

Pantheon Report

Generated at 2018-09-07 11:53:22 (UTC).
Data path: AWS Korea on `ens5` (*local*) → China on `eno1` (*remote*).
Repeated the test of 18 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against `ntp.nict.jp` and have been applied to correct the timestamps in logs.

System info:

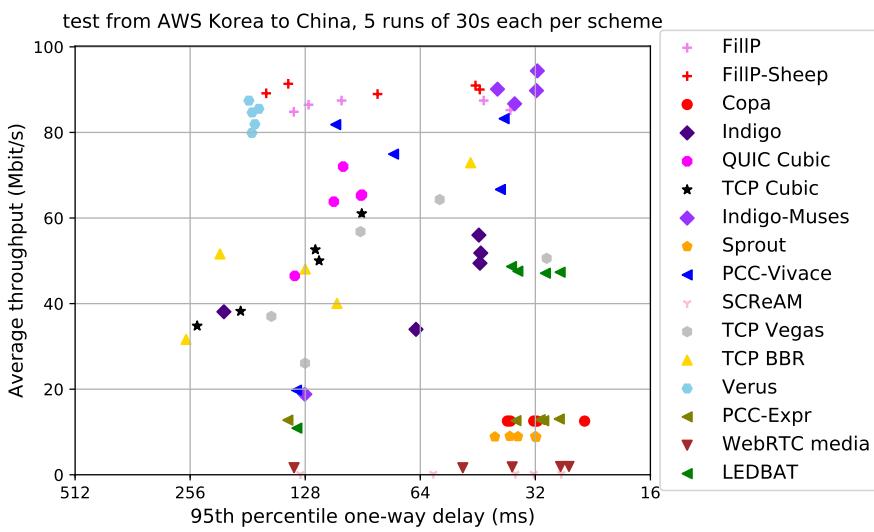
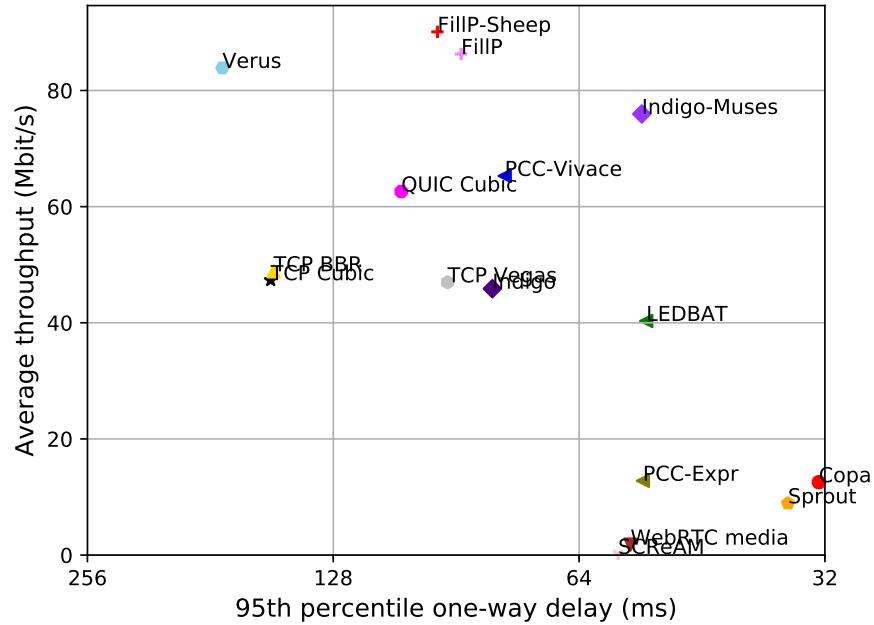
```
Linux 4.15.0-1020-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 536870912 536870912 536870912
```

Git summary:

```
branch: muses @ e0a9b05ad97d268013b7cc9a9c95637b593a1b4c
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 7631aea3923a3598767c87765ae5103aca0678d3
third_party/pantheon-tunnel @ cbfce6db5ff5740dafe1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

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



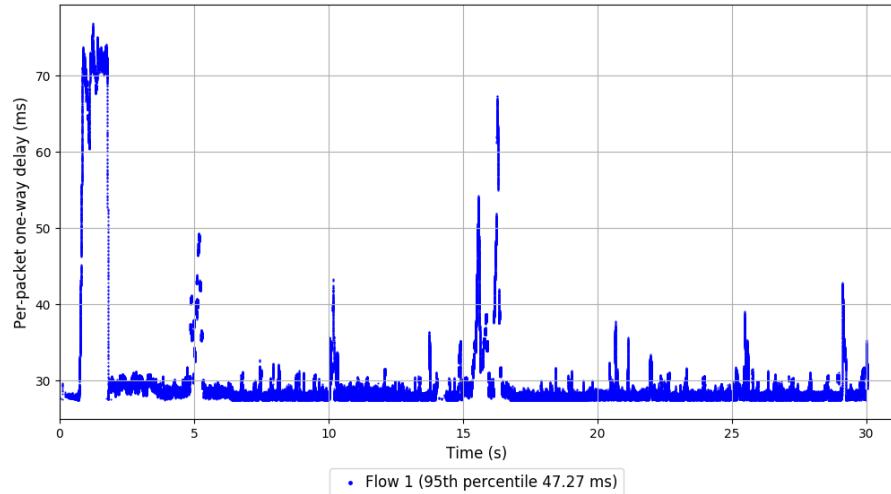
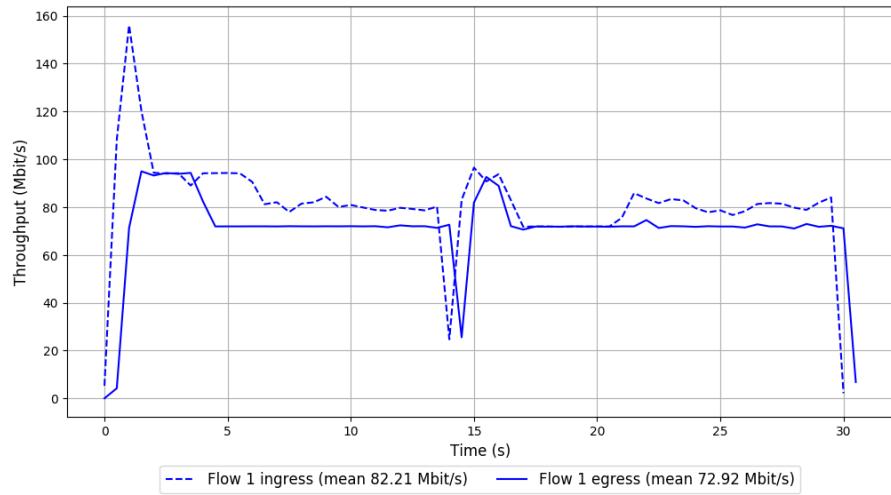
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	48.86	151.44	9.64
Copa	5	12.55	32.56	59.39
TCP Cubic	5	47.33	152.71	1.82
FillP	5	86.28	89.26	7.30
FillP-Sheep	5	90.10	95.42	1.29
Indigo	5	45.87	81.74	1.44
LEDBAT	5	40.31	52.96	0.00
Indigo-Muses	5	75.96	53.63	0.00
PCC-Allegro	0	N/A	N/A	N/A
PCC-Expr	5	12.79	53.47	44.90
QUIC Cubic	5	62.61	105.67	0.10
SCReAM	5	0.21	57.33	0.00
Sprout	5	8.91	35.51	0.00
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	46.96	92.74	0.81
Verus	5	83.89	175.01	12.67
PCC-Vivace	5	65.29	78.95	0.10
WebRTC media	5	1.80	55.37	0.02

Run 1: Statistics of TCP BBR

```
Start at: 2018-09-07 10:03:33
End at: 2018-09-07 10:04:03
Local clock offset: 5.295 ms
Remote clock offset: 19.271 ms

# Below is generated by plot.py at 2018-09-07 11:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.92 Mbit/s
95th percentile per-packet one-way delay: 47.267 ms
Loss rate: 11.30%
-- Flow 1:
Average throughput: 72.92 Mbit/s
95th percentile per-packet one-way delay: 47.267 ms
Loss rate: 11.30%
```

Run 1: Report of TCP BBR — Data Link

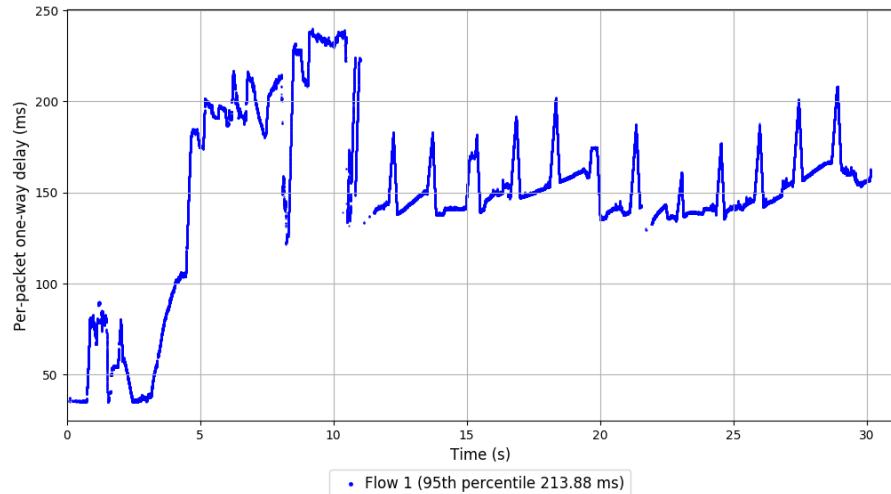
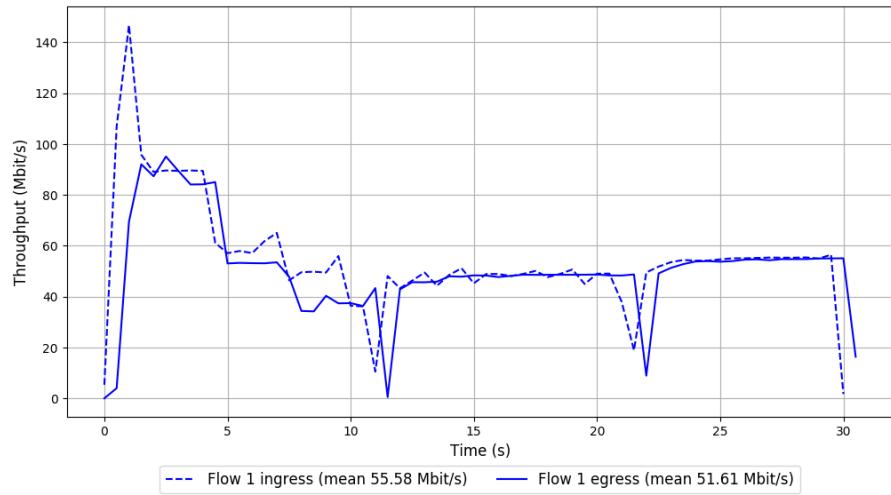


Run 2: Statistics of TCP BBR

```
Start at: 2018-09-07 10:25:07
End at: 2018-09-07 10:25:37
Local clock offset: 5.534 ms
Remote clock offset: 36.216 ms

# Below is generated by plot.py at 2018-09-07 11:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 51.61 Mbit/s
95th percentile per-packet one-way delay: 213.885 ms
Loss rate: 6.82%
-- Flow 1:
Average throughput: 51.61 Mbit/s
95th percentile per-packet one-way delay: 213.885 ms
Loss rate: 6.82%
```

Run 2: Report of TCP BBR — Data Link

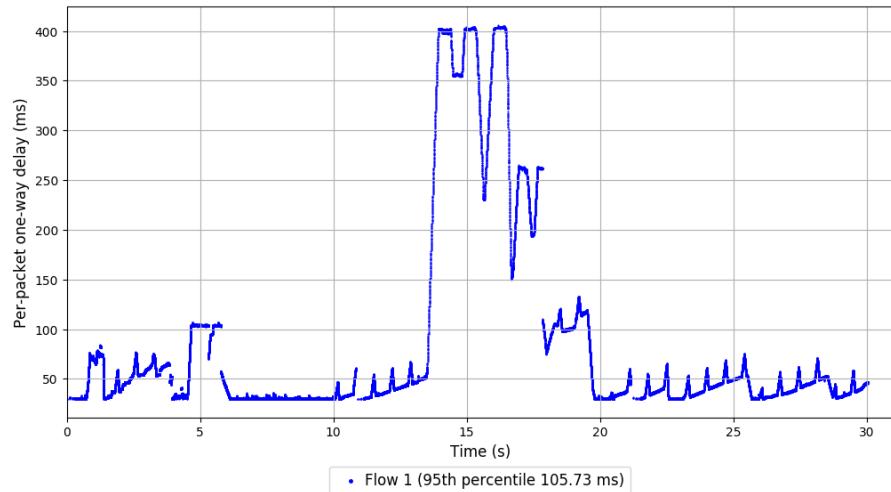
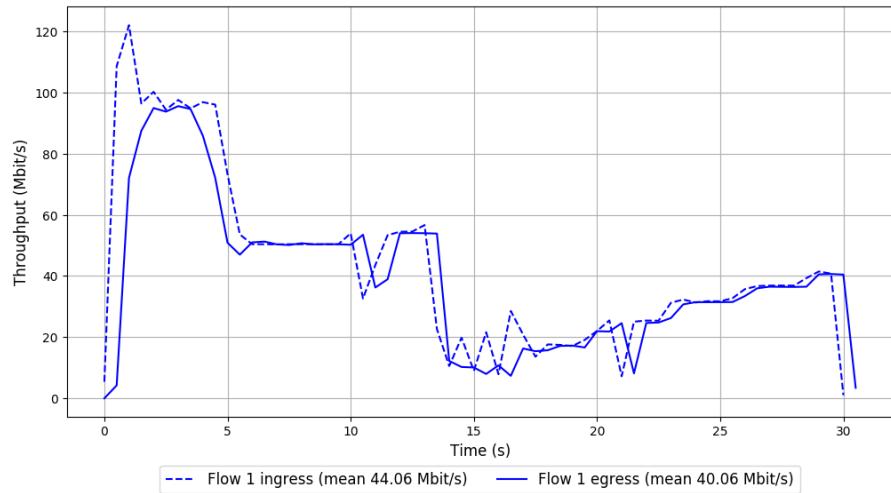


Run 3: Statistics of TCP BBR

```
Start at: 2018-09-07 10:46:45
End at: 2018-09-07 10:47:16
Local clock offset: 5.402 ms
Remote clock offset: 33.55 ms

# Below is generated by plot.py at 2018-09-07 11:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.06 Mbit/s
95th percentile per-packet one-way delay: 105.735 ms
Loss rate: 9.10%
-- Flow 1:
Average throughput: 40.06 Mbit/s
95th percentile per-packet one-way delay: 105.735 ms
Loss rate: 9.10%
```

Run 3: Report of TCP BBR — Data Link

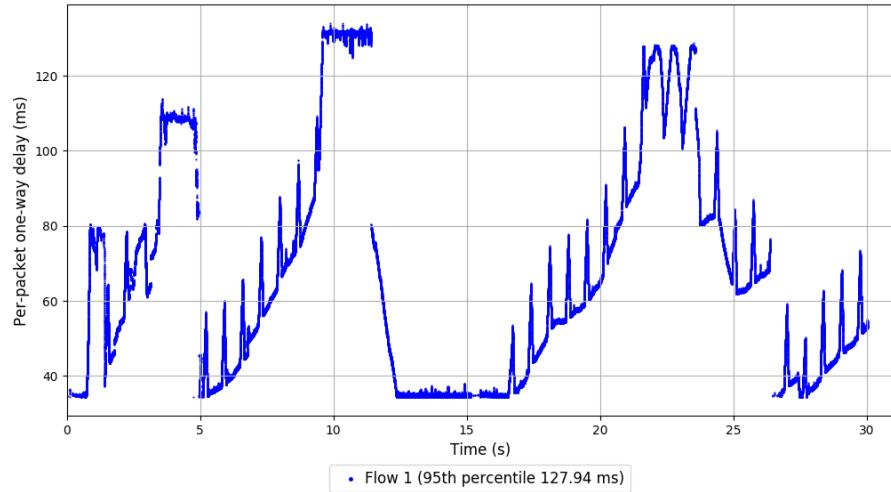
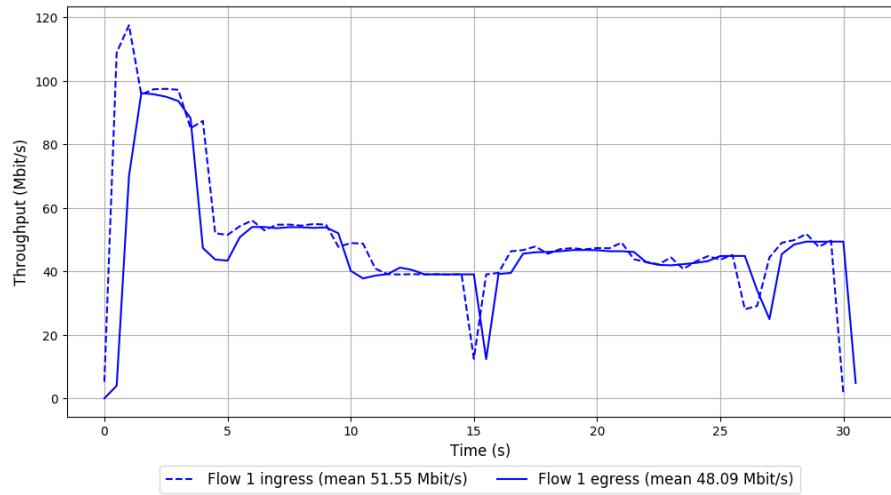


Run 4: Statistics of TCP BBR

```
Start at: 2018-09-07 11:08:17
End at: 2018-09-07 11:08:47
Local clock offset: 5.088 ms
Remote clock offset: 40.108 ms

# Below is generated by plot.py at 2018-09-07 11:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.09 Mbit/s
95th percentile per-packet one-way delay: 127.943 ms
Loss rate: 6.71%
-- Flow 1:
Average throughput: 48.09 Mbit/s
95th percentile per-packet one-way delay: 127.943 ms
Loss rate: 6.71%
```

Run 4: Report of TCP BBR — Data Link

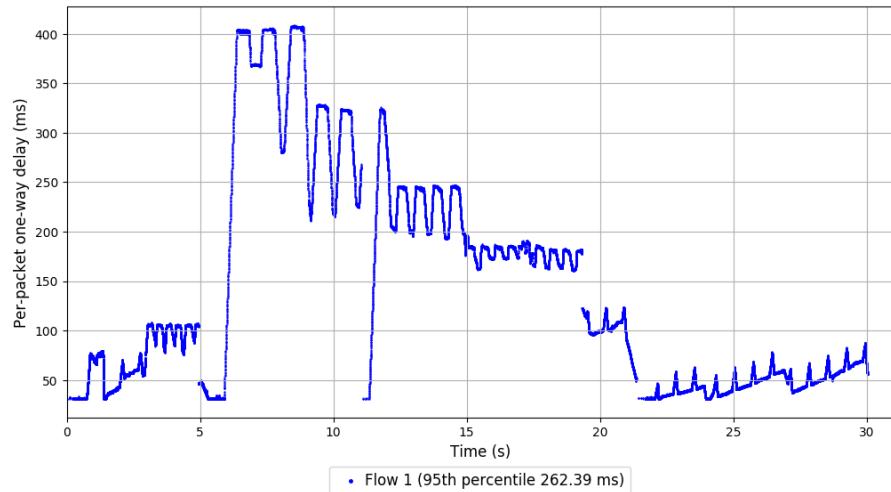
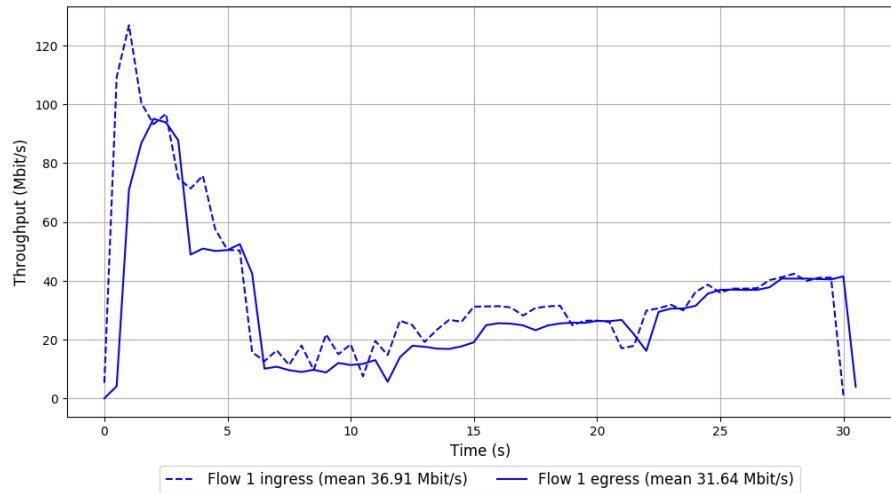


Run 5: Statistics of TCP BBR

```
Start at: 2018-09-07 11:29:50
End at: 2018-09-07 11:30:20
Local clock offset: 0.291 ms
Remote clock offset: 13.422 ms

# Below is generated by plot.py at 2018-09-07 11:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 31.64 Mbit/s
95th percentile per-packet one-way delay: 262.392 ms
Loss rate: 14.29%
-- Flow 1:
Average throughput: 31.64 Mbit/s
95th percentile per-packet one-way delay: 262.392 ms
Loss rate: 14.29%
```

Run 5: Report of TCP BBR — Data Link

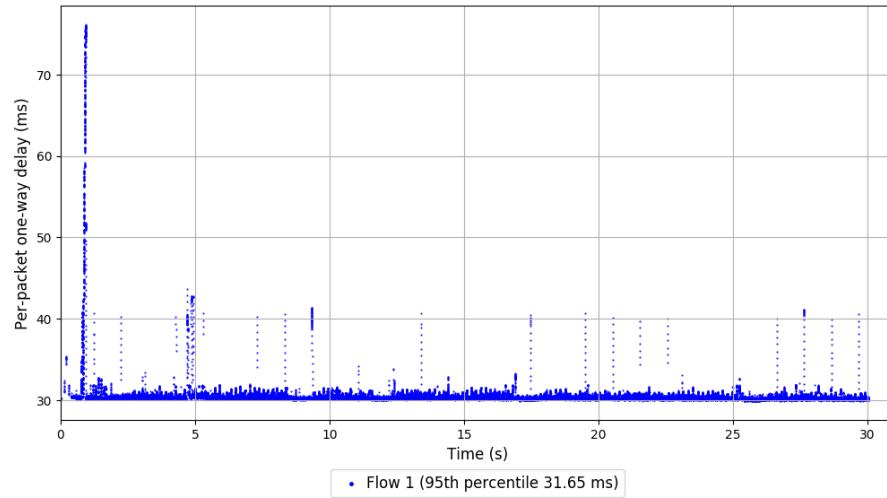
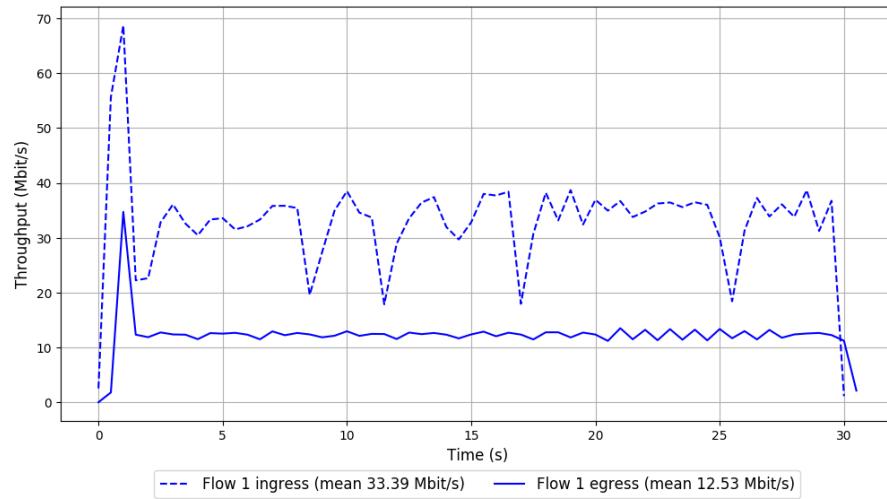


Run 1: Statistics of Copa

```
Start at: 2018-09-07 10:13:12
End at: 2018-09-07 10:13:42
Local clock offset: 5.273 ms
Remote clock offset: 27.648 ms

# Below is generated by plot.py at 2018-09-07 11:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 31.648 ms
Loss rate: 62.46%
-- Flow 1:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 31.648 ms
Loss rate: 62.46%
```

Run 1: Report of Copa — Data Link

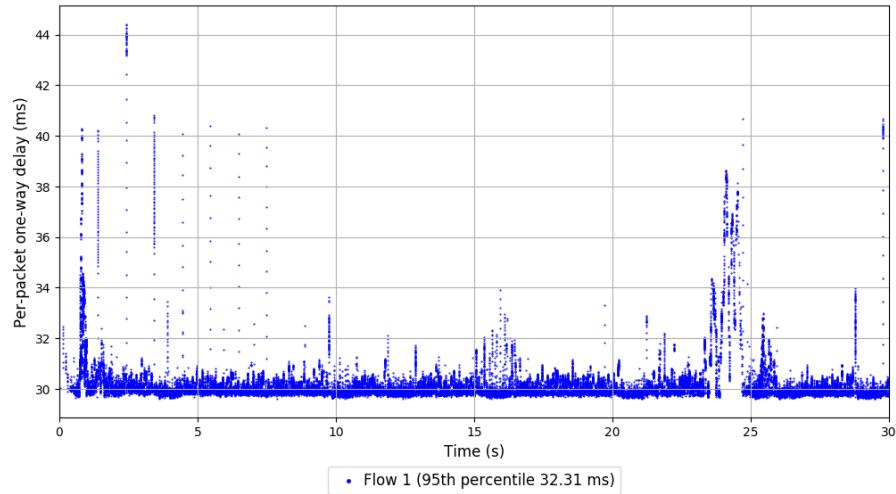
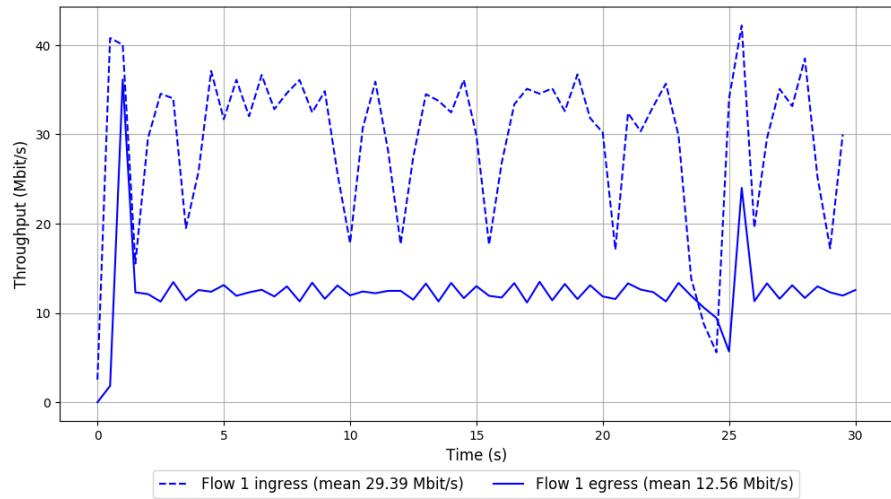


Run 2: Statistics of Copa

```
Start at: 2018-09-07 10:34:46
End at: 2018-09-07 10:35:16
Local clock offset: 5.646 ms
Remote clock offset: 32.301 ms

# Below is generated by plot.py at 2018-09-07 11:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.56 Mbit/s
95th percentile per-packet one-way delay: 32.307 ms
Loss rate: 57.27%
-- Flow 1:
Average throughput: 12.56 Mbit/s
95th percentile per-packet one-way delay: 32.307 ms
Loss rate: 57.27%
```

Run 2: Report of Copa — Data Link

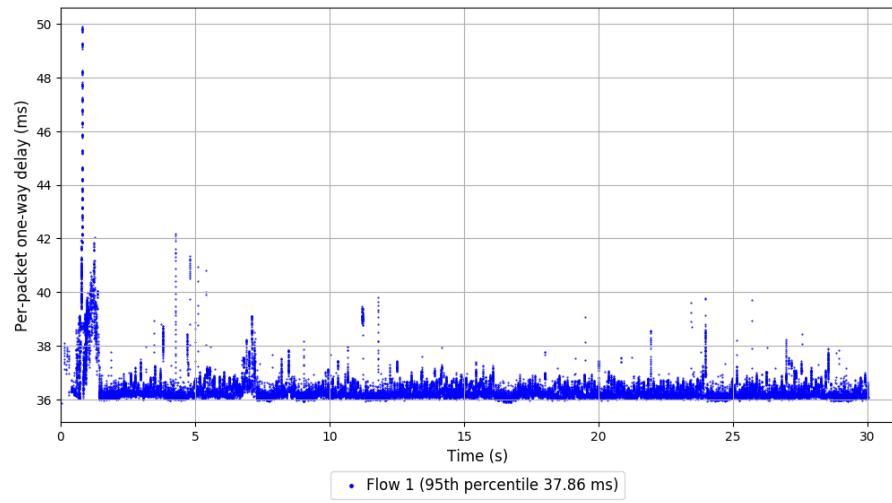
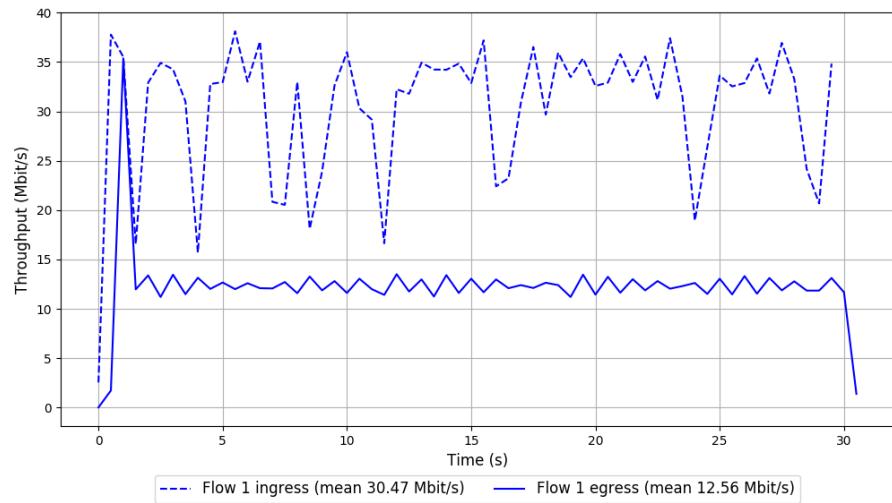


Run 3: Statistics of Copa

```
Start at: 2018-09-07 10:56:18
End at: 2018-09-07 10:56:48
Local clock offset: 5.098 ms
Remote clock offset: 40.352 ms

# Below is generated by plot.py at 2018-09-07 11:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.56 Mbit/s
95th percentile per-packet one-way delay: 37.864 ms
Loss rate: 58.80%
-- Flow 1:
Average throughput: 12.56 Mbit/s
95th percentile per-packet one-way delay: 37.864 ms
Loss rate: 58.80%
```

Run 3: Report of Copa — Data Link

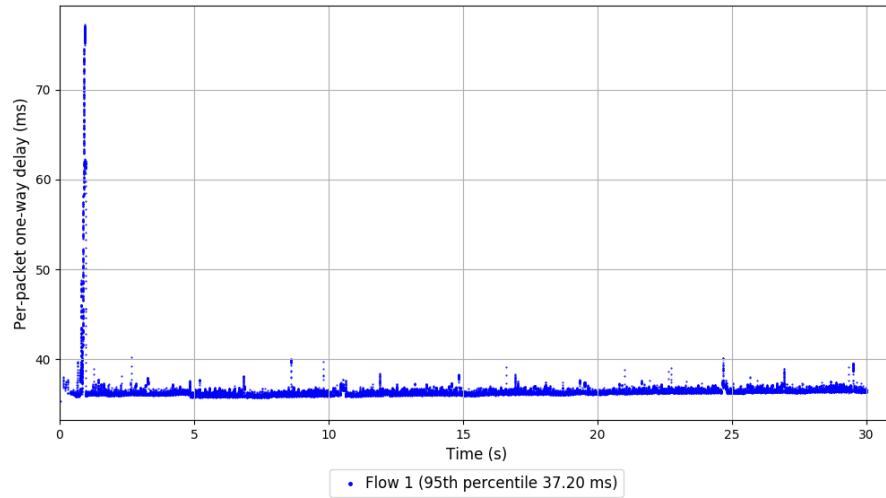
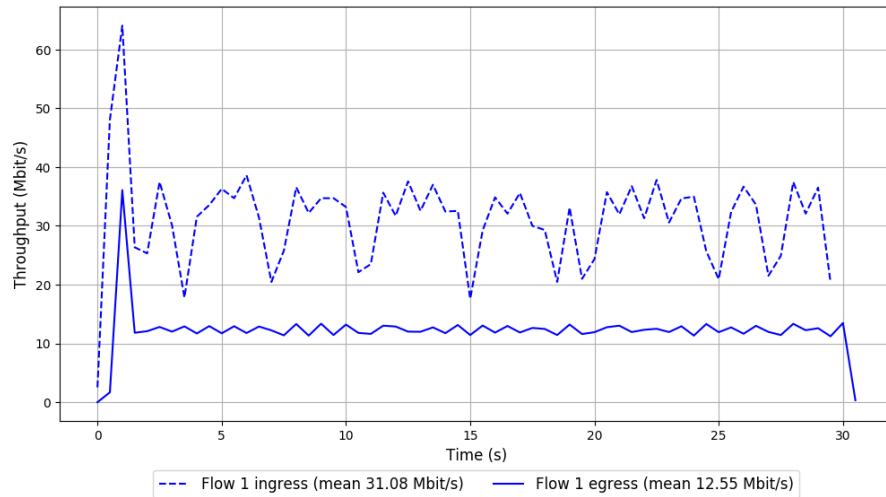


Run 4: Statistics of Copa

```
Start at: 2018-09-07 11:17:50
End at: 2018-09-07 11:18:20
Local clock offset: 3.682 ms
Remote clock offset: 32.762 ms

# Below is generated by plot.py at 2018-09-07 11:47:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.55 Mbit/s
95th percentile per-packet one-way delay: 37.197 ms
Loss rate: 59.61%
-- Flow 1:
Average throughput: 12.55 Mbit/s
95th percentile per-packet one-way delay: 37.197 ms
Loss rate: 59.61%
```

Run 4: Report of Copa — Data Link

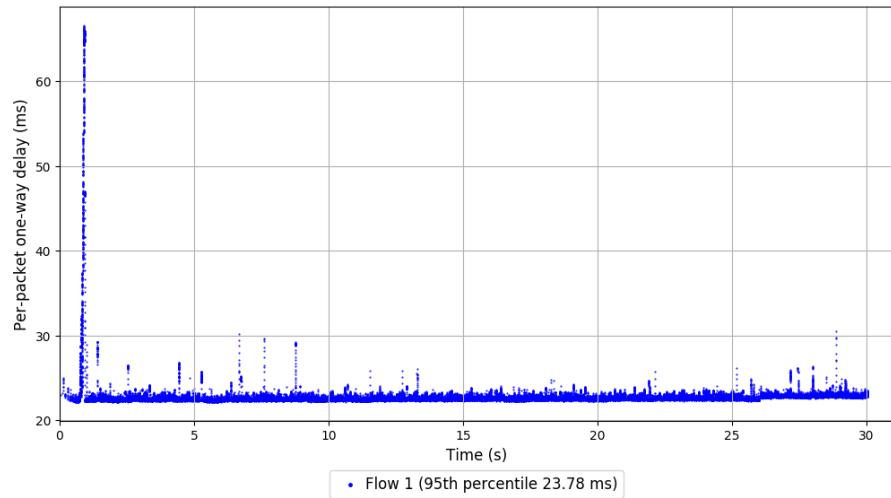
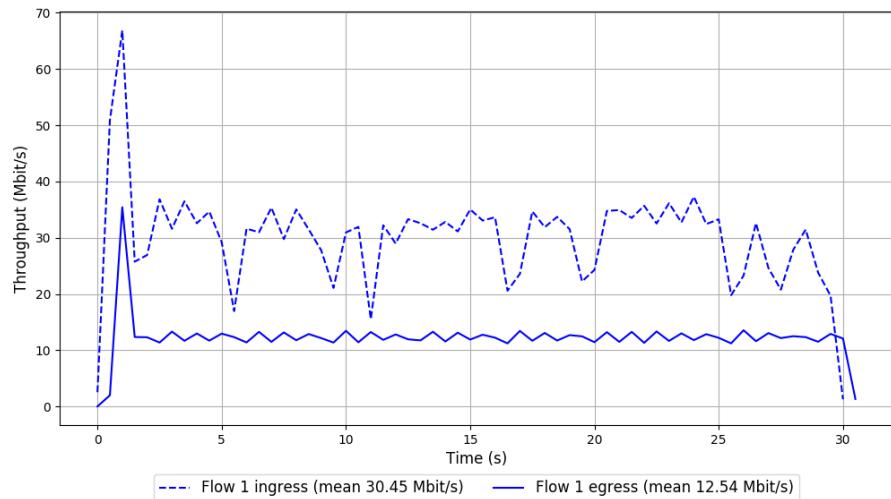


Run 5: Statistics of Copa

