

Pantheon Report

Generated at 2018-12-20 06:41:25 (UTC).
Data path: Colombia on p4p1 (*remote*) → AWS Brazil 2 on ens5 (*local*).
Repeated the test of 19 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against gps.ntp.br and have been applied to correct the timestamps in logs.

System info:

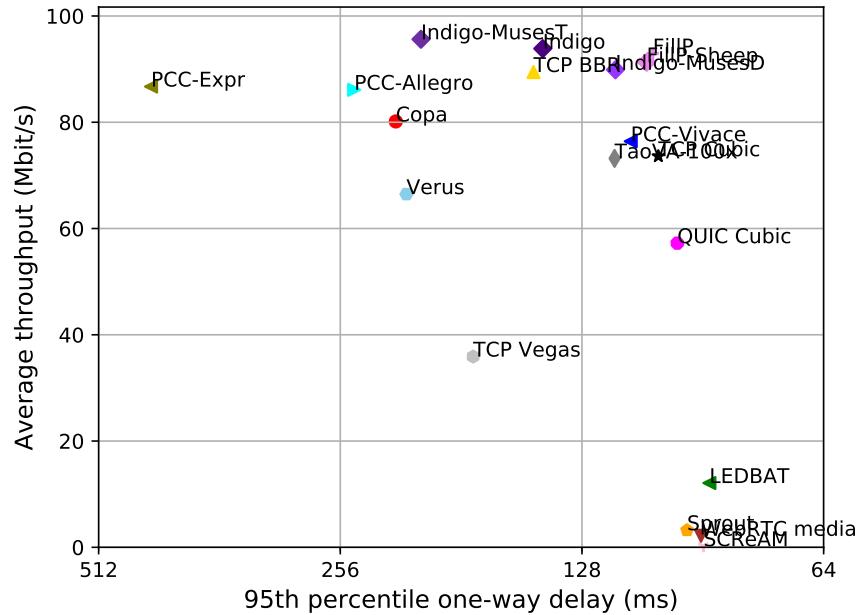
```
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

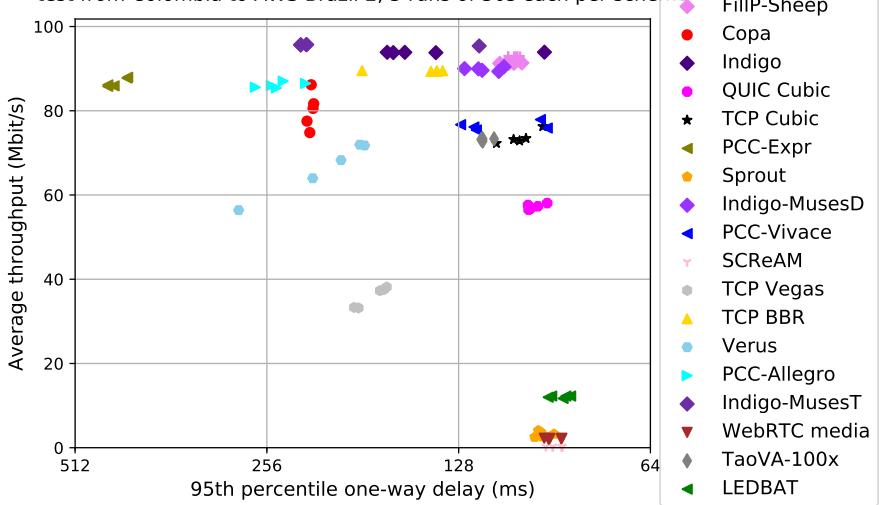
```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fc45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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 Colombia to AWS Brazil 2, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from Colombia to AWS Brazil 2, 5 runs of 30s each per scheme



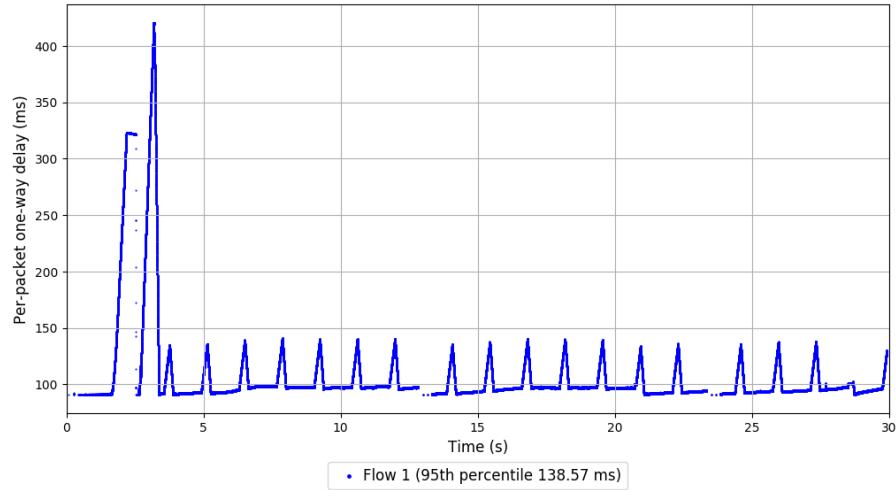
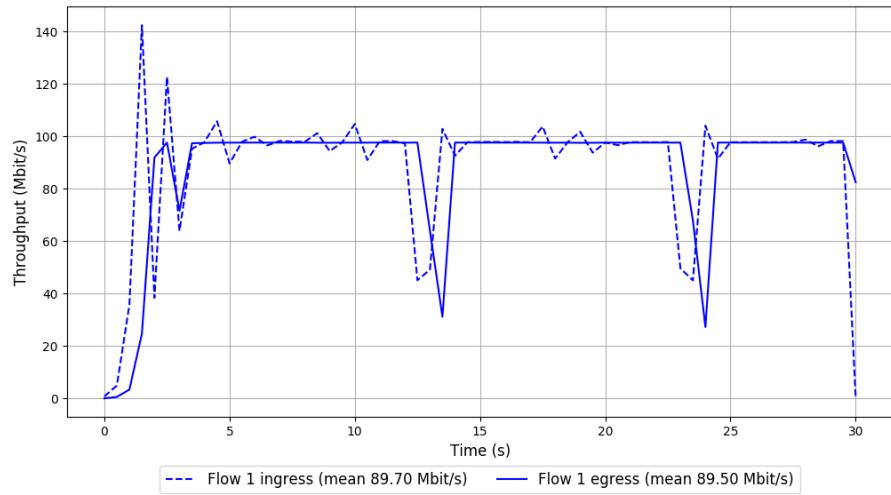
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	89.46	147.09	0.94
Copa	5	80.15	218.31	0.71
TCP Cubic	5	73.61	102.82	0.65
FillP	5	92.96	104.47	0.66
FillP-Sheep	5	91.28	106.33	0.61
Indigo	5	93.85	143.24	1.50
Indigo-MusesD	5	89.87	116.28	0.96
Indigo-MusesT	5	95.62	203.11	8.44
LEDBAT	5	12.10	88.83	1.15
PCC-Allegro	5	86.10	245.99	0.73
PCC-Expr	5	86.72	440.54	1.51
QUIC Cubic	5	57.25	97.38	0.87
SCReAM	5	0.22	90.34	0.54
Sprout	5	3.22	94.70	0.89
TaoVA-100x	5	73.19	116.57	0.66
TCP Vegas	5	35.89	174.89	0.63
Verus	5	66.48	211.79	0.86
PCC-Vivace	5	76.42	111.31	0.73
WebRTC media	5	2.16	90.98	0.37

Run 1: Statistics of TCP BBR

```
Start at: 2018-12-20 04:45:26
End at: 2018-12-20 04:45:56
Local clock offset: -2.875 ms
Remote clock offset: -4.91 ms

# Below is generated by plot.py at 2018-12-20 06:31:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.50 Mbit/s
95th percentile per-packet one-way delay: 138.569 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 89.50 Mbit/s
95th percentile per-packet one-way delay: 138.569 ms
Loss rate: 0.80%
```

Run 1: Report of TCP BBR — Data Link

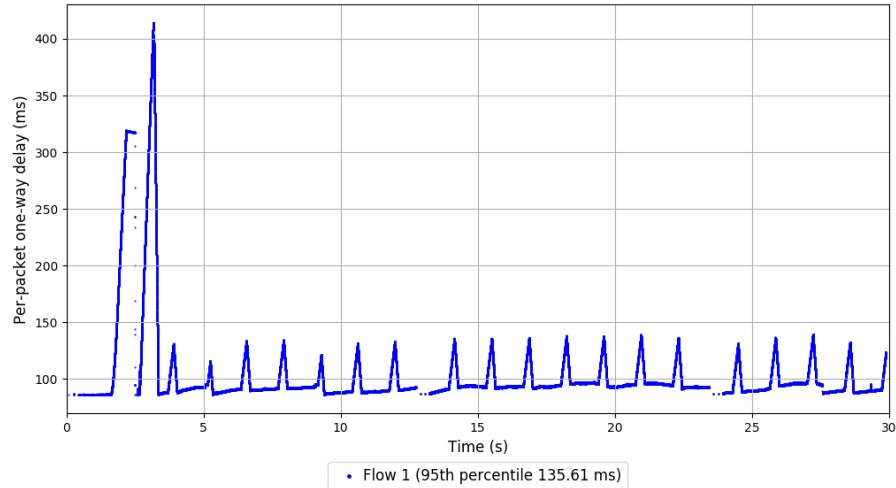
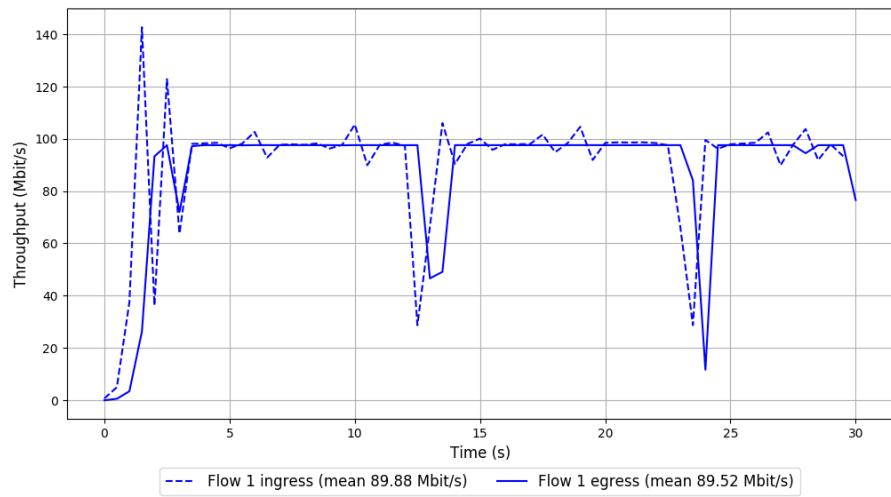


Run 2: Statistics of TCP BBR

```
Start at: 2018-12-20 05:07:58
End at: 2018-12-20 05:08:28
Local clock offset: -2.232 ms
Remote clock offset: -6.617 ms

# Below is generated by plot.py at 2018-12-20 06:31:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.52 Mbit/s
95th percentile per-packet one-way delay: 135.608 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 89.52 Mbit/s
95th percentile per-packet one-way delay: 135.608 ms
Loss rate: 0.97%
```

Run 2: Report of TCP BBR — Data Link

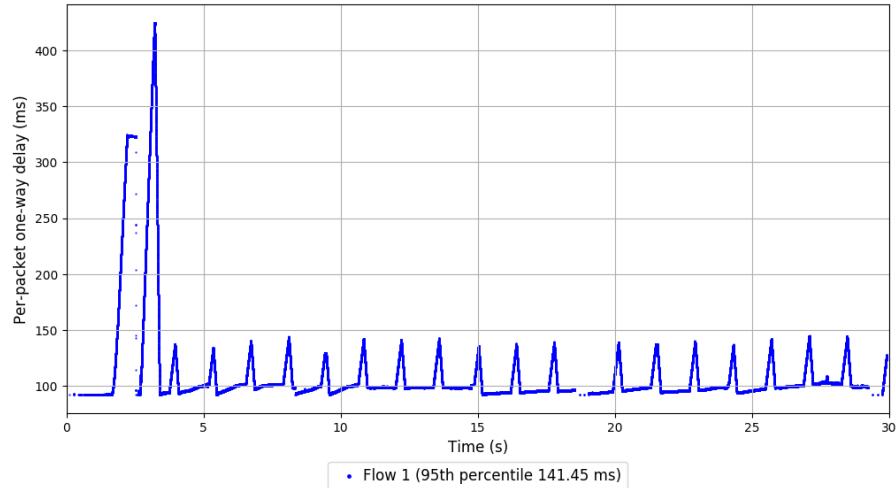
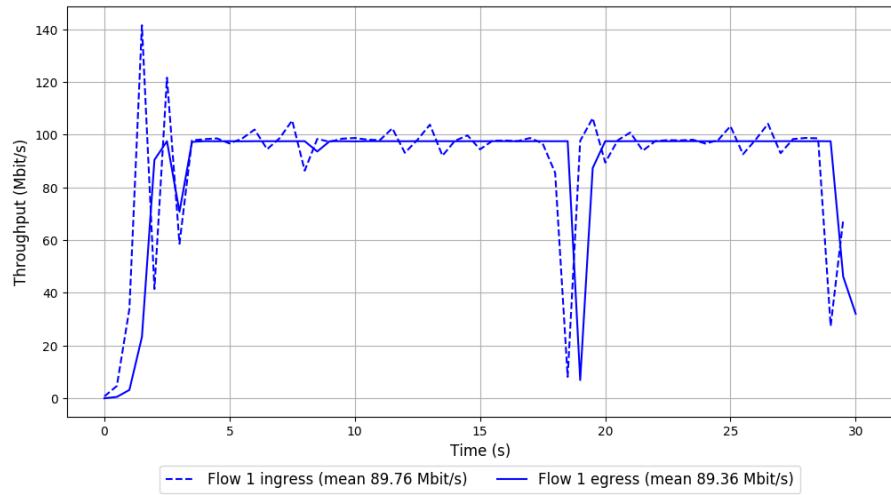


Run 3: Statistics of TCP BBR

```
Start at: 2018-12-20 05:30:31
End at: 2018-12-20 05:31:01
Local clock offset: -7.037 ms
Remote clock offset: -3.816 ms

# Below is generated by plot.py at 2018-12-20 06:31:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.36 Mbit/s
95th percentile per-packet one-way delay: 141.447 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 89.36 Mbit/s
95th percentile per-packet one-way delay: 141.447 ms
Loss rate: 1.02%
```

Run 3: Report of TCP BBR — Data Link

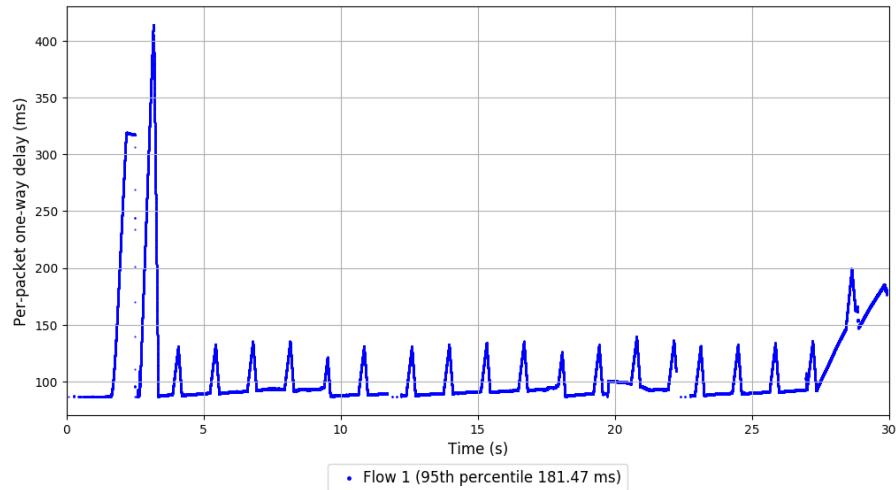
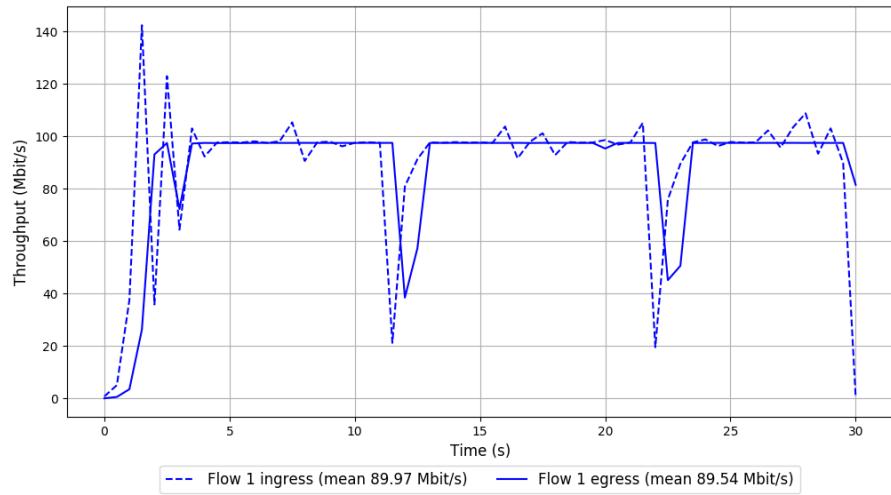


Run 4: Statistics of TCP BBR

```
Start at: 2018-12-20 05:53:05
End at: 2018-12-20 05:53:35
Local clock offset: -2.364 ms
Remote clock offset: -0.692 ms

# Below is generated by plot.py at 2018-12-20 06:31:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.54 Mbit/s
95th percentile per-packet one-way delay: 181.467 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 89.54 Mbit/s
95th percentile per-packet one-way delay: 181.467 ms
Loss rate: 1.05%
```

Run 4: Report of TCP BBR — Data Link

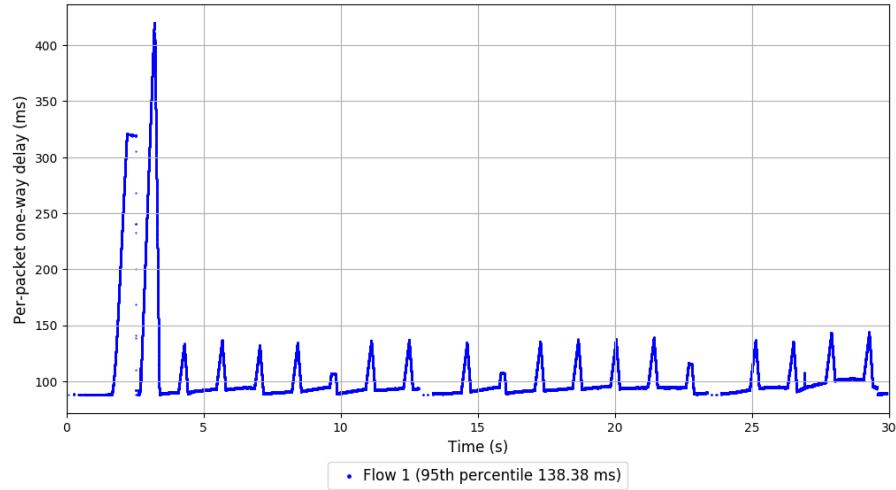
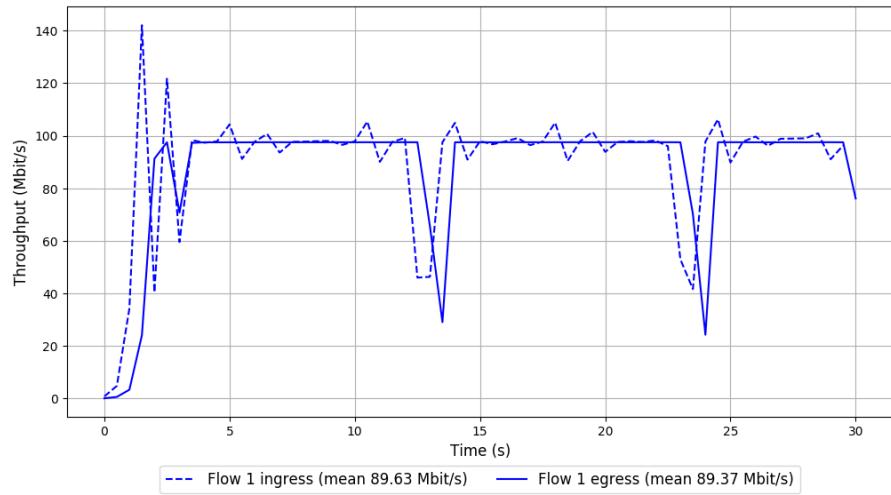


Run 5: Statistics of TCP BBR

```
Start at: 2018-12-20 06:15:37
End at: 2018-12-20 06:16:07
Local clock offset: -1.931 ms
Remote clock offset: 0.035 ms

# Below is generated by plot.py at 2018-12-20 06:31:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.37 Mbit/s
95th percentile per-packet one-way delay: 138.384 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 89.37 Mbit/s
95th percentile per-packet one-way delay: 138.384 ms
Loss rate: 0.86%
```

Run 5: Report of TCP BBR — Data Link

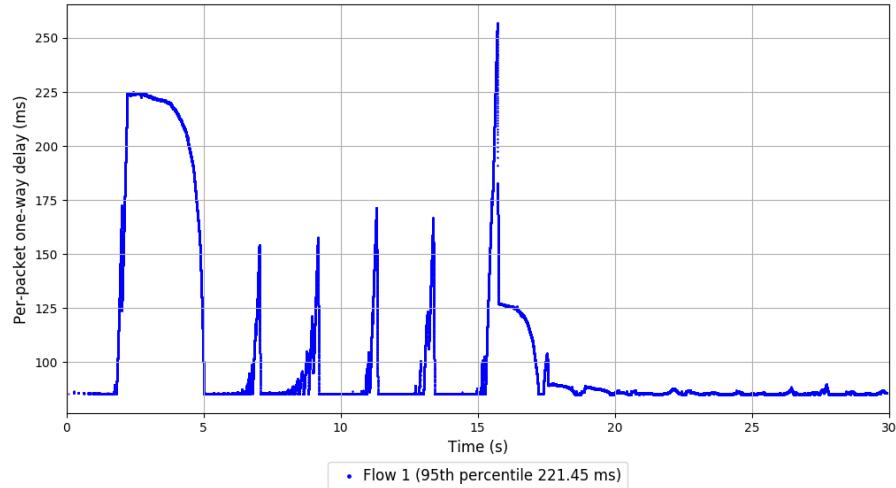
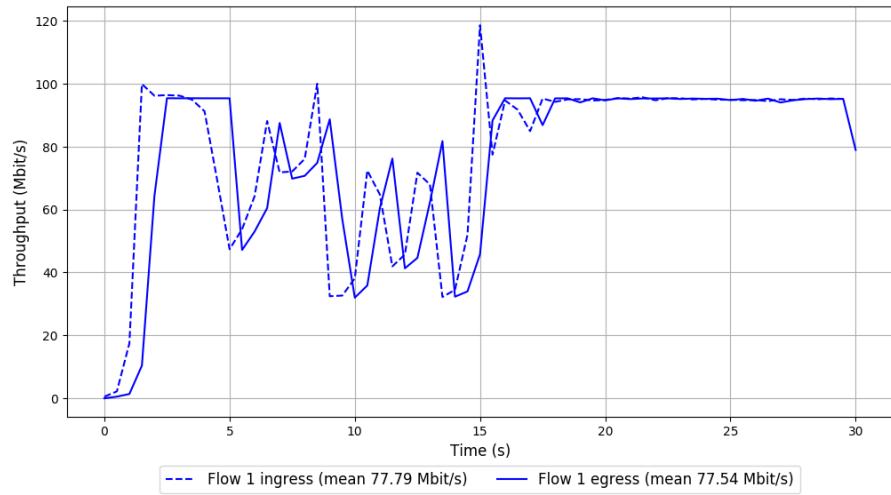


Run 1: Statistics of Copa

```
Start at: 2018-12-20 04:40:41
End at: 2018-12-20 04:41:11
Local clock offset: -4.31 ms
Remote clock offset: 4.502 ms

# Below is generated by plot.py at 2018-12-20 06:32:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.54 Mbit/s
95th percentile per-packet one-way delay: 221.452 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 77.54 Mbit/s
95th percentile per-packet one-way delay: 221.452 ms
Loss rate: 0.89%
```

Run 1: Report of Copa — Data Link

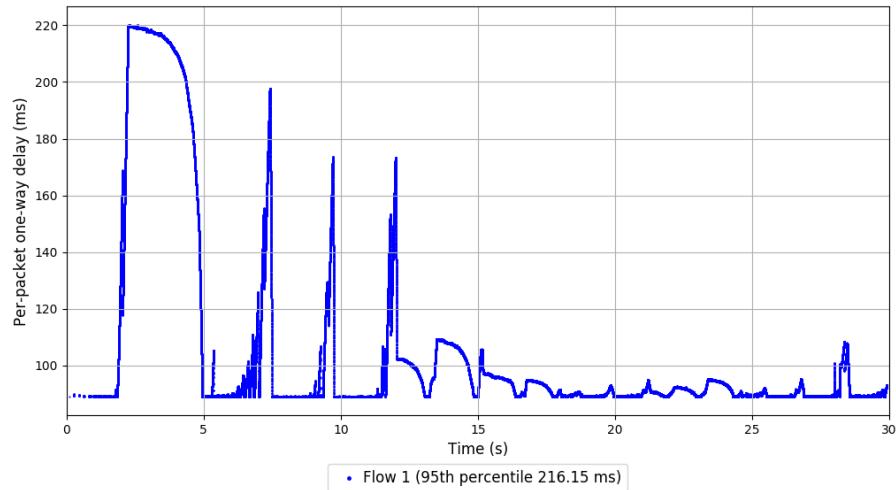
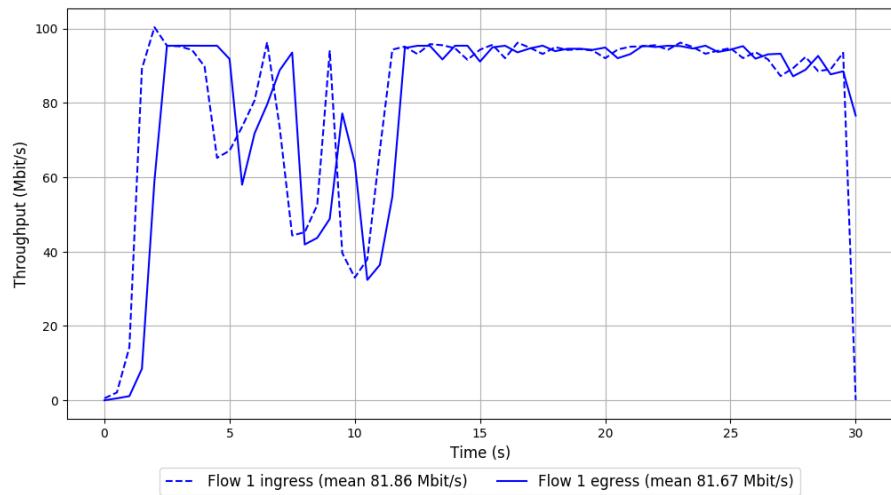


Run 2: Statistics of Copa

```
Start at: 2018-12-20 05:03:13
End at: 2018-12-20 05:03:43
Local clock offset: -0.644 ms
Remote clock offset: -8.254 ms

# Below is generated by plot.py at 2018-12-20 06:32:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.67 Mbit/s
95th percentile per-packet one-way delay: 216.149 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 81.67 Mbit/s
95th percentile per-packet one-way delay: 216.149 ms
Loss rate: 0.81%
```

Run 2: Report of Copa — Data Link

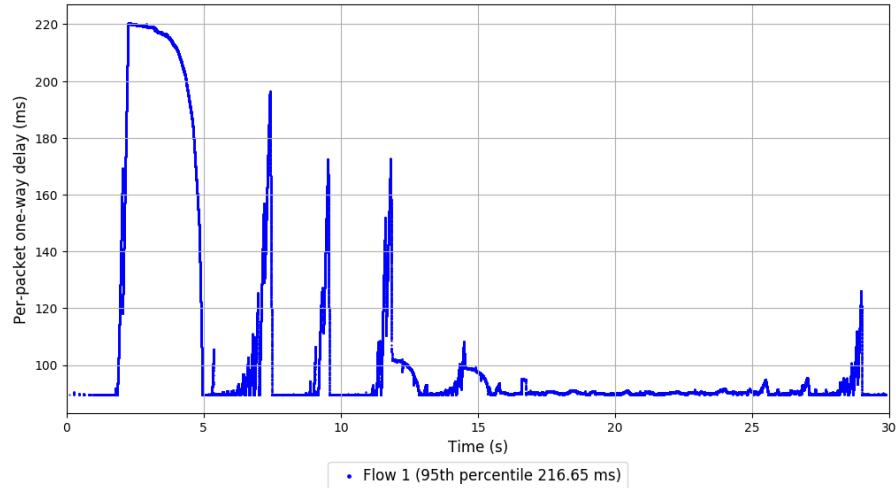
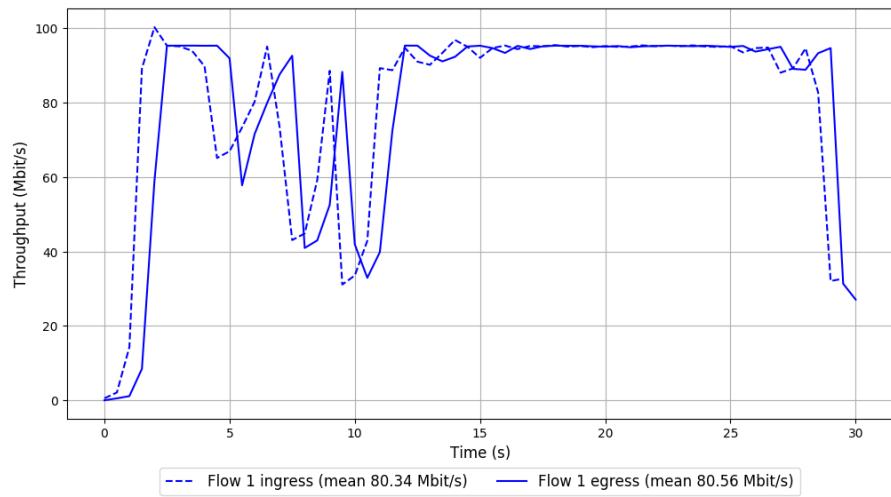


Run 3: Statistics of Copa

```
Start at: 2018-12-20 05:25:46
End at: 2018-12-20 05:26:16
Local clock offset: -6.639 ms
Remote clock offset: -1.606 ms

# Below is generated by plot.py at 2018-12-20 06:32:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.56 Mbit/s
95th percentile per-packet one-way delay: 216.650 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 80.56 Mbit/s
95th percentile per-packet one-way delay: 216.650 ms
Loss rate: 0.31%
```

Run 3: Report of Copa — Data Link

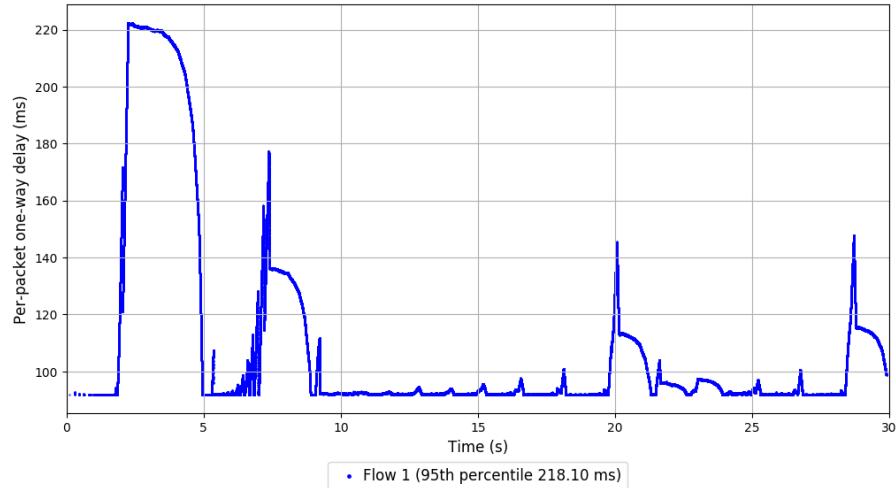
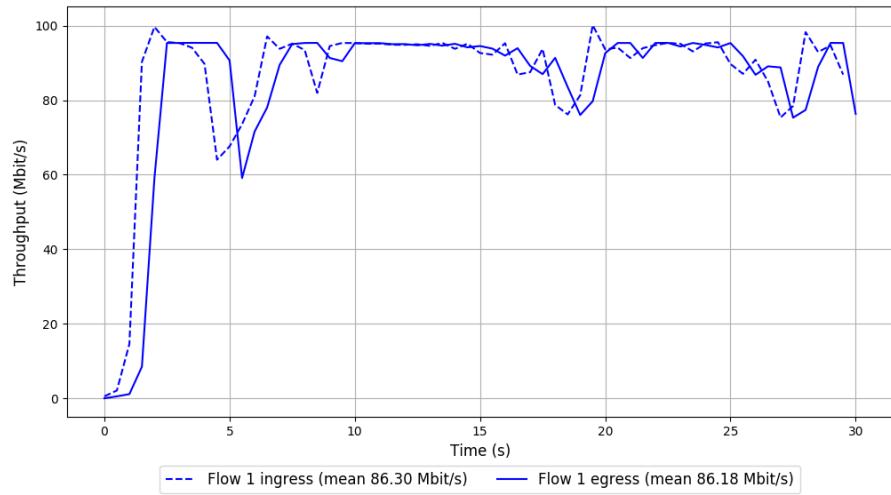


Run 4: Statistics of Copa

```
Start at: 2018-12-20 05:48:19
End at: 2018-12-20 05:48:49
Local clock offset: -2.989 ms
Remote clock offset: -3.517 ms

# Below is generated by plot.py at 2018-12-20 06:33:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.18 Mbit/s
95th percentile per-packet one-way delay: 218.099 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 86.18 Mbit/s
95th percentile per-packet one-way delay: 218.099 ms
Loss rate: 0.71%
```

Run 4: Report of Copa — Data Link

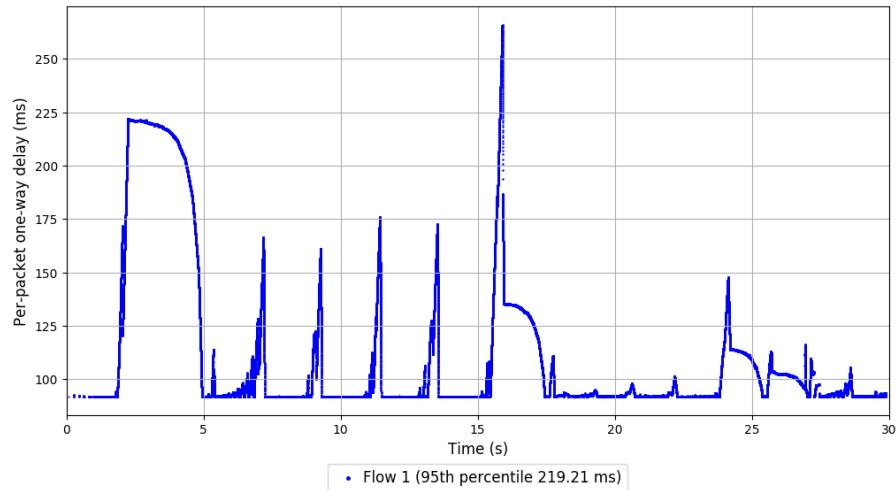
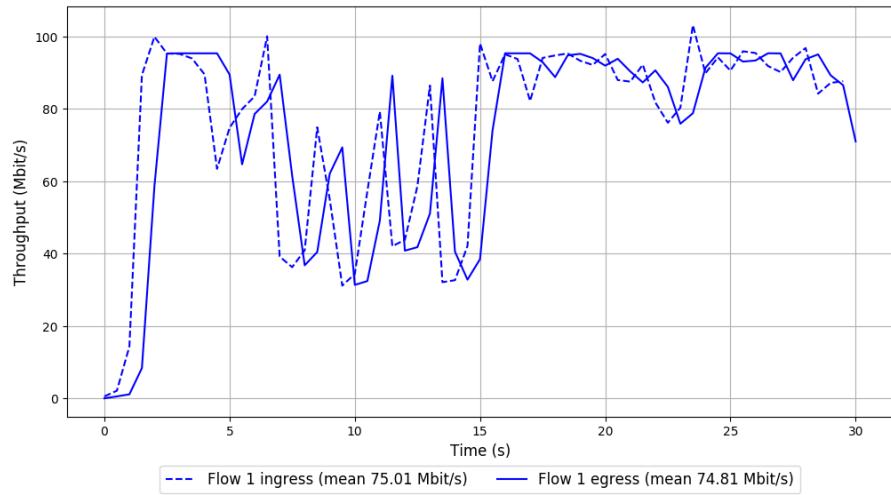


Run 5: Statistics of Copa

```
Start at: 2018-12-20 06:10:52
End at: 2018-12-20 06:11:22
Local clock offset: -1.887 ms
Remote clock offset: -3.806 ms

# Below is generated by plot.py at 2018-12-20 06:33:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 74.81 Mbit/s
95th percentile per-packet one-way delay: 219.210 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 74.81 Mbit/s
95th percentile per-packet one-way delay: 219.210 ms
Loss rate: 0.84%
```

Run 5: Report of Copa — Data Link

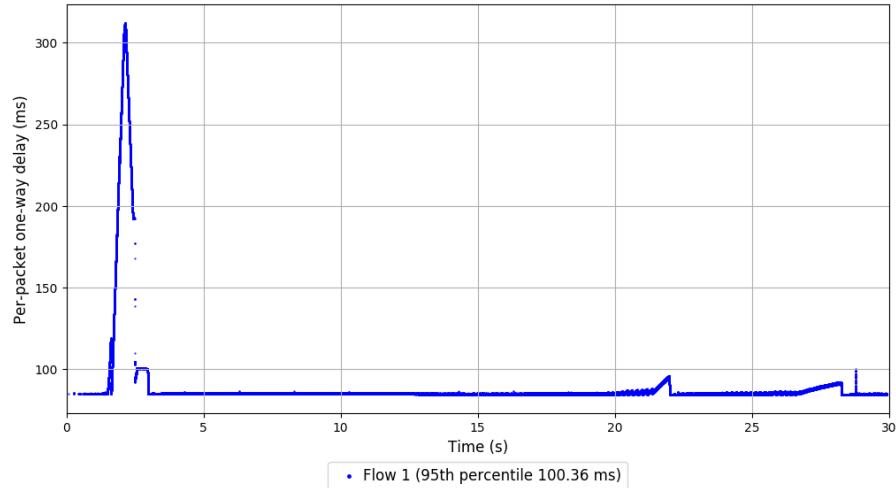
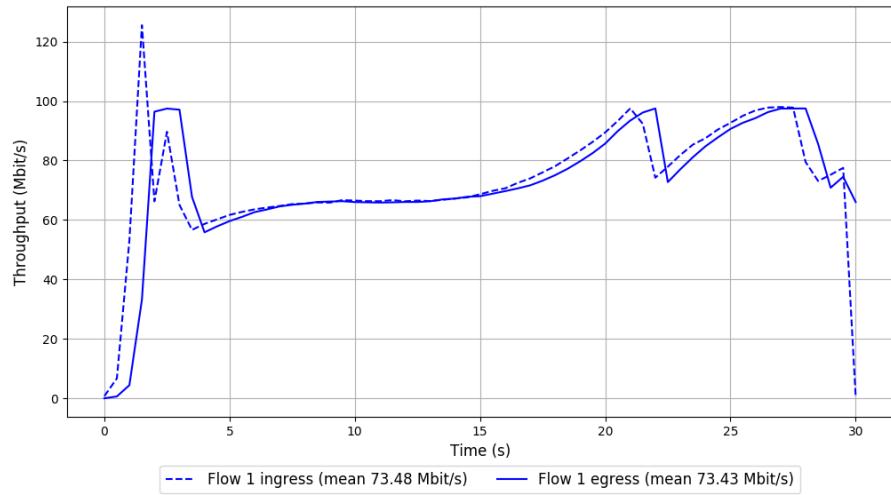


