

Pantheon Report

Generated at 2019-01-03 06:54:32 (UTC).
Data path: Mexico on `em1` (*remote*) → AWS California 2 on `ens5` (*local*).
Repeated the test of 19 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.

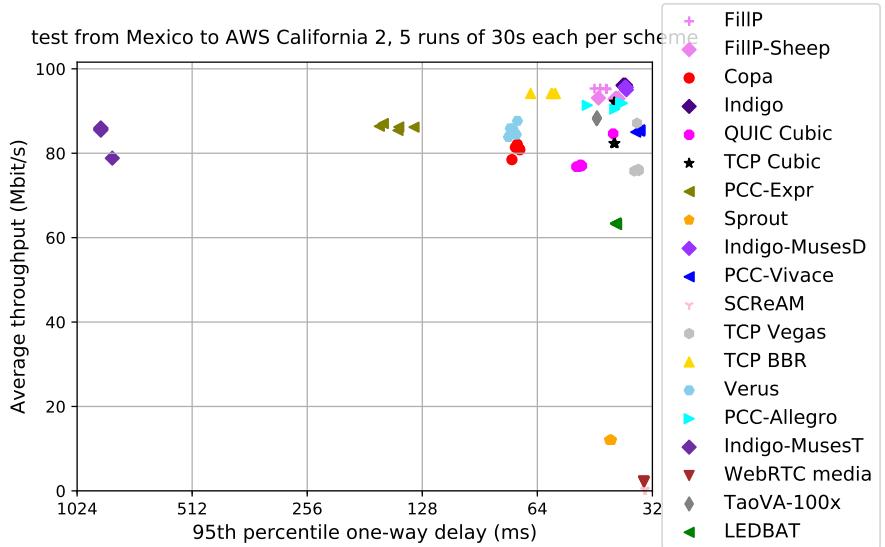
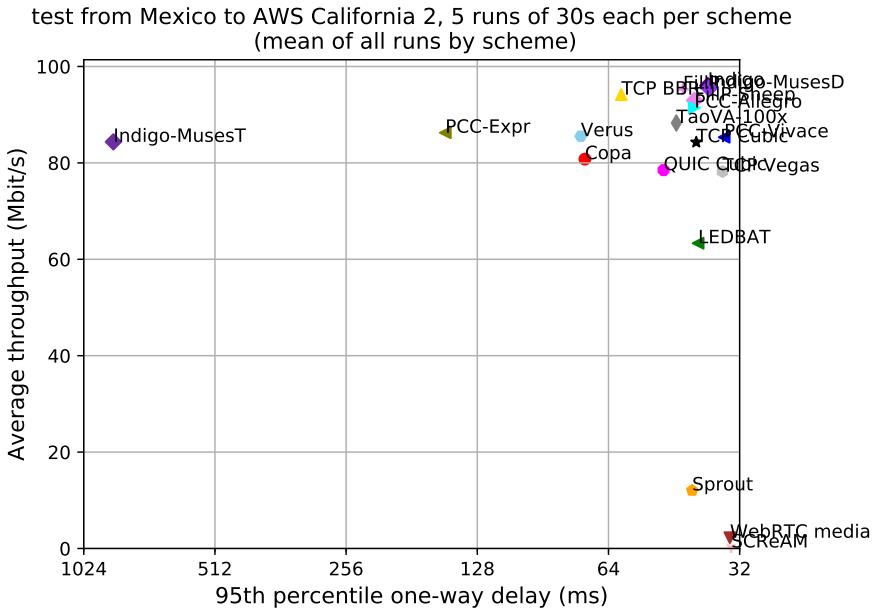
System info:

```
Linux 4.15.0-1029-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 @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fc45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbfed0c6349ae986009b4fa8643c40a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
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



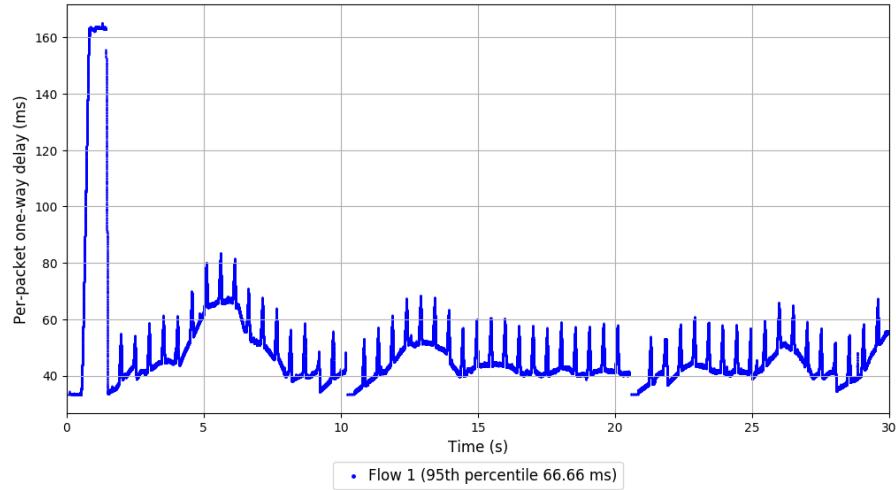
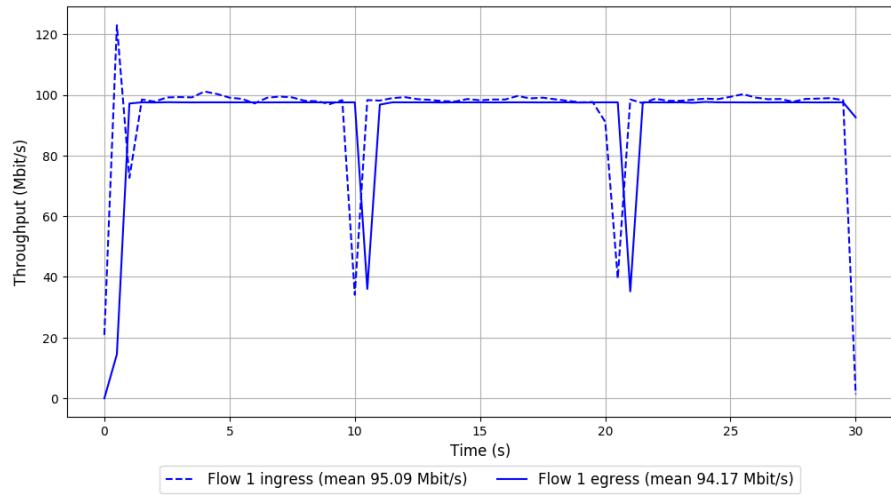
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	94.17	59.79	0.80
Copa	5	80.78	72.48	0.35
TCP Cubic	5	84.29	40.25	0.25
FillP	5	95.29	43.17	0.23
FillP-Sheep	5	92.96	40.62	0.23
Indigo	5	96.01	37.87	0.23
Indigo-MusesD	5	95.48	37.59	0.23
Indigo-MusesT	5	84.36	875.63	3.16
LEDBAT	5	63.33	39.86	0.20
PCC-Allegro	5	91.45	40.66	0.24
PCC-Expr	5	86.25	151.61	0.41
QUIC Cubic	5	78.51	47.84	0.25
SCReAM	5	0.21	33.46	0.18
Sprout	5	12.05	41.13	0.19
TaoVA-100x	5	88.27	44.72	0.24
TCP Vegas	5	78.21	35.05	0.28
Verus	5	85.54	74.09	0.38
PCC-Vivace	5	85.32	34.74	0.24
WebRTC media	5	2.23	33.70	0.23

Run 1: Statistics of TCP BBR

```
Start at: 2019-01-03 04:54:49
End at: 2019-01-03 04:55:19
Local clock offset: 0.023 ms
Remote clock offset: -5.148 ms

# Below is generated by plot.py at 2019-01-03 06:43:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 66.662 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 66.662 ms
Loss rate: 1.18%
```

Run 1: Report of TCP BBR — Data Link

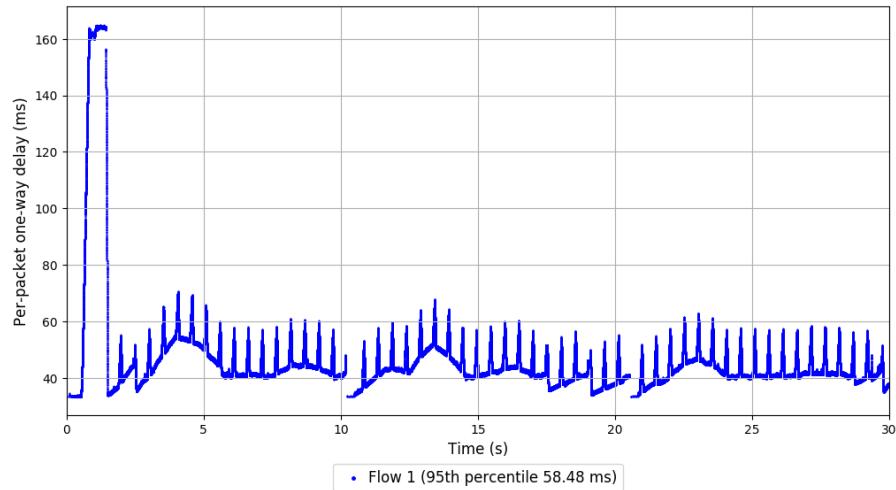
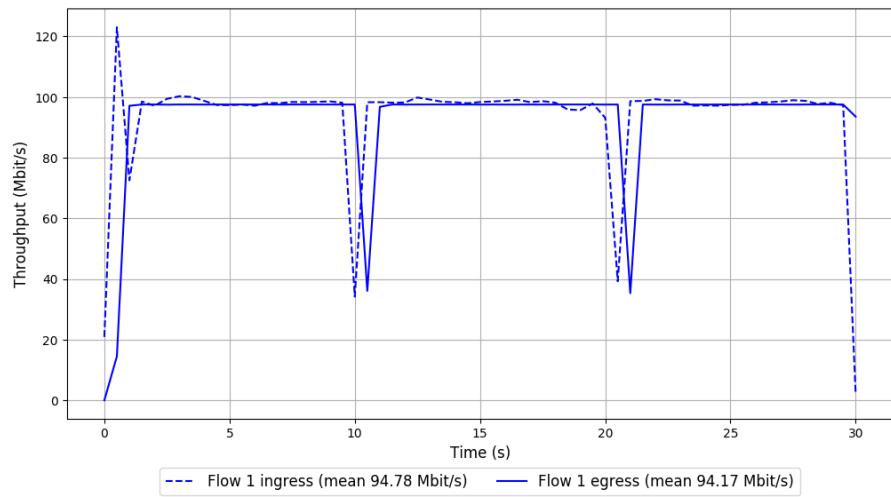


Run 2: Statistics of TCP BBR

```
Start at: 2019-01-03 05:17:46
End at: 2019-01-03 05:18:16
Local clock offset: 0.11 ms
Remote clock offset: -4.502 ms

# Below is generated by plot.py at 2019-01-03 06:43:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 58.485 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 58.485 ms
Loss rate: 0.86%
```

Run 2: Report of TCP BBR — Data Link

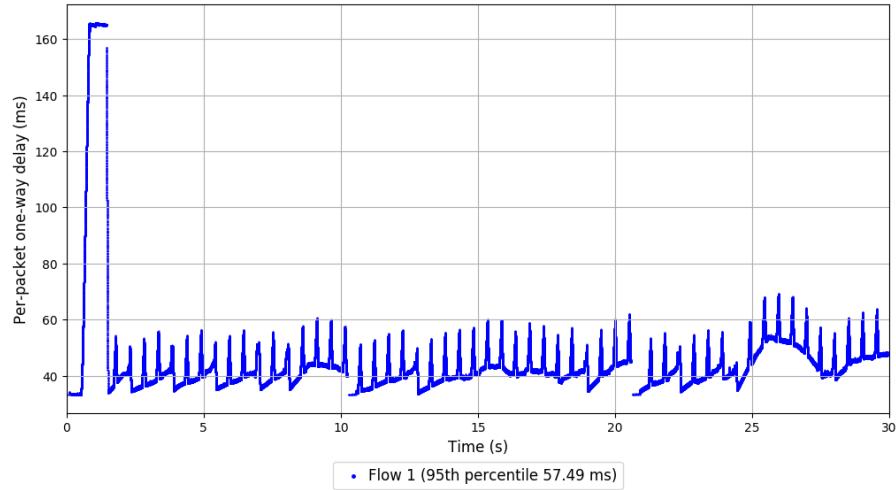
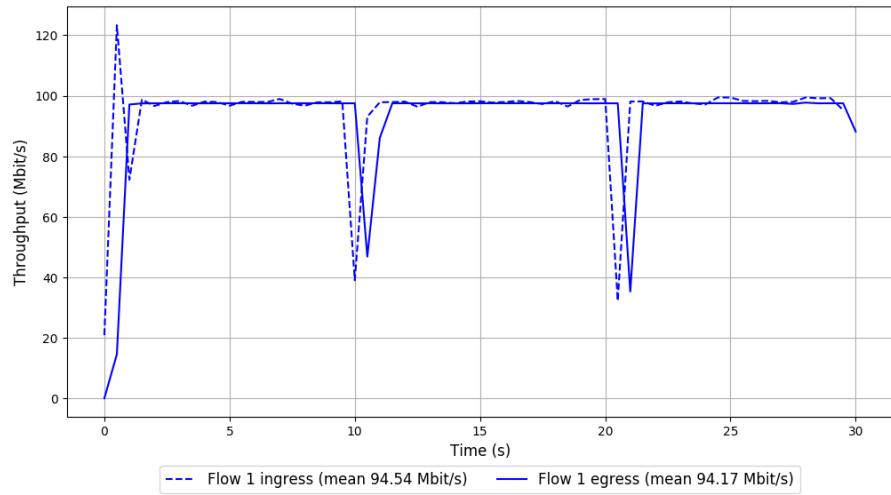


Run 3: Statistics of TCP BBR

```
Start at: 2019-01-03 05:41:14
End at: 2019-01-03 05:41:44
Local clock offset: 0.128 ms
Remote clock offset: -3.249 ms

# Below is generated by plot.py at 2019-01-03 06:43:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 57.492 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 57.492 ms
Loss rate: 0.61%
```

Run 3: Report of TCP BBR — Data Link

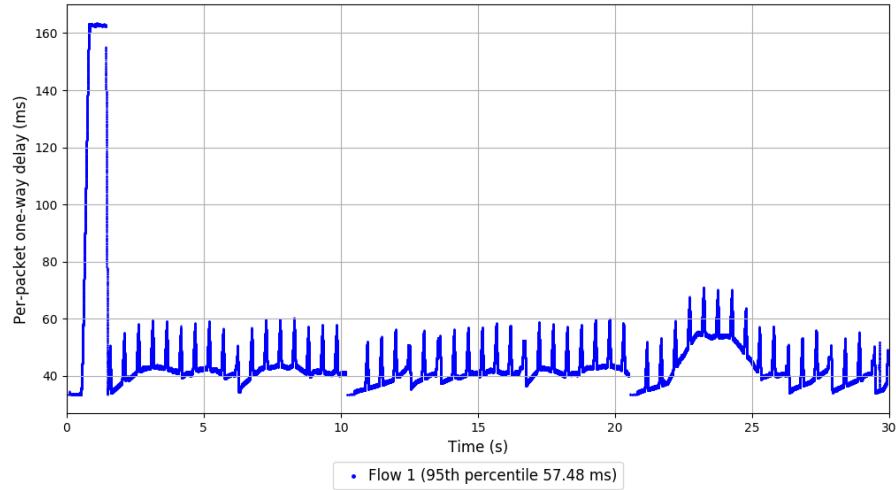
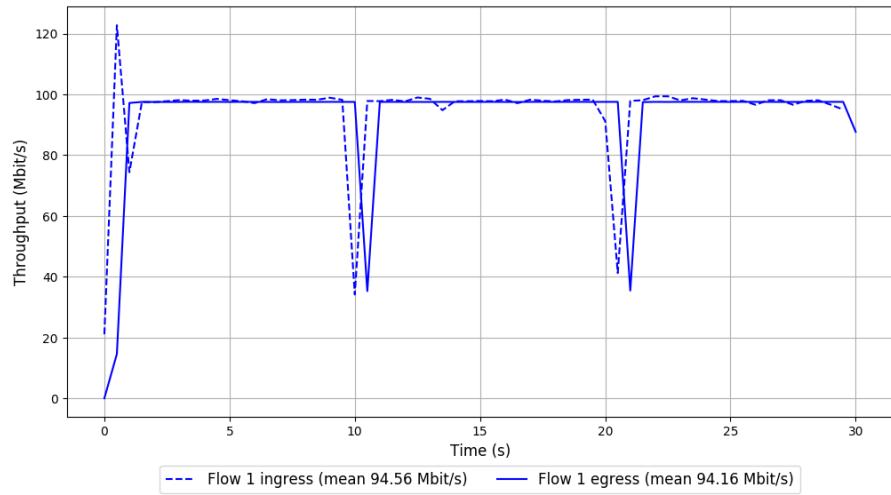


Run 4: Statistics of TCP BBR

```
Start at: 2019-01-03 06:04:20
End at: 2019-01-03 06:04:50
Local clock offset: 0.1 ms
Remote clock offset: -2.449 ms

# Below is generated by plot.py at 2019-01-03 06:43:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.16 Mbit/s
95th percentile per-packet one-way delay: 57.483 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 94.16 Mbit/s
95th percentile per-packet one-way delay: 57.483 ms
Loss rate: 0.64%
```

Run 4: Report of TCP BBR — Data Link

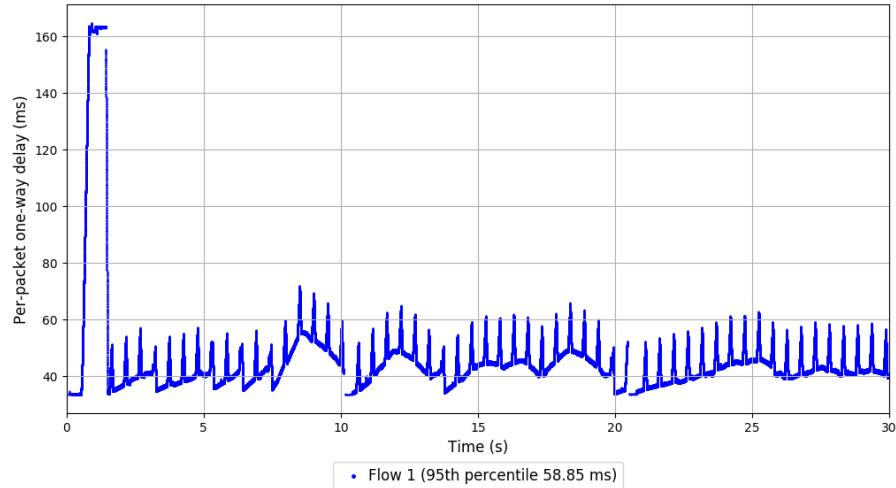
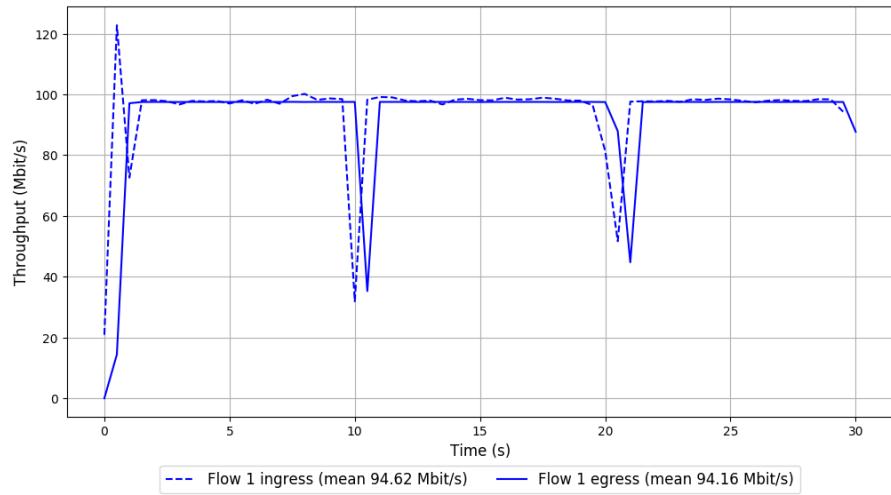


Run 5: Statistics of TCP BBR

```
Start at: 2019-01-03 06:26:34
End at: 2019-01-03 06:27:04
Local clock offset: 0.069 ms
Remote clock offset: -2.346 ms

# Below is generated by plot.py at 2019-01-03 06:43:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.16 Mbit/s
95th percentile per-packet one-way delay: 58.847 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 94.16 Mbit/s
95th percentile per-packet one-way delay: 58.847 ms
Loss rate: 0.70%
```

Run 5: Report of TCP BBR — Data Link

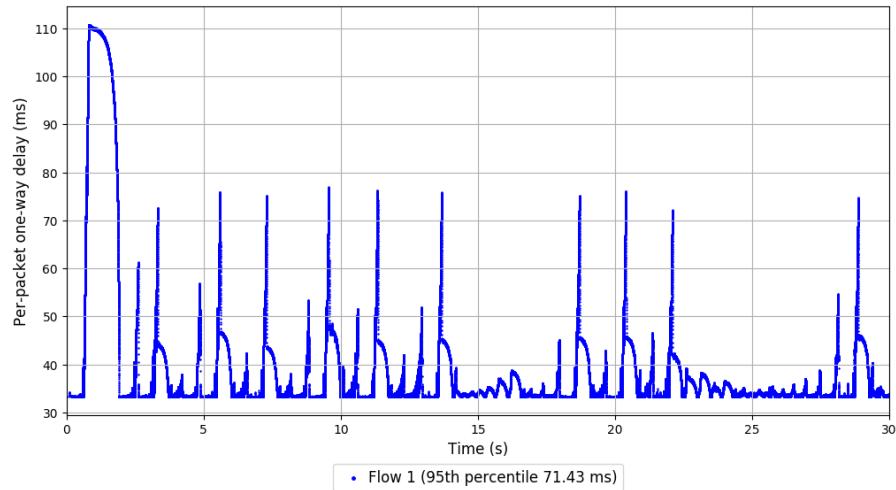
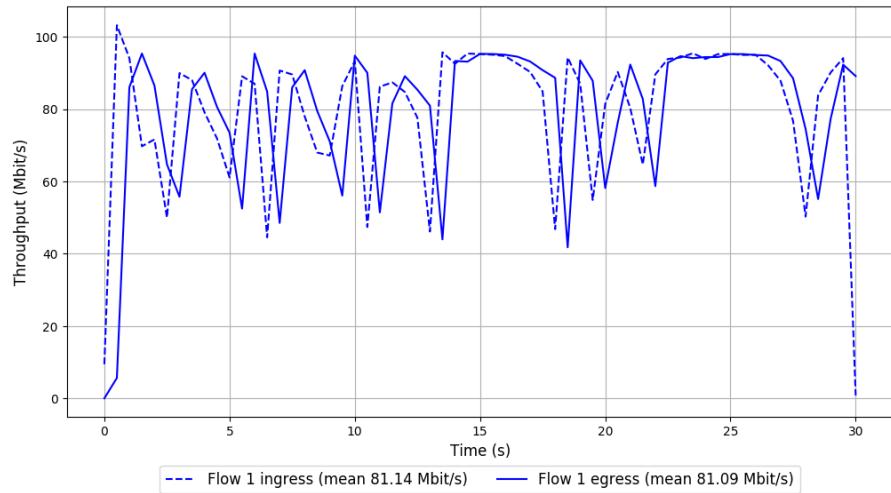


Run 1: Statistics of Copa

```
Start at: 2019-01-03 05:05:50
End at: 2019-01-03 05:06:20
Local clock offset: 0.093 ms
Remote clock offset: -4.904 ms

# Below is generated by plot.py at 2019-01-03 06:43:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.09 Mbit/s
95th percentile per-packet one-way delay: 71.428 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 81.09 Mbit/s
95th percentile per-packet one-way delay: 71.428 ms
Loss rate: 0.28%
```

Run 1: Report of Copa — Data Link

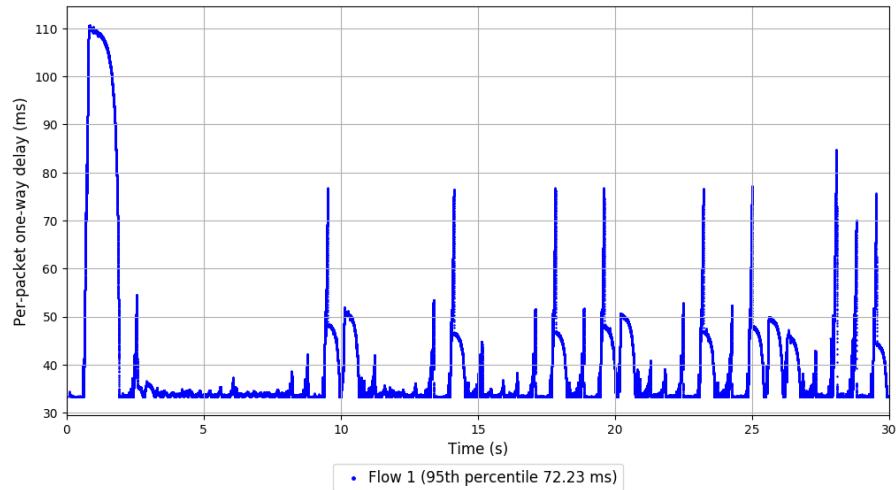
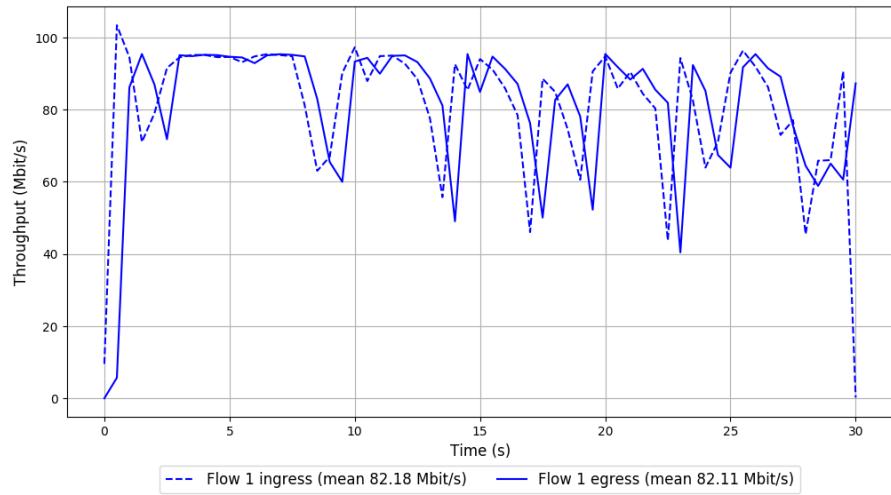


Run 2: Statistics of Copa

```
Start at: 2019-01-03 05:28:39
End at: 2019-01-03 05:29:09
Local clock offset: 0.124 ms
Remote clock offset: -3.933 ms

# Below is generated by plot.py at 2019-01-03 06:43:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.11 Mbit/s
95th percentile per-packet one-way delay: 72.234 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 82.11 Mbit/s
95th percentile per-packet one-way delay: 72.234 ms
Loss rate: 0.30%
```

Run 2: Report of Copa — Data Link

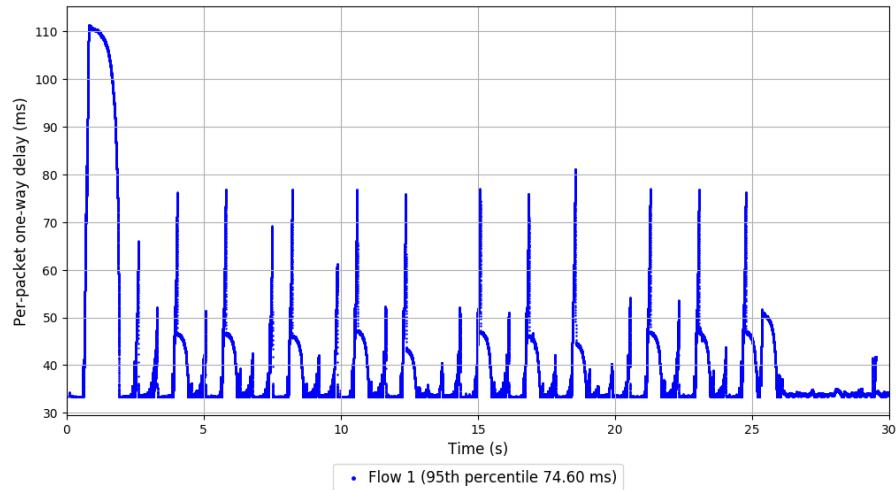
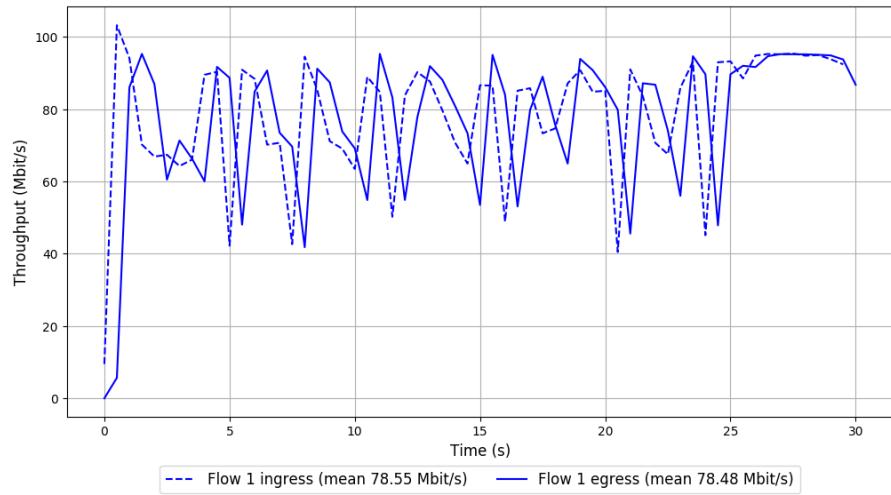


Run 3: Statistics of Copa

```
Start at: 2019-01-03 05:52:30
End at: 2019-01-03 05:53:00
Local clock offset: 0.098 ms
Remote clock offset: -2.854 ms

# Below is generated by plot.py at 2019-01-03 06:43:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.48 Mbit/s
95th percentile per-packet one-way delay: 74.598 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 78.48 Mbit/s
95th percentile per-packet one-way delay: 74.598 ms
Loss rate: 0.30%
```

Run 3: Report of Copa — Data Link

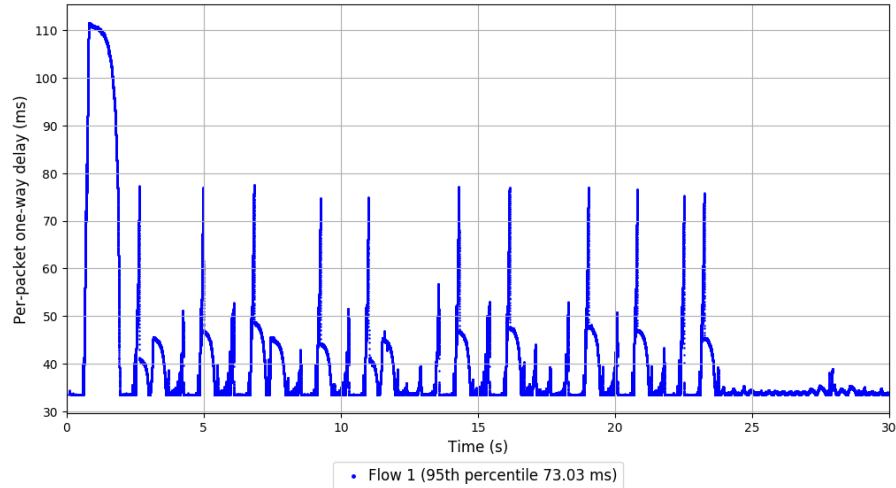
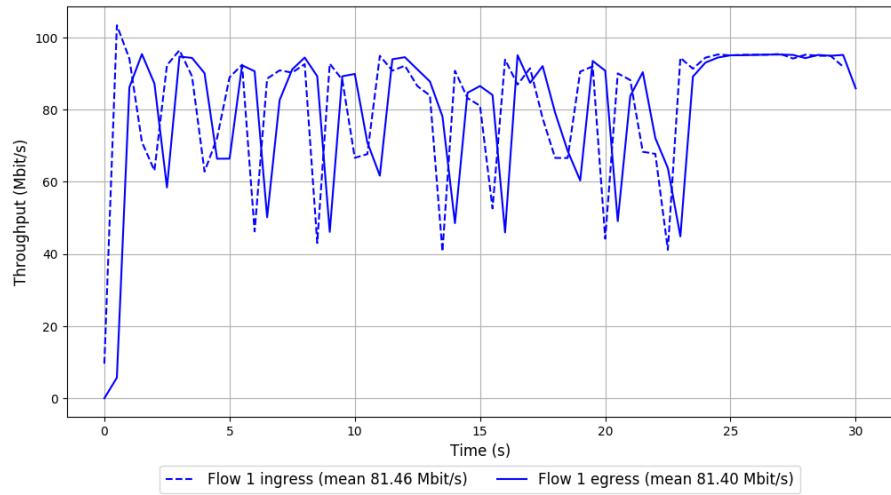


Run 4: Statistics of Copa

```
Start at: 2019-01-03 06:15:00
End at: 2019-01-03 06:15:30
Local clock offset: 0.103 ms
Remote clock offset: -2.215 ms

# Below is generated by plot.py at 2019-01-03 06:44:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.40 Mbit/s
95th percentile per-packet one-way delay: 73.027 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 81.40 Mbit/s
95th percentile per-packet one-way delay: 73.027 ms
Loss rate: 0.29%
```

Run 4: Report of Copa — Data Link

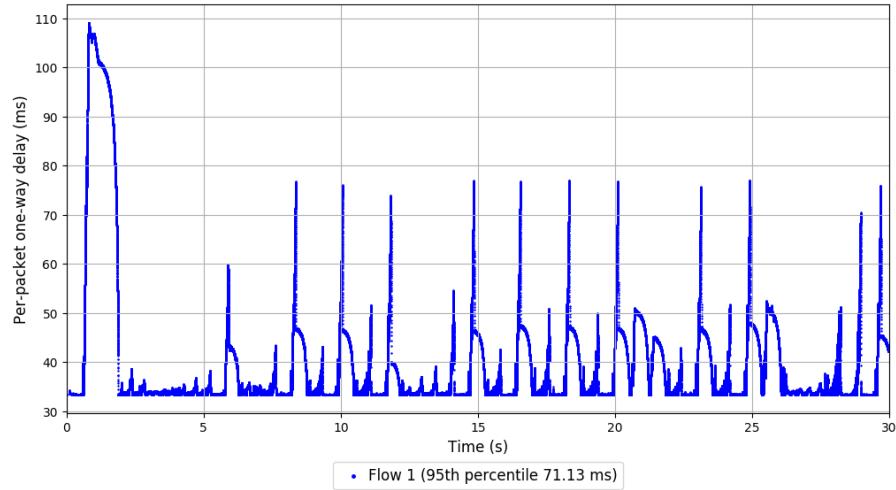
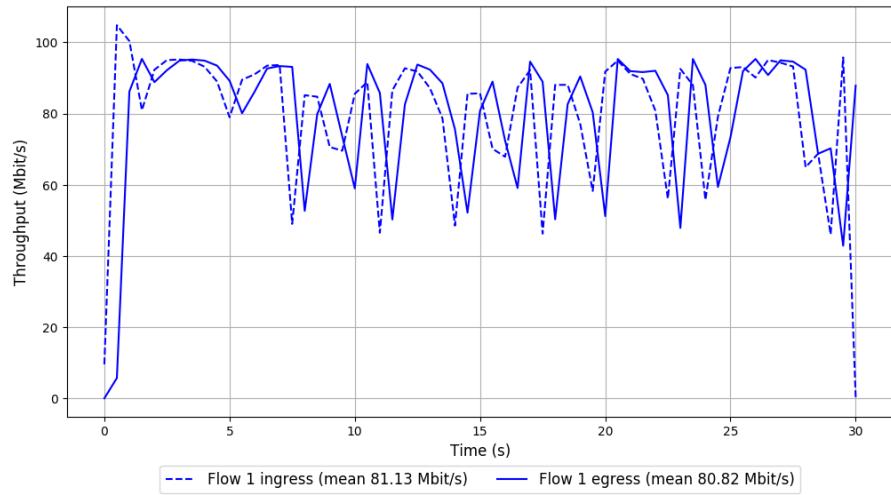


Run 5: Statistics of Copa

```
Start at: 2019-01-03 06:37:21
End at: 2019-01-03 06:37:51
Local clock offset: -0.019 ms
Remote clock offset: -2.117 ms

# Below is generated by plot.py at 2019-01-03 06:44:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.82 Mbit/s
95th percentile per-packet one-way delay: 71.131 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 80.82 Mbit/s
95th percentile per-packet one-way delay: 71.131 ms
Loss rate: 0.59%
```

Run 5: Report of Copa — Data Link

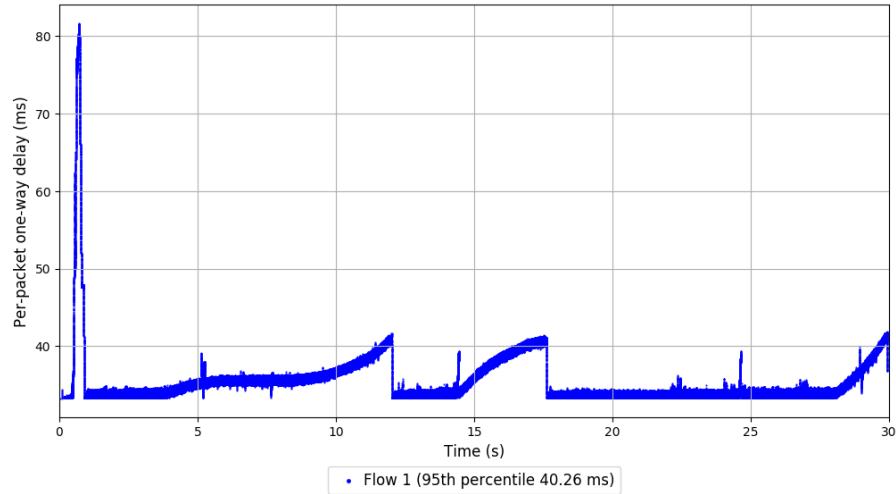
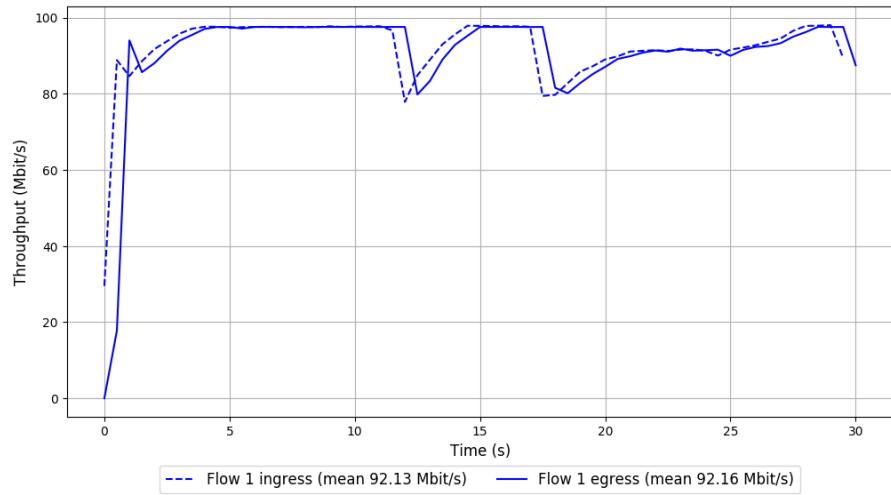


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2019-01-03 05:08:17
End at: 2019-01-03 05:08:47
Local clock offset: 0.113 ms
Remote clock offset: -4.825 ms

# Below is generated by plot.py at 2019-01-03 06:44:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.16 Mbit/s
95th percentile per-packet one-way delay: 40.261 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 92.16 Mbit/s
95th percentile per-packet one-way delay: 40.261 ms
Loss rate: 0.18%
```

