

Pantheon Report

Generated at 2018-11-30 08:07:46 (UTC).
Data path: GCE Iowa on `ens4` (*remote*) → GCE Sydney on `ens4` (*local*).
Repeated the test of 19 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against `time.google.com` and have been applied to correct the timestamps in logs.

System info:

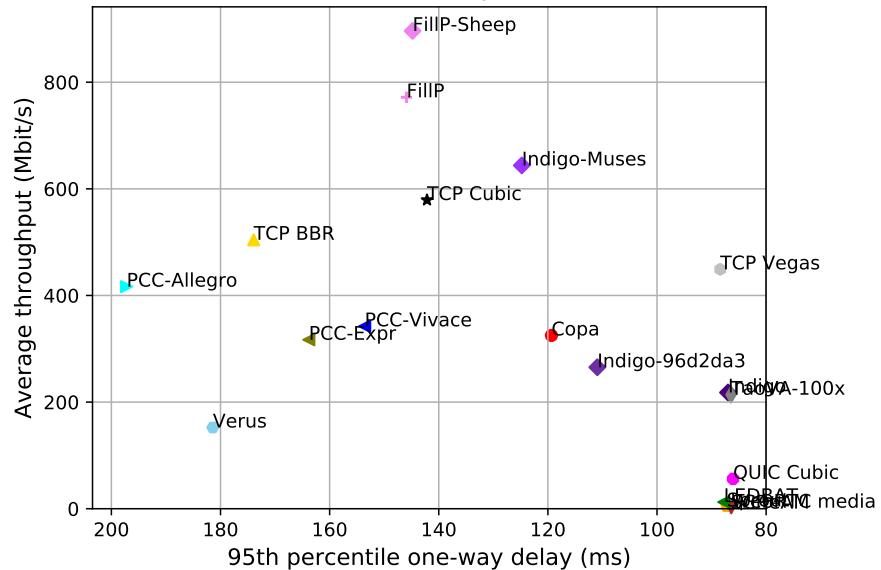
```
Linux 4.15.0-1024-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

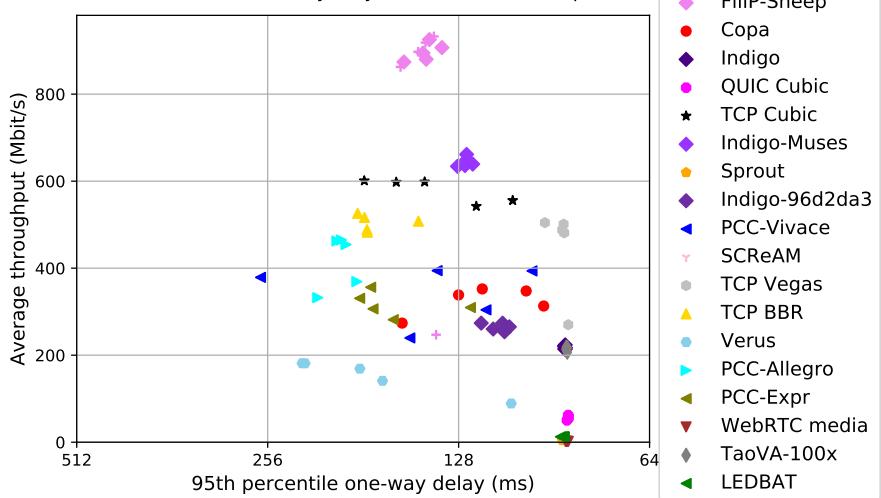
```
branch: muses @ 7b6dad87cde3ab65f7c4052140eb54098aa58e9d
third_party/fillp @ d6da1459332fce56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fc45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
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 GCE Iowa to GCE Sydney, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from GCE Iowa to GCE Sydney, 5 runs of 30s each per scheme



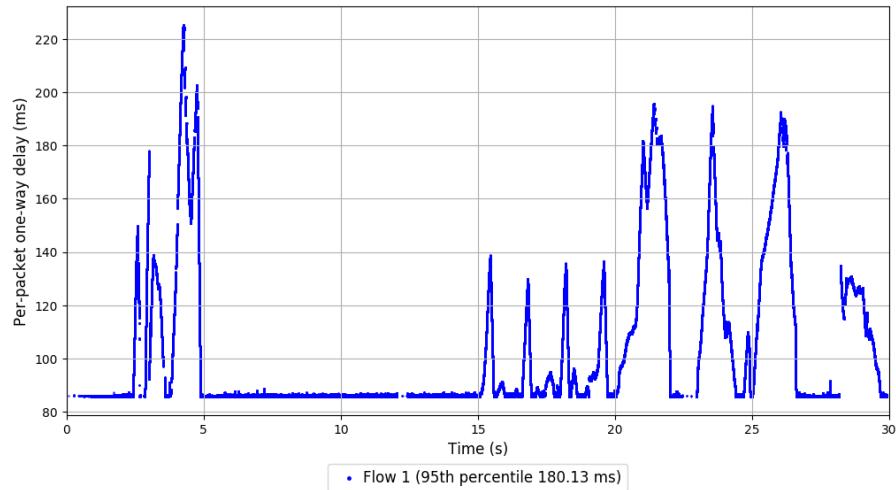
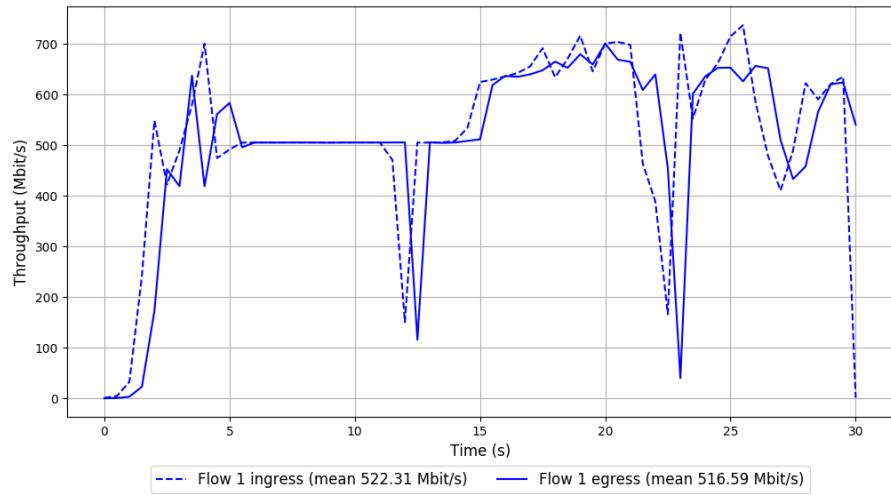
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	504.39	173.92	1.59
Copa	5	325.05	119.35	0.49
TCP Cubic	5	579.02	142.16	0.75
FillP	5	771.69	145.91	2.74
FillP-Sheep	5	896.17	144.80	1.82
Indigo	5	218.01	86.99	0.61
Indigo-96d2da3	5	265.33	110.94	0.82
LEDBAT	5	12.45	87.78	1.16
Indigo-Muses	5	643.93	124.78	0.76
PCC-Allegro	5	416.57	197.21	3.59
PCC-Expr	5	316.90	163.82	2.05
QUIC Cubic	5	56.02	86.06	0.99
SCReAM	5	0.22	86.52	0.59
Sprout	5	4.32	87.22	0.75
TaoVA-100x	5	213.82	86.44	0.61
TCP Vegas	5	448.96	88.42	0.61
Verus	5	152.36	181.41	1.77
PCC-Vivace	5	342.15	153.58	1.55
WebRTC media	5	1.92	86.38	0.63

Run 1: Statistics of TCP BBR

```
Start at: 2018-11-30 03:55:46
End at: 2018-11-30 03:56:16
Local clock offset: -0.109 ms
Remote clock offset: -0.079 ms

# Below is generated by plot.py at 2018-11-30 06:36:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 516.59 Mbit/s
95th percentile per-packet one-way delay: 180.132 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 516.59 Mbit/s
95th percentile per-packet one-way delay: 180.132 ms
Loss rate: 1.66%
```

Run 1: Report of TCP BBR — Data Link

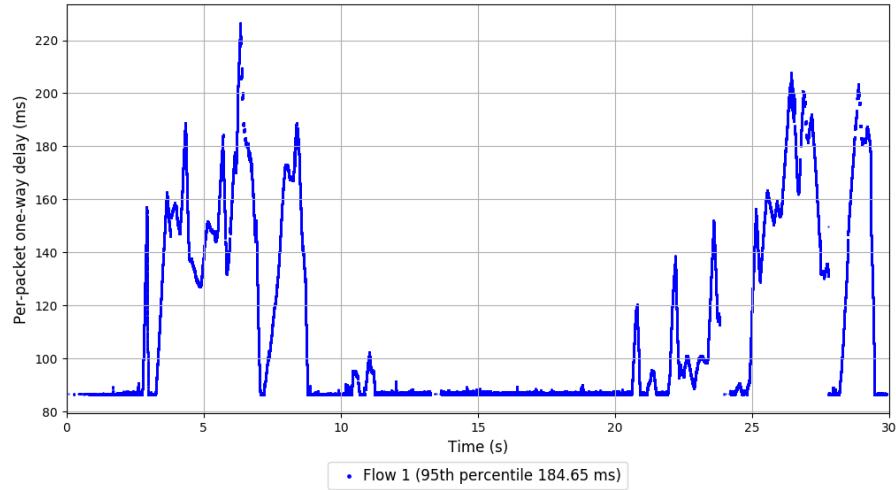
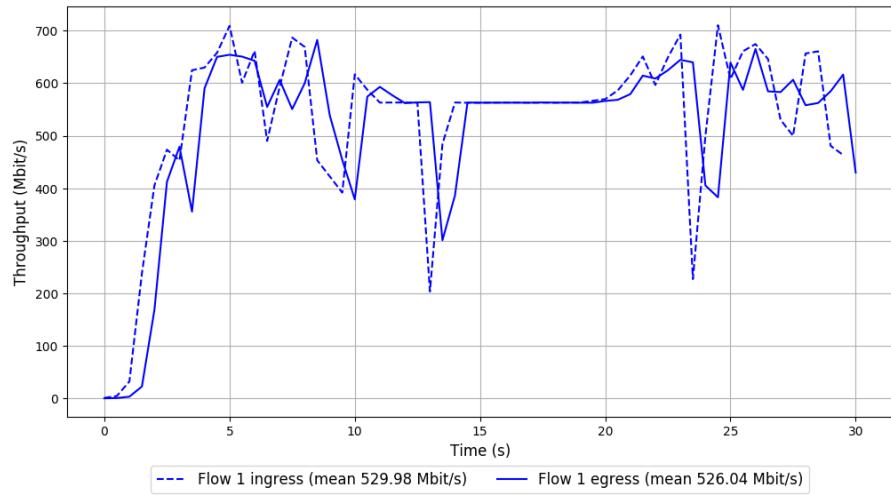


