

## Pantheon Report

Generated at 2018-11-02 19:58:48 (UTC).  
Data path: AWS Brazil 2 on `ens5` (*local*) → Colombia on `p4p1` (*remote*).  
Repeated the test of 18 congestion control schemes 5 times.  
Each test lasted for 30 seconds running 1 flow.  
NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

System info:

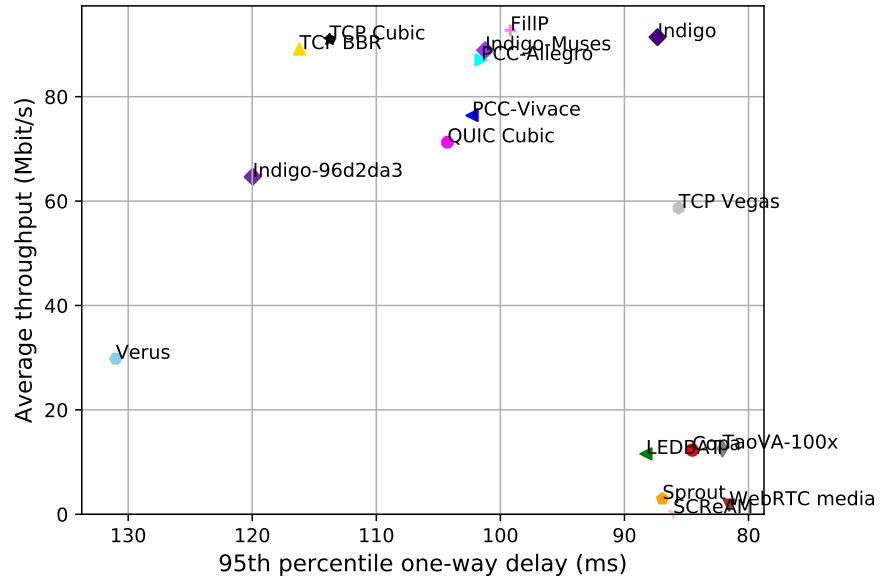
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

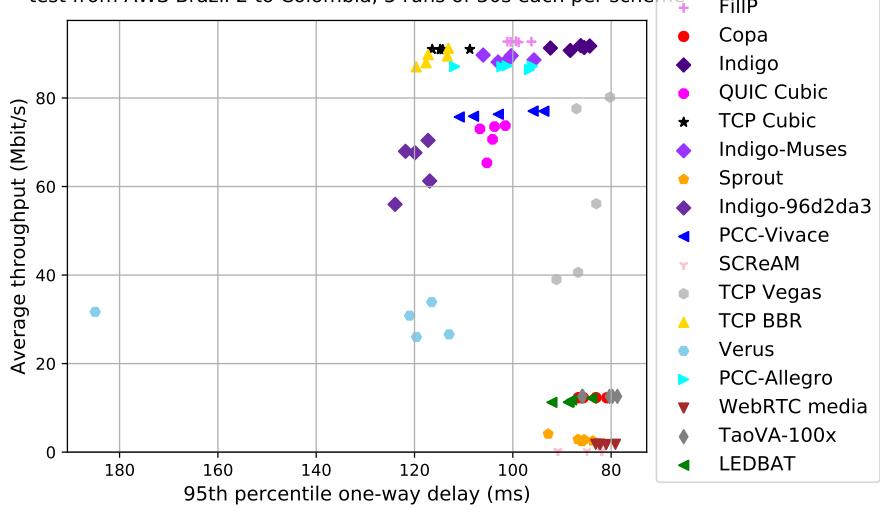
```
branch: muses @ 794ca3866981572cb73700a276691acf79c60f2b
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbfed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
```

third\_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

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



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



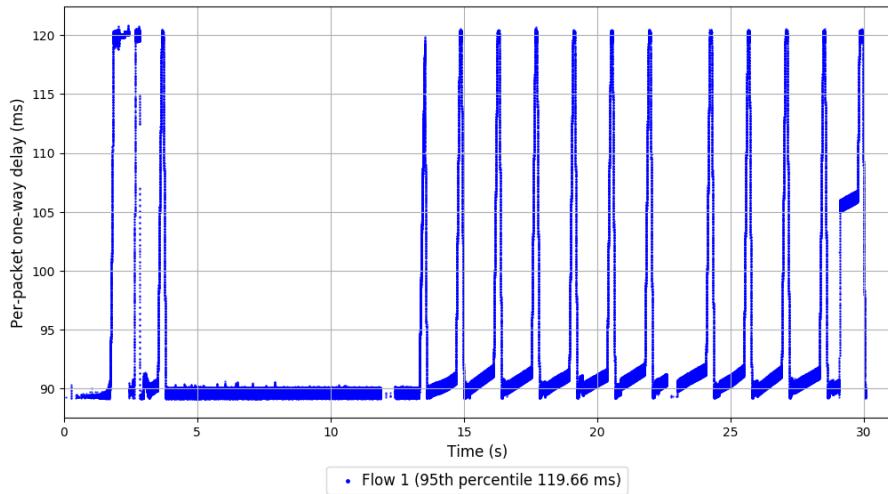
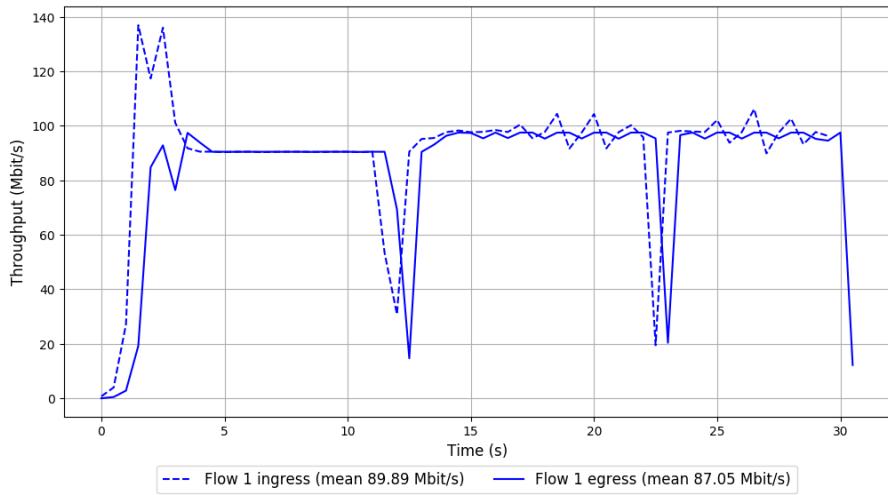
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	89.12	116.19	3.04
Copa	5	12.30	84.53	74.08
TCP Cubic	5	90.97	113.77	0.56
FillP	5	92.72	99.20	1.01
Indigo	5	91.40	87.34	0.87
Indigo-96d2da3	5	64.65	119.97	50.41
LEDBAT	5	11.57	88.27	0.01
Indigo-Muses	5	88.90	101.23	2.24
PCC-Allegro	5	87.01	101.56	1.50
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	71.27	104.27	0.35
SCReAM	5	0.22	86.07	0.00
Sprout	5	2.95	86.94	0.00
TaoVA-100x	5	12.59	82.10	26.78
TCP Vegas	5	58.69	85.63	1.00
Verus	5	29.80	131.01	31.69
PCC-Vivace	5	76.40	102.28	0.10
WebRTC media	5	1.75	81.56	0.03

Run 1: Statistics of TCP BBR

```
Start at: 2018-11-02 18:21:55
End at: 2018-11-02 18:22:25
Local clock offset: -3.456 ms
Remote clock offset: 2.476 ms

# Below is generated by plot.py at 2018-11-02 19:52:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.05 Mbit/s
95th percentile per-packet one-way delay: 119.655 ms
Loss rate: 3.17%
-- Flow 1:
Average throughput: 87.05 Mbit/s
95th percentile per-packet one-way delay: 119.655 ms
Loss rate: 3.17%
```

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

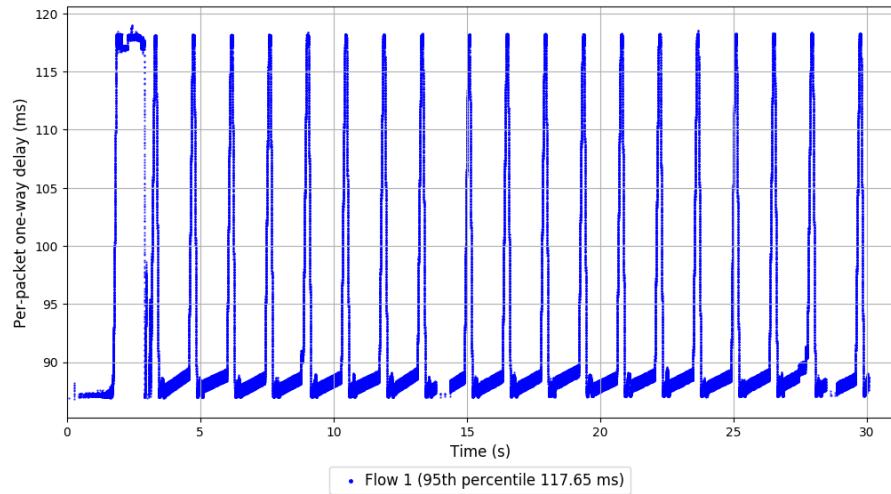
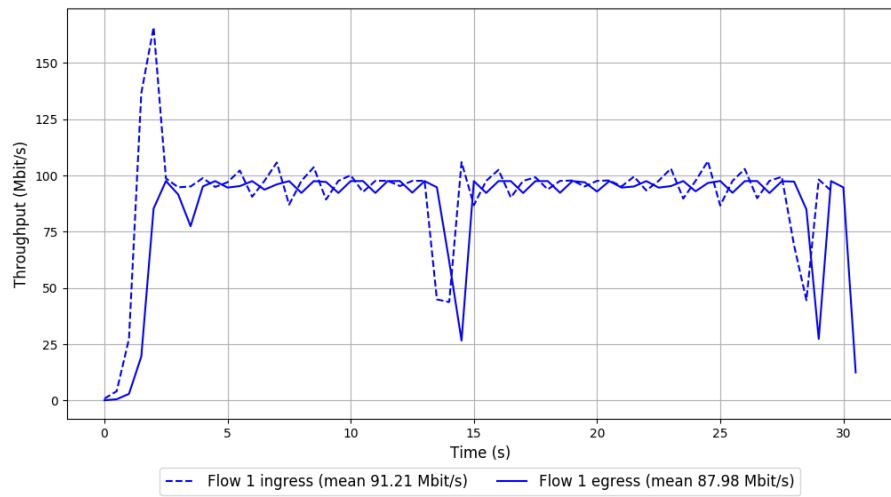


Run 2: Statistics of TCP BBR

```
Start at: 2018-11-02 18:43:00
End at: 2018-11-02 18:43:30
Local clock offset: 0.928 ms
Remote clock offset: 0.097 ms

# Below is generated by plot.py at 2018-11-02 19:52:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.98 Mbit/s
95th percentile per-packet one-way delay: 117.647 ms
Loss rate: 3.56%
-- Flow 1:
Average throughput: 87.98 Mbit/s
95th percentile per-packet one-way delay: 117.647 ms
Loss rate: 3.56%
```

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

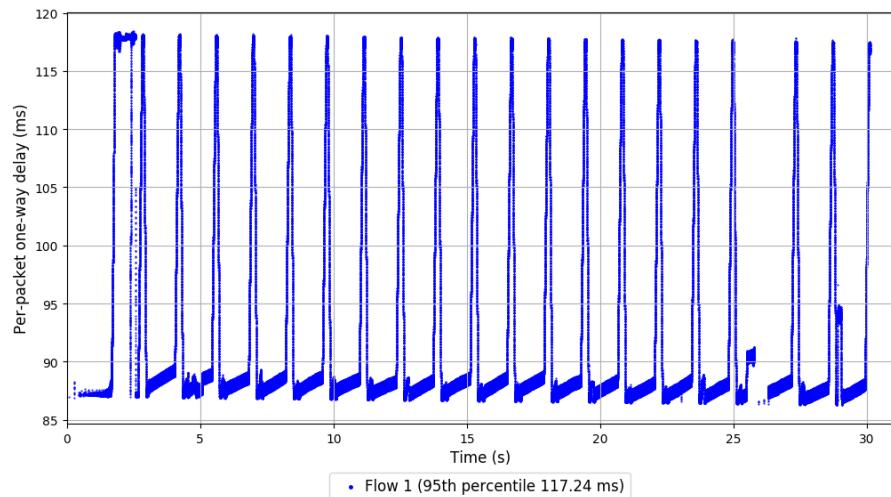
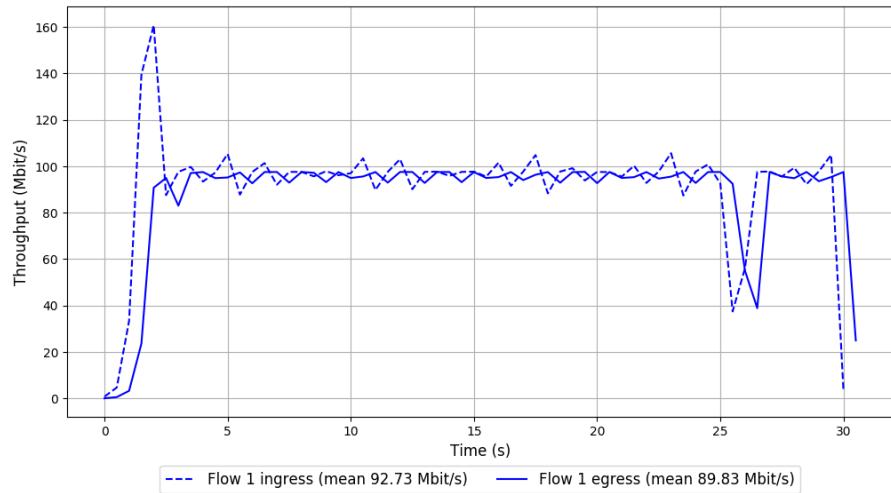


Run 3: Statistics of TCP BBR

```
Start at: 2018-11-02 19:04:03
End at: 2018-11-02 19:04:33
Local clock offset: 7.65 ms
Remote clock offset: 7.151 ms

# Below is generated by plot.py at 2018-11-02 19:52:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.83 Mbit/s
95th percentile per-packet one-way delay: 117.240 ms
Loss rate: 3.03%
-- Flow 1:
Average throughput: 89.83 Mbit/s
95th percentile per-packet one-way delay: 117.240 ms
Loss rate: 3.03%
```

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

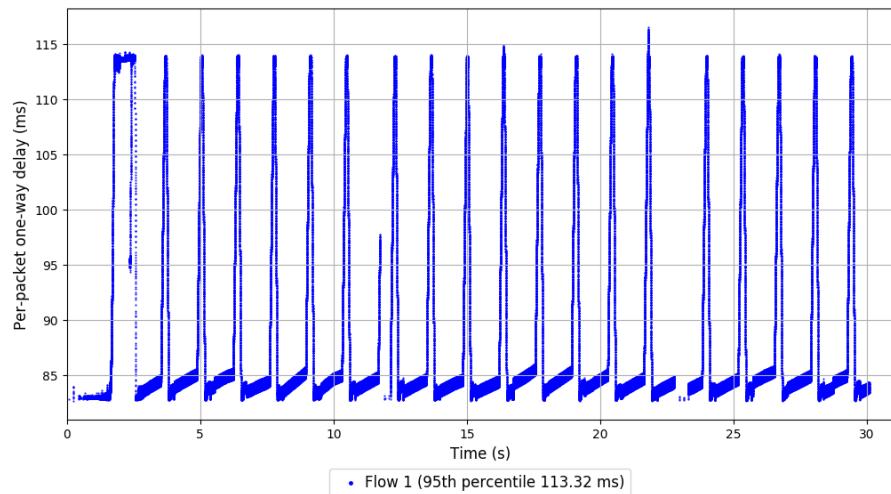
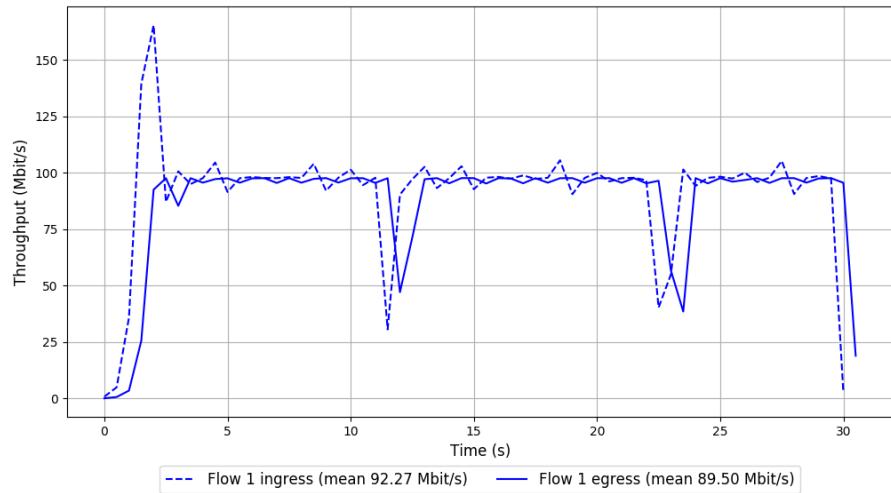


Run 4: Statistics of TCP BBR

```
Start at: 2018-11-02 19:25:06
End at: 2018-11-02 19:25:36
Local clock offset: -3.522 ms
Remote clock offset: 5.497 ms

# Below is generated by plot.py at 2018-11-02 19:52:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.50 Mbit/s
95th percentile per-packet one-way delay: 113.324 ms
Loss rate: 3.01%
-- Flow 1:
Average throughput: 89.50 Mbit/s
95th percentile per-packet one-way delay: 113.324 ms
Loss rate: 3.01%
```

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

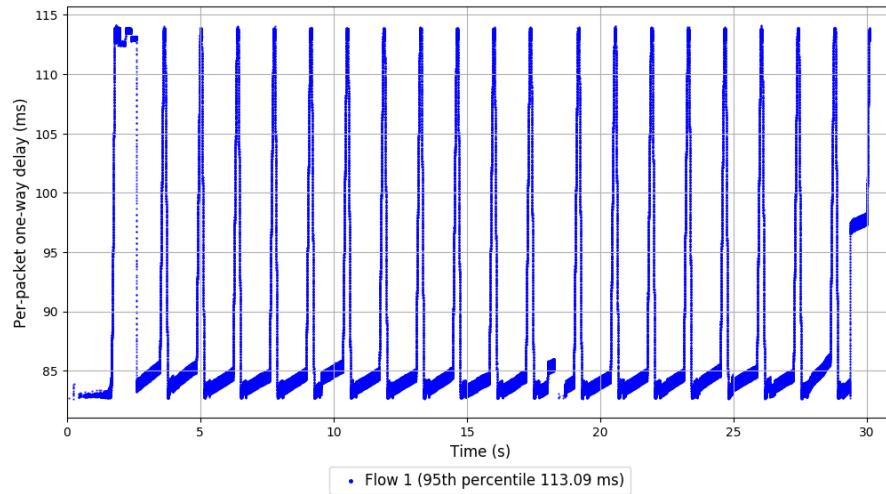
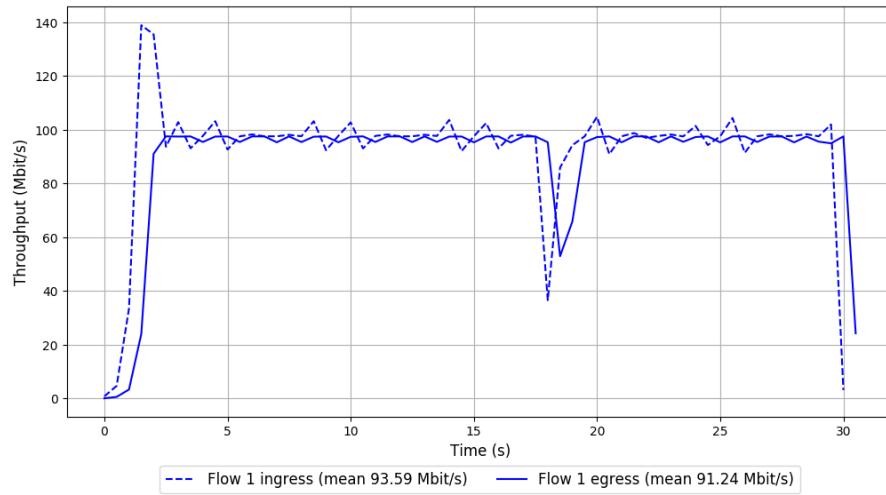


Run 5: Statistics of TCP BBR

```
Start at: 2018-11-02 19:46:10
End at: 2018-11-02 19:46:40
Local clock offset: -6.823 ms
Remote clock offset: 3.211 ms

# Below is generated by plot.py at 2018-11-02 19:52:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.24 Mbit/s
95th percentile per-packet one-way delay: 113.093 ms
Loss rate: 2.41%
-- Flow 1:
Average throughput: 91.24 Mbit/s
95th percentile per-packet one-way delay: 113.093 ms
Loss rate: 2.41%
```

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

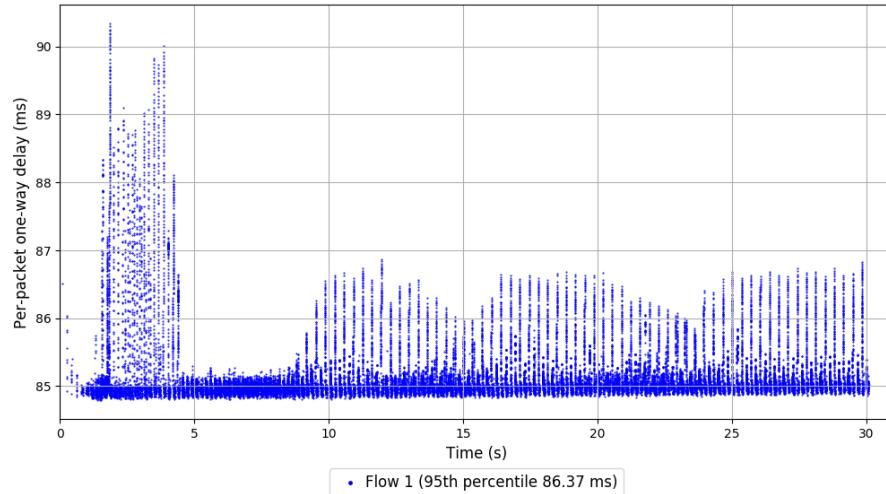
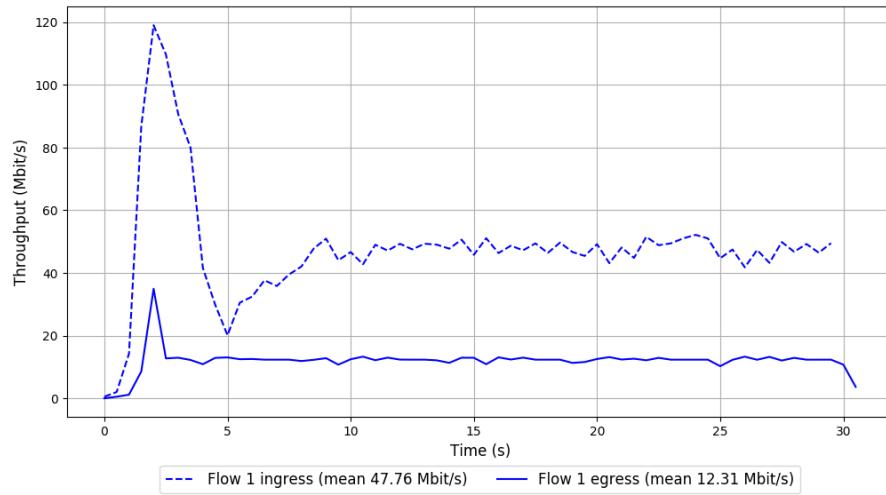


Run 1: Statistics of Copa

```
Start at: 2018-11-02 18:18:26
End at: 2018-11-02 18:18:56
Local clock offset: -5.849 ms
Remote clock offset: 3.354 ms

# Below is generated by plot.py at 2018-11-02 19:52:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.31 Mbit/s
95th percentile per-packet one-way delay: 86.368 ms
Loss rate: 74.23%
-- Flow 1:
Average throughput: 12.31 Mbit/s
95th percentile per-packet one-way delay: 86.368 ms
Loss rate: 74.23%
```

### Run 1: Report of Copa — Data Link

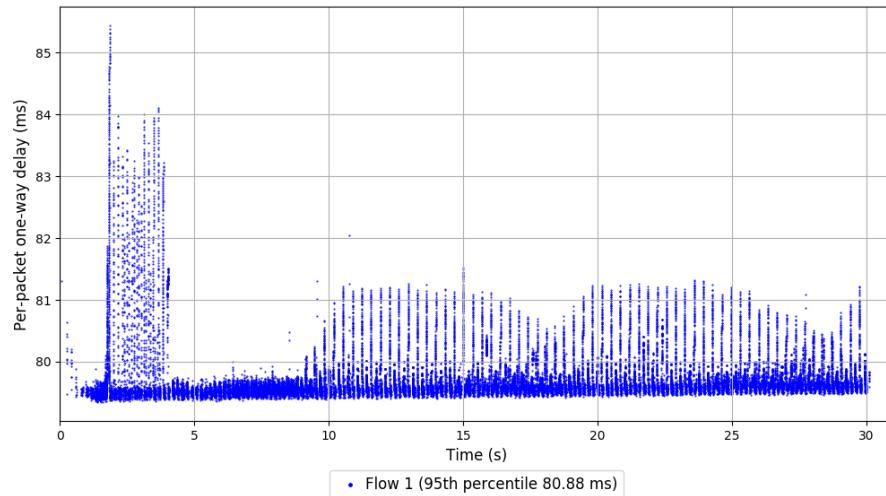
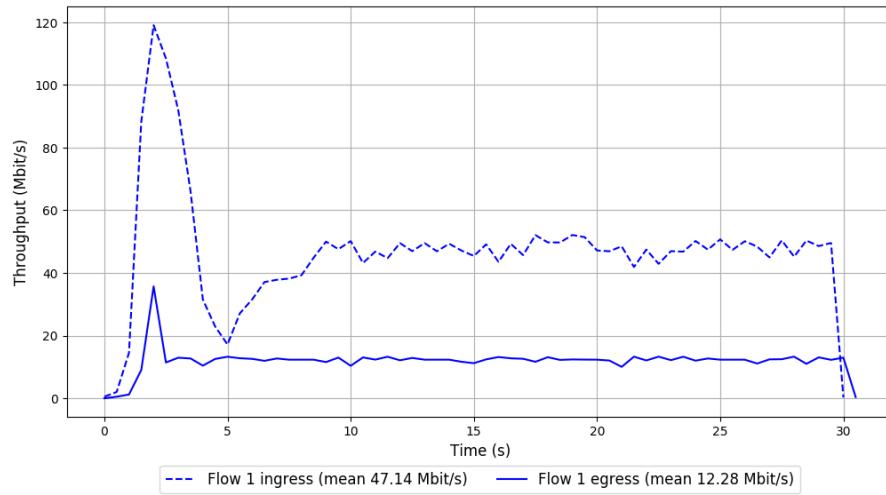


Run 2: Statistics of Copa

```
Start at: 2018-11-02 18:39:31
End at: 2018-11-02 18:40:01
Local clock offset: 1.537 ms
Remote clock offset: 0.96 ms

# Below is generated by plot.py at 2018-11-02 19:52:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.28 Mbit/s
95th percentile per-packet one-way delay: 80.875 ms
Loss rate: 73.96%
-- Flow 1:
Average throughput: 12.28 Mbit/s
95th percentile per-packet one-way delay: 80.875 ms
Loss rate: 73.96%
```

## Run 2: Report of Copa — Data Link

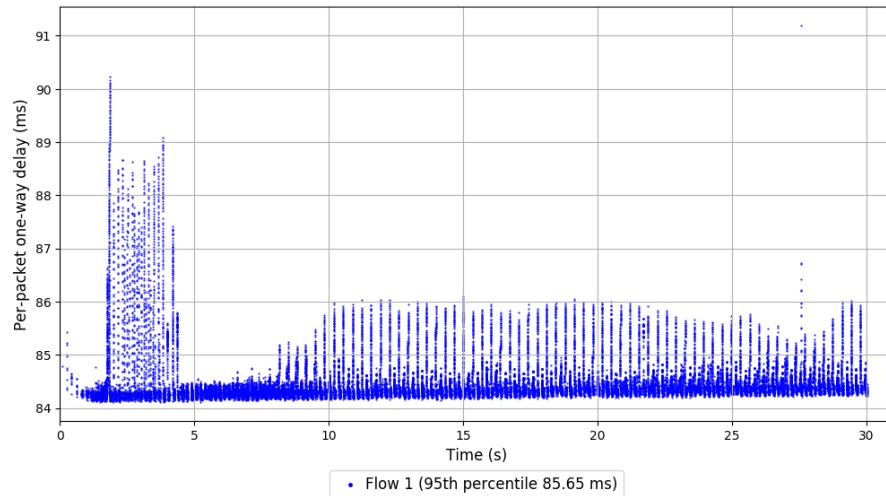
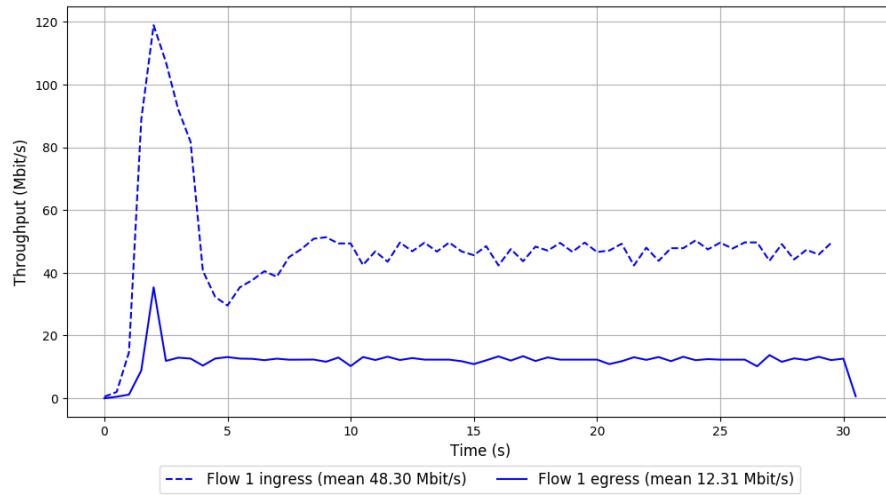


Run 3: Statistics of Copa

```
Start at: 2018-11-02 19:00:33
End at: 2018-11-02 19:01:04
Local clock offset: 6.603 ms
Remote clock offset: 5.778 ms

# Below is generated by plot.py at 2018-11-02 19:52:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.31 Mbit/s
95th percentile per-packet one-way delay: 85.647 ms
Loss rate: 74.51%
-- Flow 1:
Average throughput: 12.31 Mbit/s
95th percentile per-packet one-way delay: 85.647 ms
Loss rate: 74.51%
```

### Run 3: Report of Copa — Data Link

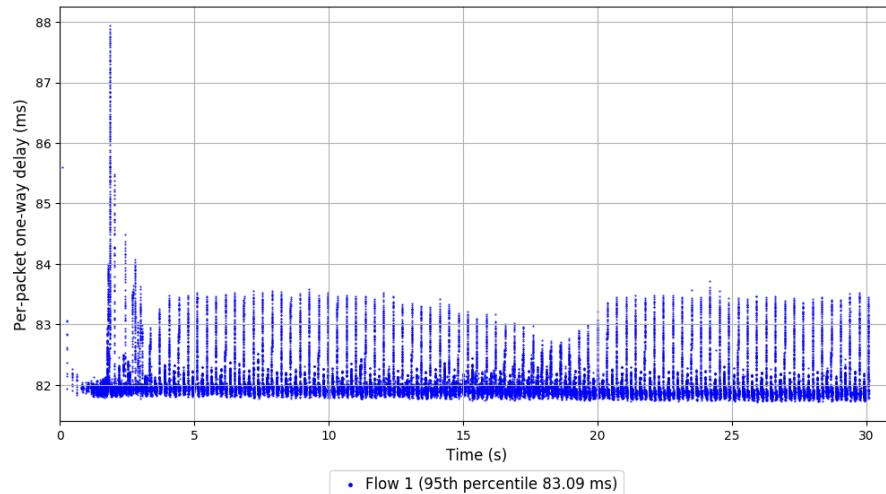
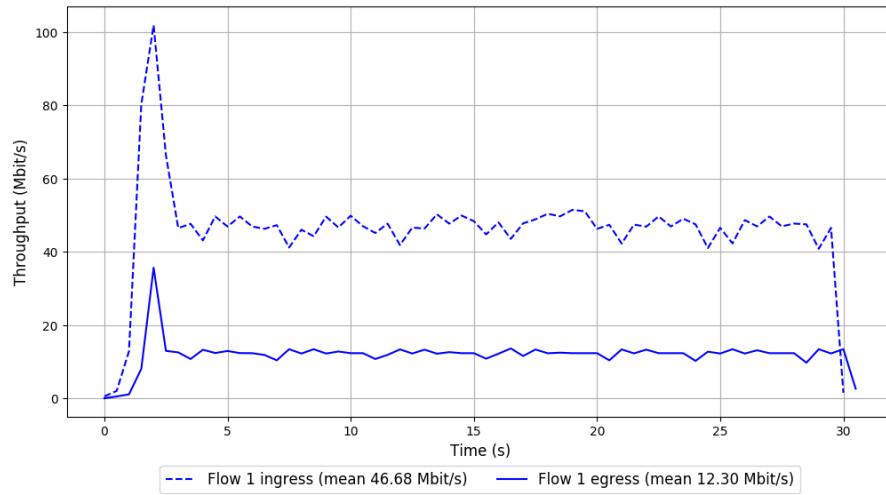


Run 4: Statistics of Copa

```
Start at: 2018-11-02 19:21:37
End at: 2018-11-02 19:22:07
Local clock offset: -3.042 ms
Remote clock offset: 2.669 ms

# Below is generated by plot.py at 2018-11-02 19:52:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.30 Mbit/s
95th percentile per-packet one-way delay: 83.086 ms
Loss rate: 73.65%
-- Flow 1:
Average throughput: 12.30 Mbit/s
95th percentile per-packet one-way delay: 83.086 ms
Loss rate: 73.65%
```

### Run 4: Report of Copa — Data Link

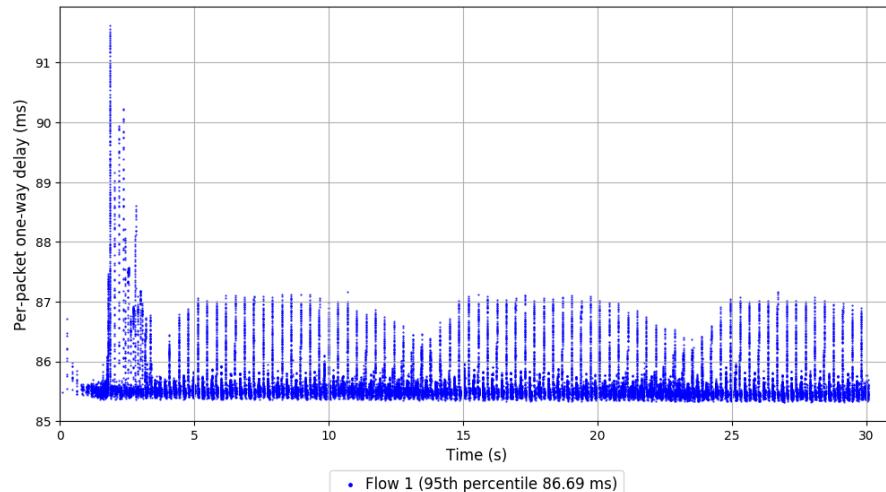
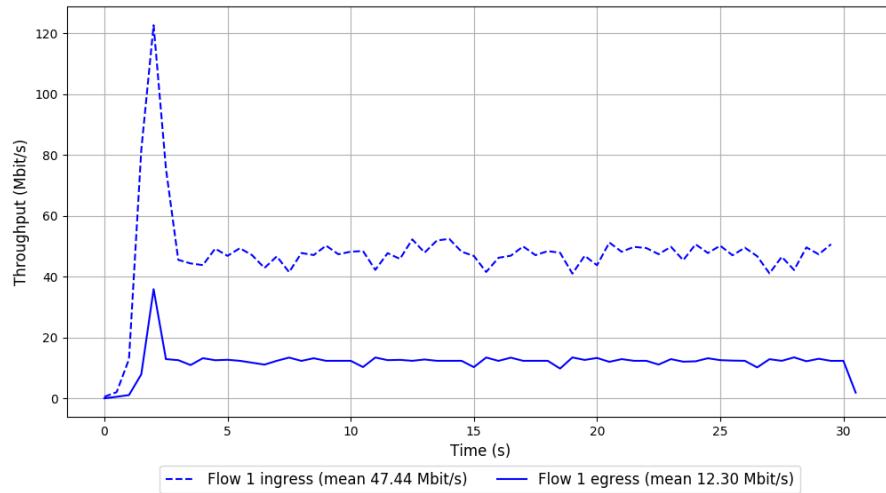