Run 1: Report of TCP Cubic — Data Link

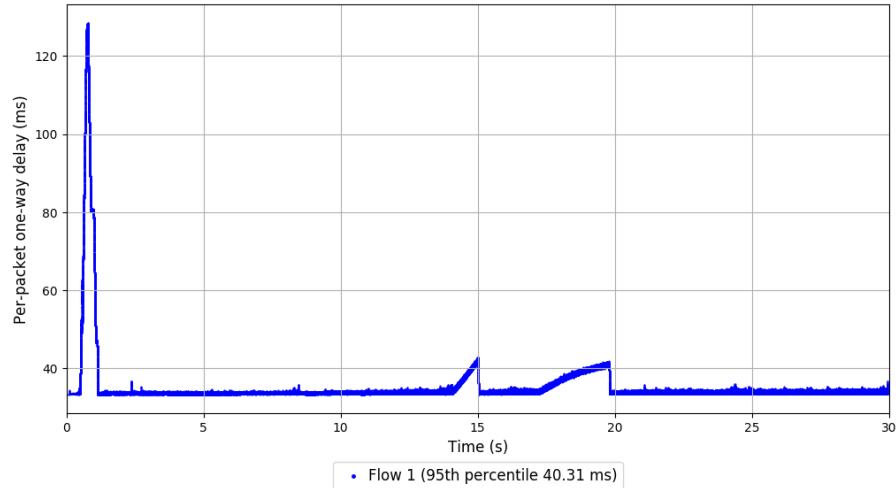
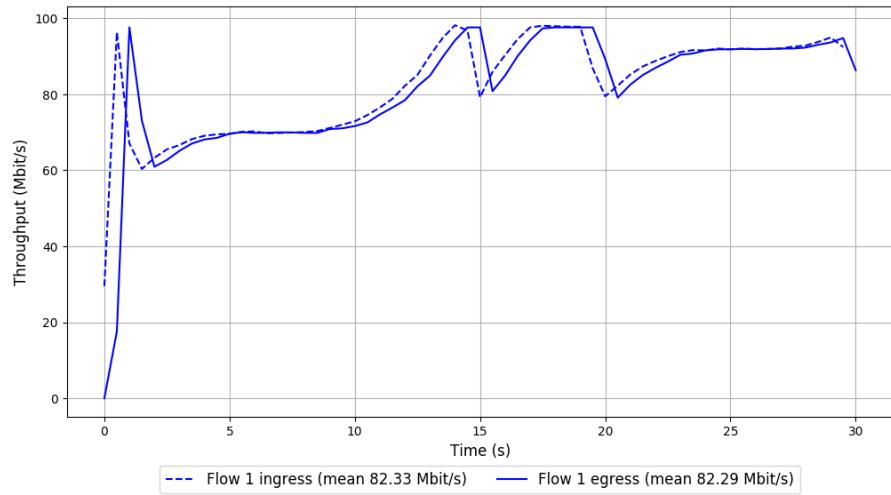


Run 2: Statistics of TCP Cubic

```
Start at: 2019-01-03 05:31:10
End at: 2019-01-03 05:31:40
Local clock offset: 0.123 ms
Remote clock offset: -3.696 ms

# Below is generated by plot.py at 2019-01-03 06:44:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.29 Mbit/s
95th percentile per-packet one-way delay: 40.311 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 82.29 Mbit/s
95th percentile per-packet one-way delay: 40.311 ms
Loss rate: 0.26%
```

Run 2: Report of TCP Cubic — Data Link

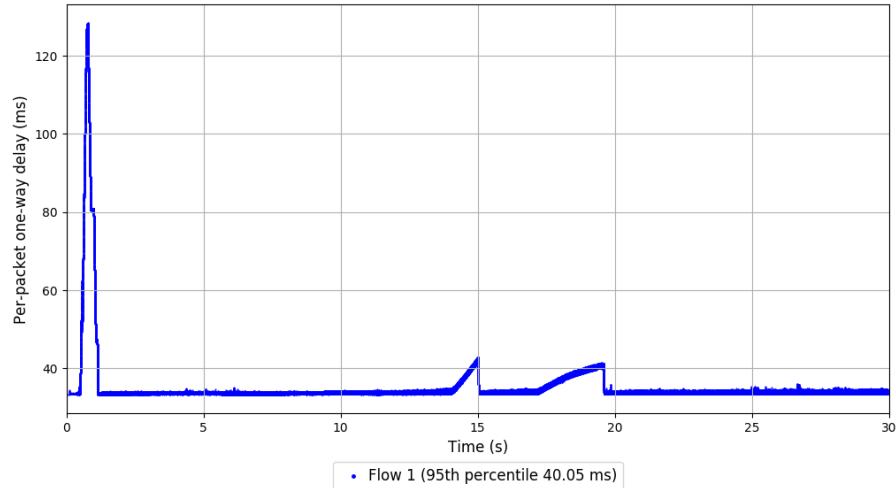
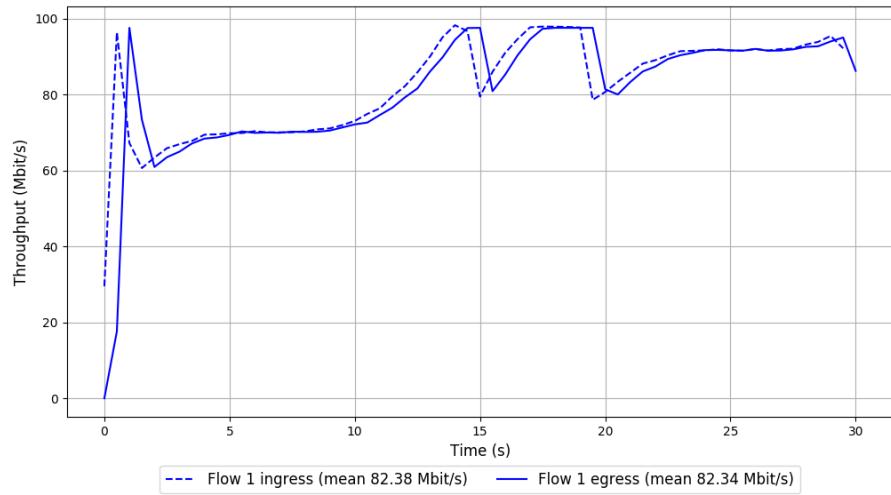


Run 3: Statistics of TCP Cubic

```
Start at: 2019-01-03 05:54:58
End at: 2019-01-03 05:55:28
Local clock offset: 0.11 ms
Remote clock offset: -2.615 ms

# Below is generated by plot.py at 2019-01-03 06:44:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.34 Mbit/s
95th percentile per-packet one-way delay: 40.053 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 82.34 Mbit/s
95th percentile per-packet one-way delay: 40.053 ms
Loss rate: 0.26%
```

Run 3: Report of TCP Cubic — Data Link

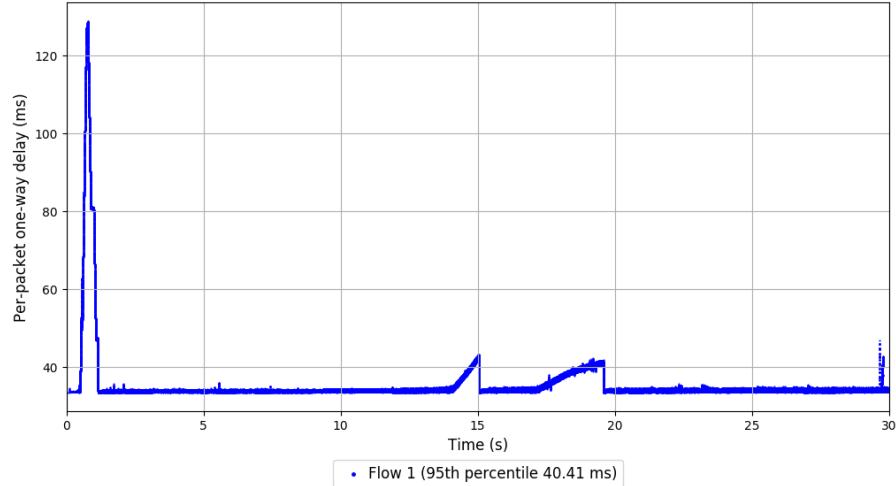
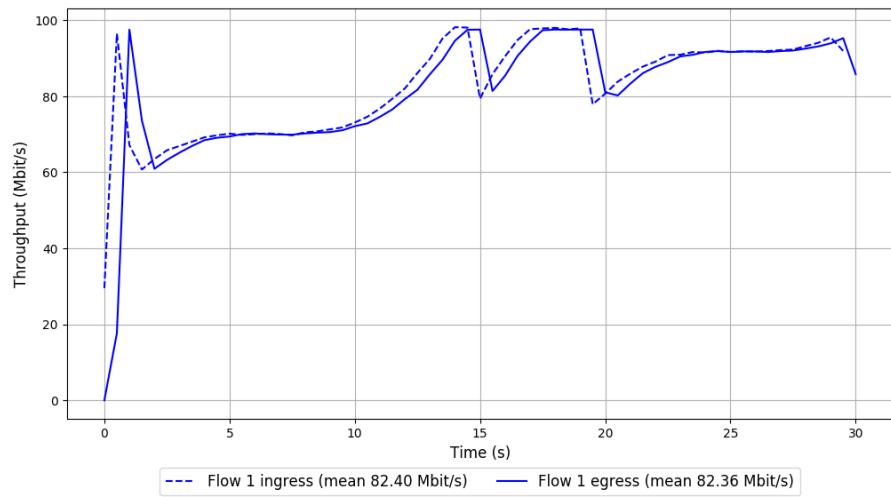


Run 4: Statistics of TCP Cubic

```
Start at: 2019-01-03 06:17:21
End at: 2019-01-03 06:17:51
Local clock offset: 0.084 ms
Remote clock offset: -2.188 ms

# Below is generated by plot.py at 2019-01-03 06:44:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.36 Mbit/s
95th percentile per-packet one-way delay: 40.405 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 82.36 Mbit/s
95th percentile per-packet one-way delay: 40.405 ms
Loss rate: 0.26%
```

Run 4: Report of TCP Cubic — Data Link

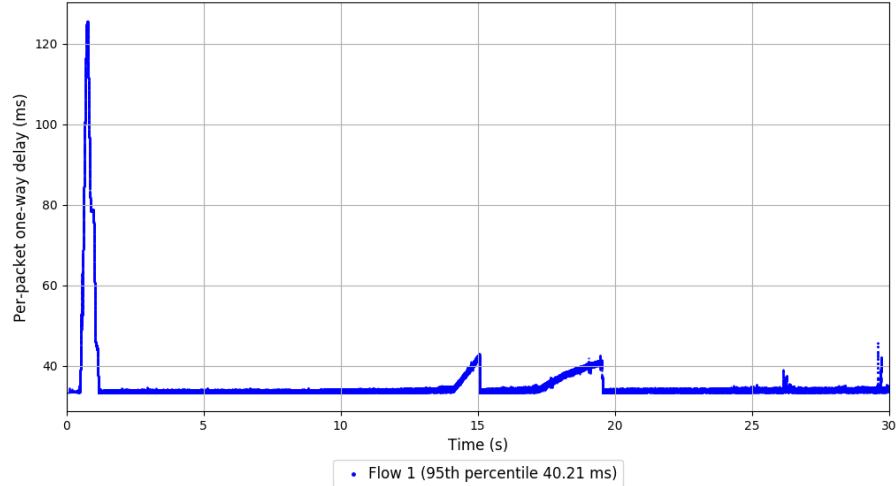
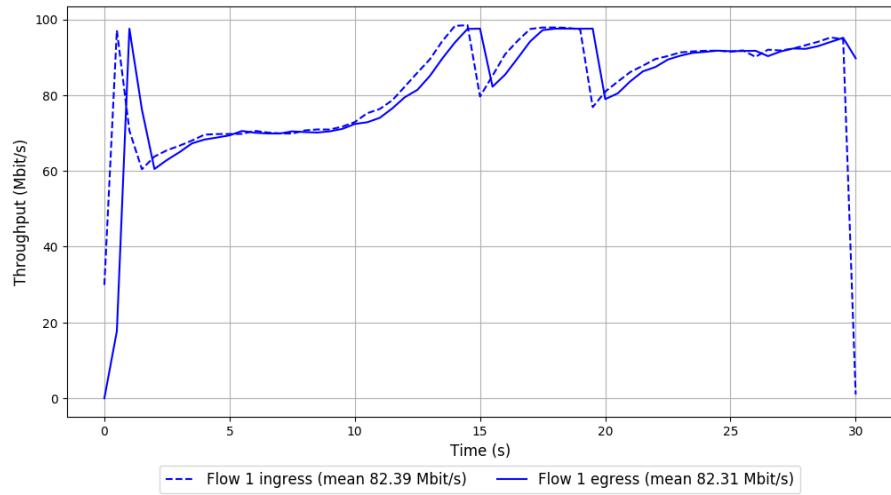


Run 5: Statistics of TCP Cubic

```
Start at: 2019-01-03 06:39:43
End at: 2019-01-03 06:40:13
Local clock offset: -0.02 ms
Remote clock offset: -2.03 ms

# Below is generated by plot.py at 2019-01-03 06:44:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.31 Mbit/s
95th percentile per-packet one-way delay: 40.206 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 82.31 Mbit/s
95th percentile per-packet one-way delay: 40.206 ms
Loss rate: 0.31%
```

Run 5: Report of TCP Cubic — Data Link

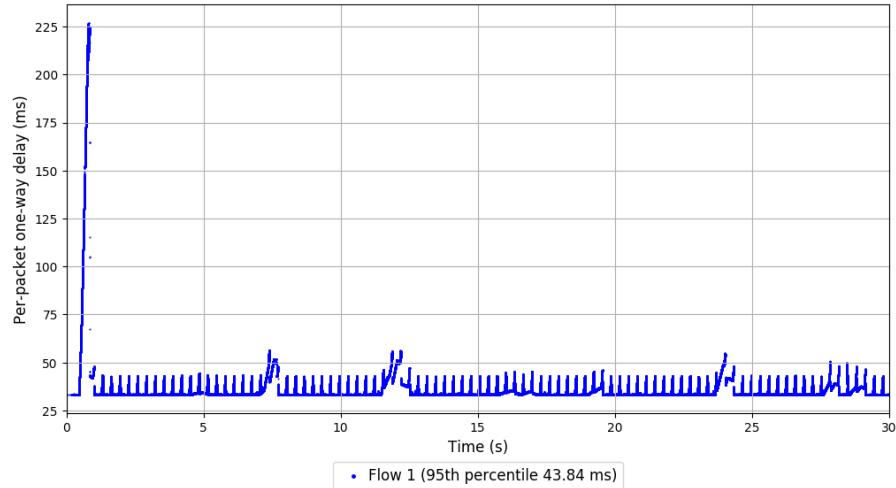
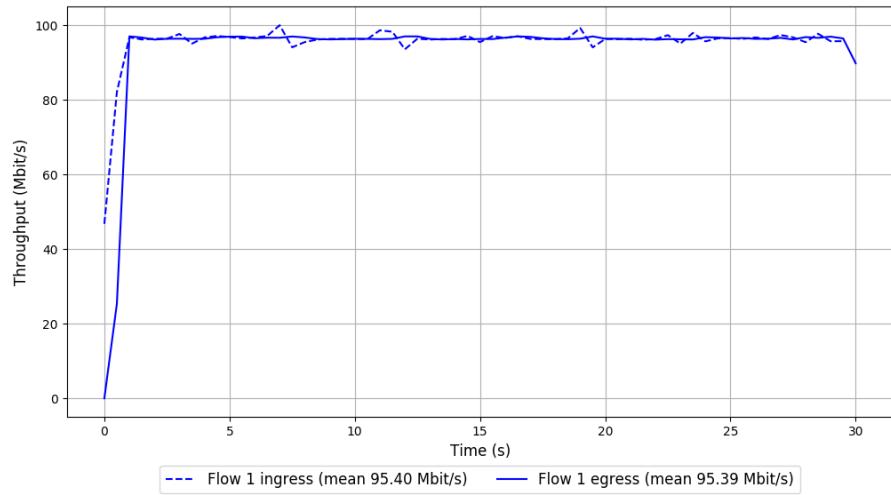


```
Run 1: Statistics of FillP

Start at: 2019-01-03 04:52:31
End at: 2019-01-03 04:53:01
Local clock offset: 0.023 ms
Remote clock offset: -5.15 ms

# Below is generated by plot.py at 2019-01-03 06:45:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.39 Mbit/s
95th percentile per-packet one-way delay: 43.837 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 95.39 Mbit/s
95th percentile per-packet one-way delay: 43.837 ms
Loss rate: 0.22%
```

Run 1: Report of FillP — Data Link

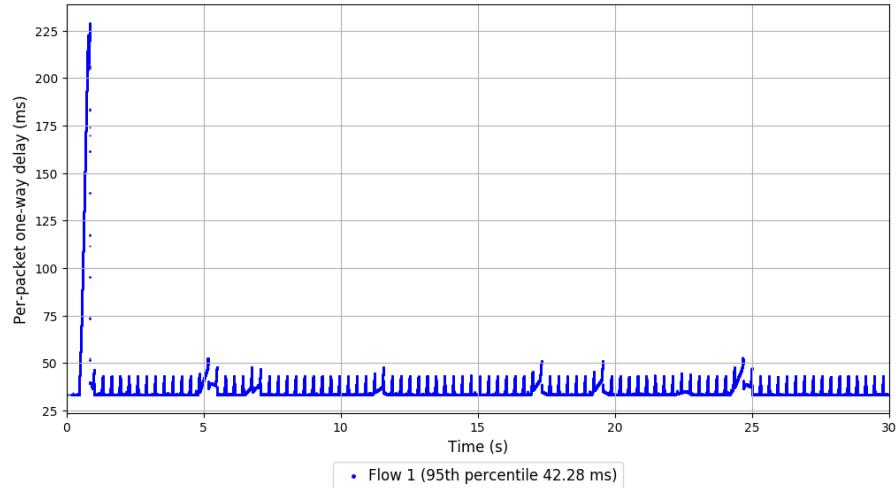
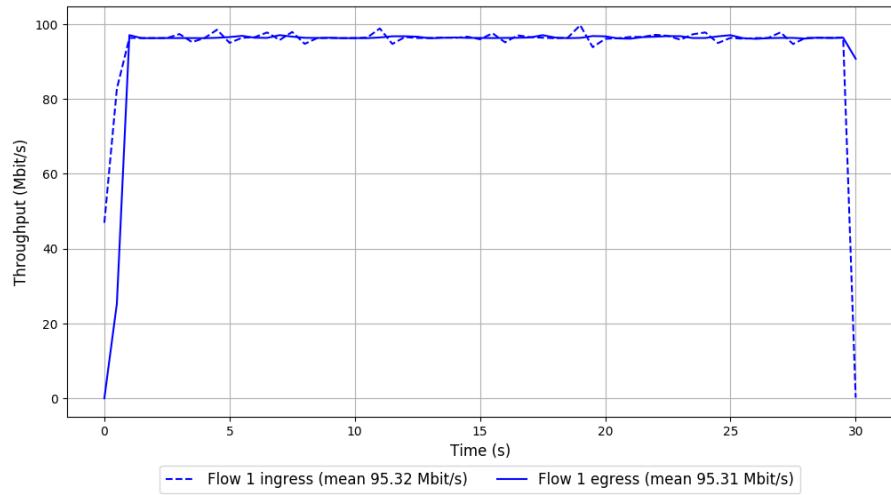


Run 2: Statistics of FillP

```
Start at: 2019-01-03 05:15:30
End at: 2019-01-03 05:16:00
Local clock offset: 0.114 ms
Remote clock offset: -4.789 ms

# Below is generated by plot.py at 2019-01-03 06:45:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.31 Mbit/s
95th percentile per-packet one-way delay: 42.278 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.31 Mbit/s
95th percentile per-packet one-way delay: 42.278 ms
Loss rate: 0.23%
```

Run 2: Report of FillP — Data Link

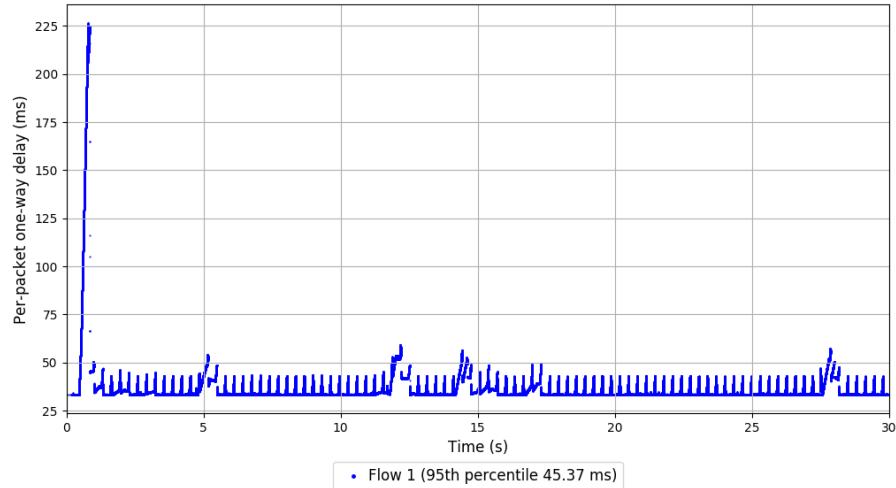
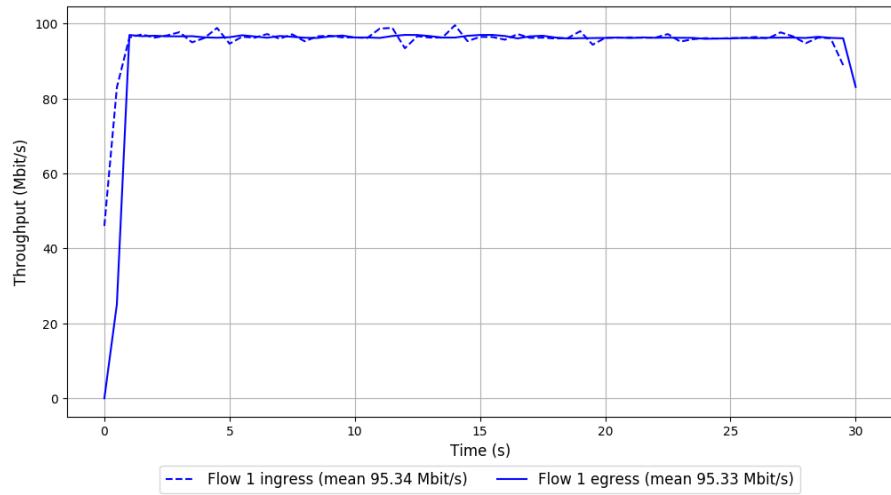


Run 3: Statistics of FillP

```
Start at: 2019-01-03 05:38:54
End at: 2019-01-03 05:39:24
Local clock offset: 0.117 ms
Remote clock offset: -3.342 ms

# Below is generated by plot.py at 2019-01-03 06:45:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.33 Mbit/s
95th percentile per-packet one-way delay: 45.365 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.33 Mbit/s
95th percentile per-packet one-way delay: 45.365 ms
Loss rate: 0.23%
```

Run 3: Report of FillP — Data Link

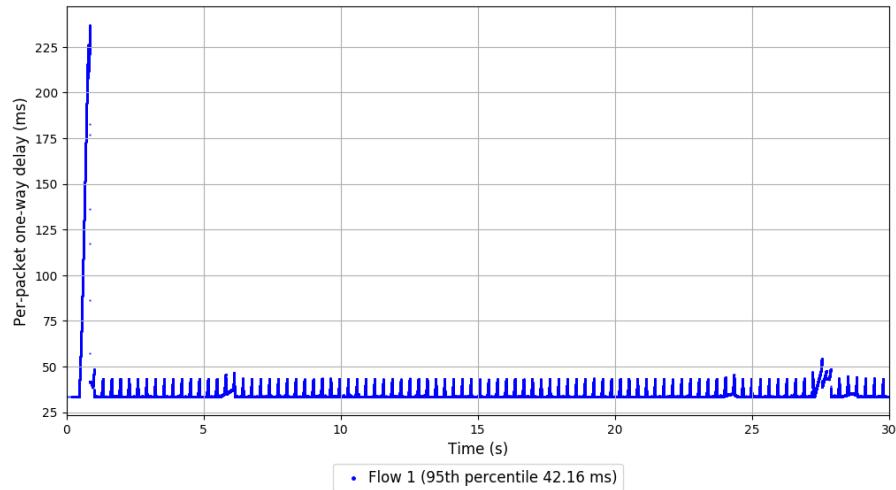
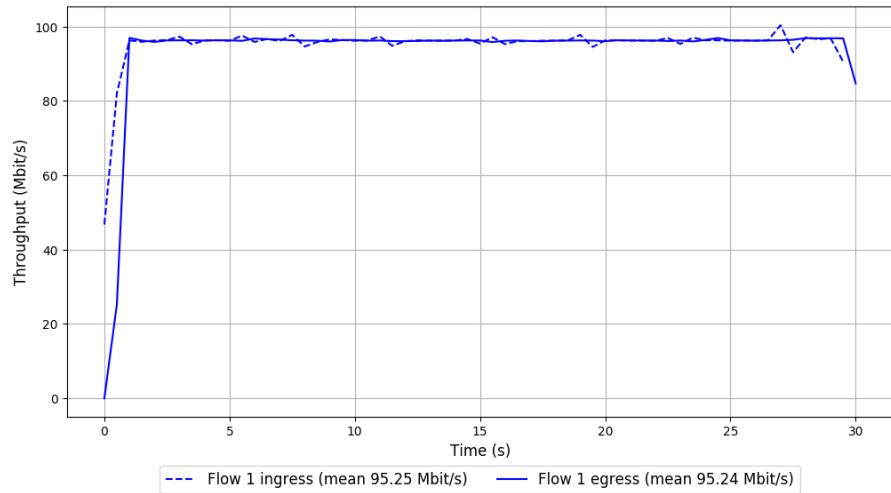


Run 4: Statistics of FillP

```
Start at: 2019-01-03 06:02:04
End at: 2019-01-03 06:02:34
Local clock offset: 0.092 ms
Remote clock offset: -2.709 ms

# Below is generated by plot.py at 2019-01-03 06:45:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.24 Mbit/s
95th percentile per-packet one-way delay: 42.161 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 95.24 Mbit/s
95th percentile per-packet one-way delay: 42.161 ms
Loss rate: 0.22%
```

Run 4: Report of FillP — Data Link

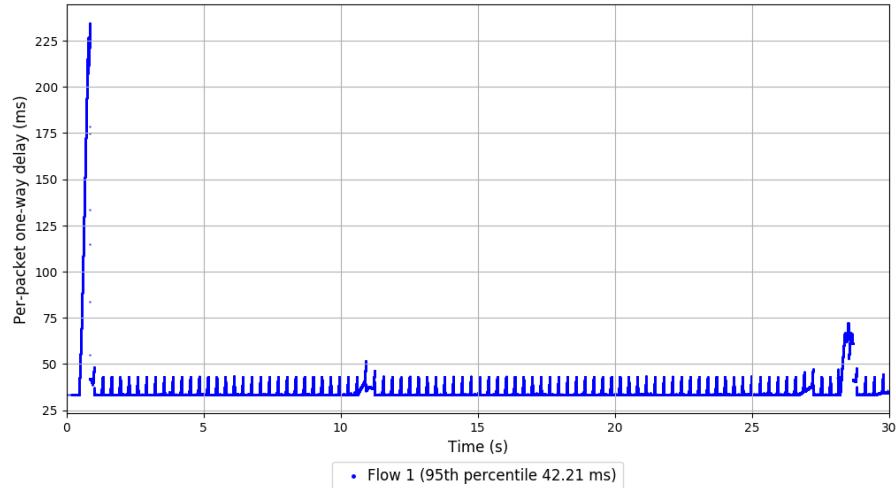
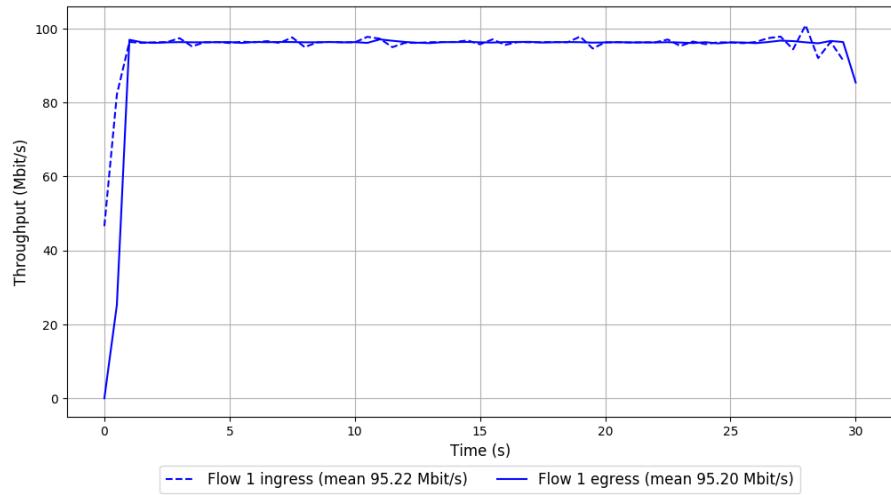


Run 5: Statistics of FillP

```
Start at: 2019-01-03 06:24:18
End at: 2019-01-03 06:24:48
Local clock offset: 0.089 ms
Remote clock offset: -2.148 ms

# Below is generated by plot.py at 2019-01-03 06:46:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 42.212 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 42.212 ms
Loss rate: 0.23%
```

Run 5: Report of FillP — Data Link

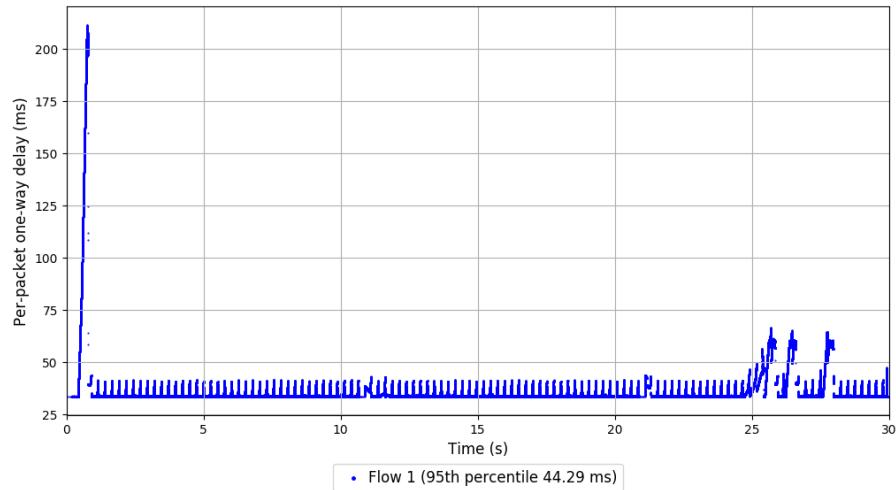
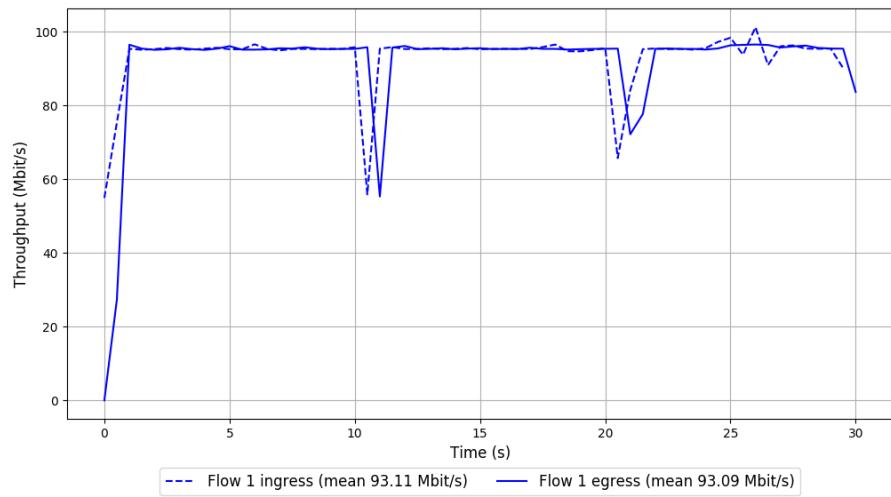


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2019-01-03 05:01:01
End at: 2019-01-03 05:01:31
Local clock offset: 0.072 ms
Remote clock offset: -5.222 ms

# Below is generated by plot.py at 2019-01-03 06:46:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.09 Mbit/s
95th percentile per-packet one-way delay: 44.287 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 93.09 Mbit/s
95th percentile per-packet one-way delay: 44.287 ms
Loss rate: 0.23%
```

Run 1: Report of FillP-Sheep — Data Link

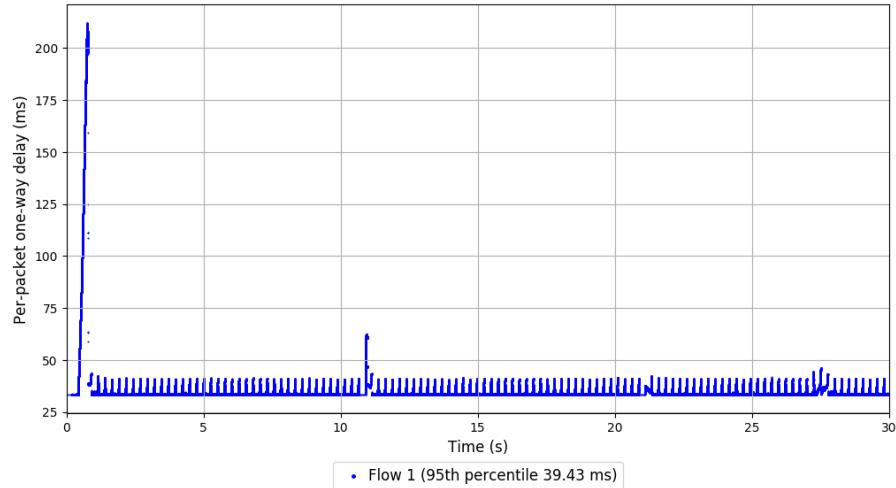
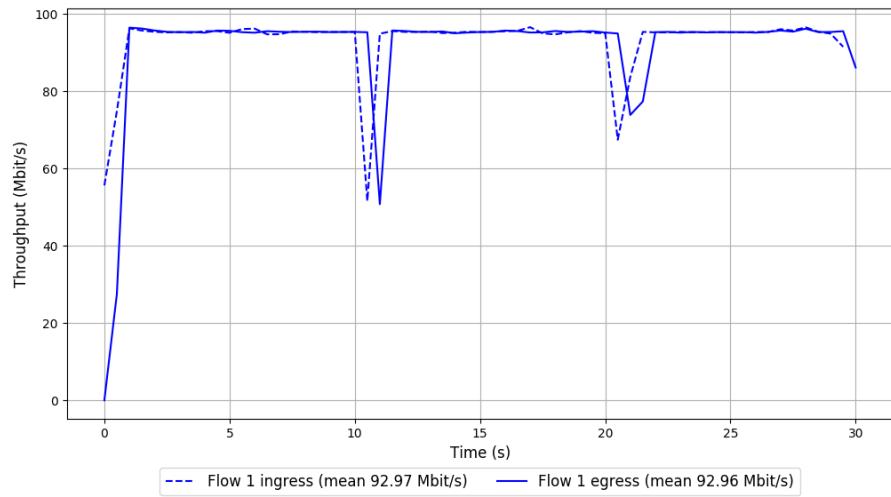


Run 2: Statistics of FillP-Sheep

```
Start at: 2019-01-03 05:23:47
End at: 2019-01-03 05:24:17
Local clock offset: 0.128 ms
Remote clock offset: -4.244 ms

# Below is generated by plot.py at 2019-01-03 06:46:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.96 Mbit/s
95th percentile per-packet one-way delay: 39.426 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 92.96 Mbit/s
95th percentile per-packet one-way delay: 39.426 ms
Loss rate: 0.22%
```

Run 2: Report of FillP-Sheep — Data Link

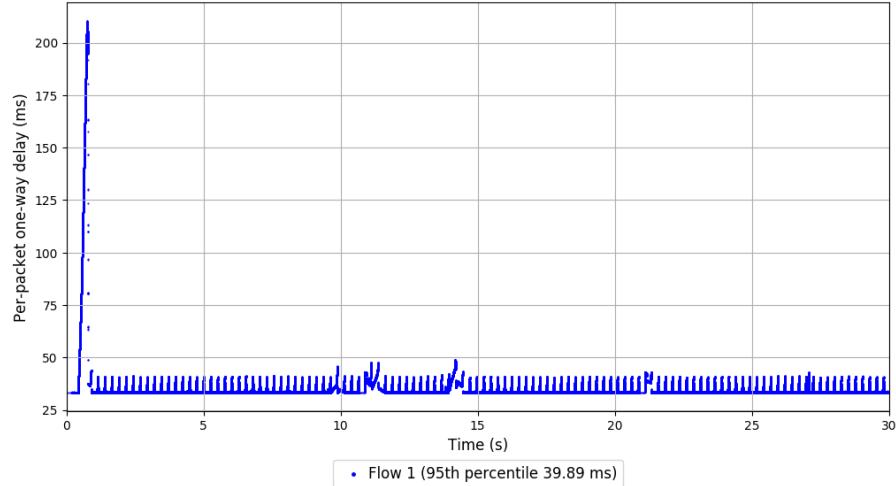
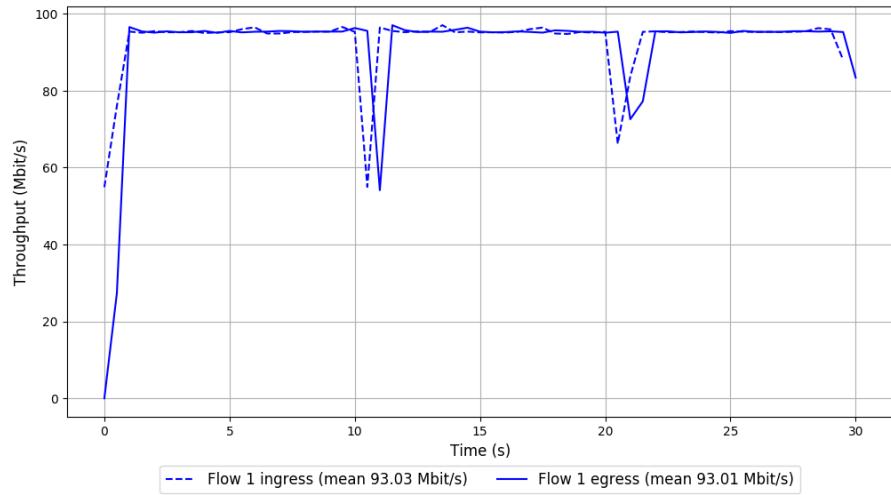


Run 3: Statistics of FillP-Sheep