Run 1: Statistics of TCP Cubic

```
Start at: 2018-12-20 04:41:55
End at: 2018-12-20 04:42:25
Local clock offset: -3.866 ms
Remote clock offset: 4.062 ms

# Below is generated by plot.py at 2018-12-20 06:33:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.43 Mbit/s
95th percentile per-packet one-way delay: 100.355 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 73.43 Mbit/s
95th percentile per-packet one-way delay: 100.355 ms
Loss rate: 0.63%
```

Run 1: Report of TCP Cubic — Data Link

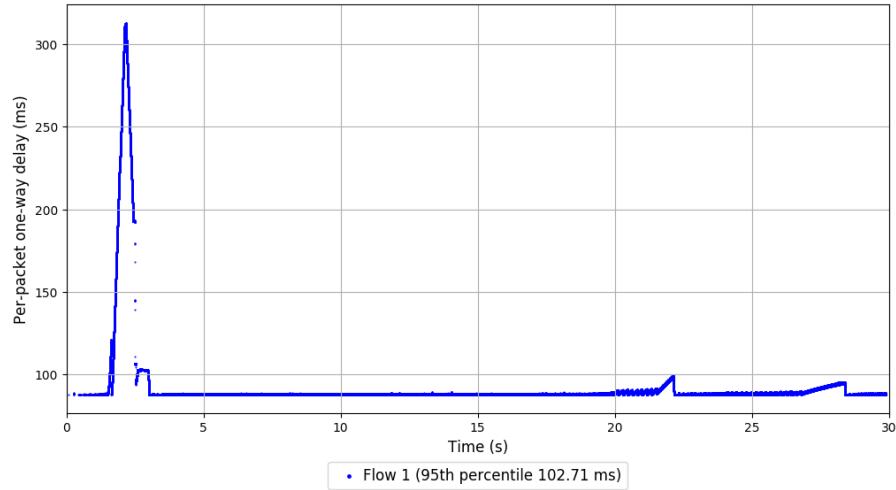
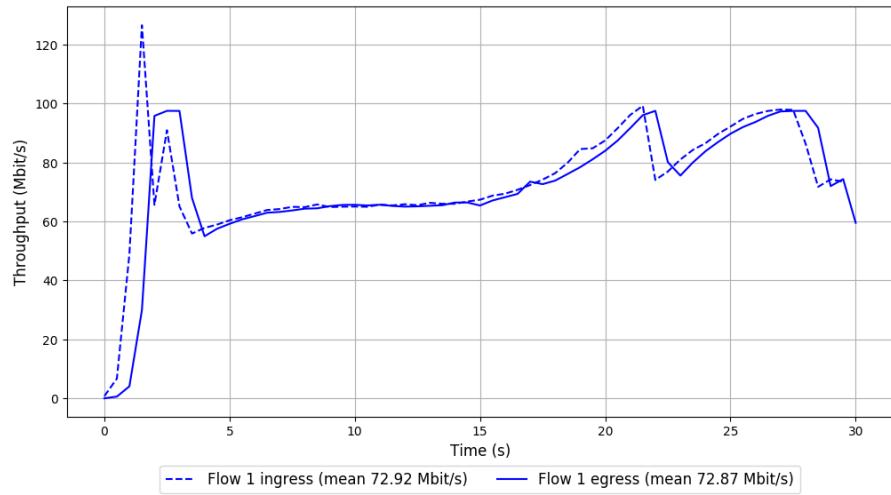


Run 2: Statistics of TCP Cubic

```
Start at: 2018-12-20 05:04:27
End at: 2018-12-20 05:04:57
Local clock offset: -0.564 ms
Remote clock offset: -7.471 ms

# Below is generated by plot.py at 2018-12-20 06:33:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.87 Mbit/s
95th percentile per-packet one-way delay: 102.710 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 72.87 Mbit/s
95th percentile per-packet one-way delay: 102.710 ms
Loss rate: 0.64%
```

Run 2: Report of TCP Cubic — Data Link

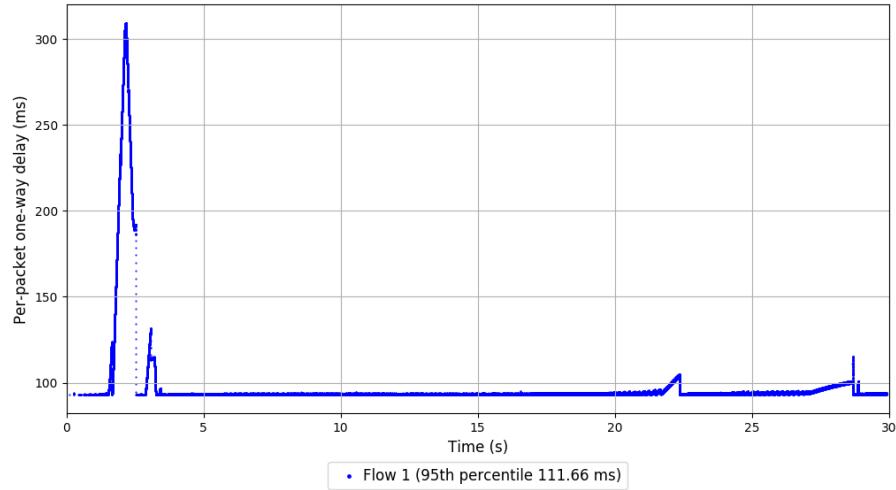
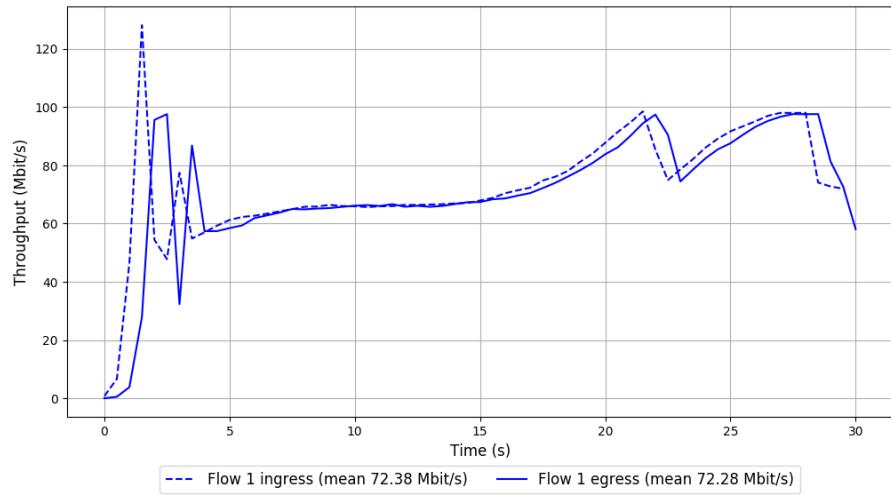


Run 3: Statistics of TCP Cubic

```
Start at: 2018-12-20 05:27:01
End at: 2018-12-20 05:27:31
Local clock offset: -6.754 ms
Remote clock offset: -5.14 ms

# Below is generated by plot.py at 2018-12-20 06:33:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.28 Mbit/s
95th percentile per-packet one-way delay: 111.664 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 72.28 Mbit/s
95th percentile per-packet one-way delay: 111.664 ms
Loss rate: 0.72%
```

Run 3: Report of TCP Cubic — Data Link

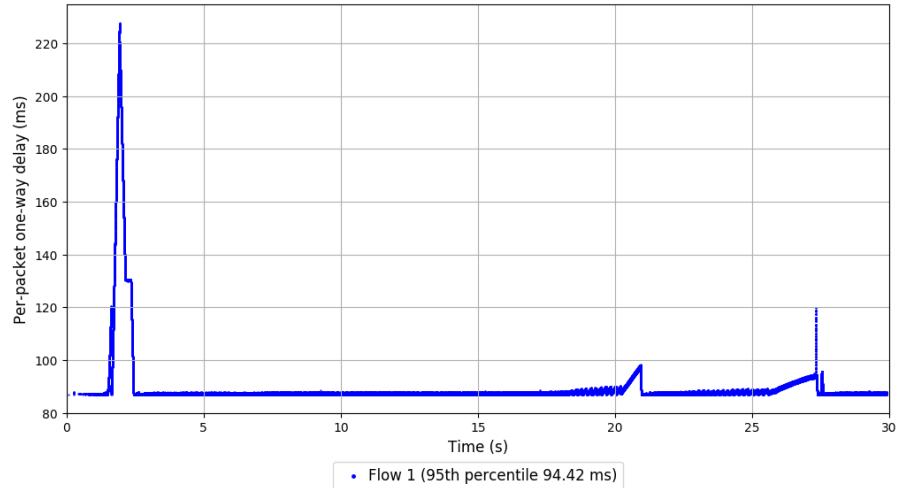
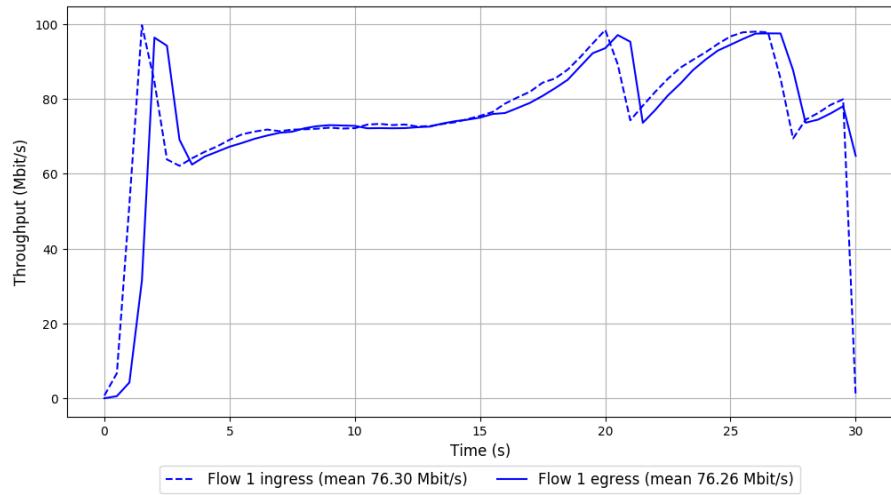


Run 4: Statistics of TCP Cubic

```
Start at: 2018-12-20 05:49:34
End at: 2018-12-20 05:50:04
Local clock offset: -2.782 ms
Remote clock offset: -0.745 ms

# Below is generated by plot.py at 2018-12-20 06:33:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.26 Mbit/s
95th percentile per-packet one-way delay: 94.416 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 76.26 Mbit/s
95th percentile per-packet one-way delay: 94.416 ms
Loss rate: 0.62%
```

Run 4: Report of TCP Cubic — Data Link

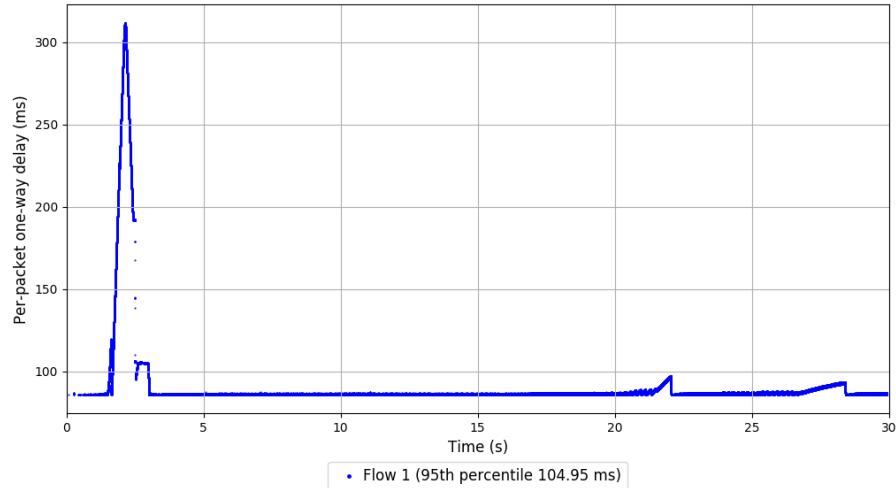
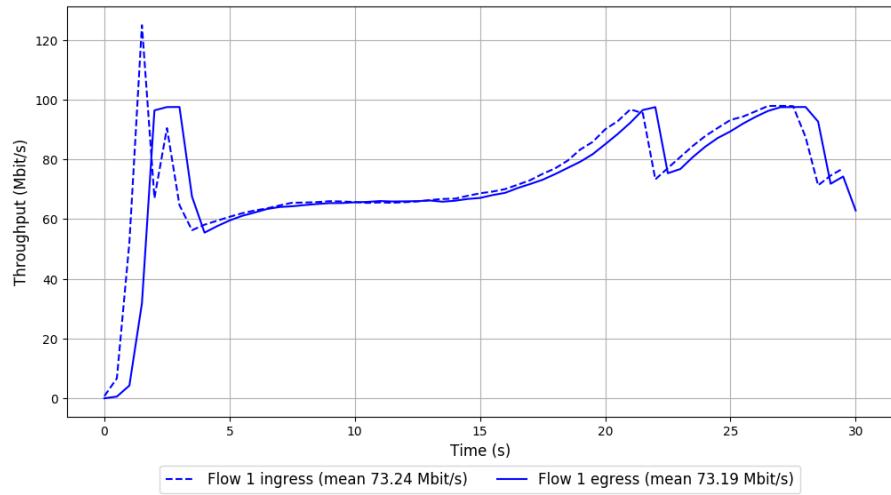


Run 5: Statistics of TCP Cubic

```
Start at: 2018-12-20 06:12:06
End at: 2018-12-20 06:12:36
Local clock offset: -1.86 ms
Remote clock offset: 0.204 ms

# Below is generated by plot.py at 2018-12-20 06:33:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.19 Mbit/s
95th percentile per-packet one-way delay: 104.951 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 73.19 Mbit/s
95th percentile per-packet one-way delay: 104.951 ms
Loss rate: 0.63%
```

Run 5: Report of TCP Cubic — Data Link

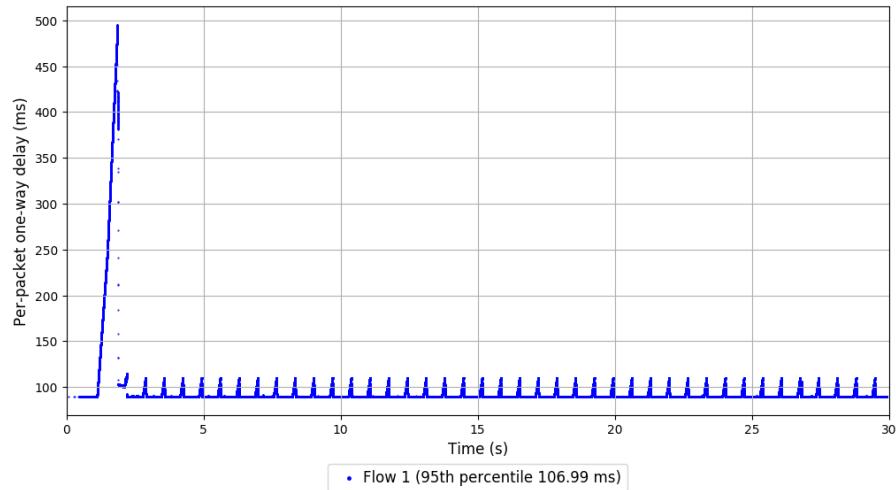
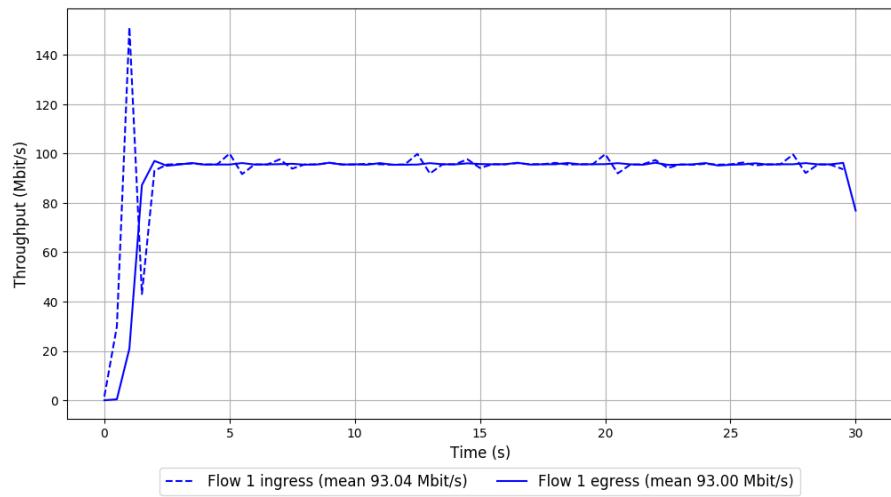


```
Run 1: Statistics of FillP
```

```
Start at: 2018-12-20 04:57:10
End at: 2018-12-20 04:57:40
Local clock offset: -1.132 ms
Remote clock offset: -9.566 ms

# Below is generated by plot.py at 2018-12-20 06:33:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.00 Mbit/s
95th percentile per-packet one-way delay: 106.994 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 93.00 Mbit/s
95th percentile per-packet one-way delay: 106.994 ms
Loss rate: 0.61%
```

Run 1: Report of FillP — Data Link

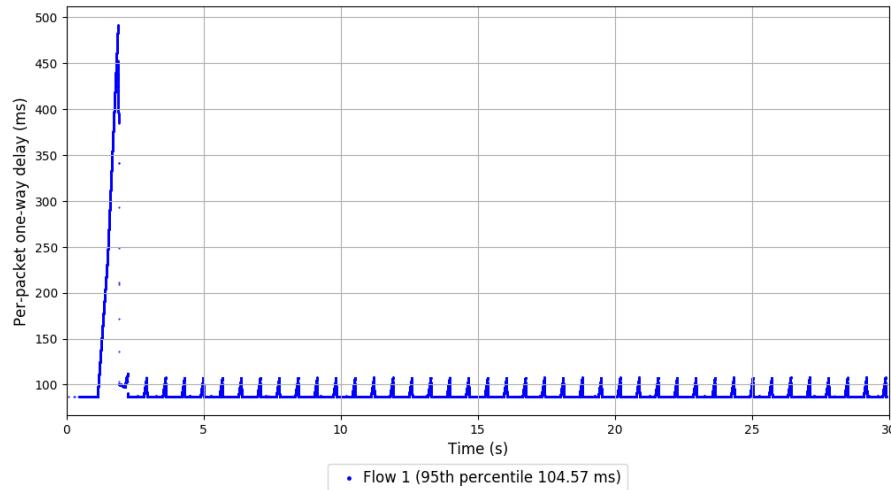
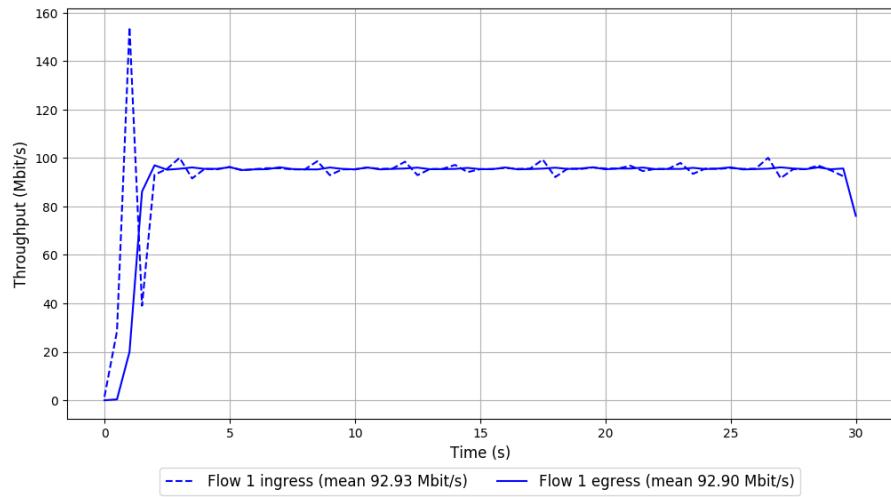


Run 2: Statistics of FillP

```
Start at: 2018-12-20 05:19:44
End at: 2018-12-20 05:20:14
Local clock offset: -5.898 ms
Remote clock offset: 0.092 ms

# Below is generated by plot.py at 2018-12-20 06:33:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.90 Mbit/s
95th percentile per-packet one-way delay: 104.566 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 92.90 Mbit/s
95th percentile per-packet one-way delay: 104.566 ms
Loss rate: 0.61%
```

Run 2: Report of FillP — Data Link

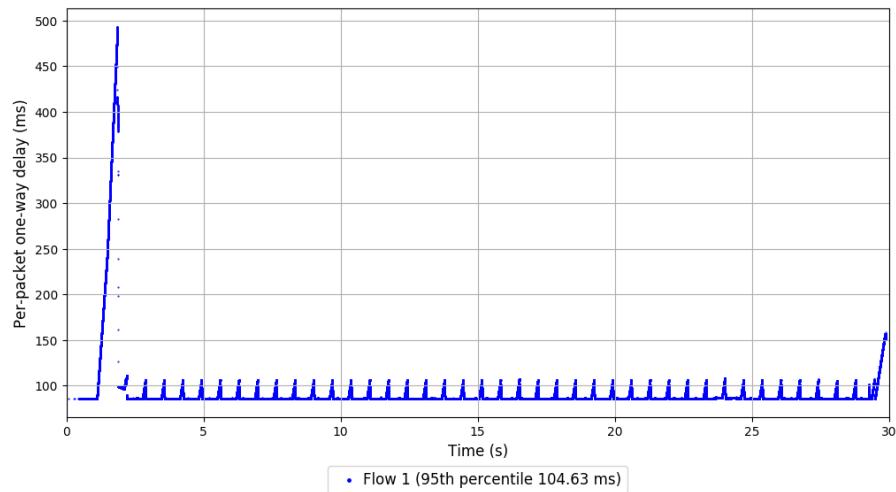
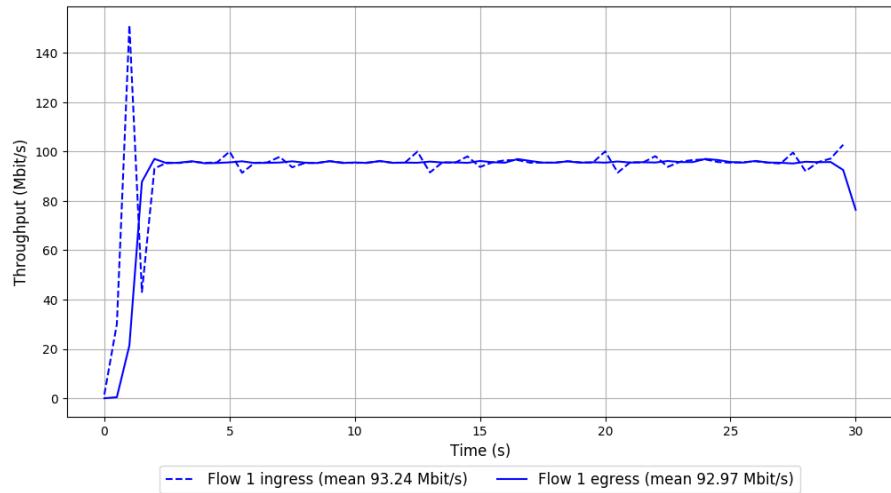


Run 3: Statistics of FillP

```
Start at: 2018-12-20 05:42:17
End at: 2018-12-20 05:42:47
Local clock offset: -4.327 ms
Remote clock offset: 0.058 ms

# Below is generated by plot.py at 2018-12-20 06:33:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.97 Mbit/s
95th percentile per-packet one-way delay: 104.633 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 92.97 Mbit/s
95th percentile per-packet one-way delay: 104.633 ms
Loss rate: 0.86%
```

Run 3: Report of FillP — Data Link

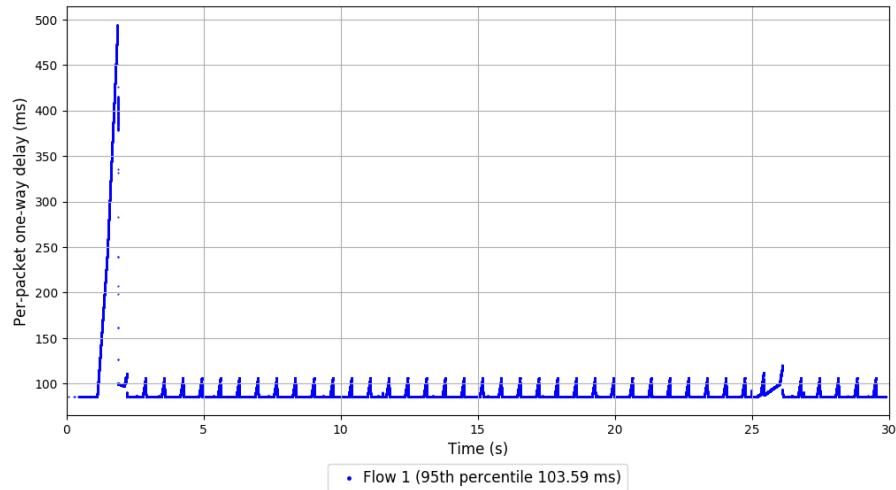
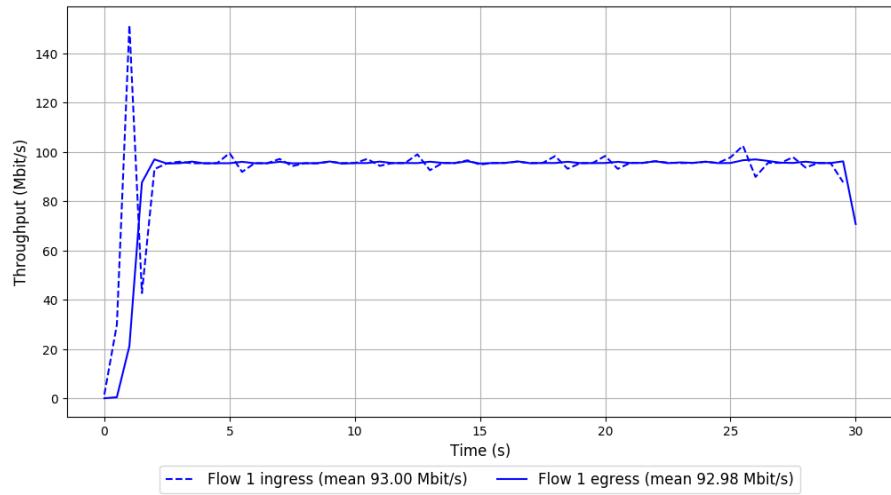


Run 4: Statistics of FillP

```
Start at: 2018-12-20 06:04:50
End at: 2018-12-20 06:05:20
Local clock offset: -1.54 ms
Remote clock offset: 0.268 ms

# Below is generated by plot.py at 2018-12-20 06:33:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.98 Mbit/s
95th percentile per-packet one-way delay: 103.592 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 92.98 Mbit/s
95th percentile per-packet one-way delay: 103.592 ms
Loss rate: 0.60%
```

Run 4: Report of FillP — Data Link

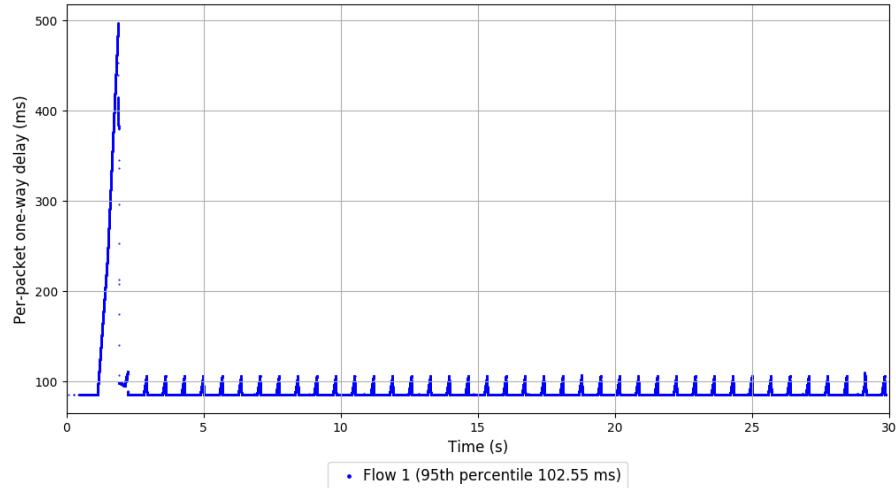
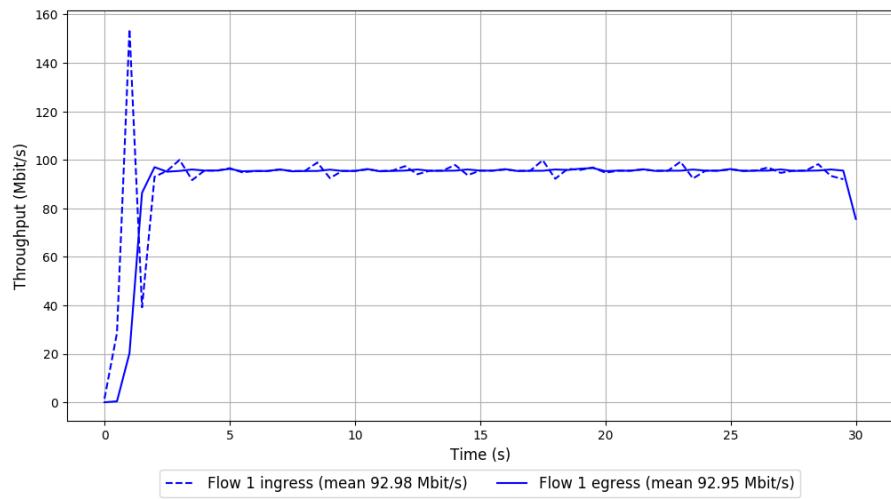


Run 5: Statistics of FillP

```
Start at: 2018-12-20 06:27:22
End at: 2018-12-20 06:27:52
Local clock offset: -1.915 ms
Remote clock offset: 0.76 ms

# Below is generated by plot.py at 2018-12-20 06:34:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.95 Mbit/s
95th percentile per-packet one-way delay: 102.545 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 92.95 Mbit/s
95th percentile per-packet one-way delay: 102.545 ms
Loss rate: 0.60%
```

Run 5: Report of FillP — Data Link

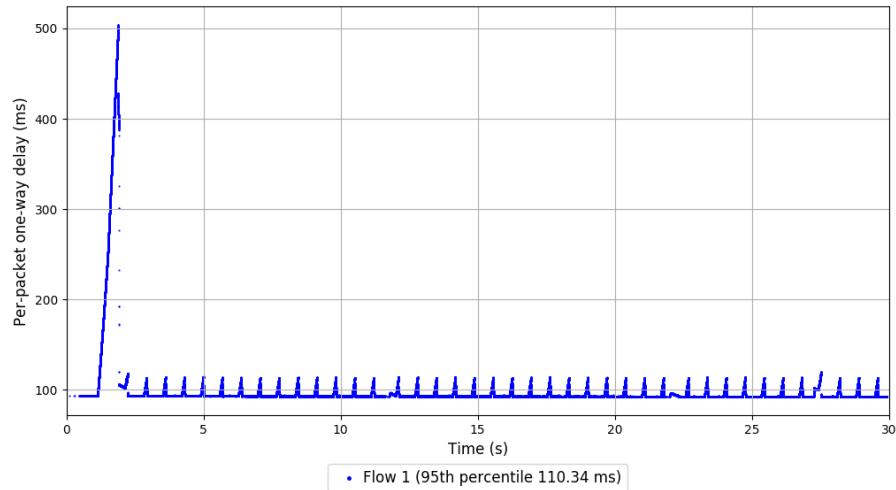
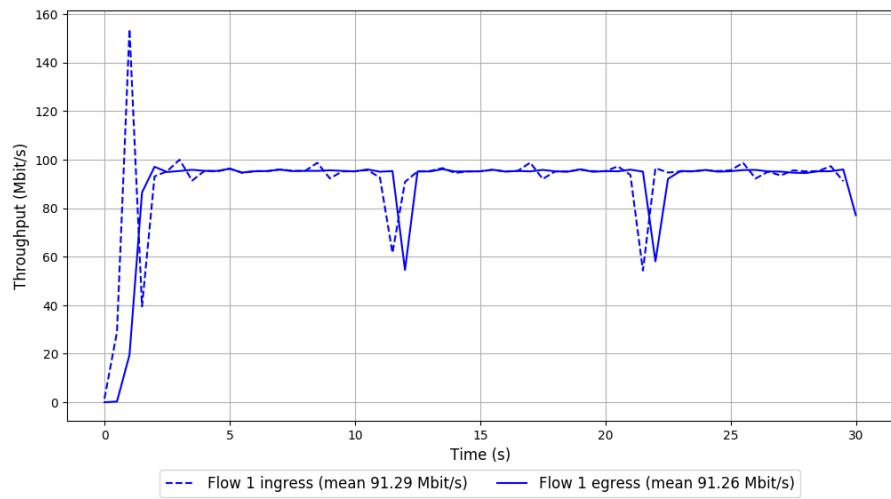


Run 1: Statistics of FillP-Sheep

```
Start at: 2018-12-20 04:39:29
End at: 2018-12-20 04:39:59
Local clock offset: -4.787 ms
Remote clock offset: 0.408 ms

# Below is generated by plot.py at 2018-12-20 06:34:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.26 Mbit/s
95th percentile per-packet one-way delay: 110.338 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 91.26 Mbit/s
95th percentile per-packet one-way delay: 110.338 ms
Loss rate: 0.62%
```

Run 1: Report of FillP-Sheep — Data Link

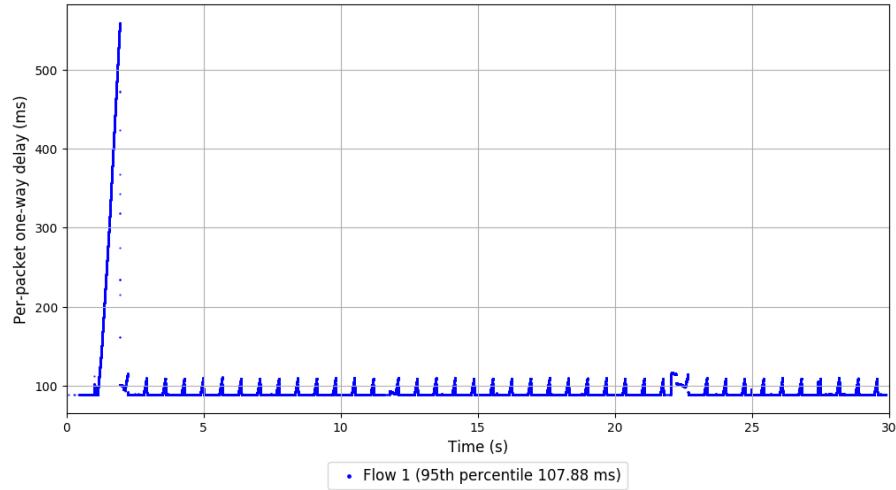
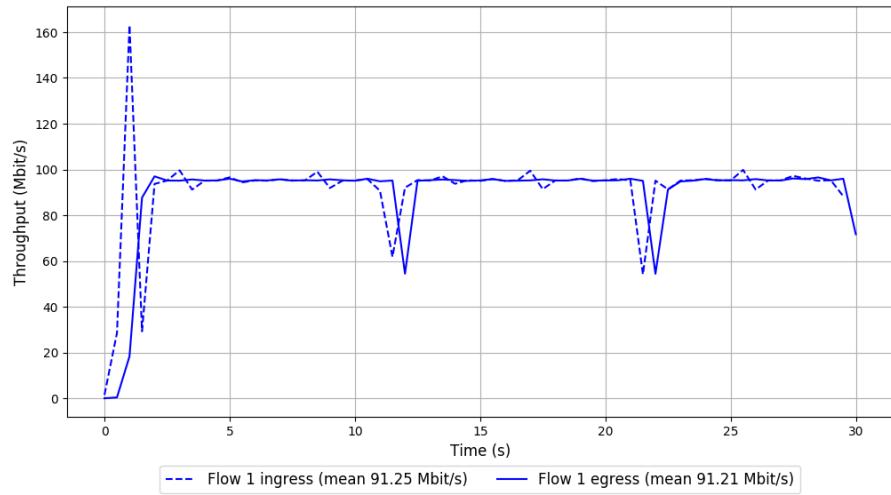


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-12-20 05:02:01
End at: 2018-12-20 05:02:31
Local clock offset: -0.742 ms
Remote clock offset: -8.096 ms

