

## Pantheon Report

Generated at 2018-09-07 01:55:39 (UTC).  
Data path: GCE Sydney on `ens4 (local)` → GCE Tokyo on `ens4 (remote)`.  
Repeated the test of 18 congestion control schemes 5 times.  
Each test lasted for 30 seconds running 1 flow.  
NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

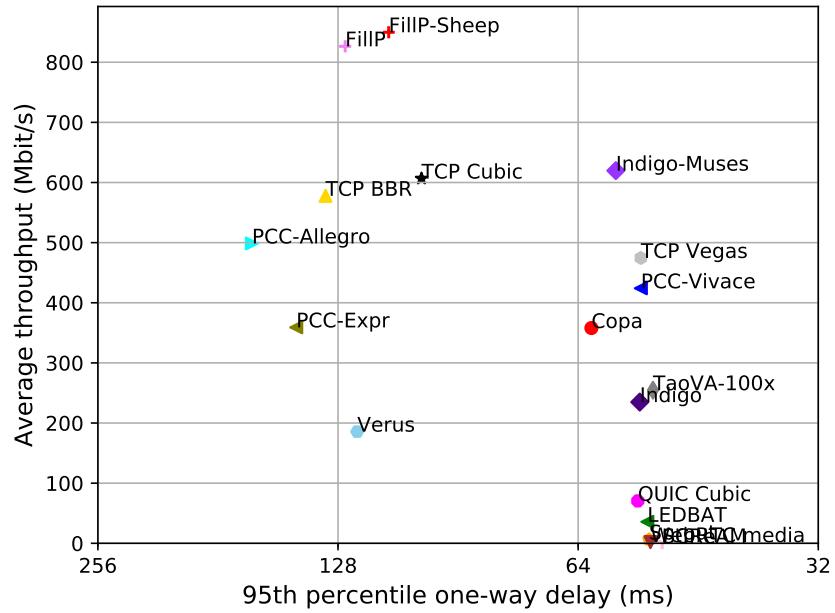
System info:

```
Linux 4.15.0-1018-gcp
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
net.ipv4.tcp_mem = 536870912 536870912 536870912
```

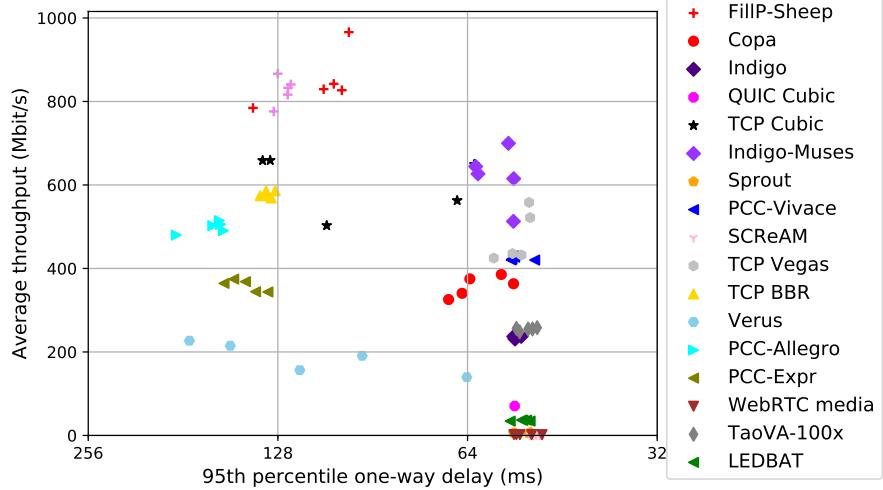
Git summary:

```
branch: muses @ f392ce15d580343f4432c3d7e068b3290f03eb4a
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ a28d20fb82a95a965a3da65fd1eb71b8994e9b84
third_party/pantheon-tunnel @ cbfce6db5ff5740dafe1771f813cd646339e1952
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 GCE Sydney to GCE Tokyo, 5 runs of 30s each per scheme  
(mean of all runs by scheme)



test from GCE Sydney to GCE Tokyo, 5 runs of 30s each per scheme



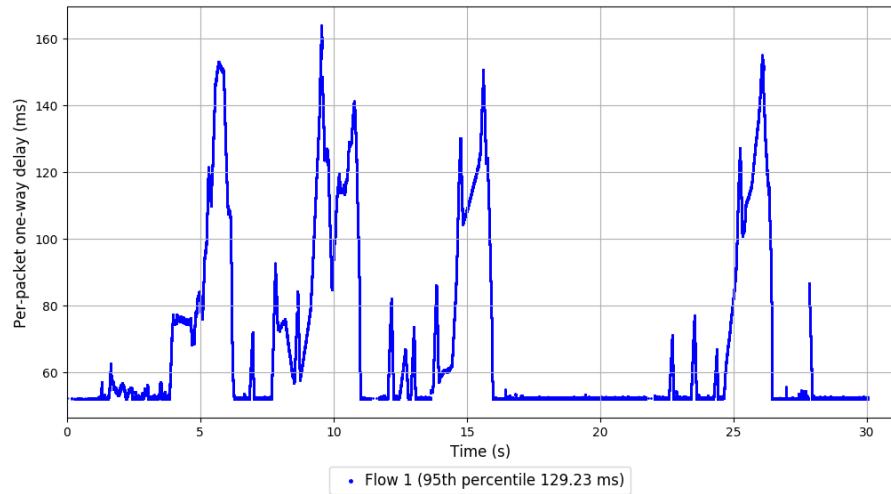
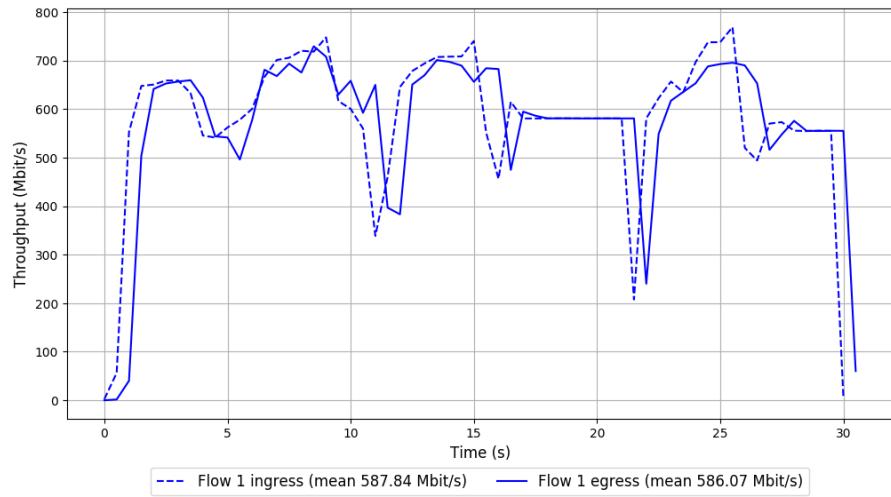
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	577.85	132.68	0.39
Copa	5	358.00	61.60	0.01
TCP Cubic	5	606.55	100.60	0.03
FillP	5	826.44	125.38	4.19
FillP-Sheep	5	849.83	110.58	0.96
Indigo	5	234.85	53.57	0.01
LEDBAT	5	35.70	52.42	0.00
Indigo-Muses	5	619.71	57.41	0.01
PCC-Allegro	5	498.60	164.11	4.35
PCC-Expr	5	359.04	144.41	2.02
QUIC Cubic	1	70.54	53.88	0.01
SCReAM	5	0.21	50.21	0.00
Sprout	5	6.33	52.15	0.02
TaoVA-100x	5	254.60	51.57	0.00
TCP Vegas	5	474.52	53.40	0.01
Verus	5	185.71	121.10	0.49
PCC-Vivace	5	424.10	53.41	0.01
WebRTC media	5	1.95	51.95	0.02

Run 1: Statistics of TCP BBR

```
Start at: 2018-09-06 22:15:09
End at: 2018-09-06 22:15:39
Local clock offset: -0.014 ms
Remote clock offset: -1.448 ms

# Below is generated by plot.py at 2018-09-07 00:35:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 586.07 Mbit/s
95th percentile per-packet one-way delay: 129.233 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 586.07 Mbit/s
95th percentile per-packet one-way delay: 129.233 ms
Loss rate: 0.31%
```

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

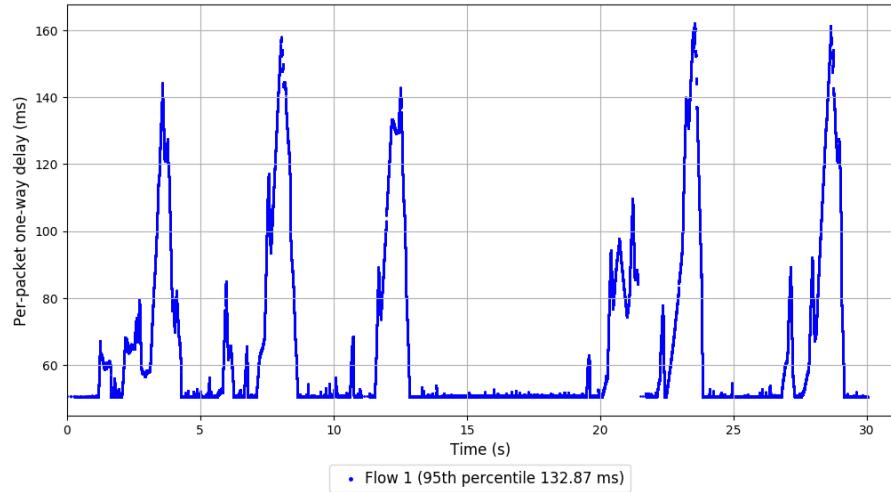
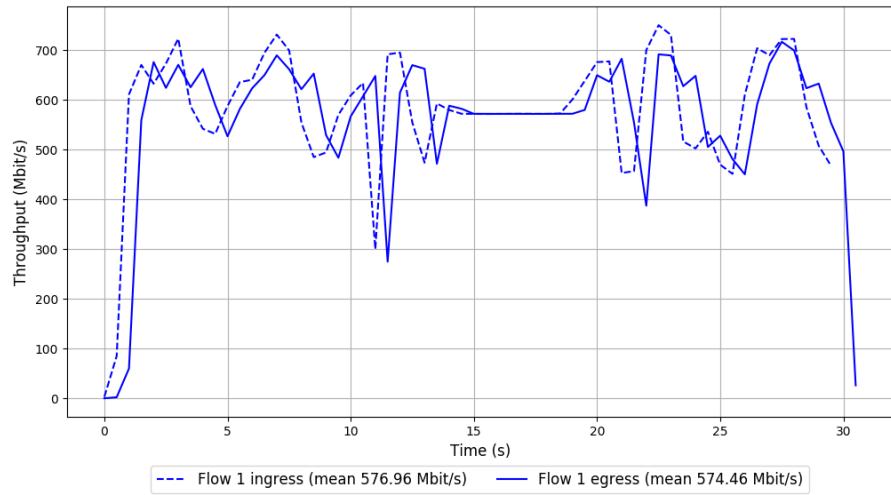


Run 2: Statistics of TCP BBR

```
Start at: 2018-09-06 22:41:00
End at: 2018-09-06 22:41:30
Local clock offset: -0.257 ms
Remote clock offset: -0.233 ms

# Below is generated by plot.py at 2018-09-07 00:35:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 574.46 Mbit/s
95th percentile per-packet one-way delay: 132.872 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 574.46 Mbit/s
95th percentile per-packet one-way delay: 132.872 ms
Loss rate: 0.43%
```

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

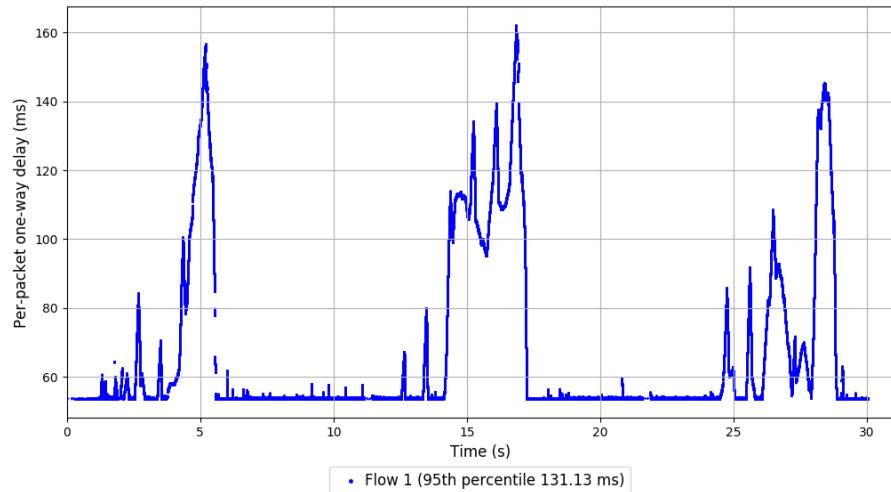
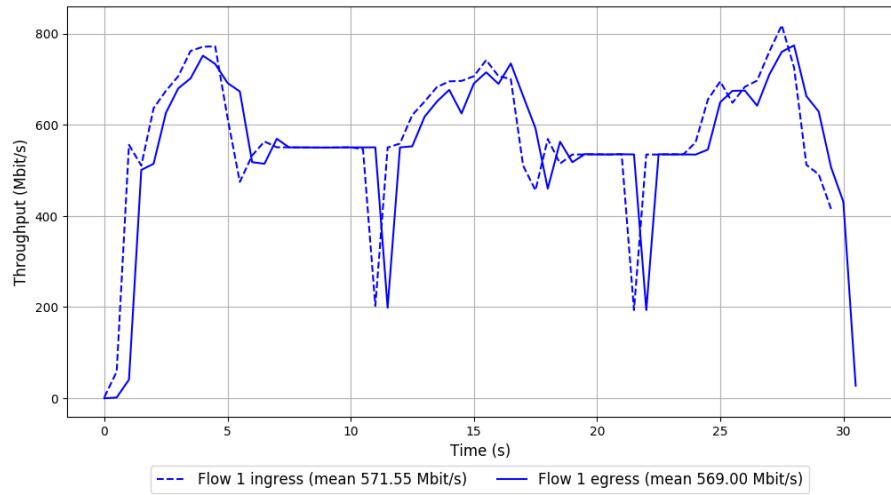


Run 3: Statistics of TCP BBR

```
Start at: 2018-09-06 23:06:53
End at: 2018-09-06 23:07:23
Local clock offset: -0.277 ms
Remote clock offset: -0.241 ms

# Below is generated by plot.py at 2018-09-07 00:35:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 569.00 Mbit/s
95th percentile per-packet one-way delay: 131.127 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 569.00 Mbit/s
95th percentile per-packet one-way delay: 131.127 ms
Loss rate: 0.46%
```

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

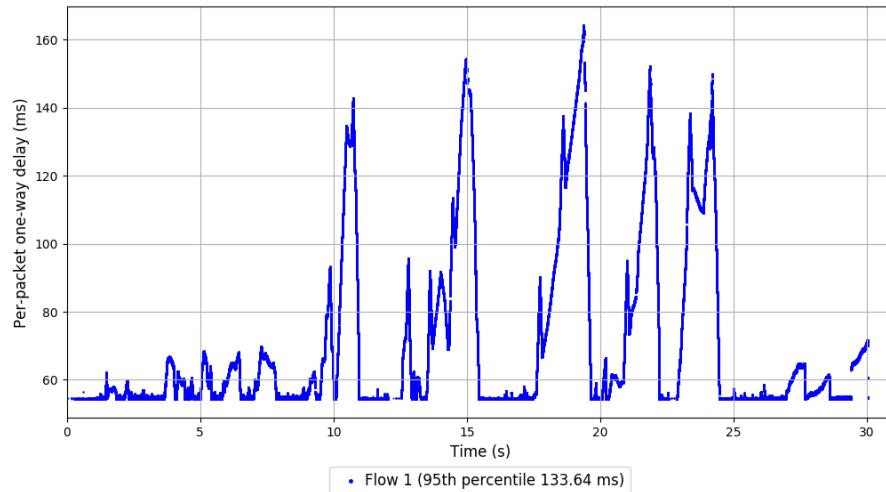
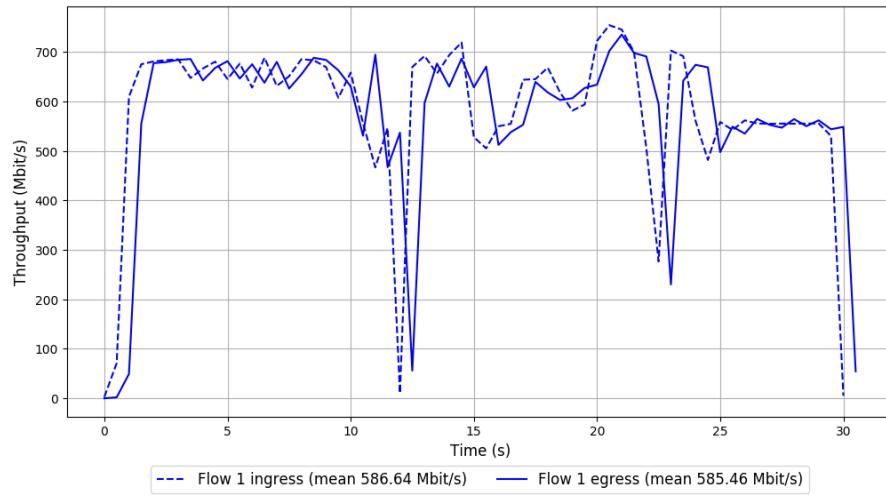


Run 4: Statistics of TCP BBR

```
Start at: 2018-09-06 23:32:42
End at: 2018-09-06 23:33:12
Local clock offset: -0.1 ms
Remote clock offset: 1.119 ms

# Below is generated by plot.py at 2018-09-07 00:35:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 585.46 Mbit/s
95th percentile per-packet one-way delay: 133.638 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 585.46 Mbit/s
95th percentile per-packet one-way delay: 133.638 ms
Loss rate: 0.21%
```

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

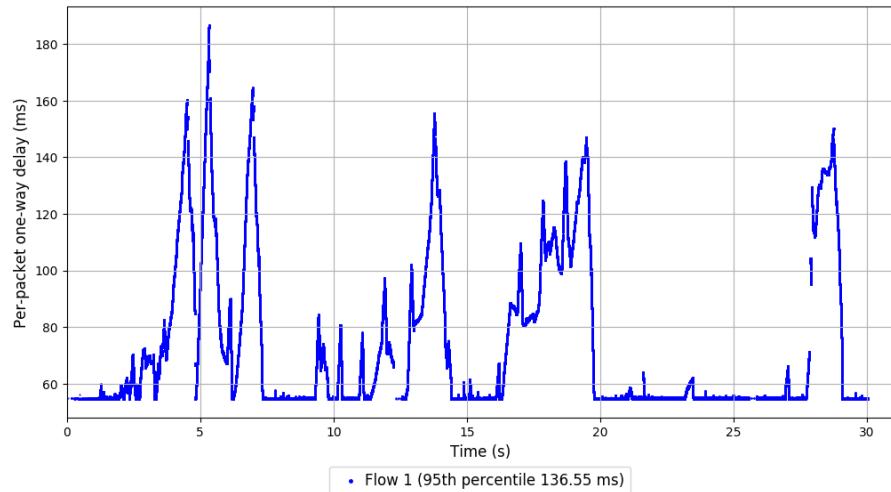
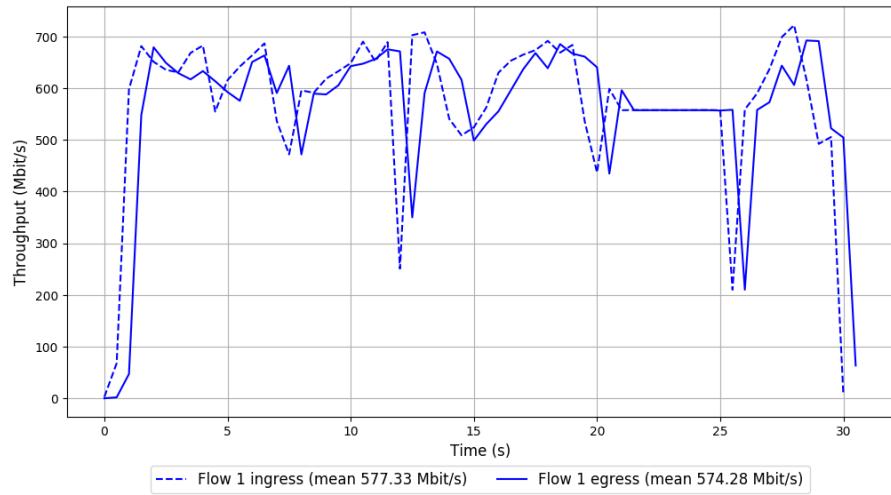


Run 5: Statistics of TCP BBR

```
Start at: 2018-09-06 23:58:41
End at: 2018-09-06 23:59:11
Local clock offset: -0.467 ms
Remote clock offset: 1.02 ms

# Below is generated by plot.py at 2018-09-07 00:35:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 574.28 Mbit/s
95th percentile per-packet one-way delay: 136.550 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 574.28 Mbit/s
95th percentile per-packet one-way delay: 136.550 ms
Loss rate: 0.54%
```

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

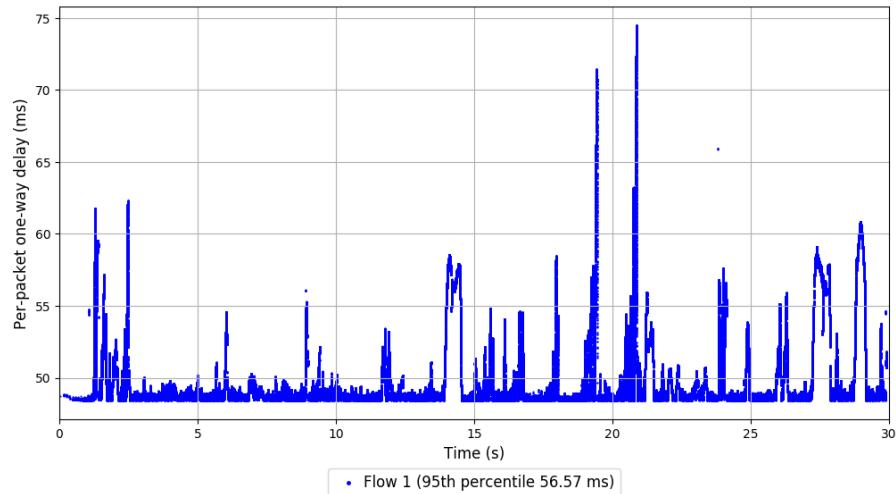
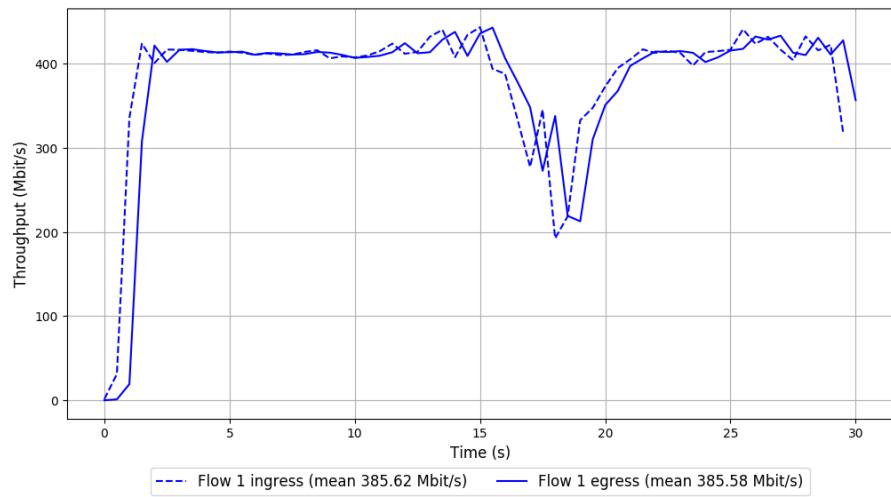


Run 1: Statistics of Copa

```
Start at: 2018-09-06 22:12:04
End at: 2018-09-06 22:12:34
Local clock offset: -0.119 ms
Remote clock offset: -1.517 ms

# Below is generated by plot.py at 2018-09-07 00:36:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 385.58 Mbit/s
95th percentile per-packet one-way delay: 56.572 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 385.58 Mbit/s
95th percentile per-packet one-way delay: 56.572 ms
Loss rate: 0.01%
```

### Run 1: Report of Copa — Data Link

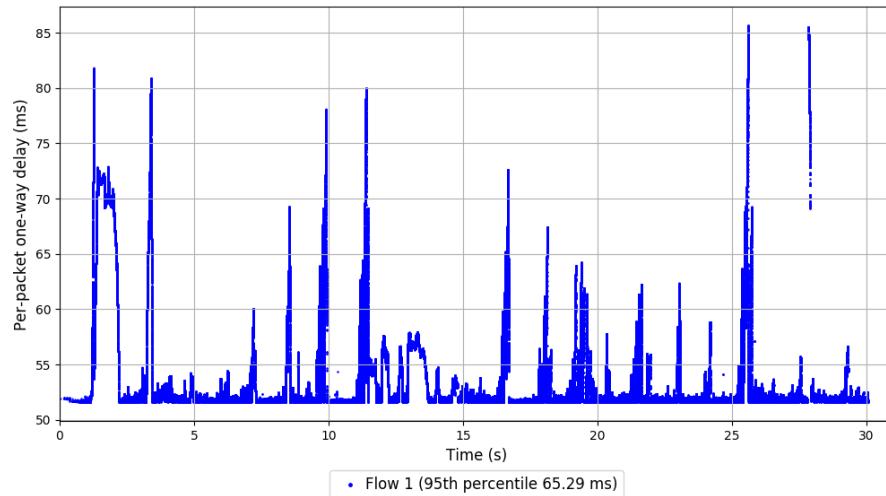
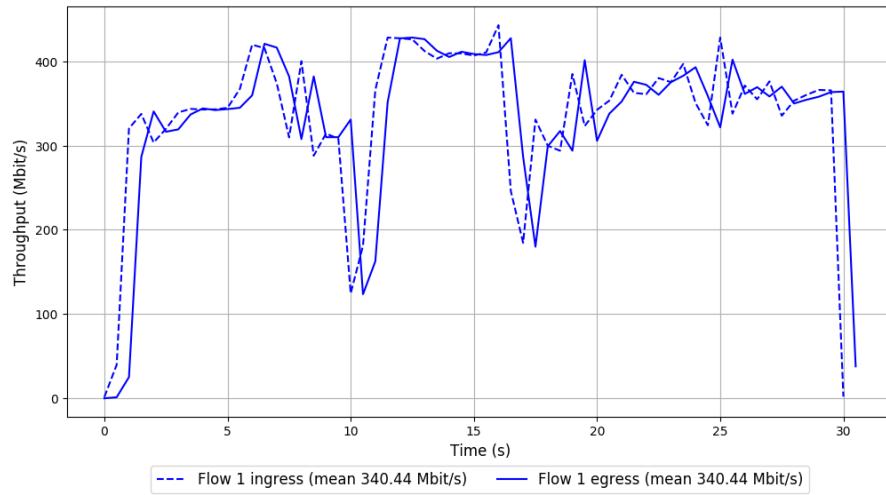


Run 2: Statistics of Copa

```
Start at: 2018-09-06 22:37:54
End at: 2018-09-06 22:38:24
Local clock offset: 0.05 ms
Remote clock offset: 1.256 ms

# Below is generated by plot.py at 2018-09-07 00:36:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 340.44 Mbit/s
95th percentile per-packet one-way delay: 65.286 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 340.44 Mbit/s
95th percentile per-packet one-way delay: 65.286 ms
Loss rate: 0.00%
```

## Run 2: Report of Copa — Data Link

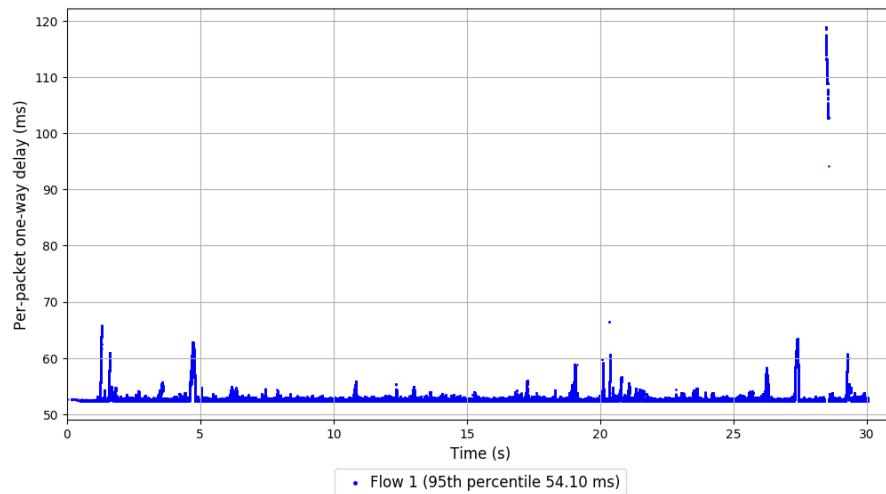
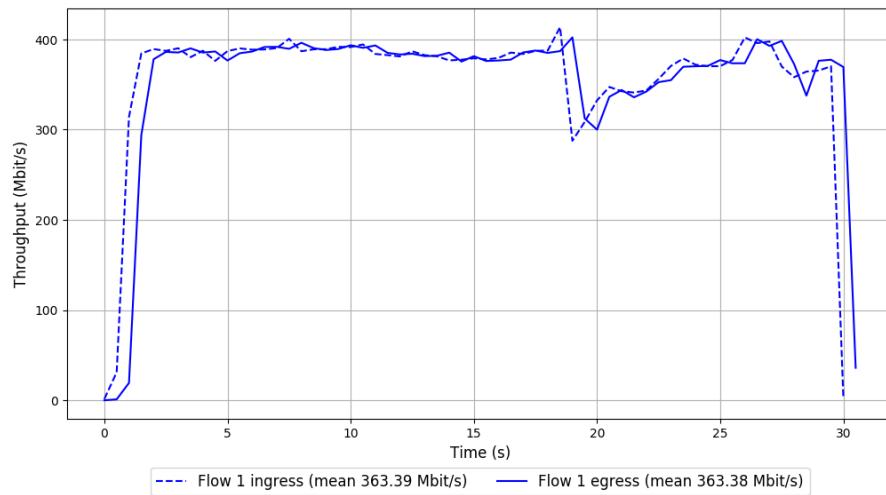


Run 3: Statistics of Copa

```
Start at: 2018-09-06 23:03:49
End at: 2018-09-06 23:04:19
Local clock offset: -0.016 ms
Remote clock offset: -1.283 ms

# Below is generated by plot.py at 2018-09-07 00:36:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 363.38 Mbit/s
95th percentile per-packet one-way delay: 54.097 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 363.38 Mbit/s
95th percentile per-packet one-way delay: 54.097 ms
Loss rate: 0.01%
```

### Run 3: Report of Copa — Data Link

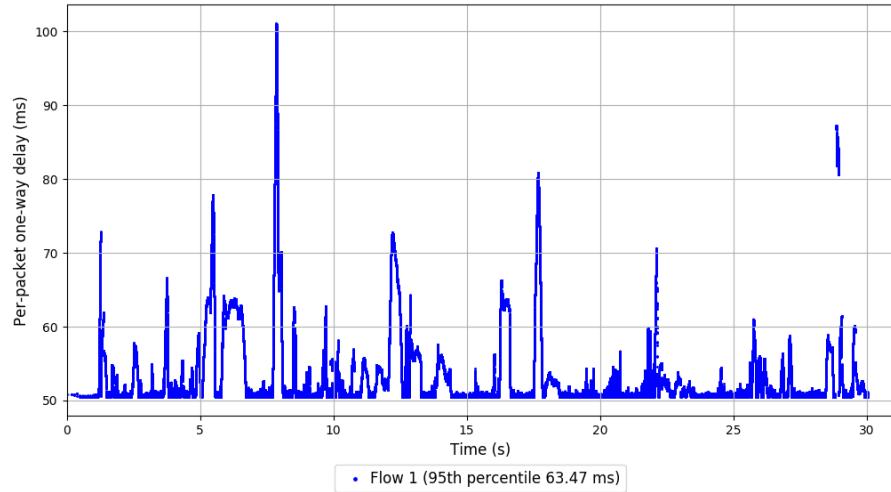
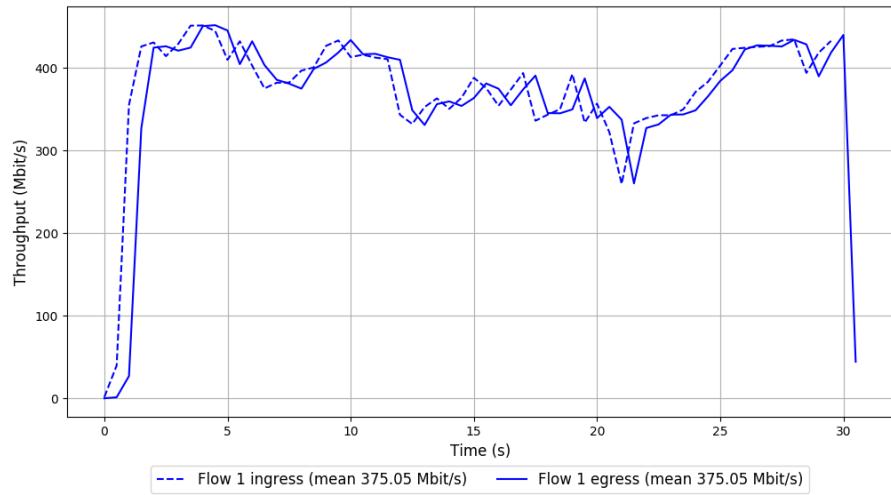


Run 4: Statistics of Copa

```
Start at: 2018-09-06 23:29:31
End at: 2018-09-06 23:30:01
Local clock offset: -0.168 ms
Remote clock offset: 0.292 ms

# Below is generated by plot.py at 2018-09-07 00:46:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 375.05 Mbit/s
95th percentile per-packet one-way delay: 63.465 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 375.05 Mbit/s
95th percentile per-packet one-way delay: 63.465 ms
Loss rate: 0.00%
```

## Run 4: Report of Copa — Data Link

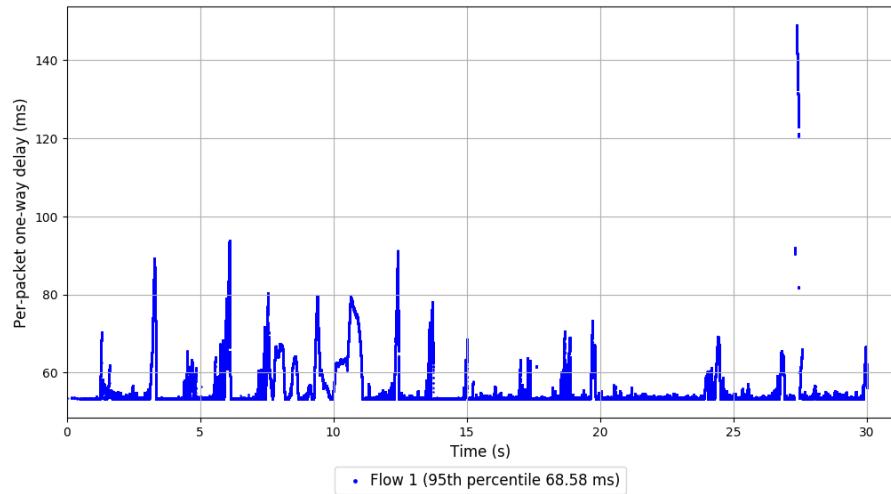
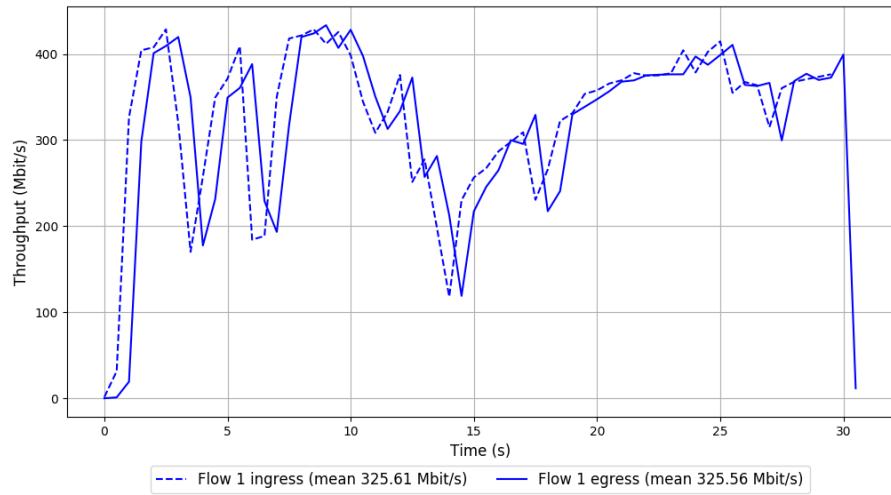


Run 5: Statistics of Copa

