

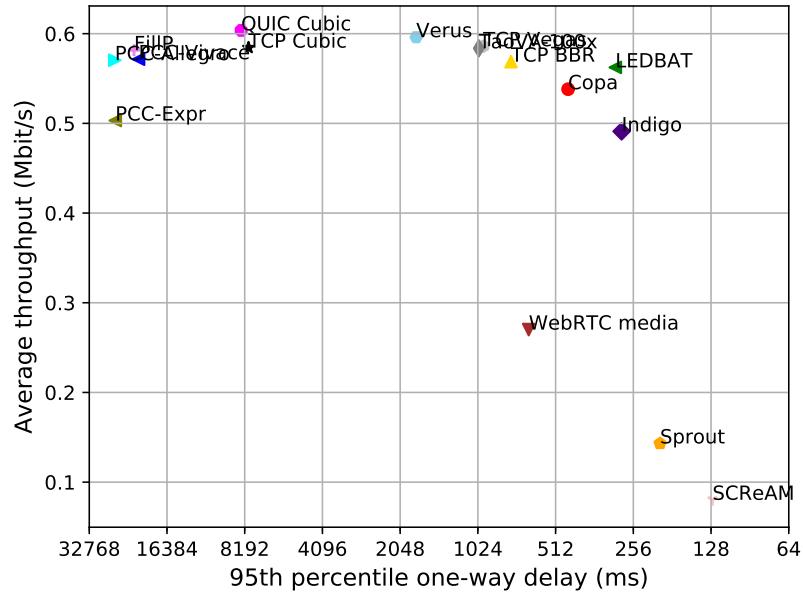
## Pantheon Report

Generated at 2018-06-19 01:12:11 (UTC).  
Data path: Colombia ppp0 ppp0 (*remote*) → AWS Brazil 2 Ethernet (*local*).  
Repeated the test of 16 congestion control schemes 3 times.  
Each test lasted for 30 seconds running 1 flow.  
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).  
NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

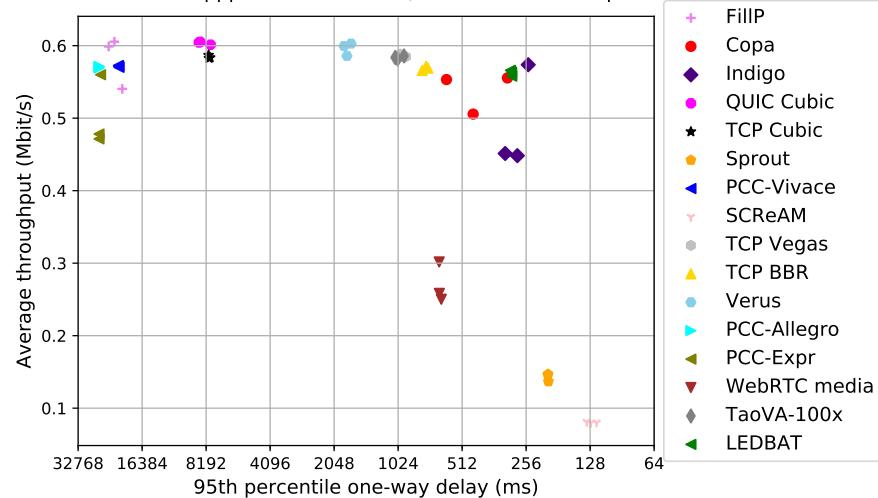
Git summary:

```
branch: master @ 9141c5f9450c85ea5ea2ea755a8e946998d3abf3
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/genericCC @ c7966e494a929986eaa5a9c169a7f381fe1bbbe5
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
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
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

test from Colombia ppp0 to AWS Brazil 2, 3 runs of 30s each per scheme  
(mean of all runs by scheme)



test from Colombia ppp0 to AWS Brazil 2, 3 runs of 30s each per scheme



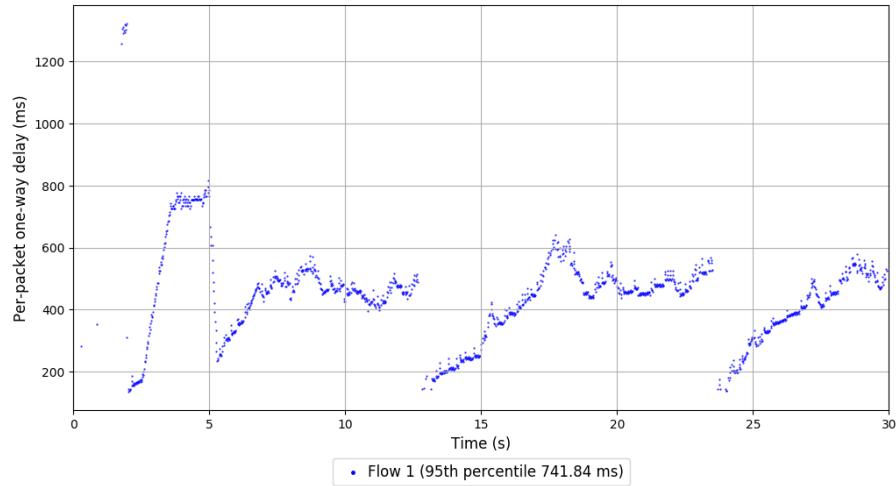
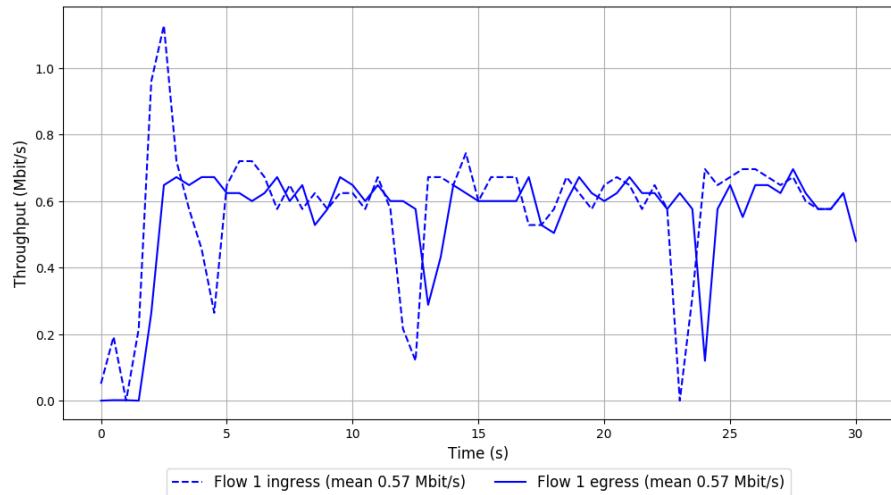
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	0.57	762.13	1.95
Copa	3	0.54	458.04	1.80
TCP Cubic	3	0.58	7919.65	30.89
FillP	3	0.58	21984.87	59.44
Indigo	3	0.49	284.27	0.80
LEDBAT	3	0.56	300.67	1.21
PCC-Allegro	3	0.57	26088.17	57.99
PCC-Expr	3	0.50	25987.24	91.28
QUIC Cubic	3	0.60	8459.69	32.01
SCReAM	3	0.08	126.42	0.74
Sprout	3	0.15	201.76	0.75
TaoVA-100x	3	0.58	1015.67	2.40
TCP Vegas	3	0.59	976.68	1.10
Verus	3	0.60	1775.26	4.71
PCC-Vivace	3	0.57	21112.66	70.88
WebRTC media	3	0.27	650.82	0.77

Run 1: Statistics of TCP BBR

```
Start at: 2018-06-19 00:21:41
End at: 2018-06-19 00:22:11
Local clock offset: -2.056 ms
Remote clock offset: -39.861 ms

# Below is generated by plot.py at 2018-06-19 01:11:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 741.841 ms
Loss rate: 2.09%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 741.841 ms
Loss rate: 2.09%
```

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

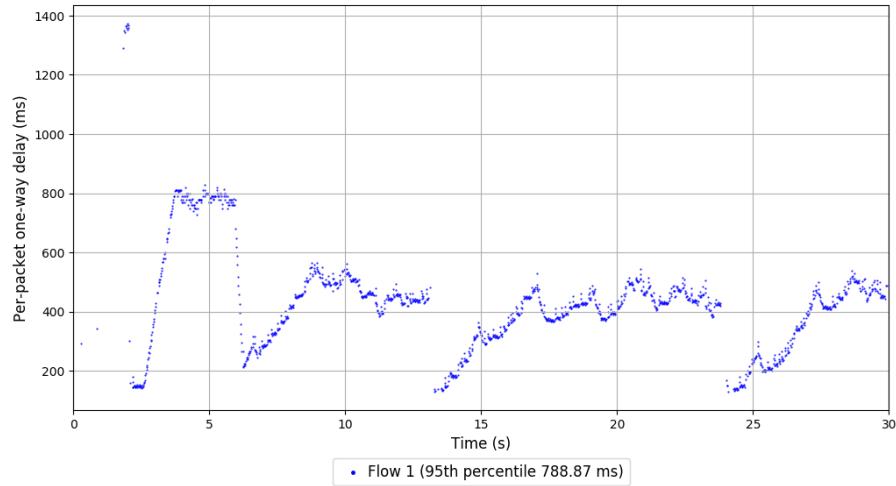
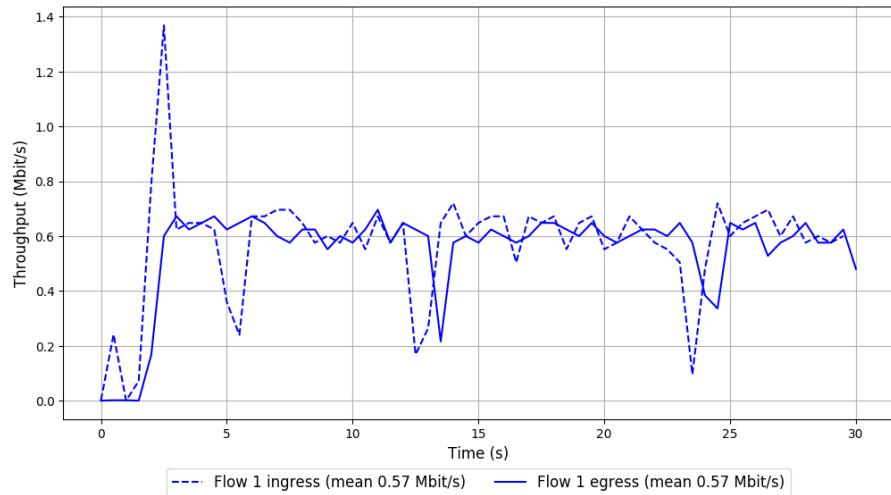


Run 2: Statistics of TCP BBR

```
Start at: 2018-06-19 00:39:43
End at: 2018-06-19 00:40:13
Local clock offset: -2.313 ms
Remote clock offset: 11.609 ms

# Below is generated by plot.py at 2018-06-19 01:11:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 788.870 ms
Loss rate: 1.96%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 788.870 ms
Loss rate: 1.96%
```

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

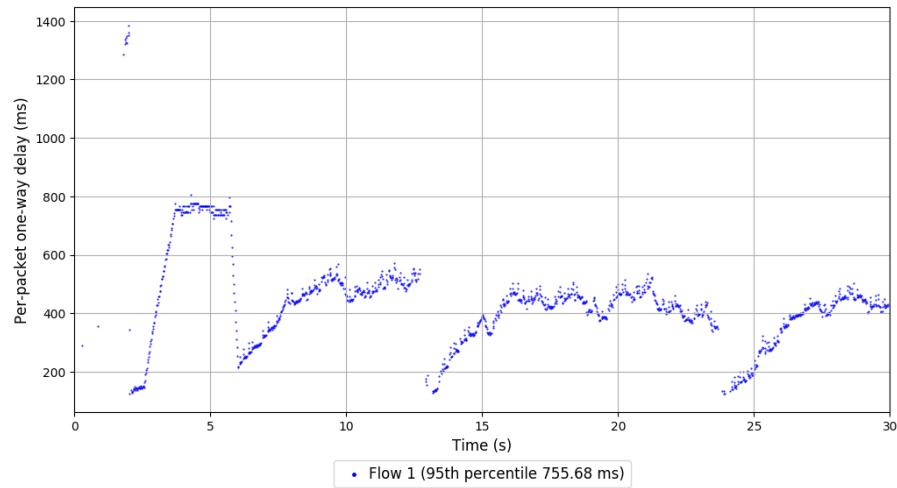
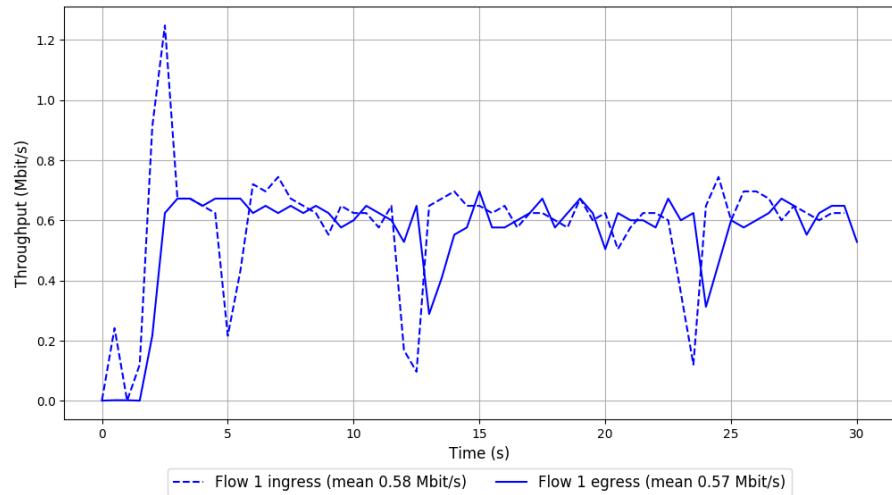


Run 3: Statistics of TCP BBR

```
Start at: 2018-06-19 00:57:39
End at: 2018-06-19 00:58:09
Local clock offset: -2.751 ms
Remote clock offset: 23.576 ms

# Below is generated by plot.py at 2018-06-19 01:11:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 755.680 ms
Loss rate: 1.81%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 755.680 ms
Loss rate: 1.81%
```

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

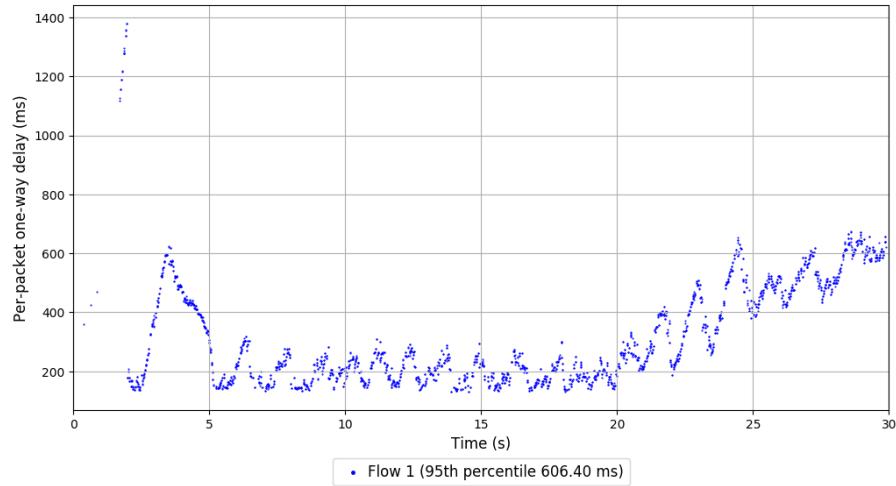
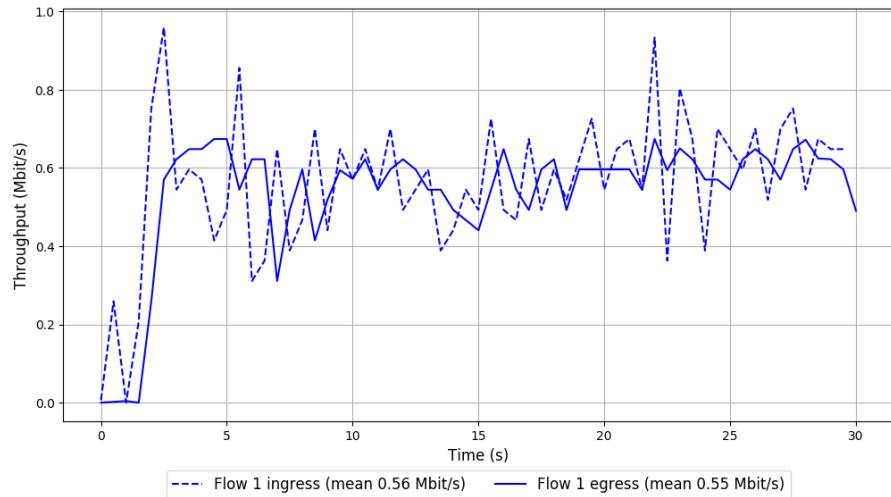


Run 1: Statistics of Copa

```
Start at: 2018-06-19 00:18:19
End at: 2018-06-19 00:18:49
Local clock offset: -1.998 ms
Remote clock offset: -39.85 ms

# Below is generated by plot.py at 2018-06-19 01:11:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 606.402 ms
Loss rate: 2.78%
-- Flow 1:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 606.402 ms
Loss rate: 2.78%
```

### Run 1: Report of Copa — Data Link

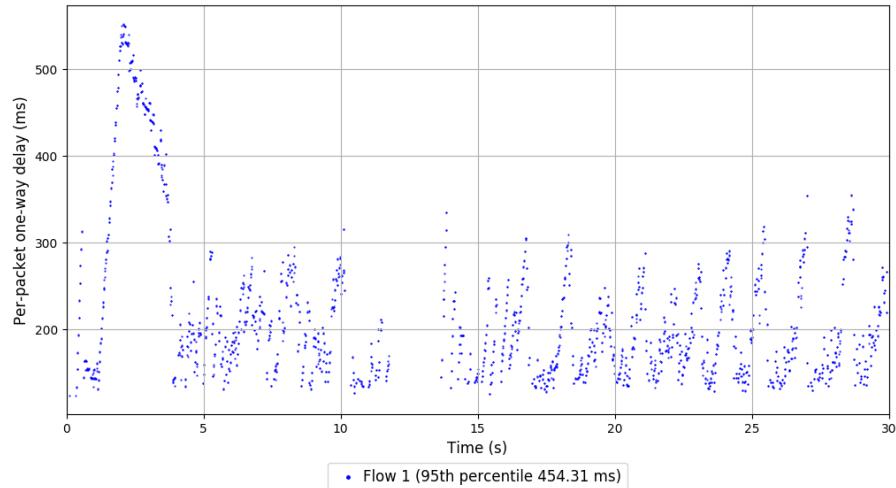
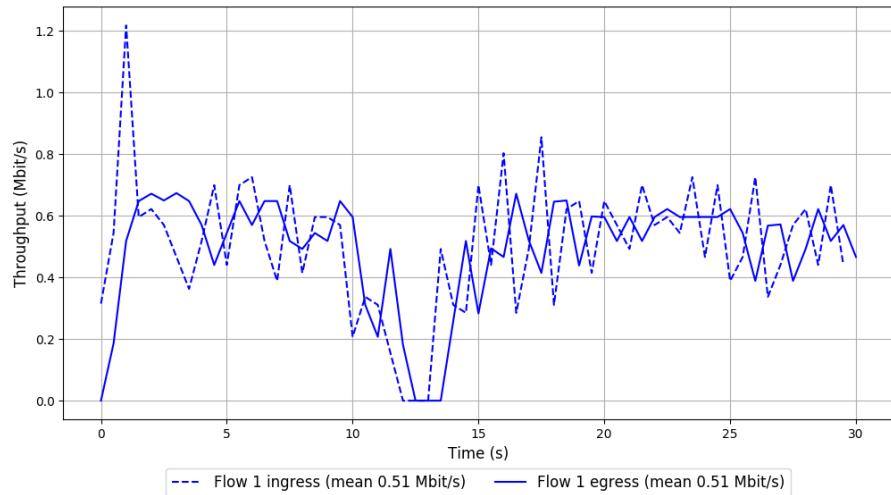


Run 2: Statistics of Copa