Run 5: Statistics of Copa

```
Start at: 2018-11-02 19:42:41
End at: 2018-11-02 19:43:11
Local clock offset: -6.453 ms
Remote clock offset: 5.918 ms

# Below is generated by plot.py at 2018-11-02 19:52:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.30 Mbit/s
95th percentile per-packet one-way delay: 86.689 ms
Loss rate: 74.06%
-- Flow 1:
Average throughput: 12.30 Mbit/s
95th percentile per-packet one-way delay: 86.689 ms
Loss rate: 74.06%
```

### Run 5: Report of Copa — Data Link

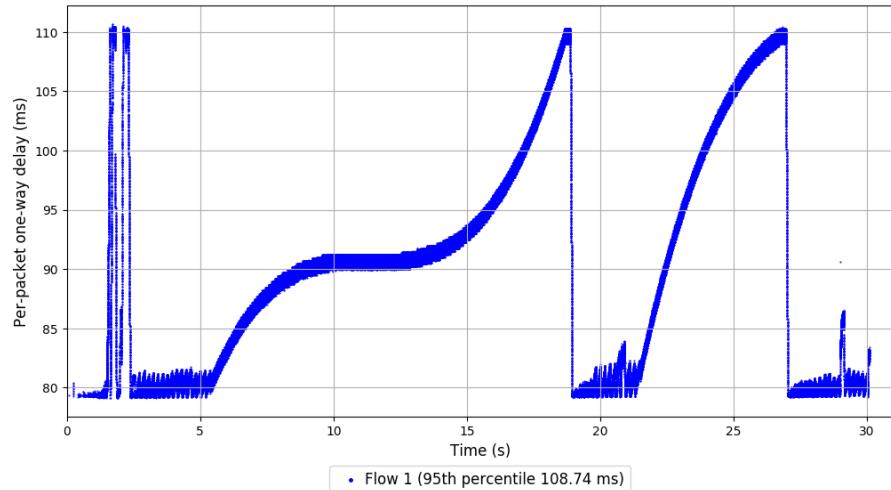
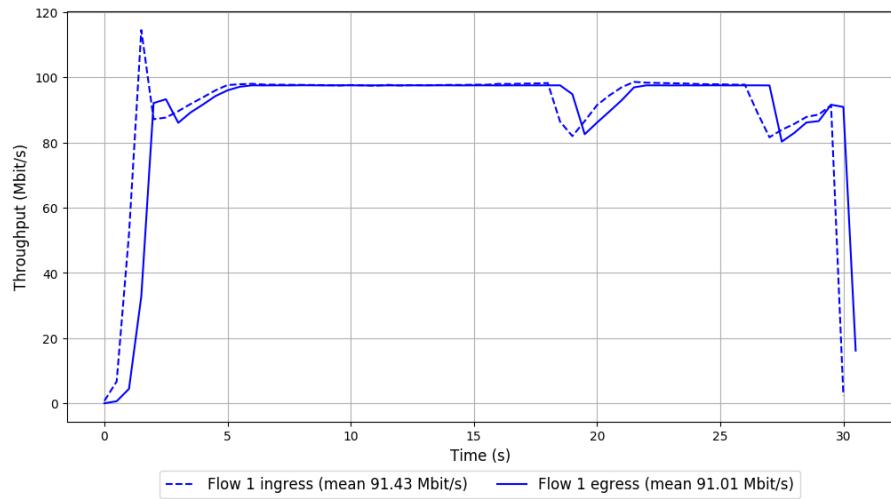


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-11-02 18:23:07
End at: 2018-11-02 18:23:37
Local clock offset: -3.887 ms
Remote clock offset: -1.183 ms

# Below is generated by plot.py at 2018-11-02 19:52:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.01 Mbit/s
95th percentile per-packet one-way delay: 108.742 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 91.01 Mbit/s
95th percentile per-packet one-way delay: 108.742 ms
Loss rate: 0.45%
```

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

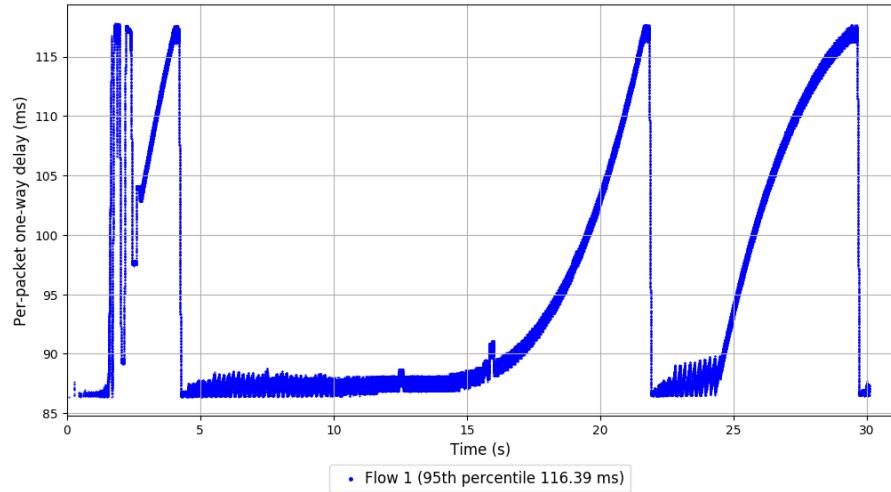
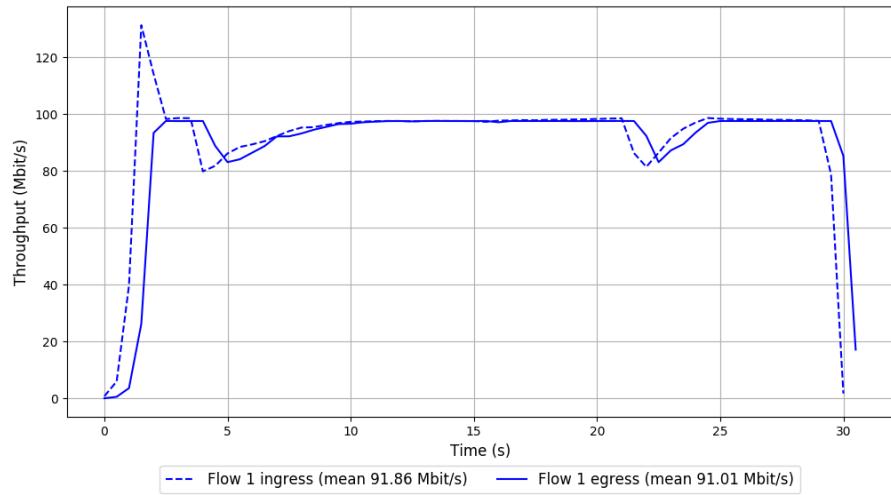


Run 2: Statistics of TCP Cubic

```
Start at: 2018-11-02 18:44:12
End at: 2018-11-02 18:44:42
Local clock offset: 1.291 ms
Remote clock offset: 1.347 ms

# Below is generated by plot.py at 2018-11-02 19:52:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.01 Mbit/s
95th percentile per-packet one-way delay: 116.390 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 91.01 Mbit/s
95th percentile per-packet one-way delay: 116.390 ms
Loss rate: 0.94%
```

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

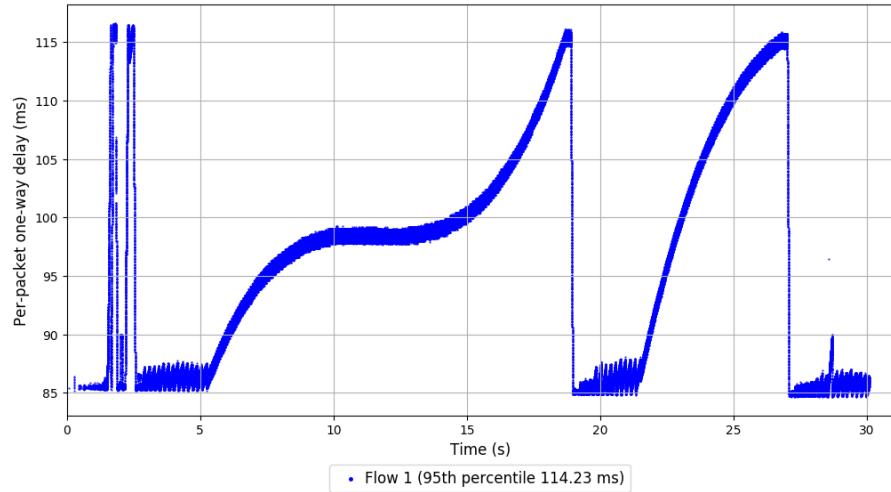
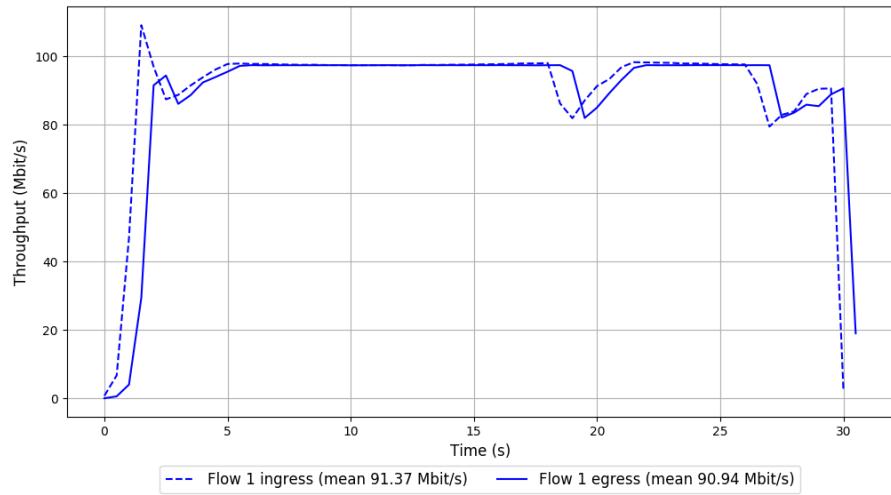


Run 3: Statistics of TCP Cubic

```
Start at: 2018-11-02 19:05:15
End at: 2018-11-02 19:05:45
Local clock offset: 7.556 ms
Remote clock offset: 7.08 ms

# Below is generated by plot.py at 2018-11-02 19:52:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.94 Mbit/s
95th percentile per-packet one-way delay: 114.226 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 90.94 Mbit/s
95th percentile per-packet one-way delay: 114.226 ms
Loss rate: 0.47%
```

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

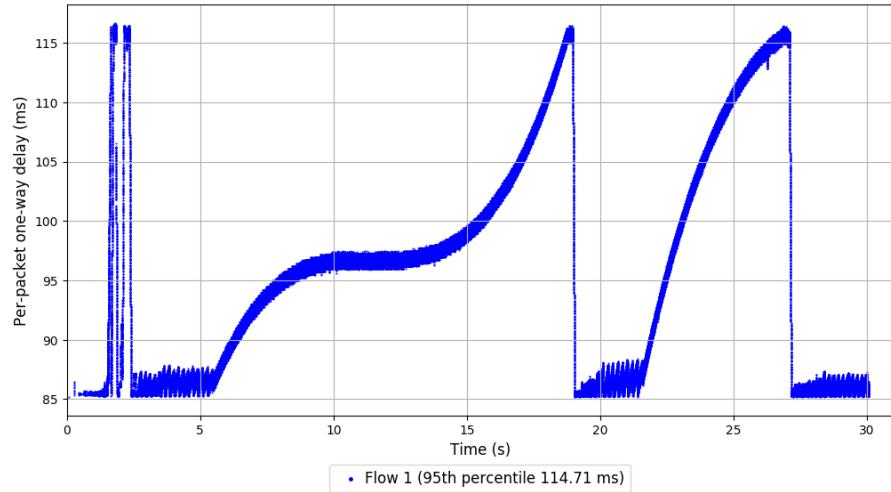
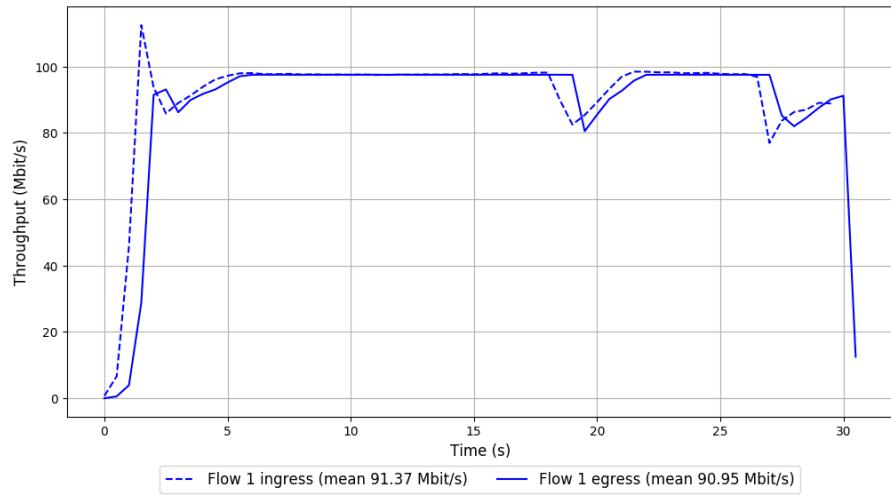


Run 4: Statistics of TCP Cubic

```
Start at: 2018-11-02 19:26:18
End at: 2018-11-02 19:26:48
Local clock offset: -4.391 ms
Remote clock offset: 5.509 ms

# Below is generated by plot.py at 2018-11-02 19:53:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.95 Mbit/s
95th percentile per-packet one-way delay: 114.706 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 90.95 Mbit/s
95th percentile per-packet one-way delay: 114.706 ms
Loss rate: 0.47%
```

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

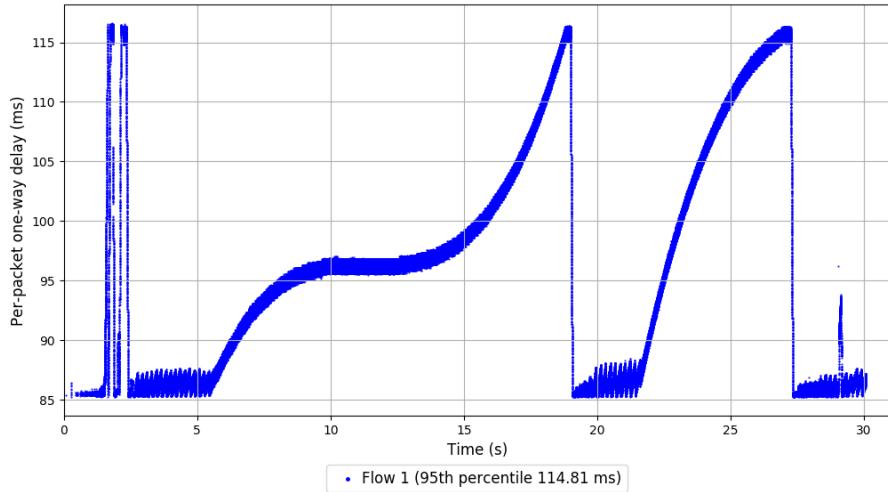
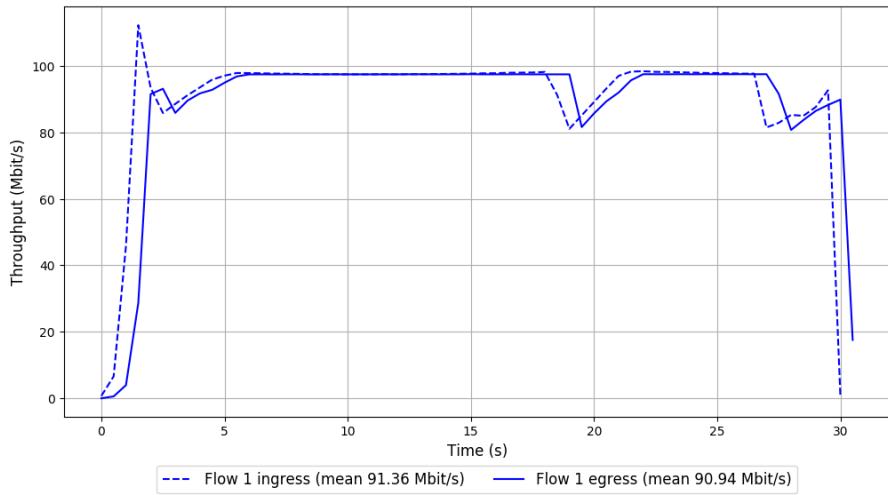


Run 5: Statistics of TCP Cubic

```
Start at: 2018-11-02 19:47:22
End at: 2018-11-02 19:47:52
Local clock offset: -5.304 ms
Remote clock offset: 6.88 ms

# Below is generated by plot.py at 2018-11-02 19:53:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.94 Mbit/s
95th percentile per-packet one-way delay: 114.809 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 90.94 Mbit/s
95th percentile per-packet one-way delay: 114.809 ms
Loss rate: 0.45%
```

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

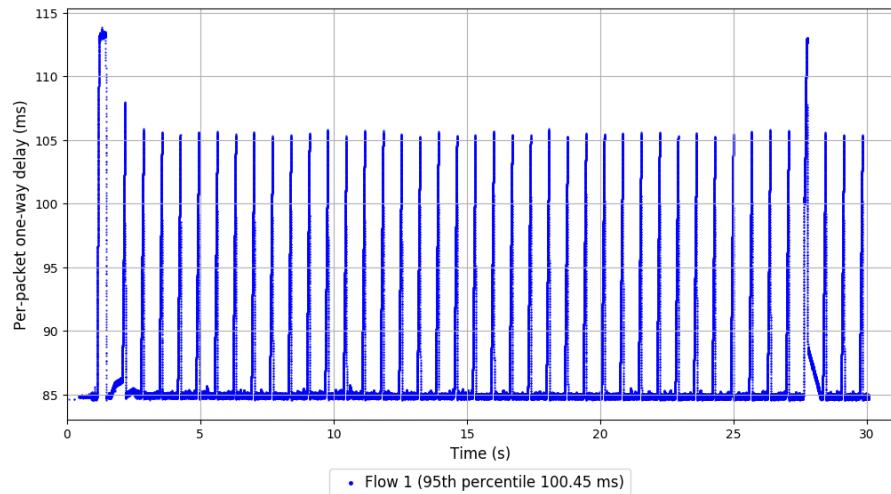
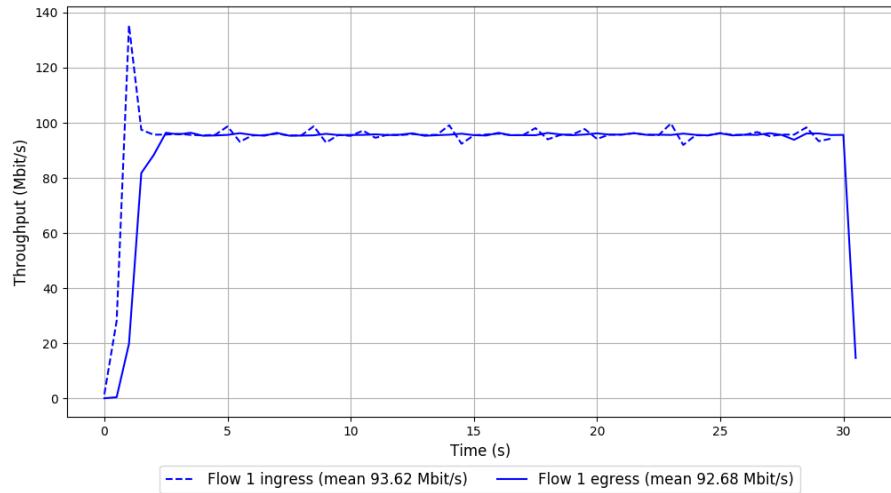


```
Run 1: Statistics of FillP
```

```
Start at: 2018-11-02 18:13:50
End at: 2018-11-02 18:14:20
Local clock offset: -4.498 ms
Remote clock offset: 3.055 ms

# Below is generated by plot.py at 2018-11-02 19:53:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.68 Mbit/s
95th percentile per-packet one-way delay: 100.455 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 92.68 Mbit/s
95th percentile per-packet one-way delay: 100.455 ms
Loss rate: 1.01%
```

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

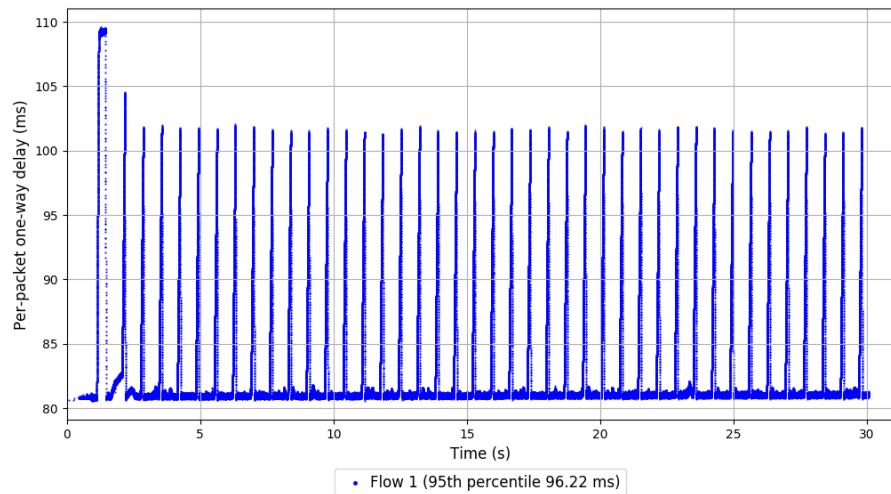
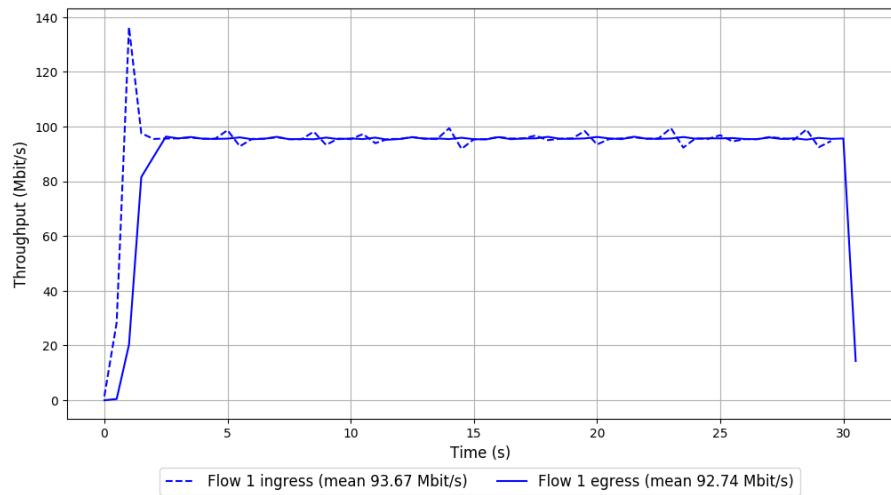


Run 2: Statistics of FillP

```
Start at: 2018-11-02 18:34:53
End at: 2018-11-02 18:35:23
Local clock offset: -0.633 ms
Remote clock offset: -0.4 ms

# Below is generated by plot.py at 2018-11-02 19:53:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.74 Mbit/s
95th percentile per-packet one-way delay: 96.219 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 92.74 Mbit/s
95th percentile per-packet one-way delay: 96.219 ms
Loss rate: 1.00%
```

## Run 2: Report of FillP — Data Link

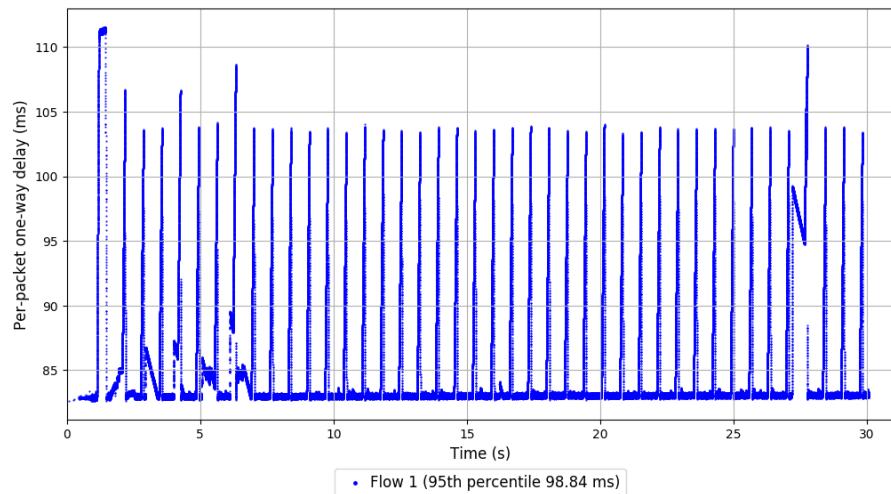
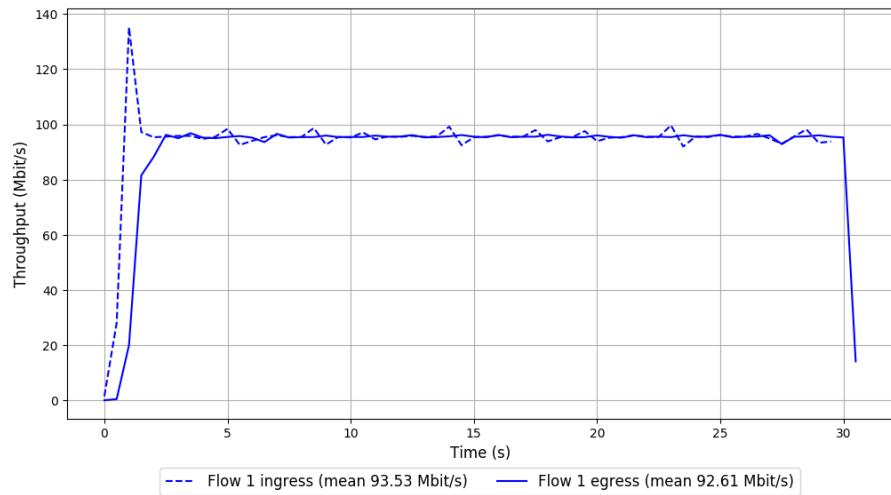


Run 3: Statistics of FillP

```
Start at: 2018-11-02 18:55:57
End at: 2018-11-02 18:56:27
Local clock offset: 4.575 ms
Remote clock offset: 1.779 ms

# Below is generated by plot.py at 2018-11-02 19:53:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.61 Mbit/s
95th percentile per-packet one-way delay: 98.840 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 92.61 Mbit/s
95th percentile per-packet one-way delay: 98.840 ms
Loss rate: 0.99%
```

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

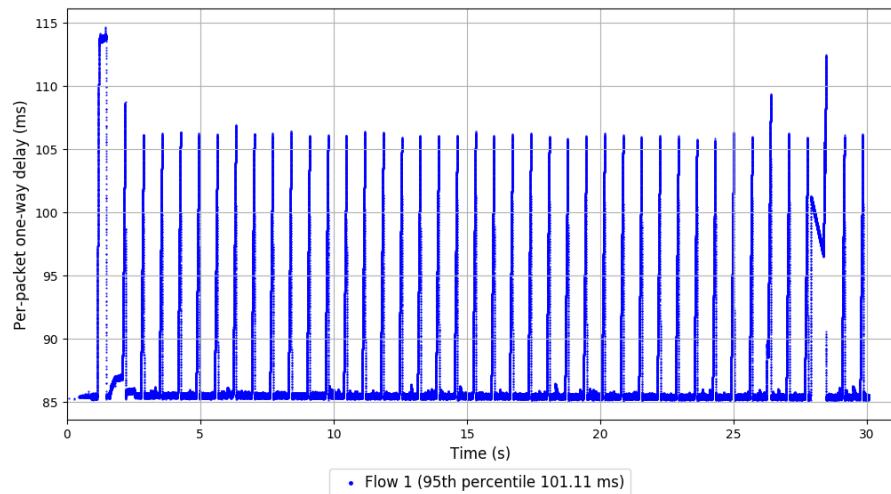
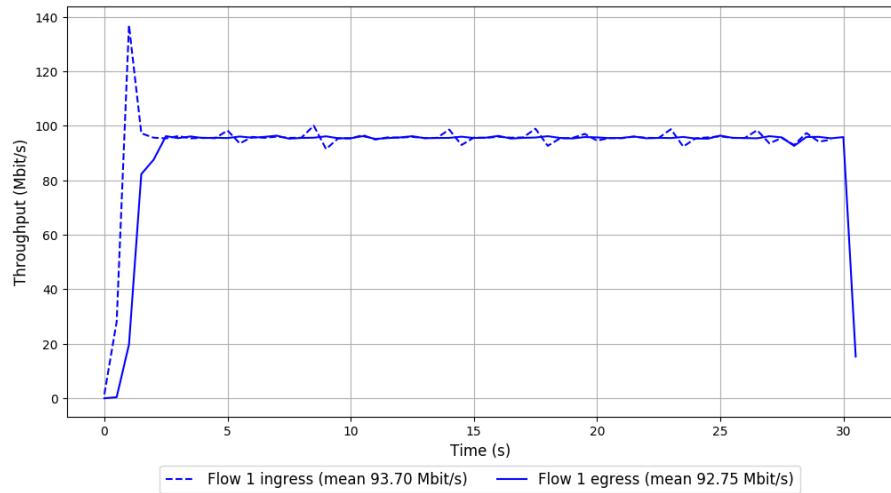


Run 4: Statistics of FillP

```
Start at: 2018-11-02 19:17:02
End at: 2018-11-02 19:17:32
Local clock offset: -1.855 ms
Remote clock offset: 6.323 ms

# Below is generated by plot.py at 2018-11-02 19:54:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.75 Mbit/s
95th percentile per-packet one-way delay: 101.107 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 92.75 Mbit/s
95th percentile per-packet one-way delay: 101.107 ms
Loss rate: 1.02%
```

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

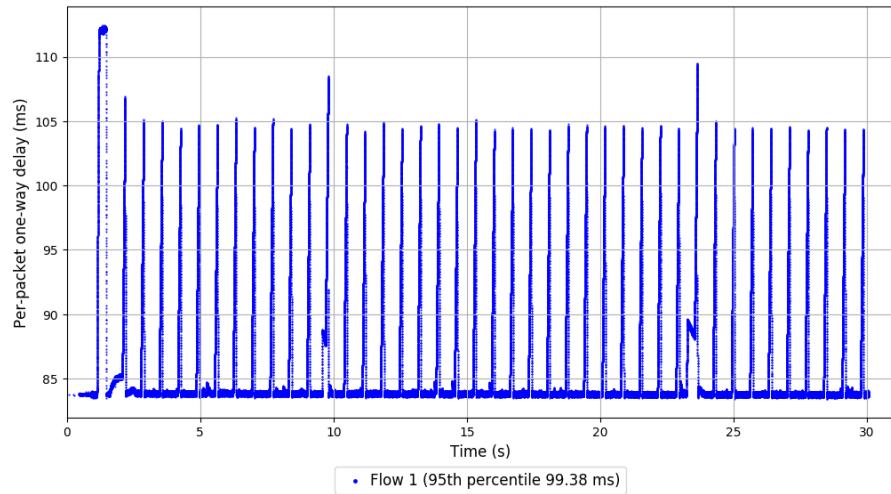
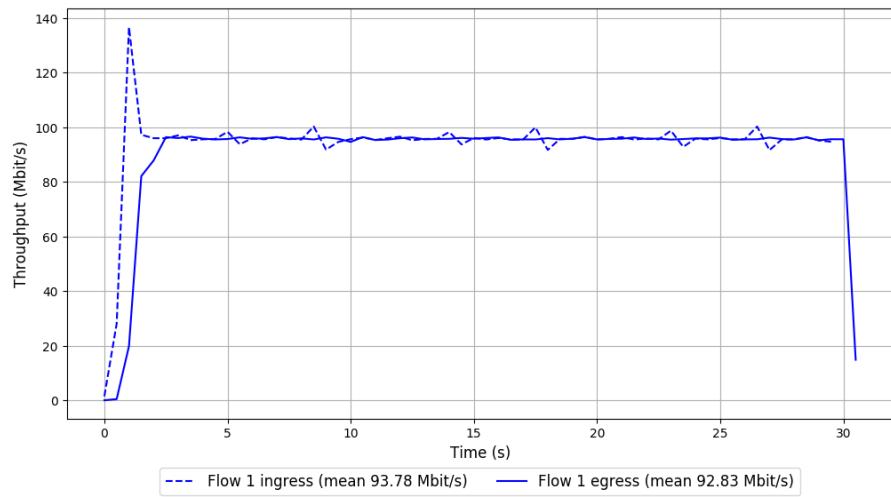


Run 5: Statistics of FillP

```
Start at: 2018-11-02 19:38:05
End at: 2018-11-02 19:38:35
Local clock offset: -4.146 ms
Remote clock offset: 5.714 ms

# Below is generated by plot.py at 2018-11-02 19:54:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.83 Mbit/s
95th percentile per-packet one-way delay: 99.378 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 92.83 Mbit/s
95th percentile per-packet one-way delay: 99.378 ms
Loss rate: 1.01%
```

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

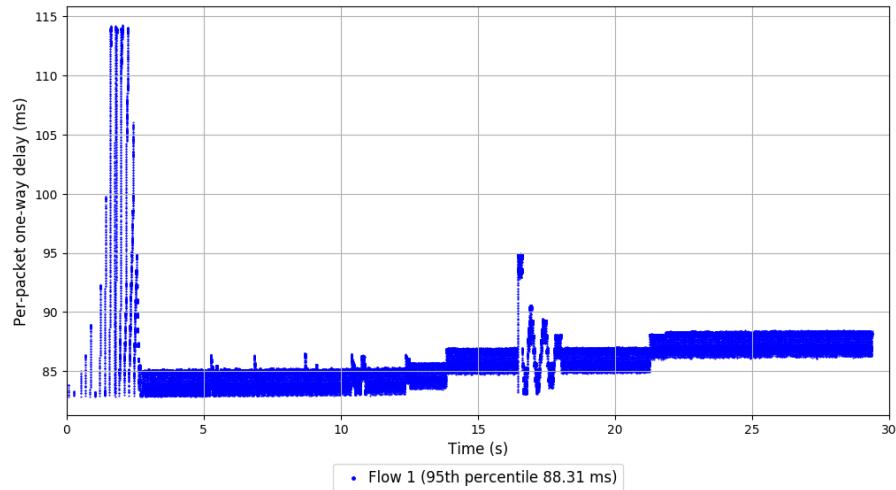
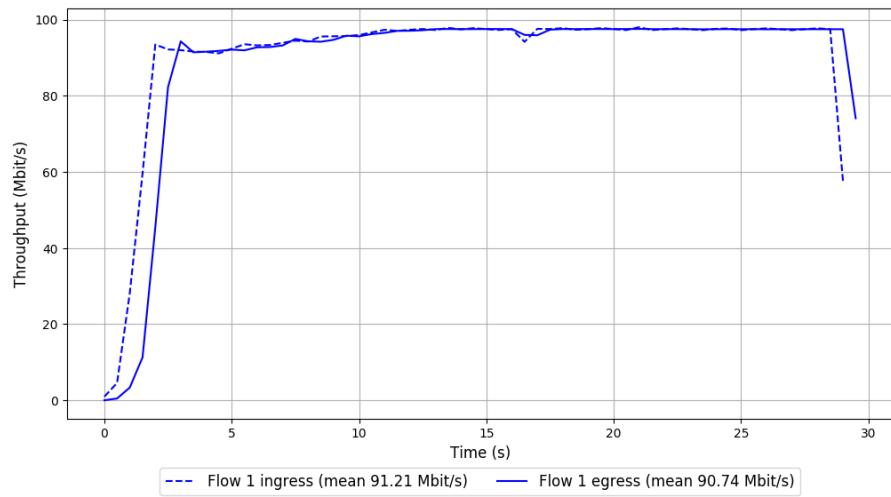


Run 1: Statistics of Indigo