```
Start at: 2018-09-06 23:55:40
End at: 2018-09-06 23:56:10
Local clock offset: -0.059 ms
Remote clock offset: 0.117 ms

# Below is generated by plot.py at 2018-09-07 00:46:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 325.56 Mbit/s
95th percentile per-packet one-way delay: 68.583 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 325.56 Mbit/s
95th percentile per-packet one-way delay: 68.583 ms
Loss rate: 0.03%
```

### Run 5: Report of Copa — Data Link

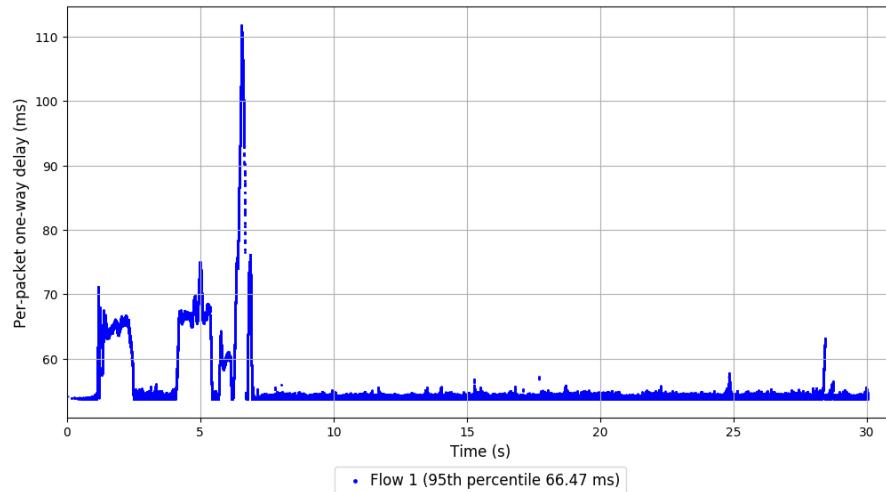
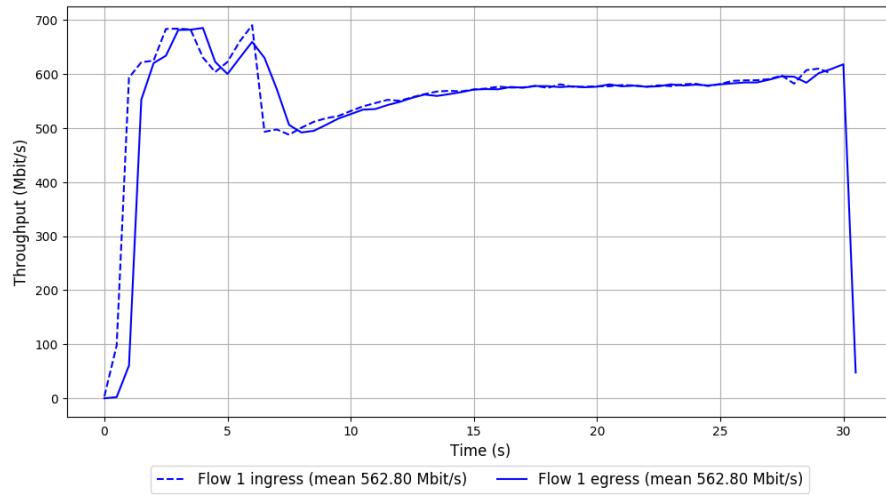


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-09-06 22:08:52
End at: 2018-09-06 22:09:22
Local clock offset: -0.184 ms
Remote clock offset: 0.029 ms

# Below is generated by plot.py at 2018-09-07 00:46:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 562.80 Mbit/s
95th percentile per-packet one-way delay: 66.472 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 562.80 Mbit/s
95th percentile per-packet one-way delay: 66.472 ms
Loss rate: 0.01%
```

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

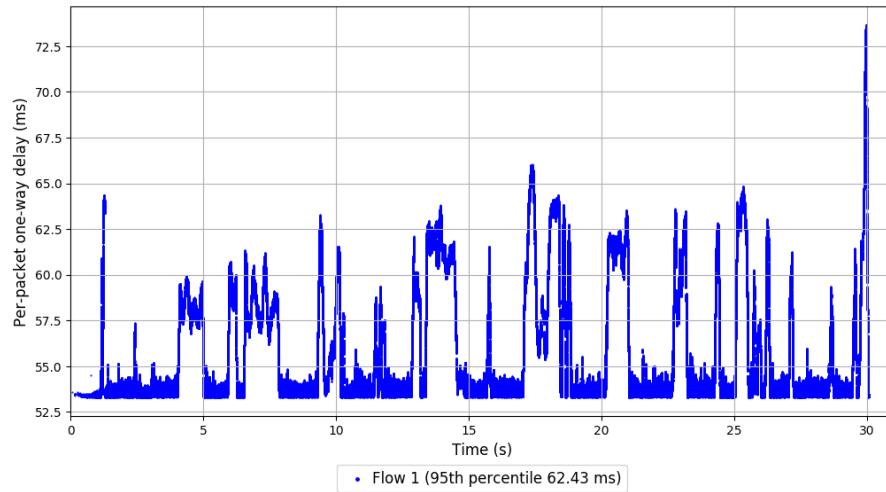
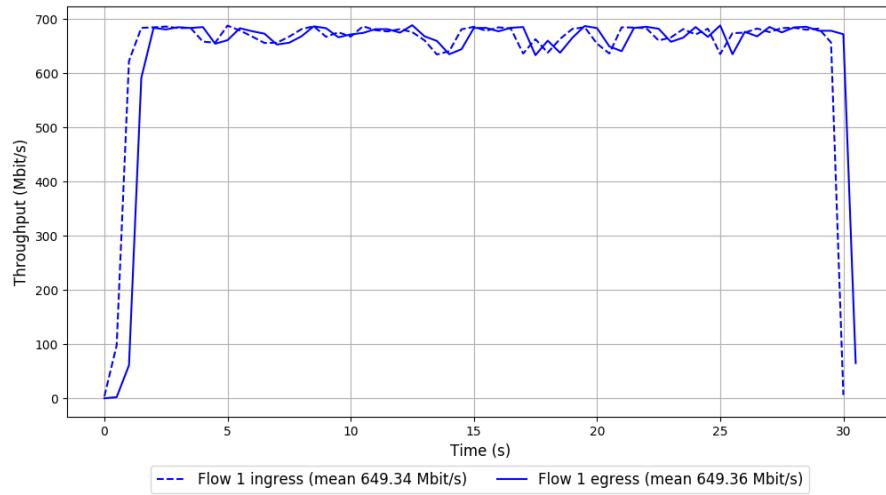


Run 2: Statistics of TCP Cubic

```
Start at: 2018-09-06 22:34:38
End at: 2018-09-06 22:35:08
Local clock offset: -0.229 ms
Remote clock offset: -0.359 ms

# Below is generated by plot.py at 2018-09-07 00:46:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 649.36 Mbit/s
95th percentile per-packet one-way delay: 62.432 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 649.36 Mbit/s
95th percentile per-packet one-way delay: 62.432 ms
Loss rate: 0.01%
```

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

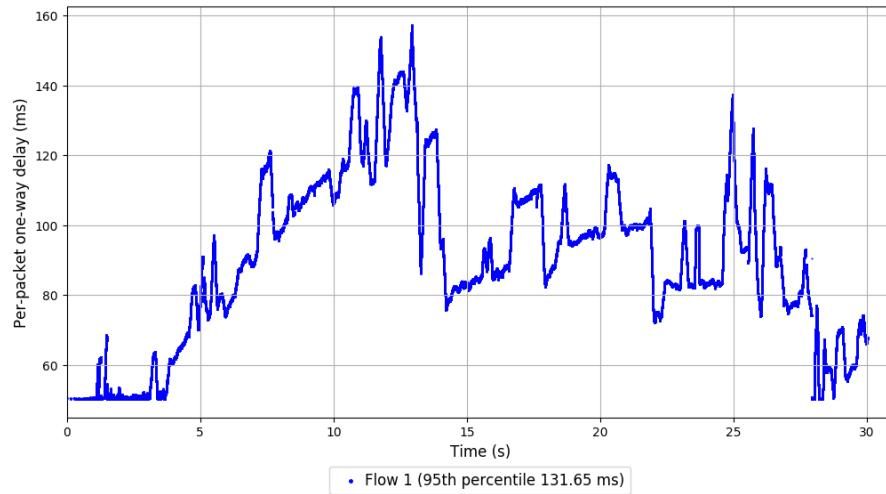
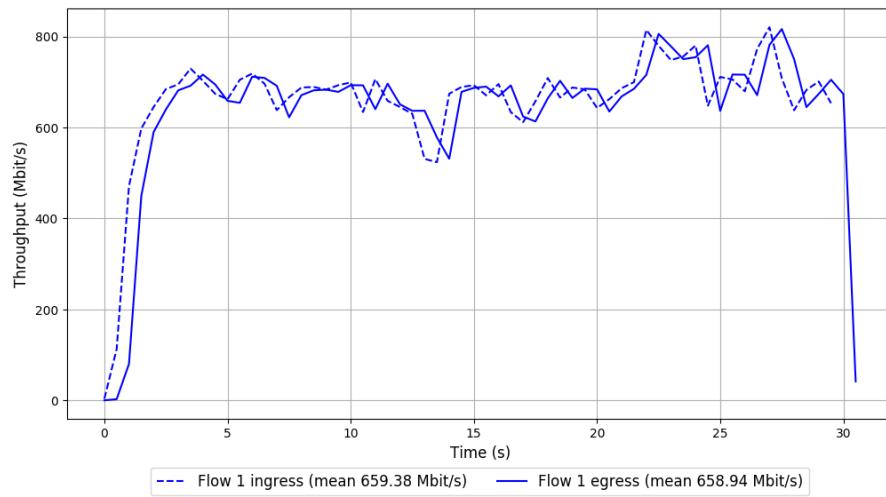


Run 3: Statistics of TCP Cubic

```
Start at: 2018-09-06 23:00:35
End at: 2018-09-06 23:01:05
Local clock offset: -0.223 ms
Remote clock offset: -0.332 ms

# Below is generated by plot.py at 2018-09-07 00:46:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 658.94 Mbit/s
95th percentile per-packet one-way delay: 131.645 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 658.94 Mbit/s
95th percentile per-packet one-way delay: 131.645 ms
Loss rate: 0.07%
```

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

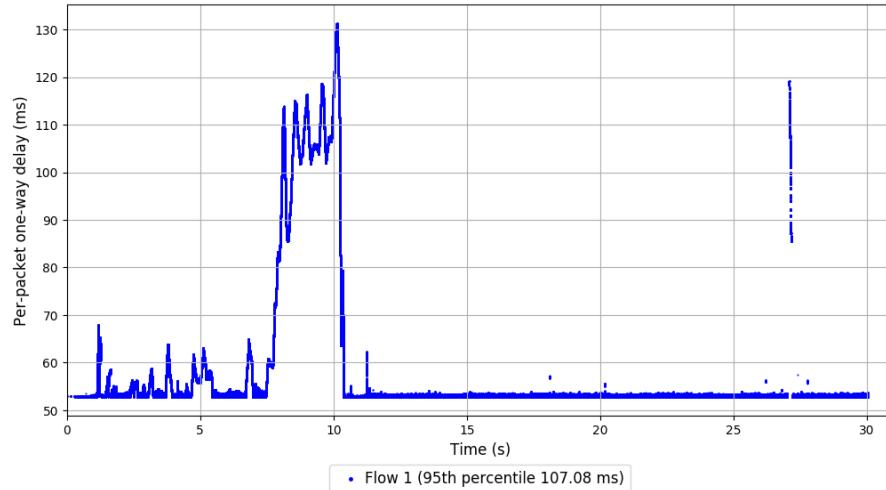
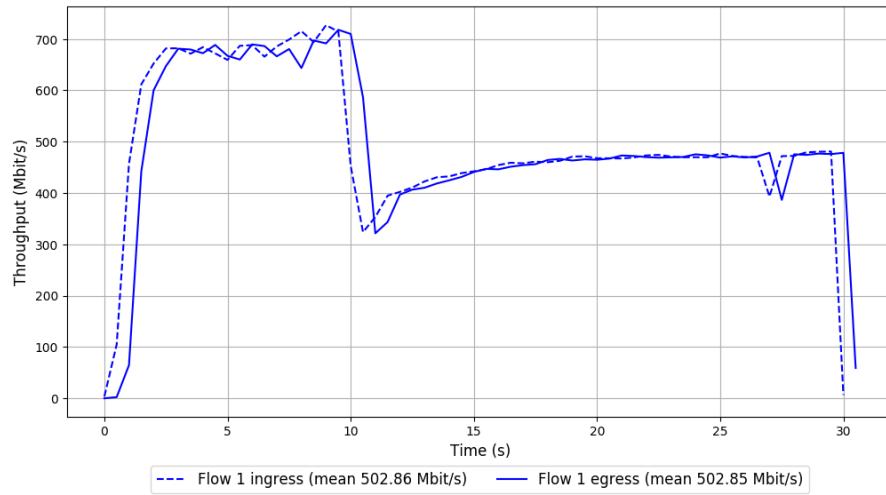


Run 4: Statistics of TCP Cubic

```
Start at: 2018-09-06 23:26:20
End at: 2018-09-06 23:26:50
Local clock offset: -0.154 ms
Remote clock offset: -0.236 ms

# Below is generated by plot.py at 2018-09-07 00:46:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 502.85 Mbit/s
95th percentile per-packet one-way delay: 107.083 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 502.85 Mbit/s
95th percentile per-packet one-way delay: 107.083 ms
Loss rate: 0.01%
```

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

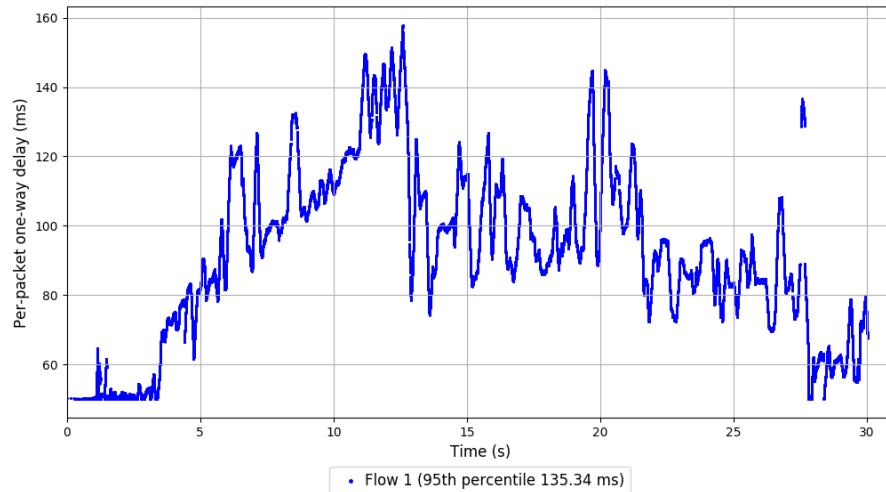
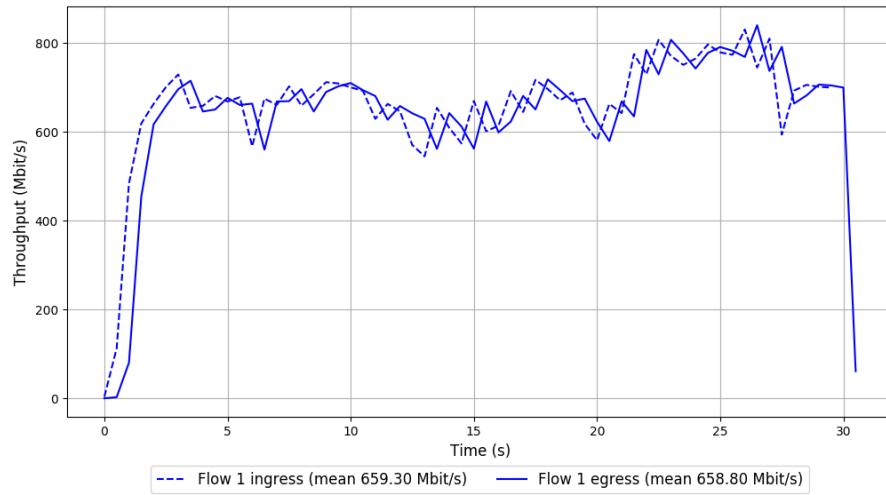


Run 5: Statistics of TCP Cubic

```
Start at: 2018-09-06 23:52:23
End at: 2018-09-06 23:52:53
Local clock offset: -0.002 ms
Remote clock offset: 0.038 ms

# Below is generated by plot.py at 2018-09-07 00:46:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 658.80 Mbit/s
95th percentile per-packet one-way delay: 135.344 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 658.80 Mbit/s
95th percentile per-packet one-way delay: 135.344 ms
Loss rate: 0.07%
```

Run 5: Report of TCP Cubic — Data Link

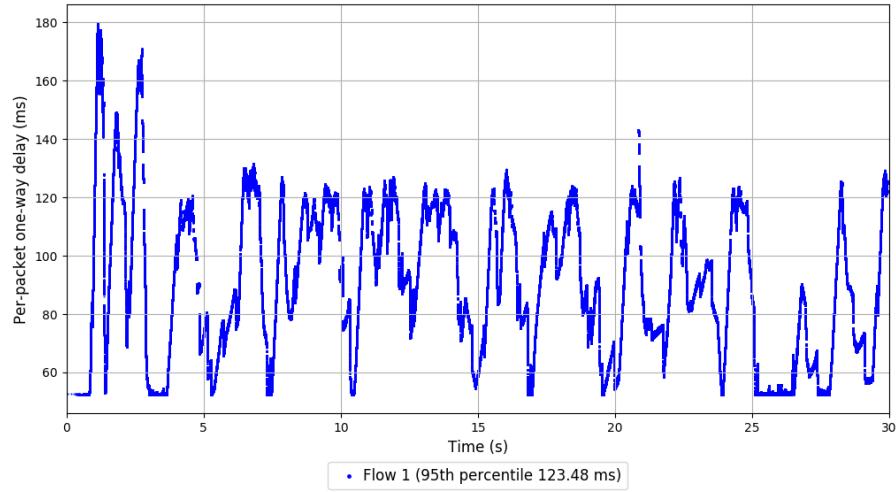
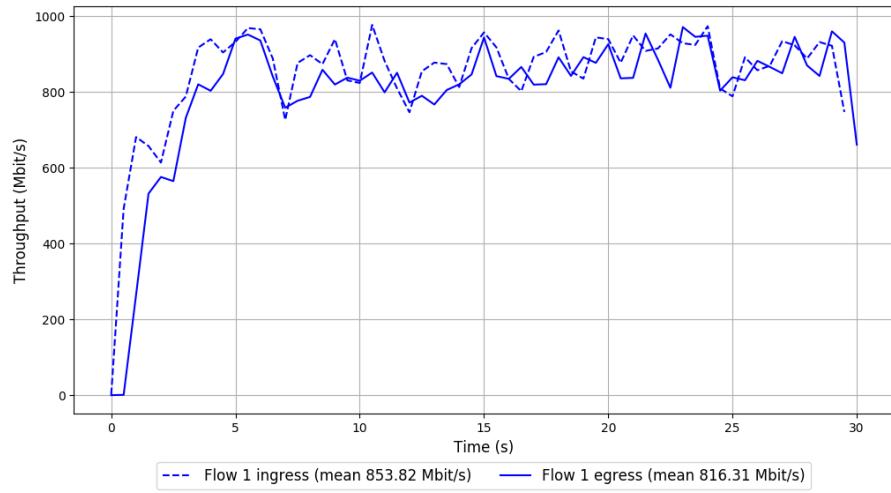


```
Run 1: Statistics of FillP

Start at: 2018-09-06 22:10:25
End at: 2018-09-06 22:10:55
Local clock offset: -0.302 ms
Remote clock offset: -1.483 ms

# Below is generated by plot.py at 2018-09-07 00:52:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 816.31 Mbit/s
95th percentile per-packet one-way delay: 123.484 ms
Loss rate: 4.40%
-- Flow 1:
Average throughput: 816.31 Mbit/s
95th percentile per-packet one-way delay: 123.484 ms
Loss rate: 4.40%
```

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

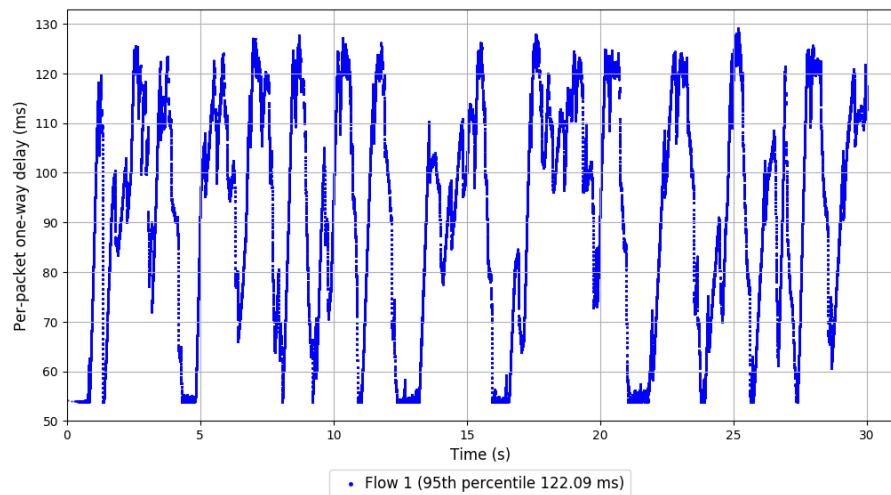
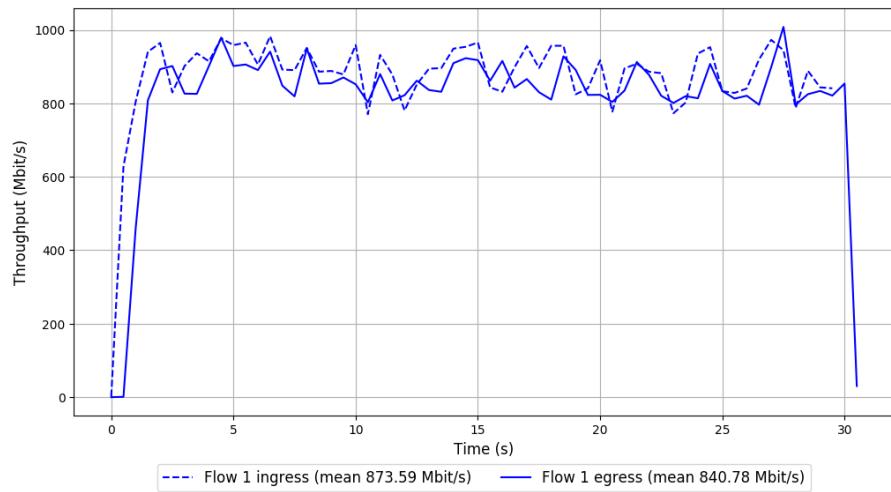


Run 2: Statistics of FillP

```
Start at: 2018-09-06 22:36:15
End at: 2018-09-06 22:36:45
Local clock offset: -0.014 ms
Remote clock offset: 0.226 ms

# Below is generated by plot.py at 2018-09-07 01:01:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 840.78 Mbit/s
95th percentile per-packet one-way delay: 122.094 ms
Loss rate: 3.77%
-- Flow 1:
Average throughput: 840.78 Mbit/s
95th percentile per-packet one-way delay: 122.094 ms
Loss rate: 3.77%
```

## Run 2: Report of FillP — Data Link

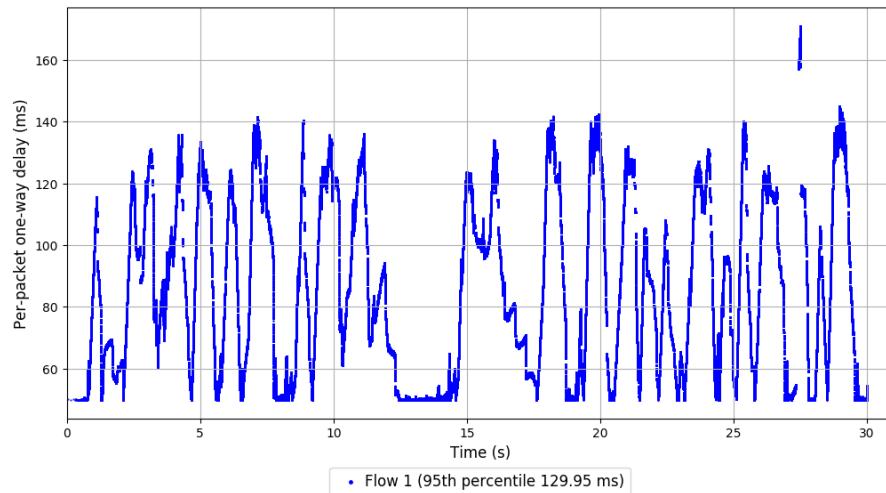
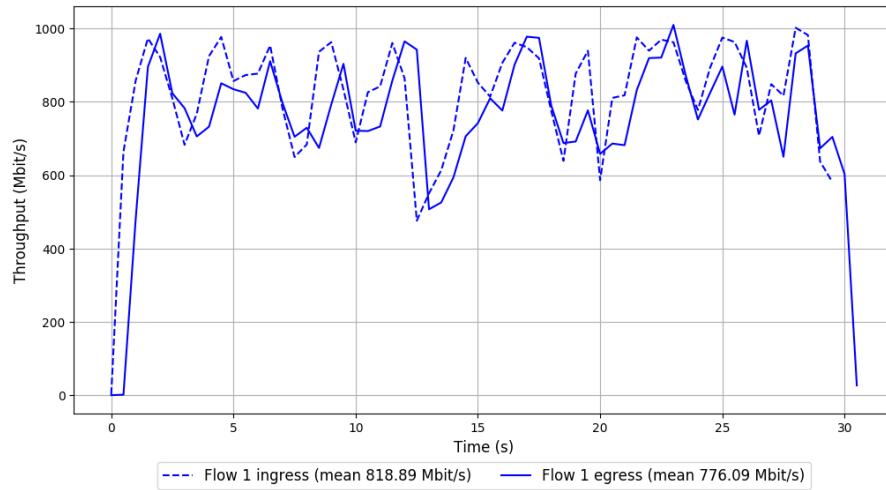


Run 3: Statistics of FillP

```
Start at: 2018-09-06 23:02:13
End at: 2018-09-06 23:02:43
Local clock offset: -0.258 ms
Remote clock offset: -0.902 ms

# Below is generated by plot.py at 2018-09-07 01:01:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 776.09 Mbit/s
95th percentile per-packet one-way delay: 129.949 ms
Loss rate: 5.23%
-- Flow 1:
Average throughput: 776.09 Mbit/s
95th percentile per-packet one-way delay: 129.949 ms
Loss rate: 5.23%
```

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

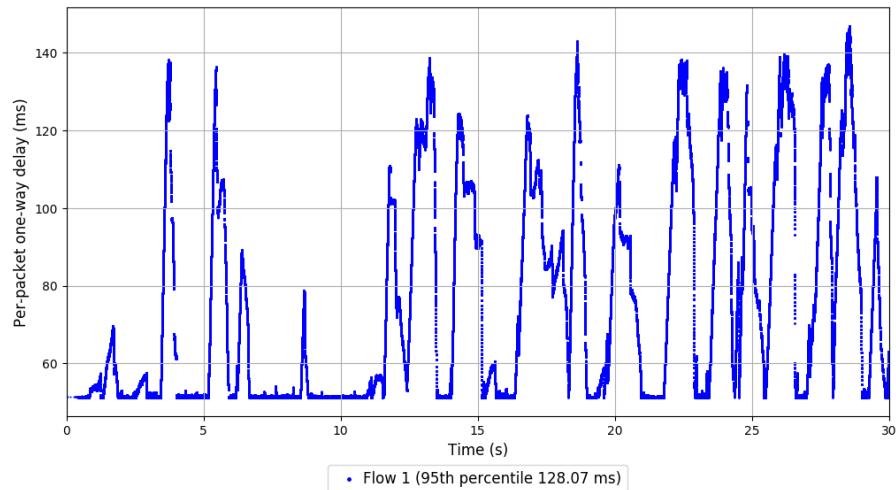
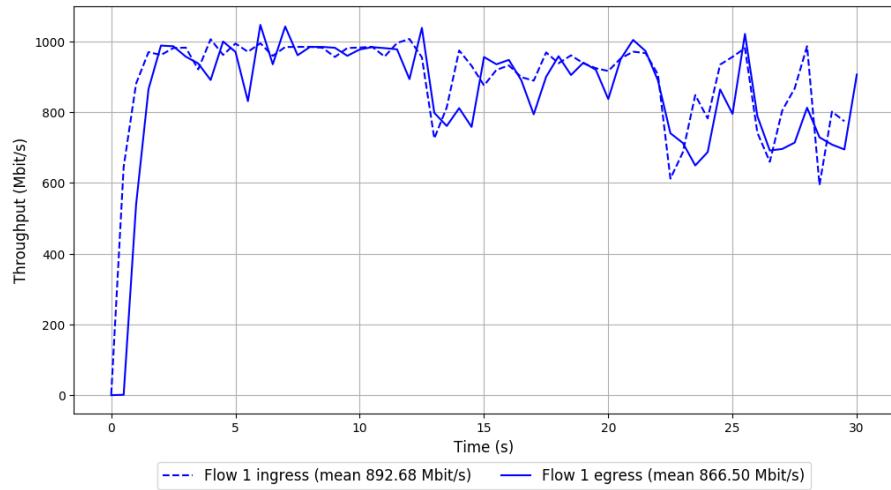


Run 4: Statistics of FillP

```
Start at: 2018-09-06 23:27:51
End at: 2018-09-06 23:28:21
Local clock offset: -0.138 ms
Remote clock offset: 0.659 ms

# Below is generated by plot.py at 2018-09-07 01:02:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 866.50 Mbit/s
95th percentile per-packet one-way delay: 128.067 ms
Loss rate: 2.93%
-- Flow 1:
Average throughput: 866.50 Mbit/s
95th percentile per-packet one-way delay: 128.067 ms
Loss rate: 2.93%
```

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

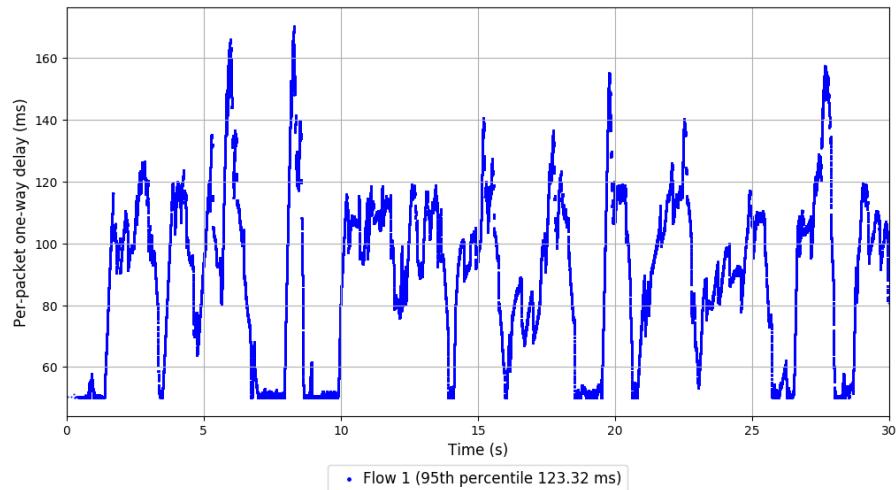
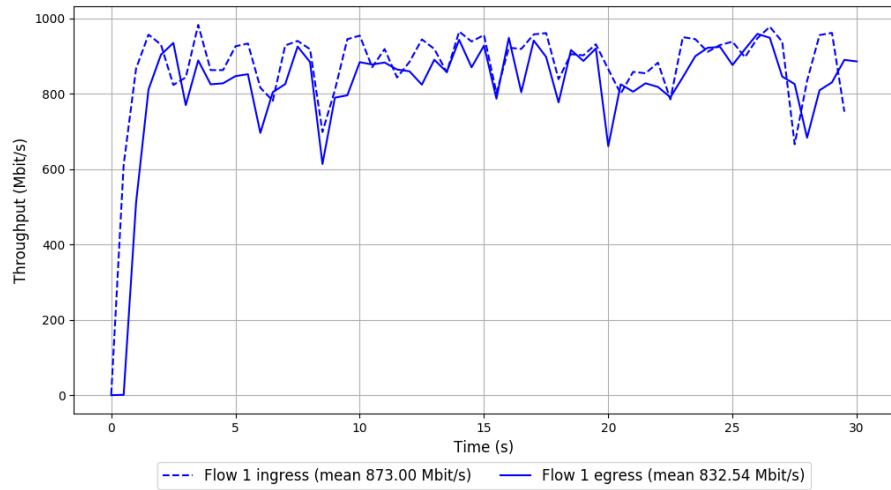


```
Run 5: Statistics of FillP
```

```
Start at: 2018-09-06 23:54:01
End at: 2018-09-06 23:54:31
Local clock offset: -0.15 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2018-09-07 01:03:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 832.54 Mbit/s
95th percentile per-packet one-way delay: 123.317 ms
Loss rate: 4.63%
-- Flow 1:
Average throughput: 832.54 Mbit/s
95th percentile per-packet one-way delay: 123.317 ms
Loss rate: 4.63%
```

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

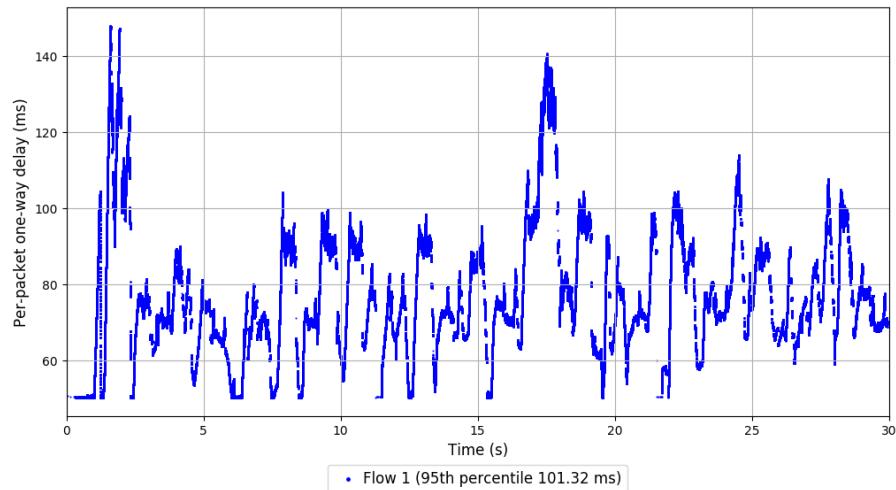
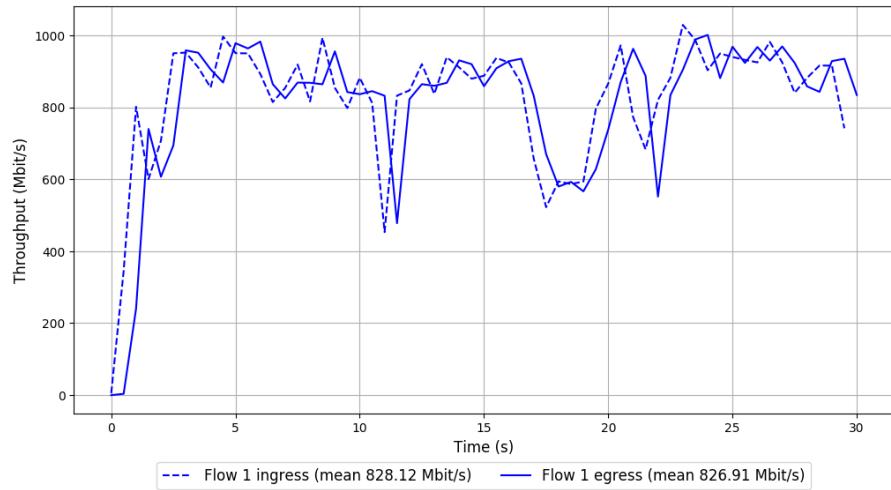


