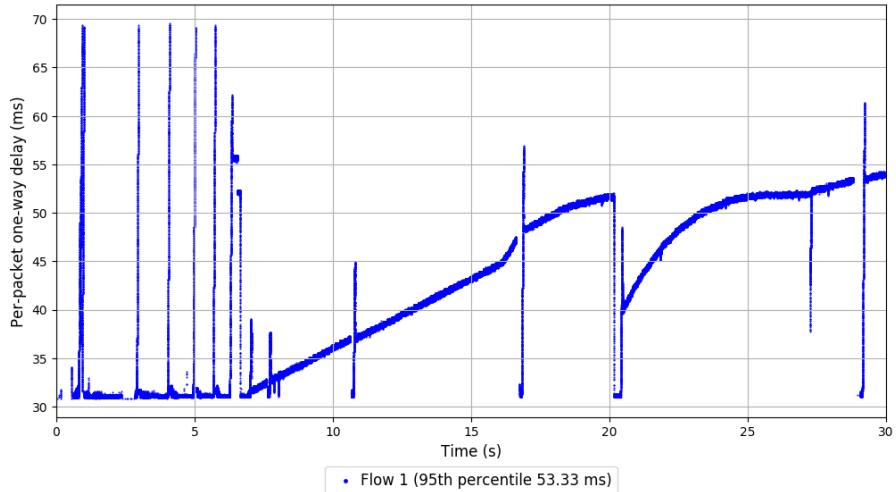
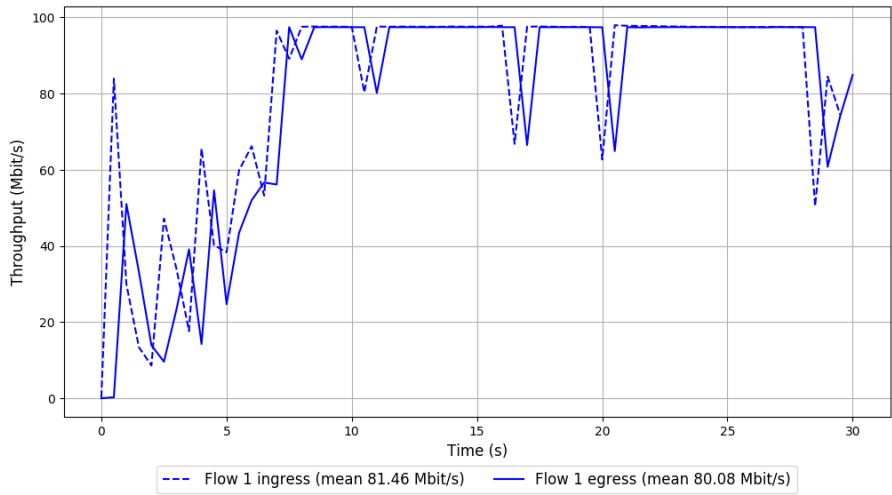


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-10-09 19:33:02
End at: 2018-10-09 19:33:32
Local clock offset: -3.428 ms
Remote clock offset: -4.096 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.08 Mbit/s
95th percentile per-packet one-way delay: 53.325 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 80.08 Mbit/s
95th percentile per-packet one-way delay: 53.325 ms
Loss rate: 1.62%
```

### Run 5: Report of QUIC Cubic — Data Link

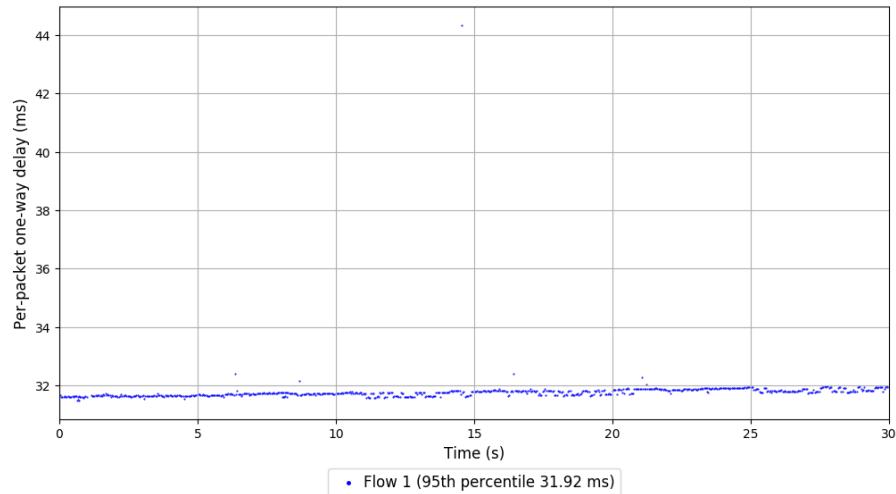
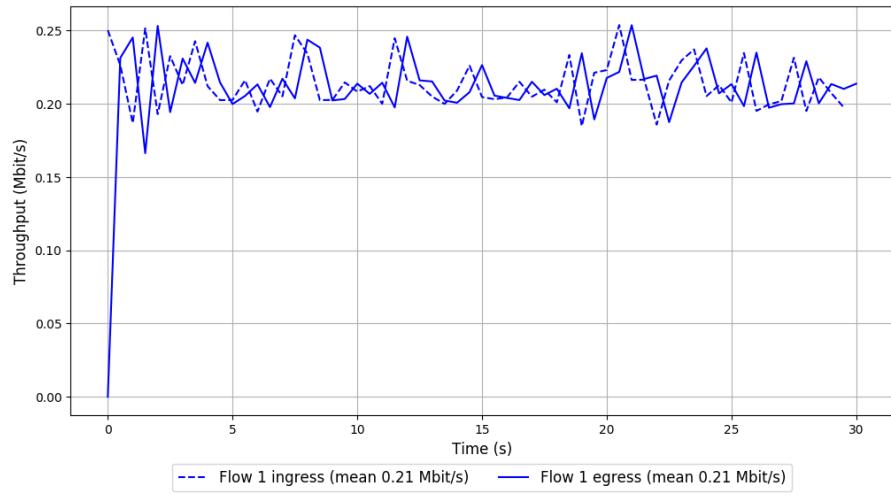


Run 1: Statistics of SCReAM

```
Start at: 2018-10-09 18:14:15
End at: 2018-10-09 18:14:45
Local clock offset: -3.89 ms
Remote clock offset: -5.037 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.924 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.924 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

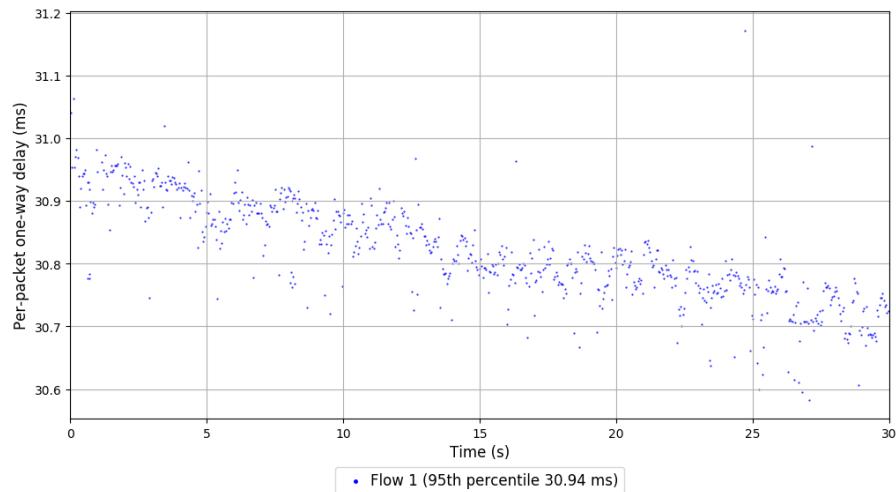
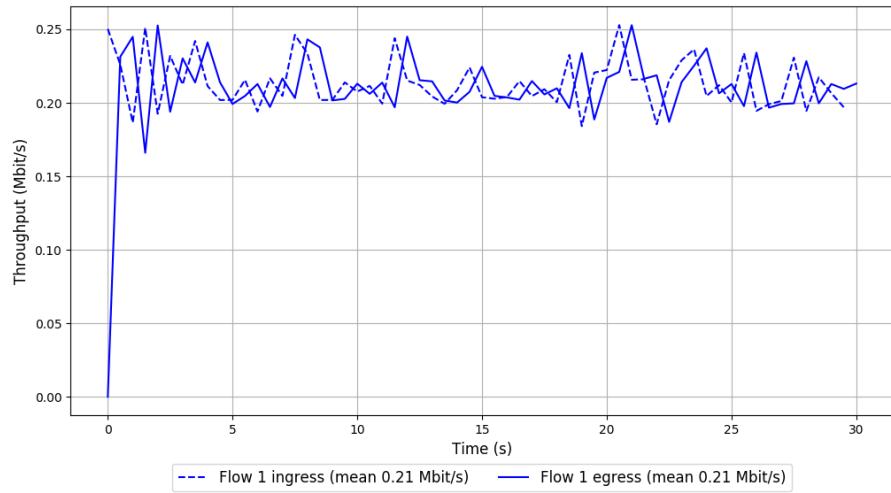


Run 2: Statistics of SCReAM

```
Start at: 2018-10-09 18:38:13
End at: 2018-10-09 18:38:43
Local clock offset: -6.875 ms
Remote clock offset: -4.49 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.944 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.944 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

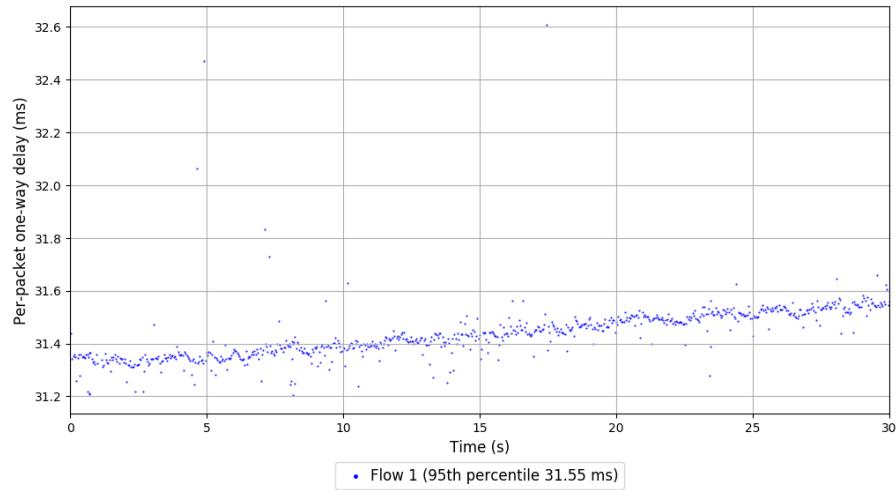
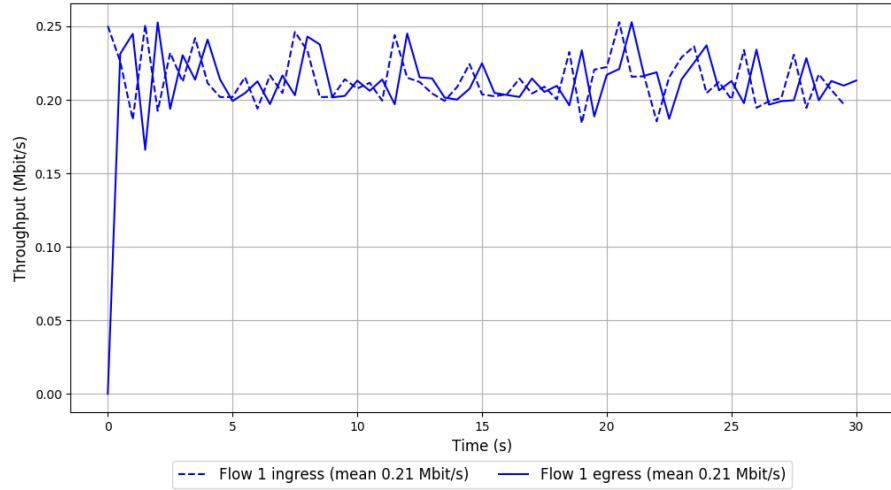


Run 3: Statistics of SCReAM

```
Start at: 2018-10-09 19:01:49
End at: 2018-10-09 19:02:19
Local clock offset: -8.149 ms
Remote clock offset: -4.287 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.548 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.548 ms
Loss rate: 0.00%
```

### Run 3: Report of SCReAM — Data Link

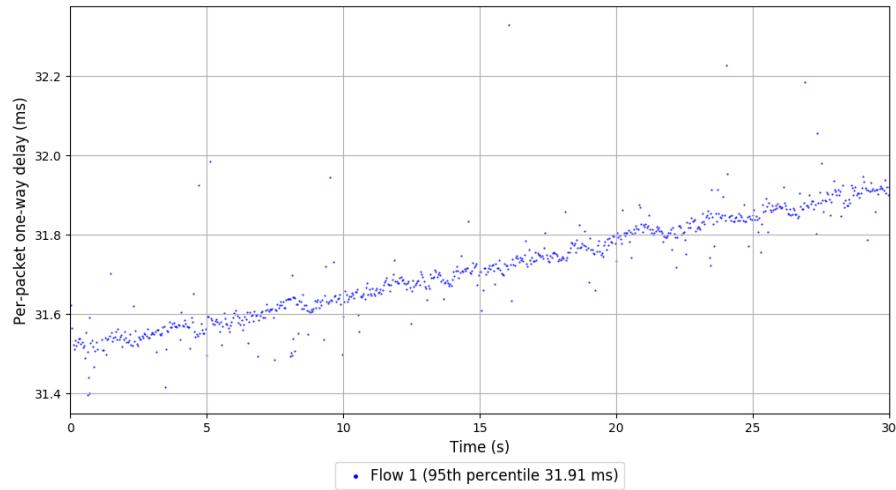
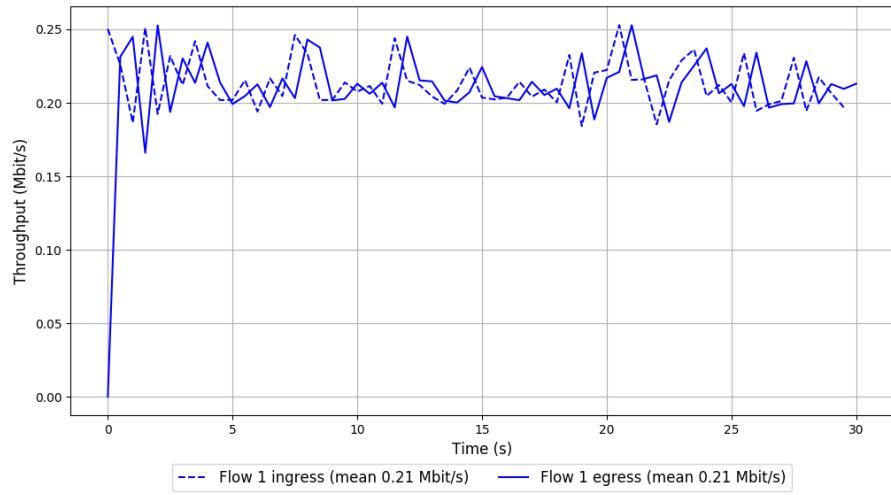


Run 4: Statistics of SCReAM

