

## Pantheon Report

Generated at 2018-12-20 00:36:52 (UTC).  
Data path: AWS California 2 on `ens5` (*local*) → Mexico on `em1` (*remote*).  
Repeated the test of 19 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:

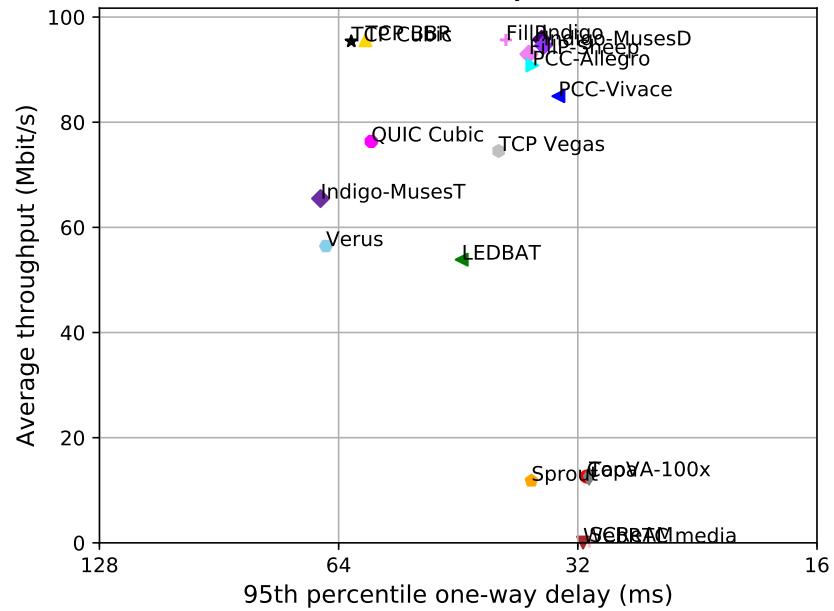
```
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

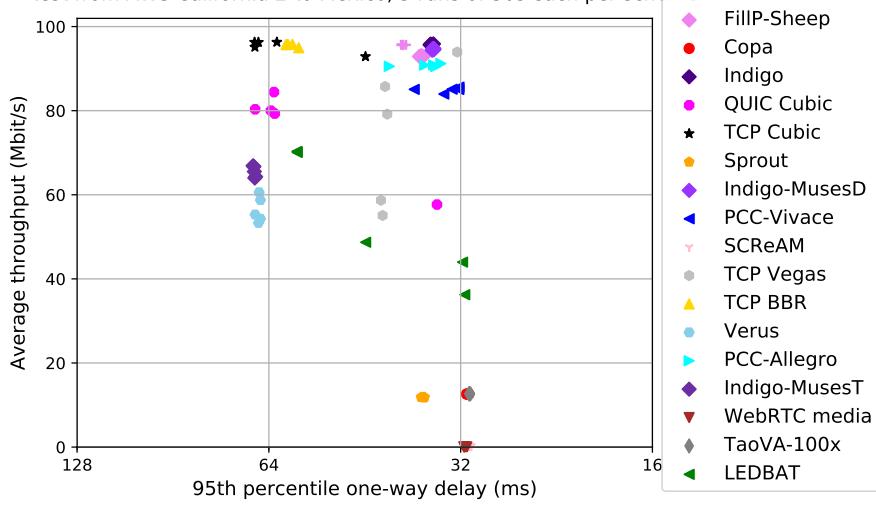
```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fc45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbfed0c6349ae986009b4fa8643c40a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third\_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4  
third\_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

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



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



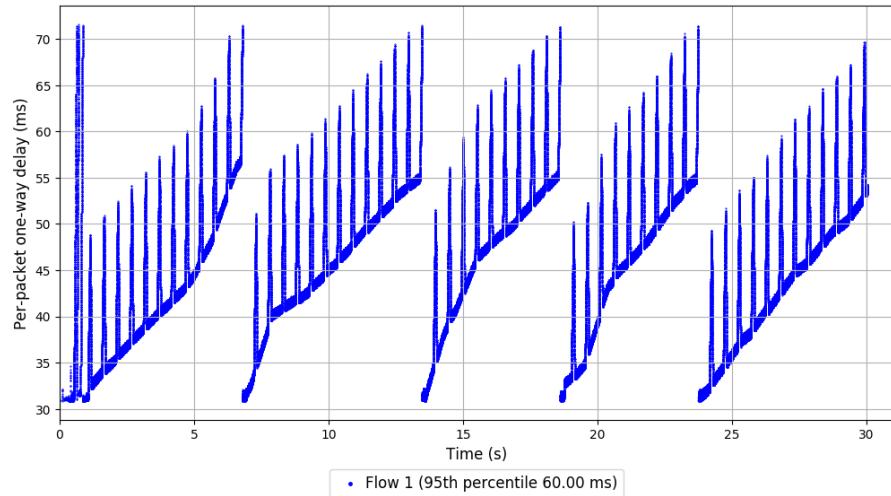
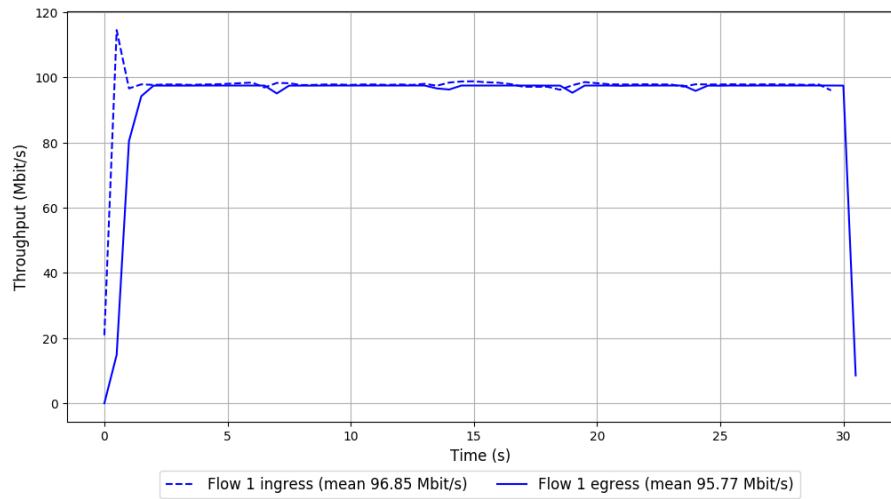
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	95.60	59.22	1.04
Copa	5	12.61	31.20	70.92
TCP Cubic	5	95.37	61.70	0.46
FillP	5	95.65	39.41	0.68
FillP-Sheep	5	92.95	36.88	0.60
Indigo	5	95.76	35.54	0.04
Indigo-MusesD	5	94.62	35.34	0.42
Indigo-MusesT	5	65.48	67.45	37.78
LEDBAT	5	53.86	44.81	0.02
PCC-Allegro	5	90.79	36.50	0.73
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	76.34	58.23	1.41
SCReAM	5	0.21	30.95	0.00
Sprout	5	11.82	36.61	0.02
TaoVA-100x	4	12.67	30.98	77.45
TCP Vegas	5	74.52	40.25	0.45
Verus	5	56.45	66.39	28.06
PCC-Vivace	5	84.95	33.85	0.00
WebRTC media	5	0.05	31.52	0.00

Run 1: Statistics of TCP BBR

```
Start at: 2018-12-19 22:38:22
End at: 2018-12-19 22:38:52
Local clock offset: 0.648 ms
Remote clock offset: -4.108 ms

# Below is generated by plot.py at 2018-12-20 00:29:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.77 Mbit/s
95th percentile per-packet one-way delay: 59.996 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 95.77 Mbit/s
95th percentile per-packet one-way delay: 59.996 ms
Loss rate: 1.03%
```

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

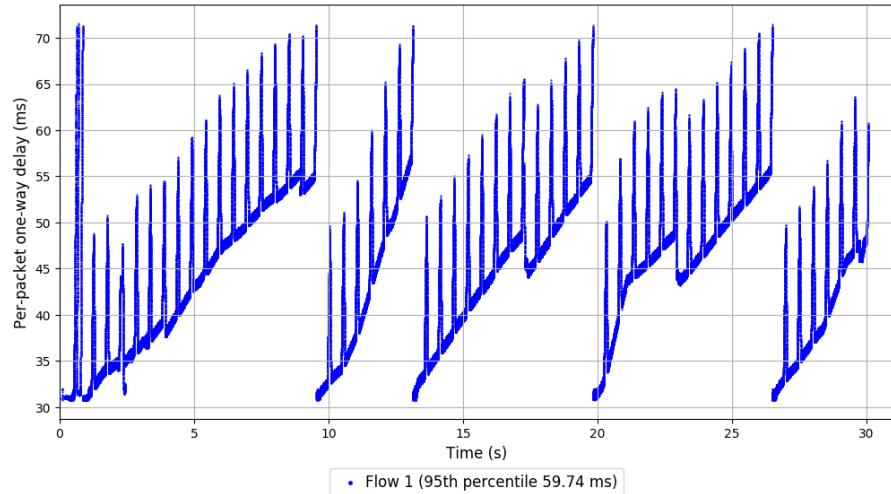
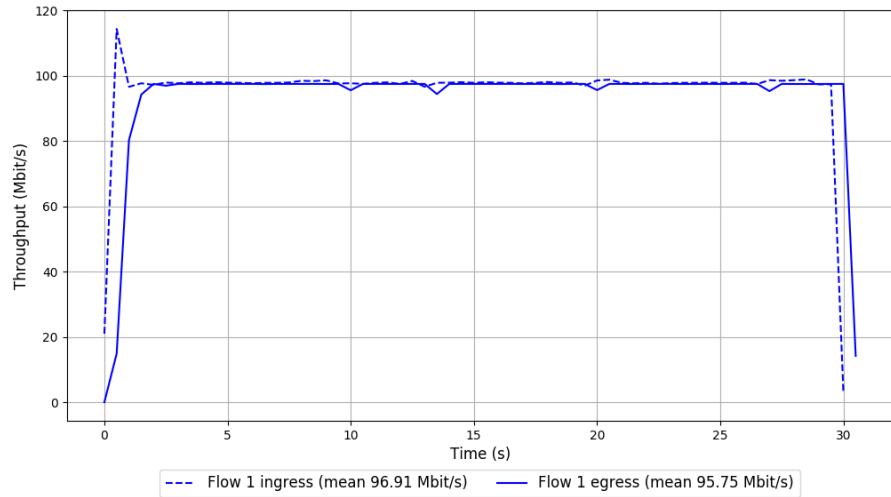


Run 2: Statistics of TCP BBR

```
Start at: 2018-12-19 23:00:13
End at: 2018-12-19 23:00:43
Local clock offset: 0.539 ms
Remote clock offset: -3.881 ms

# Below is generated by plot.py at 2018-12-20 00:29:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.75 Mbit/s
95th percentile per-packet one-way delay: 59.740 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 95.75 Mbit/s
95th percentile per-packet one-way delay: 59.740 ms
Loss rate: 1.10%
```

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

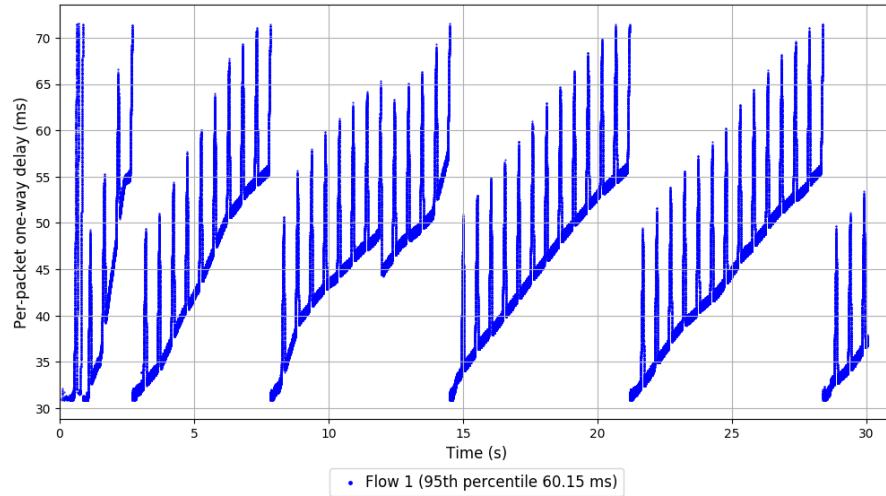
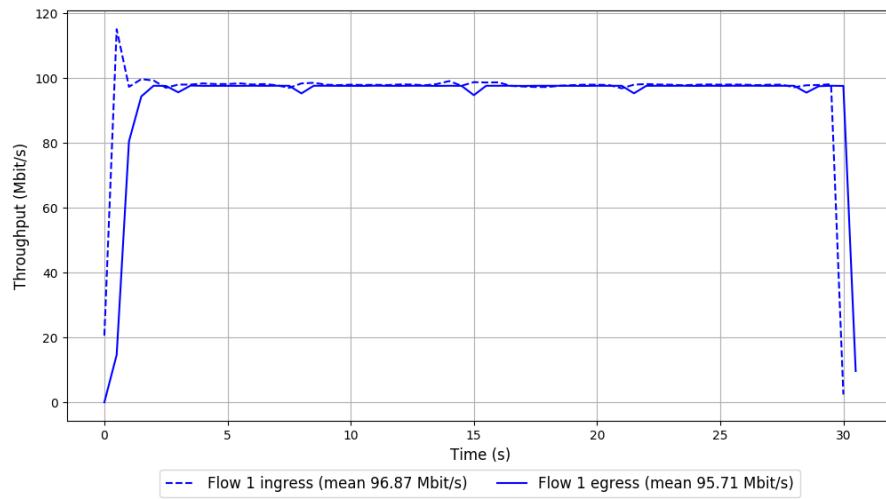


Run 3: Statistics of TCP BBR

```
Start at: 2018-12-19 23:22:20
End at: 2018-12-19 23:22:50
Local clock offset: 0.436 ms
Remote clock offset: -3.162 ms

# Below is generated by plot.py at 2018-12-20 00:29:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 60.148 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 60.148 ms
Loss rate: 1.18%
```

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

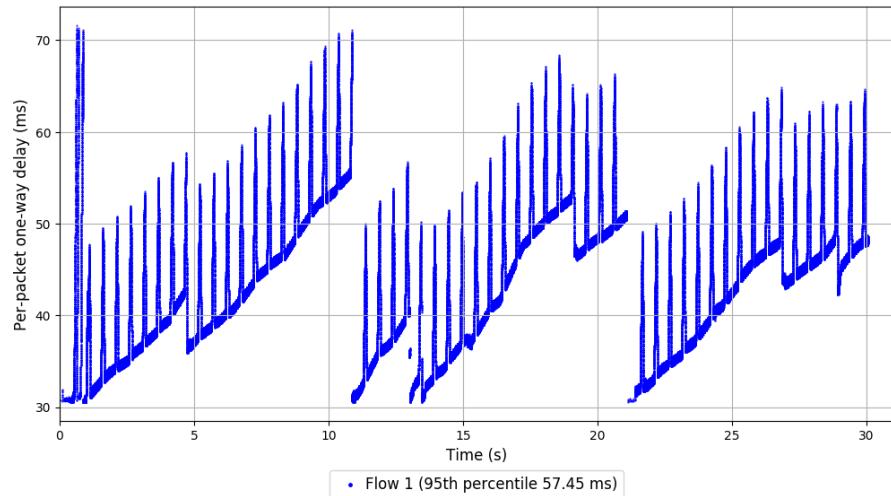
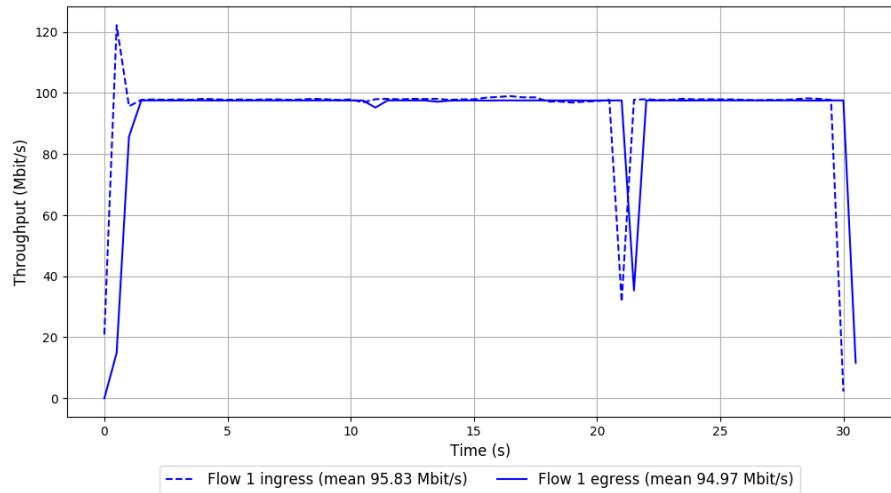


Run 4: Statistics of TCP BBR

```
Start at: 2018-12-19 23:44:22
End at: 2018-12-19 23:44:52
Local clock offset: -1.604 ms
Remote clock offset: -2.91 ms

# Below is generated by plot.py at 2018-12-20 00:29:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.97 Mbit/s
95th percentile per-packet one-way delay: 57.447 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 94.97 Mbit/s
95th percentile per-packet one-way delay: 57.447 ms
Loss rate: 0.83%
```

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

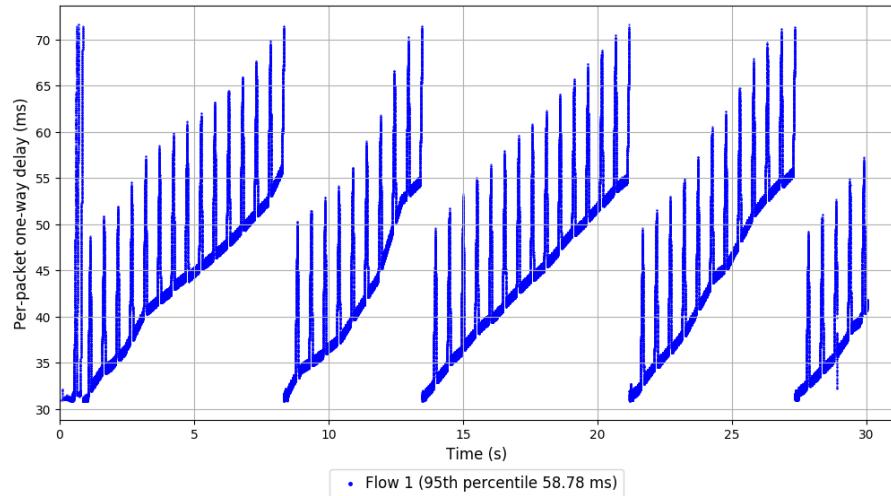
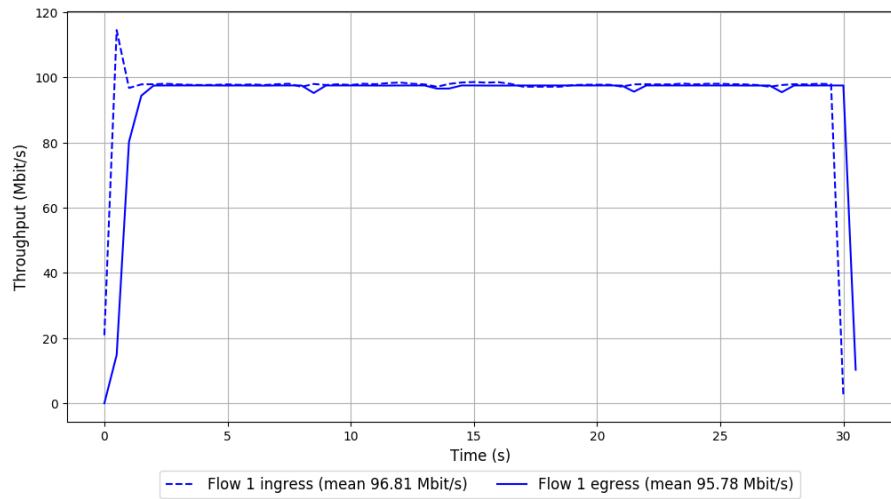


Run 5: Statistics of TCP BBR

```
Start at: 2018-12-20 00:06:20
End at: 2018-12-20 00:06:50
Local clock offset: -3.253 ms
Remote clock offset: -2.512 ms

# Below is generated by plot.py at 2018-12-20 00:29:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 58.778 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 58.778 ms
Loss rate: 1.04%
```

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

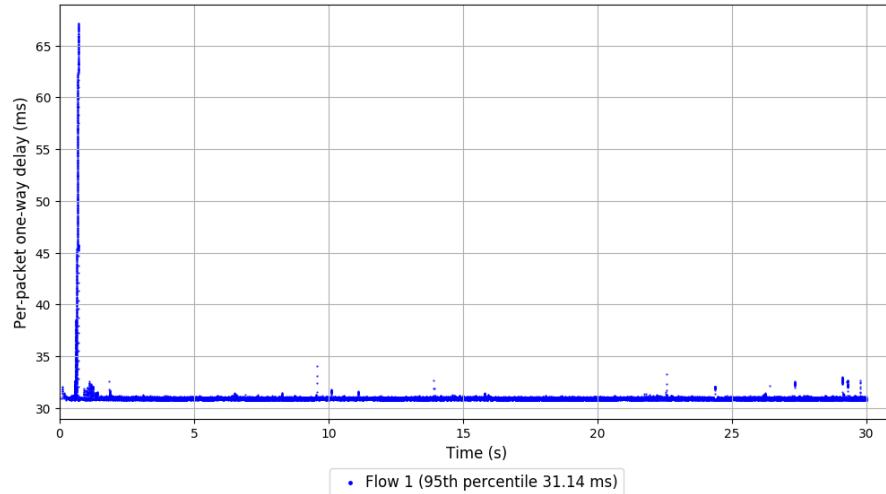
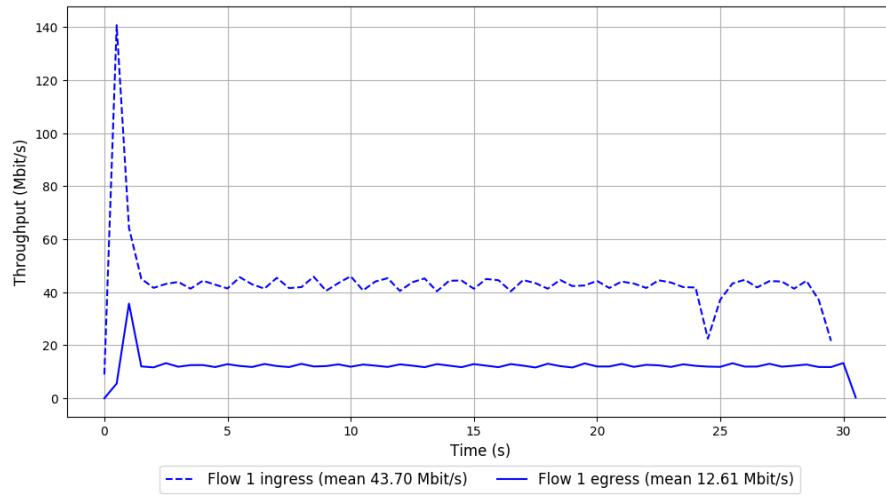


Run 1: Statistics of Copa

```
Start at: 2018-12-19 22:39:39
End at: 2018-12-19 22:40:09
Local clock offset: 0.604 ms
Remote clock offset: -4.123 ms

# Below is generated by plot.py at 2018-12-20 00:29:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.136 ms
Loss rate: 71.14%
-- Flow 1:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.136 ms
Loss rate: 71.14%
```

## Run 1: Report of Copa — Data Link

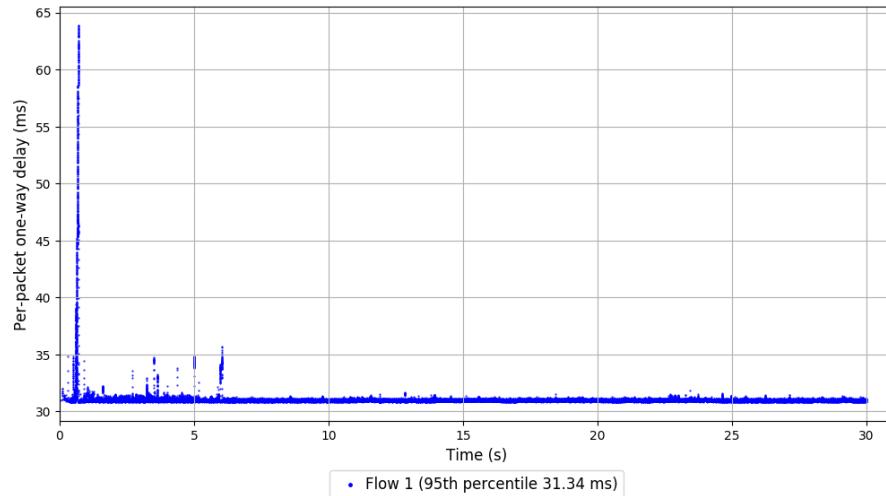
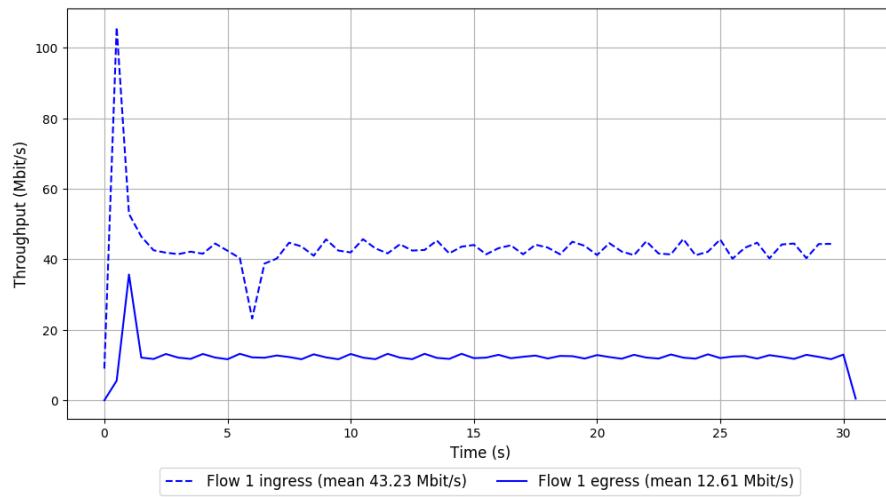


Run 2: Statistics of Copa

```
Start at: 2018-12-19 23:01:23
End at: 2018-12-19 23:01:53
Local clock offset: 0.561 ms
Remote clock offset: -3.737 ms

# Below is generated by plot.py at 2018-12-20 00:29:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.335 ms
Loss rate: 70.83%
-- Flow 1:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.335 ms
Loss rate: 70.83%
```

## Run 2: Report of Copa — Data Link

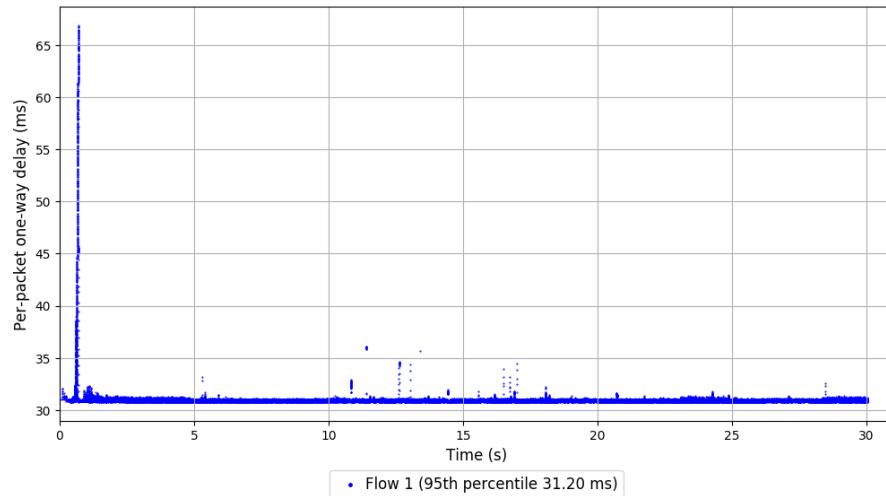
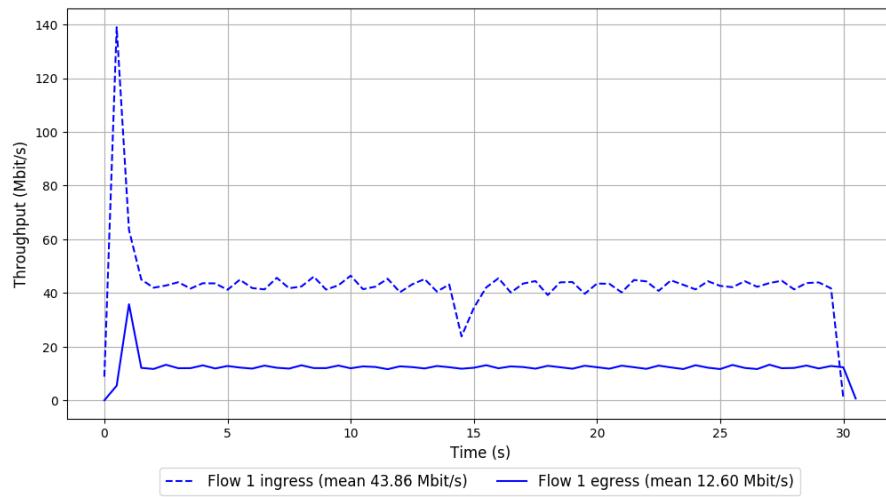


Run 3: Statistics of Copa

```
Start at: 2018-12-19 23:23:31
End at: 2018-12-19 23:24:01
Local clock offset: 0.439 ms
Remote clock offset: -3.161 ms

# Below is generated by plot.py at 2018-12-20 00:29:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 31.200 ms
Loss rate: 71.28%
-- Flow 1:
Average throughput: 12.60 Mbit/s
95th percentile per-packet one-way delay: 31.200 ms
Loss rate: 71.28%
```

### Run 3: Report of Copa — Data Link

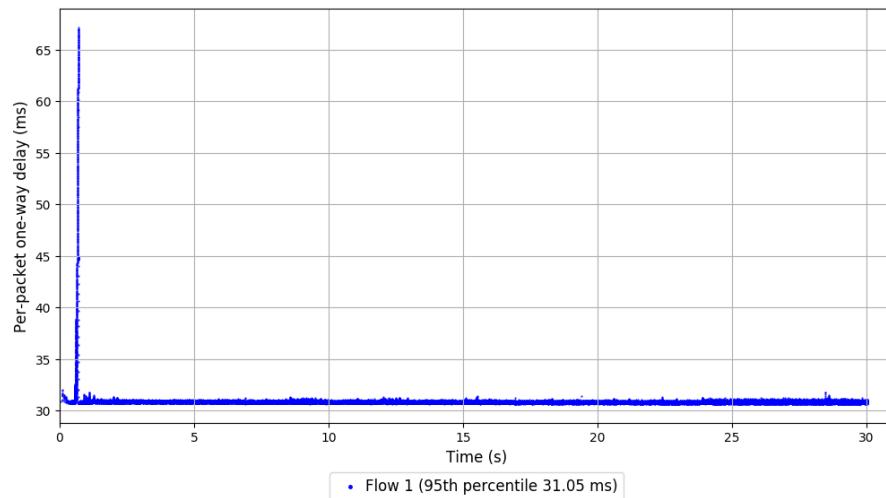
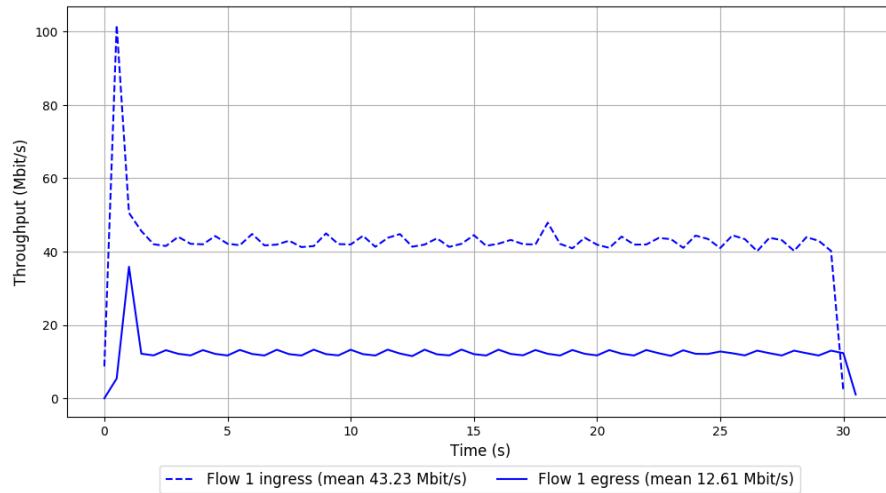


Run 4: Statistics of Copa

```
Start at: 2018-12-19 23:45:34
End at: 2018-12-19 23:46:04
Local clock offset: -1.771 ms
Remote clock offset: -2.735 ms

# Below is generated by plot.py at 2018-12-20 00:29:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.053 ms
Loss rate: 70.83%
-- Flow 1:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.053 ms
Loss rate: 70.83%
```

### Run 4: Report of Copa — Data Link

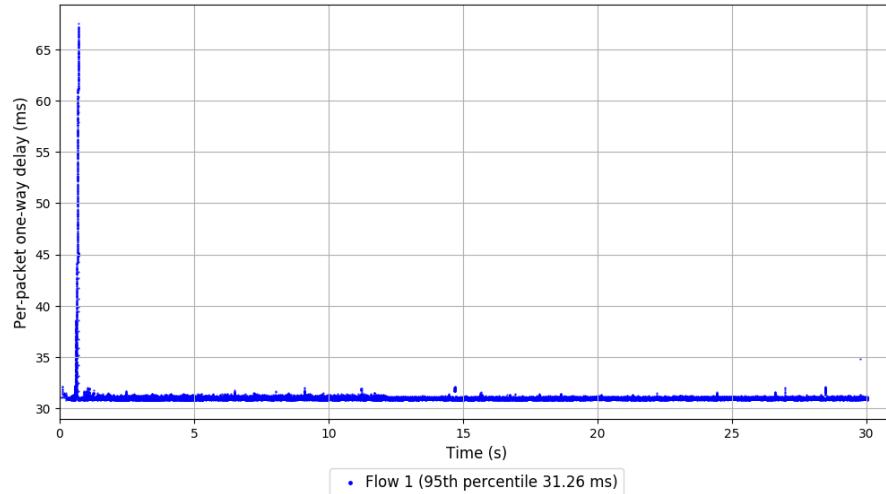
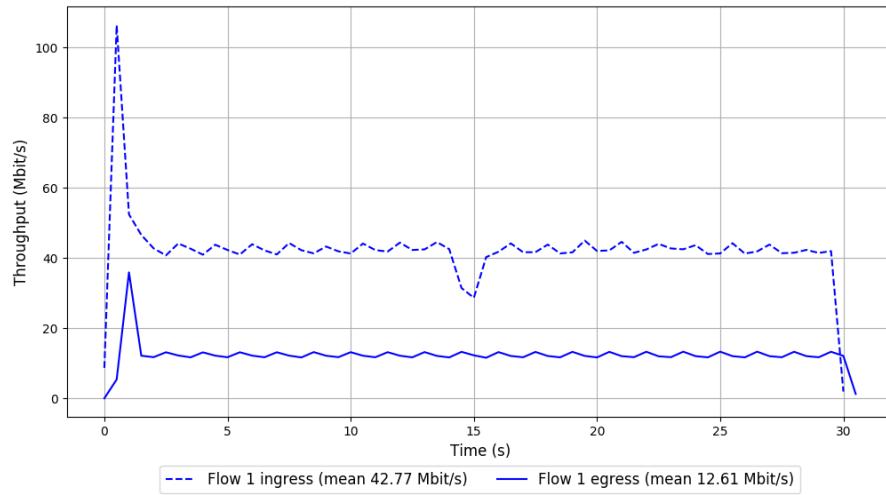


Run 5: Statistics of Copa

```
Start at: 2018-12-20 00:07:31
End at: 2018-12-20 00:08:01
Local clock offset: -3.152 ms
Remote clock offset: -2.554 ms

# Below is generated by plot.py at 2018-12-20 00:29:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.259 ms
Loss rate: 70.52%
-- Flow 1:
Average throughput: 12.61 Mbit/s
95th percentile per-packet one-way delay: 31.259 ms
Loss rate: 70.52%
```

## Run 5: Report of Copa — Data Link

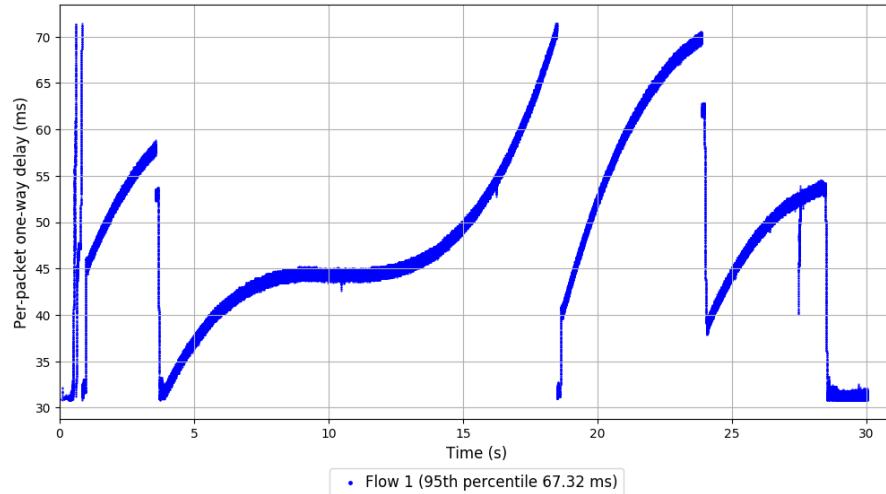
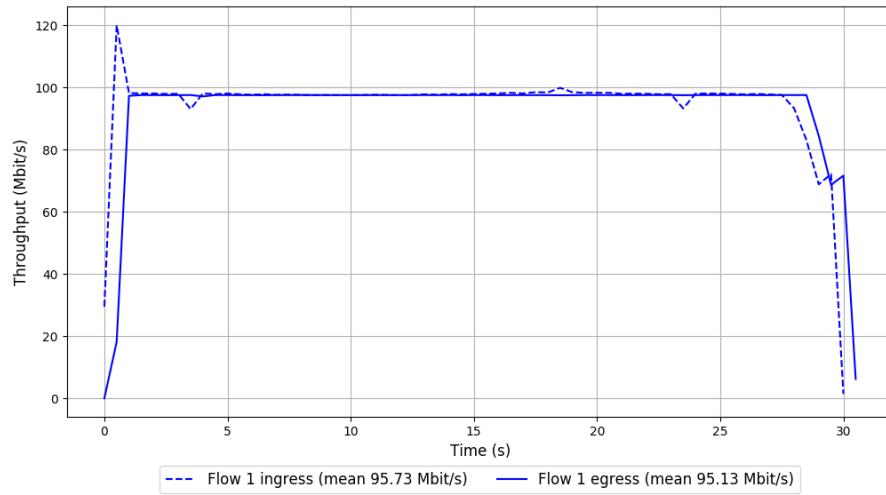