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-09-06 22:21:36
End at: 2018-09-06 22:22:06
Local clock offset: -0.052 ms
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2018-09-07 01:03:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 826.91 Mbit/s
95th percentile per-packet one-way delay: 101.322 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 826.91 Mbit/s
95th percentile per-packet one-way delay: 101.322 ms
Loss rate: 0.15%
```

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

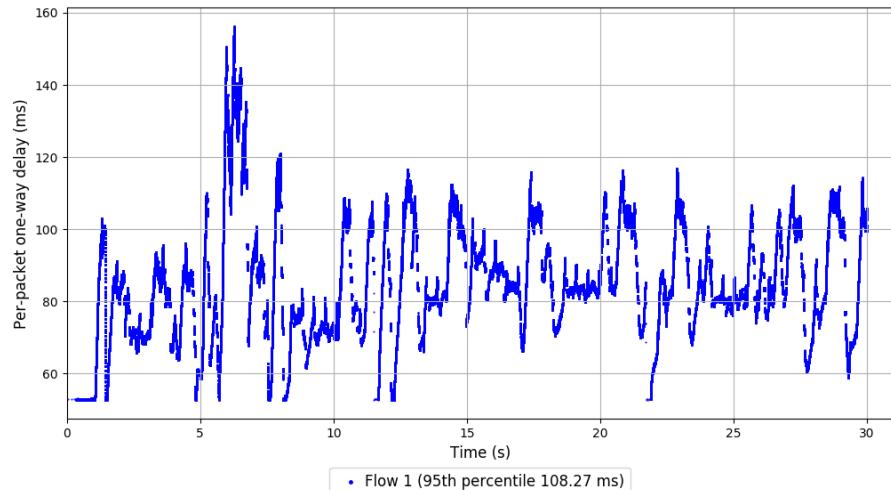
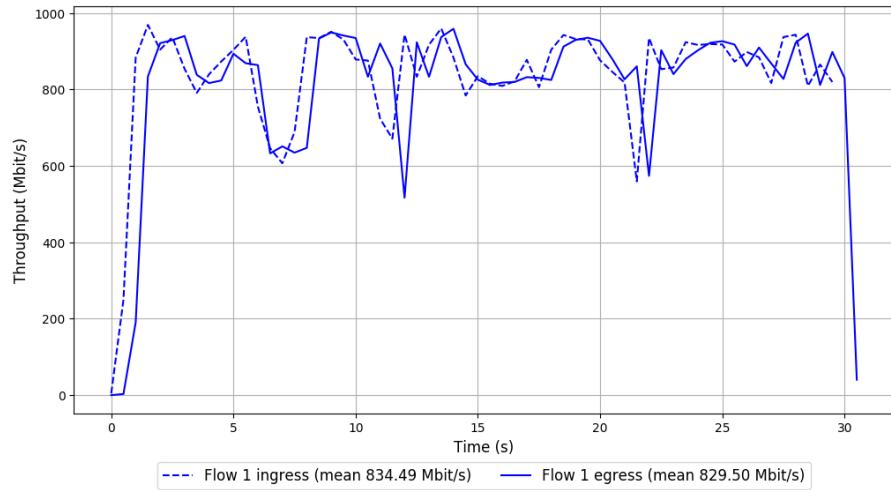


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-09-06 22:47:28
End at: 2018-09-06 22:47:58
Local clock offset: -0.022 ms
Remote clock offset: -0.891 ms

# Below is generated by plot.py at 2018-09-07 01:03:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 829.50 Mbit/s
95th percentile per-packet one-way delay: 108.268 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 829.50 Mbit/s
95th percentile per-packet one-way delay: 108.268 ms
Loss rate: 0.61%
```

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

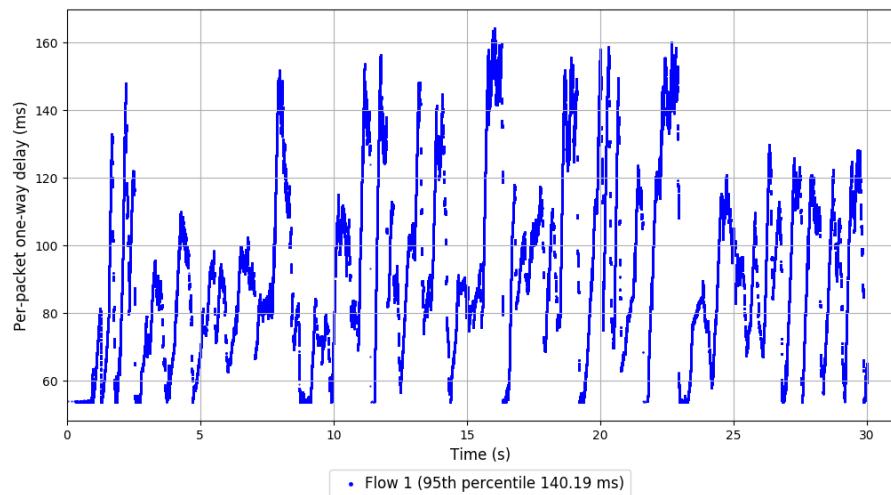
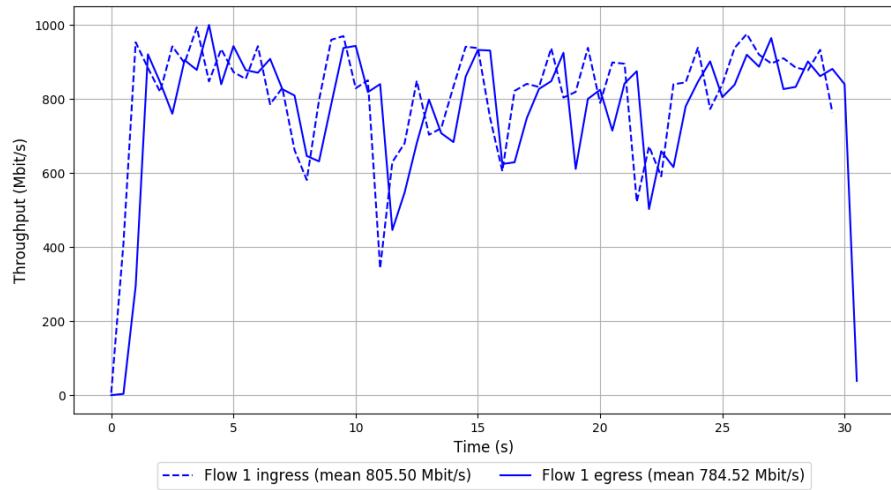


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-09-06 23:13:19
End at: 2018-09-06 23:13:49
Local clock offset: 0.039 ms
Remote clock offset: -0.008 ms

# Below is generated by plot.py at 2018-09-07 01:03:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 784.52 Mbit/s
95th percentile per-packet one-way delay: 140.194 ms
Loss rate: 2.62%
-- Flow 1:
Average throughput: 784.52 Mbit/s
95th percentile per-packet one-way delay: 140.194 ms
Loss rate: 2.62%
```

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

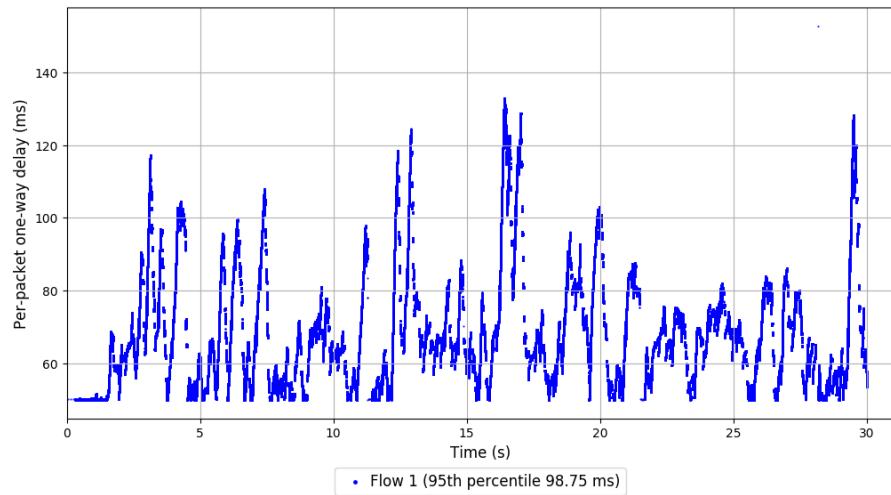
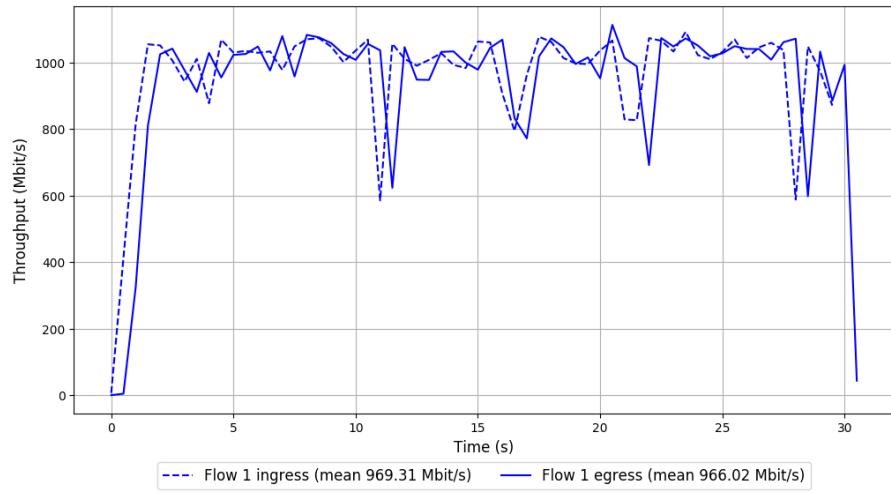


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-09-06 23:39:11
End at: 2018-09-06 23:39:41
Local clock offset: -0.001 ms
Remote clock offset: -0.158 ms

# Below is generated by plot.py at 2018-09-07 01:14:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 966.02 Mbit/s
95th percentile per-packet one-way delay: 98.752 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 966.02 Mbit/s
95th percentile per-packet one-way delay: 98.752 ms
Loss rate: 0.34%
```

Run 4: Report of FillP-Sheep — Data Link

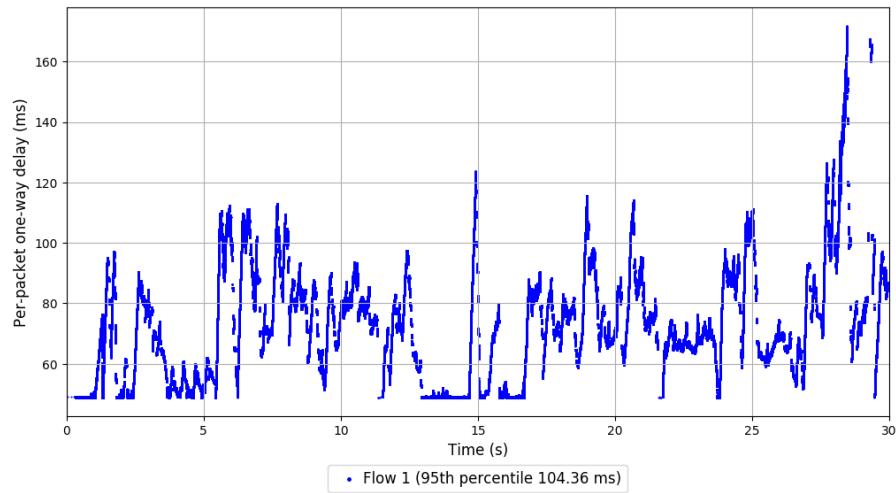
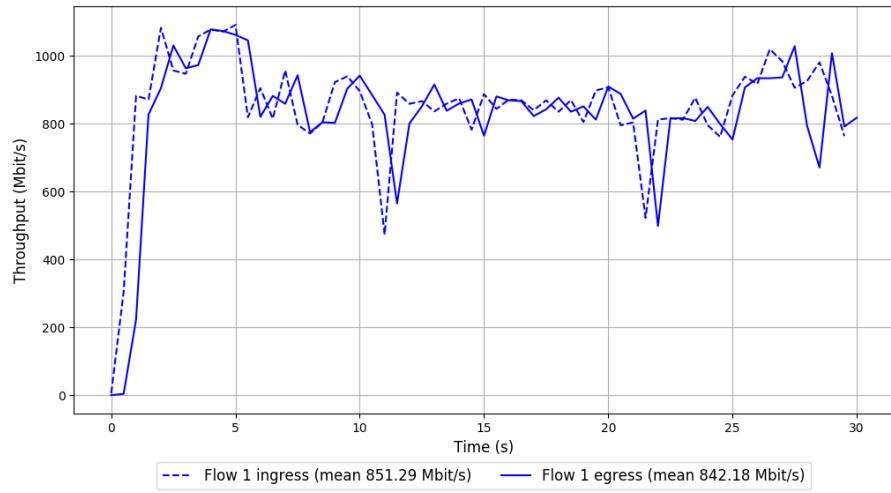


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-09-07 00:05:12
End at: 2018-09-07 00:05:42
Local clock offset: -0.246 ms
Remote clock offset: -1.701 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 842.18 Mbit/s
95th percentile per-packet one-way delay: 104.361 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 842.18 Mbit/s
95th percentile per-packet one-way delay: 104.361 ms
Loss rate: 1.07%
```

Run 5: Report of FillP-Sheep — Data Link

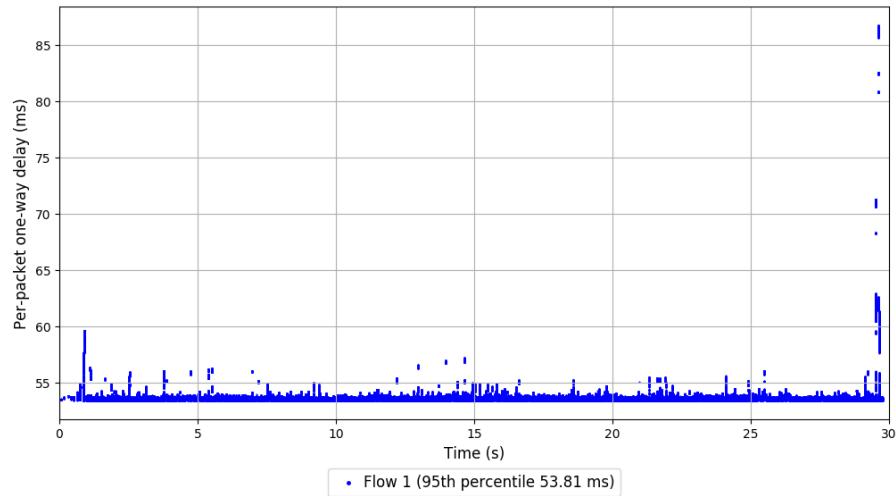
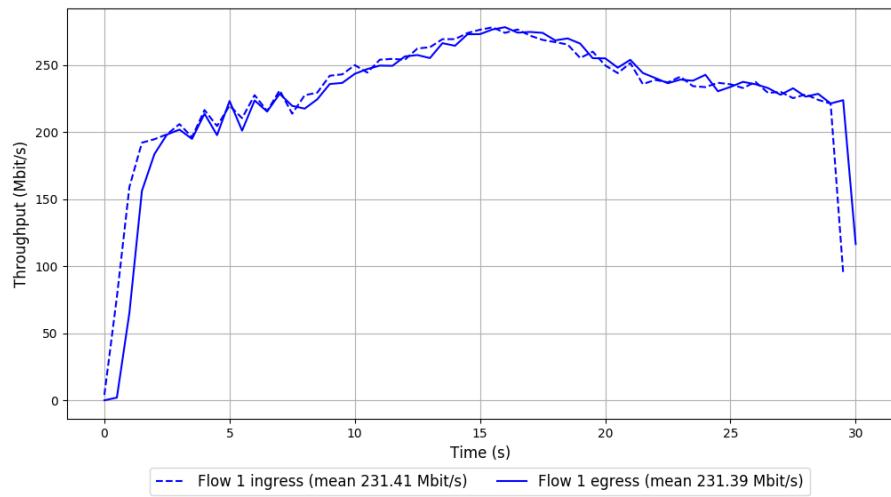


Run 1: Statistics of Indigo

```
Start at: 2018-09-06 22:27:28
End at: 2018-09-06 22:27:58
Local clock offset: 0.011 ms
Remote clock offset: -0.138 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 231.39 Mbit/s
95th percentile per-packet one-way delay: 53.807 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 231.39 Mbit/s
95th percentile per-packet one-way delay: 53.807 ms
Loss rate: 0.02%
```

## Run 1: Report of Indigo — Data Link

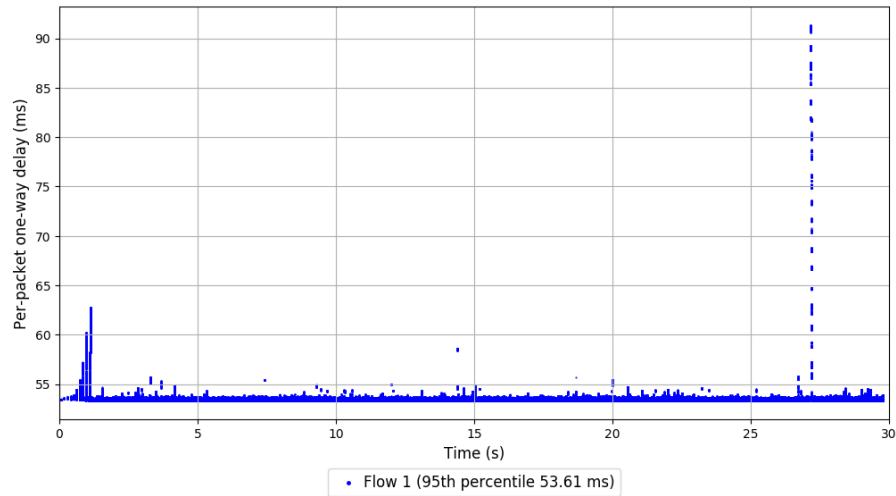
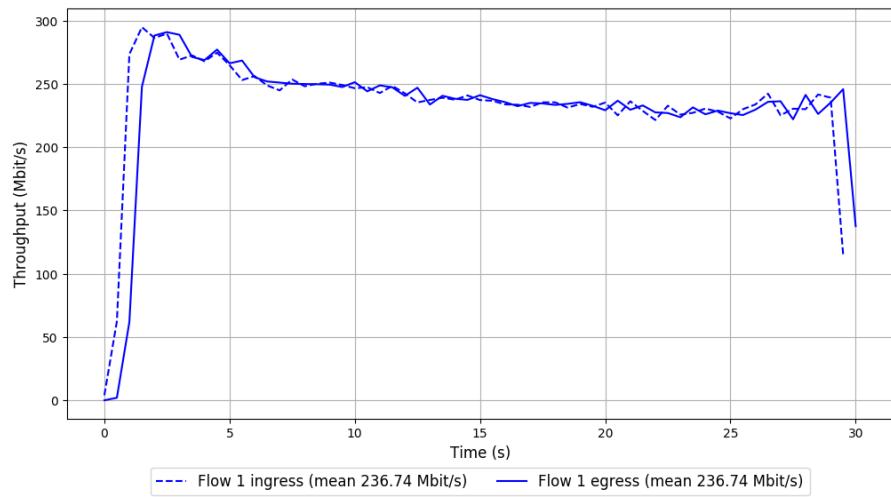


Run 2: Statistics of Indigo

```
Start at: 2018-09-06 22:53:23
End at: 2018-09-06 22:53:53
Local clock offset: -0.027 ms
Remote clock offset: -0.341 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 236.74 Mbit/s
95th percentile per-packet one-way delay: 53.614 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 236.74 Mbit/s
95th percentile per-packet one-way delay: 53.614 ms
Loss rate: 0.01%
```

## Run 2: Report of Indigo — Data Link

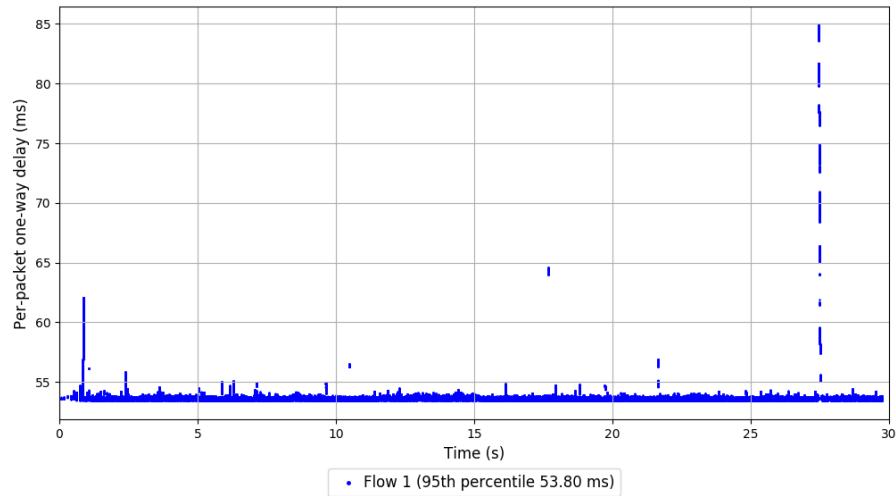
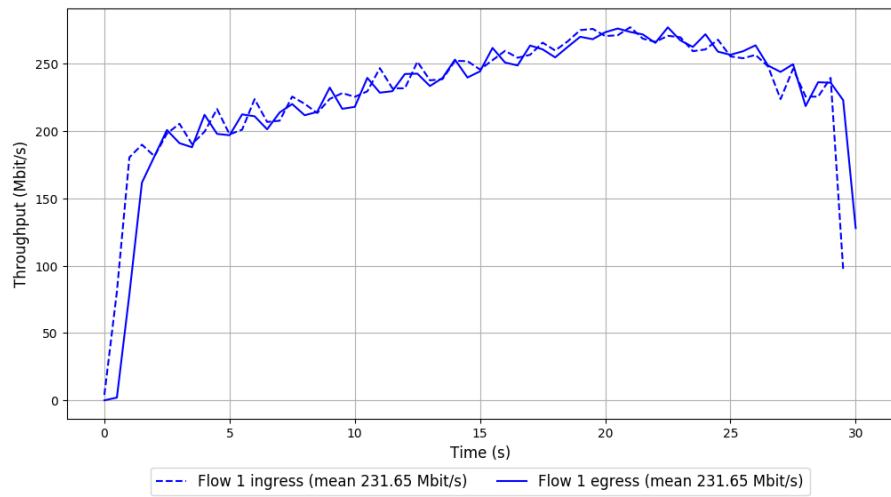


Run 3: Statistics of Indigo

```
Start at: 2018-09-06 23:19:17
End at: 2018-09-06 23:19:47
Local clock offset: -0.046 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 231.65 Mbit/s
95th percentile per-packet one-way delay: 53.799 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 231.65 Mbit/s
95th percentile per-packet one-way delay: 53.799 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo — Data Link

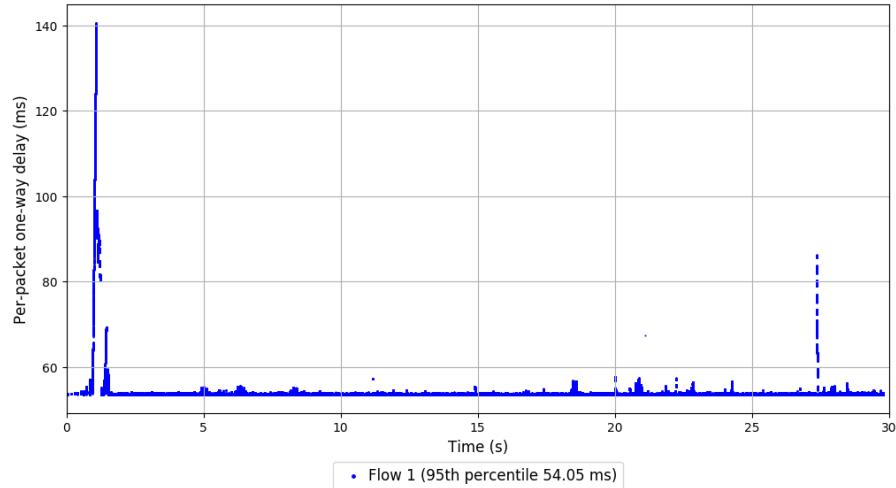
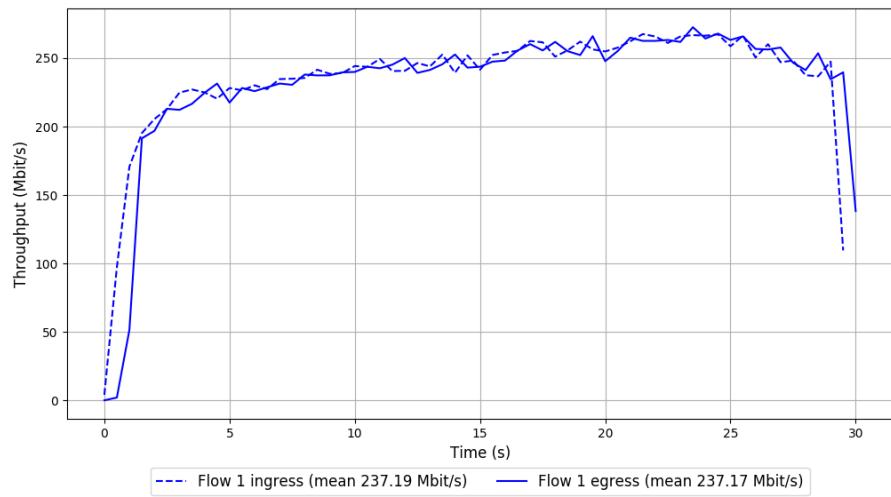


Run 4: Statistics of Indigo

```
Start at: 2018-09-06 23:45:17
End at: 2018-09-06 23:45:47
Local clock offset: -0.283 ms
Remote clock offset: 0.178 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 237.17 Mbit/s
95th percentile per-packet one-way delay: 54.048 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 237.17 Mbit/s
95th percentile per-packet one-way delay: 54.048 ms
Loss rate: 0.01%
```

## Run 4: Report of Indigo — Data Link

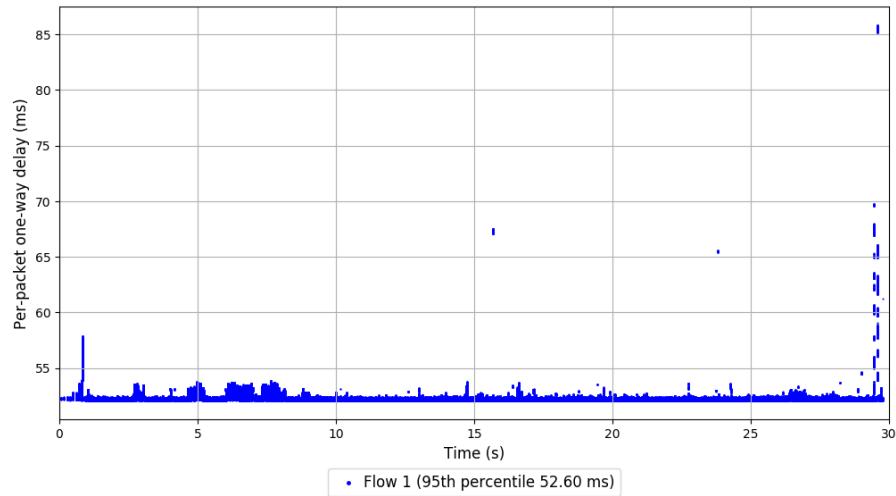
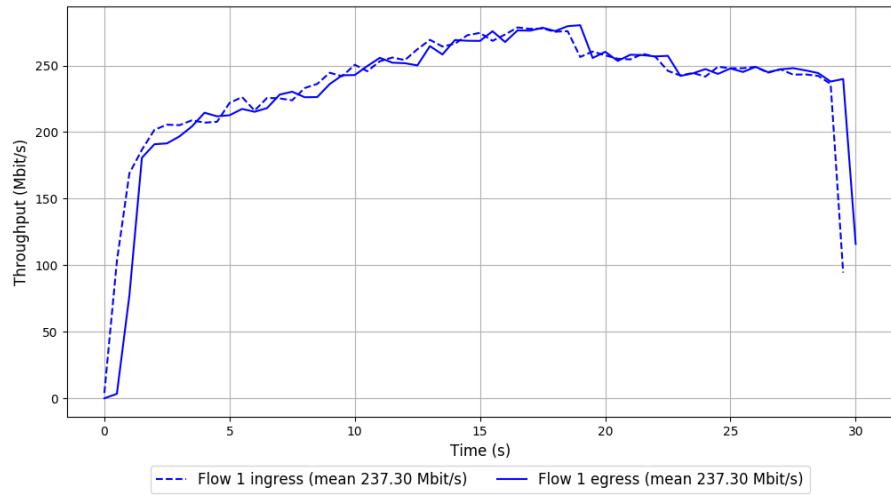


Run 5: Statistics of Indigo

```
Start at: 2018-09-07 00:11:08
End at: 2018-09-07 00:11:38
Local clock offset: -0.204 ms
Remote clock offset: 1.322 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 237.30 Mbit/s
95th percentile per-packet one-way delay: 52.602 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 237.30 Mbit/s
95th percentile per-packet one-way delay: 52.602 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo — Data Link

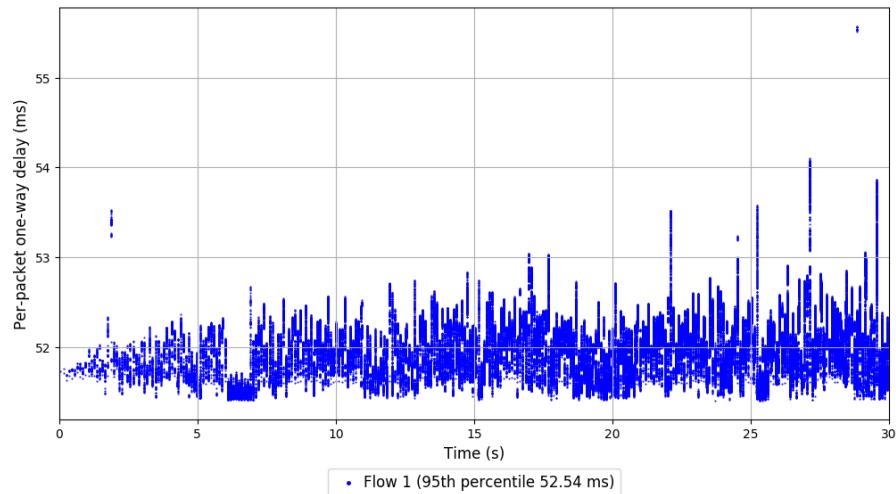
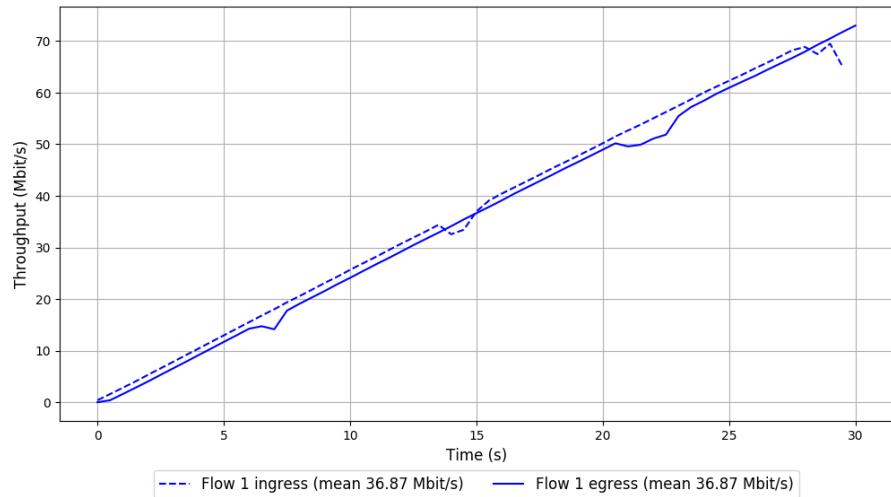


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-09-06 22:18:12
End at: 2018-09-06 22:18:42
Local clock offset: -0.173 ms
Remote clock offset: 1.417 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 36.87 Mbit/s
95th percentile per-packet one-way delay: 52.543 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.87 Mbit/s
95th percentile per-packet one-way delay: 52.543 ms
Loss rate: 0.00%
```

## Run 1: Report of LEDBAT — Data Link

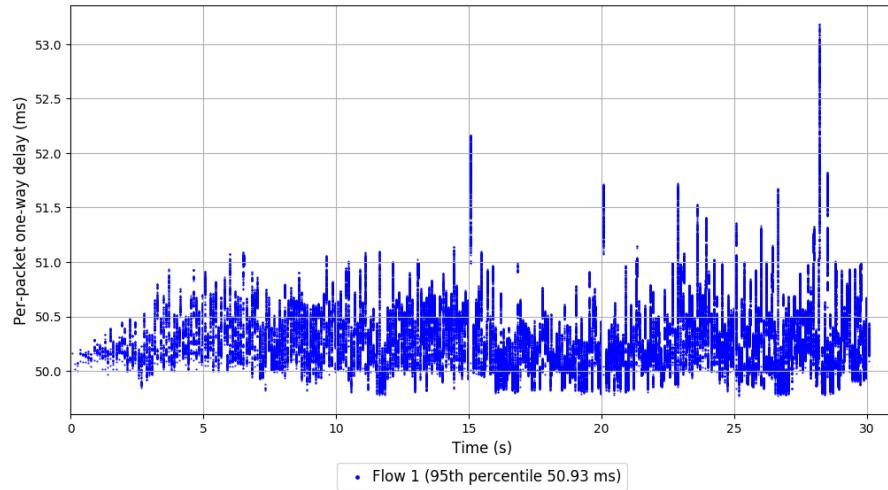
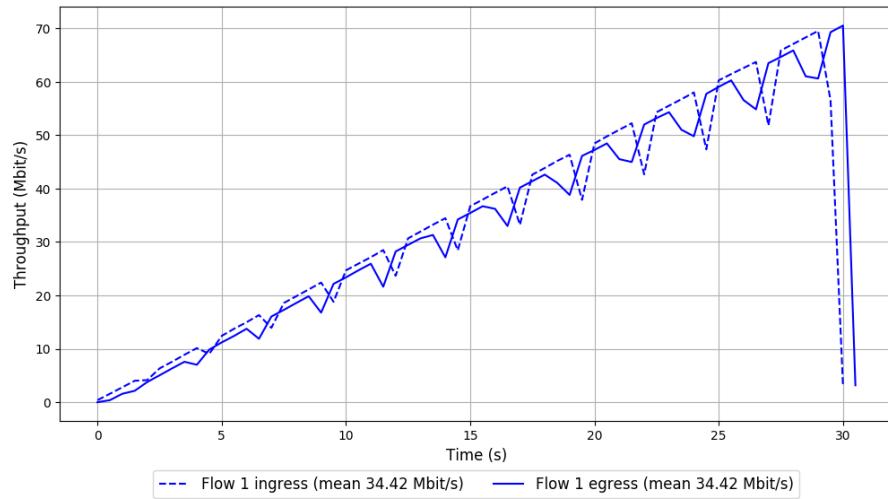


Run 2: Statistics of LEDBAT

```
Start at: 2018-09-06 22:44:03
End at: 2018-09-06 22:44:34
Local clock offset: -0.238 ms
Remote clock offset: -0.543 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 34.42 Mbit/s
95th percentile per-packet one-way delay: 50.926 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 34.42 Mbit/s
95th percentile per-packet one-way delay: 50.926 ms
Loss rate: 0.00%
```