```
Start at: 2018-06-19 00:36:22
End at: 2018-06-19 00:36:52
Local clock offset: -2.077 ms
Remote clock offset: 9.349 ms

# Below is generated by plot.py at 2018-06-19 01:11:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 454.305 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 454.305 ms
Loss rate: 0.85%
```

## Run 2: Report of Copa — Data Link

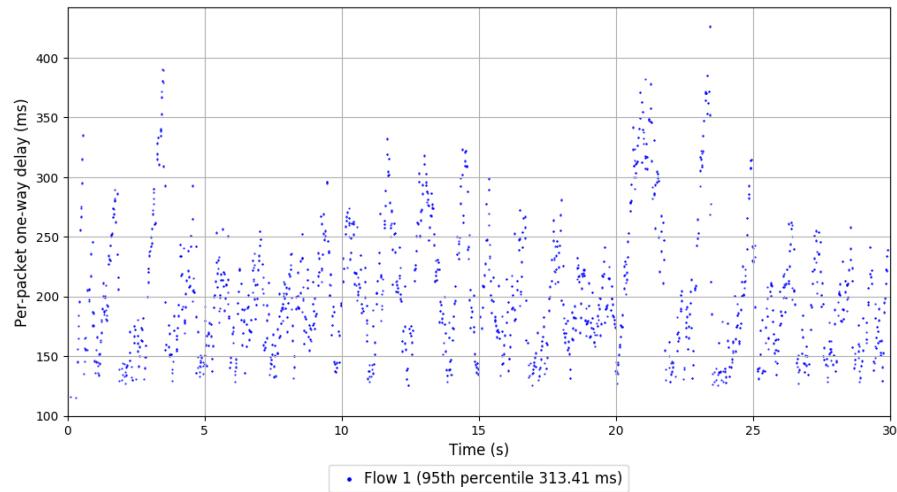
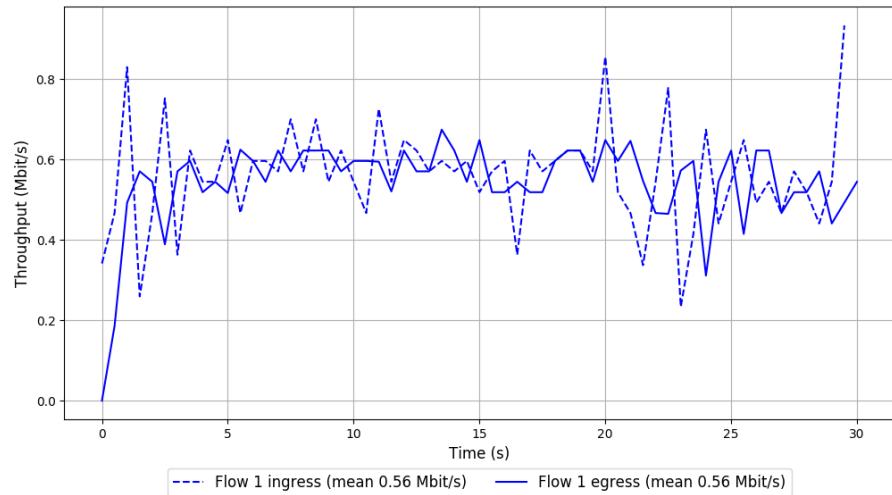


Run 3: Statistics of Copa

```
Start at: 2018-06-19 00:54:18
End at: 2018-06-19 00:54:48
Local clock offset: -2.788 ms
Remote clock offset: 23.953 ms

# Below is generated by plot.py at 2018-06-19 01:11:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 313.414 ms
Loss rate: 1.77%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 313.414 ms
Loss rate: 1.77%
```

### Run 3: Report of Copa — Data Link

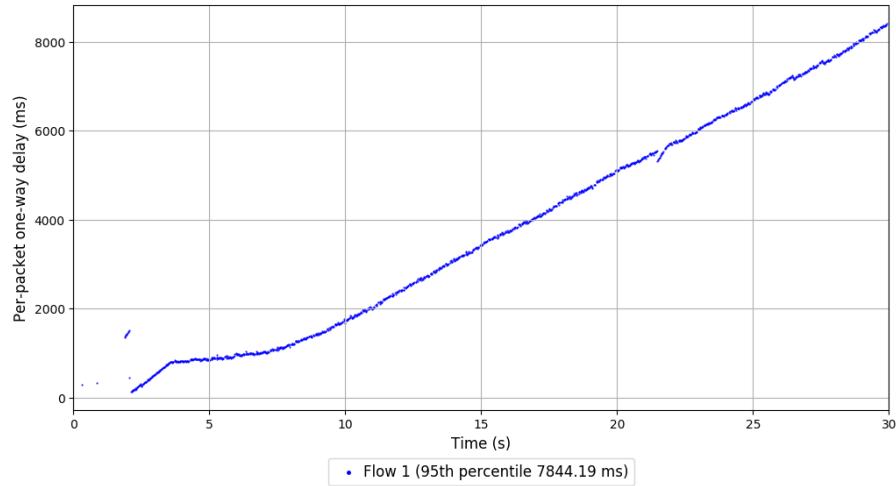
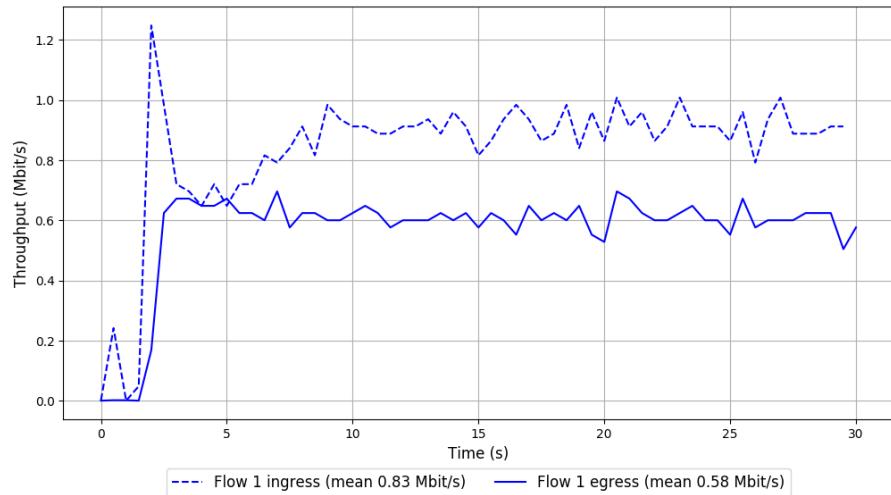


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-06-19 00:30:45
End at: 2018-06-19 00:31:15
Local clock offset: -1.956 ms
Remote clock offset: -2.484 ms

# Below is generated by plot.py at 2018-06-19 01:11:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 7844.192 ms
Loss rate: 30.87%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 7844.192 ms
Loss rate: 30.87%
```

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

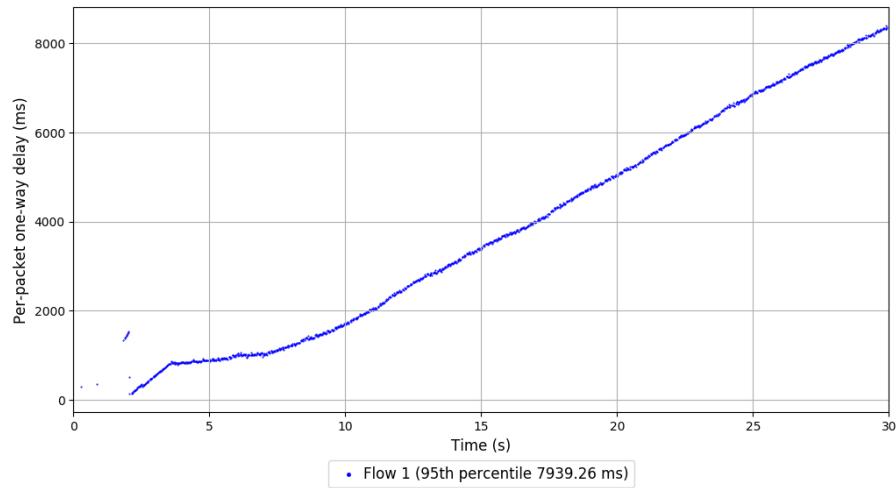
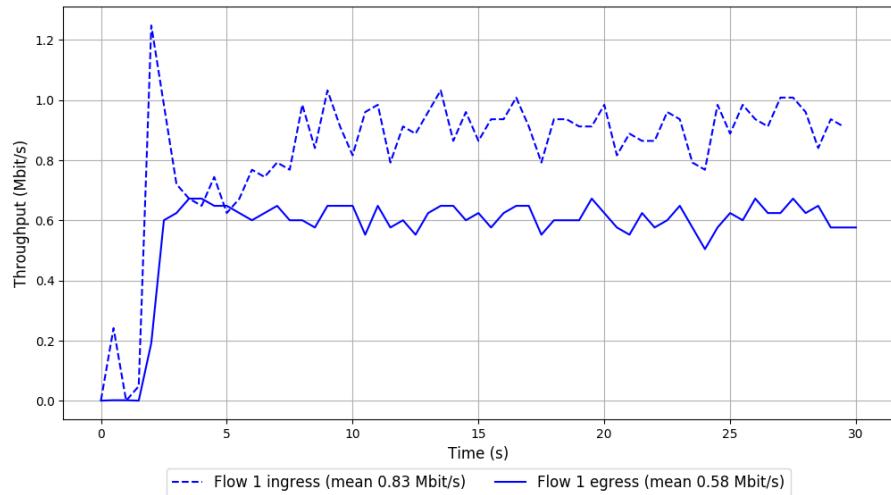


Run 2: Statistics of TCP Cubic

```
Start at: 2018-06-19 00:48:42
End at: 2018-06-19 00:49:12
Local clock offset: -2.678 ms
Remote clock offset: 20.044 ms

# Below is generated by plot.py at 2018-06-19 01:11:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 7939.258 ms
Loss rate: 30.92%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 7939.258 ms
Loss rate: 30.92%
```

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

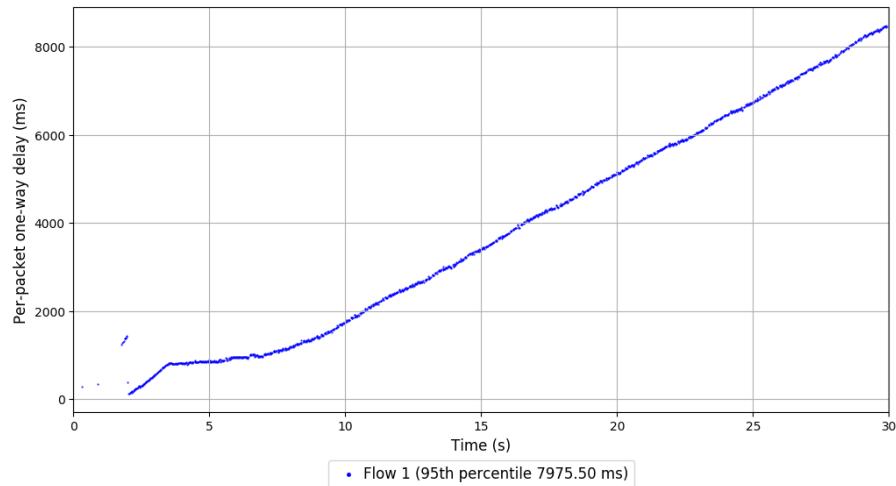
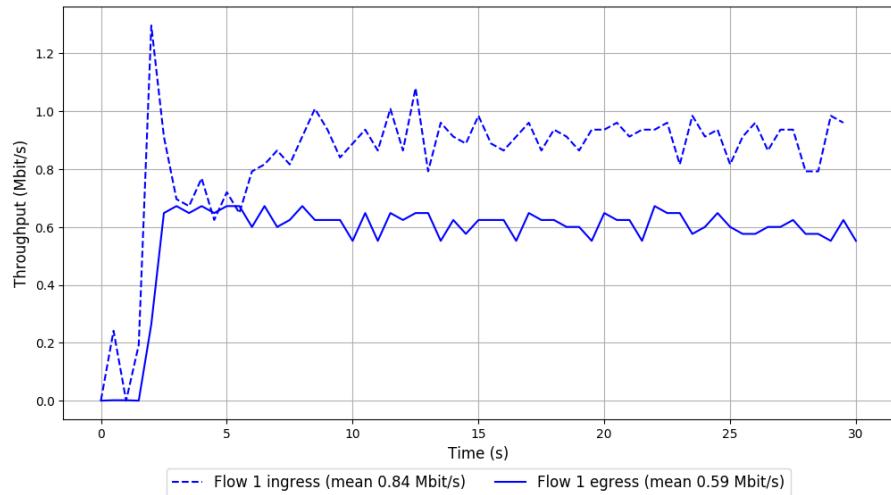


Run 3: Statistics of TCP Cubic

```
Start at: 2018-06-19 01:06:37
End at: 2018-06-19 01:07:07
Local clock offset: -2.68 ms
Remote clock offset: 13.459 ms

# Below is generated by plot.py at 2018-06-19 01:11:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 7975.503 ms
Loss rate: 30.87%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 7975.503 ms
Loss rate: 30.87%
```

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

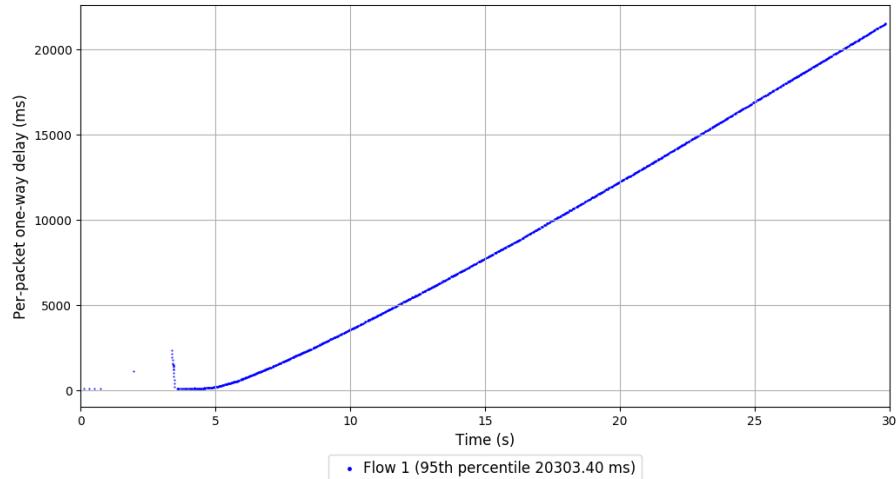
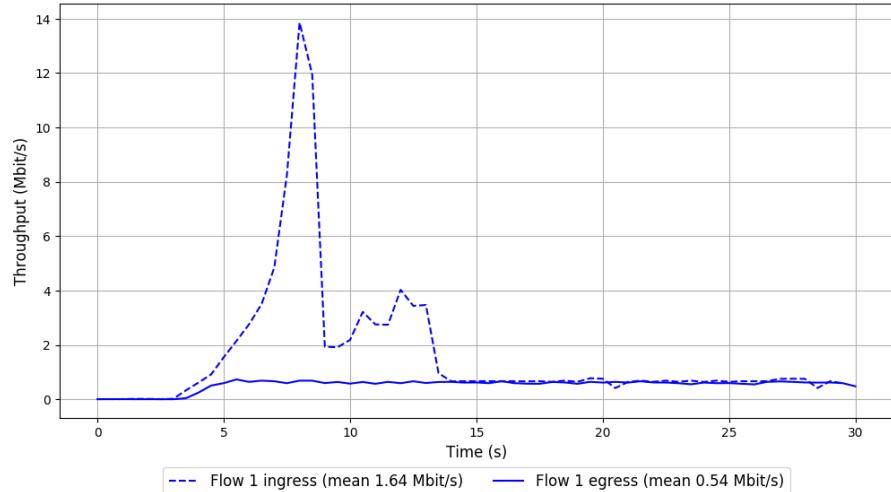


```
Run 1: Statistics of FillP
```

```
Start at: 2018-06-19 00:35:14
End at: 2018-06-19 00:35:44
Local clock offset: -2.057 ms
Remote clock offset: 6.461 ms

# Below is generated by plot.py at 2018-06-19 01:11:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 20303.404 ms
Loss rate: 67.35%
-- Flow 1:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 20303.404 ms
Loss rate: 67.35%
```

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

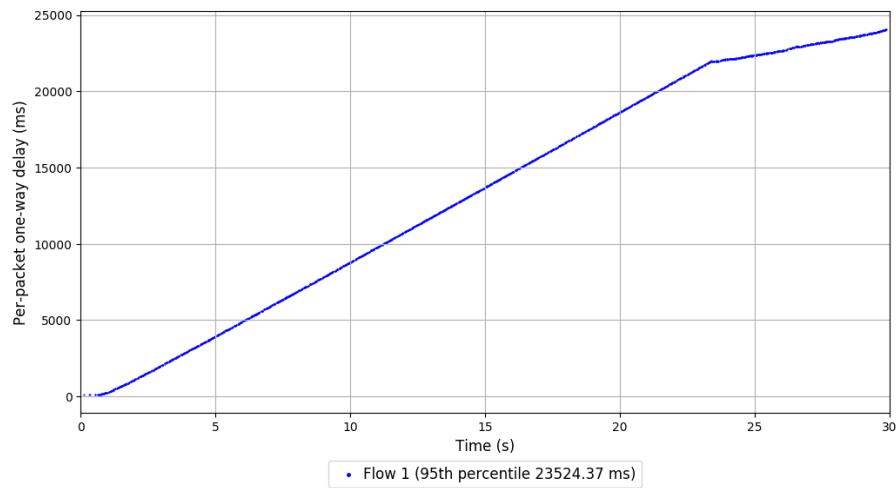
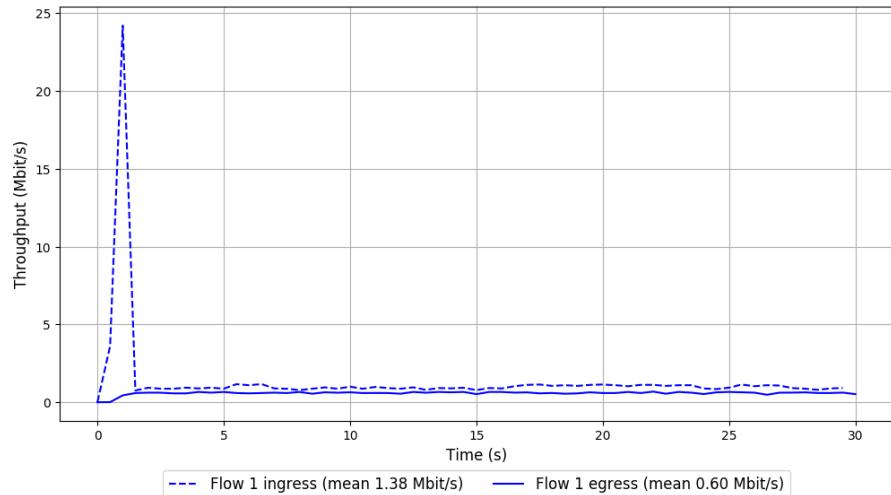


