

Pantheon Report

Generated at 2018-09-07 21:48:29 (UTC).
Data path: GCE Tokyo on `ens4 (remote)` → GCE Iowa on `ens4 (local)`.
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:

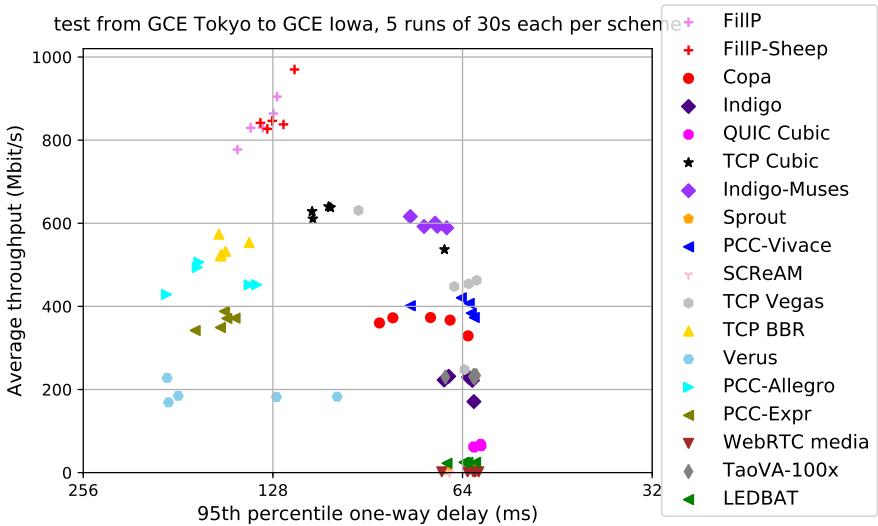
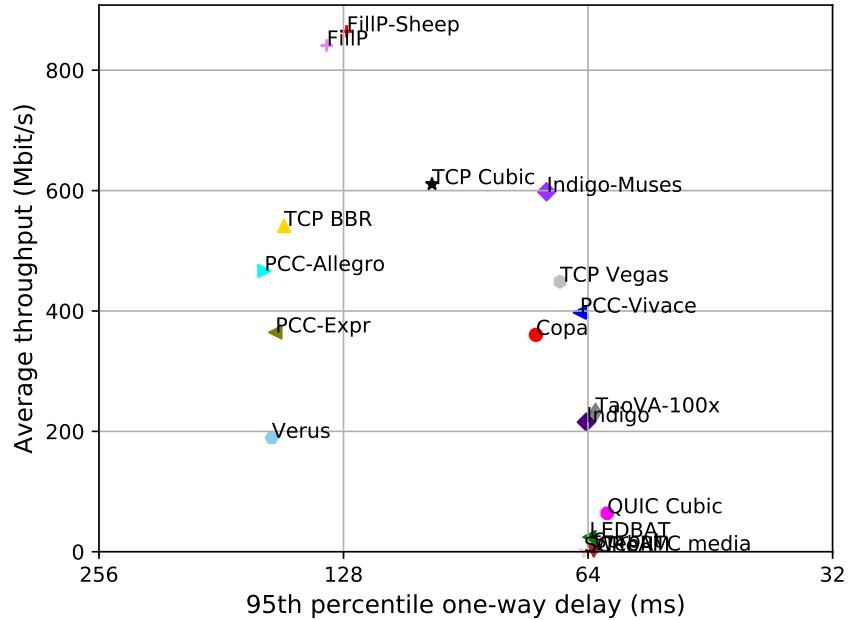
```
Linux 4.15.0-1018-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 190986 254651 381972
```

Git summary:

```
branch: muses @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 7631aea3923a3598767c87765ae5103aca0678d3
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
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

test from GCE Tokyo to GCE Iowa, 5 runs of 30s each per scheme
(mean of all runs by scheme)



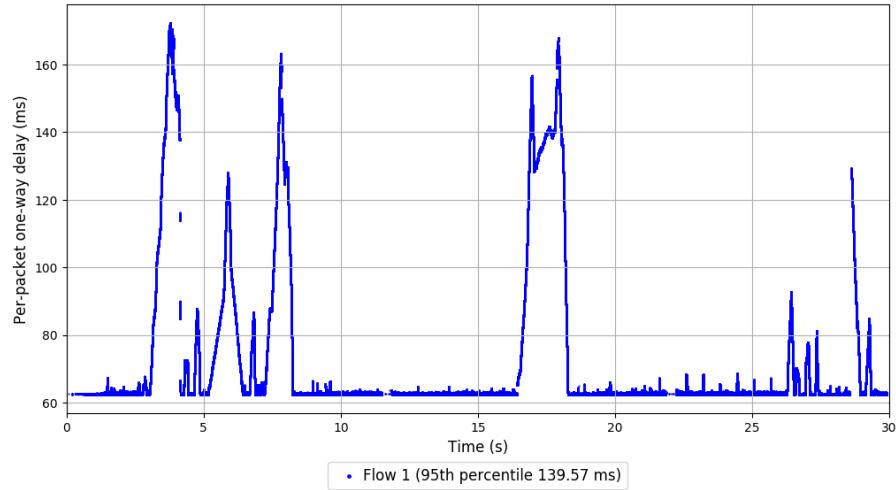
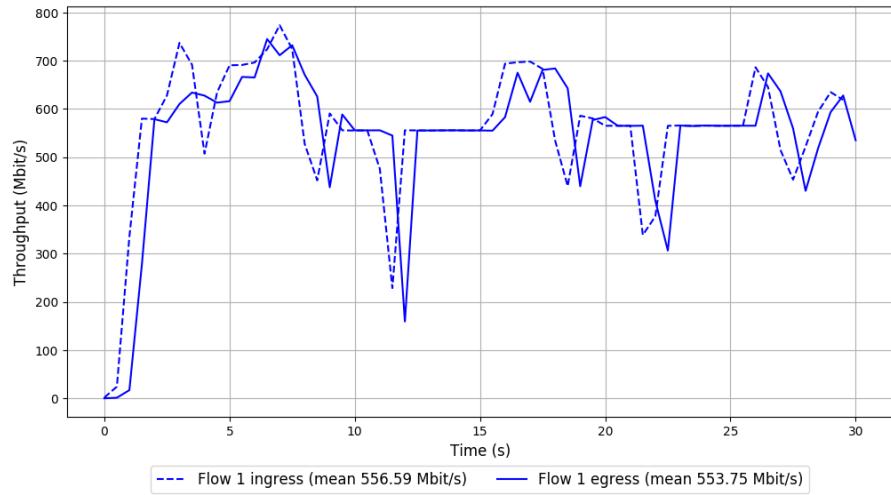
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	541.28	151.46	1.20
Copa	5	360.35	74.18	0.43
TCP Cubic	5	610.74	99.60	0.50
FillP	5	841.19	134.25	4.18
FillP-Sheep	5	864.61	126.85	1.98
Indigo	5	215.46	64.30	0.46
LEDBAT	5	24.35	63.75	0.82
Indigo-Muses	5	598.06	71.97	0.47
PCC-Allegro	5	466.52	160.17	4.43
PCC-Expr	5	364.42	155.28	3.32
QUIC Cubic	4	63.99	60.62	0.66
SCReAM	5	0.22	64.75	0.38
Sprout	5	6.83	62.99	0.43
TaoVA-100x	5	231.54	62.66	0.45
TCP Vegas	5	448.63	69.30	0.41
Verus	5	189.26	156.86	1.85
PCC-Vivace	5	397.27	65.51	0.49
WebRTC media	5	1.94	62.96	0.47

Run 1: Statistics of TCP BBR

```
Start at: 2018-09-07 18:11:13
End at: 2018-09-07 18:11:43
Local clock offset: -0.102 ms
Remote clock offset: -1.47 ms

# Below is generated by plot.py at 2018-09-07 20:28:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 553.75 Mbit/s
95th percentile per-packet one-way delay: 139.569 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 553.75 Mbit/s
95th percentile per-packet one-way delay: 139.569 ms
Loss rate: 0.94%
```

Run 1: Report of TCP BBR — Data Link

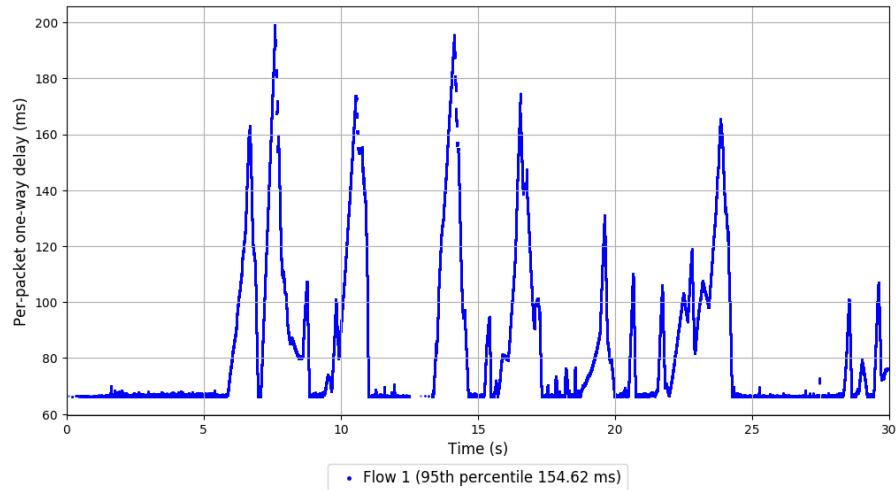
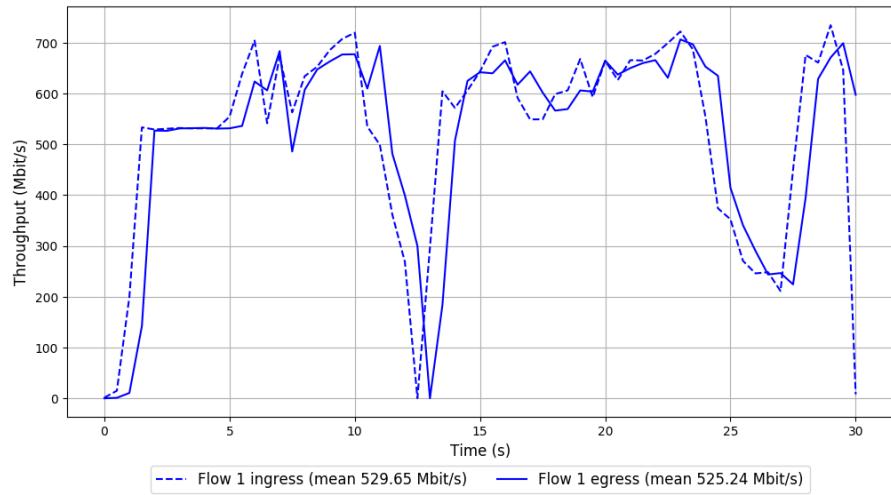


Run 2: Statistics of TCP BBR

```
Start at: 2018-09-07 18:37:27
End at: 2018-09-07 18:37:57
Local clock offset: -0.051 ms
Remote clock offset: 0.451 ms

# Below is generated by plot.py at 2018-09-07 20:28:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 525.24 Mbit/s
95th percentile per-packet one-way delay: 154.617 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 525.24 Mbit/s
95th percentile per-packet one-way delay: 154.617 ms
Loss rate: 1.28%
```

Run 2: Report of TCP BBR — Data Link

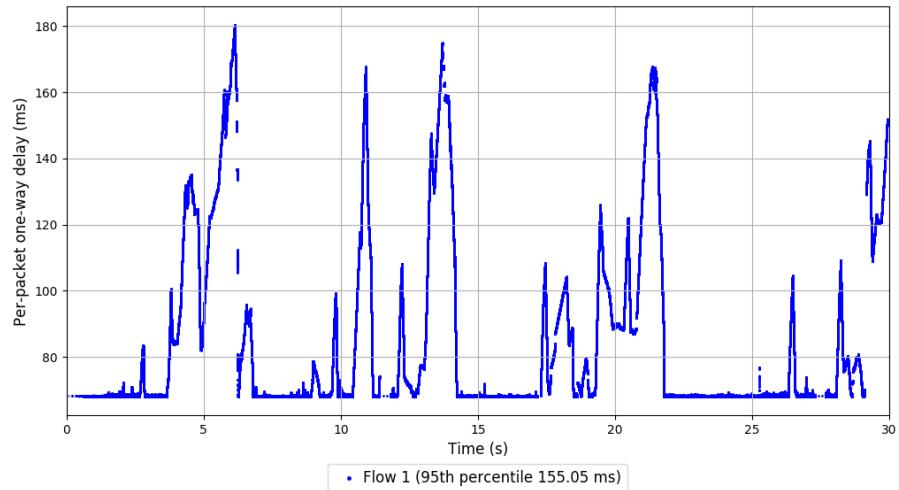
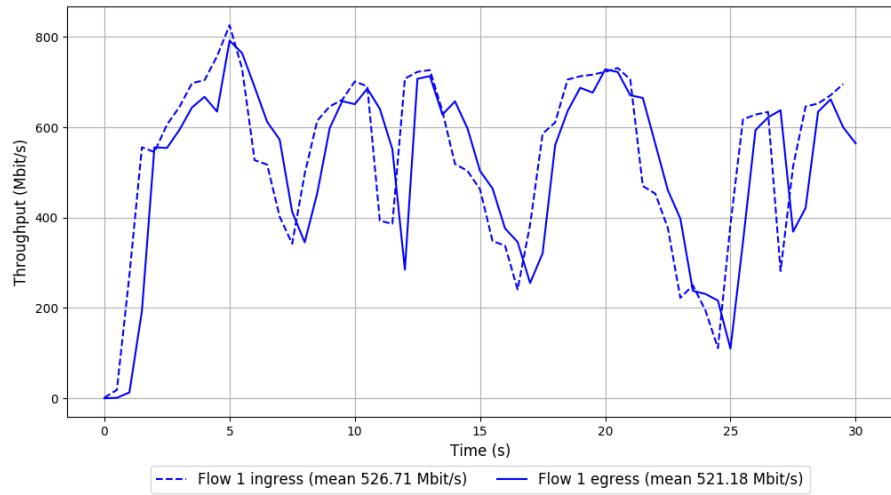


Run 3: Statistics of TCP BBR

```
Start at: 2018-09-07 19:03:38
End at: 2018-09-07 19:04:08
Local clock offset: -0.027 ms
Remote clock offset: -1.436 ms

# Below is generated by plot.py at 2018-09-07 20:28:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 521.18 Mbit/s
95th percentile per-packet one-way delay: 155.052 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 521.18 Mbit/s
95th percentile per-packet one-way delay: 155.052 ms
Loss rate: 1.47%
```

Run 3: Report of TCP BBR — Data Link

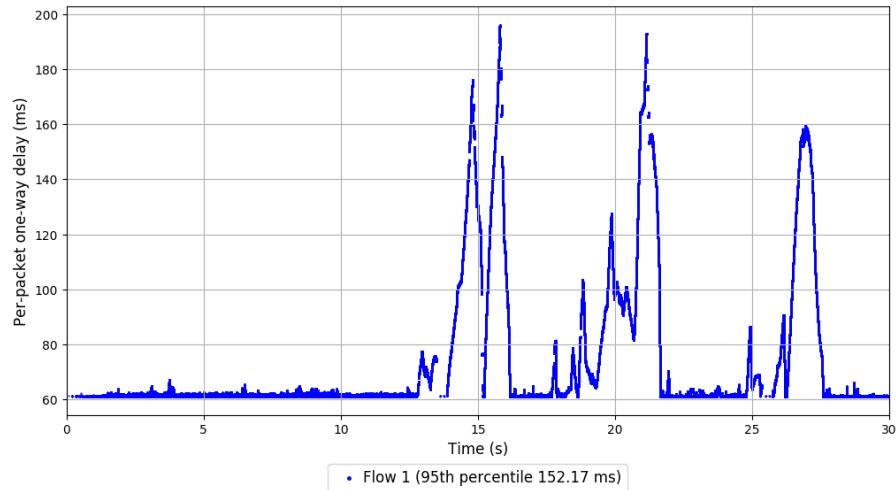
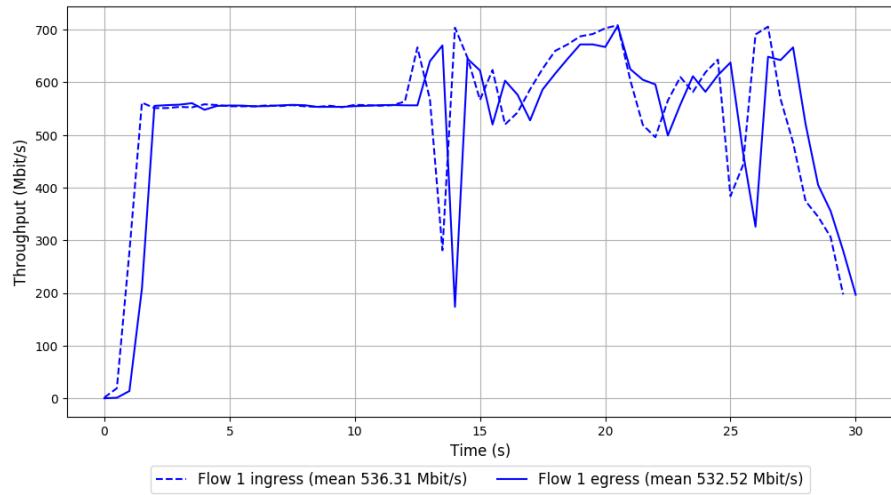


Run 4: Statistics of TCP BBR

```
Start at: 2018-09-07 19:29:30
End at: 2018-09-07 19:30:00
Local clock offset: -0.012 ms
Remote clock offset: -0.379 ms

# Below is generated by plot.py at 2018-09-07 20:28:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 532.52 Mbit/s
95th percentile per-packet one-way delay: 152.174 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 532.52 Mbit/s
95th percentile per-packet one-way delay: 152.174 ms
Loss rate: 0.89%
```

Run 4: Report of TCP BBR — Data Link

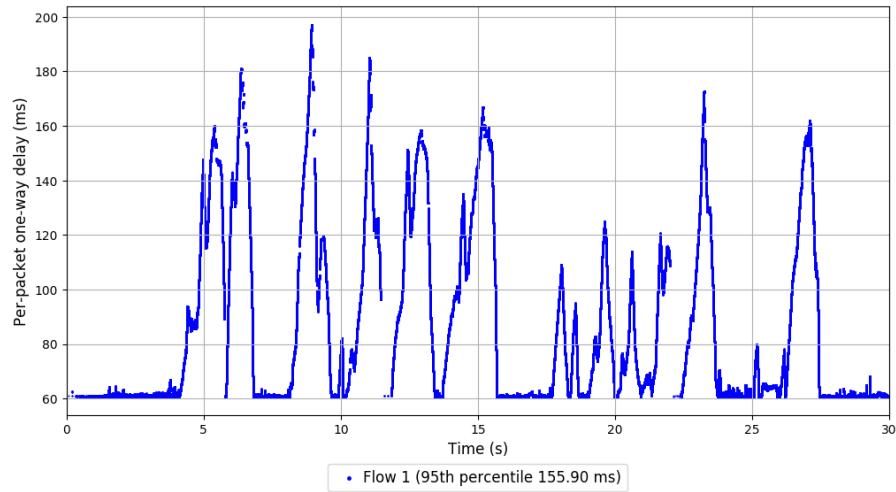
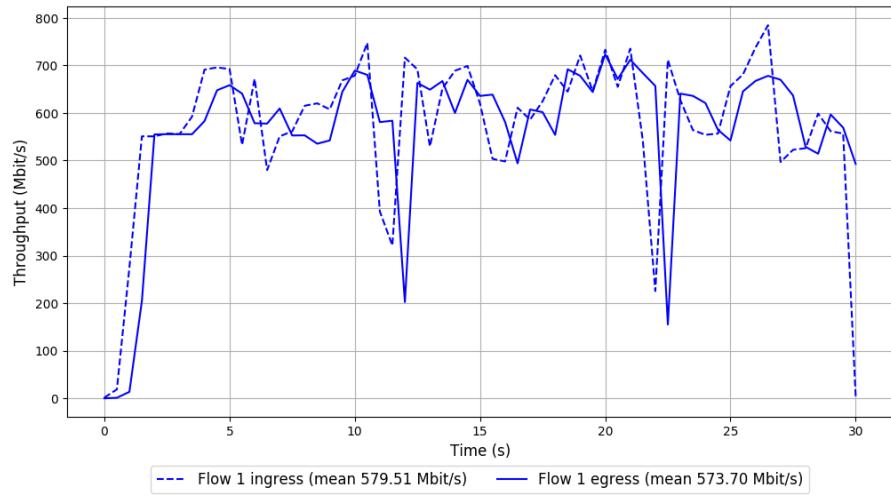


Run 5: Statistics of TCP BBR

```
Start at: 2018-09-07 19:55:48
End at: 2018-09-07 19:56:18
Local clock offset: 0.02 ms
Remote clock offset: 0.102 ms

# Below is generated by plot.py at 2018-09-07 20:29:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 573.70 Mbit/s
95th percentile per-packet one-way delay: 155.898 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 573.70 Mbit/s
95th percentile per-packet one-way delay: 155.898 ms
Loss rate: 1.41%
```

Run 5: Report of TCP BBR — Data Link

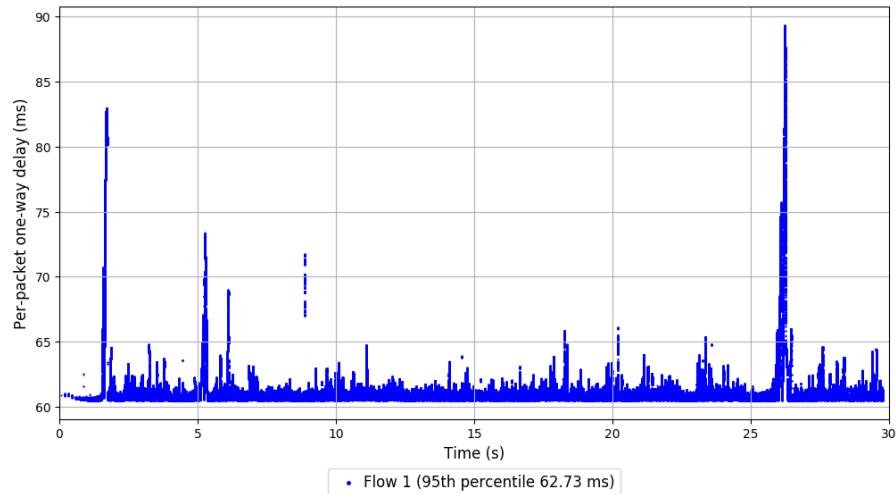
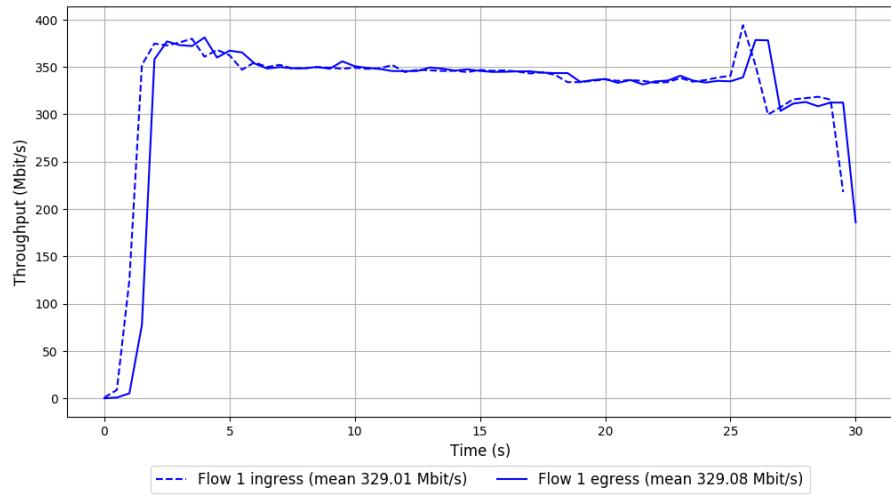


Run 1: Statistics of Copa

```
Start at: 2018-09-07 18:00:43
End at: 2018-09-07 18:01:13
Local clock offset: -0.119 ms
Remote clock offset: 0.418 ms

# Below is generated by plot.py at 2018-09-07 20:29:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 329.08 Mbit/s
95th percentile per-packet one-way delay: 62.725 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 329.08 Mbit/s
95th percentile per-packet one-way delay: 62.725 ms
Loss rate: 0.41%
```

Run 1: Report of Copa — Data Link

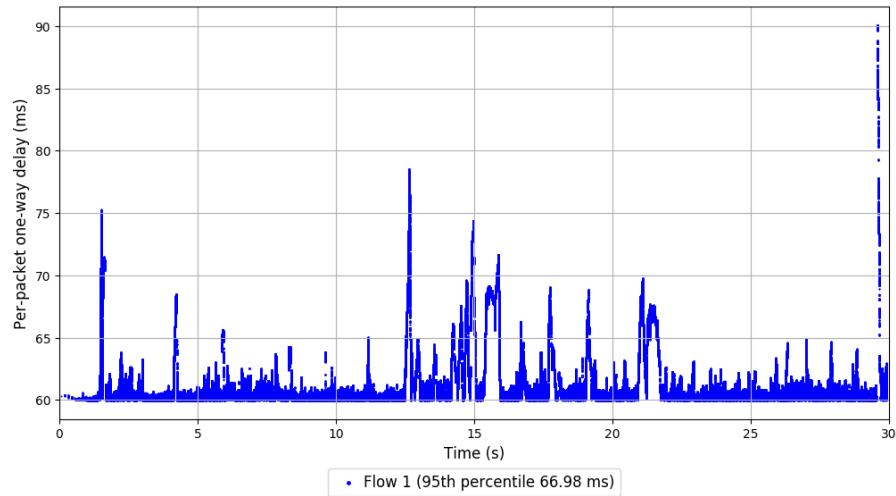
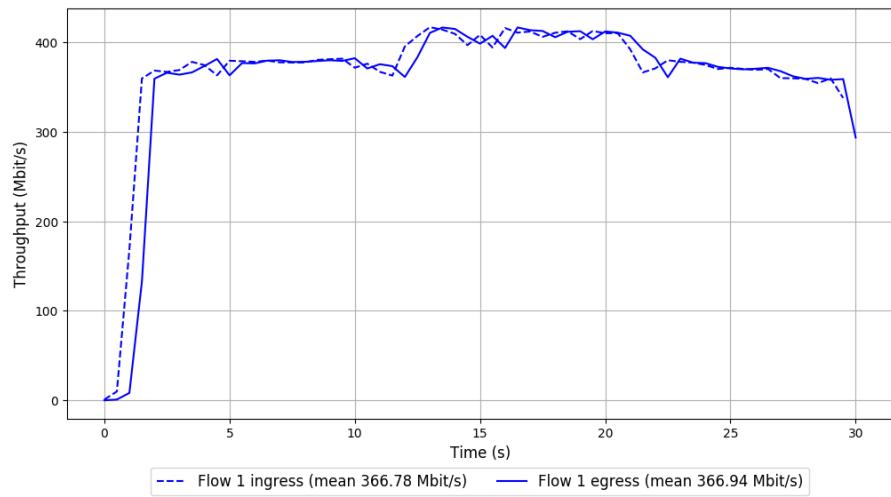


Run 2: Statistics of Copa

```
Start at: 2018-09-07 18:26:49
End at: 2018-09-07 18:27:19
Local clock offset: -0.022 ms
Remote clock offset: 0.62 ms

# Below is generated by plot.py at 2018-09-07 20:30:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 366.94 Mbit/s
95th percentile per-packet one-way delay: 66.982 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 366.94 Mbit/s
95th percentile per-packet one-way delay: 66.982 ms
Loss rate: 0.40%
```

Run 2: Report of Copa — Data Link

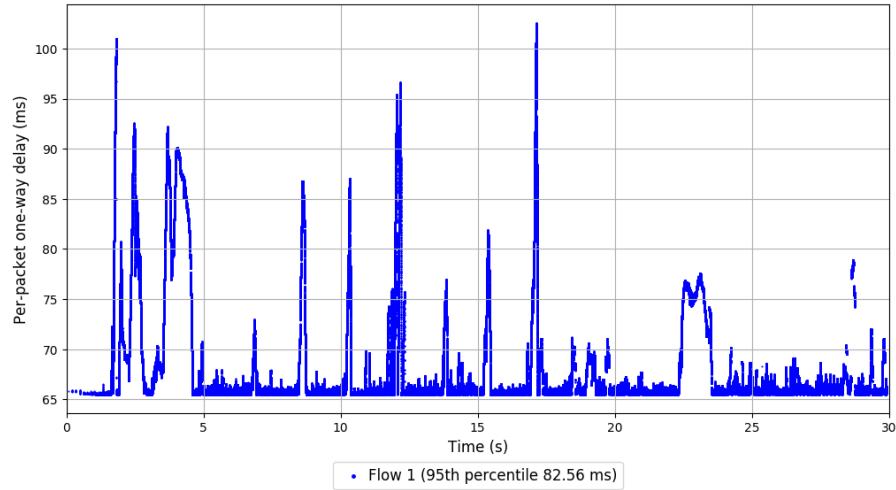
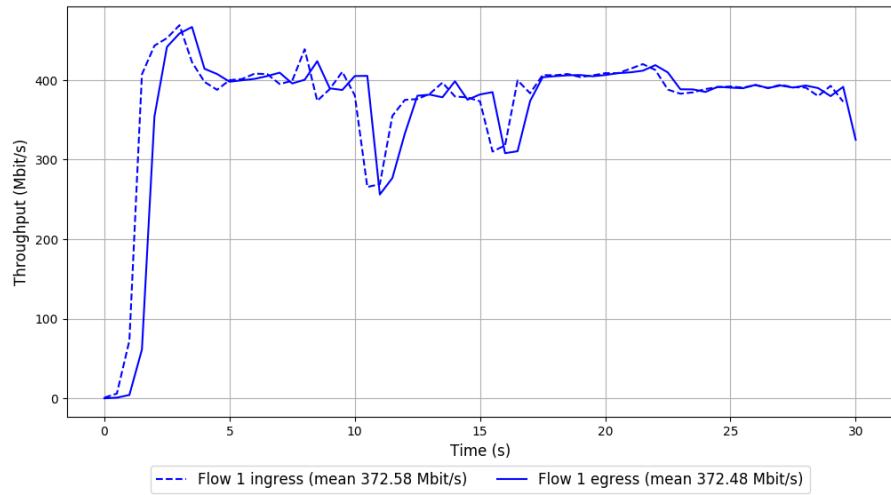


Run 3: Statistics of Copa

```
Start at: 2018-09-07 18:53:09
End at: 2018-09-07 18:53:39
Local clock offset: -0.051 ms
Remote clock offset: 1.211 ms

# Below is generated by plot.py at 2018-09-07 20:30:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 372.48 Mbit/s
95th percentile per-packet one-way delay: 82.564 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 372.48 Mbit/s
95th percentile per-packet one-way delay: 82.564 ms
Loss rate: 0.45%
```

Run 3: Report of Copa — Data Link

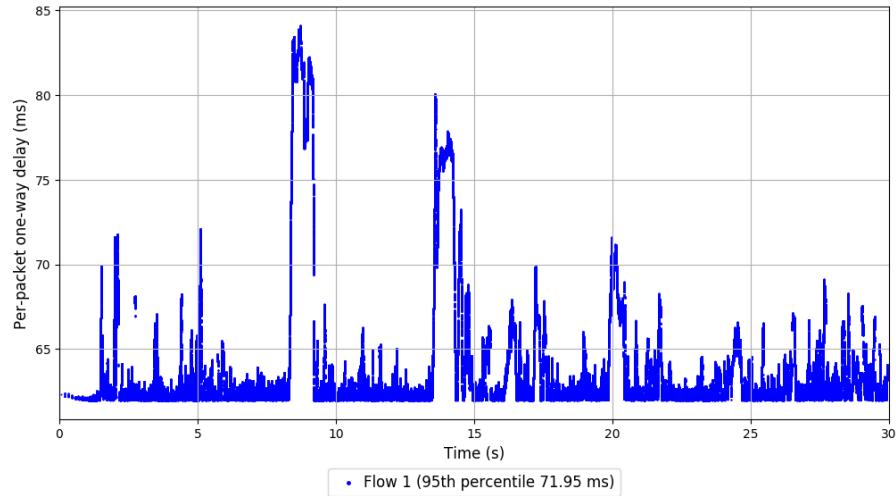
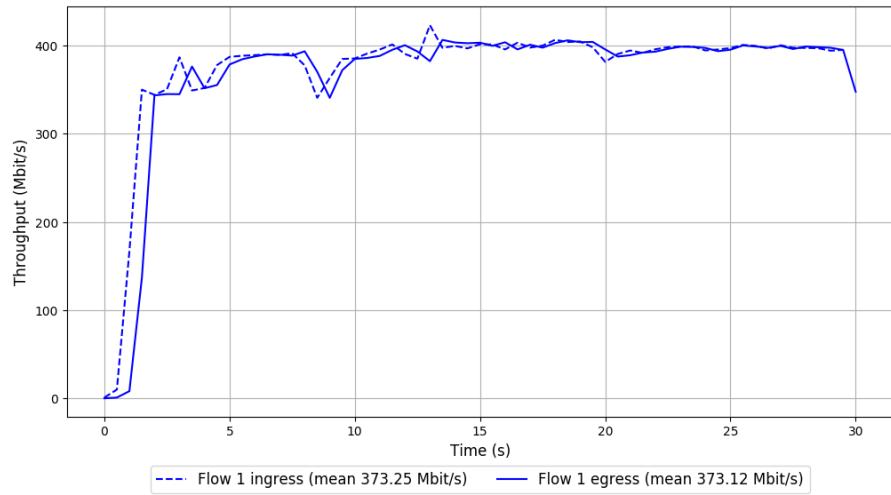


Run 4: Statistics of Copa

```
Start at: 2018-09-07 19:19:03
End at: 2018-09-07 19:19:33
Local clock offset: -0.038 ms
Remote clock offset: -1.334 ms

# Below is generated by plot.py at 2018-09-07 20:39:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 373.12 Mbit/s
95th percentile per-packet one-way delay: 71.949 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 373.12 Mbit/s
95th percentile per-packet one-way delay: 71.949 ms
Loss rate: 0.44%
```

Run 4: Report of Copa — Data Link

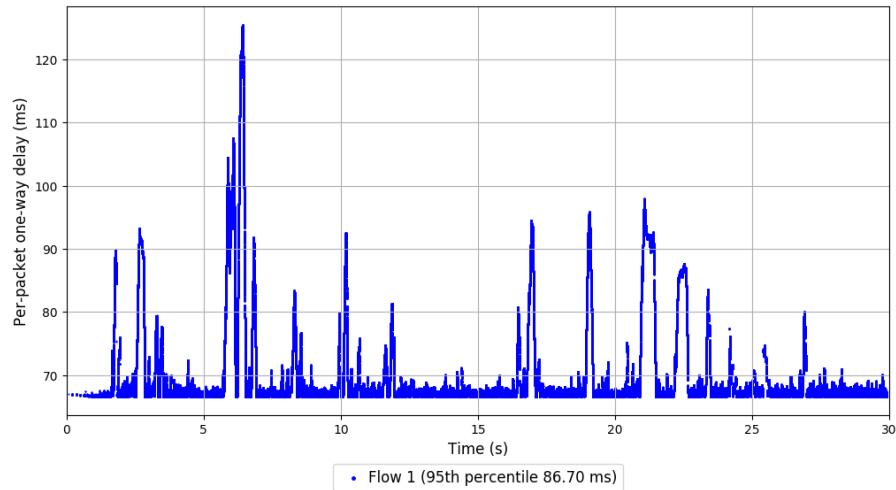
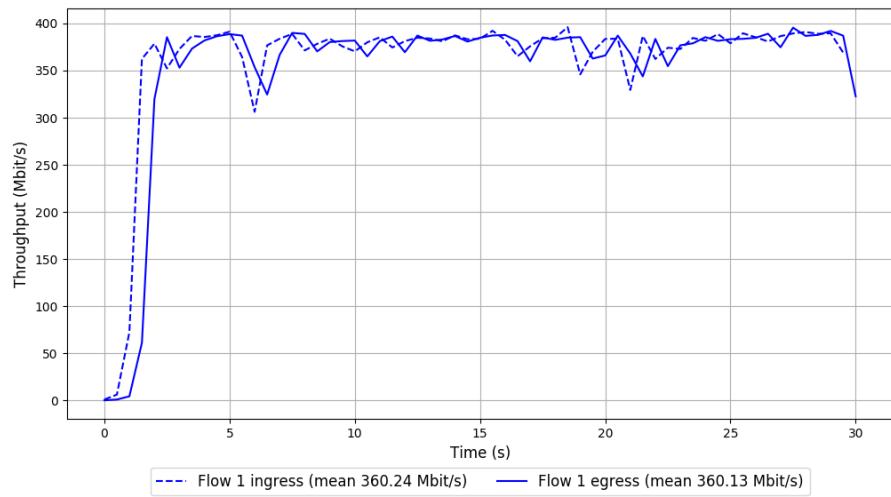


Run 5: Statistics of Copa