```
Start at: 2018-10-09 19:25:17
End at: 2018-10-09 19:25:48
Local clock offset: -7.938 ms
Remote clock offset: -4.185 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.911 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.911 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

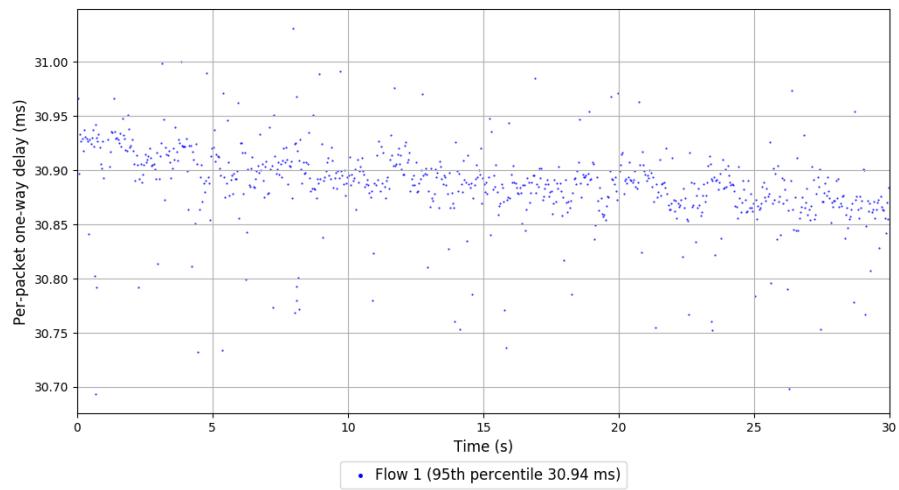
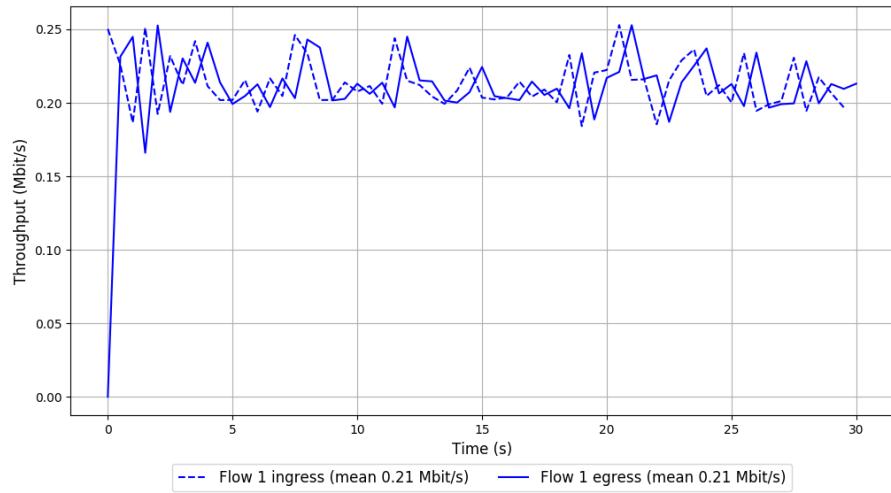


Run 5: Statistics of SCReAM

```
Start at: 2018-10-09 19:48:46
End at: 2018-10-09 19:49:16
Local clock offset: -2.73 ms
Remote clock offset: -3.923 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.936 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.936 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

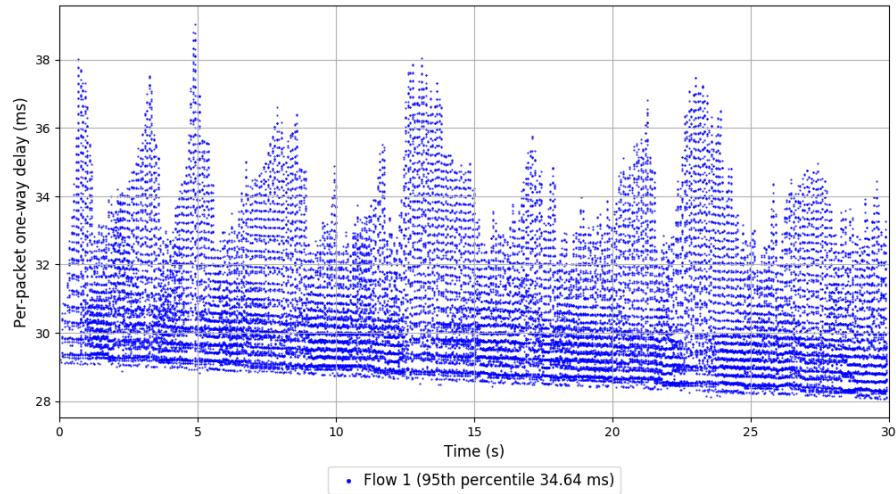
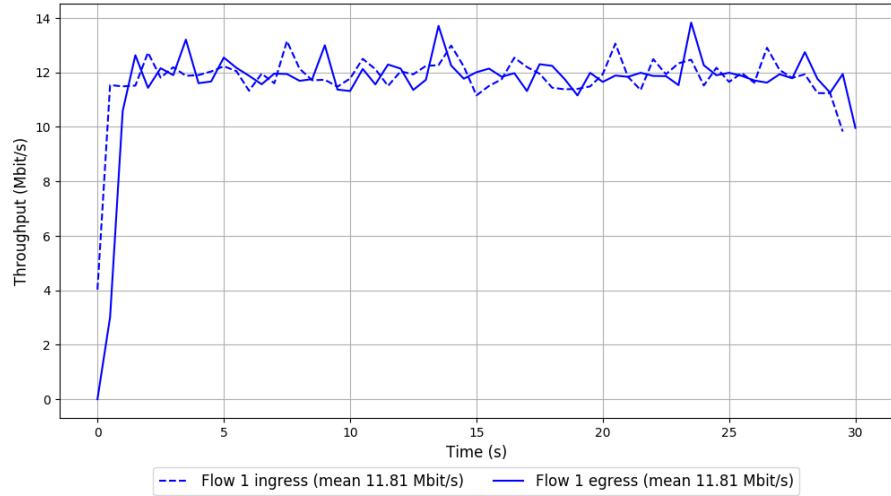


Run 1: Statistics of Sprout

```
Start at: 2018-10-09 17:57:18
End at: 2018-10-09 17:57:48
Local clock offset: 2.641 ms
Remote clock offset: -4.96 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.81 Mbit/s
95th percentile per-packet one-way delay: 34.644 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.81 Mbit/s
95th percentile per-packet one-way delay: 34.644 ms
Loss rate: 0.00%
```

## Run 1: Report of Sprout — Data Link

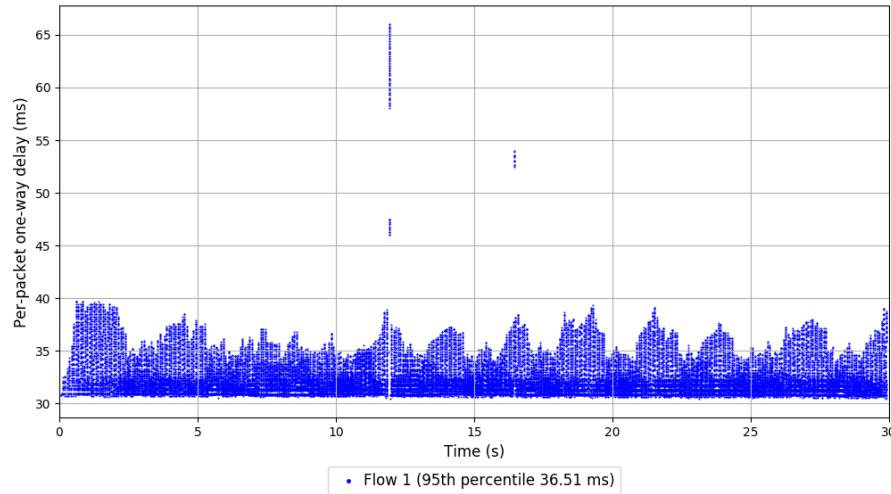
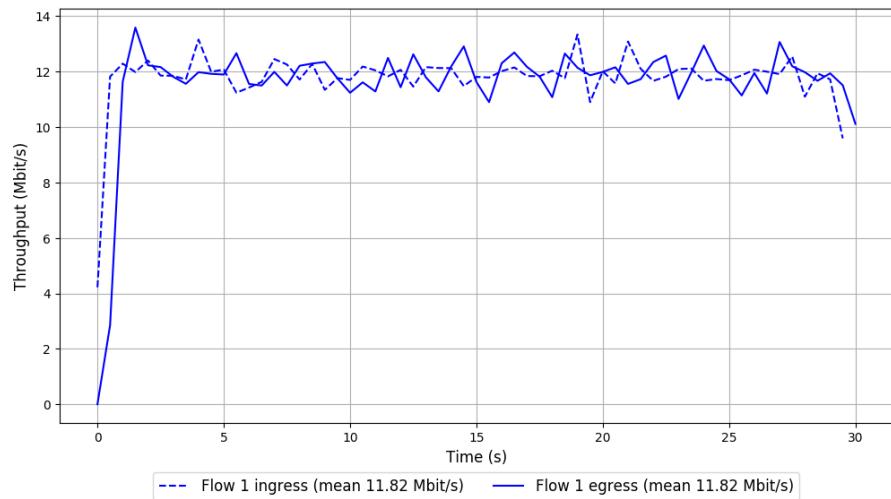


Run 2: Statistics of Sprout

```
Start at: 2018-10-09 18:20:46
End at: 2018-10-09 18:21:16
Local clock offset: -2.334 ms
Remote clock offset: -4.935 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 36.506 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 36.506 ms
Loss rate: 0.01%
```

## Run 2: Report of Sprout — Data Link

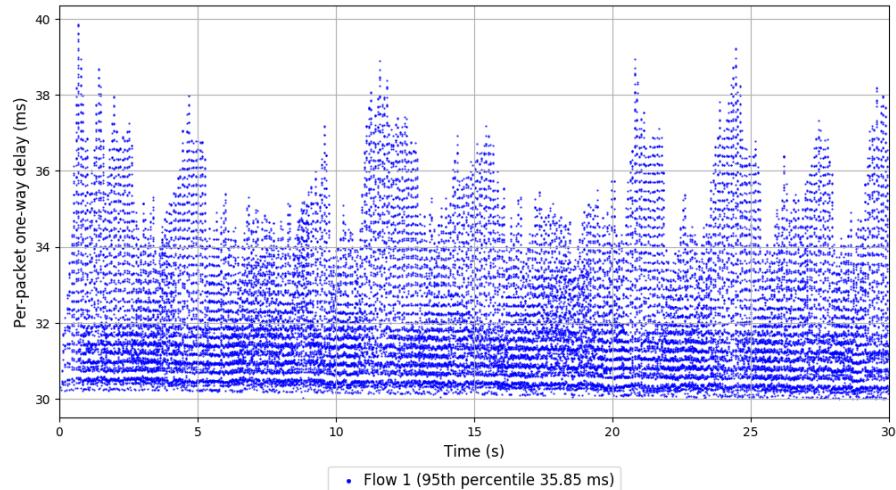
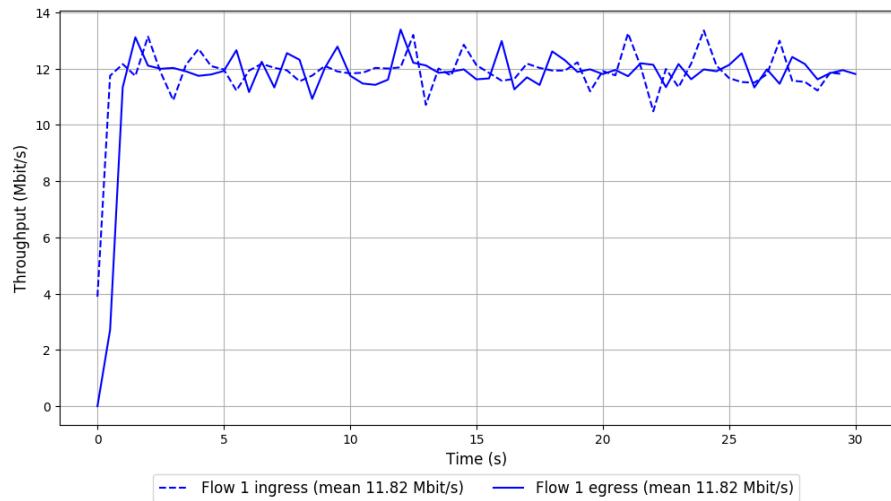


Run 3: Statistics of Sprout

