

Pantheon Report

Generated at 2019-03-19 00:44:56 (UTC).
Data path: AWS Korea on `ens5` (*local*) → China on `eno1` (*remote*).
Repeated the test of 21 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against `ntp.nict.jp` and have been applied to correct the timestamps in logs.

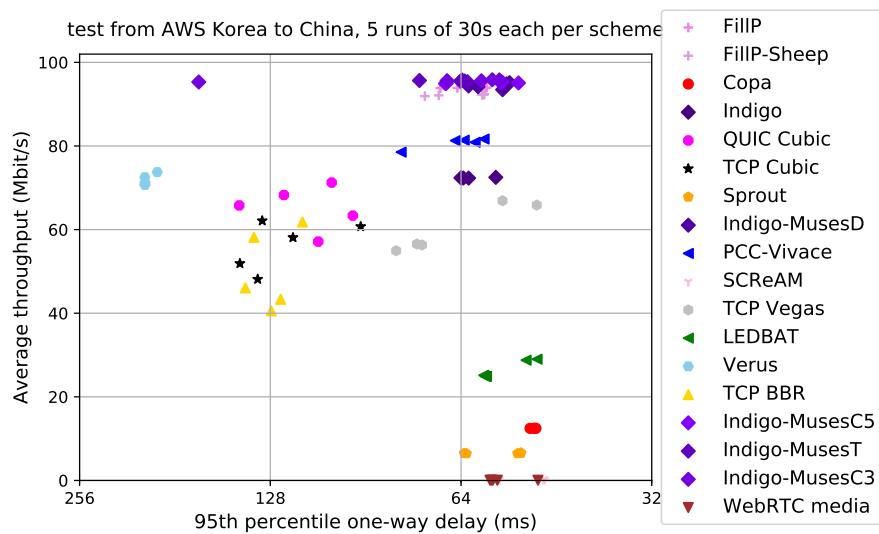
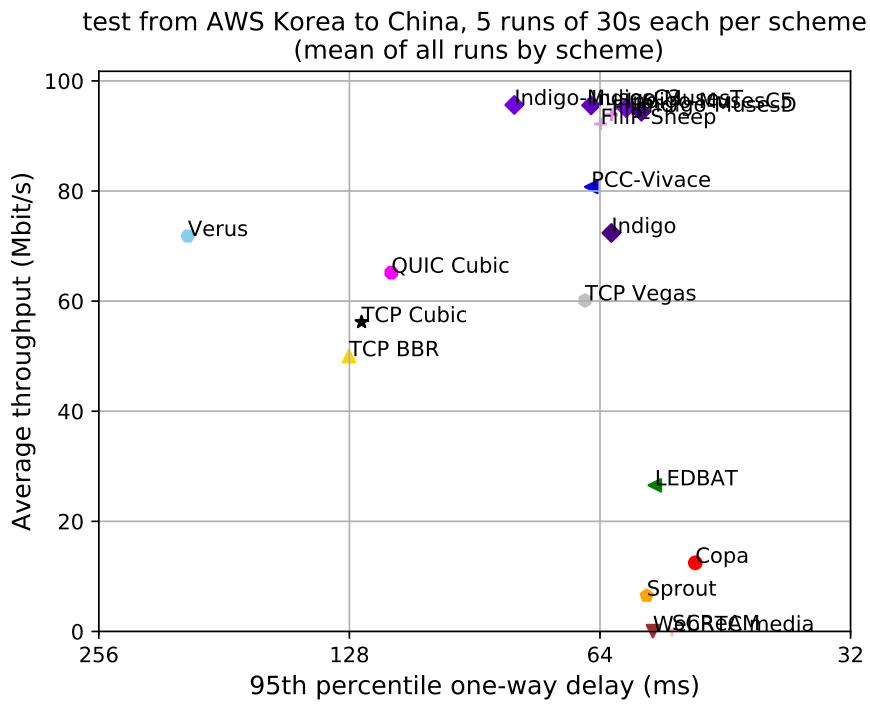
System info:

```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fce56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fc45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
```

third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851



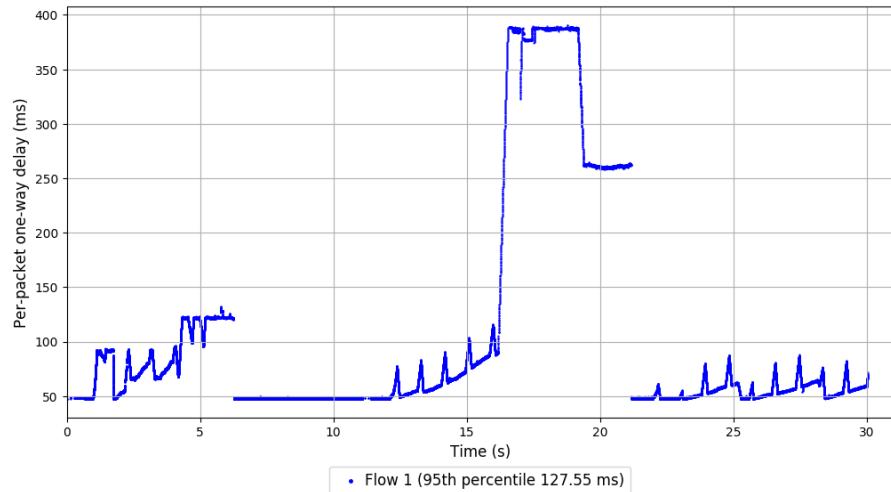
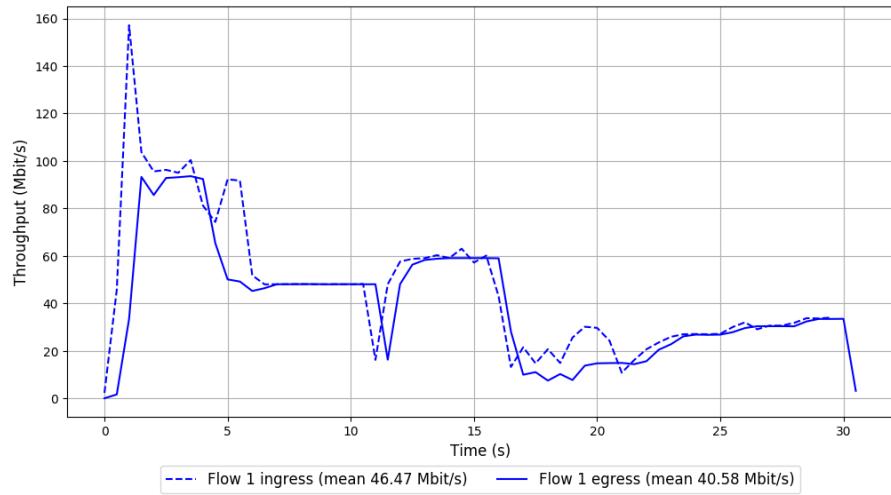
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	49.99	128.14	10.67
Copa	4	12.47	49.17	60.72
TCP Cubic	5	56.19	123.77	1.08
FillP	5	93.85	61.98	0.62
FillP-Sheep	5	92.18	63.91	0.64
Indigo	5	72.38	62.01	7.57
Indigo-MusesC3	5	95.64	81.11	0.09
Indigo-MusesC5	5	95.08	59.54	0.00
Indigo-MusesD	5	94.40	57.07	0.00
Indigo-MusesT	5	95.57	65.59	0.79
LEDBAT	5	26.54	55.00	0.00
PCC-Allegro	0	N/A	N/A	N/A
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	65.16	113.98	0.00
SCReAM	5	0.22	52.44	0.00
Sprout	5	6.50	56.24	0.00
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	60.12	66.71	0.67
Verus	5	71.83	200.13	14.44
PCC-Vivace	5	80.75	65.57	0.00
WebRTC media	5	0.05	55.29	0.00

Run 1: Statistics of TCP BBR

```
Start at: 2019-03-18 19:33:40
End at: 2019-03-18 19:34:10
Local clock offset: -9.45 ms
Remote clock offset: -17.883 ms

# Below is generated by plot.py at 2019-03-19 00:36:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.58 Mbit/s
95th percentile per-packet one-way delay: 127.554 ms
Loss rate: 12.65%
-- Flow 1:
Average throughput: 40.58 Mbit/s
95th percentile per-packet one-way delay: 127.554 ms
Loss rate: 12.65%
```

Run 1: Report of TCP BBR — Data Link

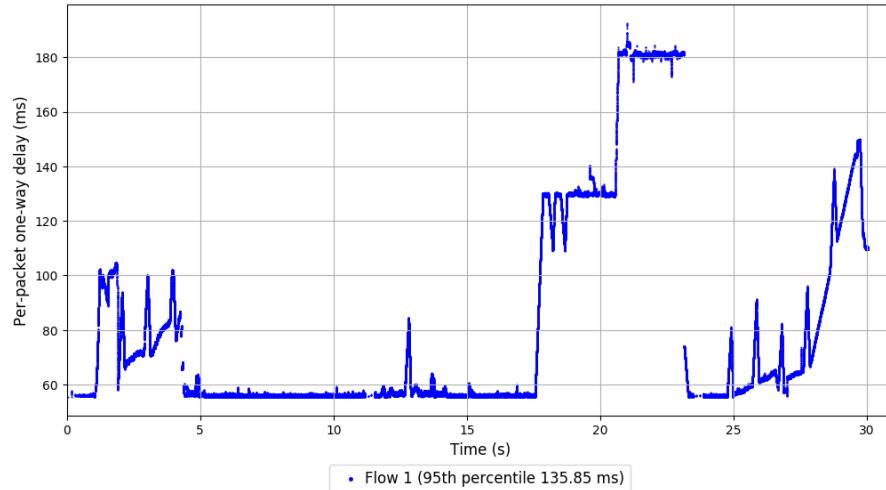
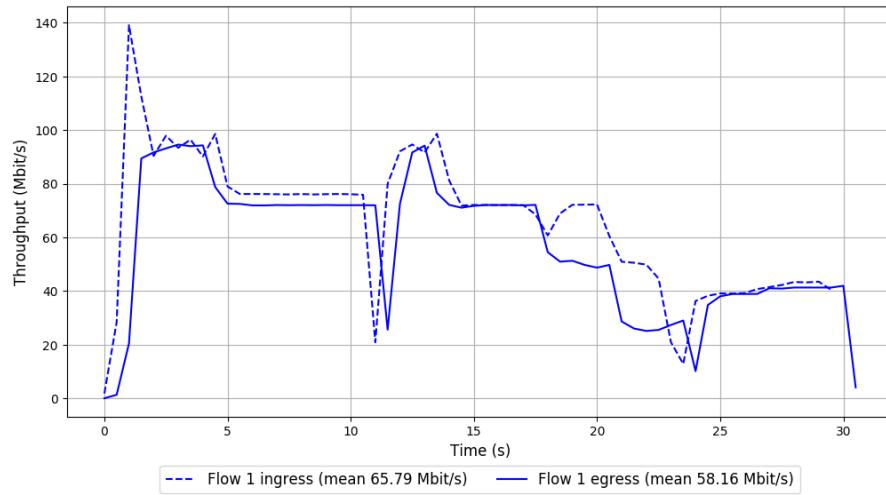


Run 2: Statistics of TCP BBR

```
Start at: 2019-03-18 19:58:33
End at: 2019-03-18 19:59:03
Local clock offset: -7.985 ms
Remote clock offset: -17.527 ms

# Below is generated by plot.py at 2019-03-19 00:36:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.16 Mbit/s
95th percentile per-packet one-way delay: 135.851 ms
Loss rate: 11.60%
-- Flow 1:
Average throughput: 58.16 Mbit/s
95th percentile per-packet one-way delay: 135.851 ms
Loss rate: 11.60%
```

Run 2: Report of TCP BBR — Data Link

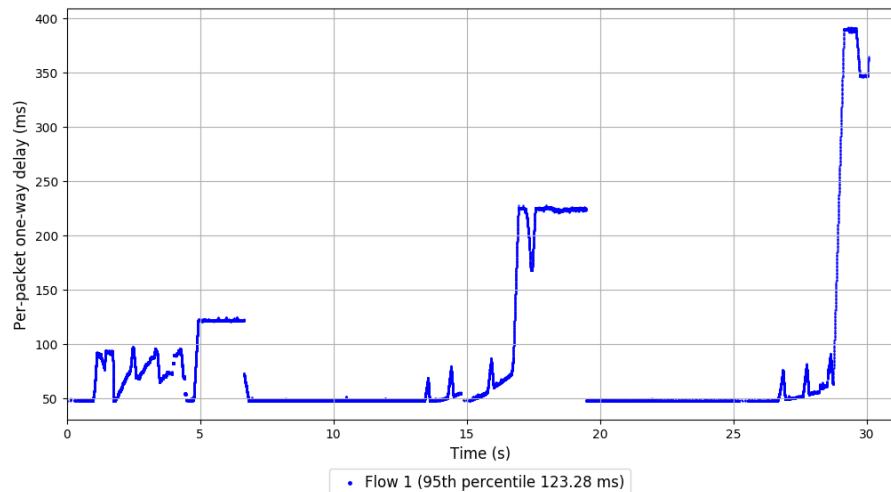
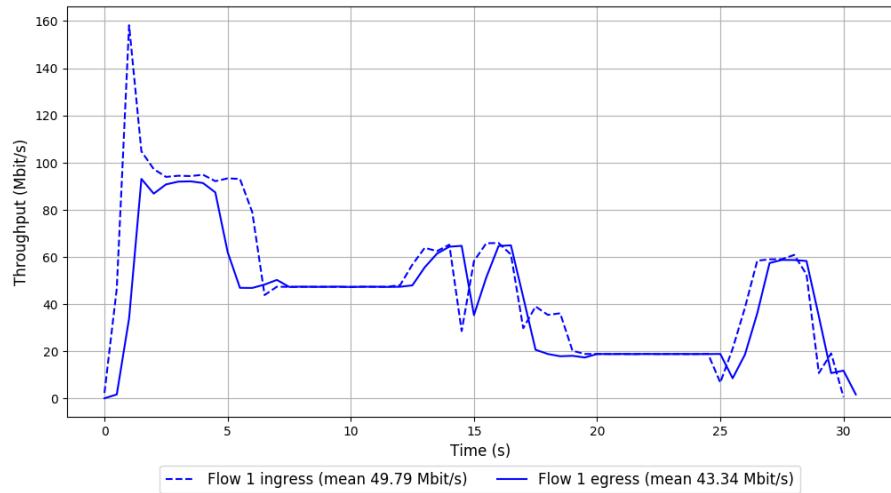


Run 3: Statistics of TCP BBR

```
Start at: 2019-03-18 21:52:36
End at: 2019-03-18 21:53:06
Local clock offset: -4.442 ms
Remote clock offset: -18.411 ms

# Below is generated by plot.py at 2019-03-19 00:36:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 43.34 Mbit/s
95th percentile per-packet one-way delay: 123.275 ms
Loss rate: 12.93%
-- Flow 1:
Average throughput: 43.34 Mbit/s
95th percentile per-packet one-way delay: 123.275 ms
Loss rate: 12.93%
```

Run 3: Report of TCP BBR — Data Link

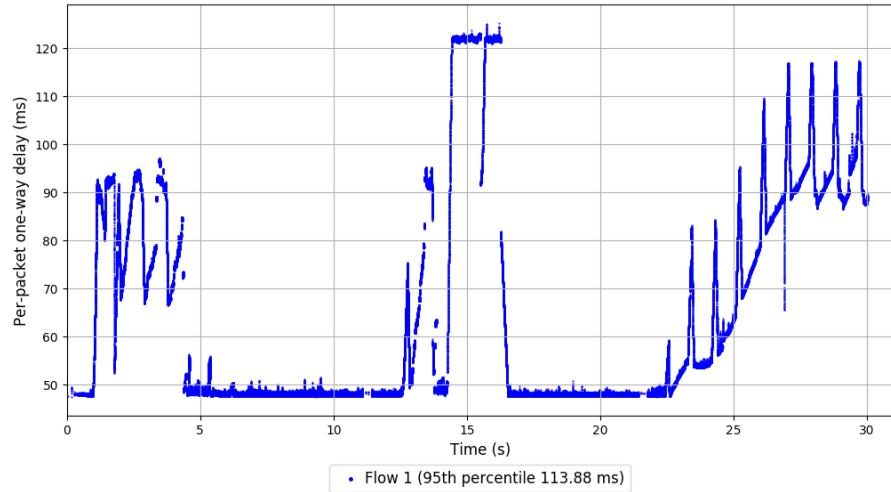
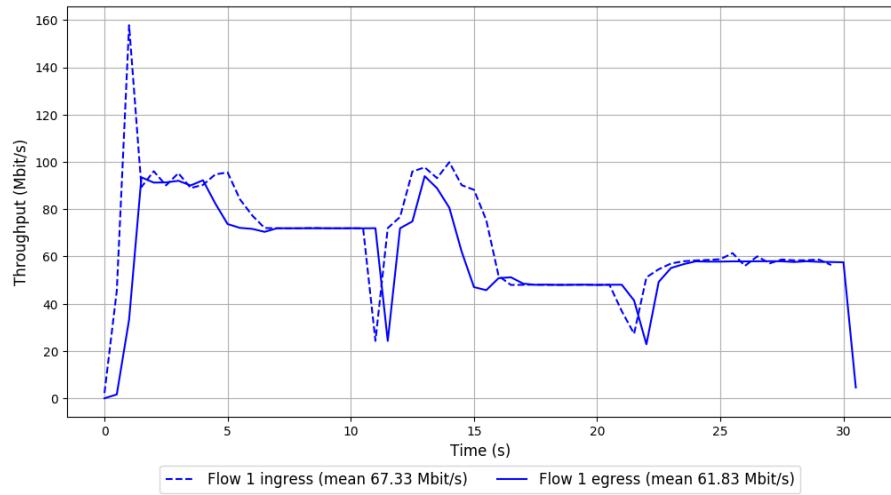


Run 4: Statistics of TCP BBR

```
Start at: 2019-03-18 23:54:44
End at: 2019-03-18 23:55:14
Local clock offset: -2.78 ms
Remote clock offset: -20.071 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.83 Mbit/s
95th percentile per-packet one-way delay: 113.875 ms
Loss rate: 8.15%
-- Flow 1:
Average throughput: 61.83 Mbit/s
95th percentile per-packet one-way delay: 113.875 ms
Loss rate: 8.15%
```

Run 4: Report of TCP BBR — Data Link

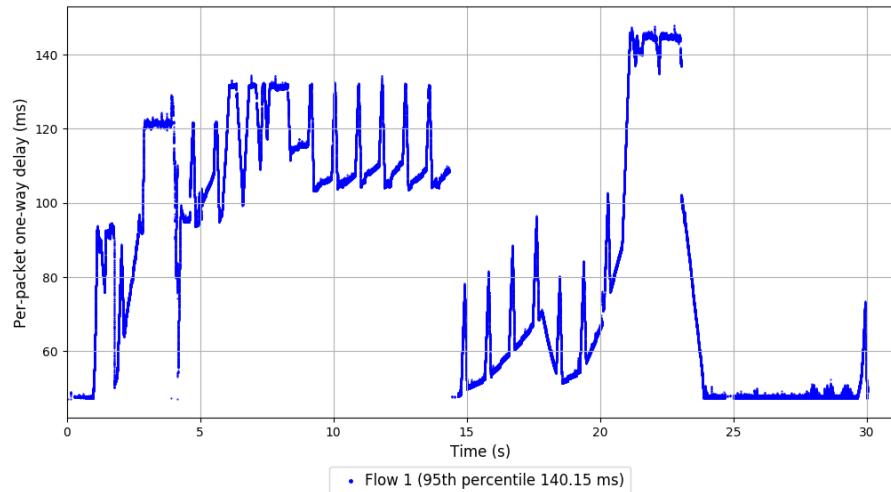
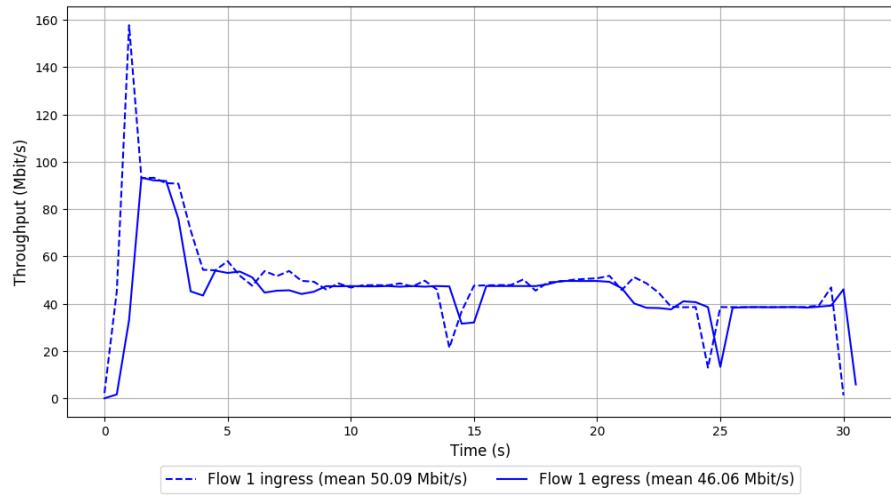


```
Run 5: Statistics of TCP BBR
```

```
Start at: 2019-03-19 00:19:44
End at: 2019-03-19 00:20:14
Local clock offset: -2.845 ms
Remote clock offset: -19.585 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.06 Mbit/s
95th percentile per-packet one-way delay: 140.146 ms
Loss rate: 8.03%
-- Flow 1:
Average throughput: 46.06 Mbit/s
95th percentile per-packet one-way delay: 140.146 ms
Loss rate: 8.03%
```

Run 5: Report of TCP BBR — Data Link

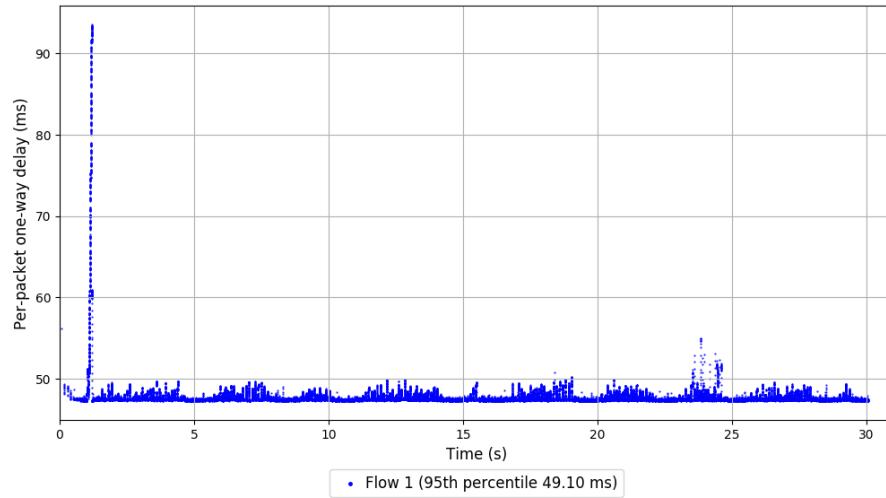
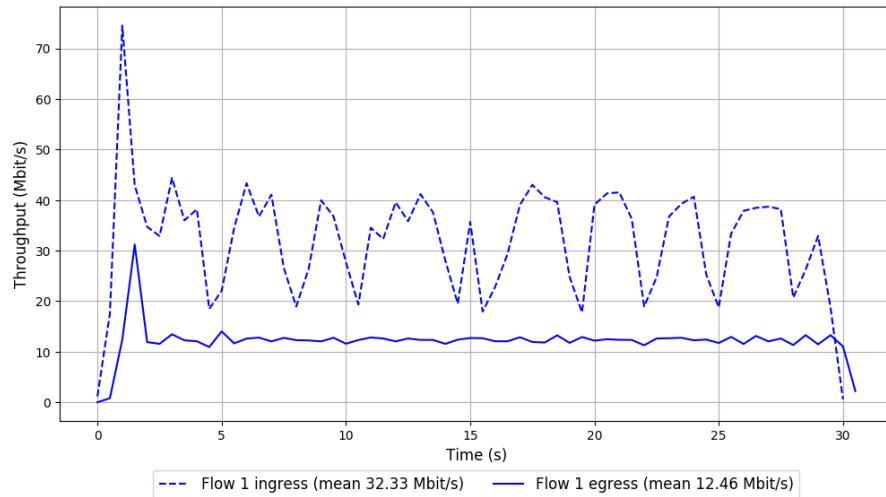


Run 1: Statistics of Copa

```
Start at: 2019-03-18 19:34:51
End at: 2019-03-18 19:35:21
Local clock offset: -9.318 ms
Remote clock offset: -17.861 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 49.105 ms
Loss rate: 61.48%
-- Flow 1:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 49.105 ms
Loss rate: 61.48%
```

Run 1: Report of Copa — Data Link

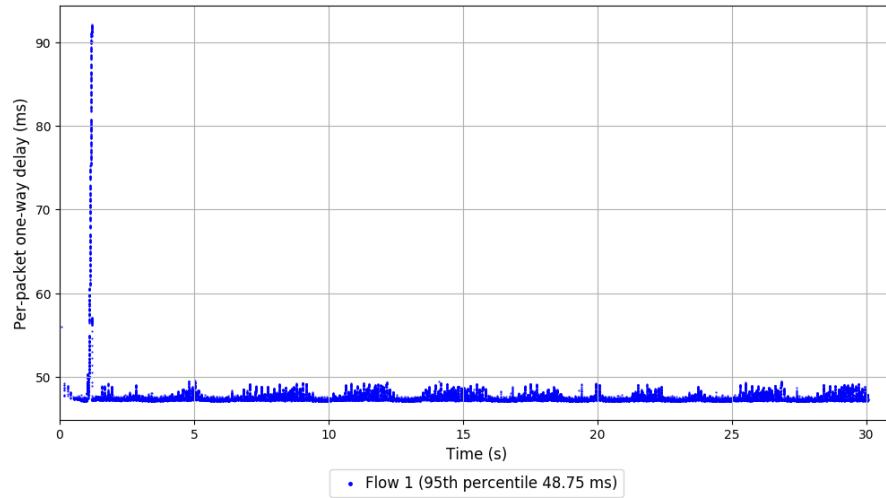
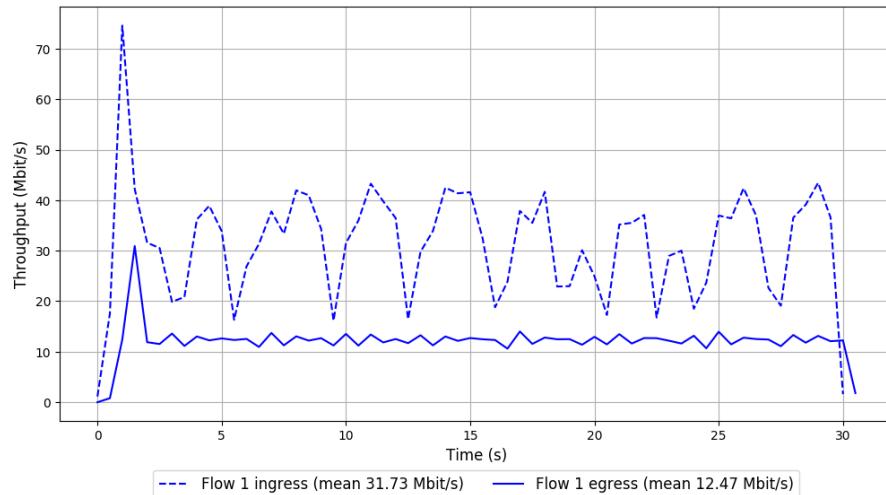


Run 2: Statistics of Copa

```
Start at: 2019-03-18 19:59:44
End at: 2019-03-18 20:00:14
Local clock offset: -8.123 ms
Remote clock offset: -17.383 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 48.753 ms
Loss rate: 60.73%
-- Flow 1:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 48.753 ms
Loss rate: 60.73%
```

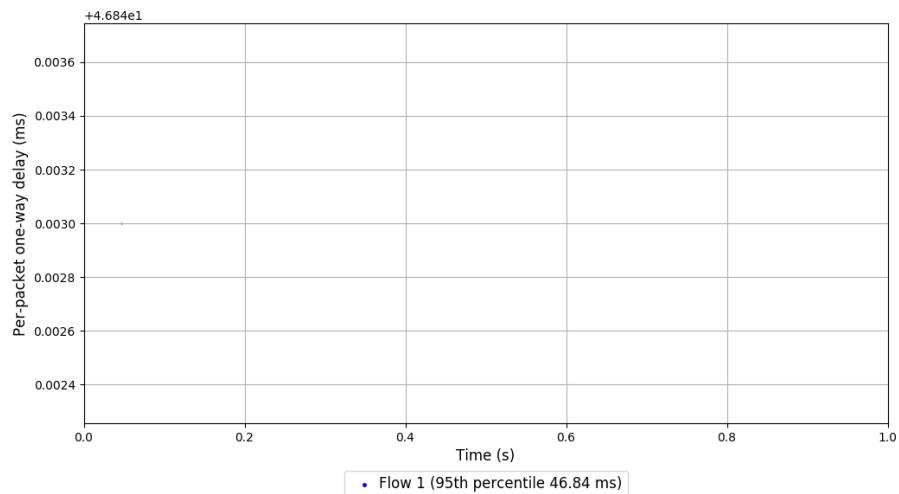
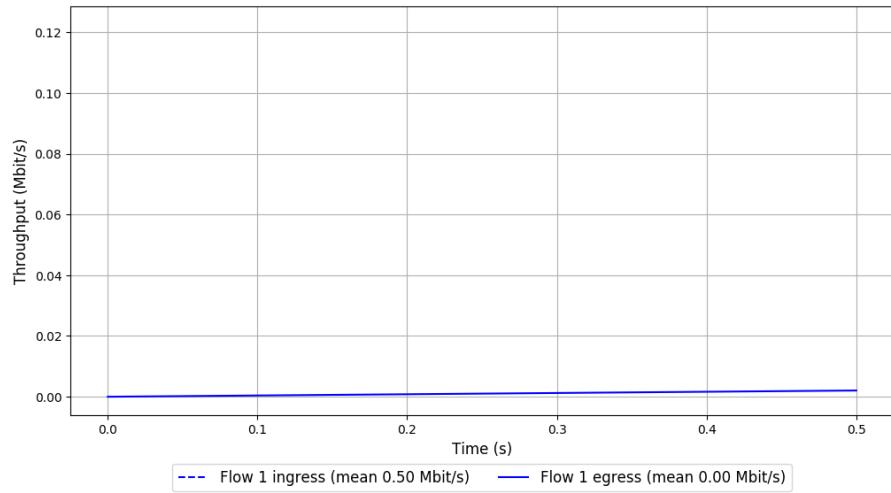
Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2019-03-18 22:02:52
End at: 2019-03-18 22:03:22
Local clock offset: -5.732 ms
Remote clock offset: -18.579 ms

Run 3: Report of Copa — Data Link

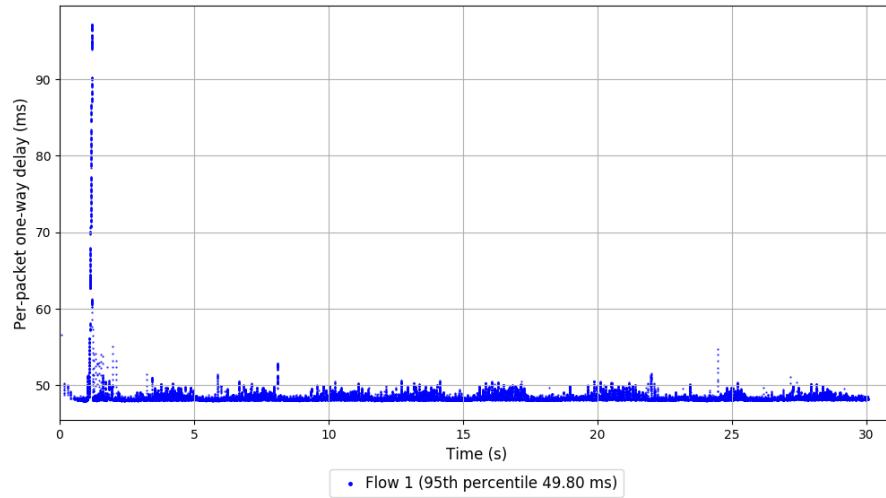
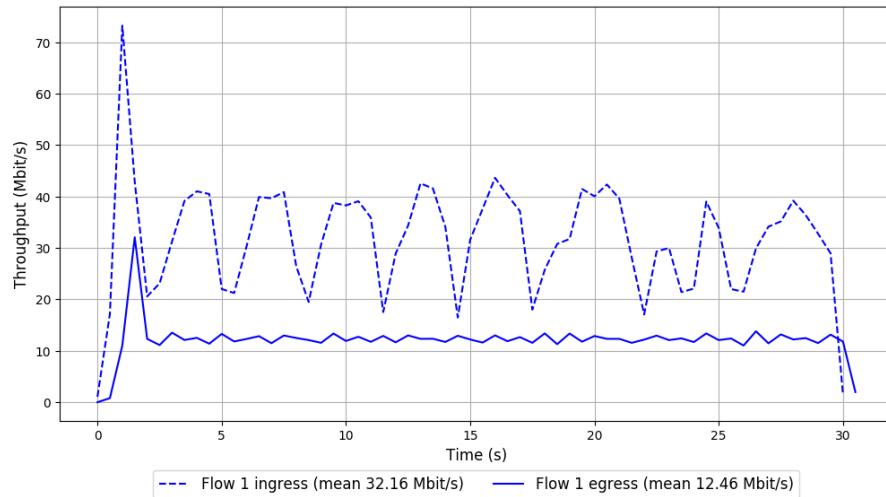


Run 4: Statistics of Copa

```
Start at: 2019-03-18 23:55:56
End at: 2019-03-18 23:56:26
Local clock offset: -2.982 ms
Remote clock offset: -20.339 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 49.802 ms
Loss rate: 61.26%
-- Flow 1:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 49.802 ms
Loss rate: 61.26%
```

Run 4: Report of Copa — Data Link

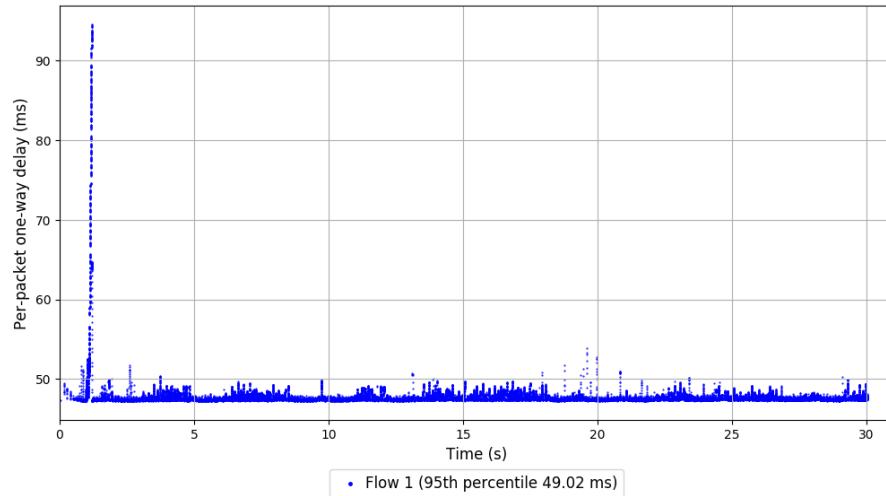
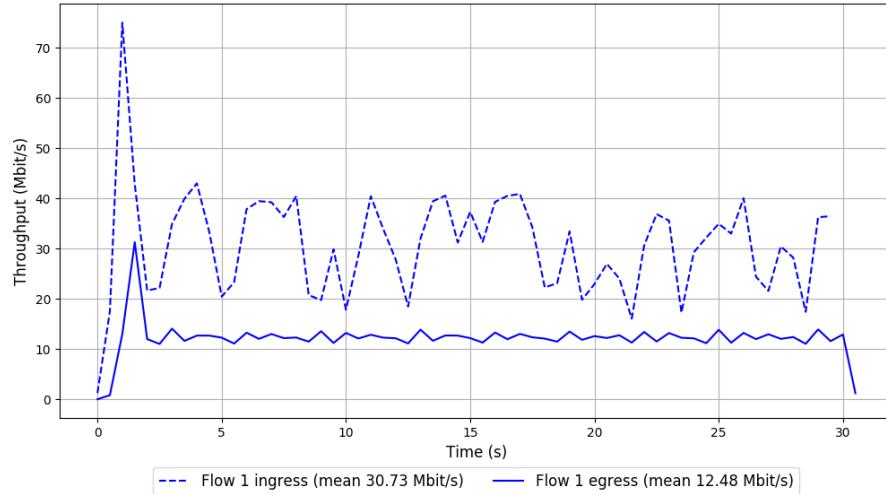


Run 5: Statistics of Copa

```
Start at: 2019-03-19 00:20:55
End at: 2019-03-19 00:21:25
Local clock offset: -2.678 ms
Remote clock offset: -19.541 ms

# Below is generated by plot.py at 2019-03-19 00:36:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.48 Mbit/s
95th percentile per-packet one-way delay: 49.019 ms
Loss rate: 59.40%
-- Flow 1:
Average throughput: 12.48 Mbit/s
95th percentile per-packet one-way delay: 49.019 ms
Loss rate: 59.40%
```

Run 5: Report of Copa — Data Link

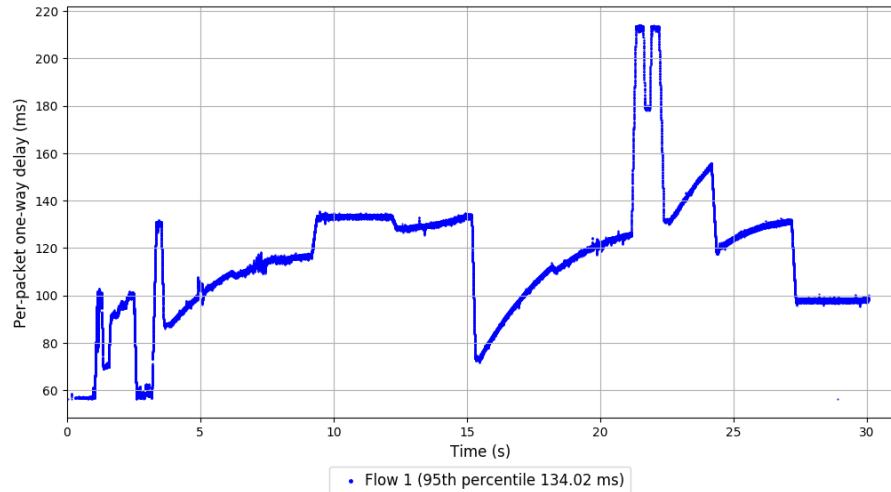
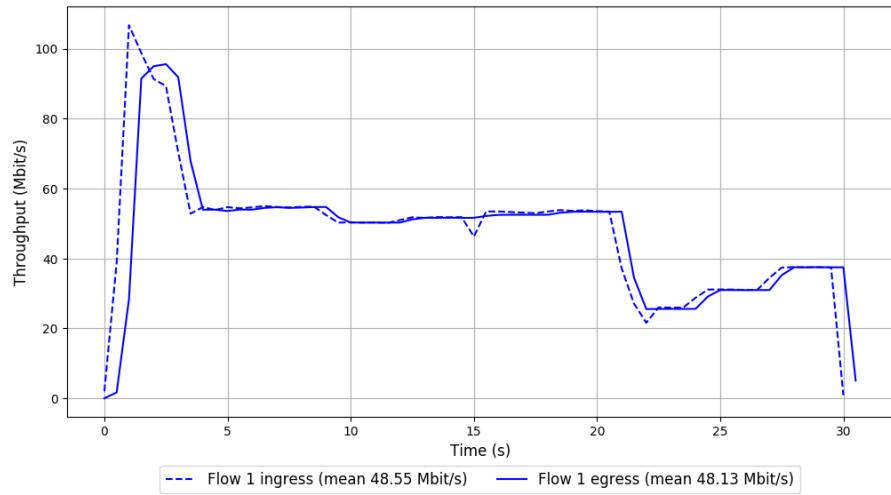


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2019-03-18 19:32:29
End at: 2019-03-18 19:32:59
Local clock offset: -9.381 ms
Remote clock offset: -17.758 ms

# Below is generated by plot.py at 2019-03-19 00:36:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.13 Mbit/s
95th percentile per-packet one-way delay: 134.019 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 48.13 Mbit/s
95th percentile per-packet one-way delay: 134.019 ms
Loss rate: 0.85%
```

Run 1: Report of TCP Cubic — Data Link

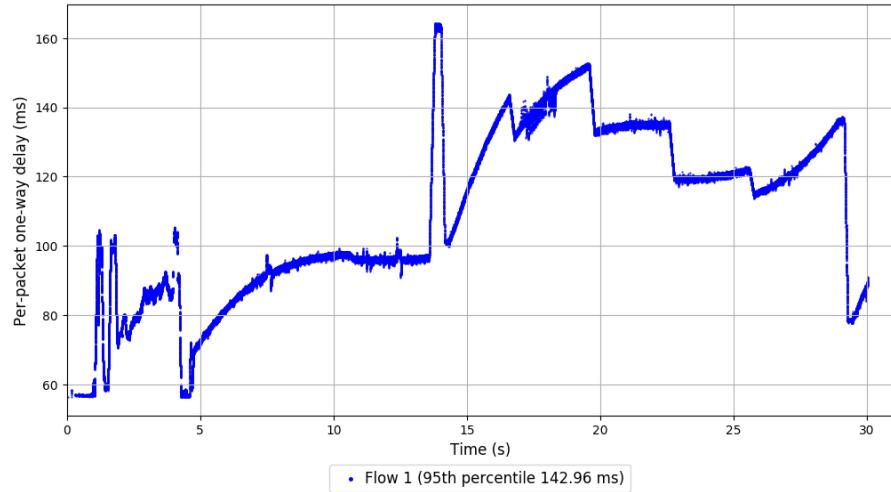
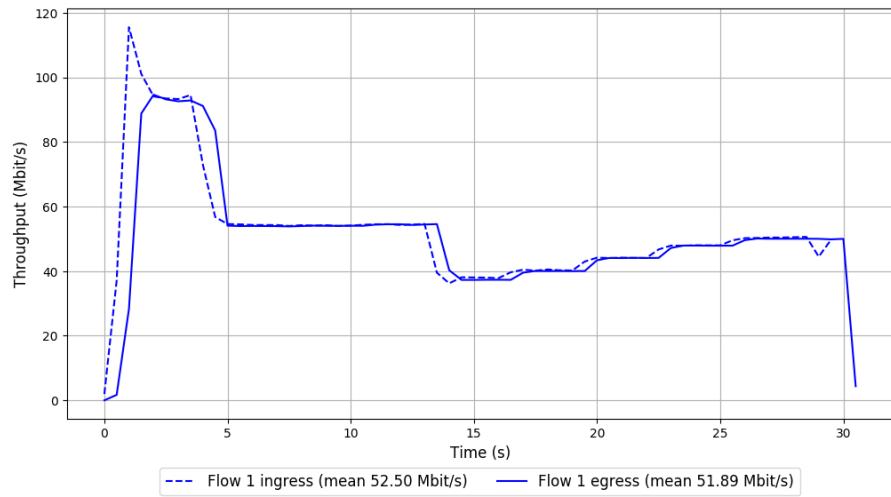


Run 2: Statistics of TCP Cubic