```
Start at: 2018-11-02 18:05:38
End at: 2018-11-02 18:06:08
Local clock offset: -5.473 ms
Remote clock offset: -2.491 ms

# Below is generated by plot.py at 2018-11-02 19:54:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.74 Mbit/s
95th percentile per-packet one-way delay: 88.314 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 90.74 Mbit/s
95th percentile per-packet one-way delay: 88.314 ms
Loss rate: 0.51%
```

## Run 1: Report of Indigo — Data Link

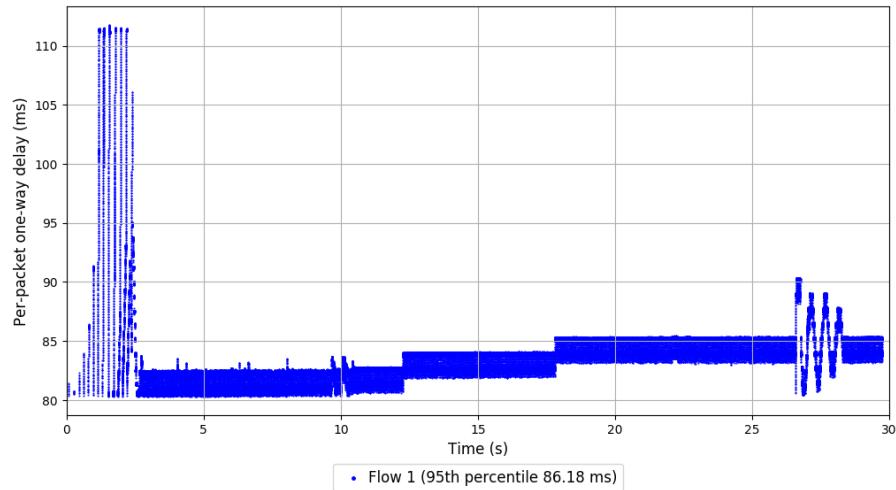
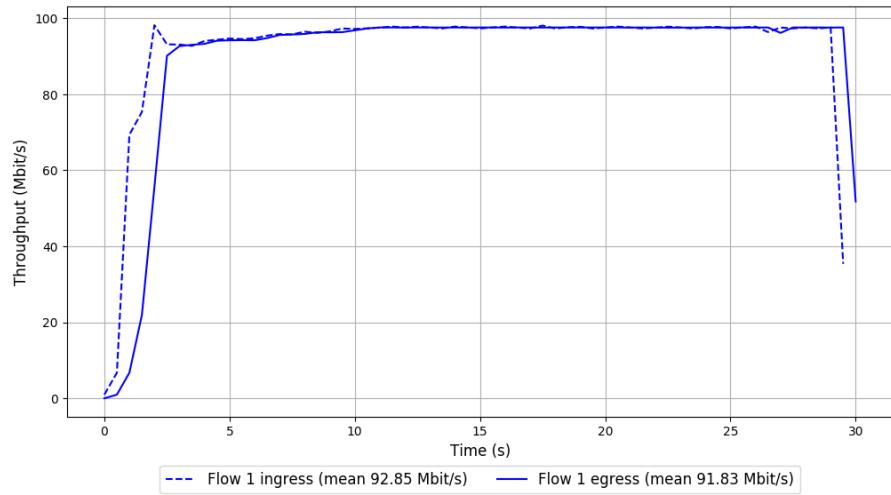


Run 2: Statistics of Indigo

```
Start at: 2018-11-02 18:26:39
End at: 2018-11-02 18:27:09
Local clock offset: -2.891 ms
Remote clock offset: 0.24 ms

# Below is generated by plot.py at 2018-11-02 19:54:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.83 Mbit/s
95th percentile per-packet one-way delay: 86.180 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 91.83 Mbit/s
95th percentile per-packet one-way delay: 86.180 ms
Loss rate: 1.09%
```

## Run 2: Report of Indigo — Data Link

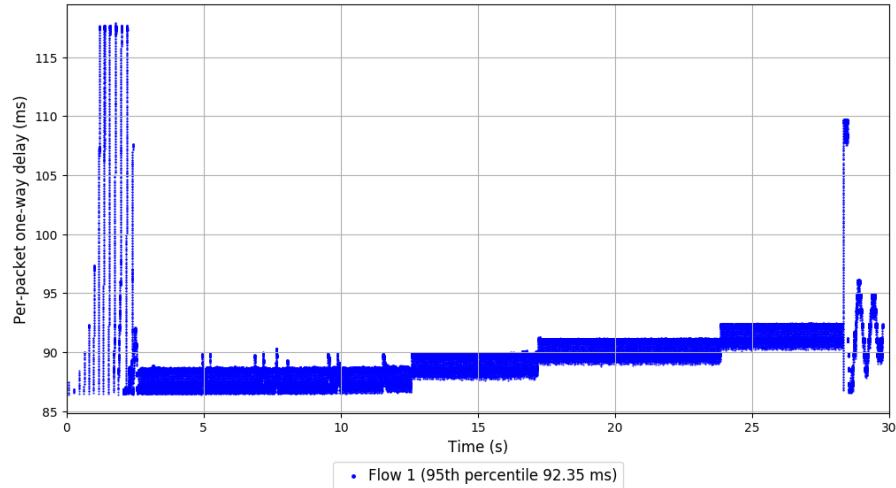
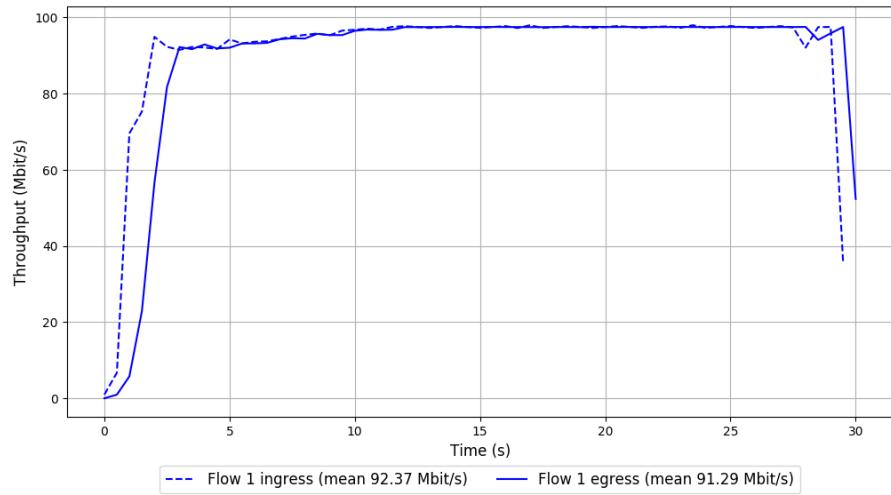


Run 3: Statistics of Indigo

```
Start at: 2018-11-02 18:47:44
End at: 2018-11-02 18:48:14
Local clock offset: 2.955 ms
Remote clock offset: 5.245 ms

# Below is generated by plot.py at 2018-11-02 19:54:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.29 Mbit/s
95th percentile per-packet one-way delay: 92.349 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 91.29 Mbit/s
95th percentile per-packet one-way delay: 92.349 ms
Loss rate: 1.16%
```

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

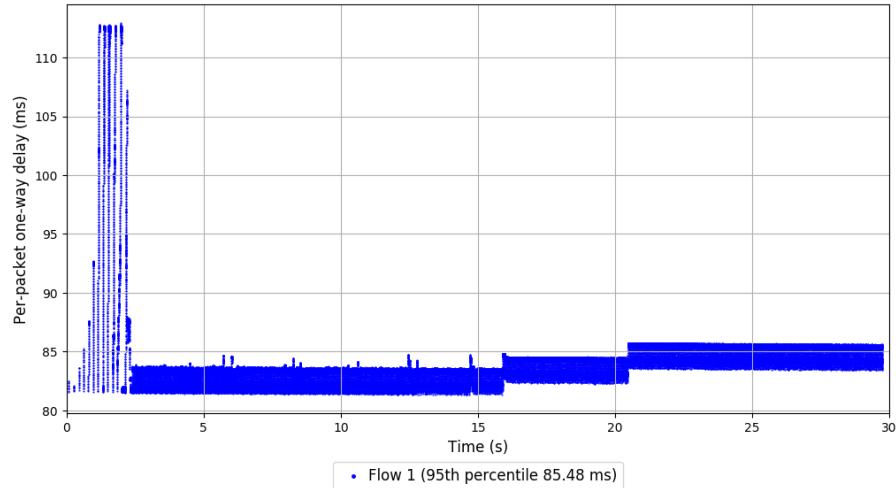
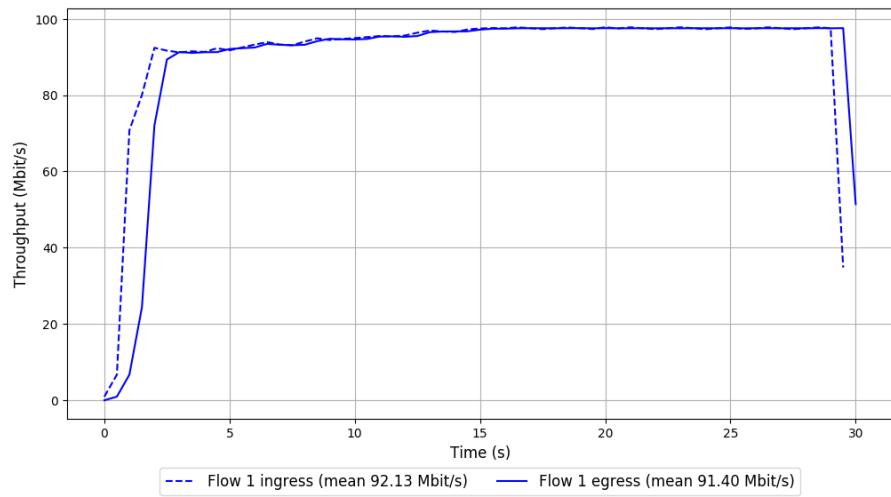


Run 4: Statistics of Indigo

```
Start at: 2018-11-02 19:08:47
End at: 2018-11-02 19:09:17
Local clock offset: 3.488 ms
Remote clock offset: 4.955 ms

# Below is generated by plot.py at 2018-11-02 19:54:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.40 Mbit/s
95th percentile per-packet one-way delay: 85.482 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 91.40 Mbit/s
95th percentile per-packet one-way delay: 85.482 ms
Loss rate: 0.78%
```

## Run 4: Report of Indigo — Data Link

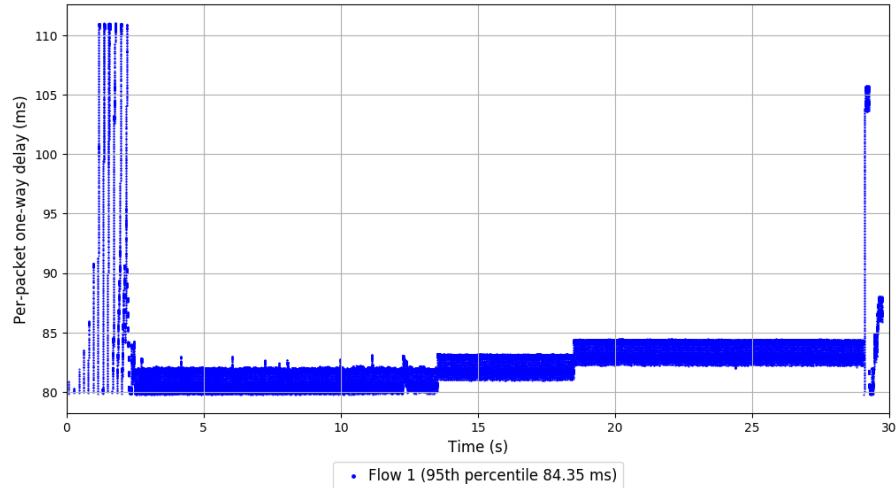
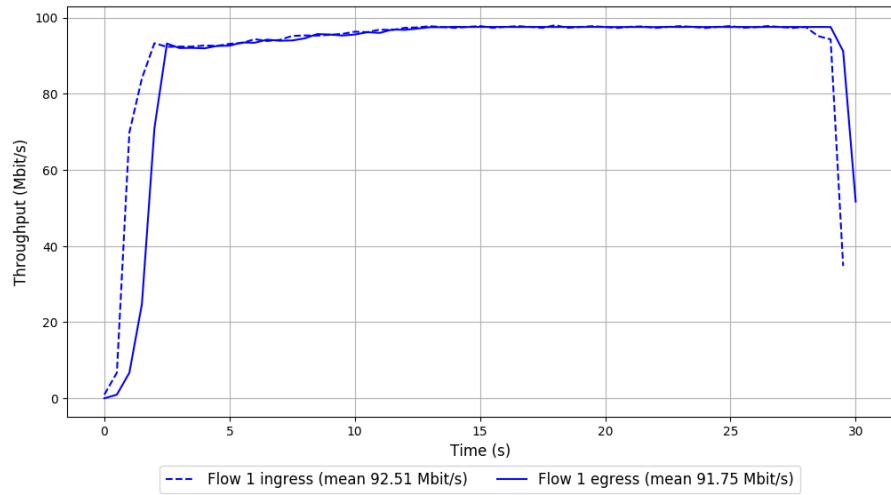


Run 5: Statistics of Indigo

```
Start at: 2018-11-02 19:29:50
End at: 2018-11-02 19:30:20
Local clock offset: -4.696 ms
Remote clock offset: 1.716 ms

# Below is generated by plot.py at 2018-11-02 19:54:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.75 Mbit/s
95th percentile per-packet one-way delay: 84.350 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 91.75 Mbit/s
95th percentile per-packet one-way delay: 84.350 ms
Loss rate: 0.80%
```

## Run 5: Report of Indigo — Data Link

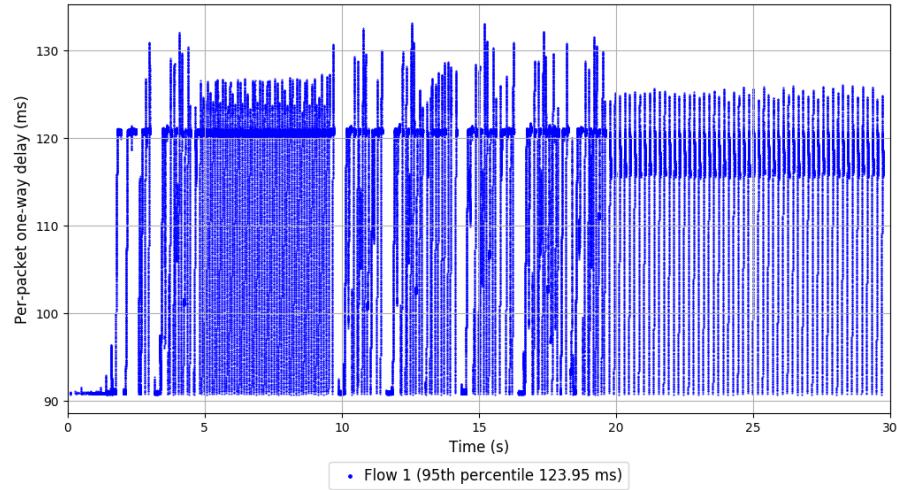
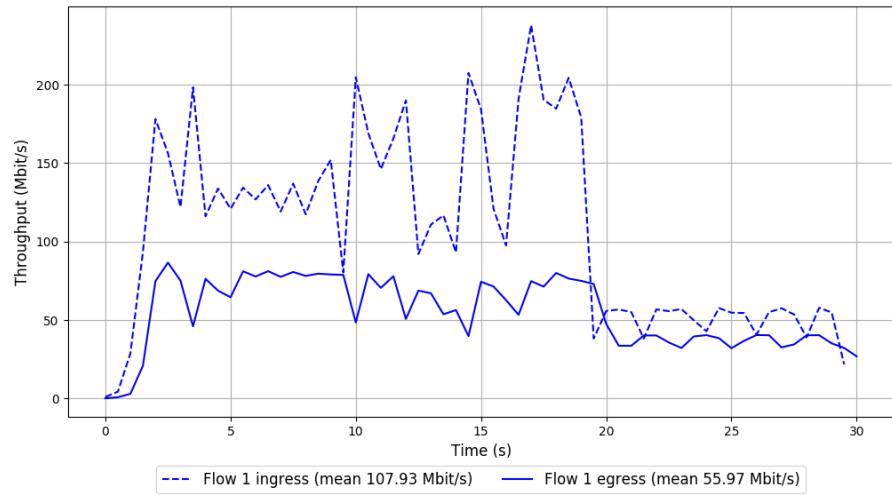


```
Run 1: Statistics of Indigo-96d2da3
```

```
Start at: 2018-11-02 18:10:19
End at: 2018-11-02 18:10:49
Local clock offset: -6.315 ms
Remote clock offset: 1.635 ms

# Below is generated by plot.py at 2018-11-02 19:54:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.97 Mbit/s
95th percentile per-packet one-way delay: 123.951 ms
Loss rate: 48.34%
-- Flow 1:
Average throughput: 55.97 Mbit/s
95th percentile per-packet one-way delay: 123.951 ms
Loss rate: 48.34%
```

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

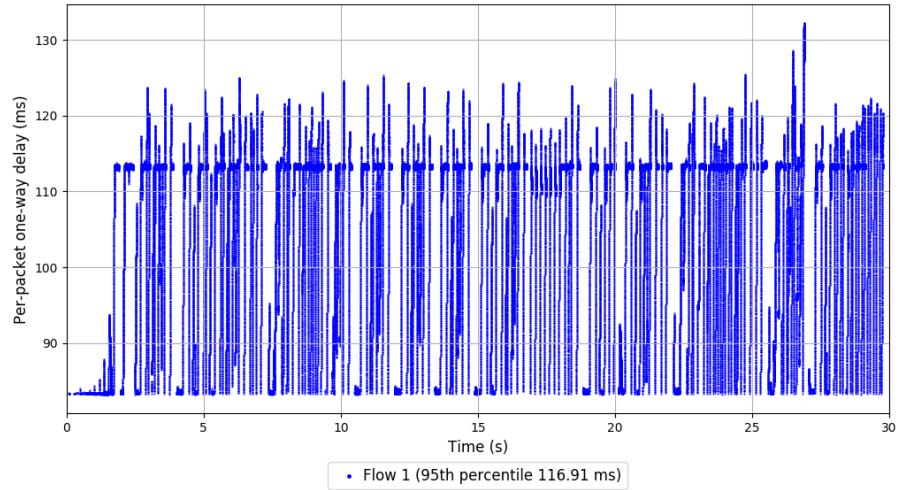
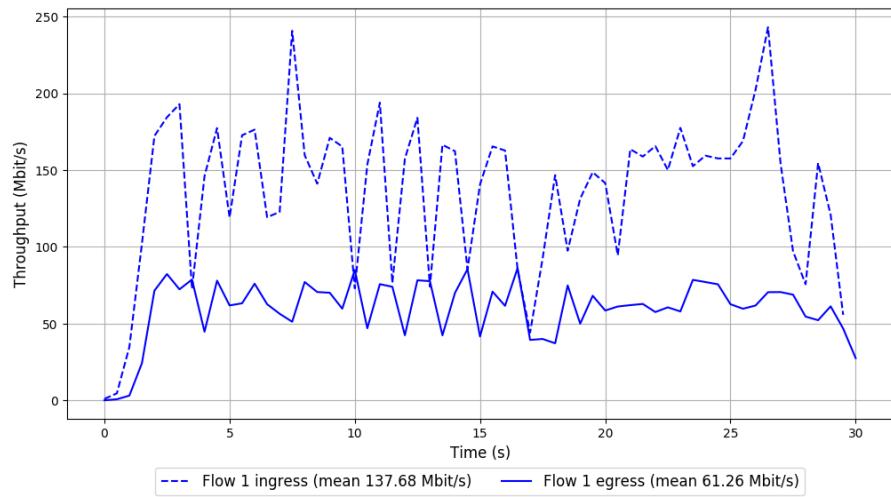


Run 2: Statistics of Indigo-96d2da3

```
Start at: 2018-11-02 18:31:22
End at: 2018-11-02 18:31:52
Local clock offset: -0.793 ms
Remote clock offset: 4.311 ms

# Below is generated by plot.py at 2018-11-02 19:55:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.26 Mbit/s
95th percentile per-packet one-way delay: 116.912 ms
Loss rate: 55.46%
-- Flow 1:
Average throughput: 61.26 Mbit/s
95th percentile per-packet one-way delay: 116.912 ms
Loss rate: 55.46%
```

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

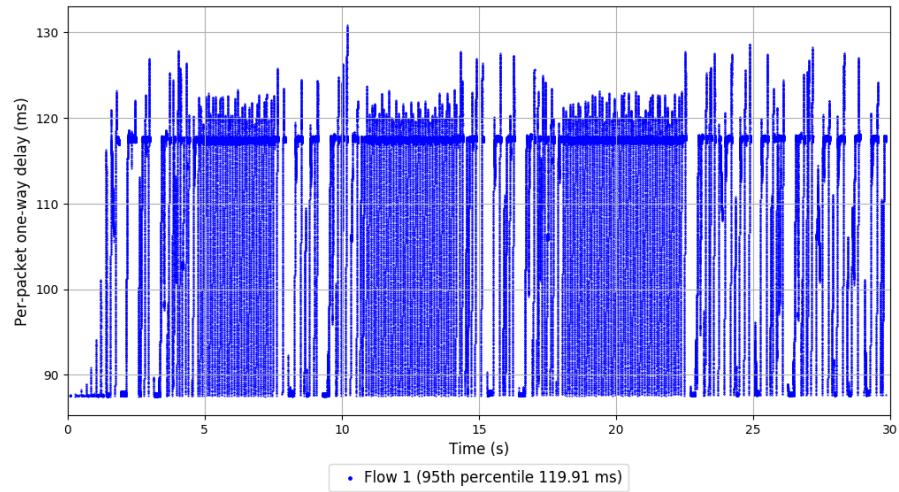
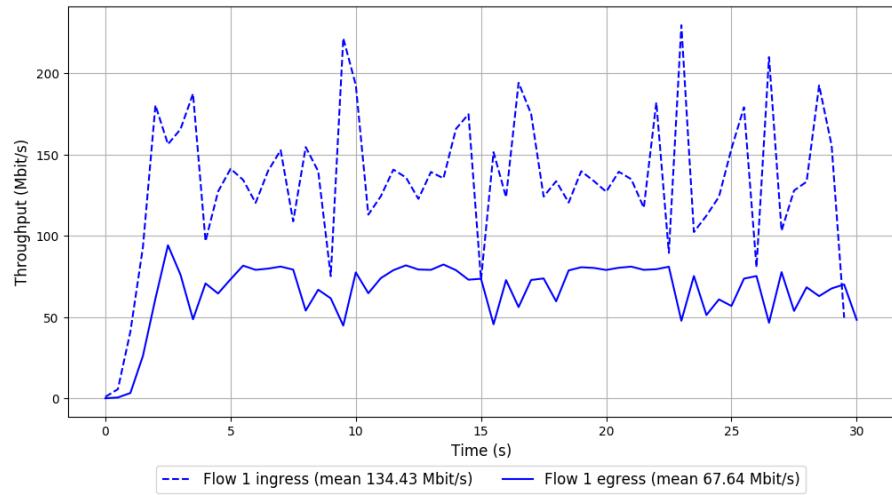


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-11-02 18:52:25
End at: 2018-11-02 18:52:55
Local clock offset: 4.335 ms
Remote clock offset: 6.509 ms

# Below is generated by plot.py at 2018-11-02 19:55:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.64 Mbit/s
95th percentile per-packet one-way delay: 119.908 ms
Loss rate: 49.69%
-- Flow 1:
Average throughput: 67.64 Mbit/s
95th percentile per-packet one-way delay: 119.908 ms
Loss rate: 49.69%
```

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

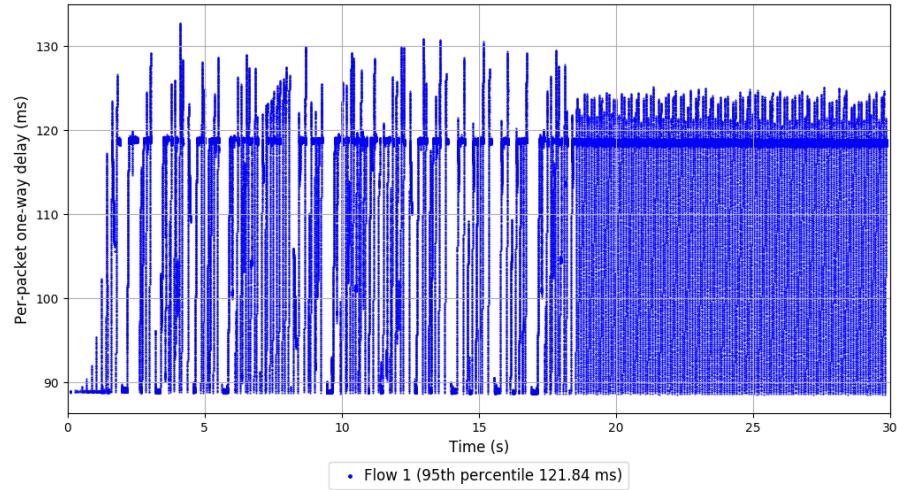
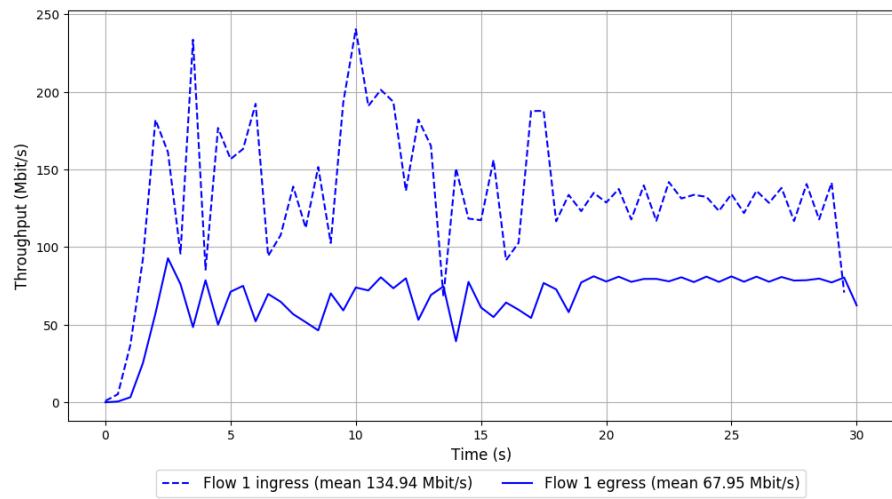


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-11-02 19:13:30
End at: 2018-11-02 19:14:00
Local clock offset: -1.358 ms
Remote clock offset: 5.178 ms

# Below is generated by plot.py at 2018-11-02 19:55:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.95 Mbit/s
95th percentile per-packet one-way delay: 121.838 ms
Loss rate: 49.59%
-- Flow 1:
Average throughput: 67.95 Mbit/s
95th percentile per-packet one-way delay: 121.838 ms
Loss rate: 49.59%
```

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

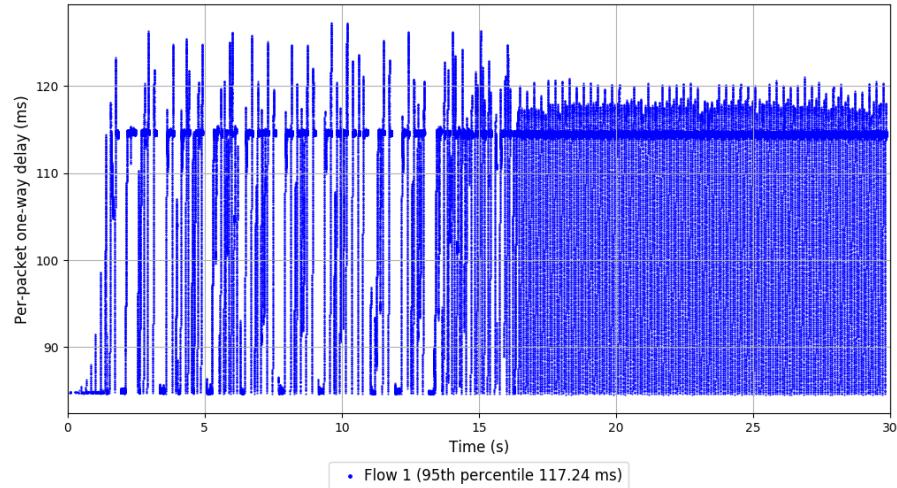
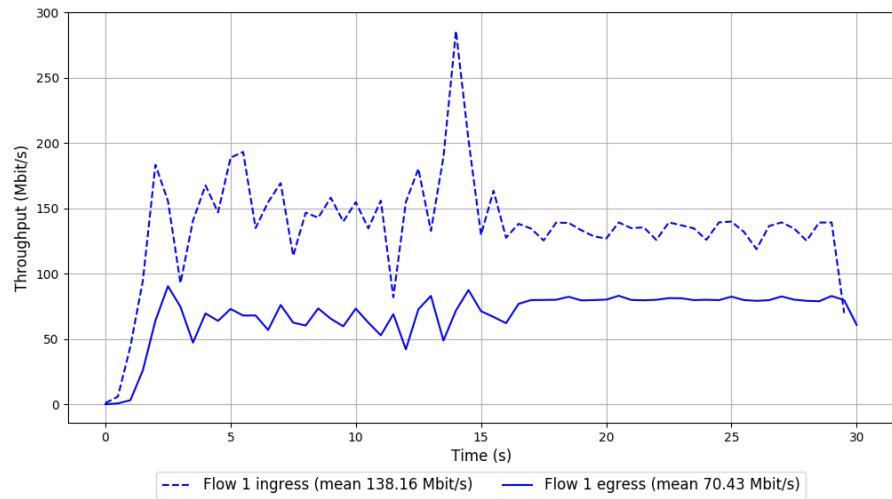


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-11-02 19:34:33
End at: 2018-11-02 19:35:03
Local clock offset: -4.799 ms
Remote clock offset: 6.825 ms

# Below is generated by plot.py at 2018-11-02 19:55:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.43 Mbit/s
95th percentile per-packet one-way delay: 117.243 ms
Loss rate: 48.97%
-- Flow 1:
Average throughput: 70.43 Mbit/s
95th percentile per-packet one-way delay: 117.243 ms
Loss rate: 48.97%
```

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

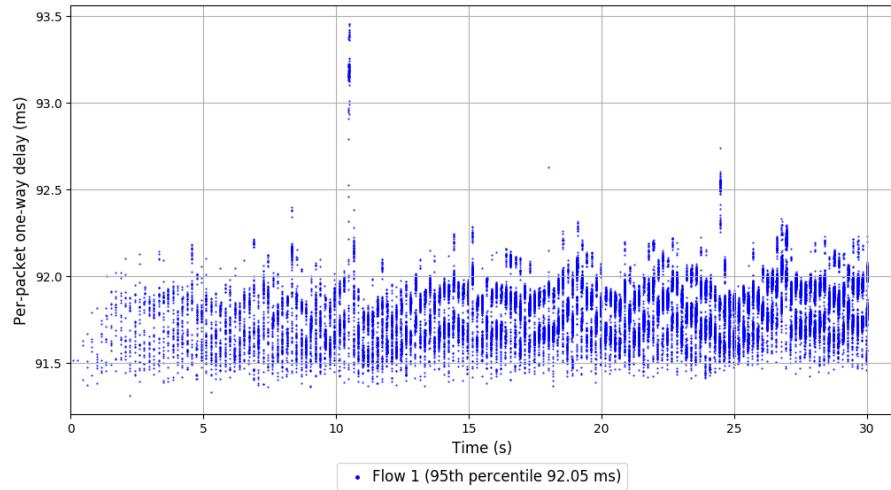
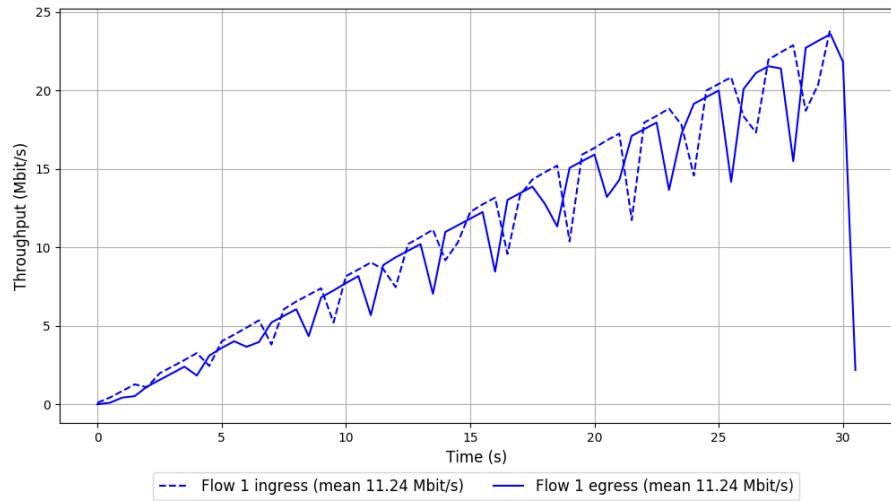


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-11-02 18:24:19
End at: 2018-11-02 18:24:49
Local clock offset: -2.761 ms
Remote clock offset: 4.907 ms

# Below is generated by plot.py at 2018-11-02 19:55:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.24 Mbit/s
95th percentile per-packet one-way delay: 92.054 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.24 Mbit/s
95th percentile per-packet one-way delay: 92.054 ms
Loss rate: 0.00%
```

## Run 1: Report of LEDBAT — Data Link

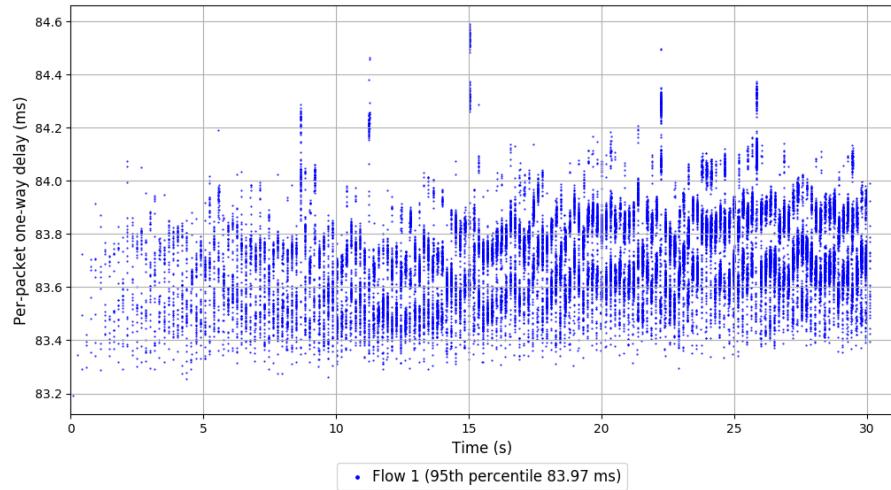
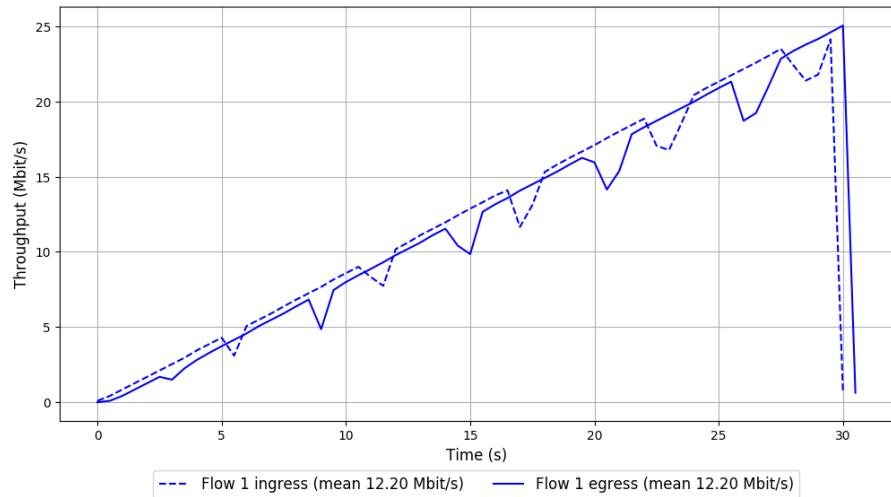


Run 2: Statistics of LEDBAT

