

Pantheon Report

Generated at 2018-12-20 00:36:07 (UTC).
Data path: AWS India 1 on `ens5 (local)` → India on `em1 (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 `nets.org.sg` and have been applied to correct the timestamps in logs.

System info:

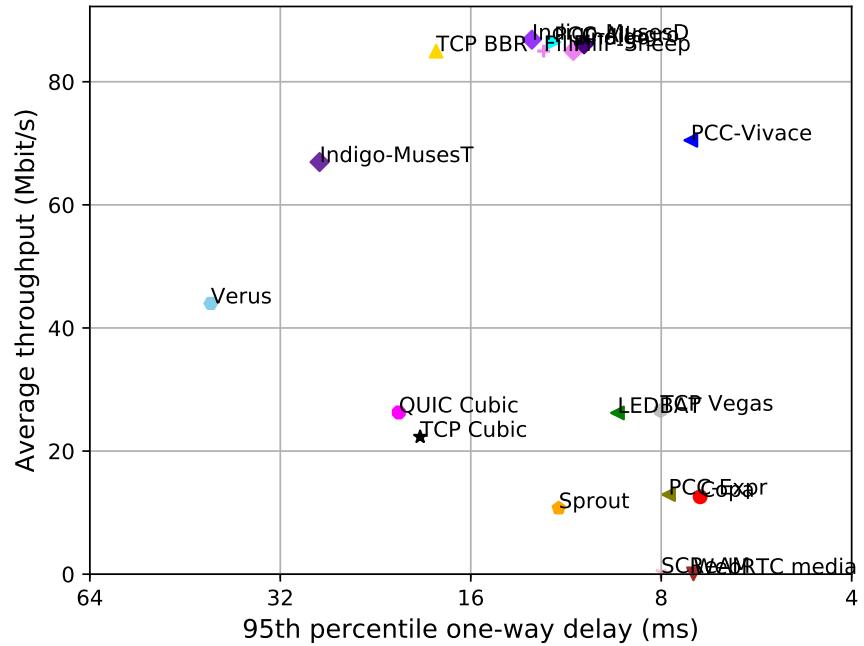
```
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

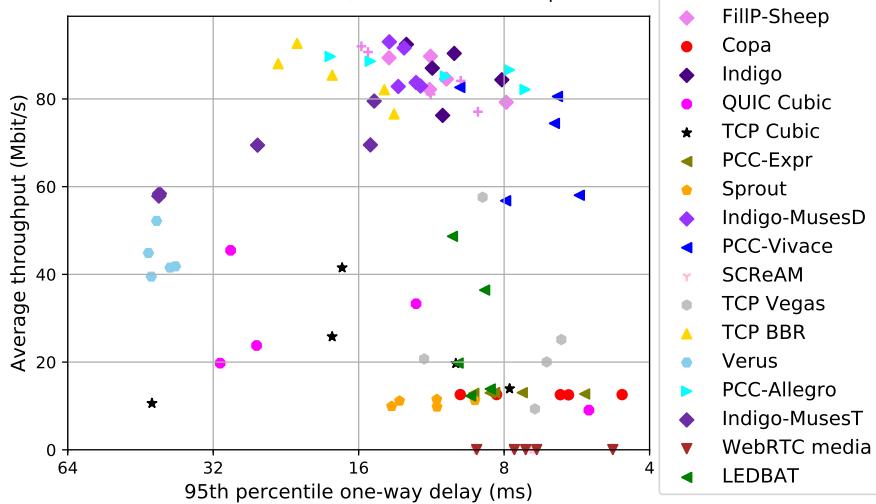
```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fc45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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

test from AWS India 1 to India, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS India 1 to India, 5 runs of 30s each per scheme



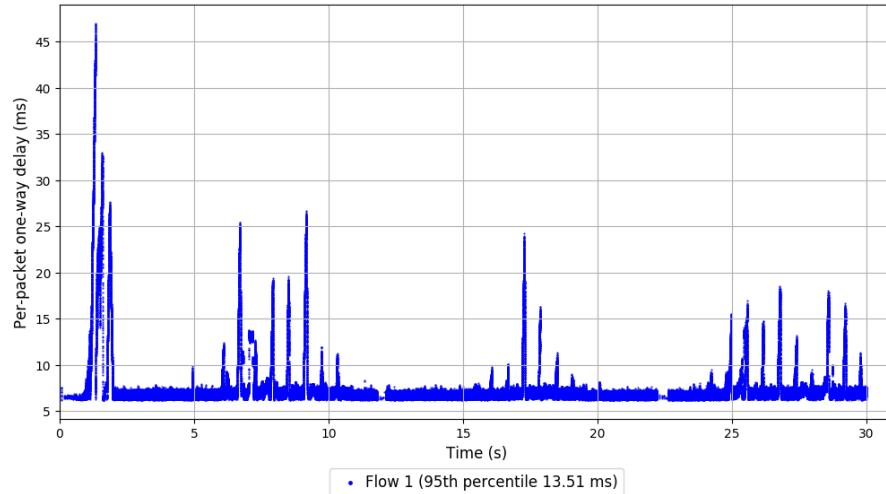
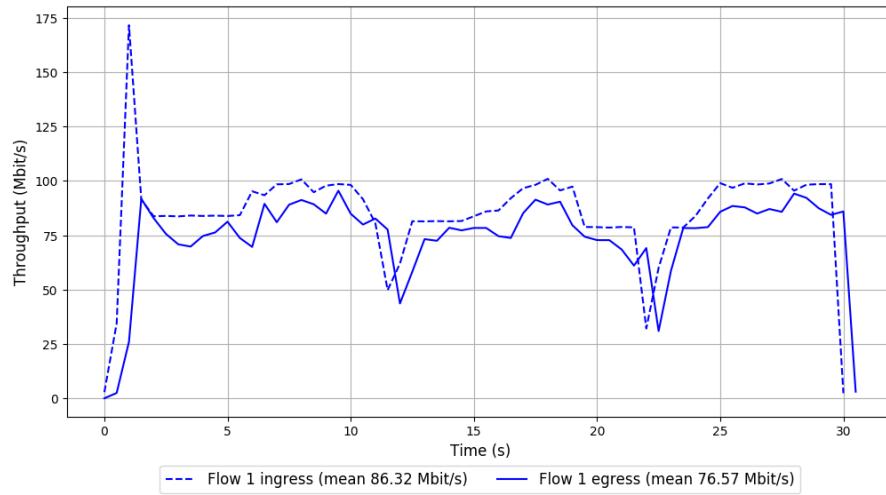
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	84.96	18.15	6.60
Copa	5	12.57	6.94	68.85
TCP Cubic	5	22.31	19.24	2.58
FillP	5	84.98	12.27	9.05
FillP-Sheep	5	85.01	11.01	6.88
Indigo	5	86.08	10.59	6.78
Indigo-MusesD	5	86.83	12.81	10.08
Indigo-MusesT	5	66.95	27.74	22.29
LEDBAT	5	26.20	9.38	0.06
PCC-Allegro	5	86.45	11.82	12.73
PCC-Expr	5	12.94	7.79	42.90
QUIC Cubic	5	26.27	20.79	4.17
SCReAM	5	0.21	8.00	0.17
Sprout	5	10.73	11.62	0.17
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	26.56	8.02	1.56
Verus	5	43.99	41.21	42.08
PCC-Vivace	5	70.49	7.18	3.69
WebRTC media	5	0.05	7.11	0.00

Run 1: Statistics of TCP BBR

```
Start at: 2018-12-19 22:39:41
End at: 2018-12-19 22:40:11
Local clock offset: 1.919 ms
Remote clock offset: -2.358 ms

# Below is generated by plot.py at 2018-12-20 00:30:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.57 Mbit/s
95th percentile per-packet one-way delay: 13.513 ms
Loss rate: 11.30%
-- Flow 1:
Average throughput: 76.57 Mbit/s
95th percentile per-packet one-way delay: 13.513 ms
Loss rate: 11.30%
```

Run 1: Report of TCP BBR — Data Link

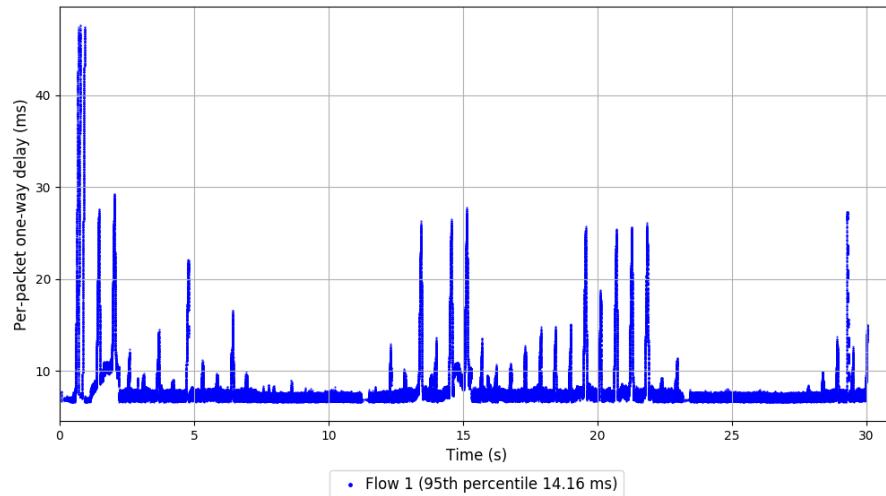
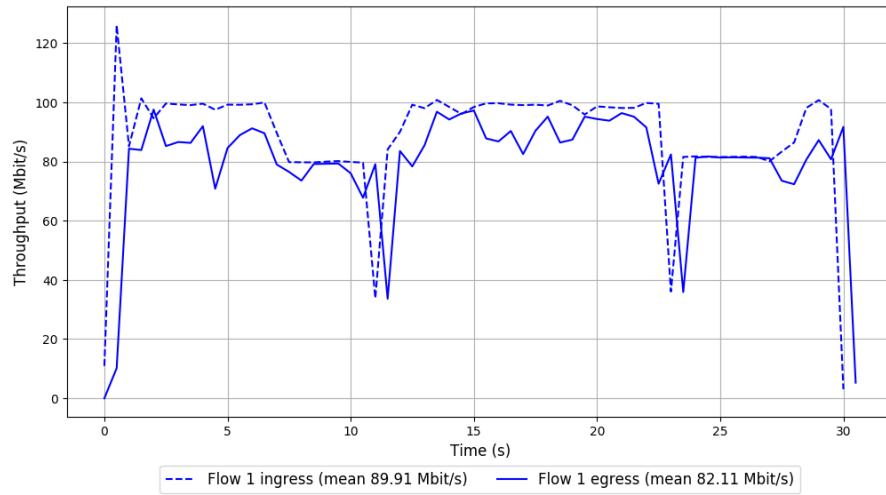


Run 2: Statistics of TCP BBR

```
Start at: 2018-12-19 23:02:43
End at: 2018-12-19 23:03:13
Local clock offset: 1.609 ms
Remote clock offset: -2.383 ms

# Below is generated by plot.py at 2018-12-20 00:30:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.11 Mbit/s
95th percentile per-packet one-way delay: 14.156 ms
Loss rate: 8.66%
-- Flow 1:
Average throughput: 82.11 Mbit/s
95th percentile per-packet one-way delay: 14.156 ms
Loss rate: 8.66%
```

Run 2: Report of TCP BBR — Data Link

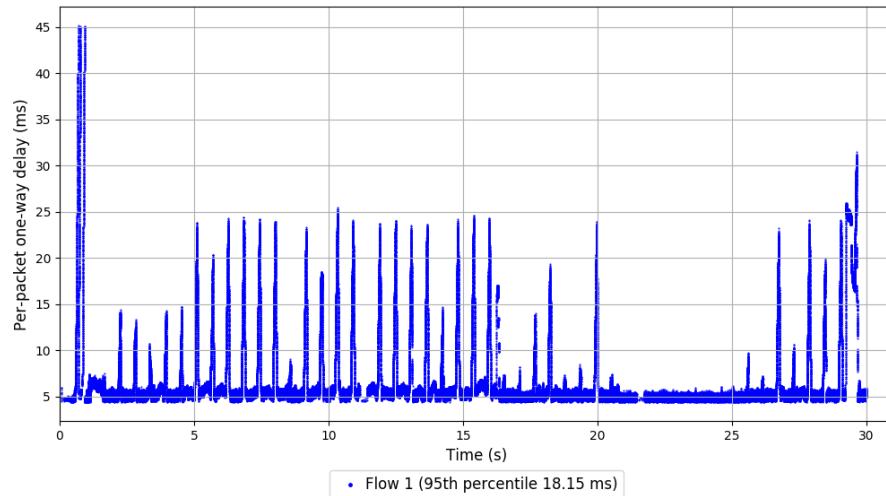
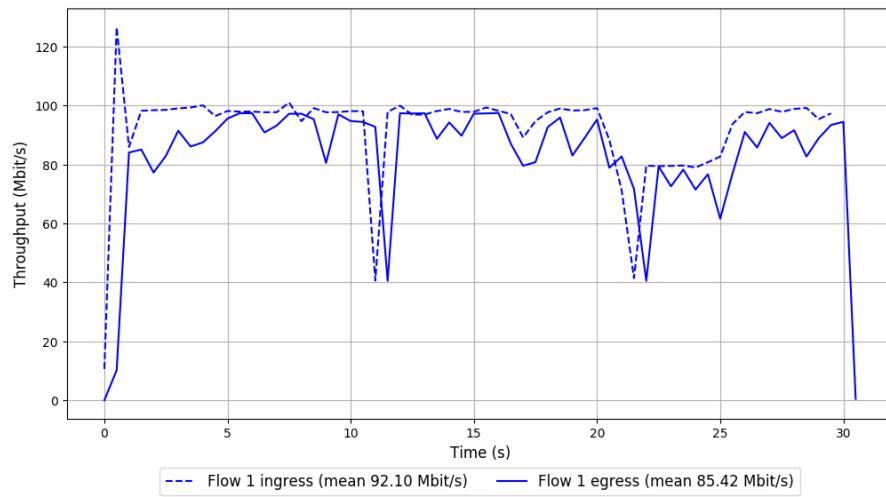


Run 3: Statistics of TCP BBR

```
Start at: 2018-12-19 23:24:44
End at: 2018-12-19 23:25:15
Local clock offset: 2.64 ms
Remote clock offset: -2.92 ms

# Below is generated by plot.py at 2018-12-20 00:30:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.42 Mbit/s
95th percentile per-packet one-way delay: 18.147 ms
Loss rate: 7.26%
-- Flow 1:
Average throughput: 85.42 Mbit/s
95th percentile per-packet one-way delay: 18.147 ms
Loss rate: 7.26%
```

Run 3: Report of TCP BBR — Data Link

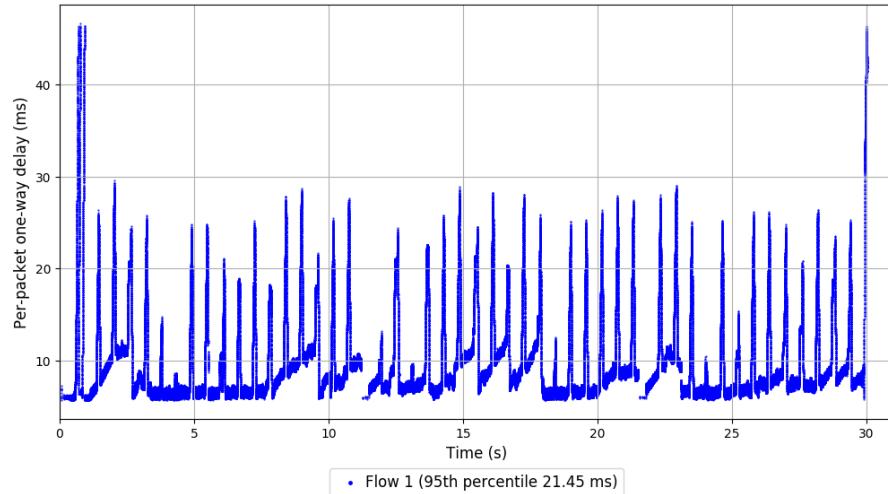
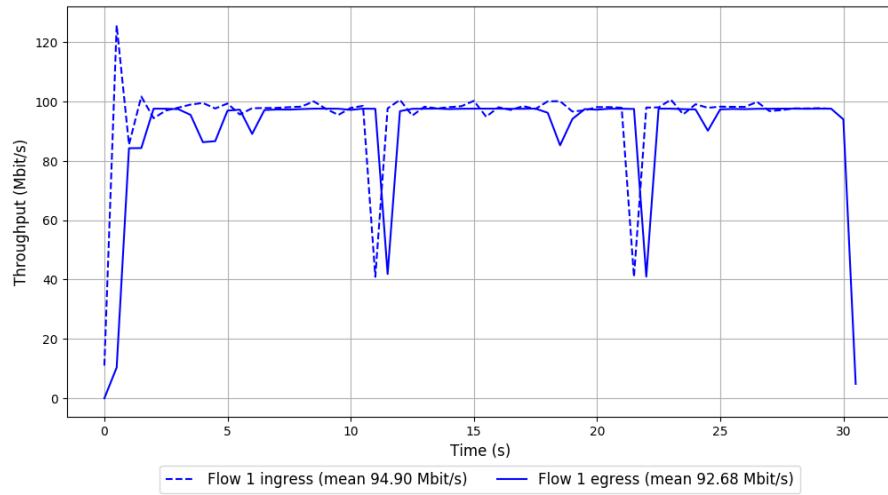


Run 4: Statistics of TCP BBR

```
Start at: 2018-12-19 23:47:03
End at: 2018-12-19 23:47:33
Local clock offset: 2.04 ms
Remote clock offset: -2.978 ms

# Below is generated by plot.py at 2018-12-20 00:30:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.68 Mbit/s
95th percentile per-packet one-way delay: 21.452 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 92.68 Mbit/s
95th percentile per-packet one-way delay: 21.452 ms
Loss rate: 2.22%
```

Run 4: Report of TCP BBR — Data Link

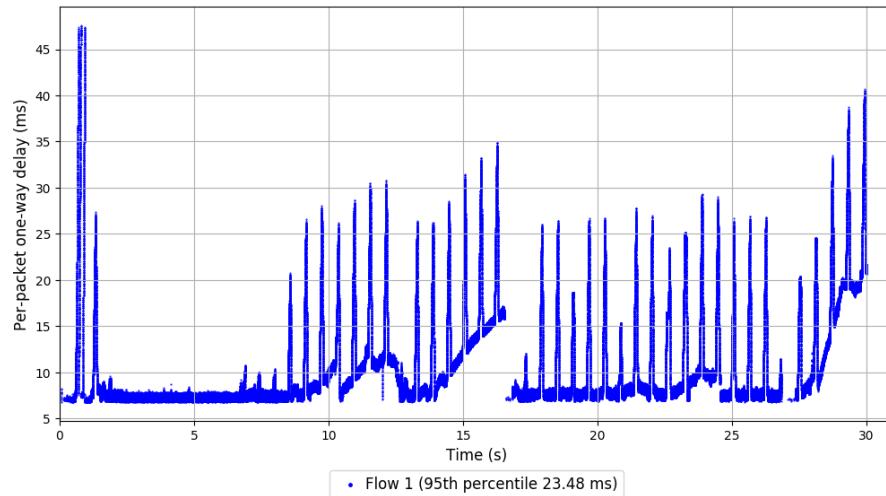
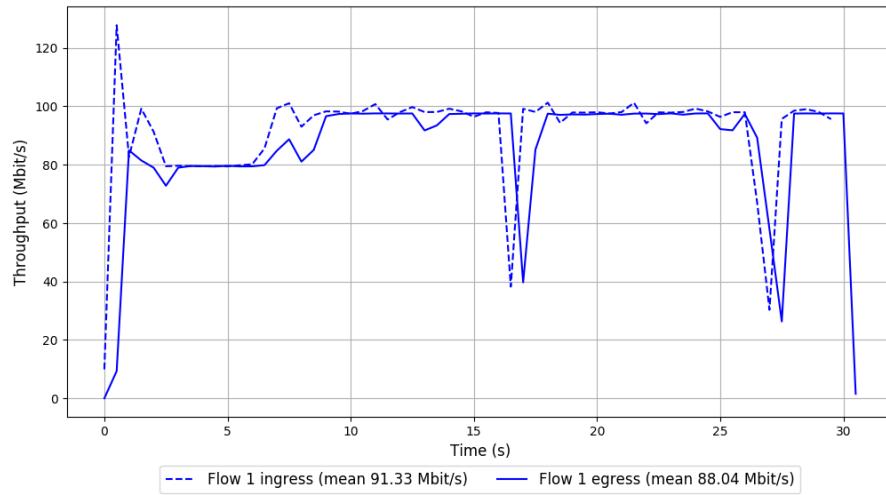


Run 5: Statistics of TCP BBR

```
Start at: 2018-12-20 00:09:02
End at: 2018-12-20 00:09:32
Local clock offset: 1.955 ms
Remote clock offset: -2.352 ms

# Below is generated by plot.py at 2018-12-20 00:30:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.04 Mbit/s
95th percentile per-packet one-way delay: 23.483 ms
Loss rate: 3.56%
-- Flow 1:
Average throughput: 88.04 Mbit/s
95th percentile per-packet one-way delay: 23.483 ms
Loss rate: 3.56%
```

Run 5: Report of TCP BBR — Data Link

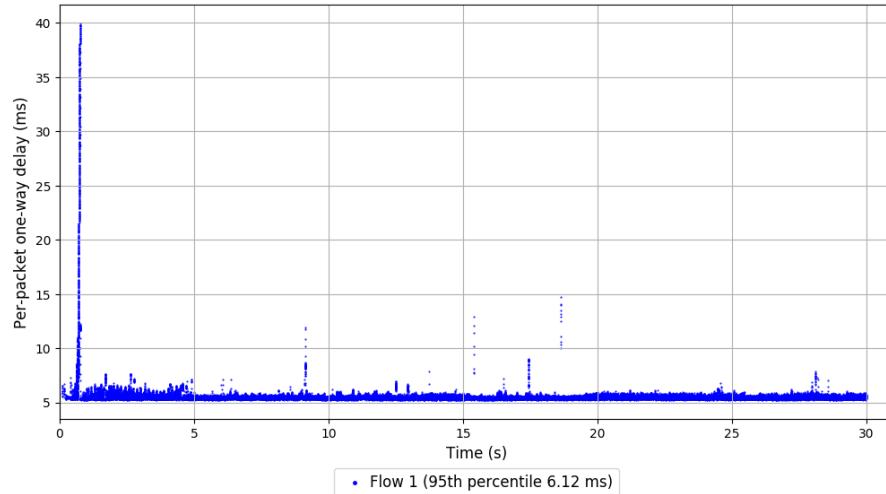
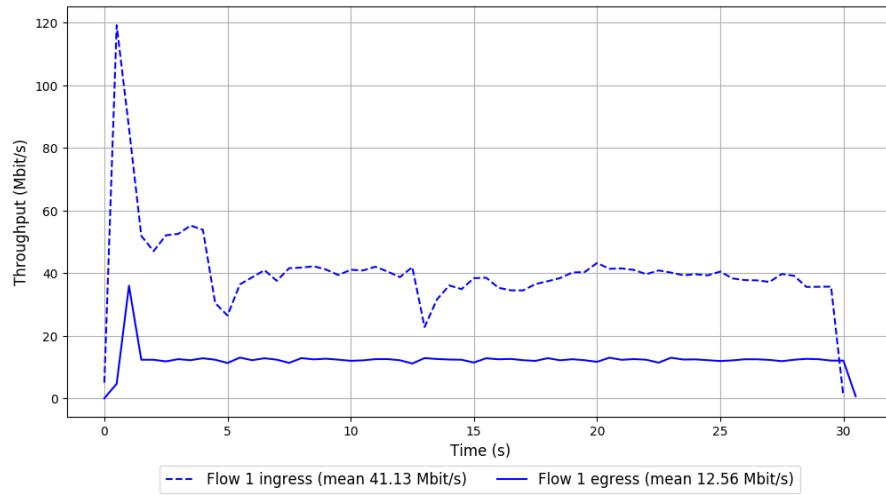


Run 1: Statistics of Copa

```
Start at: 2018-12-19 22:49:41
End at: 2018-12-19 22:50:11
Local clock offset: 2.361 ms
Remote clock offset: -2.879 ms

# Below is generated by plot.py at 2018-12-20 00:30:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.56 Mbit/s
95th percentile per-packet one-way delay: 6.119 ms
Loss rate: 69.45%
-- Flow 1:
Average throughput: 12.56 Mbit/s
95th percentile per-packet one-way delay: 6.119 ms
Loss rate: 69.45%
```

Run 1: Report of Copa — Data Link

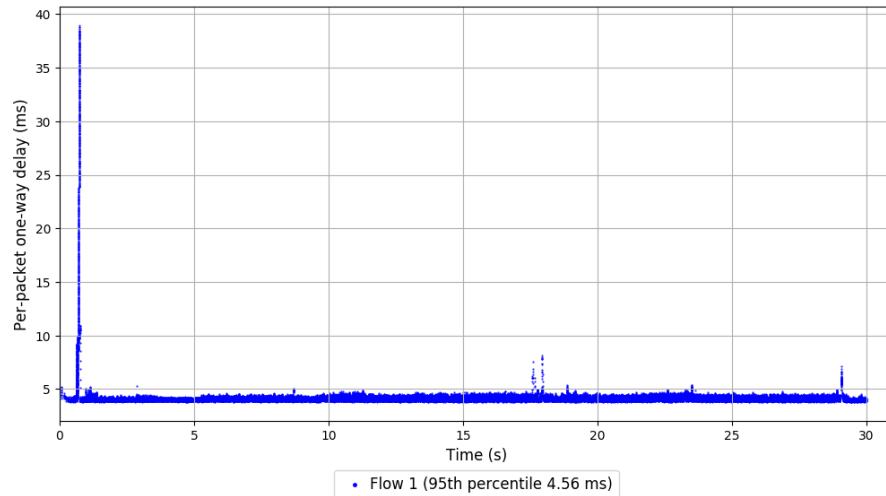
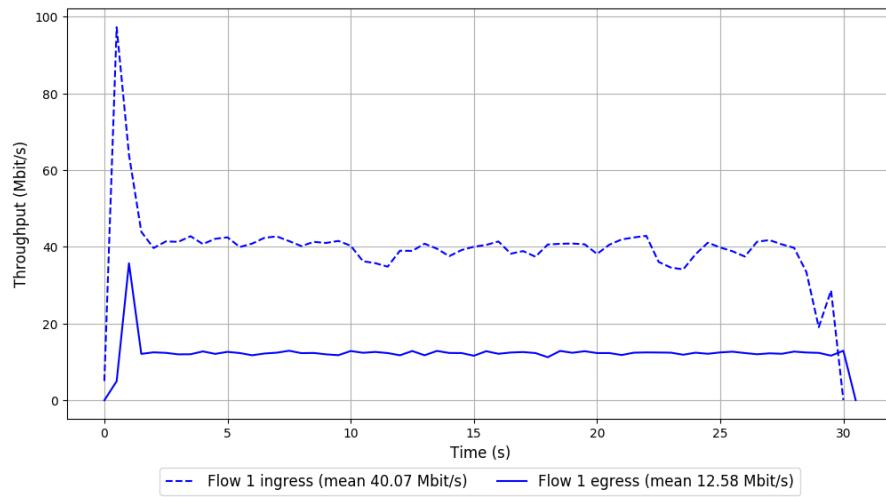


Run 2: Statistics of Copa

```
Start at: 2018-12-19 23:12:20
End at: 2018-12-19 23:12:50
Local clock offset: 3.432 ms
Remote clock offset: -2.92 ms

# Below is generated by plot.py at 2018-12-20 00:30:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.58 Mbit/s
95th percentile per-packet one-way delay: 4.559 ms
Loss rate: 68.60%
-- Flow 1:
Average throughput: 12.58 Mbit/s
95th percentile per-packet one-way delay: 4.559 ms
Loss rate: 68.60%
```

Run 2: Report of Copa — Data Link

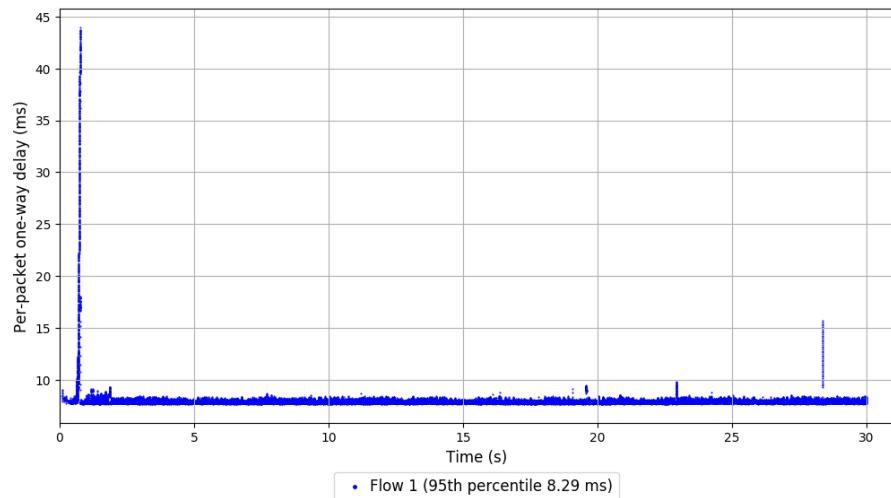
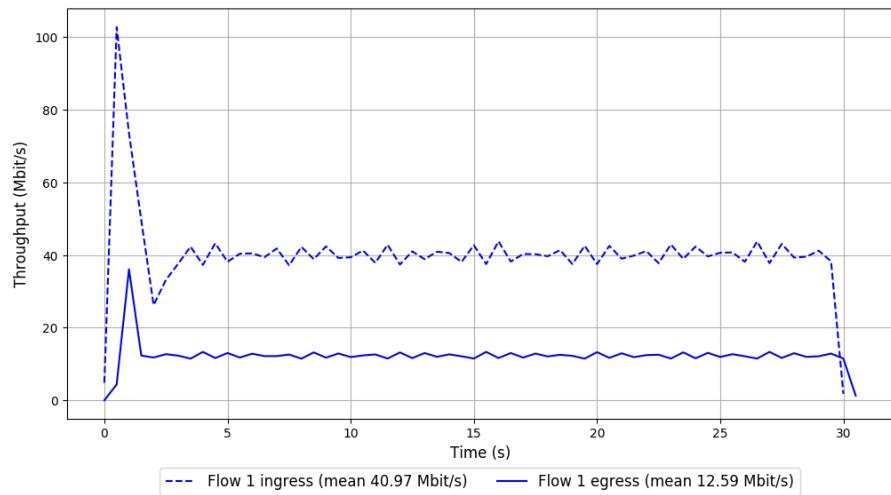


Run 3: Statistics of Copa

```
Start at: 2018-12-19 23:34:12
End at: 2018-12-19 23:34:42
Local clock offset: -0.818 ms
Remote clock offset: -2.933 ms

# Below is generated by plot.py at 2018-12-20 00:30:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 8.292 ms
Loss rate: 69.27%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 8.292 ms
Loss rate: 69.27%
```

Run 3: Report of Copa — Data Link

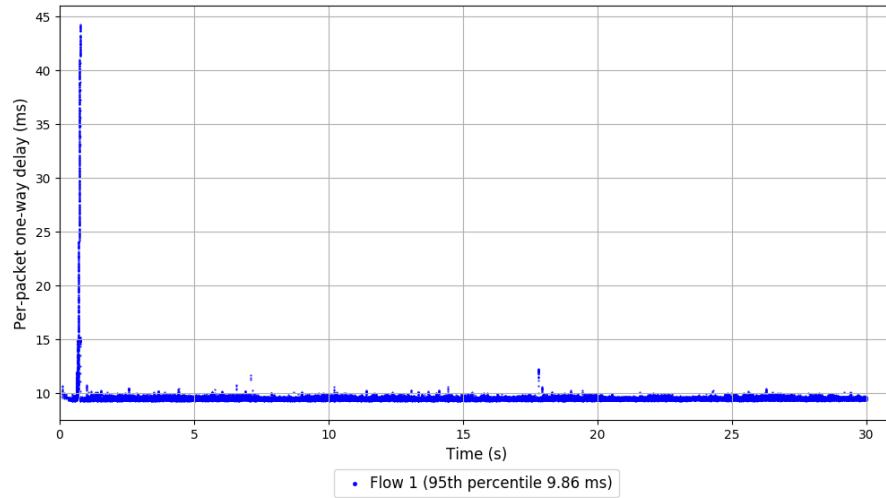
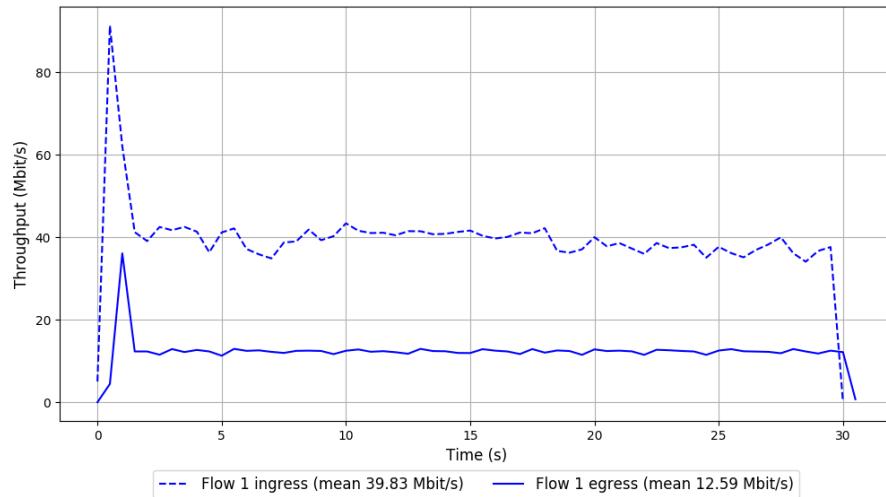


Run 4: Statistics of Copa

```
Start at: 2018-12-19 23:56:13
End at: 2018-12-19 23:56:43
Local clock offset: -1.136 ms
Remote clock offset: -2.815 ms

# Below is generated by plot.py at 2018-12-20 00:30:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 9.858 ms
Loss rate: 68.39%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 9.858 ms
Loss rate: 68.39%
```

Run 4: Report of Copa — Data Link

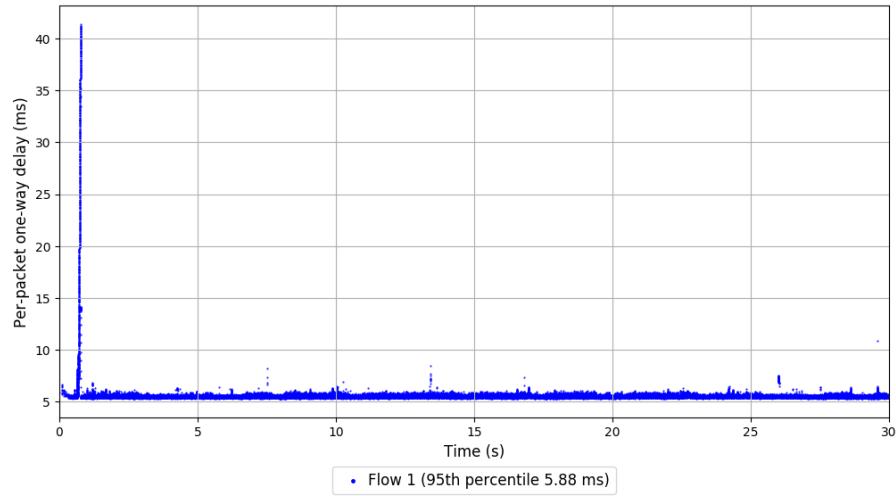
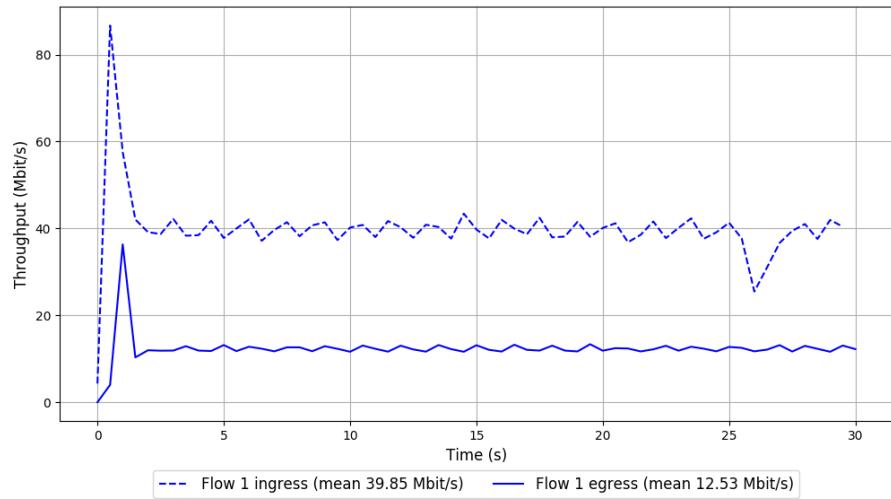


Run 5: Statistics of Copa

```
Start at: 2018-12-20 00:18:30
End at: 2018-12-20 00:19:00
Local clock offset: 2.812 ms
Remote clock offset: -2.923 ms

# Below is generated by plot.py at 2018-12-20 00:30:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 5.885 ms
Loss rate: 68.56%
-- Flow 1:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 5.885 ms
Loss rate: 68.56%
```

Run 5: Report of Copa — Data Link



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

```
Start at: 2018-12-19 22:48:34
```

```
End at: 2018-12-19 22:49:04
```

```
Local clock offset: 1.776 ms
```

```
Remote clock offset: -2.246 ms
```

```
# Below is generated by plot.py at 2018-12-20 00:30:17
```

```
# Datalink statistics
```

```
-- Total of 1 flow:
```

```
Average throughput: 10.61 Mbit/s
```

```
95th percentile per-packet one-way delay: 42.846 ms
```

```
Loss rate: 5.67%
```