```
Start at: 2018-10-09 18:44:45
End at: 2018-10-09 18:45:15
Local clock offset: -9.755 ms
Remote clock offset: -4.771 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 35.848 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.82 Mbit/s
95th percentile per-packet one-way delay: 35.848 ms
Loss rate: 0.00%
```

### Run 3: Report of Sprout — Data Link

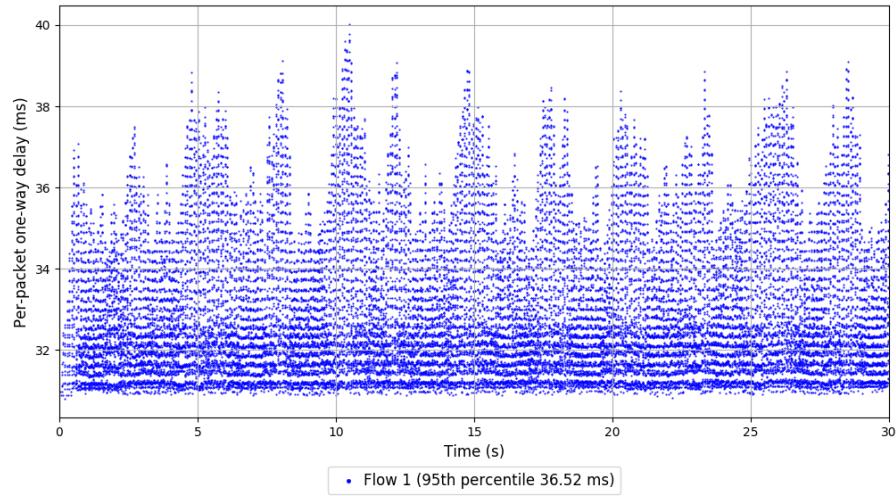
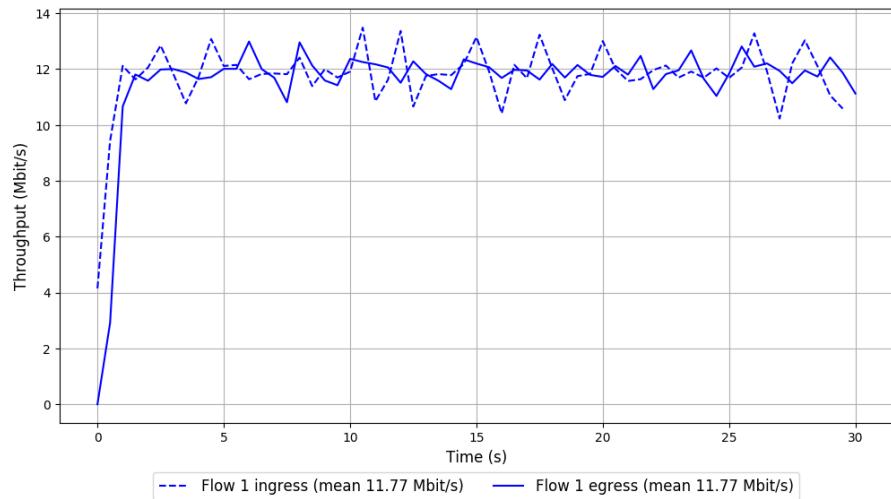


Run 4: Statistics of Sprout

```
Start at: 2018-10-09 19:08:18
End at: 2018-10-09 19:08:48
Local clock offset: -6.076 ms
Remote clock offset: -4.273 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.77 Mbit/s
95th percentile per-packet one-way delay: 36.521 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.77 Mbit/s
95th percentile per-packet one-way delay: 36.521 ms
Loss rate: 0.00%
```

## Run 4: Report of Sprout — Data Link

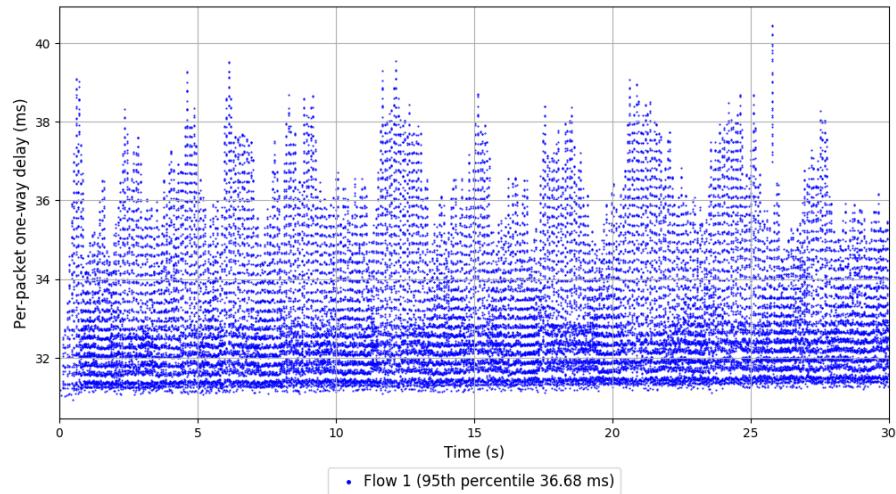
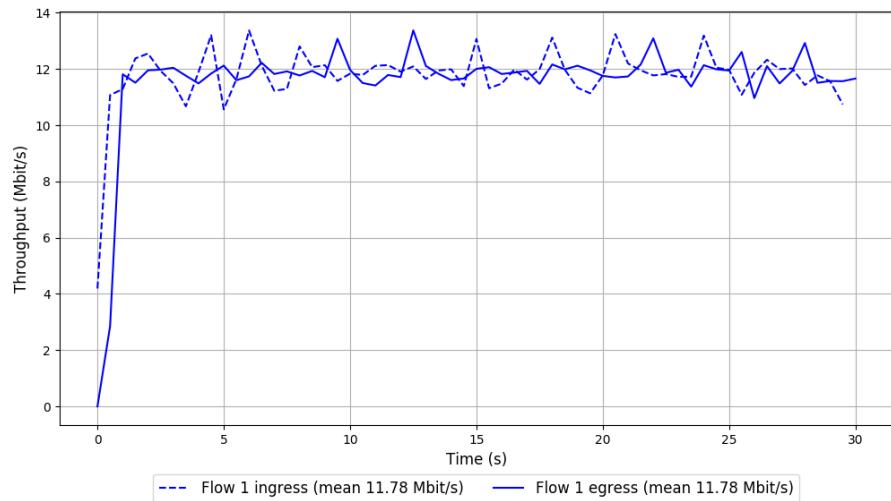


Run 5: Statistics of Sprout

```
Start at: 2018-10-09 19:31:46
End at: 2018-10-09 19:32:16
Local clock offset: -3.882 ms
Remote clock offset: -4.134 ms