# Below is generated by plot.py at 2018-12-20 06:34:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.21 Mbit/s
95th percentile per-packet one-way delay: 107.881 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 91.21 Mbit/s
95th percentile per-packet one-way delay: 107.881 ms
Loss rate: 0.62%
```

Run 2: Report of FillP-Sheep — Data Link

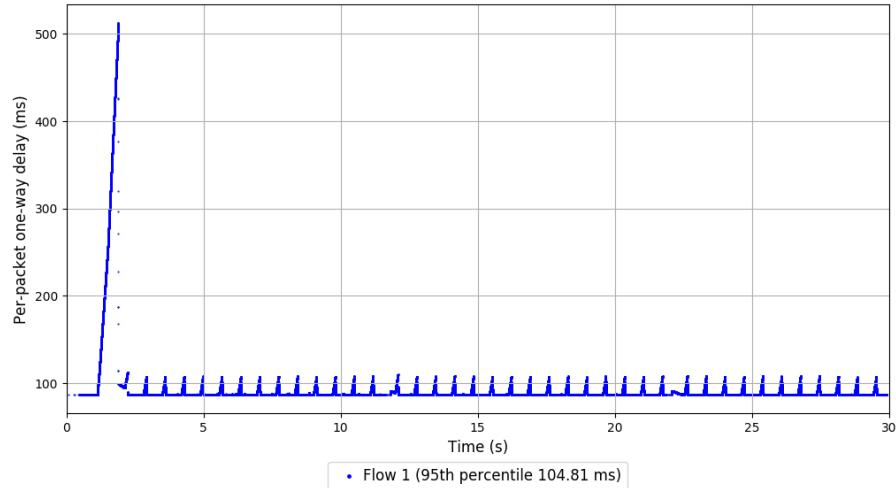
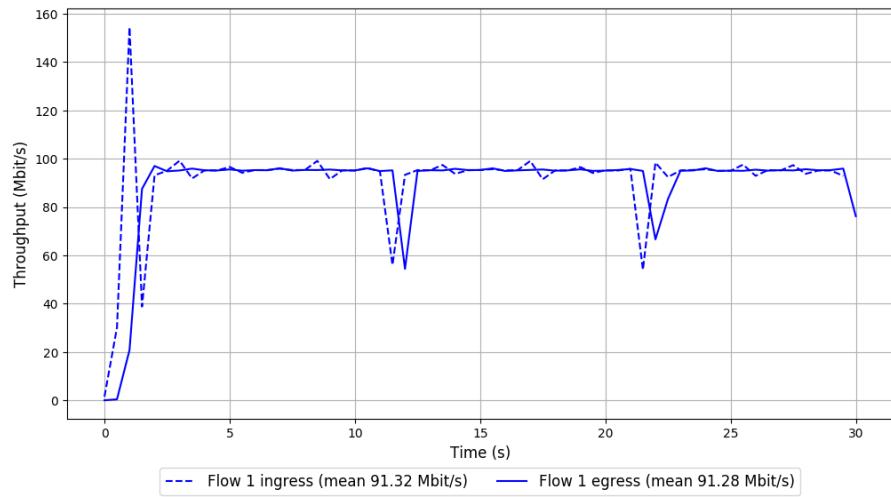


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-12-20 05:24:35
End at: 2018-12-20 05:25:05
Local clock offset: -6.522 ms
Remote clock offset: -1.778 ms

# Below is generated by plot.py at 2018-12-20 06:34:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.28 Mbit/s
95th percentile per-packet one-way delay: 104.815 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 91.28 Mbit/s
95th percentile per-packet one-way delay: 104.815 ms
Loss rate: 0.61%
```

Run 3: Report of FillP-Sheep — Data Link

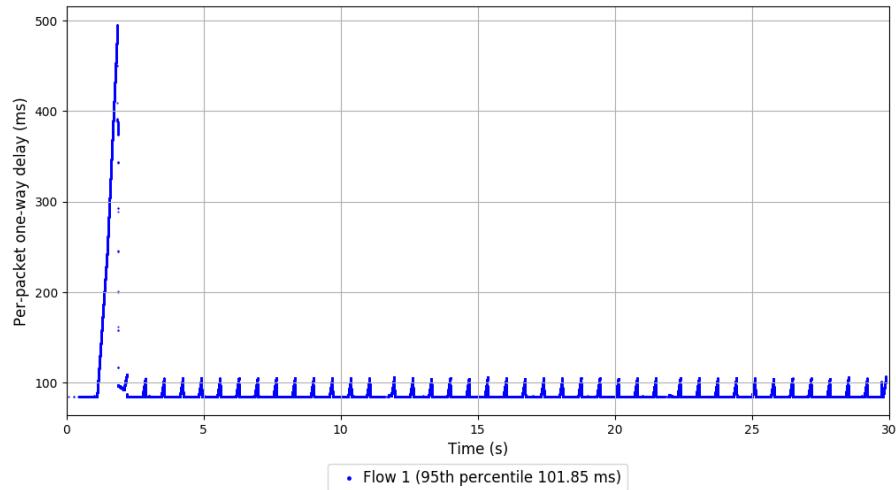
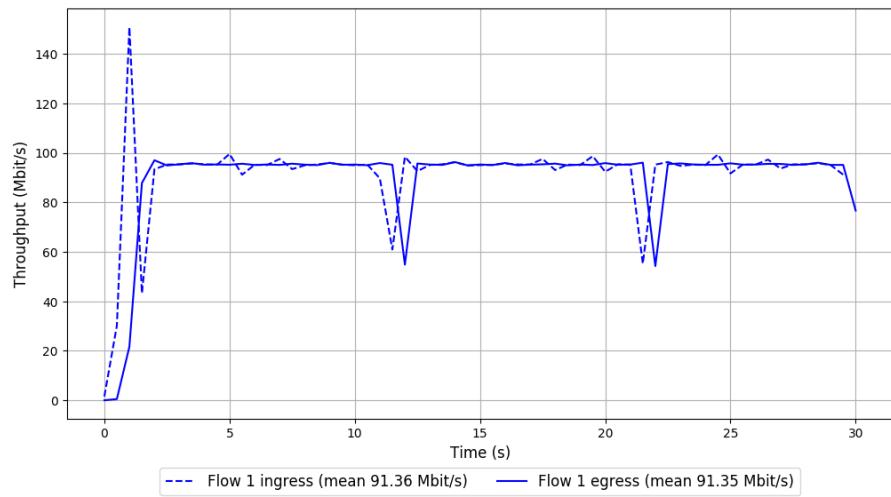


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-12-20 05:47:08
End at: 2018-12-20 05:47:38
Local clock offset: -3.185 ms
Remote clock offset: 1.424 ms

# Below is generated by plot.py at 2018-12-20 06:35:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.35 Mbit/s
95th percentile per-packet one-way delay: 101.852 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 91.35 Mbit/s
95th percentile per-packet one-way delay: 101.852 ms
Loss rate: 0.58%
```

Run 4: Report of FillP-Sheep — Data Link

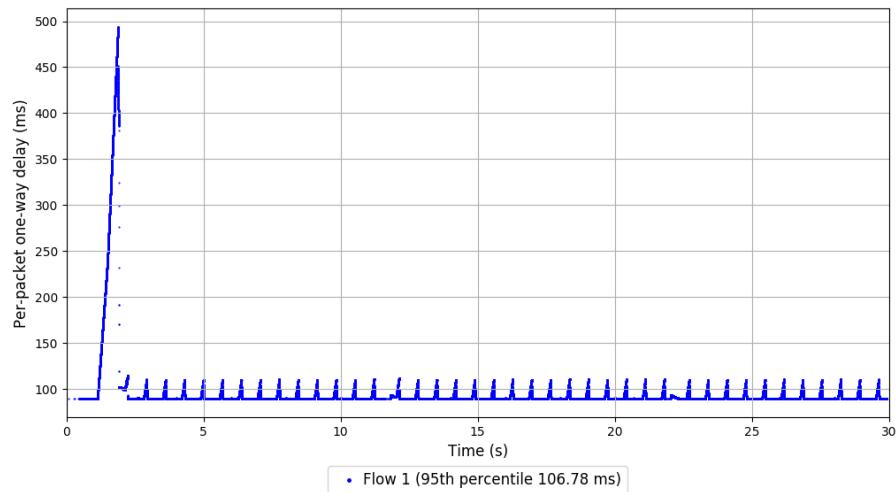
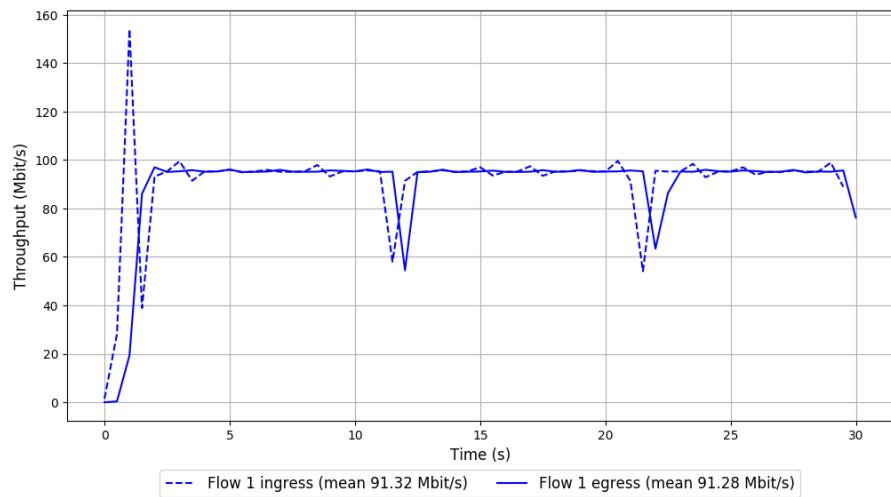


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-12-20 06:09:41
End at: 2018-12-20 06:10:11
Local clock offset: -1.777 ms
Remote clock offset: -1.076 ms

# Below is generated by plot.py at 2018-12-20 06:35:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.28 Mbit/s
95th percentile per-packet one-way delay: 106.777 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 91.28 Mbit/s
95th percentile per-packet one-way delay: 106.777 ms
Loss rate: 0.62%
```

Run 5: Report of FillP-Sheep — Data Link

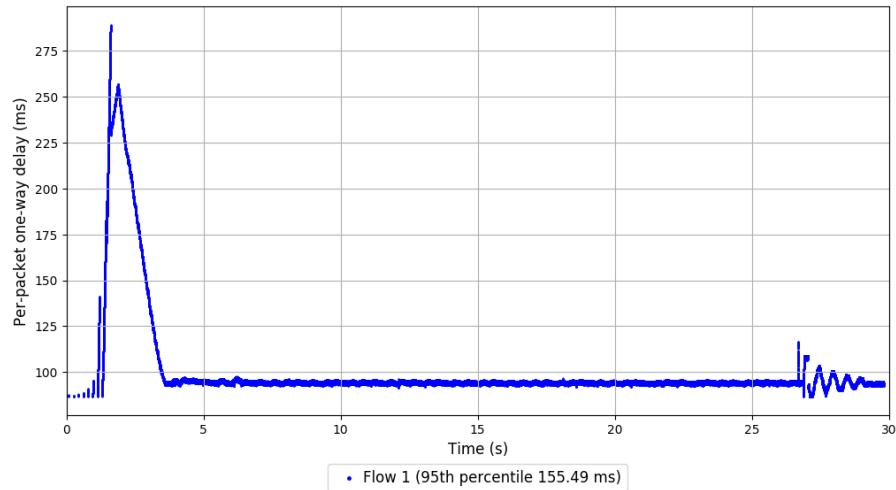
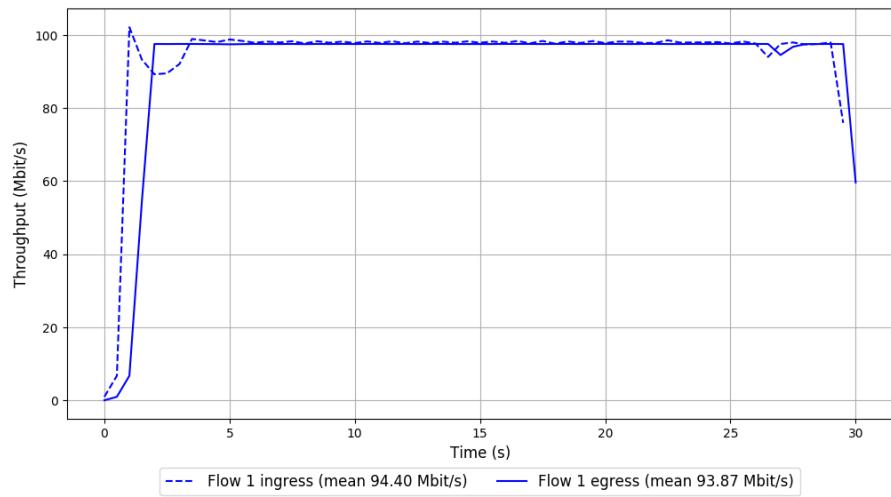


Run 1: Statistics of Indigo

```
Start at: 2018-12-20 04:53:35
End at: 2018-12-20 04:54:05
Local clock offset: -1.493 ms
Remote clock offset: -5.143 ms

# Below is generated by plot.py at 2018-12-20 06:35:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.87 Mbit/s
95th percentile per-packet one-way delay: 155.487 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 93.87 Mbit/s
95th percentile per-packet one-way delay: 155.487 ms
Loss rate: 1.13%
```

Run 1: Report of Indigo — Data Link

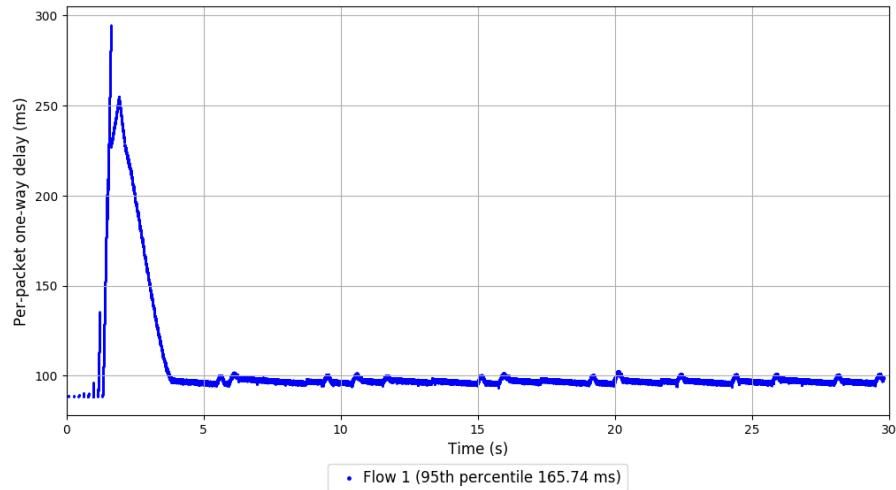
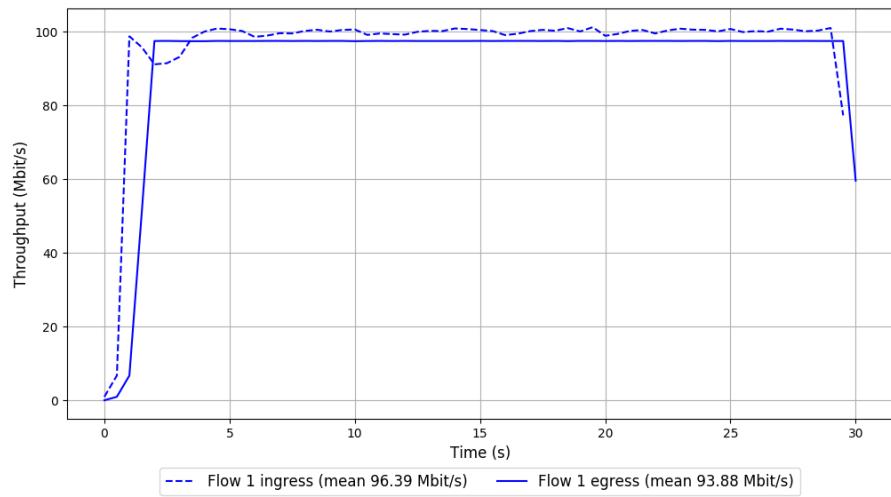


Run 2: Statistics of Indigo

```
Start at: 2018-12-20 05:16:08
End at: 2018-12-20 05:16:38
Local clock offset: -5.11 ms
Remote clock offset: -2.137 ms

# Below is generated by plot.py at 2018-12-20 06:35:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.88 Mbit/s
95th percentile per-packet one-way delay: 165.743 ms
Loss rate: 3.16%
-- Flow 1:
Average throughput: 93.88 Mbit/s
95th percentile per-packet one-way delay: 165.743 ms
Loss rate: 3.16%
```

Run 2: Report of Indigo — Data Link

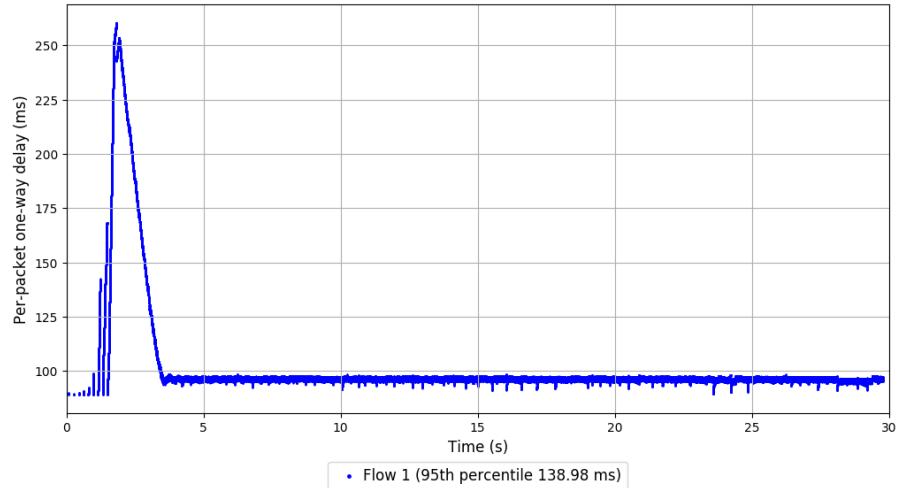
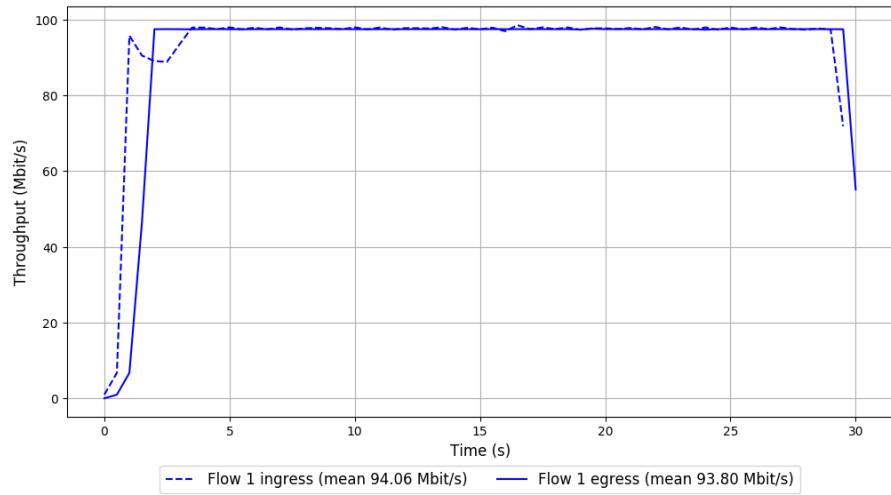


Run 3: Statistics of Indigo

```
Start at: 2018-12-20 05:38:41
End at: 2018-12-20 05:39:11
Local clock offset: -5.584 ms
Remote clock offset: -1.013 ms

# Below is generated by plot.py at 2018-12-20 06:35:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.80 Mbit/s
95th percentile per-packet one-way delay: 138.982 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 93.80 Mbit/s
95th percentile per-packet one-way delay: 138.982 ms
Loss rate: 0.86%
```

Run 3: Report of Indigo — Data Link

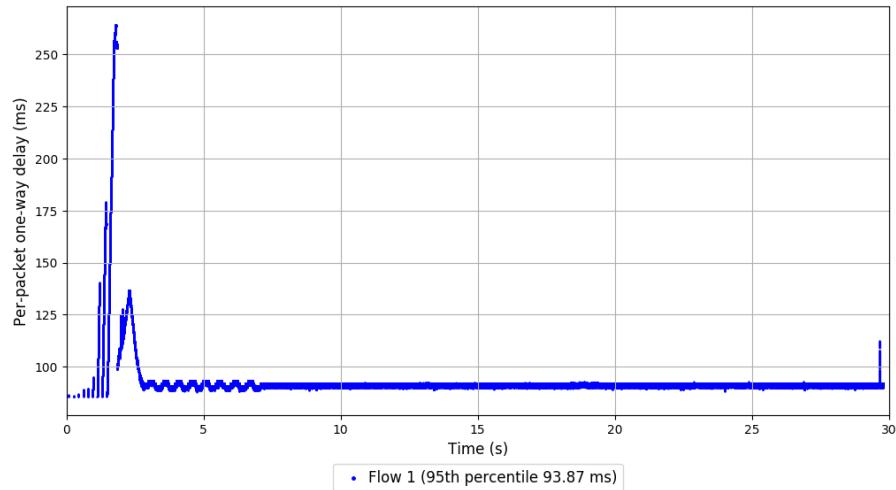
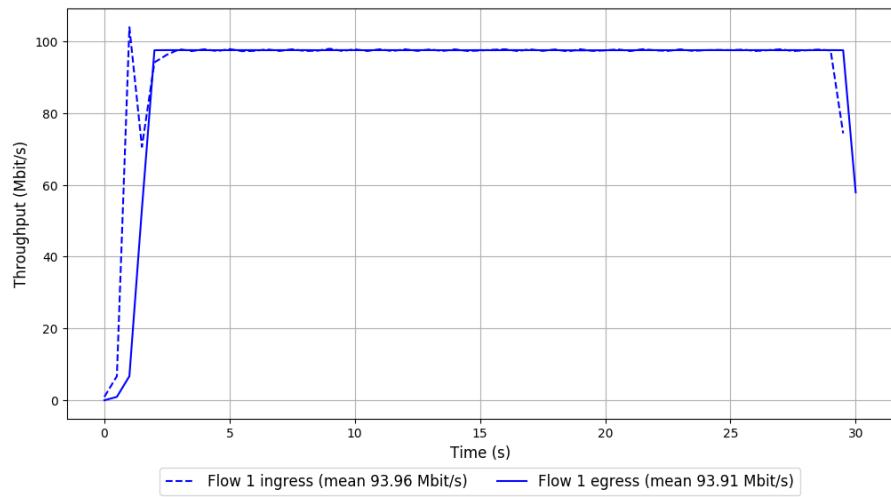


Run 4: Statistics of Indigo

```
Start at: 2018-12-20 06:01:14
End at: 2018-12-20 06:01:44
Local clock offset: -1.684 ms
Remote clock offset: 0.436 ms

# Below is generated by plot.py at 2018-12-20 06:35:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.91 Mbit/s
95th percentile per-packet one-way delay: 93.867 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 93.91 Mbit/s
95th percentile per-packet one-way delay: 93.867 ms
Loss rate: 0.63%
```

Run 4: Report of Indigo — Data Link

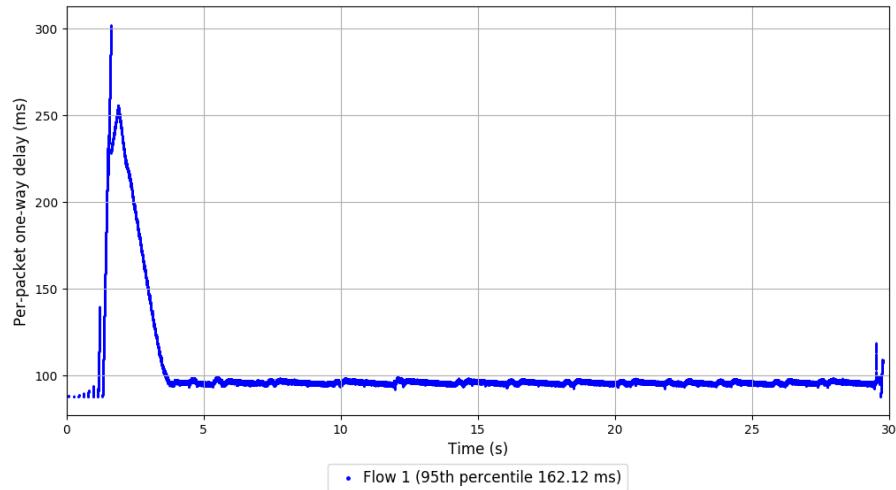
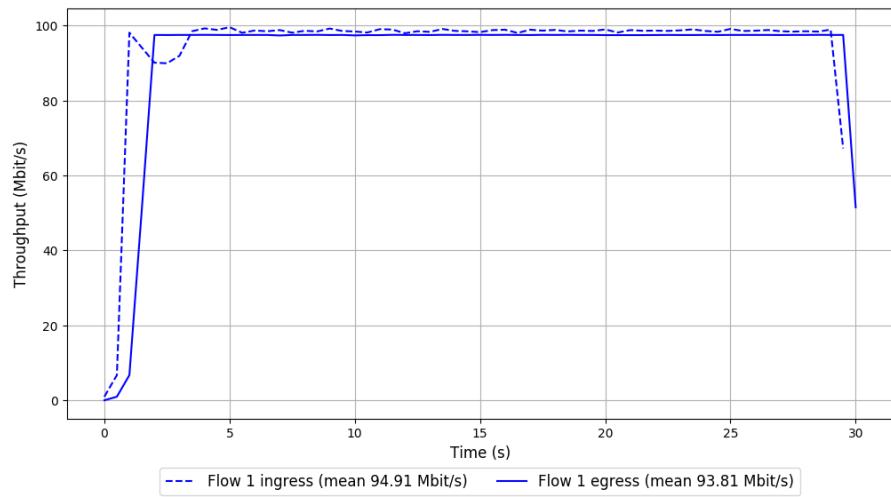


Run 5: Statistics of Indigo

```
Start at: 2018-12-20 06:23:47
End at: 2018-12-20 06:24:17
Local clock offset: -1.945 ms
Remote clock offset: -0.143 ms

# Below is generated by plot.py at 2018-12-20 06:35:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.81 Mbit/s
95th percentile per-packet one-way delay: 162.117 ms
Loss rate: 1.72%
-- Flow 1:
Average throughput: 93.81 Mbit/s
95th percentile per-packet one-way delay: 162.117 ms
Loss rate: 1.72%
```

Run 5: Report of Indigo — Data Link

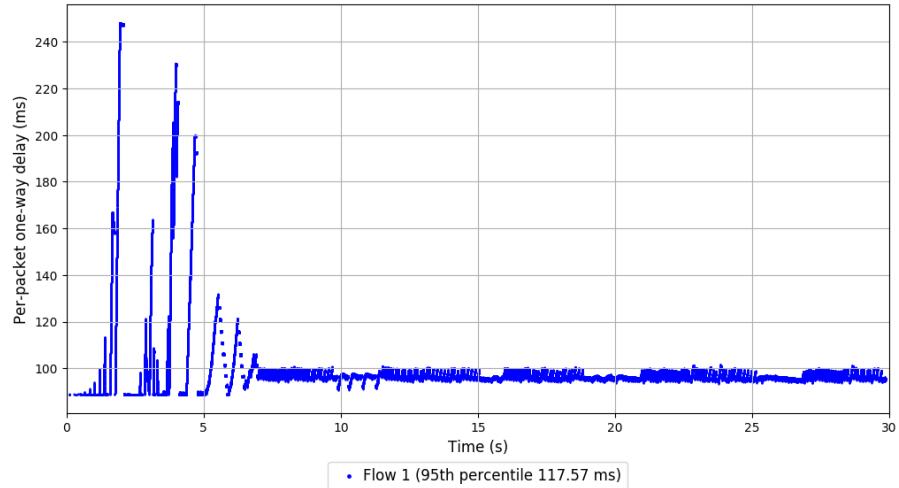
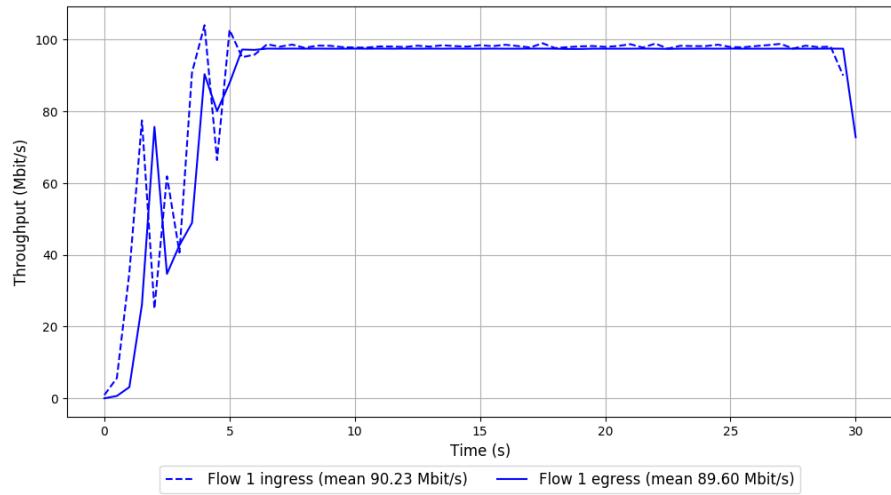


Run 1: Statistics of Indigo-MusesD

```
Start at: 2018-12-20 04:38:17
End at: 2018-12-20 04:38:47
Local clock offset: -5.292 ms
Remote clock offset: 6.151 ms

# Below is generated by plot.py at 2018-12-20 06:35:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.60 Mbit/s
95th percentile per-packet one-way delay: 117.567 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 89.60 Mbit/s
95th percentile per-packet one-way delay: 117.567 ms
Loss rate: 1.27%
```

Run 1: Report of Indigo-MusesD — Data Link

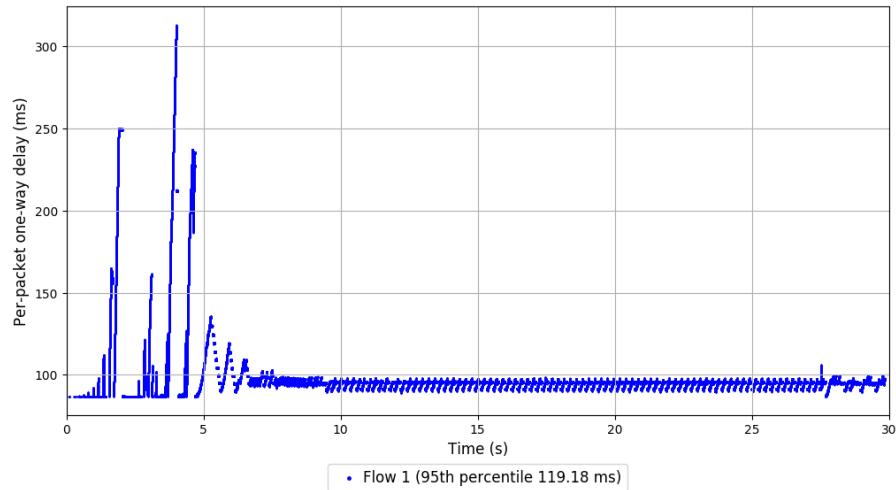
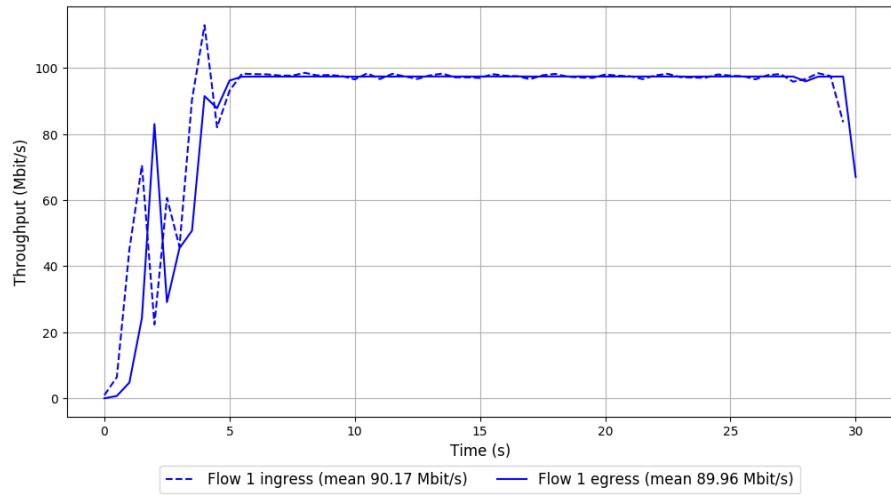


Run 2: Statistics of Indigo-MusesD

```
Start at: 2018-12-20 05:00:50
End at: 2018-12-20 05:01:20
Local clock offset: -0.834 ms
Remote clock offset: -5.418 ms

# Below is generated by plot.py at 2018-12-20 06:35:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.96 Mbit/s
95th percentile per-packet one-way delay: 119.181 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 89.96 Mbit/s
95th percentile per-packet one-way delay: 119.181 ms
Loss rate: 0.80%
```

Run 2: Report of Indigo-MusesD — Data Link

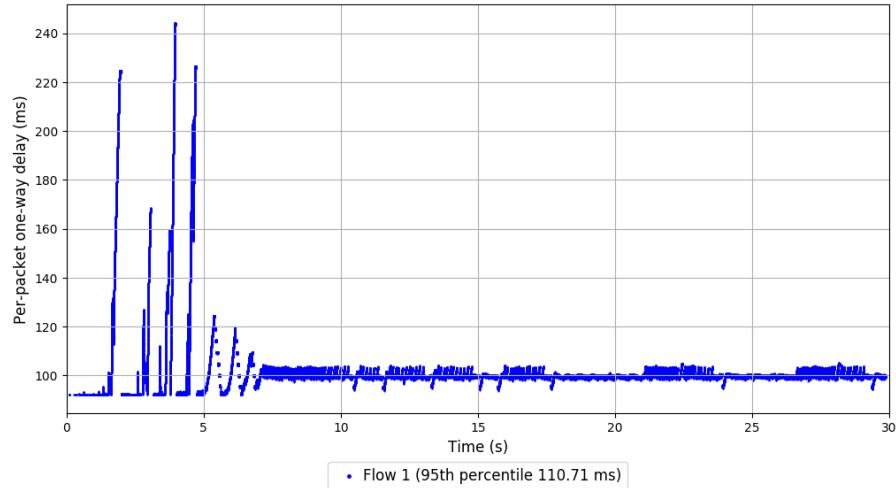
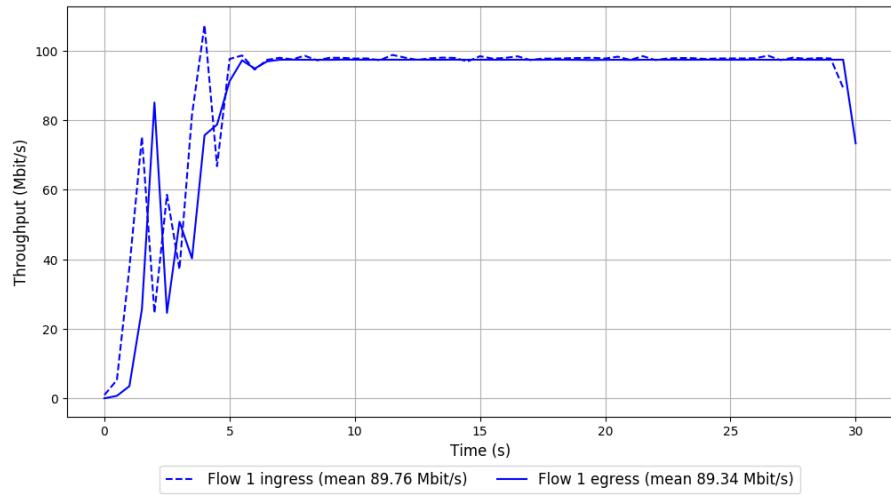


Run 3: Statistics of Indigo-MusesD

```
Start at: 2018-12-20 05:23:23
End at: 2018-12-20 05:23:53
Local clock offset: -6.355 ms
Remote clock offset: -4.547 ms

# Below is generated by plot.py at 2018-12-20 06:35:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.34 Mbit/s
95th percentile per-packet one-way delay: 110.713 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 89.34 Mbit/s
95th percentile per-packet one-way delay: 110.713 ms
Loss rate: 1.05%
```

Run 3: Report of Indigo-MusesD — Data Link

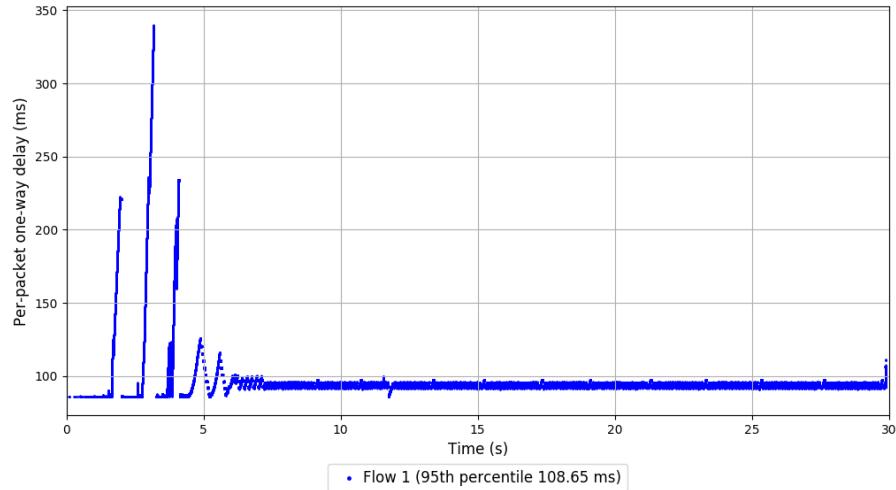
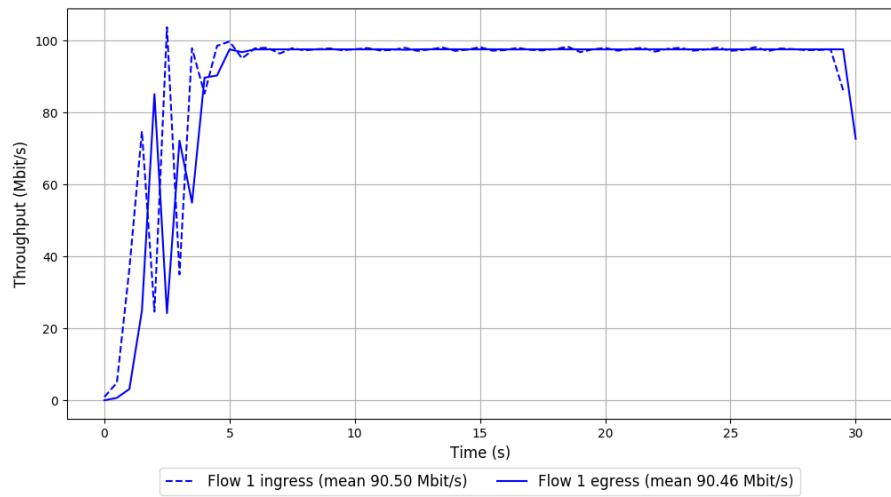


Run 4: Statistics of Indigo-MusesD

```
Start at: 2018-12-20 05:45:56
End at: 2018-12-20 05:46:26
Local clock offset: -3.43 ms
Remote clock offset: 0.343 ms

# Below is generated by plot.py at 2018-12-20 06:36:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.46 Mbit/s
95th percentile per-packet one-way delay: 108.651 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 90.46 Mbit/s
95th percentile per-packet one-way delay: 108.651 ms
Loss rate: 0.61%
```