```
Start at: 2019-03-18 19:57:21
End at: 2019-03-18 19:57:51
Local clock offset: -8.063 ms
Remote clock offset: -17.155 ms

# Below is generated by plot.py at 2019-03-19 00:36:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 51.89 Mbit/s
95th percentile per-packet one-way delay: 142.956 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 51.89 Mbit/s
95th percentile per-packet one-way delay: 142.956 ms
Loss rate: 1.16%
```

Run 2: Report of TCP Cubic — Data Link

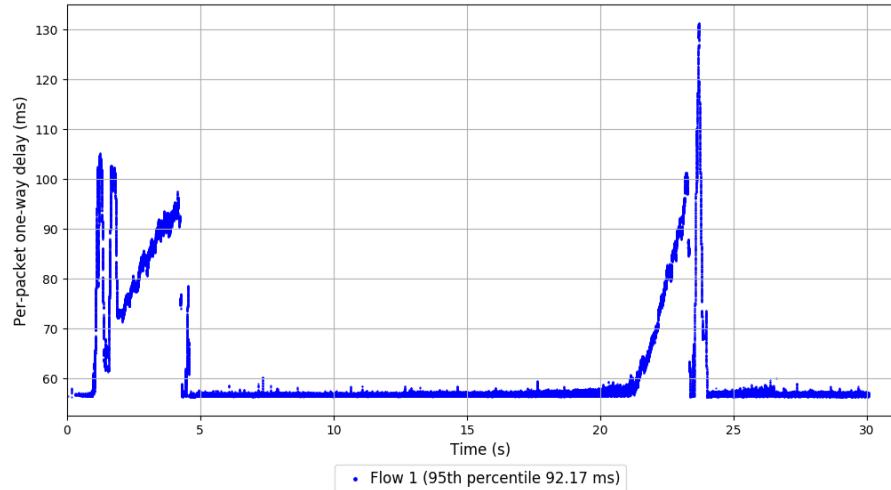
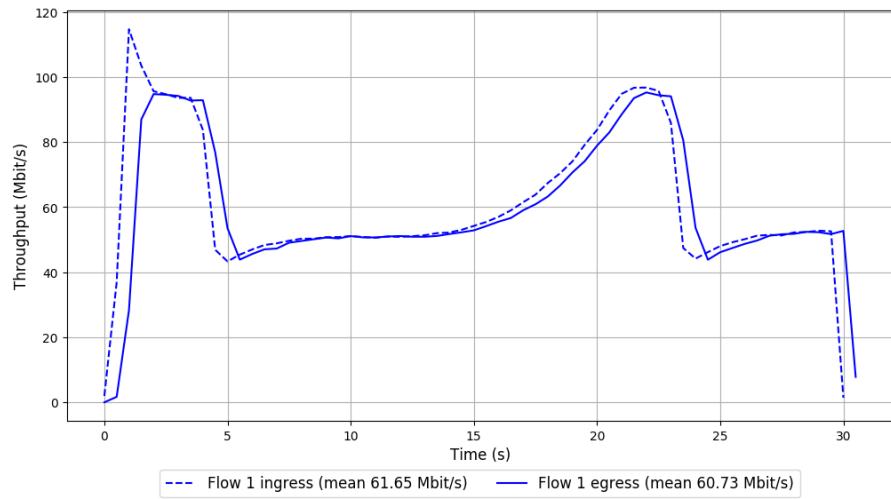


```
Run 3: Statistics of TCP Cubic
```

```
Start at: 2019-03-18 21:38:35
End at: 2019-03-18 21:39:05
Local clock offset: -2.489 ms
Remote clock offset: -18.615 ms

# Below is generated by plot.py at 2019-03-19 00:36:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.73 Mbit/s
95th percentile per-packet one-way delay: 92.168 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 60.73 Mbit/s
95th percentile per-packet one-way delay: 92.168 ms
Loss rate: 1.49%
```

Run 3: Report of TCP Cubic — Data Link

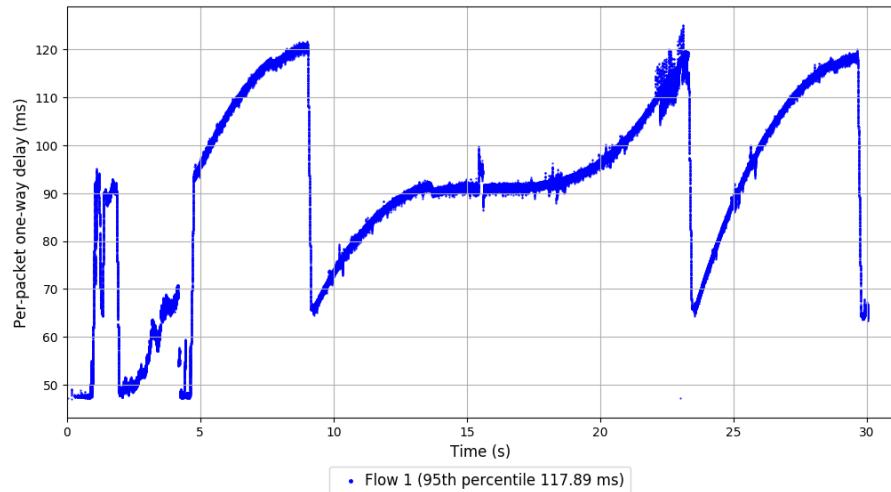
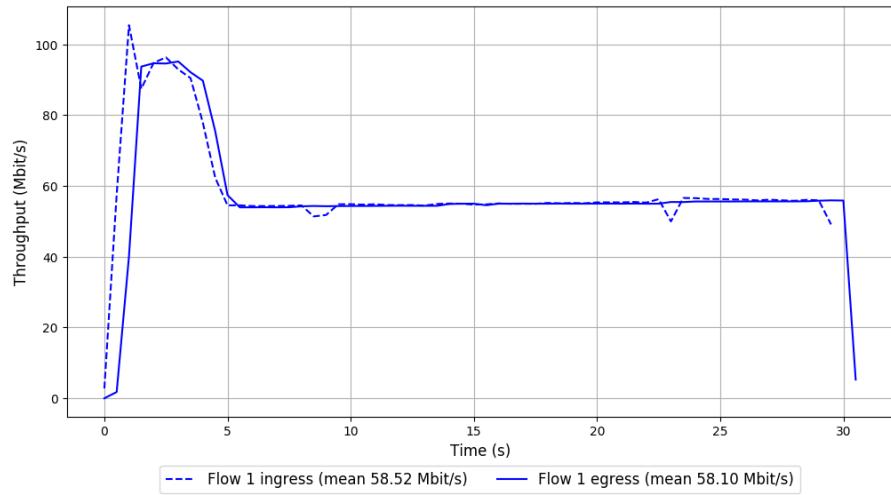


Run 4: Statistics of TCP Cubic

```
Start at: 2019-03-18 23:53:33
End at: 2019-03-18 23:54:03
Local clock offset: -2.693 ms
Remote clock offset: -20.124 ms

# Below is generated by plot.py at 2019-03-19 00:36:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 117.888 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 58.10 Mbit/s
95th percentile per-packet one-way delay: 117.888 ms
Loss rate: 0.69%
```

Run 4: Report of TCP Cubic — Data Link

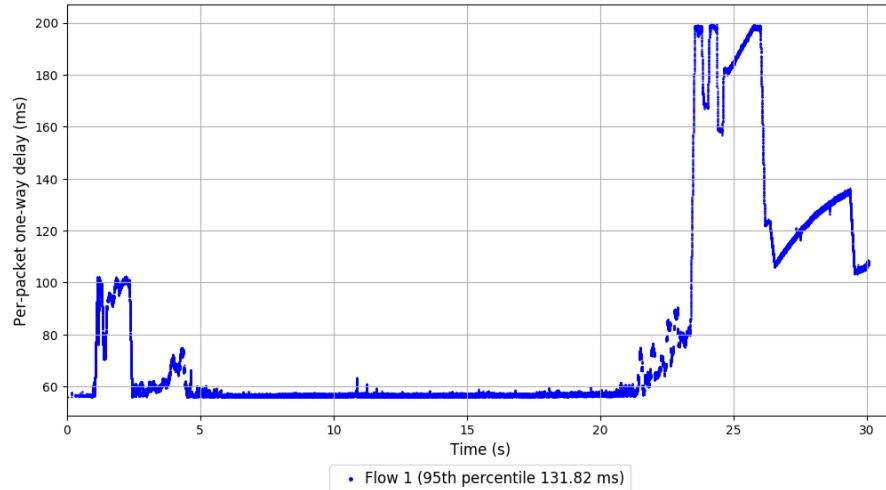
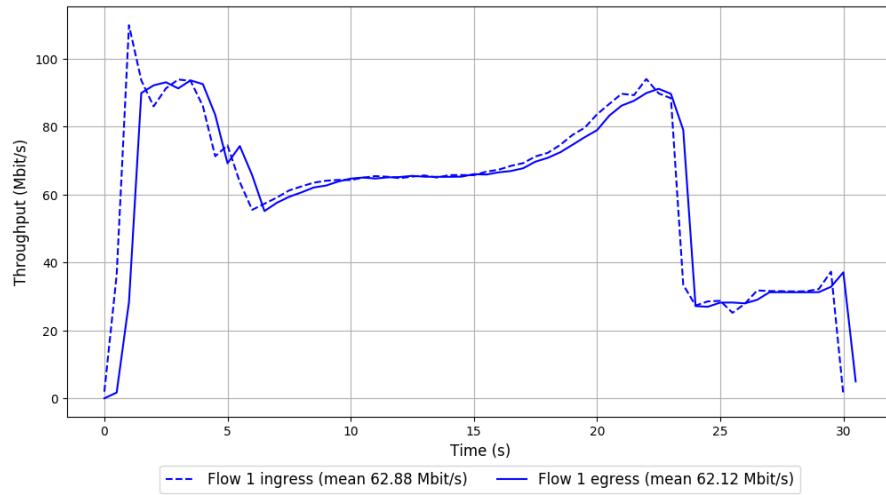


Run 5: Statistics of TCP Cubic

```
Start at: 2019-03-19 00:18:32
End at: 2019-03-19 00:19:02
Local clock offset: -3.11 ms
Remote clock offset: -19.837 ms

# Below is generated by plot.py at 2019-03-19 00:37:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.12 Mbit/s
95th percentile per-packet one-way delay: 131.821 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 62.12 Mbit/s
95th percentile per-packet one-way delay: 131.821 ms
Loss rate: 1.21%
```

Run 5: Report of TCP Cubic — Data Link

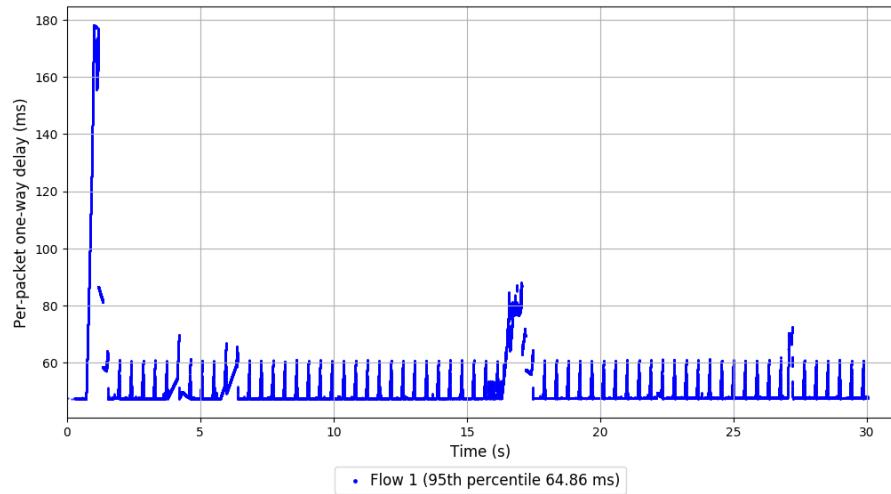
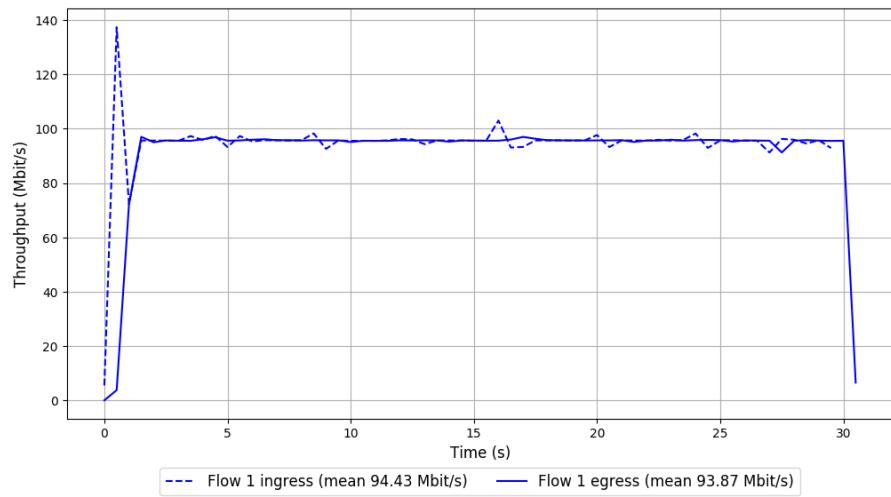


```
Run 1: Statistics of FillP
```

```
Start at: 2019-03-18 19:28:52
End at: 2019-03-18 19:29:22
Local clock offset: -10.165 ms
Remote clock offset: -17.911 ms

# Below is generated by plot.py at 2019-03-19 00:37:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.87 Mbit/s
95th percentile per-packet one-way delay: 64.862 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 93.87 Mbit/s
95th percentile per-packet one-way delay: 64.862 ms
Loss rate: 0.59%
```

Run 1: Report of FillP — Data Link

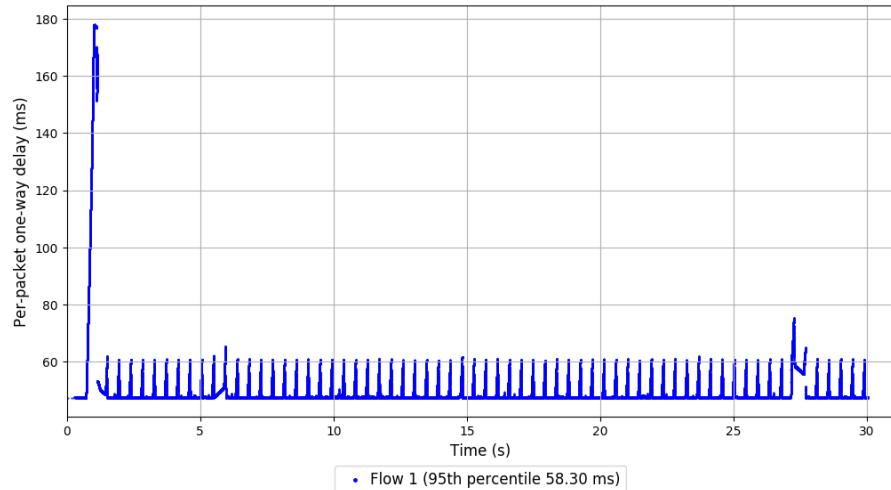
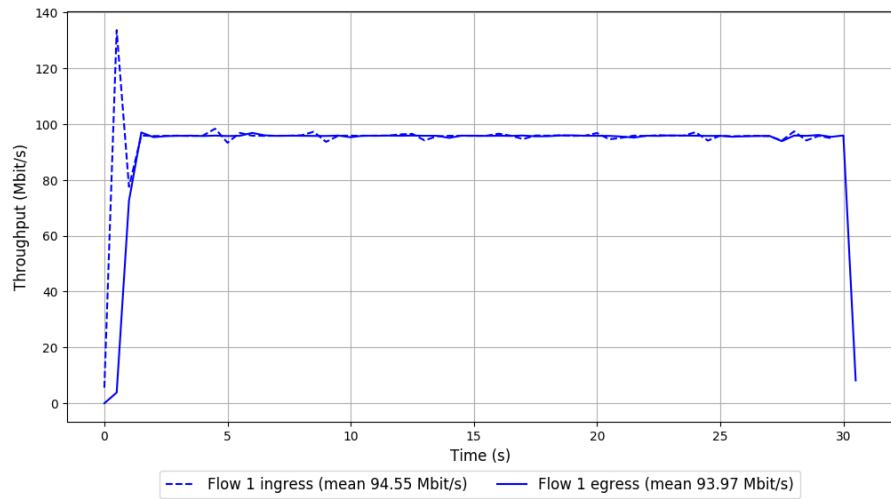


```
Run 2: Statistics of FillP
```

```
Start at: 2019-03-18 19:53:44
End at: 2019-03-18 19:54:14
Local clock offset: -8.522 ms
Remote clock offset: -17.694 ms

# Below is generated by plot.py at 2019-03-19 00:37:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.97 Mbit/s
95th percentile per-packet one-way delay: 58.305 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 93.97 Mbit/s
95th percentile per-packet one-way delay: 58.305 ms
Loss rate: 0.61%
```

Run 2: Report of FillP — Data Link

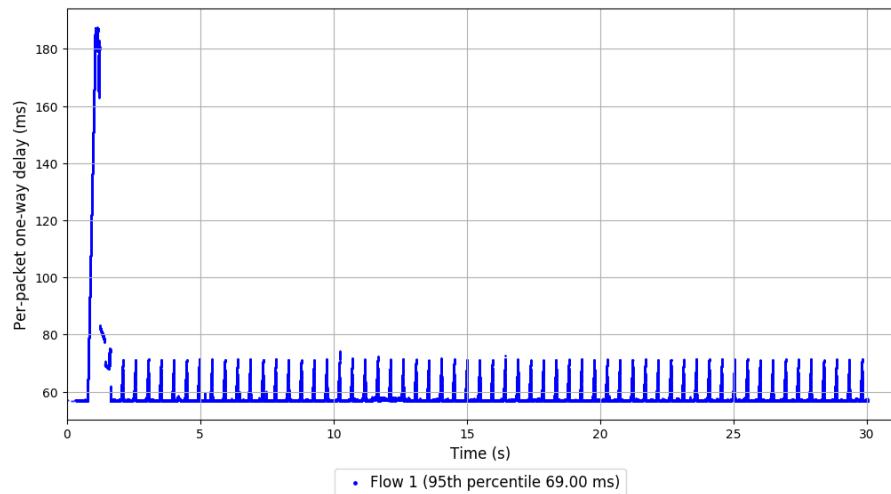
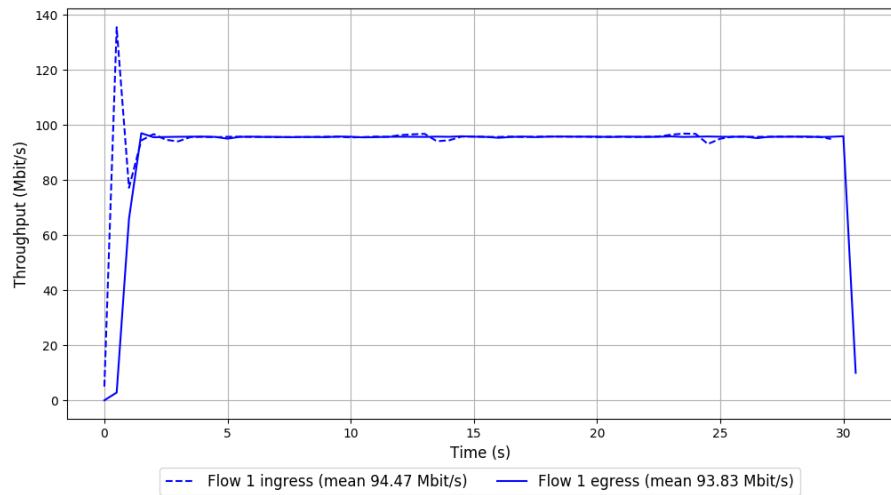


Run 3: Statistics of FillP

```
Start at: 2019-03-18 20:40:48
End at: 2019-03-18 20:41:18
Local clock offset: -2.797 ms
Remote clock offset: -17.103 ms

# Below is generated by plot.py at 2019-03-19 00:37:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.83 Mbit/s
95th percentile per-packet one-way delay: 69.004 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 93.83 Mbit/s
95th percentile per-packet one-way delay: 69.004 ms
Loss rate: 0.68%
```

Run 3: Report of FillP — Data Link

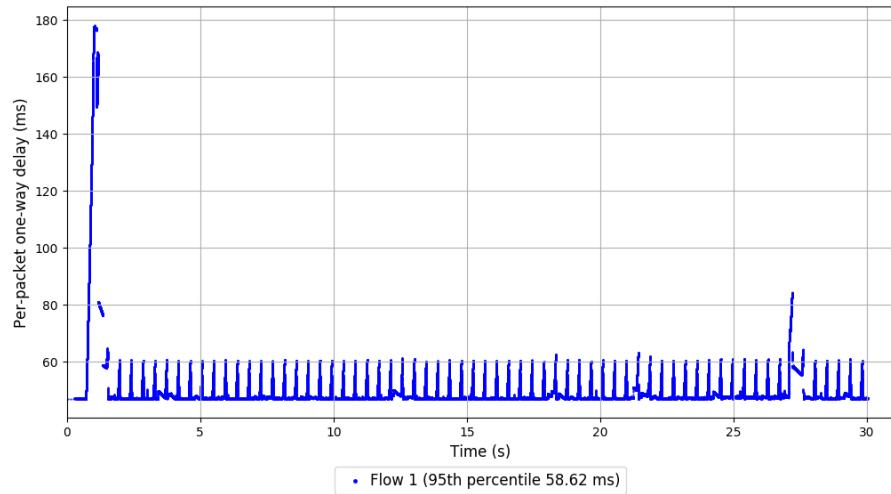
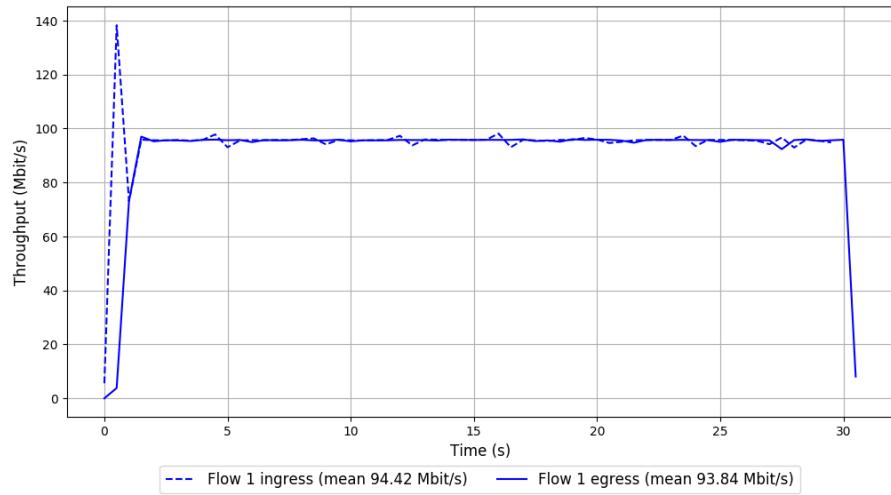


Run 4: Statistics of FillP

```
Start at: 2019-03-18 23:49:56
End at: 2019-03-18 23:50:26
Local clock offset: -2.265 ms
Remote clock offset: -19.394 ms

# Below is generated by plot.py at 2019-03-19 00:38:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.84 Mbit/s
95th percentile per-packet one-way delay: 58.623 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 93.84 Mbit/s
95th percentile per-packet one-way delay: 58.623 ms
Loss rate: 0.61%
```

Run 4: Report of FillP — Data Link

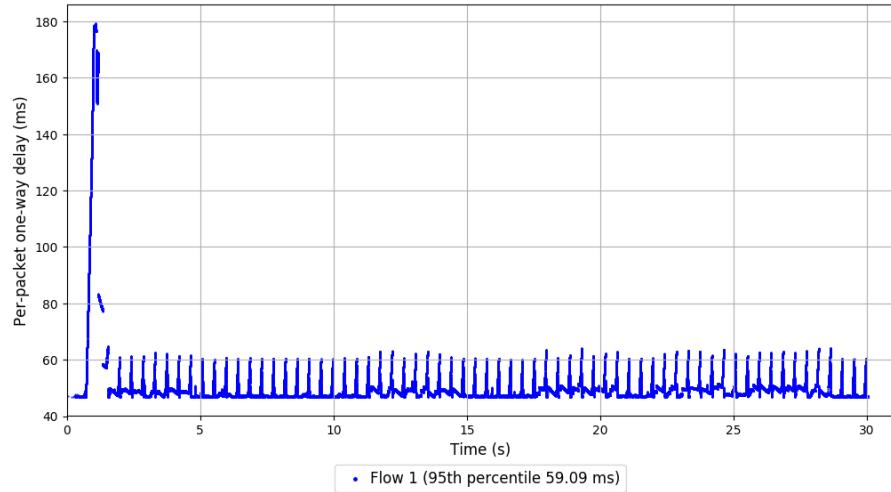
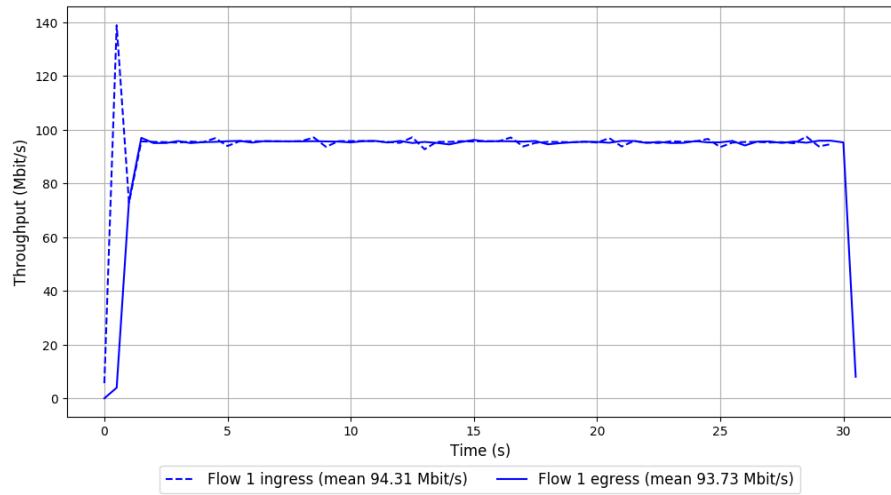


```
Run 5: Statistics of FillP
```

```
Start at: 2019-03-19 00:14:55
End at: 2019-03-19 00:15:25
Local clock offset: -3.447 ms
Remote clock offset: -19.919 ms

# Below is generated by plot.py at 2019-03-19 00:38:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.73 Mbit/s
95th percentile per-packet one-way delay: 59.090 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 93.73 Mbit/s
95th percentile per-packet one-way delay: 59.090 ms
Loss rate: 0.61%
```

Run 5: Report of FillP — Data Link

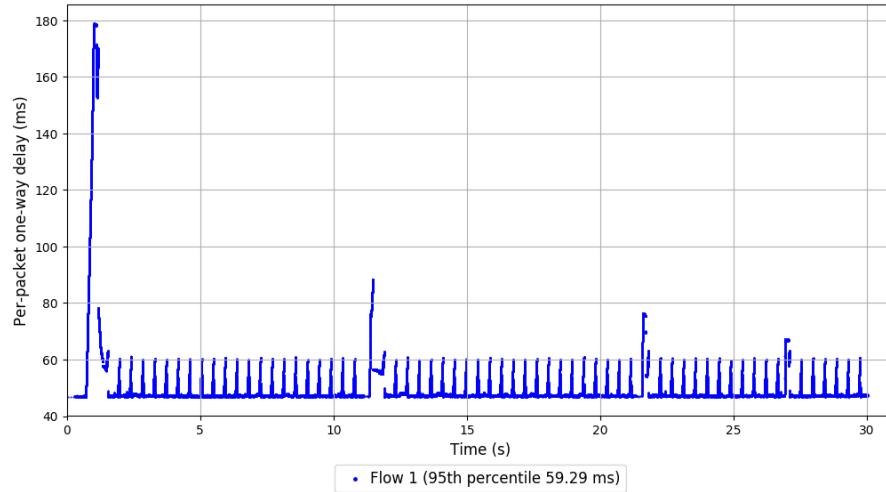
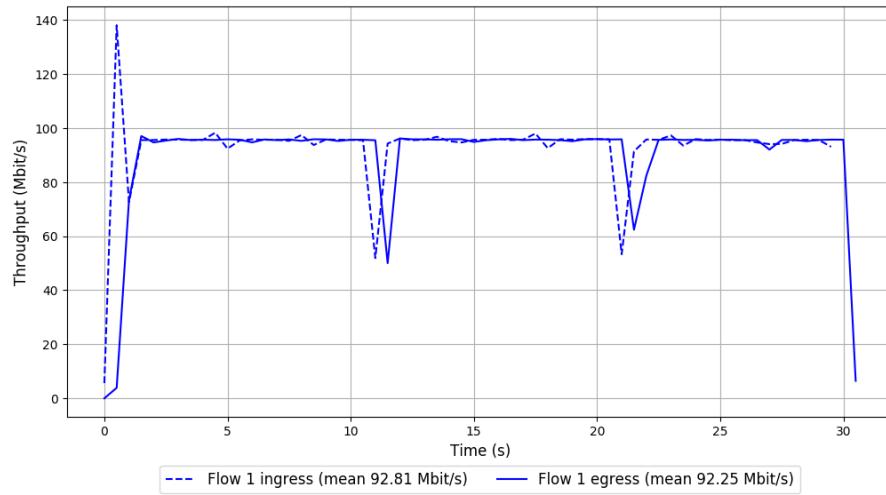


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2019-03-18 19:30:04
End at: 2019-03-18 19:30:34
Local clock offset: -9.767 ms
Remote clock offset: -17.937 ms

# Below is generated by plot.py at 2019-03-19 00:38:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.25 Mbit/s
95th percentile per-packet one-way delay: 59.292 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 92.25 Mbit/s
95th percentile per-packet one-way delay: 59.292 ms
Loss rate: 0.61%
```

Run 1: Report of FillP-Sheep — Data Link

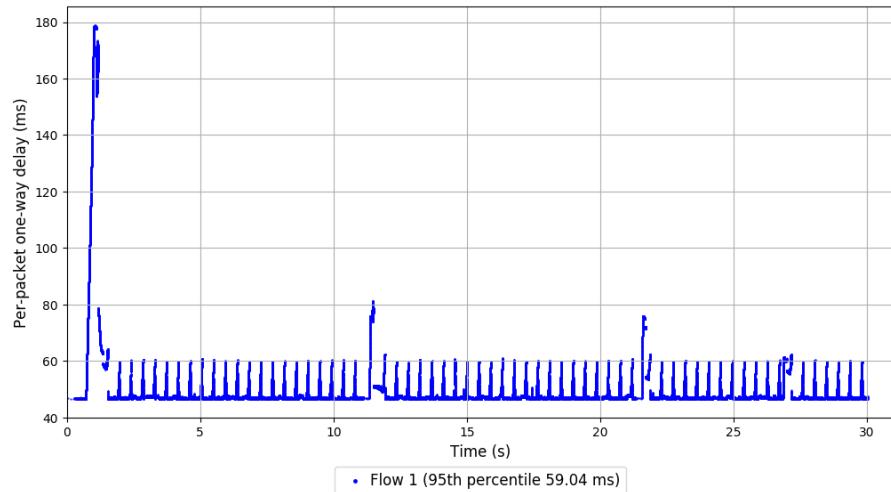
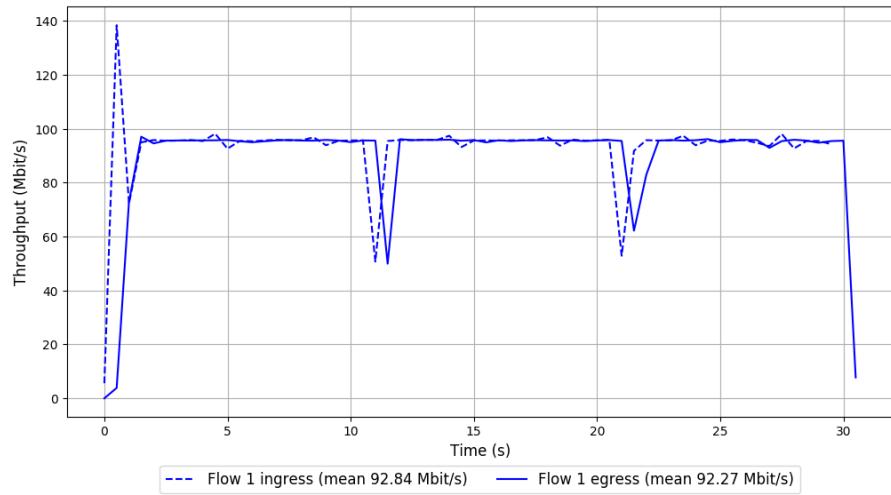


Run 2: Statistics of FillP-Sheep

```
Start at: 2019-03-18 19:54:56
End at: 2019-03-18 19:55:26
Local clock offset: -8.461 ms
Remote clock offset: -17.895 ms

# Below is generated by plot.py at 2019-03-19 00:38:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.27 Mbit/s
95th percentile per-packet one-way delay: 59.036 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 92.27 Mbit/s
95th percentile per-packet one-way delay: 59.036 ms
Loss rate: 0.61%
```

Run 2: Report of FillP-Sheep — Data Link

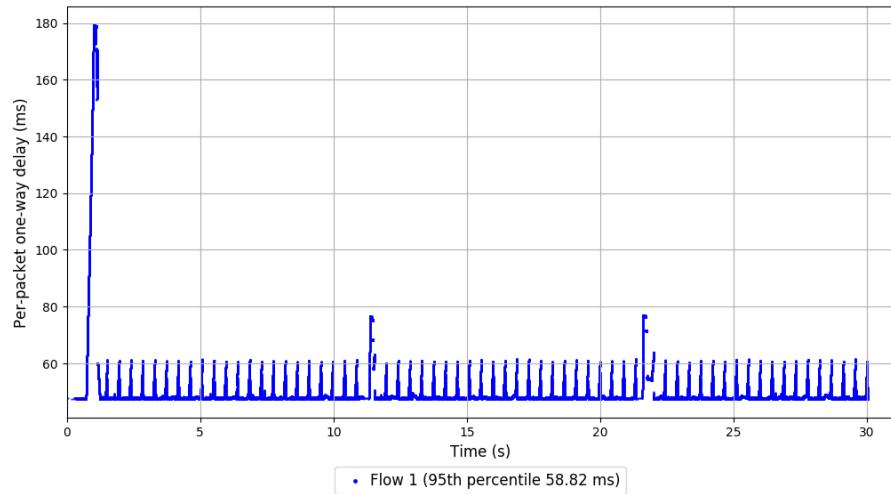
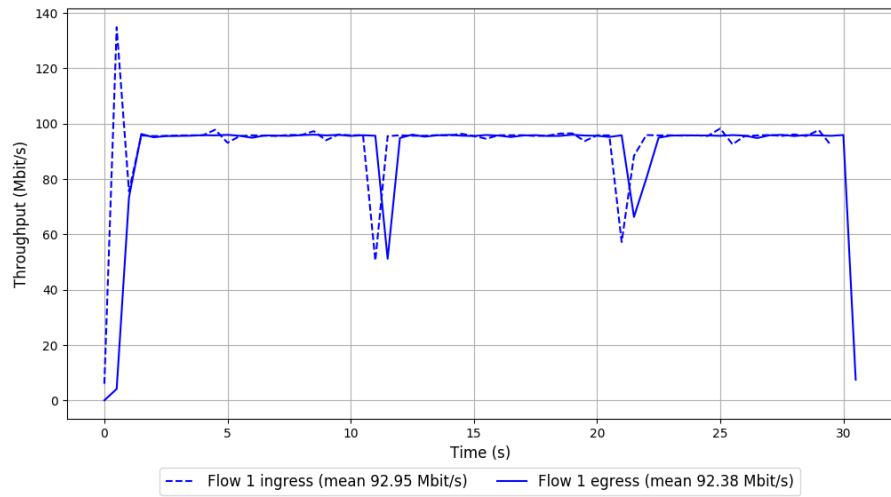


Run 3: Statistics of FillP-Sheep

```
Start at: 2019-03-18 20:58:53
End at: 2019-03-18 20:59:23
Local clock offset: -4.625 ms
Remote clock offset: -17.74 ms

# Below is generated by plot.py at 2019-03-19 00:38:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.38 Mbit/s
95th percentile per-packet one-way delay: 58.818 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 92.38 Mbit/s
95th percentile per-packet one-way delay: 58.818 ms
Loss rate: 0.61%
```

Run 3: Report of FillP-Sheep — Data Link

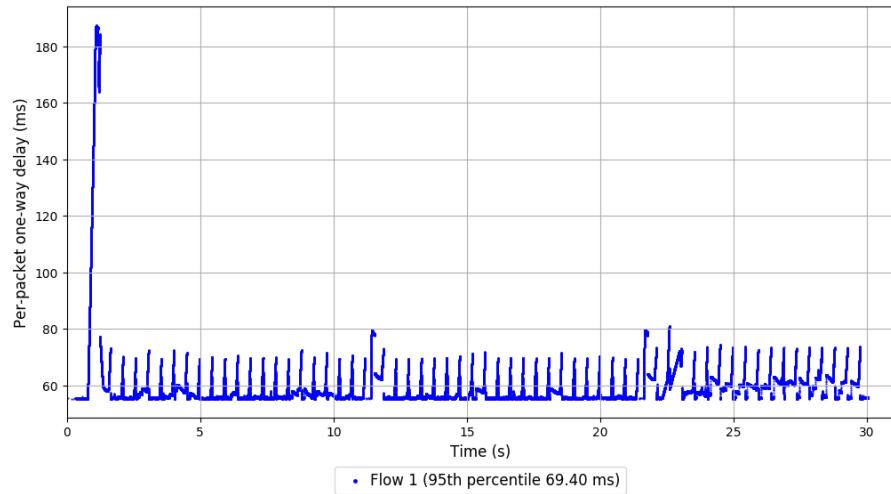
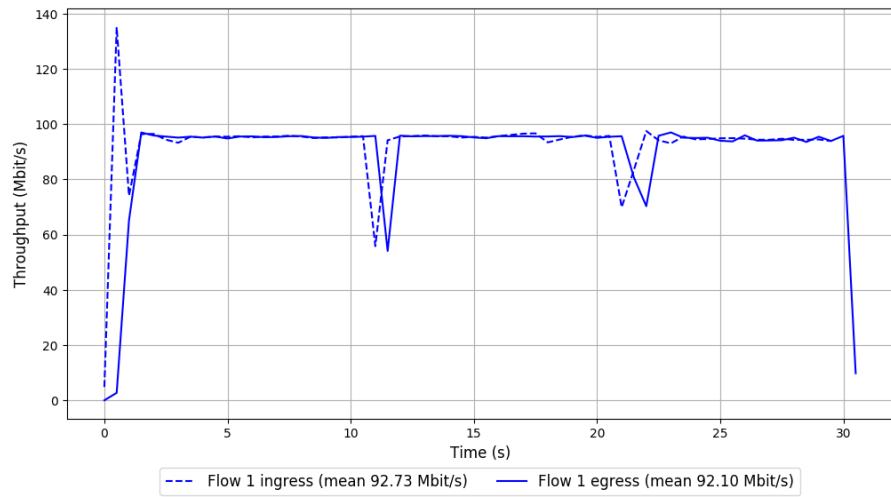


Run 4: Statistics of FillP-Sheep

```
Start at: 2019-03-18 23:51:08
End at: 2019-03-18 23:51:38
Local clock offset: -2.728 ms
Remote clock offset: -19.988 ms

# Below is generated by plot.py at 2019-03-19 00:39:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.10 Mbit/s
95th percentile per-packet one-way delay: 69.399 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 92.10 Mbit/s
95th percentile per-packet one-way delay: 69.399 ms
Loss rate: 0.68%
```