# Below is generated by plot.py at 2018-10-09 20:00:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 36.676 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 36.676 ms
Loss rate: 0.00%
```

## Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

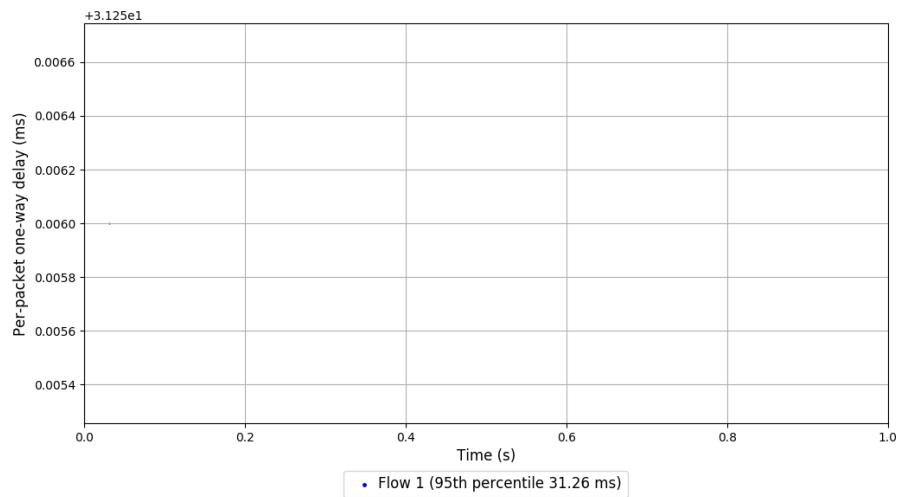
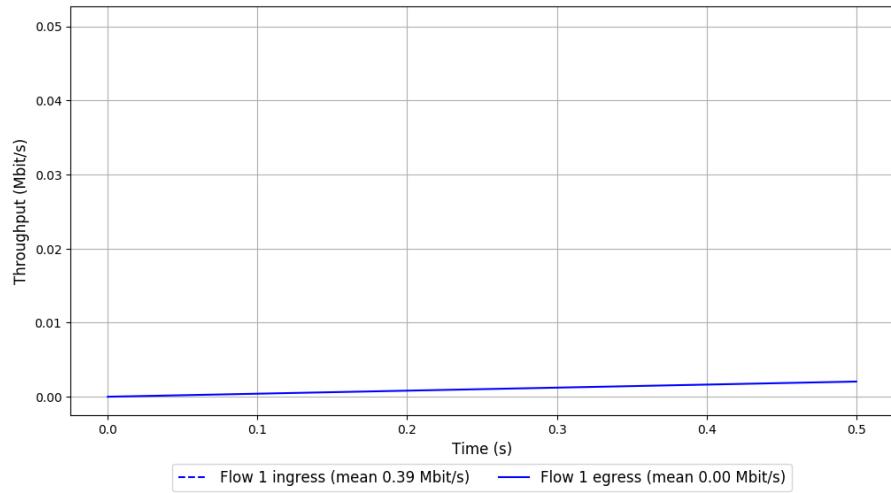
Start at: 2018-10-09 17:59:53

End at: 2018-10-09 18:00:23

Local clock offset: -1.747 ms

Remote clock offset: -5.256 ms

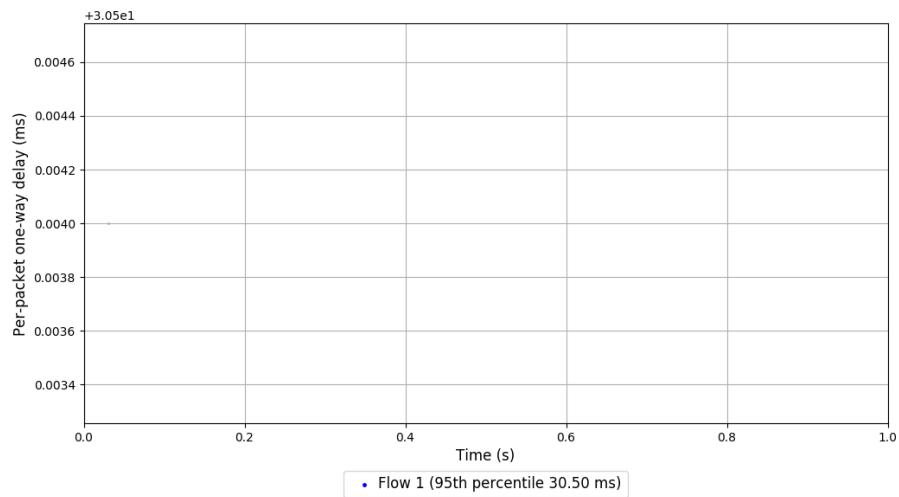
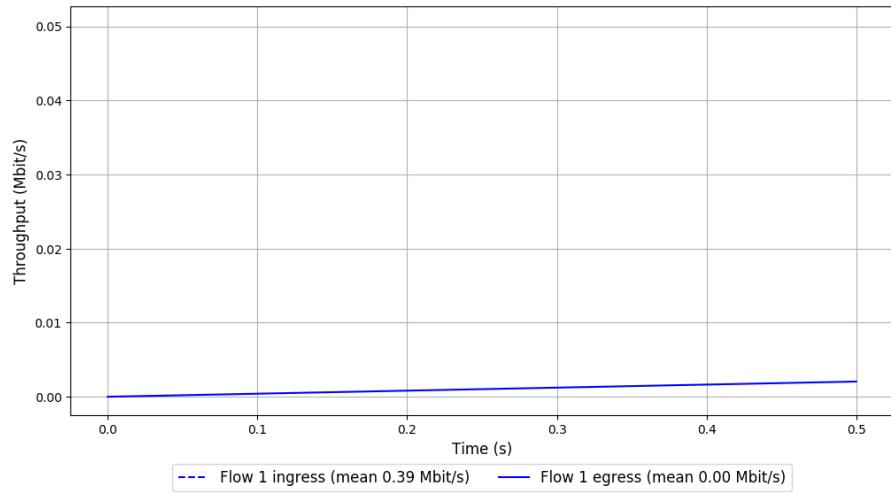
Run 1: Report of TaoVA-100x — Data Link



Run 2: Statistics of TaoVA-100x

Start at: 2018-10-09 18:23:21  
End at: 2018-10-09 18:23:51  
Local clock offset: -3.227 ms  
Remote clock offset: -5.003 ms

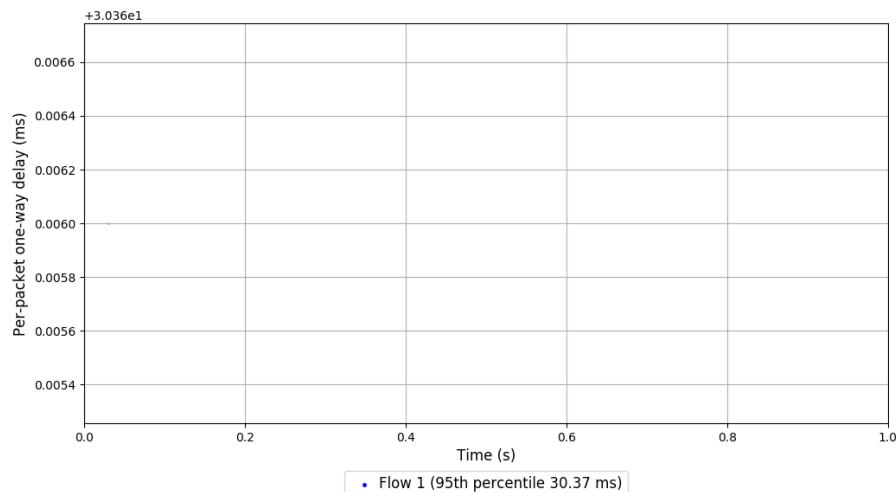
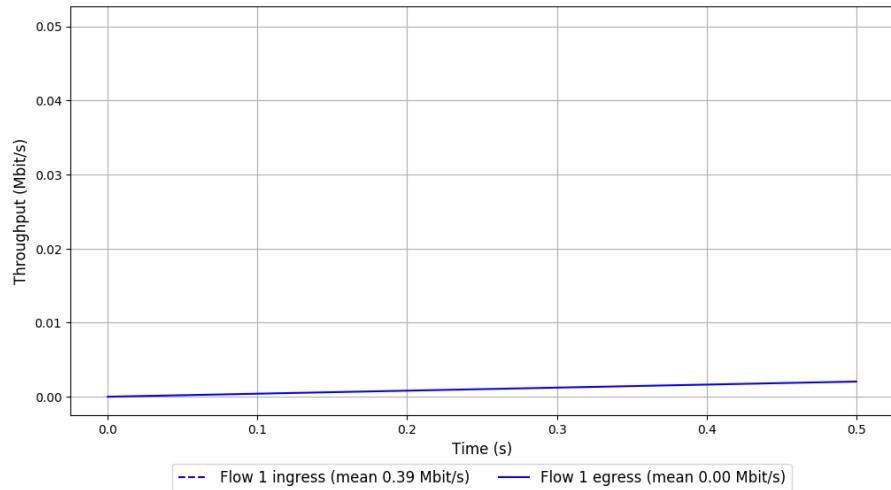
## Run 2: Report of TaoVA-100x — Data Link



Run 3: Statistics of TaoVA-100x

Start at: 2018-10-09 18:47:22  
End at: 2018-10-09 18:47:52  
Local clock offset: -11.043 ms  
Remote clock offset: -4.581 ms

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



Run 4: Statistics of TaoVA-100x

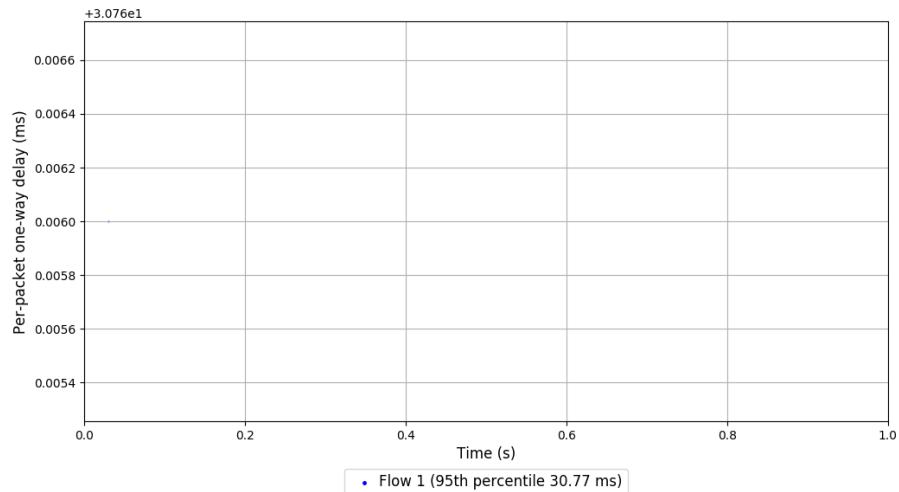
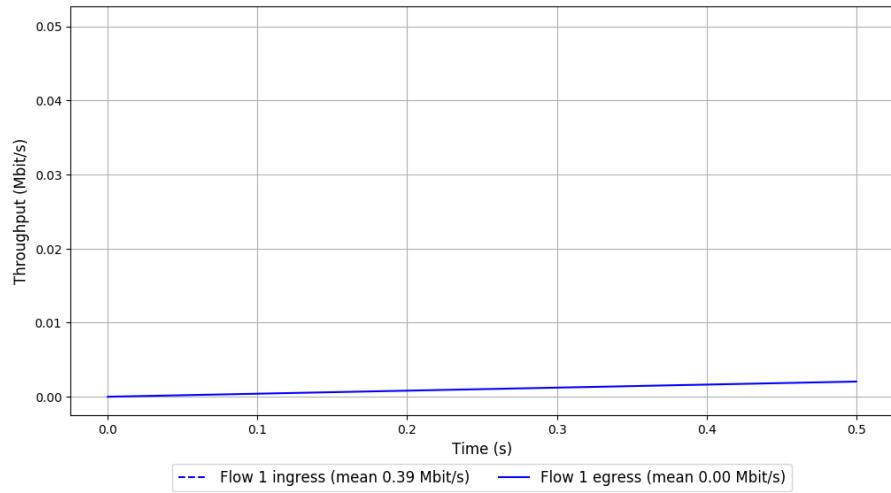
Start at: 2018-10-09 19:10:53

End at: 2018-10-09 19:11:24

Local clock offset: -5.9 ms

Remote clock offset: -4.466 ms

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



Run 5: Statistics of TaoVA-100x

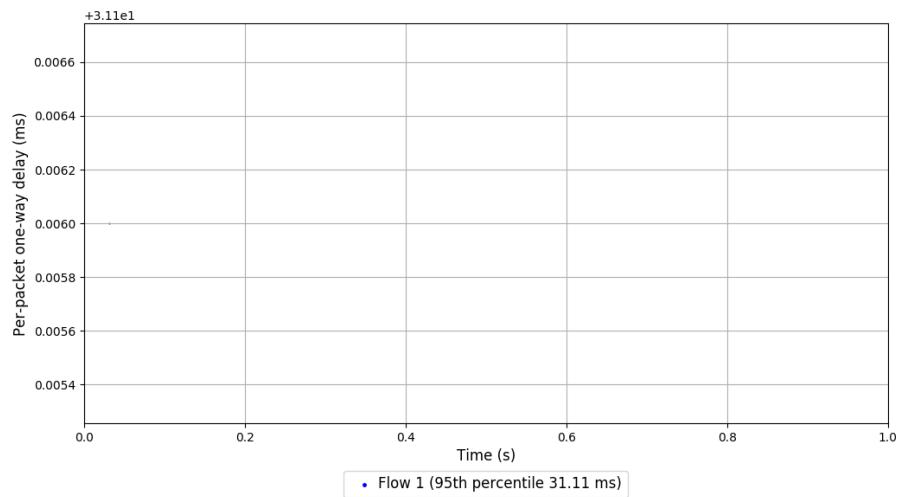
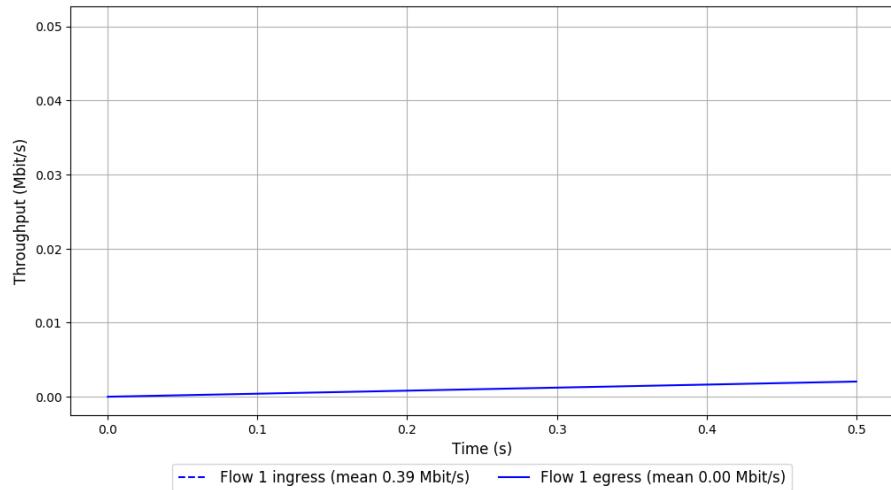
Start at: 2018-10-09 19:34:21

End at: 2018-10-09 19:34:51

Local clock offset: -3.1 ms

Remote clock offset: -4.04 ms

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

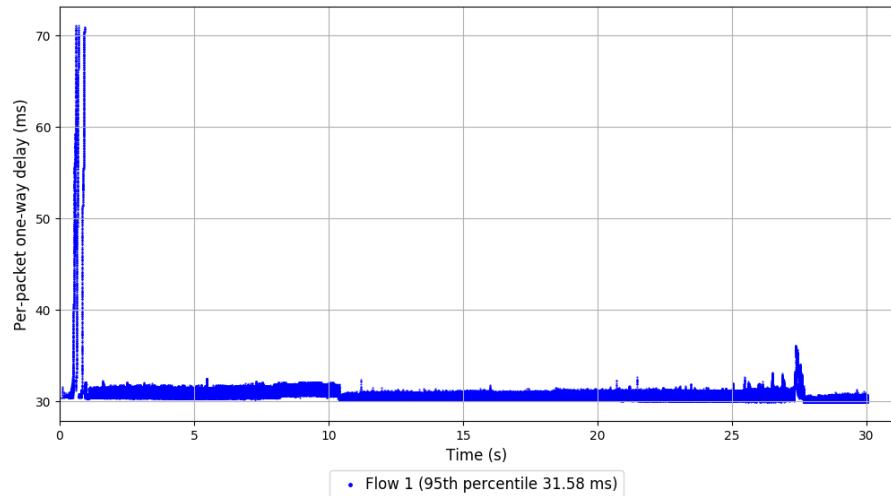
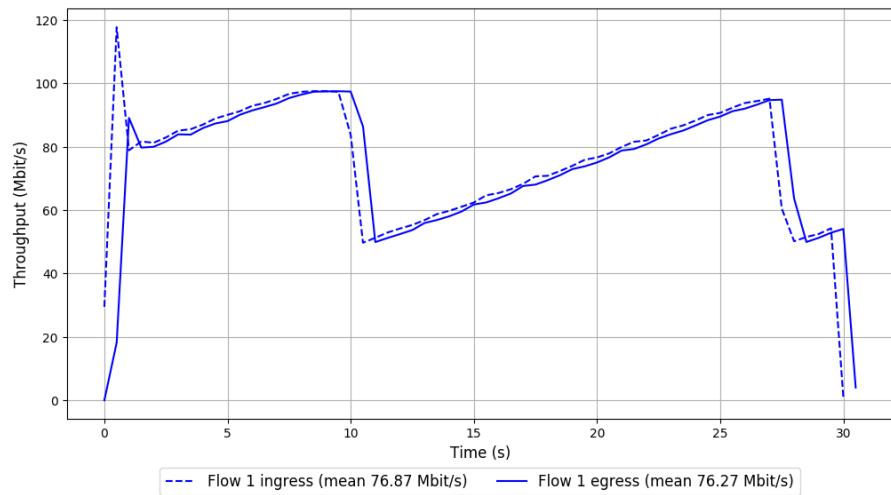


Run 1: Statistics of TCP Vegas

```
Start at: 2018-10-09 18:01:09
End at: 2018-10-09 18:01:39
Local clock offset: -1.448 ms
Remote clock offset: -5.118 ms

# Below is generated by plot.py at 2018-10-09 20:01:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.27 Mbit/s
95th percentile per-packet one-way delay: 31.582 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 76.27 Mbit/s
95th percentile per-packet one-way delay: 31.582 ms
Loss rate: 0.77%
```

### Run 1: Report of TCP Vegas — Data Link

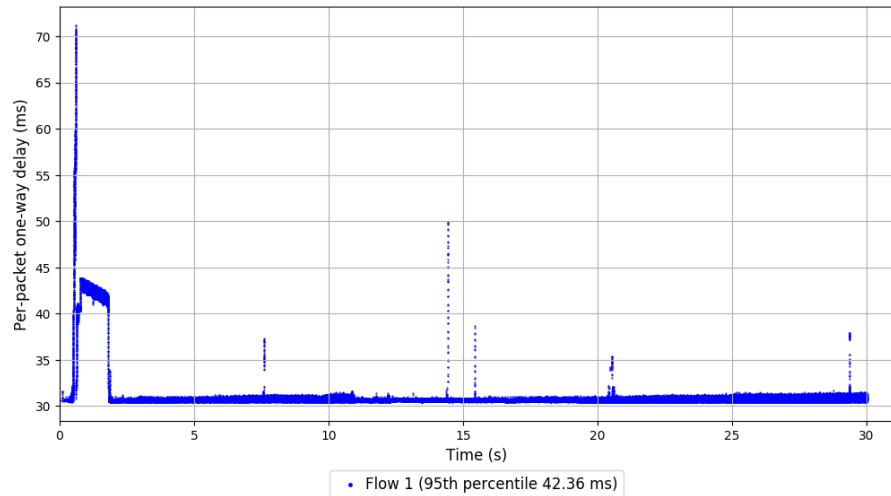
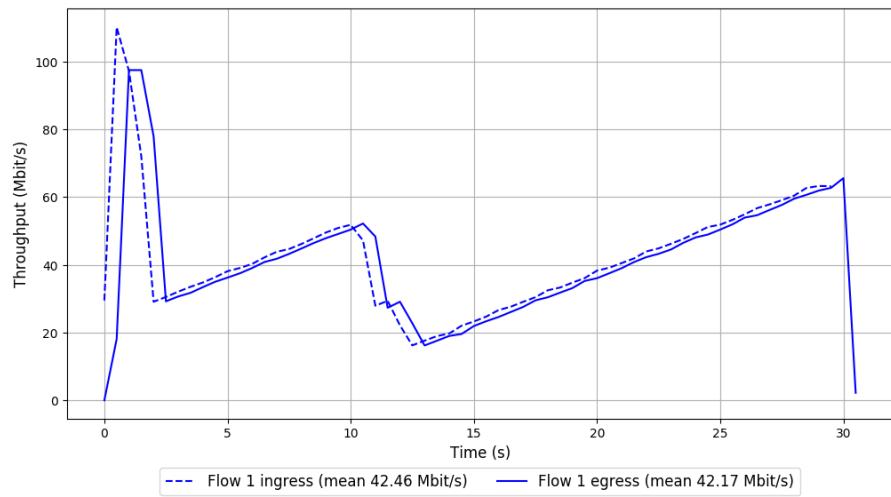


Run 2: Statistics of TCP Vegas

```
Start at: 2018-10-09 18:24:36
End at: 2018-10-09 18:25:06
Local clock offset: -3.759 ms
Remote clock offset: -4.872 ms

