

Pantheon Report

Generated at 2018-12-11 17:48:29 (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.

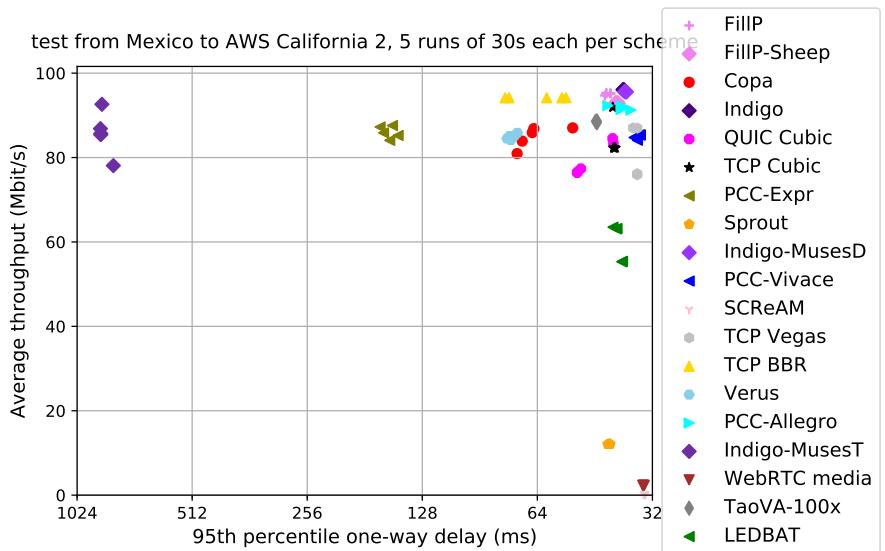
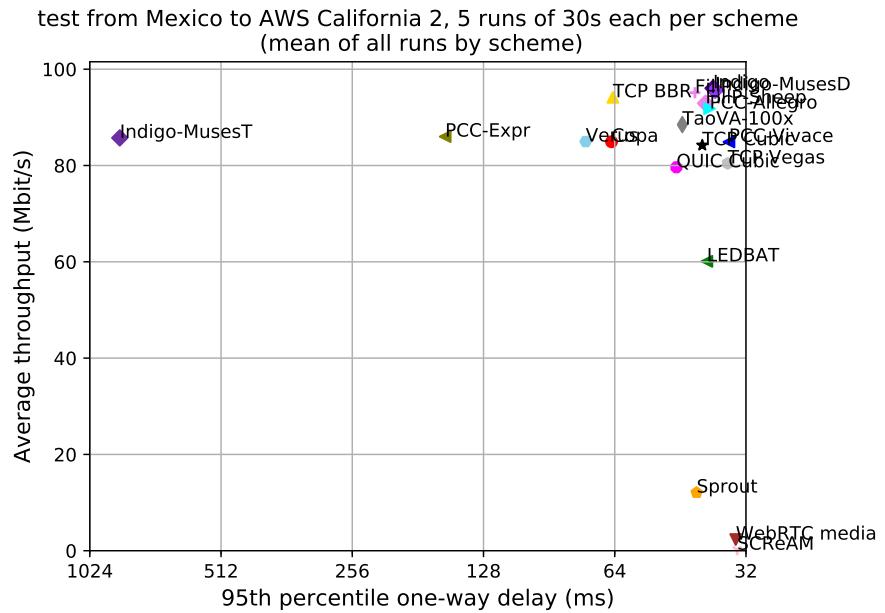
System info:

```
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



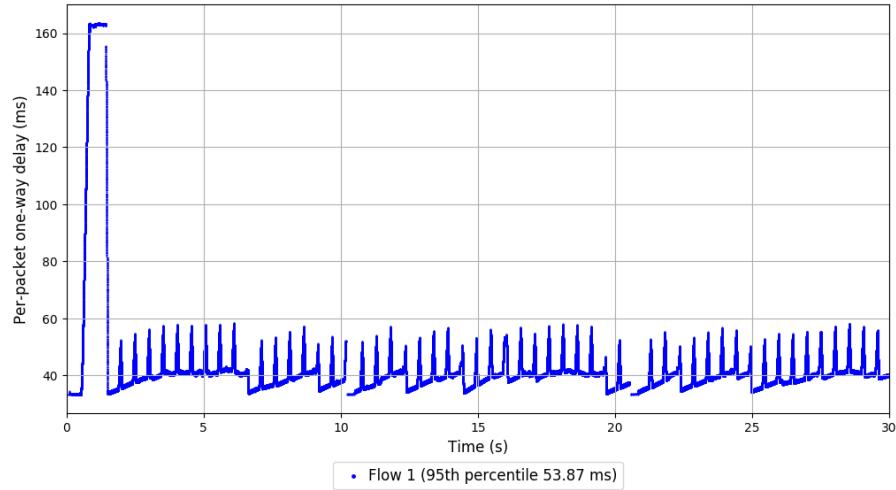
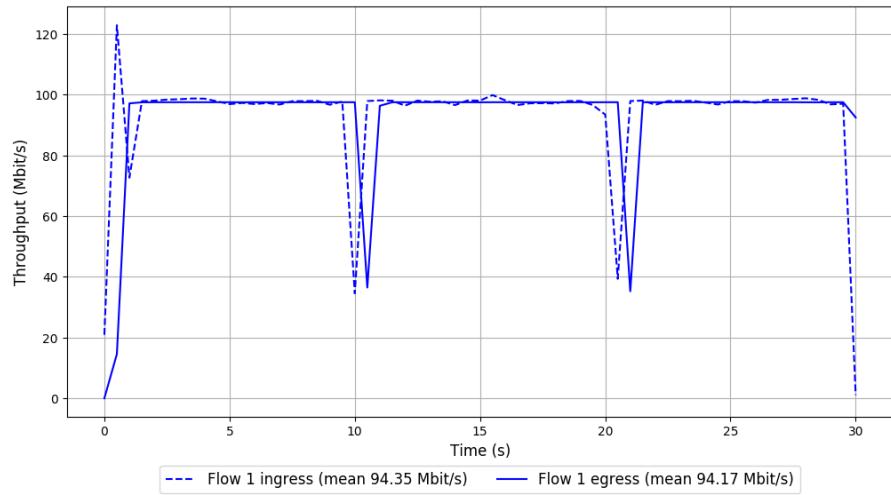
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	94.17	64.63	0.64
Copa	5	84.93	65.10	0.28
TCP Cubic	5	84.21	40.31	0.25
FillP	5	95.11	41.91	0.23
FillP-Sheep	5	92.92	39.64	0.23
Indigo	5	96.05	38.09	0.23
Indigo-MusesD	5	95.62	37.64	0.23
Indigo-MusesT	5	85.73	874.10	3.09
LEDBAT	5	60.09	39.35	0.25
PCC-Allegro	5	91.81	38.78	0.23
PCC-Expr	5	86.00	156.75	0.32
QUIC Cubic	5	79.63	46.22	0.20
SCReAM	5	0.21	33.52	0.26
Sprout	5	12.07	41.53	0.26
TaoVA-100x	5	88.49	44.79	0.25
TCP Vegas	5	80.42	35.24	0.27
Verus	5	84.97	74.62	0.43
PCC-Vivace	5	84.90	35.02	0.24
WebRTC media	5	2.31	33.78	0.24

Run 1: Statistics of TCP BBR

```
Start at: 2018-12-11 16:03:10
End at: 2018-12-11 16:03:40
Local clock offset: 4.931 ms
Remote clock offset: -3.599 ms

# Below is generated by plot.py at 2018-12-11 17:37:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 53.871 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 53.871 ms
Loss rate: 0.41%
```

Run 1: Report of TCP BBR — Data Link

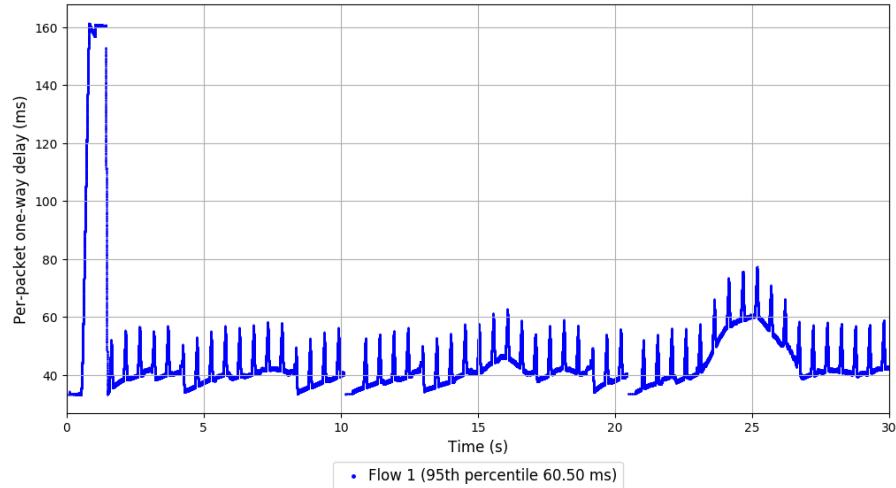
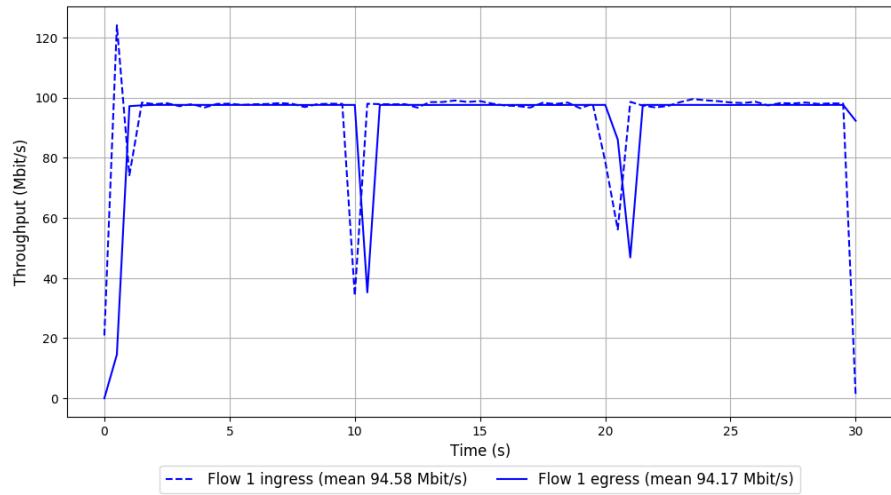


Run 2: Statistics of TCP BBR

```
Start at: 2018-12-11 16:25:16
End at: 2018-12-11 16:25:46
Local clock offset: -0.021 ms
Remote clock offset: -2.863 ms

# Below is generated by plot.py at 2018-12-11 17:37:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 60.503 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 60.503 ms
Loss rate: 0.65%
```

Run 2: Report of TCP BBR — Data Link

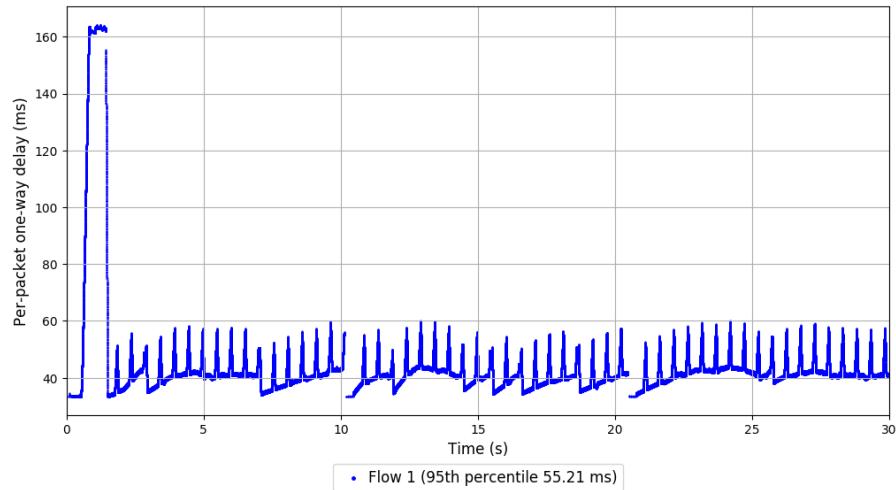
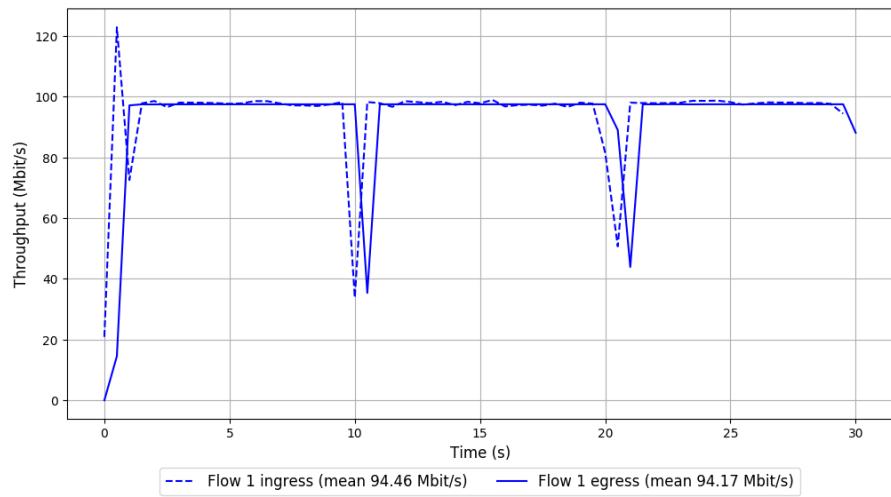


Run 3: Statistics of TCP BBR

```
Start at: 2018-12-11 16:47:17
End at: 2018-12-11 16:47:47
Local clock offset: -0.304 ms
Remote clock offset: -2.302 ms

# Below is generated by plot.py at 2018-12-11 17:37:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 55.211 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 55.211 ms
Loss rate: 0.52%
```

Run 3: Report of TCP BBR — Data Link

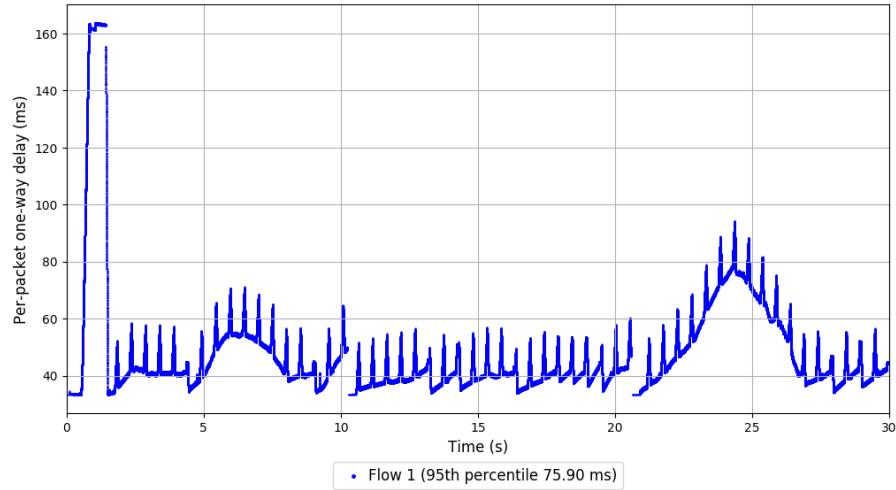
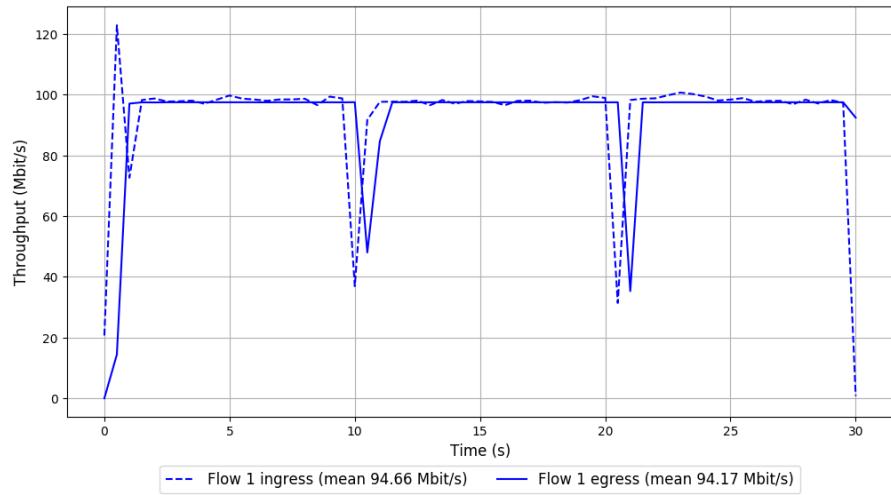


Run 4: Statistics of TCP BBR

```
Start at: 2018-12-11 17:09:23
End at: 2018-12-11 17:09:53
Local clock offset: 0.089 ms
Remote clock offset: -1.924 ms

# Below is generated by plot.py at 2018-12-11 17:37:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 75.902 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 75.902 ms
Loss rate: 0.73%
```

Run 4: Report of TCP BBR — Data Link

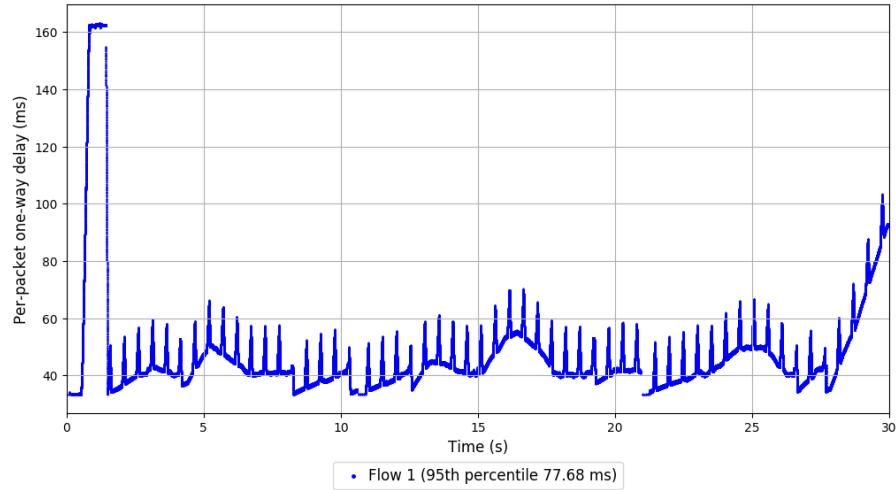
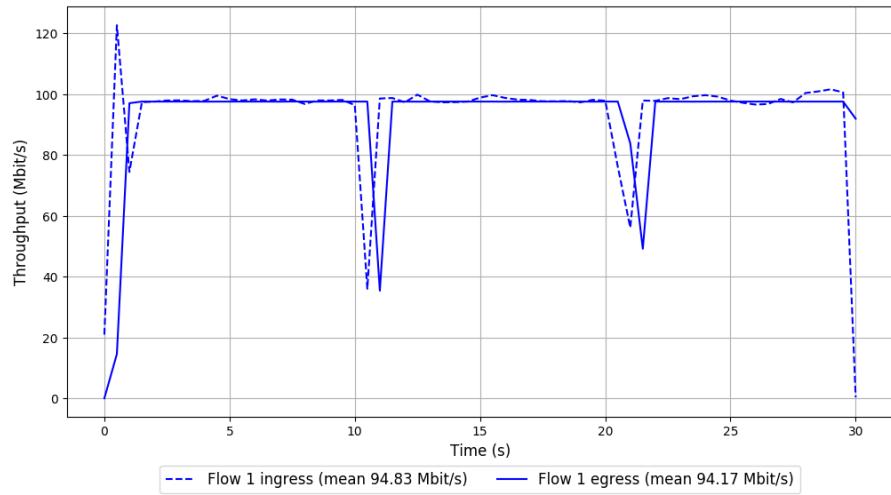


Run 5: Statistics of TCP BBR

```
Start at: 2018-12-11 17:31:28
End at: 2018-12-11 17:31:58
Local clock offset: 3.122 ms
Remote clock offset: -1.823 ms

# Below is generated by plot.py at 2018-12-11 17:37:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 77.682 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 94.17 Mbit/s
95th percentile per-packet one-way delay: 77.682 ms
Loss rate: 0.90%
```

Run 5: Report of TCP BBR — Data Link

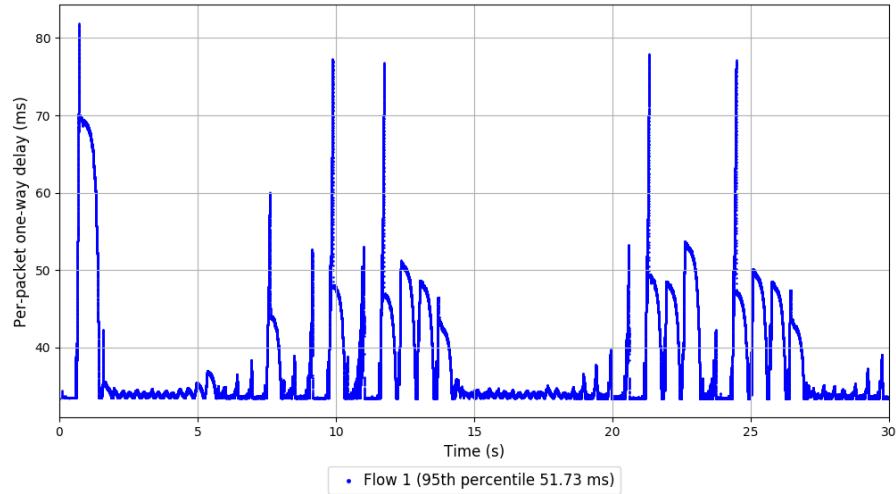
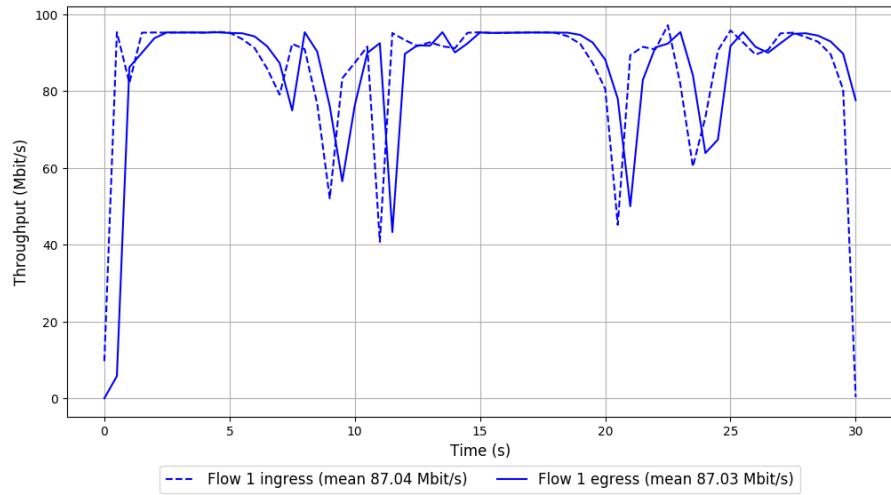


Run 1: Statistics of Copa

```
Start at: 2018-12-11 15:47:58
End at: 2018-12-11 15:48:28
Local clock offset: 4.371 ms
Remote clock offset: -3.991 ms

# Below is generated by plot.py at 2018-12-11 17:38:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.03 Mbit/s
95th percentile per-packet one-way delay: 51.728 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 87.03 Mbit/s
95th percentile per-packet one-way delay: 51.728 ms
Loss rate: 0.22%
```

Run 1: Report of Copa — Data Link

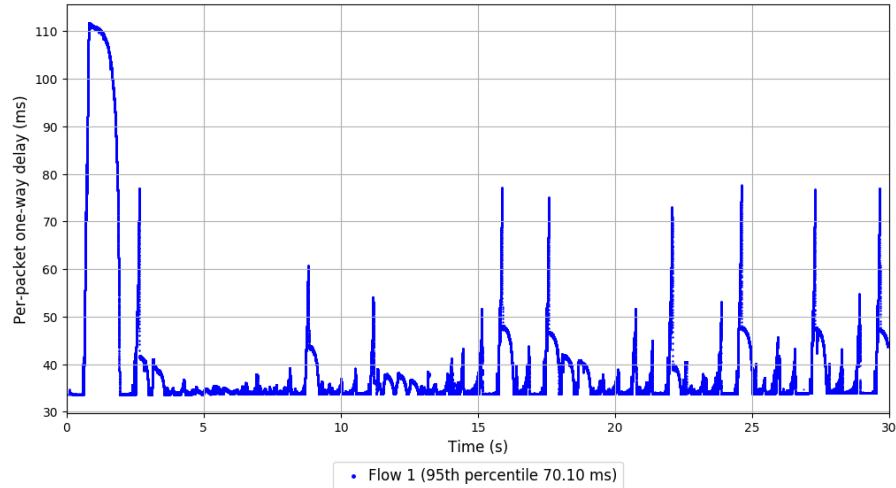
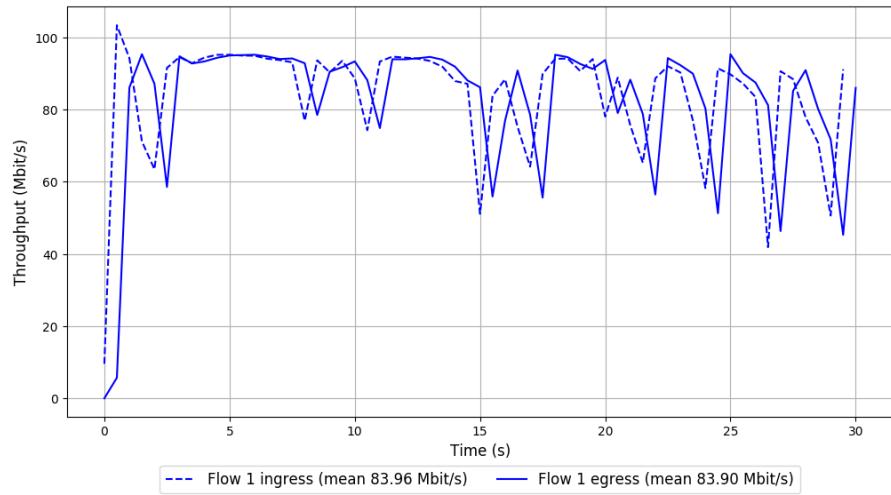


Run 2: Statistics of Copa

```
Start at: 2018-12-11 16:10:10
End at: 2018-12-11 16:10:40
Local clock offset: 4.237 ms
Remote clock offset: -3.281 ms

# Below is generated by plot.py at 2018-12-11 17:38:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.90 Mbit/s
95th percentile per-packet one-way delay: 70.099 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 83.90 Mbit/s
95th percentile per-packet one-way delay: 70.099 ms
Loss rate: 0.29%
```

Run 2: Report of Copa — Data Link

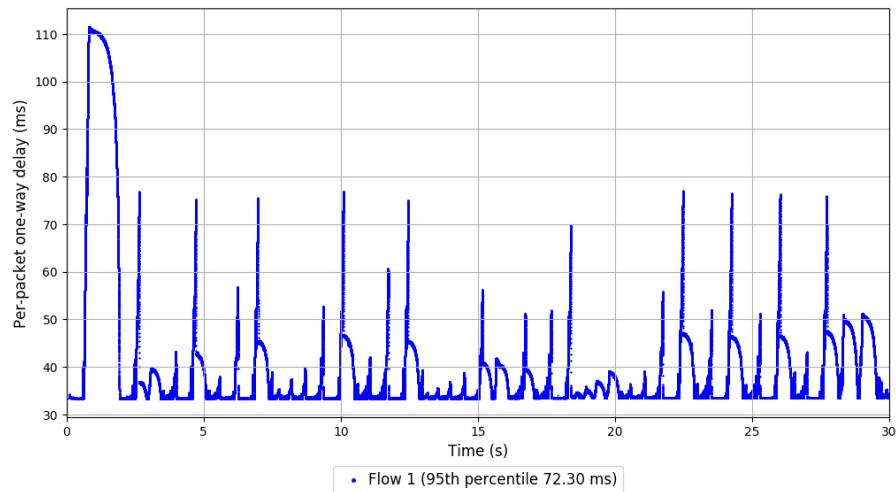
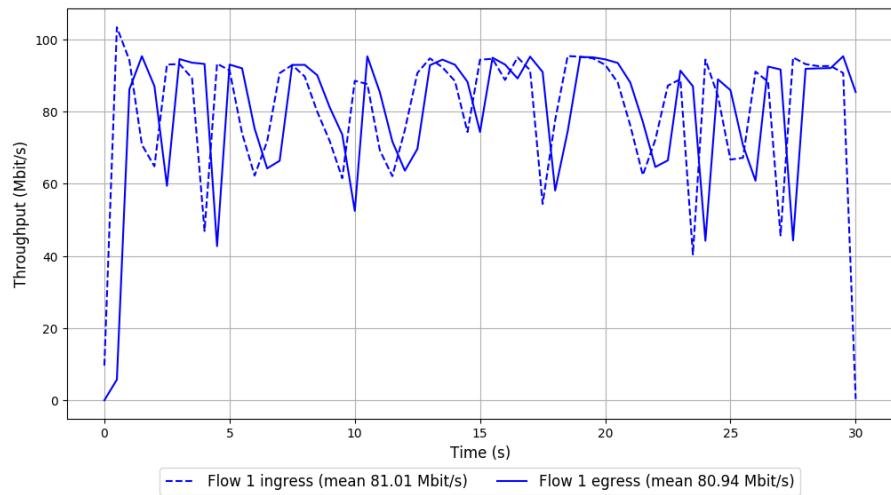


Run 3: Statistics of Copa

```
Start at: 2018-12-11 16:32:11
End at: 2018-12-11 16:32:41
Local clock offset: -0.776 ms
Remote clock offset: -2.672 ms

# Below is generated by plot.py at 2018-12-11 17:38:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.94 Mbit/s
95th percentile per-packet one-way delay: 72.303 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 80.94 Mbit/s
95th percentile per-packet one-way delay: 72.303 ms
Loss rate: 0.30%
```

Run 3: Report of Copa — Data Link

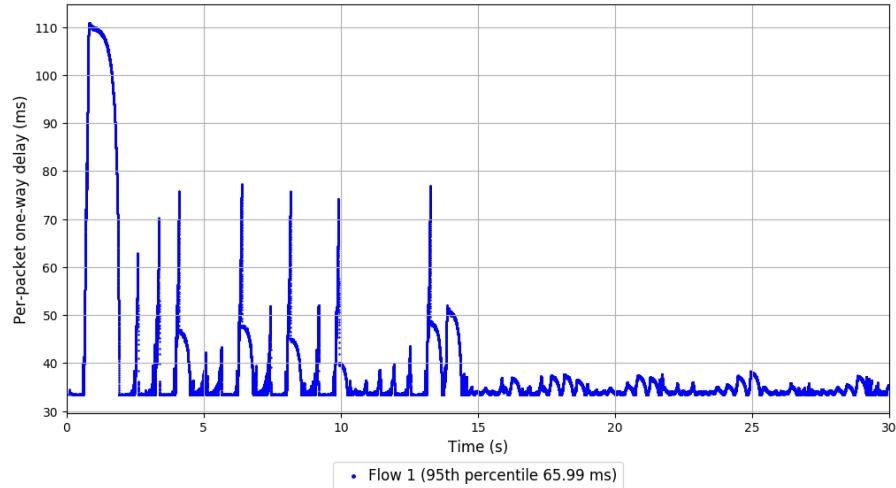
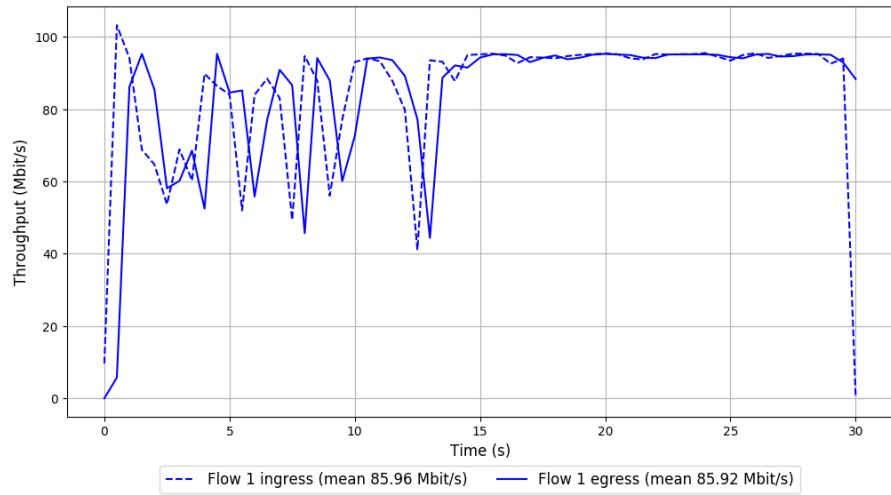


Run 4: Statistics of Copa

```
Start at: 2018-12-11 16:54:13
End at: 2018-12-11 16:54:43
Local clock offset: -0.137 ms
Remote clock offset: -2.181 ms

# Below is generated by plot.py at 2018-12-11 17:39:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.92 Mbit/s
95th percentile per-packet one-way delay: 65.991 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 85.92 Mbit/s
95th percentile per-packet one-way delay: 65.991 ms
Loss rate: 0.26%
```

Run 4: Report of Copa — Data Link

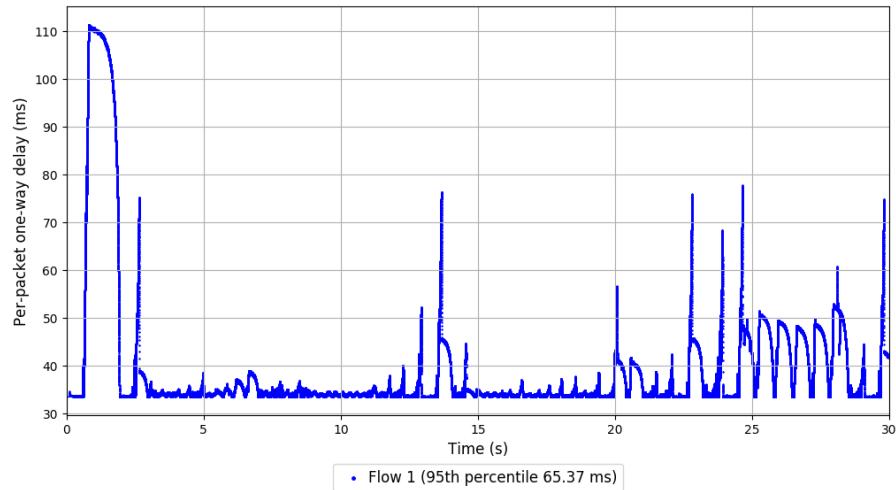
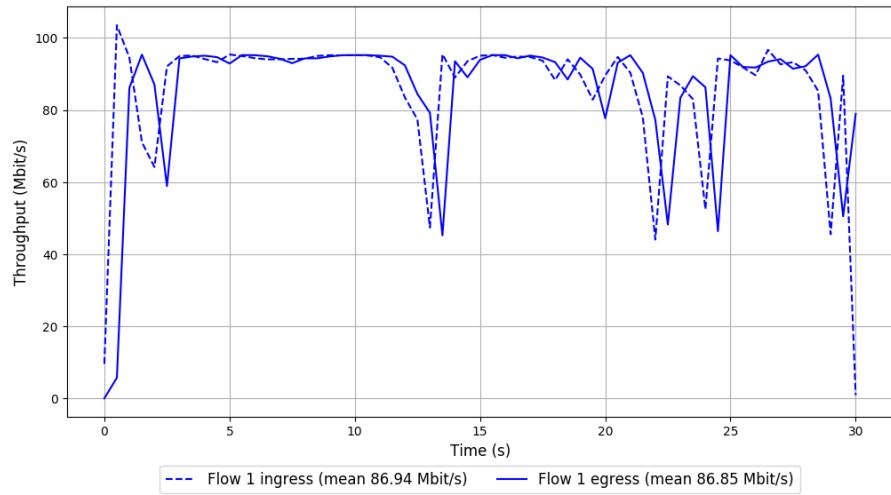


Run 5: Statistics of Copa

```
Start at: 2018-12-11 17:16:21
End at: 2018-12-11 17:16:51
Local clock offset: 1.756 ms
Remote clock offset: -1.91 ms

# Below is generated by plot.py at 2018-12-11 17:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.85 Mbit/s
95th percentile per-packet one-way delay: 65.373 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 86.85 Mbit/s
95th percentile per-packet one-way delay: 65.373 ms
Loss rate: 0.31%
```

Run 5: Report of Copa — Data Link

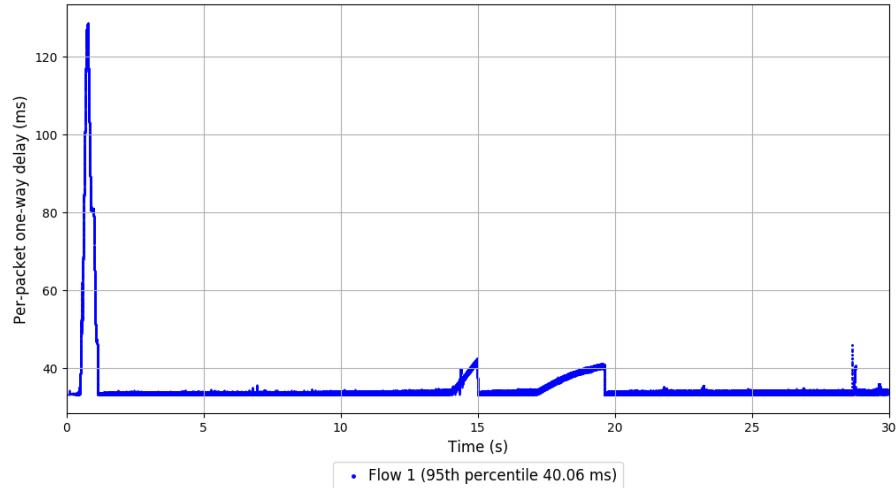
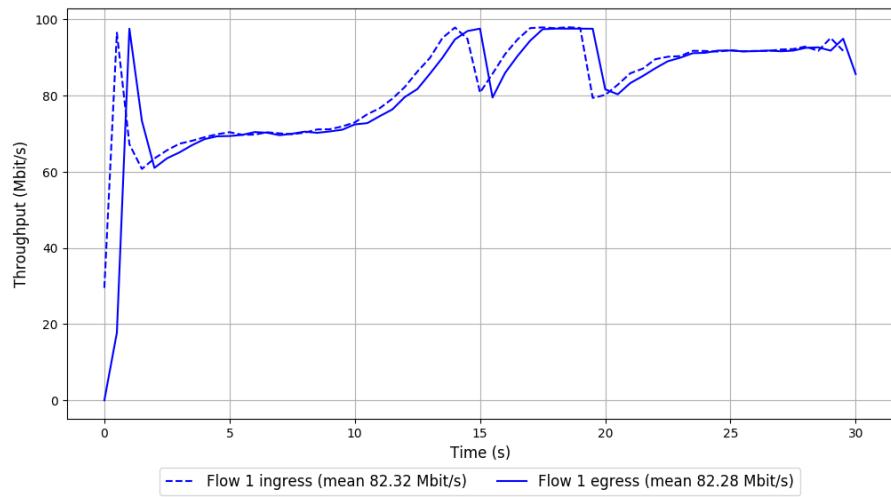


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-12-11 15:45:42
End at: 2018-12-11 15:46:12
Local clock offset: 4.29 ms
Remote clock offset: -3.921 ms

# Below is generated by plot.py at 2018-12-11 17:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.28 Mbit/s
95th percentile per-packet one-way delay: 40.064 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 82.28 Mbit/s
95th percentile per-packet one-way delay: 40.064 ms
Loss rate: 0.26%
```