Run 2: Statistics of FillP

```
Start at: 2018-06-19 00:53:10
End at: 2018-06-19 00:53:40
Local clock offset: -2.677 ms
Remote clock offset: 24.245 ms

# Below is generated by plot.py at 2018-06-19 01:11:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 23524.374 ms
Loss rate: 57.00%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 23524.374 ms
Loss rate: 57.00%
```

## Run 2: Report of FillP — Data Link

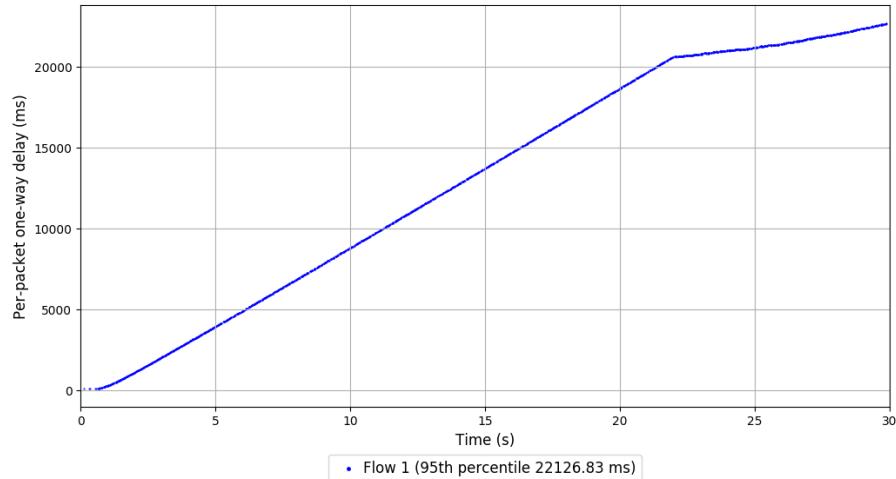
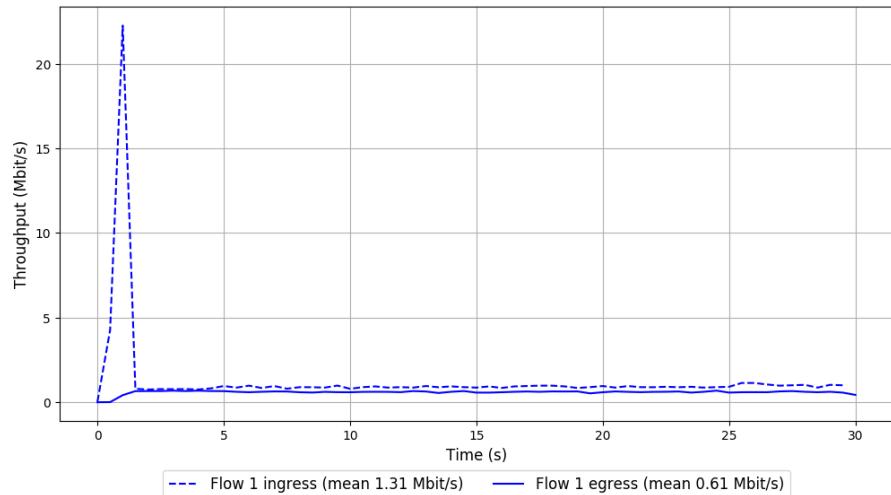


```
Run 3: Statistics of FillP
```

```
Start at: 2018-06-19 01:11:06
End at: 2018-06-19 01:11:36
Local clock offset: -2.501 ms
Remote clock offset: 8.792 ms

# Below is generated by plot.py at 2018-06-19 01:11:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 22126.830 ms
Loss rate: 53.96%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 22126.830 ms
Loss rate: 53.96%
```

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

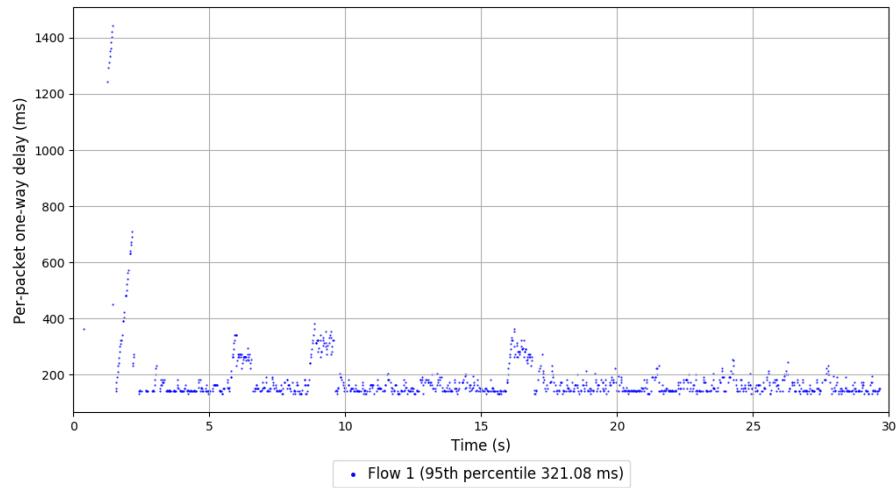
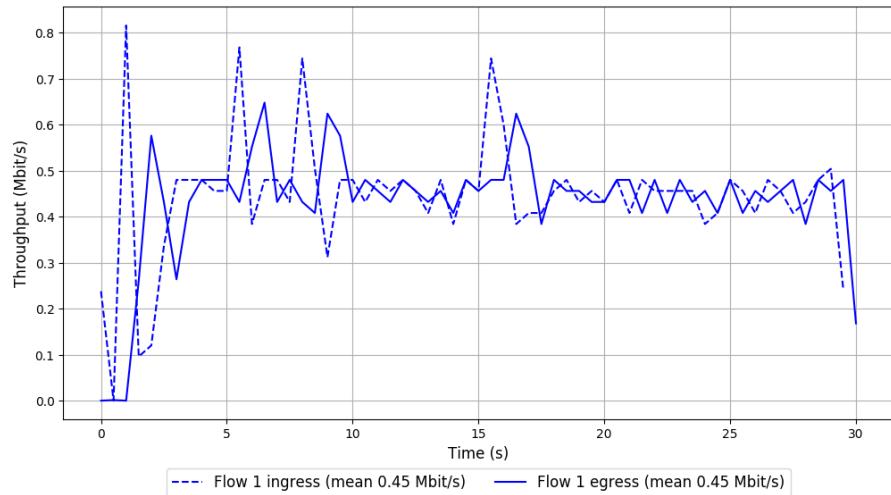


Run 1: Statistics of Indigo

```
Start at: 2018-06-19 00:19:26
End at: 2018-06-19 00:19:56
Local clock offset: -2.003 ms
Remote clock offset: -35.268 ms

# Below is generated by plot.py at 2018-06-19 01:11:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 321.081 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 321.081 ms
Loss rate: 0.81%
```

## Run 1: Report of Indigo — Data Link

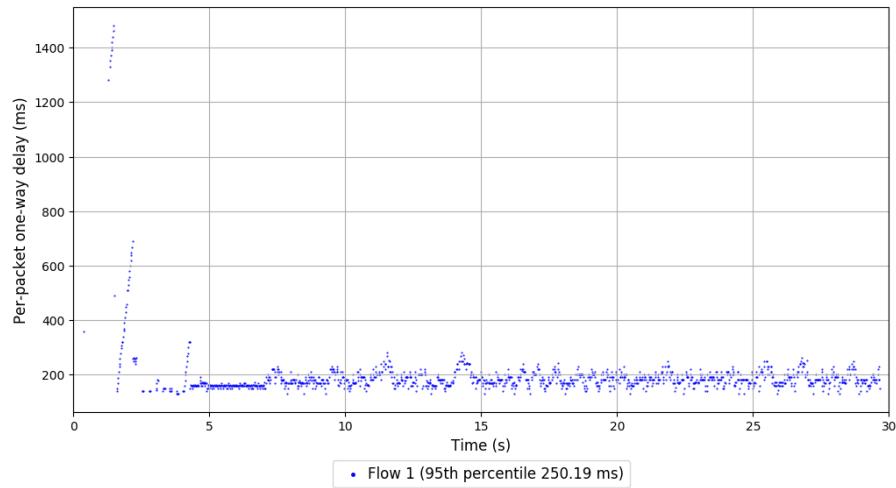
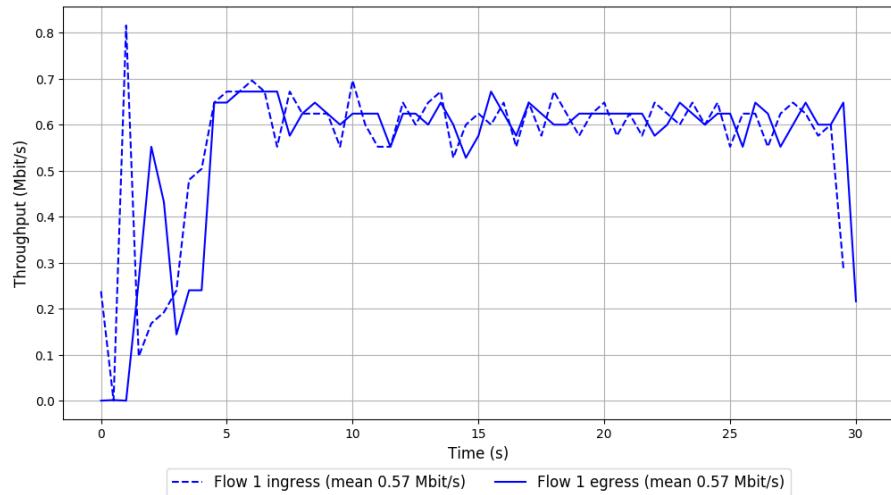


Run 2: Statistics of Indigo

```
Start at: 2018-06-19 00:37:29
End at: 2018-06-19 00:37:59
Local clock offset: -2.207 ms
Remote clock offset: 9.867 ms

# Below is generated by plot.py at 2018-06-19 01:11:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 250.193 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 250.193 ms
Loss rate: 0.78%
```

## Run 2: Report of Indigo — Data Link

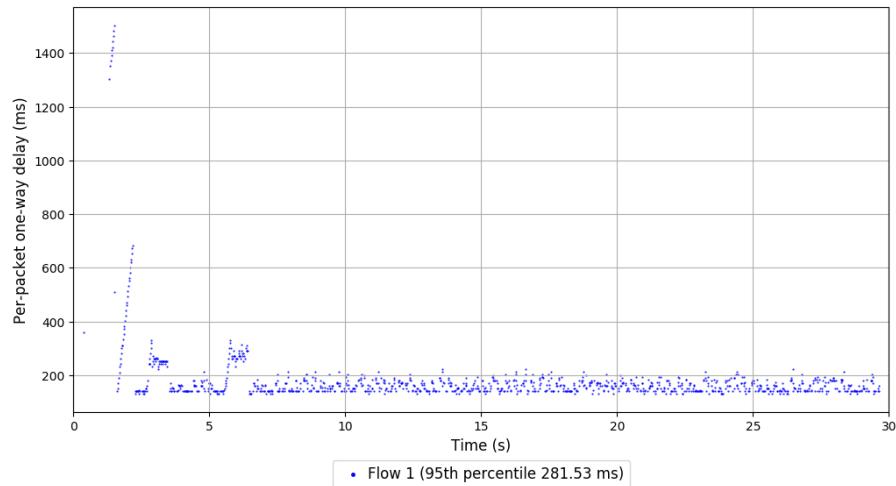
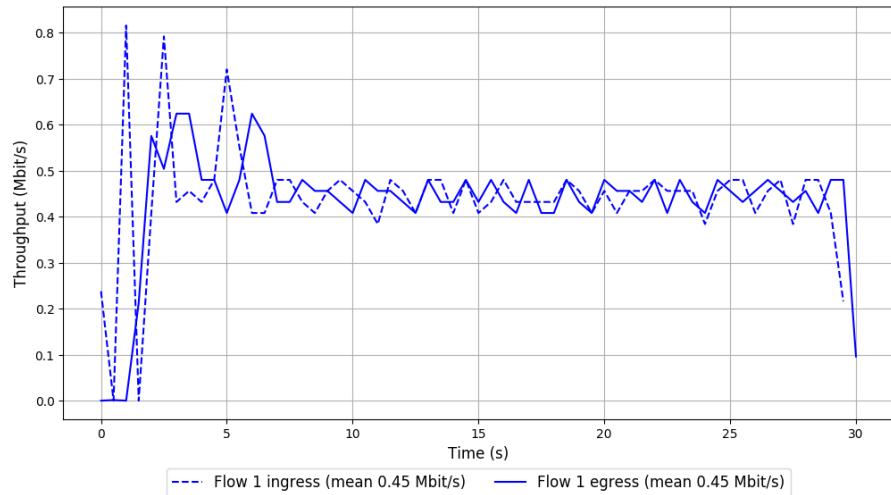


Run 3: Statistics of Indigo

```
Start at: 2018-06-19 00:55:25
End at: 2018-06-19 00:55:55
Local clock offset: -2.714 ms
Remote clock offset: 25.754 ms

# Below is generated by plot.py at 2018-06-19 01:11:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 281.529 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 281.529 ms
Loss rate: 0.82%
```

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

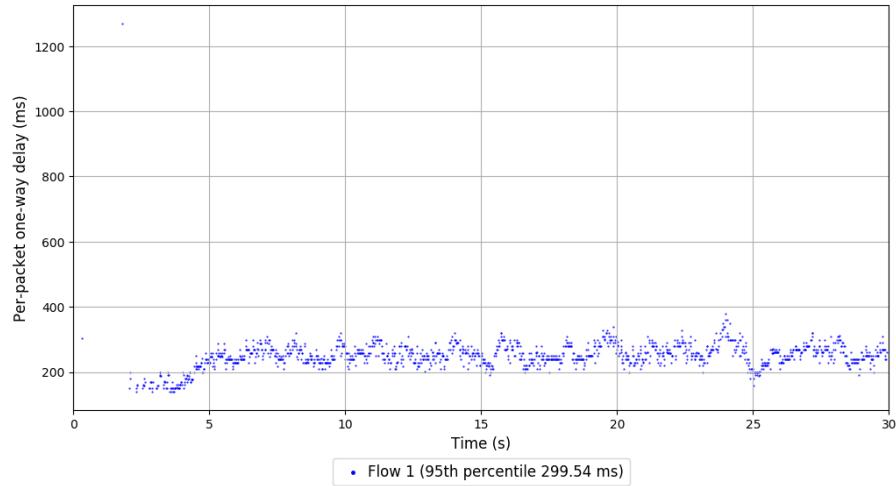
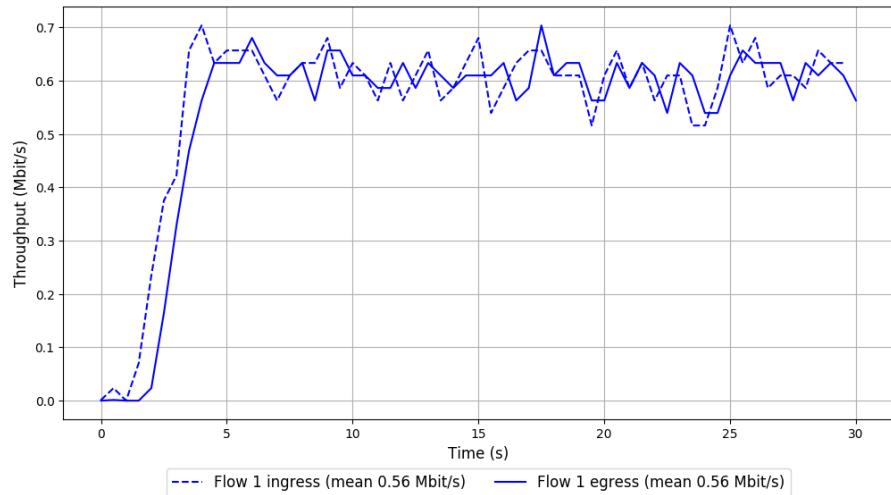


```
Run 1: Statistics of LEDBAT

Start at: 2018-06-19 00:28:31
End at: 2018-06-19 00:29:01
Local clock offset: -1.927 ms
Remote clock offset: -13.08 ms

# Below is generated by plot.py at 2018-06-19 01:11:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 299.544 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 299.544 ms
Loss rate: 1.25%
```

## Run 1: Report of LEDBAT — Data Link

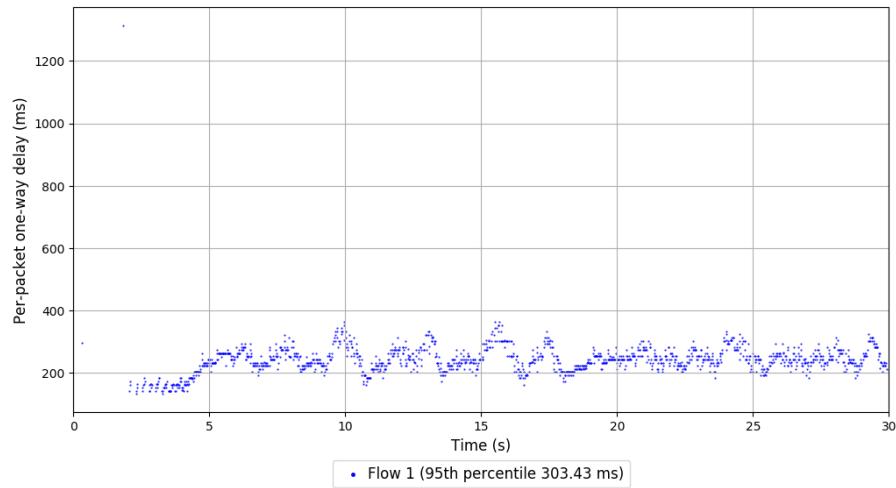
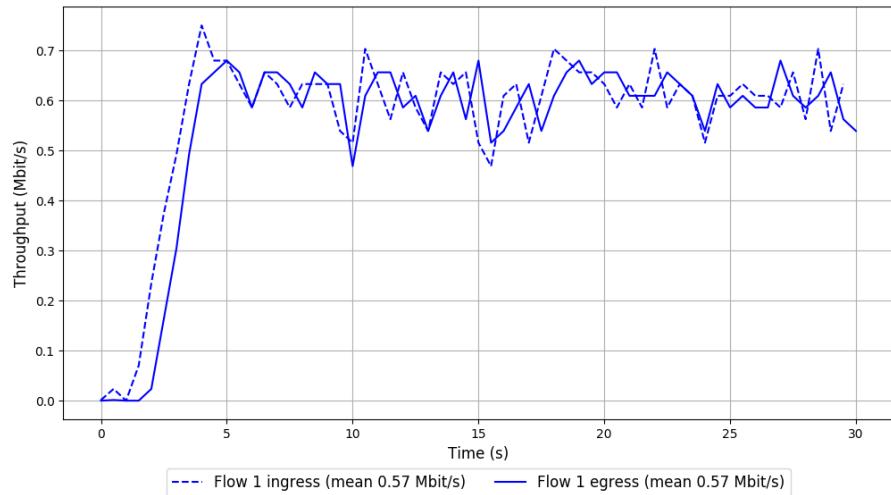