# Below is generated by plot.py at 2018-10-09 20:01:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.17 Mbit/s
95th percentile per-packet one-way delay: 42.360 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 42.17 Mbit/s
95th percentile per-packet one-way delay: 42.360 ms
Loss rate: 0.67%
```

## Run 2: Report of TCP Vegas — Data Link

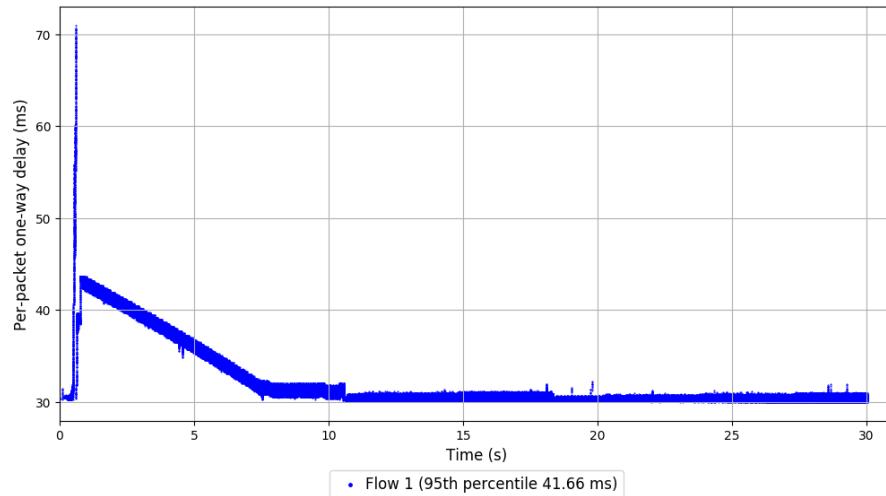
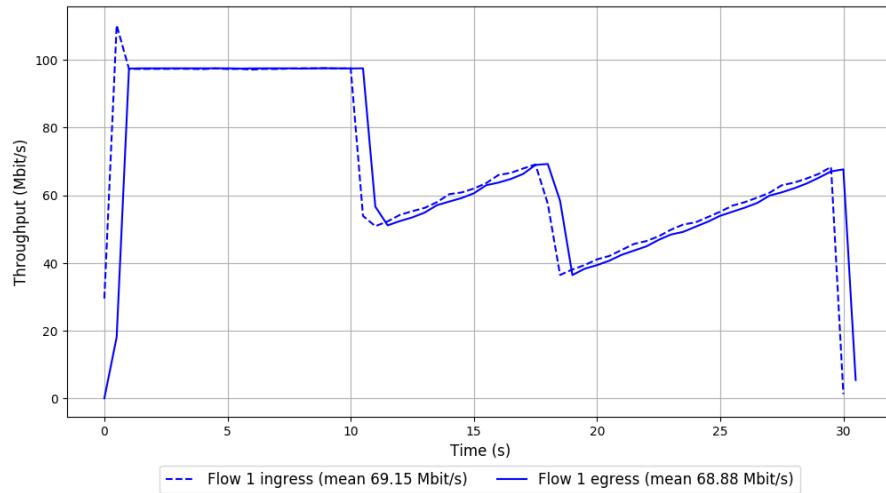


Run 3: Statistics of TCP Vegas

```
Start at: 2018-10-09 18:48:38
End at: 2018-10-09 18:49:08
Local clock offset: -11.685 ms
Remote clock offset: -4.698 ms

# Below is generated by plot.py at 2018-10-09 20:01:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.88 Mbit/s
95th percentile per-packet one-way delay: 41.665 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 68.88 Mbit/s
95th percentile per-packet one-way delay: 41.665 ms
Loss rate: 0.39%
```

### Run 3: Report of TCP Vegas — Data Link

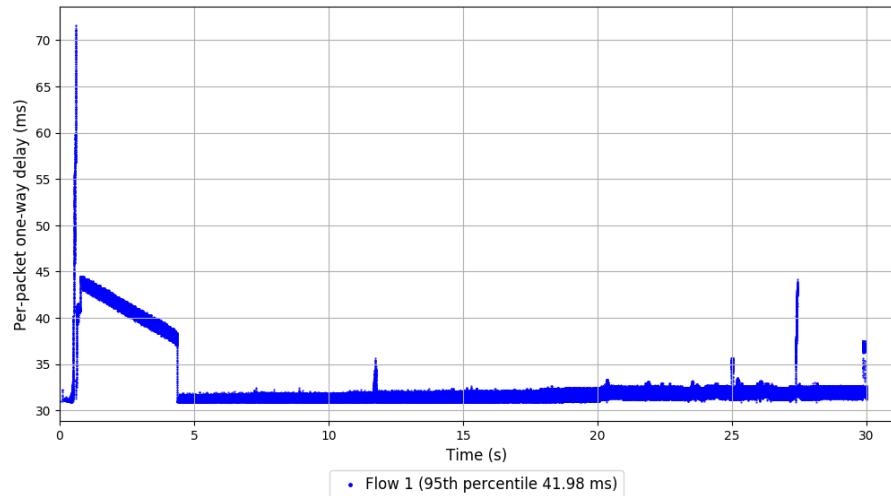
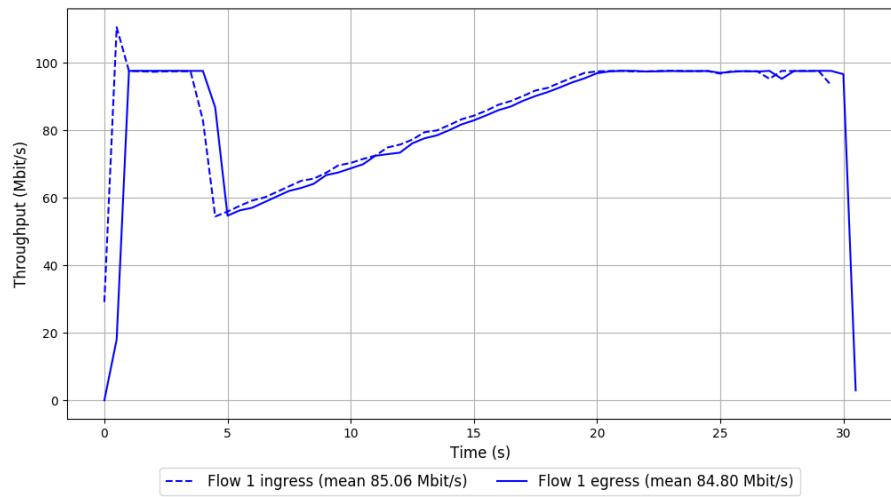


Run 4: Statistics of TCP Vegas

```
Start at: 2018-10-09 19:12:09
End at: 2018-10-09 19:12:39
Local clock offset: -5.919 ms
Remote clock offset: -4.128 ms

# Below is generated by plot.py at 2018-10-09 20:01:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.80 Mbit/s
95th percentile per-packet one-way delay: 41.976 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 84.80 Mbit/s
95th percentile per-packet one-way delay: 41.976 ms
Loss rate: 0.31%
```

## Run 4: Report of TCP Vegas — Data Link

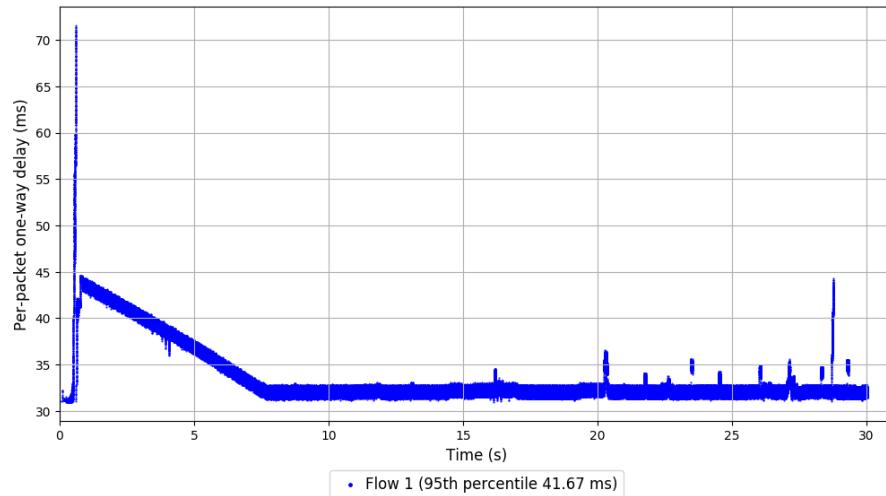
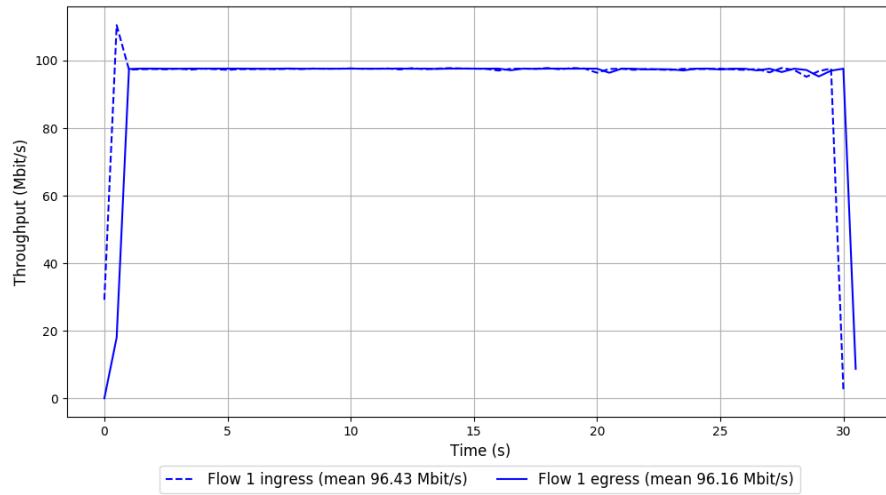


Run 5: Statistics of TCP Vegas

```
Start at: 2018-10-09 19:35:37
End at: 2018-10-09 19:36:07
Local clock offset: -2.866 ms
Remote clock offset: -4.067 ms

# Below is generated by plot.py at 2018-10-09 20:01:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.16 Mbit/s
95th percentile per-packet one-way delay: 41.670 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 96.16 Mbit/s
95th percentile per-packet one-way delay: 41.670 ms
Loss rate: 0.27%
```

### Run 5: Report of TCP Vegas — Data Link

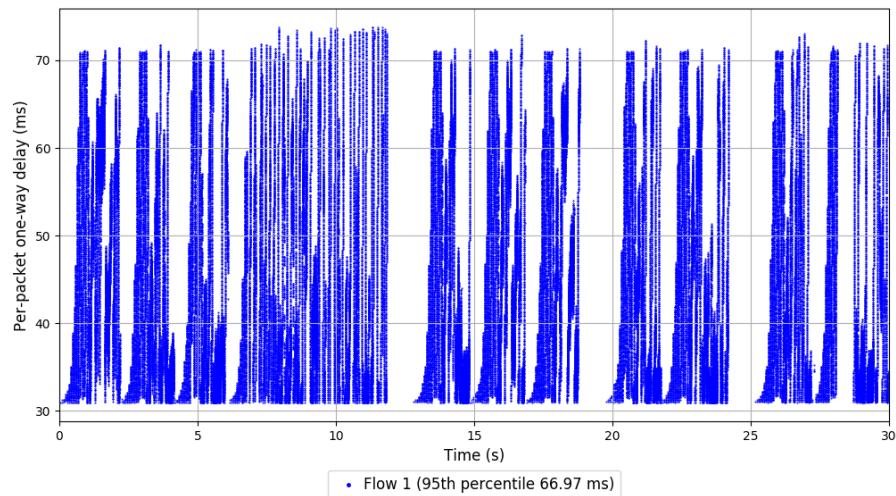
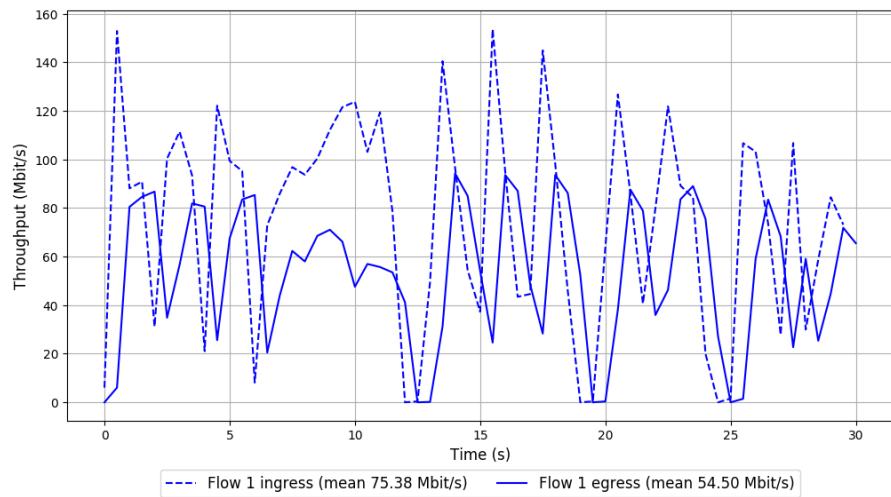


Run 1: Statistics of Verus

```
Start at: 2018-10-09 18:16:50
End at: 2018-10-09 18:17:20
Local clock offset: -2.178 ms
Remote clock offset: -5.013 ms