```
Start at: 2019-01-03 05:47:35
End at: 2019-01-03 05:48:05
Local clock offset: 0.117 ms
Remote clock offset: -3.031 ms

# Below is generated by plot.py at 2019-01-03 06:46:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.01 Mbit/s
95th percentile per-packet one-way delay: 39.892 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 93.01 Mbit/s
95th percentile per-packet one-way delay: 39.892 ms
Loss rate: 0.23%
```

Run 3: Report of FillP-Sheep — Data Link

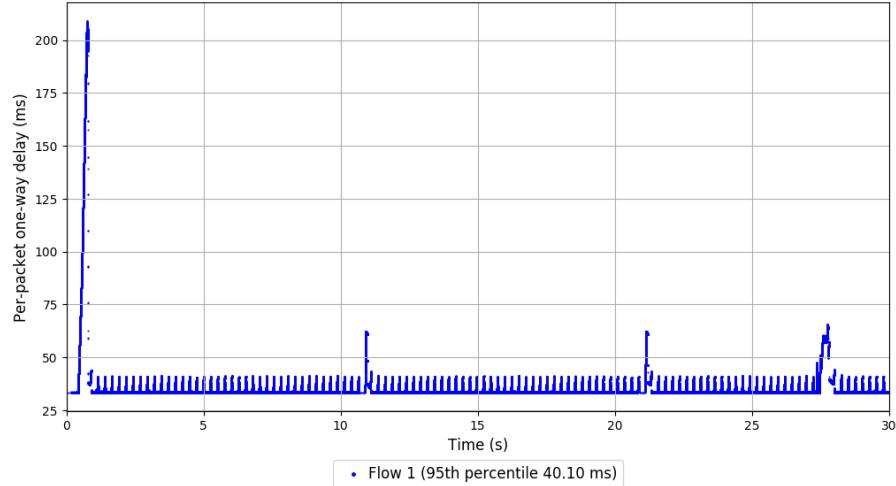
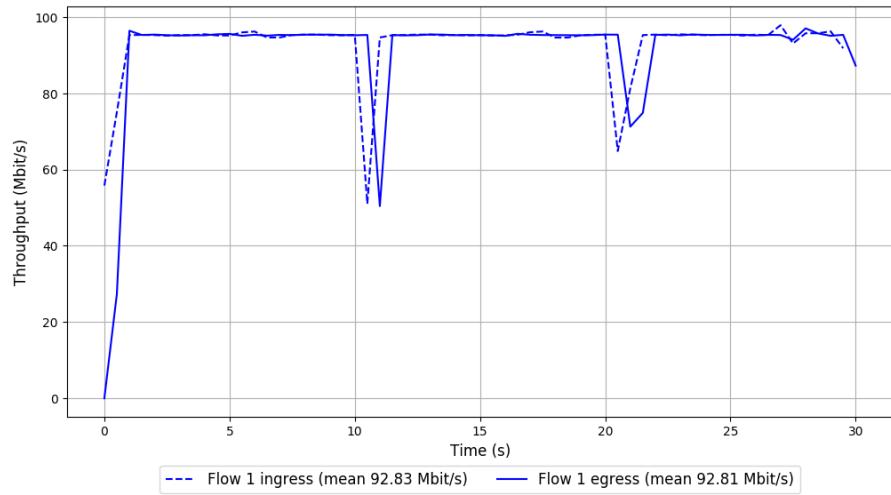


Run 4: Statistics of FillP-Sheep

```
Start at: 2019-01-03 06:10:13
End at: 2019-01-03 06:10:43
Local clock offset: 0.097 ms
Remote clock offset: -2.244 ms

# Below is generated by plot.py at 2019-01-03 06:46:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.81 Mbit/s
95th percentile per-packet one-way delay: 40.105 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 92.81 Mbit/s
95th percentile per-packet one-way delay: 40.105 ms
Loss rate: 0.23%
```

Run 4: Report of FillP-Sheep — Data Link

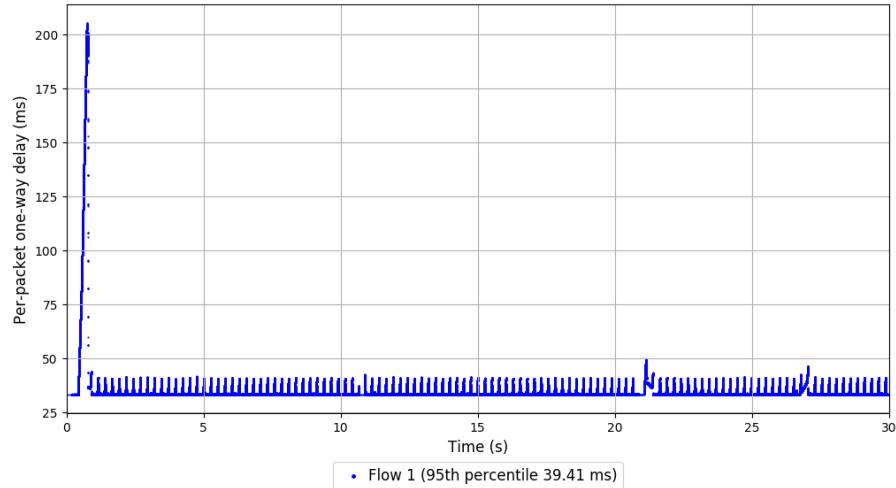
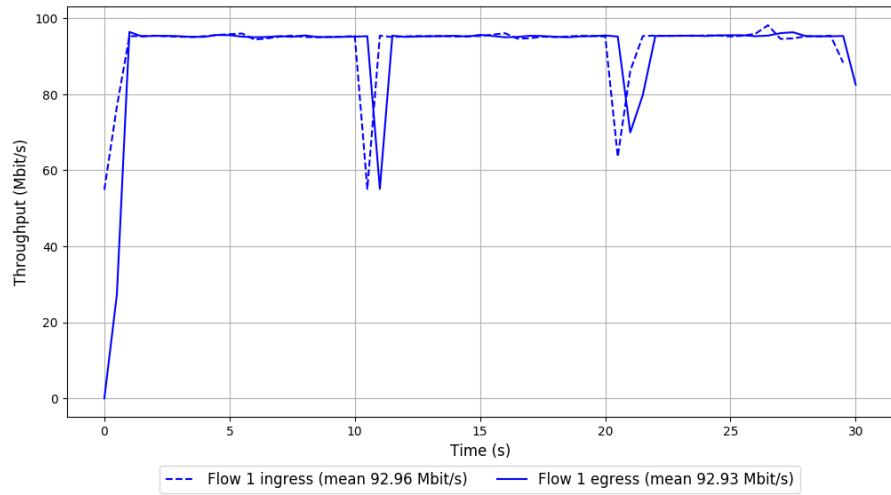


Run 5: Statistics of FillP-Sheep

```
Start at: 2019-01-03 06:32:37
End at: 2019-01-03 06:33:07
Local clock offset: -0.002 ms
Remote clock offset: -2.081 ms

# Below is generated by plot.py at 2019-01-03 06:46:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.93 Mbit/s
95th percentile per-packet one-way delay: 39.407 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 92.93 Mbit/s
95th percentile per-packet one-way delay: 39.407 ms
Loss rate: 0.25%
```

Run 5: Report of FillP-Sheep — Data Link

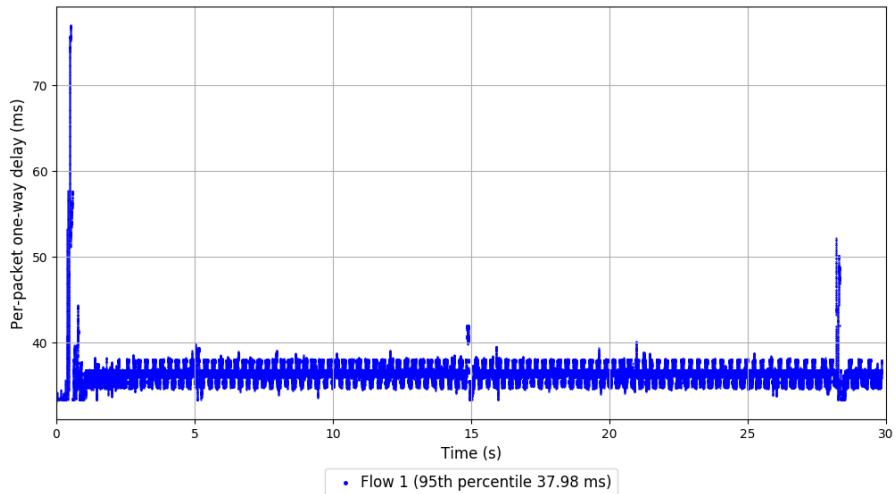
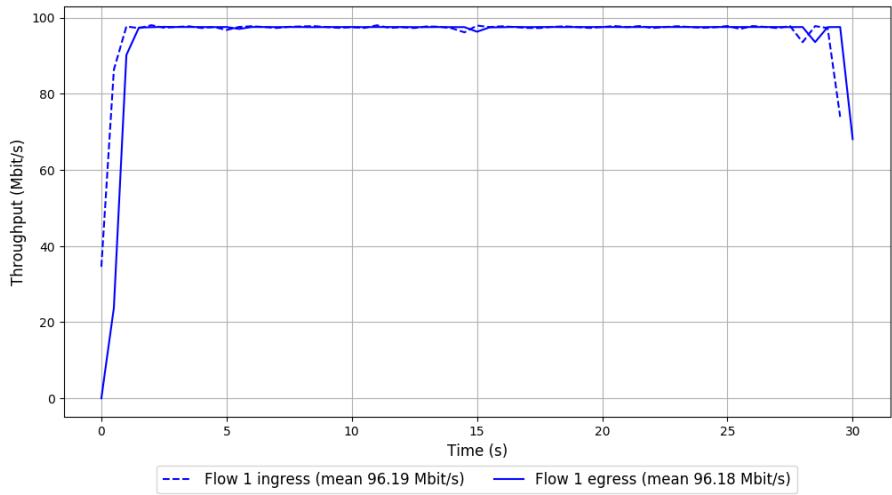


Run 1: Statistics of Indigo

```
Start at: 2019-01-03 04:49:52
End at: 2019-01-03 04:50:22
Local clock offset: 0.024 ms
Remote clock offset: -5.158 ms

# Below is generated by plot.py at 2019-01-03 06:46:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.18 Mbit/s
95th percentile per-packet one-way delay: 37.977 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 96.18 Mbit/s
95th percentile per-packet one-way delay: 37.977 ms
Loss rate: 0.23%
```

Run 1: Report of Indigo — Data Link

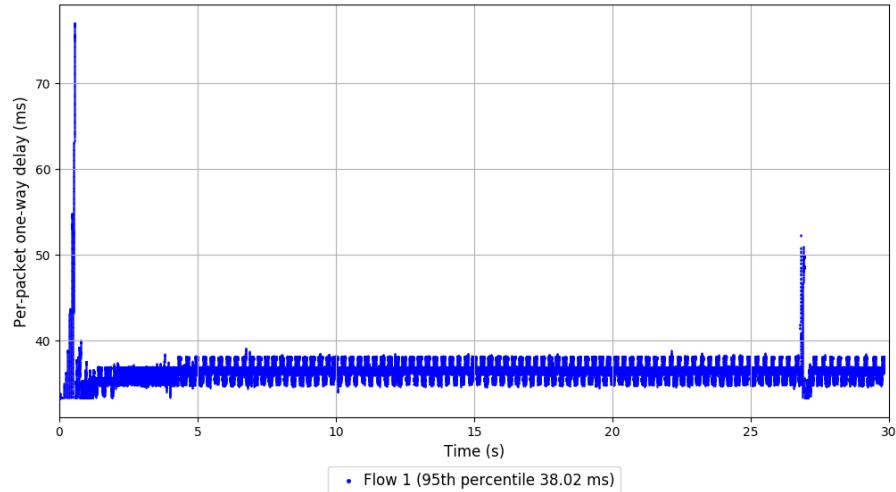
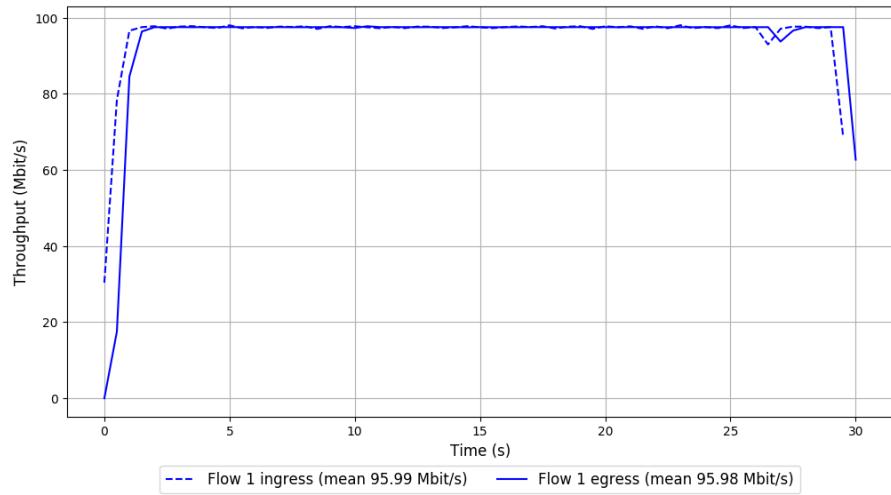


Run 2: Statistics of Indigo

```
Start at: 2019-01-03 05:13:06
End at: 2019-01-03 05:13:36
Local clock offset: 0.112 ms
Remote clock offset: -4.605 ms

# Below is generated by plot.py at 2019-01-03 06:46:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 38.023 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.98 Mbit/s
95th percentile per-packet one-way delay: 38.023 ms
Loss rate: 0.23%
```

Run 2: Report of Indigo — Data Link

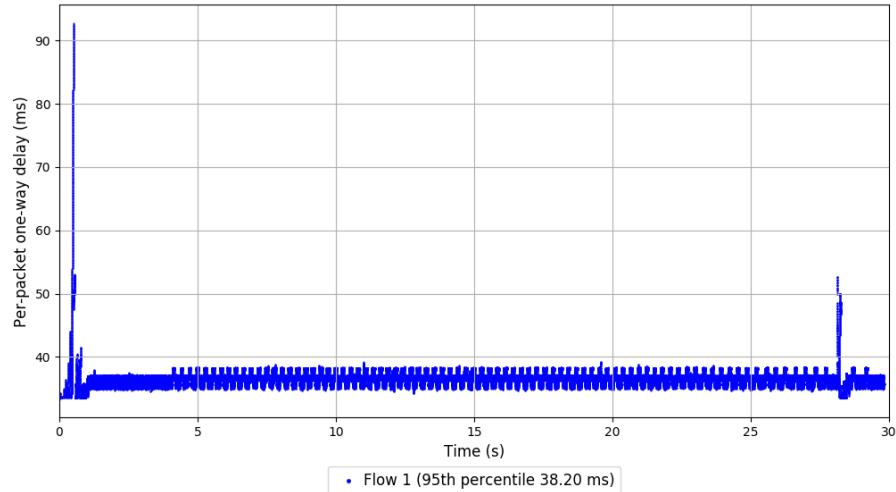
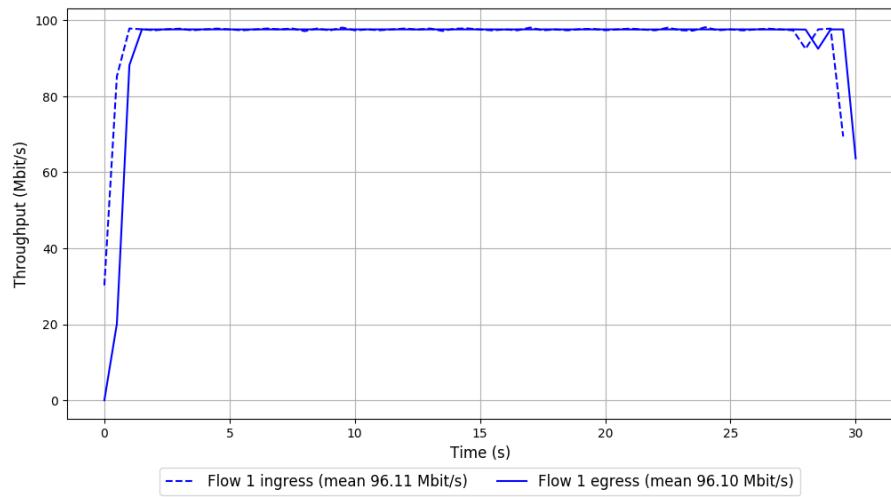


Run 3: Statistics of Indigo

```
Start at: 2019-01-03 05:36:09
End at: 2019-01-03 05:36:39
Local clock offset: 0.097 ms
Remote clock offset: -3.609 ms

# Below is generated by plot.py at 2019-01-03 06:47:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.10 Mbit/s
95th percentile per-packet one-way delay: 38.203 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 96.10 Mbit/s
95th percentile per-packet one-way delay: 38.203 ms
Loss rate: 0.23%
```

Run 3: Report of Indigo — Data Link

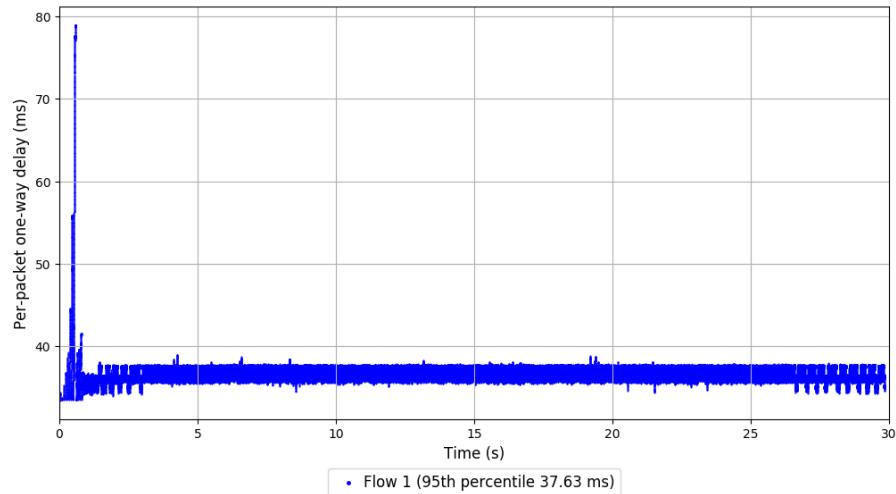
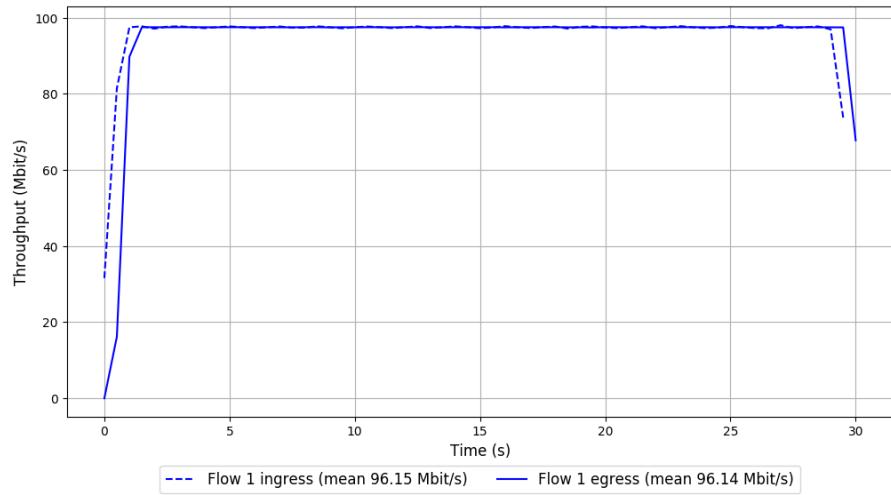


Run 4: Statistics of Indigo

```
Start at: 2019-01-03 05:59:38
End at: 2019-01-03 06:00:08
Local clock offset: 0.118 ms
Remote clock offset: -2.628 ms

# Below is generated by plot.py at 2019-01-03 06:47:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.14 Mbit/s
95th percentile per-packet one-way delay: 37.631 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 96.14 Mbit/s
95th percentile per-packet one-way delay: 37.631 ms
Loss rate: 0.22%
```

Run 4: Report of Indigo — Data Link

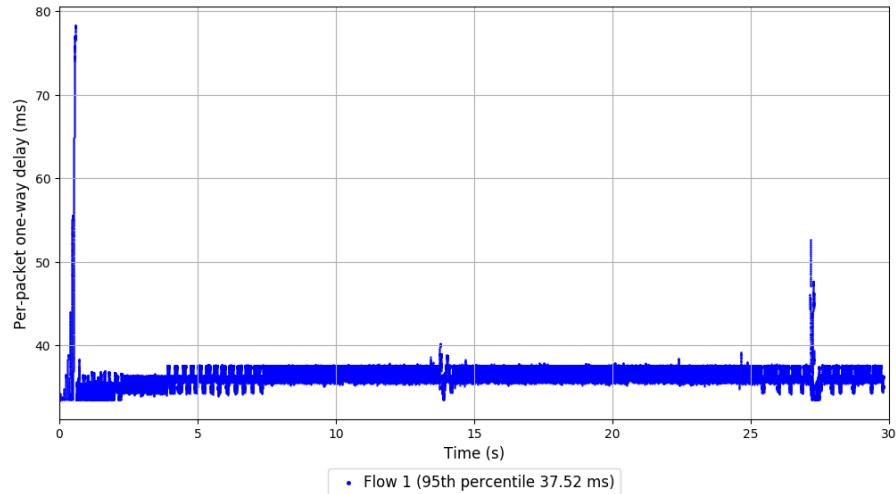
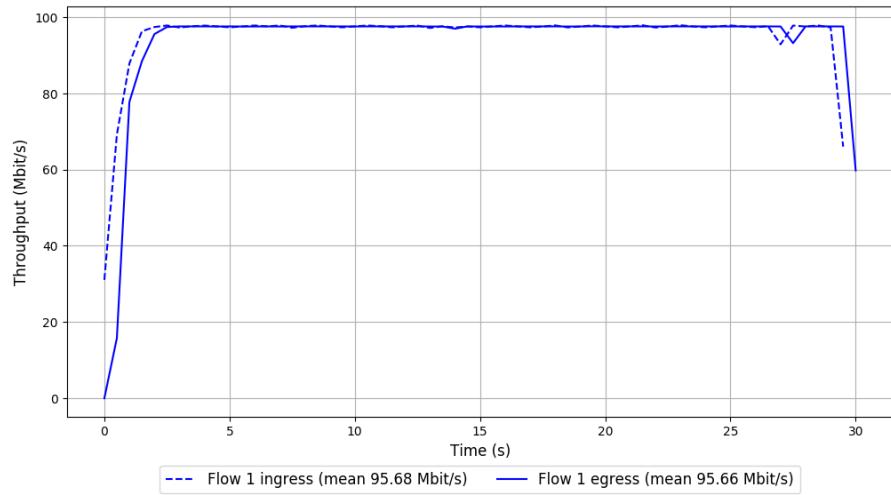


Run 5: Statistics of Indigo

```
Start at: 2019-01-03 06:21:56
End at: 2019-01-03 06:22:26
Local clock offset: 0.081 ms
Remote clock offset: -2.138 ms

# Below is generated by plot.py at 2019-01-03 06:47:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 37.525 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 37.525 ms
Loss rate: 0.23%
```

Run 5: Report of Indigo — Data Link

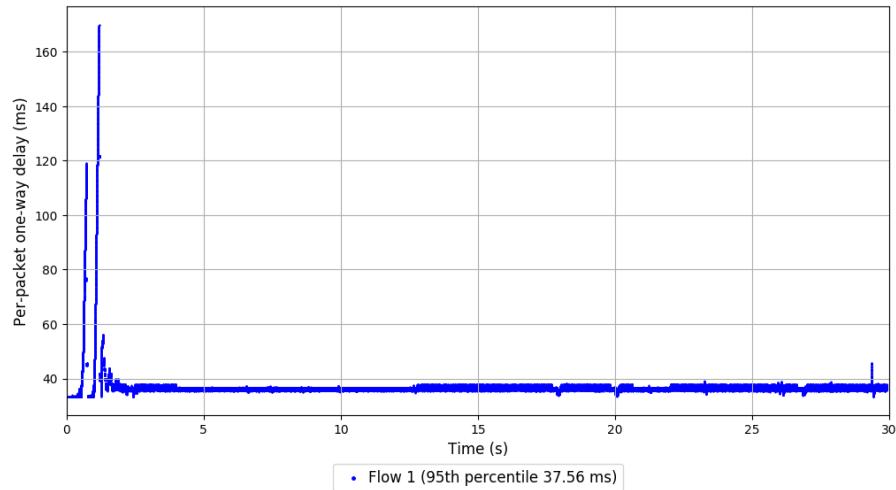
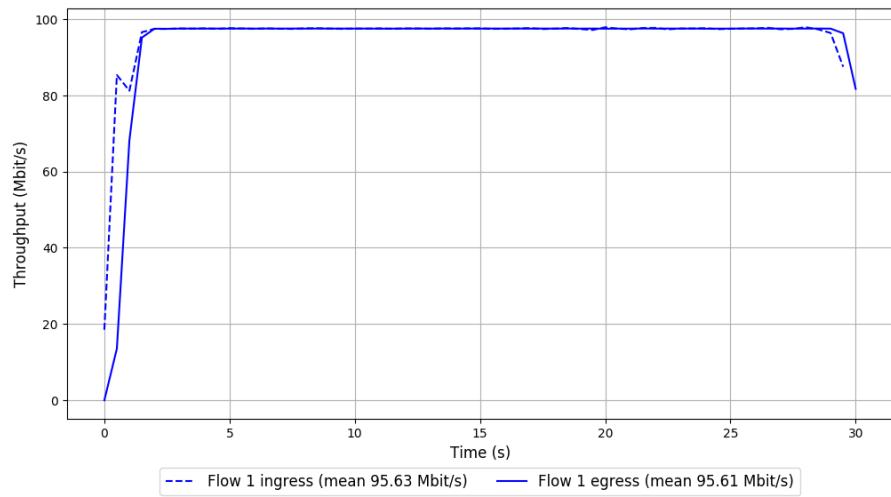


```
Run 1: Statistics of Indigo-MusesD
```

```
Start at: 2019-01-03 05:03:26
End at: 2019-01-03 05:03:56
Local clock offset: 0.099 ms
Remote clock offset: -4.975 ms

# Below is generated by plot.py at 2019-01-03 06:47:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.61 Mbit/s
95th percentile per-packet one-way delay: 37.564 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.61 Mbit/s
95th percentile per-packet one-way delay: 37.564 ms
Loss rate: 0.23%
```

Run 1: Report of Indigo-MusesD — Data Link

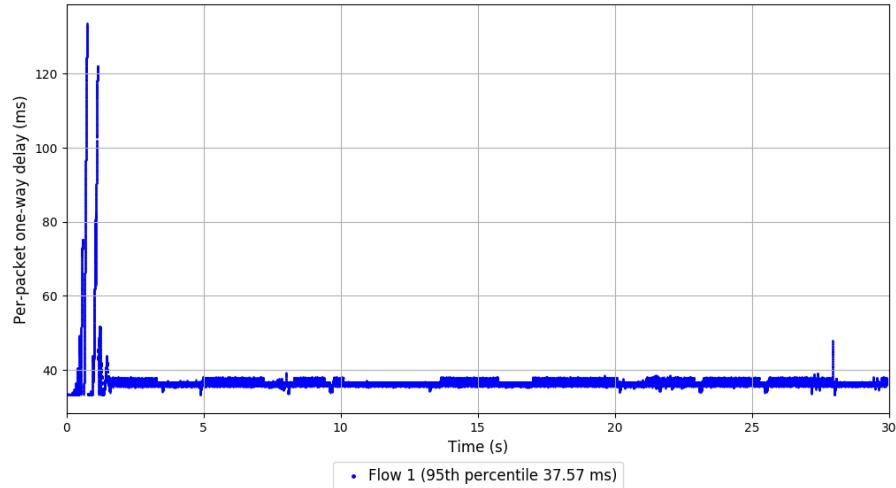
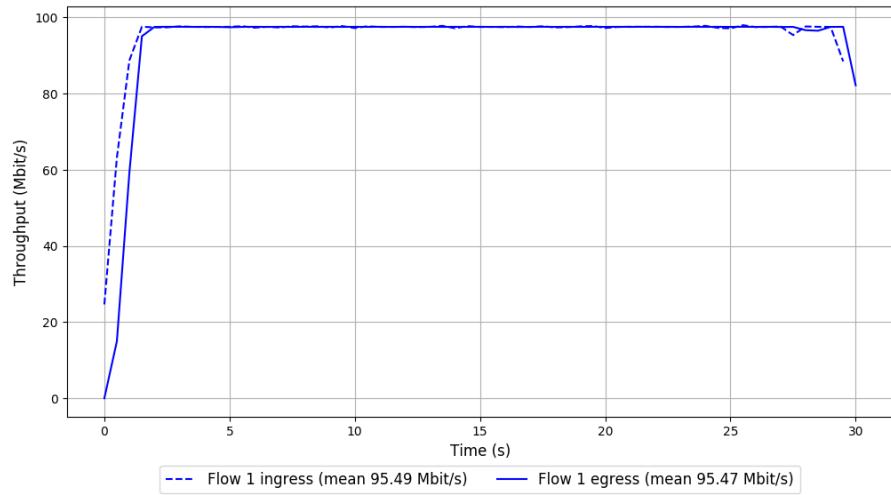


Run 2: Statistics of Indigo-MusesD

```
Start at: 2019-01-03 05:26:20
End at: 2019-01-03 05:26:50
Local clock offset: 0.13 ms
Remote clock offset: -4.034 ms

# Below is generated by plot.py at 2019-01-03 06:47:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.47 Mbit/s
95th percentile per-packet one-way delay: 37.571 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.47 Mbit/s
95th percentile per-packet one-way delay: 37.571 ms
Loss rate: 0.23%
```

Run 2: Report of Indigo-MusesD — Data Link

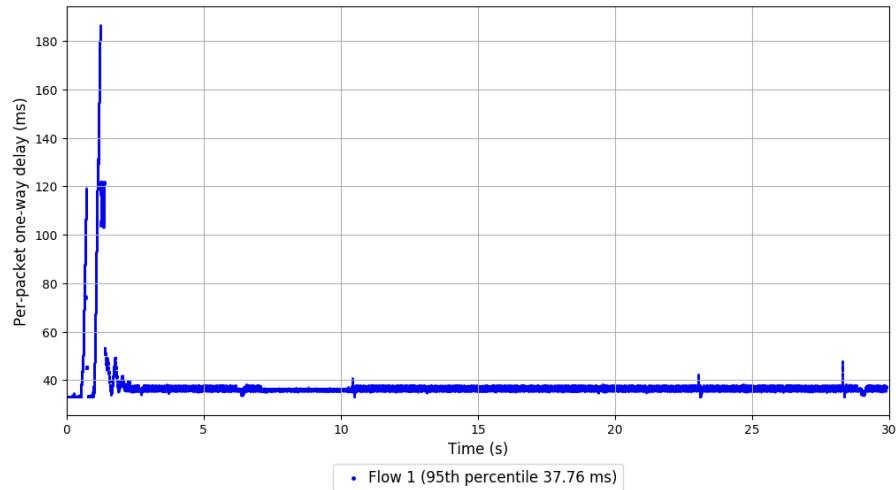
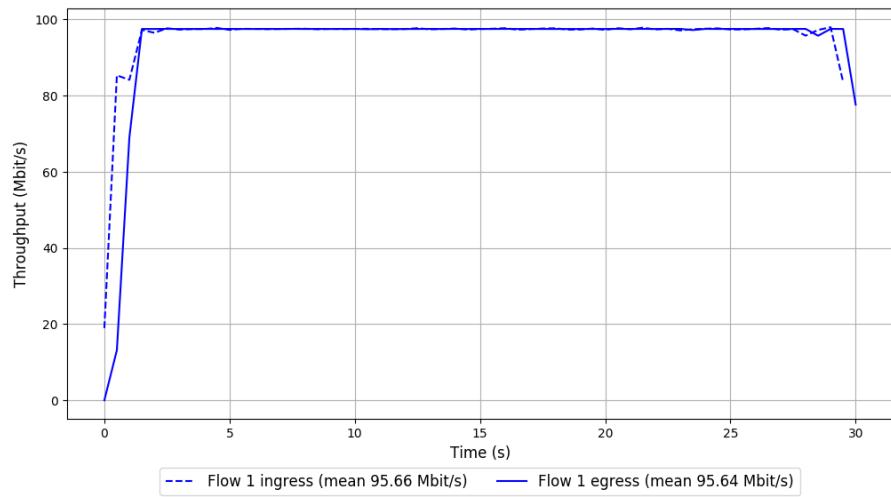


Run 3: Statistics of Indigo-MusesD

```
Start at: 2019-01-03 05:50:08
End at: 2019-01-03 05:50:38
Local clock offset: 0.111 ms
Remote clock offset: -2.864 ms

# Below is generated by plot.py at 2019-01-03 06:47:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.64 Mbit/s
95th percentile per-packet one-way delay: 37.761 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.64 Mbit/s
95th percentile per-packet one-way delay: 37.761 ms
Loss rate: 0.23%
```

Run 3: Report of Indigo-MusesD — Data Link

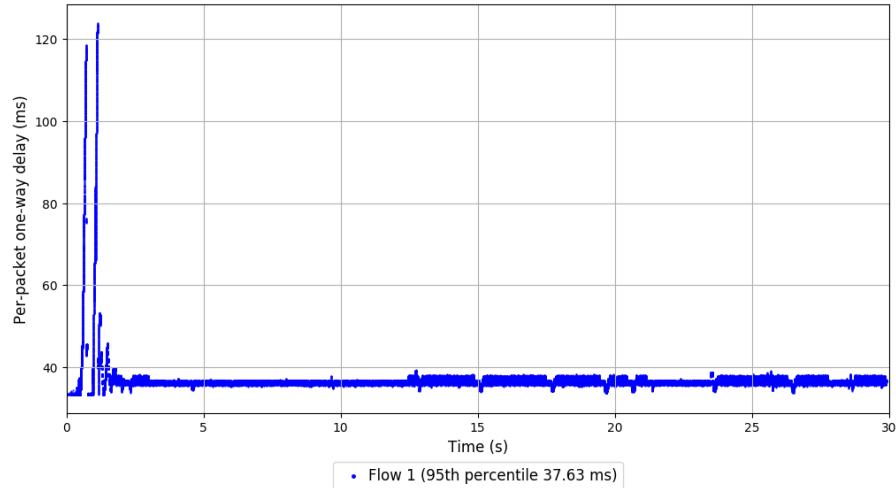
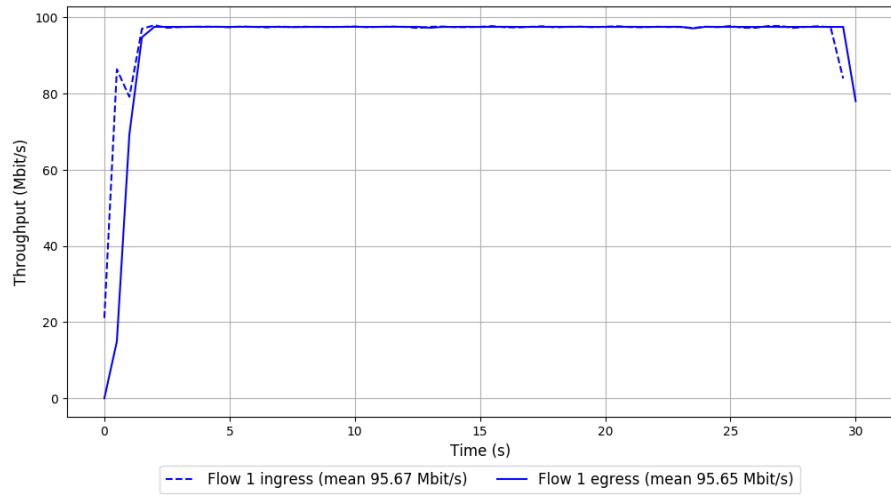


Run 4: Statistics of Indigo-MusesD

```
Start at: 2019-01-03 06:12:44
End at: 2019-01-03 06:13:14
Local clock offset: 0.109 ms
Remote clock offset: -2.177 ms

# Below is generated by plot.py at 2019-01-03 06:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 37.627 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.65 Mbit/s
95th percentile per-packet one-way delay: 37.627 ms
Loss rate: 0.23%
```

Run 4: Report of Indigo-MusesD — Data Link

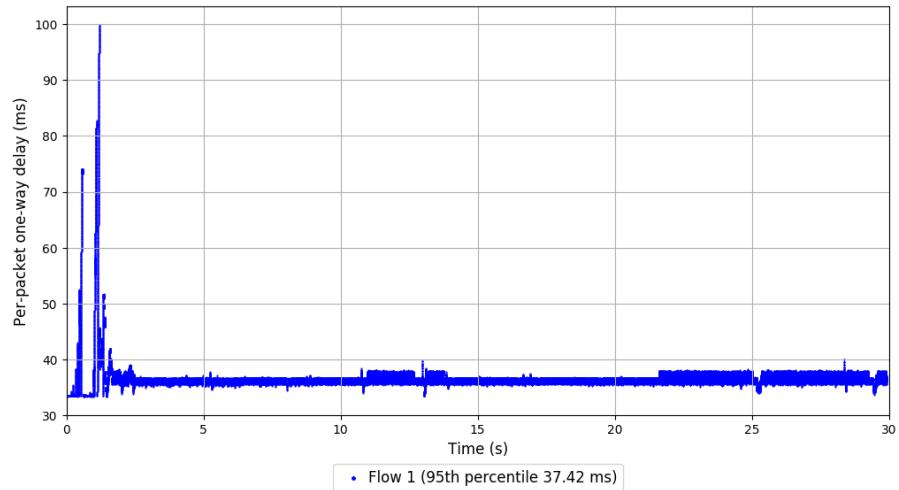
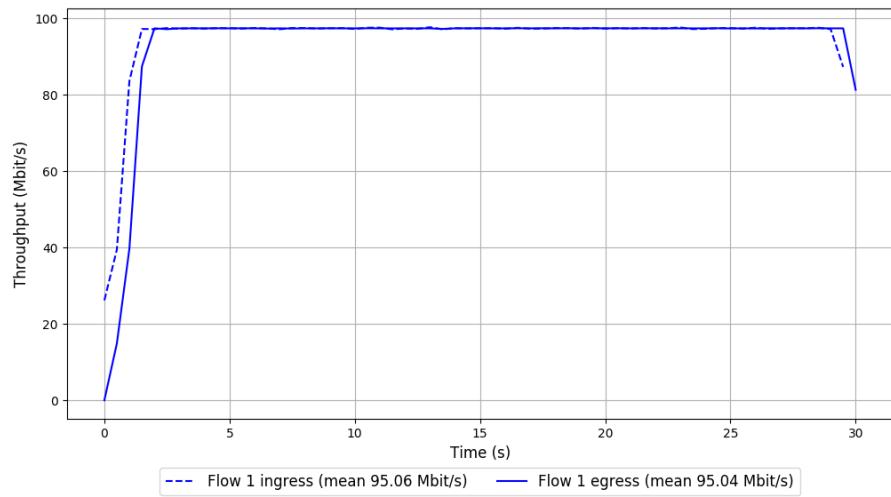


Run 5: Statistics of Indigo-MusesD

