

Pantheon Report

Generated at 2018-12-20 00:36:43 (UTC).
Data path: AWS Korea on `ens5` (*local*) → China on `eno1` (*remote*).
Repeated the test of 19 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against `ntp.nict.jp` and have been applied to correct the timestamps in logs.

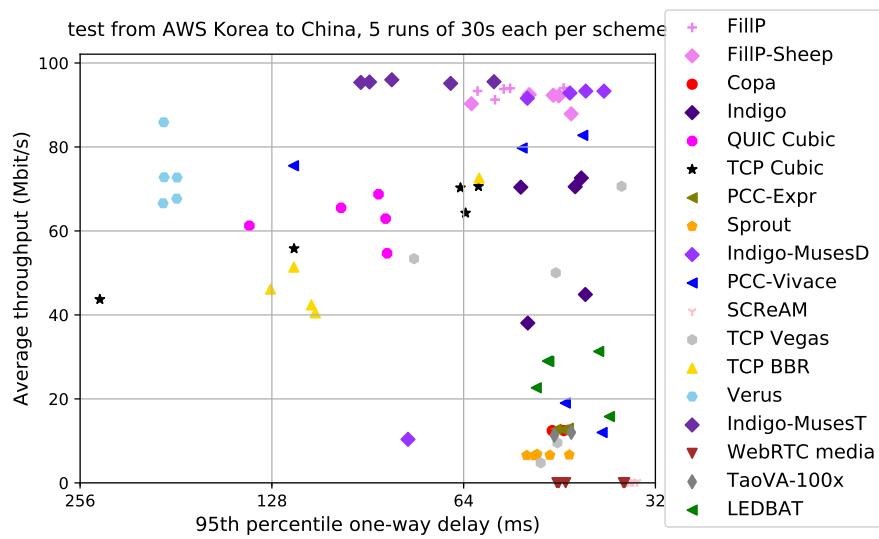
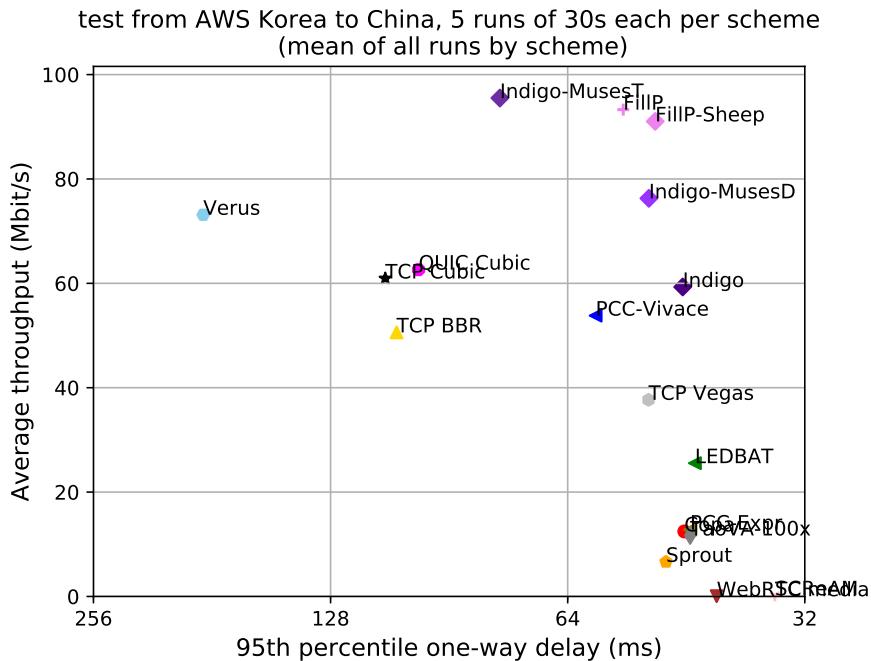
System info:

```
Linux 4.15.0-1029-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



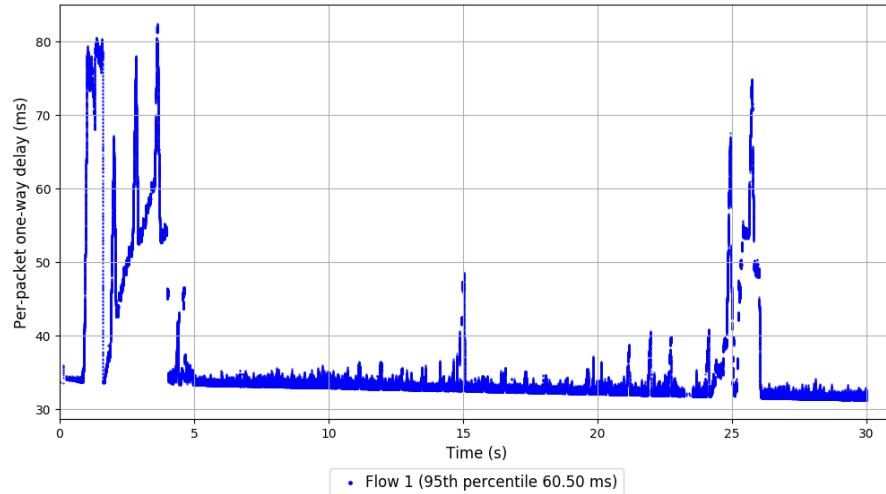
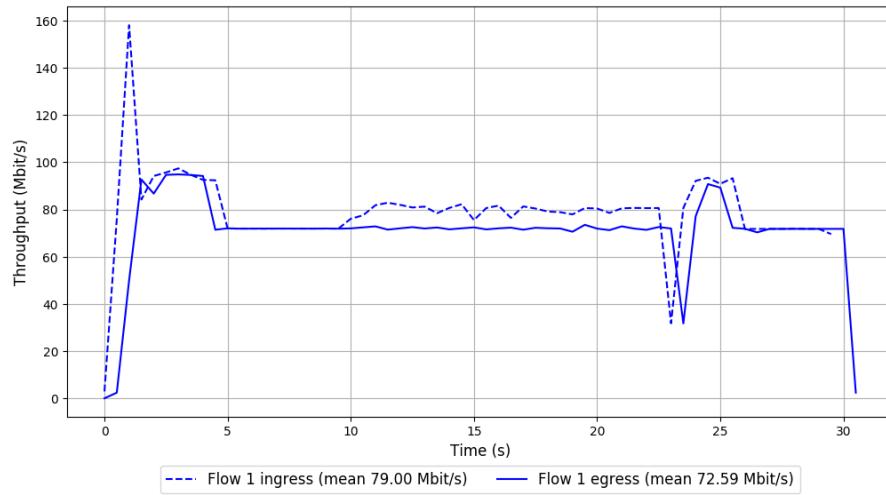
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	50.60	105.54	9.06
Copa	2	12.46	45.51	51.59
TCP Cubic	5	60.93	109.09	0.99
FillP	5	93.28	54.41	0.70
FillP-Sheep	5	91.03	49.55	0.50
Indigo	5	59.30	45.73	1.08
Indigo-MusesD	5	76.29	50.48	0.01
Indigo-MusesT	5	95.51	78.03	1.27
LEDBAT	5	25.54	44.13	0.06
PCC-Allegro	0	N/A	N/A	N/A
PCC-Expr	3	12.80	44.76	41.62
QUIC Cubic	5	62.62	98.96	0.04
SCReAM	5	0.22	34.93	0.00
Sprout	5	6.63	48.02	0.00
TaoVA-100x	2	11.68	44.74	2.19
TCP Vegas	5	37.67	50.53	0.40
Verus	5	73.14	185.73	18.27
PCC-Vivace	5	53.81	58.98	0.02
WebRTC media	5	0.05	41.40	0.00

Run 1: Statistics of TCP BBR

```
Start at: 2018-12-19 22:39:35
End at: 2018-12-19 22:40:05
Local clock offset: -9.18 ms
Remote clock offset: 1.069 ms

# Below is generated by plot.py at 2018-12-20 00:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.59 Mbit/s
95th percentile per-packet one-way delay: 60.502 ms
Loss rate: 8.12%
-- Flow 1:
Average throughput: 72.59 Mbit/s
95th percentile per-packet one-way delay: 60.502 ms
Loss rate: 8.12%
```

Run 1: Report of TCP BBR — Data Link

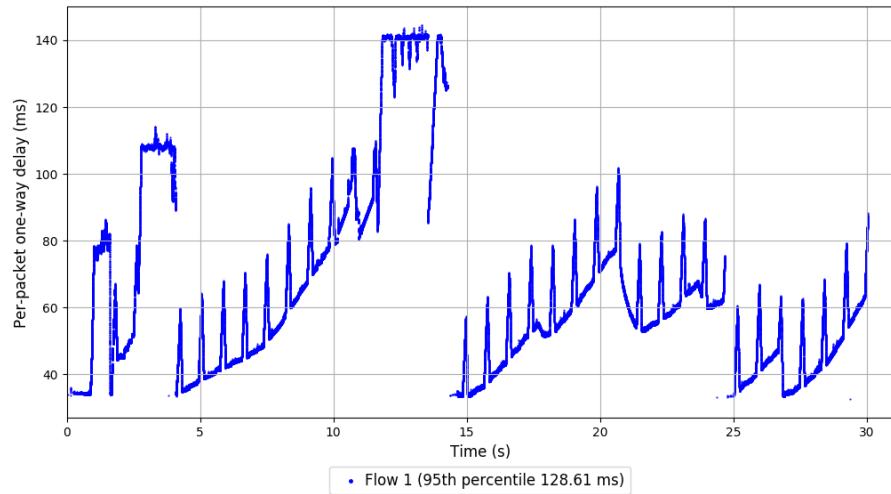
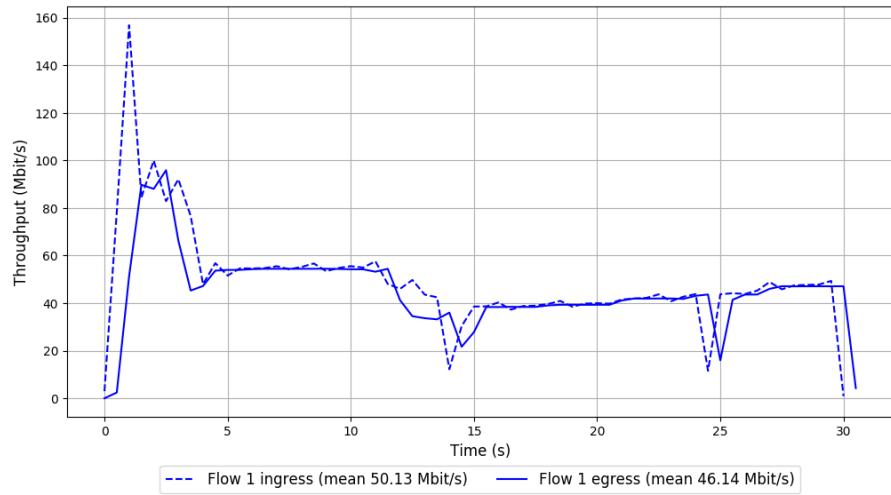


Run 2: Statistics of TCP BBR

```
Start at: 2018-12-19 23:01:57
End at: 2018-12-19 23:02:27
Local clock offset: -17.325 ms
Remote clock offset: 30.241 ms

# Below is generated by plot.py at 2018-12-20 00:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.14 Mbit/s
95th percentile per-packet one-way delay: 128.613 ms
Loss rate: 7.95%
-- Flow 1:
Average throughput: 46.14 Mbit/s
95th percentile per-packet one-way delay: 128.613 ms
Loss rate: 7.95%
```

Run 2: Report of TCP BBR — Data Link

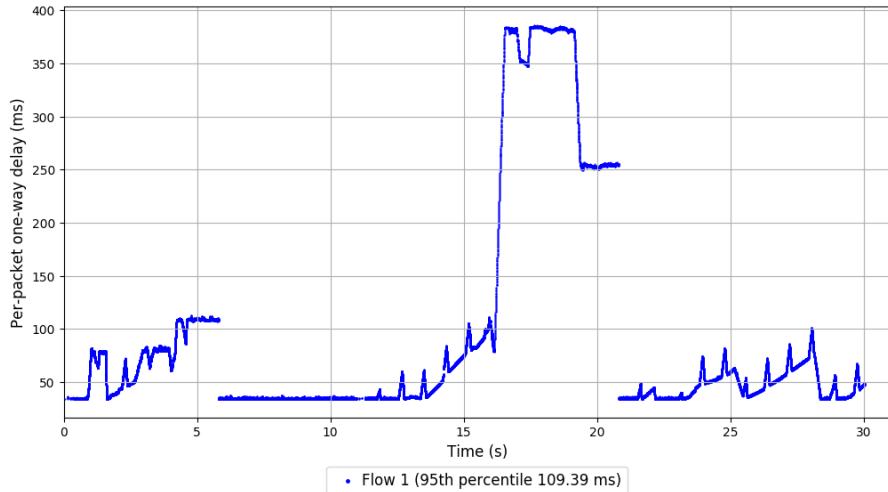
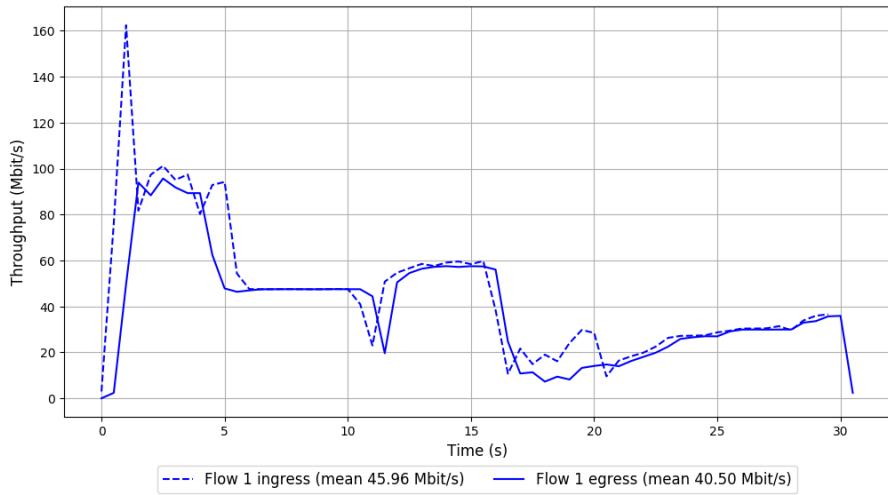


Run 3: Statistics of TCP BBR

```
Start at: 2018-12-19 23:24:55
End at: 2018-12-19 23:25:25
Local clock offset: -26.519 ms
Remote clock offset: 15.283 ms

# Below is generated by plot.py at 2018-12-20 00:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.50 Mbit/s
95th percentile per-packet one-way delay: 109.389 ms
Loss rate: 11.87%
-- Flow 1:
Average throughput: 40.50 Mbit/s
95th percentile per-packet one-way delay: 109.389 ms
Loss rate: 11.87%
```

Run 3: Report of TCP BBR — Data Link

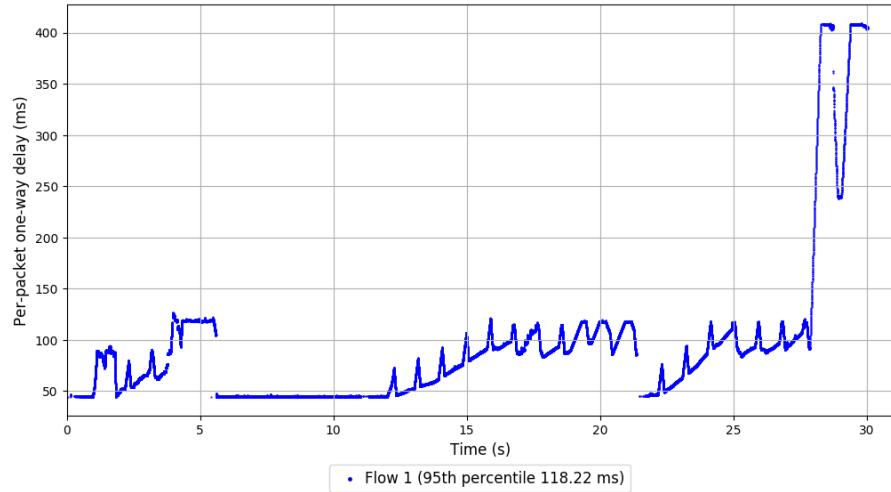
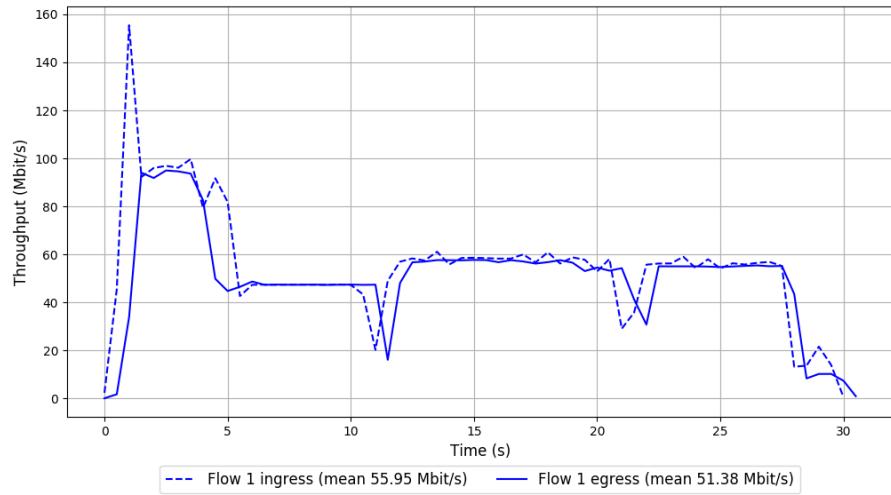


Run 4: Statistics of TCP BBR

```
Start at: 2018-12-19 23:47:13
End at: 2018-12-19 23:47:43
Local clock offset: -12.571 ms
Remote clock offset: 1.173 ms

# Below is generated by plot.py at 2018-12-20 00:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 51.38 Mbit/s
95th percentile per-packet one-way delay: 118.223 ms
Loss rate: 8.19%
-- Flow 1:
Average throughput: 51.38 Mbit/s
95th percentile per-packet one-way delay: 118.223 ms
Loss rate: 8.19%
```

Run 4: Report of TCP BBR — Data Link

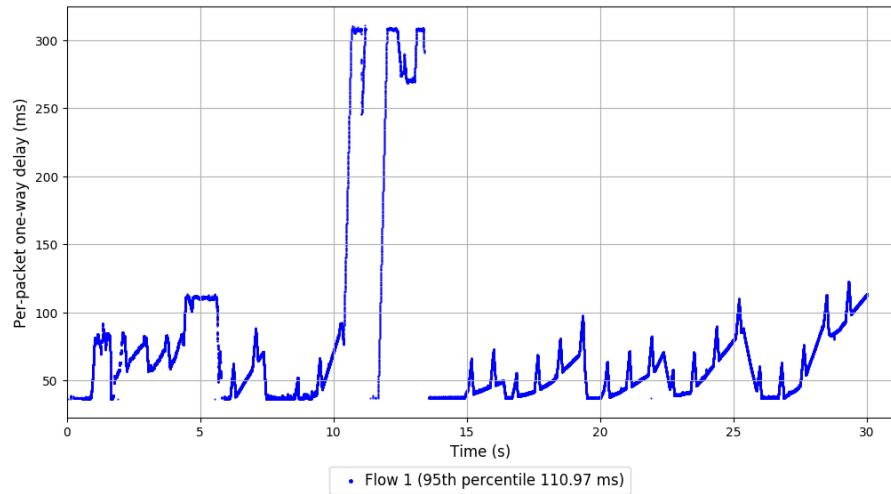
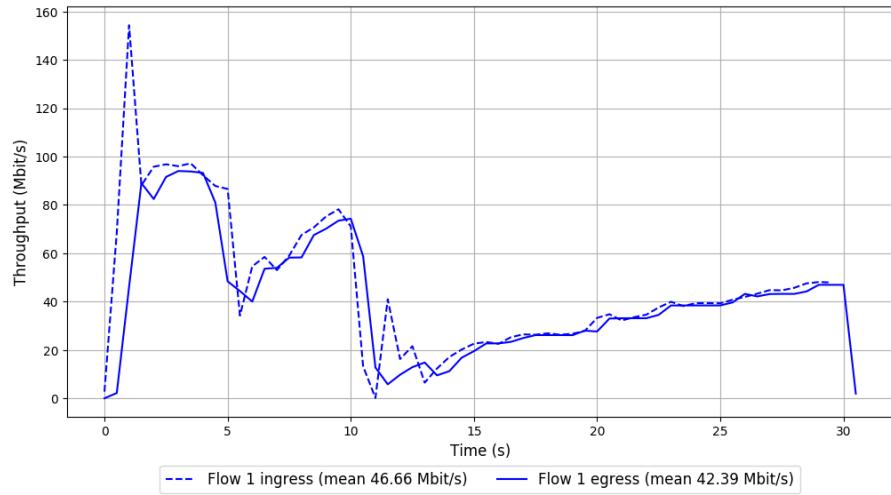


Run 5: Statistics of TCP BBR

```
Start at: 2018-12-20 00:09:34
End at: 2018-12-20 00:10:04
Local clock offset: -9.37 ms
Remote clock offset: 0.485 ms

# Below is generated by plot.py at 2018-12-20 00:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.39 Mbit/s
95th percentile per-packet one-way delay: 110.969 ms
Loss rate: 9.15%
-- Flow 1:
Average throughput: 42.39 Mbit/s
95th percentile per-packet one-way delay: 110.969 ms
Loss rate: 9.15%
```

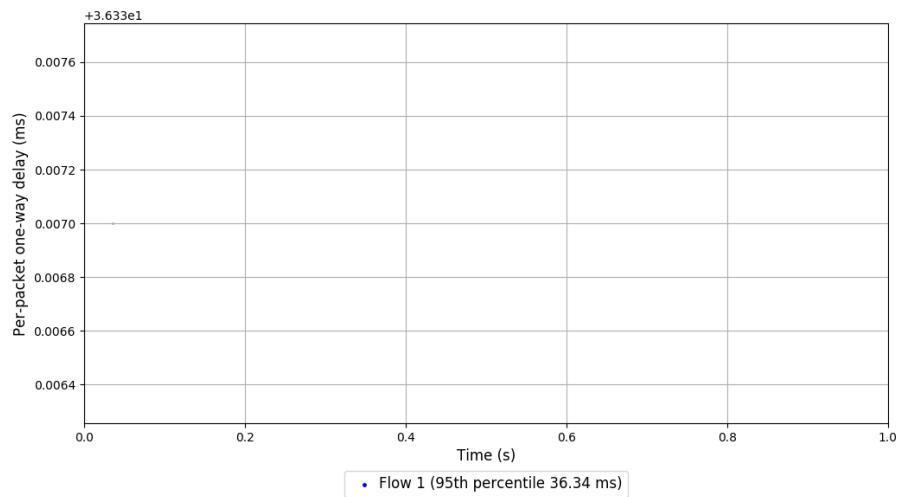
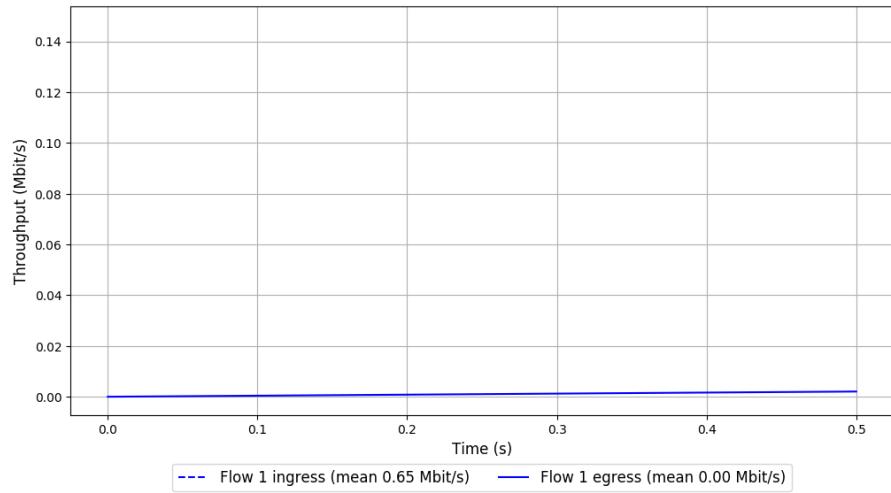
Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-12-19 22:55:00
End at: 2018-12-19 22:55:30
Local clock offset: -14.823 ms
Remote clock offset: 25.371 ms

Run 1: Report of Copa — Data Link

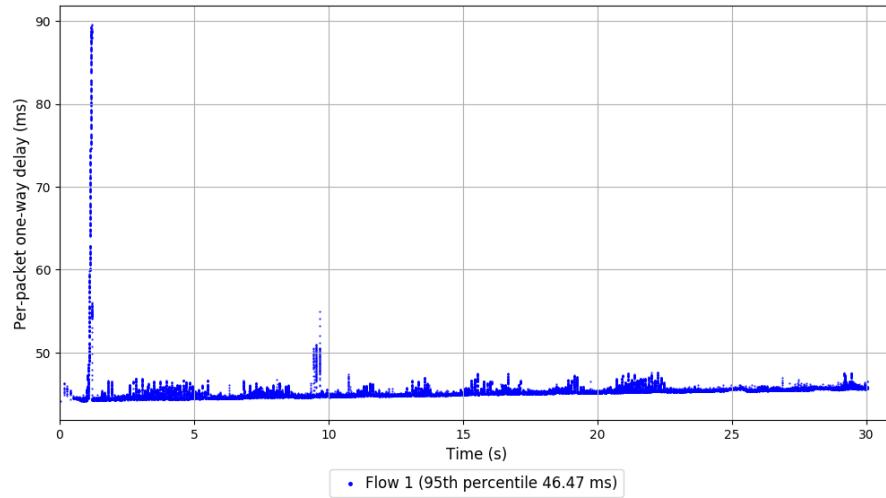
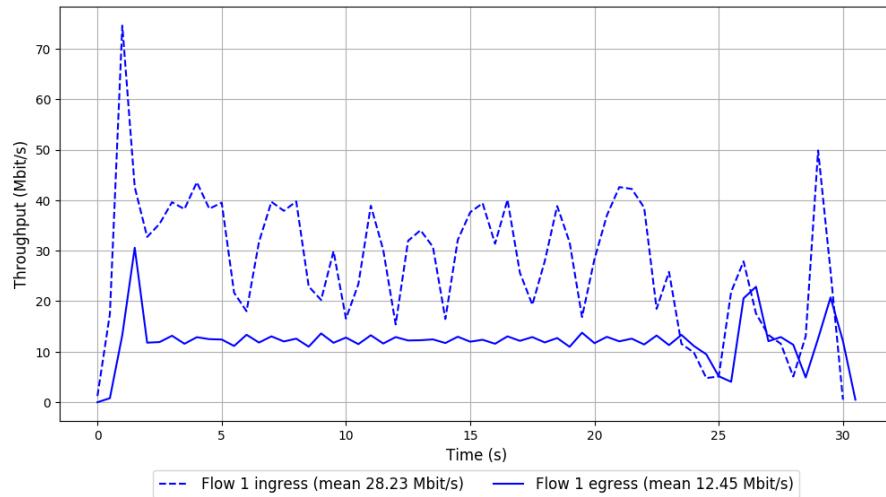


Run 2: Statistics of Copa

```
Start at: 2018-12-19 23:17:19
End at: 2018-12-19 23:17:49
Local clock offset: -18.55 ms
Remote clock offset: 34.493 ms

# Below is generated by plot.py at 2018-12-20 00:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.45 Mbit/s
95th percentile per-packet one-way delay: 46.466 ms
Loss rate: 55.89%
-- Flow 1:
Average throughput: 12.45 Mbit/s
95th percentile per-packet one-way delay: 46.466 ms
Loss rate: 55.89%
```

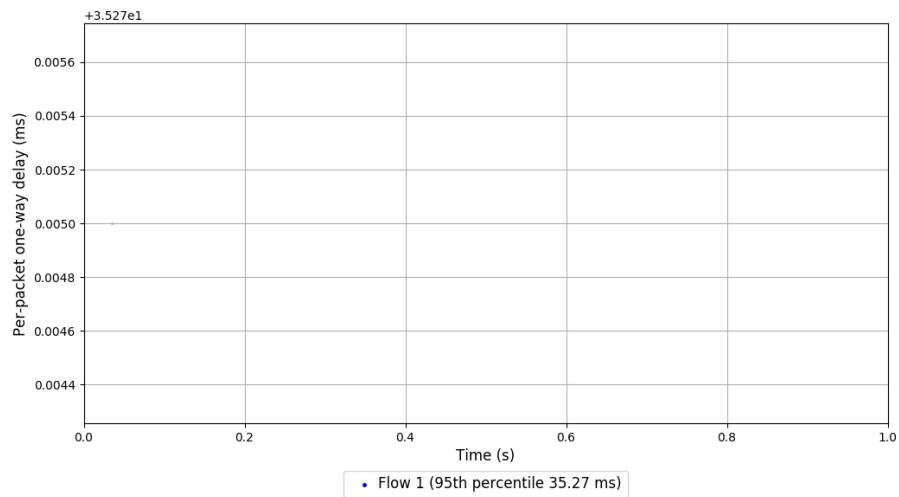
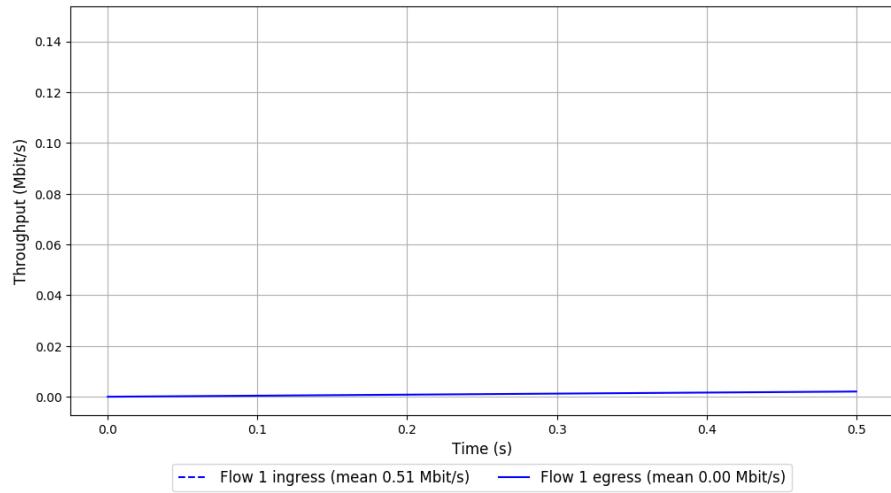
Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-12-19 23:40:18
End at: 2018-12-19 23:40:48
Local clock offset: -23.243 ms
Remote clock offset: 3.0 ms

Run 3: Report of Copa — Data Link

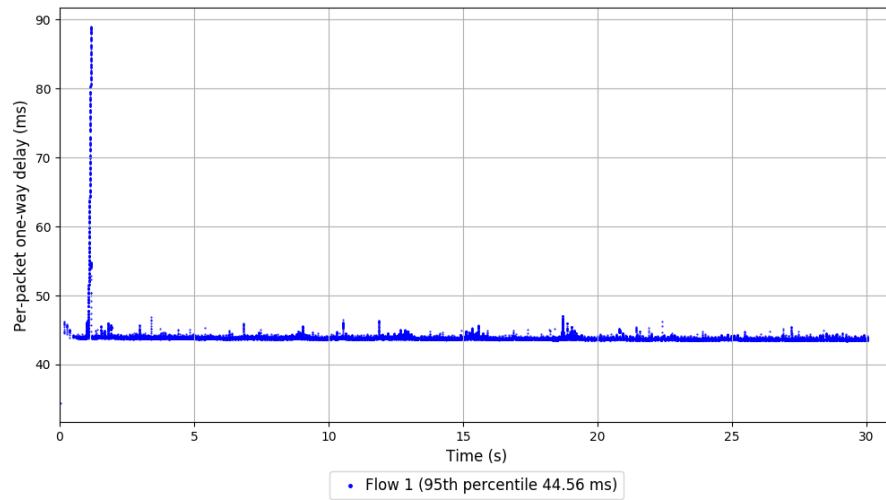
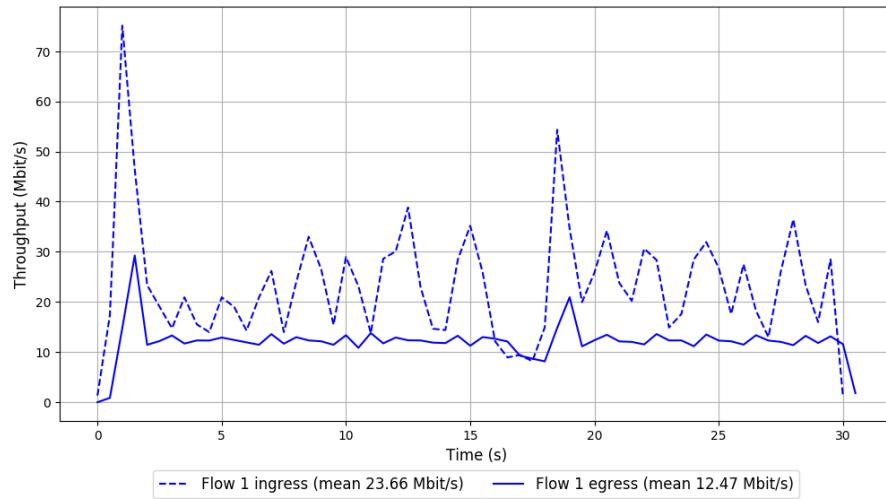


Run 4: Statistics of Copa

```
Start at: 2018-12-20 00:02:38
End at: 2018-12-20 00:03:08
Local clock offset: -14.36 ms
Remote clock offset: 0.11 ms

# Below is generated by plot.py at 2018-12-20 00:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 44.558 ms
Loss rate: 47.30%
-- Flow 1:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 44.558 ms
Loss rate: 47.30%
```

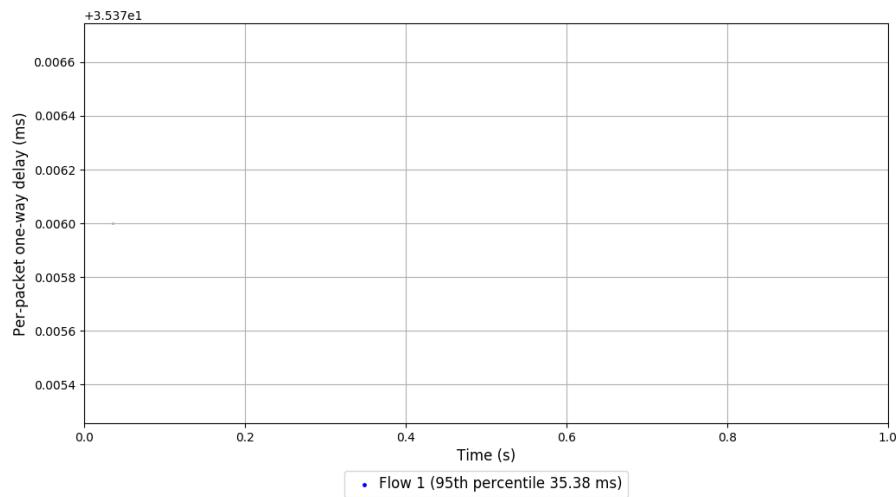
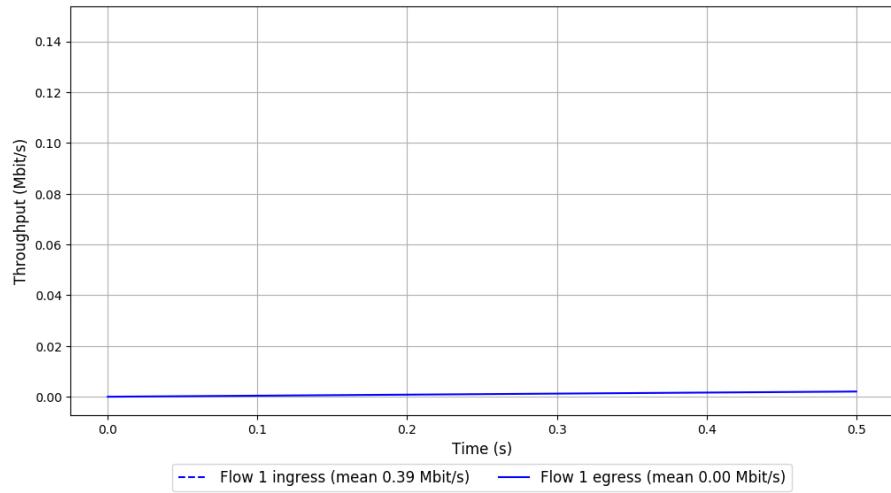
Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-12-20 00:25:00
End at: 2018-12-20 00:25:30
Local clock offset: -2.748 ms
Remote clock offset: -0.554 ms

Run 5: Report of Copa — Data Link

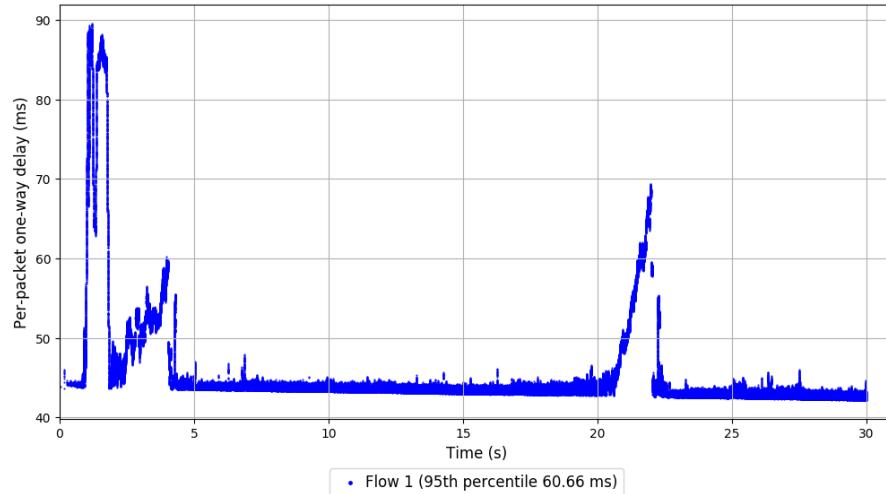
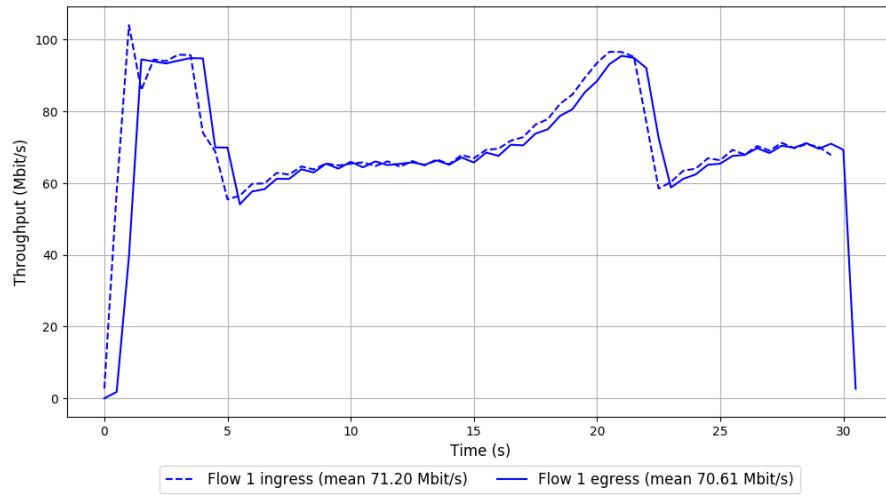


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-12-19 22:49:03
End at: 2018-12-19 22:49:33
Local clock offset: -13.788 ms
Remote clock offset: 16.482 ms

# Below is generated by plot.py at 2018-12-20 00:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.61 Mbit/s
95th percentile per-packet one-way delay: 60.655 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 70.61 Mbit/s
95th percentile per-packet one-way delay: 60.655 ms
Loss rate: 0.86%
```