```
Start at: 2018-11-02 18:45:24
End at: 2018-11-02 18:45:54
Local clock offset: 3.15 ms
Remote clock offset: 5.086 ms

# Below is generated by plot.py at 2018-11-02 19:55:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 83.965 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 83.965 ms
Loss rate: 0.00%
```

## Run 2: Report of LEDBAT — Data Link

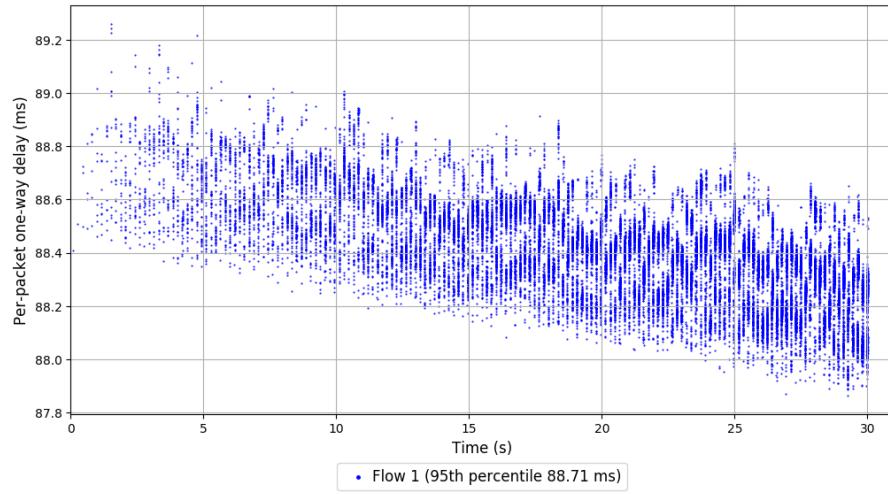
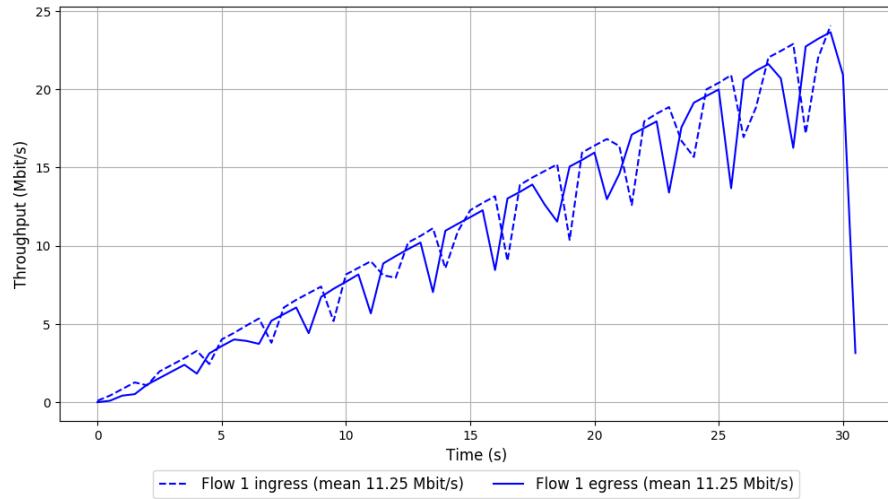


Run 3: Statistics of LEDBAT

```
Start at: 2018-11-02 19:06:27
End at: 2018-11-02 19:06:57
Local clock offset: 6.092 ms
Remote clock offset: 4.993 ms

# Below is generated by plot.py at 2018-11-02 19:55:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.25 Mbit/s
95th percentile per-packet one-way delay: 88.714 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.25 Mbit/s
95th percentile per-packet one-way delay: 88.714 ms
Loss rate: 0.00%
```

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

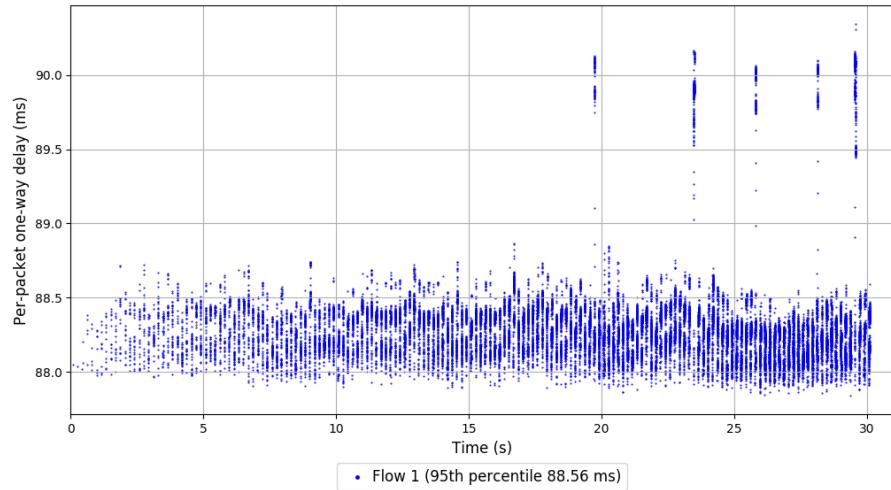
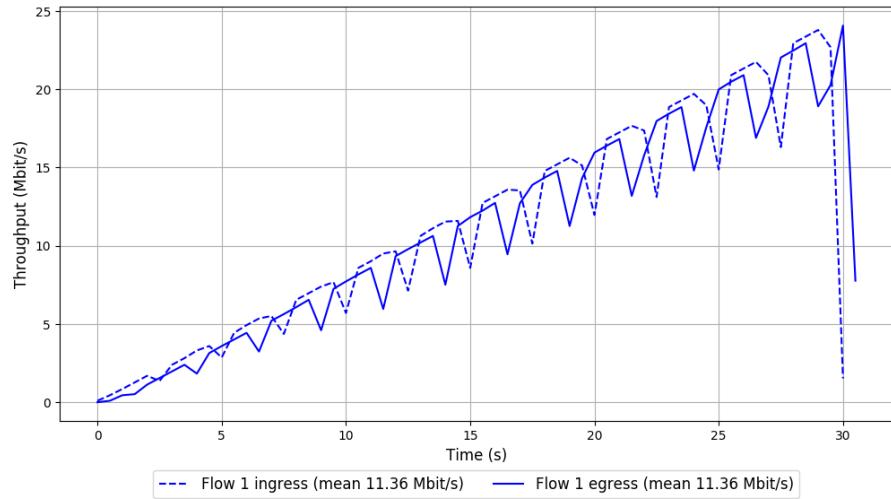


Run 4: Statistics of LEDBAT

```
Start at: 2018-11-02 19:27:30
End at: 2018-11-02 19:28:00
Local clock offset: -4.567 ms
Remote clock offset: 2.785 ms

# Below is generated by plot.py at 2018-11-02 19:55:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.36 Mbit/s
95th percentile per-packet one-way delay: 88.559 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 11.36 Mbit/s
95th percentile per-packet one-way delay: 88.559 ms
Loss rate: 0.05%
```

## Run 4: Report of LEDBAT — Data Link

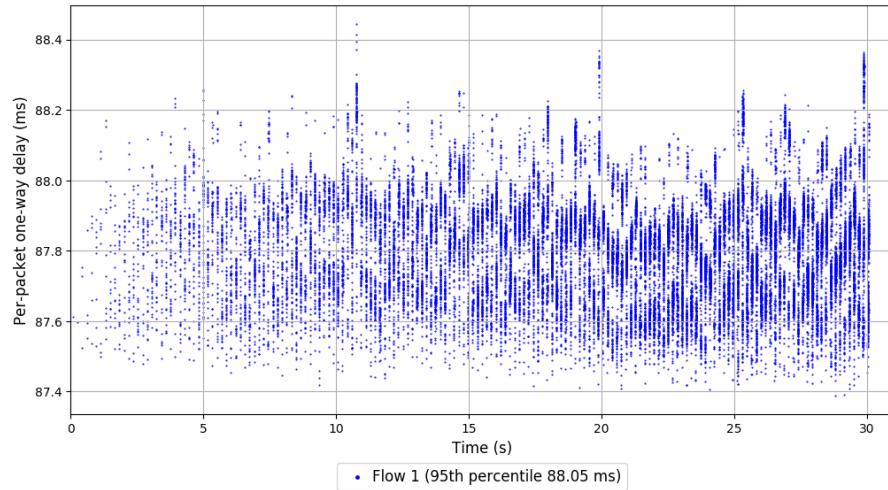
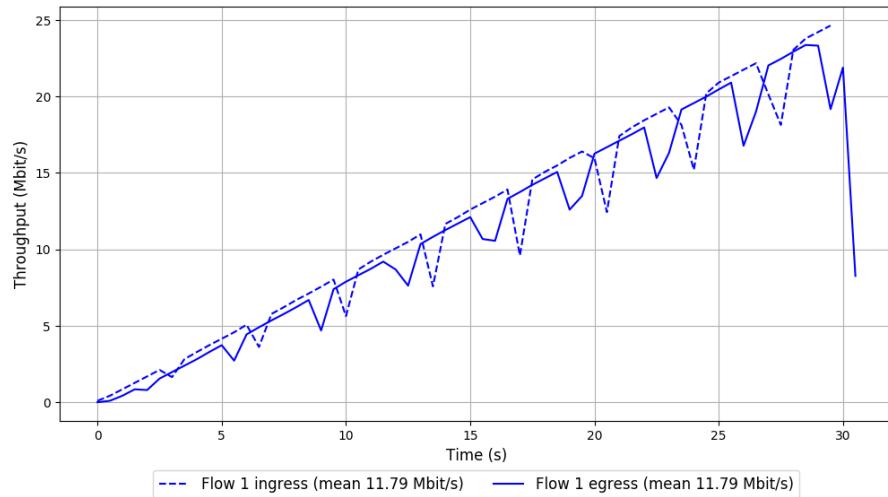


Run 5: Statistics of LEDBAT

```
Start at: 2018-11-02 19:48:34
End at: 2018-11-02 19:49:04
Local clock offset: -6.216 ms
Remote clock offset: 6.94 ms

# Below is generated by plot.py at 2018-11-02 19:55:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 88.047 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.79 Mbit/s
95th percentile per-packet one-way delay: 88.047 ms
Loss rate: 0.00%
```

## Run 5: Report of LEDBAT — Data Link

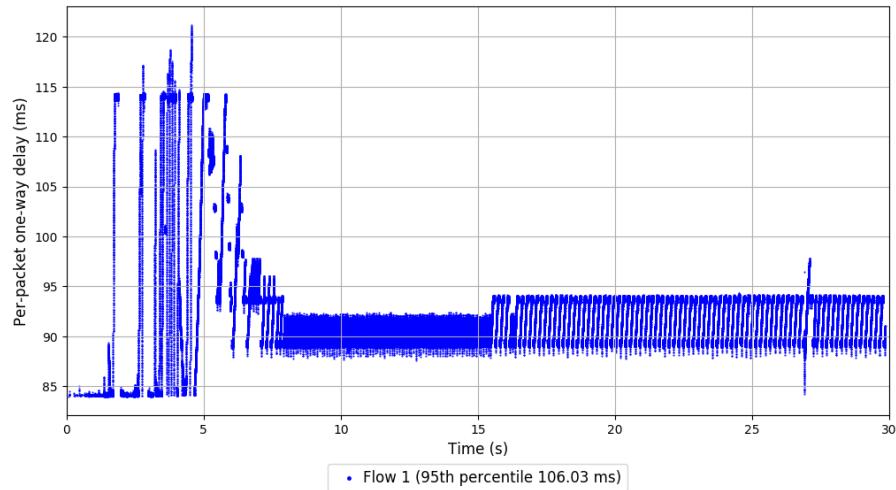
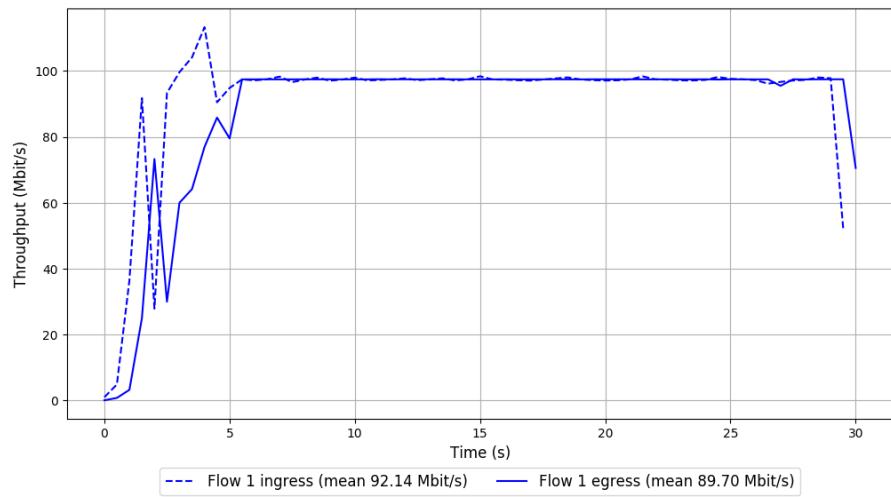


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-11-02 18:25:28
End at: 2018-11-02 18:25:58
Local clock offset: -3.19 ms
Remote clock offset: 3.865 ms

# Below is generated by plot.py at 2018-11-02 19:55:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.70 Mbit/s
95th percentile per-packet one-way delay: 106.031 ms
Loss rate: 2.62%
-- Flow 1:
Average throughput: 89.70 Mbit/s
95th percentile per-packet one-way delay: 106.031 ms
Loss rate: 2.62%
```

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

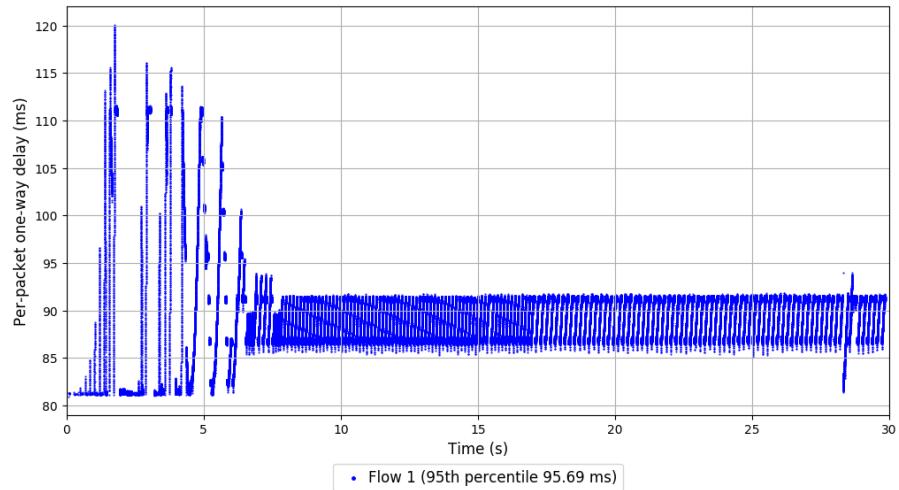
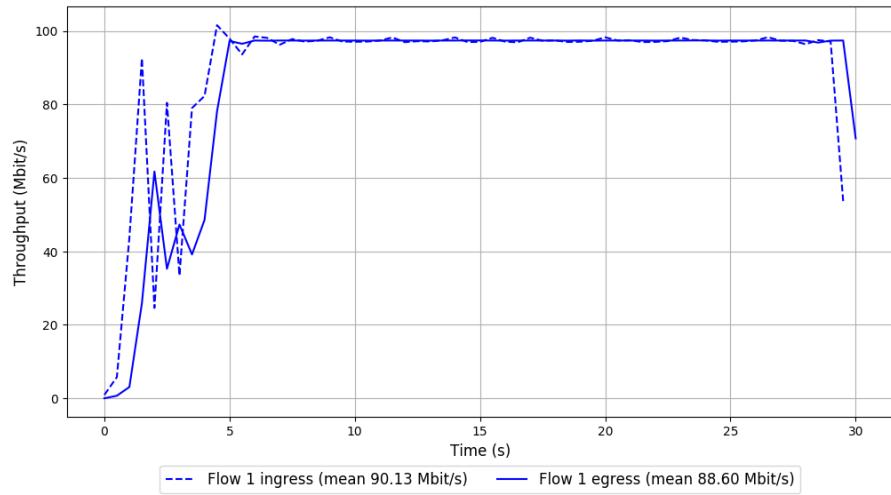


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-11-02 18:46:33
End at: 2018-11-02 18:47:03
Local clock offset: 1.947 ms
Remote clock offset: 1.448 ms

# Below is generated by plot.py at 2018-11-02 19:55:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.60 Mbit/s
95th percentile per-packet one-way delay: 95.693 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 88.60 Mbit/s
95th percentile per-packet one-way delay: 95.693 ms
Loss rate: 1.65%
```

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

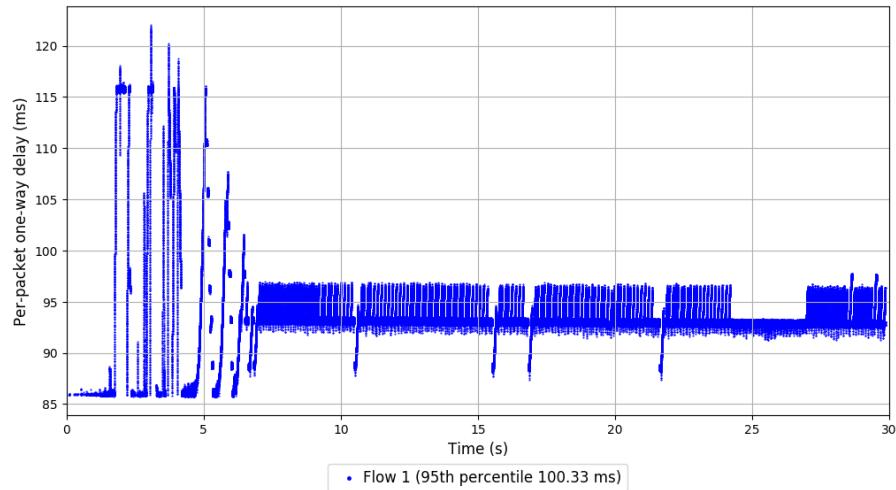
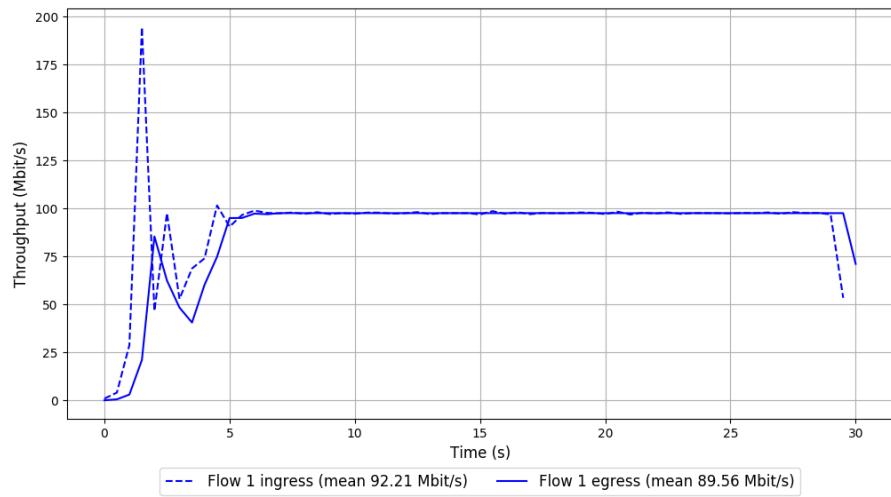


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-11-02 19:07:35
End at: 2018-11-02 19:08:05
Local clock offset: 3.881 ms
Remote clock offset: 6.152 ms

# Below is generated by plot.py at 2018-11-02 19:56:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.56 Mbit/s
95th percentile per-packet one-way delay: 100.326 ms
Loss rate: 2.86%
-- Flow 1:
Average throughput: 89.56 Mbit/s
95th percentile per-packet one-way delay: 100.326 ms
Loss rate: 2.86%
```

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

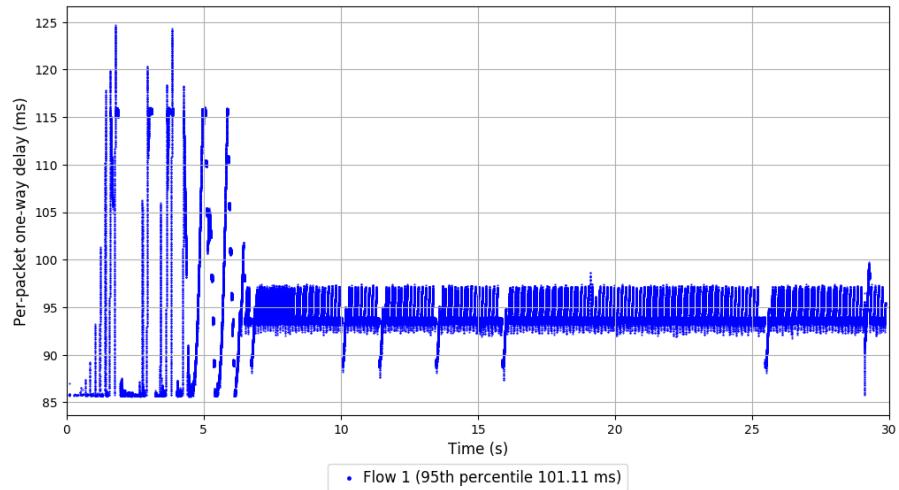
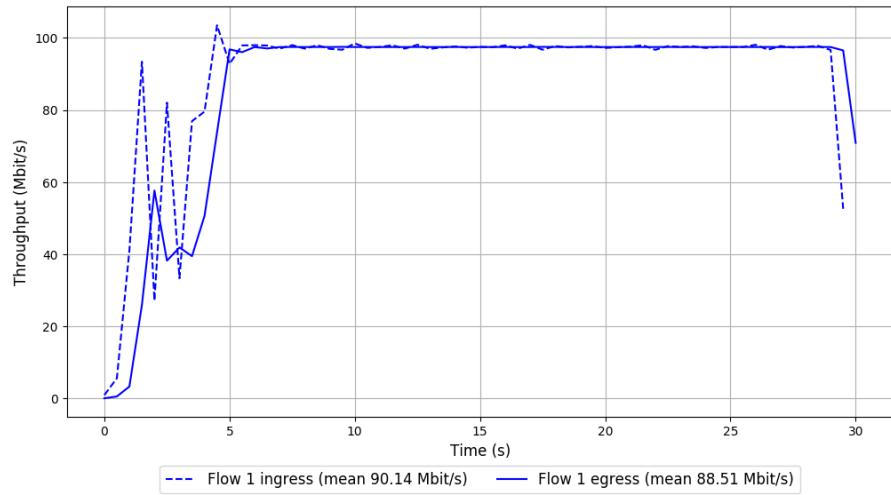


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-11-02 19:28:38
End at: 2018-11-02 19:29:09
Local clock offset: -3.8 ms
Remote clock offset: 6.619 ms

# Below is generated by plot.py at 2018-11-02 19:56:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.51 Mbit/s
95th percentile per-packet one-way delay: 101.109 ms
Loss rate: 1.78%
-- Flow 1:
Average throughput: 88.51 Mbit/s
95th percentile per-packet one-way delay: 101.109 ms
Loss rate: 1.78%
```

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

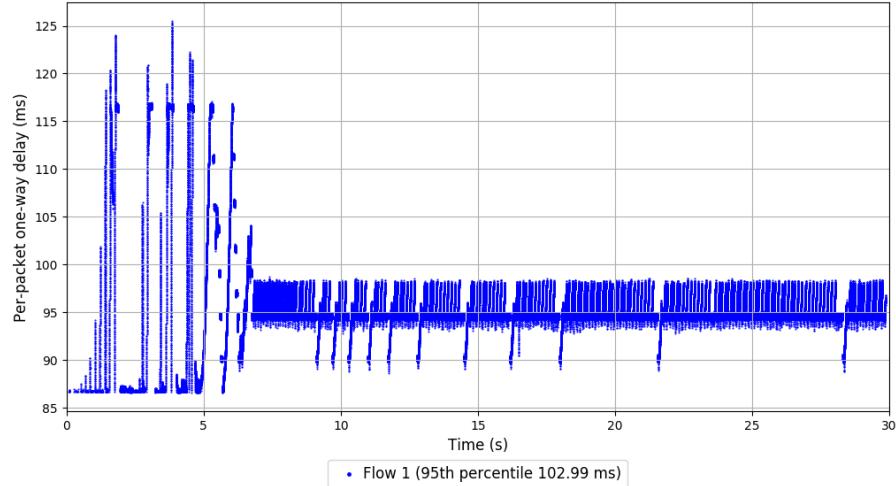
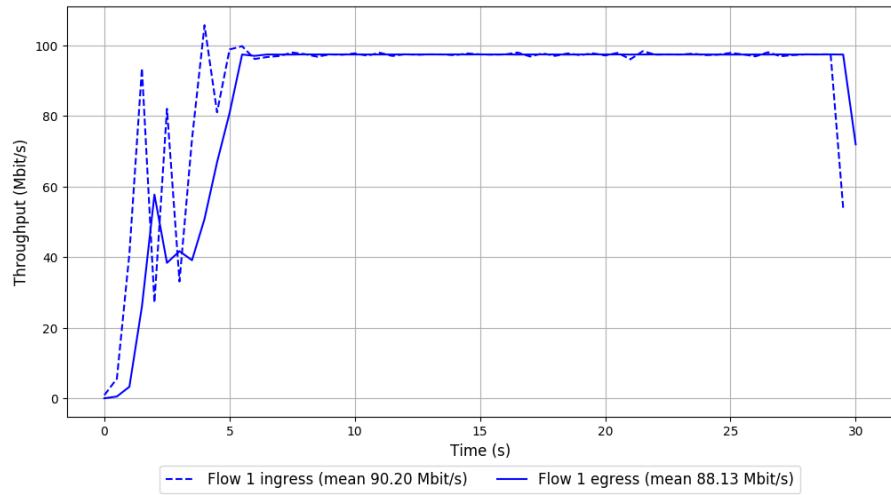


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-11-02 19:49:42
End at: 2018-11-02 19:50:12
Local clock offset: -5.443 ms
Remote clock offset: 8.223 ms

# Below is generated by plot.py at 2018-11-02 19:56:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.13 Mbit/s
95th percentile per-packet one-way delay: 102.994 ms
Loss rate: 2.27%
-- Flow 1:
Average throughput: 88.13 Mbit/s
95th percentile per-packet one-way delay: 102.994 ms
Loss rate: 2.27%
```

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

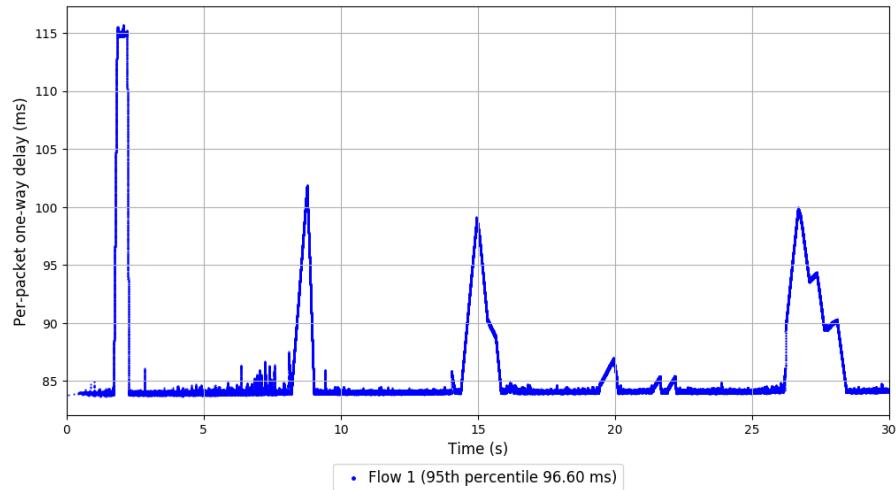
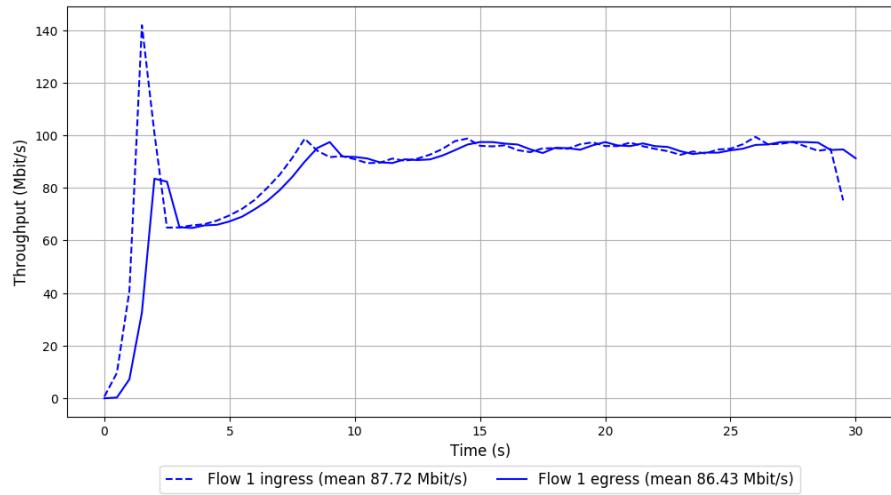


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-11-02 18:06:51
End at: 2018-11-02 18:07:21
Local clock offset: -4.794 ms
Remote clock offset: 2.584 ms

# Below is generated by plot.py at 2018-11-02 19:56:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.43 Mbit/s
95th percentile per-packet one-way delay: 96.602 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 86.43 Mbit/s
95th percentile per-packet one-way delay: 96.602 ms
Loss rate: 1.47%
```

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

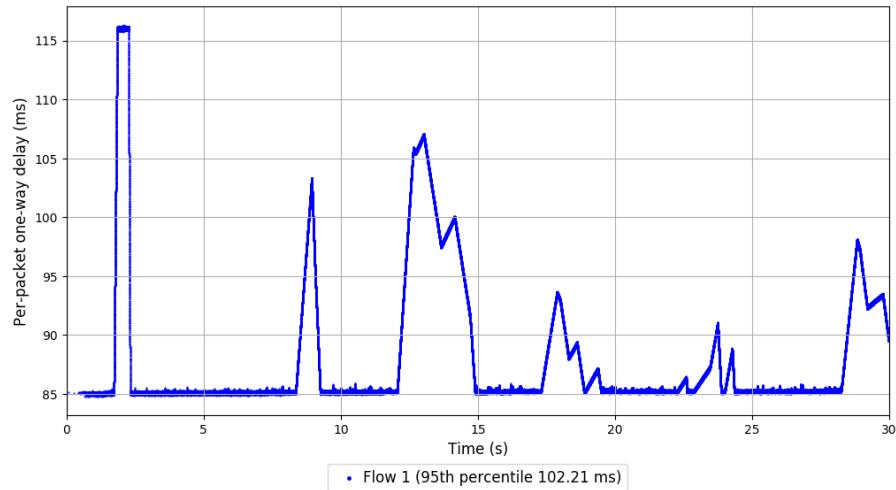
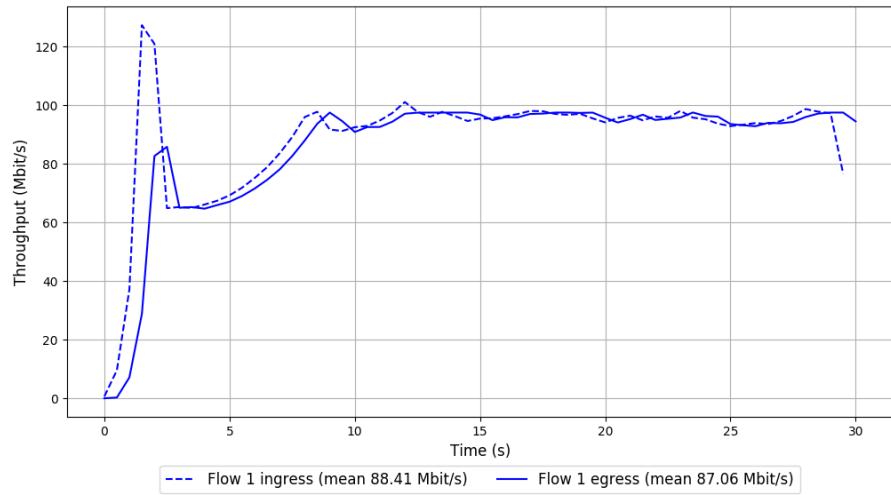


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-11-02 18:27:53
End at: 2018-11-02 18:28:23
Local clock offset: -1.763 ms
Remote clock offset: 3.964 ms

# Below is generated by plot.py at 2018-11-02 19:56:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.06 Mbit/s
95th percentile per-packet one-way delay: 102.212 ms
Loss rate: 1.51%
-- Flow 1:
Average throughput: 87.06 Mbit/s
95th percentile per-packet one-way delay: 102.212 ms
Loss rate: 1.51%
```

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

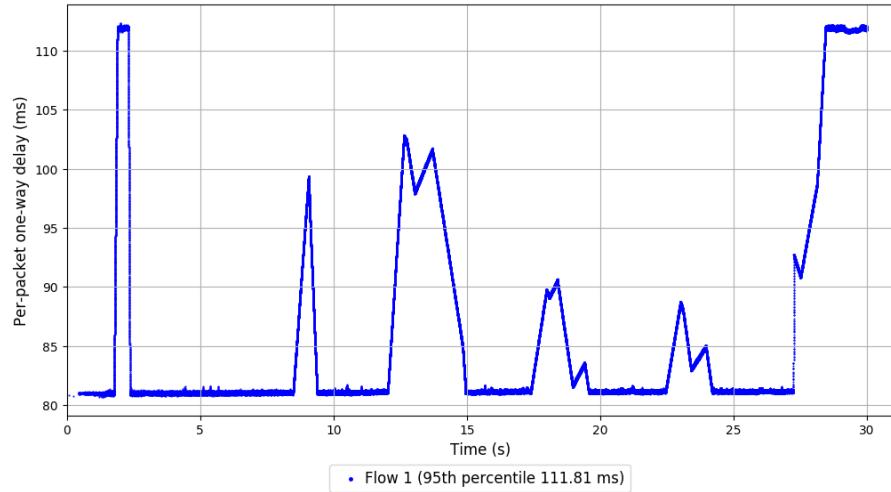
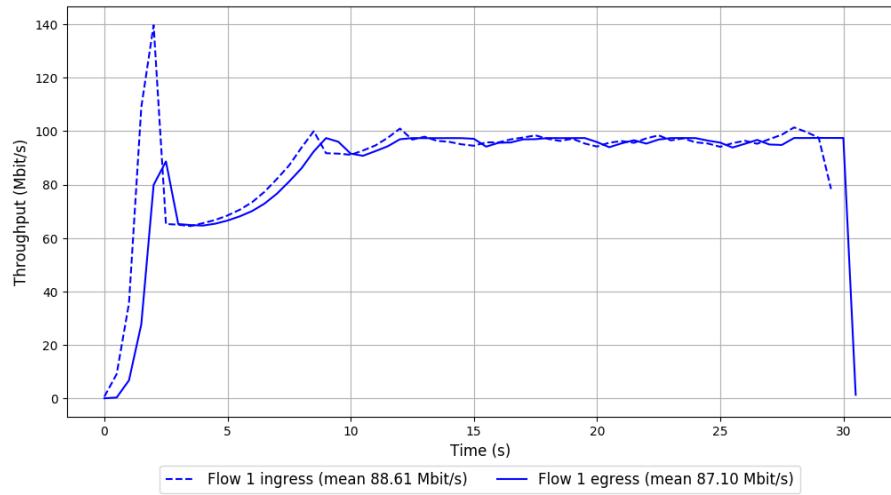


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-11-02 18:48:57
End at: 2018-11-02 18:49:27
Local clock offset: 3.431 ms
Remote clock offset: 0.377 ms