Run 1: Report of TCP Cubic — Data Link

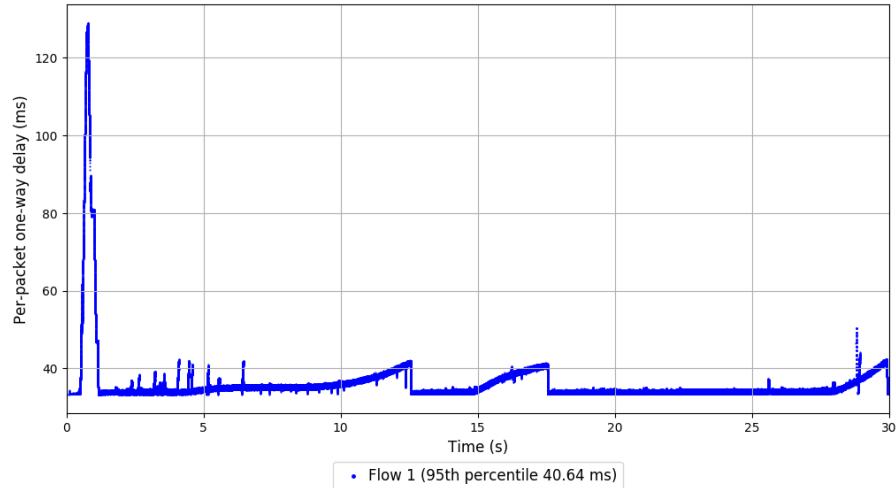
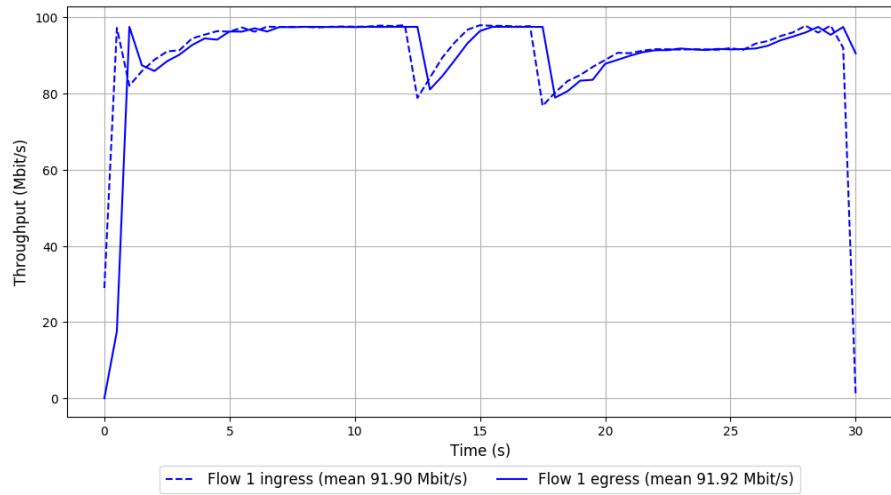


Run 2: Statistics of TCP Cubic

```
Start at: 2018-12-11 16:07:54
End at: 2018-12-11 16:08:24
Local clock offset: 5.112 ms
Remote clock offset: -3.365 ms

# Below is generated by plot.py at 2018-12-11 17:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 40.640 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 91.92 Mbit/s
95th percentile per-packet one-way delay: 40.640 ms
Loss rate: 0.19%
```

Run 2: Report of TCP Cubic — Data Link

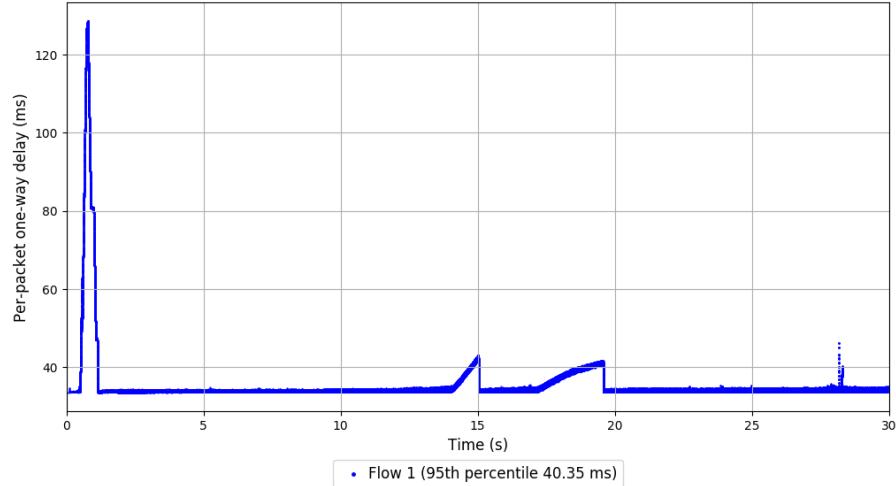
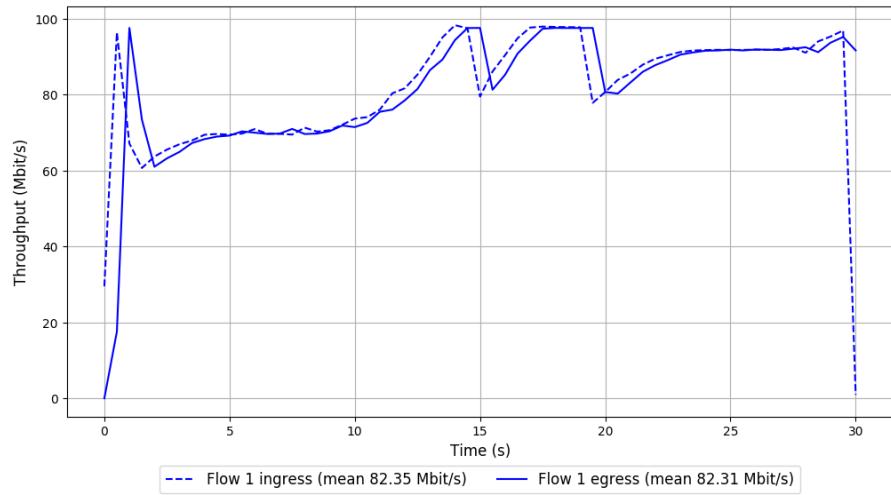


Run 3: Statistics of TCP Cubic

```
Start at: 2018-12-11 16:29:55
End at: 2018-12-11 16:30:25
Local clock offset: -0.535 ms
Remote clock offset: -2.725 ms

# Below is generated by plot.py at 2018-12-11 17:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.31 Mbit/s
95th percentile per-packet one-way delay: 40.351 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 82.31 Mbit/s
95th percentile per-packet one-way delay: 40.351 ms
Loss rate: 0.26%
```

Run 3: Report of TCP Cubic — Data Link

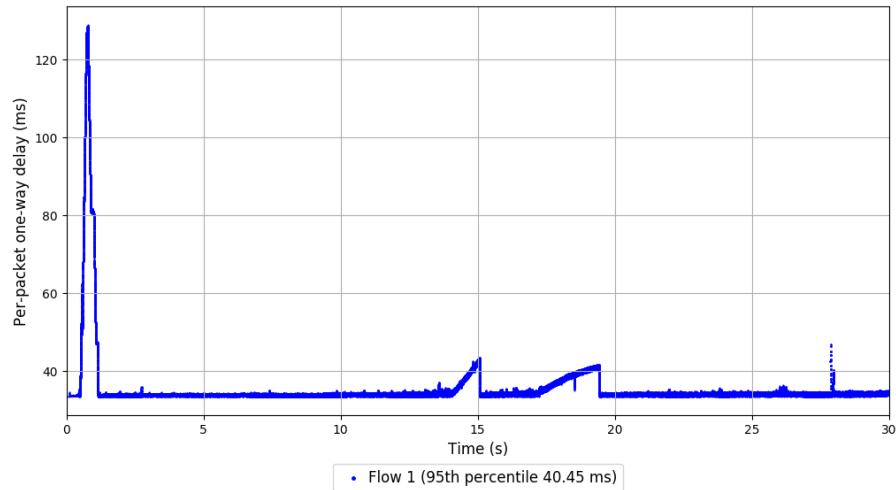
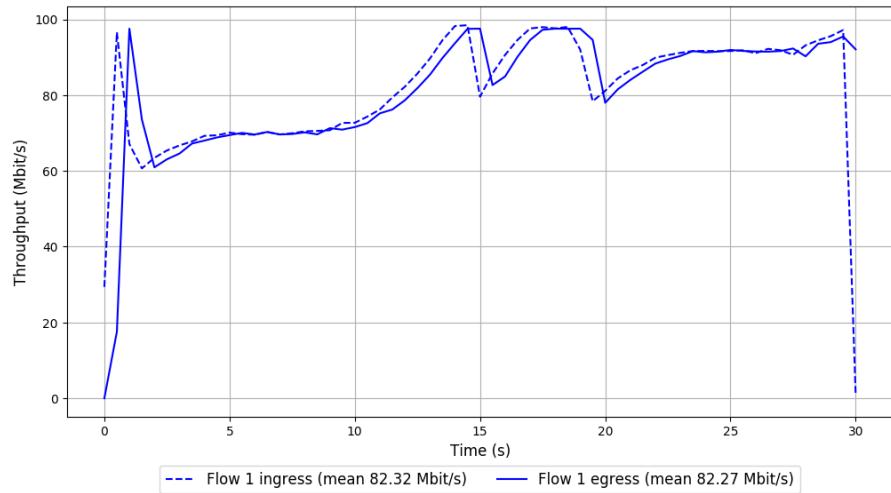


Run 4: Statistics of TCP Cubic

```
Start at: 2018-12-11 16:51:57
End at: 2018-12-11 16:52:27
Local clock offset: -0.145 ms
Remote clock offset: -2.227 ms

# Below is generated by plot.py at 2018-12-11 17:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.27 Mbit/s
95th percentile per-packet one-way delay: 40.451 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 82.27 Mbit/s
95th percentile per-packet one-way delay: 40.451 ms
Loss rate: 0.27%
```

Run 4: Report of TCP Cubic — Data Link

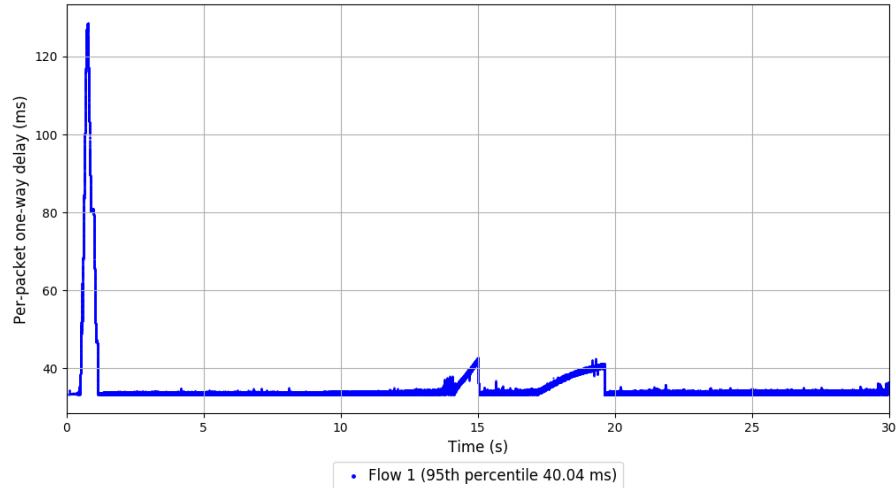
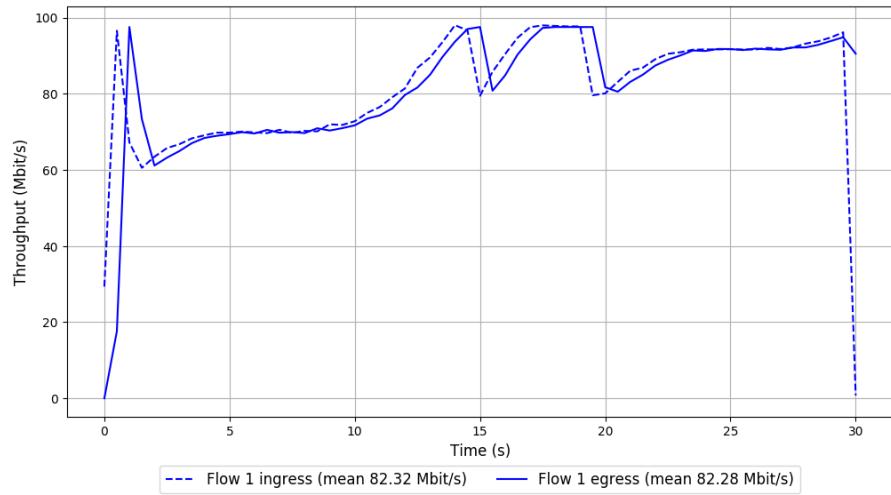


Run 5: Statistics of TCP Cubic

```
Start at: 2018-12-11 17:14:05
End at: 2018-12-11 17:14:35
Local clock offset: 1.331 ms
Remote clock offset: -1.779 ms

# Below is generated by plot.py at 2018-12-11 17:39:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.28 Mbit/s
95th percentile per-packet one-way delay: 40.038 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 82.28 Mbit/s
95th percentile per-packet one-way delay: 40.038 ms
Loss rate: 0.26%
```

Run 5: Report of TCP Cubic — Data Link

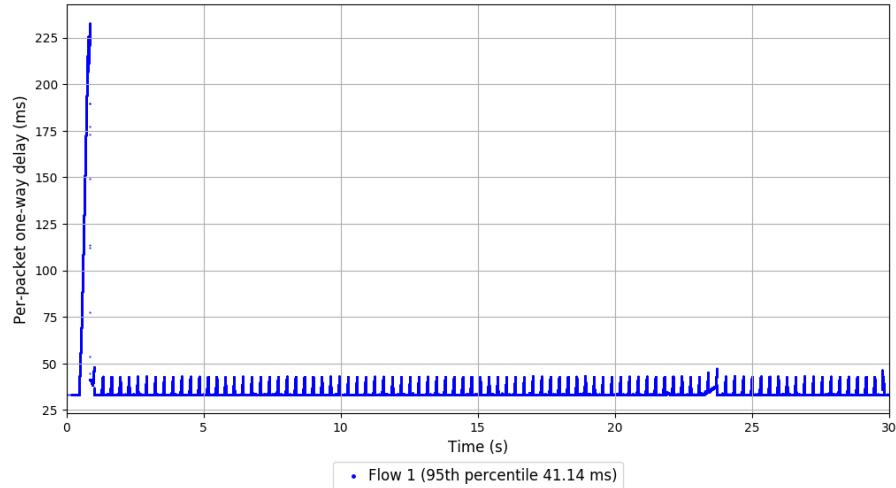
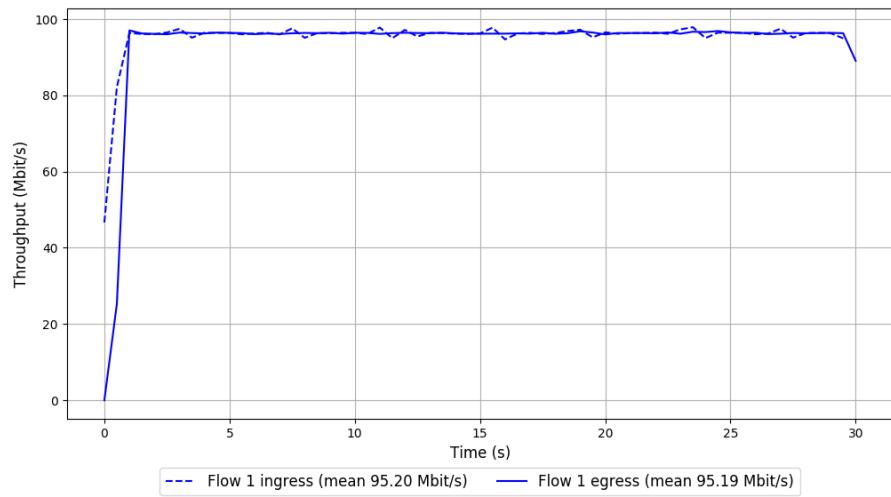


```
Run 1: Statistics of FillP
```

```
Start at: 2018-12-11 16:01:59
End at: 2018-12-11 16:02:29
Local clock offset: 4.904 ms
Remote clock offset: -3.534 ms

# Below is generated by plot.py at 2018-12-11 17:39:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.19 Mbit/s
95th percentile per-packet one-way delay: 41.140 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 95.19 Mbit/s
95th percentile per-packet one-way delay: 41.140 ms
Loss rate: 0.22%
```

Run 1: Report of FillP — Data Link

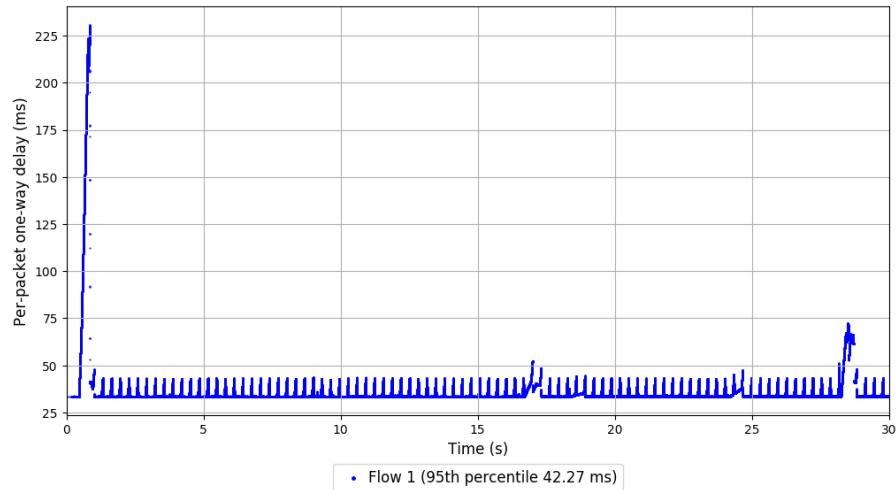
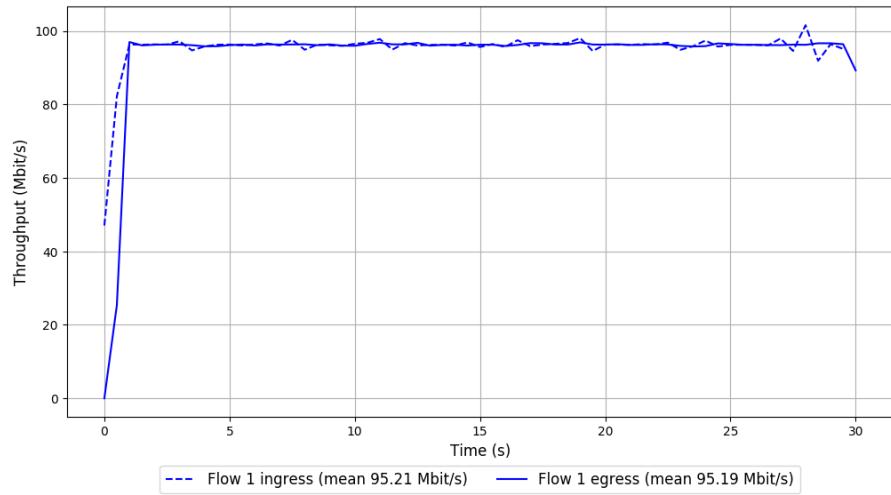


Run 2: Statistics of FillP

```
Start at: 2018-12-11 16:24:07
End at: 2018-12-11 16:24:37
Local clock offset: 0.186 ms
Remote clock offset: -2.927 ms

# Below is generated by plot.py at 2018-12-11 17:39:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.19 Mbit/s
95th percentile per-packet one-way delay: 42.265 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.19 Mbit/s
95th percentile per-packet one-way delay: 42.265 ms
Loss rate: 0.23%
```

Run 2: Report of FillP — Data Link

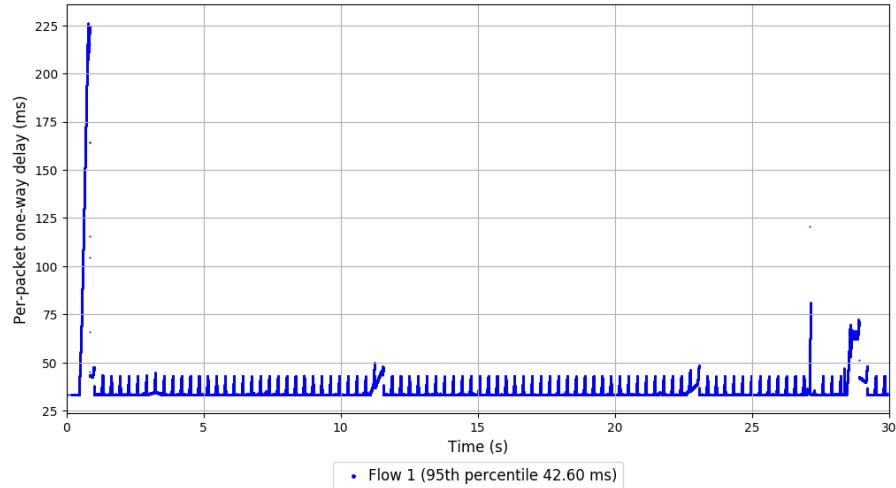
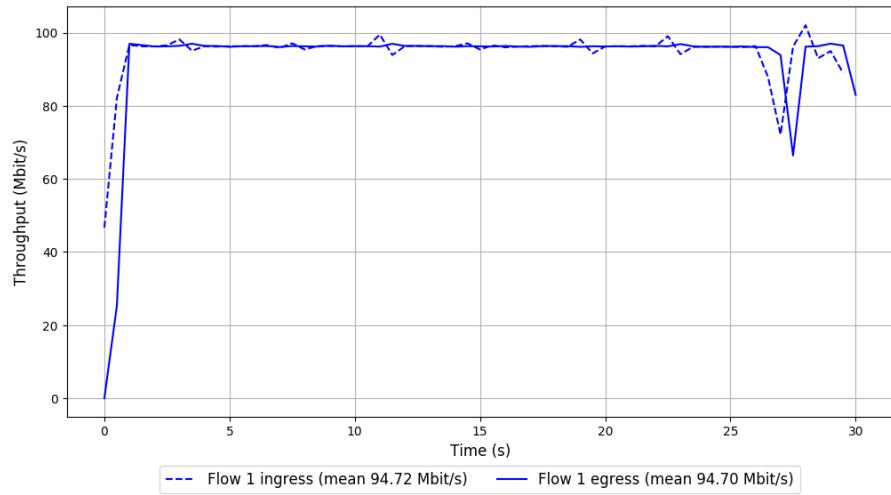


Run 3: Statistics of FillP

```
Start at: 2018-12-11 16:46:08
End at: 2018-12-11 16:46:38
Local clock offset: -0.375 ms
Remote clock offset: -2.304 ms

# Below is generated by plot.py at 2018-12-11 17:39:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.70 Mbit/s
95th percentile per-packet one-way delay: 42.603 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 94.70 Mbit/s
95th percentile per-packet one-way delay: 42.603 ms
Loss rate: 0.23%
```

Run 3: Report of FillP — Data Link

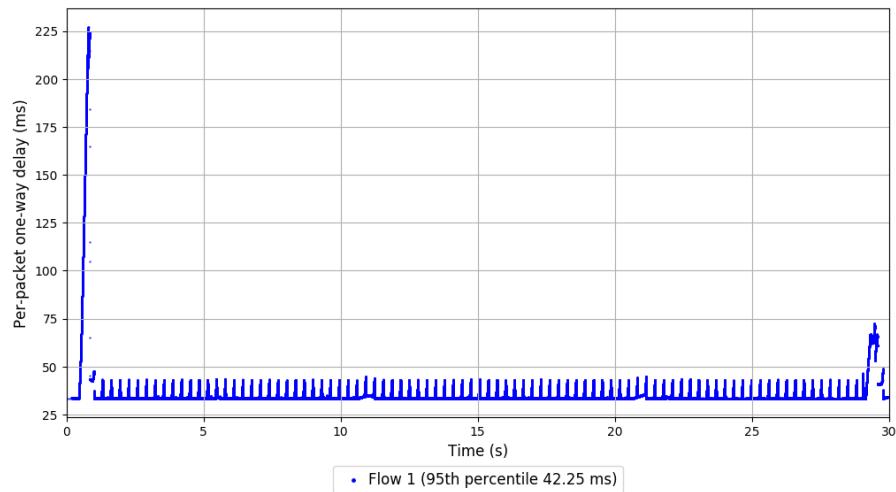
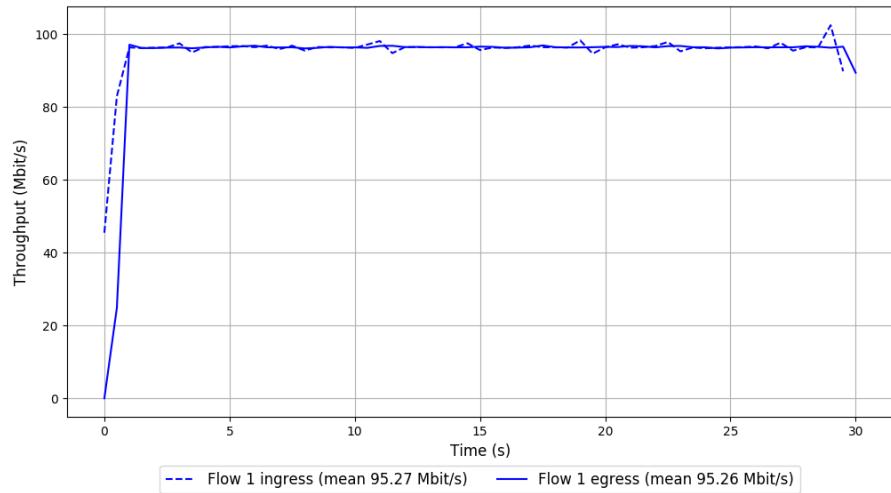


Run 4: Statistics of FillP

```
Start at: 2018-12-11 17:08:14
End at: 2018-12-11 17:08:44
Local clock offset: -0.288 ms
Remote clock offset: -2.083 ms

# Below is generated by plot.py at 2018-12-11 17:39:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.26 Mbit/s
95th percentile per-packet one-way delay: 42.248 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.26 Mbit/s
95th percentile per-packet one-way delay: 42.248 ms
Loss rate: 0.23%
```

Run 4: Report of FillP — Data Link

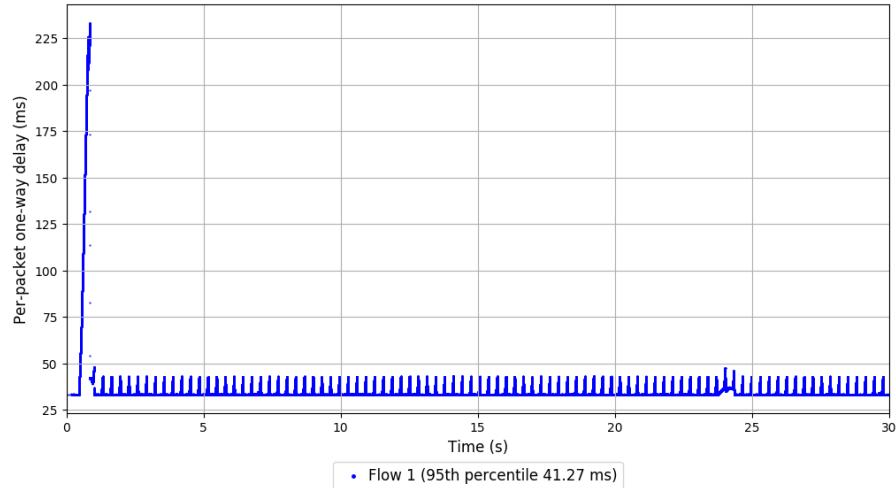
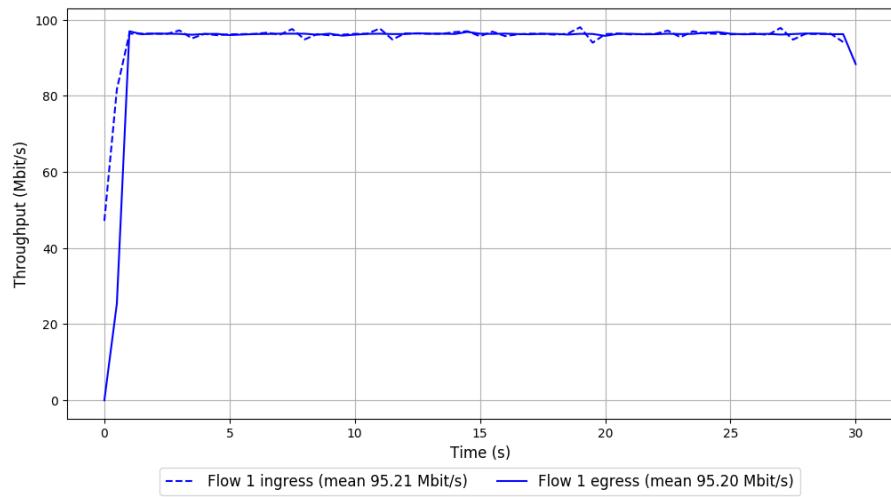


Run 5: Statistics of FillP

```
Start at: 2018-12-11 17:30:19
End at: 2018-12-11 17:30:49
Local clock offset: 3.071 ms
Remote clock offset: -1.757 ms

# Below is generated by plot.py at 2018-12-11 17:40:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 41.271 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 95.20 Mbit/s
95th percentile per-packet one-way delay: 41.271 ms
Loss rate: 0.22%
```

Run 5: Report of FillP — Data Link

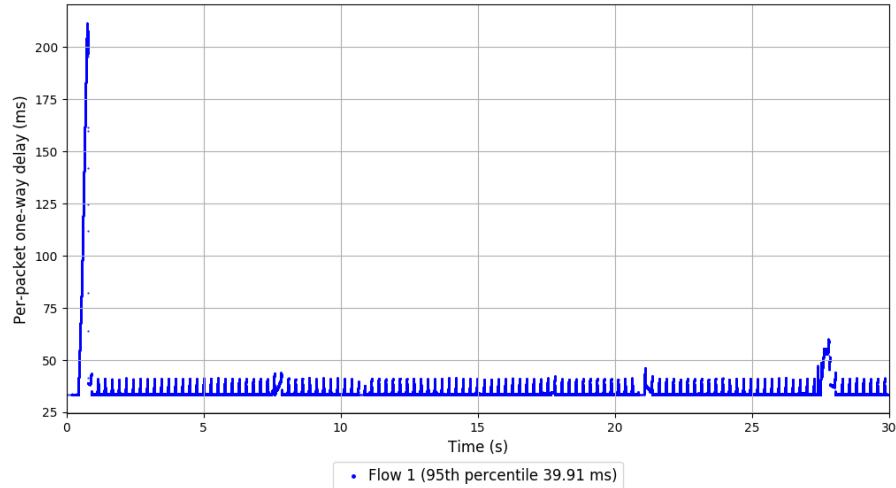
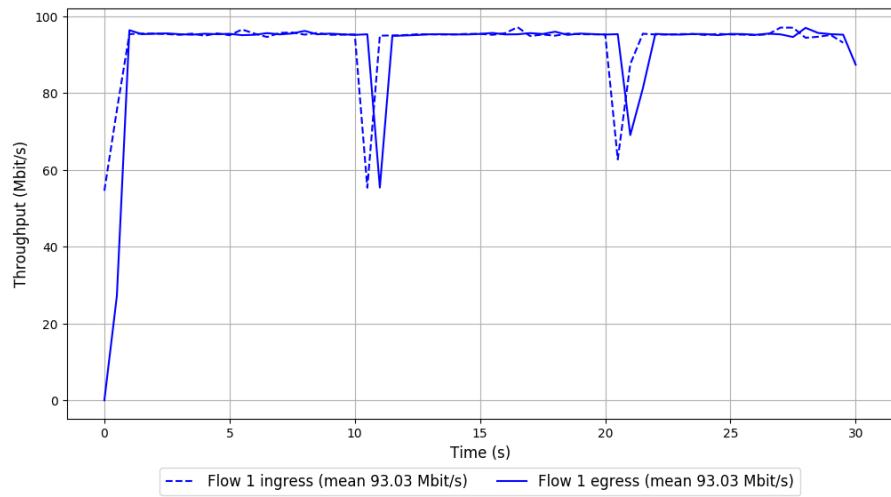


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-12-11 16:05:32
End at: 2018-12-11 16:06:02
Local clock offset: 5.024 ms
Remote clock offset: -3.488 ms

# Below is generated by plot.py at 2018-12-11 17:40:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.03 Mbit/s
95th percentile per-packet one-way delay: 39.911 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 93.03 Mbit/s
95th percentile per-packet one-way delay: 39.911 ms
Loss rate: 0.22%
```

Run 1: Report of FillP-Sheep — Data Link

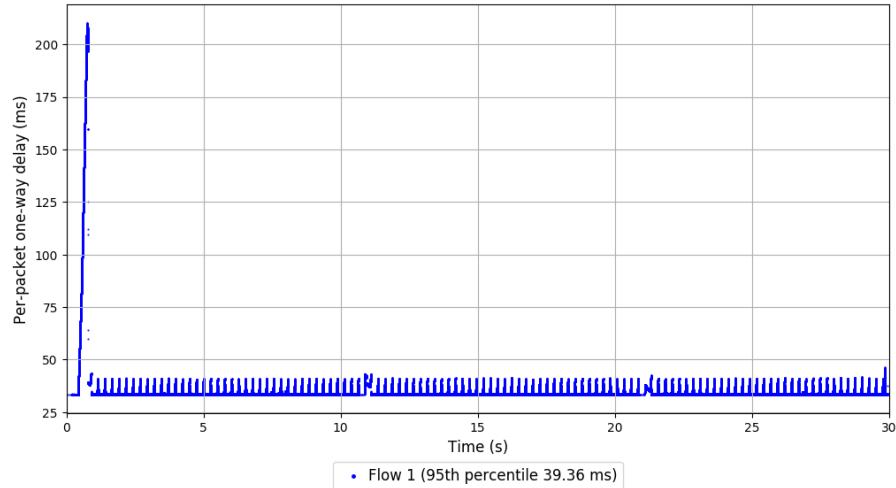
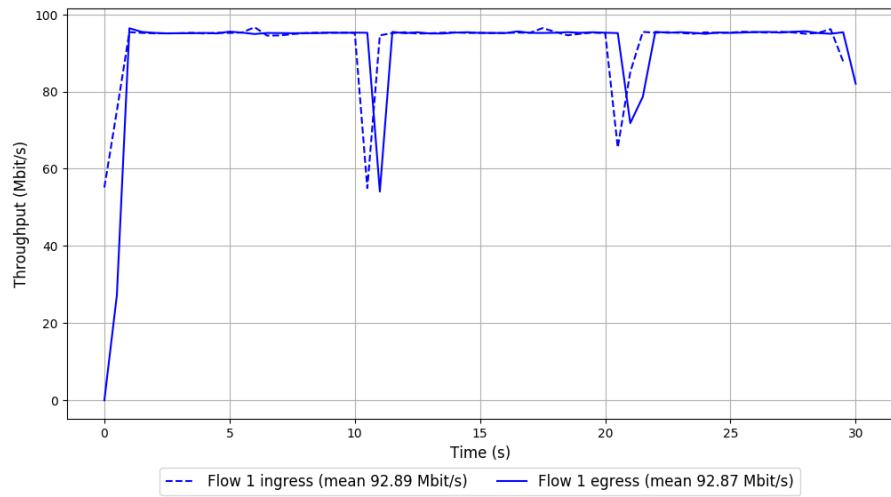


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-12-11 16:27:35
End at: 2018-12-11 16:28:05
Local clock offset: -0.304 ms
Remote clock offset: -2.822 ms

# Below is generated by plot.py at 2018-12-11 17:40:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.87 Mbit/s
95th percentile per-packet one-way delay: 39.358 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 92.87 Mbit/s
95th percentile per-packet one-way delay: 39.358 ms
Loss rate: 0.23%
```

Run 2: Report of FillP-Sheep — Data Link

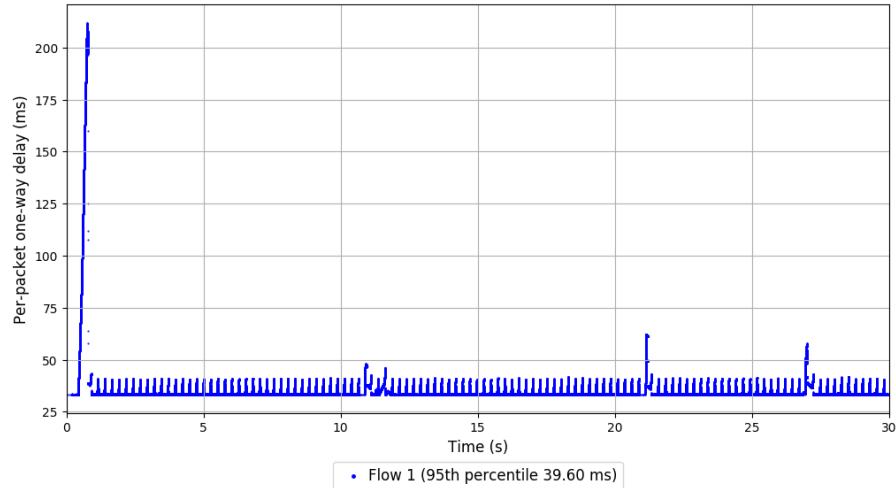
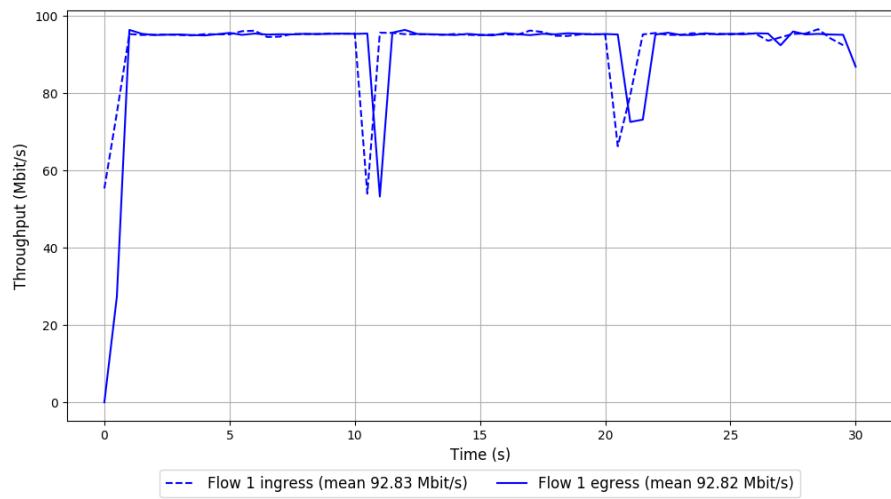