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-12-19 22:54:29
End at: 2018-12-19 22:54:59
Local clock offset: 0.479 ms
Remote clock offset: -3.934 ms

# Below is generated by plot.py at 2018-12-20 00:29:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.13 Mbit/s
95th percentile per-packet one-way delay: 67.316 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 95.13 Mbit/s
95th percentile per-packet one-way delay: 67.316 ms
Loss rate: 0.63%
```

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

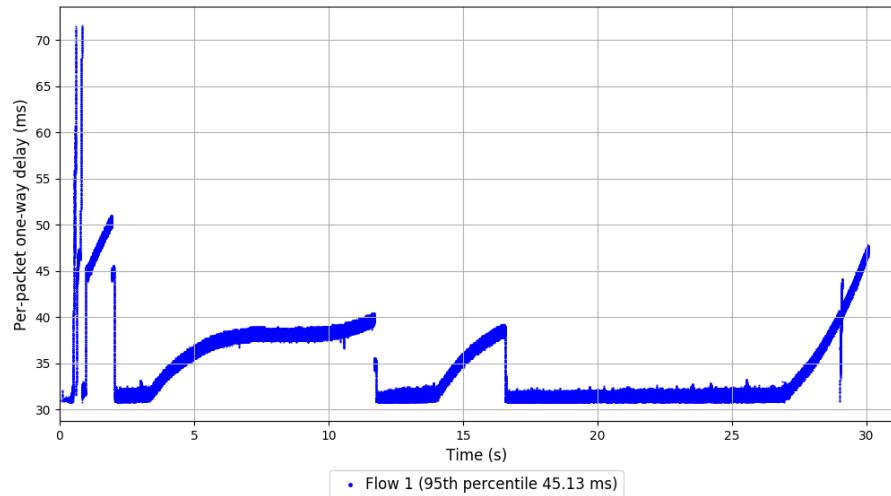
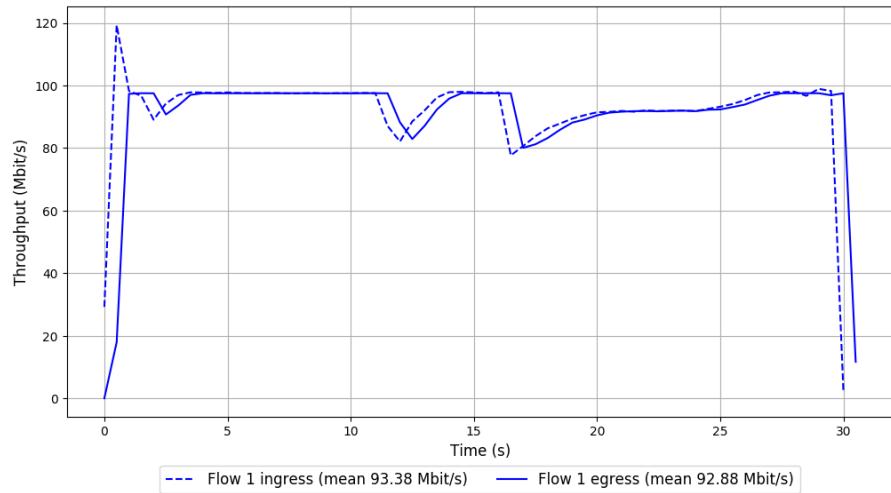


Run 2: Statistics of TCP Cubic

```
Start at: 2018-12-19 23:16:24
End at: 2018-12-19 23:16:54
Local clock offset: 0.418 ms
Remote clock offset: -3.33 ms

# Below is generated by plot.py at 2018-12-20 00:29:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.88 Mbit/s
95th percentile per-packet one-way delay: 45.135 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 92.88 Mbit/s
95th percentile per-packet one-way delay: 45.135 ms
Loss rate: 0.48%
```

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

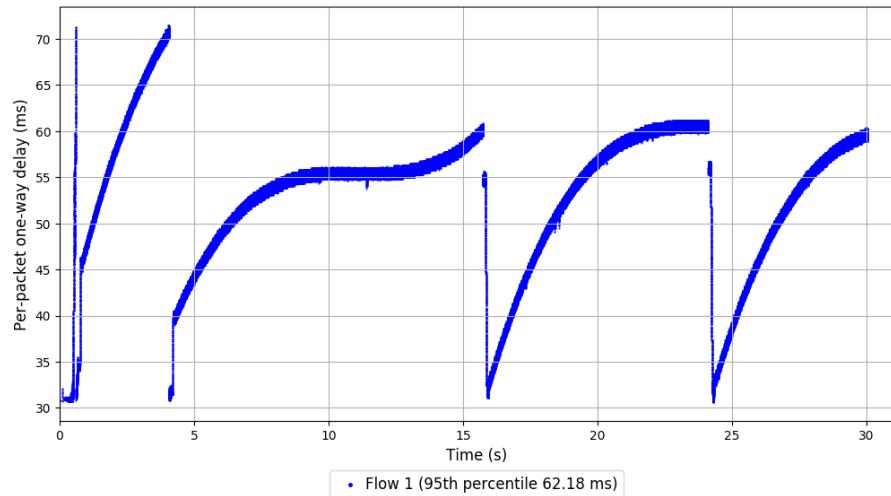
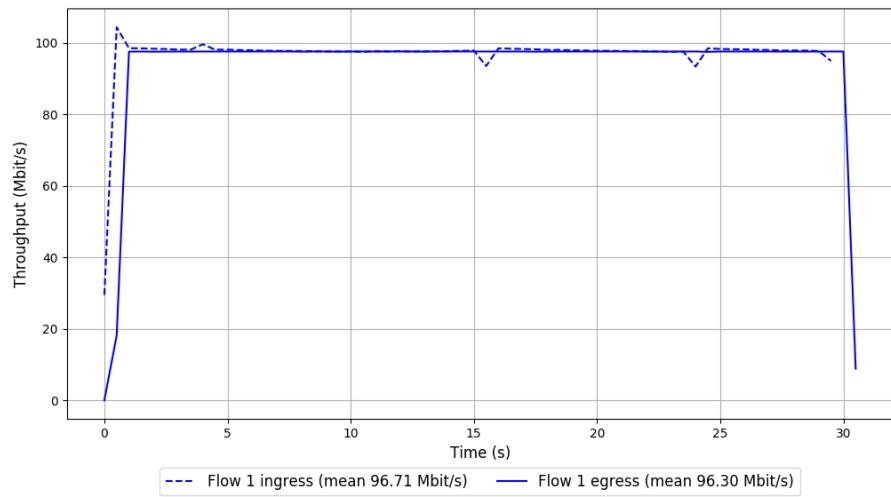


Run 3: Statistics of TCP Cubic

```
Start at: 2018-12-19 23:38:38
End at: 2018-12-19 23:39:08
Local clock offset: -0.377 ms
Remote clock offset: -2.885 ms

# Below is generated by plot.py at 2018-12-20 00:29:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 62.181 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 96.30 Mbit/s
95th percentile per-packet one-way delay: 62.181 ms
Loss rate: 0.32%
```

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

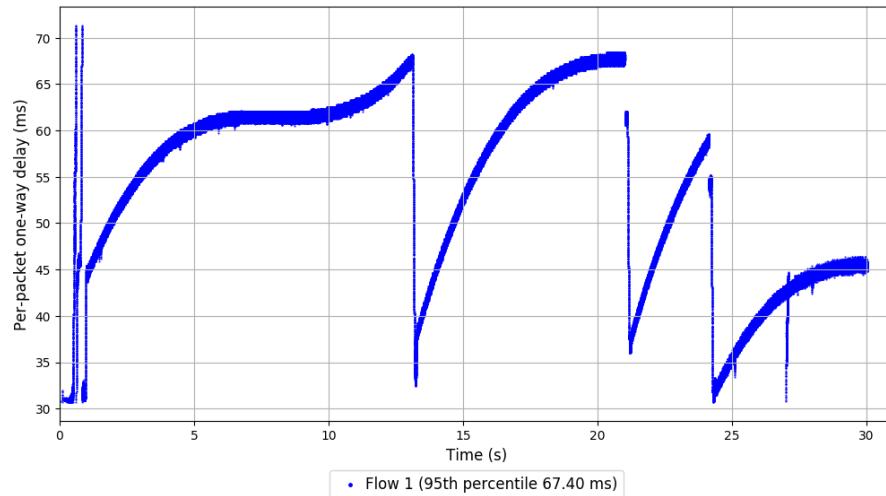
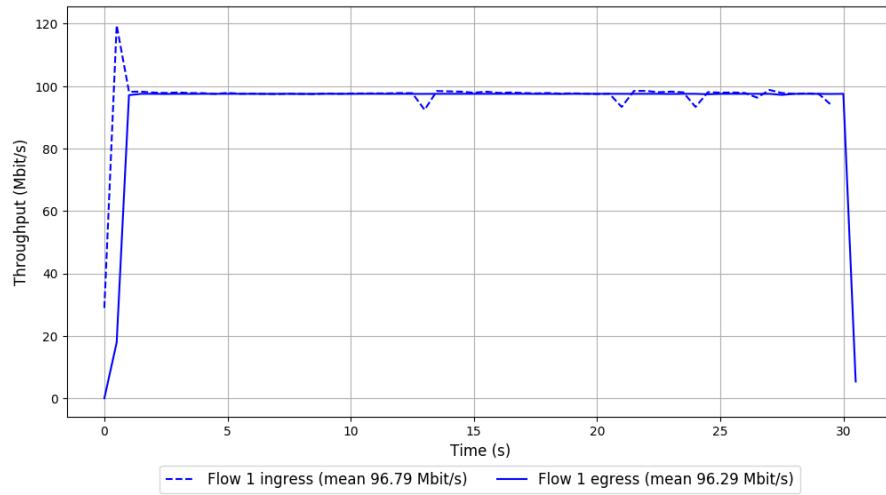


Run 4: Statistics of TCP Cubic

```
Start at: 2018-12-20 00:00:33
End at: 2018-12-20 00:01:03
Local clock offset: -3.046 ms
Remote clock offset: -2.713 ms

# Below is generated by plot.py at 2018-12-20 00:30:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 67.398 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 96.29 Mbit/s
95th percentile per-packet one-way delay: 67.398 ms
Loss rate: 0.47%
```

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

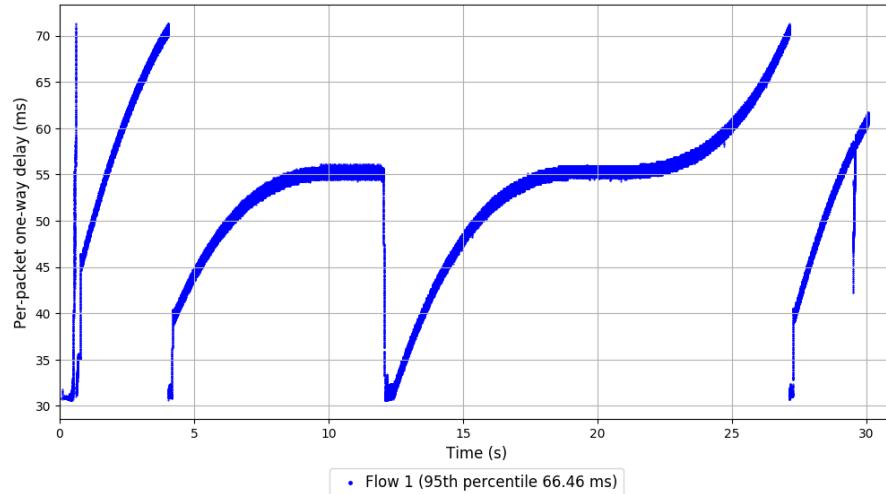
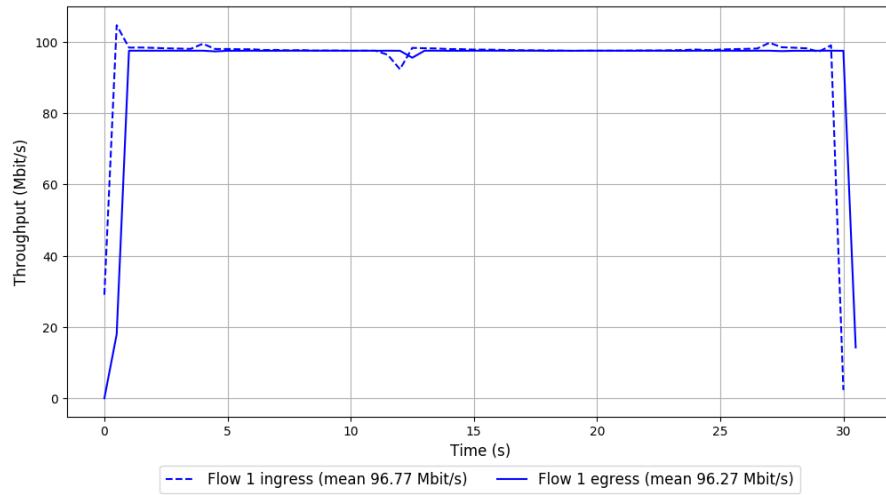


Run 5: Statistics of TCP Cubic

```
Start at: 2018-12-20 00:22:37
End at: 2018-12-20 00:23:07
Local clock offset: -2.864 ms
Remote clock offset: -2.753 ms

# Below is generated by plot.py at 2018-12-20 00:30:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.27 Mbit/s
95th percentile per-packet one-way delay: 66.463 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 96.27 Mbit/s
95th percentile per-packet one-way delay: 66.463 ms
Loss rate: 0.42%
```

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

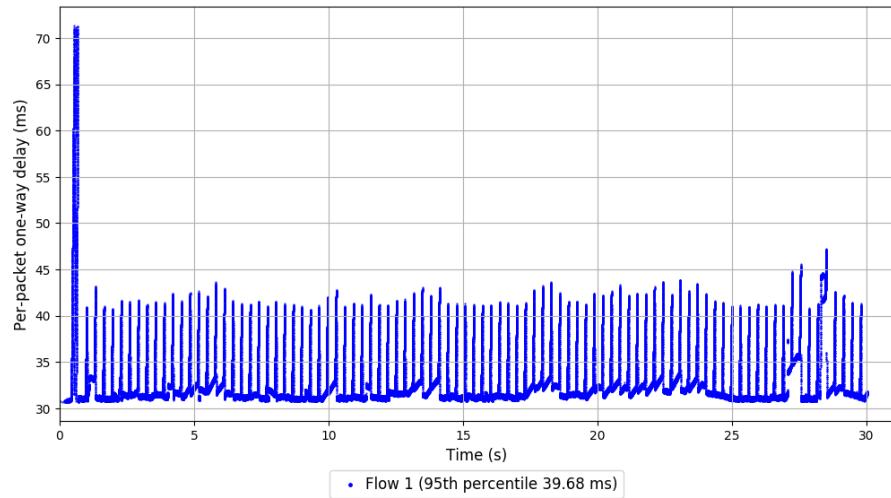
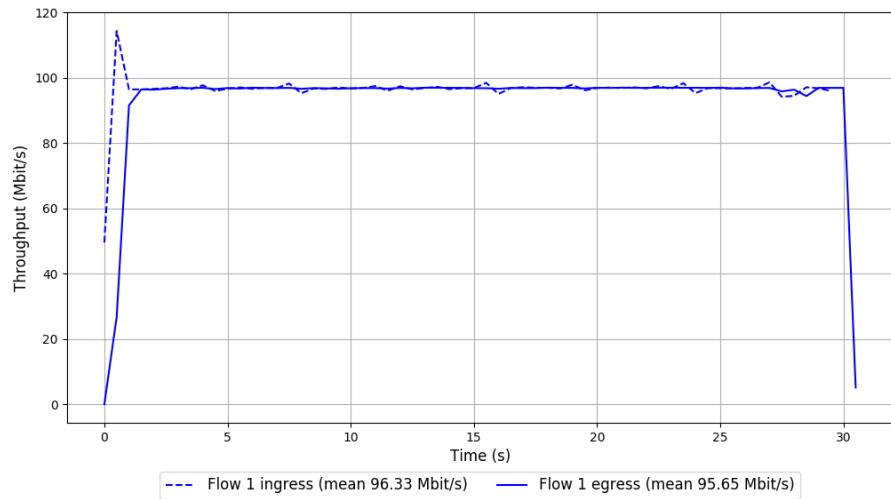


```
Run 1: Statistics of FillP

Start at: 2018-12-19 22:52:10
End at: 2018-12-19 22:52:40
Local clock offset: 0.467 ms
Remote clock offset: -3.979 ms

# Below is generated by plot.py at 2018-12-20 00:30:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 39.684 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 39.684 ms
Loss rate: 0.70%
```

## Run 1: Report of FillP — Data Link

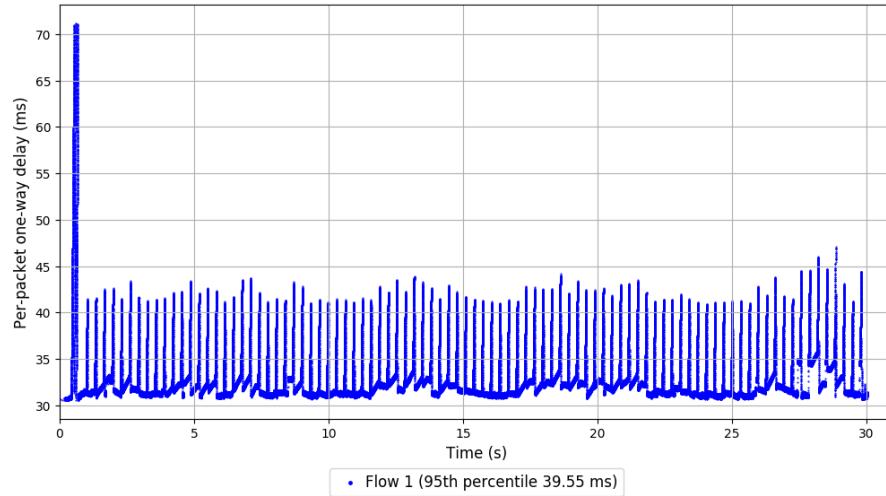
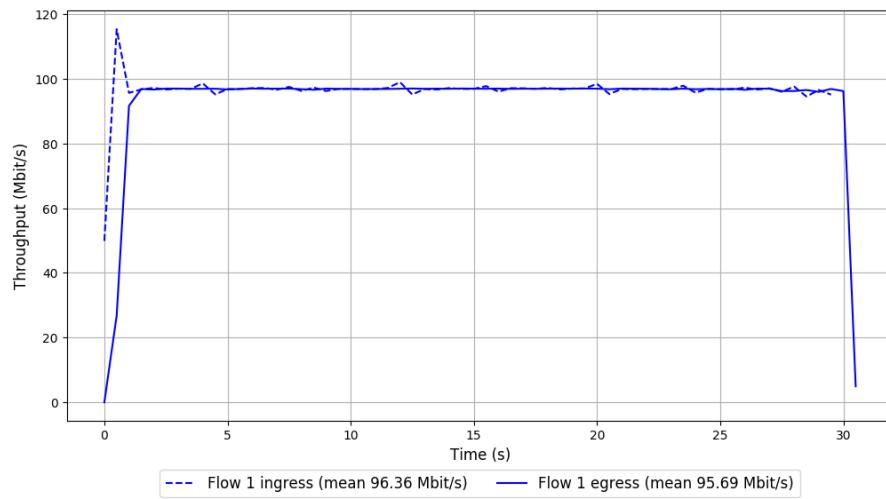


Run 2: Statistics of FillP

```
Start at: 2018-12-19 23:13:55
End at: 2018-12-19 23:14:25
Local clock offset: 0.439 ms
Remote clock offset: -3.444 ms

# Below is generated by plot.py at 2018-12-20 00:30:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.69 Mbit/s
95th percentile per-packet one-way delay: 39.545 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 95.69 Mbit/s
95th percentile per-packet one-way delay: 39.545 ms
Loss rate: 0.68%
```

## Run 2: Report of FillP — Data Link

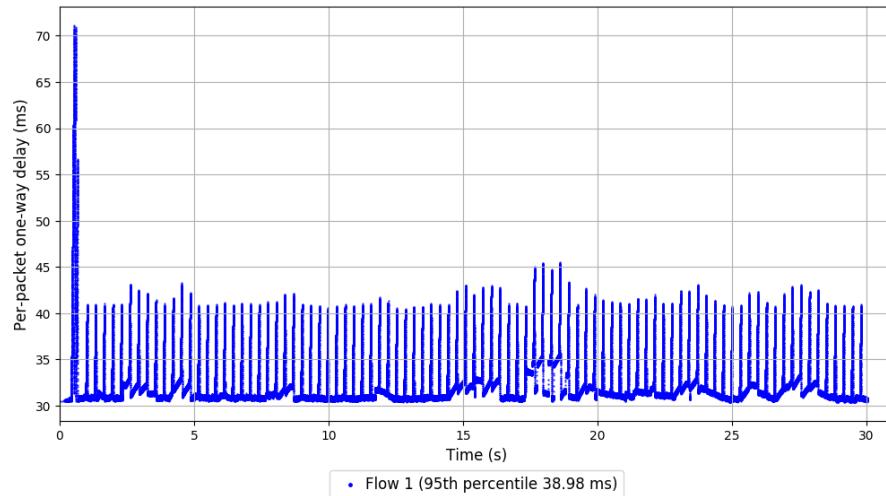
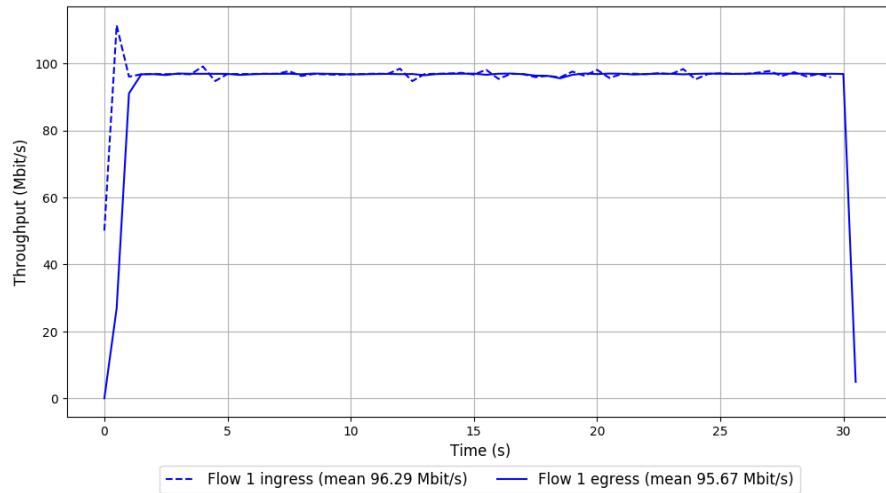


Run 3: Statistics of FillP

```
Start at: 2018-12-19 23:36:19
End at: 2018-12-19 23:36:49
Local clock offset: 0.382 ms
Remote clock offset: -2.887 ms

# Below is generated by plot.py at 2018-12-20 00:30:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 38.982 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 38.982 ms
Loss rate: 0.64%
```

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

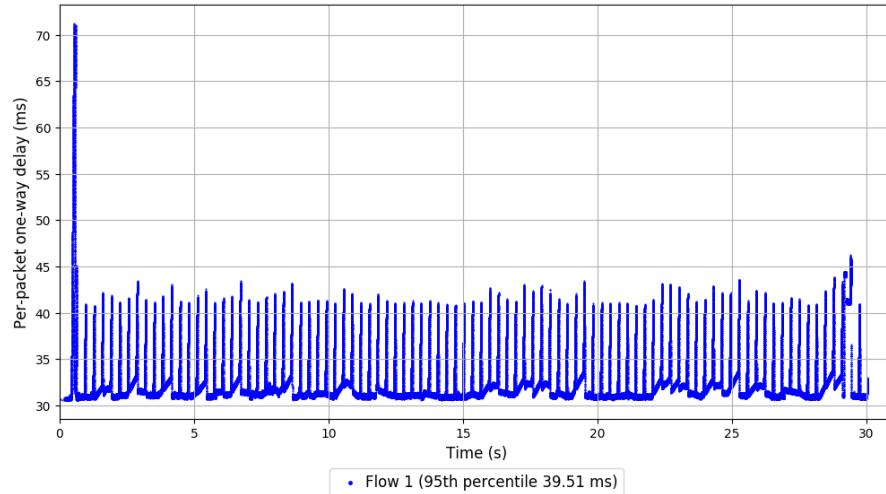
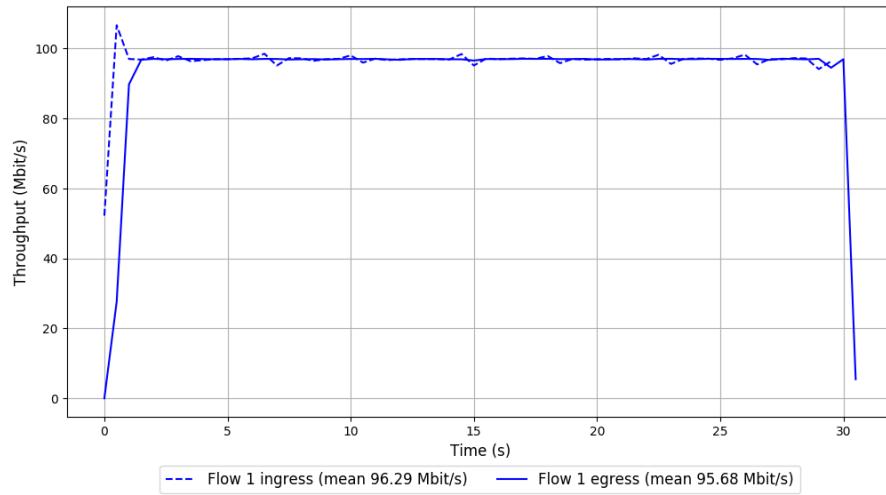


Run 4: Statistics of FillP

```
Start at: 2018-12-19 23:58:13
End at: 2018-12-19 23:58:43
Local clock offset: -2.921 ms
Remote clock offset: -2.559 ms

# Below is generated by plot.py at 2018-12-20 00:30:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.68 Mbit/s
95th percentile per-packet one-way delay: 39.509 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 95.68 Mbit/s
95th percentile per-packet one-way delay: 39.509 ms
Loss rate: 0.62%
```

## Run 4: Report of FillP — Data Link

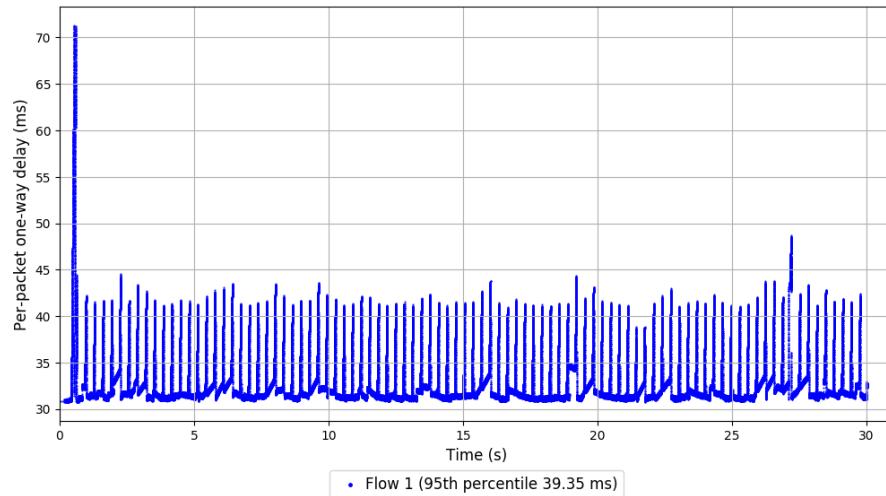
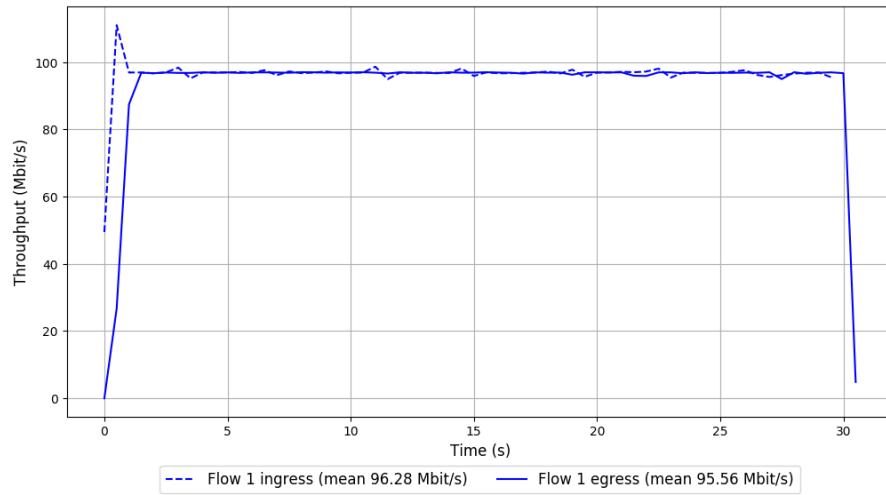


Run 5: Statistics of FillP

```
Start at: 2018-12-20 00:20:11
End at: 2018-12-20 00:20:41
Local clock offset: -2.865 ms
Remote clock offset: -2.499 ms

# Below is generated by plot.py at 2018-12-20 00:30:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 39.347 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 95.56 Mbit/s
95th percentile per-packet one-way delay: 39.347 ms
Loss rate: 0.74%
```

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

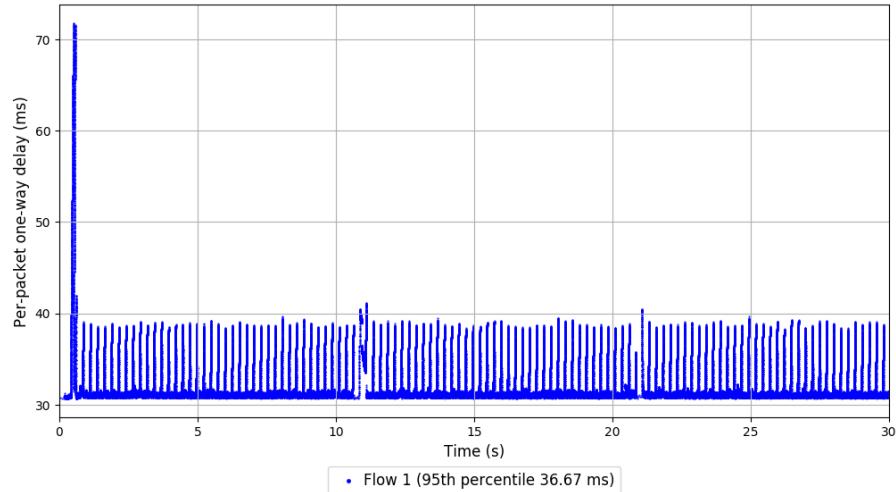
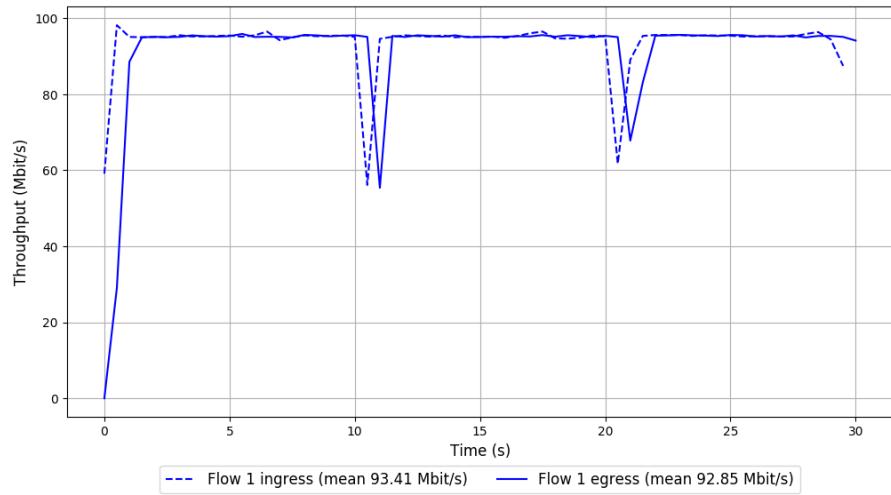


Run 1: Statistics of FillP-Sheep

```
Start at: 2018-12-19 22:43:04
End at: 2018-12-19 22:43:34
Local clock offset: 0.516 ms
Remote clock offset: -4.121 ms

# Below is generated by plot.py at 2018-12-20 00:30:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.85 Mbit/s
95th percentile per-packet one-way delay: 36.666 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 92.85 Mbit/s
95th percentile per-packet one-way delay: 36.666 ms
Loss rate: 0.61%
```

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

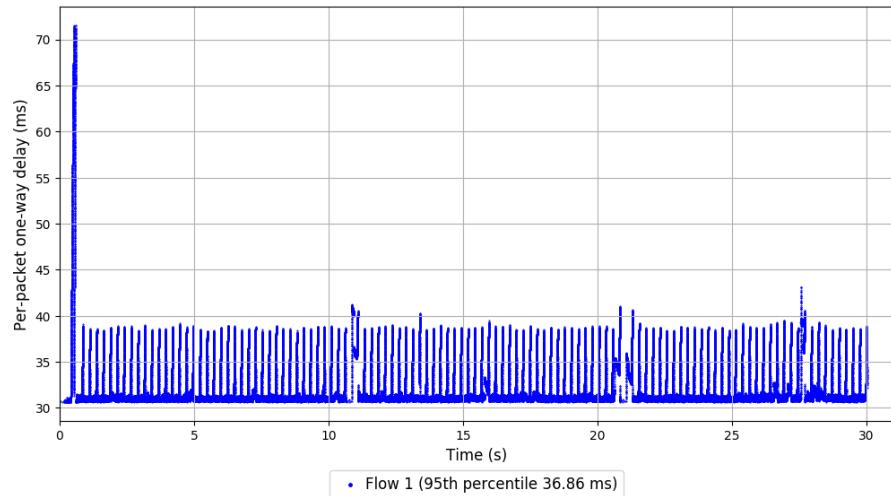
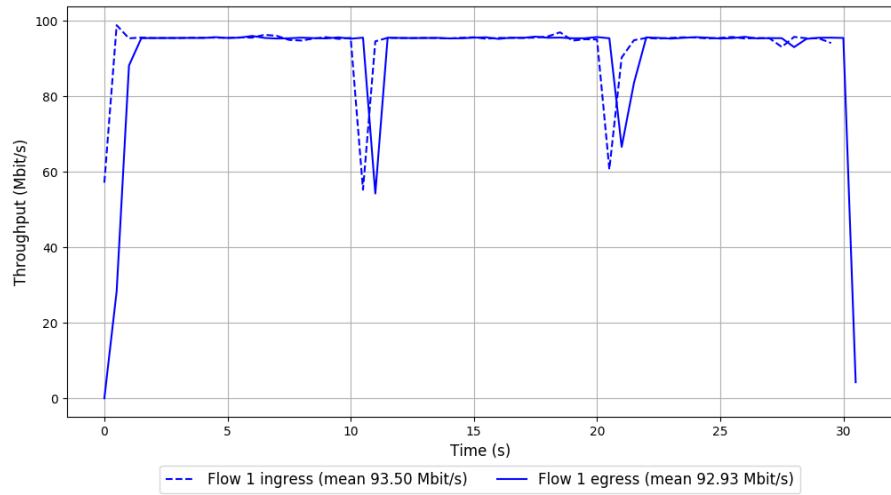


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-12-19 23:04:49
End at: 2018-12-19 23:05:19
Local clock offset: 0.598 ms
Remote clock offset: -3.713 ms

# Below is generated by plot.py at 2018-12-20 00:31:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.93 Mbit/s
95th percentile per-packet one-way delay: 36.858 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 92.93 Mbit/s
95th percentile per-packet one-way delay: 36.858 ms
Loss rate: 0.61%
```