Run 2: Statistics of TCP BBR

```
Start at: 2018-11-30 04:24:03
End at: 2018-11-30 04:24:33
Local clock offset: 0.066 ms
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2018-11-30 06:36:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 526.04 Mbit/s
95th percentile per-packet one-way delay: 184.650 ms
Loss rate: 1.32%
-- Flow 1:
Average throughput: 526.04 Mbit/s
95th percentile per-packet one-way delay: 184.650 ms
Loss rate: 1.32%
```

Run 2: Report of TCP BBR — Data Link

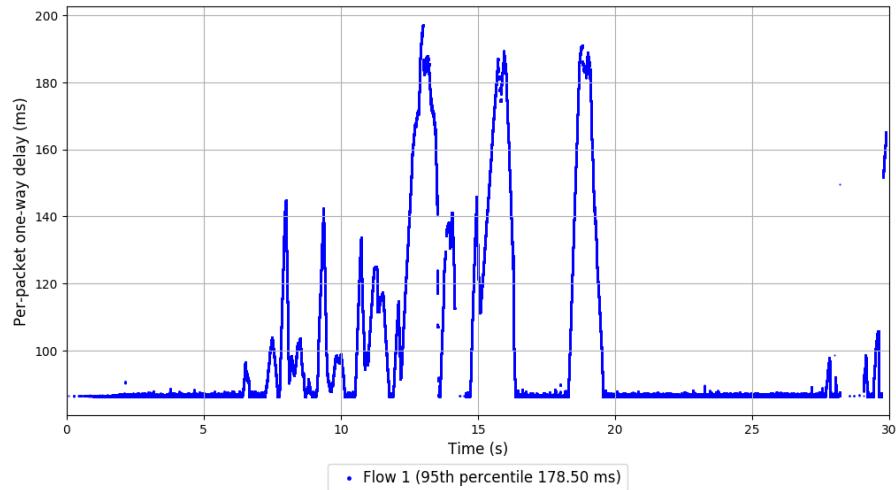
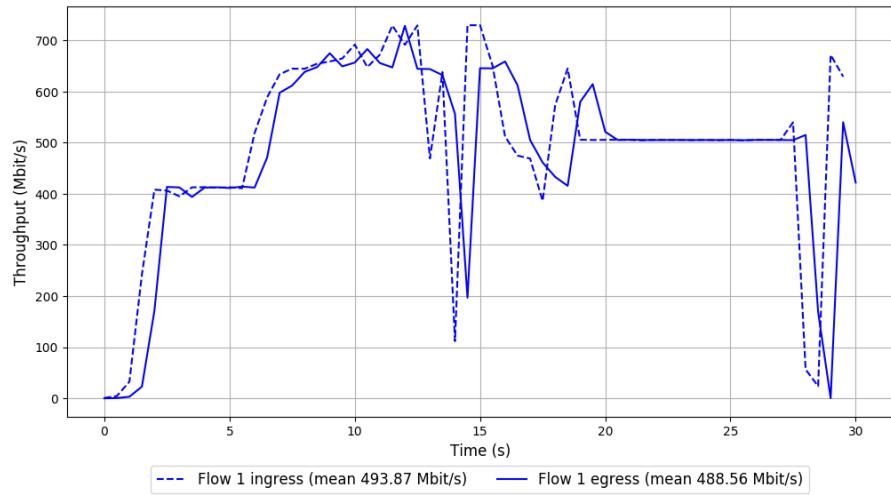


Run 3: Statistics of TCP BBR

```
Start at: 2018-11-30 04:52:36
End at: 2018-11-30 04:53:06
Local clock offset: 0.005 ms
Remote clock offset: -0.064 ms

# Below is generated by plot.py at 2018-11-30 06:36:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 488.56 Mbit/s
95th percentile per-packet one-way delay: 178.497 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 488.56 Mbit/s
95th percentile per-packet one-way delay: 178.497 ms
Loss rate: 1.65%
```

Run 3: Report of TCP BBR — Data Link

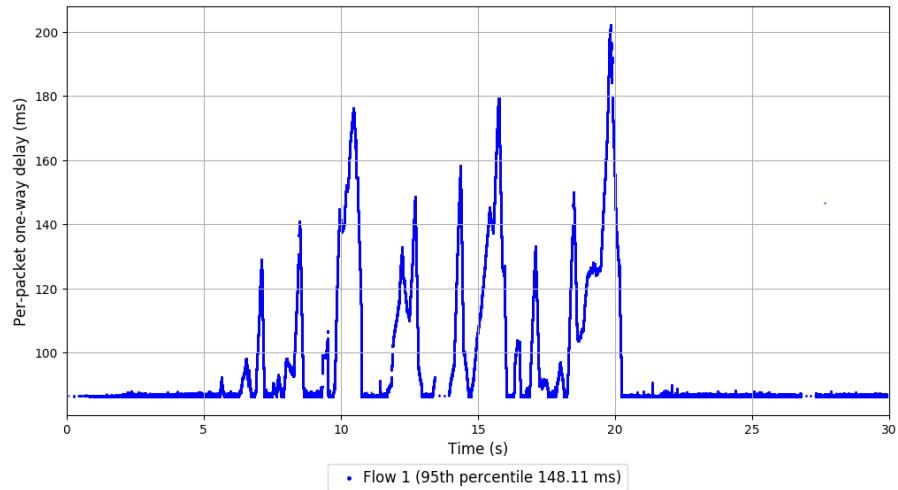
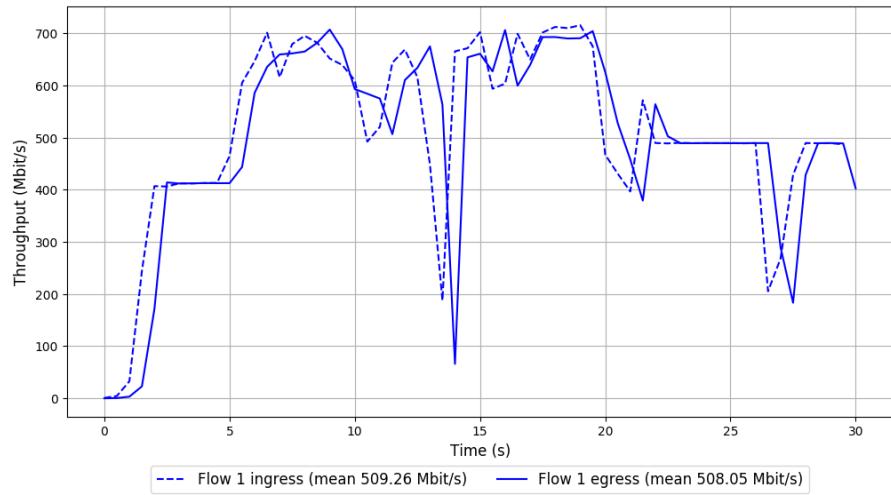


Run 4: Statistics of TCP BBR

```
Start at: 2018-11-30 05:20:42
End at: 2018-11-30 05:21:12
Local clock offset: 0.121 ms
Remote clock offset: -0.131 ms

# Below is generated by plot.py at 2018-11-30 06:36:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 508.05 Mbit/s
95th percentile per-packet one-way delay: 148.109 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 508.05 Mbit/s
95th percentile per-packet one-way delay: 148.109 ms
Loss rate: 0.81%
```

Run 4: Report of TCP BBR — Data Link

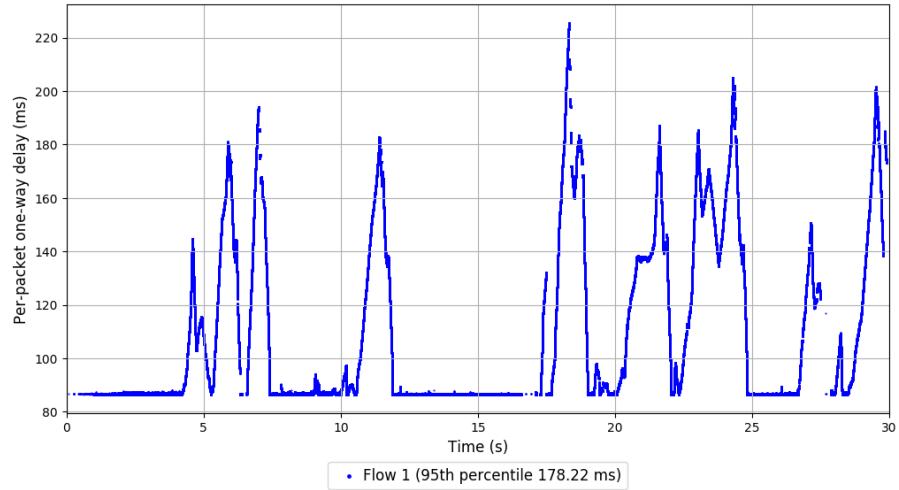
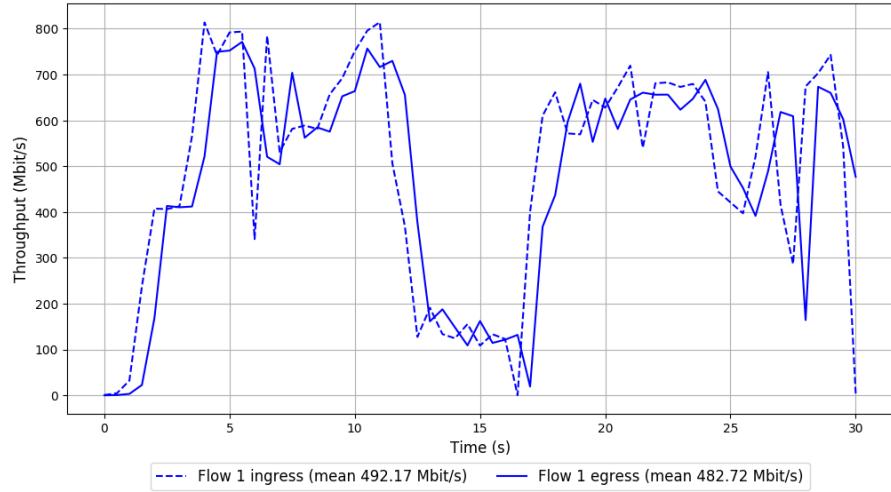


Run 5: Statistics of TCP BBR

```
Start at: 2018-11-30 05:49:19
End at: 2018-11-30 05:49:49
Local clock offset: -0.143 ms
Remote clock offset: -0.159 ms

# Below is generated by plot.py at 2018-11-30 06:36:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 482.72 Mbit/s
95th percentile per-packet one-way delay: 178.221 ms
Loss rate: 2.49%
-- Flow 1:
Average throughput: 482.72 Mbit/s
95th percentile per-packet one-way delay: 178.221 ms
Loss rate: 2.49%
```