```
Start at: 2018-09-07 19:45:08
End at: 2018-09-07 19:45:38
Local clock offset: 0.019 ms
Remote clock offset: 0.549 ms

# Below is generated by plot.py at 2018-09-07 20:39:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 360.13 Mbit/s
95th percentile per-packet one-way delay: 86.705 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 360.13 Mbit/s
95th percentile per-packet one-way delay: 86.705 ms
Loss rate: 0.46%
```

Run 5: Report of Copa — Data Link

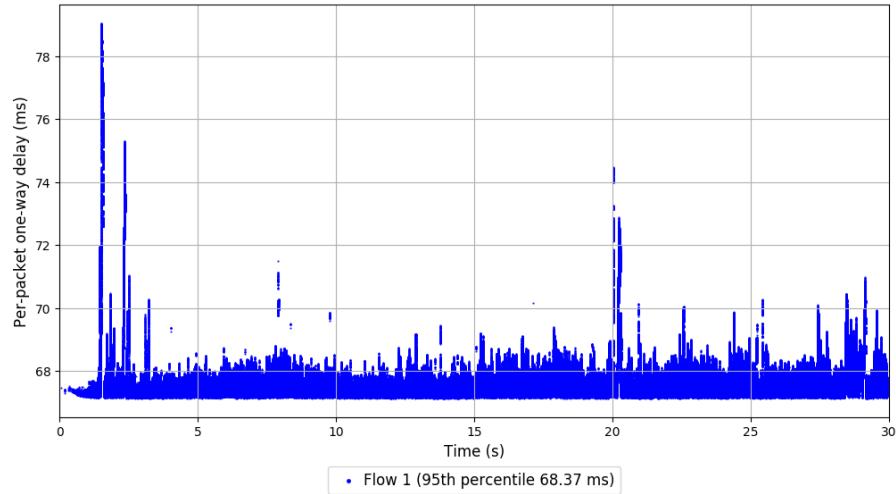
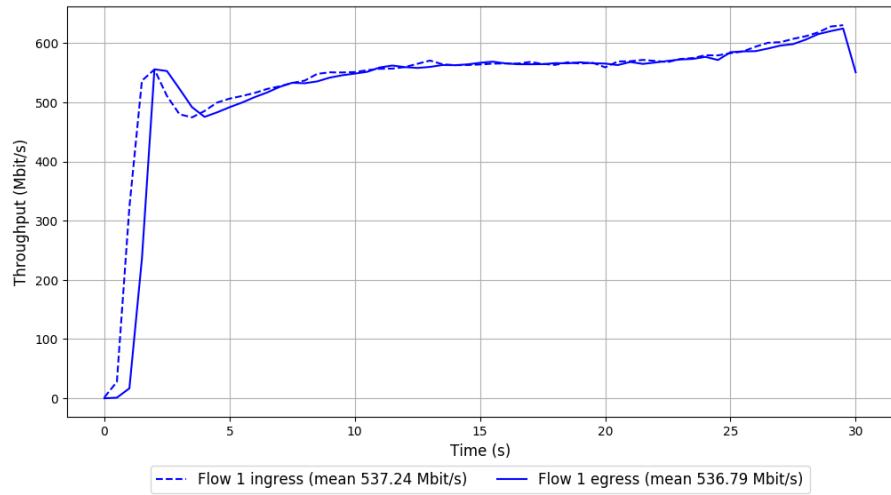


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-09-07 17:59:09
End at: 2018-09-07 17:59:39
Local clock offset: -0.105 ms
Remote clock offset: -0.464 ms

# Below is generated by plot.py at 2018-09-07 20:39:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 536.79 Mbit/s
95th percentile per-packet one-way delay: 68.371 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 536.79 Mbit/s
95th percentile per-packet one-way delay: 68.371 ms
Loss rate: 0.51%
```

Run 1: Report of TCP Cubic — Data Link

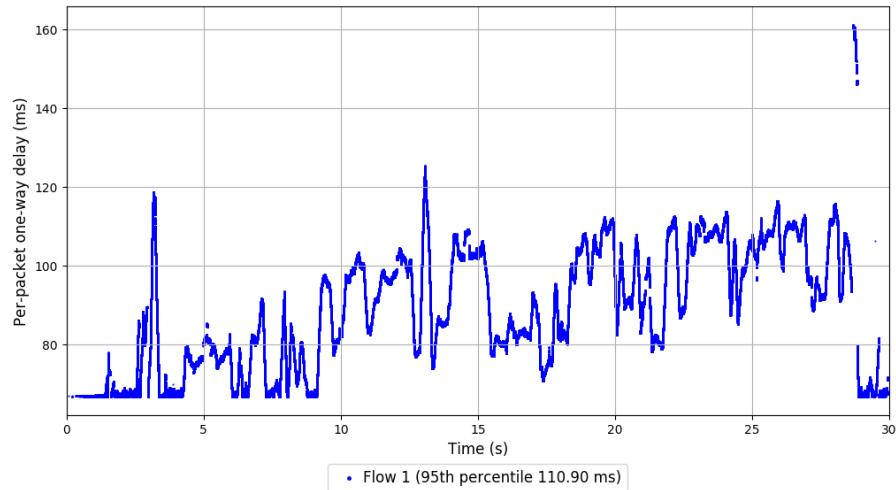
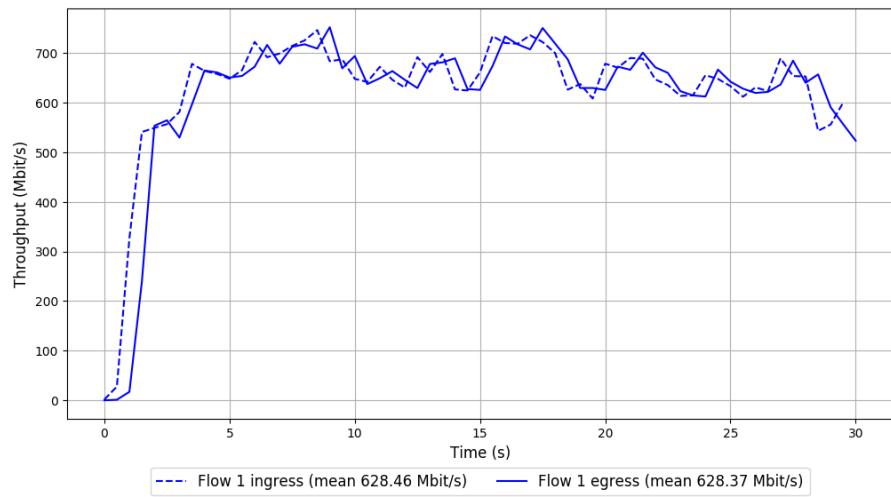


Run 2: Statistics of TCP Cubic

```
Start at: 2018-09-07 18:25:10
End at: 2018-09-07 18:25:40
Local clock offset: -0.083 ms
Remote clock offset: -0.2 ms

# Below is generated by plot.py at 2018-09-07 20:39:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 628.37 Mbit/s
95th percentile per-packet one-way delay: 110.901 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 628.37 Mbit/s
95th percentile per-packet one-way delay: 110.901 ms
Loss rate: 0.44%
```

Run 2: Report of TCP Cubic — Data Link

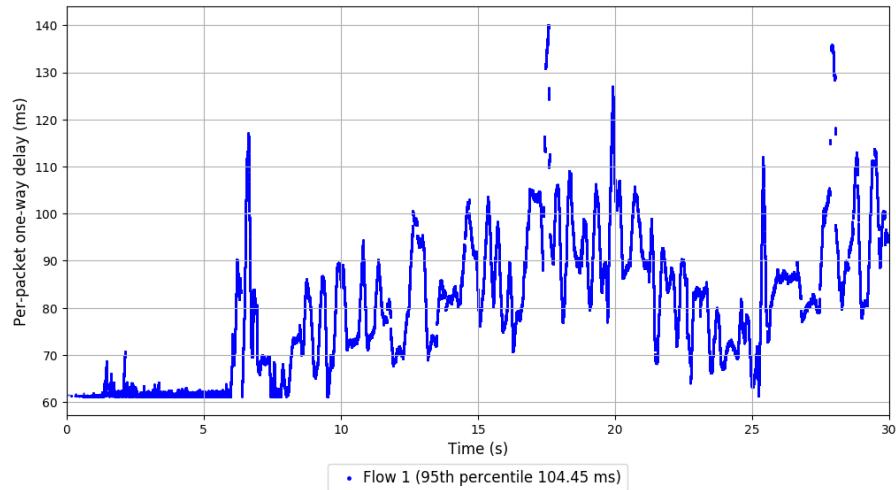
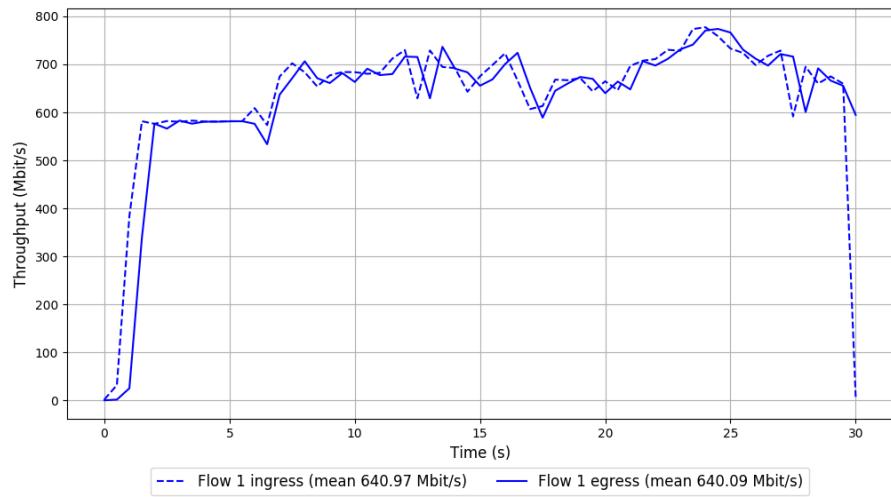


Run 3: Statistics of TCP Cubic

```
Start at: 2018-09-07 18:51:31
End at: 2018-09-07 18:52:01
Local clock offset: -0.059 ms
Remote clock offset: -0.258 ms

# Below is generated by plot.py at 2018-09-07 20:39:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 640.09 Mbit/s
95th percentile per-packet one-way delay: 104.446 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 640.09 Mbit/s
95th percentile per-packet one-way delay: 104.446 ms
Loss rate: 0.55%
```

Run 3: Report of TCP Cubic — Data Link

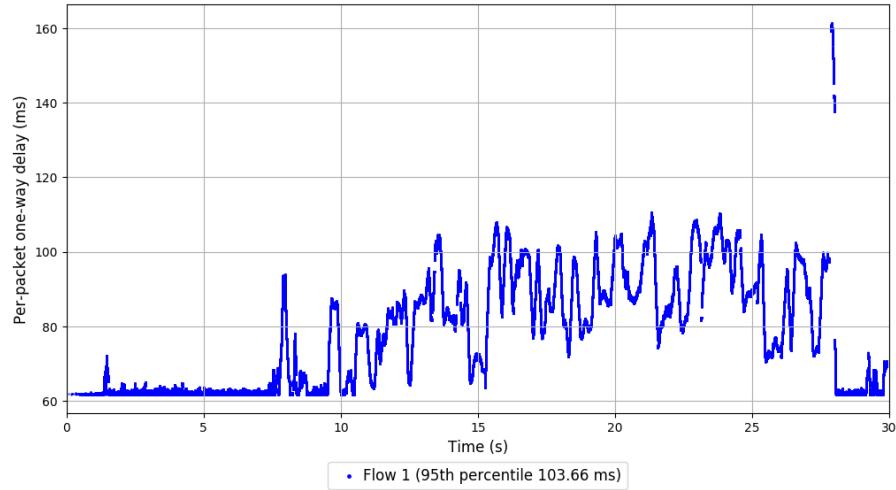
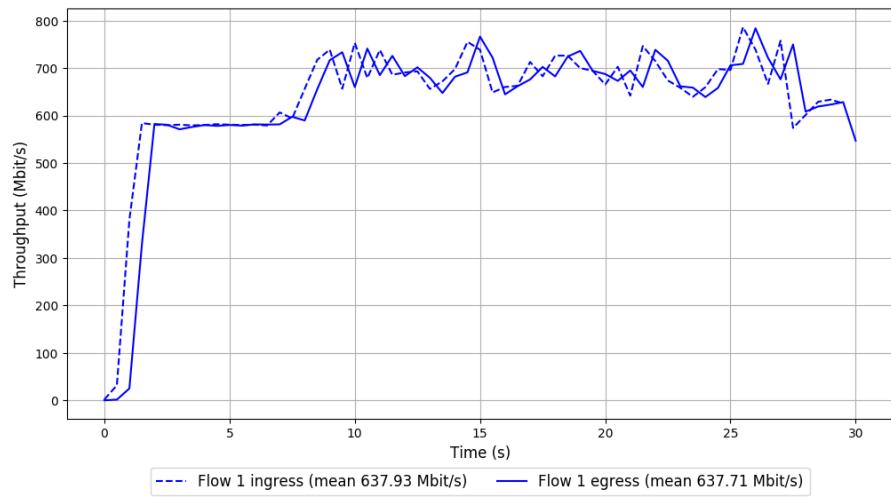


Run 4: Statistics of TCP Cubic

```
Start at: 2018-09-07 19:17:25
End at: 2018-09-07 19:17:55
Local clock offset: -0.049 ms
Remote clock offset: -0.709 ms

# Below is generated by plot.py at 2018-09-07 20:40:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 637.71 Mbit/s
95th percentile per-packet one-way delay: 103.660 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 637.71 Mbit/s
95th percentile per-packet one-way delay: 103.660 ms
Loss rate: 0.44%
```

Run 4: Report of TCP Cubic — Data Link

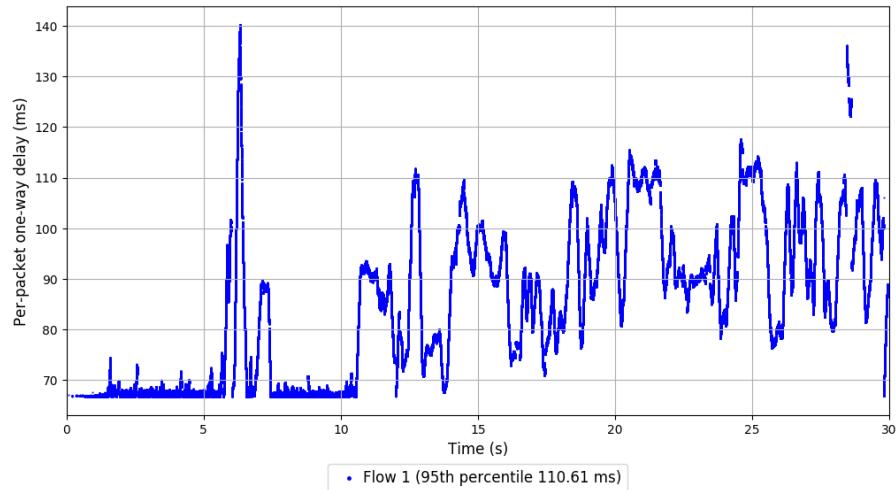
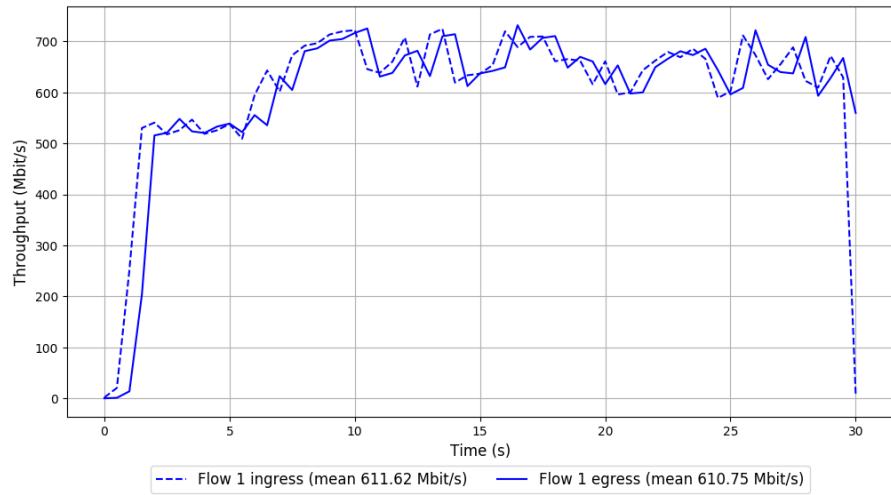


Run 5: Statistics of TCP Cubic

```
Start at: 2018-09-07 19:43:31
End at: 2018-09-07 19:44:01
Local clock offset: -0.014 ms
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2018-09-07 20:40:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 610.75 Mbit/s
95th percentile per-packet one-way delay: 110.606 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 610.75 Mbit/s
95th percentile per-packet one-way delay: 110.606 ms
Loss rate: 0.57%
```

Run 5: Report of TCP Cubic — Data Link

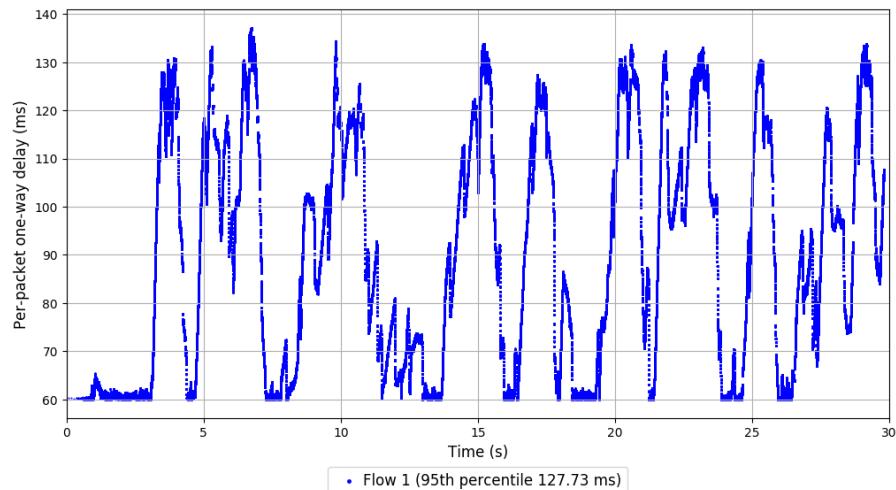
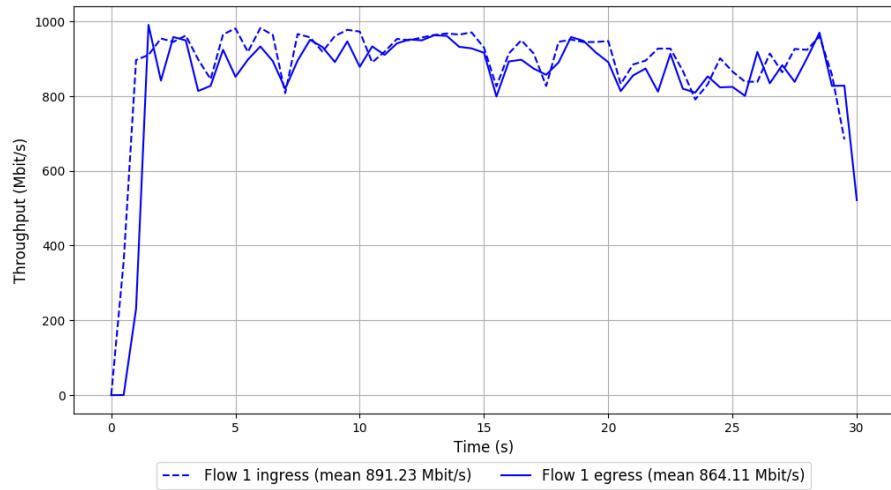


```
Run 1: Statistics of FillP

Start at: 2018-09-07 18:09:31
End at: 2018-09-07 18:10:01
Local clock offset: -0.105 ms
Remote clock offset: 1.05 ms

# Below is generated by plot.py at 2018-09-07 20:47:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 864.11 Mbit/s
95th percentile per-packet one-way delay: 127.726 ms
Loss rate: 3.46%
-- Flow 1:
Average throughput: 864.11 Mbit/s
95th percentile per-packet one-way delay: 127.726 ms
Loss rate: 3.46%
```

Run 1: Report of FillP — Data Link

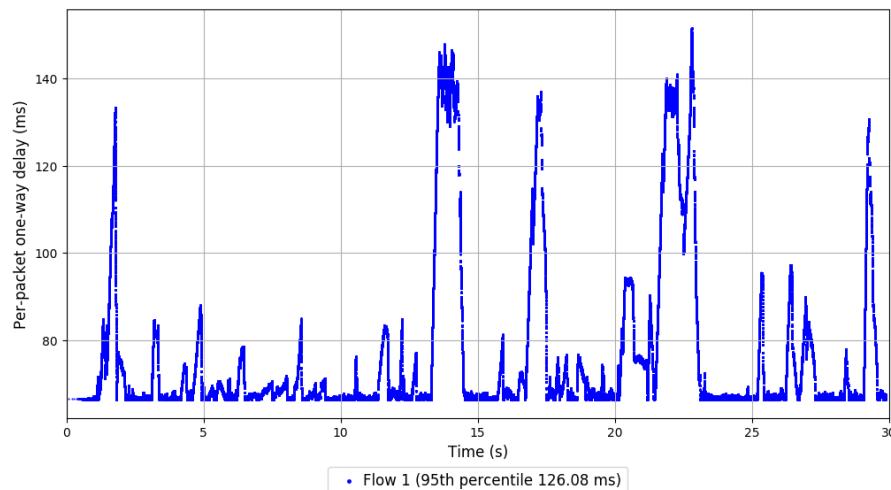
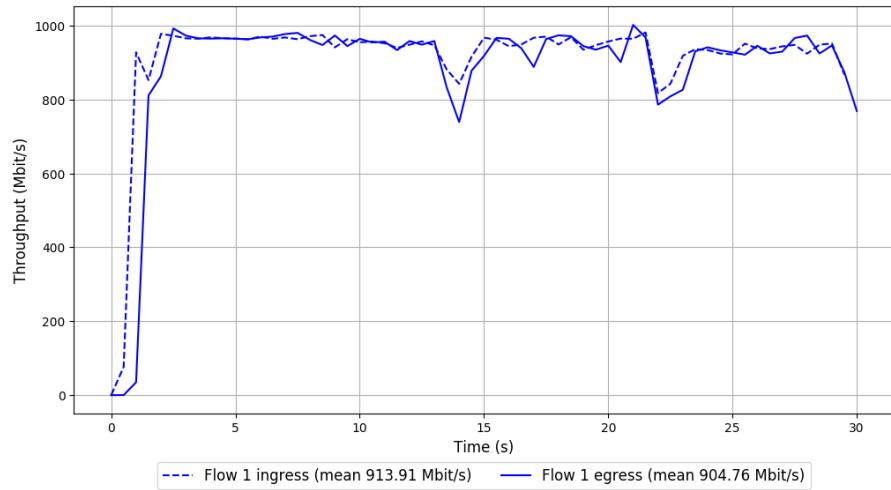


Run 2: Statistics of FillP

```
Start at: 2018-09-07 18:35:42
End at: 2018-09-07 18:36:12
Local clock offset: -0.064 ms
Remote clock offset: 0.011 ms

# Below is generated by plot.py at 2018-09-07 20:56:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 904.76 Mbit/s
95th percentile per-packet one-way delay: 126.077 ms
Loss rate: 1.44%
-- Flow 1:
Average throughput: 904.76 Mbit/s
95th percentile per-packet one-way delay: 126.077 ms
Loss rate: 1.44%
```

Run 2: Report of FillP — Data Link

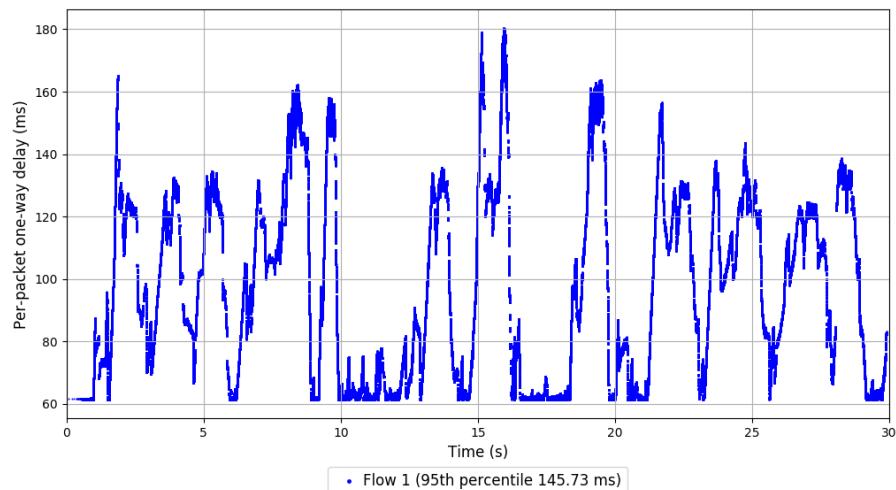
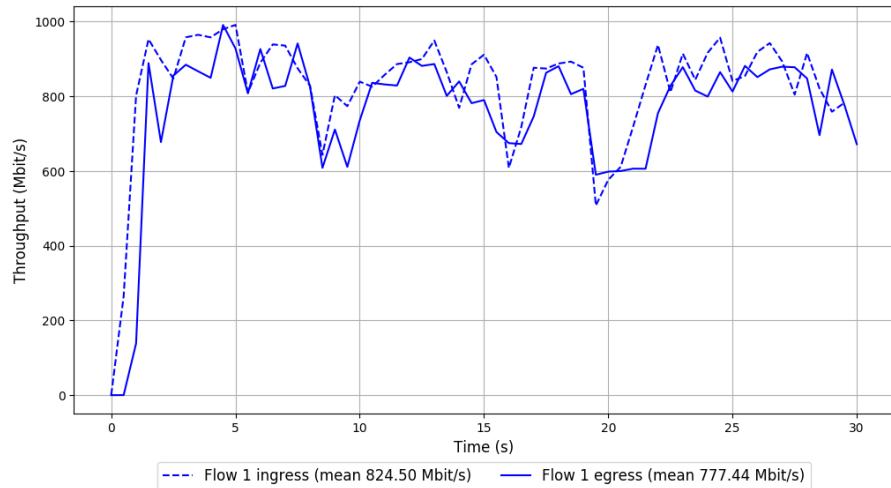


Run 3: Statistics of FillP

```
Start at: 2018-09-07 19:02:00
End at: 2018-09-07 19:02:30
Local clock offset: -0.047 ms
Remote clock offset: -0.472 ms

# Below is generated by plot.py at 2018-09-07 20:56:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 777.44 Mbit/s
95th percentile per-packet one-way delay: 145.728 ms
Loss rate: 6.09%
-- Flow 1:
Average throughput: 777.44 Mbit/s
95th percentile per-packet one-way delay: 145.728 ms
Loss rate: 6.09%
```

Run 3: Report of FillP — Data Link

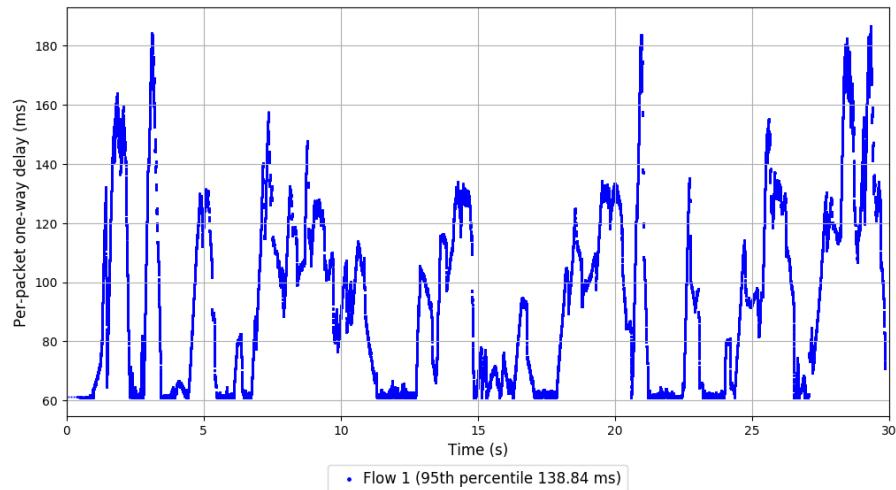
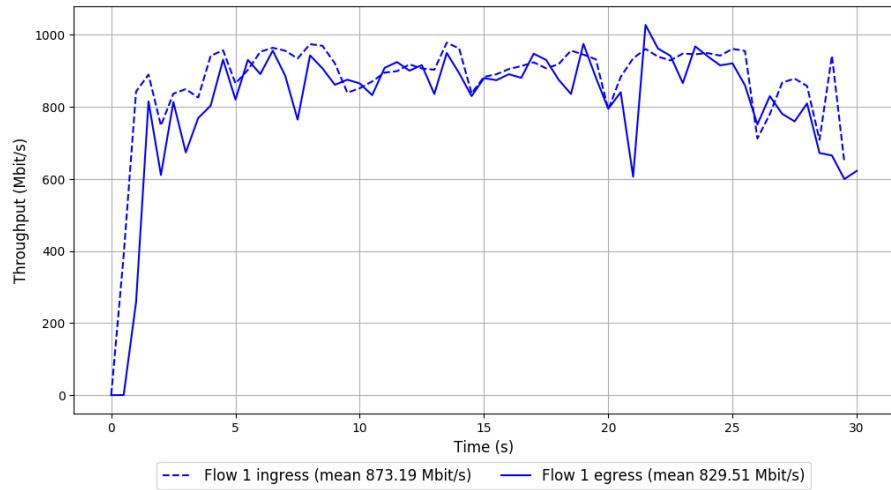


Run 4: Statistics of FillP

```
Start at: 2018-09-07 19:27:50
End at: 2018-09-07 19:28:20
Local clock offset: 0.017 ms
Remote clock offset: 0.097 ms

# Below is generated by plot.py at 2018-09-07 20:56:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 829.51 Mbit/s
95th percentile per-packet one-way delay: 138.837 ms
Loss rate: 5.39%
-- Flow 1:
Average throughput: 829.51 Mbit/s
95th percentile per-packet one-way delay: 138.837 ms
Loss rate: 5.39%
```

Run 4: Report of FillP — Data Link

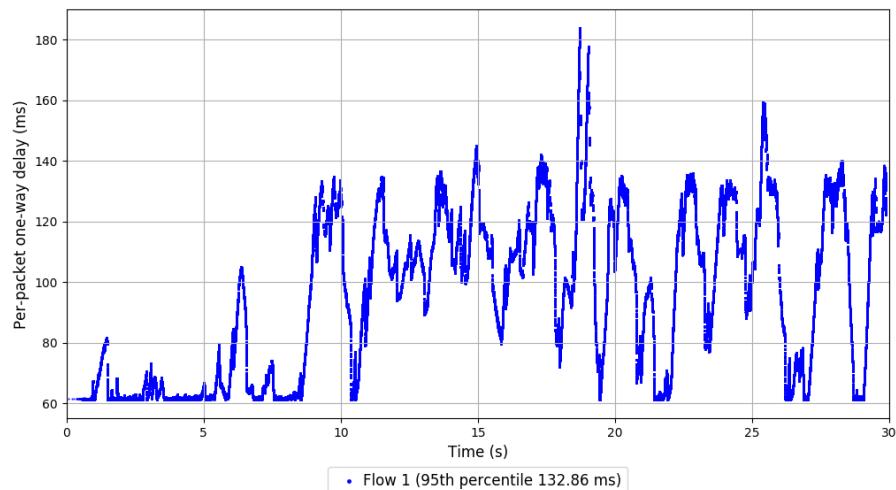
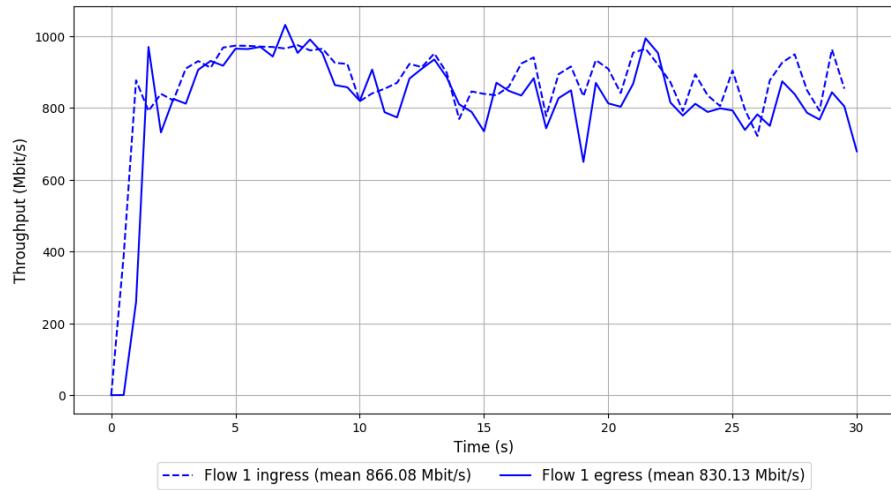


```
Run 5: Statistics of FillP
```

```
Start at: 2018-09-07 19:54:08
End at: 2018-09-07 19:54:38
Local clock offset: -0.02 ms
Remote clock offset: -0.08 ms

# Below is generated by plot.py at 2018-09-07 20:57:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 830.13 Mbit/s
95th percentile per-packet one-way delay: 132.864 ms
Loss rate: 4.54%
-- Flow 1:
Average throughput: 830.13 Mbit/s
95th percentile per-packet one-way delay: 132.864 ms
Loss rate: 4.54%
```

Run 5: Report of FillP — Data Link

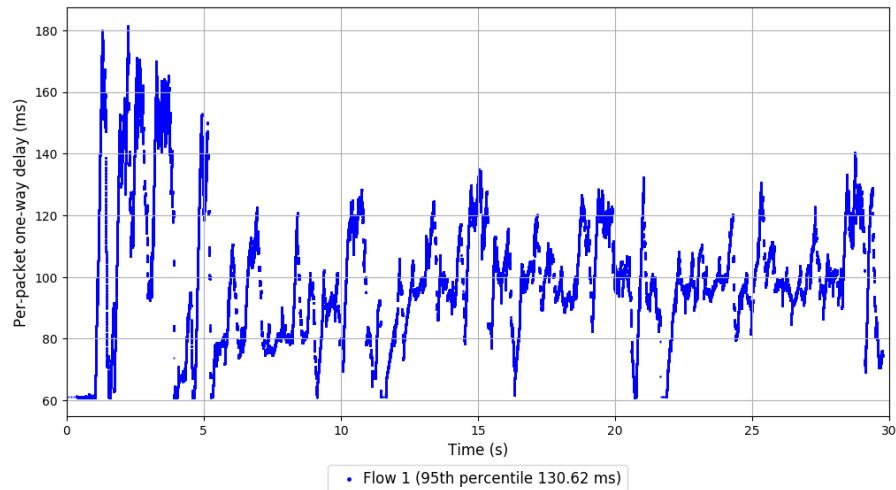
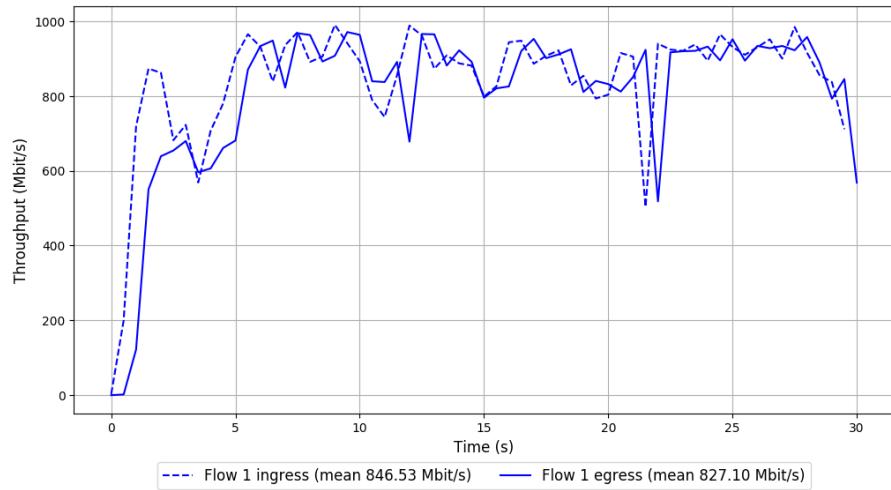