Run 4: Report of FillP-Sheep — Data Link

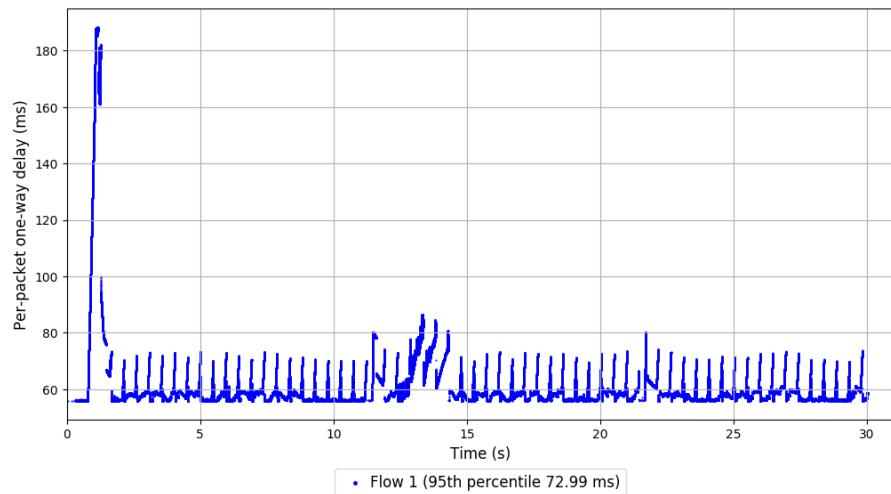
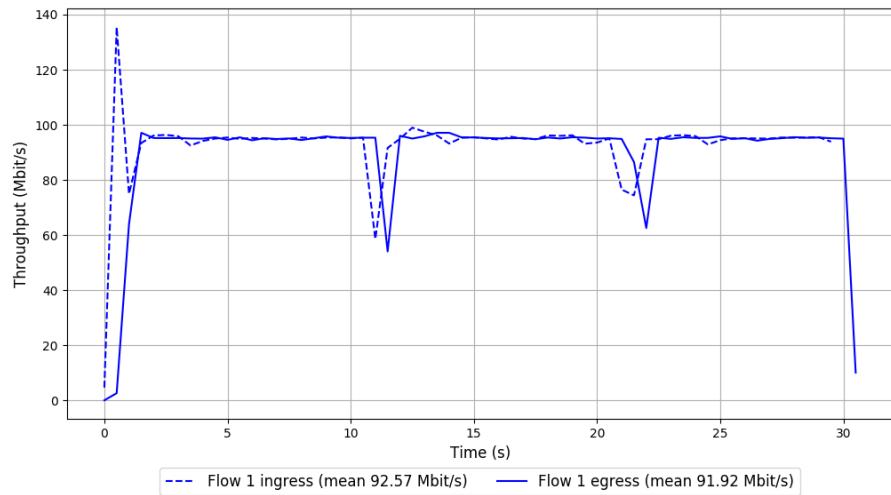


Run 5: Statistics of FillP-Sheep

```
Start at: 2019-03-19 00:16:07
End at: 2019-03-19 00:16:37
Local clock offset: -3.406 ms
Remote clock offset: -19.577 ms

# Below is generated by plot.py at 2019-03-19 00:39:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 72.993 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 72.993 ms
Loss rate: 0.70%
```

Run 5: Report of FillP-Sheep — Data Link

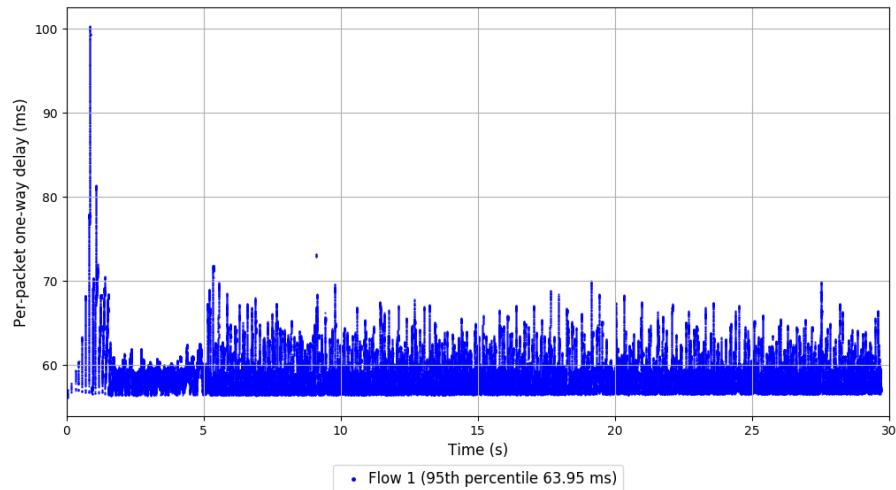
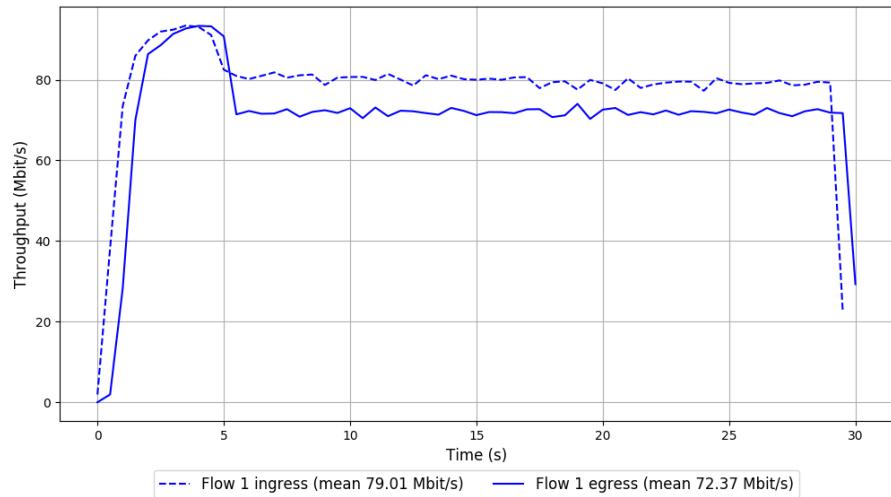


Run 1: Statistics of Indigo

```
Start at: 2019-03-18 19:27:39
End at: 2019-03-18 19:28:09
Local clock offset: -10.595 ms
Remote clock offset: -17.709 ms

# Below is generated by plot.py at 2019-03-19 00:39:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.37 Mbit/s
95th percentile per-packet one-way delay: 63.952 ms
Loss rate: 8.40%
-- Flow 1:
Average throughput: 72.37 Mbit/s
95th percentile per-packet one-way delay: 63.952 ms
Loss rate: 8.40%
```

Run 1: Report of Indigo — Data Link

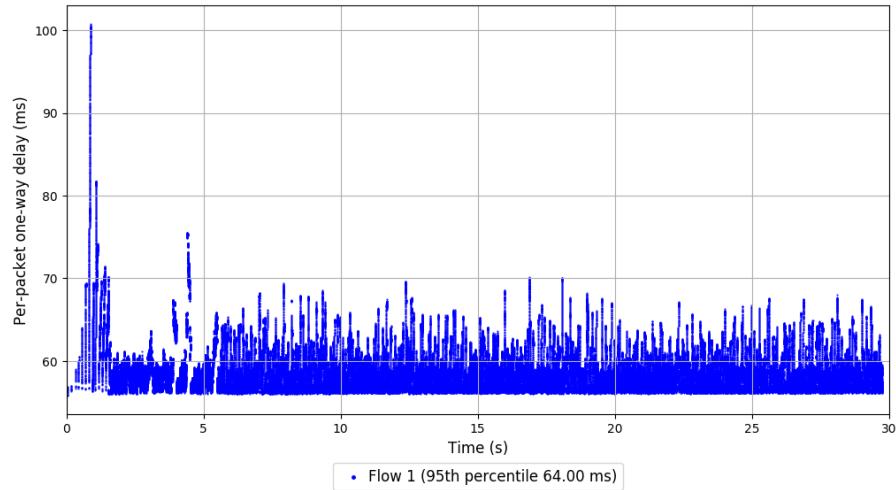
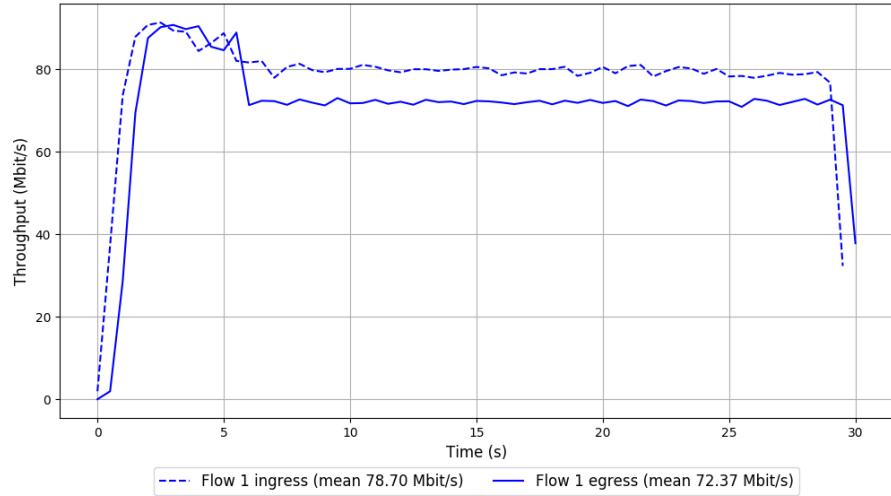


Run 2: Statistics of Indigo

```
Start at: 2019-03-18 19:52:31
End at: 2019-03-18 19:53:01
Local clock offset: -8.738 ms
Remote clock offset: -17.728 ms

# Below is generated by plot.py at 2019-03-19 00:39:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.37 Mbit/s
95th percentile per-packet one-way delay: 63.997 ms
Loss rate: 8.04%
-- Flow 1:
Average throughput: 72.37 Mbit/s
95th percentile per-packet one-way delay: 63.997 ms
Loss rate: 8.04%
```

Run 2: Report of Indigo — Data Link

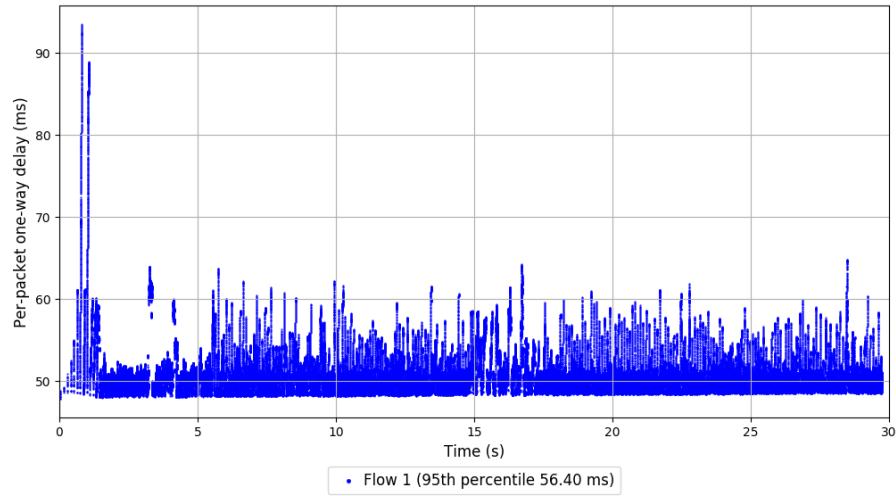
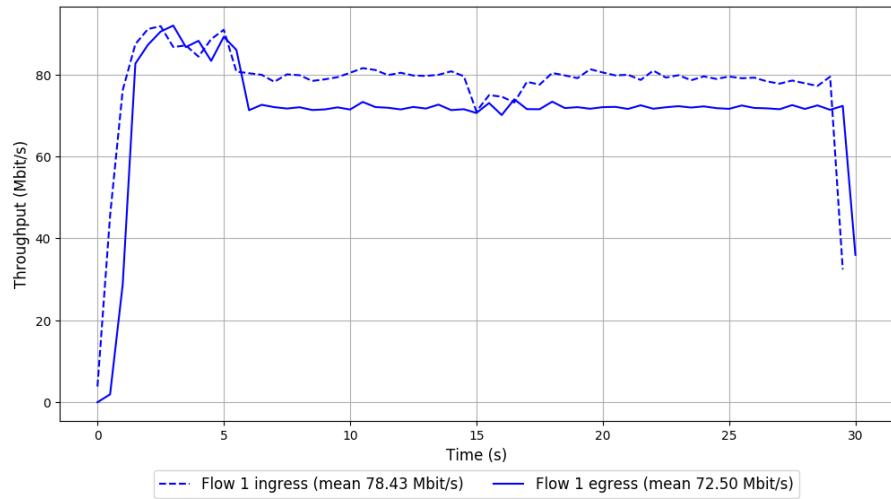


Run 3: Statistics of Indigo

```
Start at: 2019-03-18 20:17:25
End at: 2019-03-18 20:17:55
Local clock offset: -10.121 ms
Remote clock offset: -17.879 ms

# Below is generated by plot.py at 2019-03-19 00:39:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.50 Mbit/s
95th percentile per-packet one-way delay: 56.402 ms
Loss rate: 7.56%
-- Flow 1:
Average throughput: 72.50 Mbit/s
95th percentile per-packet one-way delay: 56.402 ms
Loss rate: 7.56%
```

Run 3: Report of Indigo — Data Link

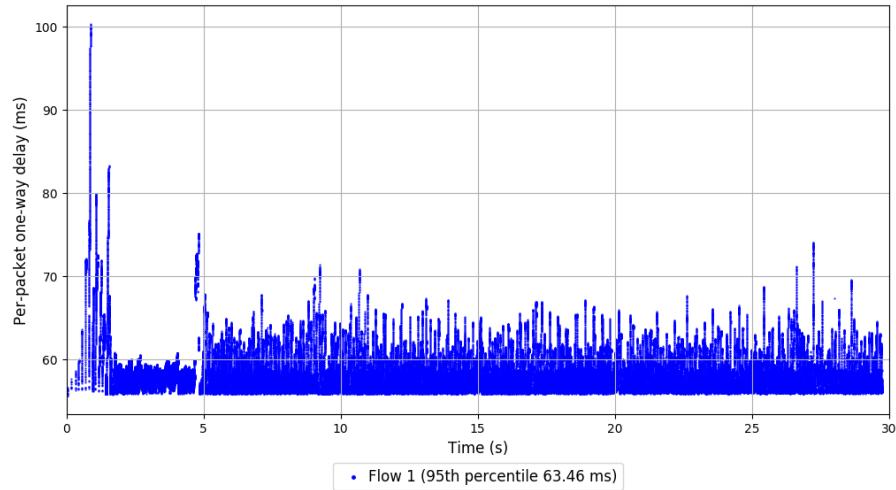
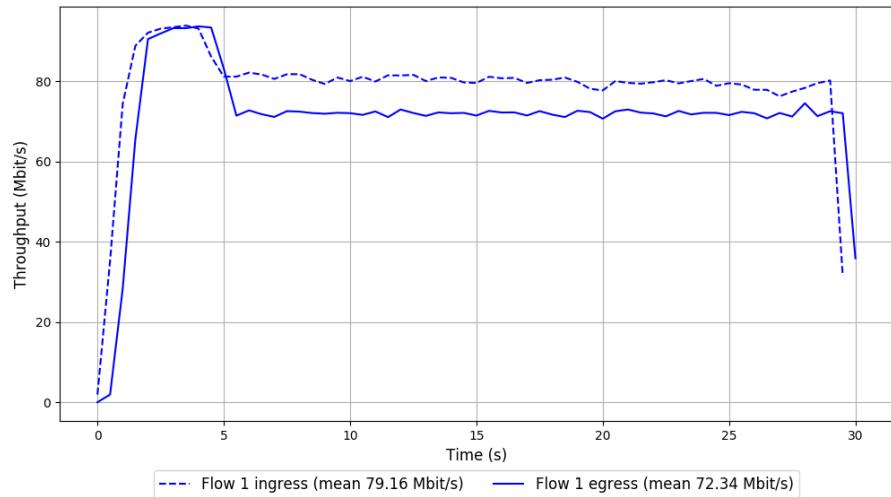


Run 4: Statistics of Indigo

```
Start at: 2019-03-18 23:48:43
End at: 2019-03-18 23:49:13
Local clock offset: -2.277 ms
Remote clock offset: -18.962 ms

# Below is generated by plot.py at 2019-03-19 00:39:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.34 Mbit/s
95th percentile per-packet one-way delay: 63.462 ms
Loss rate: 8.61%
-- Flow 1:
Average throughput: 72.34 Mbit/s
95th percentile per-packet one-way delay: 63.462 ms
Loss rate: 8.61%
```

Run 4: Report of Indigo — Data Link

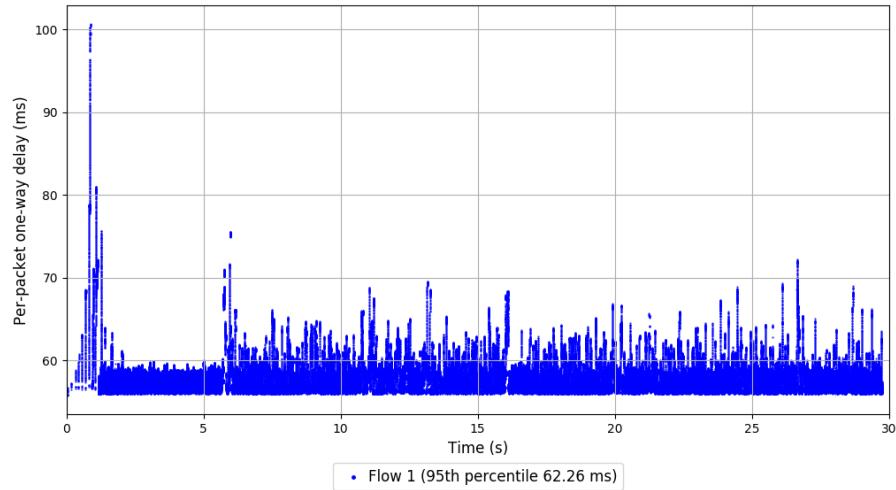
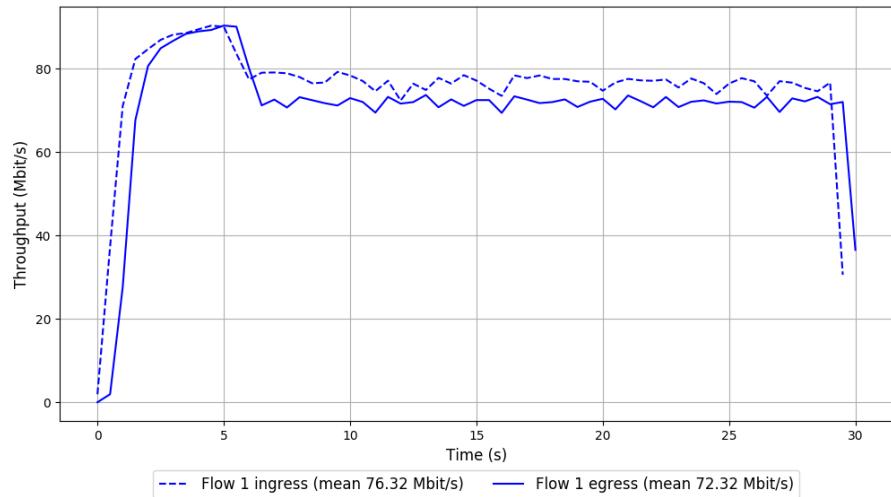


Run 5: Statistics of Indigo

```
Start at: 2019-03-19 00:13:42
End at: 2019-03-19 00:14:12
Local clock offset: -3.405 ms
Remote clock offset: -19.641 ms

# Below is generated by plot.py at 2019-03-19 00:39:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.32 Mbit/s
95th percentile per-packet one-way delay: 62.257 ms
Loss rate: 5.24%
-- Flow 1:
Average throughput: 72.32 Mbit/s
95th percentile per-packet one-way delay: 62.257 ms
Loss rate: 5.24%
```

Run 5: Report of Indigo — Data Link

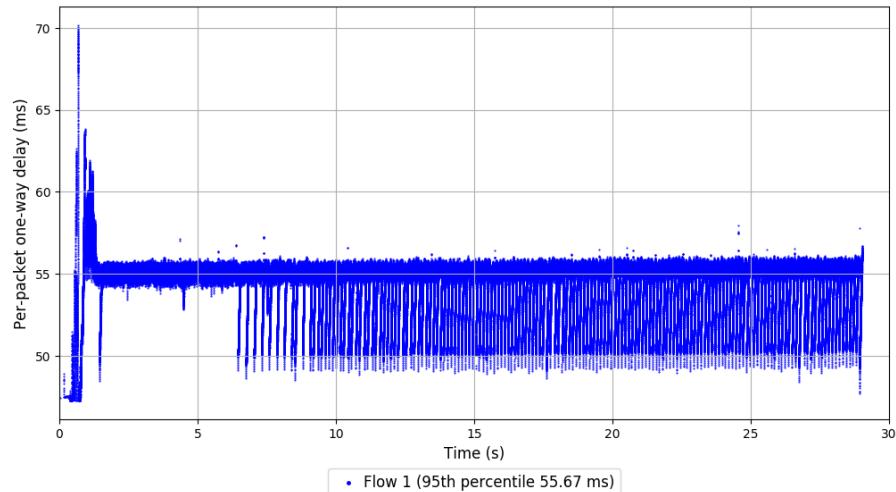
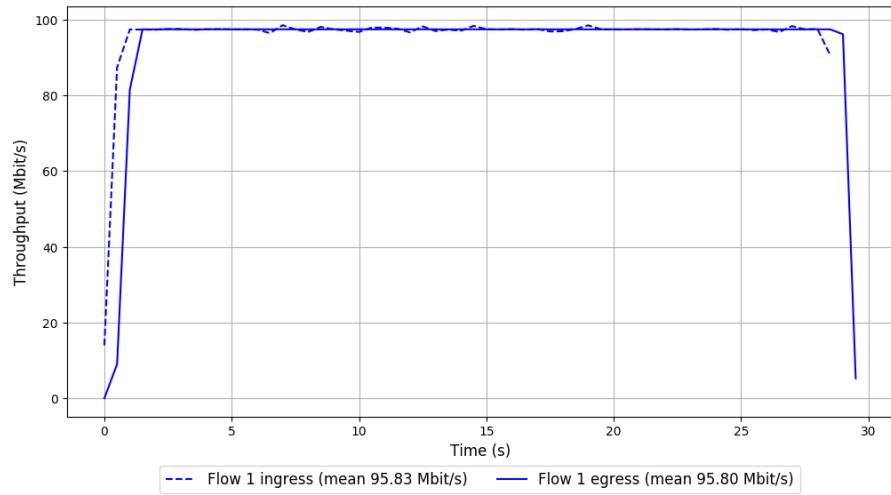


Run 1: Statistics of Indigo-MusesC3

```
Start at: 2019-03-18 19:46:30
End at: 2019-03-18 19:47:00
Local clock offset: -11.536 ms
Remote clock offset: -17.646 ms

# Below is generated by plot.py at 2019-03-19 00:39:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.80 Mbit/s
95th percentile per-packet one-way delay: 55.668 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.80 Mbit/s
95th percentile per-packet one-way delay: 55.668 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-MusesC3 — Data Link

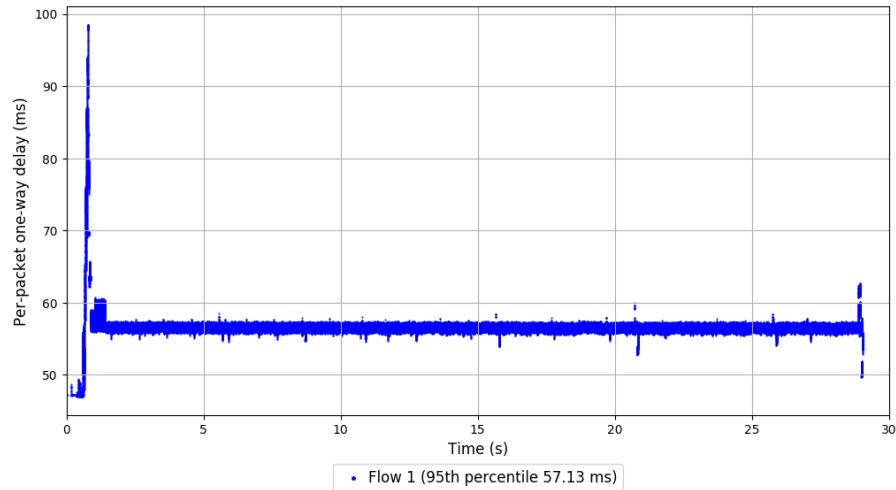
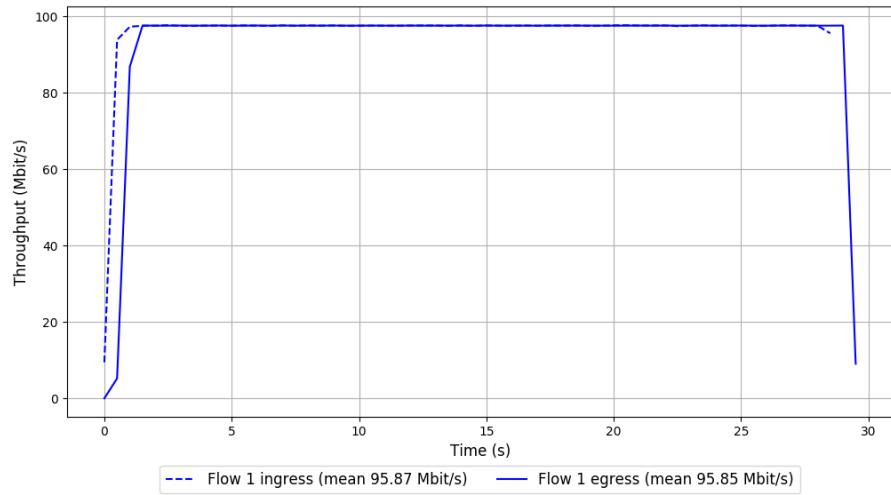


Run 2: Statistics of Indigo-MusesC3

```
Start at: 2019-03-18 20:11:24
End at: 2019-03-18 20:11:54
Local clock offset: -10.044 ms
Remote clock offset: -17.455 ms

# Below is generated by plot.py at 2019-03-19 00:39:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 57.132 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.85 Mbit/s
95th percentile per-packet one-way delay: 57.132 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesC3 — Data Link

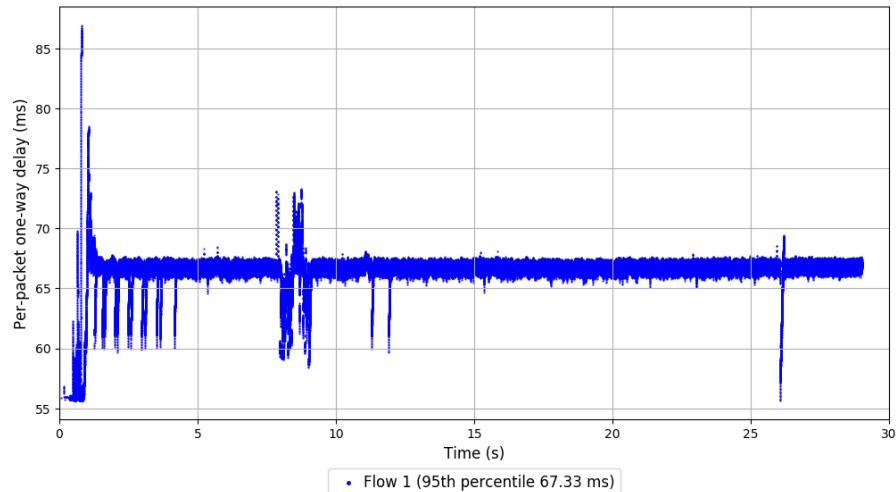
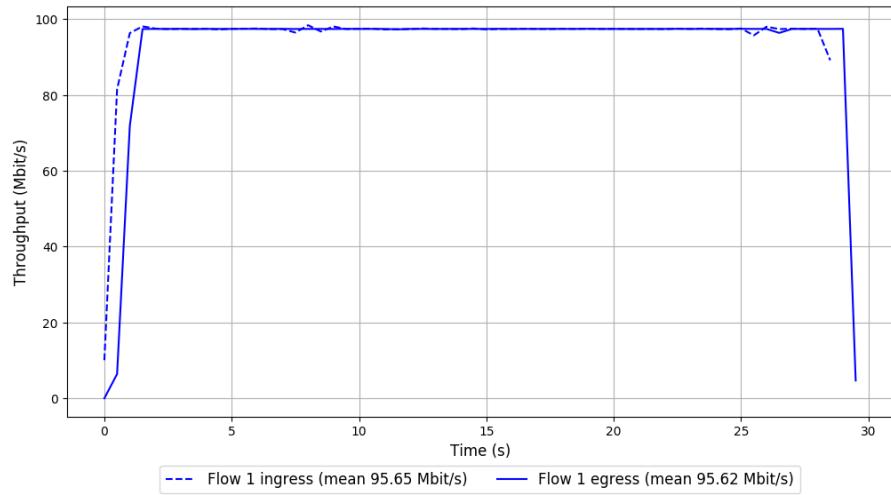


Run 3: Statistics of Indigo-MusesC3

```
Start at: 2019-03-18 23:13:02
End at: 2019-03-18 23:13:32
Local clock offset: -1.79 ms
Remote clock offset: -8.061 ms

# Below is generated by plot.py at 2019-03-19 00:39:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.62 Mbit/s
95th percentile per-packet one-way delay: 67.330 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.62 Mbit/s
95th percentile per-packet one-way delay: 67.330 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesC3 — Data Link

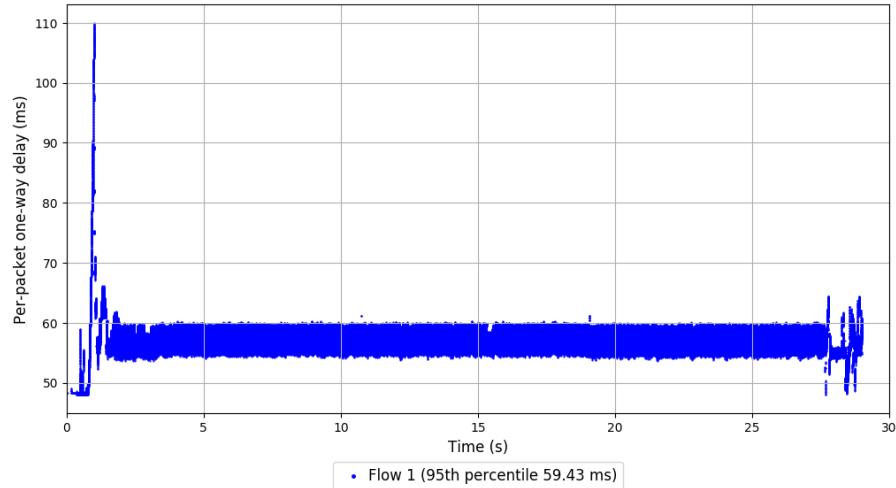
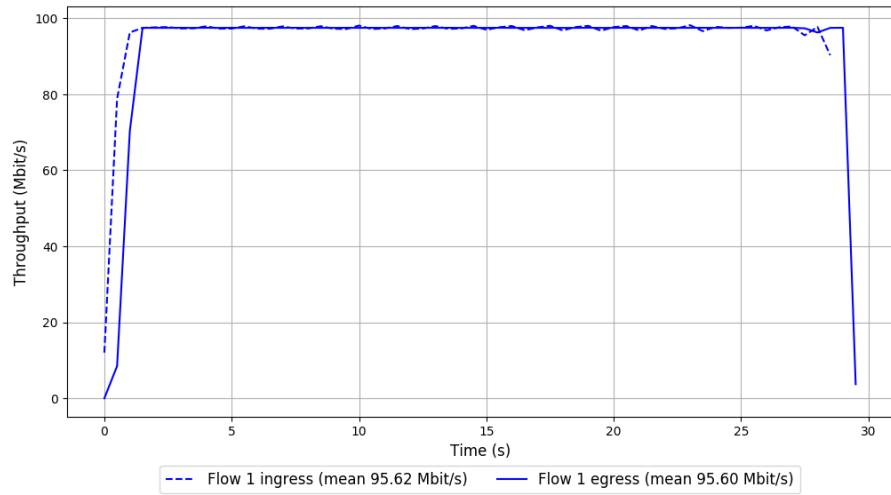


Run 4: Statistics of Indigo-MusesC3

```
Start at: 2019-03-19 00:07:41
End at: 2019-03-19 00:08:11
Local clock offset: -3.175 ms
Remote clock offset: -19.371 ms

# Below is generated by plot.py at 2019-03-19 00:40:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 59.429 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 59.429 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesC3 — Data Link

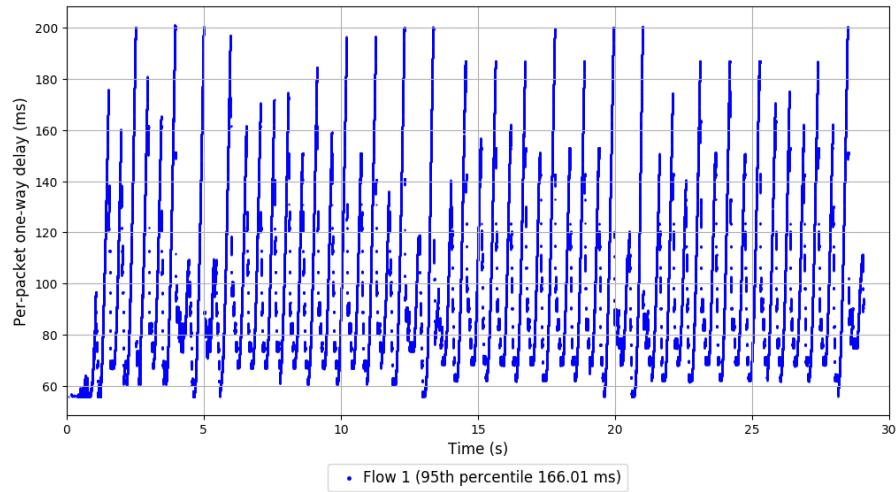
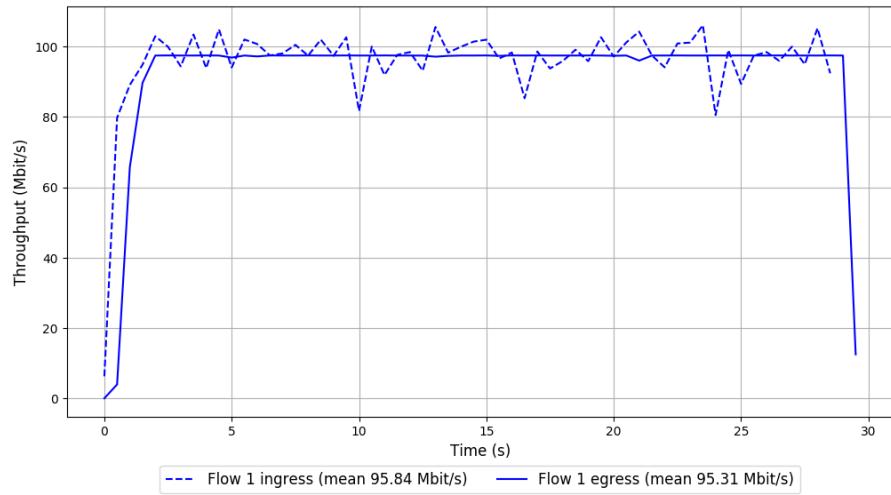


Run 5: Statistics of Indigo-MusesC3

```
Start at: 2019-03-19 00:32:41
End at: 2019-03-19 00:33:11
Local clock offset: -2.077 ms
Remote clock offset: -20.052 ms

# Below is generated by plot.py at 2019-03-19 00:40:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.31 Mbit/s
95th percentile per-packet one-way delay: 166.010 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 95.31 Mbit/s
95th percentile per-packet one-way delay: 166.010 ms
Loss rate: 0.43%
```

Run 5: Report of Indigo-MusesC3 — Data Link

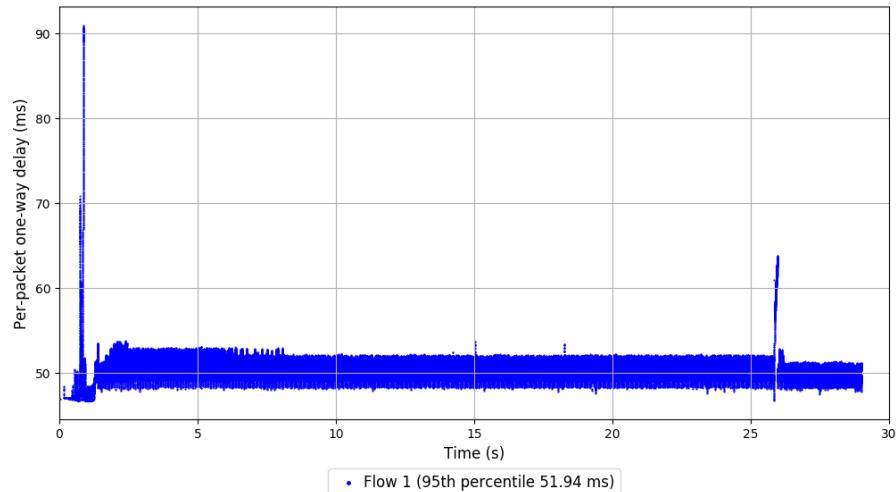
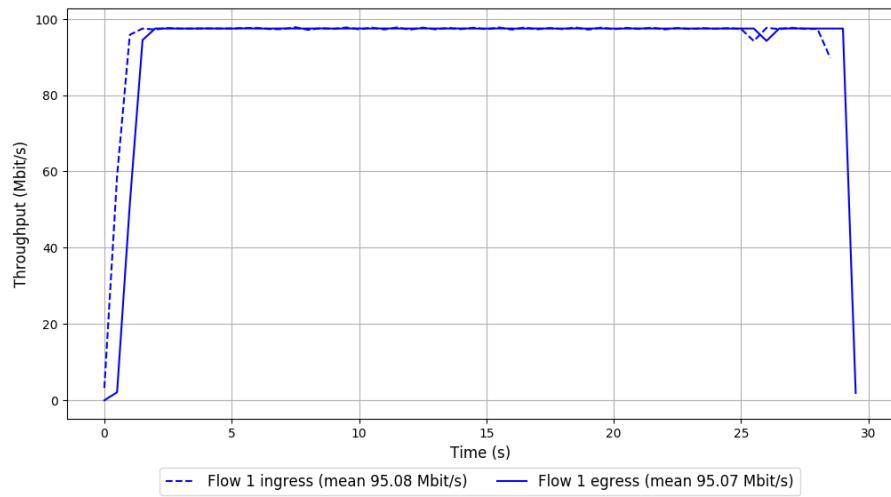


Run 1: Statistics of Indigo-MusesC5

```
Start at: 2019-03-18 19:36:00
End at: 2019-03-18 19:36:30
Local clock offset: -9.417 ms
Remote clock offset: -18.138 ms

# Below is generated by plot.py at 2019-03-19 00:40:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.07 Mbit/s
95th percentile per-packet one-way delay: 51.942 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.07 Mbit/s
95th percentile per-packet one-way delay: 51.942 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-MusesC5 — Data Link

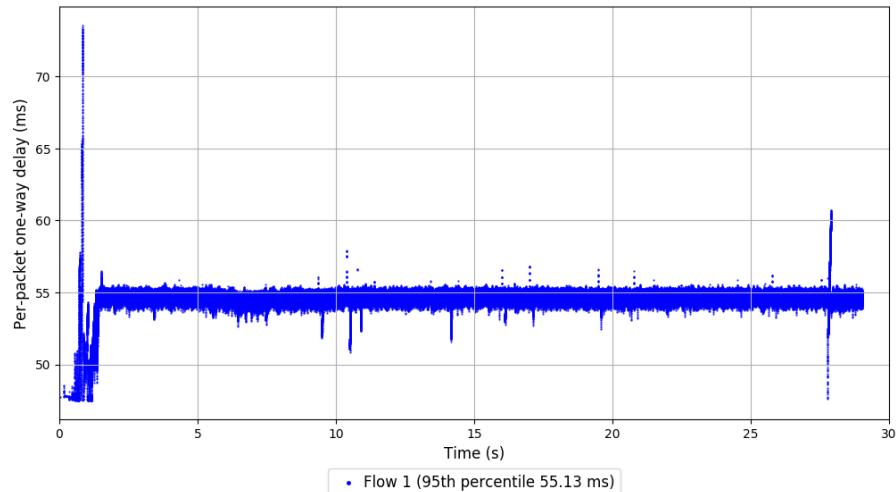
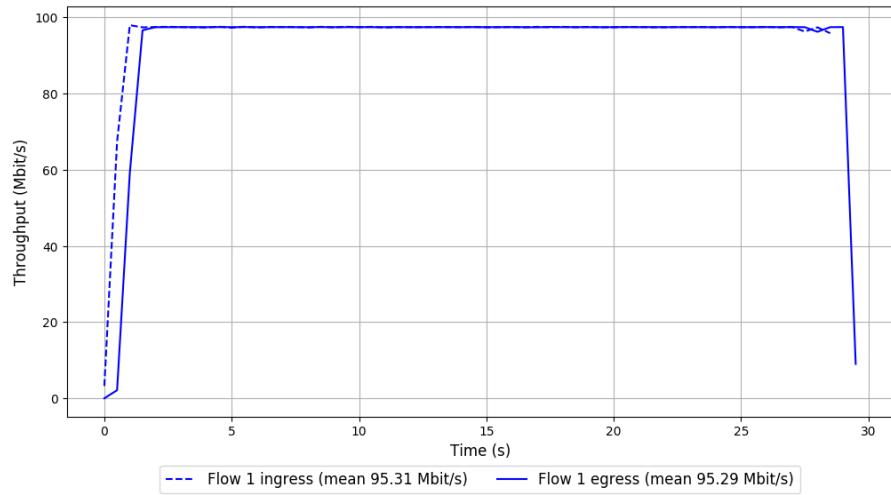


Run 2: Statistics of Indigo-MusesC5

```
Start at: 2019-03-18 20:00:54
End at: 2019-03-18 20:01:24
Local clock offset: -8.429 ms
Remote clock offset: -17.382 ms

# Below is generated by plot.py at 2019-03-19 00:40:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.29 Mbit/s
95th percentile per-packet one-way delay: 55.135 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.29 Mbit/s
95th percentile per-packet one-way delay: 55.135 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesC5 — Data Link