Run 1: Report of TCP Cubic — Data Link

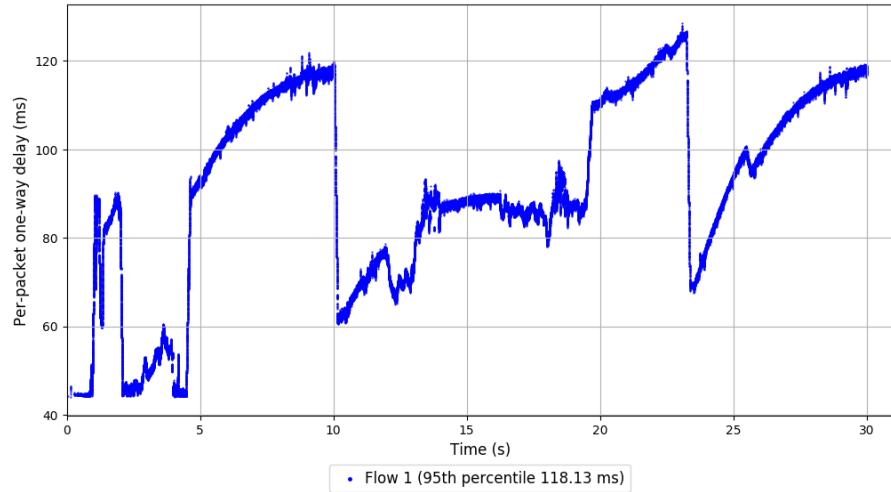
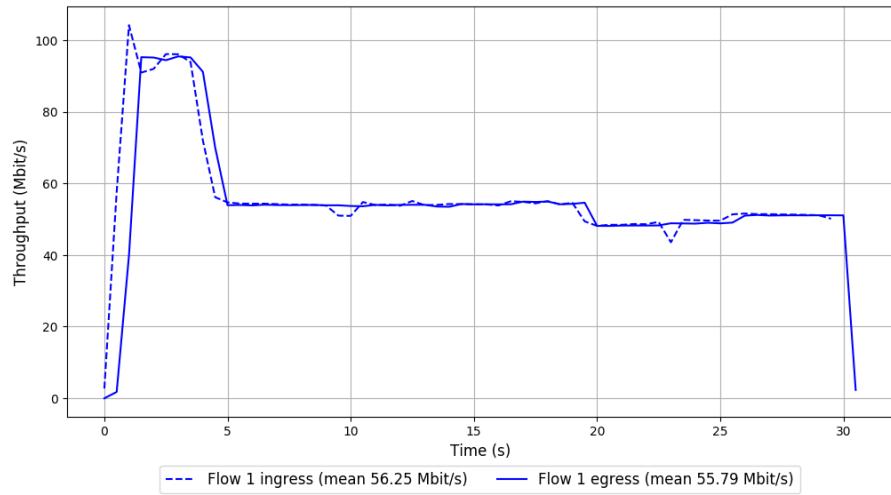


Run 2: Statistics of TCP Cubic

```
Start at: 2018-12-19 23:11:22
End at: 2018-12-19 23:11:52
Local clock offset: -16.733 ms
Remote clock offset: 36.858 ms

# Below is generated by plot.py at 2018-12-20 00:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.79 Mbit/s
95th percentile per-packet one-way delay: 118.126 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 55.79 Mbit/s
95th percentile per-packet one-way delay: 118.126 ms
Loss rate: 0.85%
```

Run 2: Report of TCP Cubic — Data Link

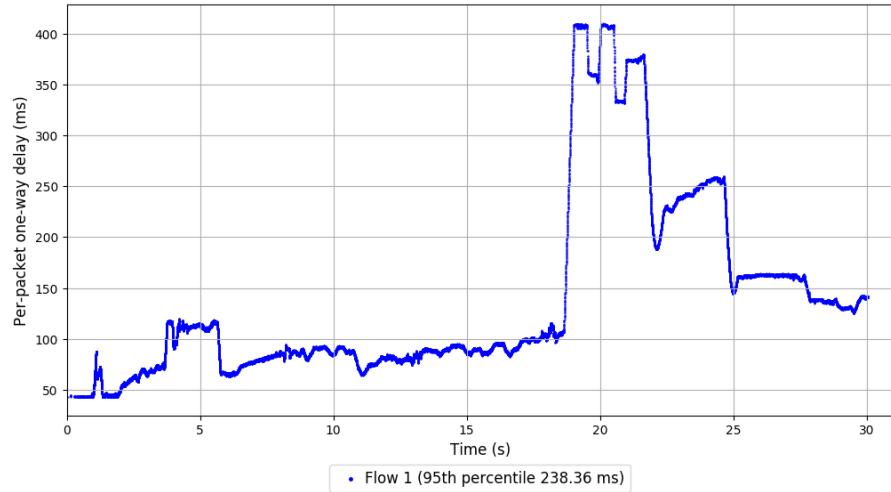
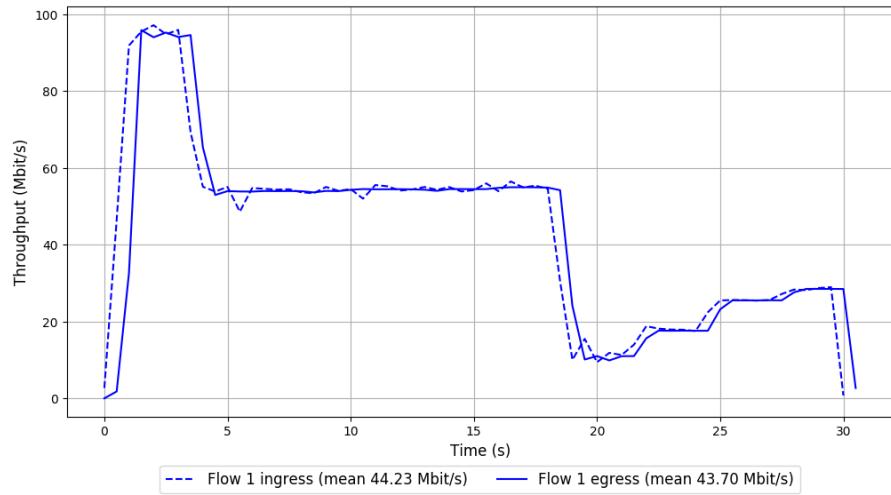


Run 3: Statistics of TCP Cubic

```
Start at: 2018-12-19 23:34:23
End at: 2018-12-19 23:34:53
Local clock offset: -40.751 ms
Remote clock offset: 5.374 ms

# Below is generated by plot.py at 2018-12-20 00:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 43.70 Mbit/s
95th percentile per-packet one-way delay: 238.364 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 43.70 Mbit/s
95th percentile per-packet one-way delay: 238.364 ms
Loss rate: 1.21%
```

Run 3: Report of TCP Cubic — Data Link

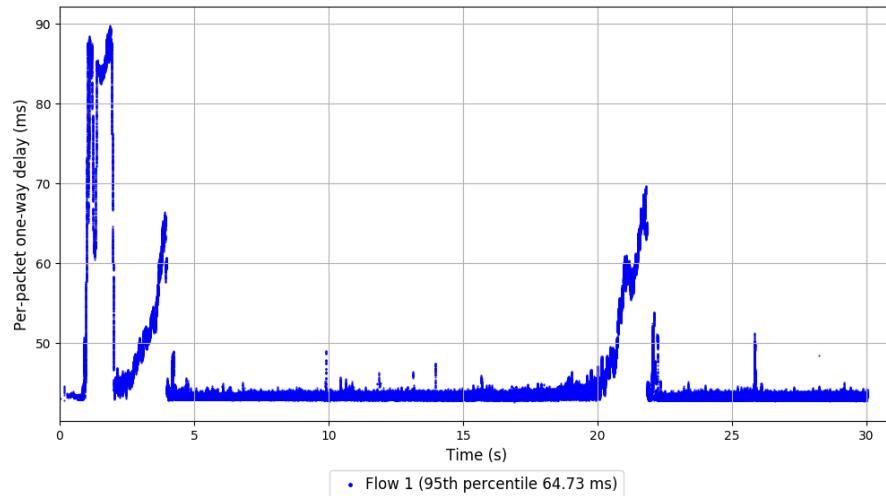
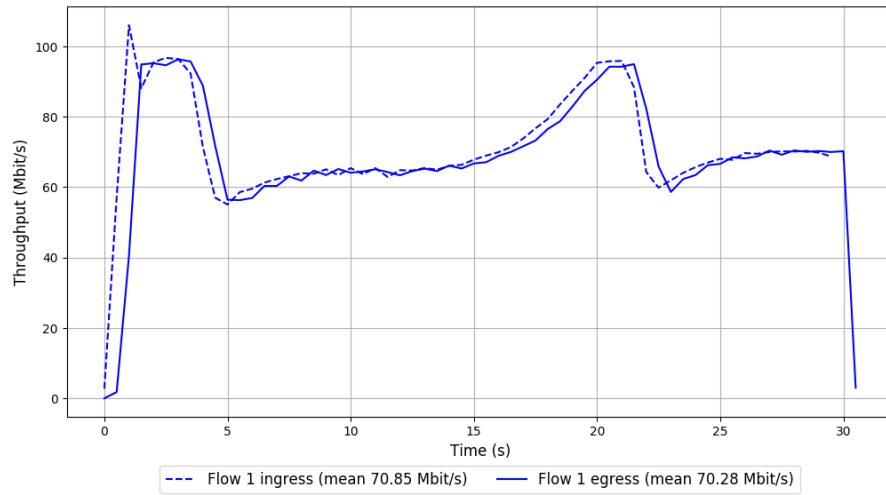


Run 4: Statistics of TCP Cubic

```
Start at: 2018-12-19 23:56:39
End at: 2018-12-19 23:57:09
Local clock offset: -11.093 ms
Remote clock offset: 0.123 ms

# Below is generated by plot.py at 2018-12-20 00:31:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.28 Mbit/s
95th percentile per-packet one-way delay: 64.735 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 70.28 Mbit/s
95th percentile per-packet one-way delay: 64.735 ms
Loss rate: 0.82%
```

Run 4: Report of TCP Cubic — Data Link

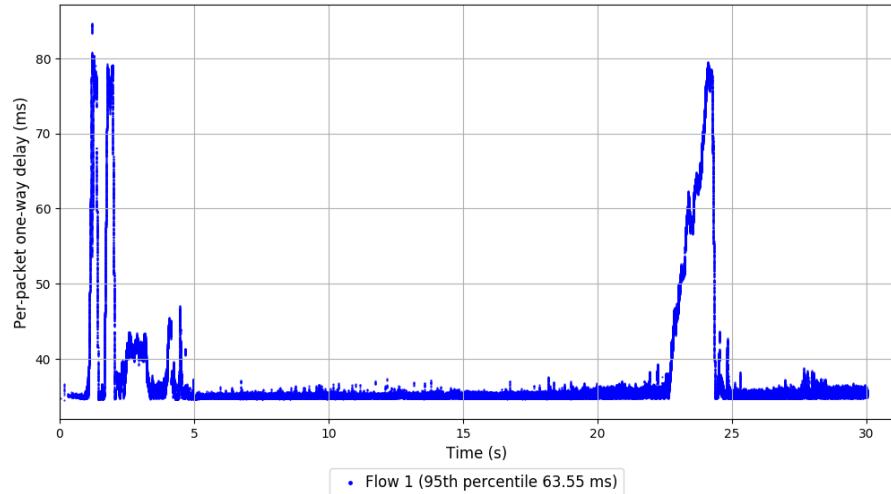
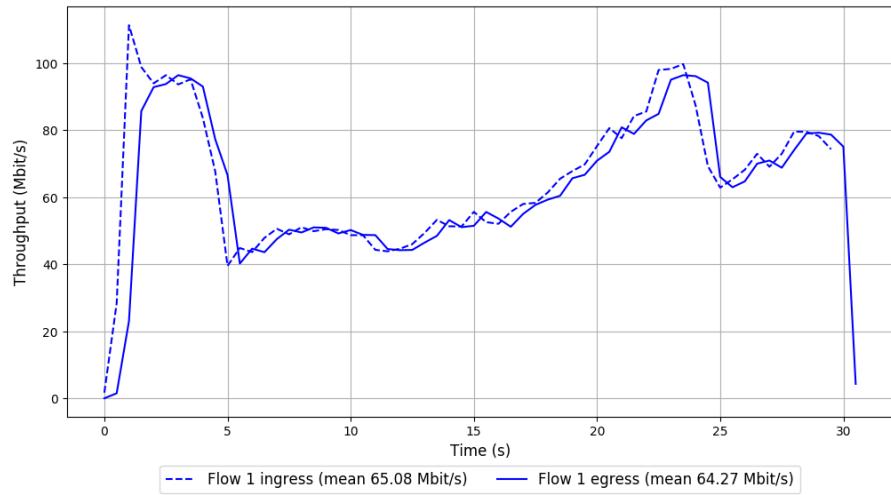


Run 5: Statistics of TCP Cubic

```
Start at: 2018-12-20 00:19:00
End at: 2018-12-20 00:19:30
Local clock offset: -2.773 ms
Remote clock offset: -1.247 ms

# Below is generated by plot.py at 2018-12-20 00:31:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.27 Mbit/s
95th percentile per-packet one-way delay: 63.555 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 64.27 Mbit/s
95th percentile per-packet one-way delay: 63.555 ms
Loss rate: 1.23%
```

Run 5: Report of TCP Cubic — Data Link

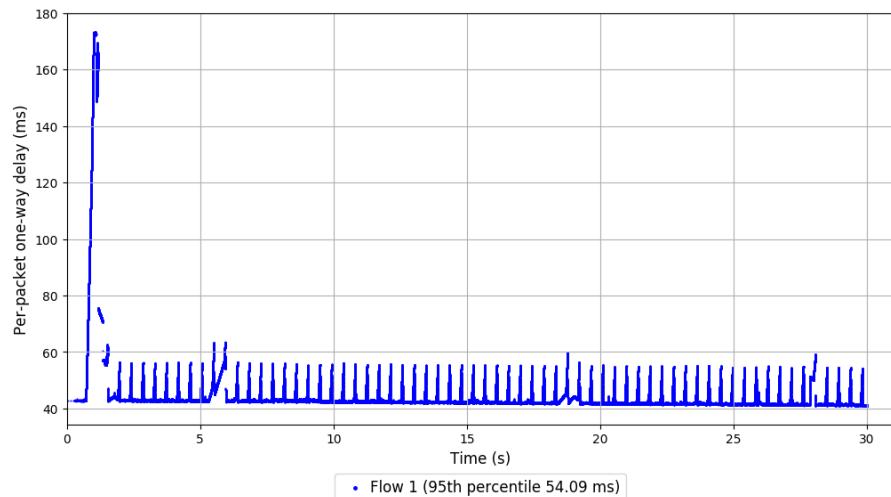
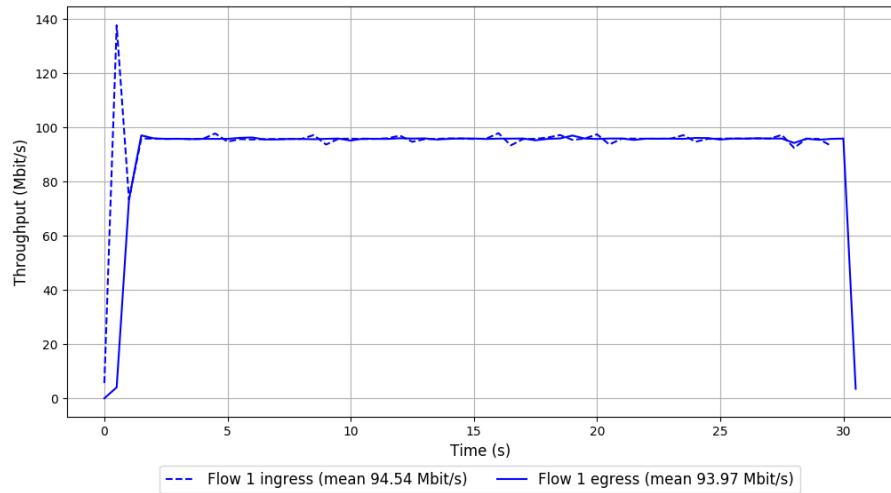


Run 1: Statistics of FillP

```
Start at: 2018-12-19 22:50:14
End at: 2018-12-19 22:50:44
Local clock offset: -15.748 ms
Remote clock offset: 17.981 ms

# Below is generated by plot.py at 2018-12-20 00:31:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.97 Mbit/s
95th percentile per-packet one-way delay: 54.089 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 93.97 Mbit/s
95th percentile per-packet one-way delay: 54.089 ms
Loss rate: 0.63%
```

Run 1: Report of FillP — Data Link

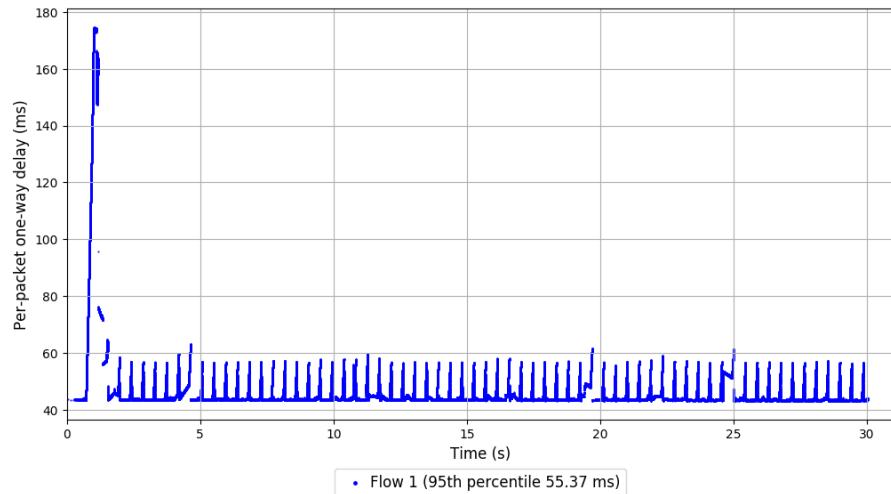
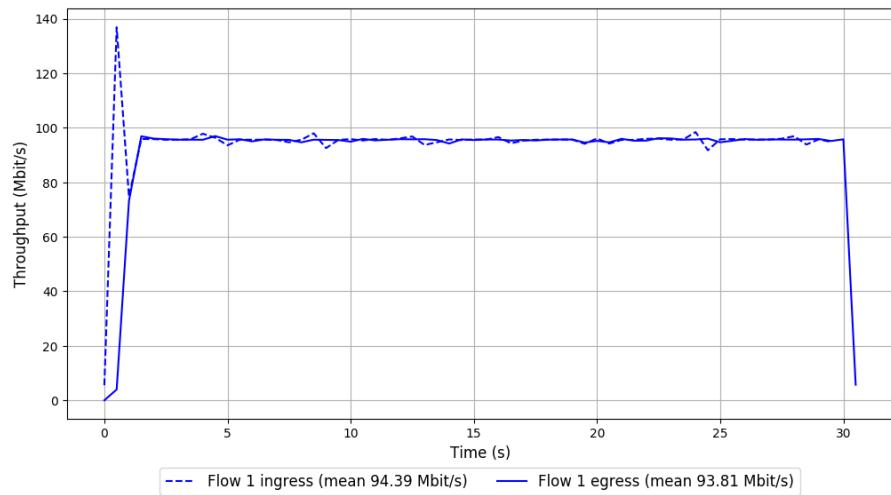


Run 2: Statistics of FillP

```
Start at: 2018-12-19 23:12:33
End at: 2018-12-19 23:13:03
Local clock offset: -16.855 ms
Remote clock offset: 37.355 ms

# Below is generated by plot.py at 2018-12-20 00:31:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.81 Mbit/s
95th percentile per-packet one-way delay: 55.366 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 93.81 Mbit/s
95th percentile per-packet one-way delay: 55.366 ms
Loss rate: 0.64%
```

Run 2: Report of FillP — Data Link

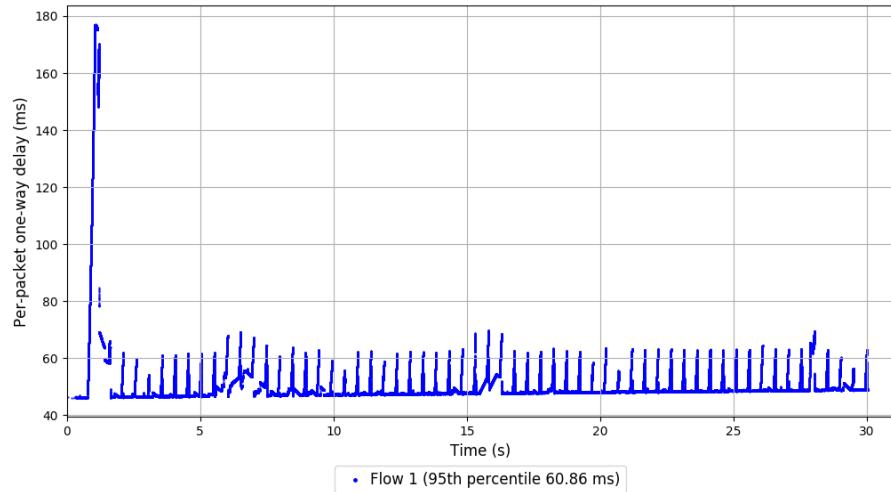
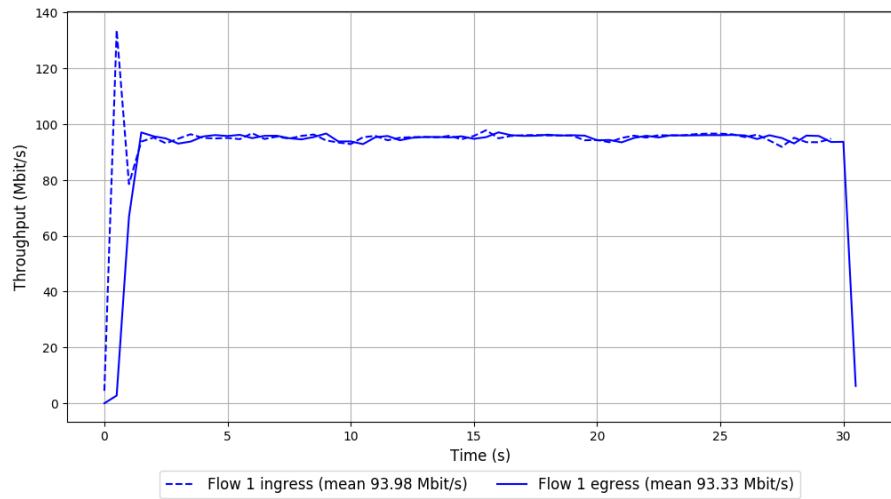


Run 3: Statistics of FillP

```
Start at: 2018-12-19 23:35:34
End at: 2018-12-19 23:36:04
Local clock offset: -42.016 ms
Remote clock offset: 5.249 ms

# Below is generated by plot.py at 2018-12-20 00:32:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.33 Mbit/s
95th percentile per-packet one-way delay: 60.861 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 93.33 Mbit/s
95th percentile per-packet one-way delay: 60.861 ms
Loss rate: 0.72%
```

Run 3: Report of FillP — Data Link

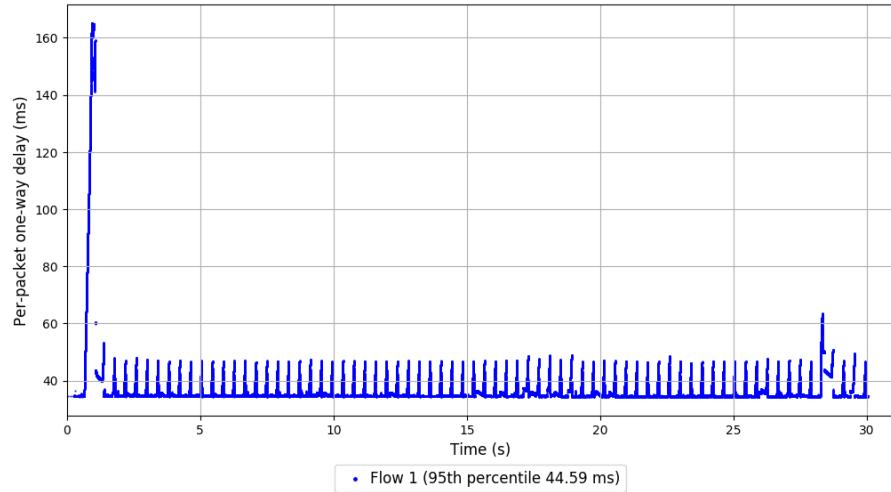
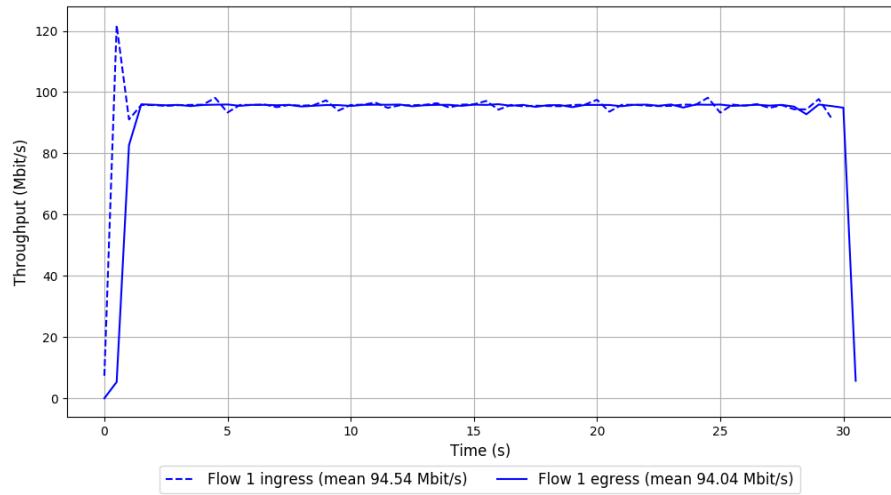


Run 4: Statistics of FillP

```
Start at: 2018-12-19 23:57:51
End at: 2018-12-19 23:58:21
Local clock offset: -12.075 ms
Remote clock offset: 0.347 ms

# Below is generated by plot.py at 2018-12-20 00:32:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.04 Mbit/s
95th percentile per-packet one-way delay: 44.590 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 94.04 Mbit/s
95th percentile per-packet one-way delay: 44.590 ms
Loss rate: 0.52%
```

Run 4: Report of FillP — Data Link

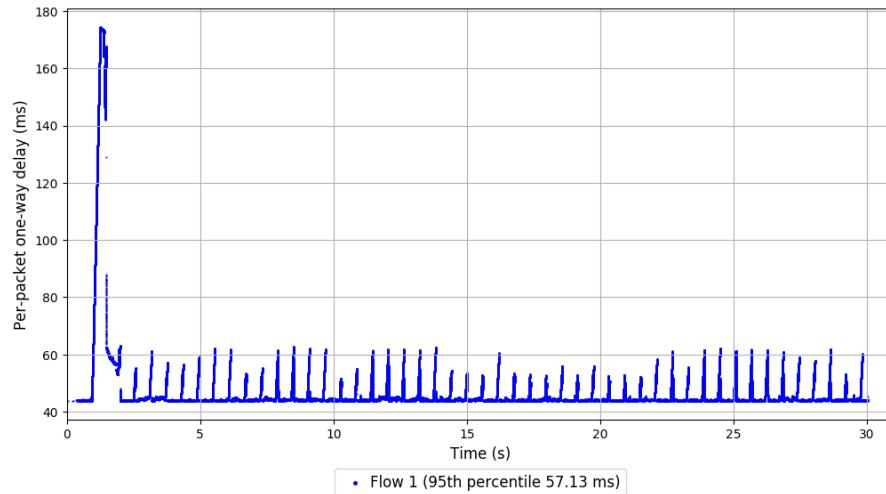
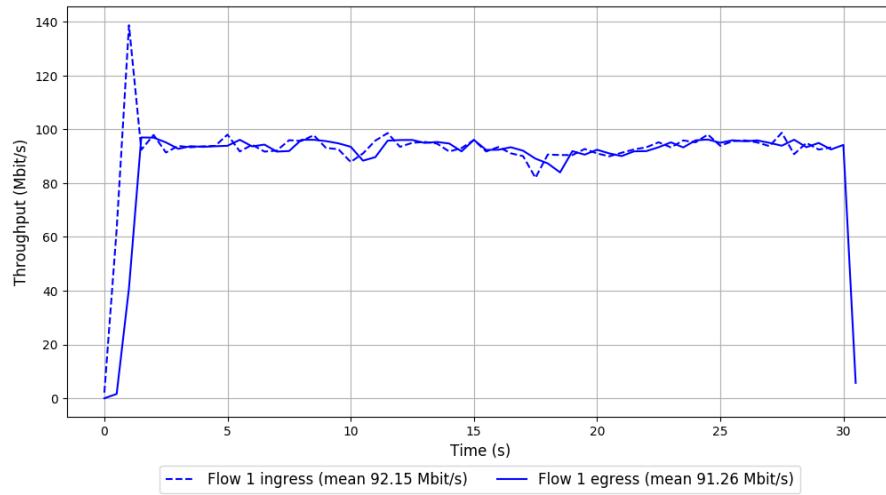


Run 5: Statistics of FillP

```
Start at: 2018-12-20 00:20:12
End at: 2018-12-20 00:20:42
Local clock offset: -2.153 ms
Remote clock offset: -1.333 ms

# Below is generated by plot.py at 2018-12-20 00:32:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.26 Mbit/s
95th percentile per-packet one-way delay: 57.130 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 91.26 Mbit/s
95th percentile per-packet one-way delay: 57.130 ms
Loss rate: 0.98%
```

Run 5: Report of FillP — Data Link

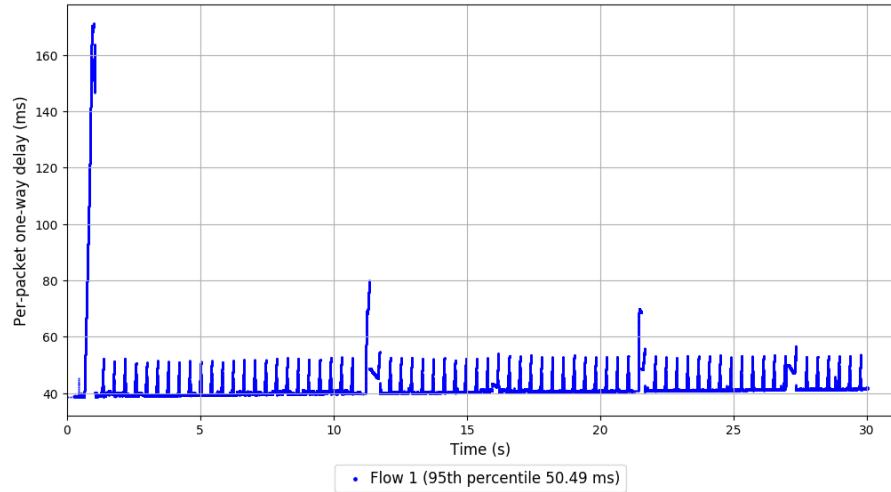
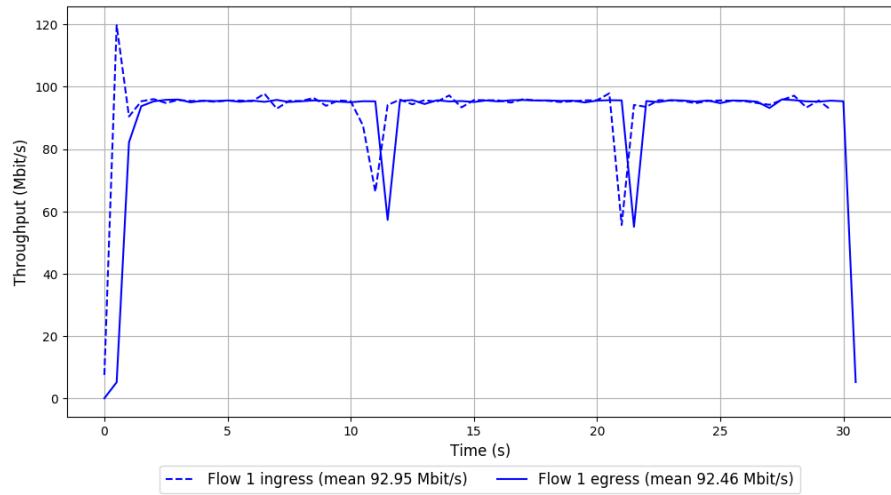


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-12-19 22:44:21
End at: 2018-12-19 22:44:51
Local clock offset: -27.483 ms
Remote clock offset: 7.293 ms

# Below is generated by plot.py at 2018-12-20 00:32:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.46 Mbit/s
95th percentile per-packet one-way delay: 50.487 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 92.46 Mbit/s
95th percentile per-packet one-way delay: 50.487 ms
Loss rate: 0.52%
```

Run 1: Report of FillP-Sheep — Data Link

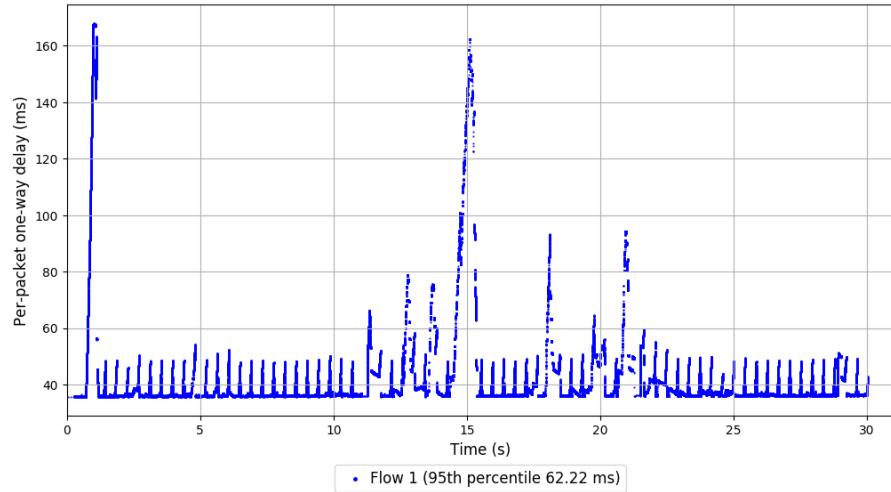
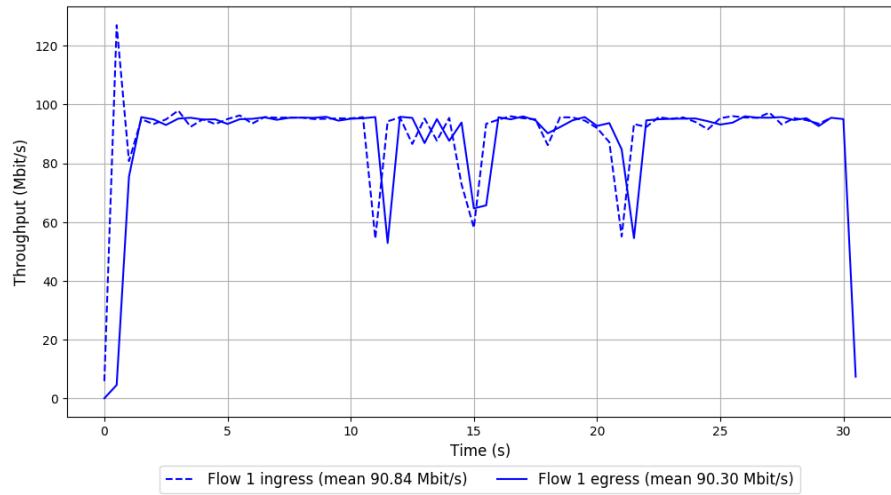


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-12-19 23:06:41
End at: 2018-12-19 23:07:11
Local clock offset: -20.993 ms
Remote clock offset: 34.299 ms

# Below is generated by plot.py at 2018-12-20 00:32:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.30 Mbit/s
95th percentile per-packet one-way delay: 62.223 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 90.30 Mbit/s
95th percentile per-packet one-way delay: 62.223 ms
Loss rate: 0.57%
```