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-09-07 18:03:56
End at: 2018-09-07 18:04:26
Local clock offset: -0.083 ms
Remote clock offset: -0.235 ms

# Below is generated by plot.py at 2018-09-07 20:57:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 827.10 Mbit/s
95th percentile per-packet one-way delay: 130.617 ms
Loss rate: 2.72%
-- Flow 1:
Average throughput: 827.10 Mbit/s
95th percentile per-packet one-way delay: 130.617 ms
Loss rate: 2.72%
```

Run 1: Report of FillP-Sheep — Data Link

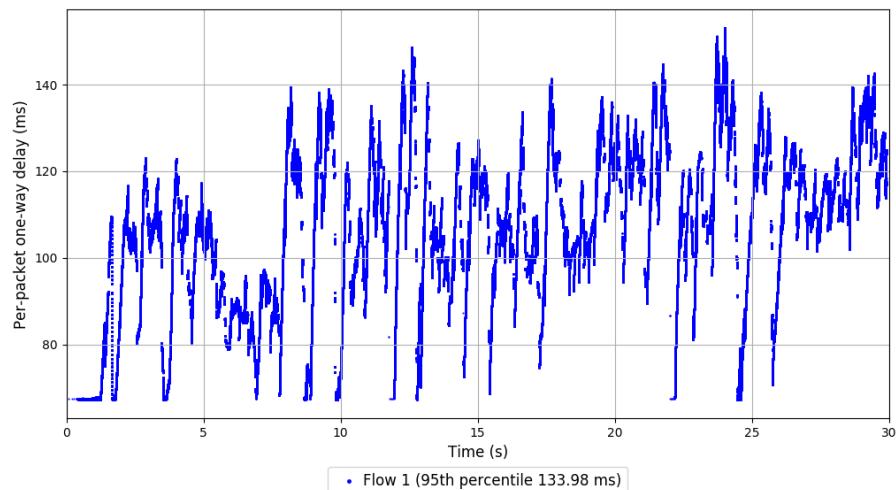
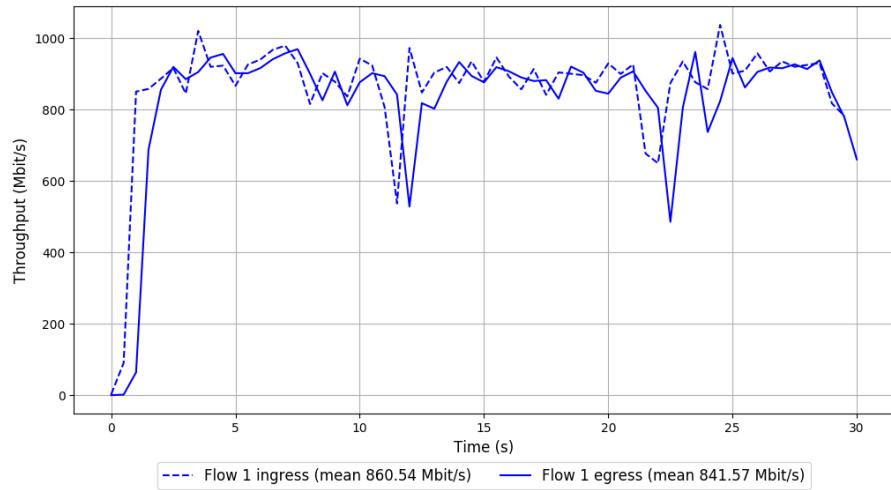


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-09-07 18:30:09
End at: 2018-09-07 18:30:39
Local clock offset: -0.057 ms
Remote clock offset: -0.735 ms

# Below is generated by plot.py at 2018-09-07 20:57:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 841.57 Mbit/s
95th percentile per-packet one-way delay: 133.980 ms
Loss rate: 2.64%
-- Flow 1:
Average throughput: 841.57 Mbit/s
95th percentile per-packet one-way delay: 133.980 ms
Loss rate: 2.64%
```

Run 2: Report of FillP-Sheep — Data Link

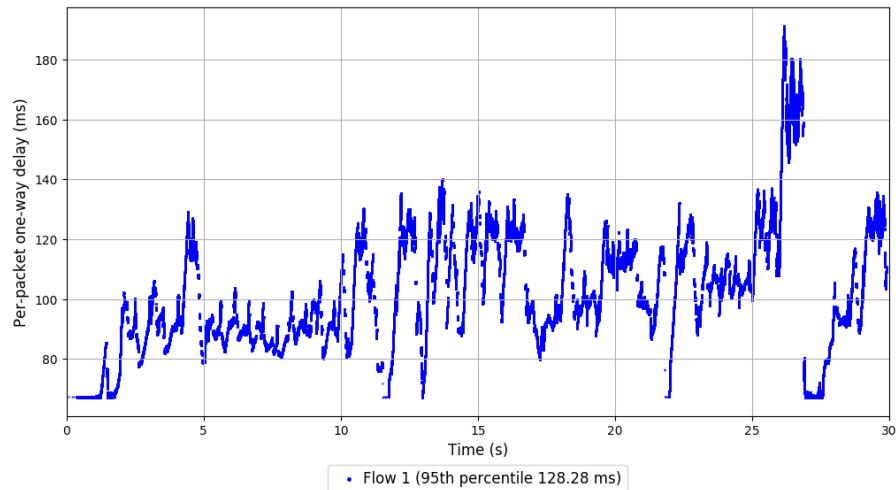
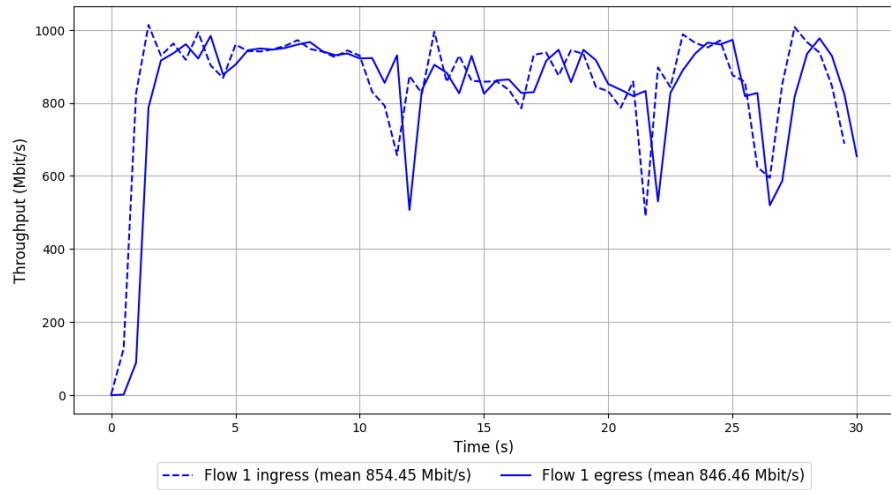


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-09-07 18:56:24
End at: 2018-09-07 18:56:55
Local clock offset: -0.072 ms
Remote clock offset: -0.391 ms

# Below is generated by plot.py at 2018-09-07 20:58:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 846.46 Mbit/s
95th percentile per-packet one-way delay: 128.284 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 846.46 Mbit/s
95th percentile per-packet one-way delay: 128.284 ms
Loss rate: 1.36%
```

Run 3: Report of FillP-Sheep — Data Link

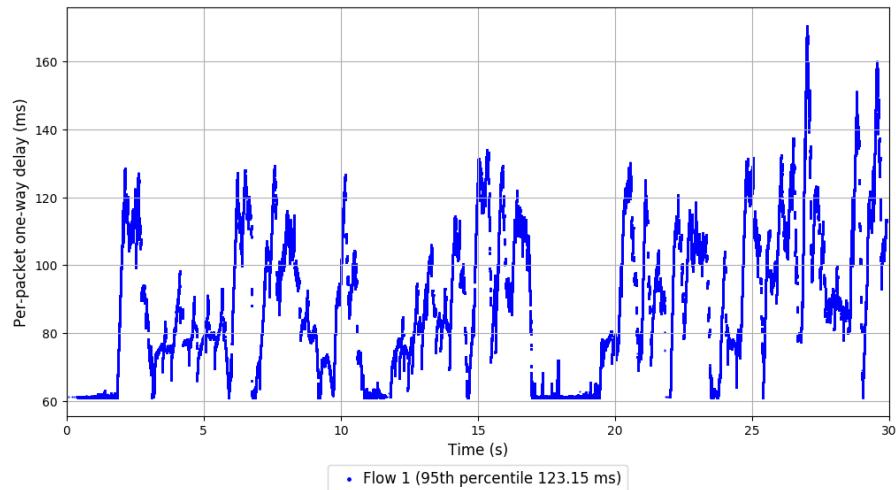
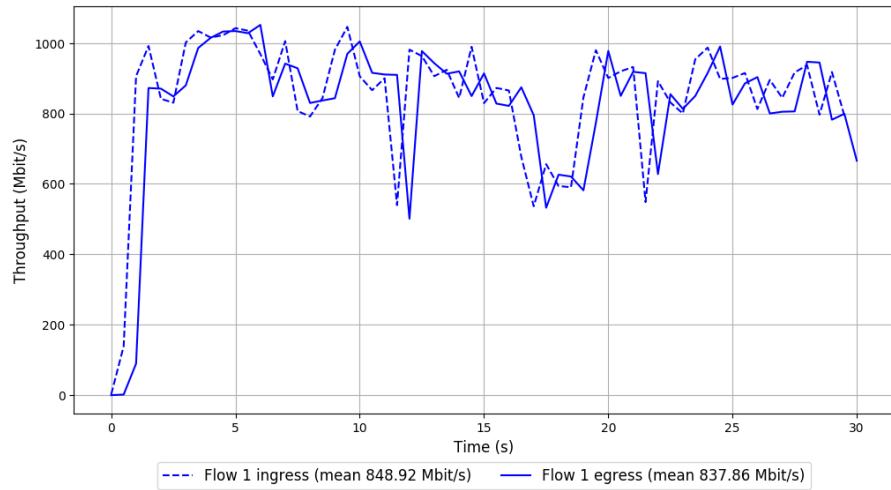


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-09-07 19:22:18
End at: 2018-09-07 19:22:49
Local clock offset: -0.025 ms
Remote clock offset: -0.287 ms

# Below is generated by plot.py at 2018-09-07 21:06:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 837.86 Mbit/s
95th percentile per-packet one-way delay: 123.146 ms
Loss rate: 1.71%
-- Flow 1:
Average throughput: 837.86 Mbit/s
95th percentile per-packet one-way delay: 123.146 ms
Loss rate: 1.71%
```

Run 4: Report of FillP-Sheep — Data Link

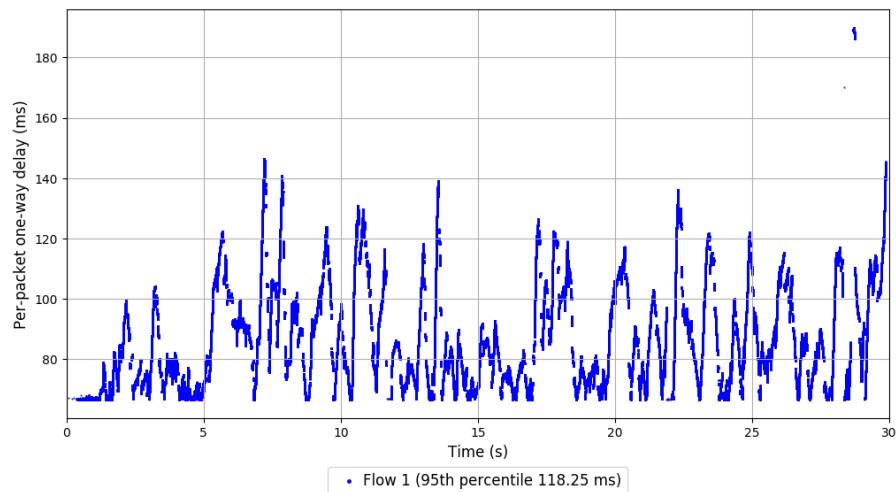
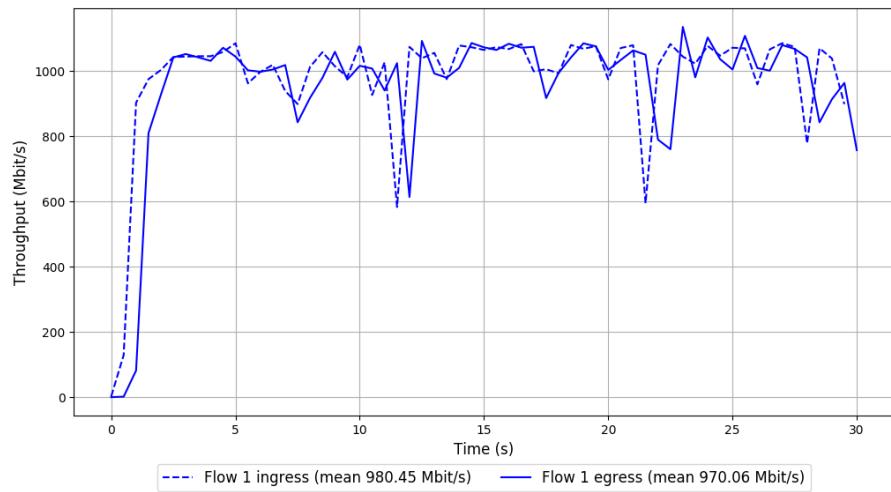


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-09-07 19:48:28
End at: 2018-09-07 19:48:58
Local clock offset: -0.005 ms
Remote clock offset: 0.487 ms

# Below is generated by plot.py at 2018-09-07 21:15:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 970.06 Mbit/s
95th percentile per-packet one-way delay: 118.246 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 970.06 Mbit/s
95th percentile per-packet one-way delay: 118.246 ms
Loss rate: 1.49%
```

Run 5: Report of FillP-Sheep — Data Link

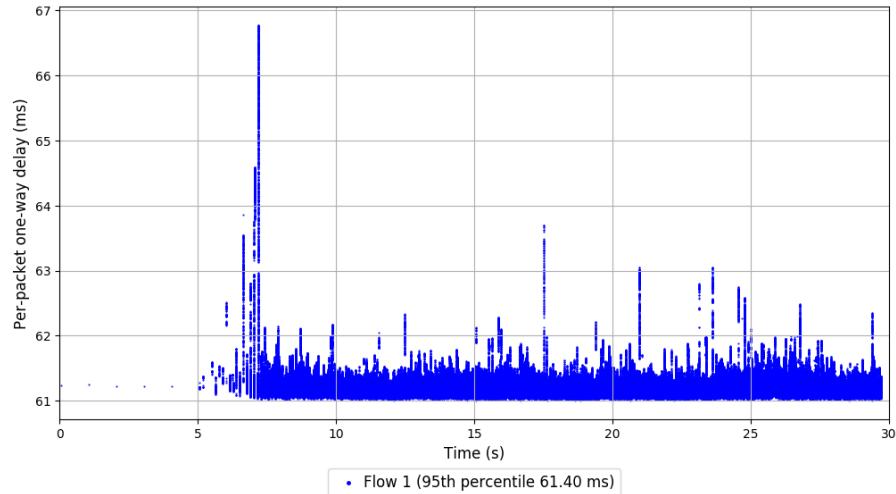
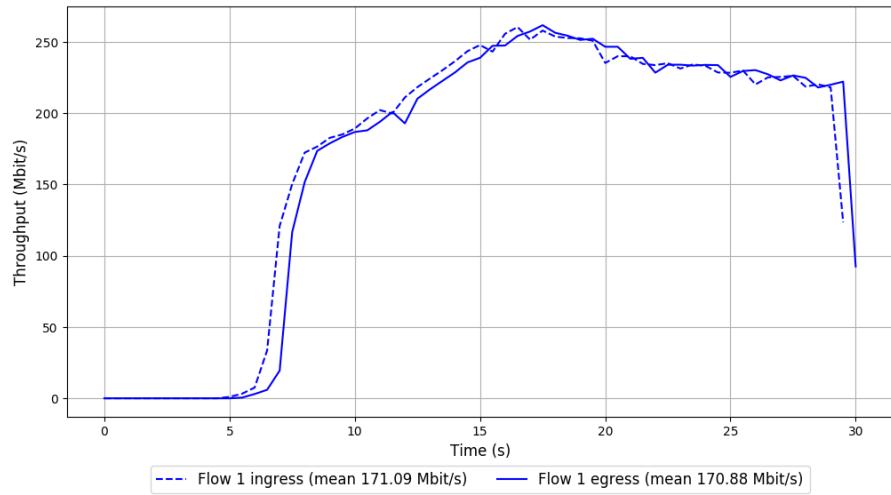


Run 1: Statistics of Indigo

```
Start at: 2018-09-07 18:13:55
End at: 2018-09-07 18:14:25
Local clock offset: -0.108 ms
Remote clock offset: -0.214 ms

# Below is generated by plot.py at 2018-09-07 21:15:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 170.88 Mbit/s
95th percentile per-packet one-way delay: 61.400 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 170.88 Mbit/s
95th percentile per-packet one-way delay: 61.400 ms
Loss rate: 0.54%
```

Run 1: Report of Indigo — Data Link

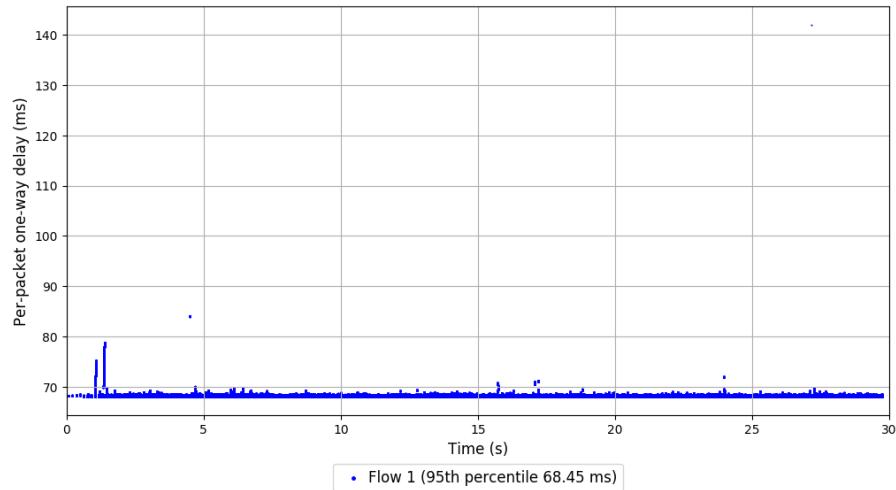
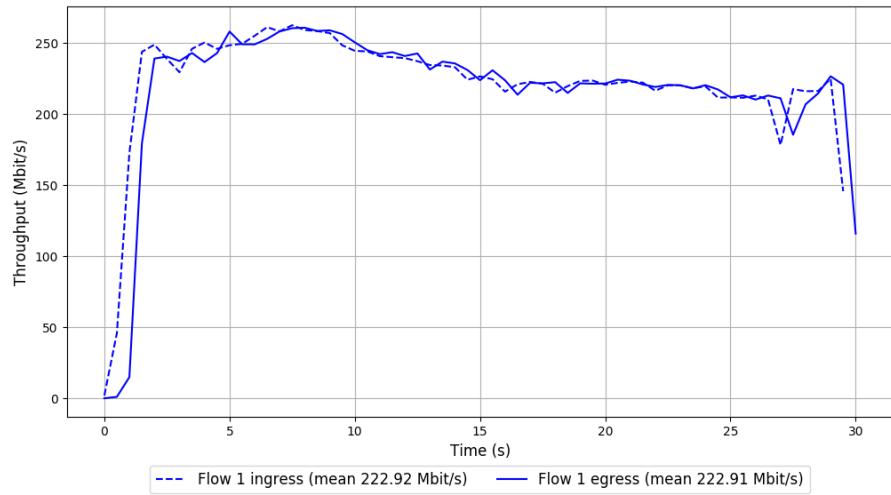


Run 2: Statistics of Indigo

```
Start at: 2018-09-07 18:40:08
End at: 2018-09-07 18:40:38
Local clock offset: -0.045 ms
Remote clock offset: -1.494 ms

# Below is generated by plot.py at 2018-09-07 21:15:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 222.91 Mbit/s
95th percentile per-packet one-way delay: 68.448 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 222.91 Mbit/s
95th percentile per-packet one-way delay: 68.448 ms
Loss rate: 0.44%
```

Run 2: Report of Indigo — Data Link

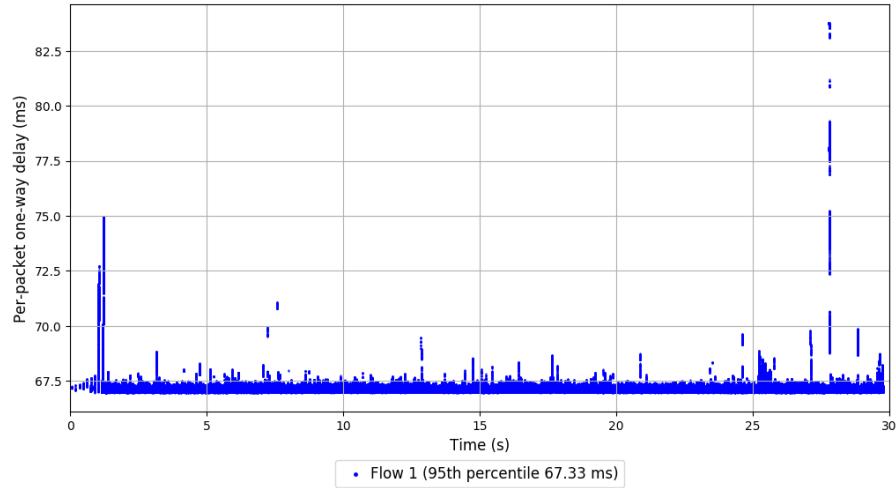
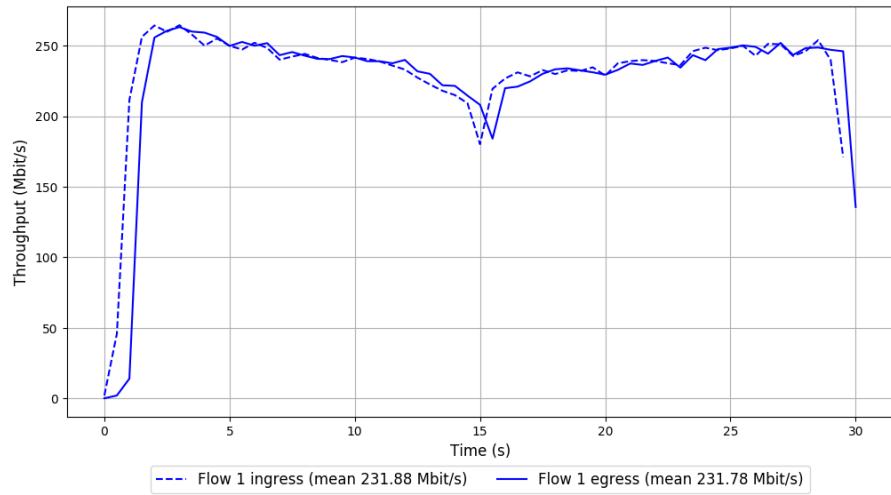


Run 3: Statistics of Indigo

```
Start at: 2018-09-07 19:06:19
End at: 2018-09-07 19:06:49
Local clock offset: -0.031 ms
Remote clock offset: -0.192 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 231.78 Mbit/s
95th percentile per-packet one-way delay: 67.327 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 231.78 Mbit/s
95th percentile per-packet one-way delay: 67.327 ms
Loss rate: 0.47%
```

Run 3: Report of Indigo — Data Link

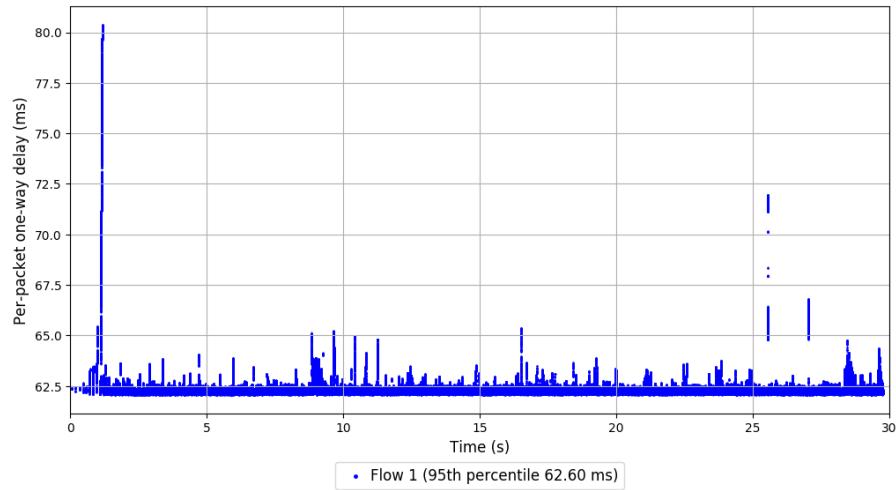
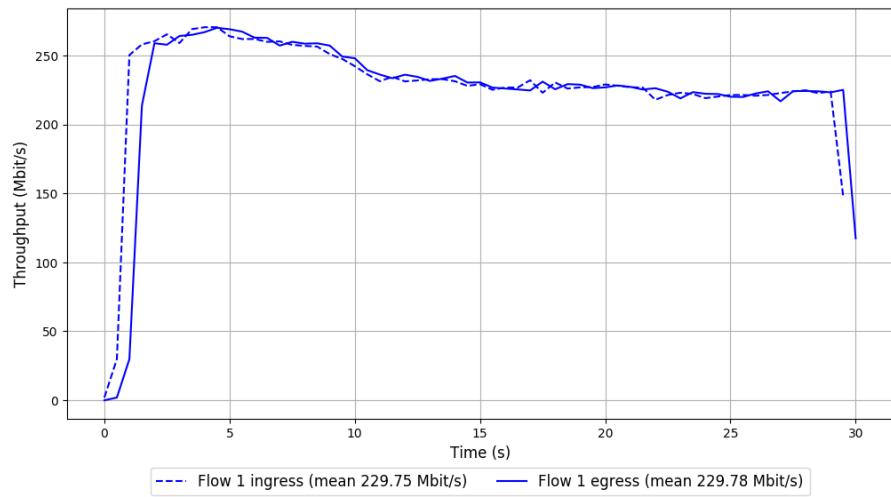


Run 4: Statistics of Indigo

```
Start at: 2018-09-07 19:32:11
End at: 2018-09-07 19:32:41
Local clock offset: -0.016 ms
Remote clock offset: -1.144 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 229.78 Mbit/s
95th percentile per-packet one-way delay: 62.605 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 229.78 Mbit/s
95th percentile per-packet one-way delay: 62.605 ms
Loss rate: 0.40%
```

Run 4: Report of Indigo — Data Link

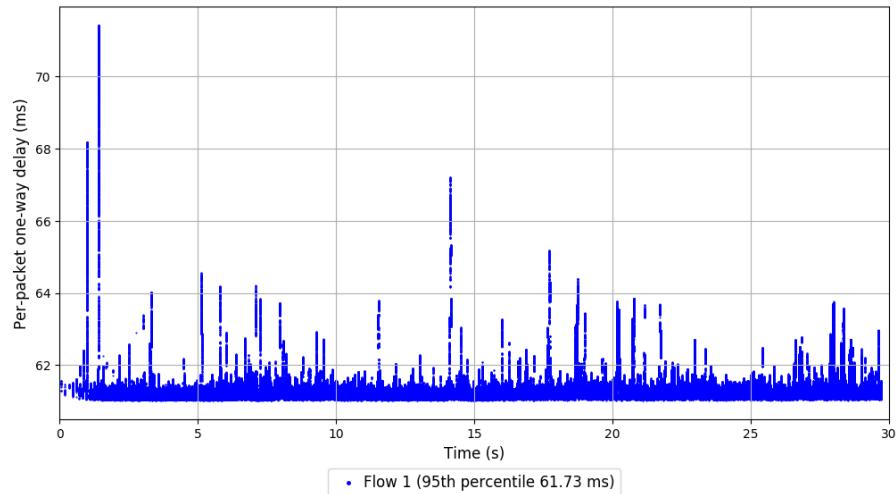
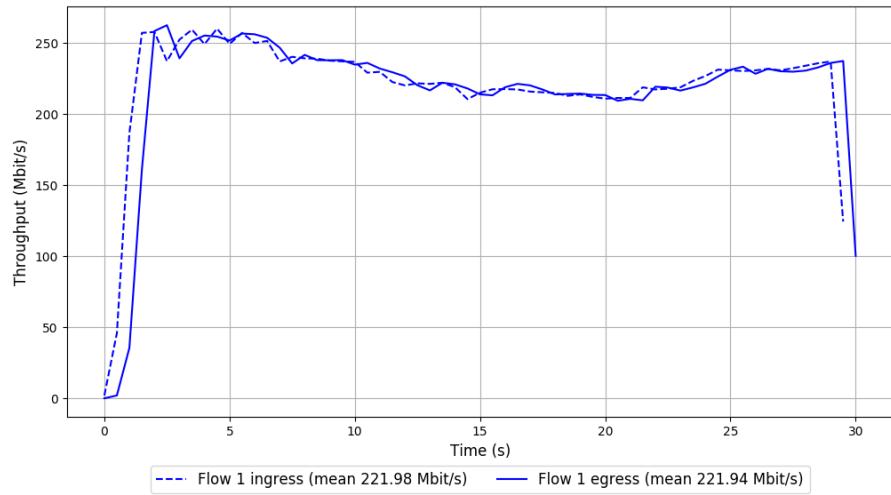


Run 5: Statistics of Indigo

```
Start at: 2018-09-07 19:58:33
End at: 2018-09-07 19:59:03
Local clock offset: -0.007 ms
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 221.94 Mbit/s
95th percentile per-packet one-way delay: 61.735 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 221.94 Mbit/s
95th percentile per-packet one-way delay: 61.735 ms
Loss rate: 0.43%
```

Run 5: Report of Indigo — Data Link

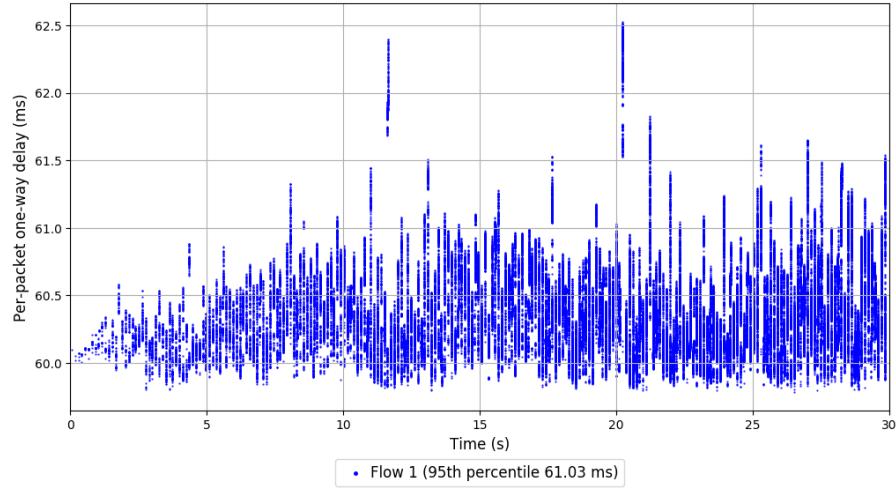
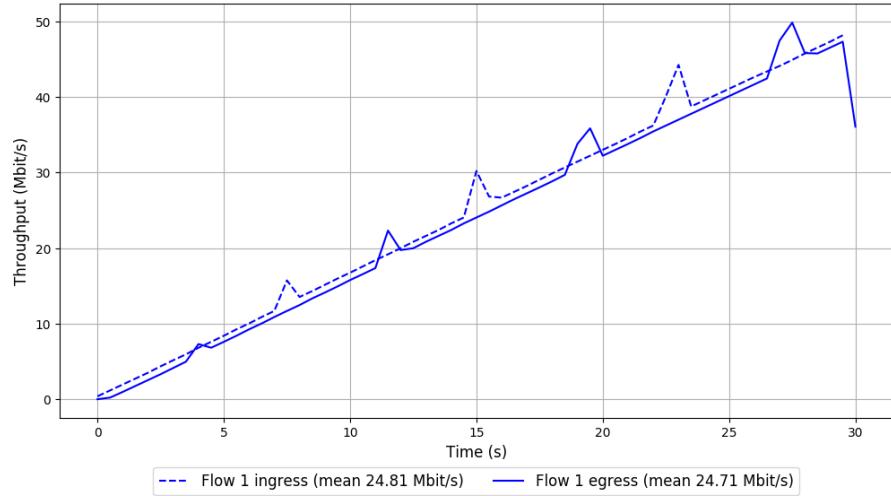


```
Run 1: Statistics of LEDBAT

Start at: 2018-09-07 18:21:22
End at: 2018-09-07 18:21:52
Local clock offset: -0.087 ms
Remote clock offset: 1.062 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.71 Mbit/s
95th percentile per-packet one-way delay: 61.027 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 24.71 Mbit/s
95th percentile per-packet one-way delay: 61.027 ms
Loss rate: 0.82%
```

Run 1: Report of LEDBAT — Data Link

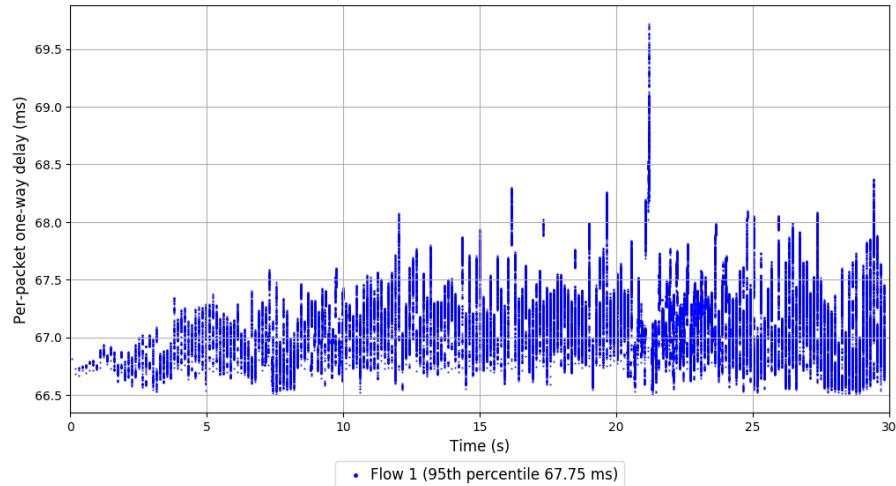
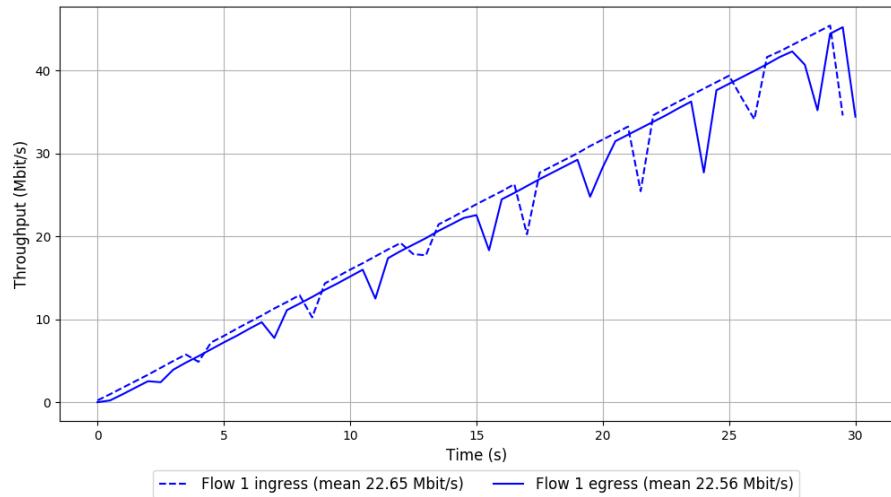


Run 2: Statistics of LEDBAT