Run 2: Statistics of LEDBAT

```
Start at: 2018-06-19 00:46:28
End at: 2018-06-19 00:46:58
Local clock offset: -2.602 ms
Remote clock offset: 18.137 ms

# Below is generated by plot.py at 2018-06-19 01:11:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 303.428 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 303.428 ms
Loss rate: 1.18%
```

## Run 2: Report of LEDBAT — Data Link

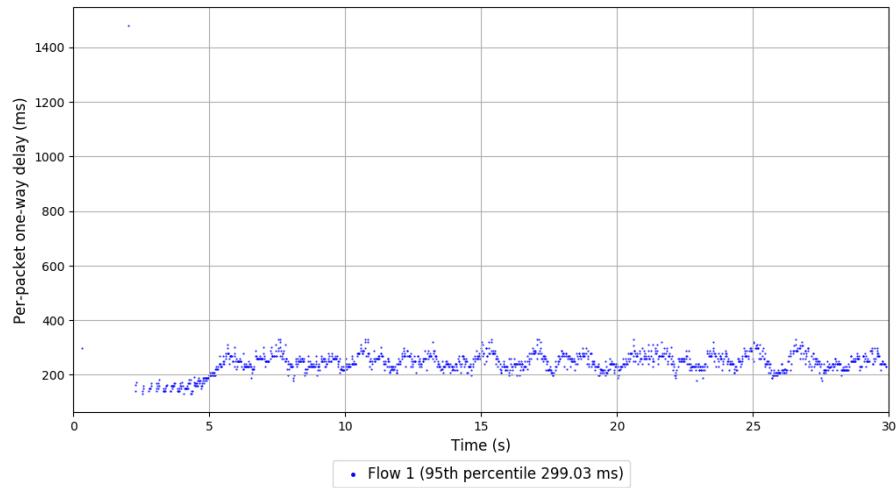
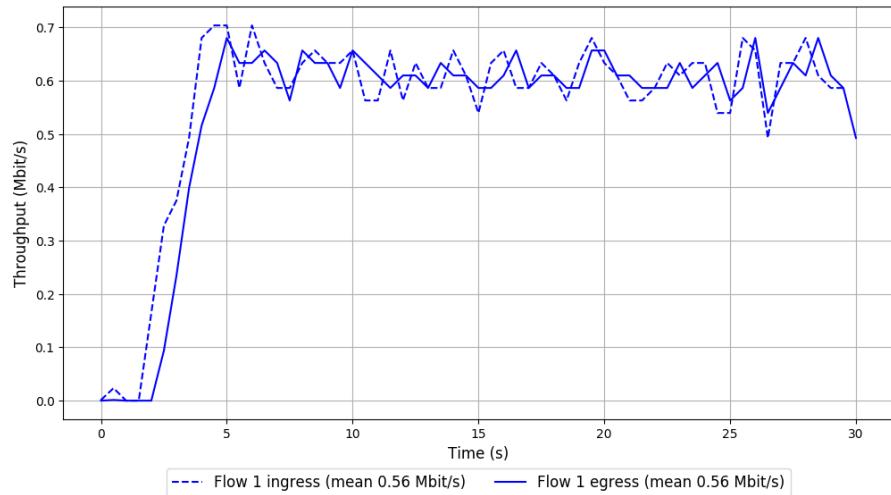


Run 3: Statistics of LEDBAT

```
Start at: 2018-06-19 01:04:23
End at: 2018-06-19 01:04:53
Local clock offset: -2.791 ms
Remote clock offset: 12.631 ms

# Below is generated by plot.py at 2018-06-19 01:11:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 299.027 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 299.027 ms
Loss rate: 1.19%
```

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

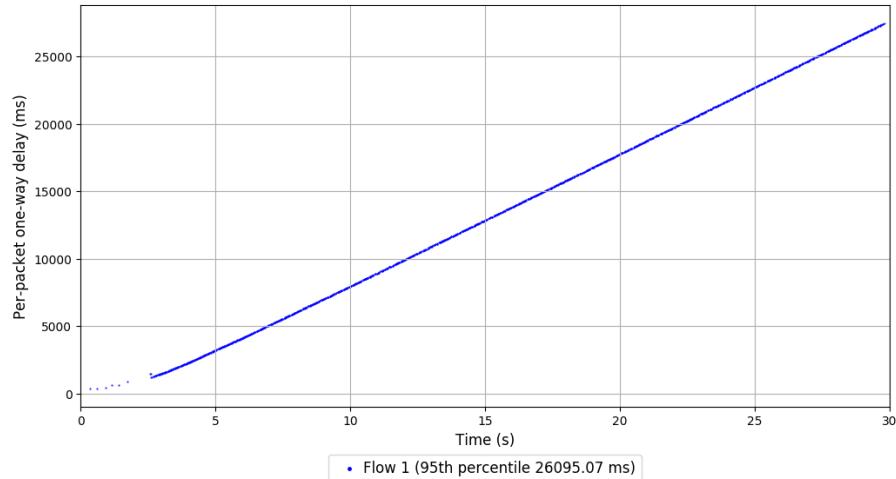
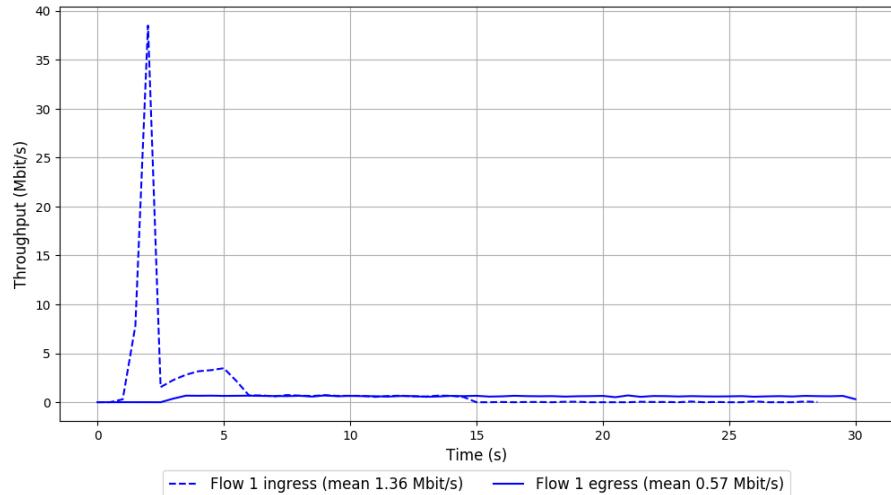


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-06-19 00:22:48
End at: 2018-06-19 00:23:19
Local clock offset: -1.998 ms
Remote clock offset: -37.752 ms

# Below is generated by plot.py at 2018-06-19 01:11:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26095.074 ms
Loss rate: 56.62%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26095.074 ms
Loss rate: 56.62%
```

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

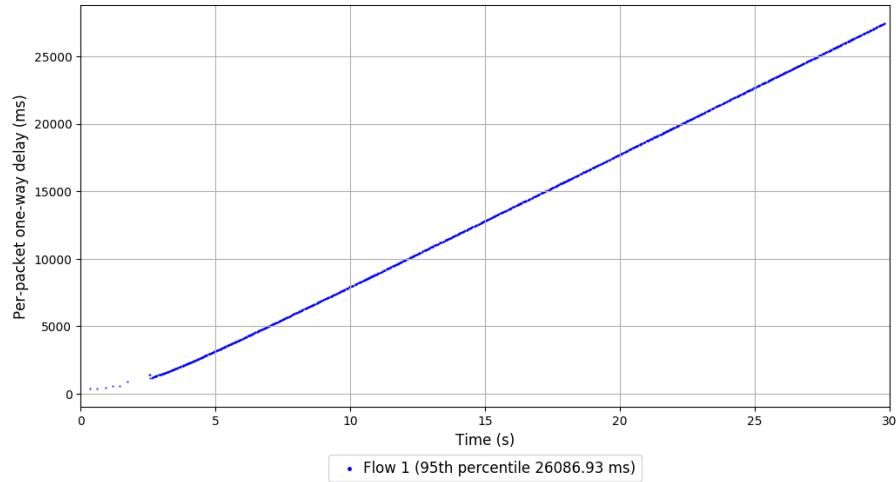
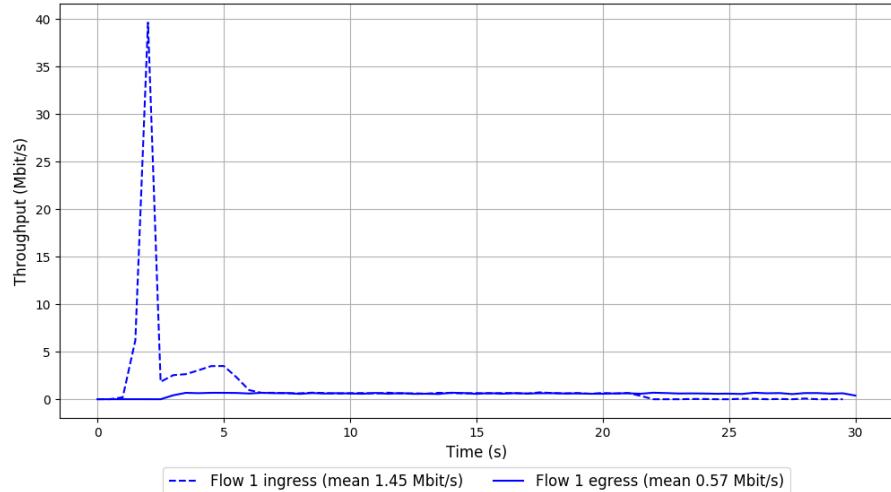


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-06-19 00:40:50
End at: 2018-06-19 00:41:20
Local clock offset: -2.433 ms
Remote clock offset: 13.724 ms

# Below is generated by plot.py at 2018-06-19 01:11:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26086.929 ms
Loss rate: 61.05%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26086.929 ms
Loss rate: 61.05%
```

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

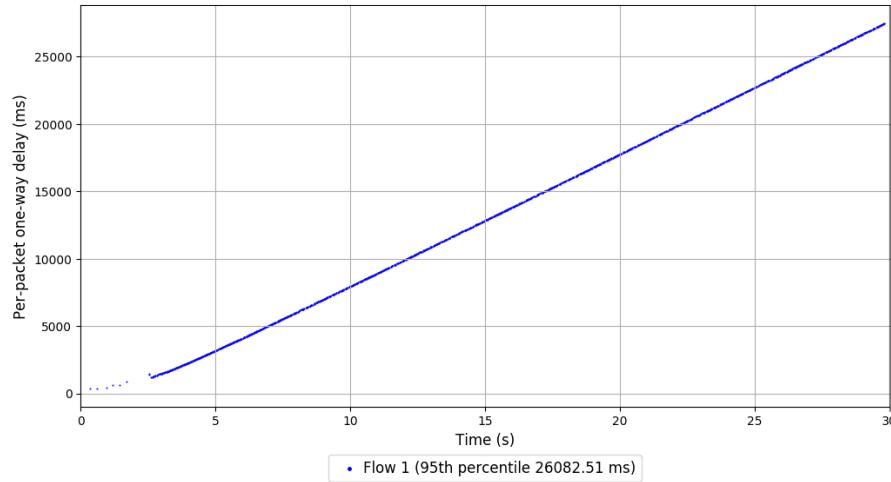
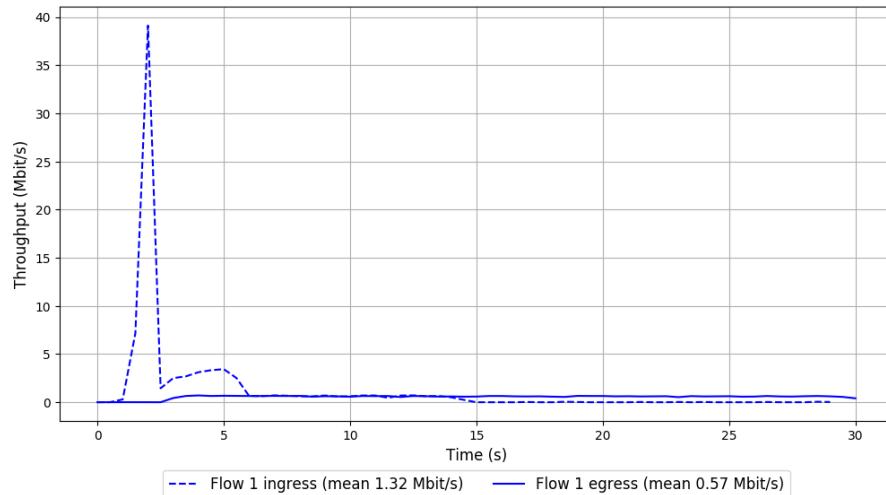


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-06-19 00:58:46
End at: 2018-06-19 00:59:16
Local clock offset: -2.758 ms
Remote clock offset: 20.914 ms

# Below is generated by plot.py at 2018-06-19 01:11:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26082.505 ms
Loss rate: 56.31%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 26082.505 ms
Loss rate: 56.31%
```

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

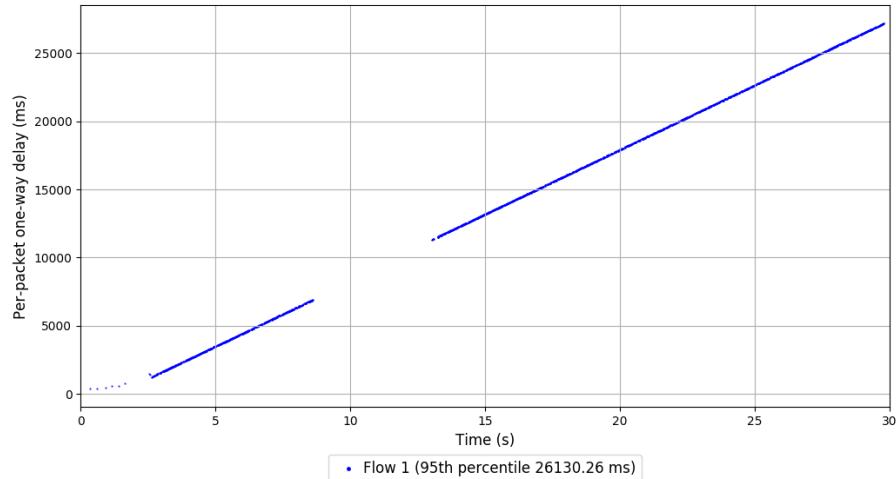
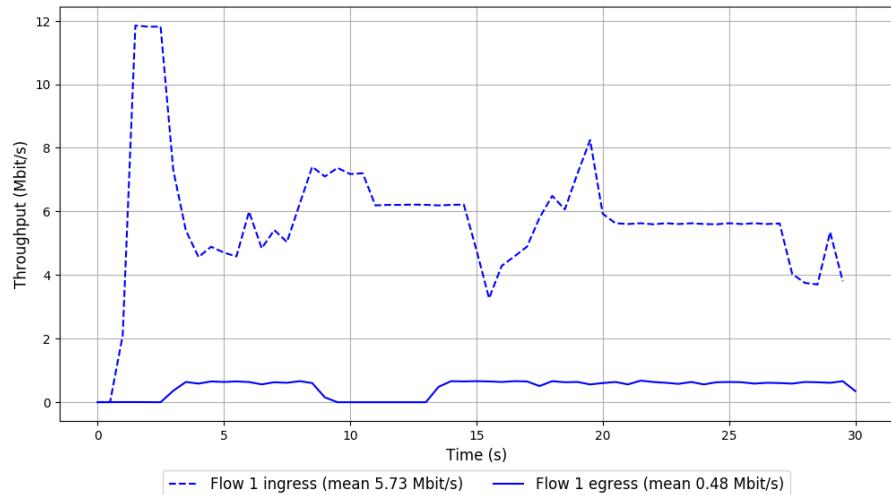


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-06-19 00:34:07
End at: 2018-06-19 00:34:37
Local clock offset: -2.052 ms
Remote clock offset: 4.458 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 26130.256 ms
Loss rate: 91.80%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 26130.256 ms
Loss rate: 91.80%
```

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

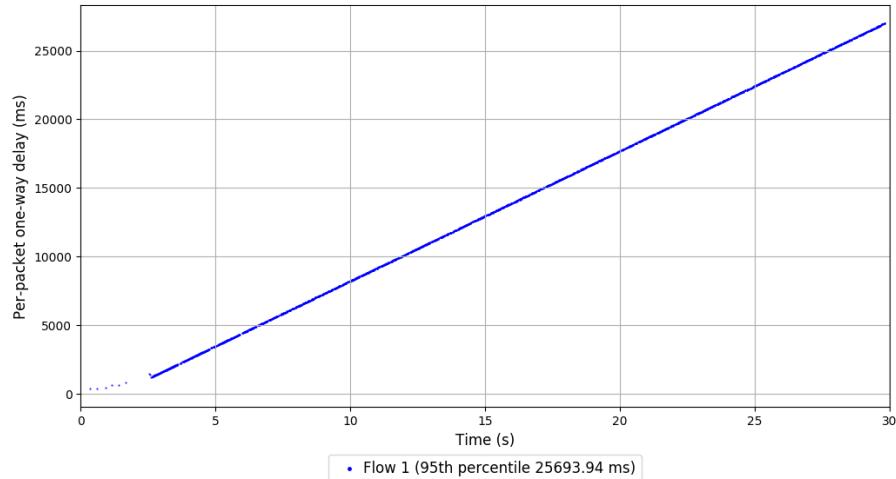
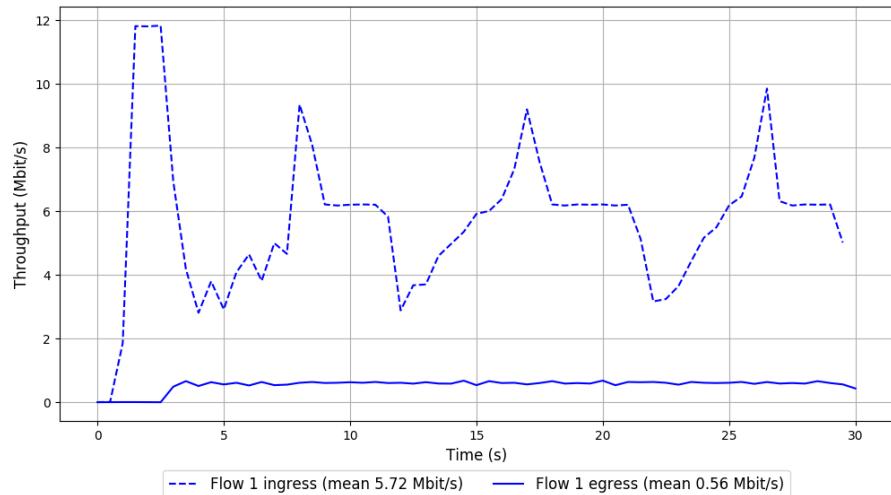


```
Run 2: Statistics of PCC-Expr
```

```
Start at: 2018-06-19 00:52:03
End at: 2018-06-19 00:52:33
Local clock offset: -2.72 ms
Remote clock offset: 23.326 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 25693.942 ms
Loss rate: 90.36%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 25693.942 ms
Loss rate: 90.36%
```