## Run 2: Report of FillP-Sheep — Data Link

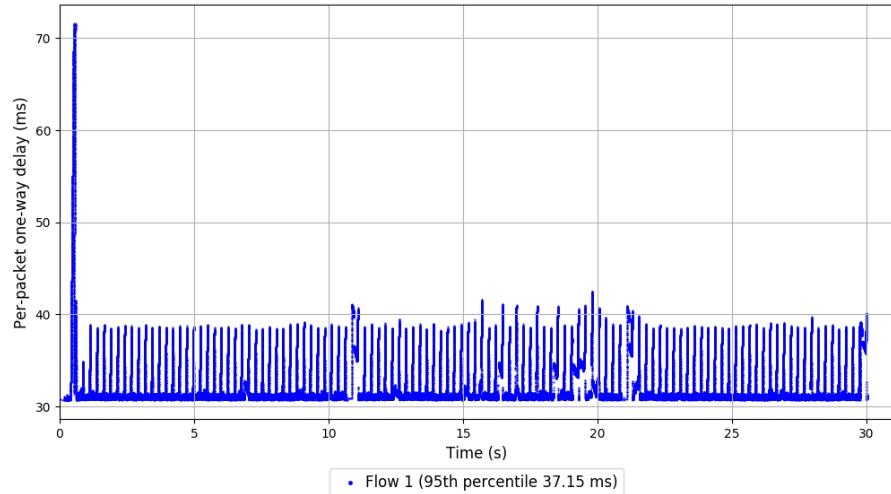
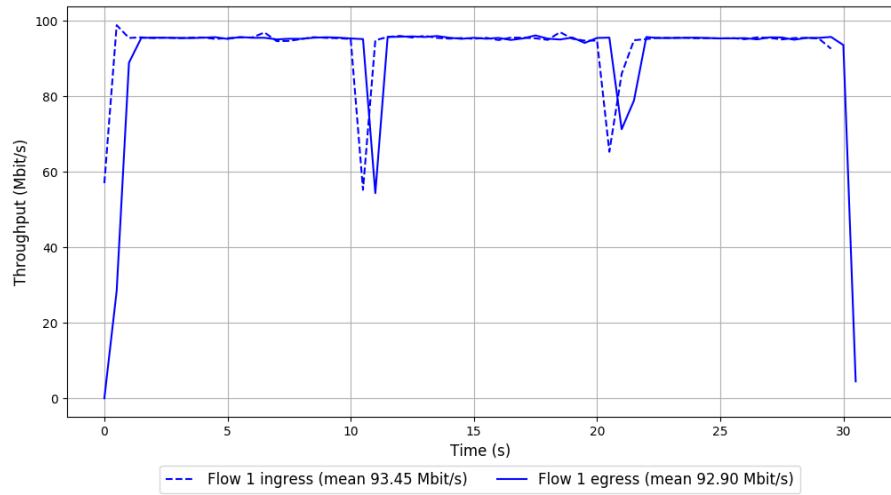


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-12-19 23:26:58
End at: 2018-12-19 23:27:28
Local clock offset: 0.449 ms
Remote clock offset: -3.102 ms

# Below is generated by plot.py at 2018-12-20 00:31:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.90 Mbit/s
95th percentile per-packet one-way delay: 37.145 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 92.90 Mbit/s
95th percentile per-packet one-way delay: 37.145 ms
Loss rate: 0.59%
```

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

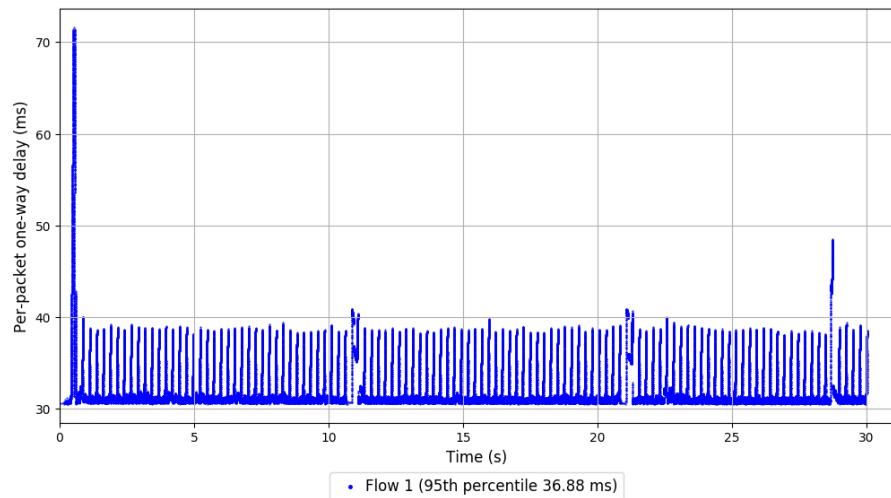
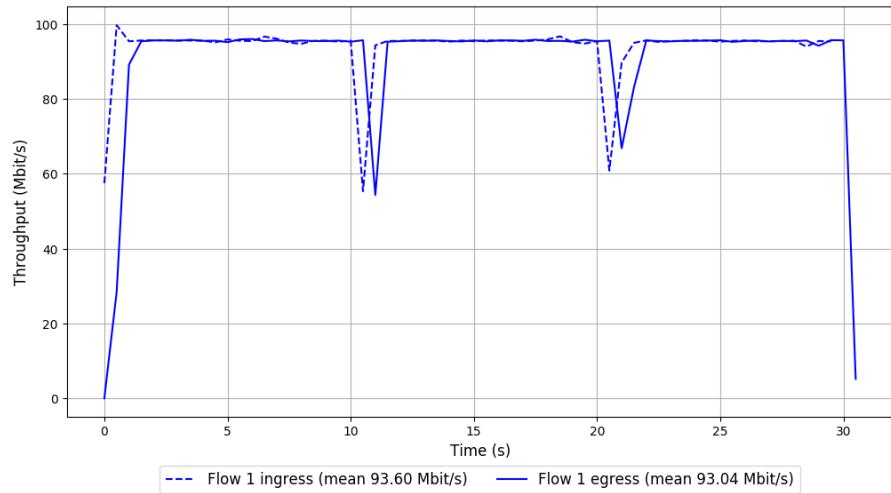


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-12-19 23:49:05
End at: 2018-12-19 23:49:35
Local clock offset: -2.195 ms
Remote clock offset: -2.729 ms

# Below is generated by plot.py at 2018-12-20 00:31:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.04 Mbit/s
95th percentile per-packet one-way delay: 36.884 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 93.04 Mbit/s
95th percentile per-packet one-way delay: 36.884 ms
Loss rate: 0.60%
```

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

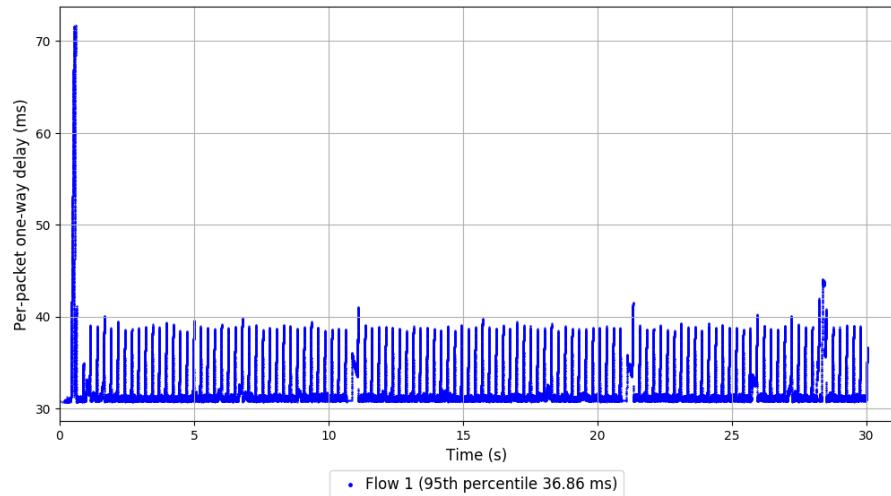
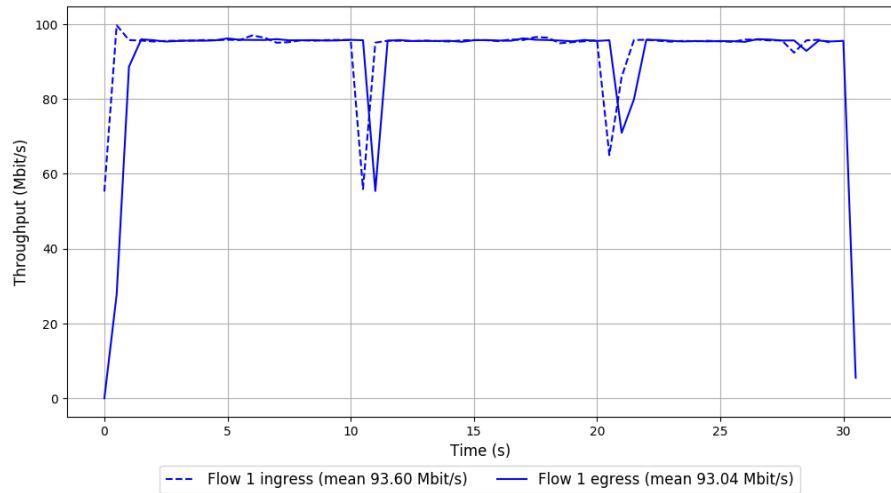


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-12-20 00:10:57
End at: 2018-12-20 00:11:27
Local clock offset: -3.0 ms
Remote clock offset: -2.57 ms

# Below is generated by plot.py at 2018-12-20 00:31:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.04 Mbit/s
95th percentile per-packet one-way delay: 36.858 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 93.04 Mbit/s
95th percentile per-packet one-way delay: 36.858 ms
Loss rate: 0.58%
```

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

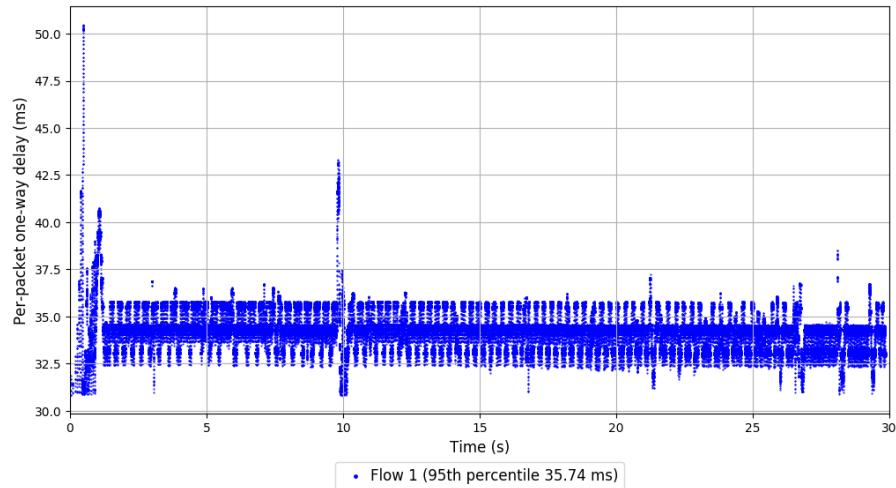
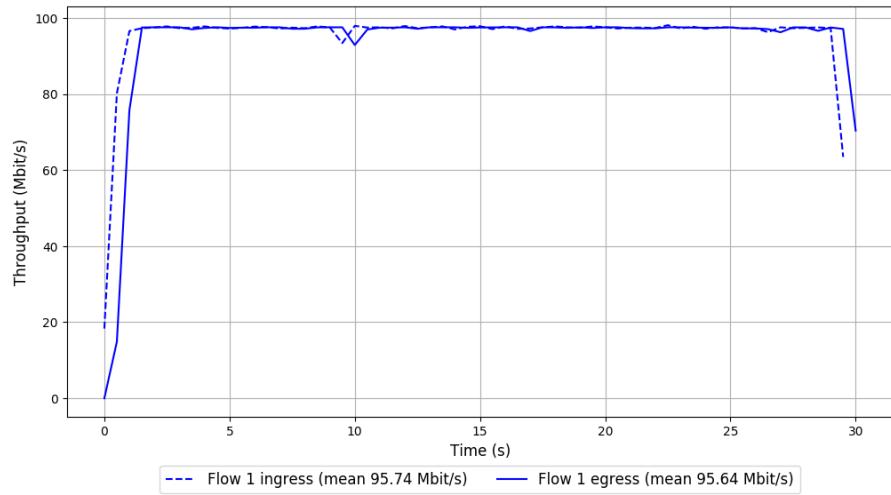


Run 1: Statistics of Indigo

```
Start at: 2018-12-19 22:56:49
End at: 2018-12-19 22:57:19
Local clock offset: 0.493 ms
Remote clock offset: -3.942 ms

# Below is generated by plot.py at 2018-12-20 00:31:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.64 Mbit/s
95th percentile per-packet one-way delay: 35.743 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 95.64 Mbit/s
95th percentile per-packet one-way delay: 35.743 ms
Loss rate: 0.10%
```

## Run 1: Report of Indigo — Data Link

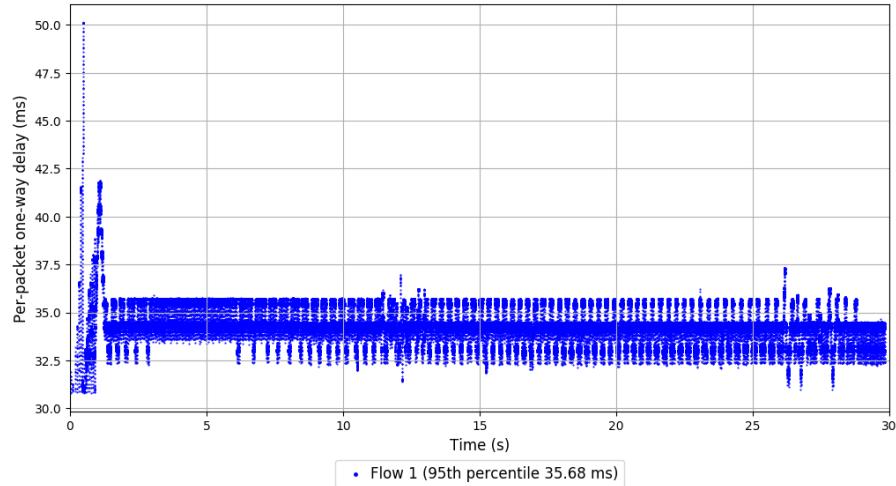
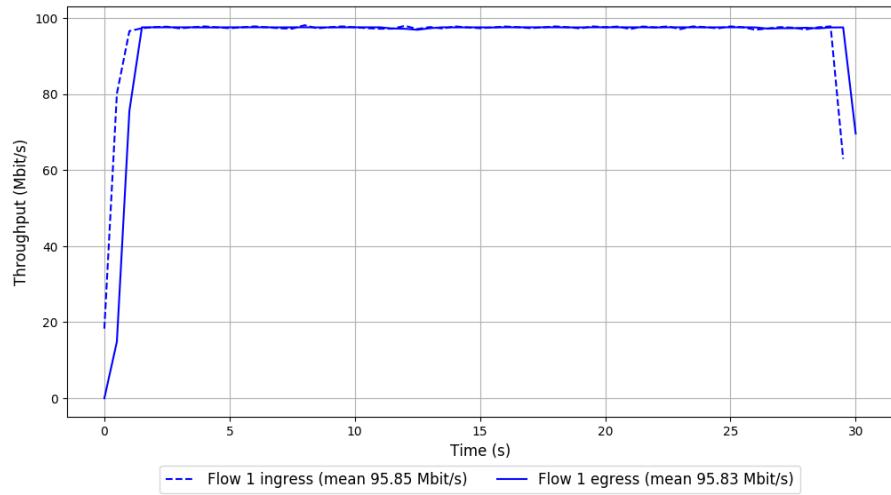


Run 2: Statistics of Indigo

```
Start at: 2018-12-19 23:18:51
End at: 2018-12-19 23:19:21
Local clock offset: 0.445 ms
Remote clock offset: -3.264 ms

# Below is generated by plot.py at 2018-12-20 00:31:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.83 Mbit/s
95th percentile per-packet one-way delay: 35.676 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 95.83 Mbit/s
95th percentile per-packet one-way delay: 35.676 ms
Loss rate: 0.02%
```

## Run 2: Report of Indigo — Data Link

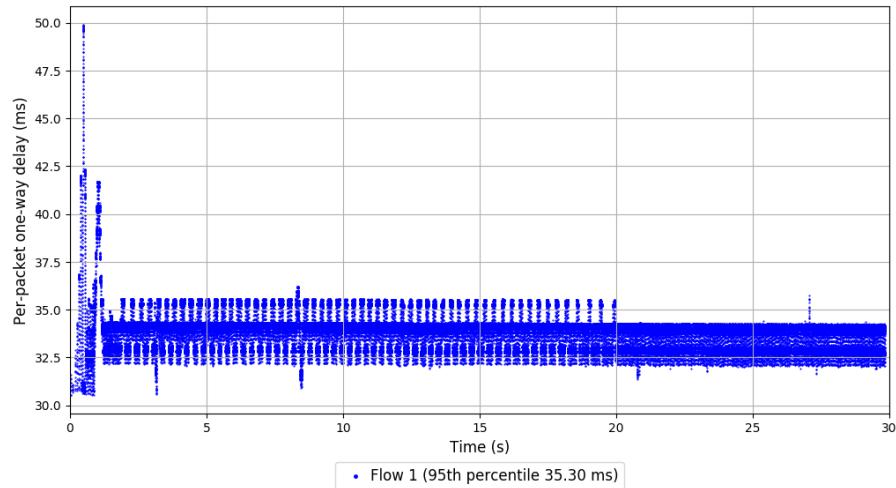
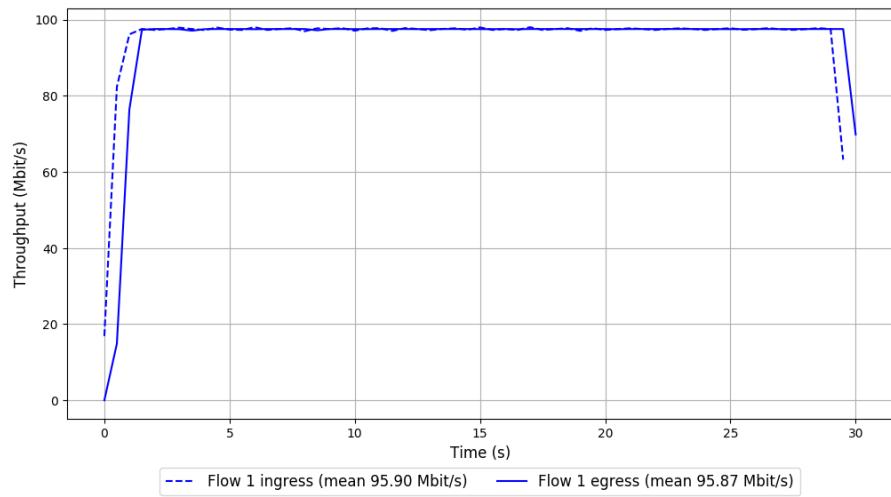


Run 3: Statistics of Indigo

```
Start at: 2018-12-19 23:40:57
End at: 2018-12-19 23:41:27
Local clock offset: -0.979 ms
Remote clock offset: -2.989 ms

# Below is generated by plot.py at 2018-12-20 00:32:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.87 Mbit/s
95th percentile per-packet one-way delay: 35.303 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 95.87 Mbit/s
95th percentile per-packet one-way delay: 35.303 ms
Loss rate: 0.02%
```

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

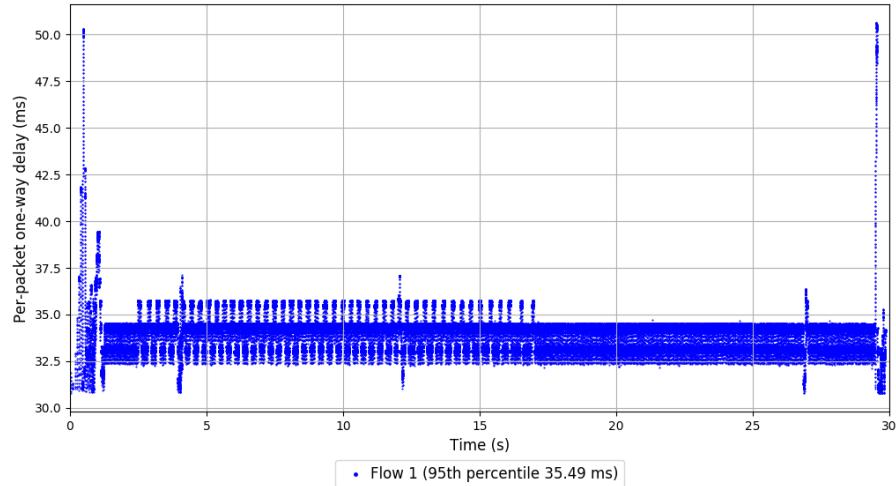
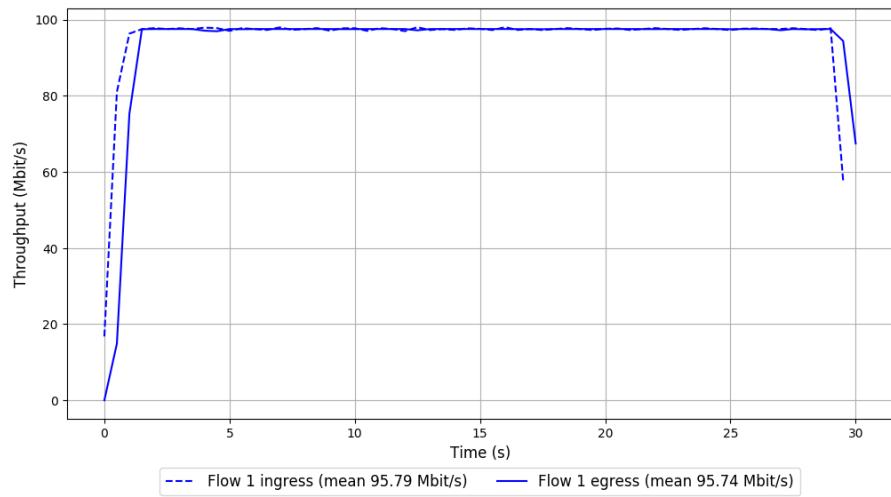


Run 4: Statistics of Indigo

```
Start at: 2018-12-20 00:02:54
End at: 2018-12-20 00:03:24
Local clock offset: -3.159 ms
Remote clock offset: -2.556 ms

# Below is generated by plot.py at 2018-12-20 00:32:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.74 Mbit/s
95th percentile per-packet one-way delay: 35.486 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 95.74 Mbit/s
95th percentile per-packet one-way delay: 35.486 ms
Loss rate: 0.04%
```

## Run 4: Report of Indigo — Data Link

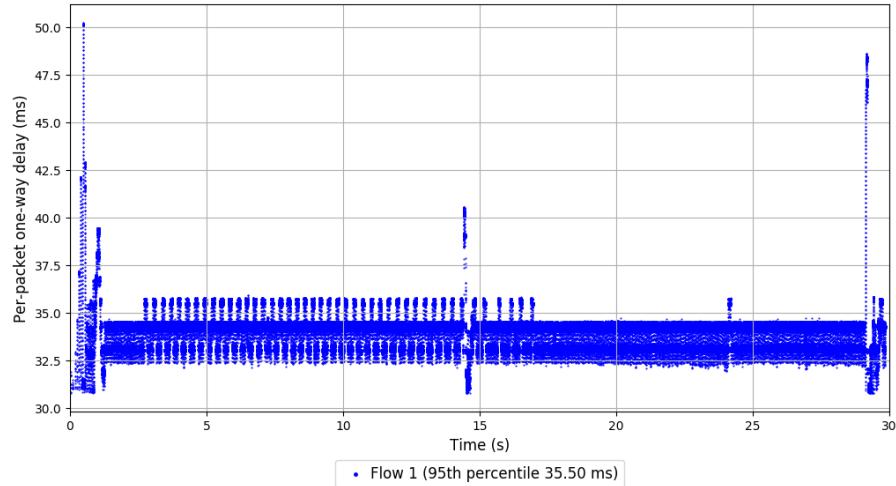
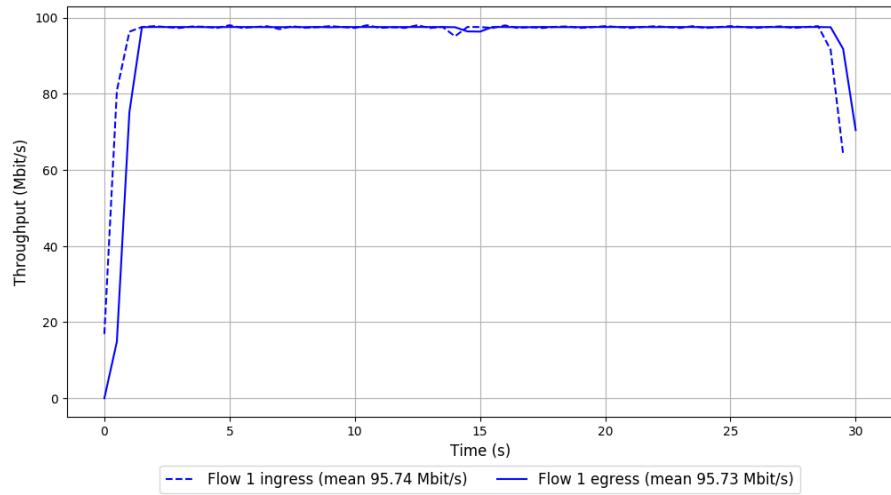


Run 5: Statistics of Indigo

```
Start at: 2018-12-20 00:25:06
End at: 2018-12-20 00:25:36
Local clock offset: -2.881 ms
Remote clock offset: -2.57 ms

# Below is generated by plot.py at 2018-12-20 00:32:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.73 Mbit/s
95th percentile per-packet one-way delay: 35.500 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.73 Mbit/s
95th percentile per-packet one-way delay: 35.500 ms
Loss rate: 0.00%
```

## Run 5: Report of Indigo — Data Link

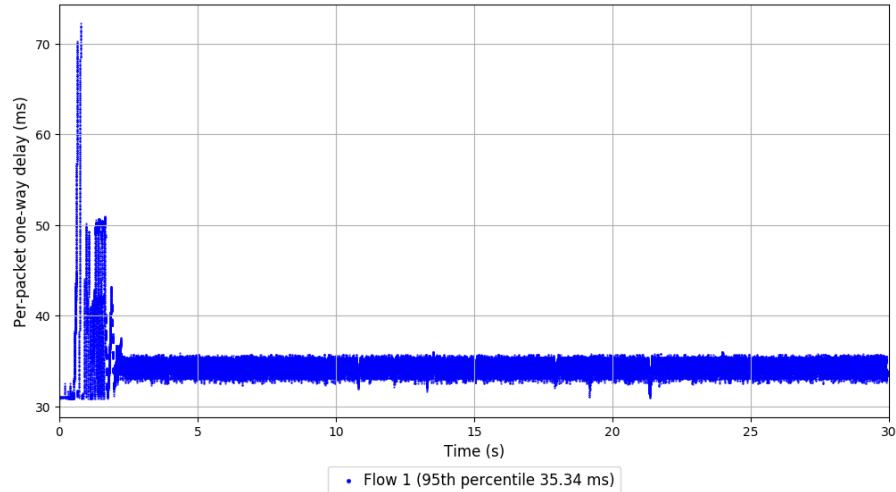
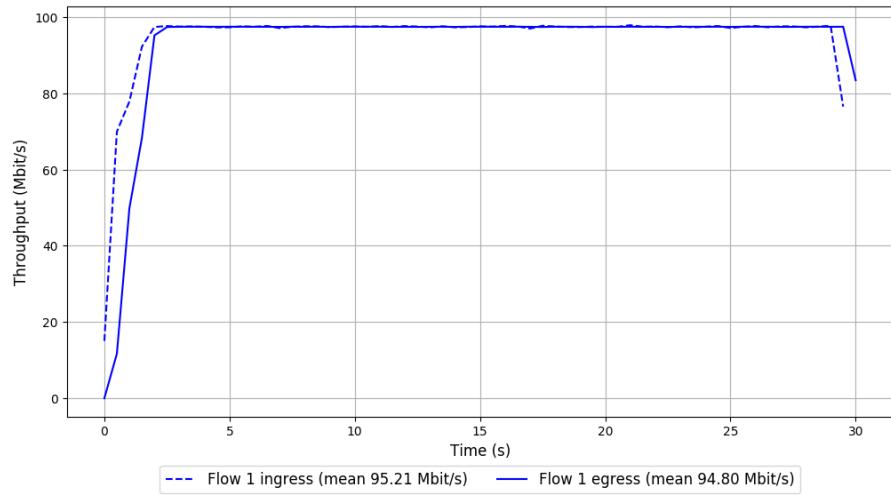


Run 1: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 22:48:47
End at: 2018-12-19 22:49:17
Local clock offset: 0.469 ms
Remote clock offset: -3.979 ms

# Below is generated by plot.py at 2018-12-20 00:32:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.80 Mbit/s
95th percentile per-packet one-way delay: 35.339 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 94.80 Mbit/s
95th percentile per-packet one-way delay: 35.339 ms
Loss rate: 0.43%
```

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

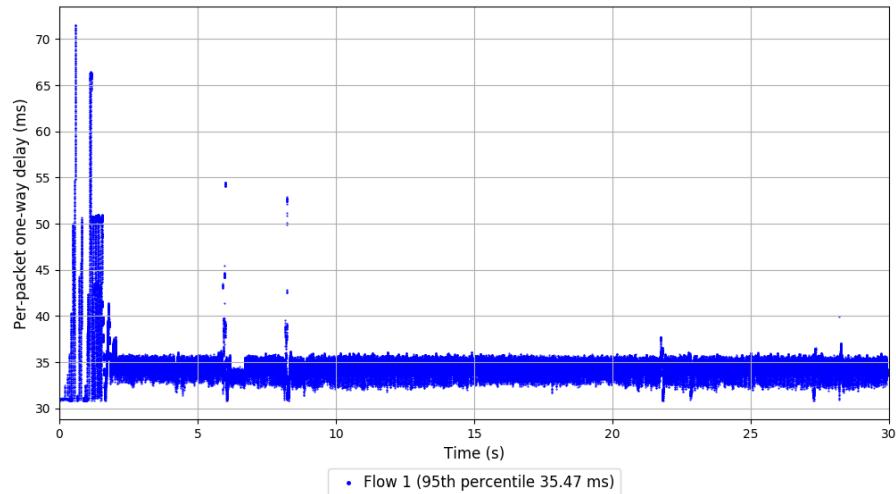
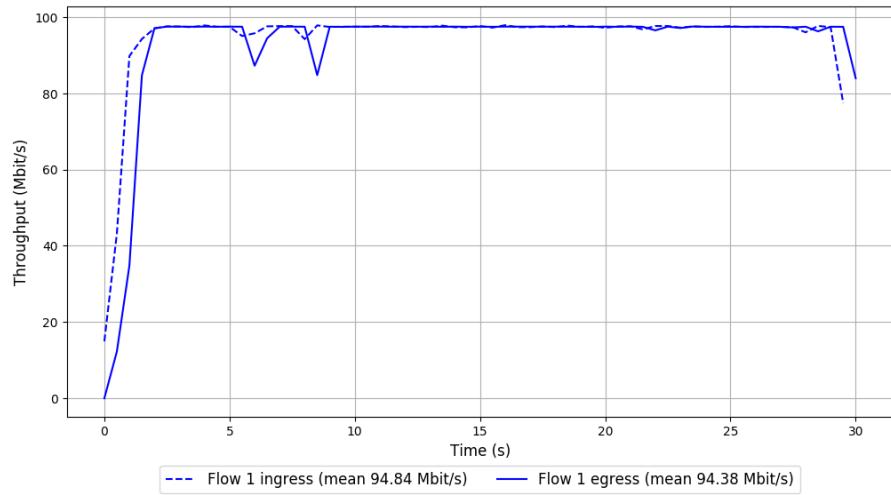


Run 2: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 23:10:31
End at: 2018-12-19 23:11:01
Local clock offset: 0.489 ms
Remote clock offset: -3.49 ms

# Below is generated by plot.py at 2018-12-20 00:32:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.38 Mbit/s
95th percentile per-packet one-way delay: 35.470 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 94.38 Mbit/s
95th percentile per-packet one-way delay: 35.470 ms
Loss rate: 0.47%
```

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

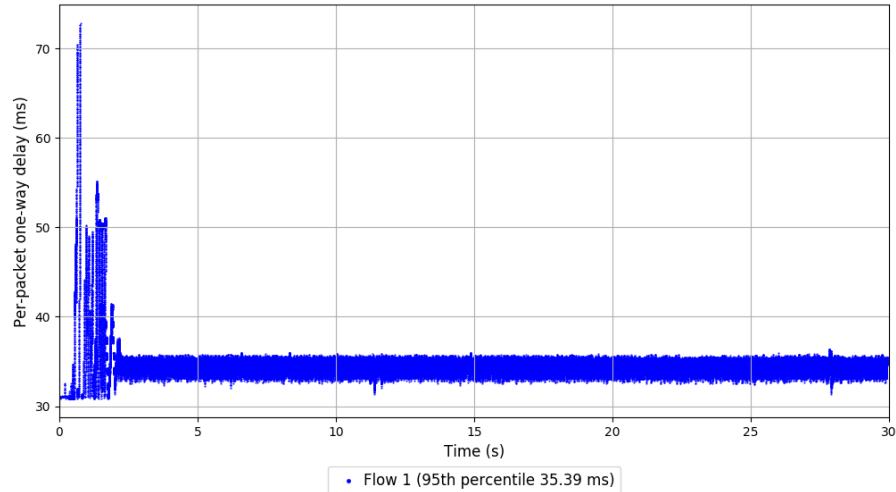
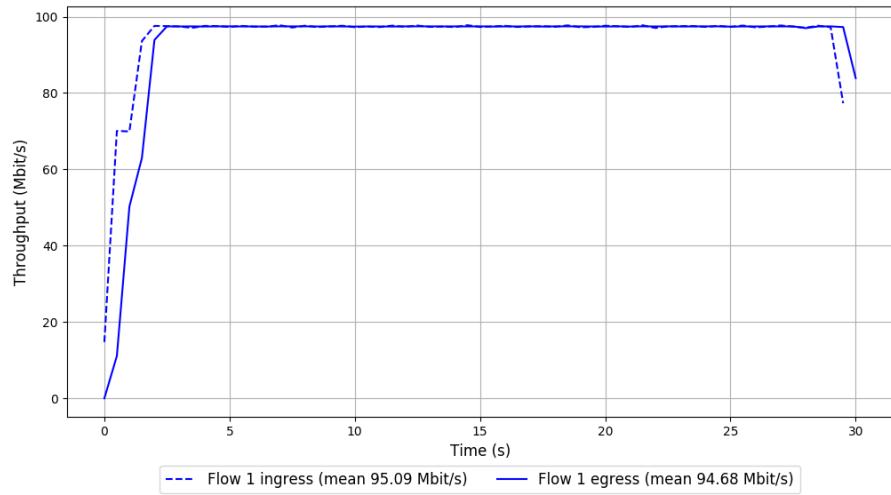


Run 3: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 23:32:56
End at: 2018-12-19 23:33:26
Local clock offset: 0.51 ms
Remote clock offset: -2.934 ms

# Below is generated by plot.py at 2018-12-20 00:32:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.68 Mbit/s
95th percentile per-packet one-way delay: 35.391 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 94.68 Mbit/s
95th percentile per-packet one-way delay: 35.391 ms
Loss rate: 0.42%
```

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

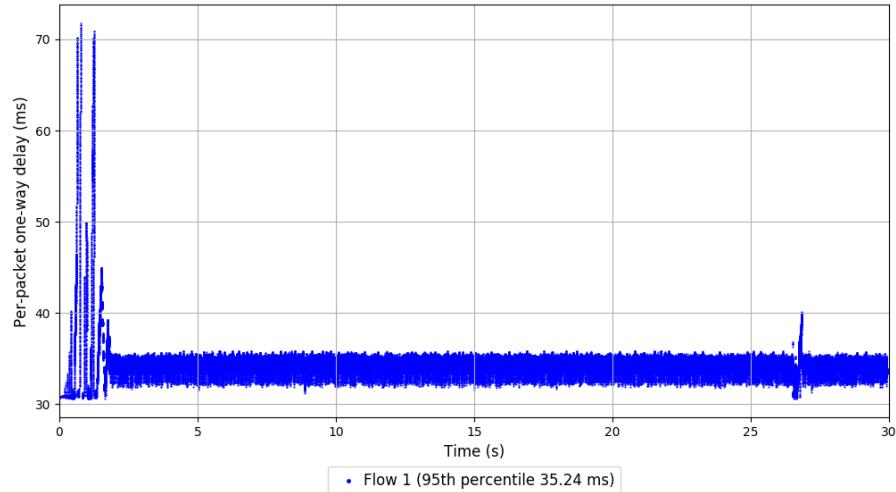
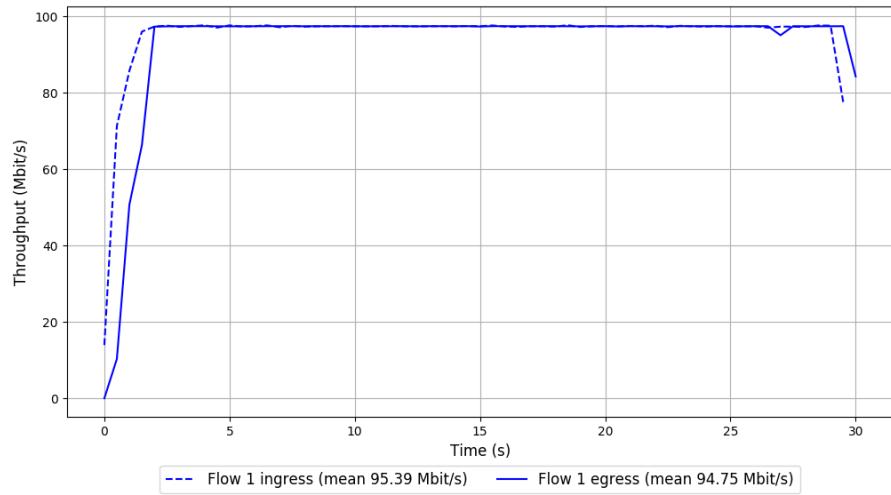


Run 4: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 23:54:51
End at: 2018-12-19 23:55:21
Local clock offset: -2.681 ms
Remote clock offset: -2.696 ms