```
Start at: 2018-09-07 18:47:43
End at: 2018-09-07 18:48:13
Local clock offset: -0.096 ms
Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 22.56 Mbit/s
95th percentile per-packet one-way delay: 67.746 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 22.56 Mbit/s
95th percentile per-packet one-way delay: 67.746 ms
Loss rate: 0.85%
```

Run 2: Report of LEDBAT — Data Link

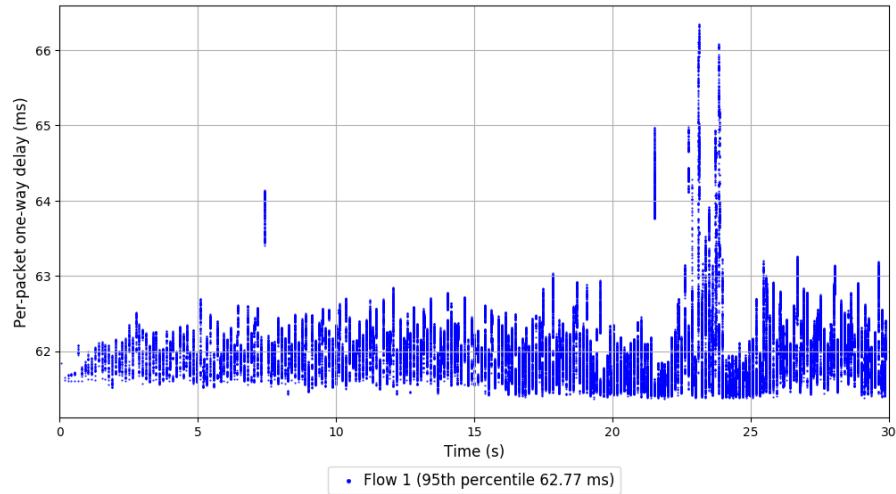
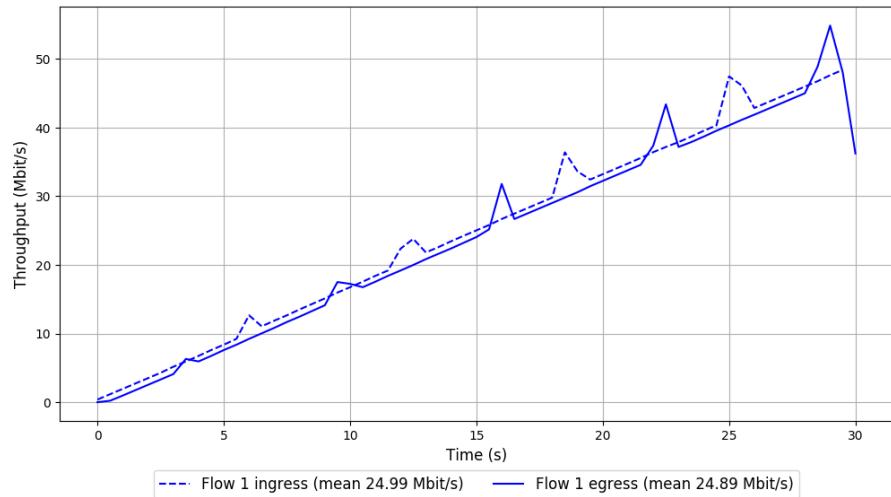


Run 3: Statistics of LEDBAT

```
Start at: 2018-09-07 19:13:38
End at: 2018-09-07 19:14:08
Local clock offset: -0.001 ms
Remote clock offset: -0.63 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.89 Mbit/s
95th percentile per-packet one-way delay: 62.775 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 24.89 Mbit/s
95th percentile per-packet one-way delay: 62.775 ms
Loss rate: 0.81%
```

Run 3: Report of LEDBAT — Data Link

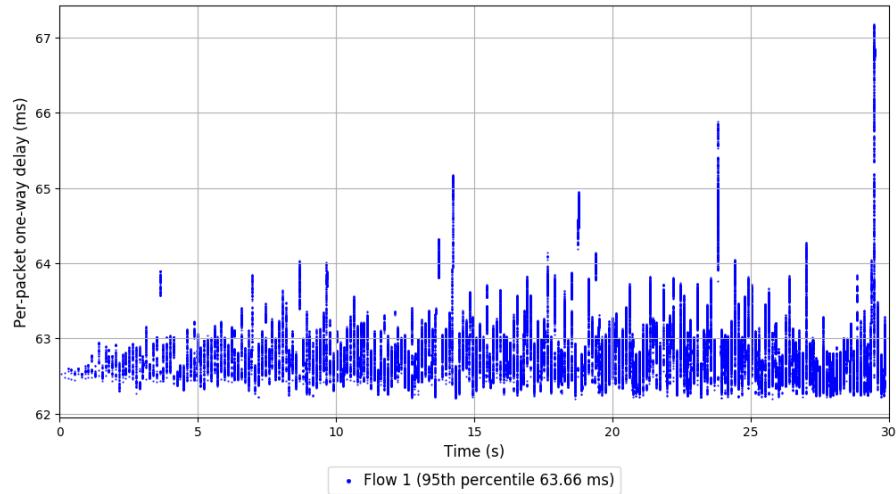
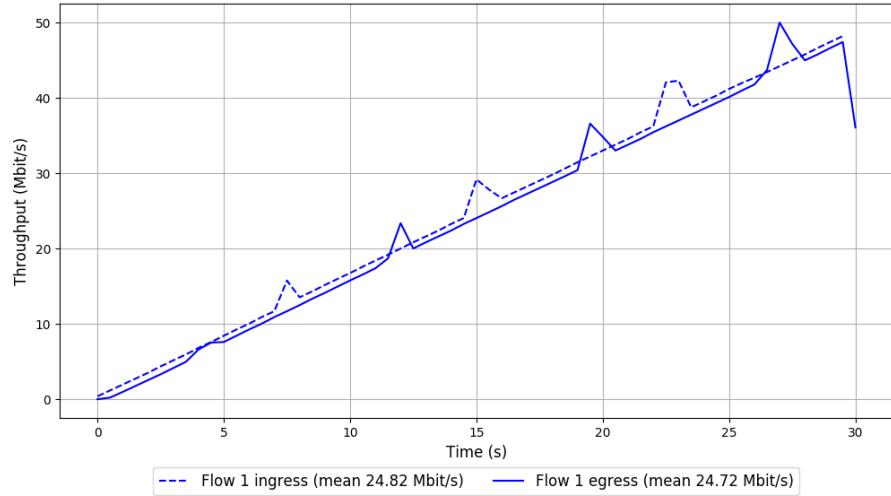


Run 4: Statistics of LEDBAT

```
Start at: 2018-09-07 19:39:44
End at: 2018-09-07 19:40:14
Local clock offset: 0.03 ms
Remote clock offset: -1.223 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.72 Mbit/s
95th percentile per-packet one-way delay: 63.662 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 24.72 Mbit/s
95th percentile per-packet one-way delay: 63.662 ms
Loss rate: 0.82%
```

Run 4: Report of LEDBAT — Data Link

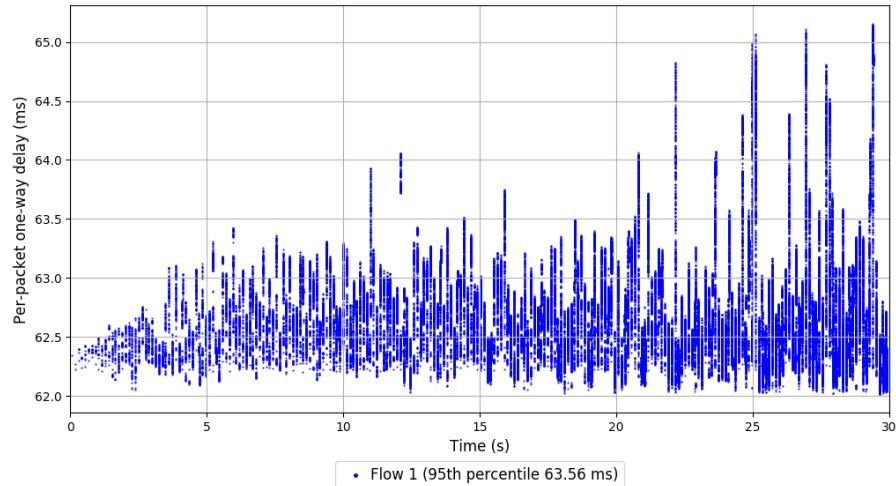
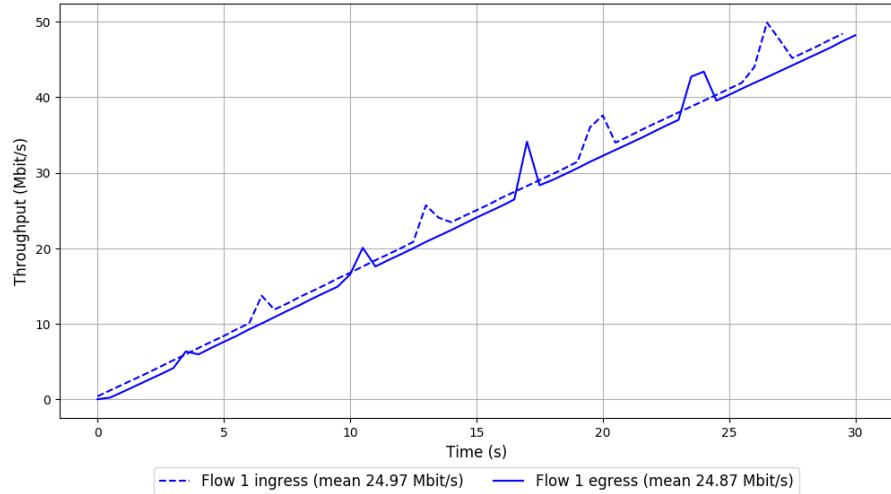


Run 5: Statistics of LEDBAT

```
Start at: 2018-09-07 20:06:08
End at: 2018-09-07 20:06:38
Local clock offset: 0.006 ms
Remote clock offset: -1.155 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.87 Mbit/s
95th percentile per-packet one-way delay: 63.557 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 24.87 Mbit/s
95th percentile per-packet one-way delay: 63.557 ms
Loss rate: 0.81%
```

Run 5: Report of LEDBAT — Data Link

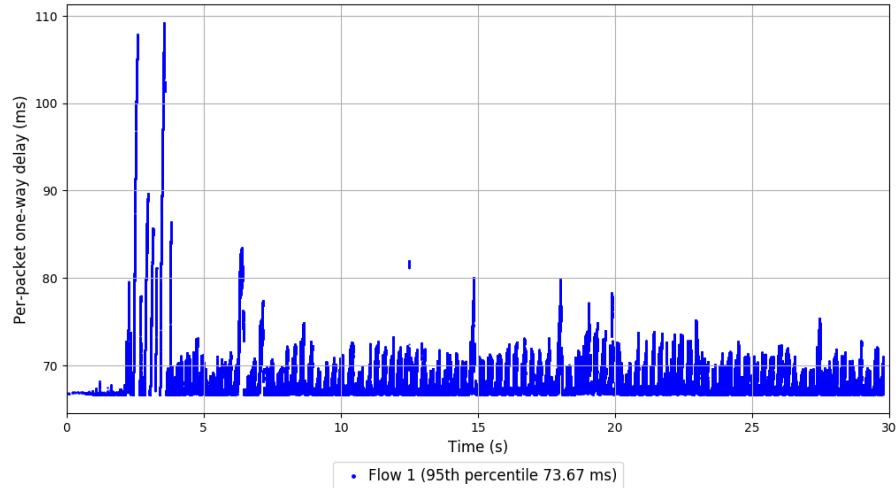
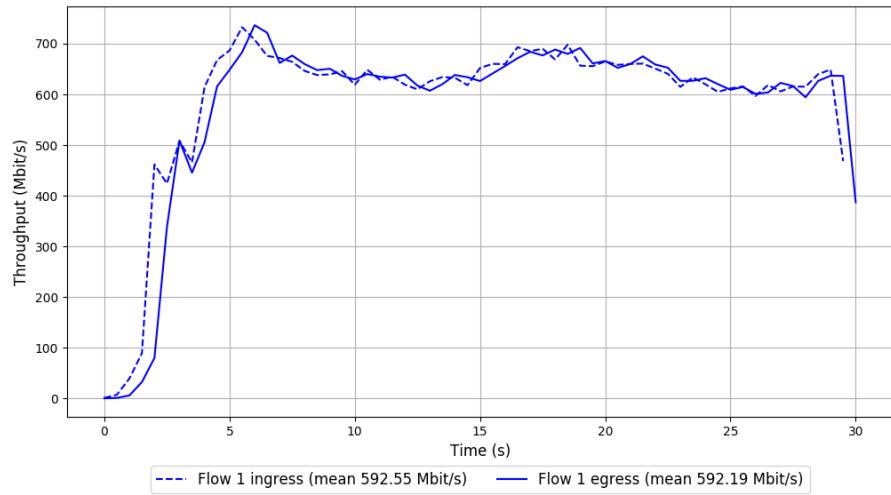


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-09-07 18:16:52
End at: 2018-09-07 18:17:22
Local clock offset: -0.081 ms
Remote clock offset: 0.001 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 592.19 Mbit/s
95th percentile per-packet one-way delay: 73.668 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 592.19 Mbit/s
95th percentile per-packet one-way delay: 73.668 ms
Loss rate: 0.50%
```

Run 1: Report of Indigo-Muses — Data Link

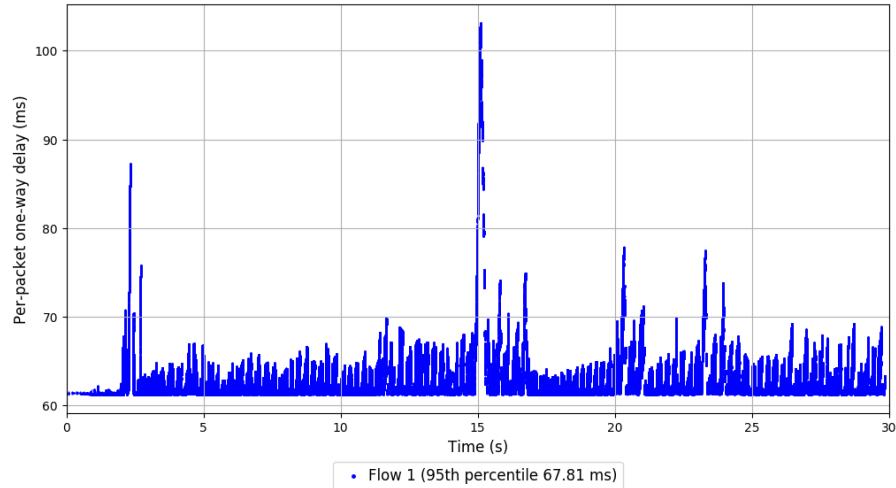
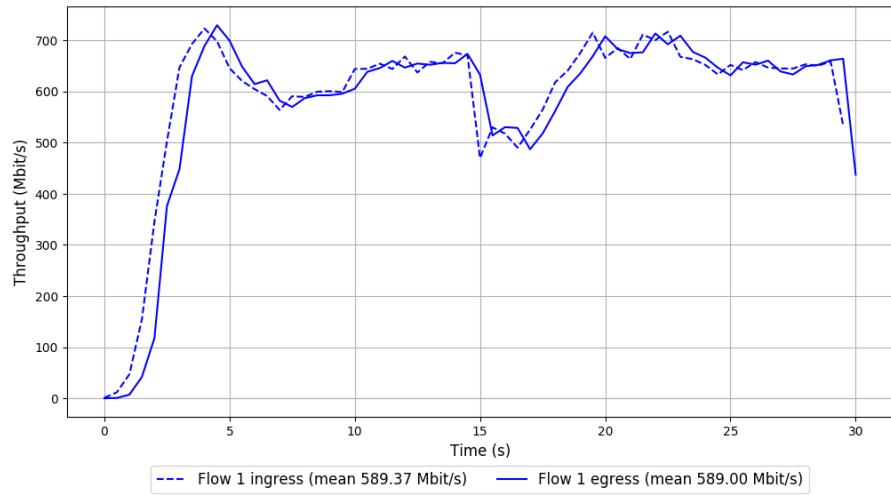


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-09-07 18:43:09
End at: 2018-09-07 18:43:39
Local clock offset: -0.093 ms
Remote clock offset: -0.382 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 589.00 Mbit/s
95th percentile per-packet one-way delay: 67.809 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 589.00 Mbit/s
95th percentile per-packet one-way delay: 67.809 ms
Loss rate: 0.47%
```

Run 2: Report of Indigo-Muses — Data Link

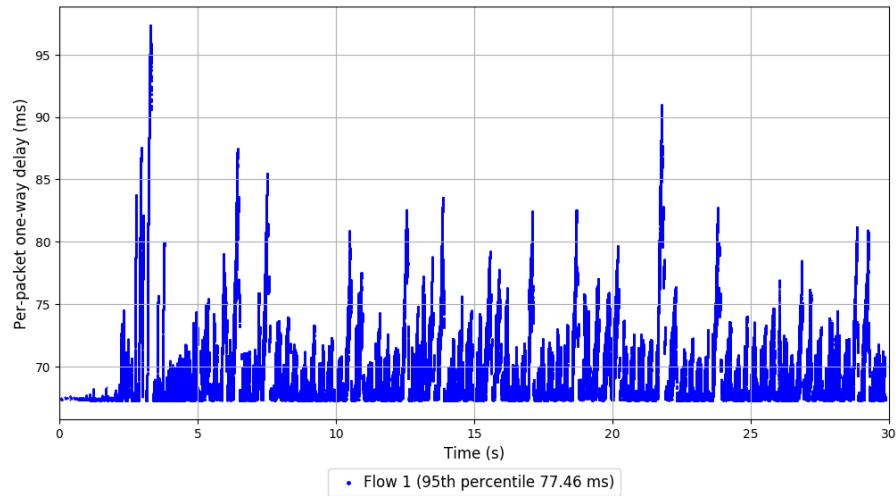
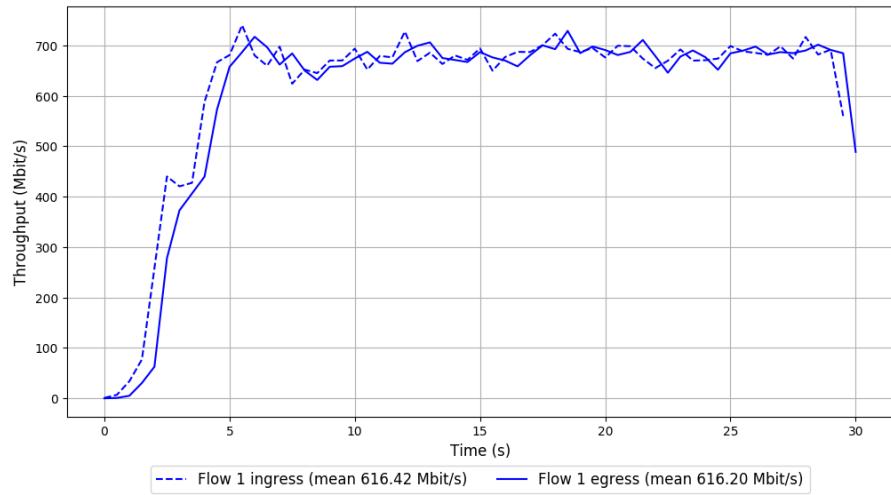


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-09-07 19:09:18
End at: 2018-09-07 19:09:48
Local clock offset: -0.034 ms
Remote clock offset: -0.682 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 616.20 Mbit/s
95th percentile per-packet one-way delay: 77.460 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 616.20 Mbit/s
95th percentile per-packet one-way delay: 77.460 ms
Loss rate: 0.46%
```

Run 3: Report of Indigo-Muses — Data Link

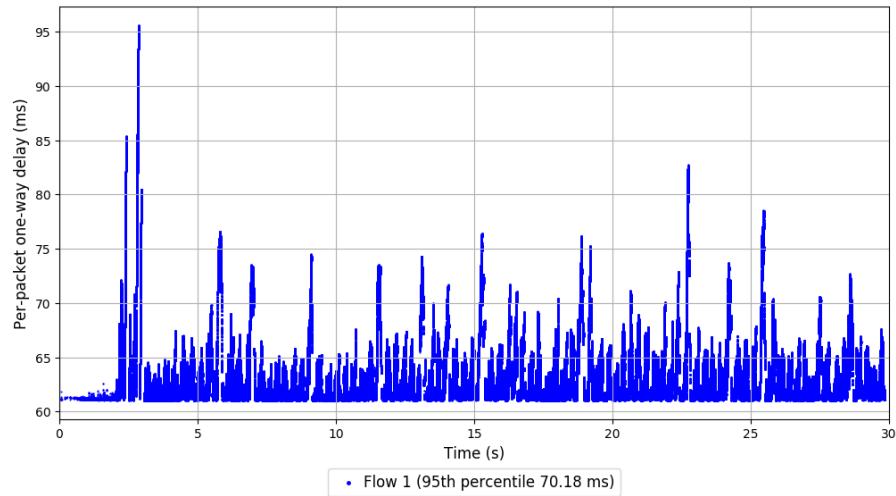
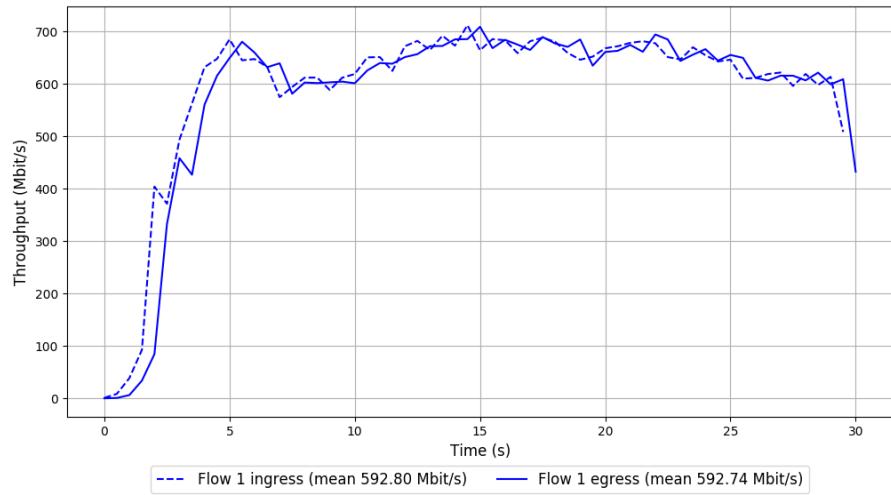


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-09-07 19:35:15
End at: 2018-09-07 19:35:45
Local clock offset: 0.007 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 592.74 Mbit/s
95th percentile per-packet one-way delay: 70.179 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 592.74 Mbit/s
95th percentile per-packet one-way delay: 70.179 ms
Loss rate: 0.42%
```

Run 4: Report of Indigo-Muses — Data Link

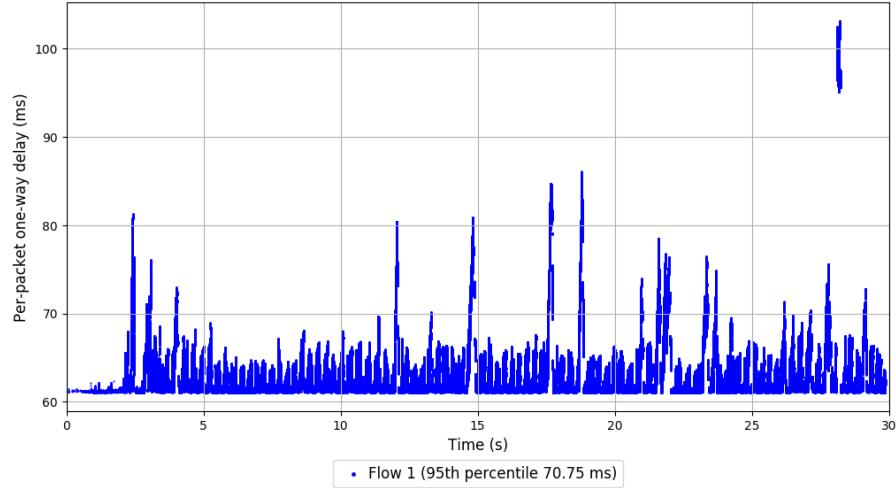
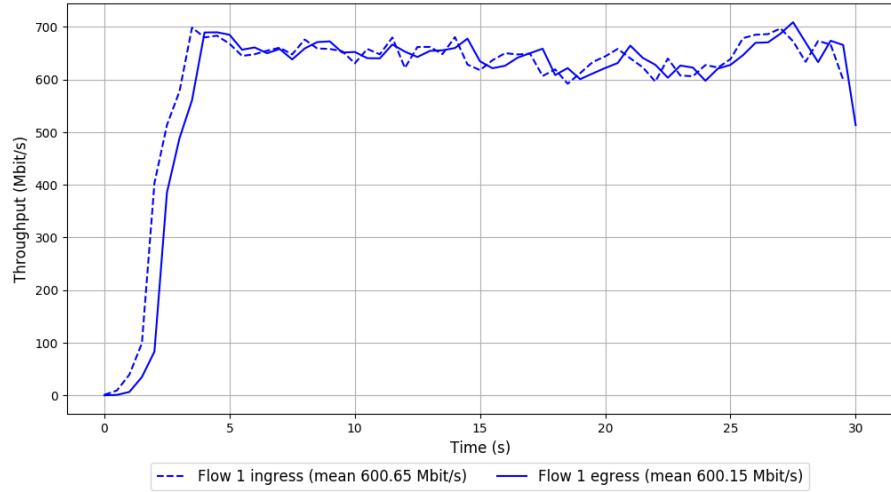


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-09-07 20:01:32
End at: 2018-09-07 20:02:02
Local clock offset: -0.007 ms
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2018-09-07 21:15:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 600.15 Mbit/s
95th percentile per-packet one-way delay: 70.755 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 600.15 Mbit/s
95th percentile per-packet one-way delay: 70.755 ms
Loss rate: 0.48%
```

Run 5: Report of Indigo-Muses — Data Link

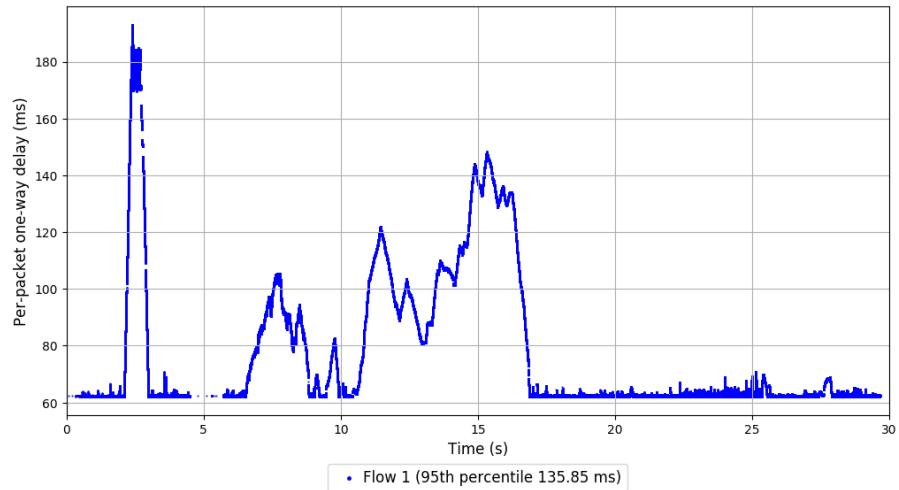
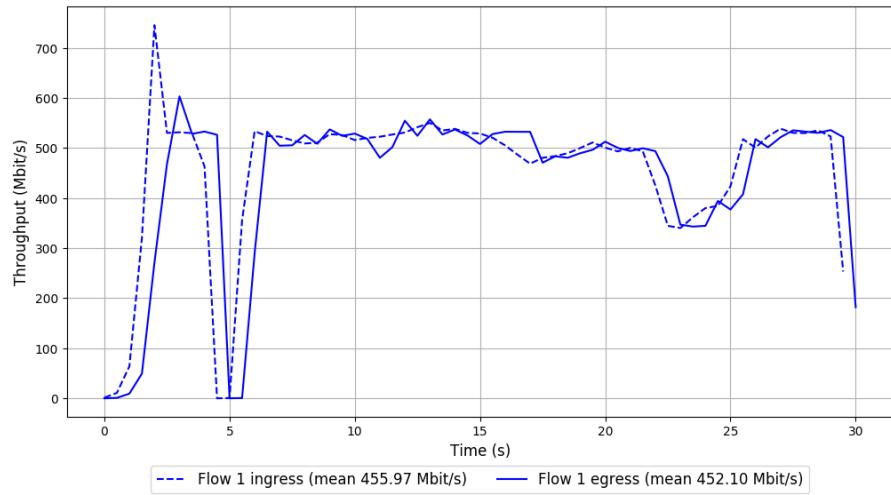


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-09-07 18:02:20
End at: 2018-09-07 18:02:50
Local clock offset: -0.117 ms
Remote clock offset: -1.207 ms

# Below is generated by plot.py at 2018-09-07 21:19:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 452.10 Mbit/s
95th percentile per-packet one-way delay: 135.849 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 452.10 Mbit/s
95th percentile per-packet one-way delay: 135.849 ms
Loss rate: 1.28%
```

Run 1: Report of PCC-Allegro — Data Link

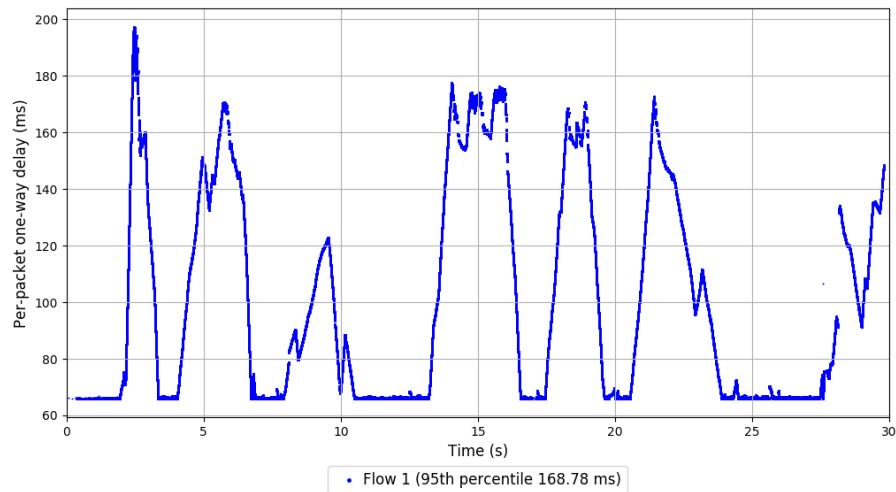
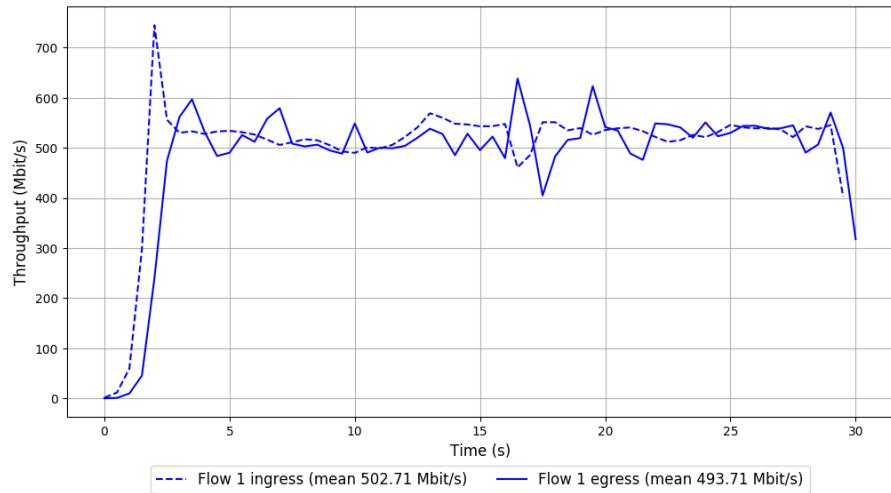


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-09-07 18:28:29
End at: 2018-09-07 18:28:59
Local clock offset: -0.041 ms
Remote clock offset: 0.578 ms

# Below is generated by plot.py at 2018-09-07 21:24:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 493.71 Mbit/s
95th percentile per-packet one-way delay: 168.785 ms
Loss rate: 2.23%
-- Flow 1:
Average throughput: 493.71 Mbit/s
95th percentile per-packet one-way delay: 168.785 ms
Loss rate: 2.23%
```

Run 2: Report of PCC-Allegro — Data Link

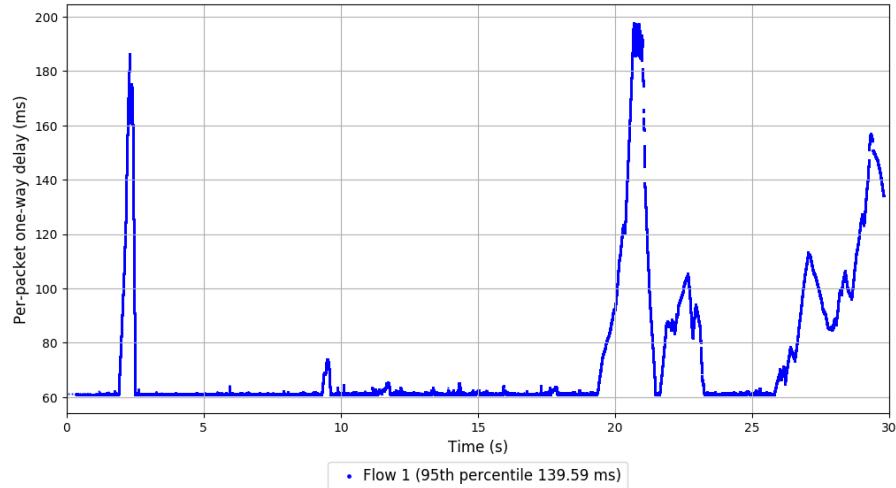
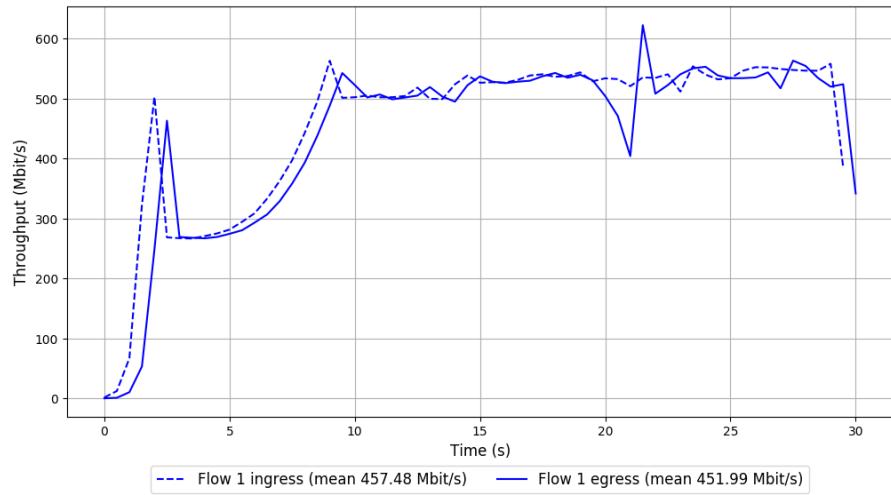


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-09-07 18:54:49
End at: 2018-09-07 18:55:19
Local clock offset: -0.034 ms
Remote clock offset: 0.036 ms

# Below is generated by plot.py at 2018-09-07 21:27:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 451.99 Mbit/s
95th percentile per-packet one-way delay: 139.585 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 451.99 Mbit/s
95th percentile per-packet one-way delay: 139.585 ms
Loss rate: 1.61%
```

Run 3: Report of PCC-Allegro — Data Link

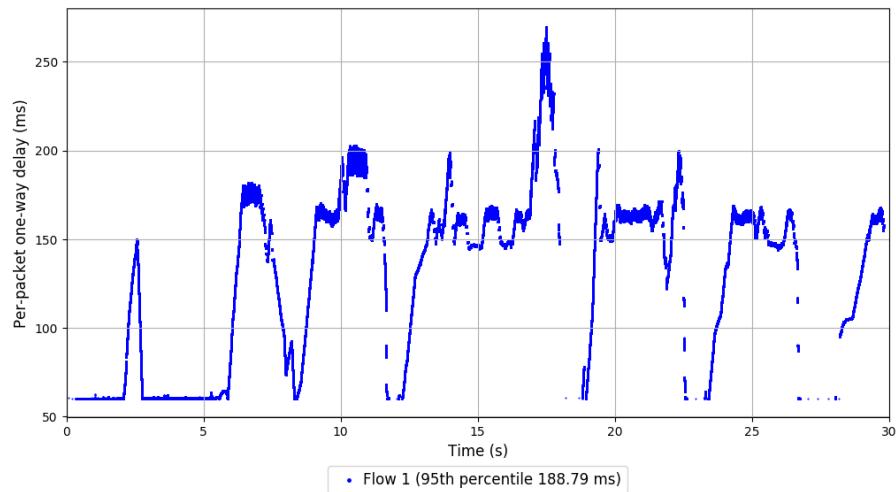
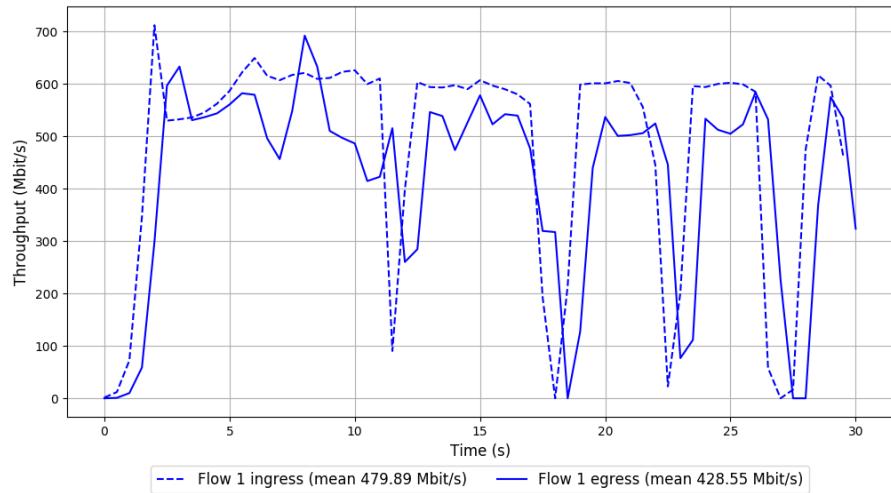


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-09-07 19:20:43
End at: 2018-09-07 19:21:13
Local clock offset: -0.021 ms
Remote clock offset: 0.536 ms

# Below is generated by plot.py at 2018-09-07 21:27:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 428.55 Mbit/s
95th percentile per-packet one-way delay: 188.793 ms
Loss rate: 11.07%
-- Flow 1:
Average throughput: 428.55 Mbit/s
95th percentile per-packet one-way delay: 188.793 ms
Loss rate: 11.07%
```