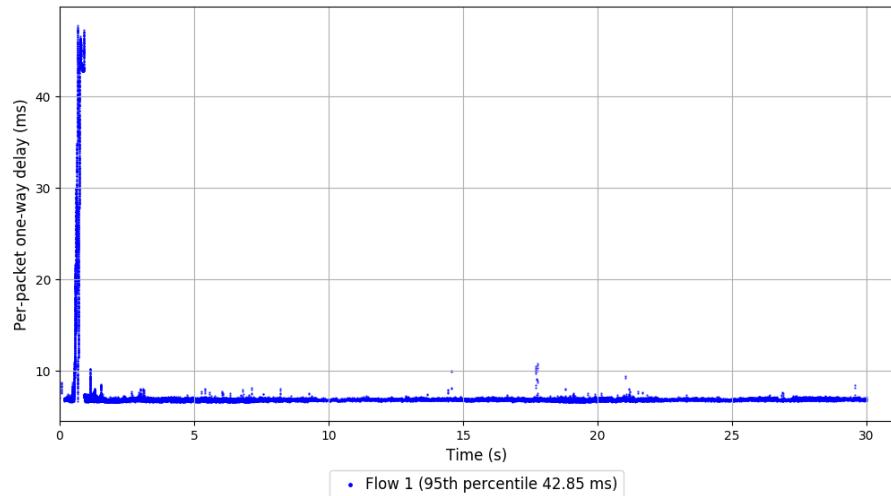
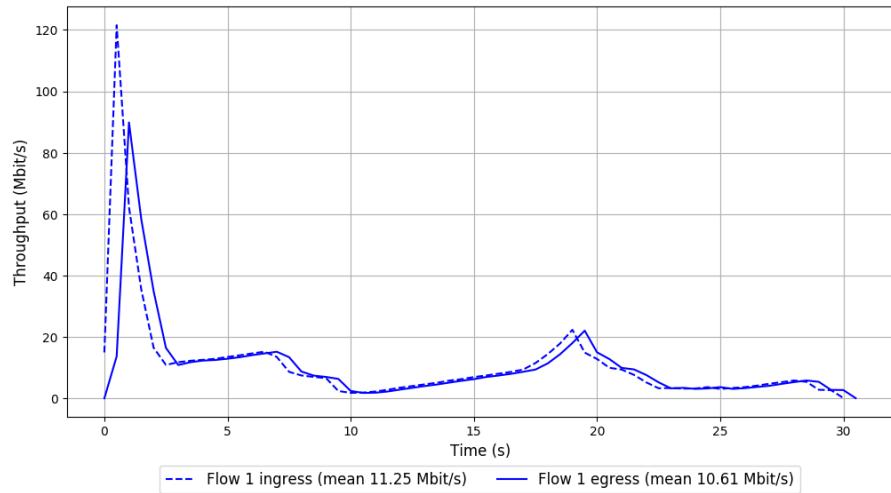
```
-- Flow 1:
```

```
Average throughput: 10.61 Mbit/s
```

```
95th percentile per-packet one-way delay: 42.846 ms
```

```
Loss rate: 5.67%
```

Run 1: Report of TCP Cubic — Data Link

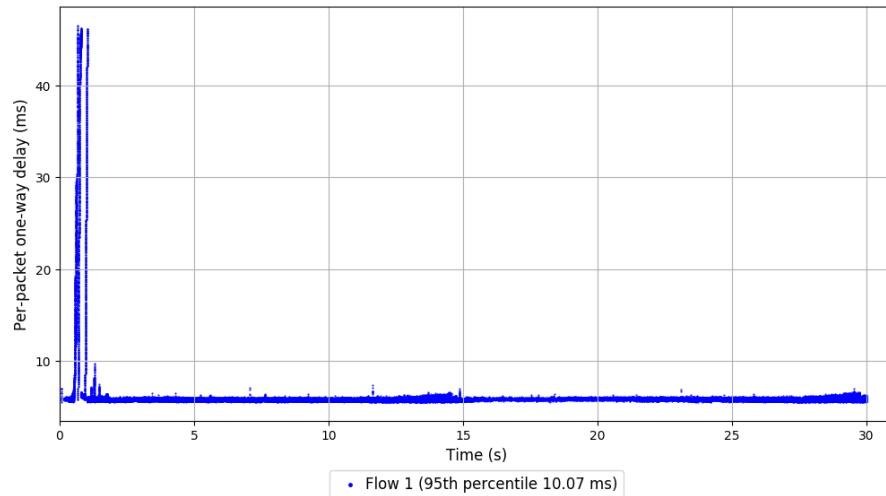
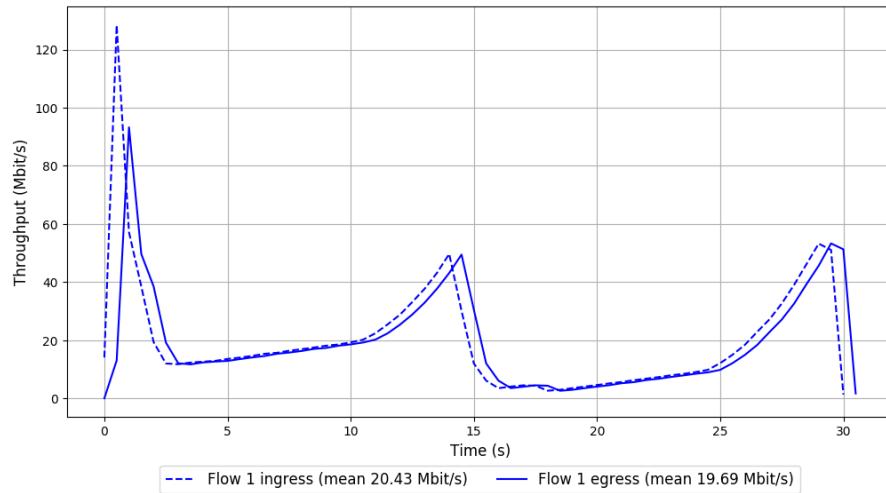


Run 2: Statistics of TCP Cubic

```
Start at: 2018-12-19 23:11:13
End at: 2018-12-19 23:11:43
Local clock offset: 1.503 ms
Remote clock offset: -3.138 ms

# Below is generated by plot.py at 2018-12-20 00:30:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.69 Mbit/s
95th percentile per-packet one-way delay: 10.071 ms
Loss rate: 3.59%
-- Flow 1:
Average throughput: 19.69 Mbit/s
95th percentile per-packet one-way delay: 10.071 ms
Loss rate: 3.59%
```

Run 2: Report of TCP Cubic — Data Link

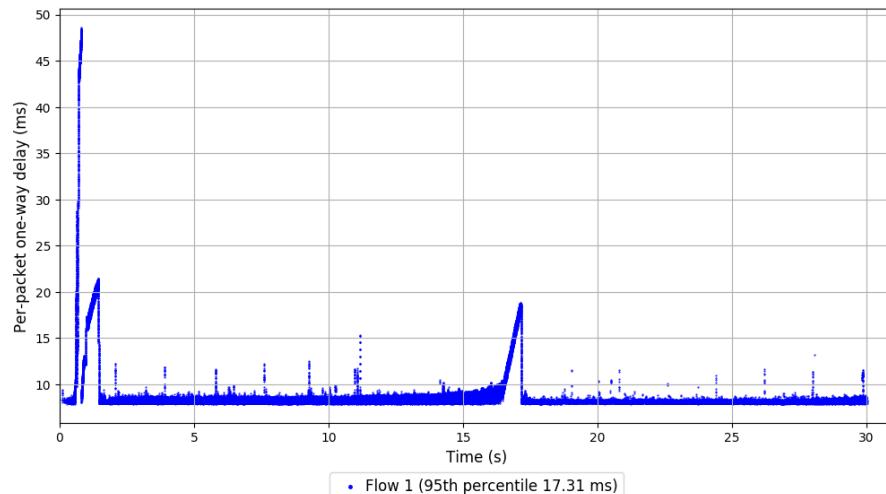
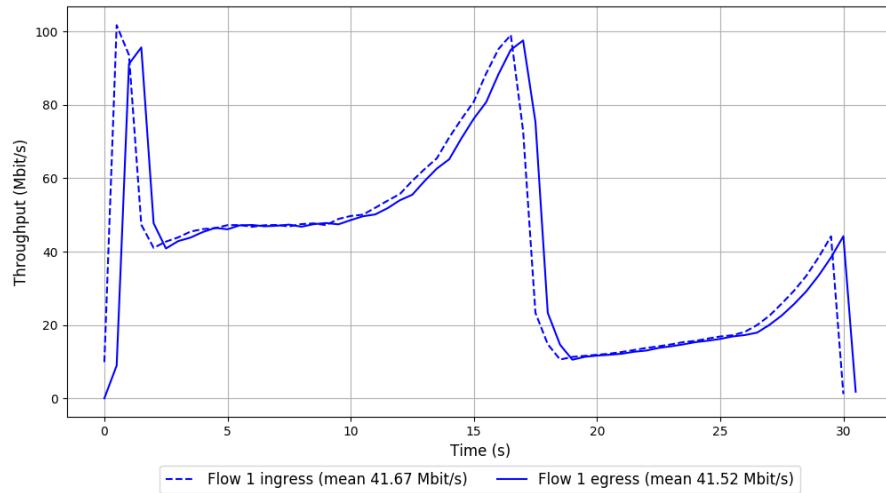


Run 3: Statistics of TCP Cubic

```
Start at: 2018-12-19 23:33:03
End at: 2018-12-19 23:33:33
Local clock offset: -1.208 ms
Remote clock offset: -3.224 ms

# Below is generated by plot.py at 2018-12-20 00:30:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.52 Mbit/s
95th percentile per-packet one-way delay: 17.312 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 41.52 Mbit/s
95th percentile per-packet one-way delay: 17.312 ms
Loss rate: 0.36%
```

Run 3: Report of TCP Cubic — Data Link

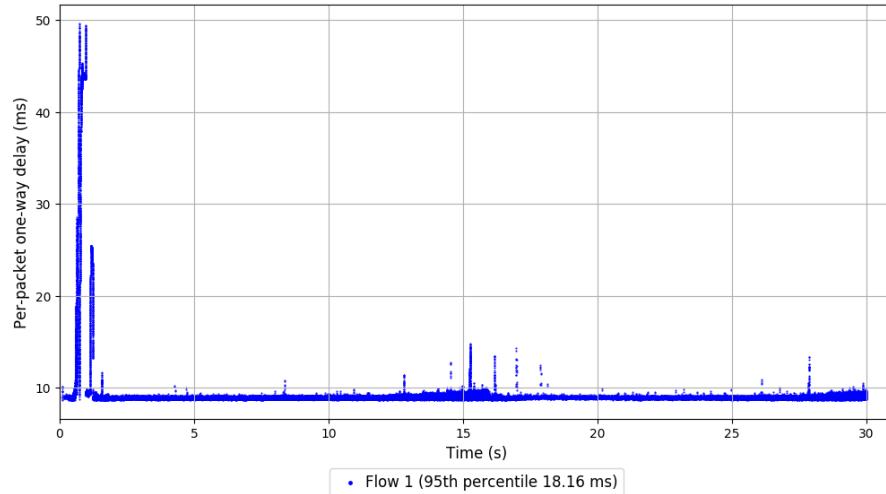
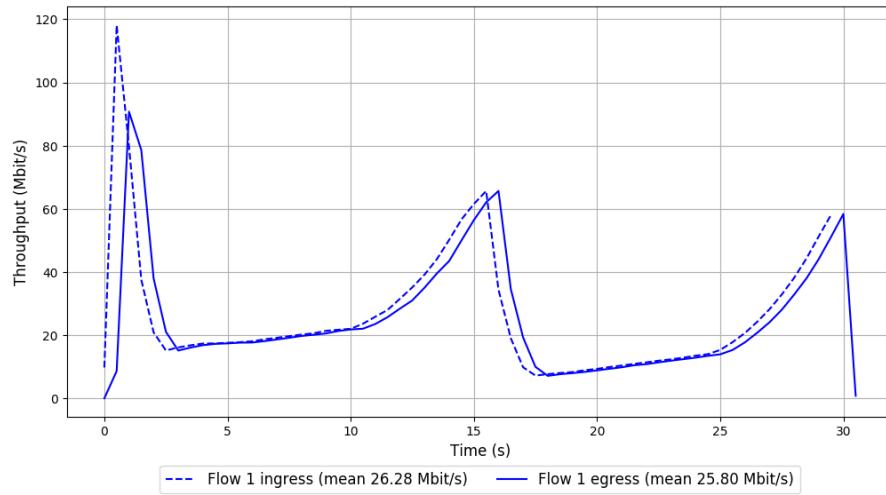


Run 4: Statistics of TCP Cubic

```
Start at: 2018-12-19 23:55:06
End at: 2018-12-19 23:55:36
Local clock offset: -0.535 ms
Remote clock offset: -2.883 ms

# Below is generated by plot.py at 2018-12-20 00:30:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.80 Mbit/s
95th percentile per-packet one-way delay: 18.156 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 25.80 Mbit/s
95th percentile per-packet one-way delay: 18.156 ms
Loss rate: 1.85%
```

Run 4: Report of TCP Cubic — Data Link

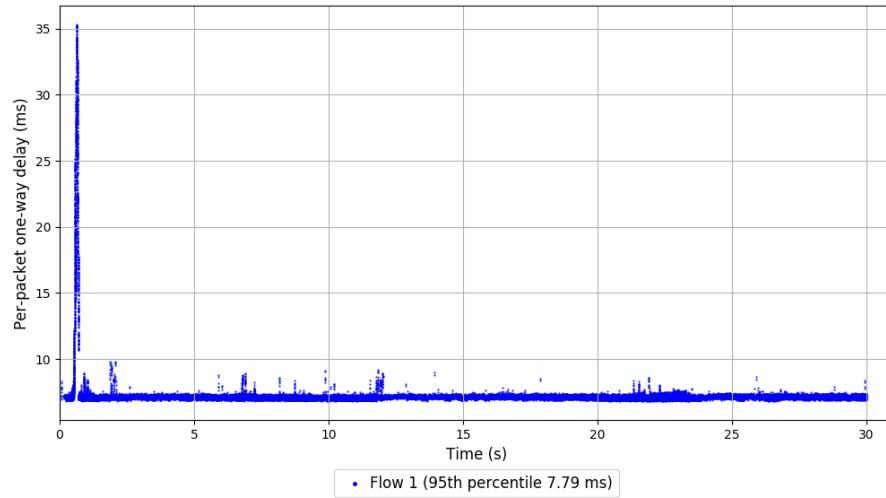
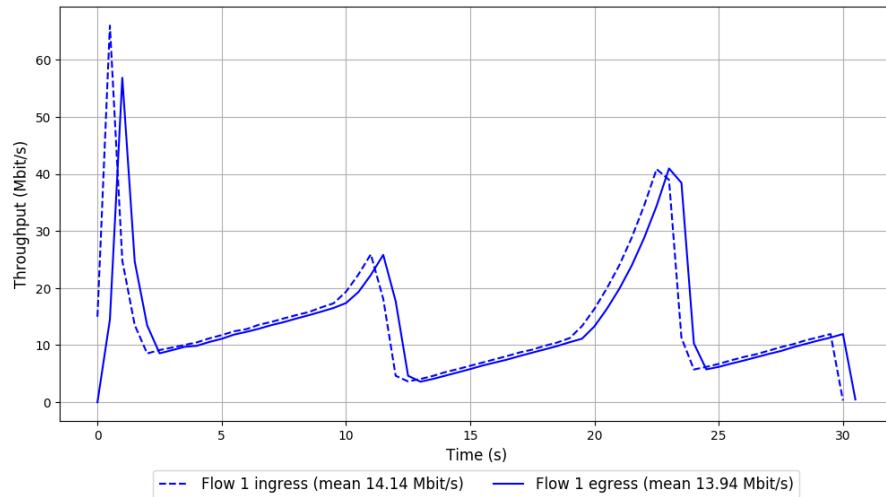


Run 5: Statistics of TCP Cubic

```
Start at: 2018-12-20 00:17:23
End at: 2018-12-20 00:17:53
Local clock offset: 1.983 ms
Remote clock offset: -2.333 ms

# Below is generated by plot.py at 2018-12-20 00:30:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.94 Mbit/s
95th percentile per-packet one-way delay: 7.795 ms
Loss rate: 1.45%
-- Flow 1:
Average throughput: 13.94 Mbit/s
95th percentile per-packet one-way delay: 7.795 ms
Loss rate: 1.45%
```

Run 5: Report of TCP Cubic — Data Link

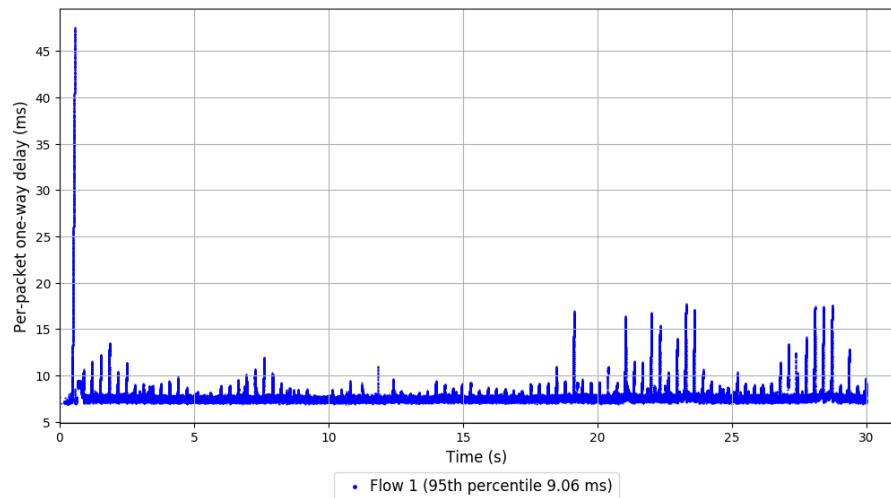
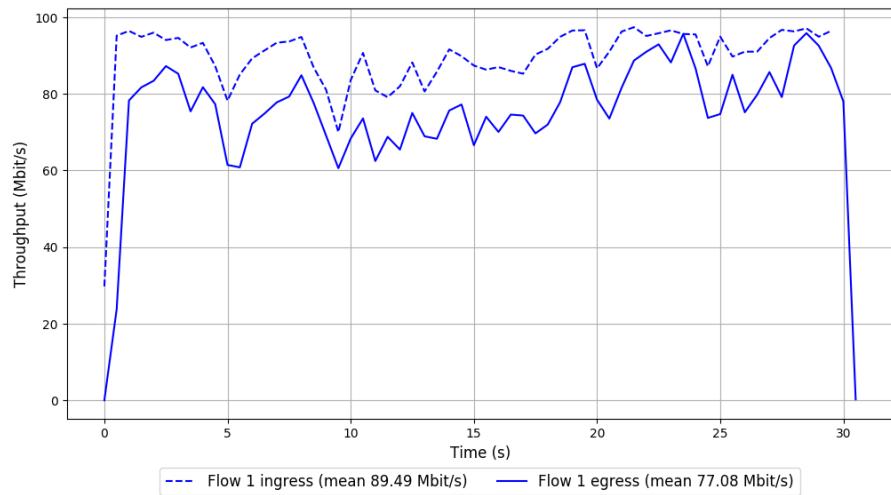


```
Run 1: Statistics of FillP

Start at: 2018-12-19 22:56:42
End at: 2018-12-19 22:57:12
Local clock offset: 0.961 ms
Remote clock offset: -2.477 ms

# Below is generated by plot.py at 2018-12-20 00:31:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.08 Mbit/s
95th percentile per-packet one-way delay: 9.065 ms
Loss rate: 13.87%
-- Flow 1:
Average throughput: 77.08 Mbit/s
95th percentile per-packet one-way delay: 9.065 ms
Loss rate: 13.87%
```

Run 1: Report of FillP — Data Link

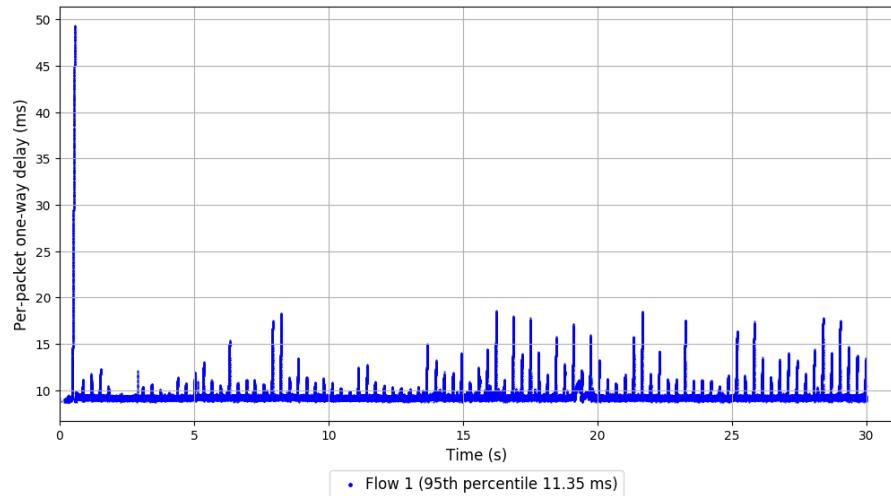
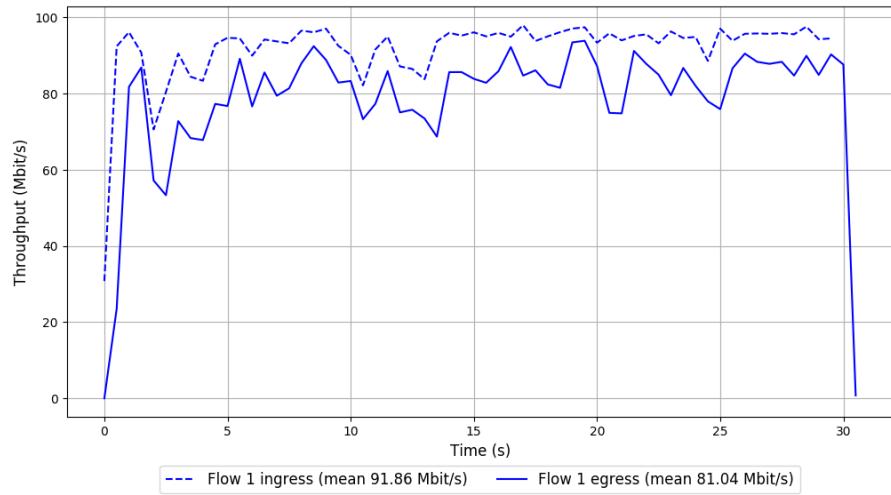


Run 2: Statistics of FillP

```
Start at: 2018-12-19 23:19:02
End at: 2018-12-19 23:19:32
Local clock offset: -1.402 ms
Remote clock offset: -2.38 ms

# Below is generated by plot.py at 2018-12-20 00:31:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.04 Mbit/s
95th percentile per-packet one-way delay: 11.353 ms
Loss rate: 11.77%
-- Flow 1:
Average throughput: 81.04 Mbit/s
95th percentile per-packet one-way delay: 11.353 ms
Loss rate: 11.77%
```

Run 2: Report of FillP — Data Link

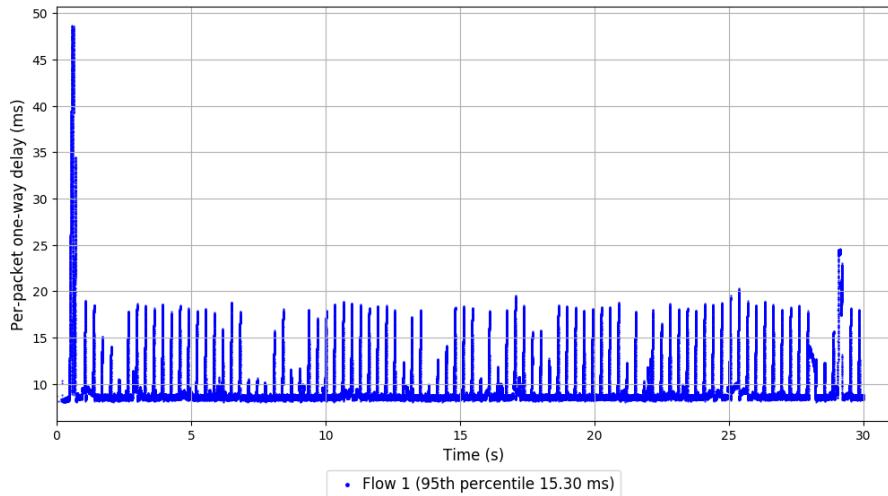
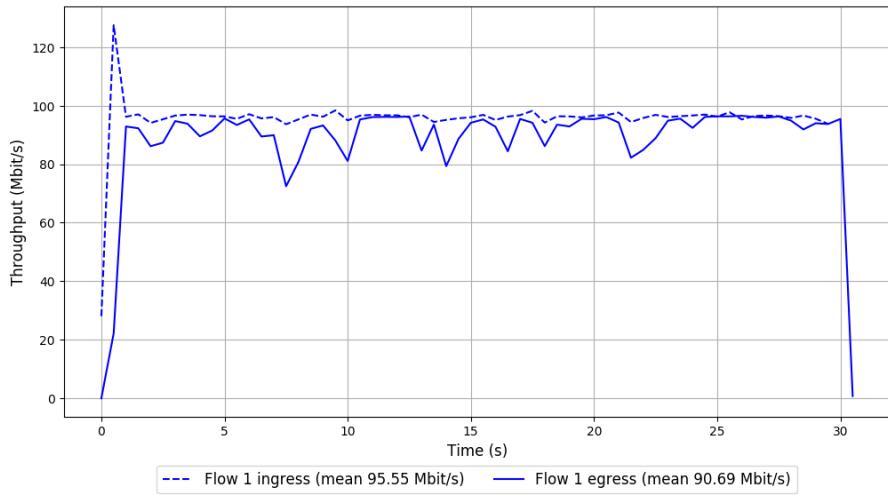


Run 3: Statistics of FillP

```
Start at: 2018-12-19 23:41:16
End at: 2018-12-19 23:41:46
Local clock offset: -0.697 ms
Remote clock offset: -2.916 ms

# Below is generated by plot.py at 2018-12-20 00:31:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.69 Mbit/s
95th percentile per-packet one-way delay: 15.304 ms
Loss rate: 5.09%
-- Flow 1:
Average throughput: 90.69 Mbit/s
95th percentile per-packet one-way delay: 15.304 ms
Loss rate: 5.09%
```

Run 3: Report of FillP — Data Link

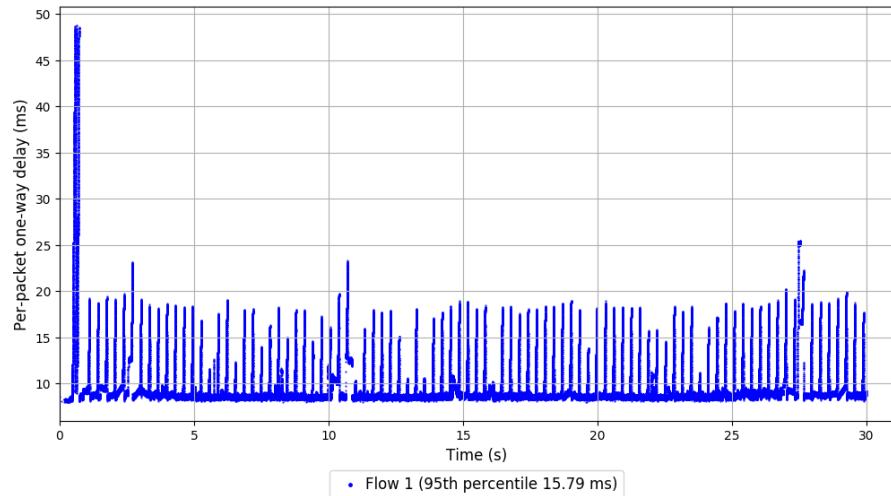
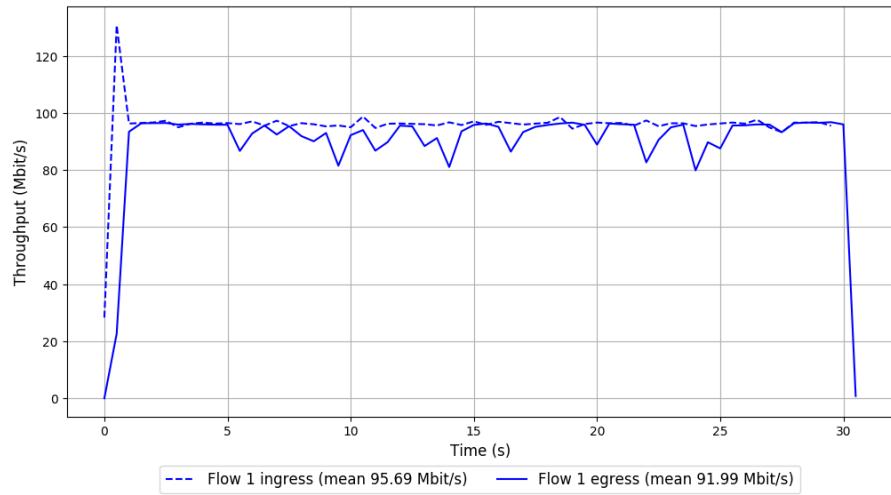


Run 4: Statistics of FillP

```
Start at: 2018-12-20 00:03:08
End at: 2018-12-20 00:03:38
Local clock offset: 0.048 ms
Remote clock offset: -2.793 ms

# Below is generated by plot.py at 2018-12-20 00:31:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.99 Mbit/s
95th percentile per-packet one-way delay: 15.794 ms
Loss rate: 3.87%
-- Flow 1:
Average throughput: 91.99 Mbit/s
95th percentile per-packet one-way delay: 15.794 ms
Loss rate: 3.87%
```

Run 4: Report of FillP — Data Link

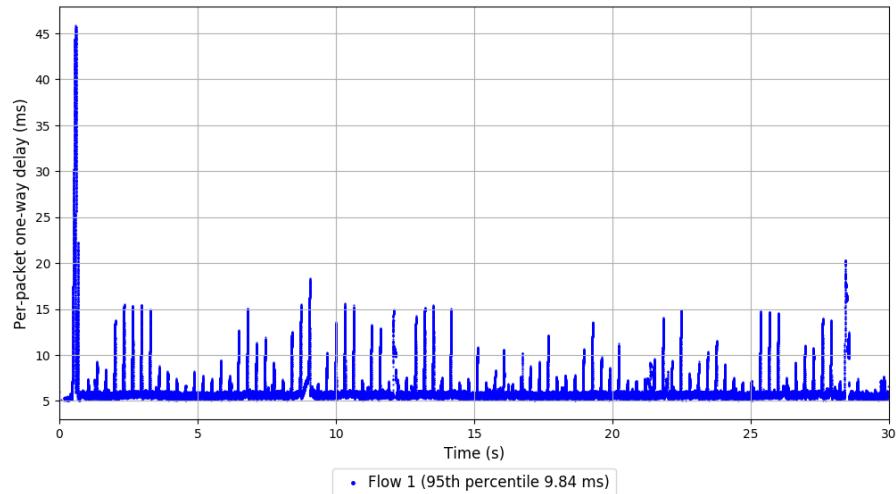
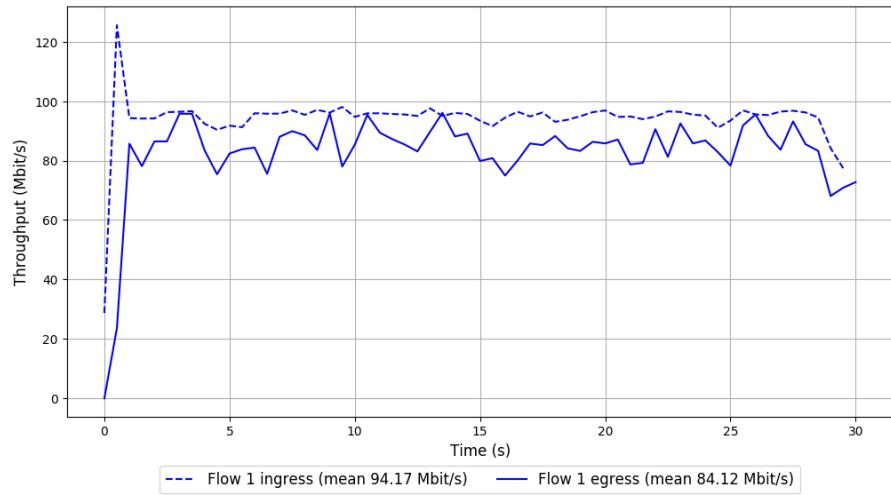


Run 5: Statistics of FillP

```
Start at: 2018-12-20 00:25:21
End at: 2018-12-20 00:25:51
Local clock offset: 2.702 ms
Remote clock offset: -3.176 ms

# Below is generated by plot.py at 2018-12-20 00:31:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.12 Mbit/s
95th percentile per-packet one-way delay: 9.836 ms
Loss rate: 10.67%
-- Flow 1:
Average throughput: 84.12 Mbit/s
95th percentile per-packet one-way delay: 9.836 ms
Loss rate: 10.67%
```

Run 5: Report of FillP — Data Link

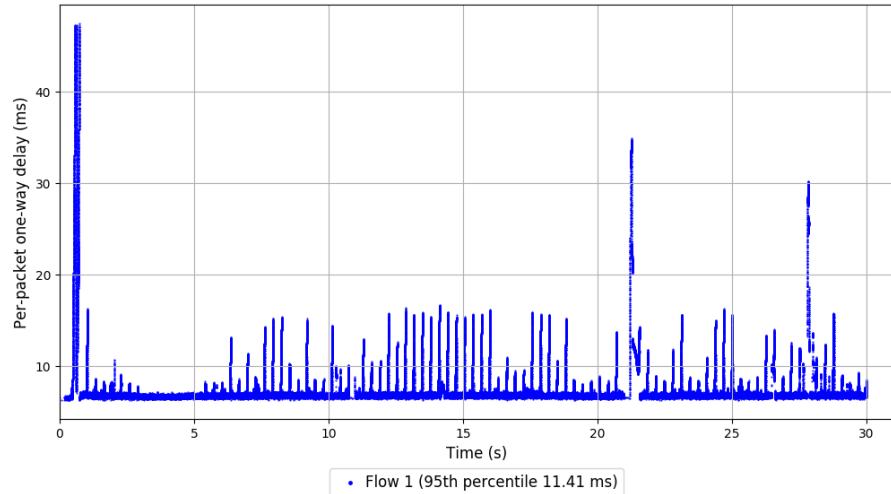
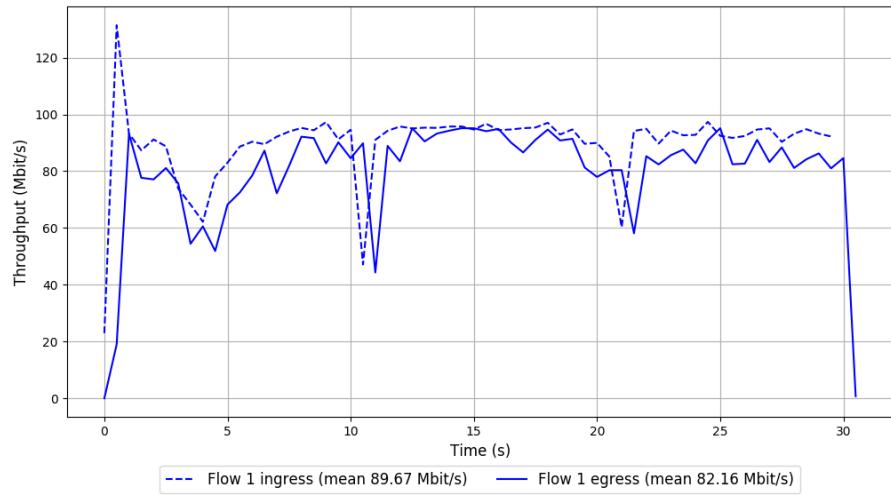


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-12-19 22:42:24
End at: 2018-12-19 22:42:54
Local clock offset: 1.538 ms
Remote clock offset: -2.5 ms

# Below is generated by plot.py at 2018-12-20 00:31:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.16 Mbit/s
95th percentile per-packet one-way delay: 11.414 ms
Loss rate: 8.37%
-- Flow 1:
Average throughput: 82.16 Mbit/s
95th percentile per-packet one-way delay: 11.414 ms
Loss rate: 8.37%
```

Run 1: Report of FillP-Sheep — Data Link

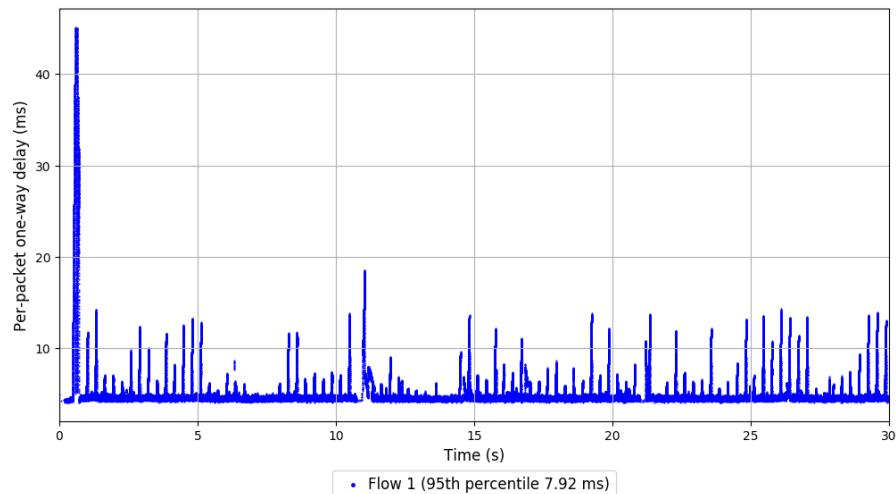
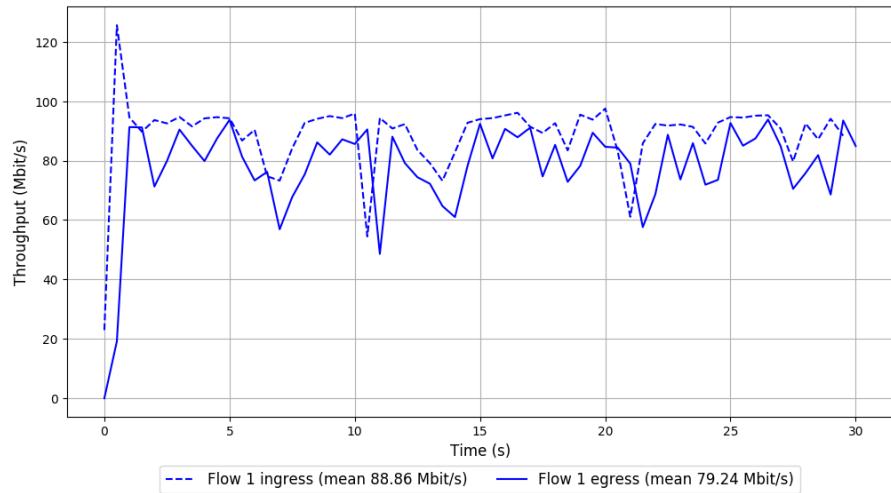


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-12-19 23:05:19
End at: 2018-12-19 23:05:49
Local clock offset: 3.375 ms
Remote clock offset: -2.905 ms

# Below is generated by plot.py at 2018-12-20 00:31:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.24 Mbit/s
95th percentile per-packet one-way delay: 7.920 ms
Loss rate: 10.82%
-- Flow 1:
Average throughput: 79.24 Mbit/s
95th percentile per-packet one-way delay: 7.920 ms
Loss rate: 10.82%
```