# Below is generated by plot.py at 2018-10-09 20:01:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.50 Mbit/s
95th percentile per-packet one-way delay: 66.966 ms
Loss rate: 27.69%
-- Flow 1:
Average throughput: 54.50 Mbit/s
95th percentile per-packet one-way delay: 66.966 ms
Loss rate: 27.69%
```

### Run 1: Report of Verus — Data Link

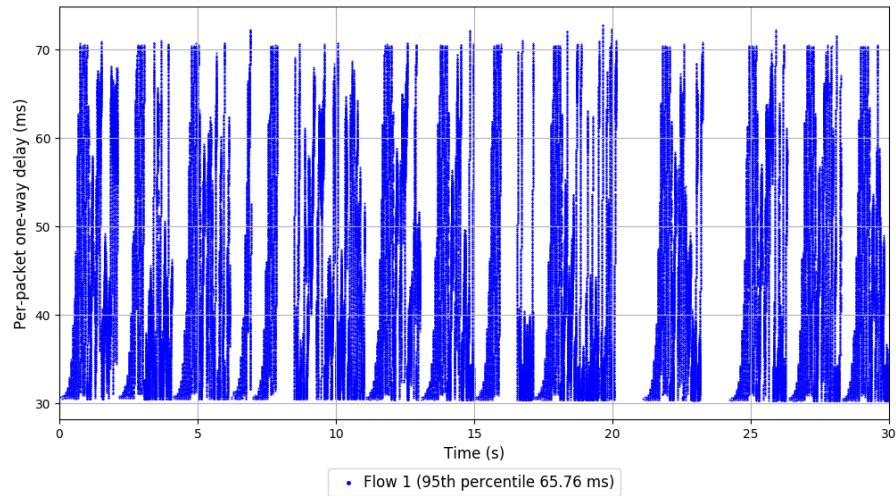
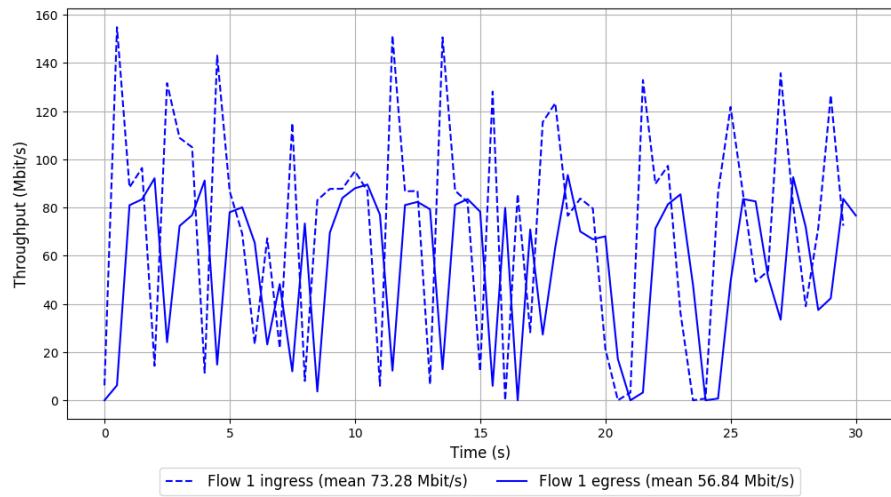


Run 2: Statistics of Verus

```
Start at: 2018-10-09 18:40:50
End at: 2018-10-09 18:41:20
Local clock offset: -7.963 ms
Remote clock offset: -4.578 ms

# Below is generated by plot.py at 2018-10-09 20:01:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.84 Mbit/s
95th percentile per-packet one-way delay: 65.760 ms
Loss rate: 22.43%
-- Flow 1:
Average throughput: 56.84 Mbit/s
95th percentile per-packet one-way delay: 65.760 ms
Loss rate: 22.43%
```

## Run 2: Report of Verus — Data Link

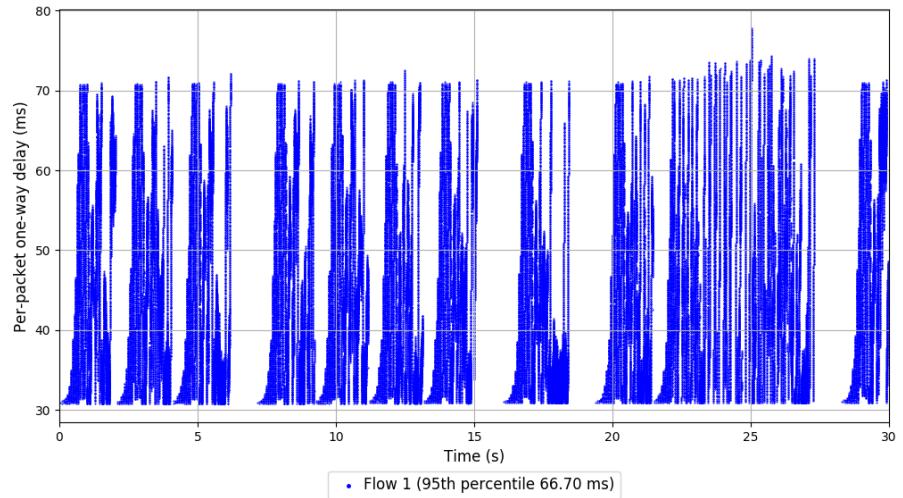
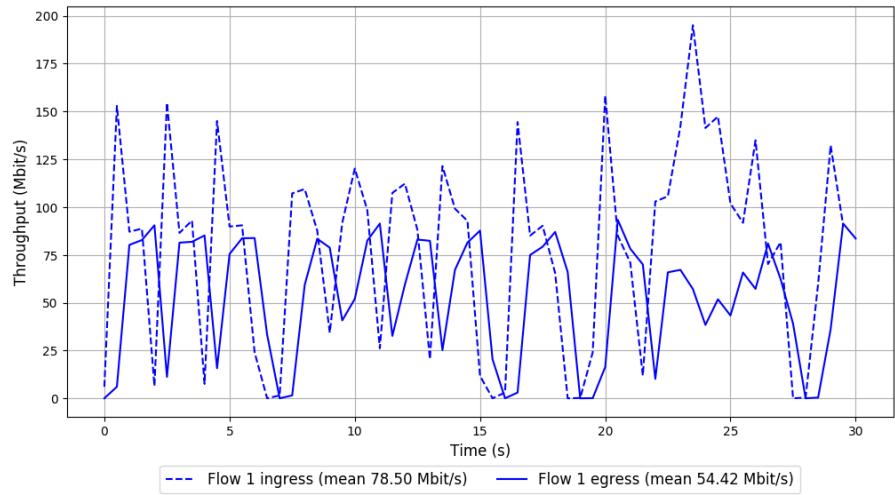


Run 3: Statistics of Verus

```
Start at: 2018-10-09 19:04:24
End at: 2018-10-09 19:04:54
Local clock offset: -6.97 ms
Remote clock offset: -4.512 ms

# Below is generated by plot.py at 2018-10-09 20:01:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.42 Mbit/s
95th percentile per-packet one-way delay: 66.703 ms
Loss rate: 30.64%
-- Flow 1:
Average throughput: 54.42 Mbit/s
95th percentile per-packet one-way delay: 66.703 ms
Loss rate: 30.64%
```

### Run 3: Report of Verus — Data Link

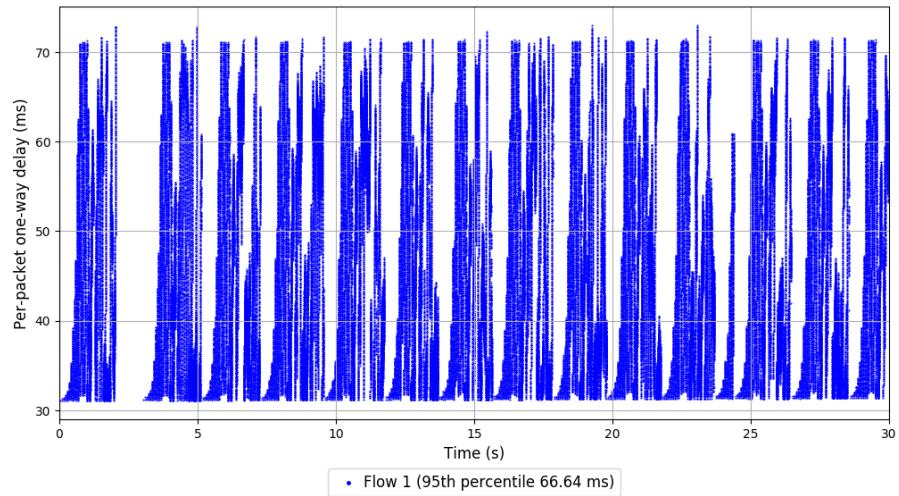
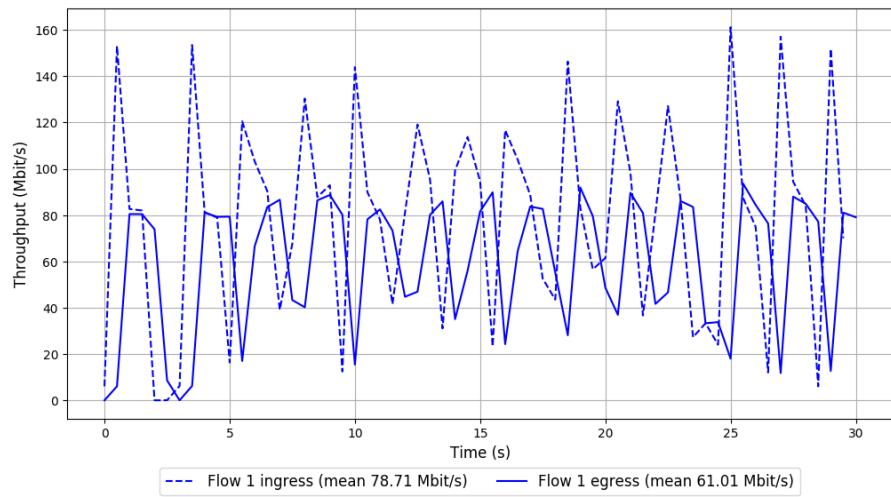


Run 4: Statistics of Verus

```
Start at: 2018-10-09 19:27:52
End at: 2018-10-09 19:28:22
Local clock offset: -5.744 ms
Remote clock offset: -4.188 ms

# Below is generated by plot.py at 2018-10-09 20:01:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.01 Mbit/s
95th percentile per-packet one-way delay: 66.639 ms
Loss rate: 22.41%
-- Flow 1:
Average throughput: 61.01 Mbit/s
95th percentile per-packet one-way delay: 66.639 ms
Loss rate: 22.41%
```

Run 4: Report of Verus — Data Link

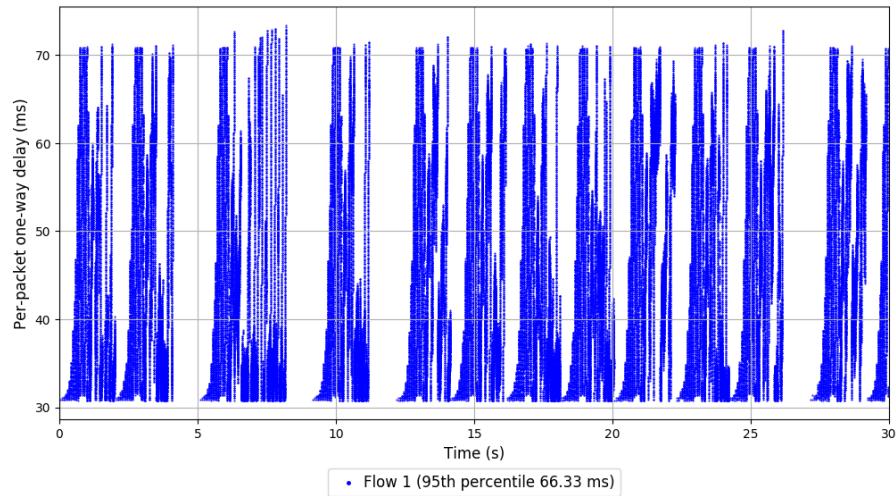
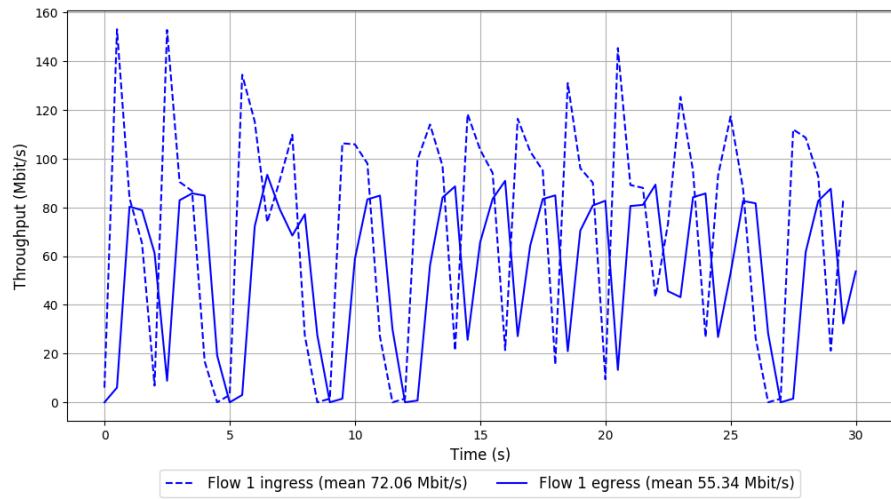


Run 5: Statistics of Verus

```
Start at: 2018-10-09 19:51:21
End at: 2018-10-09 19:51:51
Local clock offset: -2.947 ms
Remote clock offset: -3.864 ms