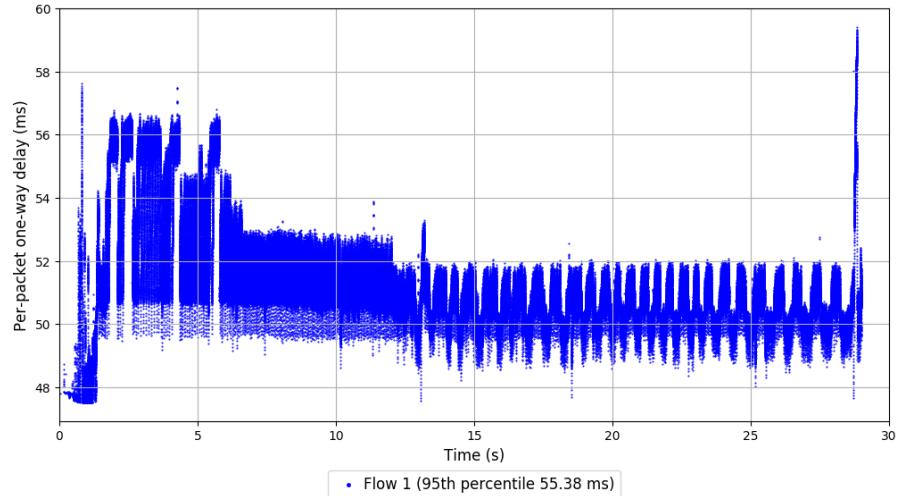
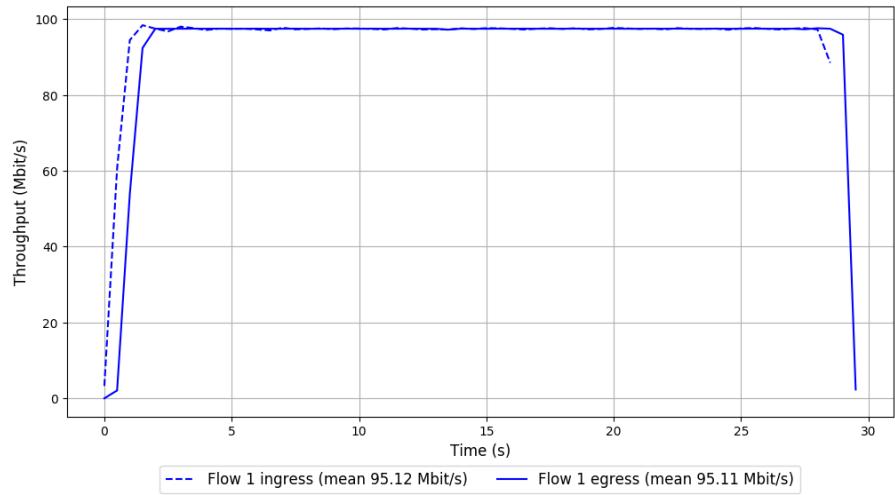


Run 3: Statistics of Indigo-MusesC5

```
Start at: 2019-03-18 22:04:05
End at: 2019-03-18 22:04:35
Local clock offset: -5.861 ms
Remote clock offset: -17.56 ms

# Below is generated by plot.py at 2019-03-19 00:40:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.11 Mbit/s
95th percentile per-packet one-way delay: 55.375 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.11 Mbit/s
95th percentile per-packet one-way delay: 55.375 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesC5 — Data Link

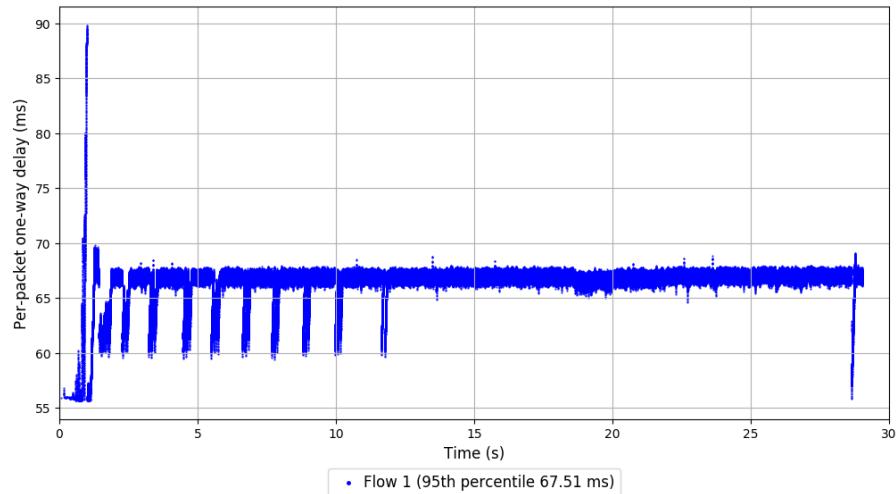
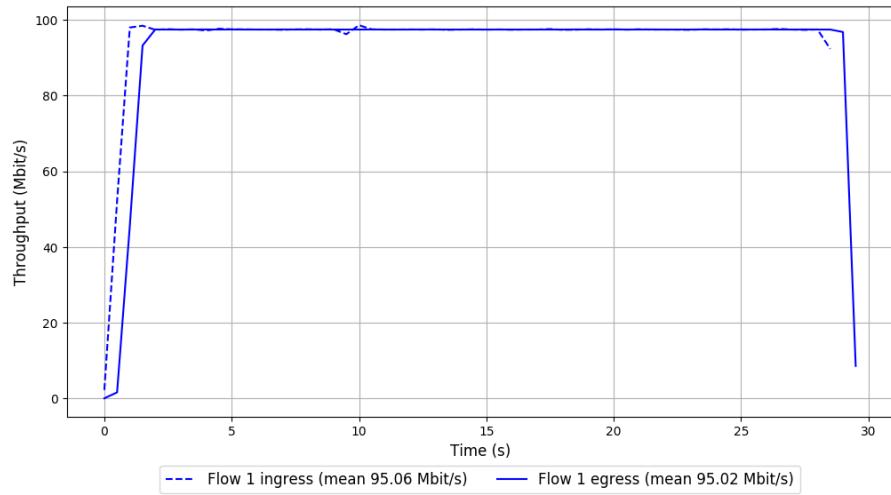


Run 4: Statistics of Indigo-MusesC5

```
Start at: 2019-03-18 23:57:10
End at: 2019-03-18 23:57:41
Local clock offset: -2.781 ms
Remote clock offset: -20.686 ms

# Below is generated by plot.py at 2019-03-19 00:40:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.02 Mbit/s
95th percentile per-packet one-way delay: 67.509 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.02 Mbit/s
95th percentile per-packet one-way delay: 67.509 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesC5 — Data Link

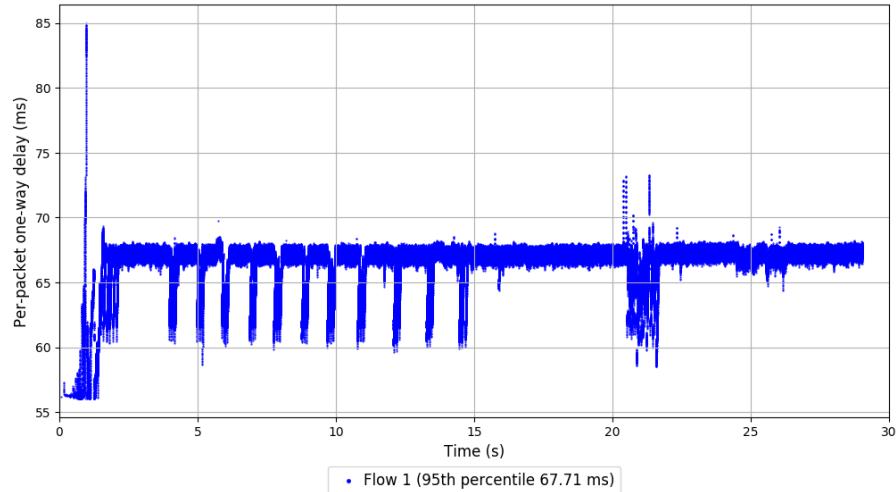
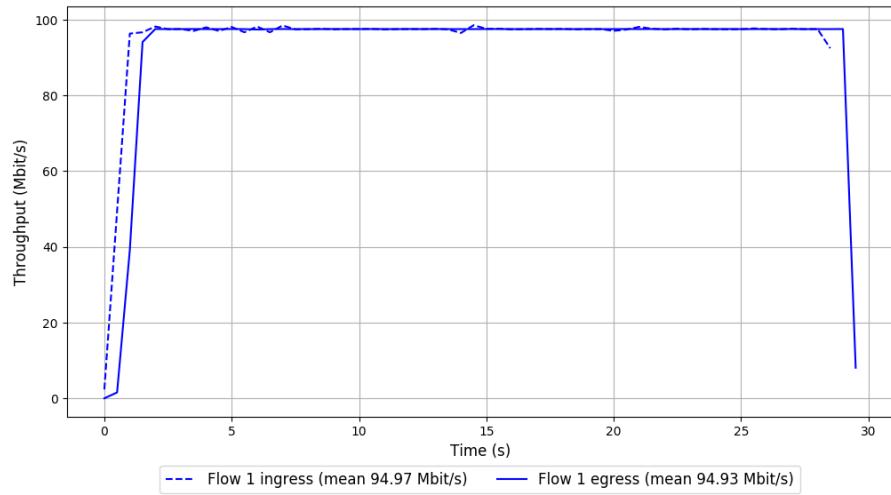


Run 5: Statistics of Indigo-MusesC5

```
Start at: 2019-03-19 00:22:05
End at: 2019-03-19 00:22:35
Local clock offset: -2.676 ms
Remote clock offset: -19.47 ms

# Below is generated by plot.py at 2019-03-19 00:41:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.93 Mbit/s
95th percentile per-packet one-way delay: 67.714 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 94.93 Mbit/s
95th percentile per-packet one-way delay: 67.714 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-MusesC5 — Data Link

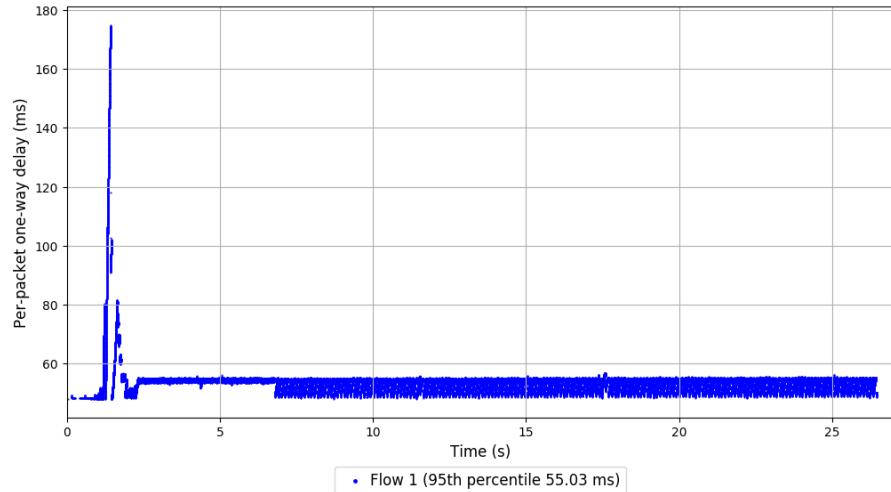
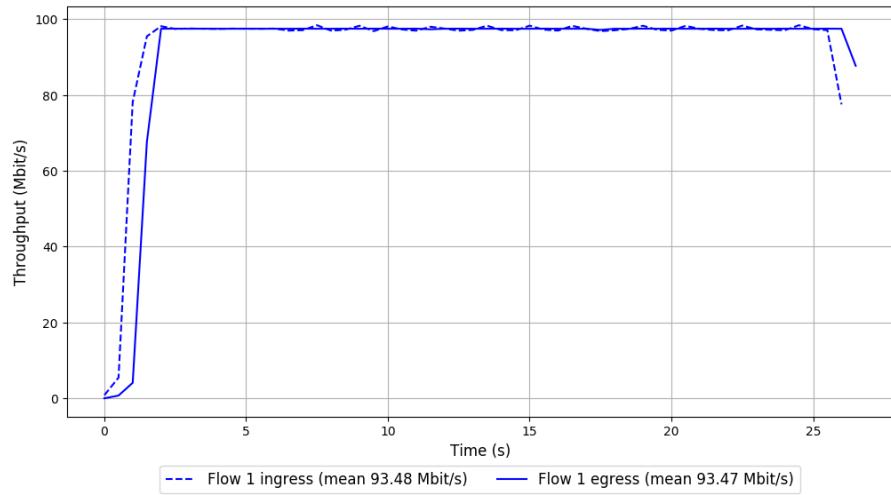


Run 1: Statistics of Indigo-MusesD

```
Start at: 2019-03-18 19:24:05
End at: 2019-03-18 19:24:35
Local clock offset: -13.198 ms
Remote clock offset: -17.836 ms

# Below is generated by plot.py at 2019-03-19 00:41:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.47 Mbit/s
95th percentile per-packet one-way delay: 55.028 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 93.47 Mbit/s
95th percentile per-packet one-way delay: 55.028 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-MusesD — Data Link

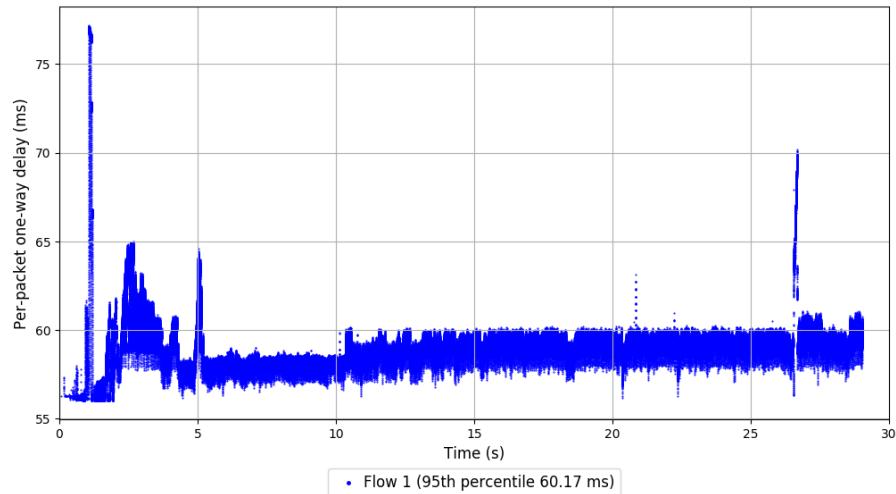
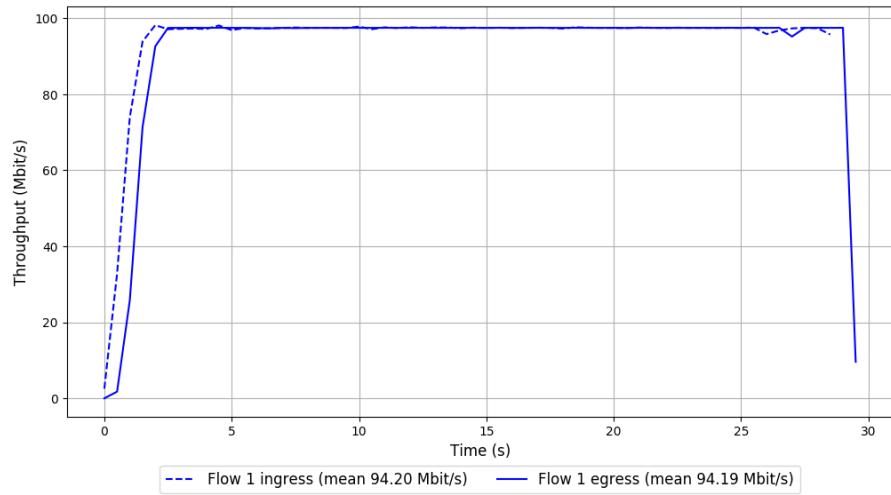


Run 2: Statistics of Indigo-MusesD

```
Start at: 2019-03-18 19:48:56
End at: 2019-03-18 19:49:26
Local clock offset: -10.147 ms
Remote clock offset: -17.757 ms

# Below is generated by plot.py at 2019-03-19 00:41:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.19 Mbit/s
95th percentile per-packet one-way delay: 60.171 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 94.19 Mbit/s
95th percentile per-packet one-way delay: 60.171 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesD — Data Link

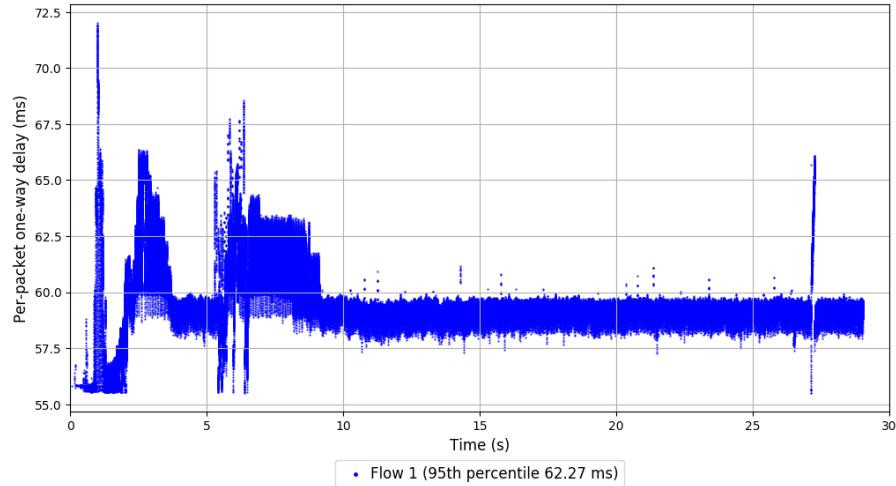
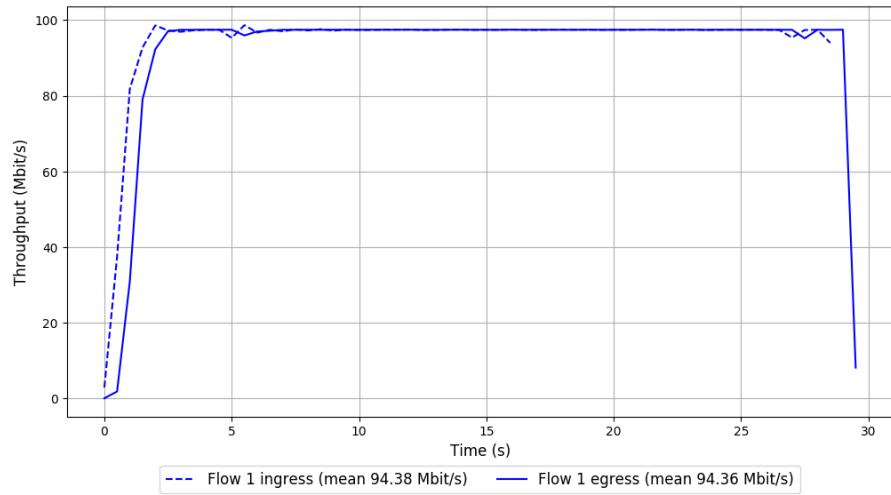


Run 3: Statistics of Indigo-MusesD

```
Start at: 2019-03-18 20:13:50
End at: 2019-03-18 20:14:20
Local clock offset: -10.602 ms
Remote clock offset: -17.832 ms

# Below is generated by plot.py at 2019-03-19 00:41:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.36 Mbit/s
95th percentile per-packet one-way delay: 62.270 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 94.36 Mbit/s
95th percentile per-packet one-way delay: 62.270 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-MusesD — Data Link

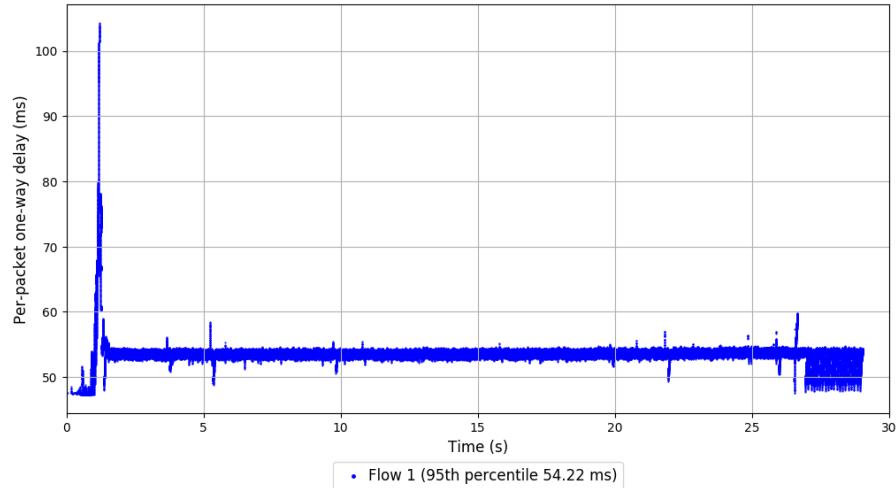
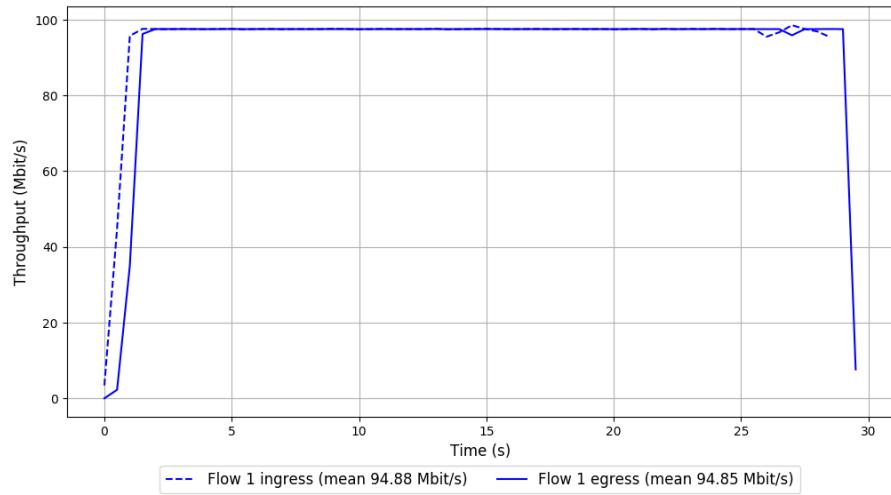


Run 4: Statistics of Indigo-MusesD

```
Start at: 2019-03-18 23:45:07
End at: 2019-03-18 23:45:37
Local clock offset: -2.082 ms
Remote clock offset: -17.953 ms

# Below is generated by plot.py at 2019-03-19 00:41:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.85 Mbit/s
95th percentile per-packet one-way delay: 54.222 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 94.85 Mbit/s
95th percentile per-packet one-way delay: 54.222 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesD — Data Link

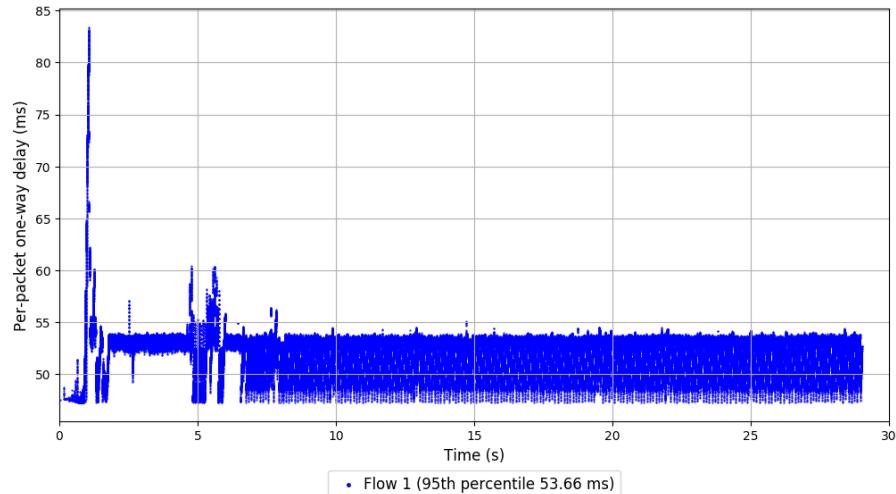
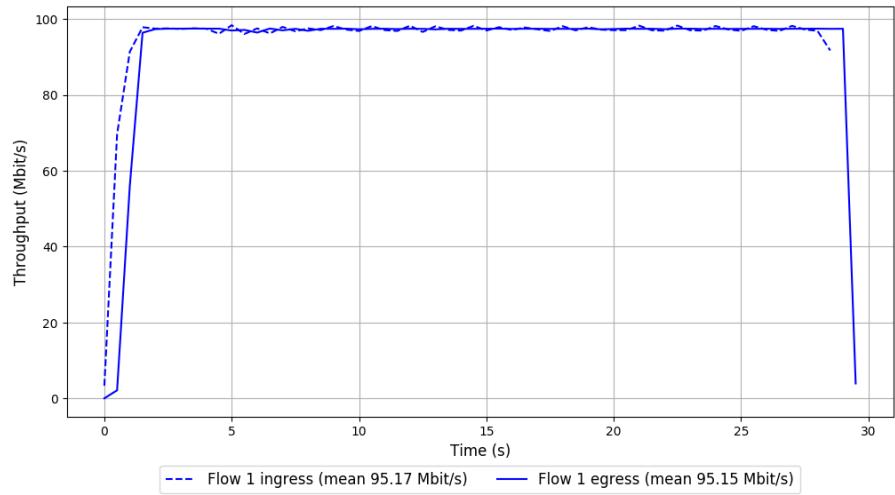


Run 5: Statistics of Indigo-MusesD

```
Start at: 2019-03-19 00:10:07
End at: 2019-03-19 00:10:37
Local clock offset: -3.46 ms
Remote clock offset: -20.067 ms

# Below is generated by plot.py at 2019-03-19 00:41:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.15 Mbit/s
95th percentile per-packet one-way delay: 53.656 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 95.15 Mbit/s
95th percentile per-packet one-way delay: 53.656 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-MusesD — Data Link

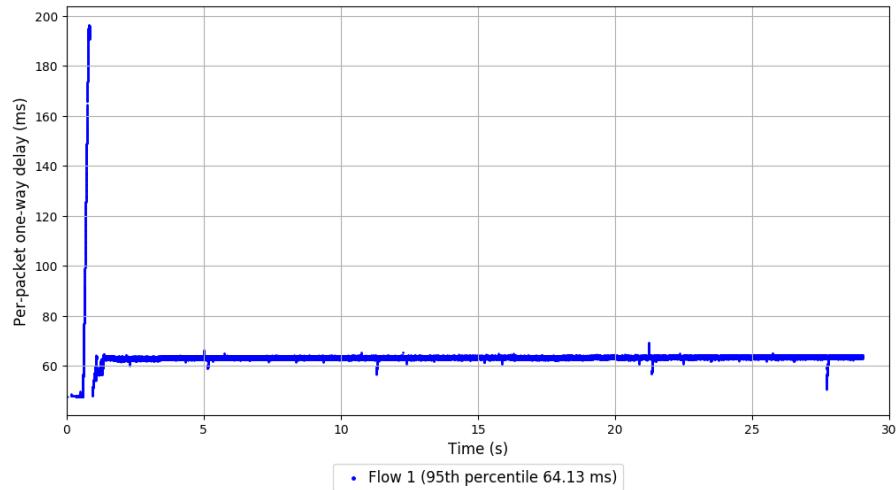
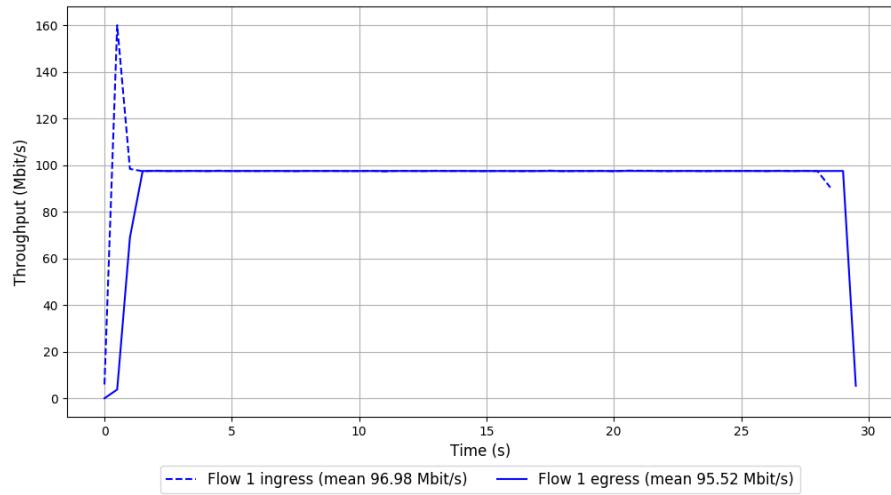


Run 1: Statistics of Indigo-MusesT

```
Start at: 2019-03-18 19:47:43
End at: 2019-03-18 19:48:13
Local clock offset: -10.845 ms
Remote clock offset: -17.537 ms

# Below is generated by plot.py at 2019-03-19 00:41:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.52 Mbit/s
95th percentile per-packet one-way delay: 64.126 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 95.52 Mbit/s
95th percentile per-packet one-way delay: 64.126 ms
Loss rate: 1.45%
```

Run 1: Report of Indigo-MusesT — Data Link

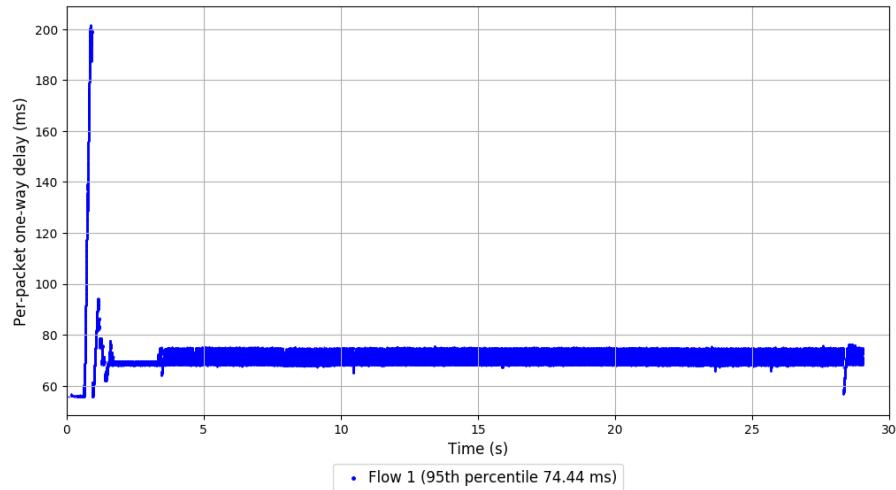
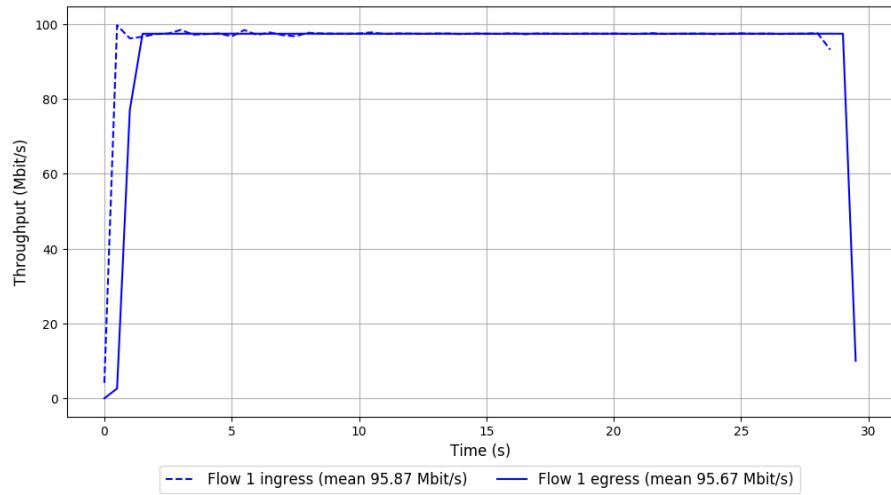


Run 2: Statistics of Indigo-MusesT

```
Start at: 2019-03-18 20:12:37
End at: 2019-03-18 20:13:07
Local clock offset: -10.274 ms
Remote clock offset: -17.725 ms

# Below is generated by plot.py at 2019-03-19 00:42:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 74.439 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 74.439 ms
Loss rate: 0.16%
```

Run 2: Report of Indigo-MusesT — Data Link

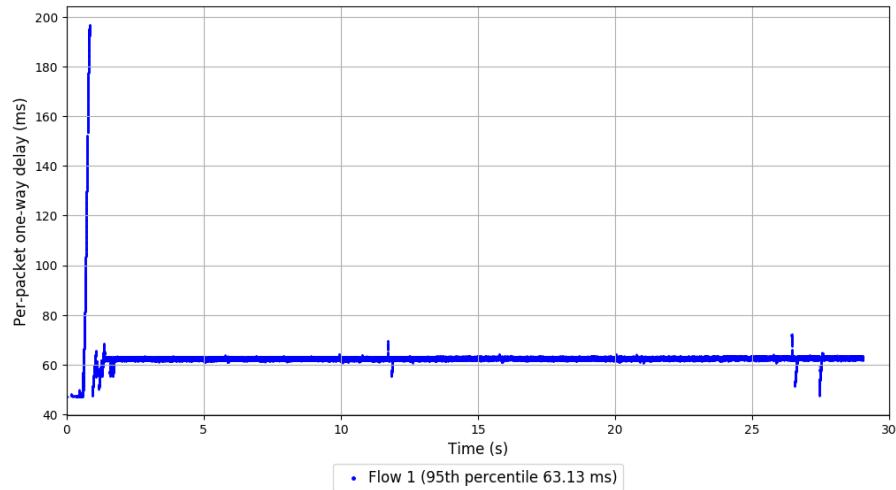
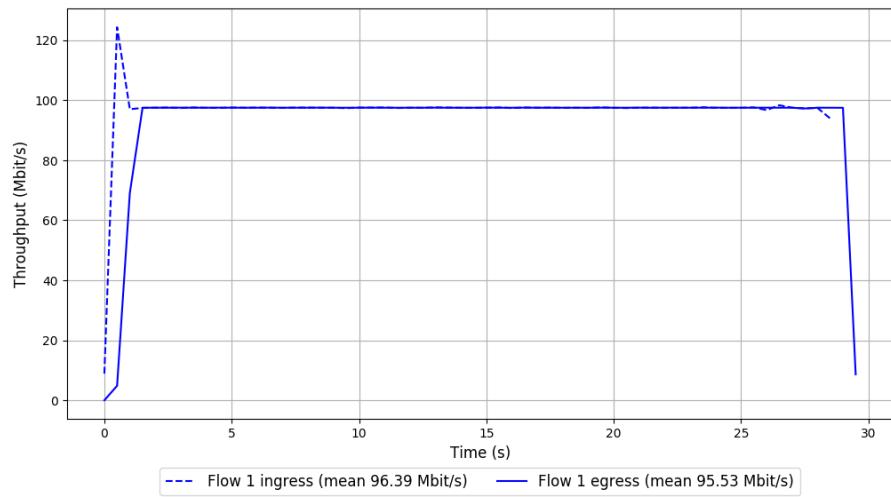


Run 3: Statistics of Indigo-MusesT

```
Start at: 2019-03-18 23:34:51
End at: 2019-03-18 23:35:21
Local clock offset: -1.847 ms
Remote clock offset: -12.173 ms

# Below is generated by plot.py at 2019-03-19 00:42:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.53 Mbit/s
95th percentile per-packet one-way delay: 63.127 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 95.53 Mbit/s
95th percentile per-packet one-way delay: 63.127 ms
Loss rate: 0.84%
```

Run 3: Report of Indigo-MusesT — Data Link

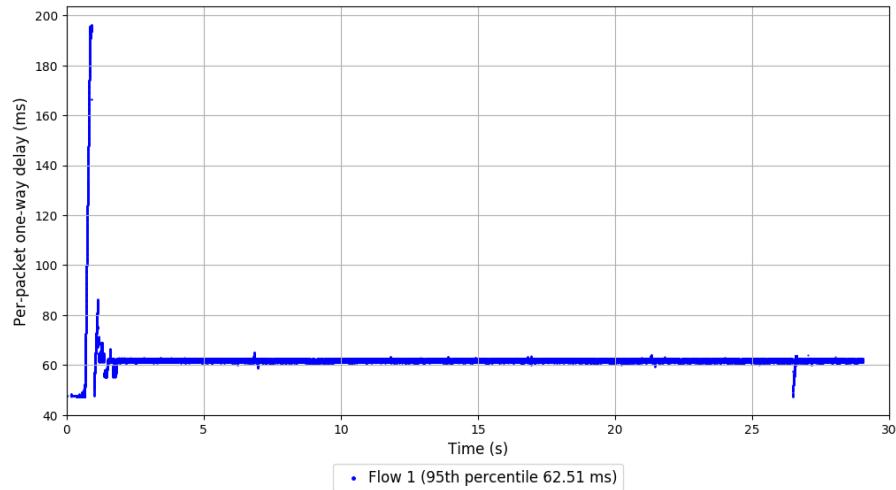
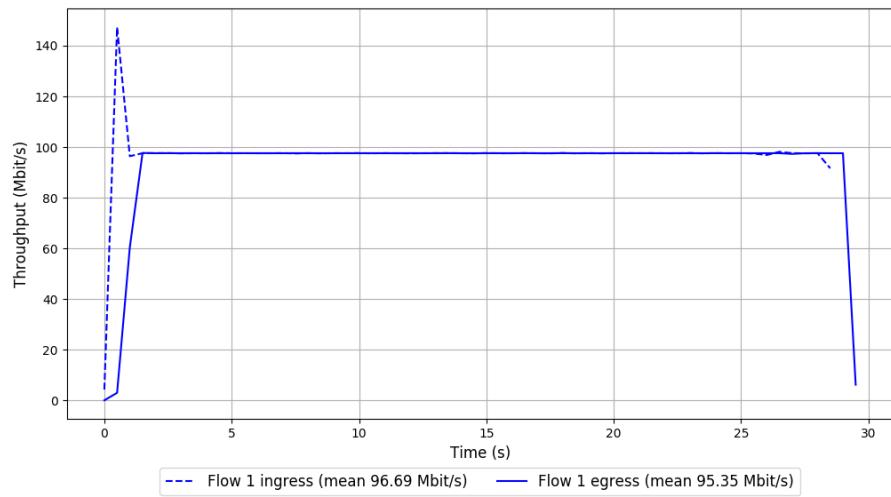


Run 4: Statistics of Indigo-MusesT

```
Start at: 2019-03-19 00:08:54
End at: 2019-03-19 00:09:24
Local clock offset: -3.315 ms
Remote clock offset: -20.228 ms

# Below is generated by plot.py at 2019-03-19 00:42:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.35 Mbit/s
95th percentile per-packet one-way delay: 62.509 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 95.35 Mbit/s
95th percentile per-packet one-way delay: 62.509 ms
Loss rate: 1.33%
```

Run 4: Report of Indigo-MusesT — Data Link

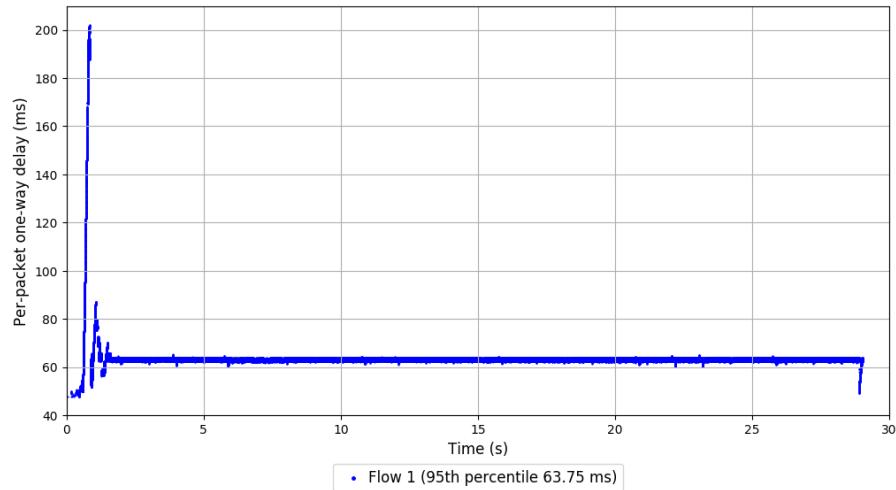
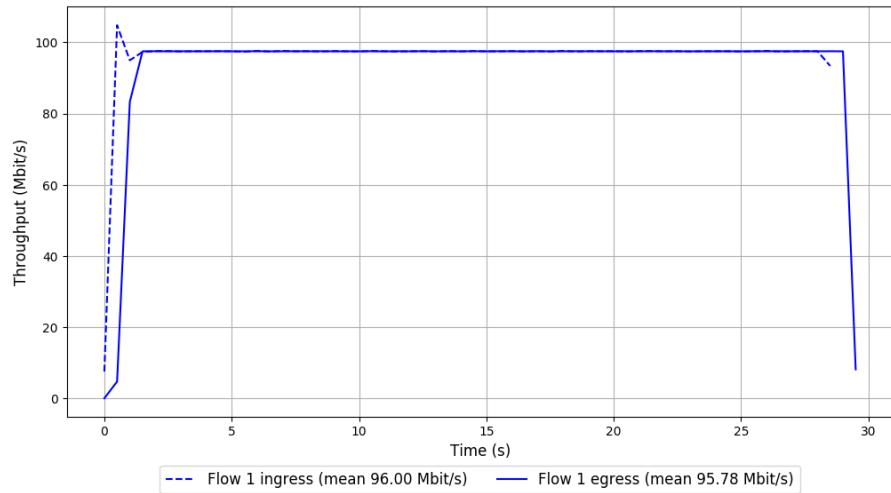


Run 5: Statistics of Indigo-MusesT

```
Start at: 2019-03-19 00:33:54
End at: 2019-03-19 00:34:24
Local clock offset: -2.242 ms
Remote clock offset: -19.826 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 63.754 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 95.78 Mbit/s
95th percentile per-packet one-way delay: 63.754 ms
Loss rate: 0.17%
```