```
Start at: 2019-01-03 06:35:04
End at: 2019-01-03 06:35:34
Local clock offset: -0.003 ms
Remote clock offset: -2.067 ms

# Below is generated by plot.py at 2019-01-03 06:47:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.04 Mbit/s
95th percentile per-packet one-way delay: 37.424 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.04 Mbit/s
95th percentile per-packet one-way delay: 37.424 ms
Loss rate: 0.23%
```

Run 5: Report of Indigo-MusesD — Data Link

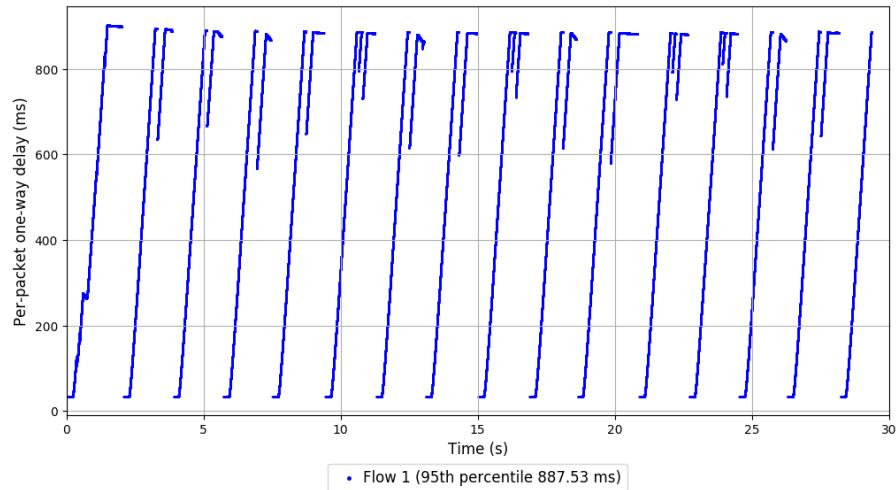
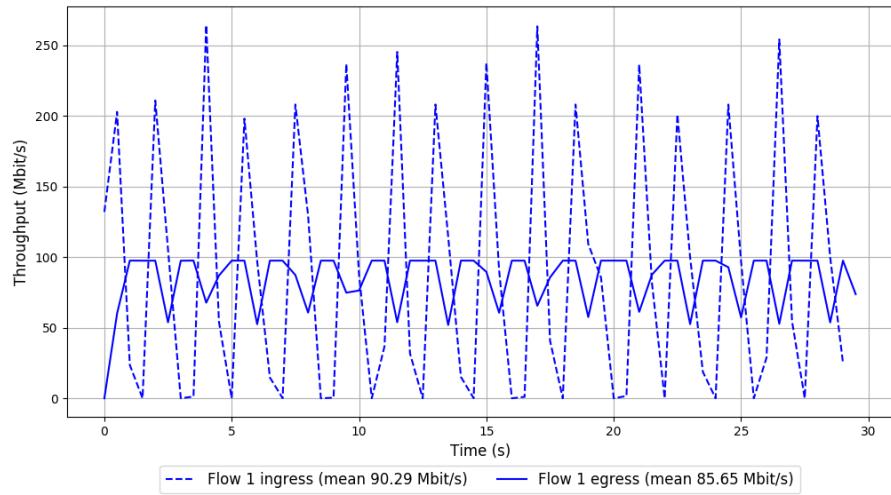


Run 1: Statistics of Indigo-MusesT

```
Start at: 2019-01-03 04:57:21
End at: 2019-01-03 04:57:51
Local clock offset: 0.051 ms
Remote clock offset: -5.293 ms

# Below is generated by plot.py at 2019-01-03 06:48:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.65 Mbit/s
95th percentile per-packet one-way delay: 887.533 ms
Loss rate: 4.43%
-- Flow 1:
Average throughput: 85.65 Mbit/s
95th percentile per-packet one-way delay: 887.533 ms
Loss rate: 4.43%
```

Run 1: Report of Indigo-MusesT — Data Link

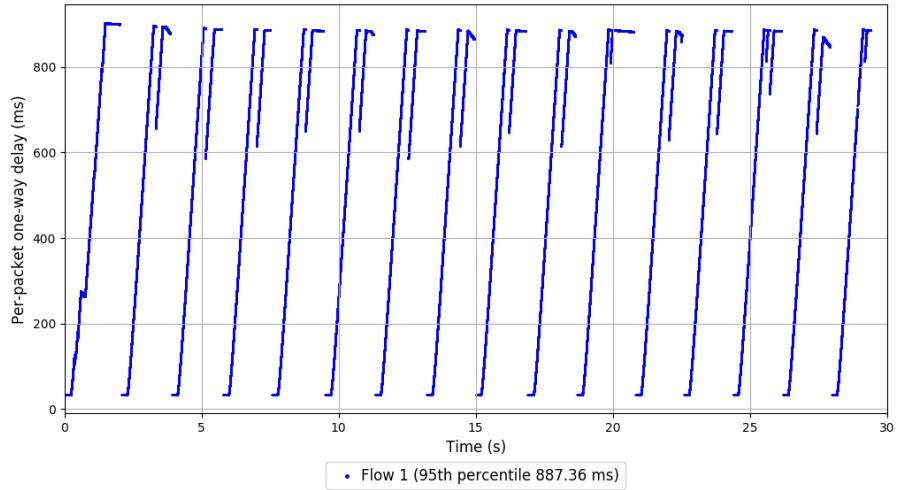
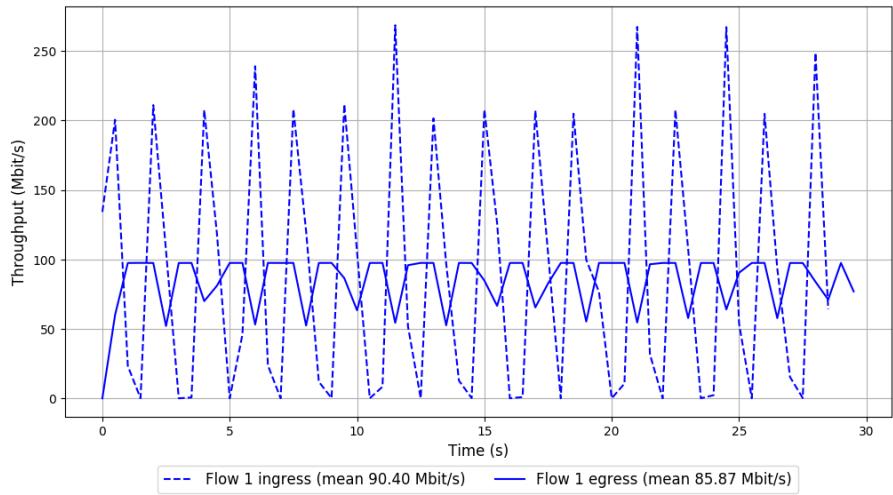


Run 2: Statistics of Indigo-MusesT

```
Start at: 2019-01-03 05:20:09
End at: 2019-01-03 05:20:39
Local clock offset: 0.12 ms
Remote clock offset: -4.373 ms

# Below is generated by plot.py at 2019-01-03 06:48:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.87 Mbit/s
95th percentile per-packet one-way delay: 887.362 ms
Loss rate: 3.23%
-- Flow 1:
Average throughput: 85.87 Mbit/s
95th percentile per-packet one-way delay: 887.362 ms
Loss rate: 3.23%
```

Run 2: Report of Indigo-MusesT — Data Link

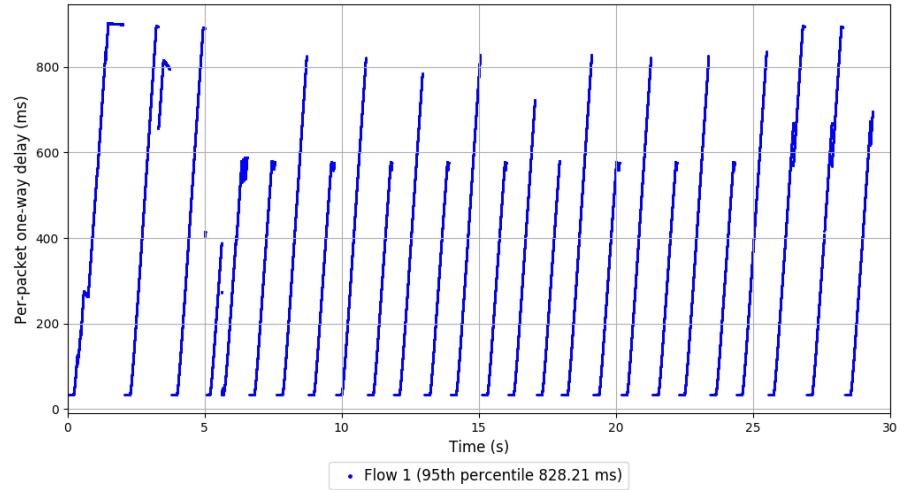
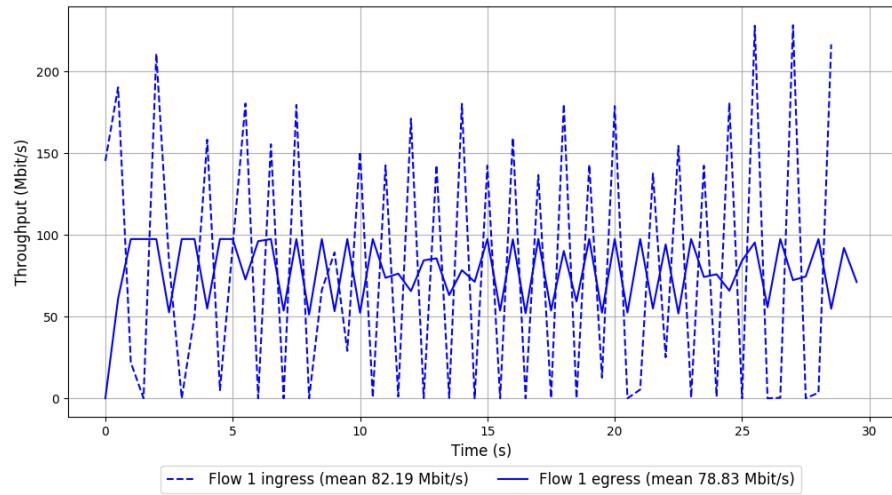


Run 3: Statistics of Indigo-MusesT

```
Start at: 2019-01-03 05:43:55
End at: 2019-01-03 05:44:25
Local clock offset: 0.128 ms
Remote clock offset: -3.134 ms

# Below is generated by plot.py at 2019-01-03 06:48:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.83 Mbit/s
95th percentile per-packet one-way delay: 828.213 ms
Loss rate: 2.12%
-- Flow 1:
Average throughput: 78.83 Mbit/s
95th percentile per-packet one-way delay: 828.213 ms
Loss rate: 2.12%
```

Run 3: Report of Indigo-MusesT — Data Link

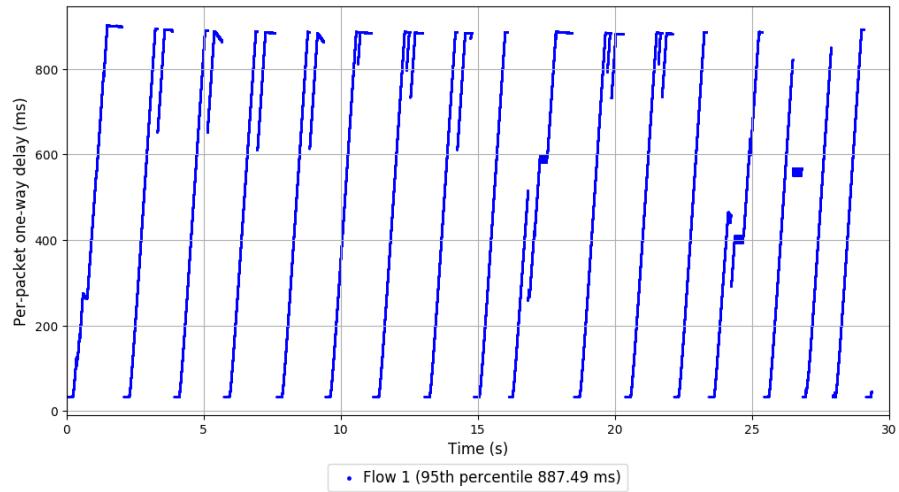
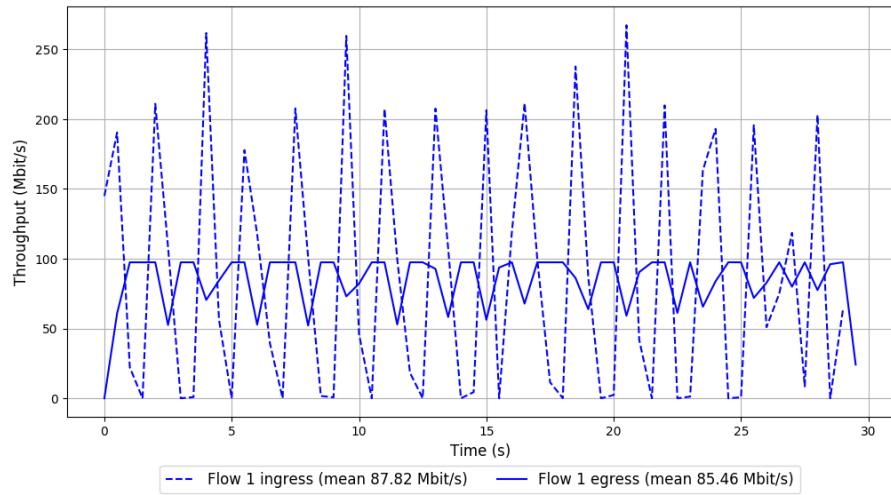


Run 4: Statistics of Indigo-MusesT

```
Start at: 2019-01-03 06:06:43
End at: 2019-01-03 06:07:13
Local clock offset: 0.102 ms
Remote clock offset: -2.308 ms

# Below is generated by plot.py at 2019-01-03 06:48:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.46 Mbit/s
95th percentile per-packet one-way delay: 887.492 ms
Loss rate: 2.90%
-- Flow 1:
Average throughput: 85.46 Mbit/s
95th percentile per-packet one-way delay: 887.492 ms
Loss rate: 2.90%
```

Run 4: Report of Indigo-MusesT — Data Link

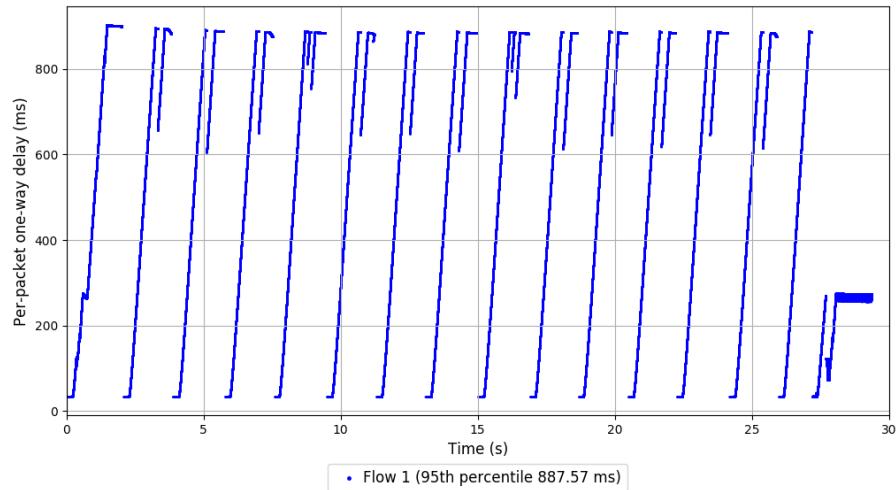
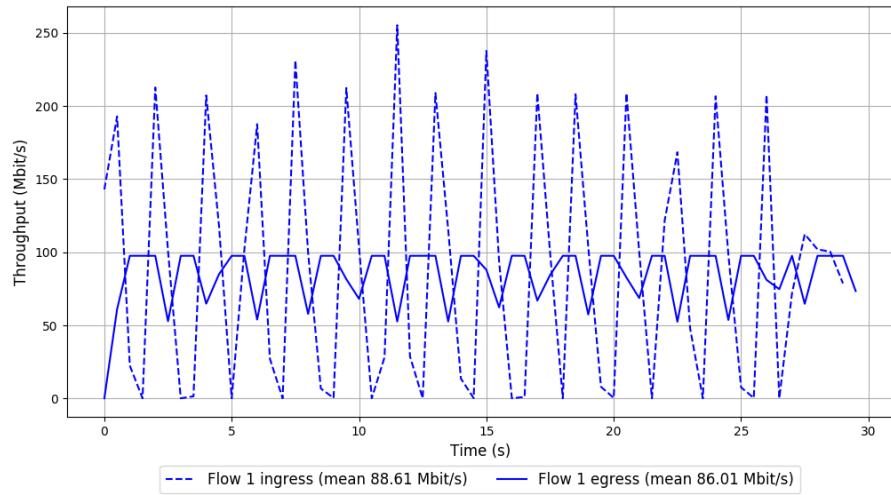


Run 5: Statistics of Indigo-MusesT

```
Start at: 2019-01-03 06:29:00
End at: 2019-01-03 06:29:30
Local clock offset: 0.039 ms
Remote clock offset: -2.138 ms

# Below is generated by plot.py at 2019-01-03 06:48:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.01 Mbit/s
95th percentile per-packet one-way delay: 887.571 ms
Loss rate: 3.10%
-- Flow 1:
Average throughput: 86.01 Mbit/s
95th percentile per-packet one-way delay: 887.571 ms
Loss rate: 3.10%
```

Run 5: Report of Indigo-MusesT — Data Link

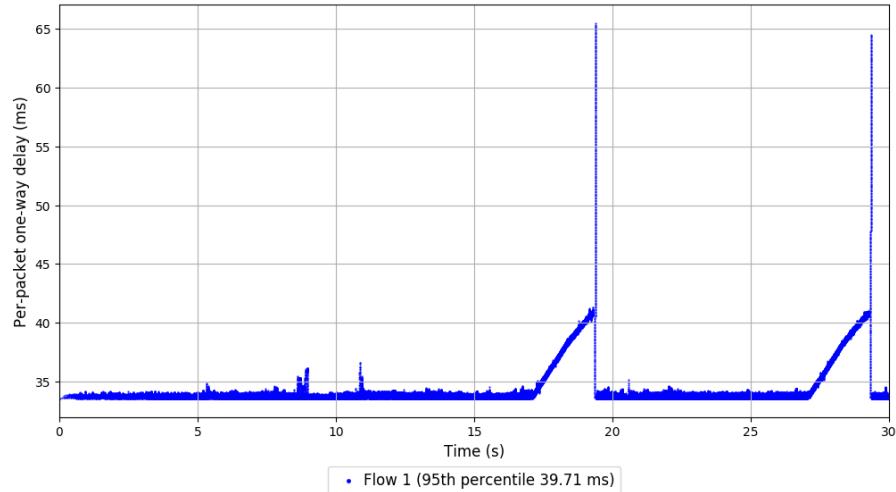
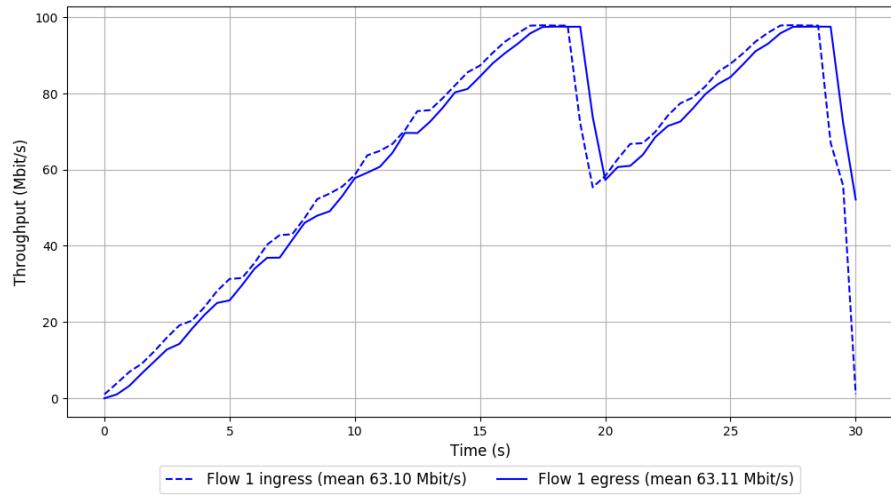


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2019-01-03 04:48:43
End at: 2019-01-03 04:49:13
Local clock offset: 0.028 ms
Remote clock offset: -5.363 ms

# Below is generated by plot.py at 2019-01-03 06:48:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.11 Mbit/s
95th percentile per-packet one-way delay: 39.709 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 63.11 Mbit/s
95th percentile per-packet one-way delay: 39.709 ms
Loss rate: 0.20%
```

Run 1: Report of LEDBAT — Data Link

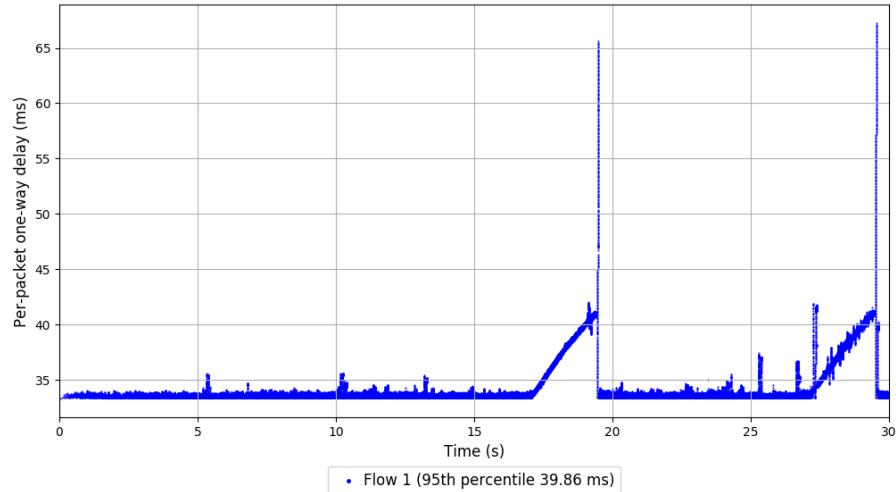
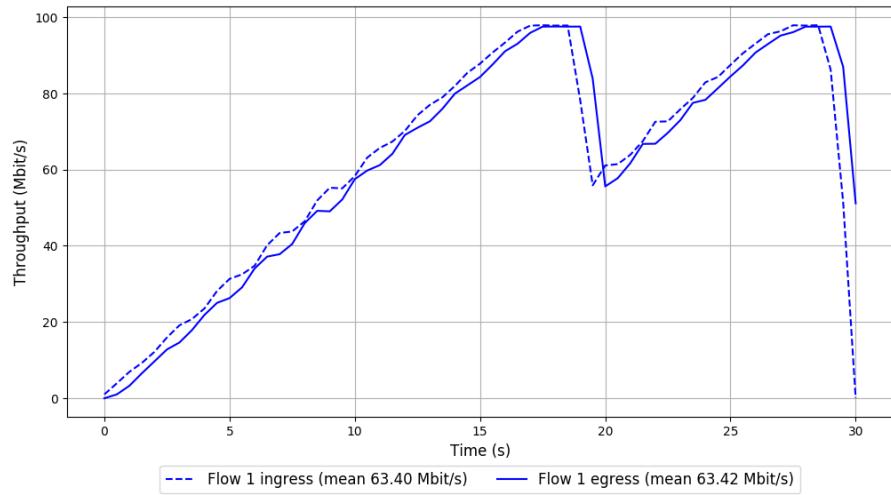


Run 2: Statistics of LEDBAT

```
Start at: 2019-01-03 05:11:49
End at: 2019-01-03 05:12:20
Local clock offset: 0.105 ms
Remote clock offset: -4.697 ms

# Below is generated by plot.py at 2019-01-03 06:48:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.42 Mbit/s
95th percentile per-packet one-way delay: 39.861 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 63.42 Mbit/s
95th percentile per-packet one-way delay: 39.861 ms
Loss rate: 0.19%
```

Run 2: Report of LEDBAT — Data Link

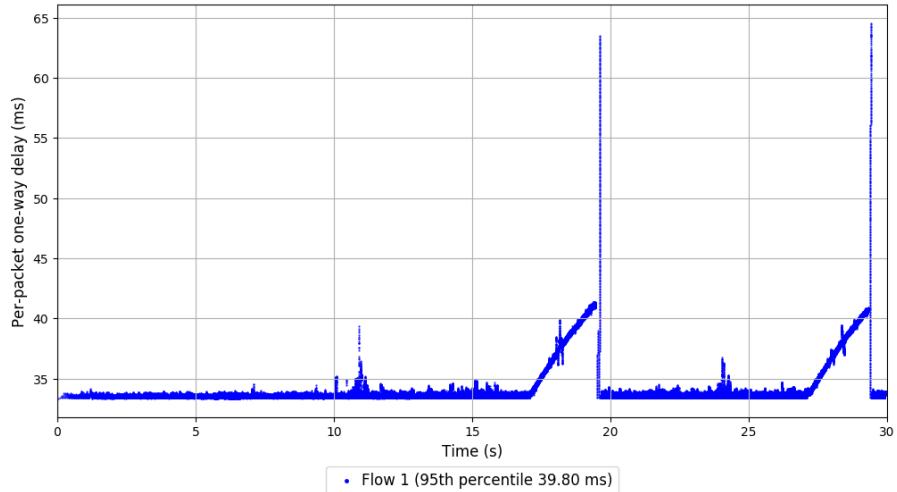
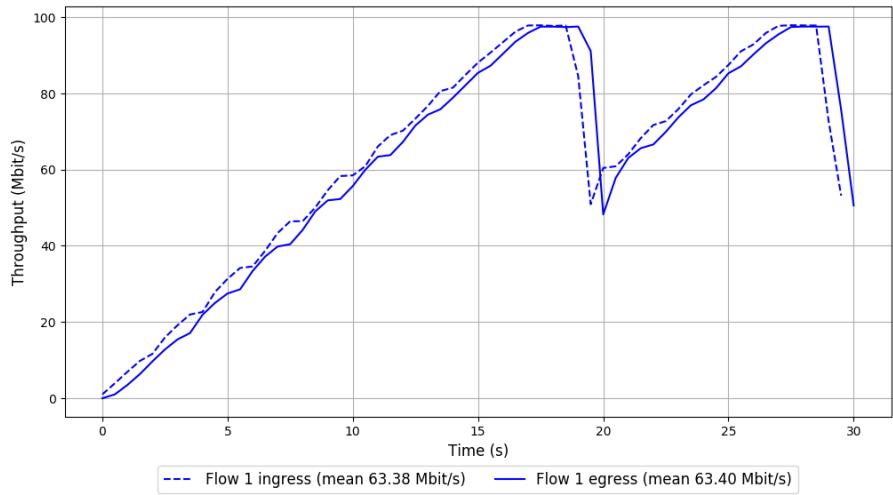


Run 3: Statistics of LEDBAT

```
Start at: 2019-01-03 05:34:50
End at: 2019-01-03 05:35:20
Local clock offset: 0.12 ms
Remote clock offset: -3.541 ms

# Below is generated by plot.py at 2019-01-03 06:48:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.40 Mbit/s
95th percentile per-packet one-way delay: 39.803 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 63.40 Mbit/s
95th percentile per-packet one-way delay: 39.803 ms
Loss rate: 0.20%
```

Run 3: Report of LEDBAT — Data Link

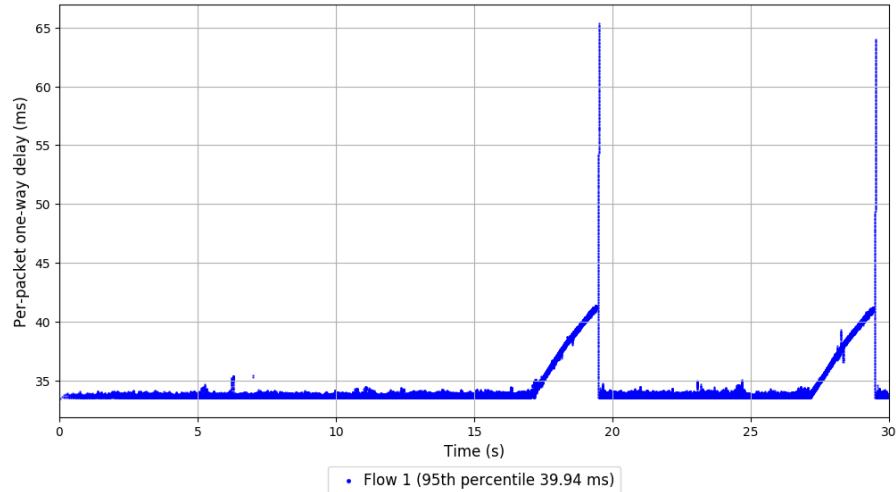
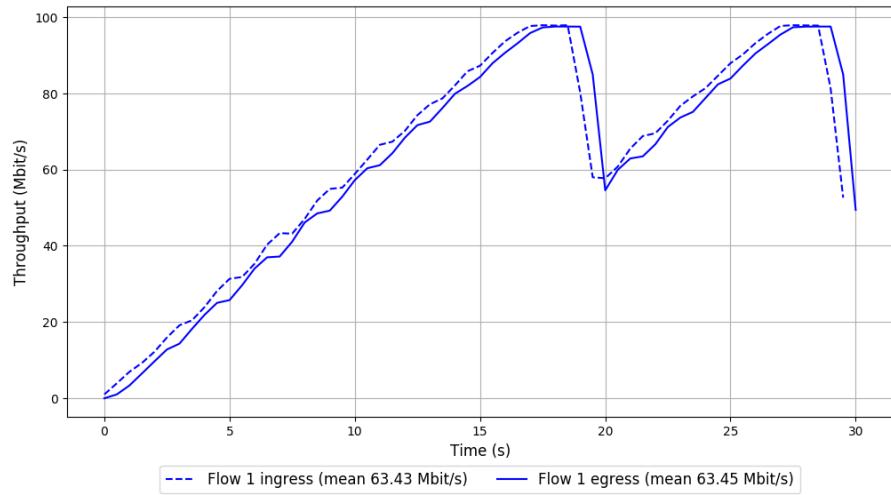


Run 4: Statistics of LEDBAT

```
Start at: 2019-01-03 05:58:27
End at: 2019-01-03 05:58:57
Local clock offset: 0.113 ms
Remote clock offset: -2.687 ms

# Below is generated by plot.py at 2019-01-03 06:48:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.45 Mbit/s
95th percentile per-packet one-way delay: 39.939 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 63.45 Mbit/s
95th percentile per-packet one-way delay: 39.939 ms
Loss rate: 0.19%
```

Run 4: Report of LEDBAT — Data Link

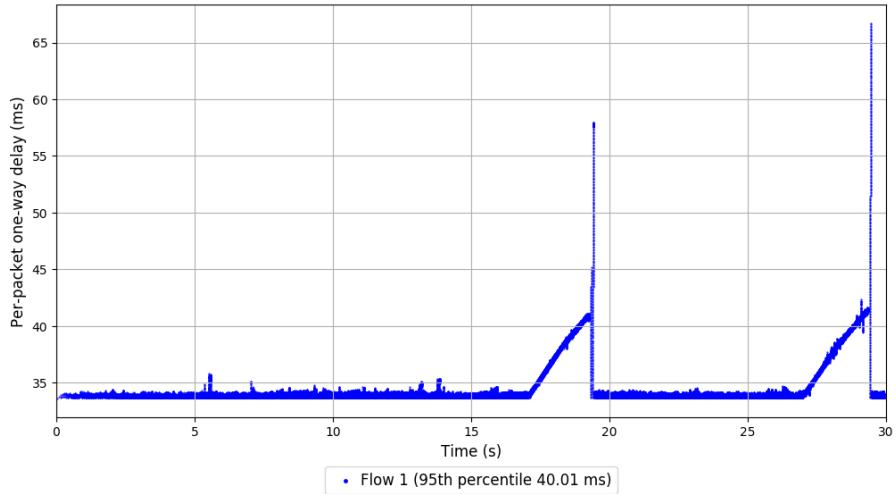
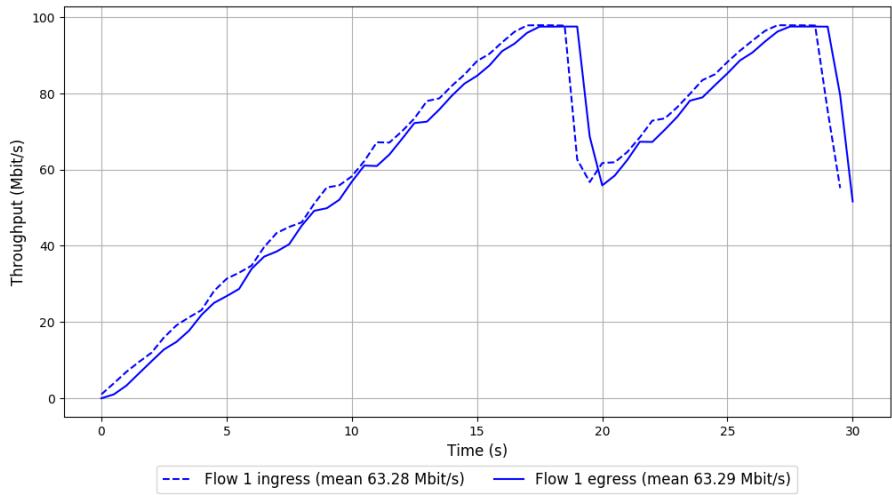


Run 5: Statistics of LEDBAT

```
Start at: 2019-01-03 06:20:46
End at: 2019-01-03 06:21:16
Local clock offset: 0.083 ms
Remote clock offset: -2.334 ms

# Below is generated by plot.py at 2019-01-03 06:48:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.29 Mbit/s
95th percentile per-packet one-way delay: 40.005 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 63.29 Mbit/s
95th percentile per-packet one-way delay: 40.005 ms
Loss rate: 0.20%
```

Run 5: Report of LEDBAT — Data Link

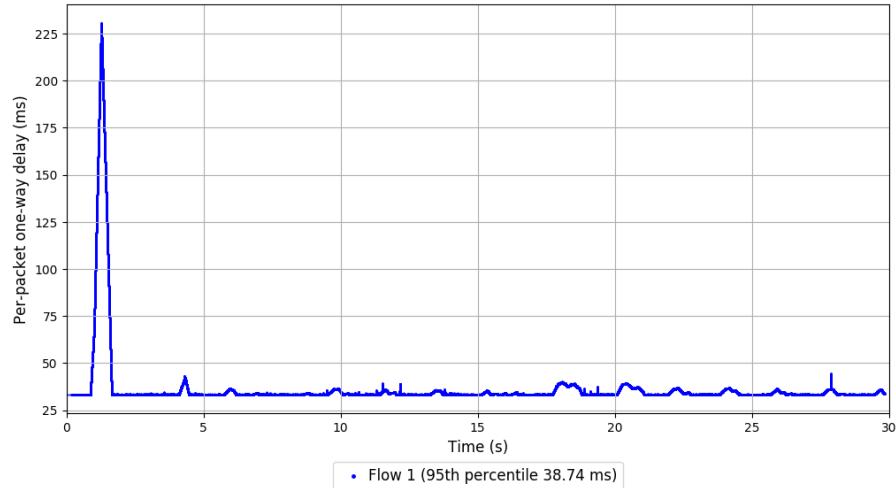
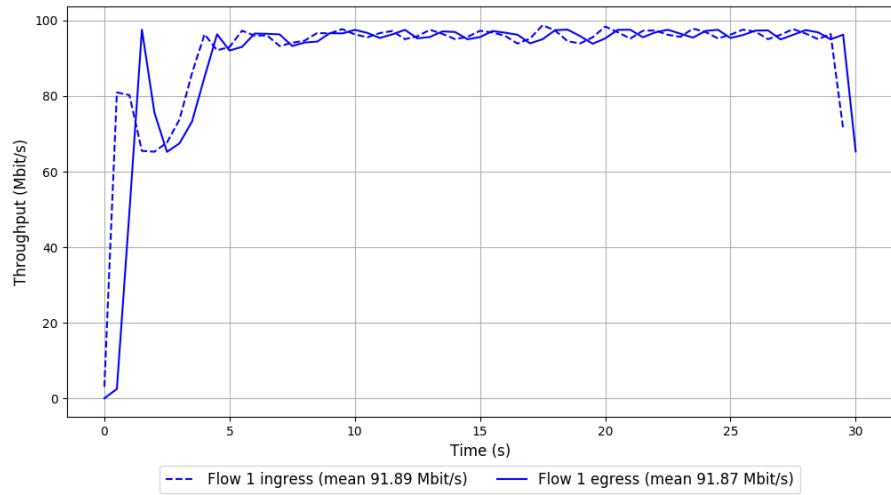


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2019-01-03 05:07:07
End at: 2019-01-03 05:07:37
Local clock offset: 0.092 ms
Remote clock offset: -4.835 ms