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

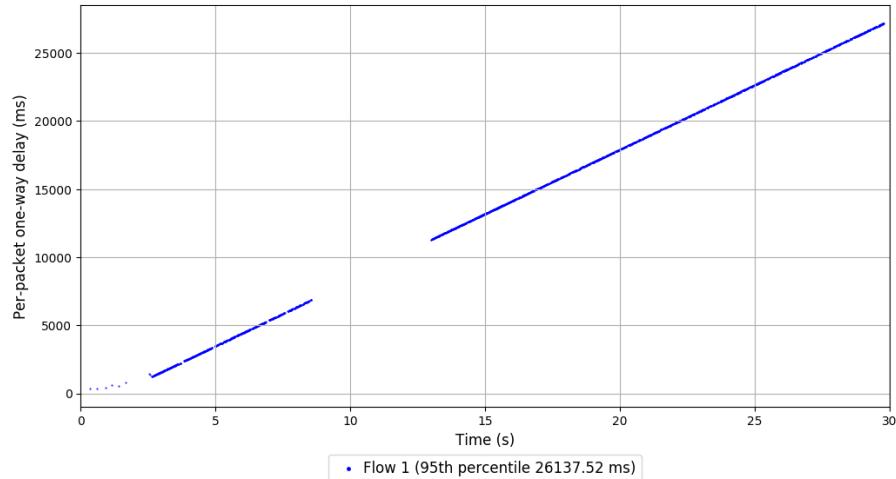
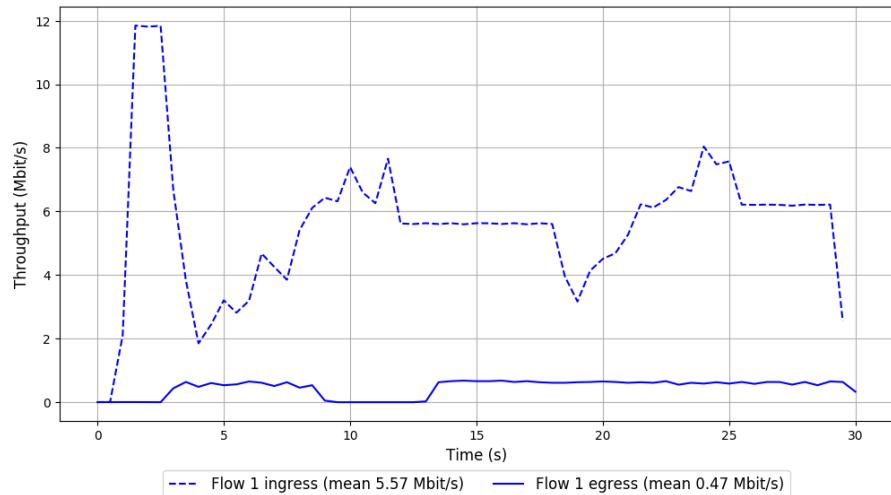


```
Run 3: Statistics of PCC-Expr
```

```
Start at: 2018-06-19 01:09:59
End at: 2018-06-19 01:10:29
Local clock offset: -2.538 ms
Remote clock offset: 11.378 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 26137.519 ms
Loss rate: 91.67%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 26137.519 ms
Loss rate: 91.67%
```

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

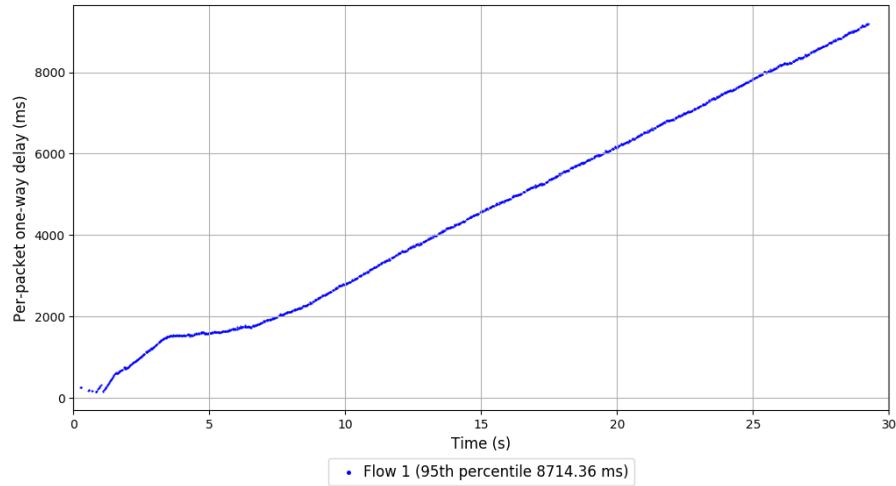
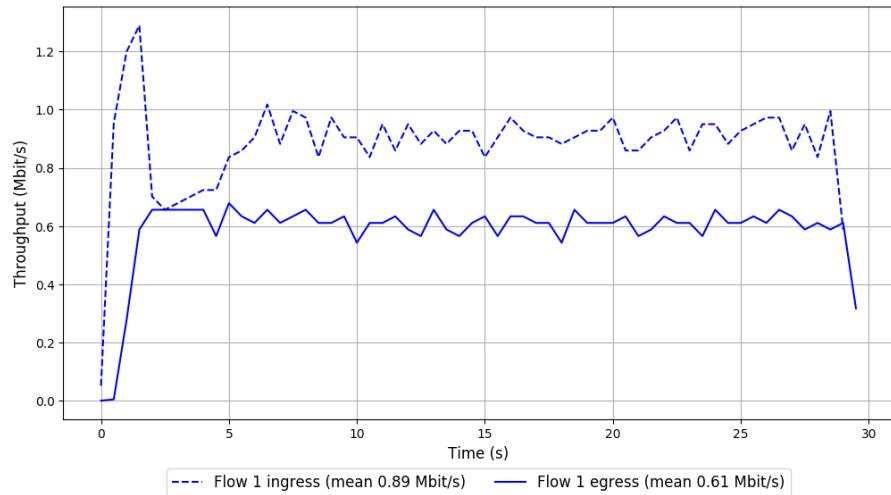


```
Run 1: Statistics of QUIC Cubic
```

```
Start at: 2018-06-19 00:25:03
End at: 2018-06-19 00:25:33
Local clock offset: -2.062 ms
Remote clock offset: -21.702 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 8714.360 ms
Loss rate: 32.81%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 8714.360 ms
Loss rate: 32.81%
```

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

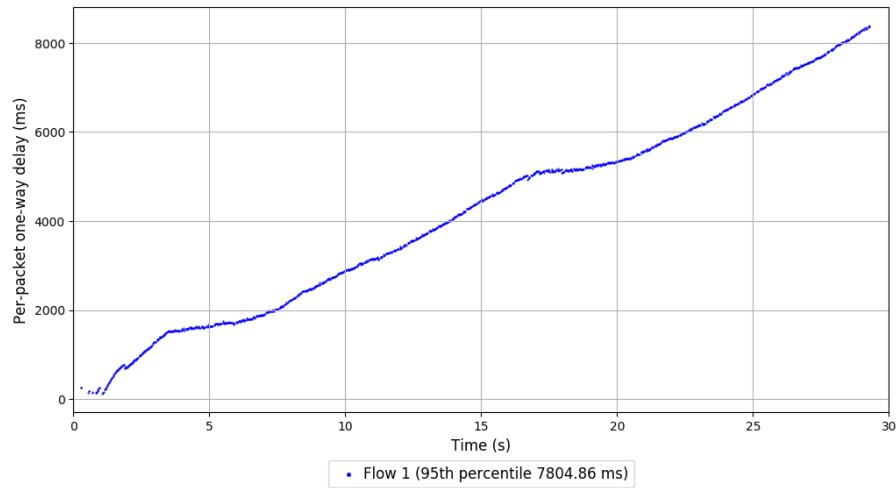
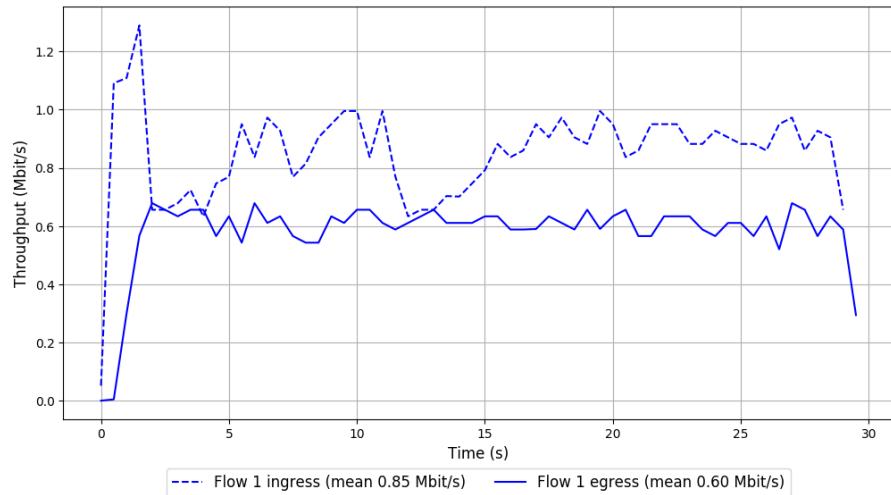


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-06-19 00:43:05
End at: 2018-06-19 00:43:35
Local clock offset: -2.428 ms
Remote clock offset: 16.229 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 7804.863 ms
Loss rate: 30.47%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 7804.863 ms
Loss rate: 30.47%
```

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

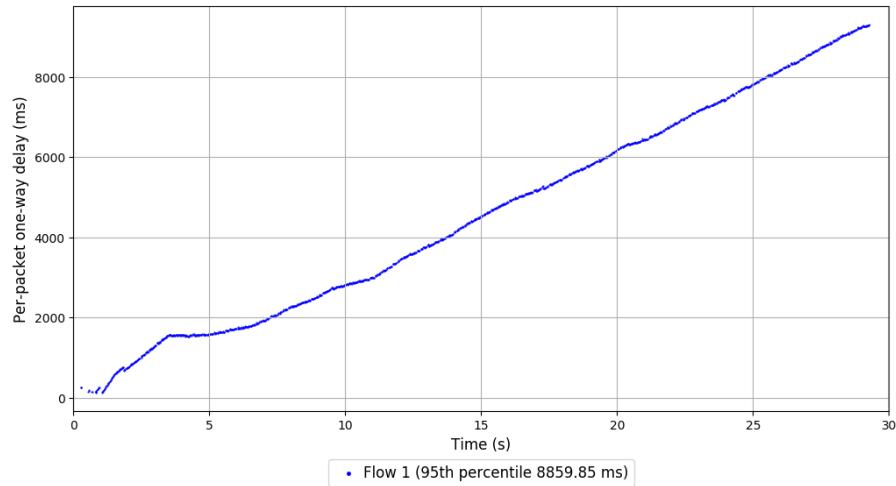
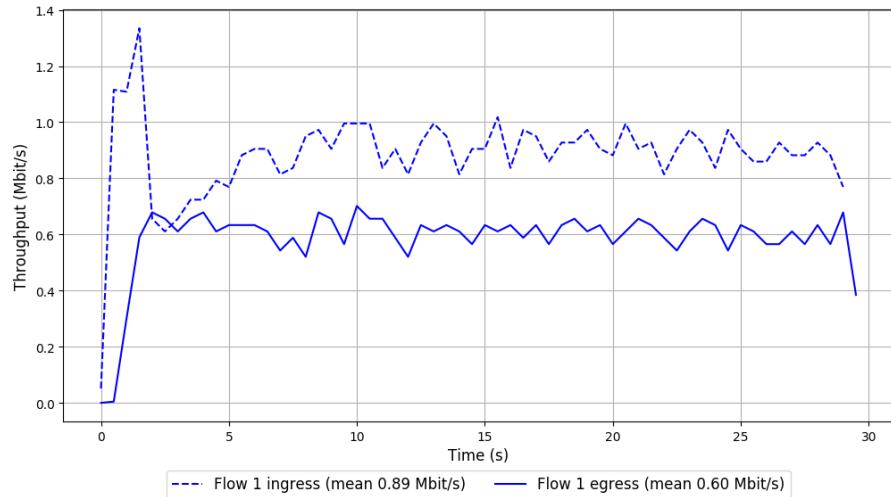


```
Run 3: Statistics of QUIC Cubic
```

```
Start at: 2018-06-19 01:01:01
End at: 2018-06-19 01:01:31
Local clock offset: -2.782 ms
Remote clock offset: 17.548 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 8859.851 ms
Loss rate: 32.75%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 8859.851 ms
Loss rate: 32.75%
```

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

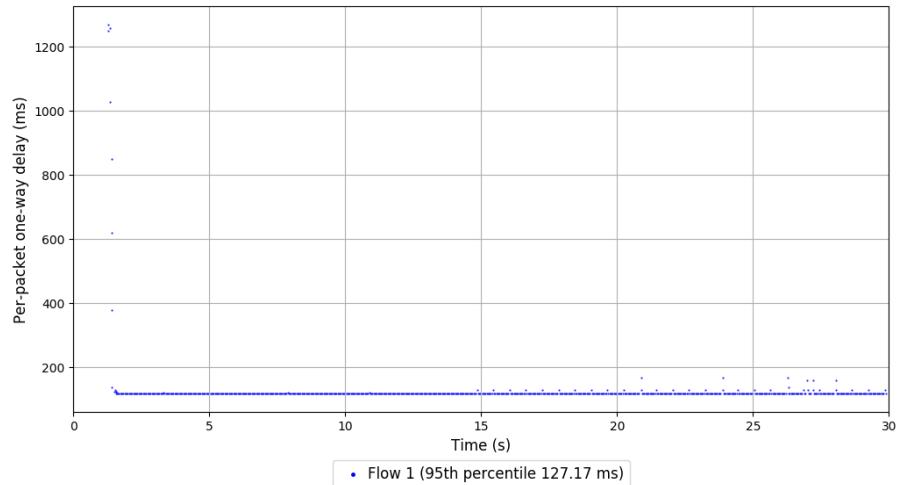
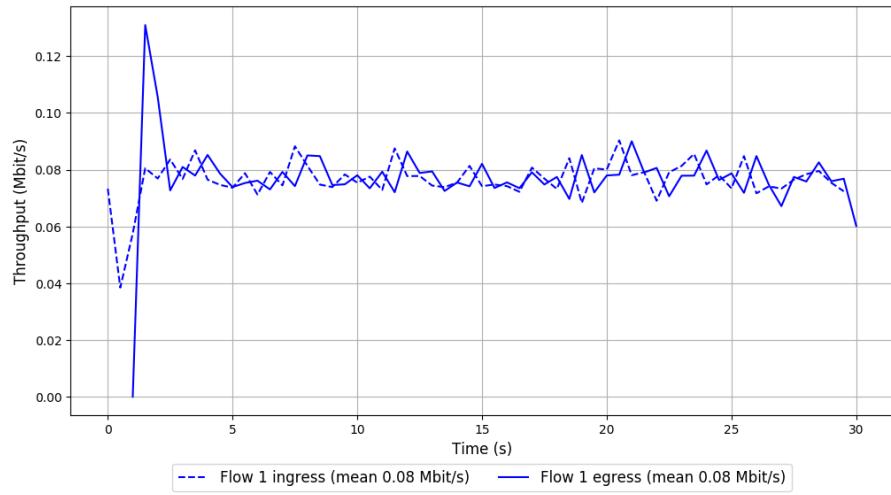


```
Run 1: Statistics of SCReAM
```

```
Start at: 2018-06-19 00:29:38
End at: 2018-06-19 00:30:08
Local clock offset: -1.97 ms
Remote clock offset: -6.904 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 127.168 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 127.168 ms
Loss rate: 0.66%
```

## Run 1: Report of SCReAM — Data Link

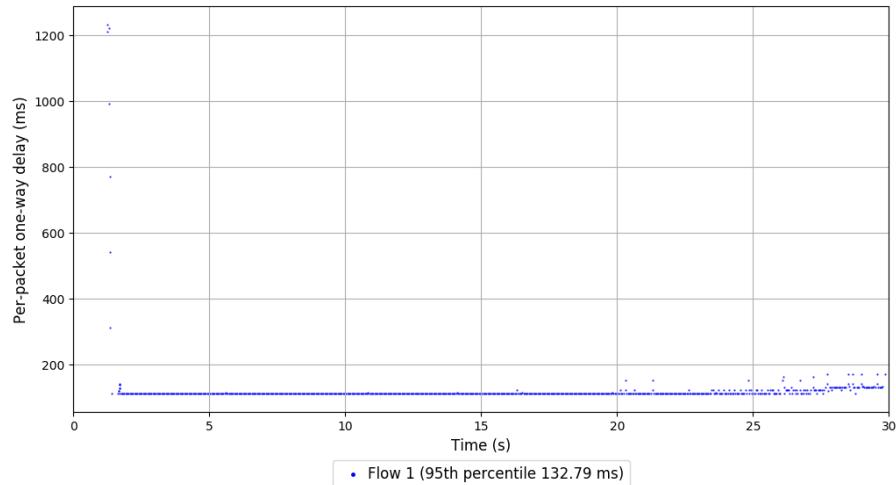
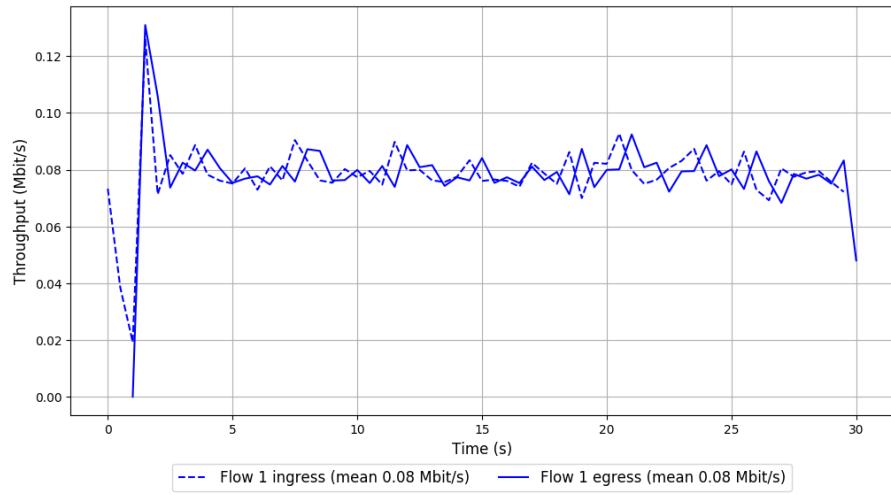


Run 2: Statistics of SCReAM