Run 2: Report of FillP-Sheep — Data Link

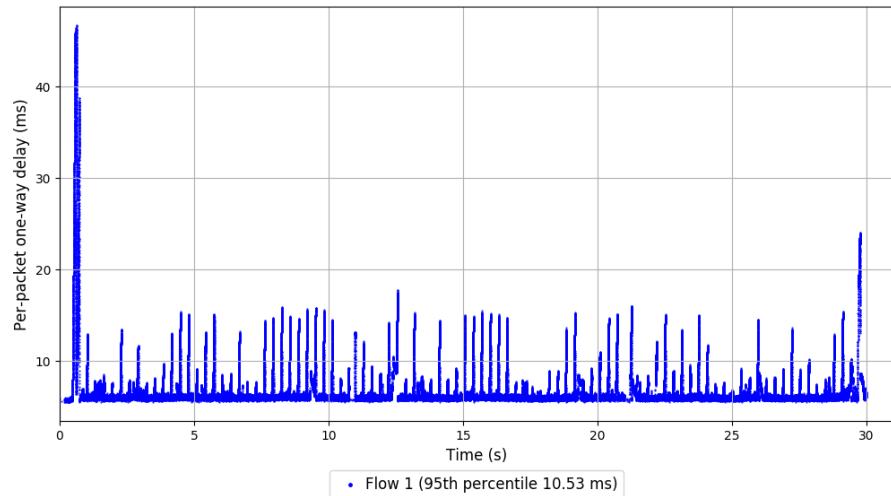
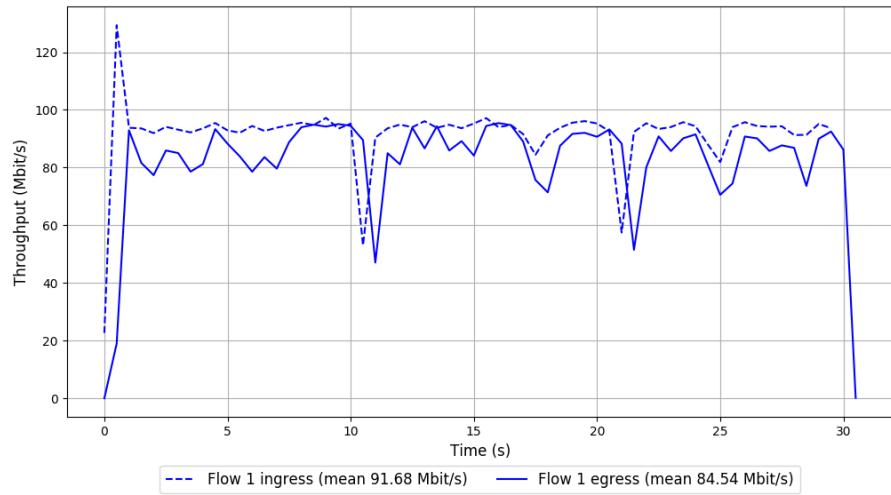


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-12-19 23:27:07
End at: 2018-12-19 23:27:37
Local clock offset: 1.25 ms
Remote clock offset: -2.869 ms

# Below is generated by plot.py at 2018-12-20 00:31:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.54 Mbit/s
95th percentile per-packet one-way delay: 10.531 ms
Loss rate: 7.79%
-- Flow 1:
Average throughput: 84.54 Mbit/s
95th percentile per-packet one-way delay: 10.531 ms
Loss rate: 7.79%
```

Run 3: Report of FillP-Sheep — Data Link

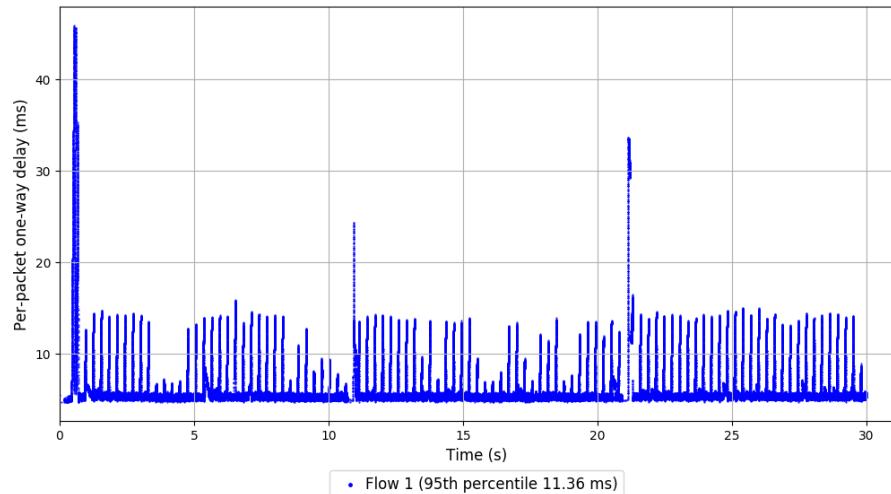
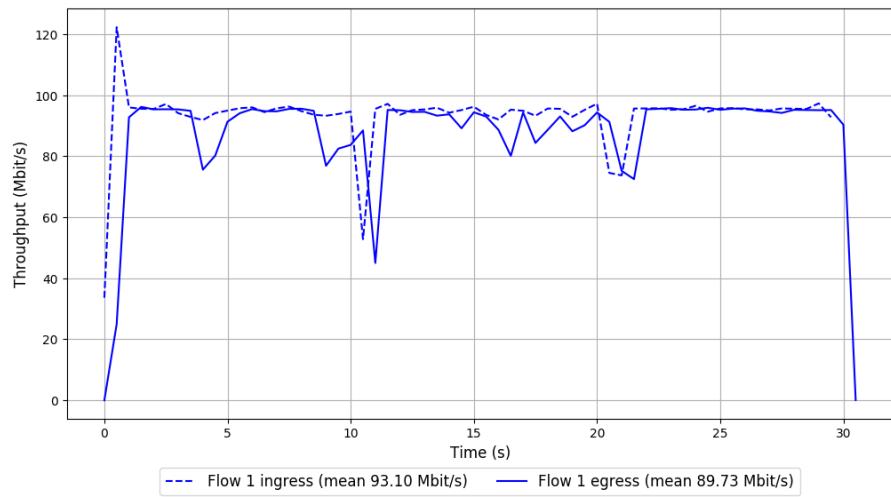


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-12-19 23:49:25
End at: 2018-12-19 23:49:55
Local clock offset: 2.859 ms
Remote clock offset: -2.971 ms

# Below is generated by plot.py at 2018-12-20 00:32:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.73 Mbit/s
95th percentile per-packet one-way delay: 11.363 ms
Loss rate: 3.62%
-- Flow 1:
Average throughput: 89.73 Mbit/s
95th percentile per-packet one-way delay: 11.363 ms
Loss rate: 3.62%
```

Run 4: Report of FillP-Sheep — Data Link

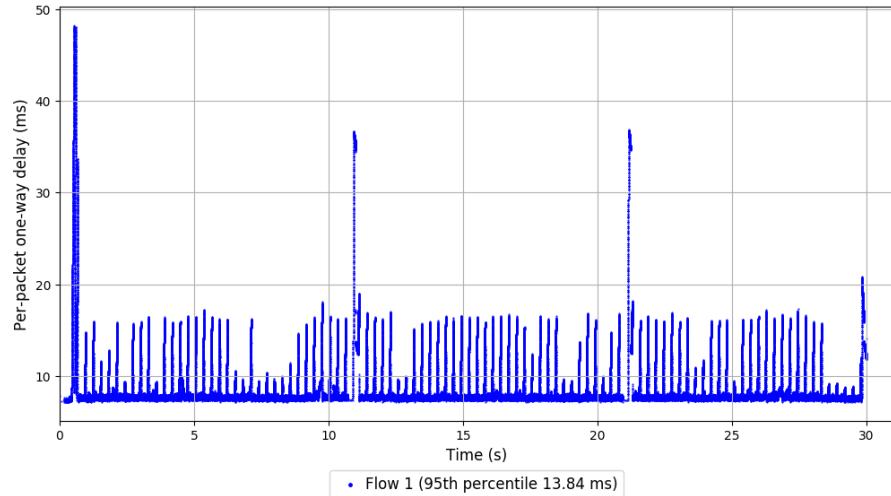
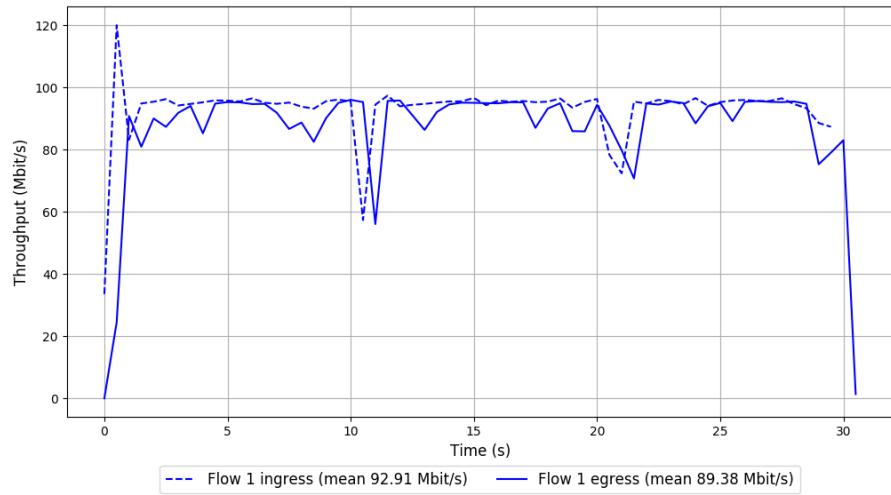


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-12-20 00:11:30
End at: 2018-12-20 00:12:00
Local clock offset: 0.987 ms
Remote clock offset: -2.701 ms

# Below is generated by plot.py at 2018-12-20 00:32:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.38 Mbit/s
95th percentile per-packet one-way delay: 13.844 ms
Loss rate: 3.78%
-- Flow 1:
Average throughput: 89.38 Mbit/s
95th percentile per-packet one-way delay: 13.844 ms
Loss rate: 3.78%
```

Run 5: Report of FillP-Sheep — Data Link

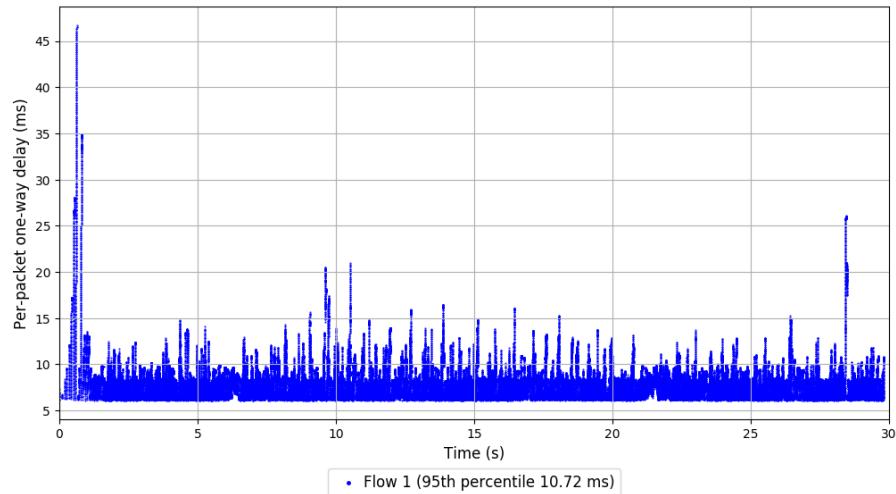
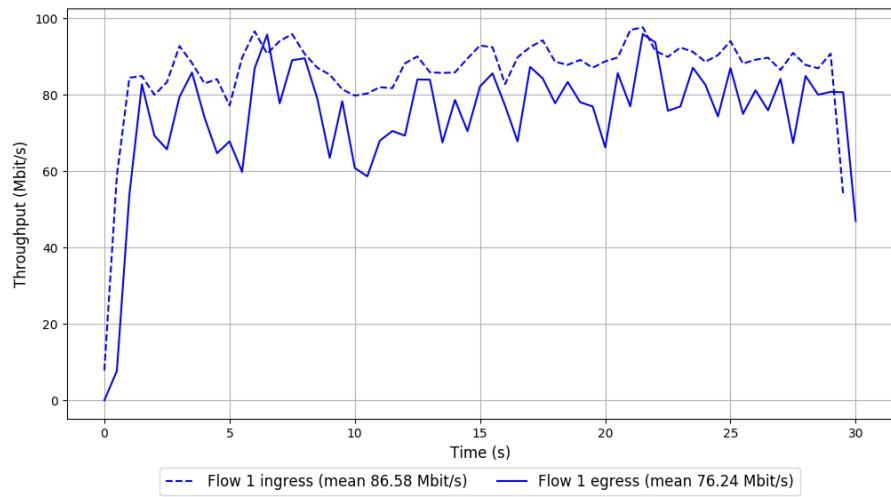


Run 1: Statistics of Indigo

```
Start at: 2018-12-19 22:41:06
End at: 2018-12-19 22:41:36
Local clock offset: 1.231 ms
Remote clock offset: -3.216 ms

# Below is generated by plot.py at 2018-12-20 00:32:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.24 Mbit/s
95th percentile per-packet one-way delay: 10.723 ms
Loss rate: 11.93%
-- Flow 1:
Average throughput: 76.24 Mbit/s
95th percentile per-packet one-way delay: 10.723 ms
Loss rate: 11.93%
```

Run 1: Report of Indigo — Data Link

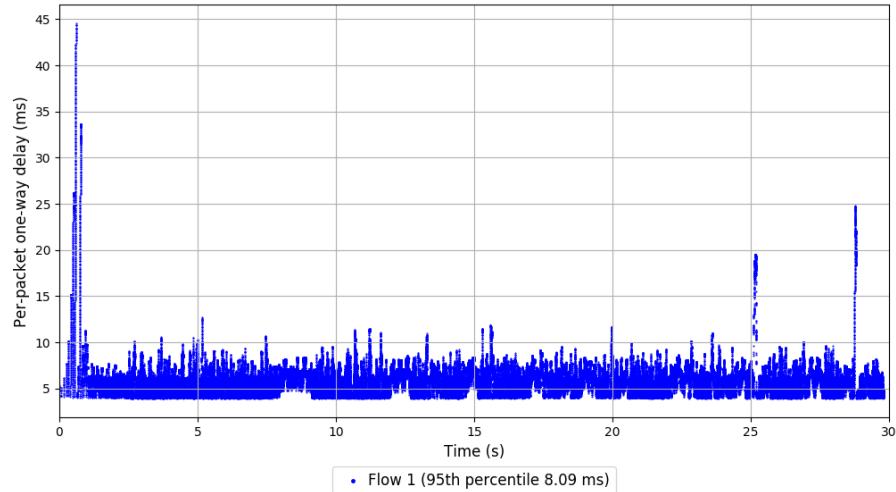
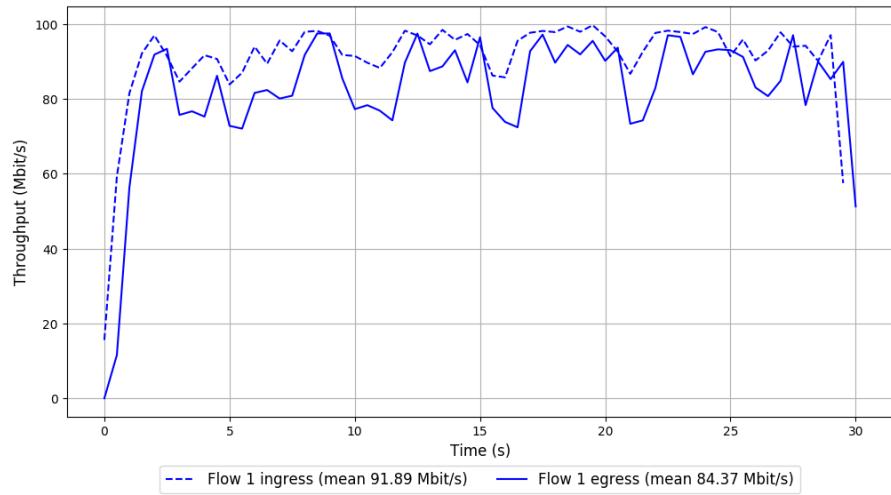


Run 2: Statistics of Indigo

```
Start at: 2018-12-19 23:04:00
End at: 2018-12-19 23:04:30
Local clock offset: 3.594 ms
Remote clock offset: -3.078 ms

# Below is generated by plot.py at 2018-12-20 00:32:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.37 Mbit/s
95th percentile per-packet one-way delay: 8.088 ms
Loss rate: 8.18%
-- Flow 1:
Average throughput: 84.37 Mbit/s
95th percentile per-packet one-way delay: 8.088 ms
Loss rate: 8.18%
```

Run 2: Report of Indigo — Data Link

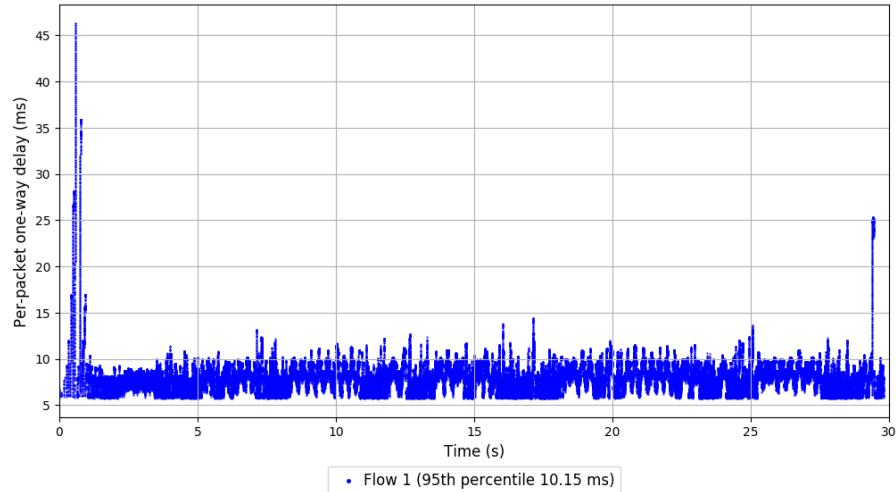
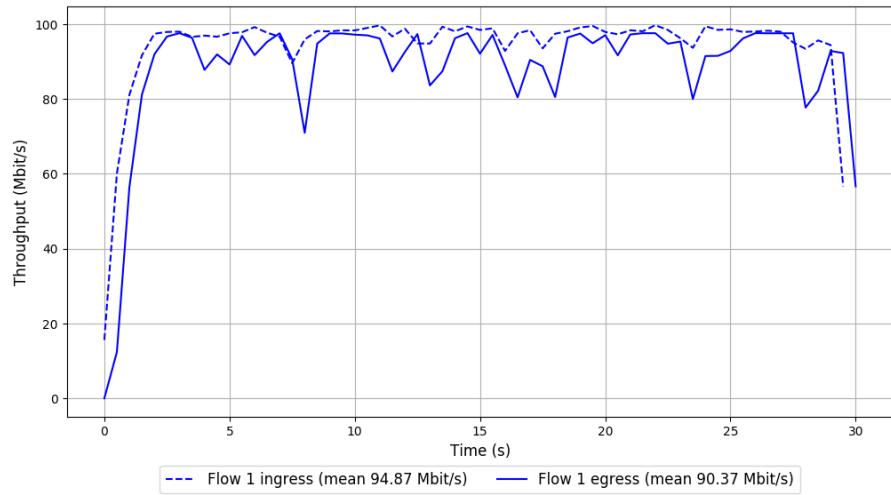


Run 3: Statistics of Indigo

```
Start at: 2018-12-19 23:25:56
End at: 2018-12-19 23:26:26
Local clock offset: 1.676 ms
Remote clock offset: -2.548 ms

# Below is generated by plot.py at 2018-12-20 00:32:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.37 Mbit/s
95th percentile per-packet one-way delay: 10.146 ms
Loss rate: 4.74%
-- Flow 1:
Average throughput: 90.37 Mbit/s
95th percentile per-packet one-way delay: 10.146 ms
Loss rate: 4.74%
```

Run 3: Report of Indigo — Data Link

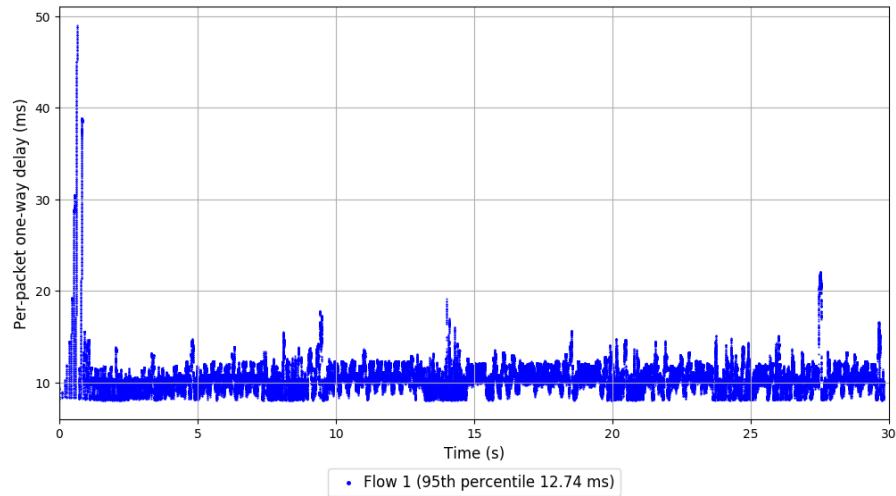
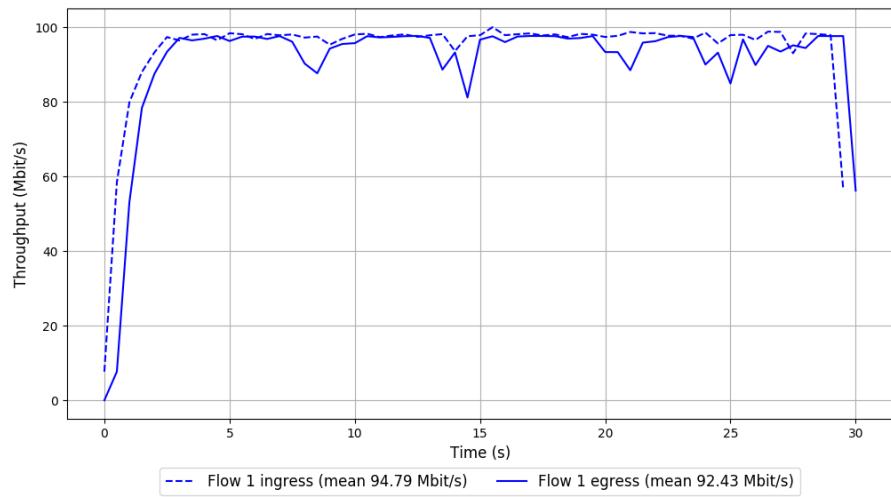


Run 4: Statistics of Indigo

```
Start at: 2018-12-19 23:48:14
End at: 2018-12-19 23:48:44
Local clock offset: 0.166 ms
Remote clock offset: -2.574 ms

# Below is generated by plot.py at 2018-12-20 00:32:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.43 Mbit/s
95th percentile per-packet one-way delay: 12.745 ms
Loss rate: 2.48%
-- Flow 1:
Average throughput: 92.43 Mbit/s
95th percentile per-packet one-way delay: 12.745 ms
Loss rate: 2.48%
```

Run 4: Report of Indigo — Data Link

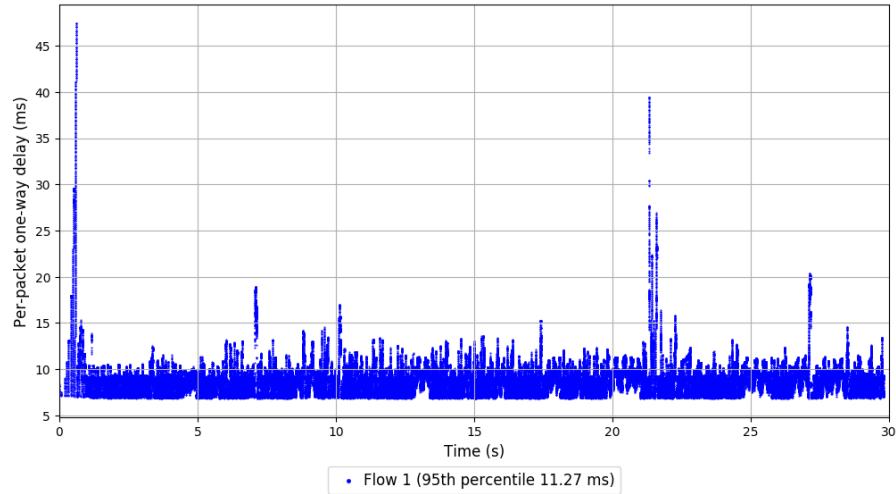
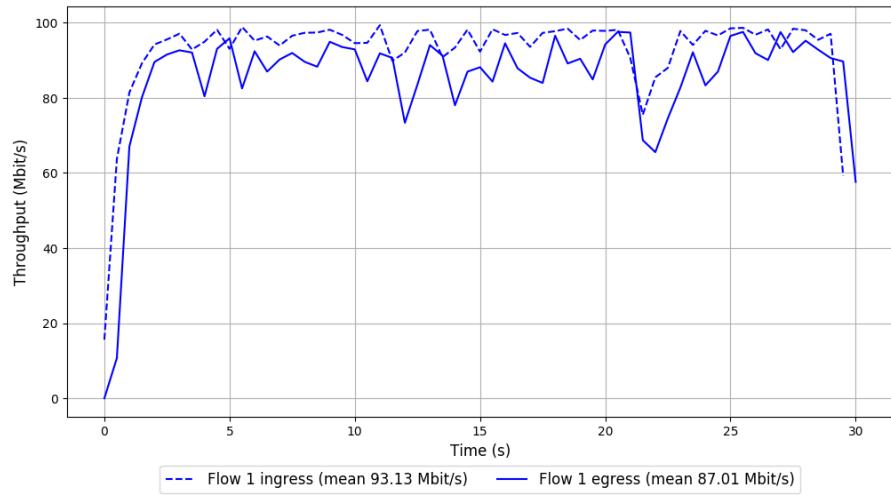


Run 5: Statistics of Indigo

```
Start at: 2018-12-20 00:10:16
End at: 2018-12-20 00:10:46
Local clock offset: 1.797 ms
Remote clock offset: -2.451 ms

# Below is generated by plot.py at 2018-12-20 00:32:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.01 Mbit/s
95th percentile per-packet one-way delay: 11.265 ms
Loss rate: 6.57%
-- Flow 1:
Average throughput: 87.01 Mbit/s
95th percentile per-packet one-way delay: 11.265 ms
Loss rate: 6.57%
```

Run 5: Report of Indigo — Data Link

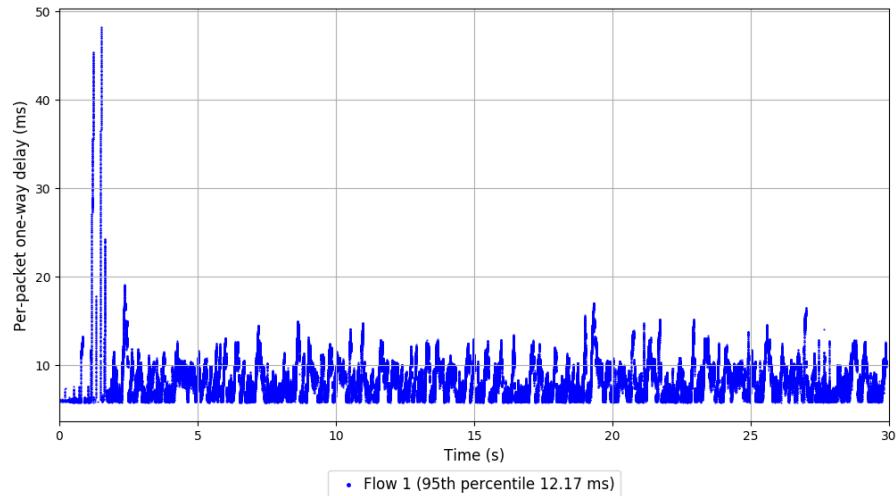
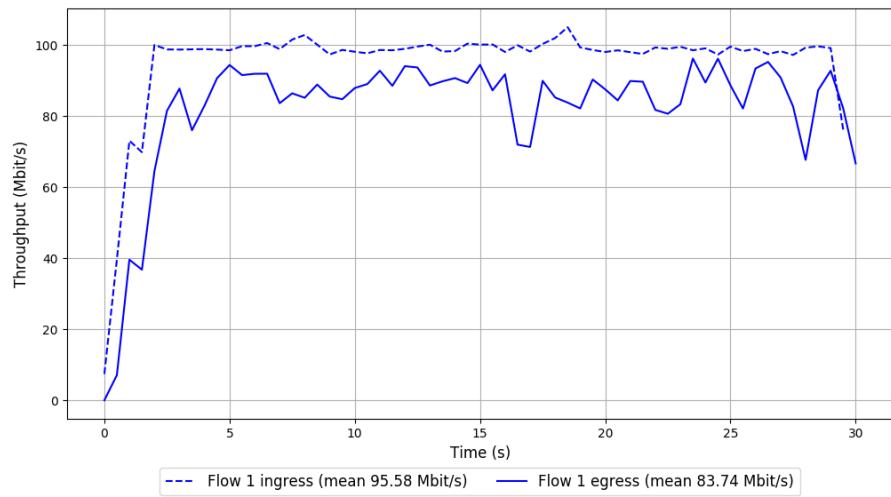


Run 1: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 22:37:17
End at: 2018-12-19 22:37:47
Local clock offset: 2.033 ms
Remote clock offset: -2.811 ms

# Below is generated by plot.py at 2018-12-20 00:32:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.74 Mbit/s
95th percentile per-packet one-way delay: 12.171 ms
Loss rate: 12.38%
-- Flow 1:
Average throughput: 83.74 Mbit/s
95th percentile per-packet one-way delay: 12.171 ms
Loss rate: 12.38%
```

Run 1: Report of Indigo-MusesD — Data Link

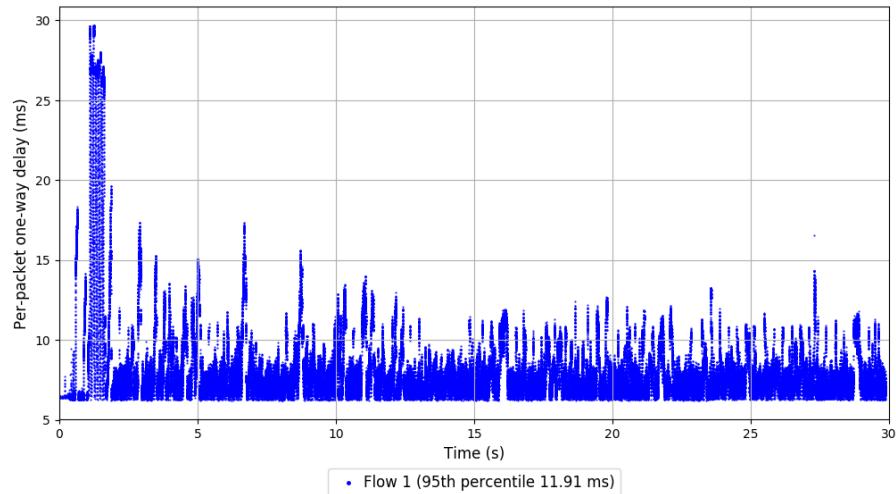
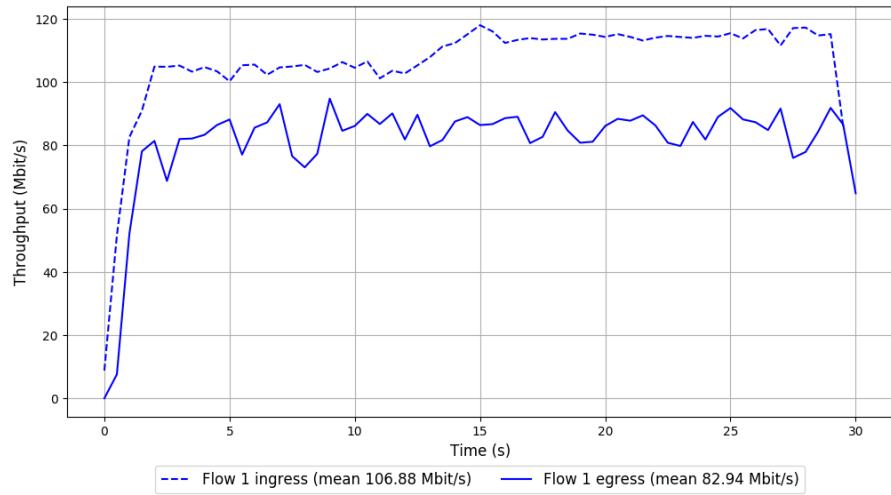


Run 2: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 23:00:11
End at: 2018-12-19 23:00:41
Local clock offset: 1.761 ms
Remote clock offset: -2.577 ms

# Below is generated by plot.py at 2018-12-20 00:33:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.94 Mbit/s
95th percentile per-packet one-way delay: 11.913 ms
Loss rate: 22.40%
-- Flow 1:
Average throughput: 82.94 Mbit/s
95th percentile per-packet one-way delay: 11.913 ms
Loss rate: 22.40%
```

Run 2: Report of Indigo-MusesD — Data Link

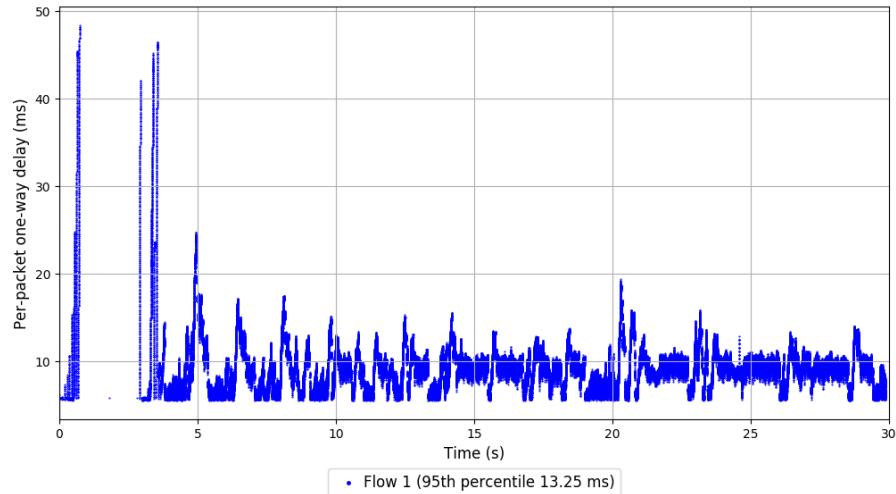
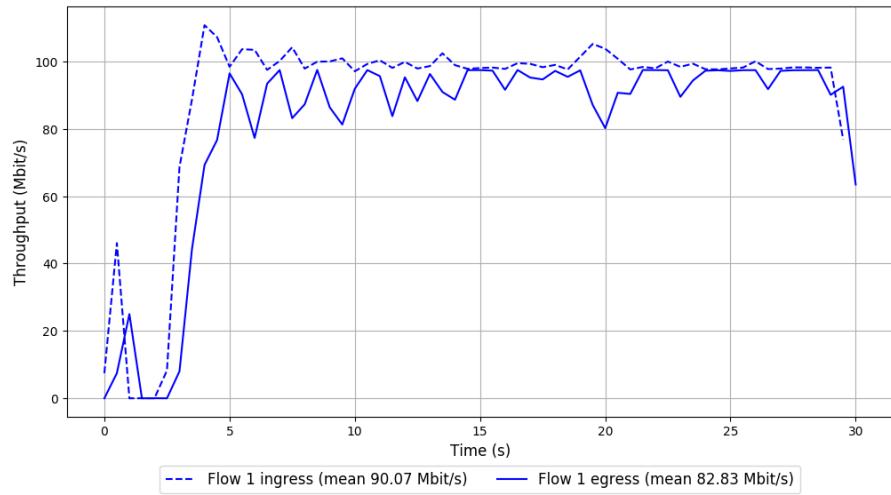


Run 3: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 23:22:25
End at: 2018-12-19 23:22:55
Local clock offset: 1.213 ms
Remote clock offset: -3.127 ms

# Below is generated by plot.py at 2018-12-20 00:33:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.83 Mbit/s
95th percentile per-packet one-way delay: 13.249 ms
Loss rate: 8.03%
-- Flow 1:
Average throughput: 82.83 Mbit/s
95th percentile per-packet one-way delay: 13.249 ms
Loss rate: 8.03%
```

Run 3: Report of Indigo-MusesD — Data Link

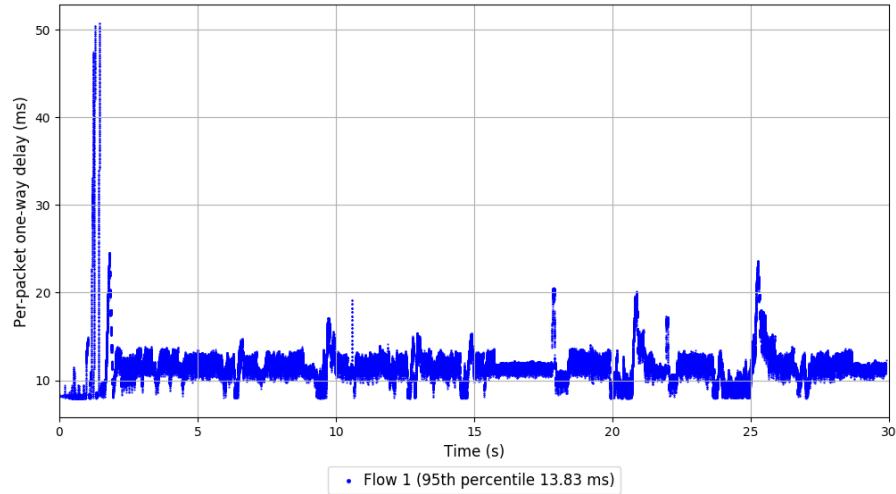
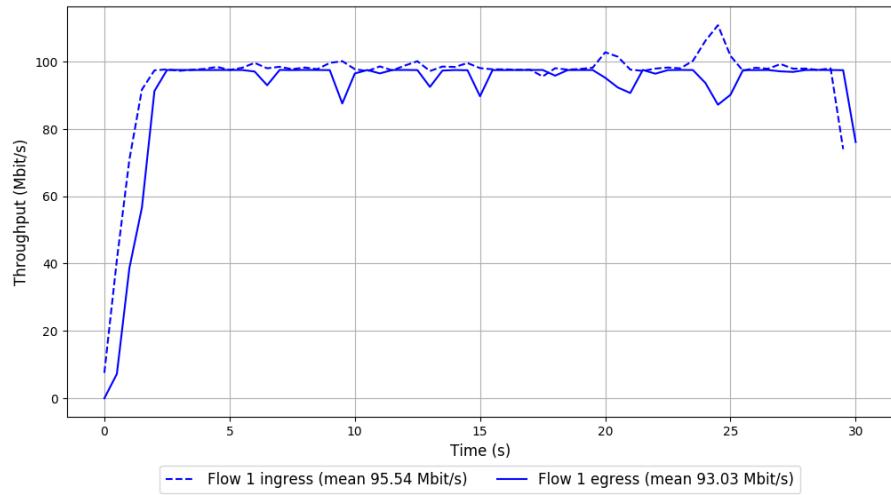