```
Start at: 2018-09-07 11:39:23
End at: 2018-09-07 11:39:53
Local clock offset: -0.878 ms
Remote clock offset: -0.703 ms

# Below is generated by plot.py at 2018-09-07 11:47:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.54 Mbit/s
95th percentile per-packet one-way delay: 23.782 ms
Loss rate: 58.81%
-- Flow 1:
Average throughput: 12.54 Mbit/s
95th percentile per-packet one-way delay: 23.782 ms
Loss rate: 58.81%
```

Run 5: Report of Copa — Data Link

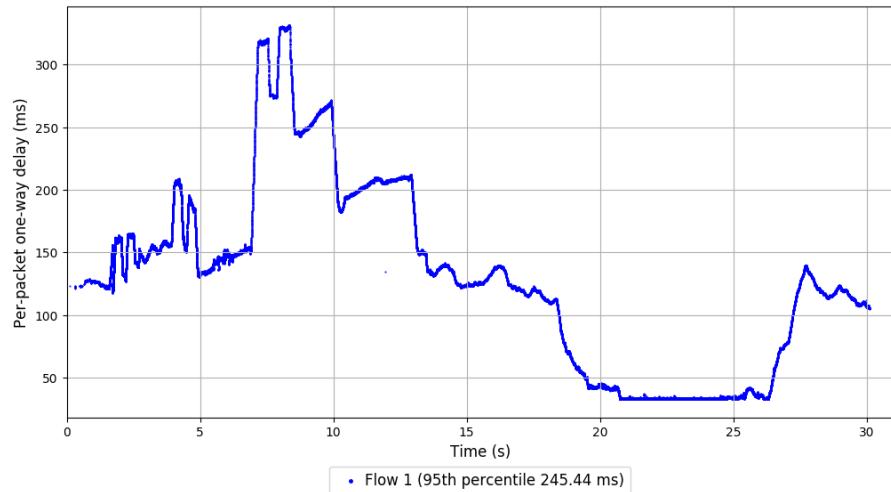
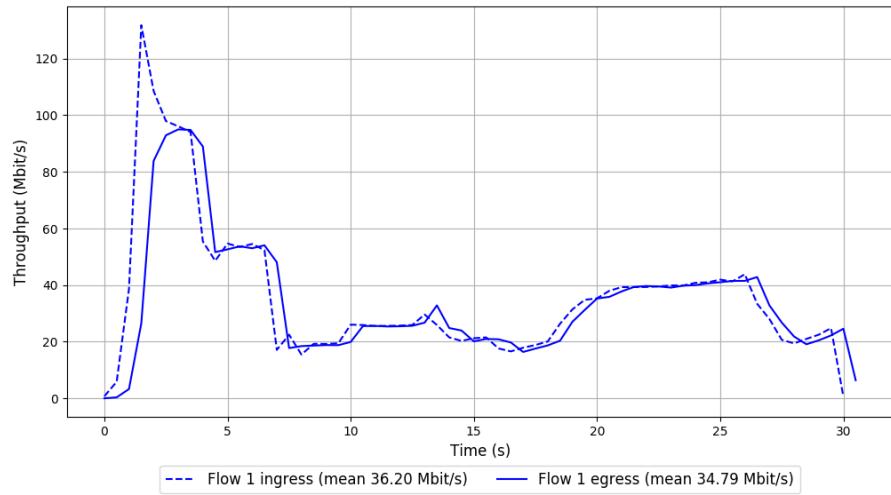


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-09-07 10:19:07
End at: 2018-09-07 10:19:37
Local clock offset: 5.643 ms
Remote clock offset: 33.57 ms

# Below is generated by plot.py at 2018-09-07 11:47:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 34.79 Mbit/s
95th percentile per-packet one-way delay: 245.444 ms
Loss rate: 3.95%
-- Flow 1:
Average throughput: 34.79 Mbit/s
95th percentile per-packet one-way delay: 245.444 ms
Loss rate: 3.95%
```

Run 1: Report of TCP Cubic — Data Link

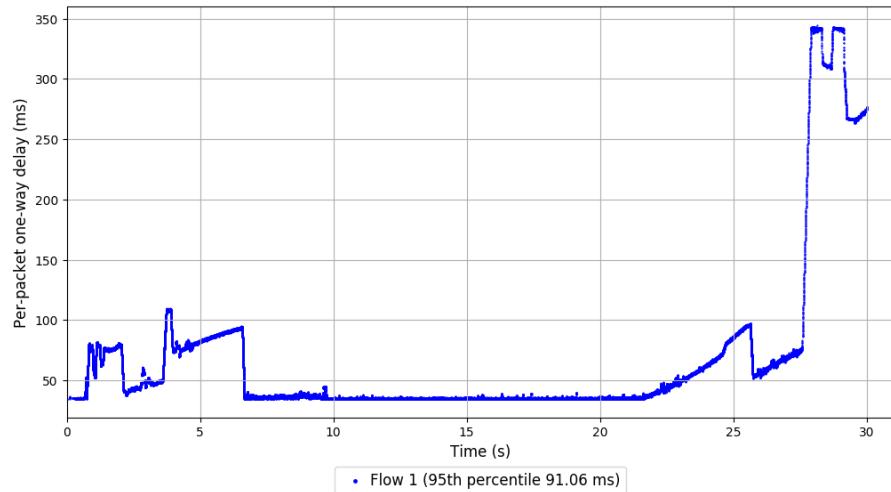
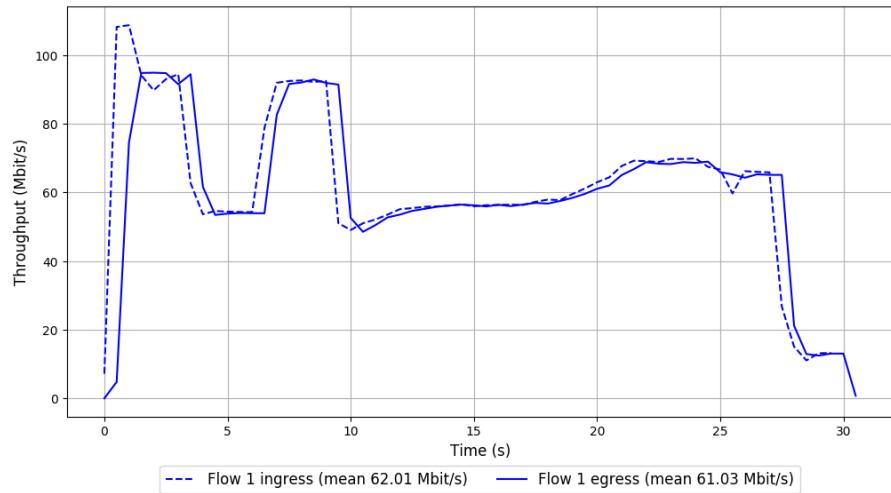


Run 2: Statistics of TCP Cubic

```
Start at: 2018-09-07 10:40:43
End at: 2018-09-07 10:41:13
Local clock offset: 5.6 ms
Remote clock offset: 38.094 ms

# Below is generated by plot.py at 2018-09-07 11:48:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.03 Mbit/s
95th percentile per-packet one-way delay: 91.064 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 61.03 Mbit/s
95th percentile per-packet one-way delay: 91.064 ms
Loss rate: 1.59%
```

Run 2: Report of TCP Cubic — Data Link

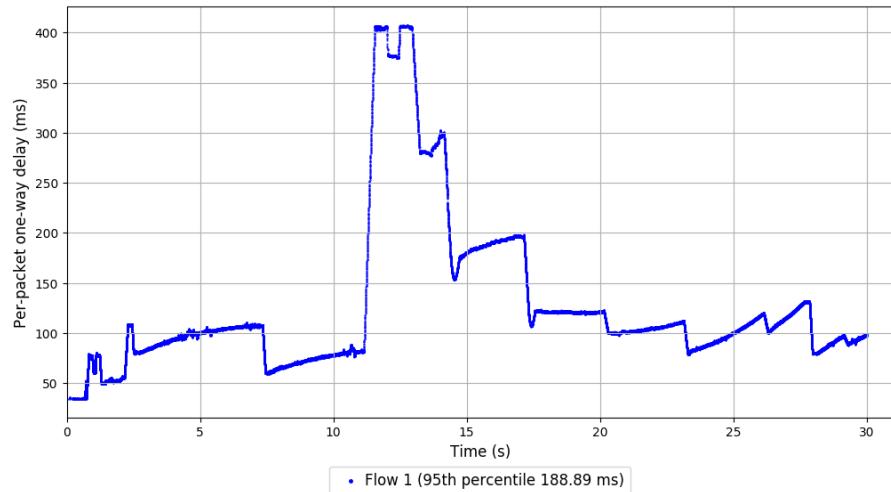
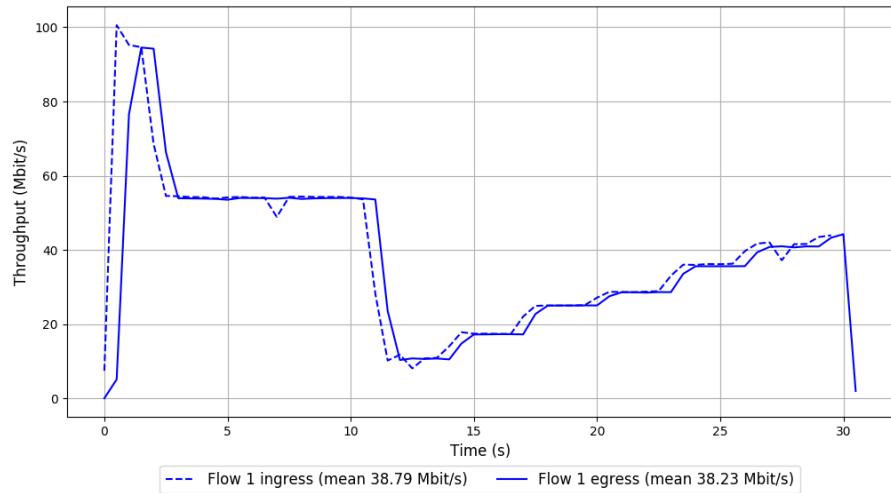


Run 3: Statistics of TCP Cubic

```
Start at: 2018-09-07 11:02:18
End at: 2018-09-07 11:02:48
Local clock offset: 5.286 ms
Remote clock offset: 39.638 ms

# Below is generated by plot.py at 2018-09-07 11:48:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 38.23 Mbit/s
95th percentile per-packet one-way delay: 188.892 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 38.23 Mbit/s
95th percentile per-packet one-way delay: 188.892 ms
Loss rate: 1.43%
```

Run 3: Report of TCP Cubic — Data Link

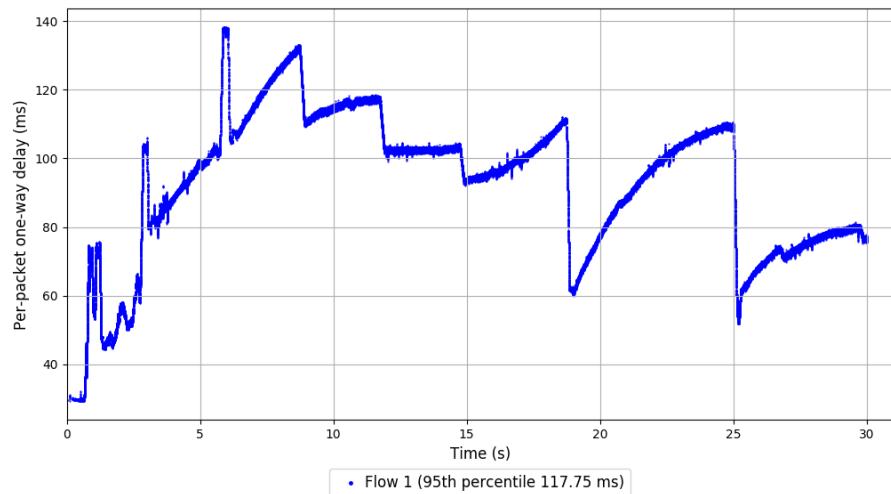
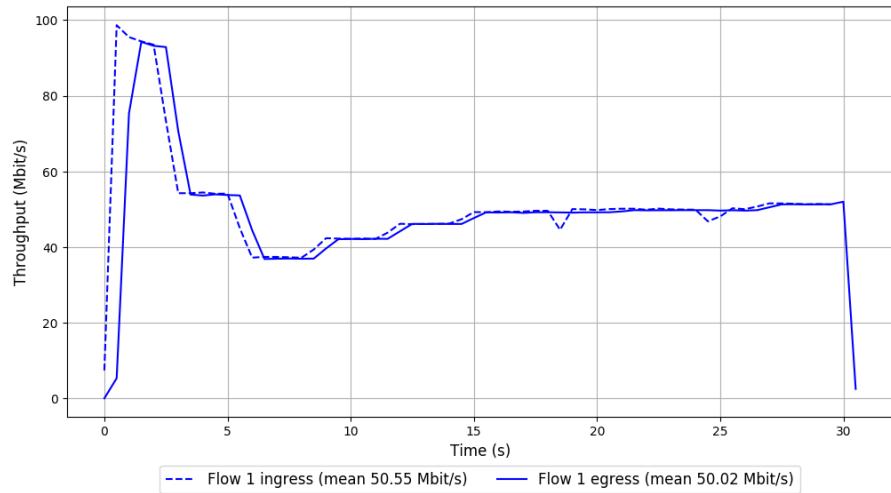


Run 4: Statistics of TCP Cubic

```
Start at: 2018-09-07 11:23:50
End at: 2018-09-07 11:24:20
Local clock offset: 1.531 ms
Remote clock offset: 17.423 ms

# Below is generated by plot.py at 2018-09-07 11:48:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.02 Mbit/s
95th percentile per-packet one-way delay: 117.748 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 50.02 Mbit/s
95th percentile per-packet one-way delay: 117.748 ms
Loss rate: 1.04%
```

Run 4: Report of TCP Cubic — Data Link

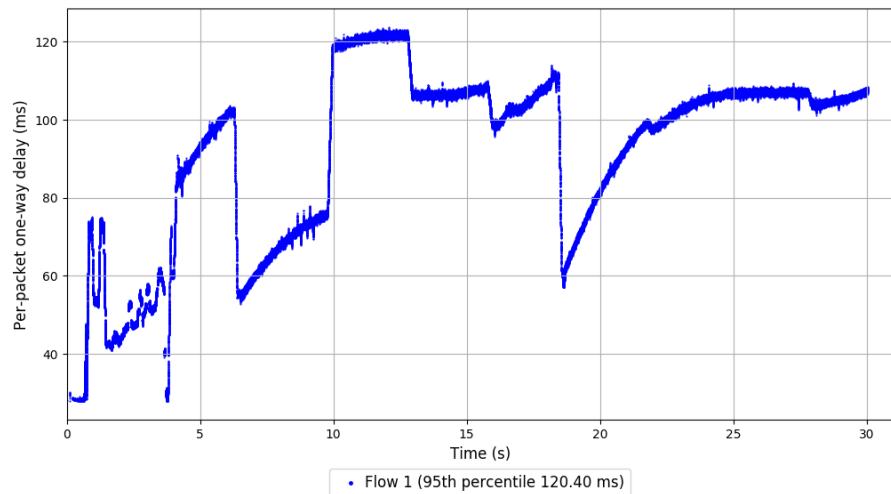
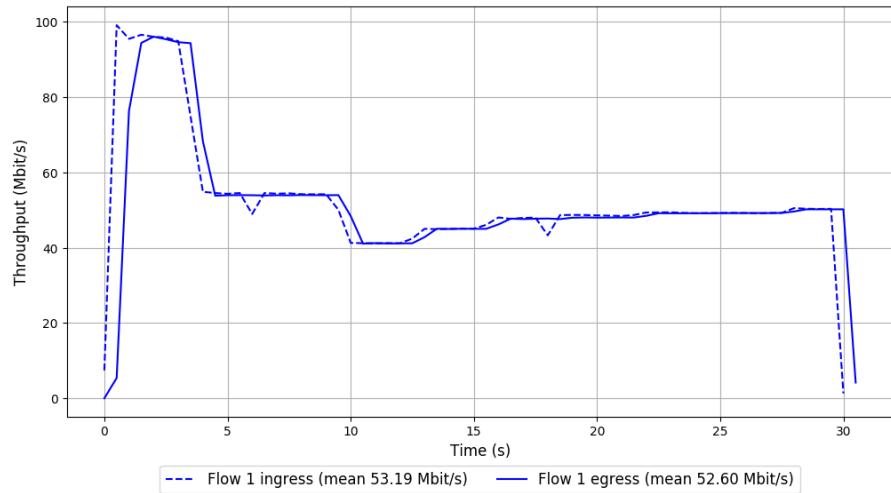


Run 5: Statistics of TCP Cubic

```
Start at: 2018-09-07 11:45:19
End at: 2018-09-07 11:45:49
Local clock offset: -1.518 ms
Remote clock offset: 2.983 ms

# Below is generated by plot.py at 2018-09-07 11:48:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.60 Mbit/s
95th percentile per-packet one-way delay: 120.400 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 52.60 Mbit/s
95th percentile per-packet one-way delay: 120.400 ms
Loss rate: 1.10%
```

Run 5: Report of TCP Cubic — Data Link

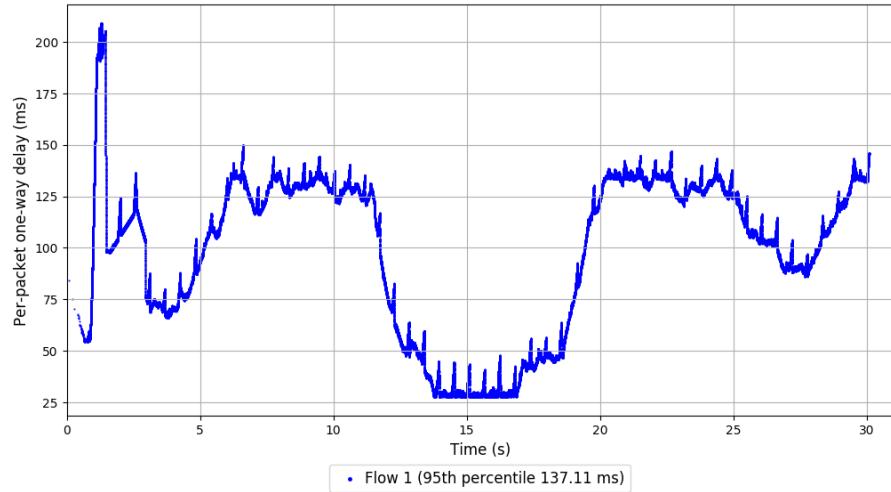
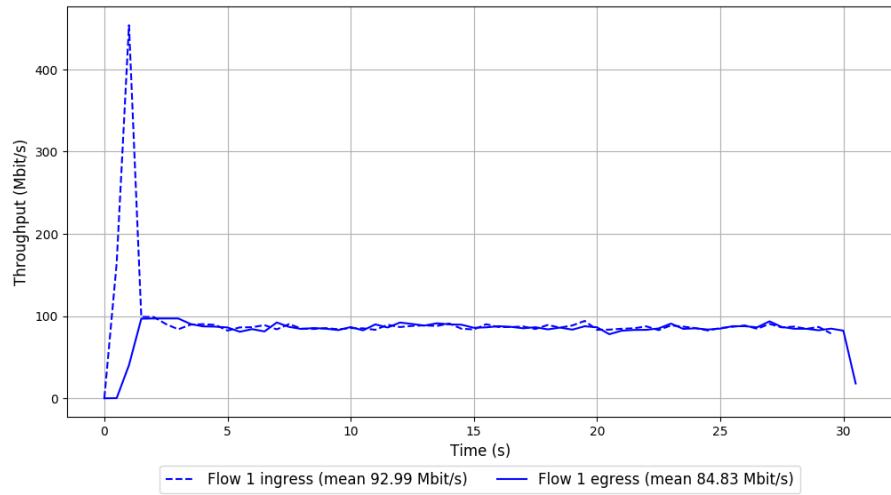


```
Run 1: Statistics of FillP
```

```
Start at: 2018-09-07 10:11:56
End at: 2018-09-07 10:12:26
Local clock offset: 5.458 ms
Remote clock offset: 25.409 ms

# Below is generated by plot.py at 2018-09-07 11:48:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.83 Mbit/s
95th percentile per-packet one-way delay: 137.113 ms
Loss rate: 8.60%
-- Flow 1:
Average throughput: 84.83 Mbit/s
95th percentile per-packet one-way delay: 137.113 ms
Loss rate: 8.60%
```

Run 1: Report of FillP — Data Link

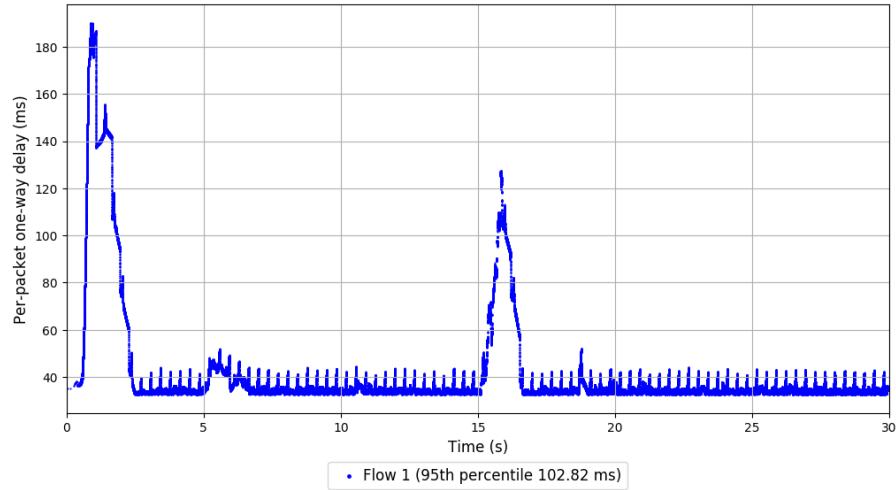
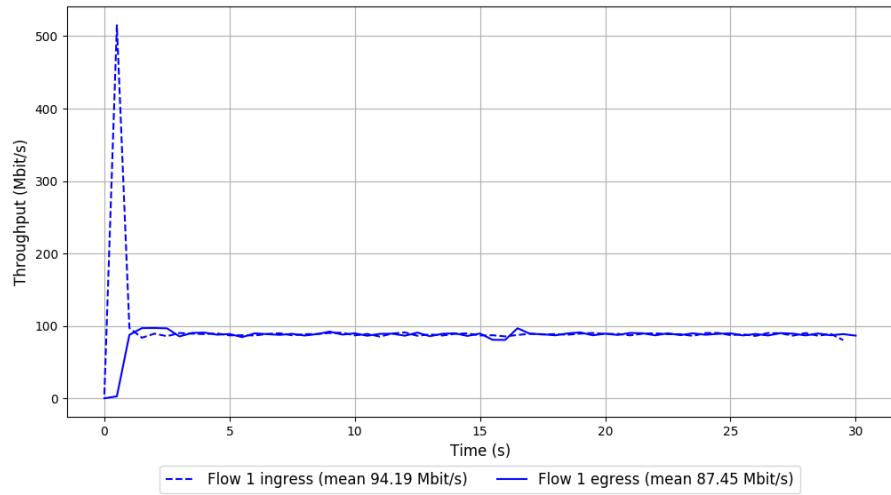


Run 2: Statistics of FillP

```
Start at: 2018-09-07 10:33:30
End at: 2018-09-07 10:34:00
Local clock offset: 5.677 ms
Remote clock offset: 35.214 ms

# Below is generated by plot.py at 2018-09-07 11:48:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.45 Mbit/s
95th percentile per-packet one-way delay: 102.824 ms
Loss rate: 7.15%
-- Flow 1:
Average throughput: 87.45 Mbit/s
95th percentile per-packet one-way delay: 102.824 ms
Loss rate: 7.15%
```

Run 2: Report of FillP — Data Link

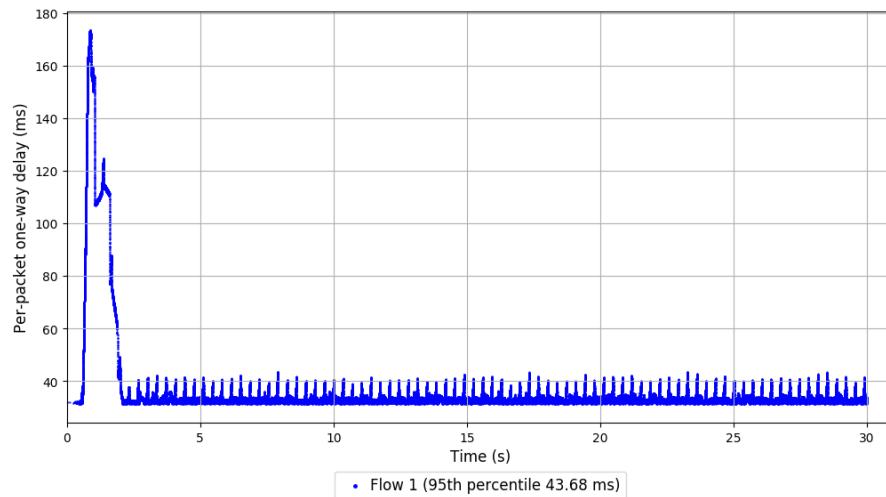
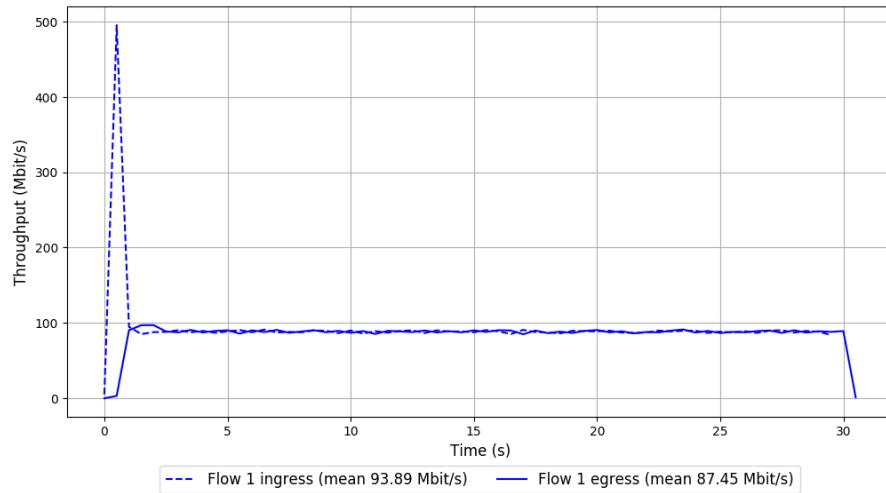


Run 3: Statistics of FillP

```
Start at: 2018-09-07 10:55:02
End at: 2018-09-07 10:55:32
Local clock offset: 5.161 ms
Remote clock offset: 35.778 ms

# Below is generated by plot.py at 2018-09-07 11:48:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.45 Mbit/s
95th percentile per-packet one-way delay: 43.683 ms
Loss rate: 6.85%
-- Flow 1:
Average throughput: 87.45 Mbit/s
95th percentile per-packet one-way delay: 43.683 ms
Loss rate: 6.85%
```

Run 3: Report of FillP — Data Link

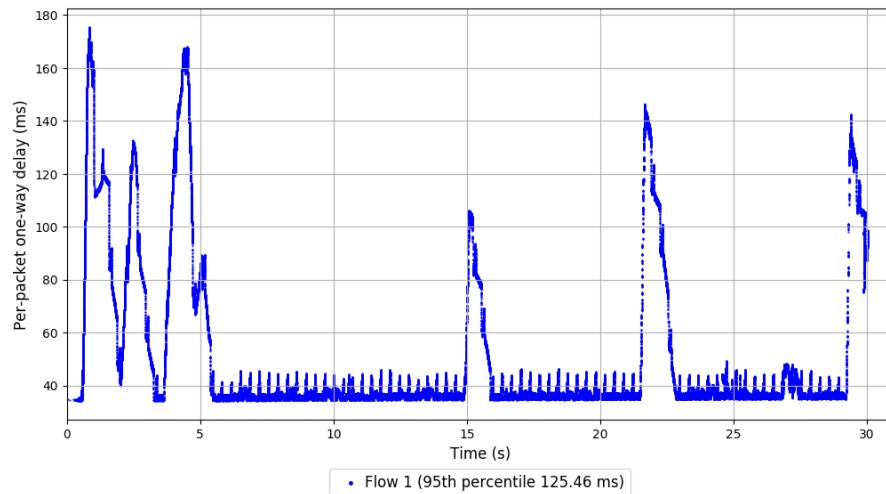
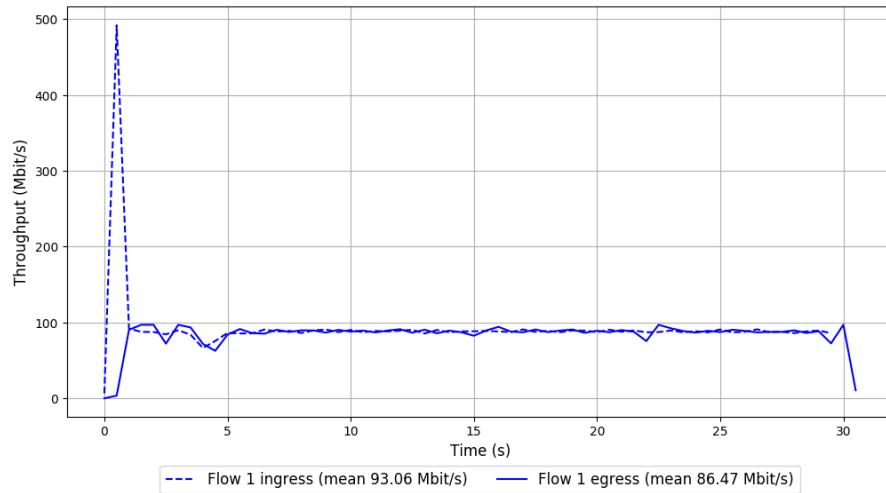


Run 4: Statistics of FillP

```
Start at: 2018-09-07 11:16:34
End at: 2018-09-07 11:17:04
Local clock offset: 4.213 ms
Remote clock offset: 34.539 ms

# Below is generated by plot.py at 2018-09-07 11:49:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.47 Mbit/s
95th percentile per-packet one-way delay: 125.460 ms
Loss rate: 6.94%
-- Flow 1:
Average throughput: 86.47 Mbit/s
95th percentile per-packet one-way delay: 125.460 ms
Loss rate: 6.94%
```

Run 4: Report of FillP — Data Link

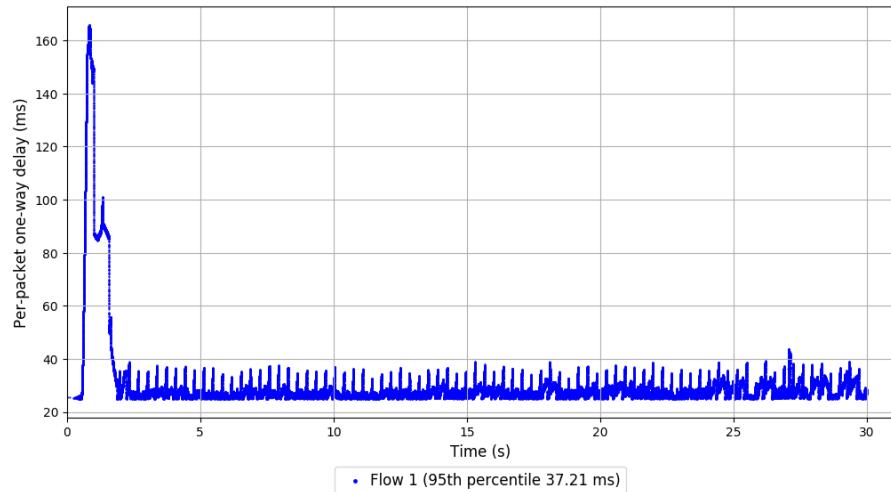
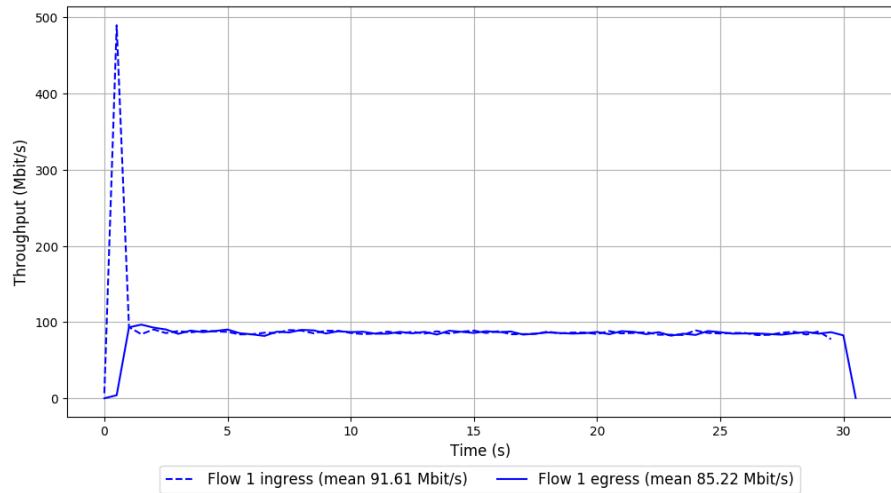


Run 5: Statistics of FillP

```
Start at: 2018-09-07 11:38:09
End at: 2018-09-07 11:38:39
Local clock offset: -0.711 ms
Remote clock offset: 2.883 ms

# Below is generated by plot.py at 2018-09-07 11:49:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.22 Mbit/s
95th percentile per-packet one-way delay: 37.210 ms
Loss rate: 6.97%
-- Flow 1:
Average throughput: 85.22 Mbit/s
95th percentile per-packet one-way delay: 37.210 ms
Loss rate: 6.97%
```

Run 5: Report of FillP — Data Link

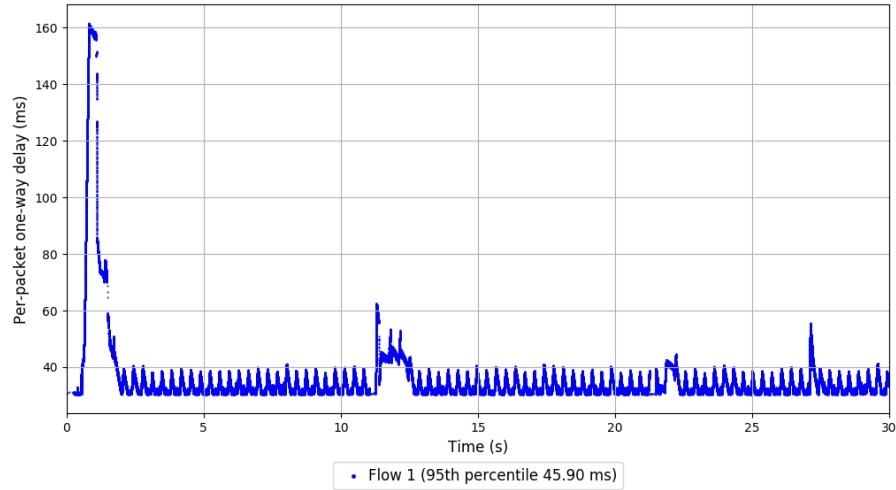
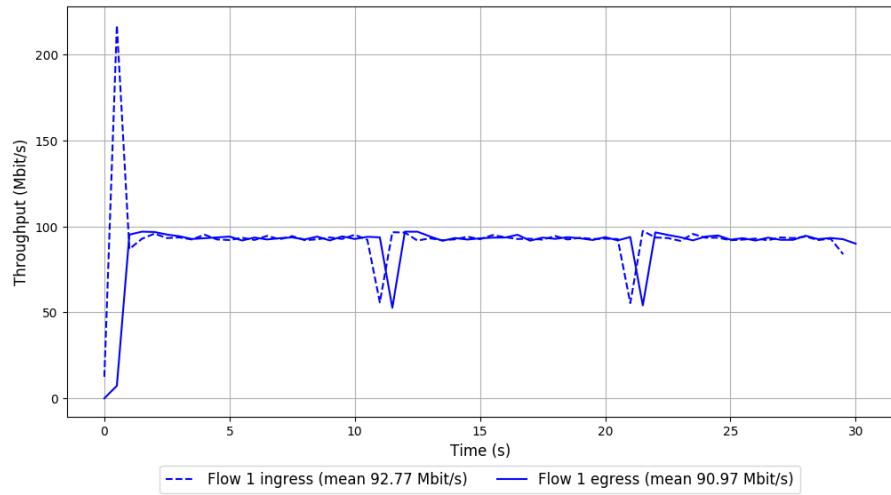