Run 5: Report of TCP BBR — Data Link

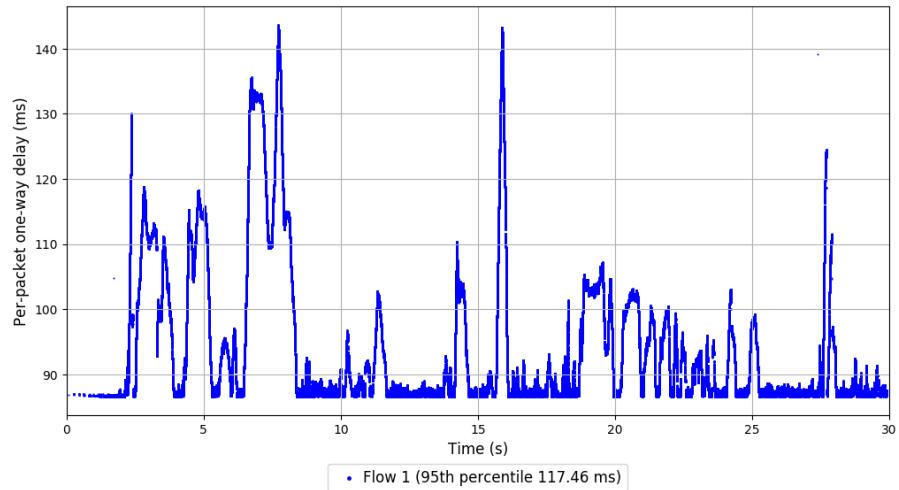
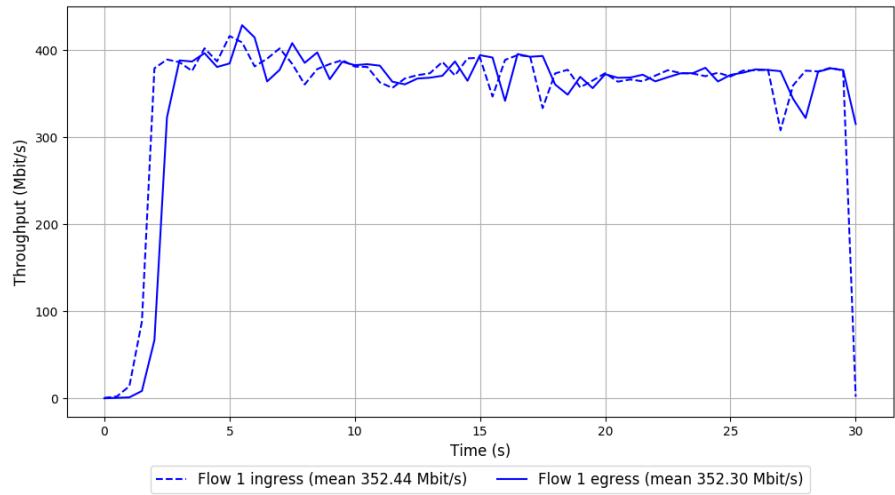


Run 1: Statistics of Copa

```
Start at: 2018-11-30 04:06:20
End at: 2018-11-30 04:06:50
Local clock offset: -0.002 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2018-11-30 06:38:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 352.30 Mbit/s
95th percentile per-packet one-way delay: 117.462 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 352.30 Mbit/s
95th percentile per-packet one-way delay: 117.462 ms
Loss rate: 0.62%
```

Run 1: Report of Copa — Data Link

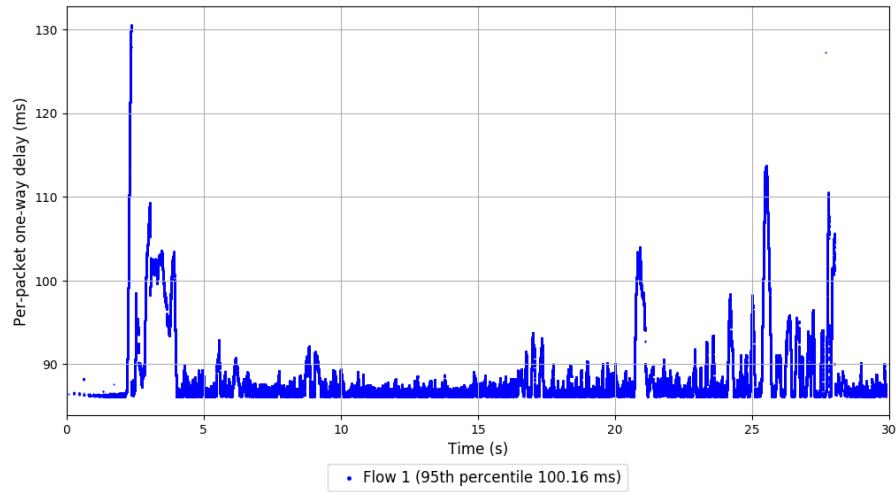
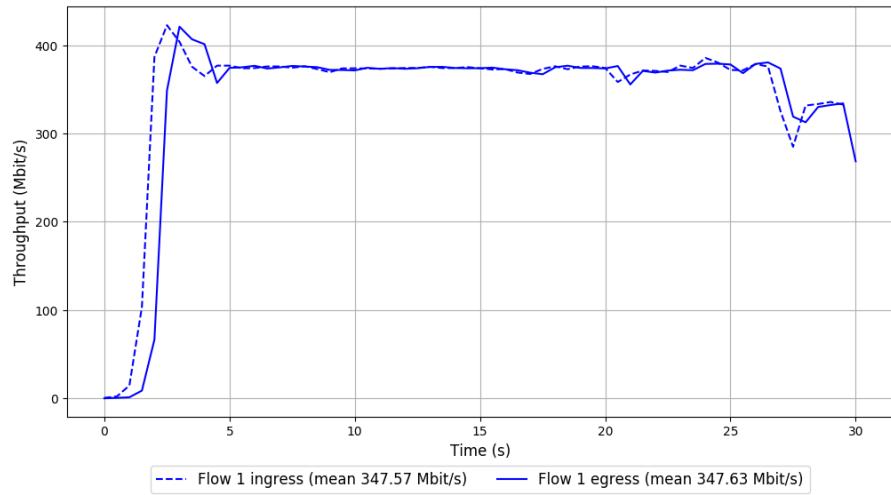


Run 2: Statistics of Copa

```
Start at: 2018-11-30 04:34:44
End at: 2018-11-30 04:35:14
Local clock offset: 0.217 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2018-11-30 06:38:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 347.63 Mbit/s
95th percentile per-packet one-way delay: 100.159 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 347.63 Mbit/s
95th percentile per-packet one-way delay: 100.159 ms
Loss rate: 0.56%
```

Run 2: Report of Copa — Data Link

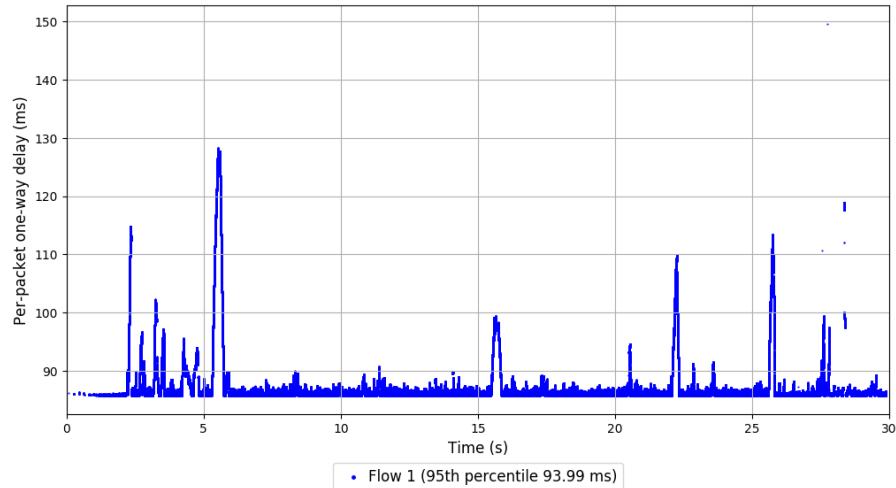
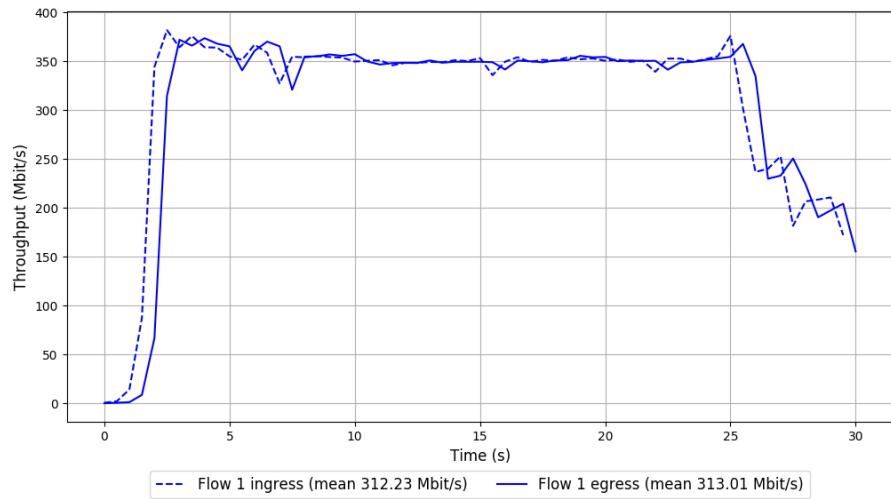


Run 3: Statistics of Copa

```
Start at: 2018-11-30 05:03:05
End at: 2018-11-30 05:03:35
Local clock offset: -0.103 ms
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2018-11-30 06:38:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 313.01 Mbit/s
95th percentile per-packet one-way delay: 93.987 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 313.01 Mbit/s
95th percentile per-packet one-way delay: 93.987 ms
Loss rate: 0.33%
```