# Below is generated by plot.py at 2018-11-02 19:56:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.10 Mbit/s
95th percentile per-packet one-way delay: 111.815 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 87.10 Mbit/s
95th percentile per-packet one-way delay: 111.815 ms
Loss rate: 1.61%
```

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

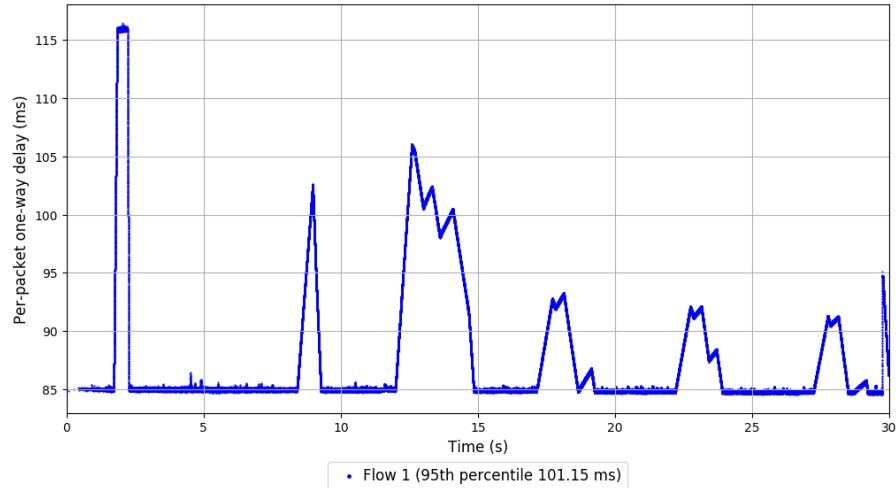
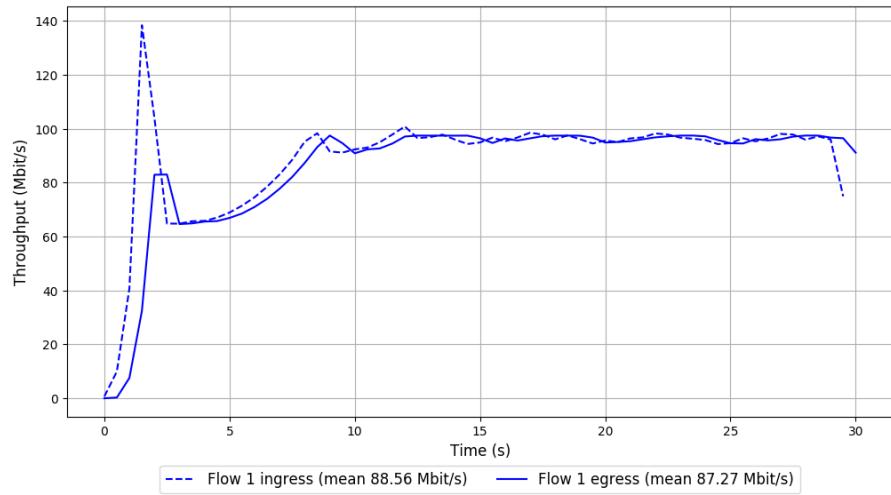


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-11-02 19:10:00
End at: 2018-11-02 19:10:30
Local clock offset: 1.565 ms
Remote clock offset: 7.293 ms

# Below is generated by plot.py at 2018-11-02 19:57:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.27 Mbit/s
95th percentile per-packet one-way delay: 101.154 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 87.27 Mbit/s
95th percentile per-packet one-way delay: 101.154 ms
Loss rate: 1.45%
```

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

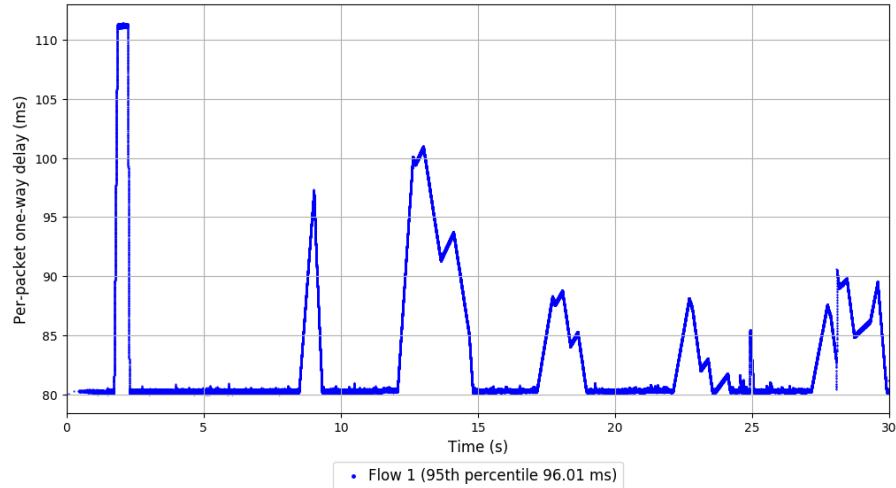
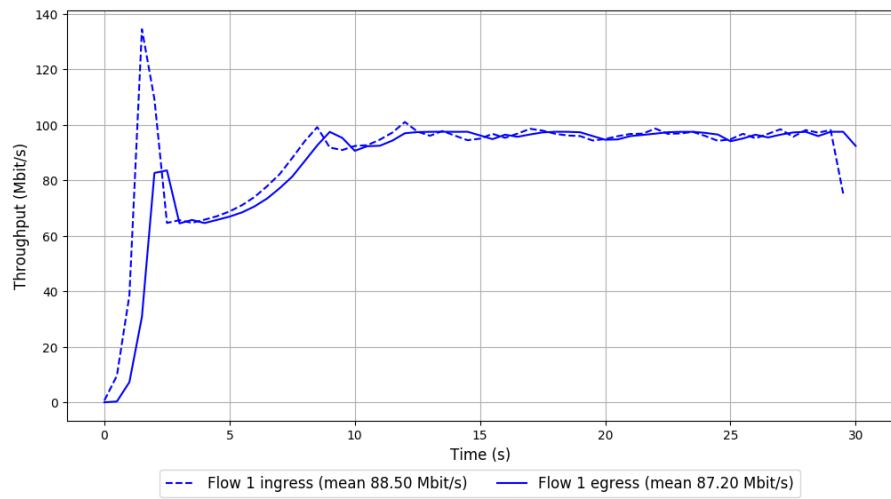


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-11-02 19:31:03
End at: 2018-11-02 19:31:33
Local clock offset: -3.15 ms
Remote clock offset: 1.845 ms

# Below is generated by plot.py at 2018-11-02 19:57:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.20 Mbit/s
95th percentile per-packet one-way delay: 96.012 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 87.20 Mbit/s
95th percentile per-packet one-way delay: 96.012 ms
Loss rate: 1.47%
```

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



Run 1: Statistics of PCC-Expr

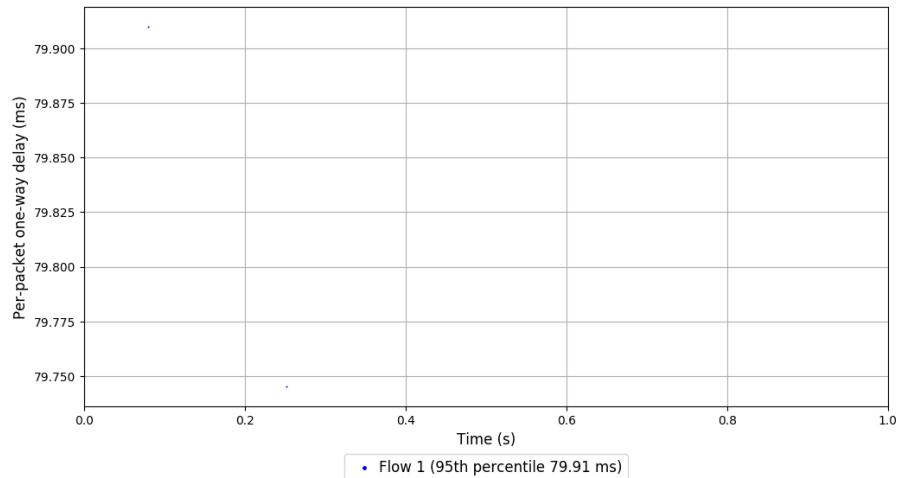
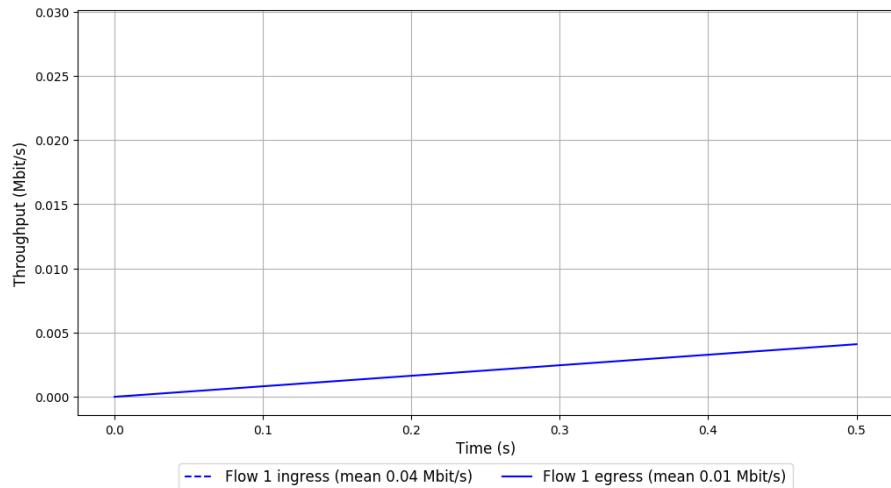
Start at: 2018-11-02 18:16:12

End at: 2018-11-02 18:16:42

Local clock offset: -6.262 ms

Remote clock offset: -1.777 ms

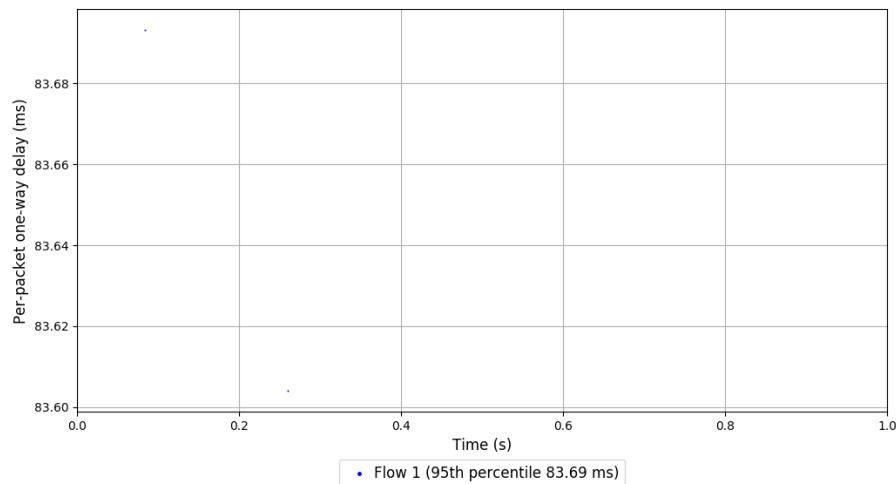
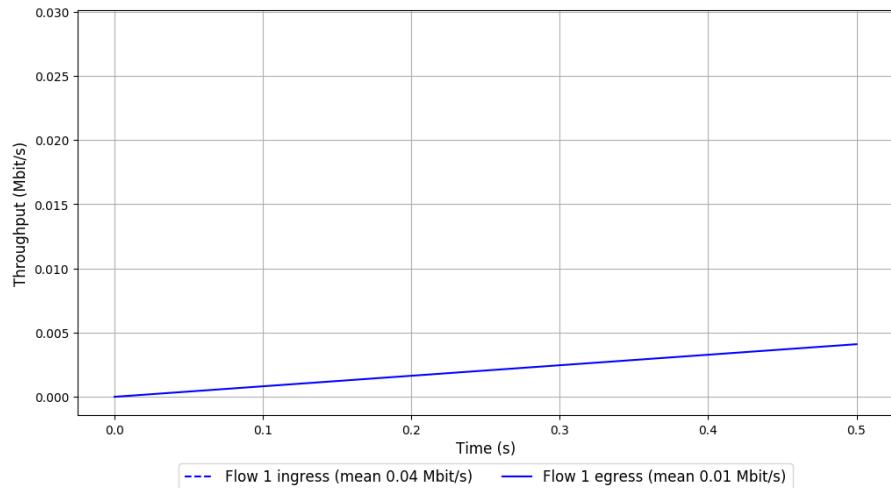
## Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-11-02 18:37:16  
End at: 2018-11-02 18:37:46  
Local clock offset: 0.856 ms  
Remote clock offset: -0.265 ms

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



Run 3: Statistics of PCC-Expr

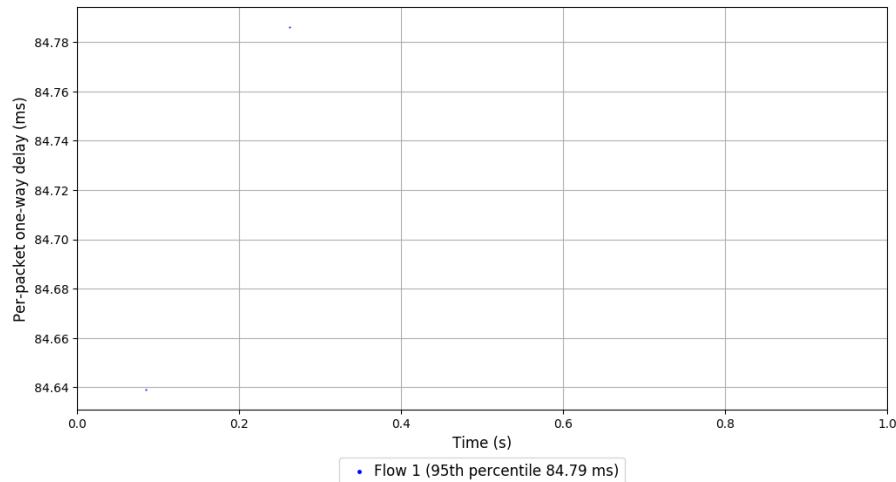
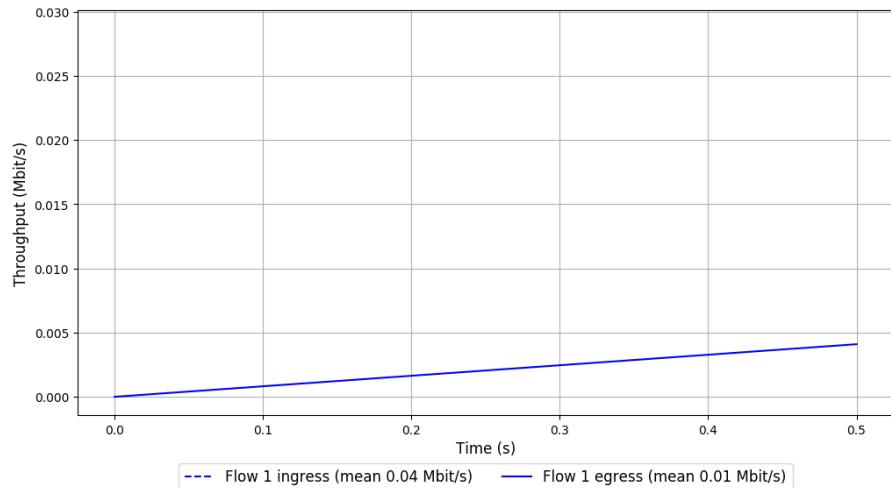
Start at: 2018-11-02 18:58:19

End at: 2018-11-02 18:58:49

Local clock offset: 6.84 ms

Remote clock offset: 1.83 ms

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



Run 4: Statistics of PCC-Expr

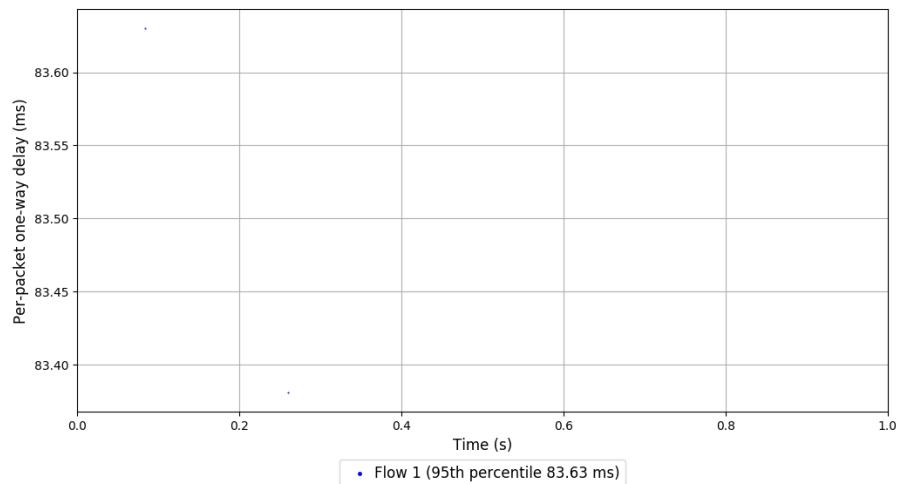
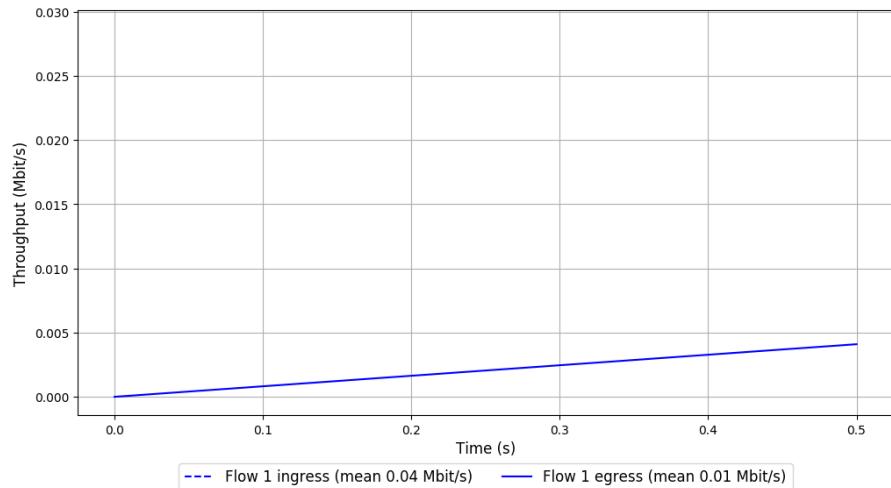
Start at: 2018-11-02 19:19:23

End at: 2018-11-02 19:19:53

Local clock offset: -1.803 ms

Remote clock offset: 1.429 ms

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

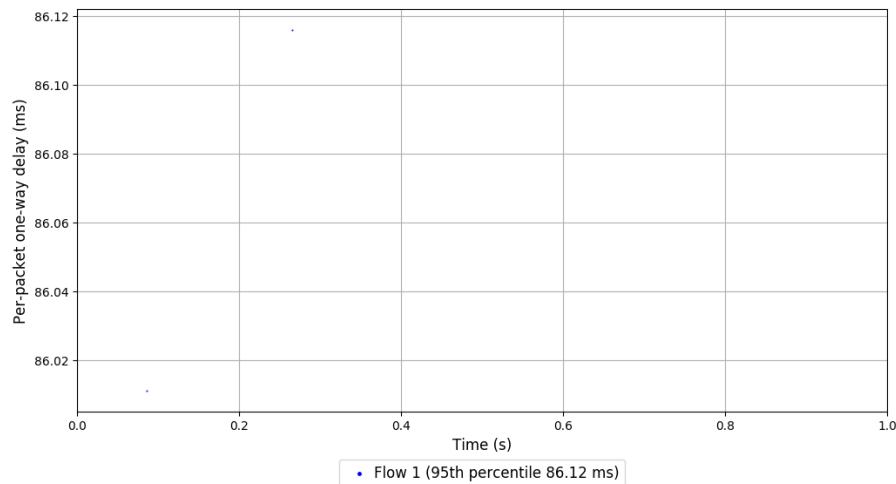
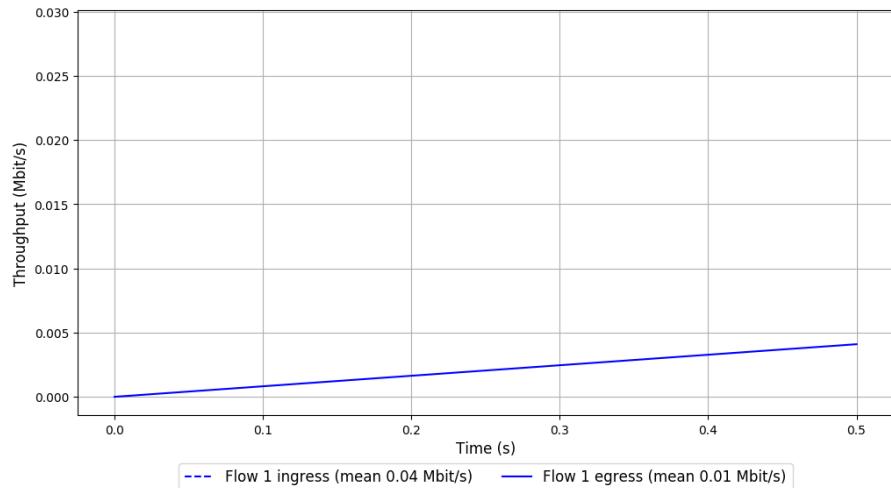
Start at: 2018-11-02 19:40:26

End at: 2018-11-02 19:40:56

Local clock offset: -5.319 ms

Remote clock offset: 1.987 ms

Run 5: Report of PCC-Expr — Data Link

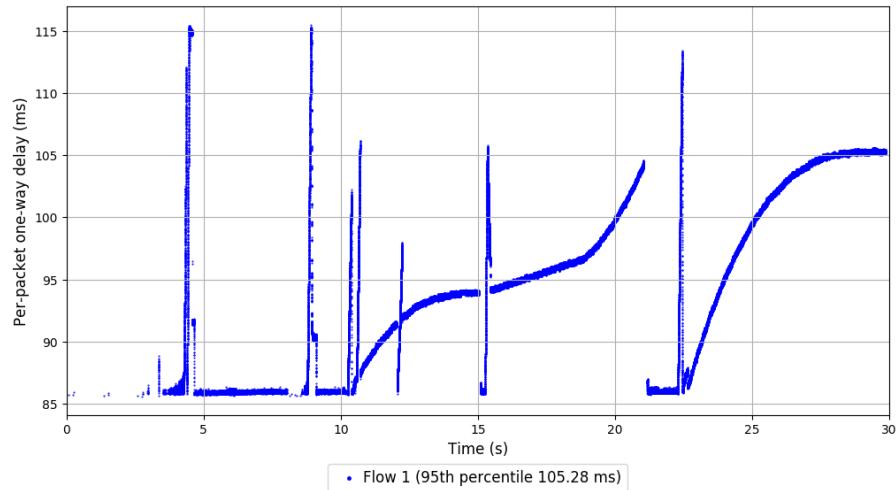
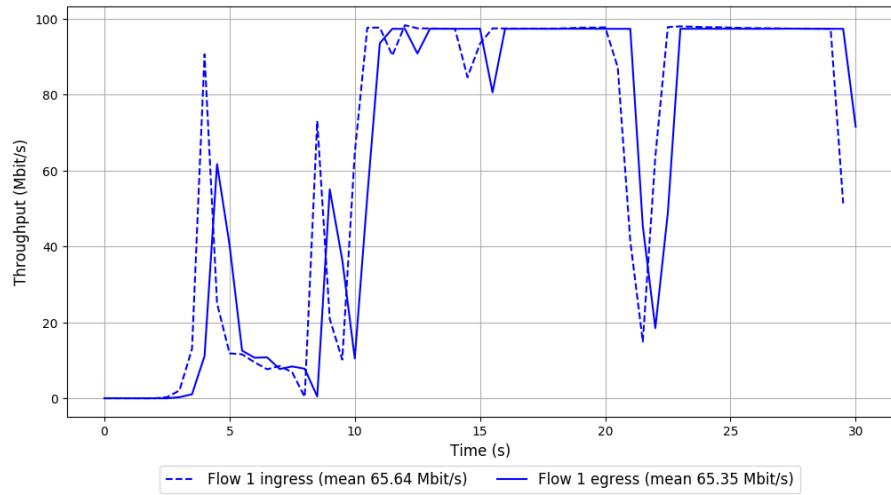


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-11-02 18:19:36
End at: 2018-11-02 18:20:06
Local clock offset: -4.838 ms
Remote clock offset: 3.406 ms

# Below is generated by plot.py at 2018-11-02 19:57:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.35 Mbit/s
95th percentile per-packet one-way delay: 105.278 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 65.35 Mbit/s
95th percentile per-packet one-way delay: 105.278 ms
Loss rate: 0.38%
```

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

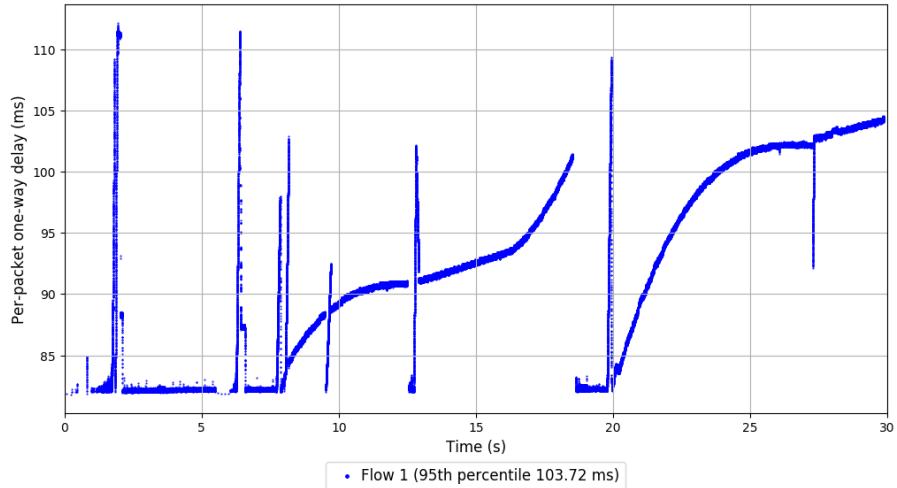
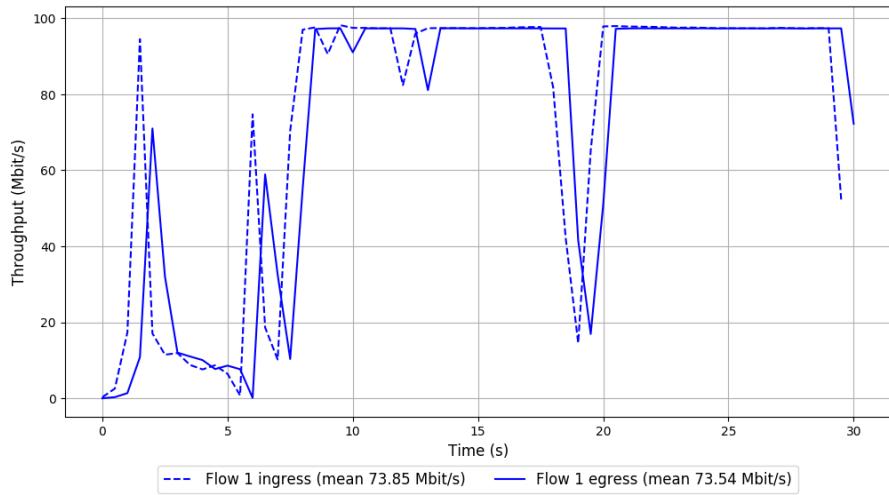


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-11-02 18:40:40
End at: 2018-11-02 18:41:10
Local clock offset: 0.965 ms
Remote clock offset: 1.112 ms

# Below is generated by plot.py at 2018-11-02 19:57:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.54 Mbit/s
95th percentile per-packet one-way delay: 103.720 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 73.54 Mbit/s
95th percentile per-packet one-way delay: 103.720 ms
Loss rate: 0.34%
```

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

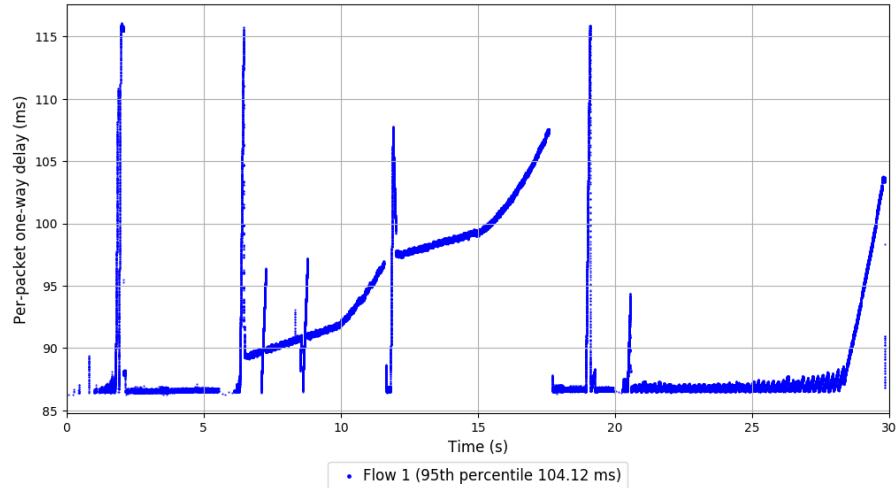
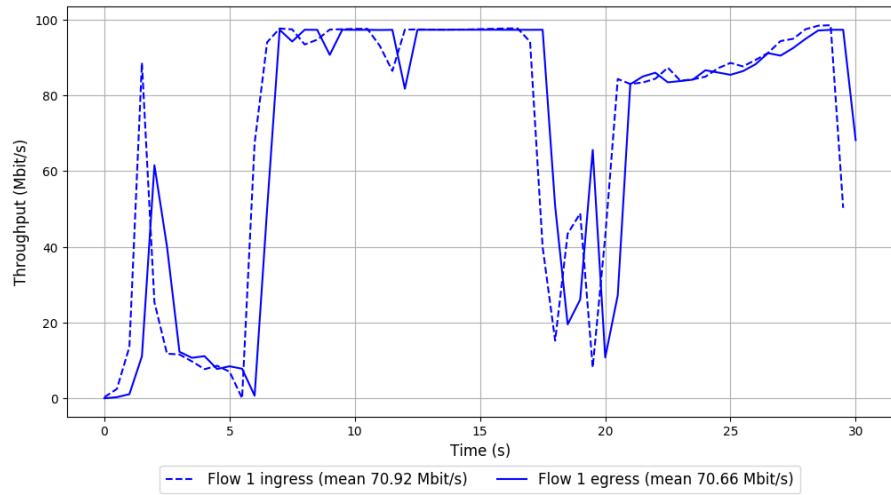


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-11-02 19:01:43
End at: 2018-11-02 19:02:13
Local clock offset: 7.766 ms
Remote clock offset: 1.976 ms

# Below is generated by plot.py at 2018-11-02 19:57:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.66 Mbit/s
95th percentile per-packet one-way delay: 104.118 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 70.66 Mbit/s
95th percentile per-packet one-way delay: 104.118 ms
Loss rate: 0.38%
```

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

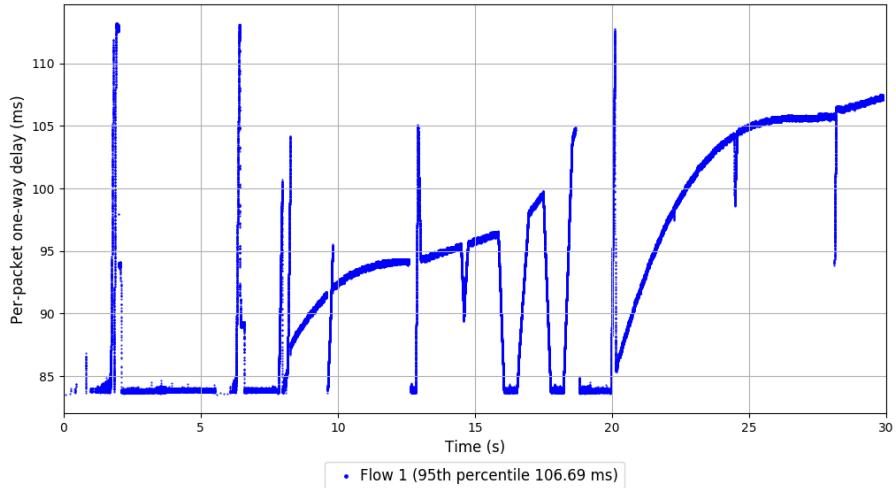
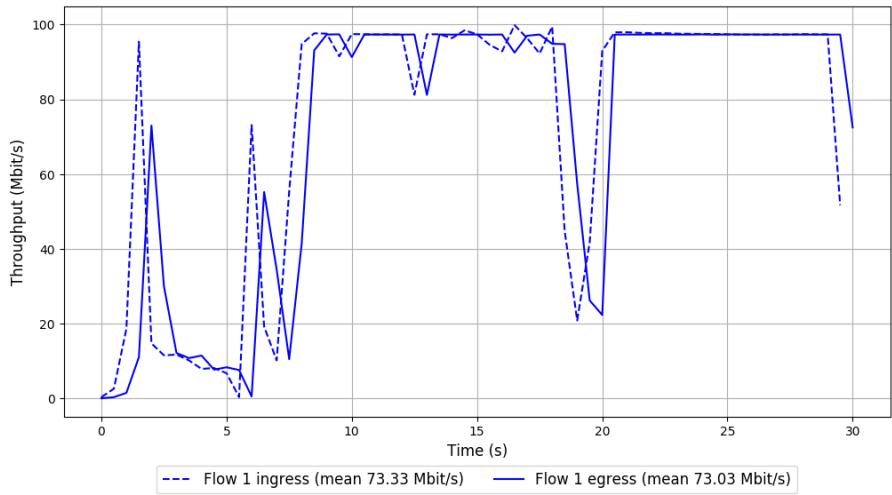


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-11-02 19:22:46
End at: 2018-11-02 19:23:16
Local clock offset: -3.195 ms
Remote clock offset: 6.436 ms

# Below is generated by plot.py at 2018-11-02 19:57:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.03 Mbit/s
95th percentile per-packet one-way delay: 106.690 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 73.03 Mbit/s
95th percentile per-packet one-way delay: 106.690 ms
Loss rate: 0.33%
```

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

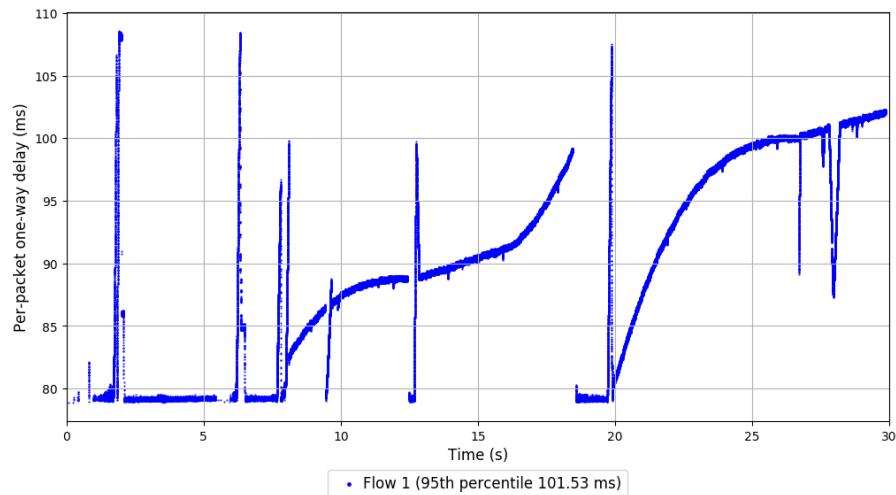
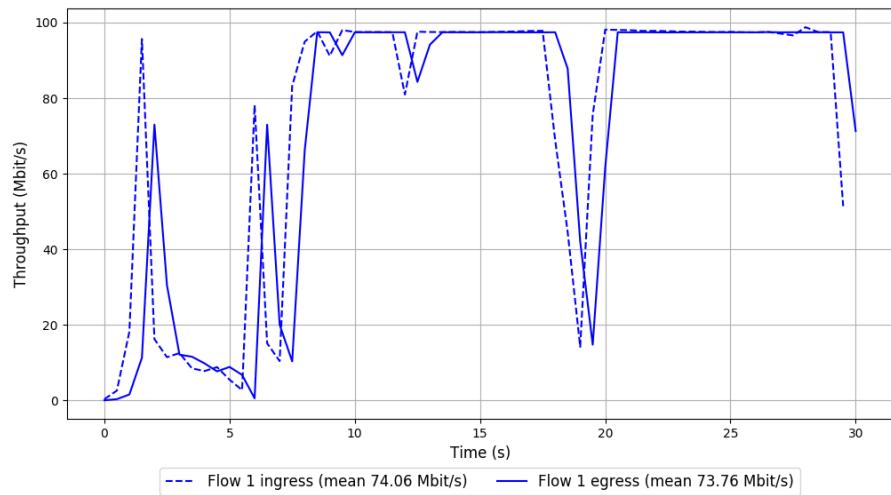


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-11-02 19:43:50
End at: 2018-11-02 19:44:20
Local clock offset: -5.78 ms
Remote clock offset: 2.081 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.76 Mbit/s
95th percentile per-packet one-way delay: 101.526 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 73.76 Mbit/s
95th percentile per-packet one-way delay: 101.526 ms
Loss rate: 0.34%
```