Run 4: Statistics of Indigo-MusesD

```
Start at: 2018-12-19 23:44:43
End at: 2018-12-19 23:45:13
Local clock offset: -0.08 ms
Remote clock offset: -2.839 ms

# Below is generated by plot.py at 2018-12-20 00:33:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.03 Mbit/s
95th percentile per-packet one-way delay: 13.826 ms
Loss rate: 2.62%
-- Flow 1:
Average throughput: 93.03 Mbit/s
95th percentile per-packet one-way delay: 13.826 ms
Loss rate: 2.62%
```

Run 4: Report of Indigo-MusesD — Data Link

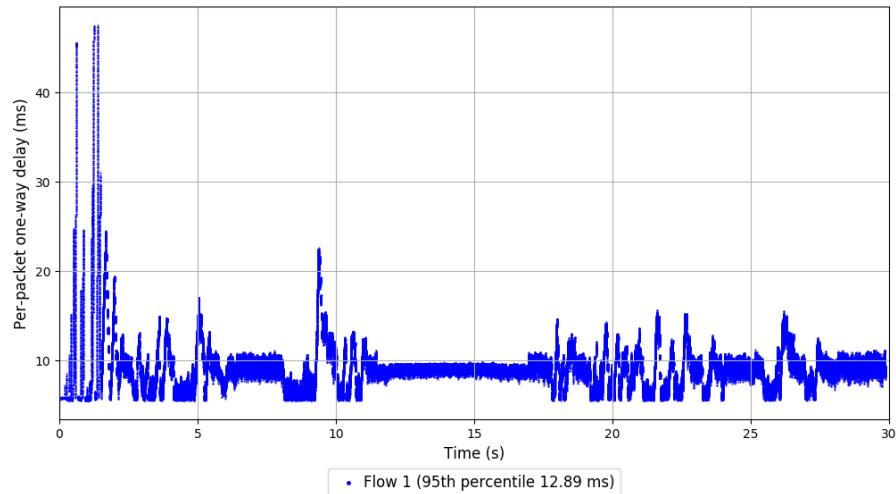
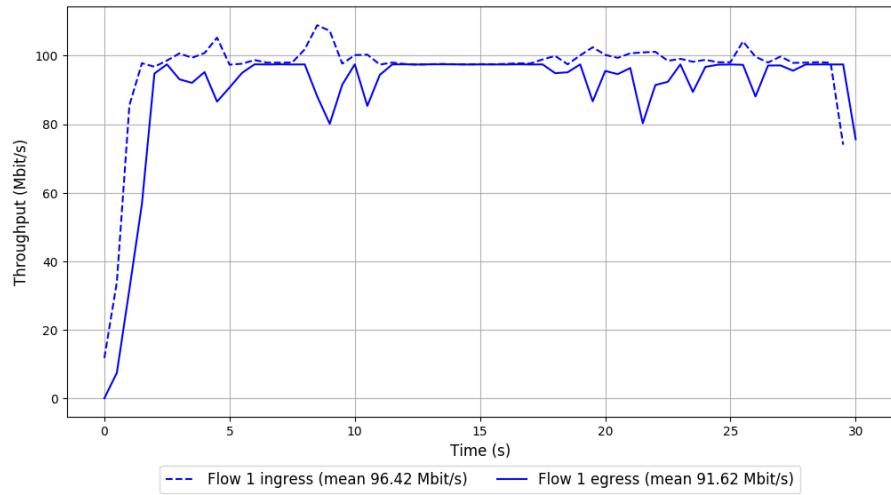


Run 5: Statistics of Indigo-MusesD

```
Start at: 2018-12-20 00:06:39
End at: 2018-12-20 00:07:09
Local clock offset: 2.964 ms
Remote clock offset: -2.621 ms

# Below is generated by plot.py at 2018-12-20 00:33:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.62 Mbit/s
95th percentile per-packet one-way delay: 12.886 ms
Loss rate: 4.97%
-- Flow 1:
Average throughput: 91.62 Mbit/s
95th percentile per-packet one-way delay: 12.886 ms
Loss rate: 4.97%
```

Run 5: Report of Indigo-MusesD — Data Link

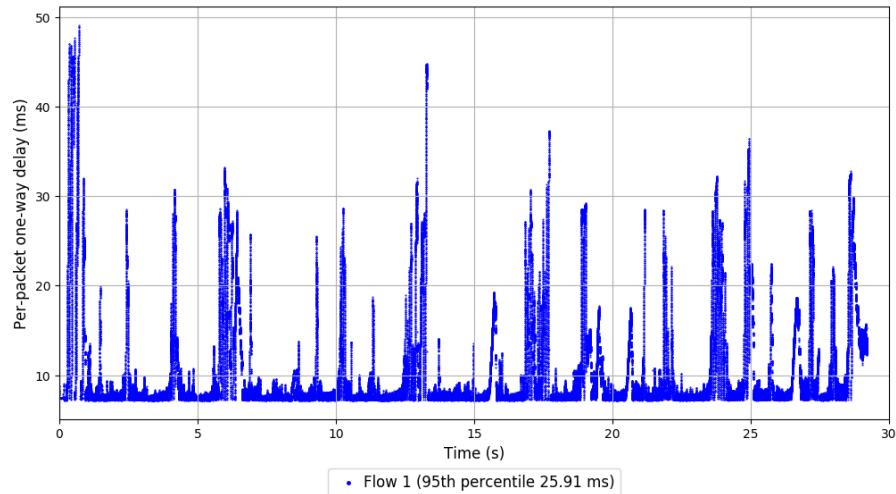
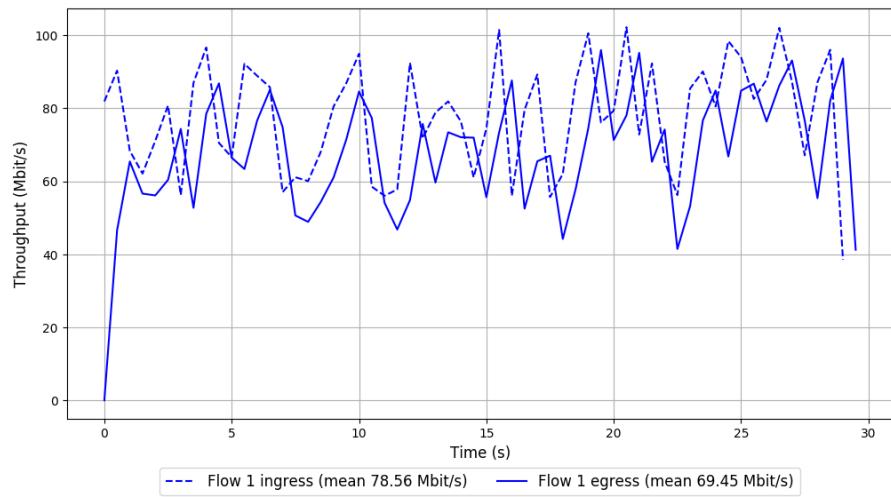


Run 1: Statistics of Indigo-MusesT

```
Start at: 2018-12-19 22:54:18
End at: 2018-12-19 22:54:48
Local clock offset: 0.991 ms
Remote clock offset: -2.3 ms

# Below is generated by plot.py at 2018-12-20 00:33:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 69.45 Mbit/s
95th percentile per-packet one-way delay: 25.906 ms
Loss rate: 11.57%
-- Flow 1:
Average throughput: 69.45 Mbit/s
95th percentile per-packet one-way delay: 25.906 ms
Loss rate: 11.57%
```

Run 1: Report of Indigo-MusesT — Data Link

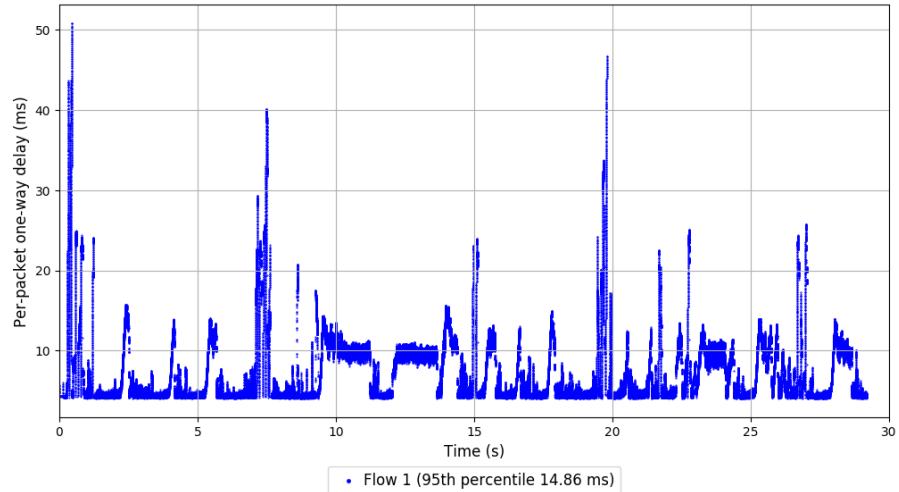
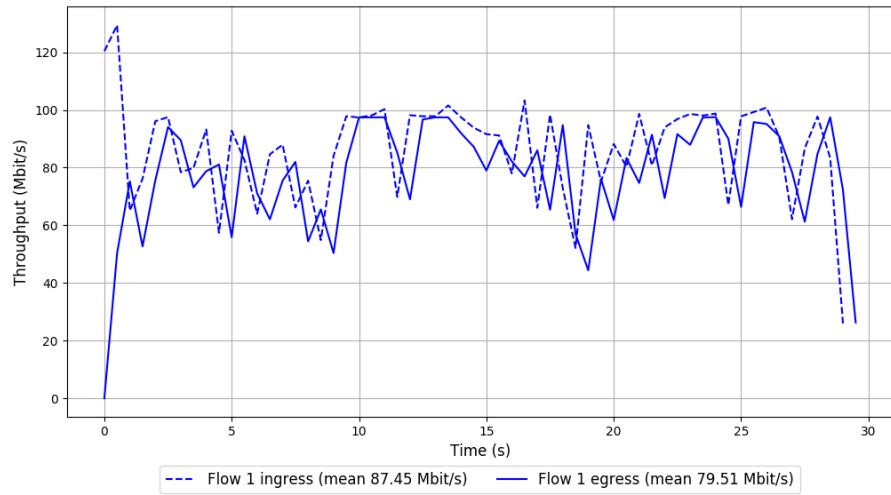


Run 2: Statistics of Indigo-MusesT

```
Start at: 2018-12-19 23:16:47
End at: 2018-12-19 23:17:17
Local clock offset: 2.973 ms
Remote clock offset: -2.914 ms

# Below is generated by plot.py at 2018-12-20 00:33:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.51 Mbit/s
95th percentile per-packet one-way delay: 14.859 ms
Loss rate: 9.07%
-- Flow 1:
Average throughput: 79.51 Mbit/s
95th percentile per-packet one-way delay: 14.859 ms
Loss rate: 9.07%
```

Run 2: Report of Indigo-MusesT — Data Link

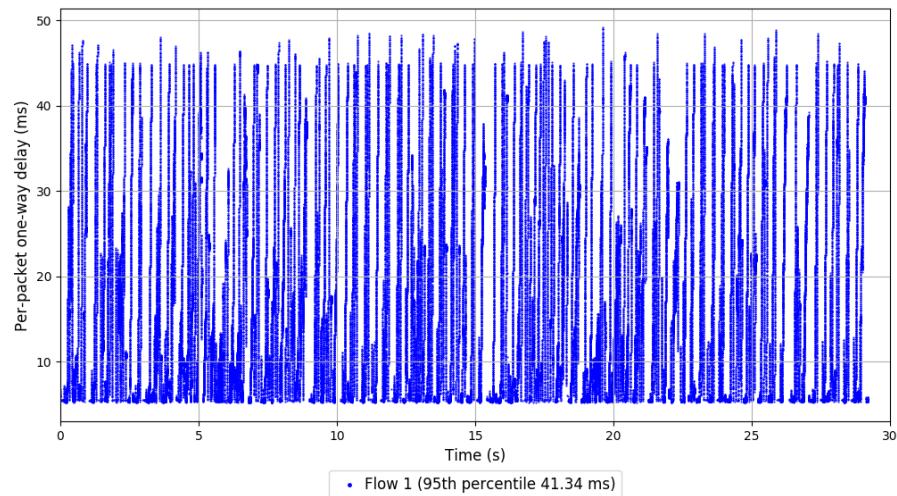
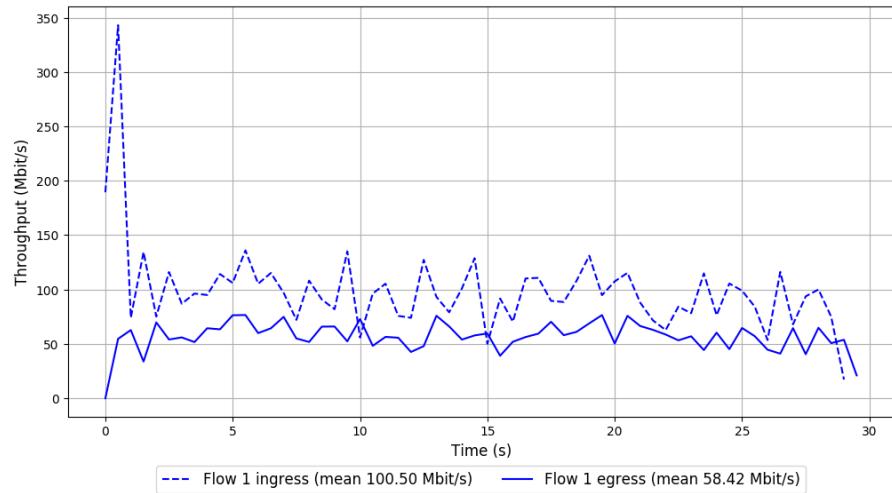


Run 3: Statistics of Indigo-MusesT

```
Start at: 2018-12-19 23:38:59
End at: 2018-12-19 23:39:29
Local clock offset: 2.373 ms
Remote clock offset: -2.717 ms

# Below is generated by plot.py at 2018-12-20 00:33:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.42 Mbit/s
95th percentile per-packet one-way delay: 41.338 ms
Loss rate: 41.87%
-- Flow 1:
Average throughput: 58.42 Mbit/s
95th percentile per-packet one-way delay: 41.338 ms
Loss rate: 41.87%
```

Run 3: Report of Indigo-MusesT — Data Link

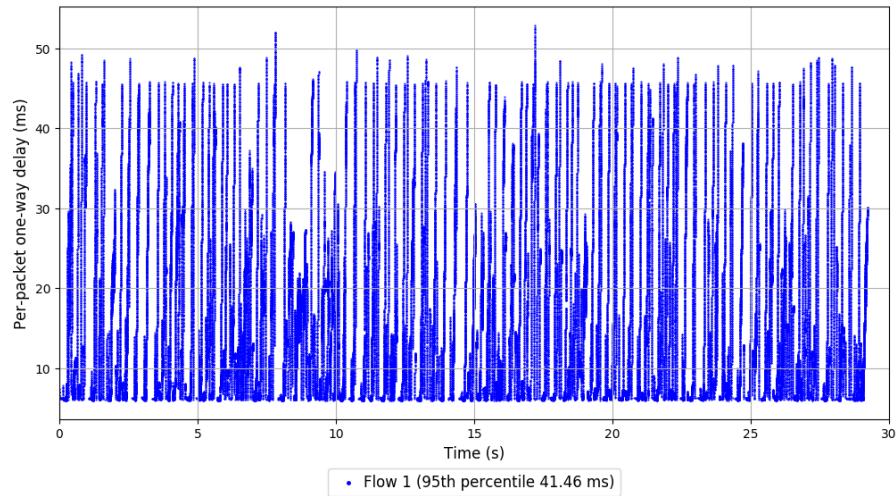
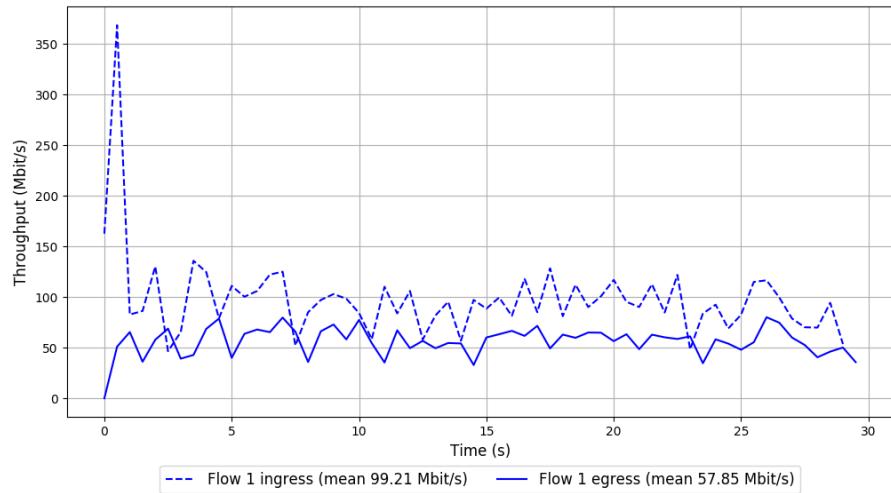


Run 4: Statistics of Indigo-MusesT

```
Start at: 2018-12-20 00:00:49
End at: 2018-12-20 00:01:19
Local clock offset: 2.675 ms
Remote clock offset: -2.428 ms

# Below is generated by plot.py at 2018-12-20 00:33:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.85 Mbit/s
95th percentile per-packet one-way delay: 41.459 ms
Loss rate: 41.64%
-- Flow 1:
Average throughput: 57.85 Mbit/s
95th percentile per-packet one-way delay: 41.459 ms
Loss rate: 41.64%
```

Run 4: Report of Indigo-MusesT — Data Link

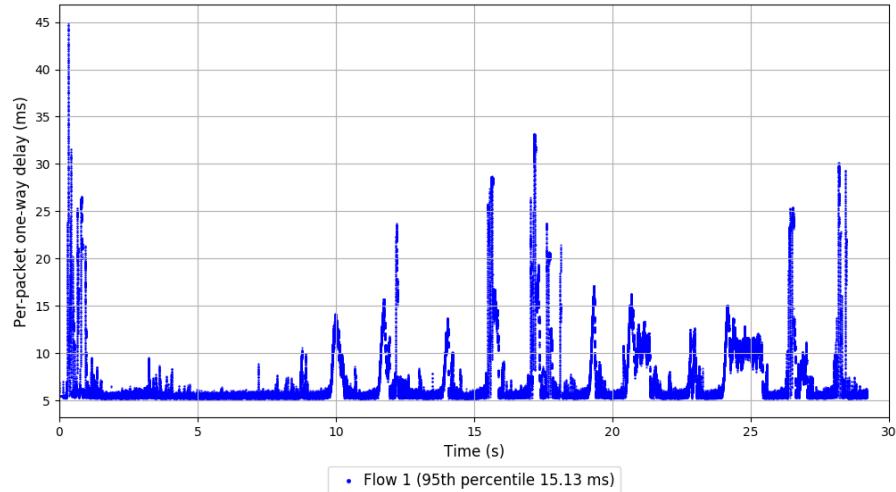
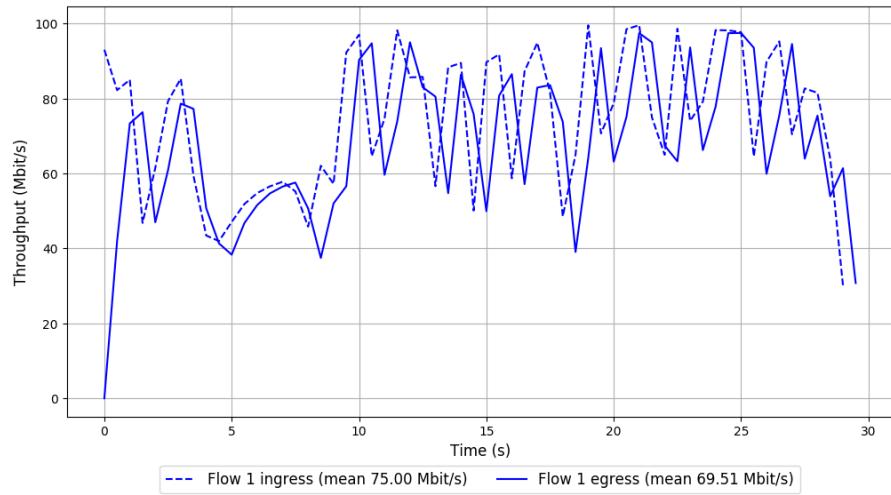


Run 5: Statistics of Indigo-MusesT

```
Start at: 2018-12-20 00:23:00
End at: 2018-12-20 00:23:30
Local clock offset: 3.07 ms
Remote clock offset: -2.866 ms

# Below is generated by plot.py at 2018-12-20 00:33:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 69.51 Mbit/s
95th percentile per-packet one-way delay: 15.131 ms
Loss rate: 7.31%
-- Flow 1:
Average throughput: 69.51 Mbit/s
95th percentile per-packet one-way delay: 15.131 ms
Loss rate: 7.31%
```

Run 5: Report of Indigo-MusesT — Data Link

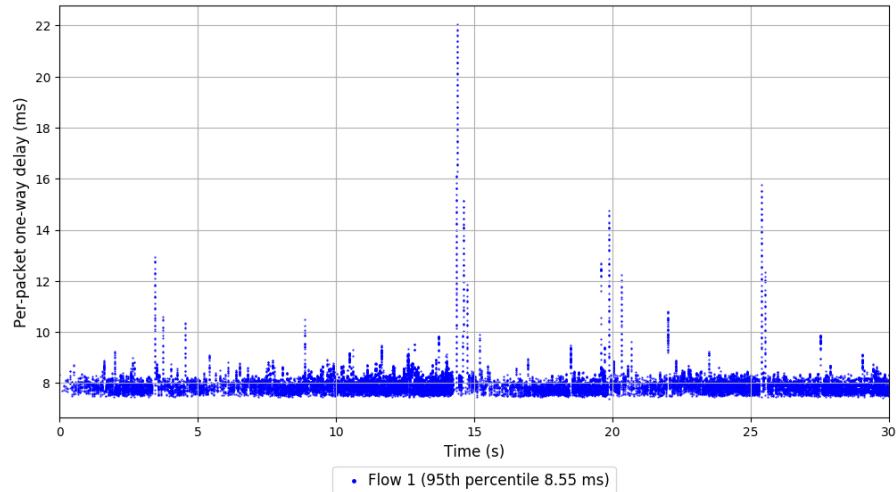
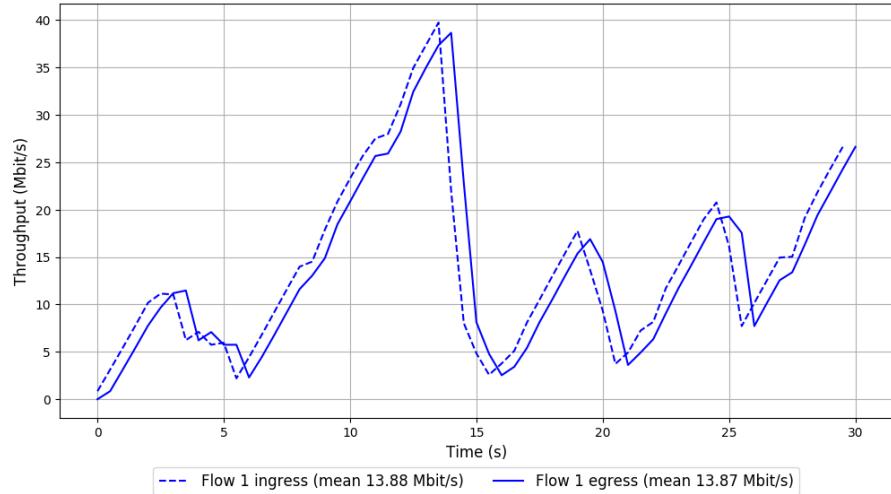


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-12-19 22:51:55
End at: 2018-12-19 22:52:25
Local clock offset: 0.794 ms
Remote clock offset: -2.306 ms

# Below is generated by plot.py at 2018-12-20 00:33:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.87 Mbit/s
95th percentile per-packet one-way delay: 8.549 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 13.87 Mbit/s
95th percentile per-packet one-way delay: 8.549 ms
Loss rate: 0.07%
```

Run 1: Report of LEDBAT — Data Link

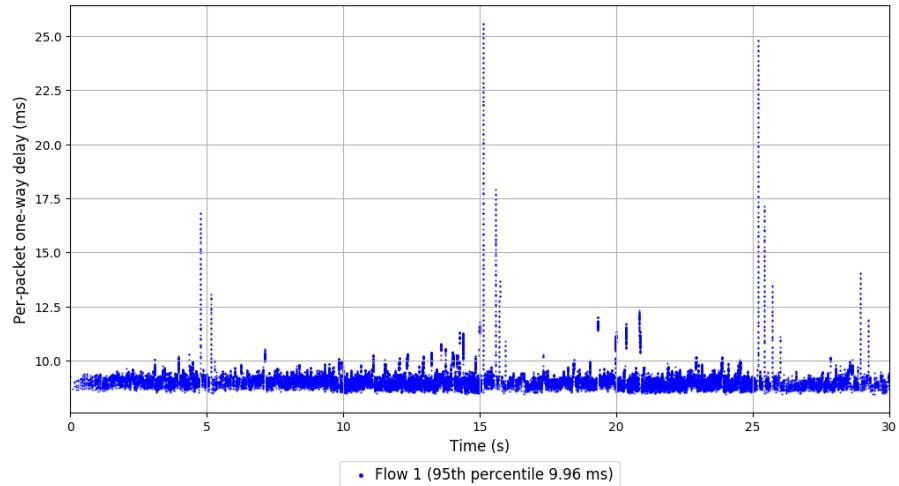
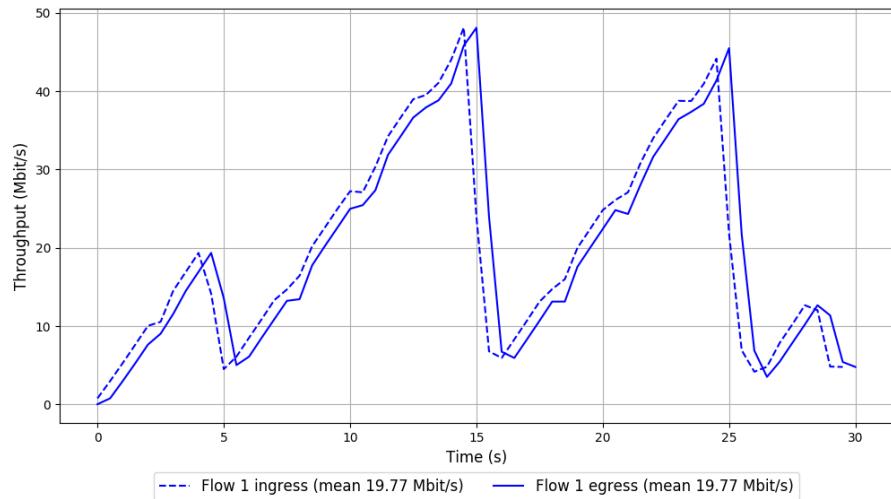


Run 2: Statistics of LEDBAT

```
Start at: 2018-12-19 23:14:33
End at: 2018-12-19 23:15:03
Local clock offset: -1.342 ms
Remote clock offset: -2.964 ms

# Below is generated by plot.py at 2018-12-20 00:33:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.77 Mbit/s
95th percentile per-packet one-way delay: 9.964 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 19.77 Mbit/s
95th percentile per-packet one-way delay: 9.964 ms
Loss rate: 0.03%
```

Run 2: Report of LEDBAT — Data Link

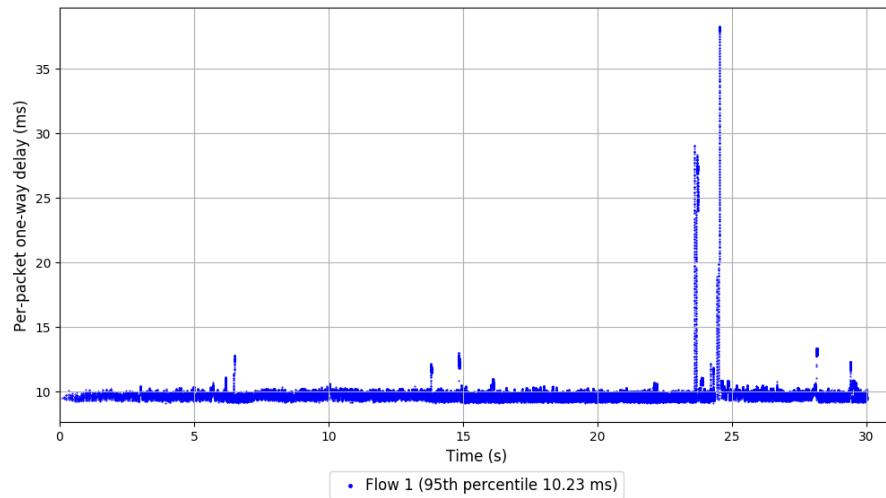
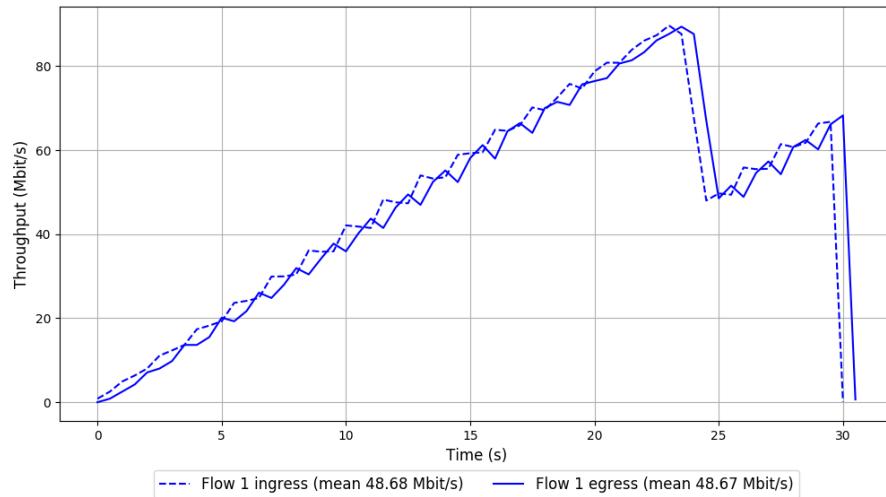


Run 3: Statistics of LEDBAT

```
Start at: 2018-12-19 23:36:25
End at: 2018-12-19 23:36:55
Local clock offset: -1.598 ms
Remote clock offset: -2.448 ms

# Below is generated by plot.py at 2018-12-20 00:33:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.67 Mbit/s
95th percentile per-packet one-way delay: 10.235 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.67 Mbit/s
95th percentile per-packet one-way delay: 10.235 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link

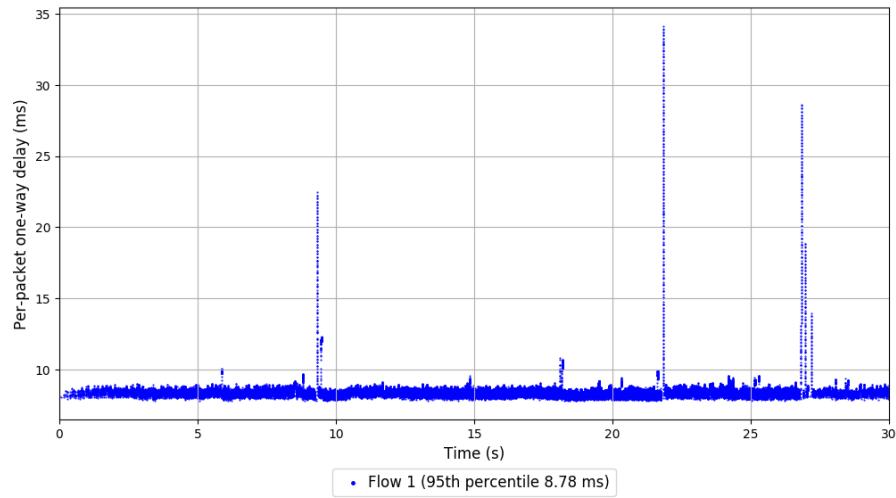
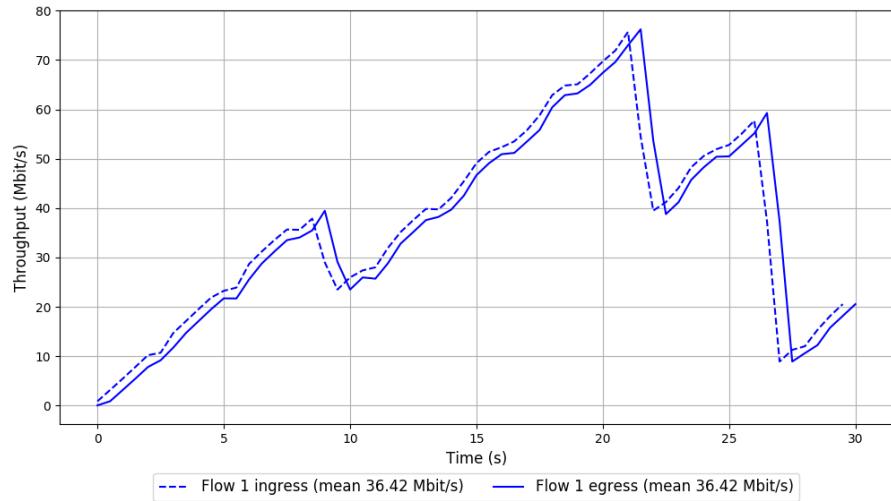


Run 4: Statistics of LEDBAT

```
Start at: 2018-12-19 23:58:26
End at: 2018-12-19 23:58:56
Local clock offset: 0.162 ms
Remote clock offset: -3.074 ms

# Below is generated by plot.py at 2018-12-20 00:33:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 36.42 Mbit/s
95th percentile per-packet one-way delay: 8.780 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 36.42 Mbit/s
95th percentile per-packet one-way delay: 8.780 ms
Loss rate: 0.01%
```

Run 4: Report of LEDBAT — Data Link

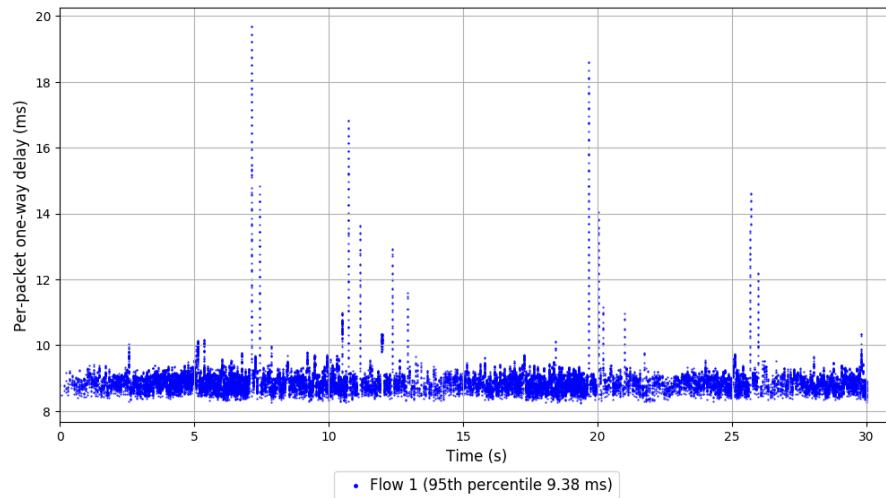
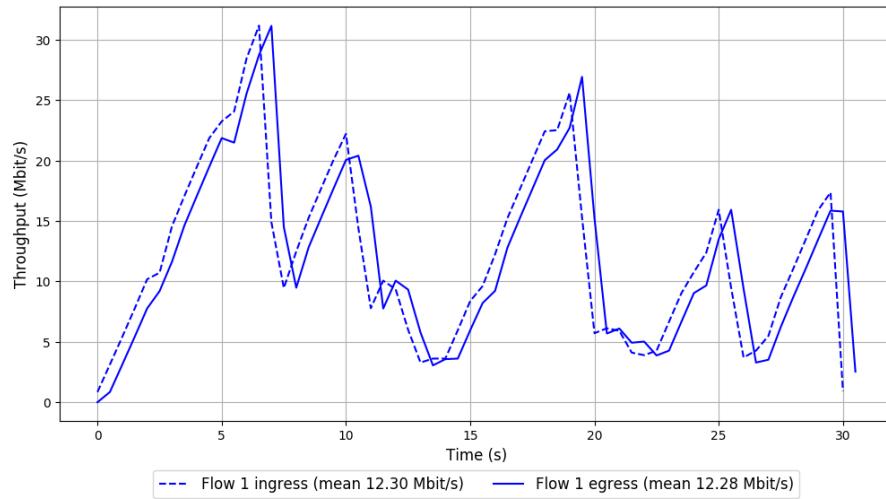


Run 5: Statistics of LEDBAT

```
Start at: 2018-12-20 00:20:44
End at: 2018-12-20 00:21:14
Local clock offset: 0.395 ms
Remote clock offset: -2.416 ms

# Below is generated by plot.py at 2018-12-20 00:33:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.28 Mbit/s
95th percentile per-packet one-way delay: 9.383 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 12.28 Mbit/s
95th percentile per-packet one-way delay: 9.383 ms
Loss rate: 0.18%
```

Run 5: Report of LEDBAT — Data Link

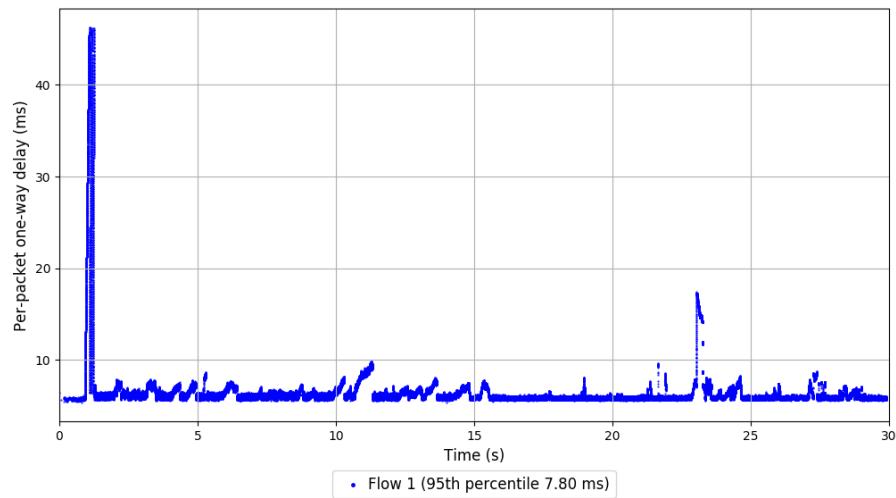
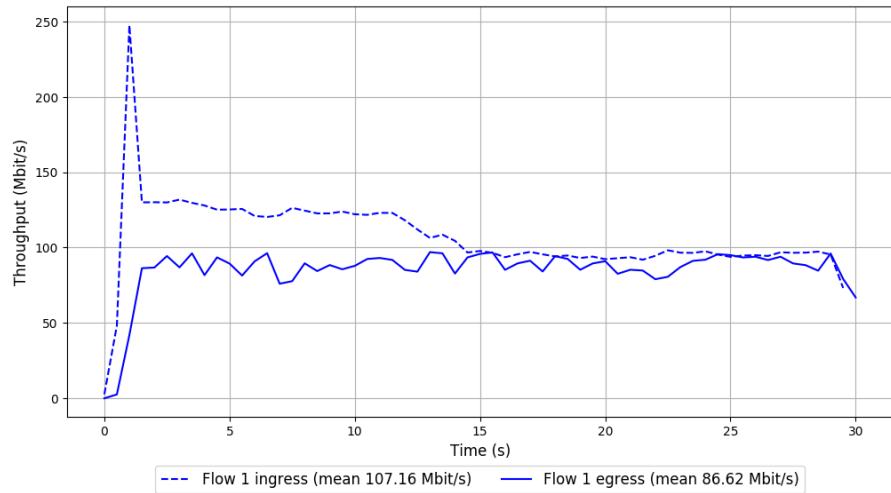