Run 3: Report of Copa — Data Link

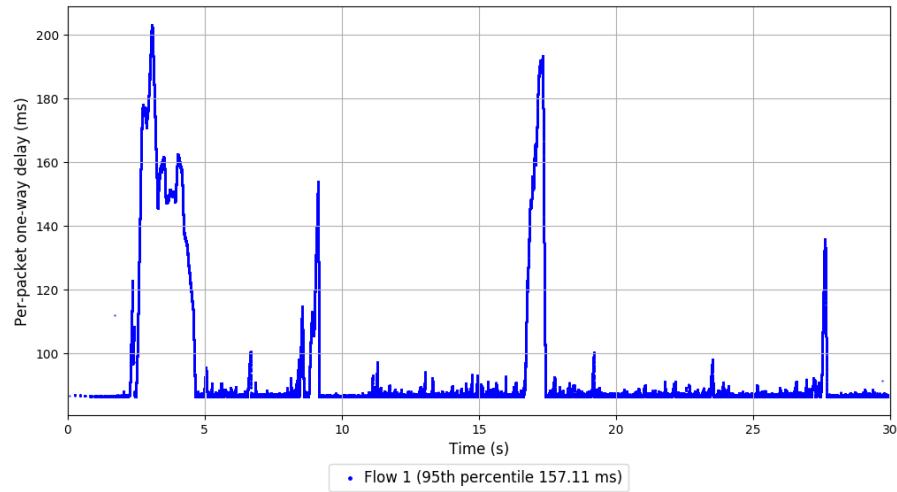
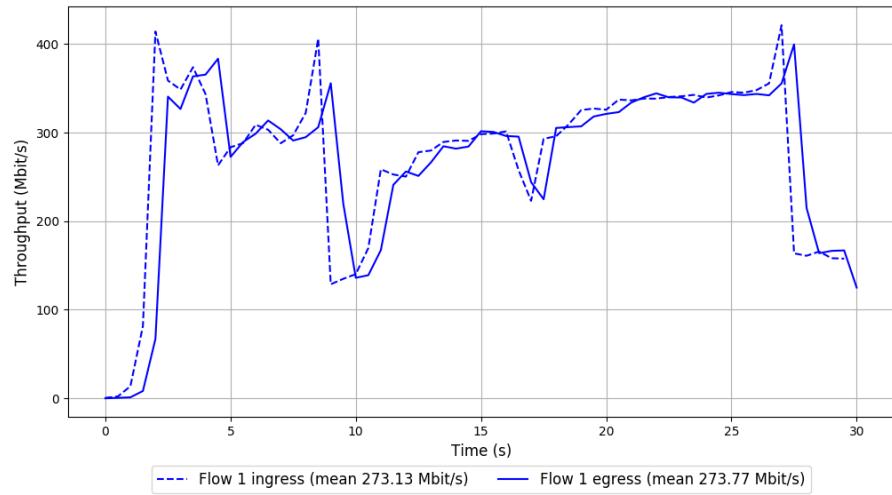


Run 4: Statistics of Copa

```
Start at: 2018-11-30 05:31:21
End at: 2018-11-30 05:31:51
Local clock offset: -0.274 ms
Remote clock offset: -0.158 ms

# Below is generated by plot.py at 2018-11-30 06:45:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 273.77 Mbit/s
95th percentile per-packet one-way delay: 157.114 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 273.77 Mbit/s
95th percentile per-packet one-way delay: 157.114 ms
Loss rate: 0.34%
```

Run 4: Report of Copa — Data Link

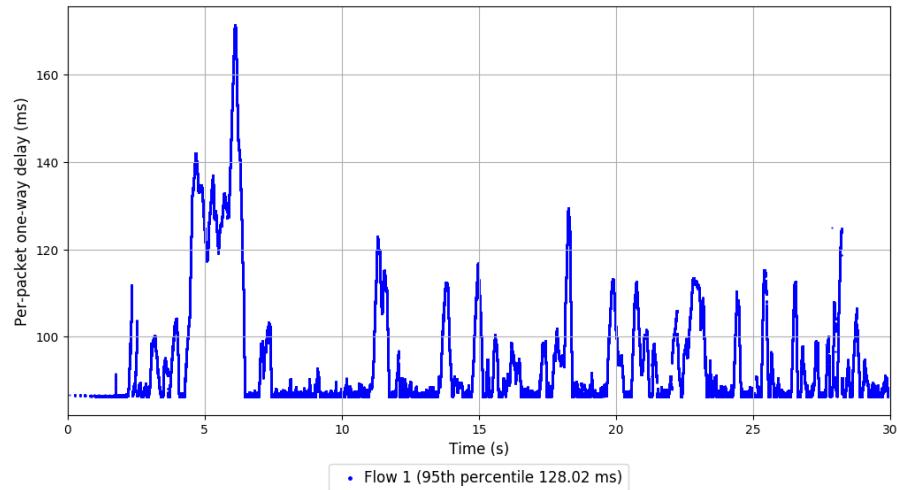
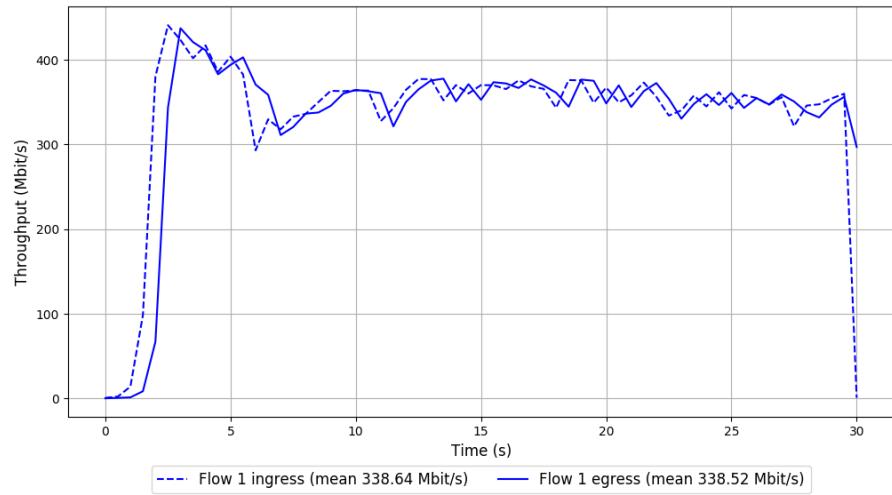


Run 5: Statistics of Copa

```
Start at: 2018-11-30 05:59:33
End at: 2018-11-30 06:00:03
Local clock offset: -0.269 ms
Remote clock offset: -0.117 ms

# Below is generated by plot.py at 2018-11-30 06:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 338.52 Mbit/s
95th percentile per-packet one-way delay: 128.018 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 338.52 Mbit/s
95th percentile per-packet one-way delay: 128.018 ms
Loss rate: 0.61%
```

Run 5: Report of Copa — Data Link

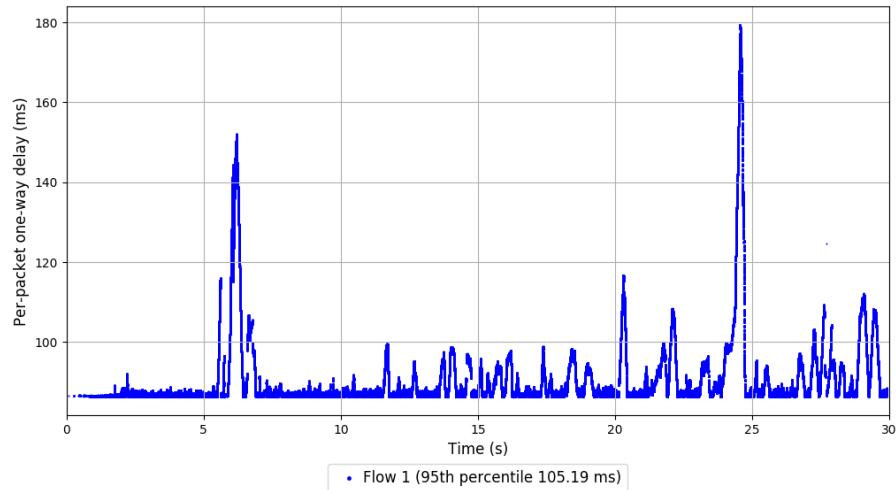
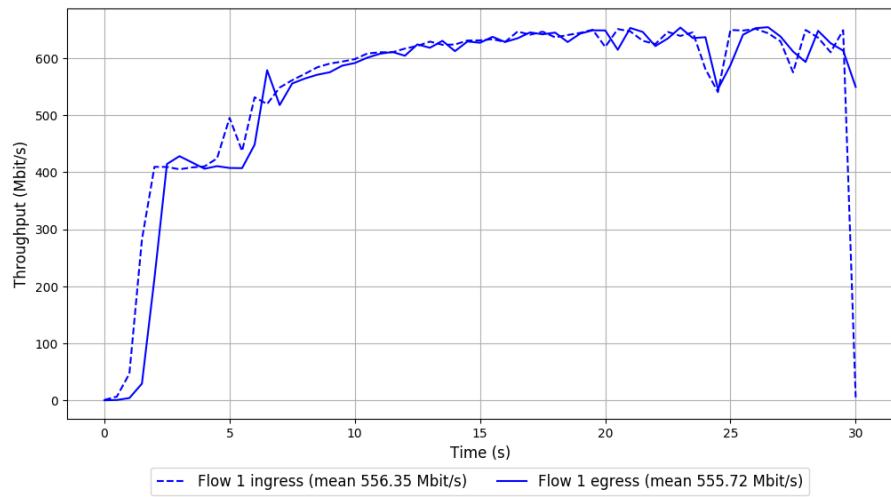


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-11-30 04:08:06
End at: 2018-11-30 04:08:36
Local clock offset: -0.154 ms
Remote clock offset: -0.13 ms

# Below is generated by plot.py at 2018-11-30 06:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 555.72 Mbit/s
95th percentile per-packet one-way delay: 105.187 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 555.72 Mbit/s
95th percentile per-packet one-way delay: 105.187 ms
Loss rate: 0.69%
```

Run 1: Report of TCP Cubic — Data Link

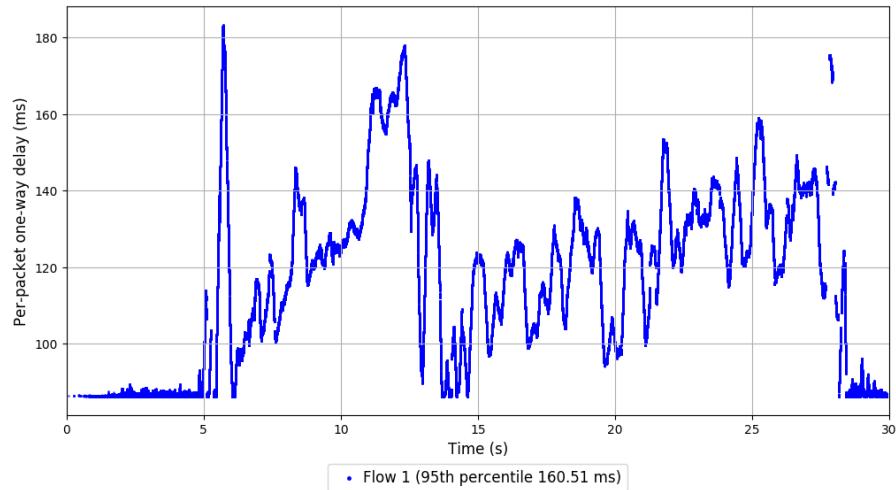
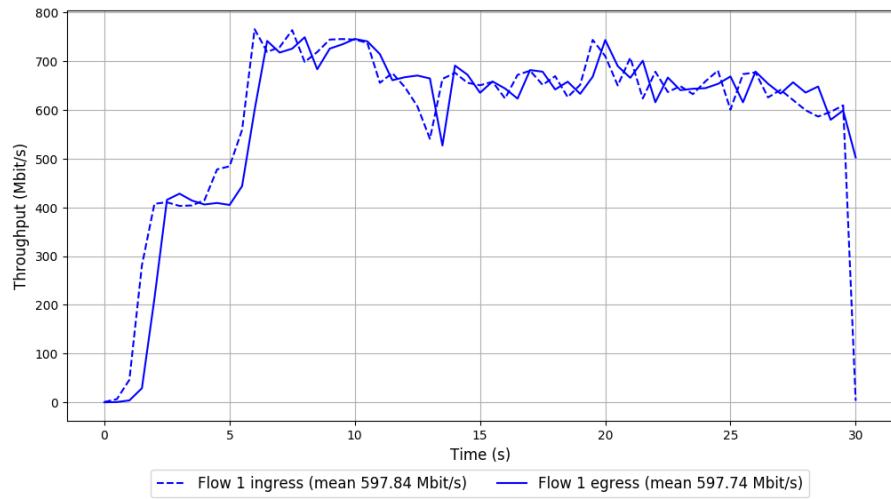


Run 2: Statistics of TCP Cubic