Run 2: Report of FillP-Sheep — Data Link

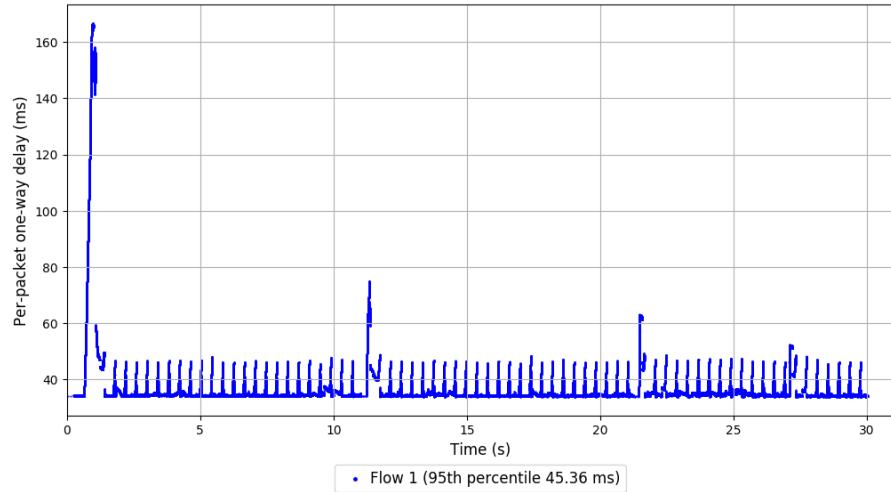
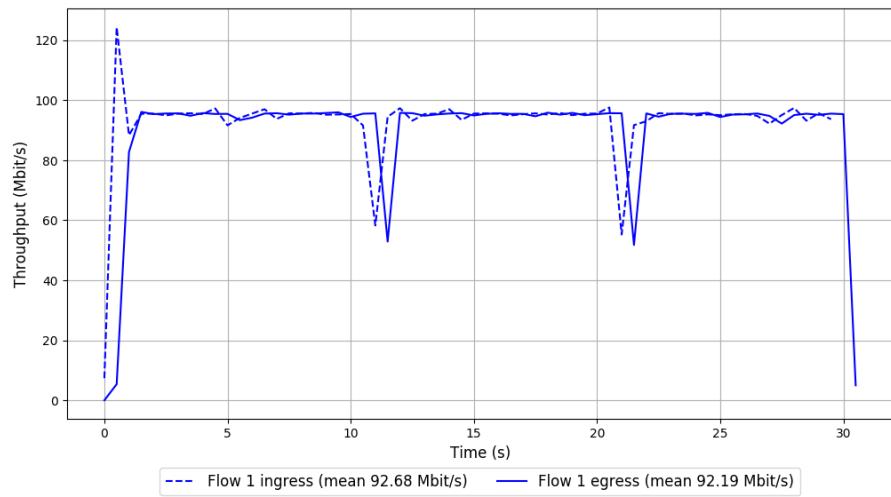


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-12-19 23:29:39
End at: 2018-12-19 23:30:09
Local clock offset: -33.202 ms
Remote clock offset: 9.41 ms

# Below is generated by plot.py at 2018-12-20 00:32:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.19 Mbit/s
95th percentile per-packet one-way delay: 45.363 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 92.19 Mbit/s
95th percentile per-packet one-way delay: 45.363 ms
Loss rate: 0.53%
```

Run 3: Report of FillP-Sheep — Data Link

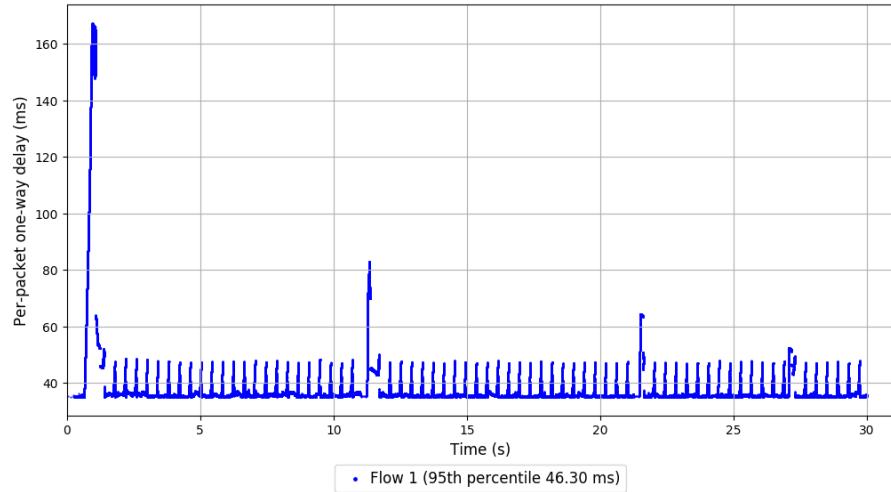
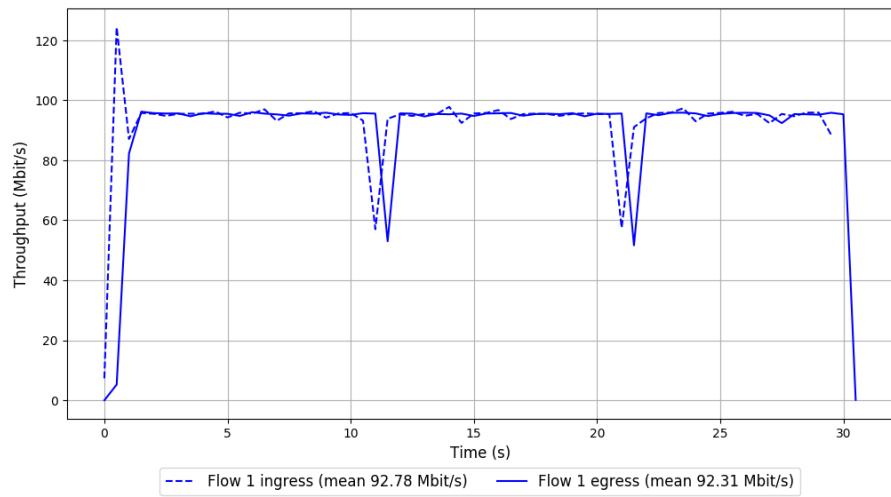


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-12-19 23:51:58
End at: 2018-12-19 23:52:28
Local clock offset: -10.616 ms
Remote clock offset: 1.665 ms

# Below is generated by plot.py at 2018-12-20 00:33:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.31 Mbit/s
95th percentile per-packet one-way delay: 46.300 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 92.31 Mbit/s
95th percentile per-packet one-way delay: 46.300 ms
Loss rate: 0.51%
```

Run 4: Report of FillP-Sheep — Data Link

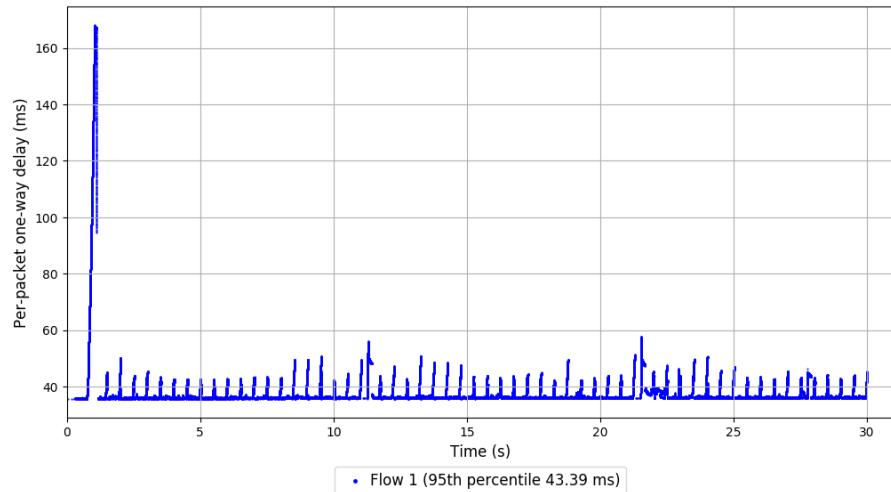
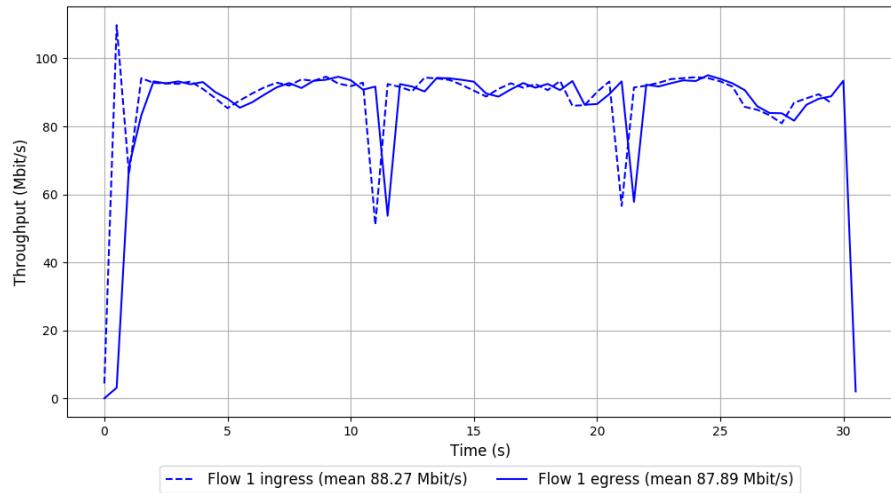


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-12-20 00:14:17
End at: 2018-12-20 00:14:47
Local clock offset: -4.517 ms
Remote clock offset: -0.458 ms

# Below is generated by plot.py at 2018-12-20 00:33:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.89 Mbit/s
95th percentile per-packet one-way delay: 43.387 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 87.89 Mbit/s
95th percentile per-packet one-way delay: 43.387 ms
Loss rate: 0.39%
```

Run 5: Report of FillP-Sheep — Data Link

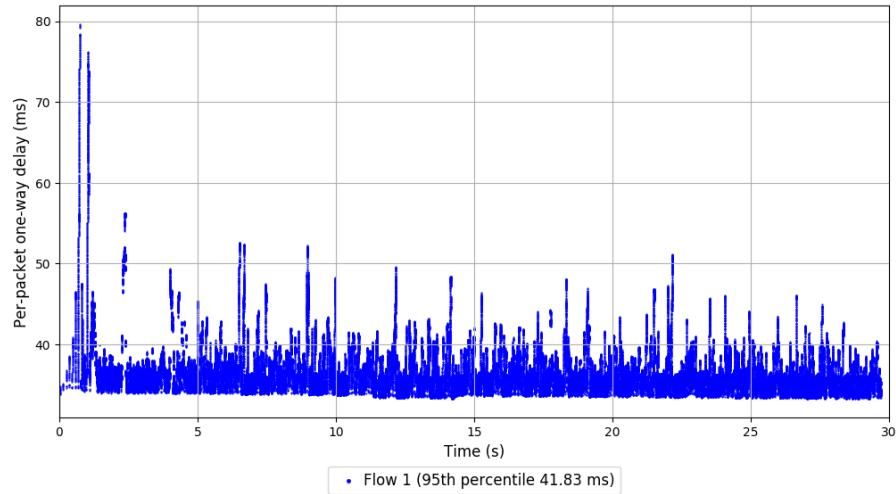
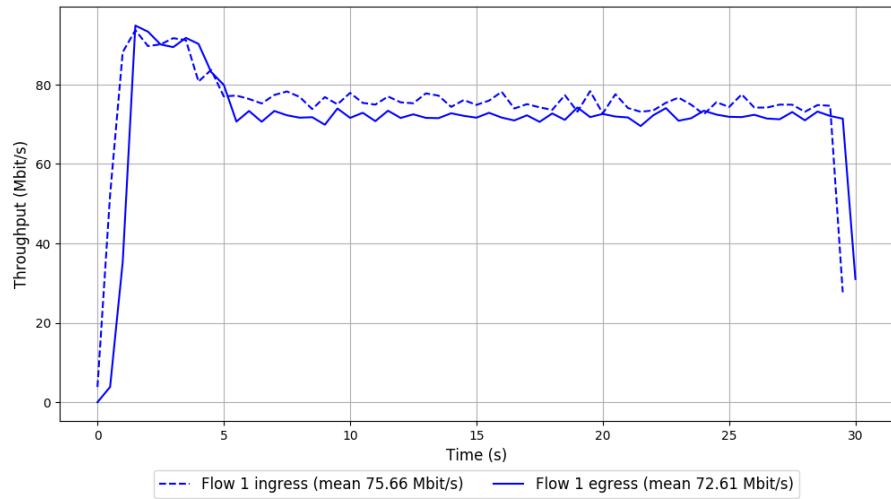


Run 1: Statistics of Indigo

```
Start at: 2018-12-19 22:58:27
End at: 2018-12-19 22:58:57
Local clock offset: -13.415 ms
Remote clock offset: 27.549 ms

# Below is generated by plot.py at 2018-12-20 00:33:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.61 Mbit/s
95th percentile per-packet one-way delay: 41.829 ms
Loss rate: 4.02%
-- Flow 1:
Average throughput: 72.61 Mbit/s
95th percentile per-packet one-way delay: 41.829 ms
Loss rate: 4.02%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-12-19 23:21:28

End at: 2018-12-19 23:21:58

Local clock offset: -22.733 ms

Remote clock offset: 21.85 ms

Below is generated by plot.py at 2018-12-20 00:33:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 38.07 Mbit/s

95th percentile per-packet one-way delay: 50.759 ms

Loss rate: 0.00%

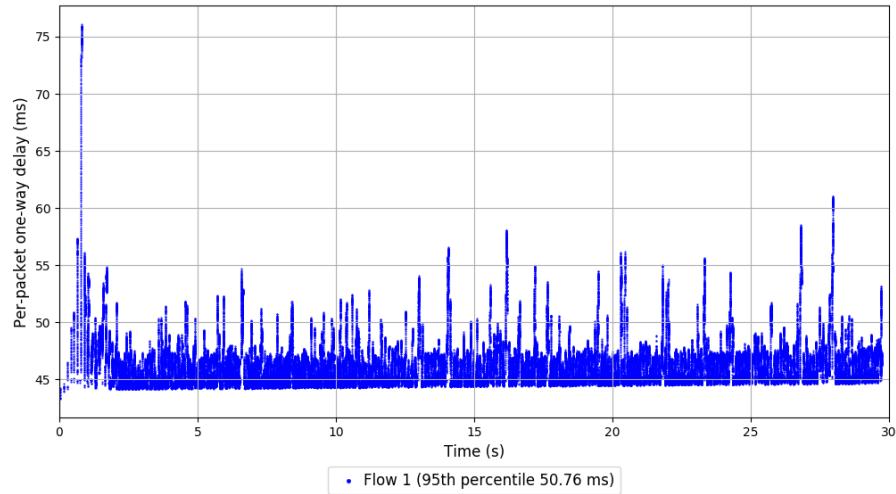
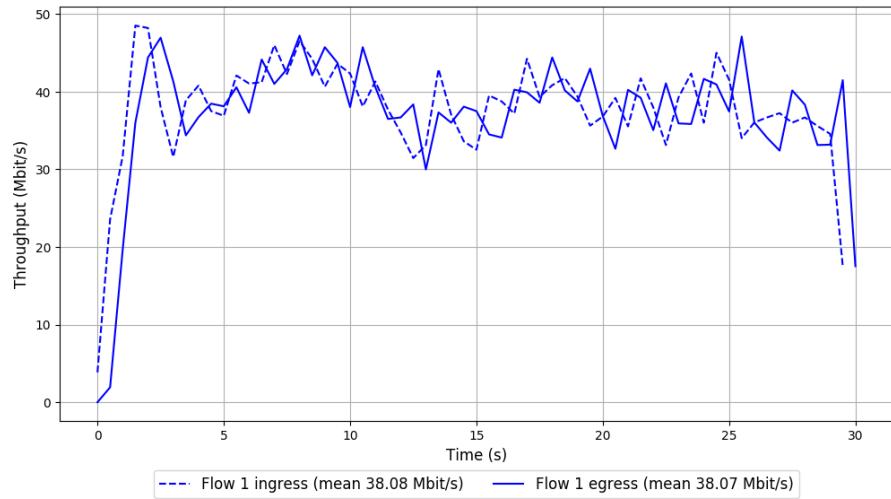
-- Flow 1:

Average throughput: 38.07 Mbit/s

95th percentile per-packet one-way delay: 50.759 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

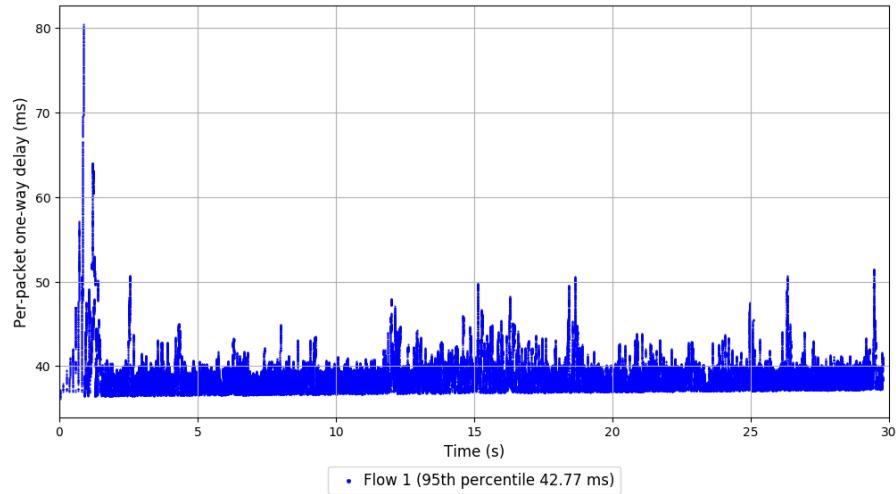
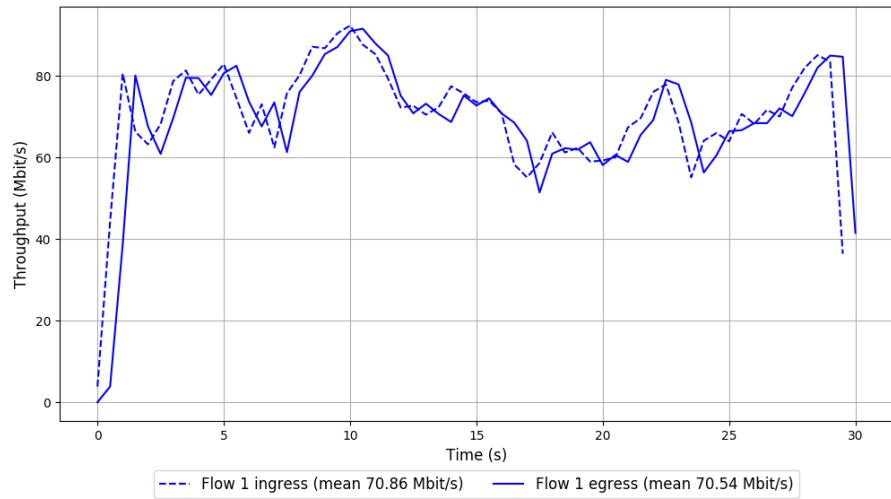


Run 3: Statistics of Indigo

```
Start at: 2018-12-19 23:43:43
End at: 2018-12-19 23:44:13
Local clock offset: -16.062 ms
Remote clock offset: 3.16 ms

# Below is generated by plot.py at 2018-12-20 00:33:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.54 Mbit/s
95th percentile per-packet one-way delay: 42.767 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 70.54 Mbit/s
95th percentile per-packet one-way delay: 42.767 ms
Loss rate: 0.44%
```

Run 3: Report of Indigo — Data Link

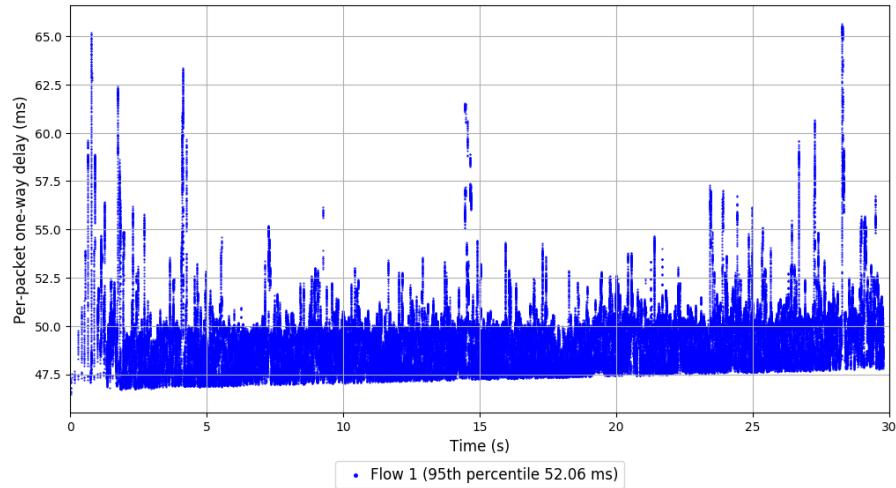
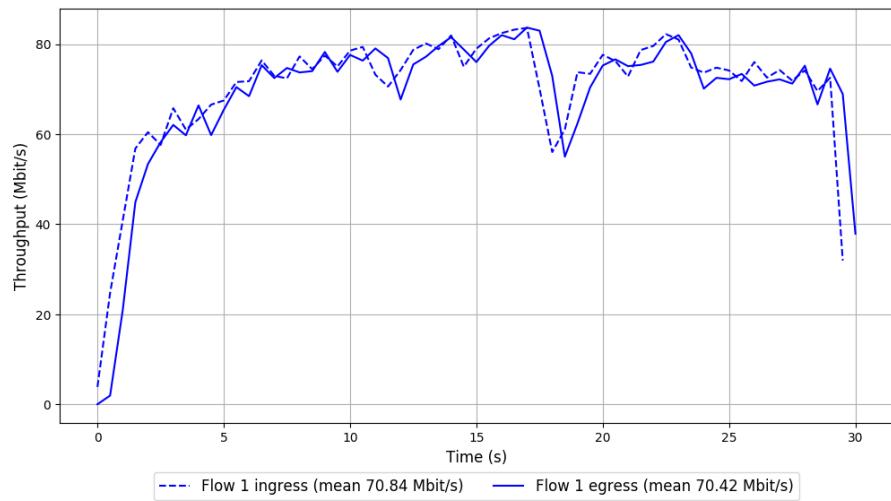


Run 4: Statistics of Indigo

```
Start at: 2018-12-20 00:06:05
End at: 2018-12-20 00:06:35
Local clock offset: -15.464 ms
Remote clock offset: 0.64 ms

# Below is generated by plot.py at 2018-12-20 00:33:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.42 Mbit/s
95th percentile per-packet one-way delay: 52.057 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 70.42 Mbit/s
95th percentile per-packet one-way delay: 52.057 ms
Loss rate: 0.62%
```

Run 4: Report of Indigo — Data Link

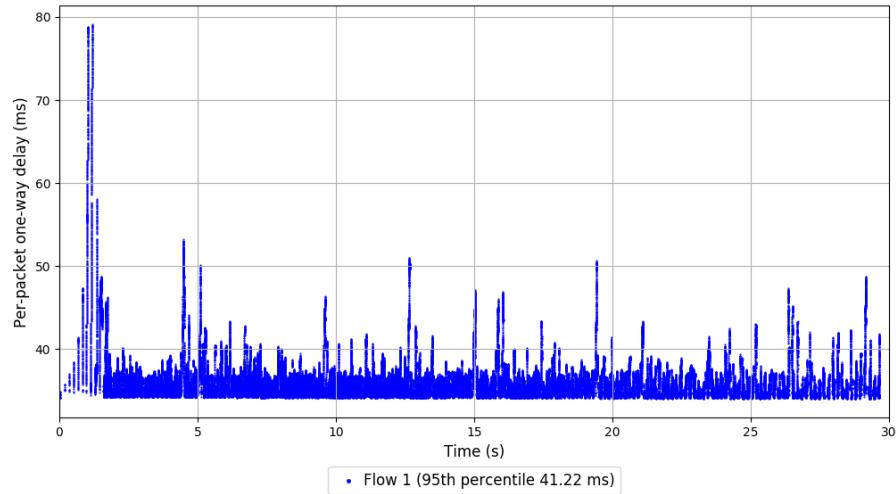
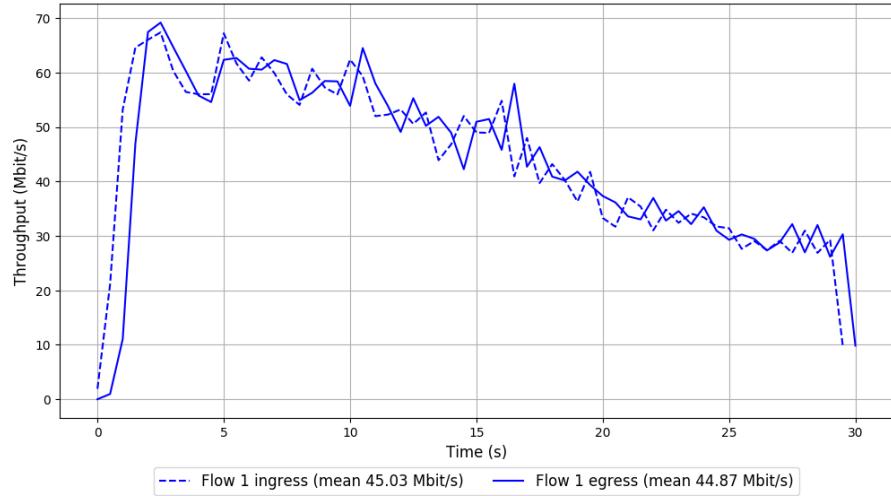


Run 5: Statistics of Indigo

```
Start at: 2018-12-20 00:28:28
End at: 2018-12-20 00:28:58
Local clock offset: -3.537 ms
Remote clock offset: -0.574 ms

# Below is generated by plot.py at 2018-12-20 00:33:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.87 Mbit/s
95th percentile per-packet one-way delay: 41.219 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 44.87 Mbit/s
95th percentile per-packet one-way delay: 41.219 ms
Loss rate: 0.33%
```

Run 5: Report of Indigo — Data Link

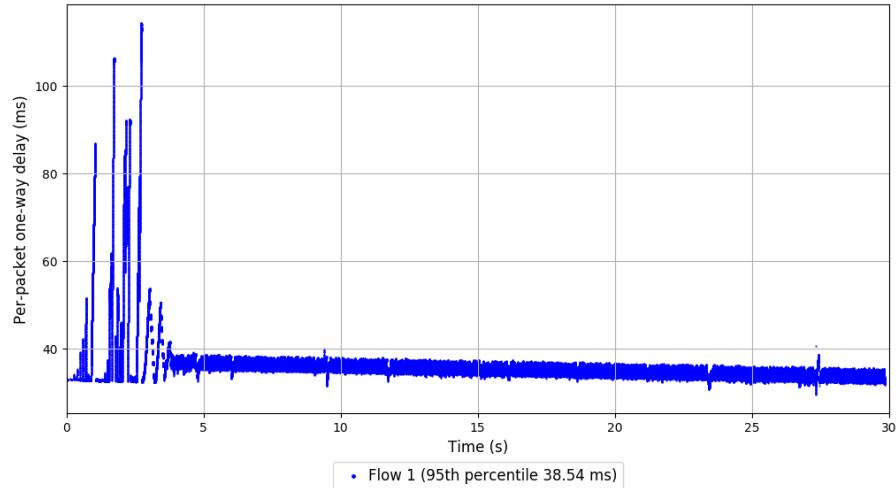
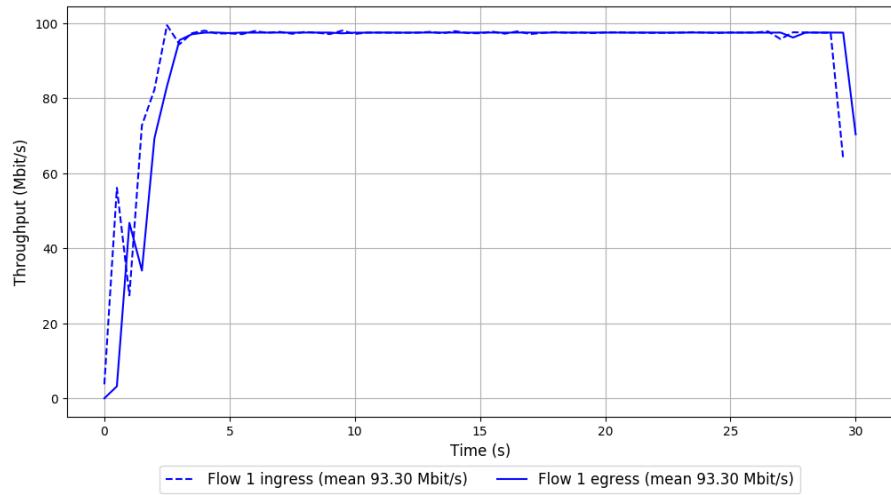


Run 1: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 22:43:09
End at: 2018-12-19 22:43:39
Local clock offset: -27.146 ms
Remote clock offset: 3.51 ms

# Below is generated by plot.py at 2018-12-20 00:33:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.30 Mbit/s
95th percentile per-packet one-way delay: 38.538 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 93.30 Mbit/s
95th percentile per-packet one-way delay: 38.538 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-MusesD — Data Link

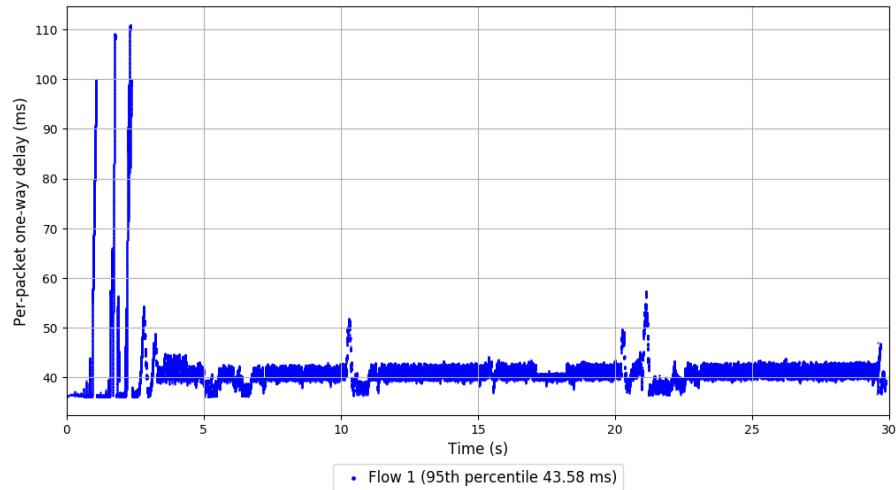
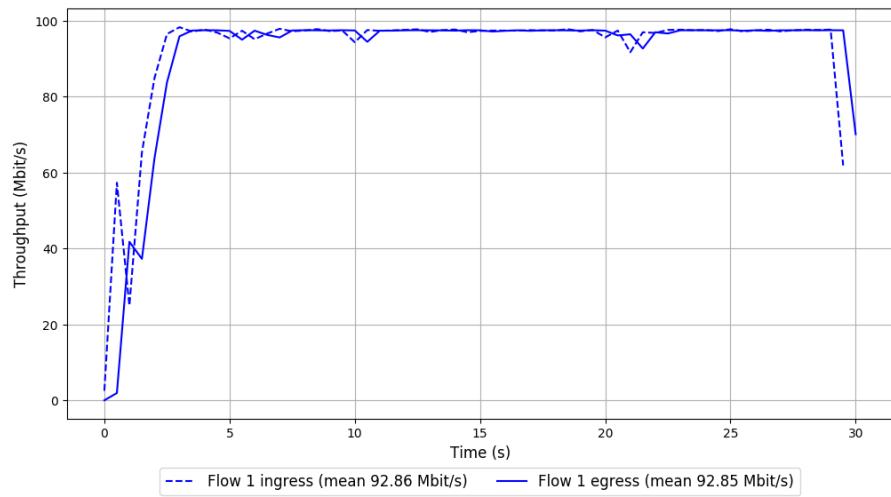


Run 2: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 23:05:29
End at: 2018-12-19 23:05:59
Local clock offset: -22.712 ms
Remote clock offset: 33.724 ms

# Below is generated by plot.py at 2018-12-20 00:33:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.85 Mbit/s
95th percentile per-packet one-way delay: 43.584 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 92.85 Mbit/s
95th percentile per-packet one-way delay: 43.584 ms
Loss rate: 0.00%
```

Run 2: Report of Indigo-MusesD — Data Link

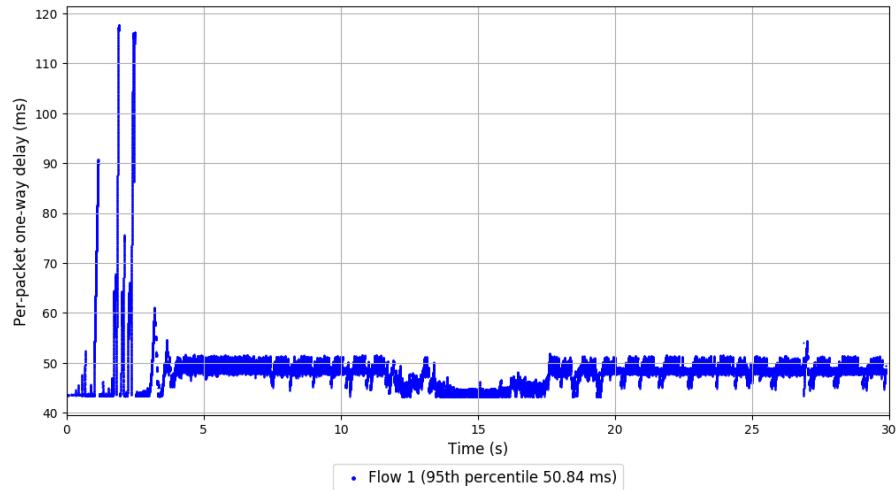
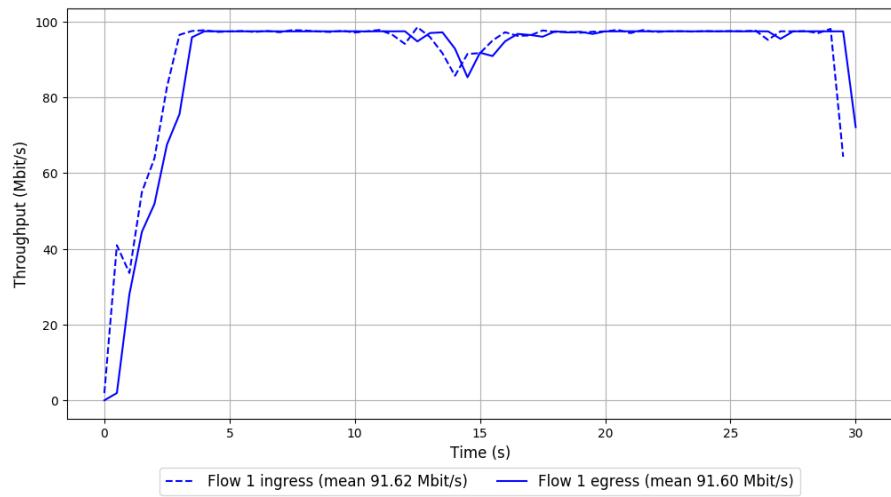


Run 3: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 23:28:27
End at: 2018-12-19 23:28:57
Local clock offset: -31.787 ms
Remote clock offset: 10.03 ms

# Below is generated by plot.py at 2018-12-20 00:33:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.60 Mbit/s
95th percentile per-packet one-way delay: 50.842 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 91.60 Mbit/s
95th percentile per-packet one-way delay: 50.842 ms
Loss rate: 0.03%
```

Run 3: Report of Indigo-MusesD — Data Link

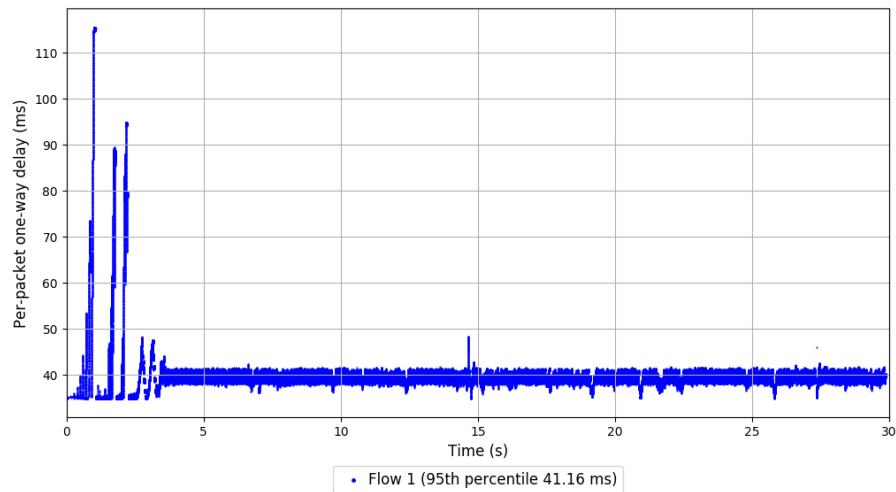
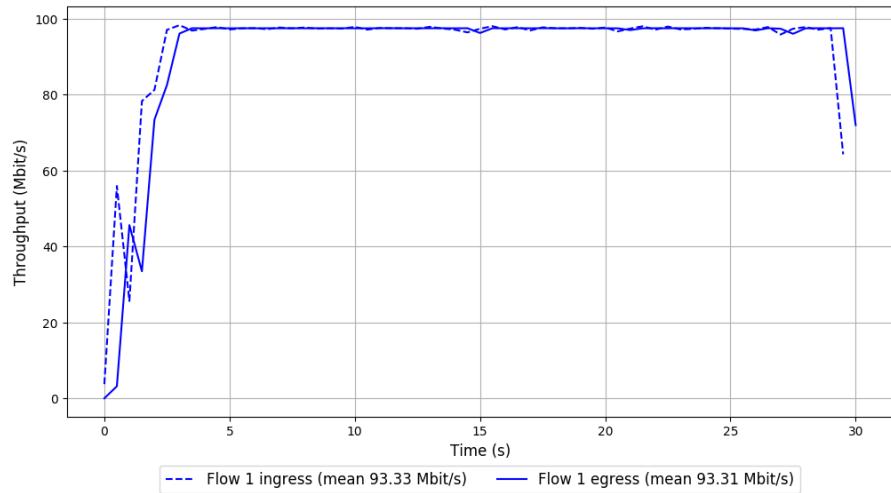