Run 1: Statistics of PCC-Allegro

```
Start at: 2018-12-19 22:47:20
End at: 2018-12-19 22:47:50
Local clock offset: 1.922 ms
Remote clock offset: -2.985 ms

# Below is generated by plot.py at 2018-12-20 00:34:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.62 Mbit/s
95th percentile per-packet one-way delay: 7.799 ms
Loss rate: 19.17%
-- Flow 1:
Average throughput: 86.62 Mbit/s
95th percentile per-packet one-way delay: 7.799 ms
Loss rate: 19.17%
```

Run 1: Report of PCC-Allegro — Data Link

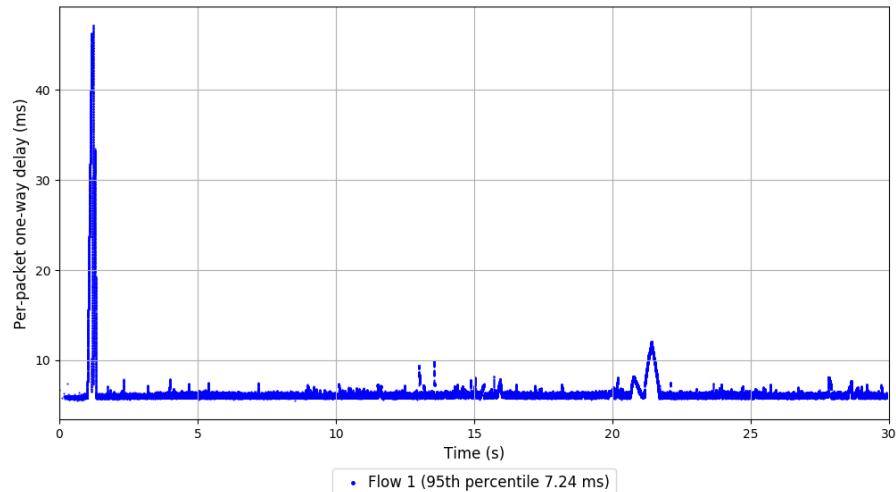
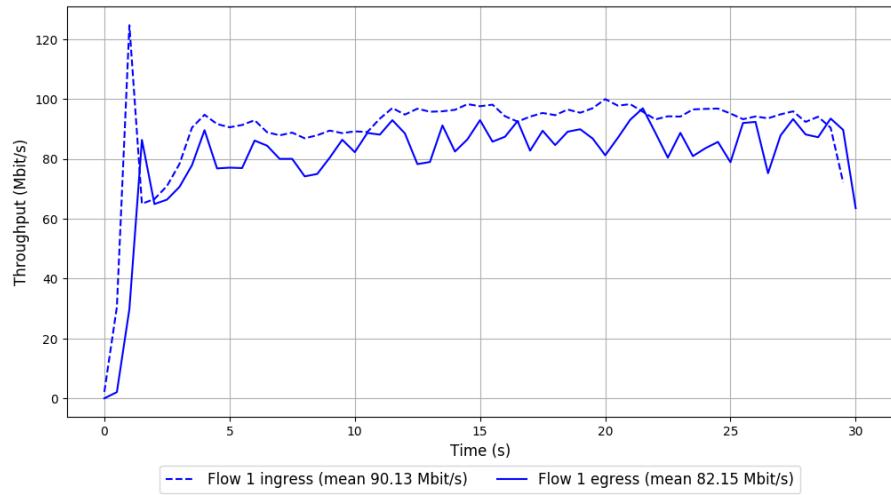


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-12-19 23:09:56
End at: 2018-12-19 23:10:27
Local clock offset: 1.552 ms
Remote clock offset: -3.037 ms

# Below is generated by plot.py at 2018-12-20 00:34:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.15 Mbit/s
95th percentile per-packet one-way delay: 7.240 ms
Loss rate: 8.86%
-- Flow 1:
Average throughput: 82.15 Mbit/s
95th percentile per-packet one-way delay: 7.240 ms
Loss rate: 8.86%
```

Run 2: Report of PCC-Allegro — Data Link

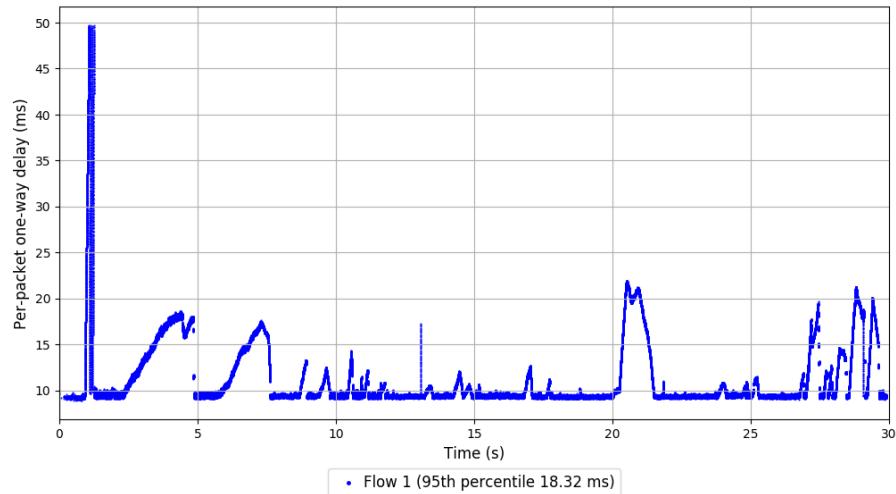
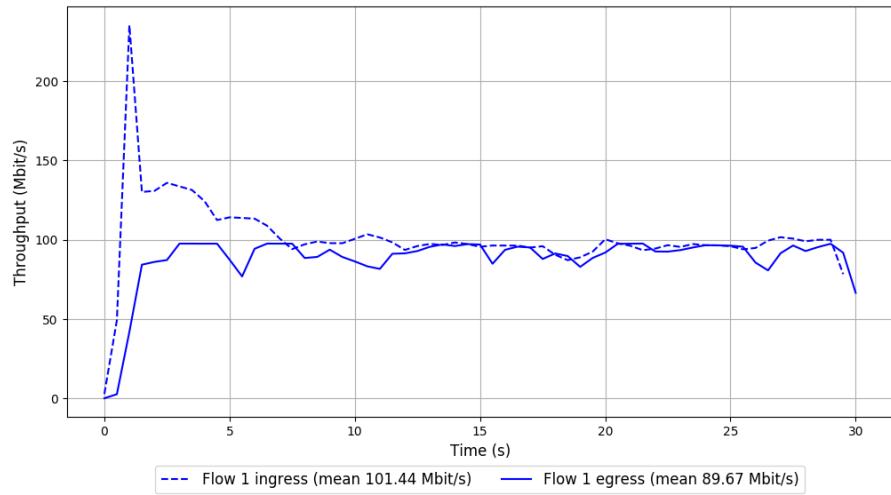


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-12-19 23:31:50
End at: 2018-12-19 23:32:20
Local clock offset: -1.605 ms
Remote clock offset: -2.414 ms

# Below is generated by plot.py at 2018-12-20 00:34:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.67 Mbit/s
95th percentile per-packet one-way delay: 18.323 ms
Loss rate: 11.60%
-- Flow 1:
Average throughput: 89.67 Mbit/s
95th percentile per-packet one-way delay: 18.323 ms
Loss rate: 11.60%
```

Run 3: Report of PCC-Allegro — Data Link

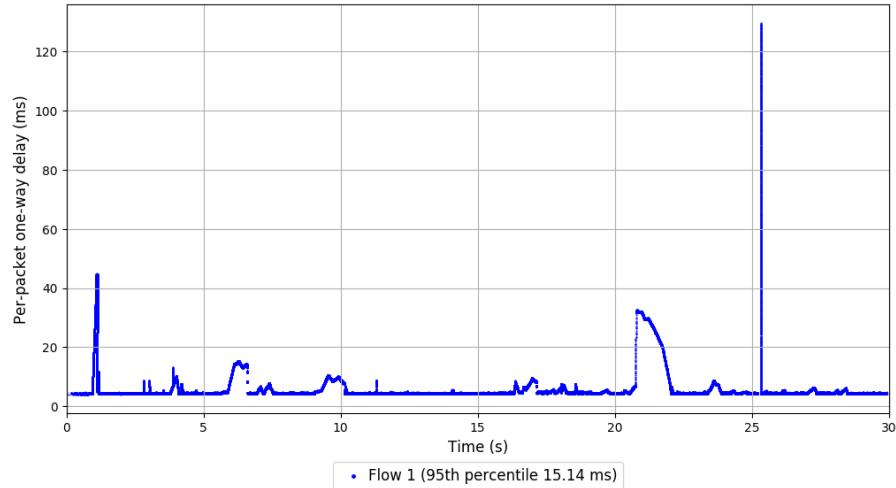
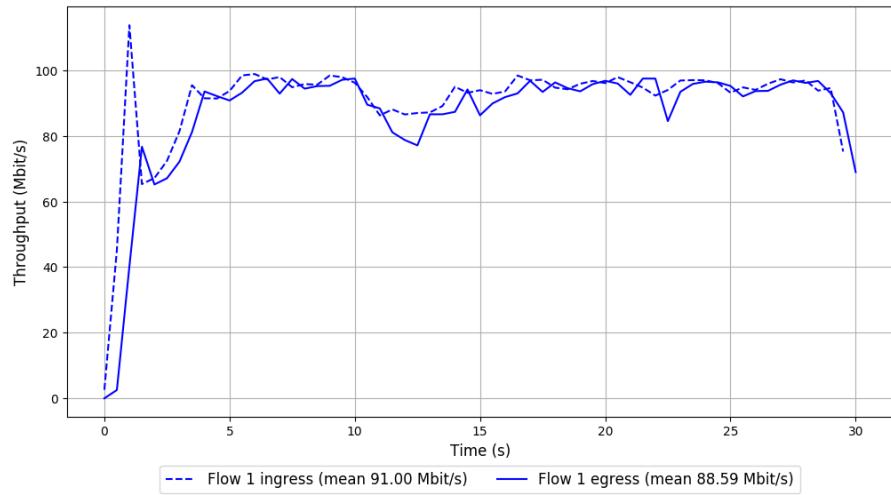


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-12-19 23:53:57
End at: 2018-12-19 23:54:27
Local clock offset: 3.298 ms
Remote clock offset: -3.455 ms

# Below is generated by plot.py at 2018-12-20 00:34:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.59 Mbit/s
95th percentile per-packet one-way delay: 15.142 ms
Loss rate: 2.65%
-- Flow 1:
Average throughput: 88.59 Mbit/s
95th percentile per-packet one-way delay: 15.142 ms
Loss rate: 2.65%
```

Run 4: Report of PCC-Allegro — Data Link

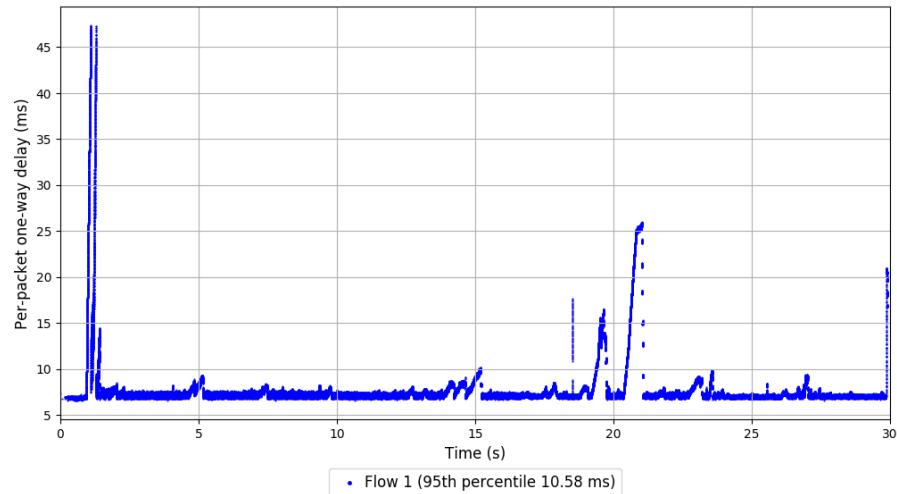
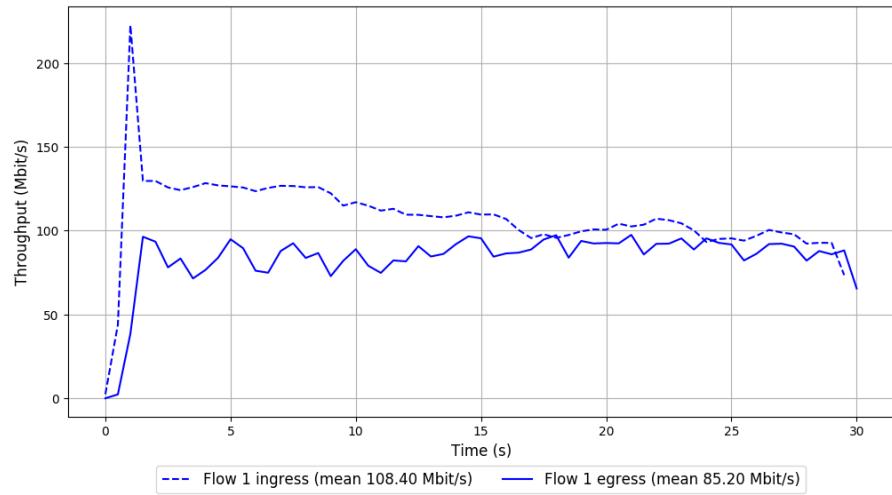


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-12-20 00:16:11
End at: 2018-12-20 00:16:41
Local clock offset: 1.686 ms
Remote clock offset: -2.706 ms

# Below is generated by plot.py at 2018-12-20 00:34:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.20 Mbit/s
95th percentile per-packet one-way delay: 10.583 ms
Loss rate: 21.38%
-- Flow 1:
Average throughput: 85.20 Mbit/s
95th percentile per-packet one-way delay: 10.583 ms
Loss rate: 21.38%
```

Run 5: Report of PCC-Allegro — Data Link

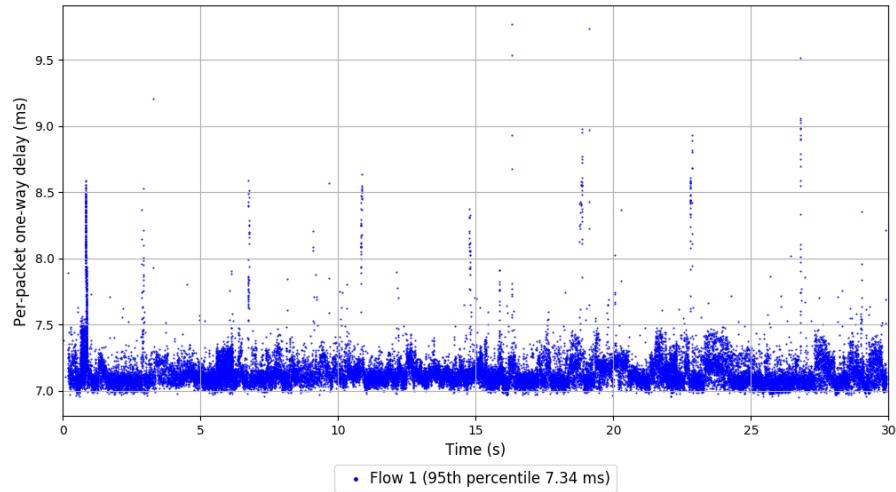
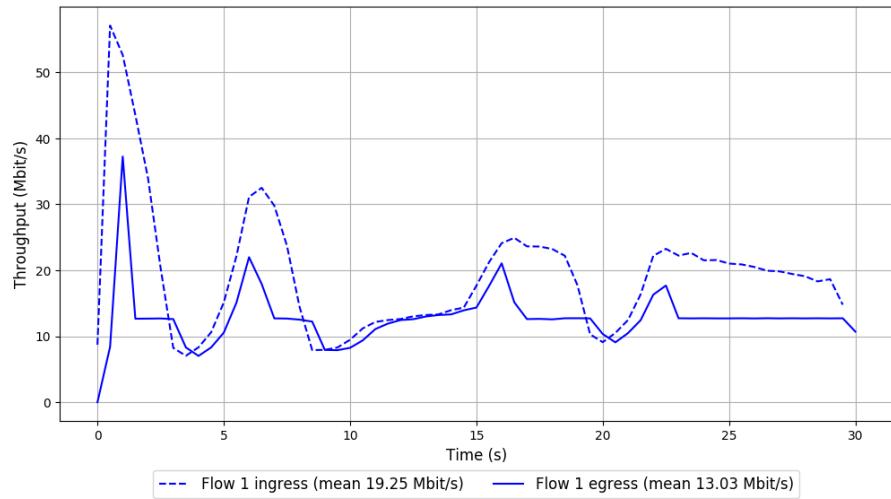


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-12-19 22:44:55
End at: 2018-12-19 22:45:25
Local clock offset: 1.385 ms
Remote clock offset: -2.112 ms

# Below is generated by plot.py at 2018-12-20 00:34:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.03 Mbit/s
95th percentile per-packet one-way delay: 7.338 ms
Loss rate: 32.32%
-- Flow 1:
Average throughput: 13.03 Mbit/s
95th percentile per-packet one-way delay: 7.338 ms
Loss rate: 32.32%
```

Run 1: Report of PCC-Expr — Data Link

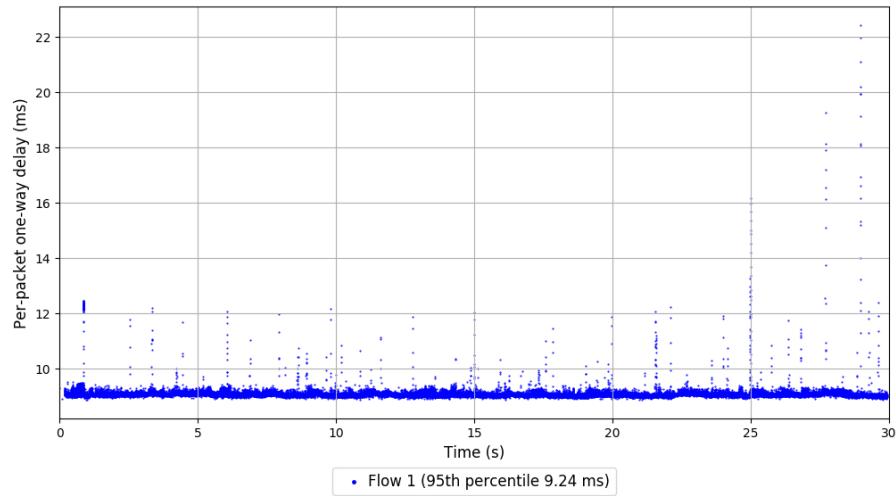
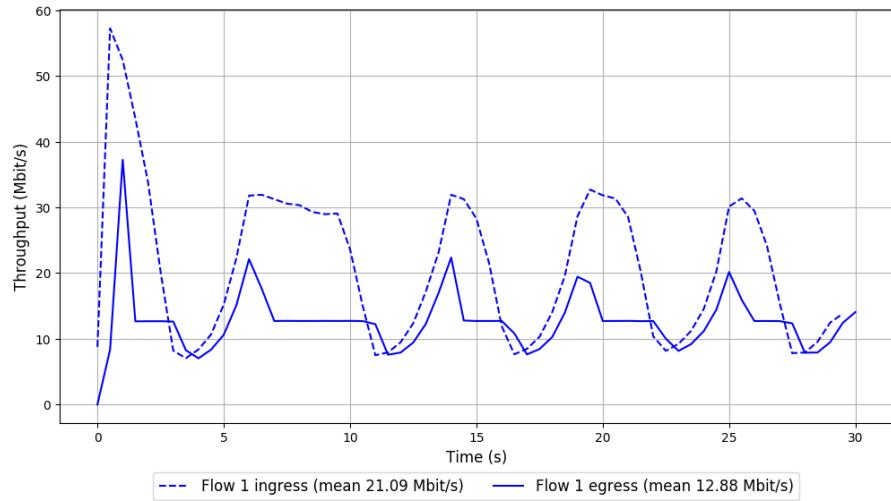


Run 2: Statistics of PCC-Expr

```
Start at: 2018-12-19 23:07:35
End at: 2018-12-19 23:08:05
Local clock offset: -1.245 ms
Remote clock offset: -2.681 ms

# Below is generated by plot.py at 2018-12-20 00:34:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.88 Mbit/s
95th percentile per-packet one-way delay: 9.244 ms
Loss rate: 38.93%
-- Flow 1:
Average throughput: 12.88 Mbit/s
95th percentile per-packet one-way delay: 9.244 ms
Loss rate: 38.93%
```

Run 2: Report of PCC-Expr — Data Link

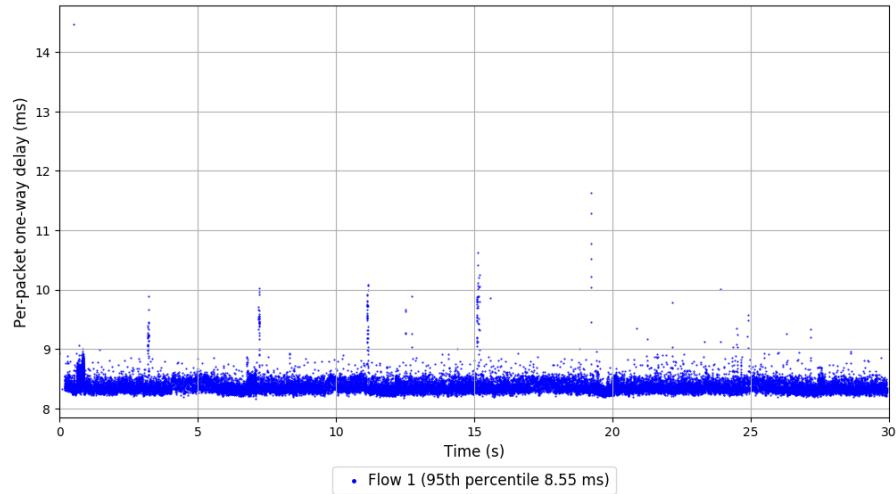
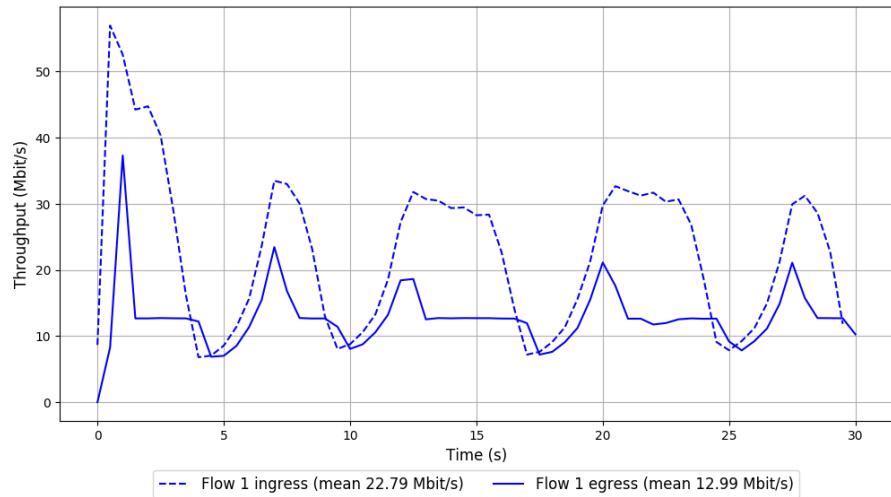


Run 3: Statistics of PCC-Expr

```
Start at: 2018-12-19 23:29:28
End at: 2018-12-19 23:29:58
Local clock offset: -1.005 ms
Remote clock offset: -2.619 ms

# Below is generated by plot.py at 2018-12-20 00:34:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.99 Mbit/s
95th percentile per-packet one-way delay: 8.552 ms
Loss rate: 43.00%
-- Flow 1:
Average throughput: 12.99 Mbit/s
95th percentile per-packet one-way delay: 8.552 ms
Loss rate: 43.00%
```

Run 3: Report of PCC-Expr — Data Link

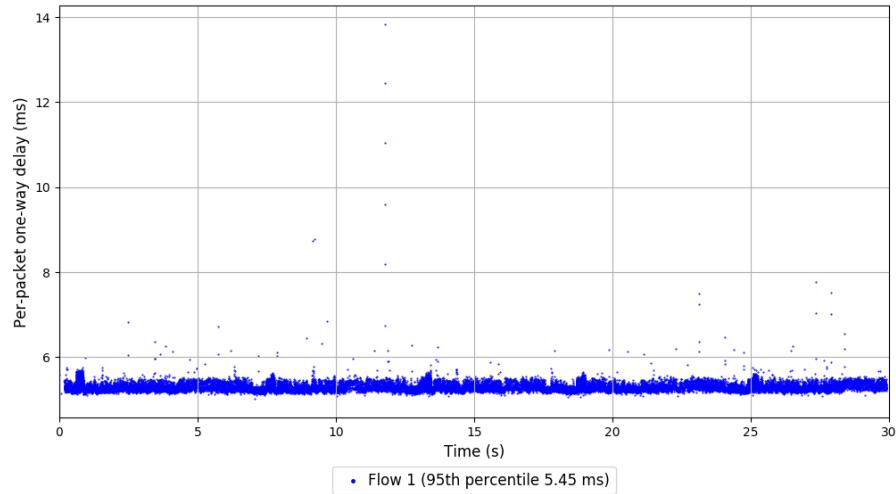
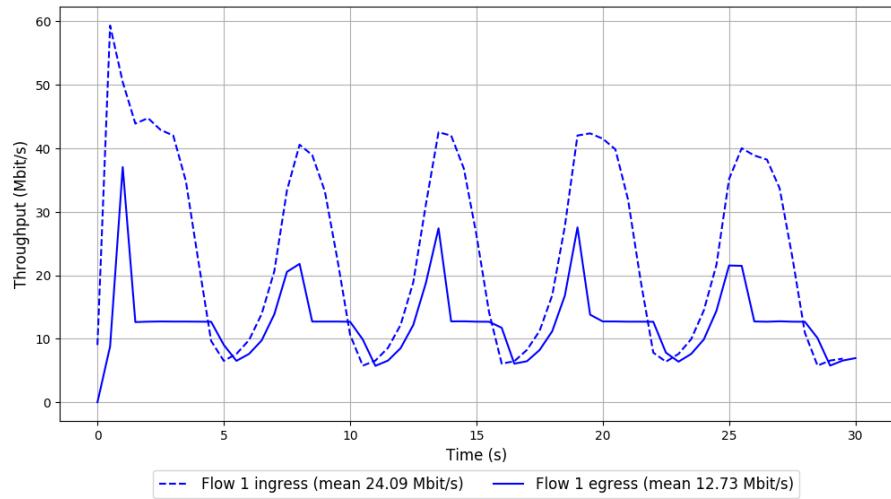


Run 4: Statistics of PCC-Expr

```
Start at: 2018-12-19 23:51:39
End at: 2018-12-19 23:52:09
Local clock offset: 2.31 ms
Remote clock offset: -3.393 ms

# Below is generated by plot.py at 2018-12-20 00:34:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 5.451 ms
Loss rate: 47.17%
-- Flow 1:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 5.451 ms
Loss rate: 47.17%
```

Run 4: Report of PCC-Expr — Data Link

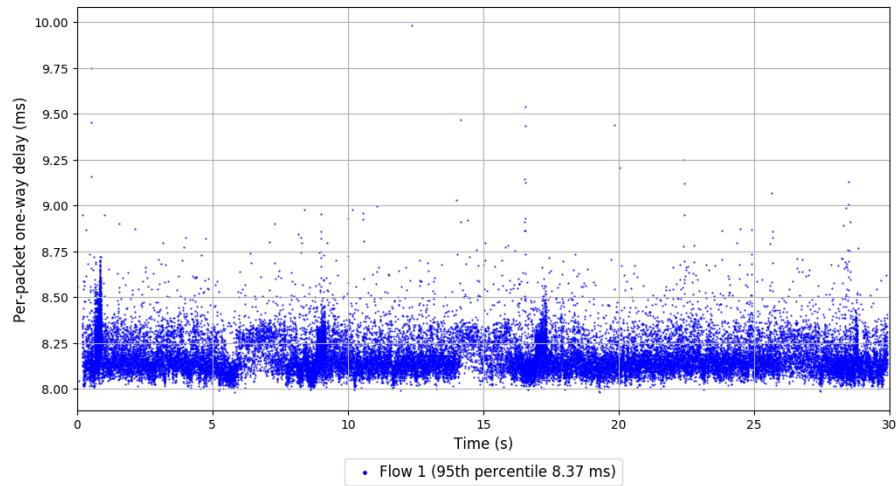
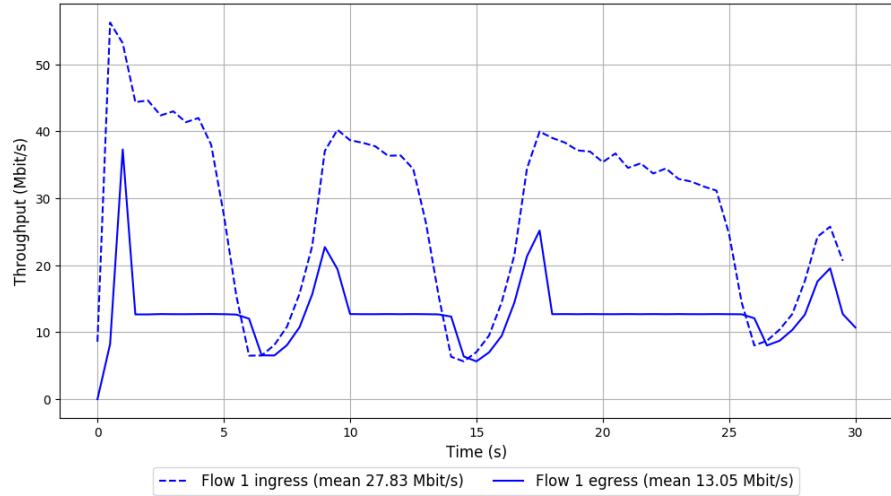


Run 5: Statistics of PCC-Expr

```
Start at: 2018-12-20 00:13:52
End at: 2018-12-20 00:14:22
Local clock offset: 0.003 ms
Remote clock offset: -3.029 ms

# Below is generated by plot.py at 2018-12-20 00:34:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.05 Mbit/s
95th percentile per-packet one-way delay: 8.369 ms
Loss rate: 53.10%
-- Flow 1:
Average throughput: 13.05 Mbit/s
95th percentile per-packet one-way delay: 8.369 ms
Loss rate: 53.10%
```

Run 5: Report of PCC-Expr — Data Link

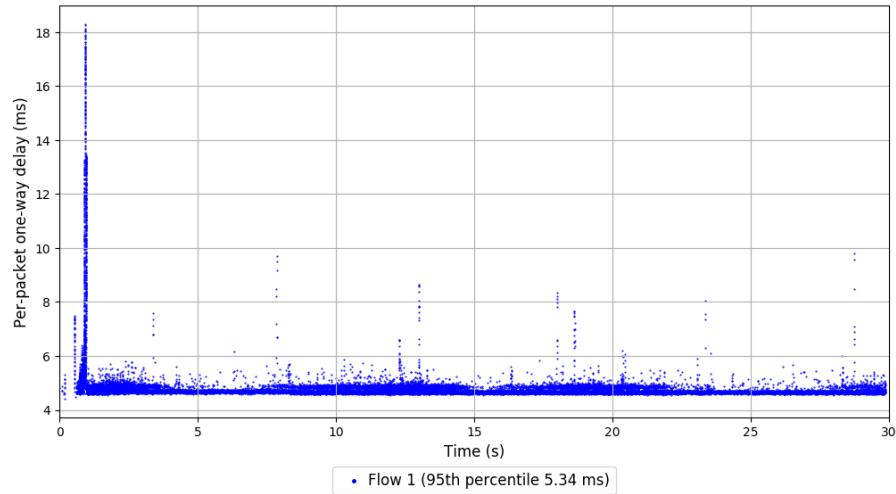
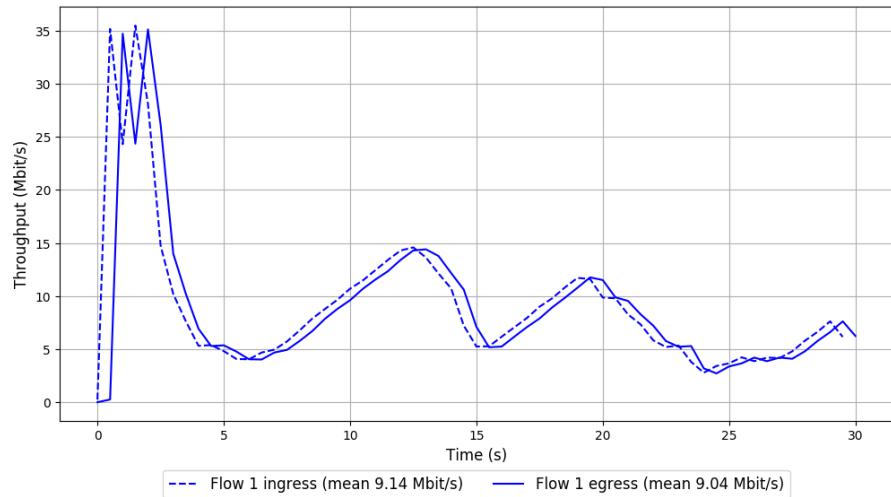


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-12-19 22:59:04
End at: 2018-12-19 22:59:34
Local clock offset: -2.458 ms
Remote clock offset: -8.375 ms

# Below is generated by plot.py at 2018-12-20 00:34:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.04 Mbit/s
95th percentile per-packet one-way delay: 5.341 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 9.04 Mbit/s
95th percentile per-packet one-way delay: 5.341 ms
Loss rate: 1.11%
```

Run 1: Report of QUIC Cubic — Data Link

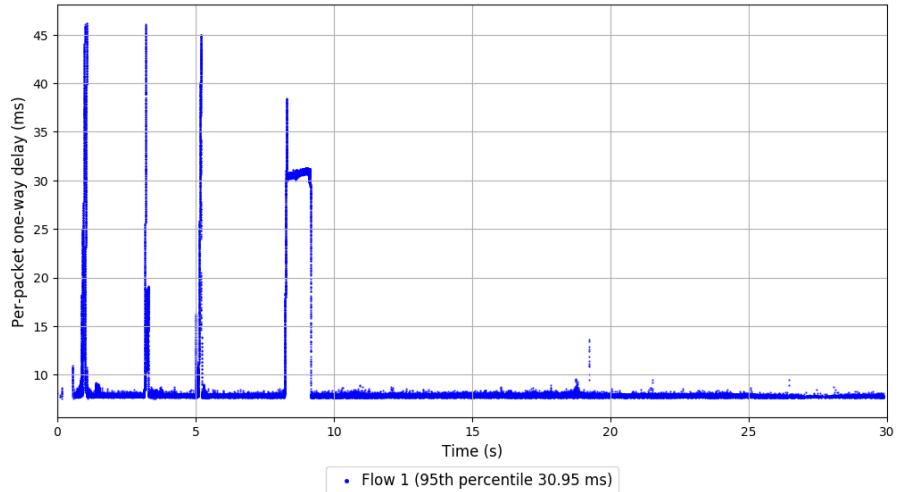
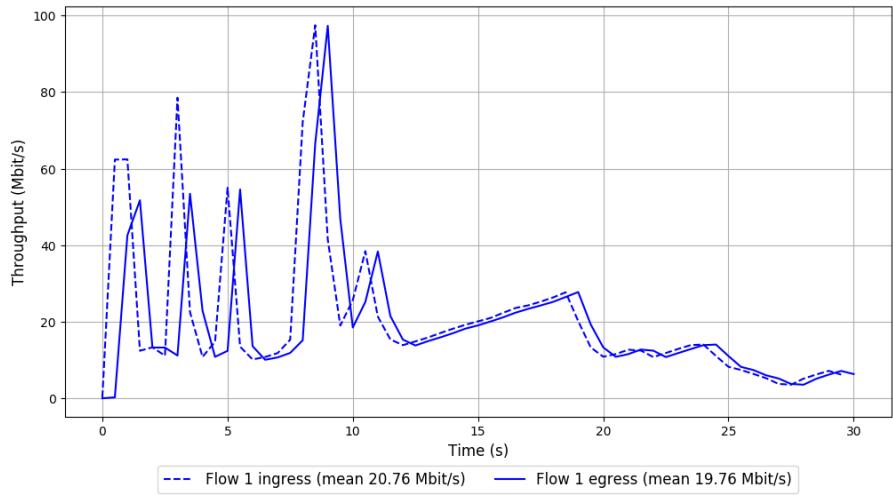


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-12-19 23:21:18
End at: 2018-12-19 23:21:48
Local clock offset: -0.368 ms
Remote clock offset: -2.545 ms