# Below is generated by plot.py at 2019-01-03 06:49:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.87 Mbit/s
95th percentile per-packet one-way delay: 38.737 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 91.87 Mbit/s
95th percentile per-packet one-way delay: 38.737 ms
Loss rate: 0.24%
```

Run 1: Report of PCC-Allegro — Data Link

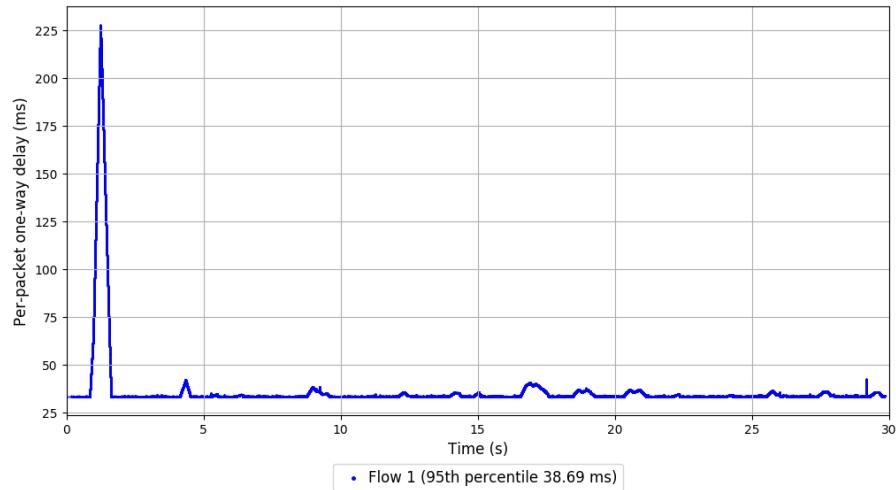
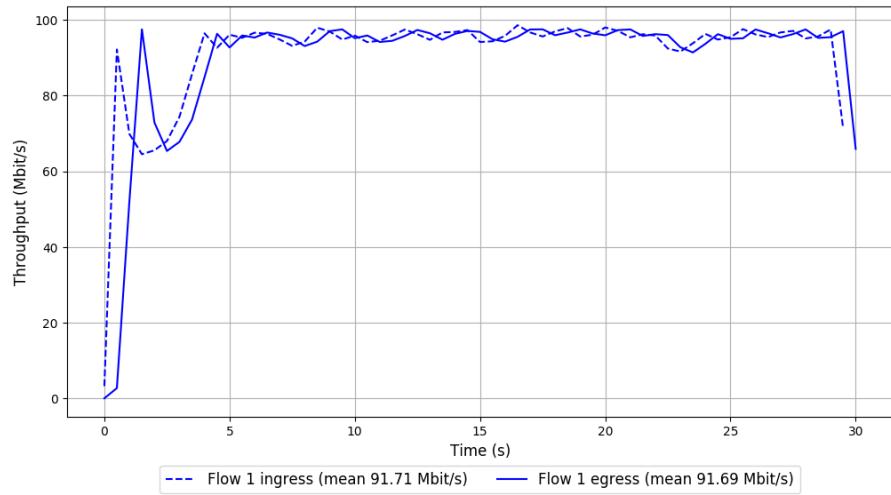


Run 2: Statistics of PCC-Allegro

```
Start at: 2019-01-03 05:29:59
End at: 2019-01-03 05:30:29
Local clock offset: 0.116 ms
Remote clock offset: -3.978 ms

# Below is generated by plot.py at 2019-01-03 06:49:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.69 Mbit/s
95th percentile per-packet one-way delay: 38.685 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 91.69 Mbit/s
95th percentile per-packet one-way delay: 38.685 ms
Loss rate: 0.23%
```

Run 2: Report of PCC-Allegro — Data Link

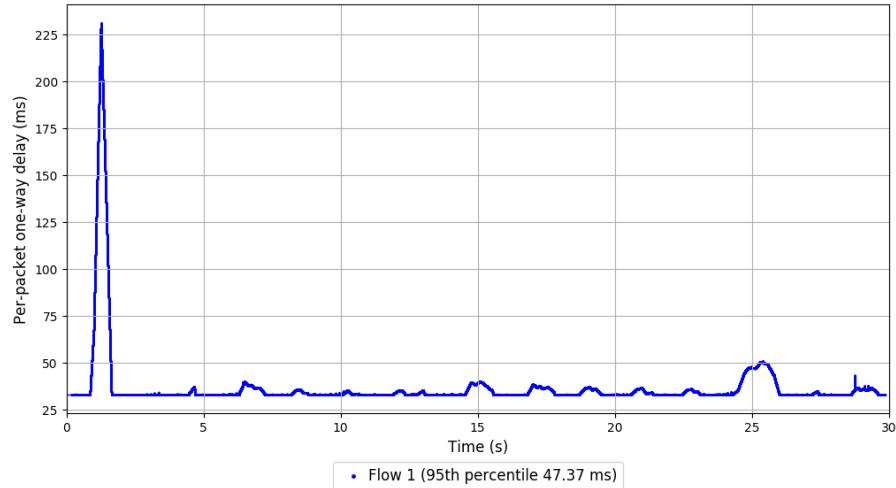
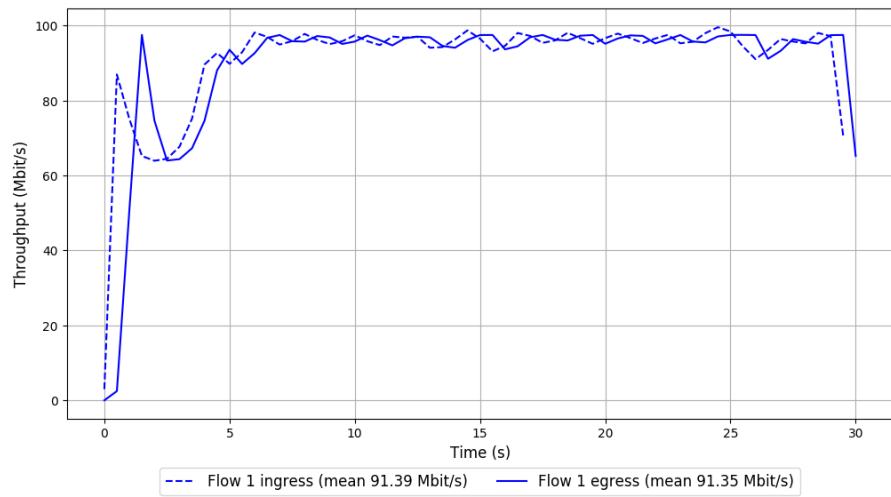


Run 3: Statistics of PCC-Allegro

```
Start at: 2019-01-03 05:53:47
End at: 2019-01-03 05:54:17
Local clock offset: 0.123 ms
Remote clock offset: -2.746 ms

# Below is generated by plot.py at 2019-01-03 06:49:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.35 Mbit/s
95th percentile per-packet one-way delay: 47.368 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 91.35 Mbit/s
95th percentile per-packet one-way delay: 47.368 ms
Loss rate: 0.25%
```

Run 3: Report of PCC-Allegro — Data Link

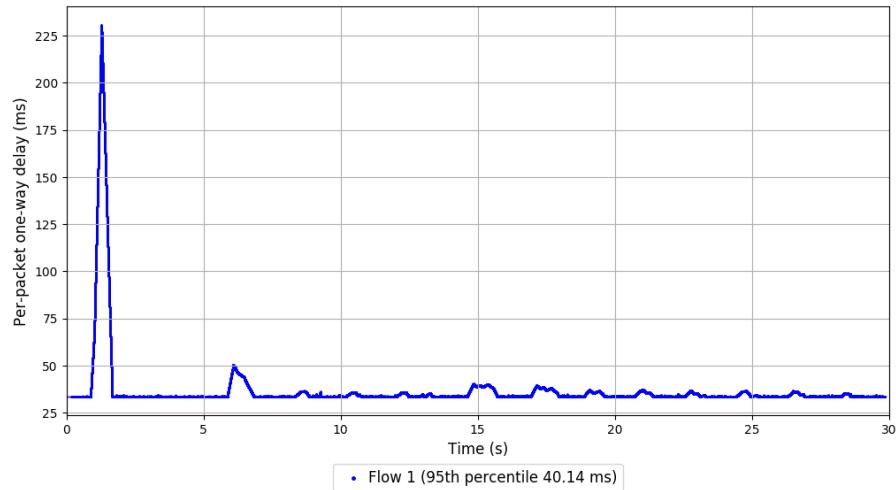
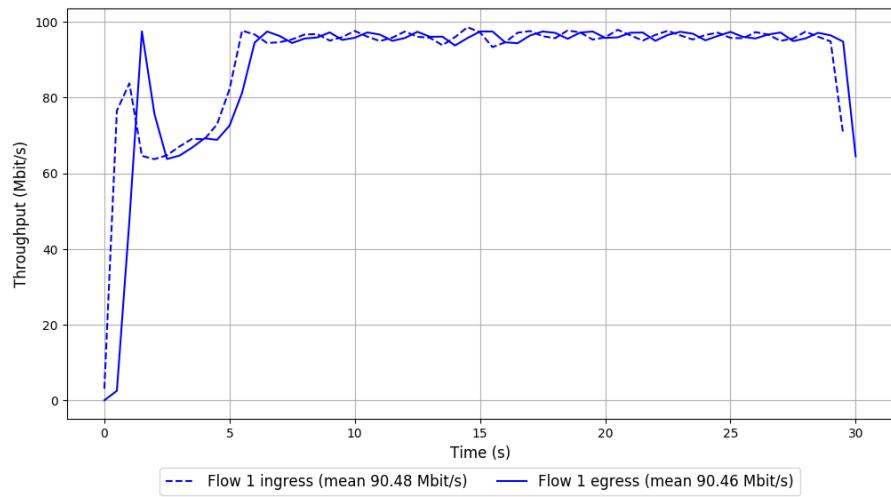


Run 4: Statistics of PCC-Allegro

```
Start at: 2019-01-03 06:16:12
End at: 2019-01-03 06:16:42
Local clock offset: 0.1 ms
Remote clock offset: -2.343 ms

# Below is generated by plot.py at 2019-01-03 06:49:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.46 Mbit/s
95th percentile per-packet one-way delay: 40.140 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 90.46 Mbit/s
95th percentile per-packet one-way delay: 40.140 ms
Loss rate: 0.24%
```

Run 4: Report of PCC-Allegro — Data Link

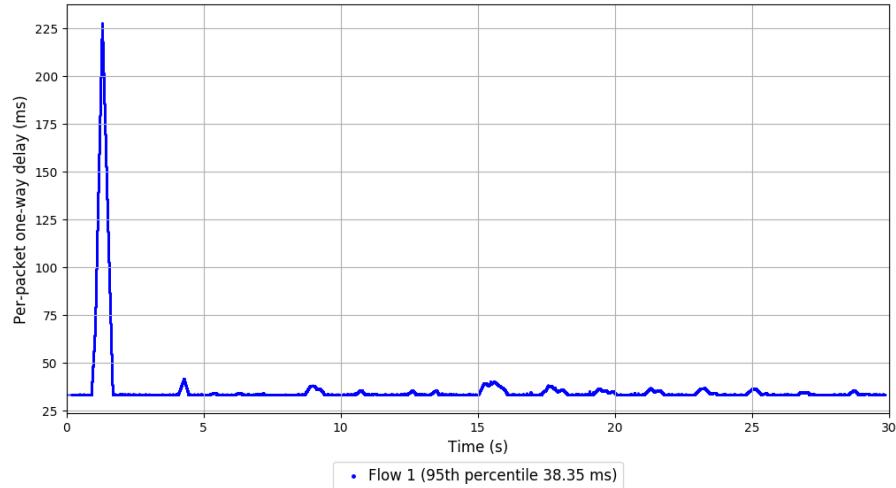
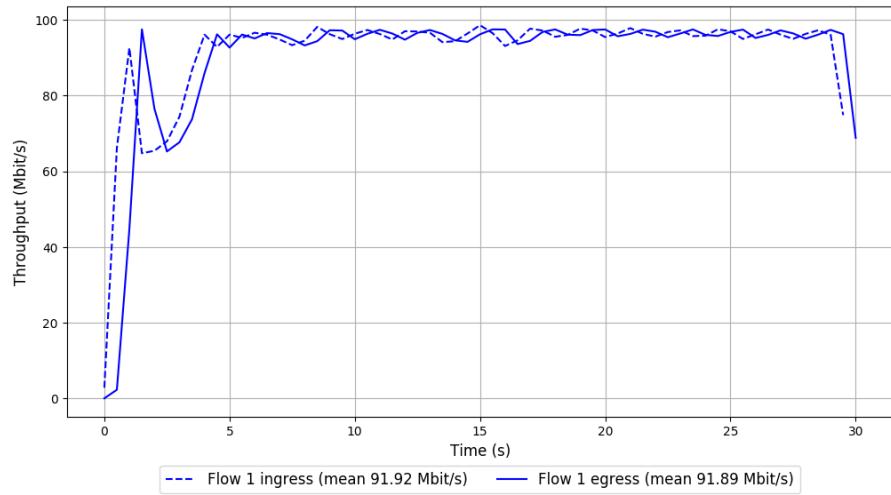


Run 5: Statistics of PCC-Allegro

```
Start at: 2019-01-03 06:38:34
End at: 2019-01-03 06:39:04
Local clock offset: -0.017 ms
Remote clock offset: -2.063 ms

# Below is generated by plot.py at 2019-01-03 06:49:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.89 Mbit/s
95th percentile per-packet one-way delay: 38.348 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 91.89 Mbit/s
95th percentile per-packet one-way delay: 38.348 ms
Loss rate: 0.24%
```

Run 5: Report of PCC-Allegro — Data Link

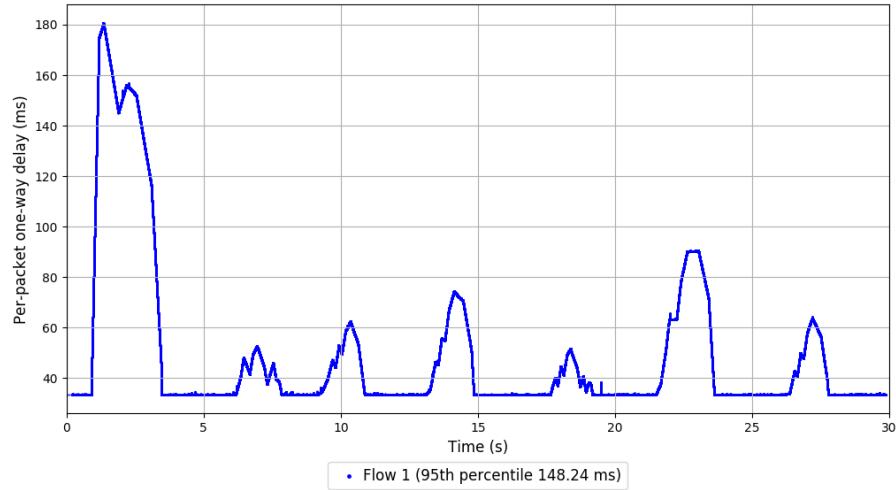
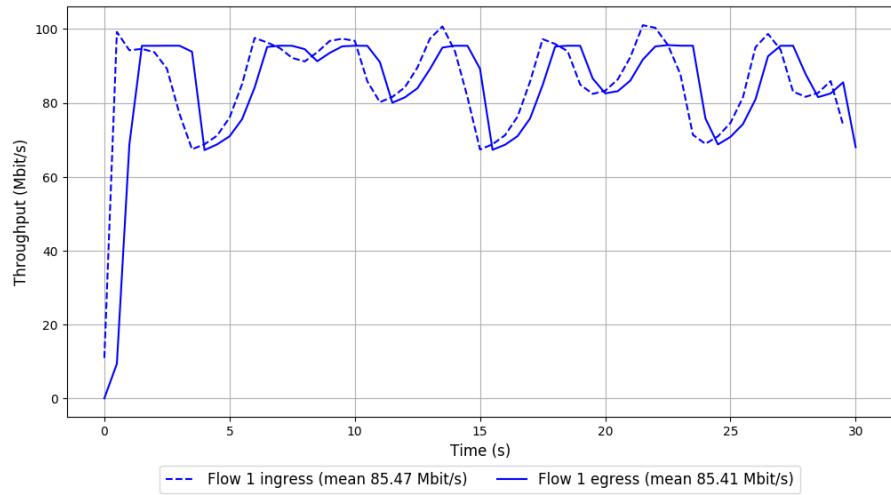


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2019-01-03 04:56:04
End at: 2019-01-03 04:56:34
Local clock offset: 0.047 ms
Remote clock offset: -5.304 ms

# Below is generated by plot.py at 2019-01-03 06:50:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.41 Mbit/s
95th percentile per-packet one-way delay: 148.236 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 85.41 Mbit/s
95th percentile per-packet one-way delay: 148.236 ms
Loss rate: 0.29%
```

Run 1: Report of PCC-Expr — Data Link

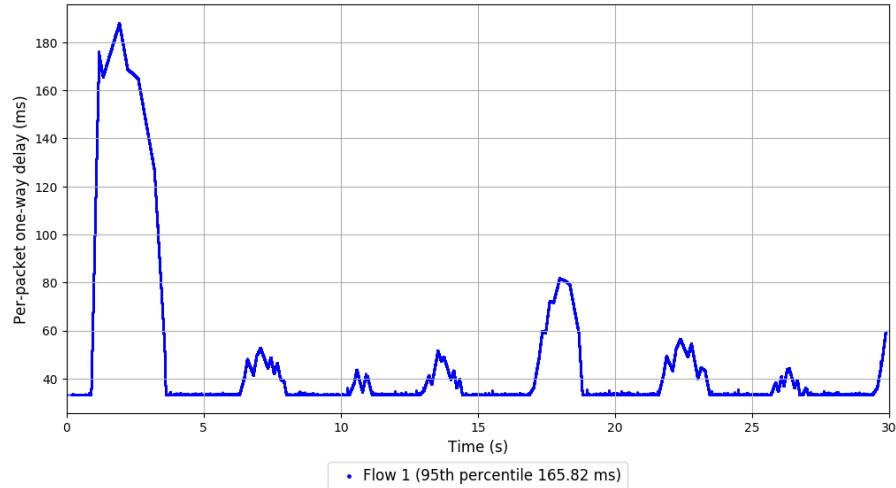
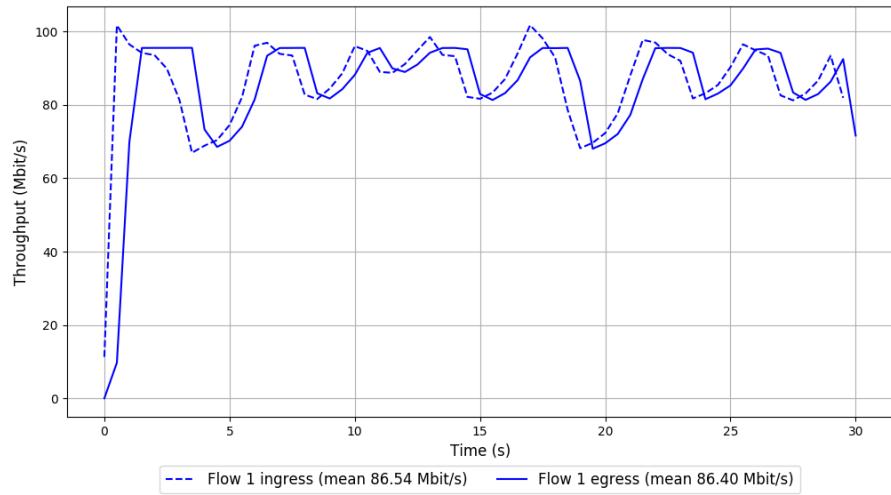


Run 2: Statistics of PCC-Expr

```
Start at: 2019-01-03 05:18:56
End at: 2019-01-03 05:19:26
Local clock offset: 0.122 ms
Remote clock offset: -4.431 ms

# Below is generated by plot.py at 2019-01-03 06:50:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.40 Mbit/s
95th percentile per-packet one-way delay: 165.818 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 86.40 Mbit/s
95th percentile per-packet one-way delay: 165.818 ms
Loss rate: 0.38%
```

Run 2: Report of PCC-Expr — Data Link

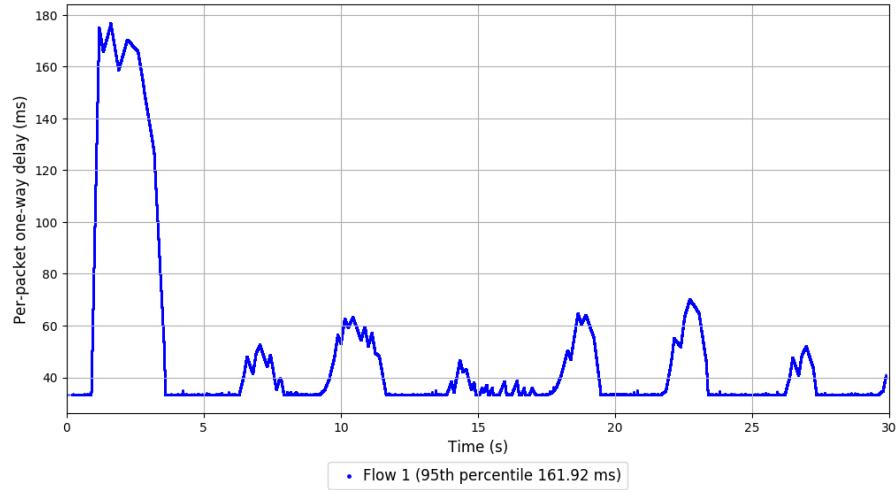
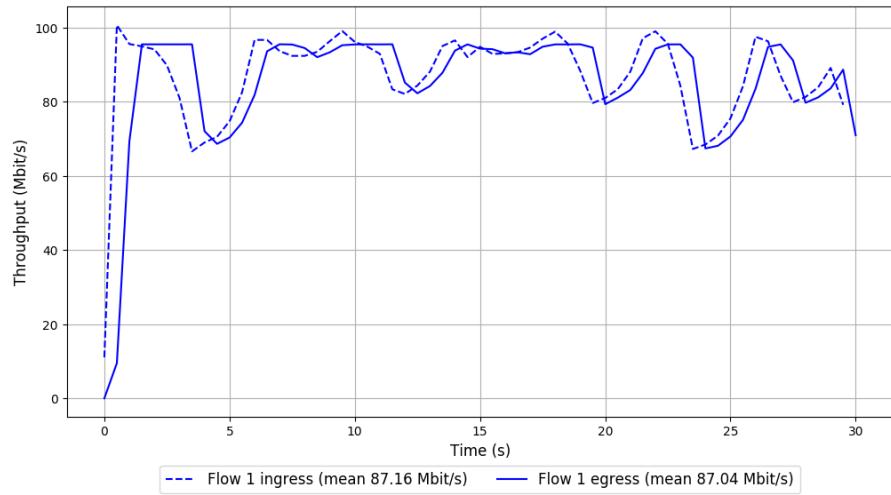


Run 3: Statistics of PCC-Expr

```
Start at: 2019-01-03 05:42:30
End at: 2019-01-03 05:43:00
Local clock offset: 0.126 ms
Remote clock offset: -3.309 ms

# Below is generated by plot.py at 2019-01-03 06:51:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.04 Mbit/s
95th percentile per-packet one-way delay: 161.923 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 87.04 Mbit/s
95th percentile per-packet one-way delay: 161.923 ms
Loss rate: 0.34%
```

Run 3: Report of PCC-Expr — Data Link

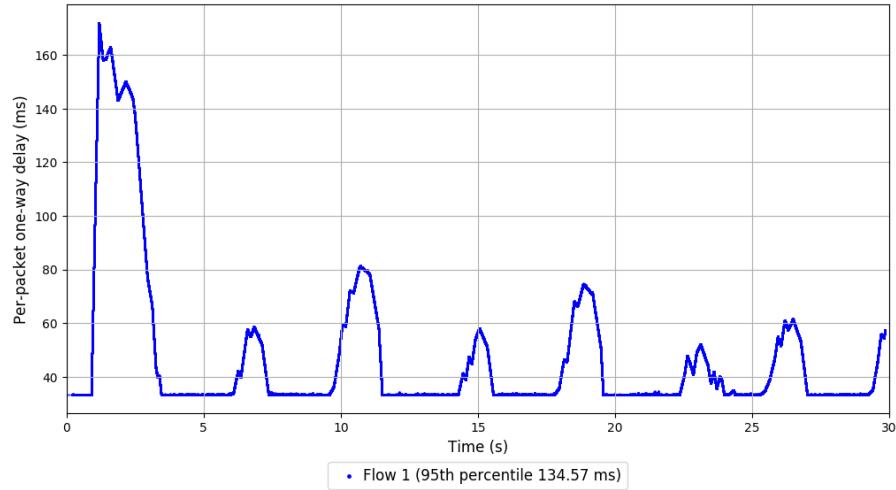
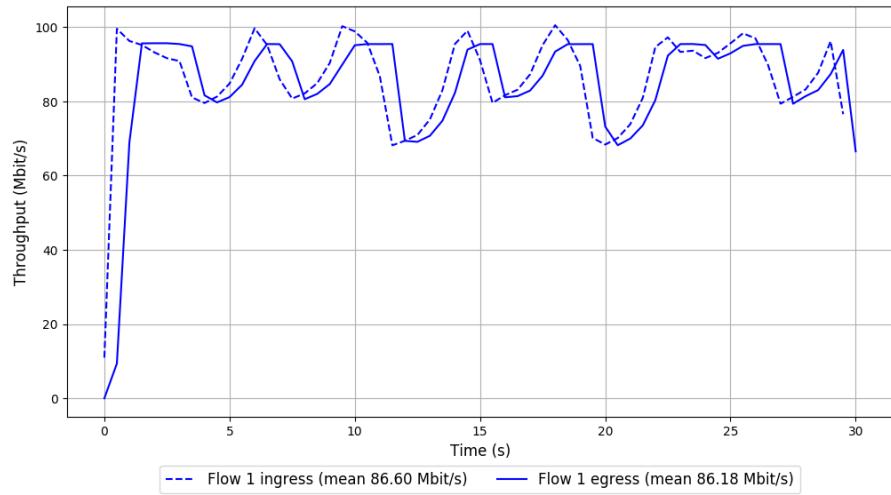


Run 4: Statistics of PCC-Expr

```
Start at: 2019-01-03 06:05:30
End at: 2019-01-03 06:06:00
Local clock offset: 0.103 ms
Remote clock offset: -2.367 ms

# Below is generated by plot.py at 2019-01-03 06:51:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.18 Mbit/s
95th percentile per-packet one-way delay: 134.567 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 86.18 Mbit/s
95th percentile per-packet one-way delay: 134.567 ms
Loss rate: 0.71%
```

Run 4: Report of PCC-Expr — Data Link

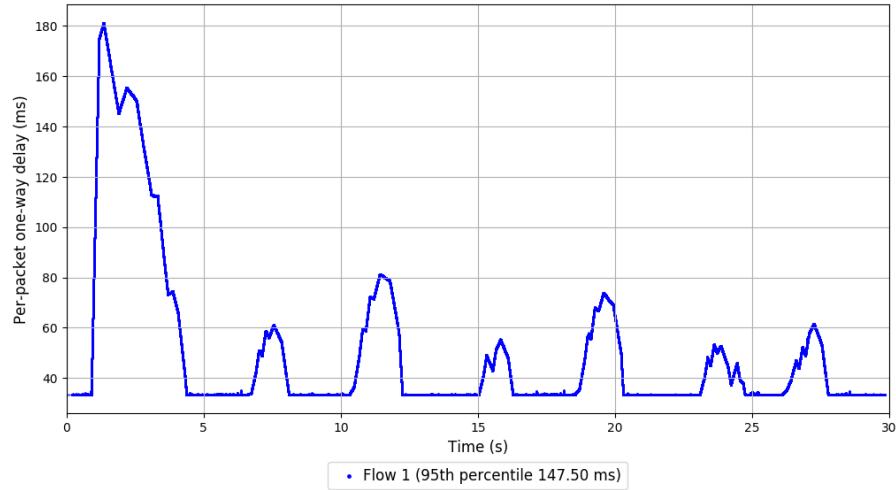
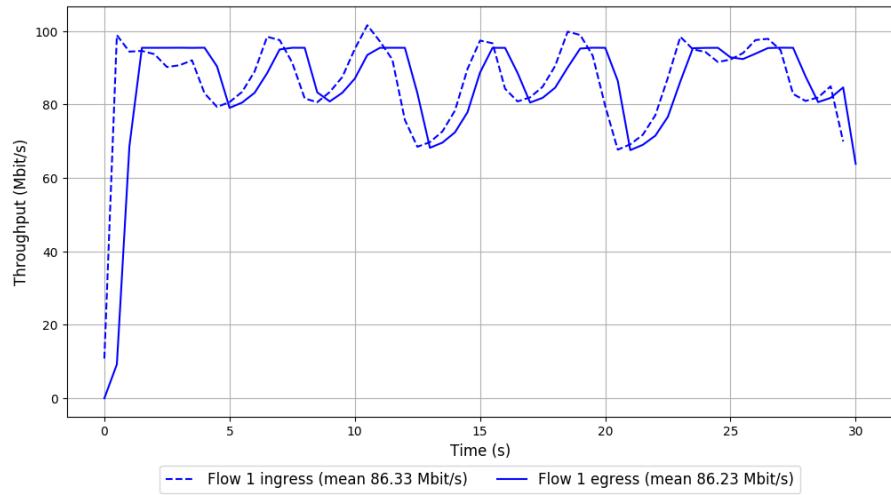


Run 5: Statistics of PCC-Expr

```
Start at: 2019-01-03 06:27:46
End at: 2019-01-03 06:28:16
Local clock offset: 0.057 ms
Remote clock offset: -2.135 ms

# Below is generated by plot.py at 2019-01-03 06:51:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.23 Mbit/s
95th percentile per-packet one-way delay: 147.498 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 86.23 Mbit/s
95th percentile per-packet one-way delay: 147.498 ms
Loss rate: 0.34%
```

Run 5: Report of PCC-Expr — Data Link

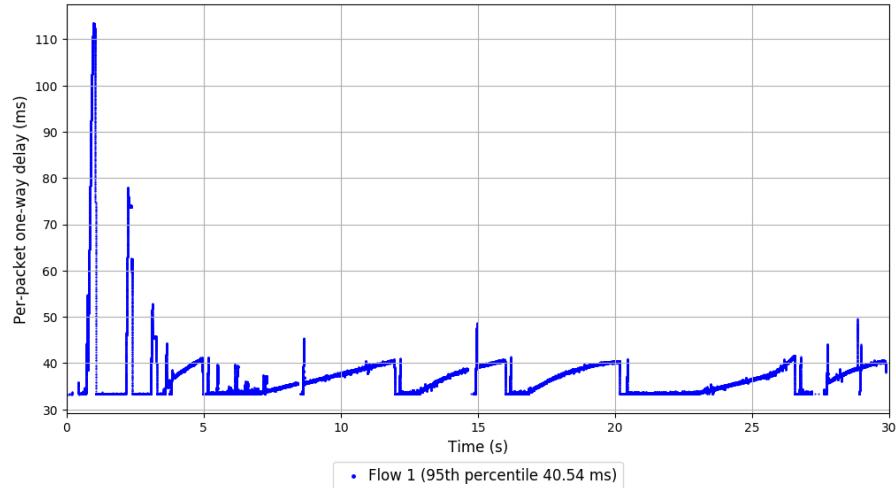
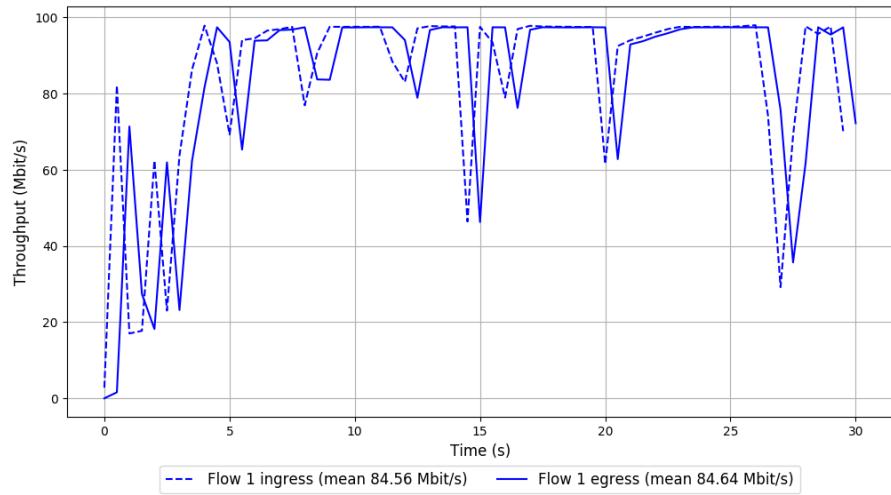


```
Run 1: Statistics of QUIC Cubic

Start at: 2019-01-03 04:59:51
End at: 2019-01-03 05:00:21
Local clock offset: 0.068 ms
Remote clock offset: -5.075 ms

# Below is generated by plot.py at 2019-01-03 06:51:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.64 Mbit/s
95th percentile per-packet one-way delay: 40.538 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 84.64 Mbit/s
95th percentile per-packet one-way delay: 40.538 ms
Loss rate: 0.12%
```

Run 1: Report of QUIC Cubic — Data Link

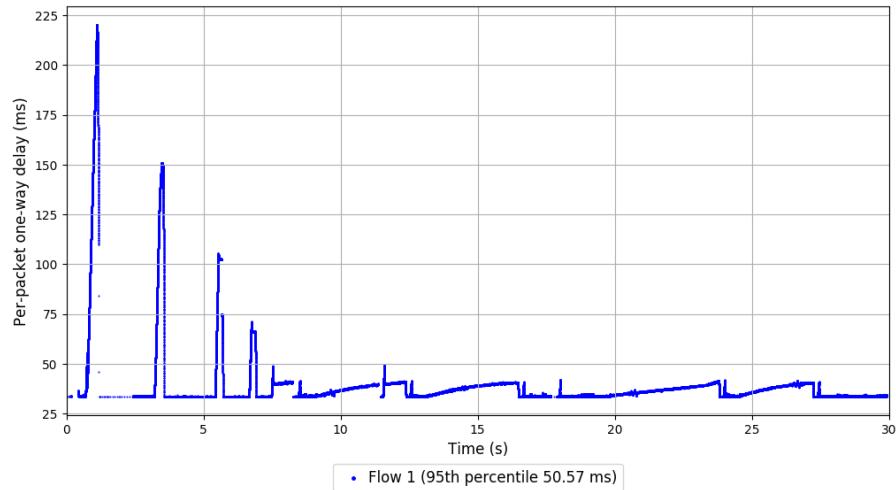
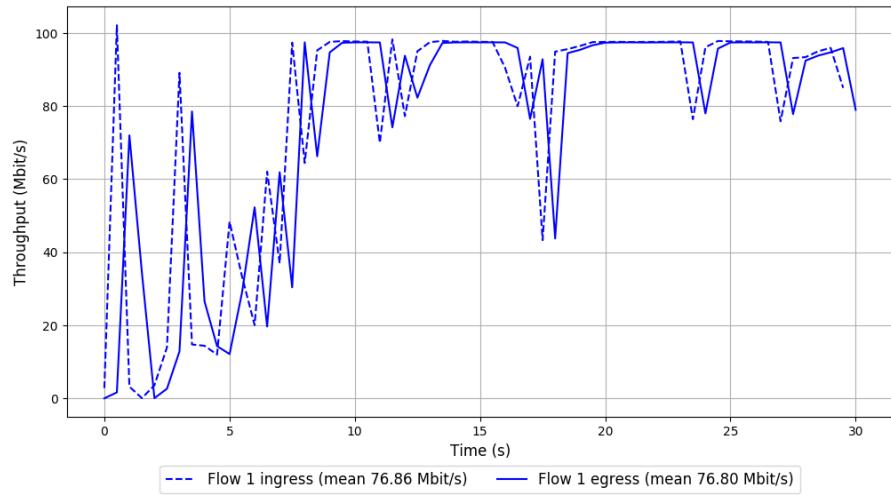


Run 2: Statistics of QUIC Cubic

```
Start at: 2019-01-03 05:22:31
End at: 2019-01-03 05:23:01
Local clock offset: 0.122 ms
Remote clock offset: -4.462 ms

# Below is generated by plot.py at 2019-01-03 06:51:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.80 Mbit/s
95th percentile per-packet one-way delay: 50.574 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 76.80 Mbit/s
95th percentile per-packet one-way delay: 50.574 ms
Loss rate: 0.28%
```

Run 2: Report of QUIC Cubic — Data Link

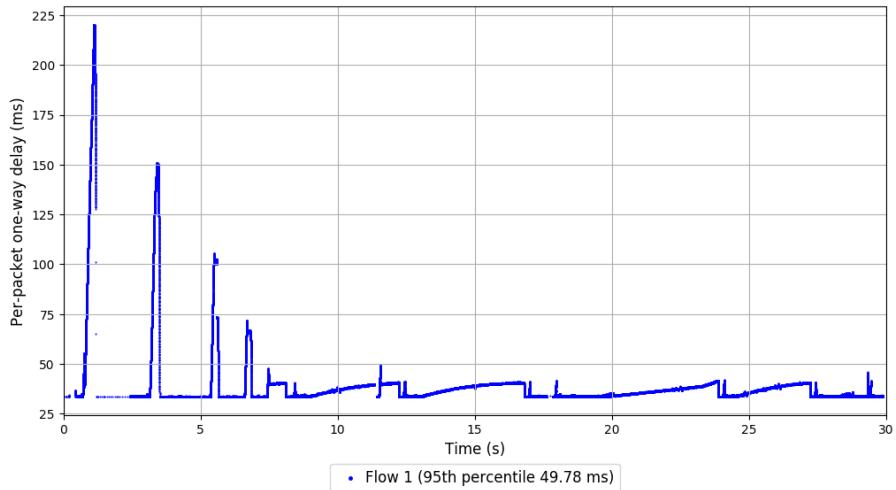
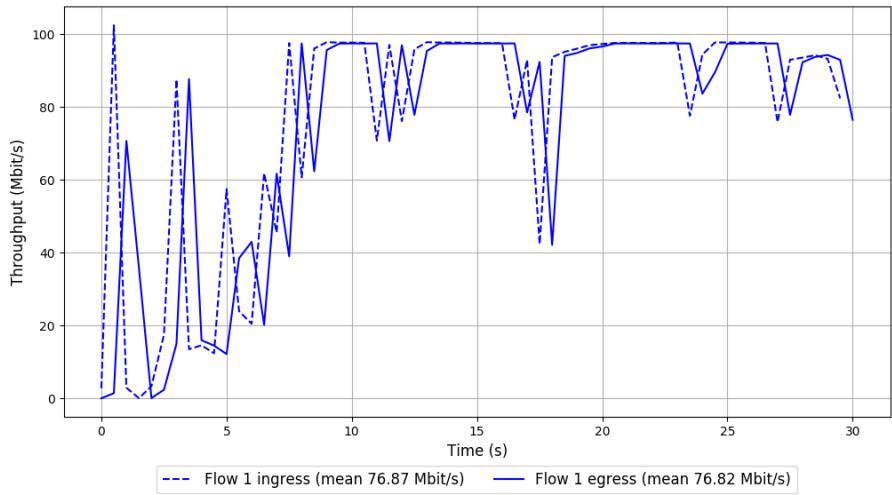


Run 3: Statistics of QUIC Cubic

```
Start at: 2019-01-03 05:46:23
End at: 2019-01-03 05:46:53
Local clock offset: 0.117 ms
Remote clock offset: -3.252 ms

# Below is generated by plot.py at 2019-01-03 06:51:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.82 Mbit/s
95th percentile per-packet one-way delay: 49.779 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 76.82 Mbit/s
95th percentile per-packet one-way delay: 49.779 ms
Loss rate: 0.28%
```