```
Start at: 2018-11-30 04:36:27
End at: 2018-11-30 04:36:57
Local clock offset: -0.207 ms
Remote clock offset: -0.087 ms

# Below is generated by plot.py at 2018-11-30 06:47:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 597.74 Mbit/s
95th percentile per-packet one-way delay: 160.507 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 597.74 Mbit/s
95th percentile per-packet one-way delay: 160.507 ms
Loss rate: 0.59%
```

Run 2: Report of TCP Cubic — Data Link

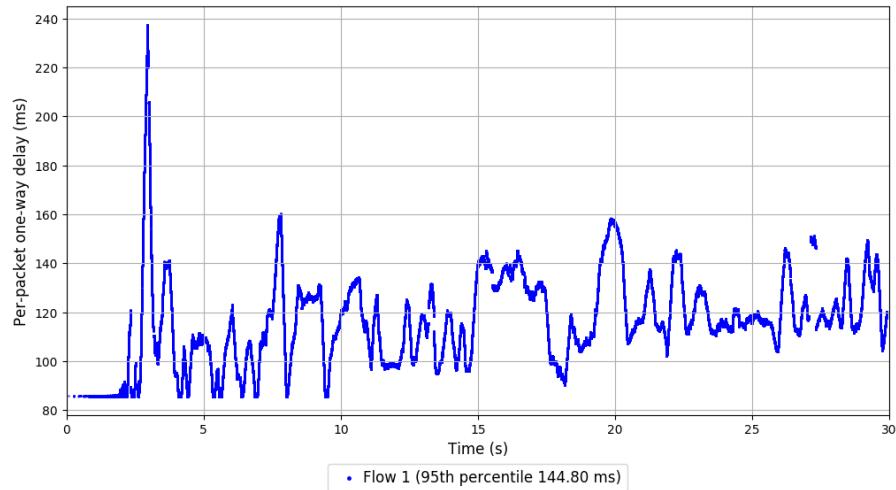
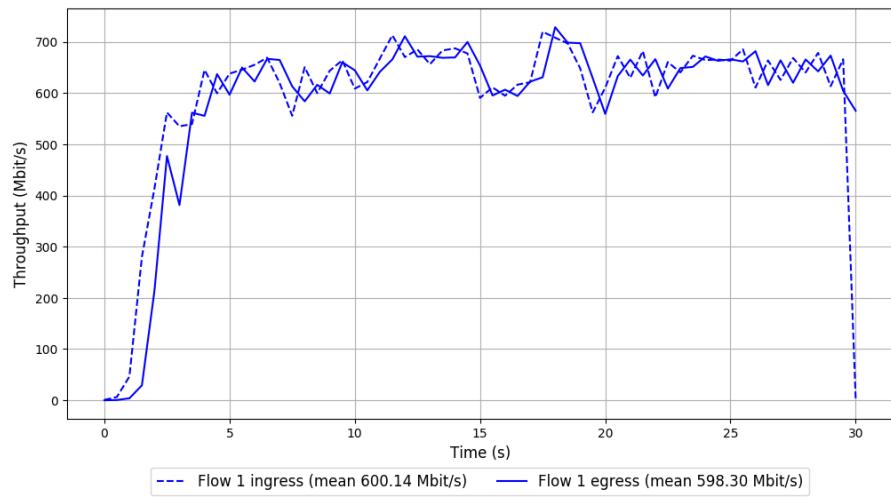


Run 3: Statistics of TCP Cubic

```
Start at: 2018-11-30 05:04:45
End at: 2018-11-30 05:05:15
Local clock offset: -0.378 ms
Remote clock offset: -0.09 ms

# Below is generated by plot.py at 2018-11-30 06:47:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 598.30 Mbit/s
95th percentile per-packet one-way delay: 144.797 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 598.30 Mbit/s
95th percentile per-packet one-way delay: 144.797 ms
Loss rate: 0.88%
```

Run 3: Report of TCP Cubic — Data Link

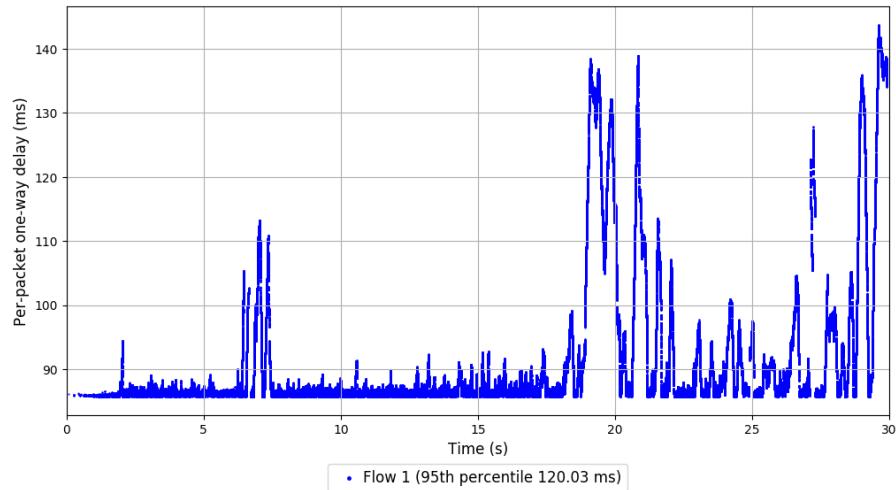
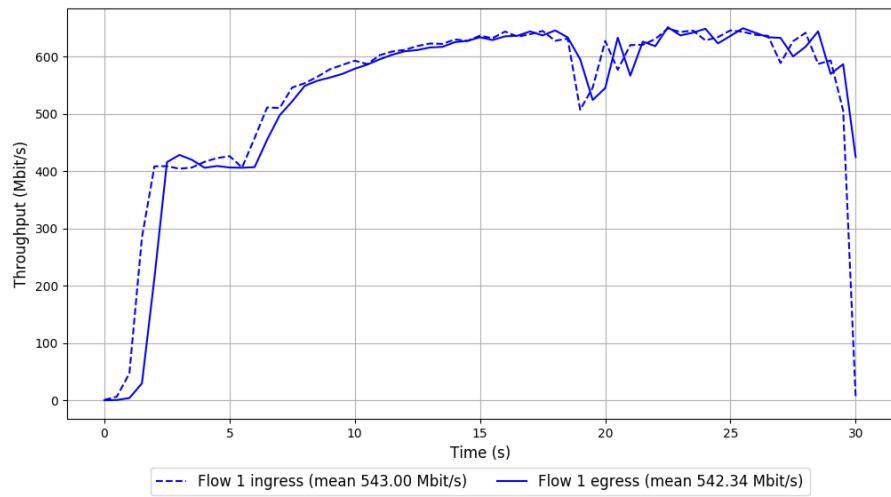


Run 4: Statistics of TCP Cubic

```
Start at: 2018-11-30 05:32:58
End at: 2018-11-30 05:33:28
Local clock offset: -0.096 ms
Remote clock offset: -0.15 ms

# Below is generated by plot.py at 2018-11-30 06:47:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 542.34 Mbit/s
95th percentile per-packet one-way delay: 120.035 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 542.34 Mbit/s
95th percentile per-packet one-way delay: 120.035 ms
Loss rate: 0.70%
```

Run 4: Report of TCP Cubic — Data Link

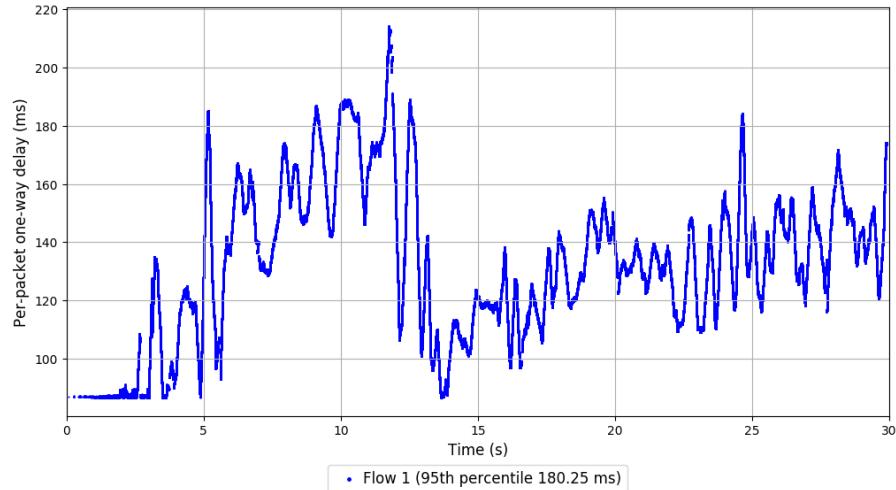
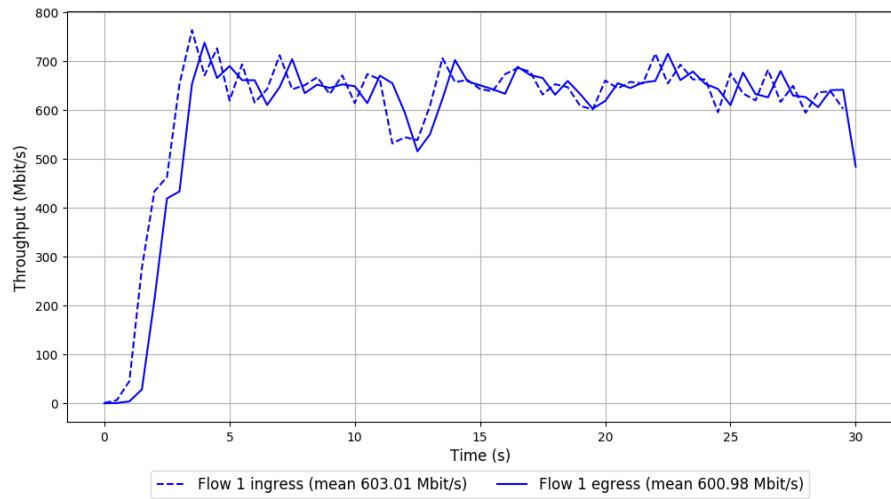


Run 5: Statistics of TCP Cubic