Run 4: Report of PCC-Allegro — Data Link

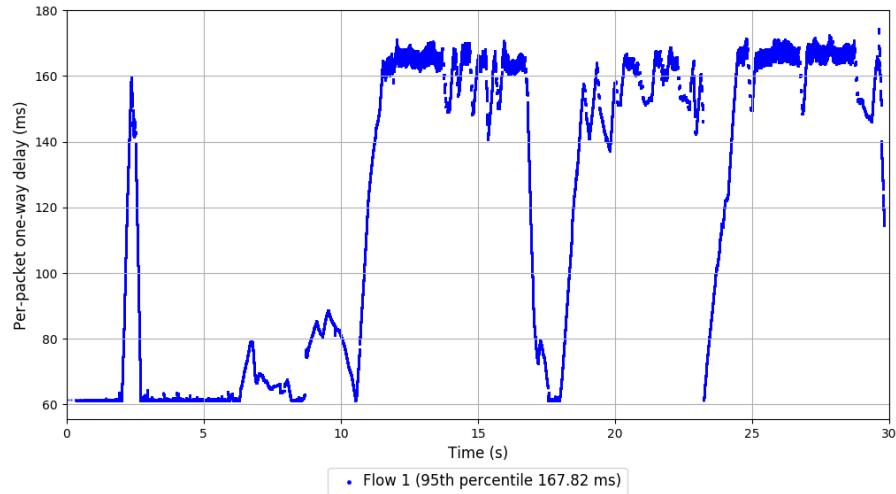
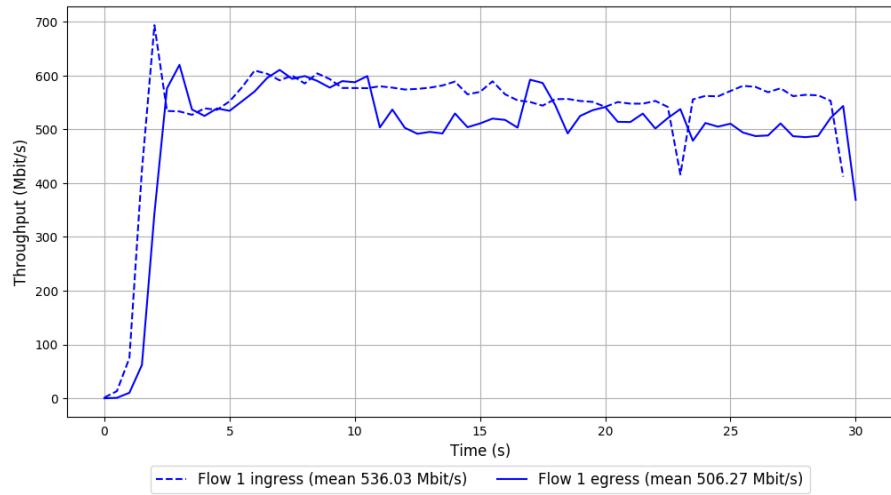


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-09-07 19:46:48
End at: 2018-09-07 19:47:18
Local clock offset: -0.007 ms
Remote clock offset: 0.047 ms

# Below is generated by plot.py at 2018-09-07 21:31:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 506.27 Mbit/s
95th percentile per-packet one-way delay: 167.817 ms
Loss rate: 5.94%
-- Flow 1:
Average throughput: 506.27 Mbit/s
95th percentile per-packet one-way delay: 167.817 ms
Loss rate: 5.94%
```

Run 5: Report of PCC-Allegro — Data Link

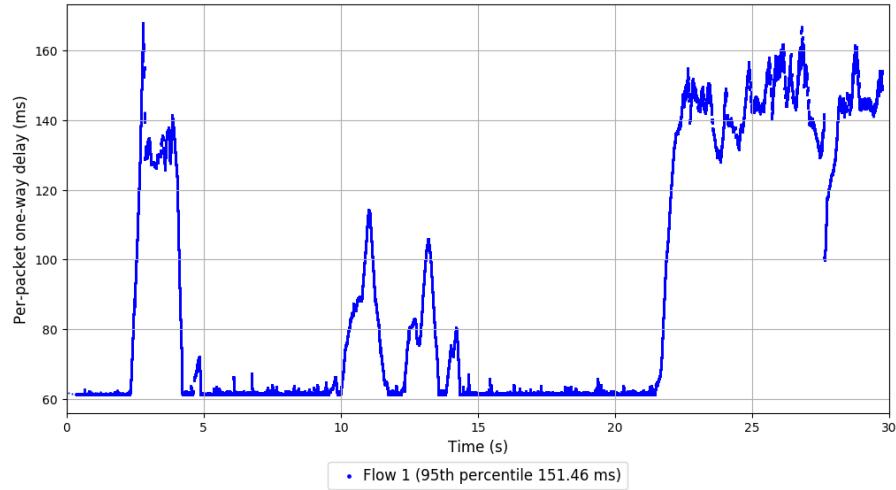
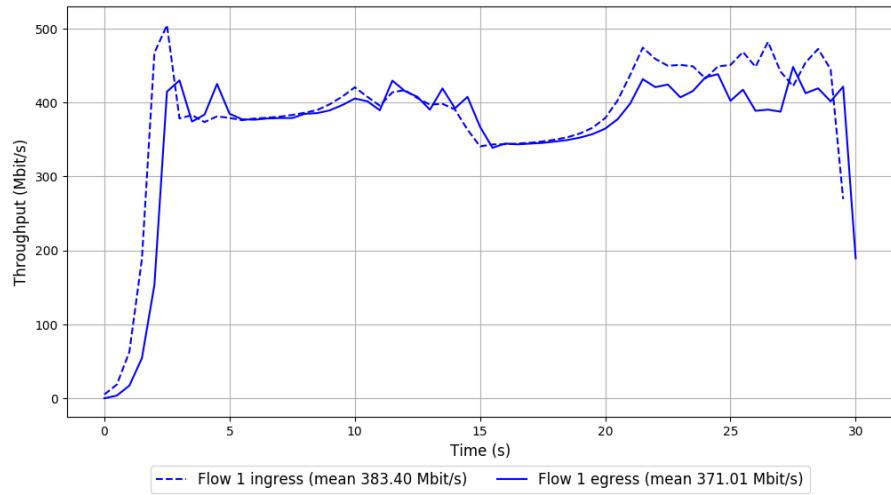


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-09-07 18:07:51
End at: 2018-09-07 18:08:21
Local clock offset: -0.094 ms
Remote clock offset: -0.207 ms

# Below is generated by plot.py at 2018-09-07 21:31:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 371.01 Mbit/s
95th percentile per-packet one-way delay: 151.463 ms
Loss rate: 3.65%
-- Flow 1:
Average throughput: 371.01 Mbit/s
95th percentile per-packet one-way delay: 151.463 ms
Loss rate: 3.65%
```

Run 1: Report of PCC-Expr — Data Link

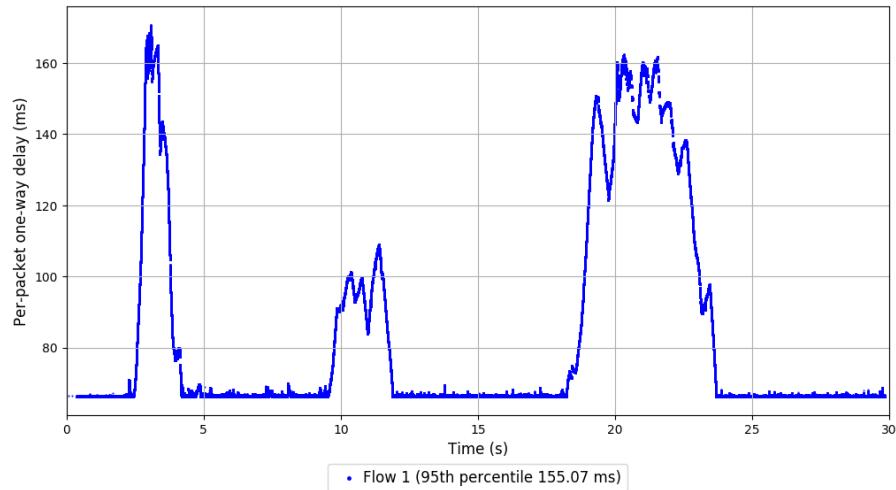
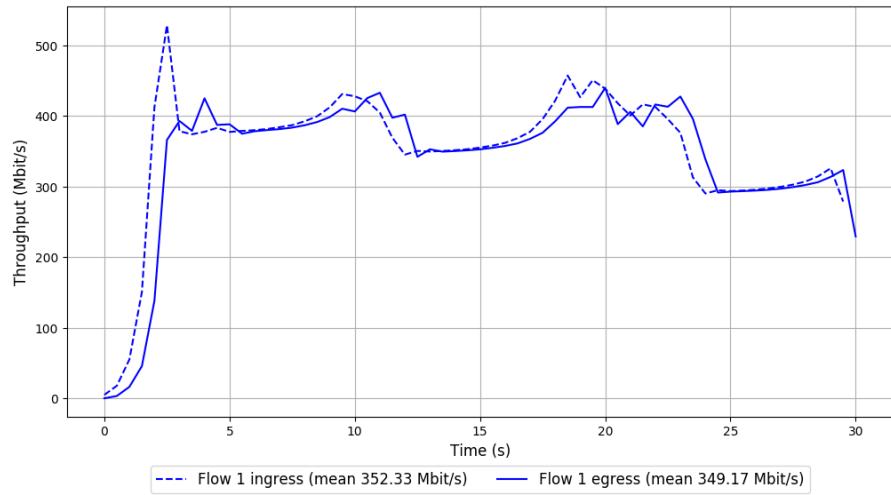


Run 2: Statistics of PCC-Expr

```
Start at: 2018-09-07 18:34:04
End at: 2018-09-07 18:34:34
Local clock offset: -0.059 ms
Remote clock offset: 0.083 ms

# Below is generated by plot.py at 2018-09-07 21:31:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 349.17 Mbit/s
95th percentile per-packet one-way delay: 155.073 ms
Loss rate: 1.34%
-- Flow 1:
Average throughput: 349.17 Mbit/s
95th percentile per-packet one-way delay: 155.073 ms
Loss rate: 1.34%
```

Run 2: Report of PCC-Expr — Data Link

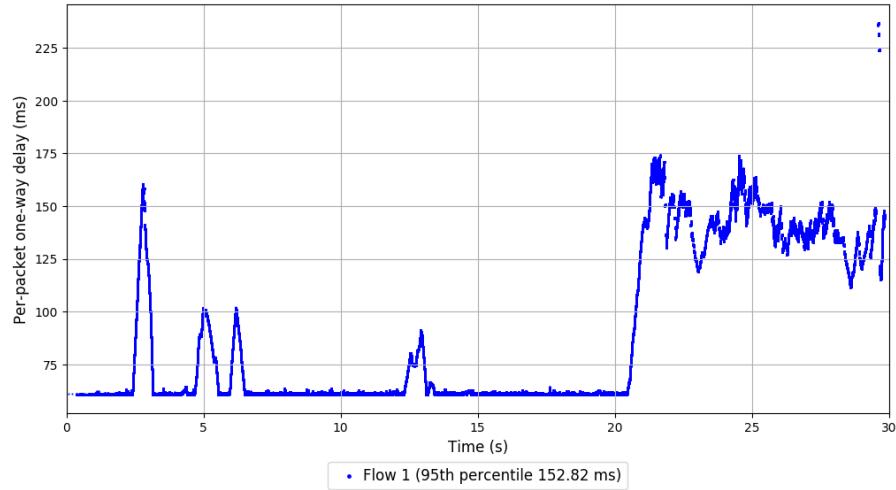
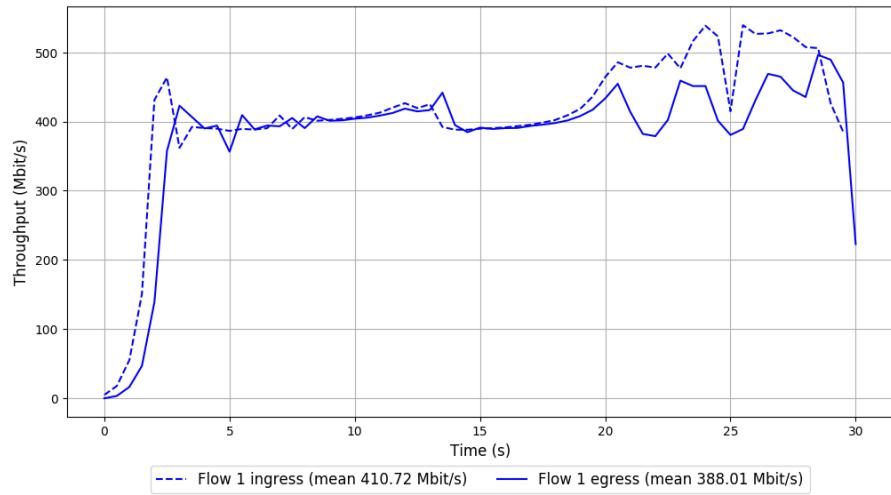


Run 3: Statistics of PCC-Expr

```
Start at: 2018-09-07 19:00:19
End at: 2018-09-07 19:00:49
Local clock offset: -0.034 ms
Remote clock offset: 0.444 ms

# Below is generated by plot.py at 2018-09-07 21:31:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 388.01 Mbit/s
95th percentile per-packet one-way delay: 152.825 ms
Loss rate: 5.92%
-- Flow 1:
Average throughput: 388.01 Mbit/s
95th percentile per-packet one-way delay: 152.825 ms
Loss rate: 5.92%
```

Run 3: Report of PCC-Expr — Data Link

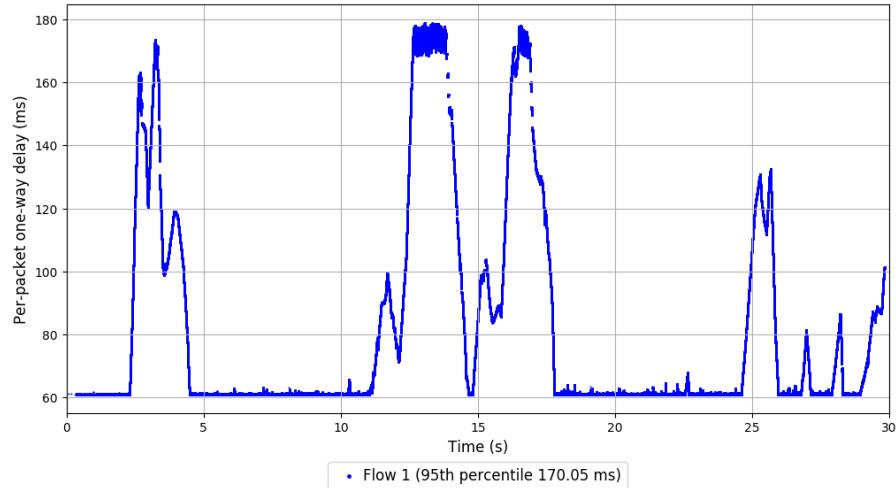
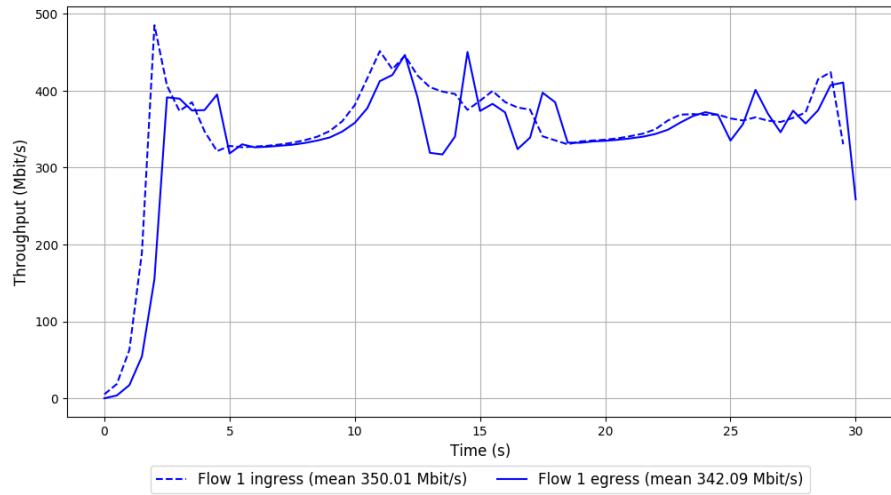


Run 4: Statistics of PCC-Expr

```
Start at: 2018-09-07 19:26:13
End at: 2018-09-07 19:26:43
Local clock offset: -0.004 ms
Remote clock offset: -0.038 ms

# Below is generated by plot.py at 2018-09-07 21:31:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 342.09 Mbit/s
95th percentile per-packet one-way delay: 170.050 ms
Loss rate: 2.66%
-- Flow 1:
Average throughput: 342.09 Mbit/s
95th percentile per-packet one-way delay: 170.050 ms
Loss rate: 2.66%
```

Run 4: Report of PCC-Expr — Data Link

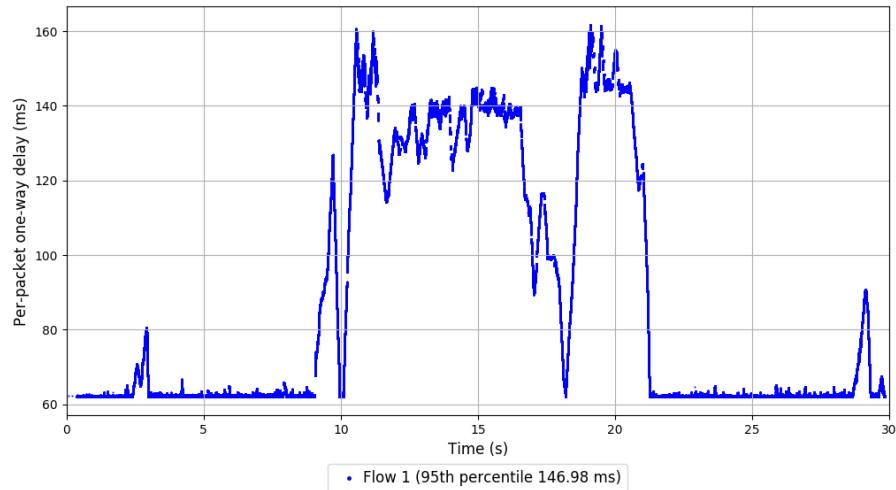
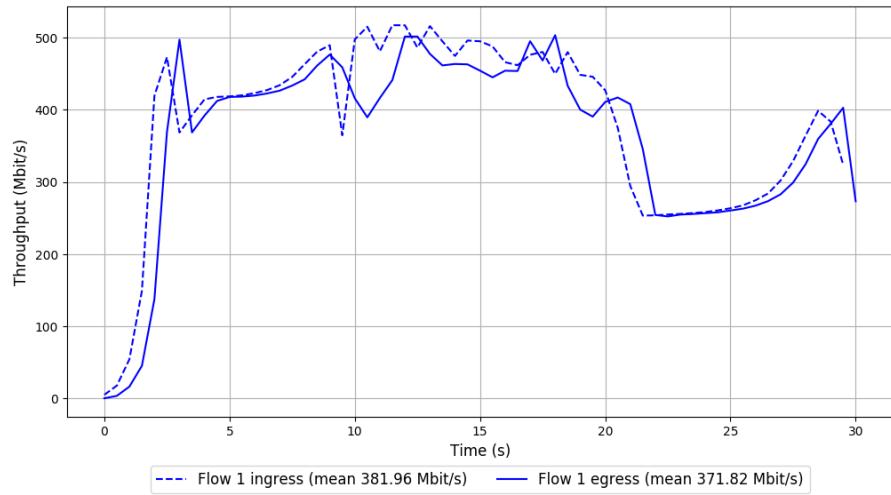


Run 5: Statistics of PCC-Expr

```
Start at: 2018-09-07 19:52:28
End at: 2018-09-07 19:52:58
Local clock offset: -0.024 ms
Remote clock offset: -1.163 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 371.82 Mbit/s
95th percentile per-packet one-way delay: 146.980 ms
Loss rate: 3.05%
-- Flow 1:
Average throughput: 371.82 Mbit/s
95th percentile per-packet one-way delay: 146.980 ms
Loss rate: 3.05%
```

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

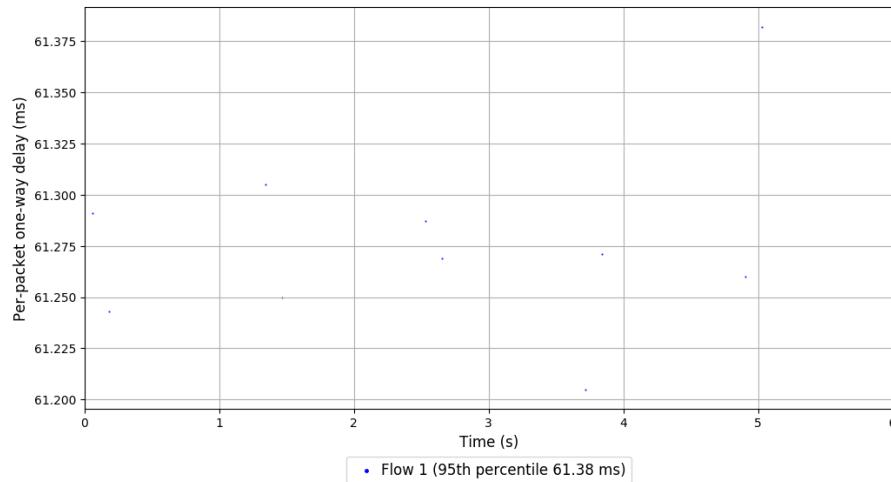
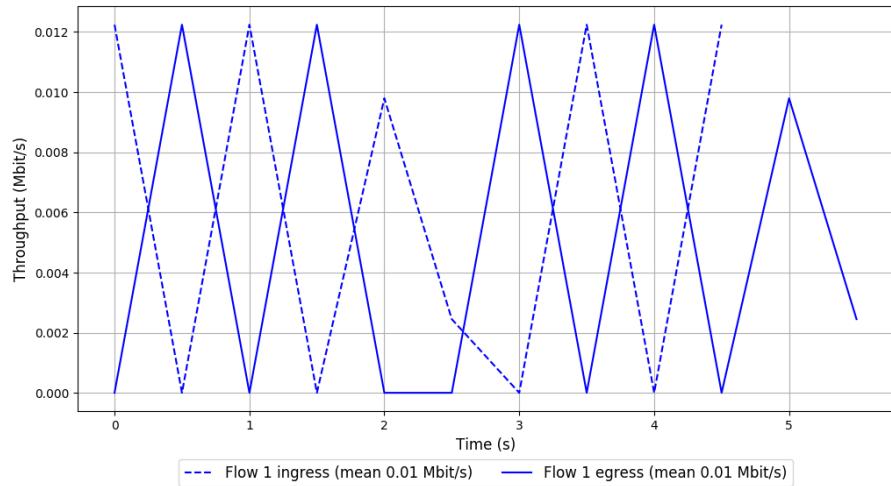
Start at: 2018-09-07 17:58:03

End at: 2018-09-07 17:58:33

Local clock offset: -0.115 ms

Remote clock offset: -0.121 ms

Run 1: Report of QUIC Cubic — Data Link

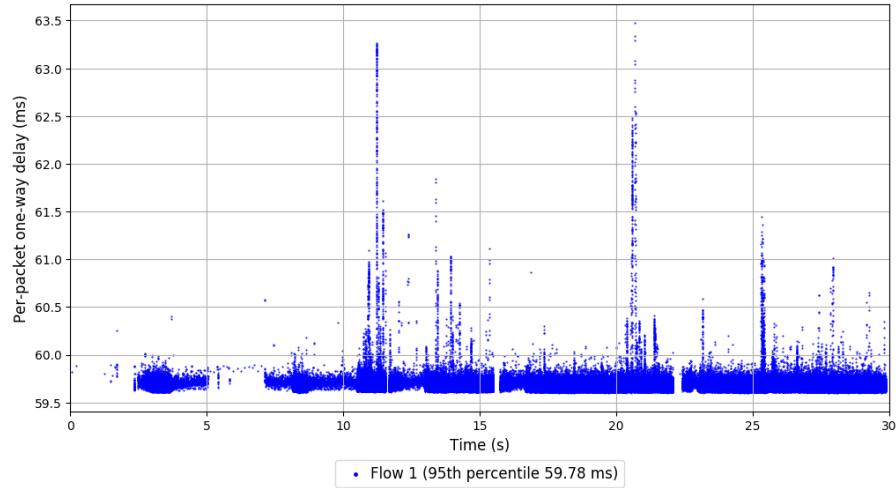
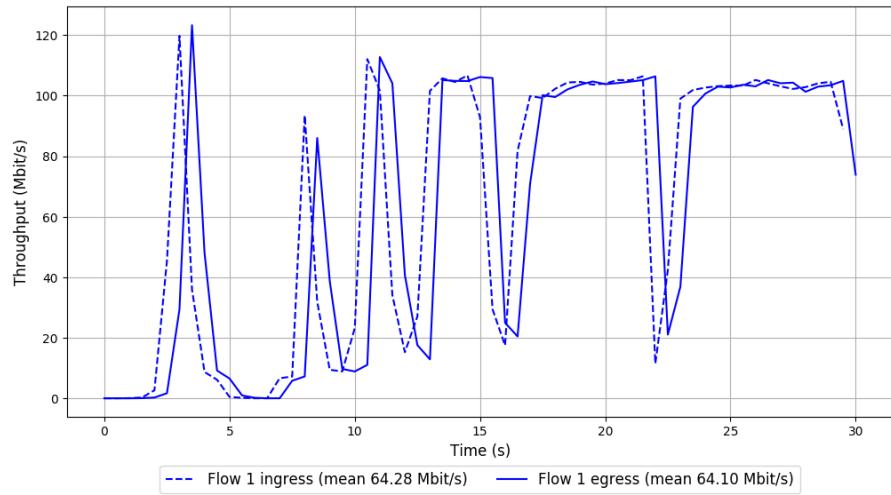


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-09-07 18:24:00
End at: 2018-09-07 18:24:30
Local clock offset: -0.073 ms
Remote clock offset: 0.928 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.10 Mbit/s
95th percentile per-packet one-way delay: 59.782 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 64.10 Mbit/s
95th percentile per-packet one-way delay: 59.782 ms
Loss rate: 0.72%
```

Run 2: Report of QUIC Cubic — Data Link

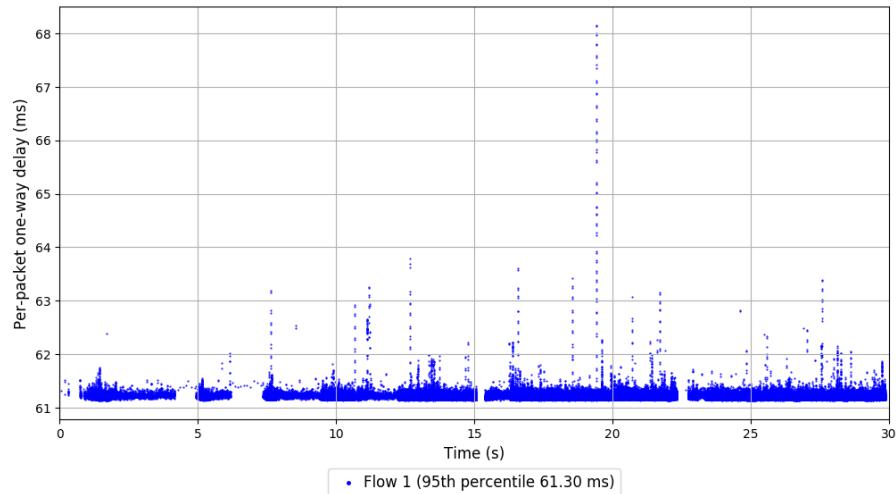
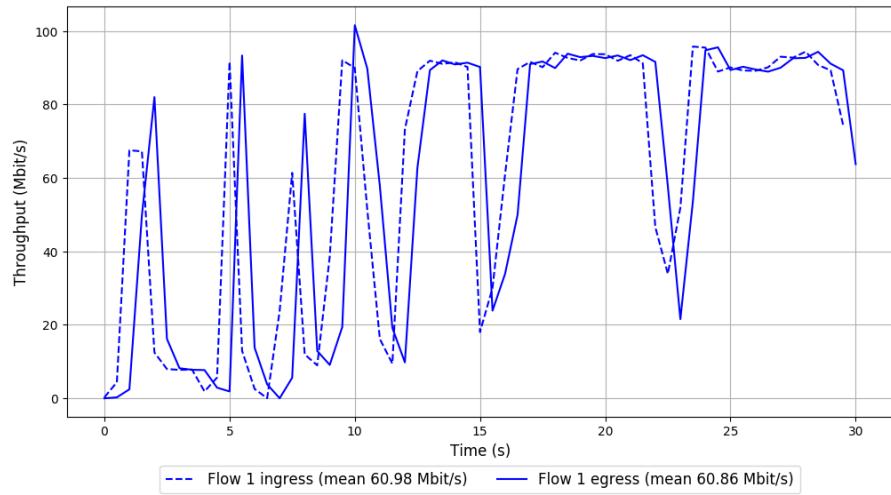


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-09-07 18:50:21
End at: 2018-09-07 18:50:51
Local clock offset: -0.041 ms
Remote clock offset: -0.223 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.86 Mbit/s
95th percentile per-packet one-way delay: 61.305 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 60.86 Mbit/s
95th percentile per-packet one-way delay: 61.305 ms
Loss rate: 0.60%
```

Run 3: Report of QUIC Cubic — Data Link

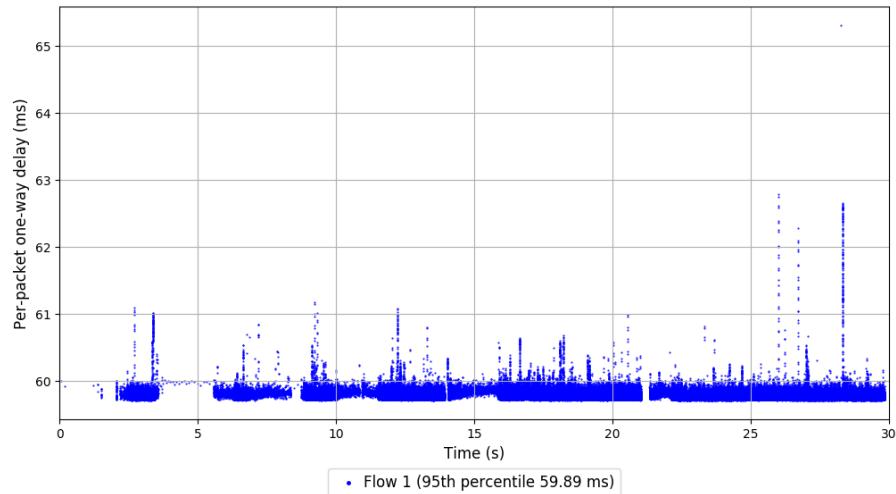
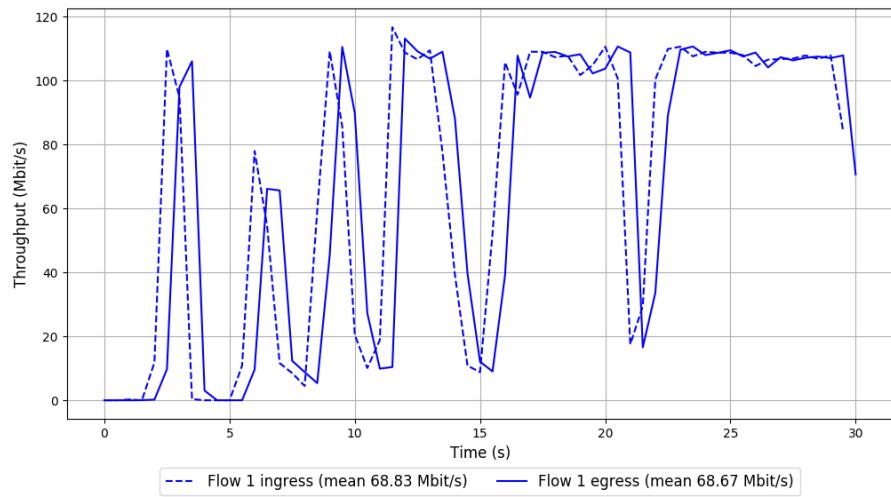


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-09-07 19:16:15
End at: 2018-09-07 19:16:45
Local clock offset: 0.003 ms
Remote clock offset: 0.93 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.67 Mbit/s
95th percentile per-packet one-way delay: 59.891 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 68.67 Mbit/s
95th percentile per-packet one-way delay: 59.891 ms
Loss rate: 0.64%
```

Run 4: Report of QUIC Cubic — Data Link

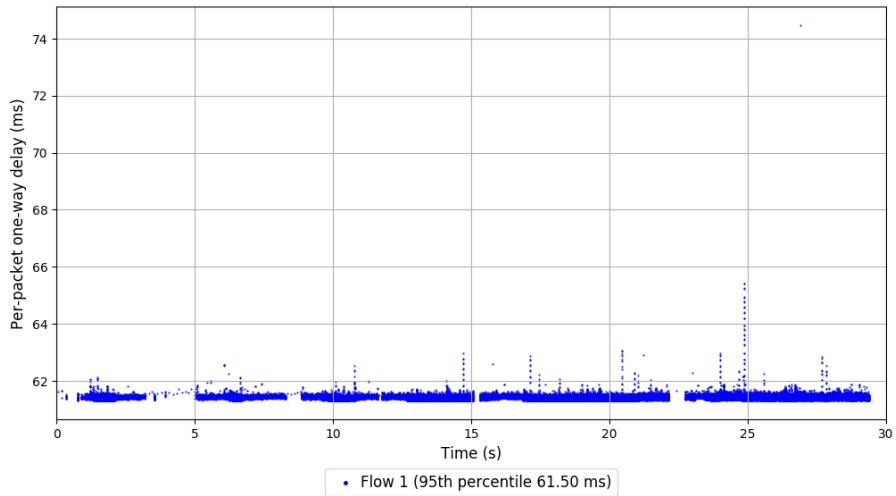
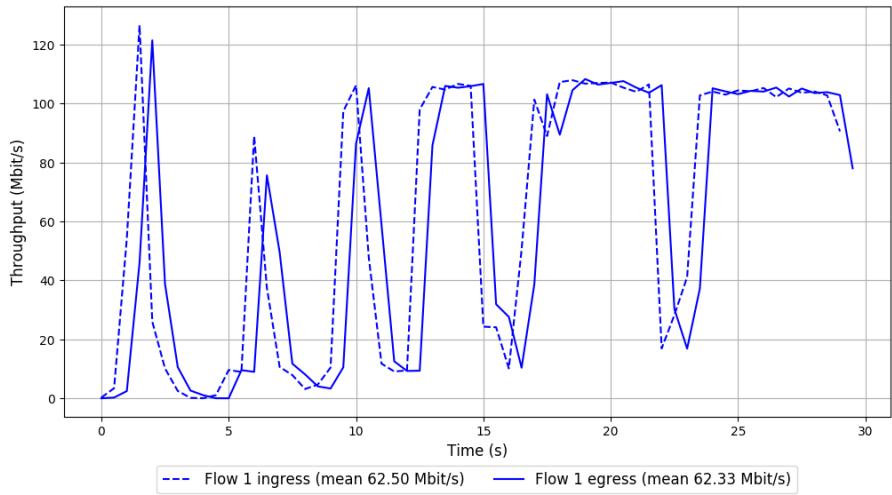


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-09-07 19:42:21
End at: 2018-09-07 19:42:51
Local clock offset: -0.001 ms
Remote clock offset: -0.371 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.33 Mbit/s
95th percentile per-packet one-way delay: 61.501 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 62.33 Mbit/s
95th percentile per-packet one-way delay: 61.501 ms
Loss rate: 0.69%
```