Run 3: Report of QUIC Cubic — Data Link

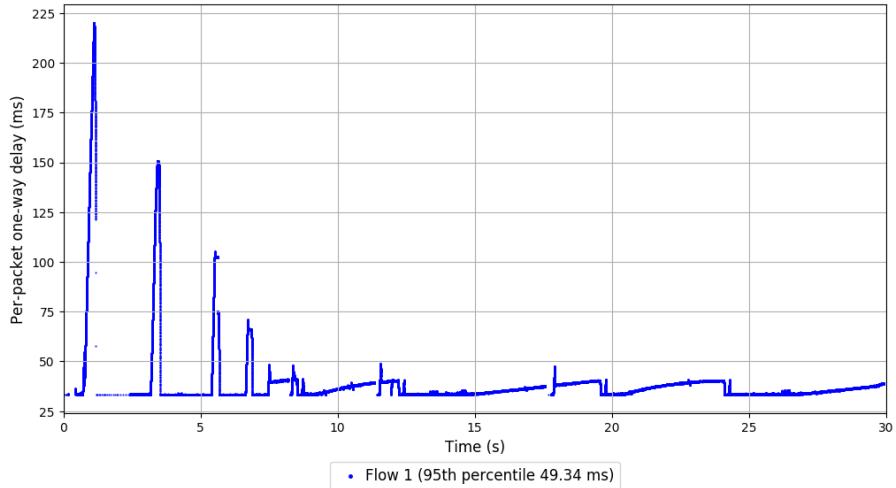
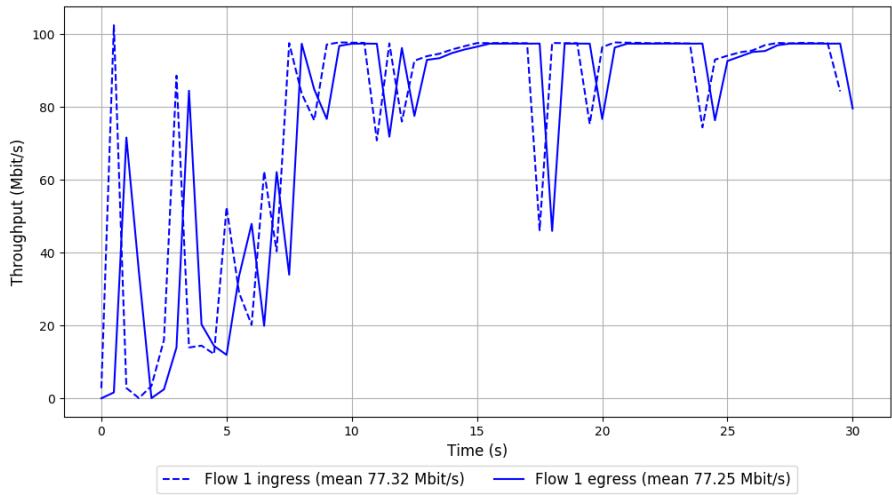


Run 4: Statistics of QUIC Cubic

```
Start at: 2019-01-03 06:09:04
End at: 2019-01-03 06:09:34
Local clock offset: 0.1 ms
Remote clock offset: -2.291 ms

# Below is generated by plot.py at 2019-01-03 06:51:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.25 Mbit/s
95th percentile per-packet one-way delay: 49.341 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 77.25 Mbit/s
95th percentile per-packet one-way delay: 49.341 ms
Loss rate: 0.27%
```

Run 4: Report of QUIC Cubic — Data Link

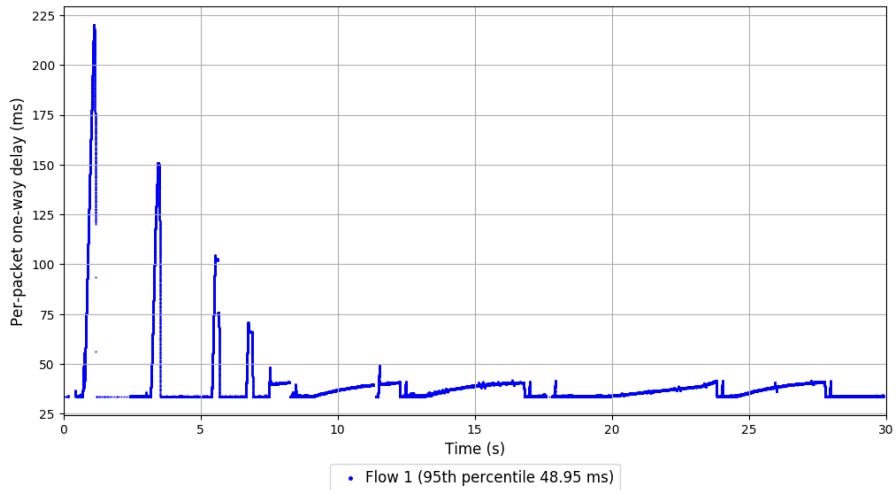
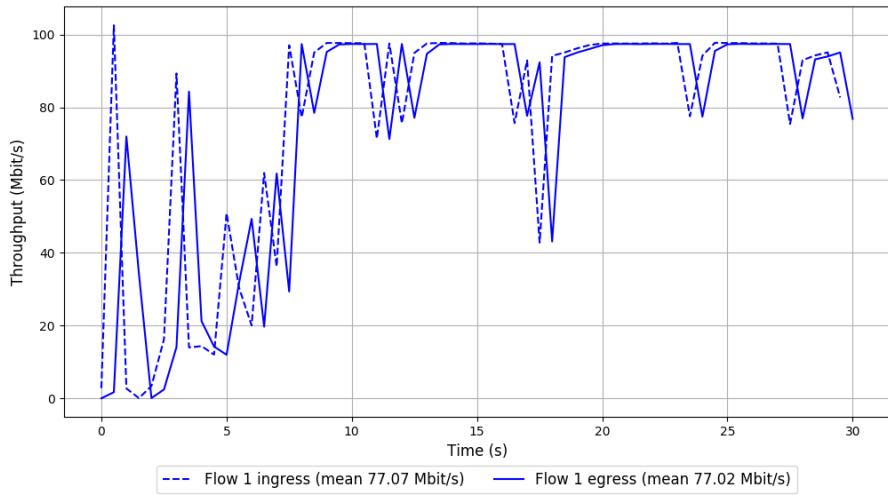


Run 5: Statistics of QUIC Cubic

```
Start at: 2019-01-03 06:31:26
End at: 2019-01-03 06:31:56
Local clock offset: 0.03 ms
Remote clock offset: -2.279 ms

# Below is generated by plot.py at 2019-01-03 06:51:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.02 Mbit/s
95th percentile per-packet one-way delay: 48.950 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 77.02 Mbit/s
95th percentile per-packet one-way delay: 48.950 ms
Loss rate: 0.28%
```

Run 5: Report of QUIC Cubic — Data Link

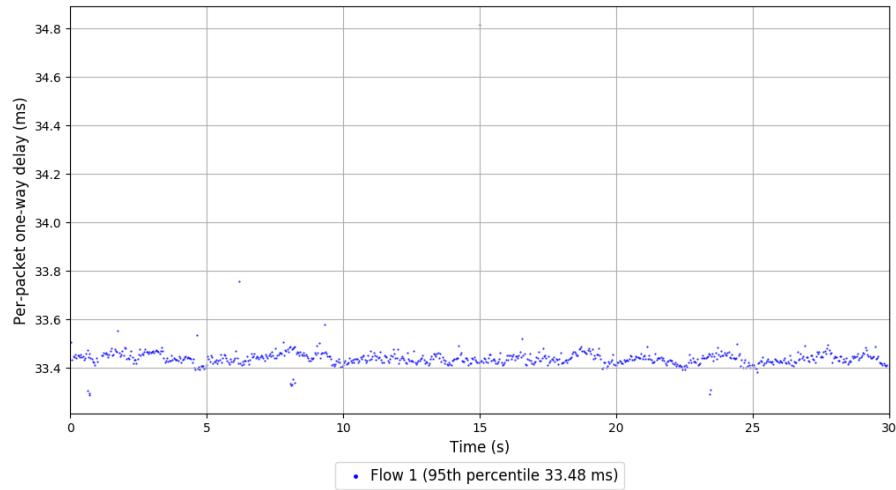
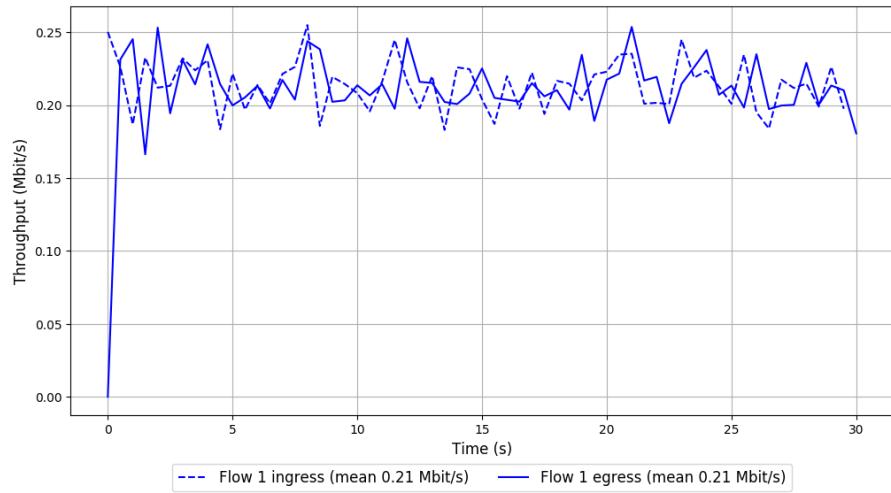


Run 1: Statistics of SCReAM

```
Start at: 2019-01-03 04:47:37
End at: 2019-01-03 04:48:07
Local clock offset: 0.038 ms
Remote clock offset: -5.195 ms

# Below is generated by plot.py at 2019-01-03 06:51:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.476 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.476 ms
Loss rate: 0.26%
```

Run 1: Report of SCReAM — Data Link

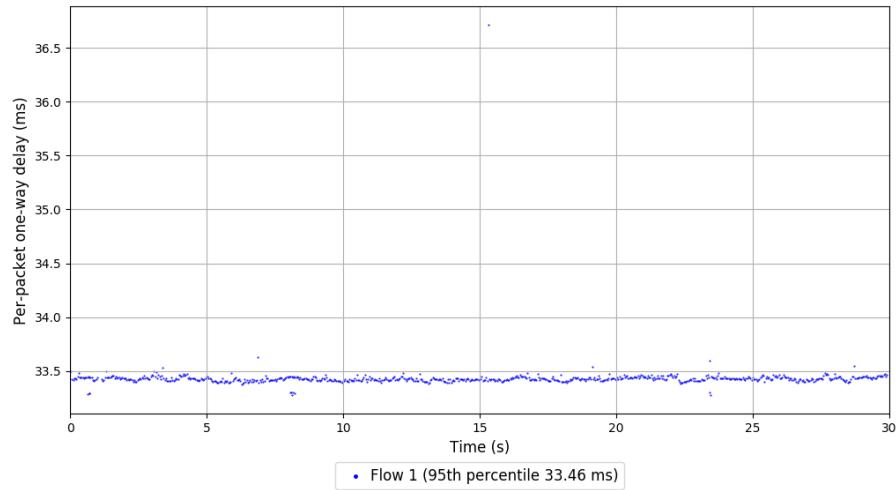
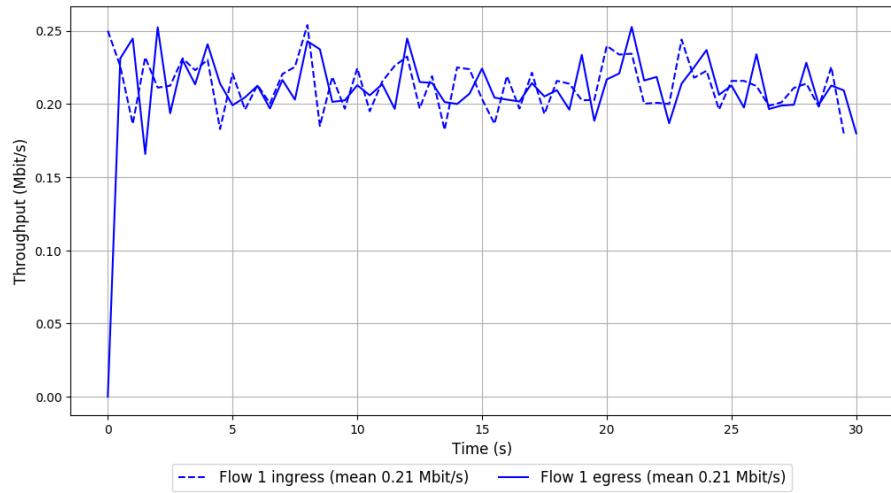


Run 2: Statistics of SCReAM

```
Start at: 2019-01-03 05:10:43
End at: 2019-01-03 05:11:13
Local clock offset: 0.101 ms
Remote clock offset: -4.733 ms

# Below is generated by plot.py at 2019-01-03 06:51:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.462 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.462 ms
Loss rate: 0.13%
```

Run 2: Report of SCReAM — Data Link

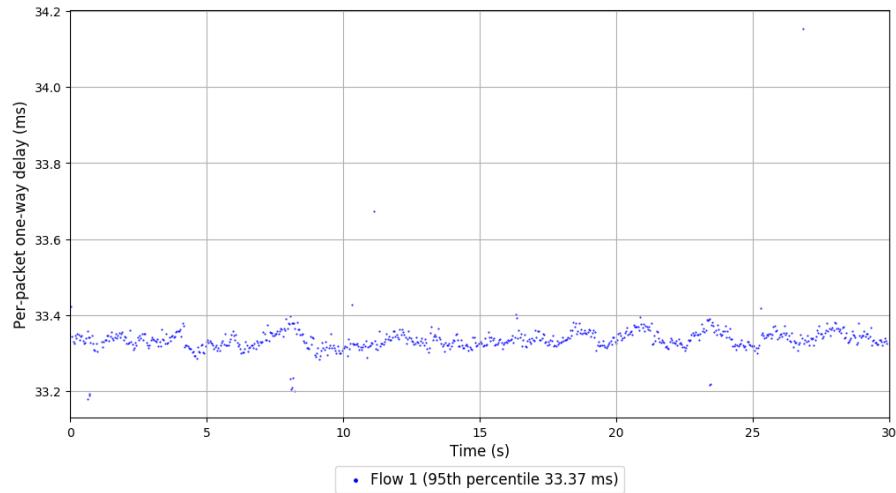
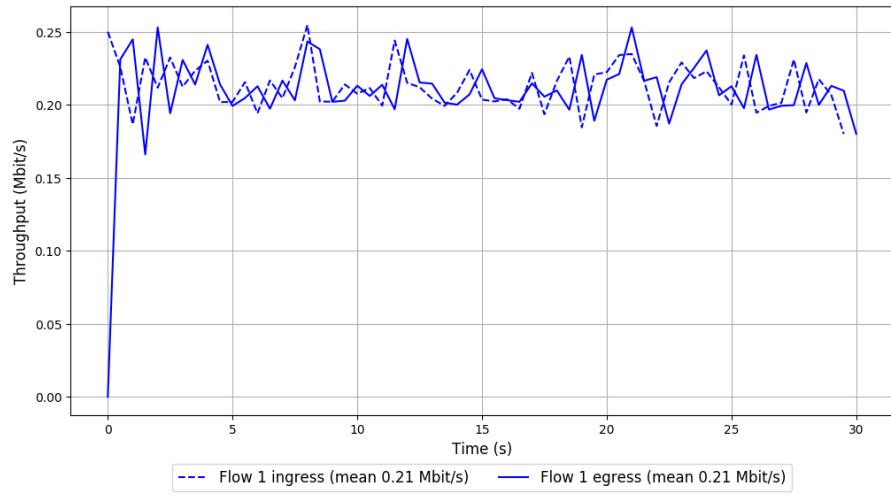


Run 3: Statistics of SCReAM

```
Start at: 2019-01-03 05:33:44
End at: 2019-01-03 05:34:14
Local clock offset: 0.113 ms
Remote clock offset: -3.544 ms

# Below is generated by plot.py at 2019-01-03 06:51:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.372 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.372 ms
Loss rate: 0.13%
```

Run 3: Report of SCReAM — Data Link

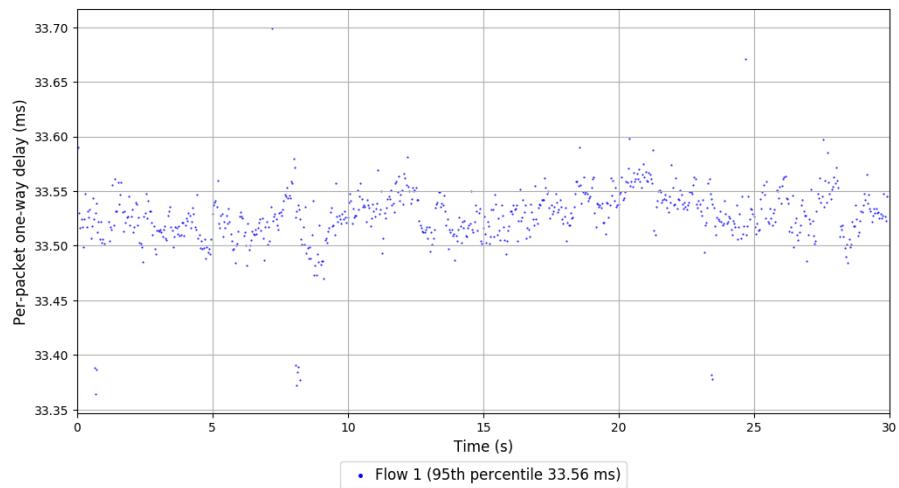
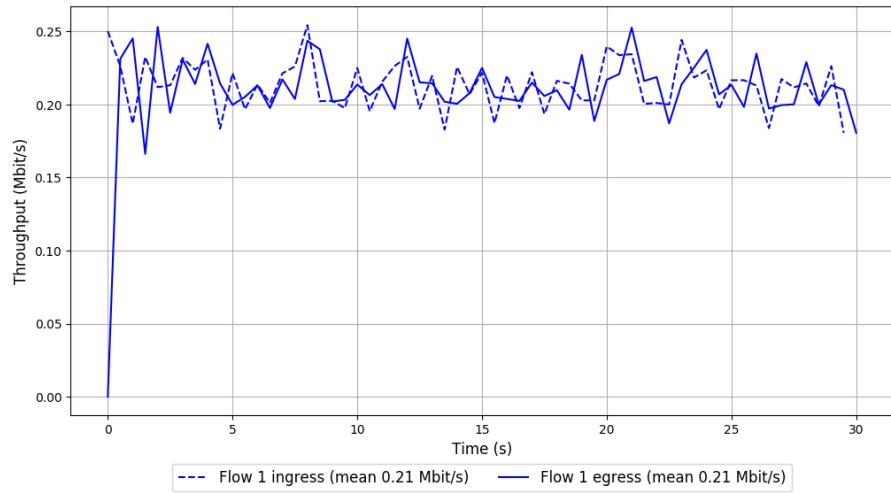


Run 4: Statistics of SCReAM

```
Start at: 2019-01-03 05:57:21
End at: 2019-01-03 05:57:51
Local clock offset: 0.114 ms
Remote clock offset: -2.68 ms

# Below is generated by plot.py at 2019-01-03 06:51:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.562 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.562 ms
Loss rate: 0.13%
```

Run 4: Report of SCReAM — Data Link

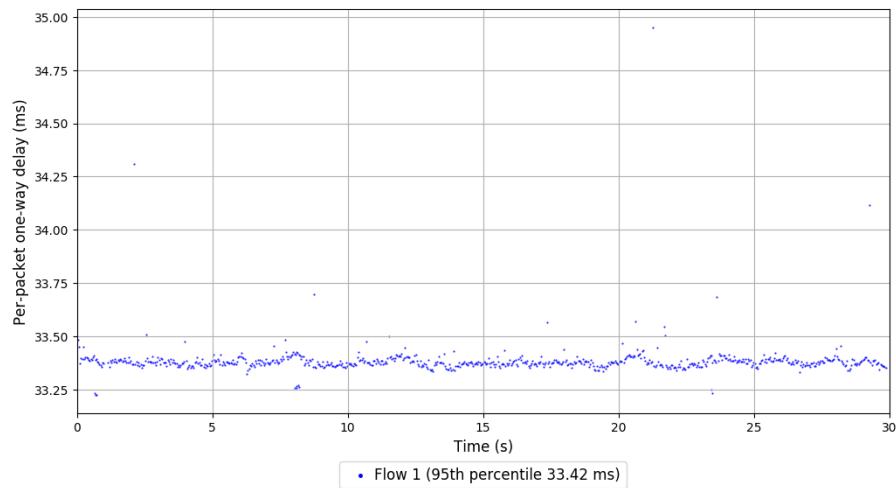
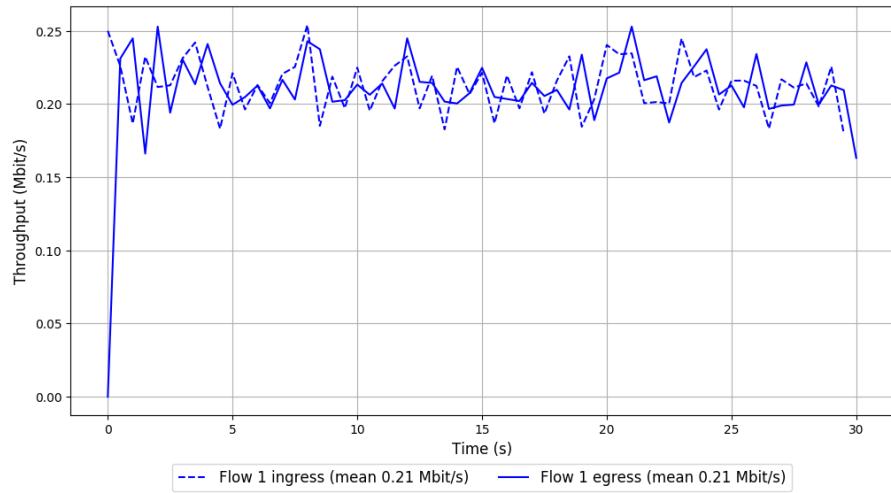


Run 5: Statistics of SCReAM

```
Start at: 2019-01-03 06:19:40
End at: 2019-01-03 06:20:10
Local clock offset: 0.092 ms
Remote clock offset: -2.053 ms

# Below is generated by plot.py at 2019-01-03 06:51:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.417 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.417 ms
Loss rate: 0.26%
```

Run 5: Report of SCReAM — Data Link

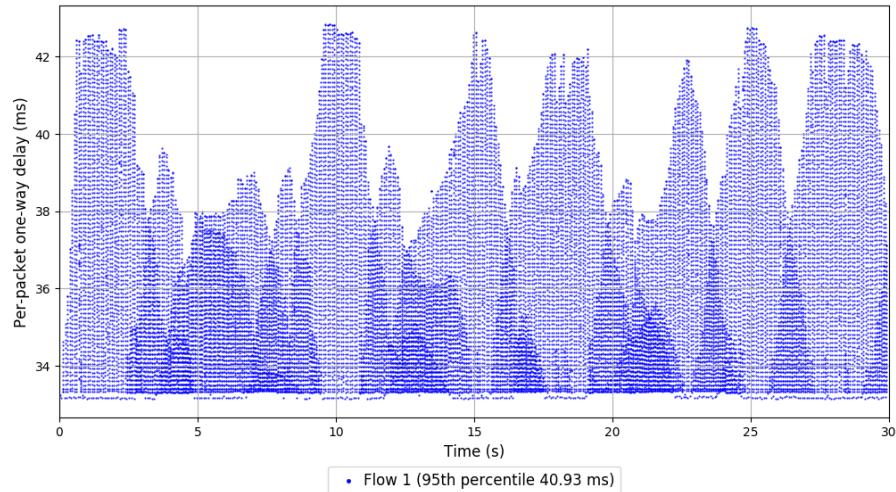
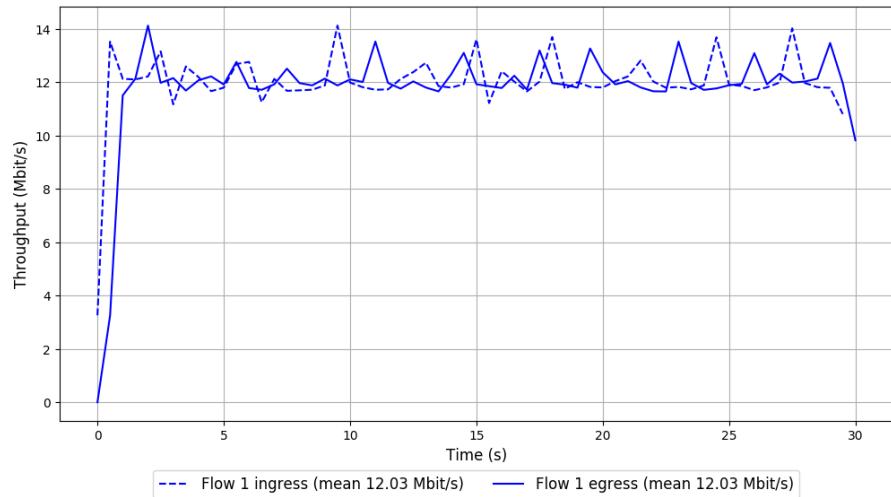


Run 1: Statistics of Sprout

```
Start at: 2019-01-03 04:53:42
End at: 2019-01-03 04:54:12
Local clock offset: 0.007 ms
Remote clock offset: -5.13 ms

# Below is generated by plot.py at 2019-01-03 06:51:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 40.930 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 40.930 ms
Loss rate: 0.14%
```

Run 1: Report of Sprout — Data Link

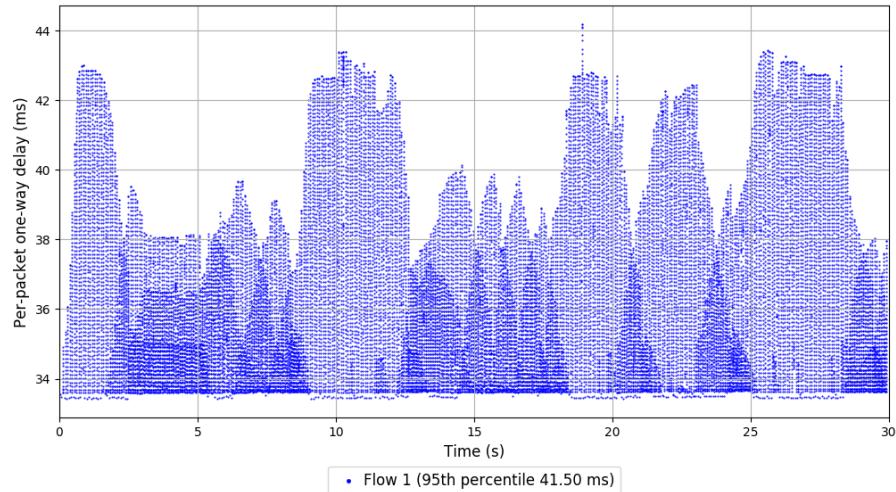
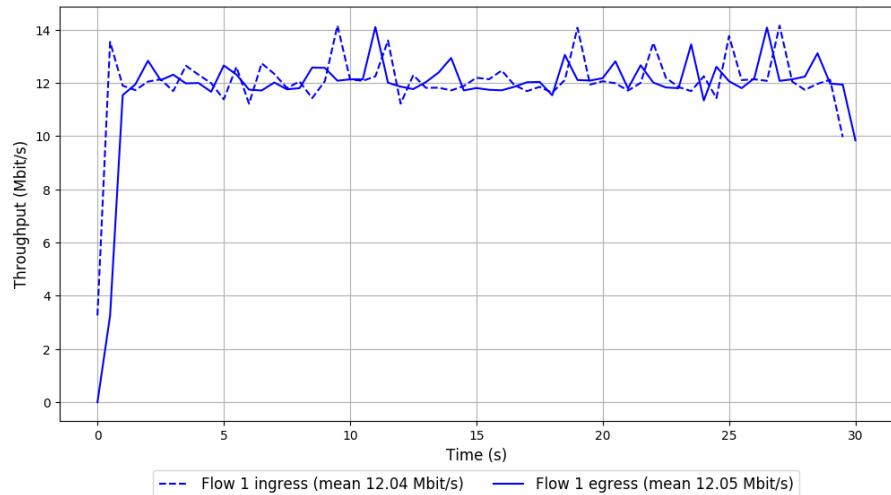


Run 2: Statistics of Sprout

```
Start at: 2019-01-03 05:16:39
End at: 2019-01-03 05:17:09
Local clock offset: 0.111 ms
Remote clock offset: -4.723 ms

# Below is generated by plot.py at 2019-01-03 06:51:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 41.501 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 41.501 ms
Loss rate: 0.10%
```

Run 2: Report of Sprout — Data Link

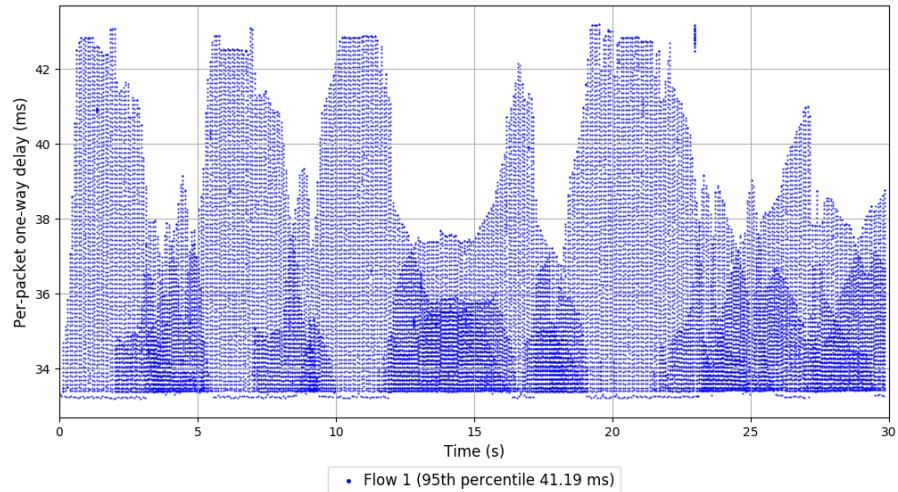
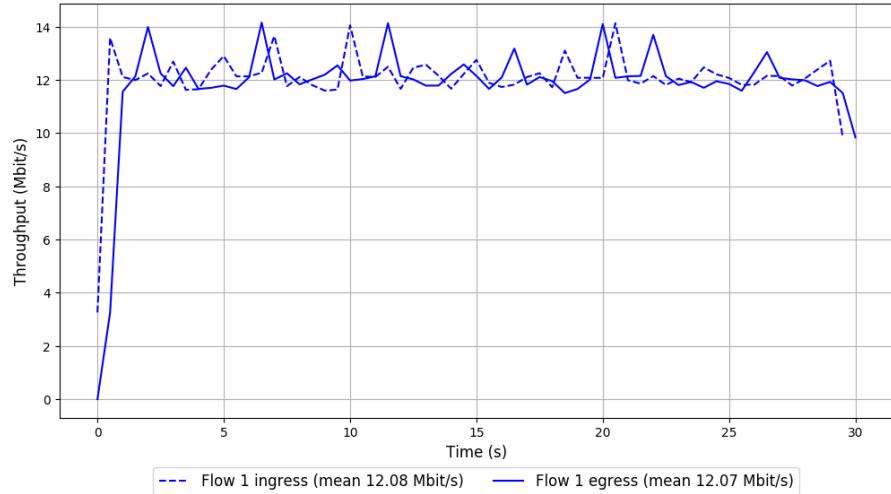


Run 3: Statistics of Sprout

```
Start at: 2019-01-03 05:40:07
End at: 2019-01-03 05:40:37
Local clock offset: 0.111 ms
Remote clock offset: -3.276 ms

# Below is generated by plot.py at 2019-01-03 06:51:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.07 Mbit/s
95th percentile per-packet one-way delay: 41.185 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 12.07 Mbit/s
95th percentile per-packet one-way delay: 41.185 ms
Loss rate: 0.27%
```

Run 3: Report of Sprout — Data Link

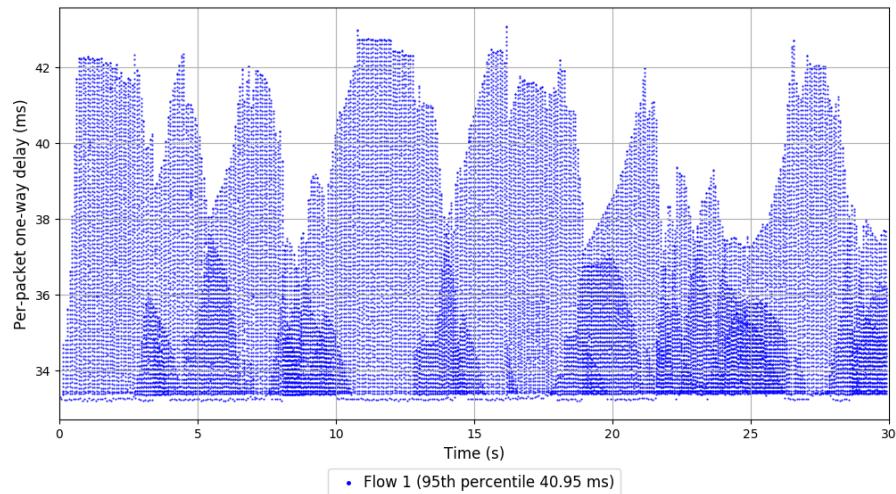
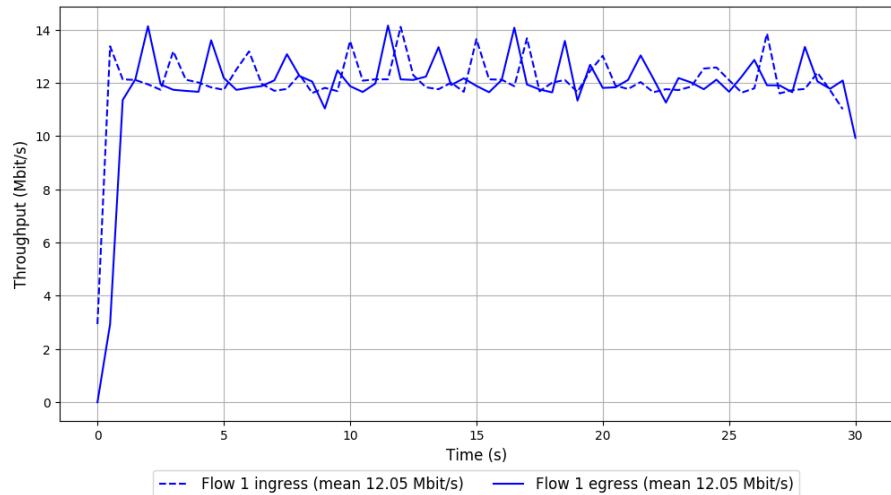


Run 4: Statistics of Sprout

```
Start at: 2019-01-03 06:03:13
End at: 2019-01-03 06:03:43
Local clock offset: 0.092 ms
Remote clock offset: -2.421 ms

# Below is generated by plot.py at 2019-01-03 06:51:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 40.954 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 40.954 ms
Loss rate: 0.18%
```

Run 4: Report of Sprout — Data Link

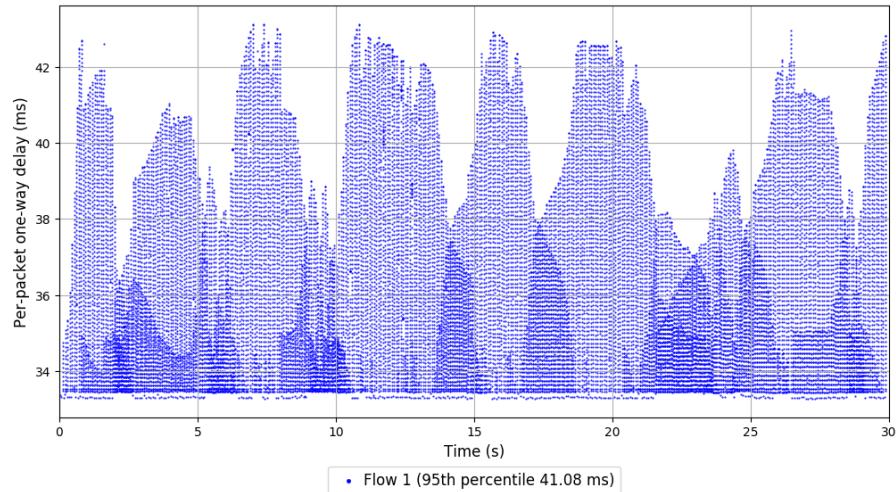
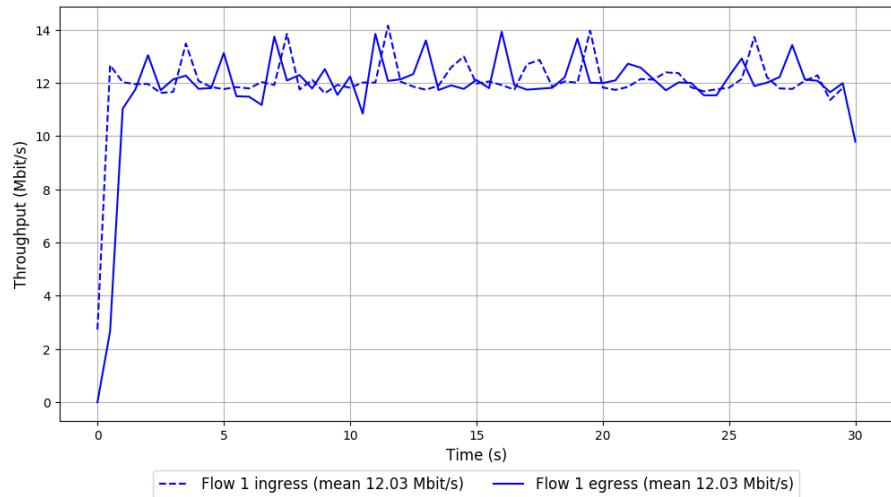


Run 5: Statistics of Sprout

```
Start at: 2019-01-03 06:25:27
End at: 2019-01-03 06:25:57
Local clock offset: 0.088 ms
Remote clock offset: -2.151 ms

# Below is generated by plot.py at 2019-01-03 06:51:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 41.075 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 41.075 ms
Loss rate: 0.28%
```