```
Start at: 2018-11-30 06:01:16
End at: 2018-11-30 06:01:46
Local clock offset: 0.321 ms
Remote clock offset: -0.156 ms

# Below is generated by plot.py at 2018-11-30 06:49:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 600.98 Mbit/s
95th percentile per-packet one-way delay: 180.249 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 600.98 Mbit/s
95th percentile per-packet one-way delay: 180.249 ms
Loss rate: 0.91%
```

Run 5: Report of TCP Cubic — Data Link

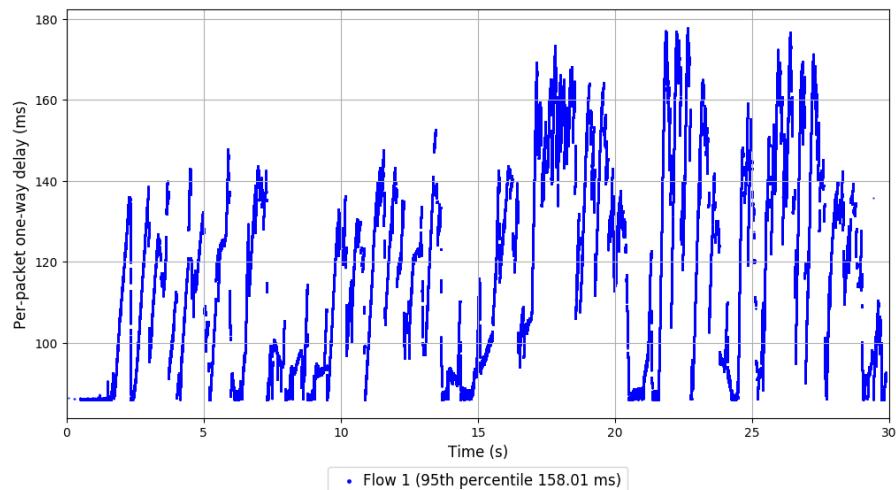
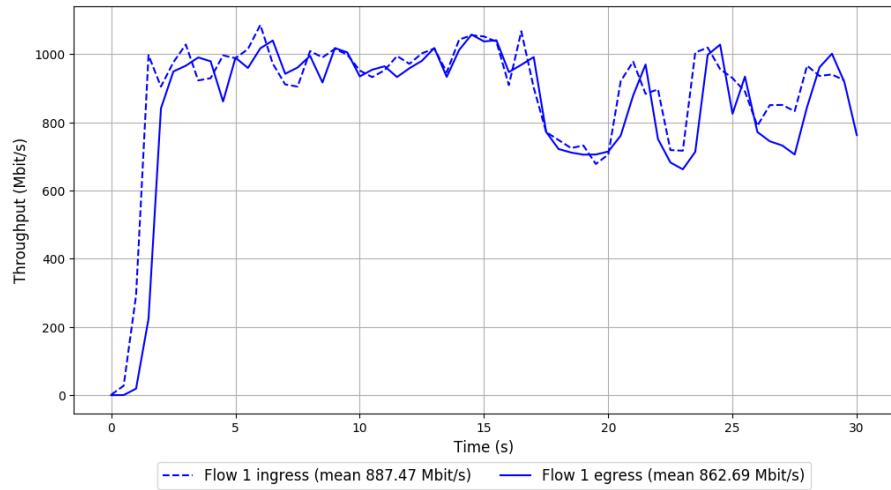


```
Run 1: Statistics of FillP

Start at: 2018-11-30 03:57:24
End at: 2018-11-30 03:57:54
Local clock offset: 0.113 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2018-11-30 06:57:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 862.69 Mbit/s
95th percentile per-packet one-way delay: 158.014 ms
Loss rate: 3.35%
-- Flow 1:
Average throughput: 862.69 Mbit/s
95th percentile per-packet one-way delay: 158.014 ms
Loss rate: 3.35%
```

Run 1: Report of FillP — Data Link

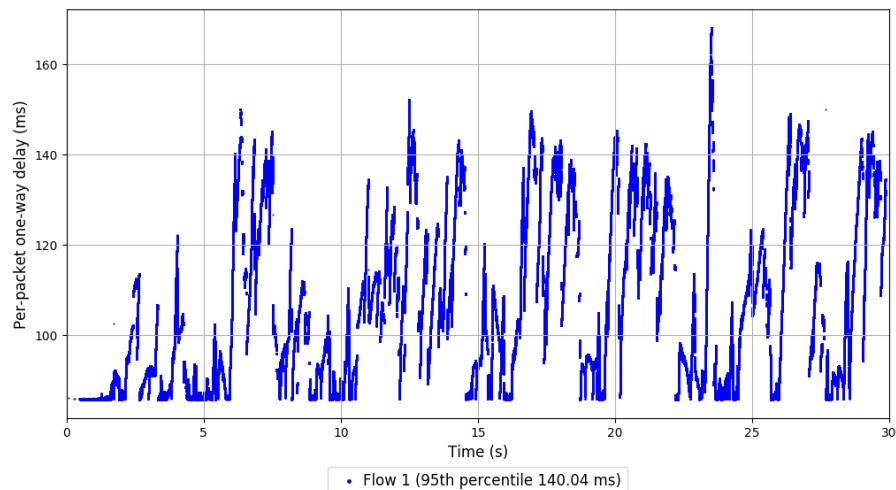
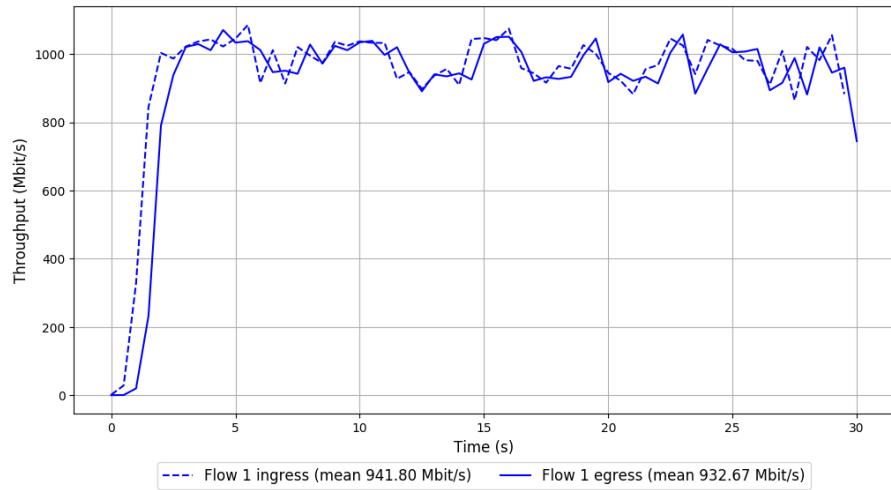


Run 2: Statistics of FillP

```
Start at: 2018-11-30 04:25:42
End at: 2018-11-30 04:26:12
Local clock offset: -0.172 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2018-11-30 07:07:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 932.67 Mbit/s
95th percentile per-packet one-way delay: 140.039 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 932.67 Mbit/s
95th percentile per-packet one-way delay: 140.039 ms
Loss rate: 1.54%
```

Run 2: Report of FillP — Data Link

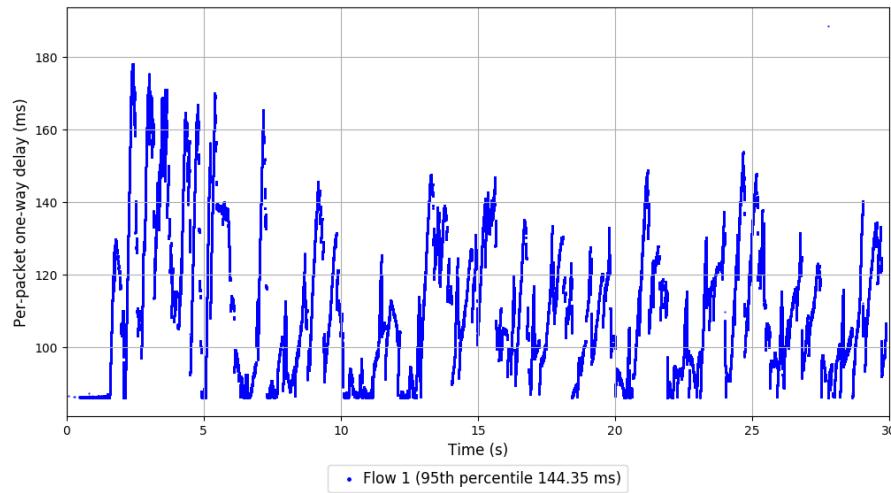
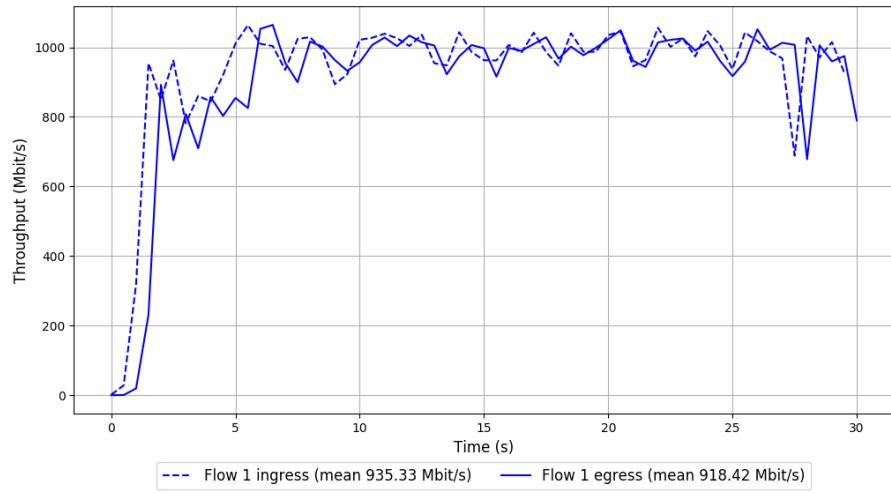


Run 3: Statistics of FillP

```
Start at: 2018-11-30 04:54:14
End at: 2018-11-30 04:54:44
Local clock offset: -0.236 ms
Remote clock offset: -0.118 ms