Run 5: Report of QUIC Cubic — Data Link

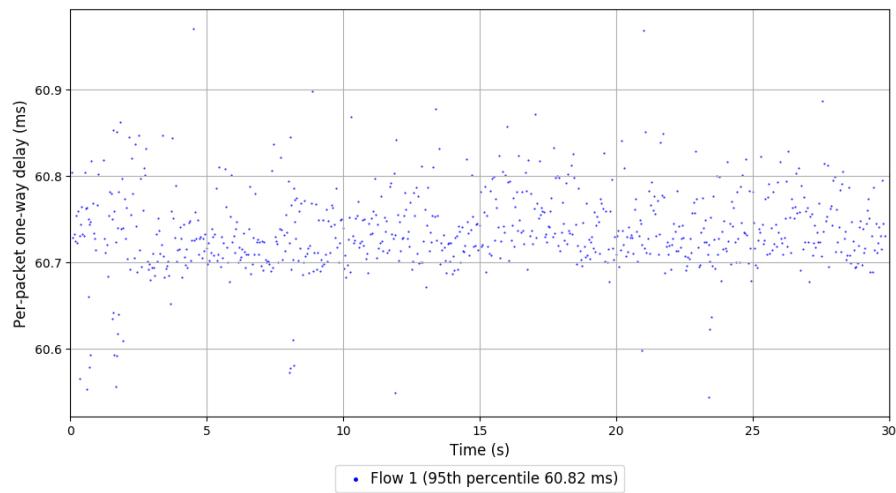
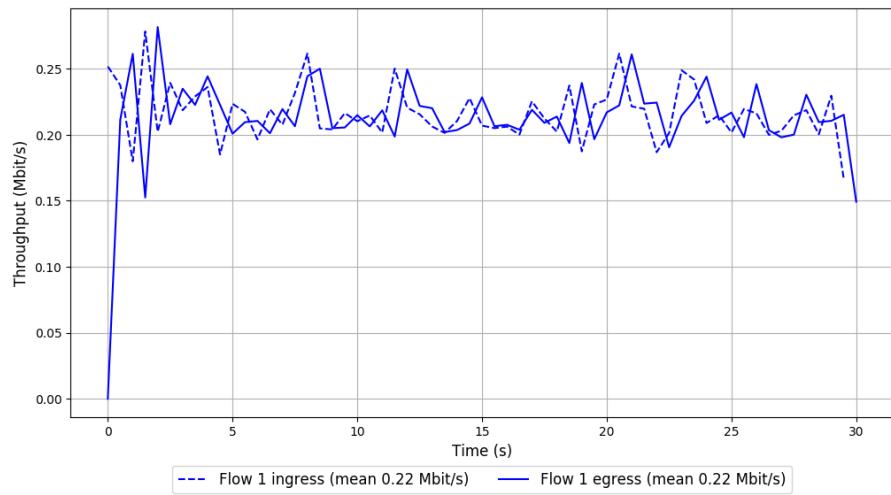


Run 1: Statistics of SCReAM

```
Start at: 2018-09-07 18:06:44
End at: 2018-09-07 18:07:14
Local clock offset: -0.097 ms
Remote clock offset: 0.414 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.818 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 60.818 ms
Loss rate: 0.38%
```

Run 1: Report of SCReAM — Data Link

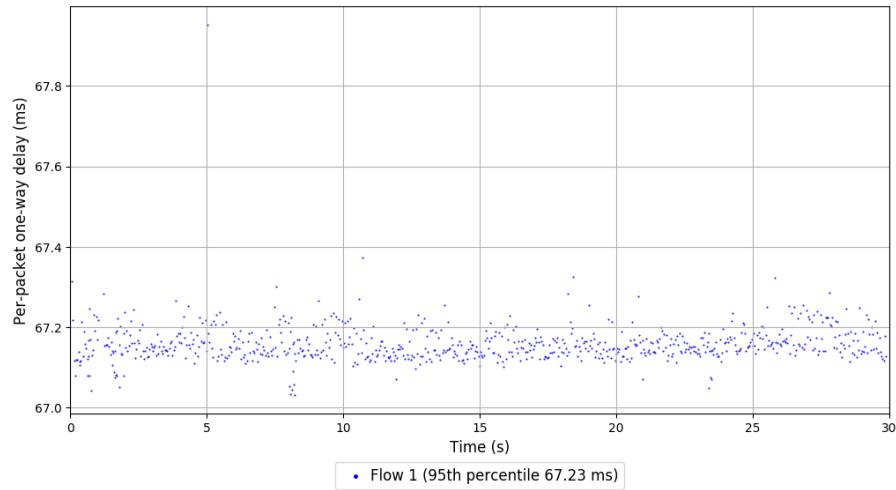
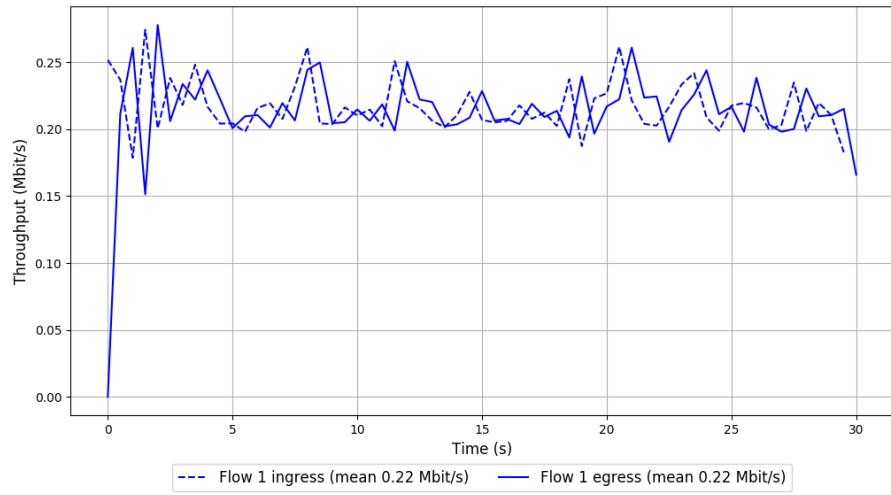


Run 2: Statistics of SCReAM

```
Start at: 2018-09-07 18:32:57
End at: 2018-09-07 18:33:27
Local clock offset: -0.102 ms
Remote clock offset: -0.461 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 67.231 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 67.231 ms
Loss rate: 0.38%
```

Run 2: Report of SCReAM — Data Link

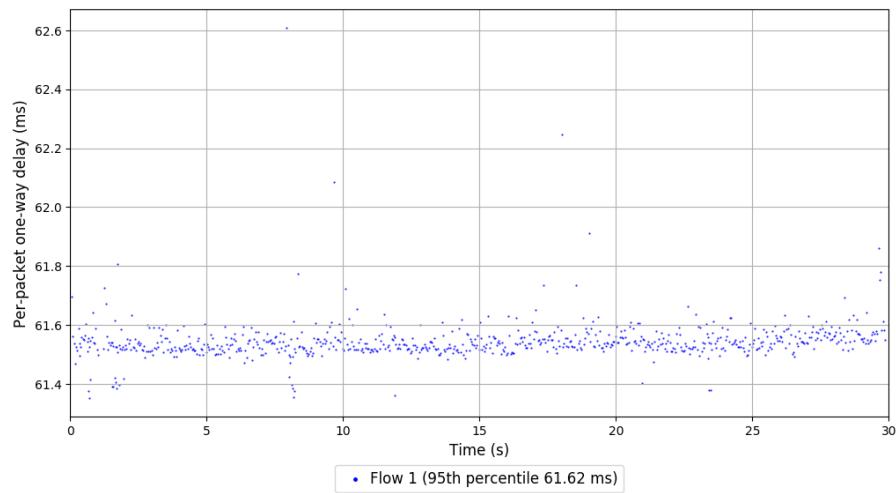
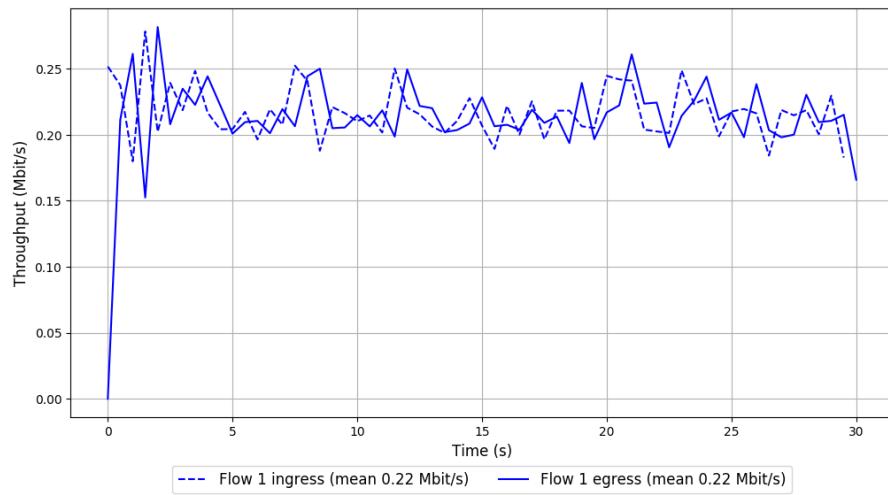


Run 3: Statistics of SCReAM

```
Start at: 2018-09-07 18:59:12
End at: 2018-09-07 18:59:42
Local clock offset: -0.027 ms
Remote clock offset: -0.46 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.617 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 61.617 ms
Loss rate: 0.38%
```

Run 3: Report of SCReAM — Data Link

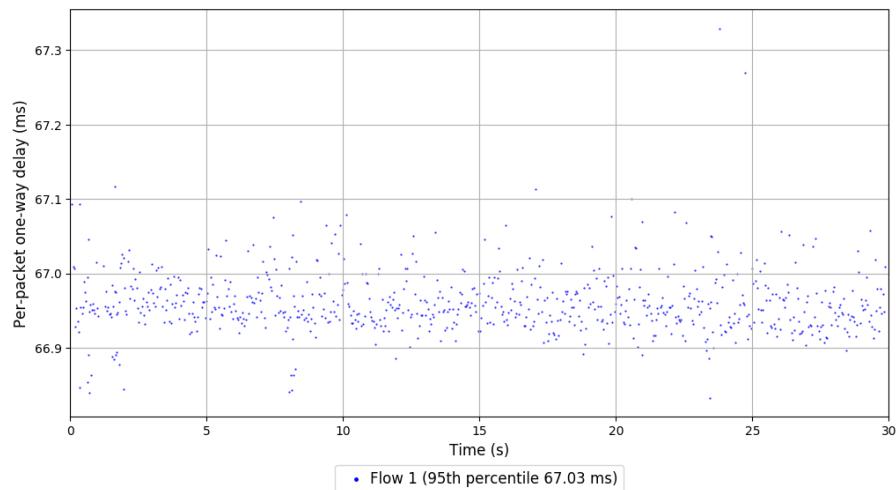
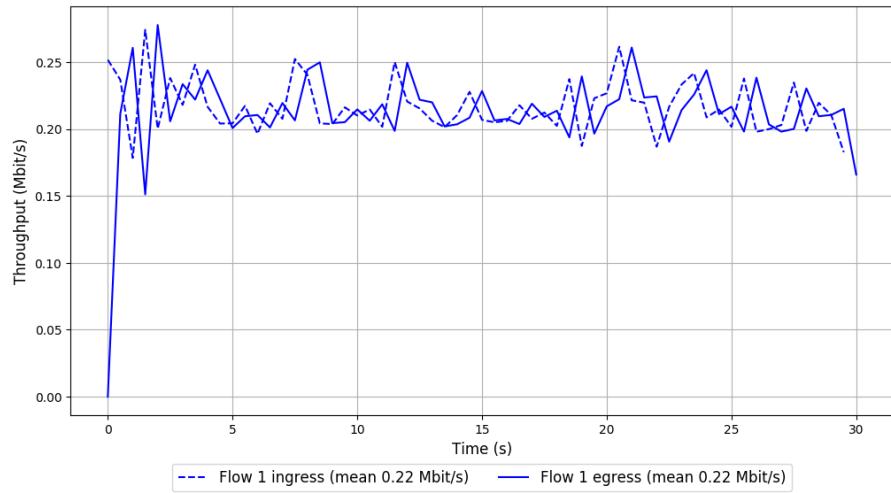


Run 4: Statistics of SCReAM

```
Start at: 2018-09-07 19:25:06
End at: 2018-09-07 19:25:36
Local clock offset: 0.01 ms
Remote clock offset: -0.07 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 67.034 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 67.034 ms
Loss rate: 0.38%
```

Run 4: Report of SCReAM — Data Link

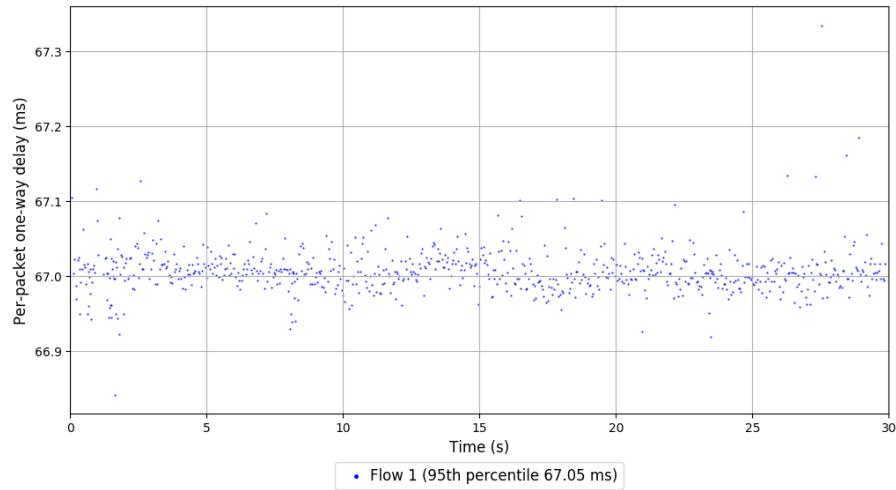
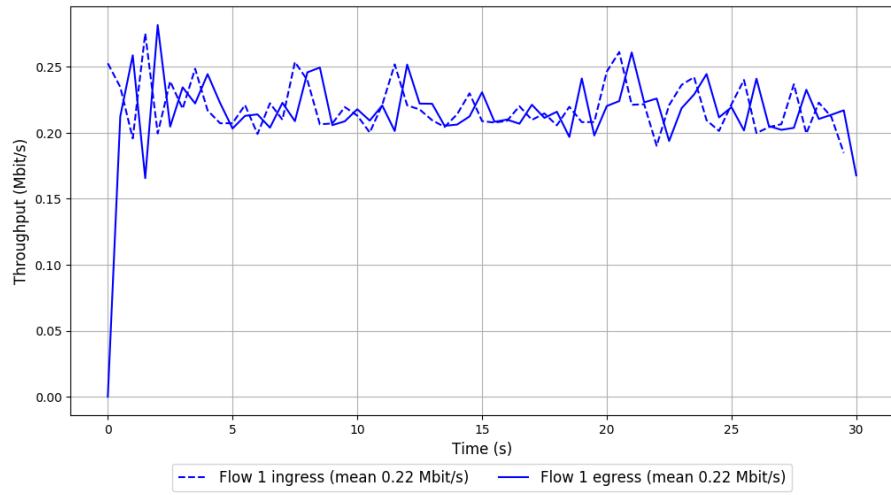


Run 5: Statistics of SCReAM

```
Start at: 2018-09-07 19:51:22
End at: 2018-09-07 19:51:52
Local clock offset: -0.003 ms
Remote clock offset: -0.4 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 67.050 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 67.050 ms
Loss rate: 0.38%
```

Run 5: Report of SCReAM — Data Link

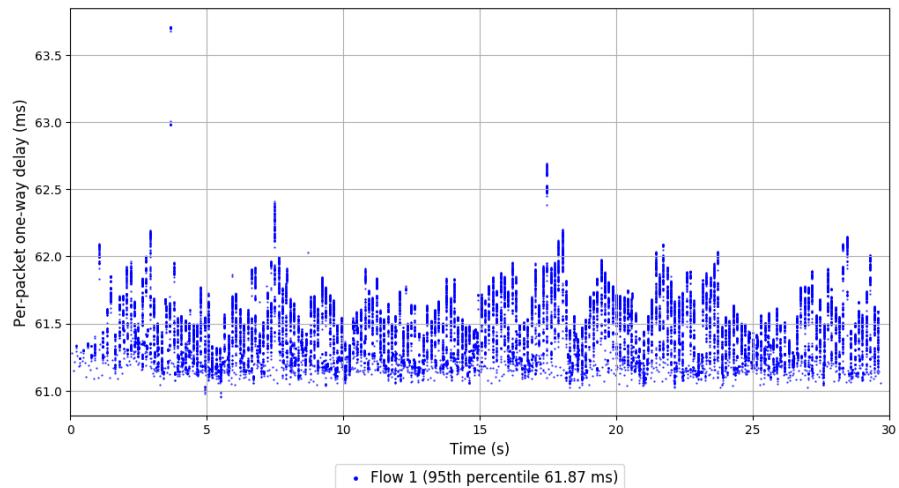
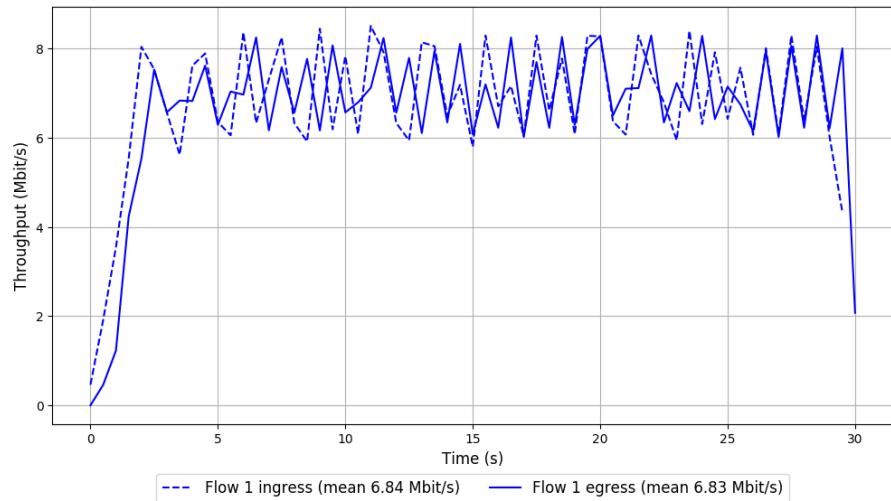


Run 1: Statistics of Sprout

```
Start at: 2018-09-07 18:05:36
End at: 2018-09-07 18:06:06
Local clock offset: -0.097 ms
Remote clock offset: -0.027 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.83 Mbit/s
95th percentile per-packet one-way delay: 61.874 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 6.83 Mbit/s
95th percentile per-packet one-way delay: 61.874 ms
Loss rate: 0.56%
```

Run 1: Report of Sprout — Data Link

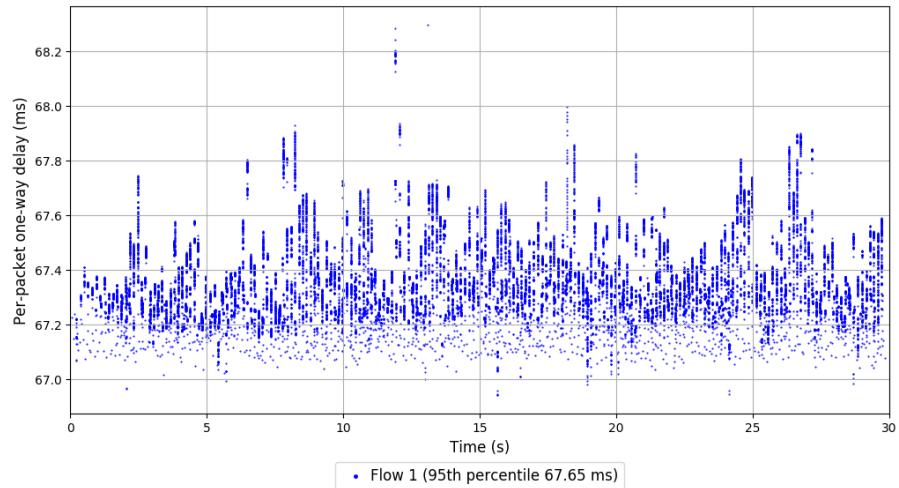
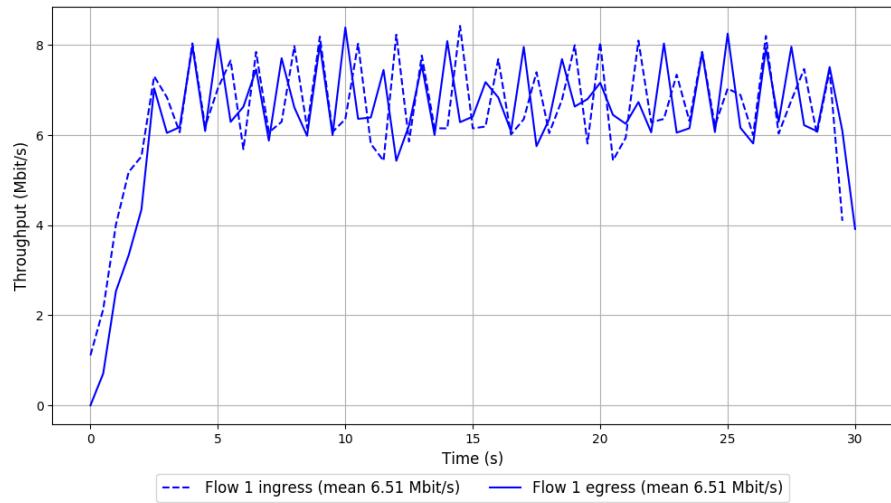


Run 2: Statistics of Sprout

```
Start at: 2018-09-07 18:31:50
End at: 2018-09-07 18:32:20
Local clock offset: -0.084 ms
Remote clock offset: -0.214 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.51 Mbit/s
95th percentile per-packet one-way delay: 67.654 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 6.51 Mbit/s
95th percentile per-packet one-way delay: 67.654 ms
Loss rate: 0.51%
```

Run 2: Report of Sprout — Data Link

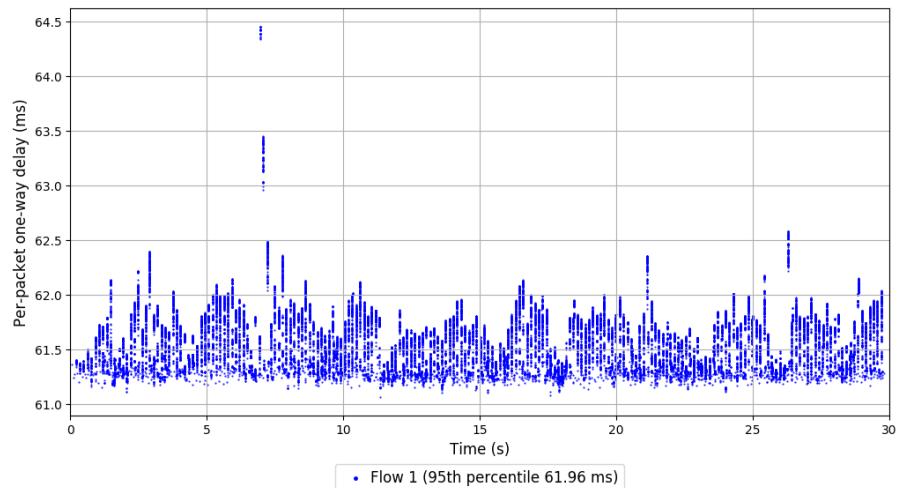
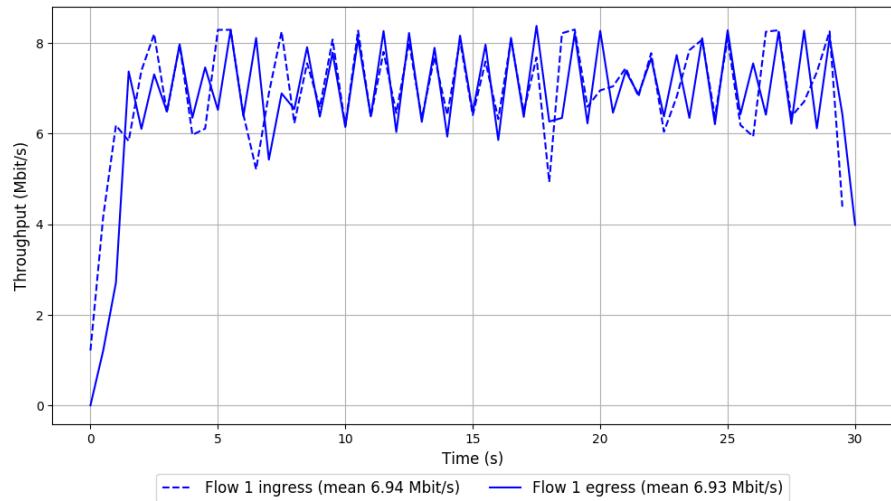


Run 3: Statistics of Sprout

```
Start at: 2018-09-07 18:58:04
End at: 2018-09-07 18:58:34
Local clock offset: -0.021 ms
Remote clock offset: -0.11 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.93 Mbit/s
95th percentile per-packet one-way delay: 61.962 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 6.93 Mbit/s
95th percentile per-packet one-way delay: 61.962 ms
Loss rate: 0.54%
```

Run 3: Report of Sprout — Data Link

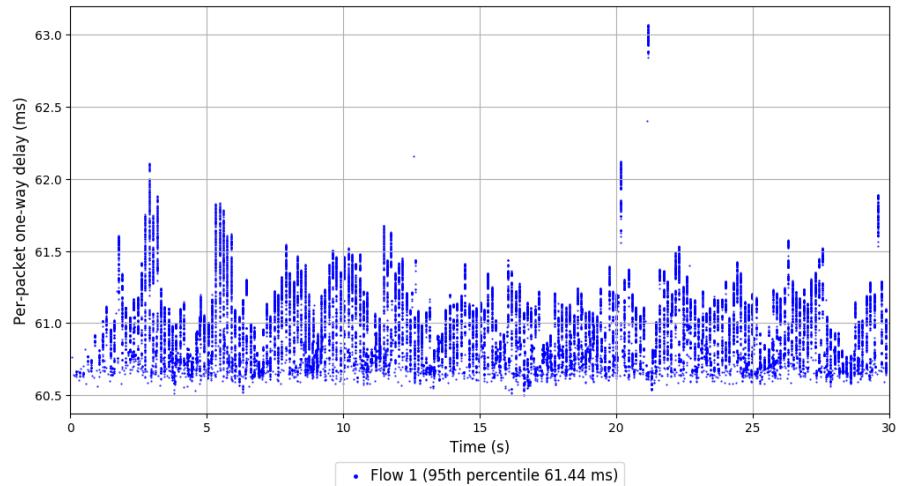
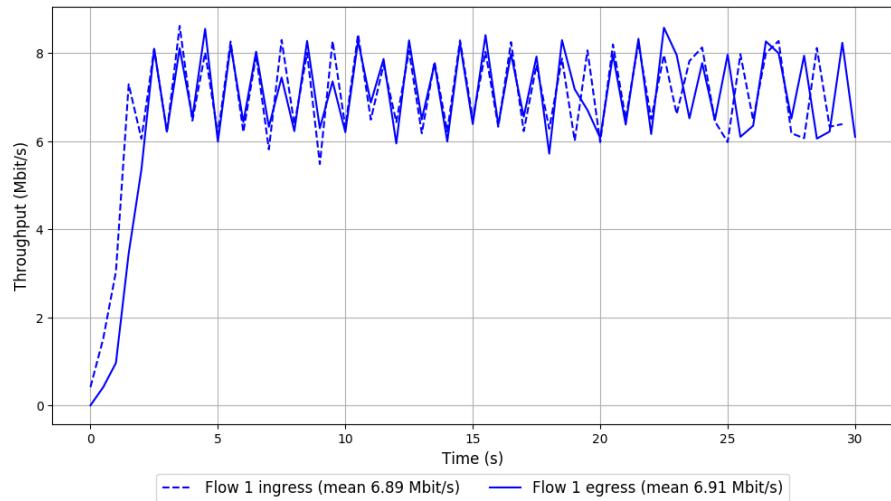


Run 4: Statistics of Sprout

```
Start at: 2018-09-07 19:23:59
End at: 2018-09-07 19:24:29
Local clock offset: -0.038 ms
Remote clock offset: 0.481 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 61.436 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 6.91 Mbit/s
95th percentile per-packet one-way delay: 61.436 ms
Loss rate: 0.07%
```

Run 4: Report of Sprout — Data Link

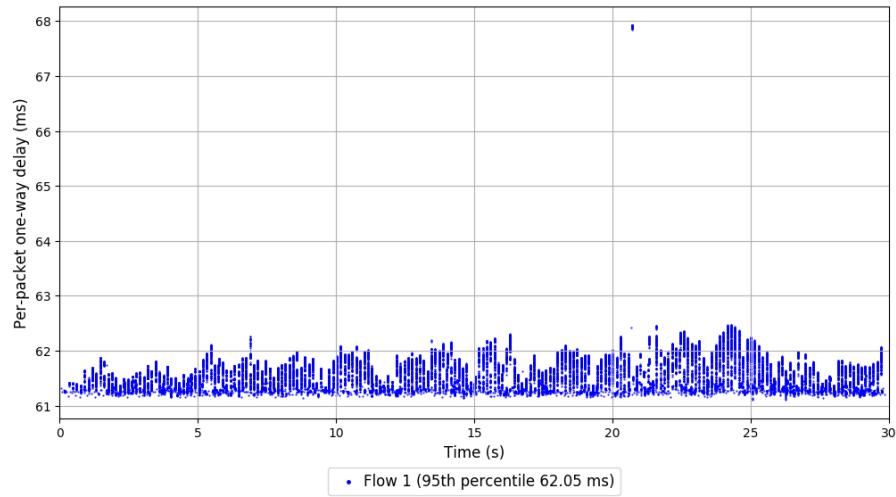
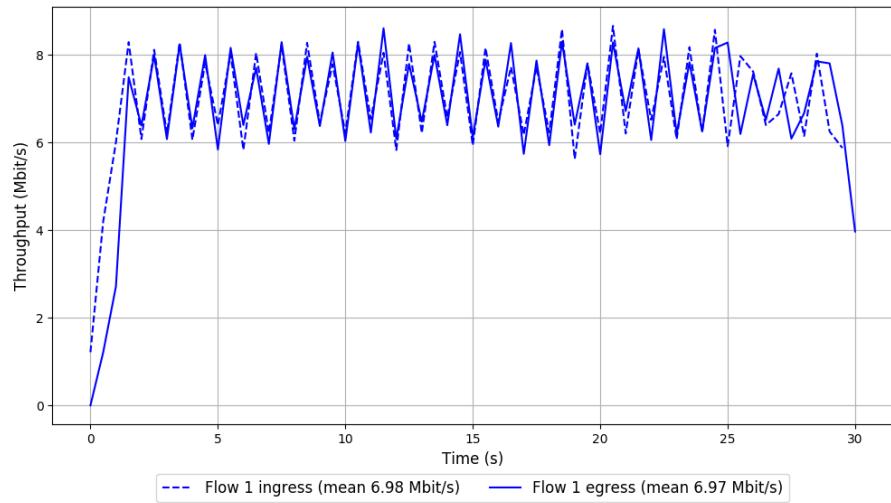


Run 5: Statistics of Sprout

```
Start at: 2018-09-07 19:50:14
End at: 2018-09-07 19:50:44
Local clock offset: 0.01 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.97 Mbit/s
95th percentile per-packet one-way delay: 62.047 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 6.97 Mbit/s
95th percentile per-packet one-way delay: 62.047 ms
Loss rate: 0.48%
```

Run 5: Report of Sprout — Data Link

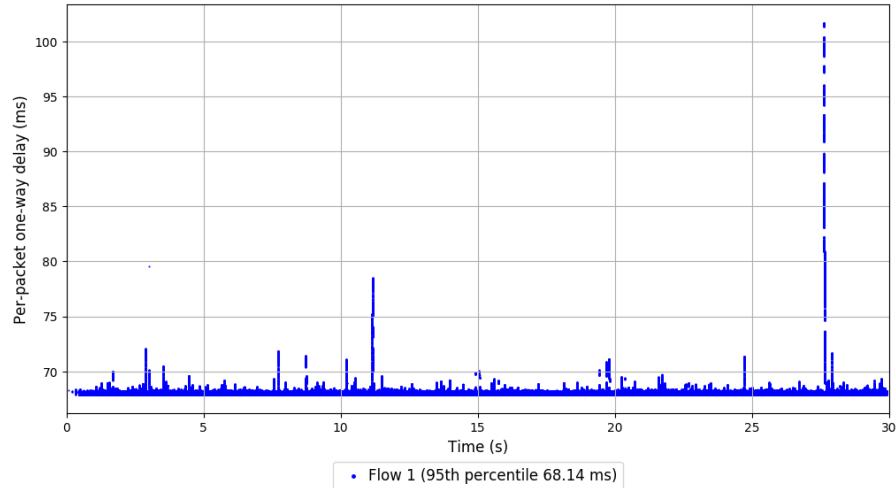
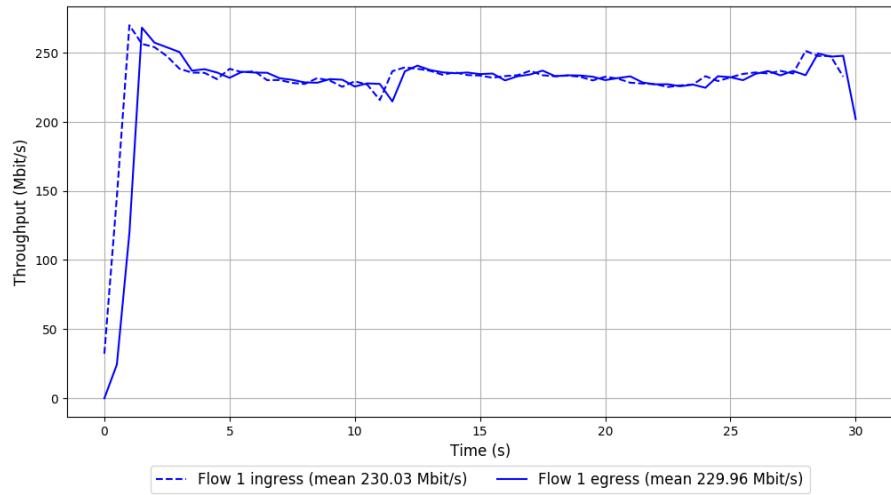


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-09-07 18:22:32
End at: 2018-09-07 18:23:02
Local clock offset: -0.068 ms
Remote clock offset: -1.254 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 229.96 Mbit/s
95th percentile per-packet one-way delay: 68.144 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 229.96 Mbit/s
95th percentile per-packet one-way delay: 68.144 ms
Loss rate: 0.48%
```

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

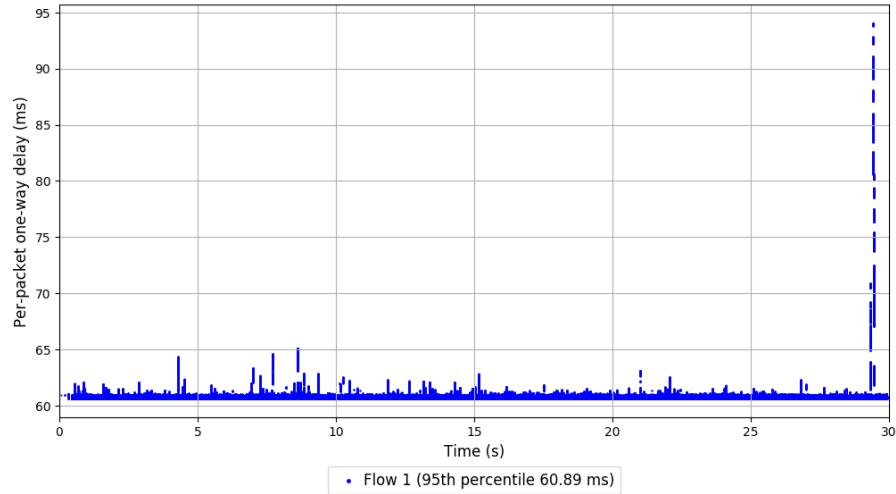
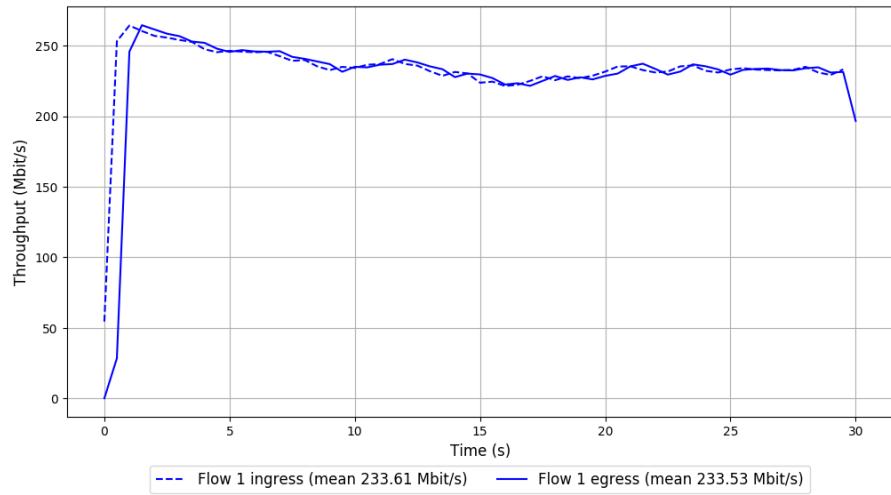


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-09-07 18:48:53
End at: 2018-09-07 18:49:23
Local clock offset: -0.058 ms
Remote clock offset: -0.072 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 233.53 Mbit/s
95th percentile per-packet one-way delay: 60.892 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 233.53 Mbit/s
95th percentile per-packet one-way delay: 60.892 ms
Loss rate: 0.44%
```