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-12-11 16:49:36
End at: 2018-12-11 16:50:06
Local clock offset: -0.209 ms
Remote clock offset: -2.219 ms

# Below is generated by plot.py at 2018-12-11 17:40:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.82 Mbit/s
95th percentile per-packet one-way delay: 39.604 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 92.82 Mbit/s
95th percentile per-packet one-way delay: 39.604 ms
Loss rate: 0.22%
```

Run 3: Report of FillP-Sheep — Data Link

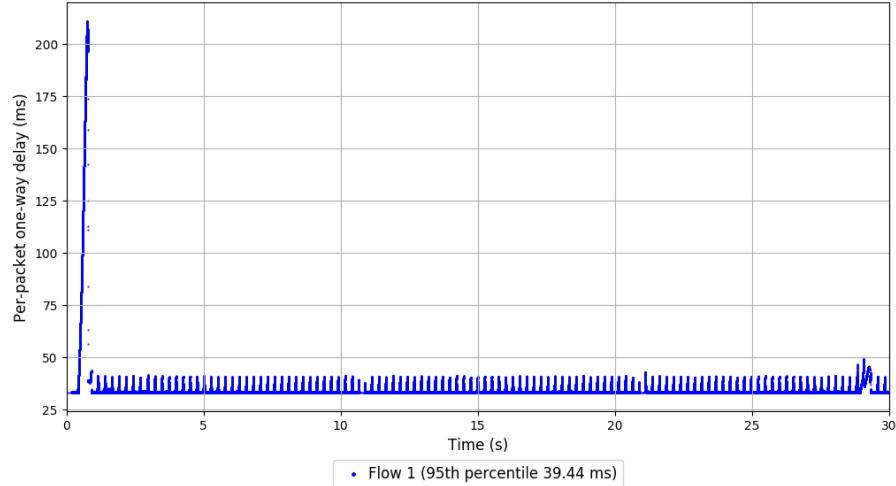
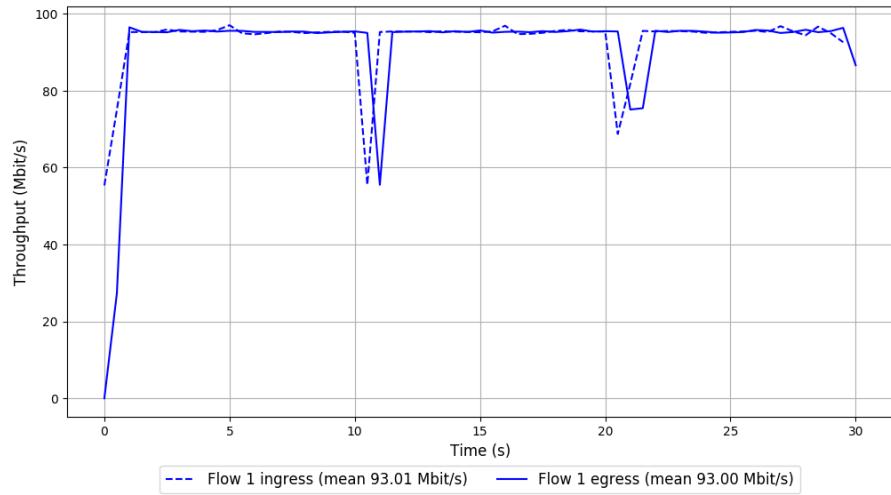


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-12-11 17:11:44
End at: 2018-12-11 17:12:14
Local clock offset: 0.785 ms
Remote clock offset: -1.841 ms

# Below is generated by plot.py at 2018-12-11 17:40:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.00 Mbit/s
95th percentile per-packet one-way delay: 39.437 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 93.00 Mbit/s
95th percentile per-packet one-way delay: 39.437 ms
Loss rate: 0.23%
```

Run 4: Report of FillP-Sheep — Data Link

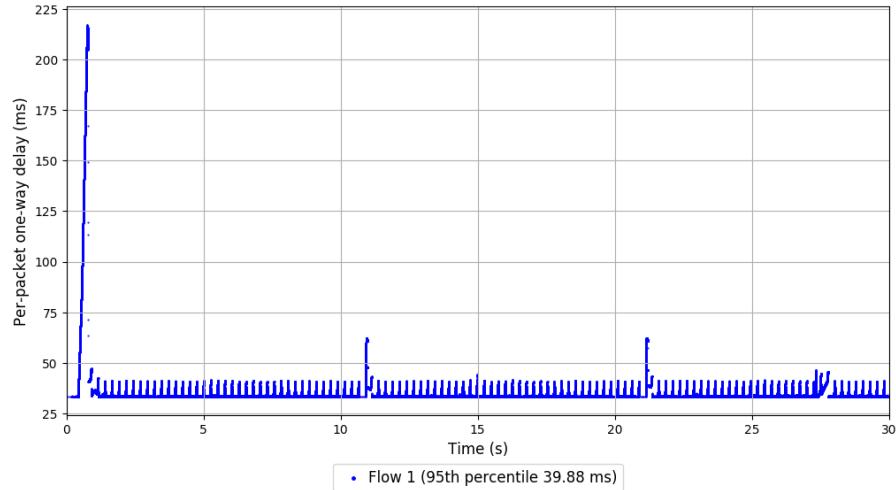
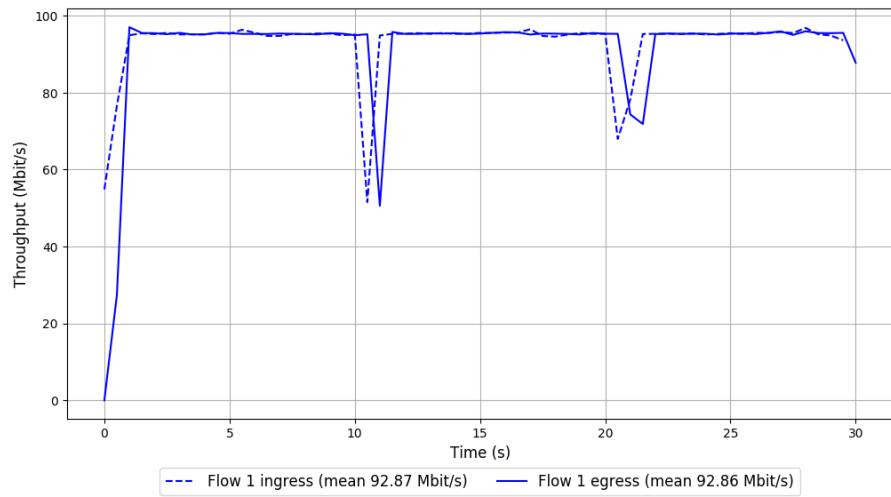


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-12-11 17:33:47
End at: 2018-12-11 17:34:17
Local clock offset: 3.206 ms
Remote clock offset: -1.786 ms

# Below is generated by plot.py at 2018-12-11 17:40:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.86 Mbit/s
95th percentile per-packet one-way delay: 39.881 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 92.86 Mbit/s
95th percentile per-packet one-way delay: 39.881 ms
Loss rate: 0.23%
```

Run 5: Report of FillP-Sheep — Data Link

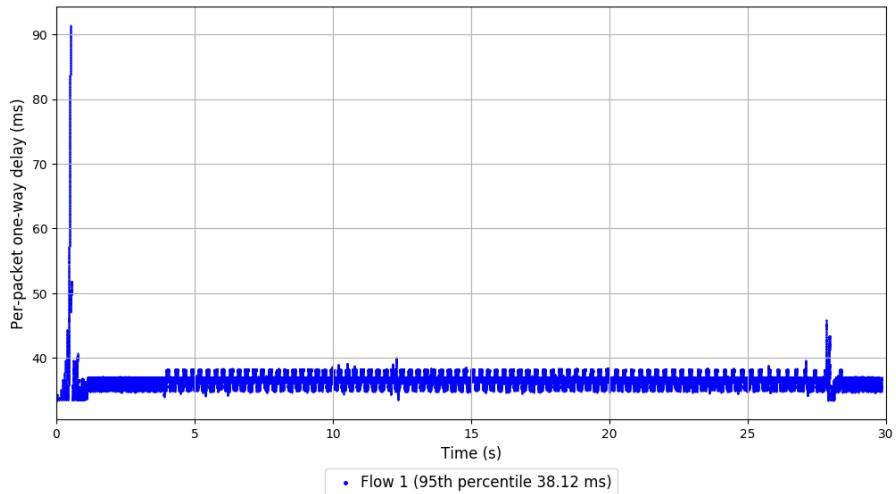
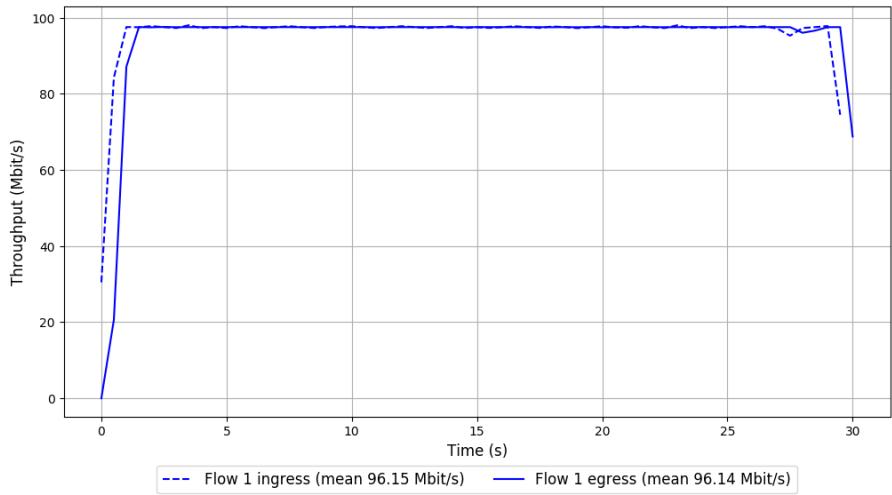


Run 1: Statistics of Indigo

```
Start at: 2018-12-11 15:44:31
End at: 2018-12-11 15:45:01
Local clock offset: 4.246 ms
Remote clock offset: -3.969 ms

# Below is generated by plot.py at 2018-12-11 17:40:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.14 Mbit/s
95th percentile per-packet one-way delay: 38.119 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 96.14 Mbit/s
95th percentile per-packet one-way delay: 38.119 ms
Loss rate: 0.23%
```

Run 1: Report of Indigo — Data Link

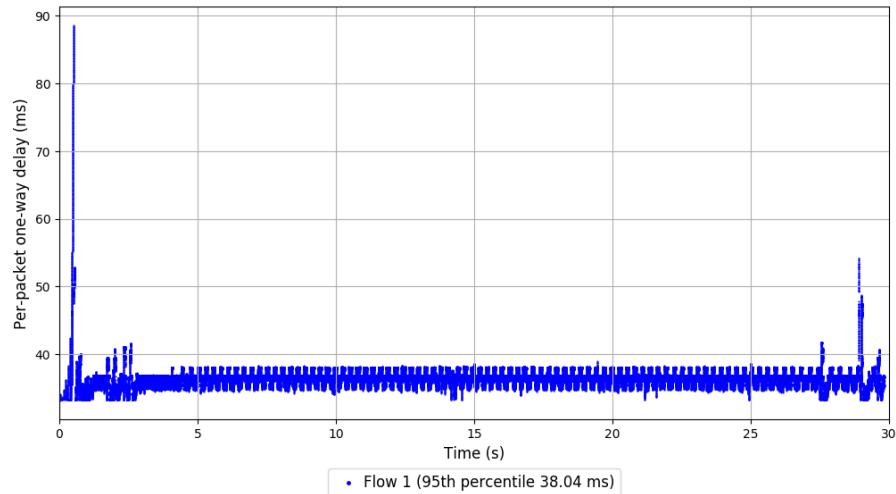
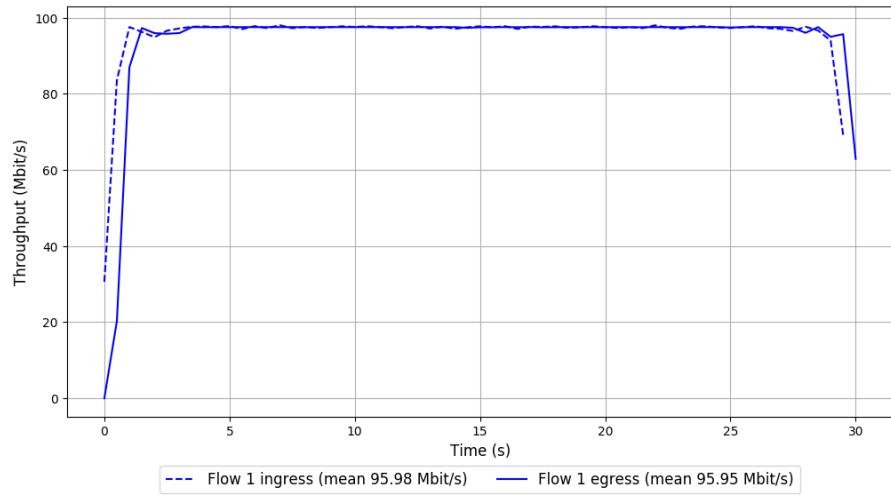


Run 2: Statistics of Indigo

```
Start at: 2018-12-11 16:06:42
End at: 2018-12-11 16:07:12
Local clock offset: 5.074 ms
Remote clock offset: -3.39 ms

# Below is generated by plot.py at 2018-12-11 17:40:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.95 Mbit/s
95th percentile per-packet one-way delay: 38.037 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.95 Mbit/s
95th percentile per-packet one-way delay: 38.037 ms
Loss rate: 0.23%
```

Run 2: Report of Indigo — Data Link

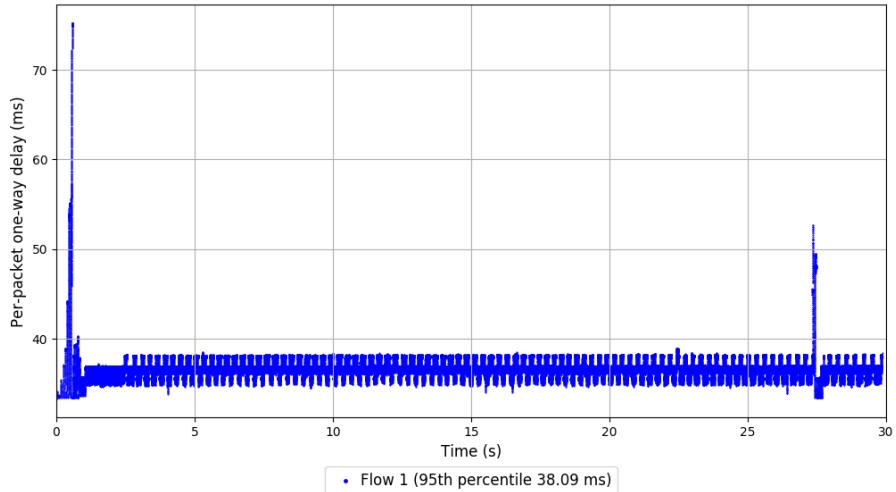
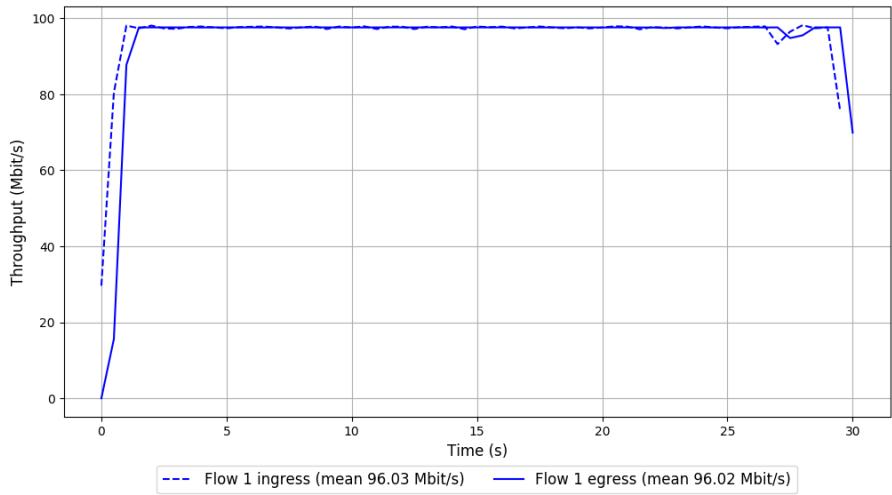


Run 3: Statistics of Indigo

```
Start at: 2018-12-11 16:28:44
End at: 2018-12-11 16:29:14
Local clock offset: -0.414 ms
Remote clock offset: -2.745 ms

# Below is generated by plot.py at 2018-12-11 17:41:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 38.091 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 38.091 ms
Loss rate: 0.22%
```

Run 3: Report of Indigo — Data Link

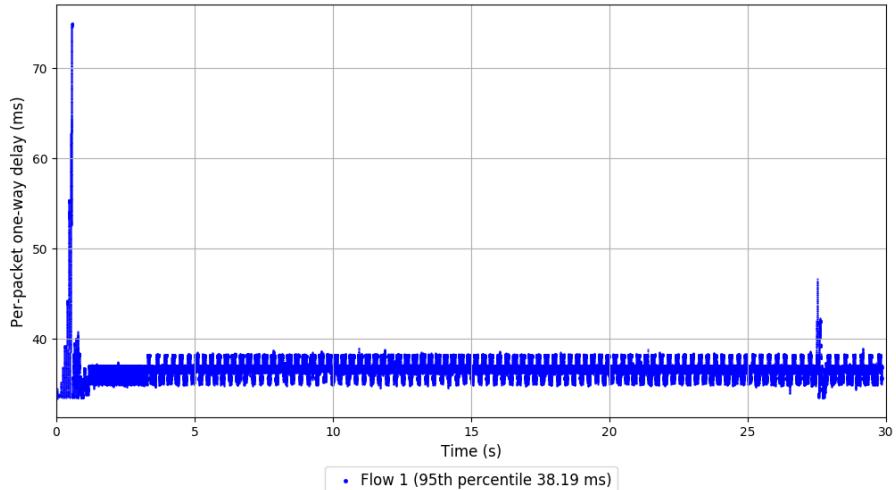
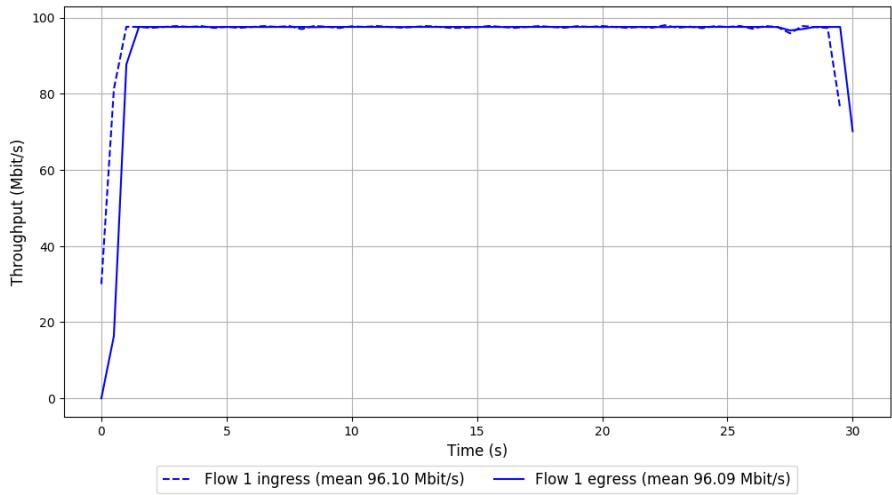


Run 4: Statistics of Indigo

```
Start at: 2018-12-11 16:50:45
End at: 2018-12-11 16:51:15
Local clock offset: -0.195 ms
Remote clock offset: -2.256 ms

# Below is generated by plot.py at 2018-12-11 17:41:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.09 Mbit/s
95th percentile per-packet one-way delay: 38.191 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 96.09 Mbit/s
95th percentile per-packet one-way delay: 38.191 ms
Loss rate: 0.23%
```

Run 4: Report of Indigo — Data Link

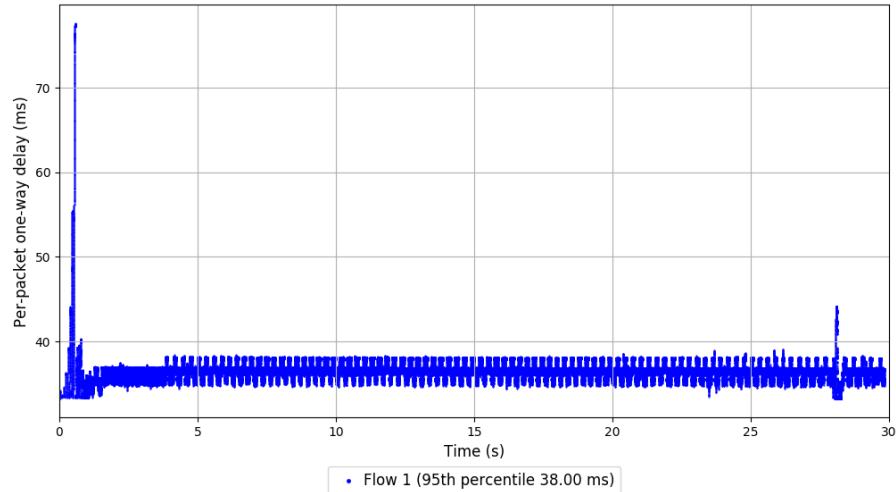
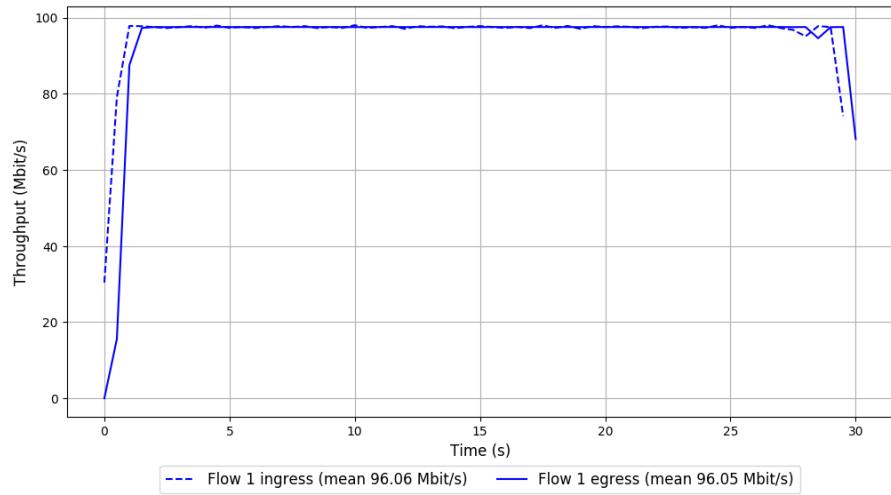


Run 5: Statistics of Indigo

```
Start at: 2018-12-11 17:12:53
End at: 2018-12-11 17:13:23
Local clock offset: 1.073 ms
Remote clock offset: -1.812 ms

# Below is generated by plot.py at 2018-12-11 17:41:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.05 Mbit/s
95th percentile per-packet one-way delay: 37.998 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 96.05 Mbit/s
95th percentile per-packet one-way delay: 37.998 ms
Loss rate: 0.23%
```

Run 5: Report of Indigo — Data Link

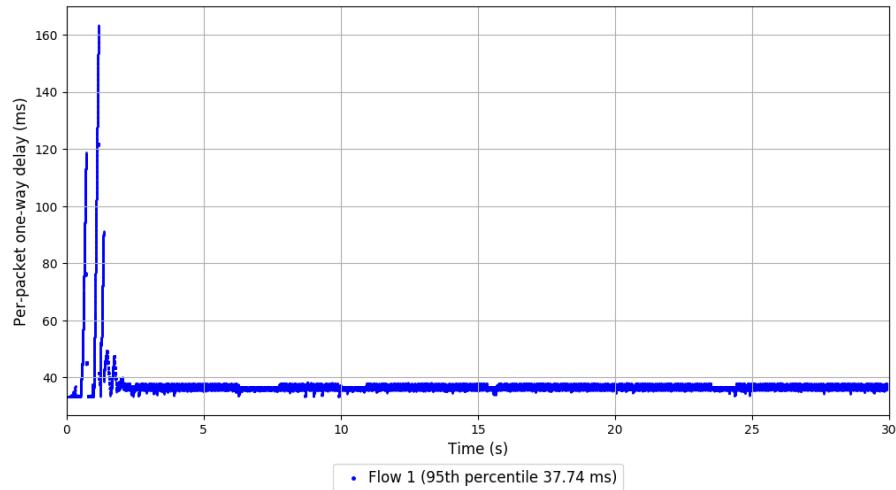
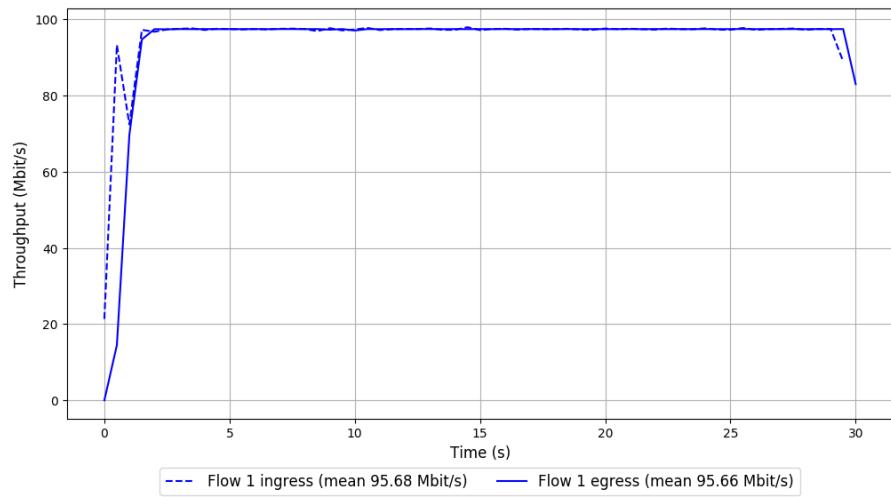


Run 1: Statistics of Indigo-MusesD

```
Start at: 2018-12-11 15:55:03
End at: 2018-12-11 15:55:33
Local clock offset: 4.64 ms
Remote clock offset: -3.771 ms

# Below is generated by plot.py at 2018-12-11 17:41:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 37.739 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 37.739 ms
Loss rate: 0.23%
```

Run 1: Report of Indigo-MusesD — Data Link

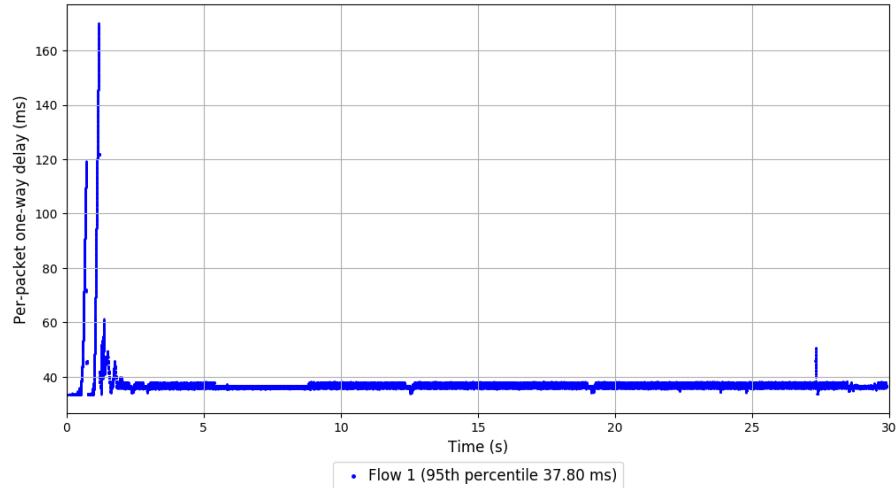
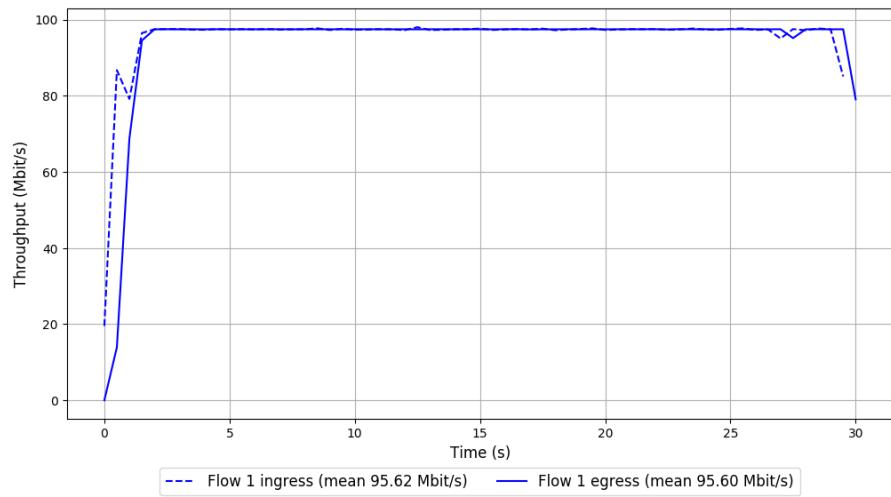


Run 2: Statistics of Indigo-MusesD

```
Start at: 2018-12-11 16:17:13
End at: 2018-12-11 16:17:43
Local clock offset: 1.482 ms
Remote clock offset: -3.115 ms

# Below is generated by plot.py at 2018-12-11 17:41:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 37.795 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.60 Mbit/s
95th percentile per-packet one-way delay: 37.795 ms
Loss rate: 0.23%
```

Run 2: Report of Indigo-MusesD — Data Link

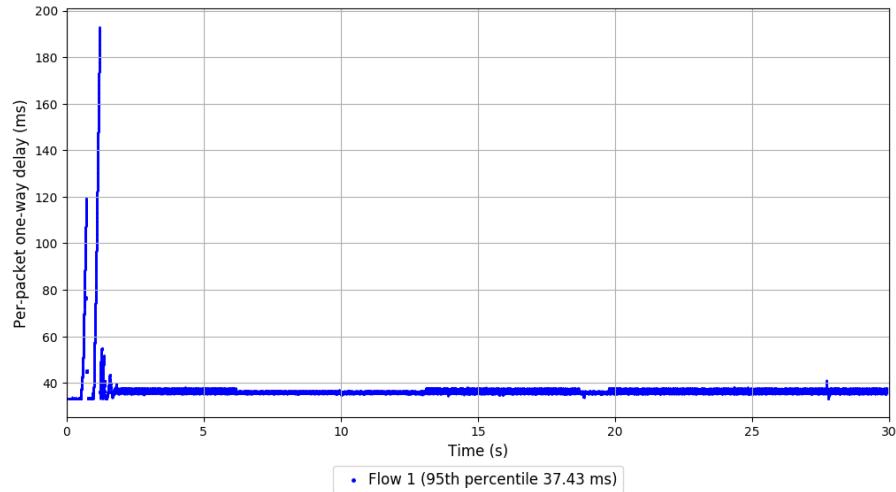
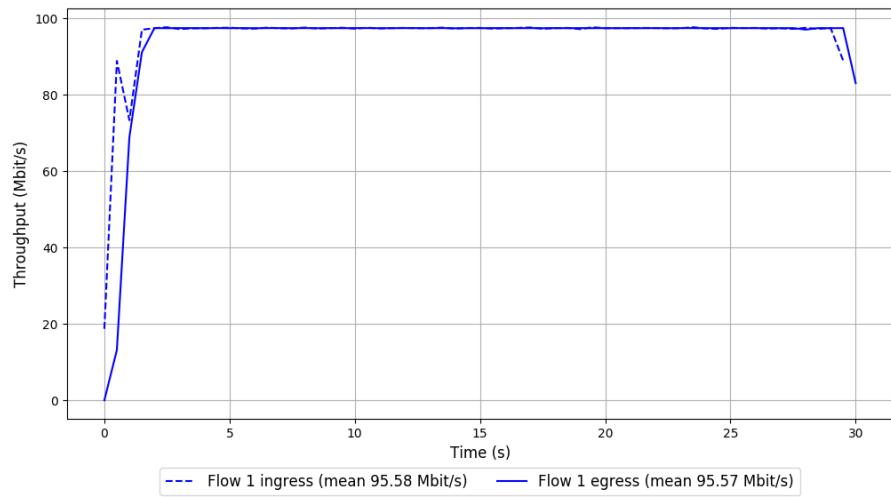


Run 3: Statistics of Indigo-MusesD

```
Start at: 2018-12-11 16:39:14
End at: 2018-12-11 16:39:44
Local clock offset: -1.115 ms
Remote clock offset: -2.407 ms

# Below is generated by plot.py at 2018-12-11 17:41:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.57 Mbit/s
95th percentile per-packet one-way delay: 37.428 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.57 Mbit/s
95th percentile per-packet one-way delay: 37.428 ms
Loss rate: 0.23%
```

Run 3: Report of Indigo-MusesD — Data Link

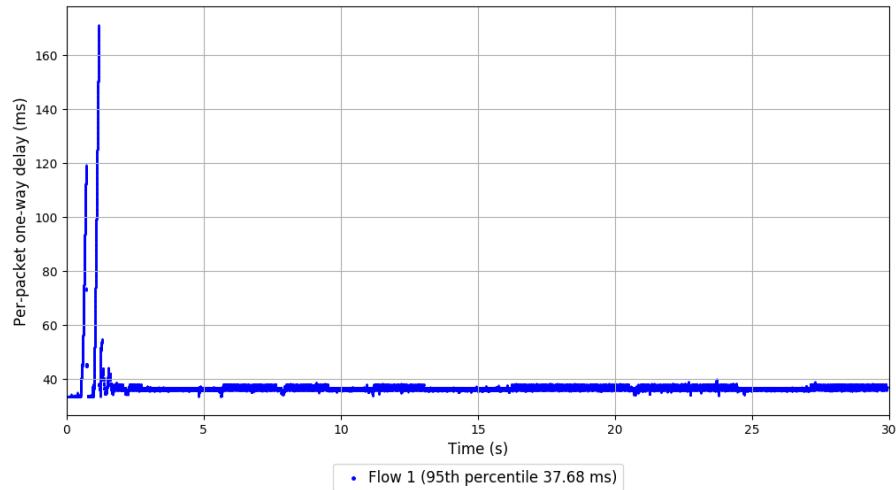
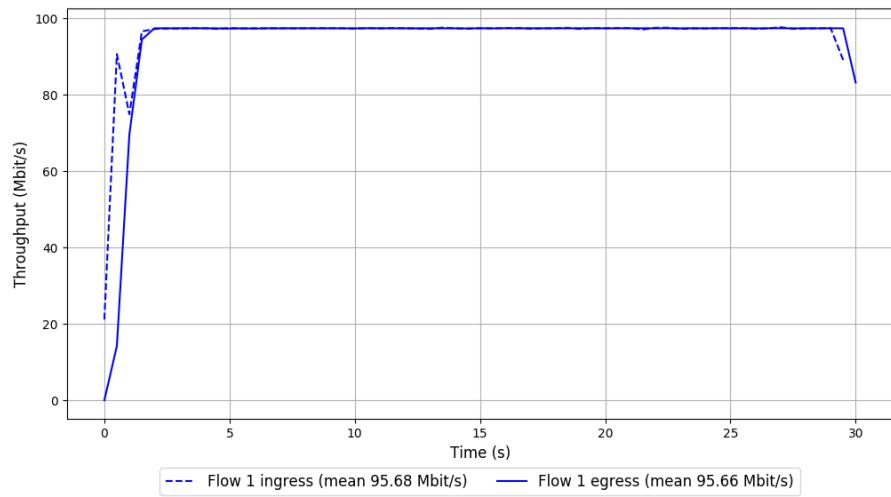


Run 4: Statistics of Indigo-MusesD

```
Start at: 2018-12-11 17:01:17
End at: 2018-12-11 17:01:47
Local clock offset: -0.157 ms
Remote clock offset: -2.071 ms

# Below is generated by plot.py at 2018-12-11 17:41:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 37.678 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 37.678 ms
Loss rate: 0.23%
```

Run 4: Report of Indigo-MusesD — Data Link

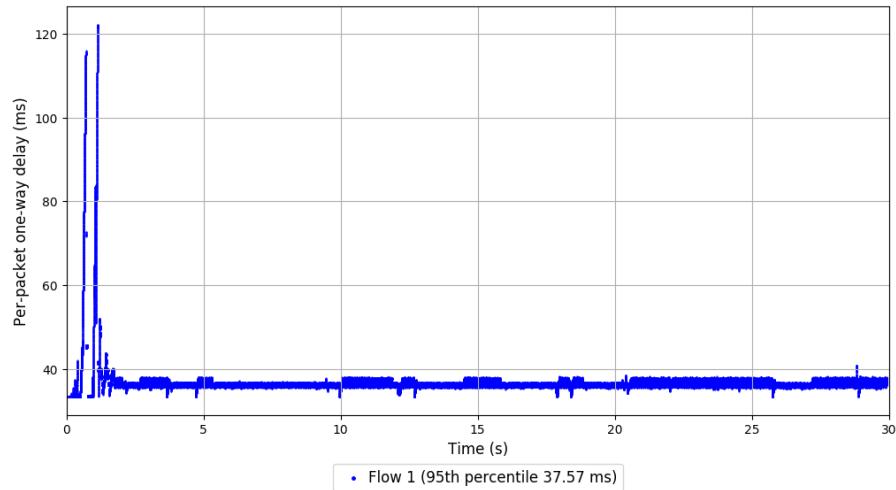
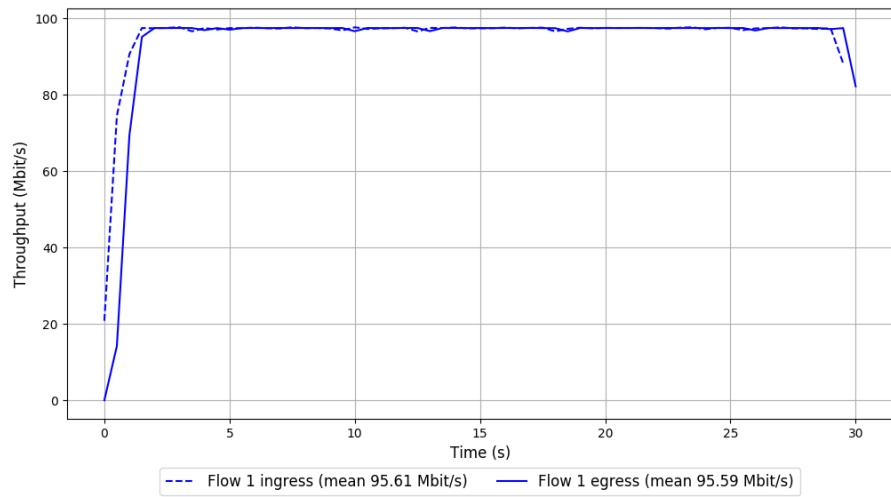


Run 5: Statistics of Indigo-MusesD