# Below is generated by plot.py at 2018-12-20 00:32:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.75 Mbit/s
95th percentile per-packet one-way delay: 35.236 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 94.75 Mbit/s
95th percentile per-packet one-way delay: 35.236 ms
Loss rate: 0.66%
```

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

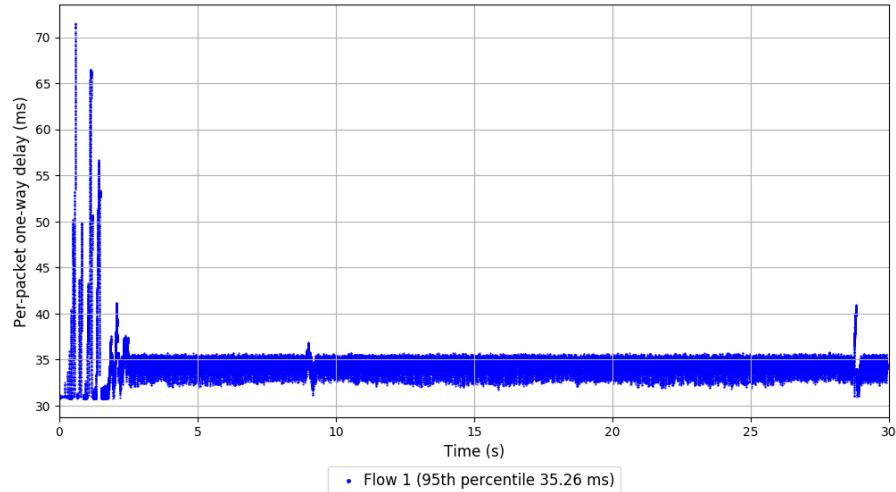
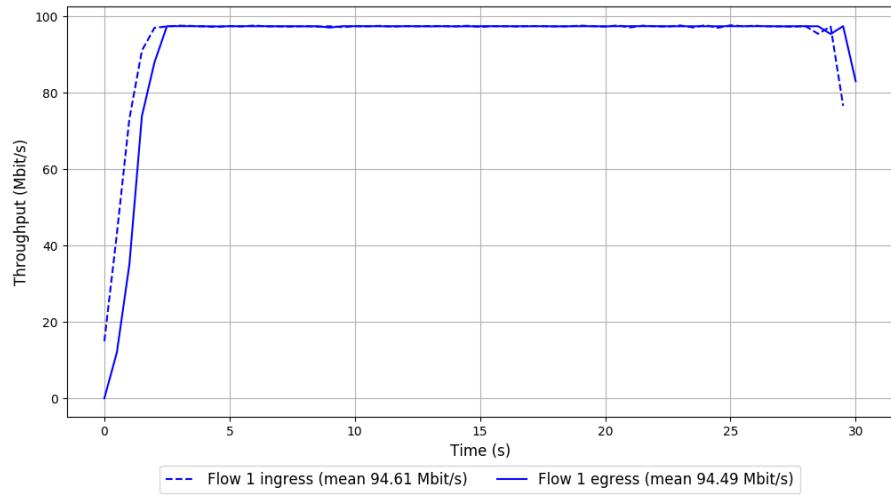


Run 5: Statistics of Indigo-MusesD

```
Start at: 2018-12-20 00:16:44
End at: 2018-12-20 00:17:14
Local clock offset: -2.871 ms
Remote clock offset: -2.588 ms

# Below is generated by plot.py at 2018-12-20 00:32:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.49 Mbit/s
95th percentile per-packet one-way delay: 35.259 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 94.49 Mbit/s
95th percentile per-packet one-way delay: 35.259 ms
Loss rate: 0.11%
```

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

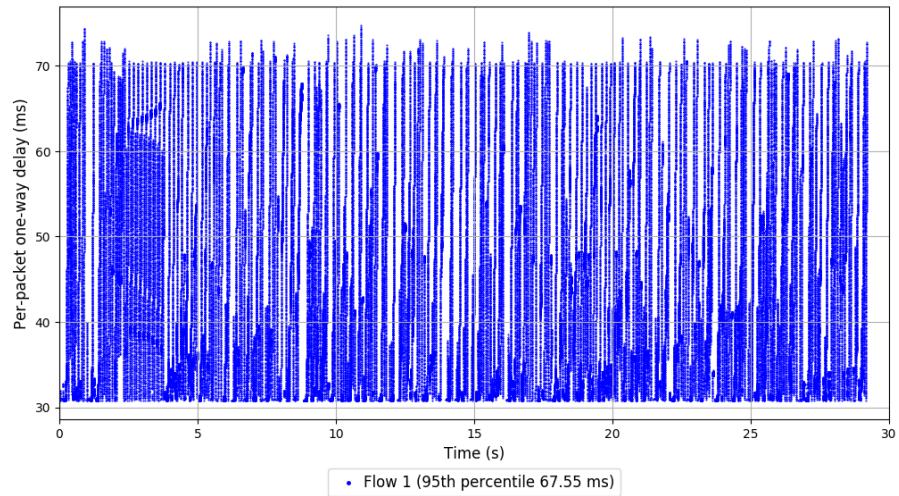
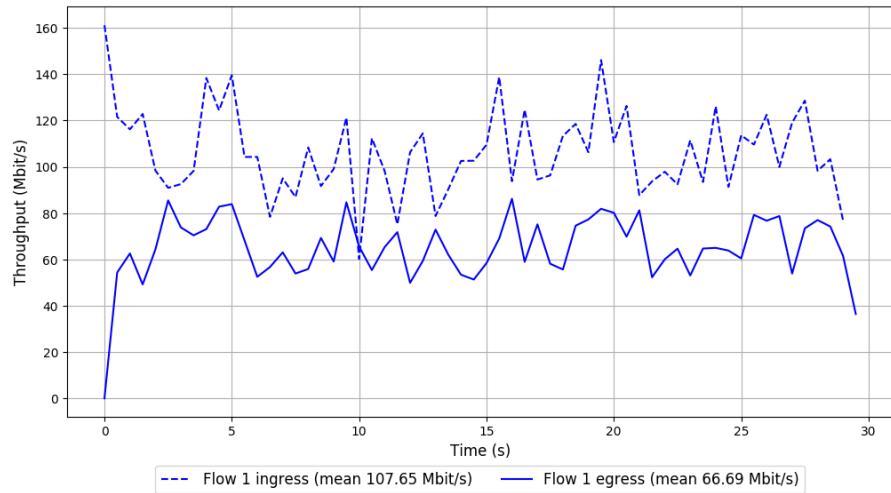


Run 1: Statistics of Indigo-MusesT

```
Start at: 2018-12-19 22:55:39
End at: 2018-12-19 22:56:09
Local clock offset: 0.492 ms
Remote clock offset: -3.912 ms

# Below is generated by plot.py at 2018-12-20 00:32:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.69 Mbit/s
95th percentile per-packet one-way delay: 67.547 ms
Loss rate: 38.02%
-- Flow 1:
Average throughput: 66.69 Mbit/s
95th percentile per-packet one-way delay: 67.547 ms
Loss rate: 38.02%
```

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

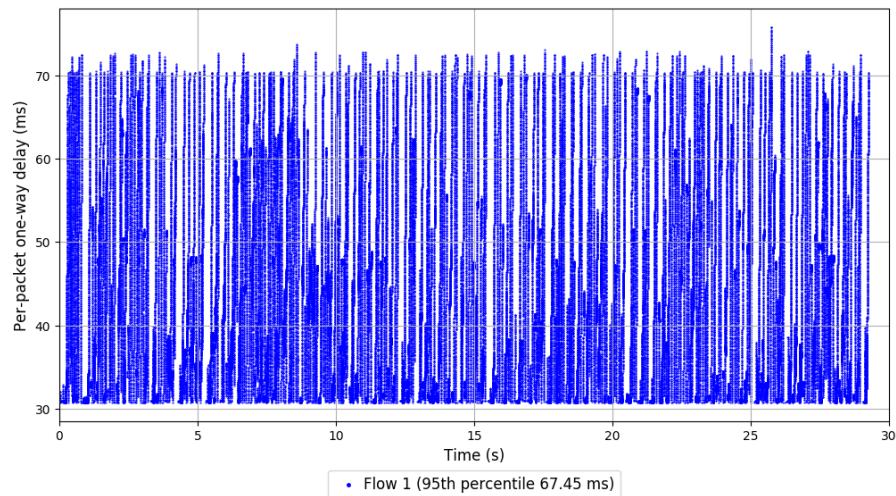
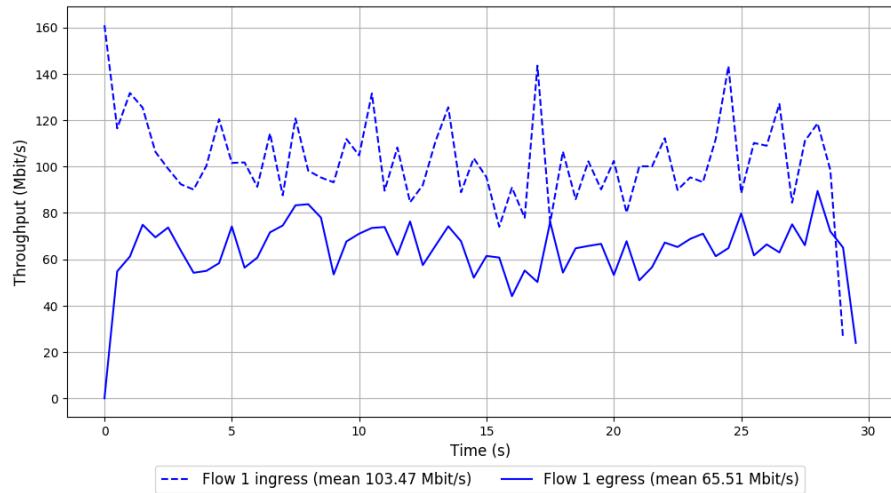


Run 2: Statistics of Indigo-MusesT

```
Start at: 2018-12-19 23:17:37
End at: 2018-12-19 23:18:07
Local clock offset: 0.427 ms
Remote clock offset: -3.298 ms

# Below is generated by plot.py at 2018-12-20 00:32:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.51 Mbit/s
95th percentile per-packet one-way delay: 67.453 ms
Loss rate: 36.60%
-- Flow 1:
Average throughput: 65.51 Mbit/s
95th percentile per-packet one-way delay: 67.453 ms
Loss rate: 36.60%
```

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

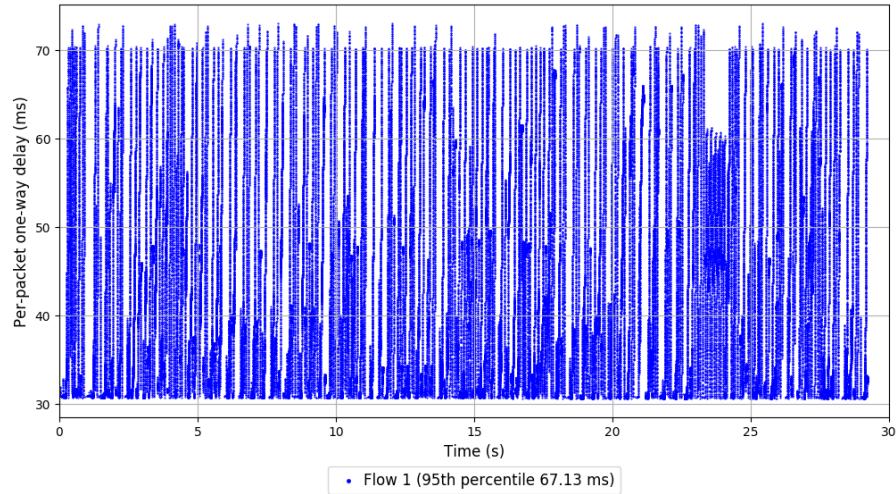
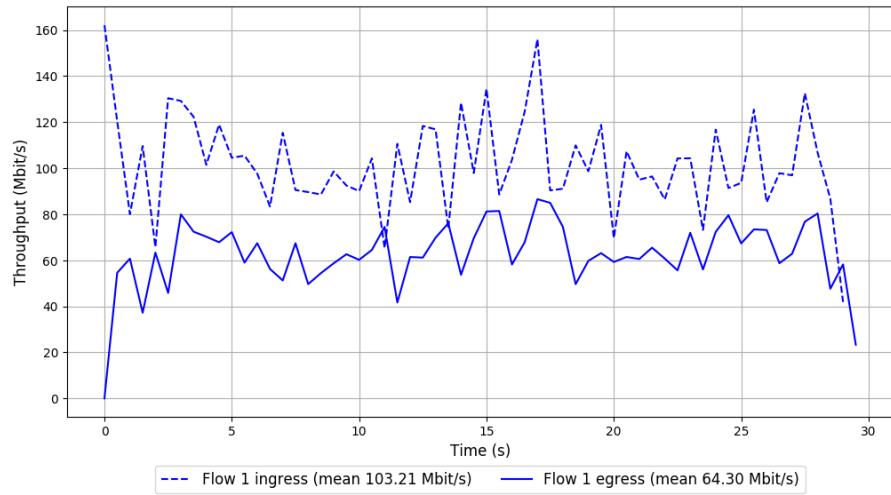


Run 3: Statistics of Indigo-MusesT

```
Start at: 2018-12-19 23:39:48
End at: 2018-12-19 23:40:18
Local clock offset: -0.692 ms
Remote clock offset: -2.823 ms

# Below is generated by plot.py at 2018-12-20 00:33:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.30 Mbit/s
95th percentile per-packet one-way delay: 67.132 ms
Loss rate: 37.69%
-- Flow 1:
Average throughput: 64.30 Mbit/s
95th percentile per-packet one-way delay: 67.132 ms
Loss rate: 37.69%
```

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

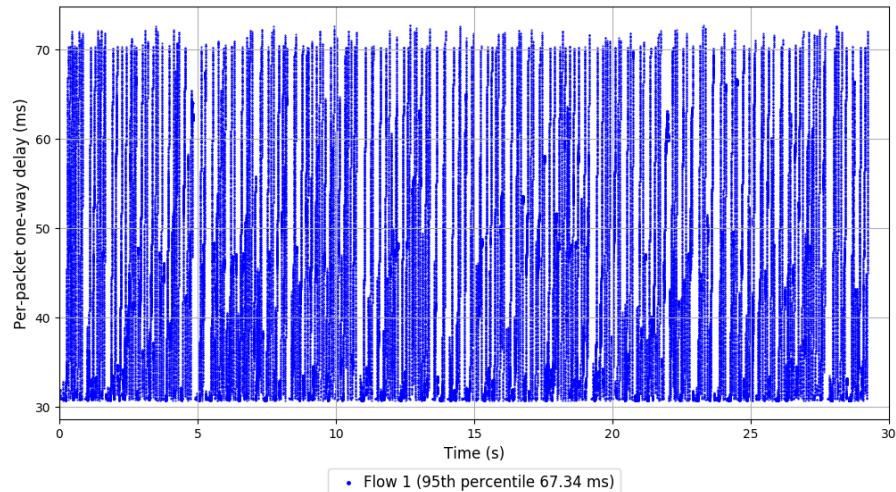
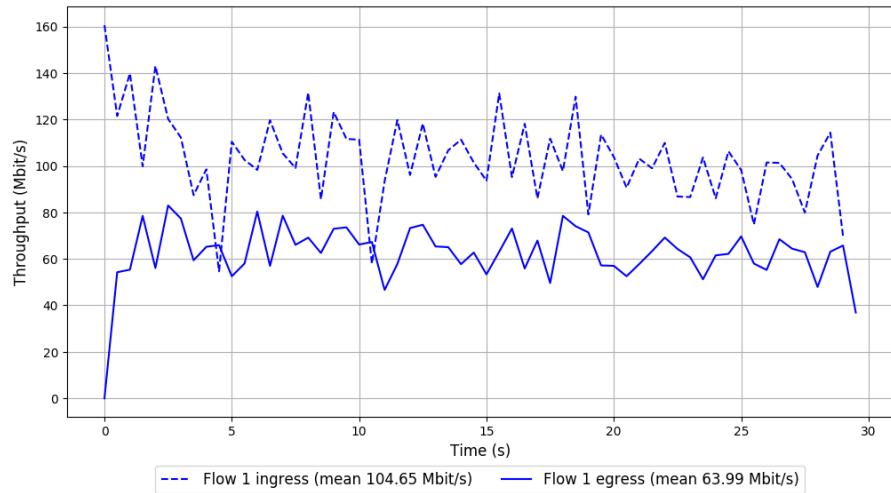


Run 4: Statistics of Indigo-MusesT

```
Start at: 2018-12-20 00:01:44
End at: 2018-12-20 00:02:14
Local clock offset: -3.099 ms
Remote clock offset: -2.545 ms

# Below is generated by plot.py at 2018-12-20 00:33:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.99 Mbit/s
95th percentile per-packet one-way delay: 67.339 ms
Loss rate: 38.79%
-- Flow 1:
Average throughput: 63.99 Mbit/s
95th percentile per-packet one-way delay: 67.339 ms
Loss rate: 38.79%
```

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

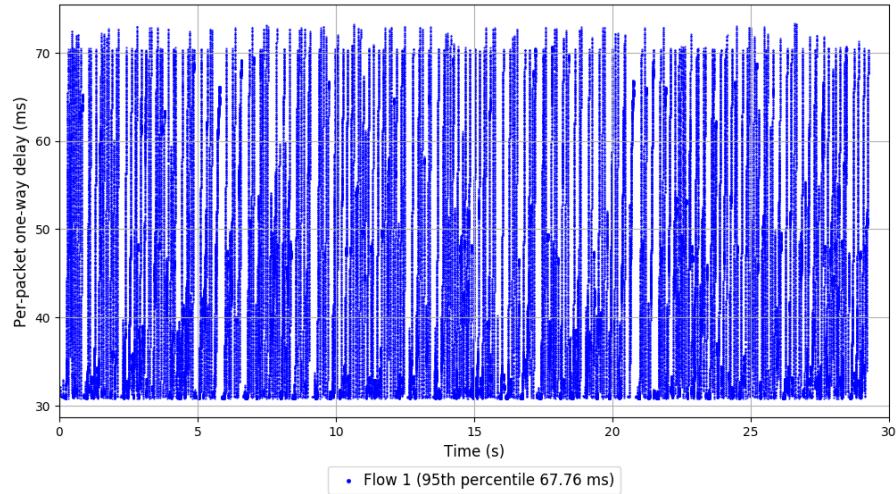
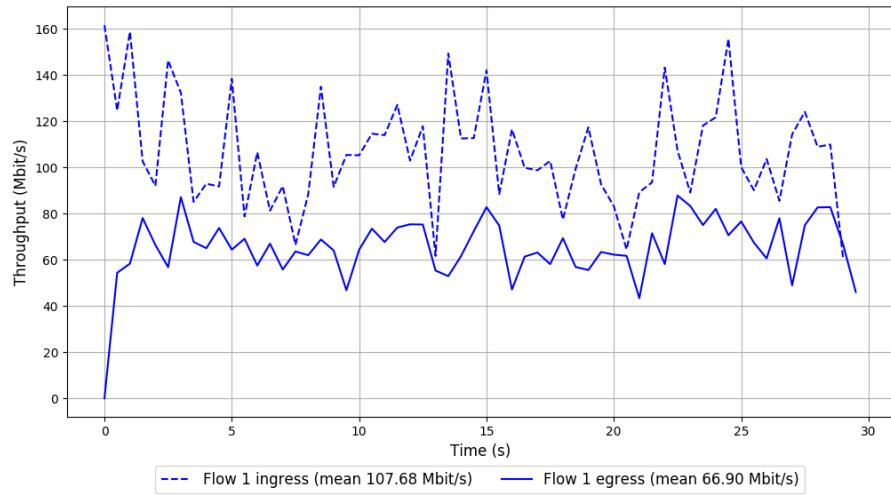


Run 5: Statistics of Indigo-MusesT

```
Start at: 2018-12-20 00:23:54
End at: 2018-12-20 00:24:24
Local clock offset: -2.866 ms
Remote clock offset: -2.555 ms

# Below is generated by plot.py at 2018-12-20 00:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.90 Mbit/s
95th percentile per-packet one-way delay: 67.764 ms
Loss rate: 37.79%
-- Flow 1:
Average throughput: 66.90 Mbit/s
95th percentile per-packet one-way delay: 67.764 ms
Loss rate: 37.79%
```

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

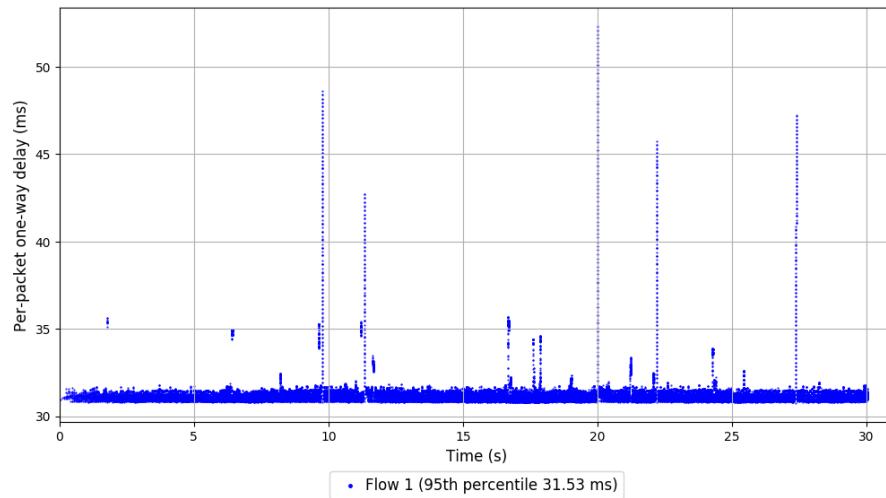
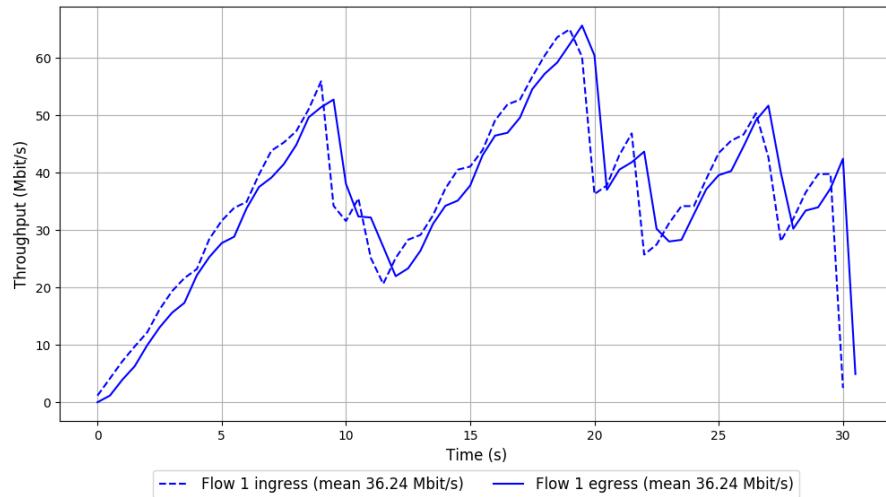


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-12-19 22:46:30
End at: 2018-12-19 22:47:00
Local clock offset: 0.468 ms
Remote clock offset: -4.076 ms

# Below is generated by plot.py at 2018-12-20 00:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 36.24 Mbit/s
95th percentile per-packet one-way delay: 31.529 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 36.24 Mbit/s
95th percentile per-packet one-way delay: 31.529 ms
Loss rate: 0.02%
```

Run 1: Report of LEDBAT — Data Link

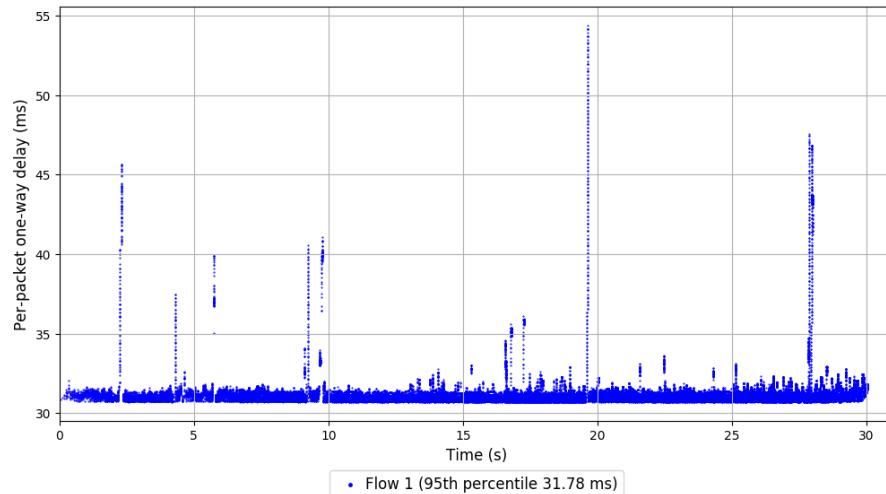
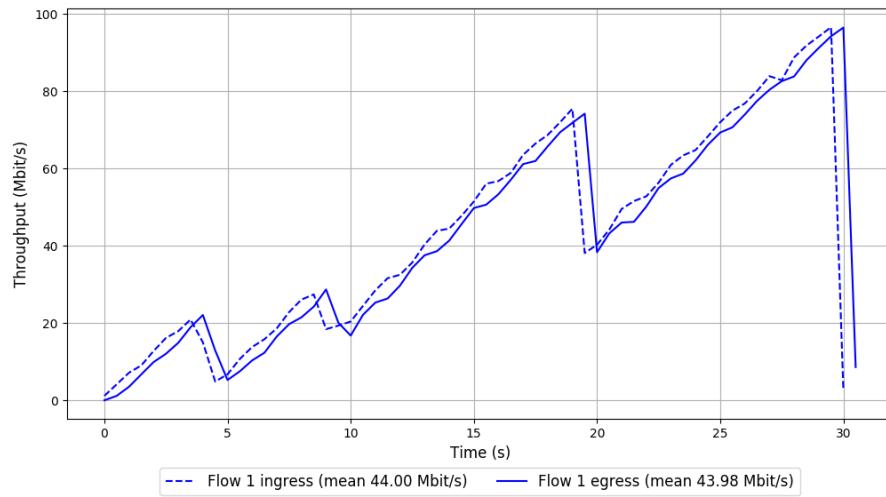


Run 2: Statistics of LEDBAT

```
Start at: 2018-12-19 23:08:14
End at: 2018-12-19 23:08:44
Local clock offset: 0.546 ms
Remote clock offset: -3.609 ms

# Below is generated by plot.py at 2018-12-20 00:33:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 43.98 Mbit/s
95th percentile per-packet one-way delay: 31.782 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 43.98 Mbit/s
95th percentile per-packet one-way delay: 31.782 ms
Loss rate: 0.05%
```

## Run 2: Report of LEDBAT — Data Link

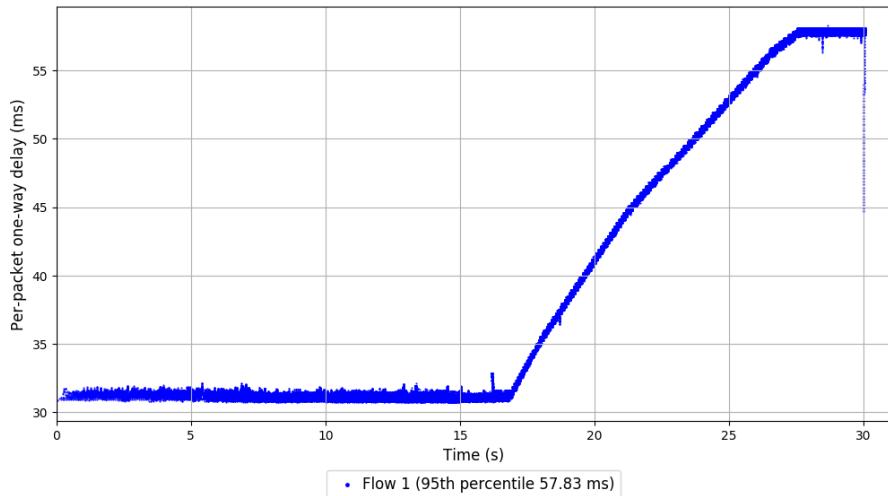
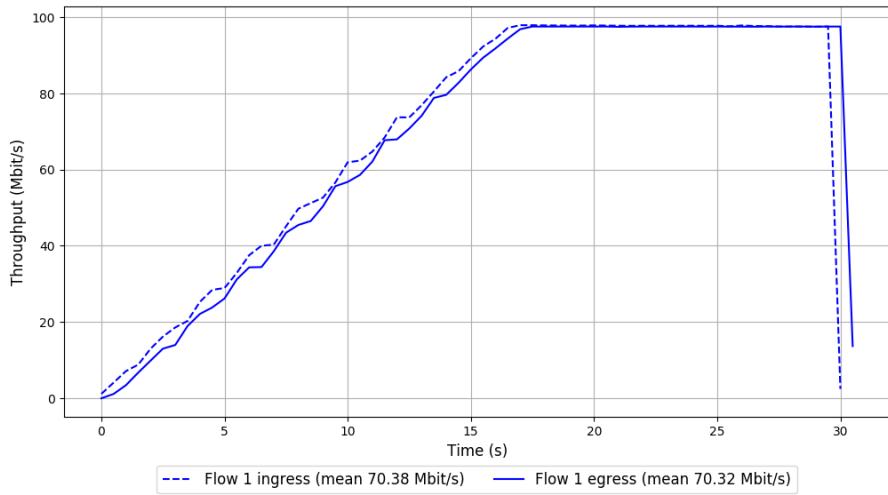


Run 3: Statistics of LEDBAT

```
Start at: 2018-12-19 23:30:27
End at: 2018-12-19 23:30:58
Local clock offset: 0.488 ms
Remote clock offset: -3.018 ms

# Below is generated by plot.py at 2018-12-20 00:33:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.32 Mbit/s
95th percentile per-packet one-way delay: 57.833 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.32 Mbit/s
95th percentile per-packet one-way delay: 57.833 ms
Loss rate: 0.00%
```

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

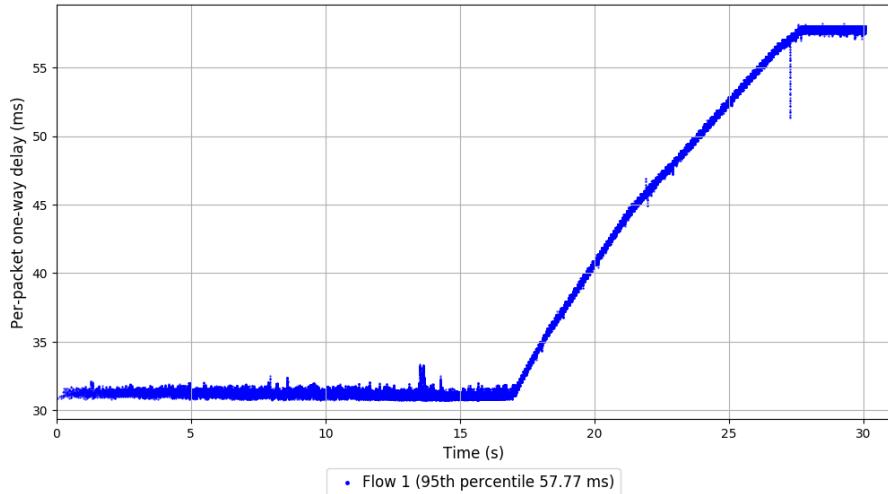
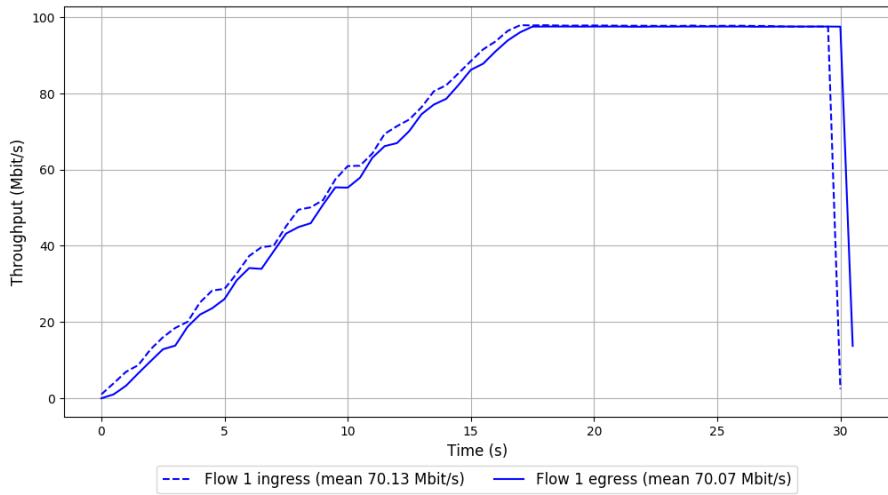


Run 4: Statistics of LEDBAT

```
Start at: 2018-12-19 23:52:32
End at: 2018-12-19 23:53:02
Local clock offset: -2.537 ms
Remote clock offset: -2.644 ms

# Below is generated by plot.py at 2018-12-20 00:33:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.07 Mbit/s
95th percentile per-packet one-way delay: 57.774 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.07 Mbit/s
95th percentile per-packet one-way delay: 57.774 ms
Loss rate: 0.00%
```

## Run 4: Report of LEDBAT — Data Link

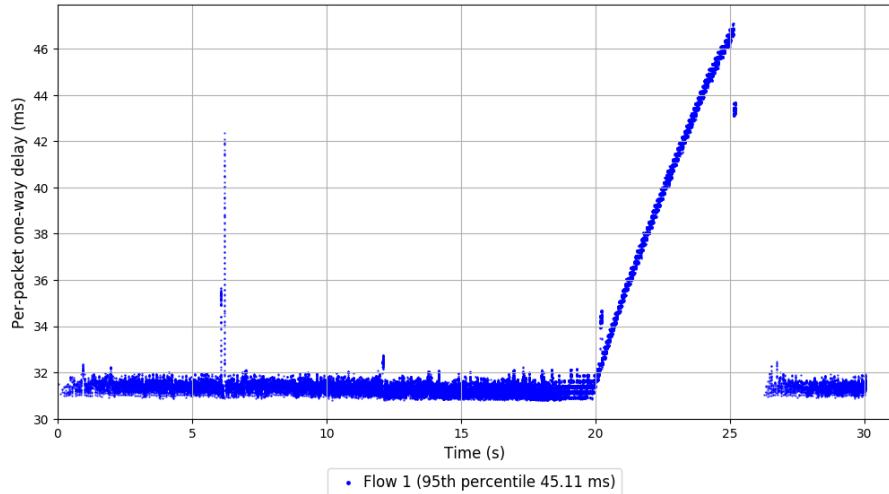
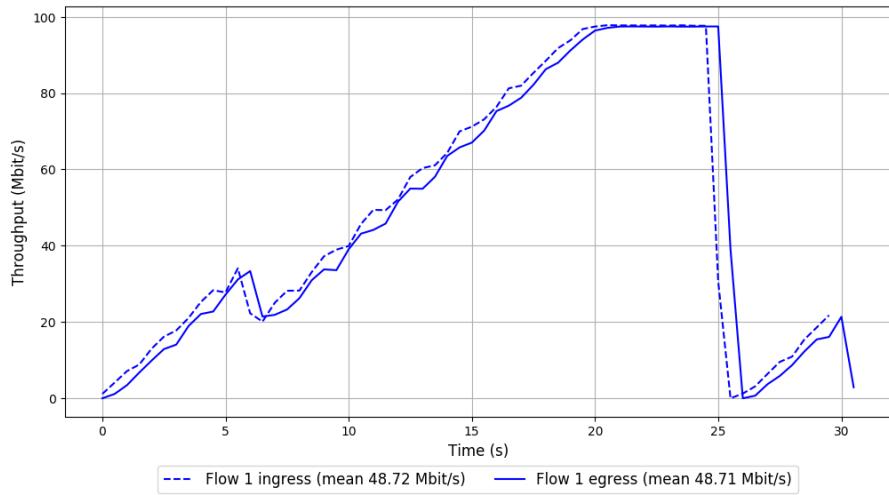


Run 5: Statistics of LEDBAT

```
Start at: 2018-12-20 00:14:25
End at: 2018-12-20 00:14:55
Local clock offset: -2.896 ms
Remote clock offset: -2.566 ms

# Below is generated by plot.py at 2018-12-20 00:33:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.71 Mbit/s
95th percentile per-packet one-way delay: 45.114 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 48.71 Mbit/s
95th percentile per-packet one-way delay: 45.114 ms
Loss rate: 0.03%
```

## Run 5: Report of LEDBAT — Data Link

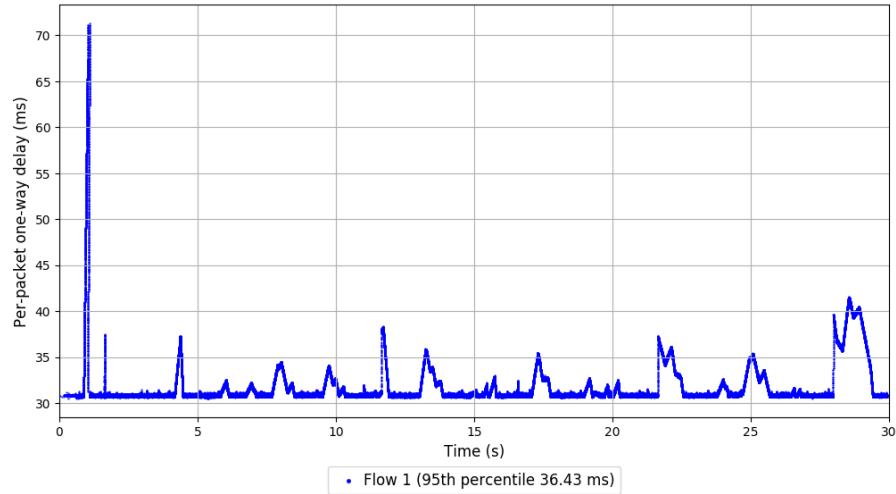
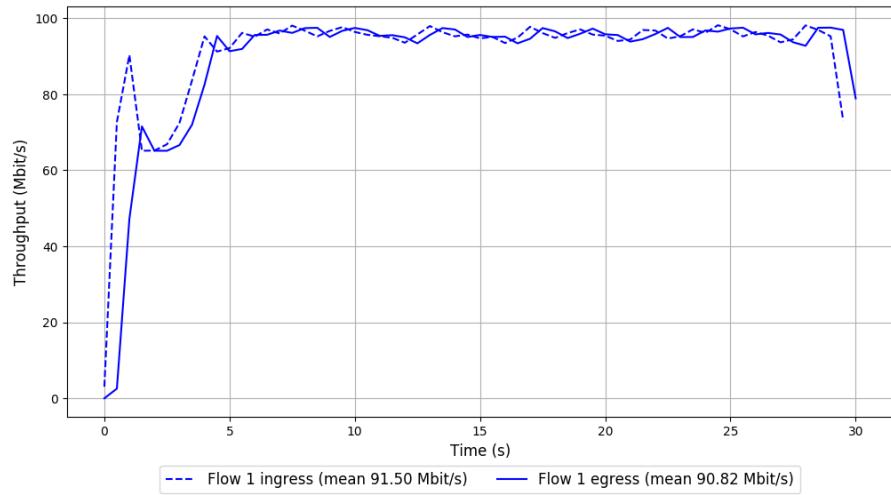