## Run 2: Report of LEDBAT — Data Link

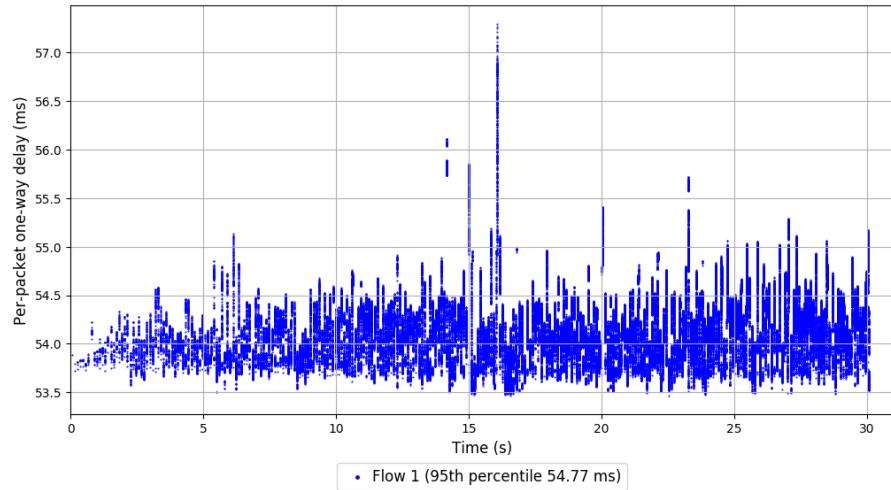
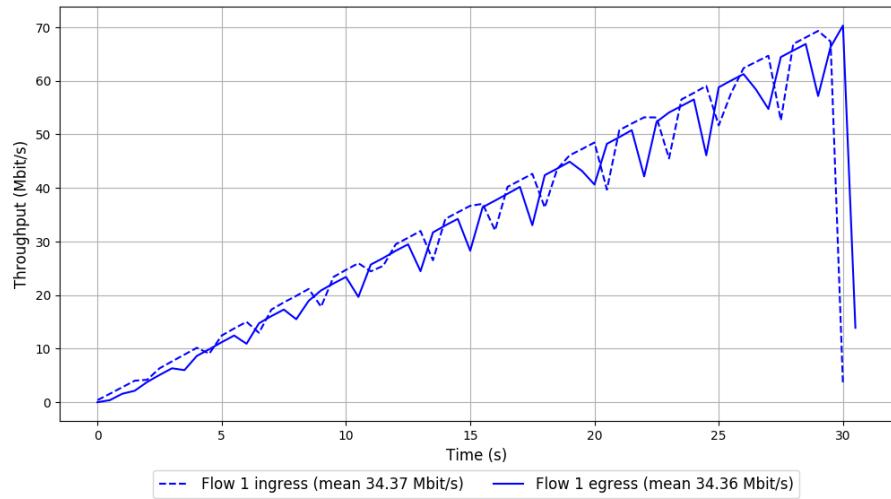


Run 3: Statistics of LEDBAT

```
Start at: 2018-09-06 23:09:56
End at: 2018-09-06 23:10:26
Local clock offset: -0.034 ms
Remote clock offset: 0.028 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 34.36 Mbit/s
95th percentile per-packet one-way delay: 54.767 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 34.36 Mbit/s
95th percentile per-packet one-way delay: 54.767 ms
Loss rate: 0.02%
```

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

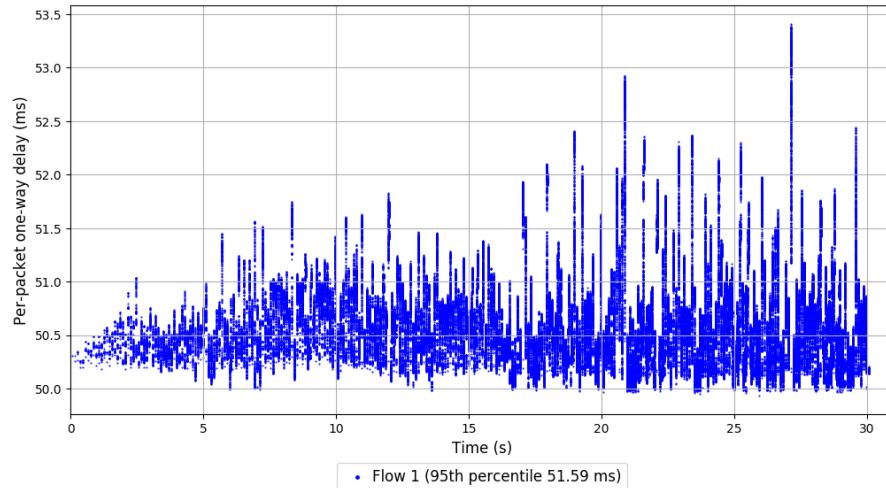
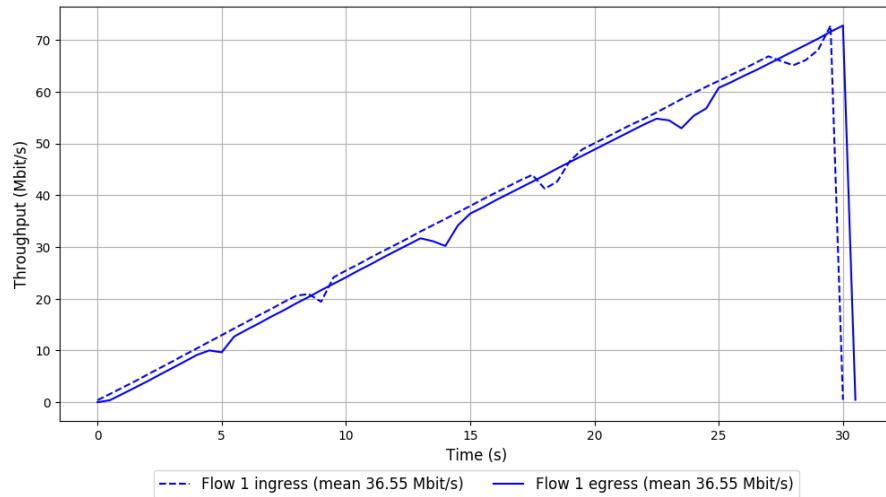


Run 4: Statistics of LEDBAT

```
Start at: 2018-09-06 23:35:46
End at: 2018-09-06 23:36:17
Local clock offset: -0.09 ms
Remote clock offset: -0.121 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 36.55 Mbit/s
95th percentile per-packet one-way delay: 51.586 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.55 Mbit/s
95th percentile per-packet one-way delay: 51.586 ms
Loss rate: 0.00%
```

## Run 4: Report of LEDBAT — Data Link

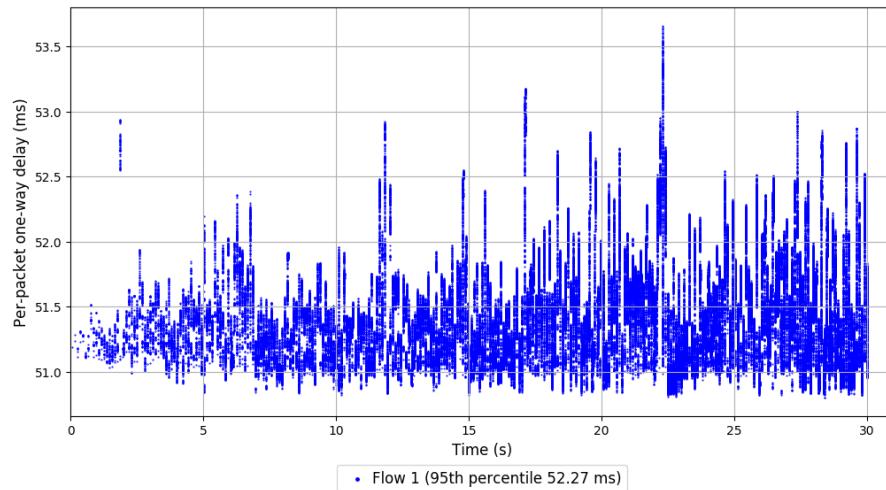
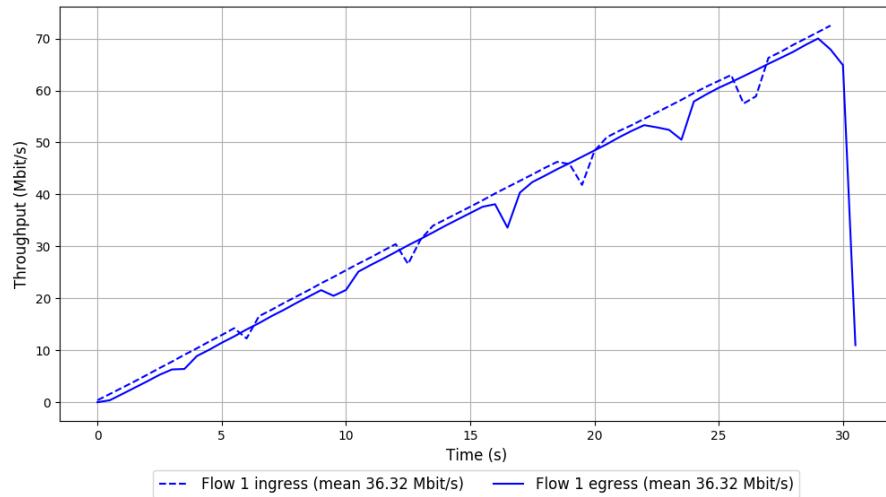


Run 5: Statistics of LEDBAT

```
Start at: 2018-09-07 00:01:44
End at: 2018-09-07 00:02:14
Local clock offset: -0.333 ms
Remote clock offset: -0.063 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 36.32 Mbit/s
95th percentile per-packet one-way delay: 52.273 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 36.32 Mbit/s
95th percentile per-packet one-way delay: 52.273 ms
Loss rate: 0.00%
```

## Run 5: Report of LEDBAT — Data Link

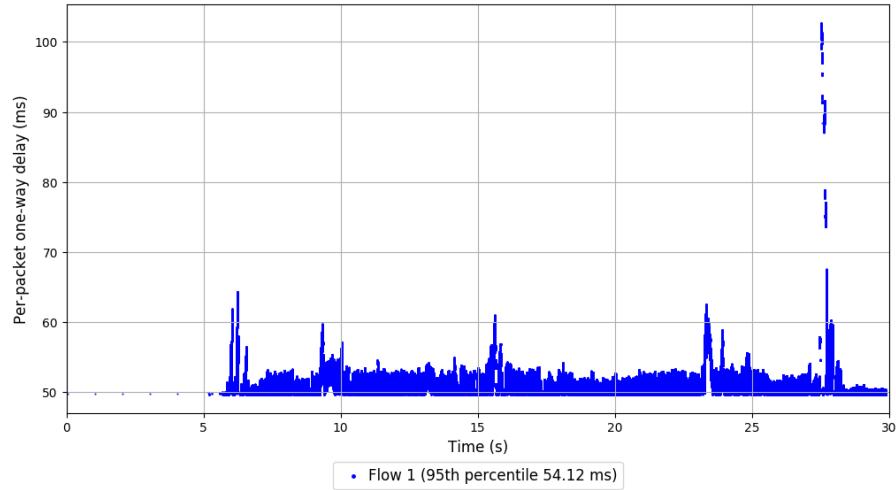
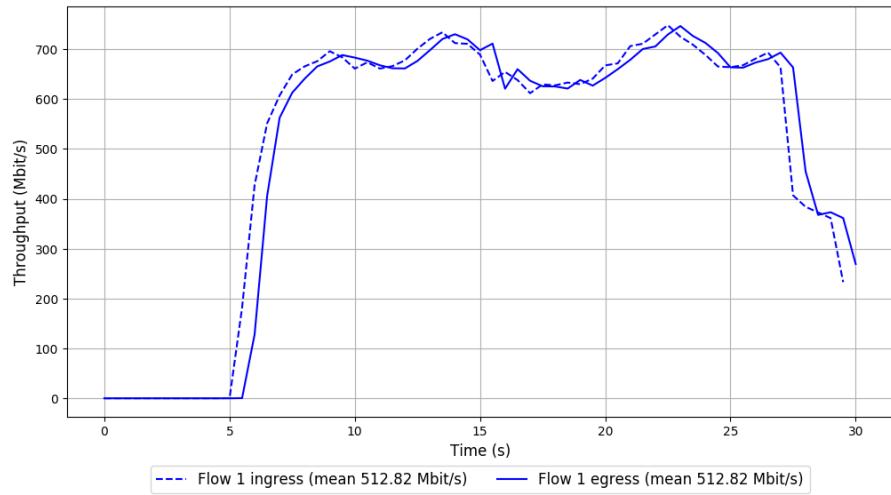


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-09-06 22:24:20
End at: 2018-09-06 22:24:50
Local clock offset: -0.013 ms
Remote clock offset: -0.315 ms

# Below is generated by plot.py at 2018-09-07 01:17:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 512.82 Mbit/s
95th percentile per-packet one-way delay: 54.118 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 512.82 Mbit/s
95th percentile per-packet one-way delay: 54.118 ms
Loss rate: 0.00%
```

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

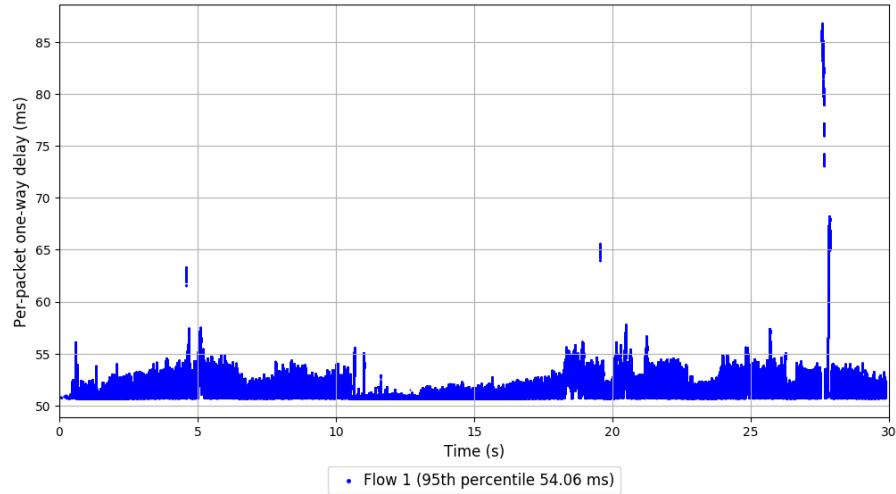
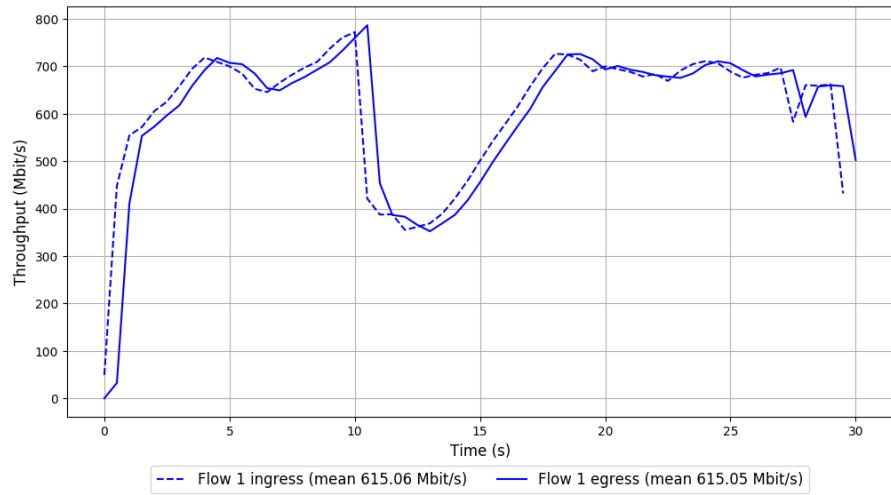


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-09-06 22:50:12
End at: 2018-09-06 22:50:42
Local clock offset: 0.039 ms
Remote clock offset: 0.564 ms

# Below is generated by plot.py at 2018-09-07 01:20:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 615.05 Mbit/s
95th percentile per-packet one-way delay: 54.061 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 615.05 Mbit/s
95th percentile per-packet one-way delay: 54.061 ms
Loss rate: 0.00%
```

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

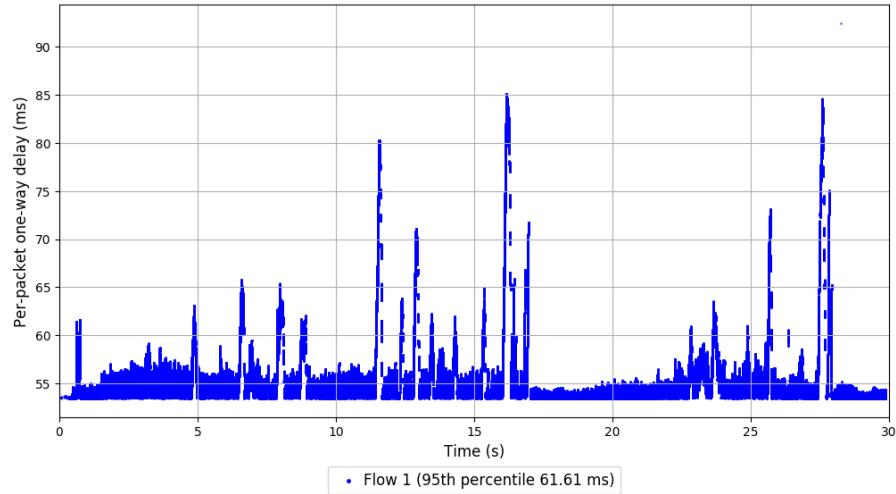
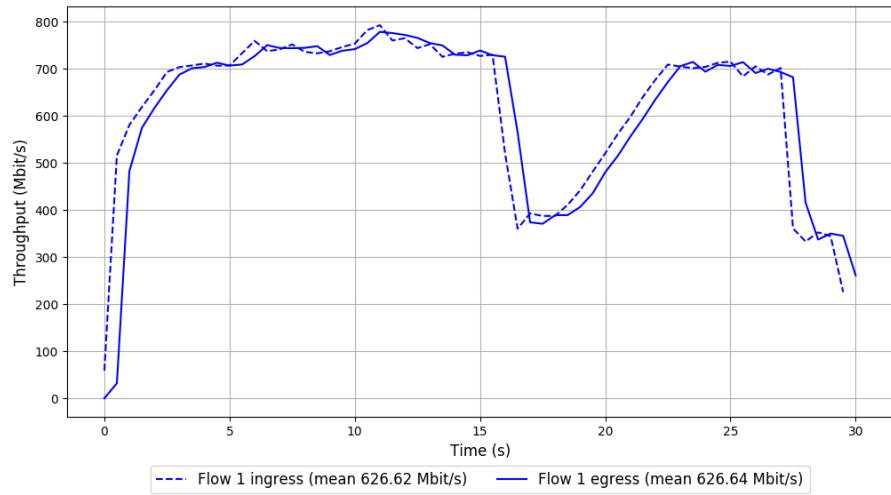


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-09-06 23:16:02
End at: 2018-09-06 23:16:32
Local clock offset: -0.255 ms
Remote clock offset: -0.368 ms

# Below is generated by plot.py at 2018-09-07 01:20:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 626.64 Mbit/s
95th percentile per-packet one-way delay: 61.606 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 626.64 Mbit/s
95th percentile per-packet one-way delay: 61.606 ms
Loss rate: 0.01%
```

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

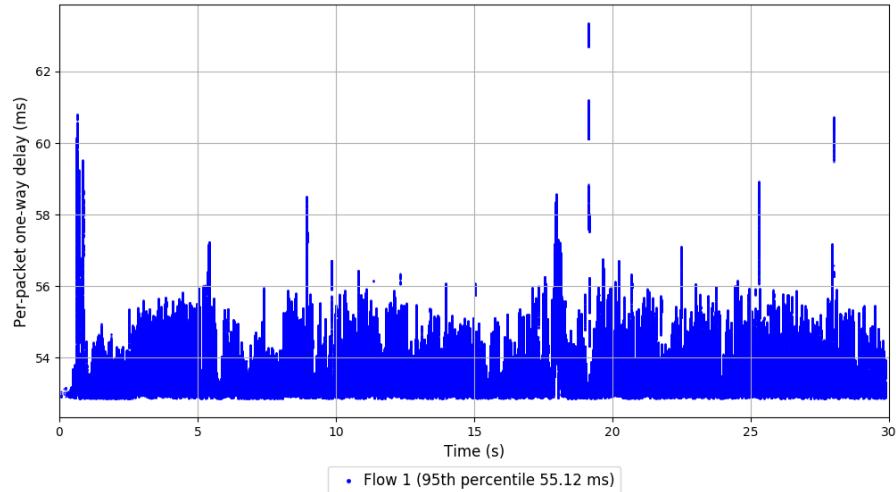
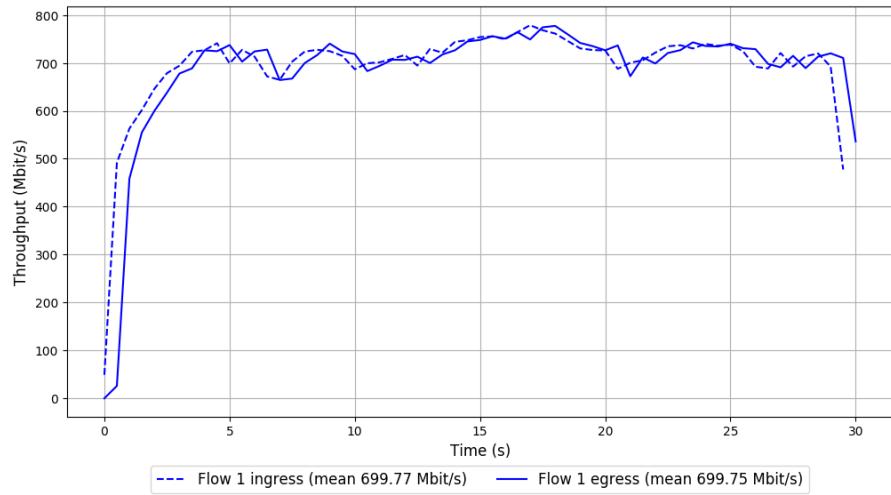


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-09-06 23:42:00
End at: 2018-09-06 23:42:30
Local clock offset: -0.028 ms
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2018-09-07 01:21:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 699.75 Mbit/s
95th percentile per-packet one-way delay: 55.117 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 699.75 Mbit/s
95th percentile per-packet one-way delay: 55.117 ms
Loss rate: 0.01%
```

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

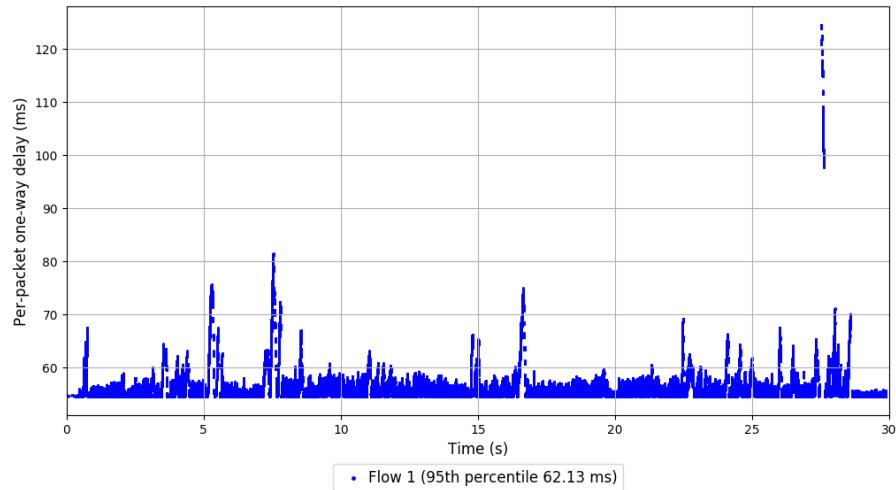
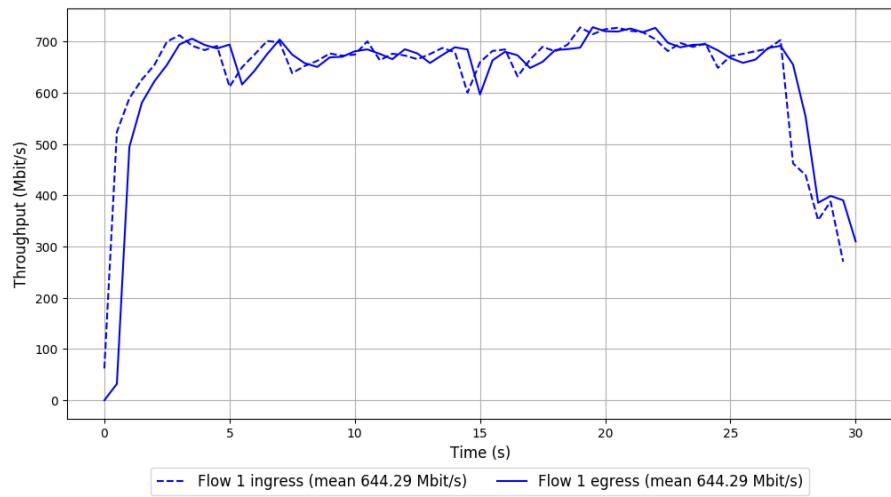


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-09-07 00:07:56
End at: 2018-09-07 00:08:26
Local clock offset: -0.445 ms
Remote clock offset: 0.944 ms

# Below is generated by plot.py at 2018-09-07 01:21:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 644.29 Mbit/s
95th percentile per-packet one-way delay: 62.129 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 644.29 Mbit/s
95th percentile per-packet one-way delay: 62.129 ms
Loss rate: 0.01%
```

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

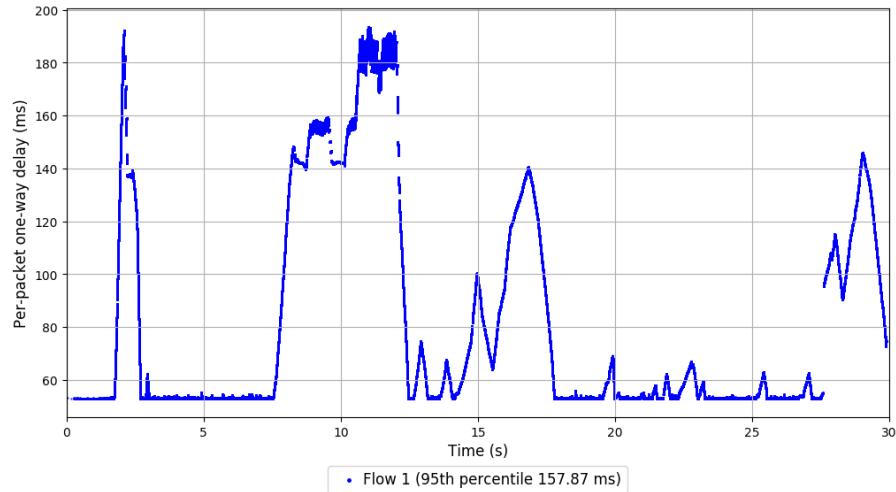
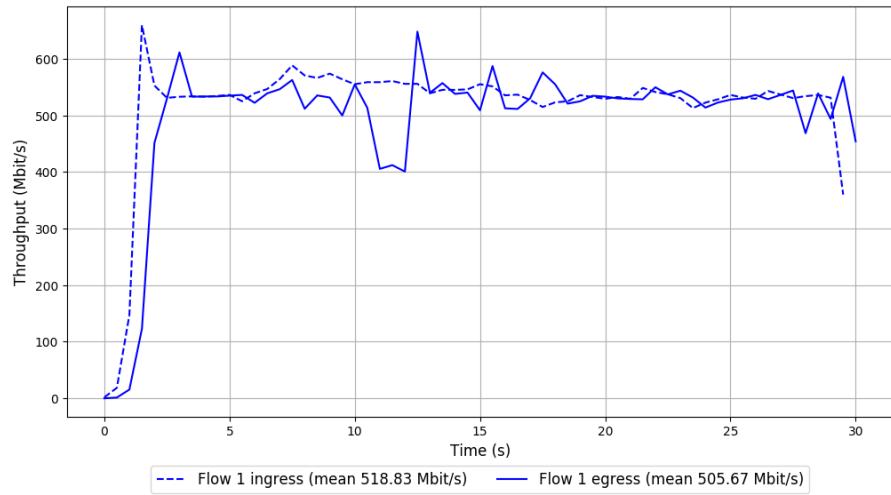


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-09-06 22:30:19
End at: 2018-09-06 22:30:49
Local clock offset: -0.083 ms
Remote clock offset: -0.682 ms

# Below is generated by plot.py at 2018-09-07 01:26:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 505.67 Mbit/s
95th percentile per-packet one-way delay: 157.866 ms
Loss rate: 2.55%
-- Flow 1:
Average throughput: 505.67 Mbit/s
95th percentile per-packet one-way delay: 157.866 ms
Loss rate: 2.55%
```

Run 1: Report of PCC-Allegro — Data Link

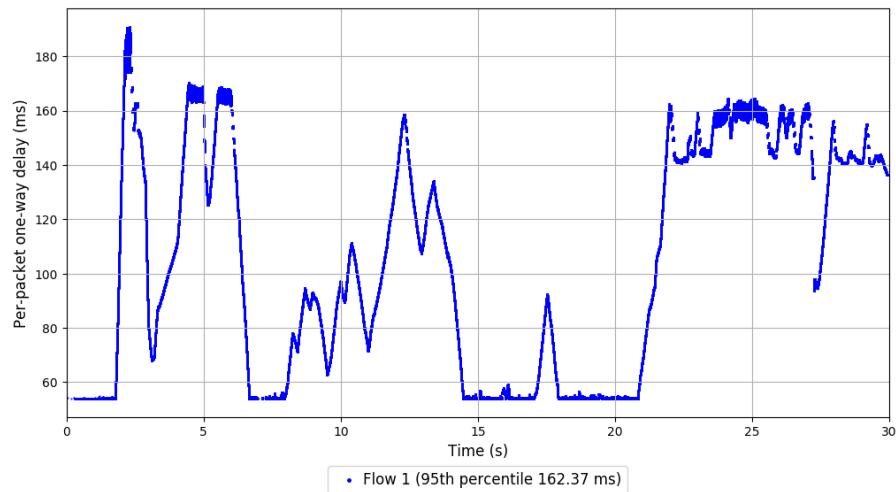
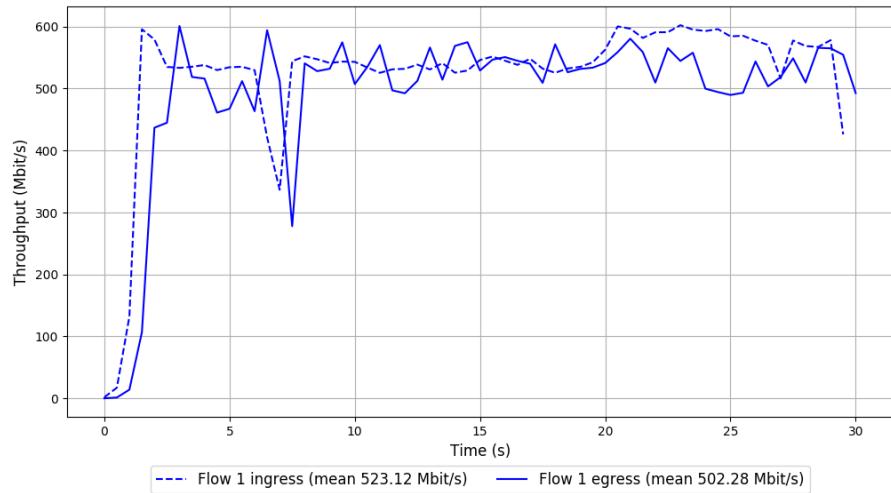


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-09-06 22:56:17
End at: 2018-09-06 22:56:47
Local clock offset: -0.095 ms
Remote clock offset: 0.233 ms

# Below is generated by plot.py at 2018-09-07 01:31:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 502.28 Mbit/s
95th percentile per-packet one-way delay: 162.372 ms
Loss rate: 3.99%
-- Flow 1:
Average throughput: 502.28 Mbit/s
95th percentile per-packet one-way delay: 162.372 ms
Loss rate: 3.99%
```

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

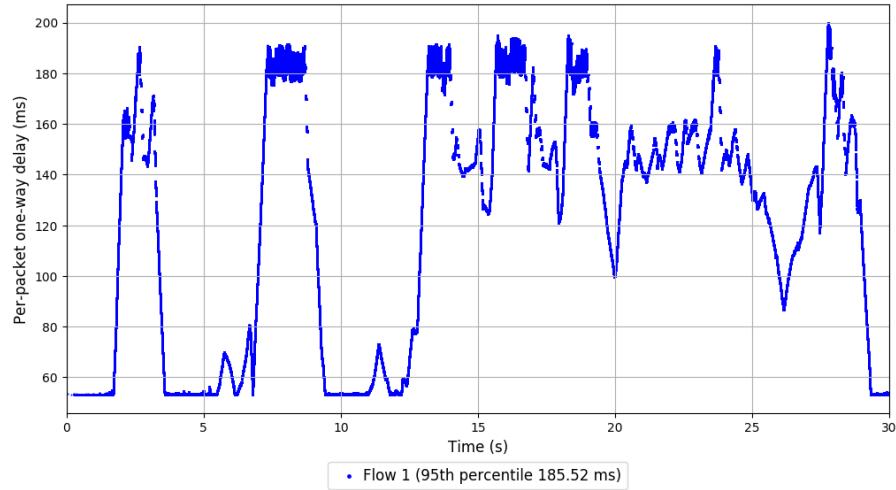
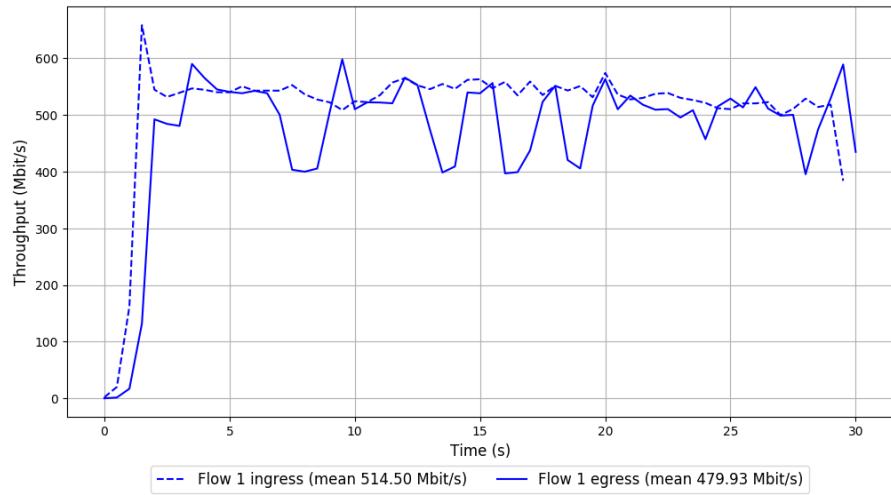


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-09-06 23:22:03
End at: 2018-09-06 23:22:33
Local clock offset: -0.214 ms
Remote clock offset: 0.052 ms

# Below is generated by plot.py at 2018-09-07 01:34:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 479.93 Mbit/s
95th percentile per-packet one-way delay: 185.523 ms
Loss rate: 6.73%
-- Flow 1:
Average throughput: 479.93 Mbit/s
95th percentile per-packet one-way delay: 185.523 ms
Loss rate: 6.73%
```