Run 1: Statistics of FillP-Sheep

```
Start at: 2018-09-07 10:00:01
End at: 2018-09-07 10:00:31
Local clock offset: 5.343 ms
Remote clock offset: 22.879 ms

# Below is generated by plot.py at 2018-09-07 11:49:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.97 Mbit/s
95th percentile per-packet one-way delay: 45.895 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 90.97 Mbit/s
95th percentile per-packet one-way delay: 45.895 ms
Loss rate: 1.93%
```

Run 1: Report of FillP-Sheep — Data Link

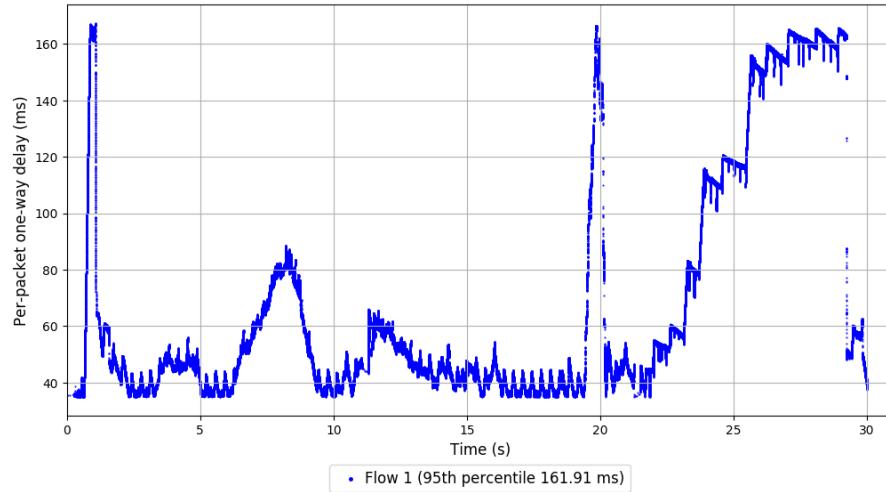
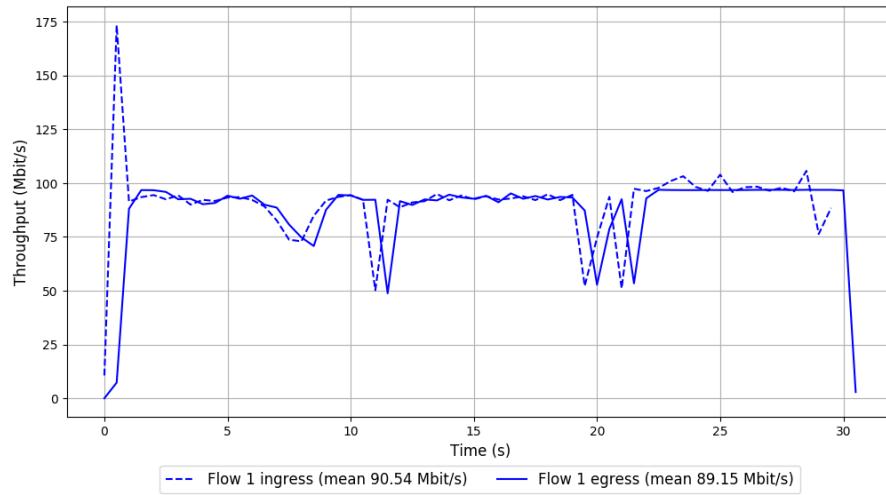


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-09-07 10:21:29
End at: 2018-09-07 10:21:59
Local clock offset: 5.707 ms
Remote clock offset: 36.033 ms

# Below is generated by plot.py at 2018-09-07 11:49:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.15 Mbit/s
95th percentile per-packet one-way delay: 161.907 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 89.15 Mbit/s
95th percentile per-packet one-way delay: 161.907 ms
Loss rate: 1.52%
```

Run 2: Report of FillP-Sheep — Data Link

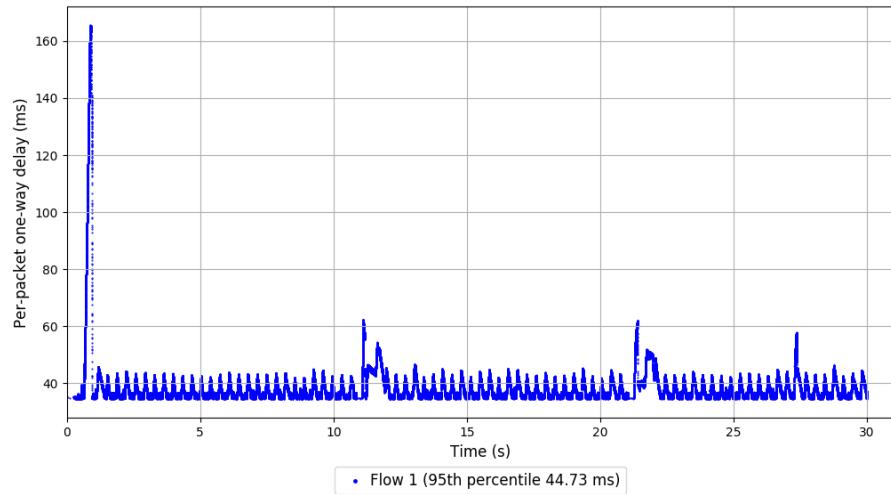
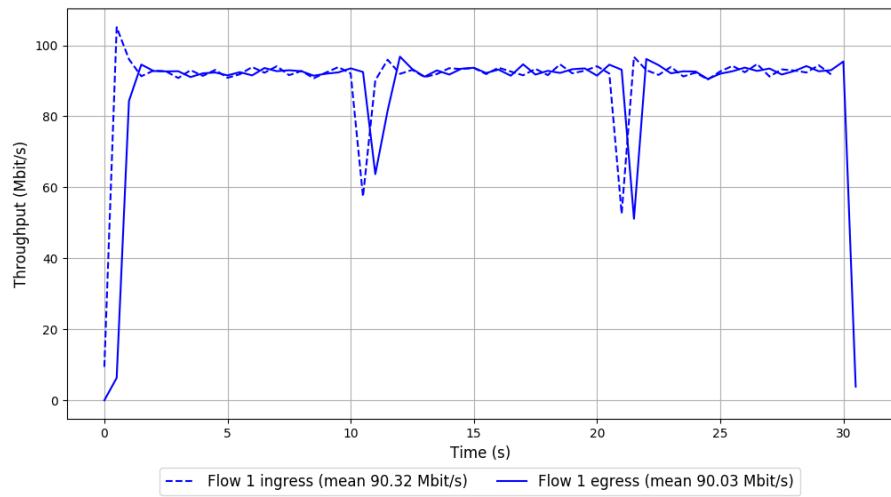


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-09-07 10:43:11
End at: 2018-09-07 10:43:41
Local clock offset: 5.675 ms
Remote clock offset: 38.217 ms

# Below is generated by plot.py at 2018-09-07 11:49:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.03 Mbit/s
95th percentile per-packet one-way delay: 44.727 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 90.03 Mbit/s
95th percentile per-packet one-way delay: 44.727 ms
Loss rate: 0.32%
```

Run 3: Report of FillP-Sheep — Data Link

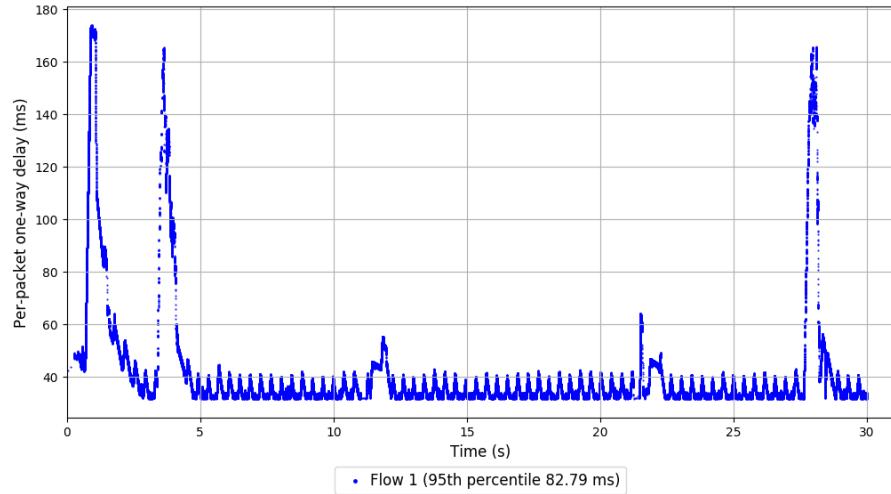
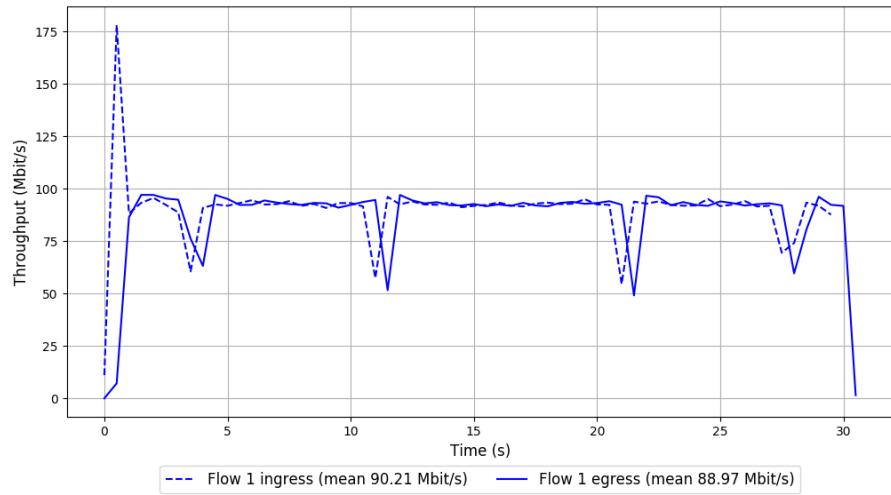


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-09-07 11:04:43
End at: 2018-09-07 11:05:13
Local clock offset: 5.055 ms
Remote clock offset: 37.138 ms

# Below is generated by plot.py at 2018-09-07 11:50:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.97 Mbit/s
95th percentile per-packet one-way delay: 82.789 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 88.97 Mbit/s
95th percentile per-packet one-way delay: 82.789 ms
Loss rate: 1.41%
```

Run 4: Report of FillP-Sheep — Data Link

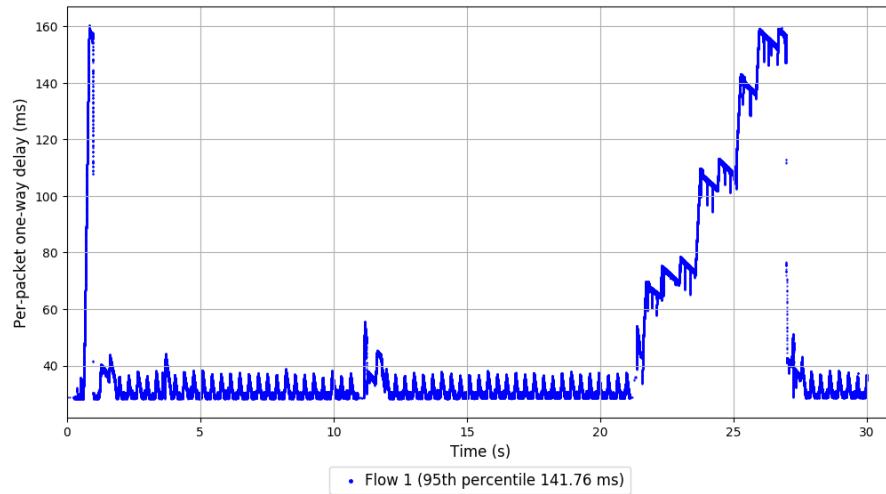
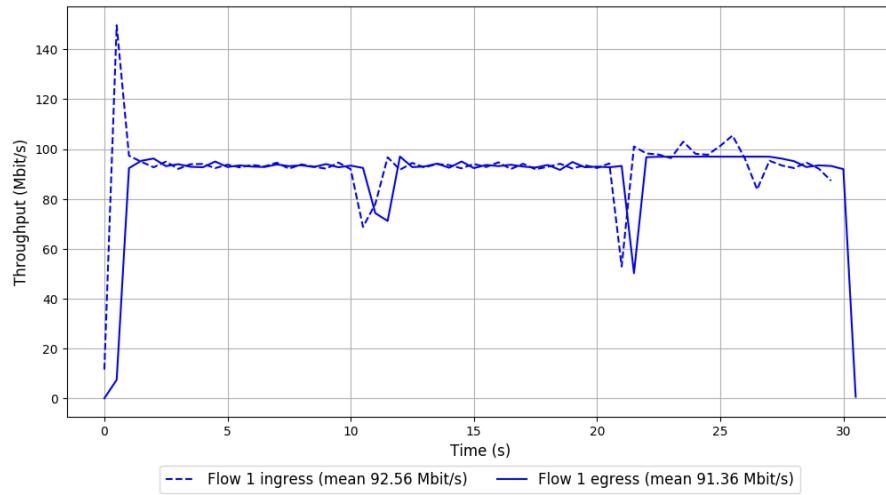


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-09-07 11:26:16
End at: 2018-09-07 11:26:46
Local clock offset: 0.874 ms
Remote clock offset: 14.405 ms

# Below is generated by plot.py at 2018-09-07 11:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.36 Mbit/s
95th percentile per-packet one-way delay: 141.764 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 91.36 Mbit/s
95th percentile per-packet one-way delay: 141.764 ms
Loss rate: 1.26%
```

Run 5: Report of FillP-Sheep — Data Link

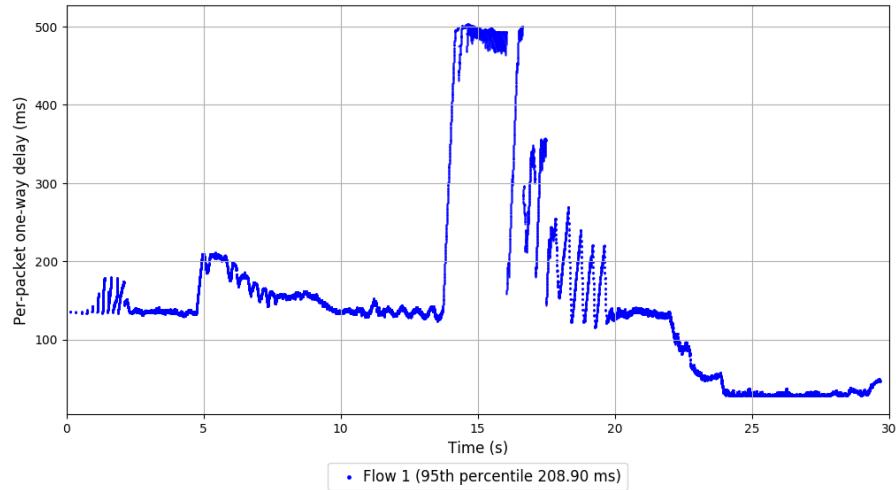
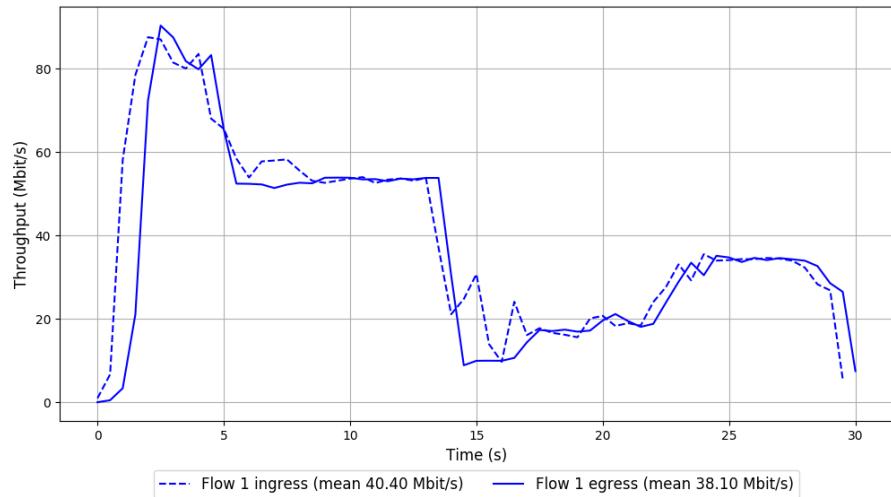


Run 1: Statistics of Indigo

```
Start at: 2018-09-07 10:16:42
End at: 2018-09-07 10:17:12
Local clock offset: 5.541 ms
Remote clock offset: 27.683 ms

# Below is generated by plot.py at 2018-09-07 11:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 38.10 Mbit/s
95th percentile per-packet one-way delay: 208.904 ms
Loss rate: 5.97%
-- Flow 1:
Average throughput: 38.10 Mbit/s
95th percentile per-packet one-way delay: 208.904 ms
Loss rate: 5.97%
```

Run 1: Report of Indigo — Data Link

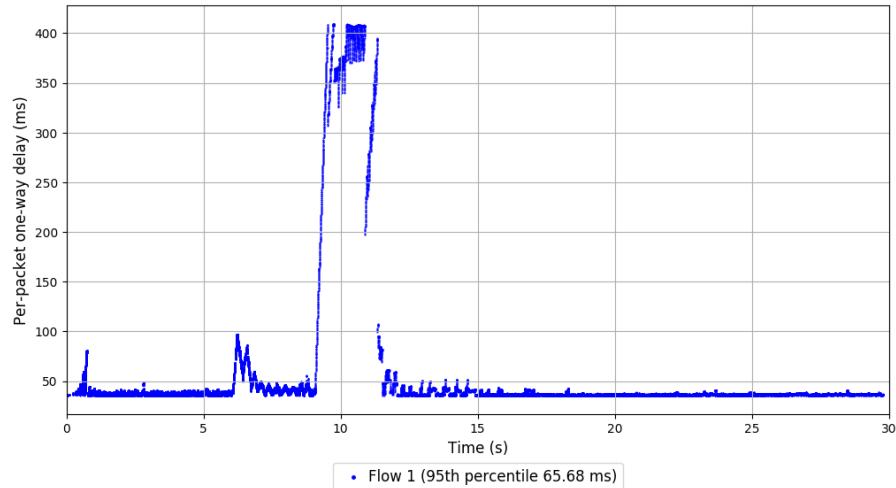
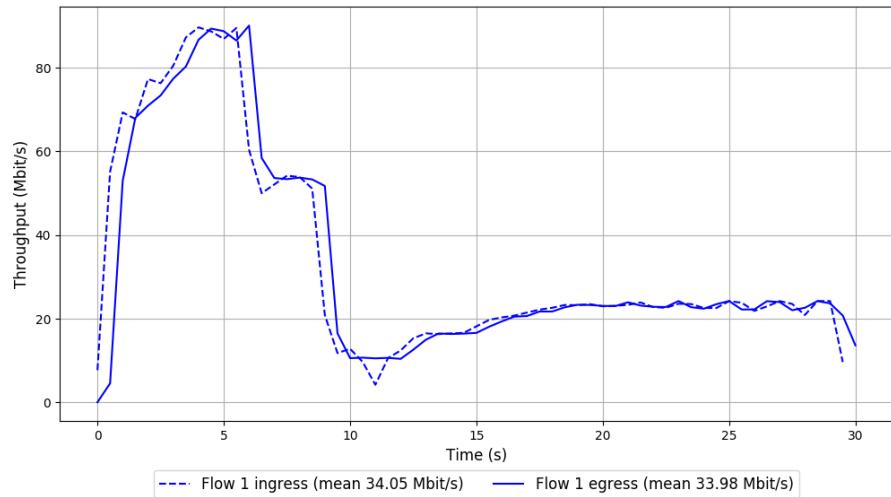


Run 2: Statistics of Indigo

```
Start at: 2018-09-07 10:38:20
End at: 2018-09-07 10:38:50
Local clock offset: 5.52 ms
Remote clock offset: 38.208 ms

# Below is generated by plot.py at 2018-09-07 11:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.98 Mbit/s
95th percentile per-packet one-way delay: 65.682 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 33.98 Mbit/s
95th percentile per-packet one-way delay: 65.682 ms
Loss rate: 0.20%
```

Run 2: Report of Indigo — Data Link

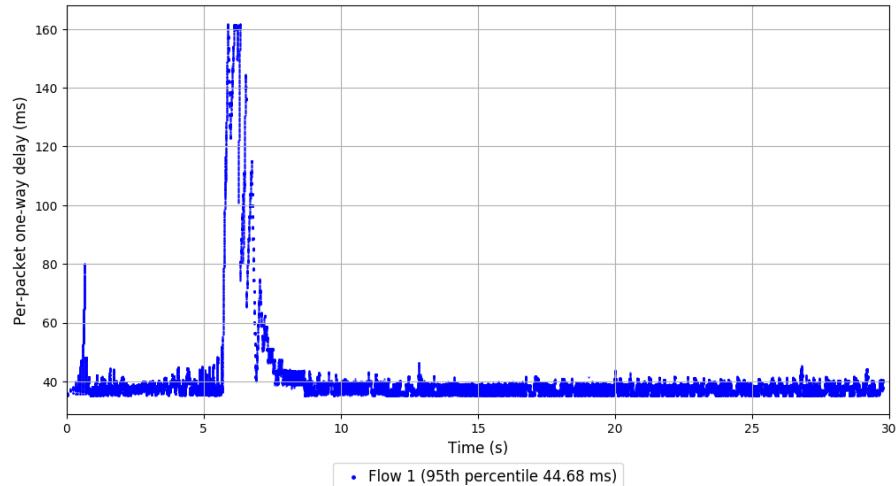
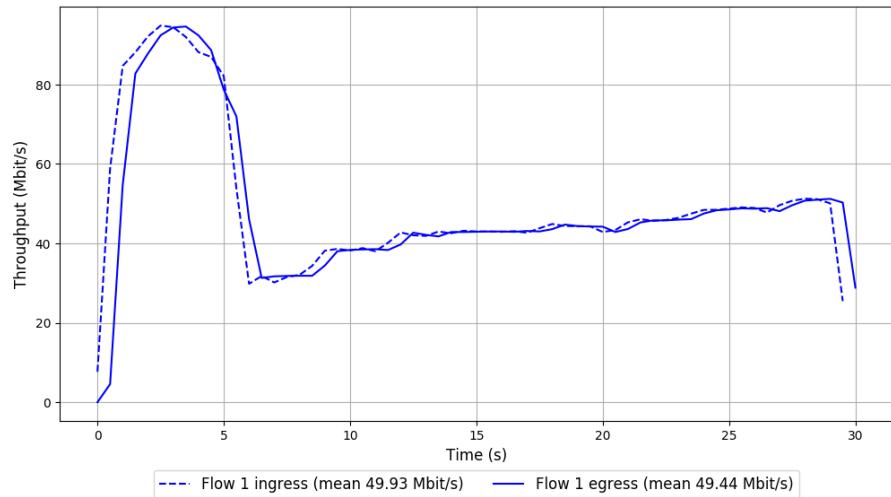


Run 3: Statistics of Indigo

```
Start at: 2018-09-07 10:59:53
End at: 2018-09-07 11:00:23
Local clock offset: 4.981 ms
Remote clock offset: 40.206 ms

# Below is generated by plot.py at 2018-09-07 11:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.44 Mbit/s
95th percentile per-packet one-way delay: 44.678 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 49.44 Mbit/s
95th percentile per-packet one-way delay: 44.678 ms
Loss rate: 0.98%
```

Run 3: Report of Indigo — Data Link

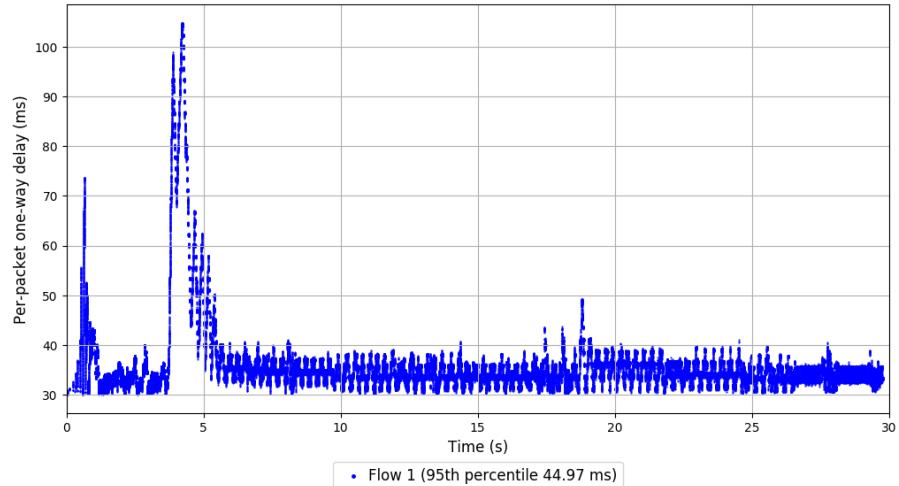
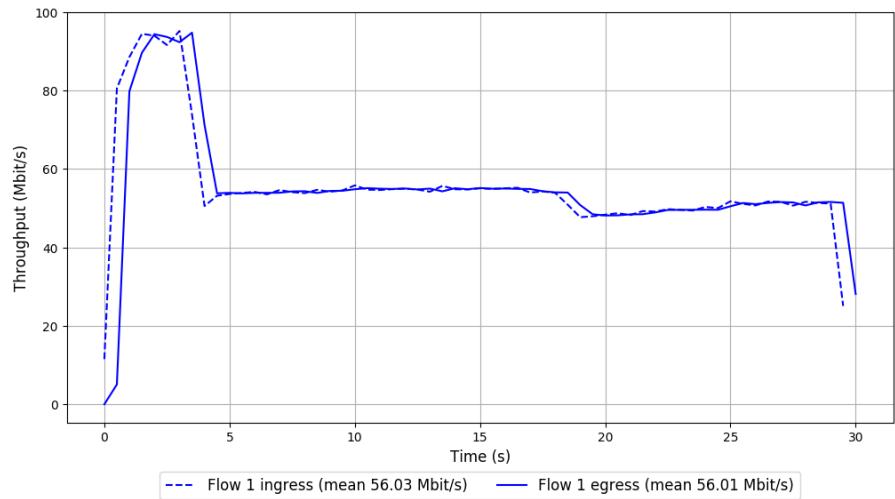


Run 4: Statistics of Indigo

```
Start at: 2018-09-07 11:21:25
End at: 2018-09-07 11:21:55
Local clock offset: 2.147 ms
Remote clock offset: 20.99 ms

# Below is generated by plot.py at 2018-09-07 11:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.01 Mbit/s
95th percentile per-packet one-way delay: 44.967 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 56.01 Mbit/s
95th percentile per-packet one-way delay: 44.967 ms
Loss rate: 0.03%
```

Run 4: Report of Indigo — Data Link

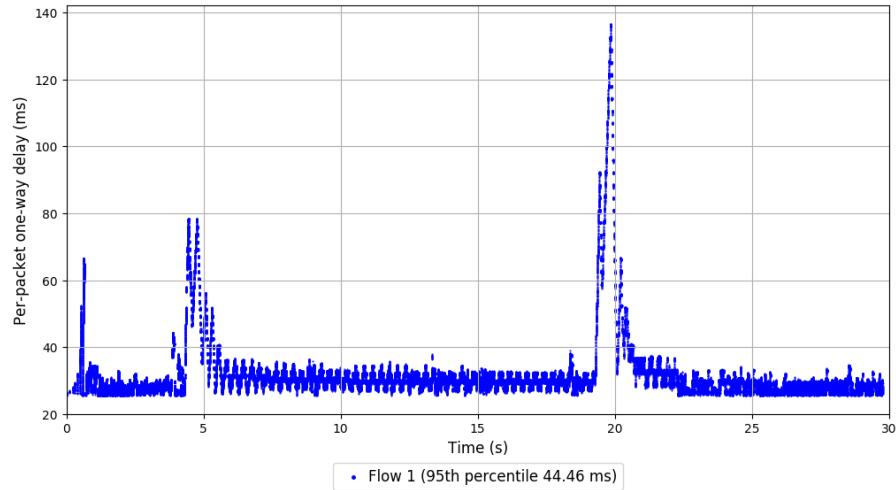
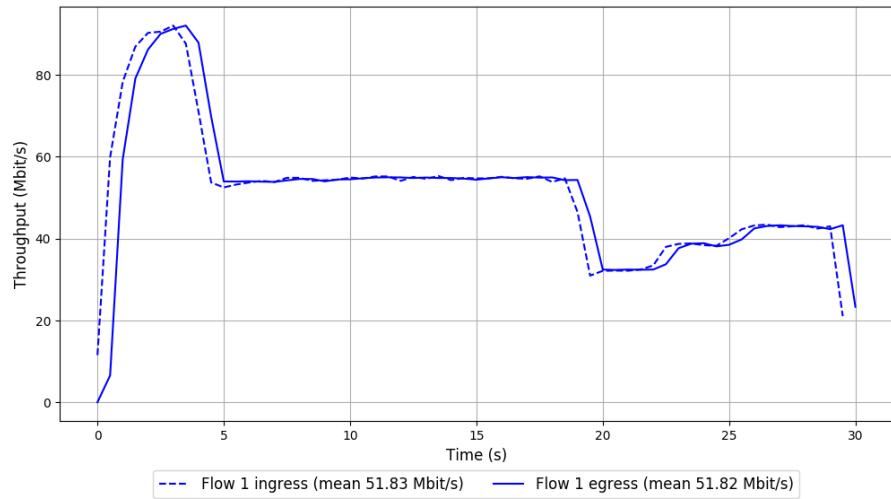


Run 5: Statistics of Indigo

```
Start at: 2018-09-07 11:42:54
End at: 2018-09-07 11:43:24
Local clock offset: -1.29 ms
Remote clock offset: 1.284 ms

# Below is generated by plot.py at 2018-09-07 11:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 51.82 Mbit/s
95th percentile per-packet one-way delay: 44.461 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 51.82 Mbit/s
95th percentile per-packet one-way delay: 44.461 ms
Loss rate: 0.01%
```

Run 5: Report of Indigo — Data Link

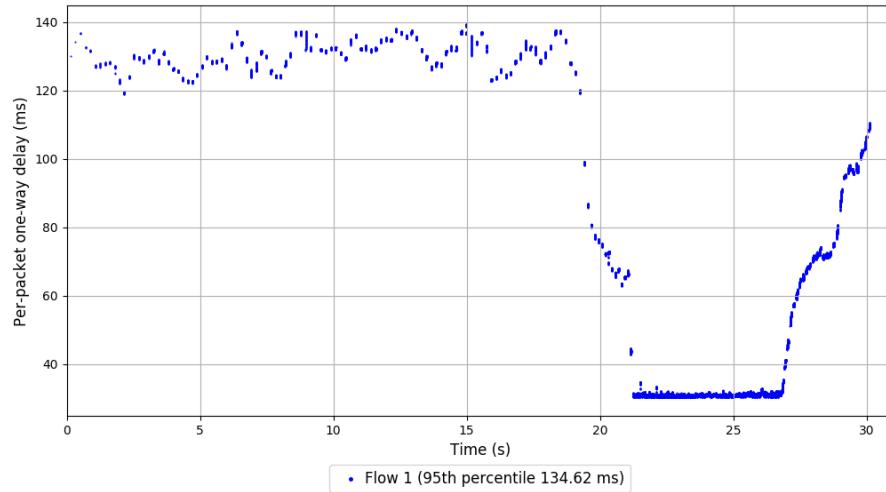
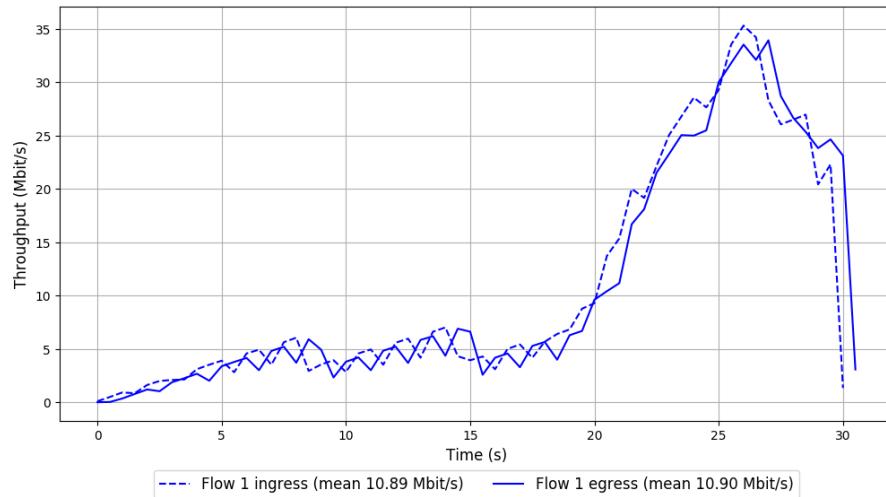


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-09-07 10:17:56
End at: 2018-09-07 10:18:26
Local clock offset: 5.512 ms
Remote clock offset: 30.004 ms

# Below is generated by plot.py at 2018-09-07 11:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 10.90 Mbit/s
95th percentile per-packet one-way delay: 134.622 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 10.90 Mbit/s
95th percentile per-packet one-way delay: 134.622 ms
Loss rate: 0.02%
```

Run 1: Report of LEDBAT — Data Link

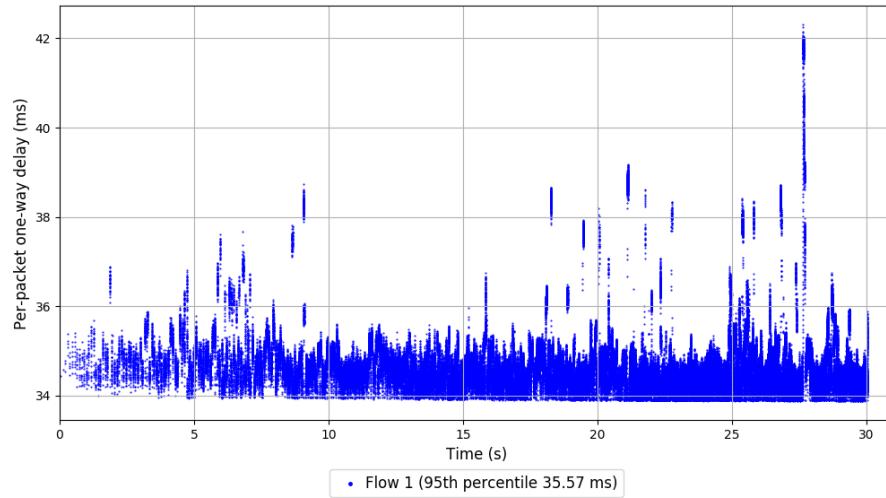
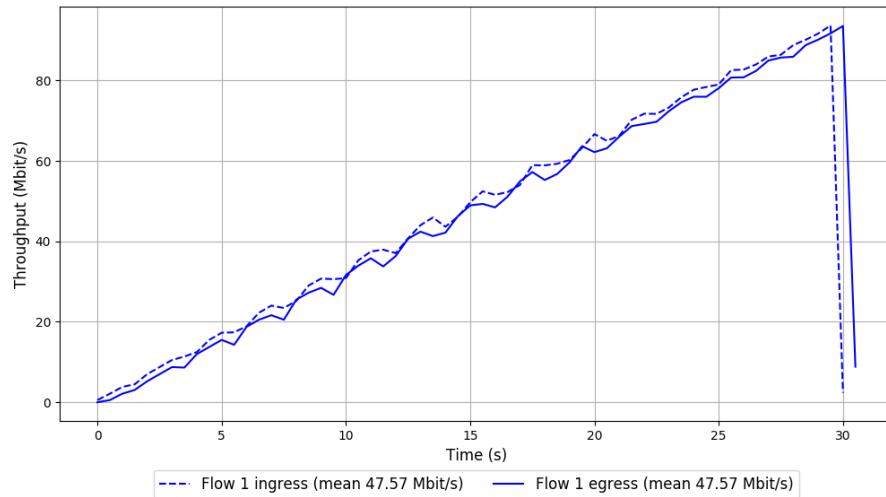


Run 2: Statistics of LEDBAT