Run 5: Report of Indigo-MusesT — Data Link

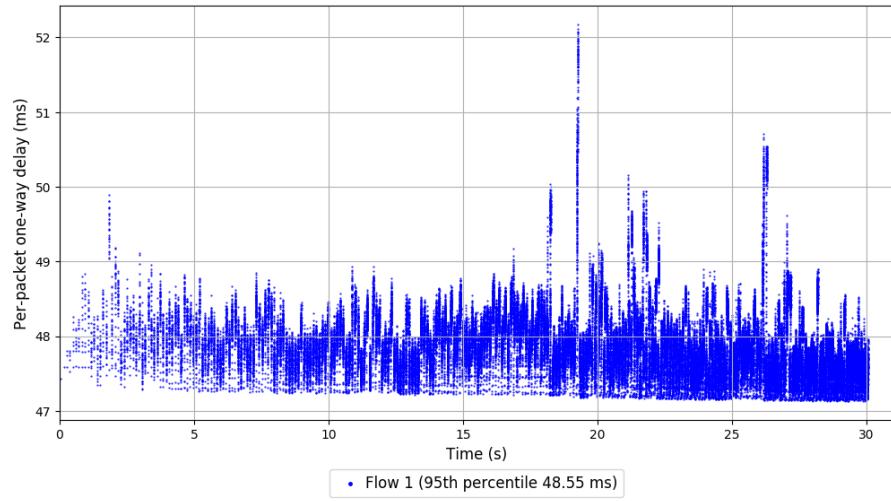
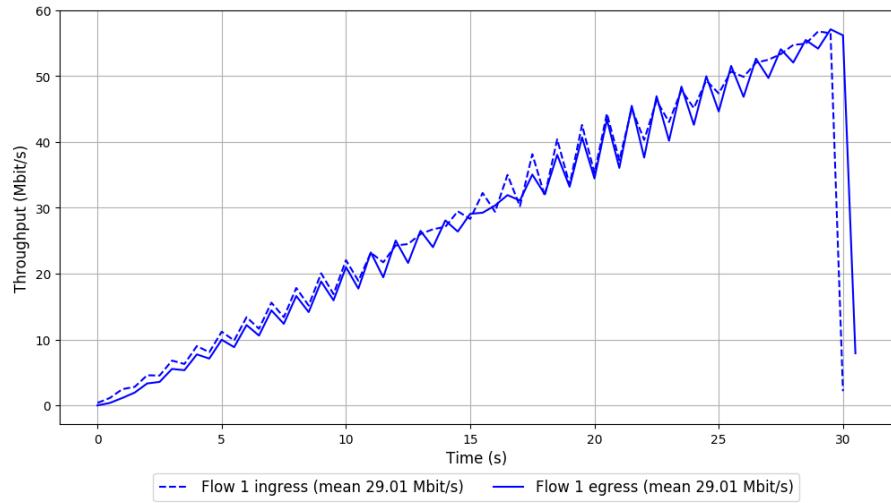


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2019-03-18 19:40:41
End at: 2019-03-18 19:41:11
Local clock offset: -10.129 ms
Remote clock offset: -17.674 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 29.01 Mbit/s
95th percentile per-packet one-way delay: 48.551 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 29.01 Mbit/s
95th percentile per-packet one-way delay: 48.551 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

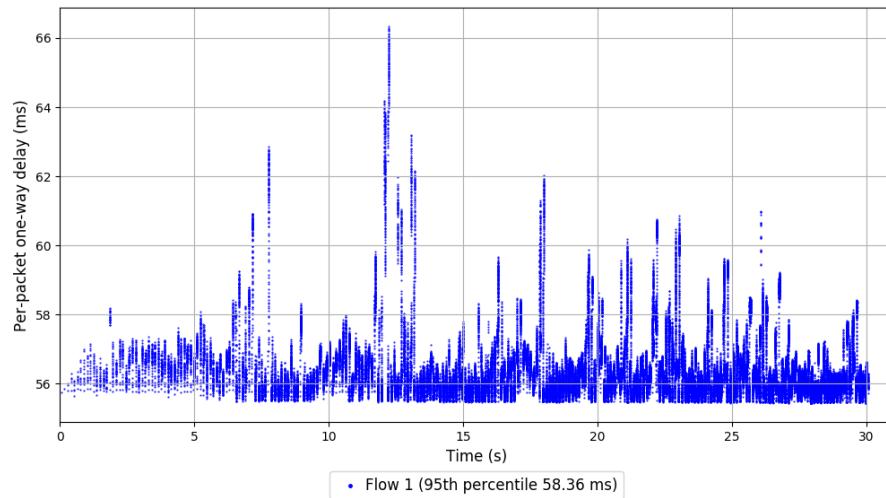
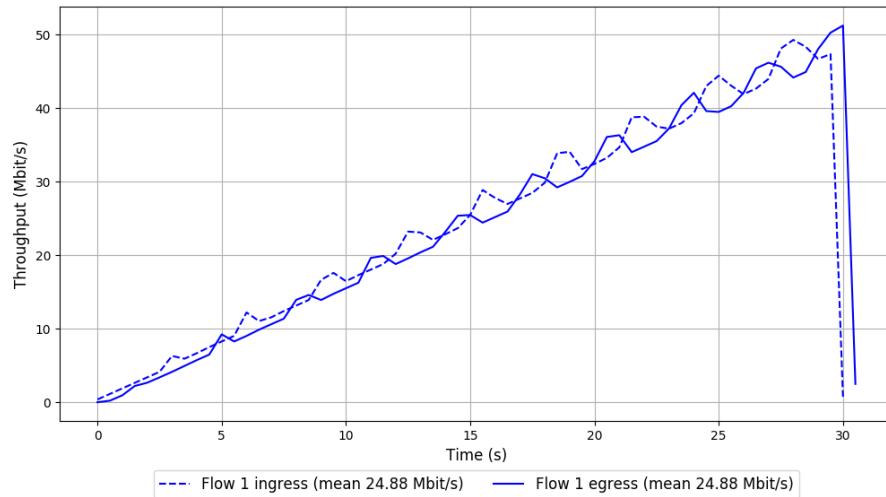


Run 2: Statistics of LEDBAT

```
Start at: 2019-03-18 20:05:35
End at: 2019-03-18 20:06:05
Local clock offset: -8.854 ms
Remote clock offset: -17.73 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.88 Mbit/s
95th percentile per-packet one-way delay: 58.356 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.88 Mbit/s
95th percentile per-packet one-way delay: 58.356 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

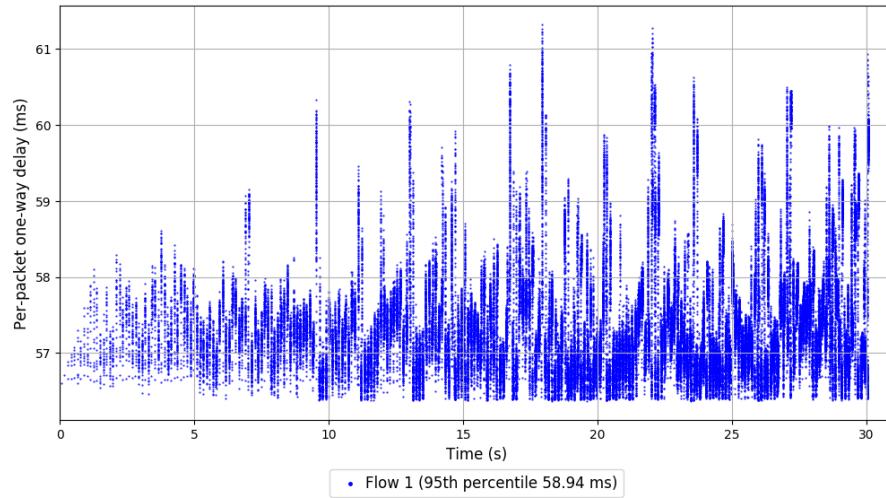
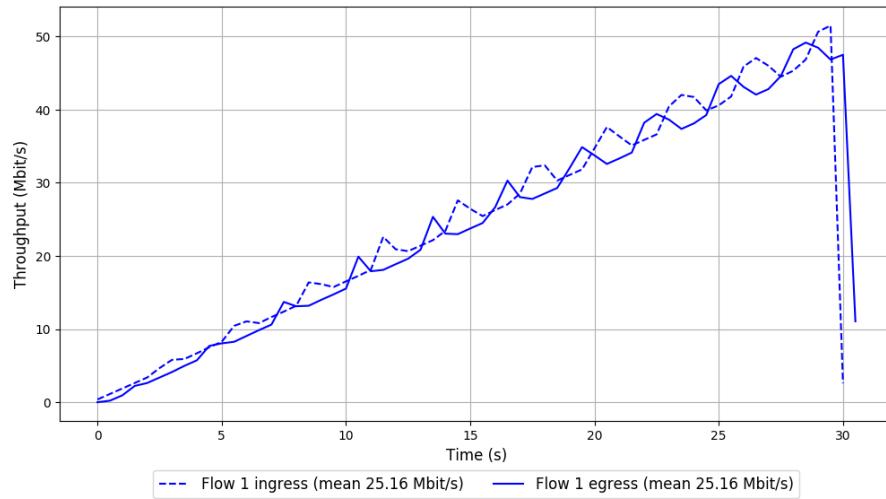


Run 3: Statistics of LEDBAT

```
Start at: 2019-03-18 22:41:10
End at: 2019-03-18 22:41:40
Local clock offset: -2.157 ms
Remote clock offset: -18.849 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.16 Mbit/s
95th percentile per-packet one-way delay: 58.941 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 25.16 Mbit/s
95th percentile per-packet one-way delay: 58.941 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link

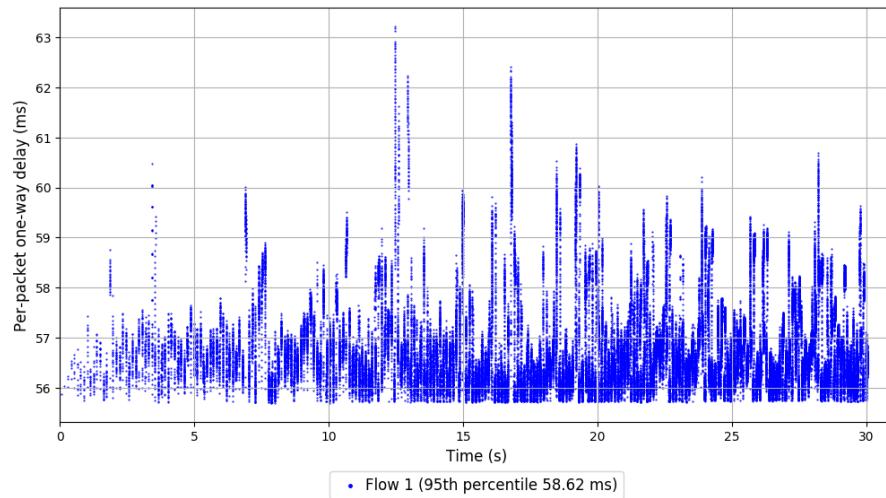
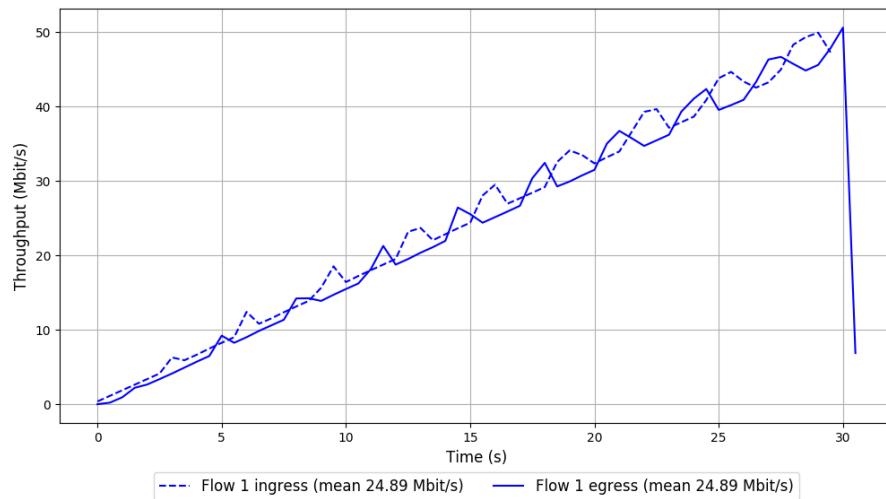


Run 4: Statistics of LEDBAT

```
Start at: 2019-03-19 00:01:52
End at: 2019-03-19 00:02:22
Local clock offset: -3.246 ms
Remote clock offset: -21.584 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.89 Mbit/s
95th percentile per-packet one-way delay: 58.624 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.89 Mbit/s
95th percentile per-packet one-way delay: 58.624 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

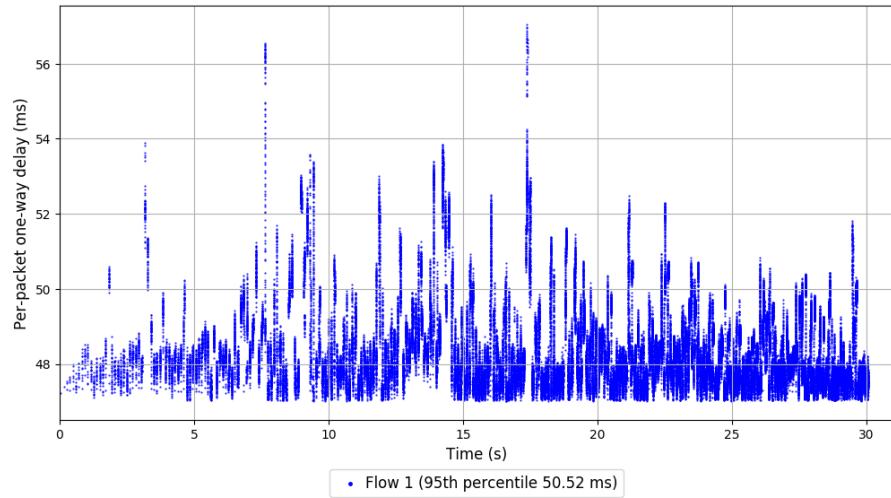
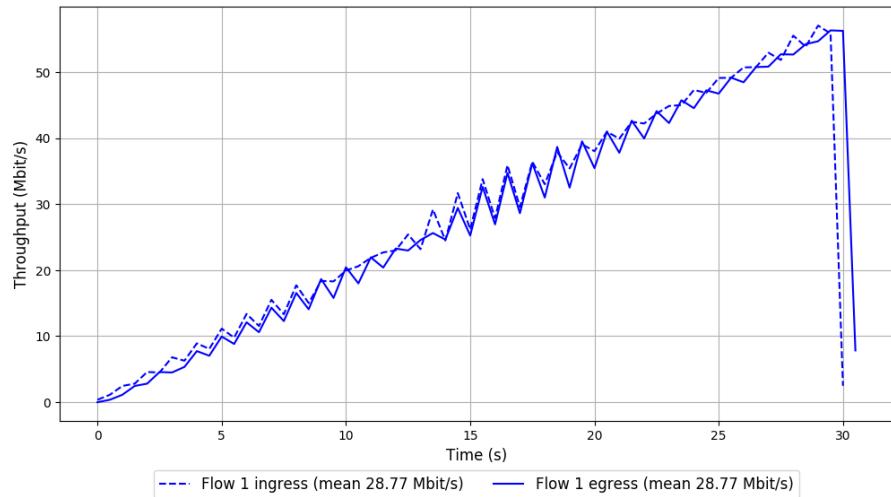


Run 5: Statistics of LEDBAT

```
Start at: 2019-03-19 00:26:50
End at: 2019-03-19 00:27:20
Local clock offset: -2.445 ms
Remote clock offset: -19.799 ms

# Below is generated by plot.py at 2019-03-19 00:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.77 Mbit/s
95th percentile per-packet one-way delay: 50.522 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 28.77 Mbit/s
95th percentile per-packet one-way delay: 50.522 ms
Loss rate: 0.00%
```

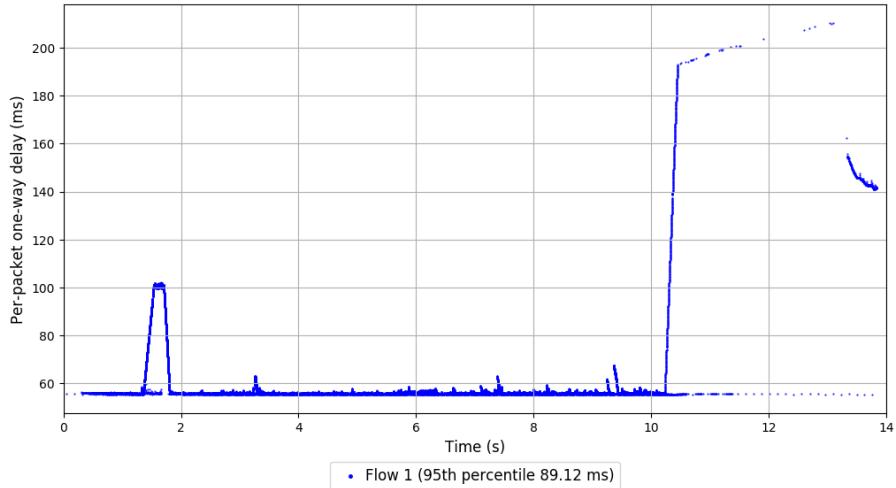
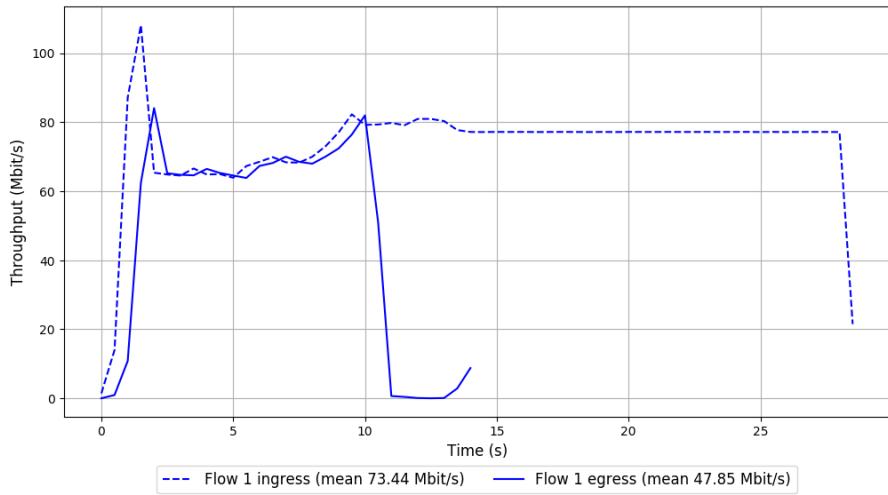
Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2019-03-18 19:43:01
End at: 2019-03-18 19:43:31
Local clock offset: -10.67 ms
Remote clock offset: -17.776 ms

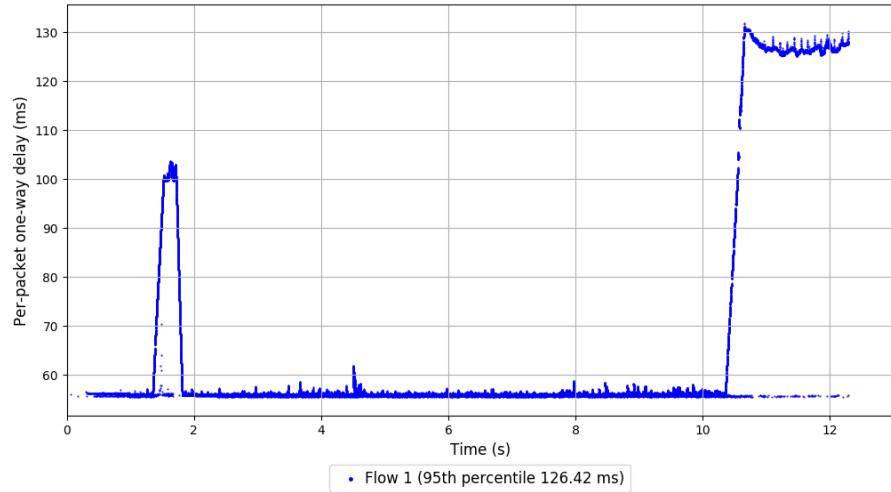
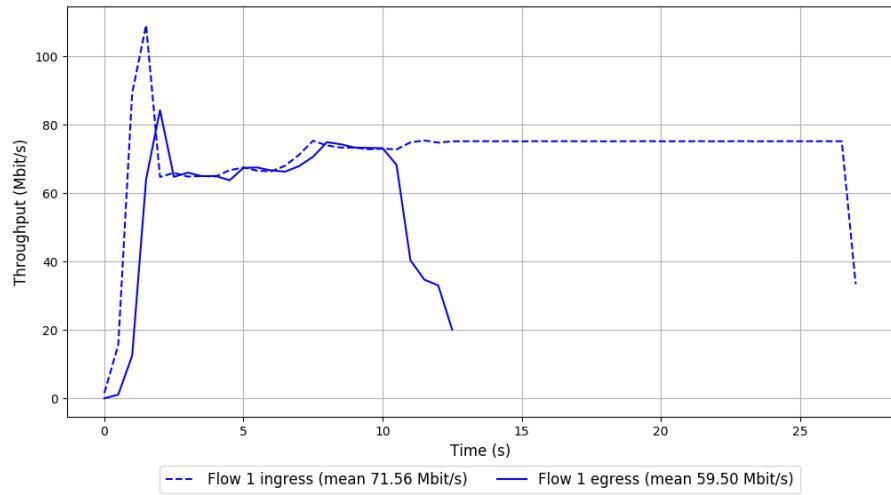
Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2019-03-18 20:07:55
End at: 2019-03-18 20:08:25
Local clock offset: -9.325 ms
Remote clock offset: -17.403 ms

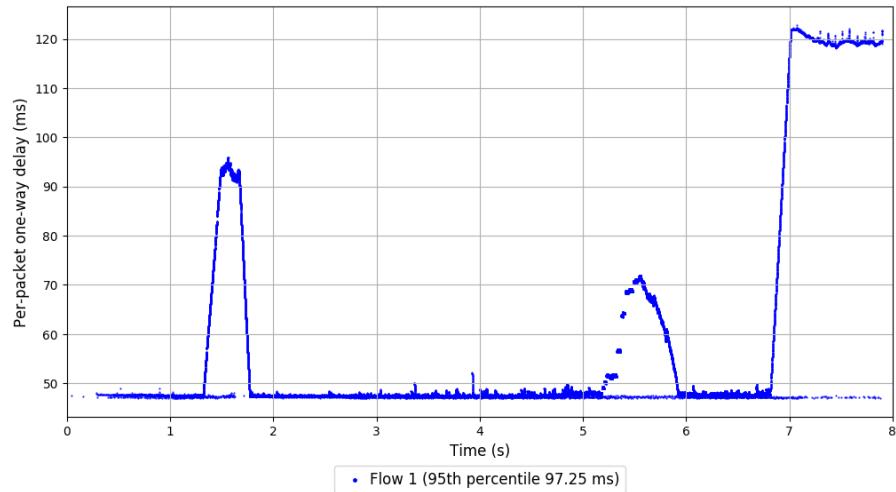
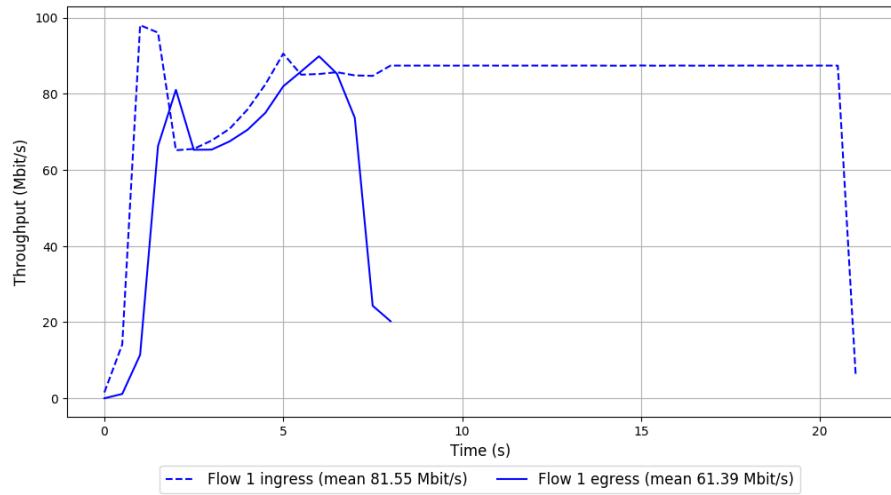
Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2019-03-18 22:51:25
End at: 2019-03-18 22:51:55
Local clock offset: -1.798 ms
Remote clock offset: -18.954 ms

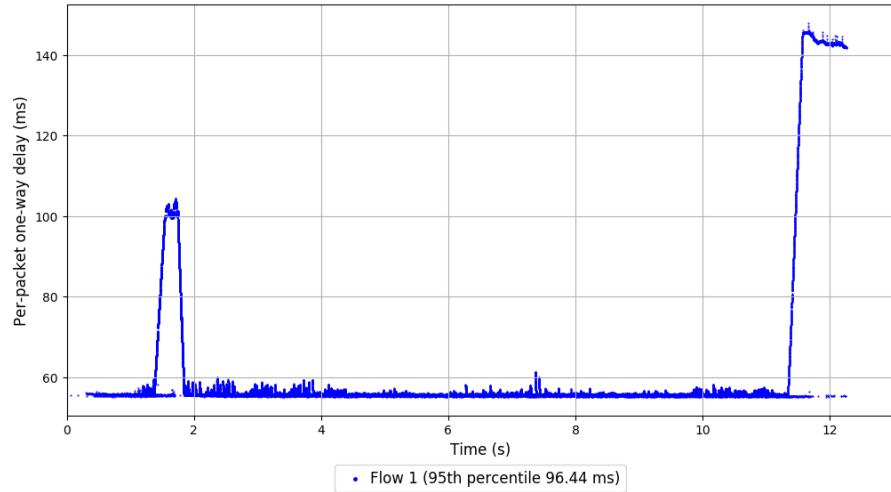
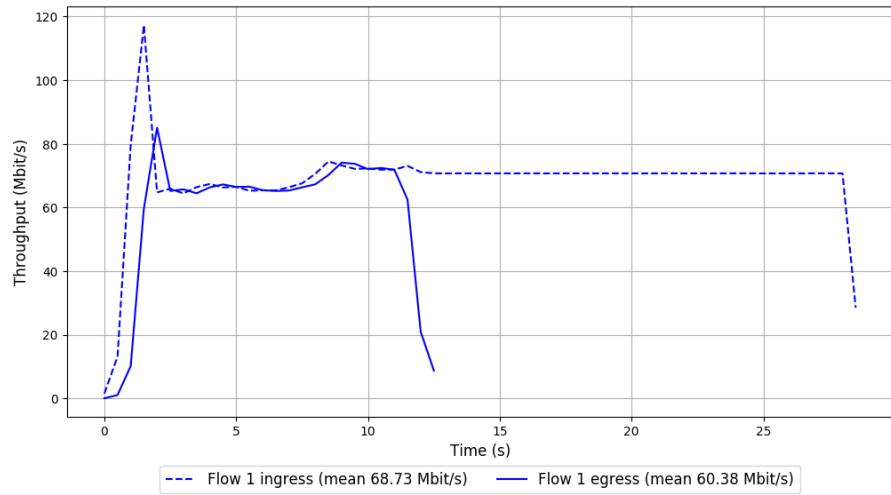
Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2019-03-19 00:04:11
End at: 2019-03-19 00:04:41
Local clock offset: -3.094 ms
Remote clock offset: -21.258 ms

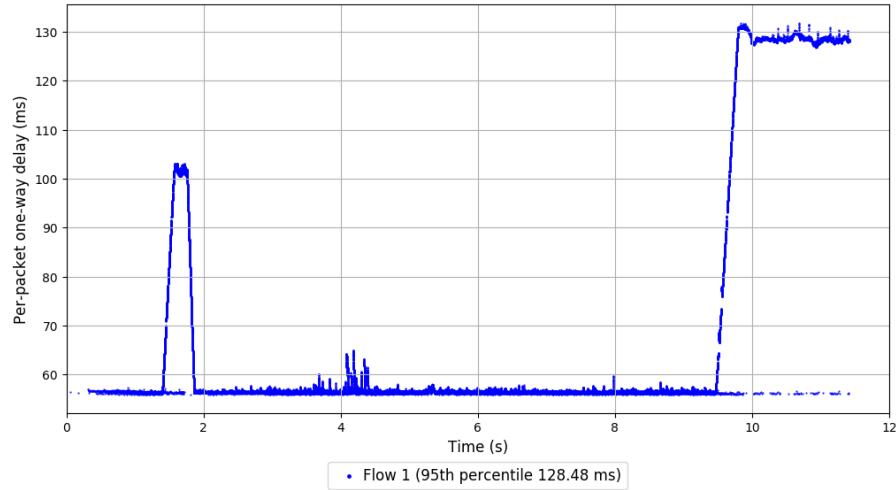
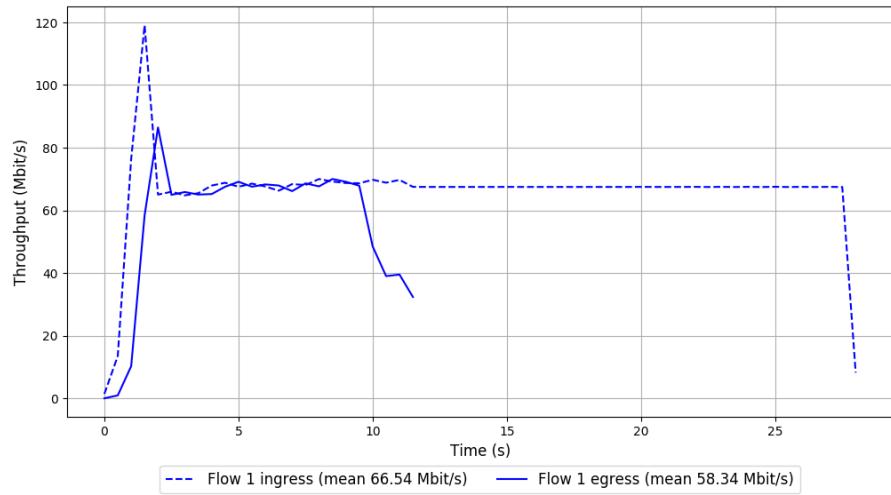
Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2019-03-19 00:29:10
End at: 2019-03-19 00:29:40
Local clock offset: -2.421 ms
Remote clock offset: -19.887 ms

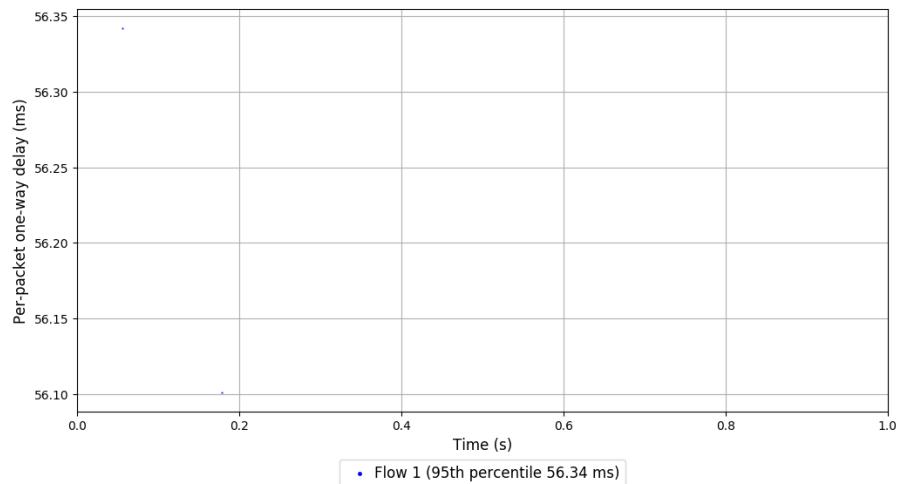
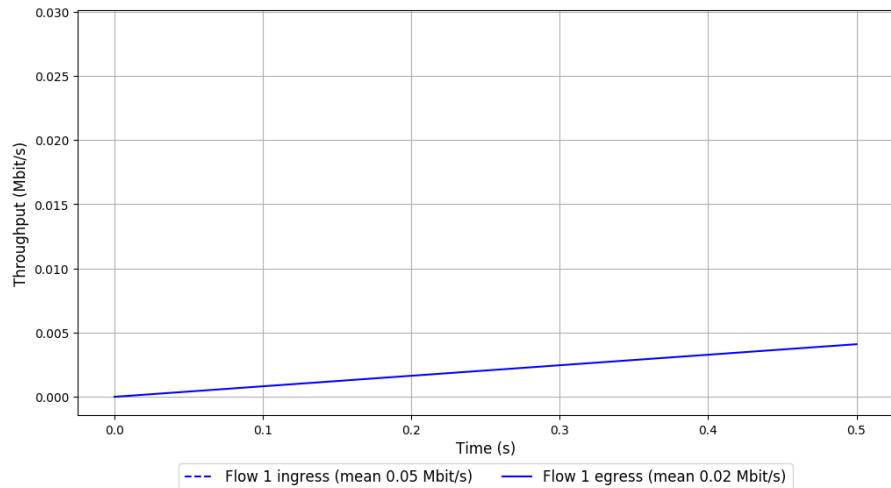
Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2019-03-18 19:39:33
End at: 2019-03-18 19:40:03
Local clock offset: -10.05 ms
Remote clock offset: -17.766 ms

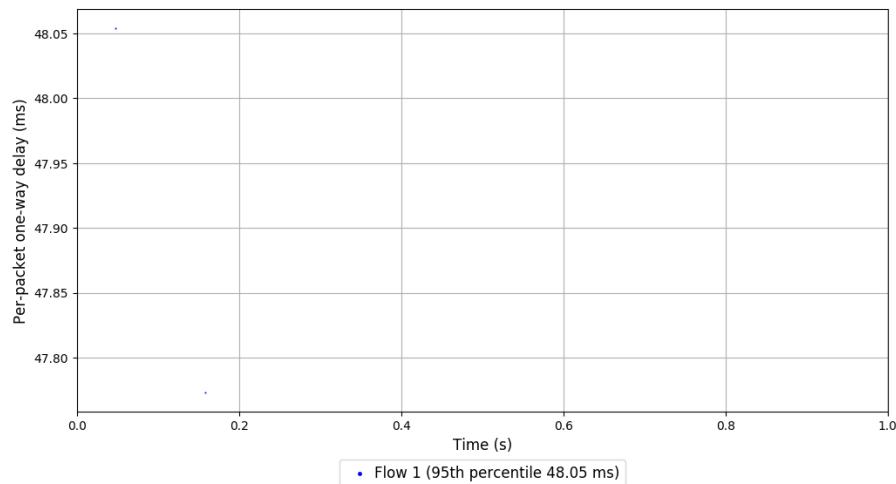
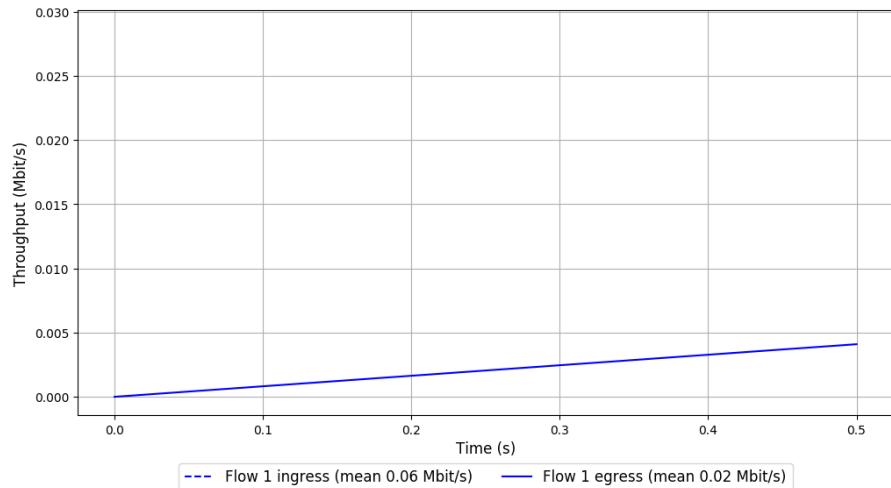
Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2019-03-18 20:04:27
End at: 2019-03-18 20:04:57
Local clock offset: -8.638 ms
Remote clock offset: -16.321 ms

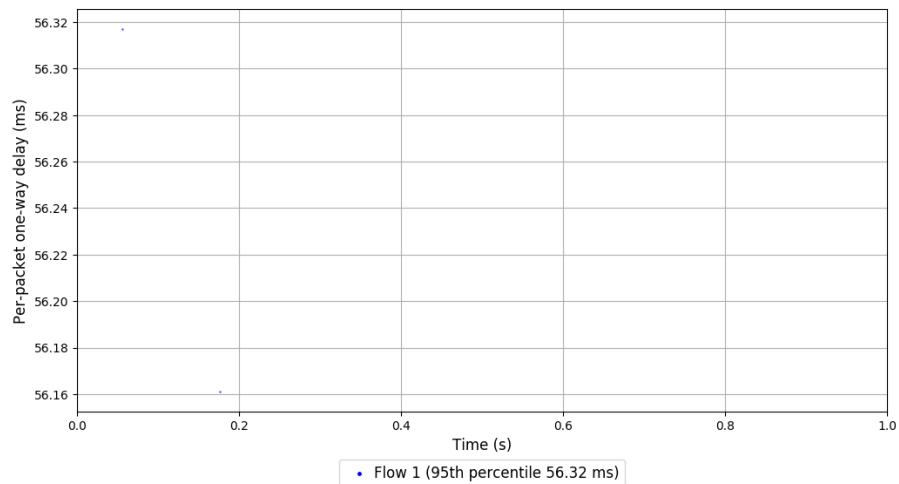
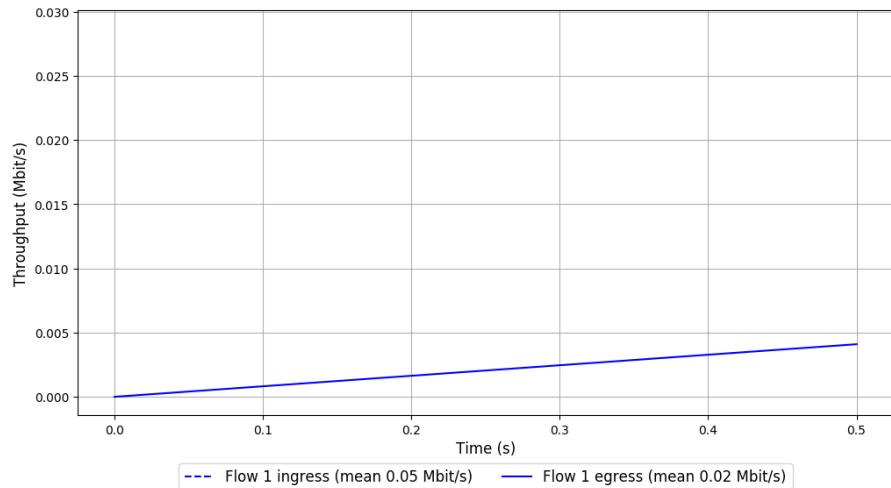
Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2019-03-18 22:40:00
End at: 2019-03-18 22:40:30
Local clock offset: -1.993 ms
Remote clock offset: -18.579 ms

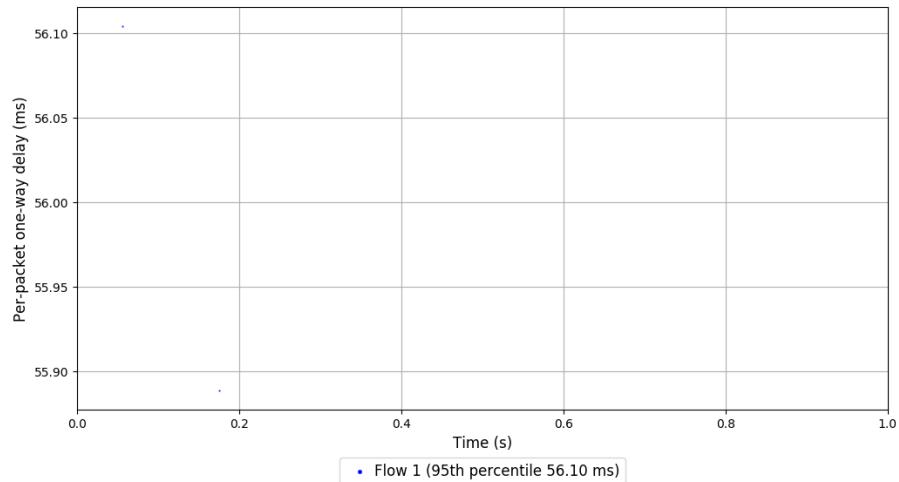
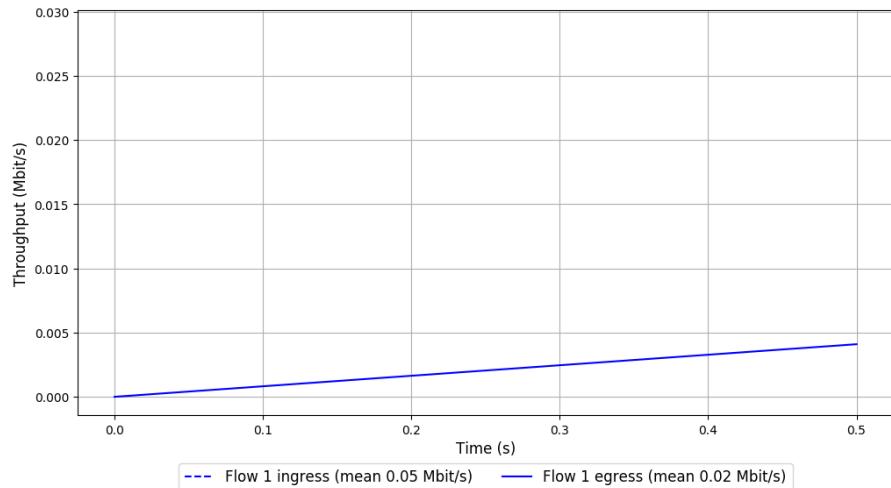
Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2019-03-19 00:00:44
End at: 2019-03-19 00:01:14
Local clock offset: -3.149 ms
Remote clock offset: -21.194 ms

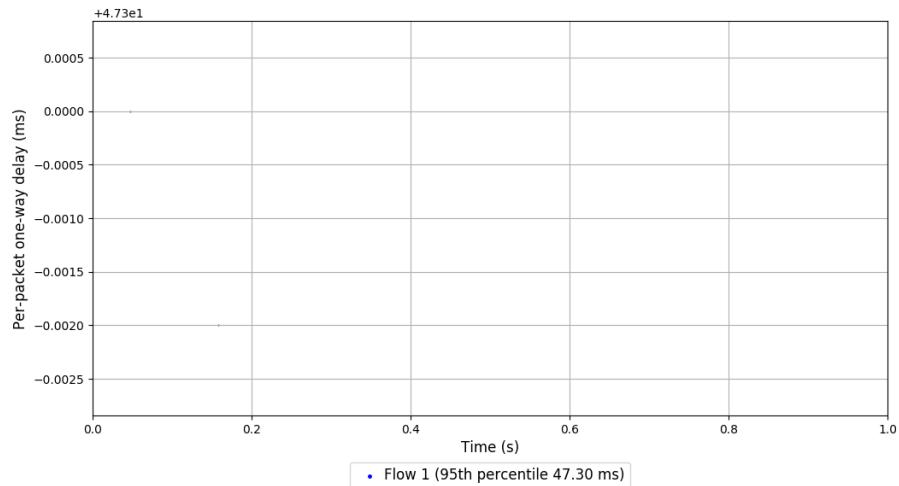
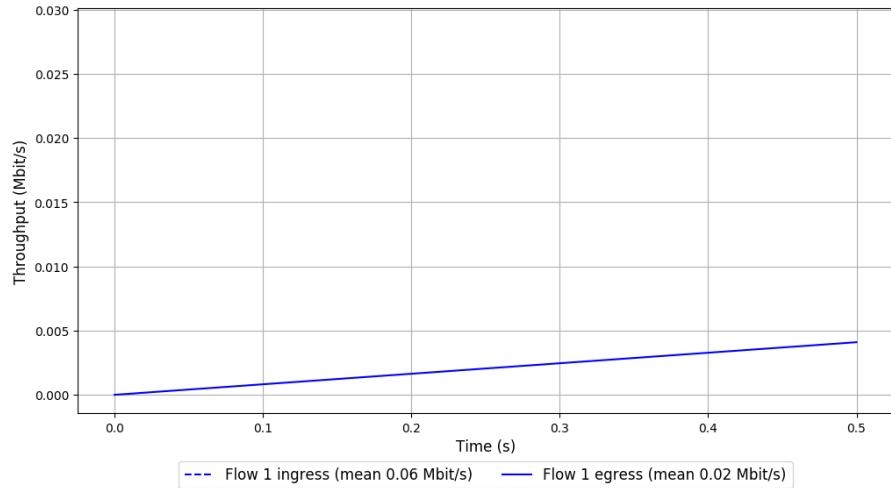
Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2019-03-19 00:25:42
End at: 2019-03-19 00:26:12
Local clock offset: -2.42 ms
Remote clock offset: -19.788 ms

Run 5: Report of PCC-Expr — Data Link

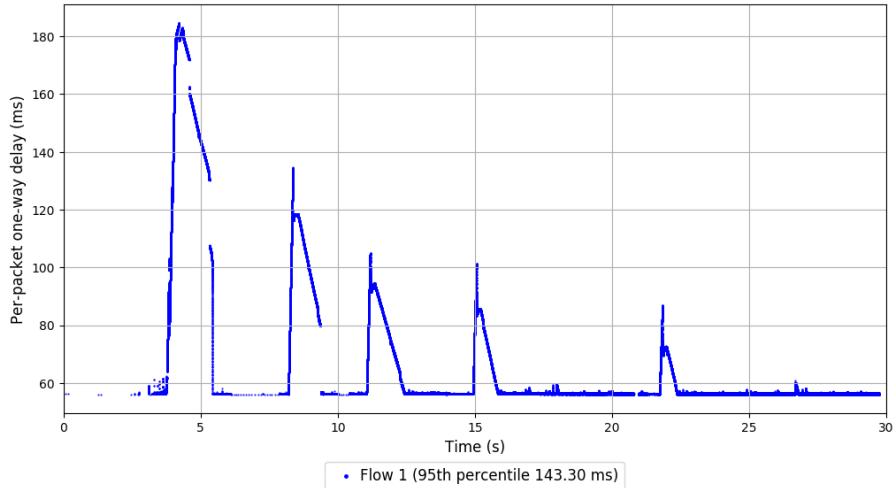
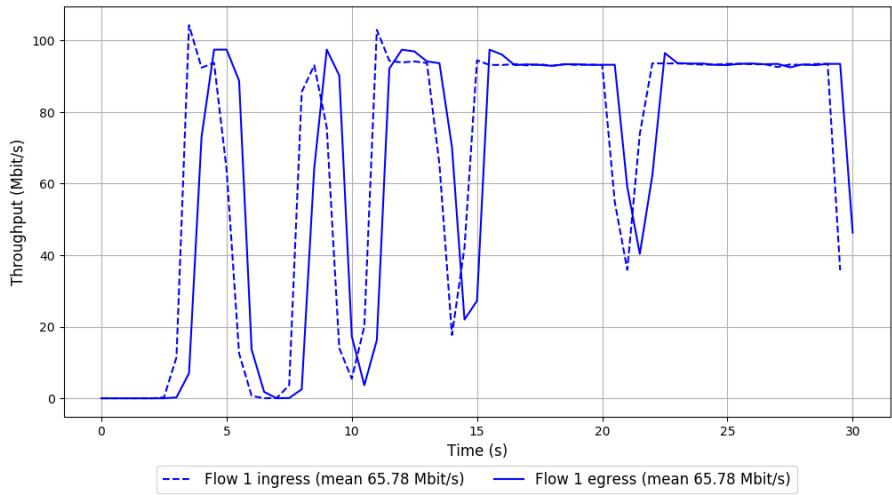