```
Start at: 2018-12-11 17:23:25
End at: 2018-12-11 17:23:55
Local clock offset: 2.63 ms
Remote clock offset: -1.761 ms

# Below is generated by plot.py at 2018-12-11 17:41:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.59 Mbit/s
95th percentile per-packet one-way delay: 37.574 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 95.59 Mbit/s
95th percentile per-packet one-way delay: 37.574 ms
Loss rate: 0.23%
```

Run 5: Report of Indigo-MusesD — Data Link

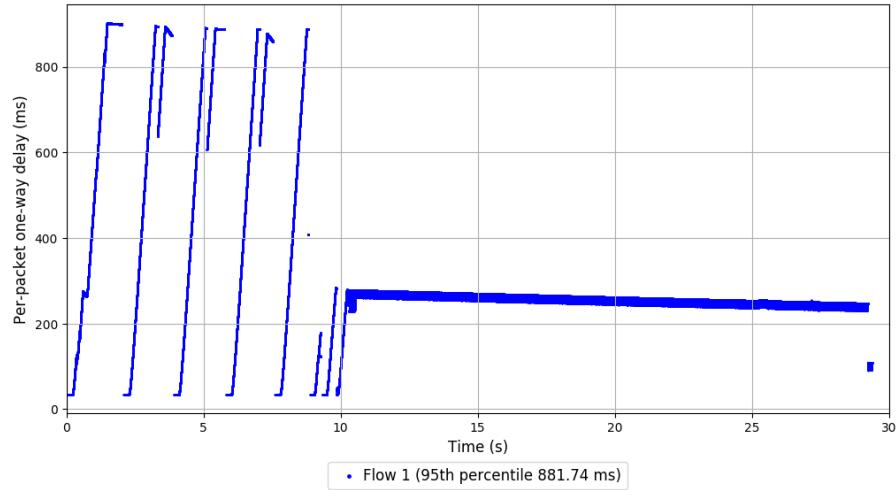
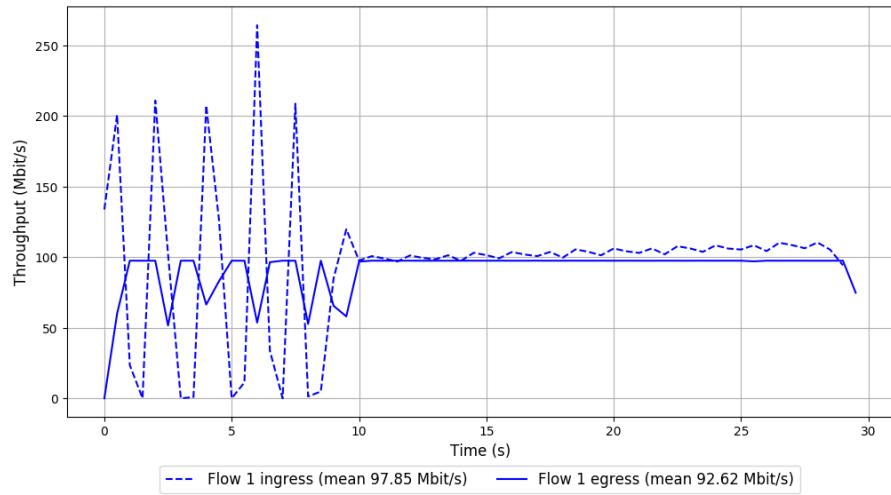


Run 1: Statistics of Indigo-MusesT

```
Start at: 2018-12-11 15:50:20
End at: 2018-12-11 15:50:50
Local clock offset: 4.474 ms
Remote clock offset: -3.958 ms

# Below is generated by plot.py at 2018-12-11 17:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.62 Mbit/s
95th percentile per-packet one-way delay: 881.744 ms
Loss rate: 5.55%
-- Flow 1:
Average throughput: 92.62 Mbit/s
95th percentile per-packet one-way delay: 881.744 ms
Loss rate: 5.55%
```

Run 1: Report of Indigo-MusesT — Data Link

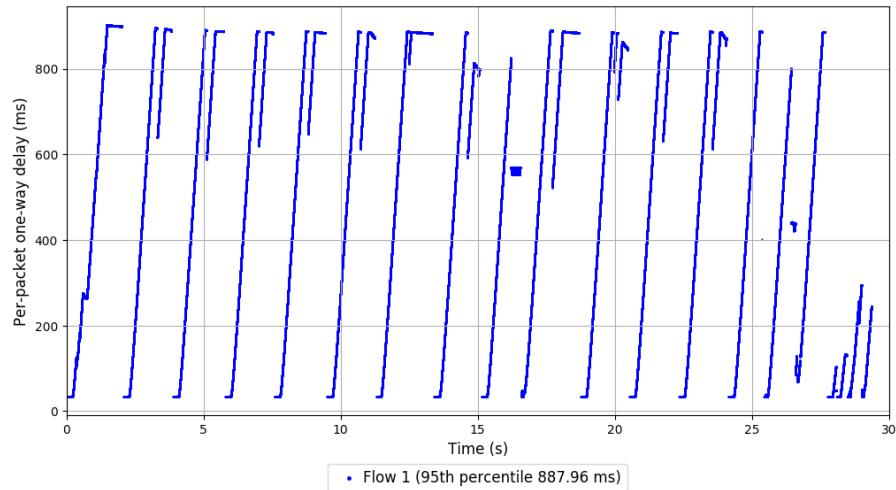
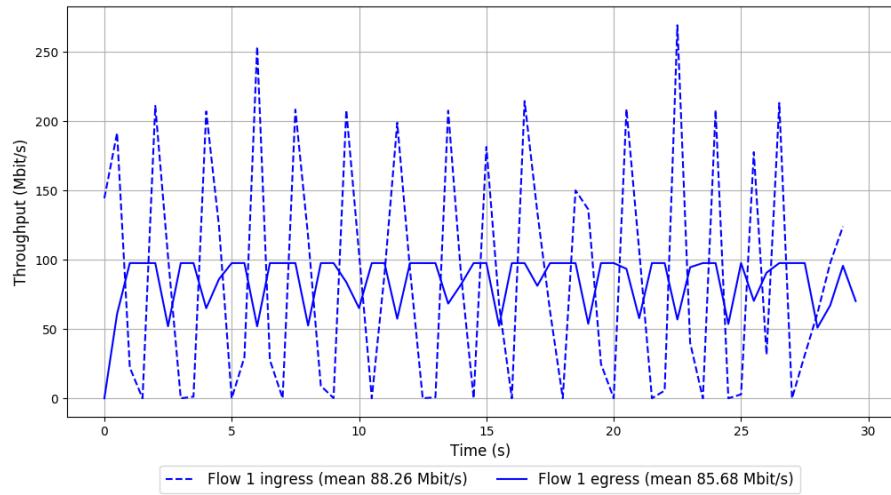


Run 2: Statistics of Indigo-MusesT

```
Start at: 2018-12-11 16:12:32
End at: 2018-12-11 16:13:02
Local clock offset: 3.084 ms
Remote clock offset: -3.268 ms

# Below is generated by plot.py at 2018-12-11 17:42:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.68 Mbit/s
95th percentile per-packet one-way delay: 887.963 ms
Loss rate: 3.10%
-- Flow 1:
Average throughput: 85.68 Mbit/s
95th percentile per-packet one-way delay: 887.963 ms
Loss rate: 3.10%
```

Run 2: Report of Indigo-MusesT — Data Link

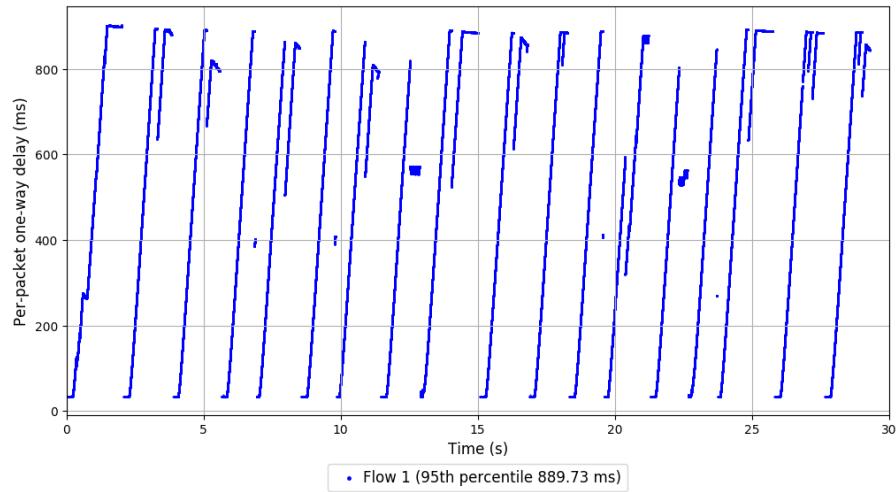
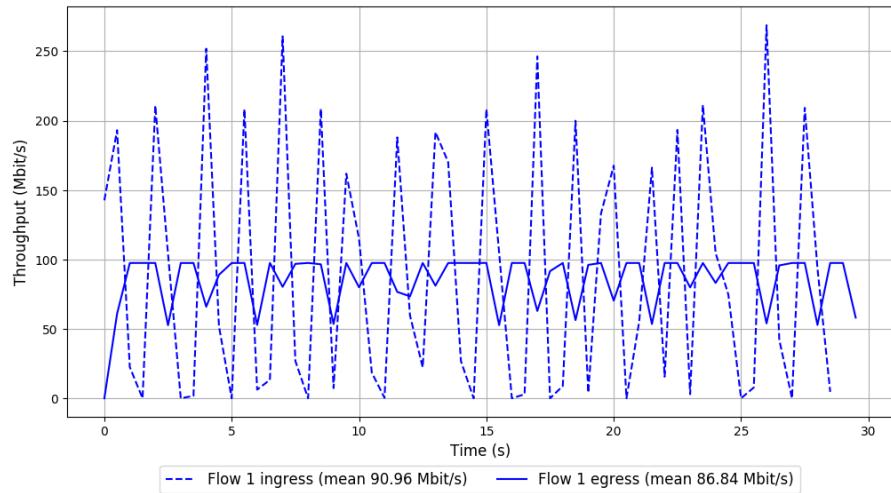


Run 3: Statistics of Indigo-MusesT

```
Start at: 2018-12-11 16:34:32
End at: 2018-12-11 16:35:02
Local clock offset: -0.991 ms
Remote clock offset: -2.613 ms

# Below is generated by plot.py at 2018-12-11 17:42:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.84 Mbit/s
95th percentile per-packet one-way delay: 889.726 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 86.84 Mbit/s
95th percentile per-packet one-way delay: 889.726 ms
Loss rate: 2.04%
```

Run 3: Report of Indigo-MusesT — Data Link

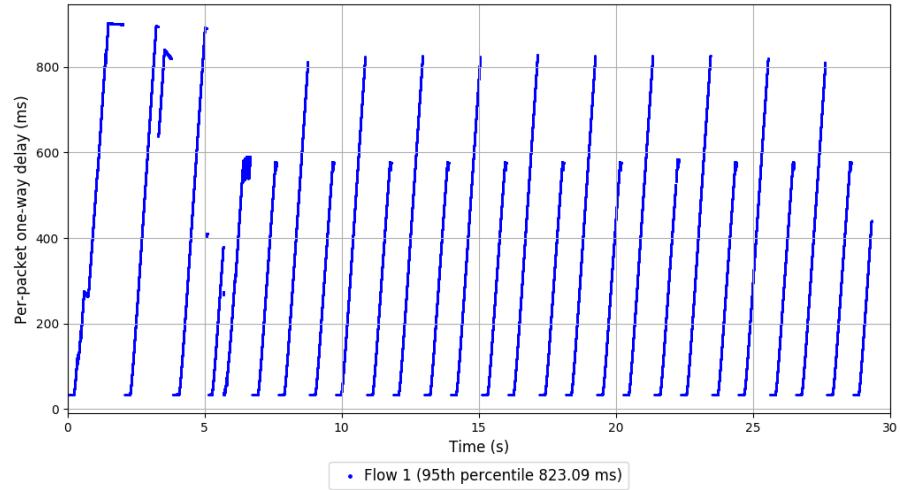
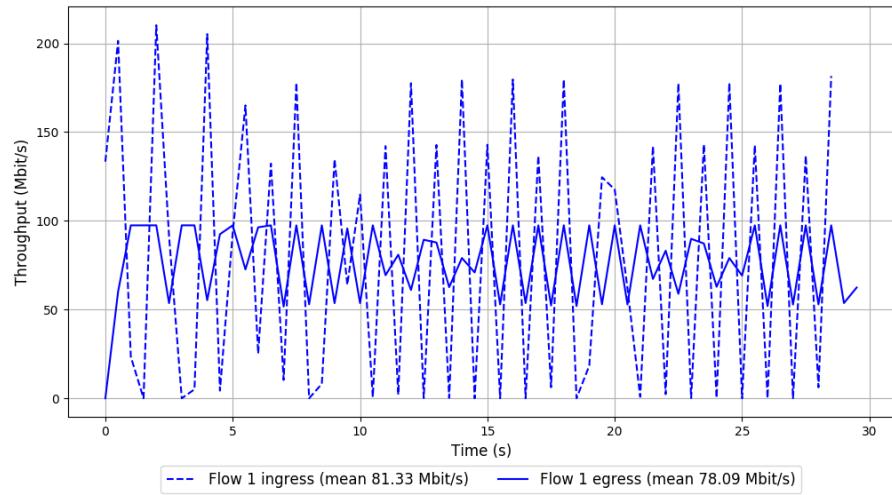


Run 4: Statistics of Indigo-MusesT

```
Start at: 2018-12-11 16:56:35
End at: 2018-12-11 16:57:05
Local clock offset: -0.127 ms
Remote clock offset: -2.109 ms

# Below is generated by plot.py at 2018-12-11 17:42:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 78.09 Mbit/s
95th percentile per-packet one-way delay: 823.094 ms
Loss rate: 2.70%
-- Flow 1:
Average throughput: 78.09 Mbit/s
95th percentile per-packet one-way delay: 823.094 ms
Loss rate: 2.70%
```

Run 4: Report of Indigo-MusesT — Data Link

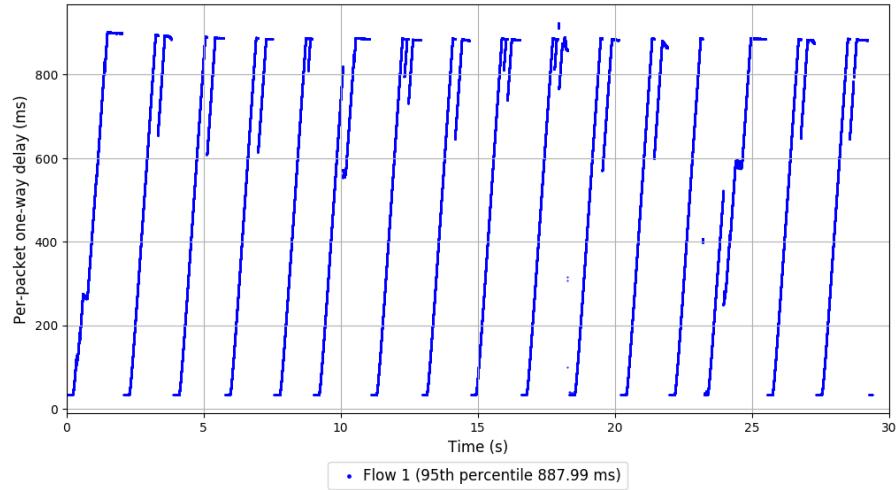
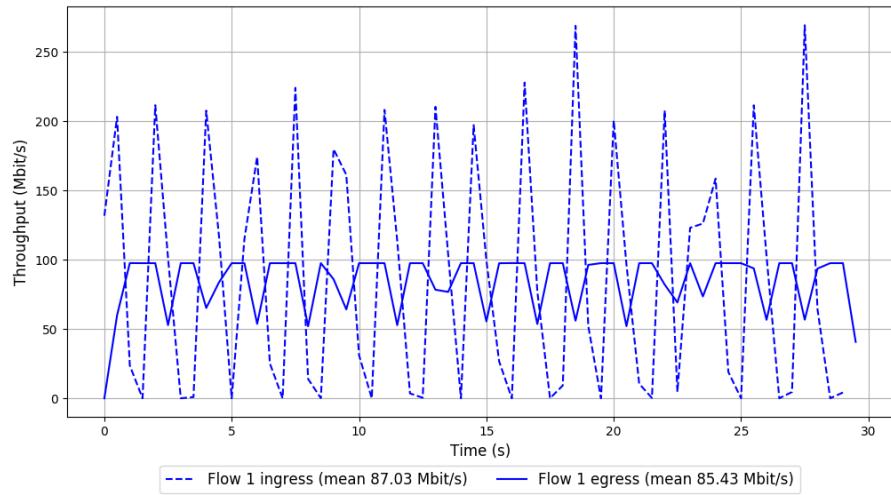


Run 5: Statistics of Indigo-MusesT

```
Start at: 2018-12-11 17:18:43
End at: 2018-12-11 17:19:13
Local clock offset: 2.143 ms
Remote clock offset: -1.751 ms

# Below is generated by plot.py at 2018-12-11 17:42:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.43 Mbit/s
95th percentile per-packet one-way delay: 887.992 ms
Loss rate: 2.06%
-- Flow 1:
Average throughput: 85.43 Mbit/s
95th percentile per-packet one-way delay: 887.992 ms
Loss rate: 2.06%
```

Run 5: Report of Indigo-MusesT — Data Link

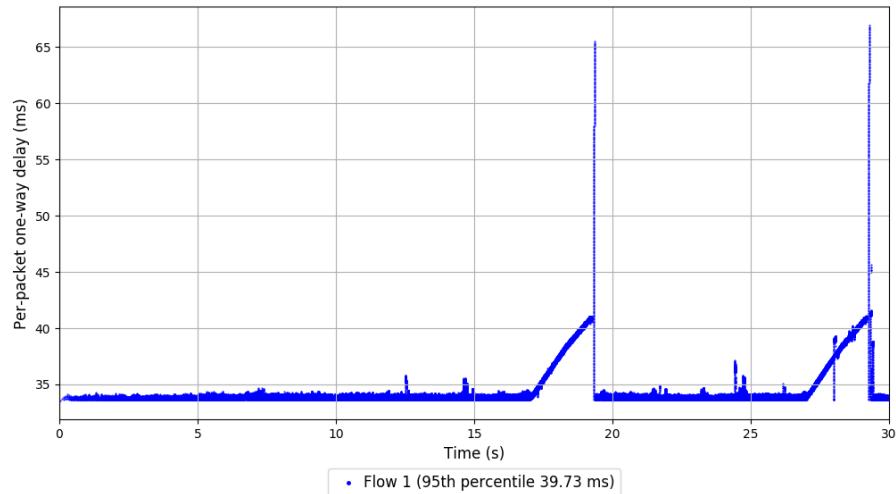
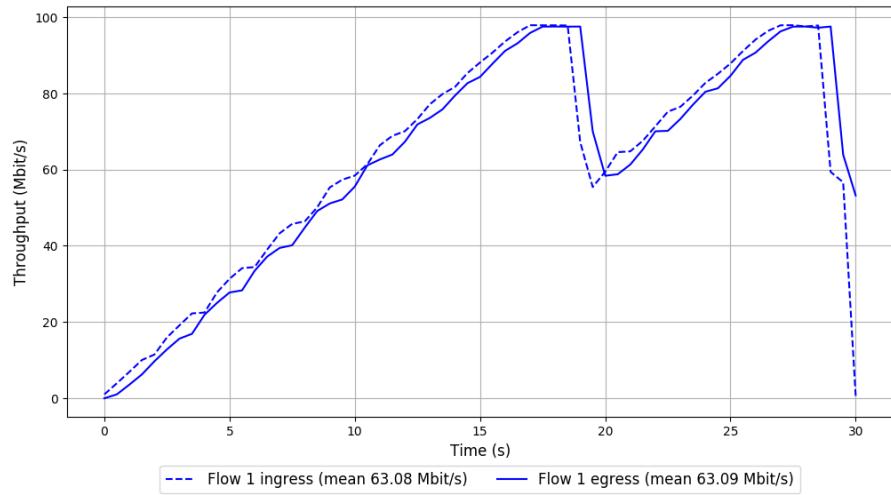


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-12-11 15:53:53
End at: 2018-12-11 15:54:23
Local clock offset: 4.612 ms
Remote clock offset: -4.065 ms

# Below is generated by plot.py at 2018-12-11 17:42:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.09 Mbit/s
95th percentile per-packet one-way delay: 39.729 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 63.09 Mbit/s
95th percentile per-packet one-way delay: 39.729 ms
Loss rate: 0.20%
```

Run 1: Report of LEDBAT — Data Link

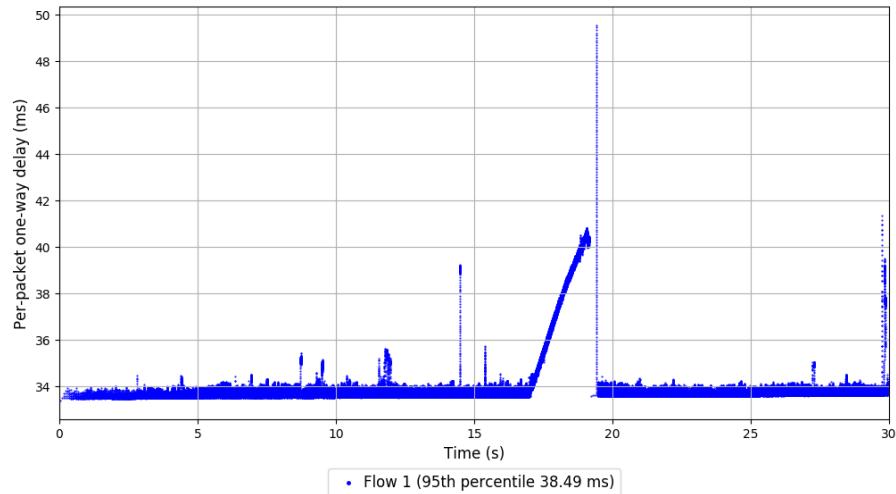
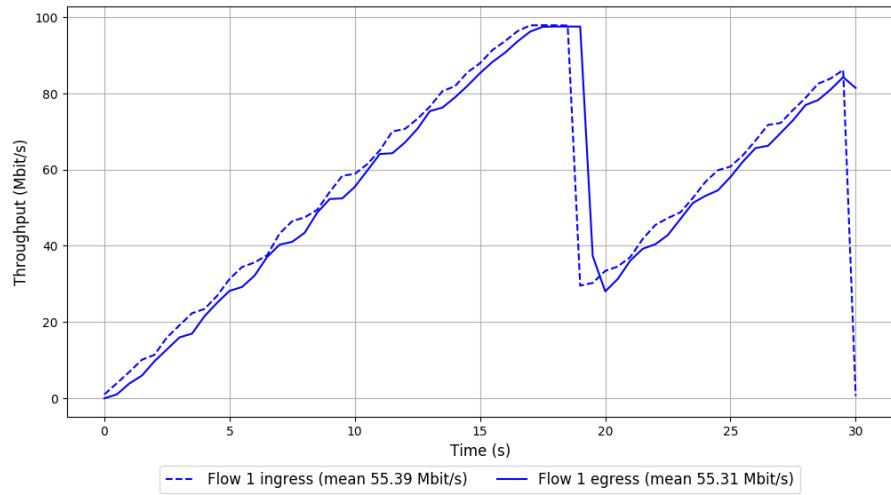


Run 2: Statistics of LEDBAT

```
Start at: 2018-12-11 16:16:04
End at: 2018-12-11 16:16:34
Local clock offset: 1.865 ms
Remote clock offset: -3.167 ms

# Below is generated by plot.py at 2018-12-11 17:42:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.31 Mbit/s
95th percentile per-packet one-way delay: 38.494 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 55.31 Mbit/s
95th percentile per-packet one-way delay: 38.494 ms
Loss rate: 0.34%
```

Run 2: Report of LEDBAT — Data Link

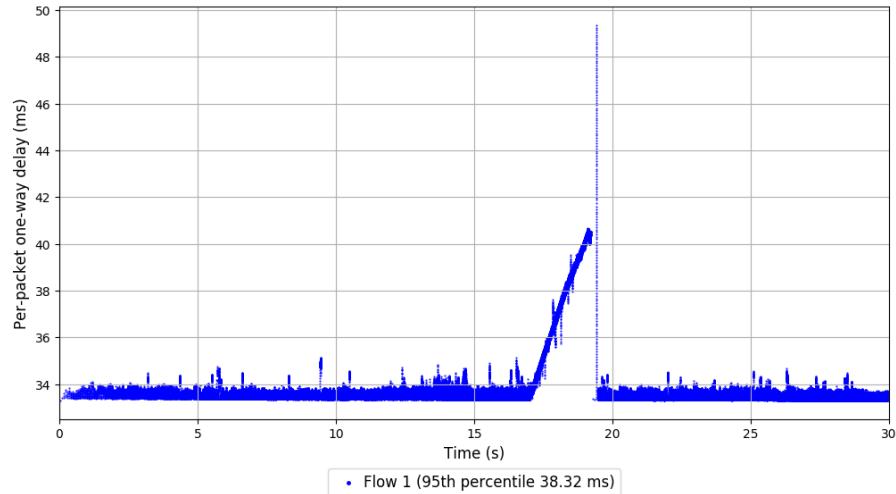
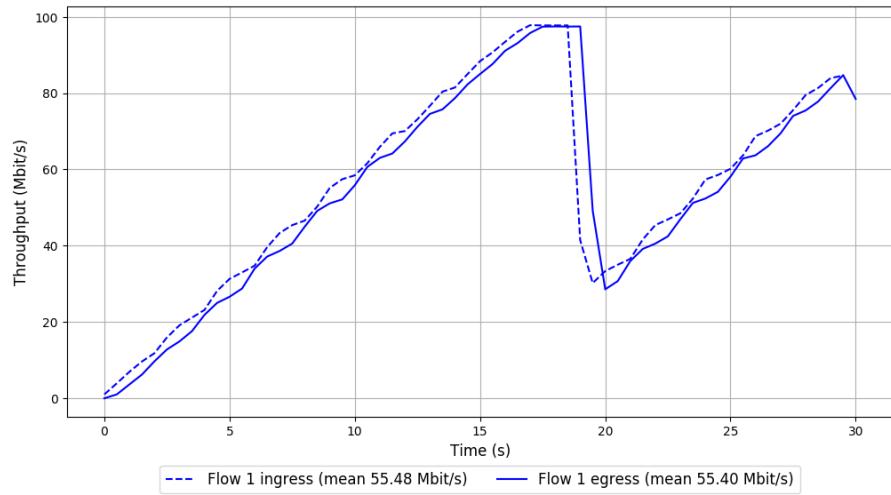


Run 3: Statistics of LEDBAT

```
Start at: 2018-12-11 16:38:05
End at: 2018-12-11 16:38:35
Local clock offset: -1.261 ms
Remote clock offset: -2.512 ms

# Below is generated by plot.py at 2018-12-11 17:42:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.40 Mbit/s
95th percentile per-packet one-way delay: 38.318 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 55.40 Mbit/s
95th percentile per-packet one-way delay: 38.318 ms
Loss rate: 0.34%
```

Run 3: Report of LEDBAT — Data Link

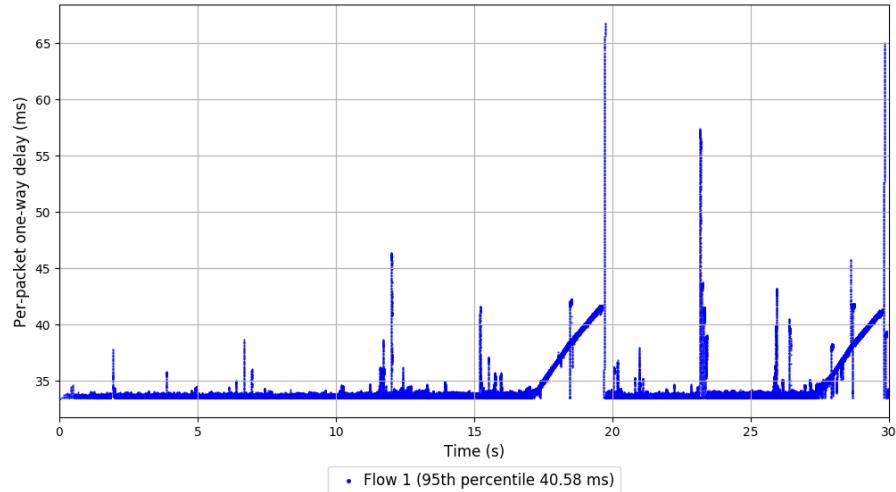
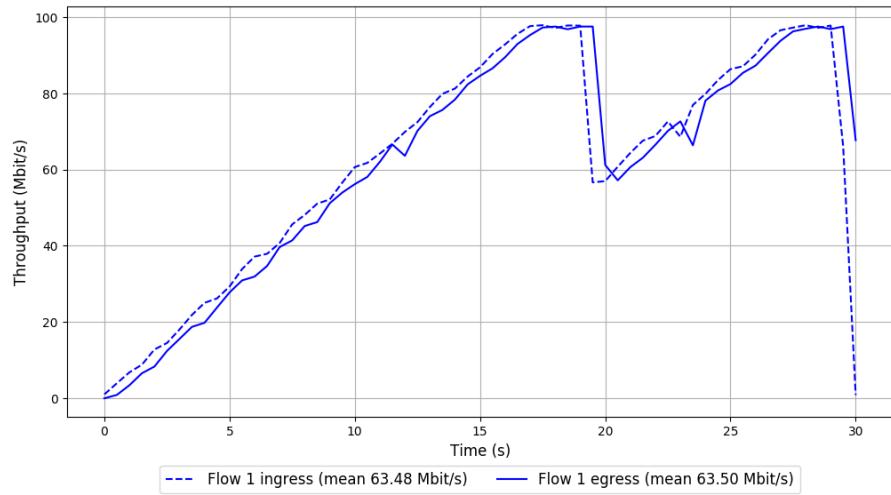


Run 4: Statistics of LEDBAT

```
Start at: 2018-12-11 17:00:08
End at: 2018-12-11 17:00:38
Local clock offset: -0.172 ms
Remote clock offset: -2.093 ms

# Below is generated by plot.py at 2018-12-11 17:43:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.50 Mbit/s
95th percentile per-packet one-way delay: 40.582 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 63.50 Mbit/s
95th percentile per-packet one-way delay: 40.582 ms
Loss rate: 0.19%
```

Run 4: Report of LEDBAT — Data Link

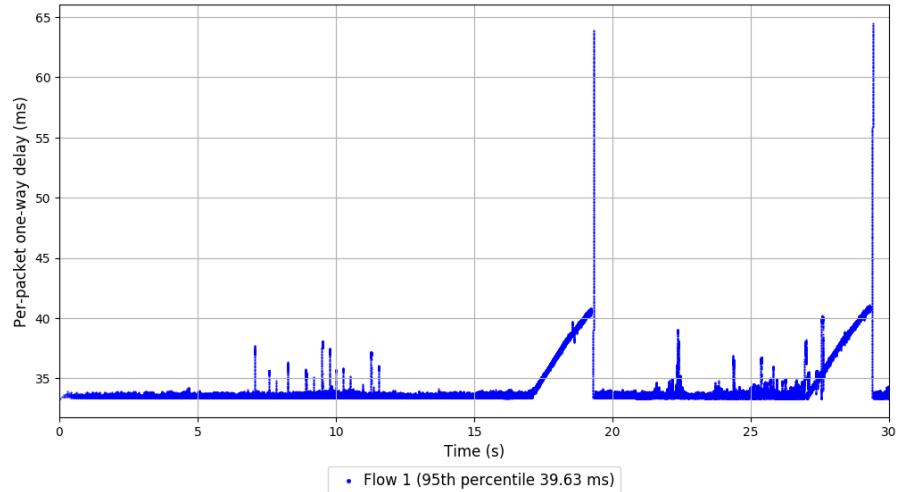
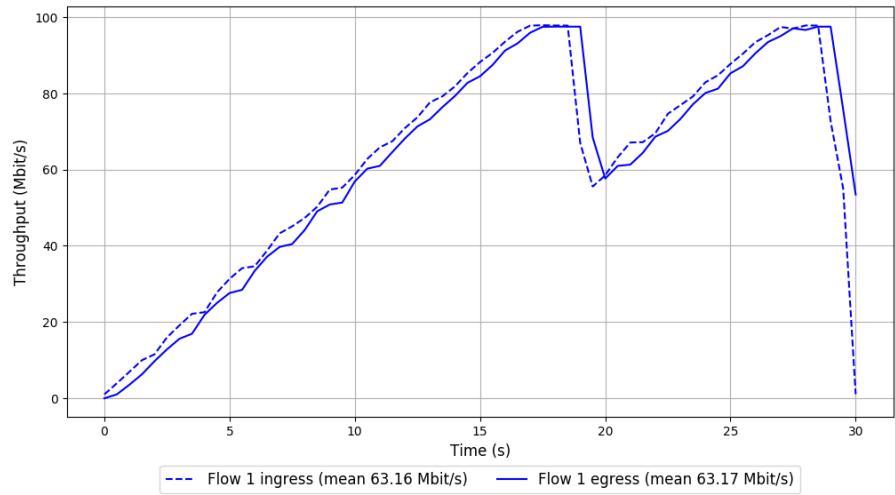


Run 5: Statistics of LEDBAT

```
Start at: 2018-12-11 17:22:16
End at: 2018-12-11 17:22:46
Local clock offset: 2.534 ms
Remote clock offset: -1.764 ms

# Below is generated by plot.py at 2018-12-11 17:43:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.17 Mbit/s
95th percentile per-packet one-way delay: 39.627 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 63.17 Mbit/s
95th percentile per-packet one-way delay: 39.627 ms
Loss rate: 0.20%
```

Run 5: Report of LEDBAT — Data Link

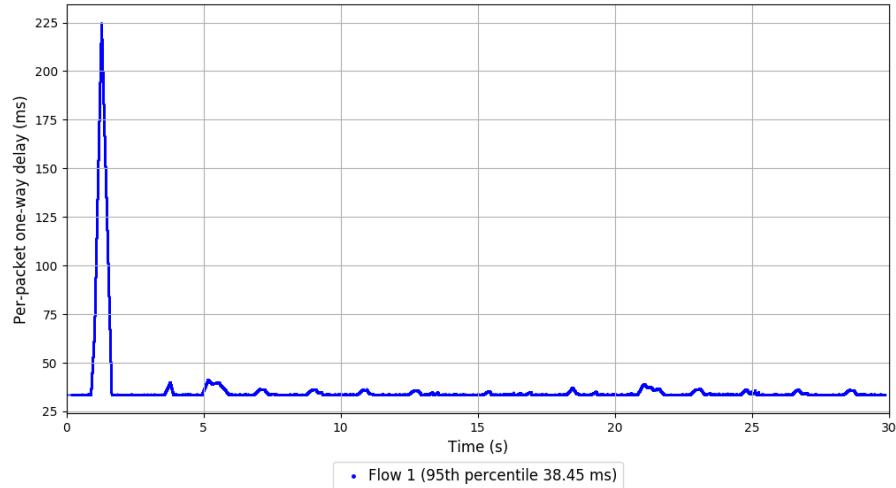
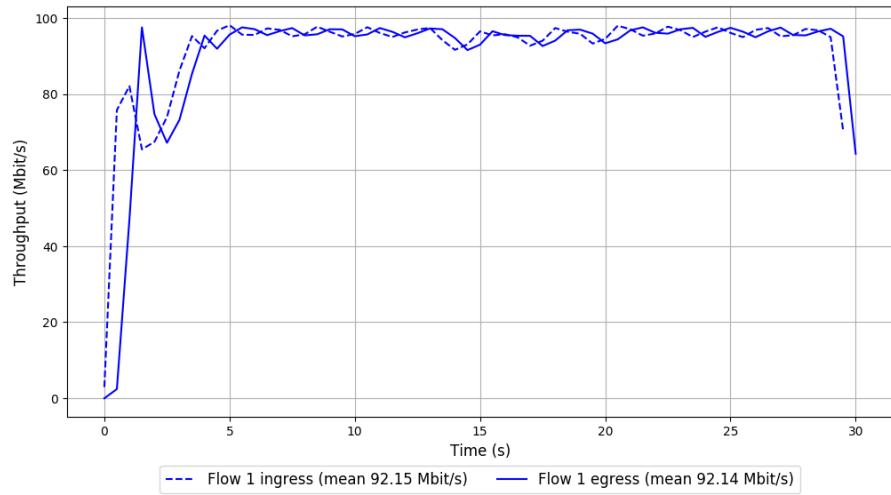


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-12-11 16:04:22
End at: 2018-12-11 16:04:52
Local clock offset: 4.977 ms
Remote clock offset: -3.693 ms