```
Start at: 2018-09-07 10:39:31
End at: 2018-09-07 10:40:01
Local clock offset: 5.388 ms
Remote clock offset: 36.805 ms

# Below is generated by plot.py at 2018-09-07 11:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.57 Mbit/s
95th percentile per-packet one-way delay: 35.568 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.57 Mbit/s
95th percentile per-packet one-way delay: 35.568 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

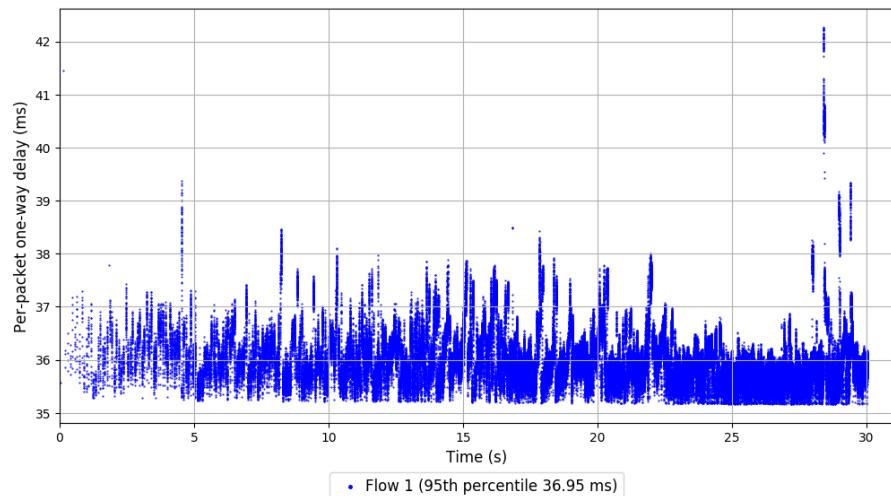
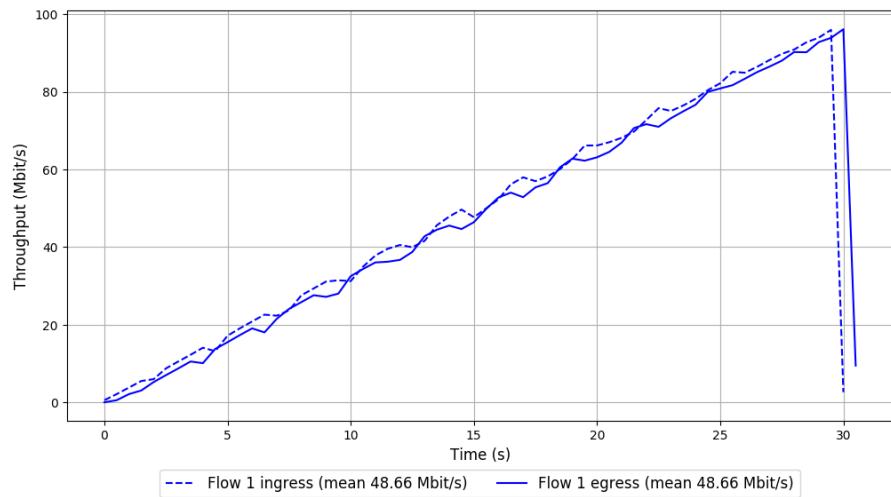


Run 3: Statistics of LEDBAT

```
Start at: 2018-09-07 11:01:05
End at: 2018-09-07 11:01:35
Local clock offset: 5.222 ms
Remote clock offset: 40.746 ms

# Below is generated by plot.py at 2018-09-07 11:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.66 Mbit/s
95th percentile per-packet one-way delay: 36.947 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.66 Mbit/s
95th percentile per-packet one-way delay: 36.947 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link

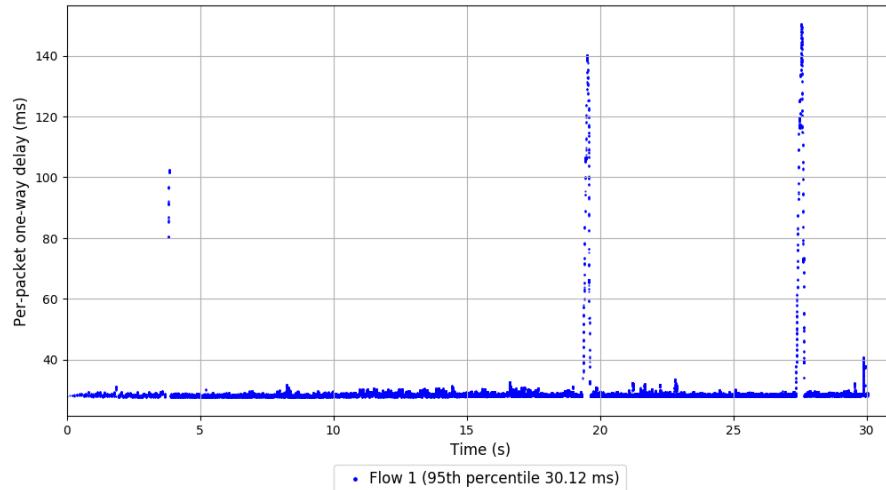
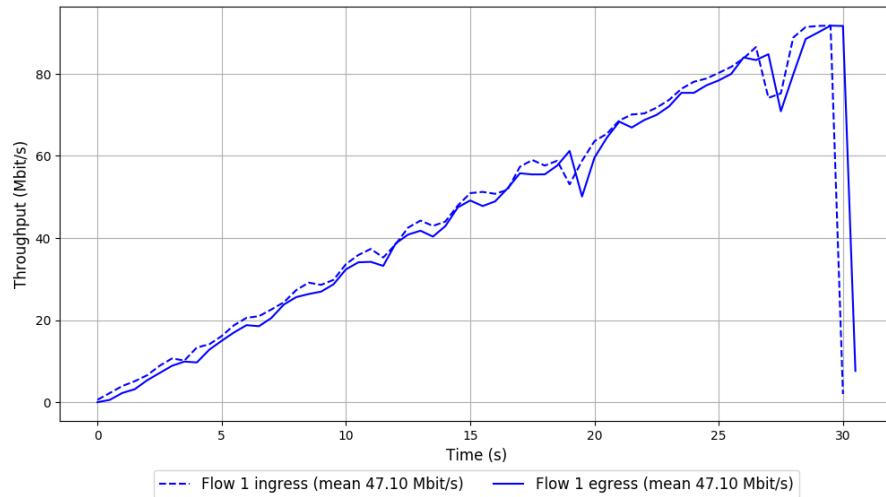


Run 4: Statistics of LEDBAT

```
Start at: 2018-09-07 11:22:38
End at: 2018-09-07 11:23:08
Local clock offset: 1.887 ms
Remote clock offset: 17.0 ms

# Below is generated by plot.py at 2018-09-07 11:50:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.10 Mbit/s
95th percentile per-packet one-way delay: 30.121 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.10 Mbit/s
95th percentile per-packet one-way delay: 30.121 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

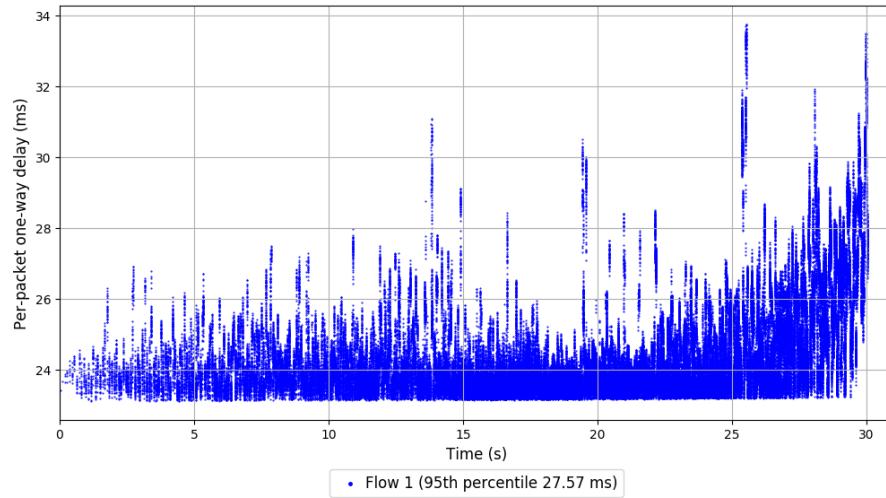
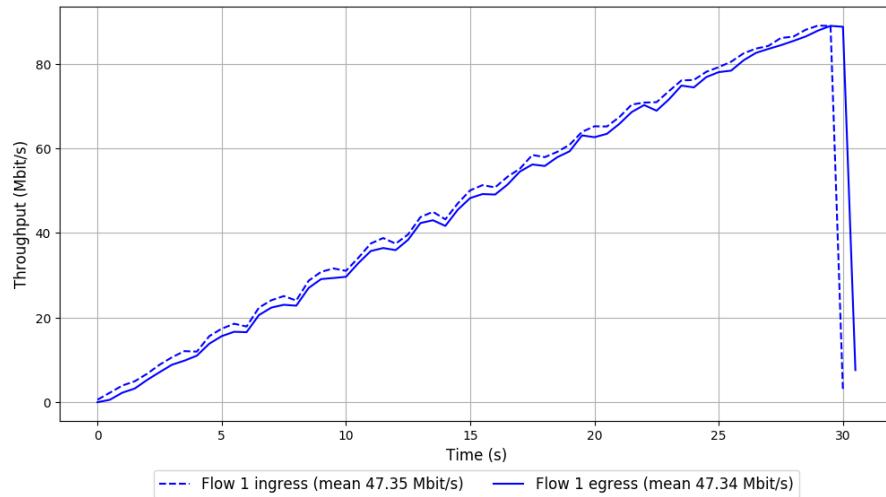


Run 5: Statistics of LEDBAT

```
Start at: 2018-09-07 11:44:07
End at: 2018-09-07 11:44:37
Local clock offset: -1.501 ms
Remote clock offset: -1.874 ms

# Below is generated by plot.py at 2018-09-07 11:50:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.34 Mbit/s
95th percentile per-packet one-way delay: 27.567 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 47.34 Mbit/s
95th percentile per-packet one-way delay: 27.567 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link

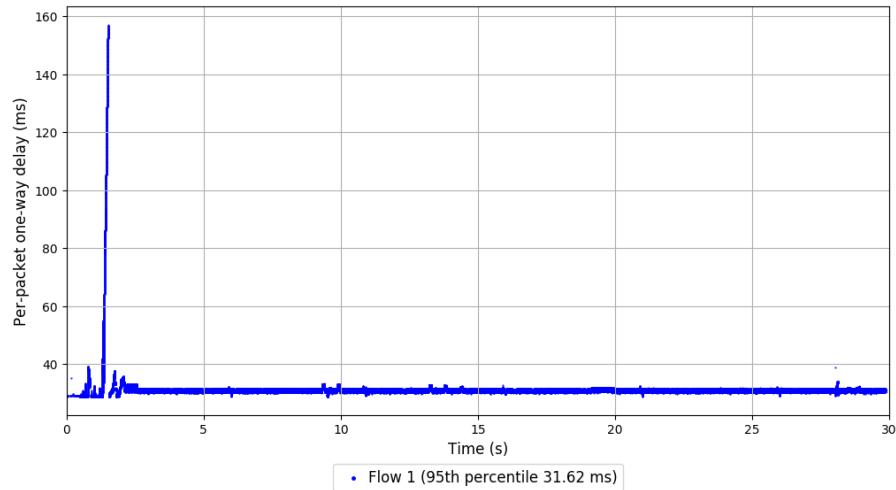
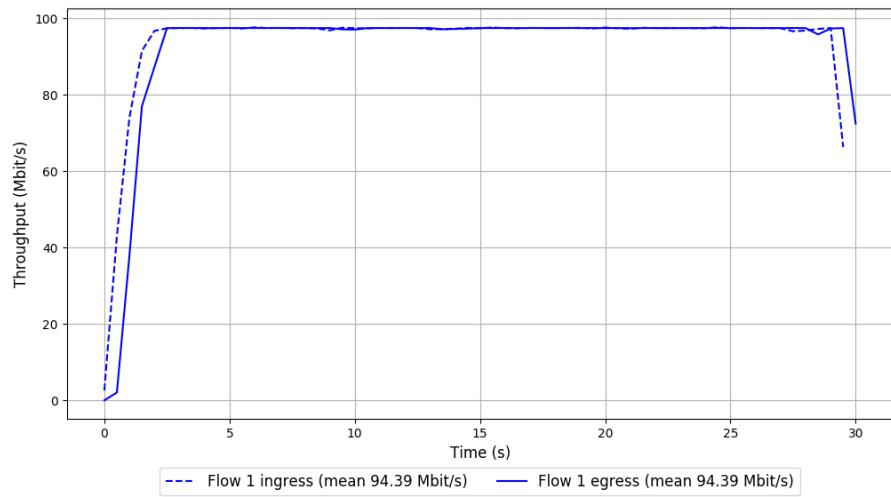


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-09-07 09:58:49
End at: 2018-09-07 09:59:19
Local clock offset: 4.916 ms
Remote clock offset: 20.678 ms

# Below is generated by plot.py at 2018-09-07 11:51:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.39 Mbit/s
95th percentile per-packet one-way delay: 31.624 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 94.39 Mbit/s
95th percentile per-packet one-way delay: 31.624 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-Muses — Data Link

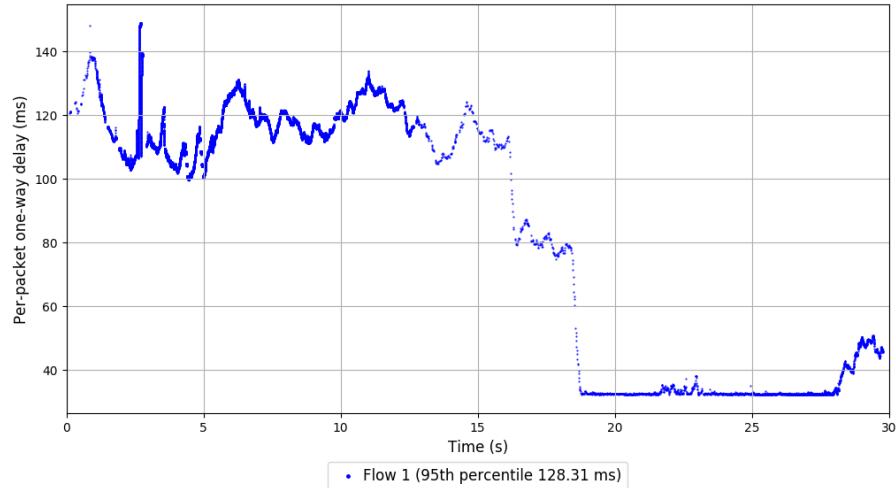
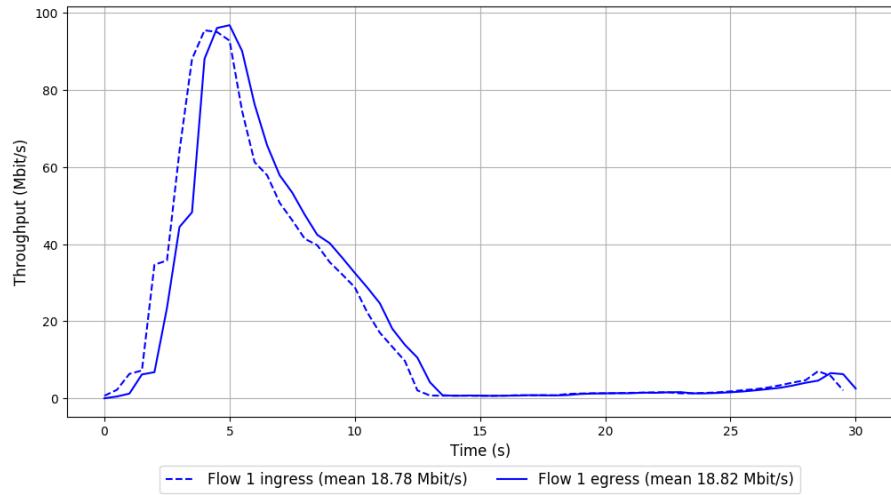


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-09-07 10:20:20
End at: 2018-09-07 10:20:50
Local clock offset: 5.357 ms
Remote clock offset: 32.629 ms

# Below is generated by plot.py at 2018-09-07 11:51:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 18.82 Mbit/s
95th percentile per-packet one-way delay: 128.307 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 18.82 Mbit/s
95th percentile per-packet one-way delay: 128.307 ms
Loss rate: 0.01%
```

Run 2: Report of Indigo-Muses — Data Link

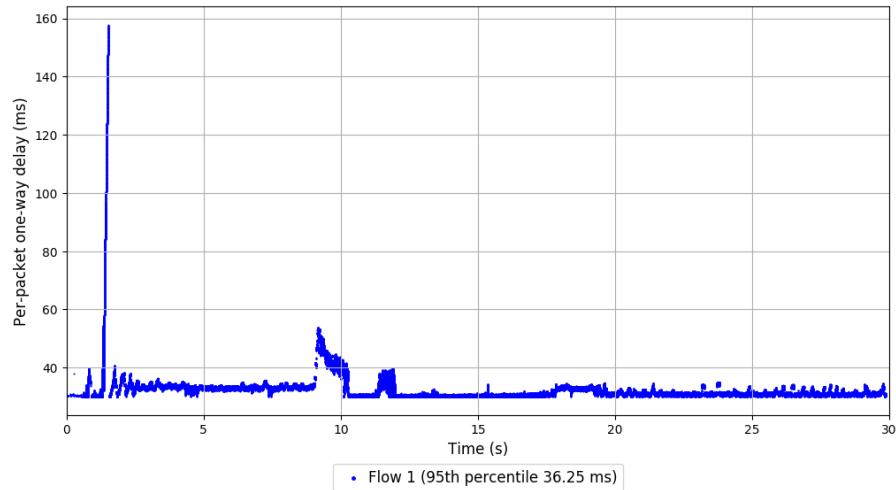
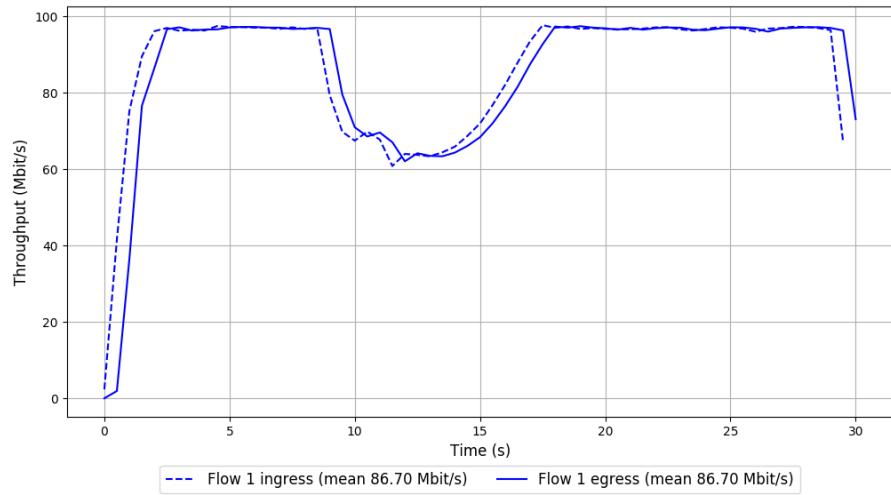


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-09-07 10:41:56
End at: 2018-09-07 10:42:26
Local clock offset: 5.721 ms
Remote clock offset: 33.795 ms

# Below is generated by plot.py at 2018-09-07 11:51:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.70 Mbit/s
95th percentile per-packet one-way delay: 36.252 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 86.70 Mbit/s
95th percentile per-packet one-way delay: 36.252 ms
Loss rate: 0.00%
```

Run 3: Report of Indigo-Muses — Data Link

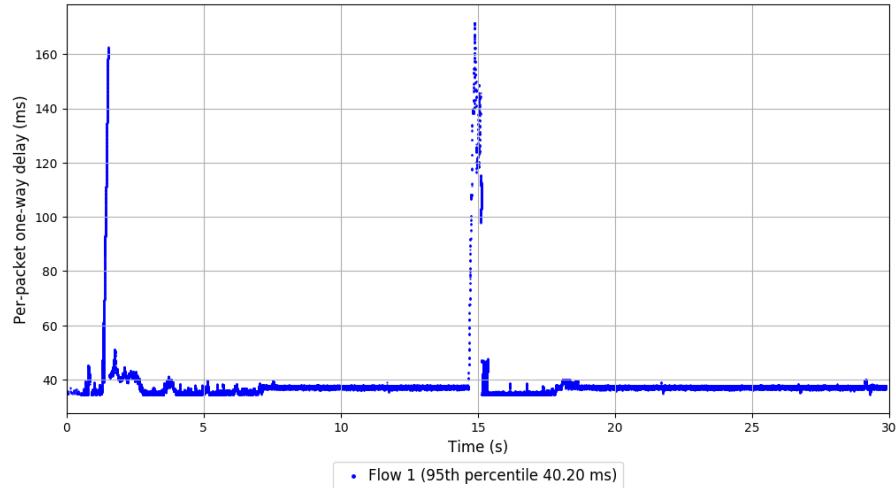
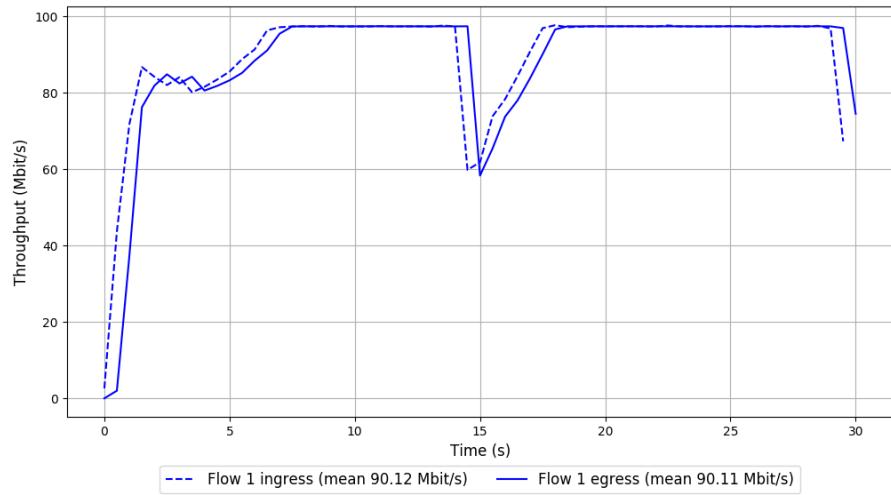


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-09-07 11:03:29
End at: 2018-09-07 11:03:59
Local clock offset: 4.935 ms
Remote clock offset: 39.952 ms

# Below is generated by plot.py at 2018-09-07 11:51:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.11 Mbit/s
95th percentile per-packet one-way delay: 40.196 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 90.11 Mbit/s
95th percentile per-packet one-way delay: 40.196 ms
Loss rate: 0.00%
```

Run 4: Report of Indigo-Muses — Data Link

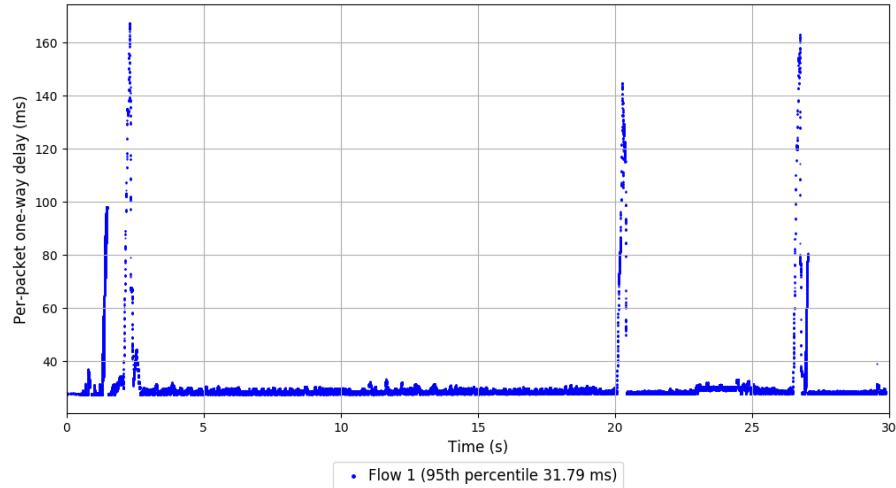
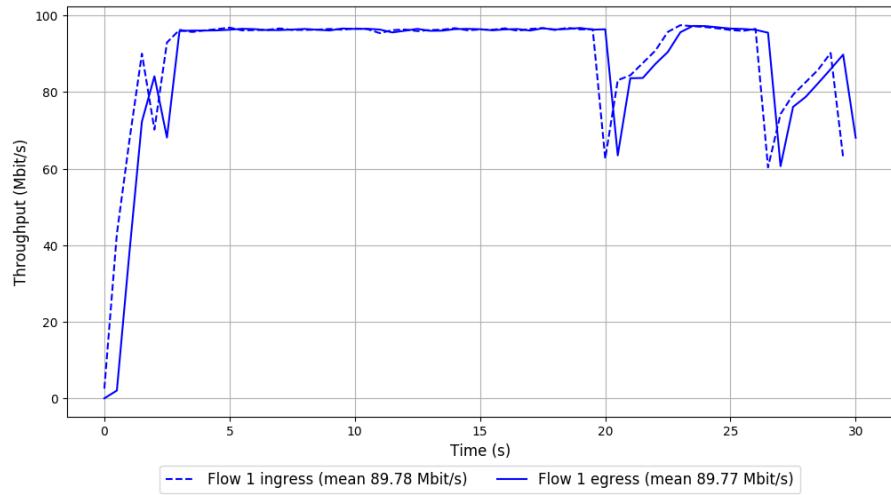


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-09-07 11:25:02
End at: 2018-09-07 11:25:32
Local clock offset: 1.183 ms
Remote clock offset: 13.996 ms

# Below is generated by plot.py at 2018-09-07 11:51:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.77 Mbit/s
95th percentile per-packet one-way delay: 31.785 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 89.77 Mbit/s
95th percentile per-packet one-way delay: 31.785 ms
Loss rate: 0.00%
```

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

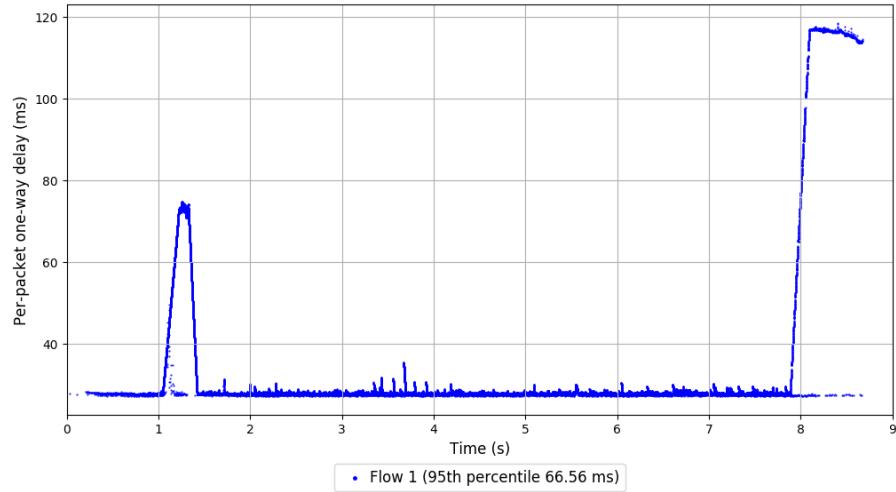
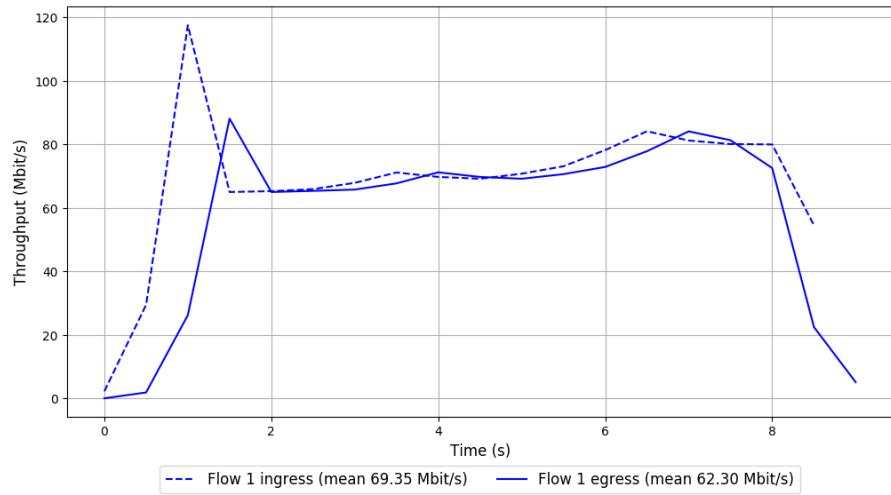
Start at: 2018-09-07 10:01:15

End at: 2018-09-07 10:01:45

Local clock offset: 5.066 ms

Remote clock offset: 19.845 ms

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

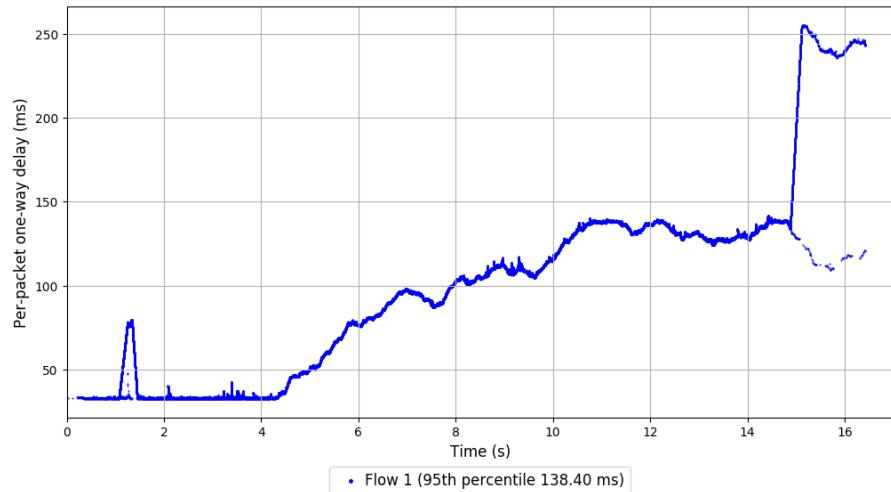
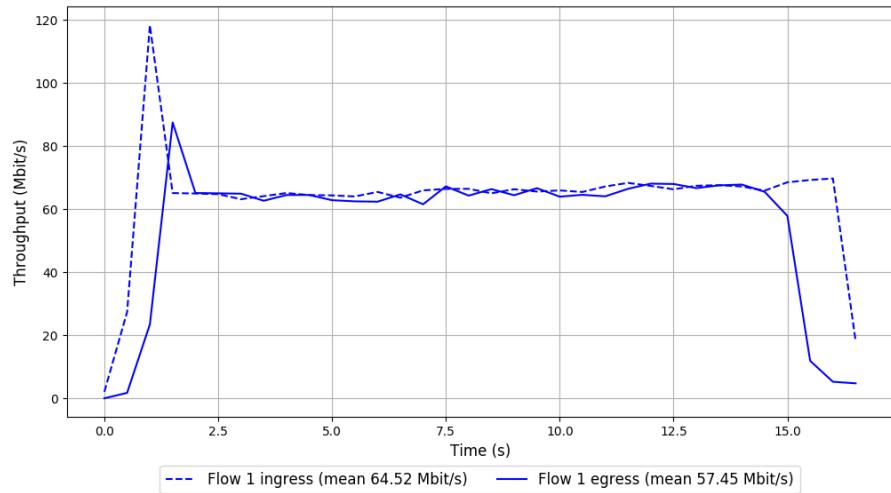
Start at: 2018-09-07 10:22:44

End at: 2018-09-07 10:23:14

Local clock offset: 5.38 ms

Remote clock offset: 33.227 ms

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

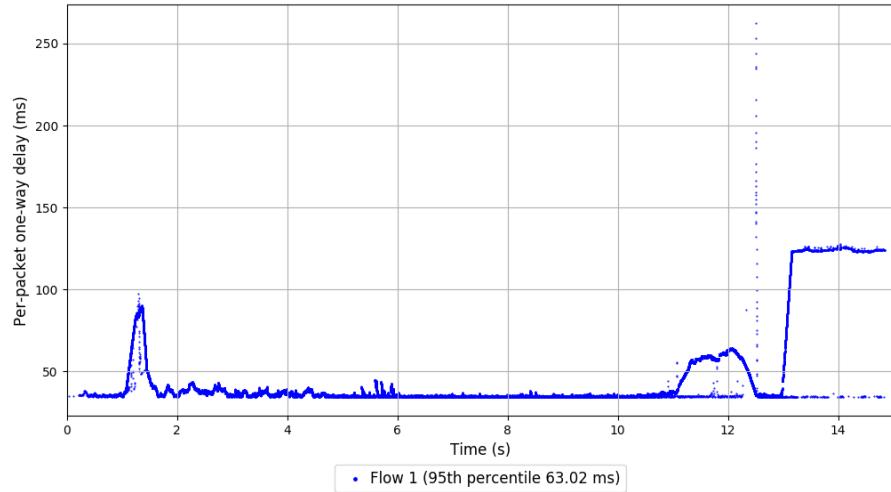
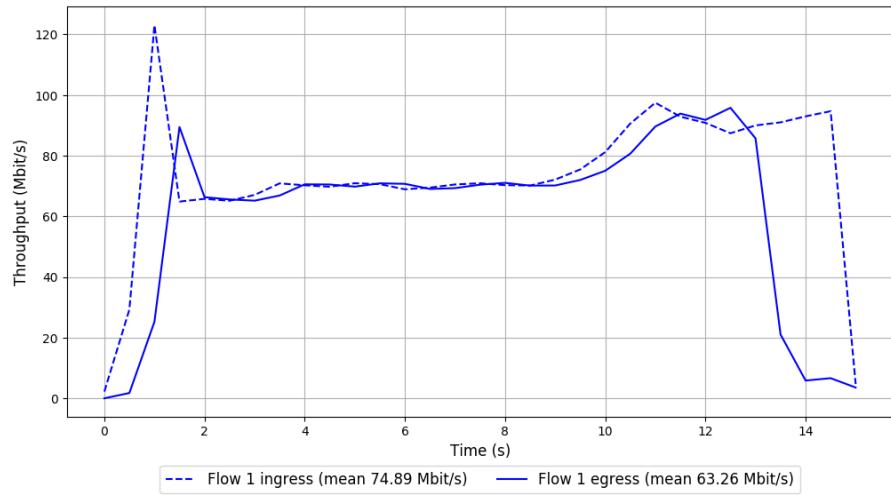
Start at: 2018-09-07 10:44:28

End at: 2018-09-07 10:44:58

Local clock offset: 5.63 ms

Remote clock offset: 38.388 ms

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

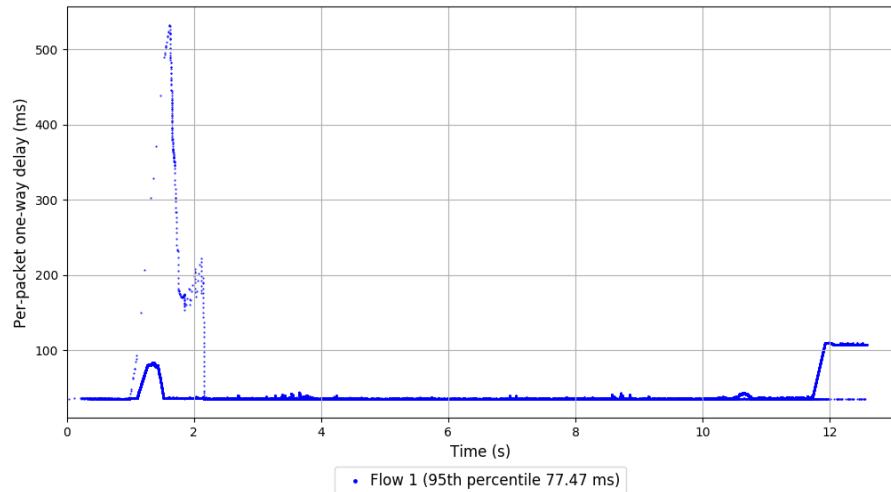
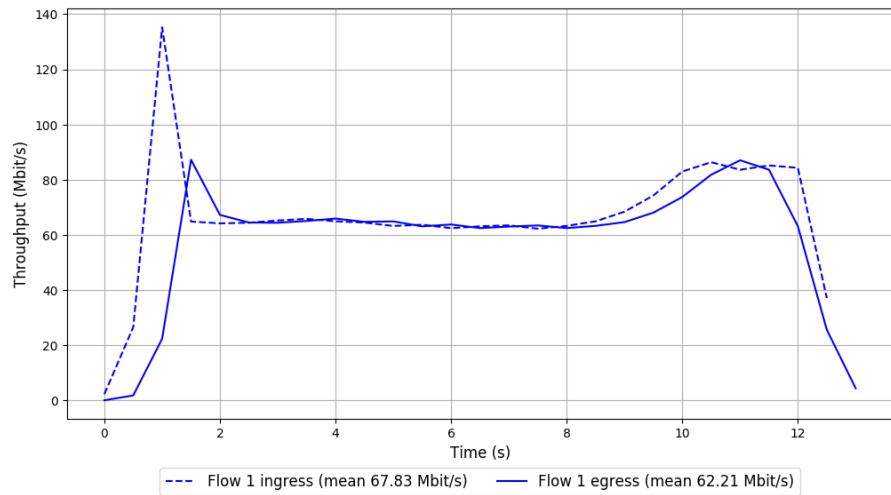
Start at: 2018-09-07 11:05:59

End at: 2018-09-07 11:06:29

Local clock offset: 5.244 ms

Remote clock offset: 40.711 ms

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

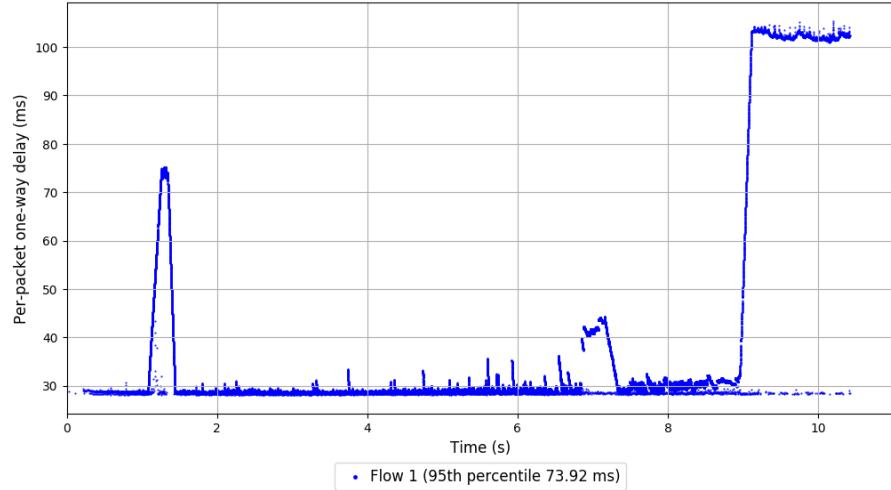
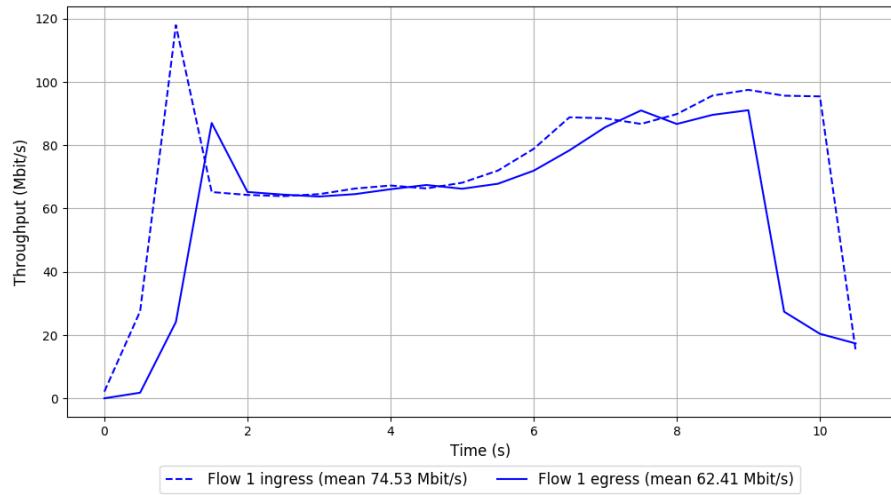
Start at: 2018-09-07 11:27:32

End at: 2018-09-07 11:28:02

Local clock offset: 0.729 ms

Remote clock offset: 12.876 ms

Run 5: Report of PCC-Allegro — Data Link

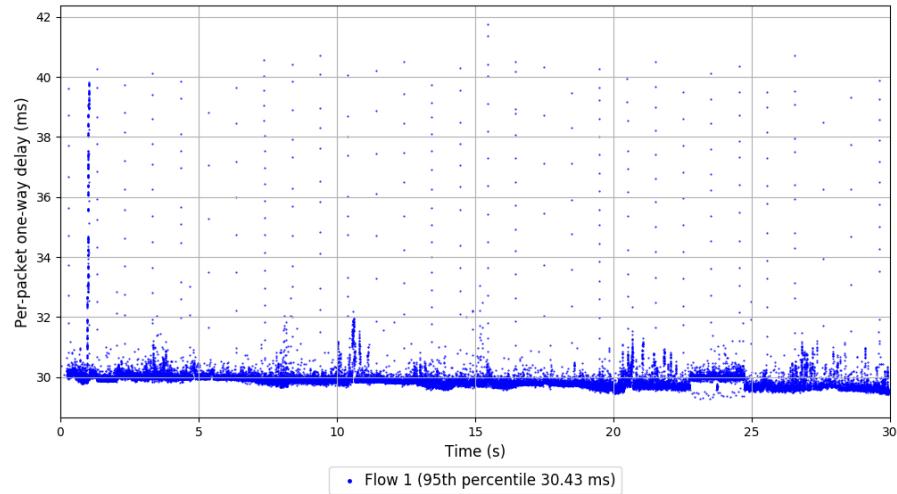
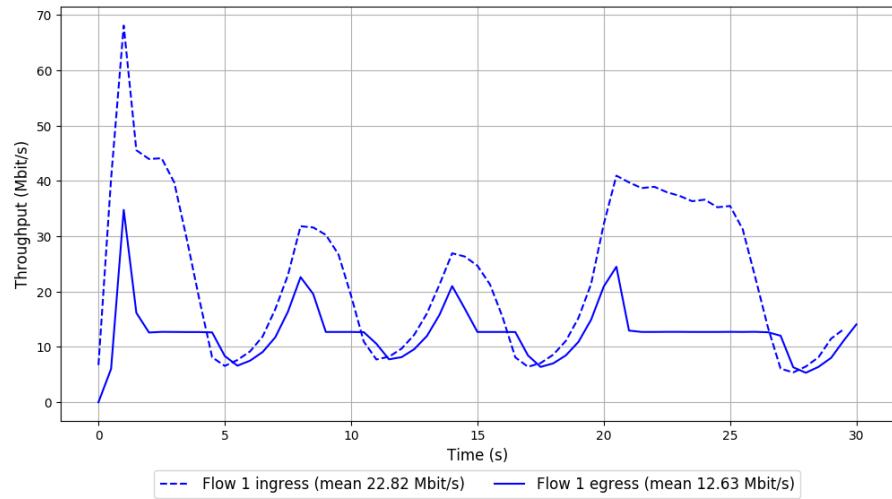


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-09-07 10:05:57
End at: 2018-09-07 10:06:27
Local clock offset: 5.237 ms
Remote clock offset: 22.382 ms

# Below is generated by plot.py at 2018-09-07 11:51:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.63 Mbit/s
95th percentile per-packet one-way delay: 30.428 ms
Loss rate: 44.65%
-- Flow 1:
Average throughput: 12.63 Mbit/s
95th percentile per-packet one-way delay: 30.428 ms
Loss rate: 44.65%
```