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

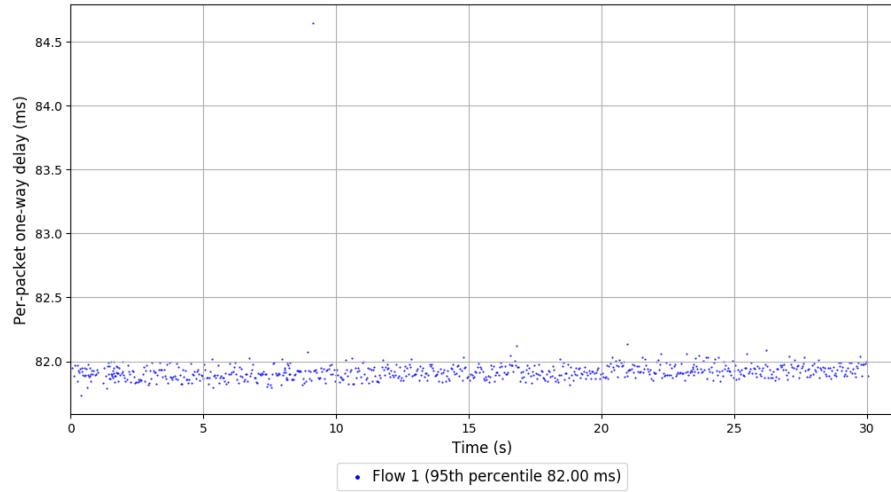
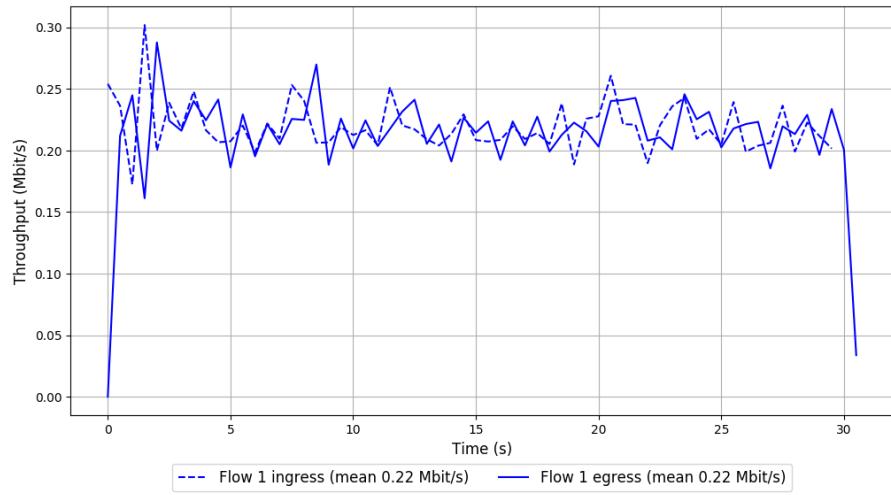


```
Run 1: Statistics of SCReAM
```

```
Start at: 2018-11-02 18:17:19
End at: 2018-11-02 18:17:49
Local clock offset: -4.497 ms
Remote clock offset: -1.695 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.998 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.998 ms
Loss rate: 0.00%
```

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

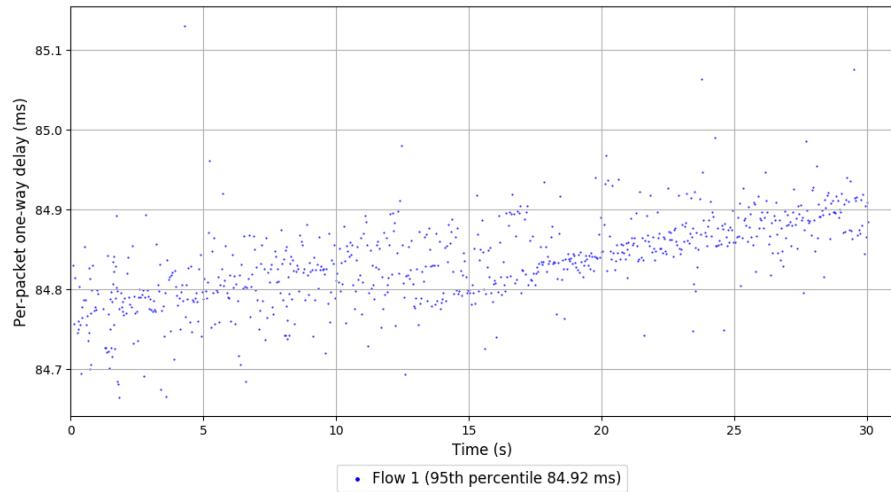
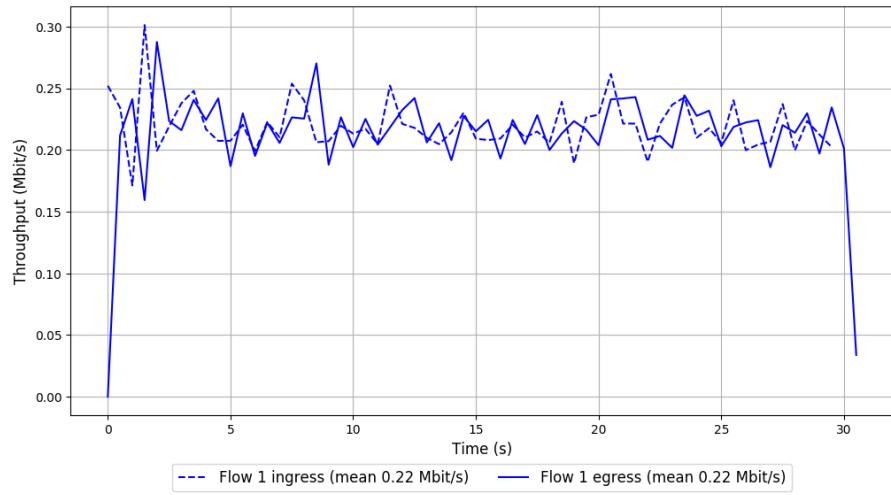


Run 2: Statistics of SCReAM

```
Start at: 2018-11-02 18:38:23
End at: 2018-11-02 18:38:53
Local clock offset: 0.343 ms
Remote clock offset: 3.678 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 84.915 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 84.915 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

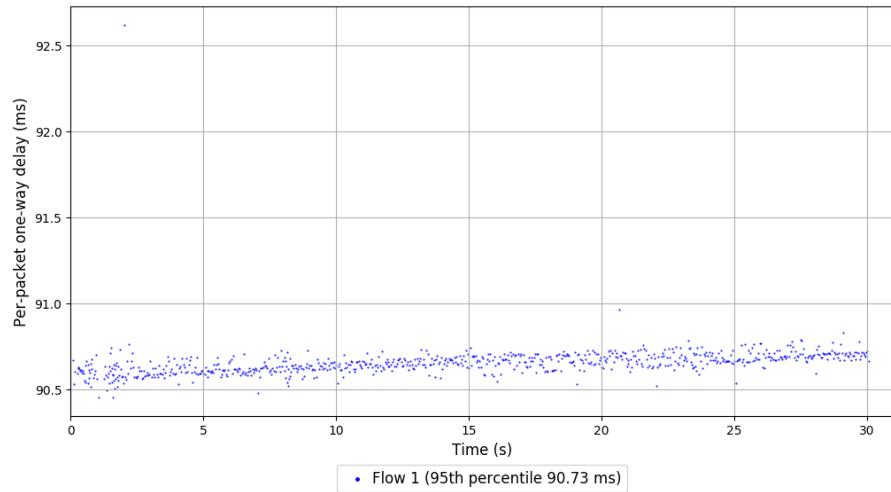
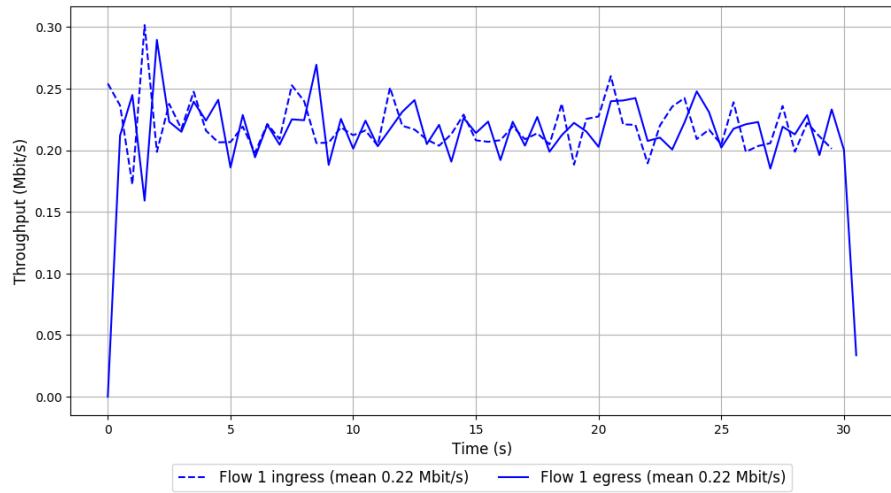


Run 3: Statistics of SCReAM

```
Start at: 2018-11-02 18:59:26
End at: 2018-11-02 18:59:56
Local clock offset: 6.376 ms
Remote clock offset: 6.904 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 90.732 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 90.732 ms
Loss rate: 0.00%
```

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

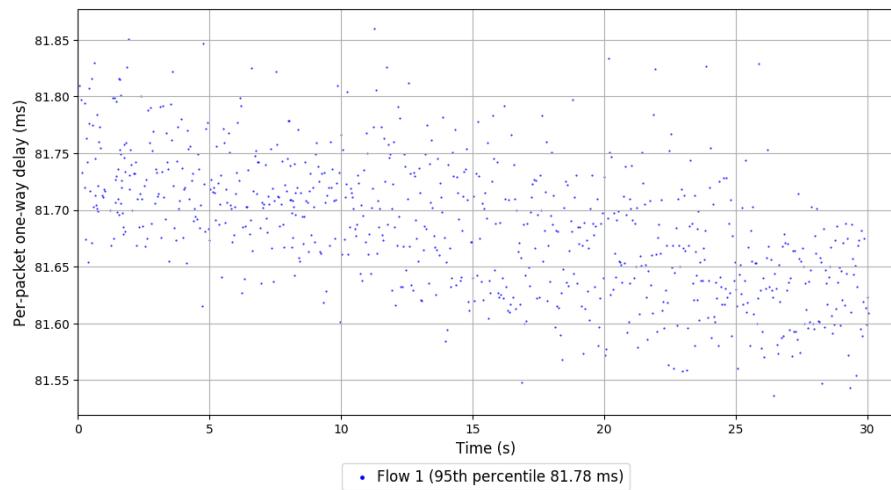
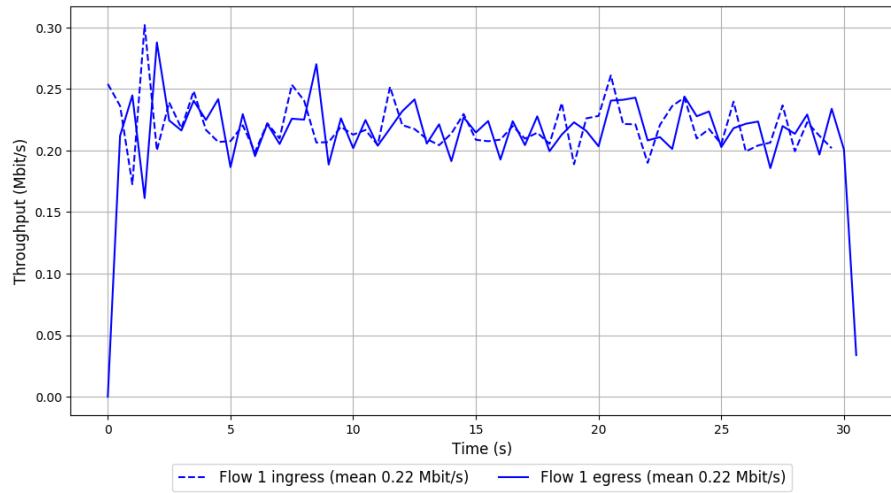


Run 4: Statistics of SCReAM

```
Start at: 2018-11-02 19:20:30
End at: 2018-11-02 19:21:00
Local clock offset: -2.027 ms
Remote clock offset: 1.48 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.784 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 81.784 ms
Loss rate: 0.00%
```

## Run 4: Report of SCReAM — Data Link

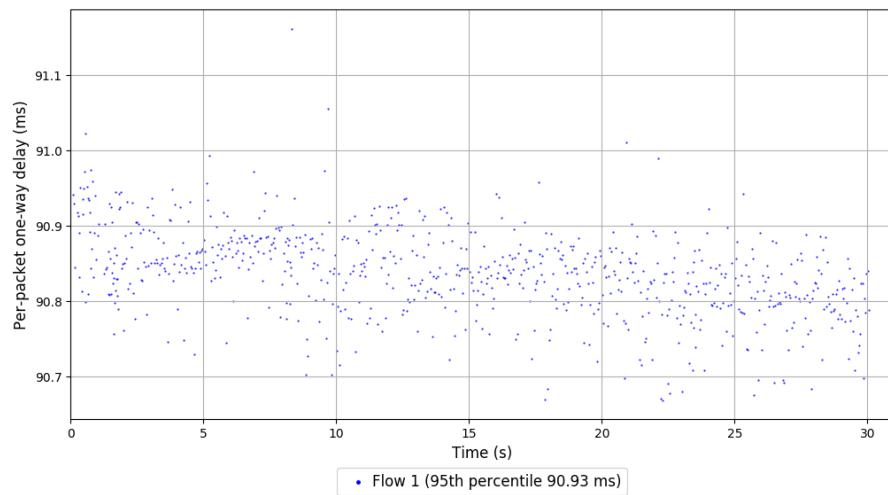
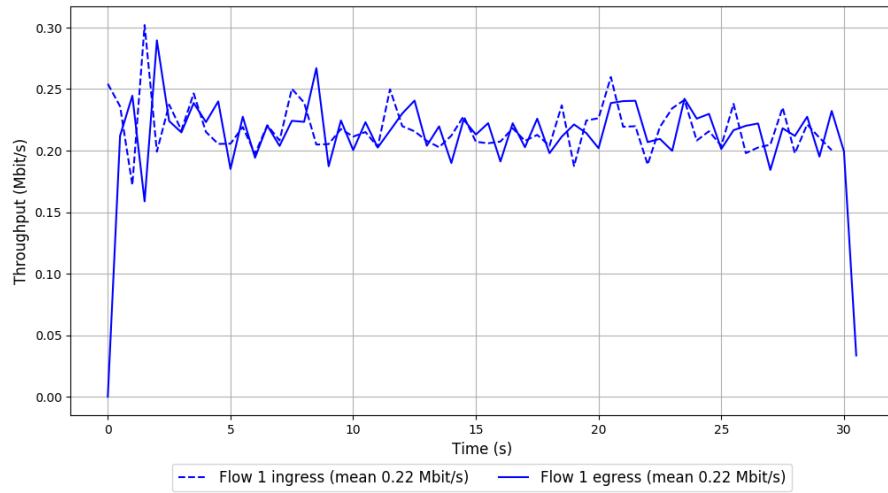


Run 5: Statistics of SCReAM

```
Start at: 2018-11-02 19:41:33
End at: 2018-11-02 19:42:03
Local clock offset: -5.503 ms
Remote clock offset: 6.814 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 90.929 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 90.929 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

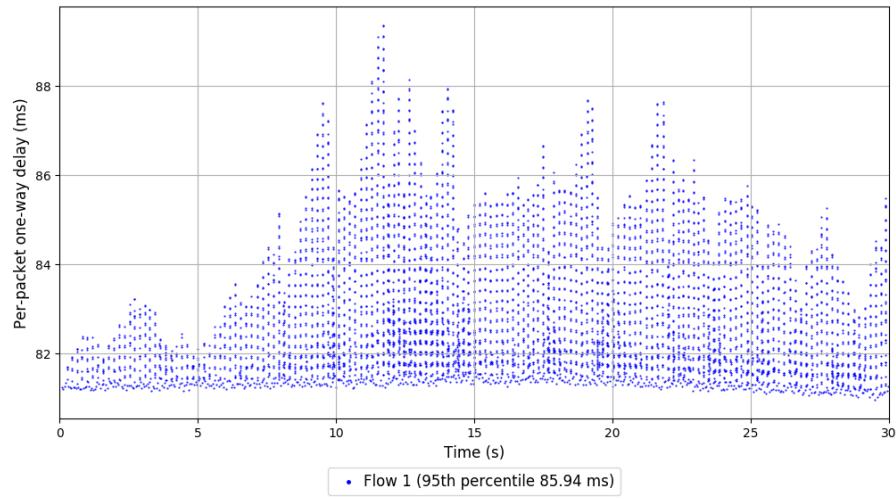
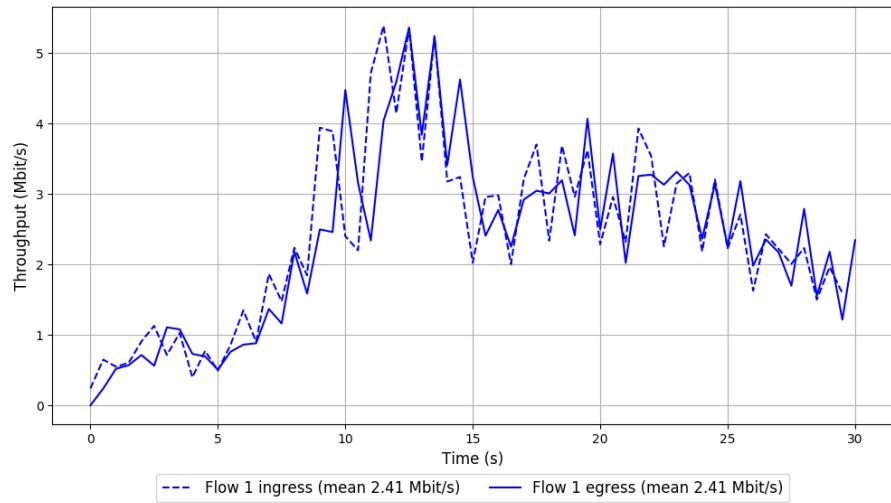


Run 1: Statistics of Sprout

```
Start at: 2018-11-02 18:08:01
End at: 2018-11-02 18:08:31
Local clock offset: -3.912 ms
Remote clock offset: -1.223 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 85.943 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 85.943 ms
Loss rate: 0.00%
```

## Run 1: Report of Sprout — Data Link

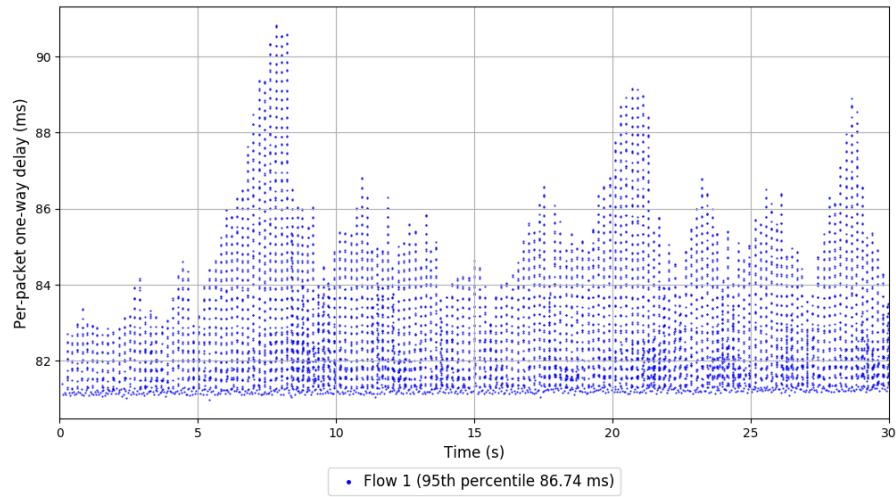
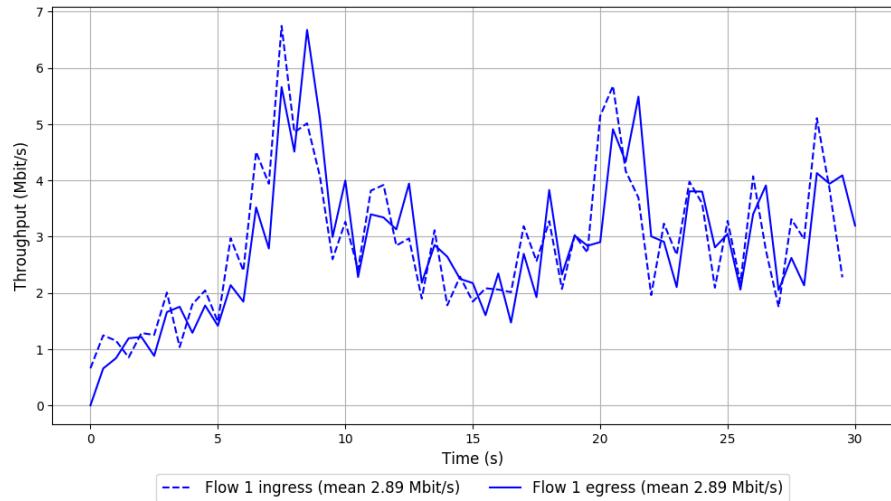


Run 2: Statistics of Sprout

```
Start at: 2018-11-02 18:29:04
End at: 2018-11-02 18:29:34
Local clock offset: -1.482 ms
Remote clock offset: 0.397 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.89 Mbit/s
95th percentile per-packet one-way delay: 86.737 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.89 Mbit/s
95th percentile per-packet one-way delay: 86.737 ms
Loss rate: 0.00%
```

## Run 2: Report of Sprout — Data Link

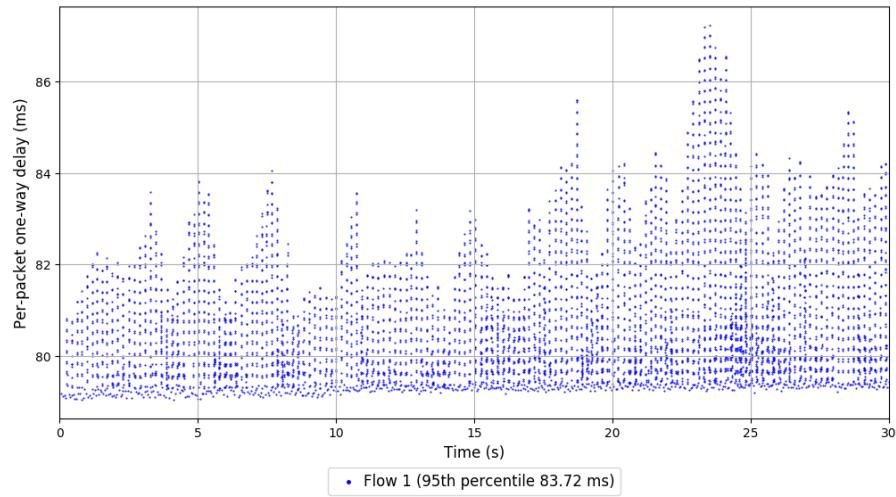
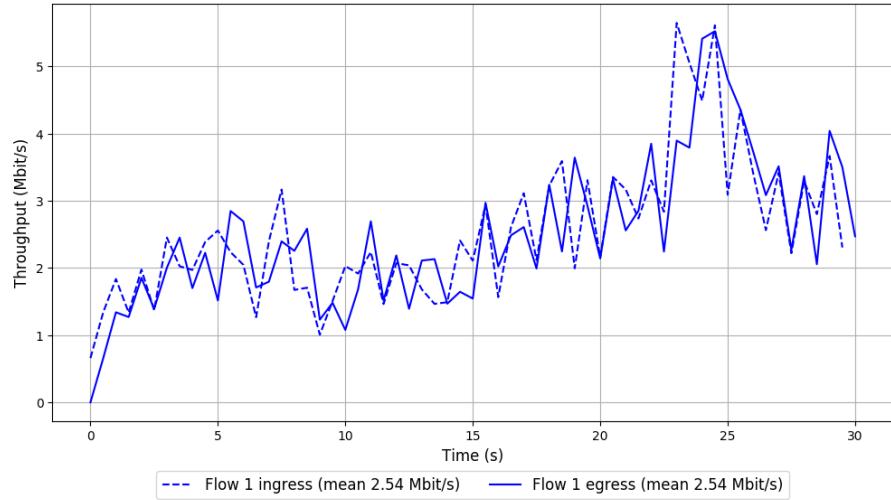


Run 3: Statistics of Sprout

```
Start at: 2018-11-02 18:50:08
End at: 2018-11-02 18:50:38
Local clock offset: 3.734 ms
Remote clock offset: 0.49 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.54 Mbit/s
95th percentile per-packet one-way delay: 83.717 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.54 Mbit/s
95th percentile per-packet one-way delay: 83.717 ms
Loss rate: 0.00%
```

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

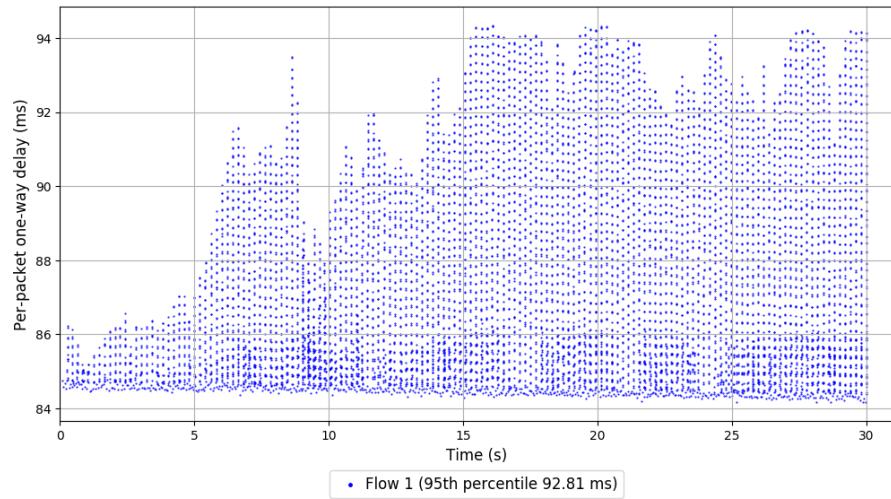
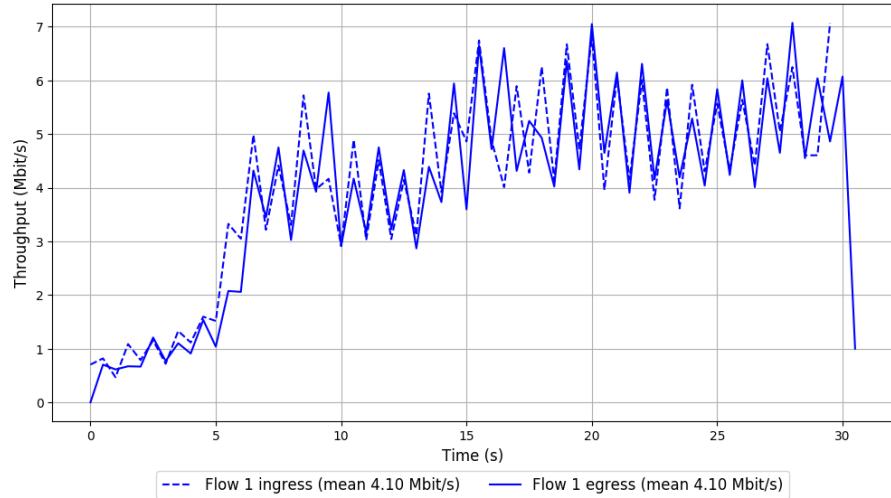


Run 4: Statistics of Sprout

```
Start at: 2018-11-02 19:11:11
End at: 2018-11-02 19:11:41
Local clock offset: 0.146 ms
Remote clock offset: 1.15 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 92.805 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 92.805 ms
Loss rate: 0.00%
```

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

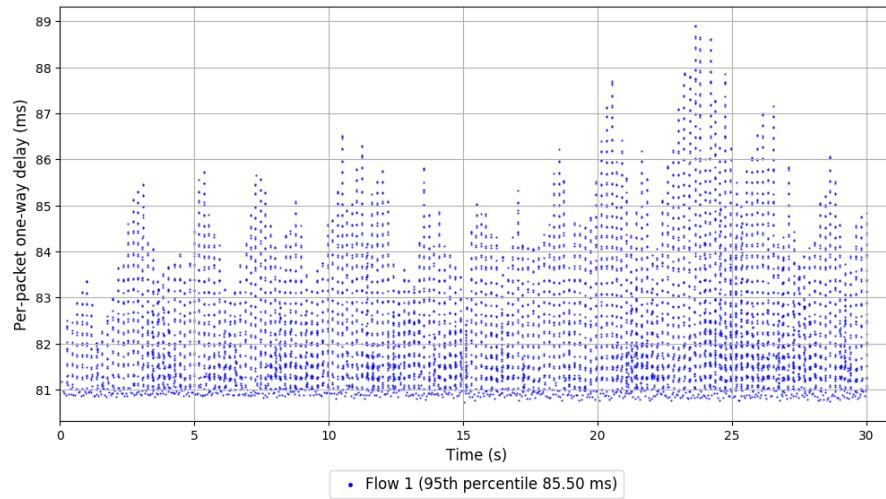
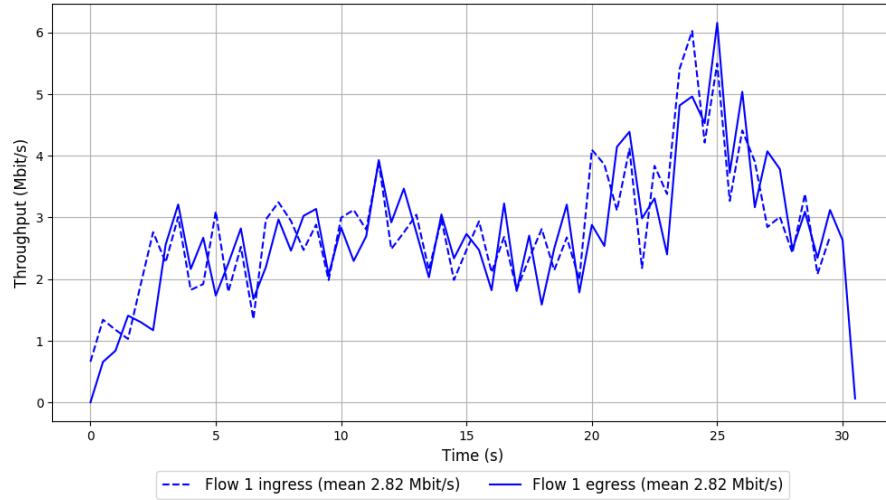


Run 5: Statistics of Sprout

```
Start at: 2018-11-02 19:32:14
End at: 2018-11-02 19:32:44
Local clock offset: -4.799 ms
Remote clock offset: 2.87 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 85.504 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.82 Mbit/s
95th percentile per-packet one-way delay: 85.504 ms
Loss rate: 0.00%
```

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

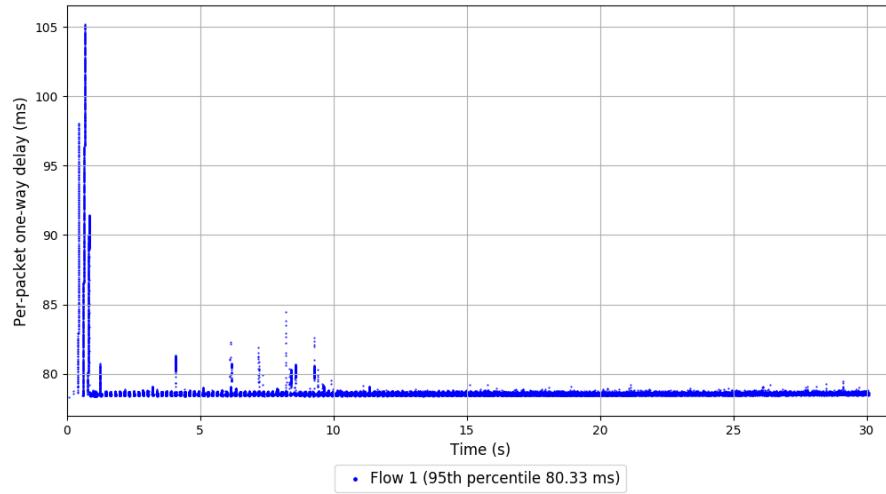
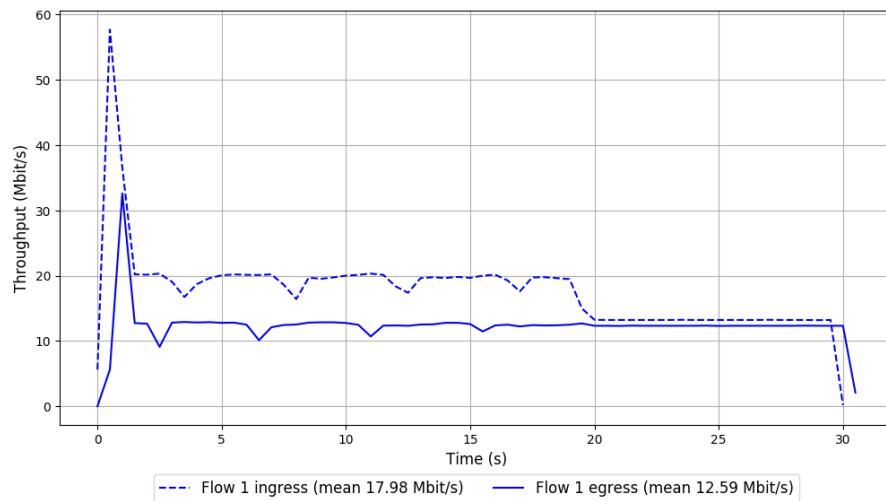


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-11-02 18:20:47
End at: 2018-11-02 18:21:17
Local clock offset: -3.736 ms
Remote clock offset: -1.352 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 80.328 ms
Loss rate: 29.95%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 80.328 ms
Loss rate: 29.95%
```

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

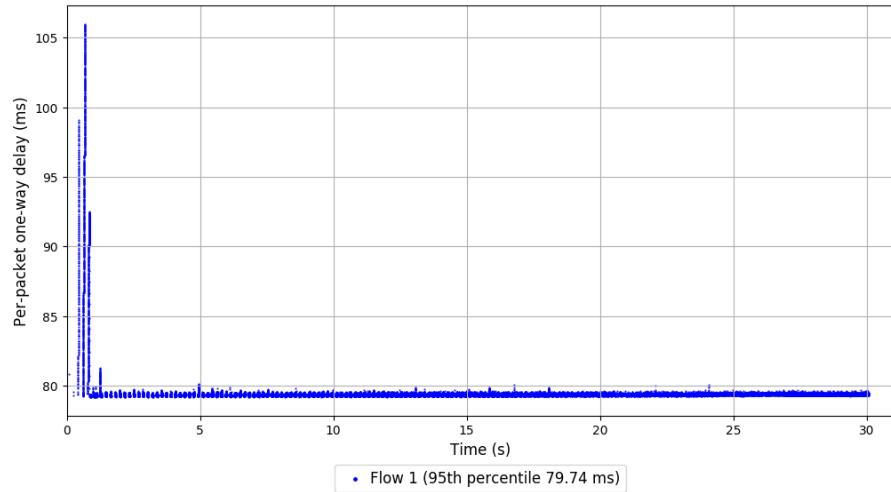
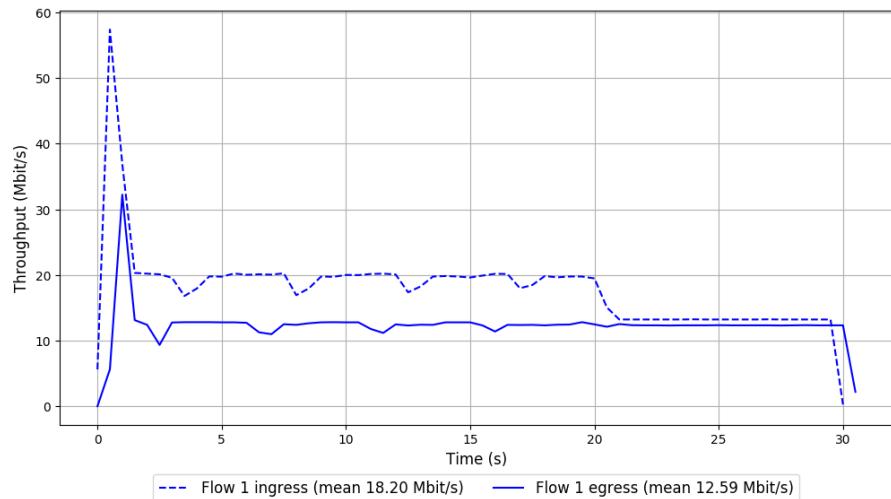


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-11-02 18:41:52
End at: 2018-11-02 18:42:22
Local clock offset: 1.417 ms
Remote clock offset: 0.092 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 79.740 ms
Loss rate: 30.82%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 79.740 ms
Loss rate: 30.82%
```