# Below is generated by plot.py at 2018-12-11 17:43:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.14 Mbit/s
95th percentile per-packet one-way delay: 38.451 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 92.14 Mbit/s
95th percentile per-packet one-way delay: 38.451 ms
Loss rate: 0.23%
```

Run 1: Report of PCC-Allegro — Data Link

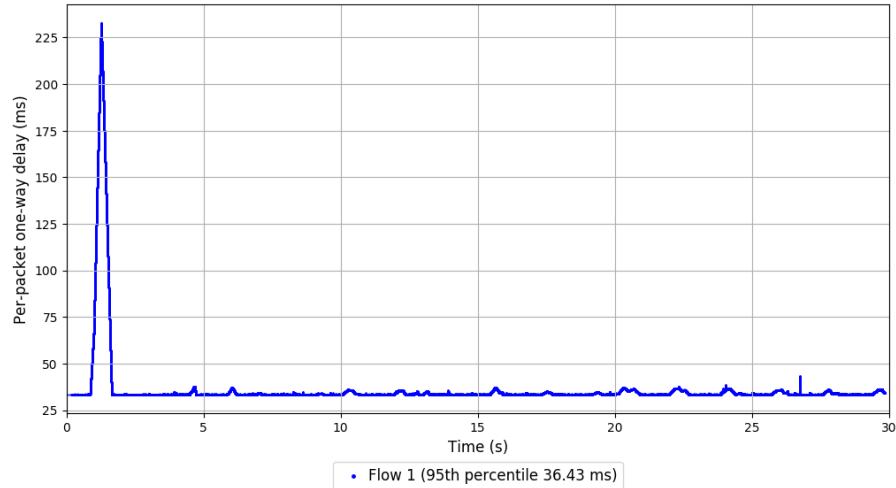
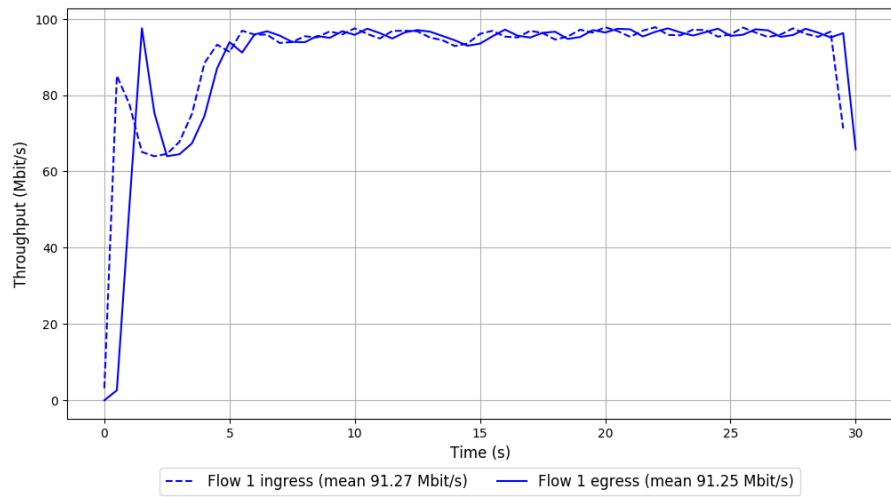


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-12-11 16:26:27
End at: 2018-12-11 16:26:57
Local clock offset: -0.152 ms
Remote clock offset: -2.859 ms

# Below is generated by plot.py at 2018-12-11 17:43:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.25 Mbit/s
95th percentile per-packet one-way delay: 36.429 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 91.25 Mbit/s
95th percentile per-packet one-way delay: 36.429 ms
Loss rate: 0.23%
```

Run 2: Report of PCC-Allegro — Data Link

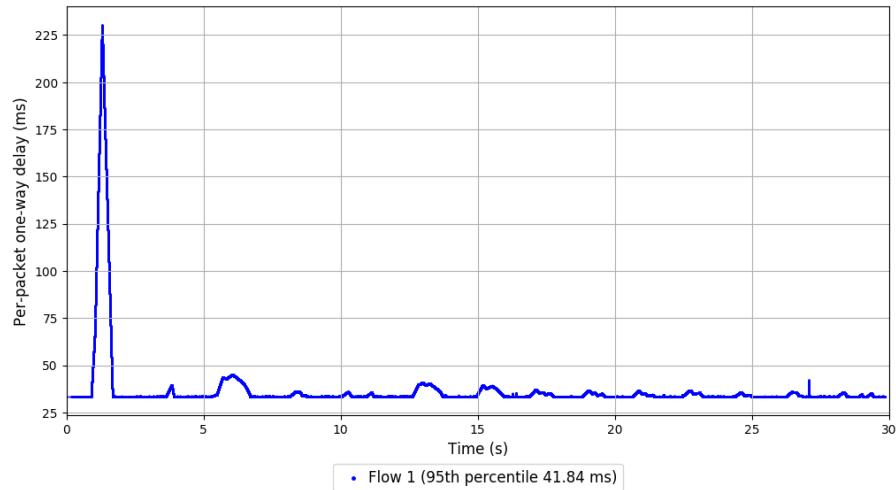
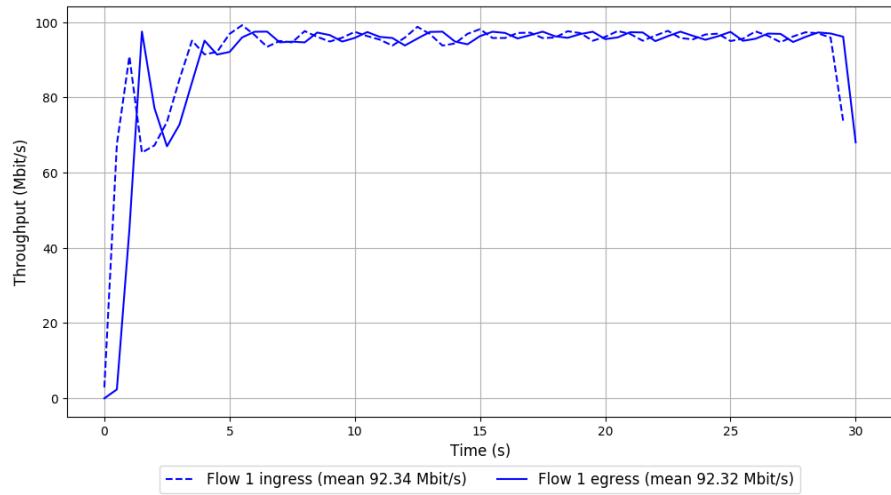


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-12-11 16:48:28
End at: 2018-12-11 16:48:58
Local clock offset: -0.267 ms
Remote clock offset: -2.31 ms

# Below is generated by plot.py at 2018-12-11 17:43:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.32 Mbit/s
95th percentile per-packet one-way delay: 41.836 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 92.32 Mbit/s
95th percentile per-packet one-way delay: 41.836 ms
Loss rate: 0.24%
```

Run 3: Report of PCC-Allegro — Data Link

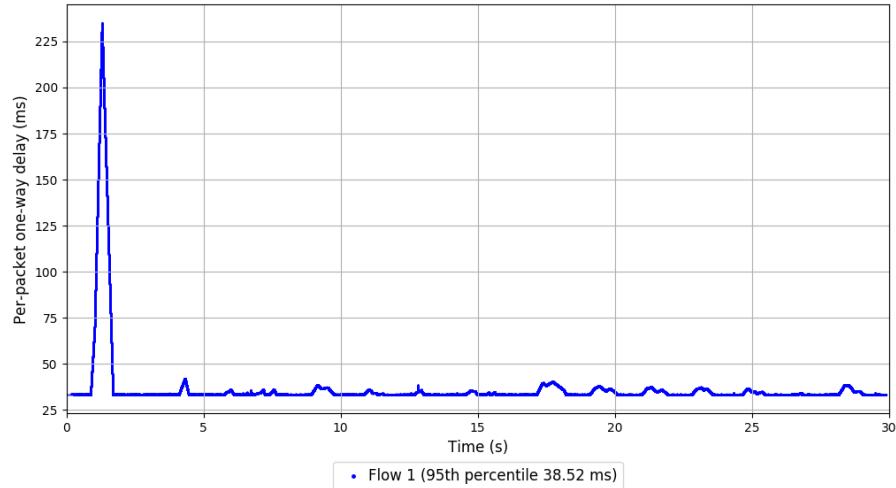
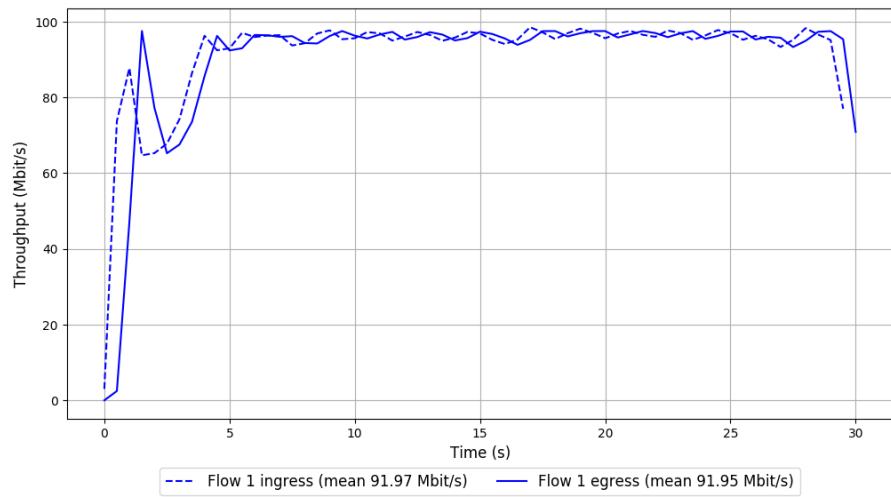


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-12-11 17:10:34
End at: 2018-12-11 17:11:05
Local clock offset: 0.419 ms
Remote clock offset: -1.874 ms

# Below is generated by plot.py at 2018-12-11 17:43:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.95 Mbit/s
95th percentile per-packet one-way delay: 38.517 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 91.95 Mbit/s
95th percentile per-packet one-way delay: 38.517 ms
Loss rate: 0.23%
```

Run 4: Report of PCC-Allegro — Data Link

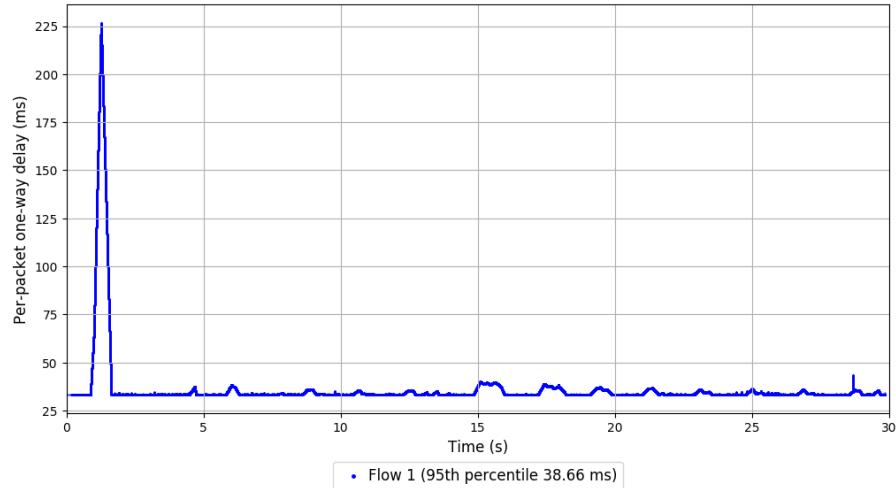
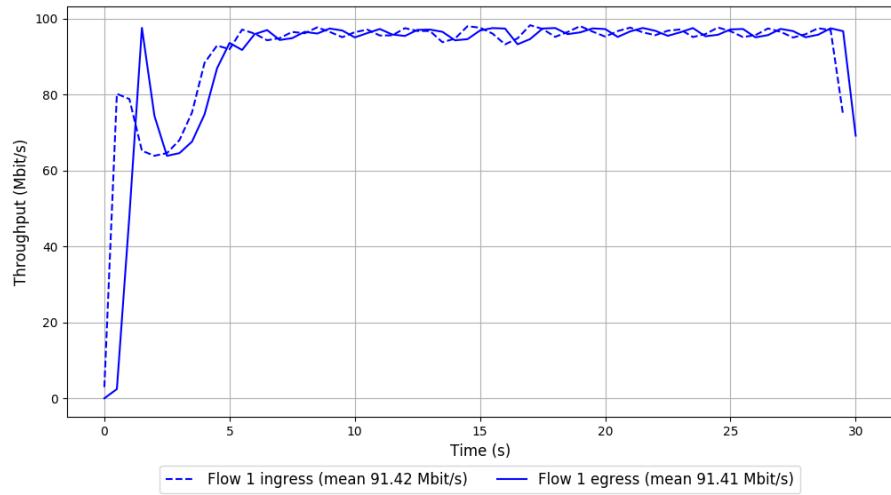


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-12-11 17:32:39
End at: 2018-12-11 17:33:09
Local clock offset: 3.175 ms
Remote clock offset: -1.758 ms

# Below is generated by plot.py at 2018-12-11 17:43:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.41 Mbit/s
95th percentile per-packet one-way delay: 38.657 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 91.41 Mbit/s
95th percentile per-packet one-way delay: 38.657 ms
Loss rate: 0.23%
```

Run 5: Report of PCC-Allegro — Data Link

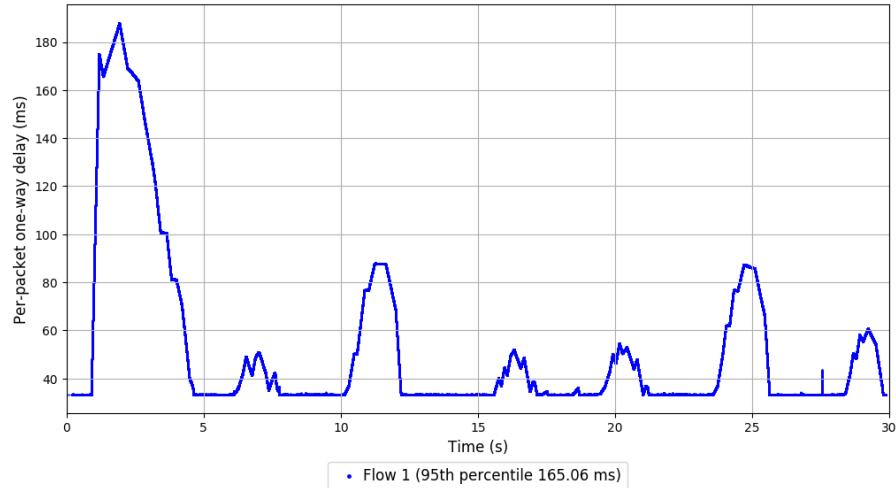
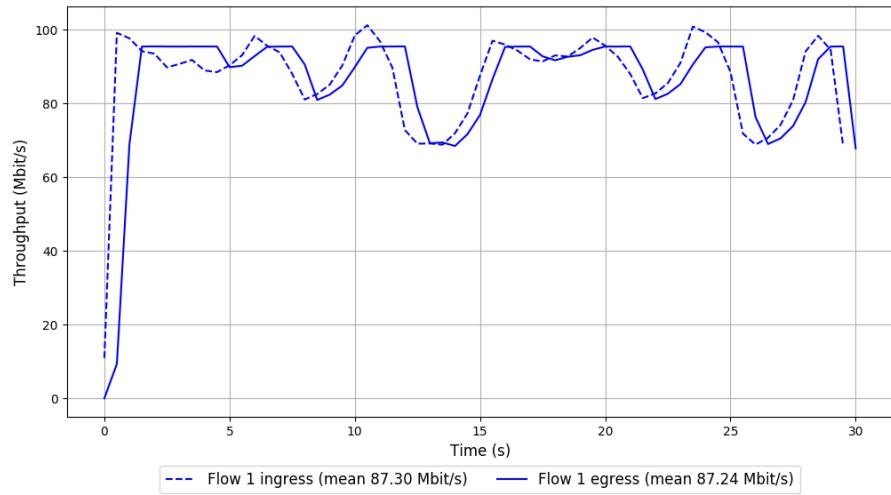


Run 1: Statistics of PCC-Expr

```
Start at: 2018-12-11 15:56:13
End at: 2018-12-11 15:56:43
Local clock offset: 4.678 ms
Remote clock offset: -3.697 ms

# Below is generated by plot.py at 2018-12-11 17:44:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.24 Mbit/s
95th percentile per-packet one-way delay: 165.060 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 87.24 Mbit/s
95th percentile per-packet one-way delay: 165.060 ms
Loss rate: 0.28%
```

Run 1: Report of PCC-Expr — Data Link

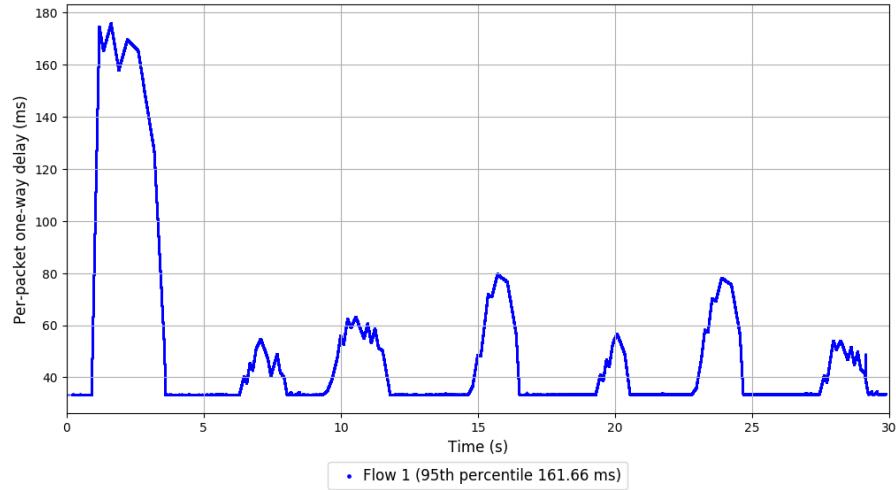
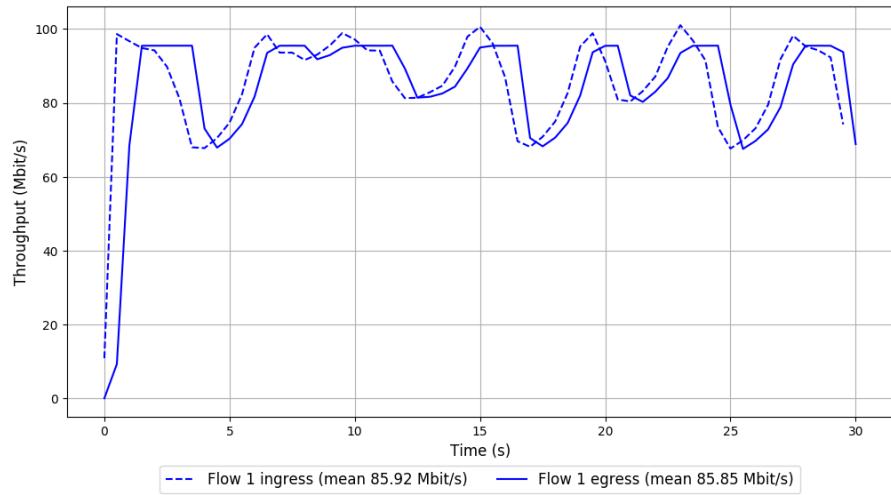


Run 2: Statistics of PCC-Expr

```
Start at: 2018-12-11 16:18:23
End at: 2018-12-11 16:18:53
Local clock offset: 1.202 ms
Remote clock offset: -3.089 ms

# Below is generated by plot.py at 2018-12-11 17:45:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.85 Mbit/s
95th percentile per-packet one-way delay: 161.665 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 85.85 Mbit/s
95th percentile per-packet one-way delay: 161.665 ms
Loss rate: 0.30%
```

Run 2: Report of PCC-Expr — Data Link

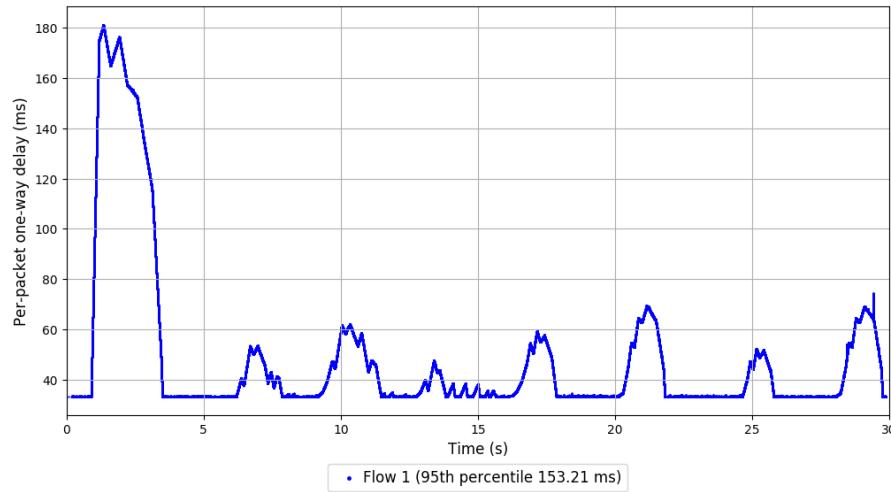
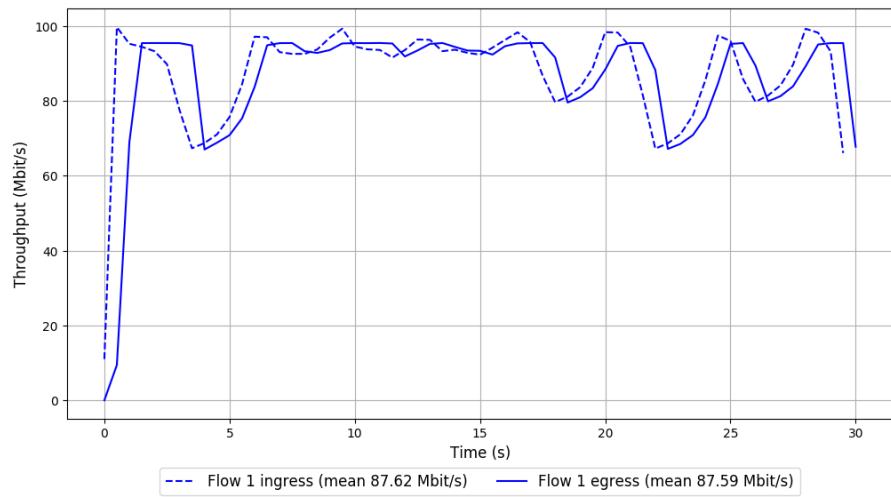


Run 3: Statistics of PCC-Expr

```
Start at: 2018-12-11 16:40:24
End at: 2018-12-11 16:40:54
Local clock offset: -0.953 ms
Remote clock offset: -2.39 ms

# Below is generated by plot.py at 2018-12-11 17:45:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.59 Mbit/s
95th percentile per-packet one-way delay: 153.206 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 87.59 Mbit/s
95th percentile per-packet one-way delay: 153.206 ms
Loss rate: 0.25%
```

Run 3: Report of PCC-Expr — Data Link

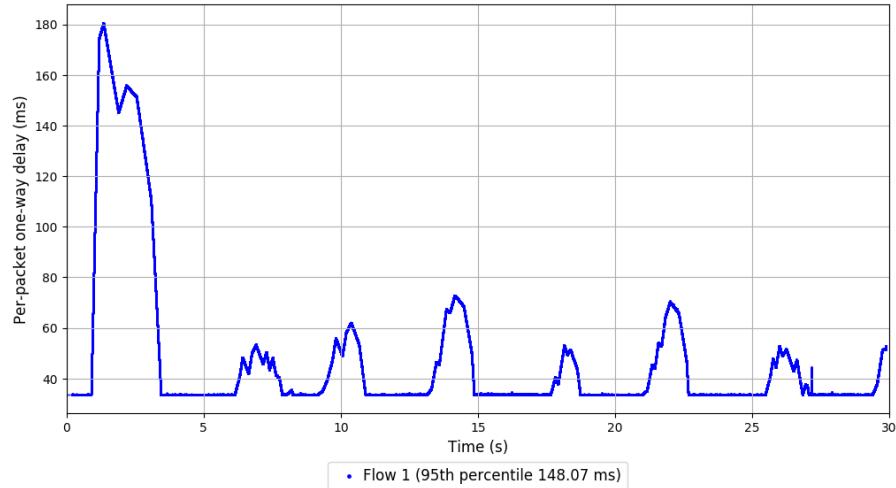
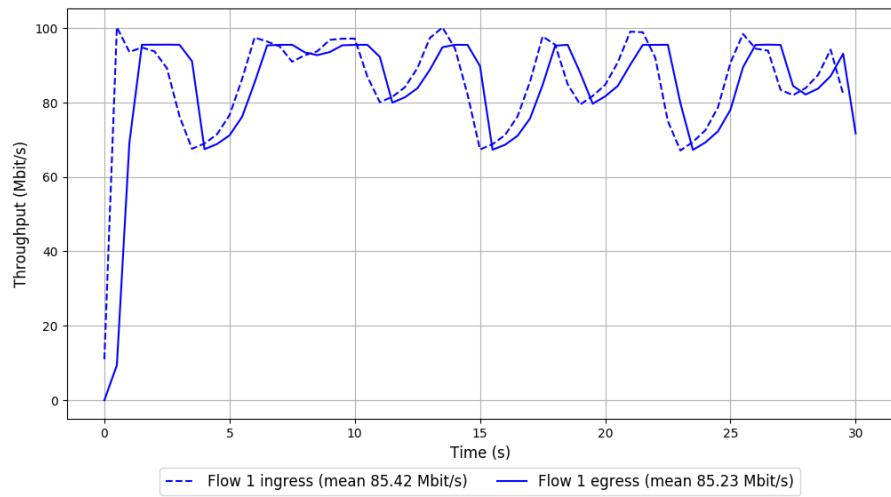


Run 4: Statistics of PCC-Expr

```
Start at: 2018-12-11 17:02:27
End at: 2018-12-11 17:02:57
Local clock offset: -0.18 ms
Remote clock offset: -2.194 ms

# Below is generated by plot.py at 2018-12-11 17:45:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.23 Mbit/s
95th percentile per-packet one-way delay: 148.075 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 85.23 Mbit/s
95th percentile per-packet one-way delay: 148.075 ms
Loss rate: 0.44%
```

Run 4: Report of PCC-Expr — Data Link

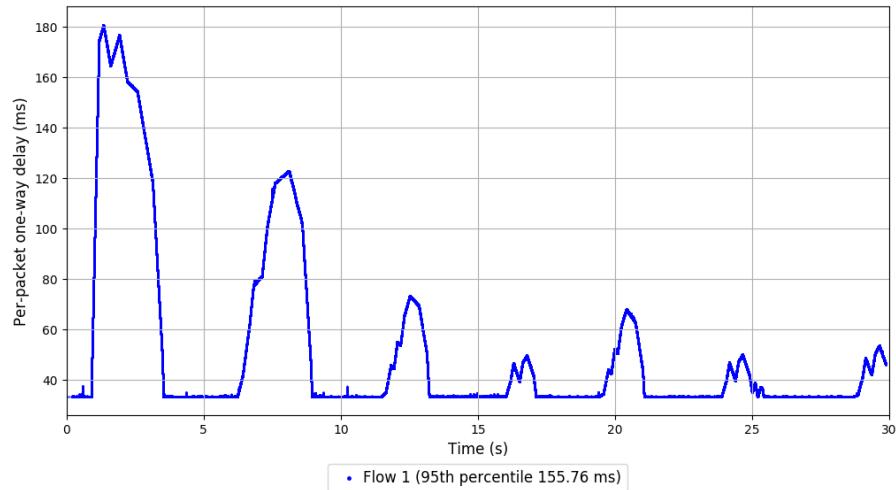
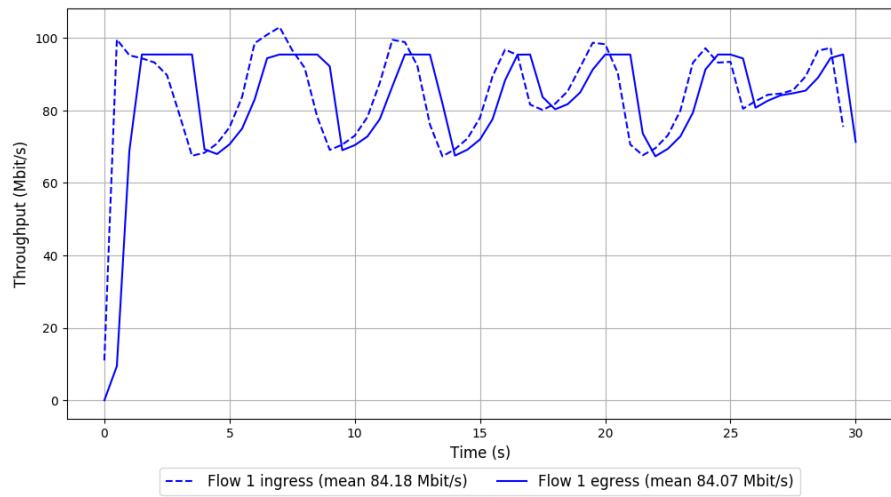


Run 5: Statistics of PCC-Expr

```
Start at: 2018-12-11 17:24:35
End at: 2018-12-11 17:25:05
Local clock offset: 2.722 ms
Remote clock offset: -1.771 ms

# Below is generated by plot.py at 2018-12-11 17:45:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.07 Mbit/s
95th percentile per-packet one-way delay: 155.759 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 84.07 Mbit/s
95th percentile per-packet one-way delay: 155.759 ms
Loss rate: 0.34%
```

Run 5: Report of PCC-Expr — Data Link

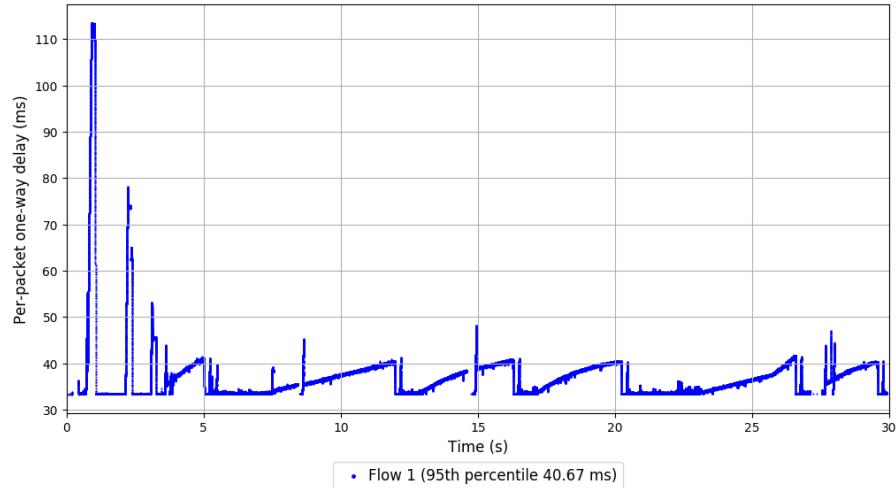
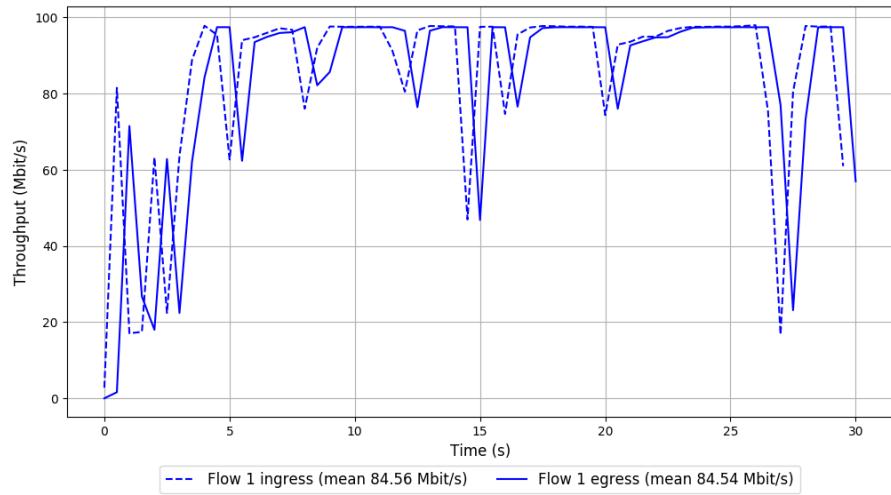


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-12-11 16:00:49
End at: 2018-12-11 16:01:19
Local clock offset: 4.861 ms
Remote clock offset: -3.595 ms

# Below is generated by plot.py at 2018-12-11 17:45:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.54 Mbit/s
95th percentile per-packet one-way delay: 40.674 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 84.54 Mbit/s
95th percentile per-packet one-way delay: 40.674 ms
Loss rate: 0.24%
```

Run 1: Report of QUIC Cubic — Data Link

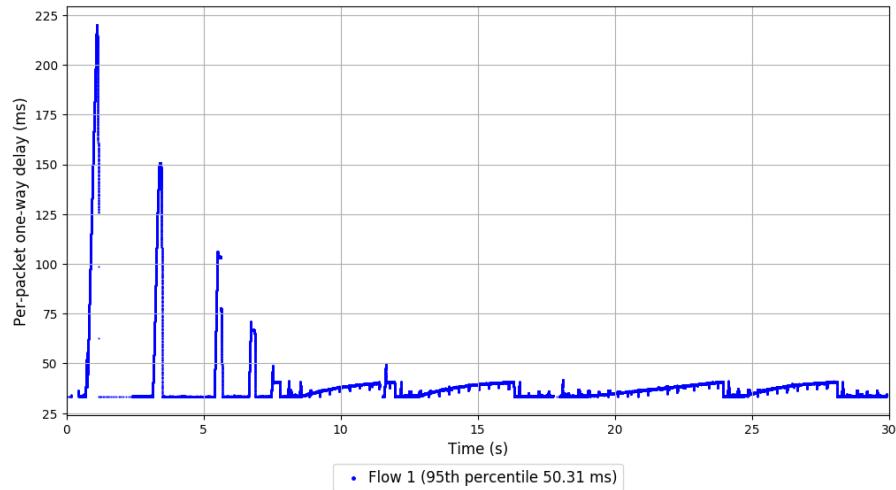
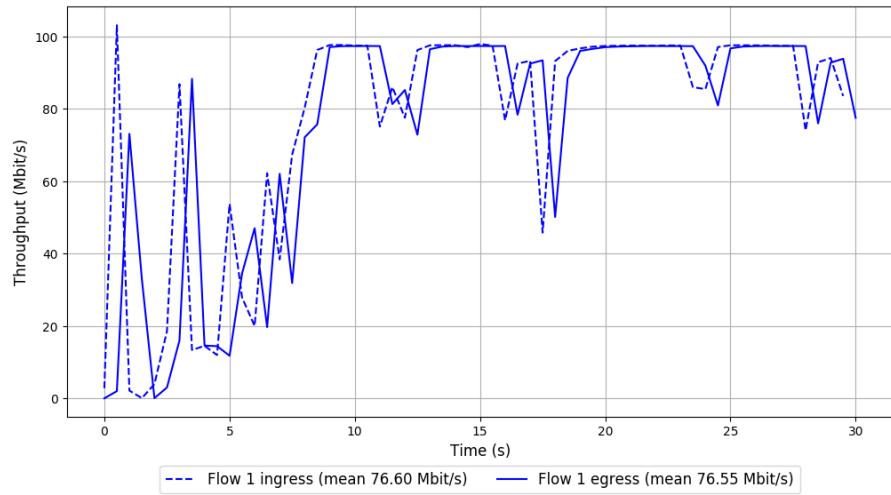


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-12-11 16:22:58
End at: 2018-12-11 16:23:28
Local clock offset: 0.356 ms
Remote clock offset: -2.959 ms

# Below is generated by plot.py at 2018-12-11 17:45:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.55 Mbit/s
95th percentile per-packet one-way delay: 50.314 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 76.55 Mbit/s
95th percentile per-packet one-way delay: 50.314 ms
Loss rate: 0.28%
```

Run 2: Report of QUIC Cubic — Data Link

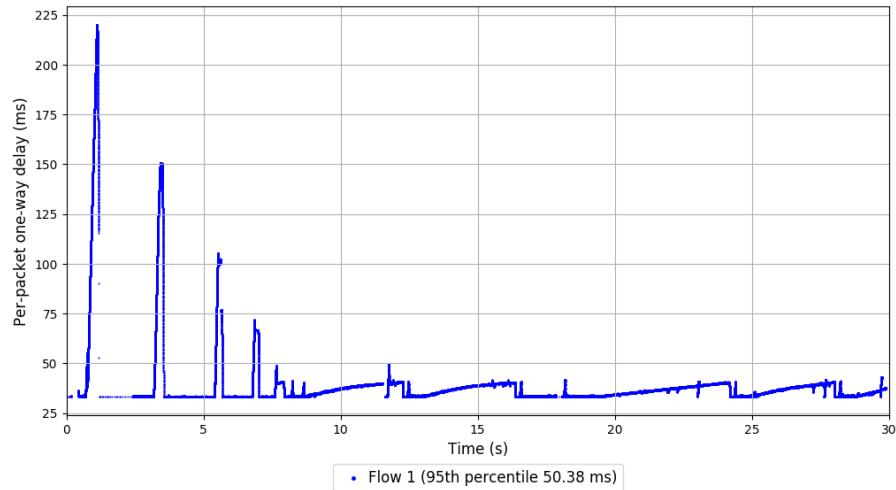
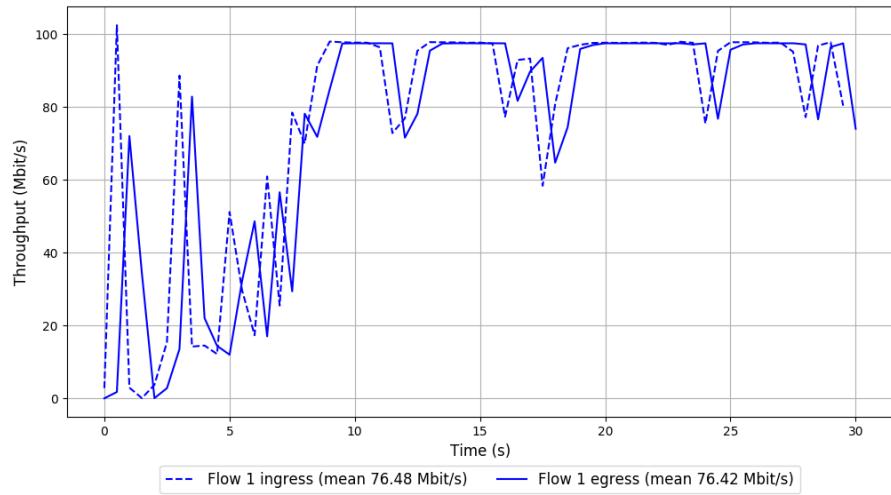


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-12-11 16:44:59
End at: 2018-12-11 16:45:29
Local clock offset: -0.461 ms
Remote clock offset: -2.308 ms

# Below is generated by plot.py at 2018-12-11 17:45:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.42 Mbit/s
95th percentile per-packet one-way delay: 50.383 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 76.42 Mbit/s
95th percentile per-packet one-way delay: 50.383 ms
Loss rate: 0.30%
```