Run 1: Statistics of PCC-Allegro

```
Start at: 2018-12-19 22:47:38
End at: 2018-12-19 22:48:08
Local clock offset: 0.456 ms
Remote clock offset: -4.256 ms

# Below is generated by plot.py at 2018-12-20 00:34:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.82 Mbit/s
95th percentile per-packet one-way delay: 36.431 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 90.82 Mbit/s
95th percentile per-packet one-way delay: 36.431 ms
Loss rate: 0.75%
```

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

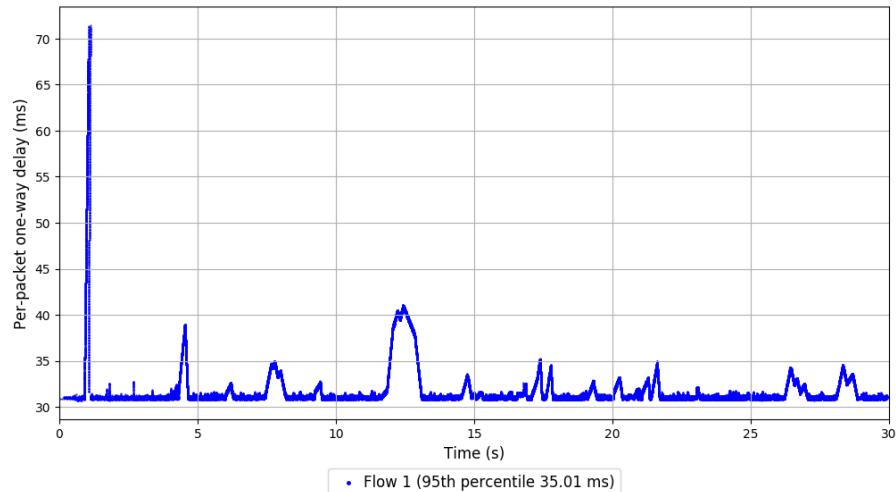
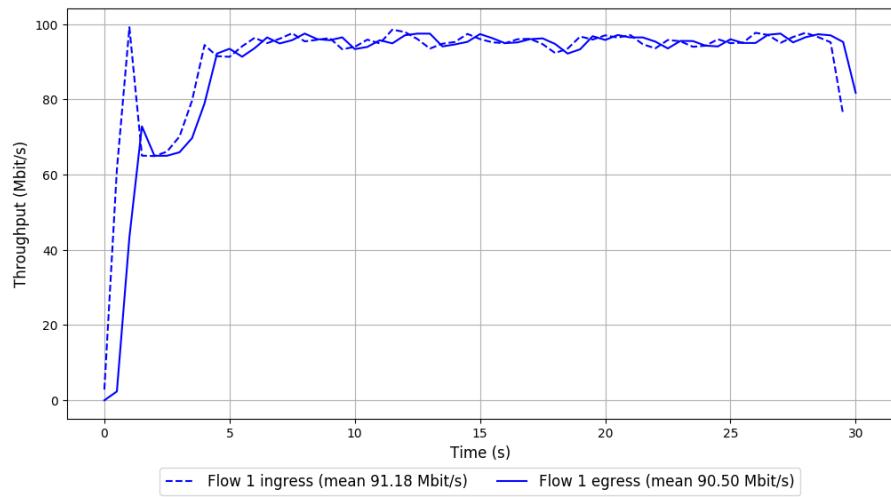


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-12-19 23:09:22
End at: 2018-12-19 23:09:52
Local clock offset: 0.523 ms
Remote clock offset: -3.592 ms

# Below is generated by plot.py at 2018-12-20 00:34:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.50 Mbit/s
95th percentile per-packet one-way delay: 35.006 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 90.50 Mbit/s
95th percentile per-packet one-way delay: 35.006 ms
Loss rate: 0.75%
```

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

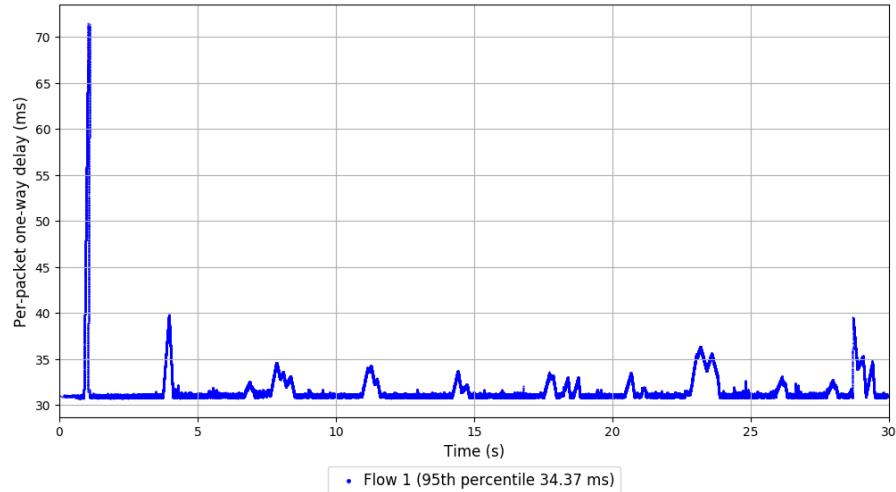
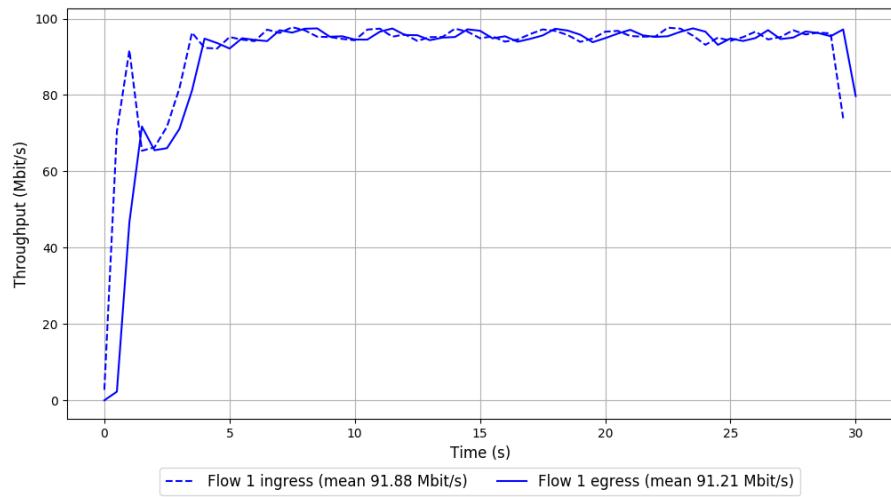


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-12-19 23:31:40
End at: 2018-12-19 23:32:10
Local clock offset: 0.493 ms
Remote clock offset: -2.962 ms

# Below is generated by plot.py at 2018-12-20 00:34:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.21 Mbit/s
95th percentile per-packet one-way delay: 34.365 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 91.21 Mbit/s
95th percentile per-packet one-way delay: 34.365 ms
Loss rate: 0.73%
```

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

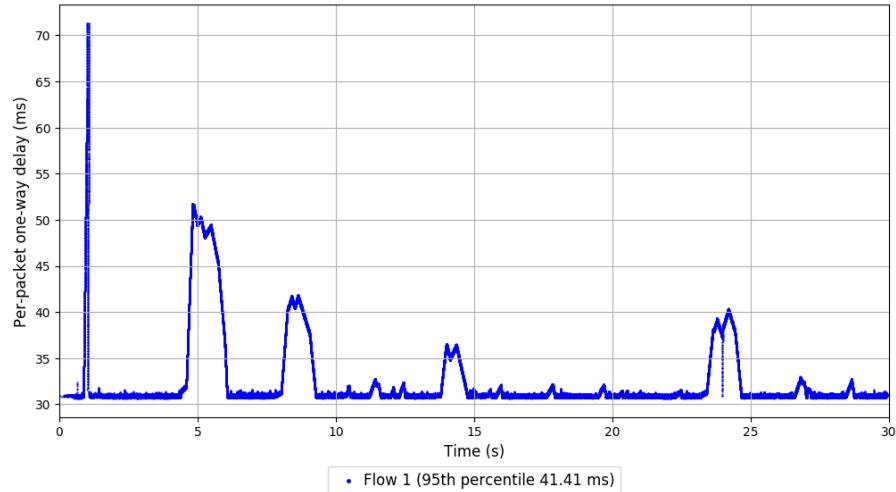
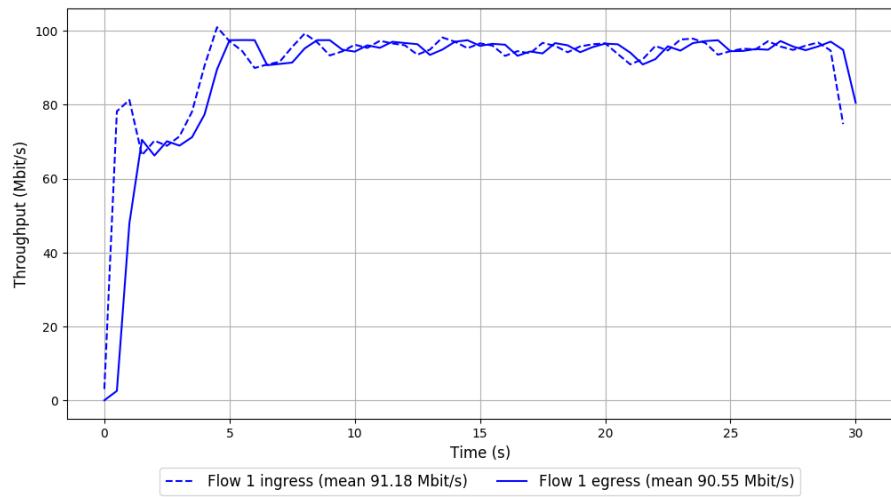


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-12-19 23:53:42
End at: 2018-12-19 23:54:12
Local clock offset: -2.632 ms
Remote clock offset: -2.617 ms

# Below is generated by plot.py at 2018-12-20 00:34:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.55 Mbit/s
95th percentile per-packet one-way delay: 41.413 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 90.55 Mbit/s
95th percentile per-packet one-way delay: 41.413 ms
Loss rate: 0.69%
```

Run 4: Report of PCC-Allegro — Data Link

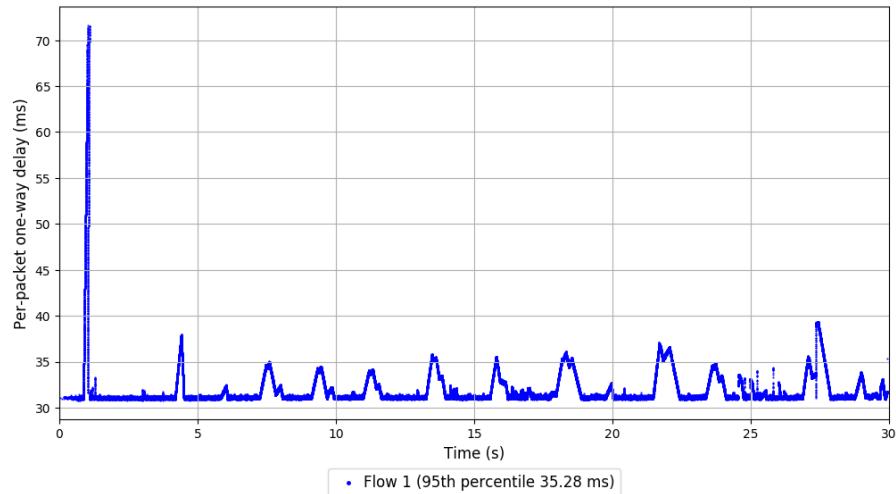
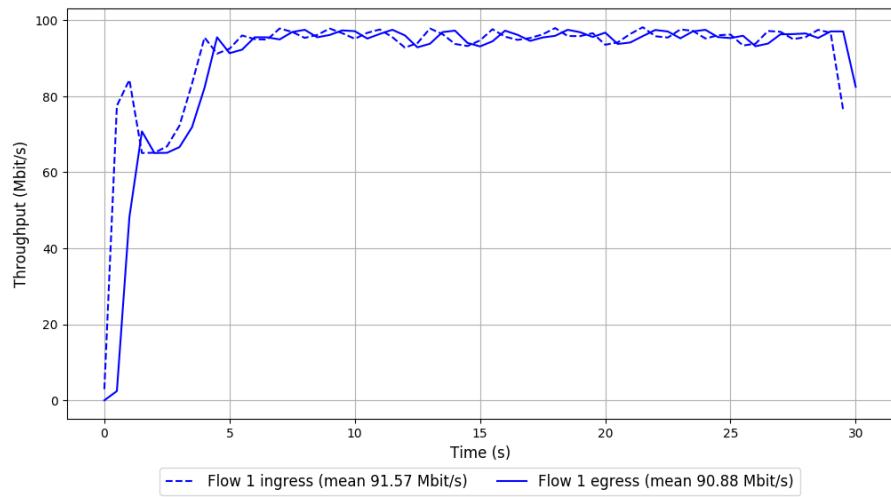


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-12-20 00:15:34
End at: 2018-12-20 00:16:04
Local clock offset: -2.884 ms
Remote clock offset: -2.541 ms

# Below is generated by plot.py at 2018-12-20 00:34:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.88 Mbit/s
95th percentile per-packet one-way delay: 35.280 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 90.88 Mbit/s
95th percentile per-packet one-way delay: 35.280 ms
Loss rate: 0.74%
```

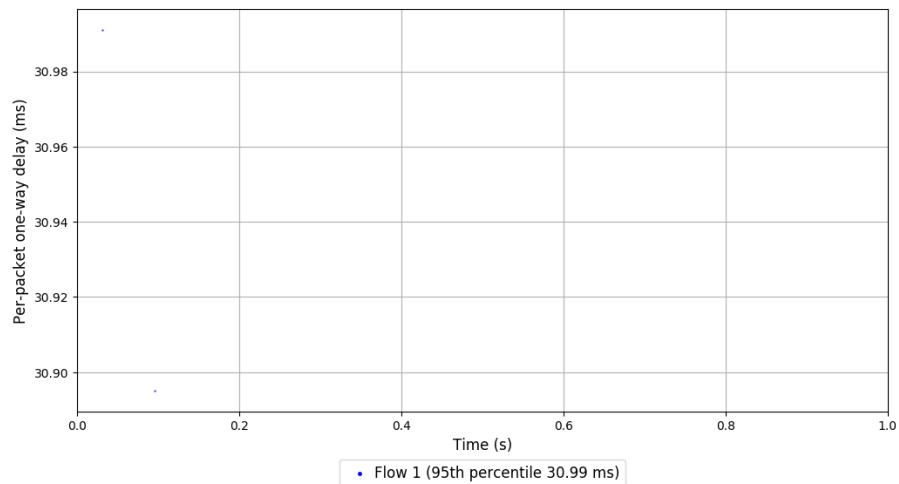
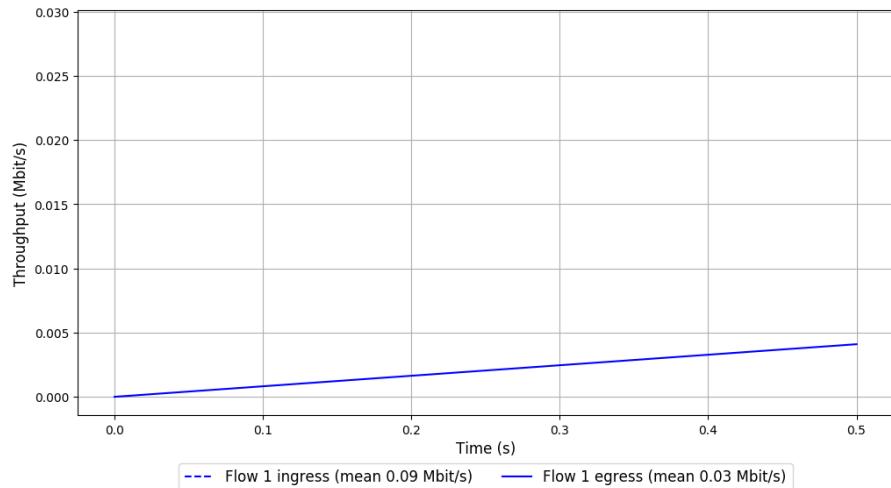
### Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-12-19 22:58:00  
End at: 2018-12-19 22:58:30  
Local clock offset: 0.519 ms  
Remote clock offset: -3.865 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

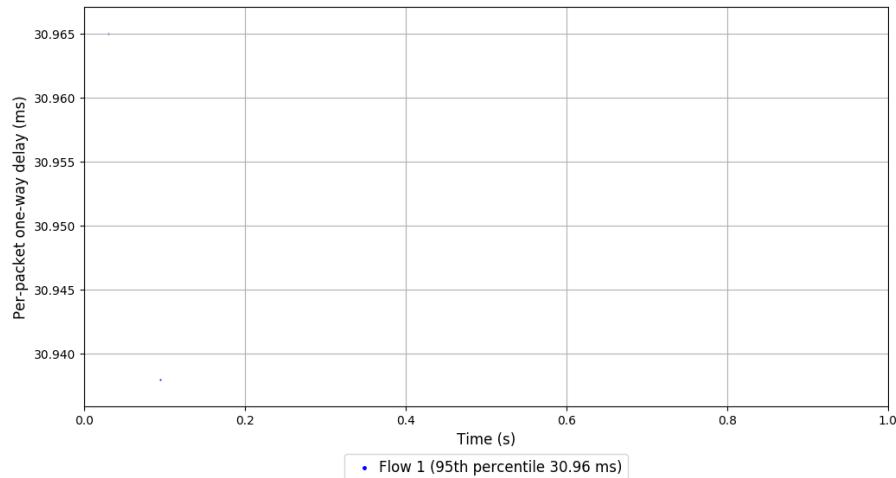
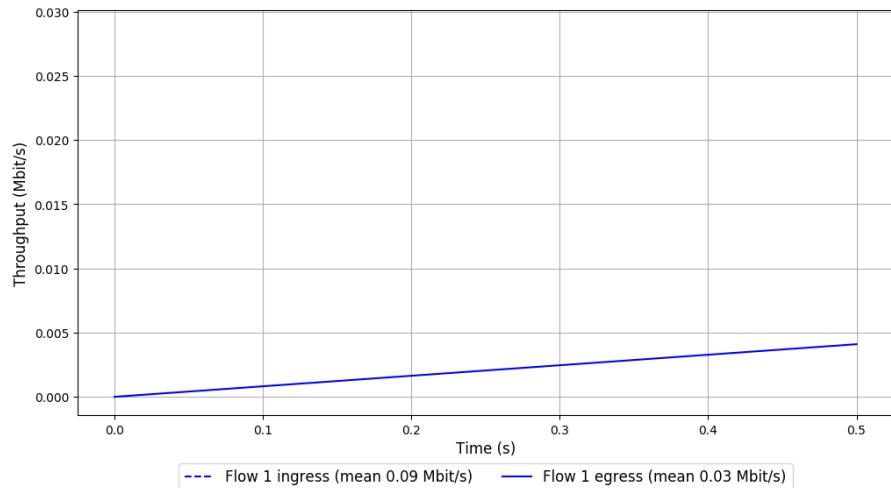
Start at: 2018-12-19 23:20:07

End at: 2018-12-19 23:20:37

Local clock offset: 0.422 ms

Remote clock offset: -3.15 ms

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



Run 3: Statistics of PCC-Expr

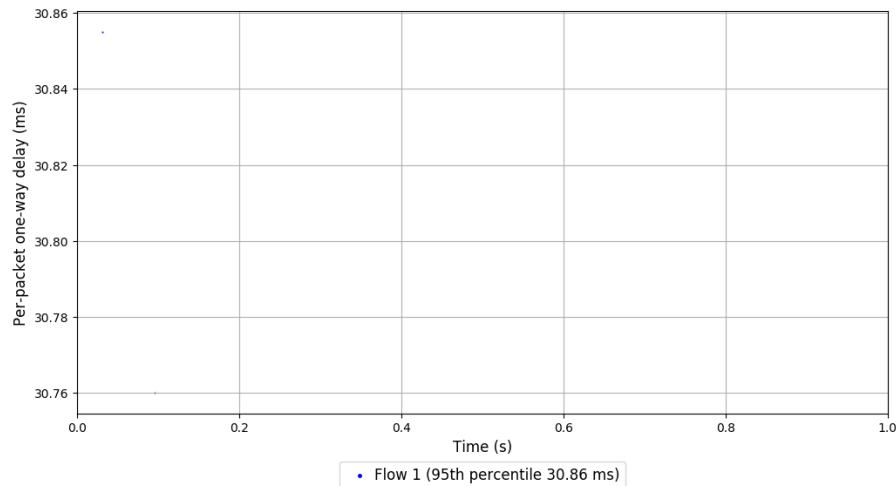
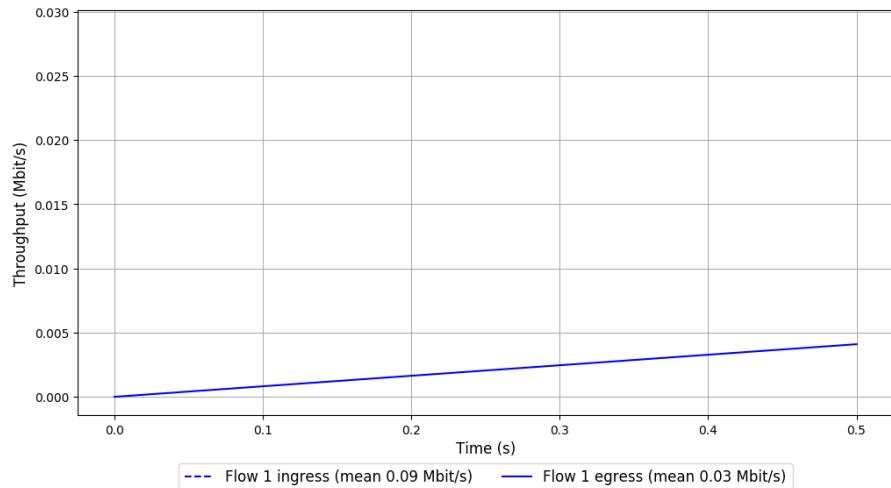
Start at: 2018-12-19 23:42:09

End at: 2018-12-19 23:42:39

Local clock offset: -1.226 ms

Remote clock offset: -2.826 ms

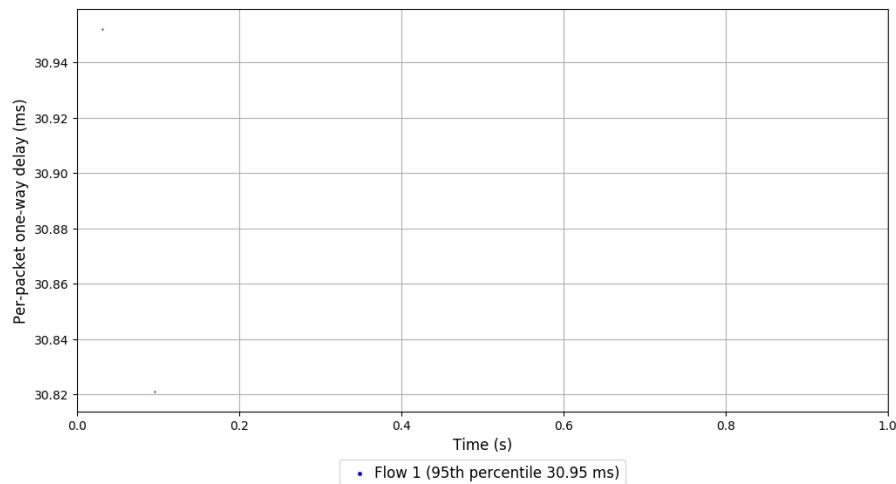
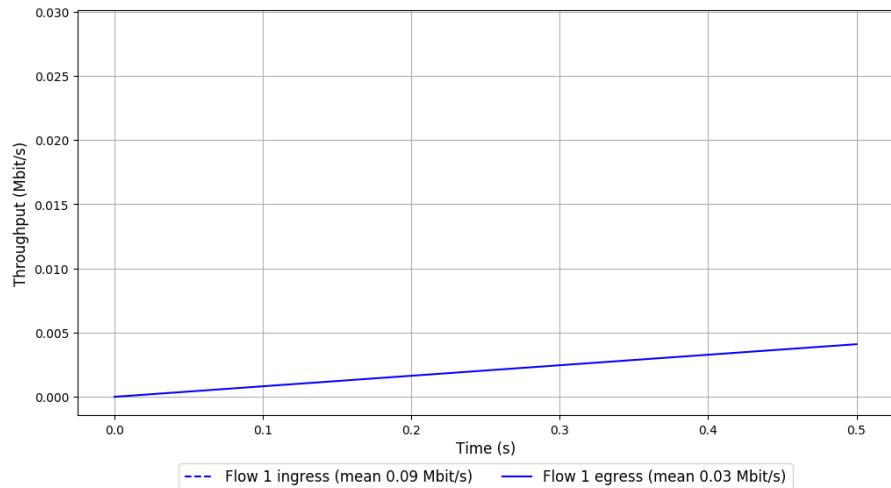
Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-12-20 00:04:07  
End at: 2018-12-20 00:04:37  
Local clock offset: -3.228 ms  
Remote clock offset: -2.572 ms

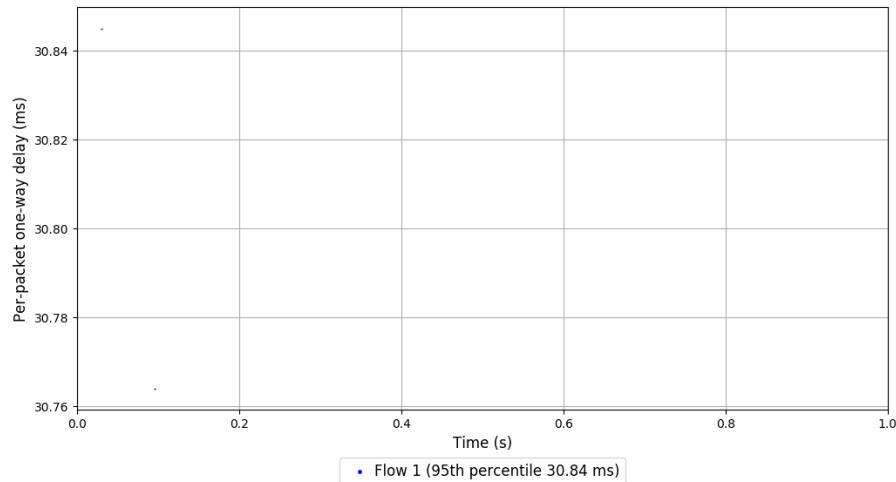
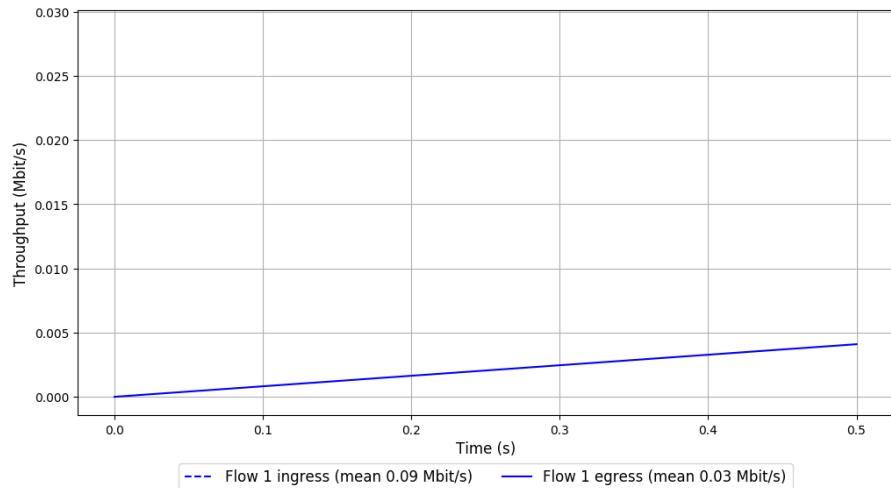
Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-12-20 00:26:18  
End at: 2018-12-20 00:26:48  
Local clock offset: -2.884 ms  
Remote clock offset: -2.679 ms

Run 5: Report of PCC-Expr — Data Link

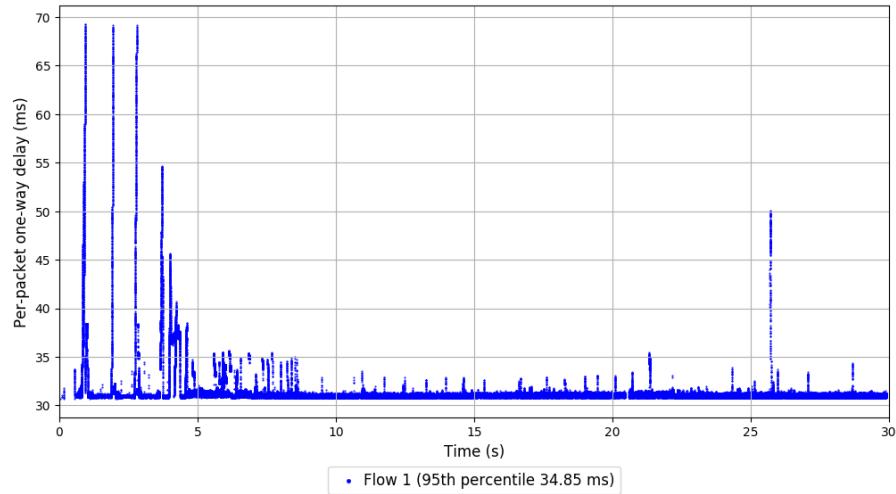
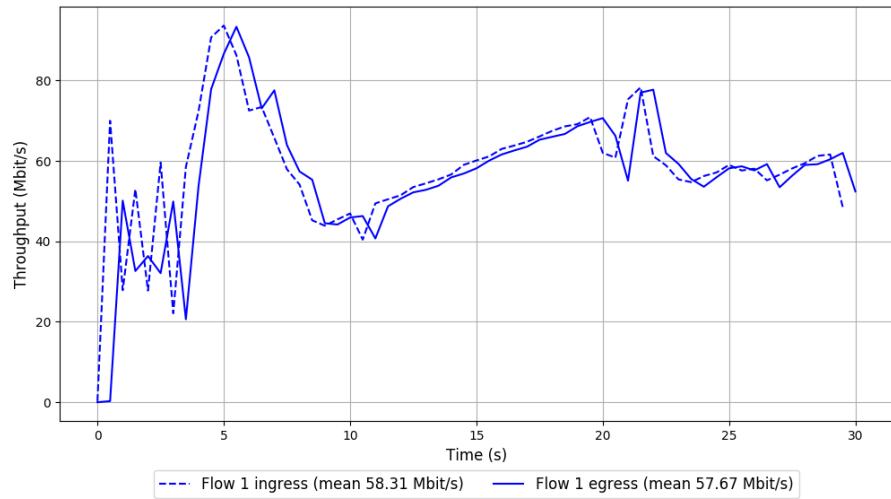


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-12-19 22:40:46
End at: 2018-12-19 22:41:16
Local clock offset: 0.562 ms
Remote clock offset: -4.13 ms

# Below is generated by plot.py at 2018-12-20 00:34:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.67 Mbit/s
95th percentile per-packet one-way delay: 34.855 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 57.67 Mbit/s
95th percentile per-packet one-way delay: 34.855 ms
Loss rate: 1.08%
```

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

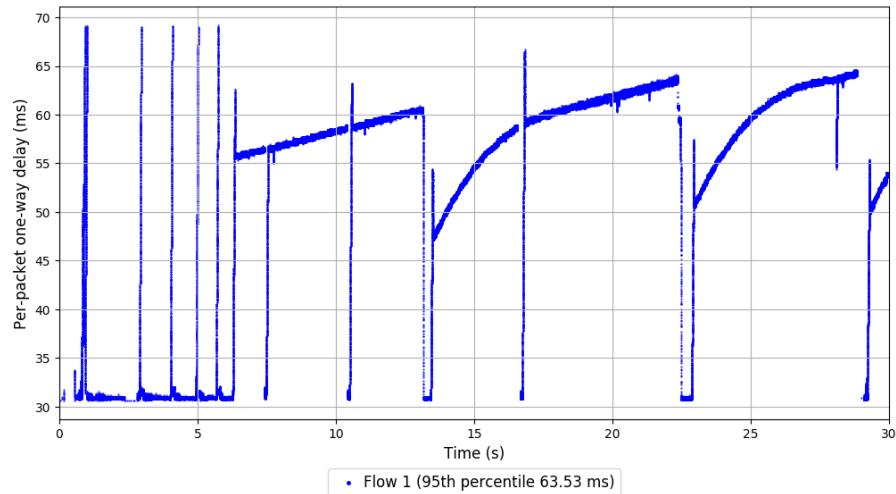
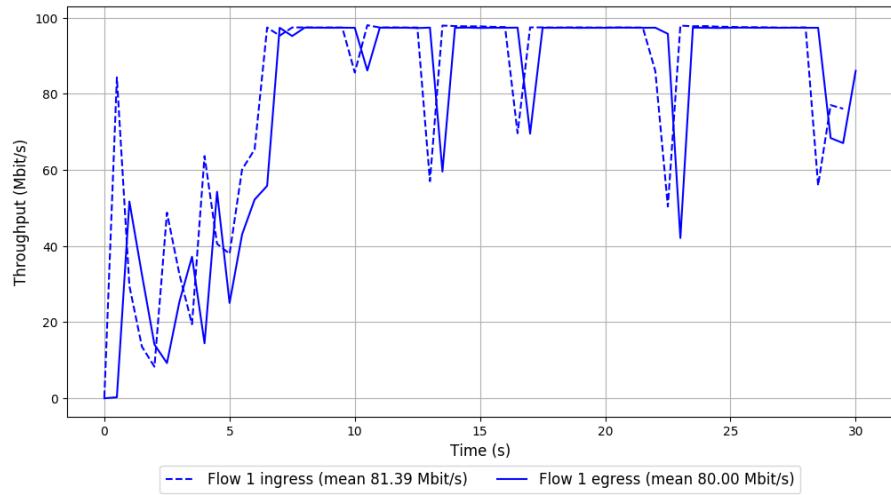


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-12-19 23:02:30
End at: 2018-12-19 23:03:00
Local clock offset: 0.568 ms
Remote clock offset: -3.749 ms

# Below is generated by plot.py at 2018-12-20 00:34:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.00 Mbit/s
95th percentile per-packet one-way delay: 63.534 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 80.00 Mbit/s
95th percentile per-packet one-way delay: 63.534 ms
Loss rate: 1.63%
```

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

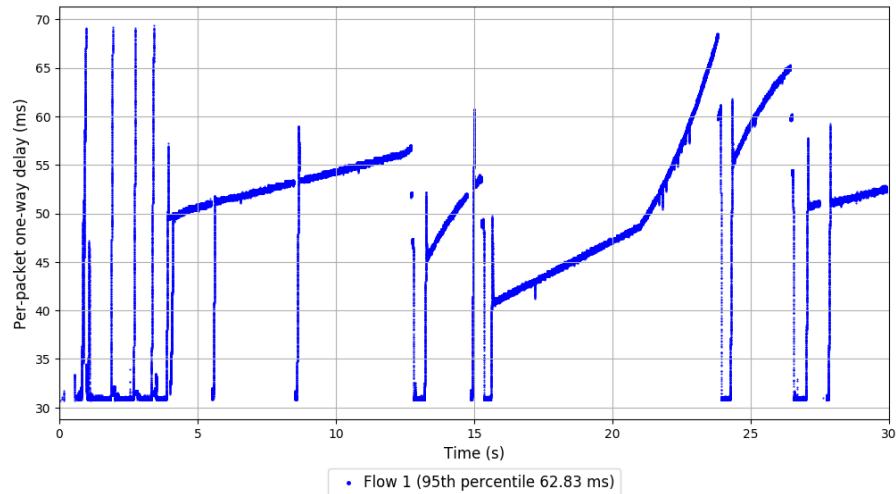
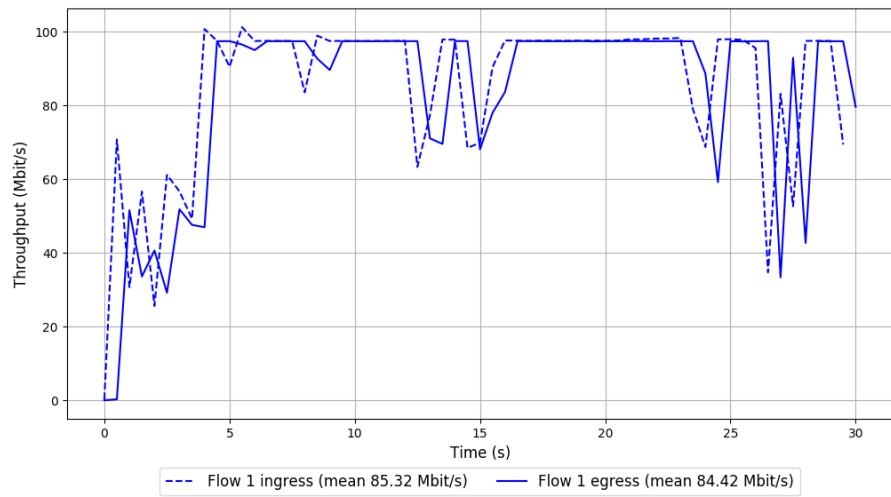


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-12-19 23:24:38
End at: 2018-12-19 23:25:08
Local clock offset: 0.448 ms
Remote clock offset: -3.148 ms