Run 1: Report of PCC-Expr — Data Link

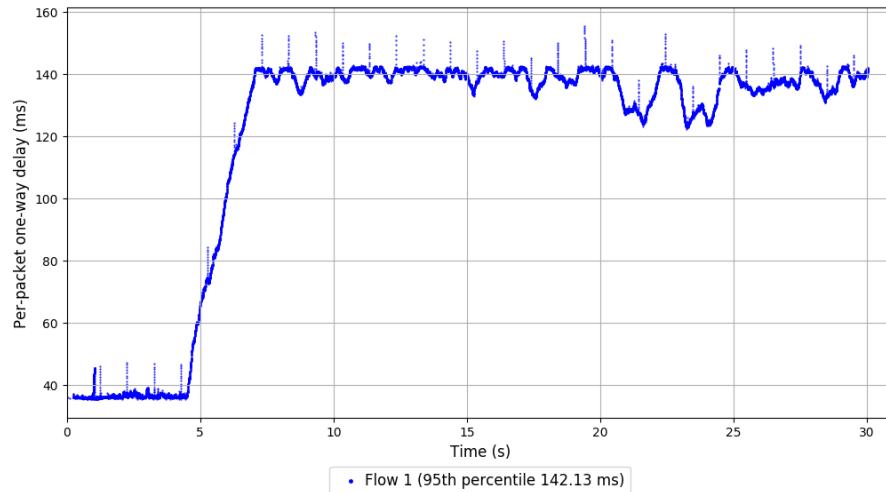
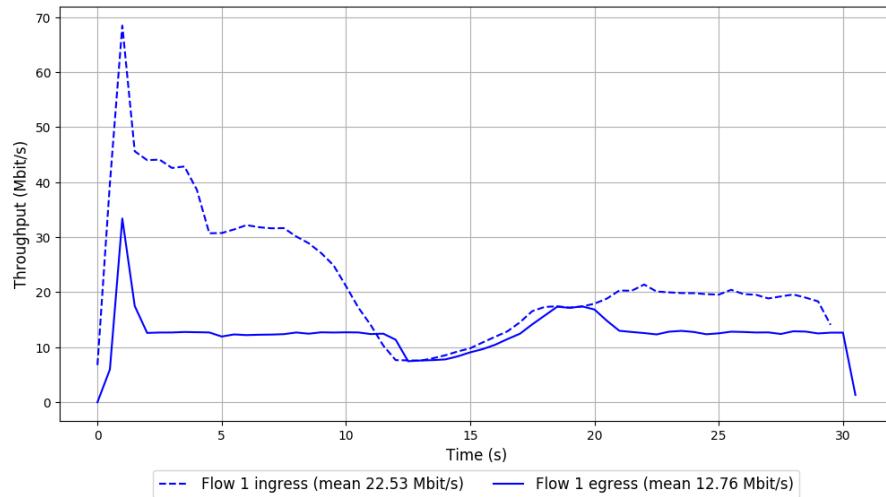


Run 2: Statistics of PCC-Expr

```
Start at: 2018-09-07 10:27:28
End at: 2018-09-07 10:27:58
Local clock offset: 5.435 ms
Remote clock offset: 37.196 ms

# Below is generated by plot.py at 2018-09-07 11:51:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.76 Mbit/s
95th percentile per-packet one-way delay: 142.134 ms
Loss rate: 43.13%
-- Flow 1:
Average throughput: 12.76 Mbit/s
95th percentile per-packet one-way delay: 142.134 ms
Loss rate: 43.13%
```

Run 2: Report of PCC-Expr — Data Link

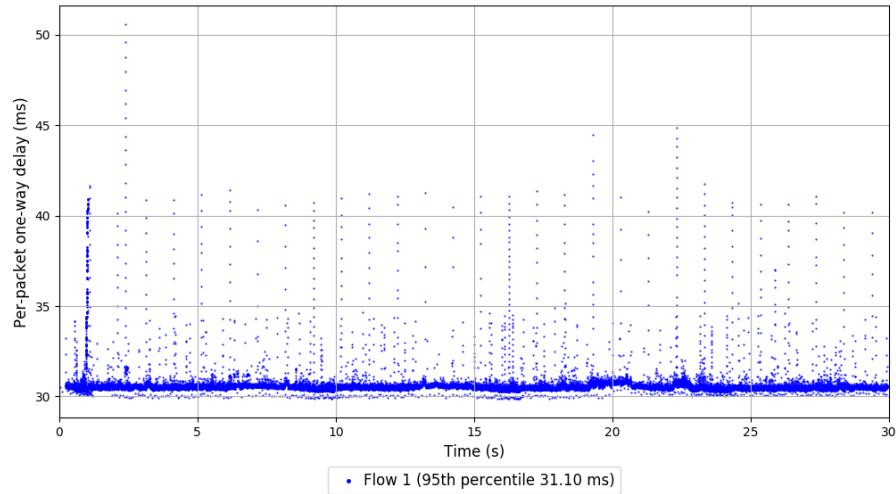
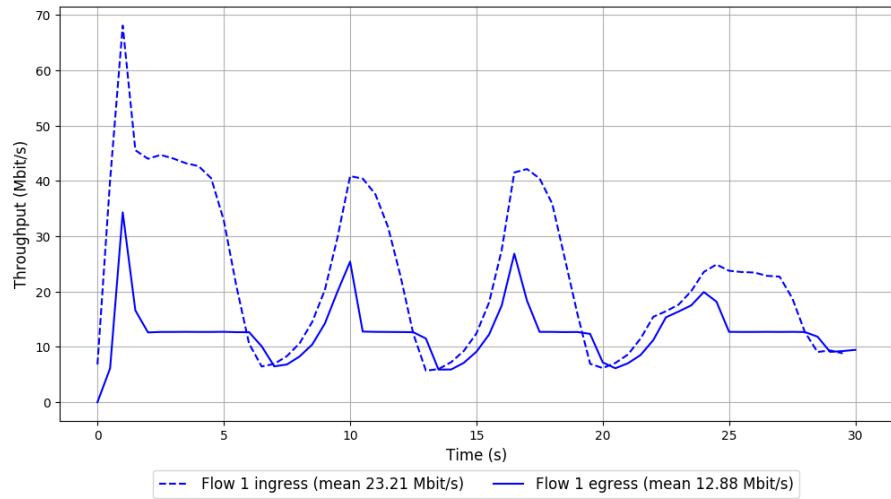


Run 3: Statistics of PCC-Expr

```
Start at: 2018-09-07 10:49:04
End at: 2018-09-07 10:49:34
Local clock offset: 5.353 ms
Remote clock offset: 34.141 ms

# Below is generated by plot.py at 2018-09-07 11:51:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.88 Mbit/s
95th percentile per-packet one-way delay: 31.104 ms
Loss rate: 44.52%
-- Flow 1:
Average throughput: 12.88 Mbit/s
95th percentile per-packet one-way delay: 31.104 ms
Loss rate: 44.52%
```

Run 3: Report of PCC-Expr — Data Link

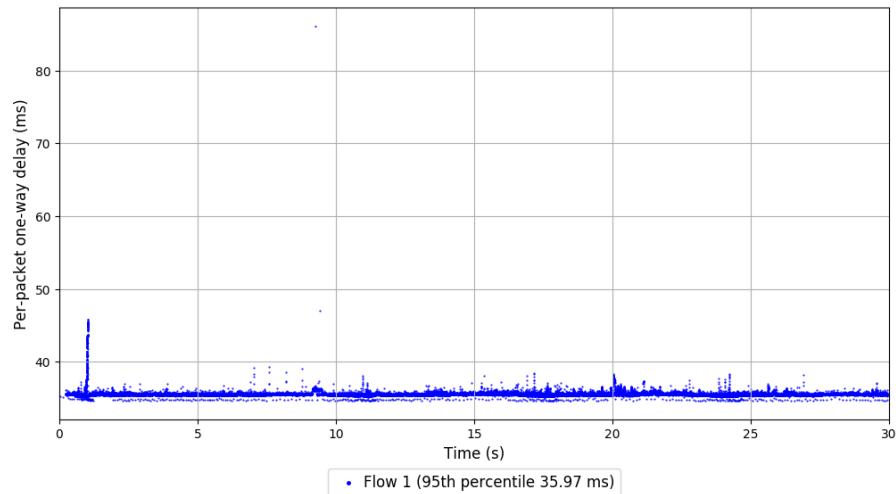
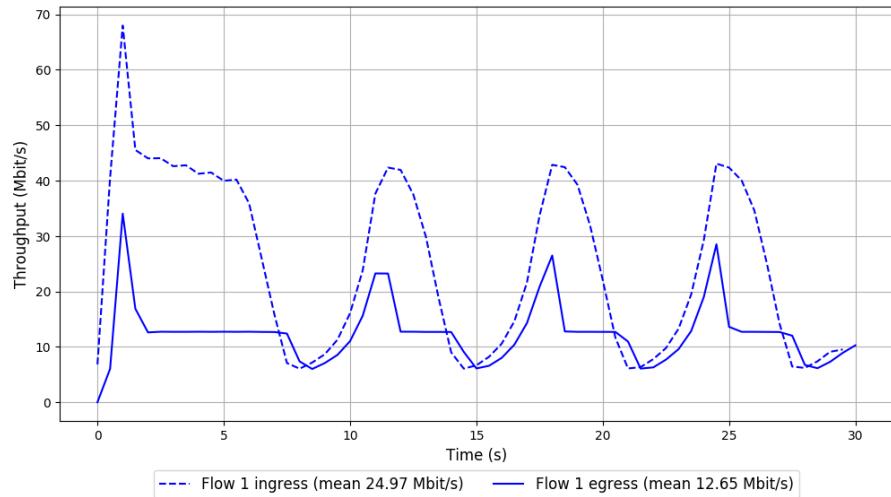


Run 4: Statistics of PCC-Expr

```
Start at: 2018-09-07 11:10:36
End at: 2018-09-07 11:11:06
Local clock offset: 5.269 ms
Remote clock offset: 41.11 ms

# Below is generated by plot.py at 2018-09-07 11:51:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.65 Mbit/s
95th percentile per-packet one-way delay: 35.969 ms
Loss rate: 49.34%
-- Flow 1:
Average throughput: 12.65 Mbit/s
95th percentile per-packet one-way delay: 35.969 ms
Loss rate: 49.34%
```

Run 4: Report of PCC-Expr — Data Link

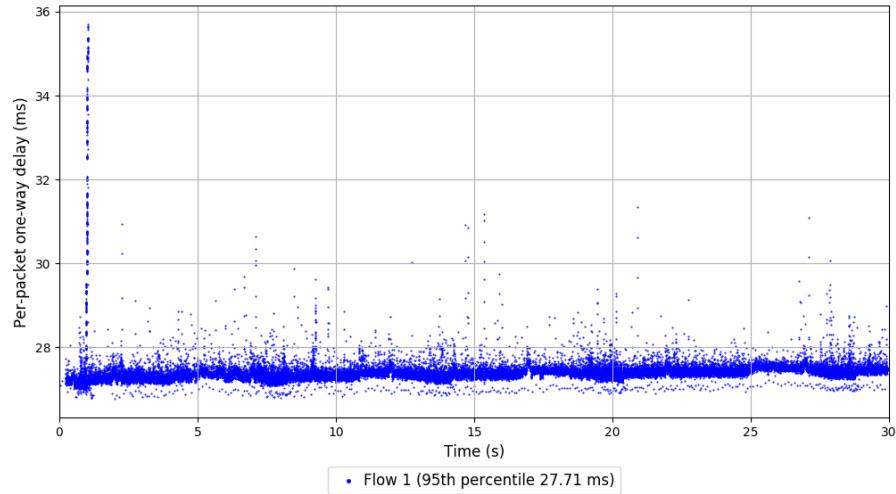
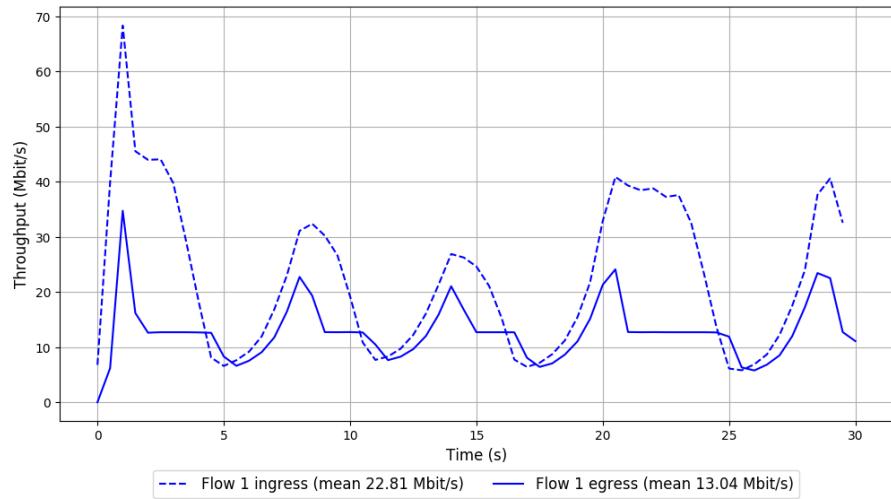


Run 5: Statistics of PCC-Expr

```
Start at: 2018-09-07 11:32:10
End at: 2018-09-07 11:32:40
Local clock offset: 0.05 ms
Remote clock offset: 8.095 ms

# Below is generated by plot.py at 2018-09-07 11:51:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.04 Mbit/s
95th percentile per-packet one-way delay: 27.709 ms
Loss rate: 42.85%
-- Flow 1:
Average throughput: 13.04 Mbit/s
95th percentile per-packet one-way delay: 27.709 ms
Loss rate: 42.85%
```

Run 5: Report of PCC-Expr — Data Link

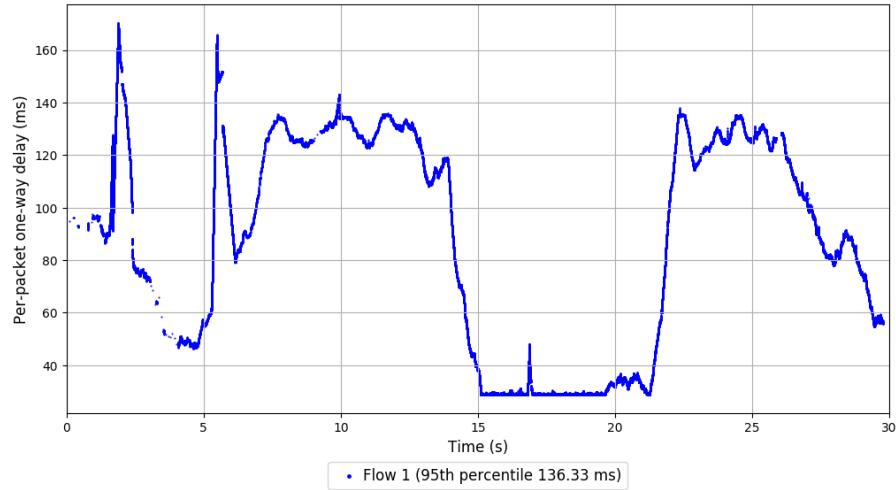
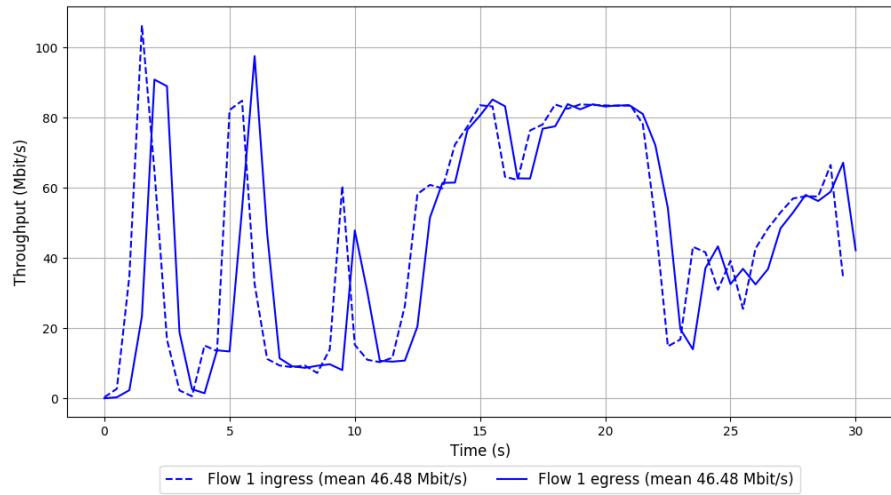


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-09-07 10:10:42
End at: 2018-09-07 10:11:12
Local clock offset: 5.317 ms
Remote clock offset: 25.689 ms

# Below is generated by plot.py at 2018-09-07 11:51:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.48 Mbit/s
95th percentile per-packet one-way delay: 136.332 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 46.48 Mbit/s
95th percentile per-packet one-way delay: 136.332 ms
Loss rate: 0.13%
```

Run 1: Report of QUIC Cubic — Data Link

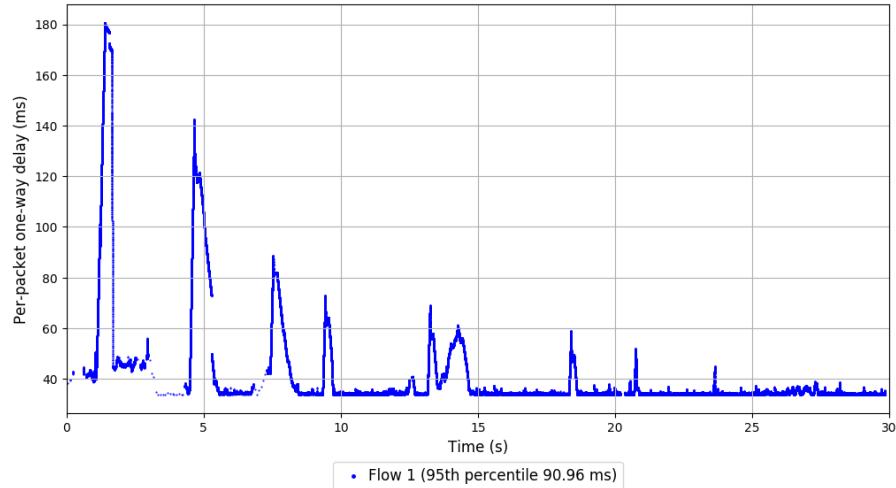
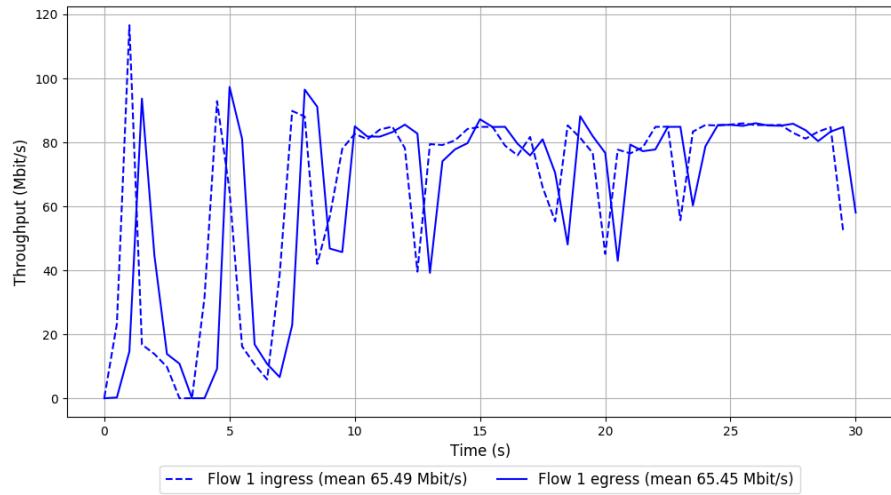


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-09-07 10:32:16
End at: 2018-09-07 10:32:46
Local clock offset: 5.498 ms
Remote clock offset: 36.553 ms

# Below is generated by plot.py at 2018-09-07 11:51:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.45 Mbit/s
95th percentile per-packet one-way delay: 90.961 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 65.45 Mbit/s
95th percentile per-packet one-way delay: 90.961 ms
Loss rate: 0.07%
```

Run 2: Report of QUIC Cubic — Data Link

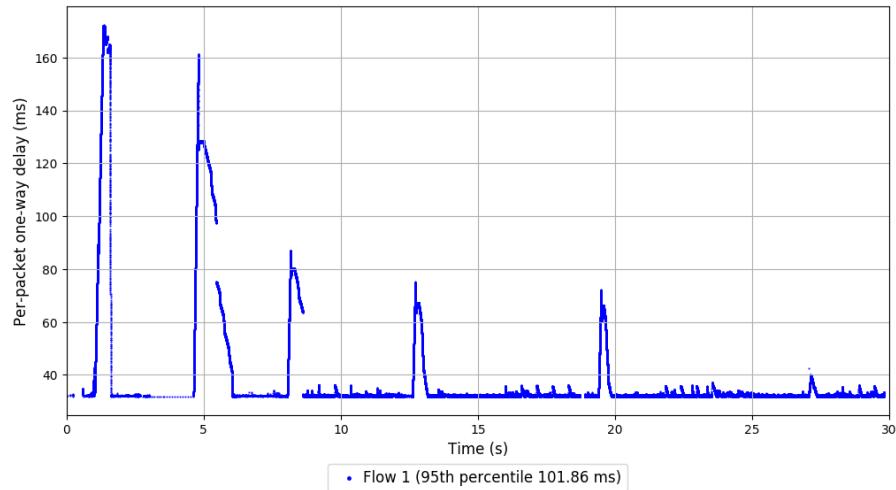
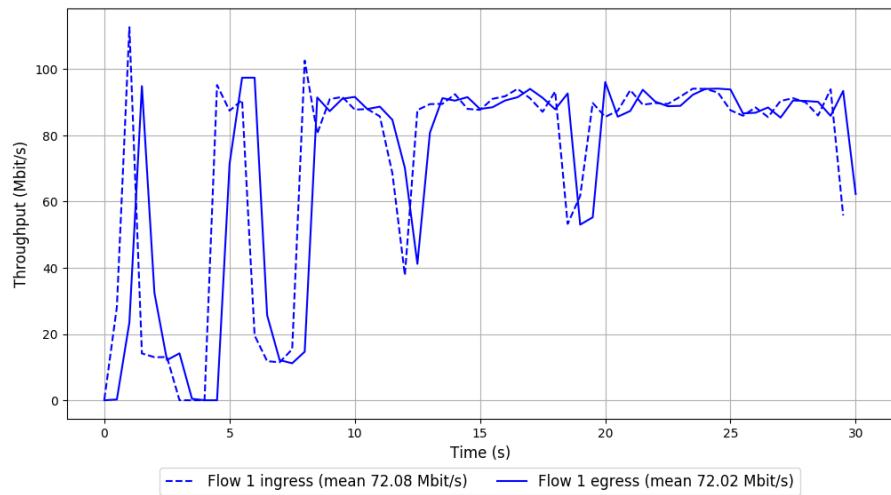


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-09-07 10:53:48
End at: 2018-09-07 10:54:18
Local clock offset: 5.412 ms
Remote clock offset: 36.916 ms

# Below is generated by plot.py at 2018-09-07 11:51:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.02 Mbit/s
95th percentile per-packet one-way delay: 101.857 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 72.02 Mbit/s
95th percentile per-packet one-way delay: 101.857 ms
Loss rate: 0.08%
```

Run 3: Report of QUIC Cubic — Data Link

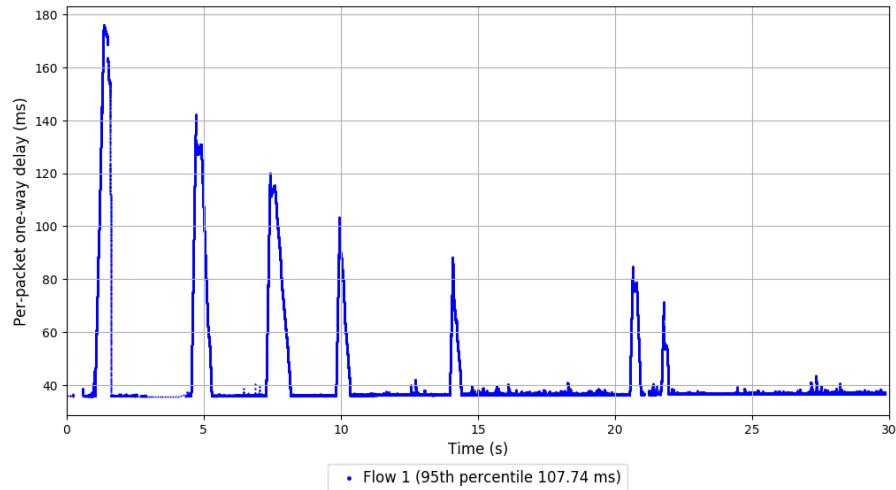
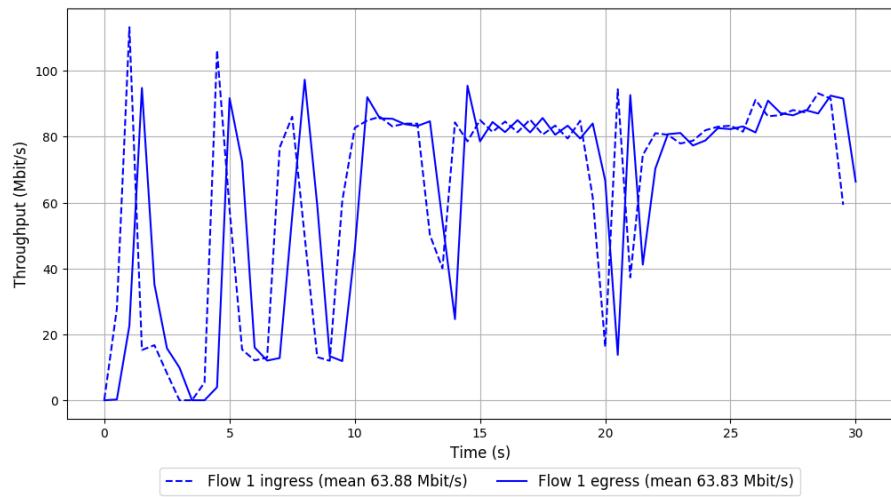


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-09-07 11:15:22
End at: 2018-09-07 11:15:52
Local clock offset: 4.616 ms
Remote clock offset: 38.347 ms

# Below is generated by plot.py at 2018-09-07 11:51:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.83 Mbit/s
95th percentile per-packet one-way delay: 107.740 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 63.83 Mbit/s
95th percentile per-packet one-way delay: 107.740 ms
Loss rate: 0.08%
```

Run 4: Report of QUIC Cubic — Data Link

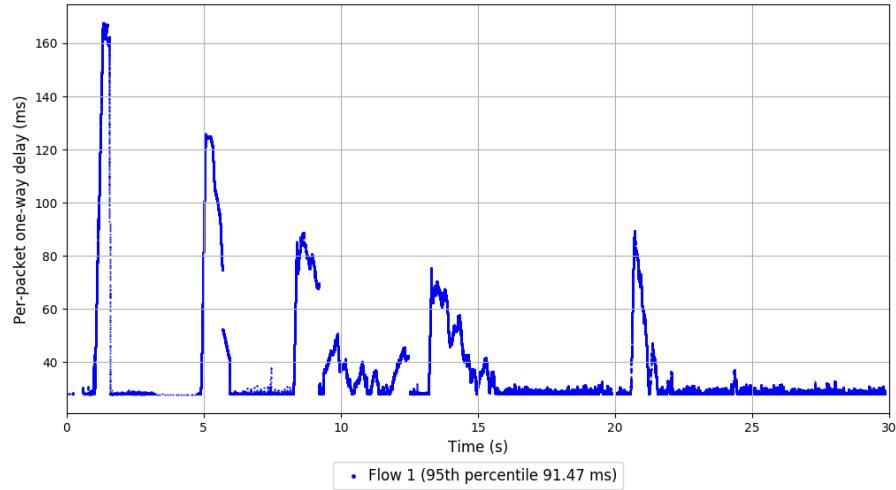
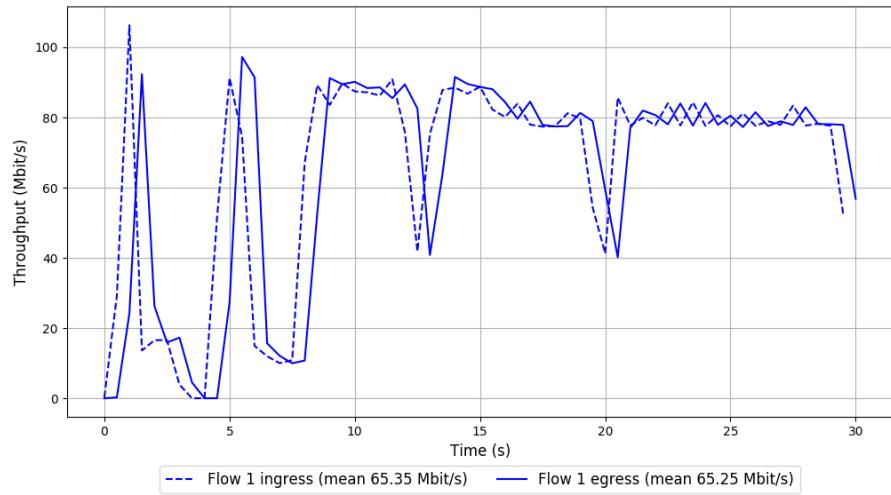