Run 3: Report of QUIC Cubic — Data Link

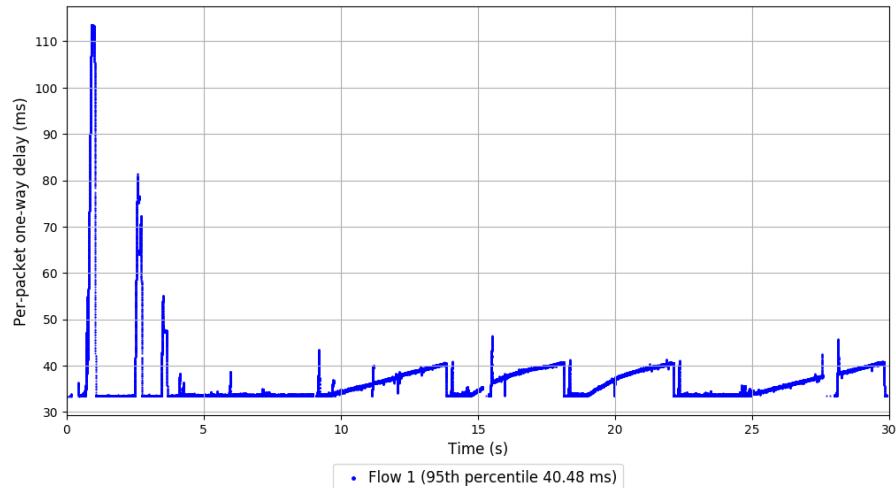
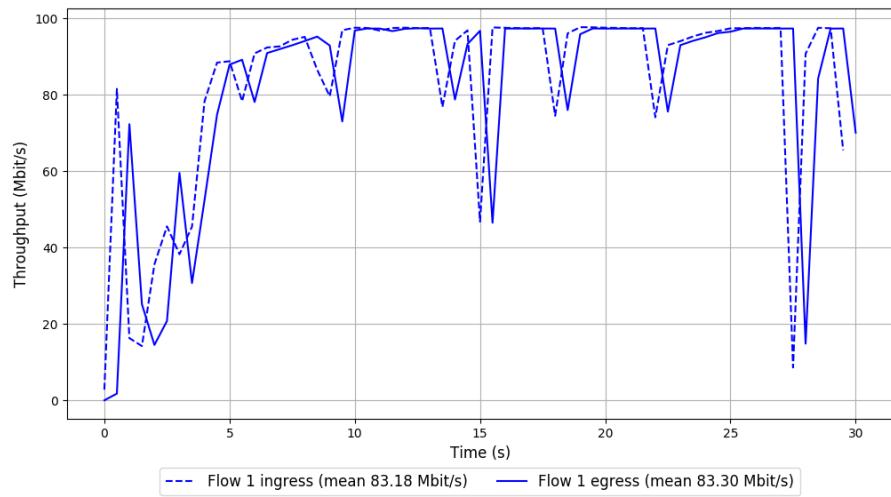


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-12-11 17:07:03
End at: 2018-12-11 17:07:33
Local clock offset: -0.264 ms
Remote clock offset: -1.936 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.30 Mbit/s
95th percentile per-packet one-way delay: 40.476 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 83.30 Mbit/s
95th percentile per-packet one-way delay: 40.476 ms
Loss rate: 0.07%
```

Run 4: Report of QUIC Cubic — Data Link

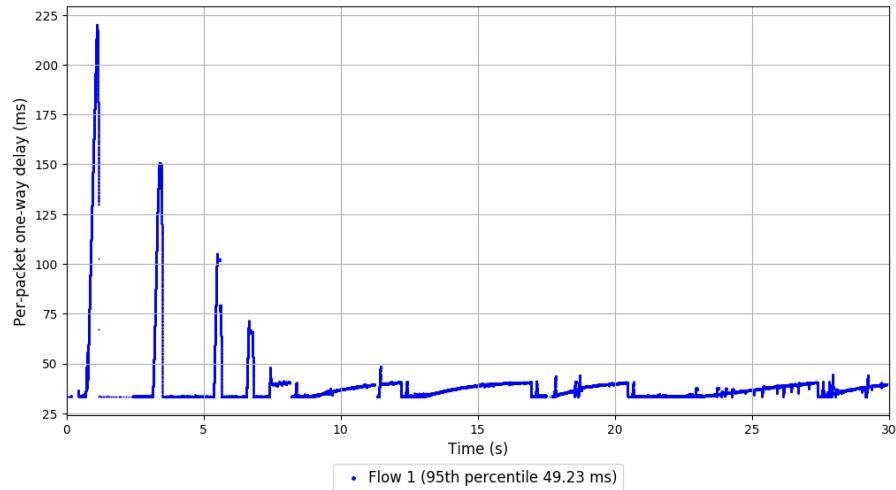
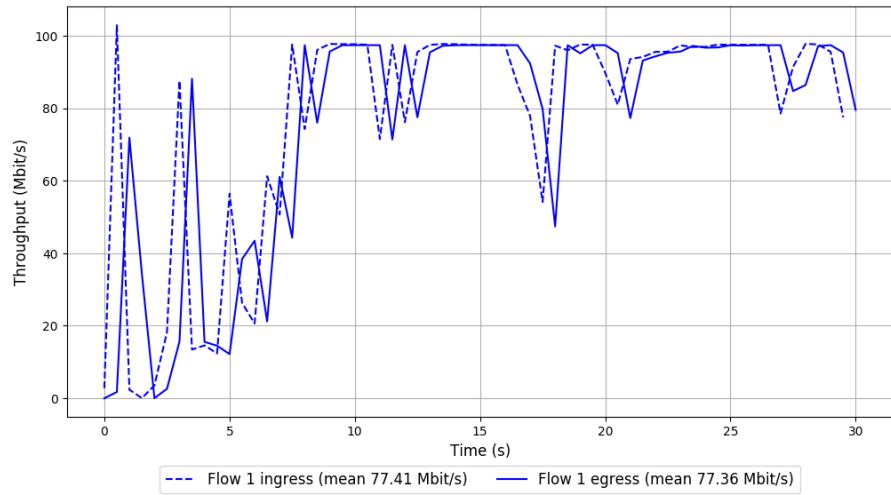


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-12-11 17:29:10
End at: 2018-12-11 17:29:40
Local clock offset: 3.0 ms
Remote clock offset: -1.787 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.36 Mbit/s
95th percentile per-packet one-way delay: 49.235 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 77.36 Mbit/s
95th percentile per-packet one-way delay: 49.235 ms
Loss rate: 0.13%
```

Run 5: Report of QUIC Cubic — Data Link

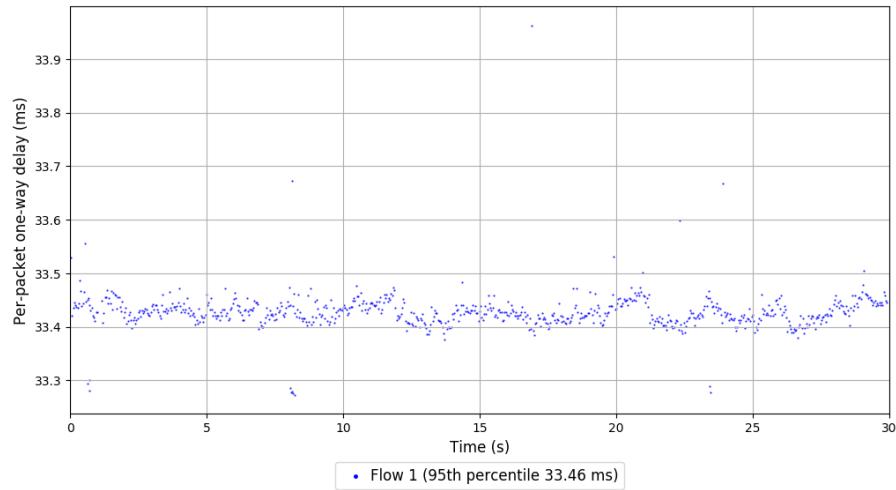
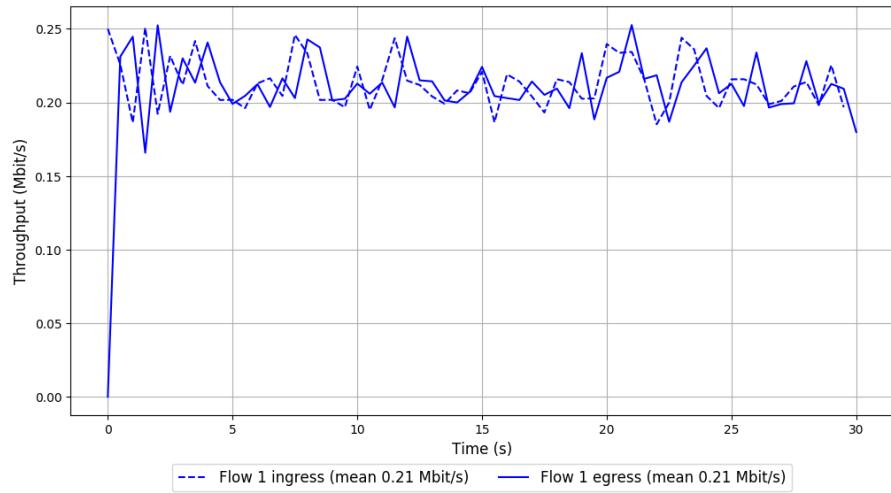


```
Run 1: Statistics of SCReAM

Start at: 2018-12-11 15:58:37
End at: 2018-12-11 15:59:07
Local clock offset: 4.78 ms
Remote clock offset: -3.676 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.462 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.462 ms
Loss rate: 0.26%
```

Run 1: Report of SCReAM — Data Link

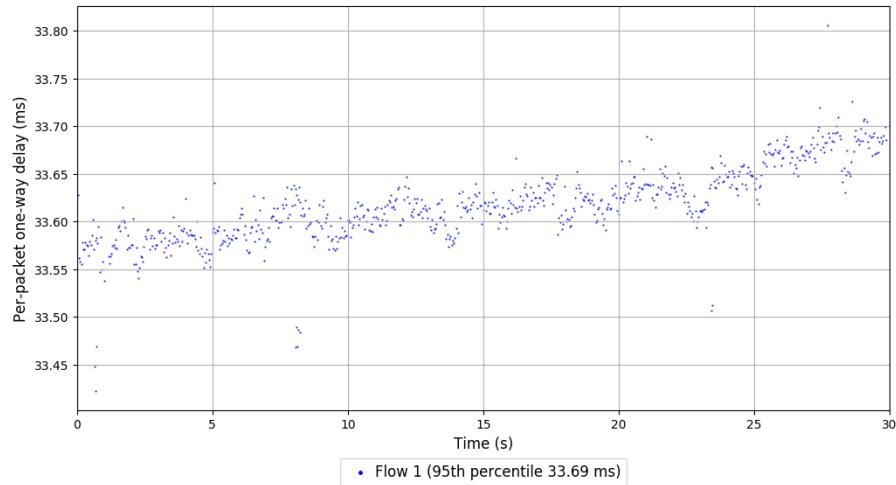
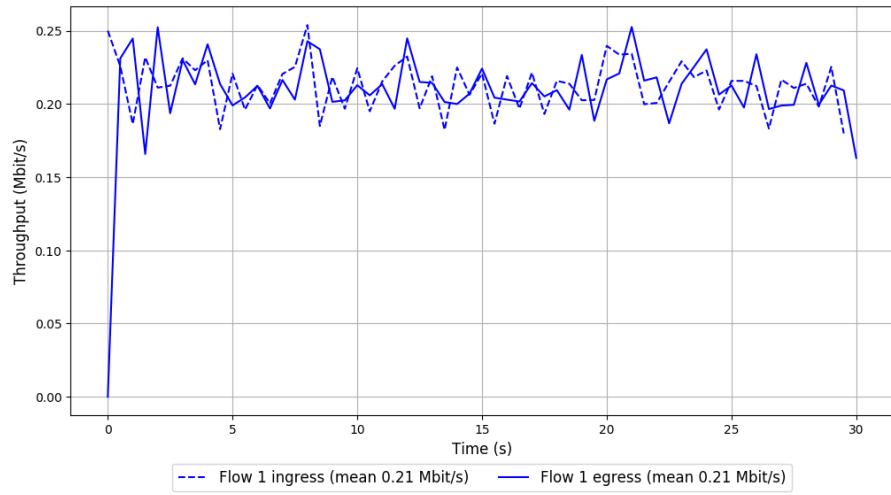


Run 2: Statistics of SCReAM

```
Start at: 2018-12-11 16:20:46
End at: 2018-12-11 16:21:16
Local clock offset: 0.742 ms
Remote clock offset: -3.06 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.685 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.685 ms
Loss rate: 0.26%
```

Run 2: Report of SCReAM — Data Link

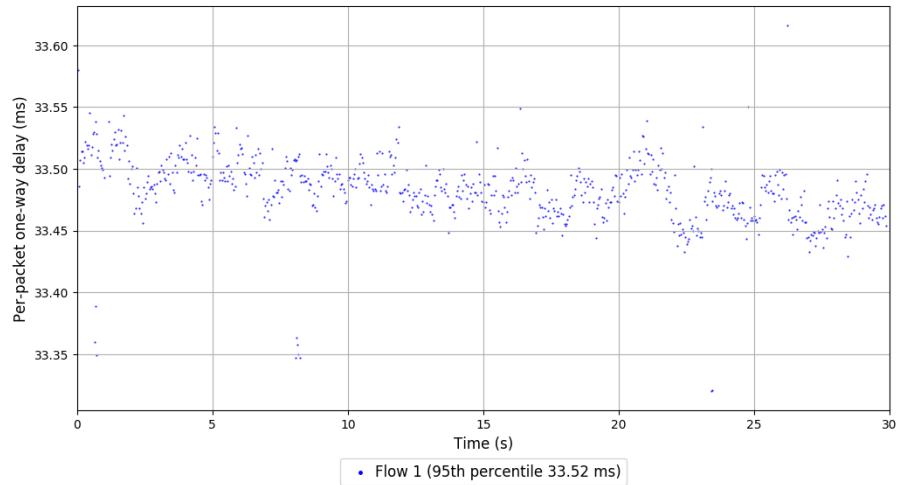
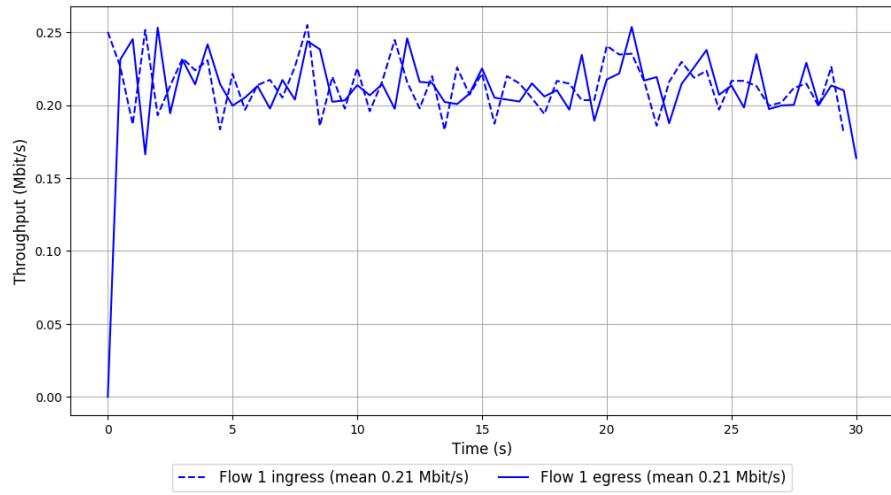


Run 3: Statistics of SCReAM

```
Start at: 2018-12-11 16:42:47
End at: 2018-12-11 16:43:17
Local clock offset: -0.651 ms
Remote clock offset: -2.49 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.520 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.520 ms
Loss rate: 0.26%
```

Run 3: Report of SCReAM — Data Link

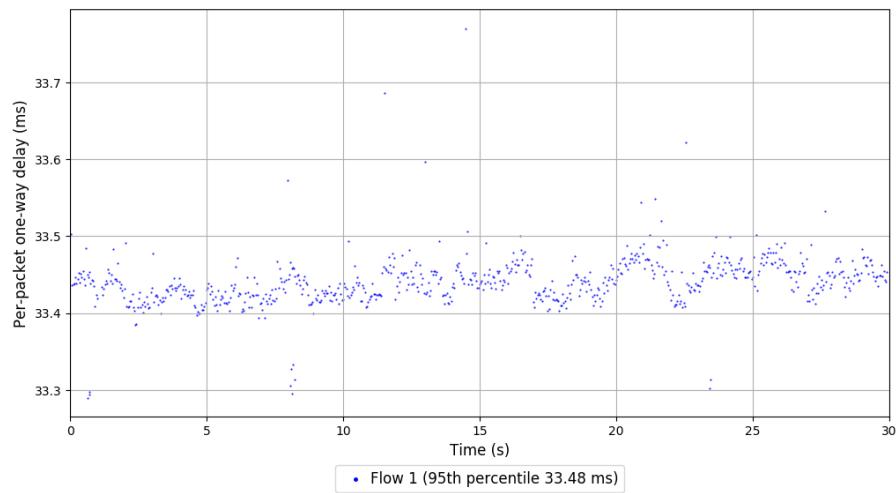
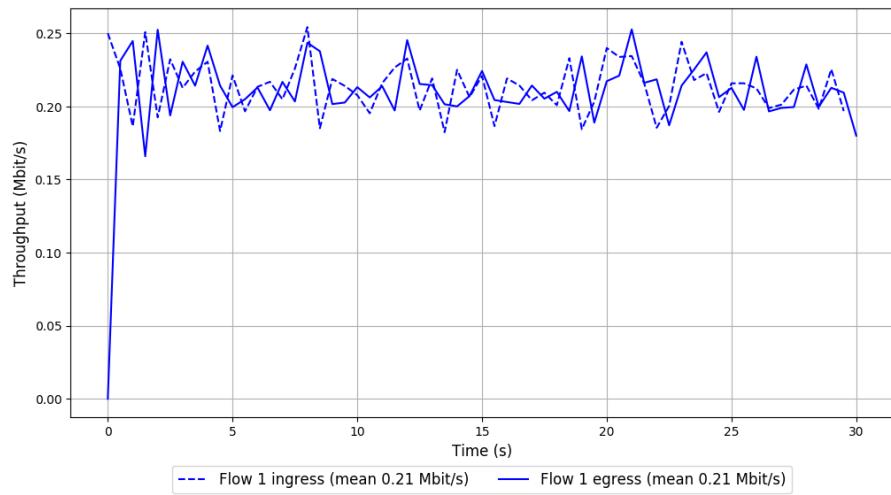


Run 4: Statistics of SCReAM

```
Start at: 2018-12-11 17:04:51
End at: 2018-12-11 17:05:22
Local clock offset: -0.251 ms
Remote clock offset: -1.996 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.479 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.479 ms
Loss rate: 0.26%
```

Run 4: Report of SCReAM — Data Link

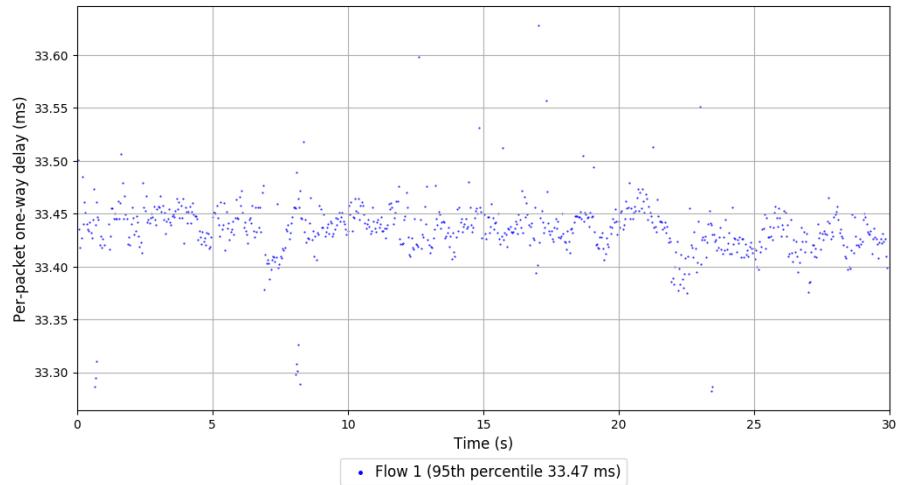
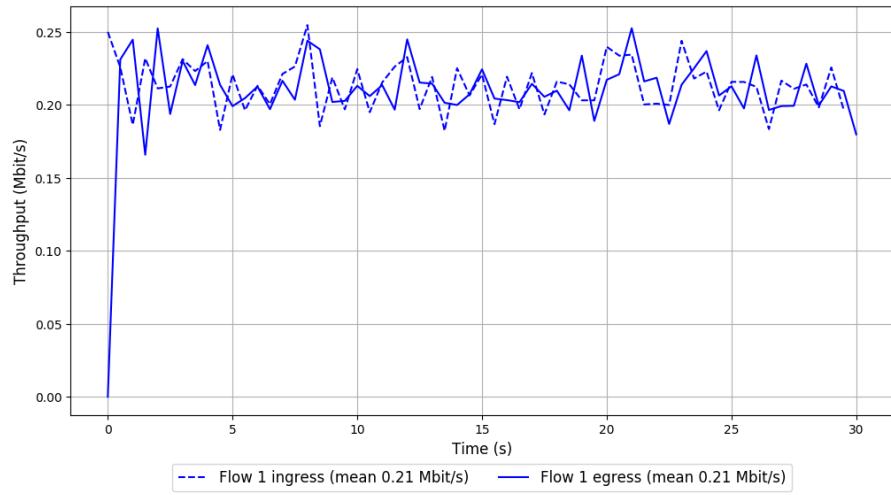


Run 5: Statistics of SCReAM

```
Start at: 2018-12-11 17:26:58
End at: 2018-12-11 17:27:28
Local clock offset: 2.888 ms
Remote clock offset: -1.772 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.465 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 33.465 ms
Loss rate: 0.26%
```

Run 5: Report of SCReAM — Data Link

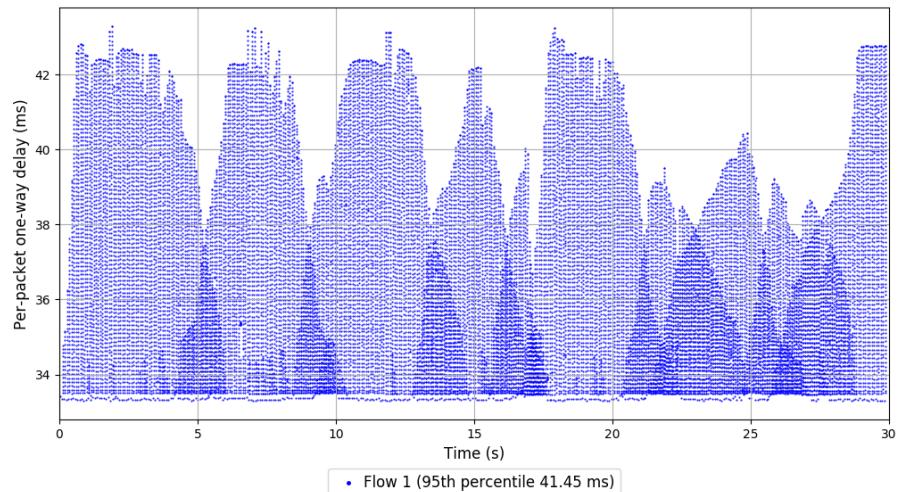
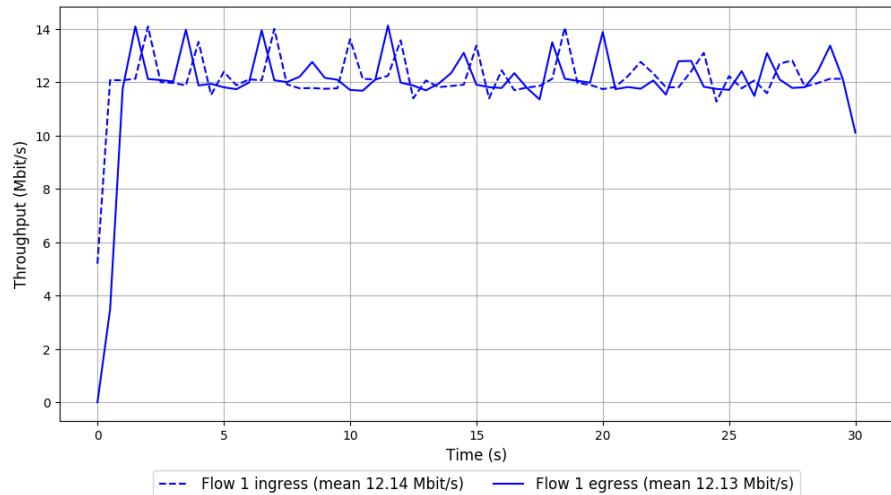


Run 1: Statistics of Sprout

```
Start at: 2018-12-11 15:46:51
End at: 2018-12-11 15:47:21
Local clock offset: 4.325 ms
Remote clock offset: -3.977 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 41.449 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 41.449 ms
Loss rate: 0.28%
```

Run 1: Report of Sprout — Data Link

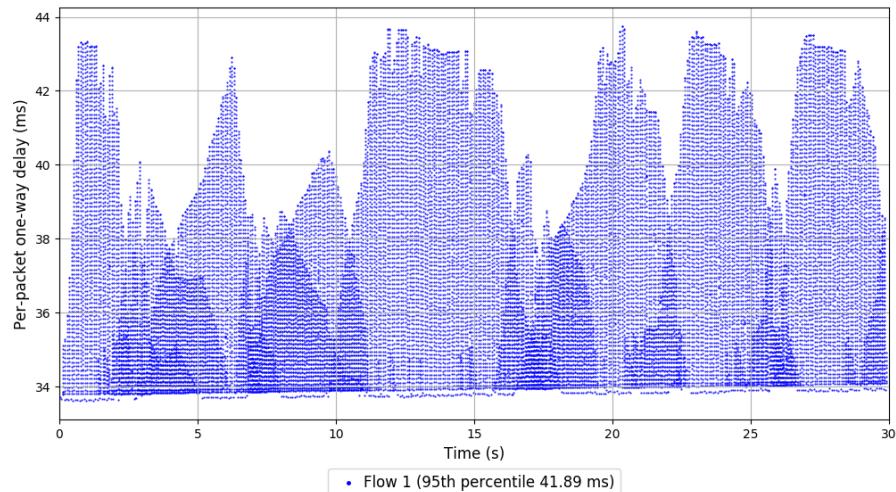
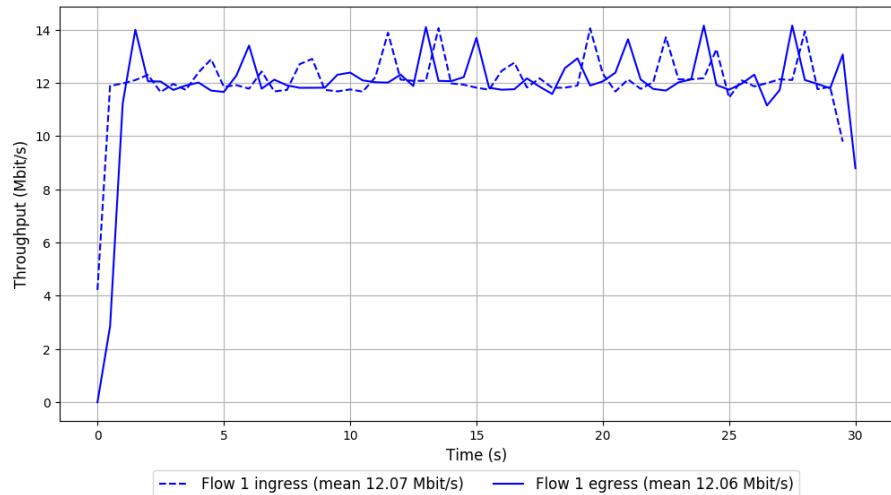


Run 2: Statistics of Sprout

```
Start at: 2018-12-11 16:09:04
End at: 2018-12-11 16:09:34
Local clock offset: 4.764 ms
Remote clock offset: -3.52 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 41.892 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 12.06 Mbit/s
95th percentile per-packet one-way delay: 41.892 ms
Loss rate: 0.24%
```

Run 2: Report of Sprout — Data Link

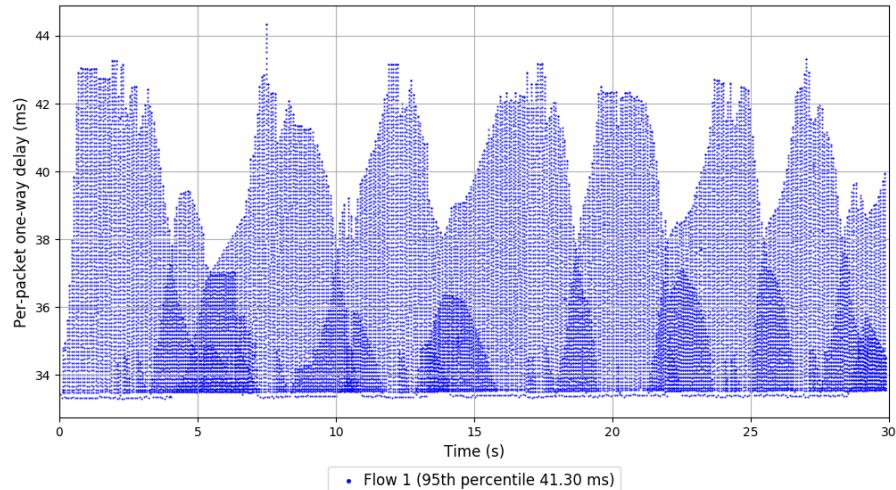
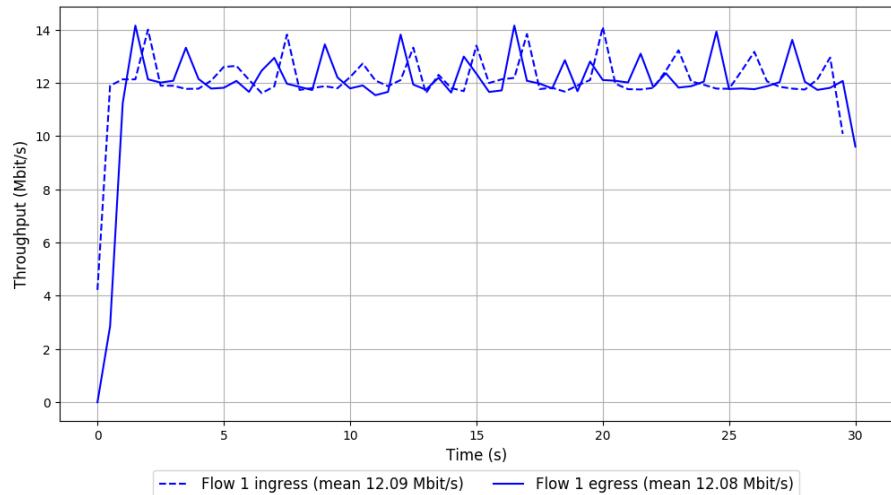


Run 3: Statistics of Sprout

```
Start at: 2018-12-11 16:31:05
End at: 2018-12-11 16:31:35
Local clock offset: -0.674 ms
Remote clock offset: -2.707 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.08 Mbit/s
95th percentile per-packet one-way delay: 41.303 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 12.08 Mbit/s
95th percentile per-packet one-way delay: 41.303 ms
Loss rate: 0.23%
```

Run 3: Report of Sprout — Data Link

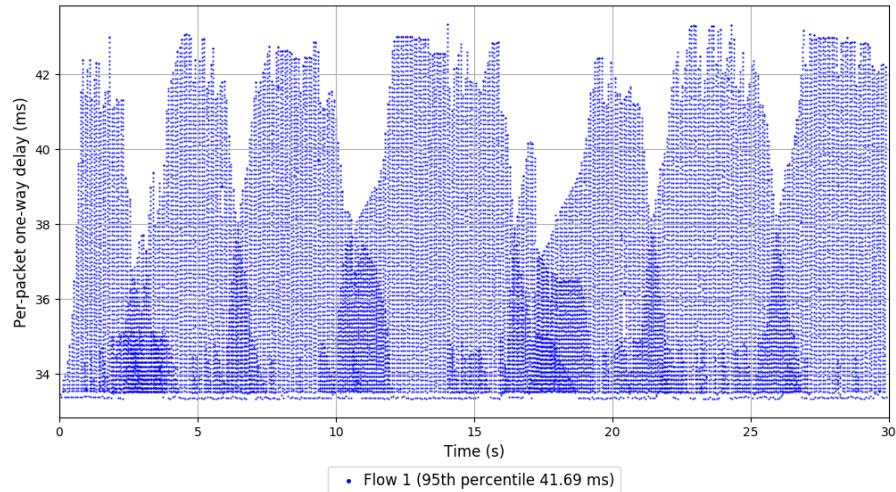
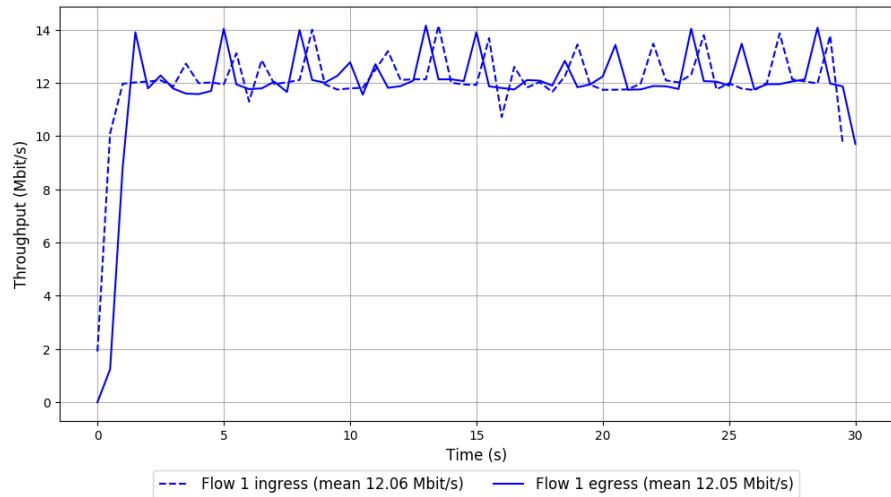


Run 4: Statistics of Sprout

```
Start at: 2018-12-11 16:53:06
End at: 2018-12-11 16:53:36
Local clock offset: -0.144 ms
Remote clock offset: -2.211 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 41.692 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 41.692 ms
Loss rate: 0.27%
```

Run 4: Report of Sprout — Data Link

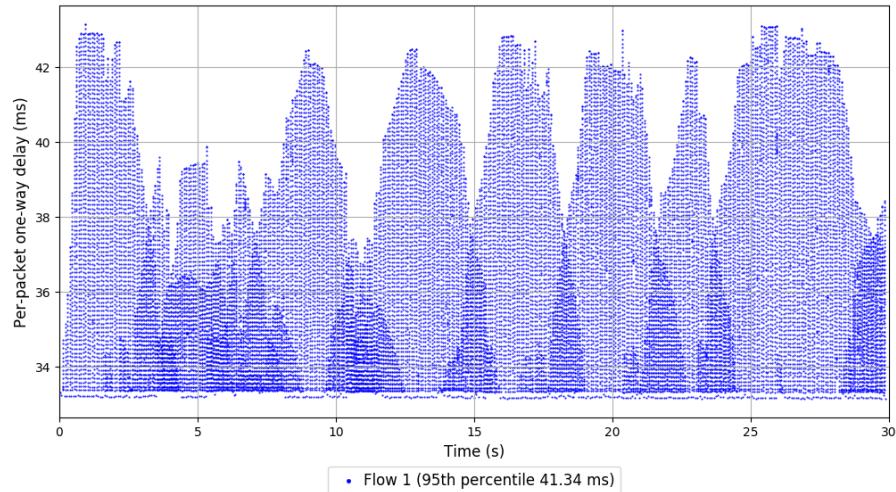
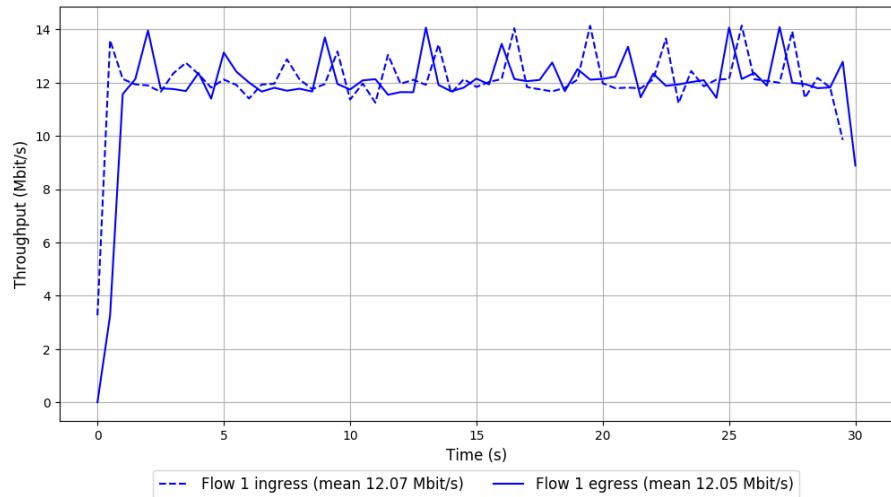


Run 5: Statistics of Sprout

```
Start at: 2018-12-11 17:15:14
End at: 2018-12-11 17:15:44
Local clock offset: 1.572 ms
Remote clock offset: -1.768 ms

# Below is generated by plot.py at 2018-12-11 17:45:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 41.335 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 12.05 Mbit/s
95th percentile per-packet one-way delay: 41.335 ms
Loss rate: 0.27%
```