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

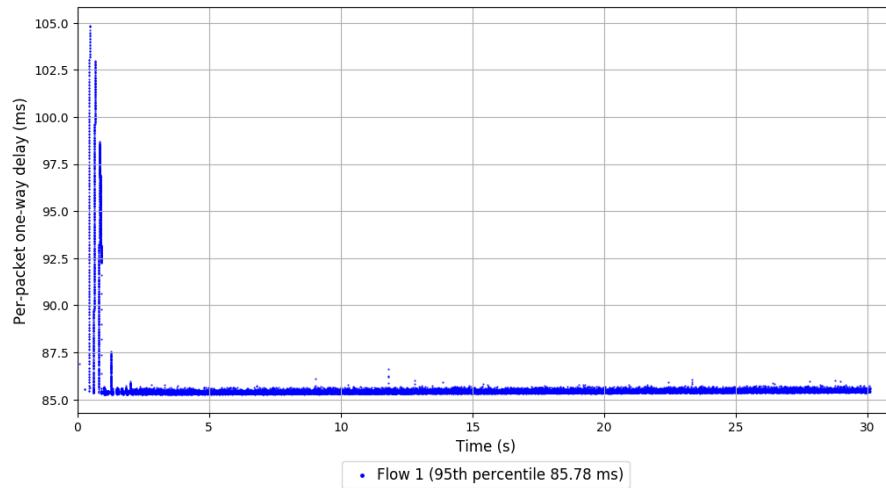
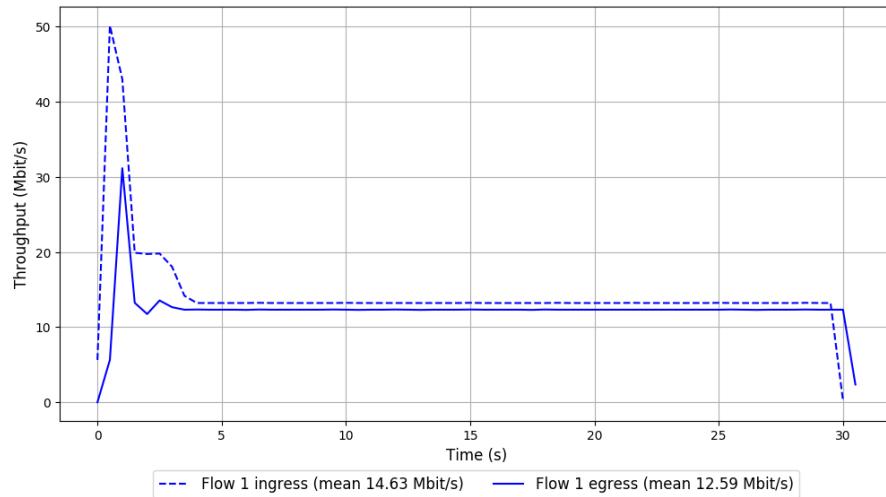


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-11-02 19:02:54
End at: 2018-11-02 19:03:24
Local clock offset: 7.271 ms
Remote clock offset: 7.028 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 85.784 ms
Loss rate: 13.91%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 85.784 ms
Loss rate: 13.91%
```

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

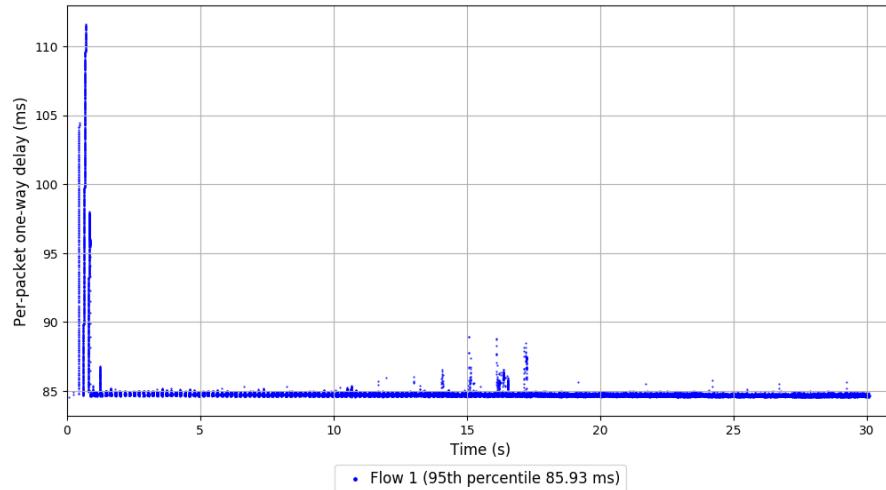
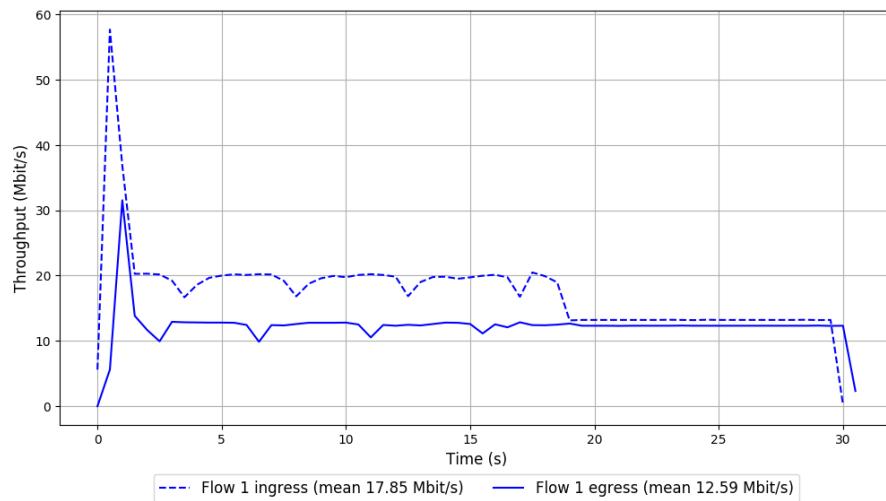


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-11-02 19:23:57
End at: 2018-11-02 19:24:27
Local clock offset: -4.115 ms
Remote clock offset: 6.534 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 85.926 ms
Loss rate: 29.46%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 85.926 ms
Loss rate: 29.46%
```

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

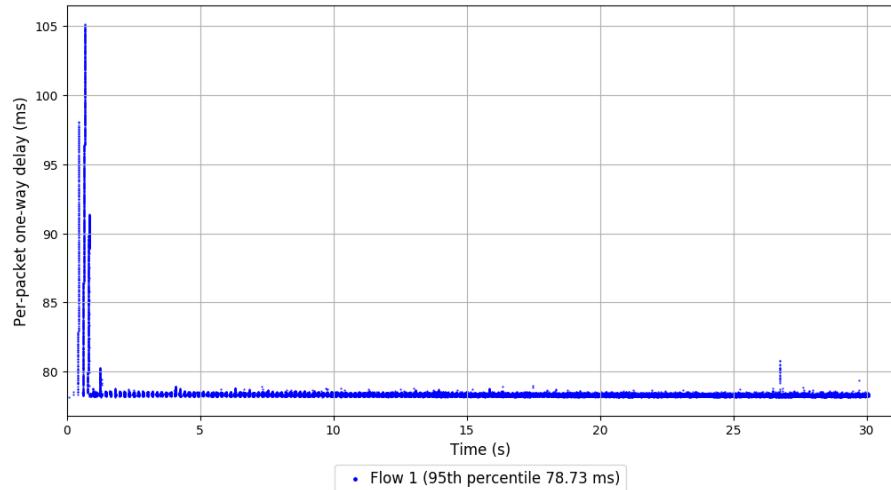
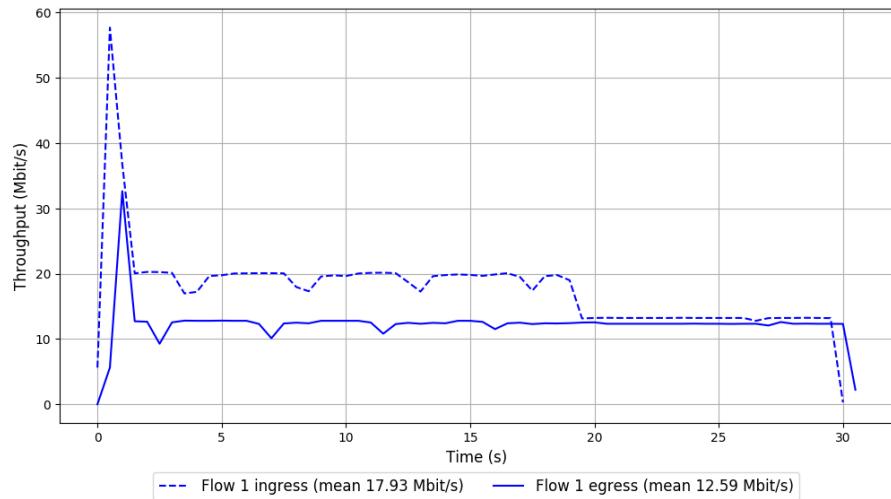


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-11-02 19:45:01
End at: 2018-11-02 19:45:31
Local clock offset: -5.118 ms
Remote clock offset: 2.077 ms

# Below is generated by plot.py at 2018-11-02 19:57:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 78.727 ms
Loss rate: 29.77%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 78.727 ms
Loss rate: 29.77%
```

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

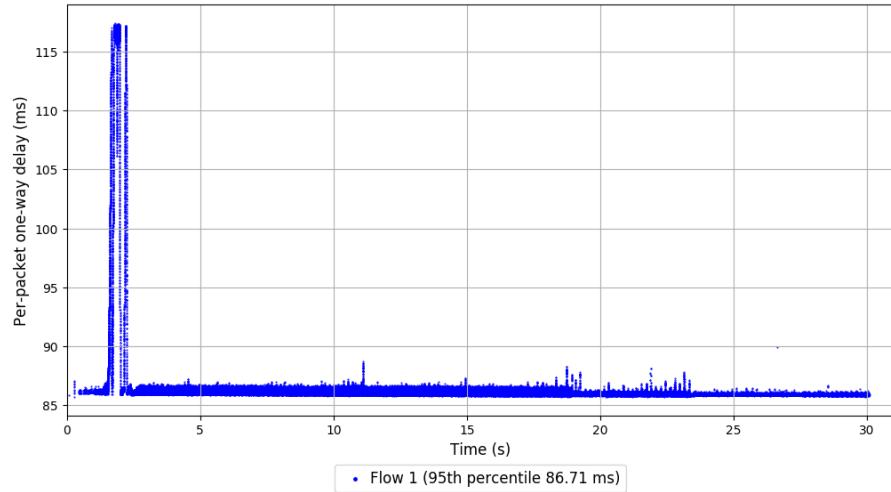
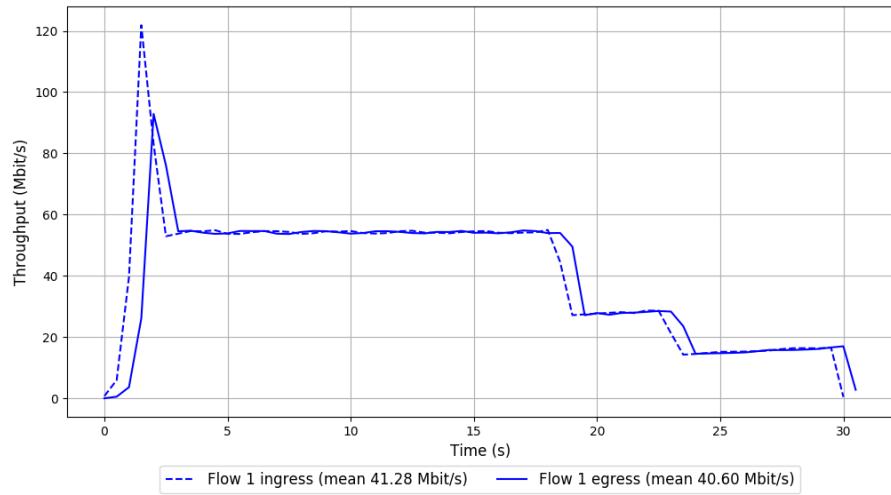


Run 1: Statistics of TCP Vegas

```
Start at: 2018-11-02 18:09:09
End at: 2018-11-02 18:09:39
Local clock offset: -5.777 ms
Remote clock offset: -1.225 ms

# Below is generated by plot.py at 2018-11-02 19:57:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.60 Mbit/s
95th percentile per-packet one-way delay: 86.709 ms
Loss rate: 1.67%
-- Flow 1:
Average throughput: 40.60 Mbit/s
95th percentile per-packet one-way delay: 86.709 ms
Loss rate: 1.67%
```

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

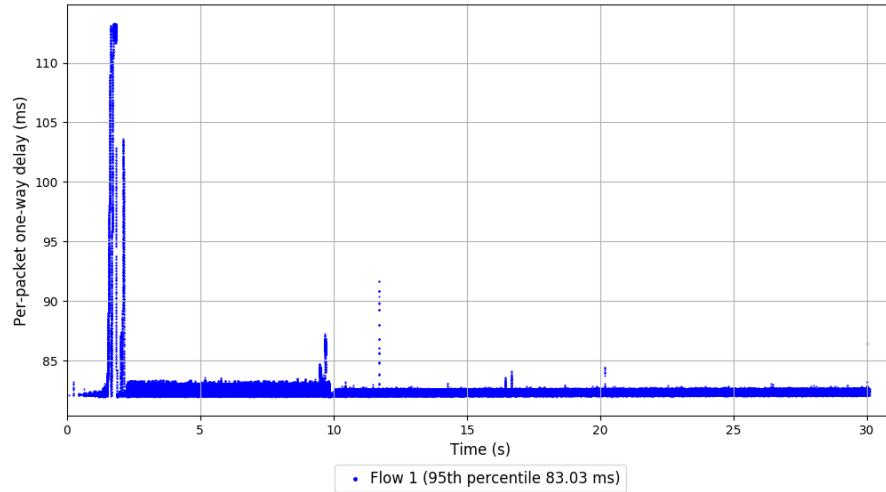
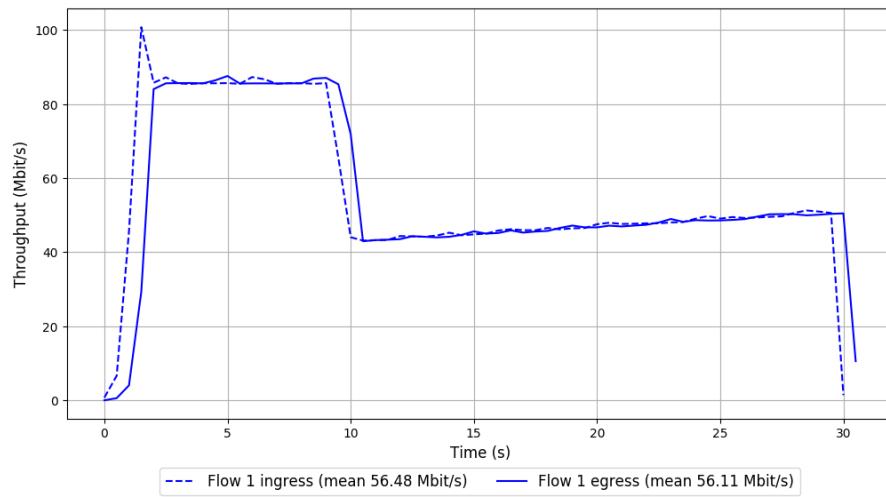


Run 2: Statistics of TCP Vegas

```
Start at: 2018-11-02 18:30:11
End at: 2018-11-02 18:30:41
Local clock offset: -1.966 ms
Remote clock offset: 0.497 ms

# Below is generated by plot.py at 2018-11-02 19:57:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.11 Mbit/s
95th percentile per-packet one-way delay: 83.027 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 56.11 Mbit/s
95th percentile per-packet one-way delay: 83.027 ms
Loss rate: 0.65%
```

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

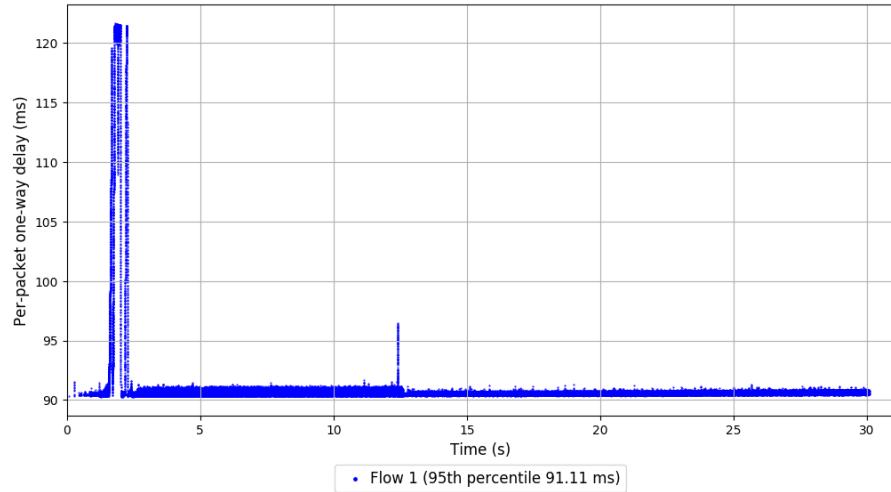
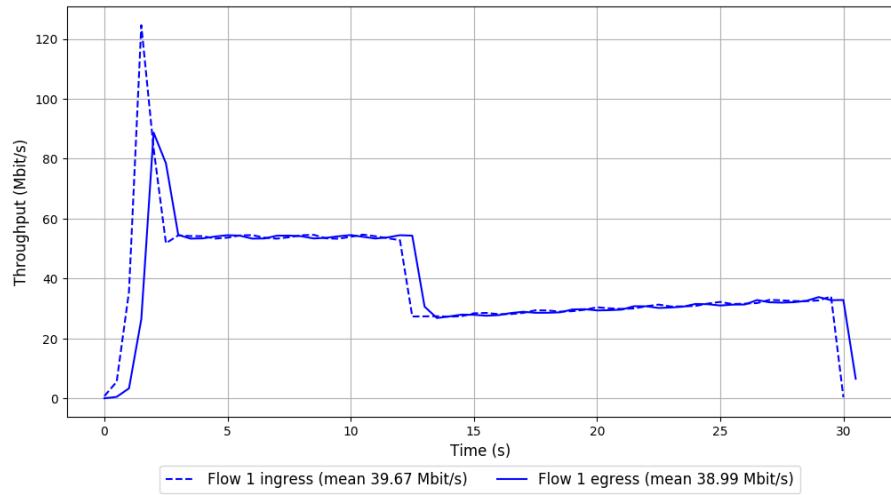


Run 3: Statistics of TCP Vegas

```
Start at: 2018-11-02 18:51:16
End at: 2018-11-02 18:51:46
Local clock offset: 4.836 ms
Remote clock offset: 5.373 ms

# Below is generated by plot.py at 2018-11-02 19:57:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 38.99 Mbit/s
95th percentile per-packet one-way delay: 91.115 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 38.99 Mbit/s
95th percentile per-packet one-way delay: 91.115 ms
Loss rate: 1.74%
```

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

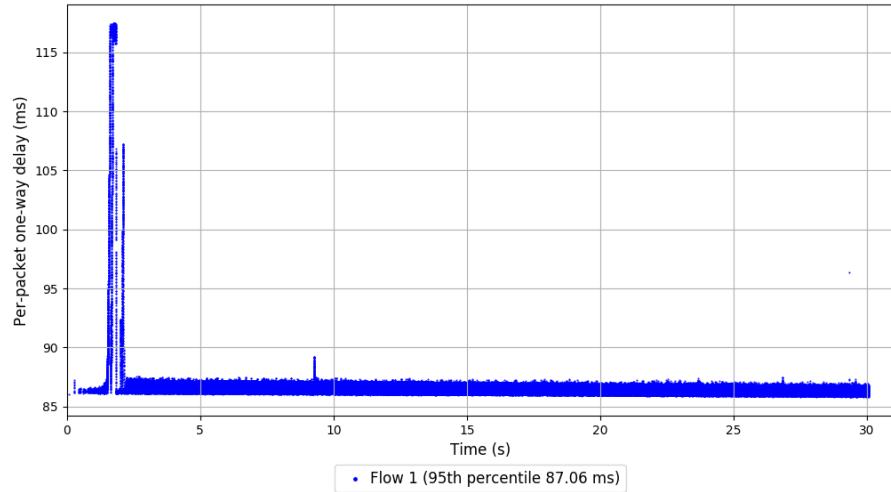
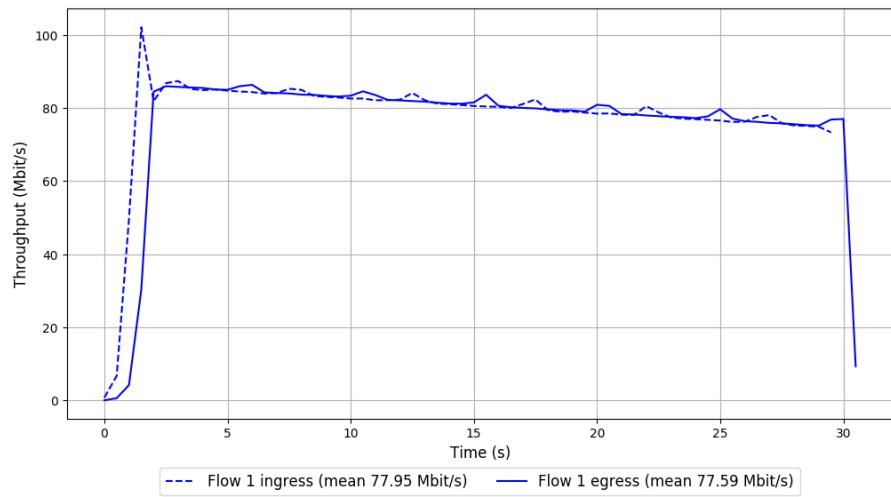


Run 4: Statistics of TCP Vegas

```
Start at: 2018-11-02 19:12:19
End at: 2018-11-02 19:12:49
Local clock offset: -0.64 ms
Remote clock offset: 7.3 ms

# Below is generated by plot.py at 2018-11-02 19:58:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.59 Mbit/s
95th percentile per-packet one-way delay: 87.056 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 77.59 Mbit/s
95th percentile per-packet one-way delay: 87.056 ms
Loss rate: 0.47%
```

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

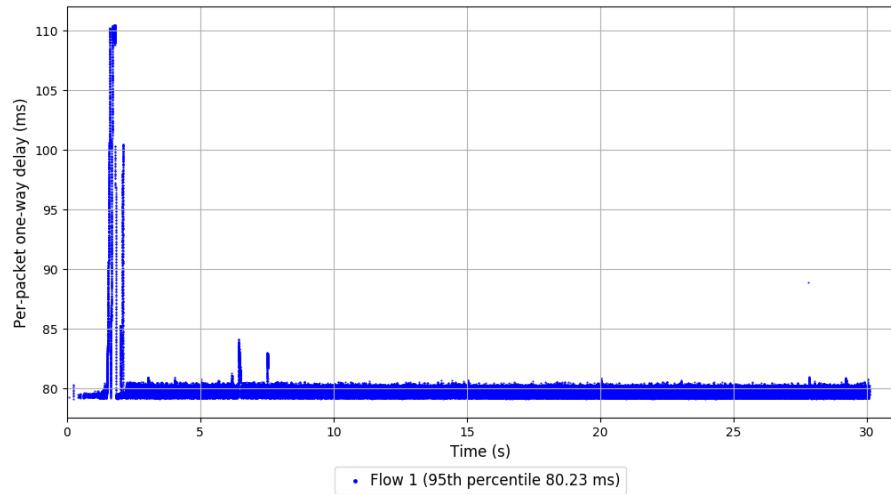
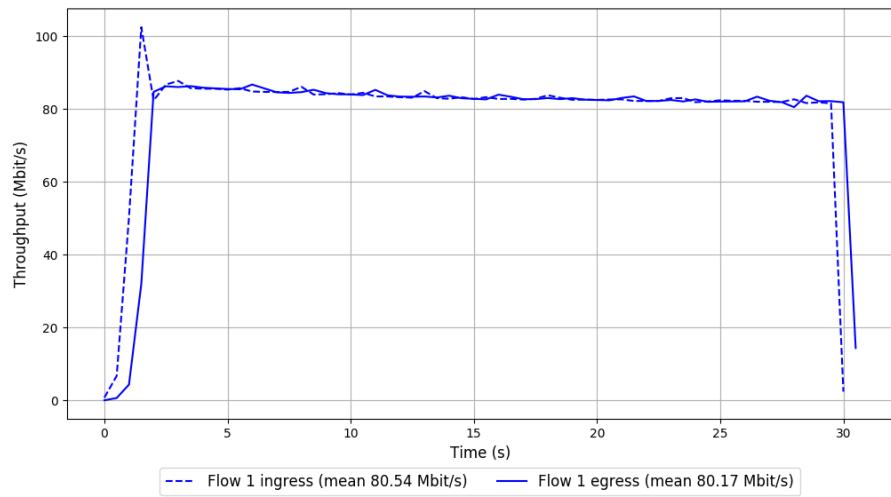


Run 5: Statistics of TCP Vegas

```
Start at: 2018-11-02 19:33:22
End at: 2018-11-02 19:33:52
Local clock offset: -3.999 ms
Remote clock offset: 1.944 ms

# Below is generated by plot.py at 2018-11-02 19:58:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.17 Mbit/s
95th percentile per-packet one-way delay: 80.230 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 80.17 Mbit/s
95th percentile per-packet one-way delay: 80.230 ms
Loss rate: 0.46%
```

Run 5: Report of TCP Vegas — Data Link

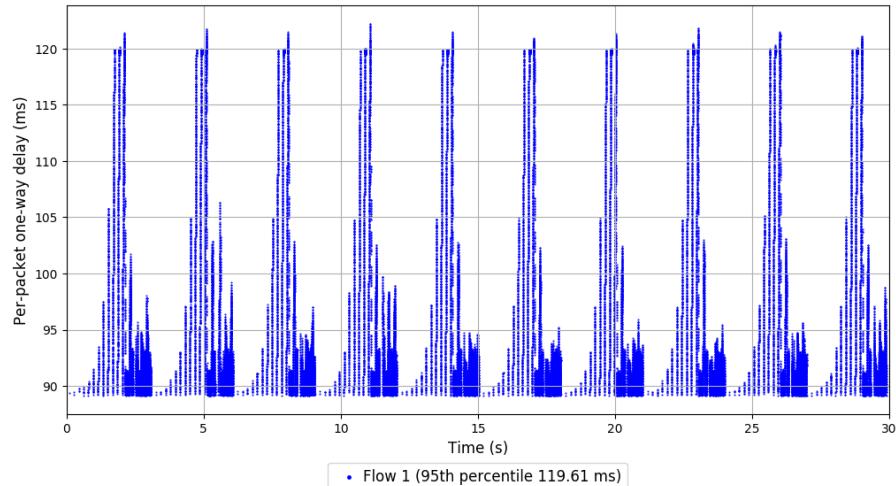
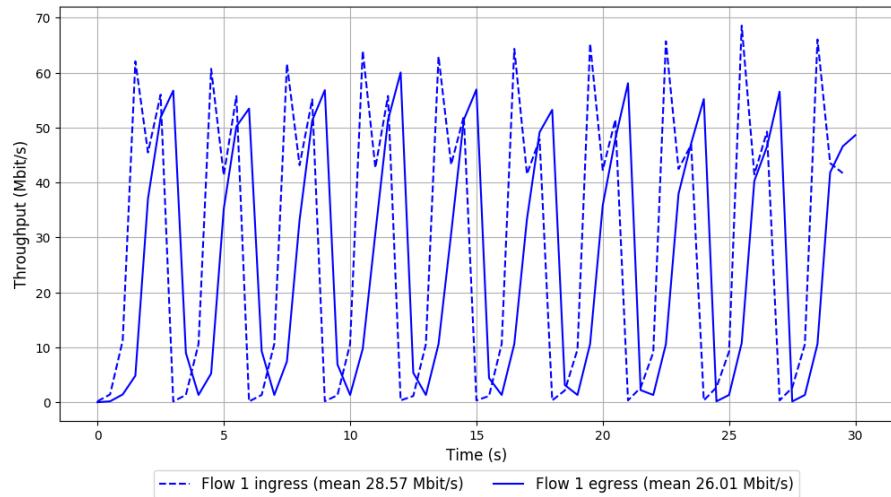


Run 1: Statistics of Verus

```
Start at: 2018-11-02 18:15:02
End at: 2018-11-02 18:15:32
Local clock offset: -5.444 ms
Remote clock offset: 3.089 ms

# Below is generated by plot.py at 2018-11-02 19:58:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 26.01 Mbit/s
95th percentile per-packet one-way delay: 119.606 ms
Loss rate: 8.97%
-- Flow 1:
Average throughput: 26.01 Mbit/s
95th percentile per-packet one-way delay: 119.606 ms
Loss rate: 8.97%
```

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

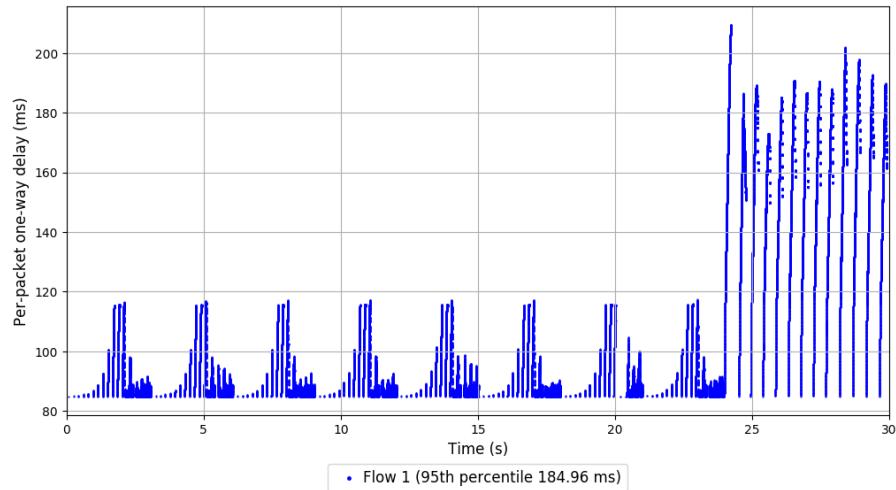
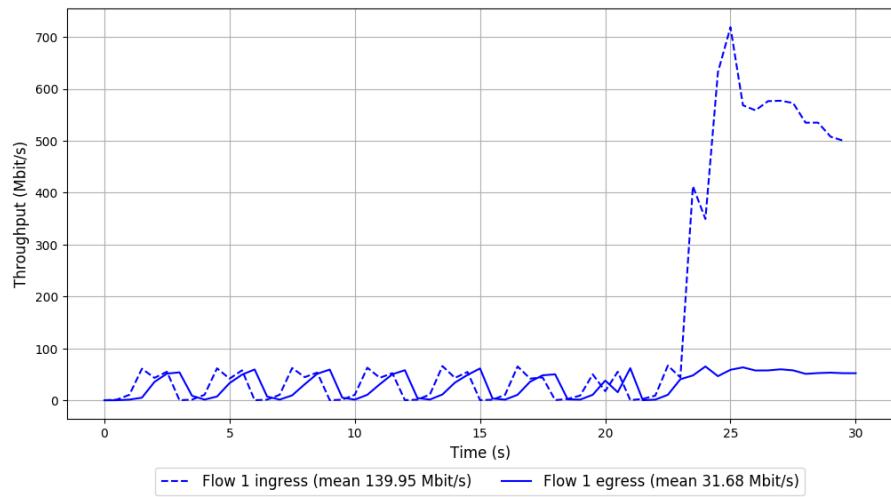


Run 2: Statistics of Verus

```
Start at: 2018-11-02 18:36:05
End at: 2018-11-02 18:36:35
Local clock offset: 0.521 ms
Remote clock offset: 0.889 ms

# Below is generated by plot.py at 2018-11-02 19:58:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 31.68 Mbit/s
95th percentile per-packet one-way delay: 184.964 ms
Loss rate: 77.30%
-- Flow 1:
Average throughput: 31.68 Mbit/s
95th percentile per-packet one-way delay: 184.964 ms
Loss rate: 77.30%
```

## Run 2: Report of Verus — Data Link

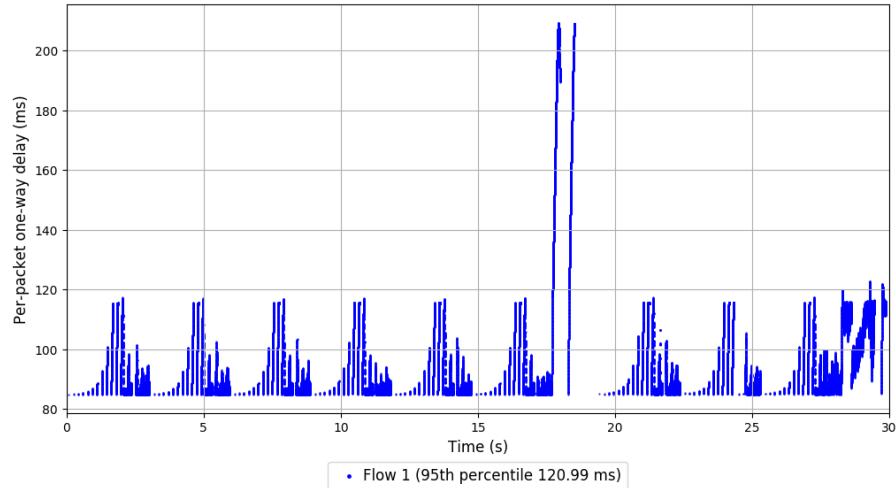
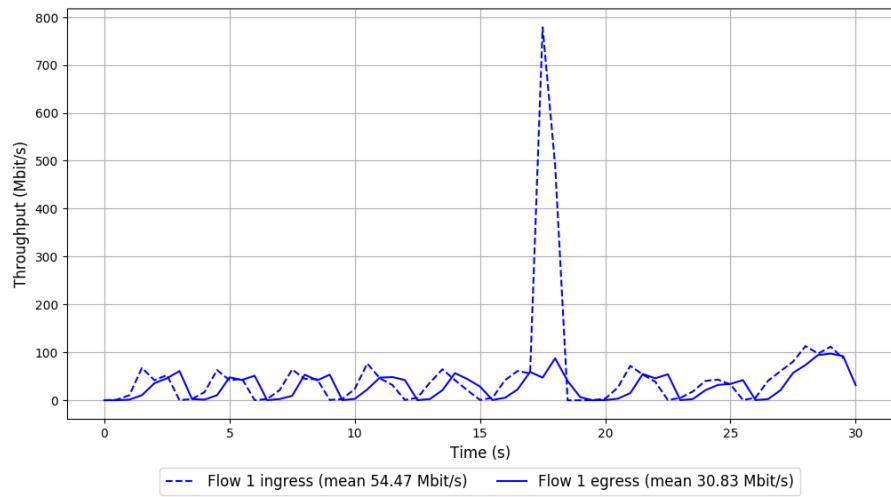


Run 3: Statistics of Verus