Run 4: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 23:50:46
End at: 2018-12-19 23:51:16
Local clock offset: -10.834 ms
Remote clock offset: 1.257 ms

# Below is generated by plot.py at 2018-12-20 00:34:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.31 Mbit/s
95th percentile per-packet one-way delay: 41.165 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 93.31 Mbit/s
95th percentile per-packet one-way delay: 41.165 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-MusesD — Data Link

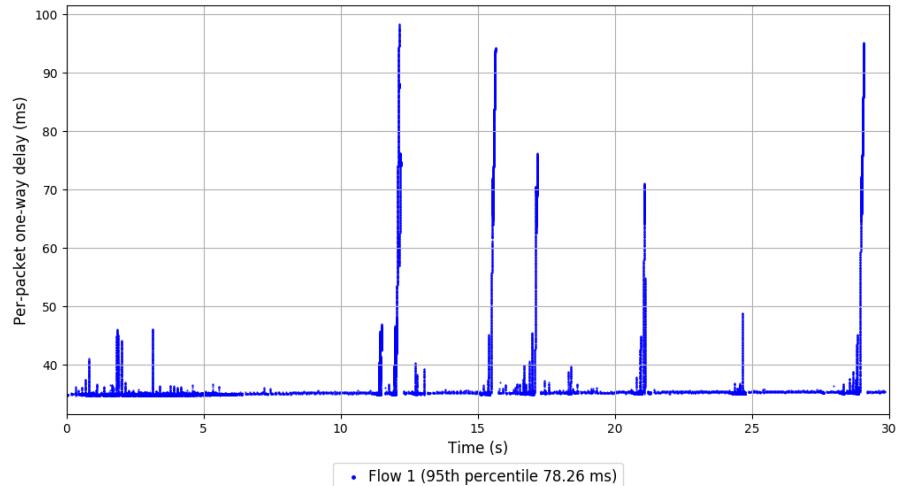
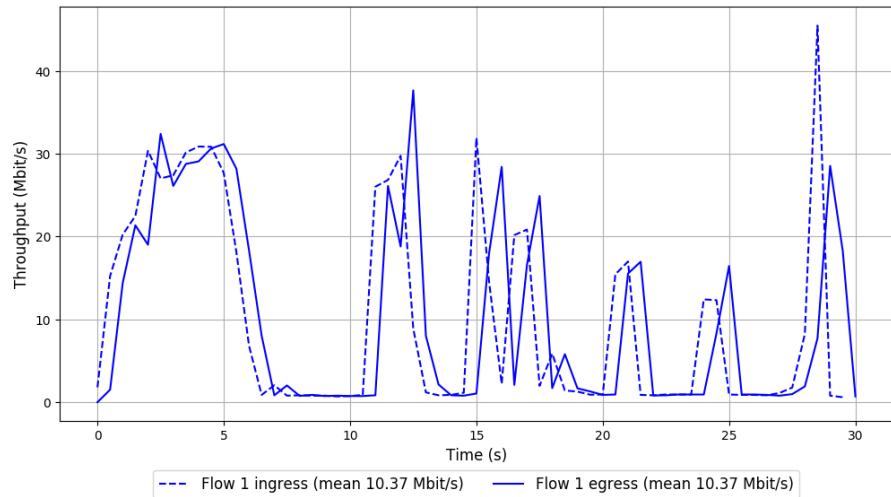


Run 5: Statistics of Indigo-MusesD

```
Start at: 2018-12-20 00:13:07
End at: 2018-12-20 00:13:37
Local clock offset: -4.936 ms
Remote clock offset: -0.936 ms

# Below is generated by plot.py at 2018-12-20 00:34:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 10.37 Mbit/s
95th percentile per-packet one-way delay: 78.260 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 10.37 Mbit/s
95th percentile per-packet one-way delay: 78.260 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-MusesD — Data Link

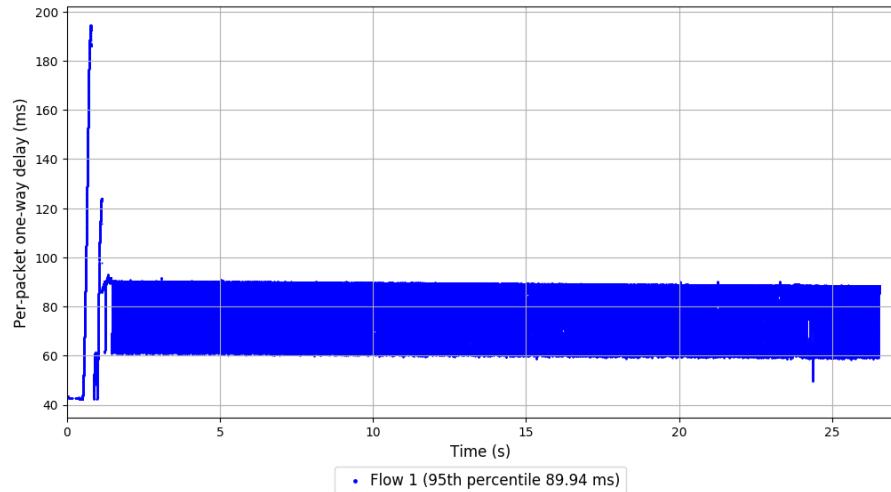
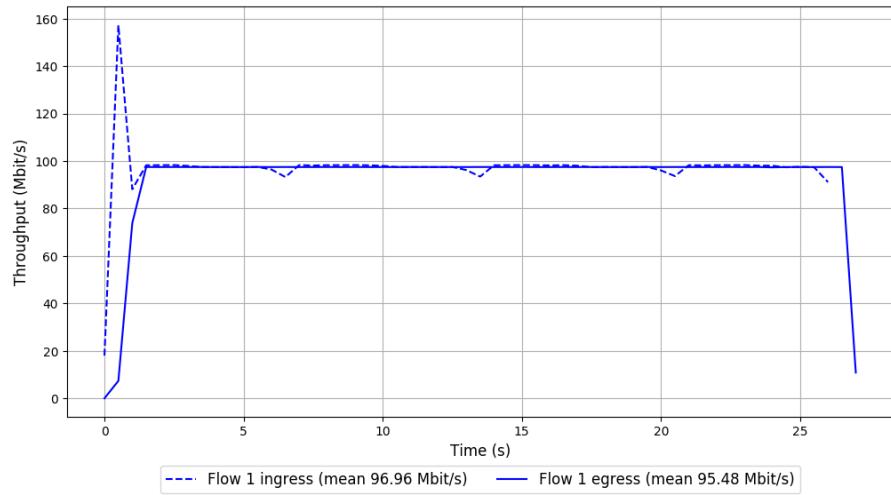


Run 1: Statistics of Indigo-MusesT

```
Start at: 2018-12-19 22:40:47
End at: 2018-12-19 22:41:17
Local clock offset: -15.392 ms
Remote clock offset: 0.584 ms

# Below is generated by plot.py at 2018-12-20 00:34:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.48 Mbit/s
95th percentile per-packet one-way delay: 89.935 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 95.48 Mbit/s
95th percentile per-packet one-way delay: 89.935 ms
Loss rate: 1.36%
```

Run 1: Report of Indigo-MusesT — Data Link

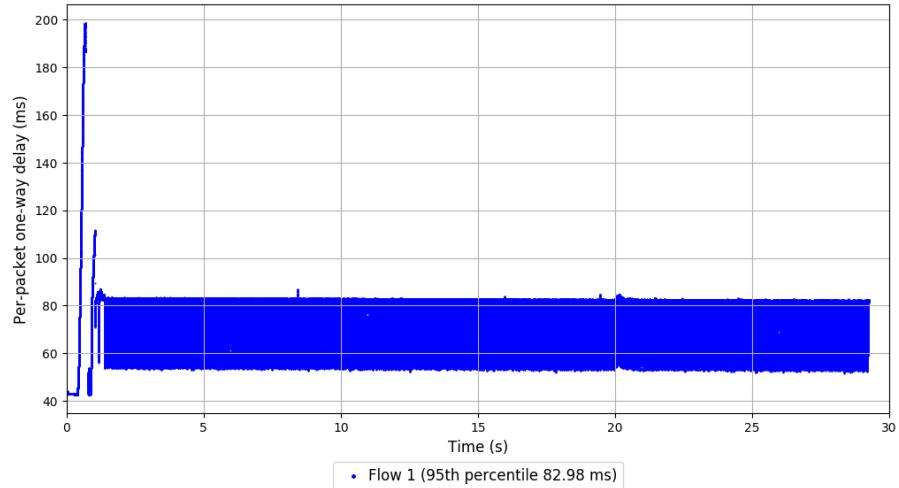
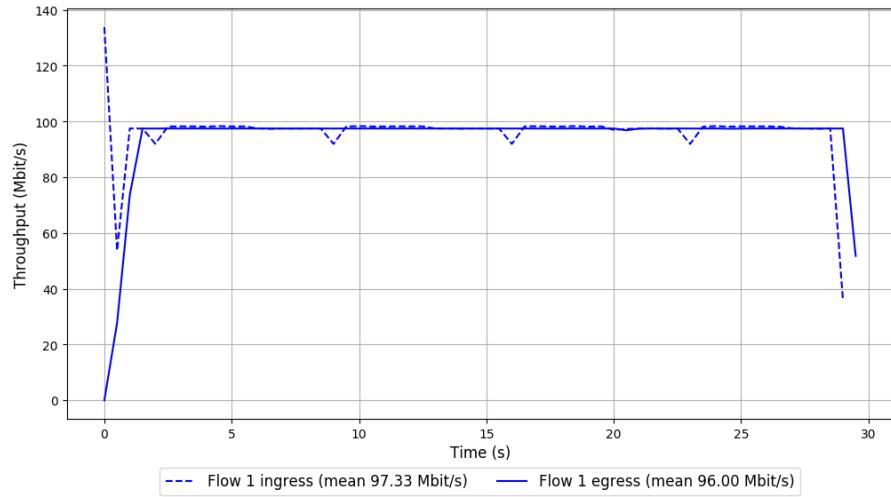


Run 2: Statistics of Indigo-MusesT

```
Start at: 2018-12-19 23:03:07
End at: 2018-12-19 23:03:37
Local clock offset: -18.099 ms
Remote clock offset: 31.609 ms

# Below is generated by plot.py at 2018-12-20 00:34:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.00 Mbit/s
95th percentile per-packet one-way delay: 82.976 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 96.00 Mbit/s
95th percentile per-packet one-way delay: 82.976 ms
Loss rate: 1.23%
```

Run 2: Report of Indigo-MusesT — Data Link

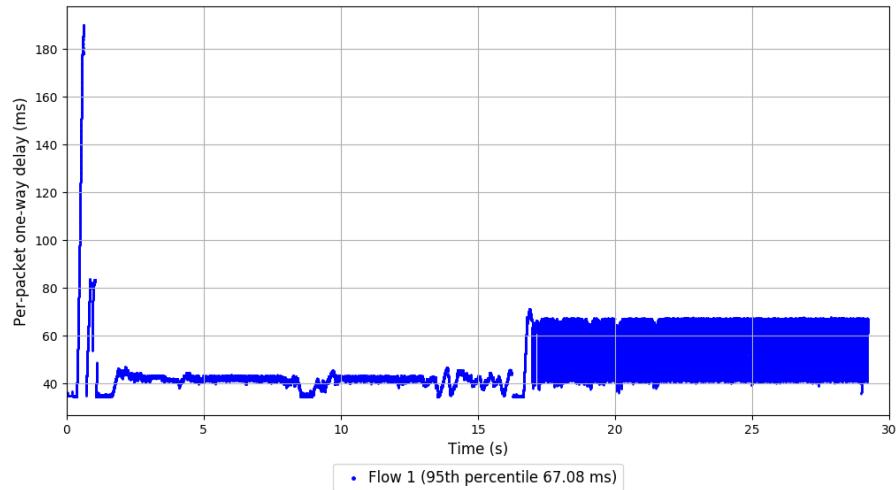
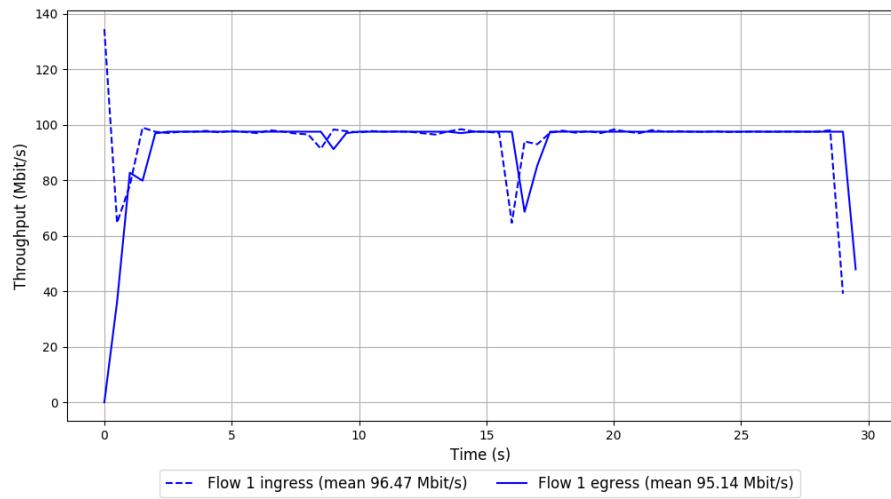


Run 3: Statistics of Indigo-MusesT

```
Start at: 2018-12-19 23:26:05
End at: 2018-12-19 23:26:35
Local clock offset: -29.016 ms
Remote clock offset: 13.075 ms

# Below is generated by plot.py at 2018-12-20 00:34:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.14 Mbit/s
95th percentile per-packet one-way delay: 67.080 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 95.14 Mbit/s
95th percentile per-packet one-way delay: 67.080 ms
Loss rate: 1.28%
```

Run 3: Report of Indigo-MusesT — Data Link

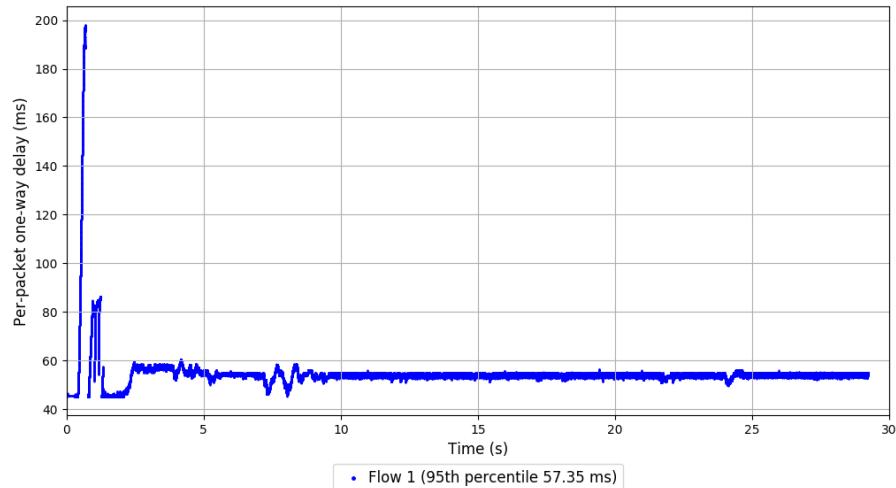
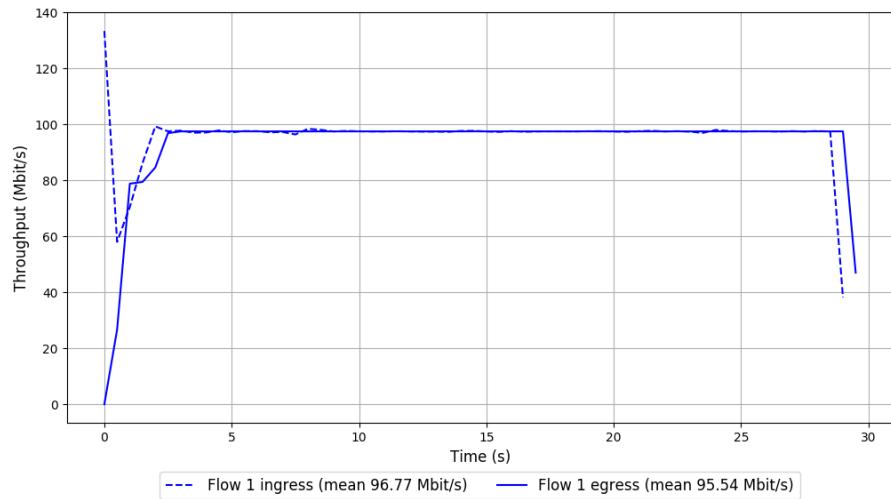


Run 4: Statistics of Indigo-MusesT

```
Start at: 2018-12-19 23:48:24
End at: 2018-12-19 23:48:54
Local clock offset: -12.138 ms
Remote clock offset: 1.559 ms

# Below is generated by plot.py at 2018-12-20 00:34:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.54 Mbit/s
95th percentile per-packet one-way delay: 57.351 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 95.54 Mbit/s
95th percentile per-packet one-way delay: 57.351 ms
Loss rate: 1.27%
```

Run 4: Report of Indigo-MusesT — Data Link

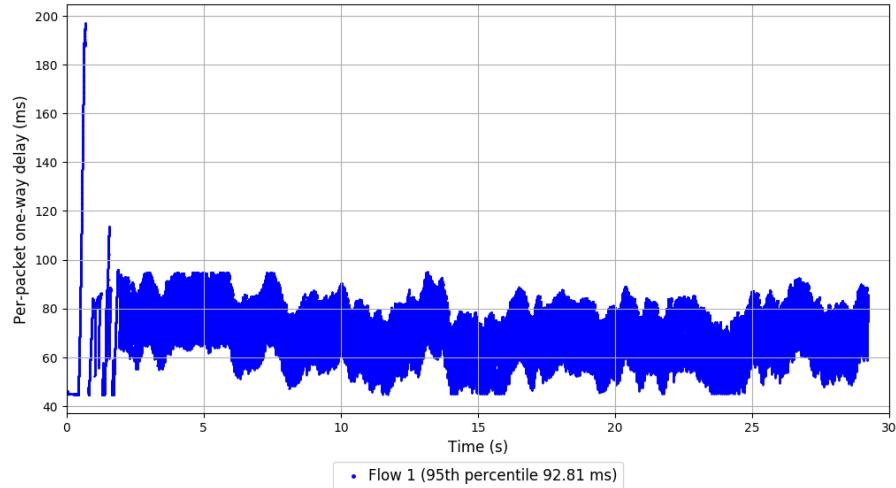
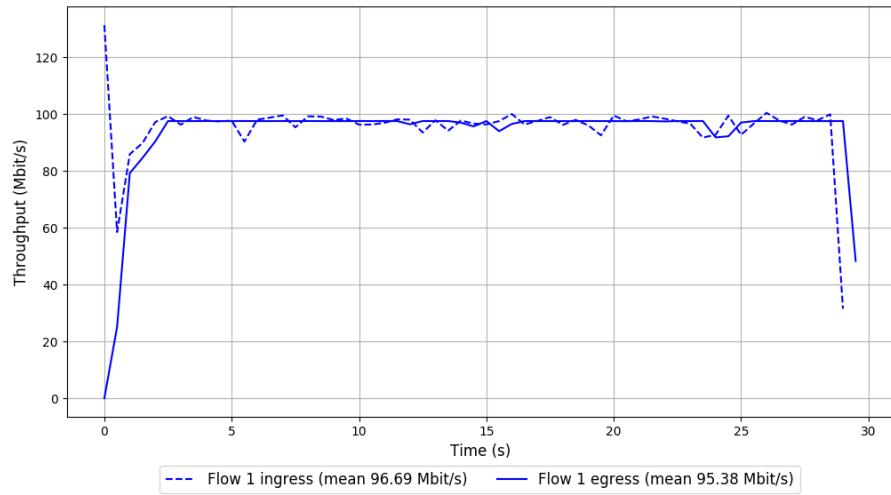


Run 5: Statistics of Indigo-MusesT

```
Start at: 2018-12-20 00:10:44
End at: 2018-12-20 00:11:14
Local clock offset: -7.593 ms
Remote clock offset: -0.802 ms

# Below is generated by plot.py at 2018-12-20 00:34:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.38 Mbit/s
95th percentile per-packet one-way delay: 92.805 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 95.38 Mbit/s
95th percentile per-packet one-way delay: 92.805 ms
Loss rate: 1.23%
```

Run 5: Report of Indigo-MusesT — Data Link

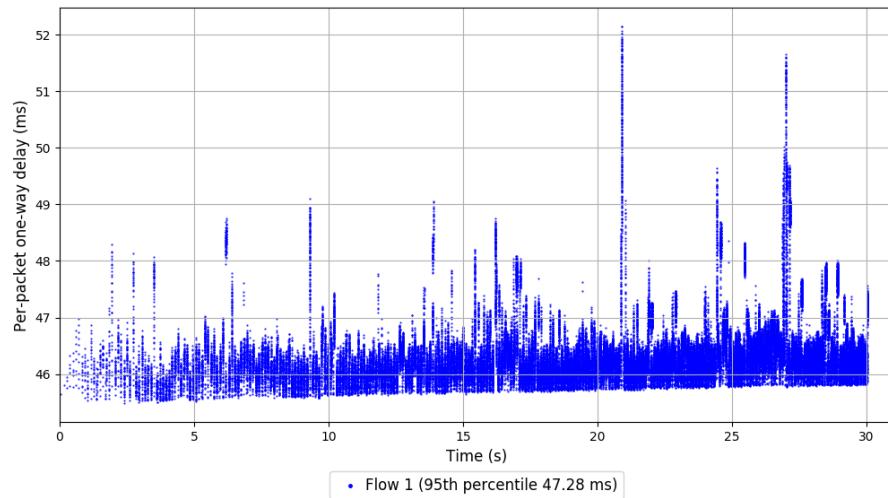
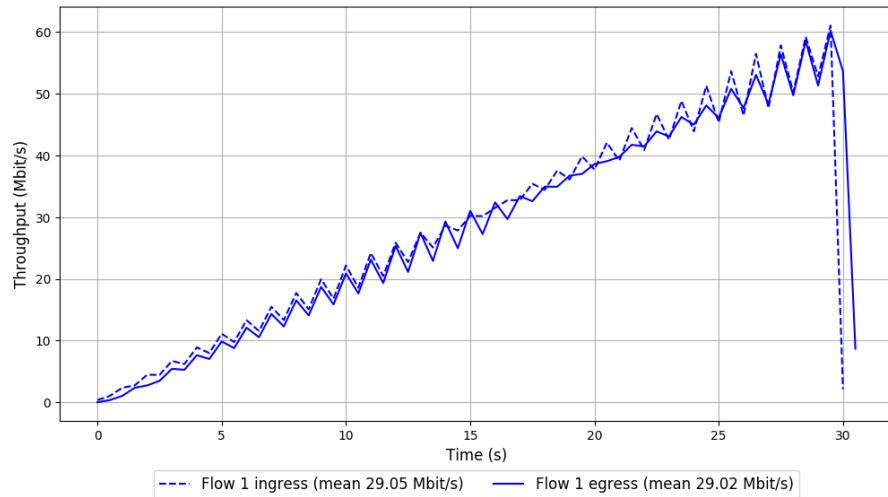


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-12-19 22:53:50
End at: 2018-12-19 22:54:20
Local clock offset: -17.077 ms
Remote clock offset: 23.446 ms

# Below is generated by plot.py at 2018-12-20 00:34:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 29.02 Mbit/s
95th percentile per-packet one-way delay: 47.276 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 29.02 Mbit/s
95th percentile per-packet one-way delay: 47.276 ms
Loss rate: 0.10%
```

Run 1: Report of LEDBAT — Data Link

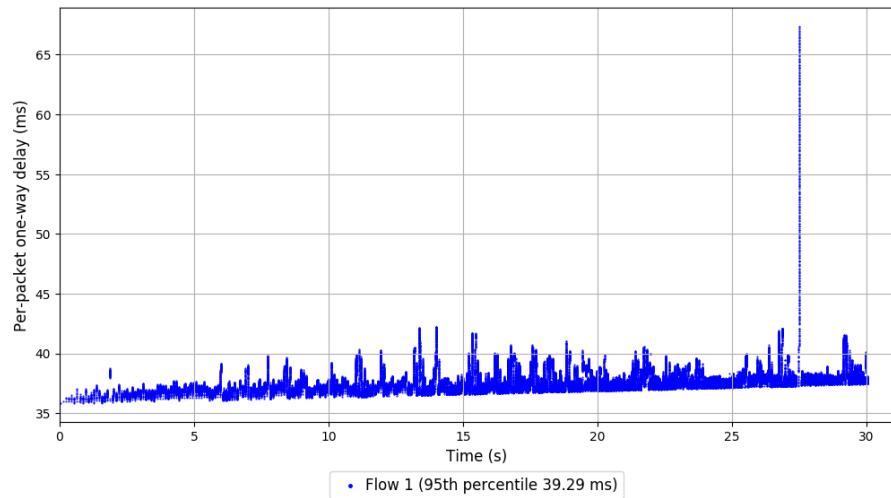
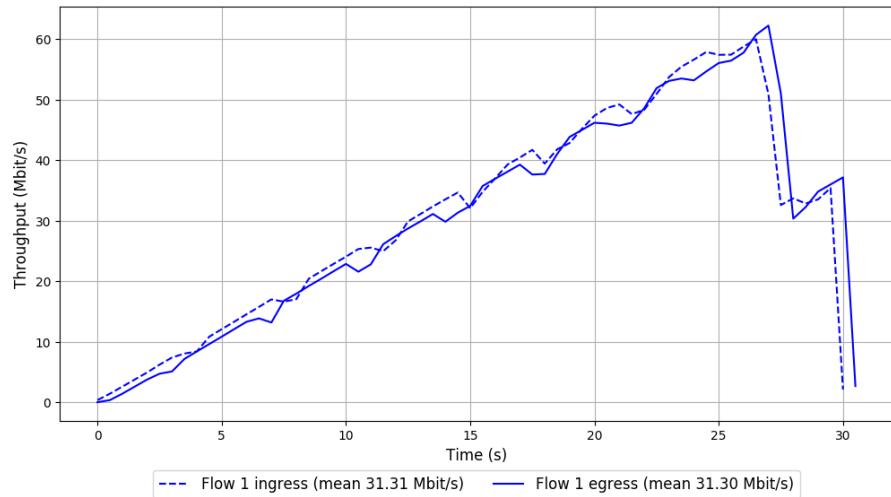


Run 2: Statistics of LEDBAT

```
Start at: 2018-12-19 23:16:09
End at: 2018-12-19 23:16:39
Local clock offset: -17.625 ms
Remote clock offset: 40.14 ms

# Below is generated by plot.py at 2018-12-20 00:34:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 31.30 Mbit/s
95th percentile per-packet one-way delay: 39.286 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 31.30 Mbit/s
95th percentile per-packet one-way delay: 39.286 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

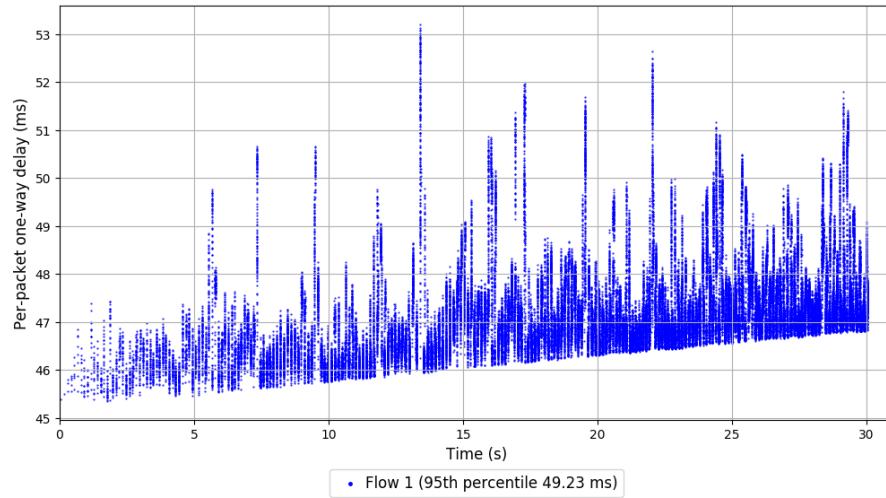
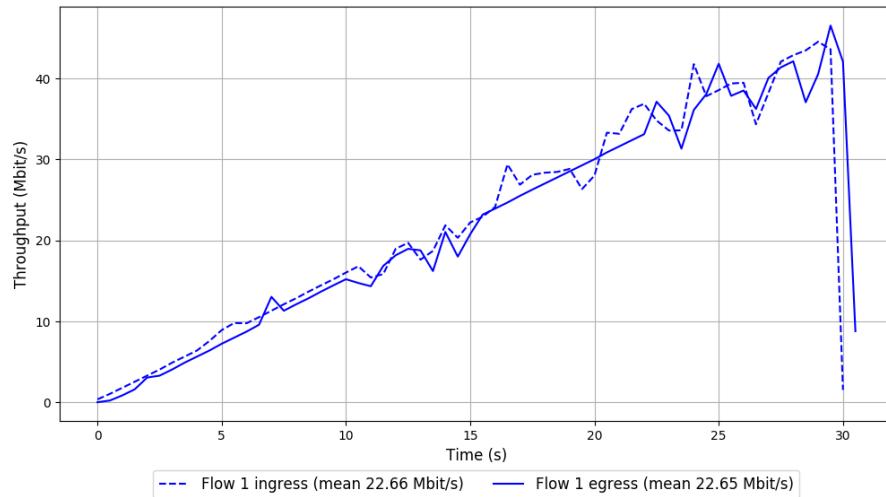


Run 3: Statistics of LEDBAT

```
Start at: 2018-12-19 23:39:08
End at: 2018-12-19 23:39:38
Local clock offset: -27.024 ms
Remote clock offset: 3.321 ms

# Below is generated by plot.py at 2018-12-20 00:34:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 22.65 Mbit/s
95th percentile per-packet one-way delay: 49.229 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 22.65 Mbit/s
95th percentile per-packet one-way delay: 49.229 ms
Loss rate: 0.08%
```

Run 3: Report of LEDBAT — Data Link

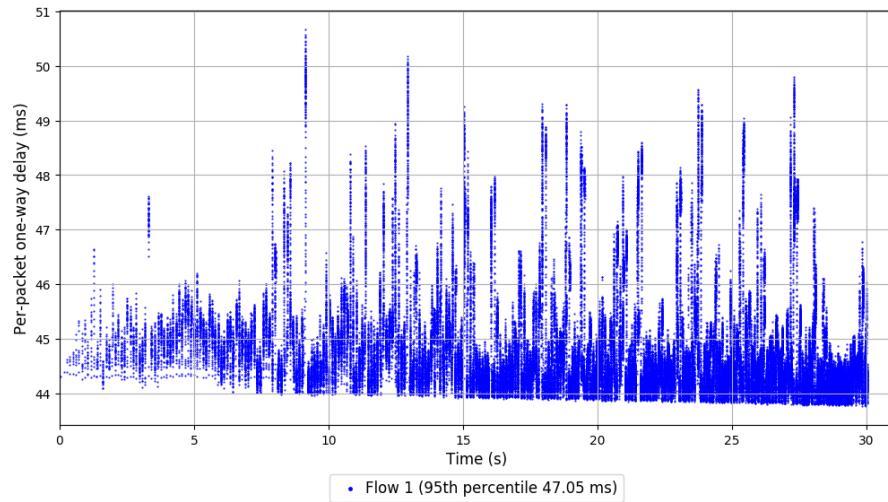
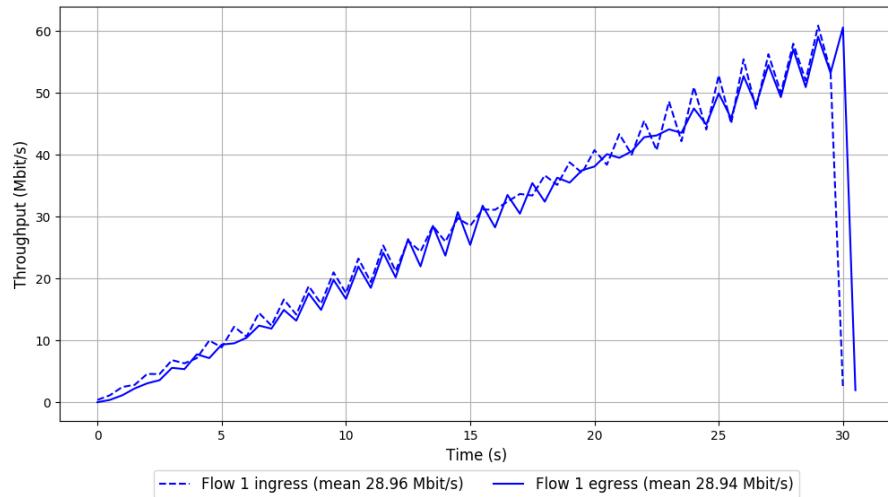


Run 4: Statistics of LEDBAT

```
Start at: 2018-12-20 00:01:28
End at: 2018-12-20 00:01:58
Local clock offset: -14.009 ms
Remote clock offset: 0.486 ms

# Below is generated by plot.py at 2018-12-20 00:34:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.94 Mbit/s
95th percentile per-packet one-way delay: 47.047 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 28.94 Mbit/s
95th percentile per-packet one-way delay: 47.047 ms
Loss rate: 0.10%
```

Run 4: Report of LEDBAT — Data Link

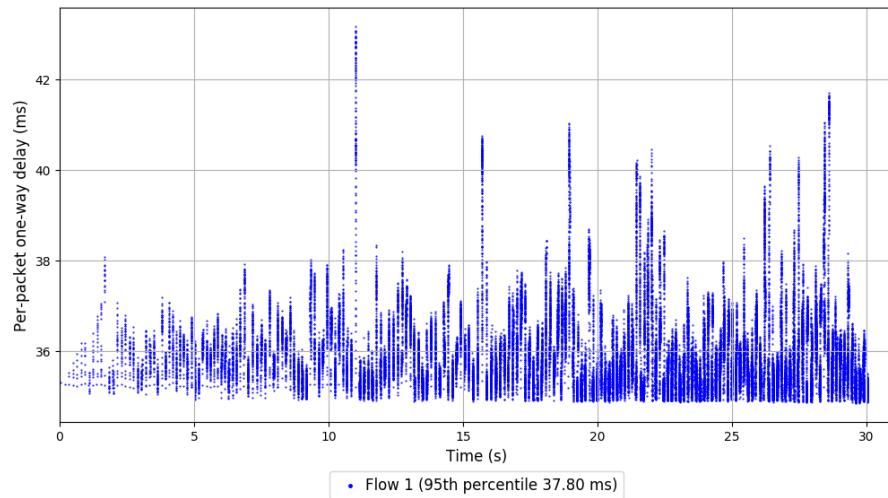
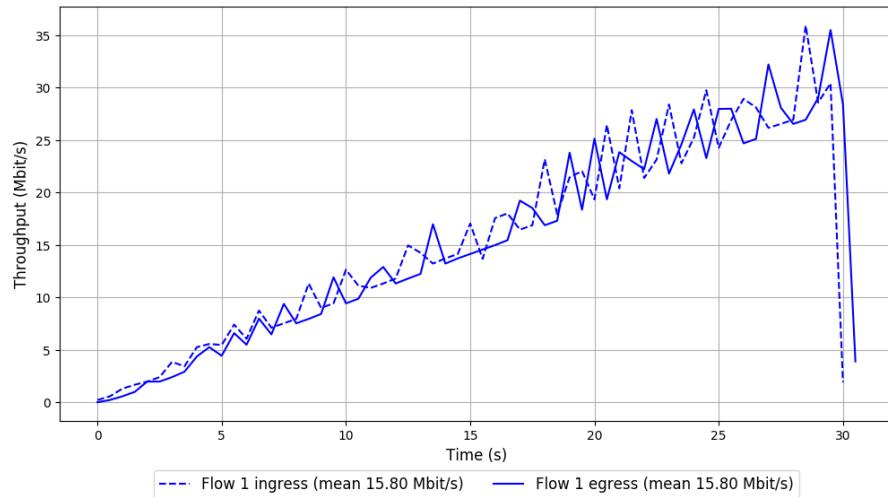


Run 5: Statistics of LEDBAT

```
Start at: 2018-12-20 00:23:49
End at: 2018-12-20 00:24:19
Local clock offset: -2.121 ms
Remote clock offset: -0.695 ms

# Below is generated by plot.py at 2018-12-20 00:34:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 15.80 Mbit/s
95th percentile per-packet one-way delay: 37.805 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 15.80 Mbit/s
95th percentile per-packet one-way delay: 37.805 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

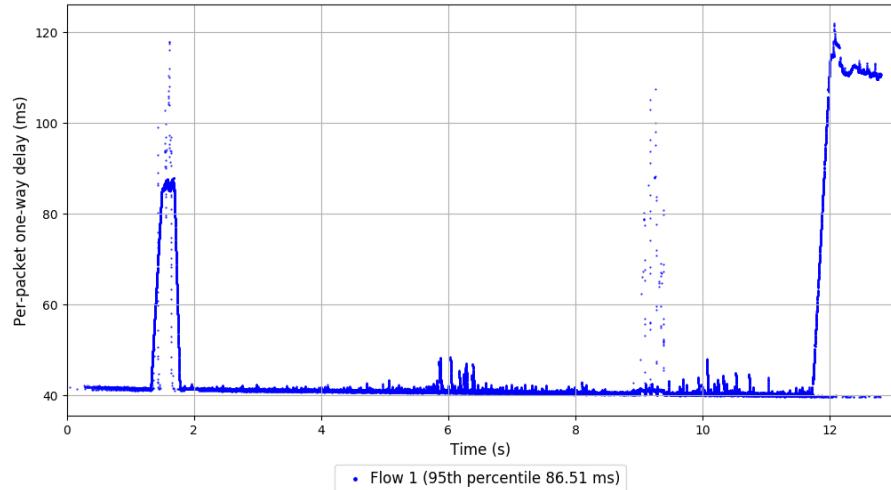
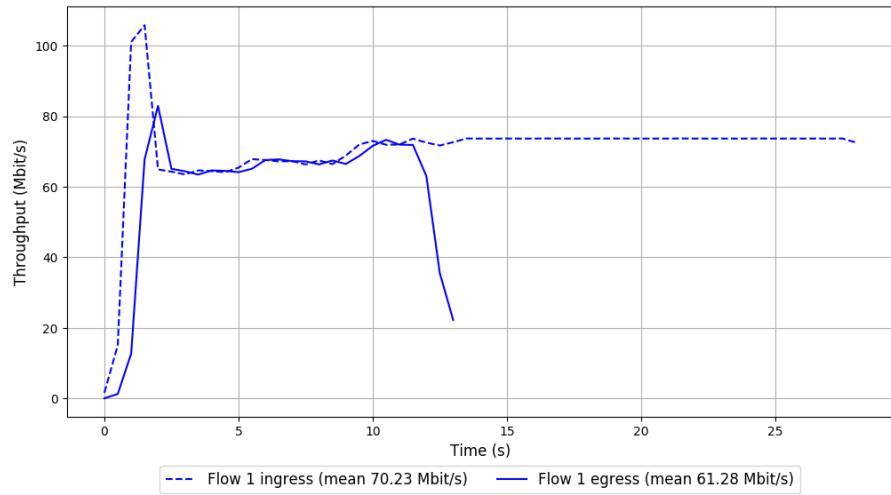
Start at: 2018-12-19 22:41:59