```
Run 1: Statistics of QUIC Cubic

Start at: 2019-03-18 19:37:13
End at: 2019-03-18 19:37:43
Local clock offset: -9.628 ms
Remote clock offset: -17.462 ms

# Below is generated by plot.py at 2019-03-19 00:43:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.78 Mbit/s
95th percentile per-packet one-way delay: 143.298 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 65.78 Mbit/s
95th percentile per-packet one-way delay: 143.298 ms
Loss rate: 0.00%
```

Run 1: Report of QUIC Cubic — Data Link

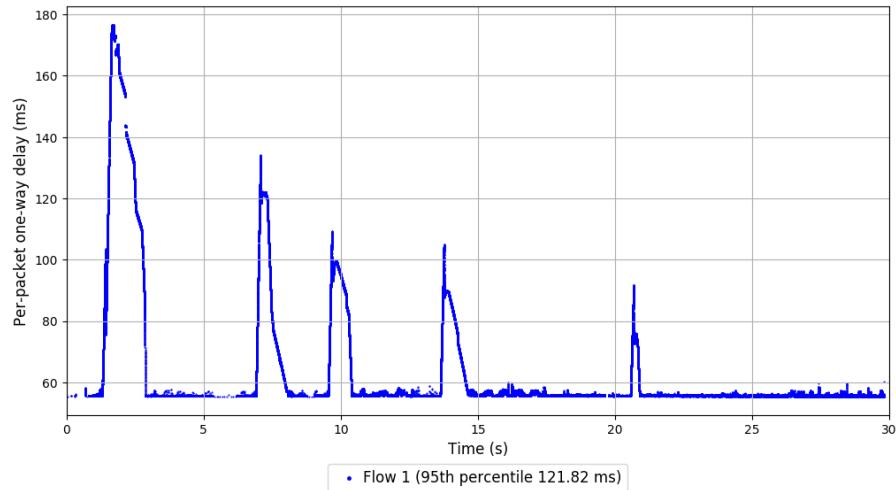
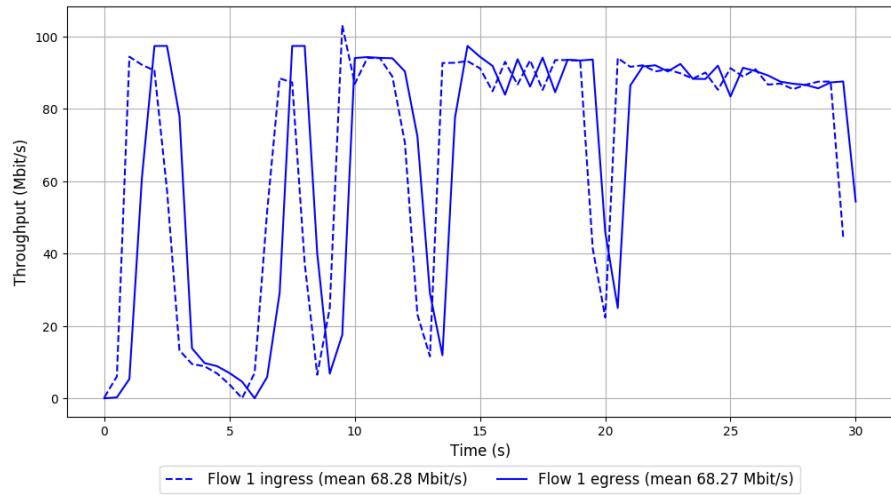


Run 2: Statistics of QUIC Cubic

```
Start at: 2019-03-18 20:02:07
End at: 2019-03-18 20:02:37
Local clock offset: -8.338 ms
Remote clock offset: -17.441 ms

# Below is generated by plot.py at 2019-03-19 00:43:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.27 Mbit/s
95th percentile per-packet one-way delay: 121.824 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 68.27 Mbit/s
95th percentile per-packet one-way delay: 121.824 ms
Loss rate: 0.00%
```

Run 2: Report of QUIC Cubic — Data Link

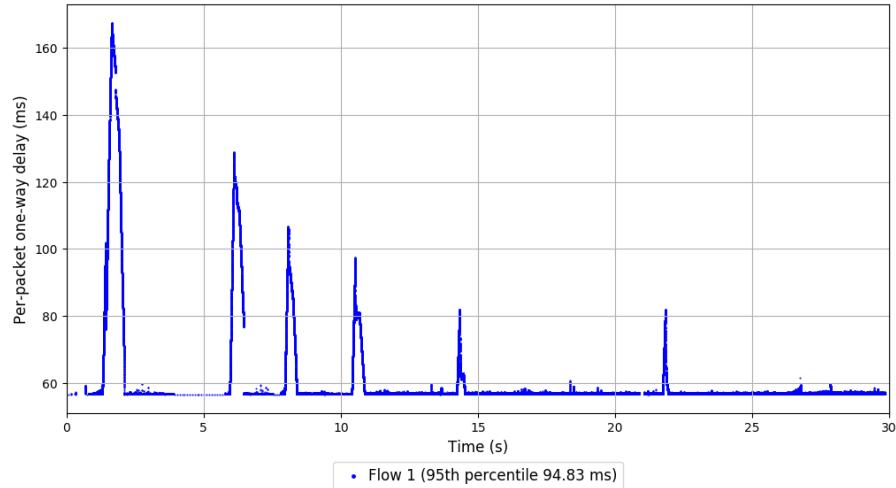
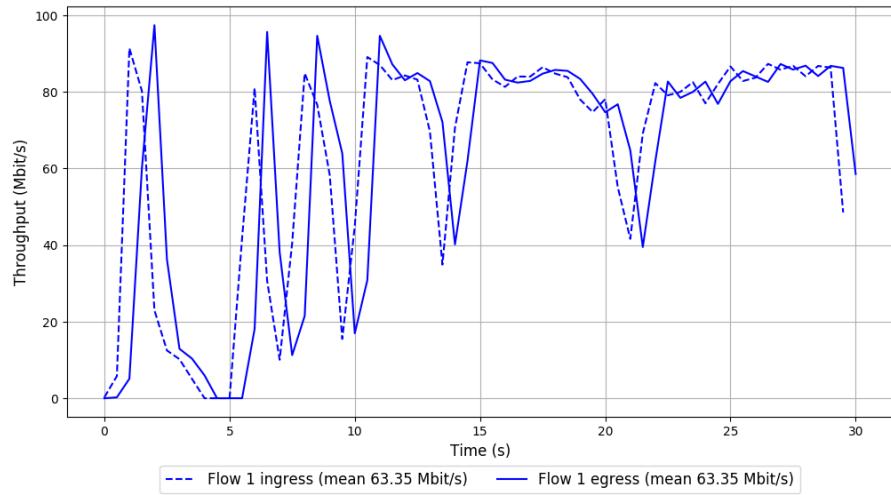


Run 3: Statistics of QUIC Cubic

```
Start at: 2019-03-18 22:23:40
End at: 2019-03-18 22:24:10
Local clock offset: -4.219 ms
Remote clock offset: -18.218 ms

# Below is generated by plot.py at 2019-03-19 00:43:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.35 Mbit/s
95th percentile per-packet one-way delay: 94.834 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.35 Mbit/s
95th percentile per-packet one-way delay: 94.834 ms
Loss rate: 0.00%
```

Run 3: Report of QUIC Cubic — Data Link

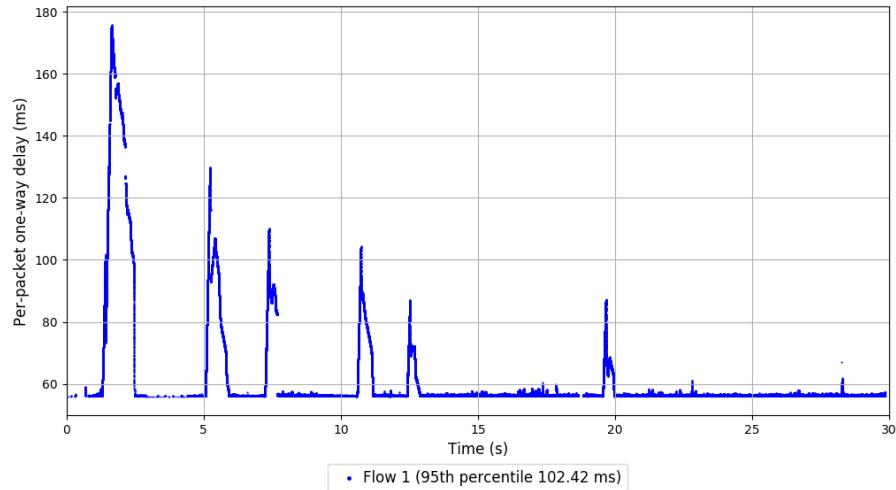
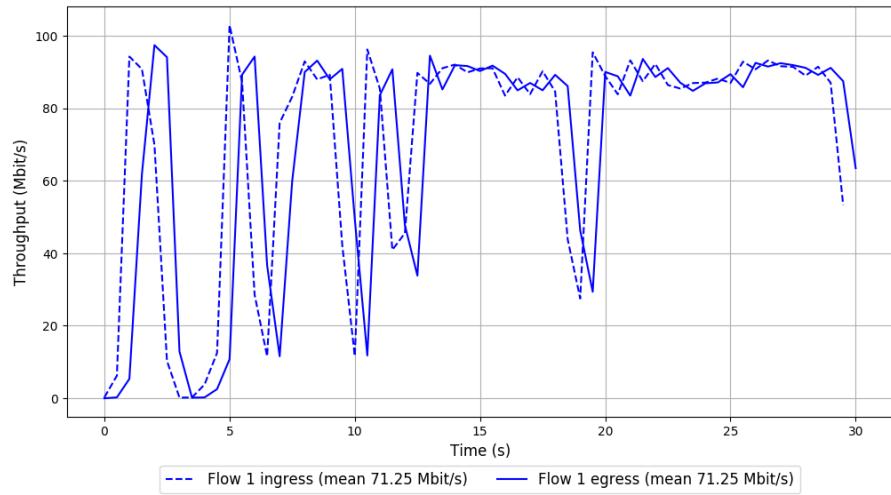


Run 4: Statistics of QUIC Cubic

```
Start at: 2019-03-18 23:58:23
End at: 2019-03-18 23:58:53
Local clock offset: -3.126 ms
Remote clock offset: -20.927 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.25 Mbit/s
95th percentile per-packet one-way delay: 102.418 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 71.25 Mbit/s
95th percentile per-packet one-way delay: 102.418 ms
Loss rate: 0.00%
```

Run 4: Report of QUIC Cubic — Data Link

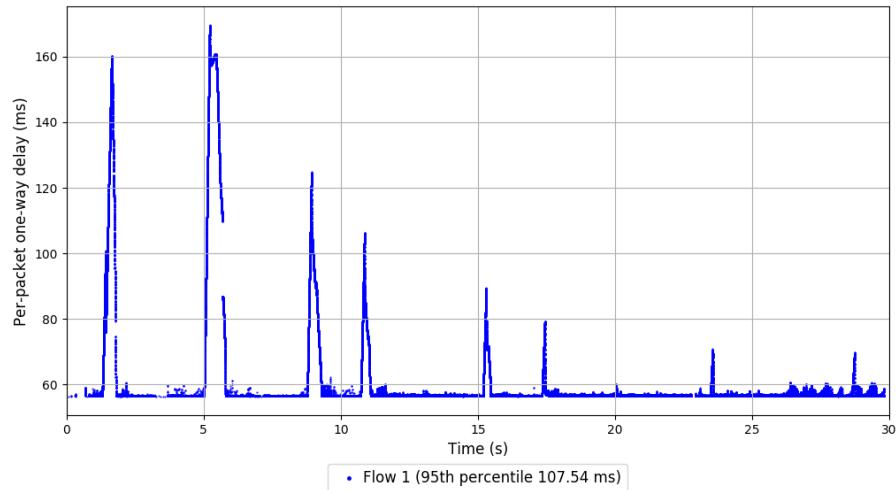
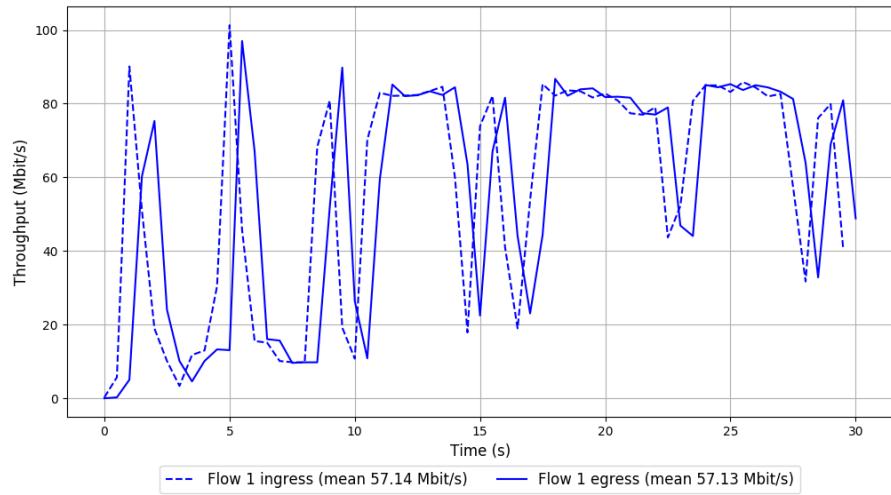


Run 5: Statistics of QUIC Cubic

```
Start at: 2019-03-19 00:23:17
End at: 2019-03-19 00:23:47
Local clock offset: -2.676 ms
Remote clock offset: -19.486 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.13 Mbit/s
95th percentile per-packet one-way delay: 107.540 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.13 Mbit/s
95th percentile per-packet one-way delay: 107.540 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link

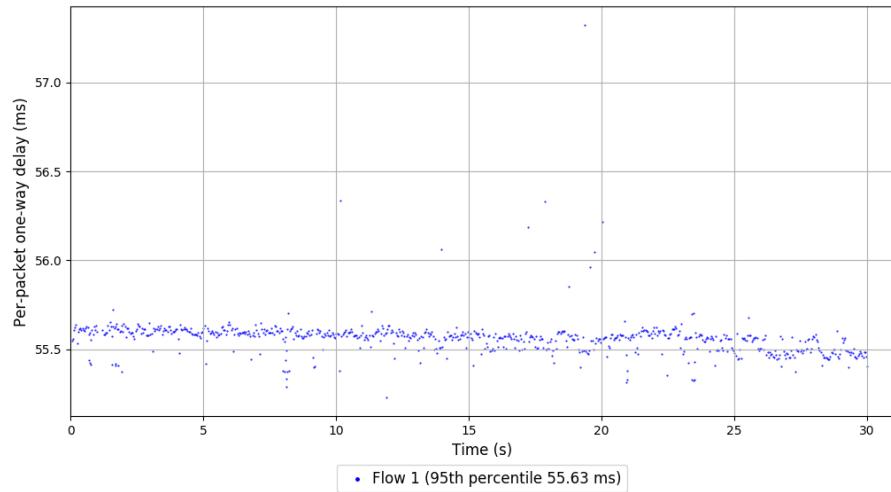
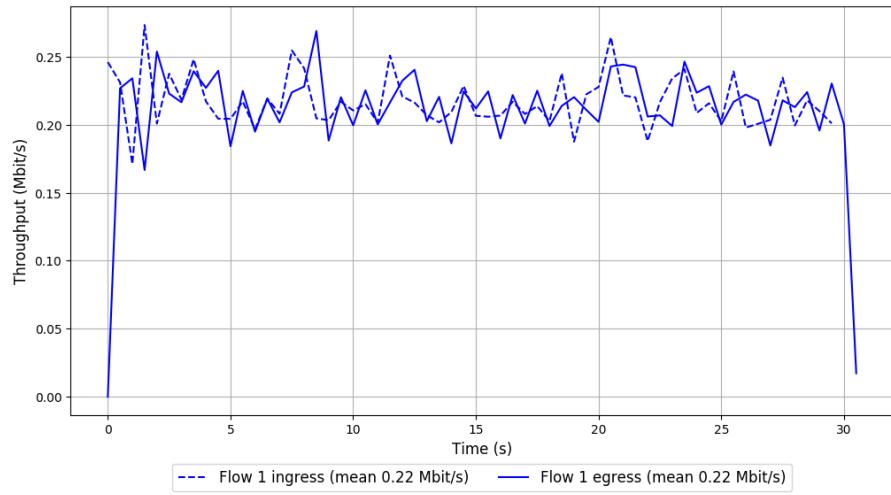


```
Run 1: Statistics of SCReAM

Start at: 2019-03-18 19:38:25
End at: 2019-03-18 19:38:55
Local clock offset: -9.691 ms
Remote clock offset: -17.793 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 55.631 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 55.631 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

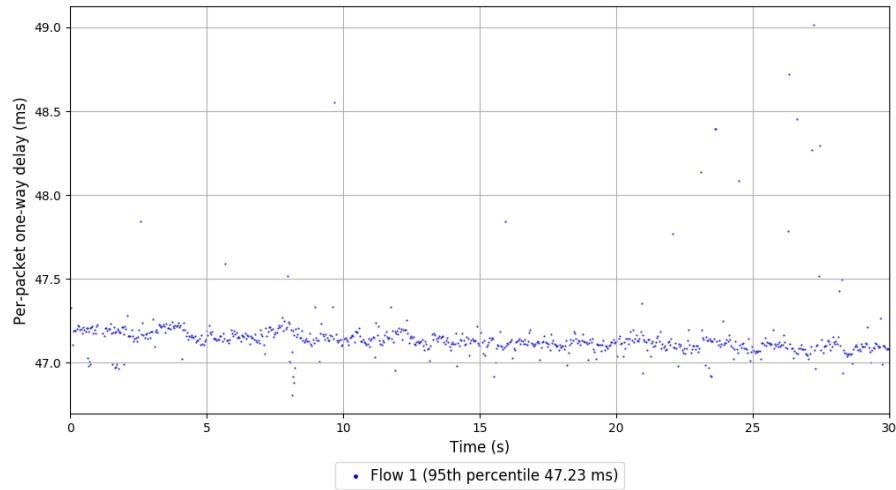
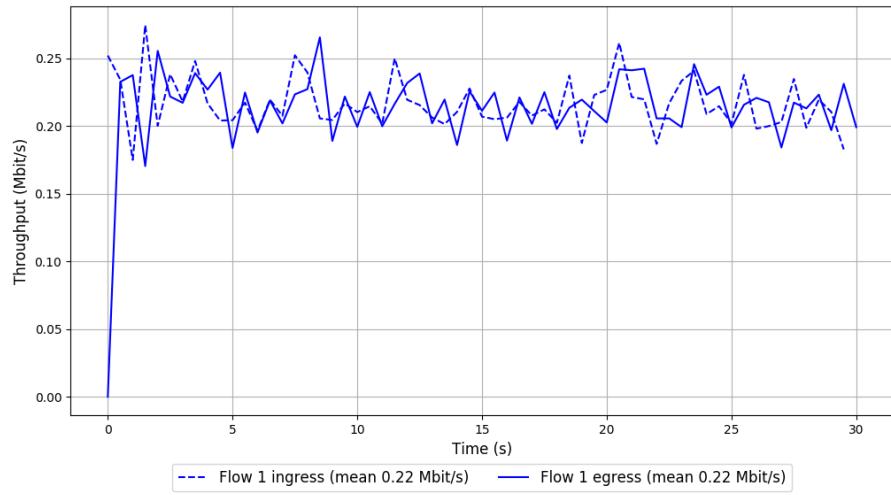


Run 2: Statistics of SCReAM

```
Start at: 2019-03-18 20:03:19
End at: 2019-03-18 20:03:49
Local clock offset: -8.538 ms
Remote clock offset: -17.334 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.232 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.232 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

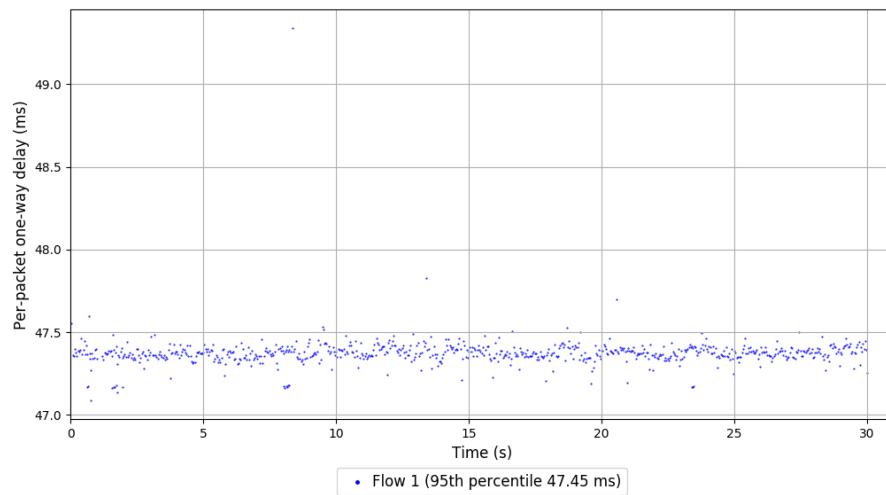
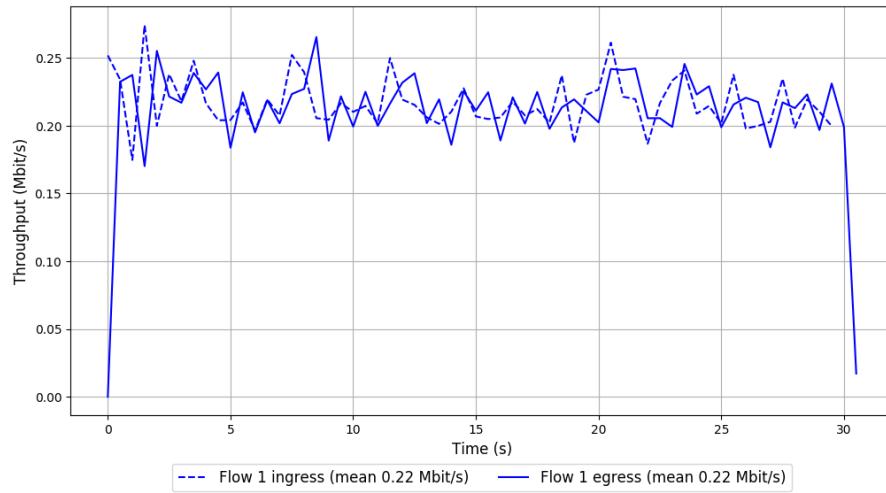


Run 3: Statistics of SCReAM

```
Start at: 2019-03-18 22:38:45
End at: 2019-03-18 22:39:15
Local clock offset: -2.042 ms
Remote clock offset: -18.793 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.445 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 47.445 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

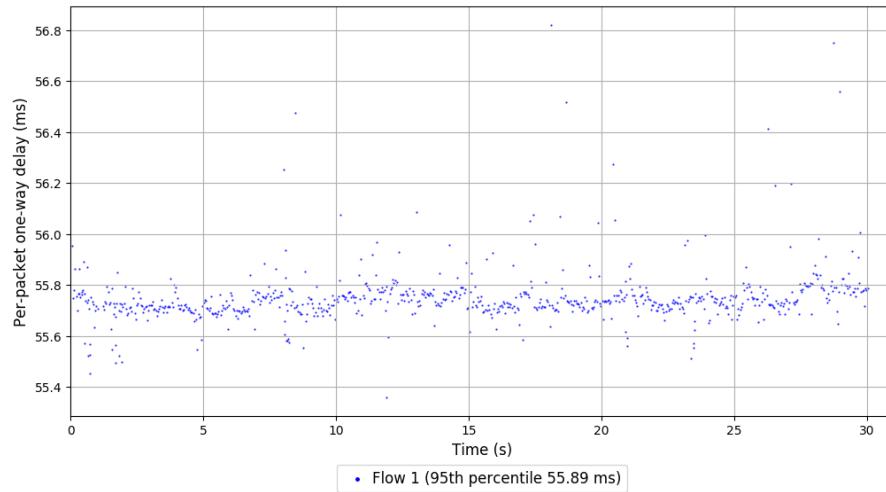
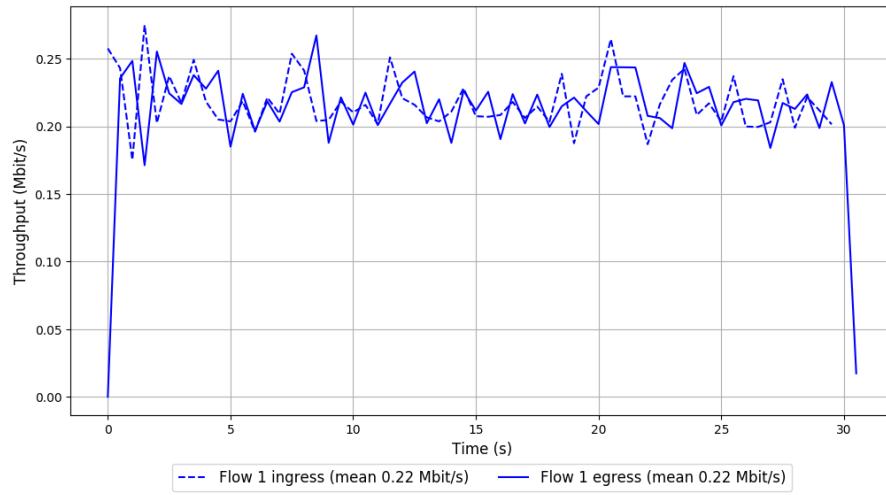


Run 4: Statistics of SCReAM

```
Start at: 2019-03-18 23:59:35
End at: 2019-03-19 00:00:05
Local clock offset: -3.006 ms
Remote clock offset: -21.271 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 55.886 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 55.886 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

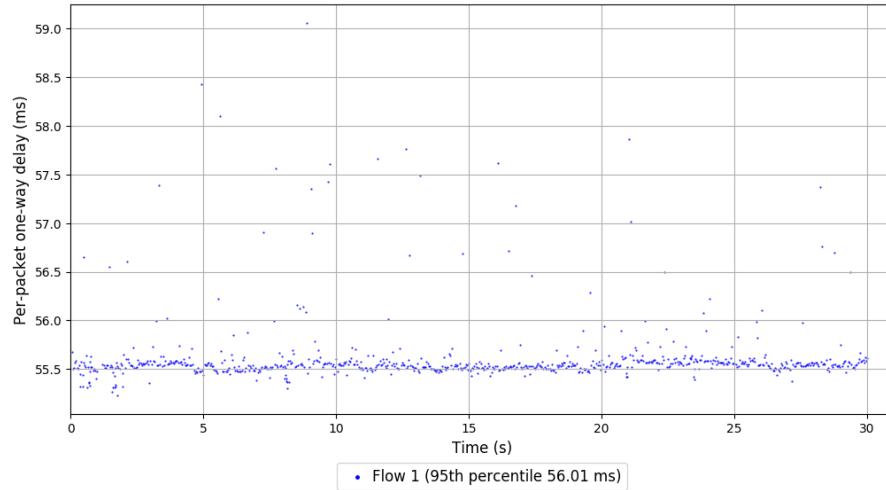
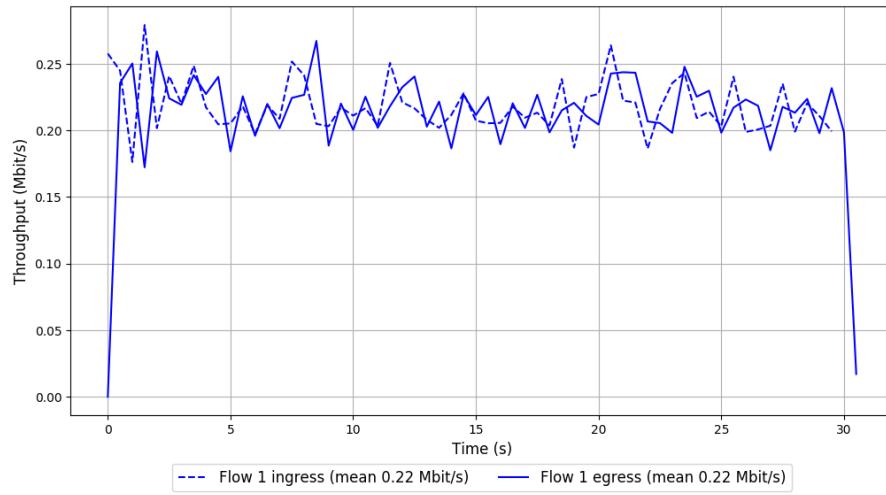


Run 5: Statistics of SCReAM

```
Start at: 2019-03-19 00:24:34
End at: 2019-03-19 00:25:04
Local clock offset: -2.483 ms
Remote clock offset: -19.933 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.013 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 56.013 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

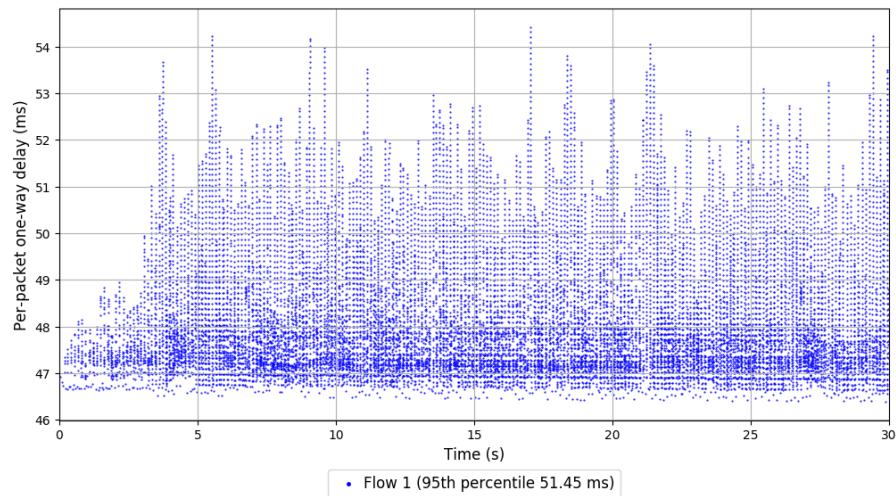
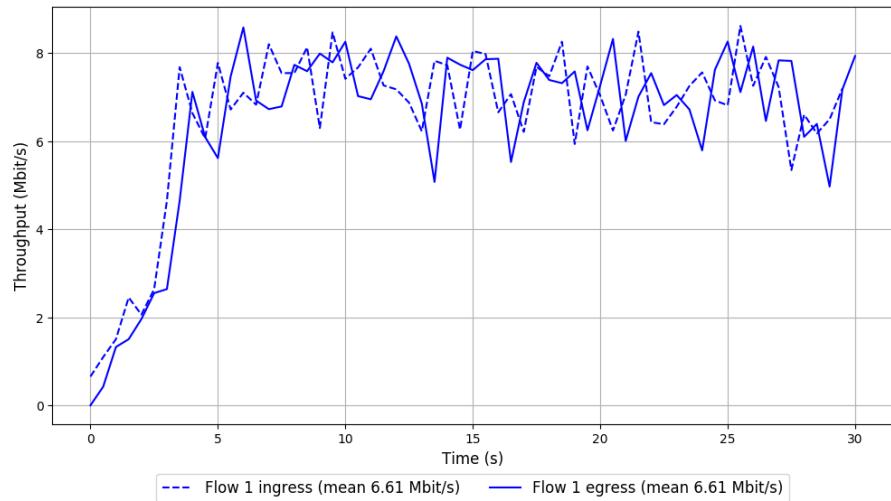


Run 1: Statistics of Sprout

```
Start at: 2019-03-18 19:41:52
End at: 2019-03-18 19:42:22
Local clock offset: -10.535 ms
Remote clock offset: -17.78 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 51.453 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 51.453 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

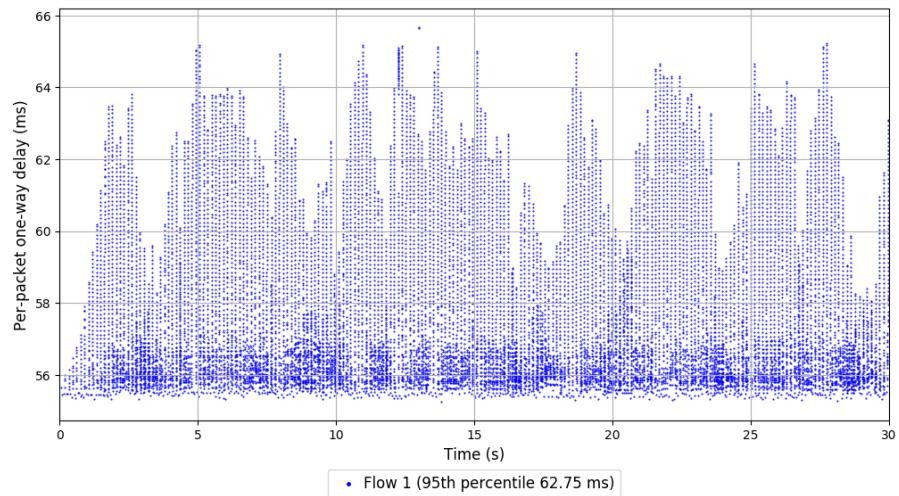
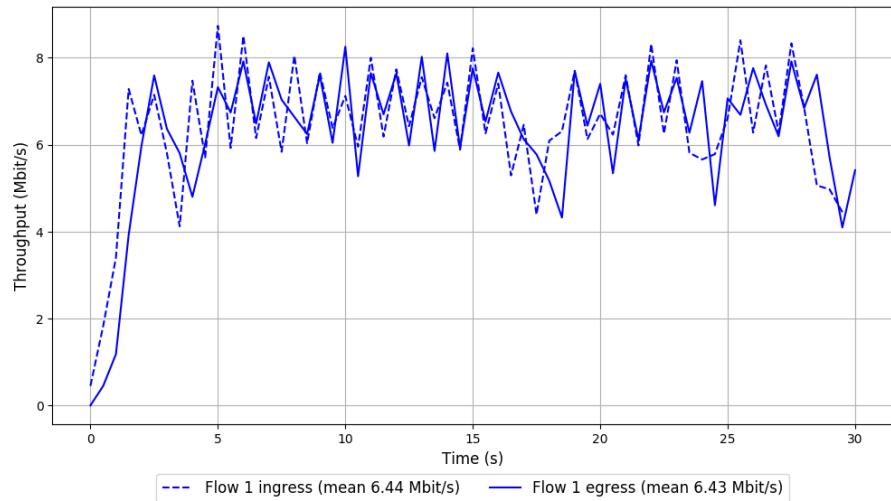


Run 2: Statistics of Sprout

```
Start at: 2019-03-18 20:06:46
End at: 2019-03-18 20:07:16
Local clock offset: -9.16 ms
Remote clock offset: -17.595 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 62.747 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.43 Mbit/s
95th percentile per-packet one-way delay: 62.747 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

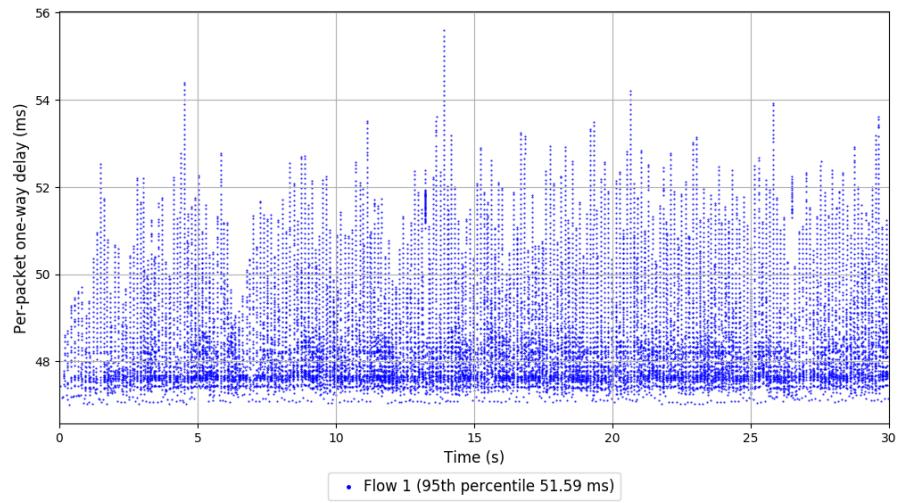
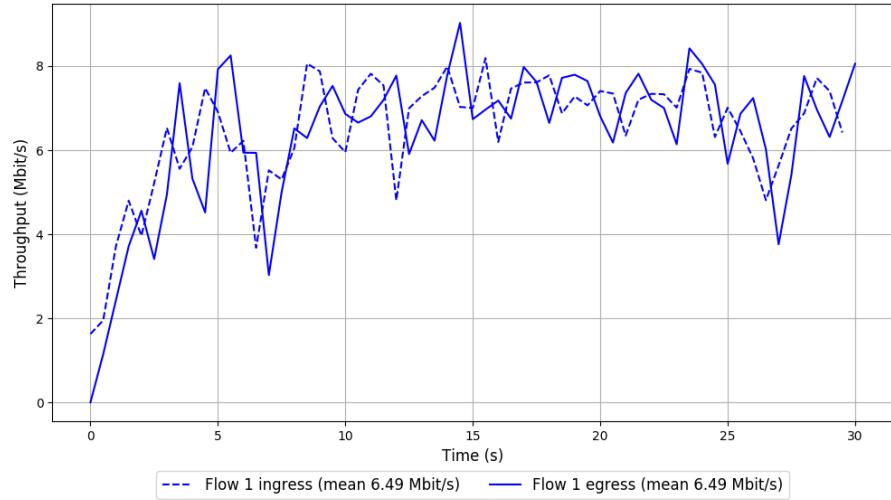


Run 3: Statistics of Sprout