# Below is generated by plot.py at 2018-11-30 07:08:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 918.42 Mbit/s
95th percentile per-packet one-way delay: 144.351 ms
Loss rate: 2.38%
-- Flow 1:
Average throughput: 918.42 Mbit/s
95th percentile per-packet one-way delay: 144.351 ms
Loss rate: 2.38%
```

Run 3: Report of FillP — Data Link

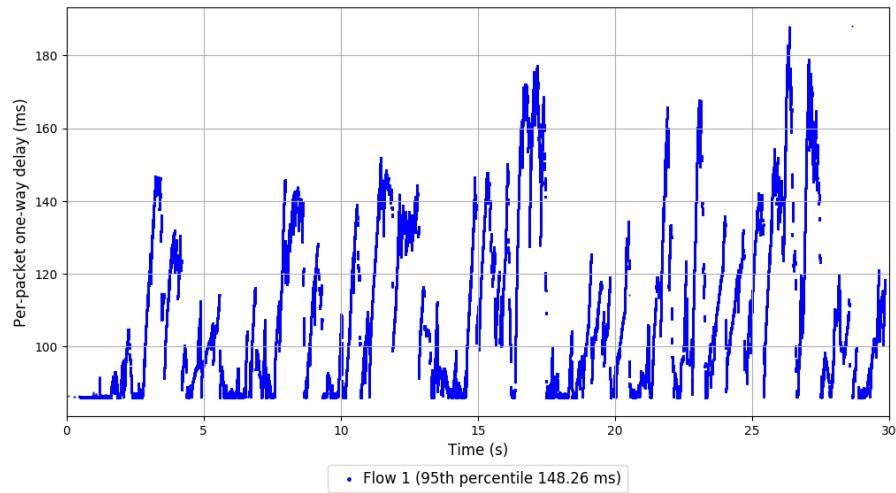
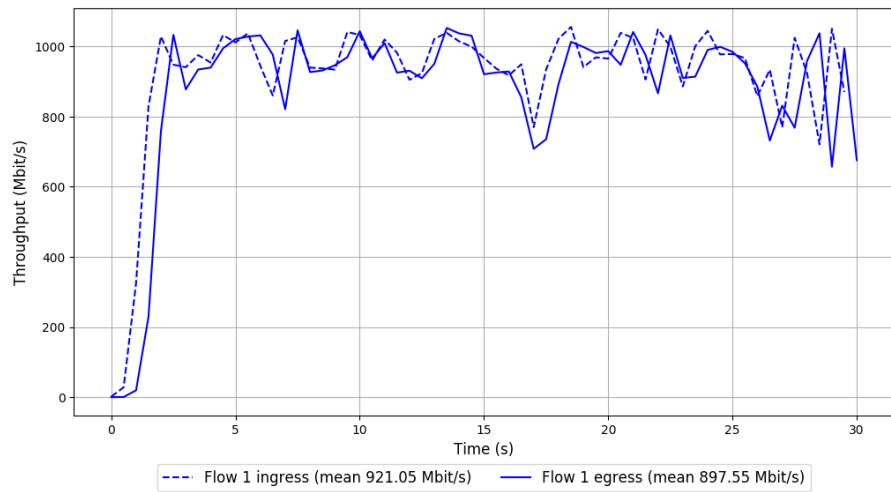


Run 4: Statistics of FillP

```
Start at: 2018-11-30 05:22:19
End at: 2018-11-30 05:22:49
Local clock offset: 0.051 ms
Remote clock offset: -0.162 ms

# Below is generated by plot.py at 2018-11-30 07:10:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 897.55 Mbit/s
95th percentile per-packet one-way delay: 148.260 ms
Loss rate: 3.11%
-- Flow 1:
Average throughput: 897.55 Mbit/s
95th percentile per-packet one-way delay: 148.260 ms
Loss rate: 3.11%
```

Run 4: Report of FillP — Data Link

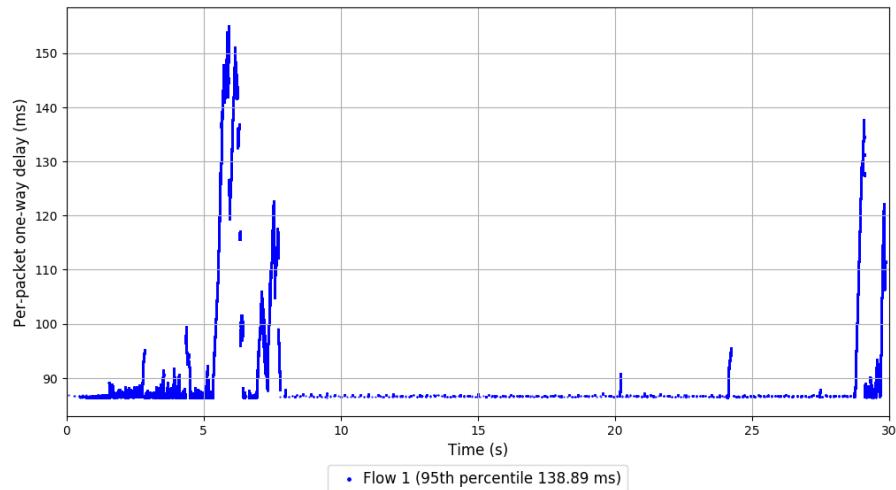
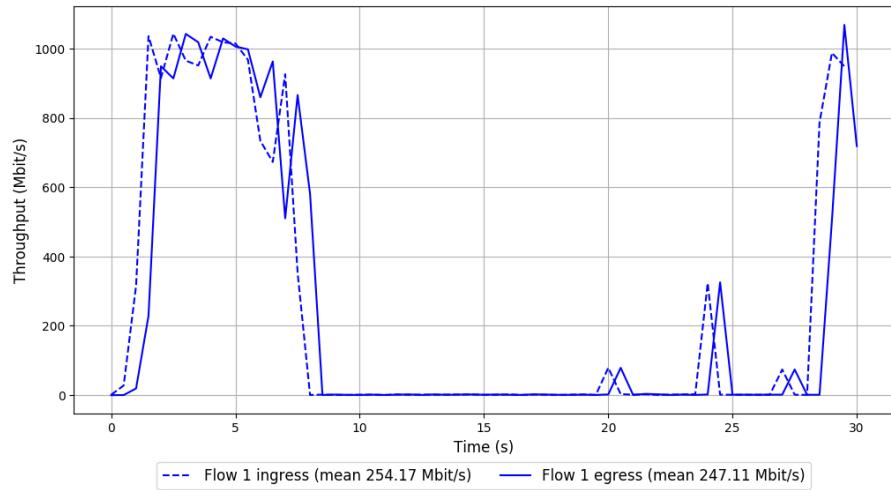


Run 5: Statistics of FillP

```
Start at: 2018-11-30 05:50:59
End at: 2018-11-30 05:51:29
Local clock offset: 0.194 ms
Remote clock offset: -0.178 ms

# Below is generated by plot.py at 2018-11-30 07:10:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 247.11 Mbit/s
95th percentile per-packet one-way delay: 138.886 ms
Loss rate: 3.34%
-- Flow 1:
Average throughput: 247.11 Mbit/s
95th percentile per-packet one-way delay: 138.886 ms
Loss rate: 3.34%
```

Run 5: Report of FillP — Data Link

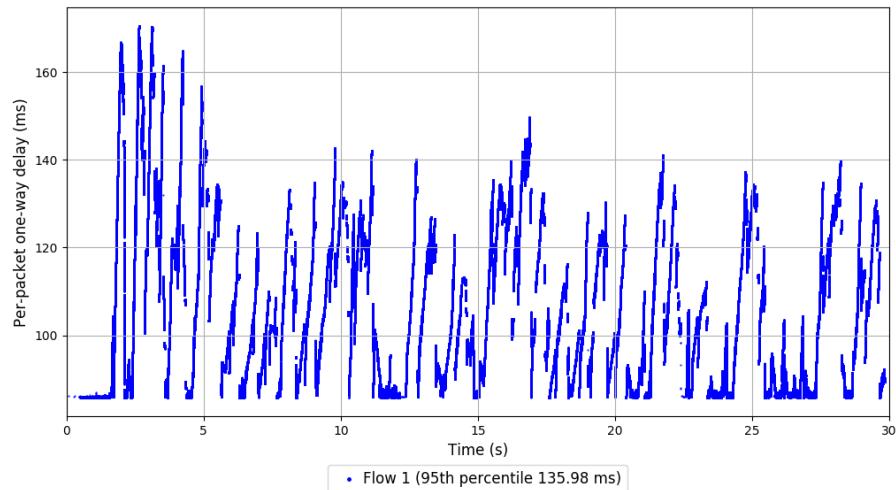
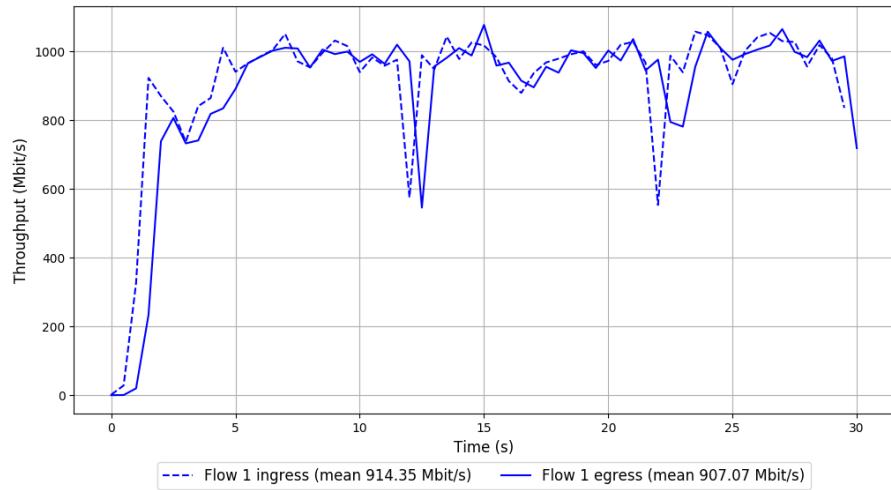


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-11-30 03:59:10
End at: 2018-11-30 03:59:40
Local clock offset: -0.073 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2018-11-30 07:10:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 907.07 Mbit/s
95th percentile per-packet one-way delay: 135.978 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 907.07 Mbit/s
95th percentile per-packet one-way delay: 135.978 ms
Loss rate: 1.37%
```