Run 4: Report of Indigo-MusesD — Data Link

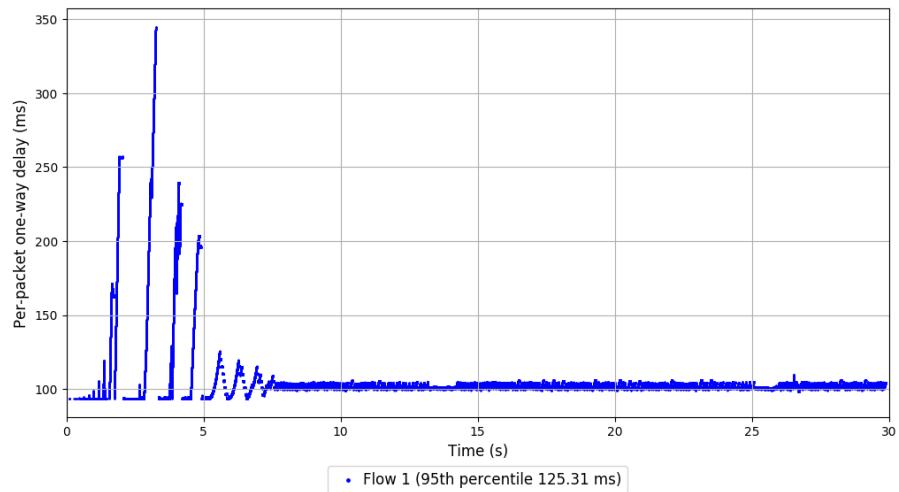
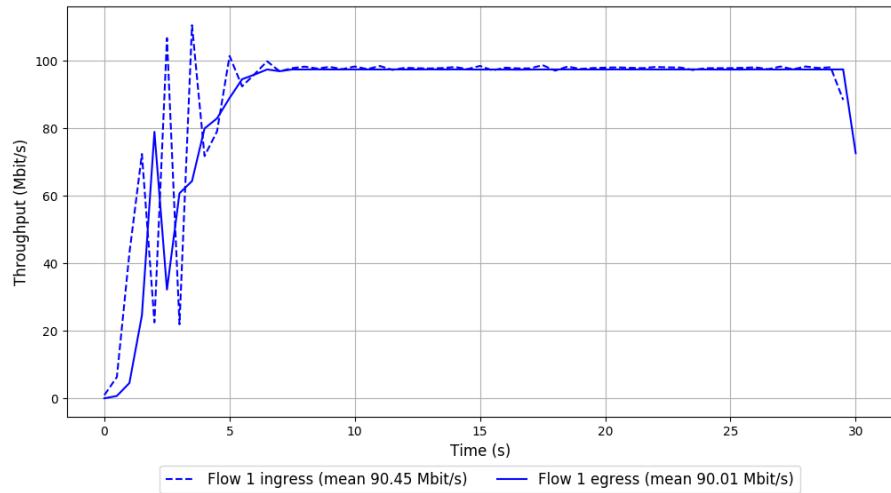


Run 5: Statistics of Indigo-MusesD

```
Start at: 2018-12-20 06:08:29
End at: 2018-12-20 06:08:59
Local clock offset: -1.718 ms
Remote clock offset: -5.214 ms

# Below is generated by plot.py at 2018-12-20 06:36:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.01 Mbit/s
95th percentile per-packet one-way delay: 125.312 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 90.01 Mbit/s
95th percentile per-packet one-way delay: 125.312 ms
Loss rate: 1.06%
```

Run 5: Report of Indigo-MusesD — Data Link

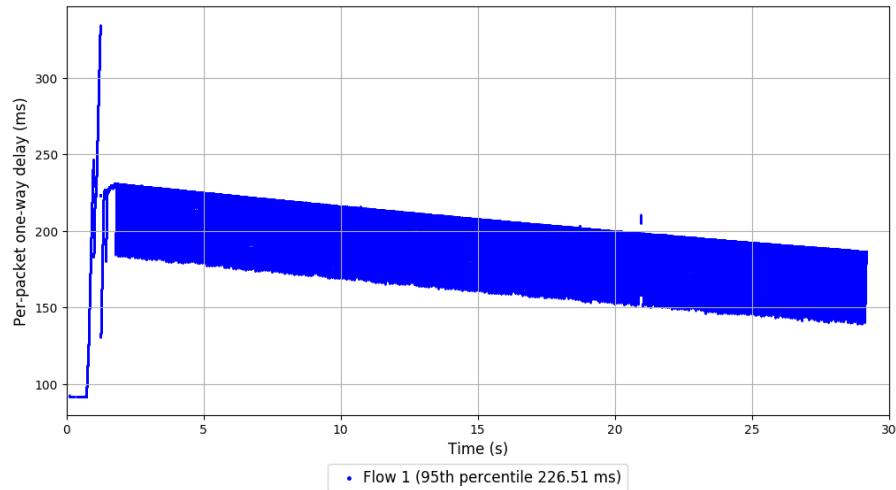
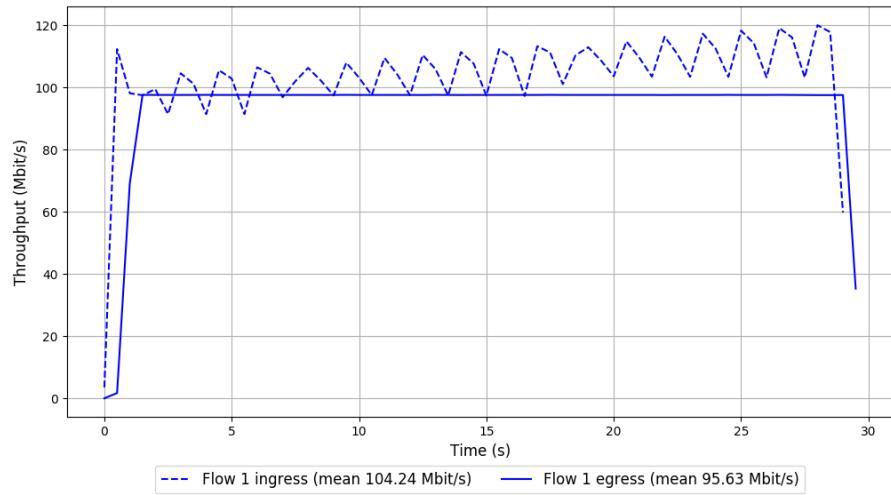


Run 1: Statistics of Indigo-MusesT

```
Start at: 2018-12-20 04:48:58
End at: 2018-12-20 04:49:28
Local clock offset: -2.184 ms
Remote clock offset: -5.721 ms

# Below is generated by plot.py at 2018-12-20 06:36:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 226.507 ms
Loss rate: 8.80%
-- Flow 1:
Average throughput: 95.63 Mbit/s
95th percentile per-packet one-way delay: 226.507 ms
Loss rate: 8.80%
```

Run 1: Report of Indigo-MusesT — Data Link

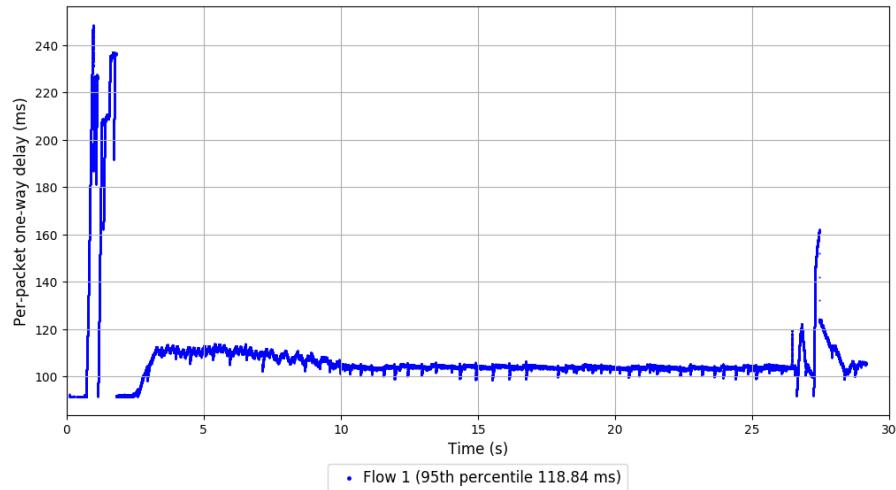
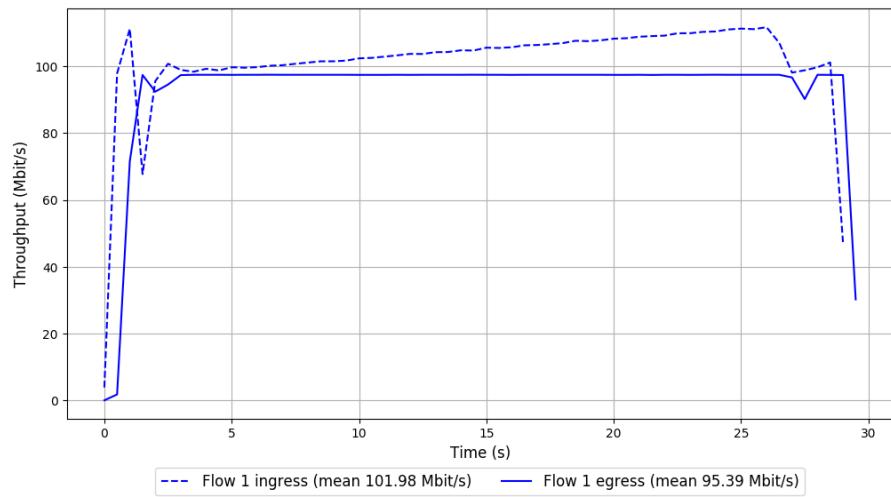


Run 2: Statistics of Indigo-MusesT

```
Start at: 2018-12-20 05:11:30
End at: 2018-12-20 05:12:00
Local clock offset: -3.759 ms
Remote clock offset: -9.159 ms

# Below is generated by plot.py at 2018-12-20 06:36:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.39 Mbit/s
95th percentile per-packet one-way delay: 118.838 ms
Loss rate: 7.01%
-- Flow 1:
Average throughput: 95.39 Mbit/s
95th percentile per-packet one-way delay: 118.838 ms
Loss rate: 7.01%
```

Run 2: Report of Indigo-MusesT — Data Link

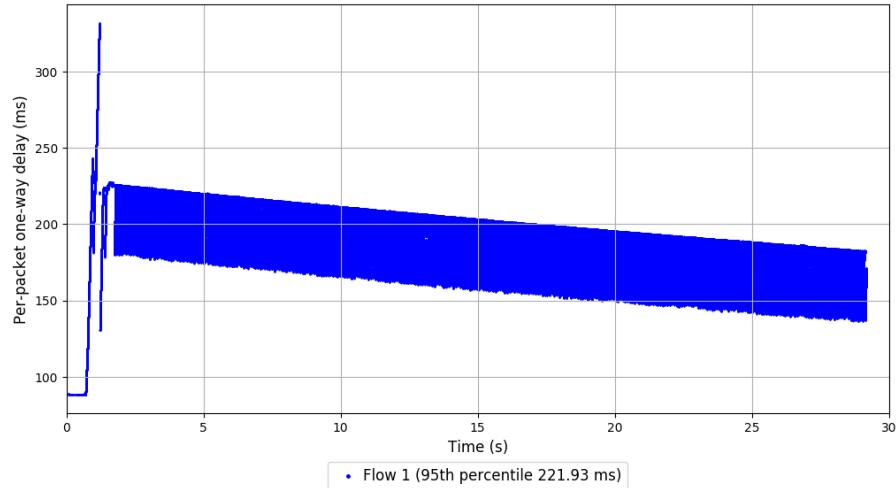
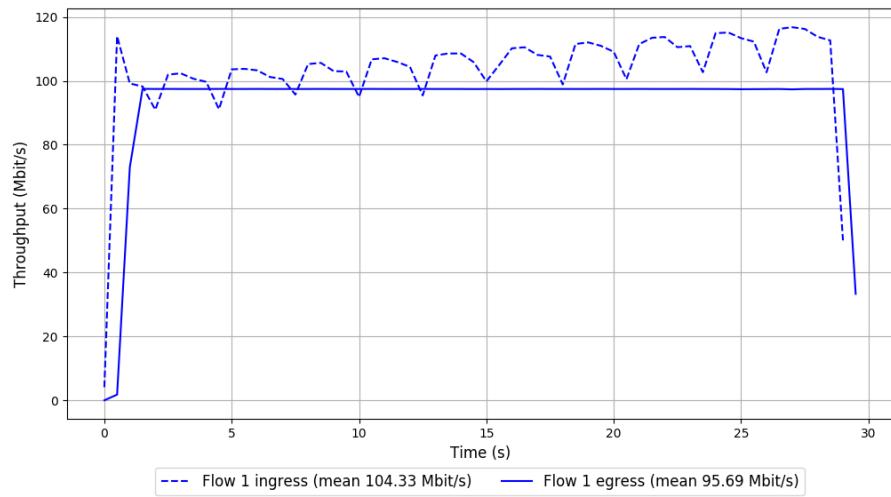


Run 3: Statistics of Indigo-MusesT

```
Start at: 2018-12-20 05:34:03
End at: 2018-12-20 05:34:33
Local clock offset: -7.279 ms
Remote clock offset: 0.149 ms

# Below is generated by plot.py at 2018-12-20 06:36:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.69 Mbit/s
95th percentile per-packet one-way delay: 221.925 ms
Loss rate: 8.82%
-- Flow 1:
Average throughput: 95.69 Mbit/s
95th percentile per-packet one-way delay: 221.925 ms
Loss rate: 8.82%
```

Run 3: Report of Indigo-MusesT — Data Link

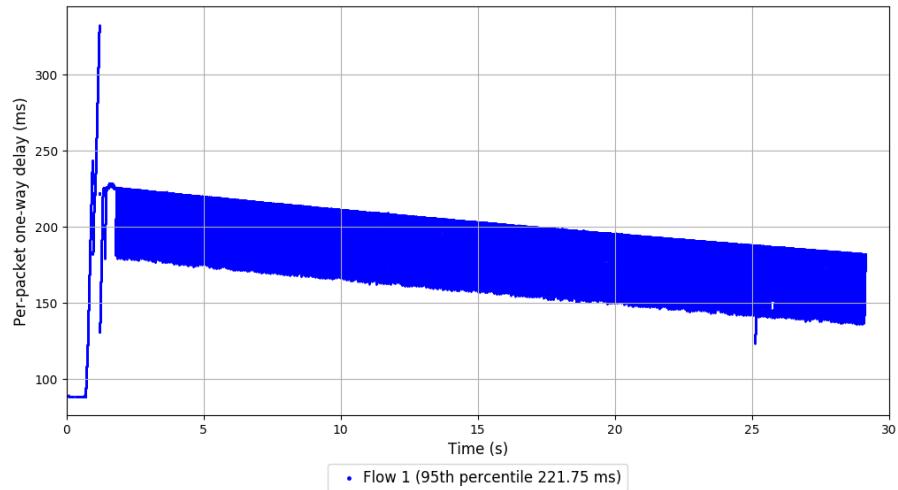
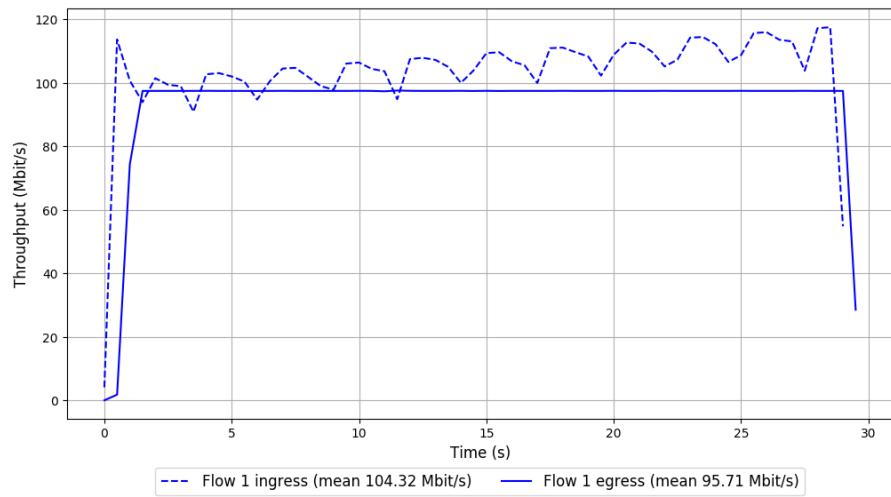


Run 4: Statistics of Indigo-MusesT

```
Start at: 2018-12-20 05:56:37
End at: 2018-12-20 05:57:07
Local clock offset: -2.086 ms
Remote clock offset: 0.202 ms

# Below is generated by plot.py at 2018-12-20 06:36:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 221.751 ms
Loss rate: 8.79%
-- Flow 1:
Average throughput: 95.71 Mbit/s
95th percentile per-packet one-way delay: 221.751 ms
Loss rate: 8.79%
```

Run 4: Report of Indigo-MusesT — Data Link

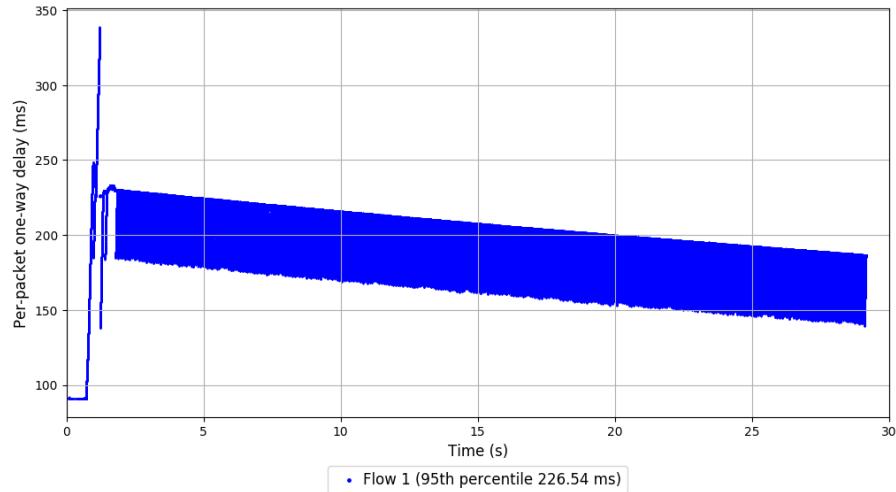
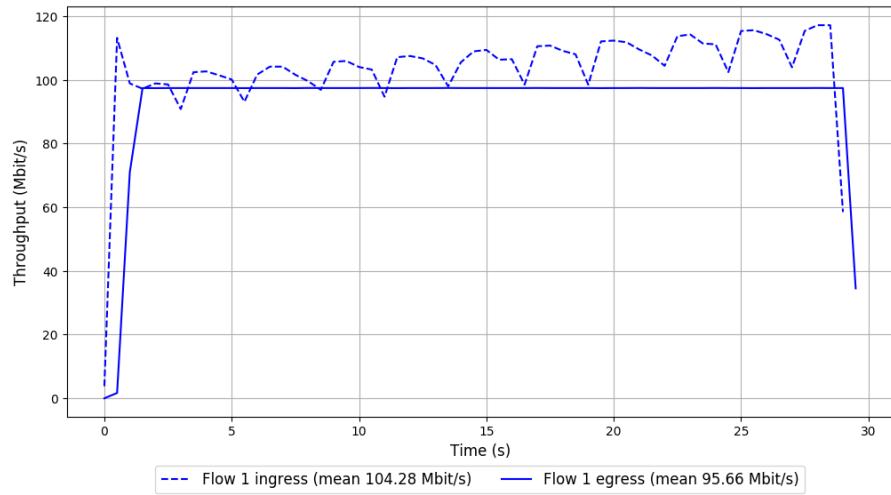


Run 5: Statistics of Indigo-MusesT

```
Start at: 2018-12-20 06:19:09
End at: 2018-12-20 06:19:39
Local clock offset: -2.027 ms
Remote clock offset: -5.126 ms

# Below is generated by plot.py at 2018-12-20 06:37:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 226.537 ms
Loss rate: 8.79%
-- Flow 1:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 226.537 ms
Loss rate: 8.79%
```

Run 5: Report of Indigo-MusesT — Data Link

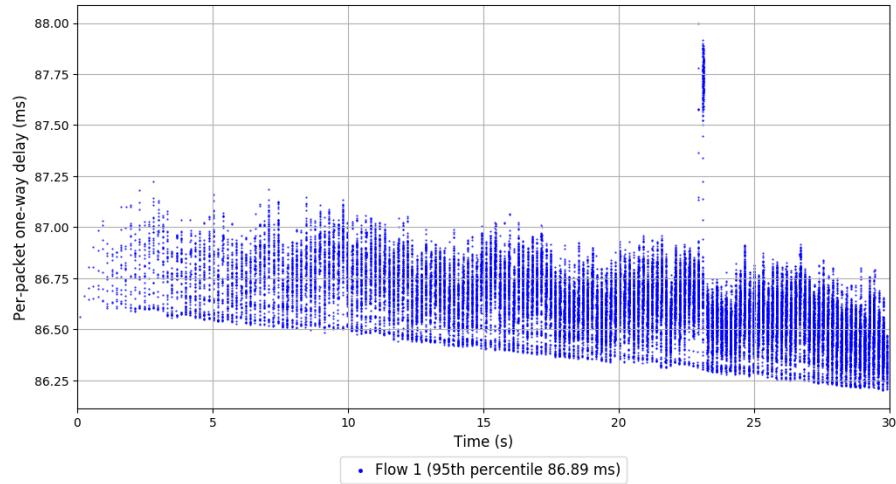
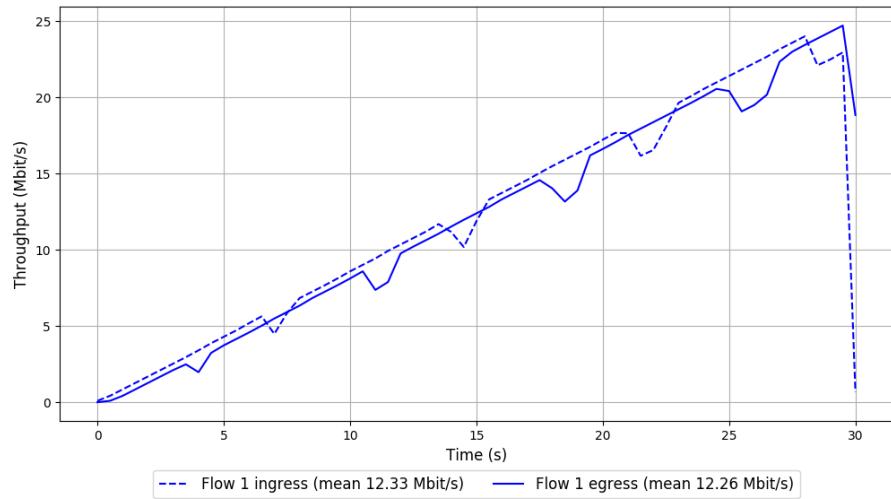


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-12-20 04:46:38
End at: 2018-12-20 04:47:08
Local clock offset: -2.638 ms
Remote clock offset: -1.469 ms

# Below is generated by plot.py at 2018-12-20 06:37:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.26 Mbit/s
95th percentile per-packet one-way delay: 86.888 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 12.26 Mbit/s
95th percentile per-packet one-way delay: 86.888 ms
Loss rate: 1.14%
```

Run 1: Report of LEDBAT — Data Link

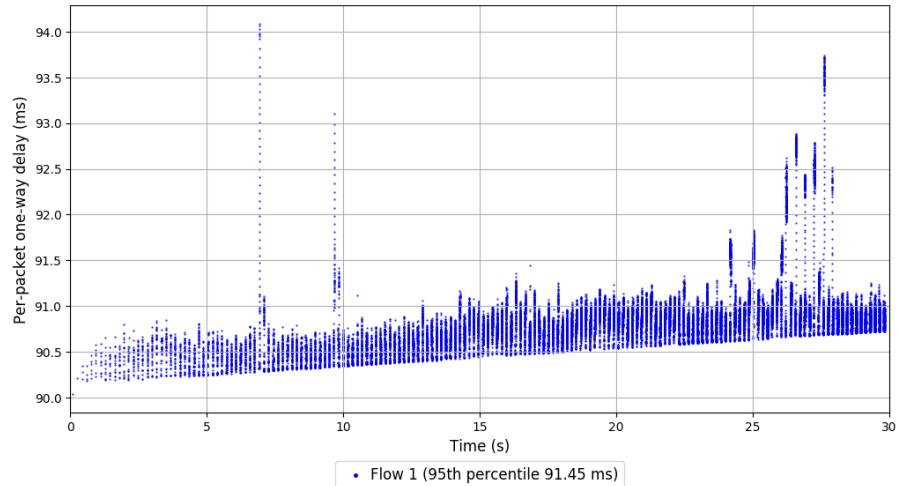
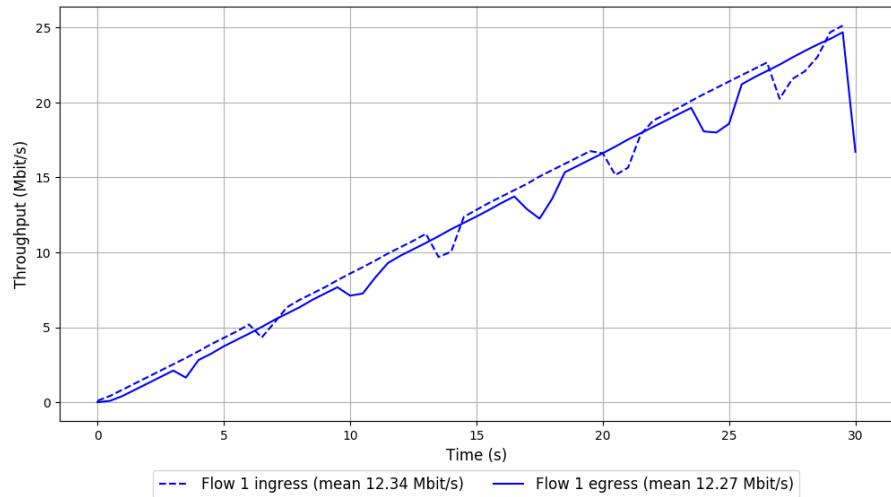


Run 2: Statistics of LEDBAT

```
Start at: 2018-12-20 05:09:10
End at: 2018-12-20 05:09:40
Local clock offset: -2.822 ms
Remote clock offset: -9.402 ms

# Below is generated by plot.py at 2018-12-20 06:37:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.27 Mbit/s
95th percentile per-packet one-way delay: 91.448 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 12.27 Mbit/s
95th percentile per-packet one-way delay: 91.448 ms
Loss rate: 1.14%
```

Run 2: Report of LEDBAT — Data Link

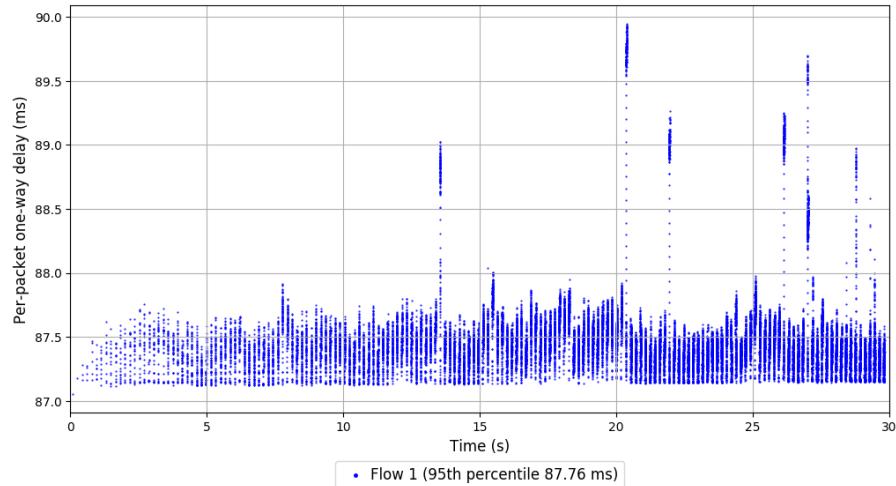
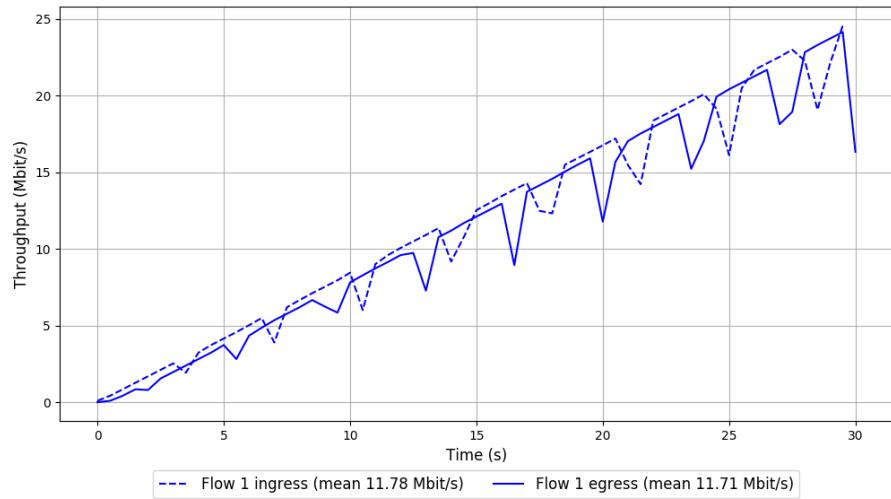


Run 3: Statistics of LEDBAT

```
Start at: 2018-12-20 05:31:44
End at: 2018-12-20 05:32:14
Local clock offset: -7.131 ms
Remote clock offset: 1.153 ms

# Below is generated by plot.py at 2018-12-20 06:37:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 87.764 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 11.71 Mbit/s
95th percentile per-packet one-way delay: 87.764 ms
Loss rate: 1.17%
```

Run 3: Report of LEDBAT — Data Link

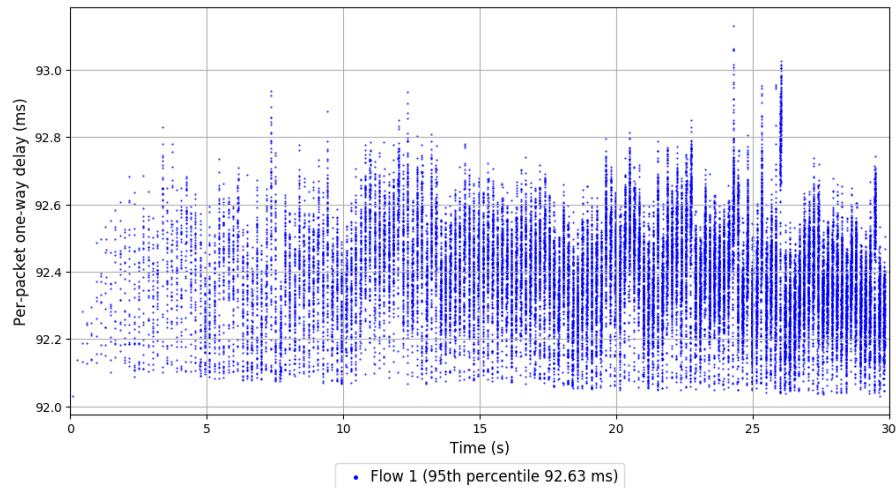
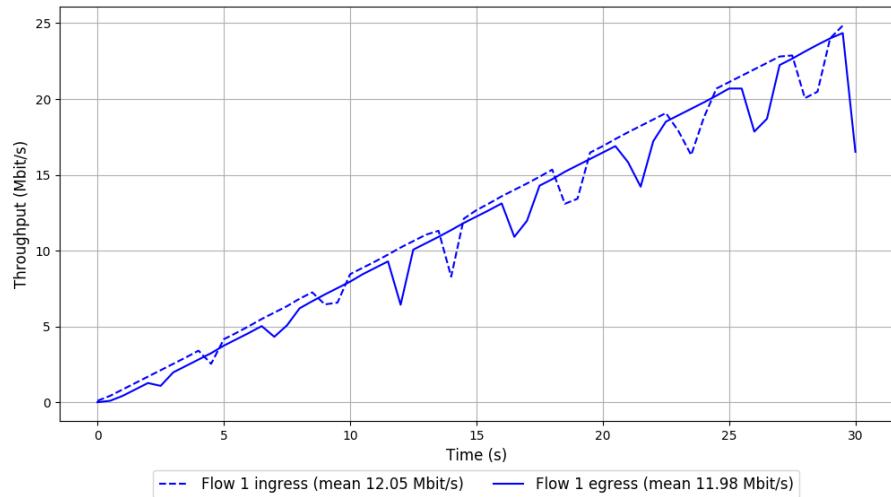


Run 4: Statistics of LEDBAT

```
Start at: 2018-12-20 05:54:17
End at: 2018-12-20 05:54:47
Local clock offset: -2.29 ms
Remote clock offset: -3.691 ms

# Below is generated by plot.py at 2018-12-20 06:37:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.98 Mbit/s
95th percentile per-packet one-way delay: 92.630 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 11.98 Mbit/s
95th percentile per-packet one-way delay: 92.630 ms
Loss rate: 1.16%
```

Run 4: Report of LEDBAT — Data Link

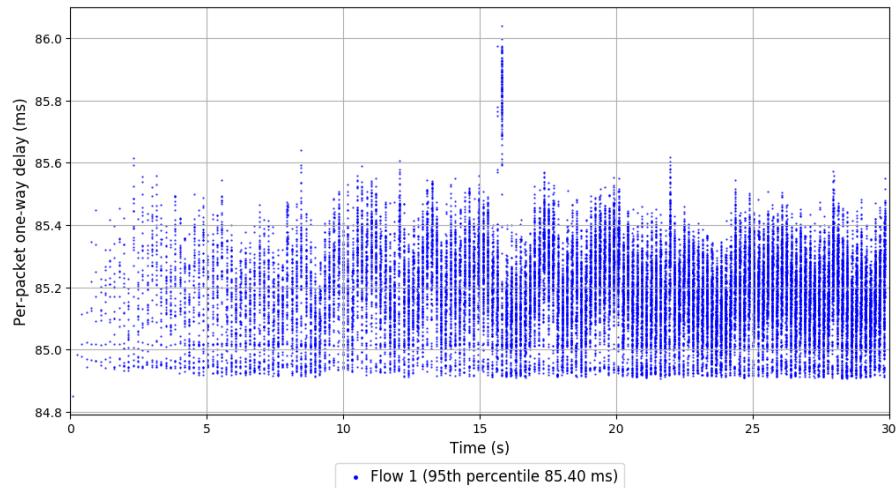
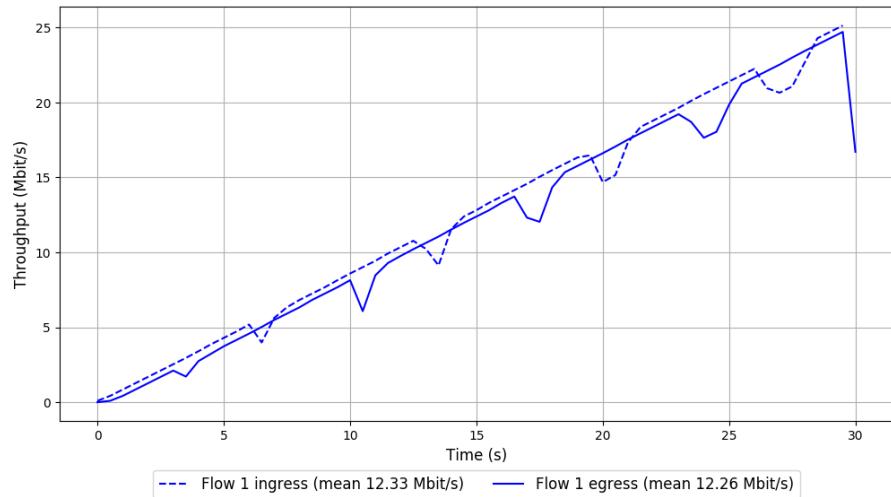


Run 5: Statistics of LEDBAT

```
Start at: 2018-12-20 06:16:50
End at: 2018-12-20 06:17:20
Local clock offset: -2.007 ms
Remote clock offset: 1.065 ms

# Below is generated by plot.py at 2018-12-20 06:37:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.26 Mbit/s
95th percentile per-packet one-way delay: 85.400 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 12.26 Mbit/s
95th percentile per-packet one-way delay: 85.400 ms
Loss rate: 1.14%
```

Run 5: Report of LEDBAT — Data Link

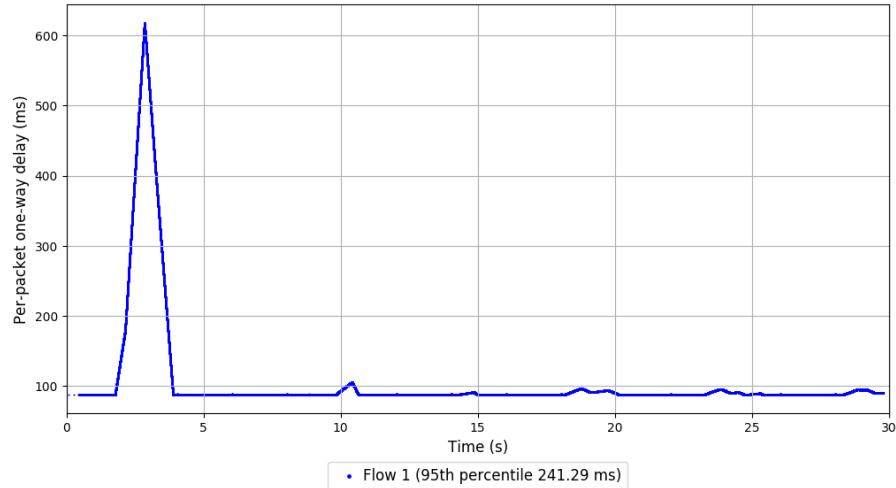
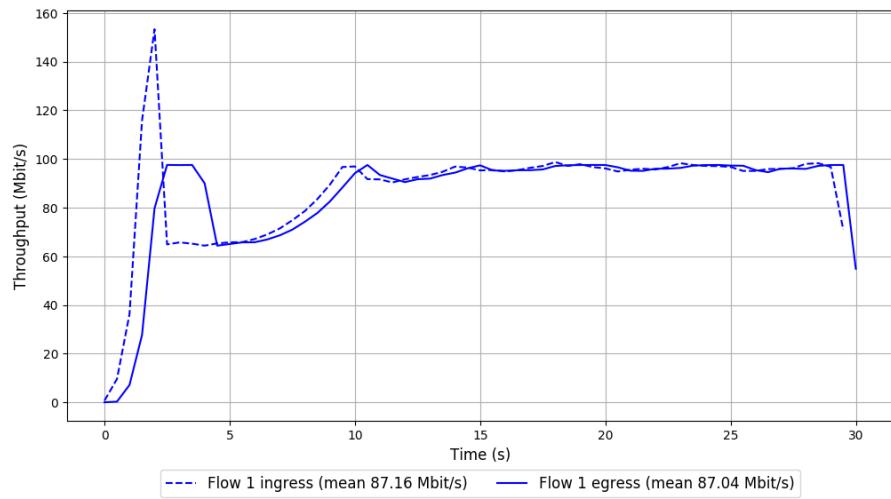


Run 1: Statistics of PCC-Allegro