End at: 2018-12-19 22:42:29

Local clock offset: -20.593 ms

Remote clock offset: 0.233 ms

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

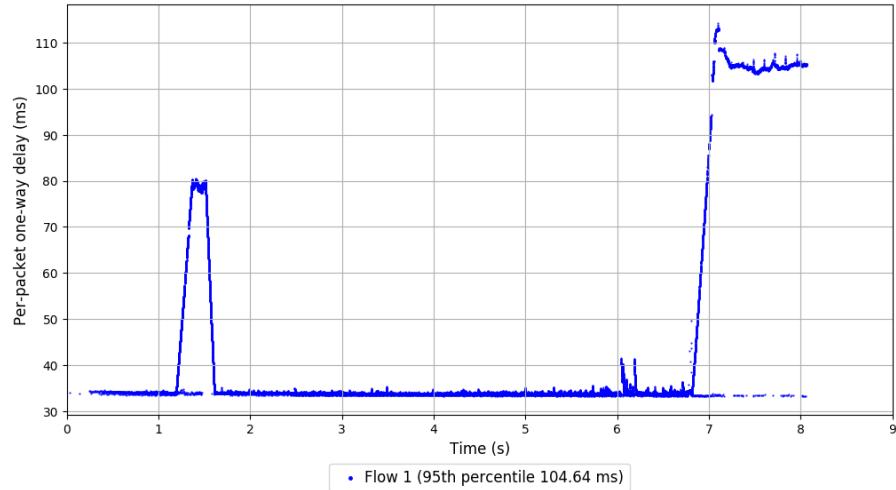
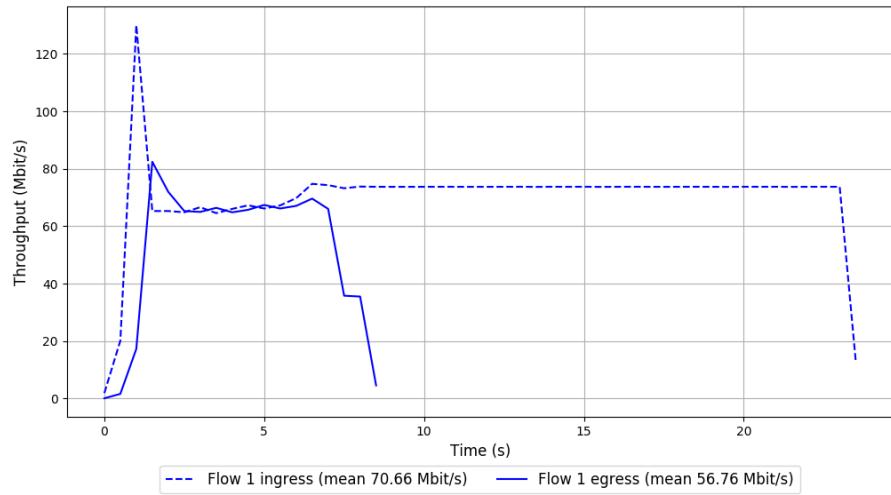
Start at: 2018-12-19 23:04:19

End at: 2018-12-19 23:04:49

Local clock offset: -20.585 ms

Remote clock offset: 32.592 ms

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

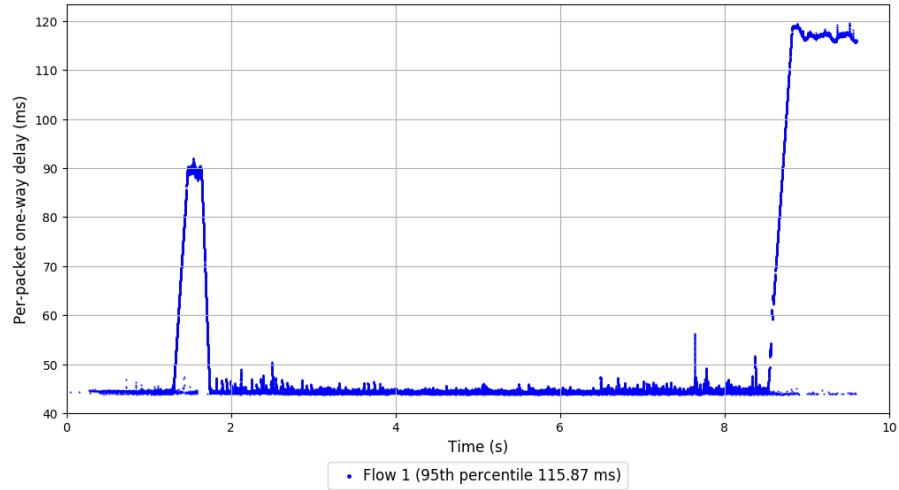
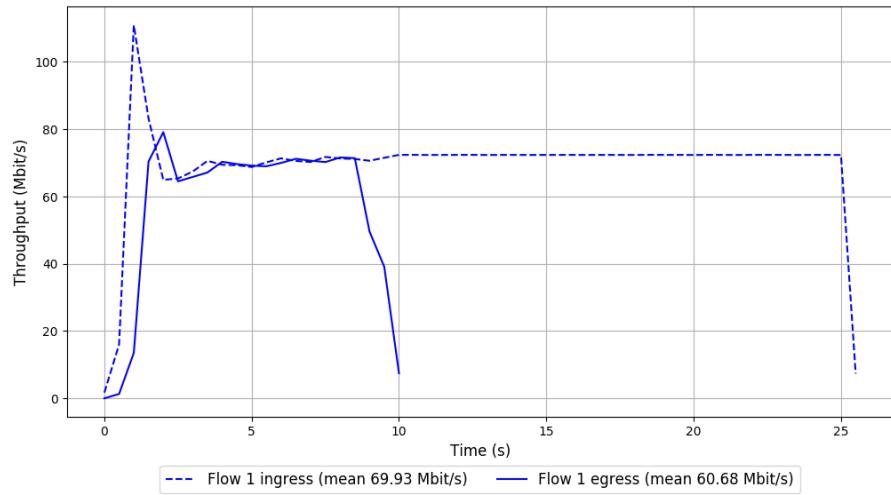
Start at: 2018-12-19 23:27:18

End at: 2018-12-19 23:27:48

Local clock offset: -30.647 ms

Remote clock offset: 11.809 ms

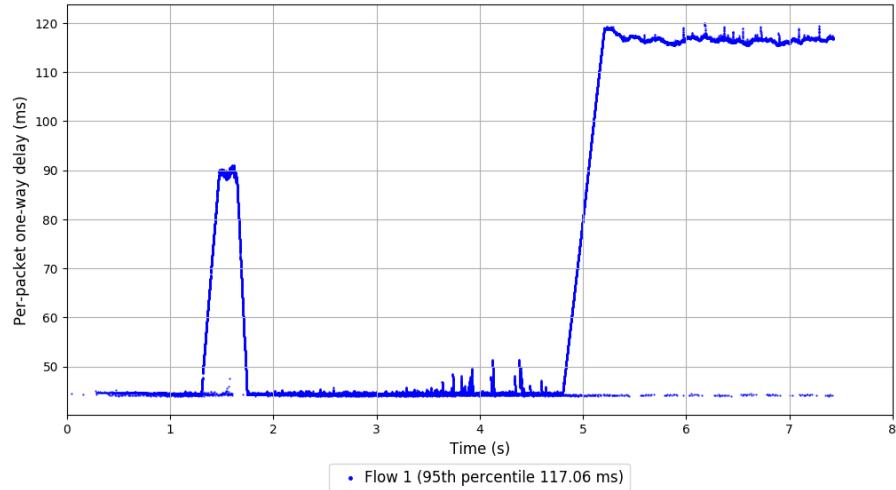
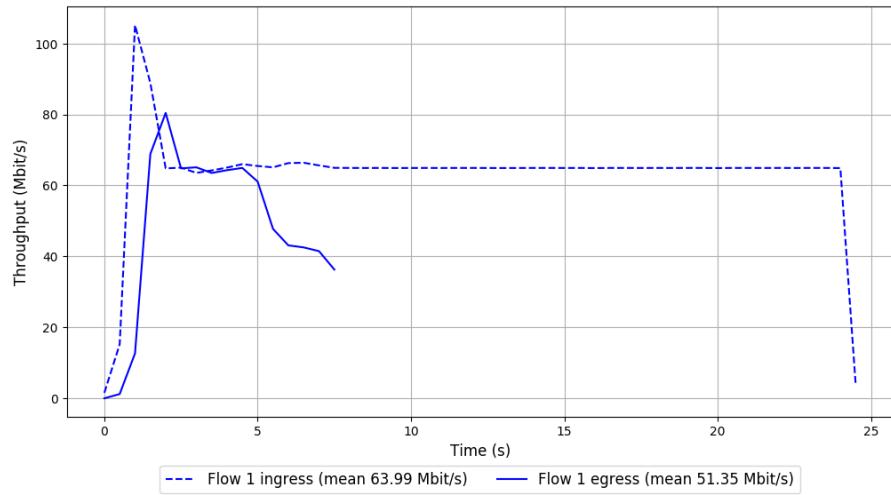
Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-12-19 23:49:36
End at: 2018-12-19 23:50:06
Local clock offset: -11.212 ms
Remote clock offset: 1.149 ms

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

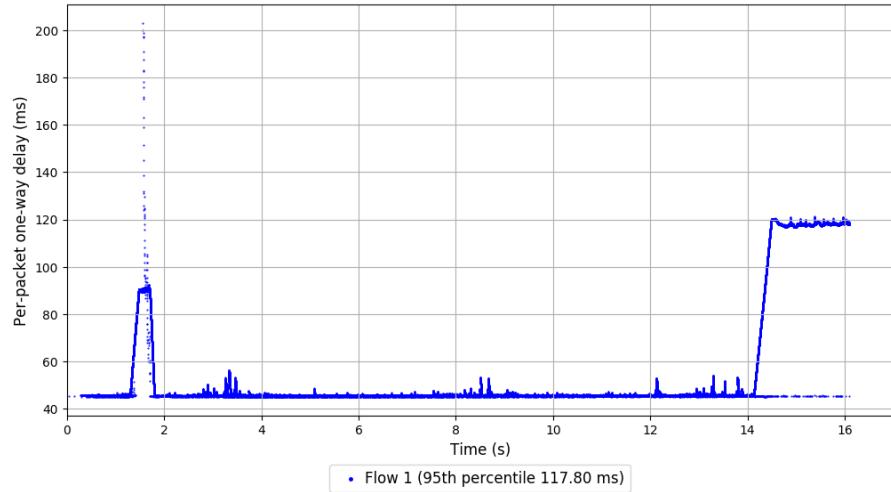
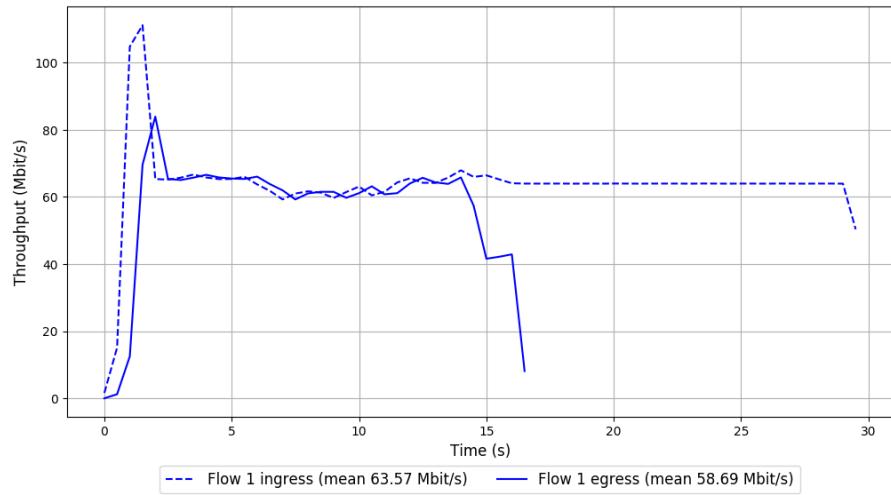
Start at: 2018-12-20 00:11:57

End at: 2018-12-20 00:12:27

Local clock offset: -5.849 ms

Remote clock offset: 0.384 ms

Run 5: Report of PCC-Allegro — Data Link

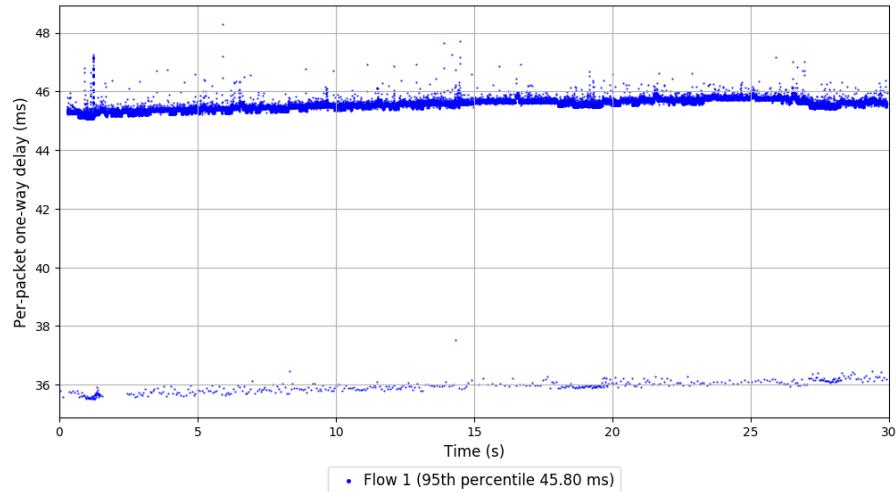
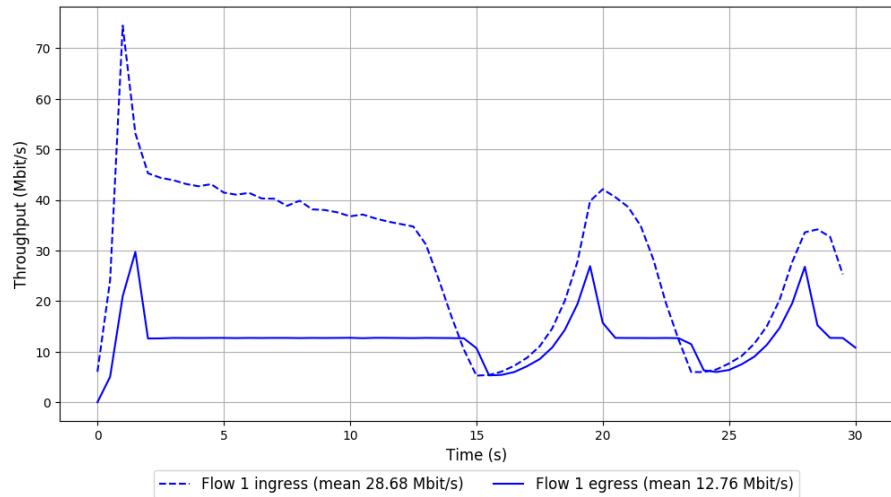


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-12-19 22:45:33
End at: 2018-12-19 22:46:03
Local clock offset: -17.41 ms
Remote clock offset: 9.394 ms

# Below is generated by plot.py at 2018-12-20 00:34:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.76 Mbit/s
95th percentile per-packet one-way delay: 45.800 ms
Loss rate: 55.51%
-- Flow 1:
Average throughput: 12.76 Mbit/s
95th percentile per-packet one-way delay: 45.800 ms
Loss rate: 55.51%
```

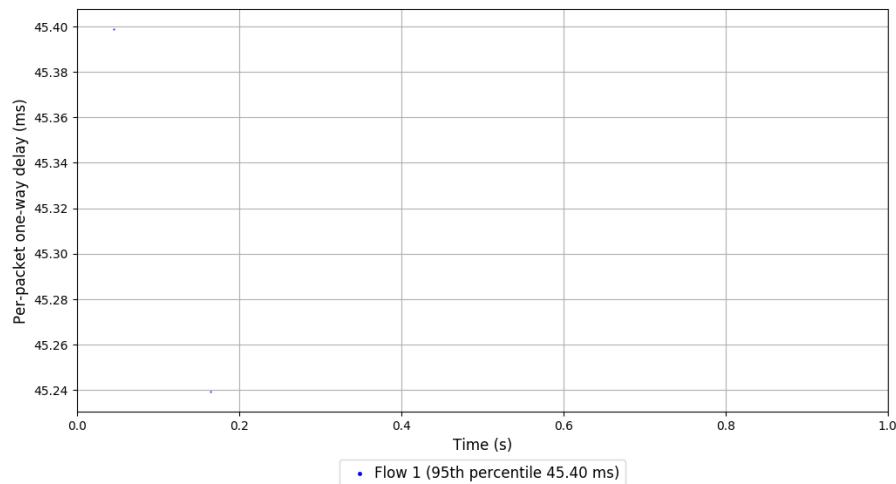
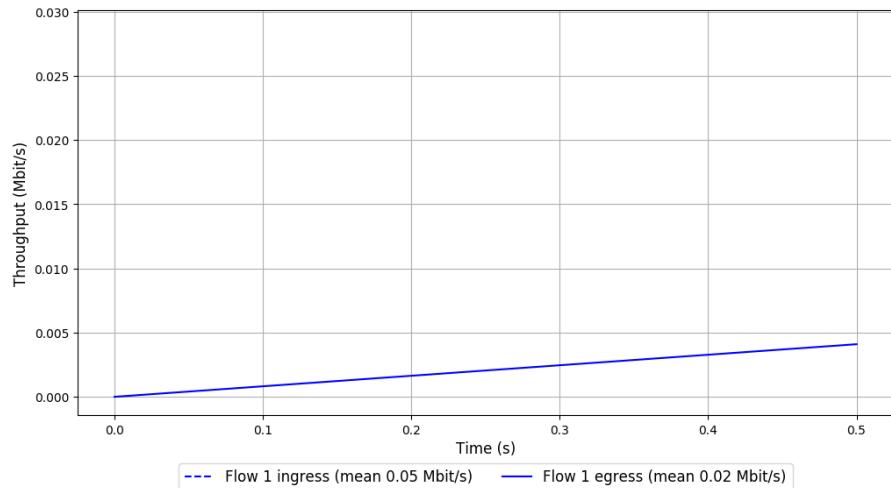
Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-12-19 23:07:53
End at: 2018-12-19 23:08:23
Local clock offset: -19.437 ms
Remote clock offset: 35.187 ms

Run 2: Report of PCC-Expr — Data Link

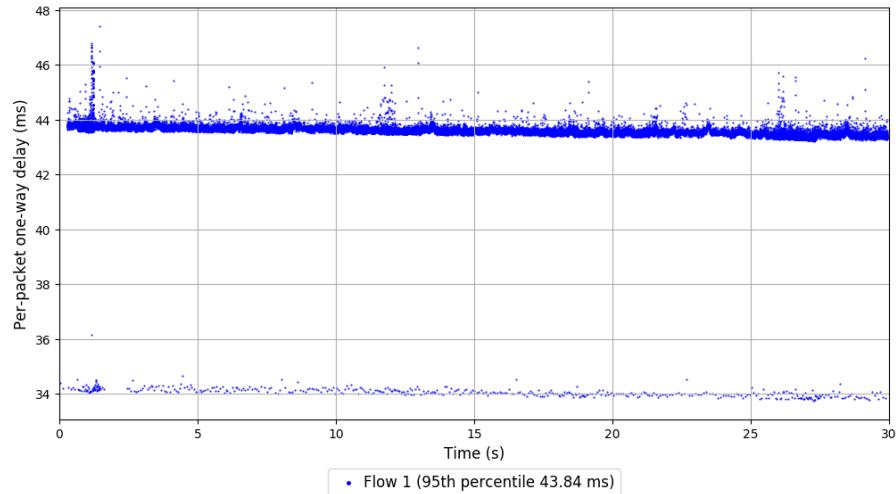
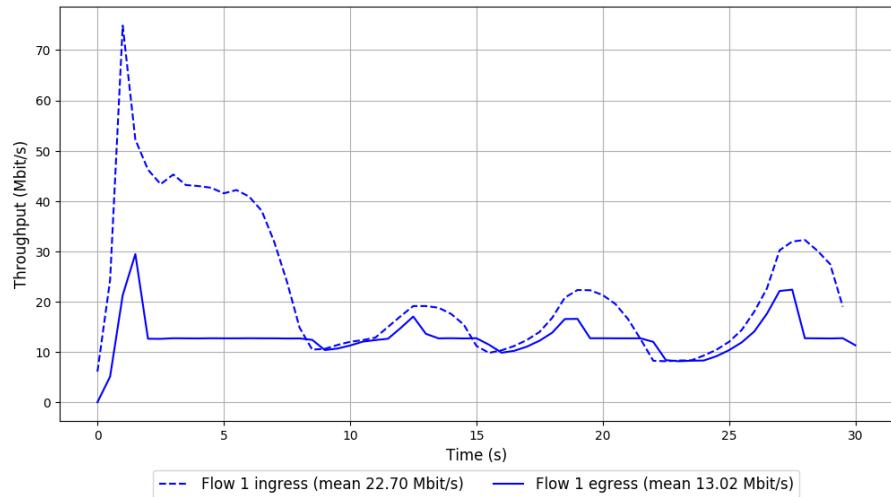


Run 3: Statistics of PCC-Expr

```
Start at: 2018-12-19 23:30:51
End at: 2018-12-19 23:31:21
Local clock offset: -35.648 ms
Remote clock offset: 7.941 ms

# Below is generated by plot.py at 2018-12-20 00:34:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.02 Mbit/s
95th percentile per-packet one-way delay: 43.843 ms
Loss rate: 42.64%
-- Flow 1:
Average throughput: 13.02 Mbit/s
95th percentile per-packet one-way delay: 43.843 ms
Loss rate: 42.64%
```

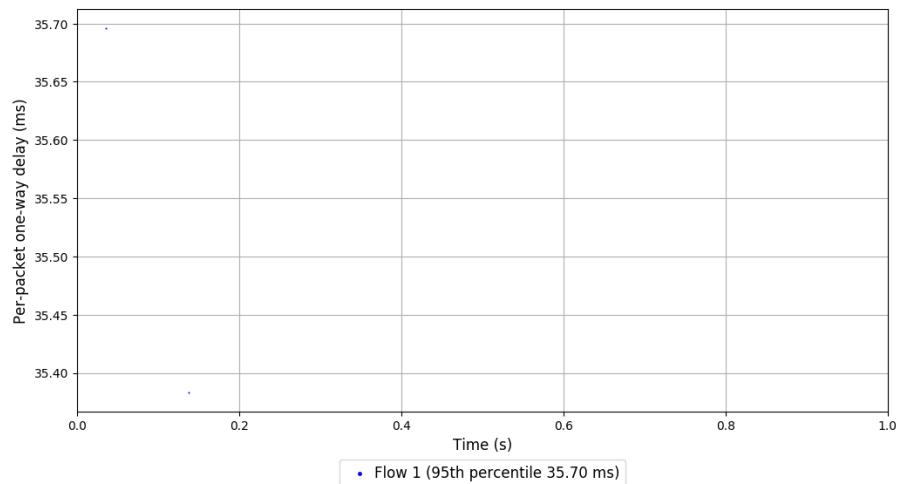
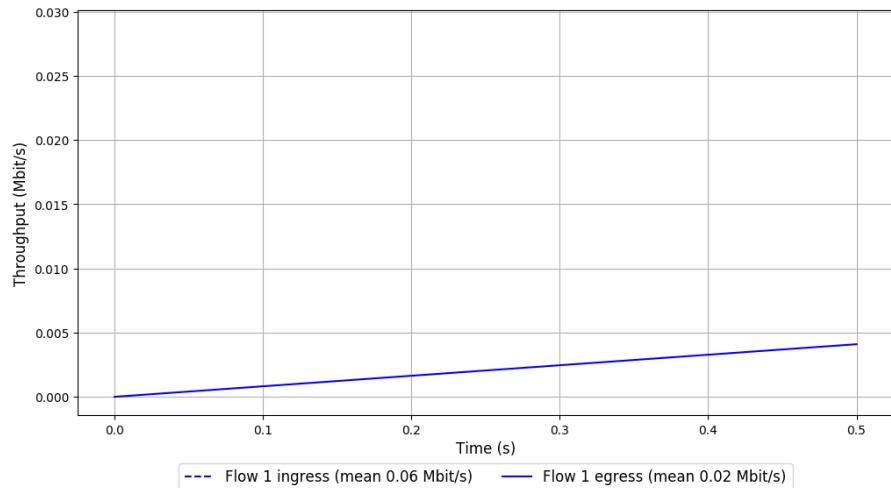
Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-12-19 23:53:10
End at: 2018-12-19 23:53:40
Local clock offset: -11.124 ms
Remote clock offset: 1.428 ms

Run 4: Report of PCC-Expr — Data Link

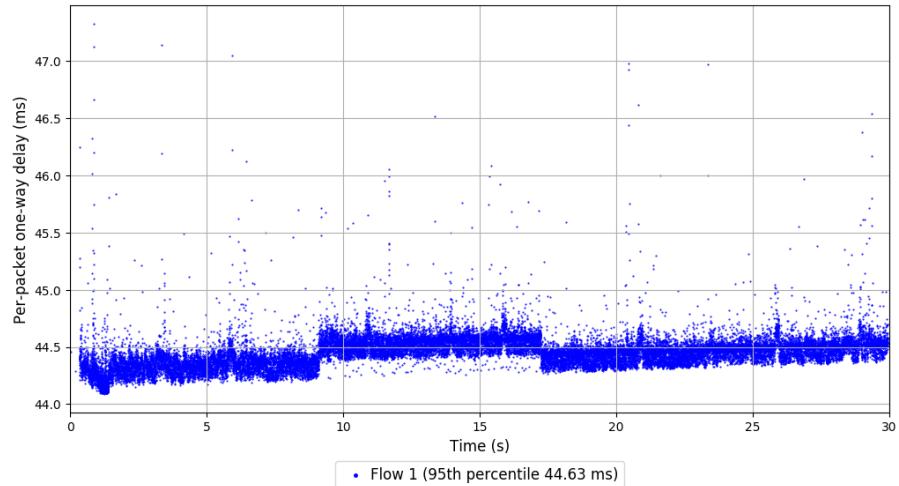
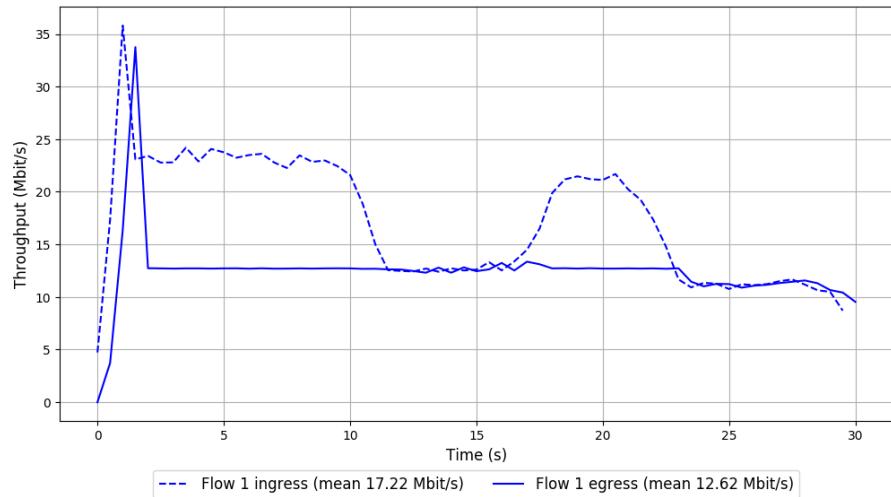


Run 5: Statistics of PCC-Expr

```
Start at: 2018-12-20 00:15:29
End at: 2018-12-20 00:15:59
Local clock offset: -3.254 ms
Remote clock offset: -0.563 ms

# Below is generated by plot.py at 2018-12-20 00:34:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.62 Mbit/s
95th percentile per-packet one-way delay: 44.633 ms
Loss rate: 26.71%
-- Flow 1:
Average throughput: 12.62 Mbit/s
95th percentile per-packet one-way delay: 44.633 ms
Loss rate: 26.71%
```

Run 5: Report of PCC-Expr — Data Link

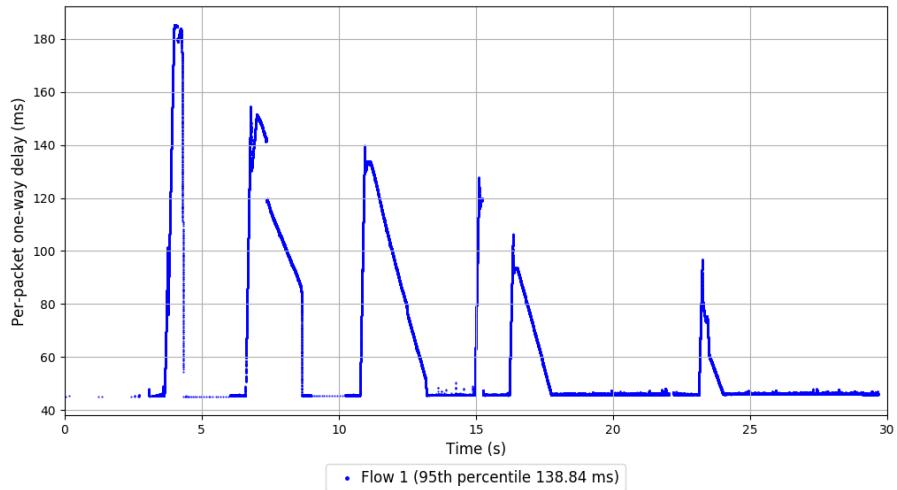
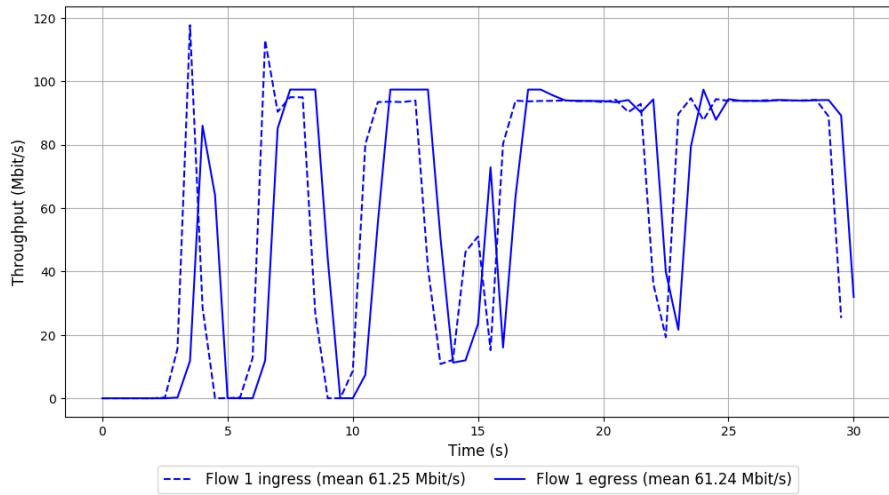


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-12-19 22:52:39
End at: 2018-12-19 22:53:09
Local clock offset: -20.41 ms
Remote clock offset: 21.876 ms

# Below is generated by plot.py at 2018-12-20 00:35:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.24 Mbit/s
95th percentile per-packet one-way delay: 138.842 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 61.24 Mbit/s
95th percentile per-packet one-way delay: 138.842 ms
Loss rate: 0.06%
```

Run 1: Report of QUIC Cubic — Data Link

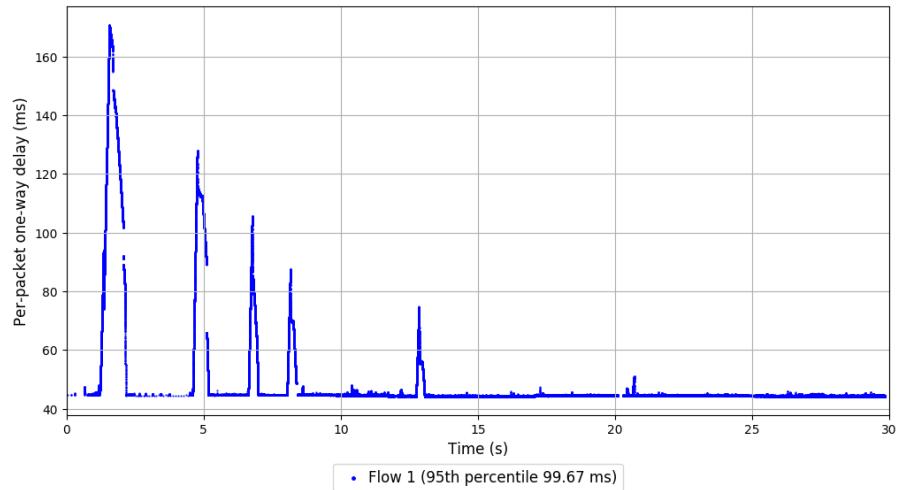
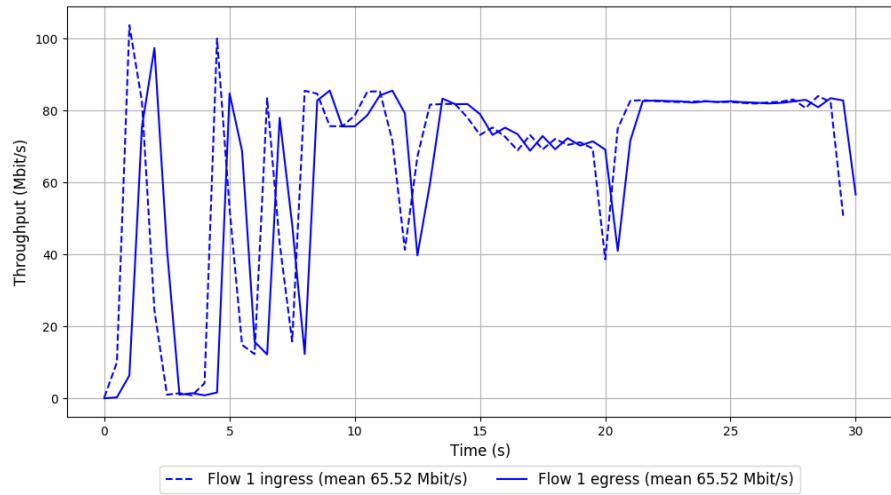


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-12-19 23:14:58
End at: 2018-12-19 23:15:28
Local clock offset: -17.78 ms
Remote clock offset: 39.38 ms

# Below is generated by plot.py at 2018-12-20 00:35:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.52 Mbit/s
95th percentile per-packet one-way delay: 99.669 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 65.52 Mbit/s
95th percentile per-packet one-way delay: 99.669 ms
Loss rate: 0.04%
```

Run 2: Report of QUIC Cubic — Data Link

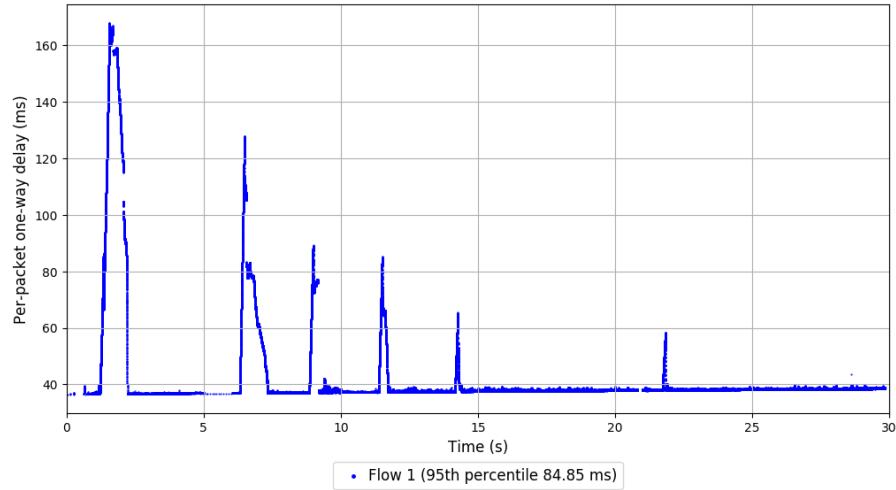
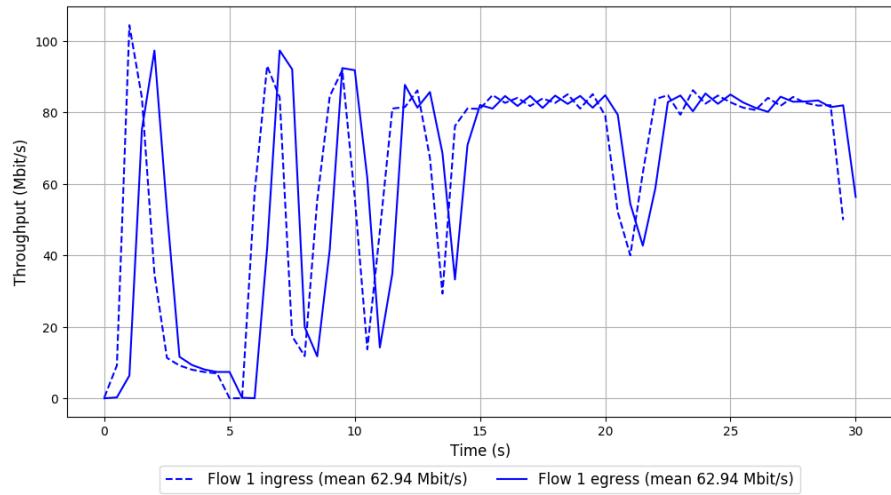


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-12-19 23:37:56
End at: 2018-12-19 23:38:26
Local clock offset: -31.366 ms
Remote clock offset: 3.992 ms

# Below is generated by plot.py at 2018-12-20 00:35:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.94 Mbit/s
95th percentile per-packet one-way delay: 84.849 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.94 Mbit/s
95th percentile per-packet one-way delay: 84.849 ms
Loss rate: 0.00%
```