```
Start at: 2018-06-19 00:47:35
End at: 2018-06-19 00:48:05
Local clock offset: -2.627 ms
Remote clock offset: 21.258 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 132.792 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 132.792 ms
Loss rate: 0.90%
```

## Run 2: Report of SCReAM — Data Link

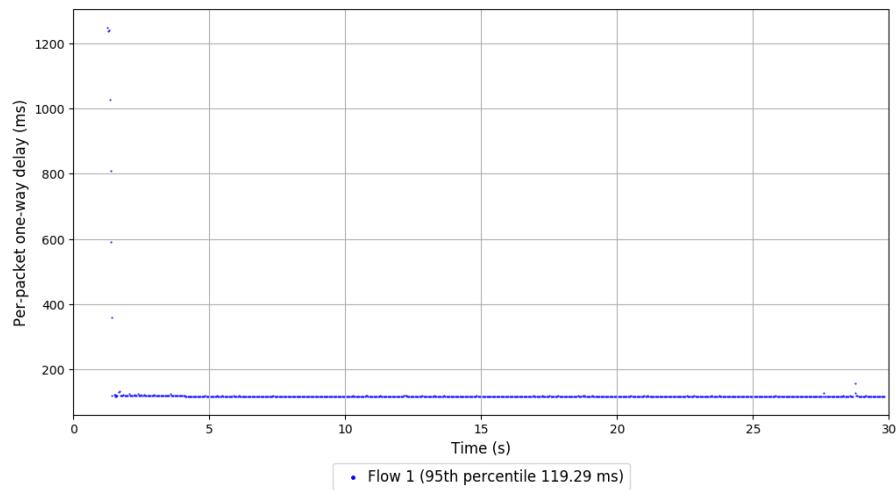
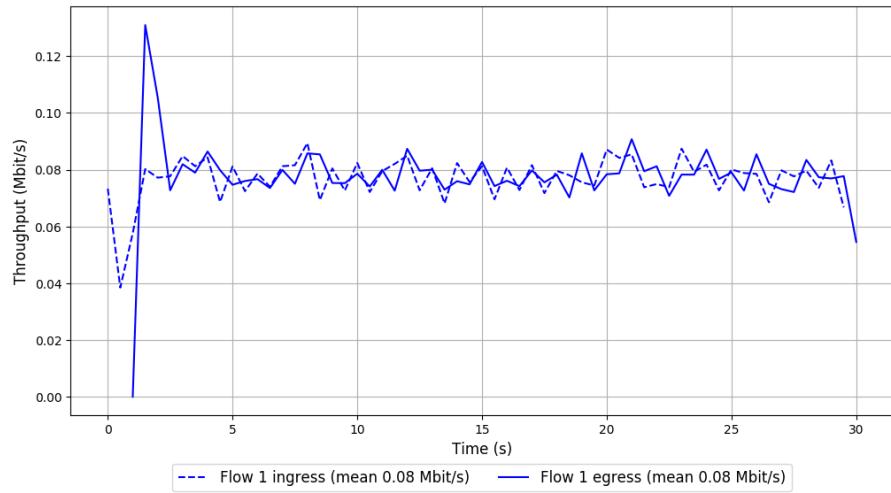


Run 3: Statistics of SCReAM

```
Start at: 2018-06-19 01:05:30
End at: 2018-06-19 01:06:00
Local clock offset: -2.713 ms
Remote clock offset: 12.902 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 119.287 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 119.287 ms
Loss rate: 0.66%
```

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

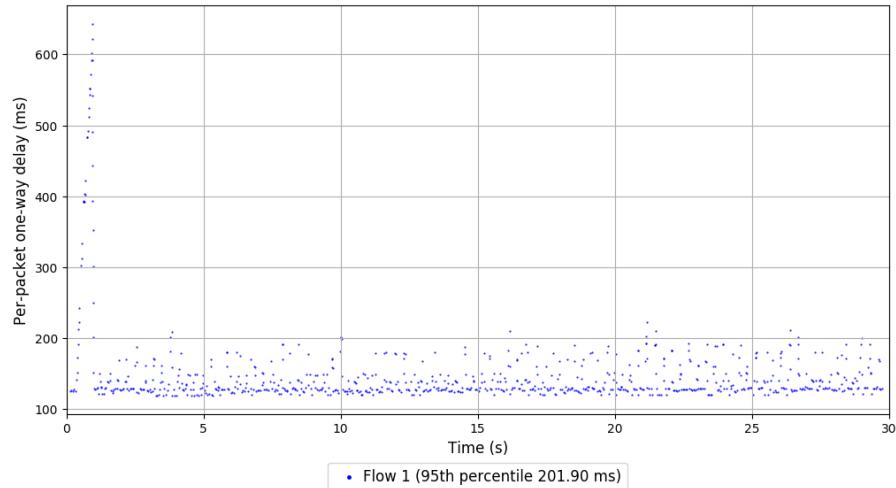
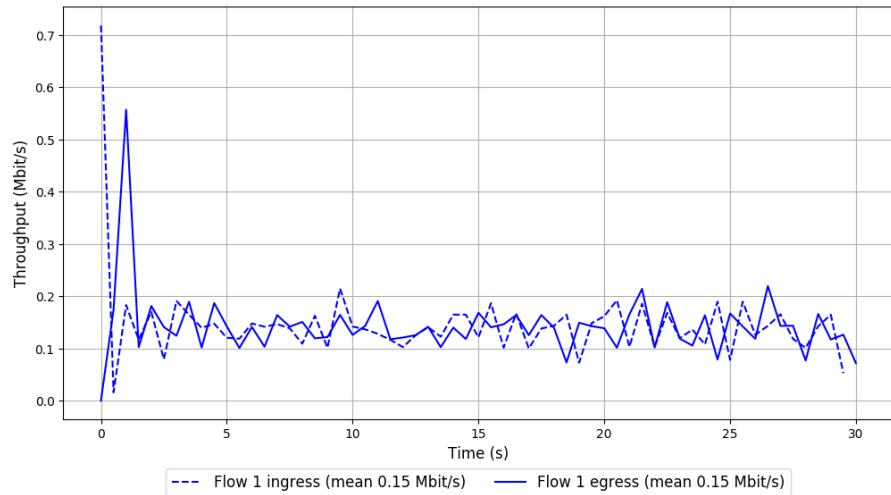


Run 1: Statistics of Sprout

```
Start at: 2018-06-19 00:27:19
End at: 2018-06-19 00:27:49
Local clock offset: -1.991 ms
Remote clock offset: -17.698 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 201.899 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 201.899 ms
Loss rate: 0.54%
```

## Run 1: Report of Sprout — Data Link

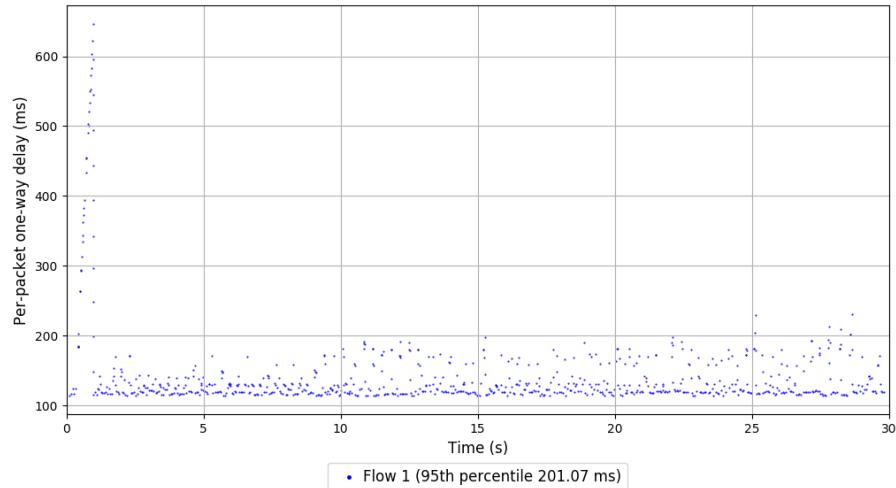
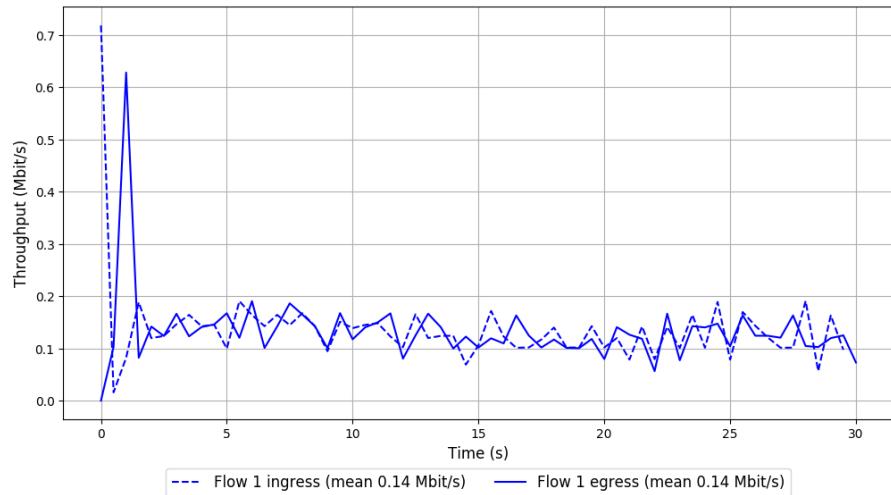


Run 2: Statistics of Sprout

```
Start at: 2018-06-19 00:45:21
End at: 2018-06-19 00:45:51
Local clock offset: -2.509 ms
Remote clock offset: 18.426 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 201.071 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 201.071 ms
Loss rate: 1.11%
```

## Run 2: Report of Sprout — Data Link

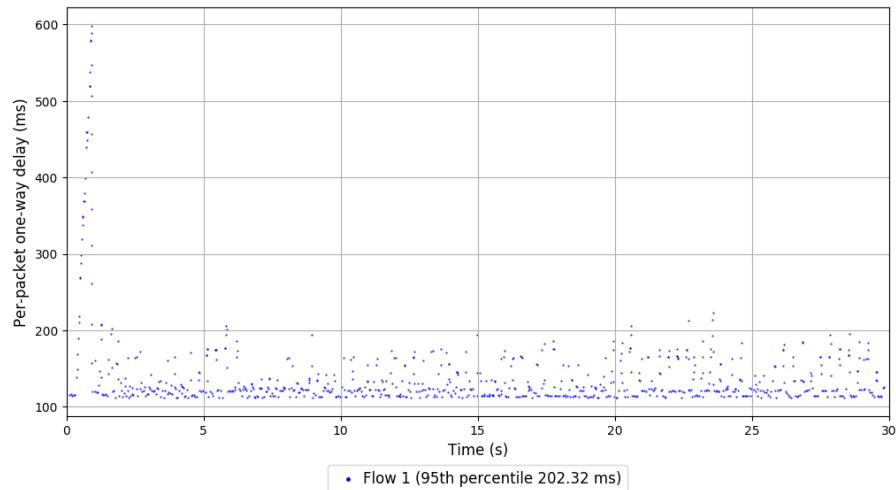
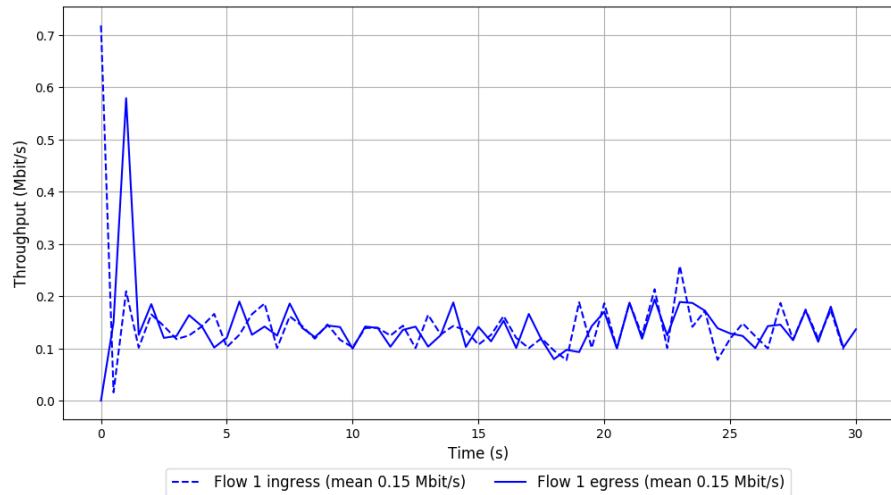


Run 3: Statistics of Sprout

```
Start at: 2018-06-19 01:03:16
End at: 2018-06-19 01:03:46
Local clock offset: -2.789 ms
Remote clock offset: 15.926 ms

# Below is generated by plot.py at 2018-06-19 01:12:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 202.323 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 202.323 ms
Loss rate: 0.59%
```

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

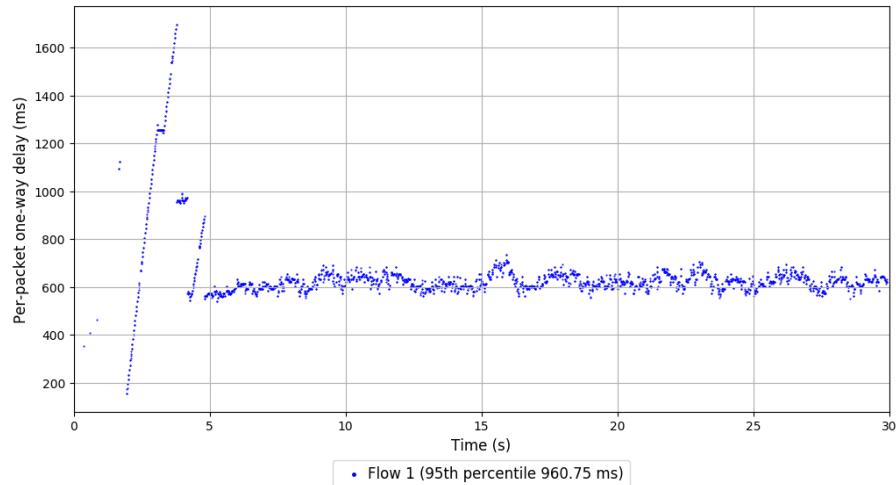
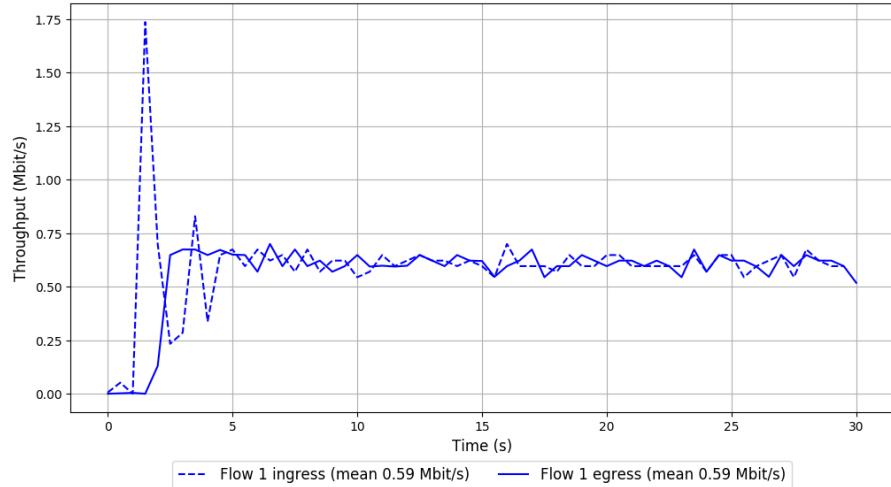


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-06-19 00:31:52
End at: 2018-06-19 00:32:22
Local clock offset: -2.061 ms
Remote clock offset: 1.44 ms

# Below is generated by plot.py at 2018-06-19 01:12:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 960.753 ms
Loss rate: 2.34%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 960.753 ms
Loss rate: 2.34%
```

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

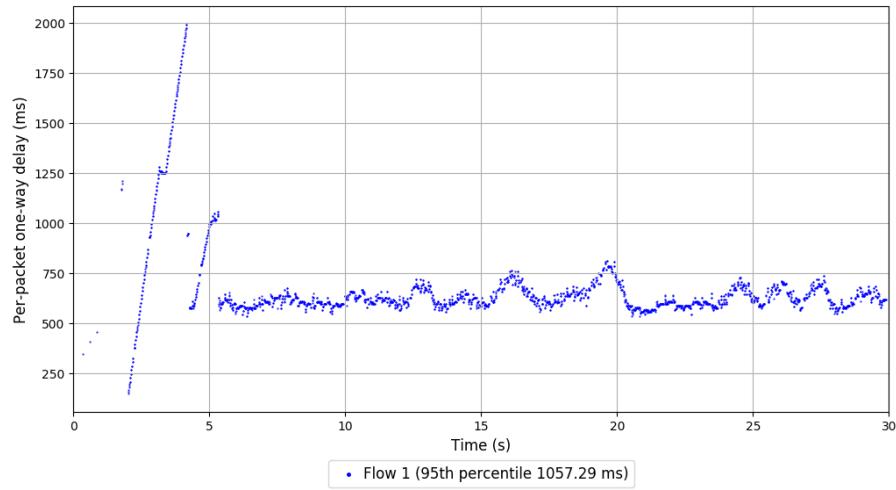
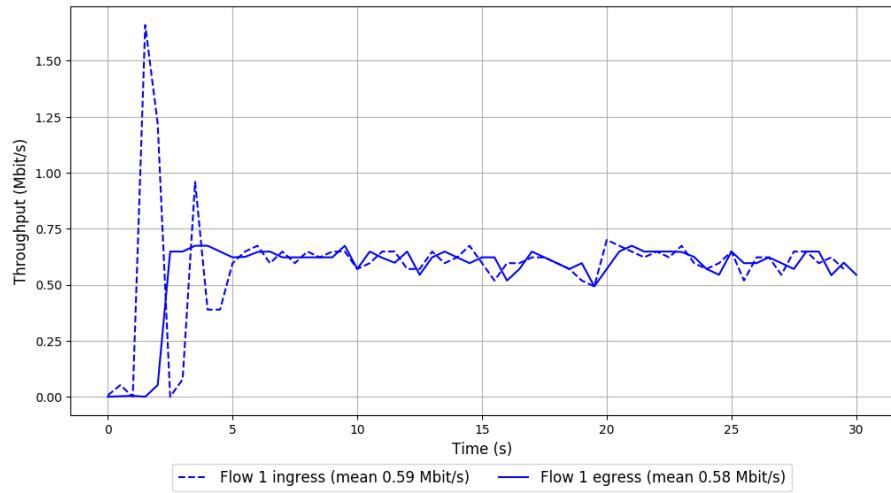


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-06-19 00:49:49
End at: 2018-06-19 00:50:19
Local clock offset: -2.669 ms
Remote clock offset: 22.93 ms