```
Start at: 2018-12-20 04:47:47
End at: 2018-12-20 04:48:17
Local clock offset: -2.393 ms
Remote clock offset: -1.217 ms

# Below is generated by plot.py at 2018-12-20 06:37:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.04 Mbit/s
95th percentile per-packet one-way delay: 241.286 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 87.04 Mbit/s
95th percentile per-packet one-way delay: 241.286 ms
Loss rate: 0.71%
```

Run 1: Report of PCC-Allegro — Data Link

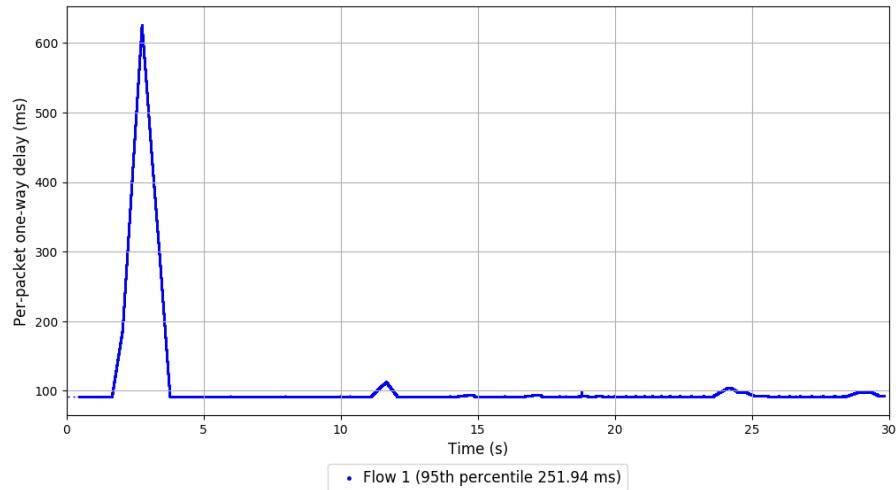
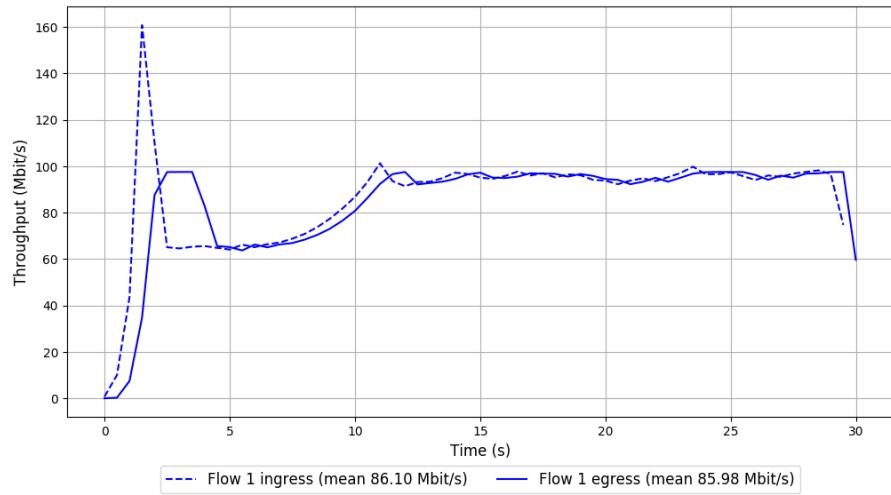


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-12-20 05:10:19
End at: 2018-12-20 05:10:49
Local clock offset: -3.281 ms
Remote clock offset: -9.991 ms

# Below is generated by plot.py at 2018-12-20 06:37:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.98 Mbit/s
95th percentile per-packet one-way delay: 251.938 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 85.98 Mbit/s
95th percentile per-packet one-way delay: 251.938 ms
Loss rate: 0.71%
```

Run 2: Report of PCC-Allegro — Data Link

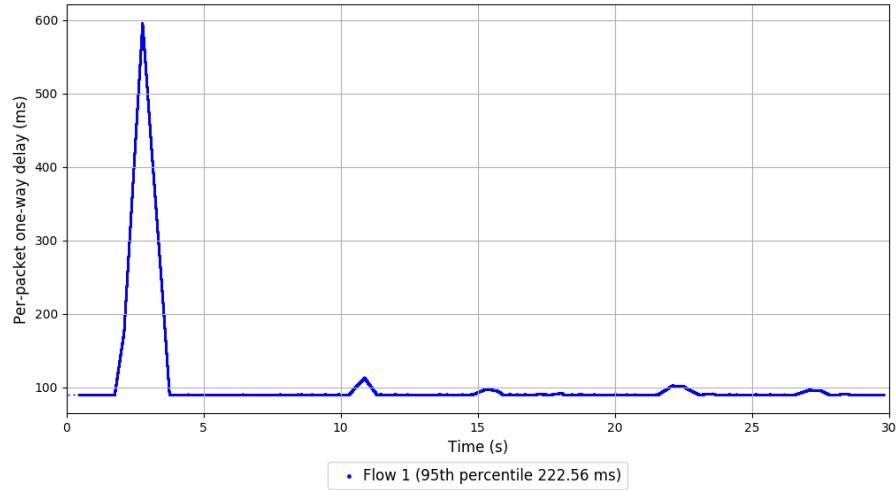
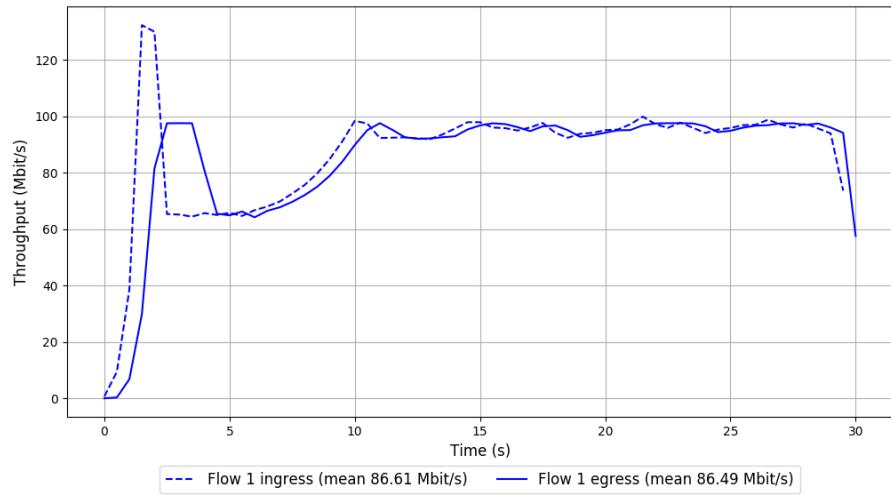


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-12-20 05:32:53
End at: 2018-12-20 05:33:23
Local clock offset: -7.208 ms
Remote clock offset: -3.839 ms

# Below is generated by plot.py at 2018-12-20 06:37:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.49 Mbit/s
95th percentile per-packet one-way delay: 222.564 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 86.49 Mbit/s
95th percentile per-packet one-way delay: 222.564 ms
Loss rate: 0.71%
```

Run 3: Report of PCC-Allegro — Data Link

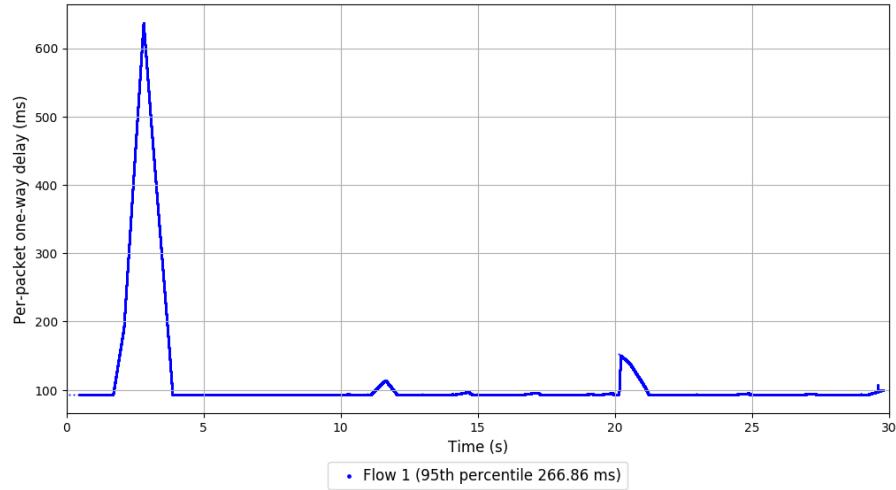
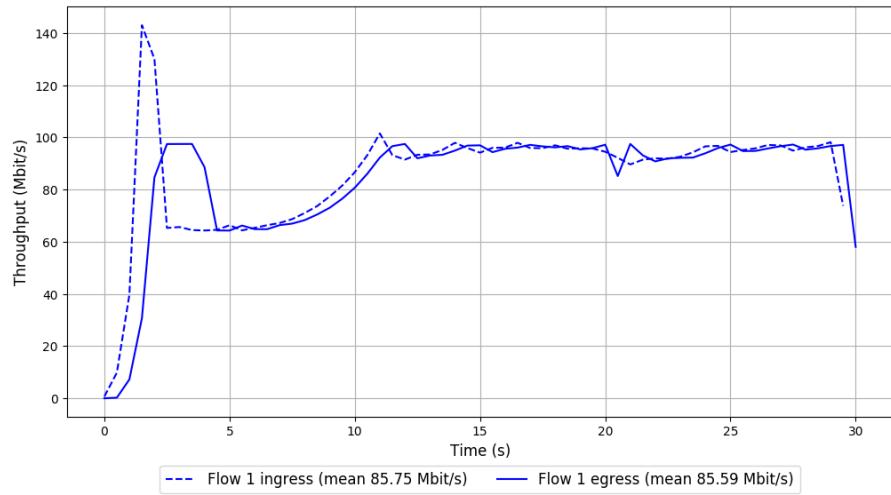


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-12-20 05:55:26
End at: 2018-12-20 05:55:56
Local clock offset: -2.192 ms
Remote clock offset: -4.825 ms

# Below is generated by plot.py at 2018-12-20 06:37:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.59 Mbit/s
95th percentile per-packet one-way delay: 266.861 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 85.59 Mbit/s
95th percentile per-packet one-way delay: 266.861 ms
Loss rate: 0.76%
```

Run 4: Report of PCC-Allegro — Data Link

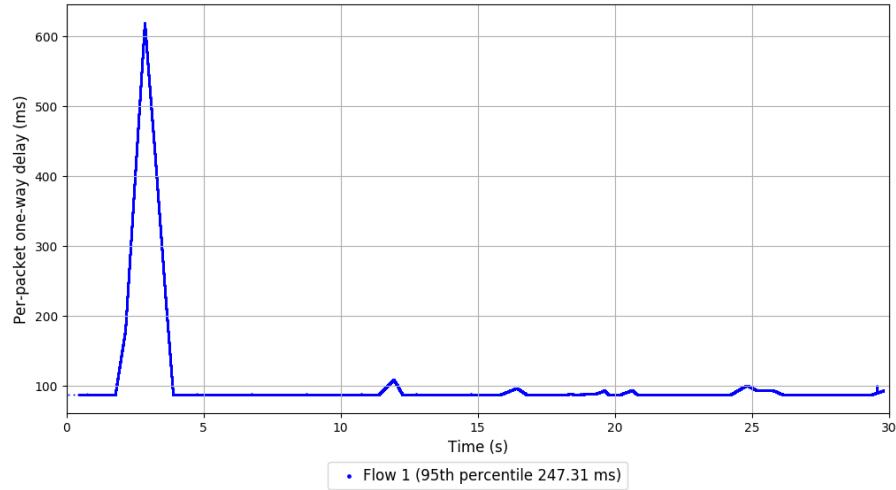
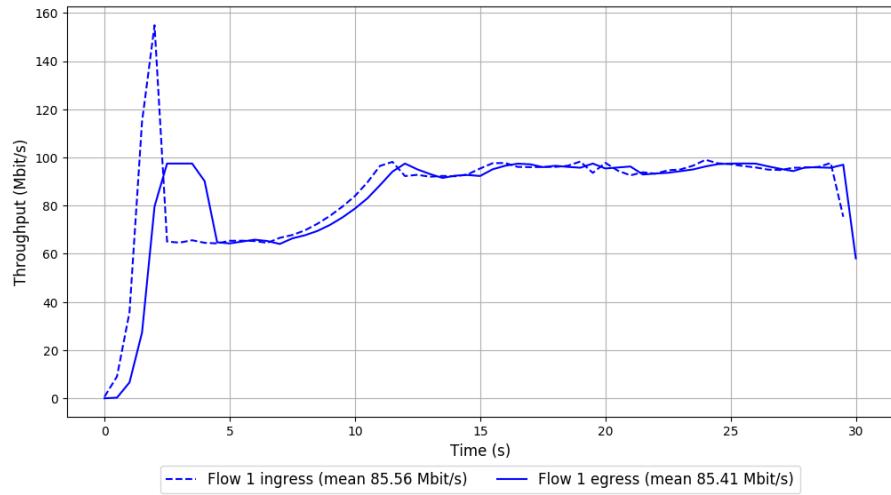


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-12-20 06:17:58
End at: 2018-12-20 06:18:28
Local clock offset: -2.035 ms
Remote clock offset: 1.051 ms

# Below is generated by plot.py at 2018-12-20 06:37:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.41 Mbit/s
95th percentile per-packet one-way delay: 247.312 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 85.41 Mbit/s
95th percentile per-packet one-way delay: 247.312 ms
Loss rate: 0.75%
```

Run 5: Report of PCC-Allegro — Data Link

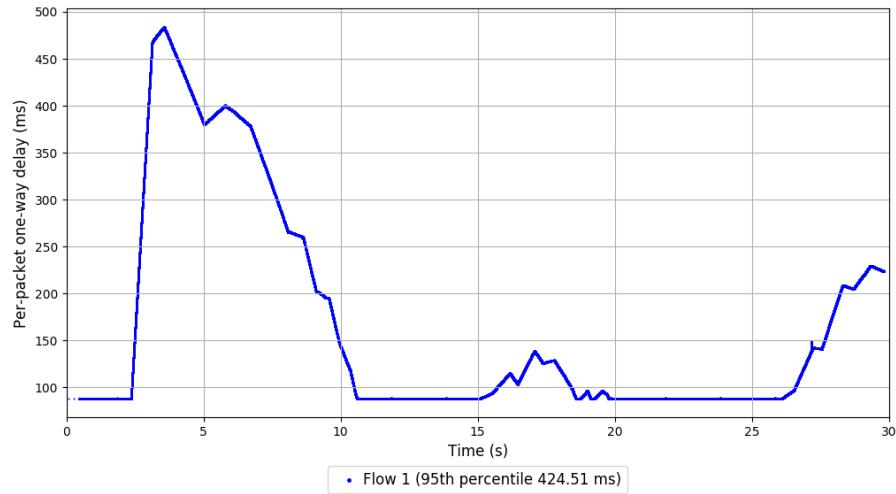
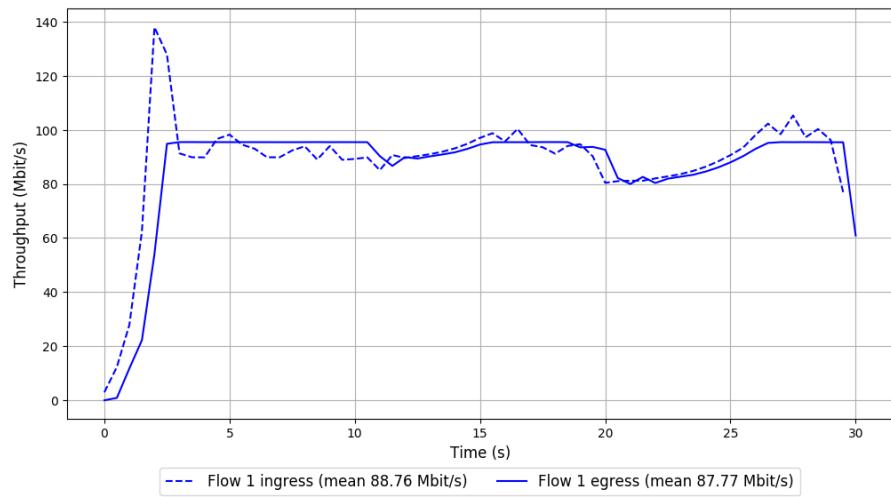


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-12-20 04:58:21
End at: 2018-12-20 04:58:51
Local clock offset: -1.022 ms
Remote clock offset: -5.789 ms

# Below is generated by plot.py at 2018-12-20 06:38:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.77 Mbit/s
95th percentile per-packet one-way delay: 424.509 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 87.77 Mbit/s
95th percentile per-packet one-way delay: 424.509 ms
Loss rate: 1.69%
```

Run 1: Report of PCC-Expr — Data Link

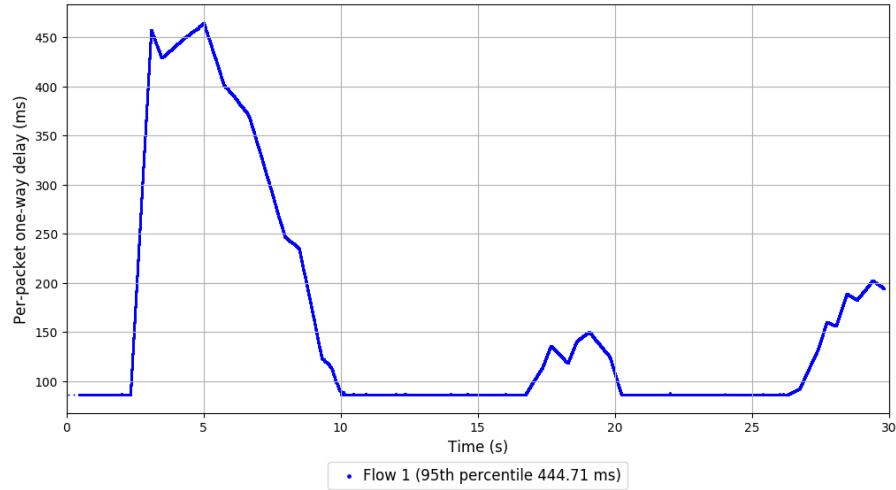
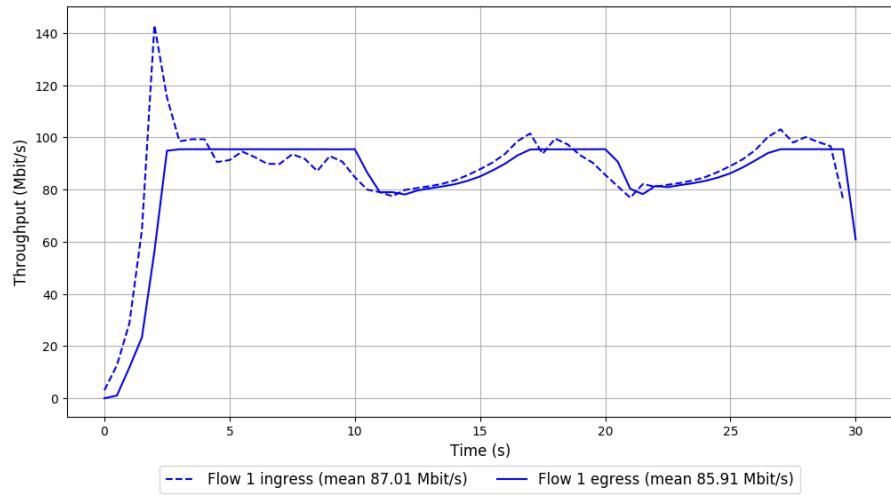


Run 2: Statistics of PCC-Expr

```
Start at: 2018-12-20 05:20:55
End at: 2018-12-20 05:21:25
Local clock offset: -6.022 ms
Remote clock offset: -0.989 ms

# Below is generated by plot.py at 2018-12-20 06:38:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.91 Mbit/s
95th percentile per-packet one-way delay: 444.714 ms
Loss rate: 1.82%
-- Flow 1:
Average throughput: 85.91 Mbit/s
95th percentile per-packet one-way delay: 444.714 ms
Loss rate: 1.82%
```

Run 2: Report of PCC-Expr — Data Link

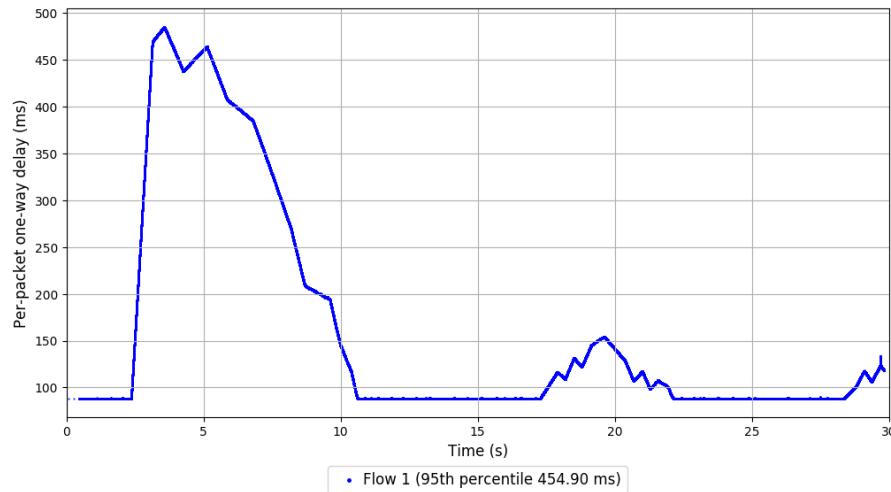
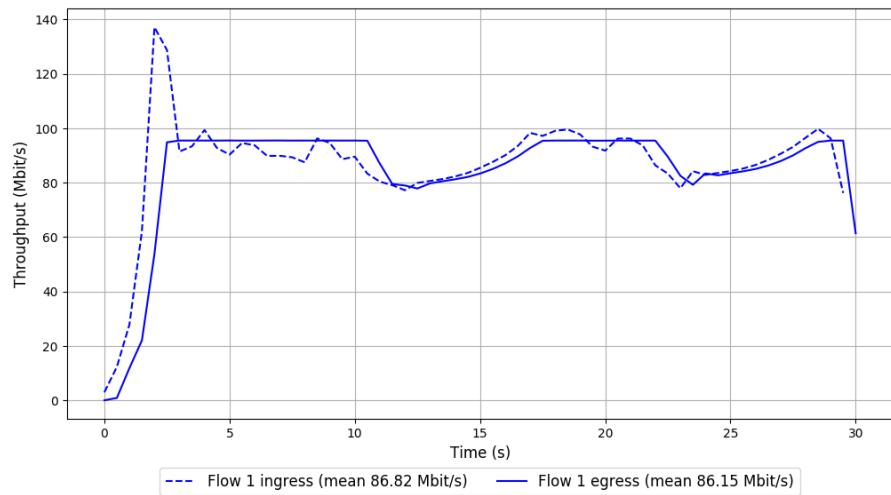


Run 3: Statistics of PCC-Expr

```
Start at: 2018-12-20 05:43:28
End at: 2018-12-20 05:43:58
Local clock offset: -3.955 ms
Remote clock offset: 0.135 ms

# Below is generated by plot.py at 2018-12-20 06:38:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.15 Mbit/s
95th percentile per-packet one-way delay: 454.896 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 86.15 Mbit/s
95th percentile per-packet one-way delay: 454.896 ms
Loss rate: 1.35%
```

Run 3: Report of PCC-Expr — Data Link

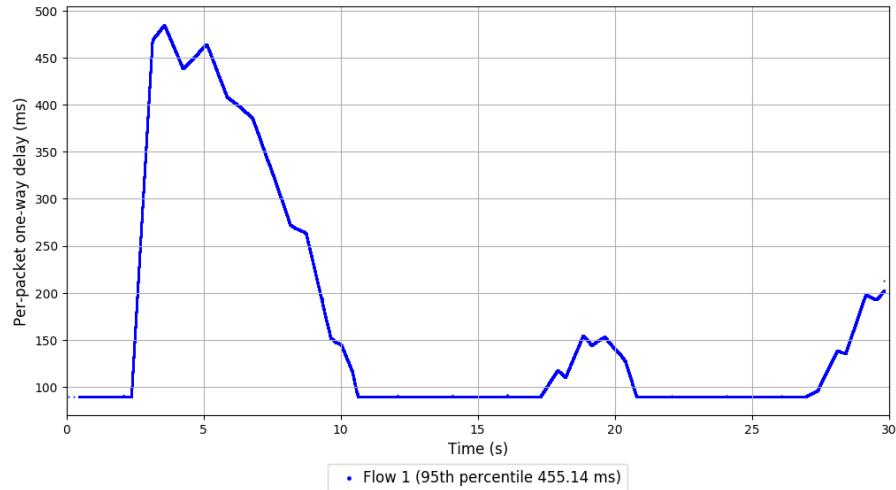
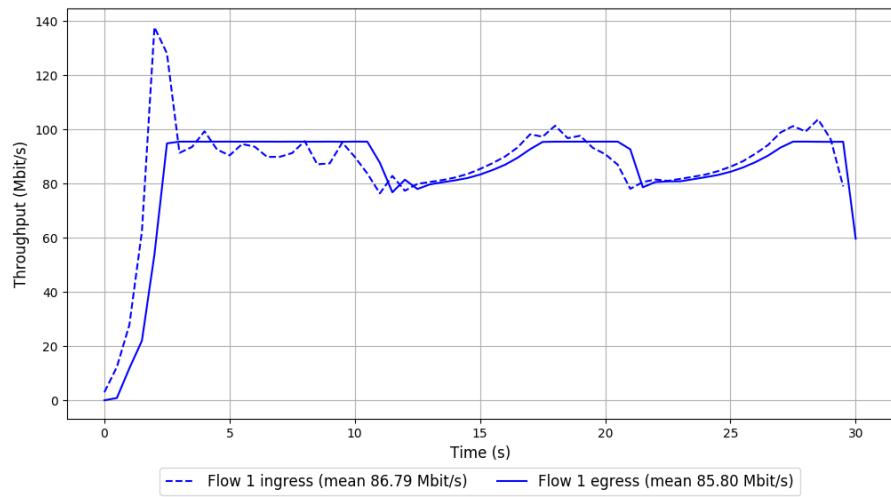


Run 4: Statistics of PCC-Expr

```
Start at: 2018-12-20 06:06:01
End at: 2018-12-20 06:06:31
Local clock offset: -1.529 ms
Remote clock offset: -1.23 ms

# Below is generated by plot.py at 2018-12-20 06:39:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.80 Mbit/s
95th percentile per-packet one-way delay: 455.140 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 85.80 Mbit/s
95th percentile per-packet one-way delay: 455.140 ms
Loss rate: 1.68%
```

Run 4: Report of PCC-Expr — Data Link

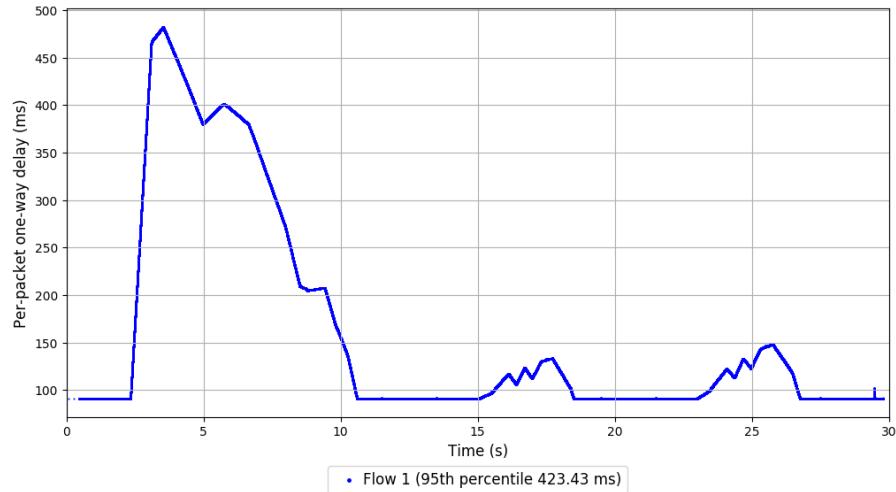
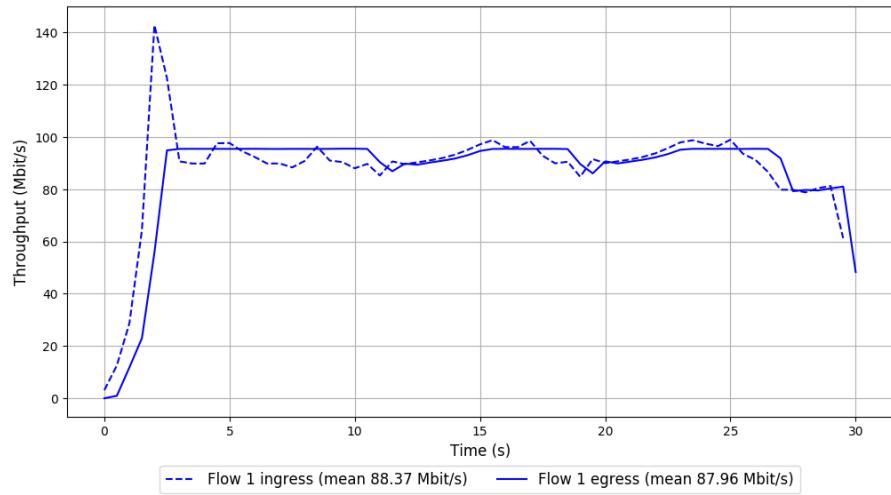


Run 5: Statistics of PCC-Expr

```
Start at: 2018-12-20 06:28:34
End at: 2018-12-20 06:29:04
Local clock offset: -1.967 ms
Remote clock offset: -5.42 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.96 Mbit/s
95th percentile per-packet one-way delay: 423.426 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 87.96 Mbit/s
95th percentile per-packet one-way delay: 423.426 ms
Loss rate: 1.03%
```

Run 5: Report of PCC-Expr — Data Link

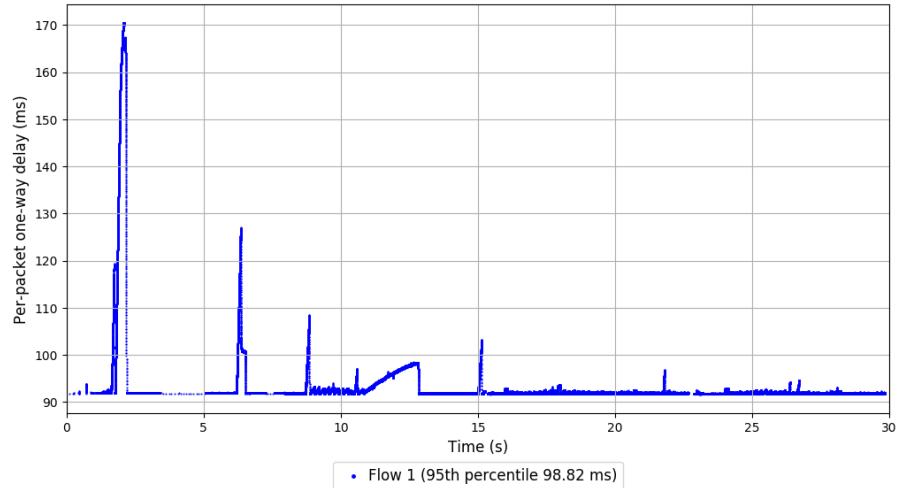
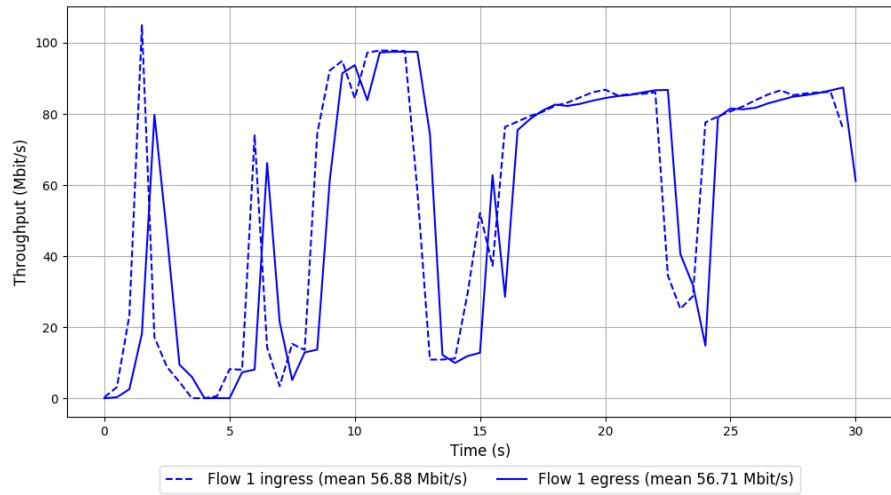


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-12-20 04:55:59
End at: 2018-12-20 04:56:29
Local clock offset: -1.222 ms
Remote clock offset: -8.821 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.71 Mbit/s
95th percentile per-packet one-way delay: 98.819 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 56.71 Mbit/s
95th percentile per-packet one-way delay: 98.819 ms
Loss rate: 0.88%
```

Run 1: Report of QUIC Cubic — Data Link

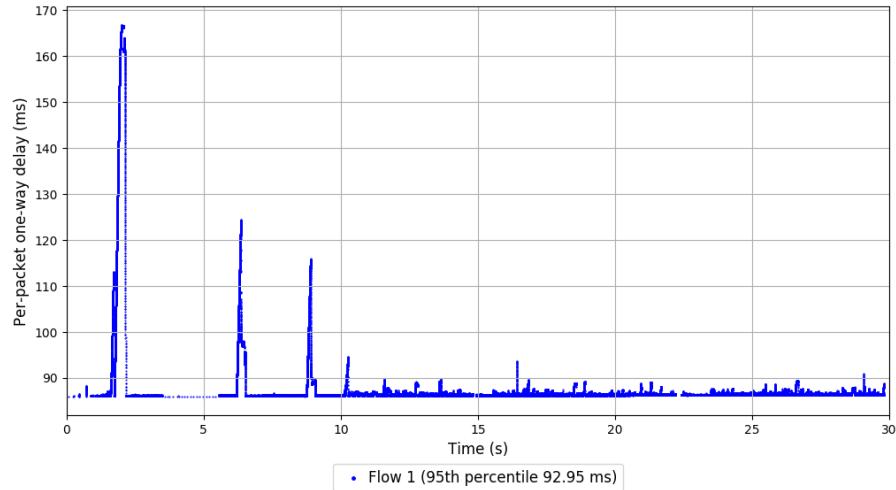
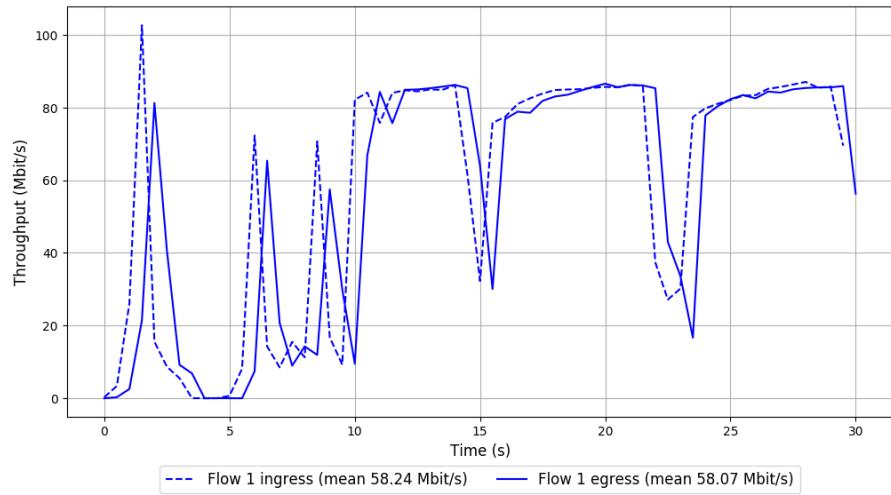


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-12-20 05:18:33
End at: 2018-12-20 05:19:03
Local clock offset: -5.63 ms
Remote clock offset: -1.405 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.07 Mbit/s
95th percentile per-packet one-way delay: 92.947 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 58.07 Mbit/s
95th percentile per-packet one-way delay: 92.947 ms
Loss rate: 0.85%
```

Run 2: Report of QUIC Cubic — Data Link

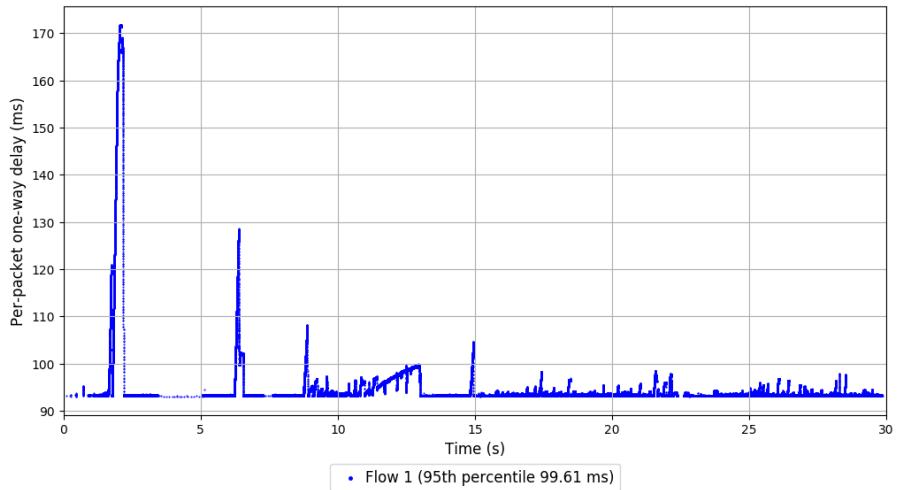
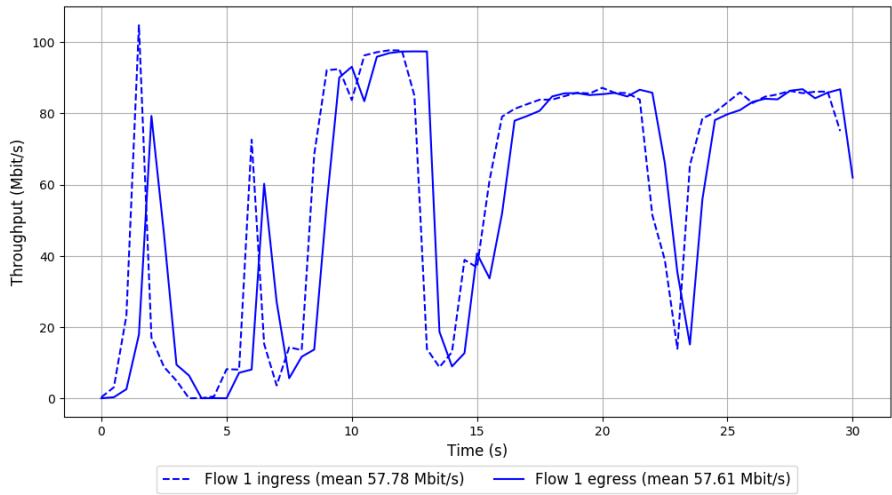