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-09-07 11:36:56
End at: 2018-09-07 11:37:26
Local clock offset: -0.623 ms
Remote clock offset: 6.67 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.25 Mbit/s
95th percentile per-packet one-way delay: 91.471 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 65.25 Mbit/s
95th percentile per-packet one-way delay: 91.471 ms
Loss rate: 0.15%
```

Run 5: Report of QUIC Cubic — Data Link

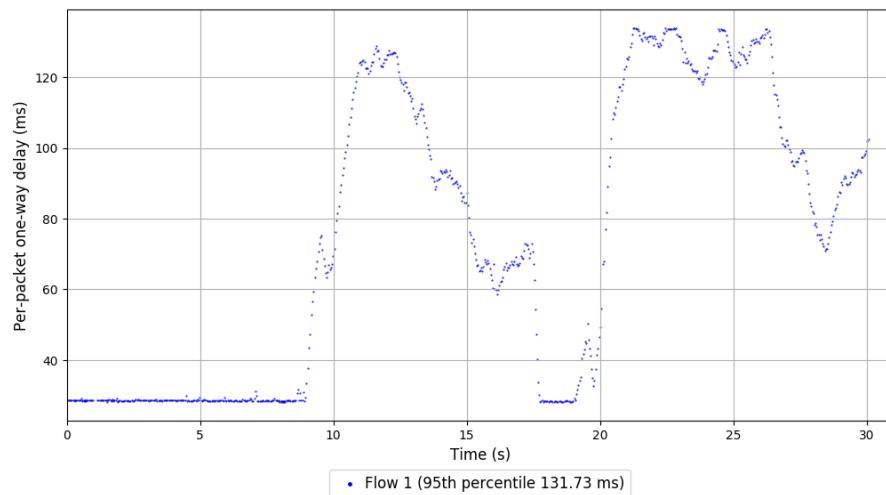
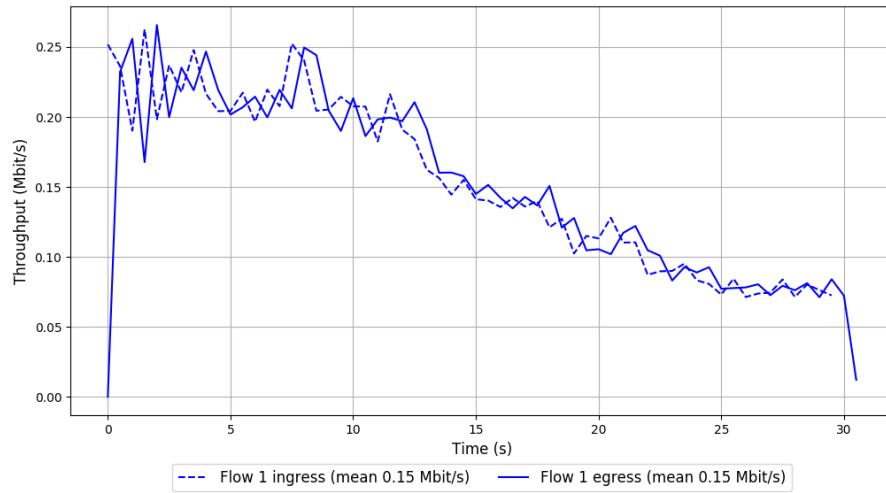


Run 1: Statistics of SCReAM

```
Start at: 2018-09-07 10:08:22
End at: 2018-09-07 10:08:52
Local clock offset: 5.282 ms
Remote clock offset: 22.818 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 131.729 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 131.729 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

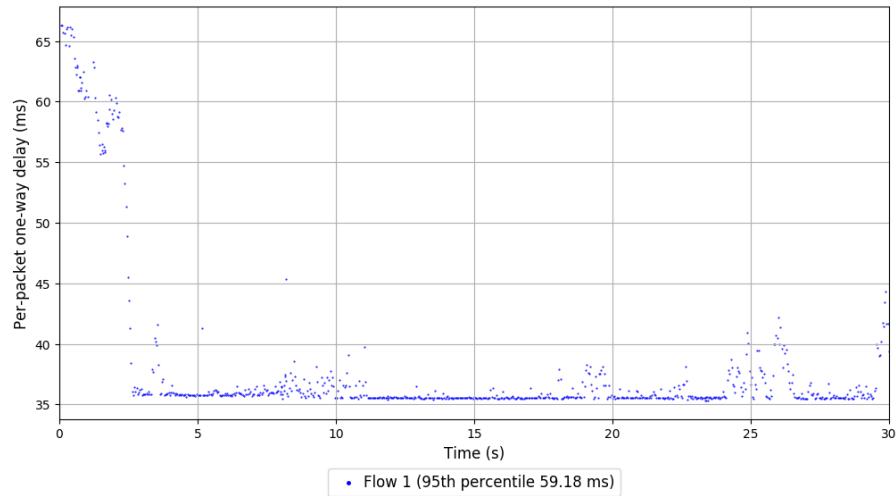
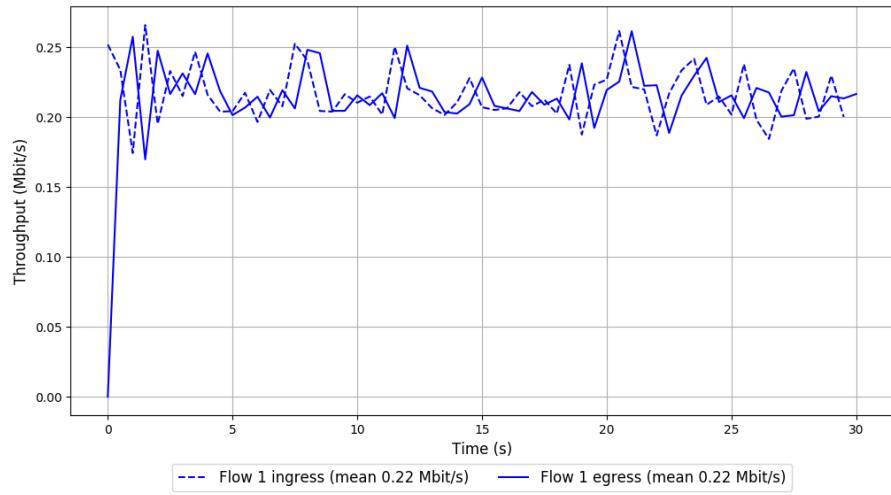


Run 2: Statistics of SCReAM

```
Start at: 2018-09-07 10:29:56
End at: 2018-09-07 10:30:26
Local clock offset: 5.348 ms
Remote clock offset: 37.783 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.182 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 59.182 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

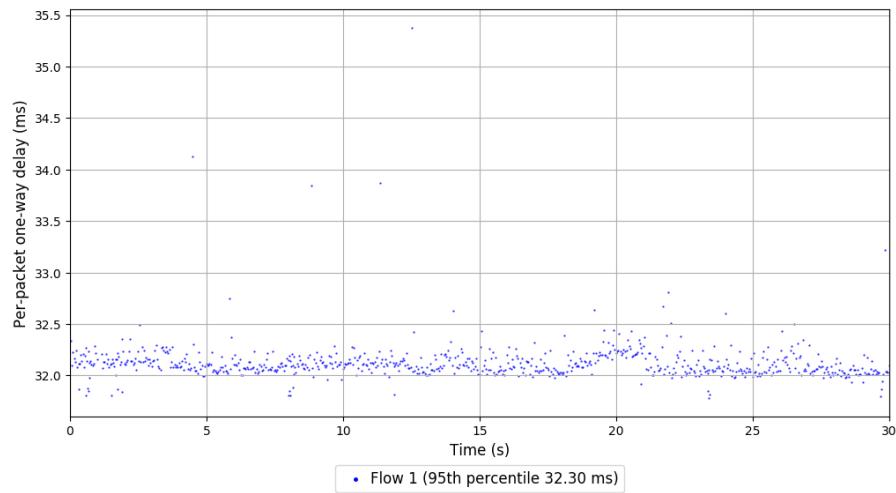
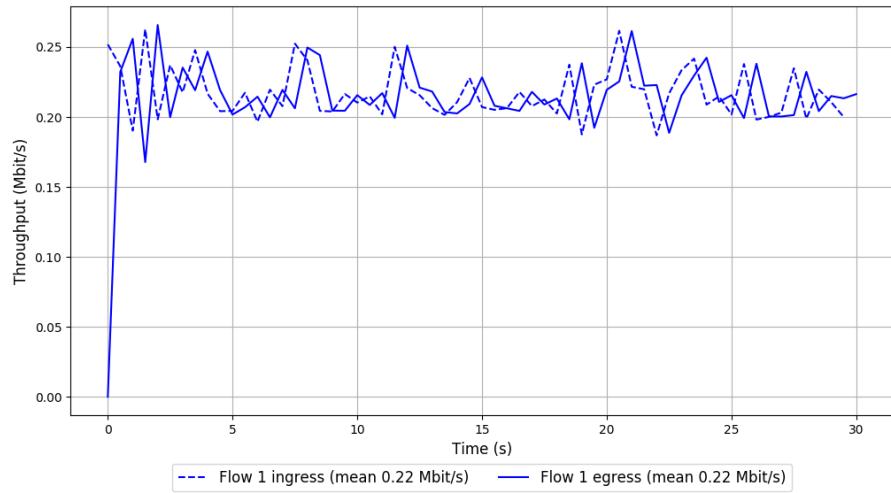


Run 3: Statistics of SCReAM

```
Start at: 2018-09-07 10:51:30
End at: 2018-09-07 10:52:00
Local clock offset: 5.338 ms
Remote clock offset: 35.927 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 32.304 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 32.304 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

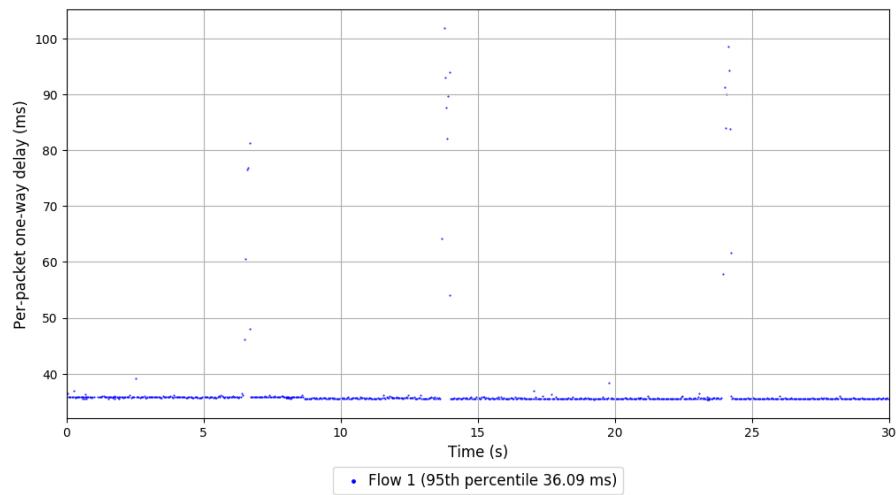
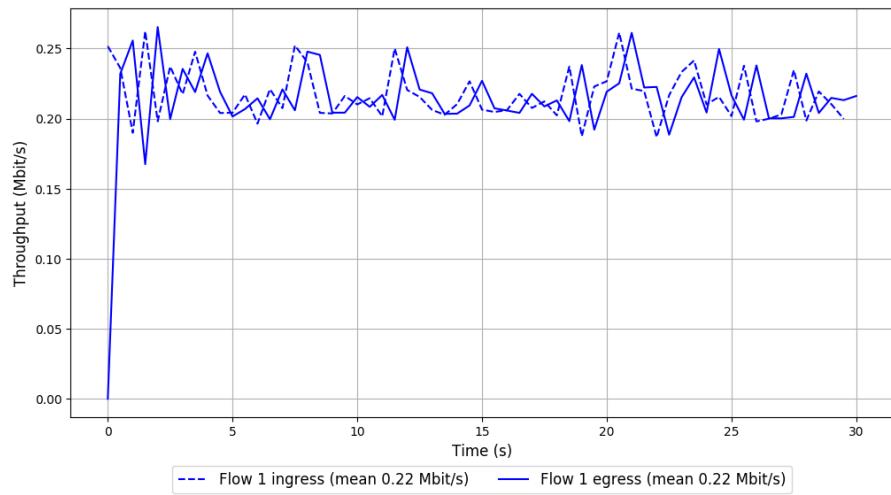


Run 4: Statistics of SCReAM

```
Start at: 2018-09-07 11:13:02
End at: 2018-09-07 11:13:32
Local clock offset: 5.161 ms
Remote clock offset: 41.23 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 36.093 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 36.093 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

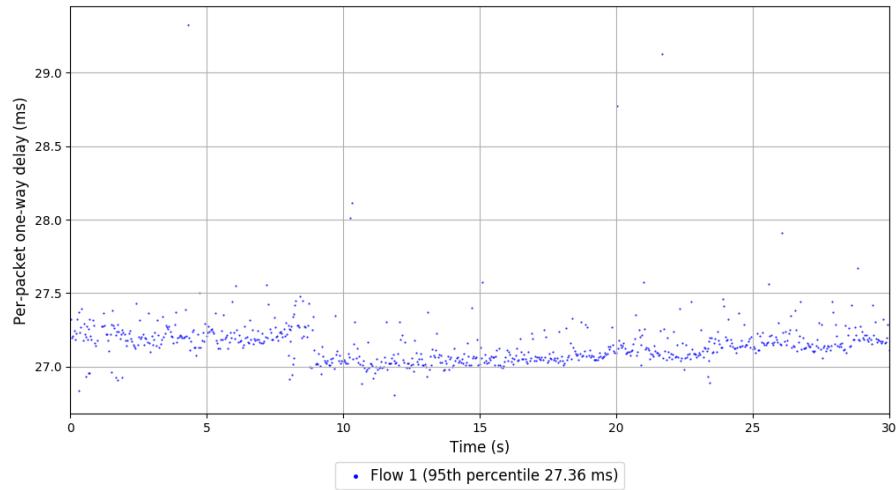
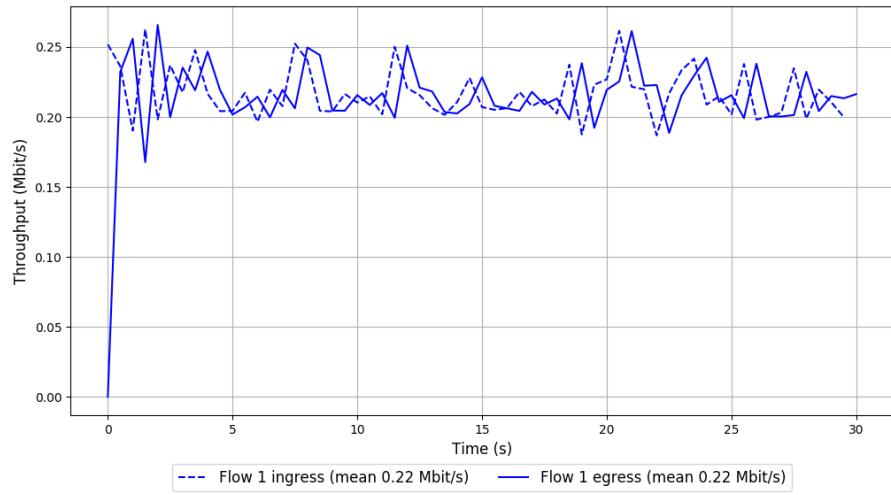


Run 5: Statistics of SCReAM

```
Start at: 2018-09-07 11:34:37
End at: 2018-09-07 11:35:07
Local clock offset: -0.325 ms
Remote clock offset: 6.564 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 27.364 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 27.364 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

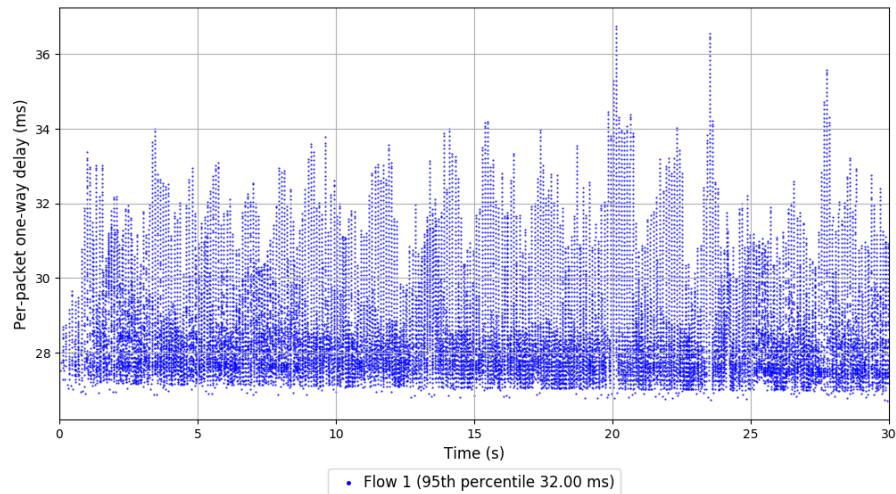
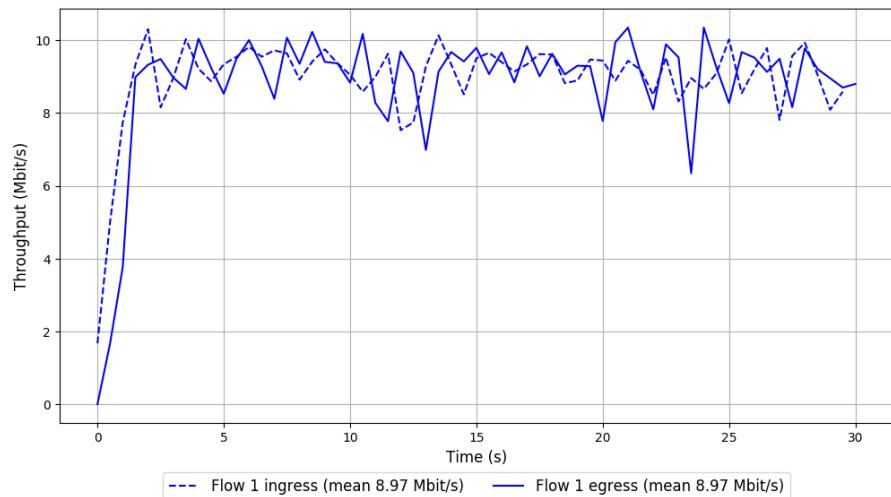


Run 1: Statistics of Sprout

```
Start at: 2018-09-07 10:14:21
End at: 2018-09-07 10:14:51
Local clock offset: 5.417 ms
Remote clock offset: 25.354 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.97 Mbit/s
95th percentile per-packet one-way delay: 31.997 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.97 Mbit/s
95th percentile per-packet one-way delay: 31.997 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

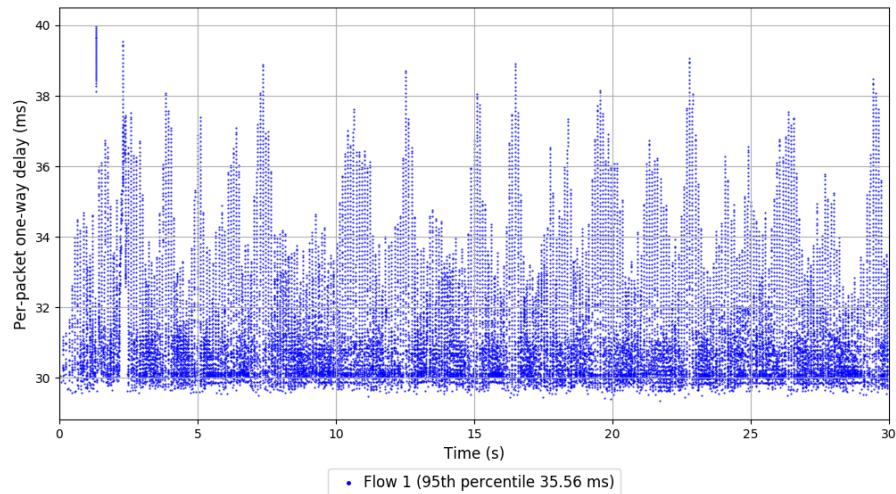
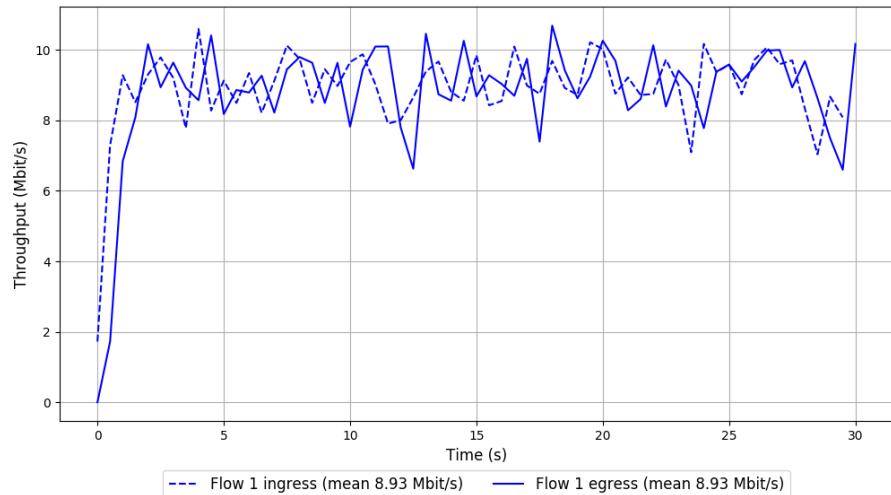


Run 2: Statistics of Sprout

```
Start at: 2018-09-07 10:35:55
End at: 2018-09-07 10:36:25
Local clock offset: 5.582 ms
Remote clock offset: 32.905 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.93 Mbit/s
95th percentile per-packet one-way delay: 35.561 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.93 Mbit/s
95th percentile per-packet one-way delay: 35.561 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

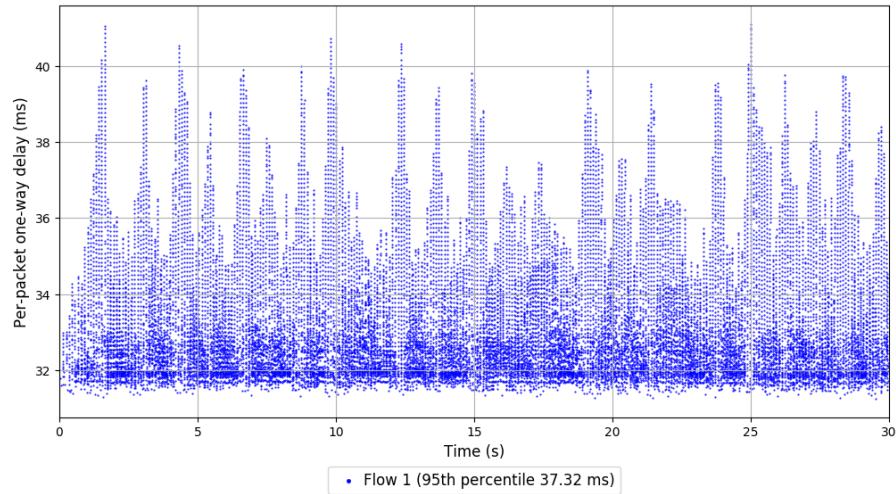
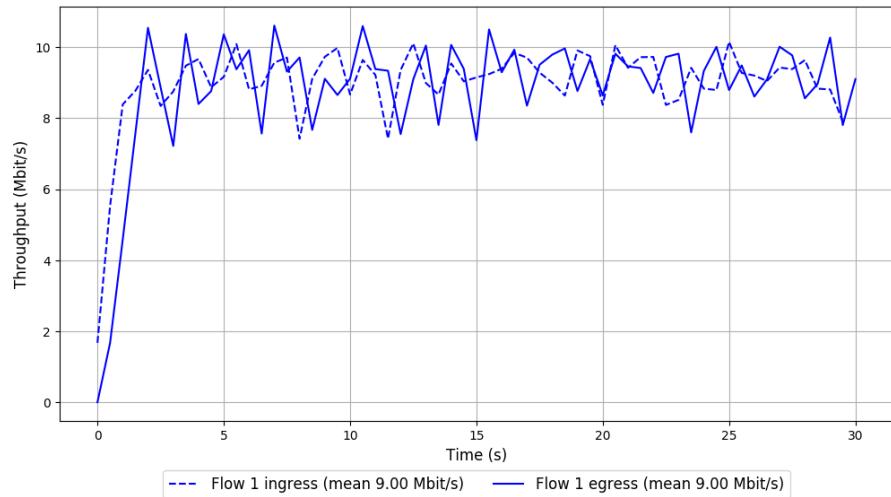


Run 3: Statistics of Sprout

```
Start at: 2018-09-07 10:57:27
End at: 2018-09-07 10:57:57
Local clock offset: 5.224 ms
Remote clock offset: 36.28 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.00 Mbit/s
95th percentile per-packet one-way delay: 37.318 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.00 Mbit/s
95th percentile per-packet one-way delay: 37.318 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

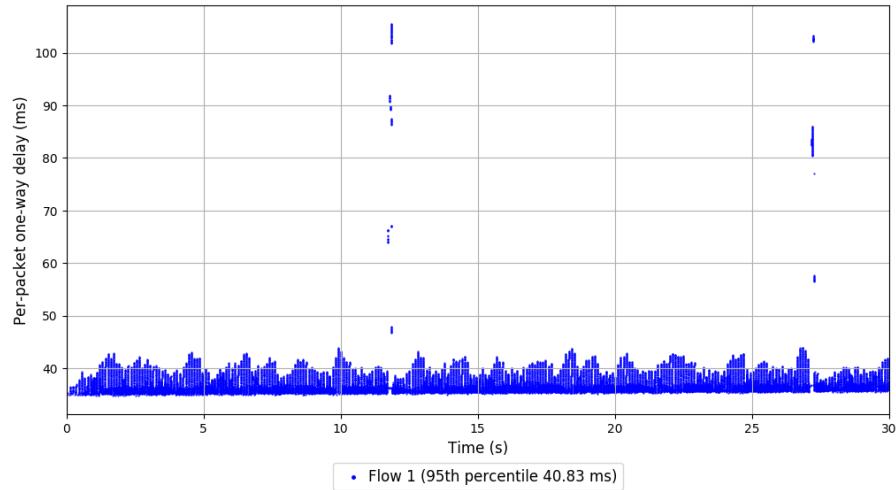
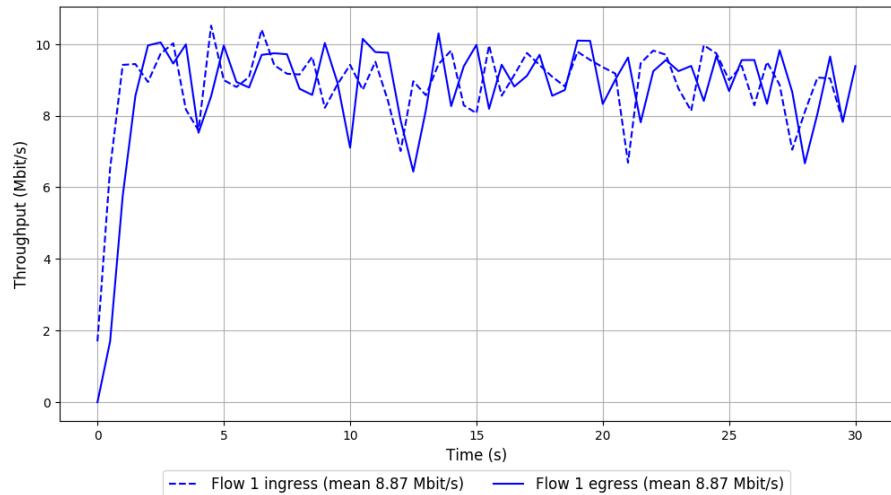


Run 4: Statistics of Sprout

```
Start at: 2018-09-07 11:18:59
End at: 2018-09-07 11:19:29
Local clock offset: 3.201 ms
Remote clock offset: 30.199 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.87 Mbit/s
95th percentile per-packet one-way delay: 40.834 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.87 Mbit/s
95th percentile per-packet one-way delay: 40.834 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

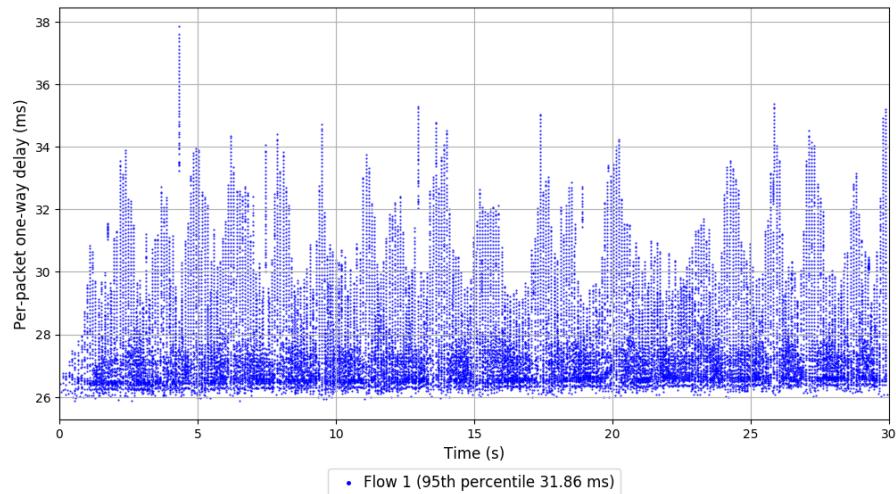
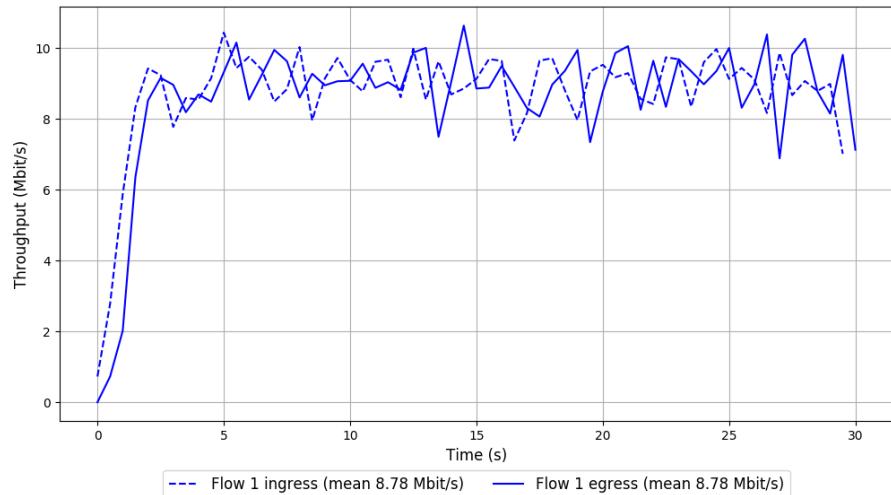


Run 5: Statistics of Sprout

```
Start at: 2018-09-07 11:40:32
End at: 2018-09-07 11:41:02
Local clock offset: -0.826 ms
Remote clock offset: 2.742 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.78 Mbit/s
95th percentile per-packet one-way delay: 31.857 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 8.78 Mbit/s
95th percentile per-packet one-way delay: 31.857 ms
Loss rate: 0.00%
```

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

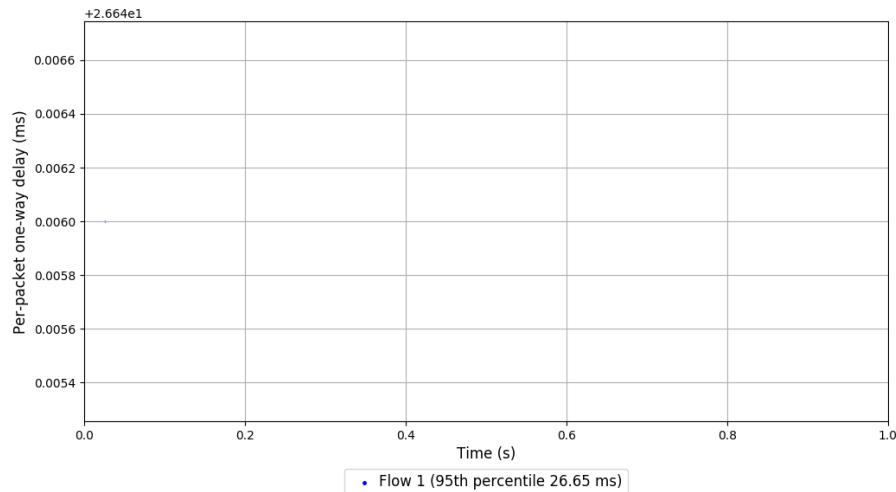
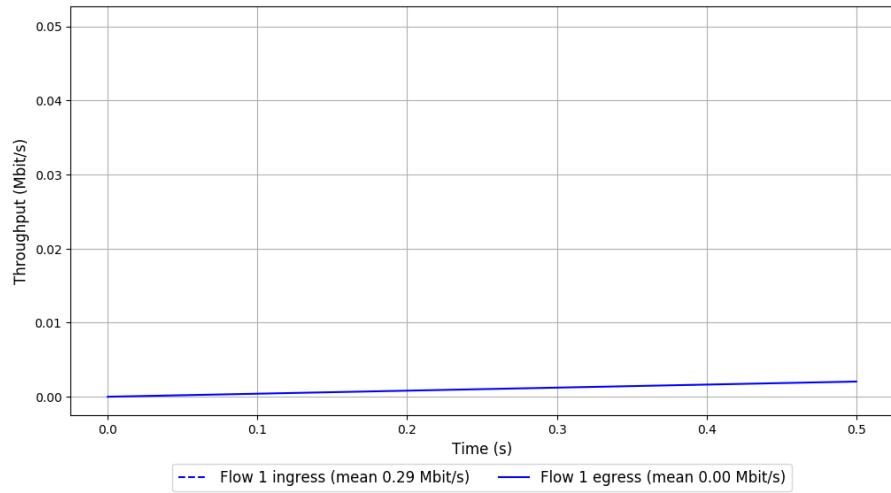
Start at: 2018-09-07 10:04:49