# Below is generated by plot.py at 2018-12-20 00:34:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.76 Mbit/s
95th percentile per-packet one-way delay: 30.951 ms
Loss rate: 4.86%
-- Flow 1:
Average throughput: 19.76 Mbit/s
95th percentile per-packet one-way delay: 30.951 ms
Loss rate: 4.86%
```

Run 2: Report of QUIC Cubic — Data Link

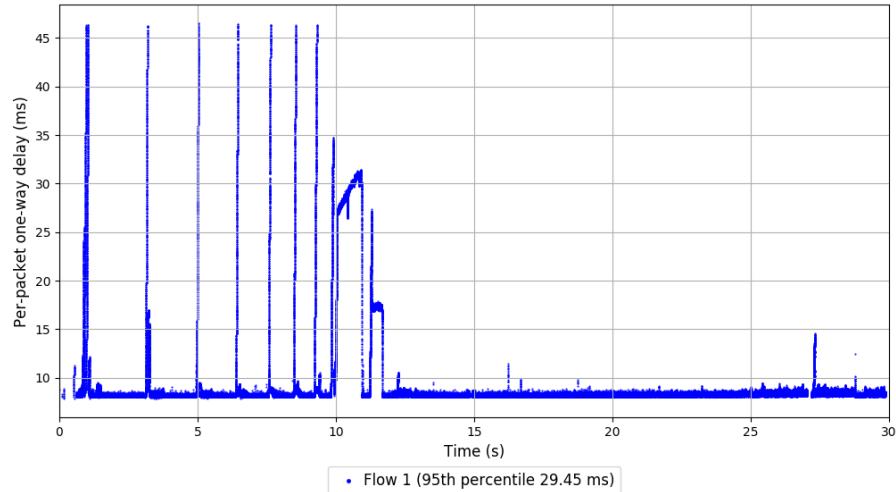
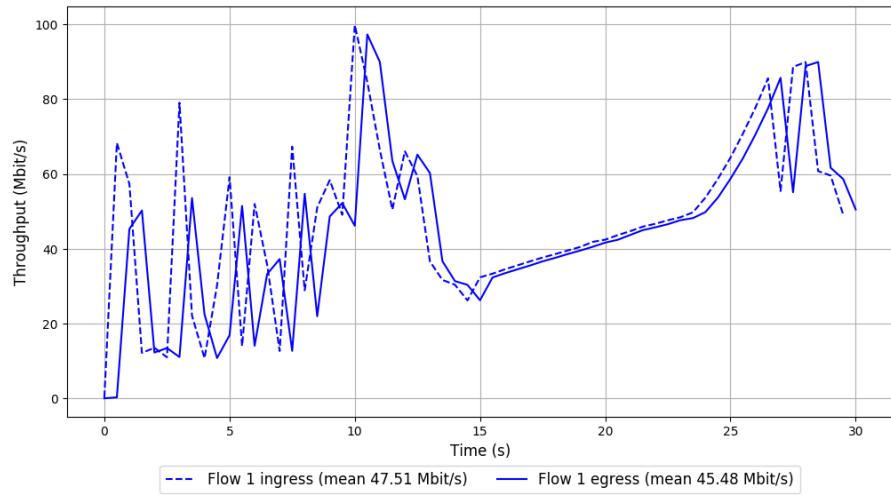


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-12-19 23:43:34
End at: 2018-12-19 23:44:04
Local clock offset: -0.006 ms
Remote clock offset: -2.504 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 45.48 Mbit/s
95th percentile per-packet one-way delay: 29.453 ms
Loss rate: 4.28%
-- Flow 1:
Average throughput: 45.48 Mbit/s
95th percentile per-packet one-way delay: 29.453 ms
Loss rate: 4.28%
```

Run 3: Report of QUIC Cubic — Data Link

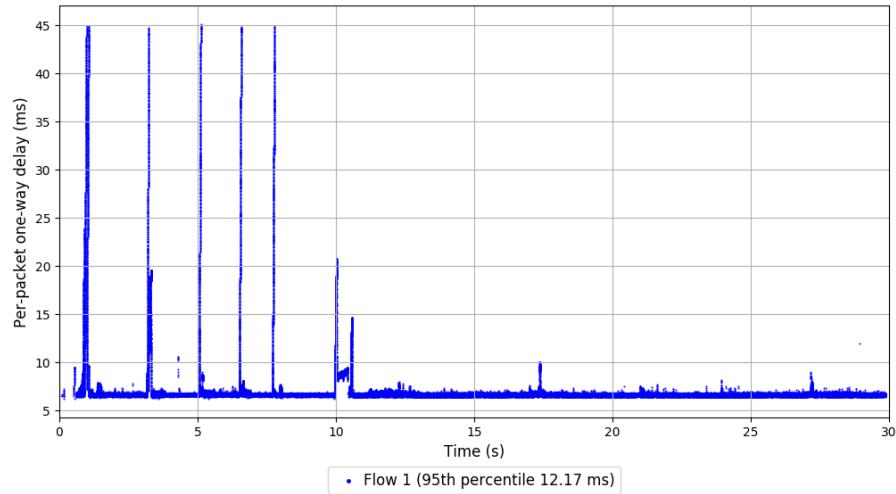
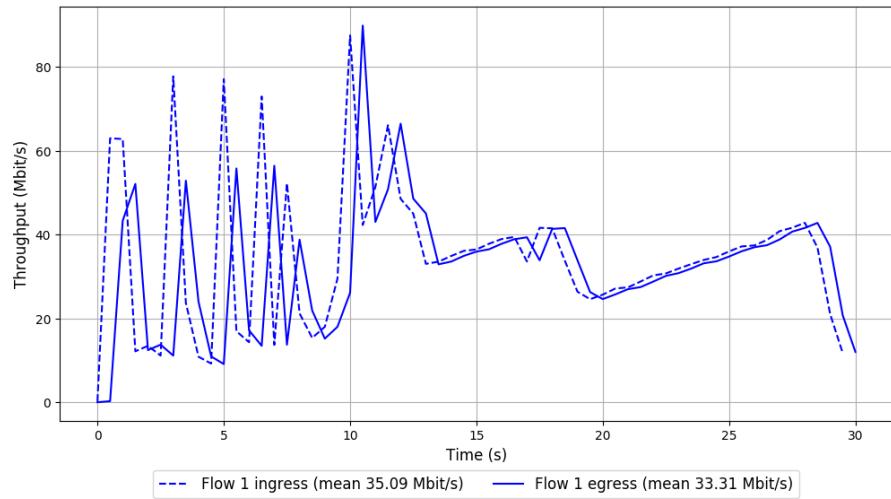


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-12-20 00:05:30
End at: 2018-12-20 00:06:00
Local clock offset: 2.373 ms
Remote clock offset: -2.235 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.31 Mbit/s
95th percentile per-packet one-way delay: 12.171 ms
Loss rate: 5.08%
-- Flow 1:
Average throughput: 33.31 Mbit/s
95th percentile per-packet one-way delay: 12.171 ms
Loss rate: 5.08%
```

Run 4: Report of QUIC Cubic — Data Link

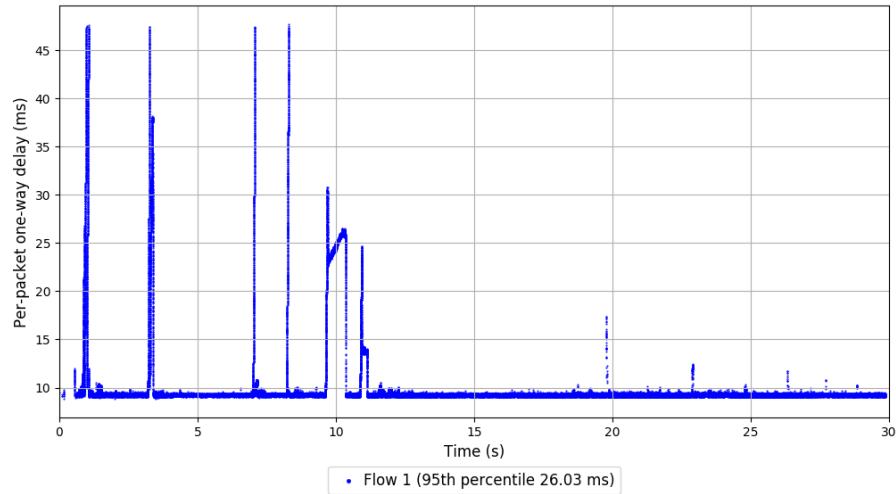
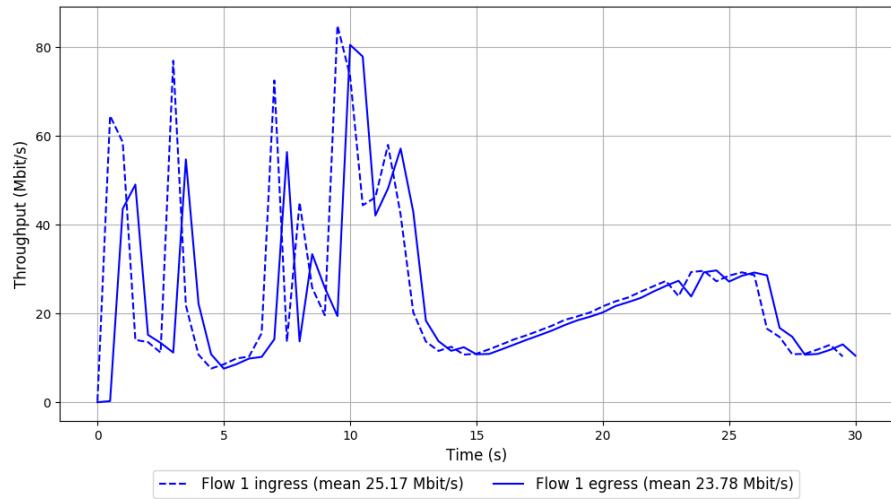


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-12-20 00:27:38
End at: 2018-12-20 00:28:08
Local clock offset: -0.878 ms
Remote clock offset: -2.962 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 23.78 Mbit/s
95th percentile per-packet one-way delay: 26.028 ms
Loss rate: 5.52%
-- Flow 1:
Average throughput: 23.78 Mbit/s
95th percentile per-packet one-way delay: 26.028 ms
Loss rate: 5.52%
```

Run 5: Report of QUIC Cubic — Data Link

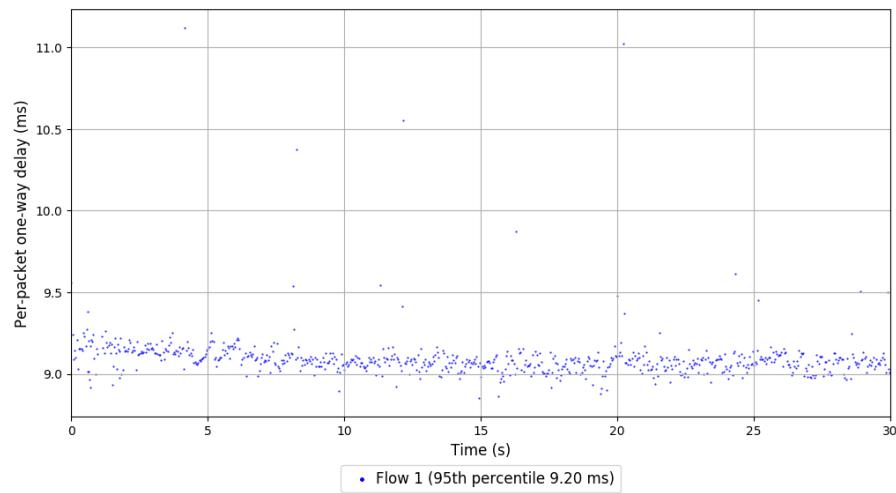
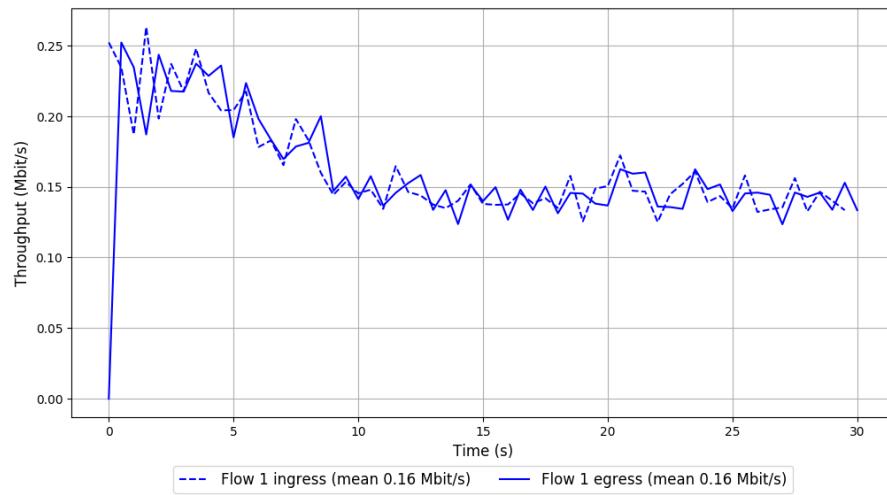


Run 1: Statistics of SCReAM

```
Start at: 2018-12-19 22:55:36
End at: 2018-12-19 22:56:06
Local clock offset: -0.927 ms
Remote clock offset: -2.59 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 9.202 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 9.202 ms
Loss rate: 0.14%
```

Run 1: Report of SCReAM — Data Link

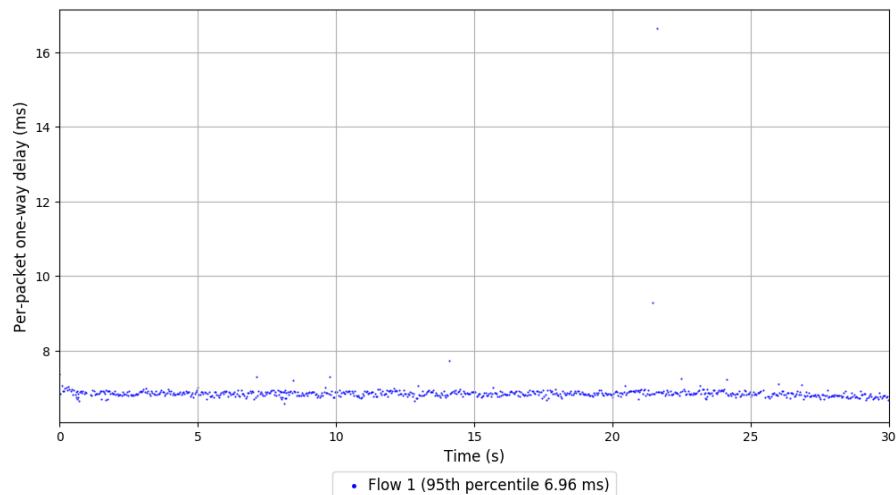
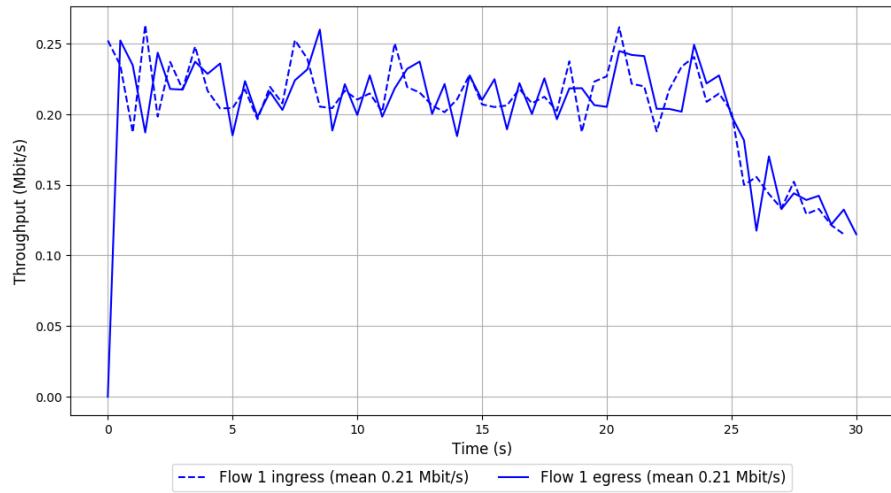


Run 2: Statistics of SCReAM

```
Start at: 2018-12-19 23:17:56
End at: 2018-12-19 23:18:26
Local clock offset: 0.314 ms
Remote clock offset: -3.055 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 6.955 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 6.955 ms
Loss rate: 0.44%
```

Run 2: Report of SCReAM — Data Link

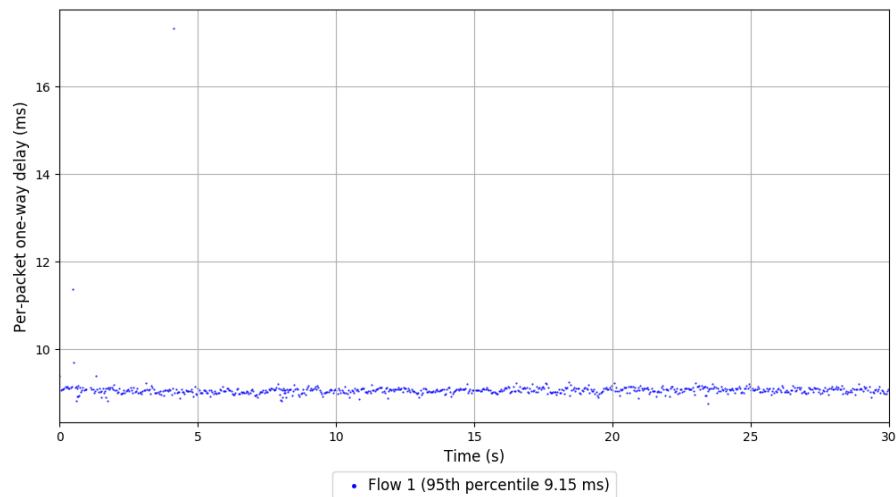
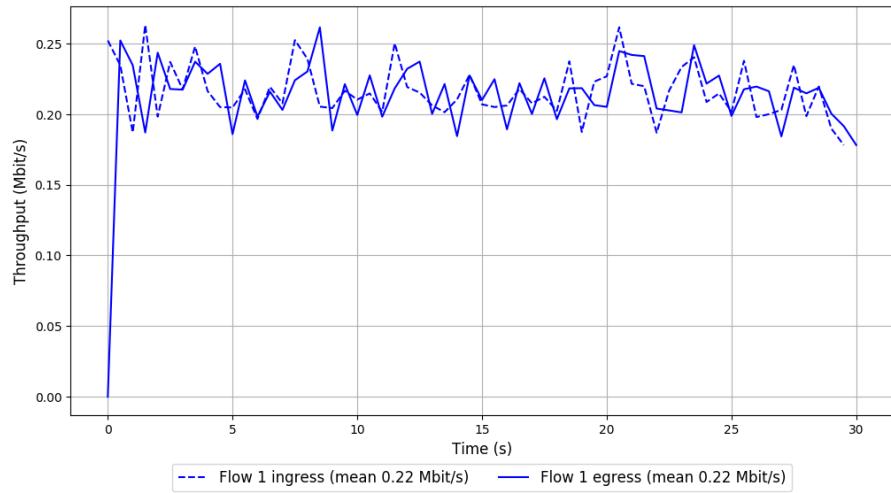


Run 3: Statistics of SCReAM

```
Start at: 2018-12-19 23:40:10
End at: 2018-12-19 23:40:40
Local clock offset: -1.03 ms
Remote clock offset: -2.547 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 9.148 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 9.148 ms
Loss rate: 0.14%
```

Run 3: Report of SCReAM — Data Link

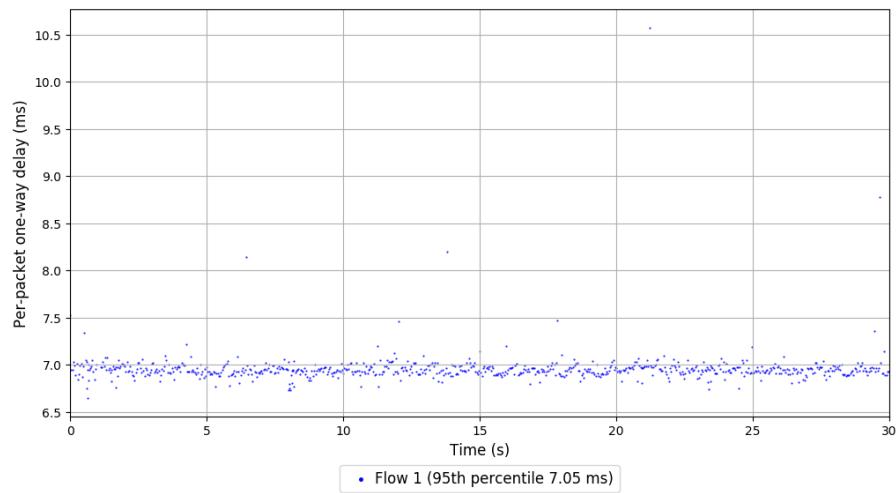
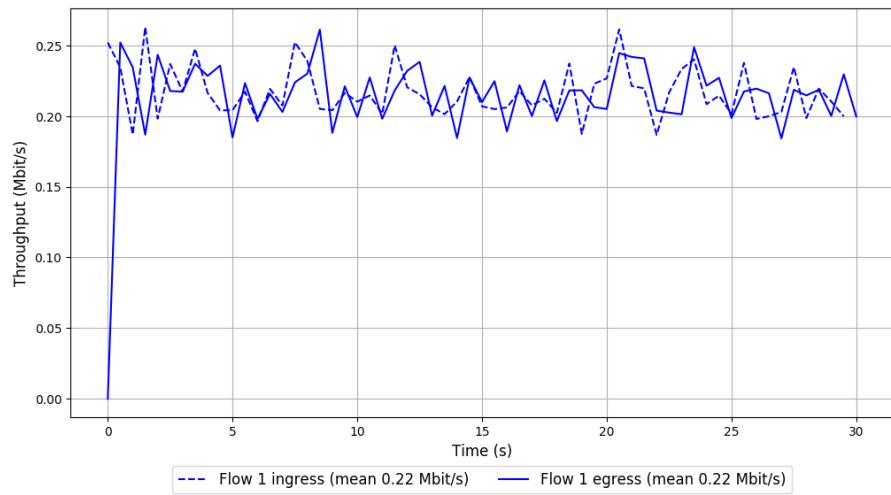


Run 4: Statistics of SCReAM

```
Start at: 2018-12-20 00:02:02
End at: 2018-12-20 00:02:32
Local clock offset: 0.792 ms
Remote clock offset: -3.484 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 7.051 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 7.051 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

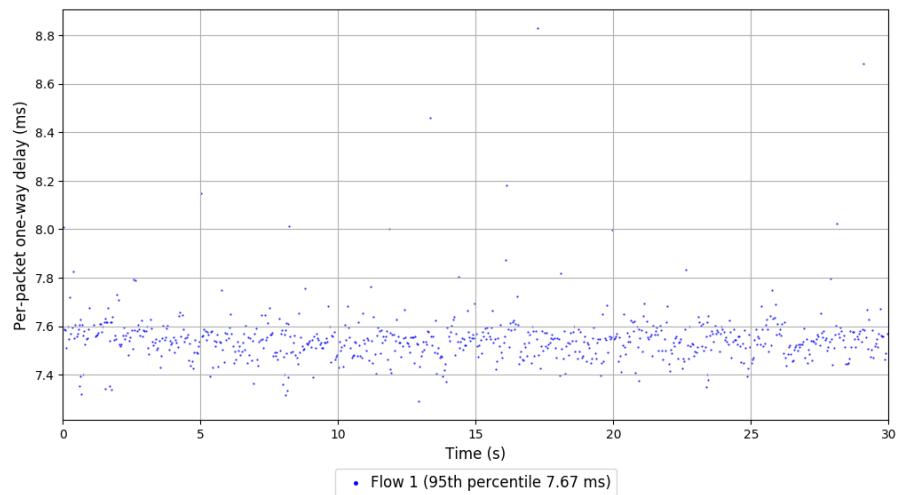
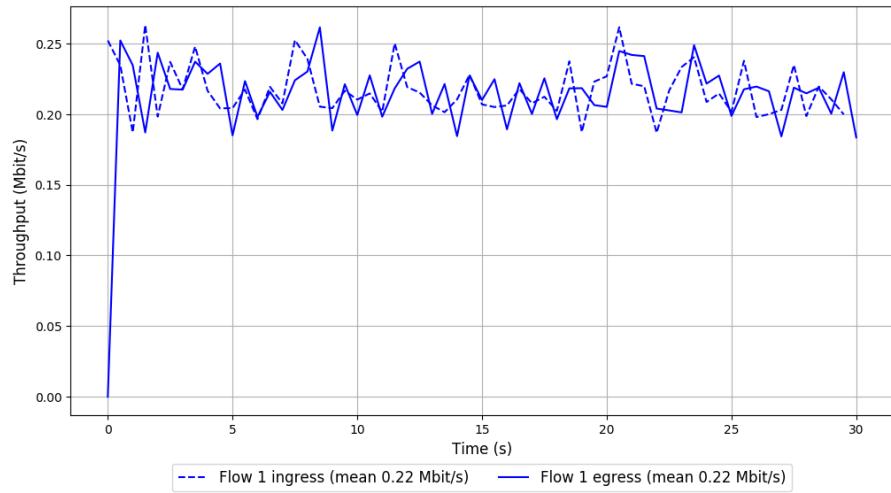


Run 5: Statistics of SCReAM

```
Start at: 2018-12-20 00:24:14
End at: 2018-12-20 00:24:45
Local clock offset: 1.257 ms
Remote clock offset: -2.473 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 7.669 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 7.669 ms
Loss rate: 0.13%
```

Run 5: Report of SCReAM — Data Link

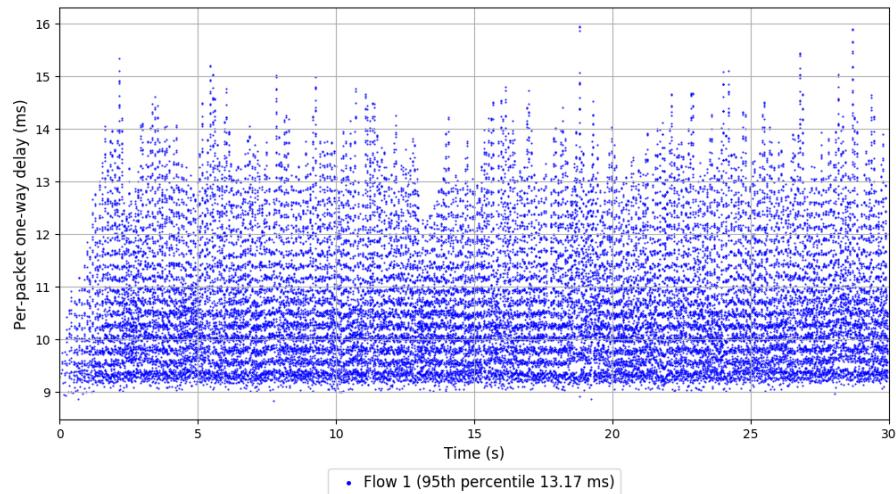
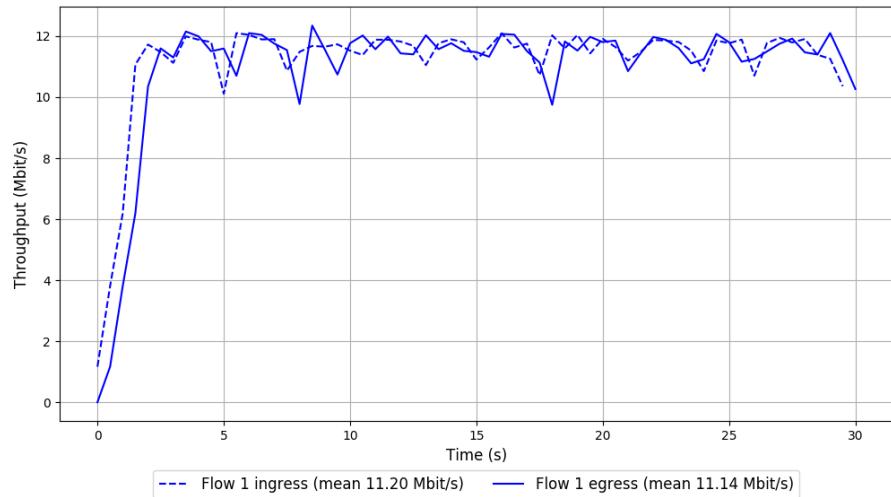


Run 1: Statistics of Sprout

```
Start at: 2018-12-19 22:57:57
End at: 2018-12-19 22:58:27
Local clock offset: -0.847 ms
Remote clock offset: -2.494 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.14 Mbit/s
95th percentile per-packet one-way delay: 13.169 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 11.14 Mbit/s
95th percentile per-packet one-way delay: 13.169 ms
Loss rate: 0.56%
```

Run 1: Report of Sprout — Data Link

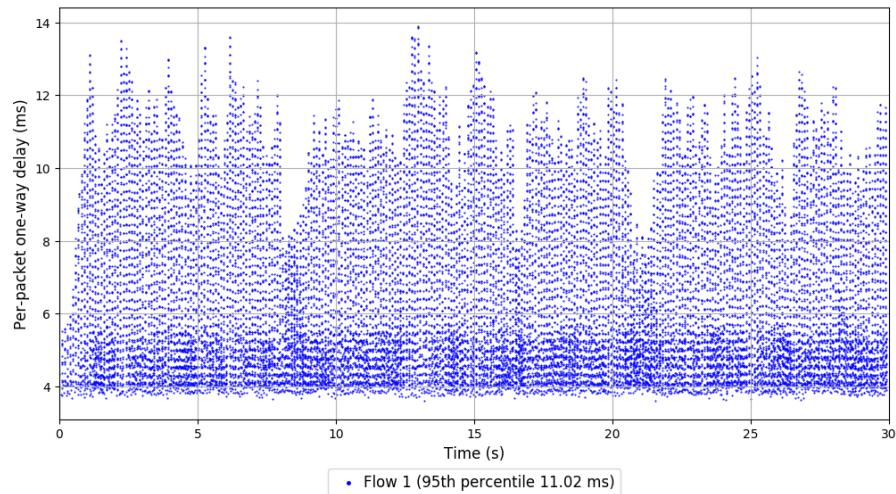
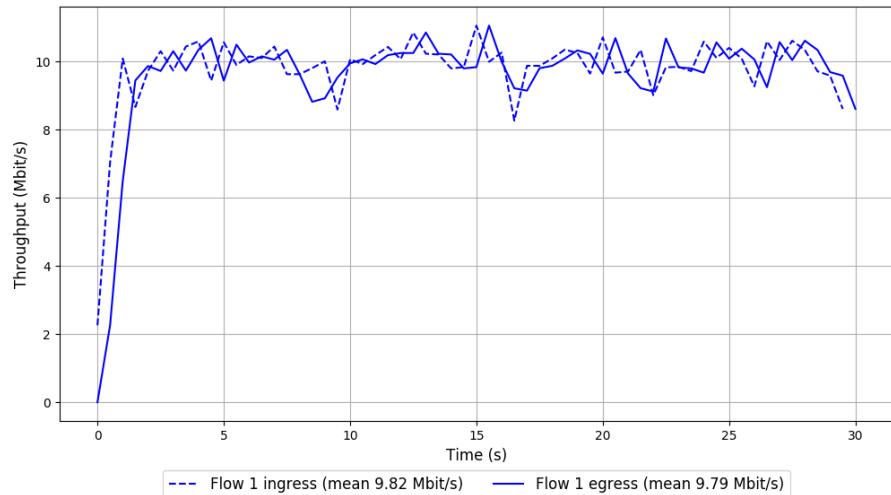


Run 2: Statistics of Sprout

```
Start at: 2018-12-19 23:20:11
End at: 2018-12-19 23:20:41
Local clock offset: 3.293 ms
Remote clock offset: -2.92 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.79 Mbit/s
95th percentile per-packet one-way delay: 11.016 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 9.79 Mbit/s
95th percentile per-packet one-way delay: 11.016 ms
Loss rate: 0.27%
```

Run 2: Report of Sprout — Data Link

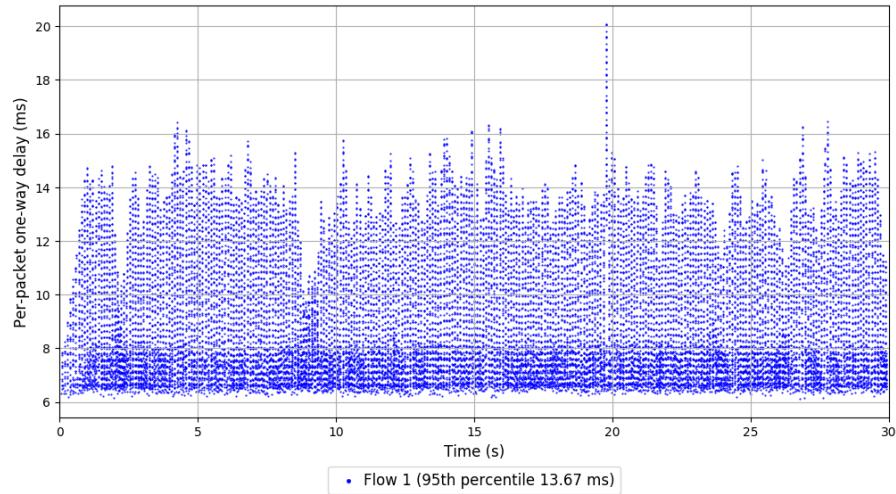
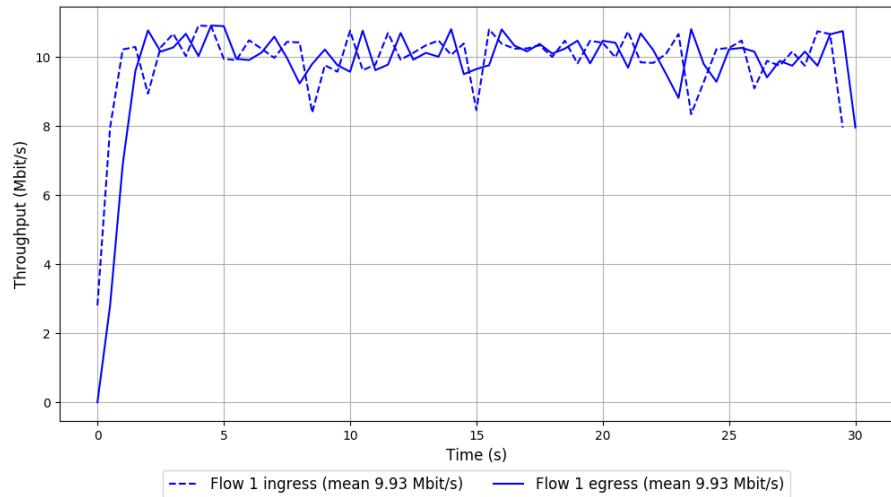


Run 3: Statistics of Sprout

```
Start at: 2018-12-19 23:42:28
End at: 2018-12-19 23:42:58
Local clock offset: 1.936 ms
Remote clock offset: -2.27 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.93 Mbit/s
95th percentile per-packet one-way delay: 13.674 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.93 Mbit/s
95th percentile per-packet one-way delay: 13.674 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

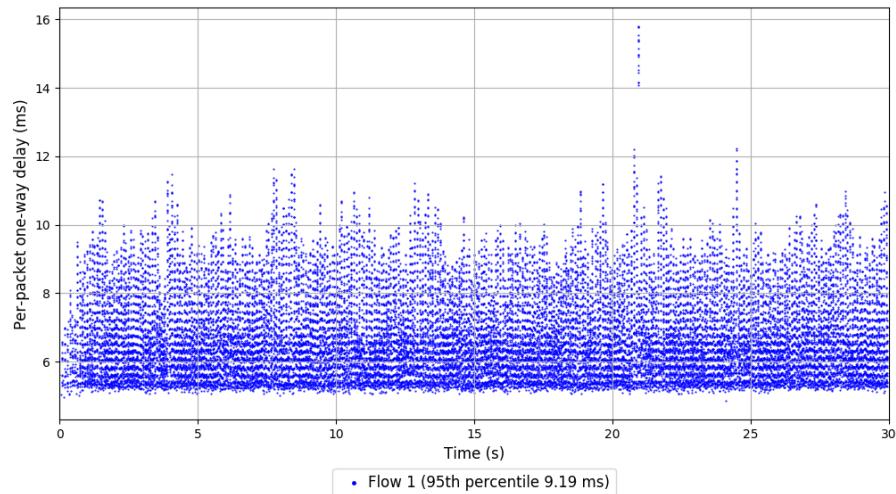
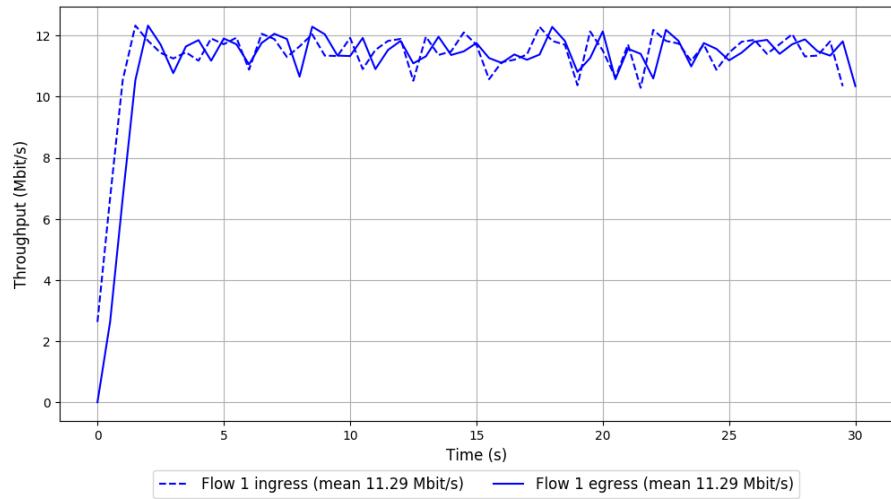


Run 4: Statistics of Sprout

```
Start at: 2018-12-20 00:04:23
End at: 2018-12-20 00:04:53
Local clock offset: 2.617 ms
Remote clock offset: -3.456 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.29 Mbit/s
95th percentile per-packet one-way delay: 9.194 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.29 Mbit/s
95th percentile per-packet one-way delay: 9.194 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

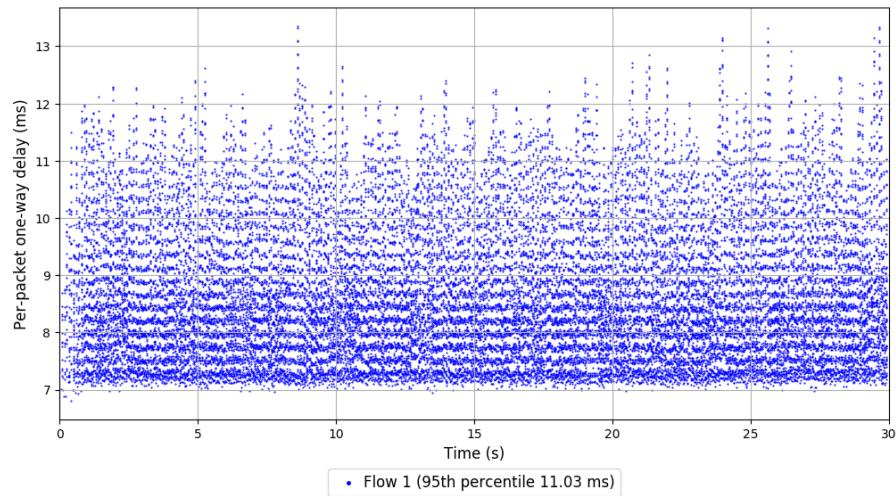
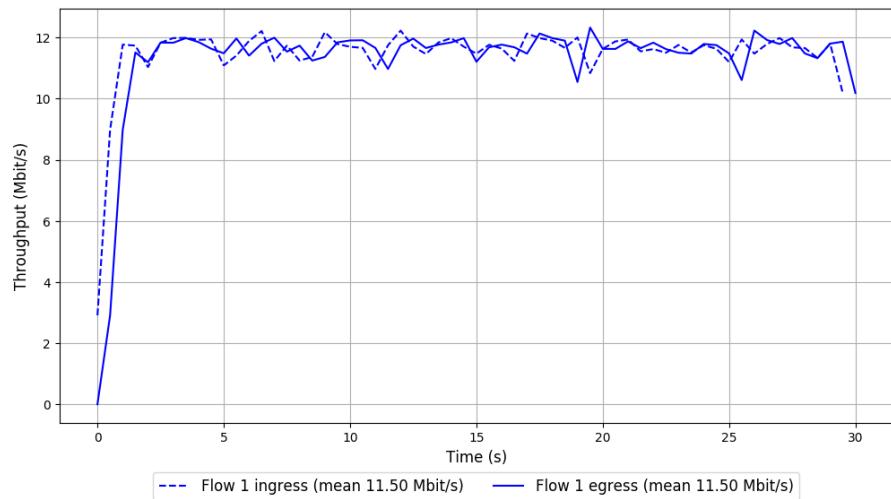


Run 5: Statistics of Sprout