Run 3: Report of PCC-Allegro — Data Link

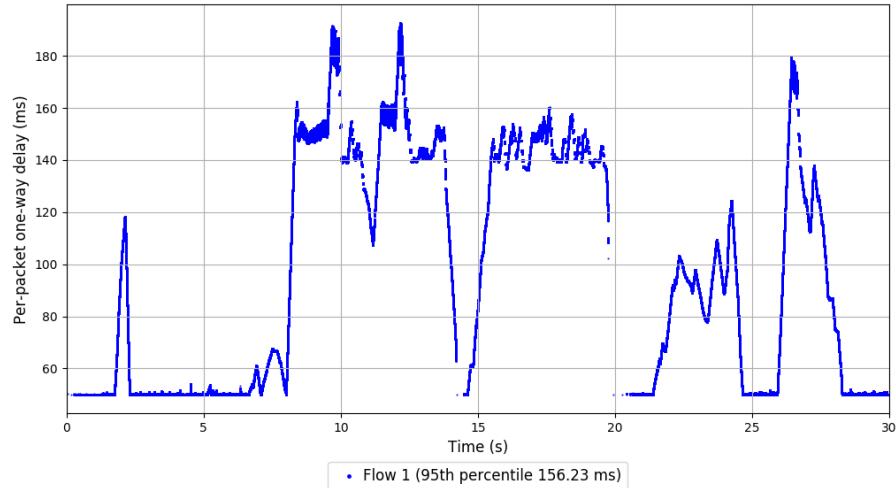
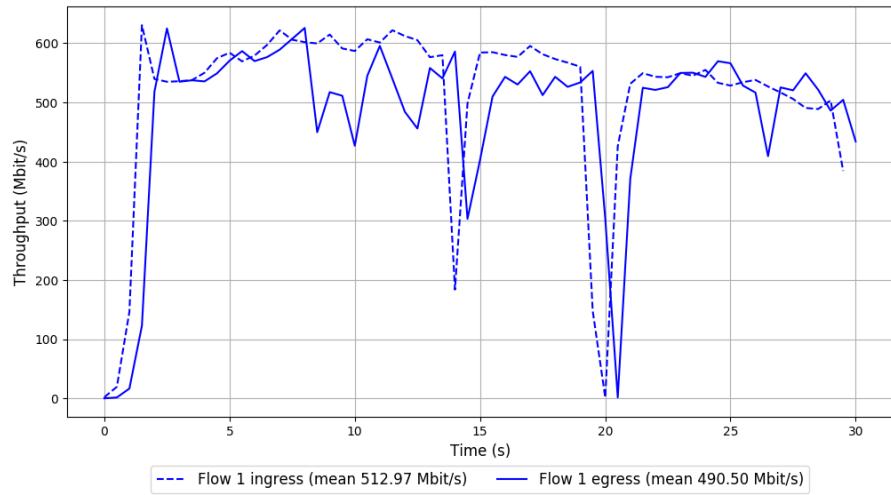


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-09-06 23:48:05
End at: 2018-09-06 23:48:35
Local clock offset: -0.117 ms
Remote clock offset: -0.145 ms

# Below is generated by plot.py at 2018-09-07 01:34:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 490.50 Mbit/s
95th percentile per-packet one-way delay: 156.230 ms
Loss rate: 4.38%
-- Flow 1:
Average throughput: 490.50 Mbit/s
95th percentile per-packet one-way delay: 156.230 ms
Loss rate: 4.38%
```

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

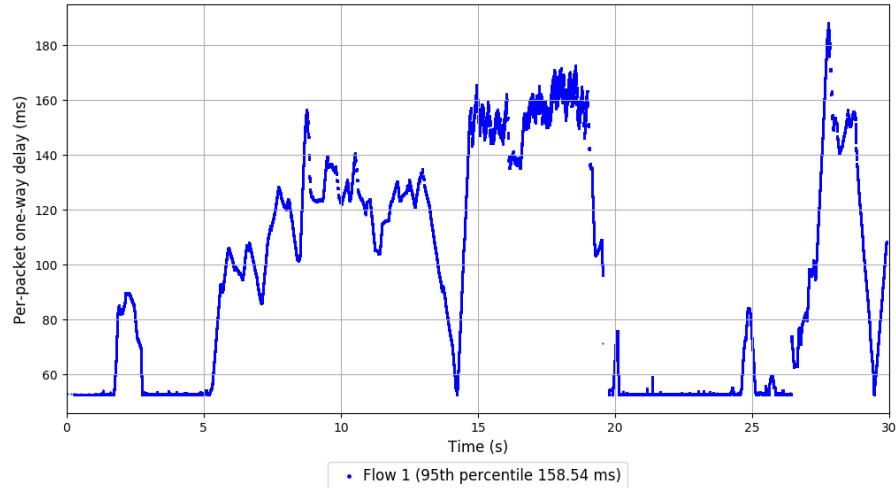
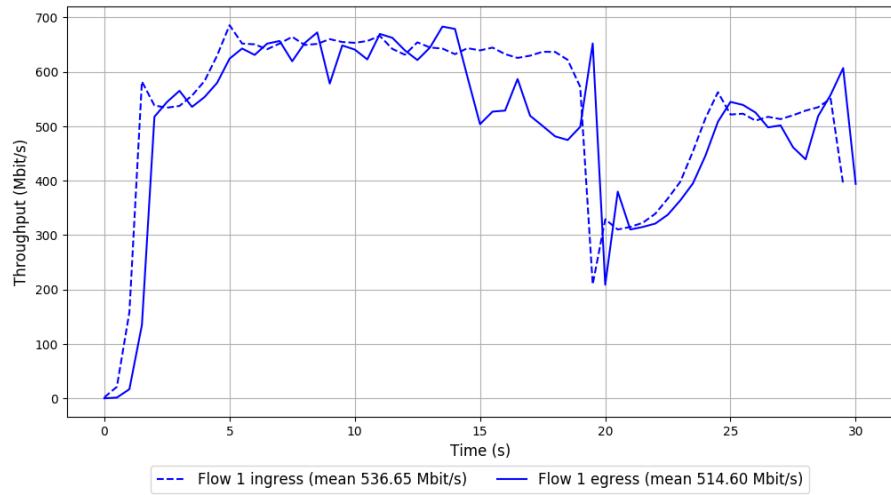


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-09-07 00:14:01
End at: 2018-09-07 00:14:31
Local clock offset: 0.069 ms
Remote clock offset: -0.284 ms

# Below is generated by plot.py at 2018-09-07 01:37:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 514.60 Mbit/s
95th percentile per-packet one-way delay: 158.543 ms
Loss rate: 4.12%
-- Flow 1:
Average throughput: 514.60 Mbit/s
95th percentile per-packet one-way delay: 158.543 ms
Loss rate: 4.12%
```

Run 5: Report of PCC-Allegro — Data Link

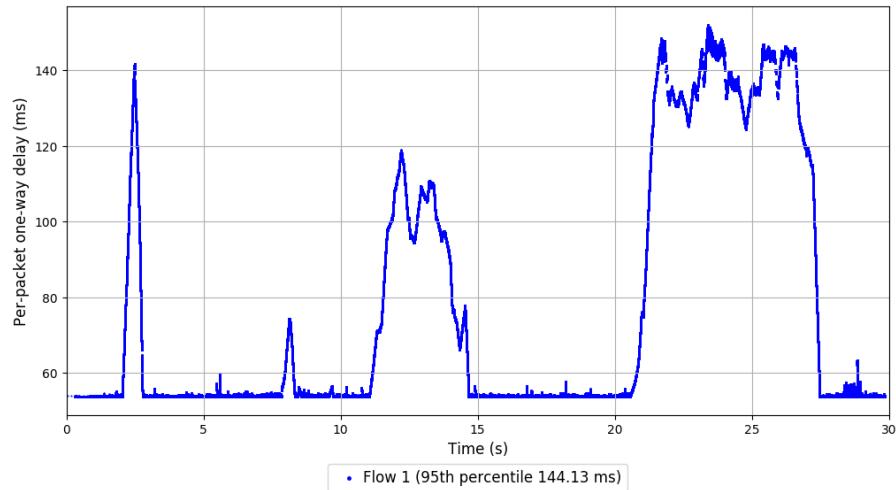
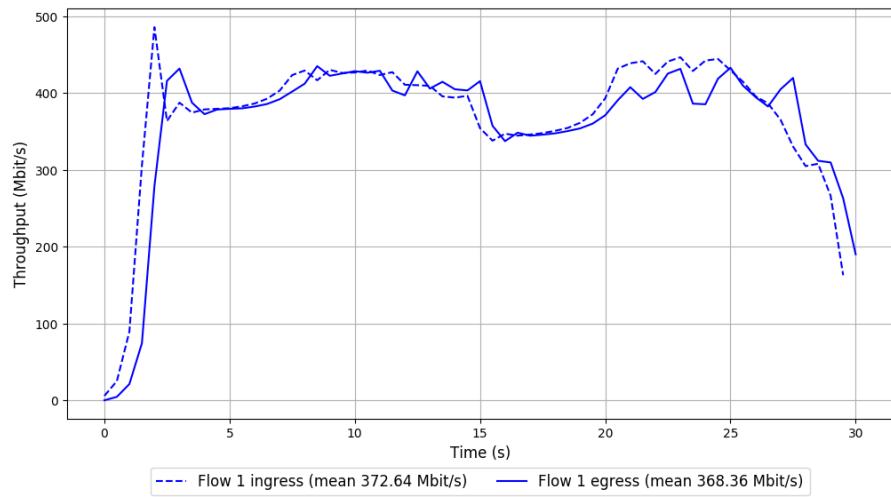


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-09-06 22:25:50
End at: 2018-09-06 22:26:20
Local clock offset: -0.101 ms
Remote clock offset: 0.22 ms

# Below is generated by plot.py at 2018-09-07 01:37:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 368.36 Mbit/s
95th percentile per-packet one-way delay: 144.129 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 368.36 Mbit/s
95th percentile per-packet one-way delay: 144.129 ms
Loss rate: 1.16%
```

Run 1: Report of PCC-Expr — Data Link

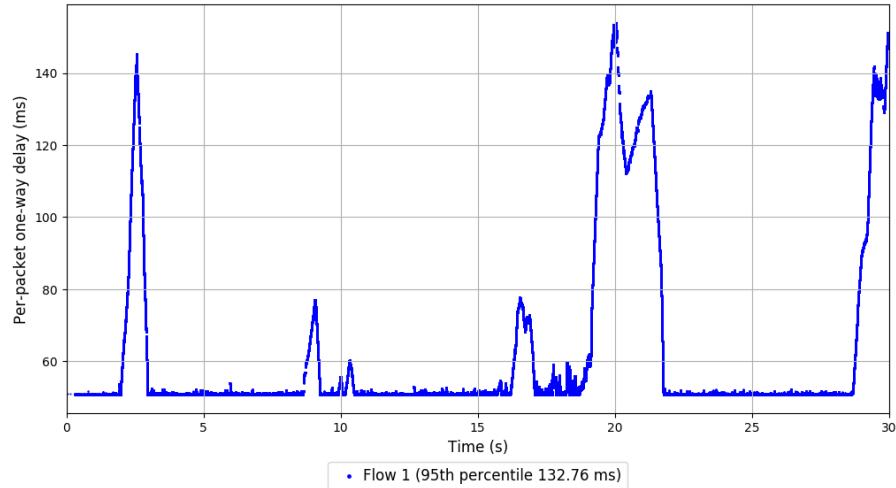
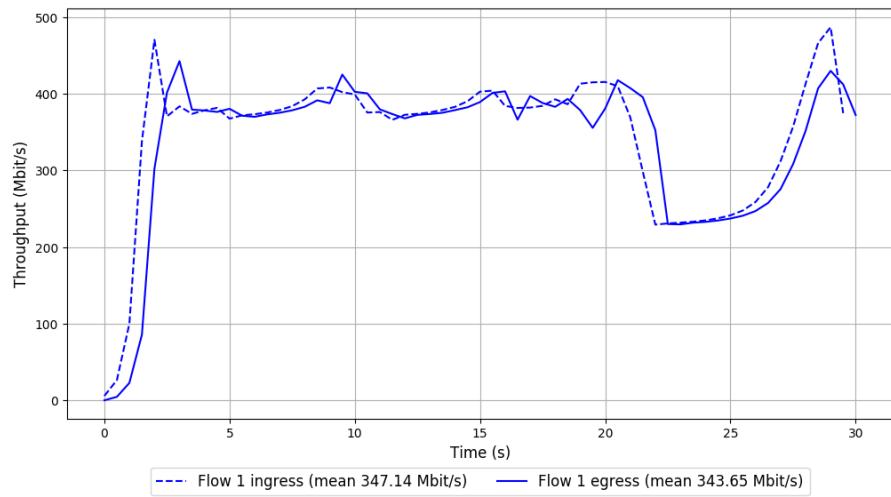


Run 2: Statistics of PCC-Expr

```
Start at: 2018-09-06 22:51:47
End at: 2018-09-06 22:52:17
Local clock offset: -0.398 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-09-07 01:37:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 343.65 Mbit/s
95th percentile per-packet one-way delay: 132.761 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 343.65 Mbit/s
95th percentile per-packet one-way delay: 132.761 ms
Loss rate: 1.01%
```

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

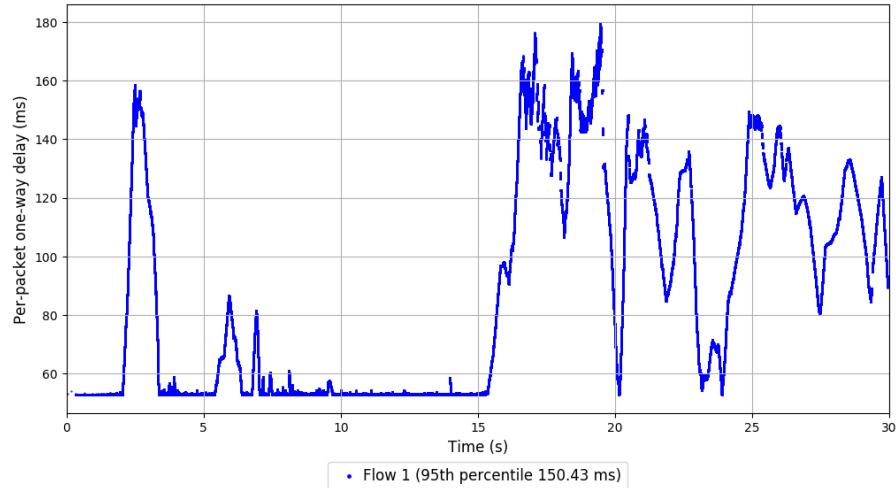
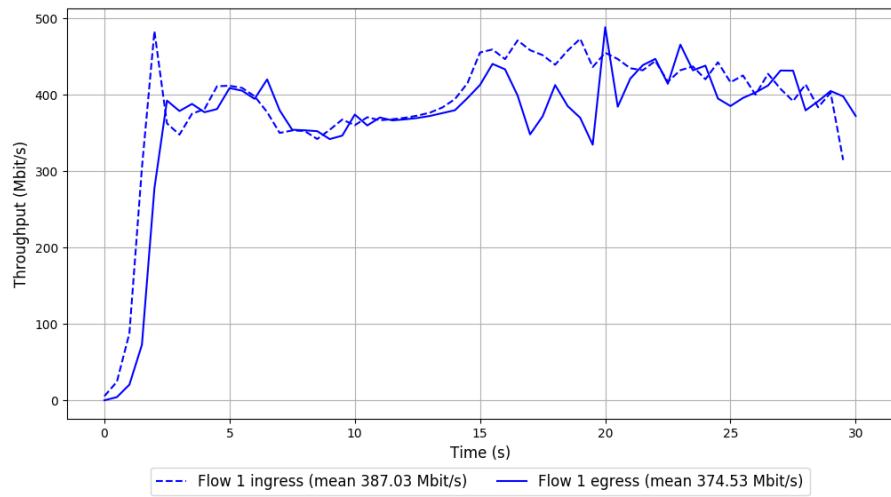


Run 3: Statistics of PCC-Expr

```
Start at: 2018-09-06 23:17:37
End at: 2018-09-06 23:18:07
Local clock offset: -0.047 ms
Remote clock offset: -0.207 ms

# Below is generated by plot.py at 2018-09-07 01:37:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 374.53 Mbit/s
95th percentile per-packet one-way delay: 150.427 ms
Loss rate: 3.24%
-- Flow 1:
Average throughput: 374.53 Mbit/s
95th percentile per-packet one-way delay: 150.427 ms
Loss rate: 3.24%
```

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

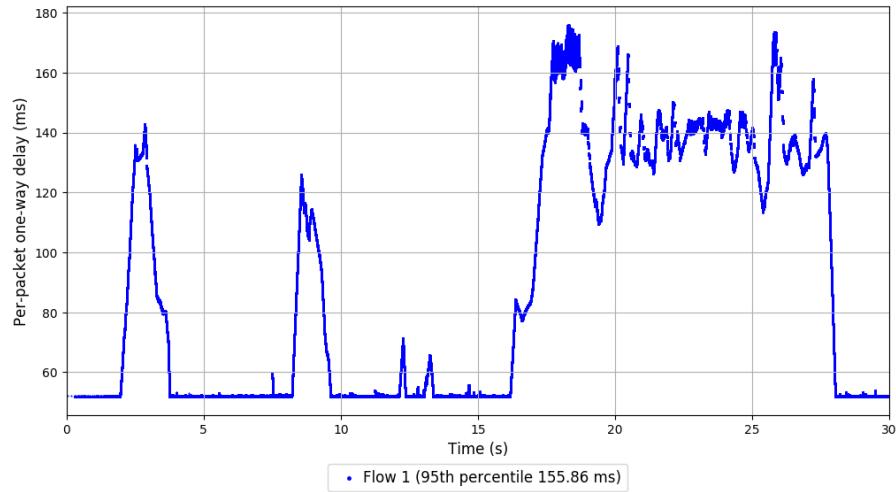
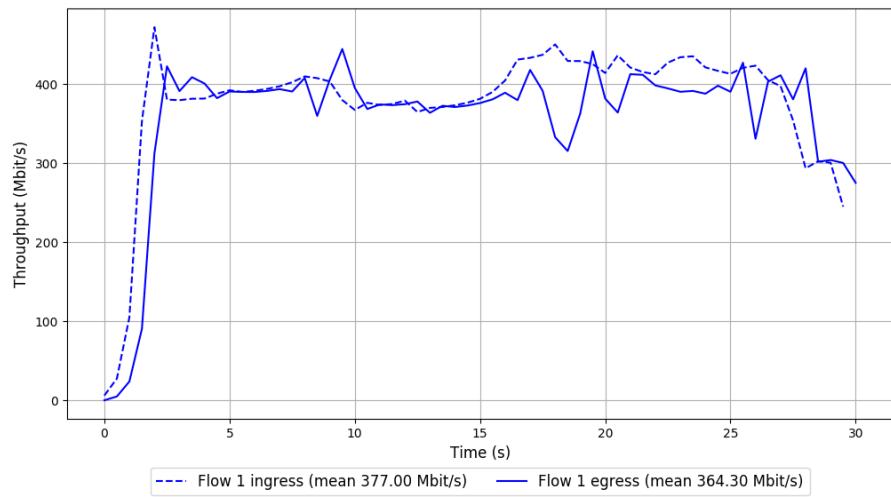


Run 4: Statistics of PCC-Expr

```
Start at: 2018-09-06 23:43:39
End at: 2018-09-06 23:44:09
Local clock offset: -0.005 ms
Remote clock offset: -1.193 ms

# Below is generated by plot.py at 2018-09-07 01:40:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 364.30 Mbit/s
95th percentile per-packet one-way delay: 155.864 ms
Loss rate: 3.38%
-- Flow 1:
Average throughput: 364.30 Mbit/s
95th percentile per-packet one-way delay: 155.864 ms
Loss rate: 3.38%
```

Run 4: Report of PCC-Expr — Data Link

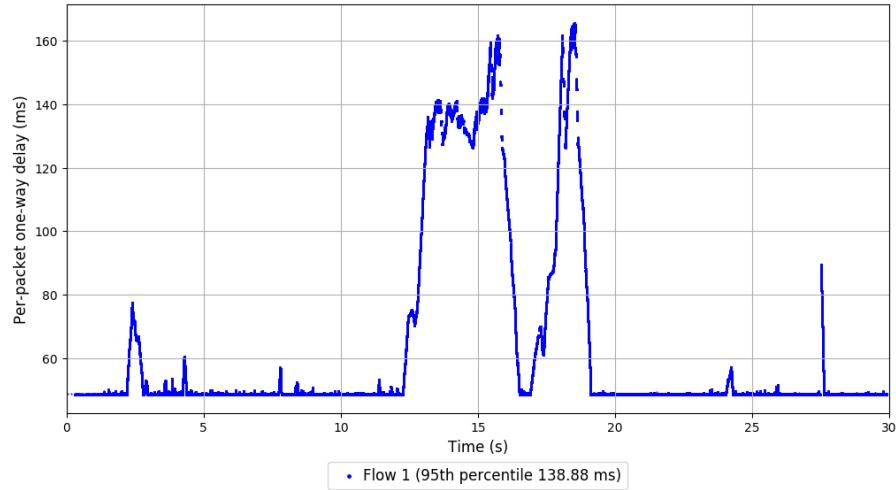
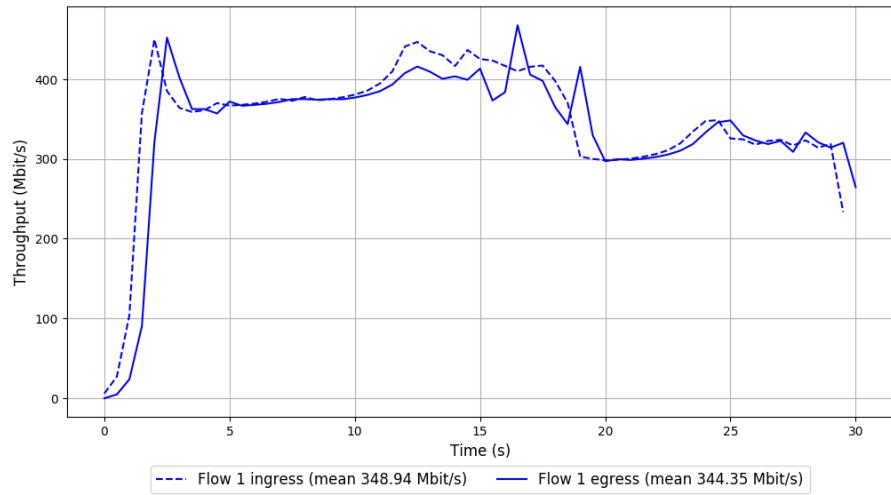


Run 5: Statistics of PCC-Expr

```
Start at: 2018-09-07 00:09:32
End at: 2018-09-07 00:10:02
Local clock offset: 0.027 ms
Remote clock offset: -1.41 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 344.35 Mbit/s
95th percentile per-packet one-way delay: 138.879 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 344.35 Mbit/s
95th percentile per-packet one-way delay: 138.879 ms
Loss rate: 1.32%
```

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

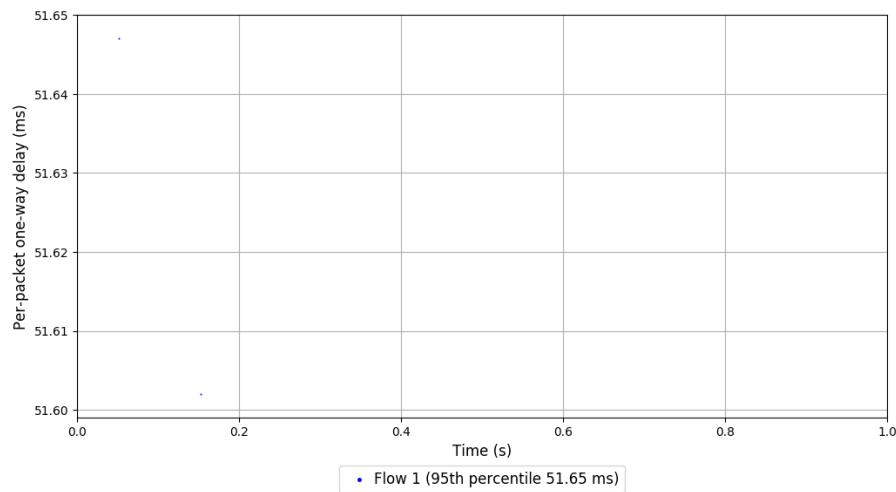
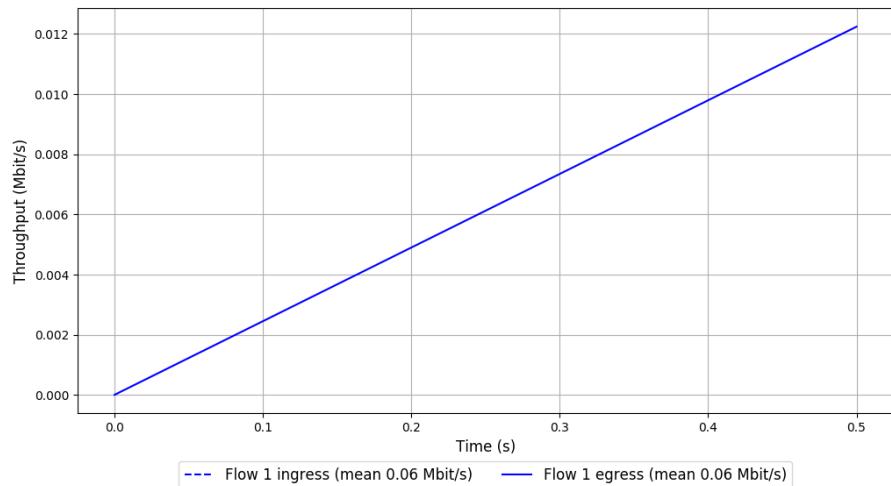
Start at: 2018-09-06 22:20:30

End at: 2018-09-06 22:21:00

Local clock offset: -0.149 ms

Remote clock offset: 1.192 ms

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



Run 2: Statistics of QUIC Cubic

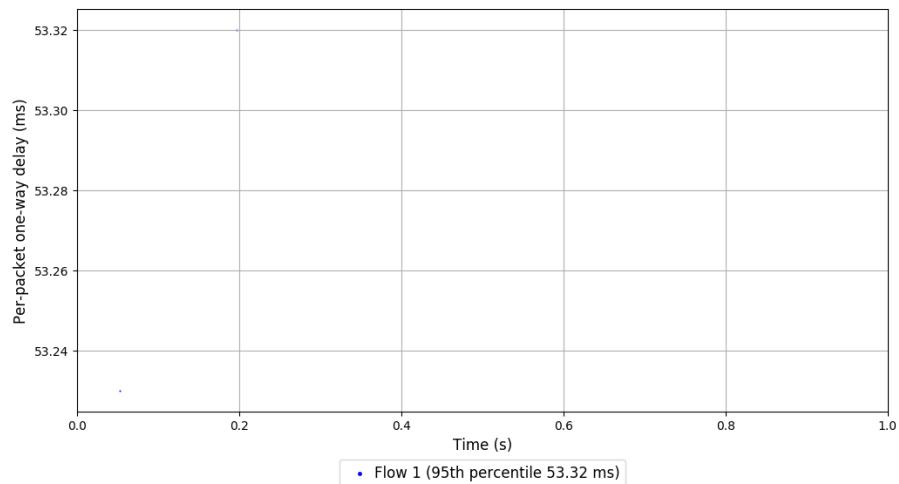
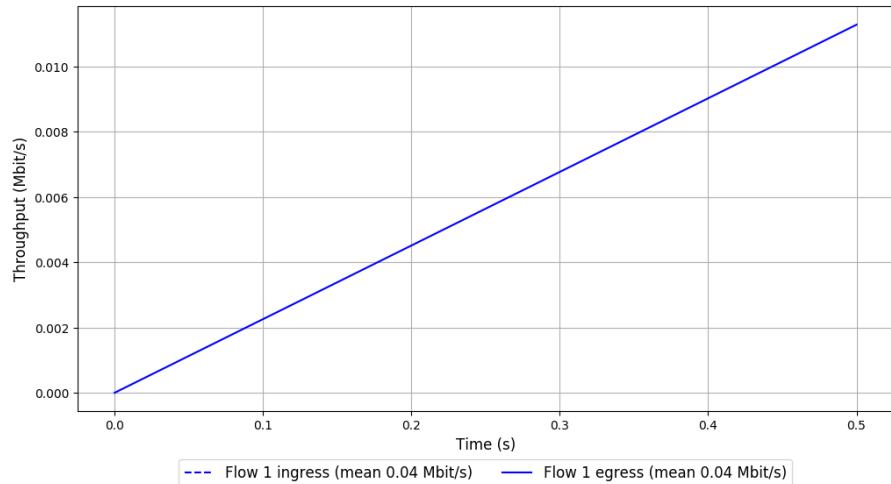
Start at: 2018-09-06 22:46:21

End at: 2018-09-06 22:46:51

Local clock offset: -0.458 ms

Remote clock offset: -0.758 ms

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



Run 3: Statistics of QUIC Cubic

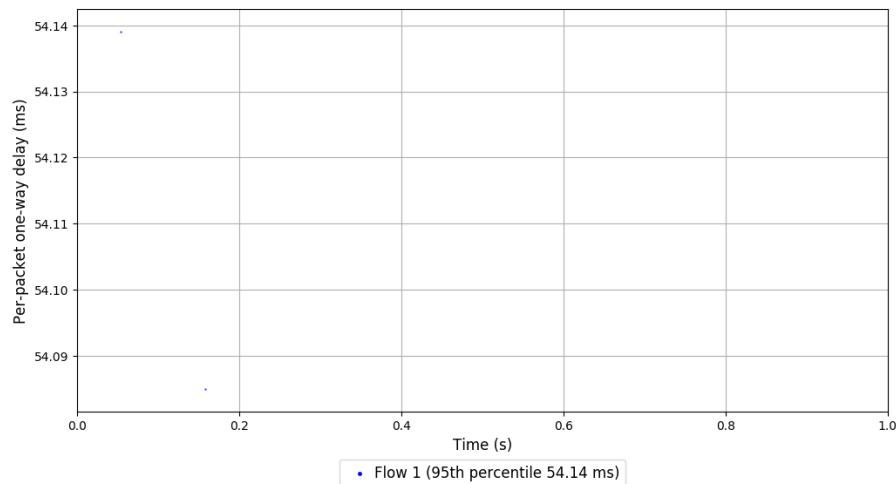
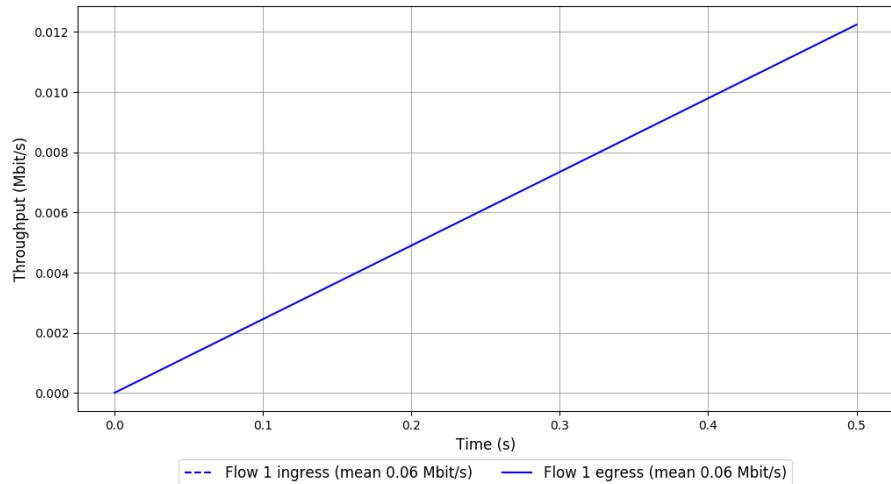
Start at: 2018-09-06 23:12:13

End at: 2018-09-06 23:12:43

Local clock offset: -0.344 ms

Remote clock offset: 0.151 ms

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



Run 4: Statistics of QUIC Cubic

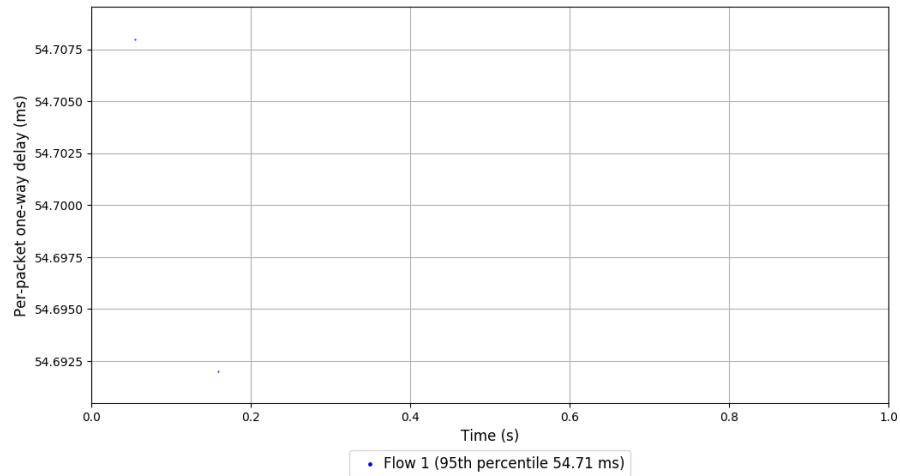
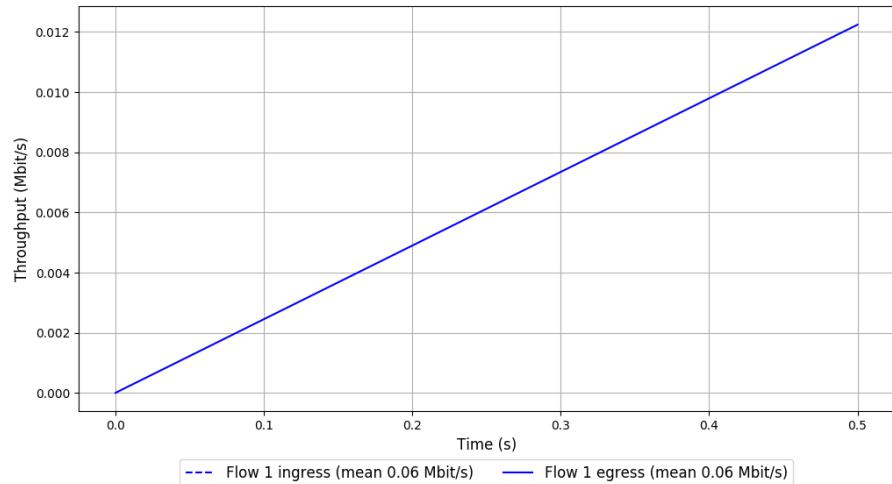
Start at: 2018-09-06 23:38:04

End at: 2018-09-06 23:38:34

Local clock offset: -0.097 ms

Remote clock offset: 1.372 ms

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

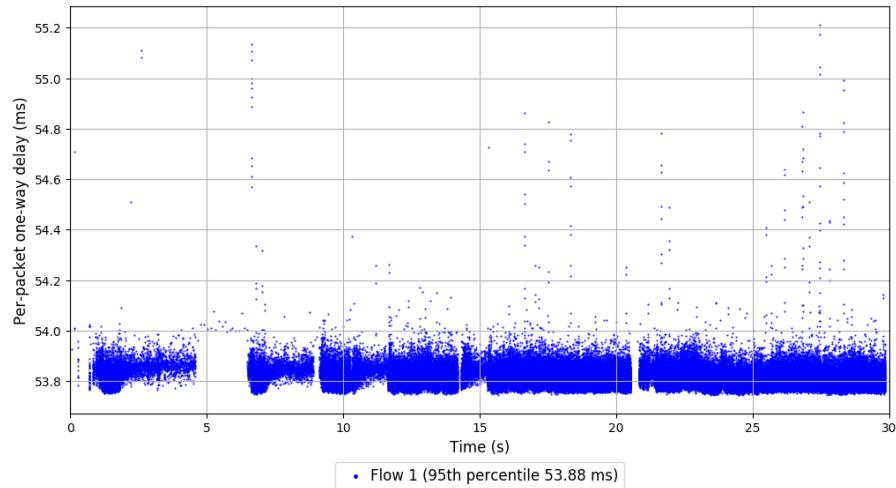
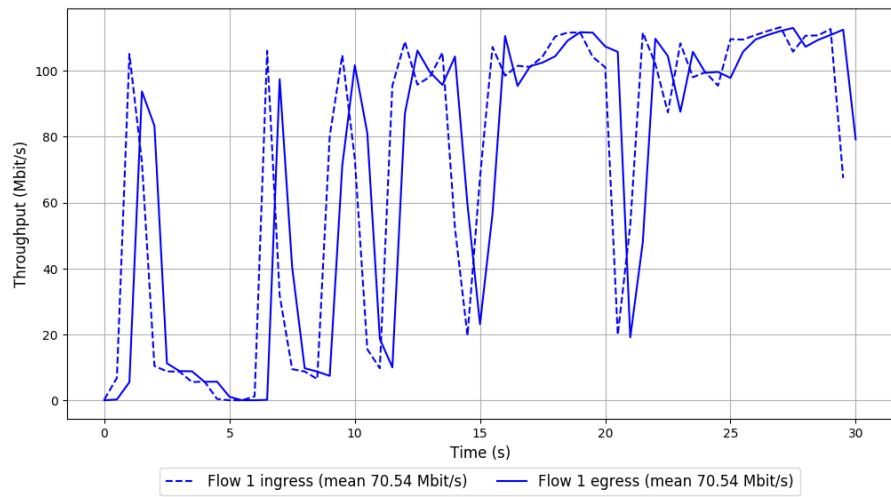


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-09-07 00:04:02
End at: 2018-09-07 00:04:32
Local clock offset: -0.105 ms
Remote clock offset: 0.589 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.54 Mbit/s
95th percentile per-packet one-way delay: 53.876 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 70.54 Mbit/s
95th percentile per-packet one-way delay: 53.876 ms
Loss rate: 0.01%
```