End at: 2018-09-07 10:05:19

Local clock offset: 5.443 ms

Remote clock offset: 18.73 ms

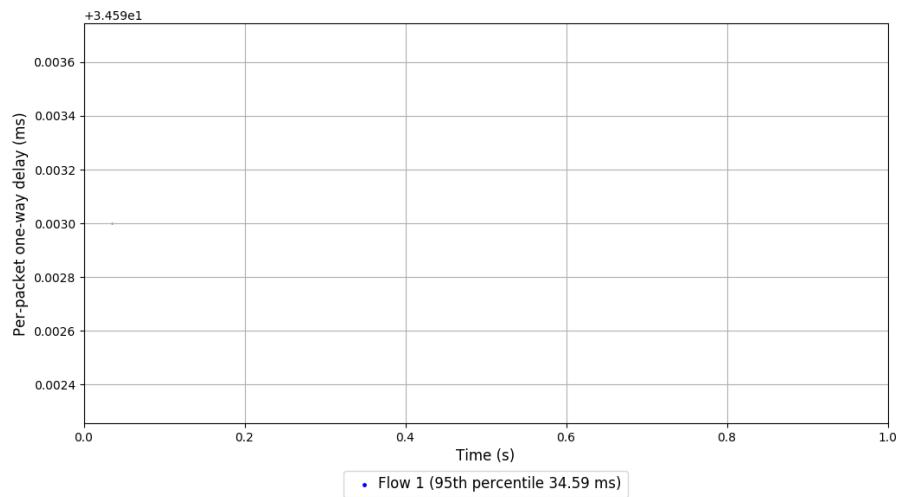
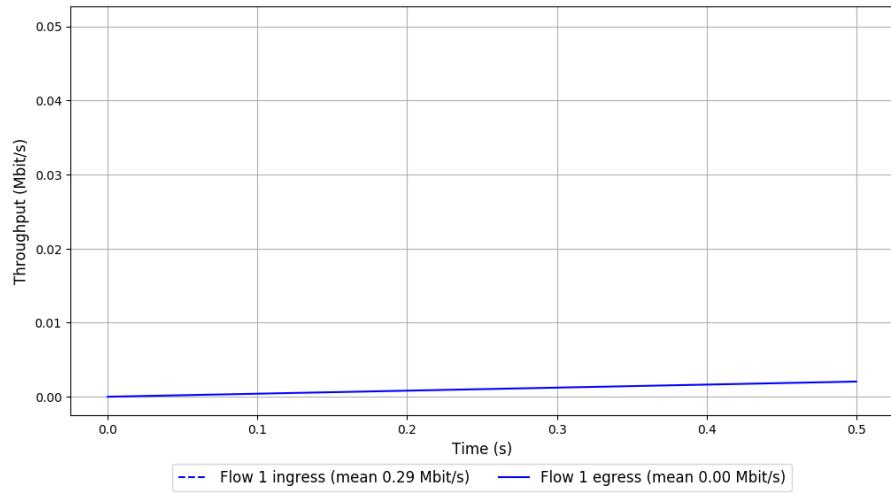
Run 1: Report of TaoVA-100x — Data Link



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-07 10:26:20
End at: 2018-09-07 10:26:50
Local clock offset: 5.682 ms
Remote clock offset: 36.113 ms

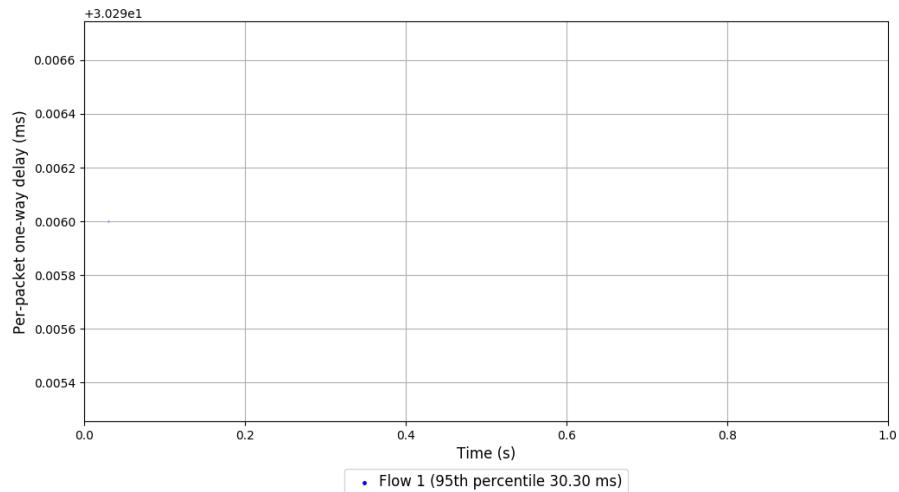
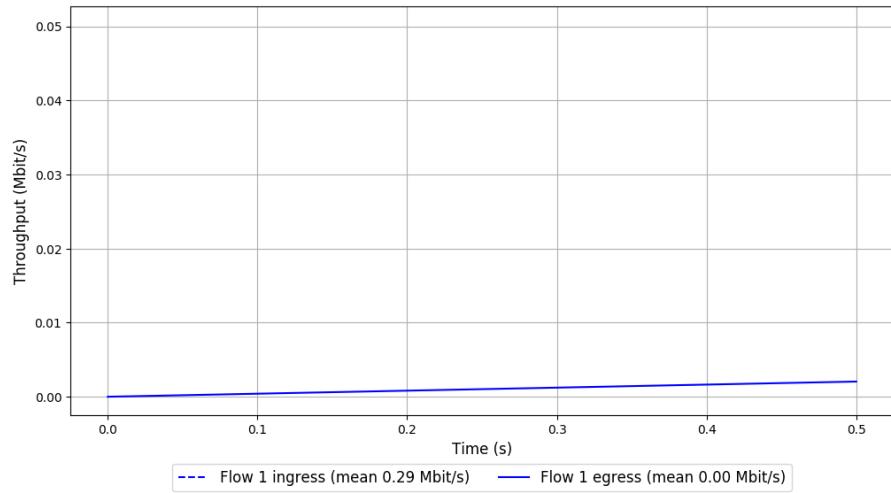
Run 2: Report of TaoVA-100x — Data Link



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-07 10:47:57
End at: 2018-09-07 10:48:27
Local clock offset: 5.337 ms
Remote clock offset: 33.936 ms

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



Run 4: Statistics of TaoVA-100x

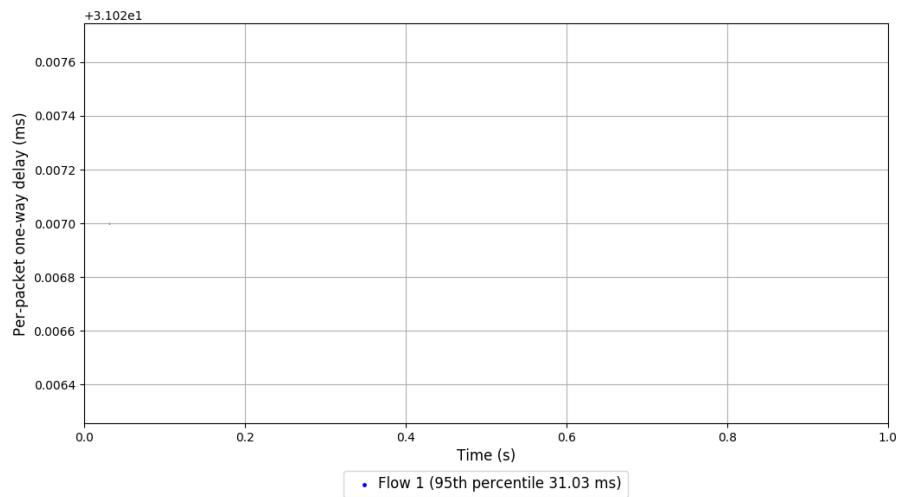
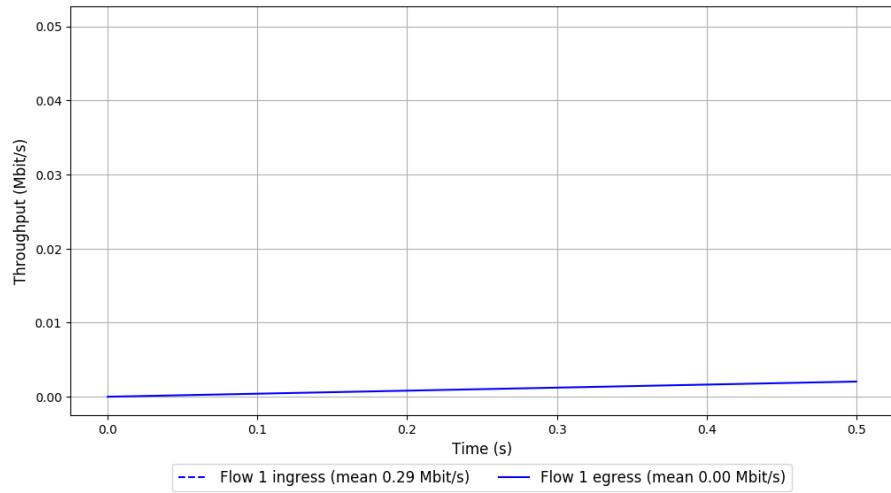
Start at: 2018-09-07 11:09:28

End at: 2018-09-07 11:09:58

Local clock offset: 5.028 ms

Remote clock offset: 36.221 ms

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



Run 5: Statistics of TaoVA-100x

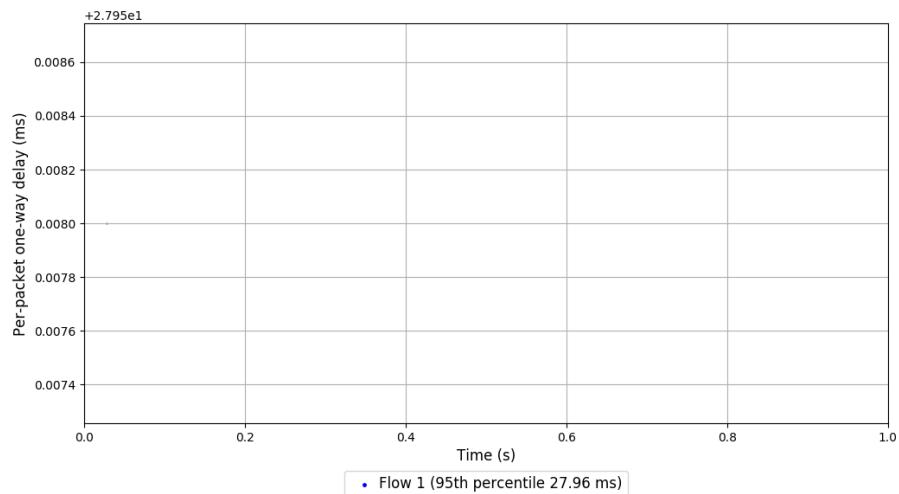
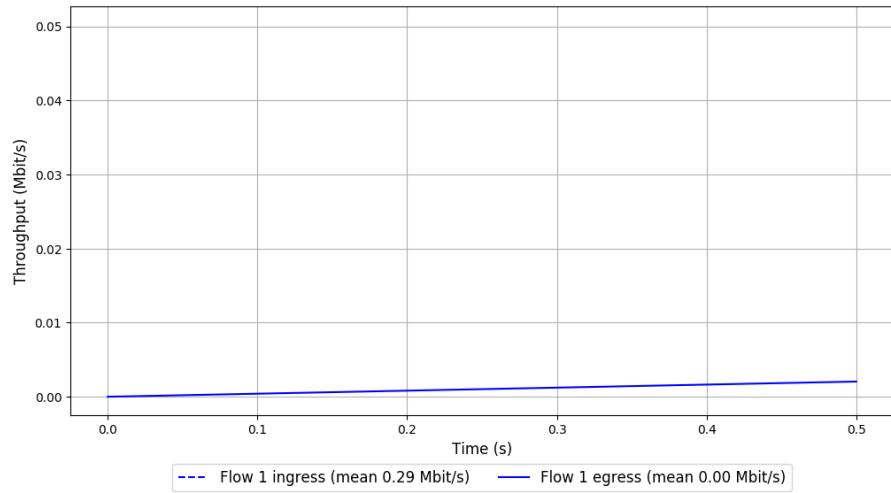
Start at: 2018-09-07 11:31:03

End at: 2018-09-07 11:31:33

Local clock offset: 0.154 ms

Remote clock offset: 9.305 ms

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

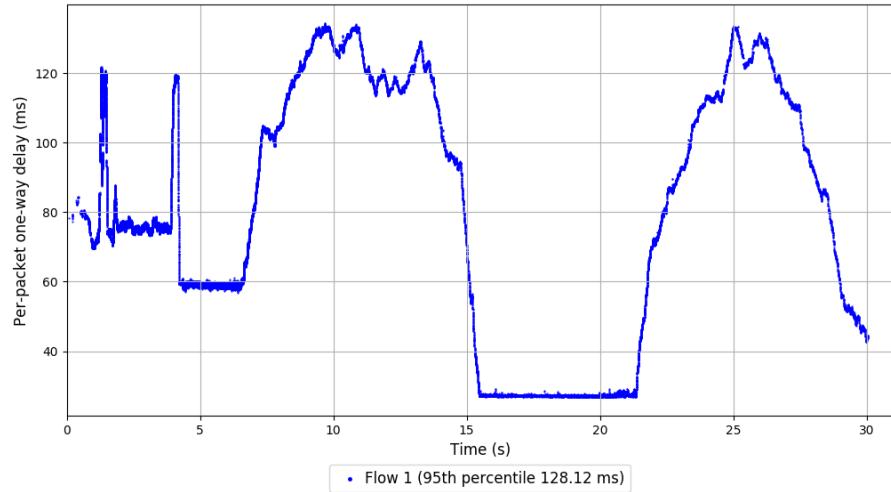
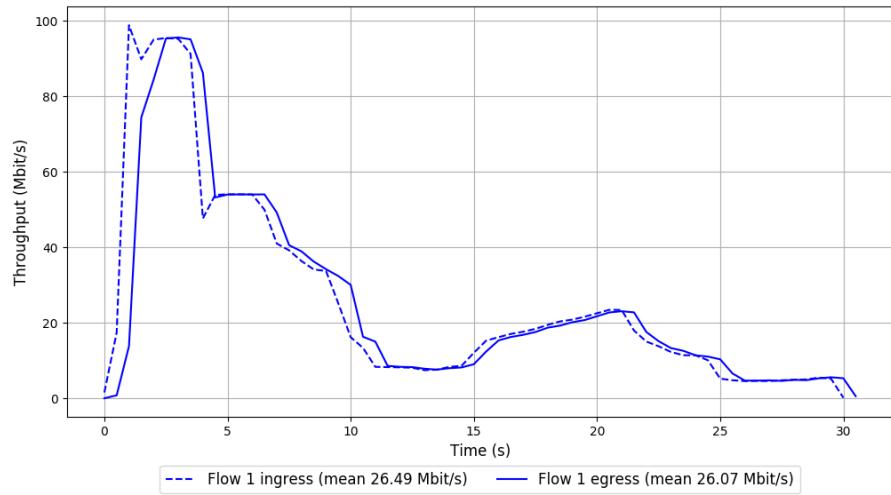


Run 1: Statistics of TCP Vegas

```
Start at: 2018-09-07 10:09:31
End at: 2018-09-07 10:10:01
Local clock offset: 5.44 ms
Remote clock offset: 22.873 ms

# Below is generated by plot.py at 2018-09-07 11:52:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 26.07 Mbit/s
95th percentile per-packet one-way delay: 128.123 ms
Loss rate: 1.71%
-- Flow 1:
Average throughput: 26.07 Mbit/s
95th percentile per-packet one-way delay: 128.123 ms
Loss rate: 1.71%
```

Run 1: Report of TCP Vegas — Data Link

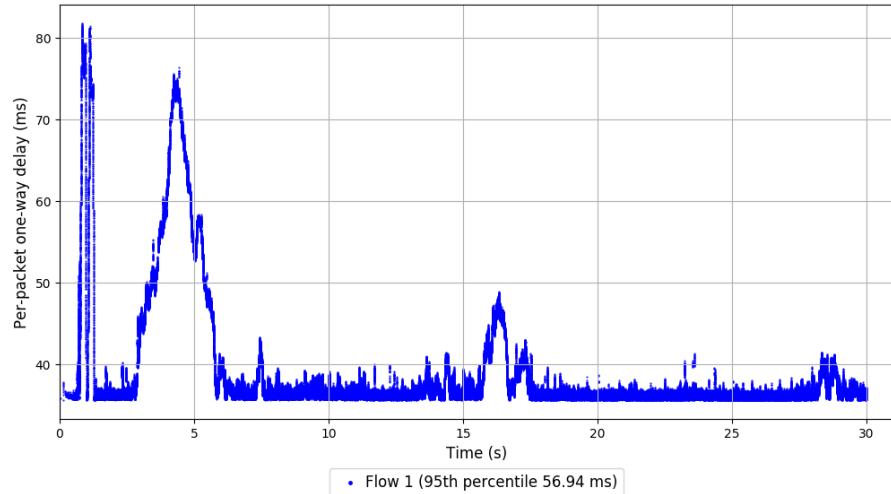
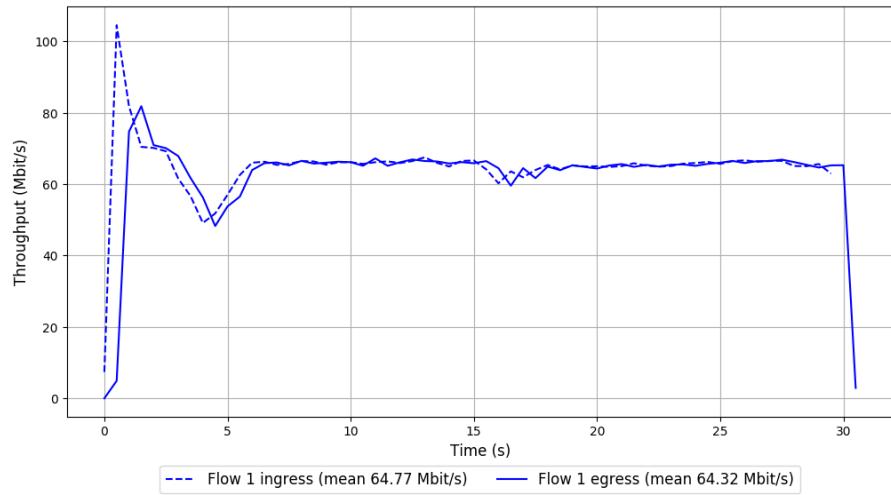


Run 2: Statistics of TCP Vegas

```
Start at: 2018-09-07 10:31:04
End at: 2018-09-07 10:31:34
Local clock offset: 5.338 ms
Remote clock offset: 37.551 ms

# Below is generated by plot.py at 2018-09-07 11:52:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.32 Mbit/s
95th percentile per-packet one-way delay: 56.938 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 64.32 Mbit/s
95th percentile per-packet one-way delay: 56.938 ms
Loss rate: 0.69%
```

Run 2: Report of TCP Vegas — Data Link

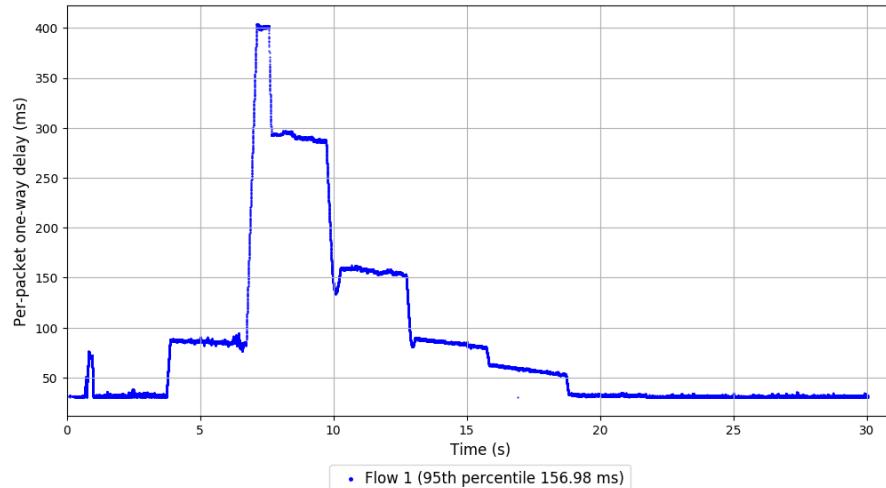
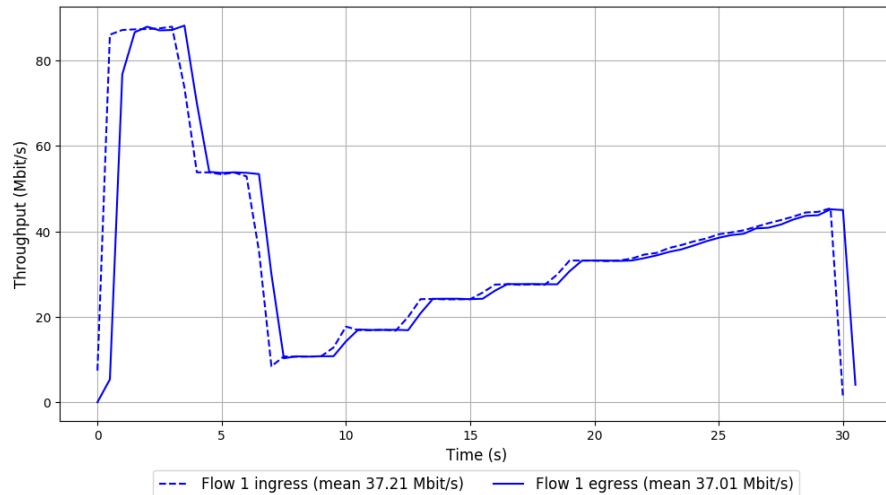


Run 3: Statistics of TCP Vegas

```
Start at: 2018-09-07 10:52:37
End at: 2018-09-07 10:53:07
Local clock offset: 5.358 ms
Remote clock offset: 34.873 ms

# Below is generated by plot.py at 2018-09-07 11:52:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.01 Mbit/s
95th percentile per-packet one-way delay: 156.983 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 37.01 Mbit/s
95th percentile per-packet one-way delay: 156.983 ms
Loss rate: 0.52%
```

Run 3: Report of TCP Vegas — Data Link

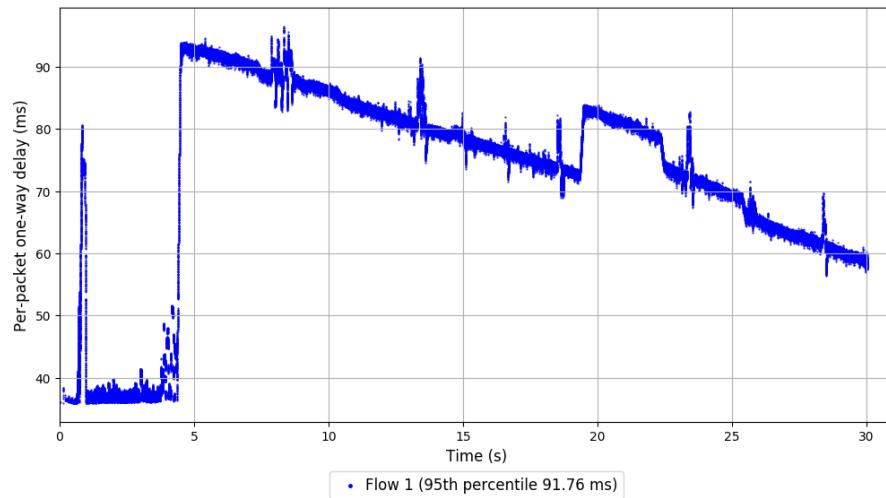
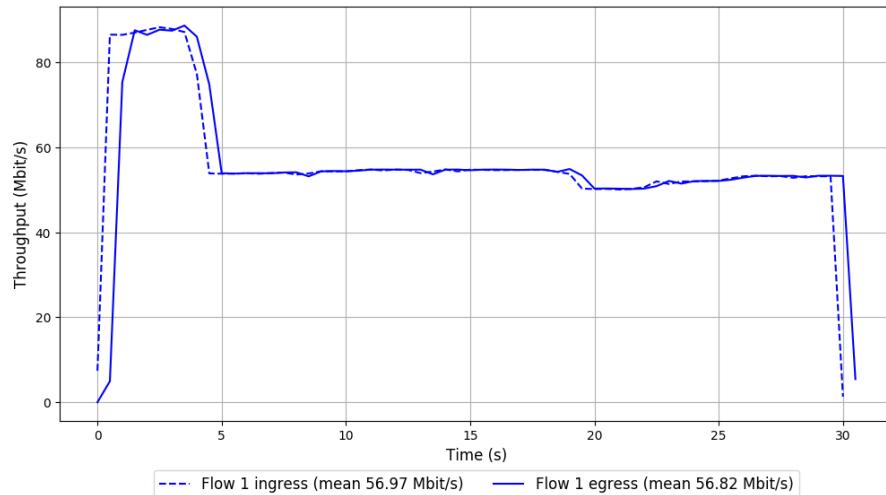


Run 4: Statistics of TCP Vegas

```
Start at: 2018-09-07 11:14:10
End at: 2018-09-07 11:14:40
Local clock offset: 4.951 ms
Remote clock offset: 41.723 ms

# Below is generated by plot.py at 2018-09-07 11:52:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.82 Mbit/s
95th percentile per-packet one-way delay: 91.764 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 56.82 Mbit/s
95th percentile per-packet one-way delay: 91.764 ms
Loss rate: 0.25%
```

Run 4: Report of TCP Vegas — Data Link

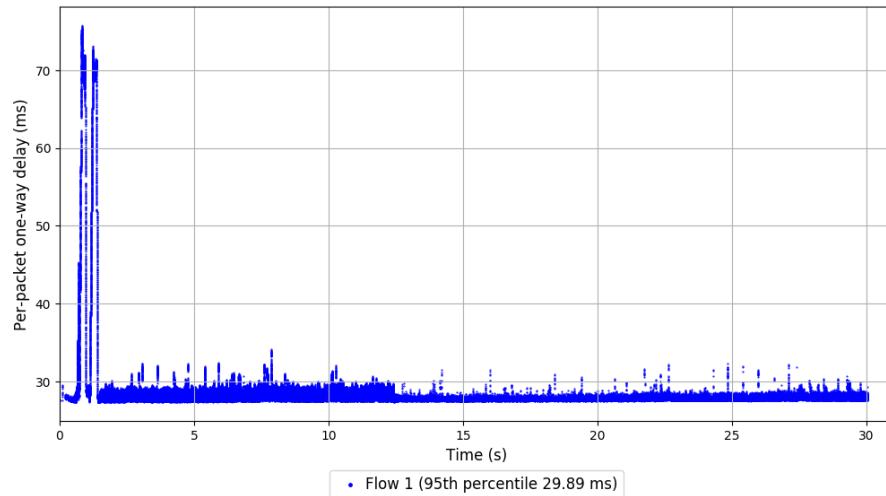
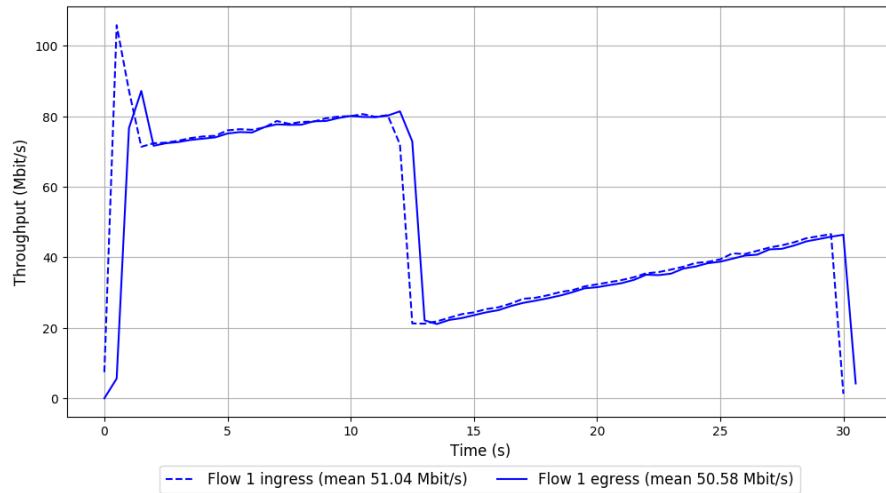


Run 5: Statistics of TCP Vegas

```
Start at: 2018-09-07 11:35:45
End at: 2018-09-07 11:36:15
Local clock offset: -0.634 ms
Remote clock offset: 6.335 ms

# Below is generated by plot.py at 2018-09-07 11:52:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.58 Mbit/s
95th percentile per-packet one-way delay: 29.889 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 50.58 Mbit/s
95th percentile per-packet one-way delay: 29.889 ms
Loss rate: 0.89%
```

Run 5: Report of TCP Vegas — Data Link

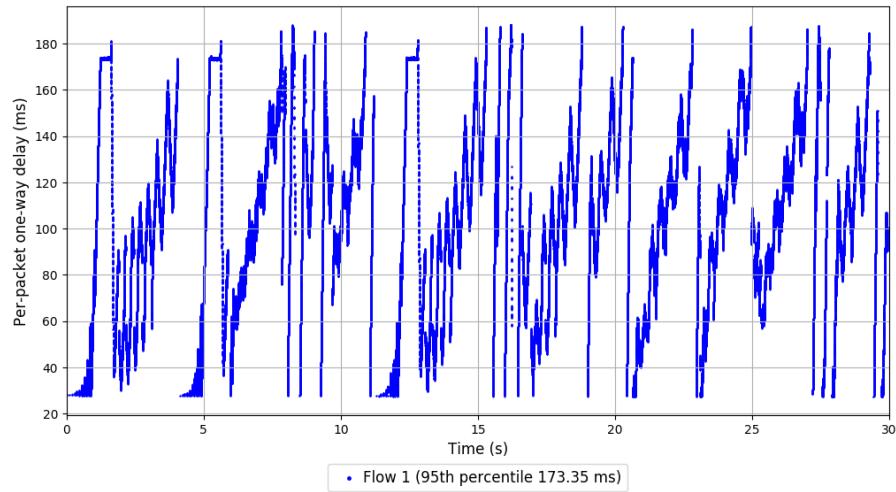
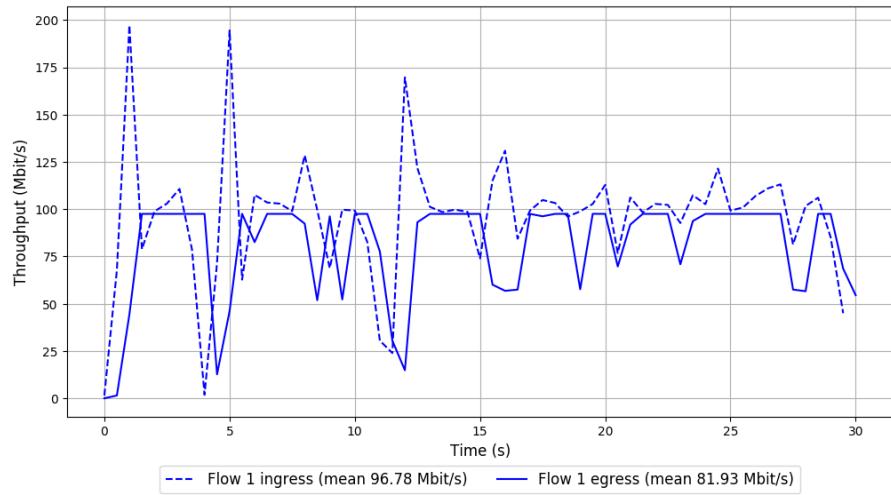


Run 1: Statistics of Verus

```
Start at: 2018-09-07 10:07:06
End at: 2018-09-07 10:07:36
Local clock offset: 5.27 ms
Remote clock offset: 21.222 ms

# Below is generated by plot.py at 2018-09-07 11:52:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.93 Mbit/s
95th percentile per-packet one-way delay: 173.346 ms
Loss rate: 15.26%
-- Flow 1:
Average throughput: 81.93 Mbit/s
95th percentile per-packet one-way delay: 173.346 ms
Loss rate: 15.26%
```

Run 1: Report of Verus — Data Link

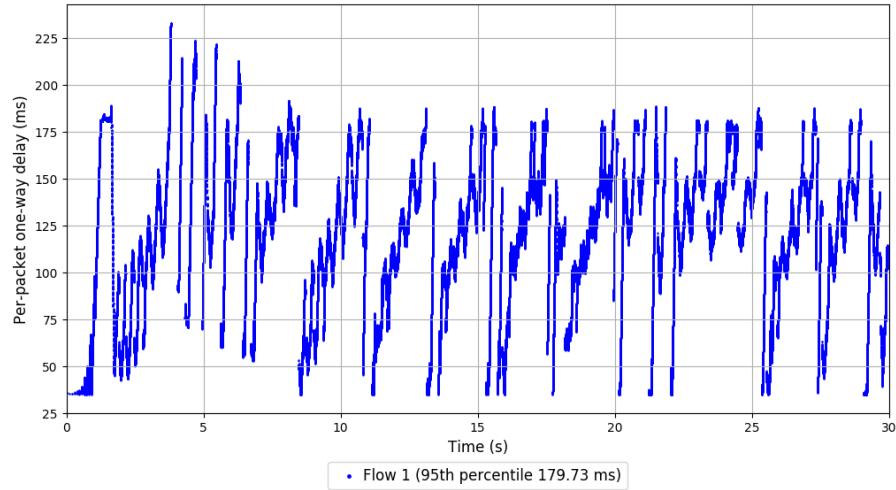
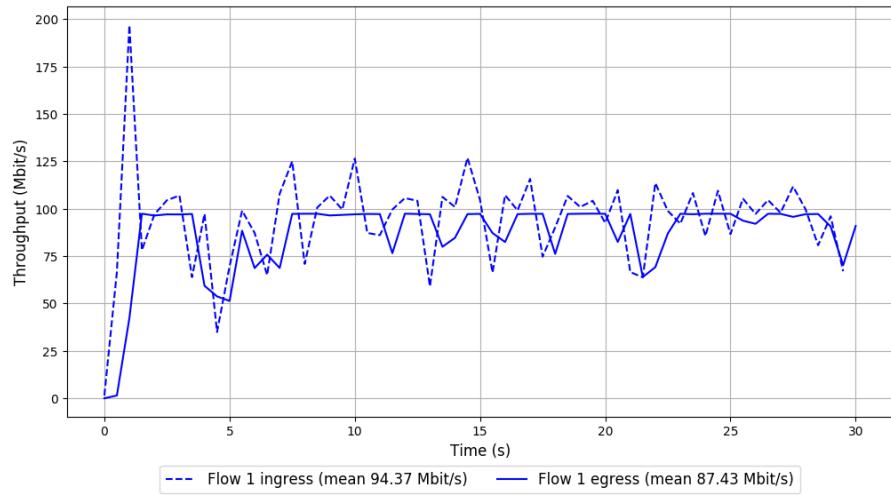


Run 2: Statistics of Verus

```
Start at: 2018-09-07 10:28:39
End at: 2018-09-07 10:29:09
Local clock offset: 5.565 ms
Remote clock offset: 36.931 ms

# Below is generated by plot.py at 2018-09-07 11:52:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.43 Mbit/s
95th percentile per-packet one-way delay: 179.731 ms
Loss rate: 7.17%
-- Flow 1:
Average throughput: 87.43 Mbit/s
95th percentile per-packet one-way delay: 179.731 ms
Loss rate: 7.17%
```

Run 2: Report of Verus — Data Link

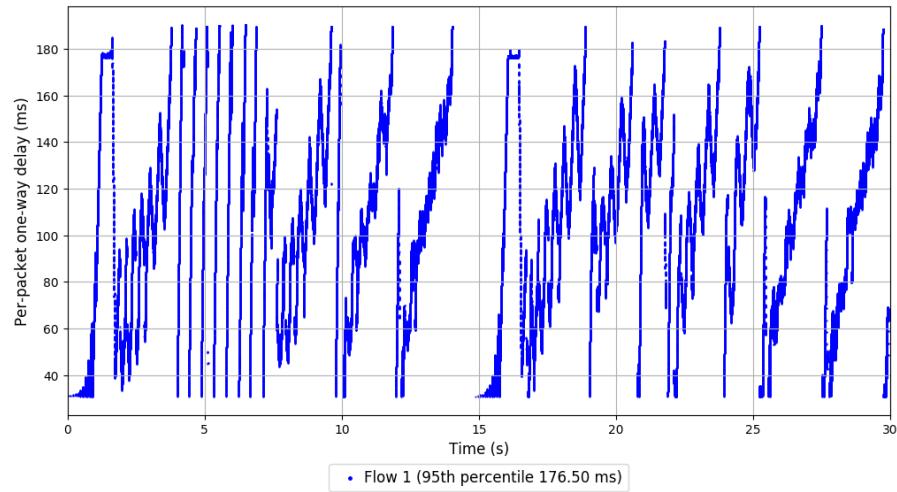
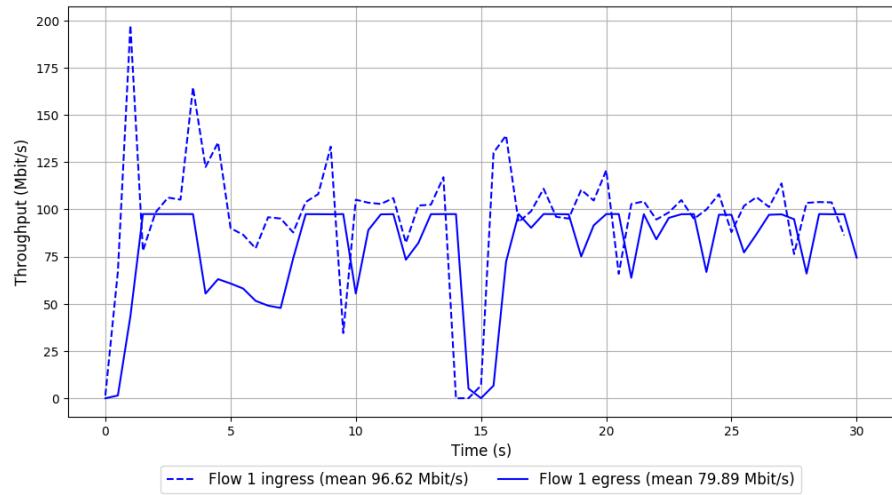