# Below is generated by plot.py at 2018-06-19 01:12:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1057.287 ms
Loss rate: 2.42%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1057.287 ms
Loss rate: 2.42%
```

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

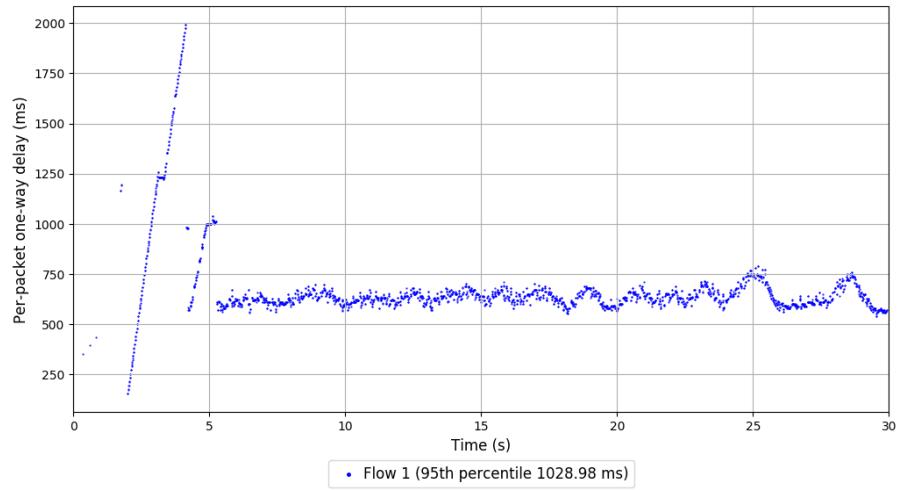
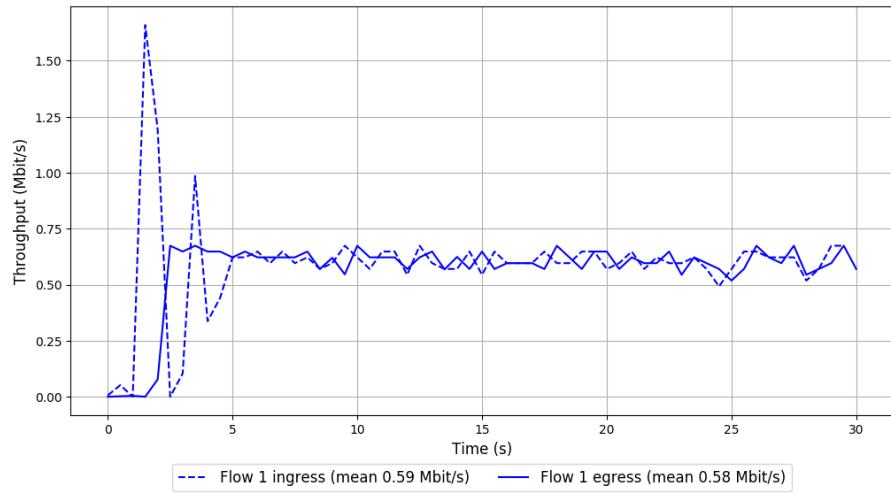


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-06-19 01:07:45
End at: 2018-06-19 01:08:15
Local clock offset: -2.617 ms
Remote clock offset: 12.555 ms

# Below is generated by plot.py at 2018-06-19 01:12:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1028.979 ms
Loss rate: 2.43%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1028.979 ms
Loss rate: 2.43%
```

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

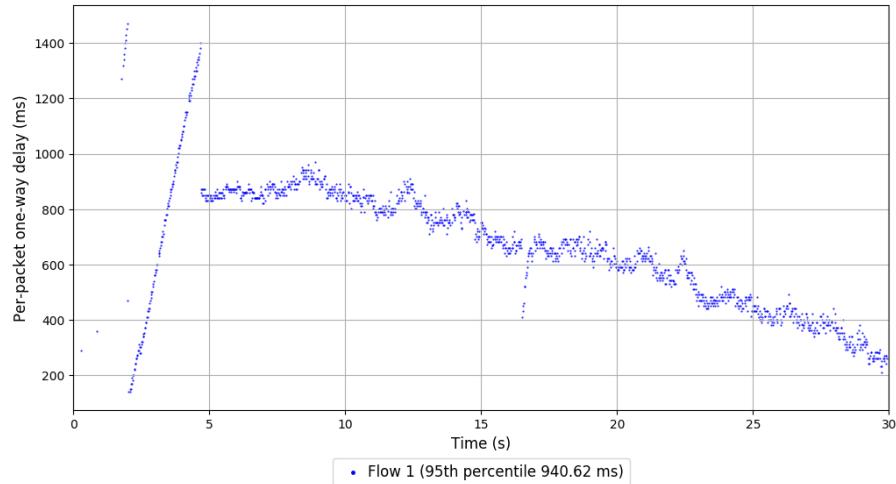
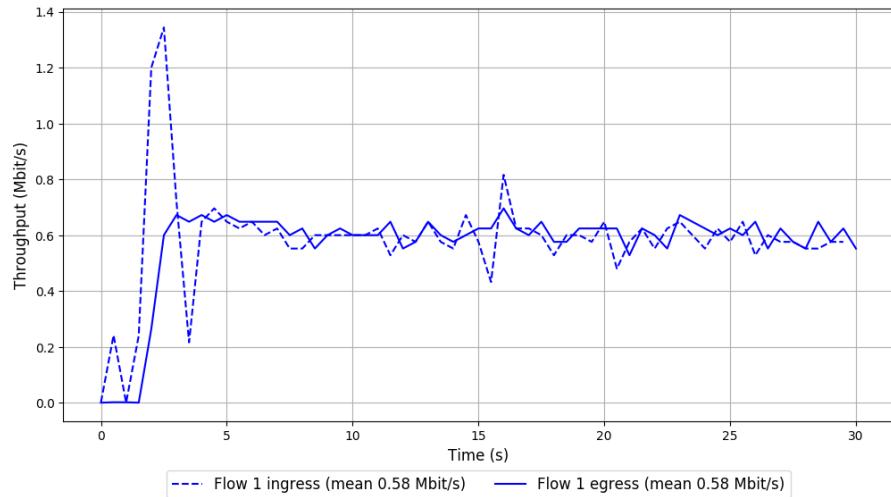


Run 1: Statistics of TCP Vegas

```
Start at: 2018-06-19 00:33:00
End at: 2018-06-19 00:33:30
Local clock offset: -1.981 ms
Remote clock offset: 0.999 ms

# Below is generated by plot.py at 2018-06-19 01:12:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 940.623 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 940.623 ms
Loss rate: 0.96%
```

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

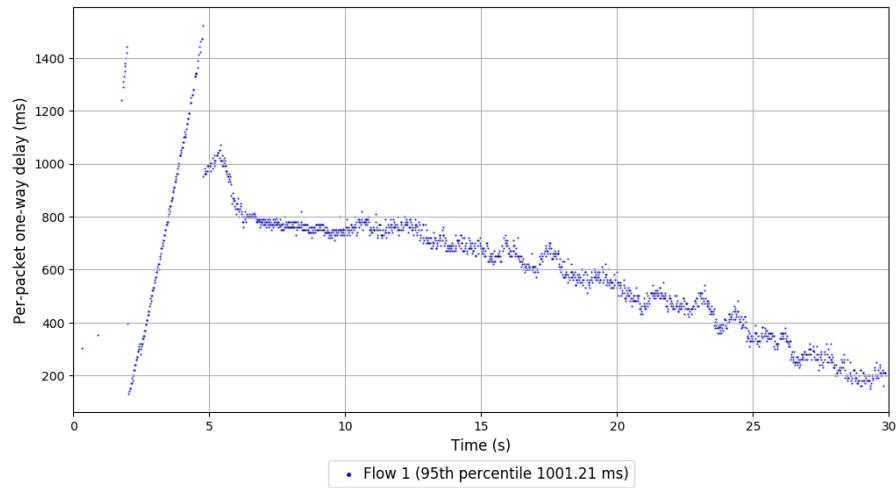
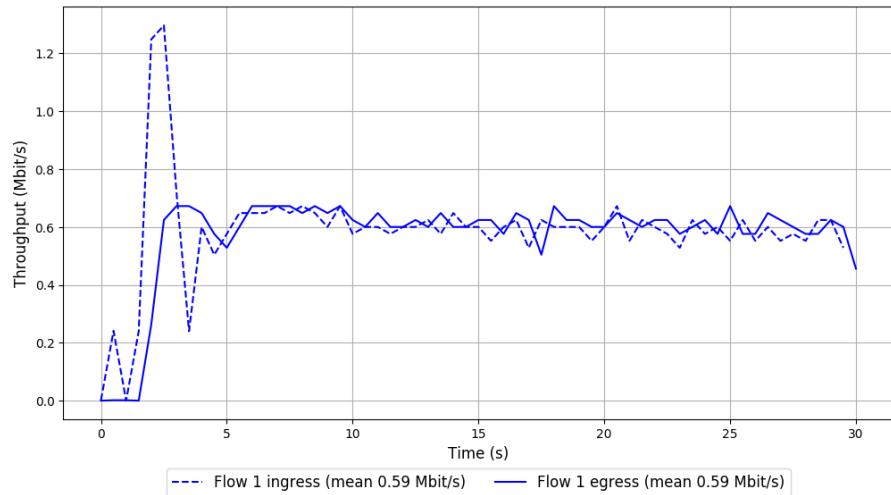


Run 2: Statistics of TCP Vegas

```
Start at: 2018-06-19 00:50:56
End at: 2018-06-19 00:51:26
Local clock offset: -2.634 ms
Remote clock offset: 22.777 ms

# Below is generated by plot.py at 2018-06-19 01:12:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1001.211 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1001.211 ms
Loss rate: 0.96%
```

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

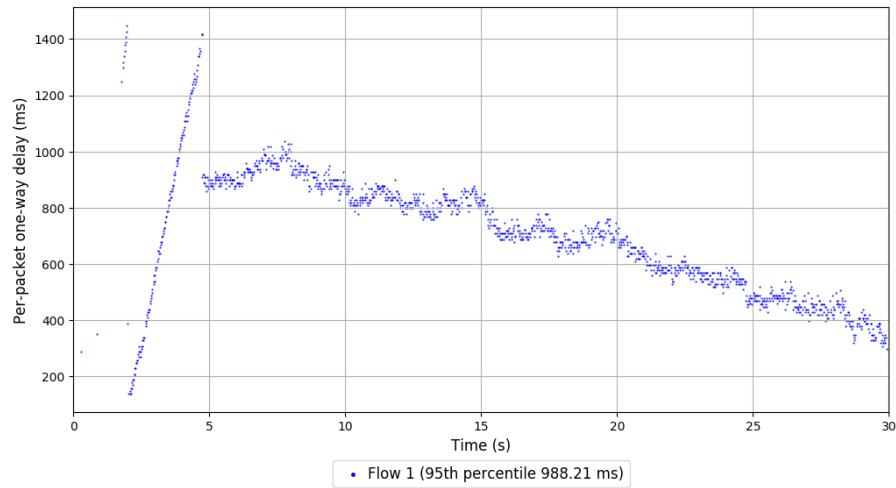
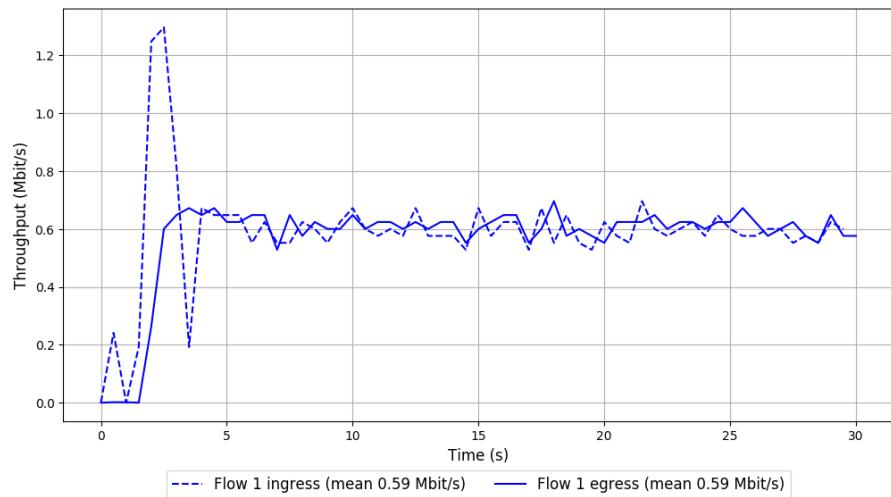


Run 3: Statistics of TCP Vegas

```
Start at: 2018-06-19 01:08:52
End at: 2018-06-19 01:09:22
Local clock offset: -2.59 ms
Remote clock offset: 11.906 ms

# Below is generated by plot.py at 2018-06-19 01:12:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 988.206 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 988.206 ms
Loss rate: 1.37%
```

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

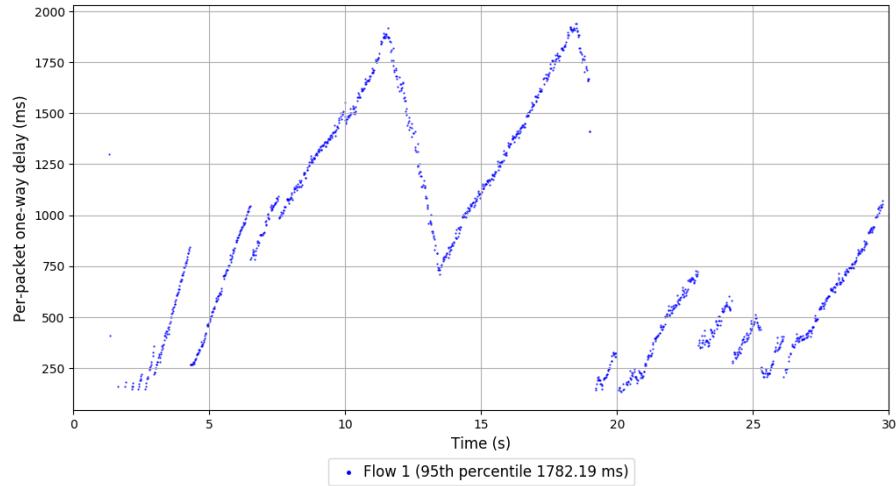
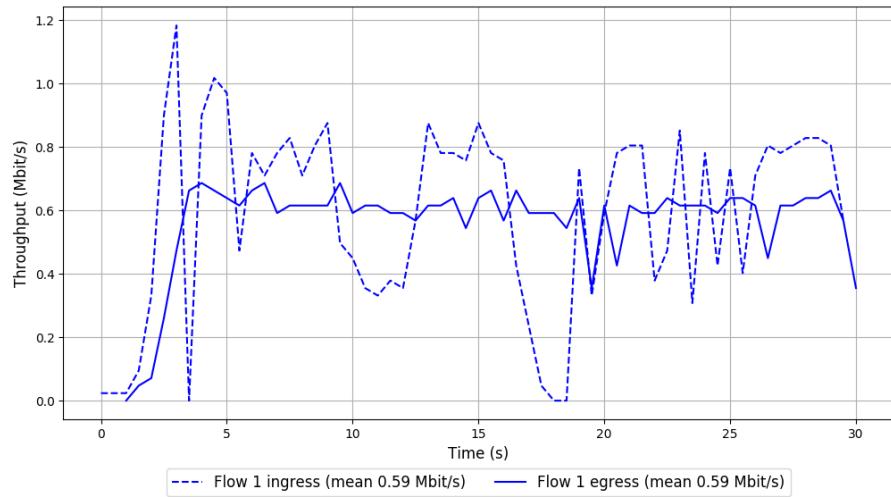


Run 1: Statistics of Verus

```
Start at: 2018-06-19 00:20:34
End at: 2018-06-19 00:21:04
Local clock offset: -2.075 ms
Remote clock offset: -40.56 ms

# Below is generated by plot.py at 2018-06-19 01:12:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1782.190 ms
Loss rate: 5.17%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1782.190 ms
Loss rate: 5.17%
```

## Run 1: Report of Verus — Data Link

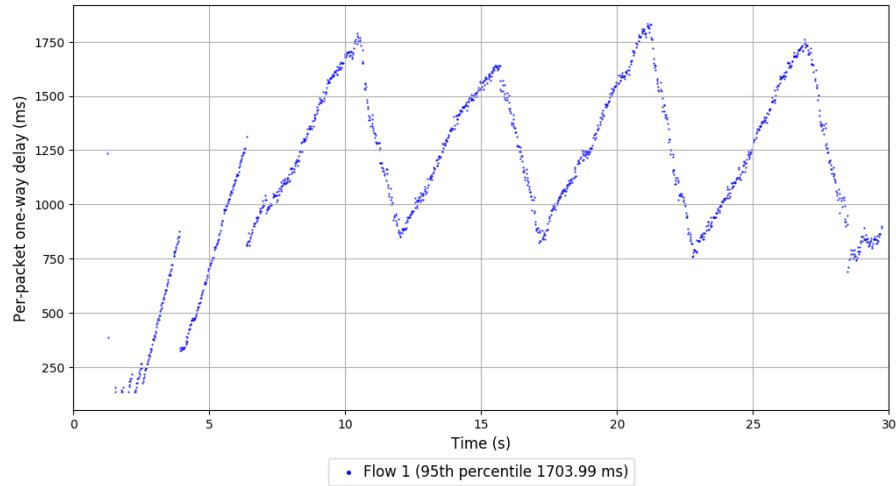
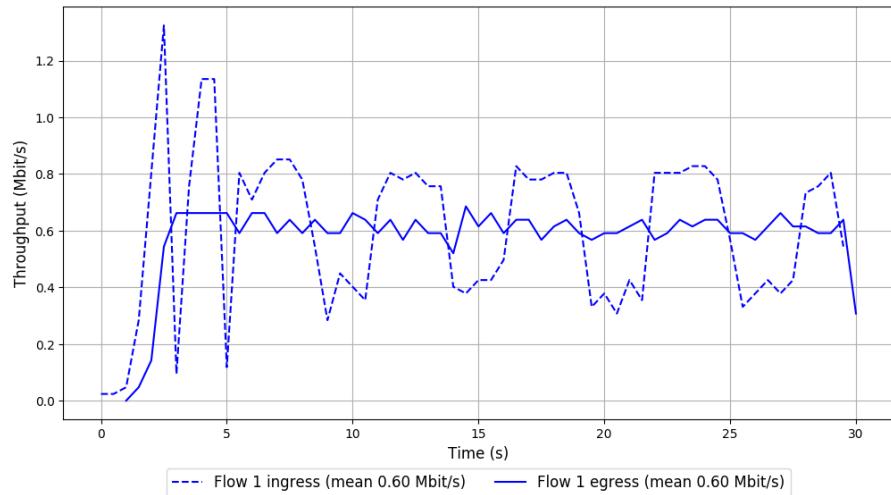


Run 2: Statistics of Verus

```
Start at: 2018-06-19 00:38:36
End at: 2018-06-19 00:39:06
Local clock offset: -2.259 ms
Remote clock offset: 12.487 ms

# Below is generated by plot.py at 2018-06-19 01:12:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 1703.991 ms
Loss rate: 4.47%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 1703.991 ms
Loss rate: 4.47%
```