Run 5: Report of Sprout — Data Link

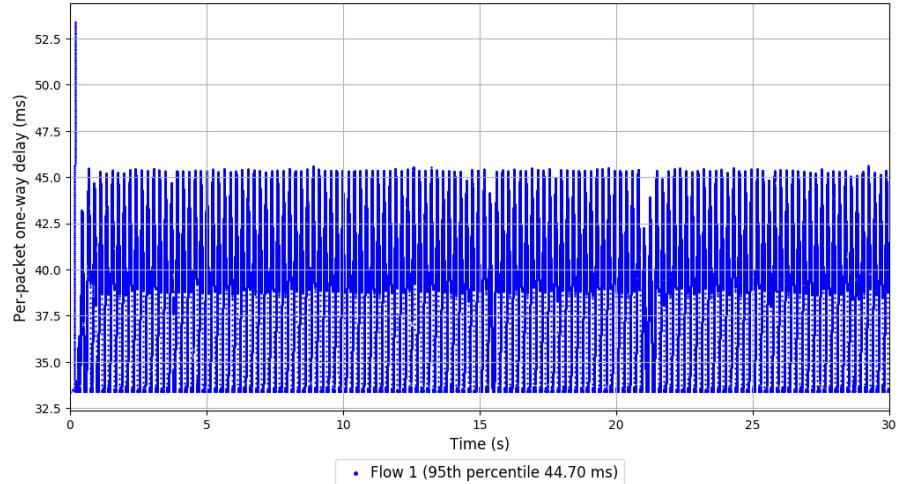
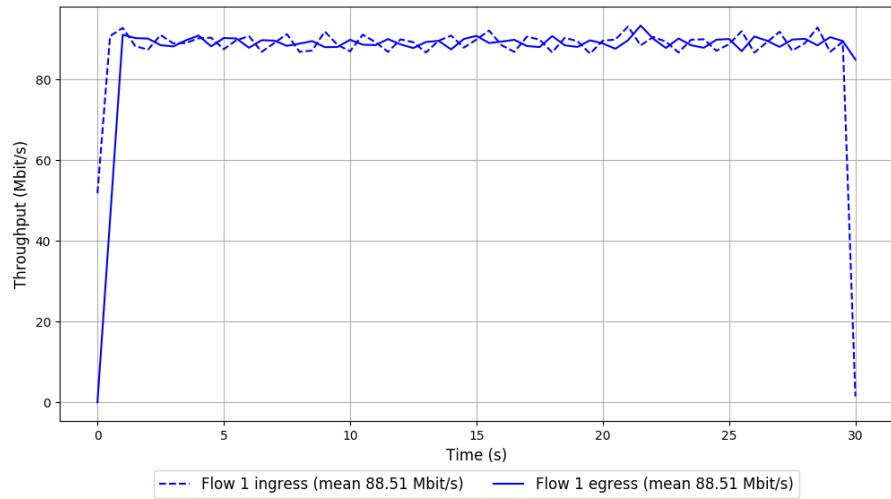


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-12-11 15:52:40
End at: 2018-12-11 15:53:10
Local clock offset: 4.556 ms
Remote clock offset: -3.863 ms

# Below is generated by plot.py at 2018-12-11 17:46:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.51 Mbit/s
95th percentile per-packet one-way delay: 44.699 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 88.51 Mbit/s
95th percentile per-packet one-way delay: 44.699 ms
Loss rate: 0.21%
```

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

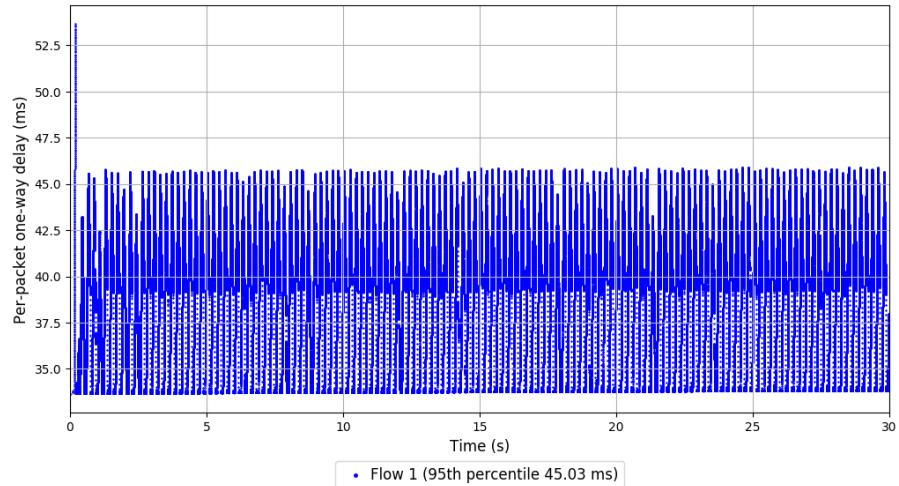
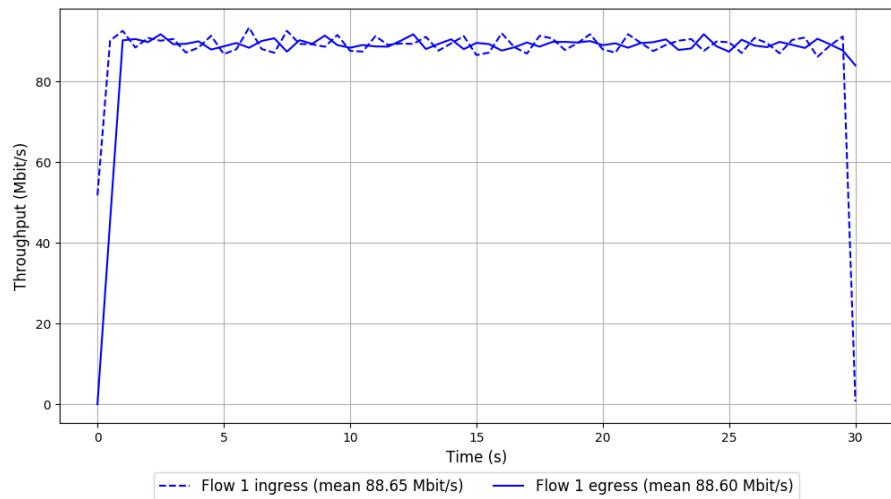


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-12-11 16:14:52
End at: 2018-12-11 16:15:22
Local clock offset: 2.231 ms
Remote clock offset: -3.388 ms

# Below is generated by plot.py at 2018-12-11 17:47:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.60 Mbit/s
95th percentile per-packet one-way delay: 45.033 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 88.60 Mbit/s
95th percentile per-packet one-way delay: 45.033 ms
Loss rate: 0.26%
```

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

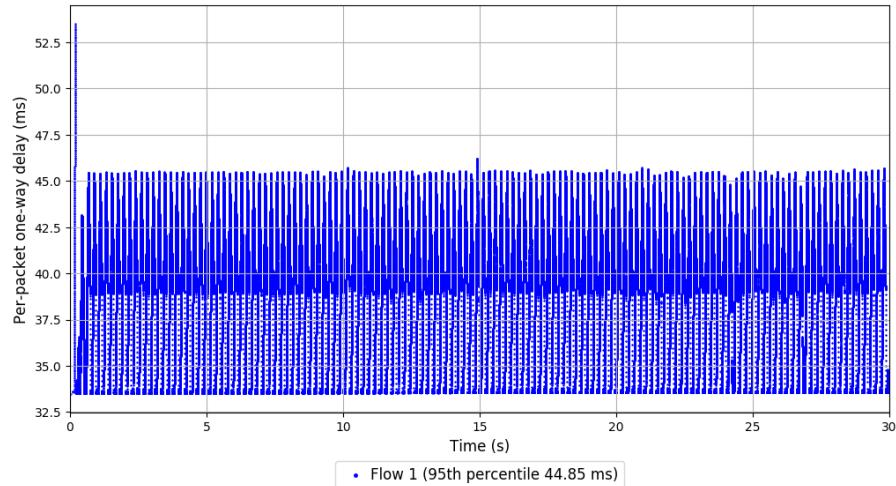
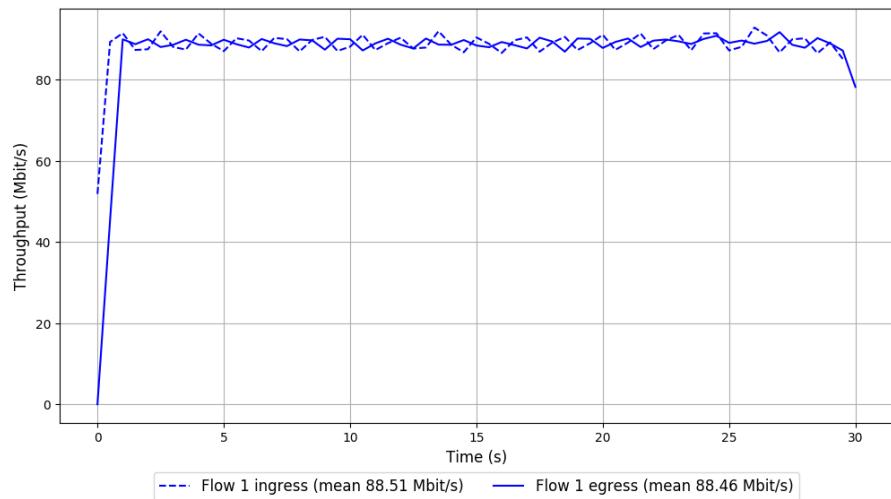


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-12-11 16:36:53
End at: 2018-12-11 16:37:23
Local clock offset: -1.151 ms
Remote clock offset: -2.68 ms

# Below is generated by plot.py at 2018-12-11 17:47:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.46 Mbit/s
95th percentile per-packet one-way delay: 44.847 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 88.46 Mbit/s
95th percentile per-packet one-way delay: 44.847 ms
Loss rate: 0.27%
```

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

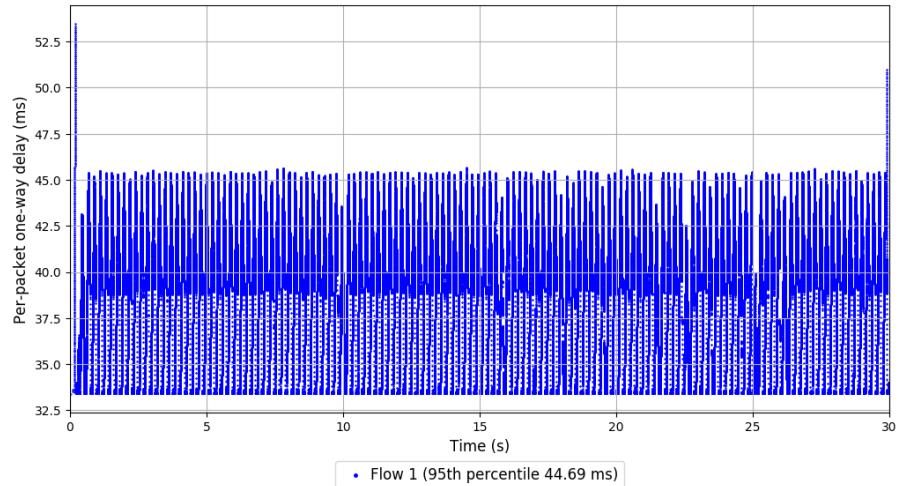
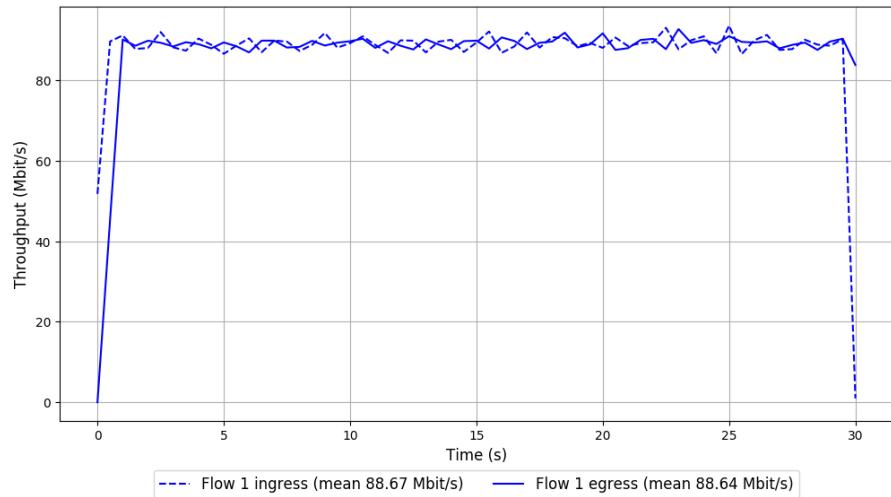


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-12-11 16:58:55
End at: 2018-12-11 16:59:25
Local clock offset: -0.13 ms
Remote clock offset: -2.075 ms

# Below is generated by plot.py at 2018-12-11 17:47:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.64 Mbit/s
95th percentile per-packet one-way delay: 44.687 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 88.64 Mbit/s
95th percentile per-packet one-way delay: 44.687 ms
Loss rate: 0.25%
```

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

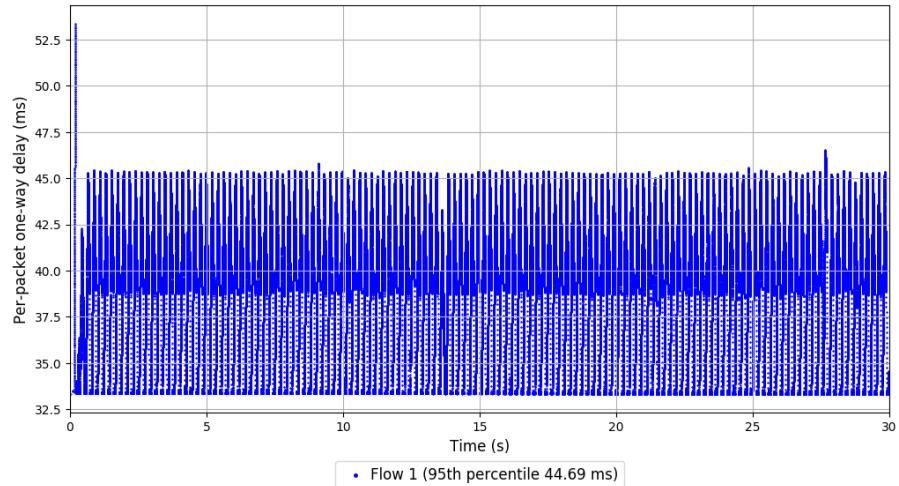
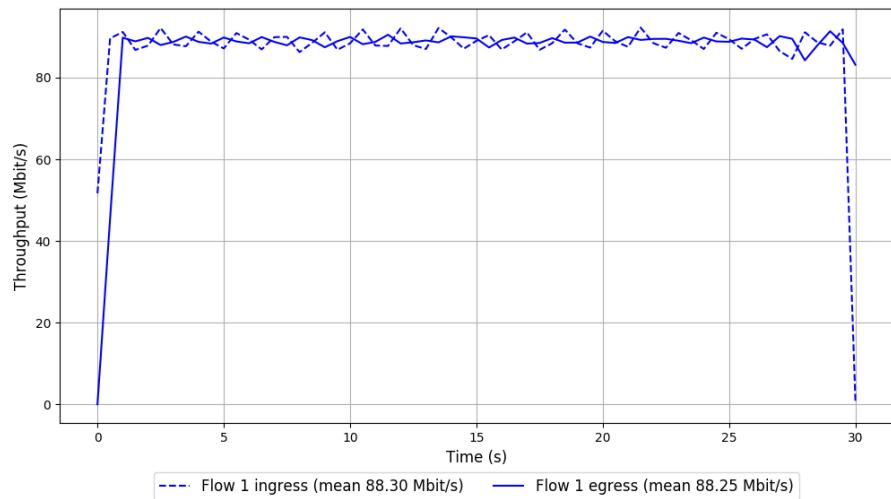


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-12-11 17:21:03
End at: 2018-12-11 17:21:33
Local clock offset: 2.423 ms
Remote clock offset: -1.717 ms

# Below is generated by plot.py at 2018-12-11 17:47:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.25 Mbit/s
95th percentile per-packet one-way delay: 44.691 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 88.25 Mbit/s
95th percentile per-packet one-way delay: 44.691 ms
Loss rate: 0.27%
```

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

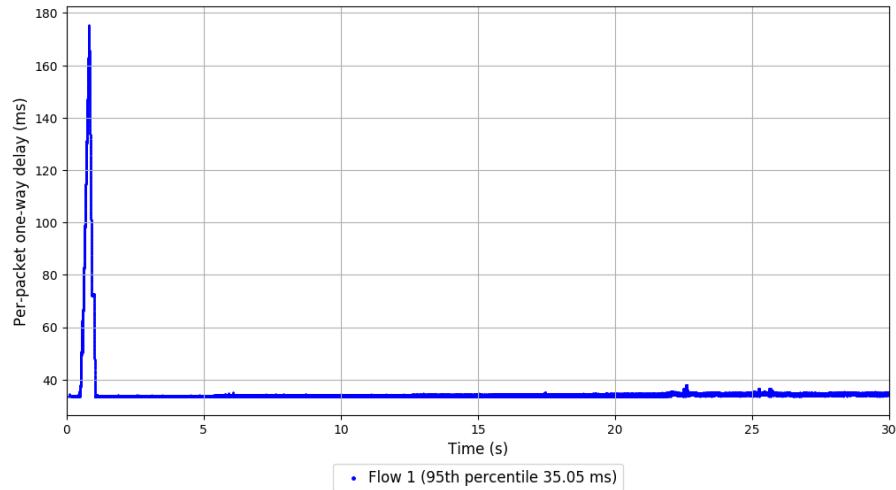
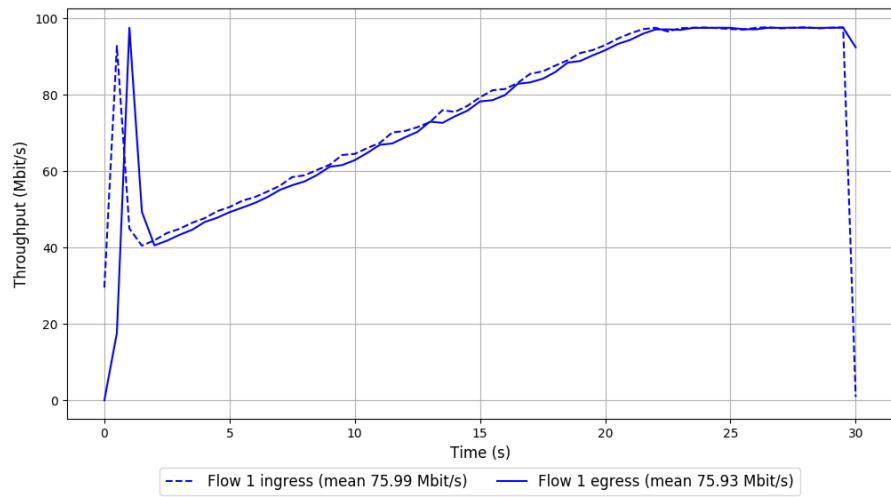


Run 1: Statistics of TCP Vegas

```
Start at: 2018-12-11 15:49:10
End at: 2018-12-11 15:49:40
Local clock offset: 4.418 ms
Remote clock offset: -4.103 ms

# Below is generated by plot.py at 2018-12-11 17:47:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.93 Mbit/s
95th percentile per-packet one-way delay: 35.055 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 75.93 Mbit/s
95th percentile per-packet one-way delay: 35.055 ms
Loss rate: 0.28%
```

Run 1: Report of TCP Vegas — Data Link

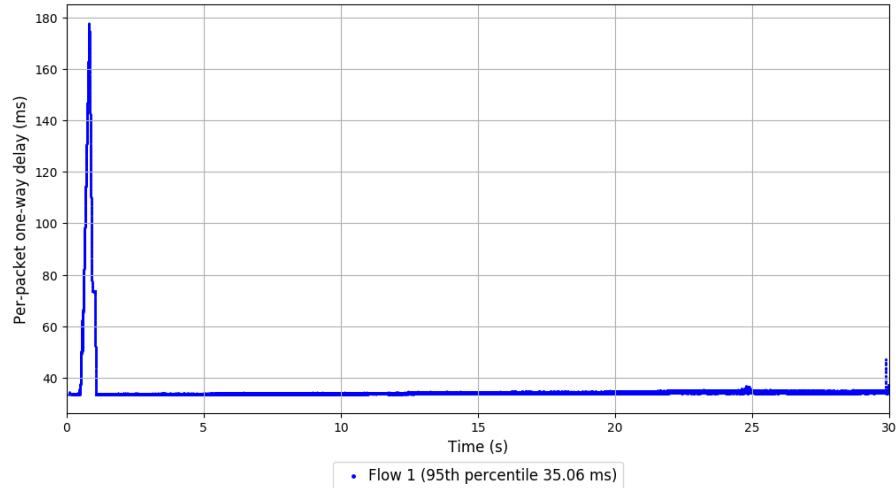
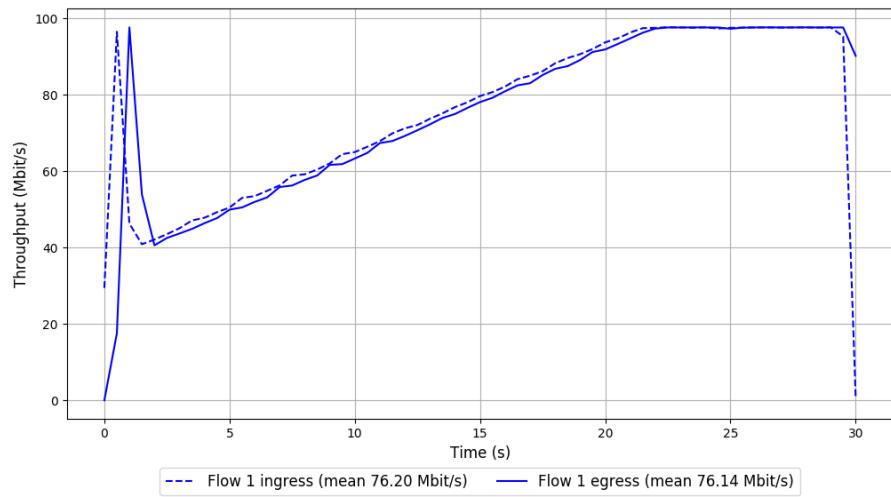


Run 2: Statistics of TCP Vegas

```
Start at: 2018-12-11 16:11:23
End at: 2018-12-11 16:11:53
Local clock offset: 3.558 ms
Remote clock offset: -3.264 ms

# Below is generated by plot.py at 2018-12-11 17:47:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.14 Mbit/s
95th percentile per-packet one-way delay: 35.059 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 76.14 Mbit/s
95th percentile per-packet one-way delay: 35.059 ms
Loss rate: 0.28%
```

Run 2: Report of TCP Vegas — Data Link

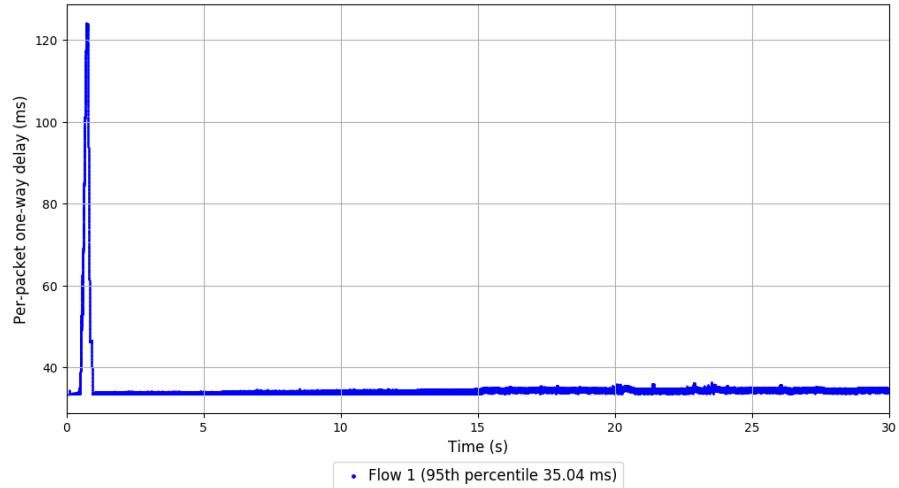
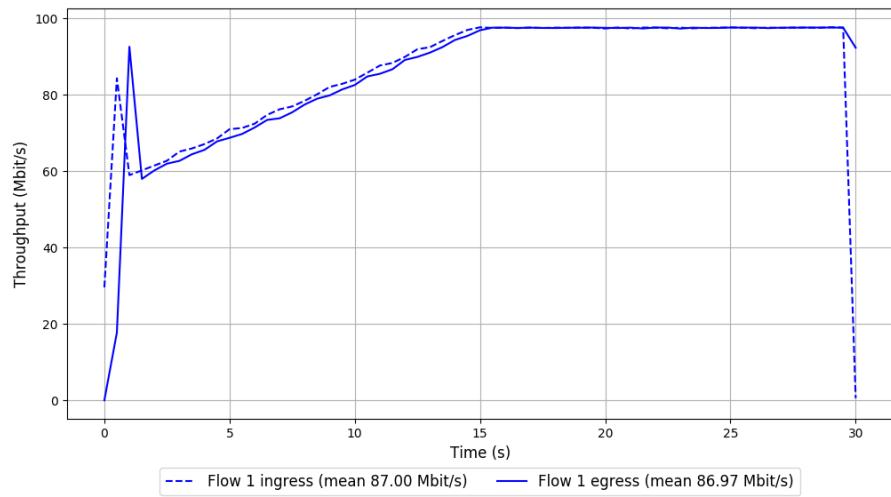


Run 3: Statistics of TCP Vegas

```
Start at: 2018-12-11 16:33:23
End at: 2018-12-11 16:33:53
Local clock offset: -0.887 ms
Remote clock offset: -2.803 ms

# Below is generated by plot.py at 2018-12-11 17:47:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.97 Mbit/s
95th percentile per-packet one-way delay: 35.043 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 86.97 Mbit/s
95th percentile per-packet one-way delay: 35.043 ms
Loss rate: 0.25%
```

Run 3: Report of TCP Vegas — Data Link

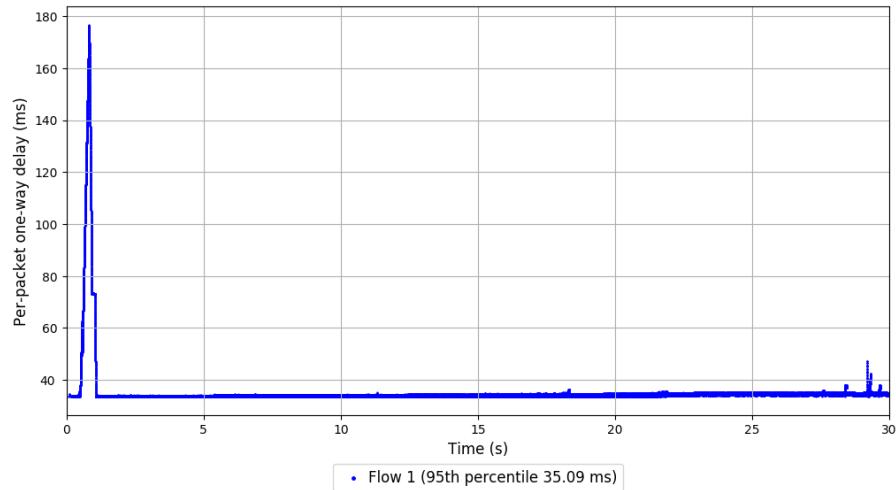
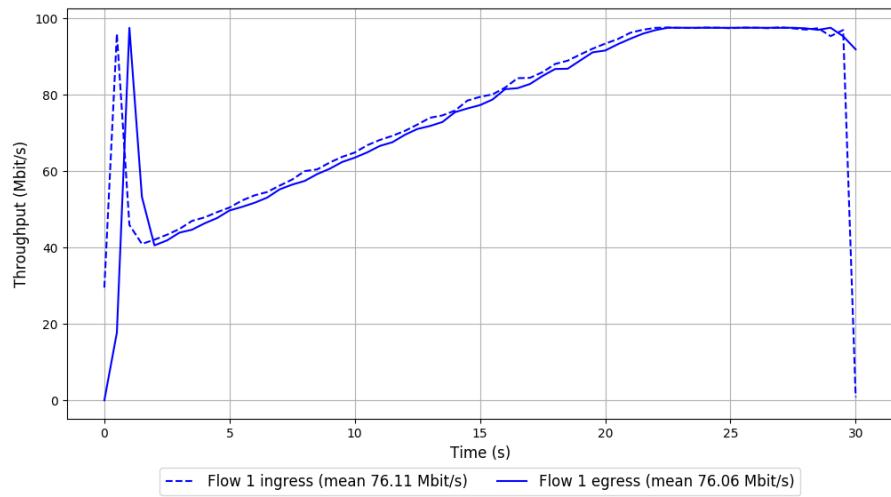


Run 4: Statistics of TCP Vegas

```
Start at: 2018-12-11 16:55:25
End at: 2018-12-11 16:55:55
Local clock offset: -0.131 ms
Remote clock offset: -2.34 ms

# Below is generated by plot.py at 2018-12-11 17:47:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.06 Mbit/s
95th percentile per-packet one-way delay: 35.092 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 76.06 Mbit/s
95th percentile per-packet one-way delay: 35.092 ms
Loss rate: 0.28%
```

Run 4: Report of TCP Vegas — Data Link

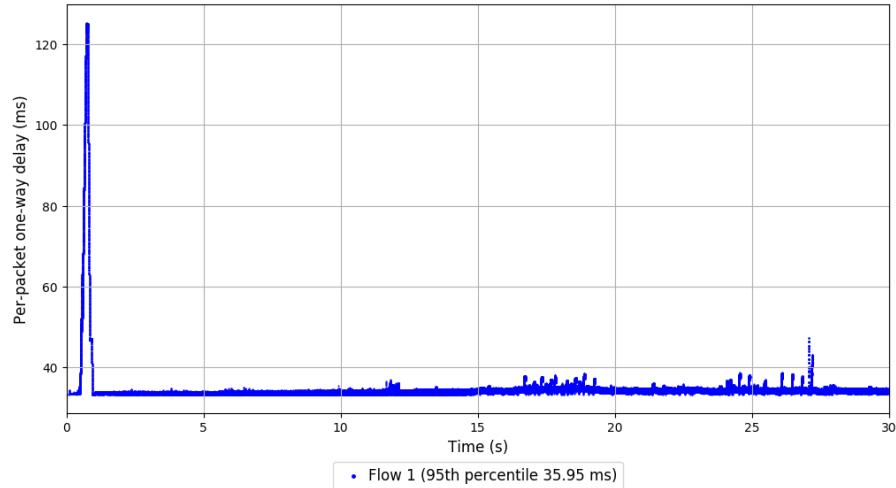
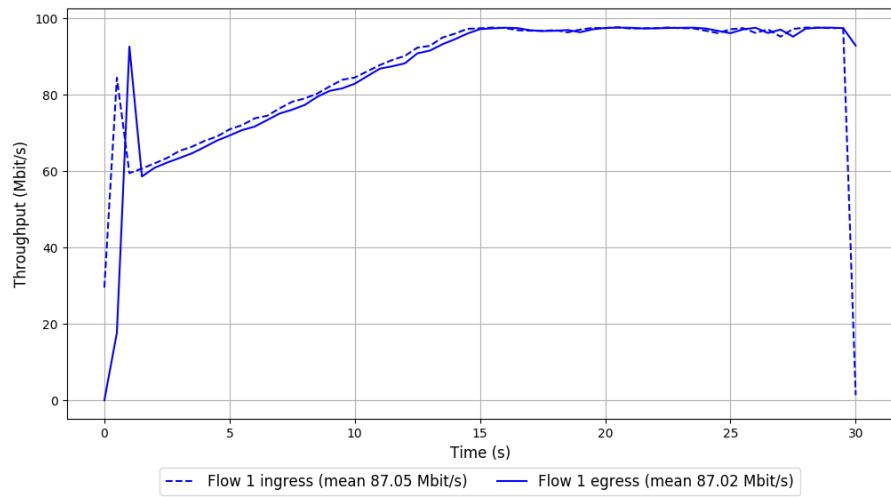


Run 5: Statistics of TCP Vegas

```
Start at: 2018-12-11 17:17:34
End at: 2018-12-11 17:18:04
Local clock offset: 1.974 ms
Remote clock offset: -1.773 ms

# Below is generated by plot.py at 2018-12-11 17:47:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.02 Mbit/s
95th percentile per-packet one-way delay: 35.946 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 87.02 Mbit/s
95th percentile per-packet one-way delay: 35.946 ms
Loss rate: 0.25%
```

Run 5: Report of TCP Vegas — Data Link

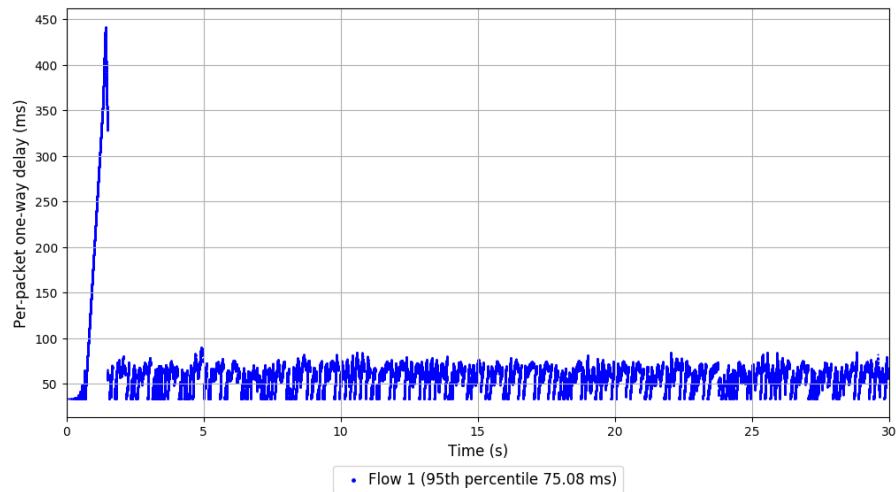
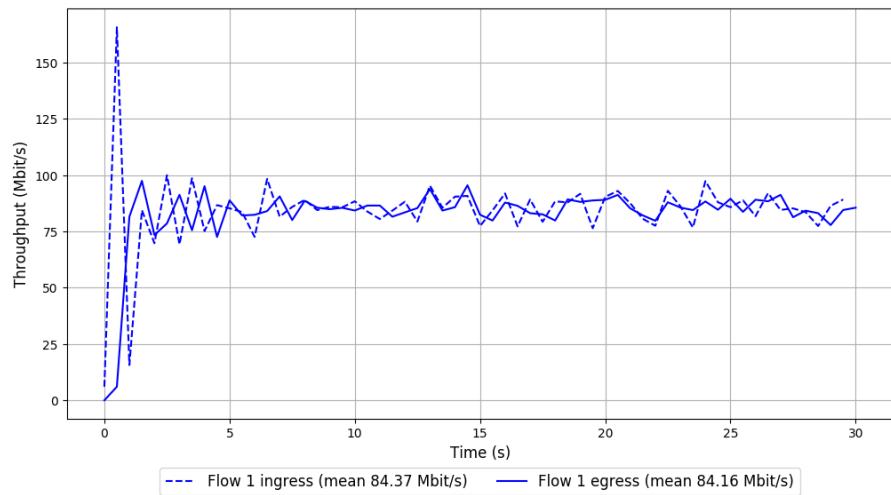


Run 1: Statistics of Verus

```
Start at: 2018-12-11 15:51:29
End at: 2018-12-11 15:51:59
Local clock offset: 4.495 ms
Remote clock offset: -4.098 ms

# Below is generated by plot.py at 2018-12-11 17:47:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.16 Mbit/s
95th percentile per-packet one-way delay: 75.081 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 84.16 Mbit/s
95th percentile per-packet one-way delay: 75.081 ms
Loss rate: 0.45%
```

Run 1: Report of Verus — Data Link

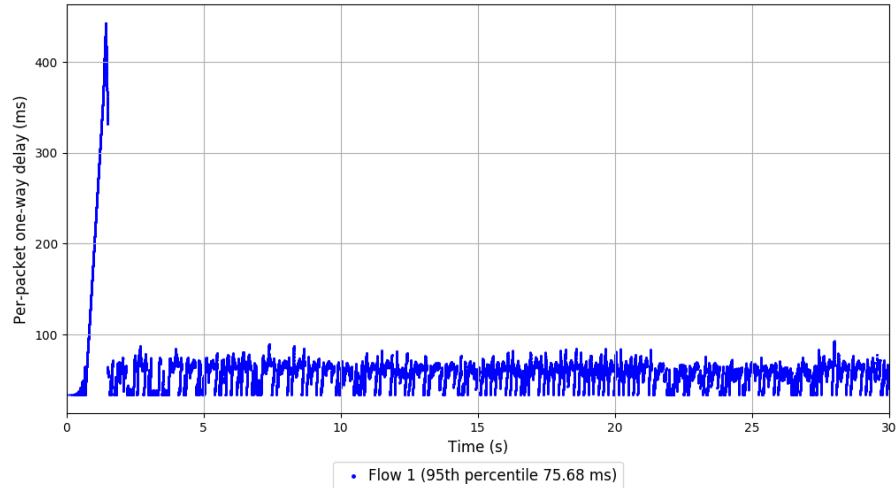
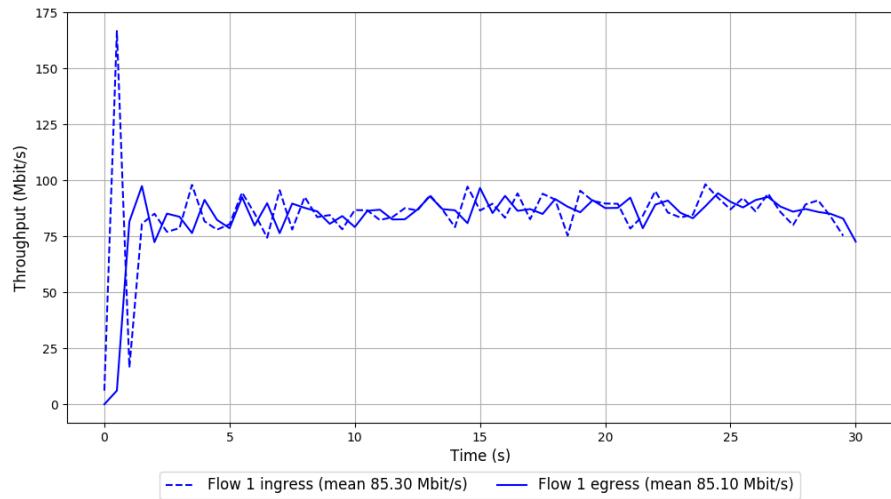


Run 2: Statistics of Verus

```
Start at: 2018-12-11 16:13:41
End at: 2018-12-11 16:14:11
Local clock offset: 2.6 ms
Remote clock offset: -3.21 ms