```
Start at: 2019-03-18 22:49:15
End at: 2019-03-18 22:49:45
Local clock offset: -1.749 ms
Remote clock offset: -18.821 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 51.594 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.49 Mbit/s
95th percentile per-packet one-way delay: 51.594 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

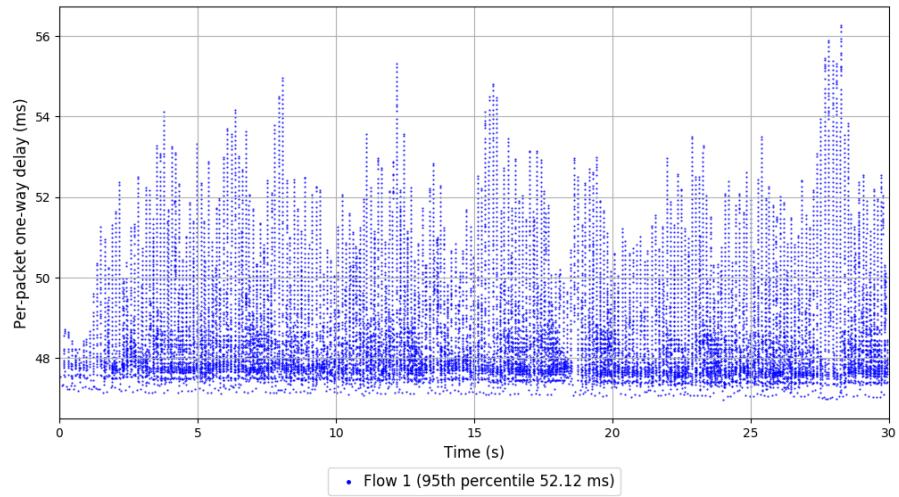
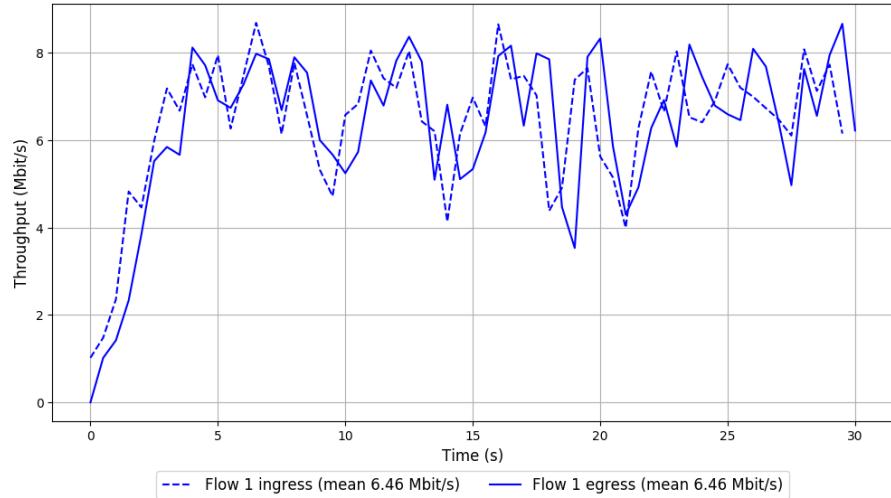


Run 4: Statistics of Sprout

```
Start at: 2019-03-19 00:03:02
End at: 2019-03-19 00:03:32
Local clock offset: -3.162 ms
Remote clock offset: -21.316 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 52.118 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.46 Mbit/s
95th percentile per-packet one-way delay: 52.118 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

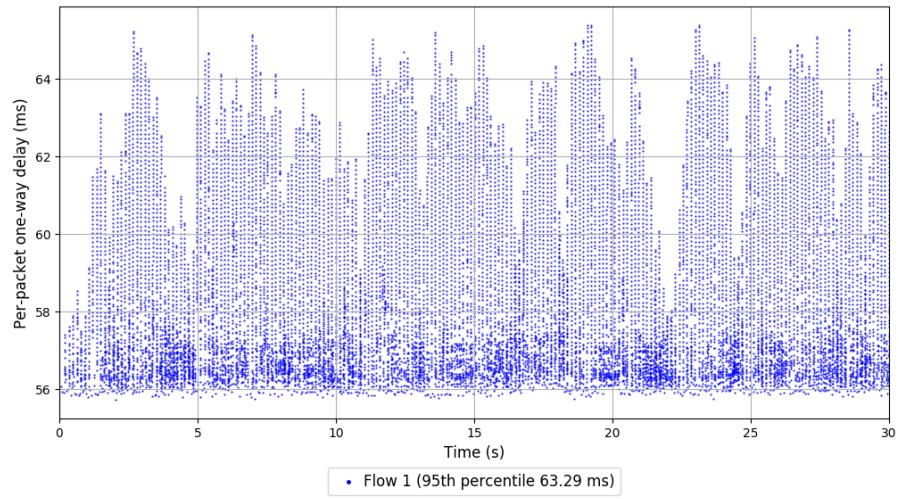
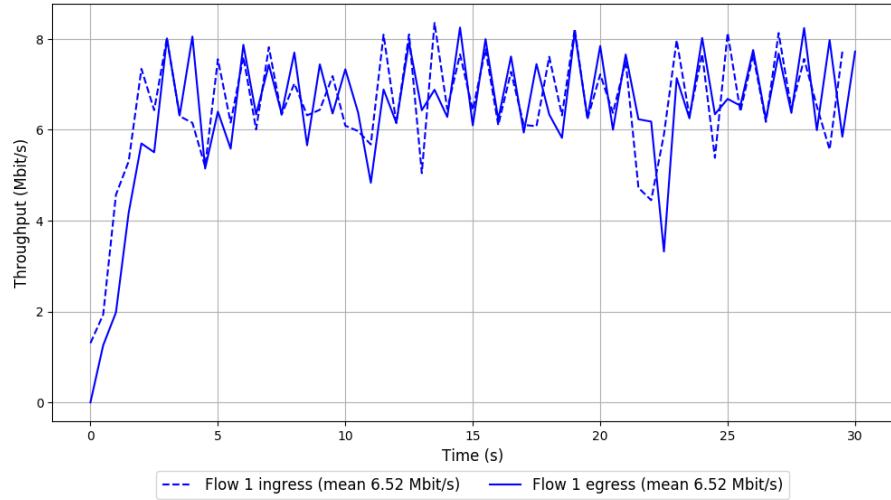


Run 5: Statistics of Sprout

```
Start at: 2019-03-19 00:28:01
End at: 2019-03-19 00:28:31
Local clock offset: -2.272 ms
Remote clock offset: -19.912 ms

# Below is generated by plot.py at 2019-03-19 00:43:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 63.291 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.52 Mbit/s
95th percentile per-packet one-way delay: 63.291 ms
Loss rate: 0.00%
```

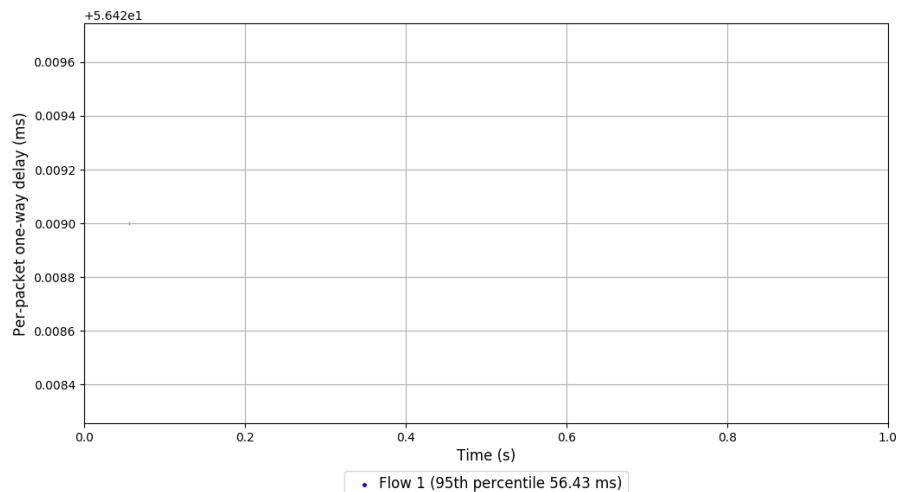
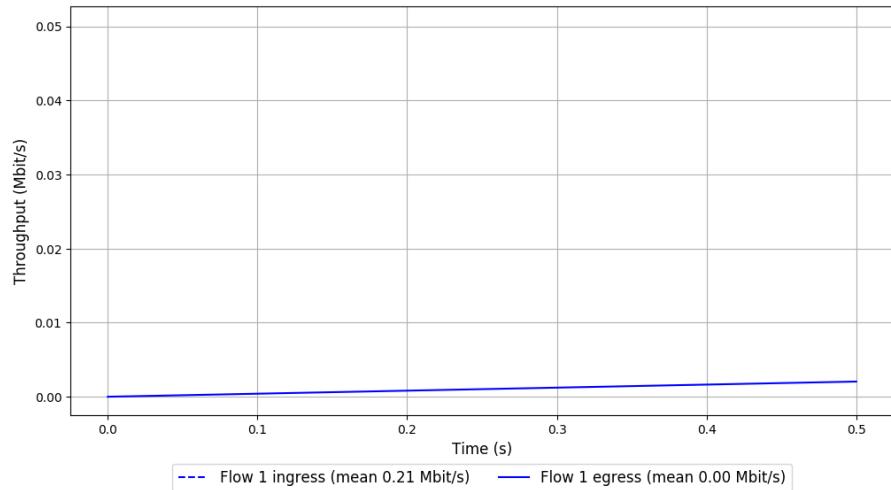
Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2019-03-18 19:26:31
End at: 2019-03-18 19:27:01
Local clock offset: -11.311 ms
Remote clock offset: -17.568 ms

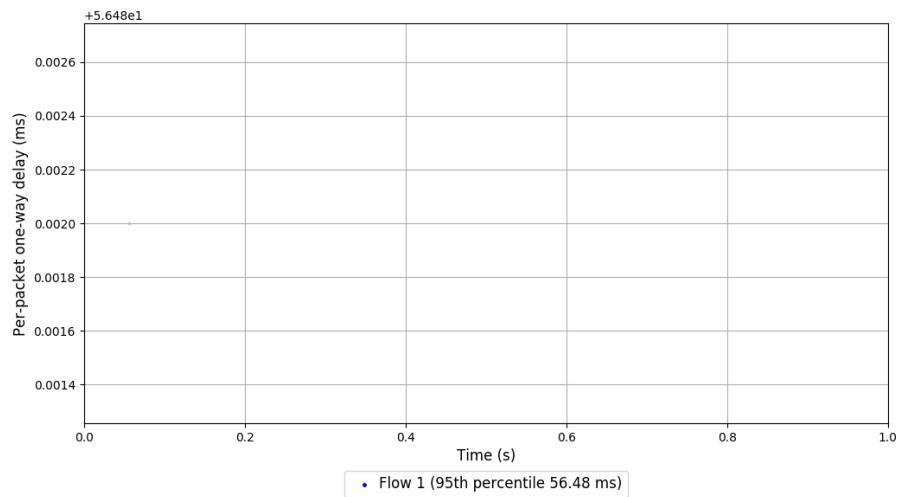
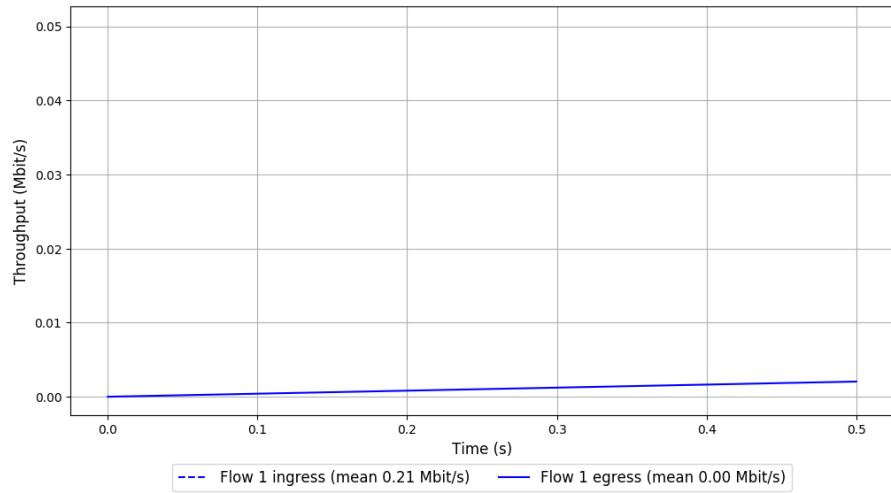
Run 1: Report of TaoVA-100x — Data Link



Run 2: Statistics of TaoVA-100x

Start at: 2019-03-18 19:51:23
End at: 2019-03-18 19:51:53
Local clock offset: -9.122 ms
Remote clock offset: -17.327 ms

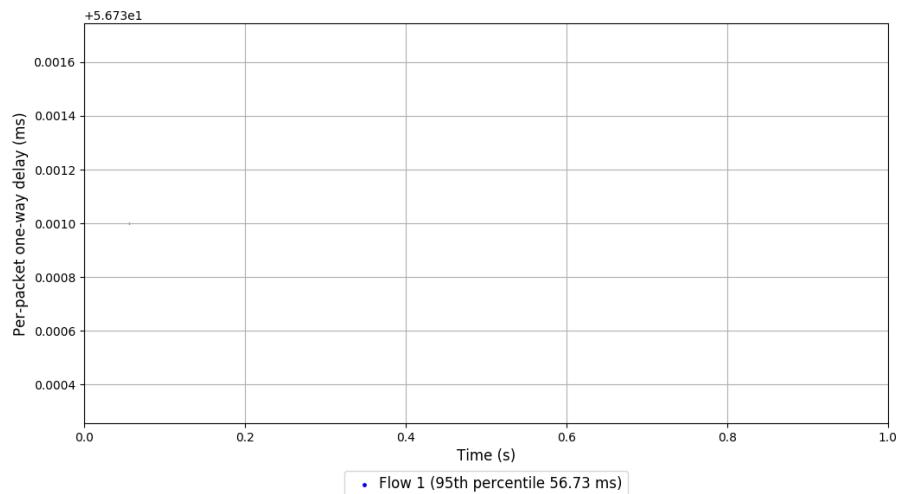
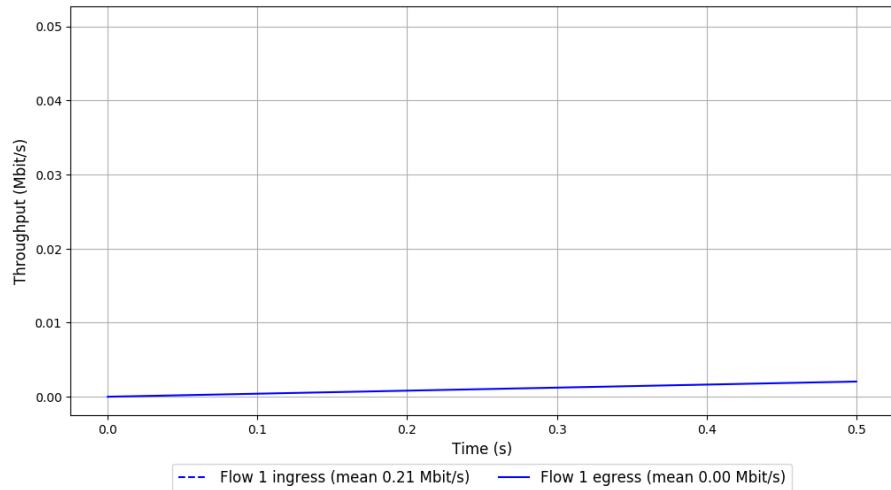
Run 2: Report of TaoVA-100x — Data Link



Run 3: Statistics of TaoVA-100x

Start at: 2019-03-18 20:16:16
End at: 2019-03-18 20:16:47
Local clock offset: -11.213 ms
Remote clock offset: -17.689 ms

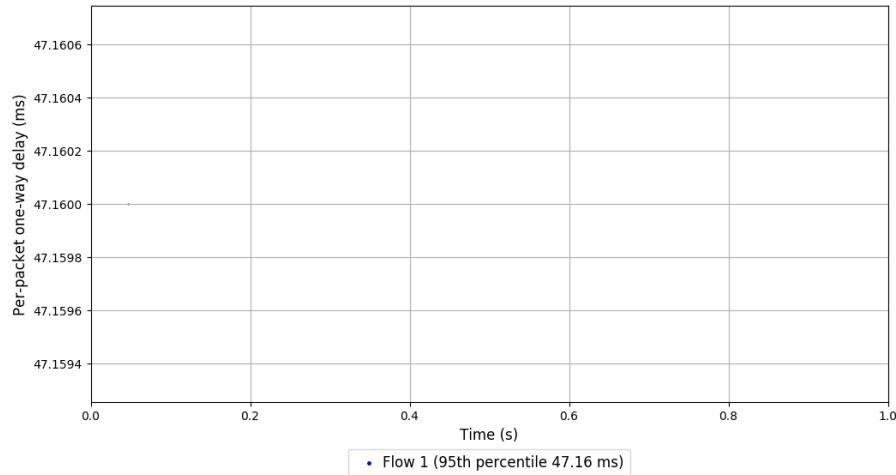
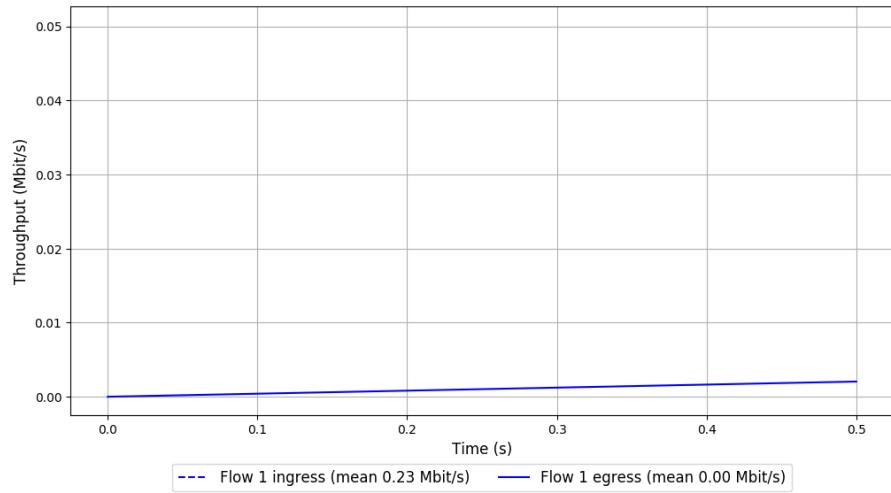
Run 3: Report of TaoVA-100x — Data Link



Run 4: Statistics of TaoVA-100x

Start at: 2019-03-18 23:47:34
End at: 2019-03-18 23:48:04
Local clock offset: -2.115 ms
Remote clock offset: -18.948 ms

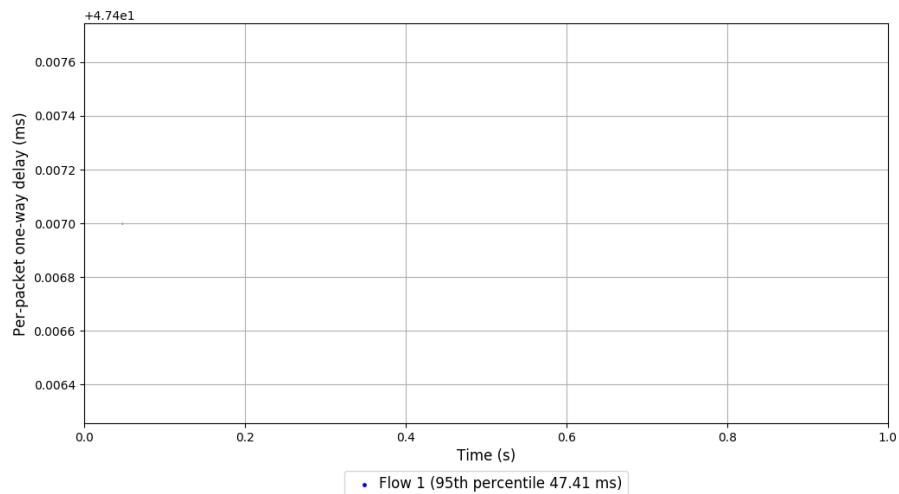
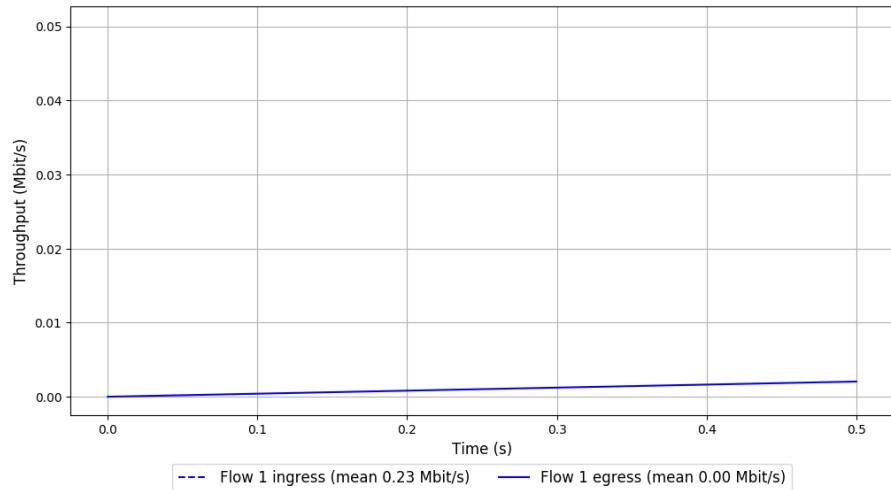
Run 4: Report of TaoVA-100x — Data Link



Run 5: Statistics of TaoVA-100x

Start at: 2019-03-19 00:12:33
End at: 2019-03-19 00:13:04
Local clock offset: -3.522 ms
Remote clock offset: -19.971 ms

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

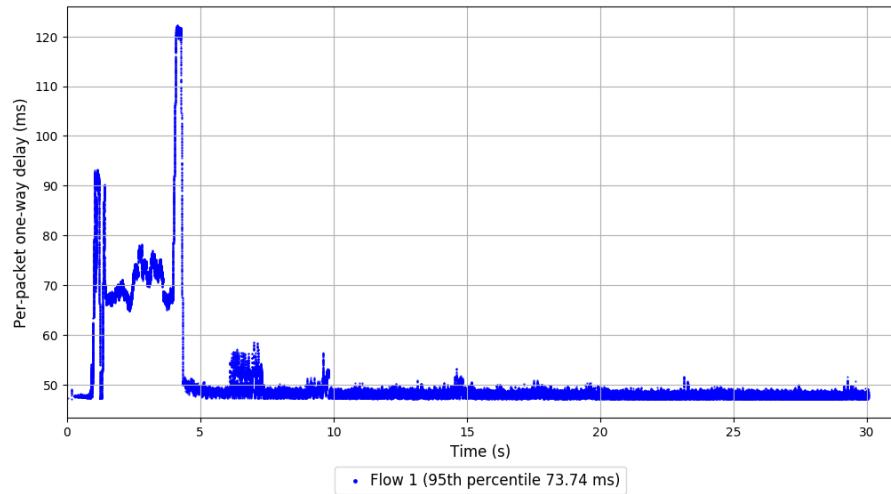
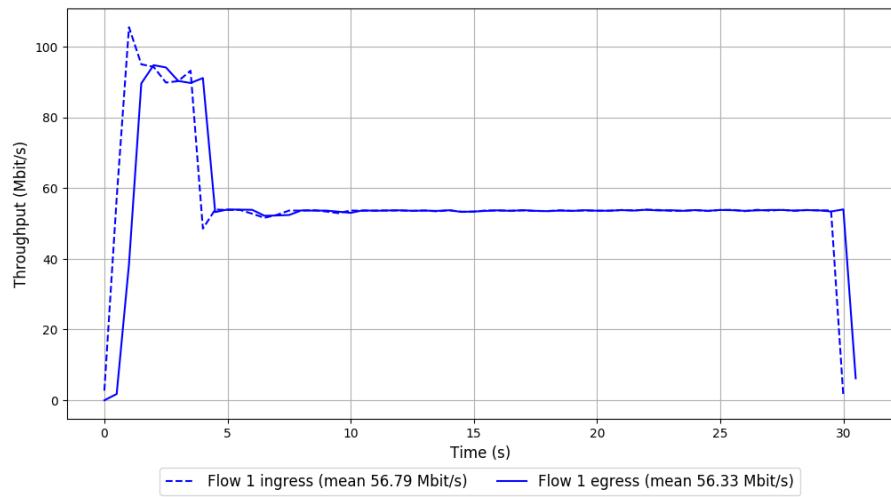


Run 1: Statistics of TCP Vegas

```
Start at: 2019-03-18 19:45:19
End at: 2019-03-18 19:45:49
Local clock offset: -11.41 ms
Remote clock offset: -17.655 ms

# Below is generated by plot.py at 2019-03-19 00:43:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.33 Mbit/s
95th percentile per-packet one-way delay: 73.738 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 56.33 Mbit/s
95th percentile per-packet one-way delay: 73.738 ms
Loss rate: 0.82%
```

Run 1: Report of TCP Vegas — Data Link

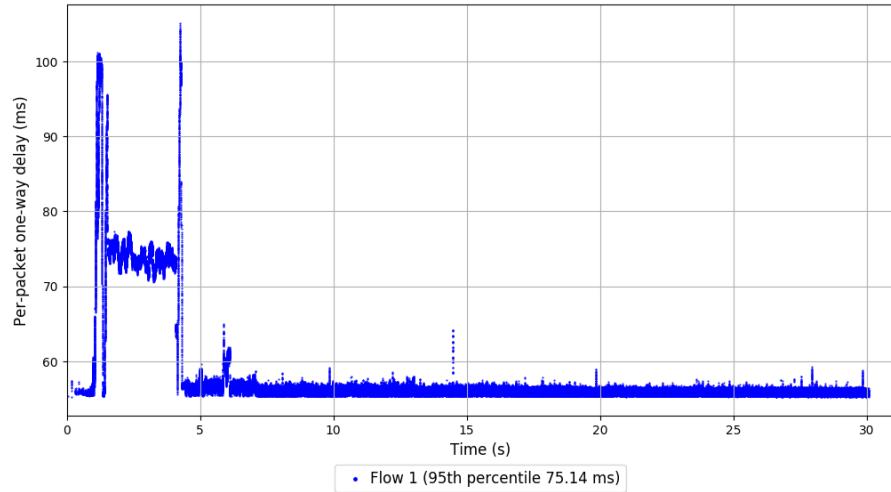
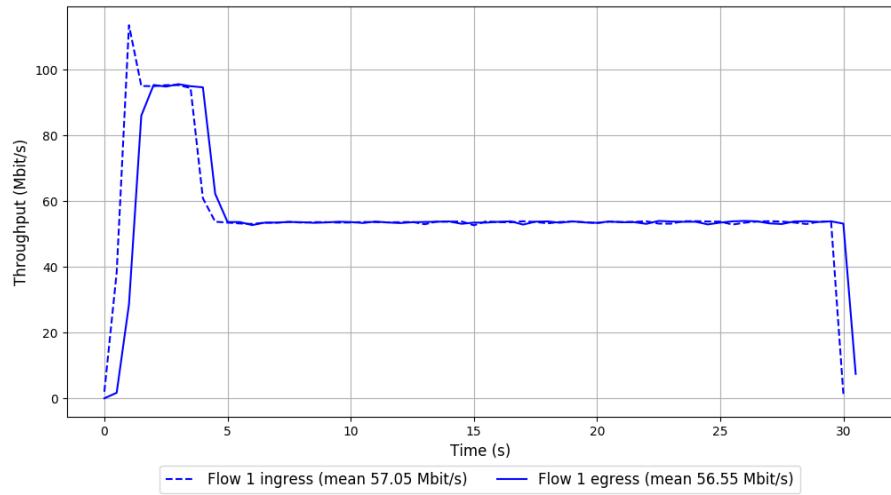


Run 2: Statistics of TCP Vegas

```
Start at: 2019-03-18 20:10:13
End at: 2019-03-18 20:10:43
Local clock offset: -9.655 ms
Remote clock offset: -18.07 ms

# Below is generated by plot.py at 2019-03-19 00:43:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.55 Mbit/s
95th percentile per-packet one-way delay: 75.142 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 56.55 Mbit/s
95th percentile per-packet one-way delay: 75.142 ms
Loss rate: 0.87%
```

Run 2: Report of TCP Vegas — Data Link

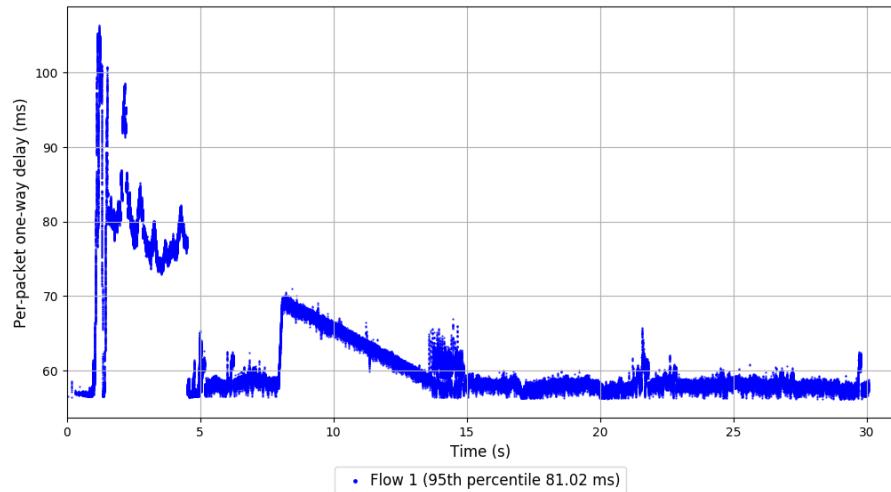
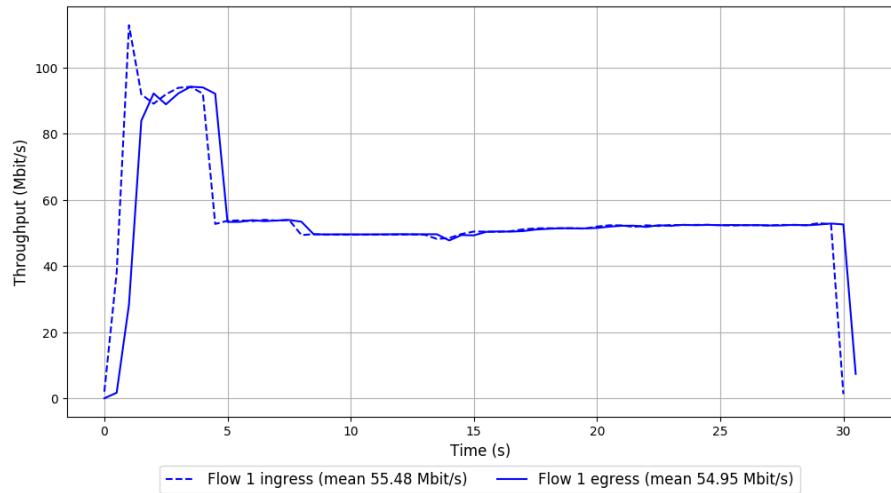


Run 3: Statistics of TCP Vegas

```
Start at: 2019-03-18 22:58:42
End at: 2019-03-18 22:59:12
Local clock offset: -1.832 ms
Remote clock offset: -13.851 ms

# Below is generated by plot.py at 2019-03-19 00:43:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.95 Mbit/s
95th percentile per-packet one-way delay: 81.019 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 54.95 Mbit/s
95th percentile per-packet one-way delay: 81.019 ms
Loss rate: 0.96%
```

Run 3: Report of TCP Vegas — Data Link

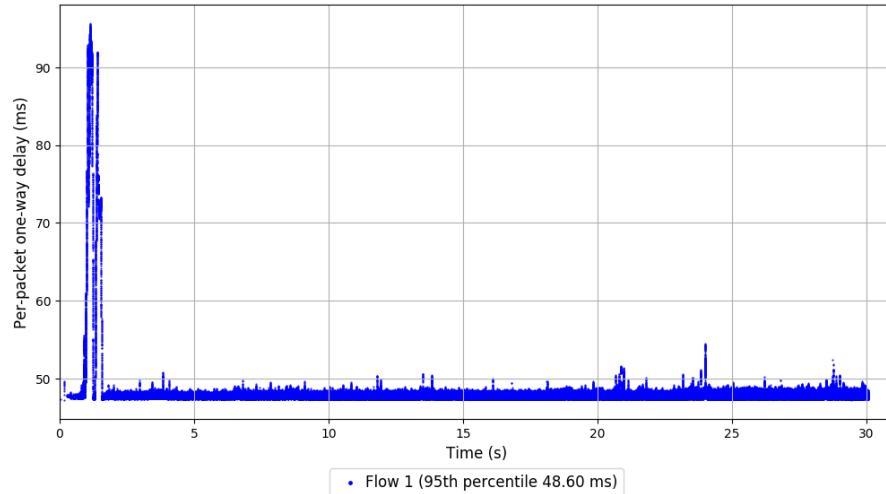
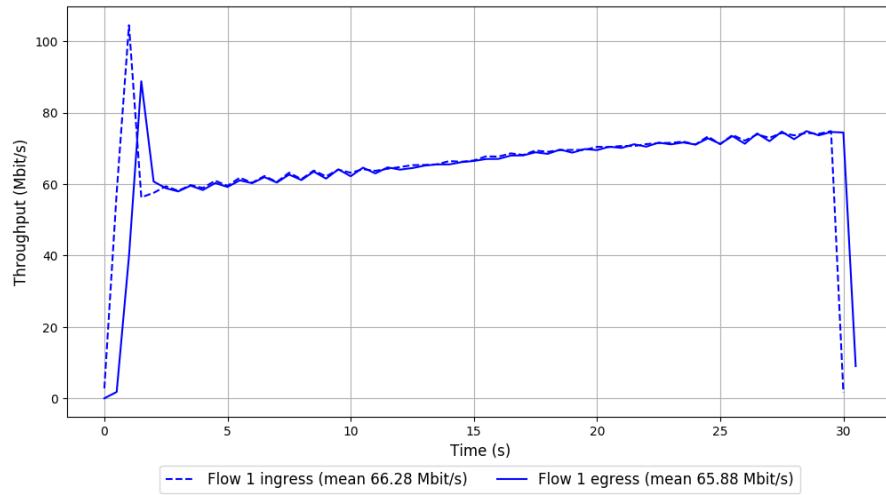


Run 4: Statistics of TCP Vegas

```
Start at: 2019-03-19 00:06:29
End at: 2019-03-19 00:07:00
Local clock offset: -3.449 ms
Remote clock offset: -20.684 ms

# Below is generated by plot.py at 2019-03-19 00:44:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.88 Mbit/s
95th percentile per-packet one-way delay: 48.604 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 65.88 Mbit/s
95th percentile per-packet one-way delay: 48.604 ms
Loss rate: 0.60%
```

Run 4: Report of TCP Vegas — Data Link

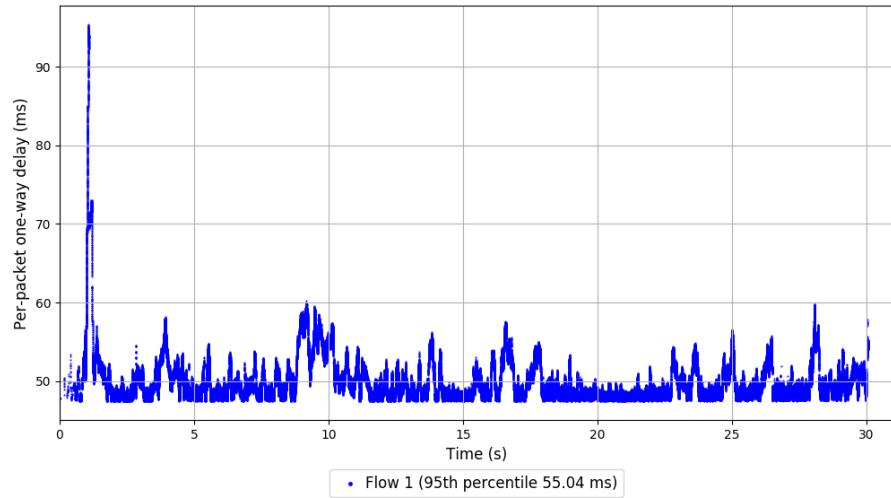
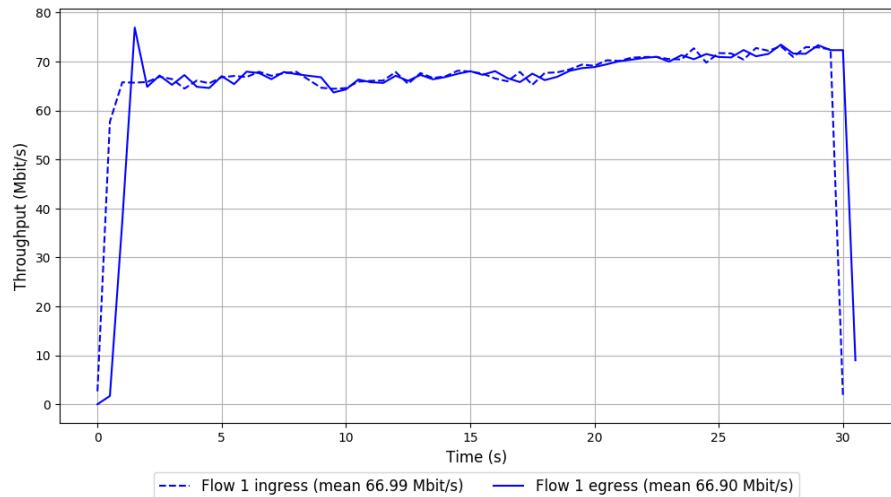


Run 5: Statistics of TCP Vegas

```
Start at: 2019-03-19 00:31:28
End at: 2019-03-19 00:31:59
Local clock offset: -2.258 ms
Remote clock offset: -19.991 ms

# Below is generated by plot.py at 2019-03-19 00:44:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.90 Mbit/s
95th percentile per-packet one-way delay: 55.044 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 66.90 Mbit/s
95th percentile per-packet one-way delay: 55.044 ms
Loss rate: 0.10%
```

Run 5: Report of TCP Vegas — Data Link

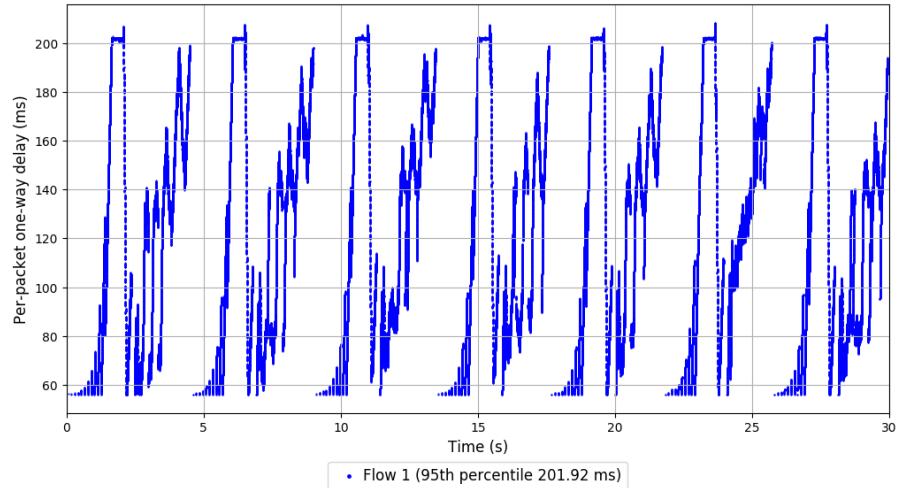
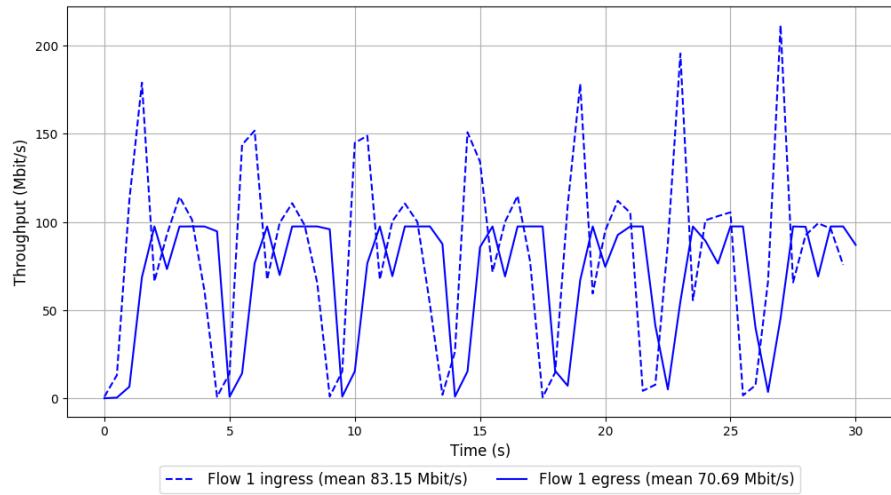


Run 1: Statistics of Verus

```
Start at: 2019-03-18 19:31:16
End at: 2019-03-18 19:31:46
Local clock offset: -9.61 ms
Remote clock offset: -17.857 ms