# Below is generated by plot.py at 2018-12-20 00:34:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.42 Mbit/s
95th percentile per-packet one-way delay: 62.833 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 84.42 Mbit/s
95th percentile per-packet one-way delay: 62.833 ms
Loss rate: 0.97%
```

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

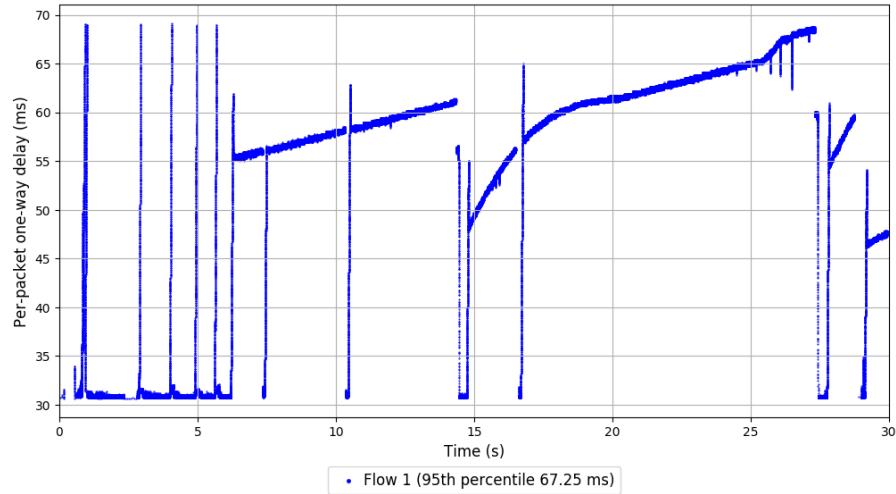
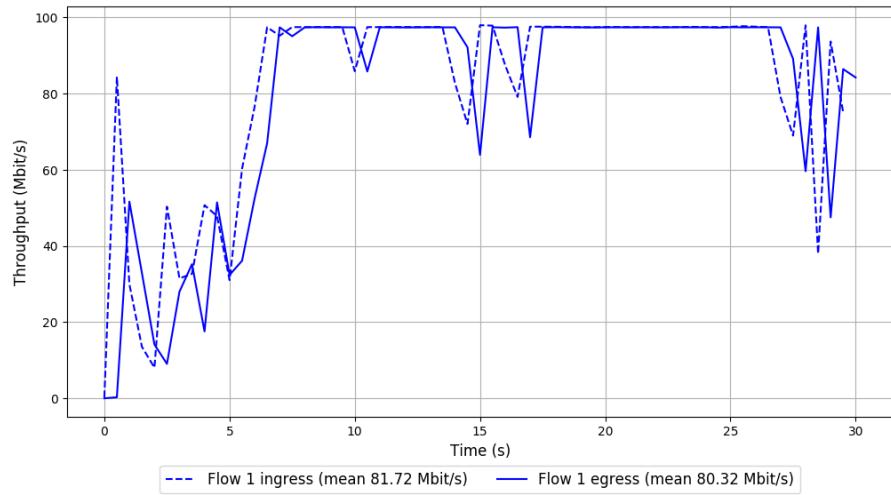


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-12-19 23:46:41
End at: 2018-12-19 23:47:11
Local clock offset: -1.943 ms
Remote clock offset: -2.687 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.32 Mbit/s
95th percentile per-packet one-way delay: 67.250 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 80.32 Mbit/s
95th percentile per-packet one-way delay: 67.250 ms
Loss rate: 1.66%
```

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

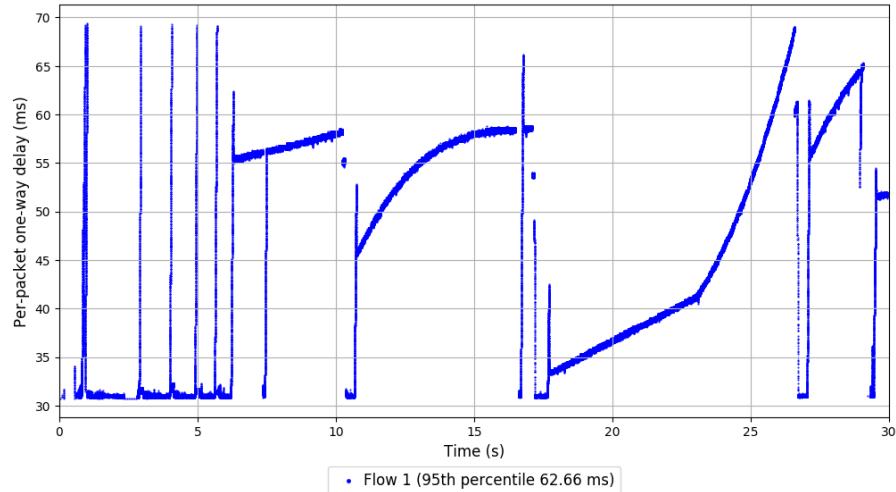
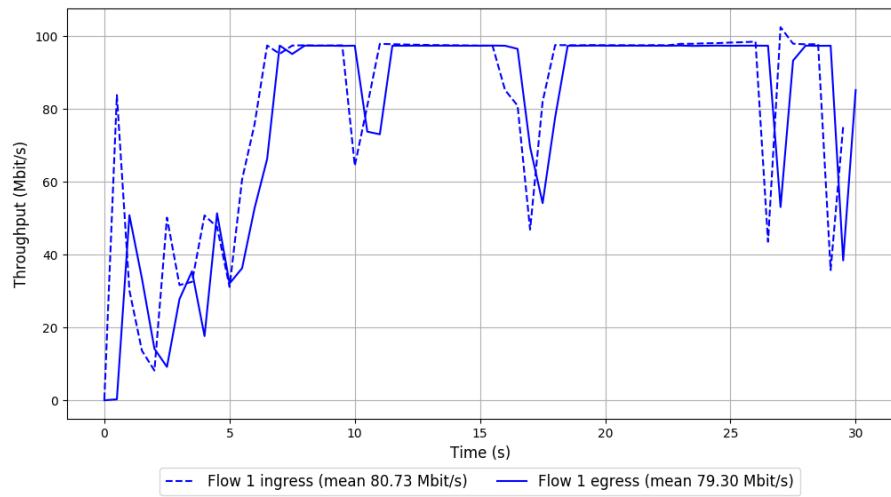


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-12-20 00:08:38
End at: 2018-12-20 00:09:08
Local clock offset: -3.111 ms
Remote clock offset: -2.537 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.30 Mbit/s
95th percentile per-packet one-way delay: 62.665 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 79.30 Mbit/s
95th percentile per-packet one-way delay: 62.665 ms
Loss rate: 1.70%
```

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

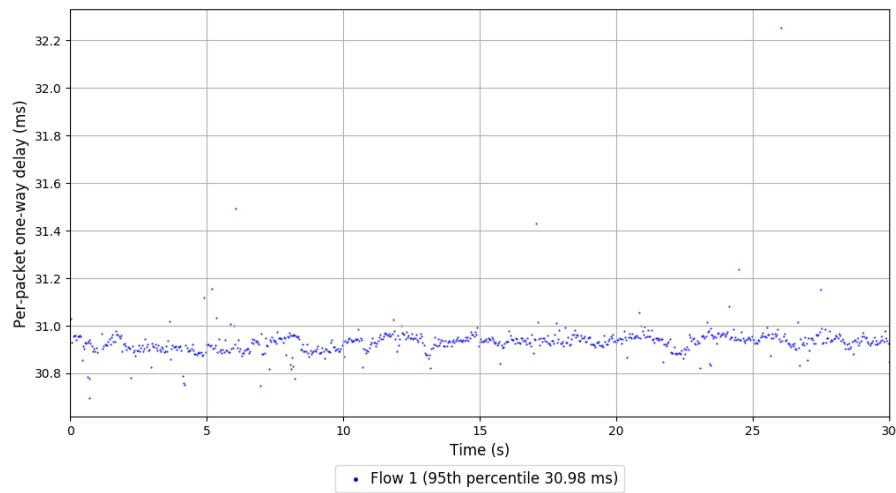
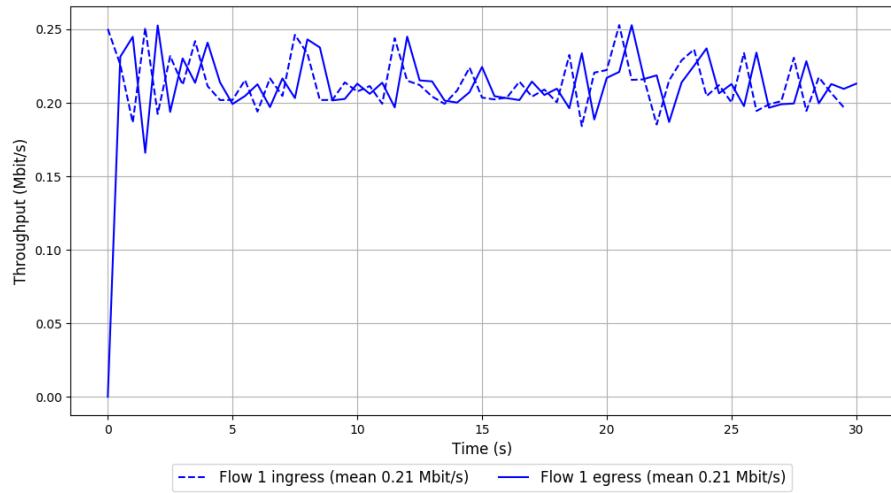


Run 1: Statistics of SCReAM

```
Start at: 2018-12-19 22:49:58
End at: 2018-12-19 22:50:28
Local clock offset: 0.466 ms
Remote clock offset: -4.03 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.976 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.976 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

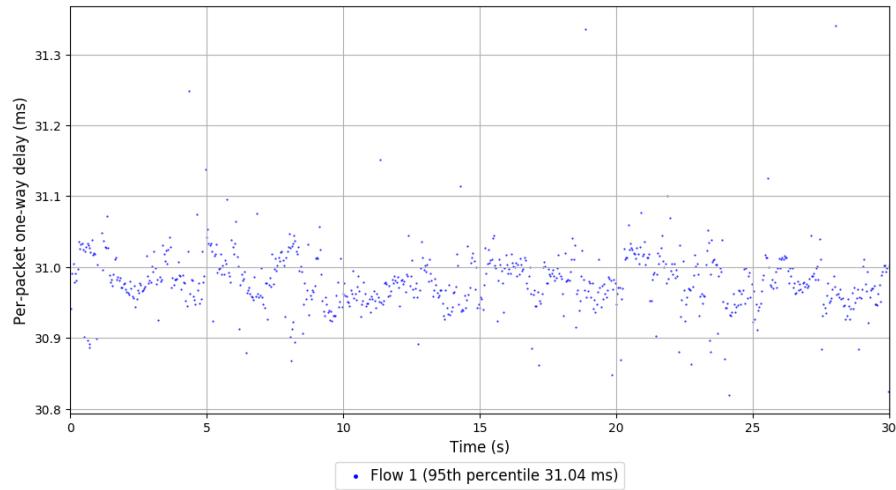
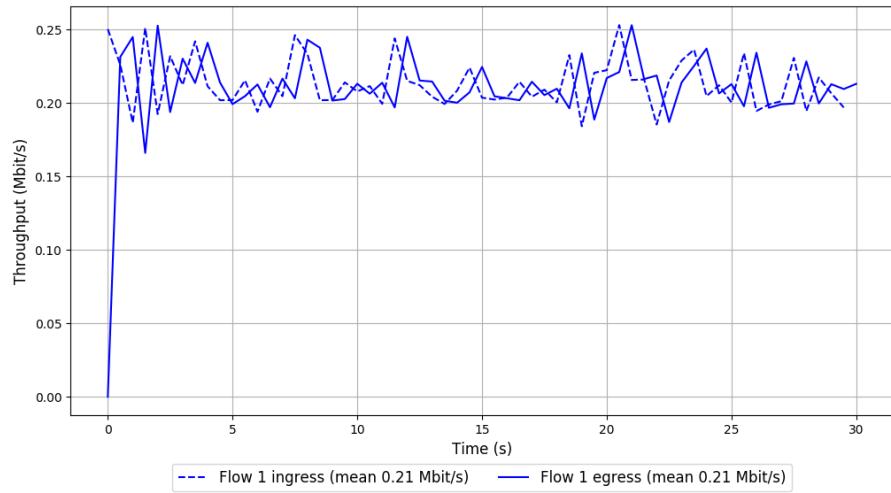


Run 2: Statistics of SCReAM

```
Start at: 2018-12-19 23:11:43
End at: 2018-12-19 23:12:13
Local clock offset: 0.475 ms
Remote clock offset: -3.441 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.036 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.036 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

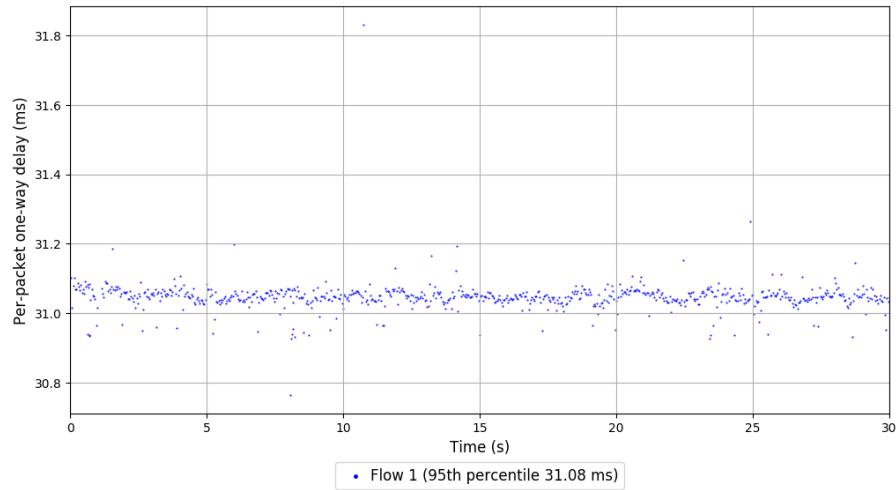
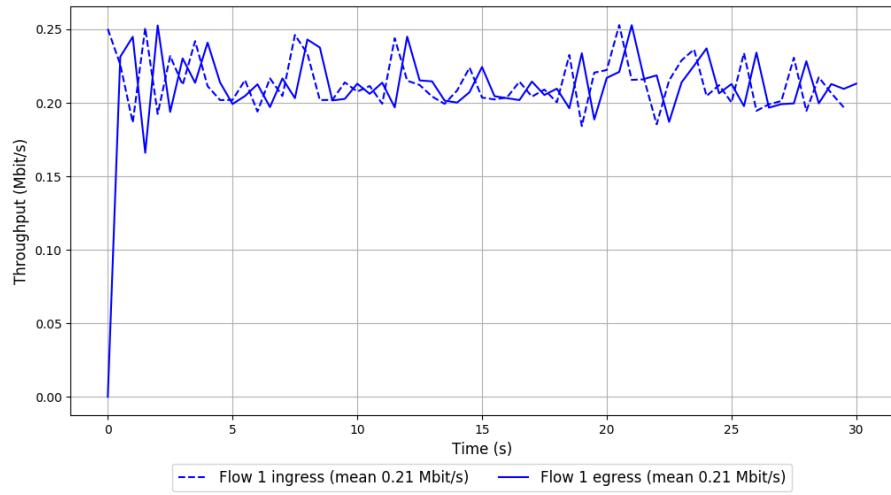


Run 3: Statistics of SCReAM

```
Start at: 2018-12-19 23:34:07
End at: 2018-12-19 23:34:37
Local clock offset: 0.511 ms
Remote clock offset: -2.887 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.082 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 31.082 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

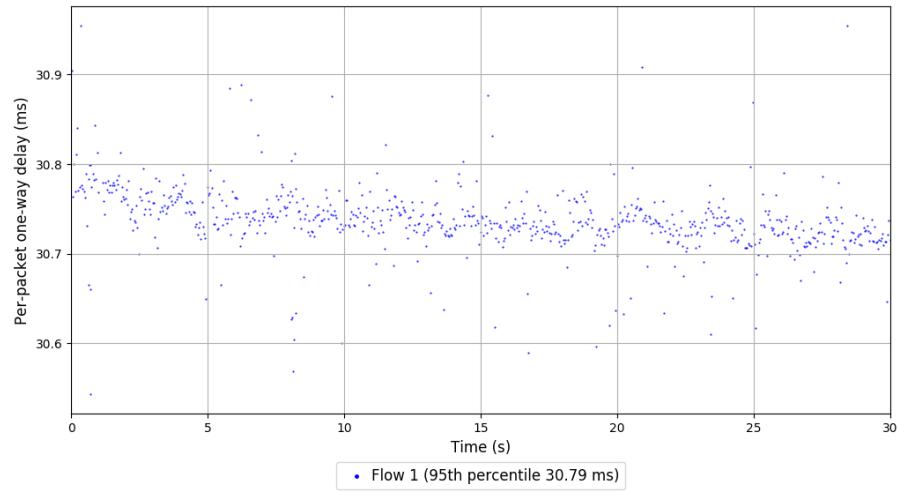
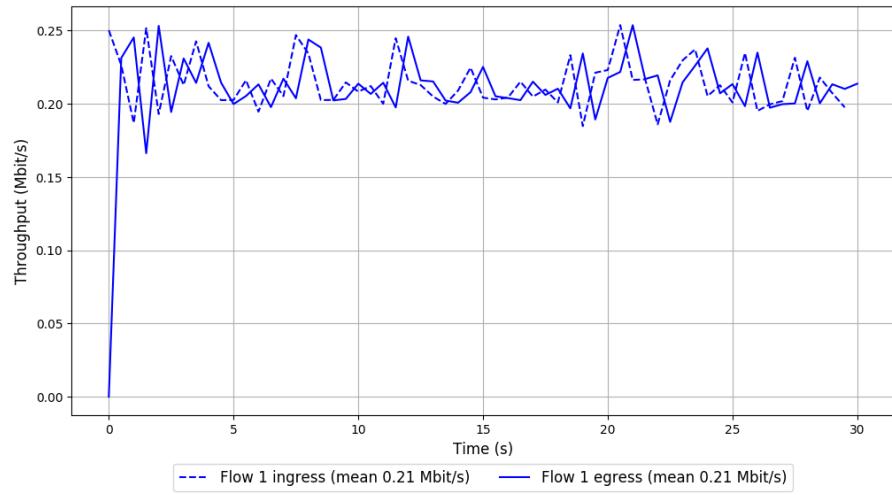


Run 4: Statistics of SCReAM

```
Start at: 2018-12-19 23:56:01
End at: 2018-12-19 23:56:31
Local clock offset: -2.789 ms
Remote clock offset: -2.708 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.786 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.786 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

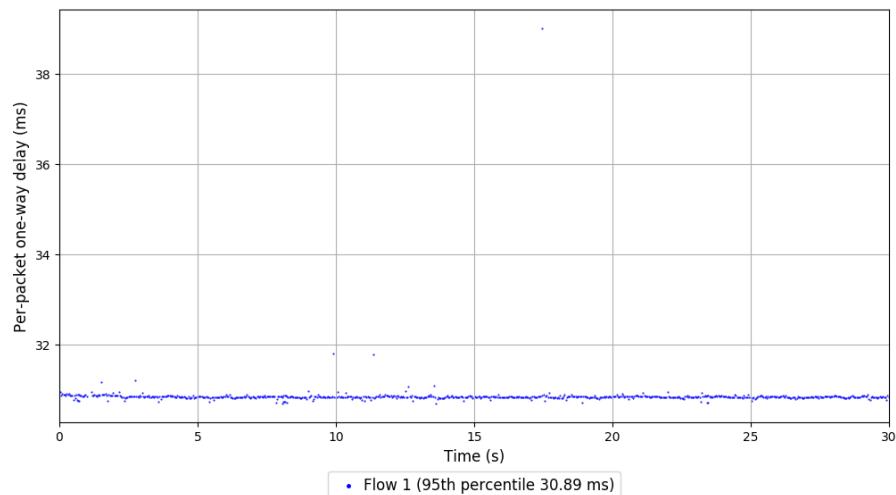
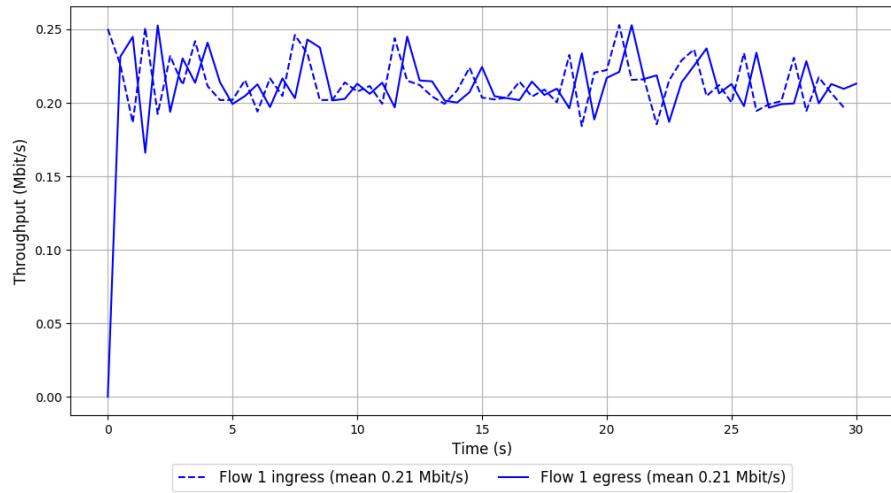


Run 5: Statistics of SCReAM

```
Start at: 2018-12-20 00:17:59
End at: 2018-12-20 00:18:29
Local clock offset: -2.859 ms
Remote clock offset: -2.735 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.885 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 30.885 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

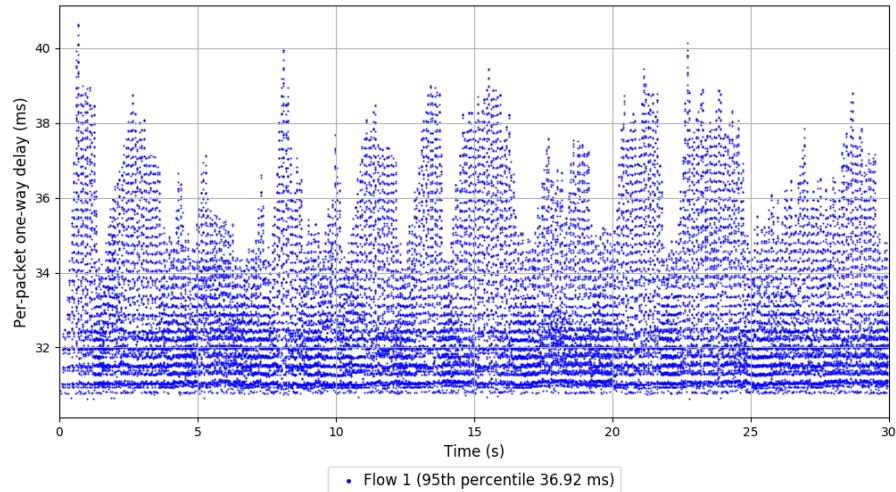
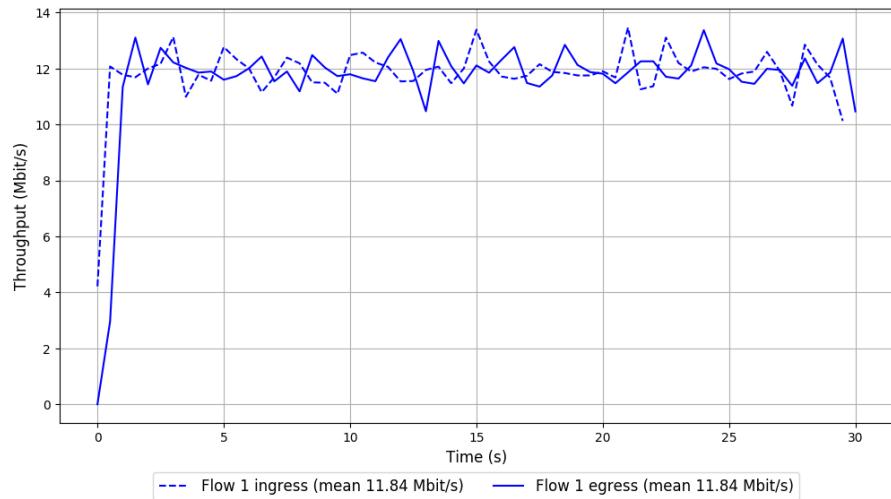


Run 1: Statistics of Sprout

```
Start at: 2018-12-19 22:51:03
End at: 2018-12-19 22:51:33
Local clock offset: 0.468 ms
Remote clock offset: -4.012 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 36.917 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 36.917 ms
Loss rate: 0.00%
```

## Run 1: Report of Sprout — Data Link

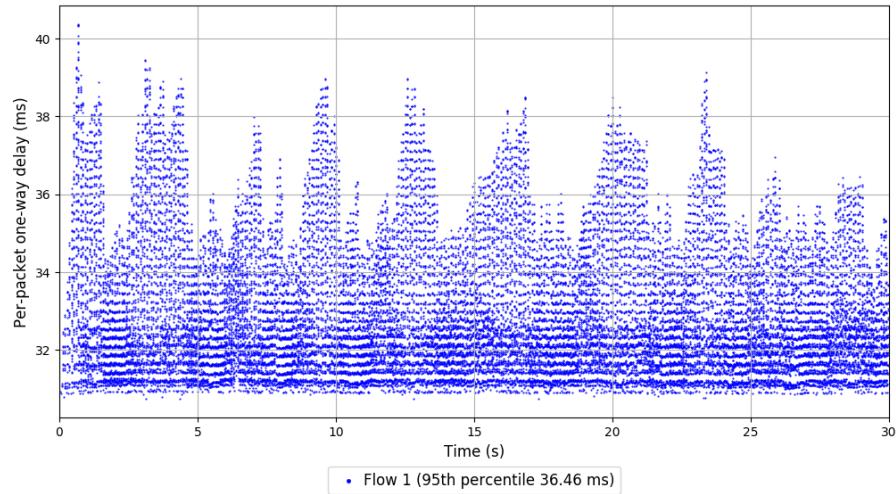
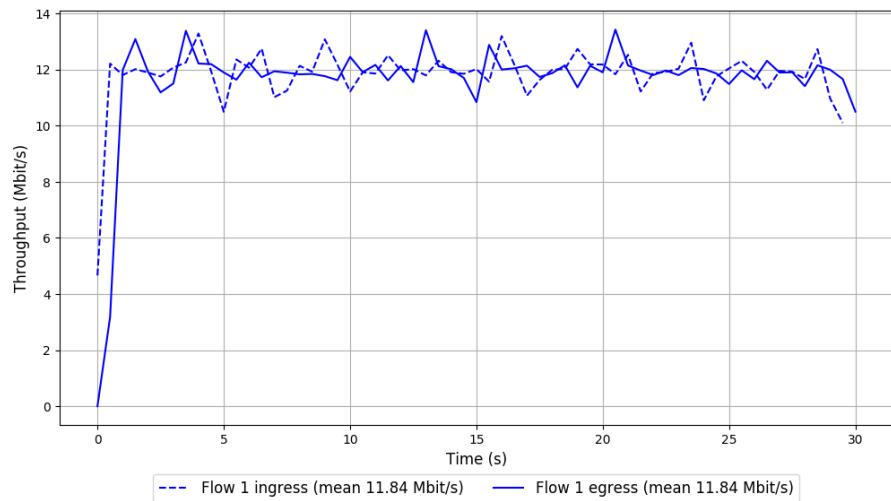


Run 2: Statistics of Sprout

```
Start at: 2018-12-19 23:12:49
End at: 2018-12-19 23:13:19
Local clock offset: 0.459 ms
Remote clock offset: -3.372 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 36.460 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 36.460 ms
Loss rate: 0.00%
```

## Run 2: Report of Sprout — Data Link

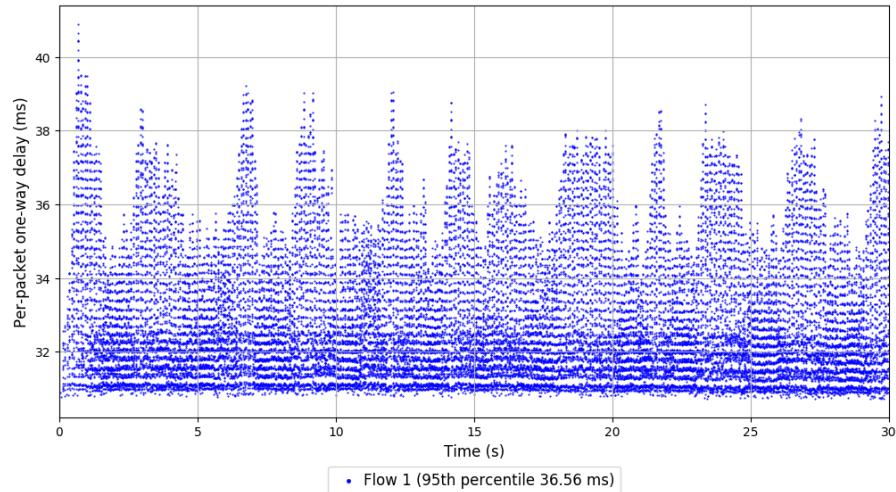
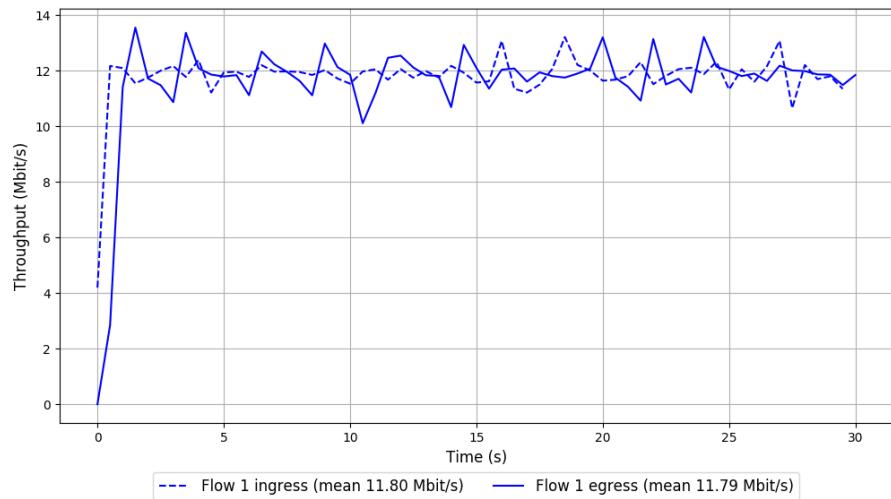


Run 3: Statistics of Sprout

```
Start at: 2018-12-19 23:35:13
End at: 2018-12-19 23:35:43
Local clock offset: 0.551 ms
Remote clock offset: -2.944 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 36.559 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 36.559 ms
Loss rate: 0.10%
```

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

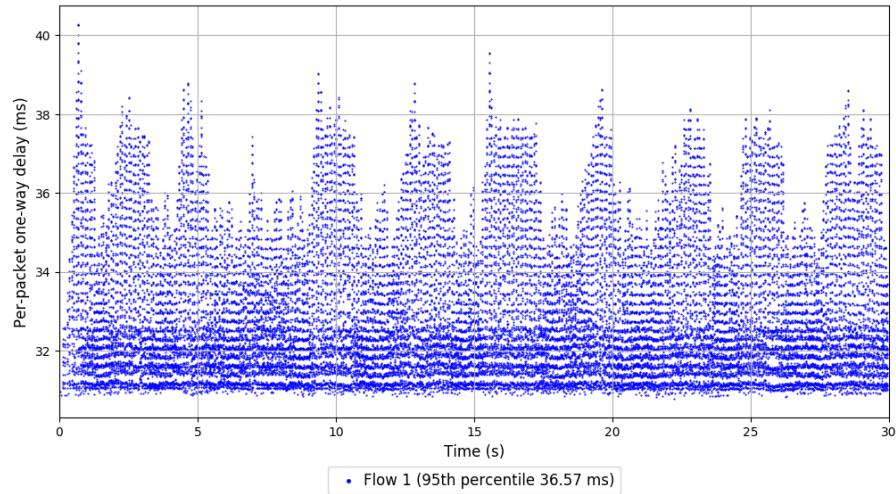
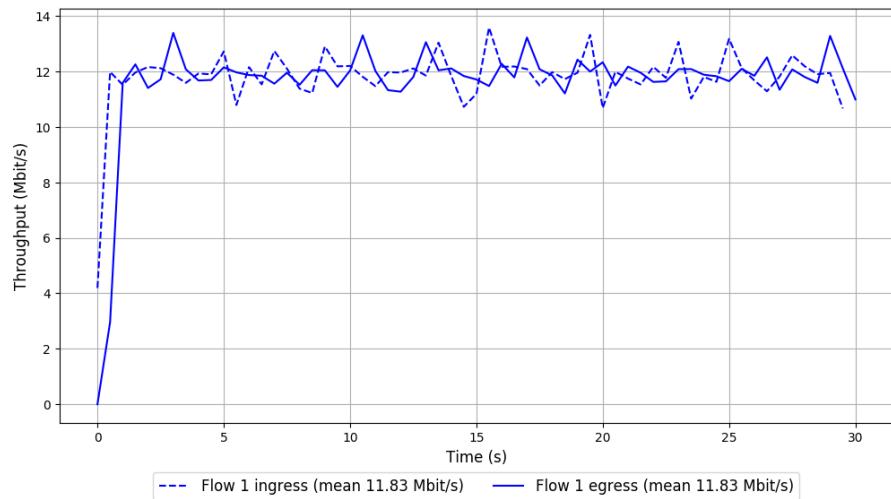


Run 4: Statistics of Sprout

```
Start at: 2018-12-19 23:57:07
End at: 2018-12-19 23:57:37
Local clock offset: -2.843 ms
Remote clock offset: -2.537 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.83 Mbit/s
95th percentile per-packet one-way delay: 36.567 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.83 Mbit/s
95th percentile per-packet one-way delay: 36.567 ms
Loss rate: 0.00%
```

## Run 4: Report of Sprout — Data Link

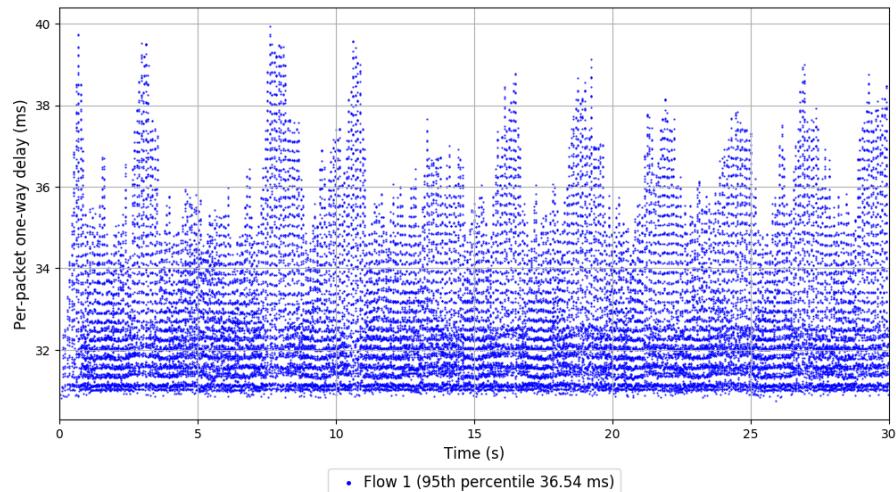
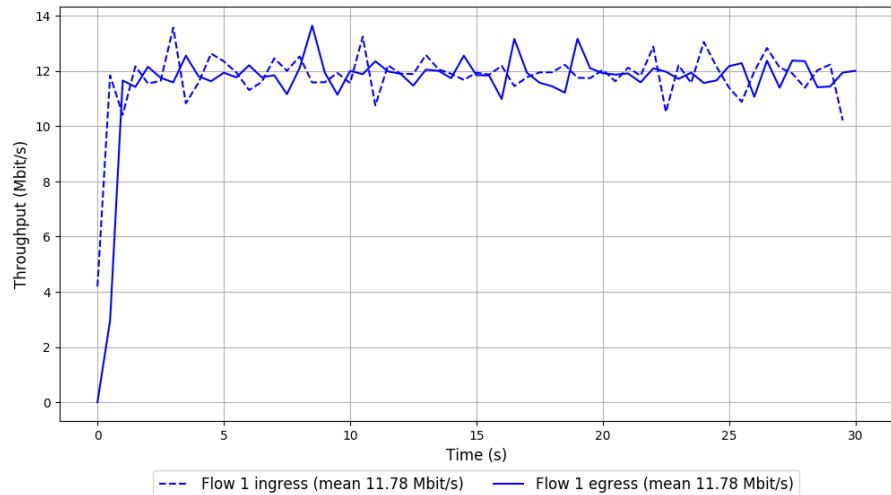


Run 5: Statistics of Sprout

```
Start at: 2018-12-20 00:19:04
End at: 2018-12-20 00:19:34
Local clock offset: -2.851 ms
Remote clock offset: -2.542 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 36.537 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 36.537 ms
Loss rate: 0.00%
```