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-12-20 05:41:06
End at: 2018-12-20 05:41:36
Local clock offset: -4.694 ms
Remote clock offset: -5.182 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.61 Mbit/s
95th percentile per-packet one-way delay: 99.611 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 57.61 Mbit/s
95th percentile per-packet one-way delay: 99.611 ms
Loss rate: 0.87%
```

Run 3: Report of QUIC Cubic — Data Link

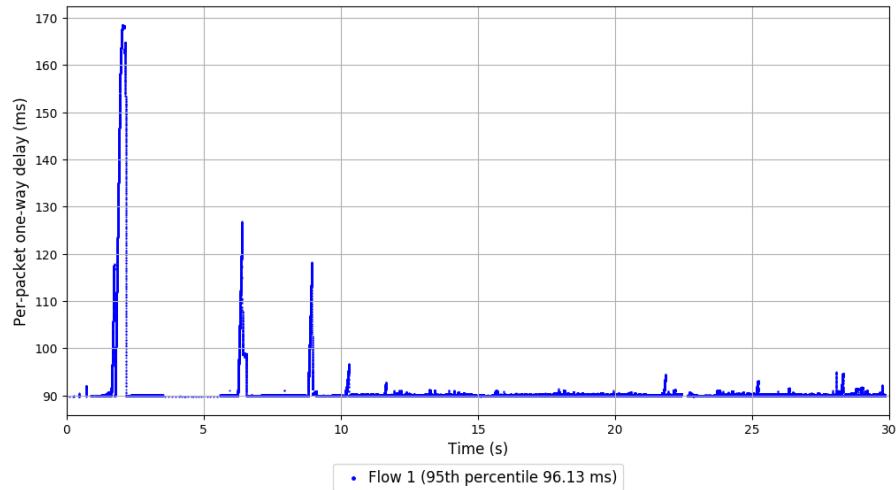
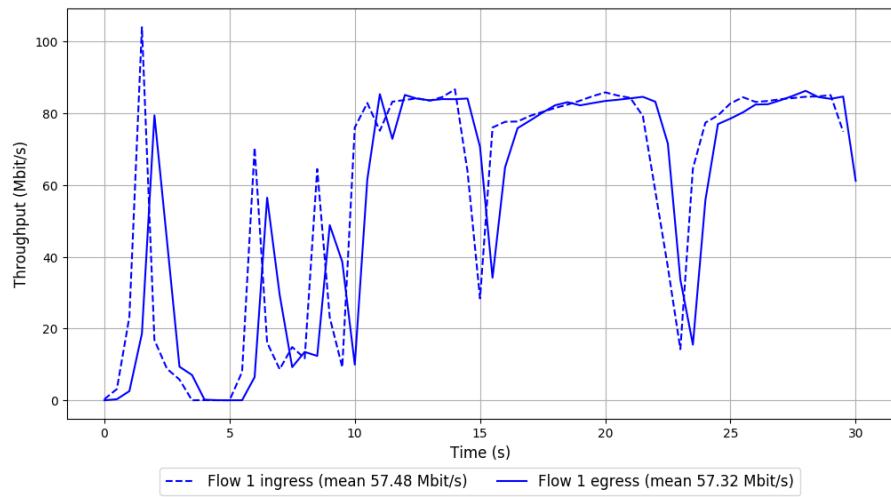


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-12-20 06:03:39
End at: 2018-12-20 06:04:09
Local clock offset: -1.554 ms
Remote clock offset: -3.747 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.32 Mbit/s
95th percentile per-packet one-way delay: 96.129 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 57.32 Mbit/s
95th percentile per-packet one-way delay: 96.129 ms
Loss rate: 0.85%
```

Run 4: Report of QUIC Cubic — Data Link

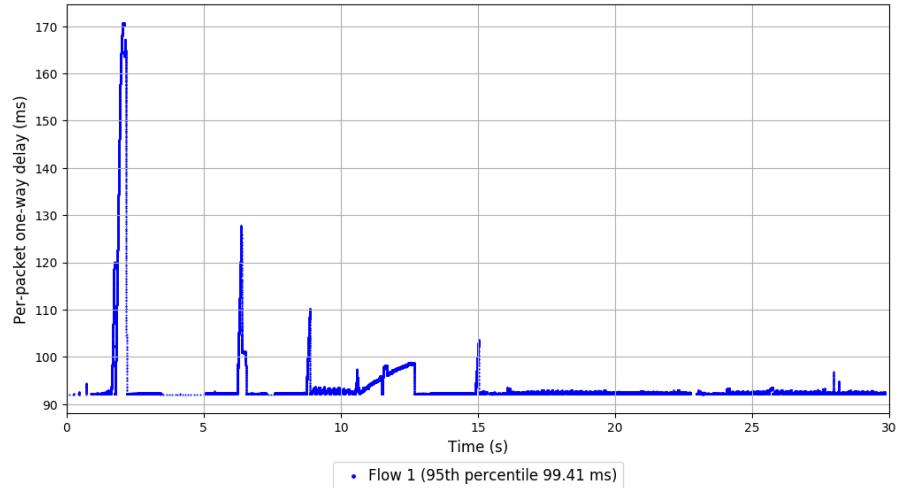
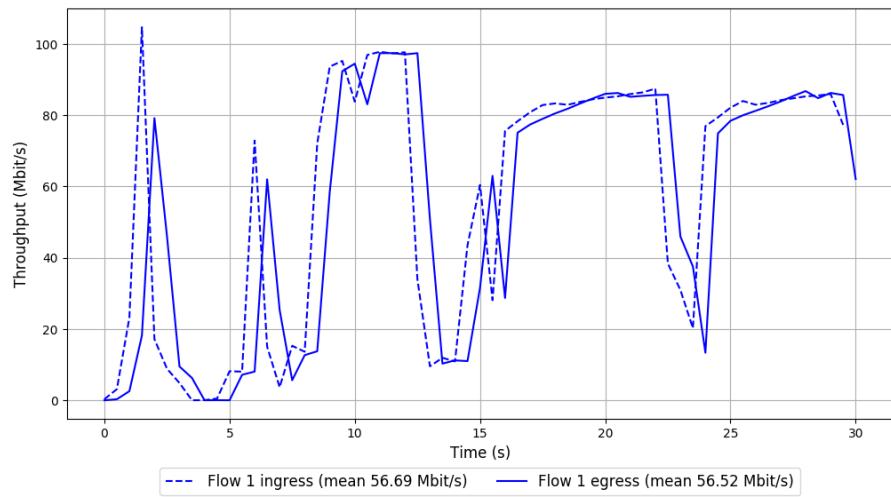


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-12-20 06:26:12
End at: 2018-12-20 06:26:42
Local clock offset: -1.916 ms
Remote clock offset: -4.292 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.52 Mbit/s
95th percentile per-packet one-way delay: 99.413 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 56.52 Mbit/s
95th percentile per-packet one-way delay: 99.413 ms
Loss rate: 0.88%
```

Run 5: Report of QUIC Cubic — Data Link

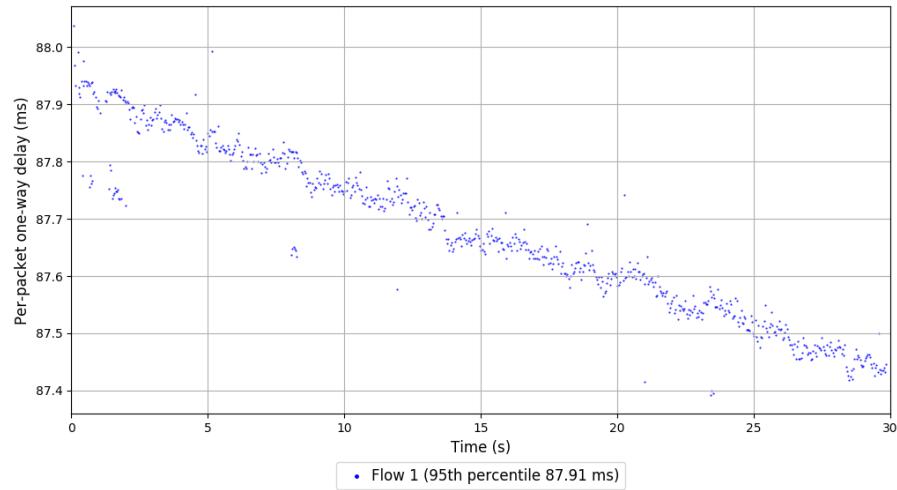
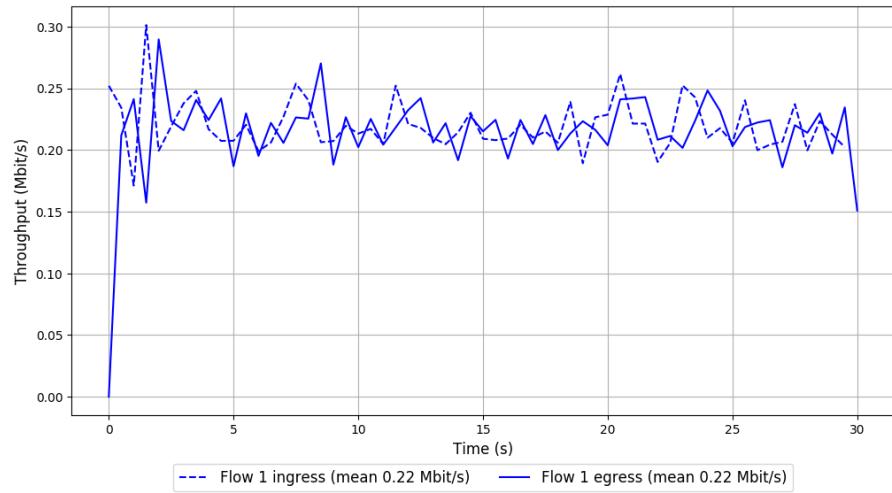


Run 1: Statistics of SCReAM

```
Start at: 2018-12-20 04:44:19
End at: 2018-12-20 04:44:49
Local clock offset: -3.171 ms
Remote clock offset: 1.173 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.908 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.908 ms
Loss rate: 0.64%
```

Run 1: Report of SCReAM — Data Link

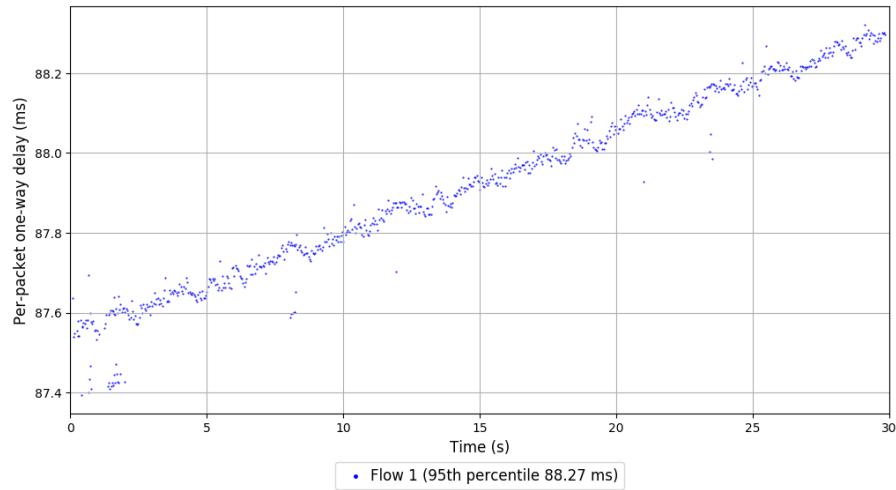
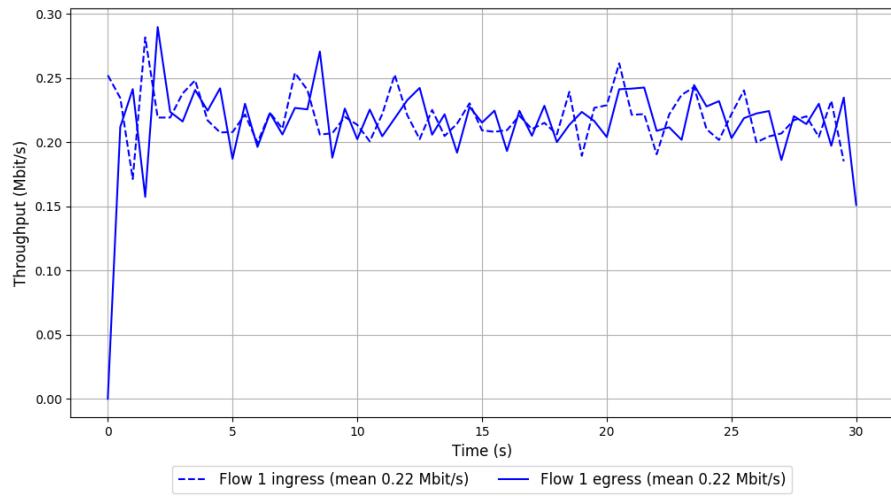


Run 2: Statistics of SCReAM

```
Start at: 2018-12-20 05:06:51
End at: 2018-12-20 05:07:21
Local clock offset: -1.574 ms
Remote clock offset: -6.617 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.265 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 88.265 ms
Loss rate: 0.51%
```

Run 2: Report of SCReAM — Data Link

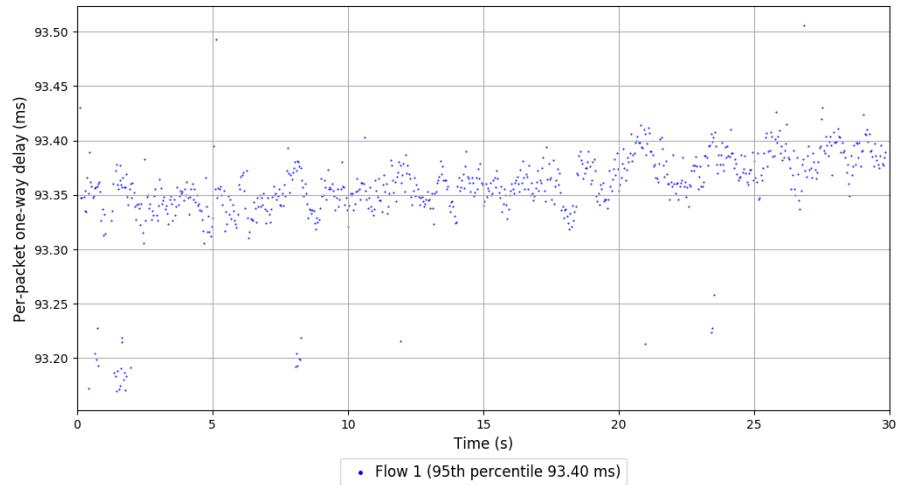
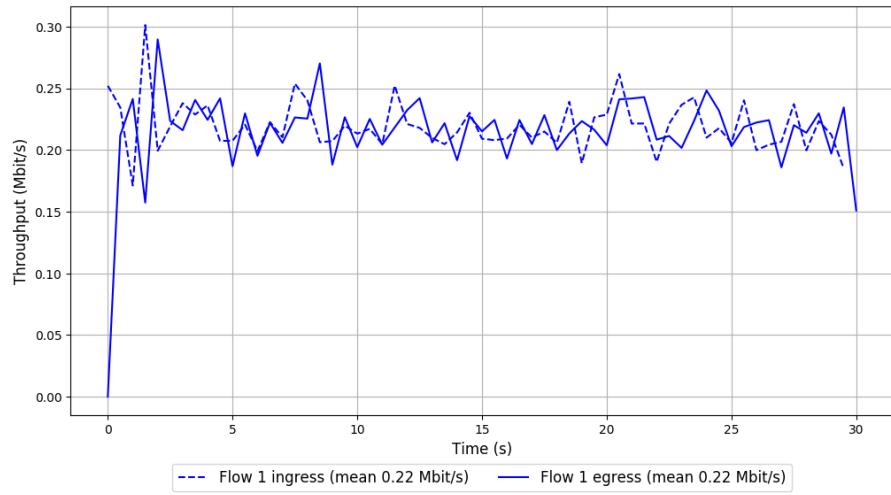


Run 3: Statistics of SCReAM

```
Start at: 2018-12-20 05:29:24
End at: 2018-12-20 05:29:54
Local clock offset: -6.949 ms
Remote clock offset: -5.111 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.401 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 93.401 ms
Loss rate: 0.51%
```

Run 3: Report of SCReAM — Data Link

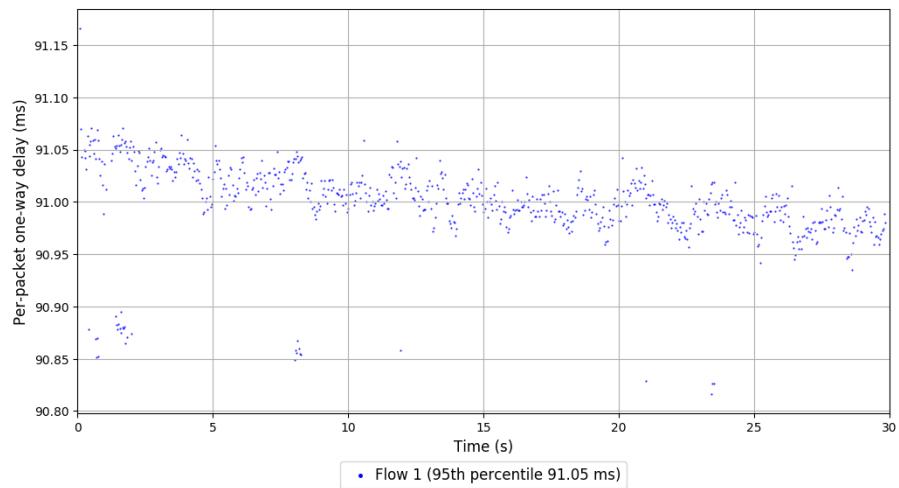
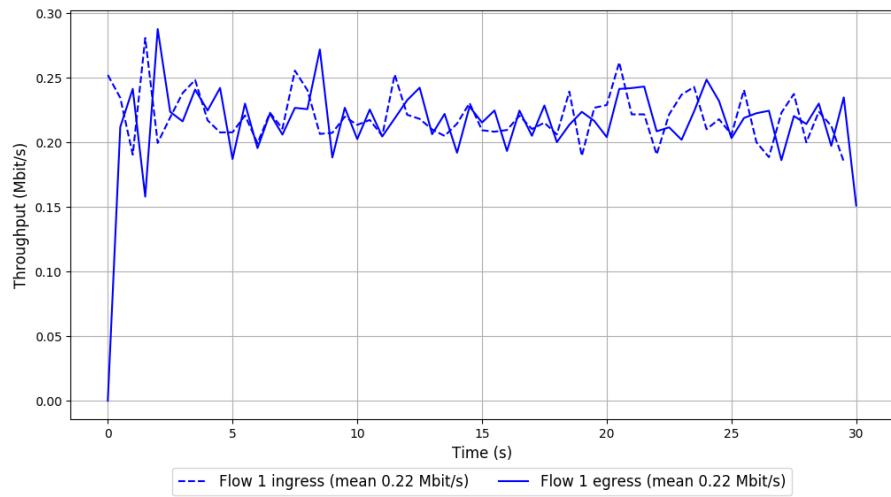


Run 4: Statistics of SCReAM

```
Start at: 2018-12-20 05:51:58
End at: 2018-12-20 05:52:28
Local clock offset: -2.472 ms
Remote clock offset: -4.708 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.048 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.048 ms
Loss rate: 0.51%
```

Run 4: Report of SCReAM — Data Link

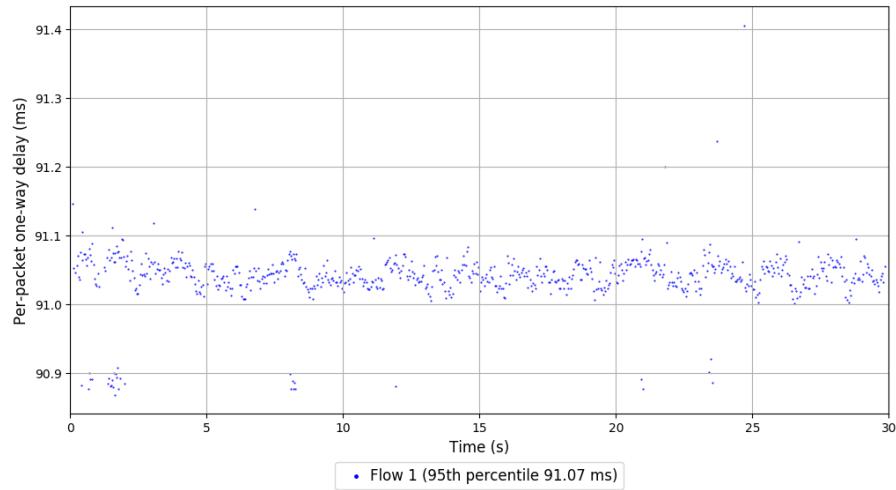
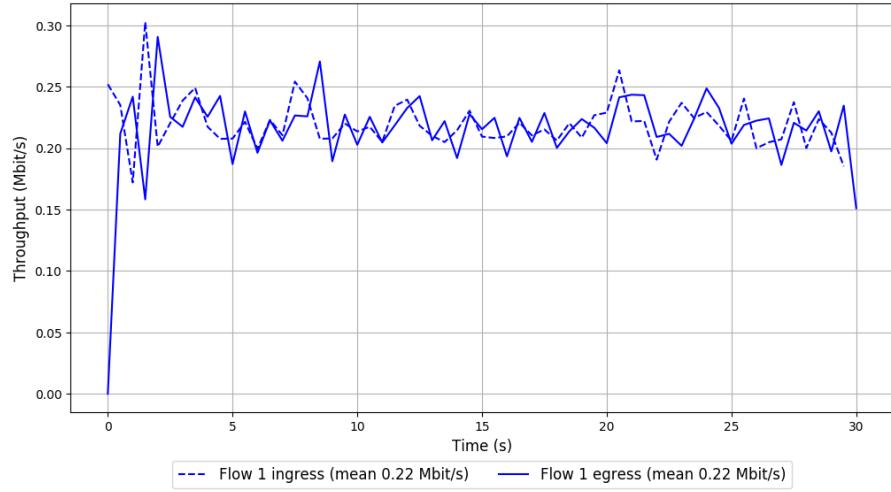


Run 5: Statistics of SCReAM

```
Start at: 2018-12-20 06:14:30
End at: 2018-12-20 06:15:00
Local clock offset: -1.99 ms
Remote clock offset: -5.089 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.074 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 91.074 ms
Loss rate: 0.51%
```

Run 5: Report of SCReAM — Data Link

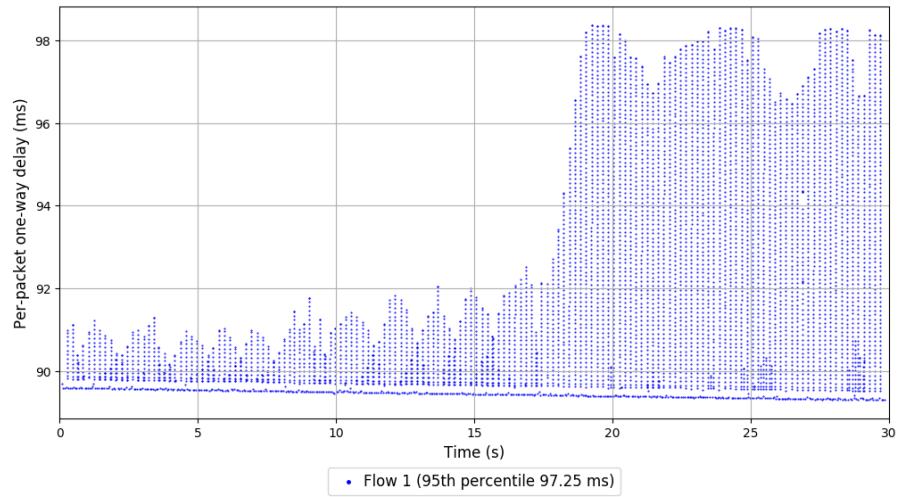
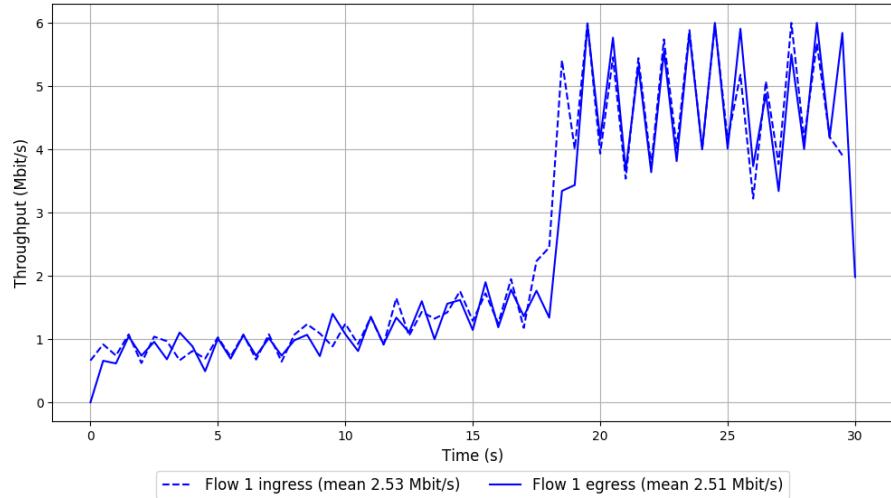


Run 1: Statistics of Sprout

```
Start at: 2018-12-20 04:51:18
End at: 2018-12-20 04:51:48
Local clock offset: -1.808 ms
Remote clock offset: -6.868 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.51 Mbit/s
95th percentile per-packet one-way delay: 97.255 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 2.51 Mbit/s
95th percentile per-packet one-way delay: 97.255 ms
Loss rate: 1.27%
```

Run 1: Report of Sprout — Data Link

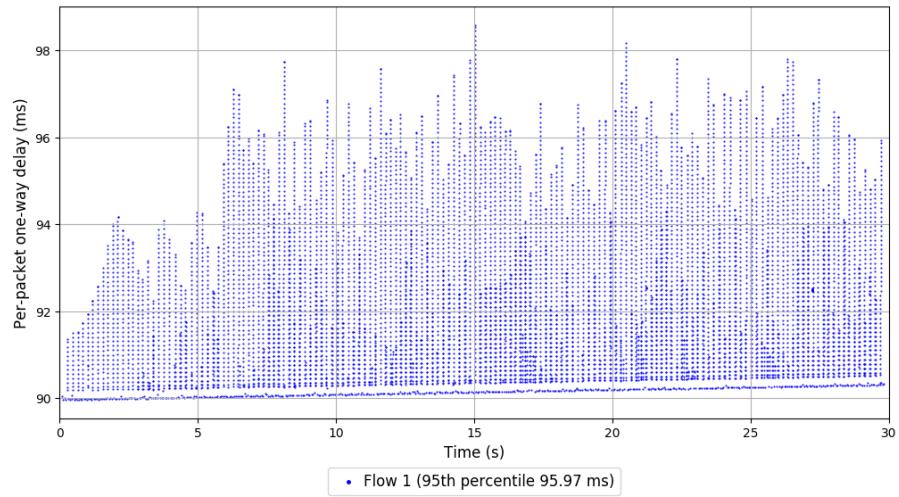
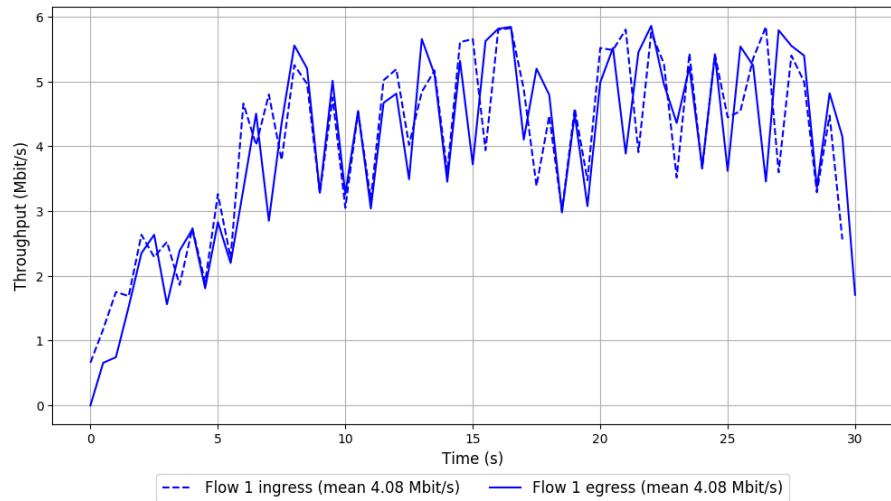


Run 2: Statistics of Sprout

```
Start at: 2018-12-20 05:13:50
End at: 2018-12-20 05:14:20
Local clock offset: -4.507 ms
Remote clock offset: -6.944 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.08 Mbit/s
95th percentile per-packet one-way delay: 95.973 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 4.08 Mbit/s
95th percentile per-packet one-way delay: 95.973 ms
Loss rate: 0.53%
```

Run 2: Report of Sprout — Data Link

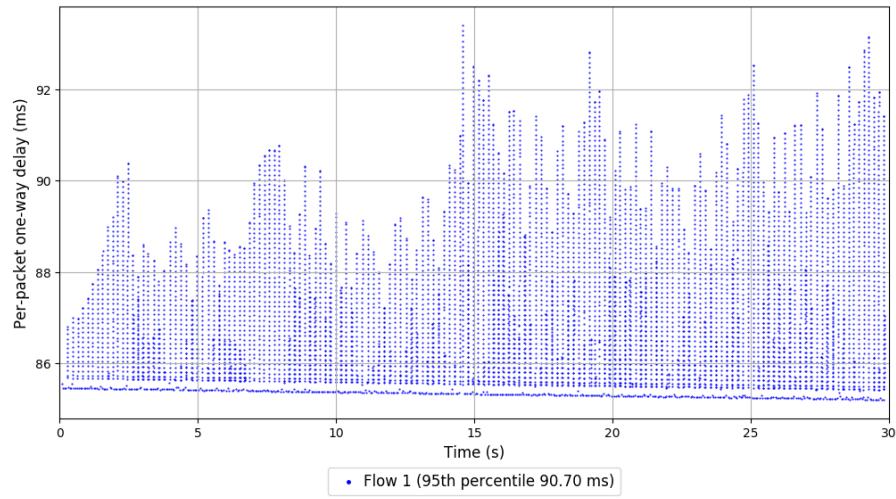
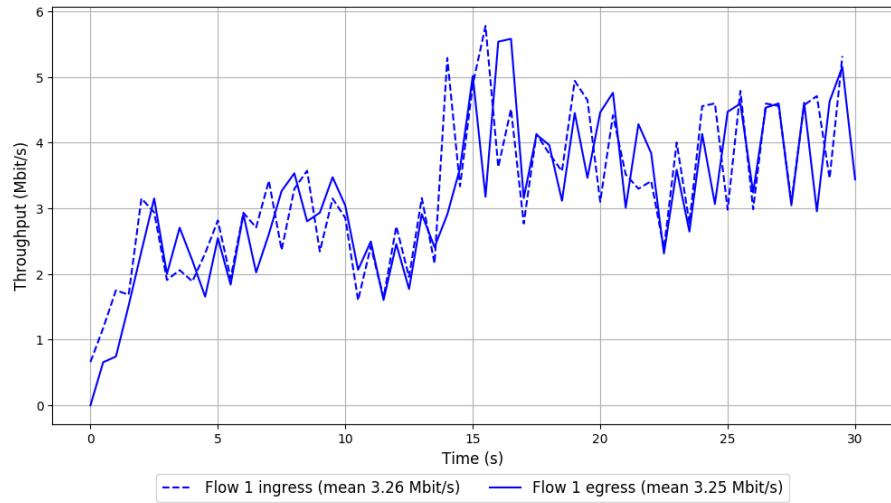


Run 3: Statistics of Sprout

```
Start at: 2018-12-20 05:36:23
End at: 2018-12-20 05:36:53
Local clock offset: -6.74 ms
Remote clock offset: 0.261 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.25 Mbit/s
95th percentile per-packet one-way delay: 90.703 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 3.25 Mbit/s
95th percentile per-packet one-way delay: 90.703 ms
Loss rate: 0.96%
```

Run 3: Report of Sprout — Data Link

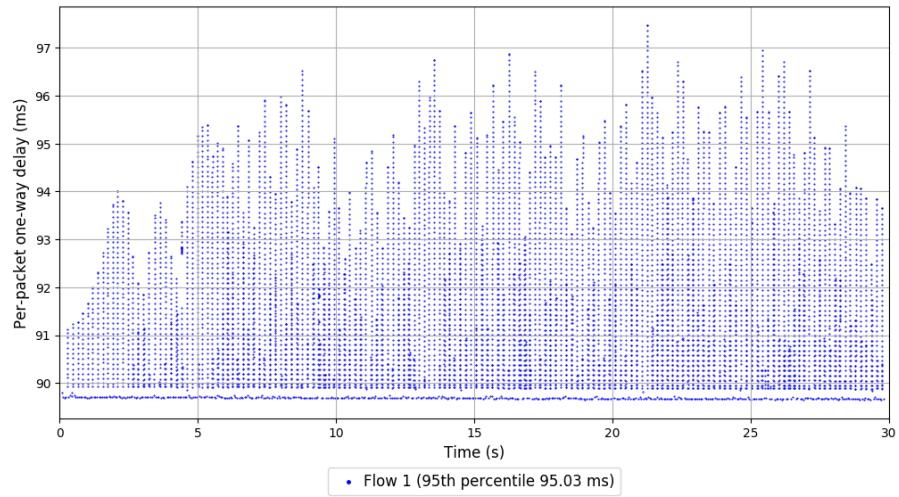
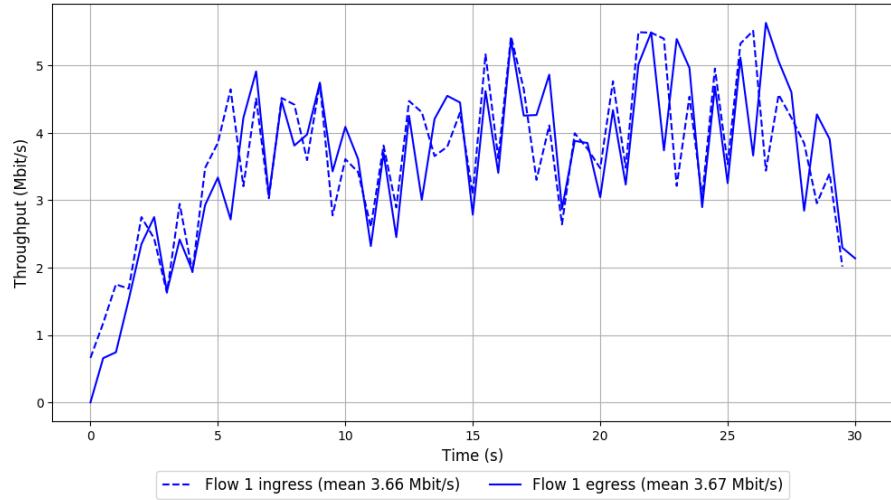


Run 4: Statistics of Sprout

```
Start at: 2018-12-20 05:58:57
End at: 2018-12-20 05:59:27
Local clock offset: -1.923 ms
Remote clock offset: -3.658 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.67 Mbit/s
95th percentile per-packet one-way delay: 95.027 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 3.67 Mbit/s
95th percentile per-packet one-way delay: 95.027 ms
Loss rate: 0.45%
```

Run 4: Report of Sprout — Data Link

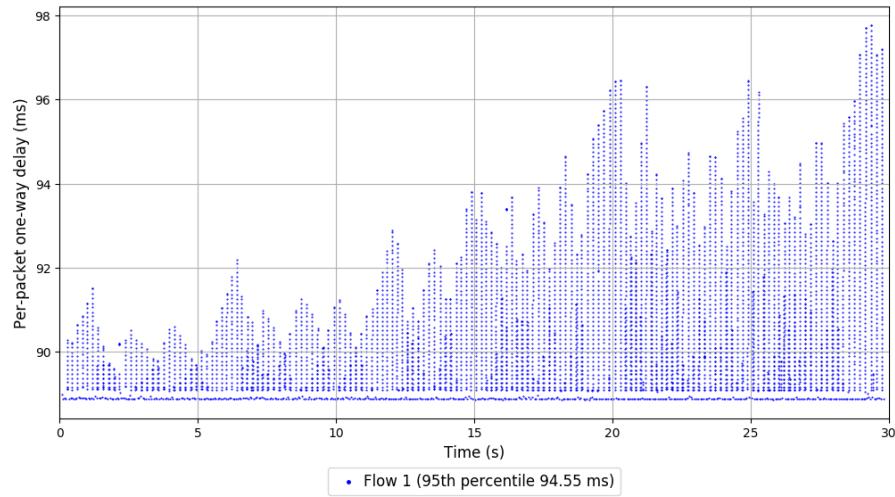
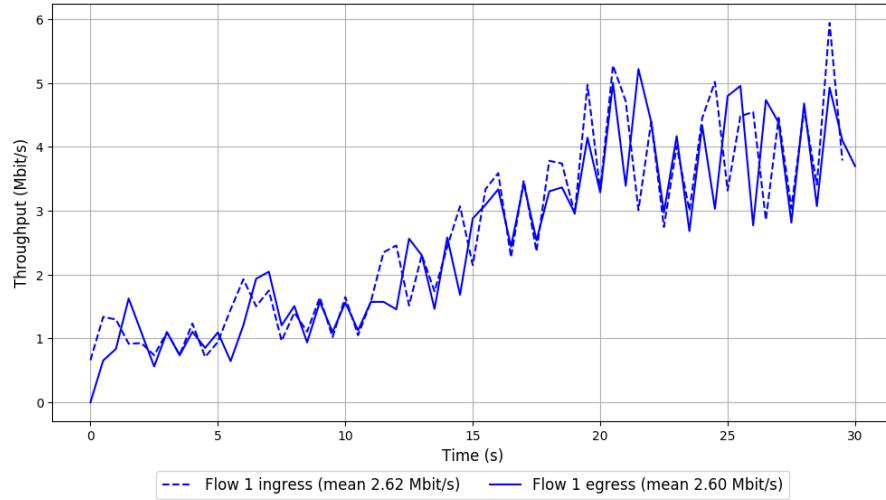


Run 5: Statistics of Sprout

```
Start at: 2018-12-20 06:21:29
End at: 2018-12-20 06:21:59
Local clock offset: -1.961 ms
Remote clock offset: -1.03 ms