# Below is generated by plot.py at 2019-03-19 00:44:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.69 Mbit/s
95th percentile per-packet one-way delay: 201.923 ms
Loss rate: 14.89%
-- Flow 1:
Average throughput: 70.69 Mbit/s
95th percentile per-packet one-way delay: 201.923 ms
Loss rate: 14.89%
```

Run 1: Report of Verus — Data Link

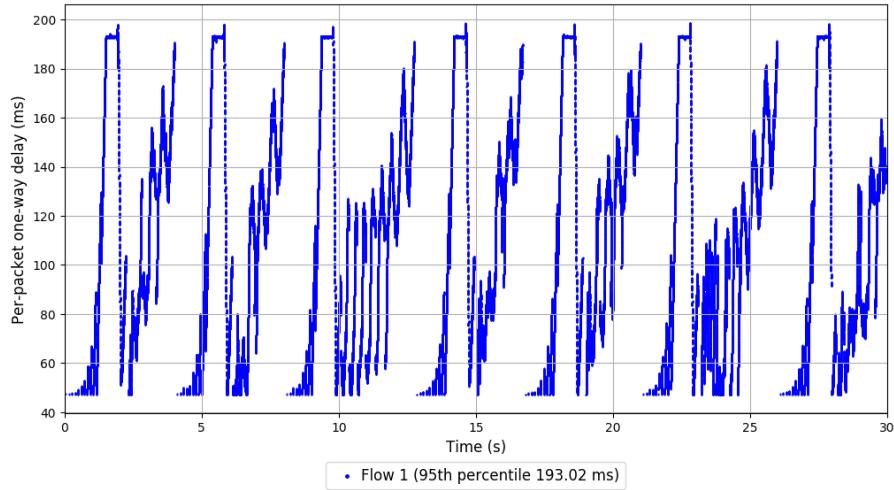
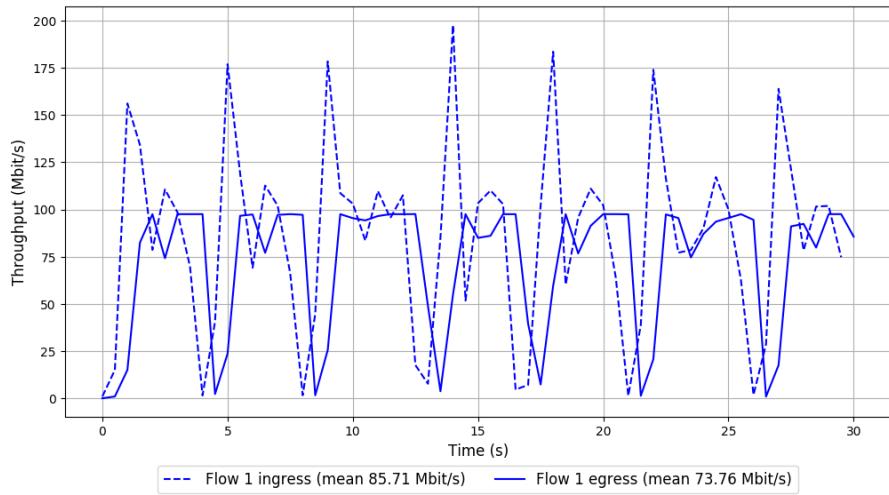


Run 2: Statistics of Verus

```
Start at: 2019-03-18 19:56:08
End at: 2019-03-18 19:56:38
Local clock offset: -8.176 ms
Remote clock offset: -17.496 ms

# Below is generated by plot.py at 2019-03-19 00:44:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.76 Mbit/s
95th percentile per-packet one-way delay: 193.022 ms
Loss rate: 13.85%
-- Flow 1:
Average throughput: 73.76 Mbit/s
95th percentile per-packet one-way delay: 193.022 ms
Loss rate: 13.85%
```

Run 2: Report of Verus — Data Link

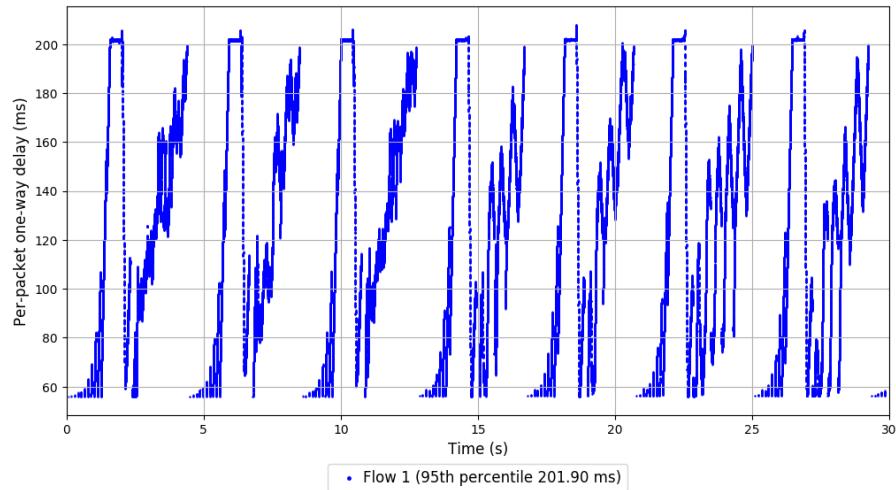
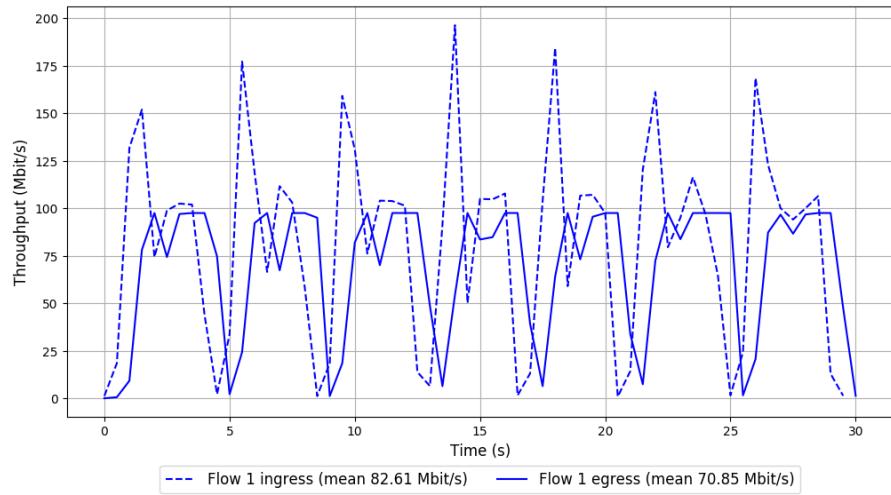


Run 3: Statistics of Verus

```
Start at: 2019-03-18 21:15:58
End at: 2019-03-18 21:16:28
Local clock offset: -6.535 ms
Remote clock offset: -17.707 ms

# Below is generated by plot.py at 2019-03-19 00:44:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.85 Mbit/s
95th percentile per-packet one-way delay: 201.902 ms
Loss rate: 14.23%
-- Flow 1:
Average throughput: 70.85 Mbit/s
95th percentile per-packet one-way delay: 201.902 ms
Loss rate: 14.23%
```

Run 3: Report of Verus — Data Link

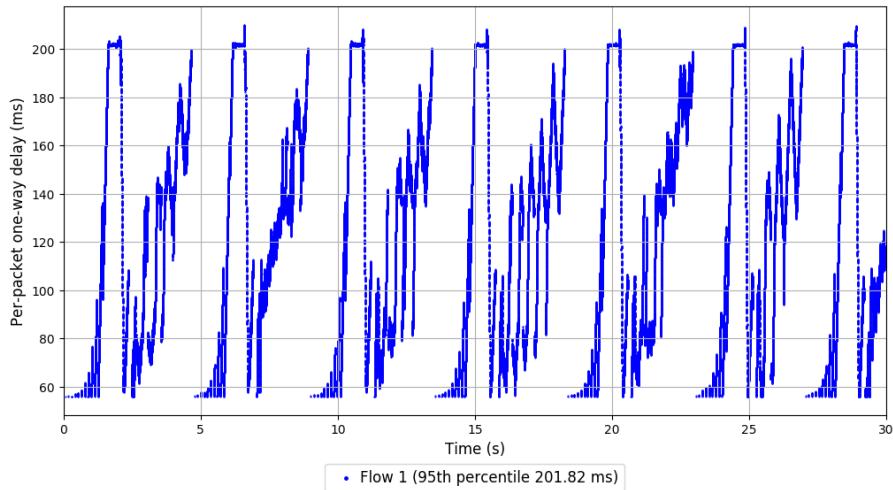
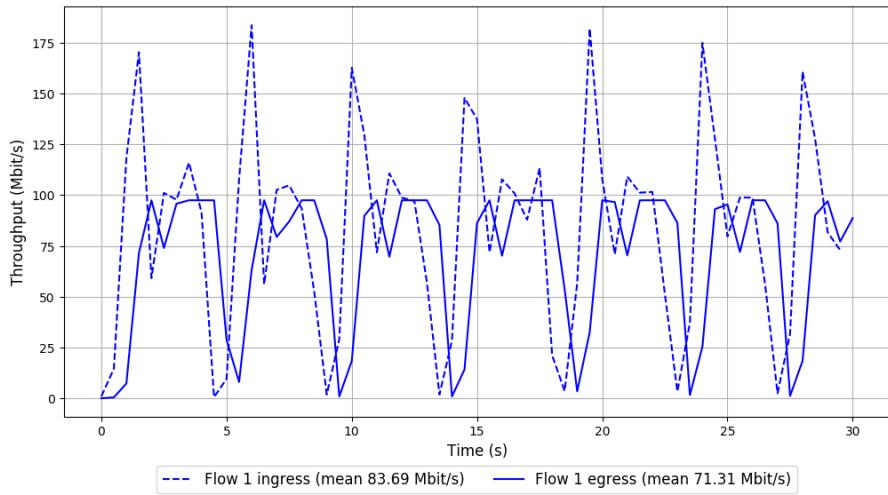


Run 4: Statistics of Verus

```
Start at: 2019-03-18 23:52:20
End at: 2019-03-18 23:52:50
Local clock offset: -2.704 ms
Remote clock offset: -19.68 ms

# Below is generated by plot.py at 2019-03-19 00:44:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.31 Mbit/s
95th percentile per-packet one-way delay: 201.822 ms
Loss rate: 14.68%
-- Flow 1:
Average throughput: 71.31 Mbit/s
95th percentile per-packet one-way delay: 201.822 ms
Loss rate: 14.68%
```

Run 4: Report of Verus — Data Link

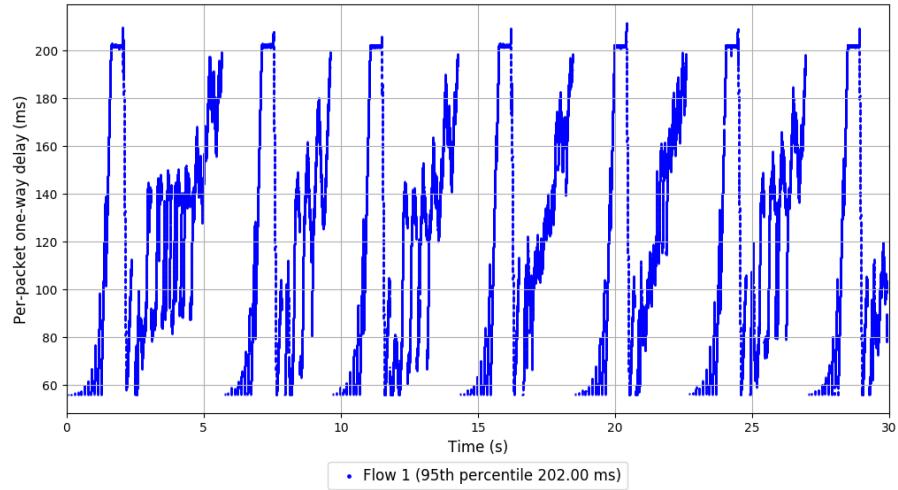
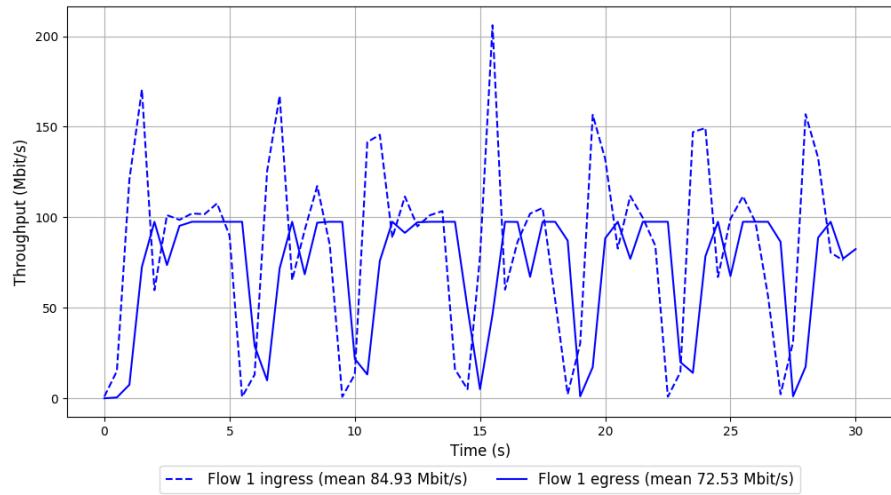


Run 5: Statistics of Verus

```
Start at: 2019-03-19 00:17:19
End at: 2019-03-19 00:17:49
Local clock offset: -3.372 ms
Remote clock offset: -19.457 ms

# Below is generated by plot.py at 2019-03-19 00:44:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.53 Mbit/s
95th percentile per-packet one-way delay: 202.000 ms
Loss rate: 14.57%
-- Flow 1:
Average throughput: 72.53 Mbit/s
95th percentile per-packet one-way delay: 202.000 ms
Loss rate: 14.57%
```

Run 5: Report of Verus — Data Link

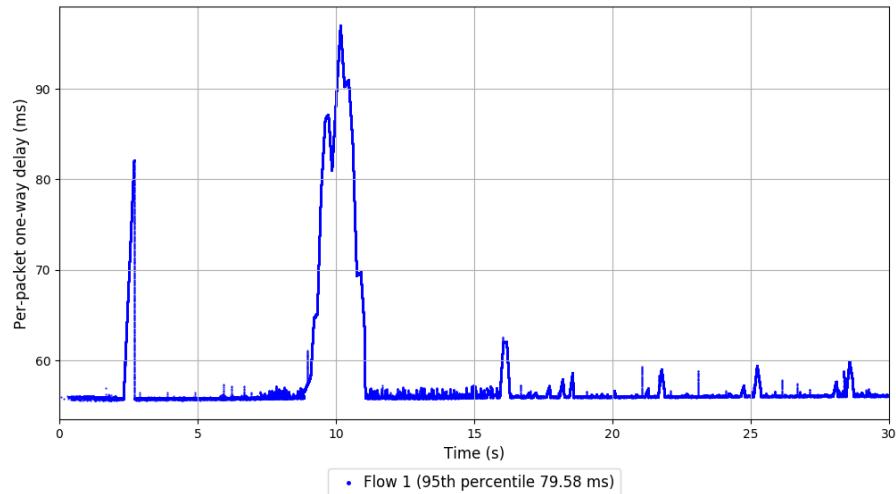
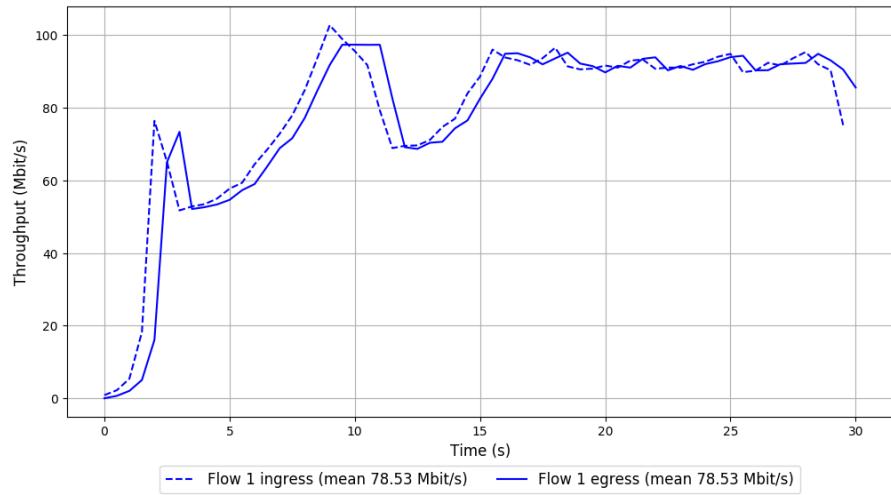


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2019-03-18 19:25:17
End at: 2019-03-18 19:25:47
Local clock offset: -12.077 ms
Remote clock offset: -17.981 ms

# Below is generated by plot.py at 2019-03-19 00:44:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.53 Mbit/s
95th percentile per-packet one-way delay: 79.575 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 78.53 Mbit/s
95th percentile per-packet one-way delay: 79.575 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Vivace — Data Link

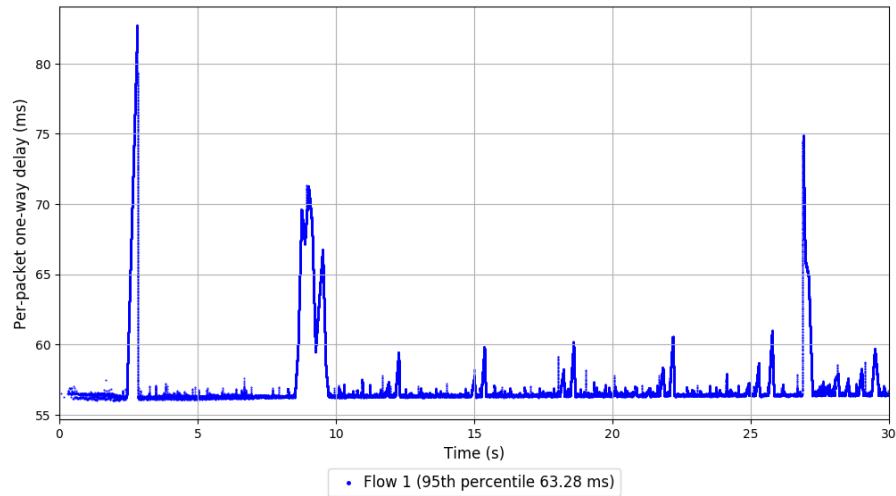
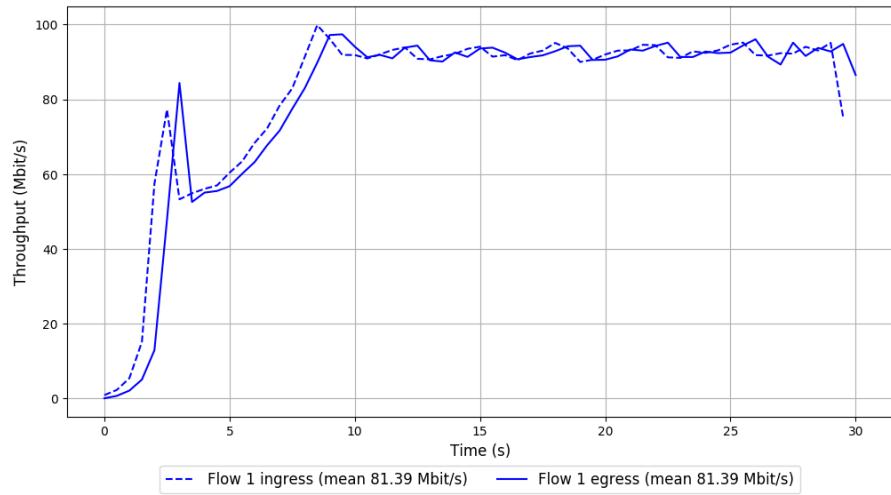


Run 2: Statistics of PCC-Vivace

```
Start at: 2019-03-18 19:50:09
End at: 2019-03-18 19:50:39
Local clock offset: -9.517 ms
Remote clock offset: -17.583 ms

# Below is generated by plot.py at 2019-03-19 00:44:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.39 Mbit/s
95th percentile per-packet one-way delay: 63.276 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 81.39 Mbit/s
95th percentile per-packet one-way delay: 63.276 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Vivace — Data Link

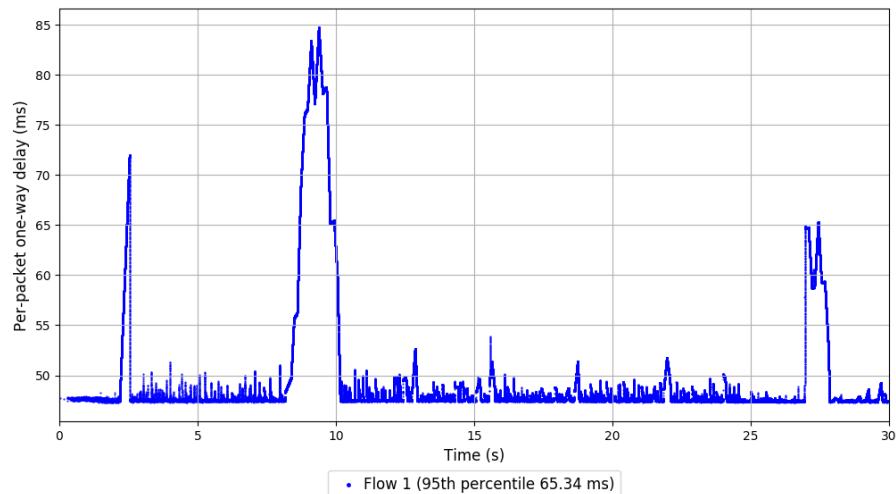
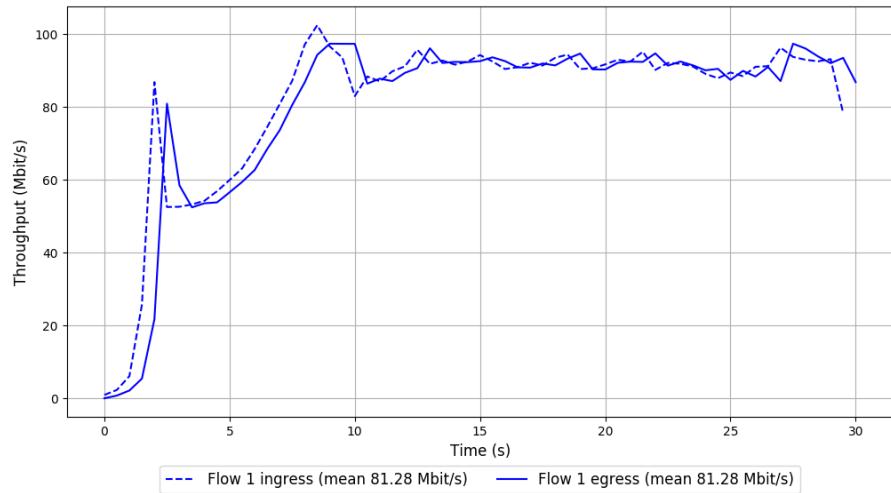


Run 3: Statistics of PCC-Vivace

```
Start at: 2019-03-18 20:15:03
End at: 2019-03-18 20:15:33
Local clock offset: -11.103 ms
Remote clock offset: -17.823 ms

# Below is generated by plot.py at 2019-03-19 00:44:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.28 Mbit/s
95th percentile per-packet one-way delay: 65.343 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 81.28 Mbit/s
95th percentile per-packet one-way delay: 65.343 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Vivace — Data Link

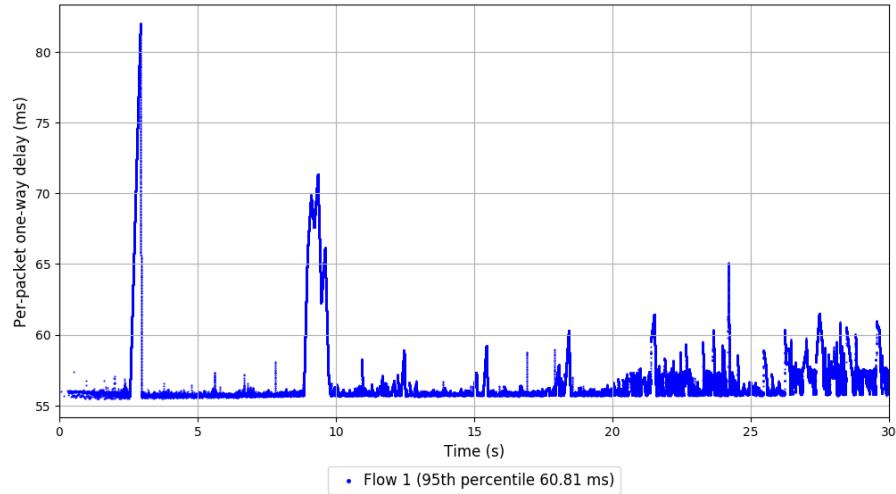
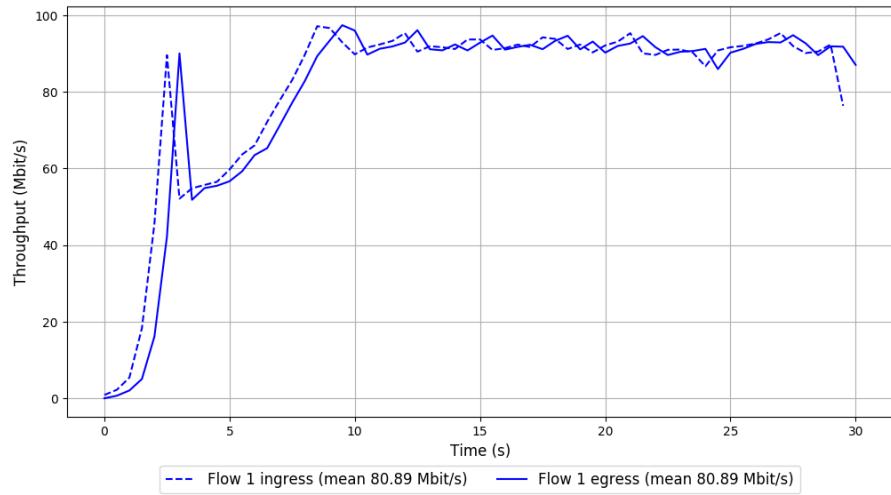


Run 4: Statistics of PCC-Vivace

```
Start at: 2019-03-18 23:46:21
End at: 2019-03-18 23:46:51
Local clock offset: -2.079 ms
Remote clock offset: -18.456 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.89 Mbit/s
95th percentile per-packet one-way delay: 60.806 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 80.89 Mbit/s
95th percentile per-packet one-way delay: 60.806 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link

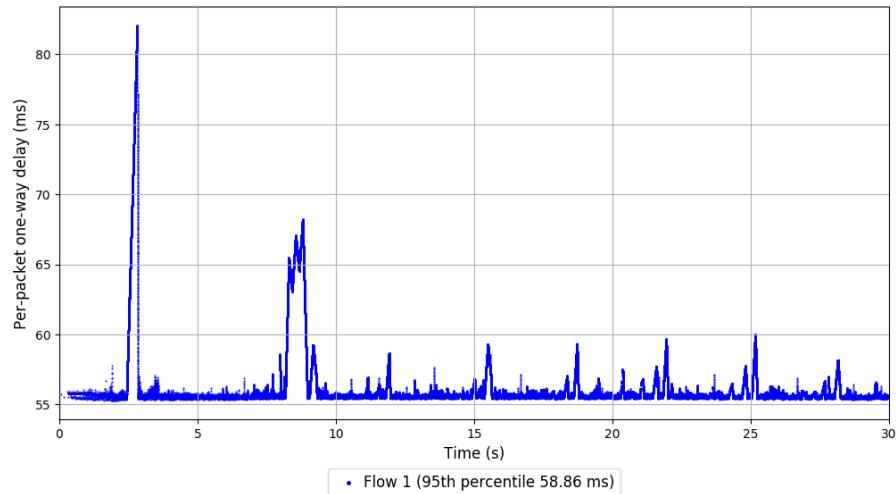
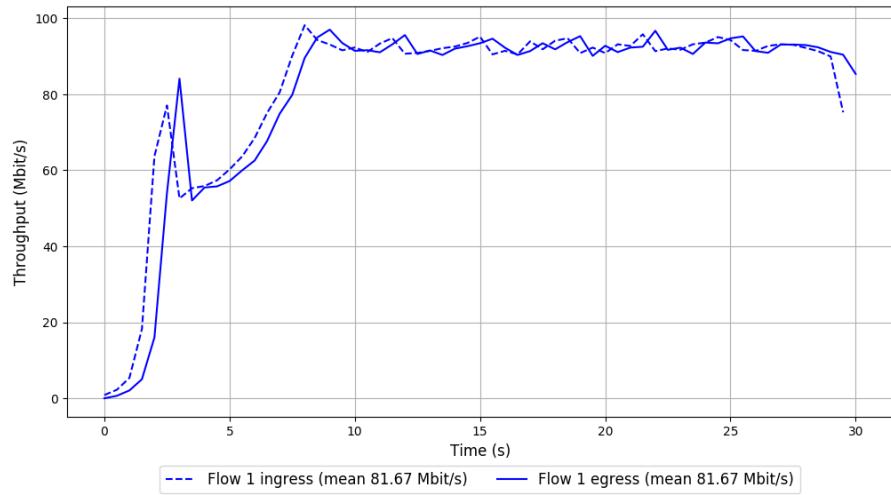


Run 5: Statistics of PCC-Vivace

```
Start at: 2019-03-19 00:11:20
End at: 2019-03-19 00:11:50
Local clock offset: -3.234 ms
Remote clock offset: -19.879 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.67 Mbit/s
95th percentile per-packet one-way delay: 58.860 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 81.67 Mbit/s
95th percentile per-packet one-way delay: 58.860 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Vivace — Data Link

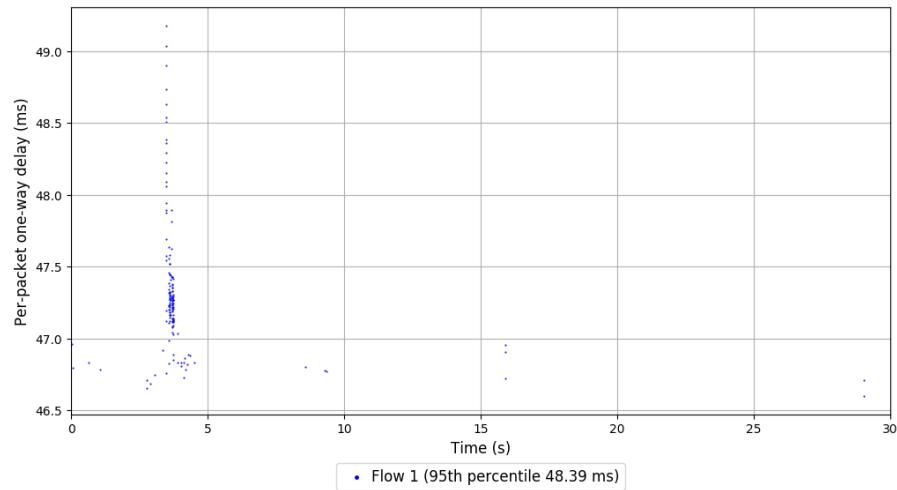
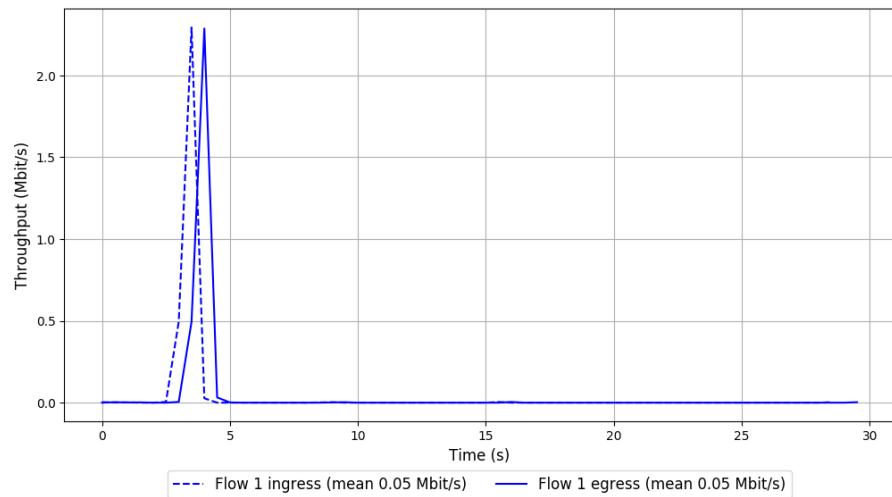


```
Run 1: Statistics of WebRTC media

Start at: 2019-03-18 19:44:11
End at: 2019-03-18 19:44:41
Local clock offset: -11.104 ms
Remote clock offset: -17.627 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 48.388 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 48.388 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

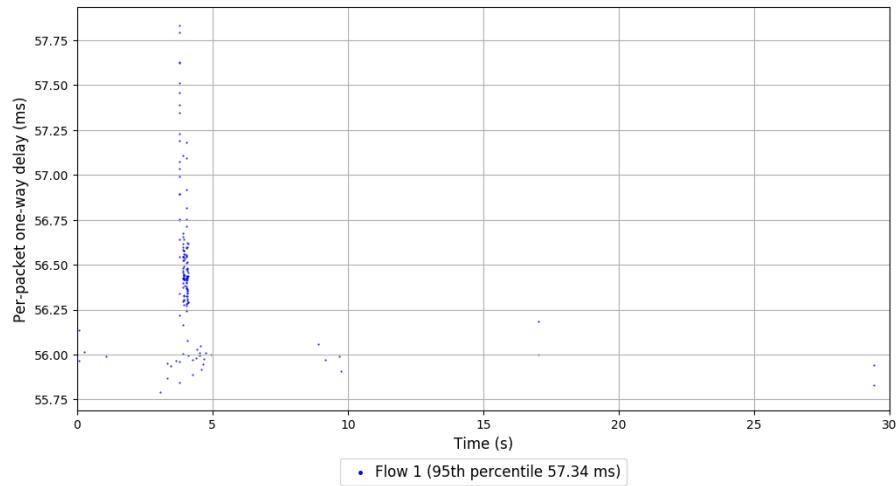
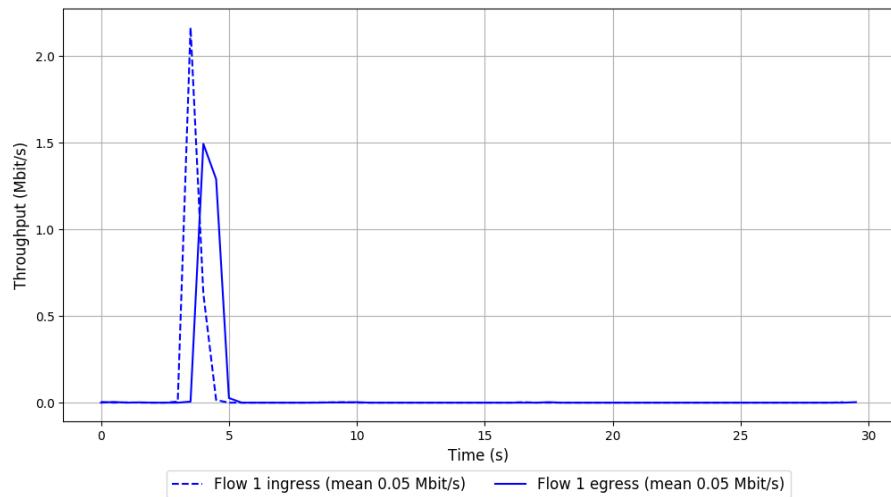


Run 2: Statistics of WebRTC media

```
Start at: 2019-03-18 20:09:05
End at: 2019-03-18 20:09:35
Local clock offset: -9.485 ms
Remote clock offset: -17.441 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.345 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.345 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

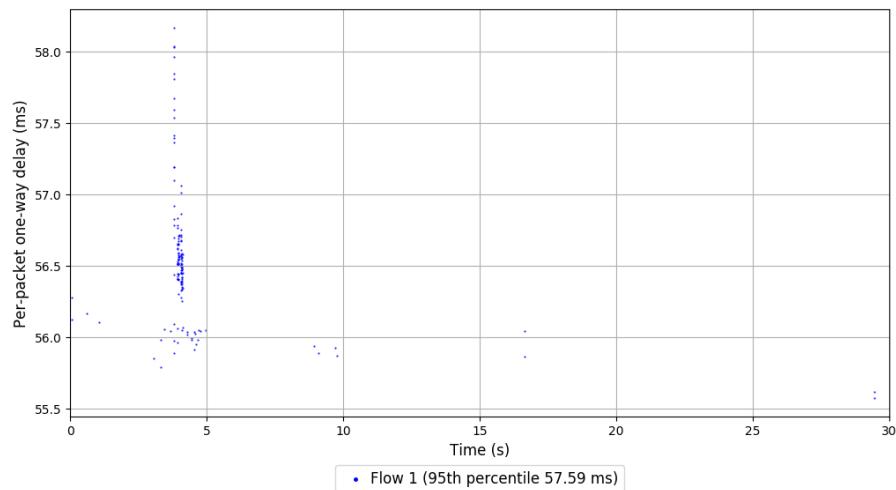
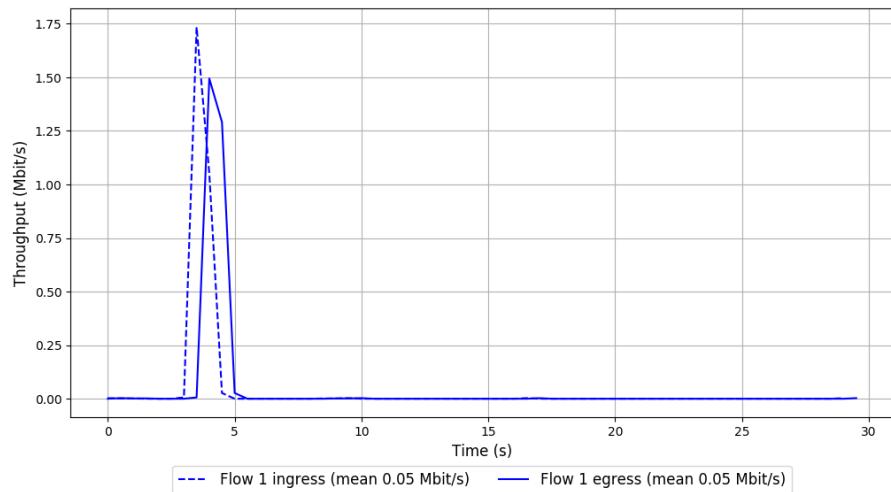


```
Run 3: Statistics of WebRTC media

Start at: 2019-03-18 22:57:31
End at: 2019-03-18 22:58:01
Local clock offset: -1.851 ms
Remote clock offset: -15.847 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.594 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.594 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

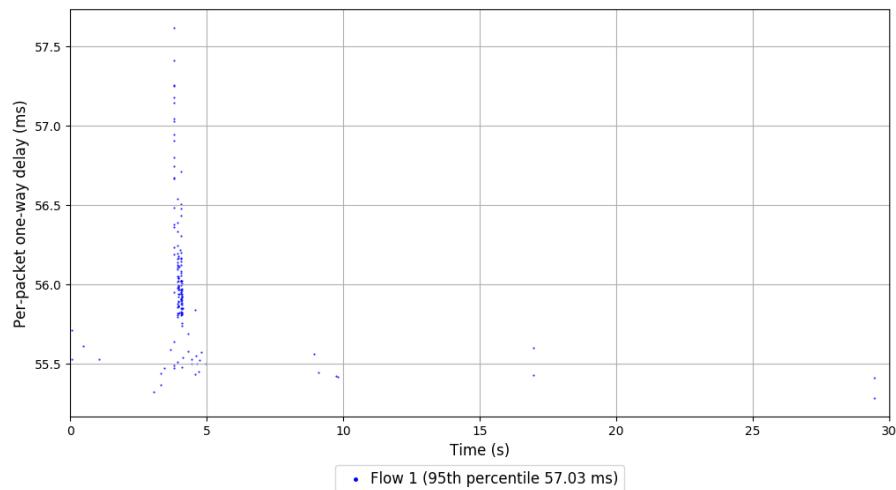
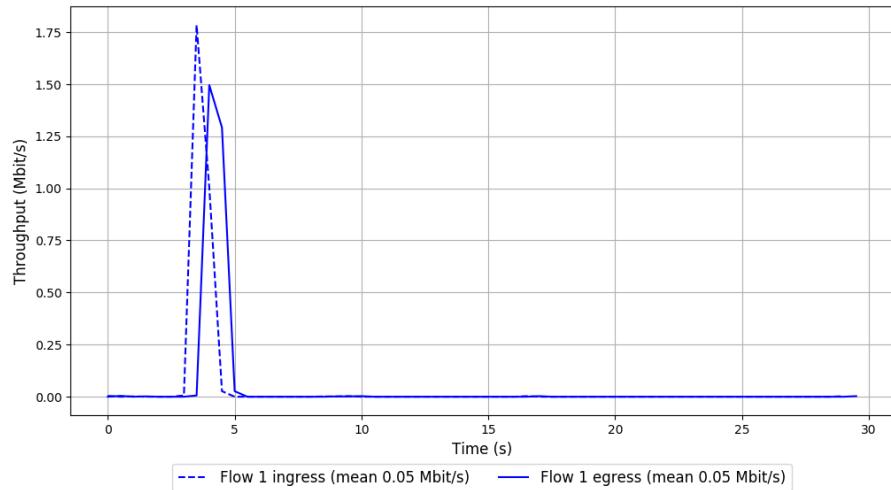


Run 4: Statistics of WebRTC media

```
Start at: 2019-03-19 00:05:21
End at: 2019-03-19 00:05:51
Local clock offset: -3.216 ms
Remote clock offset: -21.25 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.027 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 57.027 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2019-03-19 00:30:20
End at: 2019-03-19 00:30:50
Local clock offset: -2.177 ms
Remote clock offset: -19.901 ms

# Below is generated by plot.py at 2019-03-19 00:44:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.097 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 56.097 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