```
Start at: 2018-11-02 18:57:09
End at: 2018-11-02 18:57:39
Local clock offset: 4.91 ms
Remote clock offset: 5.625 ms

# Below is generated by plot.py at 2018-11-02 19:58:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.83 Mbit/s
95th percentile per-packet one-way delay: 120.993 ms
Loss rate: 43.35%
-- Flow 1:
Average throughput: 30.83 Mbit/s
95th percentile per-packet one-way delay: 120.993 ms
Loss rate: 43.35%
```

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

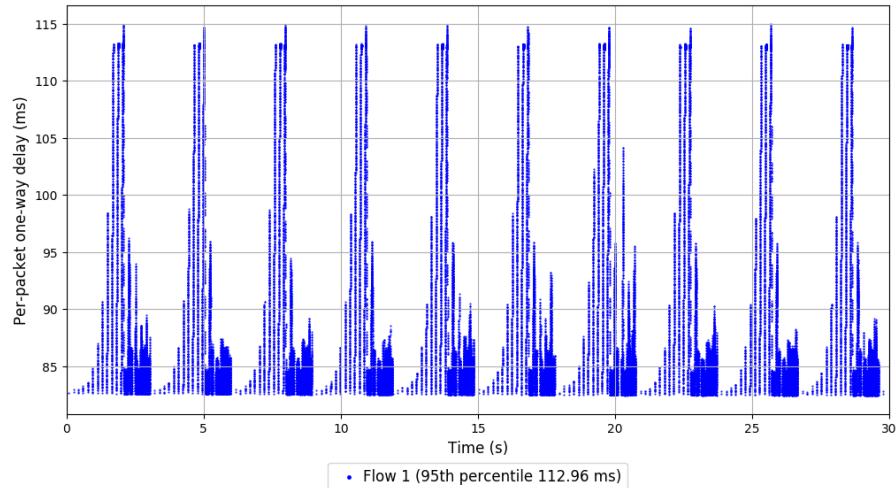
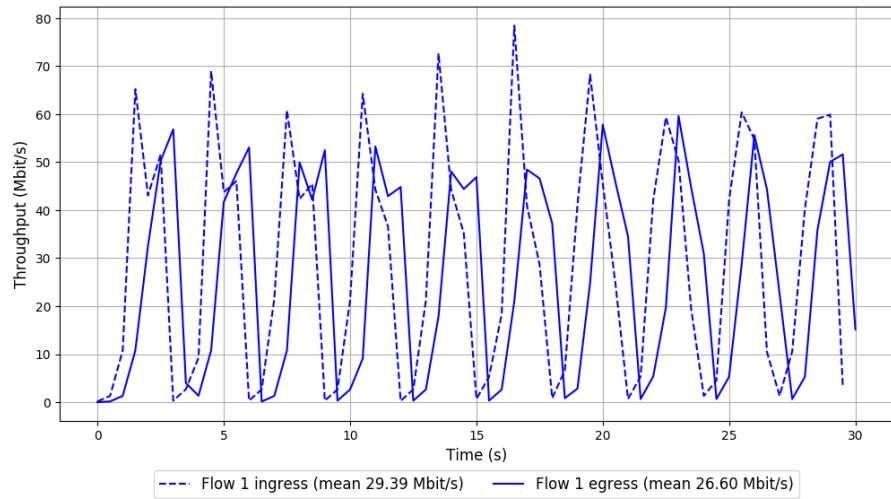


Run 4: Statistics of Verus

```
Start at: 2018-11-02 19:18:13
End at: 2018-11-02 19:18:43
Local clock offset: -3.072 ms
Remote clock offset: 2.585 ms

# Below is generated by plot.py at 2018-11-02 19:58:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 26.60 Mbit/s
95th percentile per-packet one-way delay: 112.961 ms
Loss rate: 9.50%
-- Flow 1:
Average throughput: 26.60 Mbit/s
95th percentile per-packet one-way delay: 112.961 ms
Loss rate: 9.50%
```

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

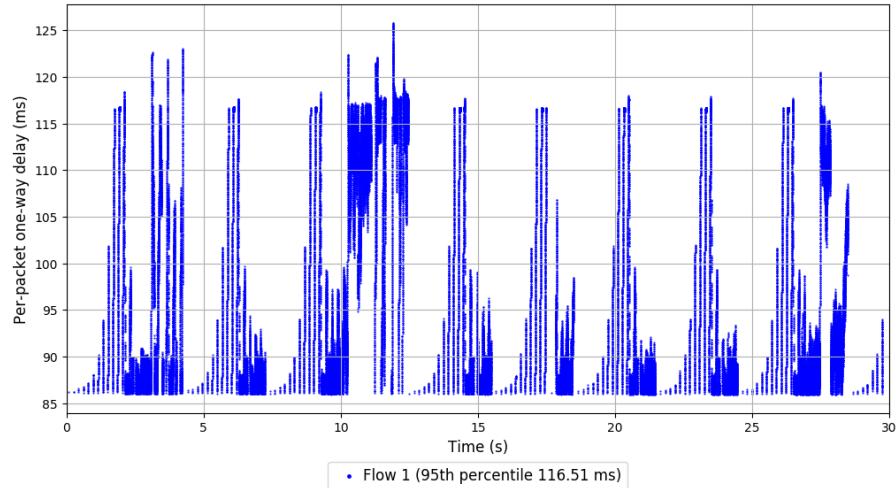
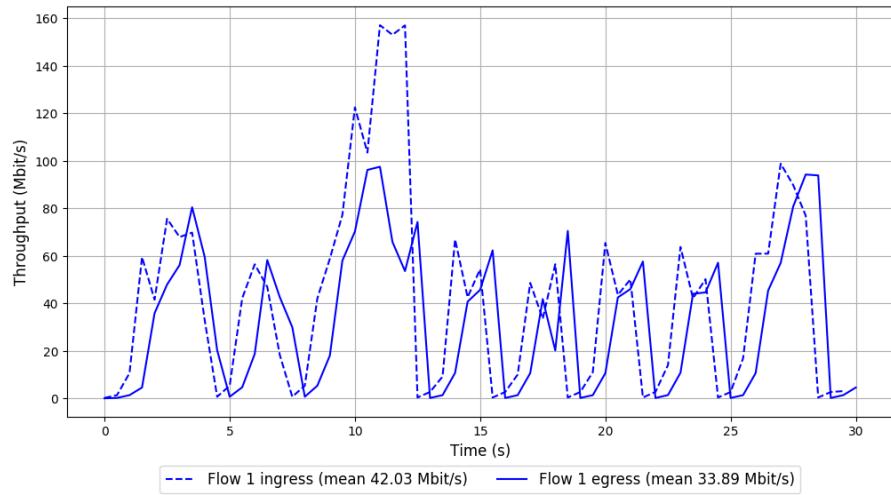


Run 5: Statistics of Verus

```
Start at: 2018-11-02 19:39:16
End at: 2018-11-02 19:39:46
Local clock offset: -5.949 ms
Remote clock offset: 2.978 ms

# Below is generated by plot.py at 2018-11-02 19:58:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.89 Mbit/s
95th percentile per-packet one-way delay: 116.506 ms
Loss rate: 19.34%
-- Flow 1:
Average throughput: 33.89 Mbit/s
95th percentile per-packet one-way delay: 116.506 ms
Loss rate: 19.34%
```

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

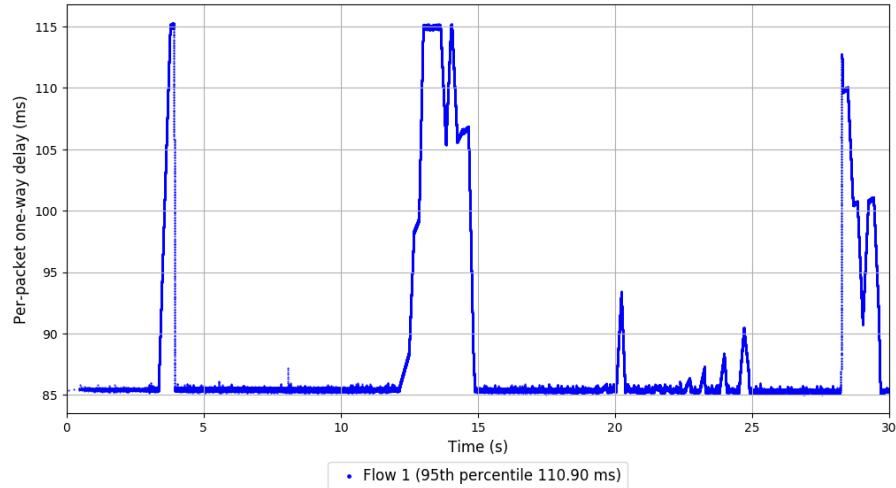
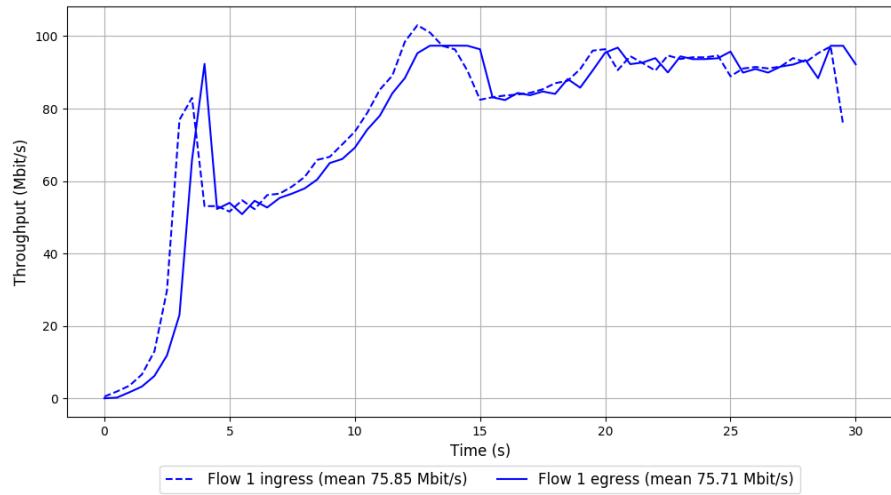


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-11-02 18:12:38
End at: 2018-11-02 18:13:08
Local clock offset: -4.302 ms
Remote clock offset: -2.034 ms

# Below is generated by plot.py at 2018-11-02 19:58:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.71 Mbit/s
95th percentile per-packet one-way delay: 110.904 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 75.71 Mbit/s
95th percentile per-packet one-way delay: 110.904 ms
Loss rate: 0.20%
```

Run 1: Report of PCC-Vivace — Data Link

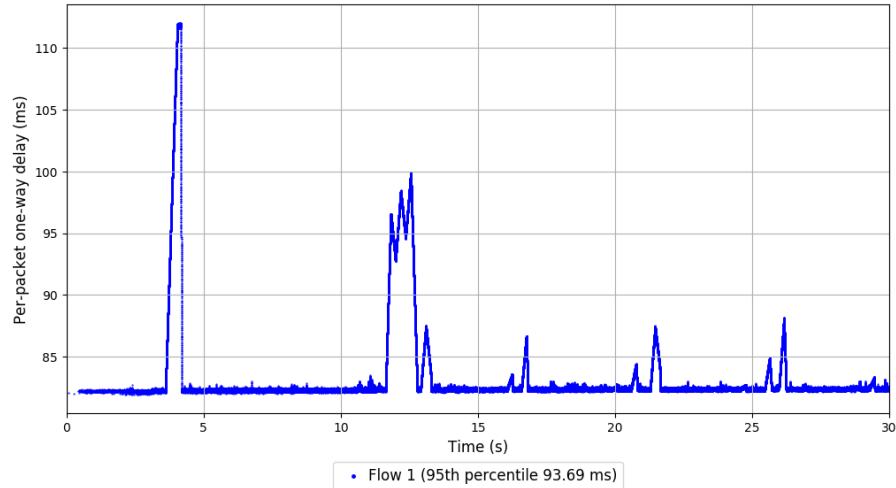
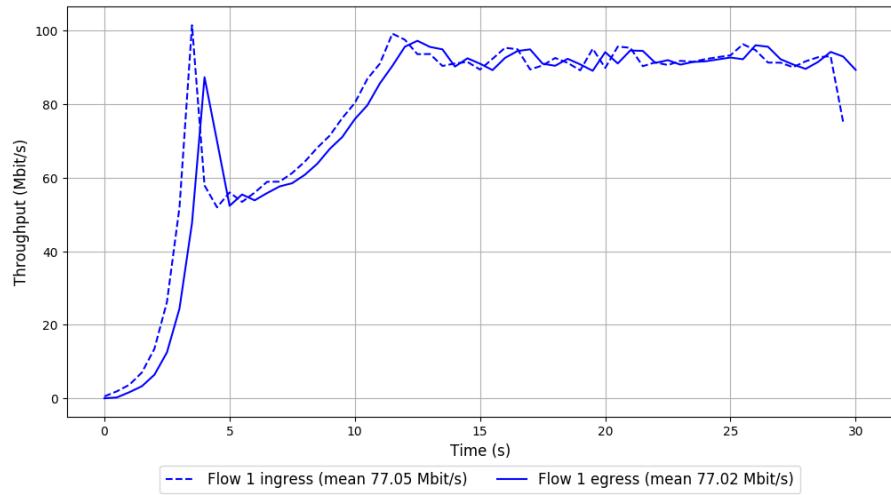


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-11-02 18:33:41
End at: 2018-11-02 18:34:11
Local clock offset: -0.929 ms
Remote clock offset: 0.828 ms

# Below is generated by plot.py at 2018-11-02 19:58:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.02 Mbit/s
95th percentile per-packet one-way delay: 93.690 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 77.02 Mbit/s
95th percentile per-packet one-way delay: 93.690 ms
Loss rate: 0.04%
```

Run 2: Report of PCC-Vivace — Data Link

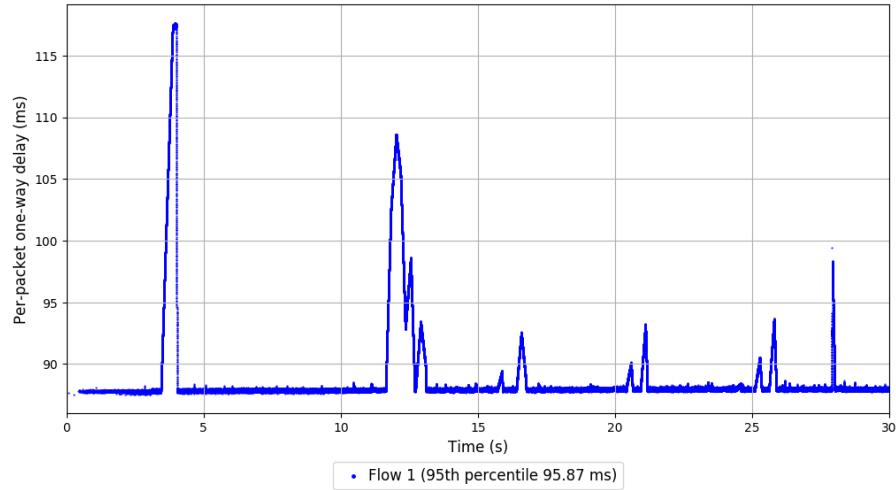
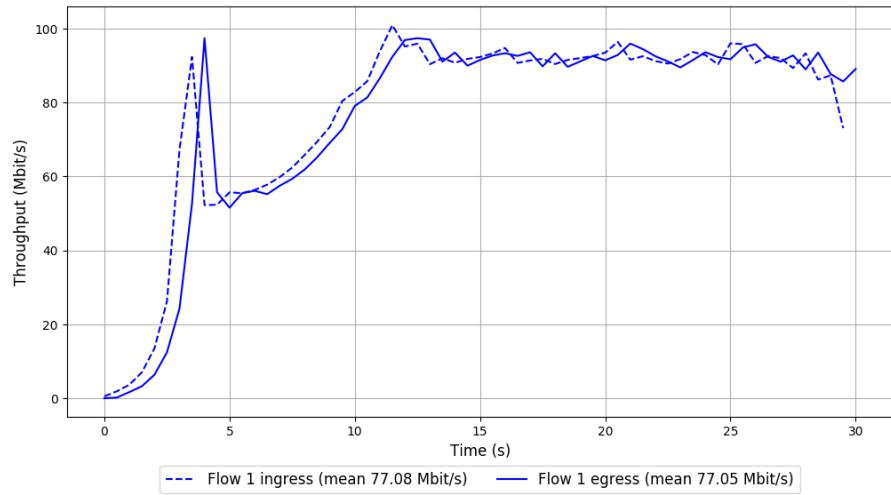


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-11-02 18:54:45
End at: 2018-11-02 18:55:15
Local clock offset: 4.21 ms
Remote clock offset: 6.59 ms

# Below is generated by plot.py at 2018-11-02 19:58:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.05 Mbit/s
95th percentile per-packet one-way delay: 95.874 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 77.05 Mbit/s
95th percentile per-packet one-way delay: 95.874 ms
Loss rate: 0.04%
```

Run 3: Report of PCC-Vivace — Data Link

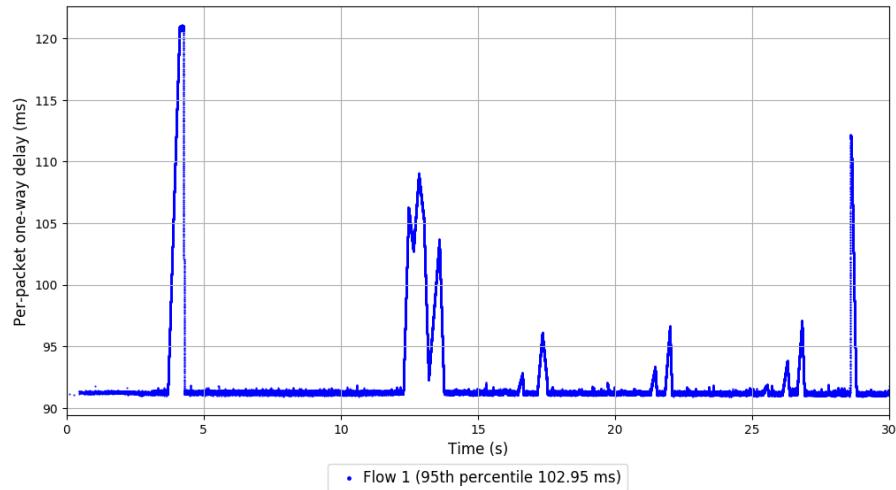
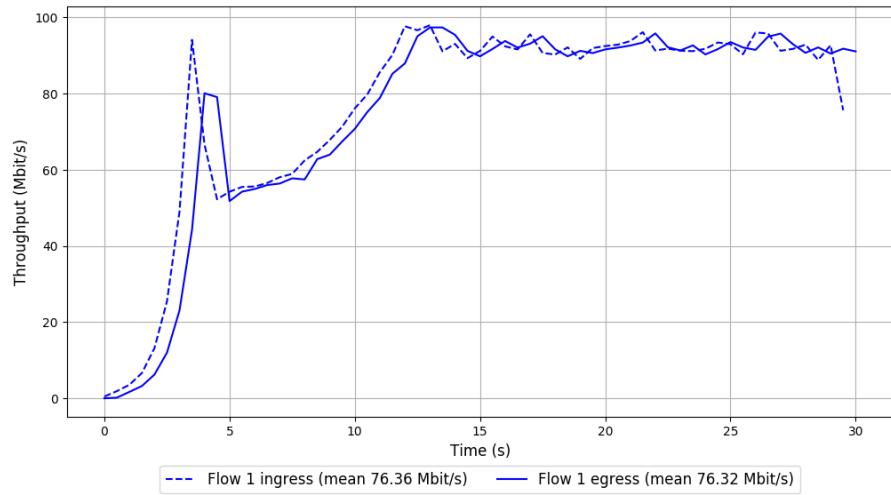


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-11-02 19:15:49
End at: 2018-11-02 19:16:19
Local clock offset: -0.76 ms
Remote clock offset: 7.418 ms

# Below is generated by plot.py at 2018-11-02 19:58:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.32 Mbit/s
95th percentile per-packet one-way delay: 102.949 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 76.32 Mbit/s
95th percentile per-packet one-way delay: 102.949 ms
Loss rate: 0.07%
```

Run 4: Report of PCC-Vivace — Data Link

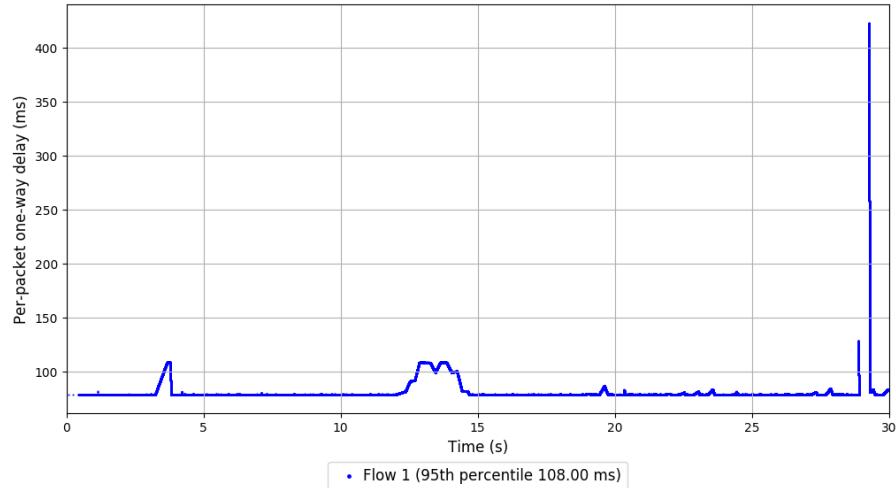
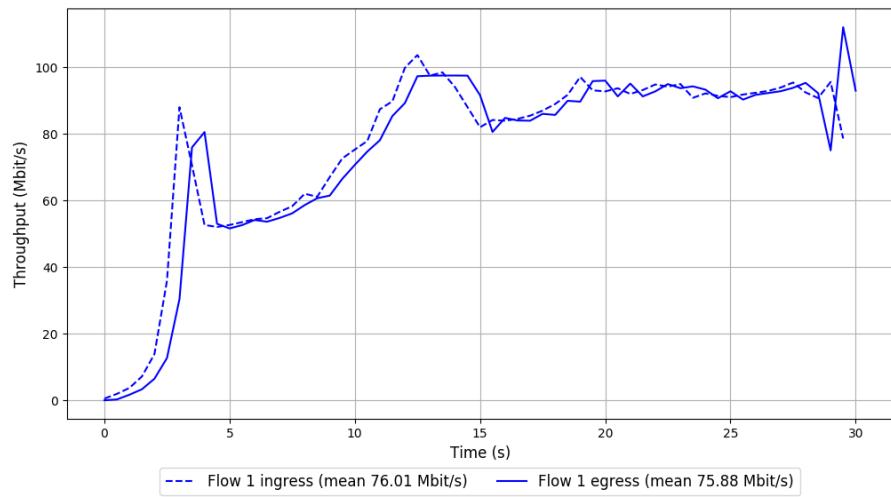


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-11-02 19:36:52
End at: 2018-11-02 19:37:22
Local clock offset: -4.623 ms
Remote clock offset: 1.951 ms

# Below is generated by plot.py at 2018-11-02 19:58:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.88 Mbit/s
95th percentile per-packet one-way delay: 107.996 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 75.88 Mbit/s
95th percentile per-packet one-way delay: 107.996 ms
Loss rate: 0.16%
```

Run 5: Report of PCC-Vivace — Data Link

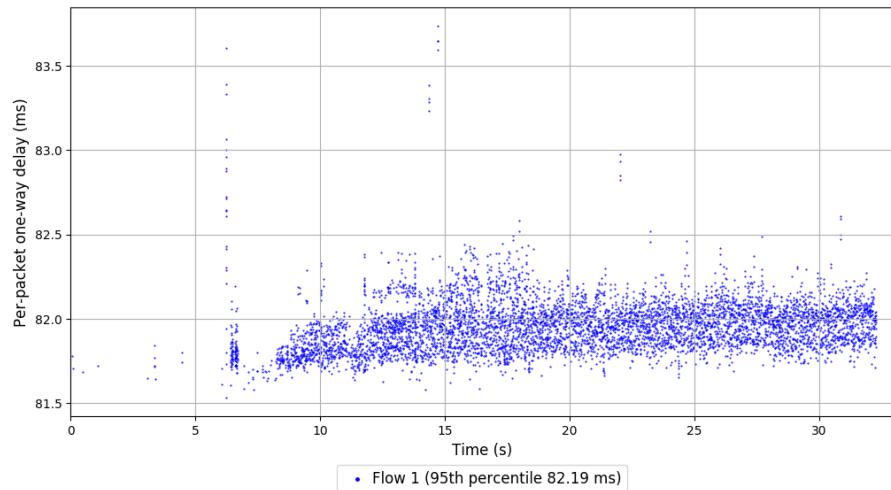
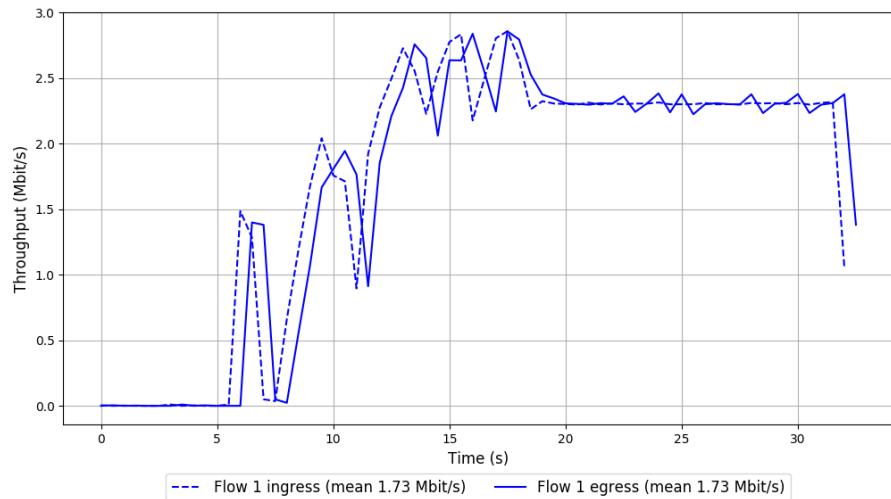


```
Run 1: Statistics of WebRTC media
```

```
Start at: 2018-11-02 18:11:30
End at: 2018-11-02 18:12:00
Local clock offset: -6.177 ms
Remote clock offset: -2.125 ms

# Below is generated by plot.py at 2018-11-02 19:58:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 82.195 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 82.195 ms
Loss rate: 0.00%
```

### Run 1: Report of WebRTC media — Data Link

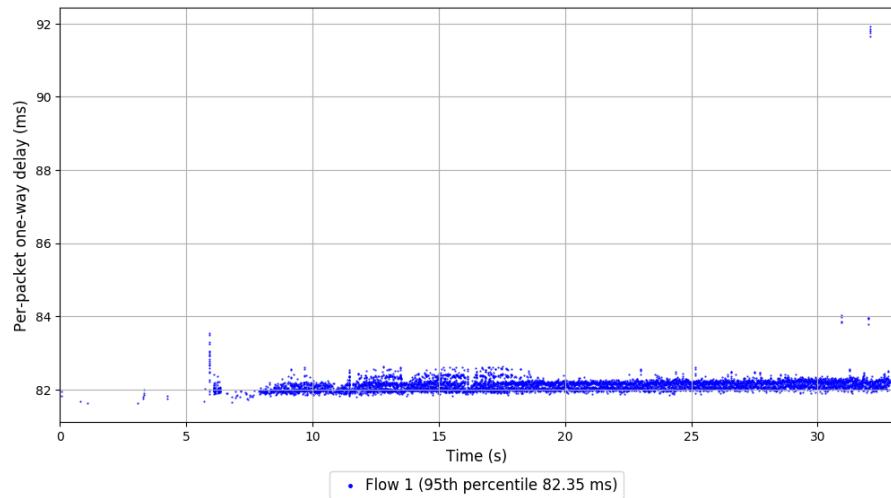
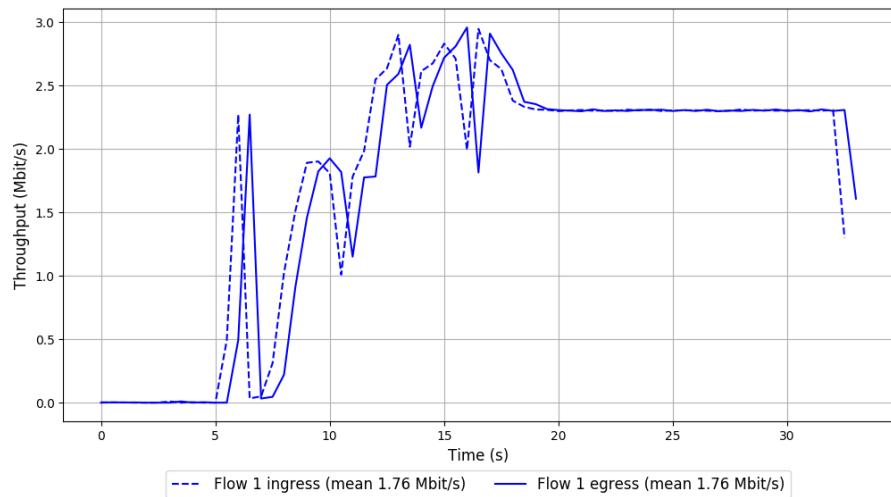


Run 2: Statistics of WebRTC media

```
Start at: 2018-11-02 18:32:33
End at: 2018-11-02 18:33:03
Local clock offset: -0.482 ms
Remote clock offset: 0.706 ms

# Below is generated by plot.py at 2018-11-02 19:58:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 82.352 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 82.352 ms
Loss rate: 0.07%
```

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

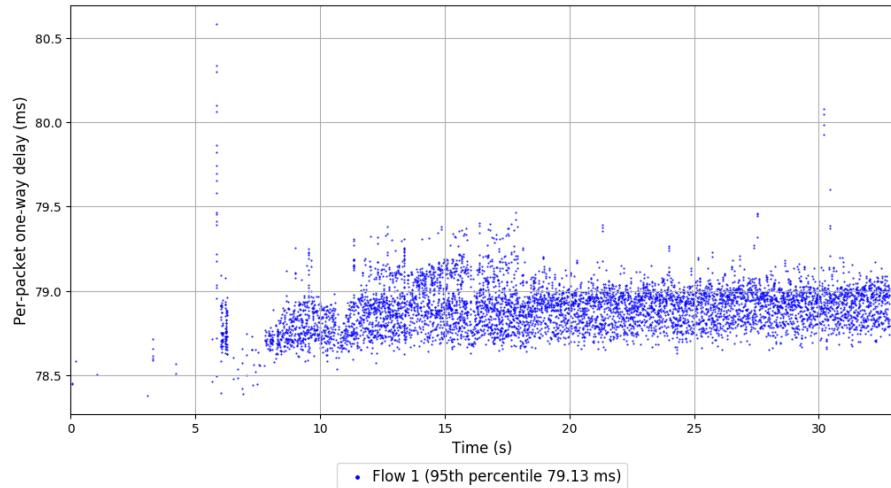
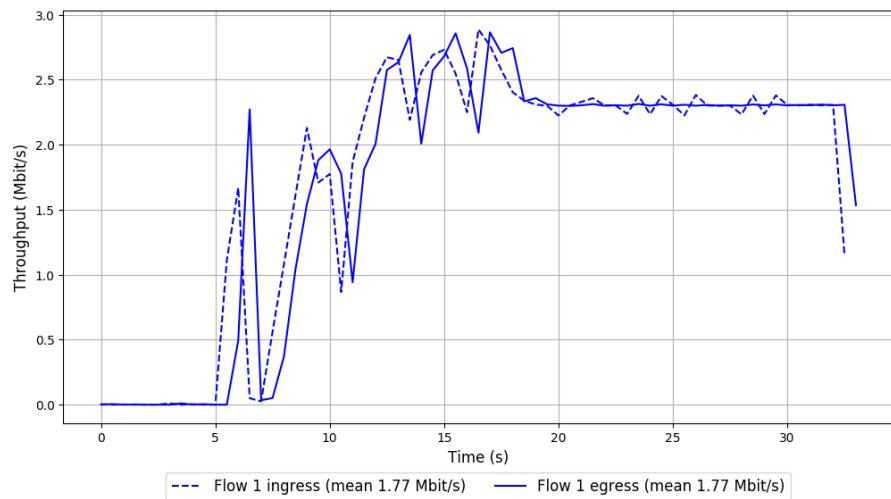


Run 3: Statistics of WebRTC media

```
Start at: 2018-11-02 18:53:37
End at: 2018-11-02 18:54:07
Local clock offset: 5.487 ms
Remote clock offset: 0.732 ms

# Below is generated by plot.py at 2018-11-02 19:58:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 79.127 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.77 Mbit/s
95th percentile per-packet one-way delay: 79.127 ms
Loss rate: 0.00%
```

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

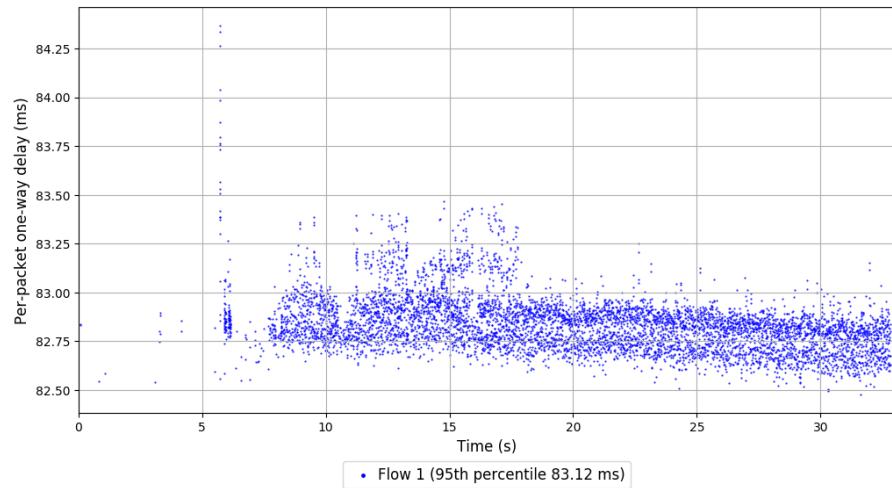
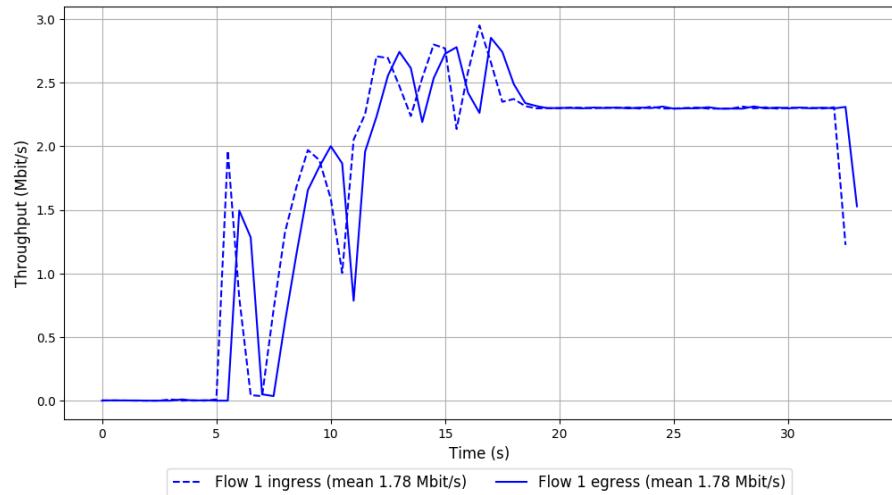


Run 4: Statistics of WebRTC media

```
Start at: 2018-11-02 19:14:42
End at: 2018-11-02 19:15:12
Local clock offset: -0.263 ms
Remote clock offset: 2.427 ms

# Below is generated by plot.py at 2018-11-02 19:58:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 83.122 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 83.122 ms
Loss rate: 0.07%
```

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



Run 5: Statistics of WebRTC media

```
Start at: 2018-11-02 19:35:45
End at: 2018-11-02 19:36:15
Local clock offset: -4.4 ms
Remote clock offset: 1.834 ms

# Below is generated by plot.py at 2018-11-02 19:58:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 81.010 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 81.010 ms
Loss rate: 0.00%
```

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