# Below is generated by plot.py at 2018-12-20 06:39:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 94.545 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 94.545 ms
Loss rate: 1.23%
```

Run 5: Report of Sprout — Data Link

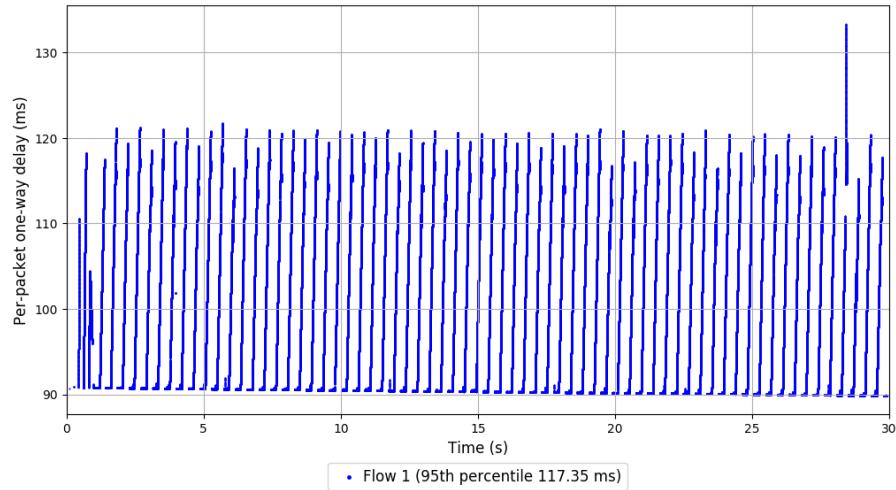
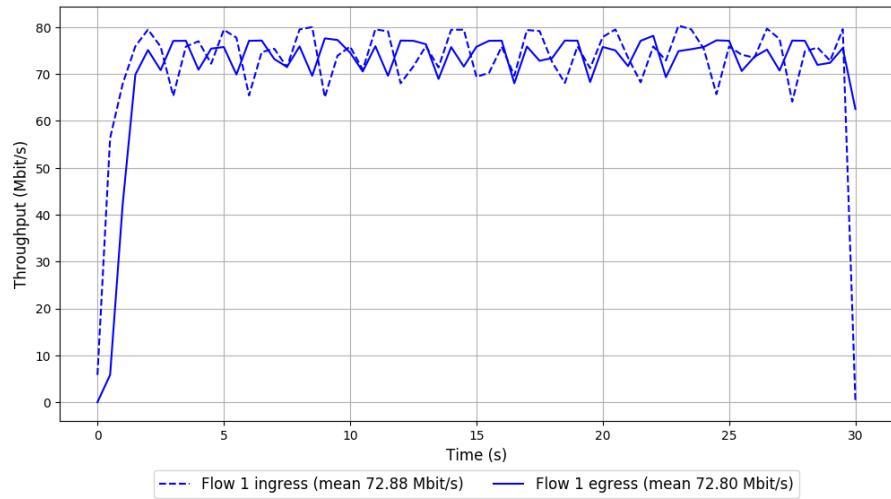


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-12-20 04:37:03
End at: 2018-12-20 04:37:33
Local clock offset: -6.079 ms
Remote clock offset: 3.563 ms

# Below is generated by plot.py at 2018-12-20 06:40:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.80 Mbit/s
95th percentile per-packet one-way delay: 117.348 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 72.80 Mbit/s
95th percentile per-packet one-way delay: 117.348 ms
Loss rate: 0.68%
```

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

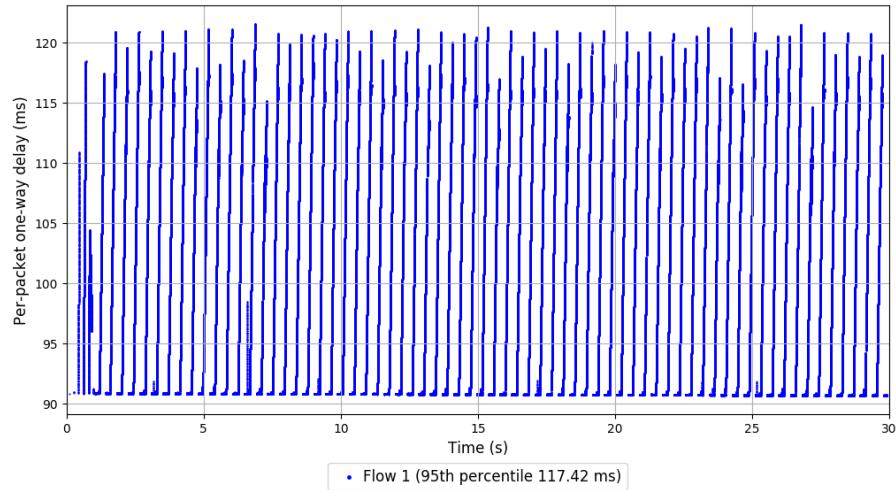
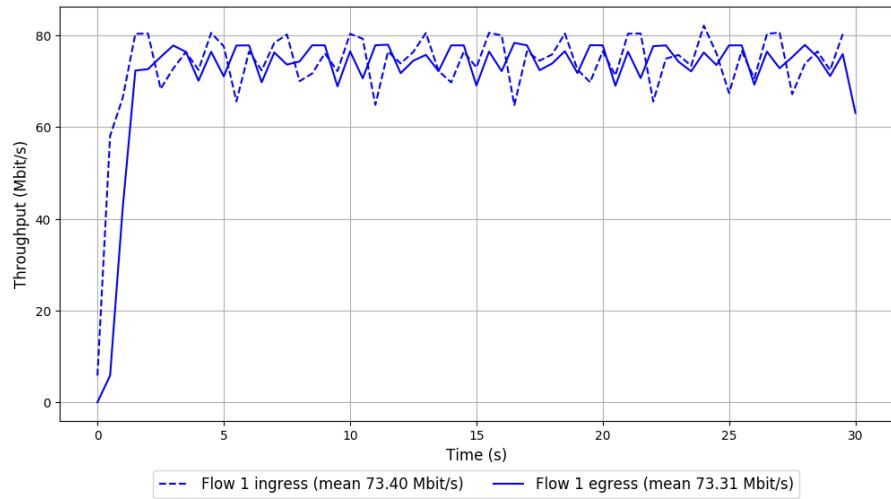


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-12-20 04:59:36
End at: 2018-12-20 05:00:06
Local clock offset: -0.985 ms
Remote clock offset: -11.391 ms

# Below is generated by plot.py at 2018-12-20 06:40:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.31 Mbit/s
95th percentile per-packet one-way delay: 117.417 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 73.31 Mbit/s
95th percentile per-packet one-way delay: 117.417 ms
Loss rate: 0.69%
```

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

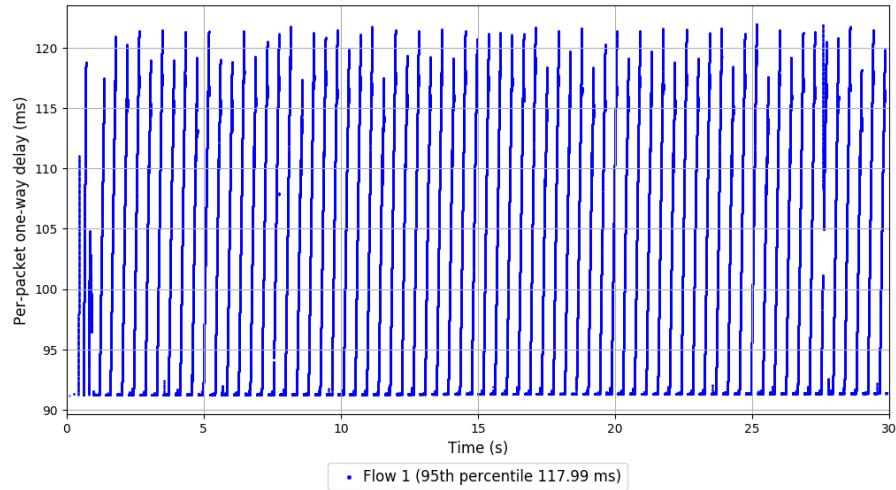
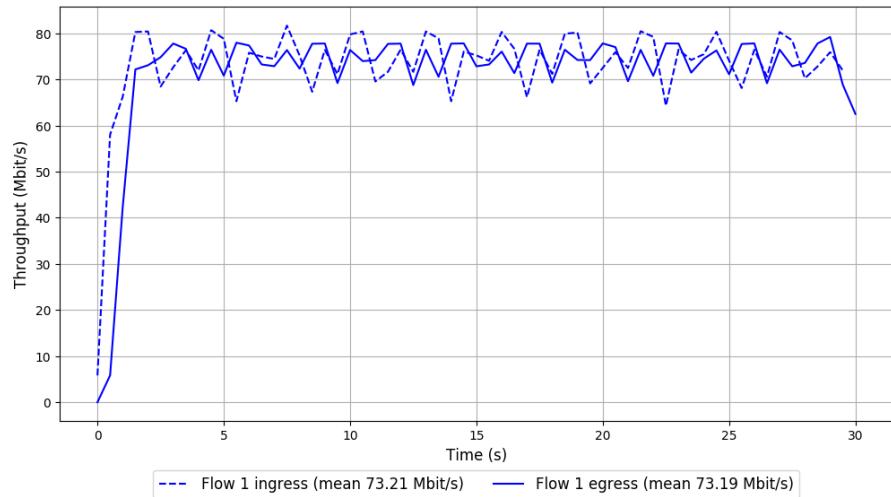


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-12-20 05:22:10
End at: 2018-12-20 05:22:40
Local clock offset: -6.218 ms
Remote clock offset: -5.784 ms

# Below is generated by plot.py at 2018-12-20 06:40:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.19 Mbit/s
95th percentile per-packet one-way delay: 117.986 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 73.19 Mbit/s
95th percentile per-packet one-way delay: 117.986 ms
Loss rate: 0.59%
```

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

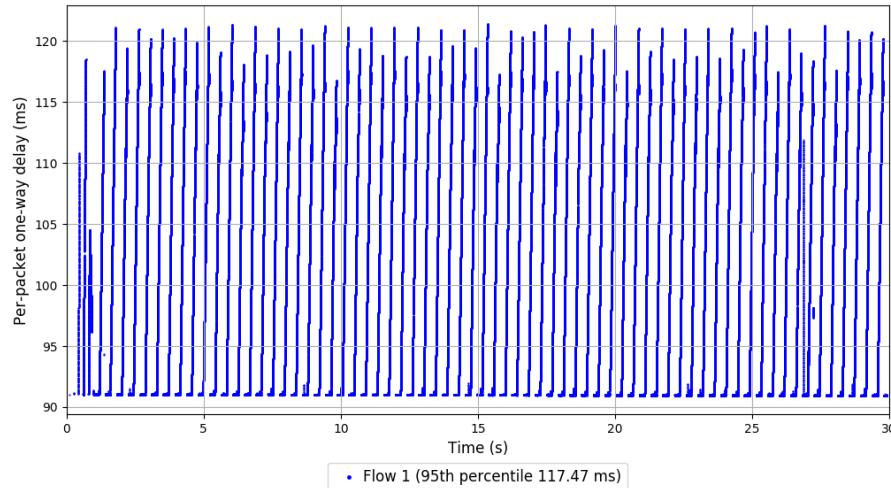
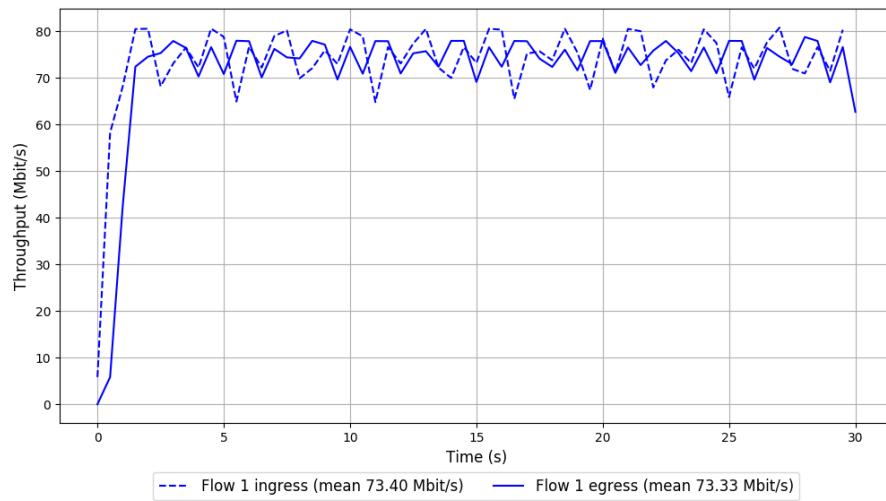


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-12-20 05:44:43
End at: 2018-12-20 05:45:13
Local clock offset: -3.775 ms
Remote clock offset: -4.855 ms

# Below is generated by plot.py at 2018-12-20 06:40:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.33 Mbit/s
95th percentile per-packet one-way delay: 117.466 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 73.33 Mbit/s
95th percentile per-packet one-way delay: 117.466 ms
Loss rate: 0.66%
```

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

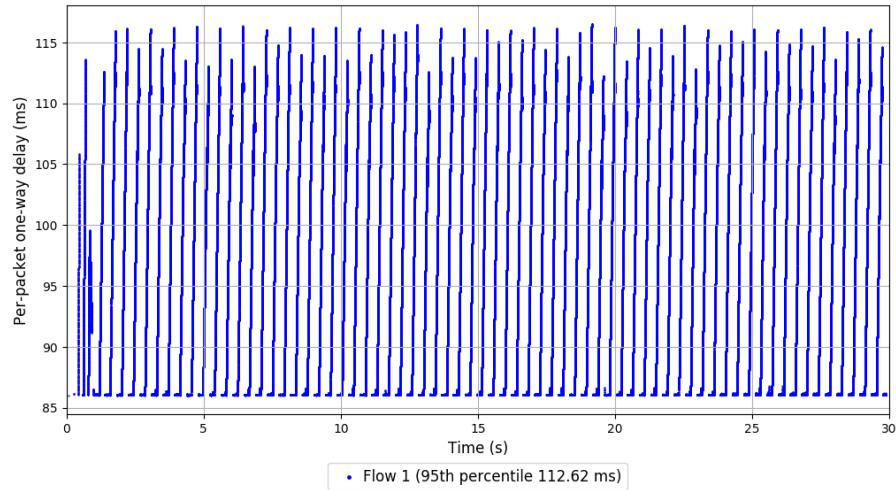
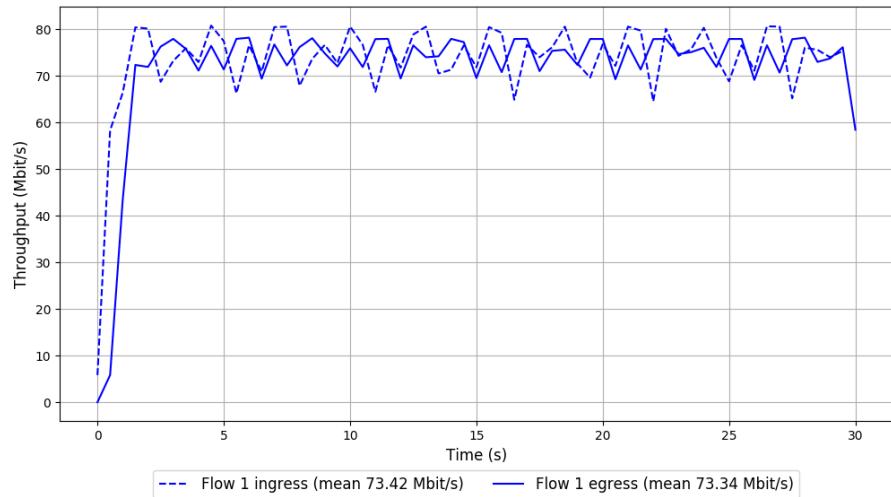


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-12-20 06:07:16
End at: 2018-12-20 06:07:46
Local clock offset: -1.625 ms
Remote clock offset: 0.107 ms

# Below is generated by plot.py at 2018-12-20 06:40:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.34 Mbit/s
95th percentile per-packet one-way delay: 112.616 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 73.34 Mbit/s
95th percentile per-packet one-way delay: 112.616 ms
Loss rate: 0.67%
```

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

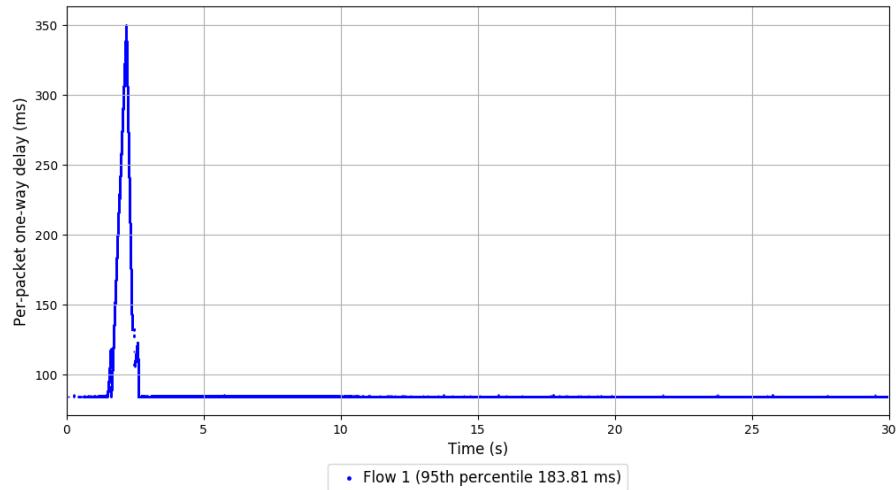
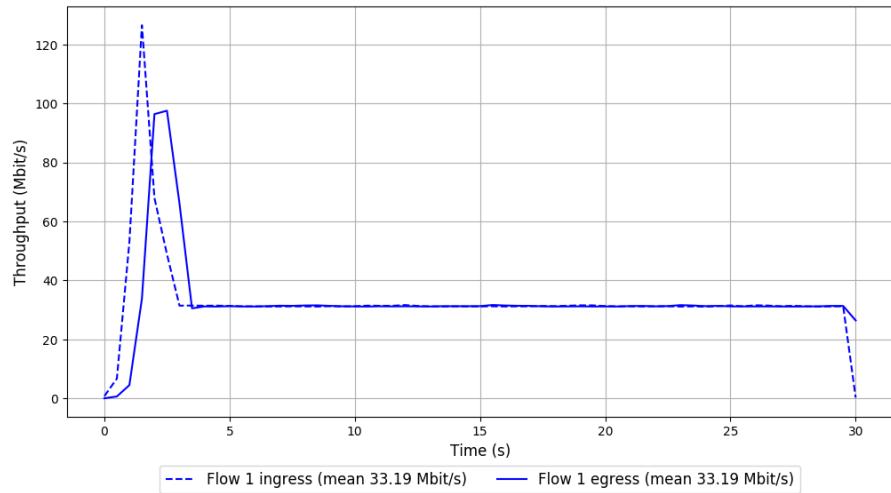


Run 1: Statistics of TCP Vegas

```
Start at: 2018-12-20 04:52:25
End at: 2018-12-20 04:52:55
Local clock offset: -1.706 ms
Remote clock offset: -2.334 ms

# Below is generated by plot.py at 2018-12-20 06:40:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.19 Mbit/s
95th percentile per-packet one-way delay: 183.805 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 33.19 Mbit/s
95th percentile per-packet one-way delay: 183.805 ms
Loss rate: 0.57%
```

Run 1: Report of TCP Vegas — Data Link

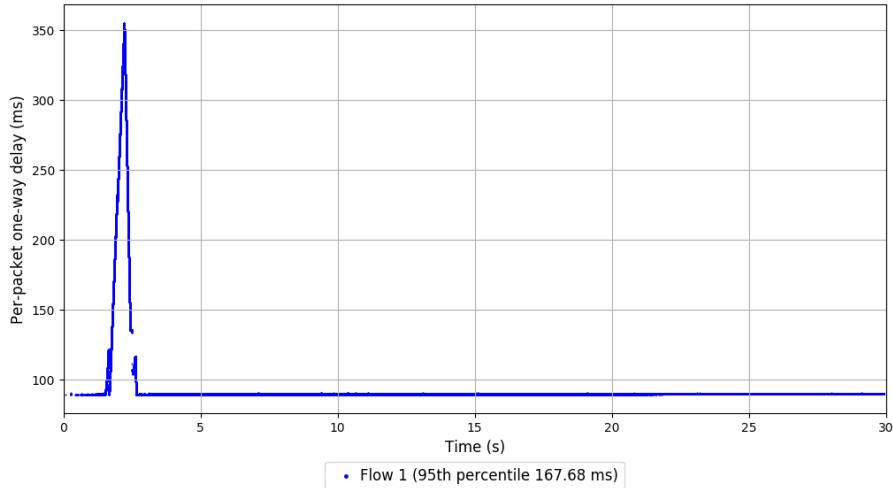
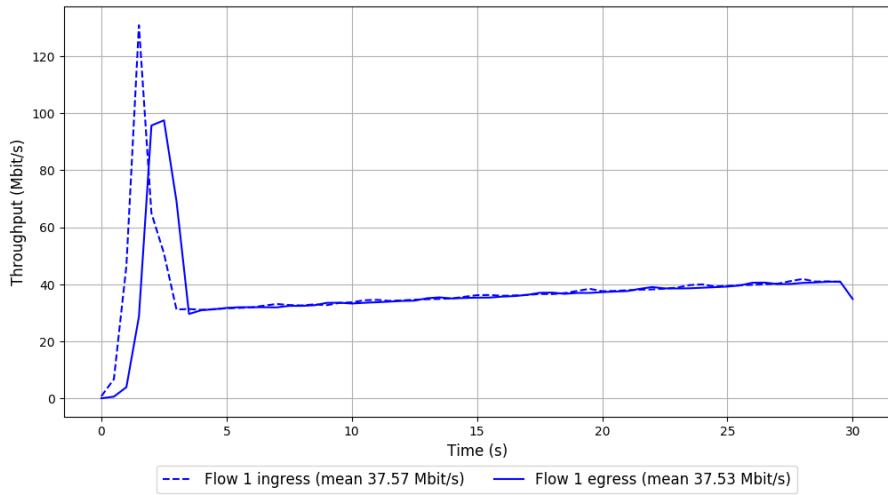


Run 2: Statistics of TCP Vegas

```
Start at: 2018-12-20 05:14:58
End at: 2018-12-20 05:15:28
Local clock offset: -4.848 ms
Remote clock offset: -3.611 ms

# Below is generated by plot.py at 2018-12-20 06:40:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.53 Mbit/s
95th percentile per-packet one-way delay: 167.683 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 37.53 Mbit/s
95th percentile per-packet one-way delay: 167.683 ms
Loss rate: 0.67%
```

Run 2: Report of TCP Vegas — Data Link

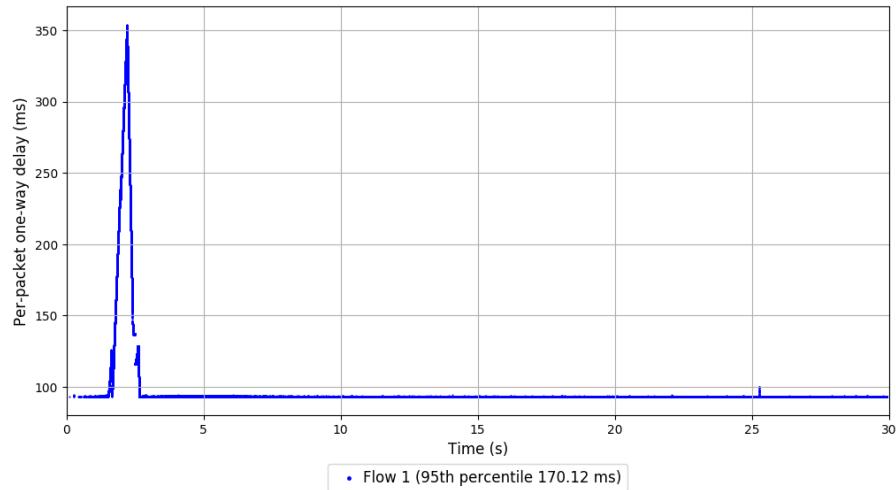
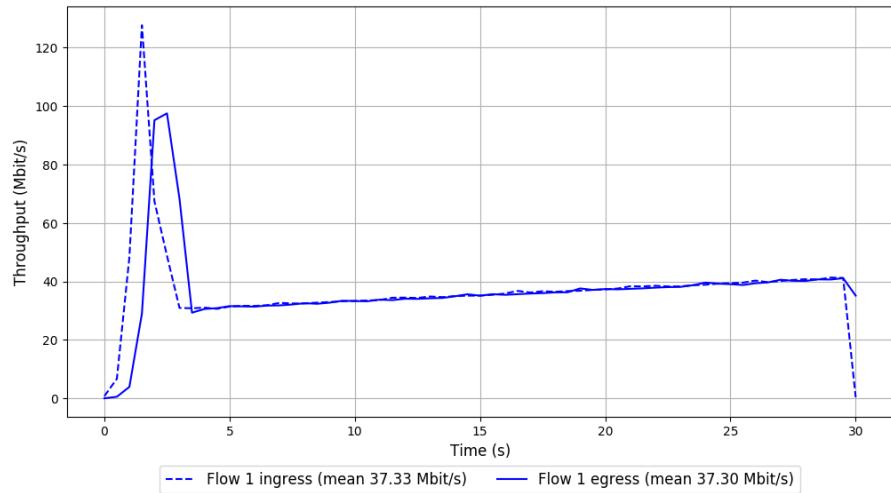


Run 3: Statistics of TCP Vegas

```
Start at: 2018-12-20 05:37:31
End at: 2018-12-20 05:38:01
Local clock offset: -6.144 ms
Remote clock offset: -5.189 ms

# Below is generated by plot.py at 2018-12-20 06:40:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.30 Mbit/s
95th percentile per-packet one-way delay: 170.125 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 37.30 Mbit/s
95th percentile per-packet one-way delay: 170.125 ms
Loss rate: 0.67%
```

Run 3: Report of TCP Vegas — Data Link

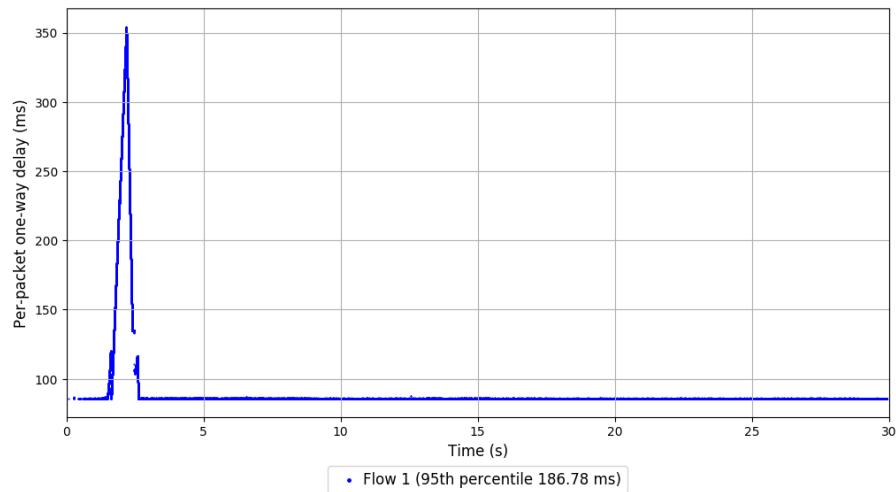
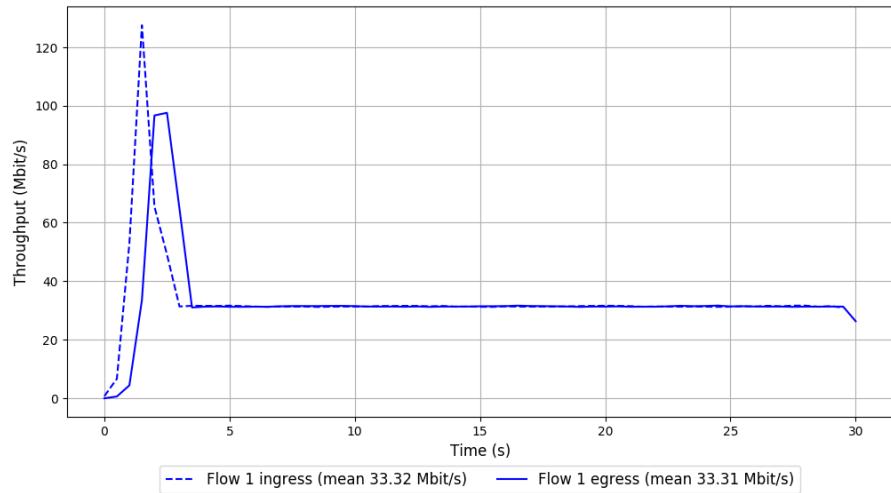


Run 4: Statistics of TCP Vegas

```
Start at: 2018-12-20 06:00:05
End at: 2018-12-20 06:00:35
Local clock offset: -1.753 ms
Remote clock offset: 0.219 ms

# Below is generated by plot.py at 2018-12-20 06:40:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.31 Mbit/s
95th percentile per-packet one-way delay: 186.775 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 33.31 Mbit/s
95th percentile per-packet one-way delay: 186.775 ms
Loss rate: 0.57%
```

Run 4: Report of TCP Vegas — Data Link

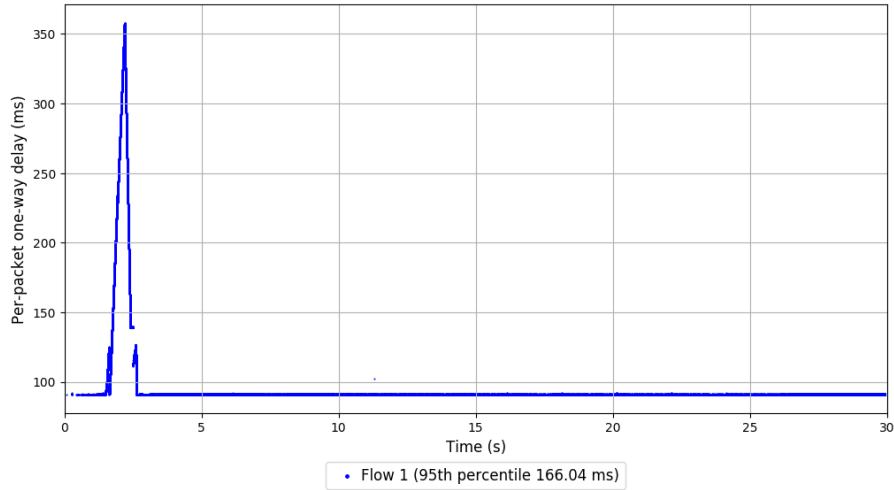
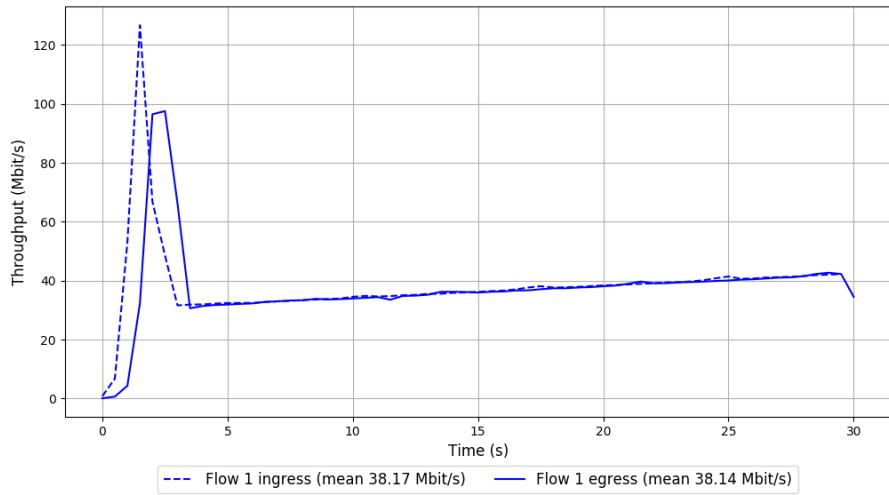


Run 5: Statistics of TCP Vegas

```
Start at: 2018-12-20 06:22:37
End at: 2018-12-20 06:23:07
Local clock offset: -1.948 ms
Remote clock offset: -5.298 ms

# Below is generated by plot.py at 2018-12-20 06:40:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 38.14 Mbit/s
95th percentile per-packet one-way delay: 166.038 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 38.14 Mbit/s
95th percentile per-packet one-way delay: 166.038 ms
Loss rate: 0.66%
```

Run 5: Report of TCP Vegas — Data Link

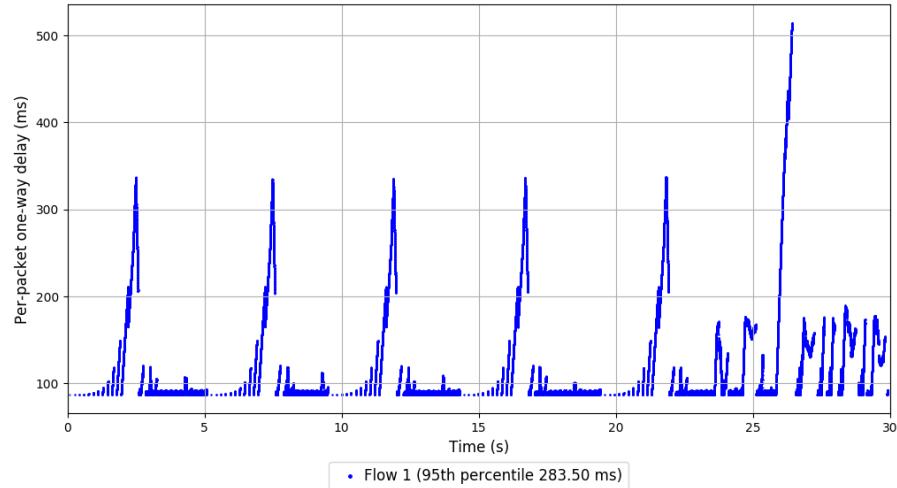
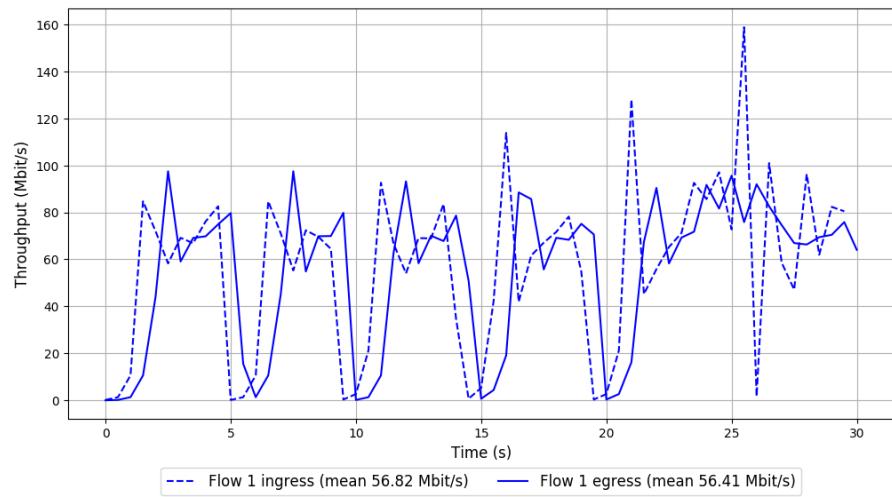


Run 1: Statistics of Verus

```
Start at: 2018-12-20 04:54:48
End at: 2018-12-20 04:55:18
Local clock offset: -1.393 ms
Remote clock offset: -5.65 ms

# Below is generated by plot.py at 2018-12-20 06:40:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.41 Mbit/s
95th percentile per-packet one-way delay: 283.504 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 56.41 Mbit/s
95th percentile per-packet one-way delay: 283.504 ms
Loss rate: 1.29%
```

Run 1: Report of Verus — Data Link

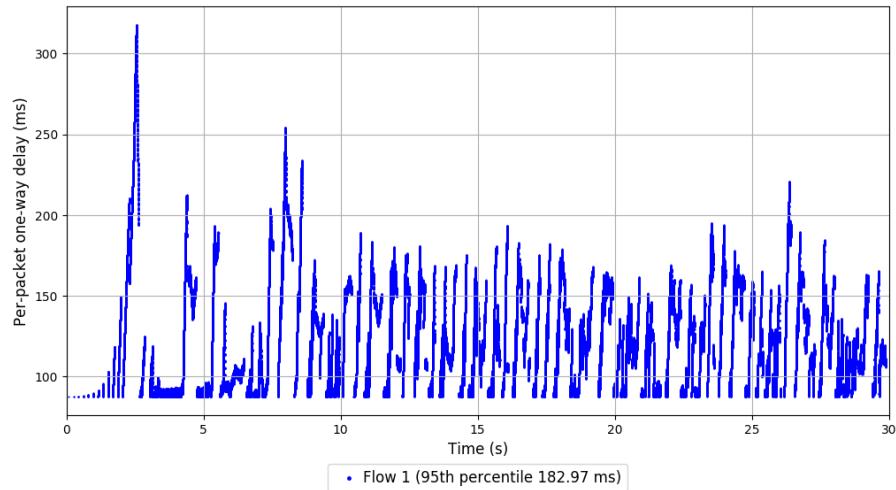
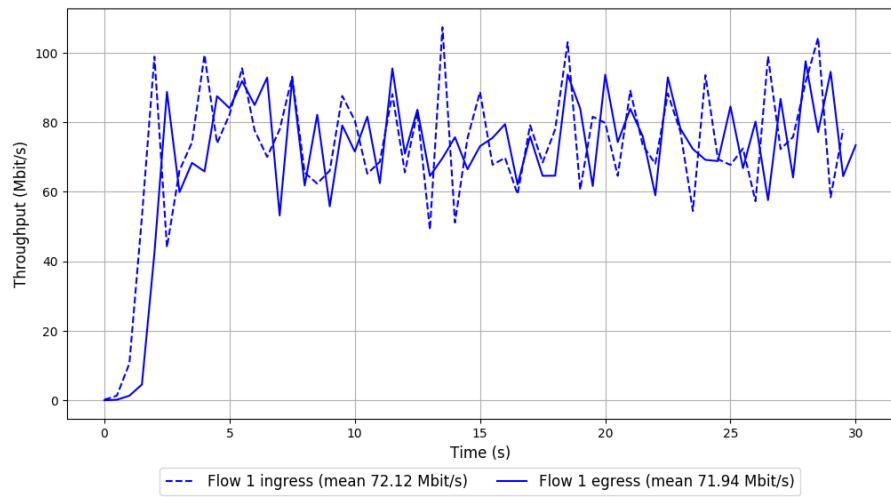


Run 2: Statistics of Verus

```
Start at: 2018-12-20 05:17:21
End at: 2018-12-20 05:17:51
Local clock offset: -5.447 ms
Remote clock offset: -0.622 ms

# Below is generated by plot.py at 2018-12-20 06:40:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.94 Mbit/s
95th percentile per-packet one-way delay: 182.973 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 71.94 Mbit/s
95th percentile per-packet one-way delay: 182.973 ms
Loss rate: 0.81%
```