# Below is generated by plot.py at 2018-12-11 17:47:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.10 Mbit/s
95th percentile per-packet one-way delay: 75.677 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 85.10 Mbit/s
95th percentile per-packet one-way delay: 75.677 ms
Loss rate: 0.43%
```

Run 2: Report of Verus — Data Link

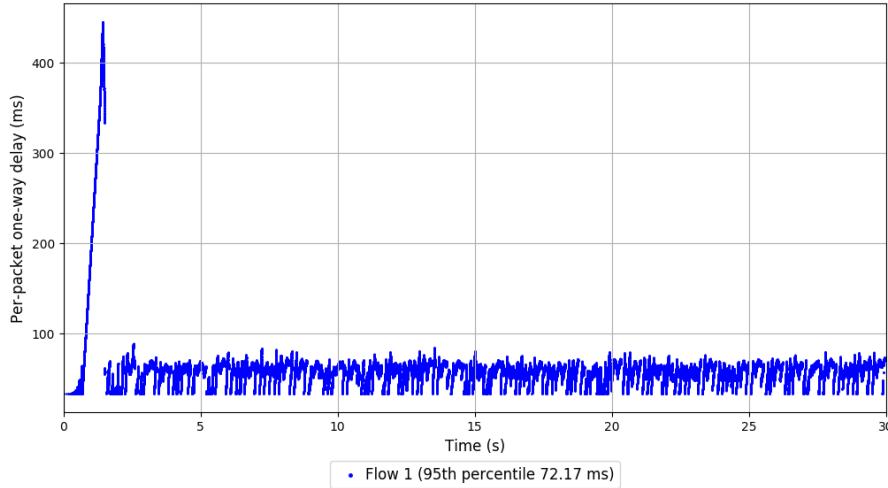
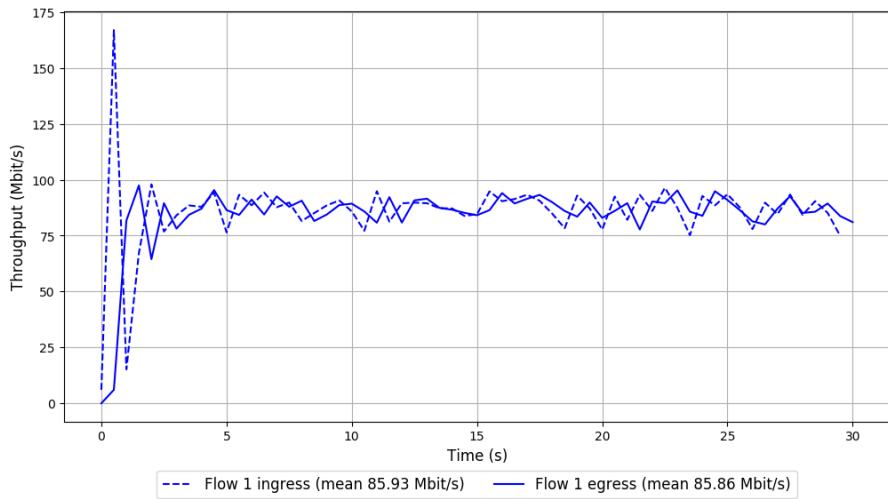


Run 3: Statistics of Verus

```
Start at: 2018-12-11 16:35:42
End at: 2018-12-11 16:36:12
Local clock offset: -1.091 ms
Remote clock offset: -2.752 ms

# Below is generated by plot.py at 2018-12-11 17:47:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.86 Mbit/s
95th percentile per-packet one-way delay: 72.168 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 85.86 Mbit/s
95th percentile per-packet one-way delay: 72.168 ms
Loss rate: 0.29%
```

Run 3: Report of Verus — Data Link

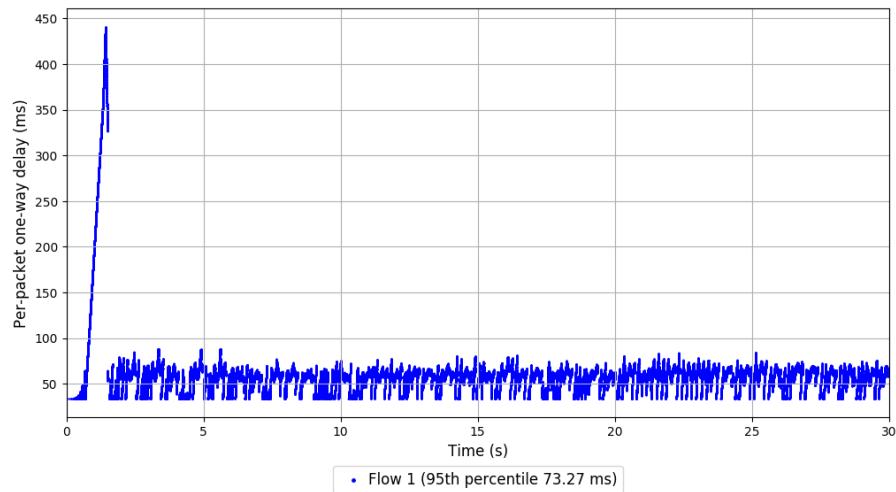
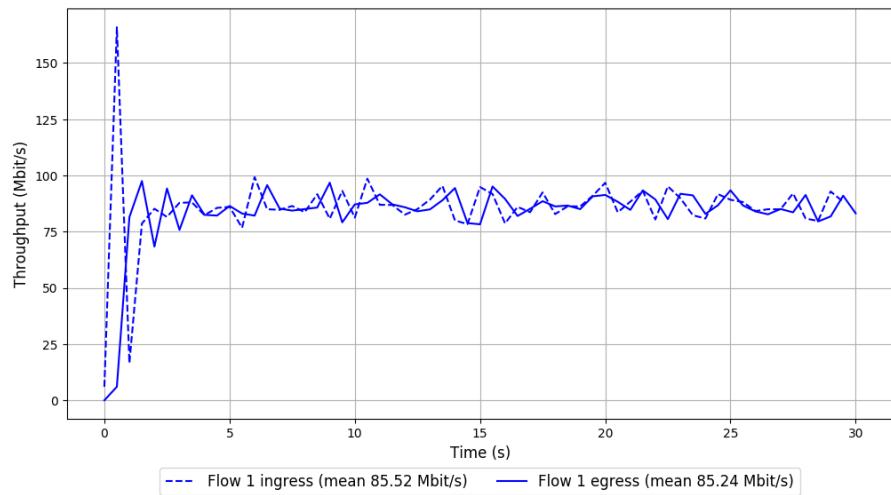


Run 4: Statistics of Verus

```
Start at: 2018-12-11 16:57:44
End at: 2018-12-11 16:58:14
Local clock offset: -0.137 ms
Remote clock offset: -2.117 ms

# Below is generated by plot.py at 2018-12-11 17:48:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.24 Mbit/s
95th percentile per-packet one-way delay: 73.266 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 85.24 Mbit/s
95th percentile per-packet one-way delay: 73.266 ms
Loss rate: 0.53%
```

Run 4: Report of Verus — Data Link

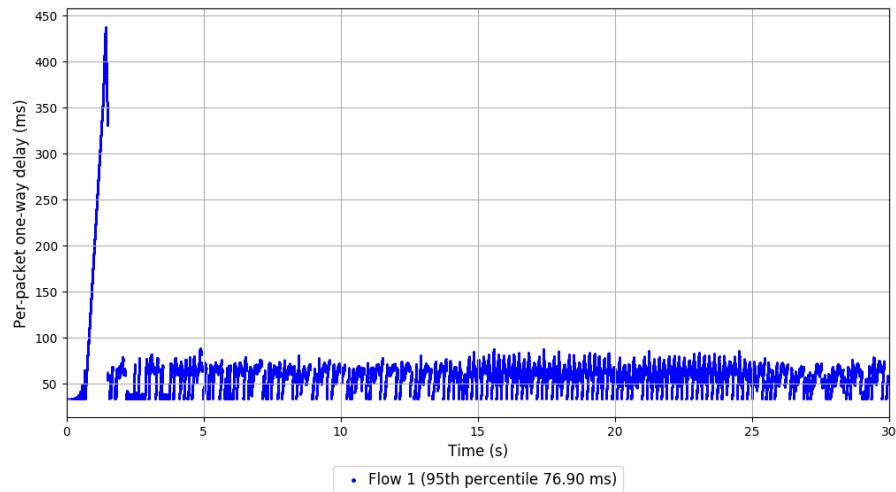
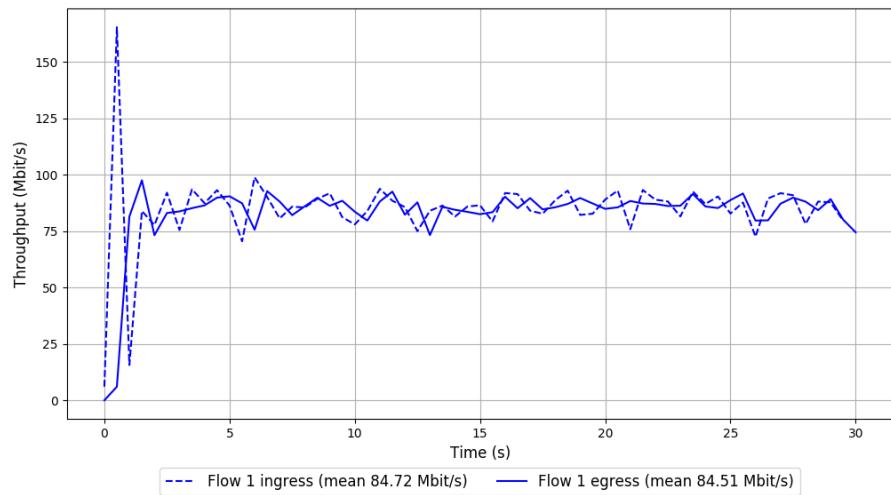


Run 5: Statistics of Verus

```
Start at: 2018-12-11 17:19:53
End at: 2018-12-11 17:20:23
Local clock offset: 2.279 ms
Remote clock offset: -1.924 ms

# Below is generated by plot.py at 2018-12-11 17:48:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.51 Mbit/s
95th percentile per-packet one-way delay: 76.899 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 84.51 Mbit/s
95th percentile per-packet one-way delay: 76.899 ms
Loss rate: 0.46%
```

Run 5: Report of Verus — Data Link

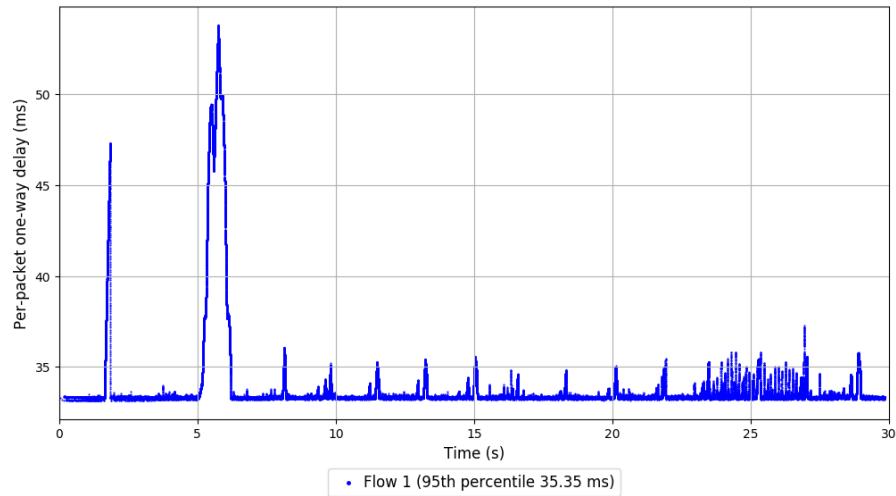
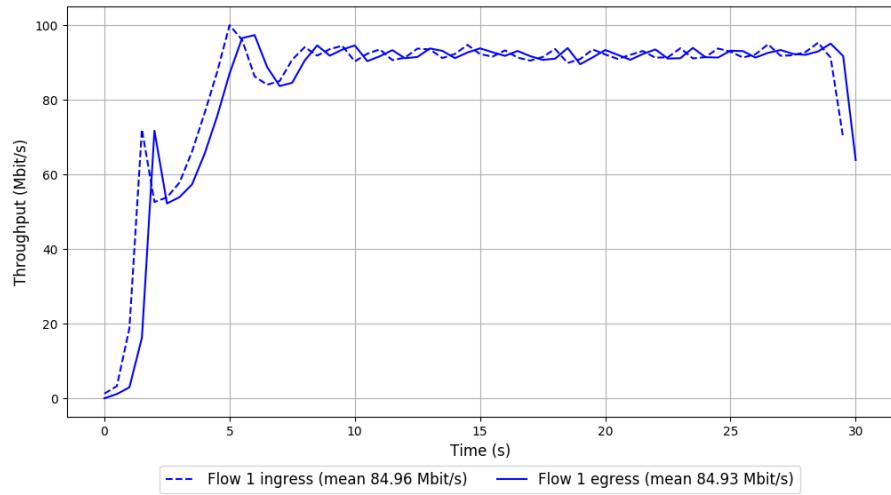


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-12-11 15:57:26
End at: 2018-12-11 15:57:56
Local clock offset: 4.715 ms
Remote clock offset: -3.645 ms

# Below is generated by plot.py at 2018-12-11 17:48:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.93 Mbit/s
95th percentile per-packet one-way delay: 35.349 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 84.93 Mbit/s
95th percentile per-packet one-way delay: 35.349 ms
Loss rate: 0.25%
```

Run 1: Report of PCC-Vivace — Data Link

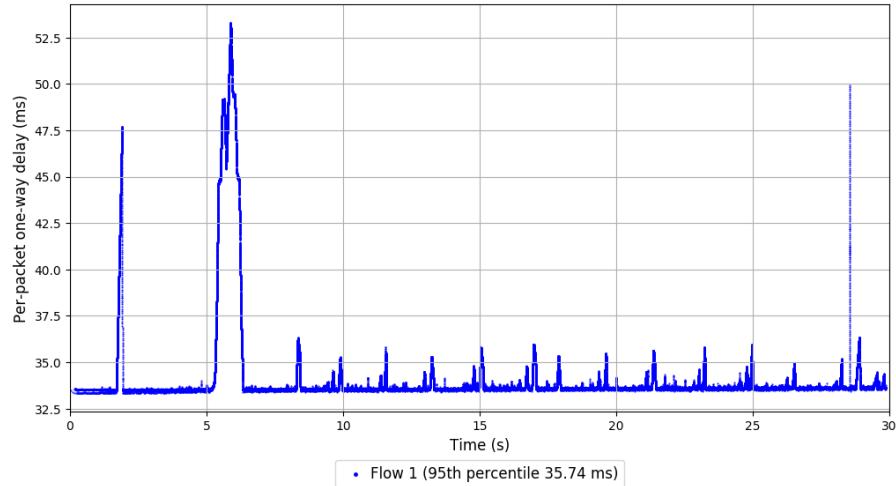
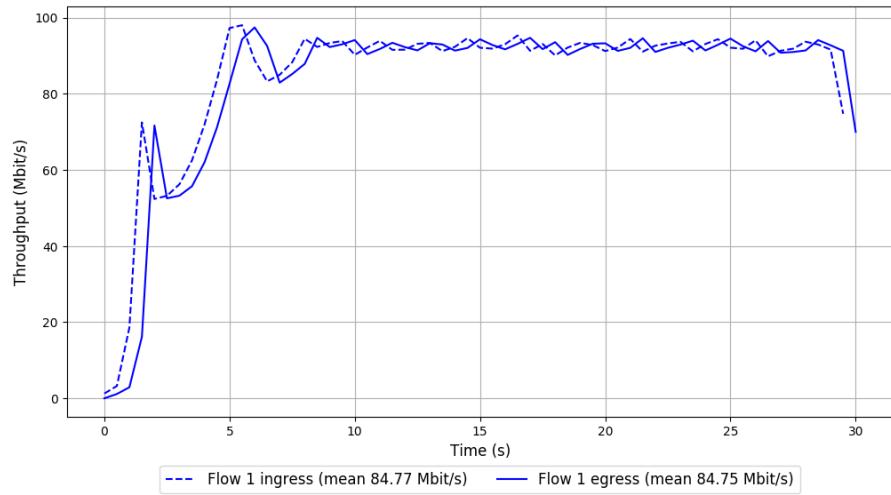


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-12-11 16:19:35
End at: 2018-12-11 16:20:05
Local clock offset: 0.979 ms
Remote clock offset: -3.07 ms

# Below is generated by plot.py at 2018-12-11 17:48:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.75 Mbit/s
95th percentile per-packet one-way delay: 35.740 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 84.75 Mbit/s
95th percentile per-packet one-way delay: 35.740 ms
Loss rate: 0.23%
```

Run 2: Report of PCC-Vivace — Data Link

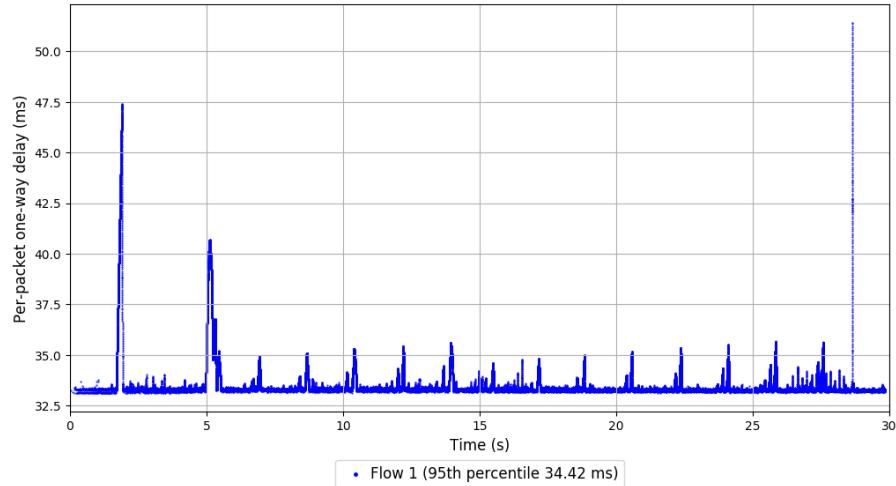
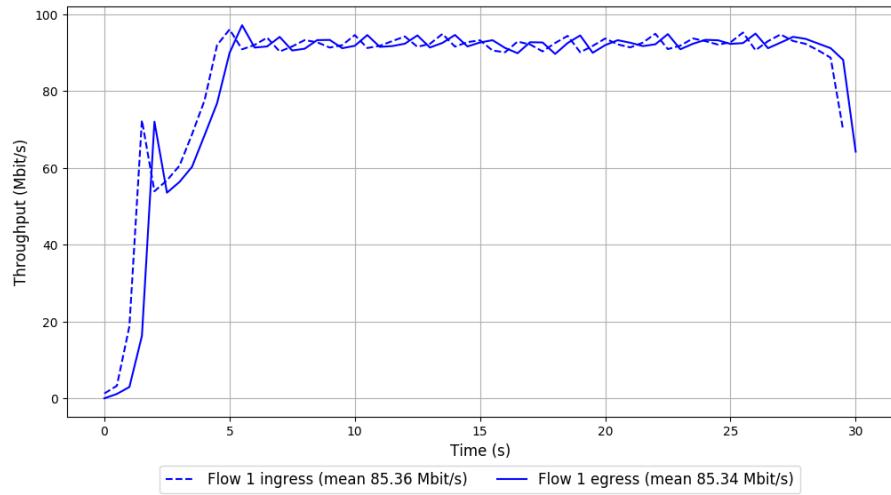


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-12-11 16:41:36
End at: 2018-12-11 16:42:06
Local clock offset: -0.775 ms
Remote clock offset: -2.352 ms

# Below is generated by plot.py at 2018-12-11 17:48:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.34 Mbit/s
95th percentile per-packet one-way delay: 34.418 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 85.34 Mbit/s
95th percentile per-packet one-way delay: 34.418 ms
Loss rate: 0.23%
```

Run 3: Report of PCC-Vivace — Data Link

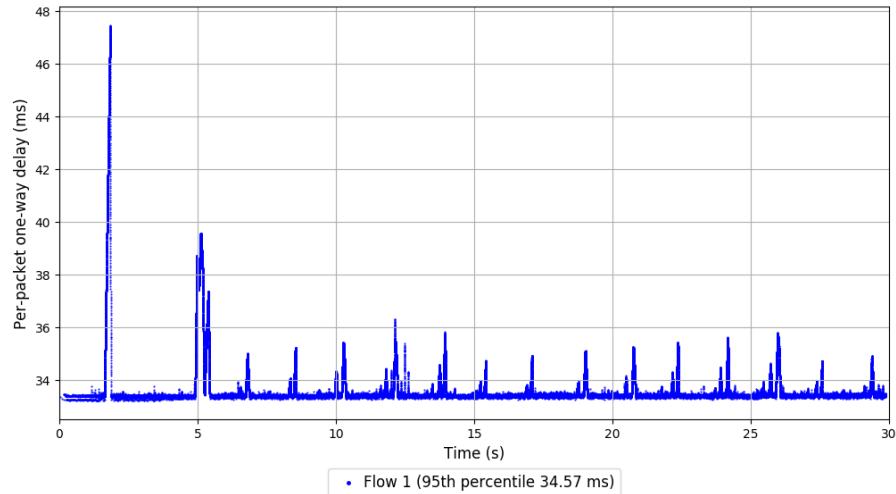
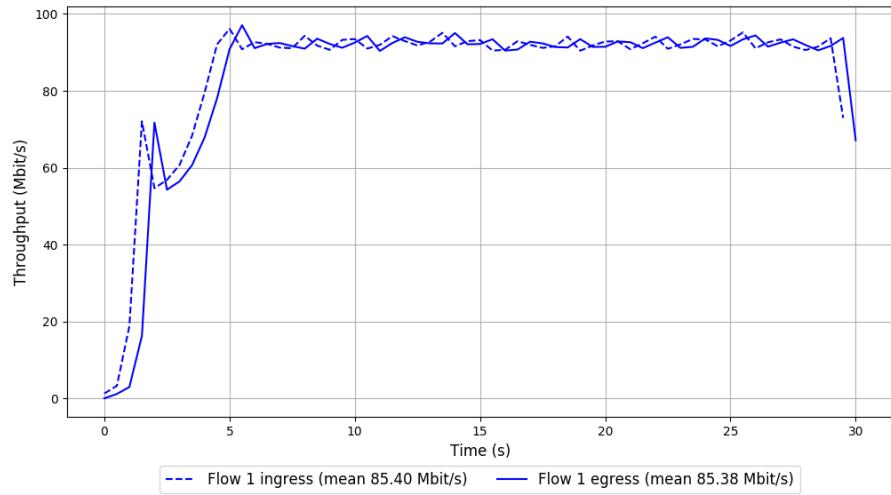


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-12-11 17:03:40
End at: 2018-12-11 17:04:10
Local clock offset: -0.209 ms
Remote clock offset: -1.997 ms

# Below is generated by plot.py at 2018-12-11 17:48:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.38 Mbit/s
95th percentile per-packet one-way delay: 34.574 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 85.38 Mbit/s
95th percentile per-packet one-way delay: 34.574 ms
Loss rate: 0.23%
```

Run 4: Report of PCC-Vivace — Data Link

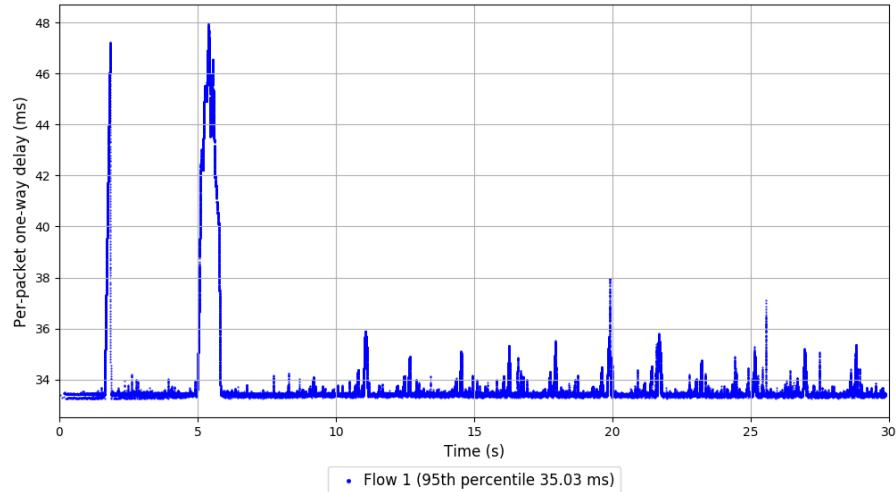
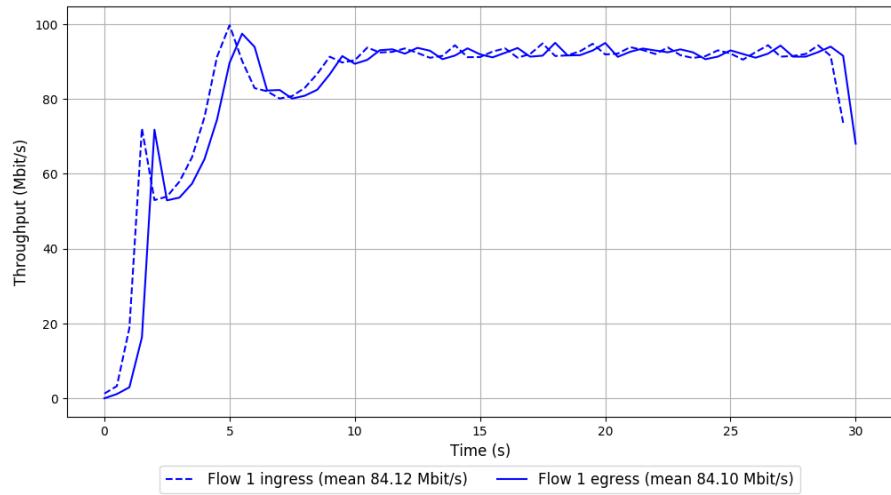


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-12-11 17:25:47
End at: 2018-12-11 17:26:17
Local clock offset: 2.817 ms
Remote clock offset: -1.783 ms

# Below is generated by plot.py at 2018-12-11 17:48:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.10 Mbit/s
95th percentile per-packet one-way delay: 35.026 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 84.10 Mbit/s
95th percentile per-packet one-way delay: 35.026 ms
Loss rate: 0.24%
```

Run 5: Report of PCC-Vivace — Data Link

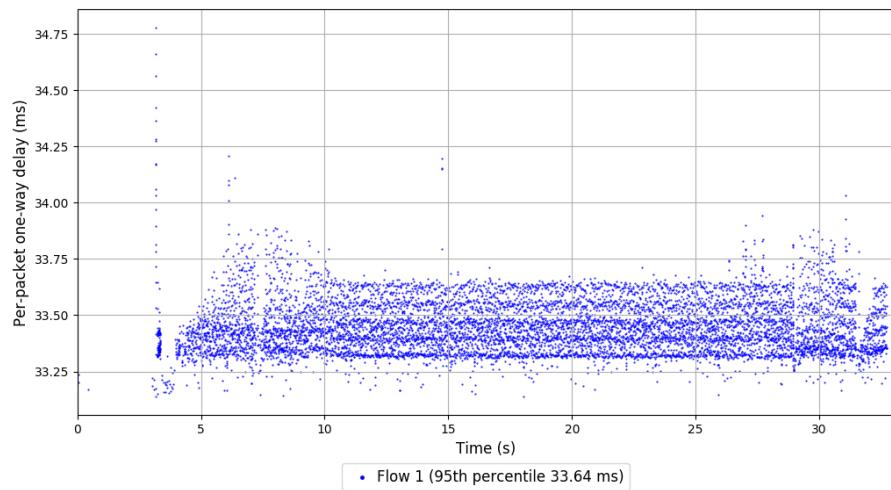
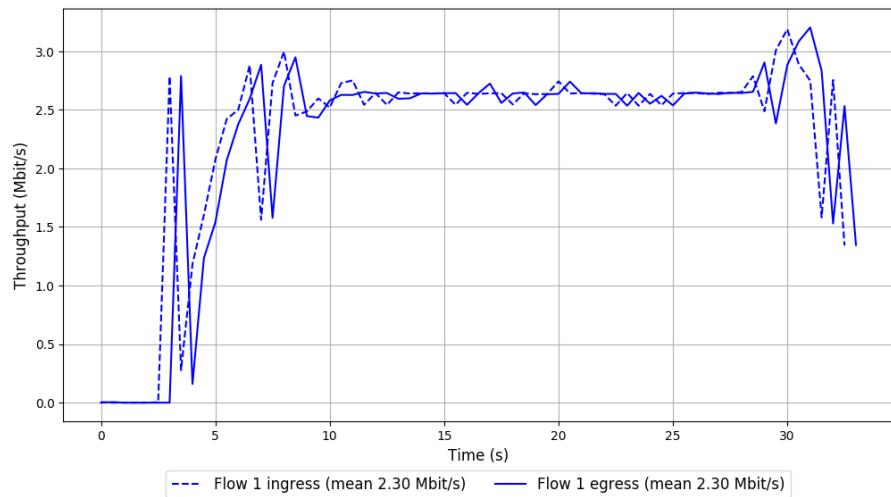


Run 1: Statistics of WebRTC media

```
Start at: 2018-12-11 15:59:43
End at: 2018-12-11 16:00:13
Local clock offset: 4.826 ms
Remote clock offset: -3.592 ms

# Below is generated by plot.py at 2018-12-11 17:48:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 33.641 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 33.641 ms
Loss rate: 0.19%
```

Run 1: Report of WebRTC media — Data Link

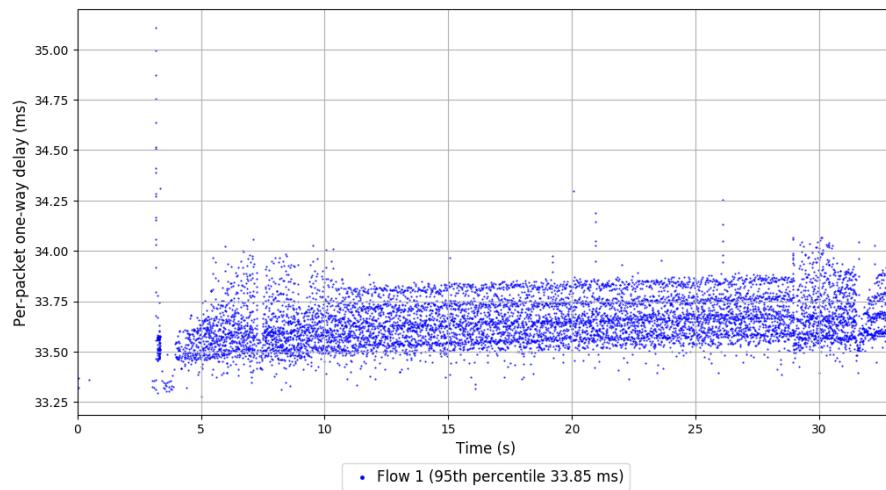
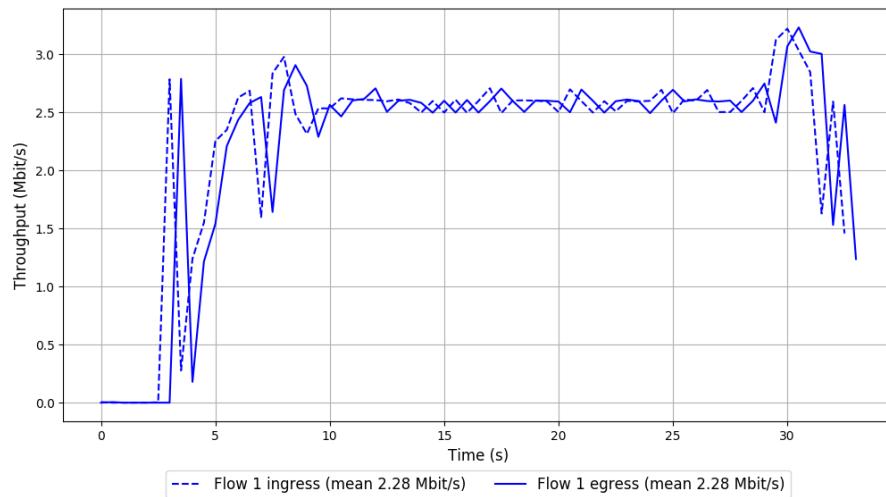


Run 2: Statistics of WebRTC media

```
Start at: 2018-12-11 16:21:52
End at: 2018-12-11 16:22:22
Local clock offset: 0.523 ms
Remote clock offset: -2.994 ms

# Below is generated by plot.py at 2018-12-11 17:48:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 33.851 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 33.851 ms
Loss rate: 0.26%
```

Run 2: Report of WebRTC media — Data Link

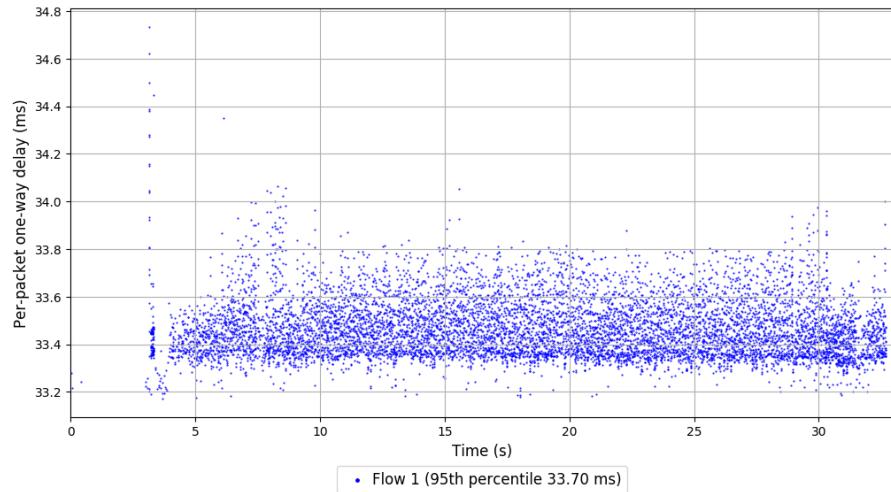
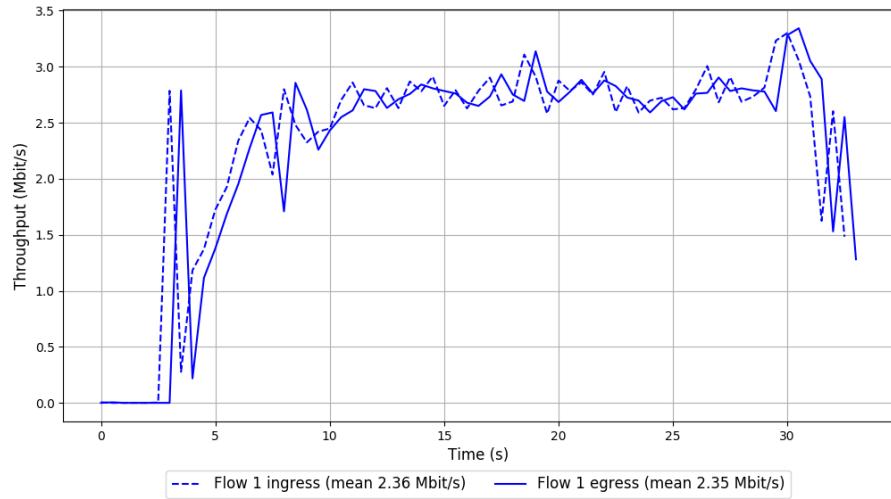


Run 3: Statistics of WebRTC media

```
Start at: 2018-12-11 16:43:53
End at: 2018-12-11 16:44:23
Local clock offset: -0.543 ms
Remote clock offset: -2.248 ms

# Below is generated by plot.py at 2018-12-11 17:48:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 33.704 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 33.704 ms
Loss rate: 0.26%
```

Run 3: Report of WebRTC media — Data Link

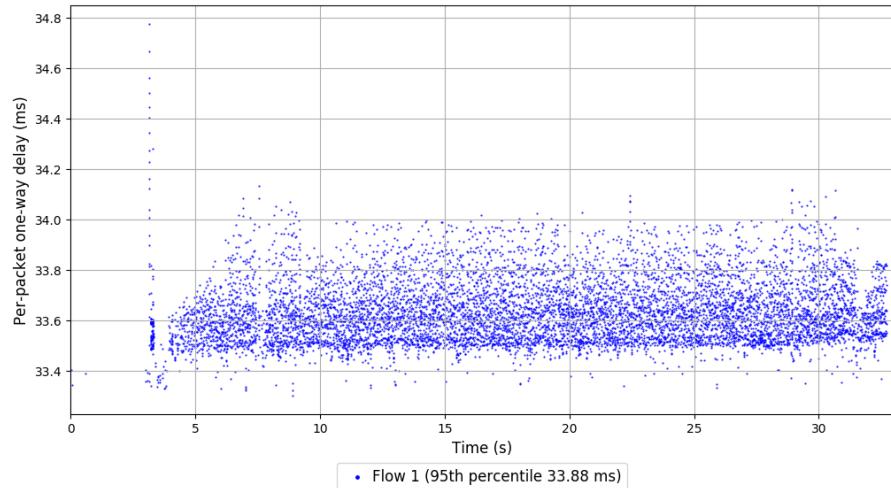
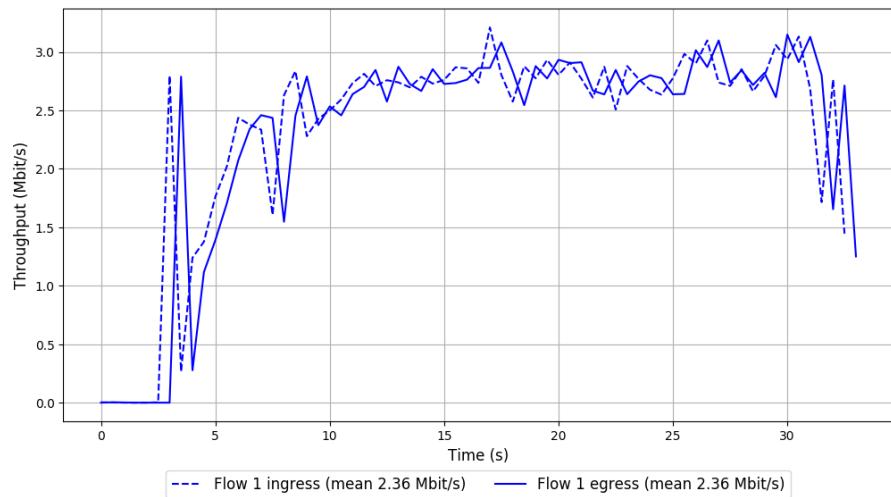


Run 4: Statistics of WebRTC media

```
Start at: 2018-12-11 17:05:57
End at: 2018-12-11 17:06:27
Local clock offset: -0.238 ms
Remote clock offset: -1.975 ms

# Below is generated by plot.py at 2018-12-11 17:48:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 33.876 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 33.876 ms
Loss rate: 0.25%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-12-11 17:28:04
End at: 2018-12-11 17:28:34
Local clock offset: 2.933 ms
Remote clock offset: -1.942 ms

# Below is generated by plot.py at 2018-12-11 17:48:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 33.835 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 33.835 ms
Loss rate: 0.26%
```

Run 5: Report of WebRTC media — Data Link