Run 5: Report of Sprout — Data Link

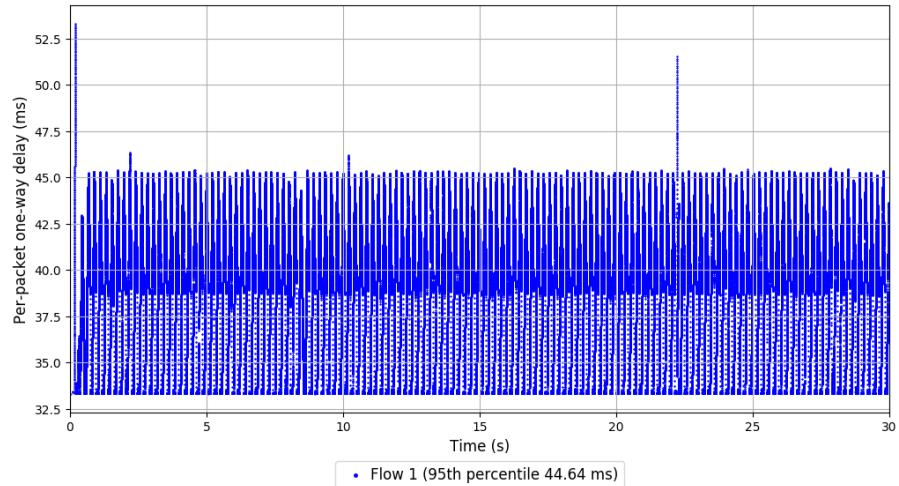
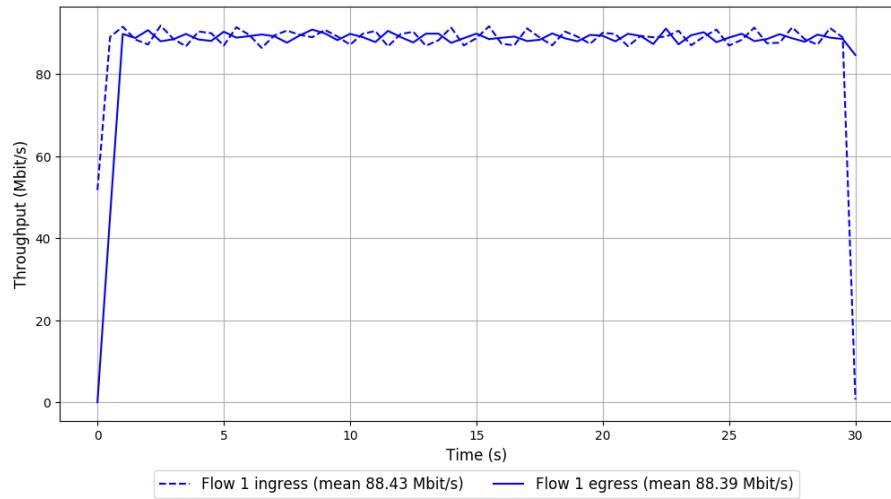


Run 1: Statistics of TaoVA-100x

```
Start at: 2019-01-03 05:02:11
End at: 2019-01-03 05:02:41
Local clock offset: 0.086 ms
Remote clock offset: -4.953 ms

# Below is generated by plot.py at 2019-01-03 06:52:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.39 Mbit/s
95th percentile per-packet one-way delay: 44.641 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 88.39 Mbit/s
95th percentile per-packet one-way delay: 44.641 ms
Loss rate: 0.25%
```

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

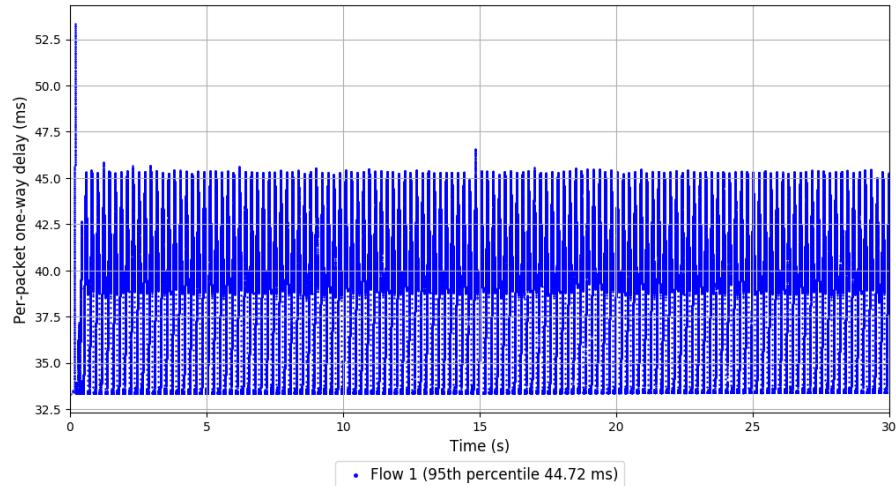
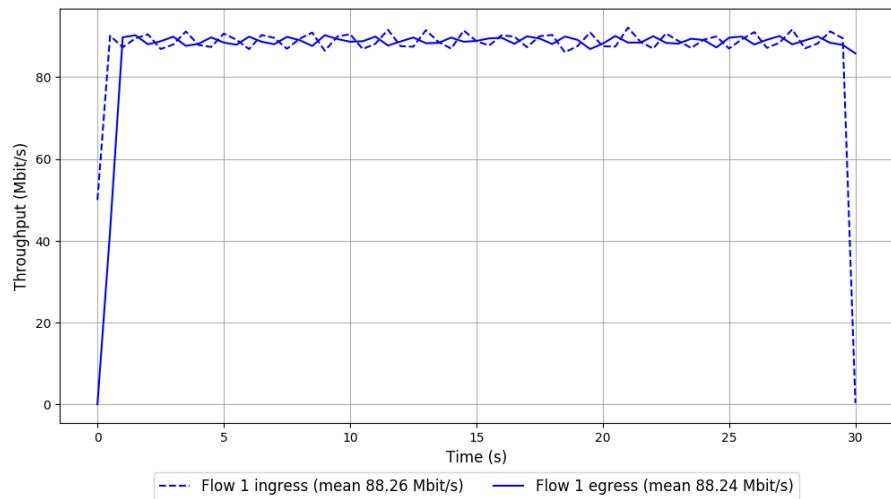


Run 2: Statistics of TaoVA-100x

```
Start at: 2019-01-03 05:25:00
End at: 2019-01-03 05:25:30
Local clock offset: 0.131 ms
Remote clock offset: -4.135 ms

# Below is generated by plot.py at 2019-01-03 06:53:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.24 Mbit/s
95th percentile per-packet one-way delay: 44.723 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 88.24 Mbit/s
95th percentile per-packet one-way delay: 44.723 ms
Loss rate: 0.24%
```

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

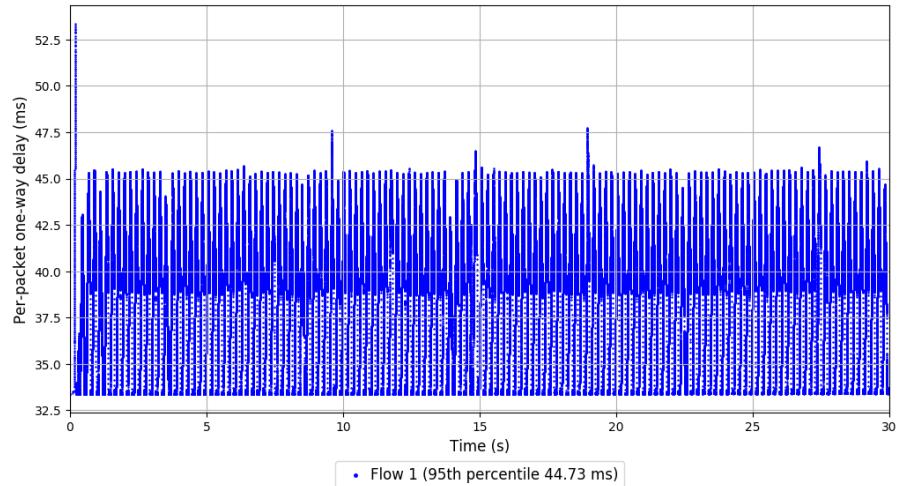
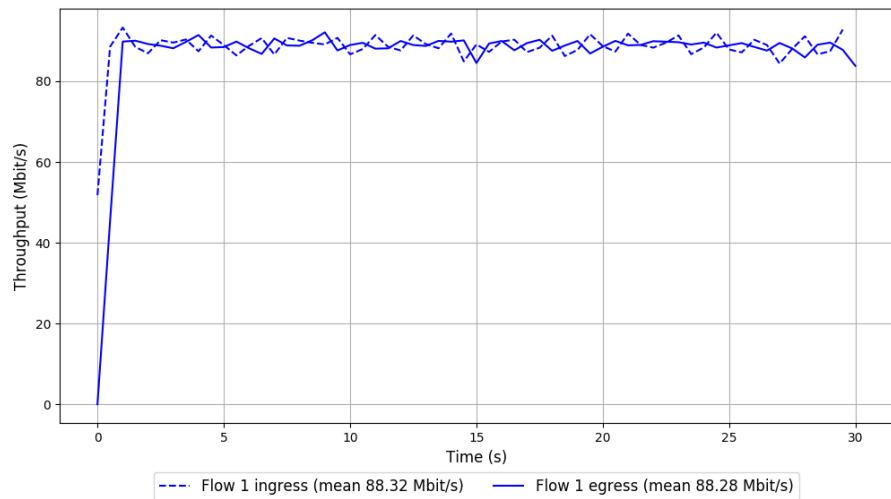


Run 3: Statistics of TaoVA-100x

```
Start at: 2019-01-03 05:48:47
End at: 2019-01-03 05:49:17
Local clock offset: 0.12 ms
Remote clock offset: -2.961 ms

# Below is generated by plot.py at 2019-01-03 06:53:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.28 Mbit/s
95th percentile per-packet one-way delay: 44.734 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 88.28 Mbit/s
95th percentile per-packet one-way delay: 44.734 ms
Loss rate: 0.26%
```

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

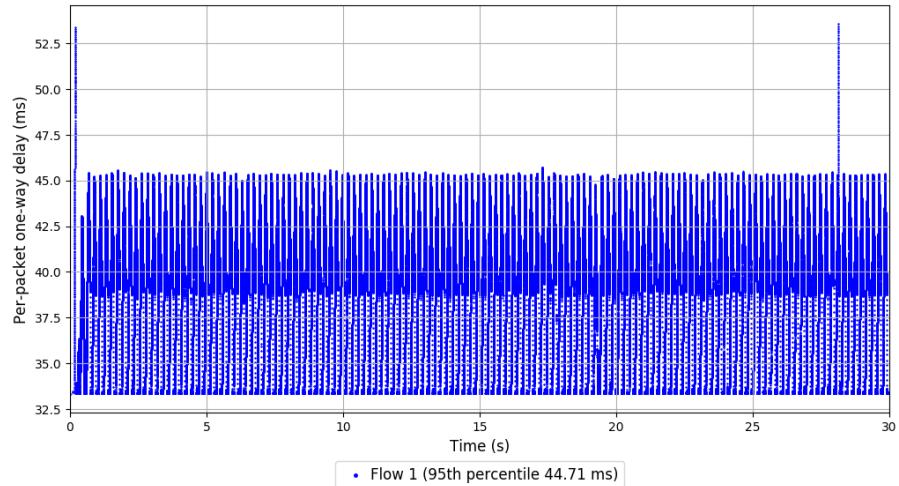
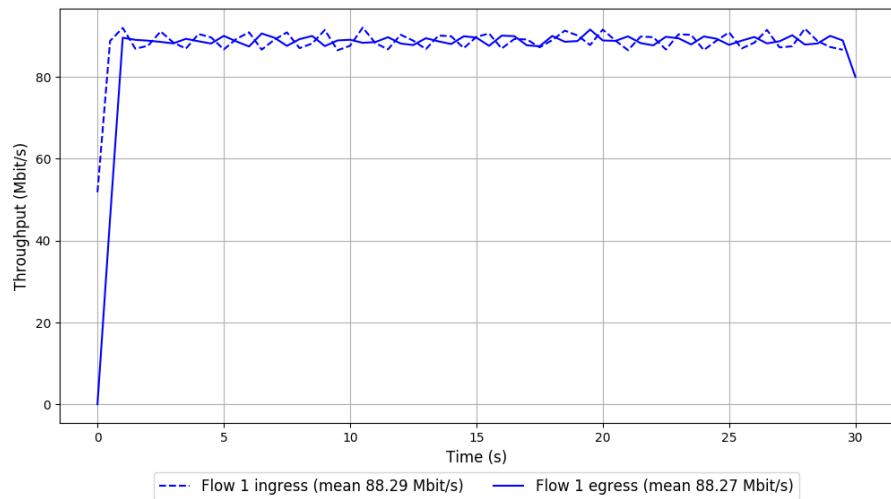


Run 4: Statistics of TaoVA-100x

```
Start at: 2019-01-03 06:11:29
End at: 2019-01-03 06:11:59
Local clock offset: 0.095 ms
Remote clock offset: -2.207 ms

# Below is generated by plot.py at 2019-01-03 06:53:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.27 Mbit/s
95th percentile per-packet one-way delay: 44.713 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 88.27 Mbit/s
95th percentile per-packet one-way delay: 44.713 ms
Loss rate: 0.23%
```

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

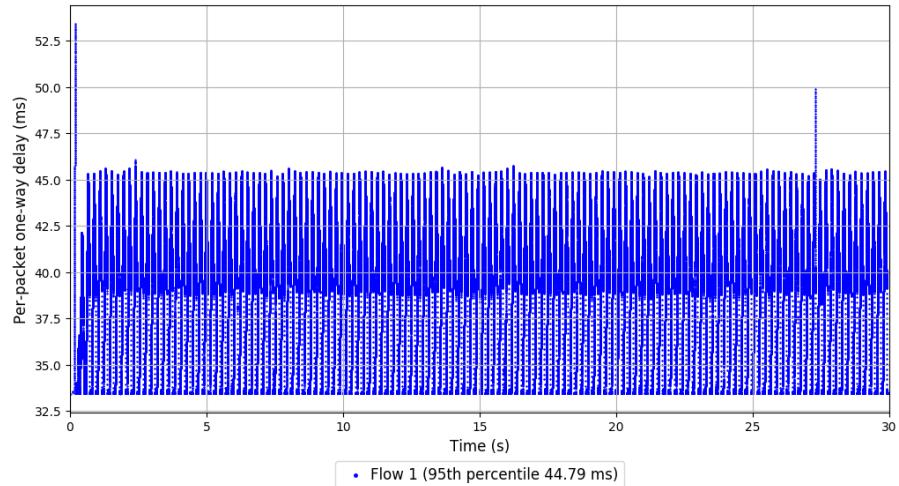
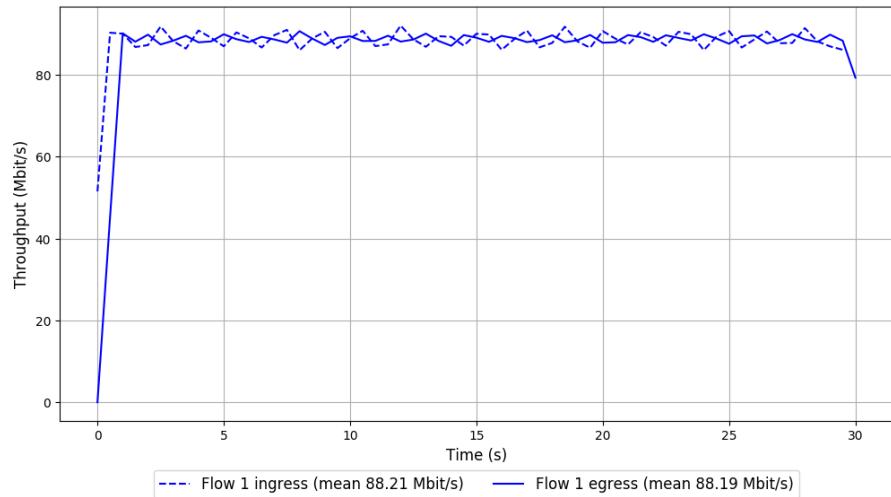


Run 5: Statistics of TaoVA-100x

```
Start at: 2019-01-03 06:33:48
End at: 2019-01-03 06:34:18
Local clock offset: 0.006 ms
Remote clock offset: -2.114 ms

# Below is generated by plot.py at 2019-01-03 06:53:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.19 Mbit/s
95th percentile per-packet one-way delay: 44.786 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 88.19 Mbit/s
95th percentile per-packet one-way delay: 44.786 ms
Loss rate: 0.23%
```

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

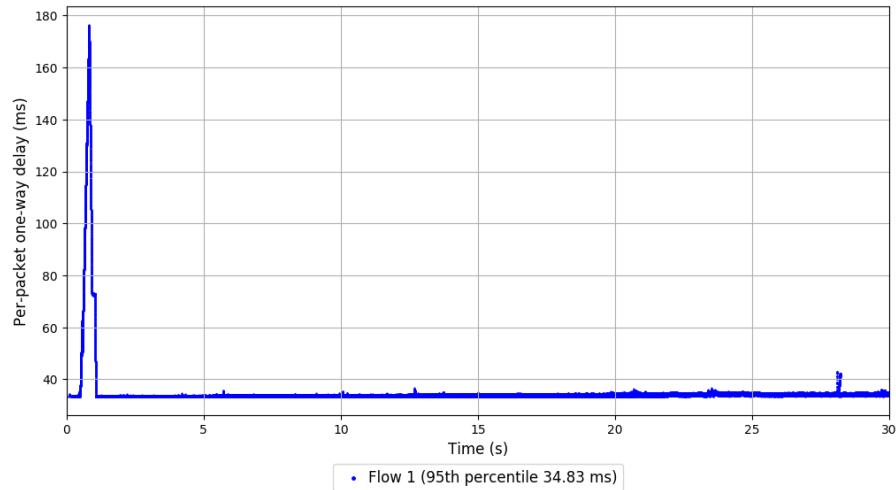
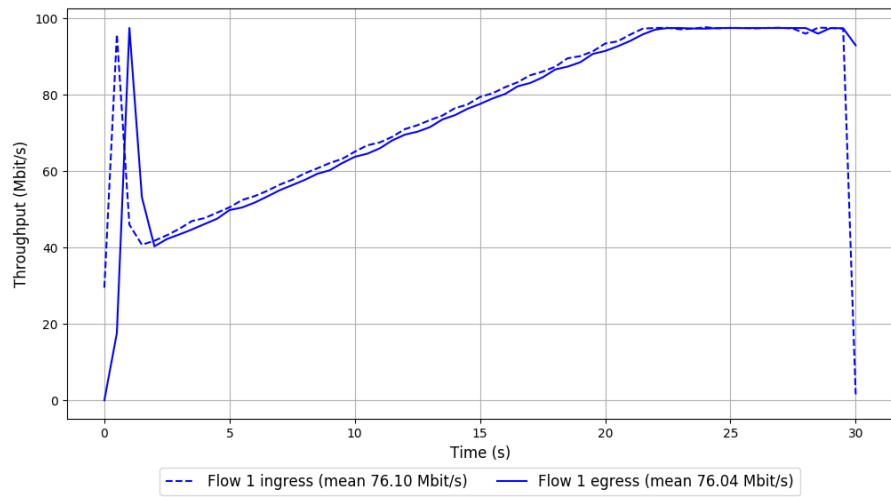


Run 1: Statistics of TCP Vegas

```
Start at: 2019-01-03 04:46:28
End at: 2019-01-03 04:46:58
Local clock offset: 0.053 ms
Remote clock offset: -5.191 ms

# Below is generated by plot.py at 2019-01-03 06:53:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.04 Mbit/s
95th percentile per-packet one-way delay: 34.830 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 76.04 Mbit/s
95th percentile per-packet one-way delay: 34.830 ms
Loss rate: 0.28%
```

Run 1: Report of TCP Vegas — Data Link

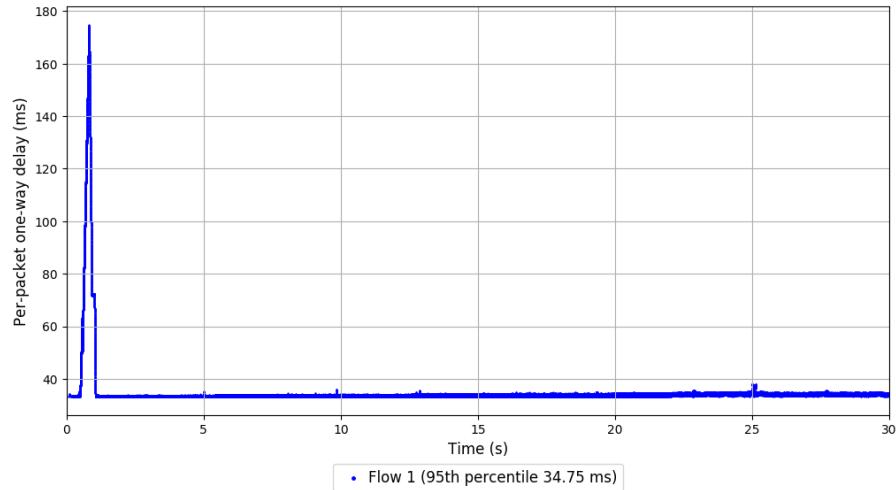
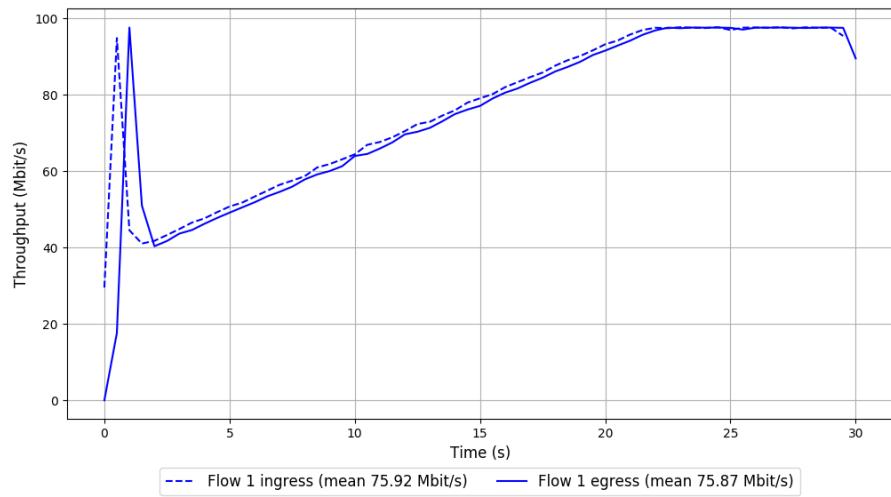


Run 2: Statistics of TCP Vegas

```
Start at: 2019-01-03 05:09:34
End at: 2019-01-03 05:10:04
Local clock offset: 0.116 ms
Remote clock offset: -4.75 ms

# Below is generated by plot.py at 2019-01-03 06:53:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.87 Mbit/s
95th percentile per-packet one-way delay: 34.752 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 75.87 Mbit/s
95th percentile per-packet one-way delay: 34.752 ms
Loss rate: 0.29%
```

Run 2: Report of TCP Vegas — Data Link

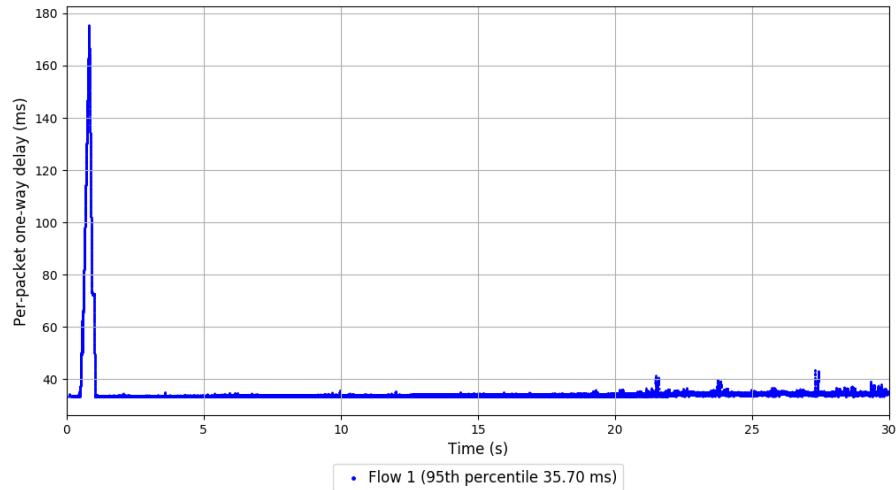
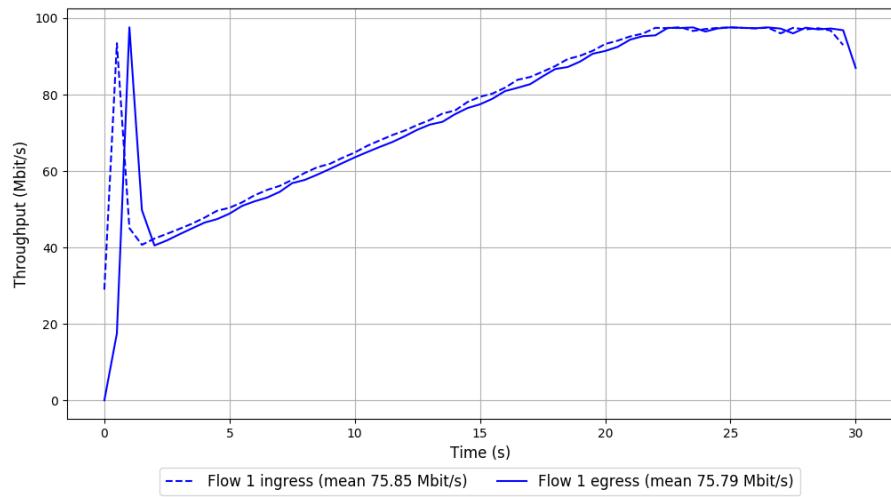


Run 3: Statistics of TCP Vegas

```
Start at: 2019-01-03 05:32:25
End at: 2019-01-03 05:32:55
Local clock offset: 0.128 ms
Remote clock offset: -3.662 ms

# Below is generated by plot.py at 2019-01-03 06:53:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.79 Mbit/s
95th percentile per-packet one-way delay: 35.698 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 75.79 Mbit/s
95th percentile per-packet one-way delay: 35.698 ms
Loss rate: 0.29%
```

Run 3: Report of TCP Vegas — Data Link

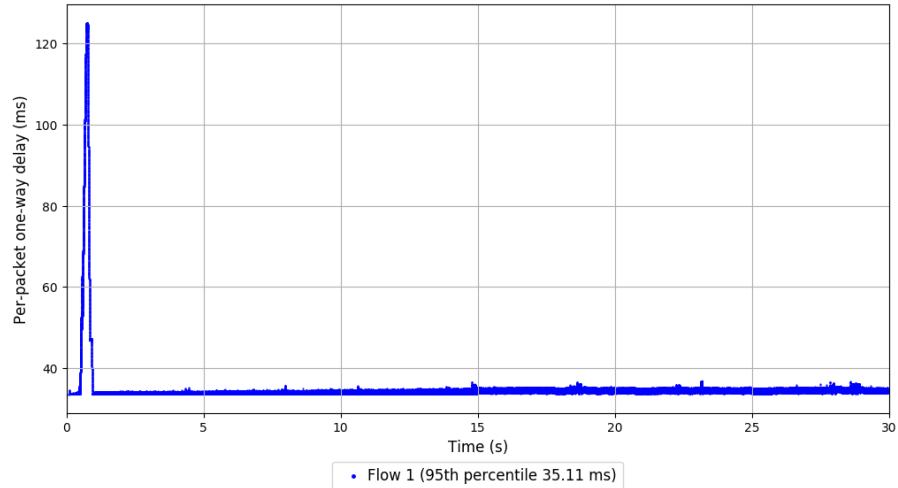
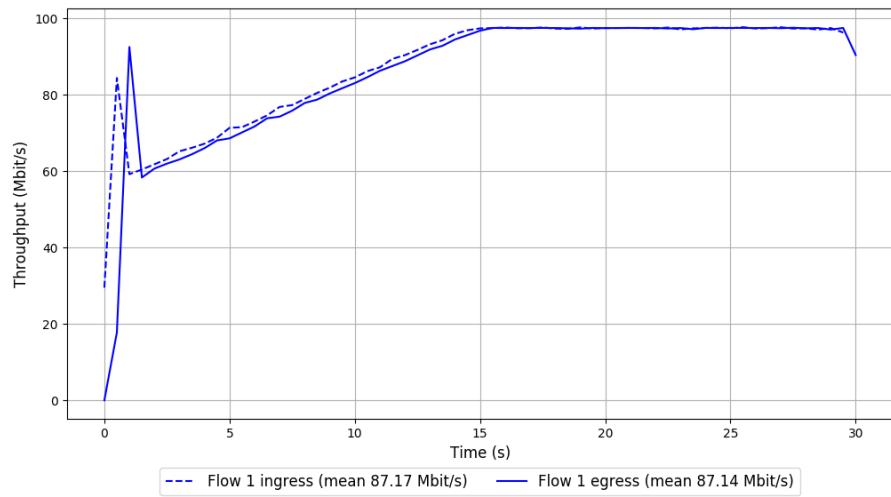


Run 4: Statistics of TCP Vegas

```
Start at: 2019-01-03 05:56:09
End at: 2019-01-03 05:56:39
Local clock offset: 0.108 ms
Remote clock offset: -2.925 ms

# Below is generated by plot.py at 2019-01-03 06:53:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.14 Mbit/s
95th percentile per-packet one-way delay: 35.106 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 87.14 Mbit/s
95th percentile per-packet one-way delay: 35.106 ms
Loss rate: 0.24%
```

Run 4: Report of TCP Vegas — Data Link

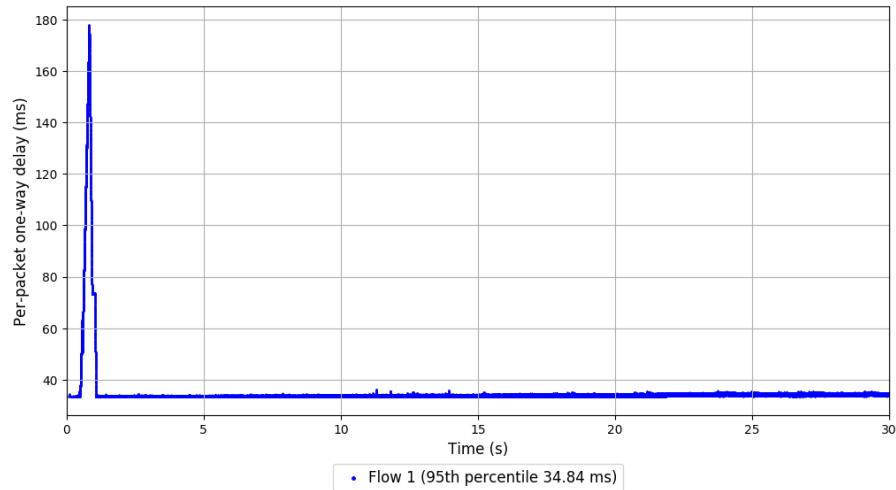
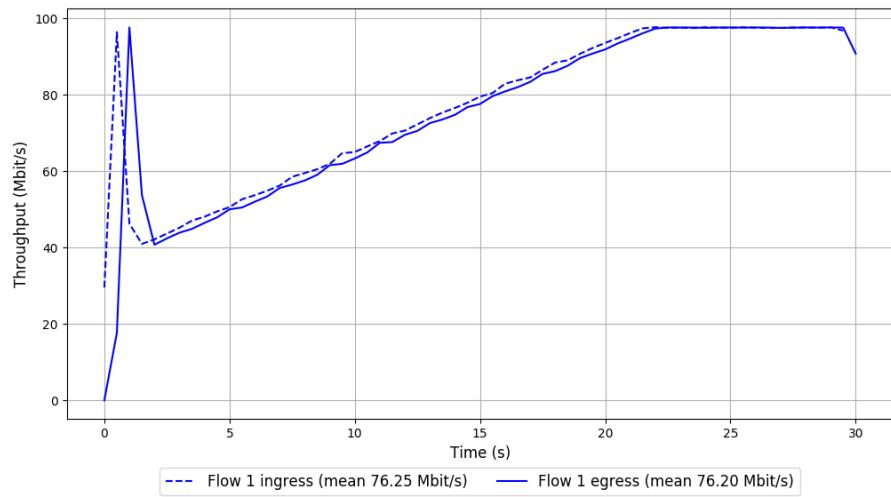


Run 5: Statistics of TCP Vegas

```
Start at: 2019-01-03 06:18:31
End at: 2019-01-03 06:19:01
Local clock offset: 0.095 ms
Remote clock offset: -2.174 ms

# Below is generated by plot.py at 2019-01-03 06:53:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.20 Mbit/s
95th percentile per-packet one-way delay: 34.840 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 76.20 Mbit/s
95th percentile per-packet one-way delay: 34.840 ms
Loss rate: 0.28%
```

Run 5: Report of TCP Vegas — Data Link

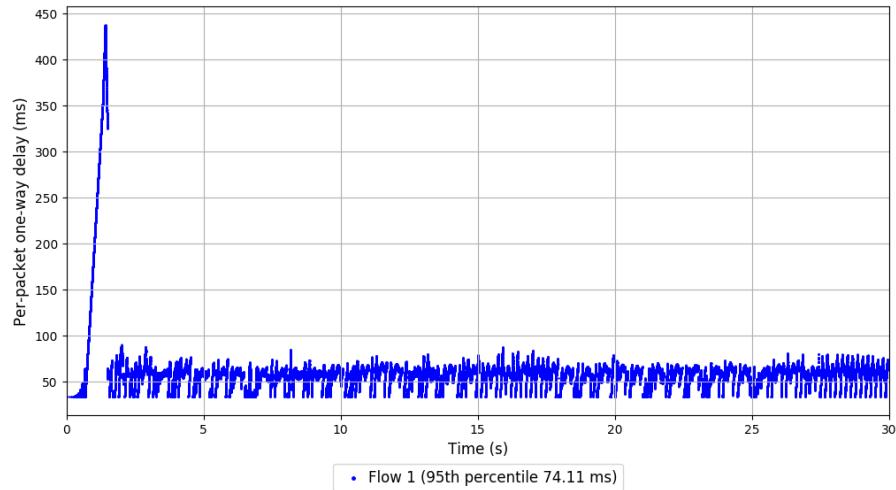
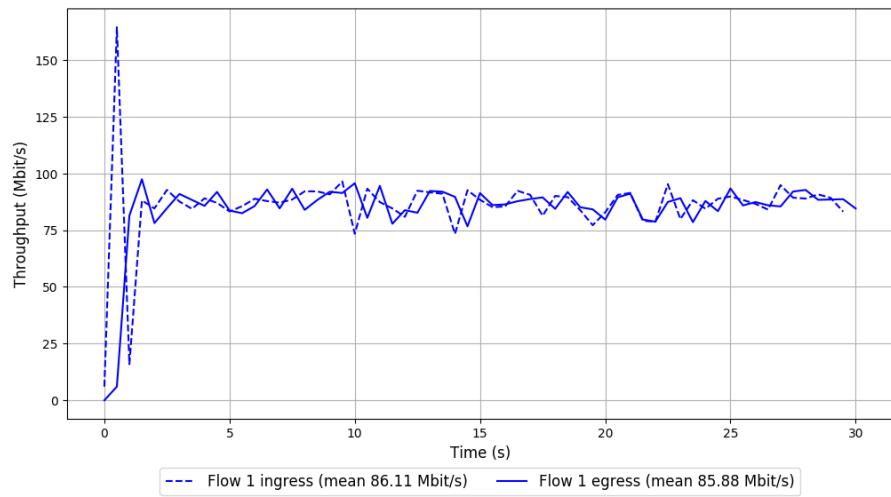


Run 1: Statistics of Verus

```
Start at: 2019-01-03 04:58:35
End at: 2019-01-03 04:59:06
Local clock offset: 0.065 ms
Remote clock offset: -5.249 ms

# Below is generated by plot.py at 2019-01-03 06:53:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 74.106 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 74.106 ms
Loss rate: 0.39%
```

Run 1: Report of Verus — Data Link

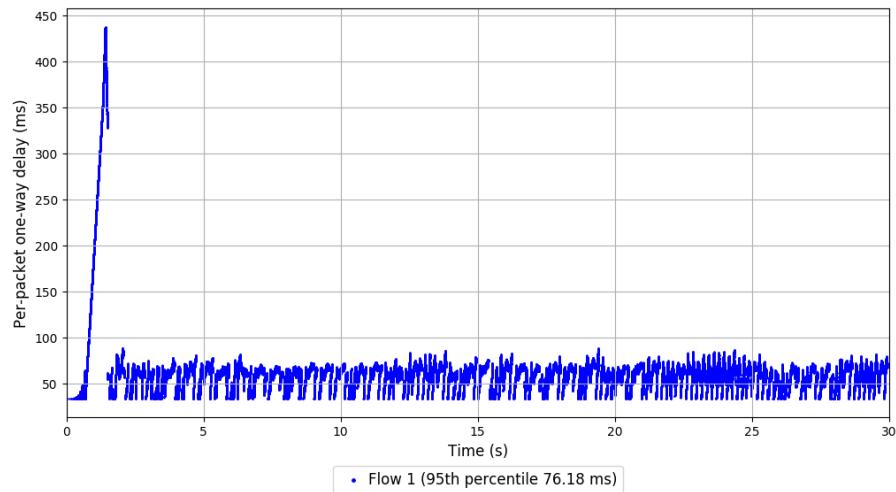
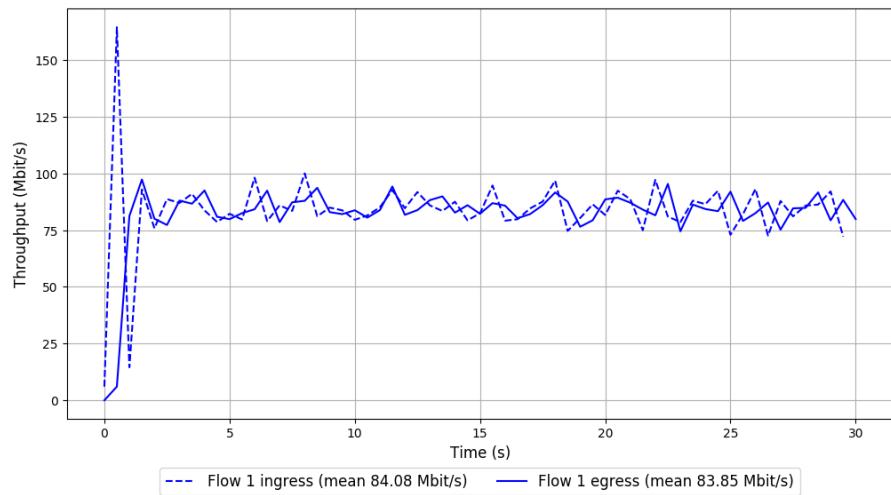


Run 2: Statistics of Verus

```
Start at: 2019-01-03 05:21:19
End at: 2019-01-03 05:21:49
Local clock offset: 0.13 ms
Remote clock offset: -4.33 ms

# Below is generated by plot.py at 2019-01-03 06:53:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.85 Mbit/s
95th percentile per-packet one-way delay: 76.182 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 83.85 Mbit/s
95th percentile per-packet one-way delay: 76.182 ms
Loss rate: 0.25%
```