Run 2: Report of Verus — Data Link

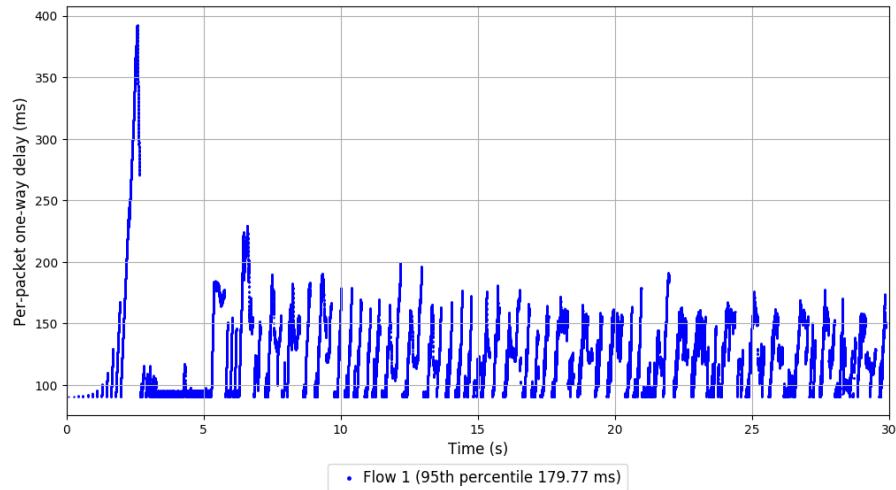
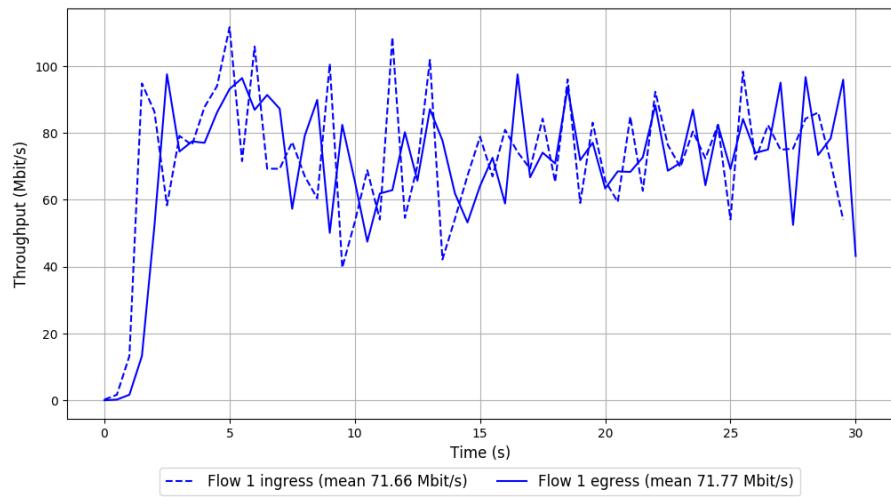


Run 3: Statistics of Verus

```
Start at: 2018-12-20 05:39:54
End at: 2018-12-20 05:40:24
Local clock offset: -5.063 ms
Remote clock offset: -4.917 ms

# Below is generated by plot.py at 2018-12-20 06:40:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.77 Mbit/s
95th percentile per-packet one-way delay: 179.771 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 71.77 Mbit/s
95th percentile per-packet one-way delay: 179.771 ms
Loss rate: 0.47%
```

Run 3: Report of Verus — Data Link

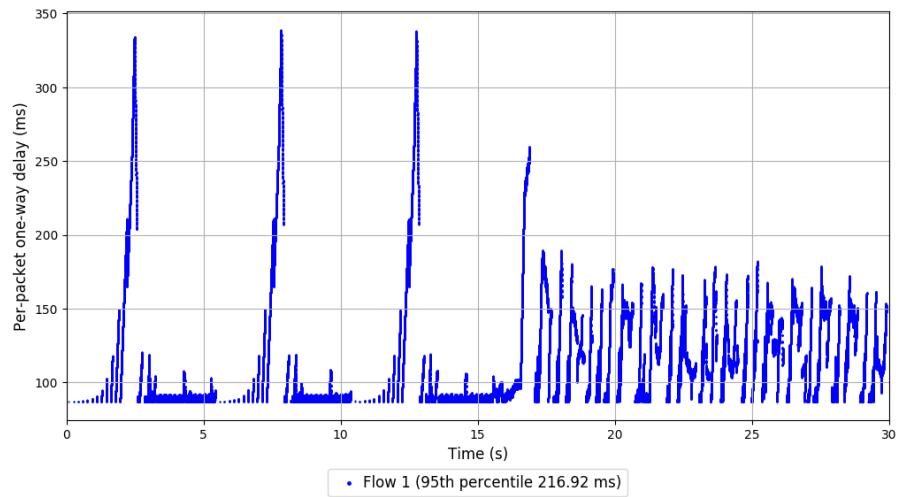
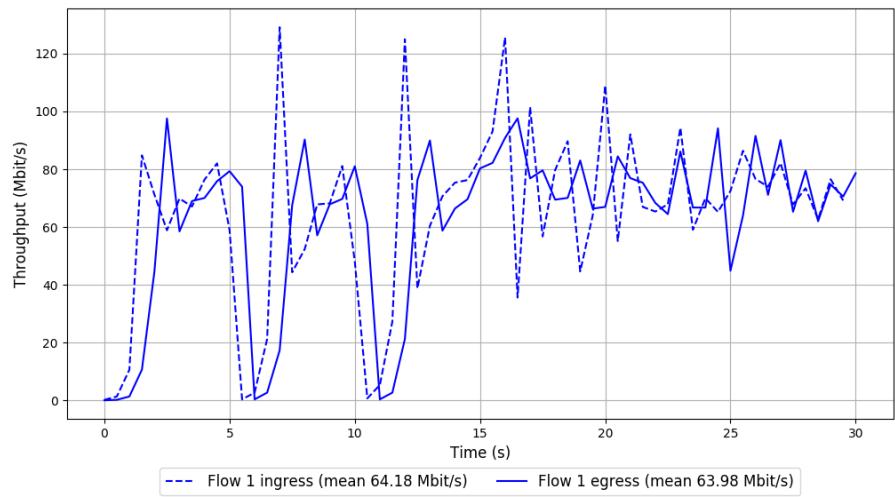


Run 4: Statistics of Verus

```
Start at: 2018-12-20 06:02:27
End at: 2018-12-20 06:02:57
Local clock offset: -1.601 ms
Remote clock offset: -0.957 ms

# Below is generated by plot.py at 2018-12-20 06:41:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.98 Mbit/s
95th percentile per-packet one-way delay: 216.917 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 63.98 Mbit/s
95th percentile per-packet one-way delay: 216.917 ms
Loss rate: 0.44%
```

Run 4: Report of Verus — Data Link

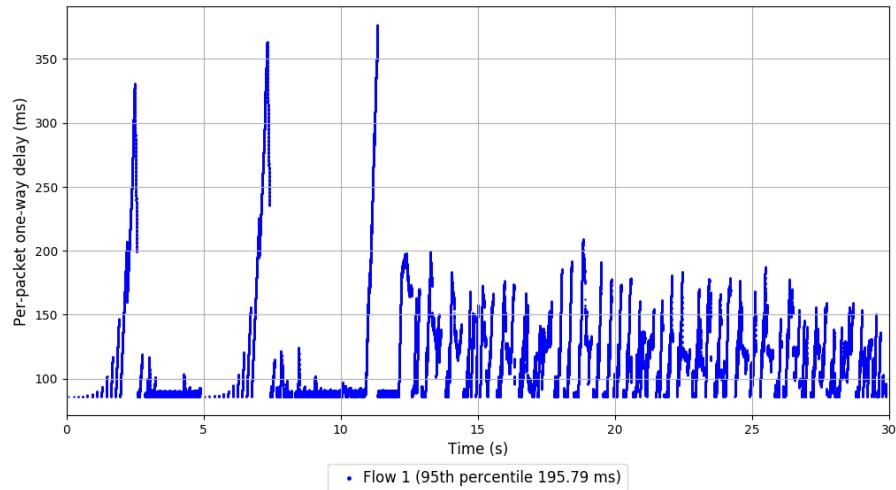
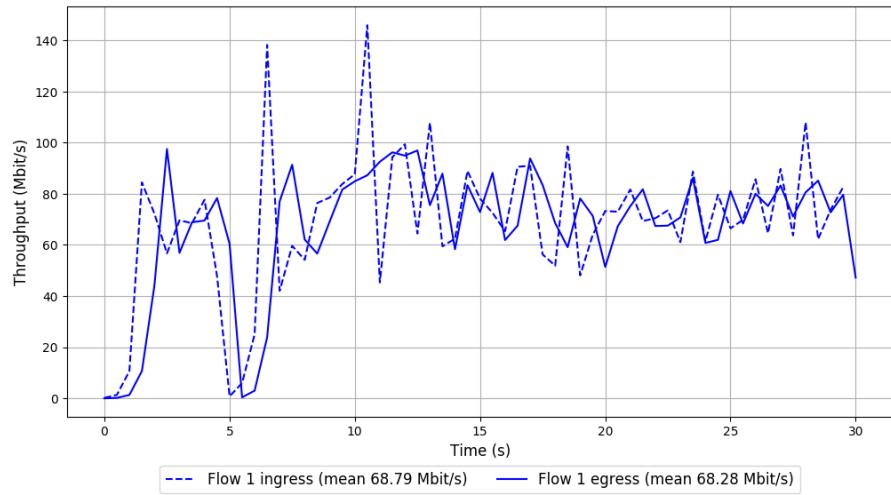


Run 5: Statistics of Verus

```
Start at: 2018-12-20 06:25:00
End at: 2018-12-20 06:25:30
Local clock offset: -1.997 ms
Remote clock offset: -0.059 ms

# Below is generated by plot.py at 2018-12-20 06:41:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.28 Mbit/s
95th percentile per-packet one-way delay: 195.794 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 68.28 Mbit/s
95th percentile per-packet one-way delay: 195.794 ms
Loss rate: 1.31%
```

Run 5: Report of Verus — Data Link

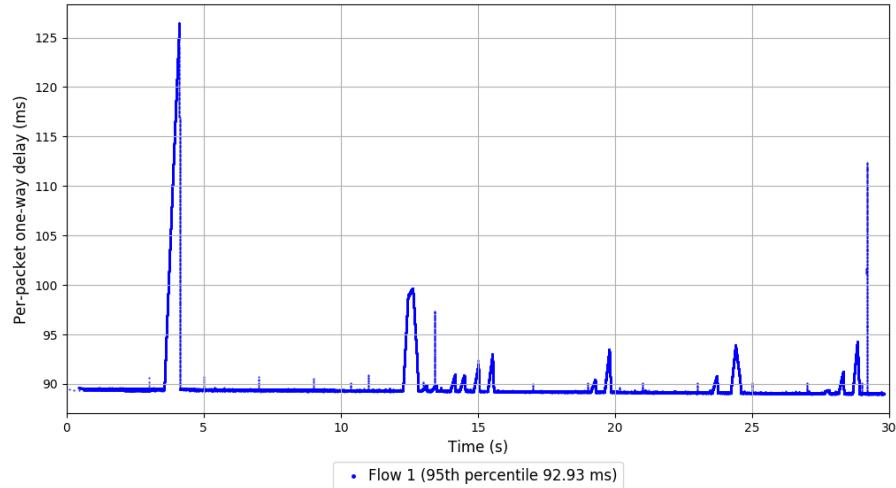
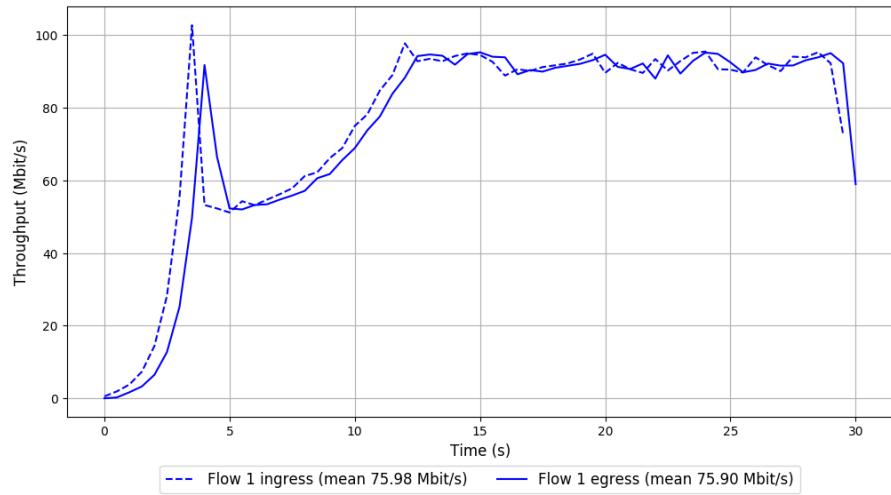


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-12-20 04:43:06
End at: 2018-12-20 04:43:36
Local clock offset: -3.506 ms
Remote clock offset: -1.827 ms

# Below is generated by plot.py at 2018-12-20 06:41:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.90 Mbit/s
95th percentile per-packet one-way delay: 92.932 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 75.90 Mbit/s
95th percentile per-packet one-way delay: 92.932 ms
Loss rate: 0.68%
```

Run 1: Report of PCC-Vivace — Data Link

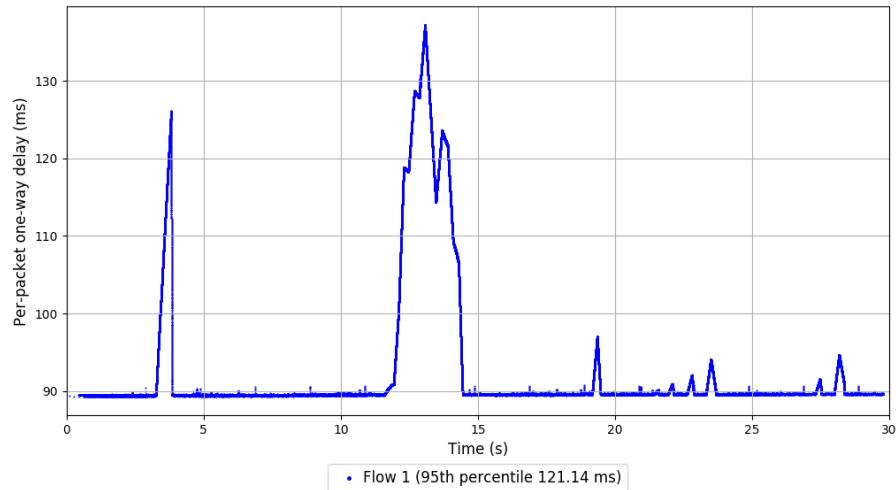
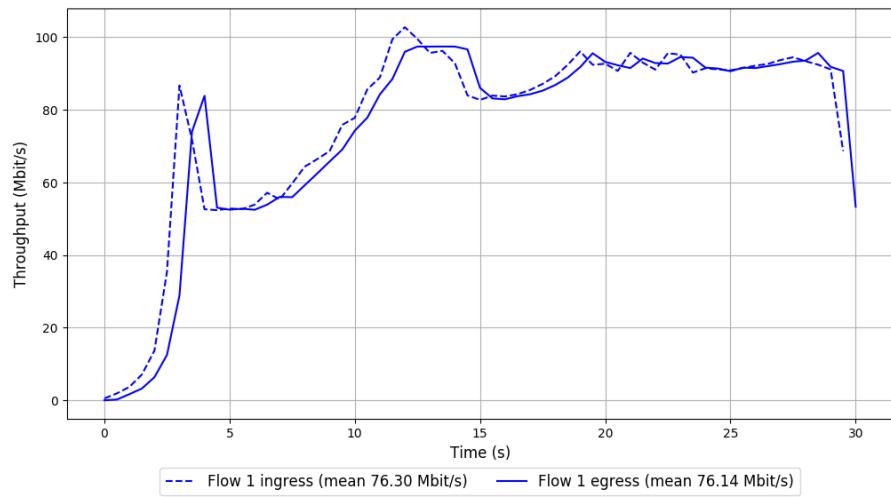


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-12-20 05:05:38
End at: 2018-12-20 05:06:08
Local clock offset: -0.8 ms
Remote clock offset: -9.07 ms

# Below is generated by plot.py at 2018-12-20 06:41:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.14 Mbit/s
95th percentile per-packet one-way delay: 121.142 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 76.14 Mbit/s
95th percentile per-packet one-way delay: 121.142 ms
Loss rate: 0.78%
```

Run 2: Report of PCC-Vivace — Data Link

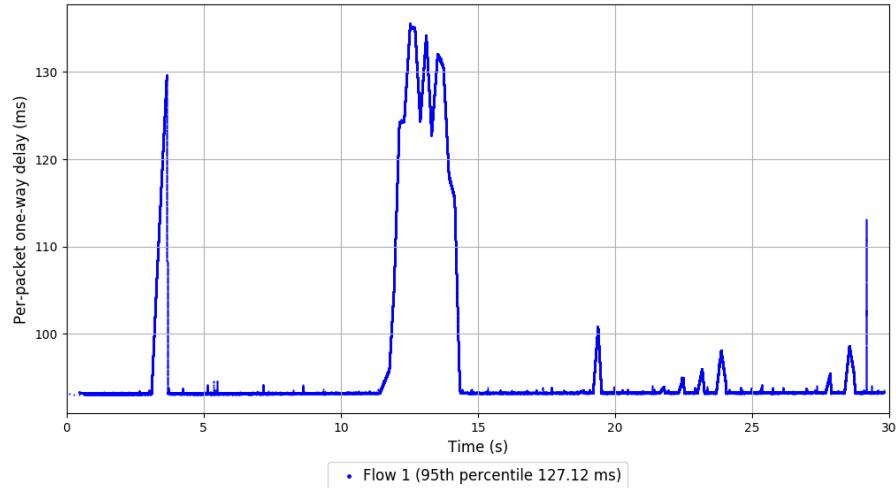
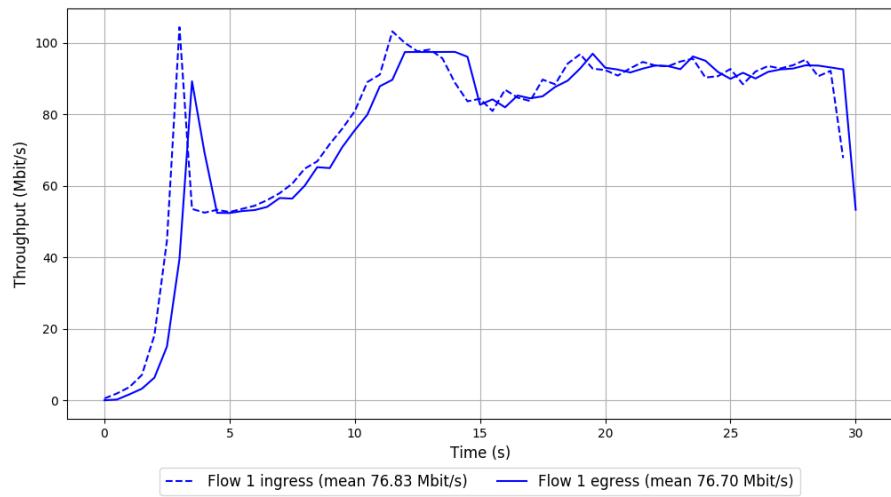


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-12-20 05:28:12
End at: 2018-12-20 05:28:42
Local clock offset: -6.86 ms
Remote clock offset: -5.098 ms

# Below is generated by plot.py at 2018-12-20 06:41:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.70 Mbit/s
95th percentile per-packet one-way delay: 127.119 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 76.70 Mbit/s
95th percentile per-packet one-way delay: 127.119 ms
Loss rate: 0.75%
```

Run 3: Report of PCC-Vivace — Data Link

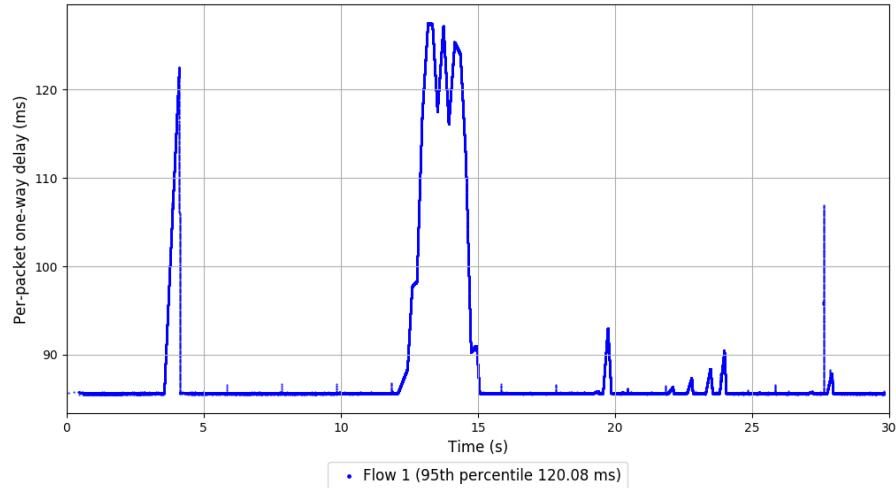
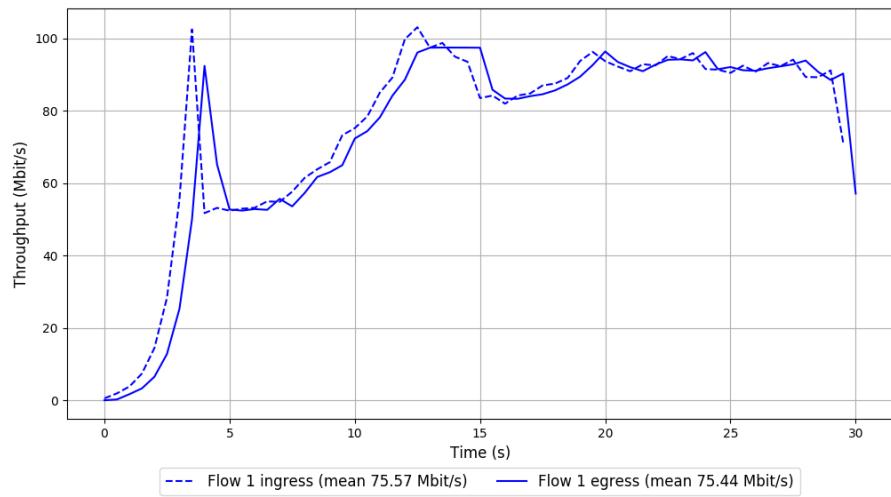


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-12-20 05:50:45
End at: 2018-12-20 05:51:15
Local clock offset: -2.677 ms
Remote clock offset: 0.392 ms

# Below is generated by plot.py at 2018-12-20 06:41:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.44 Mbit/s
95th percentile per-packet one-way delay: 120.078 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 75.44 Mbit/s
95th percentile per-packet one-way delay: 120.078 ms
Loss rate: 0.74%
```

Run 4: Report of PCC-Vivace — Data Link

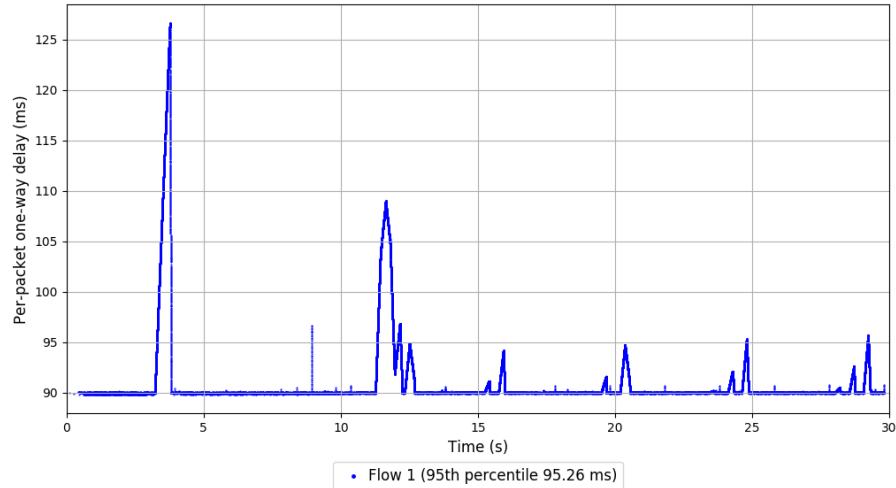
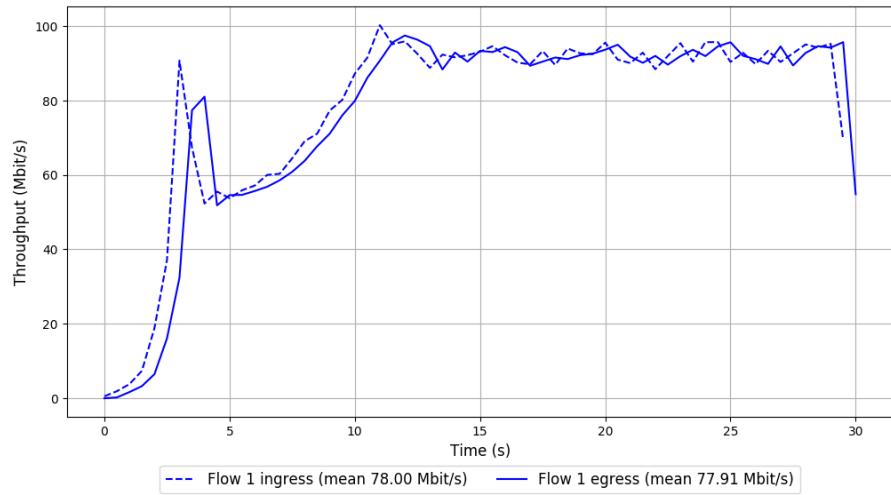


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-12-20 06:13:17
End at: 2018-12-20 06:13:47
Local clock offset: -1.892 ms
Remote clock offset: -3.931 ms

# Below is generated by plot.py at 2018-12-20 06:41:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 77.91 Mbit/s
95th percentile per-packet one-way delay: 95.257 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 77.91 Mbit/s
95th percentile per-packet one-way delay: 95.257 ms
Loss rate: 0.68%
```

Run 5: Report of PCC-Vivace — Data Link

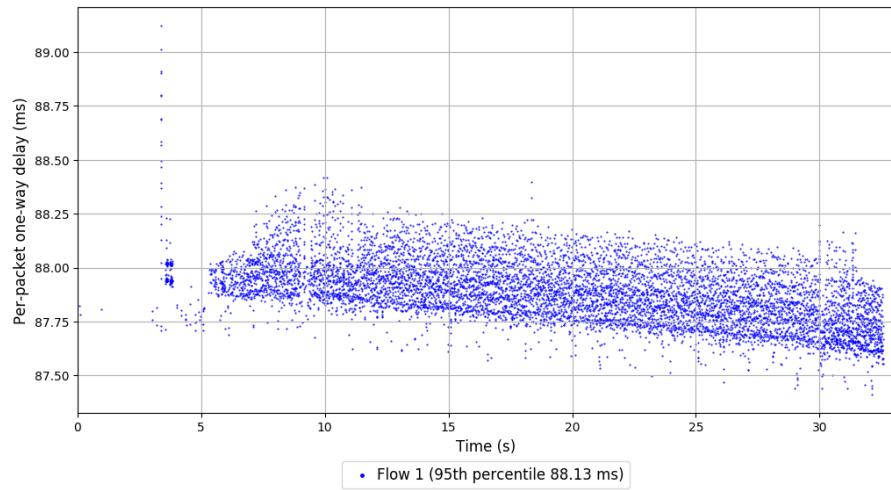
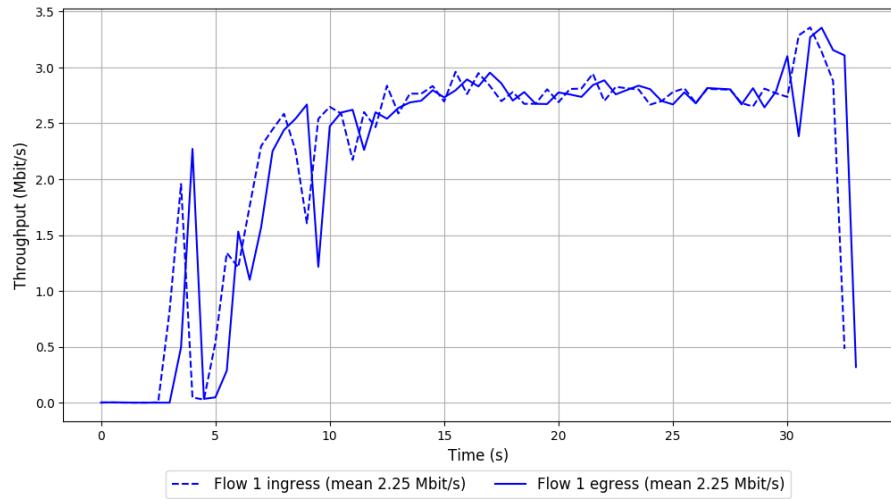


Run 1: Statistics of WebRTC media

```
Start at: 2018-12-20 04:50:10
End at: 2018-12-20 04:50:40
Local clock offset: -1.975 ms
Remote clock offset: -2.388 ms

# Below is generated by plot.py at 2018-12-20 06:41:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 88.130 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 88.130 ms
Loss rate: 0.31%
```

Run 1: Report of WebRTC media — Data Link

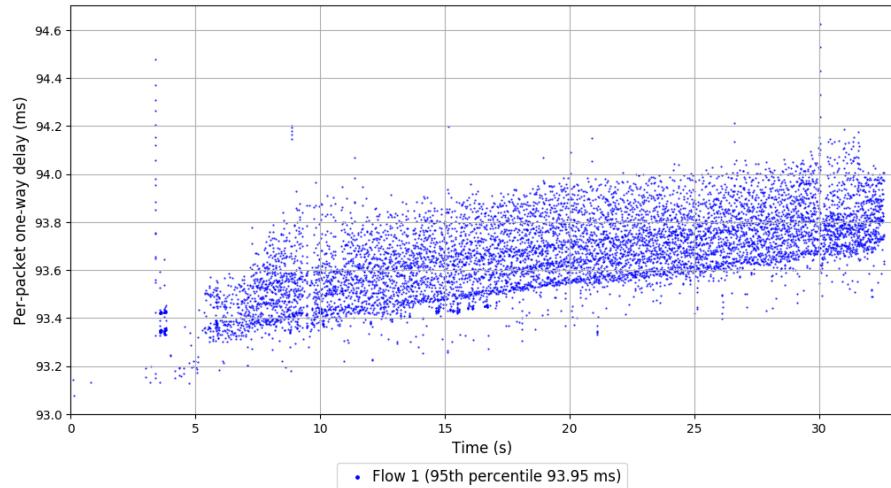
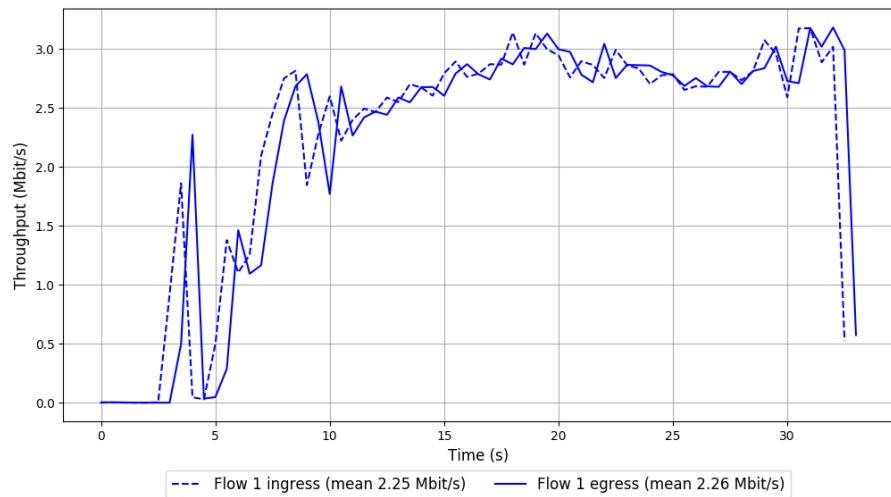


Run 2: Statistics of WebRTC media

```
Start at: 2018-12-20 05:12:42
End at: 2018-12-20 05:13:12
Local clock offset: -4.247 ms
Remote clock offset: -8.412 ms

# Below is generated by plot.py at 2018-12-20 06:41:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 93.946 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 93.946 ms
Loss rate: 0.32%
```

Run 2: Report of WebRTC media — Data Link

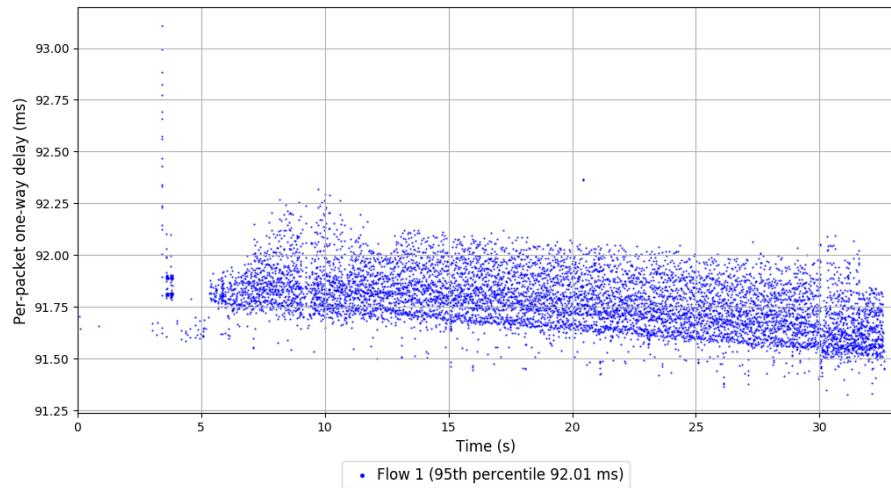
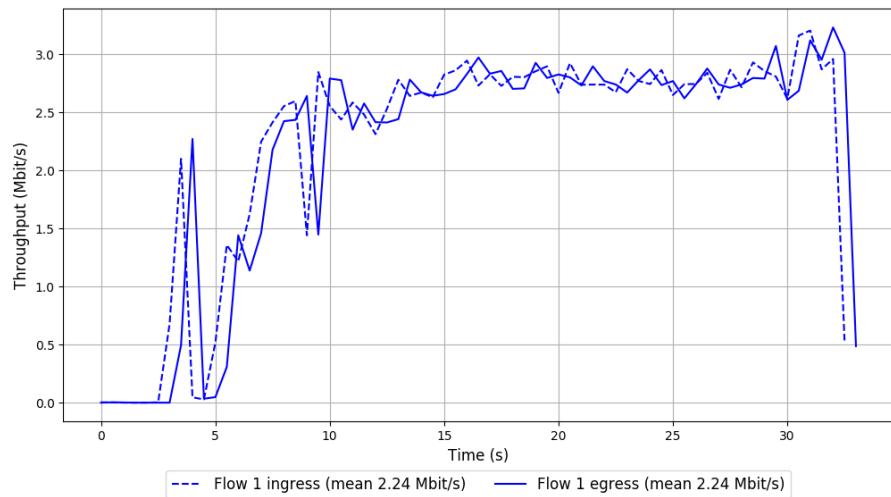


Run 3: Statistics of WebRTC media

```
Start at: 2018-12-20 05:35:15
End at: 2018-12-20 05:35:45
Local clock offset: -7.361 ms
Remote clock offset: -3.755 ms

# Below is generated by plot.py at 2018-12-20 06:41:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 92.014 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 92.014 ms
Loss rate: 0.33%
```

Run 3: Report of WebRTC media — Data Link

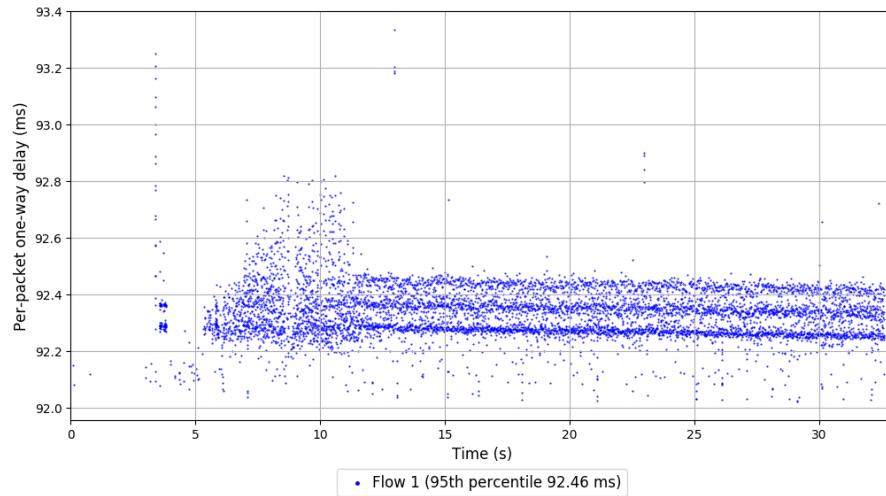
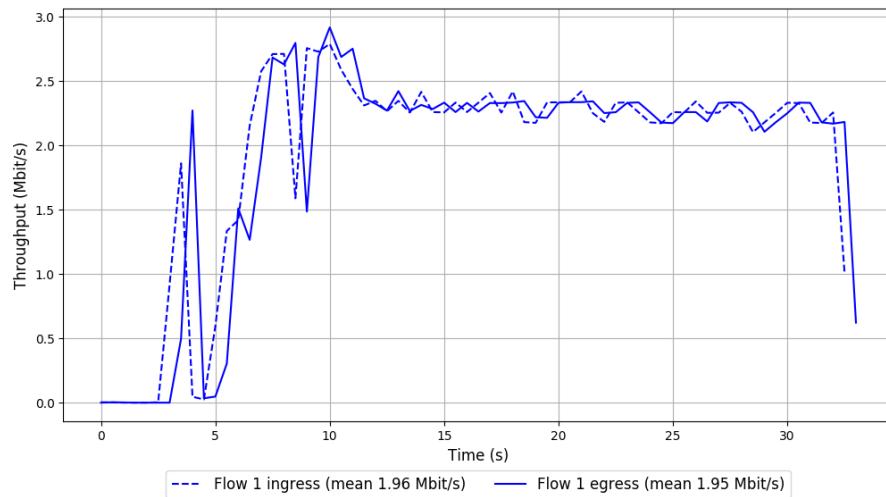


Run 4: Statistics of WebRTC media

```
Start at: 2018-12-20 05:57:49
End at: 2018-12-20 05:58:19
Local clock offset: -1.946 ms
Remote clock offset: -3.984 ms

# Below is generated by plot.py at 2018-12-20 06:41:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 92.463 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 92.463 ms
Loss rate: 0.67%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-12-20 06:20:21
End at: 2018-12-20 06:20:51
Local clock offset: -1.949 ms
Remote clock offset: -0.032 ms

# Below is generated by plot.py at 2018-12-20 06:41:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 88.338 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 2.10 Mbit/s
95th percentile per-packet one-way delay: 88.338 ms
Loss rate: 0.23%
```

Run 5: Report of WebRTC media — Data Link