```
Start at: 2018-12-20 00:26:32
End at: 2018-12-20 00:27:02
Local clock offset: 1.044 ms
Remote clock offset: -3.223 ms

# Below is generated by plot.py at 2018-12-20 00:35:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.50 Mbit/s
95th percentile per-packet one-way delay: 11.028 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 11.50 Mbit/s
95th percentile per-packet one-way delay: 11.028 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

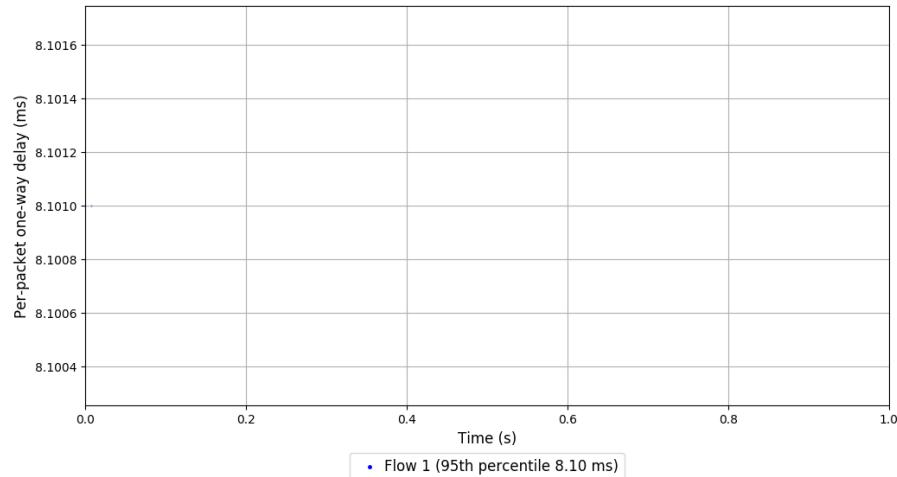
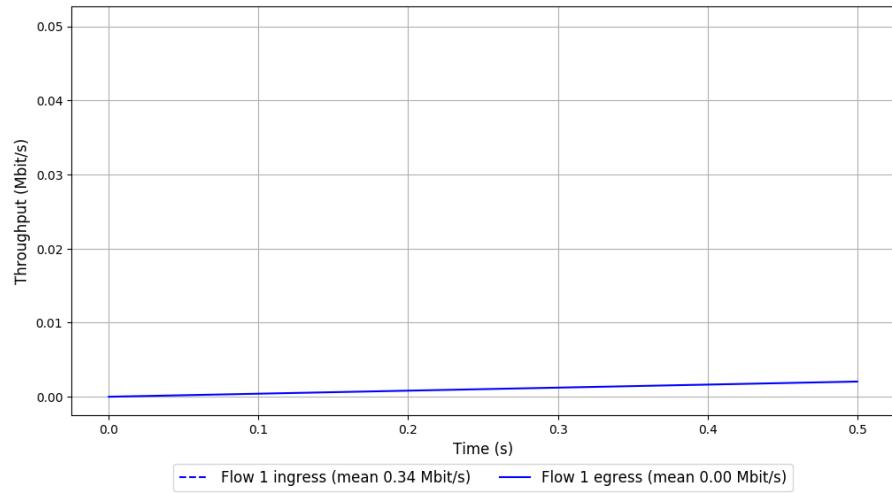
Start at: 2018-12-19 22:43:44

End at: 2018-12-19 22:44:14

Local clock offset: 0.389 ms

Remote clock offset: -2.867 ms

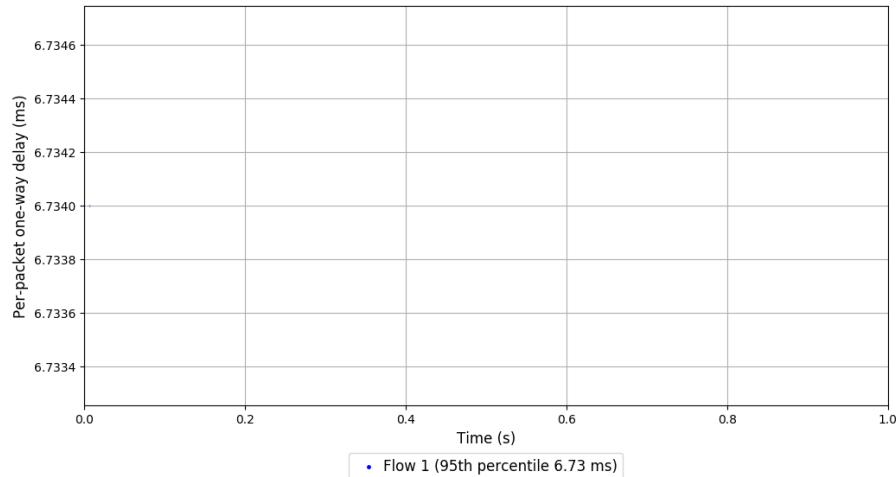
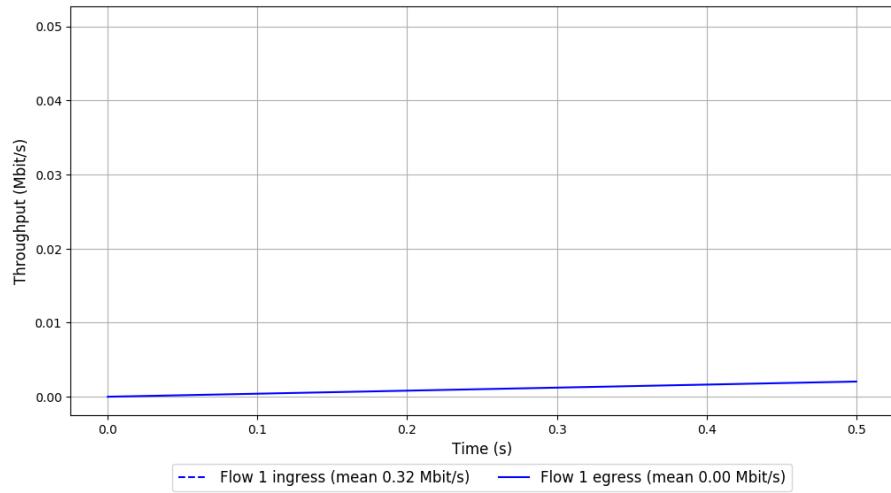
Run 1: Report of TaoVA-100x — Data Link



Run 2: Statistics of TaoVA-100x

Start at: 2018-12-19 23:06:30
End at: 2018-12-19 23:07:00
Local clock offset: 1.732 ms
Remote clock offset: -2.748 ms

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



Run 3: Statistics of TaoVA-100x

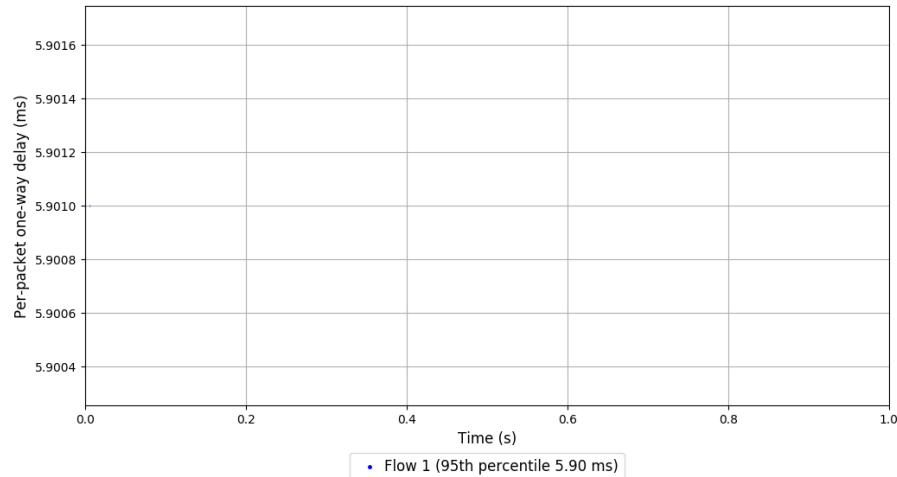
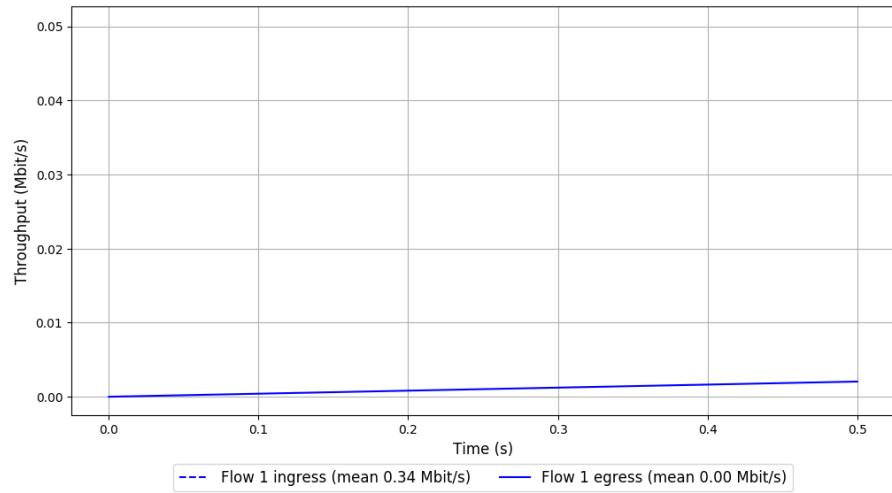
Start at: 2018-12-19 23:28:22

End at: 2018-12-19 23:28:52

Local clock offset: 2.065 ms

Remote clock offset: -2.494 ms

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



Run 4: Statistics of TaoVA-100x

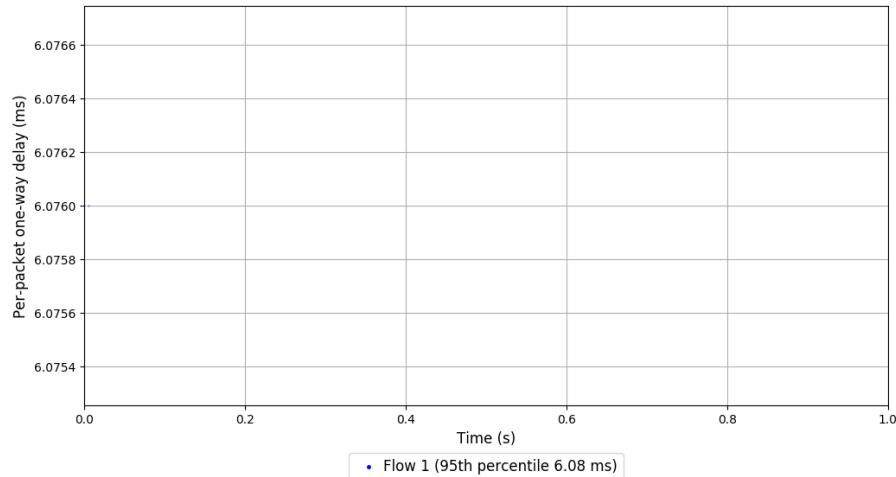
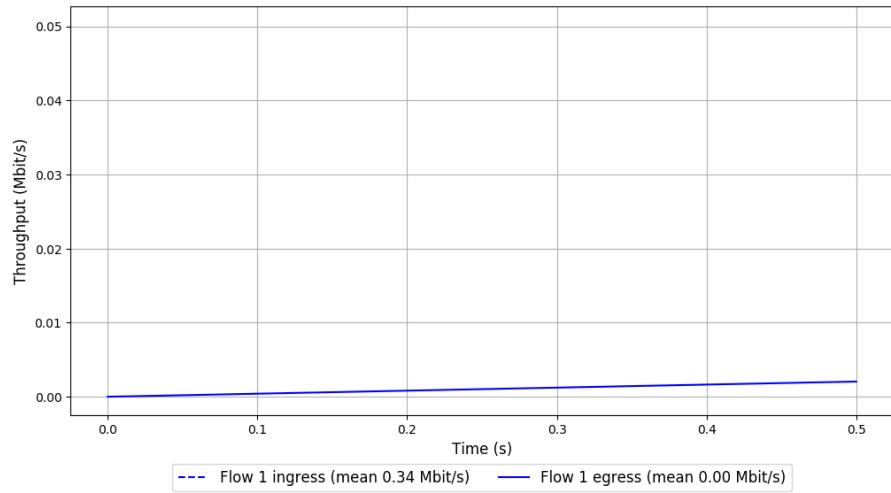
Start at: 2018-12-19 23:50:34

End at: 2018-12-19 23:51:04

Local clock offset: 1.966 ms

Remote clock offset: -3.562 ms

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



Run 5: Statistics of TaoVA-100x

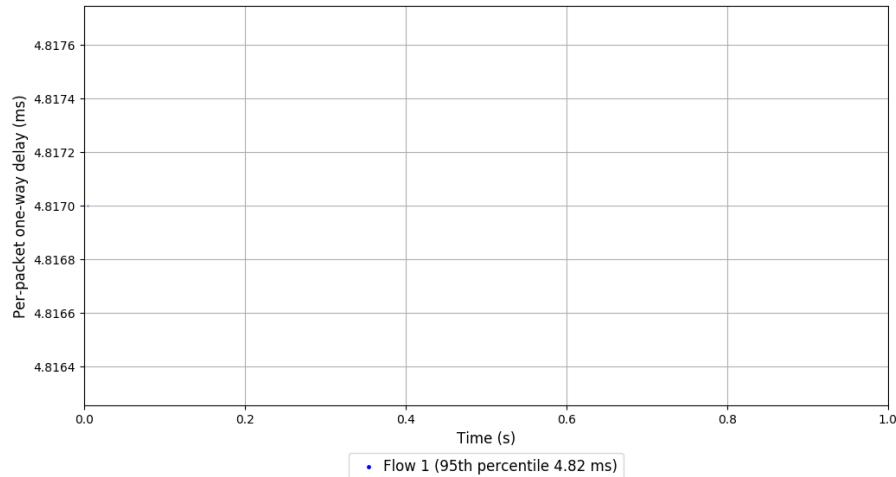
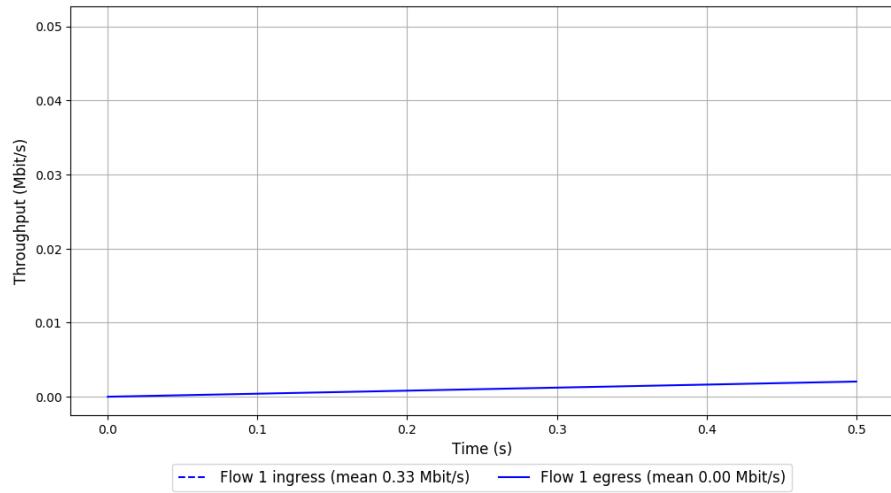
Start at: 2018-12-20 00:12:46

End at: 2018-12-20 00:13:16

Local clock offset: 0.981 ms

Remote clock offset: -5.74 ms

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

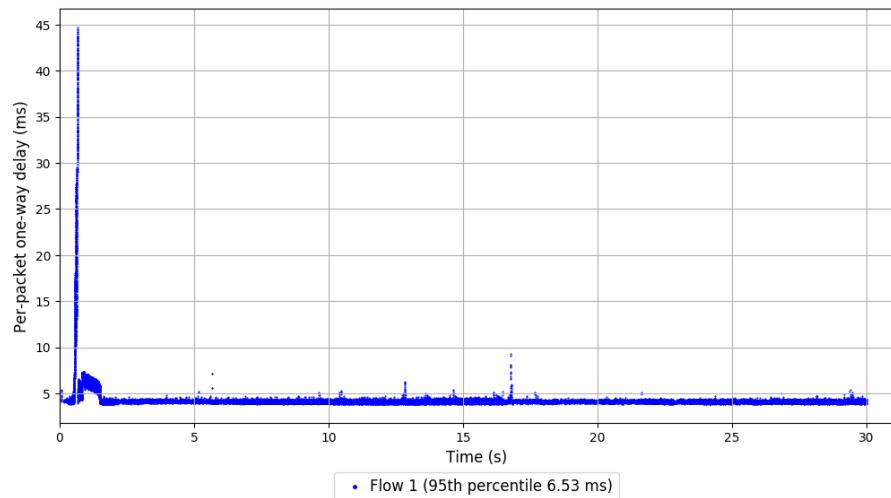
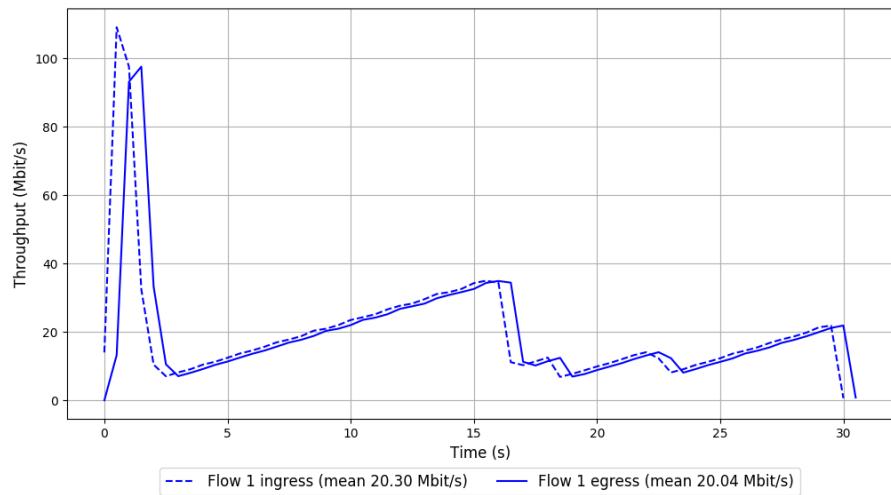


Run 1: Statistics of TCP Vegas

```
Start at: 2018-12-19 22:53:08
End at: 2018-12-19 22:53:38
Local clock offset: 3.78 ms
Remote clock offset: -2.952 ms

# Below is generated by plot.py at 2018-12-20 00:35:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 20.04 Mbit/s
95th percentile per-packet one-way delay: 6.532 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 20.04 Mbit/s
95th percentile per-packet one-way delay: 6.532 ms
Loss rate: 1.31%
```

Run 1: Report of TCP Vegas — Data Link

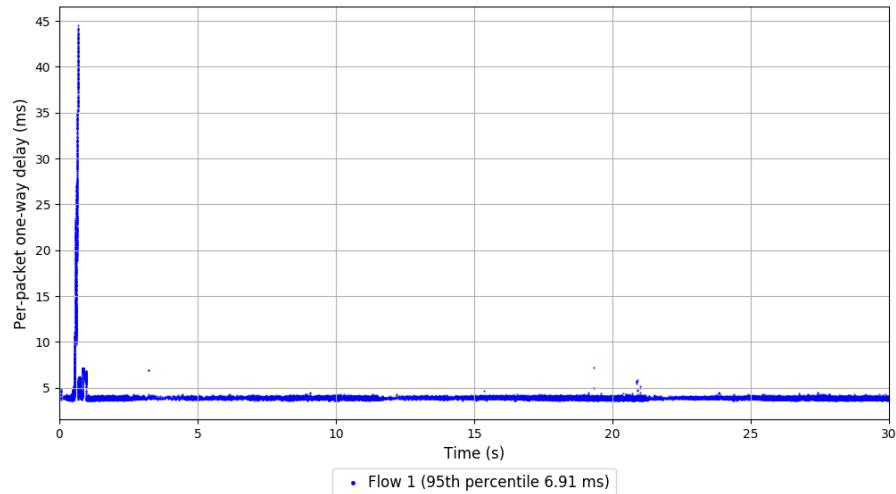
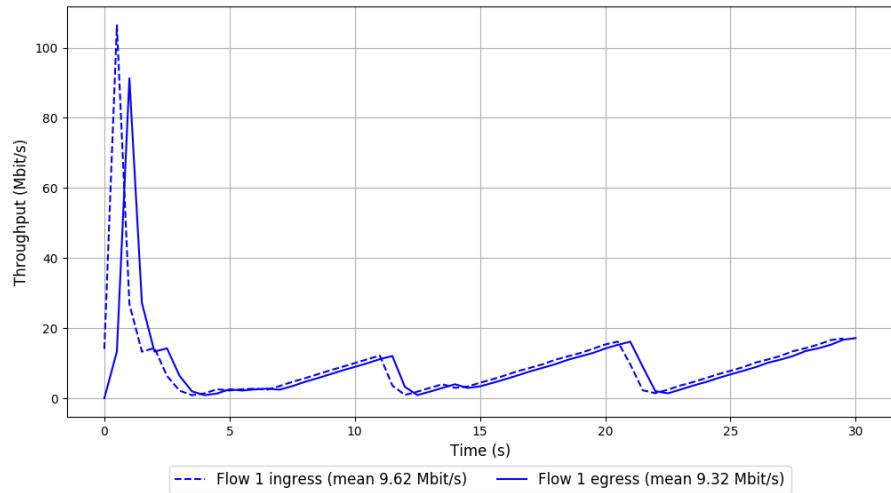


Run 2: Statistics of TCP Vegas

```
Start at: 2018-12-19 23:15:40
End at: 2018-12-19 23:16:10
Local clock offset: 3.51 ms
Remote clock offset: -2.942 ms

# Below is generated by plot.py at 2018-12-20 00:35:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.32 Mbit/s
95th percentile per-packet one-way delay: 6.908 ms
Loss rate: 3.06%
-- Flow 1:
Average throughput: 9.32 Mbit/s
95th percentile per-packet one-way delay: 6.908 ms
Loss rate: 3.06%
```

Run 2: Report of TCP Vegas — Data Link

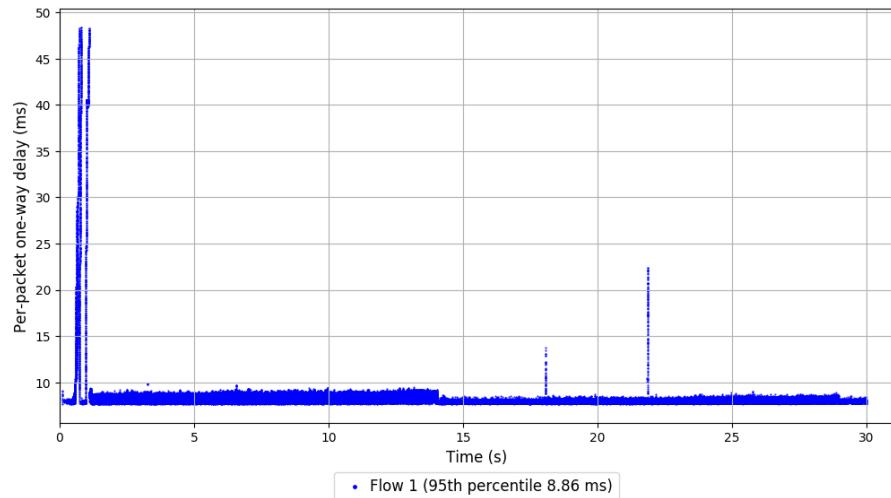
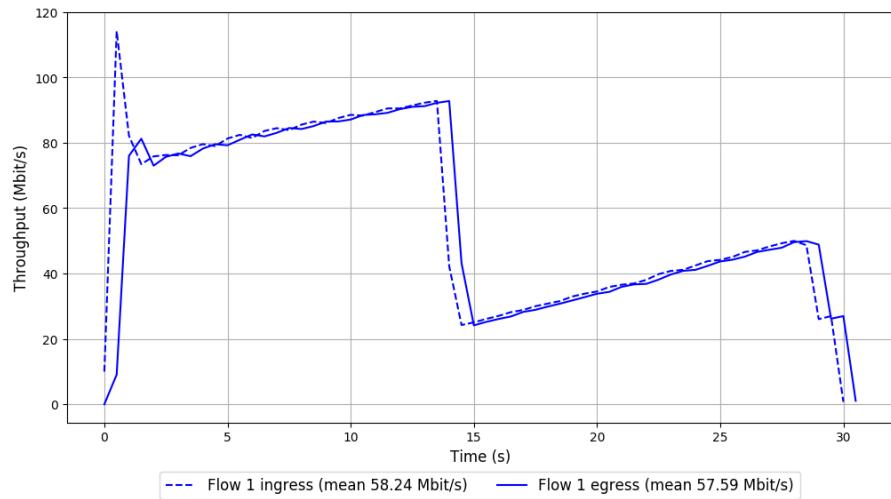


Run 3: Statistics of TCP Vegas

```
Start at: 2018-12-19 23:37:47
End at: 2018-12-19 23:38:17
Local clock offset: -0.523 ms
Remote clock offset: -2.936 ms

# Below is generated by plot.py at 2018-12-20 00:35:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.59 Mbit/s
95th percentile per-packet one-way delay: 8.864 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 57.59 Mbit/s
95th percentile per-packet one-way delay: 8.864 ms
Loss rate: 1.12%
```

Run 3: Report of TCP Vegas — Data Link

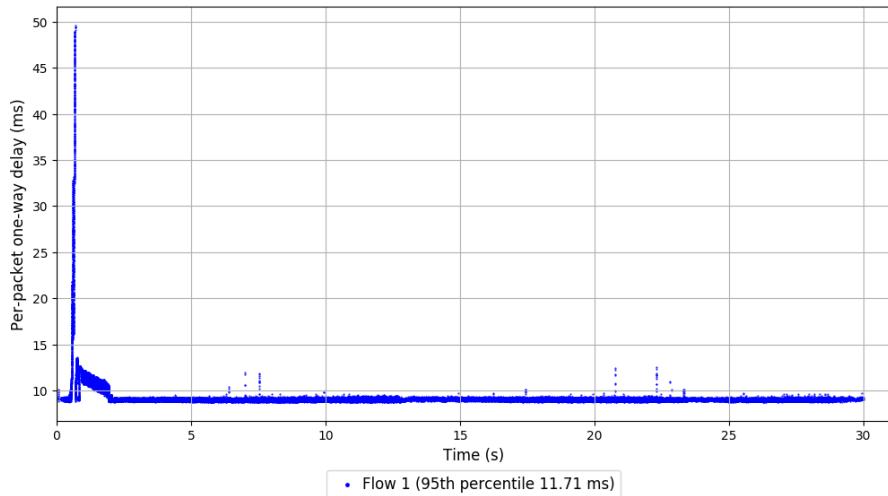
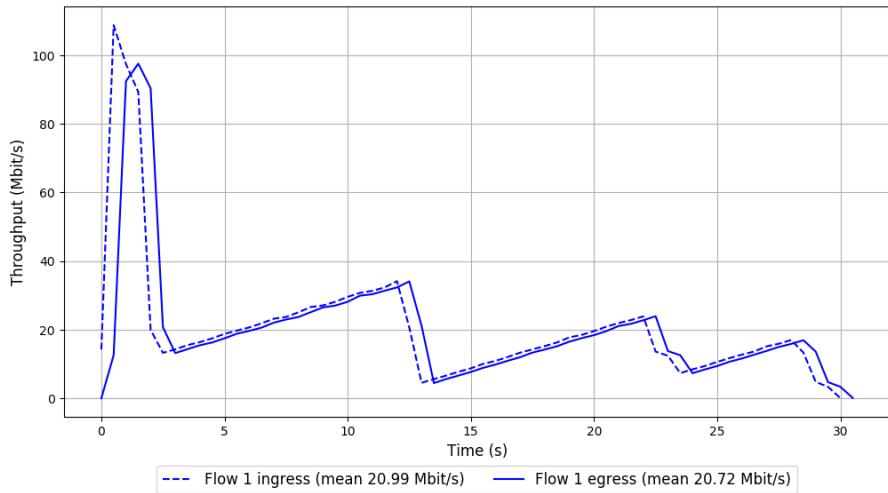


Run 4: Statistics of TCP Vegas

```
Start at: 2018-12-19 23:59:41
End at: 2018-12-20 00:00:11
Local clock offset: -0.229 ms
Remote clock offset: -2.468 ms

# Below is generated by plot.py at 2018-12-20 00:35:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 20.72 Mbit/s
95th percentile per-packet one-way delay: 11.713 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 20.72 Mbit/s
95th percentile per-packet one-way delay: 11.713 ms
Loss rate: 1.27%
```

Run 4: Report of TCP Vegas — Data Link

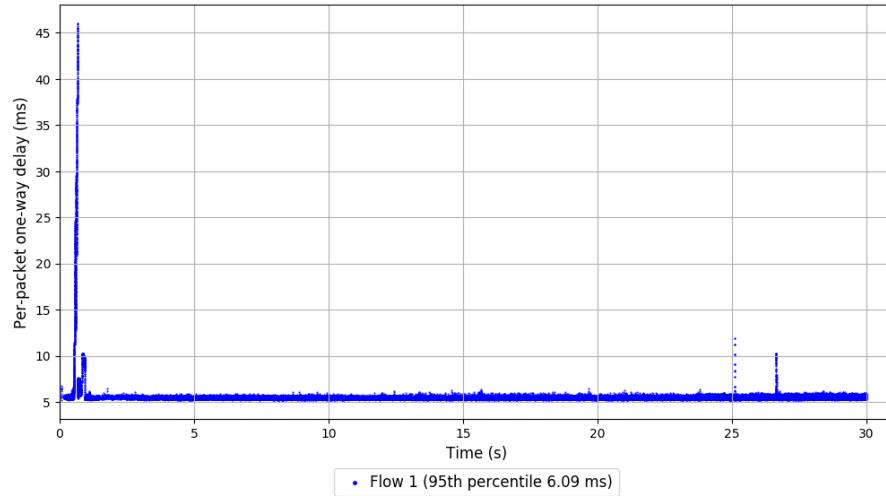
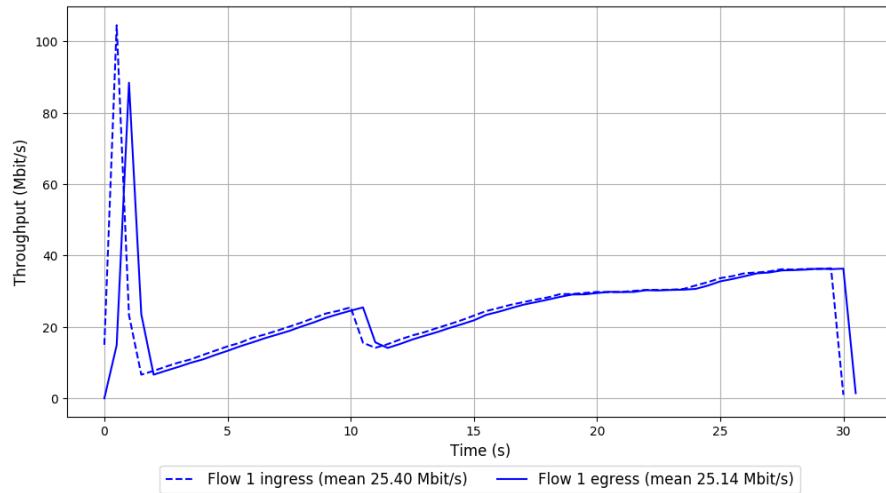


Run 5: Statistics of TCP Vegas

```
Start at: 2018-12-20 00:21:51
End at: 2018-12-20 00:22:21
Local clock offset: 3.254 ms
Remote clock offset: -2.683 ms

# Below is generated by plot.py at 2018-12-20 00:35:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.14 Mbit/s
95th percentile per-packet one-way delay: 6.090 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 25.14 Mbit/s
95th percentile per-packet one-way delay: 6.090 ms
Loss rate: 1.05%
```

Run 5: Report of TCP Vegas — Data Link

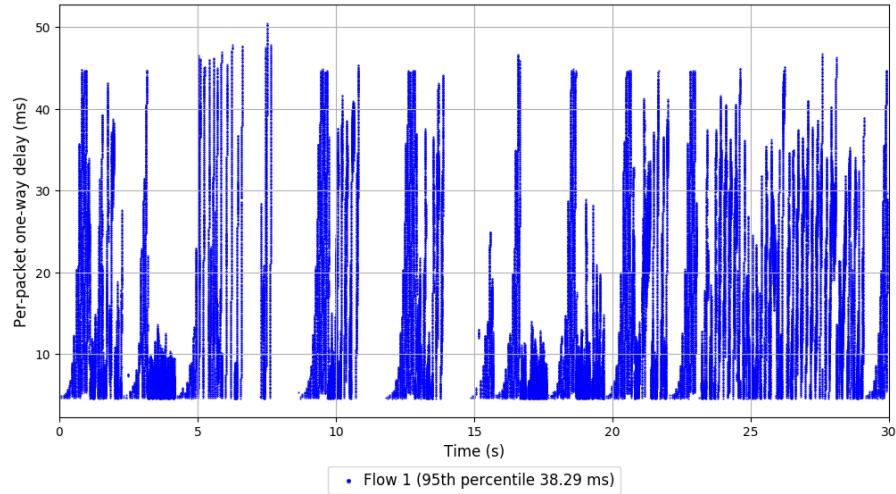
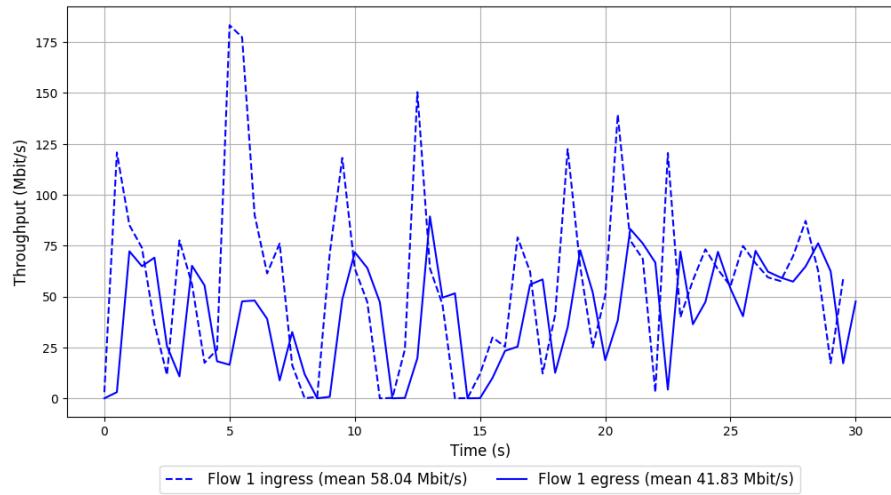


Run 1: Statistics of Verus

```
Start at: 2018-12-19 22:38:30
End at: 2018-12-19 22:39:00
Local clock offset: 3.062 ms
Remote clock offset: -2.883 ms

# Below is generated by plot.py at 2018-12-20 00:35:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.83 Mbit/s
95th percentile per-packet one-way delay: 38.292 ms
Loss rate: 27.86%
-- Flow 1:
Average throughput: 41.83 Mbit/s
95th percentile per-packet one-way delay: 38.292 ms
Loss rate: 27.86%
```

Run 1: Report of Verus — Data Link

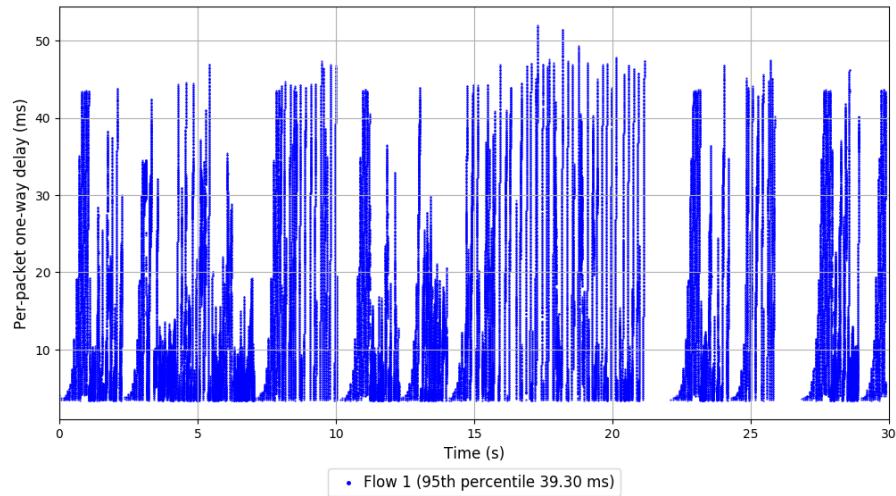
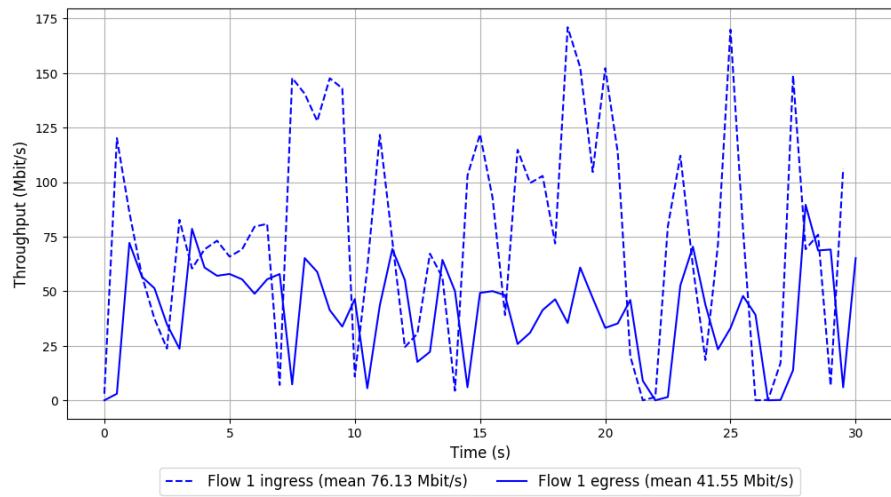


Run 2: Statistics of Verus

```
Start at: 2018-12-19 23:01:29
End at: 2018-12-19 23:01:59
Local clock offset: 4.089 ms
Remote clock offset: -3.114 ms

# Below is generated by plot.py at 2018-12-20 00:35:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.55 Mbit/s
95th percentile per-packet one-way delay: 39.304 ms
Loss rate: 45.42%
-- Flow 1:
Average throughput: 41.55 Mbit/s
95th percentile per-packet one-way delay: 39.304 ms
Loss rate: 45.42%
```