Run 2: Report of Verus — Data Link

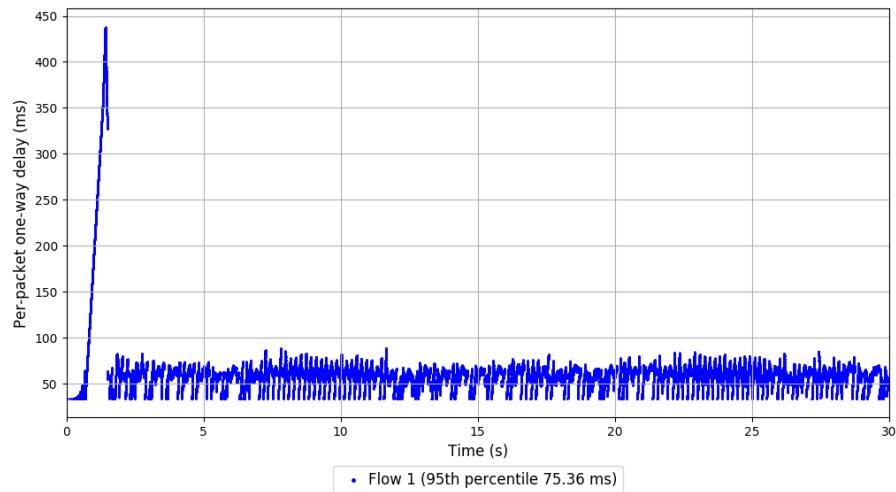
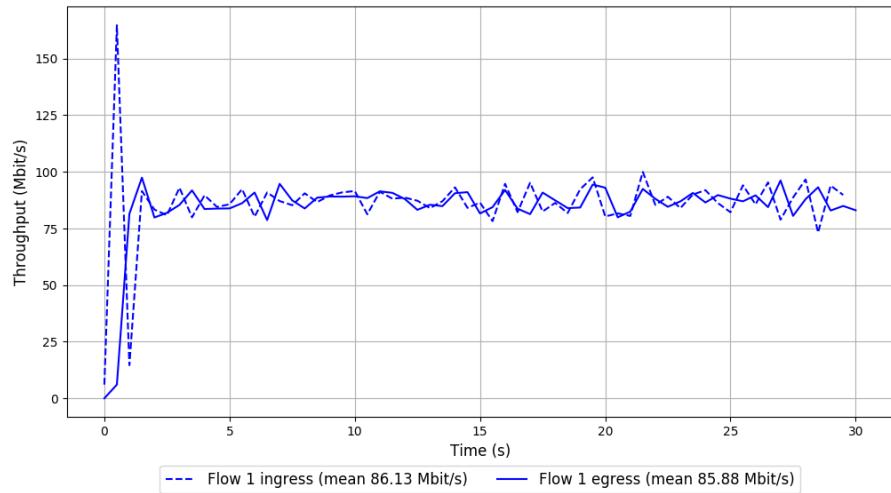


Run 3: Statistics of Verus

```
Start at: 2019-01-03 05:45:08
End at: 2019-01-03 05:45:38
Local clock offset: 0.113 ms
Remote clock offset: -3.083 ms

# Below is generated by plot.py at 2019-01-03 06:53:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 75.361 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 85.88 Mbit/s
95th percentile per-packet one-way delay: 75.361 ms
Loss rate: 0.49%
```

Run 3: Report of Verus — Data Link

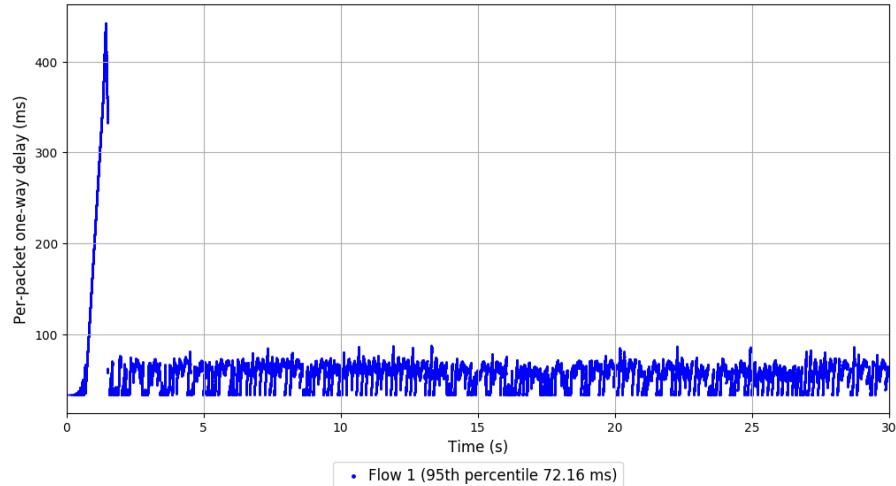
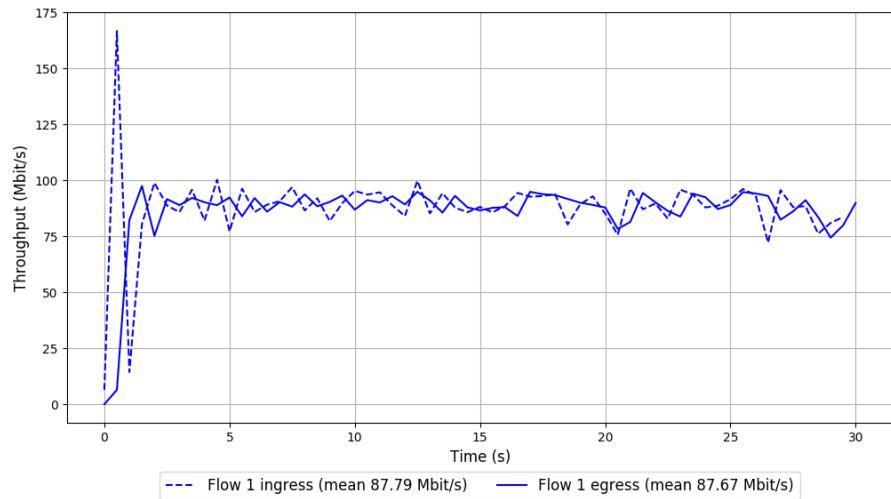


Run 4: Statistics of Verus

```
Start at: 2019-01-03 06:07:53
End at: 2019-01-03 06:08:23
Local clock offset: 0.103 ms
Remote clock offset: -2.346 ms

# Below is generated by plot.py at 2019-01-03 06:54:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.67 Mbit/s
95th percentile per-packet one-way delay: 72.160 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 87.67 Mbit/s
95th percentile per-packet one-way delay: 72.160 ms
Loss rate: 0.27%
```

Run 4: Report of Verus — Data Link

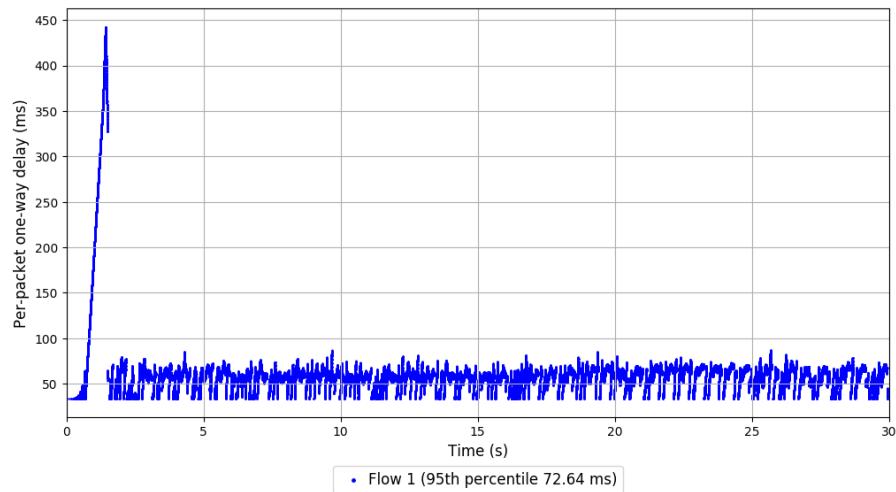
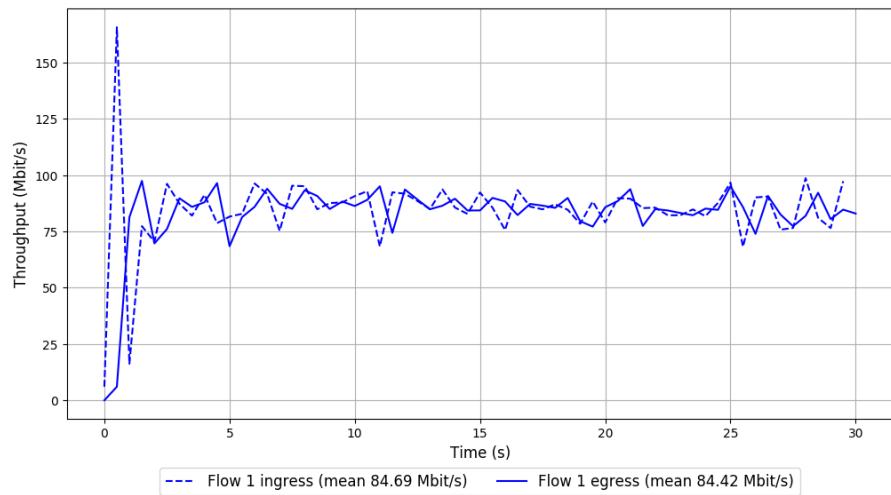


Run 5: Statistics of Verus

```
Start at: 2019-01-03 06:30:12
End at: 2019-01-03 06:30:42
Local clock offset: 0.022 ms
Remote clock offset: -2.158 ms

# Below is generated by plot.py at 2019-01-03 06:54:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.42 Mbit/s
95th percentile per-packet one-way delay: 72.636 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 84.42 Mbit/s
95th percentile per-packet one-way delay: 72.636 ms
Loss rate: 0.51%
```

Run 5: Report of Verus — Data Link

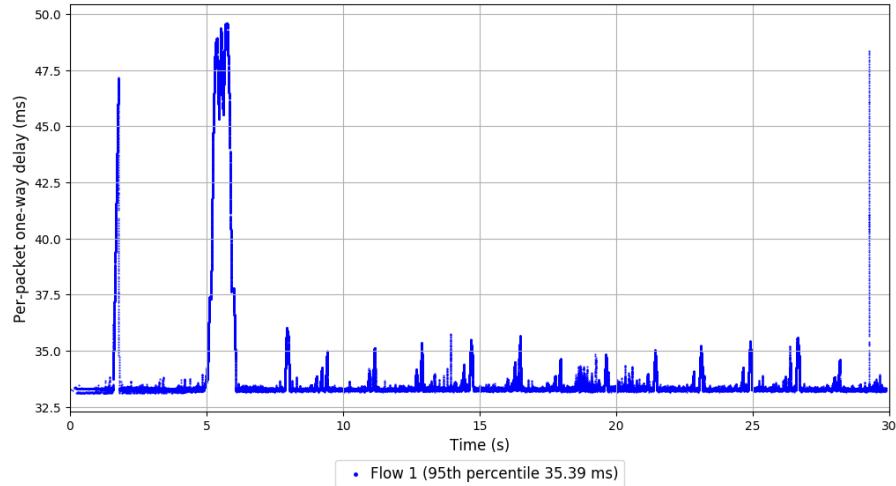
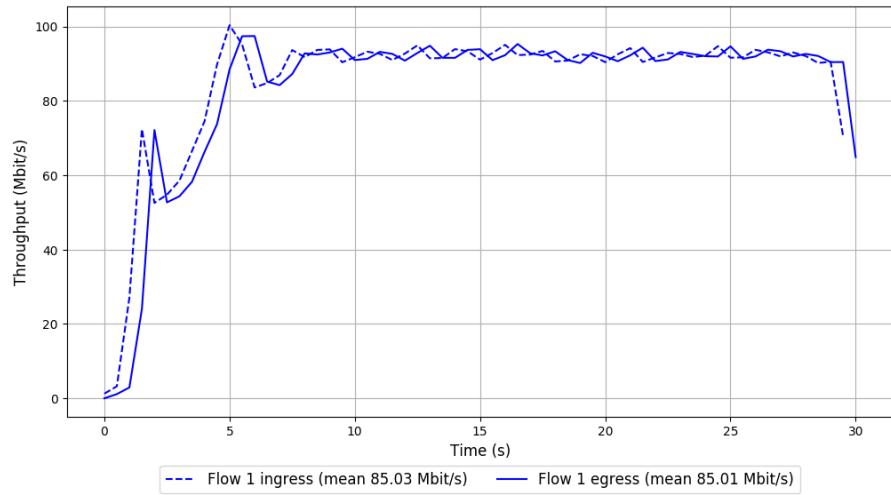


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2019-01-03 04:51:13
End at: 2019-01-03 04:51:43
Local clock offset: 0.028 ms
Remote clock offset: -5.145 ms

# Below is generated by plot.py at 2019-01-03 06:54:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.01 Mbit/s
95th percentile per-packet one-way delay: 35.394 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 85.01 Mbit/s
95th percentile per-packet one-way delay: 35.394 ms
Loss rate: 0.24%
```

Run 1: Report of PCC-Vivace — Data Link

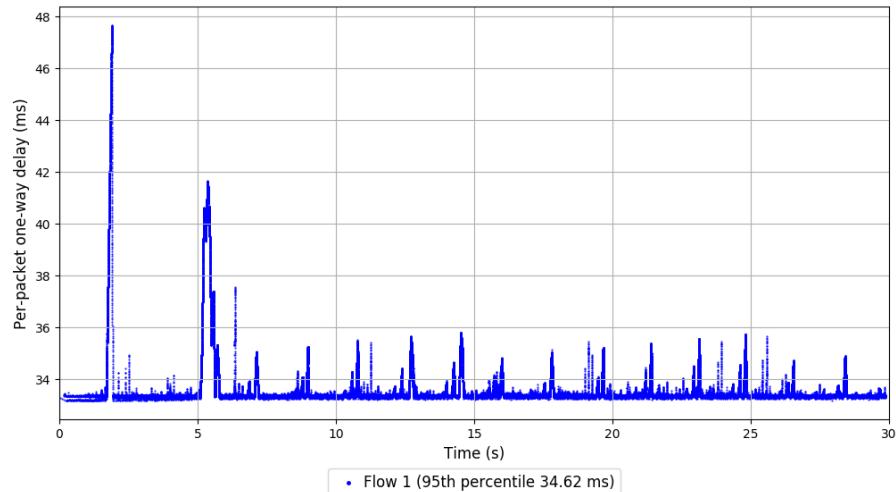
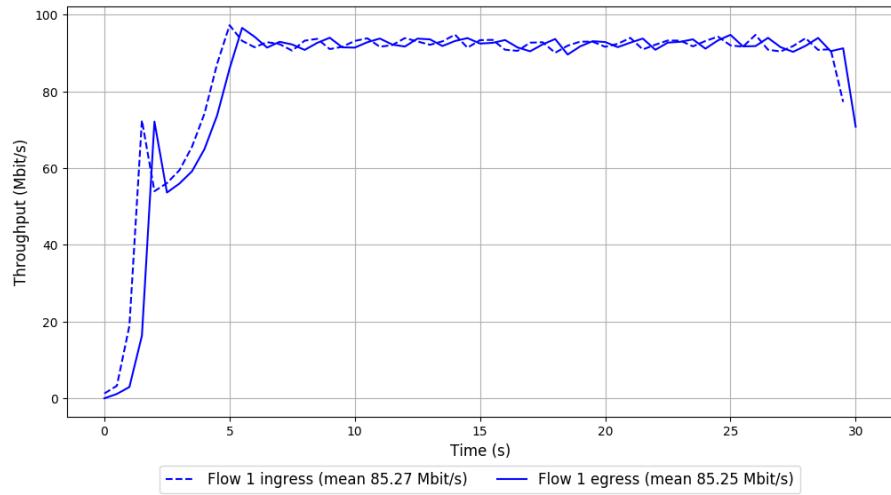


Run 2: Statistics of PCC-Vivace

```
Start at: 2019-01-03 05:14:19
End at: 2019-01-03 05:14:49
Local clock offset: 0.108 ms
Remote clock offset: -4.603 ms

# Below is generated by plot.py at 2019-01-03 06:54:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.25 Mbit/s
95th percentile per-packet one-way delay: 34.620 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 85.25 Mbit/s
95th percentile per-packet one-way delay: 34.620 ms
Loss rate: 0.25%
```

Run 2: Report of PCC-Vivace — Data Link

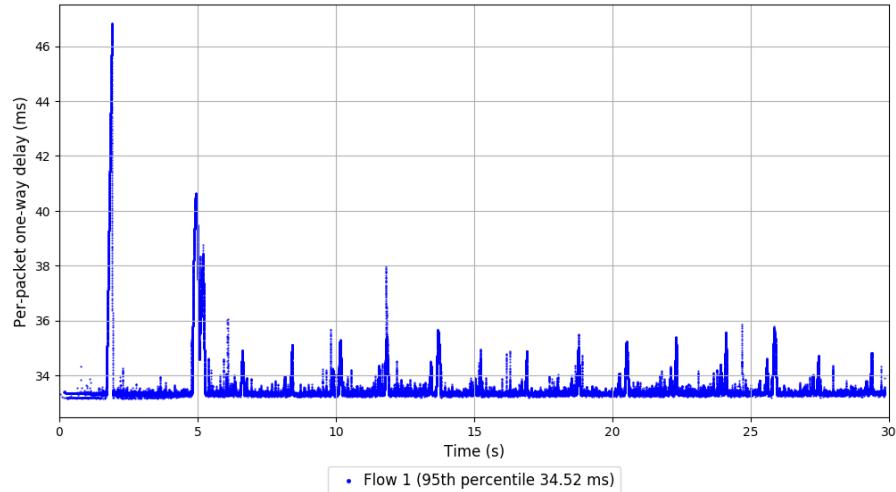
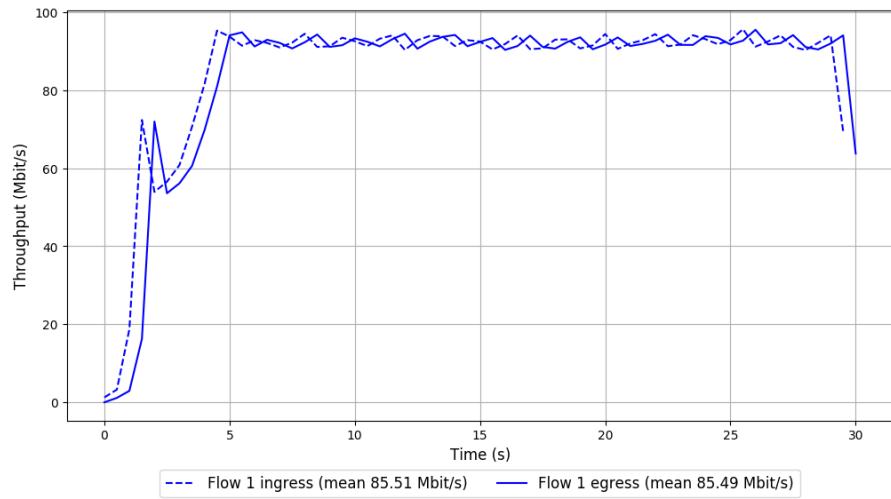


Run 3: Statistics of PCC-Vivace

```
Start at: 2019-01-03 05:37:32
End at: 2019-01-03 05:38:02
Local clock offset: 0.112 ms
Remote clock offset: -3.399 ms

# Below is generated by plot.py at 2019-01-03 06:54:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.49 Mbit/s
95th percentile per-packet one-way delay: 34.523 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 85.49 Mbit/s
95th percentile per-packet one-way delay: 34.523 ms
Loss rate: 0.23%
```

Run 3: Report of PCC-Vivace — Data Link

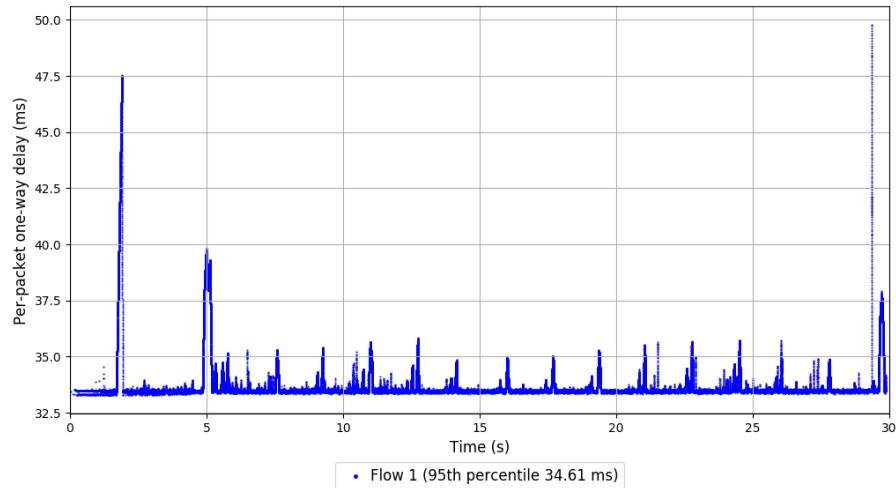
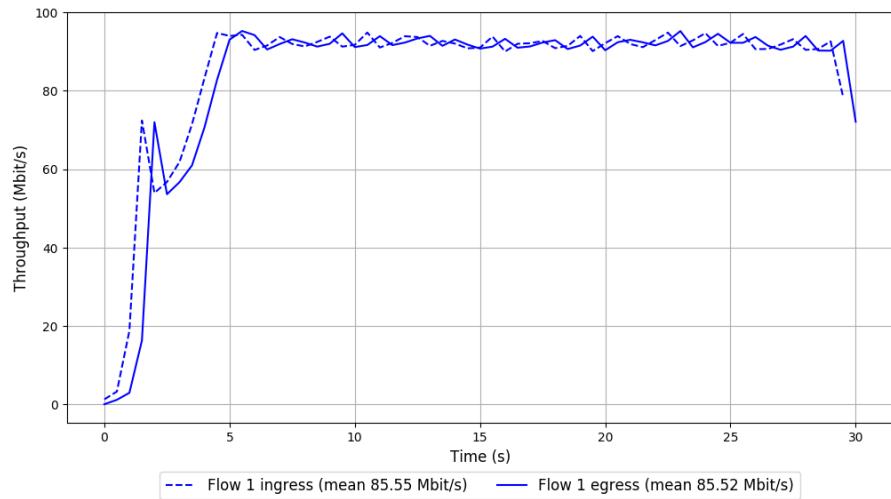


Run 4: Statistics of PCC-Vivace

```
Start at: 2019-01-03 06:00:52
End at: 2019-01-03 06:01:22
Local clock offset: 0.105 ms
Remote clock offset: -2.561 ms

# Below is generated by plot.py at 2019-01-03 06:54:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.52 Mbit/s
95th percentile per-packet one-way delay: 34.612 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 85.52 Mbit/s
95th percentile per-packet one-way delay: 34.612 ms
Loss rate: 0.24%
```

Run 4: Report of PCC-Vivace — Data Link

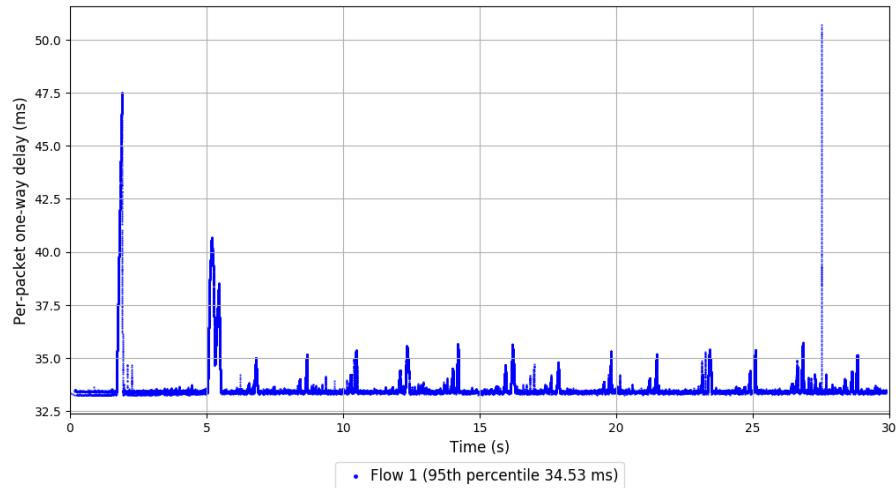
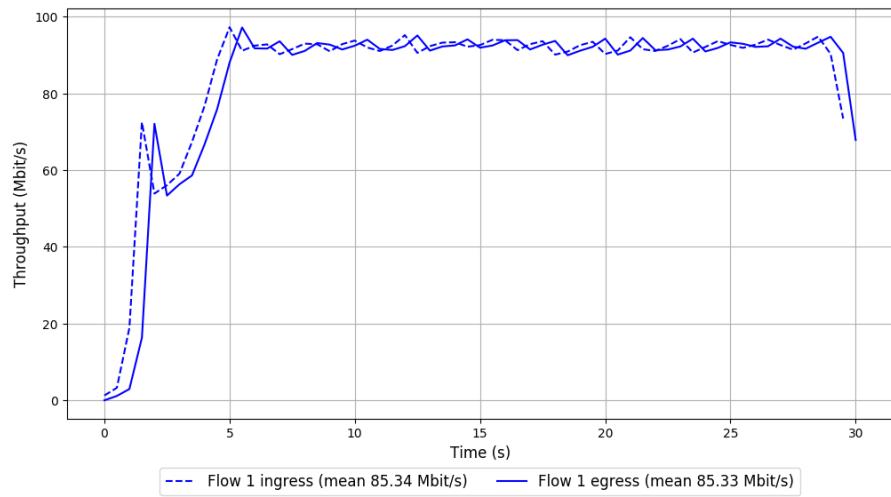


Run 5: Statistics of PCC-Vivace

```
Start at: 2019-01-03 06:23:07
End at: 2019-01-03 06:23:37
Local clock offset: 0.079 ms
Remote clock offset: -2.087 ms

# Below is generated by plot.py at 2019-01-03 06:54:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.33 Mbit/s
95th percentile per-packet one-way delay: 34.530 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 85.33 Mbit/s
95th percentile per-packet one-way delay: 34.530 ms
Loss rate: 0.22%
```

Run 5: Report of PCC-Vivace — Data Link

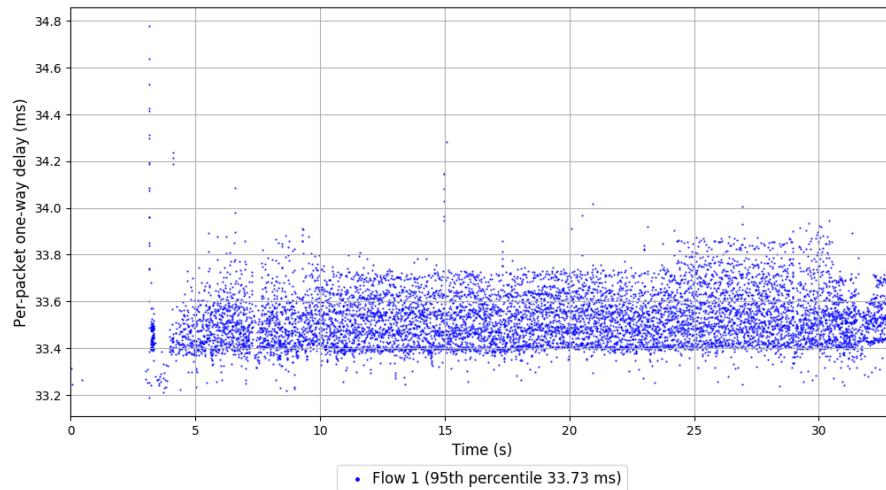
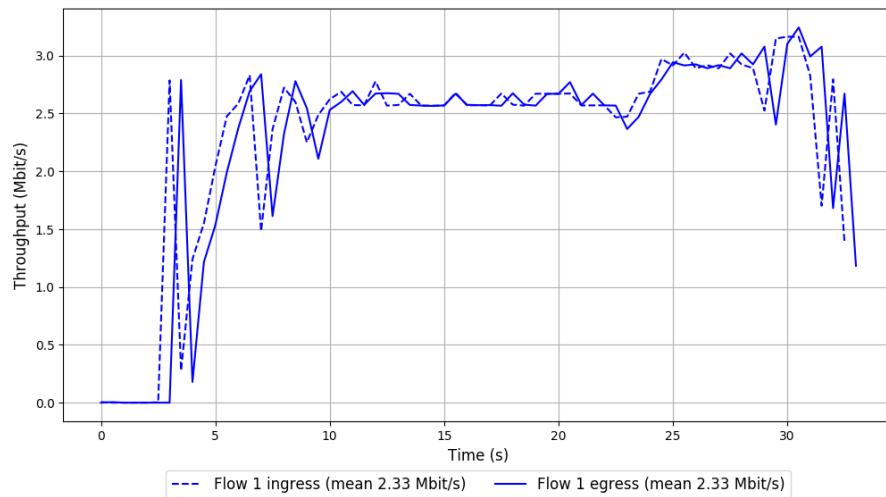


```
Run 1: Statistics of WebRTC media
```

```
Start at: 2019-01-03 05:04:44
End at: 2019-01-03 05:05:14
Local clock offset: 0.098 ms
Remote clock offset: -4.916 ms

# Below is generated by plot.py at 2019-01-03 06:54:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 33.727 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 2.33 Mbit/s
95th percentile per-packet one-way delay: 33.727 ms
Loss rate: 0.26%
```

Run 1: Report of WebRTC media — Data Link

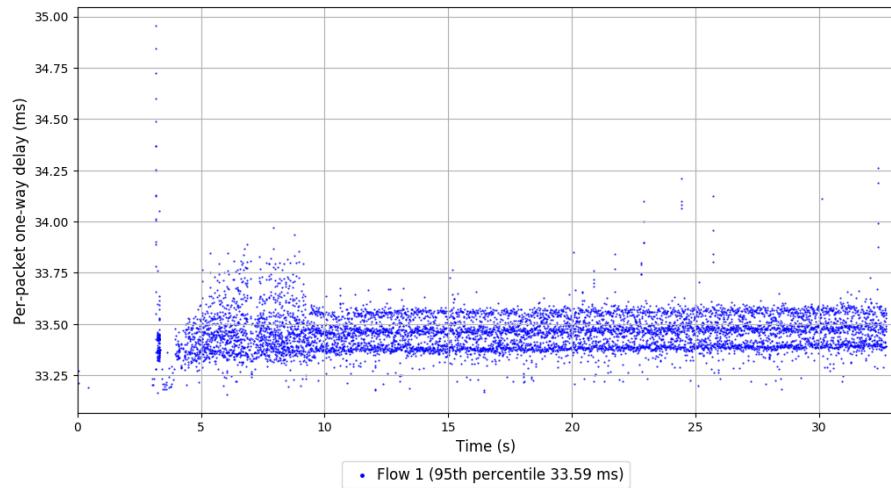
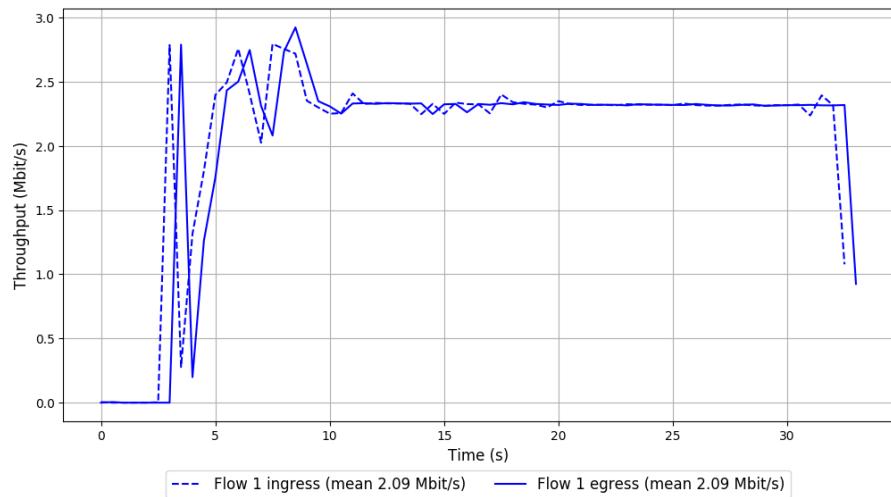


Run 2: Statistics of WebRTC media

```
Start at: 2019-01-03 05:27:33
End at: 2019-01-03 05:28:03
Local clock offset: 0.112 ms
Remote clock offset: -3.99 ms

# Below is generated by plot.py at 2019-01-03 06:54:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 33.589 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 33.589 ms
Loss rate: 0.22%
```

Run 2: Report of WebRTC media — Data Link

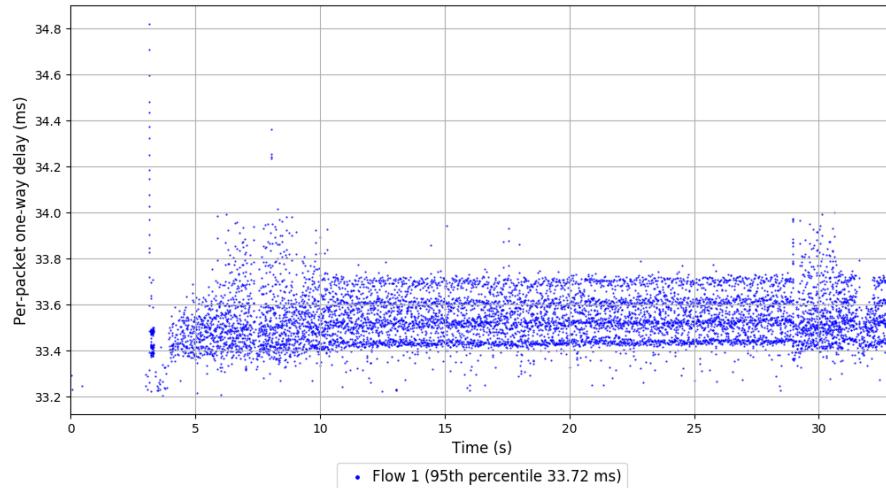
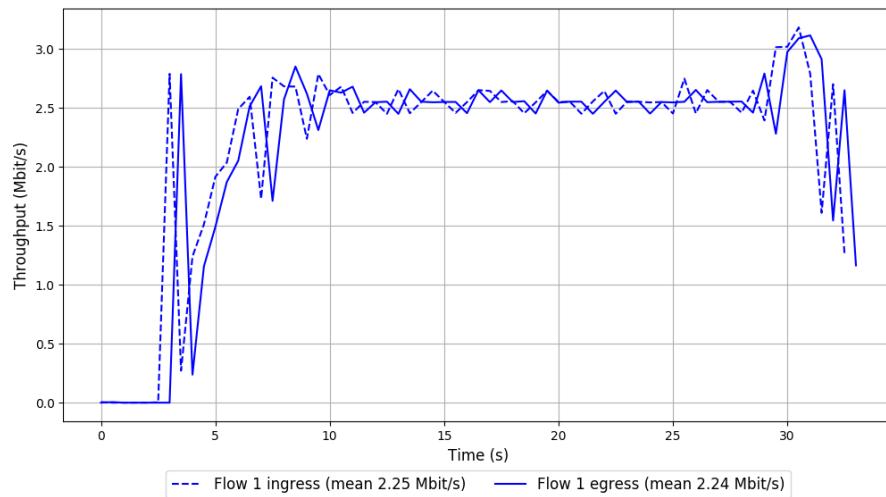


Run 3: Statistics of WebRTC media

```
Start at: 2019-01-03 05:51:24
End at: 2019-01-03 05:51:54
Local clock offset: 0.103 ms
Remote clock offset: -2.842 ms

# Below is generated by plot.py at 2019-01-03 06:54:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 33.716 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 33.716 ms
Loss rate: 0.20%
```

Run 3: Report of WebRTC media — Data Link

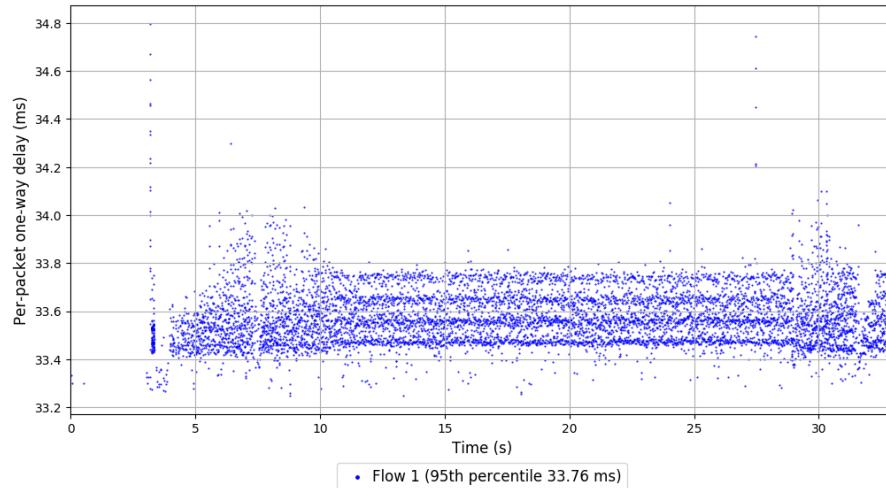
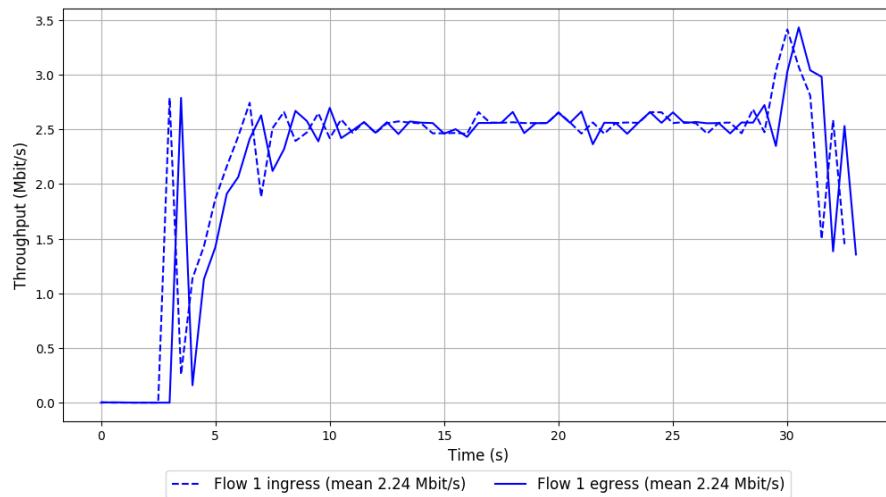


Run 4: Statistics of WebRTC media

```
Start at: 2019-01-03 06:13:54
End at: 2019-01-03 06:14:24
Local clock offset: 0.088 ms
Remote clock offset: -2.175 ms

# Below is generated by plot.py at 2019-01-03 06:54:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 33.757 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 33.757 ms
Loss rate: 0.20%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2019-01-03 06:36:15
End at: 2019-01-03 06:36:45
Local clock offset: -0.011 ms
Remote clock offset: -2.044 ms

# Below is generated by plot.py at 2019-01-03 06:54:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 33.728 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 33.728 ms
Loss rate: 0.26%
```

Run 5: Report of WebRTC media — Data Link