Run 3: Statistics of Verus

```
Start at: 2018-09-07 10:50:13
End at: 2018-09-07 10:50:43
Local clock offset: 5.45 ms
Remote clock offset: 35.217 ms

# Below is generated by plot.py at 2018-09-07 11:52:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.89 Mbit/s
95th percentile per-packet one-way delay: 176.503 ms
Loss rate: 17.27%
-- Flow 1:
Average throughput: 79.89 Mbit/s
95th percentile per-packet one-way delay: 176.503 ms
Loss rate: 17.27%
```

Run 3: Report of Verus — Data Link

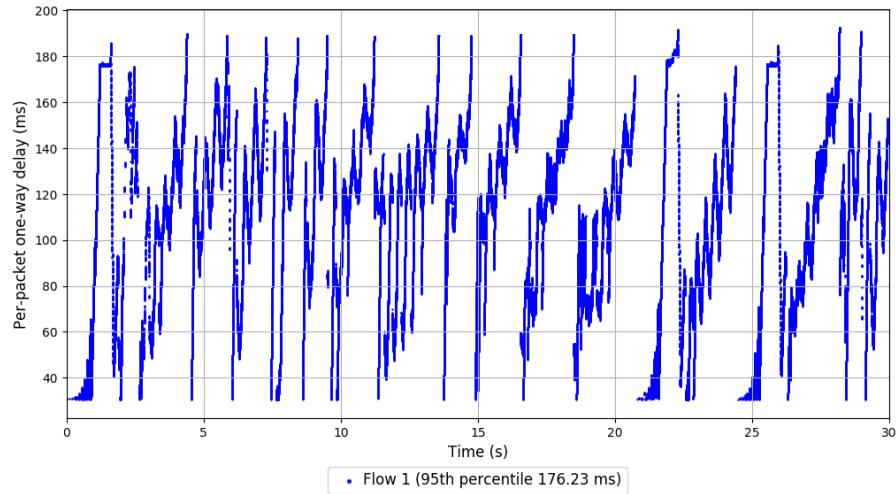
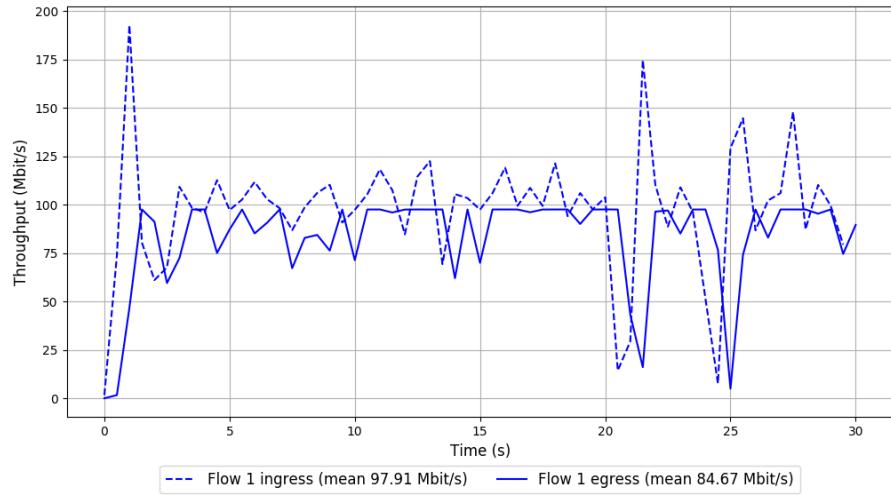


Run 4: Statistics of Verus

```
Start at: 2018-09-07 11:11:45
End at: 2018-09-07 11:12:15
Local clock offset: 5.016 ms
Remote clock offset: 36.445 ms

# Below is generated by plot.py at 2018-09-07 11:53:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.67 Mbit/s
95th percentile per-packet one-way delay: 176.229 ms
Loss rate: 13.40%
-- Flow 1:
Average throughput: 84.67 Mbit/s
95th percentile per-packet one-way delay: 176.229 ms
Loss rate: 13.40%
```

Run 4: Report of Verus — Data Link

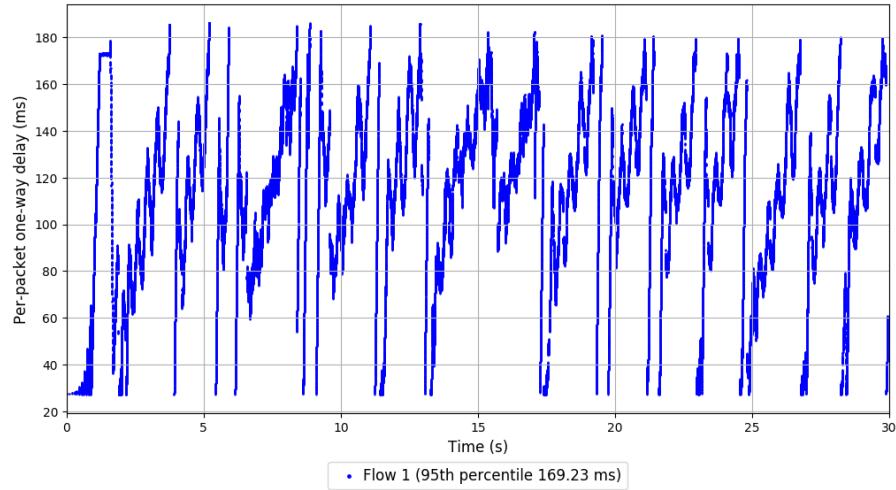
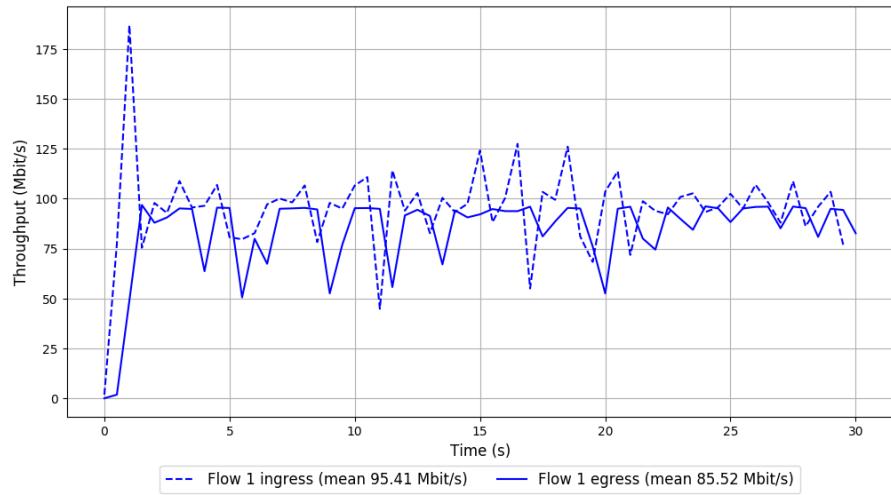


Run 5: Statistics of Verus

```
Start at: 2018-09-07 11:33:20
End at: 2018-09-07 11:33:50
Local clock offset: -0.185 ms
Remote clock offset: 7.699 ms

# Below is generated by plot.py at 2018-09-07 11:53:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.52 Mbit/s
95th percentile per-packet one-way delay: 169.227 ms
Loss rate: 10.27%
-- Flow 1:
Average throughput: 85.52 Mbit/s
95th percentile per-packet one-way delay: 169.227 ms
Loss rate: 10.27%
```

Run 5: Report of Verus — Data Link

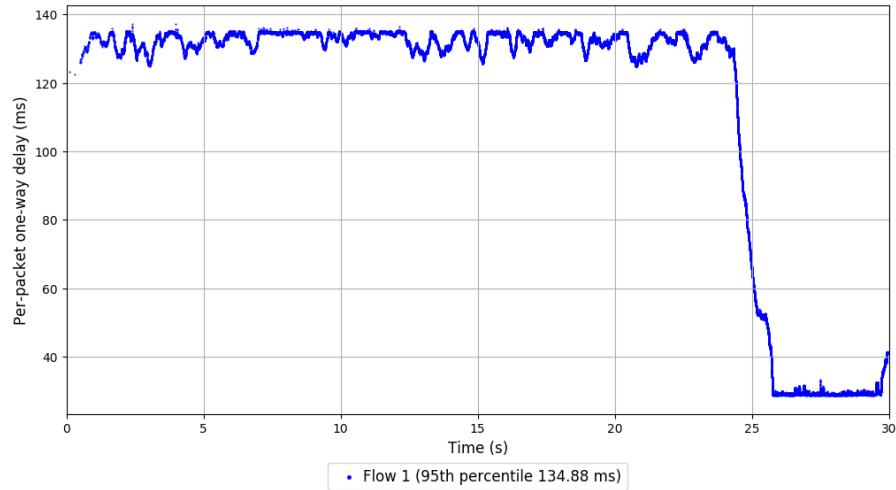
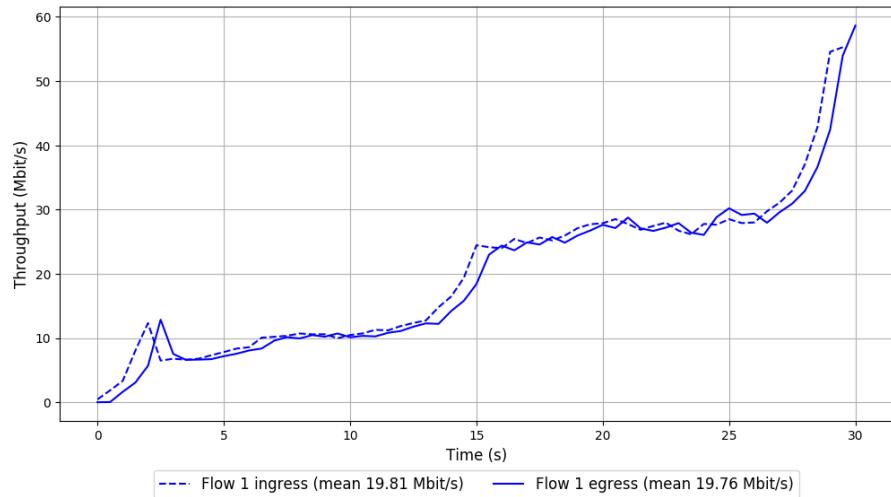


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-09-07 10:15:30
End at: 2018-09-07 10:16:00
Local clock offset: 5.629 ms
Remote clock offset: 28.07 ms

# Below is generated by plot.py at 2018-09-07 11:53:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.76 Mbit/s
95th percentile per-packet one-way delay: 134.881 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 19.76 Mbit/s
95th percentile per-packet one-way delay: 134.881 ms
Loss rate: 0.51%
```

Run 1: Report of PCC-Vivace — Data Link

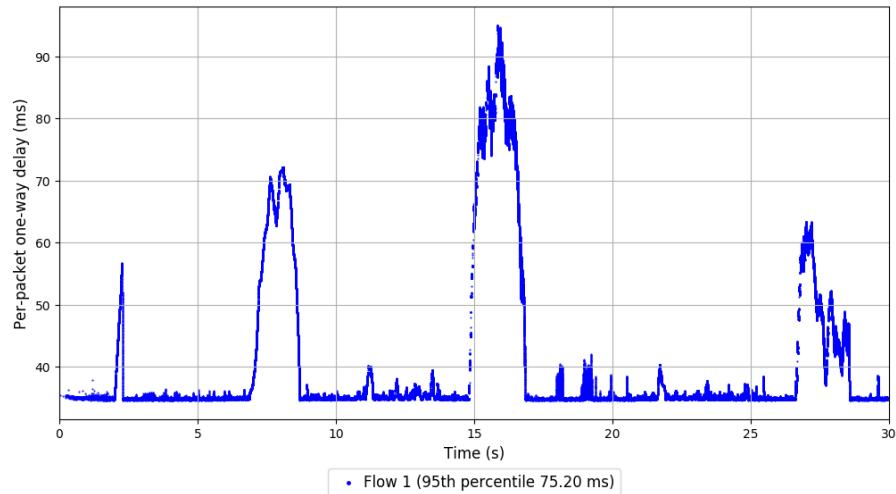
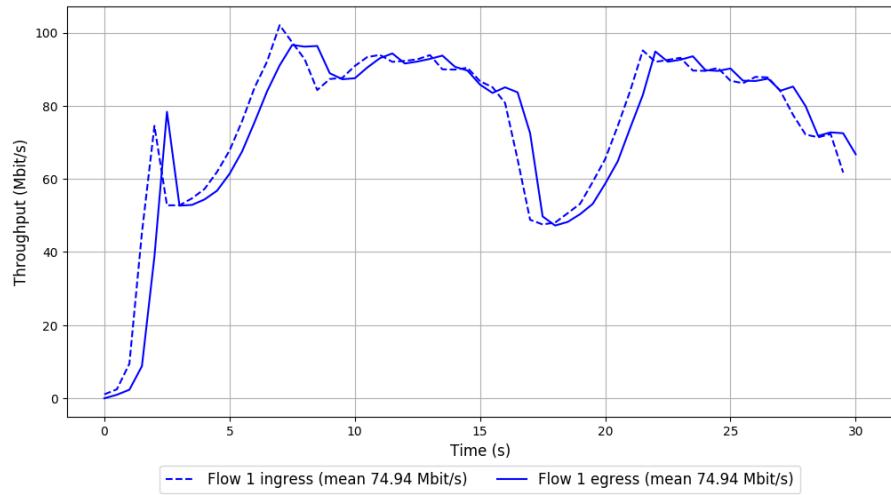


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-09-07 10:37:03
End at: 2018-09-07 10:37:33
Local clock offset: 5.462 ms
Remote clock offset: 37.74 ms

# Below is generated by plot.py at 2018-09-07 11:53:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 74.94 Mbit/s
95th percentile per-packet one-way delay: 75.196 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 74.94 Mbit/s
95th percentile per-packet one-way delay: 75.196 ms
Loss rate: 0.00%
```

Run 2: Report of PCC-Vivace — Data Link

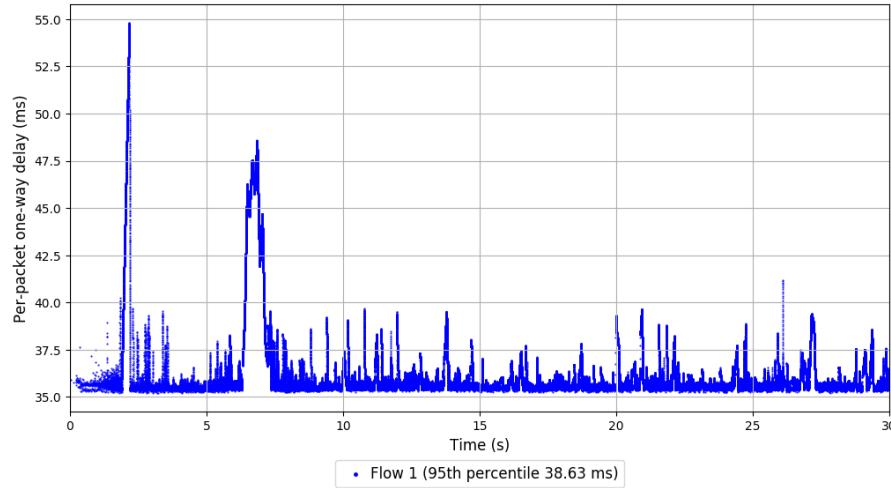
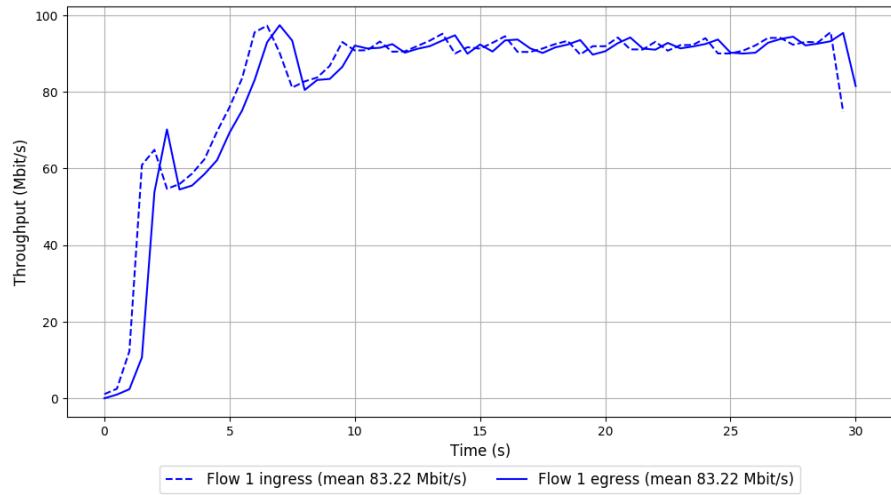


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-09-07 10:58:36
End at: 2018-09-07 10:59:06
Local clock offset: 5.339 ms
Remote clock offset: 40.59 ms

# Below is generated by plot.py at 2018-09-07 11:53:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.22 Mbit/s
95th percentile per-packet one-way delay: 38.629 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 83.22 Mbit/s
95th percentile per-packet one-way delay: 38.629 ms
Loss rate: 0.00%
```

Run 3: Report of PCC-Vivace — Data Link

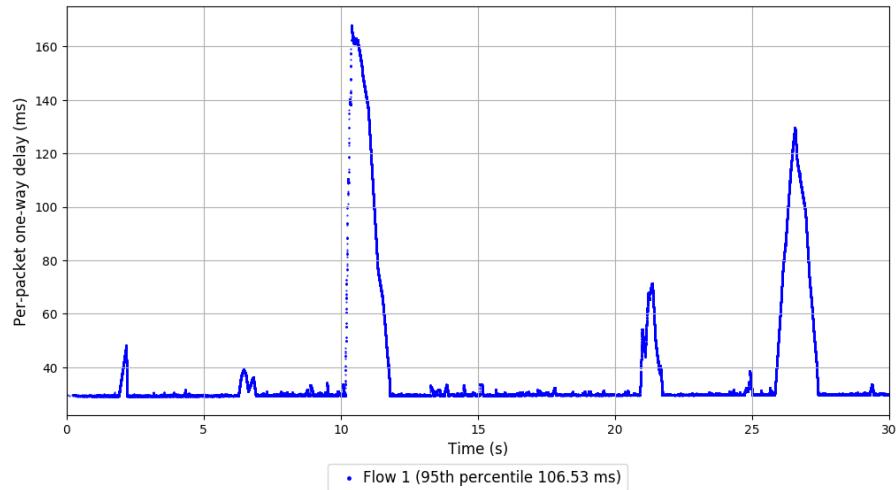
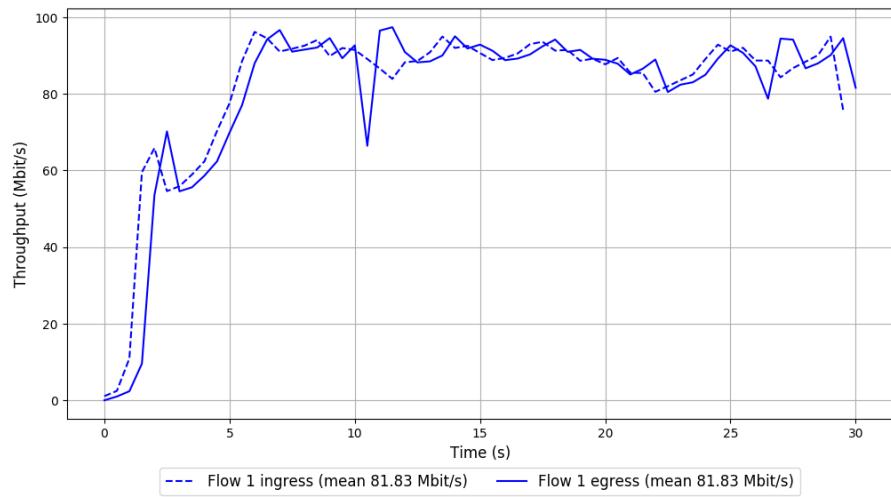


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-09-07 11:20:08
End at: 2018-09-07 11:20:38
Local clock offset: 2.786 ms
Remote clock offset: 22.595 ms

# Below is generated by plot.py at 2018-09-07 11:53:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.83 Mbit/s
95th percentile per-packet one-way delay: 106.525 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 81.83 Mbit/s
95th percentile per-packet one-way delay: 106.525 ms
Loss rate: 0.00%
```

Run 4: Report of PCC-Vivace — Data Link

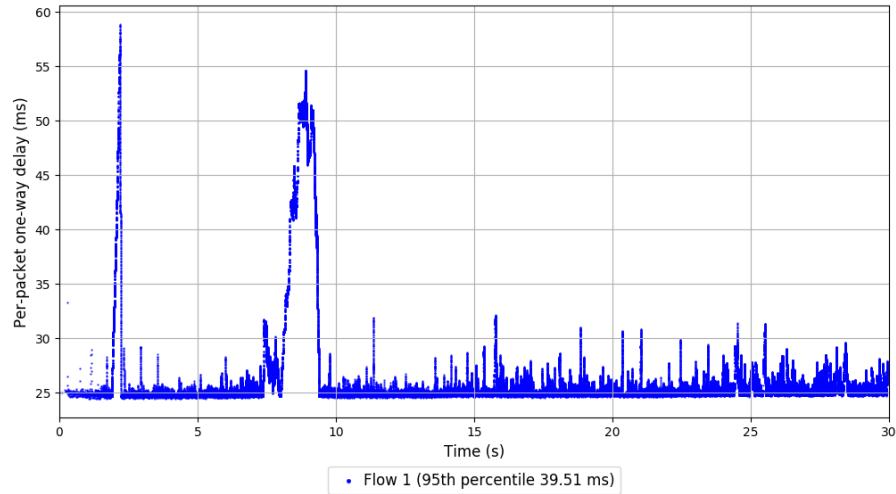
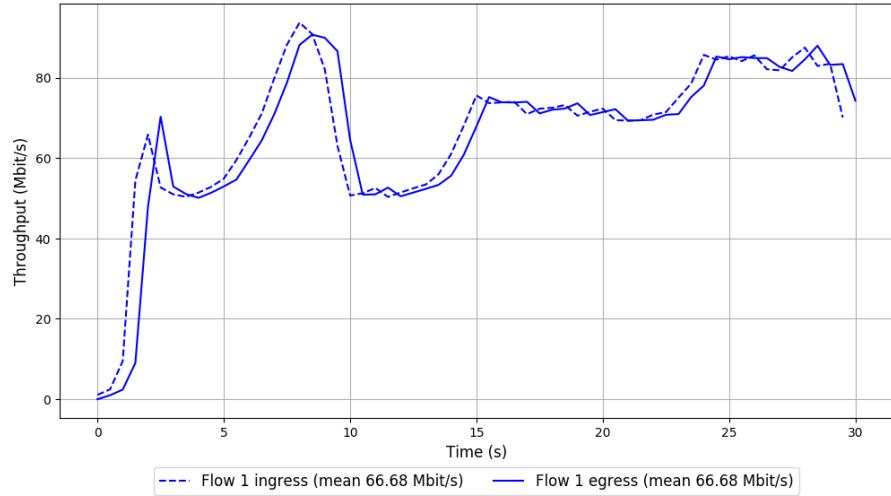


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-09-07 11:41:40
End at: 2018-09-07 11:42:10
Local clock offset: -0.949 ms
Remote clock offset: 1.008 ms

# Below is generated by plot.py at 2018-09-07 11:53:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 66.68 Mbit/s
95th percentile per-packet one-way delay: 39.506 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 66.68 Mbit/s
95th percentile per-packet one-way delay: 39.506 ms
Loss rate: 0.00%
```

Run 5: Report of PCC-Vivace — Data Link

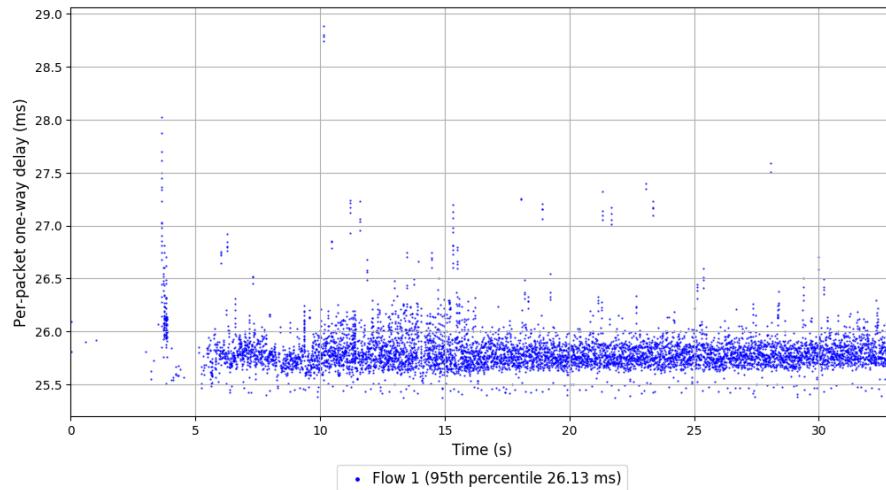
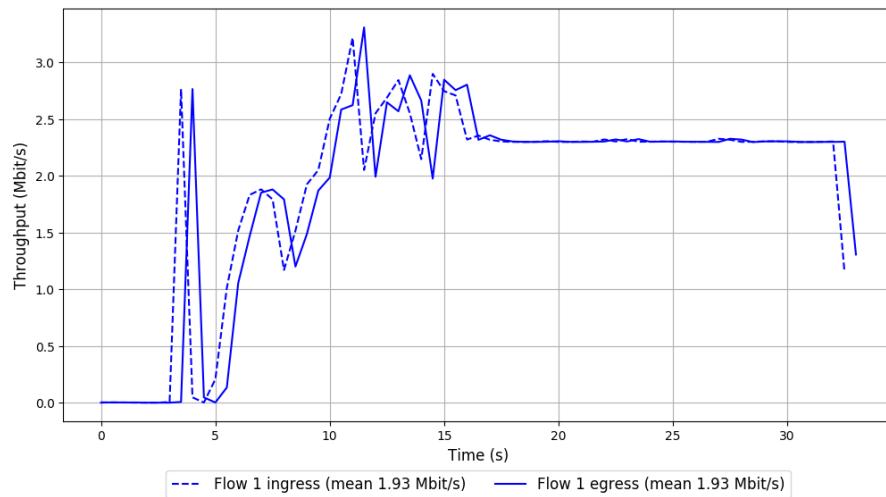


```
Run 1: Statistics of WebRTC media

Start at: 2018-09-07 10:02:24
End at: 2018-09-07 10:02:54
Local clock offset: 5.261 ms
Remote clock offset: 17.918 ms

# Below is generated by plot.py at 2018-09-07 11:53:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 26.129 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 26.129 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

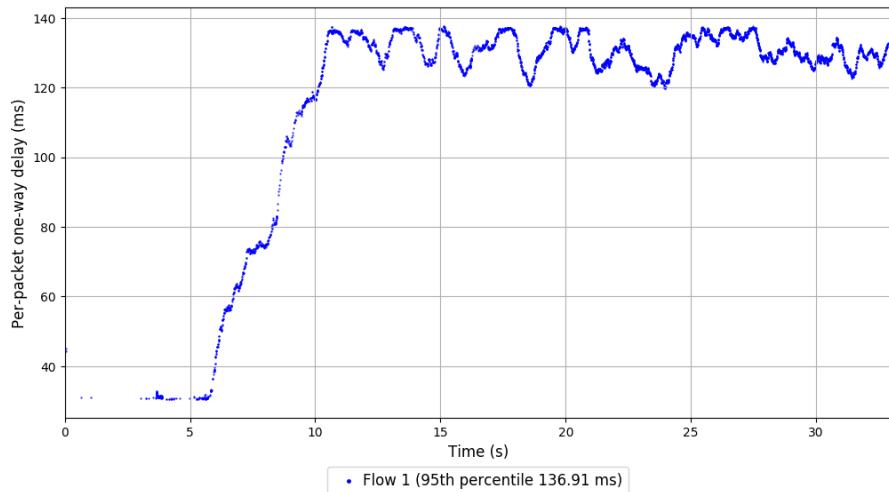
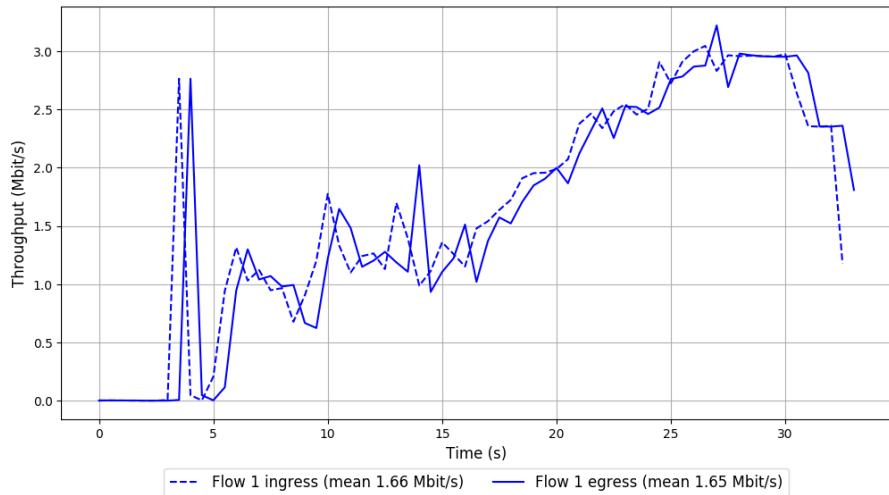


Run 2: Statistics of WebRTC media

```
Start at: 2018-09-07 10:23:57
End at: 2018-09-07 10:24:27
Local clock offset: 5.526 ms
Remote clock offset: 31.655 ms

# Below is generated by plot.py at 2018-09-07 11:53:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 136.908 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 136.908 ms
Loss rate: 0.11%
```

Run 2: Report of WebRTC media — Data Link

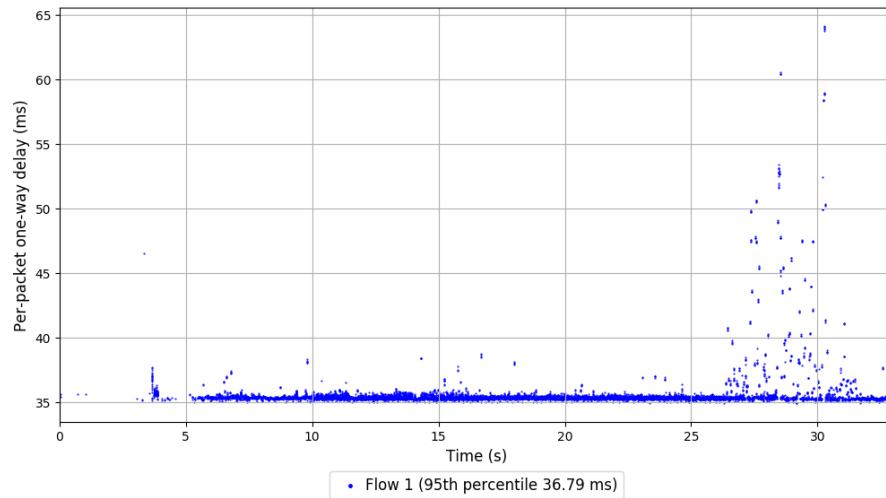
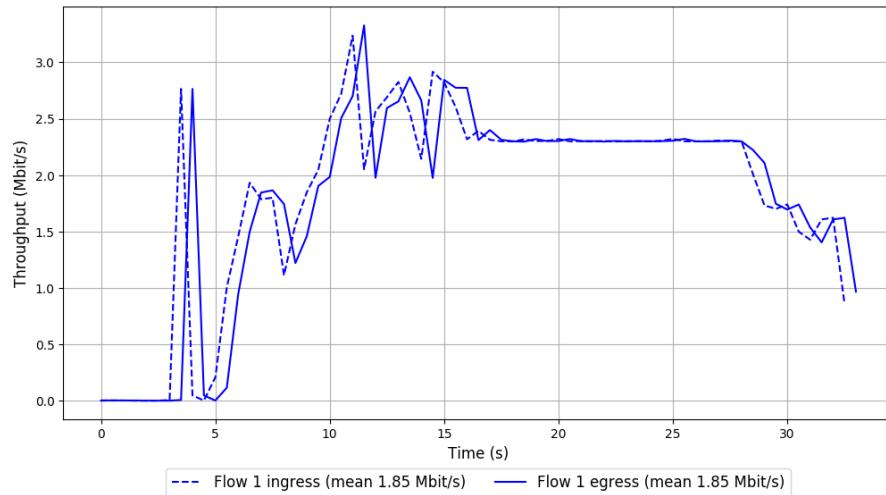


Run 3: Statistics of WebRTC media

```
Start at: 2018-09-07 10:45:38
End at: 2018-09-07 10:46:08
Local clock offset: 5.477 ms
Remote clock offset: 38.768 ms

# Below is generated by plot.py at 2018-09-07 11:53:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 36.787 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.85 Mbit/s
95th percentile per-packet one-way delay: 36.787 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

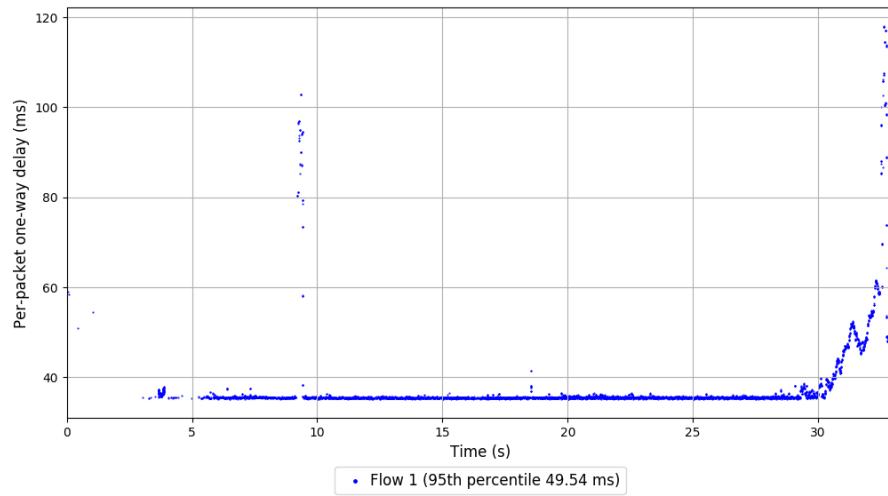
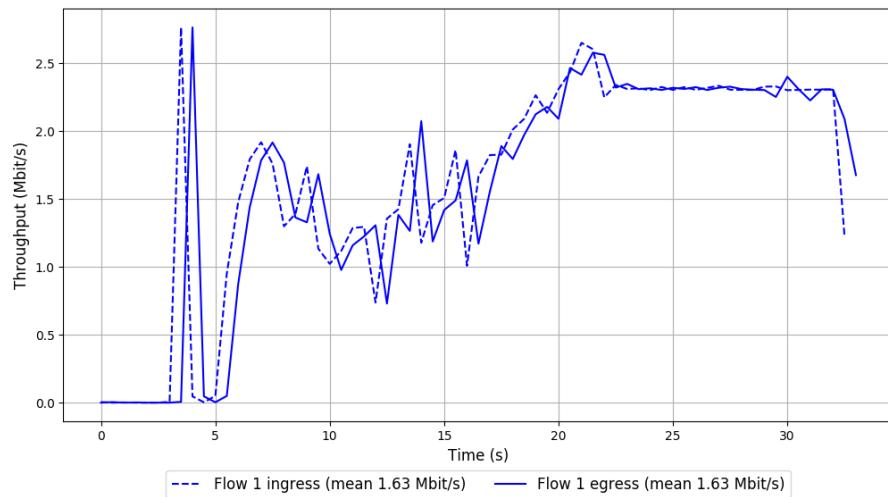


Run 4: Statistics of WebRTC media

```
Start at: 2018-09-07 11:07:09
End at: 2018-09-07 11:07:39
Local clock offset: 4.99 ms
Remote clock offset: 40.934 ms

# Below is generated by plot.py at 2018-09-07 11:53:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 49.542 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 49.542 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-09-07 11:28:42
End at: 2018-09-07 11:29:12
Local clock offset: 0.431 ms
Remote clock offset: 10.185 ms

# Below is generated by plot.py at 2018-09-07 11:53:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 27.487 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 27.487 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