Run 3: Report of QUIC Cubic — Data Link

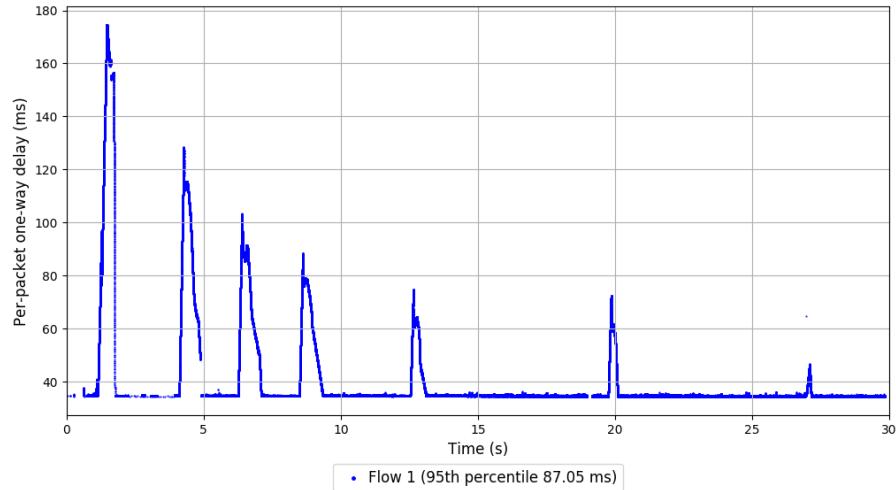
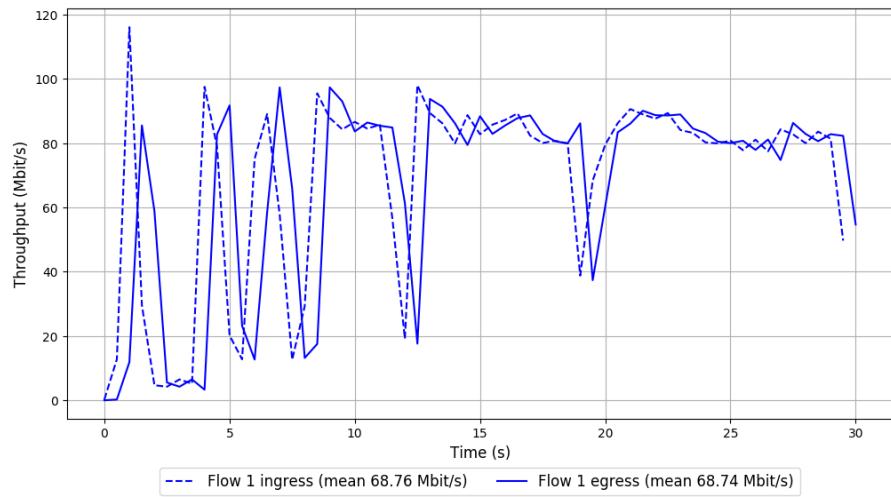


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-12-20 00:00:16
End at: 2018-12-20 00:00:46
Local clock offset: -13.591 ms
Remote clock offset: 0.419 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.74 Mbit/s
95th percentile per-packet one-way delay: 87.054 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 68.74 Mbit/s
95th percentile per-packet one-way delay: 87.054 ms
Loss rate: 0.03%
```

Run 4: Report of QUIC Cubic — Data Link

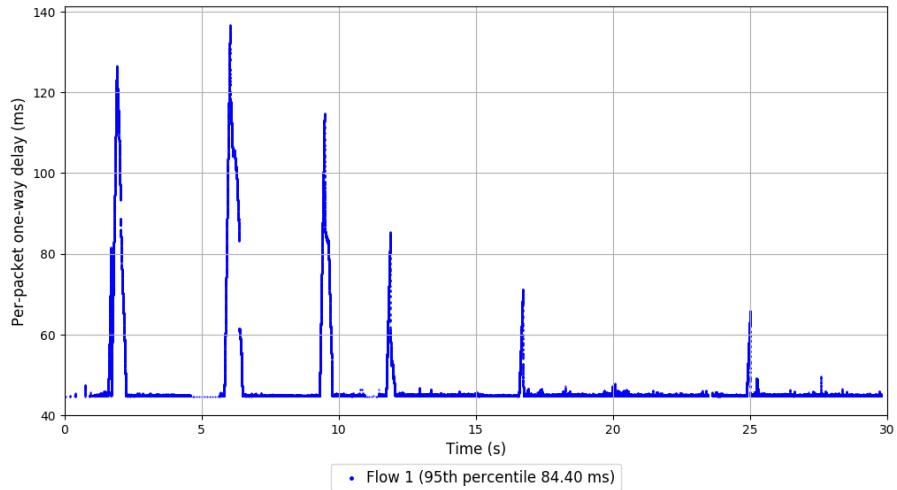
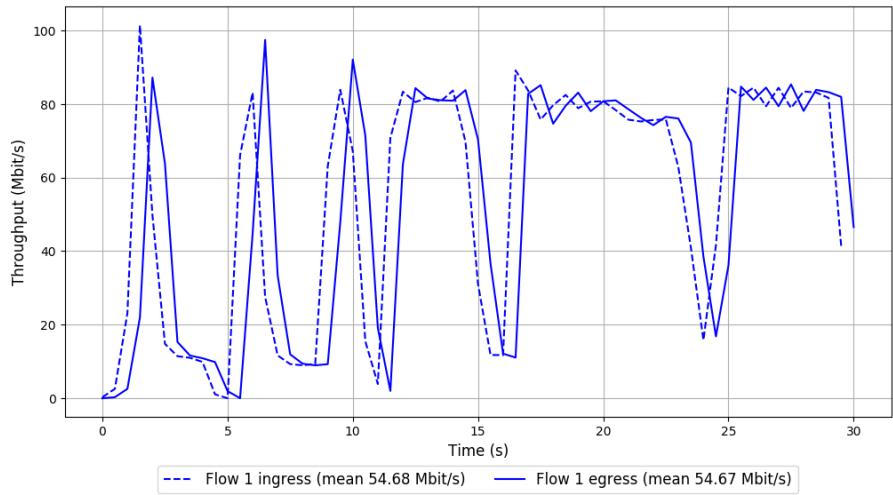


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-12-20 00:22:36
End at: 2018-12-20 00:23:06
Local clock offset: -2.85 ms
Remote clock offset: -0.961 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.67 Mbit/s
95th percentile per-packet one-way delay: 84.398 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 54.67 Mbit/s
95th percentile per-packet one-way delay: 84.398 ms
Loss rate: 0.05%
```

Run 5: Report of QUIC Cubic — Data Link

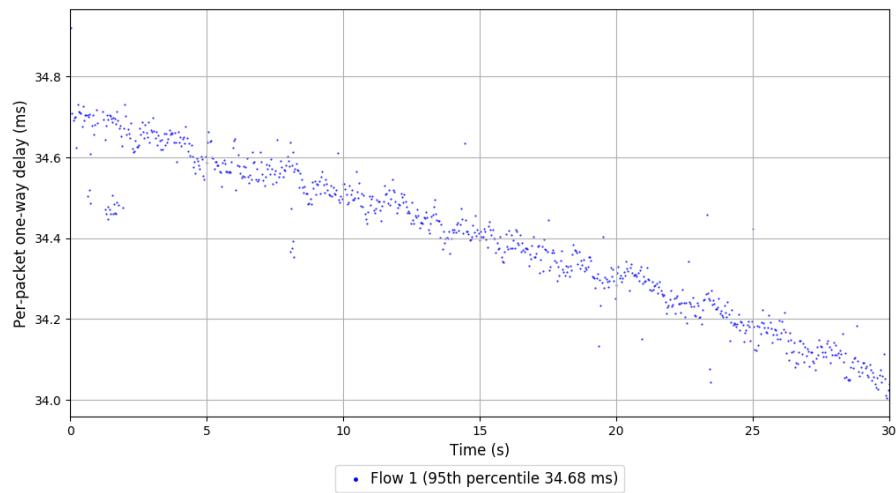
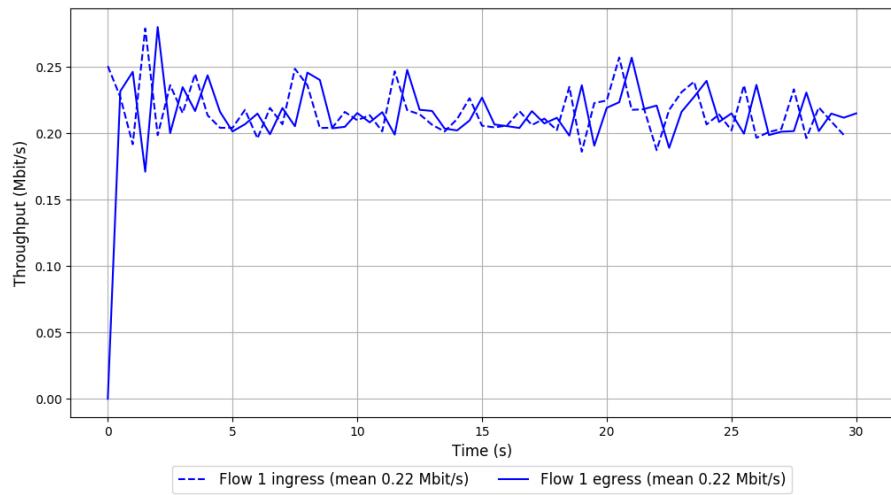


Run 1: Statistics of SCReAM

```
Start at: 2018-12-19 22:46:42
End at: 2018-12-19 22:47:12
Local clock offset: -13.697 ms
Remote clock offset: 11.901 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.681 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.681 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

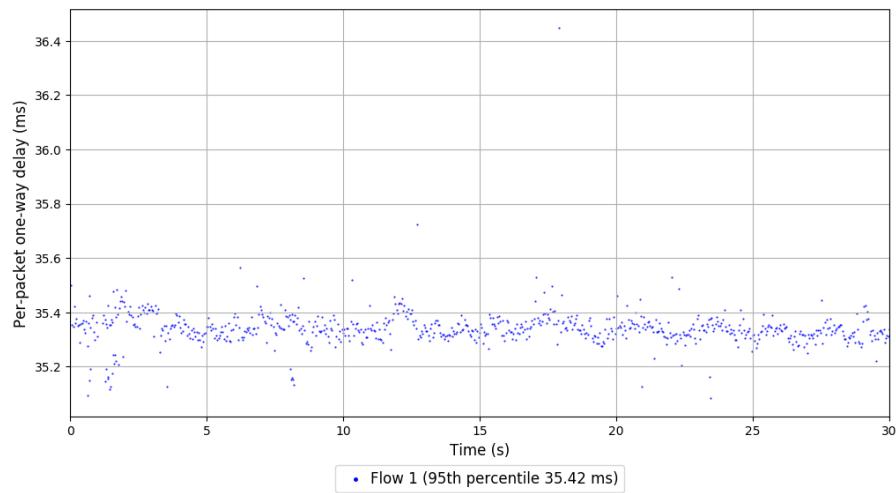
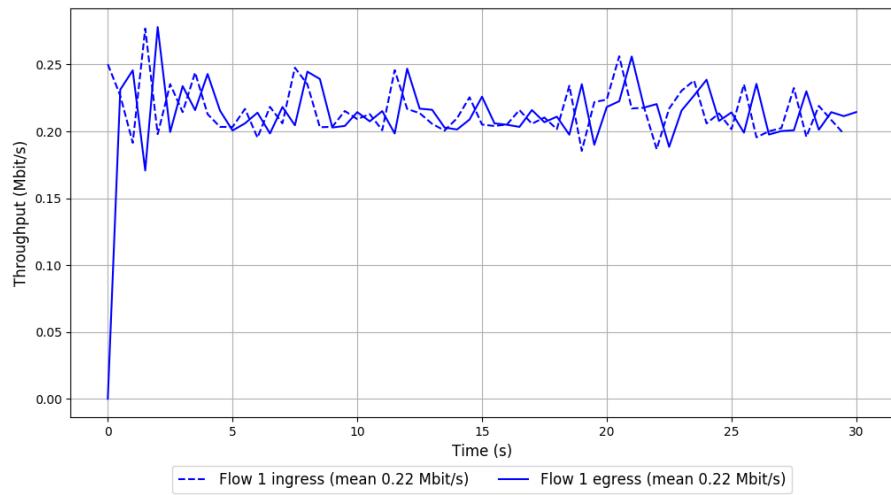


Run 2: Statistics of SCReAM

```
Start at: 2018-12-19 23:09:01
End at: 2018-12-19 23:09:31
Local clock offset: -17.771 ms
Remote clock offset: 35.482 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 35.424 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 35.424 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

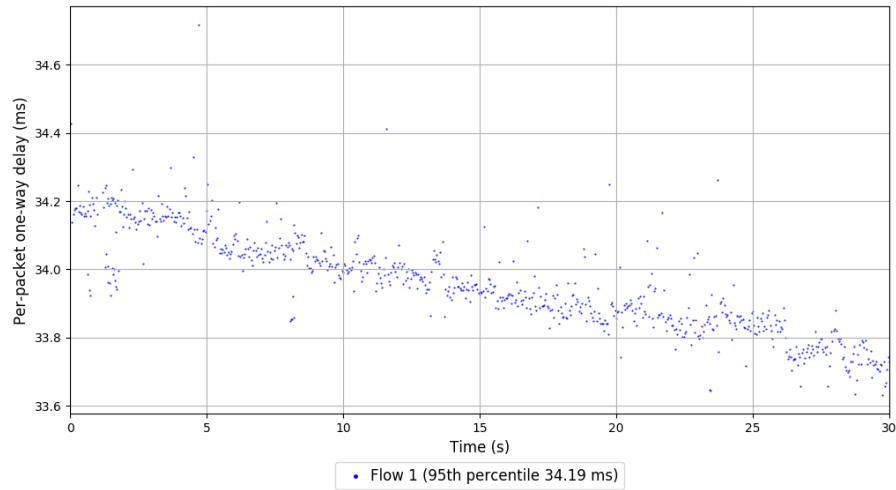
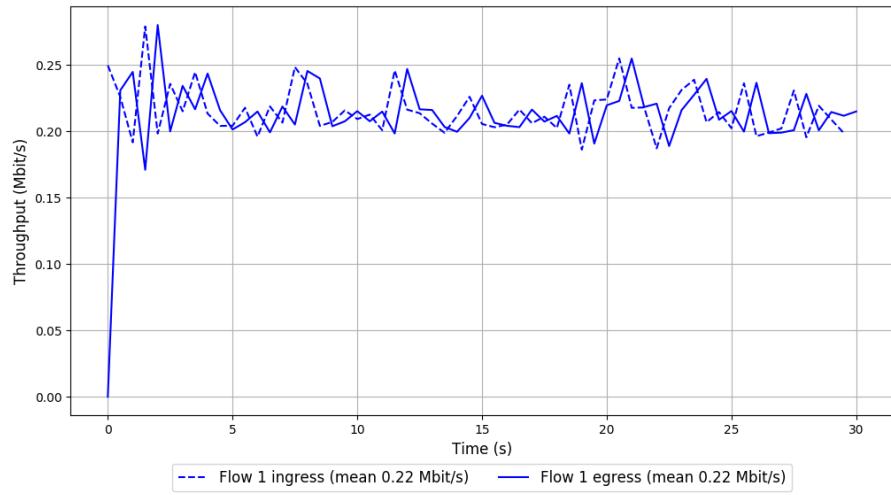


Run 3: Statistics of SCReAM

```
Start at: 2018-12-19 23:32:01
End at: 2018-12-19 23:32:31
Local clock offset: -37.668 ms
Remote clock offset: 6.754 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.187 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.187 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

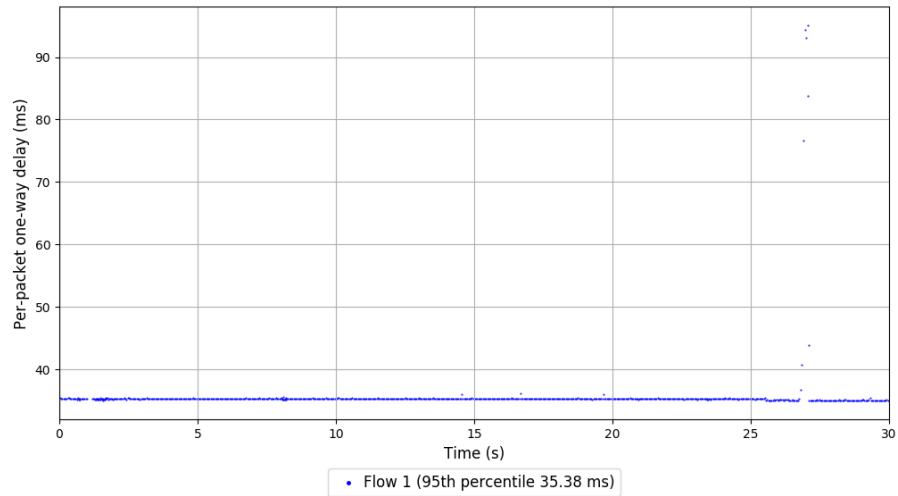
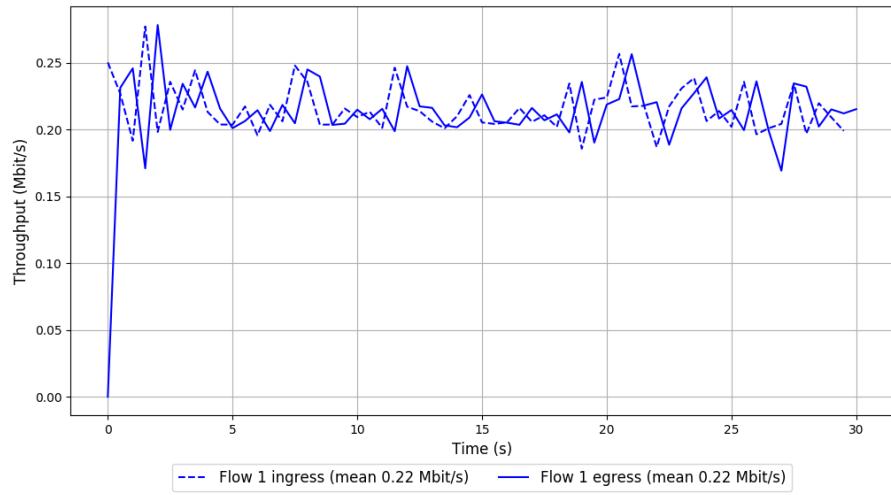


Run 4: Statistics of SCReAM

```
Start at: 2018-12-19 23:54:18
End at: 2018-12-19 23:54:48
Local clock offset: -11.016 ms
Remote clock offset: 1.022 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 35.378 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 35.378 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

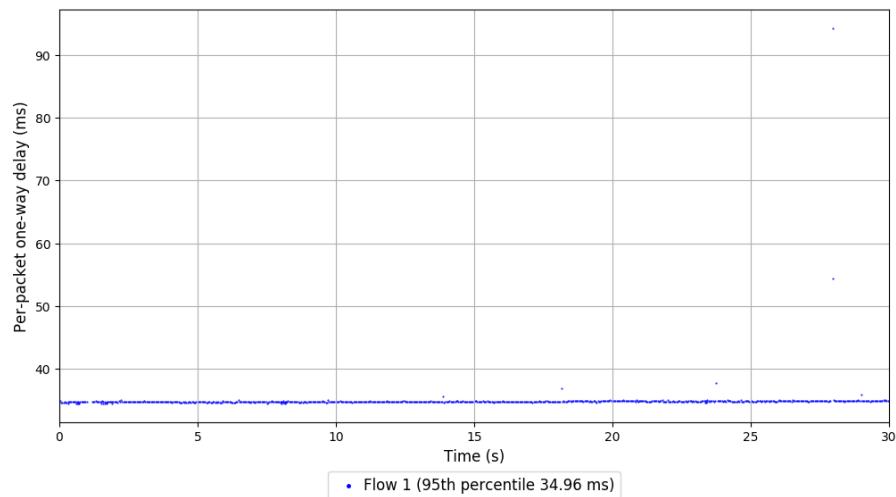
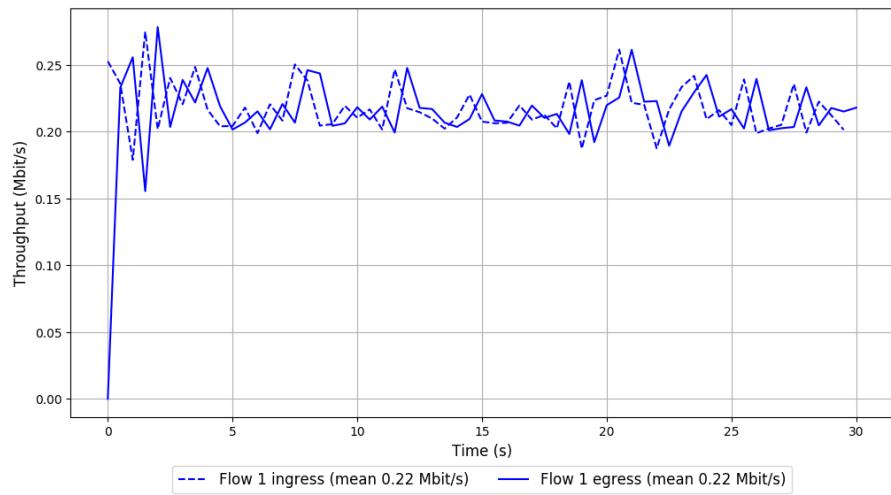


Run 5: Statistics of SCReAM

```
Start at: 2018-12-20 00:16:38
End at: 2018-12-20 00:17:08
Local clock offset: -3.026 ms
Remote clock offset: -1.286 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.957 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 34.957 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

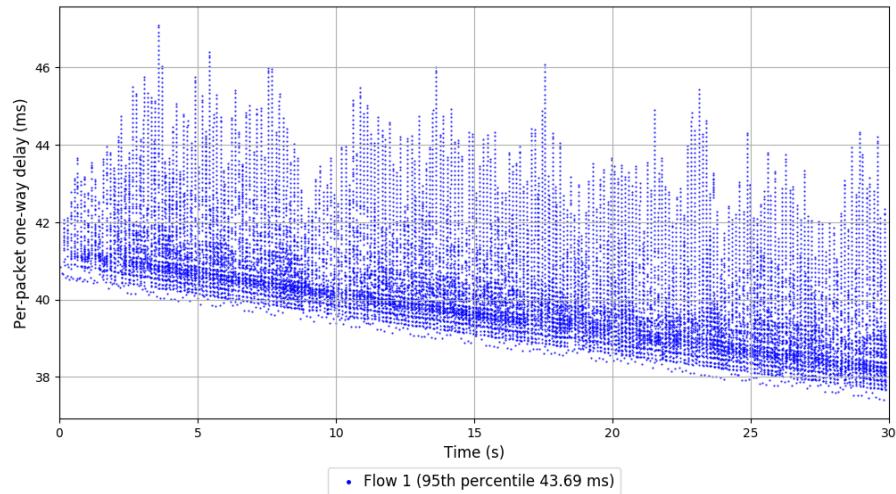
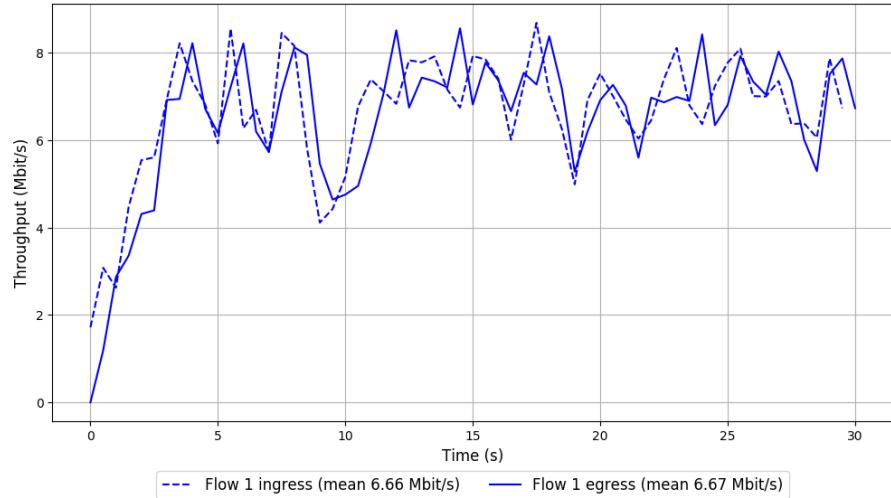


Run 1: Statistics of Sprout

```
Start at: 2018-12-19 22:38:27
End at: 2018-12-19 22:38:57
Local clock offset: -1.711 ms
Remote clock offset: -0.018 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.67 Mbit/s
95th percentile per-packet one-way delay: 43.689 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.67 Mbit/s
95th percentile per-packet one-way delay: 43.689 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

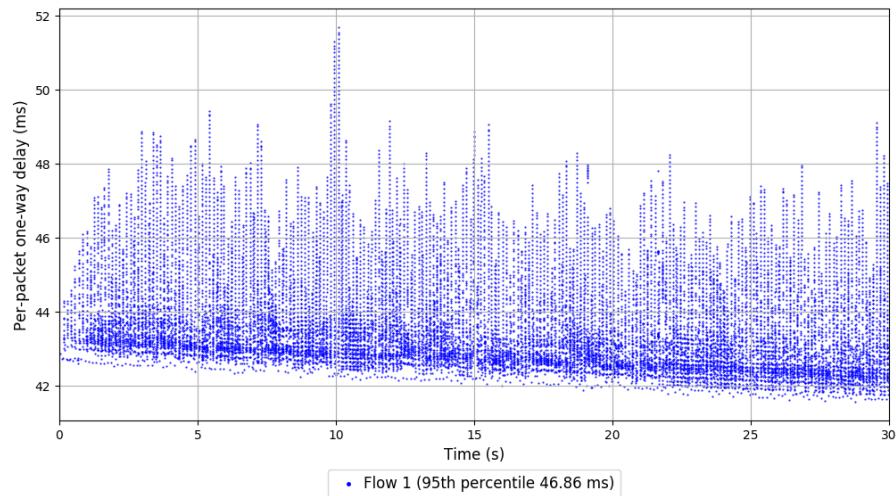
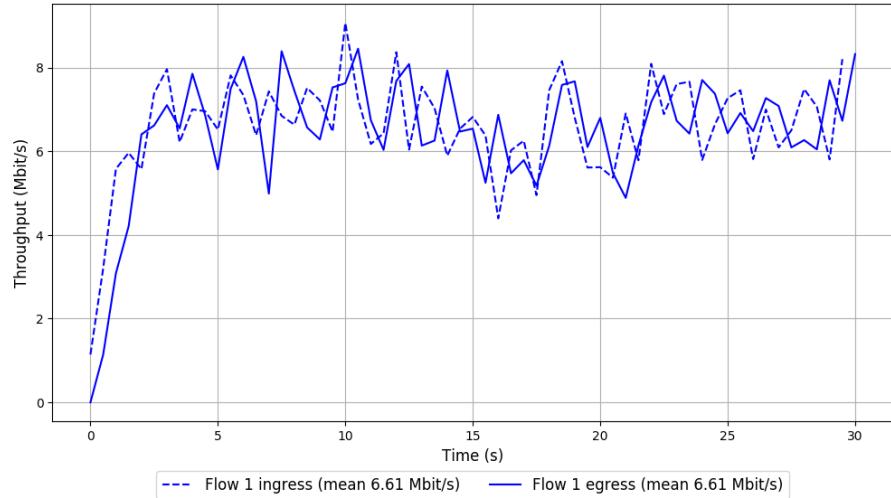


Run 2: Statistics of Sprout

```
Start at: 2018-12-19 23:00:48
End at: 2018-12-19 23:01:18
Local clock offset: -15.142 ms
Remote clock offset: 29.438 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 46.861 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 46.861 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

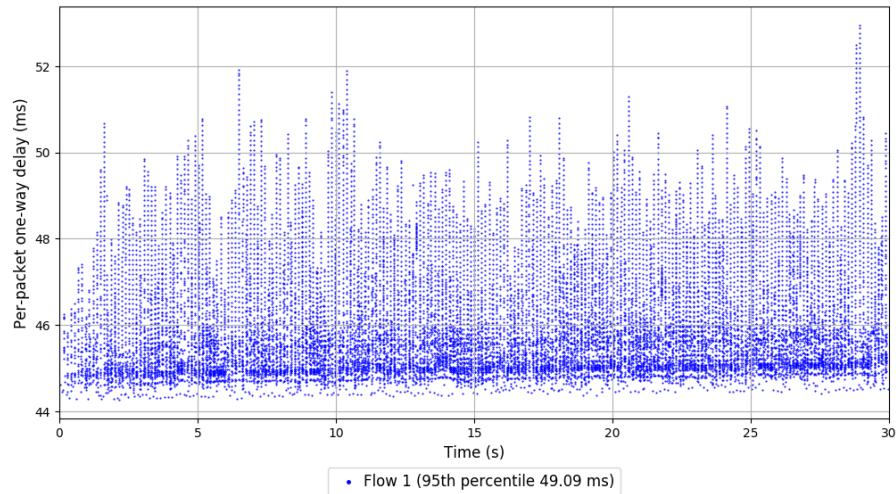
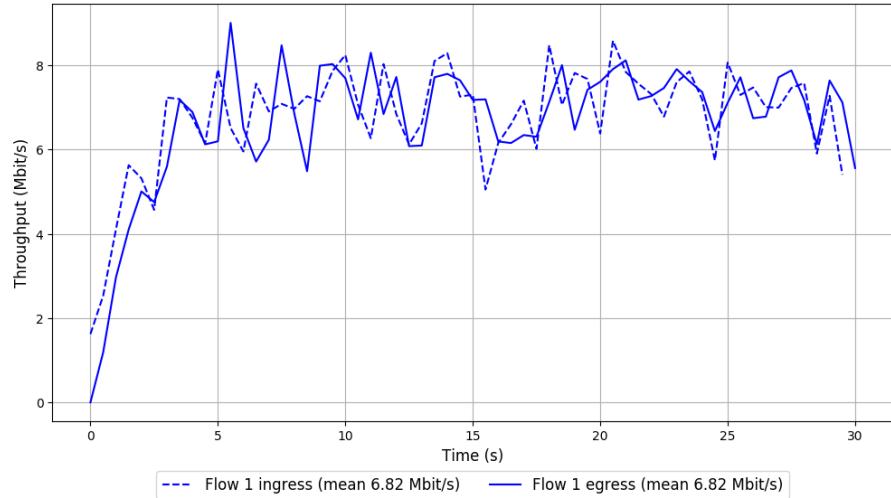


Run 3: Statistics of Sprout

```
Start at: 2018-12-19 23:23:47
End at: 2018-12-19 23:24:17
Local clock offset: -25.726 ms
Remote clock offset: 17.718 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 49.092 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 49.092 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

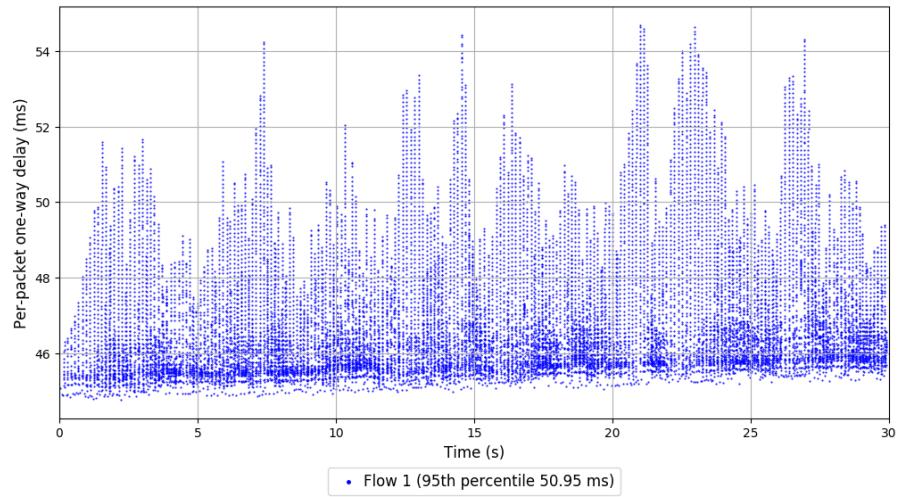
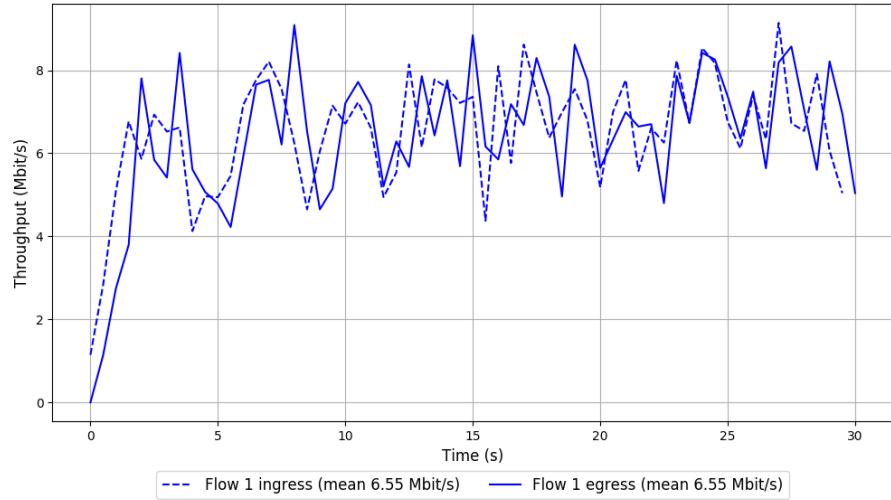


Run 4: Statistics of Sprout

```
Start at: 2018-12-19 23:46:05
End at: 2018-12-19 23:46:35
Local clock offset: -13.828 ms
Remote clock offset: 1.691 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.55 Mbit/s
95th percentile per-packet one-way delay: 50.948 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.55 Mbit/s
95th percentile per-packet one-way delay: 50.948 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

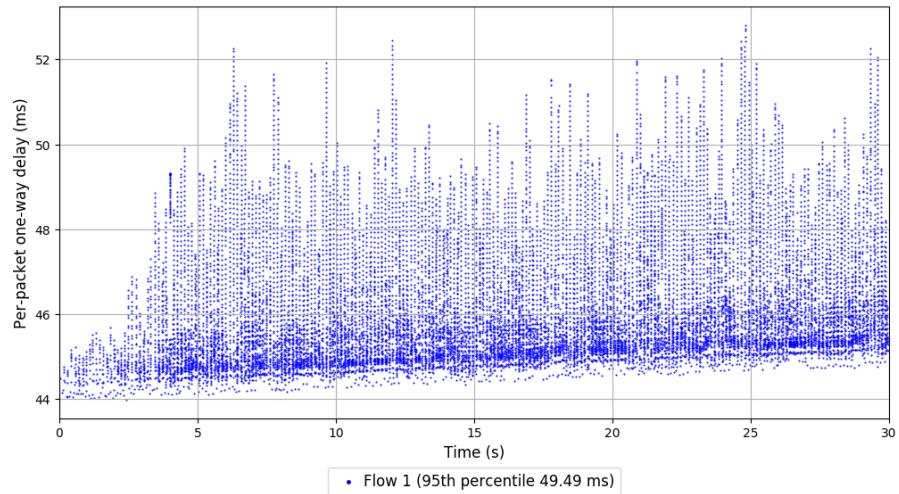
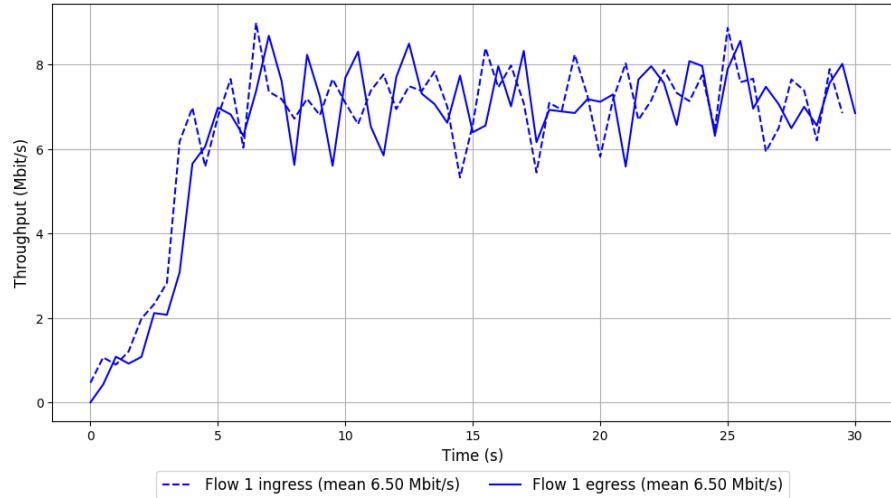


Run 5: Statistics of Sprout