Run 5: Report of QUIC Cubic — Data Link

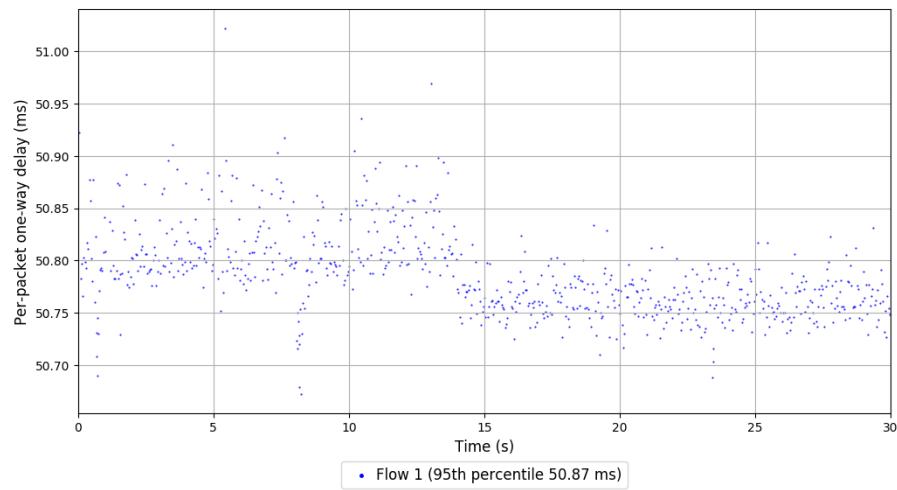
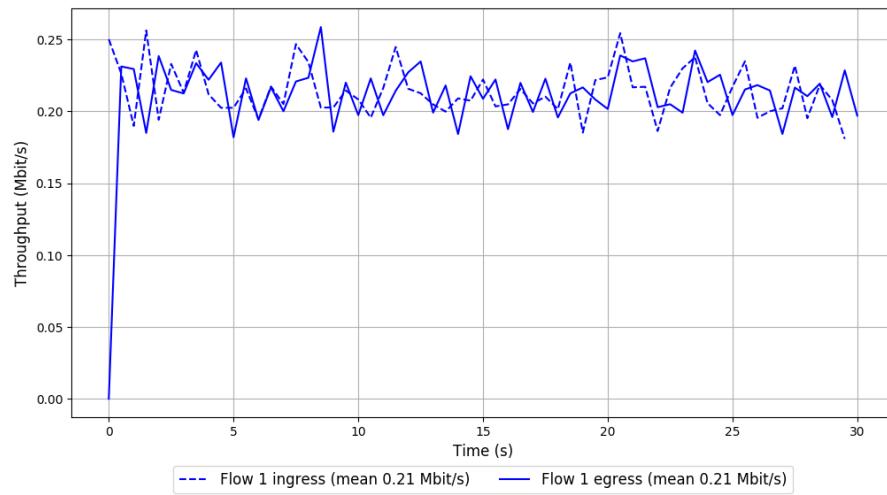


Run 1: Statistics of SCReAM

```
Start at: 2018-09-06 22:23:14
End at: 2018-09-06 22:23:44
Local clock offset: -0.203 ms
Remote clock offset: 0.264 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.866 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.866 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

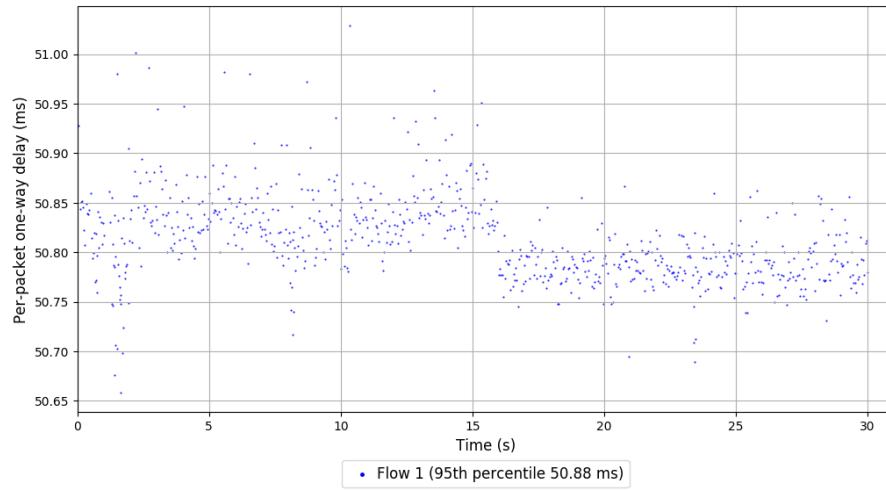
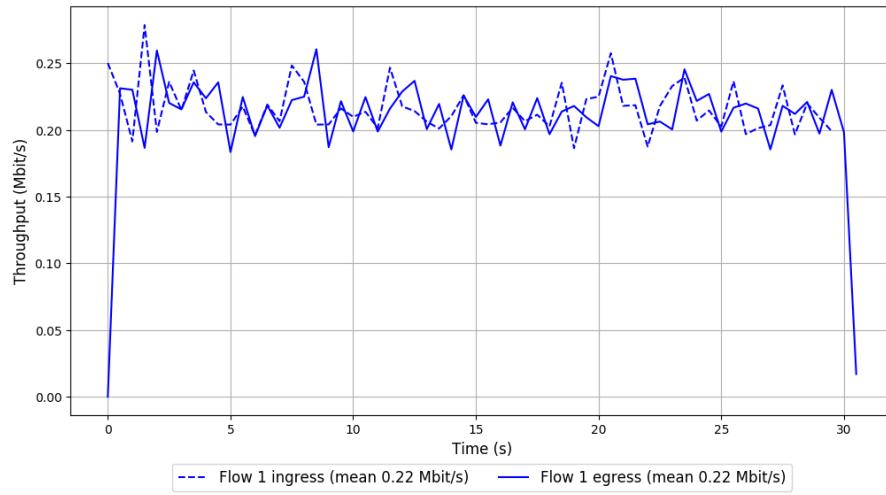


Run 2: Statistics of SCReAM

```
Start at: 2018-09-06 22:49:05
End at: 2018-09-06 22:49:35
Local clock offset: -0.083 ms
Remote clock offset: 0.053 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.882 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.882 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

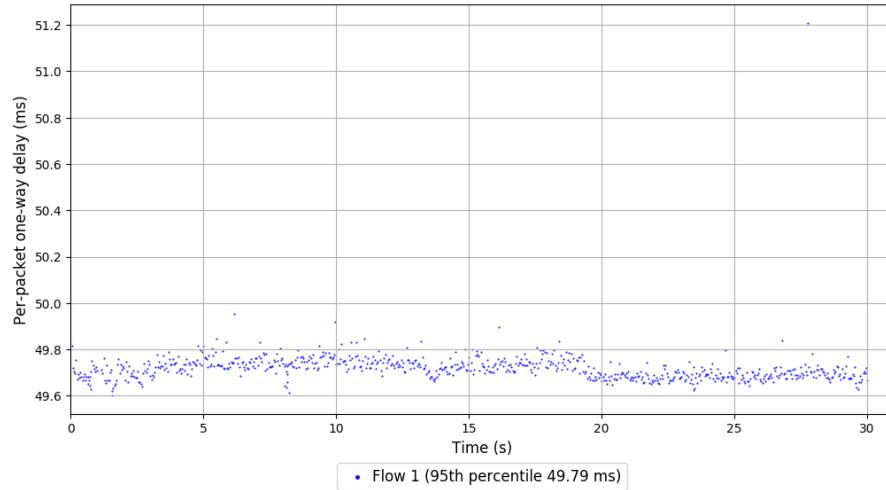
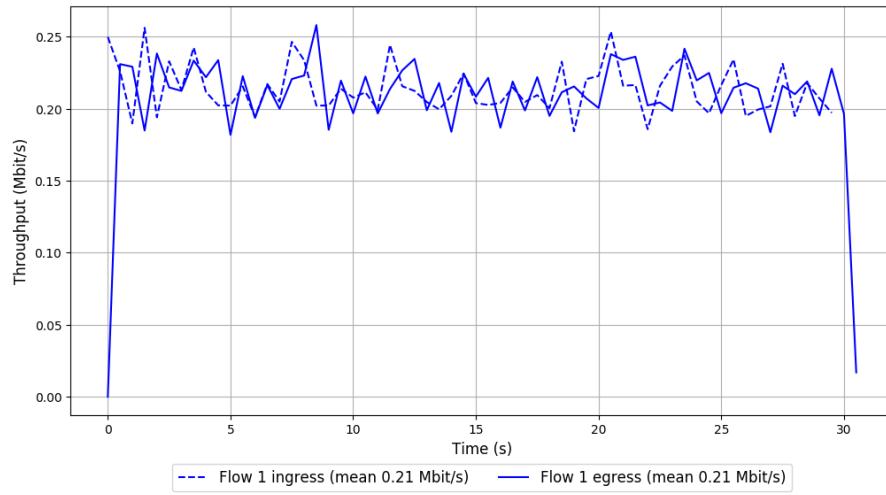


Run 3: Statistics of SCReAM

```
Start at: 2018-09-06 23:14:55
End at: 2018-09-06 23:15:25
Local clock offset: 0.126 ms
Remote clock offset: -0.221 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 49.790 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 49.790 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

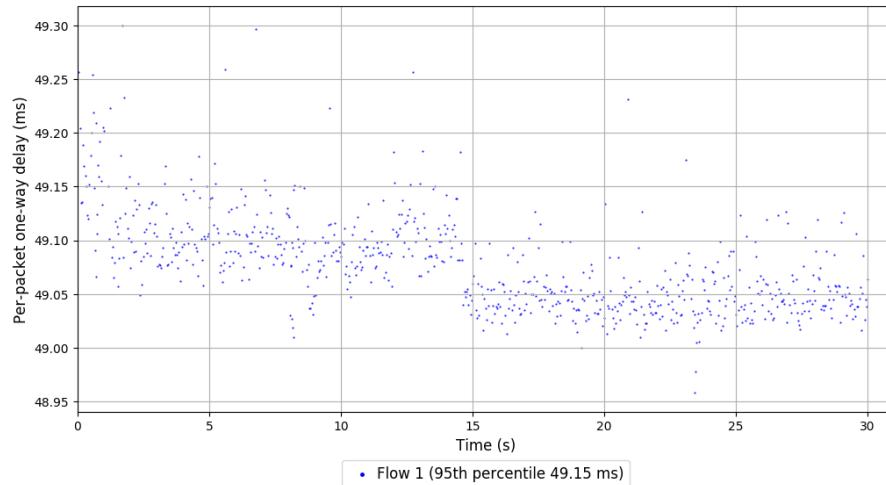
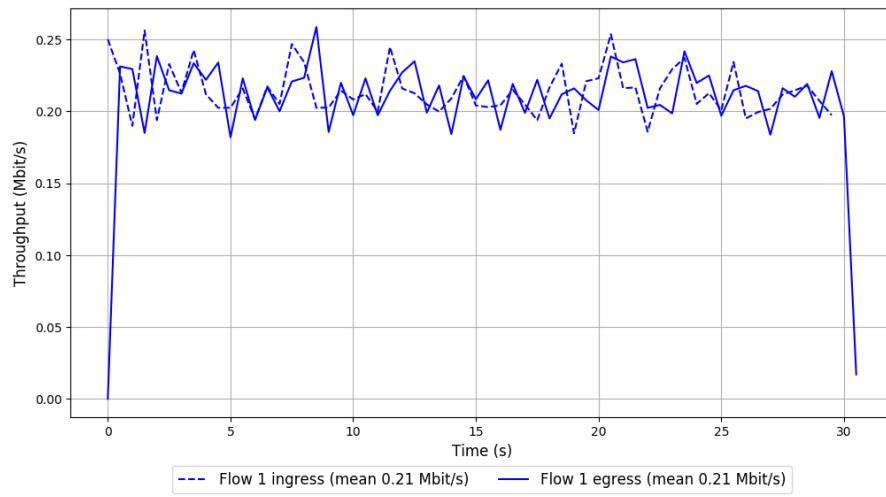


Run 4: Statistics of SCReAM

```
Start at: 2018-09-06 23:40:54
End at: 2018-09-06 23:41:24
Local clock offset: -0.269 ms
Remote clock offset: -1.264 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 49.153 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 49.153 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

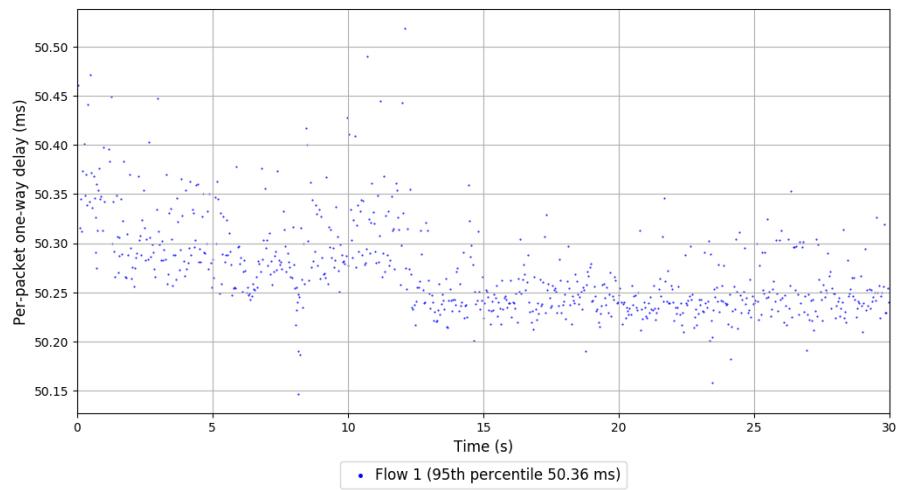
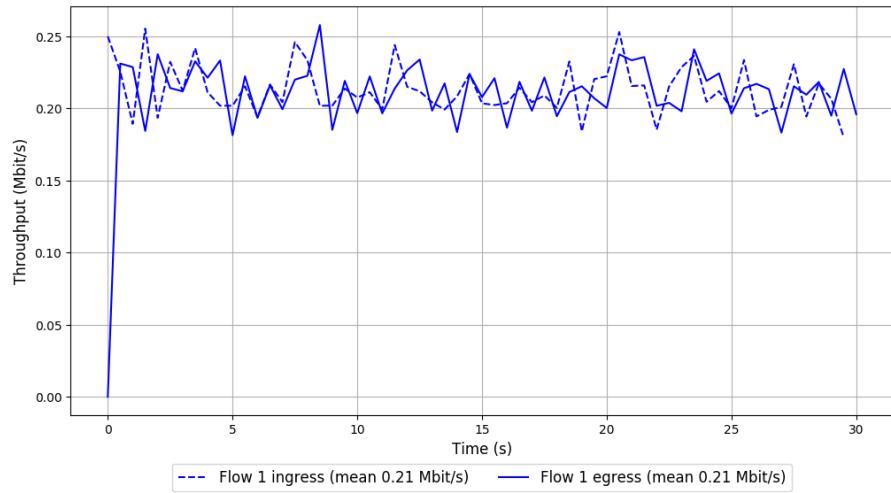


Run 5: Statistics of SCReAM

```
Start at: 2018-09-07 00:06:50
End at: 2018-09-07 00:07:20
Local clock offset: -0.127 ms
Remote clock offset: -0.228 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.361 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.361 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

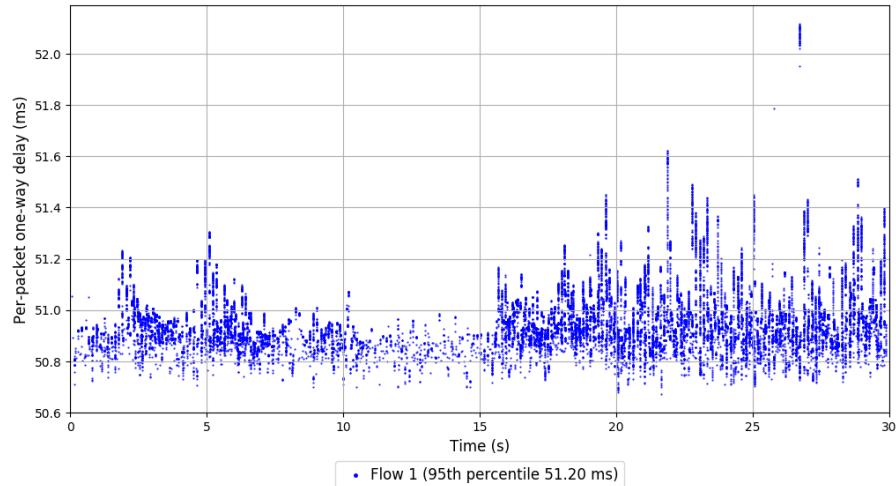
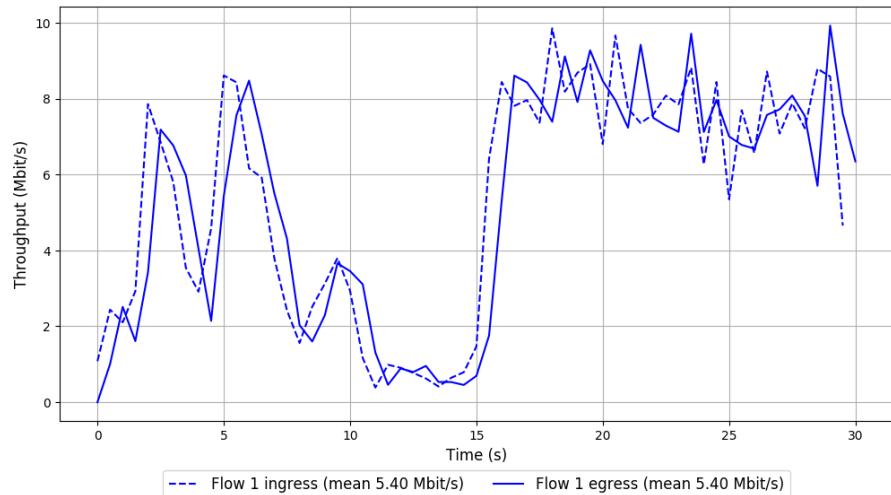


Run 1: Statistics of Sprout

```
Start at: 2018-09-06 22:19:23
End at: 2018-09-06 22:19:53
Local clock offset: -0.288 ms
Remote clock offset: 0.023 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.40 Mbit/s
95th percentile per-packet one-way delay: 51.199 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.40 Mbit/s
95th percentile per-packet one-way delay: 51.199 ms
Loss rate: 0.00%
```

## Run 1: Report of Sprout — Data Link

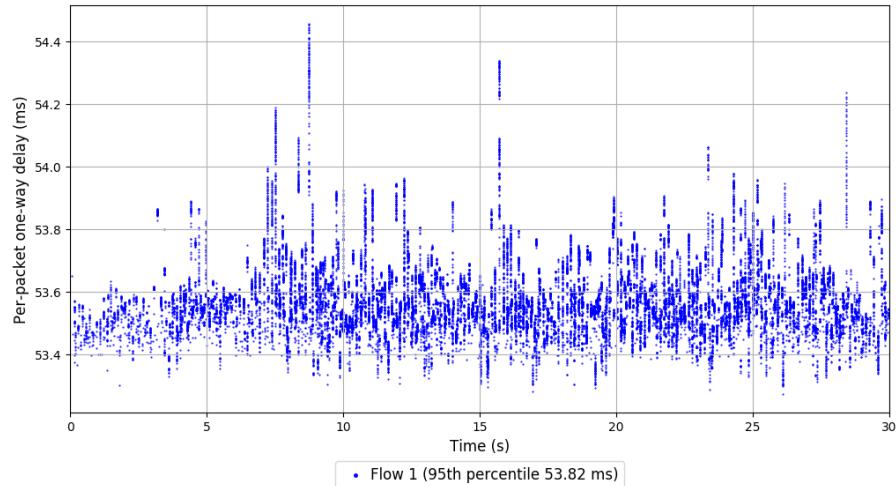
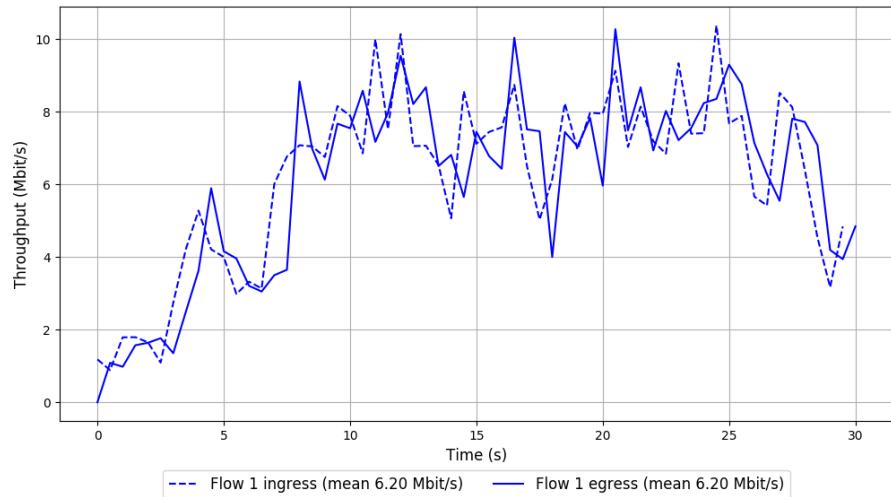


Run 2: Statistics of Sprout

```
Start at: 2018-09-06 22:45:13
End at: 2018-09-06 22:45:43
Local clock offset: 0.007 ms
Remote clock offset: 0.39 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.20 Mbit/s
95th percentile per-packet one-way delay: 53.816 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.20 Mbit/s
95th percentile per-packet one-way delay: 53.816 ms
Loss rate: 0.00%
```

## Run 2: Report of Sprout — Data Link

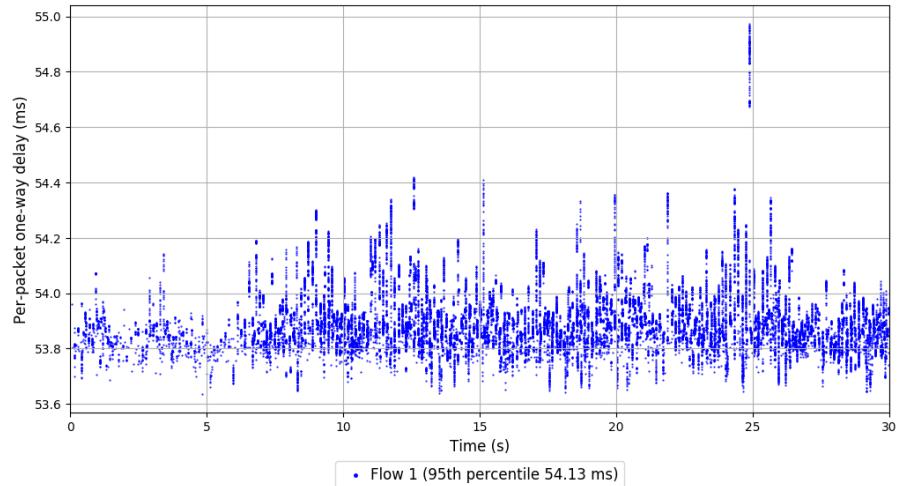
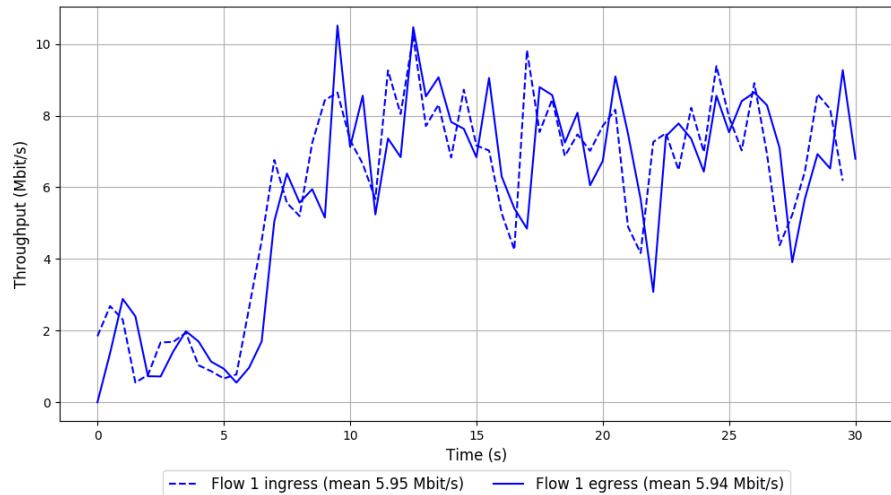


Run 3: Statistics of Sprout

```
Start at: 2018-09-06 23:11:05
End at: 2018-09-06 23:11:35
Local clock offset: -0.133 ms
Remote clock offset: -0.084 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.94 Mbit/s
95th percentile per-packet one-way delay: 54.128 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 5.94 Mbit/s
95th percentile per-packet one-way delay: 54.128 ms
Loss rate: 0.11%
```

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

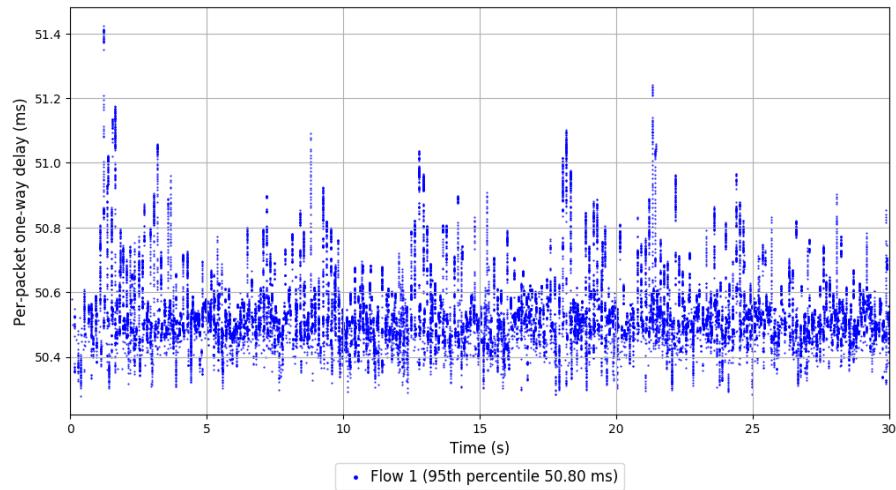
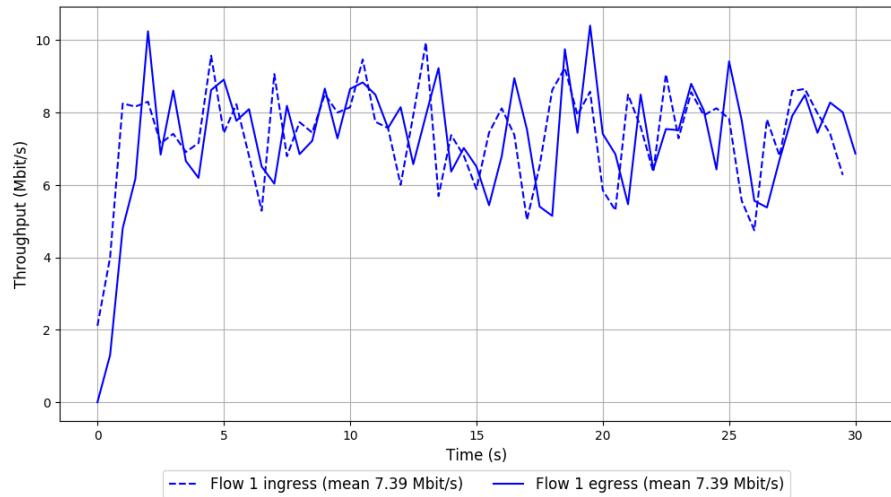


Run 4: Statistics of Sprout

```
Start at: 2018-09-06 23:36:56
End at: 2018-09-06 23:37:26
Local clock offset: -0.242 ms
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.39 Mbit/s
95th percentile per-packet one-way delay: 50.803 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.39 Mbit/s
95th percentile per-packet one-way delay: 50.803 ms
Loss rate: 0.00%
```

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

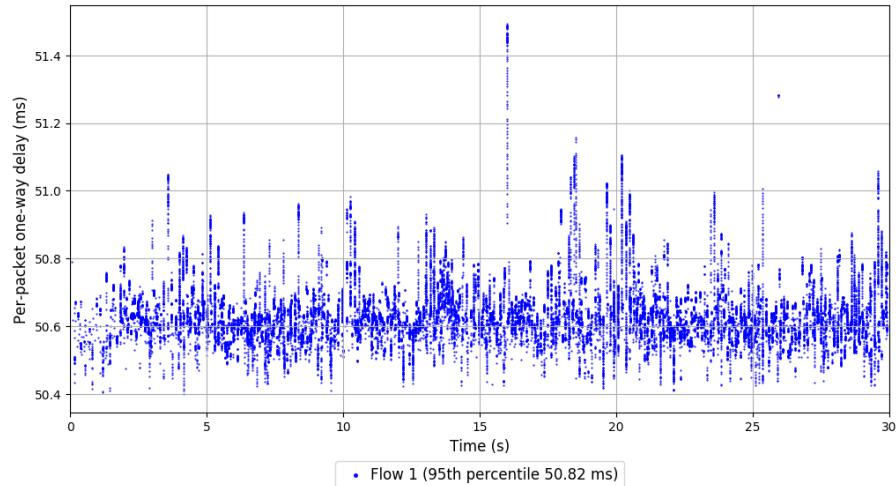
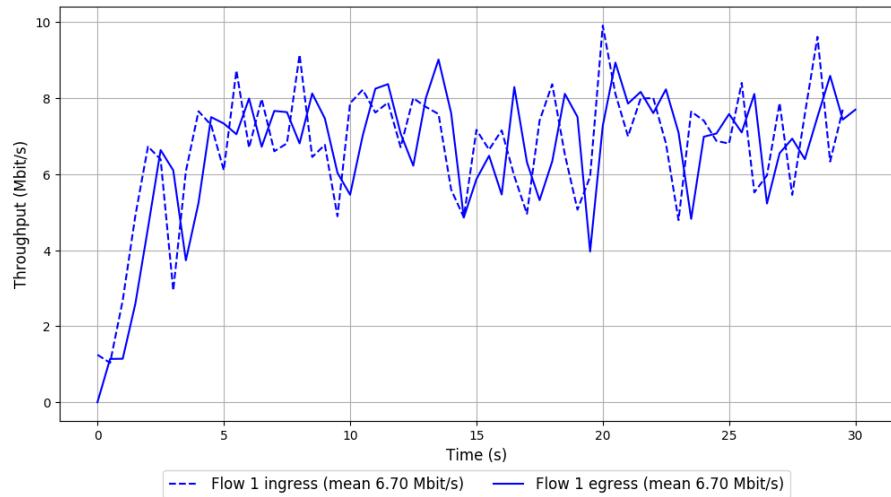


Run 5: Statistics of Sprout

```
Start at: 2018-09-07 00:02:54
End at: 2018-09-07 00:03:24
Local clock offset: -0.383 ms
Remote clock offset: -0.052 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.70 Mbit/s
95th percentile per-packet one-way delay: 50.822 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.70 Mbit/s
95th percentile per-packet one-way delay: 50.822 ms
Loss rate: 0.00%
```

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

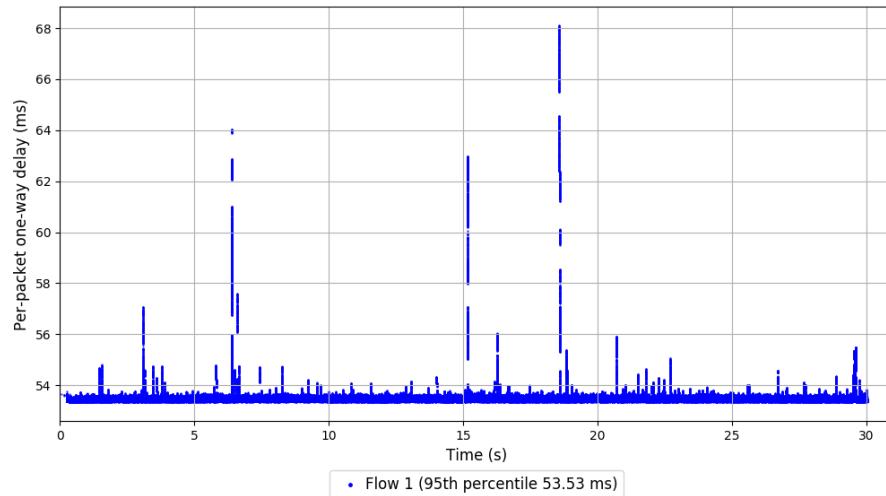
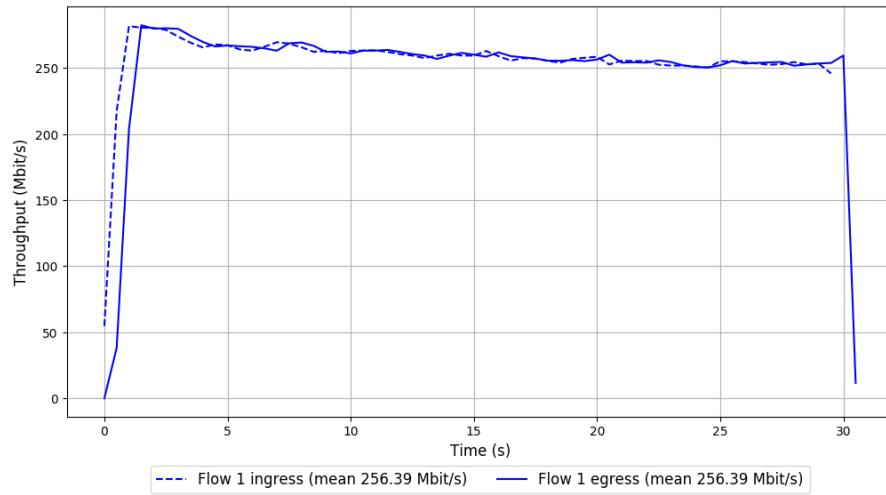


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-09-06 22:16:44
End at: 2018-09-06 22:17:14
Local clock offset: -0.165 ms
Remote clock offset: -0.283 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 256.39 Mbit/s
95th percentile per-packet one-way delay: 53.532 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 256.39 Mbit/s
95th percentile per-packet one-way delay: 53.532 ms
Loss rate: 0.01%
```

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

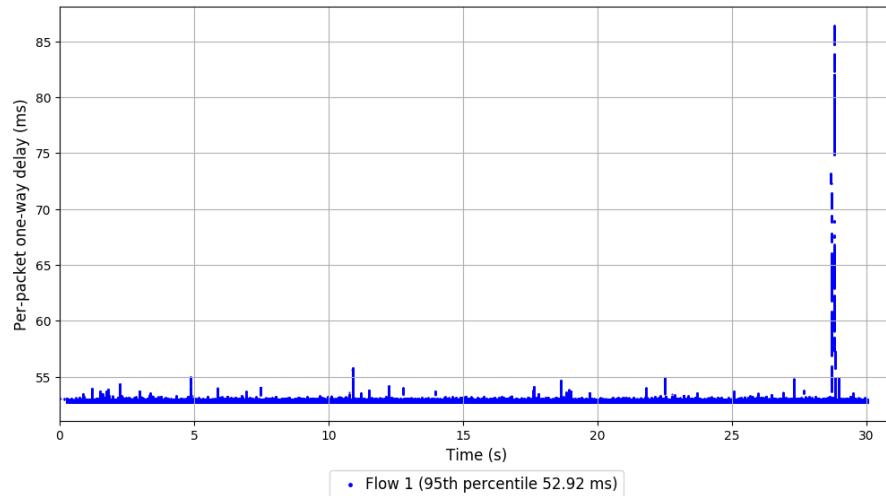
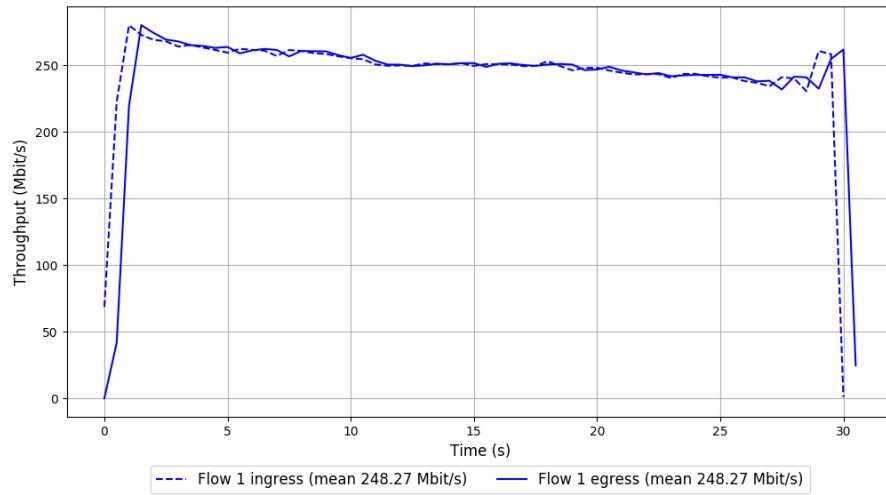