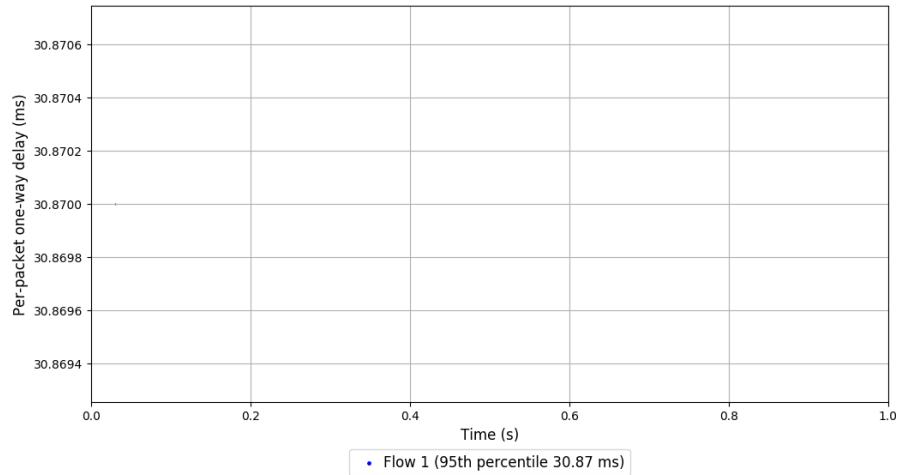
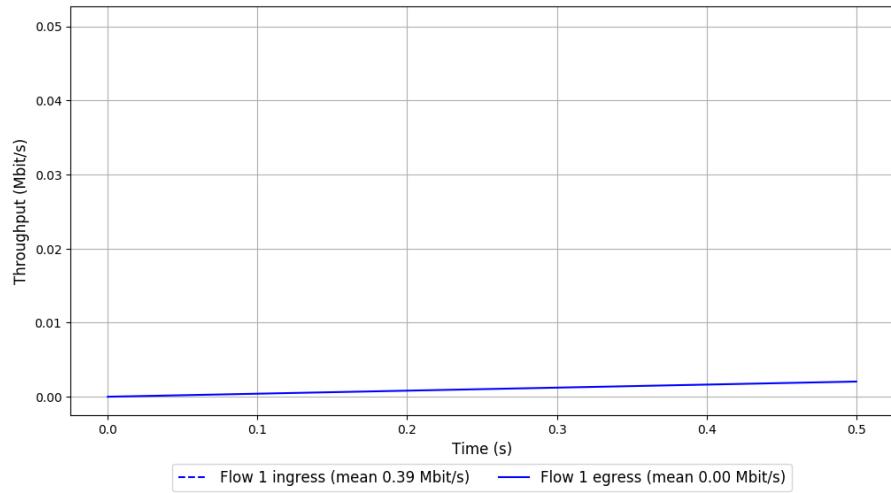
## Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-12-19 22:37:16  
End at: 2018-12-19 22:37:46  
Local clock offset: 0.723 ms  
Remote clock offset: -4.127 ms

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

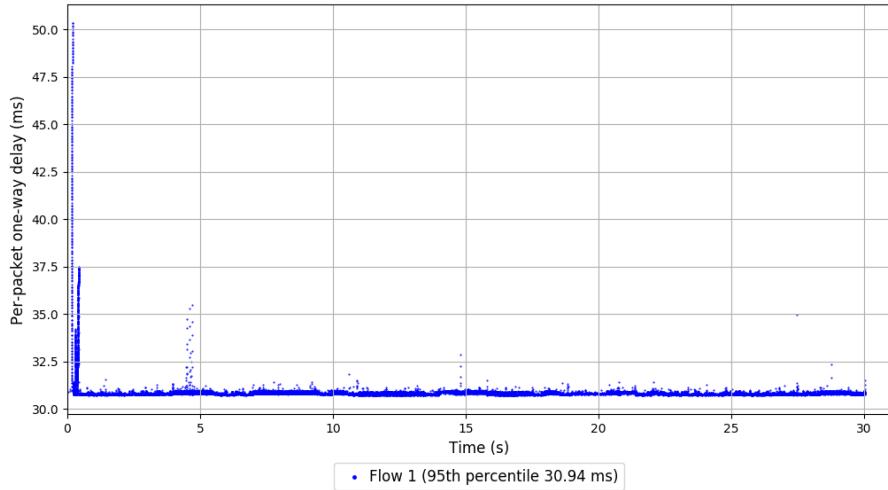
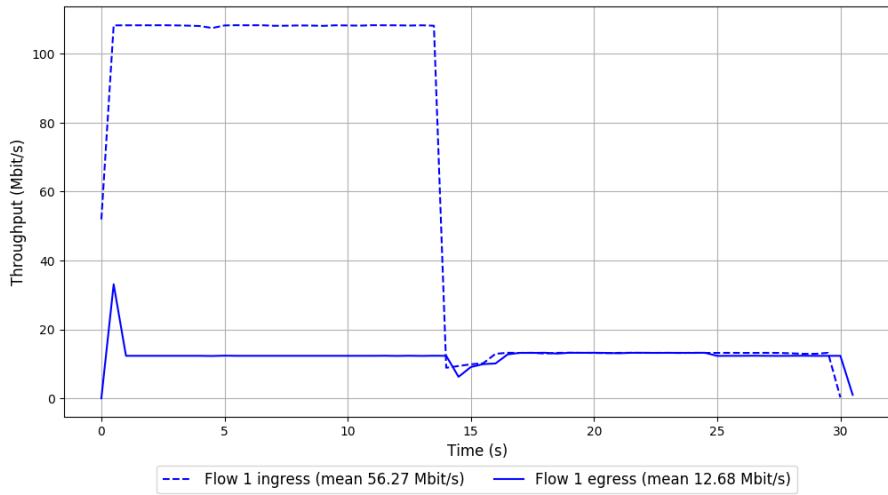


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-12-19 22:59:06
End at: 2018-12-19 22:59:36
Local clock offset: 0.539 ms
Remote clock offset: -3.903 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 30.943 ms
Loss rate: 77.47%
-- Flow 1:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 30.943 ms
Loss rate: 77.47%
```

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

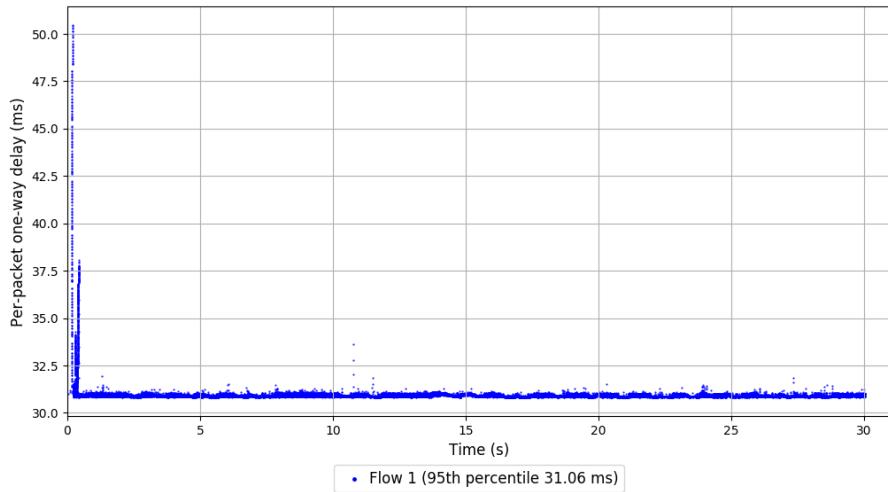
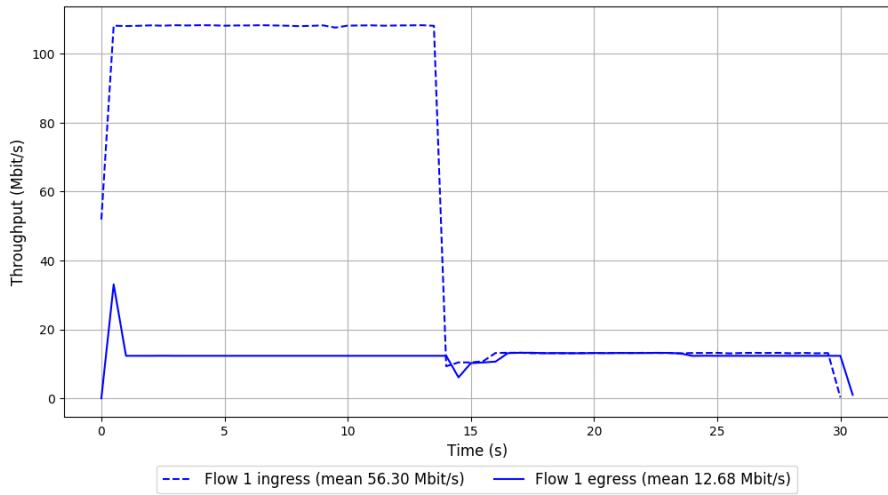


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-12-19 23:21:13
End at: 2018-12-19 23:21:43
Local clock offset: 0.431 ms
Remote clock offset: -3.134 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 31.058 ms
Loss rate: 77.48%
-- Flow 1:
Average throughput: 12.68 Mbit/s
95th percentile per-packet one-way delay: 31.058 ms
Loss rate: 77.48%
```

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

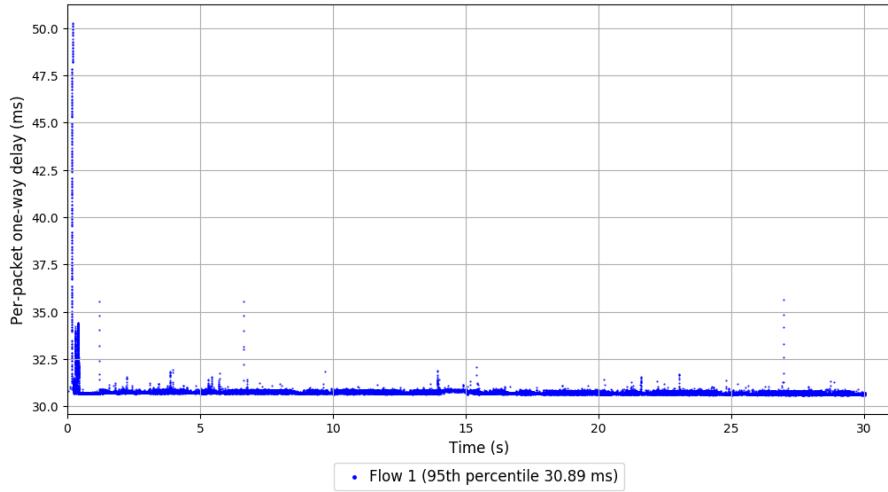
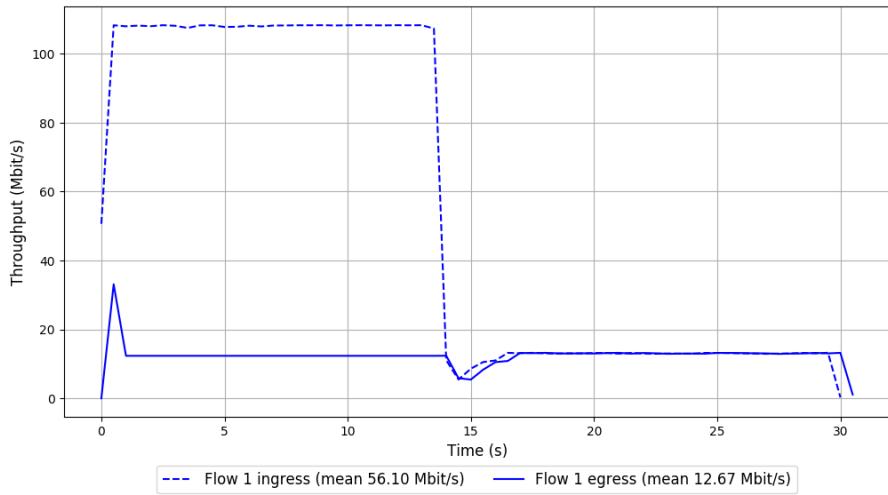


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-12-19 23:43:15
End at: 2018-12-19 23:43:45
Local clock offset: -1.424 ms
Remote clock offset: -2.807 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 30.895 ms
Loss rate: 77.42%
-- Flow 1:
Average throughput: 12.67 Mbit/s
95th percentile per-packet one-way delay: 30.895 ms
Loss rate: 77.42%
```

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

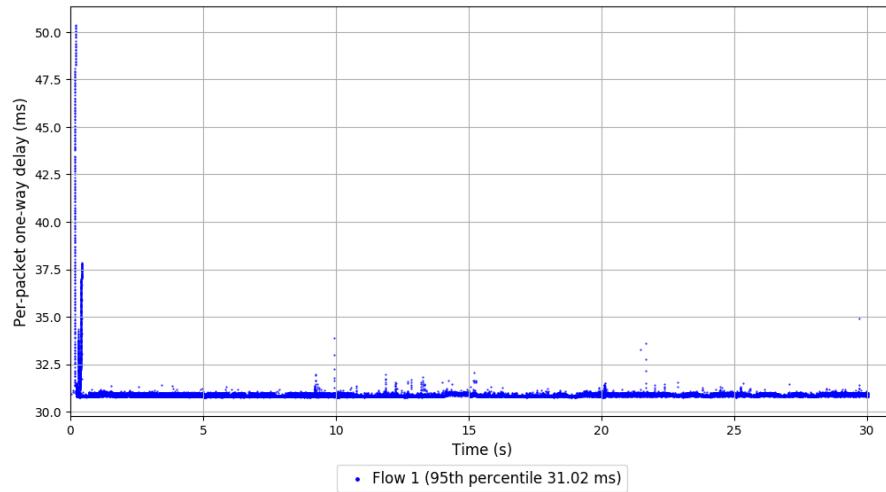
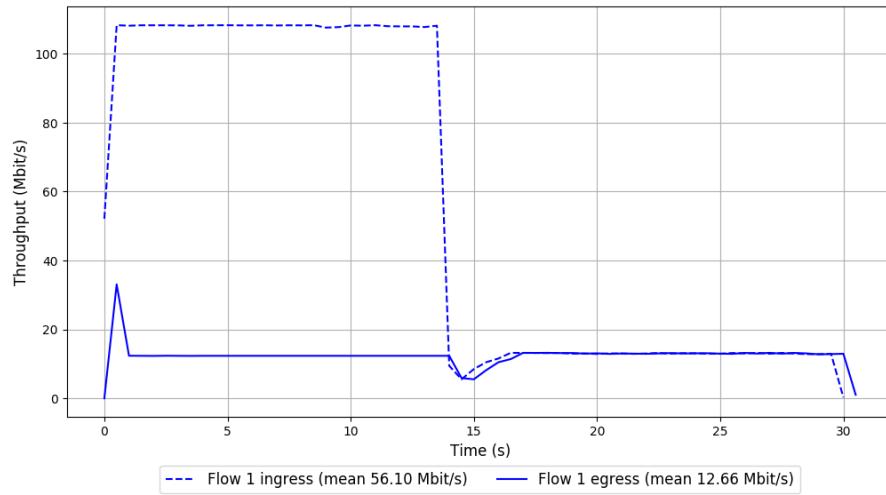


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-12-20 00:05:12
End at: 2018-12-20 00:05:42
Local clock offset: -3.268 ms
Remote clock offset: -2.559 ms

# Below is generated by plot.py at 2018-12-20 00:35:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.66 Mbit/s
95th percentile per-packet one-way delay: 31.015 ms
Loss rate: 77.44%
-- Flow 1:
Average throughput: 12.66 Mbit/s
95th percentile per-packet one-way delay: 31.015 ms
Loss rate: 77.44%
```

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

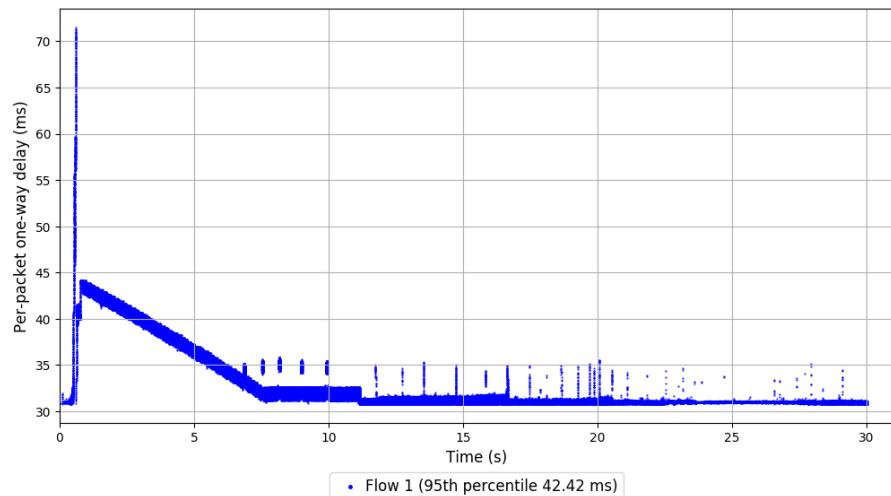
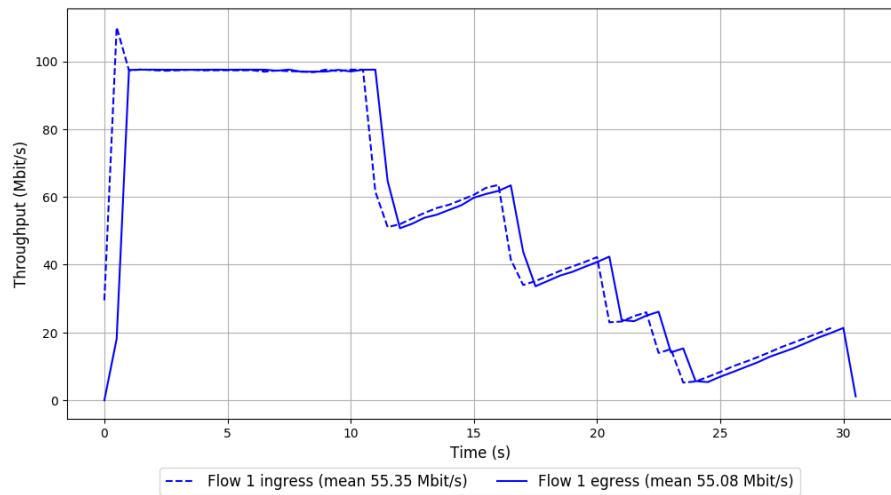


Run 1: Statistics of TCP Vegas

```
Start at: 2018-12-19 22:41:55
End at: 2018-12-19 22:42:25
Local clock offset: 0.534 ms
Remote clock offset: -4.135 ms

# Below is generated by plot.py at 2018-12-20 00:35:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.08 Mbit/s
95th percentile per-packet one-way delay: 42.421 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 55.08 Mbit/s
95th percentile per-packet one-way delay: 42.421 ms
Loss rate: 0.49%
```

Run 1: Report of TCP Vegas — Data Link

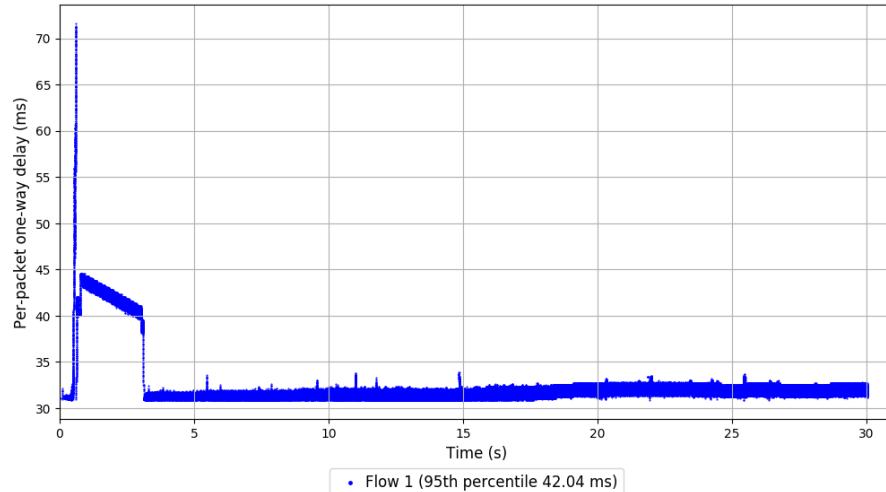
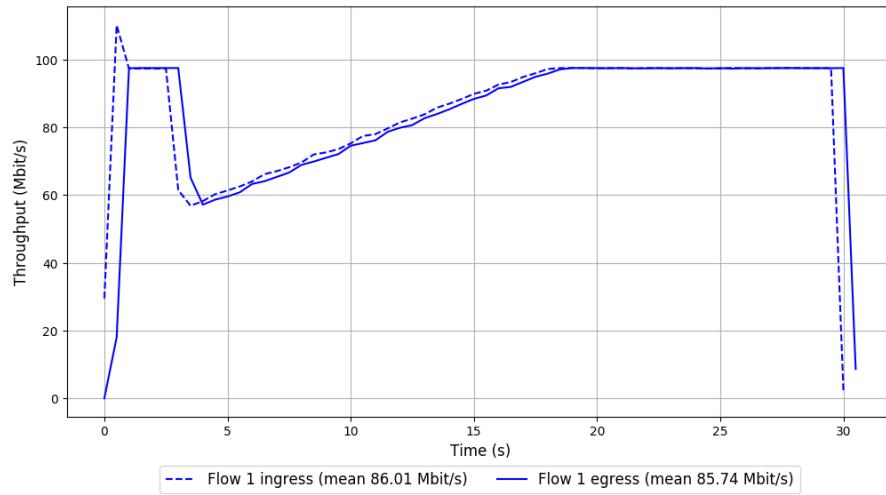


Run 2: Statistics of TCP Vegas

```
Start at: 2018-12-19 23:03:39
End at: 2018-12-19 23:04:09
Local clock offset: 0.594 ms
Remote clock offset: -3.696 ms

# Below is generated by plot.py at 2018-12-20 00:35:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.74 Mbit/s
95th percentile per-packet one-way delay: 42.043 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 85.74 Mbit/s
95th percentile per-packet one-way delay: 42.043 ms
Loss rate: 0.31%
```

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

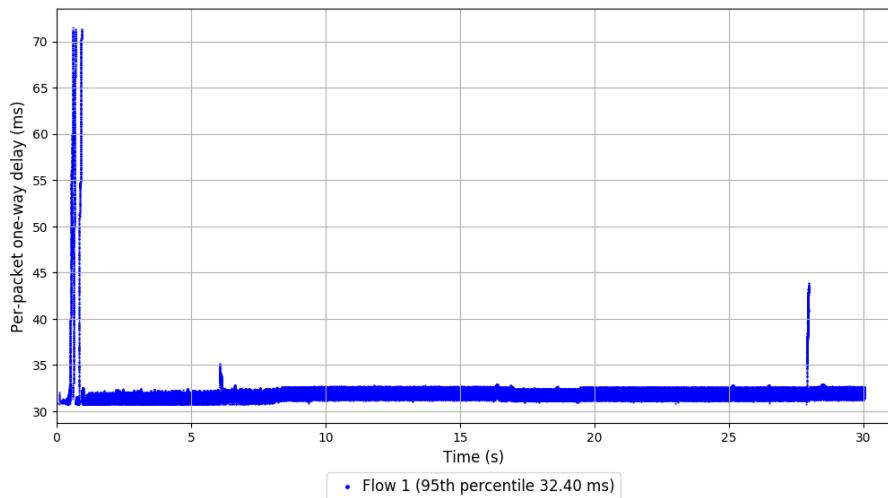
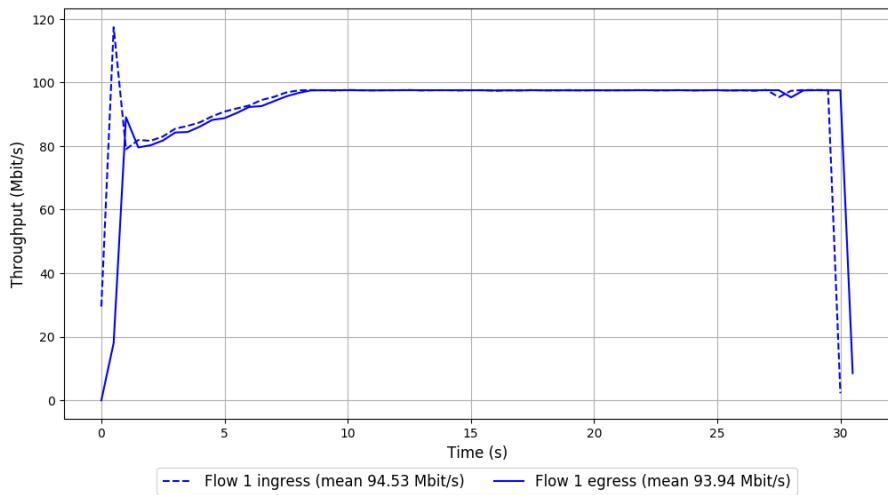


Run 3: Statistics of TCP Vegas

```
Start at: 2018-12-19 23:25:48
End at: 2018-12-19 23:26:18
Local clock offset: 0.442 ms
Remote clock offset: -3.144 ms

# Below is generated by plot.py at 2018-12-20 00:36:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.94 Mbit/s
95th percentile per-packet one-way delay: 32.403 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 93.94 Mbit/s
95th percentile per-packet one-way delay: 32.403 ms
Loss rate: 0.62%
```

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

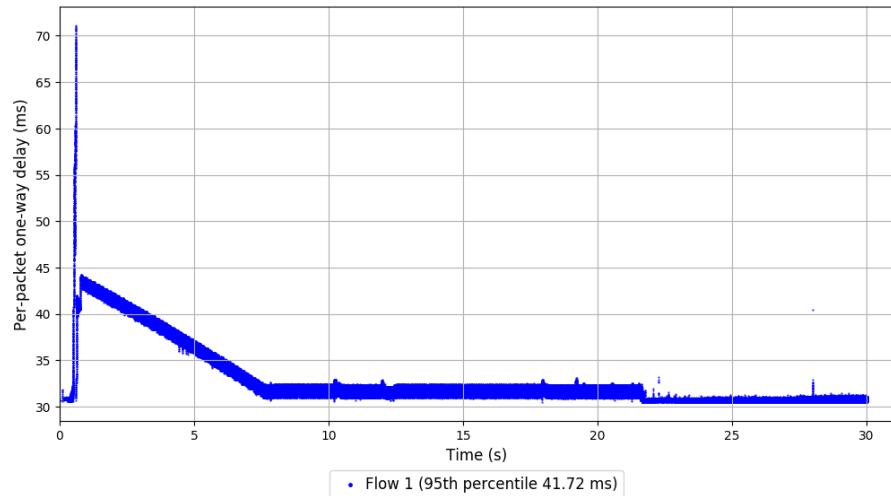
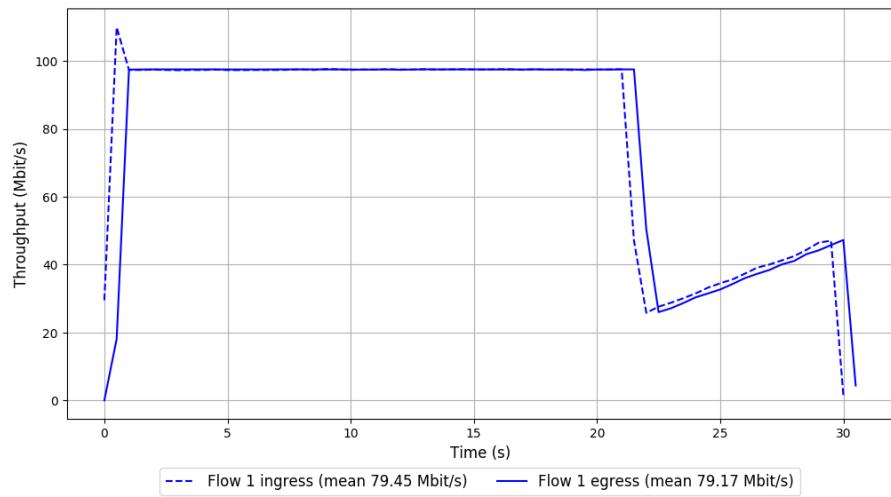


Run 4: Statistics of TCP Vegas

```
Start at: 2018-12-19 23:47:54
End at: 2018-12-19 23:48:24
Local clock offset: -2.076 ms
Remote clock offset: -2.894 ms

# Below is generated by plot.py at 2018-12-20 00:36:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.17 Mbit/s
95th percentile per-packet one-way delay: 41.720 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 79.17 Mbit/s
95th percentile per-packet one-way delay: 41.720 ms
Loss rate: 0.35%
```

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

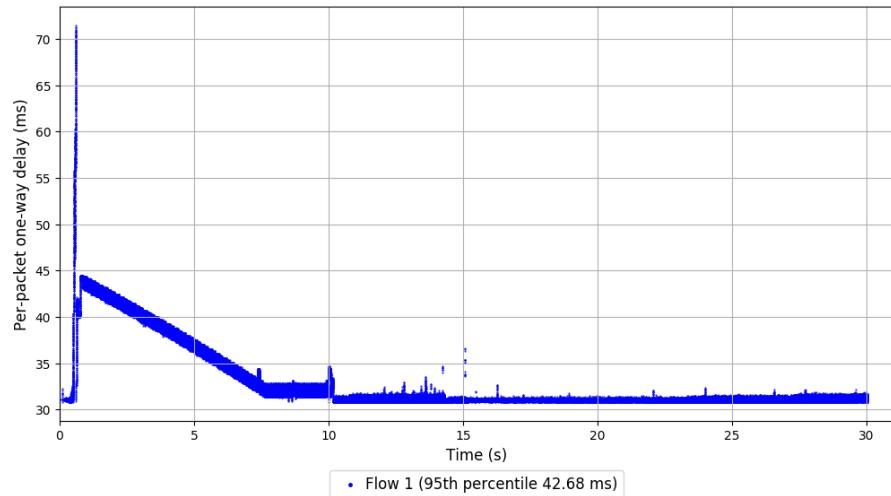
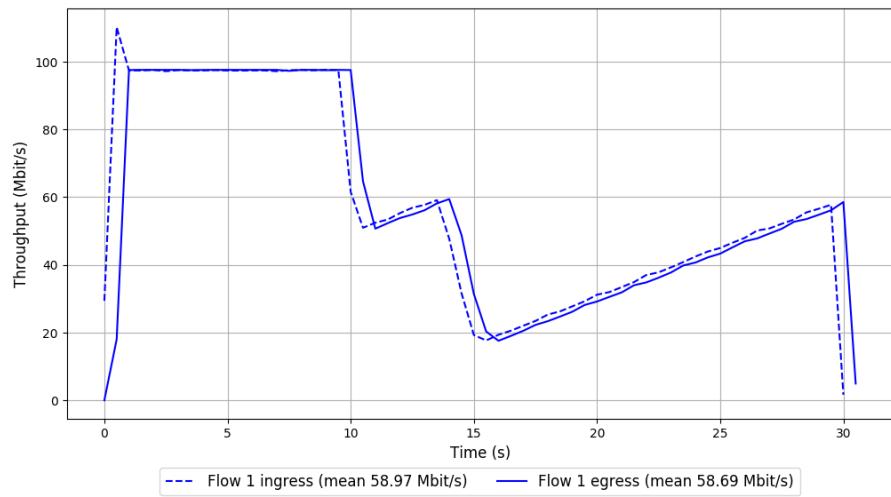


Run 5: Statistics of TCP Vegas

```
Start at: 2018-12-20 00:09:48
End at: 2018-12-20 00:10:18
Local clock offset: -3.03 ms
Remote clock offset: -2.559 ms

# Below is generated by plot.py at 2018-12-20 00:36:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.69 Mbit/s
95th percentile per-packet one-way delay: 42.677 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 58.69 Mbit/s
95th percentile per-packet one-way delay: 42.677 ms
Loss rate: 0.46%
```

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

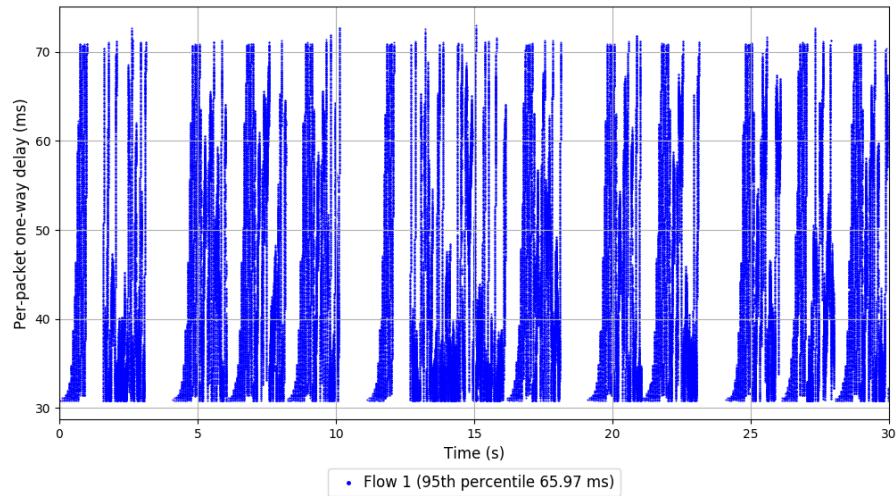
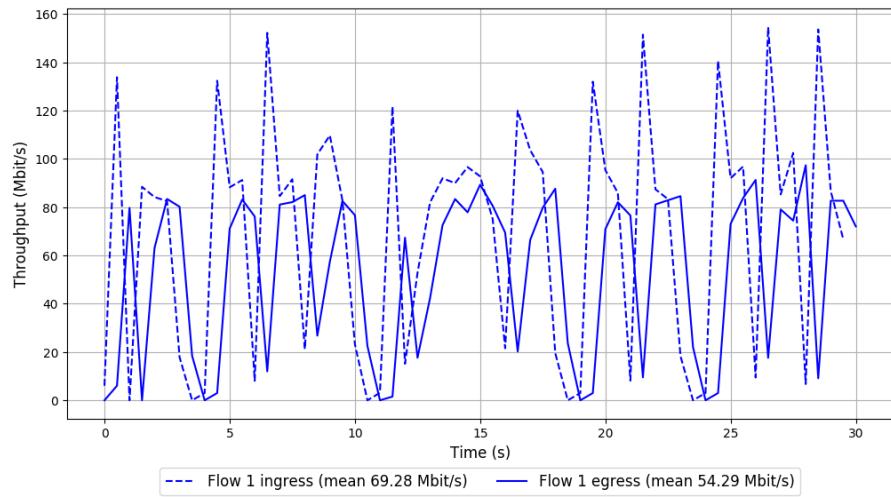


Run 1: Statistics of Verus

```
Start at: 2018-12-19 22:53:20
End at: 2018-12-19 22:53:50
Local clock offset: 0.462 ms
Remote clock offset: -3.942 ms

# Below is generated by plot.py at 2018-12-20 00:36:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.29 Mbit/s
95th percentile per-packet one-way delay: 65.969 ms
Loss rate: 21.64%
-- Flow 1:
Average throughput: 54.29 Mbit/s
95th percentile per-packet one-way delay: 65.969 ms
Loss rate: 21.64%
```

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

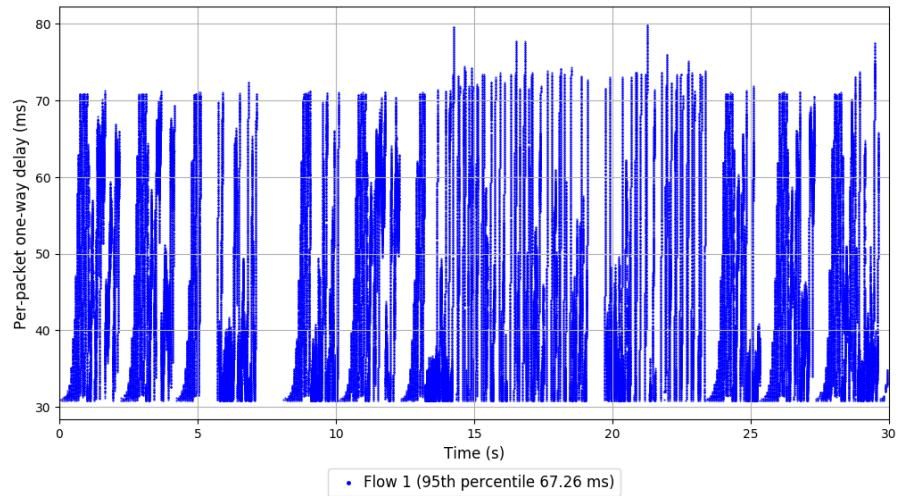
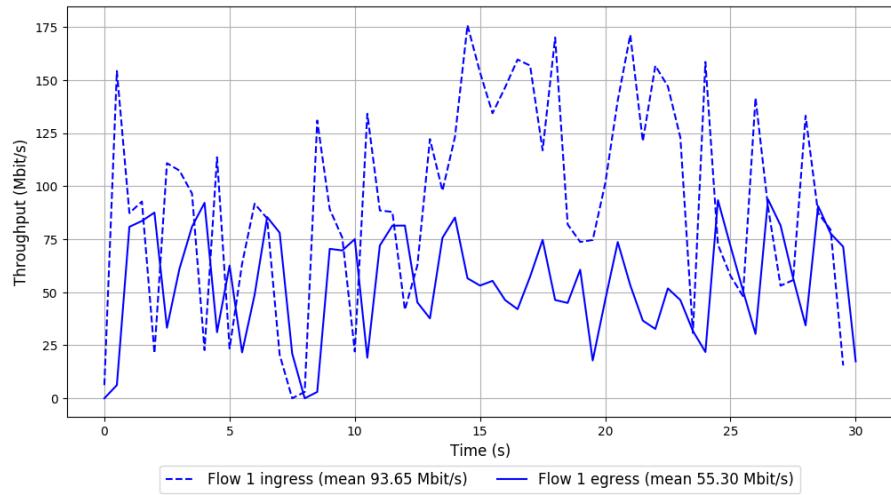


Run 2: Statistics of Verus

```
Start at: 2018-12-19 23:15:09
End at: 2018-12-19 23:15:39
Local clock offset: 0.434 ms
Remote clock offset: -3.382 ms

# Below is generated by plot.py at 2018-12-20 00:36:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.30 Mbit/s
95th percentile per-packet one-way delay: 67.261 ms
Loss rate: 40.95%
-- Flow 1:
Average throughput: 55.30 Mbit/s
95th percentile per-packet one-way delay: 67.261 ms
Loss rate: 40.95%
```