```
Start at: 2018-12-20 00:08:25
End at: 2018-12-20 00:08:55
Local clock offset: -10.705 ms
Remote clock offset: -0.743 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.50 Mbit/s
95th percentile per-packet one-way delay: 49.491 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.50 Mbit/s
95th percentile per-packet one-way delay: 49.491 ms
Loss rate: 0.00%
```

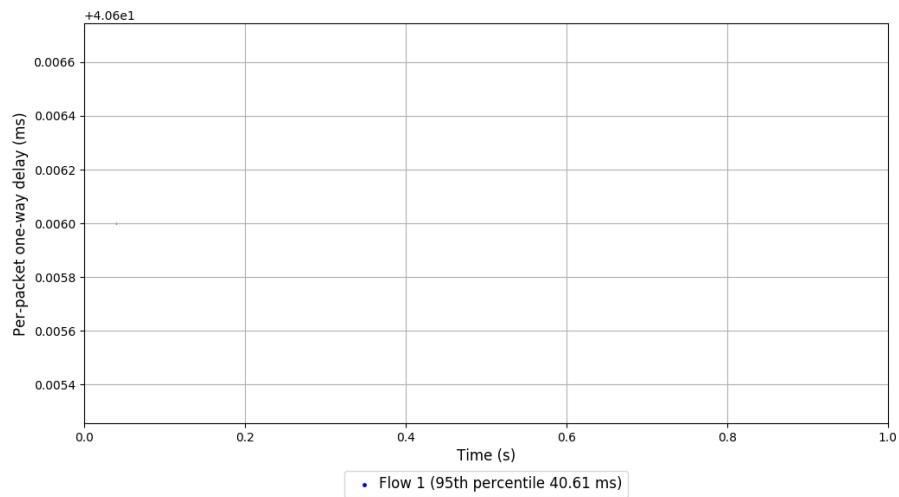
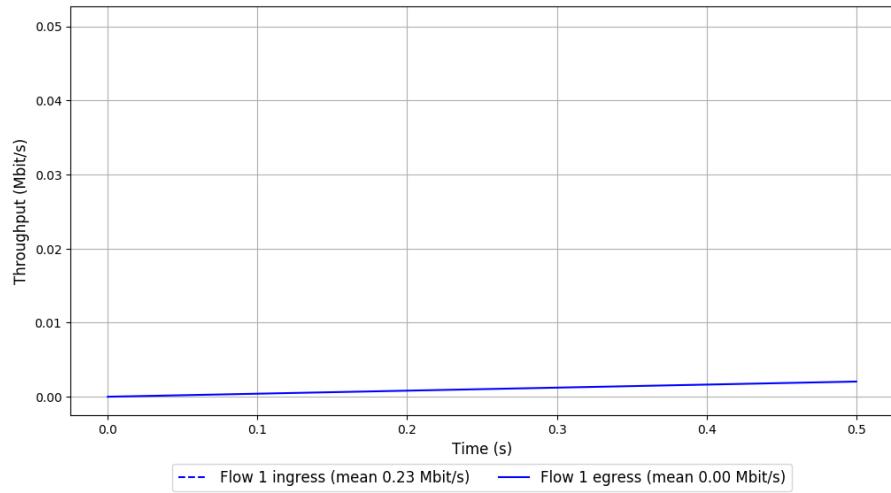
Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-12-19 22:37:19
End at: 2018-12-19 22:37:49
Local clock offset: 12.074 ms
Remote clock offset: -0.131 ms

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

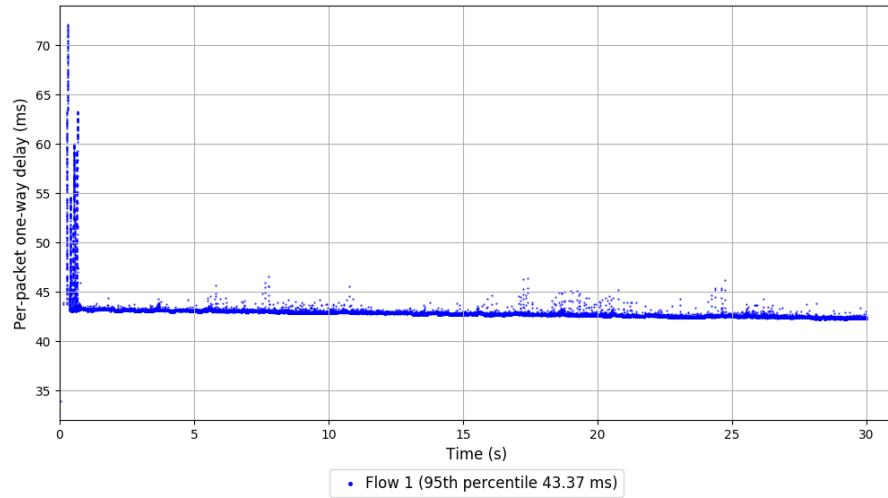
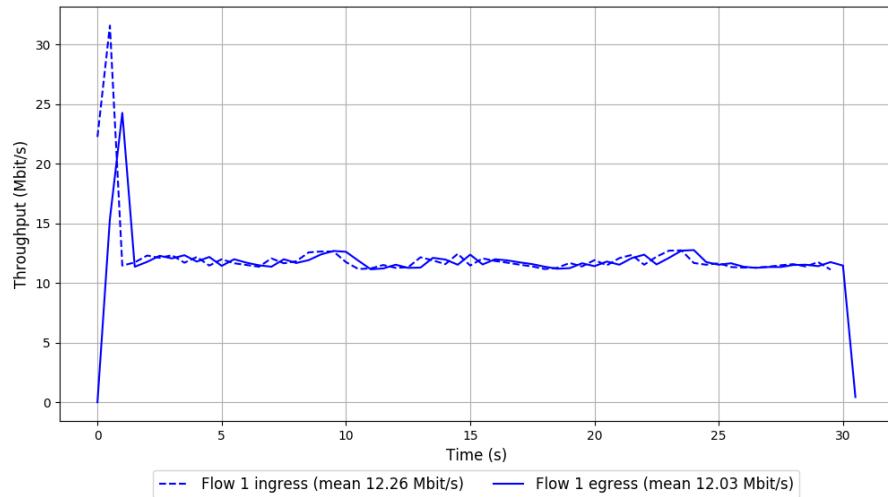


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-12-19 22:59:39
End at: 2018-12-19 23:00:09
Local clock offset: -14.111 ms
Remote clock offset: 28.609 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 43.369 ms
Loss rate: 1.83%
-- Flow 1:
Average throughput: 12.03 Mbit/s
95th percentile per-packet one-way delay: 43.369 ms
Loss rate: 1.83%
```

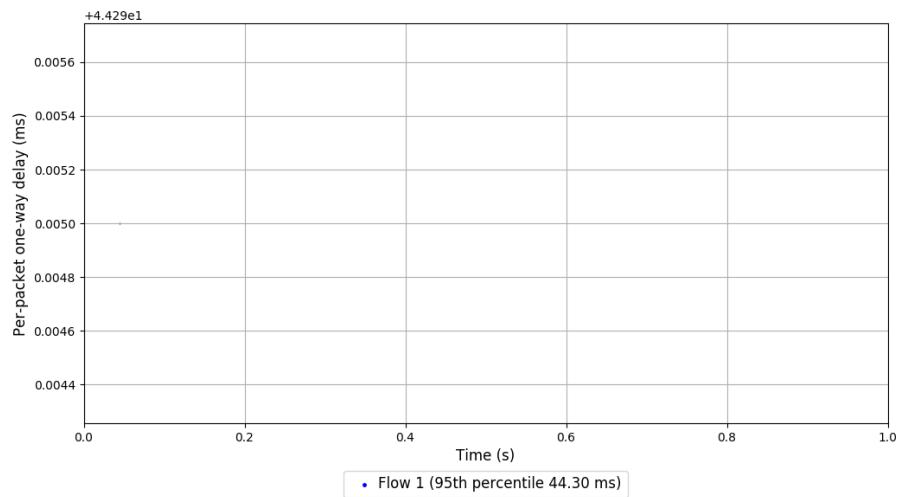
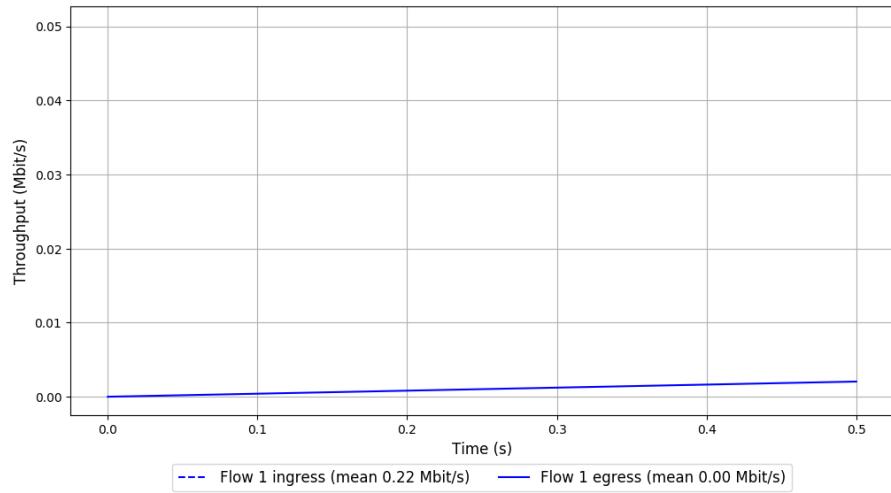
Run 2: Report of TaoVA-100x — Data Link



Run 3: Statistics of TaoVA-100x

Start at: 2018-12-19 23:22:39
End at: 2018-12-19 23:23:09
Local clock offset: -24.101 ms
Remote clock offset: 19.471 ms

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

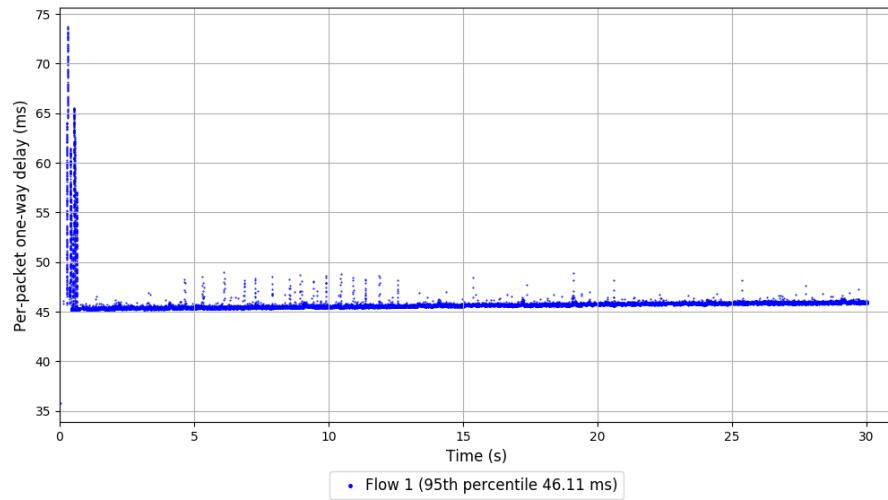
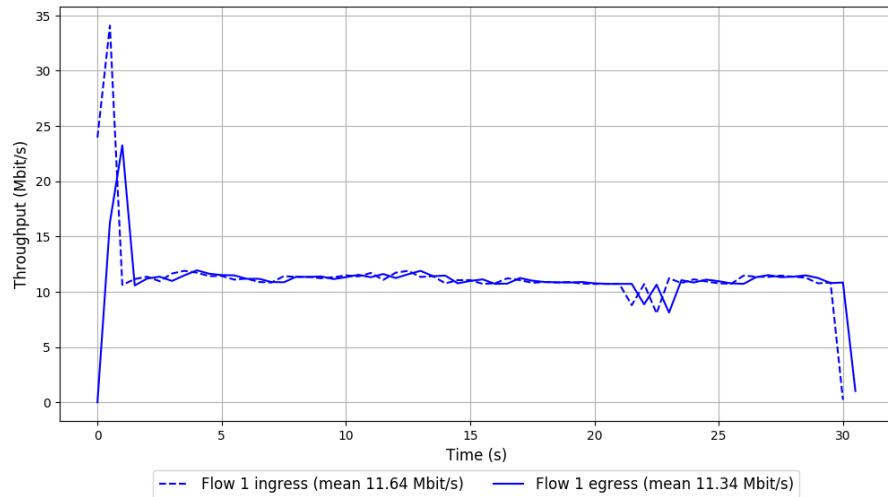


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-12-19 23:44:55
End at: 2018-12-19 23:45:25
Local clock offset: -14.905 ms
Remote clock offset: 2.103 ms

# Below is generated by plot.py at 2018-12-20 00:35:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.34 Mbit/s
95th percentile per-packet one-way delay: 46.112 ms
Loss rate: 2.54%
-- Flow 1:
Average throughput: 11.34 Mbit/s
95th percentile per-packet one-way delay: 46.112 ms
Loss rate: 2.54%
```

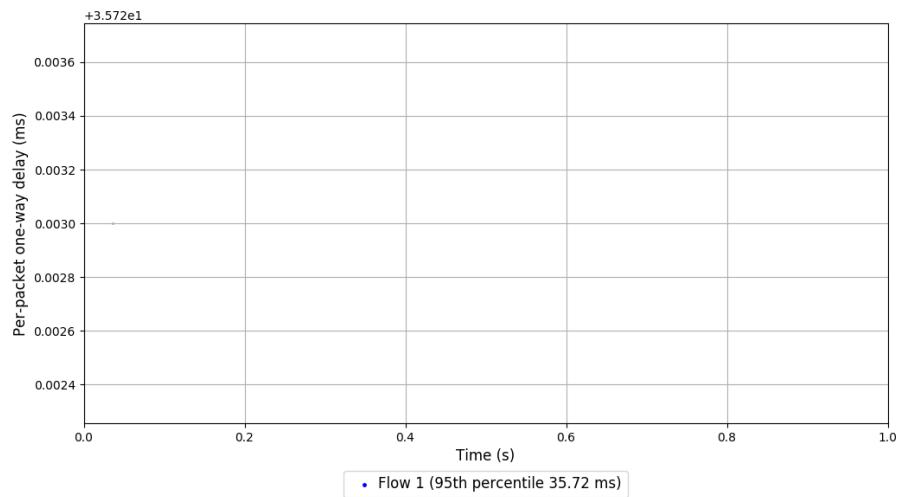
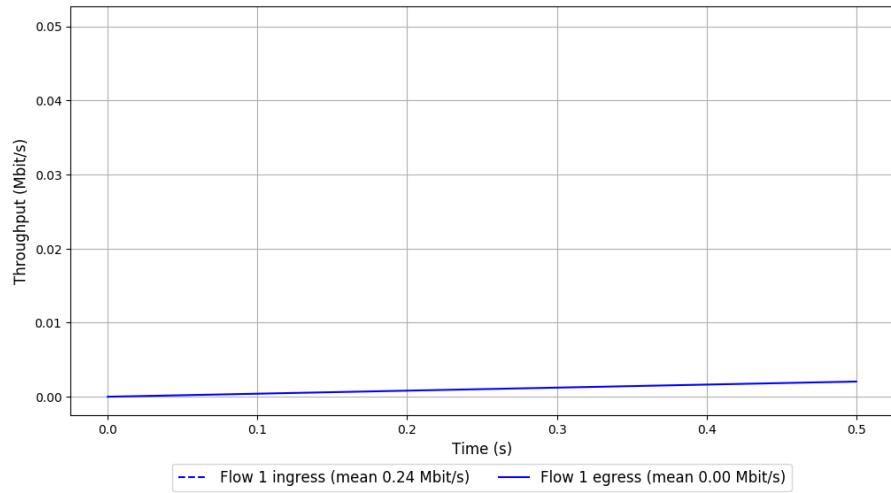
Run 4: Report of TaoVA-100x — Data Link



Run 5: Statistics of TaoVA-100x

Start at: 2018-12-20 00:07:17
End at: 2018-12-20 00:07:47
Local clock offset: -12.93 ms
Remote clock offset: -0.427 ms

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

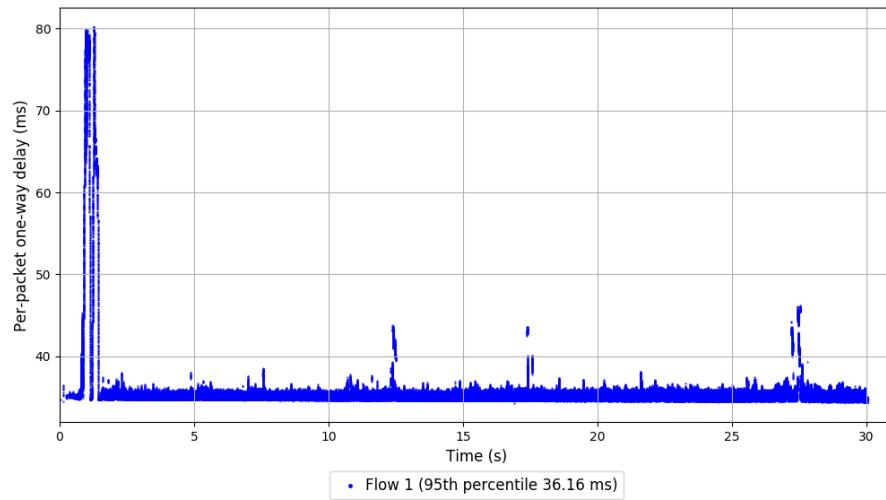
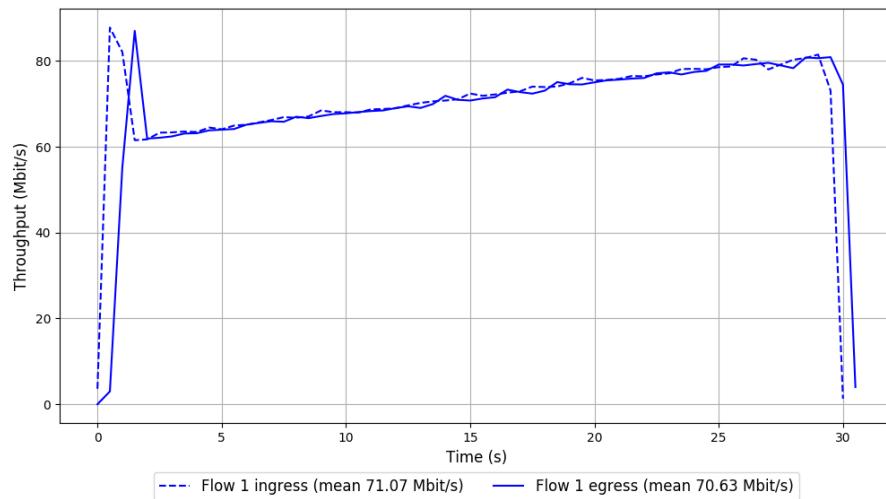


Run 1: Statistics of TCP Vegas

```
Start at: 2018-12-19 22:56:08
End at: 2018-12-19 22:56:38
Local clock offset: -13.524 ms
Remote clock offset: 25.464 ms

# Below is generated by plot.py at 2018-12-20 00:35:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.63 Mbit/s
95th percentile per-packet one-way delay: 36.163 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 70.63 Mbit/s
95th percentile per-packet one-way delay: 36.163 ms
Loss rate: 0.62%
```

Run 1: Report of TCP Vegas — Data Link

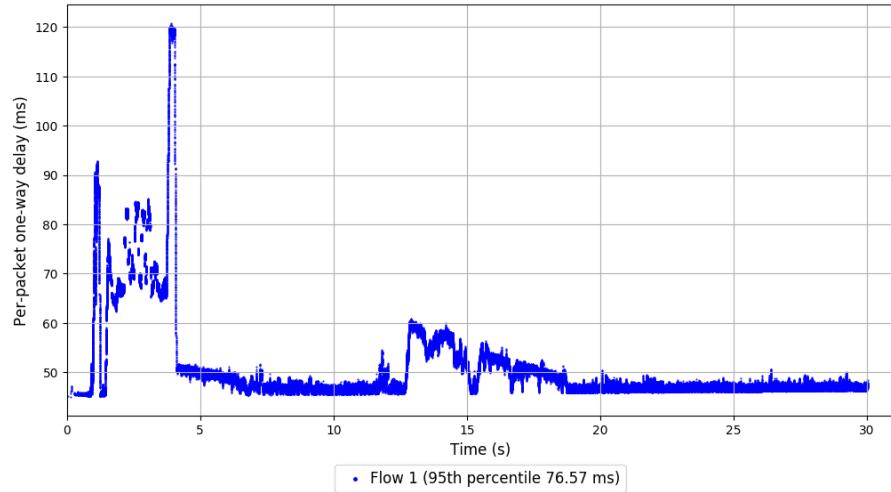
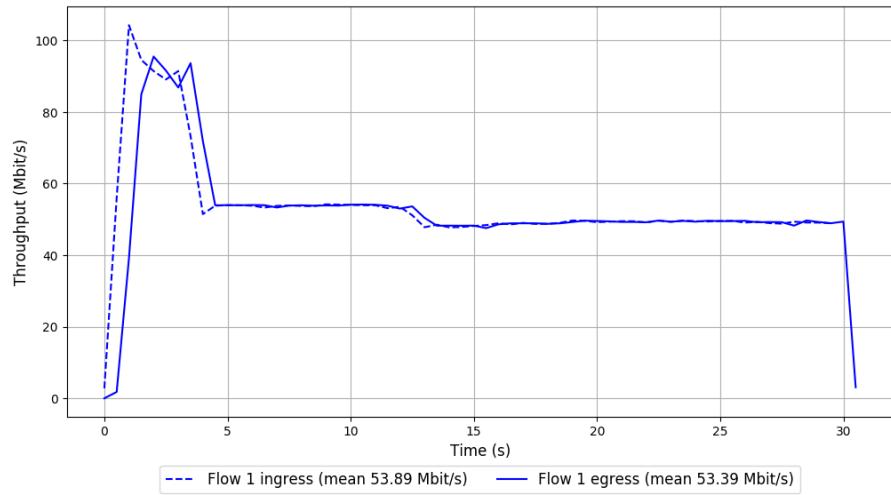


Run 2: Statistics of TCP Vegas

```
Start at: 2018-12-19 23:18:29
End at: 2018-12-19 23:18:59
Local clock offset: -19.869 ms
Remote clock offset: 30.797 ms

# Below is generated by plot.py at 2018-12-20 00:35:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 53.39 Mbit/s
95th percentile per-packet one-way delay: 76.566 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 53.39 Mbit/s
95th percentile per-packet one-way delay: 76.566 ms
Loss rate: 0.94%
```

Run 2: Report of TCP Vegas — Data Link

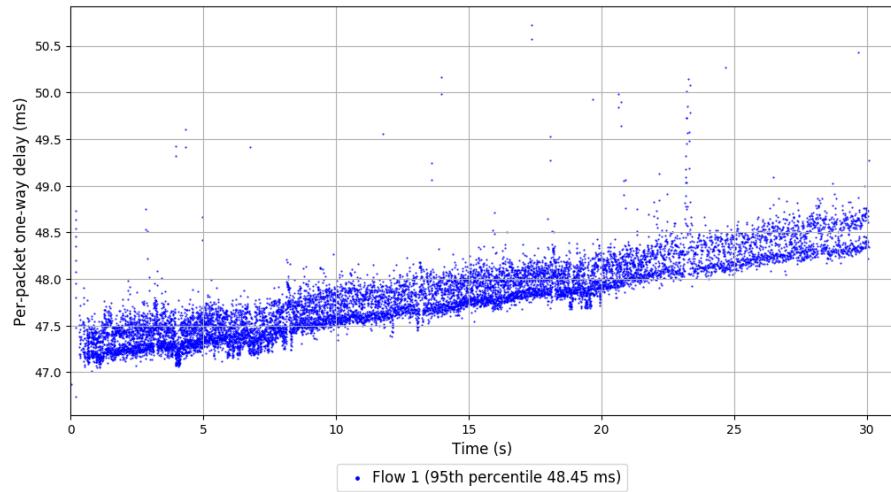
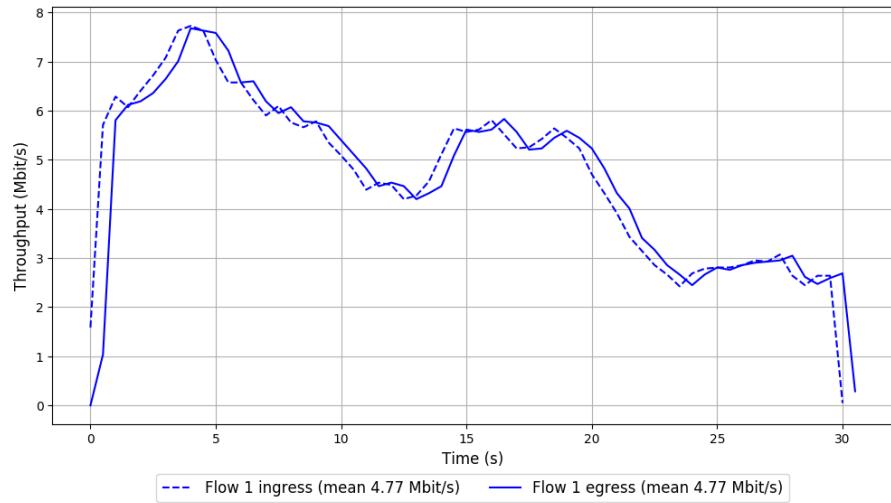


Run 3: Statistics of TCP Vegas

```
Start at: 2018-12-19 23:41:26
End at: 2018-12-19 23:41:56
Local clock offset: -21.319 ms
Remote clock offset: 3.459 ms

# Below is generated by plot.py at 2018-12-20 00:35:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 48.448 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 48.448 ms
Loss rate: 0.00%
```

Run 3: Report of TCP Vegas — Data Link

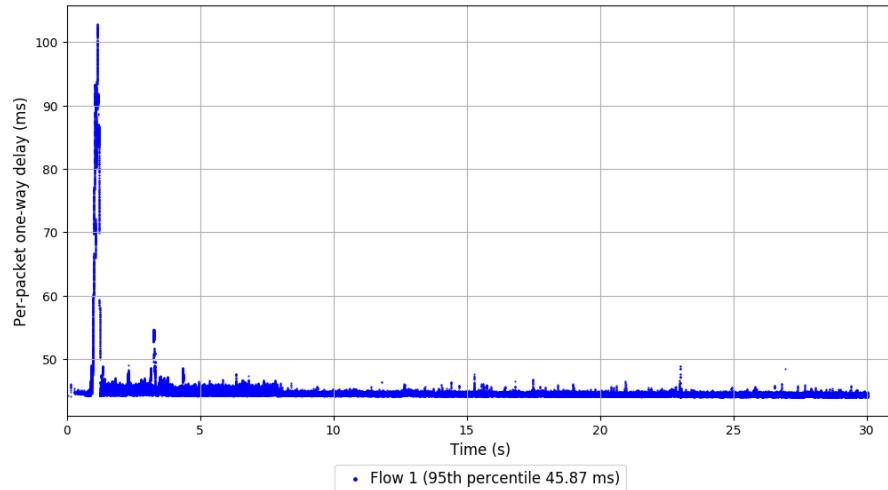
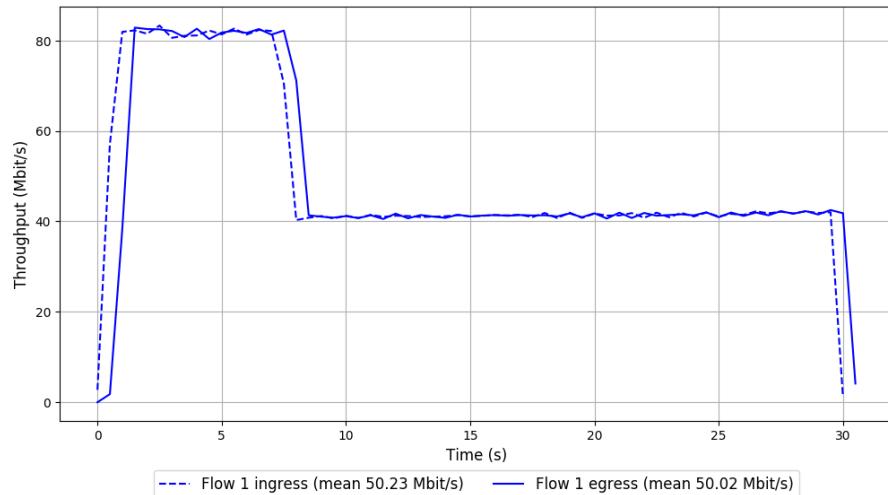


Run 4: Statistics of TCP Vegas

```
Start at: 2018-12-20 00:03:47
End at: 2018-12-20 00:04:17
Local clock offset: -15.564 ms
Remote clock offset: 0.249 ms

# Below is generated by plot.py at 2018-12-20 00:35:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.02 Mbit/s
95th percentile per-packet one-way delay: 45.871 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 50.02 Mbit/s
95th percentile per-packet one-way delay: 45.871 ms
Loss rate: 0.45%
```

Run 4: Report of TCP Vegas — Data Link

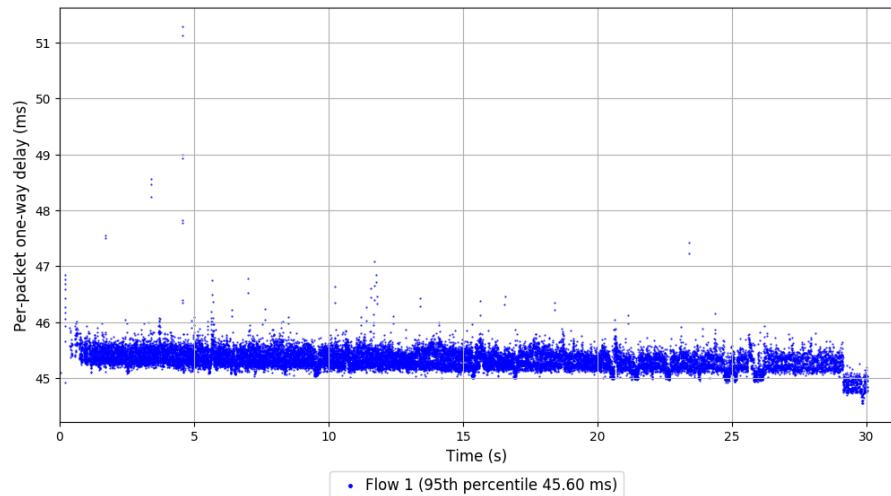
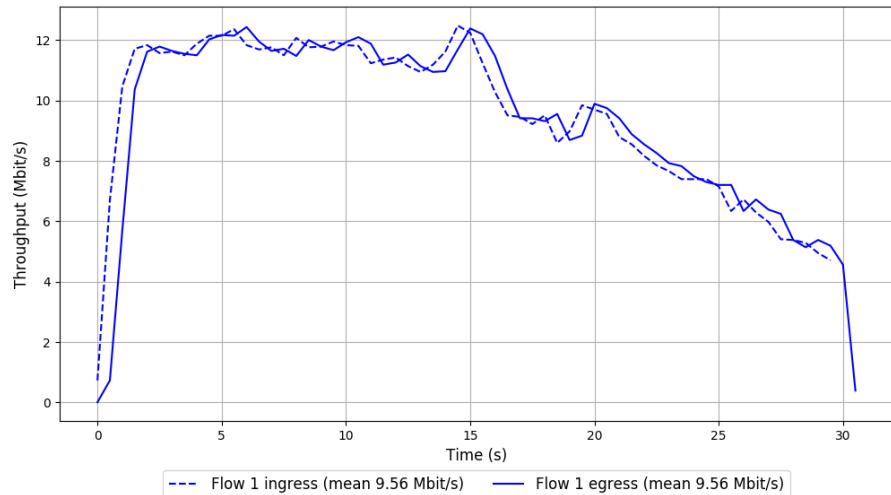


Run 5: Statistics of TCP Vegas

```
Start at: 2018-12-20 00:26:09
End at: 2018-12-20 00:26:39
Local clock offset: -3.356 ms
Remote clock offset: -0.728 ms

# Below is generated by plot.py at 2018-12-20 00:35:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 45.600 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.56 Mbit/s
95th percentile per-packet one-way delay: 45.600 ms
Loss rate: 0.00%
```

Run 5: Report of TCP Vegas — Data Link

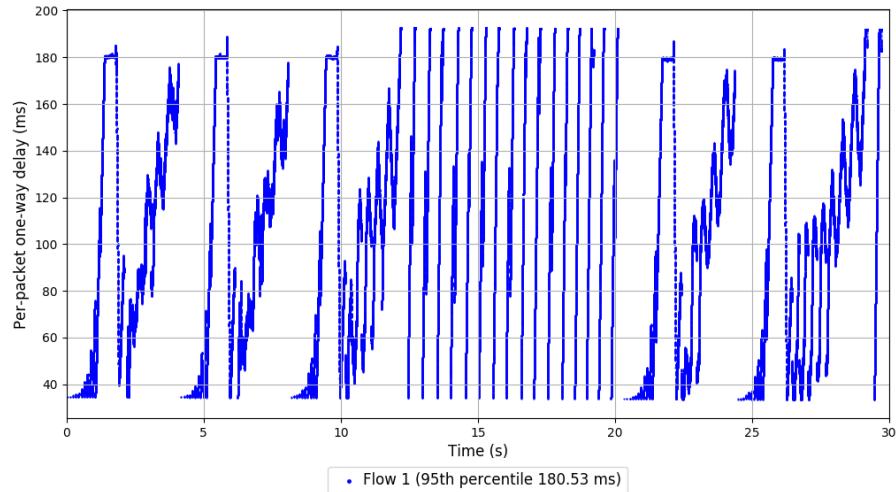
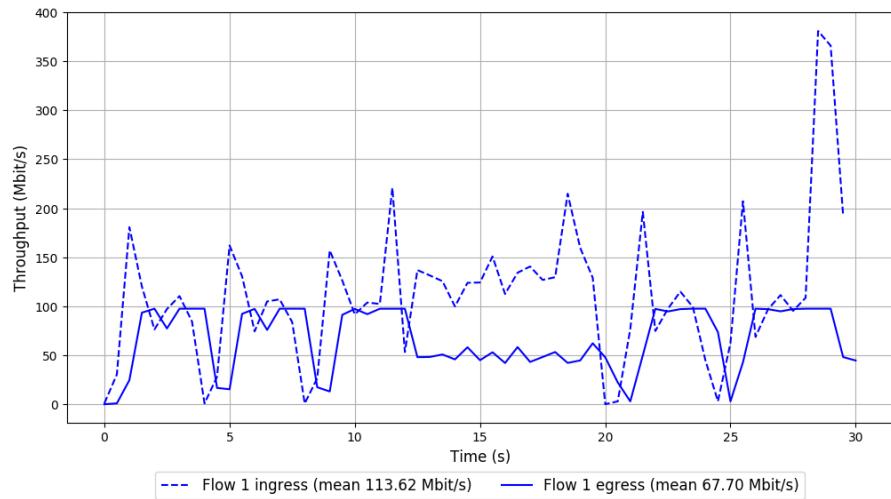


Run 1: Statistics of Verus

```
Start at: 2018-12-19 22:47:50
End at: 2018-12-19 22:48:20
Local clock offset: -12.77 ms
Remote clock offset: 14.489 ms

# Below is generated by plot.py at 2018-12-20 00:36:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 67.70 Mbit/s
95th percentile per-packet one-way delay: 180.525 ms
Loss rate: 40.12%
-- Flow 1:
Average throughput: 67.70 Mbit/s
95th percentile per-packet one-way delay: 180.525 ms
Loss rate: 40.12%
```

Run 1: Report of Verus — Data Link

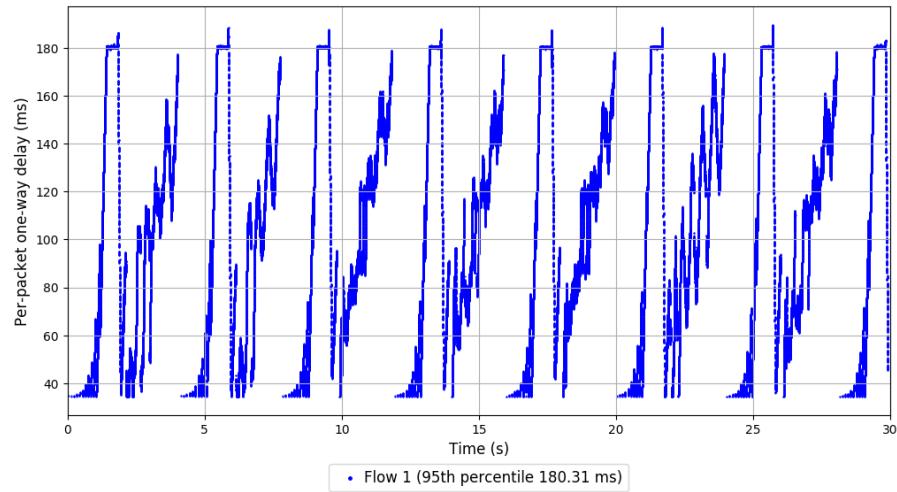
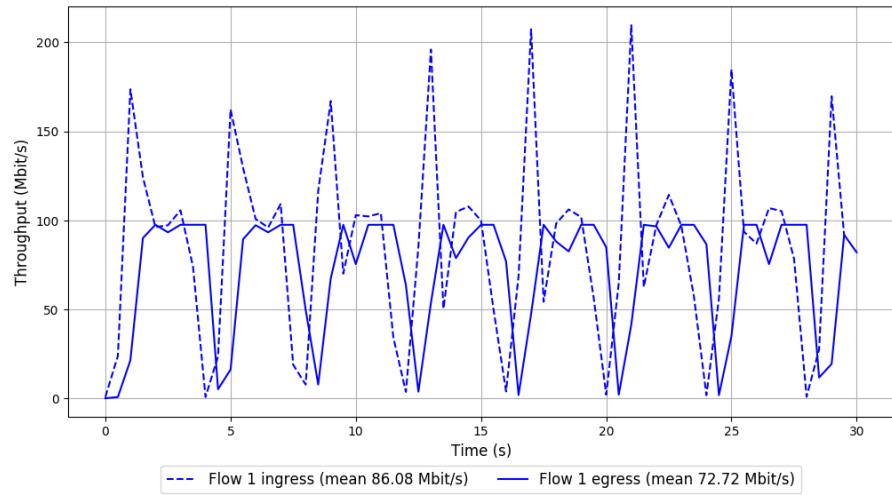


Run 2: Statistics of Verus

```
Start at: 2018-12-19 23:10:09
End at: 2018-12-19 23:10:39
Local clock offset: -17.084 ms
Remote clock offset: 35.855 ms