# Below is generated by plot.py at 2018-10-09 20:02:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.34 Mbit/s
95th percentile per-packet one-way delay: 66.328 ms
Loss rate: 23.20%
-- Flow 1:
Average throughput: 55.34 Mbit/s
95th percentile per-packet one-way delay: 66.328 ms
Loss rate: 23.20%
```

### Run 5: Report of Verus — Data Link

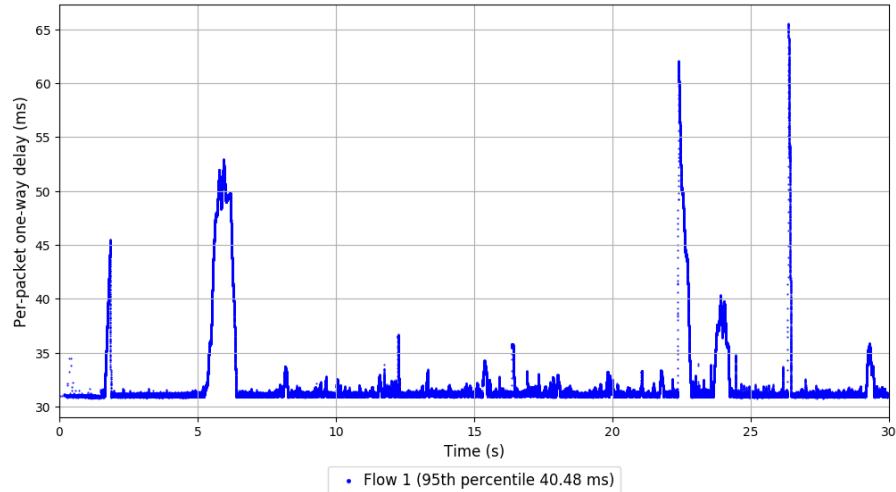
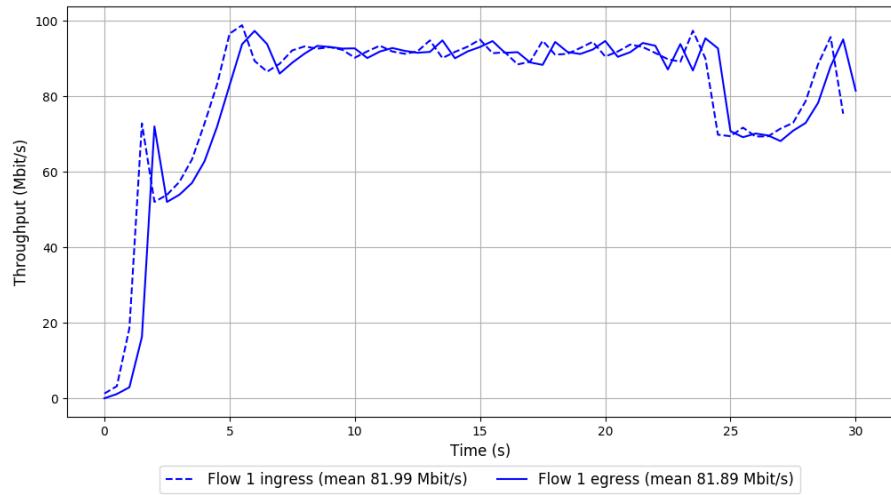


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-10-09 18:05:08
End at: 2018-10-09 18:05:38
Local clock offset: -2.688 ms
Remote clock offset: -5.076 ms

# Below is generated by plot.py at 2018-10-09 20:02:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.89 Mbit/s
95th percentile per-packet one-way delay: 40.476 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 81.89 Mbit/s
95th percentile per-packet one-way delay: 40.476 ms
Loss rate: 0.12%
```

Run 1: Report of PCC-Vivace — Data Link

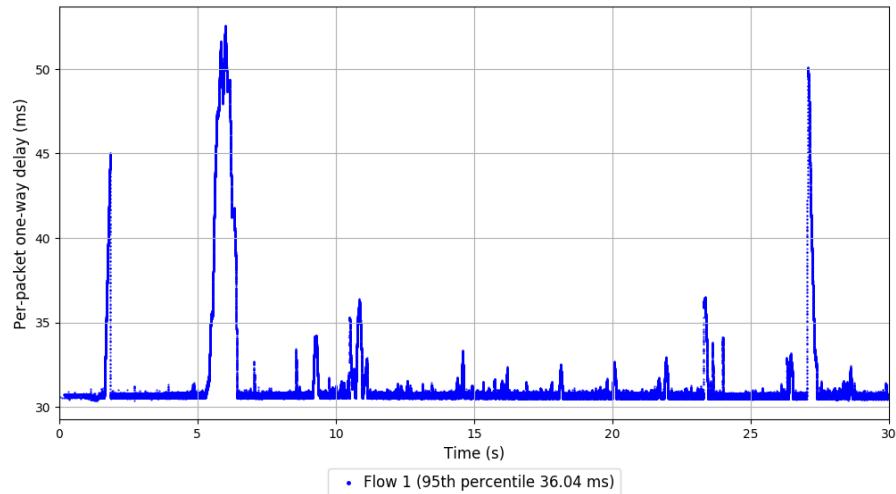
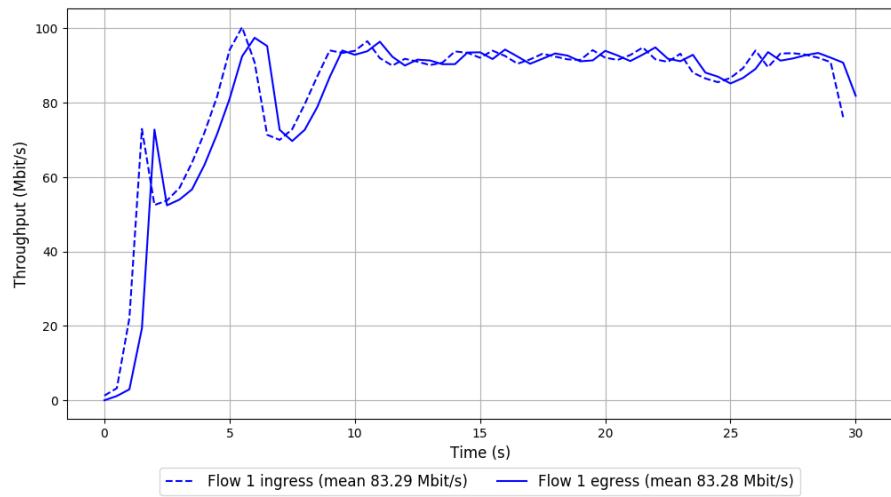


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-10-09 18:28:38
End at: 2018-10-09 18:29:08
Local clock offset: -4.091 ms
Remote clock offset: -4.972 ms

# Below is generated by plot.py at 2018-10-09 20:02:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.28 Mbit/s
95th percentile per-packet one-way delay: 36.044 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 83.28 Mbit/s
95th percentile per-packet one-way delay: 36.044 ms
Loss rate: 0.01%
```

Run 2: Report of PCC-Vivace — Data Link

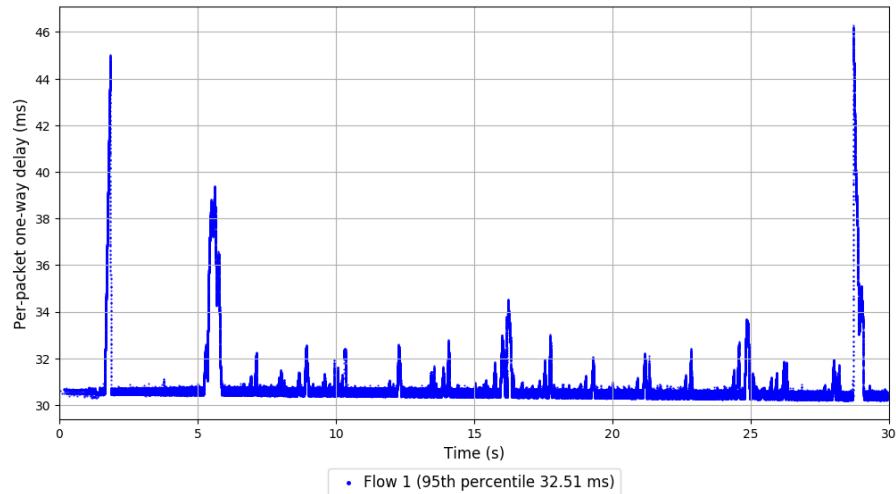
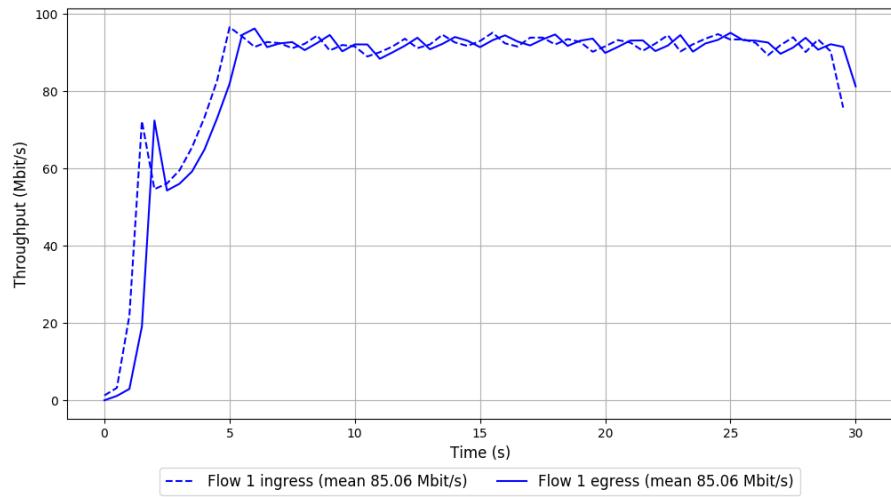


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-10-09 18:52:38
End at: 2018-10-09 18:53:08
Local clock offset: -13.656 ms
Remote clock offset: -4.388 ms

# Below is generated by plot.py at 2018-10-09 20:02:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.06 Mbit/s
95th percentile per-packet one-way delay: 32.508 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 85.06 Mbit/s
95th percentile per-packet one-way delay: 32.508 ms
Loss rate: 0.01%
```

### Run 3: Report of PCC-Vivace — Data Link

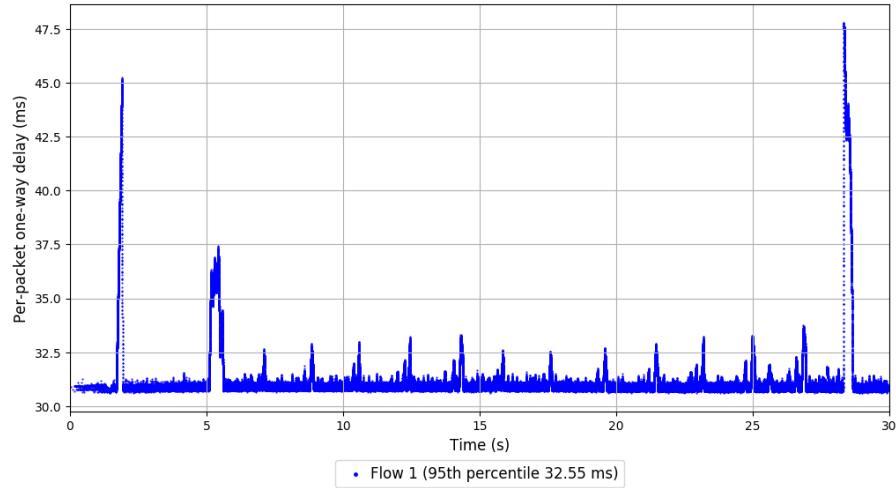
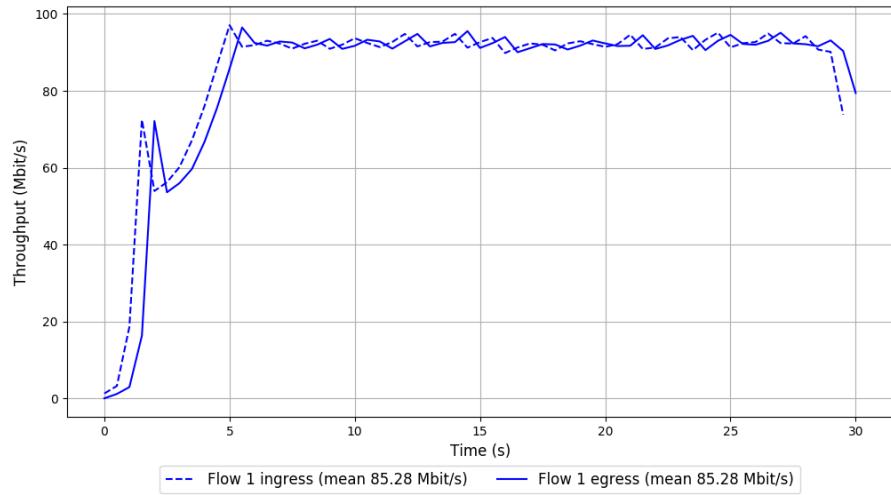


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-10-09 19:16:09
End at: 2018-10-09 19:16:39
Local clock offset: -6.238 ms
Remote clock offset: -4.133 ms

# Below is generated by plot.py at 2018-10-09 20:02:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.28 Mbit/s
95th percentile per-packet one-way delay: 32.550 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 85.28 Mbit/s
95th percentile per-packet one-way delay: 32.550 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link

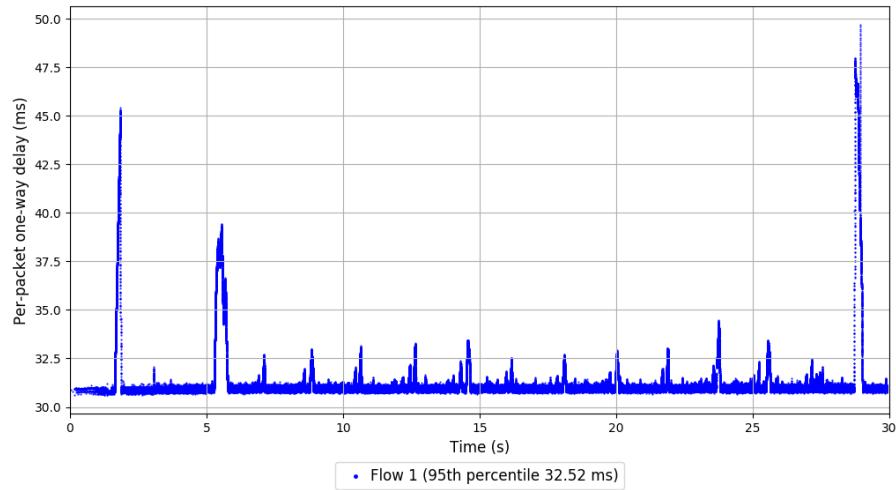
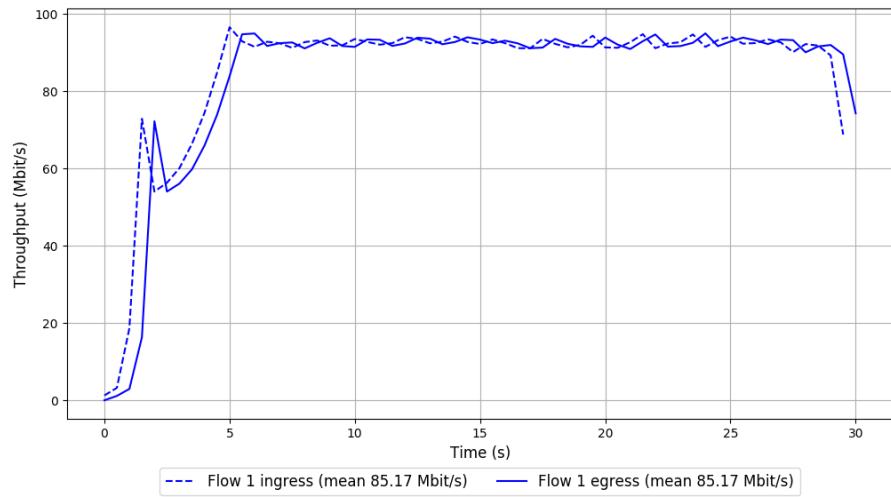