## Run 2: Report of Verus — Data Link

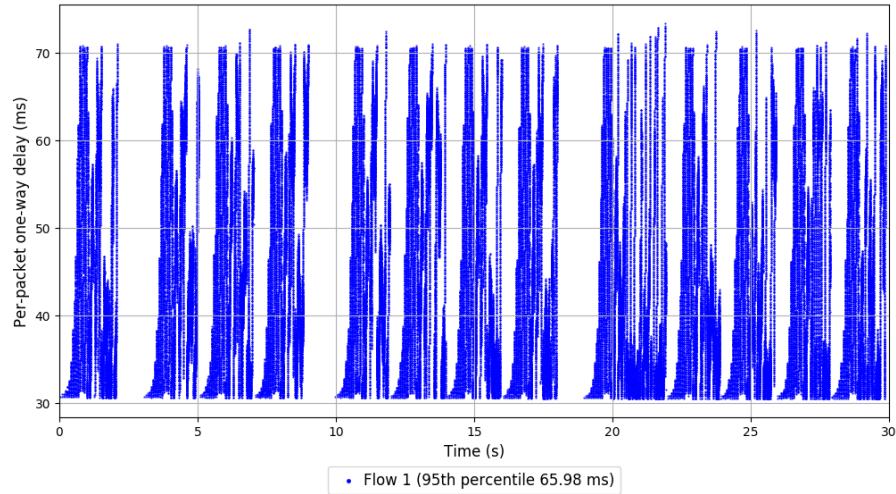
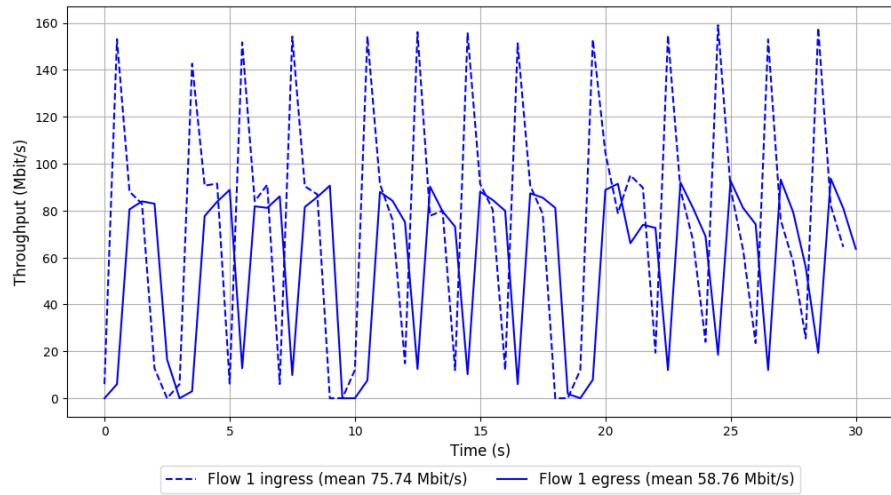


Run 3: Statistics of Verus

```
Start at: 2018-12-19 23:37:28
End at: 2018-12-19 23:37:58
Local clock offset: -0.024 ms
Remote clock offset: -2.892 ms

# Below is generated by plot.py at 2018-12-20 00:36:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.76 Mbit/s
95th percentile per-packet one-way delay: 65.976 ms
Loss rate: 22.37%
-- Flow 1:
Average throughput: 58.76 Mbit/s
95th percentile per-packet one-way delay: 65.976 ms
Loss rate: 22.37%
```

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

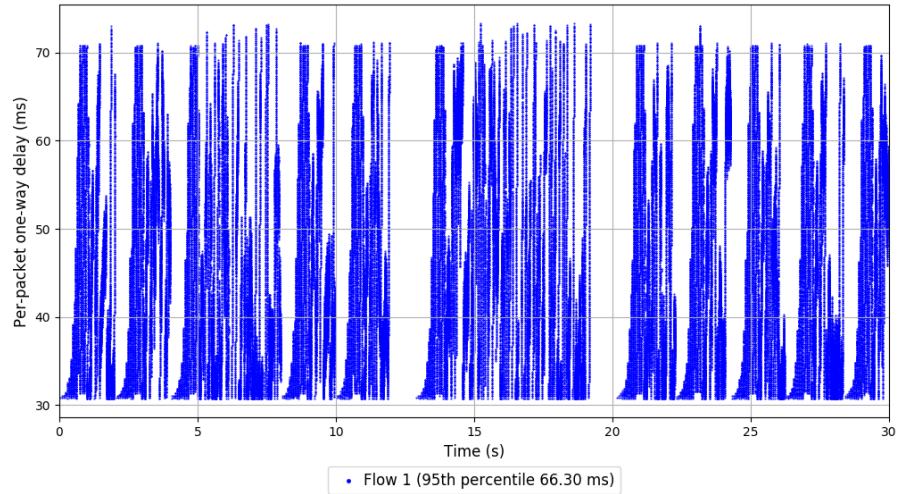
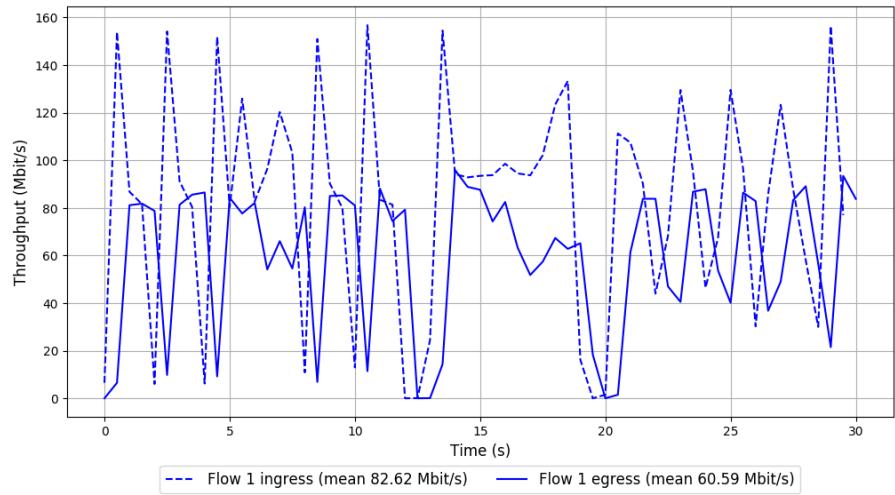


Run 4: Statistics of Verus

```
Start at: 2018-12-19 23:59:23
End at: 2018-12-19 23:59:53
Local clock offset: -2.982 ms
Remote clock offset: -2.576 ms

# Below is generated by plot.py at 2018-12-20 00:36:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.59 Mbit/s
95th percentile per-packet one-way delay: 66.295 ms
Loss rate: 26.60%
-- Flow 1:
Average throughput: 60.59 Mbit/s
95th percentile per-packet one-way delay: 66.295 ms
Loss rate: 26.60%
```

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

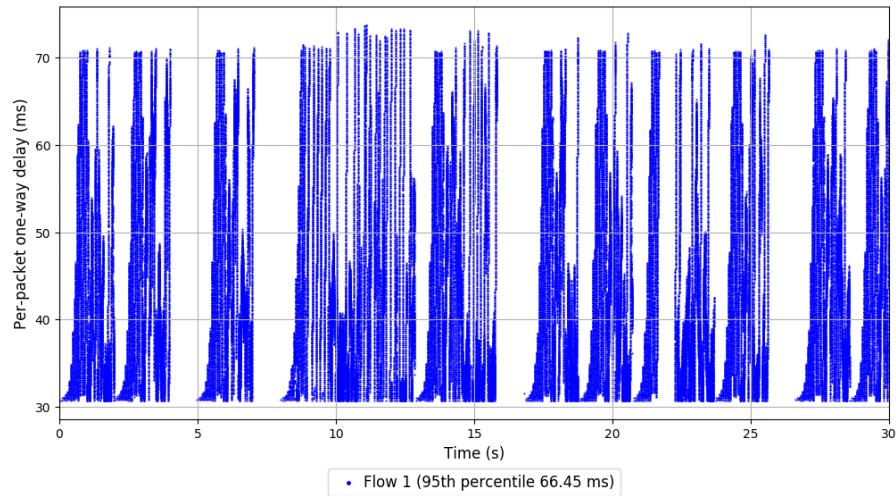
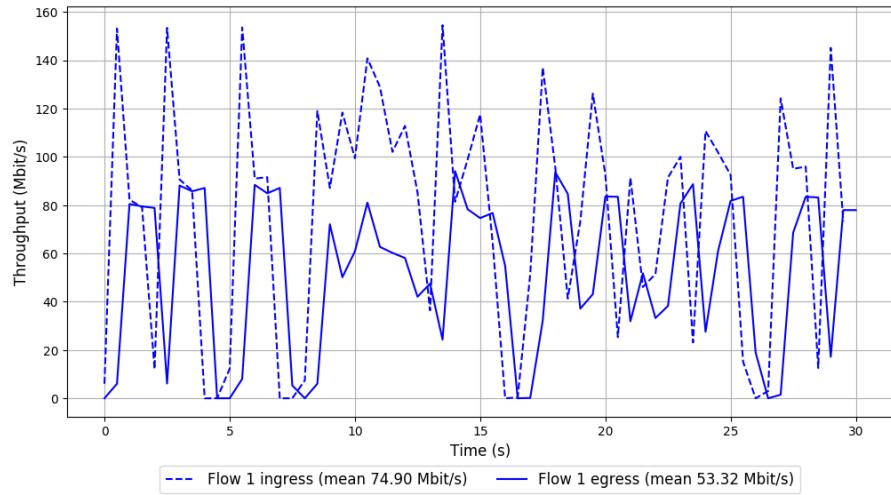


Run 5: Statistics of Verus

```
Start at: 2018-12-20 00:21:23
End at: 2018-12-20 00:21:53
Local clock offset: -2.862 ms
Remote clock offset: -2.587 ms

# Below is generated by plot.py at 2018-12-20 00:36:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 53.32 Mbit/s
95th percentile per-packet one-way delay: 66.446 ms
Loss rate: 28.72%
-- Flow 1:
Average throughput: 53.32 Mbit/s
95th percentile per-packet one-way delay: 66.446 ms
Loss rate: 28.72%
```

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

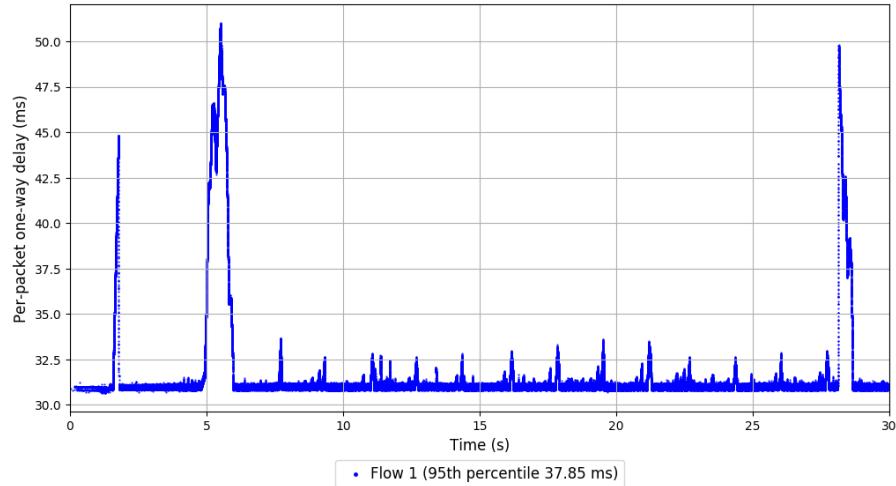
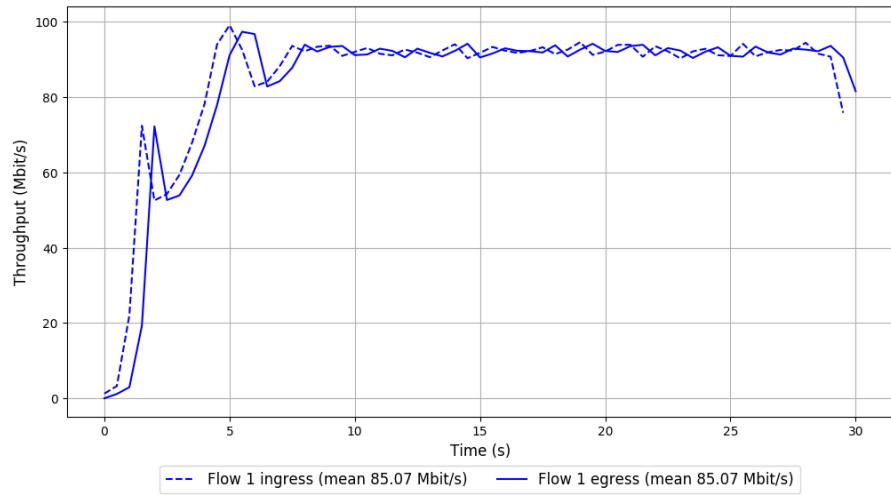


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-12-19 22:44:13
End at: 2018-12-19 22:44:43
Local clock offset: 0.491 ms
Remote clock offset: -4.127 ms

# Below is generated by plot.py at 2018-12-20 00:36:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.07 Mbit/s
95th percentile per-packet one-way delay: 37.852 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 85.07 Mbit/s
95th percentile per-packet one-way delay: 37.852 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Vivace — Data Link

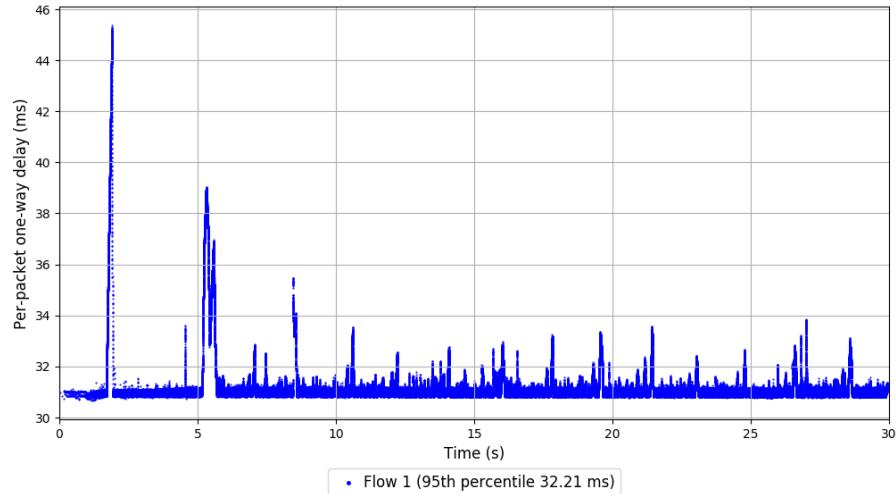
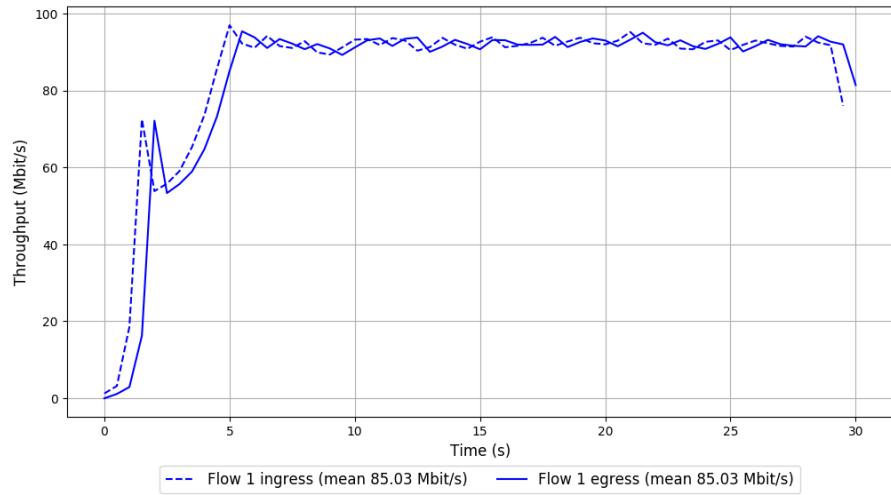


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-12-19 23:05:58
End at: 2018-12-19 23:06:28
Local clock offset: 0.627 ms
Remote clock offset: -3.678 ms

# Below is generated by plot.py at 2018-12-20 00:36:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.03 Mbit/s
95th percentile per-packet one-way delay: 32.210 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 85.03 Mbit/s
95th percentile per-packet one-way delay: 32.210 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Vivace — Data Link

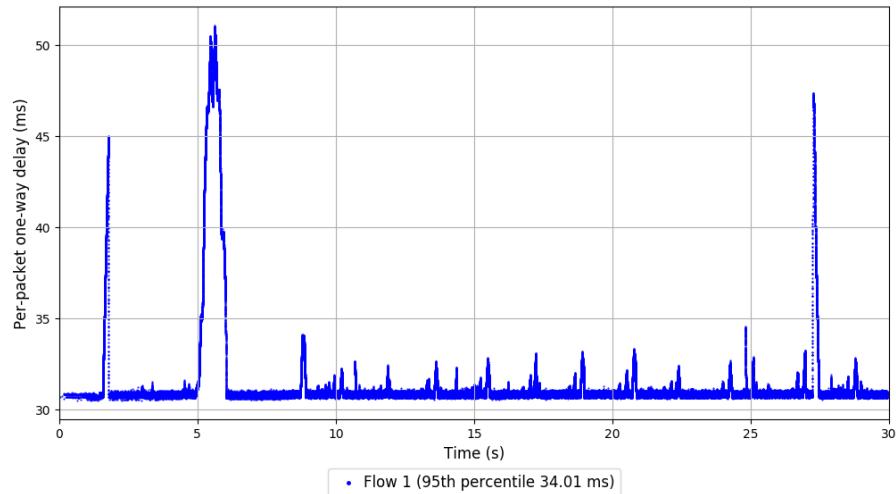
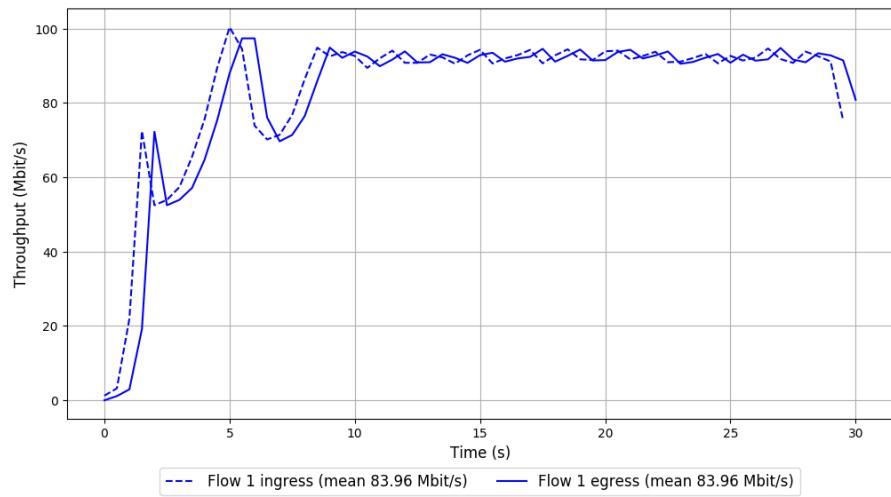


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-12-19 23:28:07
End at: 2018-12-19 23:28:37
Local clock offset: 0.474 ms
Remote clock offset: -3.22 ms

# Below is generated by plot.py at 2018-12-20 00:36:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.96 Mbit/s
95th percentile per-packet one-way delay: 34.009 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 83.96 Mbit/s
95th percentile per-packet one-way delay: 34.009 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Vivace — Data Link

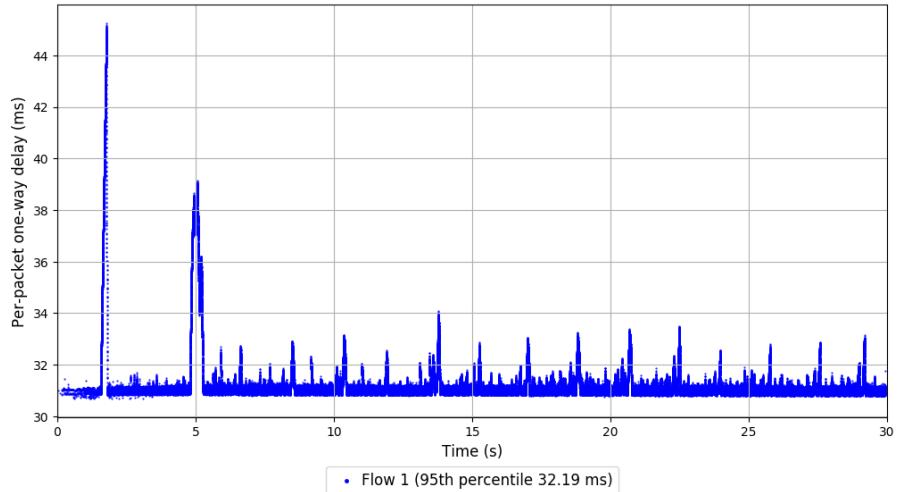
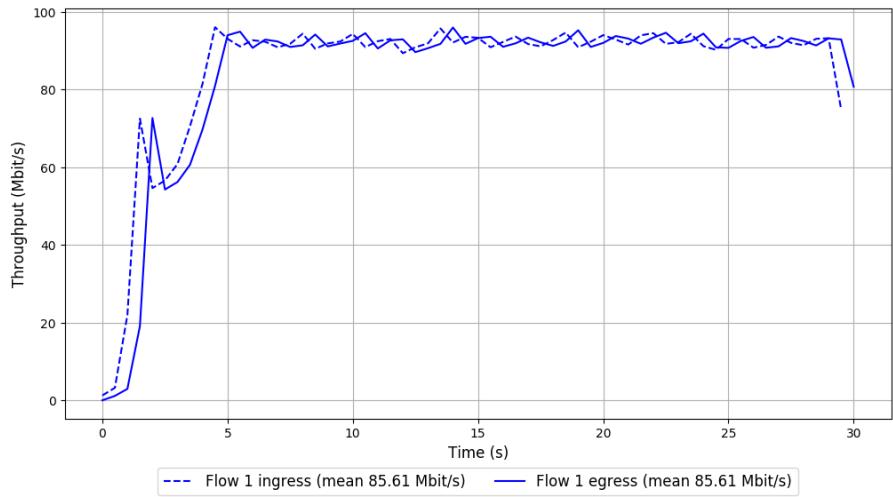


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-12-19 23:50:15
End at: 2018-12-19 23:50:45
Local clock offset: -2.318 ms
Remote clock offset: -2.652 ms

# Below is generated by plot.py at 2018-12-20 00:36:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.61 Mbit/s
95th percentile per-packet one-way delay: 32.193 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 85.61 Mbit/s
95th percentile per-packet one-way delay: 32.193 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link

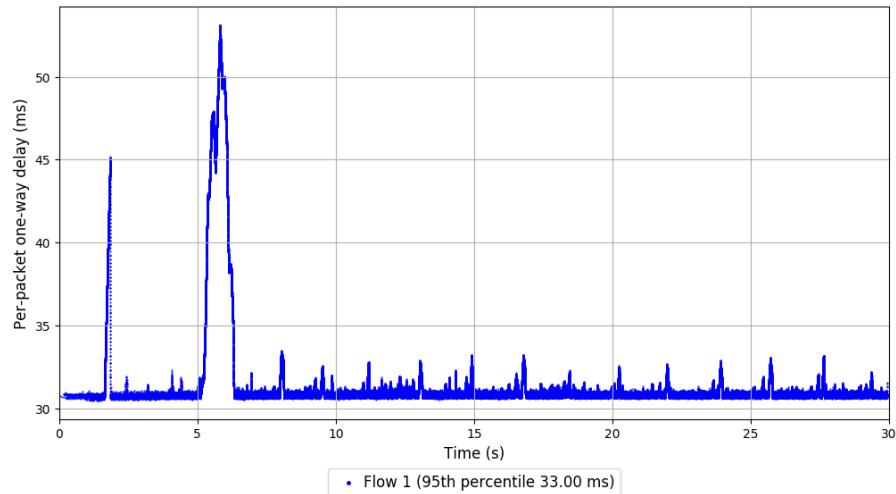
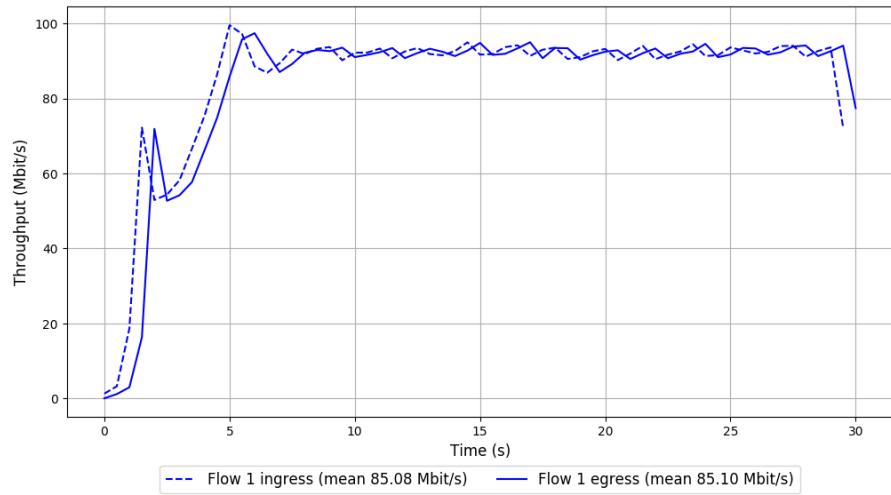


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-12-20 00:12:07
End at: 2018-12-20 00:12:37
Local clock offset: -2.953 ms
Remote clock offset: -2.749 ms

# Below is generated by plot.py at 2018-12-20 00:36:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.10 Mbit/s
95th percentile per-packet one-way delay: 33.001 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 85.10 Mbit/s
95th percentile per-packet one-way delay: 33.001 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Vivace — Data Link

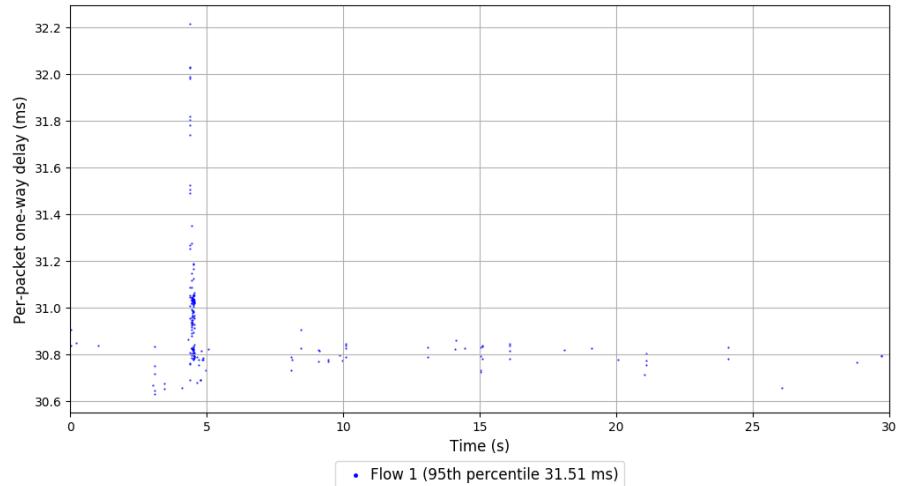
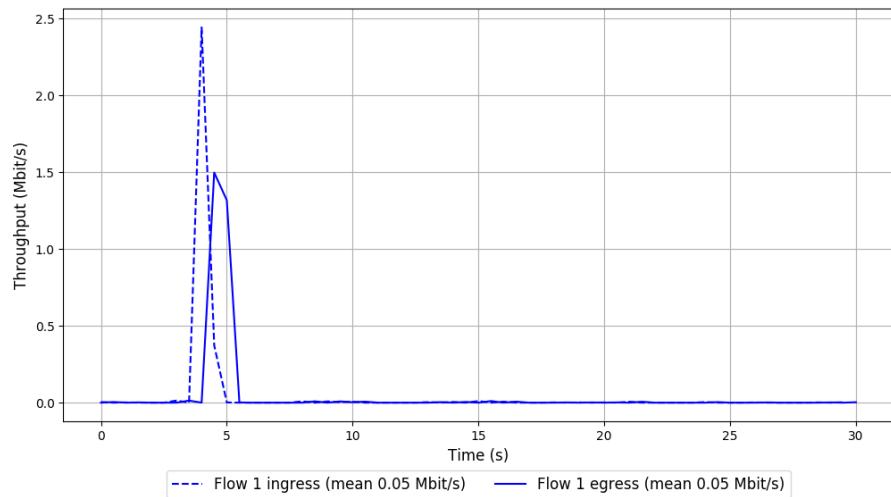


```
Run 1: Statistics of WebRTC media

Start at: 2018-12-19 22:45:24
End at: 2018-12-19 22:45:54
Local clock offset: 0.491 ms
Remote clock offset: -4.072 ms

# Below is generated by plot.py at 2018-12-20 00:36:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.507 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.507 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

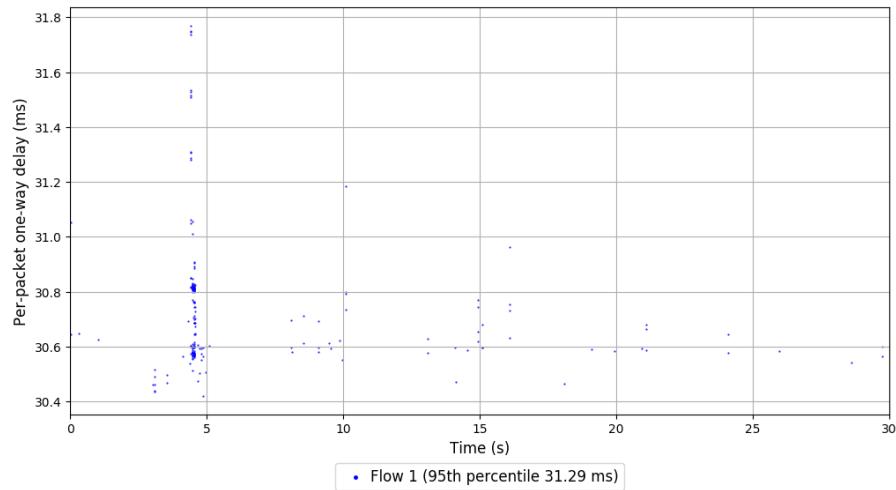
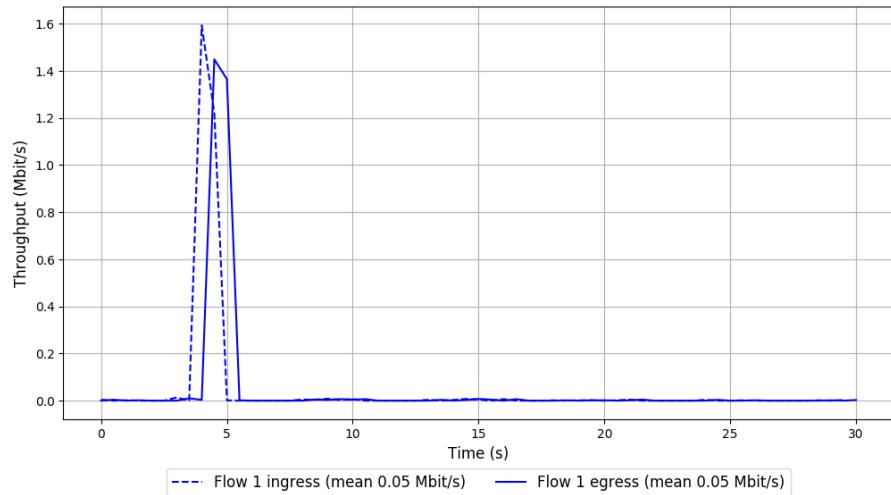


Run 2: Statistics of WebRTC media

```
Start at: 2018-12-19 23:07:09
End at: 2018-12-19 23:07:39
Local clock offset: 0.568 ms
Remote clock offset: -3.832 ms

# Below is generated by plot.py at 2018-12-20 00:36:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.287 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.287 ms
Loss rate: 0.00%
```

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

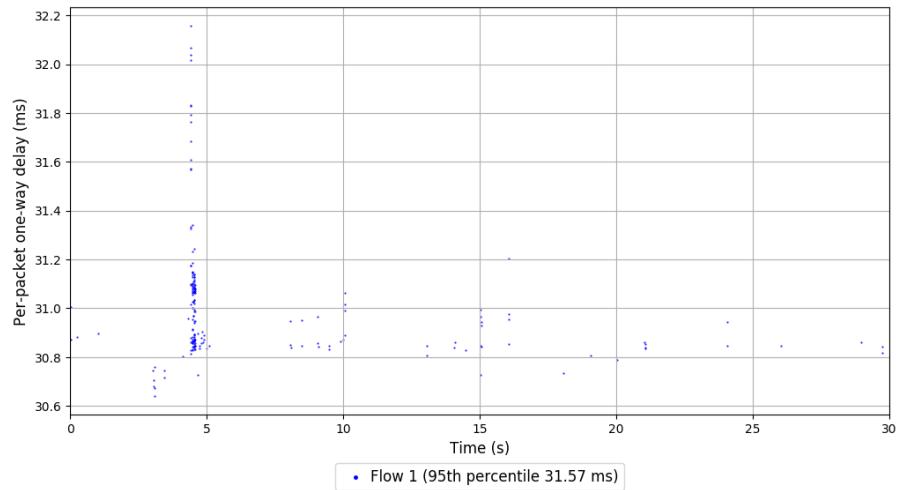
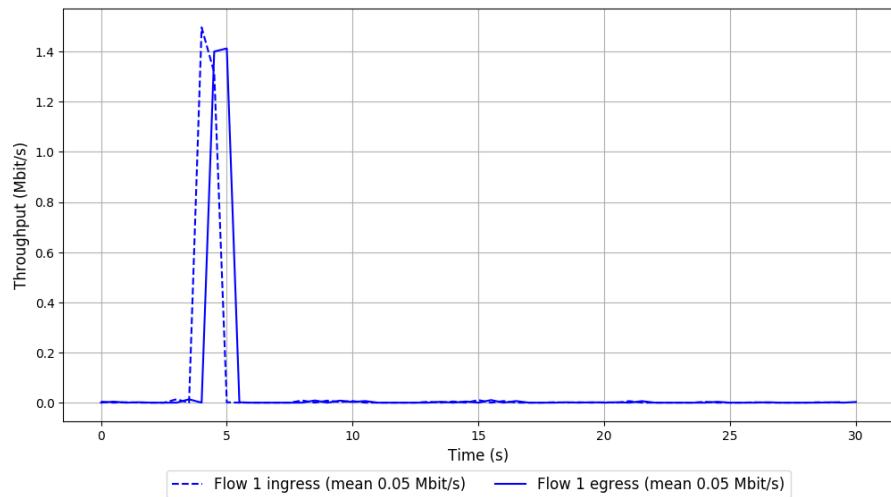


Run 3: Statistics of WebRTC media

```
Start at: 2018-12-19 23:29:22
End at: 2018-12-19 23:29:52
Local clock offset: 0.478 ms
Remote clock offset: -3.041 ms

# Below is generated by plot.py at 2018-12-20 00:36:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.572 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.572 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

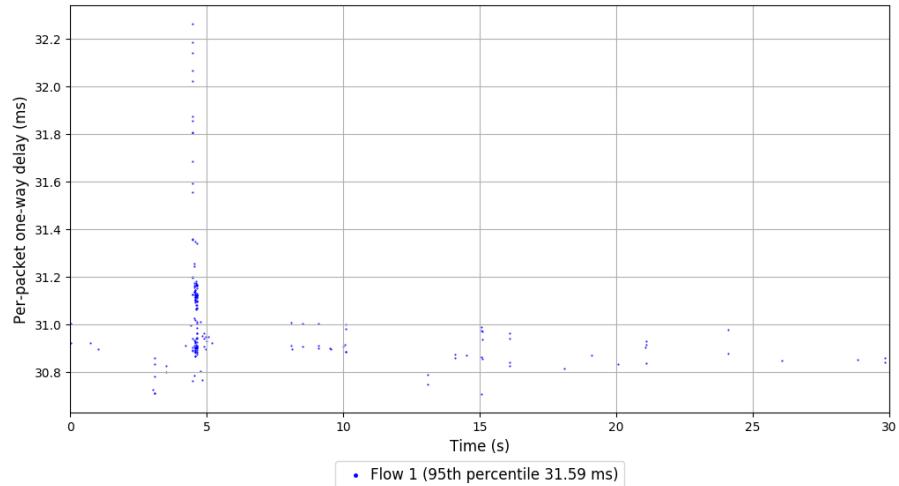
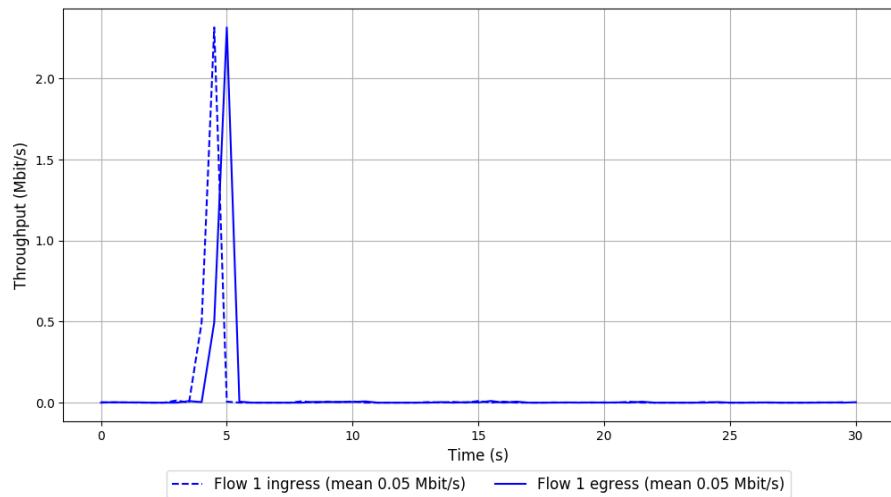


Run 4: Statistics of WebRTC media

```
Start at: 2018-12-19 23:51:26
End at: 2018-12-19 23:51:56
Local clock offset: -2.423 ms
Remote clock offset: -2.618 ms

# Below is generated by plot.py at 2018-12-20 00:36:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.592 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.592 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-12-20 00:13:19
End at: 2018-12-20 00:13:49
Local clock offset: -2.931 ms
Remote clock offset: -2.578 ms

# Below is generated by plot.py at 2018-12-20 00:36:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.627 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 31.627 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