Run 2: Report of Verus — Data Link

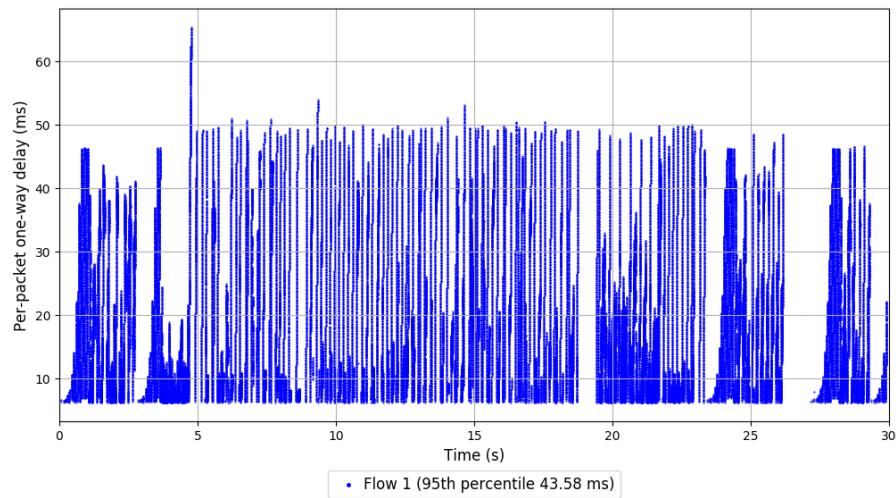
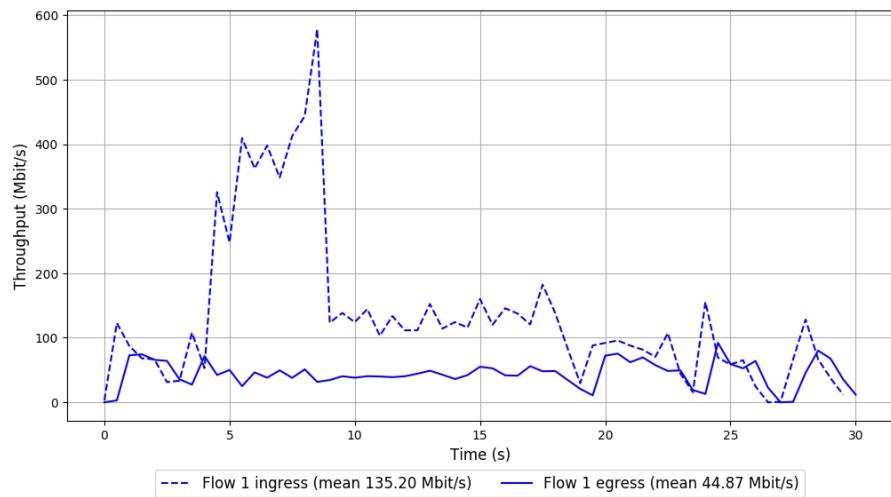


Run 3: Statistics of Verus

```
Start at: 2018-12-19 23:23:35
End at: 2018-12-19 23:24:05
Local clock offset: 1.131 ms
Remote clock offset: -2.548 ms

# Below is generated by plot.py at 2018-12-20 00:35:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.87 Mbit/s
95th percentile per-packet one-way delay: 43.578 ms
Loss rate: 66.79%
-- Flow 1:
Average throughput: 44.87 Mbit/s
95th percentile per-packet one-way delay: 43.578 ms
Loss rate: 66.79%
```

Run 3: Report of Verus — Data Link

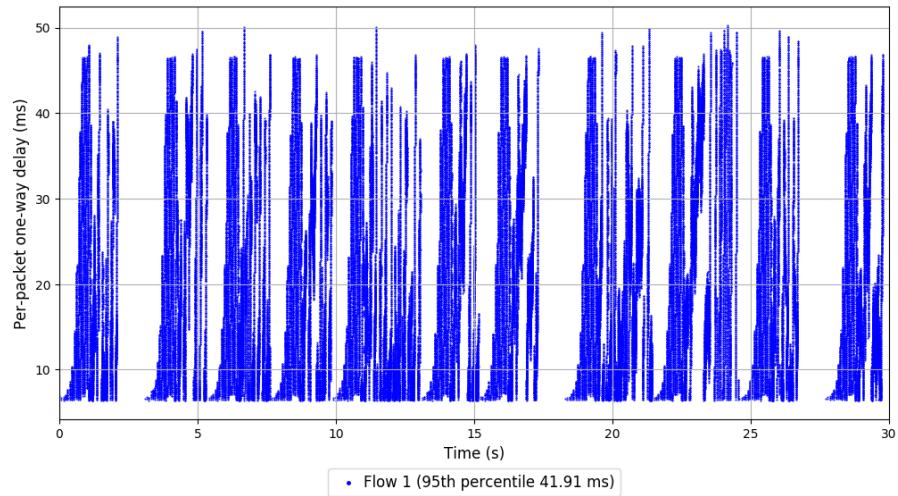
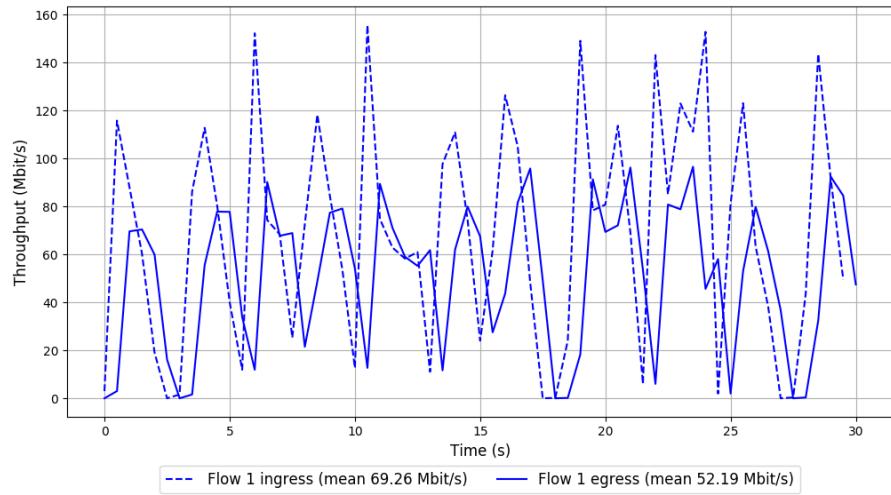


Run 4: Statistics of Verus

```
Start at: 2018-12-19 23:45:54
End at: 2018-12-19 23:46:24
Local clock offset: 1.108 ms
Remote clock offset: -3.184 ms

# Below is generated by plot.py at 2018-12-20 00:35:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.19 Mbit/s
95th percentile per-packet one-way delay: 41.905 ms
Loss rate: 24.59%
-- Flow 1:
Average throughput: 52.19 Mbit/s
95th percentile per-packet one-way delay: 41.905 ms
Loss rate: 24.59%
```

Run 4: Report of Verus — Data Link

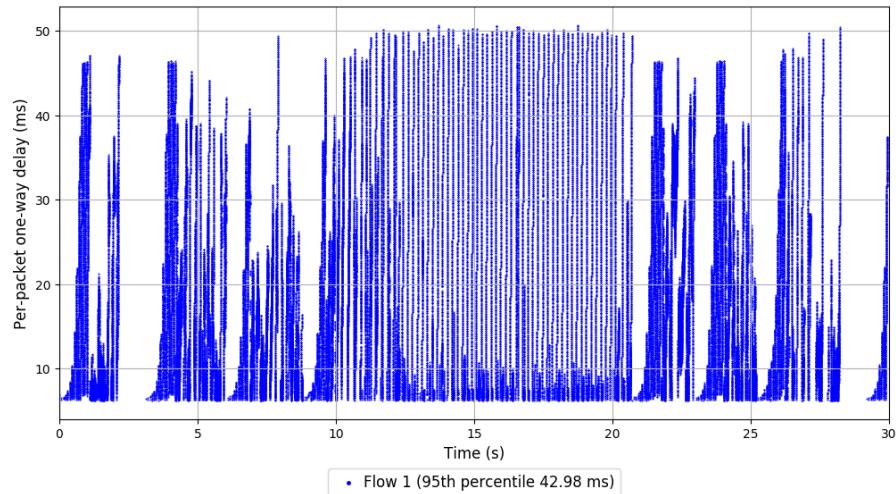
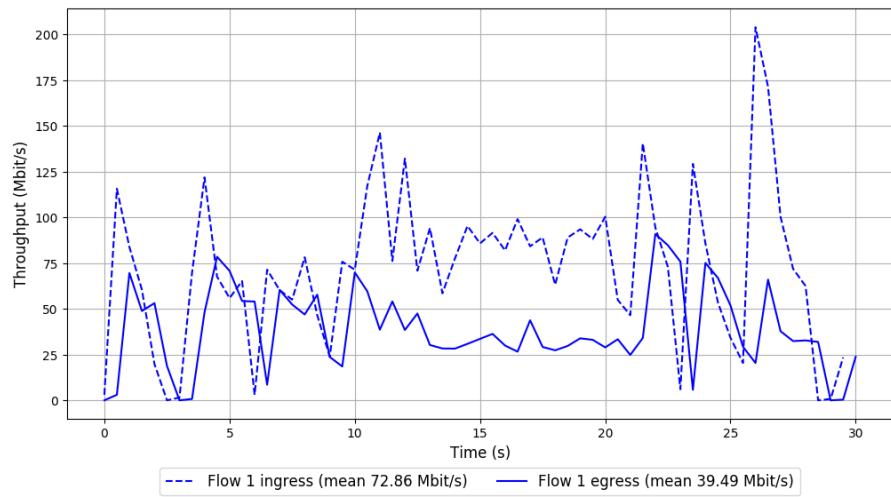


Run 5: Statistics of Verus

```
Start at: 2018-12-20 00:07:52
End at: 2018-12-20 00:08:22
Local clock offset: 1.596 ms
Remote clock offset: -3.298 ms

# Below is generated by plot.py at 2018-12-20 00:35:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.49 Mbit/s
95th percentile per-packet one-way delay: 42.985 ms
Loss rate: 45.74%
-- Flow 1:
Average throughput: 39.49 Mbit/s
95th percentile per-packet one-way delay: 42.985 ms
Loss rate: 45.74%
```

Run 5: Report of Verus — Data Link

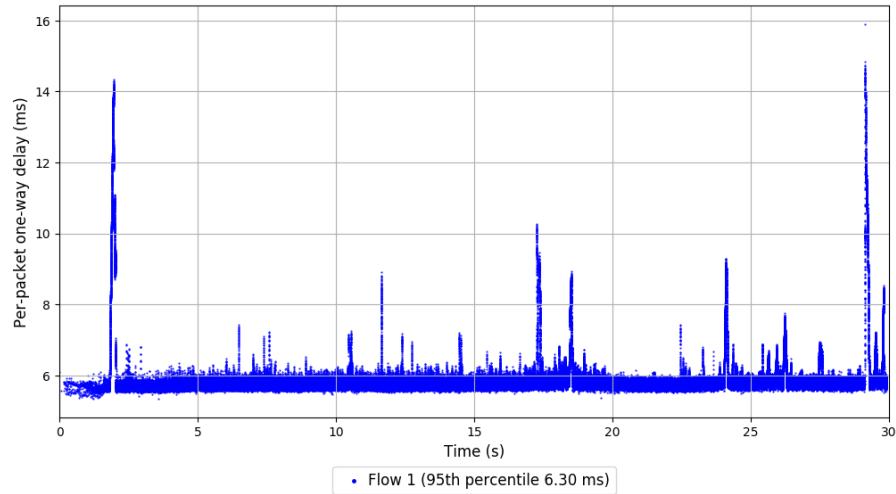
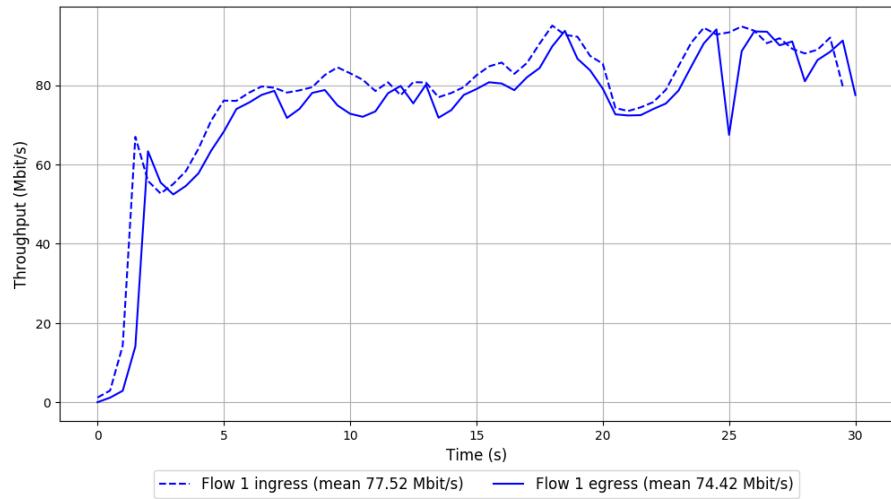


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-12-19 22:46:03
End at: 2018-12-19 22:46:33
Local clock offset: 2.865 ms
Remote clock offset: -2.166 ms

# Below is generated by plot.py at 2018-12-20 00:35:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 74.42 Mbit/s
95th percentile per-packet one-way delay: 6.296 ms
Loss rate: 4.00%
-- Flow 1:
Average throughput: 74.42 Mbit/s
95th percentile per-packet one-way delay: 6.296 ms
Loss rate: 4.00%
```

Run 1: Report of PCC-Vivace — Data Link

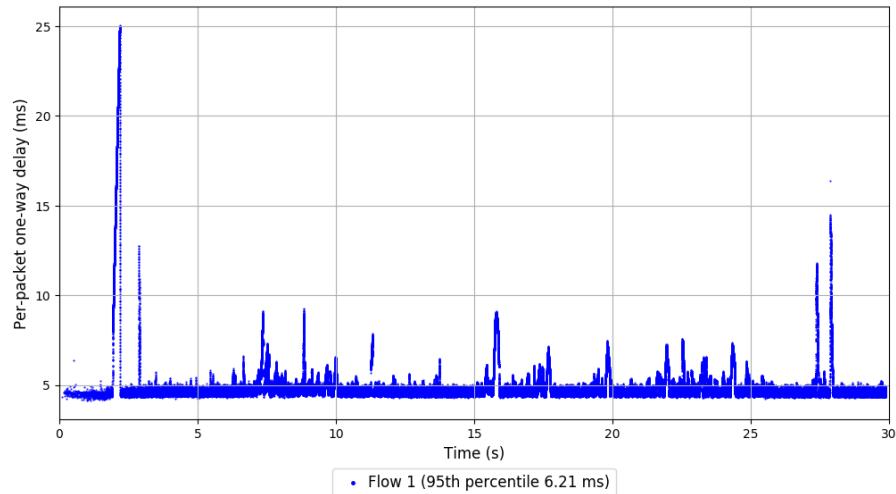
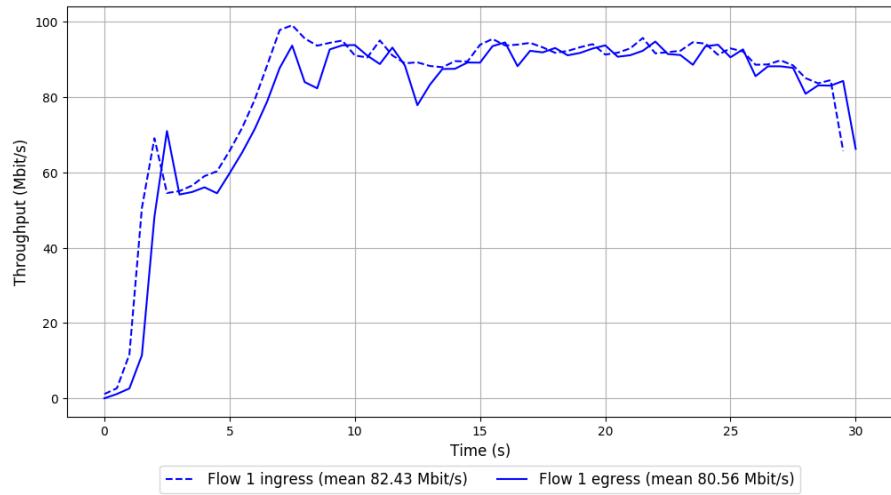


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-12-19 23:08:42
End at: 2018-12-19 23:09:12
Local clock offset: 3.305 ms
Remote clock offset: -2.751 ms

# Below is generated by plot.py at 2018-12-20 00:36:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.56 Mbit/s
95th percentile per-packet one-way delay: 6.206 ms
Loss rate: 2.26%
-- Flow 1:
Average throughput: 80.56 Mbit/s
95th percentile per-packet one-way delay: 6.206 ms
Loss rate: 2.26%
```

Run 2: Report of PCC-Vivace — Data Link

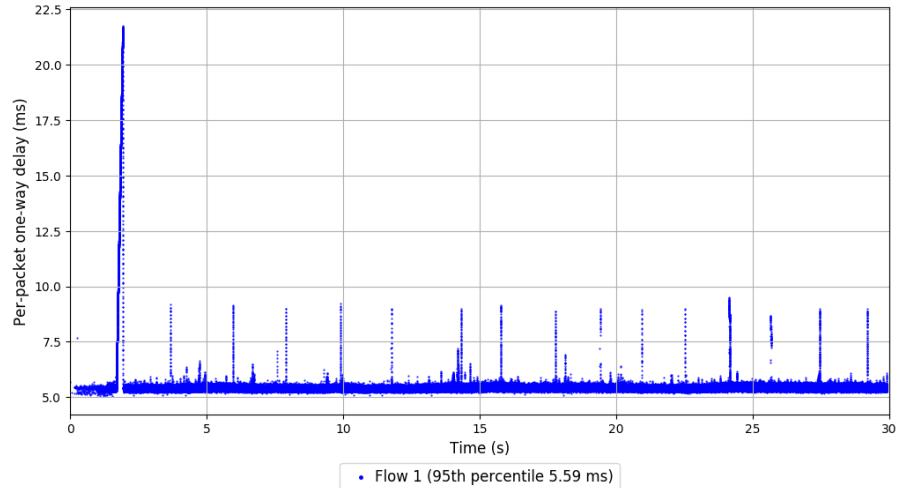
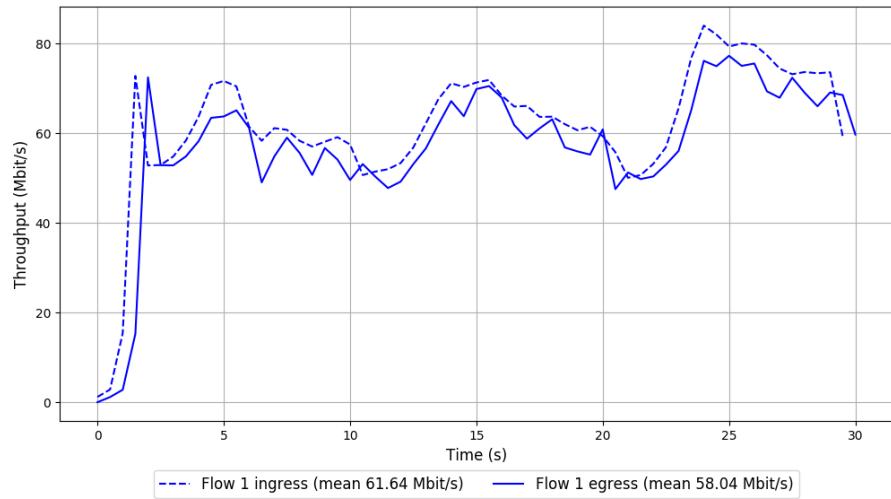


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-12-19 23:30:36
End at: 2018-12-19 23:31:06
Local clock offset: 2.164 ms
Remote clock offset: -2.527 ms

# Below is generated by plot.py at 2018-12-20 00:36:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.04 Mbit/s
95th percentile per-packet one-way delay: 5.591 ms
Loss rate: 5.85%
-- Flow 1:
Average throughput: 58.04 Mbit/s
95th percentile per-packet one-way delay: 5.591 ms
Loss rate: 5.85%
```

Run 3: Report of PCC-Vivace — Data Link

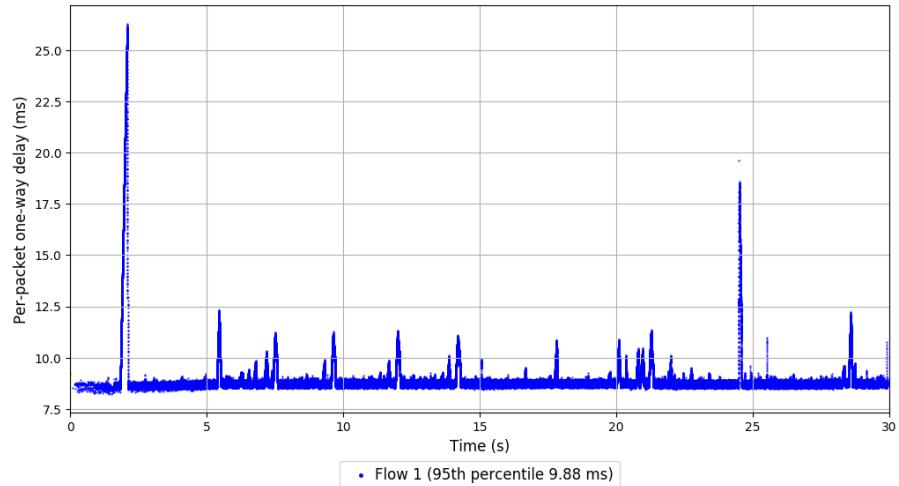
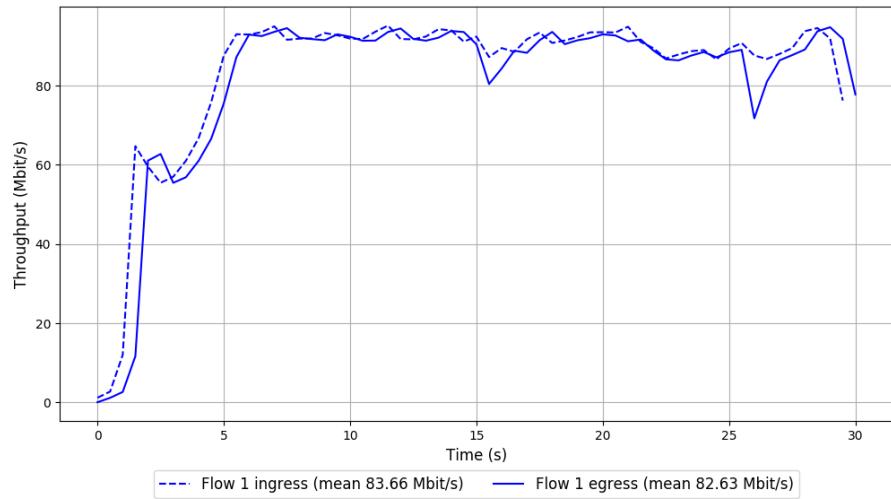


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-12-19 23:52:46
End at: 2018-12-19 23:53:16
Local clock offset: -0.726 ms
Remote clock offset: -3.194 ms

# Below is generated by plot.py at 2018-12-20 00:36:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.63 Mbit/s
95th percentile per-packet one-way delay: 9.881 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 82.63 Mbit/s
95th percentile per-packet one-way delay: 9.881 ms
Loss rate: 1.23%
```

Run 4: Report of PCC-Vivace — Data Link

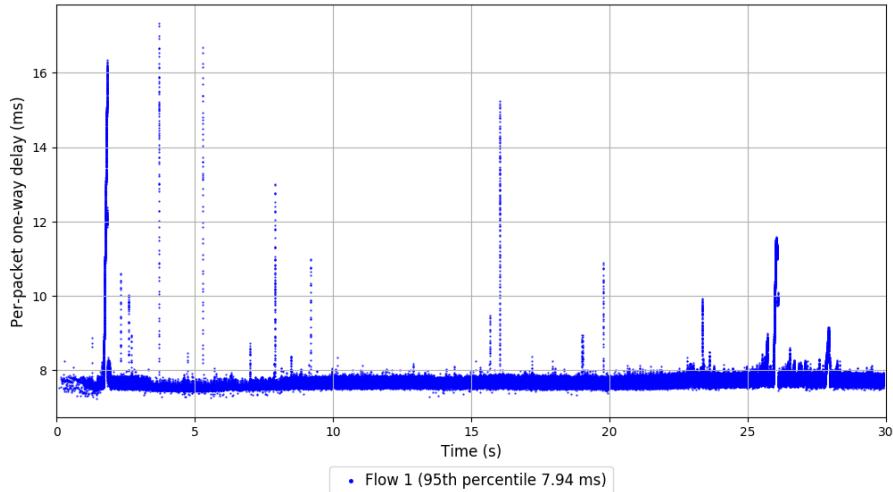
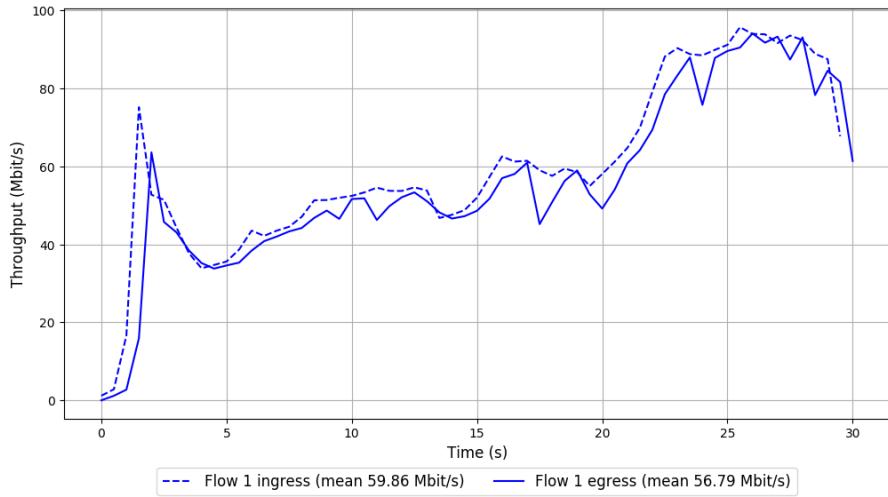


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-12-20 00:14:59
End at: 2018-12-20 00:15:29
Local clock offset: 0.409 ms
Remote clock offset: -3.157 ms

# Below is generated by plot.py at 2018-12-20 00:36:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.79 Mbit/s
95th percentile per-packet one-way delay: 7.943 ms
Loss rate: 5.12%
-- Flow 1:
Average throughput: 56.79 Mbit/s
95th percentile per-packet one-way delay: 7.943 ms
Loss rate: 5.12%
```

Run 5: Report of PCC-Vivace — Data Link

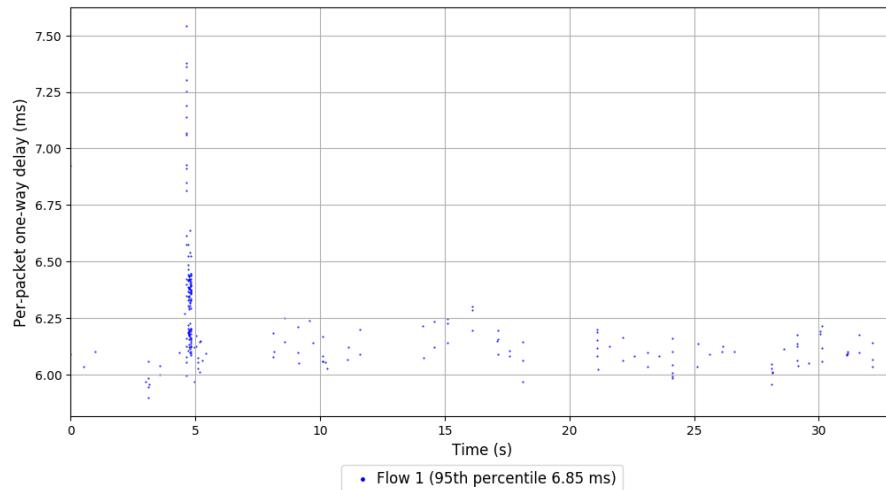
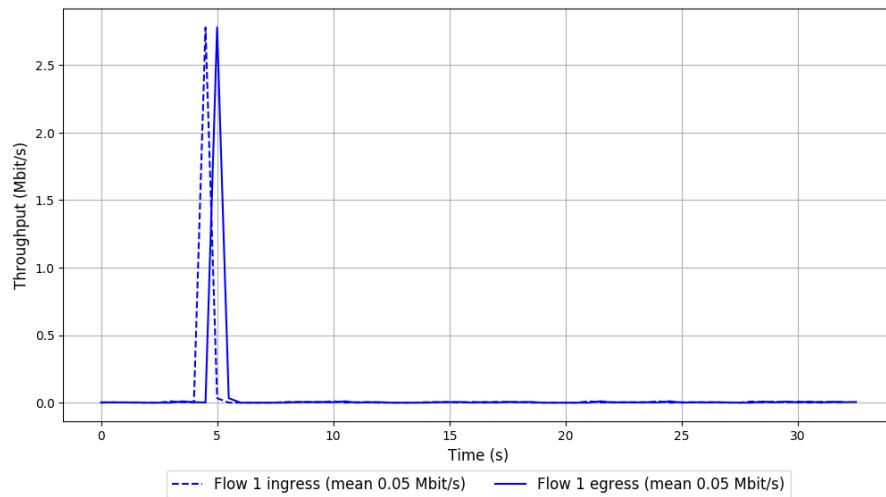


Run 1: Statistics of WebRTC media

```
Start at: 2018-12-19 22:50:49
End at: 2018-12-19 22:51:19
Local clock offset: 2.468 ms
Remote clock offset: -2.034 ms

# Below is generated by plot.py at 2018-12-20 00:36:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 6.850 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 6.850 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

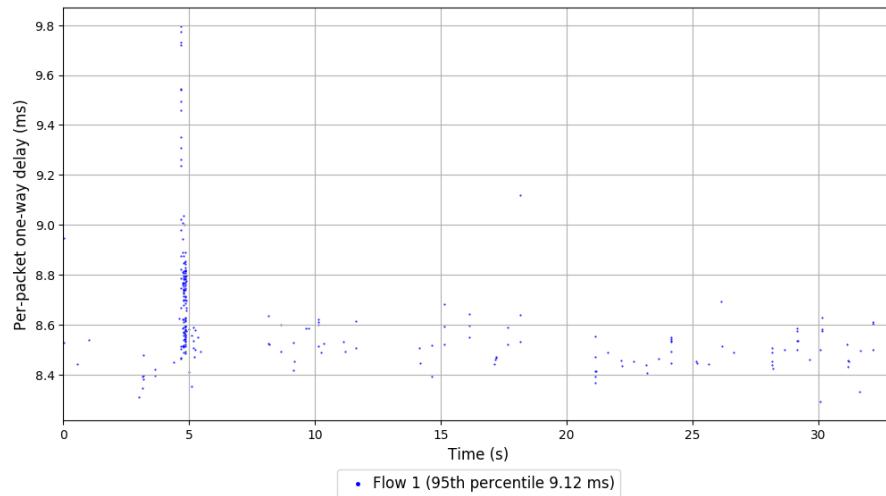
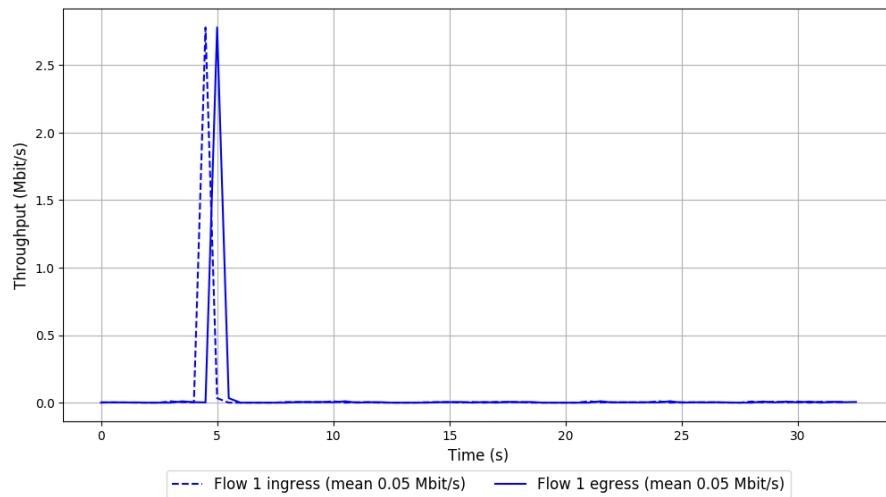


Run 2: Statistics of WebRTC media

```
Start at: 2018-12-19 23:13:27
End at: 2018-12-19 23:13:57
Local clock offset: -1.296 ms
Remote clock offset: -2.988 ms

# Below is generated by plot.py at 2018-12-20 00:36:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.118 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 9.118 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

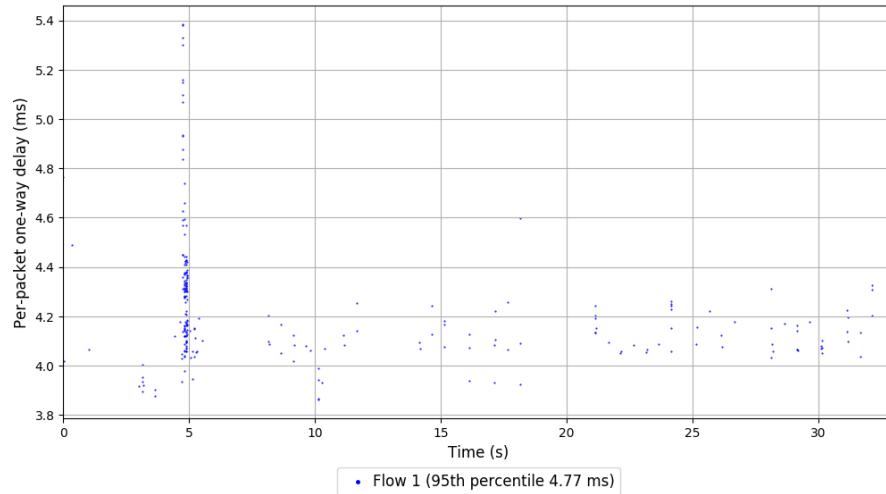
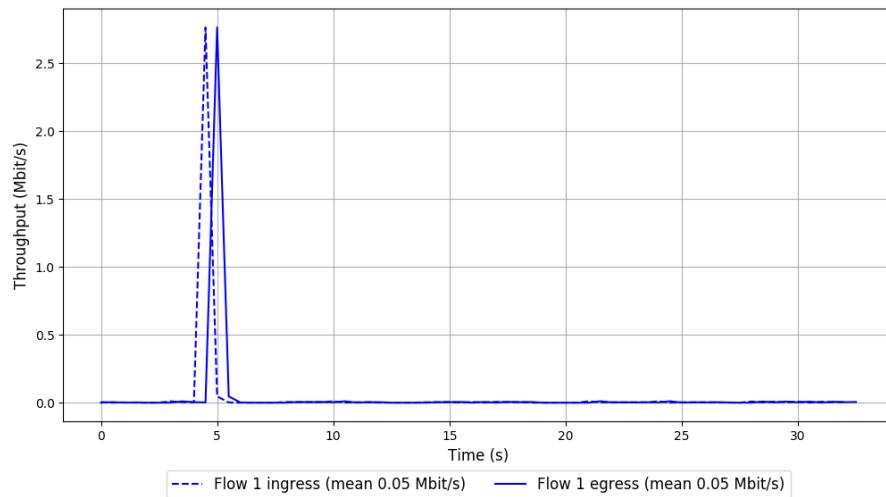


Run 3: Statistics of WebRTC media

```
Start at: 2018-12-19 23:35:20
End at: 2018-12-19 23:35:50
Local clock offset: 2.842 ms
Remote clock offset: -3.007 ms

# Below is generated by plot.py at 2018-12-20 00:36:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.766 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 4.766 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

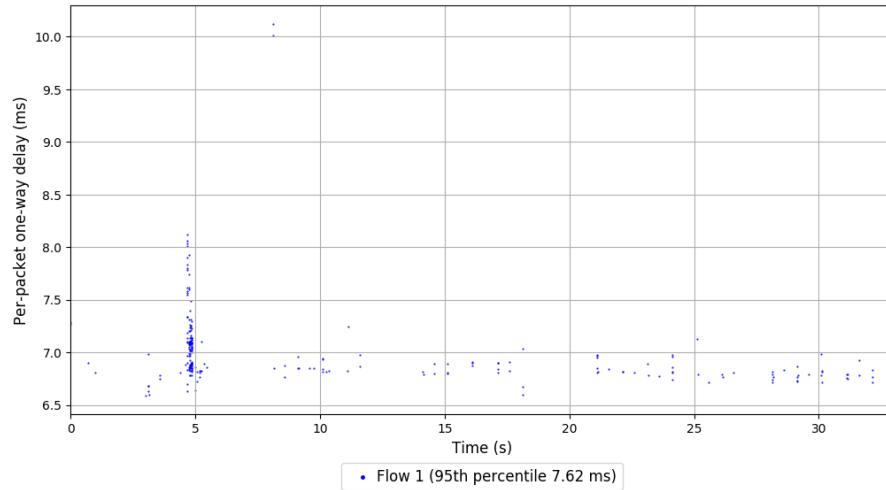
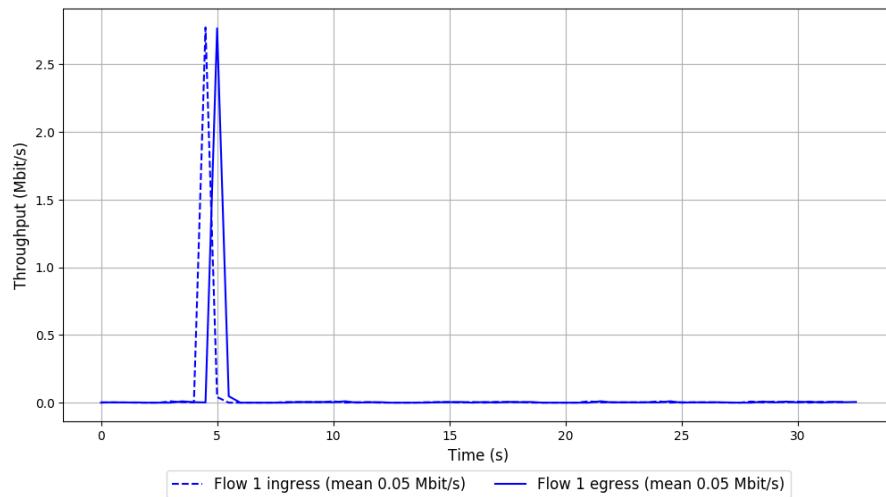


Run 4: Statistics of WebRTC media

```
Start at: 2018-12-19 23:57:20
End at: 2018-12-19 23:57:50
Local clock offset: 1.713 ms
Remote clock offset: -2.565 ms

# Below is generated by plot.py at 2018-12-20 00:36:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 7.617 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 7.617 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-12-20 00:19:38
End at: 2018-12-20 00:20:08
Local clock offset: 2.906 ms
Remote clock offset: -2.018 ms

# Below is generated by plot.py at 2018-12-20 00:36:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 7.220 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 7.220 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