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-10-09 19:39:37
End at: 2018-10-09 19:40:07
Local clock offset: -2.457 ms
Remote clock offset: -4.101 ms

# Below is generated by plot.py at 2018-10-09 20:02:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.17 Mbit/s
95th percentile per-packet one-way delay: 32.525 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 85.17 Mbit/s
95th percentile per-packet one-way delay: 32.525 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Vivace — Data Link

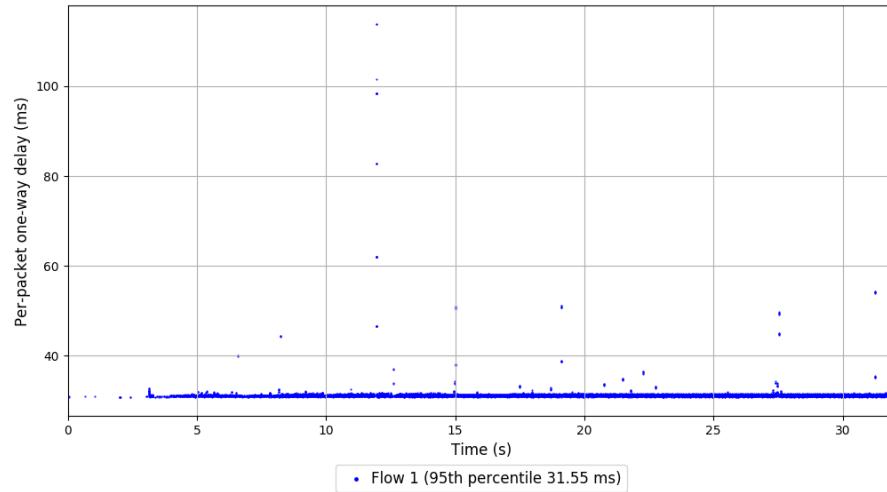
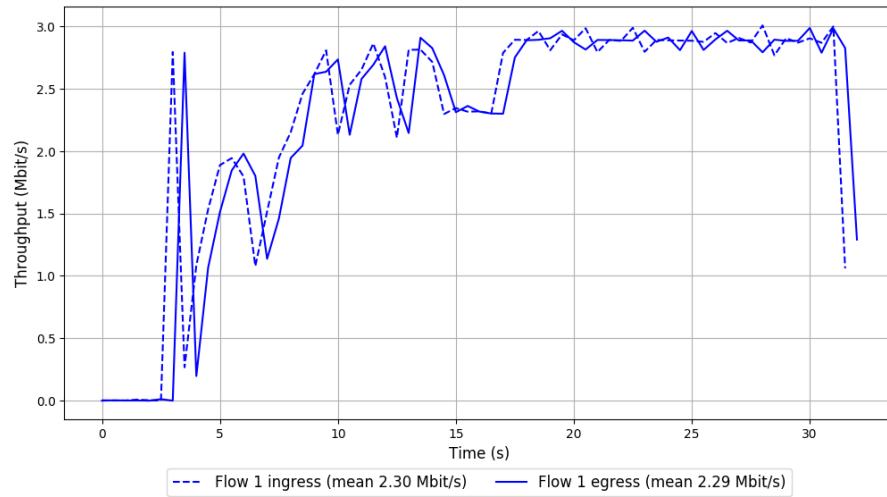


```
Run 1: Statistics of WebRTC media

Start at: 2018-10-09 18:18:10
End at: 2018-10-09 18:18:40
Local clock offset: -2.01 ms
Remote clock offset: -4.904 ms

# Below is generated by plot.py at 2018-10-09 20:02:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 31.551 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 31.551 ms
Loss rate: 0.09%
```

Run 1: Report of WebRTC media — Data Link

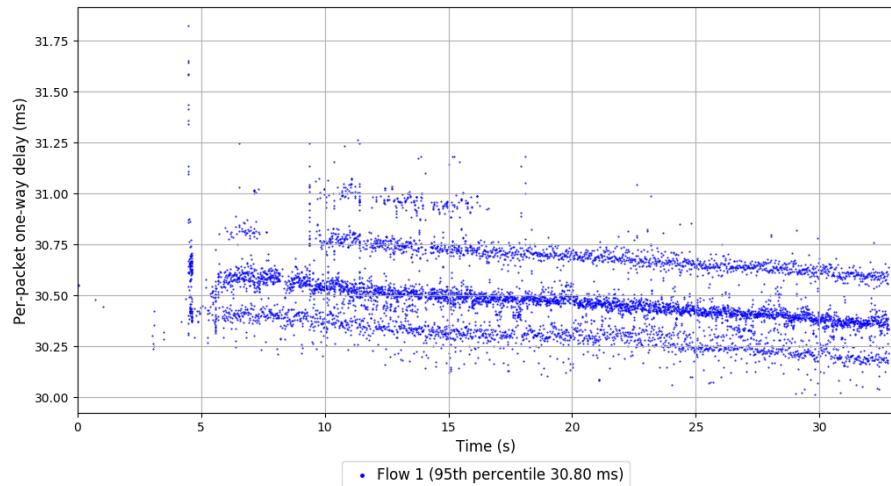
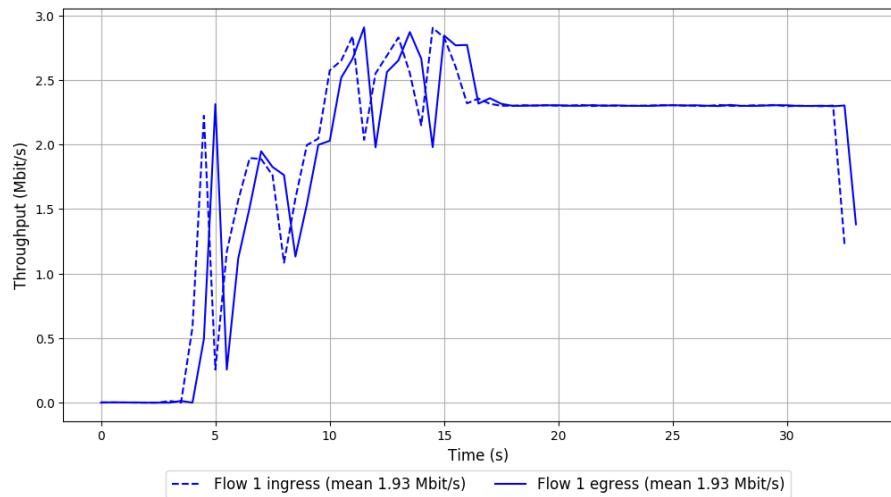


Run 2: Statistics of WebRTC media

```
Start at: 2018-10-09 18:42:09
End at: 2018-10-09 18:42:39
Local clock offset: -8.576 ms
Remote clock offset: -4.79 ms

# Below is generated by plot.py at 2018-10-09 20:02:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 30.798 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 30.798 ms
Loss rate: 0.00%
```

## Run 2: Report of WebRTC media — Data Link

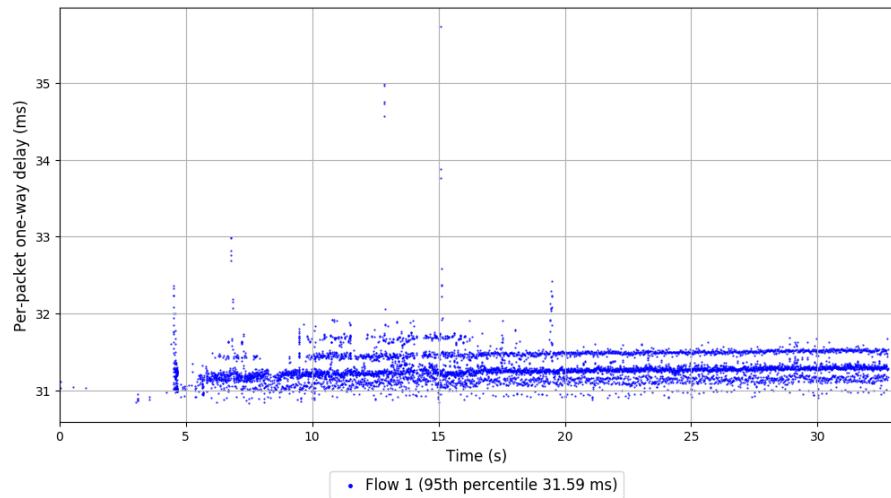
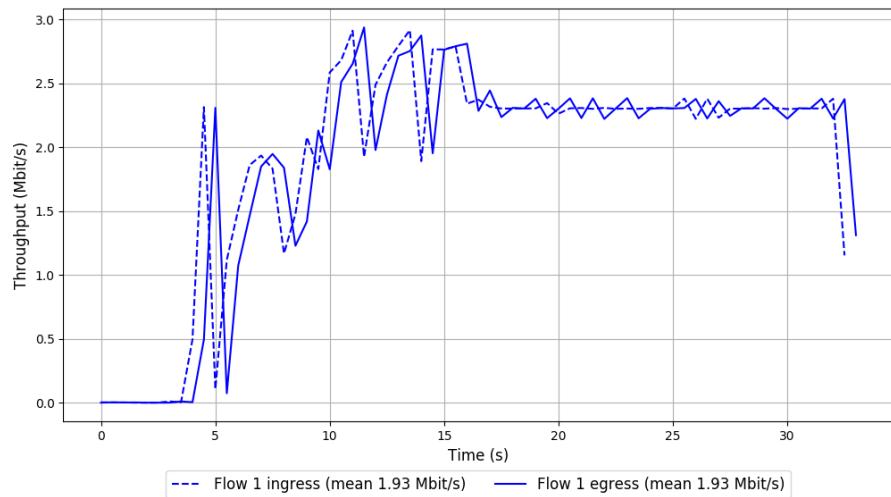


Run 3: Statistics of WebRTC media

```
Start at: 2018-10-09 19:05:43
End at: 2018-10-09 19:06:13
Local clock offset: -6.565 ms
Remote clock offset: -4.303 ms

# Below is generated by plot.py at 2018-10-09 20:02:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 31.590 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 31.590 ms
Loss rate: 0.00%
```

### Run 3: Report of WebRTC media — Data Link

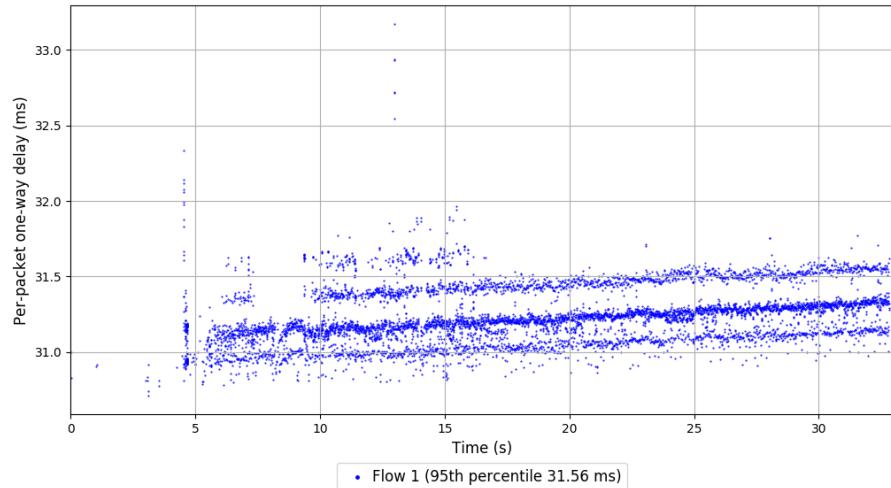
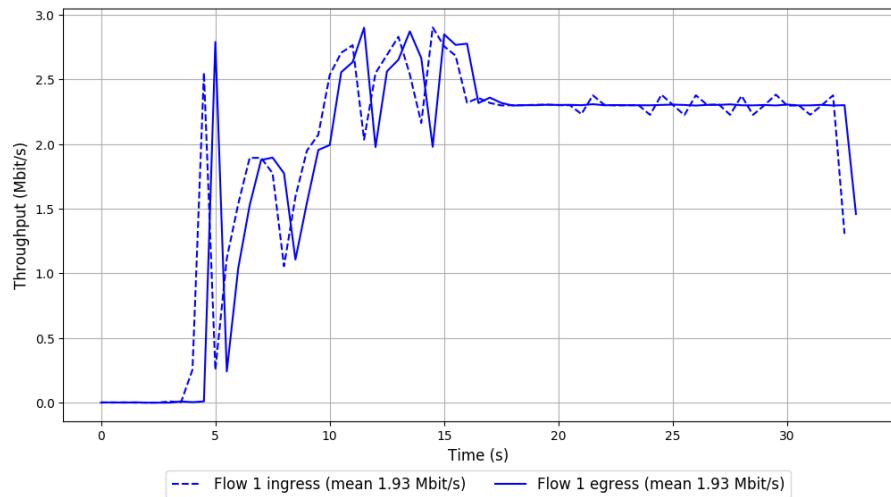


Run 4: Statistics of WebRTC media

```
Start at: 2018-10-09 19:29:11
End at: 2018-10-09 19:29:41
Local clock offset: -5.0 ms
Remote clock offset: -4.313 ms

# Below is generated by plot.py at 2018-10-09 20:02:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 31.556 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 31.556 ms
Loss rate: 0.00%
```

#### Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-10-09 19:52:40
End at: 2018-10-09 19:53:10
Local clock offset: -3.083 ms
Remote clock offset: -3.896 ms

# Below is generated by plot.py at 2018-10-09 20:02:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 31.294 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 31.294 ms
Loss rate: 0.00%
```

### Run 5: Report of WebRTC media — Data Link