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

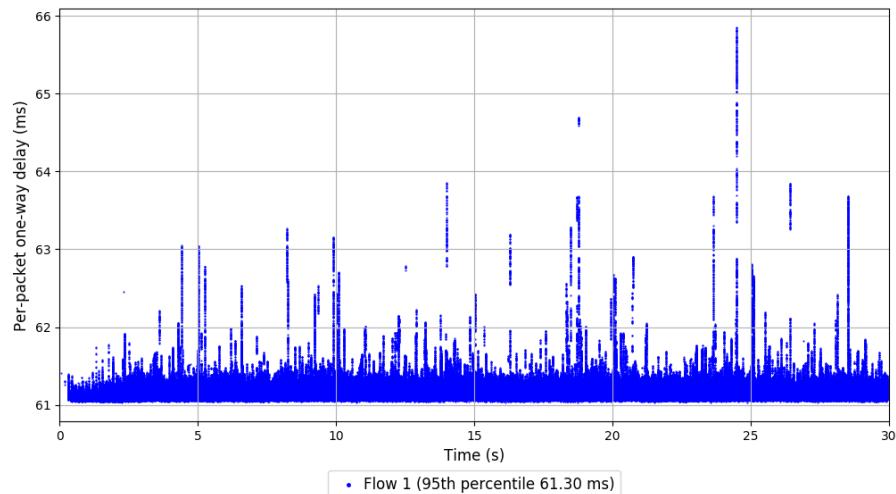
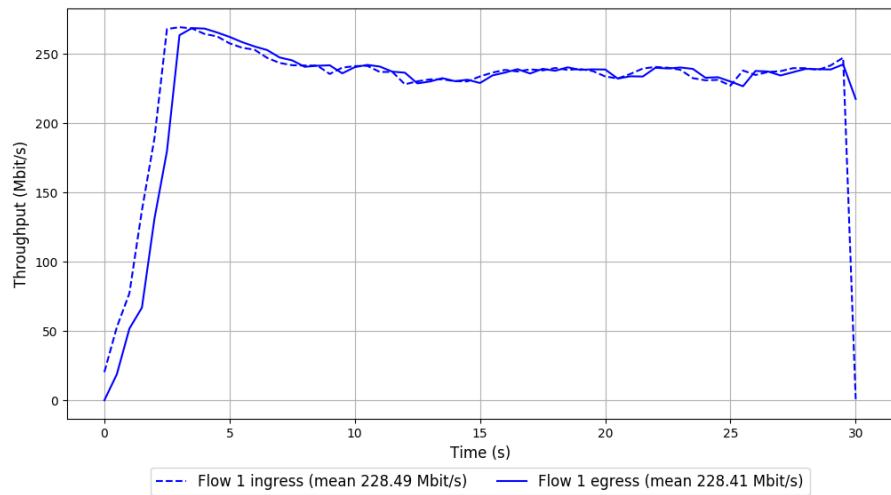


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-09-07 19:14:47
End at: 2018-09-07 19:15:17
Local clock offset: -0.016 ms
Remote clock offset: -0.15 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 228.41 Mbit/s
95th percentile per-packet one-way delay: 61.298 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 228.41 Mbit/s
95th percentile per-packet one-way delay: 61.298 ms
Loss rate: 0.44%
```

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

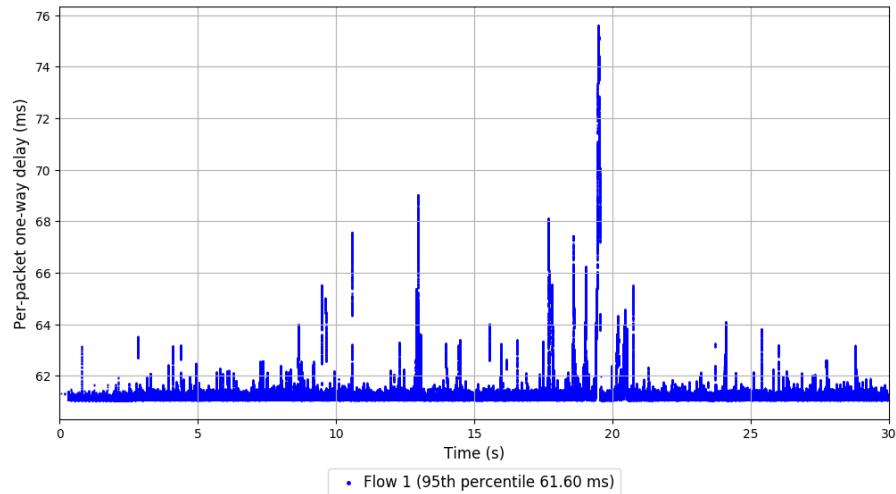
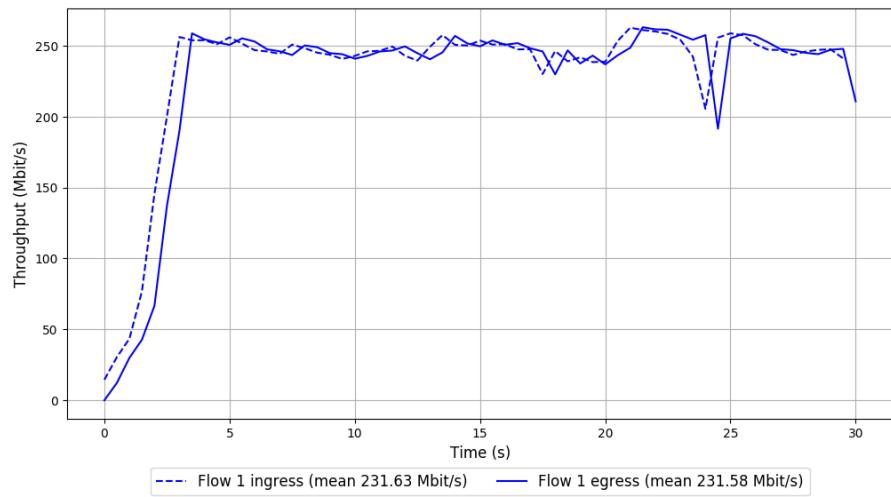


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-09-07 19:40:53
End at: 2018-09-07 19:41:23
Local clock offset: 0.0 ms
Remote clock offset: -0.04 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 231.58 Mbit/s
95th percentile per-packet one-way delay: 61.605 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 231.58 Mbit/s
95th percentile per-packet one-way delay: 61.605 ms
Loss rate: 0.43%
```

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

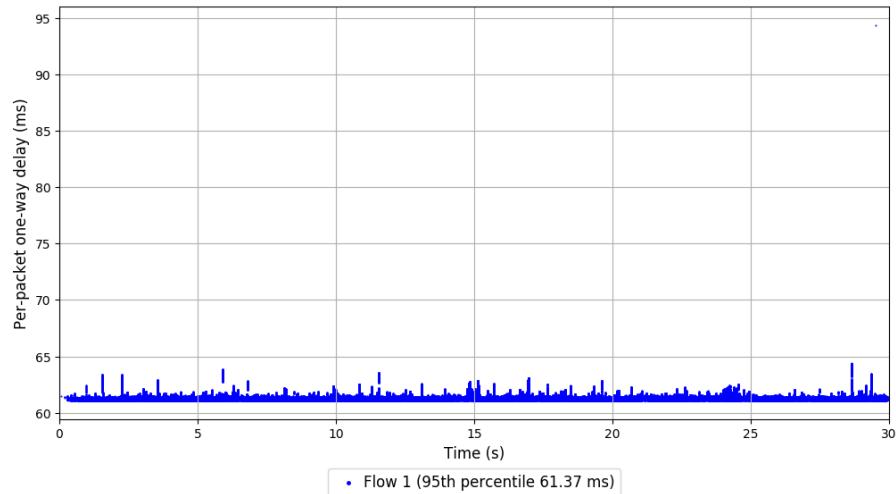
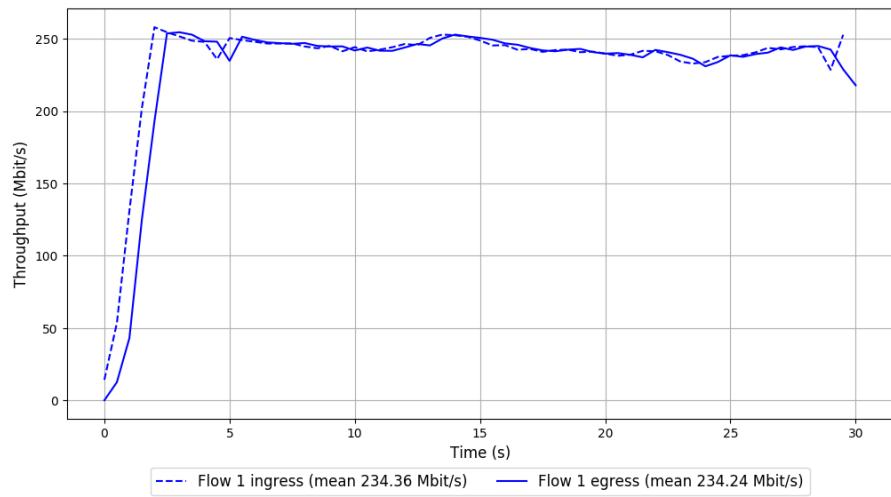


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-09-07 20:07:17
End at: 2018-09-07 20:07:47
Local clock offset: 0.004 ms
Remote clock offset: -0.166 ms

# Below is generated by plot.py at 2018-09-07 21:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 234.24 Mbit/s
95th percentile per-packet one-way delay: 61.373 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 234.24 Mbit/s
95th percentile per-packet one-way delay: 61.373 ms
Loss rate: 0.46%
```

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

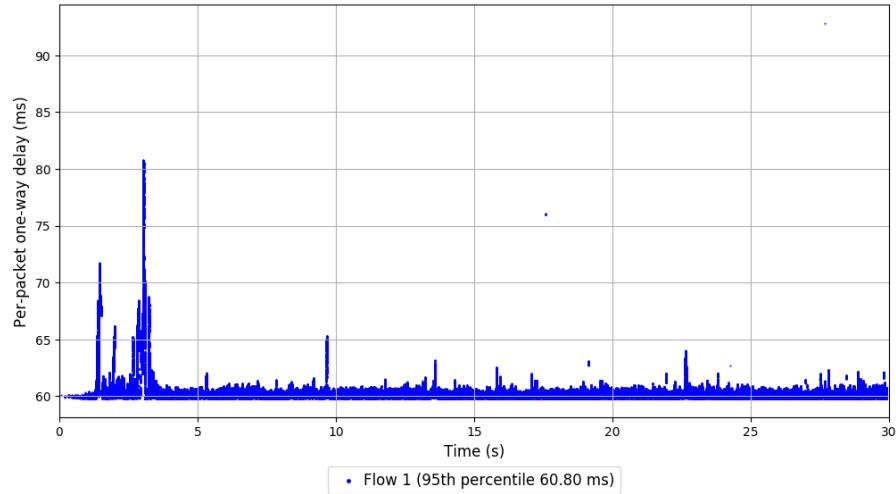
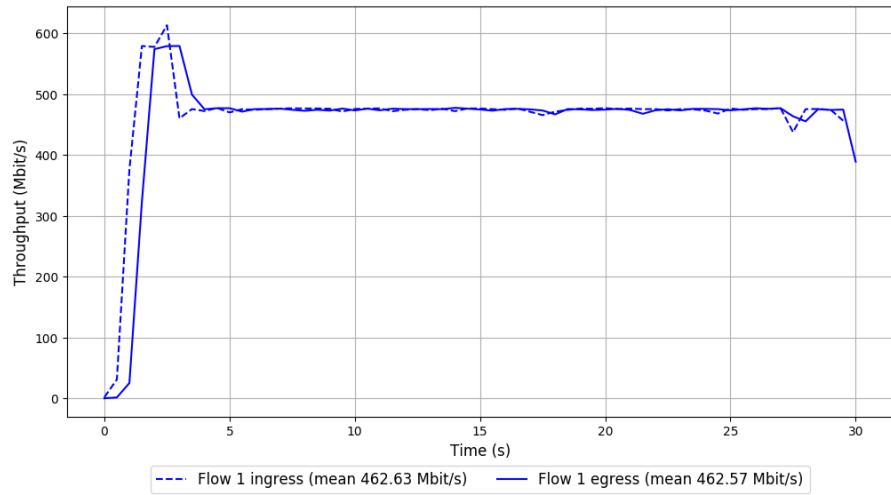


Run 1: Statistics of TCP Vegas

```
Start at: 2018-09-07 18:18:28
End at: 2018-09-07 18:18:58
Local clock offset: -0.101 ms
Remote clock offset: 1.174 ms

# Below is generated by plot.py at 2018-09-07 21:39:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 462.57 Mbit/s
95th percentile per-packet one-way delay: 60.795 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 462.57 Mbit/s
95th percentile per-packet one-way delay: 60.795 ms
Loss rate: 0.42%
```

Run 1: Report of TCP Vegas — Data Link

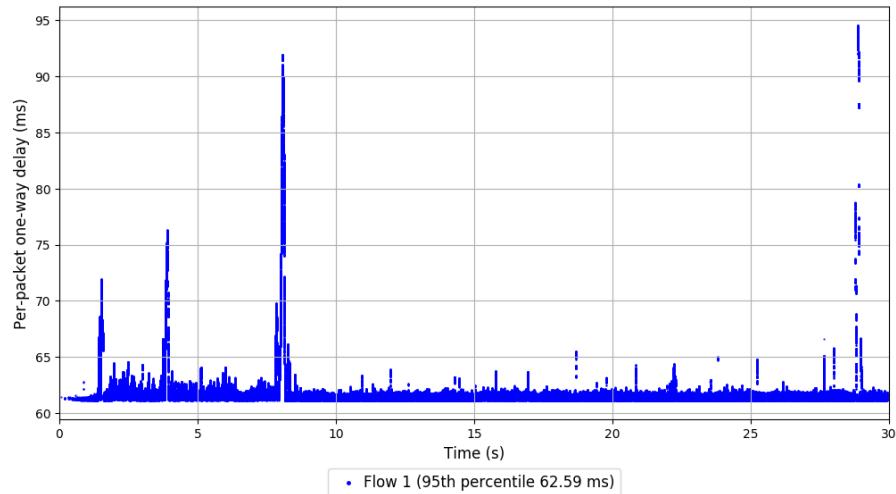
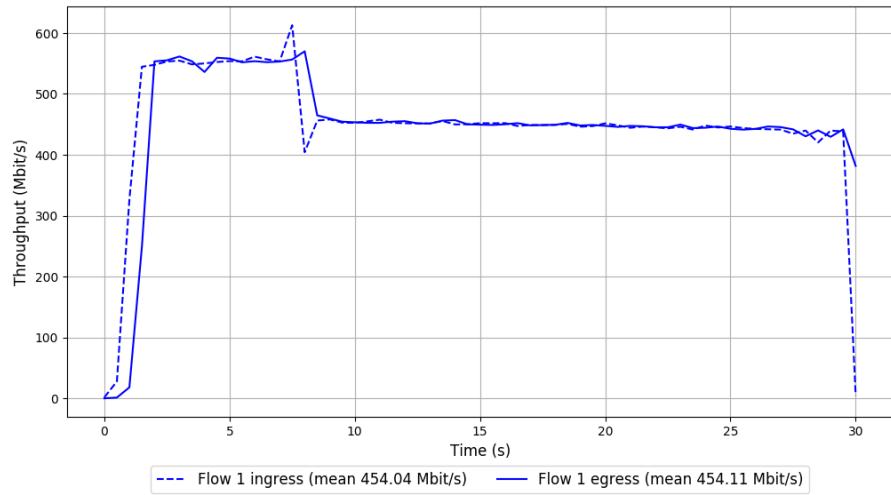


Run 2: Statistics of TCP Vegas

```
Start at: 2018-09-07 18:44:45
End at: 2018-09-07 18:45:15
Local clock offset: -0.029 ms
Remote clock offset: -0.193 ms

# Below is generated by plot.py at 2018-09-07 21:39:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 454.11 Mbit/s
95th percentile per-packet one-way delay: 62.587 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 454.11 Mbit/s
95th percentile per-packet one-way delay: 62.587 ms
Loss rate: 0.39%
```

Run 2: Report of TCP Vegas — Data Link

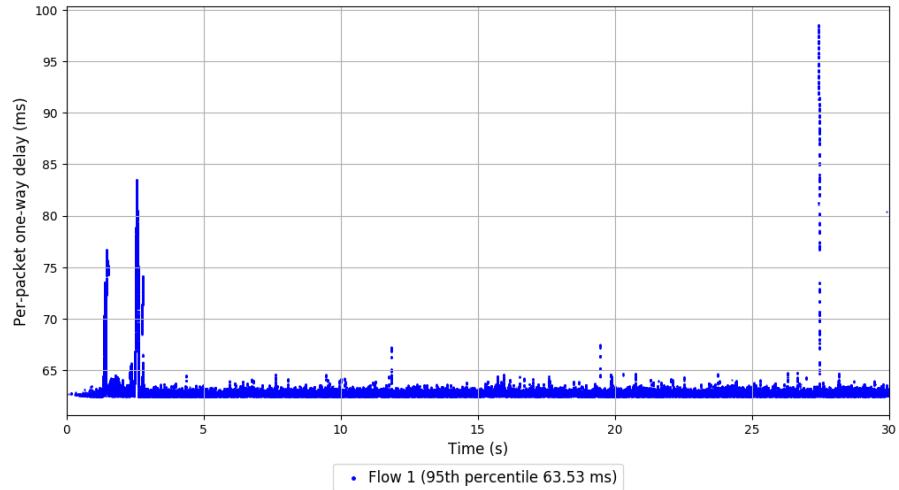
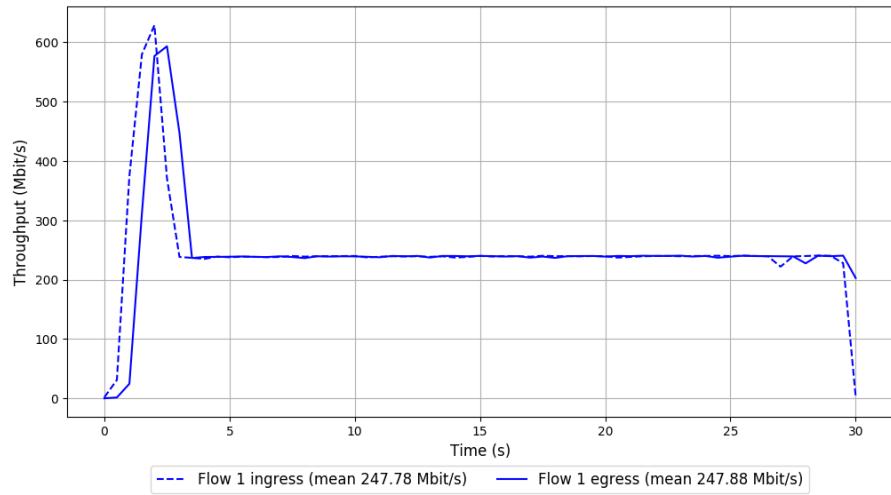


Run 3: Statistics of TCP Vegas

```
Start at: 2018-09-07 19:10:55
End at: 2018-09-07 19:11:25
Local clock offset: -0.028 ms
Remote clock offset: -1.438 ms

# Below is generated by plot.py at 2018-09-07 21:39:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 247.88 Mbit/s
95th percentile per-packet one-way delay: 63.532 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 247.88 Mbit/s
95th percentile per-packet one-way delay: 63.532 ms
Loss rate: 0.37%
```

Run 3: Report of TCP Vegas — Data Link

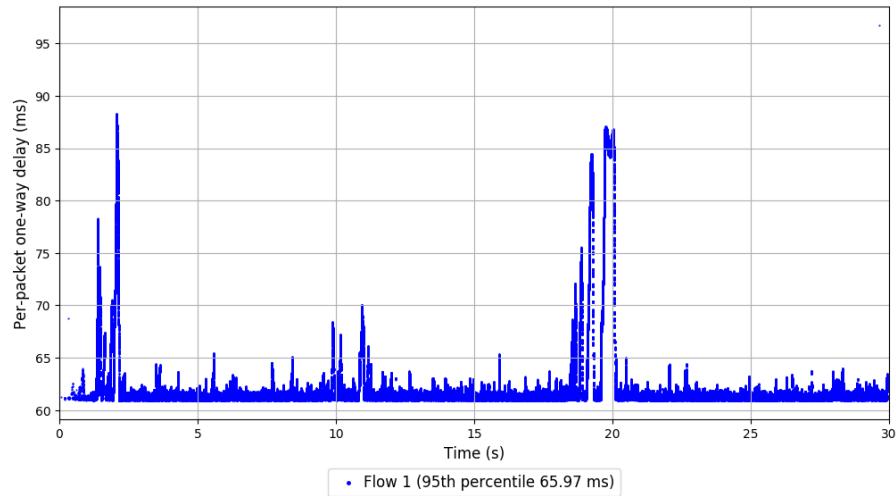
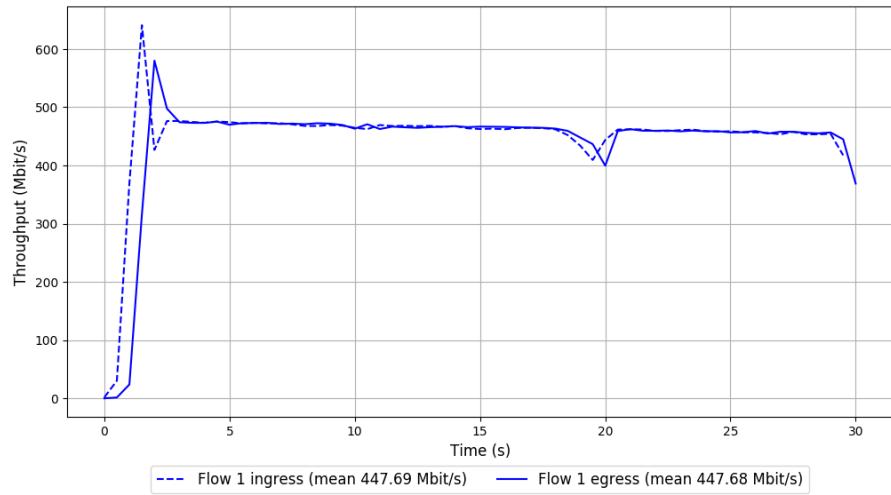


Run 4: Statistics of TCP Vegas

```
Start at: 2018-09-07 19:36:51
End at: 2018-09-07 19:37:21
Local clock offset: -0.002 ms
Remote clock offset: -0.002 ms

# Below is generated by plot.py at 2018-09-07 21:43:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 447.68 Mbit/s
95th percentile per-packet one-way delay: 65.969 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 447.68 Mbit/s
95th percentile per-packet one-way delay: 65.969 ms
Loss rate: 0.41%
```

Run 4: Report of TCP Vegas — Data Link

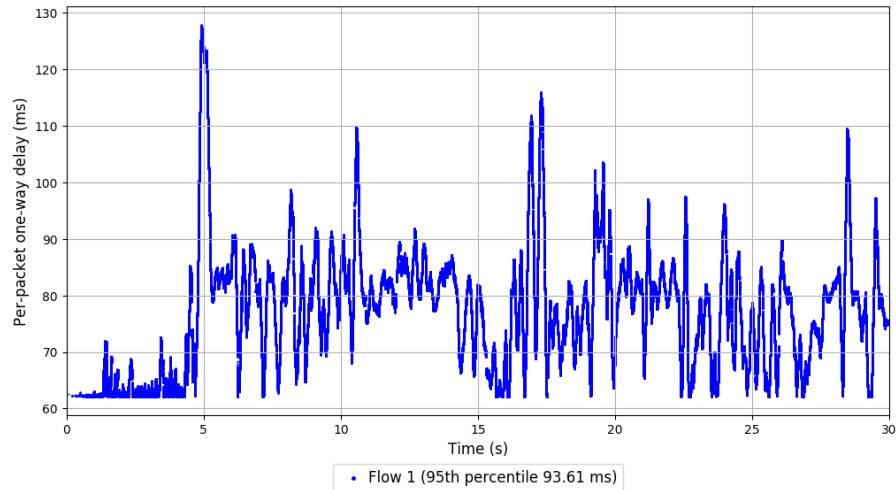
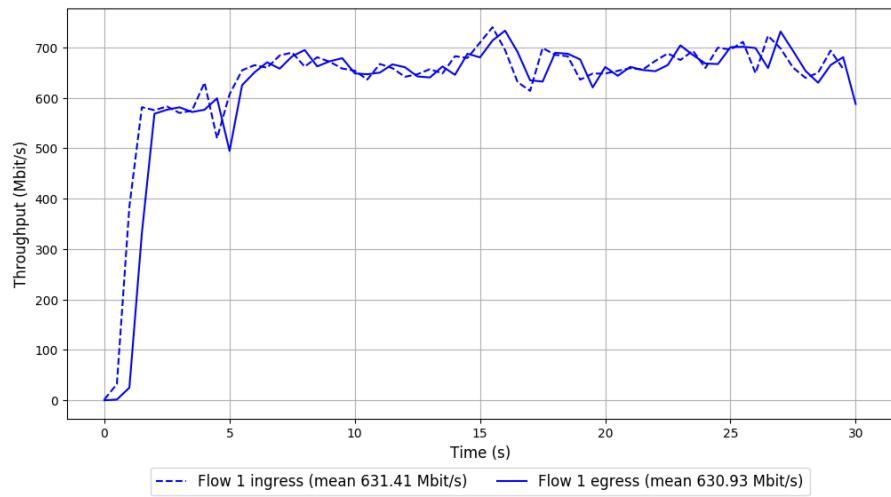


Run 5: Statistics of TCP Vegas

```
Start at: 2018-09-07 20:03:07
End at: 2018-09-07 20:03:37
Local clock offset: 0.028 ms
Remote clock offset: -1.136 ms

# Below is generated by plot.py at 2018-09-07 21:46:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 630.93 Mbit/s
95th percentile per-packet one-way delay: 93.610 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 630.93 Mbit/s
95th percentile per-packet one-way delay: 93.610 ms
Loss rate: 0.48%
```

Run 5: Report of TCP Vegas — Data Link

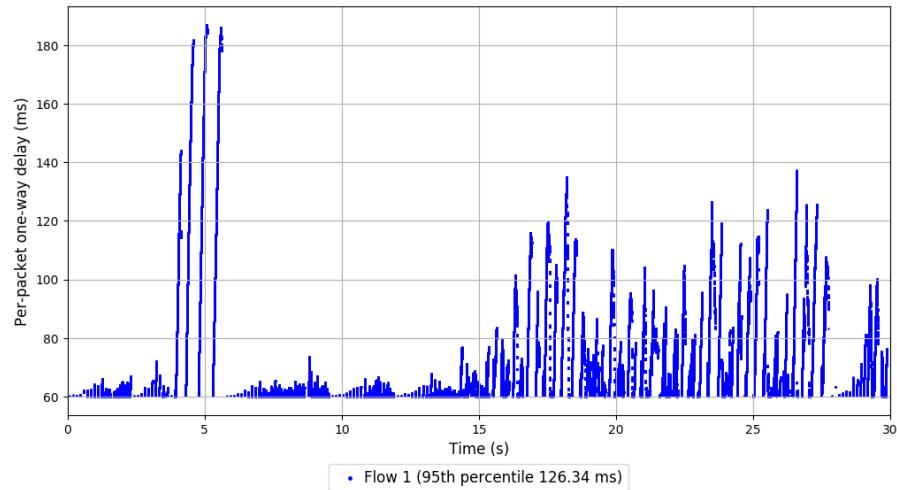
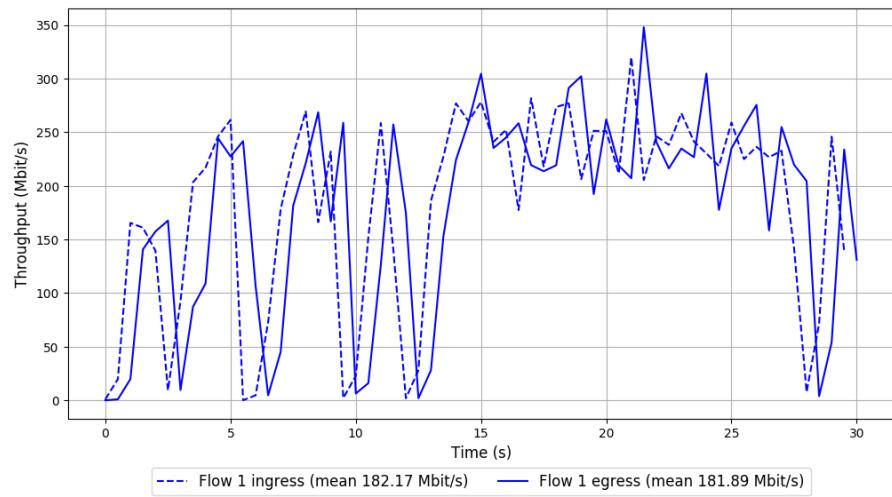


Run 1: Statistics of Verus

```
Start at: 2018-09-07 18:19:58
End at: 2018-09-07 18:20:28
Local clock offset: -0.085 ms
Remote clock offset: 0.871 ms

# Below is generated by plot.py at 2018-09-07 21:46:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 181.89 Mbit/s
95th percentile per-packet one-way delay: 126.341 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 181.89 Mbit/s
95th percentile per-packet one-way delay: 126.341 ms
Loss rate: 0.43%
```

Run 1: Report of Verus — Data Link

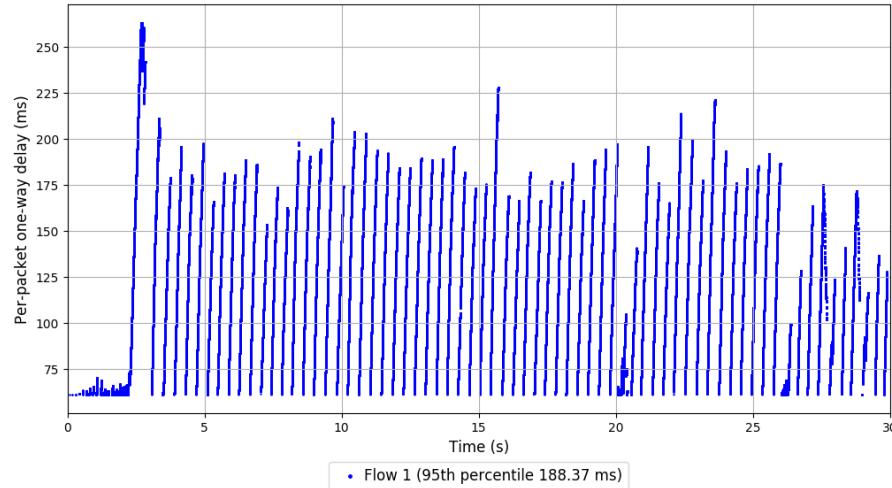
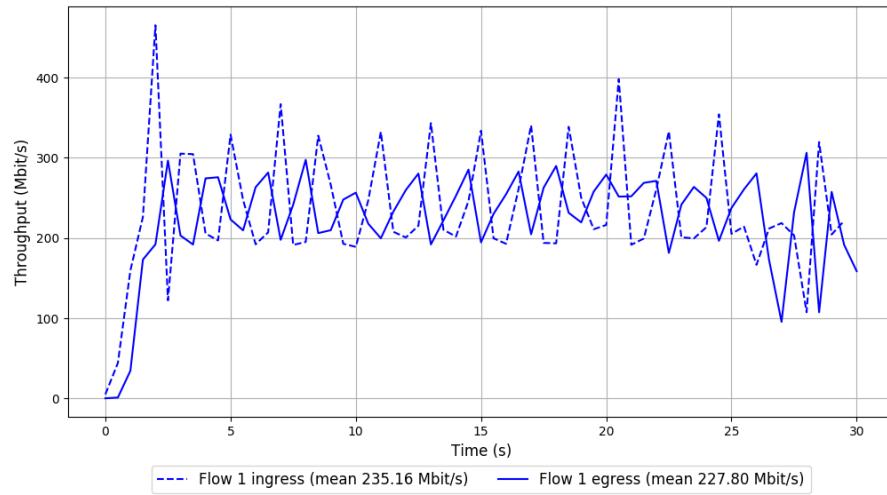


Run 2: Statistics of Verus

```
Start at: 2018-09-07 18:46:14
End at: 2018-09-07 18:46:44
Local clock offset: -0.056 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2018-09-07 21:46:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 227.80 Mbit/s
95th percentile per-packet one-way delay: 188.372 ms
Loss rate: 3.52%
-- Flow 1:
Average throughput: 227.80 Mbit/s
95th percentile per-packet one-way delay: 188.372 ms
Loss rate: 3.52%
```

Run 2: Report of Verus — Data Link

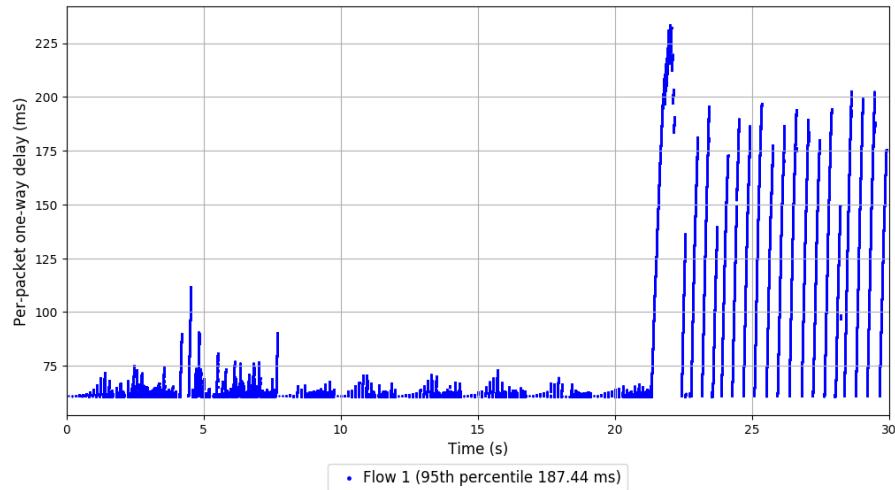
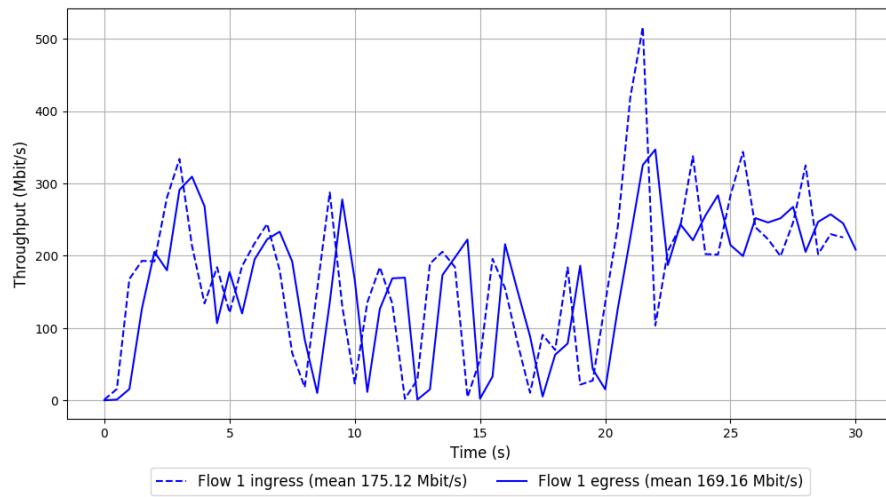


Run 3: Statistics of Verus