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-09-06 22:42:36
End at: 2018-09-06 22:43:06
Local clock offset: -0.092 ms
Remote clock offset: -0.206 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 248.27 Mbit/s
95th percentile per-packet one-way delay: 52.916 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 248.27 Mbit/s
95th percentile per-packet one-way delay: 52.916 ms
Loss rate: 0.01%
```

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

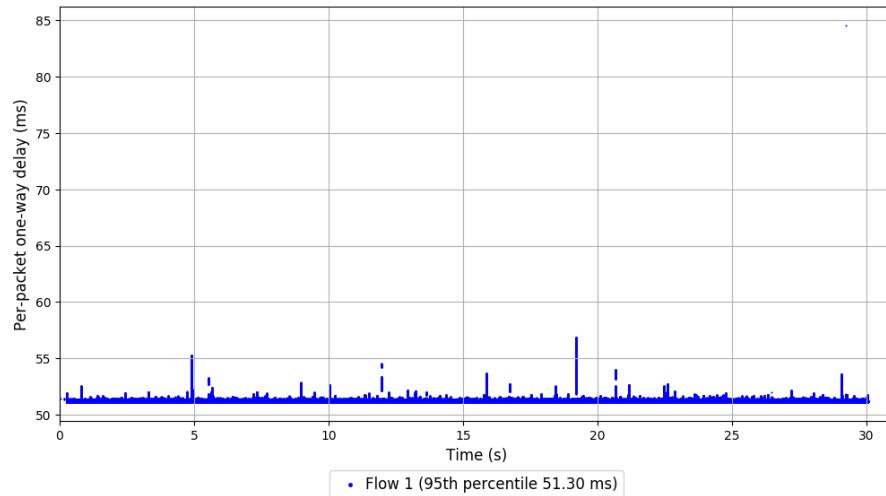
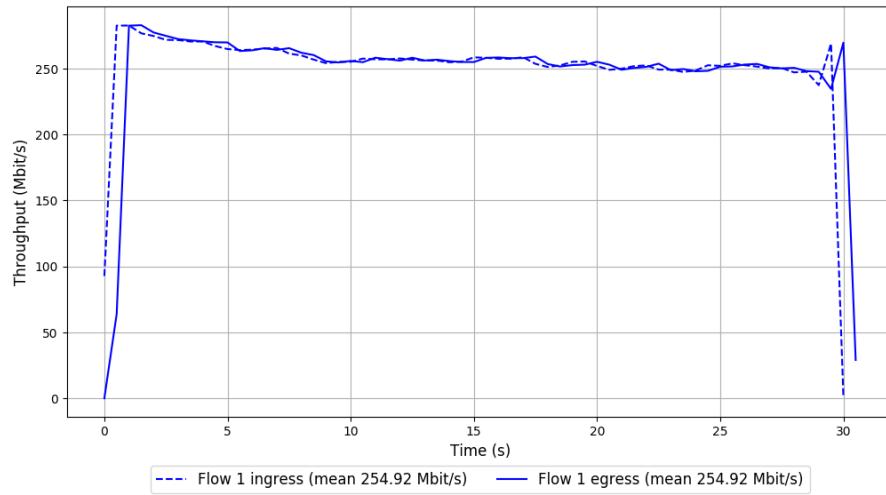


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-09-06 23:08:27
End at: 2018-09-06 23:08:57
Local clock offset: -0.393 ms
Remote clock offset: 0.132 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 254.92 Mbit/s
95th percentile per-packet one-way delay: 51.295 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 254.92 Mbit/s
95th percentile per-packet one-way delay: 51.295 ms
Loss rate: 0.00%
```

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

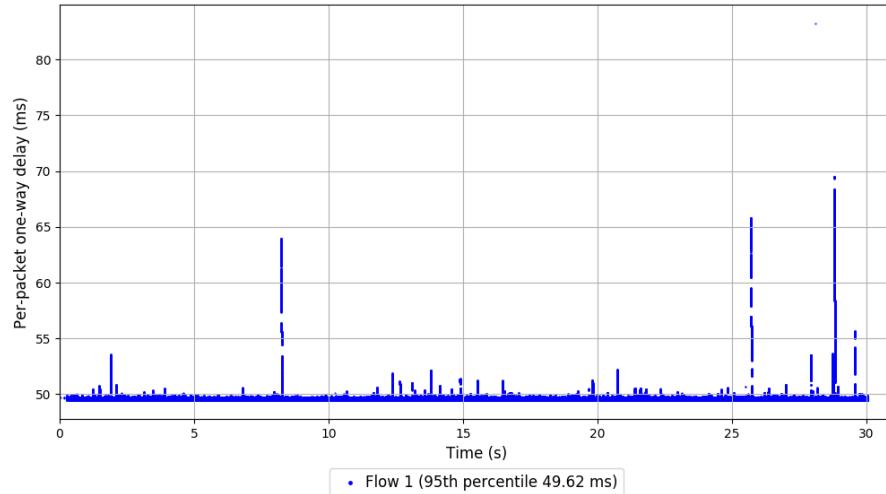
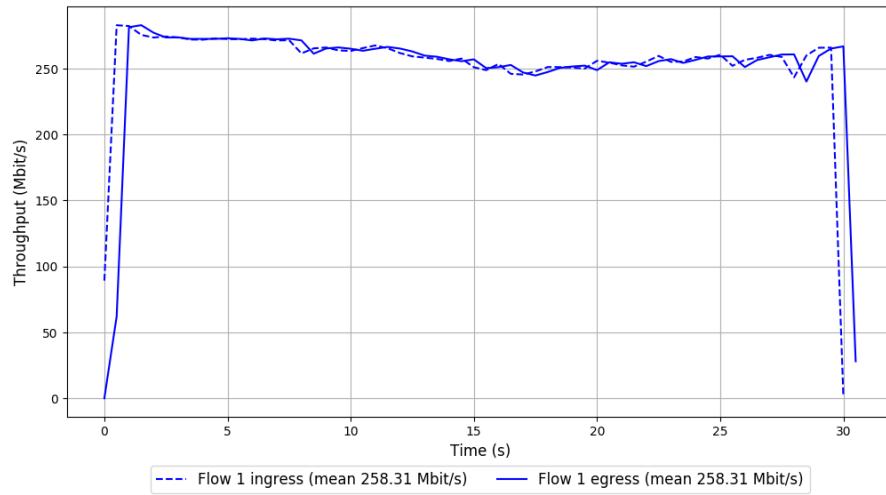


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-09-06 23:34:18
End at: 2018-09-06 23:34:48
Local clock offset: -0.061 ms
Remote clock offset: -0.445 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 258.31 Mbit/s
95th percentile per-packet one-way delay: 49.619 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 258.31 Mbit/s
95th percentile per-packet one-way delay: 49.619 ms
Loss rate: 0.00%
```

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

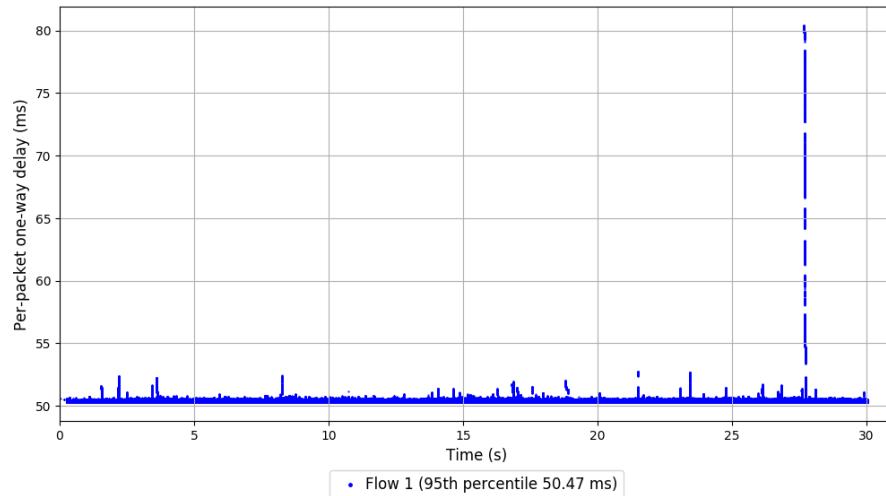
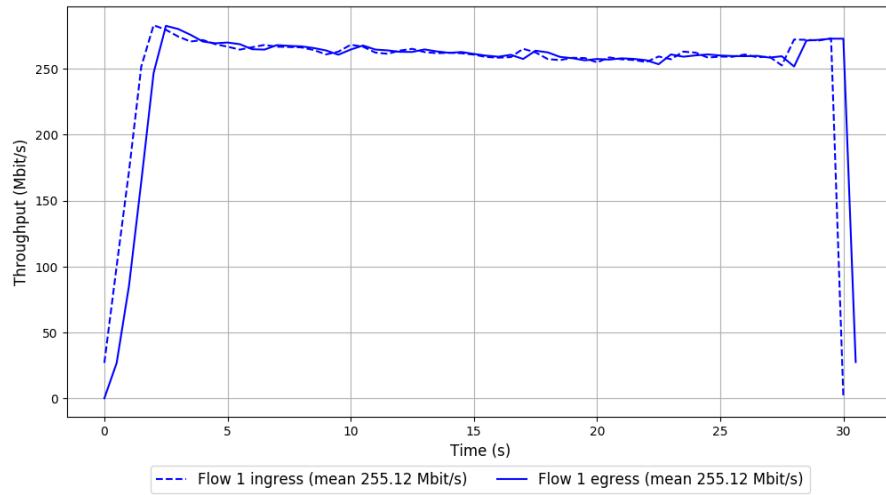


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-09-07 00:00:16
End at: 2018-09-07 00:00:46
Local clock offset: -0.335 ms
Remote clock offset: -0.588 ms

# Below is generated by plot.py at 2018-09-07 01:43:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 255.12 Mbit/s
95th percentile per-packet one-way delay: 50.471 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 255.12 Mbit/s
95th percentile per-packet one-way delay: 50.471 ms
Loss rate: 0.00%
```

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

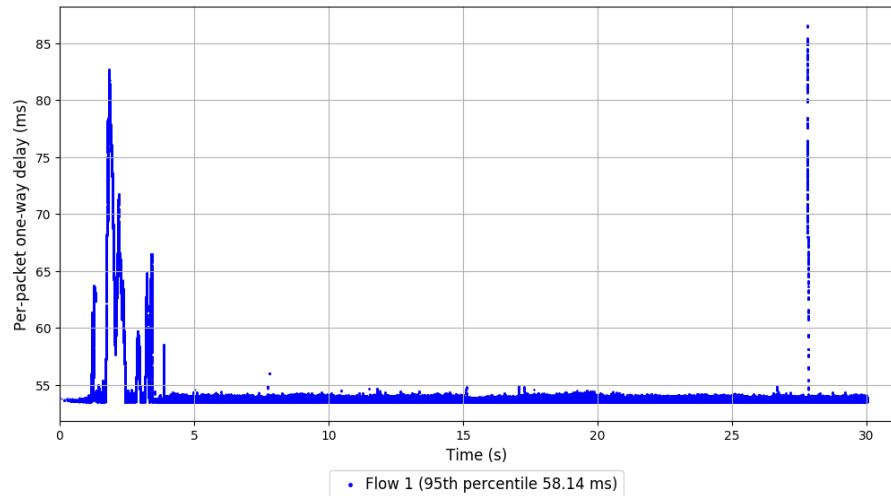
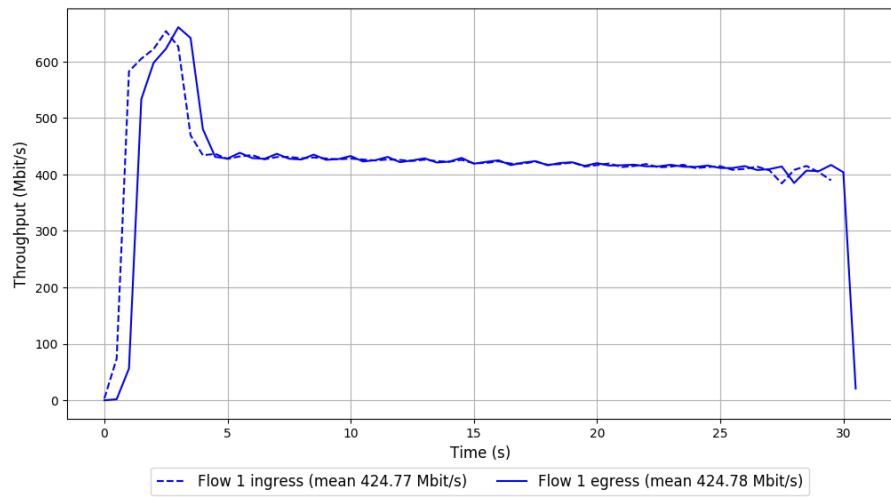


Run 1: Statistics of TCP Vegas

```
Start at: 2018-09-06 22:13:43
End at: 2018-09-06 22:14:13
Local clock offset: -0.091 ms
Remote clock offset: -0.074 ms

# Below is generated by plot.py at 2018-09-07 01:45:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 424.78 Mbit/s
95th percentile per-packet one-way delay: 58.144 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 424.78 Mbit/s
95th percentile per-packet one-way delay: 58.144 ms
Loss rate: 0.01%
```

Run 1: Report of TCP Vegas — Data Link

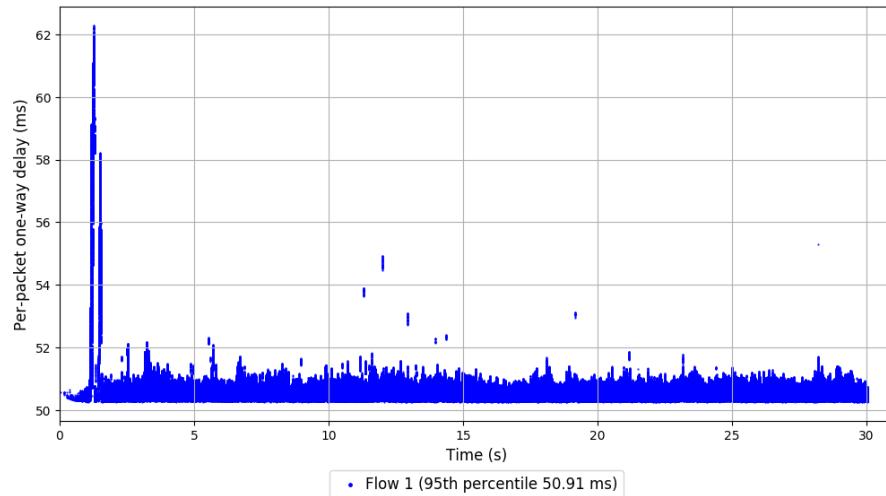
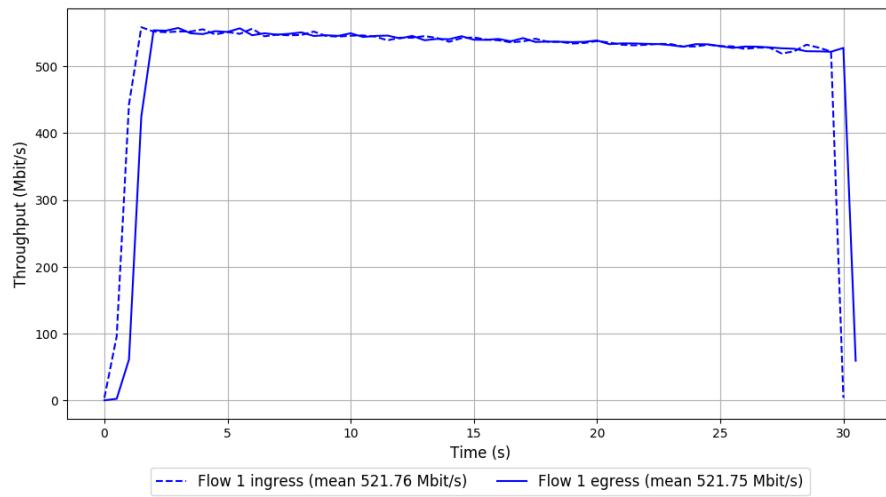


Run 2: Statistics of TCP Vegas

```
Start at: 2018-09-06 22:39:28
End at: 2018-09-06 22:39:59
Local clock offset: -0.353 ms
Remote clock offset: -0.099 ms

# Below is generated by plot.py at 2018-09-07 01:49:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 521.75 Mbit/s
95th percentile per-packet one-way delay: 50.912 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 521.75 Mbit/s
95th percentile per-packet one-way delay: 50.912 ms
Loss rate: 0.00%
```

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

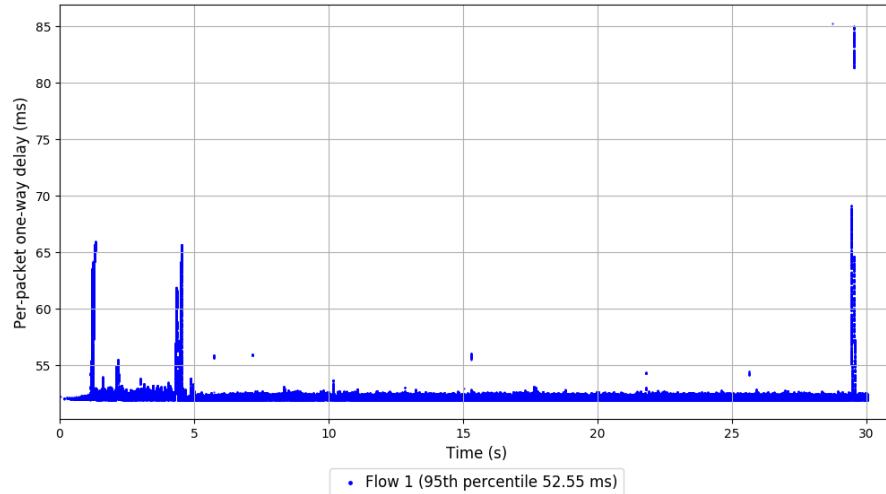
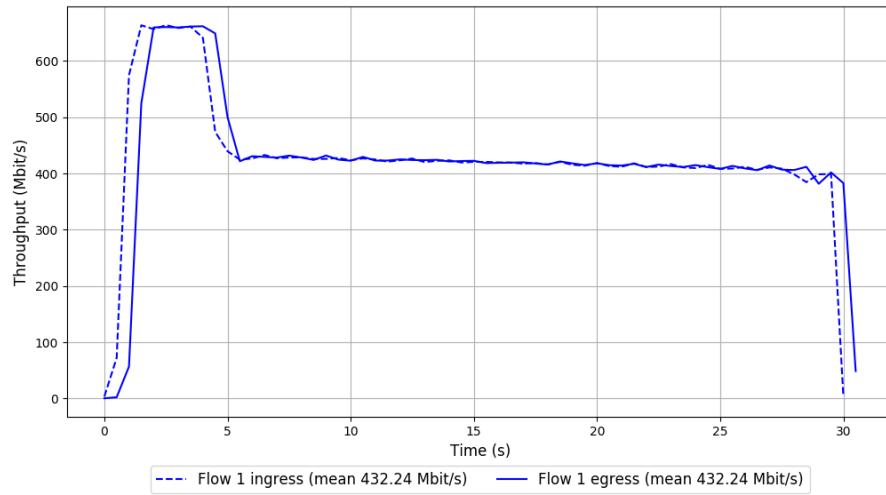


Run 3: Statistics of TCP Vegas

```
Start at: 2018-09-06 23:05:26
End at: 2018-09-06 23:05:56
Local clock offset: -0.122 ms
Remote clock offset: -1.646 ms

# Below is generated by plot.py at 2018-09-07 01:49:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 432.24 Mbit/s
95th percentile per-packet one-way delay: 52.548 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 432.24 Mbit/s
95th percentile per-packet one-way delay: 52.548 ms
Loss rate: 0.01%
```

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

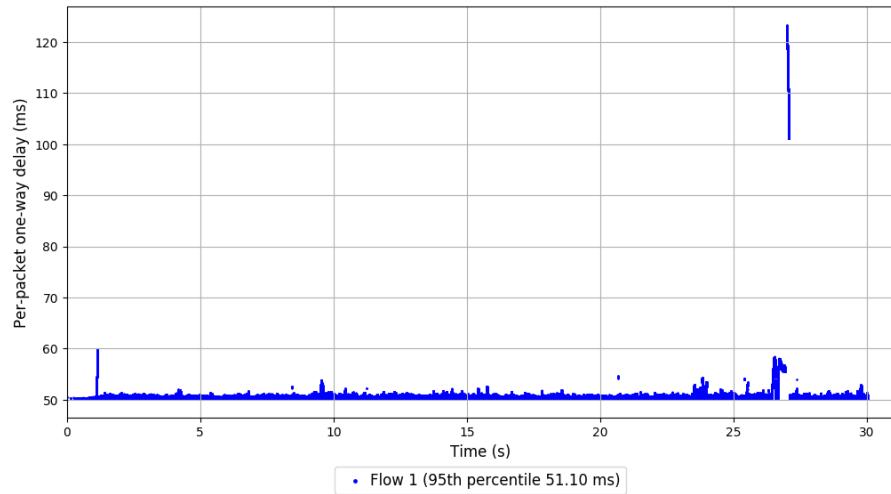
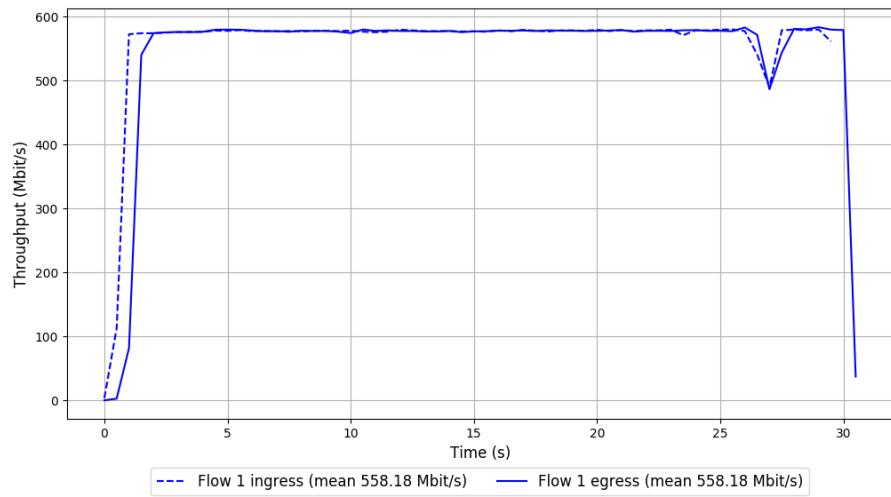


Run 4: Statistics of TCP Vegas

```
Start at: 2018-09-06 23:31:09
End at: 2018-09-06 23:31:39
Local clock offset: -0.253 ms
Remote clock offset: -0.094 ms

# Below is generated by plot.py at 2018-09-07 01:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 558.18 Mbit/s
95th percentile per-packet one-way delay: 51.104 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 558.18 Mbit/s
95th percentile per-packet one-way delay: 51.104 ms
Loss rate: 0.00%
```

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

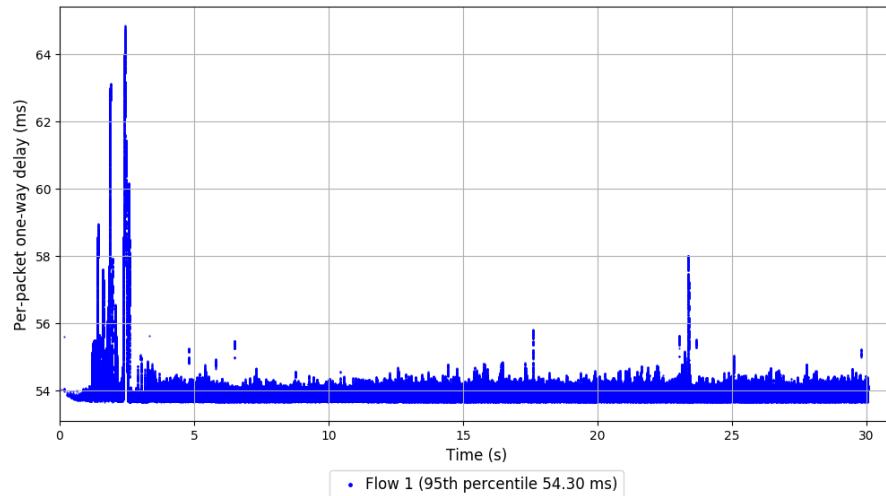
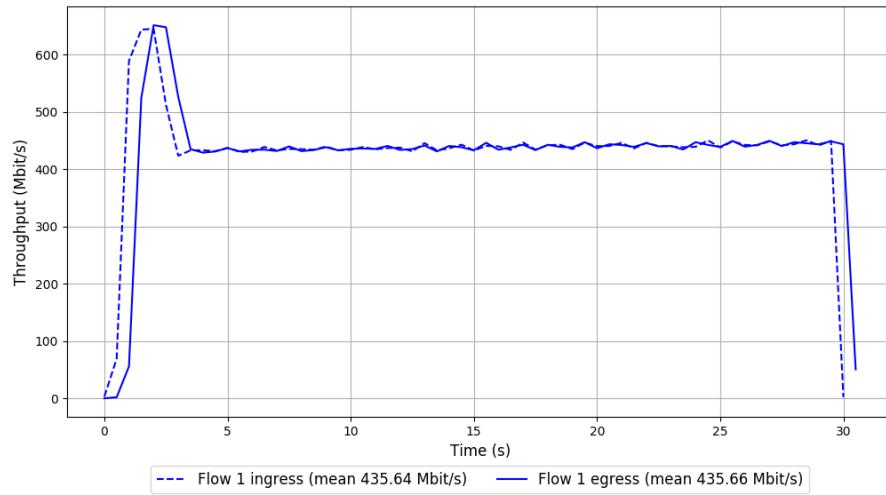


Run 5: Statistics of TCP Vegas

```
Start at: 2018-09-06 23:57:14
End at: 2018-09-06 23:57:44
Local clock offset: -0.33 ms
Remote clock offset: -0.184 ms

# Below is generated by plot.py at 2018-09-07 01:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 435.66 Mbit/s
95th percentile per-packet one-way delay: 54.303 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 435.66 Mbit/s
95th percentile per-packet one-way delay: 54.303 ms
Loss rate: 0.01%
```

Run 5: Report of TCP Vegas — Data Link

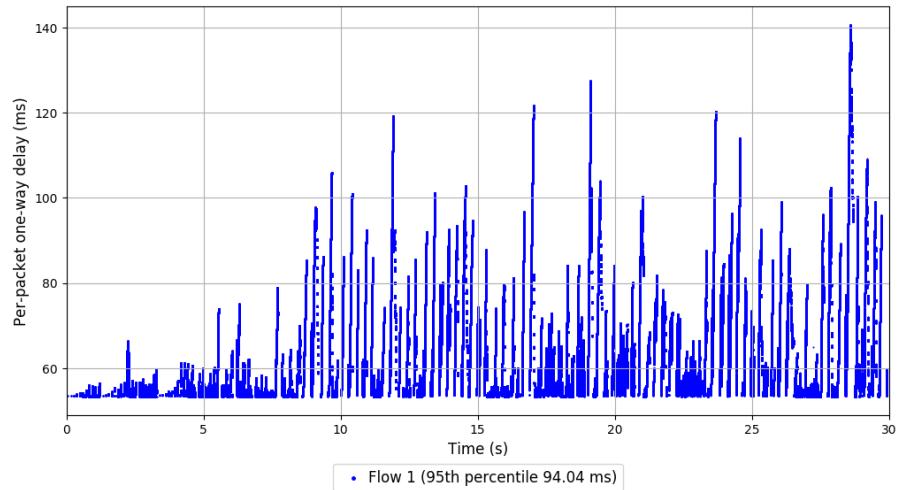
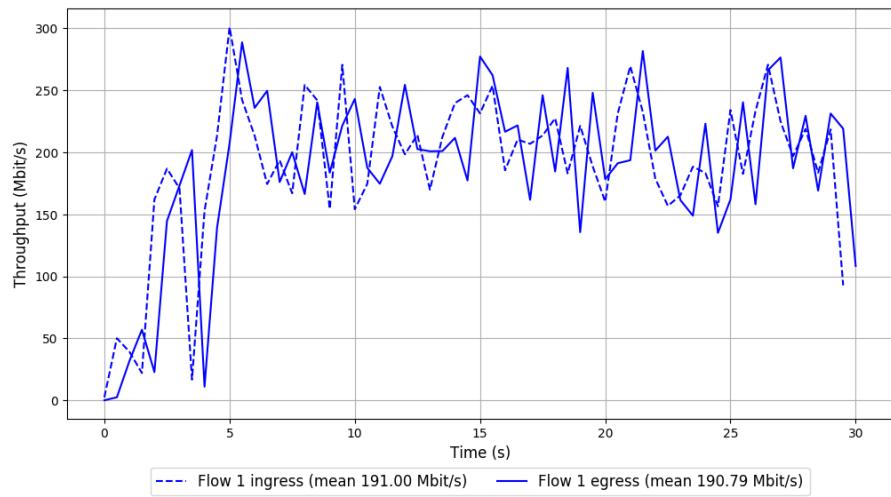


Run 1: Statistics of Verus

```
Start at: 2018-09-06 22:28:55
End at: 2018-09-06 22:29:25
Local clock offset: -0.059 ms
Remote clock offset: -0.139 ms

# Below is generated by plot.py at 2018-09-07 01:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 190.79 Mbit/s
95th percentile per-packet one-way delay: 94.043 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 190.79 Mbit/s
95th percentile per-packet one-way delay: 94.043 ms
Loss rate: 0.12%
```

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

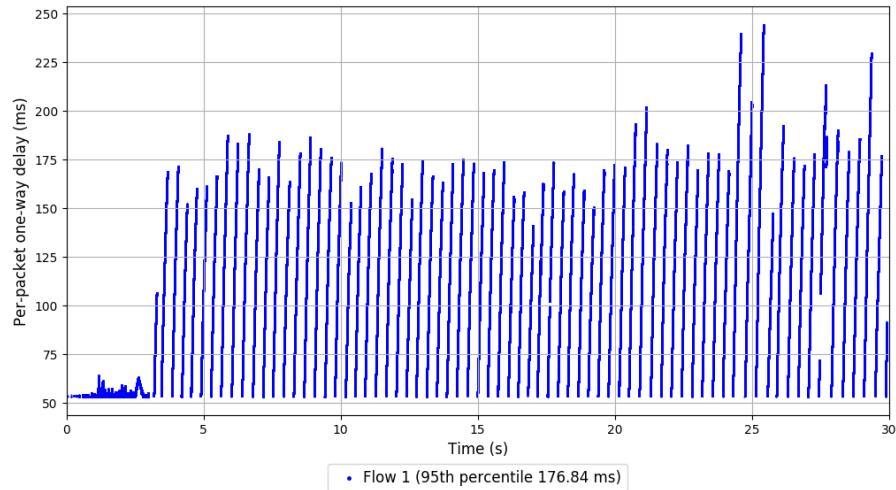
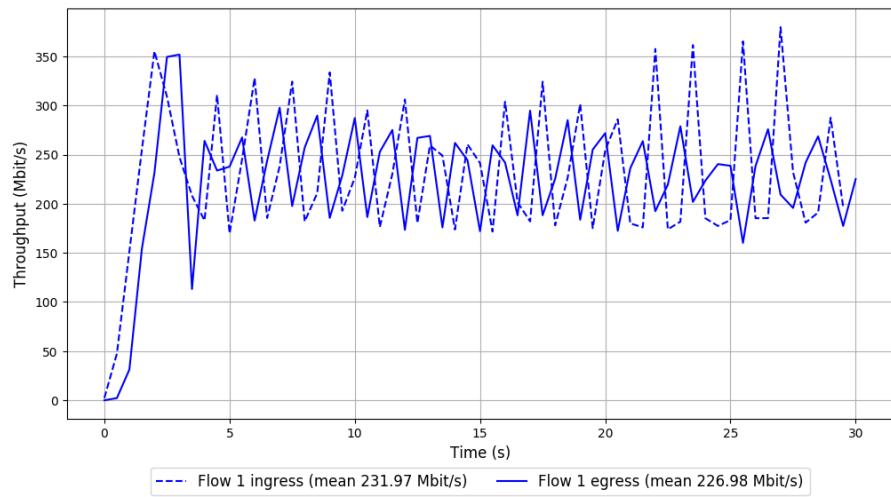


Run 2: Statistics of Verus

```
Start at: 2018-09-06 22:54:50
End at: 2018-09-06 22:55:20
Local clock offset: -0.013 ms
Remote clock offset: -0.241 ms

# Below is generated by plot.py at 2018-09-07 01:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 226.98 Mbit/s
95th percentile per-packet one-way delay: 176.844 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 226.98 Mbit/s
95th percentile per-packet one-way delay: 176.844 ms
Loss rate: 2.16%
```

Run 2: Report of Verus — Data Link

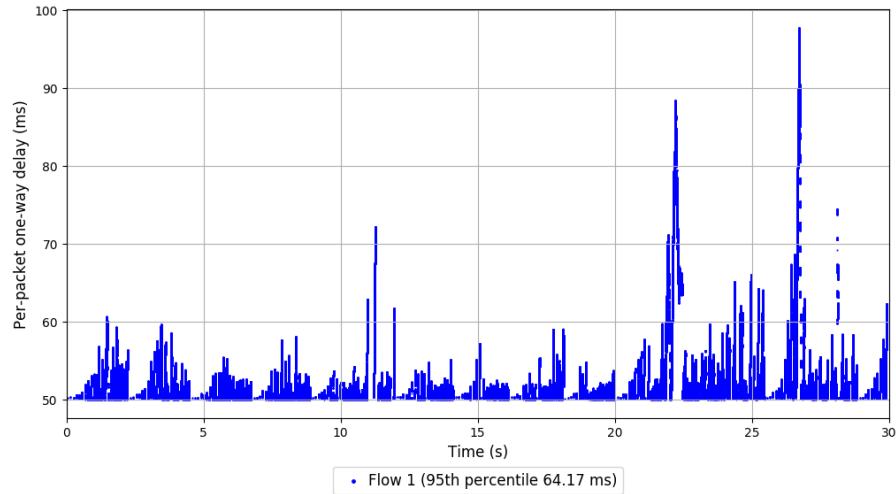
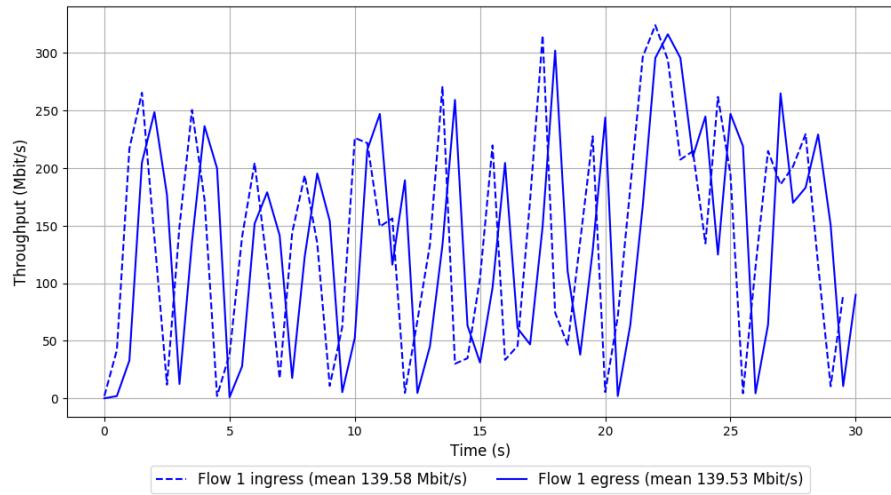