# Below is generated by plot.py at 2018-12-20 00:36:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.72 Mbit/s
95th percentile per-packet one-way delay: 180.311 ms
Loss rate: 15.48%
-- Flow 1:
Average throughput: 72.72 Mbit/s
95th percentile per-packet one-way delay: 180.311 ms
Loss rate: 15.48%
```

Run 2: Report of Verus — Data Link

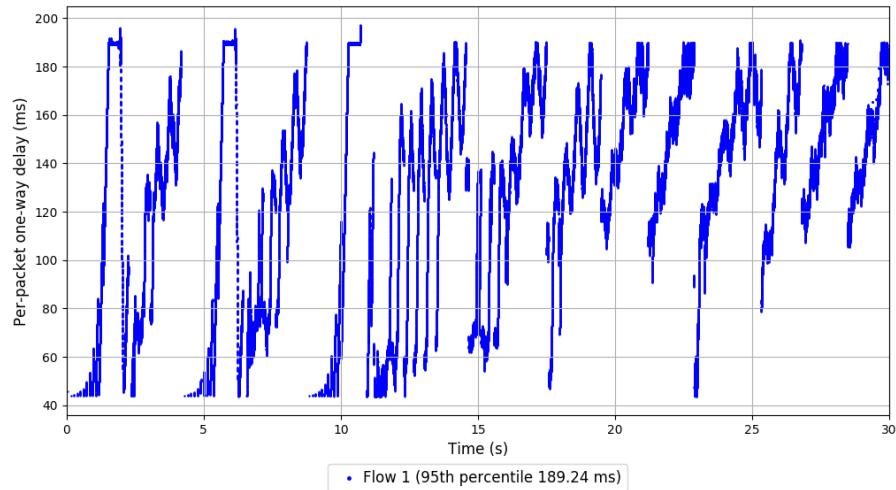
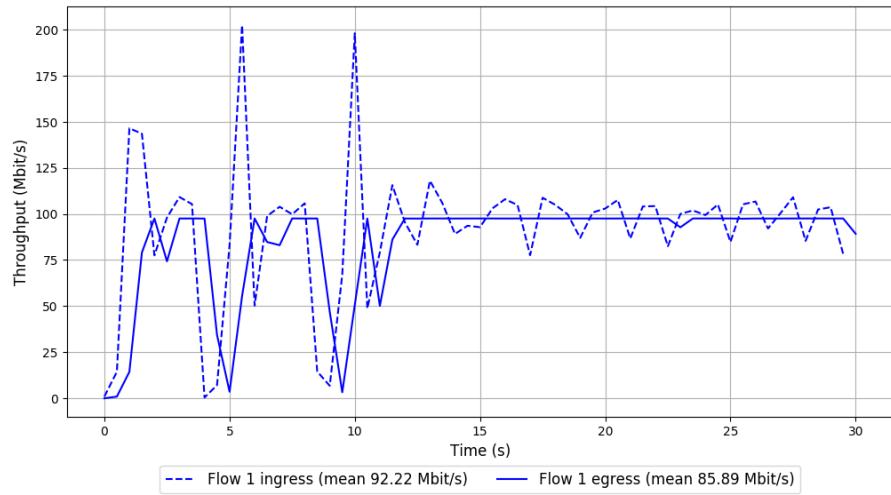


Run 3: Statistics of Verus

```
Start at: 2018-12-19 23:33:09
End at: 2018-12-19 23:38:39
Local clock offset: -39.199 ms
Remote clock offset: 6.292 ms

# Below is generated by plot.py at 2018-12-20 00:36:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.89 Mbit/s
95th percentile per-packet one-way delay: 189.243 ms
Loss rate: 6.75%
-- Flow 1:
Average throughput: 85.89 Mbit/s
95th percentile per-packet one-way delay: 189.243 ms
Loss rate: 6.75%
```

Run 3: Report of Verus — Data Link

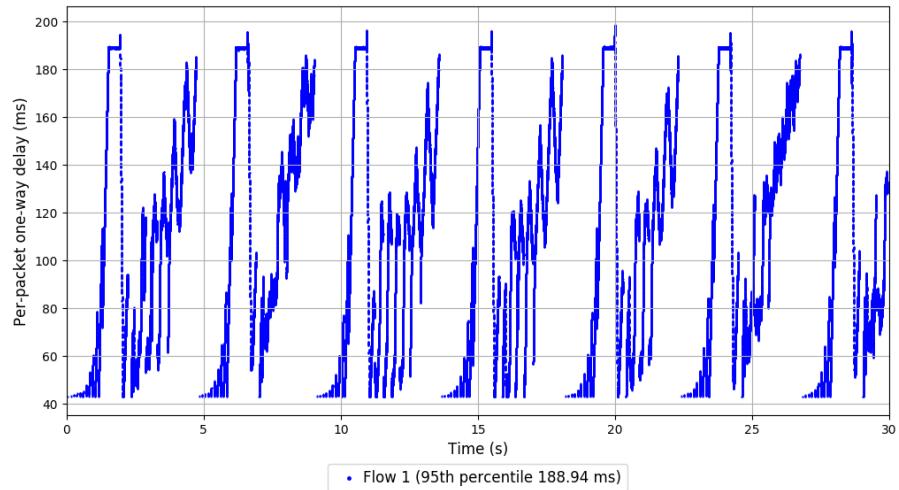
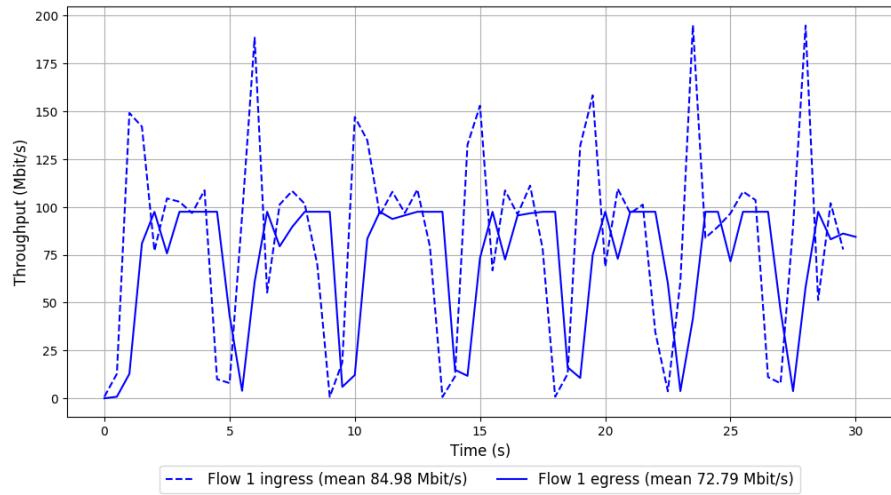


Run 4: Statistics of Verus

```
Start at: 2018-12-19 23:55:26
End at: 2018-12-19 23:55:56
Local clock offset: -10.647 ms
Remote clock offset: 0.429 ms

# Below is generated by plot.py at 2018-12-20 00:36:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.79 Mbit/s
95th percentile per-packet one-way delay: 188.944 ms
Loss rate: 14.23%
-- Flow 1:
Average throughput: 72.79 Mbit/s
95th percentile per-packet one-way delay: 188.944 ms
Loss rate: 14.23%
```

Run 4: Report of Verus — Data Link

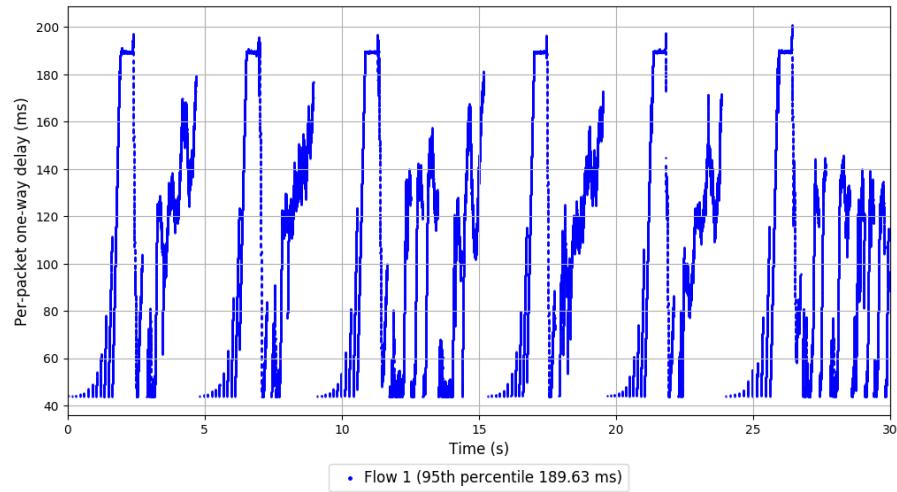
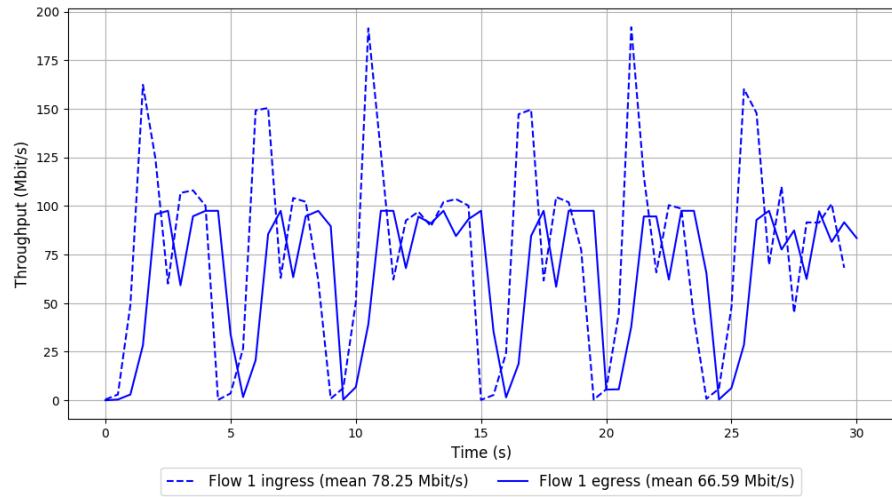


Run 5: Statistics of Verus

```
Start at: 2018-12-20 00:17:47
End at: 2018-12-20 00:18:17
Local clock offset: -3.162 ms
Remote clock offset: -1.54 ms

# Below is generated by plot.py at 2018-12-20 00:36:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.59 Mbit/s
95th percentile per-packet one-way delay: 189.635 ms
Loss rate: 14.78%
-- Flow 1:
Average throughput: 66.59 Mbit/s
95th percentile per-packet one-way delay: 189.635 ms
Loss rate: 14.78%
```

Run 5: Report of Verus — Data Link

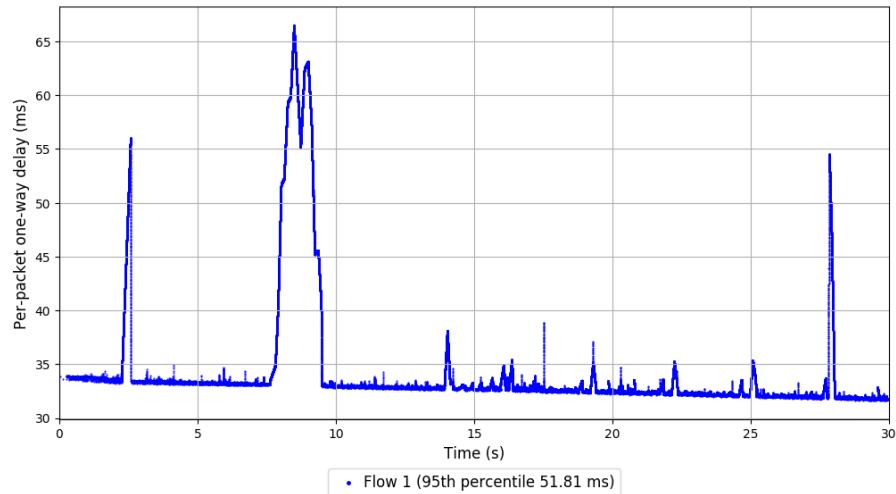
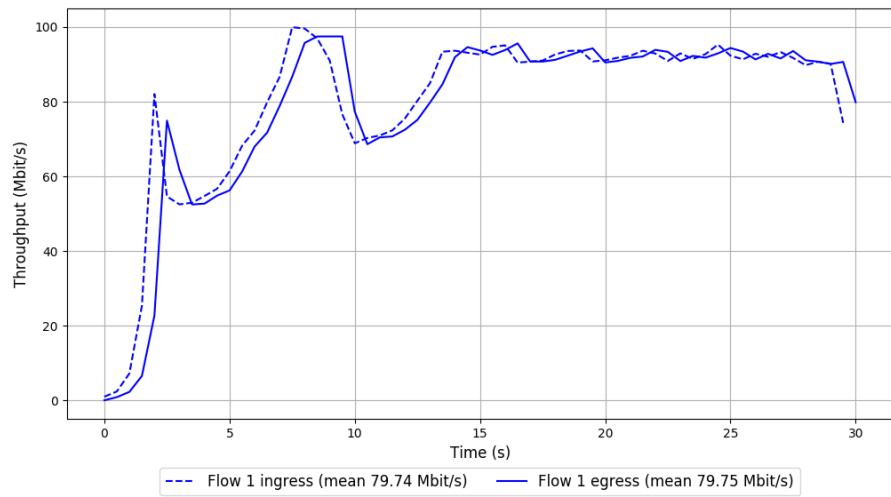


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-12-19 22:51:26
End at: 2018-12-19 22:51:56
Local clock offset: -17.765 ms
Remote clock offset: 20.171 ms

# Below is generated by plot.py at 2018-12-20 00:36:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.75 Mbit/s
95th percentile per-packet one-way delay: 51.809 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 79.75 Mbit/s
95th percentile per-packet one-way delay: 51.809 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Vivace — Data Link

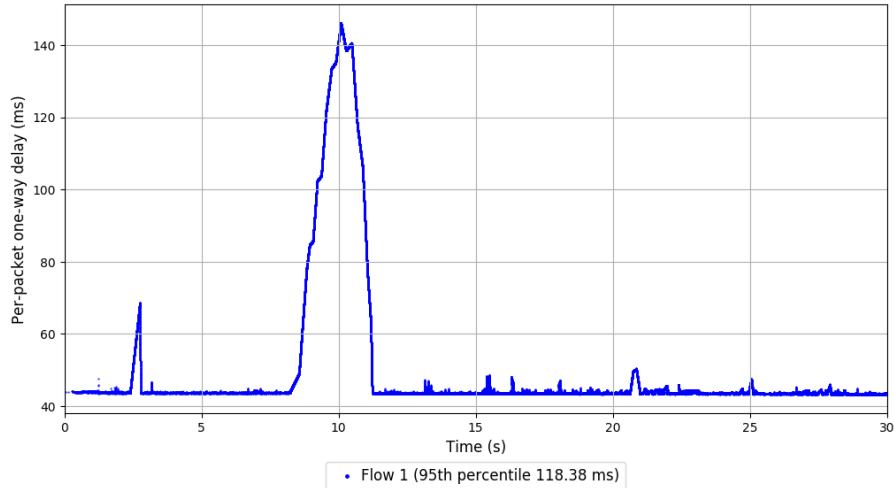
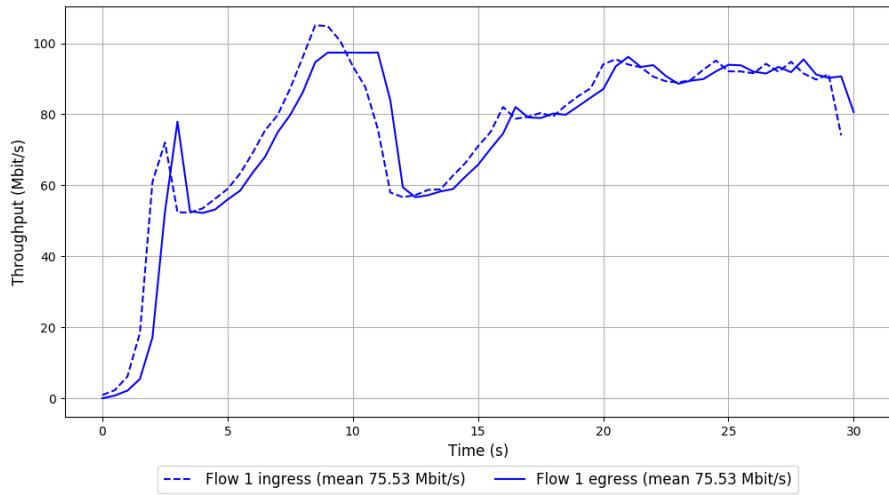


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-12-19 23:13:45
End at: 2018-12-19 23:14:15
Local clock offset: -17.08 ms
Remote clock offset: 38.105 ms

# Below is generated by plot.py at 2018-12-20 00:36:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.53 Mbit/s
95th percentile per-packet one-way delay: 118.382 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 75.53 Mbit/s
95th percentile per-packet one-way delay: 118.382 ms
Loss rate: 0.04%
```

Run 2: Report of PCC-Vivace — Data Link

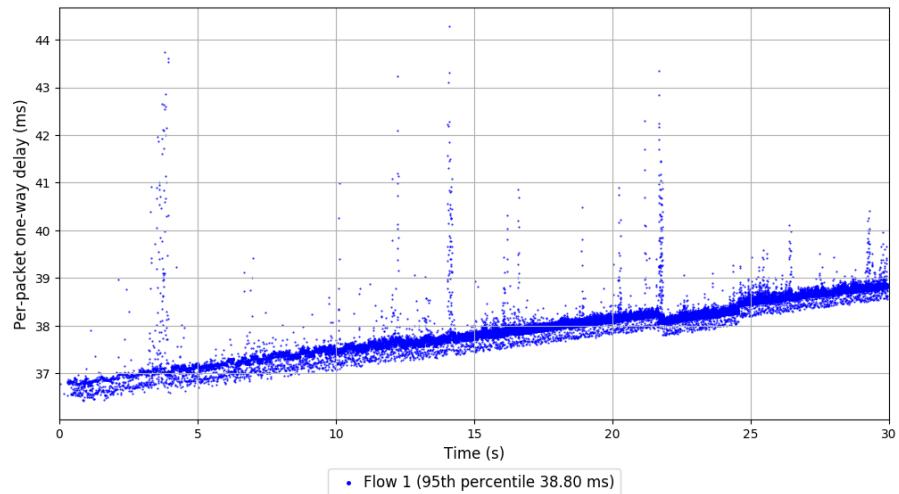
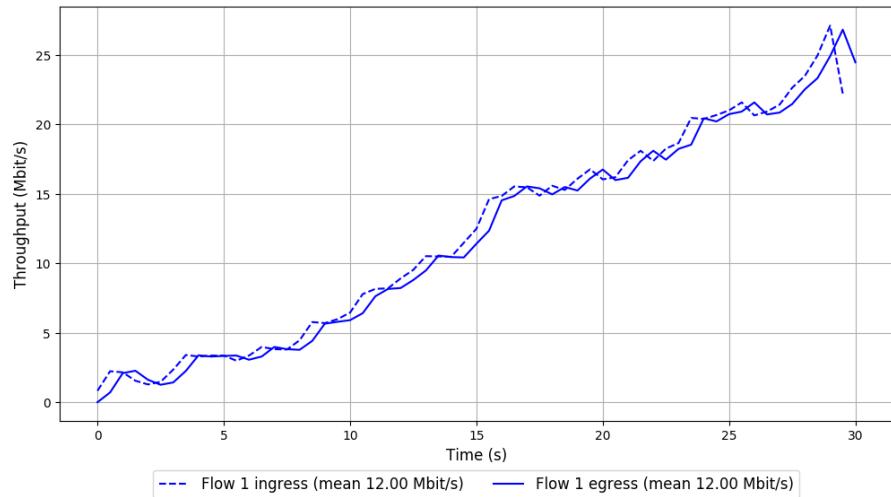


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-12-19 23:36:46
End at: 2018-12-19 23:37:16
Local clock offset: -36.33 ms
Remote clock offset: 4.062 ms

# Below is generated by plot.py at 2018-12-20 00:36:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 38.802 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.00 Mbit/s
95th percentile per-packet one-way delay: 38.802 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Vivace — Data Link

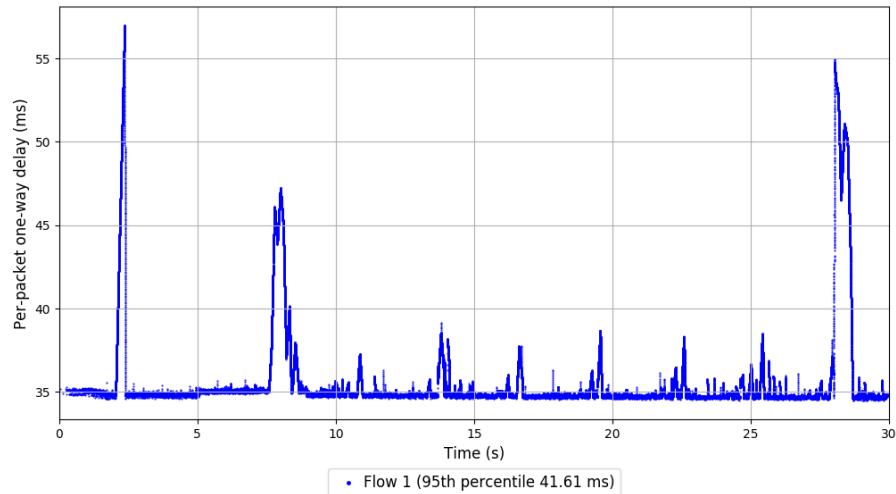
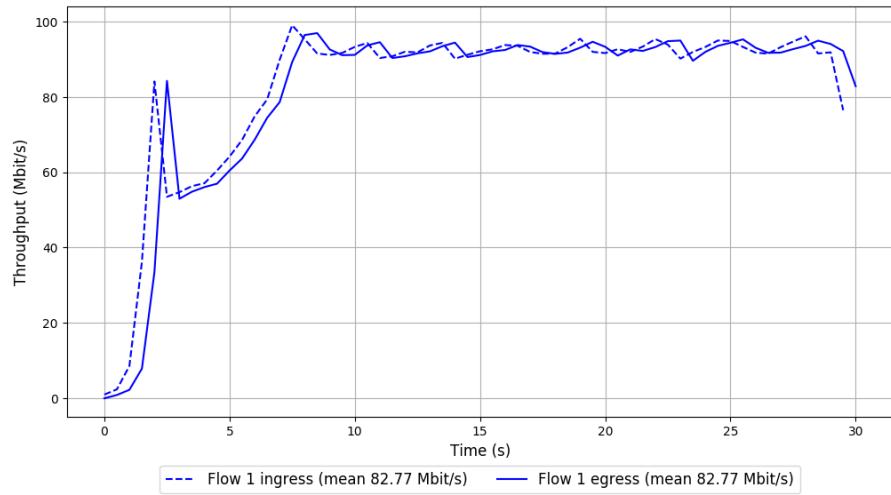


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-12-19 23:59:03
End at: 2018-12-19 23:59:33
Local clock offset: -12.926 ms
Remote clock offset: 0.578 ms

# Below is generated by plot.py at 2018-12-20 00:36:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.77 Mbit/s
95th percentile per-packet one-way delay: 41.612 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 82.77 Mbit/s
95th percentile per-packet one-way delay: 41.612 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link

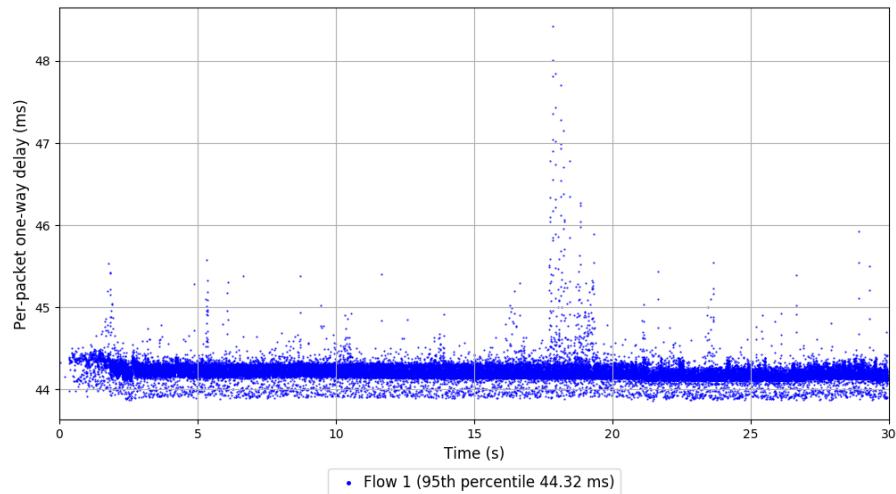
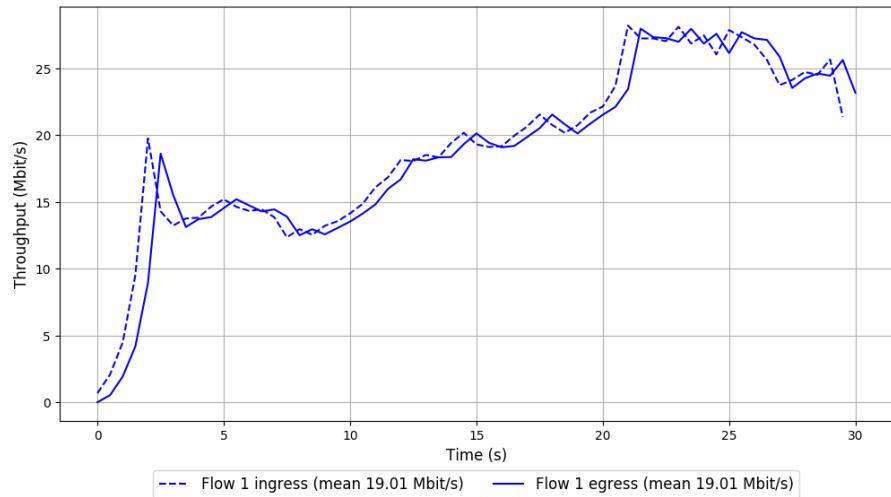


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-12-20 00:21:25
End at: 2018-12-20 00:21:55
Local clock offset: -2.817 ms
Remote clock offset: -1.553 ms

# Below is generated by plot.py at 2018-12-20 00:36:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.01 Mbit/s
95th percentile per-packet one-way delay: 44.317 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 19.01 Mbit/s
95th percentile per-packet one-way delay: 44.317 ms
Loss rate: 0.04%
```

Run 5: Report of PCC-Vivace — Data Link

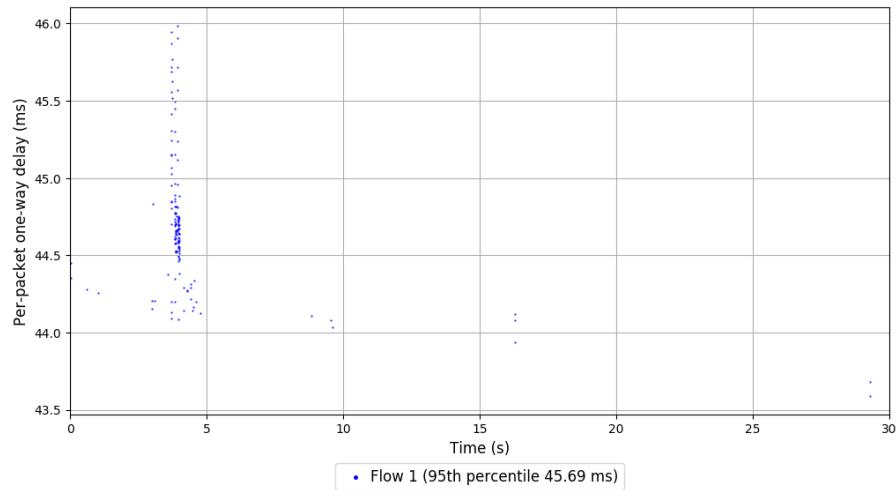
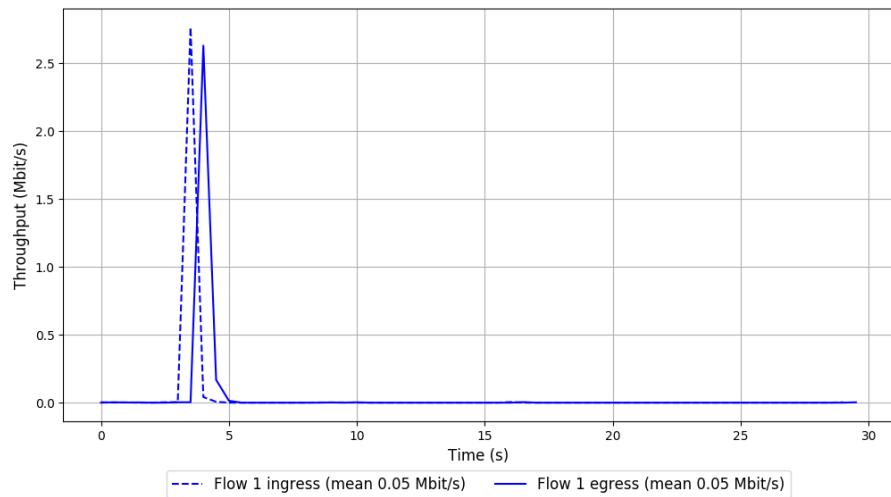


```
Run 1: Statistics of WebRTC media

Start at: 2018-12-19 22:57:19
End at: 2018-12-19 22:57:49
Local clock offset: -13.113 ms
Remote clock offset: 27.214 ms

# Below is generated by plot.py at 2018-12-20 00:36:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 45.686 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 45.686 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

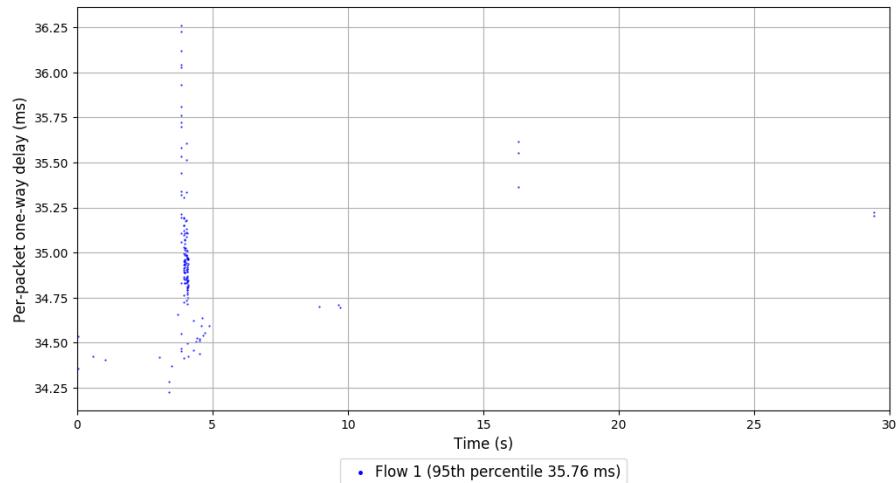
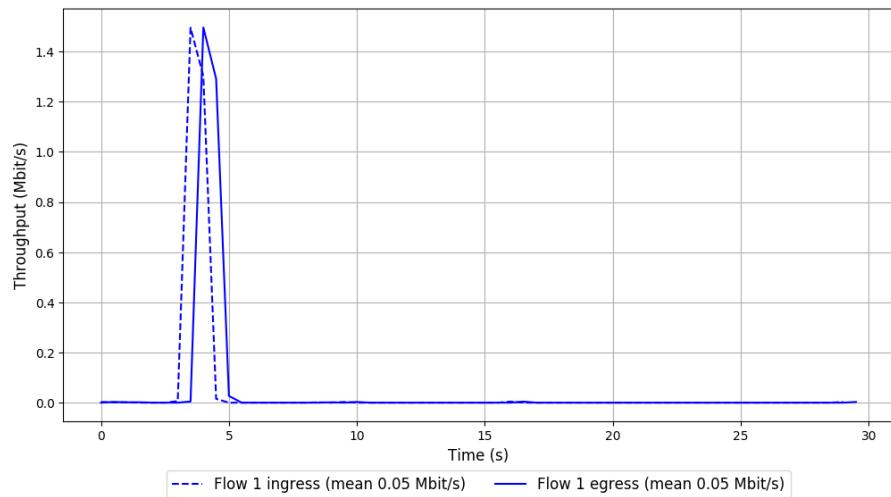


Run 2: Statistics of WebRTC media

```
Start at: 2018-12-19 23:19:39
End at: 2018-12-19 23:20:09
Local clock offset: -20.441 ms
Remote clock offset: 26.929 ms

# Below is generated by plot.py at 2018-12-20 00:36:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 35.763 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 35.763 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

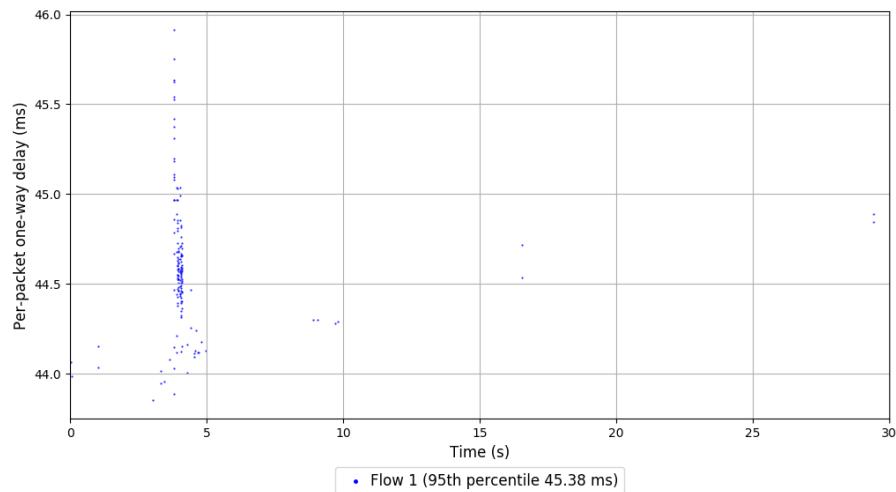
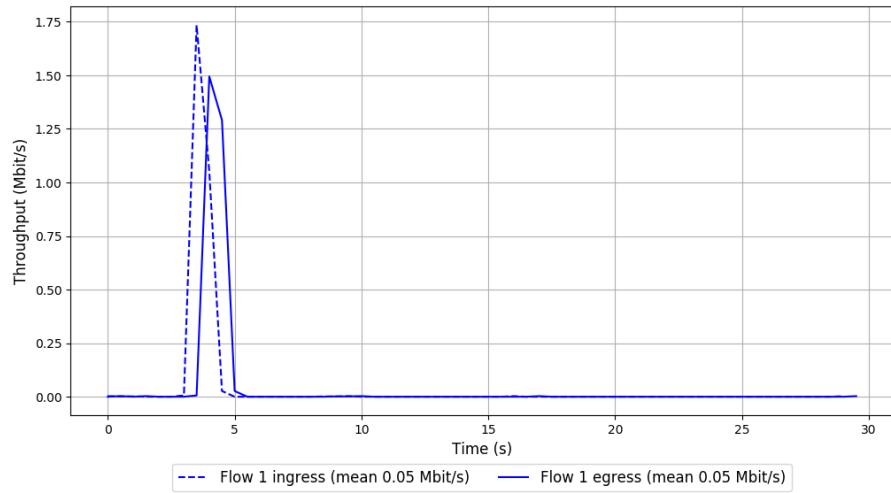


Run 3: Statistics of WebRTC media

```
Start at: 2018-12-19 23:42:35
End at: 2018-12-19 23:43:05
Local clock offset: -17.736 ms
Remote clock offset: 2.554 ms

# Below is generated by plot.py at 2018-12-20 00:36:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 45.376 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 45.376 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

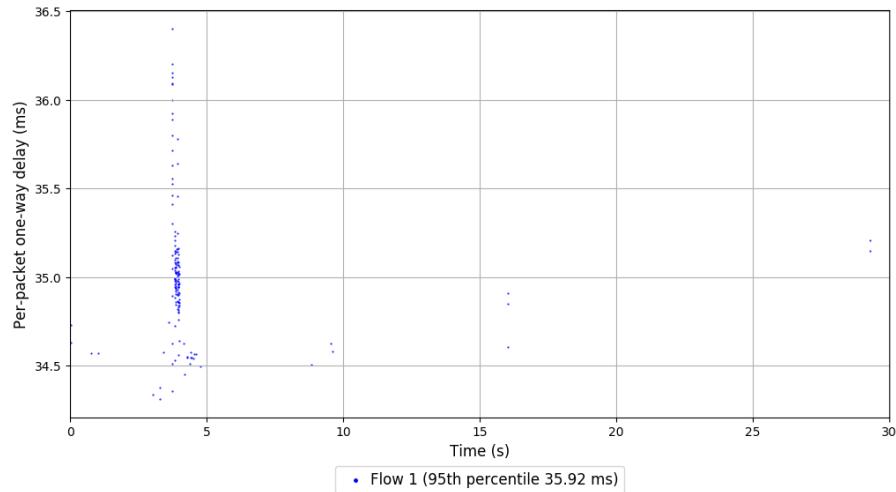
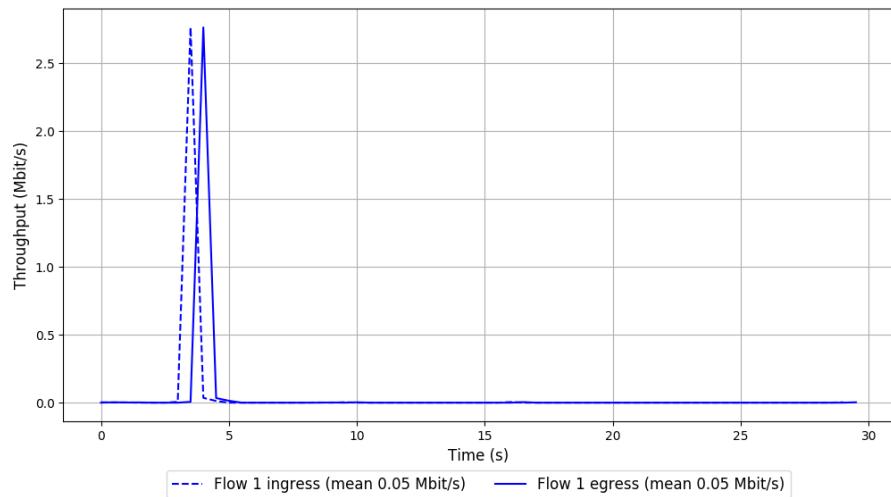


Run 4: Statistics of WebRTC media

```
Start at: 2018-12-20 00:04:57
End at: 2018-12-20 00:05:27
Local clock offset: -16.239 ms
Remote clock offset: -0.307 ms

# Below is generated by plot.py at 2018-12-20 00:36:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 35.924 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 35.924 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-12-20 00:27:19
End at: 2018-12-20 00:27:49
Local clock offset: -2.725 ms
Remote clock offset: -1.18 ms

# Below is generated by plot.py at 2018-12-20 00:36:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 44.271 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 44.271 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