```
Start at: 2018-09-07 19:12:14
End at: 2018-09-07 19:12:44
Local clock offset: -0.029 ms
Remote clock offset: 0.174 ms

# Below is generated by plot.py at 2018-09-07 21:46:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 169.16 Mbit/s
95th percentile per-packet one-way delay: 187.444 ms
Loss rate: 3.08%
-- Flow 1:
Average throughput: 169.16 Mbit/s
95th percentile per-packet one-way delay: 187.444 ms
Loss rate: 3.08%
```

Run 3: Report of Verus — Data Link

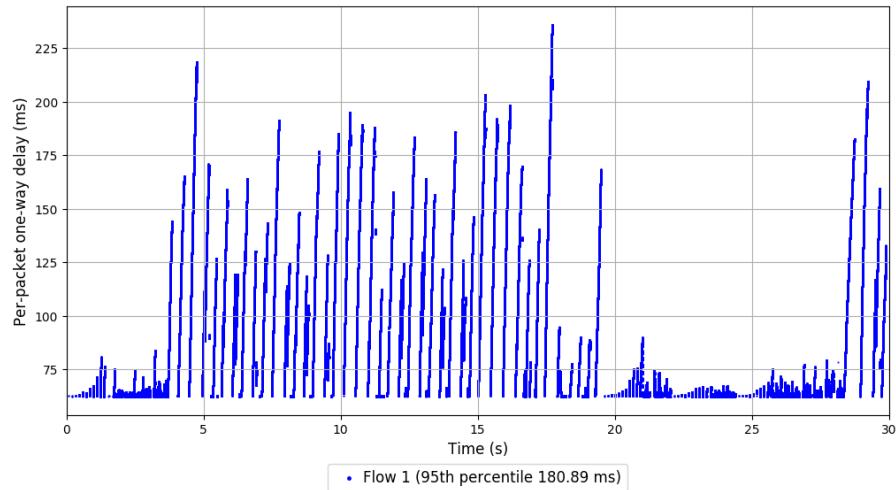
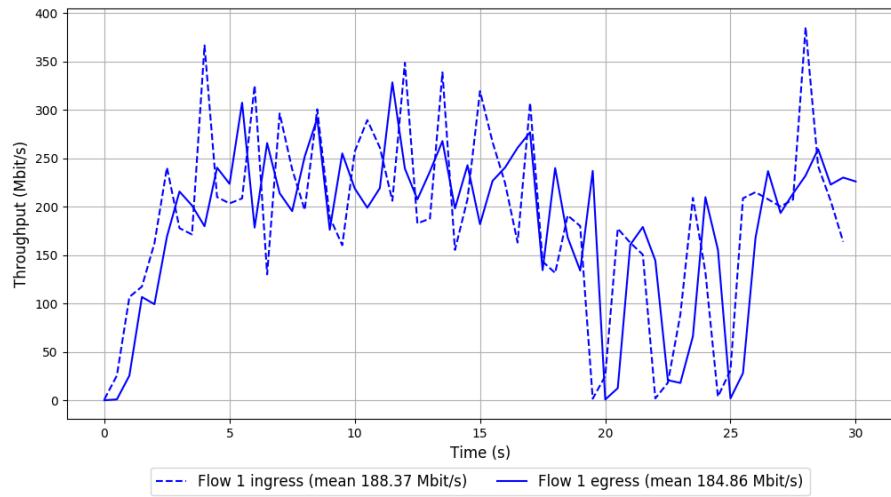


Run 4: Statistics of Verus

```
Start at: 2018-09-07 19:38:20
End at: 2018-09-07 19:38:50
Local clock offset: 0.012 ms
Remote clock offset: -1.29 ms

# Below is generated by plot.py at 2018-09-07 21:46:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 184.86 Mbit/s
95th percentile per-packet one-way delay: 180.891 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 184.86 Mbit/s
95th percentile per-packet one-way delay: 180.891 ms
Loss rate: 1.72%
```

Run 4: Report of Verus — Data Link

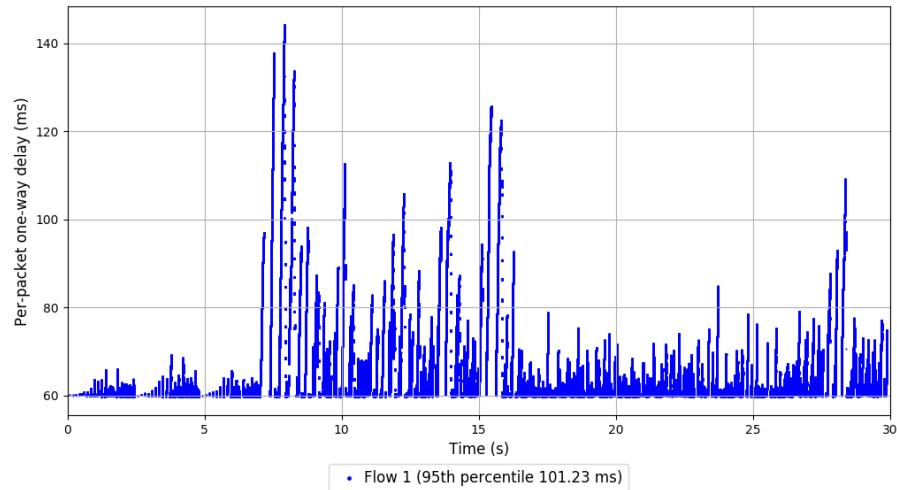
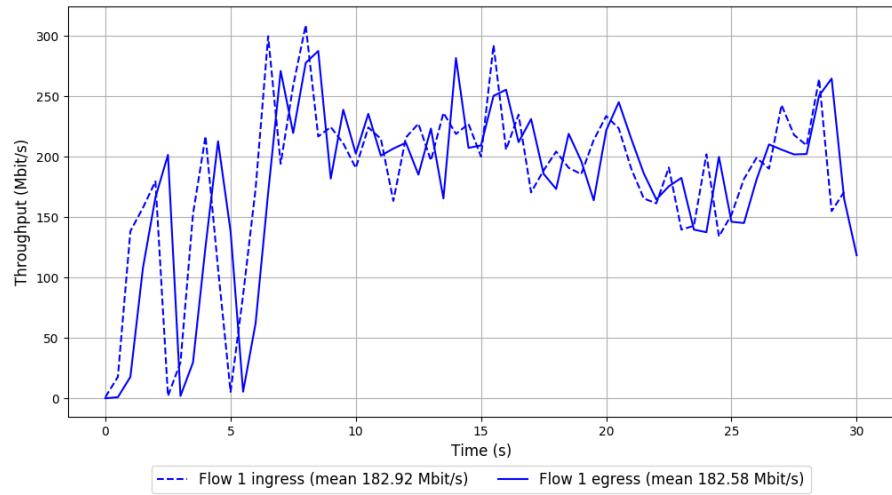


Run 5: Statistics of Verus

```
Start at: 2018-09-07 20:04:44
End at: 2018-09-07 20:05:14
Local clock offset: 0.001 ms
Remote clock offset: 1.16 ms

# Below is generated by plot.py at 2018-09-07 21:46:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 182.58 Mbit/s
95th percentile per-packet one-way delay: 101.235 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 182.58 Mbit/s
95th percentile per-packet one-way delay: 101.235 ms
Loss rate: 0.52%
```

Run 5: Report of Verus — Data Link

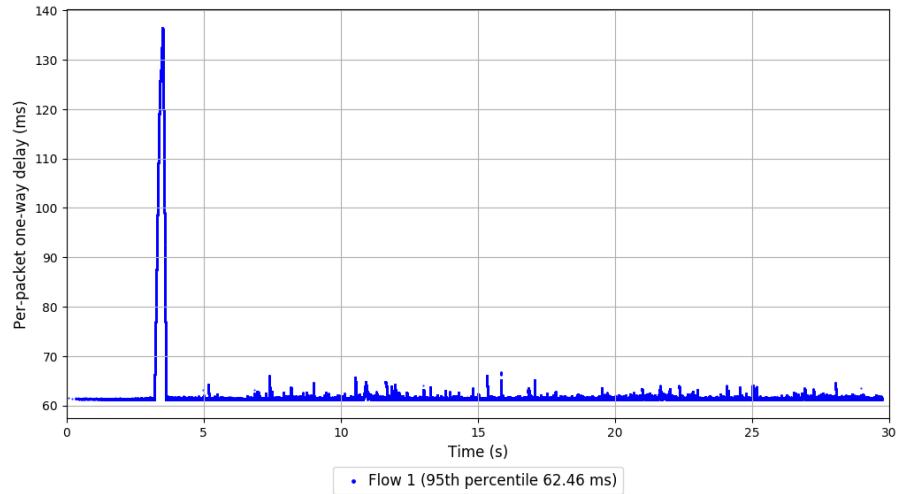
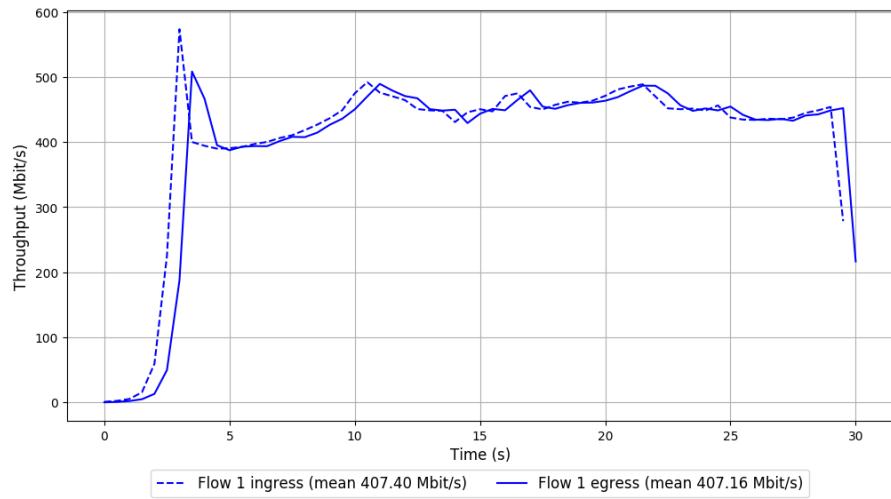


Run 1: Statistics of PCC-Vivace

```
Start at: 2018-09-07 18:15:18
End at: 2018-09-07 18:15:48
Local clock offset: -0.079 ms
Remote clock offset: -0.185 ms

# Below is generated by plot.py at 2018-09-07 21:46:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 407.16 Mbit/s
95th percentile per-packet one-way delay: 62.461 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 407.16 Mbit/s
95th percentile per-packet one-way delay: 62.461 ms
Loss rate: 0.49%
```

Run 1: Report of PCC-Vivace — Data Link

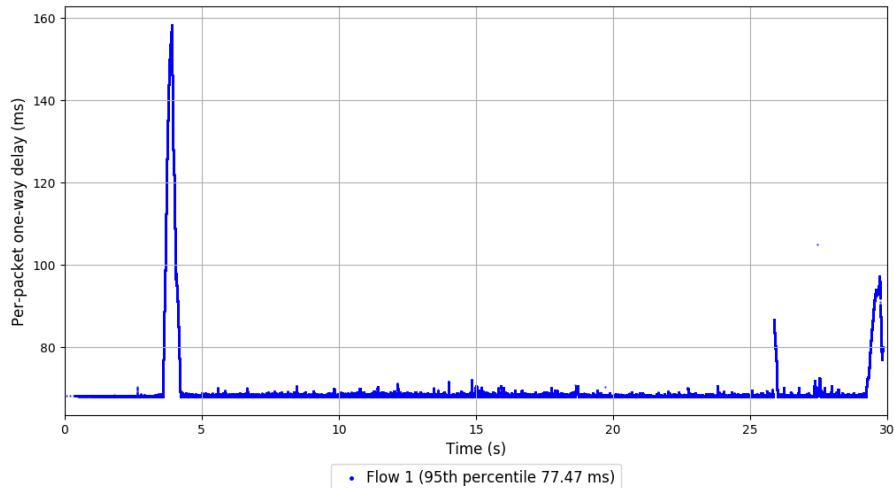
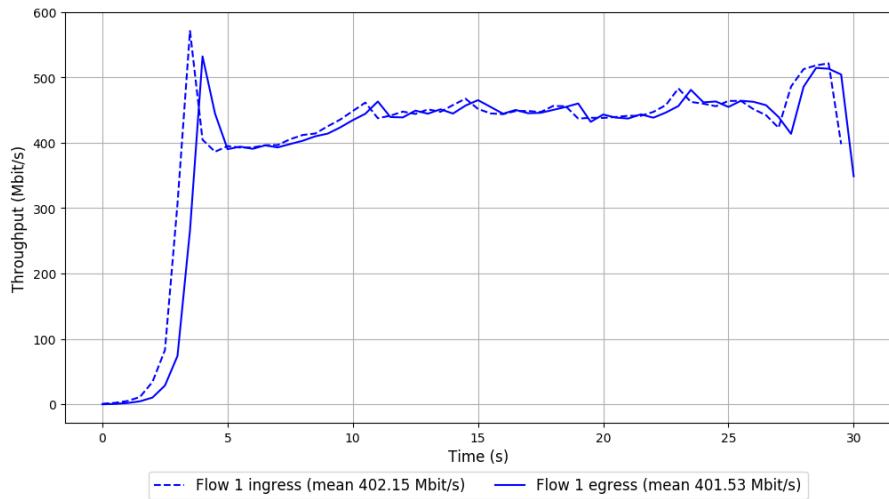


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-09-07 18:41:36
End at: 2018-09-07 18:42:06
Local clock offset: -0.004 ms
Remote clock offset: -1.509 ms

# Below is generated by plot.py at 2018-09-07 21:48:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 401.53 Mbit/s
95th percentile per-packet one-way delay: 77.471 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 401.53 Mbit/s
95th percentile per-packet one-way delay: 77.471 ms
Loss rate: 0.58%
```

Run 2: Report of PCC-Vivace — Data Link

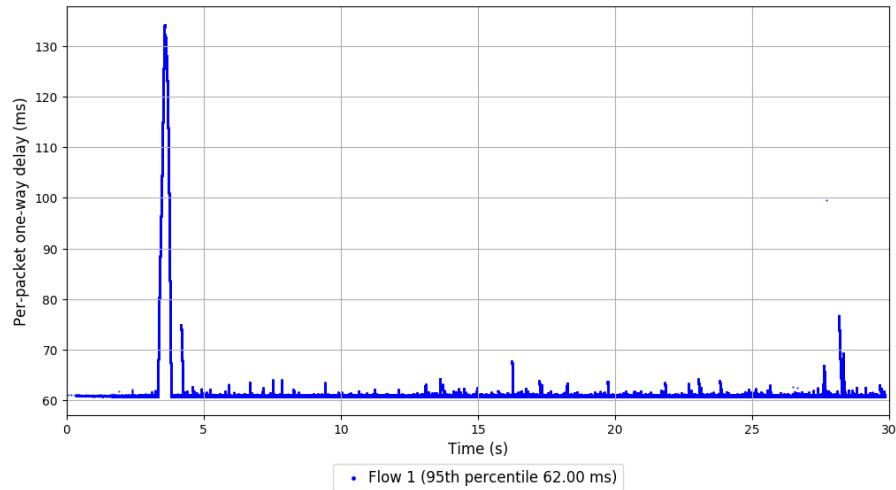
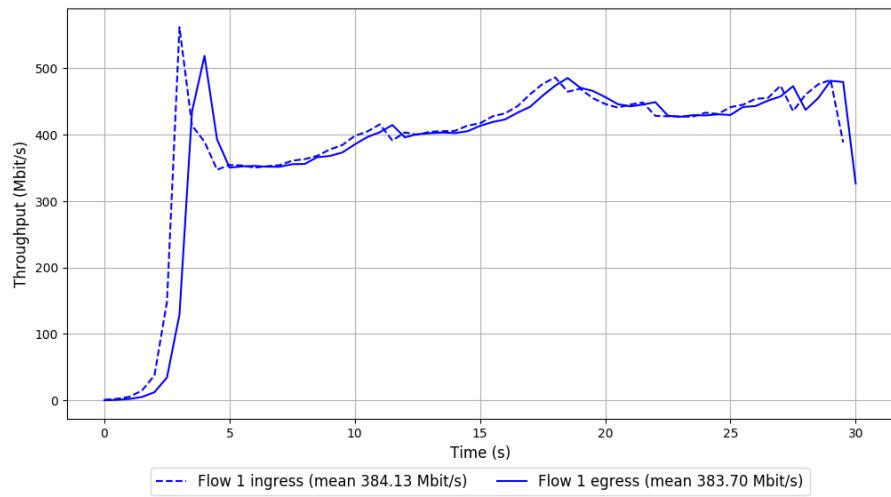


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-09-07 19:07:47
End at: 2018-09-07 19:08:17
Local clock offset: -0.073 ms
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2018-09-07 21:48:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 383.70 Mbit/s
95th percentile per-packet one-way delay: 61.997 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 383.70 Mbit/s
95th percentile per-packet one-way delay: 61.997 ms
Loss rate: 0.52%
```

Run 3: Report of PCC-Vivace — Data Link

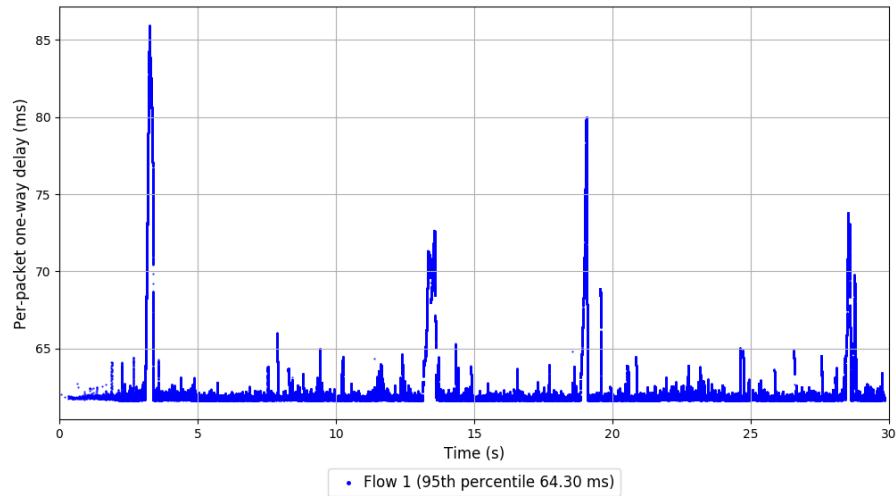
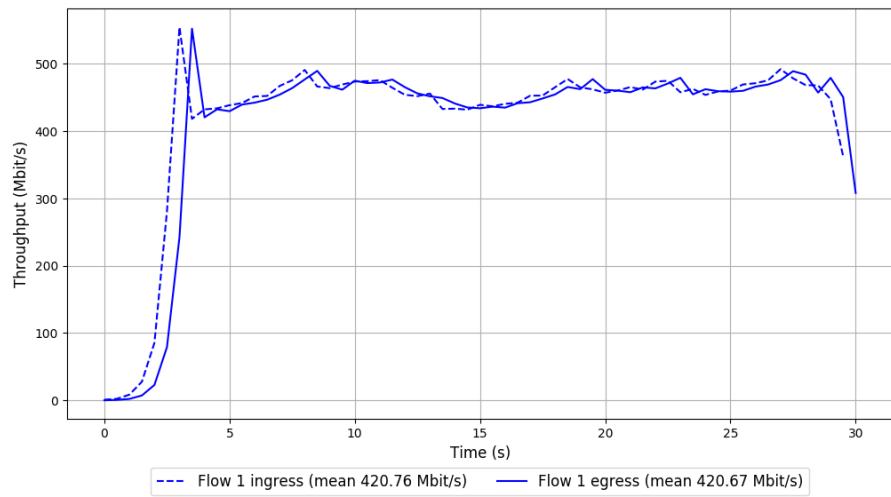


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-09-07 19:33:39
End at: 2018-09-07 19:34:09
Local clock offset: -0.098 ms
Remote clock offset: -0.788 ms

# Below is generated by plot.py at 2018-09-07 21:48:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 420.67 Mbit/s
95th percentile per-packet one-way delay: 64.295 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 420.67 Mbit/s
95th percentile per-packet one-way delay: 64.295 ms
Loss rate: 0.43%
```

Run 4: Report of PCC-Vivace — Data Link

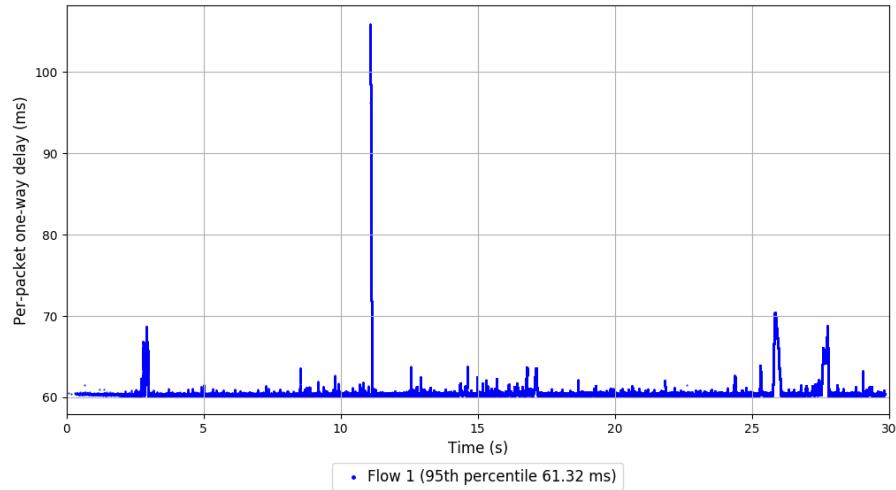
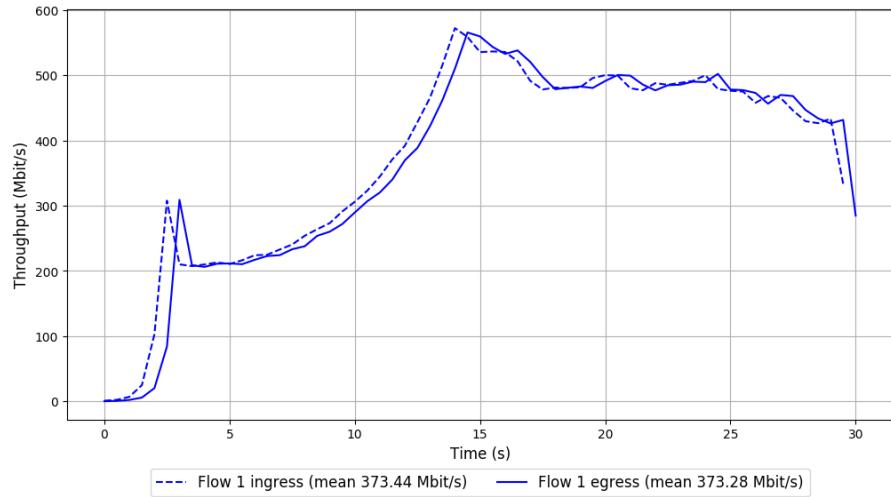


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-09-07 20:00:01
End at: 2018-09-07 20:00:31
Local clock offset: 0.009 ms
Remote clock offset: 0.629 ms

# Below is generated by plot.py at 2018-09-07 21:48:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 373.28 Mbit/s
95th percentile per-packet one-way delay: 61.323 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 373.28 Mbit/s
95th percentile per-packet one-way delay: 61.323 ms
Loss rate: 0.45%
```

Run 5: Report of PCC-Vivace — Data Link

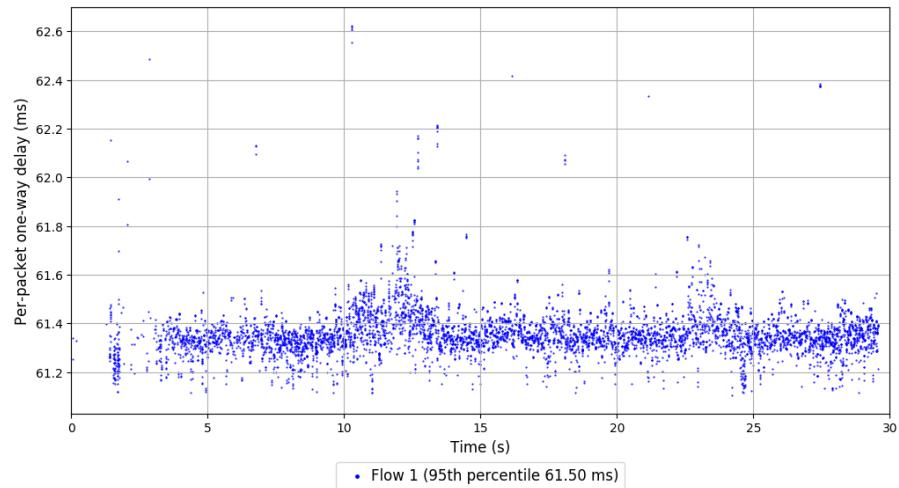
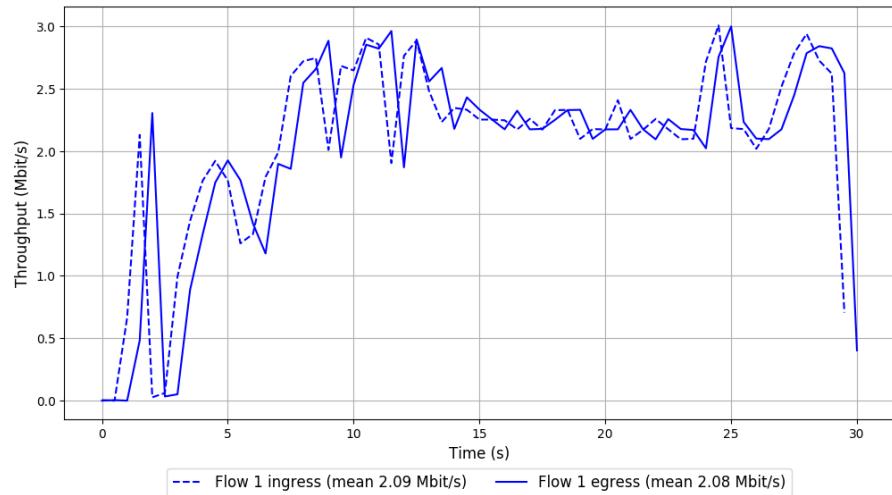


```
Run 1: Statistics of WebRTC media

Start at: 2018-09-07 18:12:48
End at: 2018-09-07 18:13:18
Local clock offset: -0.134 ms
Remote clock offset: -0.242 ms

# Below is generated by plot.py at 2018-09-07 21:48:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 61.503 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 61.503 ms
Loss rate: 0.49%
```

Run 1: Report of WebRTC media — Data Link

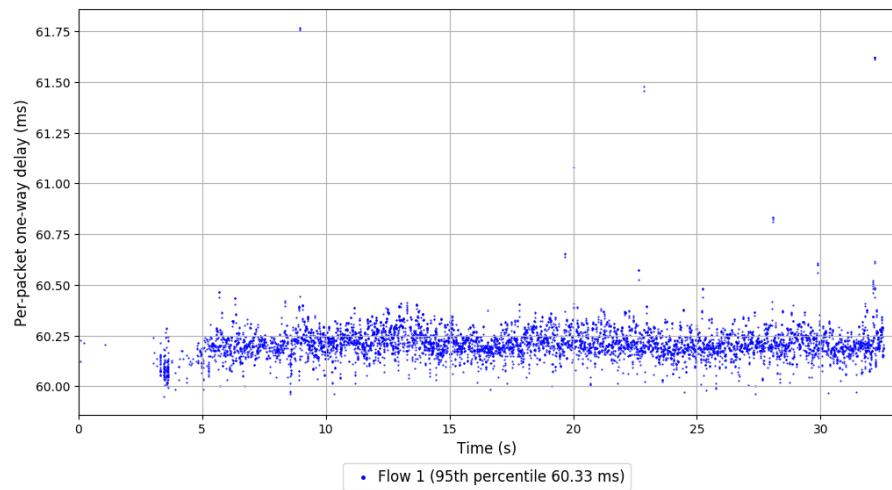
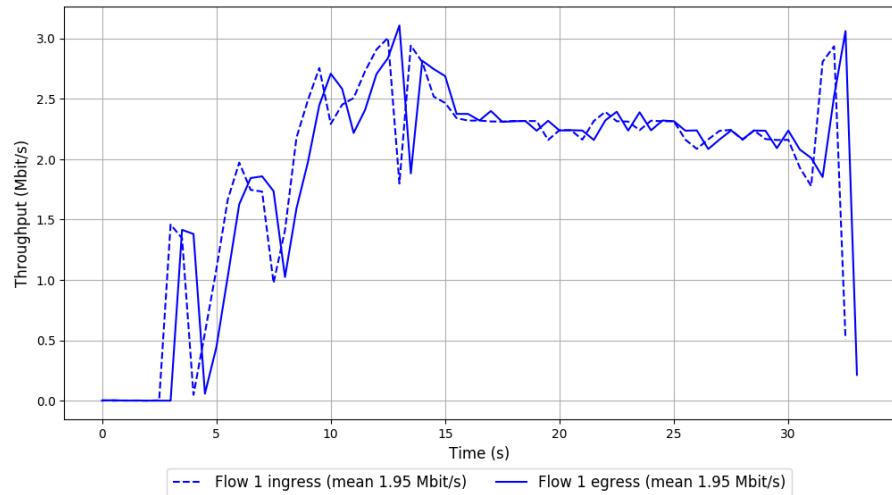


Run 2: Statistics of WebRTC media

```
Start at: 2018-09-07 18:39:01
End at: 2018-09-07 18:39:31
Local clock offset: -0.046 ms
Remote clock offset: 0.933 ms

# Below is generated by plot.py at 2018-09-07 21:48:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 60.326 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 60.326 ms
Loss rate: 0.48%
```

Run 2: Report of WebRTC media — Data Link

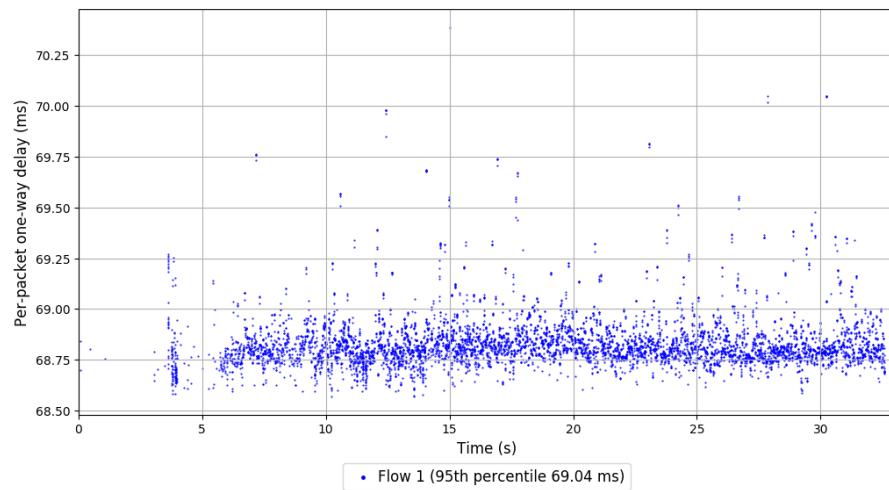
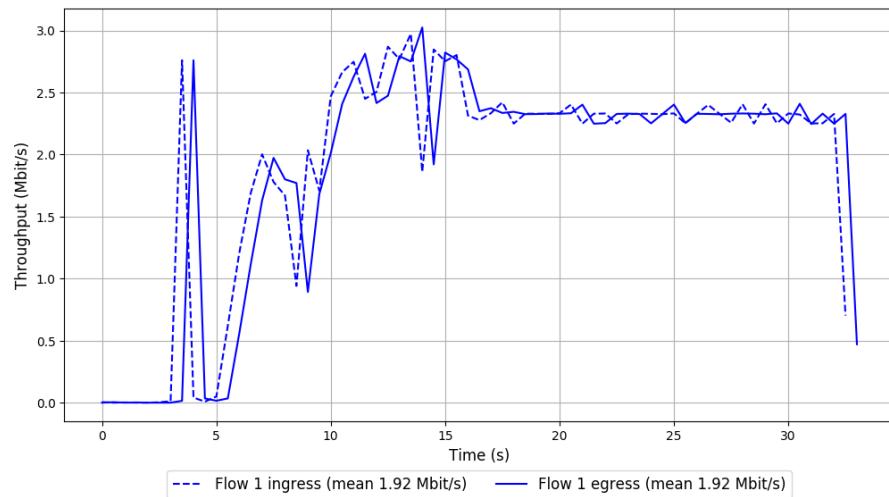


Run 3: Statistics of WebRTC media

```
Start at: 2018-09-07 19:05:12
End at: 2018-09-07 19:05:42
Local clock offset: -0.006 ms
Remote clock offset: -1.522 ms

# Below is generated by plot.py at 2018-09-07 21:48:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 69.043 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 1.92 Mbit/s
95th percentile per-packet one-way delay: 69.043 ms
Loss rate: 0.43%
```

Run 3: Report of WebRTC media — Data Link

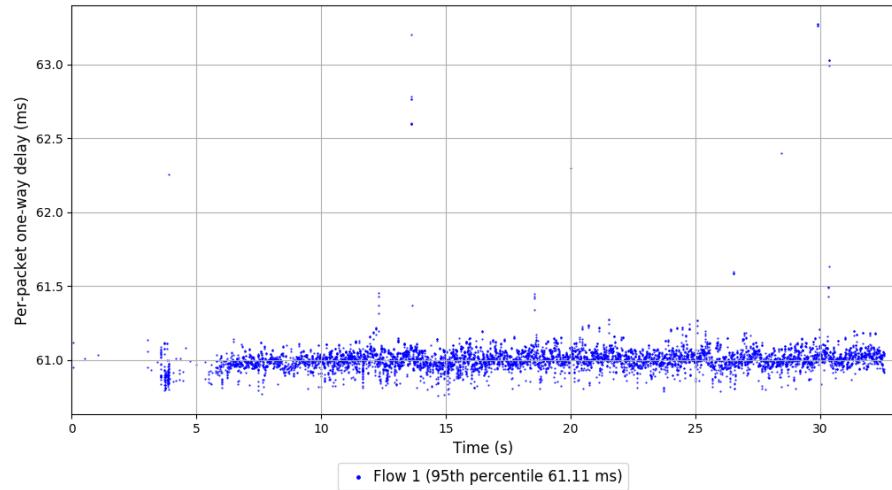
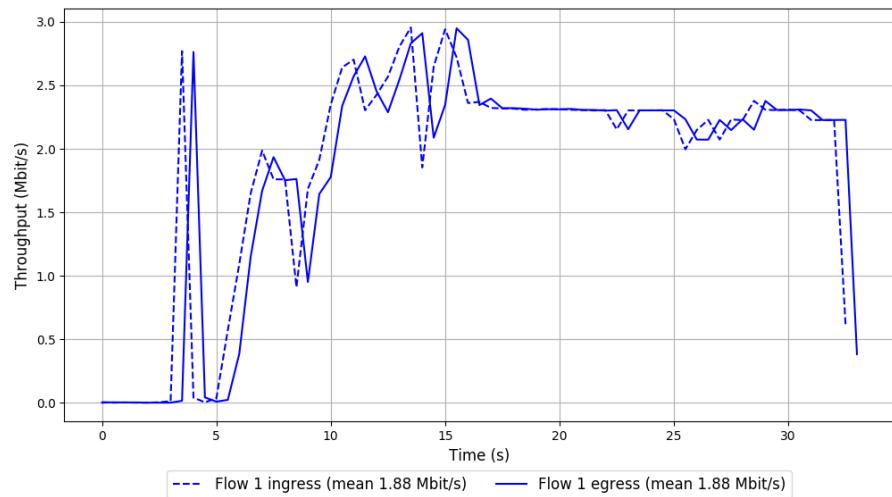


Run 4: Statistics of WebRTC media

```
Start at: 2018-09-07 19:31:04
End at: 2018-09-07 19:31:34
Local clock offset: -0.026 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2018-09-07 21:48:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 61.109 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 61.109 ms
Loss rate: 0.44%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-09-07 19:57:26
End at: 2018-09-07 19:57:56
Local clock offset: 0.002 ms
Remote clock offset: -1.355 ms

# Below is generated by plot.py at 2018-09-07 21:48:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 62.833 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 62.833 ms
Loss rate: 0.50%
```

Run 5: Report of WebRTC media — Data Link