Run 3: Statistics of Verus

```
Start at: 2018-09-06 23:20:44
End at: 2018-09-06 23:21:14
Local clock offset: -0.003 ms
Remote clock offset: -0.104 ms

# Below is generated by plot.py at 2018-09-07 01:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 139.53 Mbit/s
95th percentile per-packet one-way delay: 64.169 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 139.53 Mbit/s
95th percentile per-packet one-way delay: 64.169 ms
Loss rate: 0.00%
```

Run 3: Report of Verus — Data Link

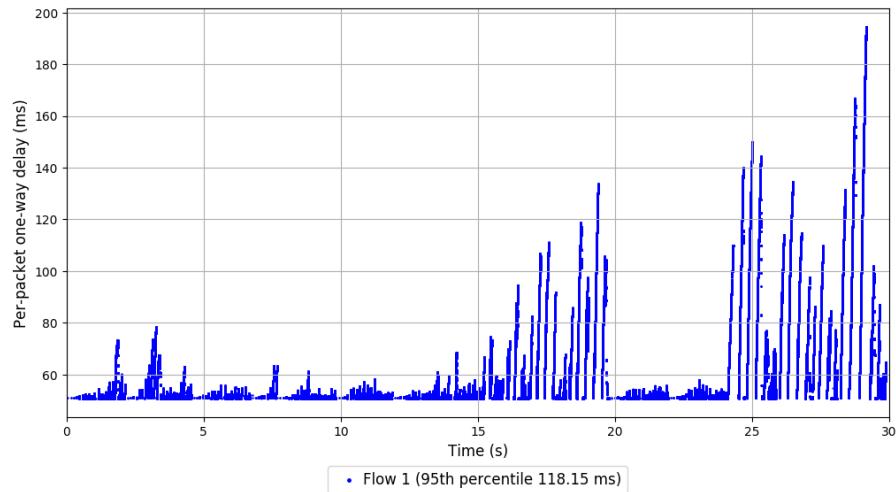
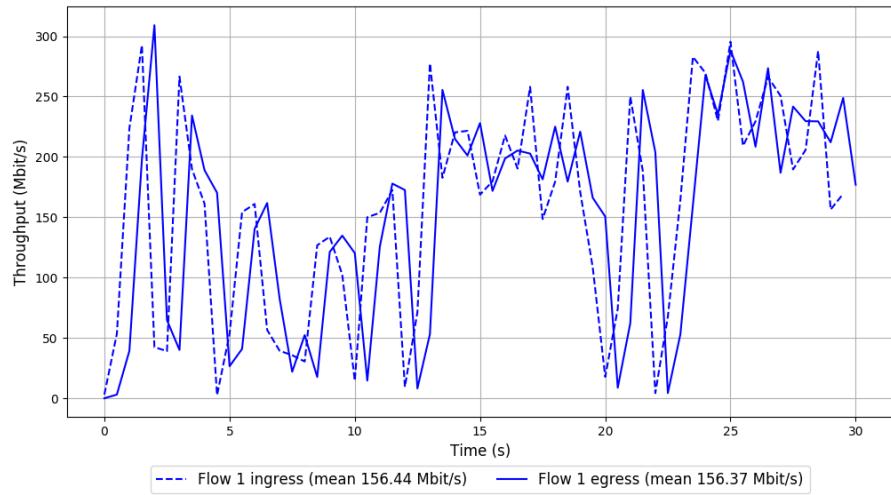


Run 4: Statistics of Verus

```
Start at: 2018-09-06 23:46:44
End at: 2018-09-06 23:47:14
Local clock offset: -0.139 ms
Remote clock offset: 0.112 ms

# Below is generated by plot.py at 2018-09-07 01:51:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 156.37 Mbit/s
95th percentile per-packet one-way delay: 118.148 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 156.37 Mbit/s
95th percentile per-packet one-way delay: 118.148 ms
Loss rate: 0.00%
```

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

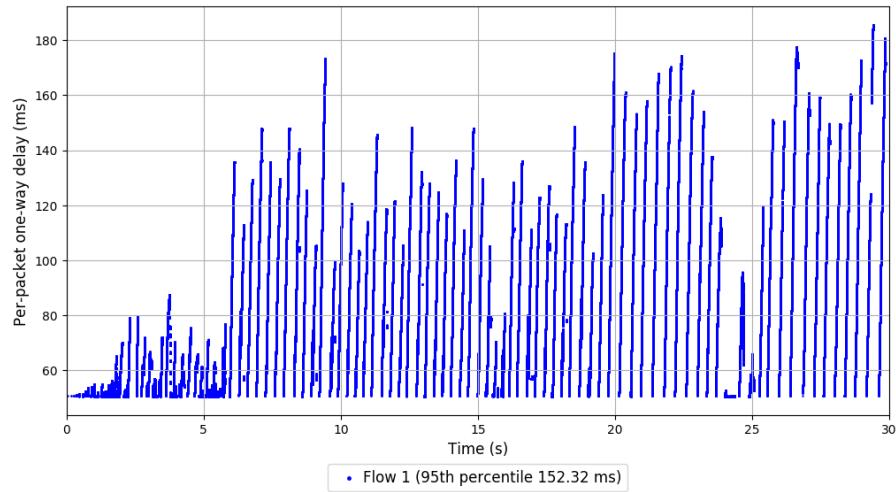
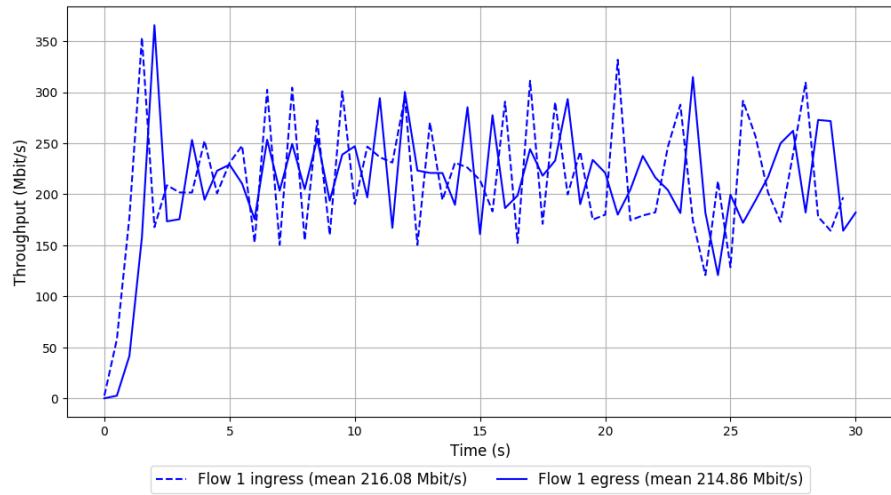


Run 5: Statistics of Verus

```
Start at: 2018-09-07 00:12:35
End at: 2018-09-07 00:13:05
Local clock offset: -0.098 ms
Remote clock offset: 0.205 ms

# Below is generated by plot.py at 2018-09-07 01:54:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 214.86 Mbit/s
95th percentile per-packet one-way delay: 152.321 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 214.86 Mbit/s
95th percentile per-packet one-way delay: 152.321 ms
Loss rate: 0.16%
```

Run 5: Report of Verus — Data Link

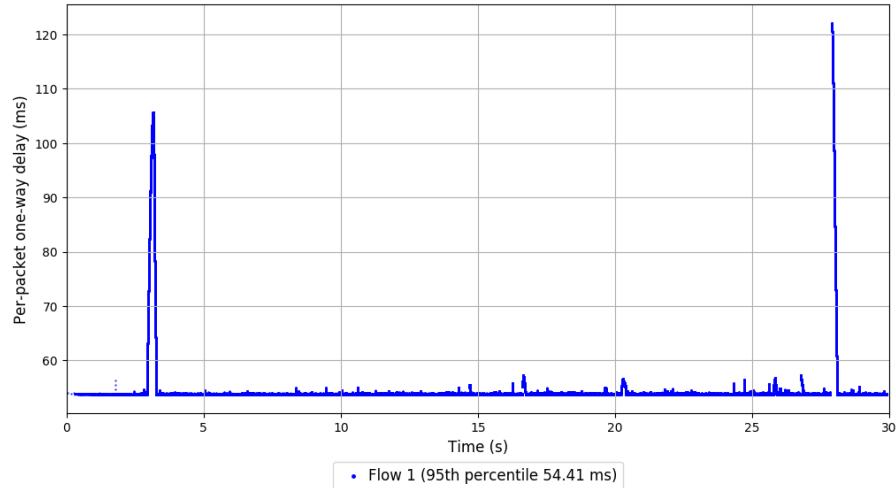
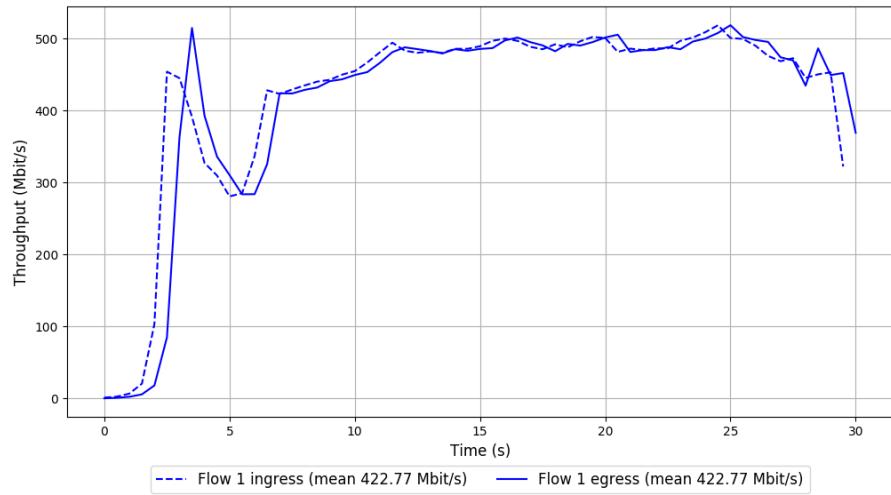


Run 1: Statistics of PCC-Vivace

```
Start at: 2018-09-06 22:06:12
End at: 2018-09-06 22:06:42
Local clock offset: -0.192 ms
Remote clock offset: -0.135 ms

# Below is generated by plot.py at 2018-09-07 01:55:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 422.77 Mbit/s
95th percentile per-packet one-way delay: 54.410 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 422.77 Mbit/s
95th percentile per-packet one-way delay: 54.410 ms
Loss rate: 0.01%
```

Run 1: Report of PCC-Vivace — Data Link

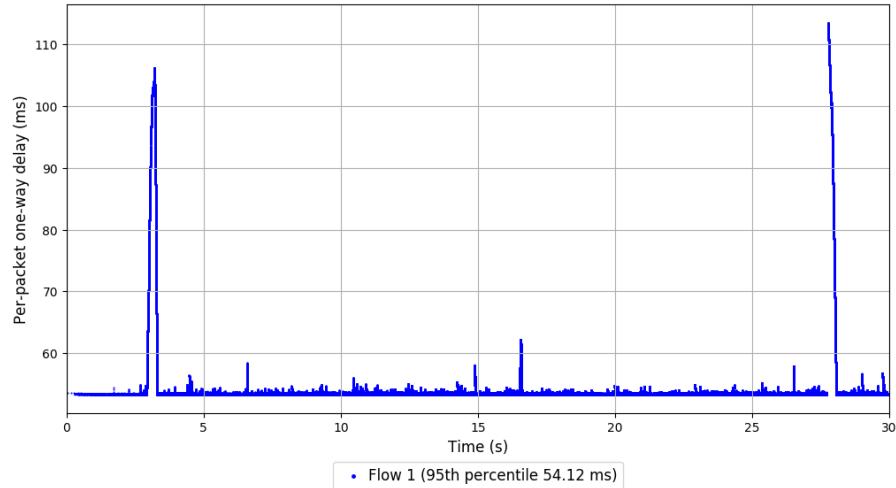
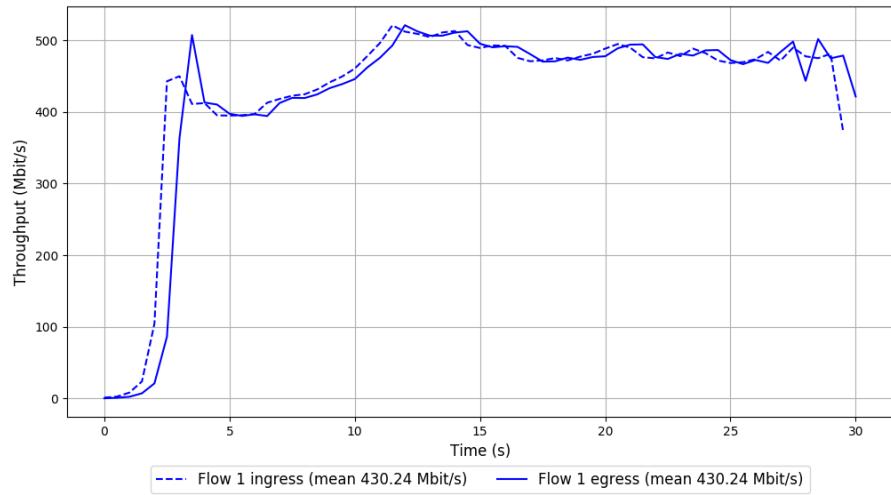


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-09-06 22:31:57
End at: 2018-09-06 22:32:27
Local clock offset: -0.265 ms
Remote clock offset: -0.312 ms

# Below is generated by plot.py at 2018-09-07 01:55:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 430.24 Mbit/s
95th percentile per-packet one-way delay: 54.121 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 430.24 Mbit/s
95th percentile per-packet one-way delay: 54.121 ms
Loss rate: 0.01%
```

Run 2: Report of PCC-Vivace — Data Link

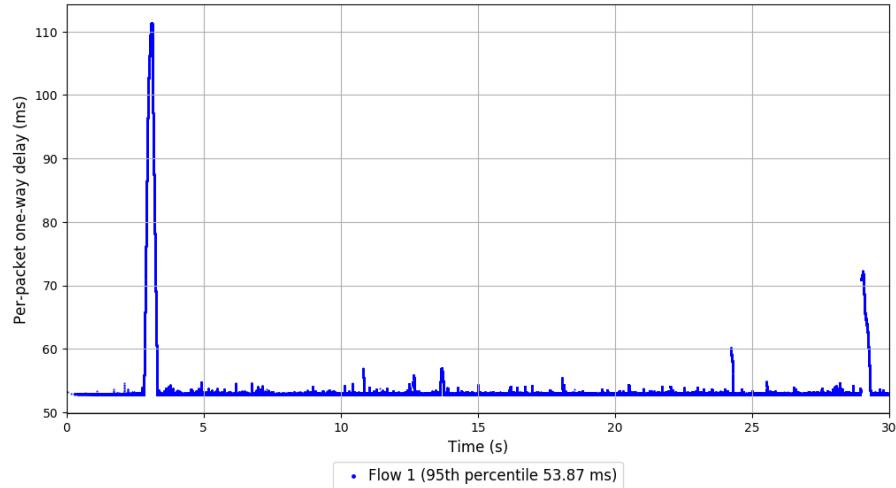
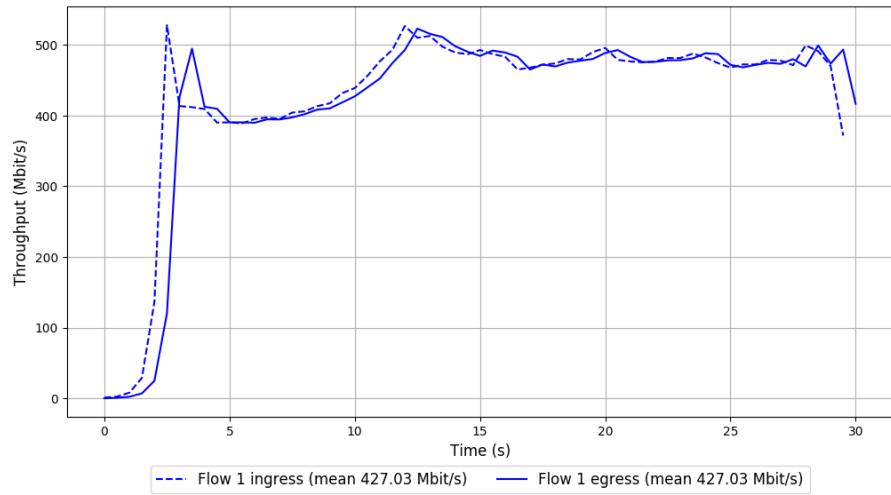


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-09-06 22:57:54
End at: 2018-09-06 22:58:24
Local clock offset: -0.004 ms
Remote clock offset: -0.724 ms

# Below is generated by plot.py at 2018-09-07 01:55:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 427.03 Mbit/s
95th percentile per-packet one-way delay: 53.873 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 427.03 Mbit/s
95th percentile per-packet one-way delay: 53.873 ms
Loss rate: 0.01%
```

Run 3: Report of PCC-Vivace — Data Link

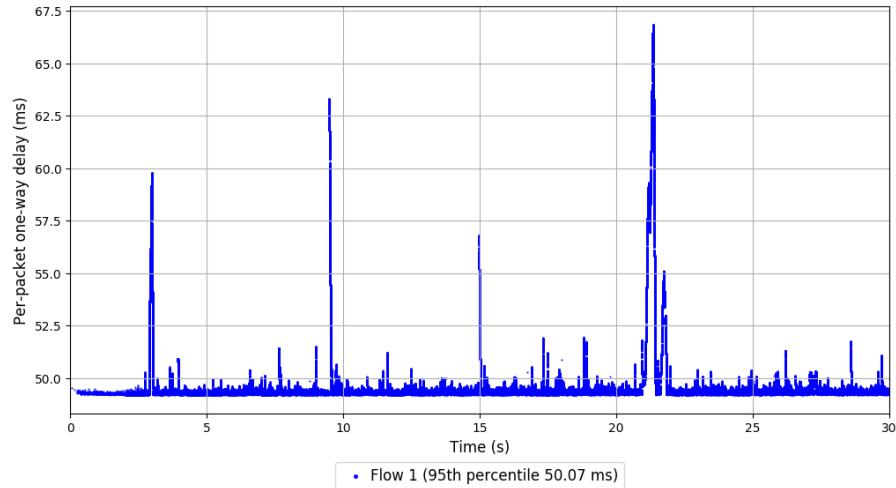
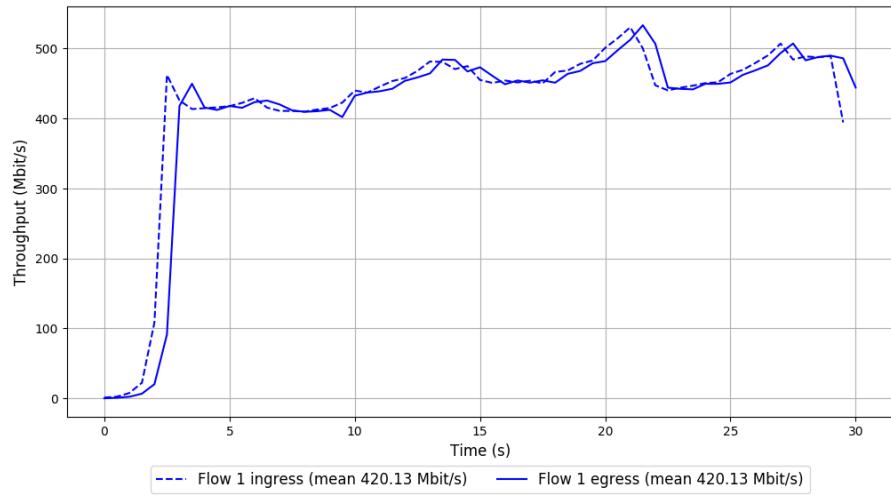


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-09-06 23:23:40
End at: 2018-09-06 23:24:10
Local clock offset: -0.322 ms
Remote clock offset: -1.318 ms

# Below is generated by plot.py at 2018-09-07 01:55:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 420.13 Mbit/s
95th percentile per-packet one-way delay: 50.072 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 420.13 Mbit/s
95th percentile per-packet one-way delay: 50.072 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link

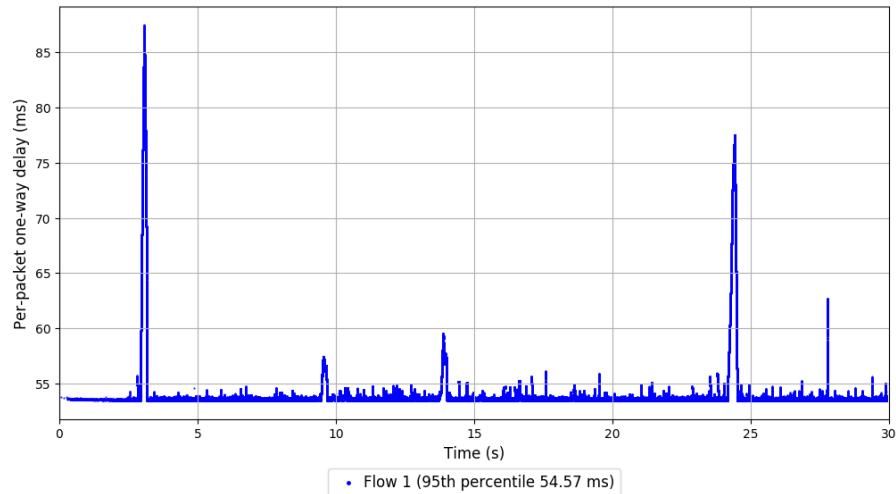
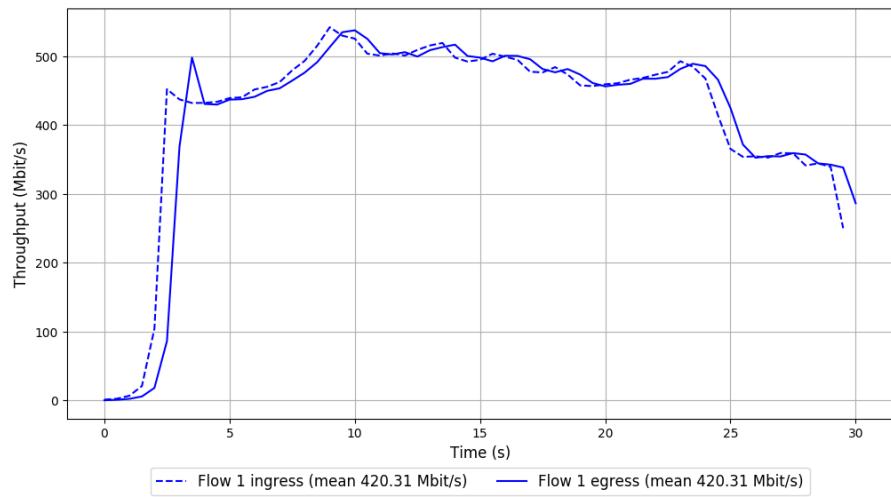


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-09-06 23:49:43
End at: 2018-09-06 23:50:13
Local clock offset: -0.216 ms
Remote clock offset: -0.119 ms

# Below is generated by plot.py at 2018-09-07 01:55:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 420.31 Mbit/s
95th percentile per-packet one-way delay: 54.569 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 420.31 Mbit/s
95th percentile per-packet one-way delay: 54.569 ms
Loss rate: 0.01%
```

Run 5: Report of PCC-Vivace — Data Link

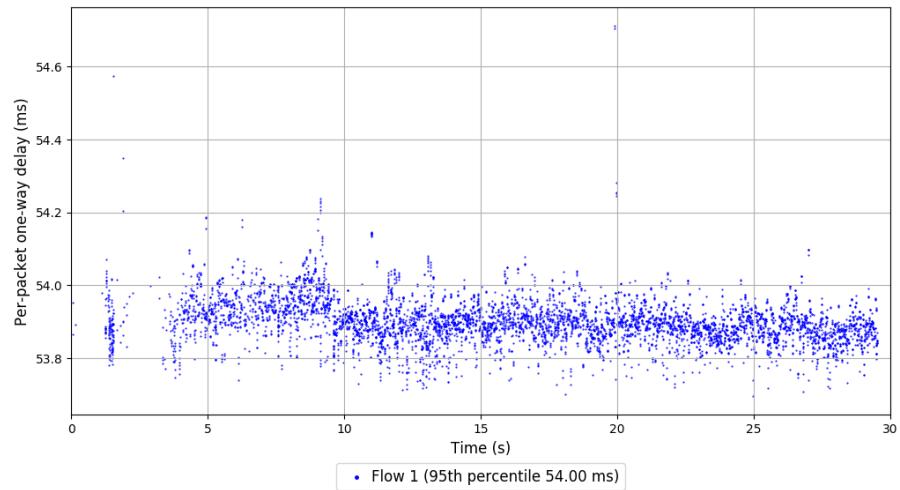
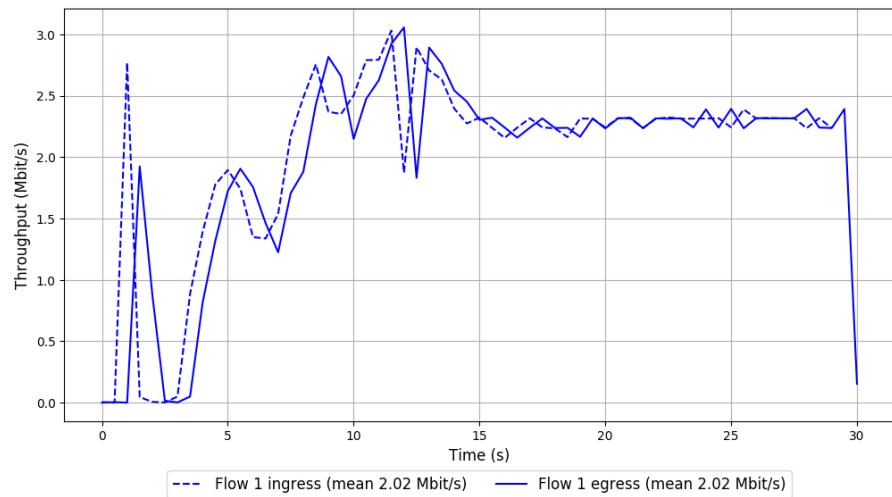


```
Run 1: Statistics of WebRTC media

Start at: 2018-09-06 22:07:46
End at: 2018-09-06 22:08:16
Local clock offset: -0.379 ms
Remote clock offset: -0.214 ms

# Below is generated by plot.py at 2018-09-07 01:55:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 54.004 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 54.004 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

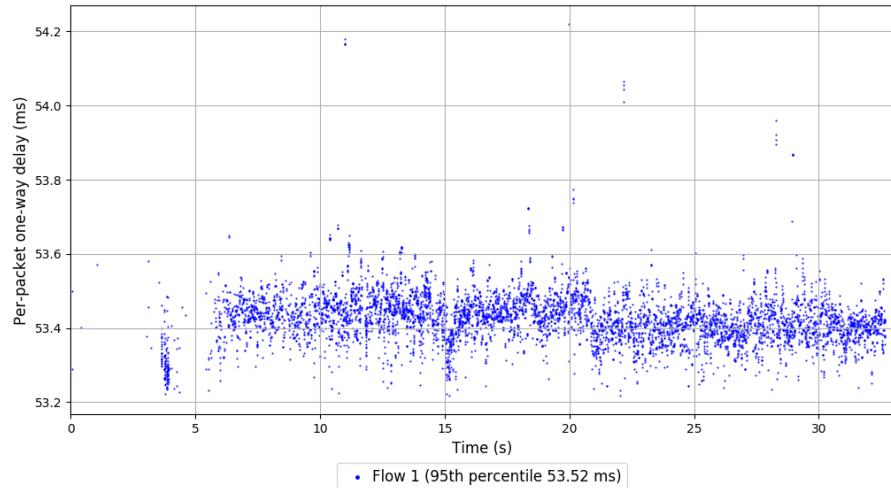
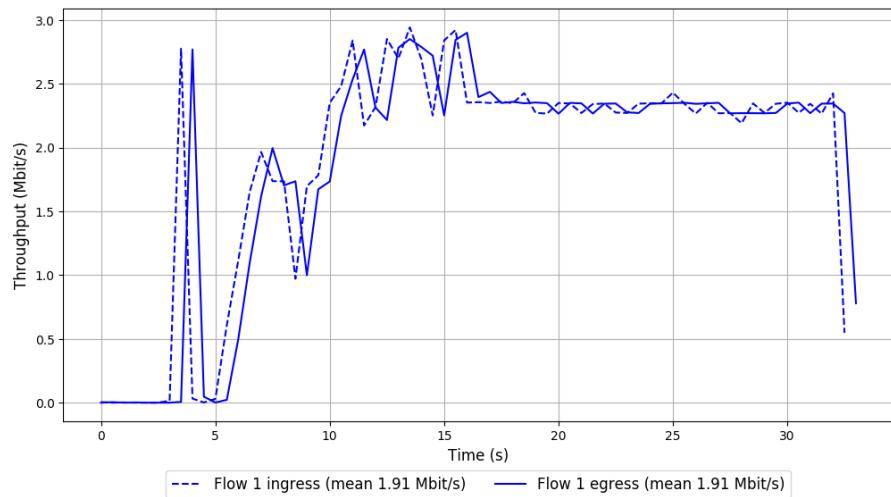


Run 2: Statistics of WebRTC media

```
Start at: 2018-09-06 22:33:31
End at: 2018-09-06 22:34:01
Local clock offset: -0.158 ms
Remote clock offset: 0.195 ms

# Below is generated by plot.py at 2018-09-07 01:55:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 53.521 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 53.521 ms
Loss rate: 0.06%
```

Run 2: Report of WebRTC media — Data Link

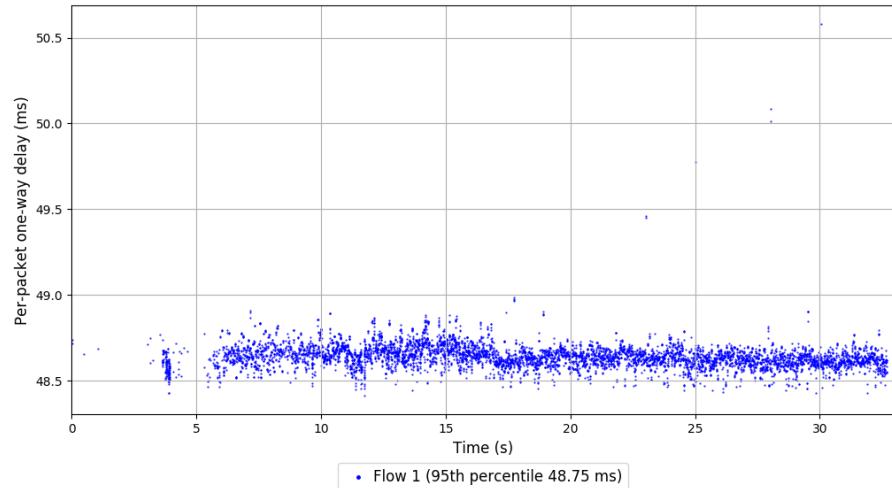
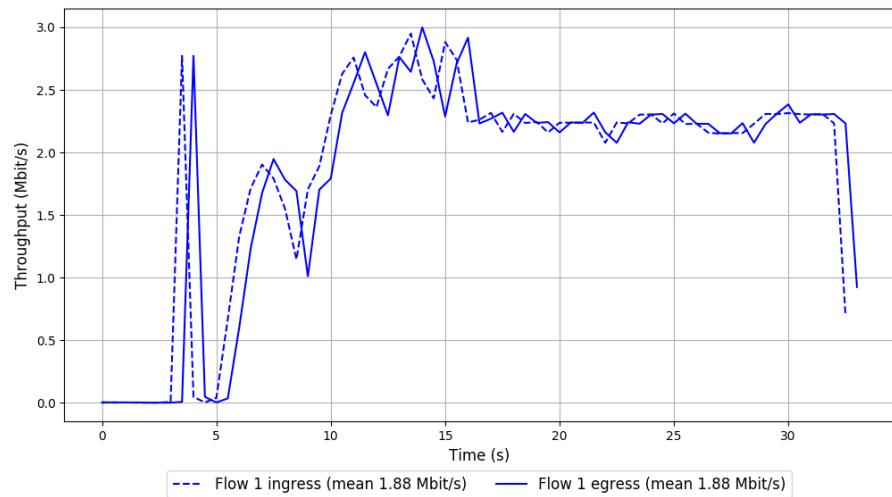


Run 3: Statistics of WebRTC media

```
Start at: 2018-09-06 22:59:28
End at: 2018-09-06 22:59:58
Local clock offset: 0.035 ms
Remote clock offset: -1.412 ms

# Below is generated by plot.py at 2018-09-07 01:55:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 48.747 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 48.747 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

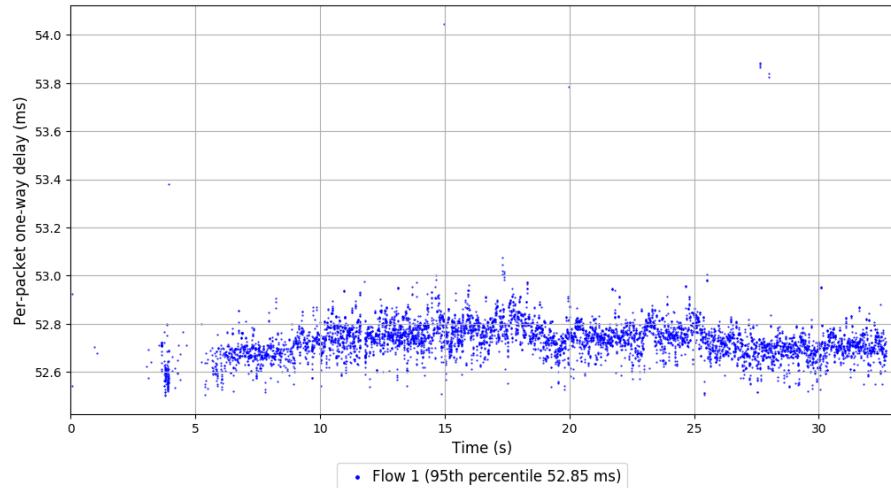
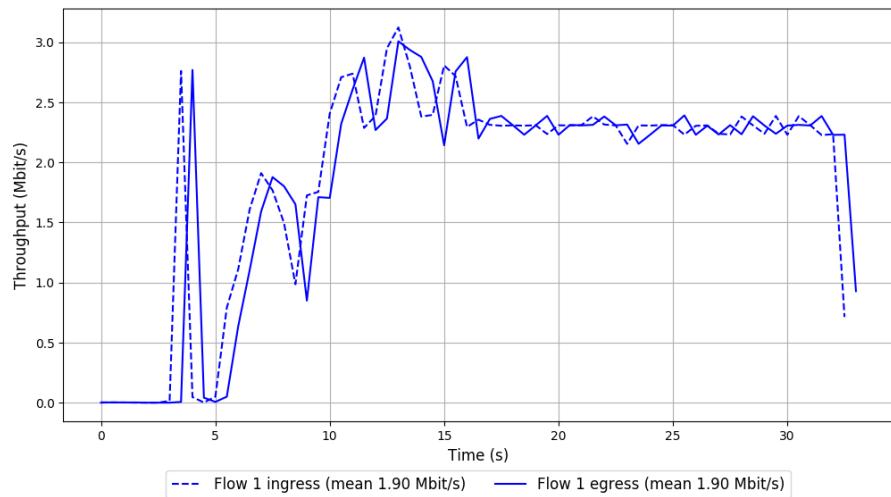


Run 4: Statistics of WebRTC media

```
Start at: 2018-09-06 23:25:13
End at: 2018-09-06 23:25:44
Local clock offset: -0.132 ms
Remote clock offset: -0.721 ms

# Below is generated by plot.py at 2018-09-07 01:55:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 52.846 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 1.90 Mbit/s
95th percentile per-packet one-way delay: 52.846 ms
Loss rate: 0.02%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-09-06 23:51:16
End at: 2018-09-06 23:51:46
Local clock offset: -0.137 ms
Remote clock offset: 0.124 ms

# Below is generated by plot.py at 2018-09-07 01:55:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 50.631 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 50.631 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