## Run 2: Report of Verus — Data Link

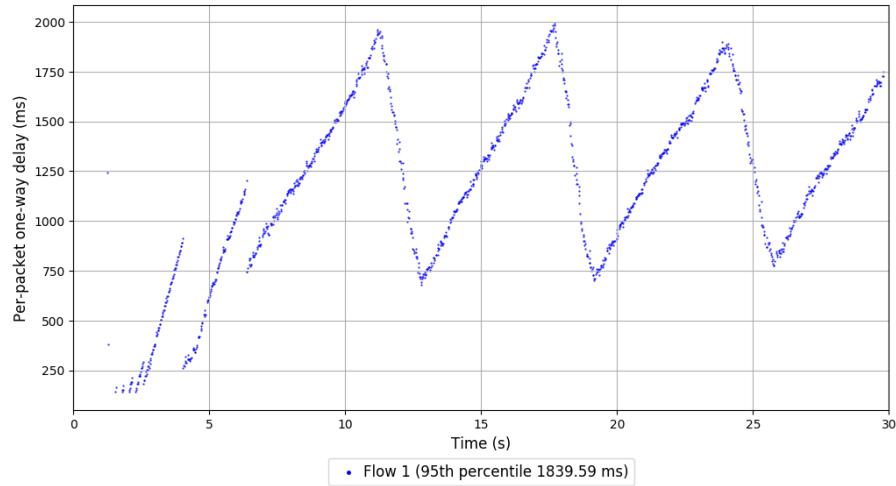
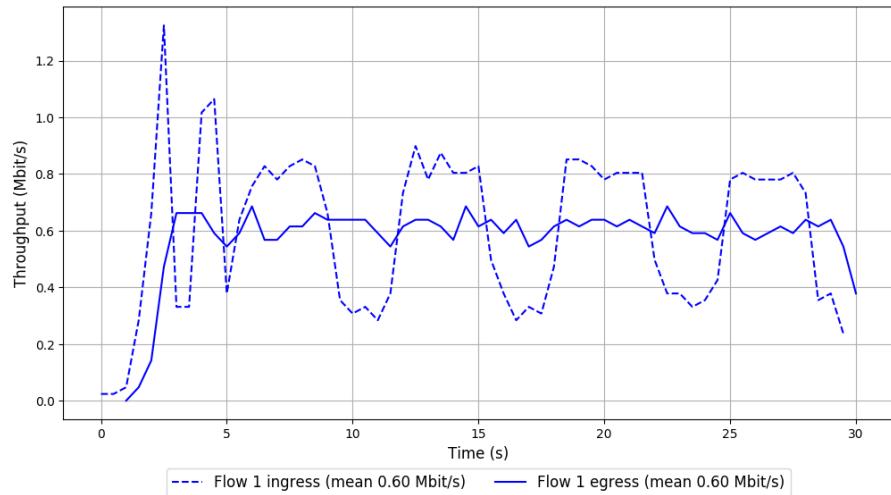


Run 3: Statistics of Verus

```
Start at: 2018-06-19 00:56:32
End at: 2018-06-19 00:57:02
Local clock offset: -2.719 ms
Remote clock offset: 24.429 ms

# Below is generated by plot.py at 2018-06-19 01:12:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 1839.592 ms
Loss rate: 4.49%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 1839.592 ms
Loss rate: 4.49%
```

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

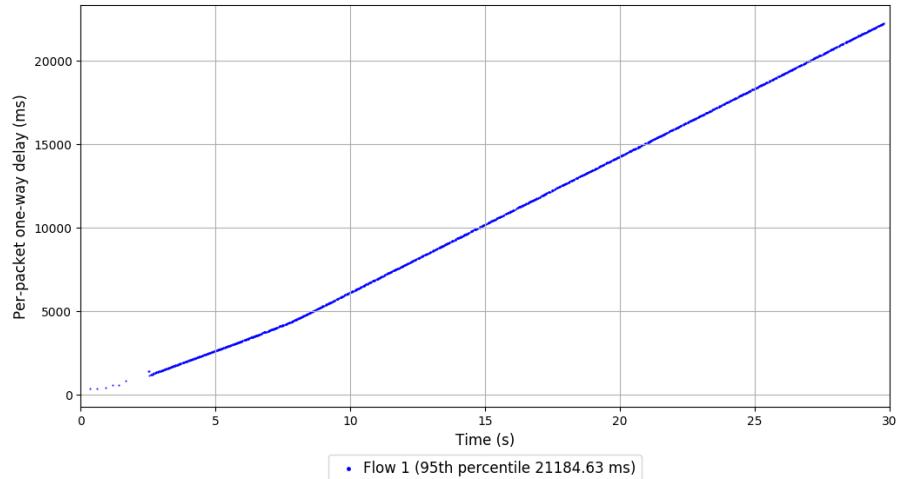
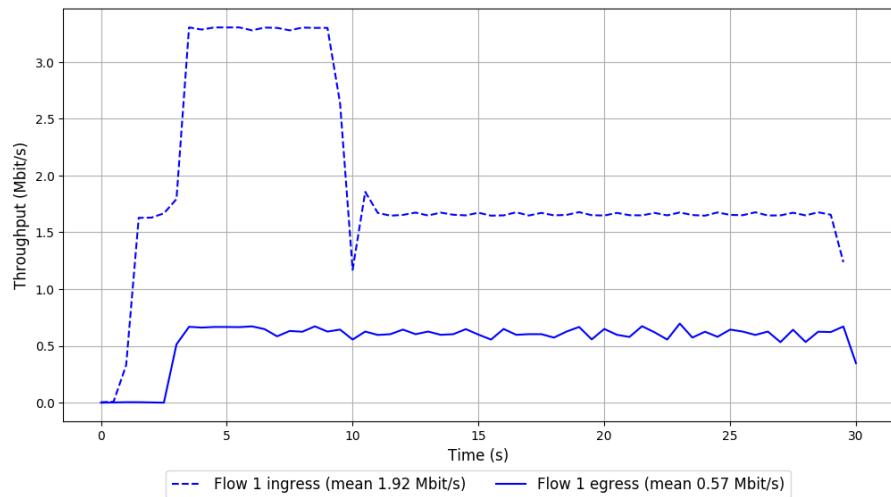


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-06-19 00:26:10
End at: 2018-06-19 00:26:40
Local clock offset: -1.991 ms
Remote clock offset: -22.072 ms

# Below is generated by plot.py at 2018-06-19 01:12:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21184.633 ms
Loss rate: 70.67%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21184.633 ms
Loss rate: 70.67%
```

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

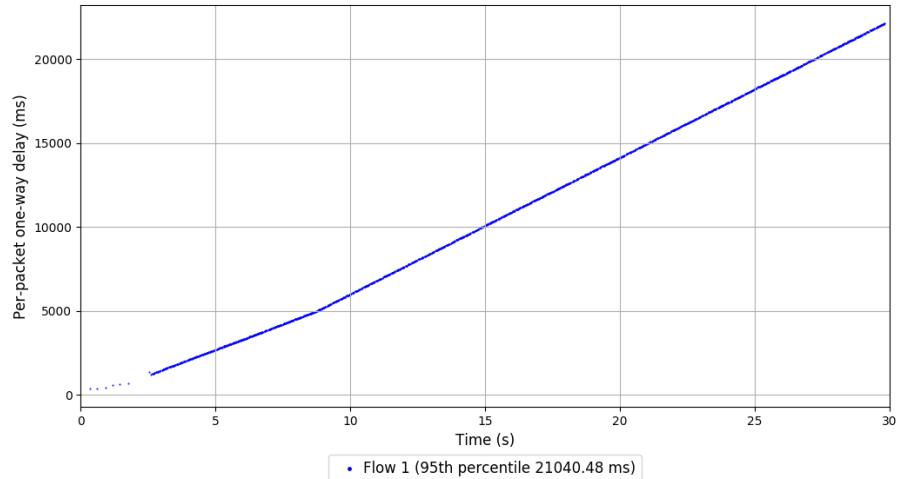
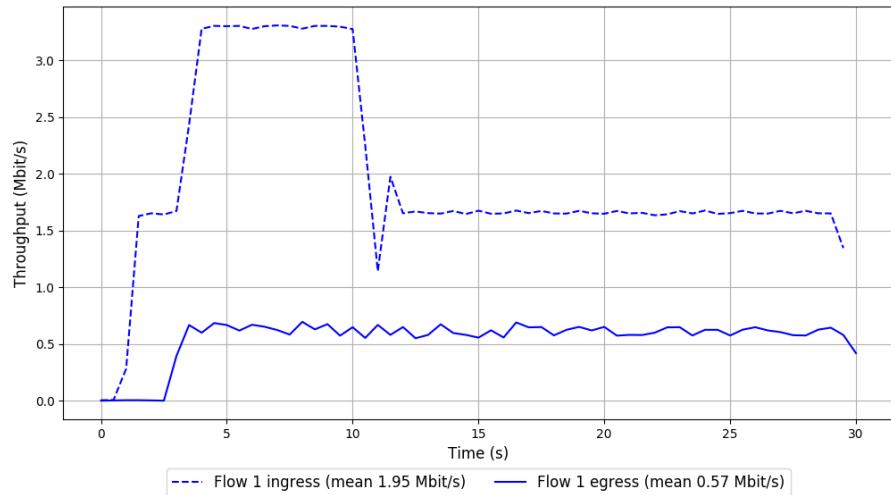


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-06-19 00:44:12
End at: 2018-06-19 00:44:42
Local clock offset: -2.466 ms
Remote clock offset: 17.647 ms

# Below is generated by plot.py at 2018-06-19 01:12:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21040.482 ms
Loss rate: 71.26%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21040.482 ms
Loss rate: 71.26%
```

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

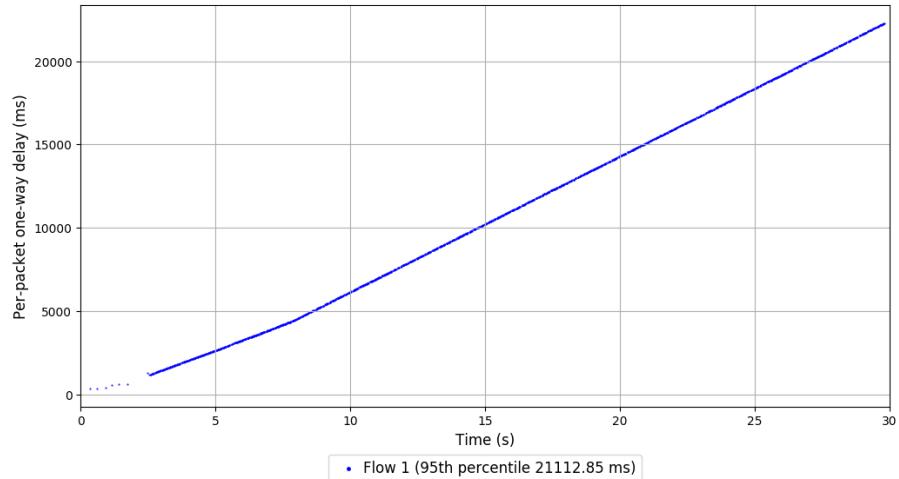
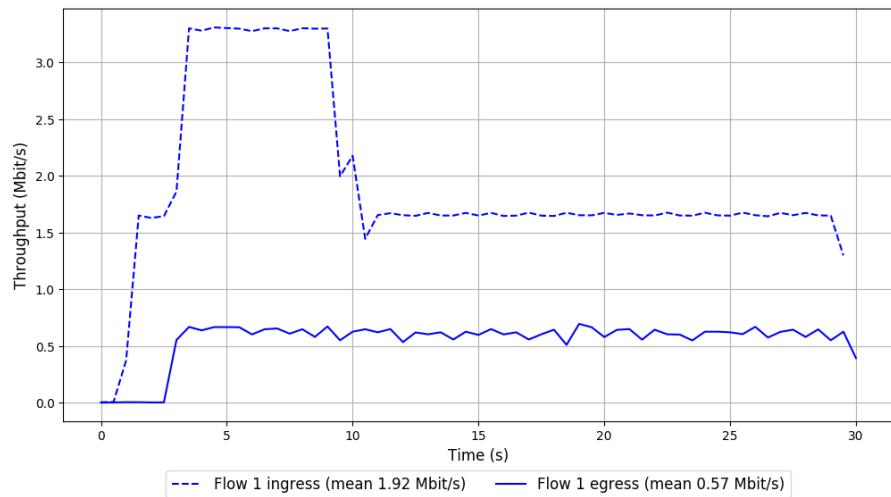


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-06-19 01:02:08
End at: 2018-06-19 01:02:38
Local clock offset: -2.789 ms
Remote clock offset: 17.29 ms

# Below is generated by plot.py at 2018-06-19 01:12:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21112.851 ms
Loss rate: 70.72%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 21112.851 ms
Loss rate: 70.72%
```

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

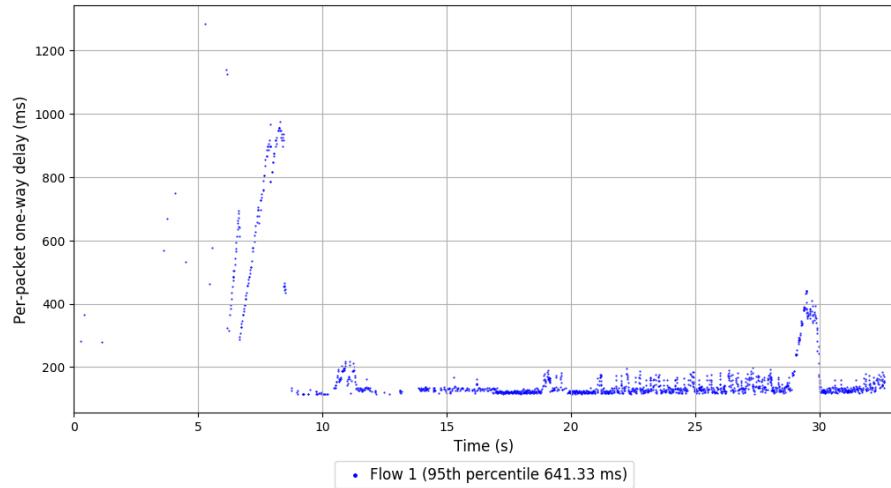
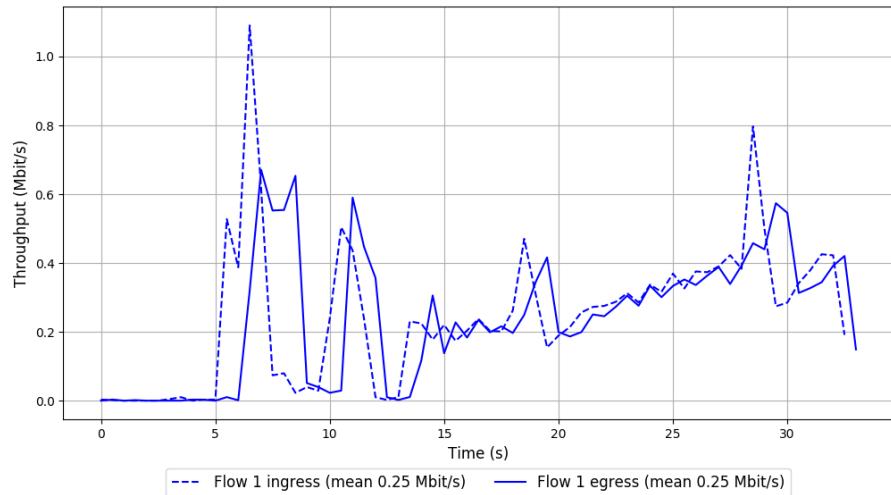


```
Run 1: Statistics of WebRTC media

Start at: 2018-06-19 00:23:56
End at: 2018-06-19 00:24:26
Local clock offset: -2.0 ms
Remote clock offset: -26.578 ms

# Below is generated by plot.py at 2018-06-19 01:12:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 641.332 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 641.332 ms
Loss rate: 1.25%
```

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

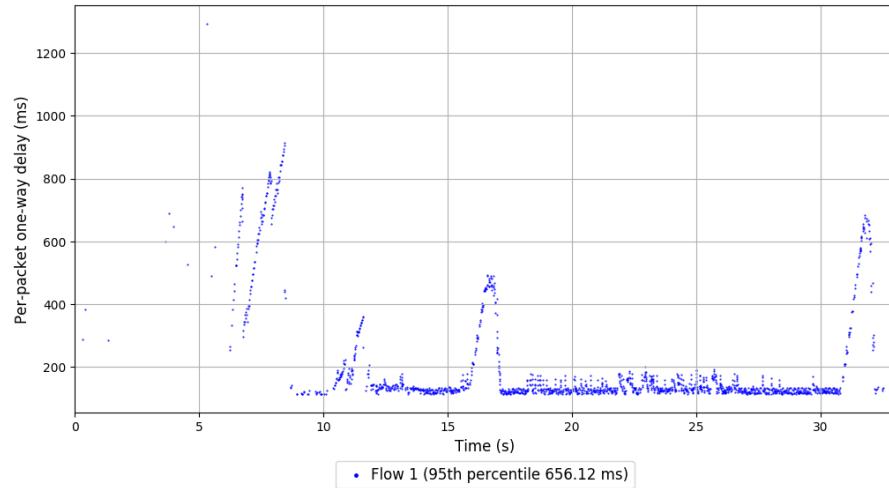
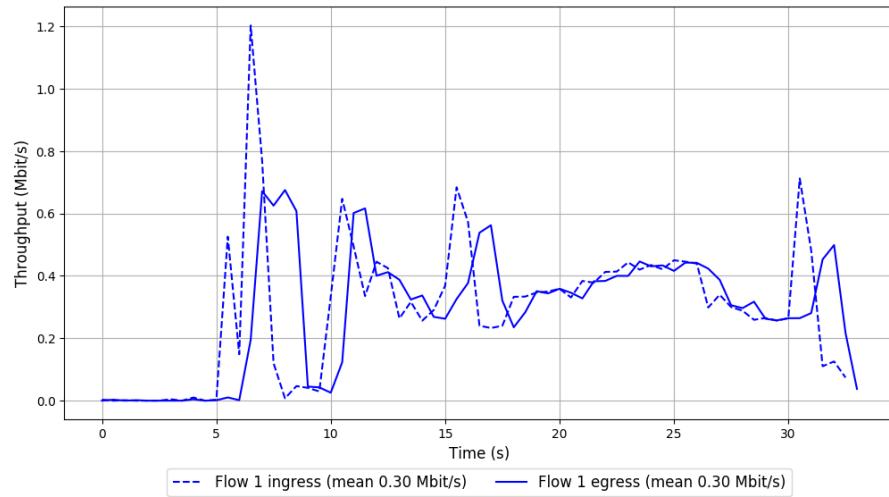


Run 2: Statistics of WebRTC media

```
Start at: 2018-06-19 00:41:58
End at: 2018-06-19 00:42:28
Local clock offset: -2.423 ms
Remote clock offset: 16.371 ms

# Below is generated by plot.py at 2018-06-19 01:12:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 656.115 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 656.115 ms
Loss rate: 0.38%
```

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



Run 3: Statistics of WebRTC media

```
Start at: 2018-06-19 00:59:53
End at: 2018-06-19 01:00:24
Local clock offset: -2.777 ms
Remote clock offset: 19.326 ms

# Below is generated by plot.py at 2018-06-19 01:12:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 655.004 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 655.004 ms
Loss rate: 0.69%
```

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