Run 1: Report of FillP-Sheep — Data Link

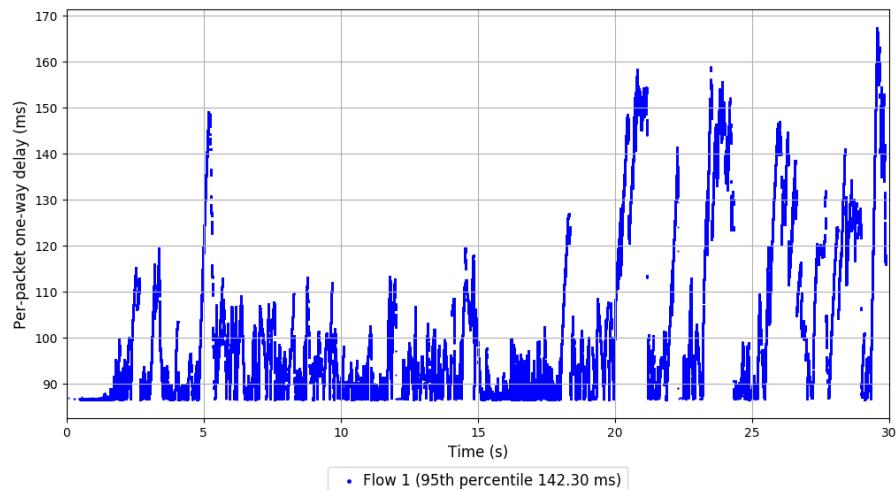
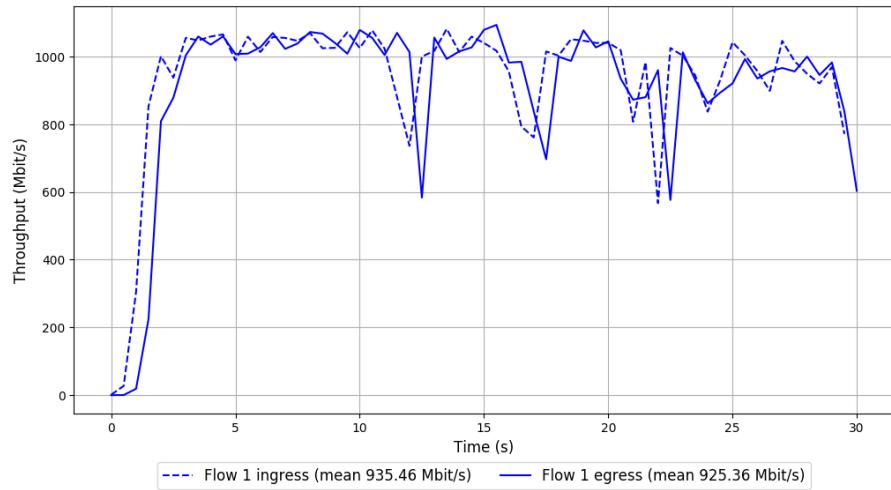


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-11-30 04:27:30
End at: 2018-11-30 04:28:00
Local clock offset: -0.008 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2018-11-30 07:10:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 925.36 Mbit/s
95th percentile per-packet one-way delay: 142.303 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 925.36 Mbit/s
95th percentile per-packet one-way delay: 142.303 ms
Loss rate: 1.65%
```

Run 2: Report of FillP-Sheep — Data Link

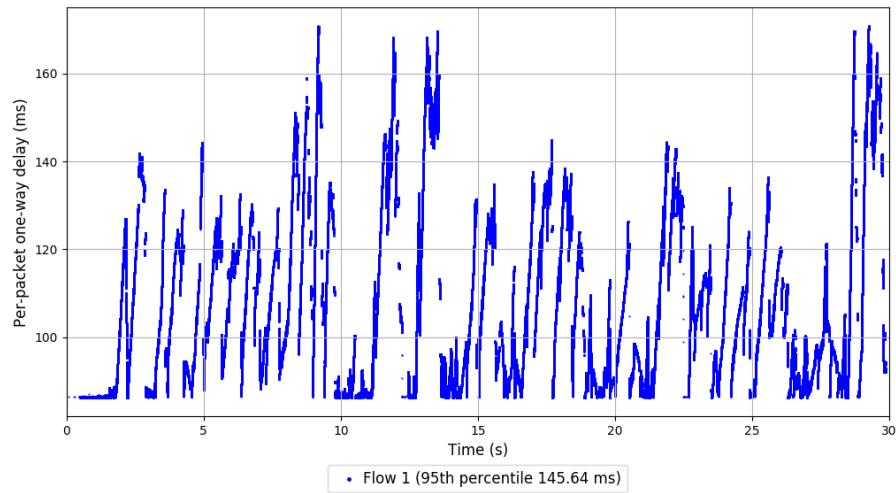
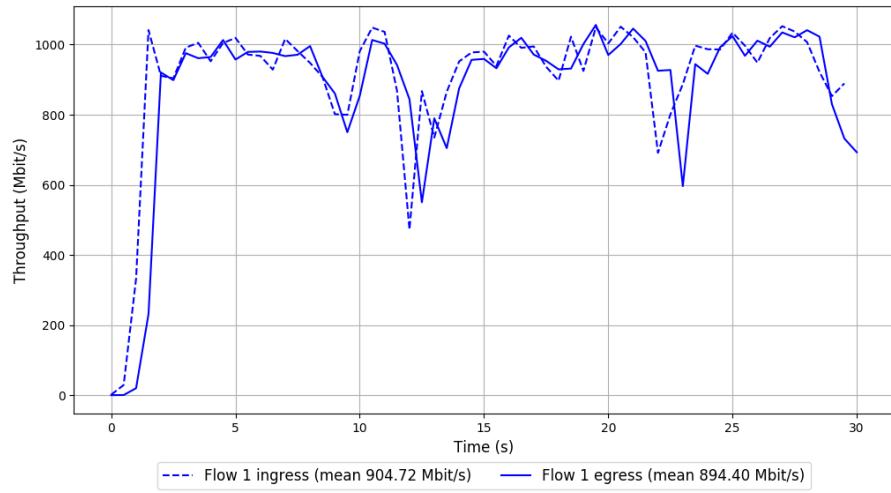


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-11-30 04:56:03
End at: 2018-11-30 04:56:33
Local clock offset: -0.135 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2018-11-30 07:11:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 894.40 Mbit/s
95th percentile per-packet one-way delay: 145.641 ms
Loss rate: 1.71%
-- Flow 1:
Average throughput: 894.40 Mbit/s
95th percentile per-packet one-way delay: 145.641 ms
Loss rate: 1.71%
```

Run 3: Report of FillP-Sheep — Data Link

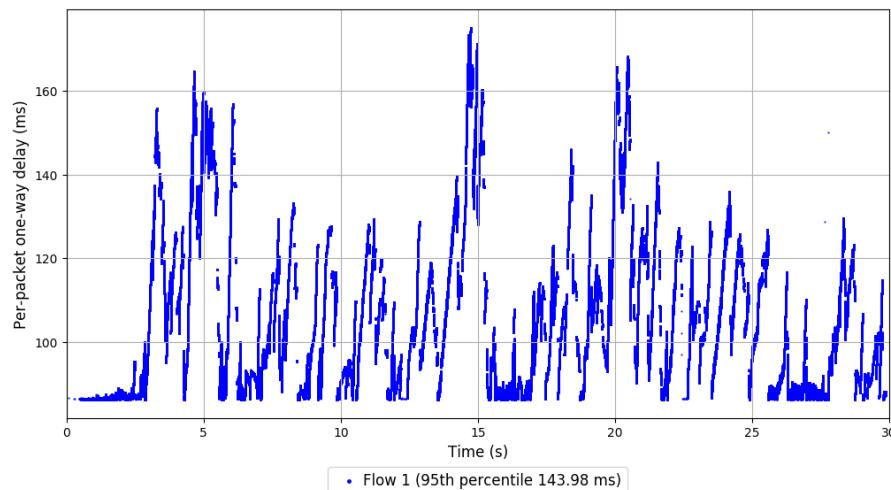
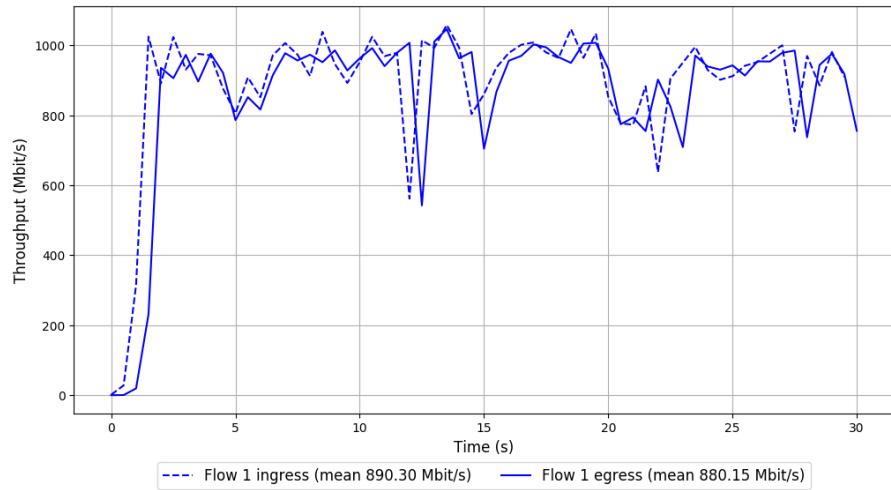


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-11-30 05:24:08
End at: 2018-11-30 05:24:38
Local clock offset: -0.098 ms
Remote clock offset: -0.149 ms

# Below is generated by plot.py at 2018-11-30 07:15:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 880.15 Mbit/s
95th percentile per-packet one-way delay: 143.982 ms
Loss rate: 1.71%
-- Flow 1:
Average throughput: 880.15 Mbit/s
95th percentile per-packet one-way delay: 143.982 ms
Loss rate: 1.71%
```

Run 4: Report of FillP-Sheep — Data Link

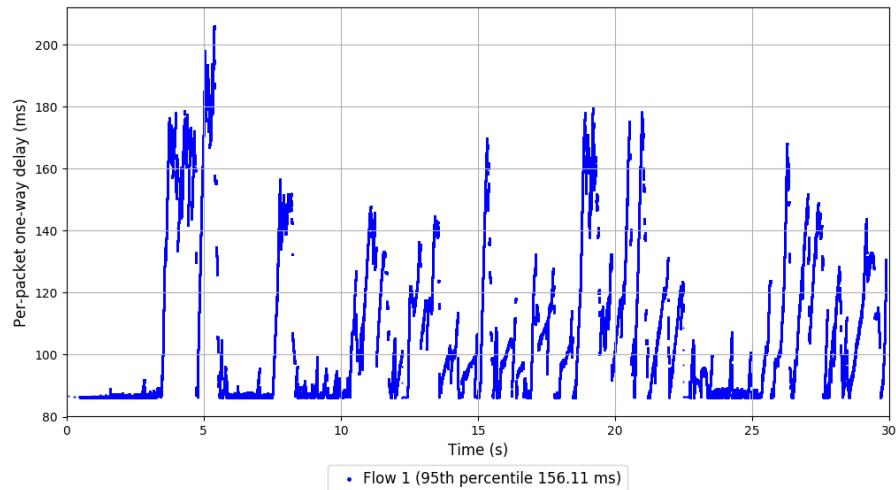
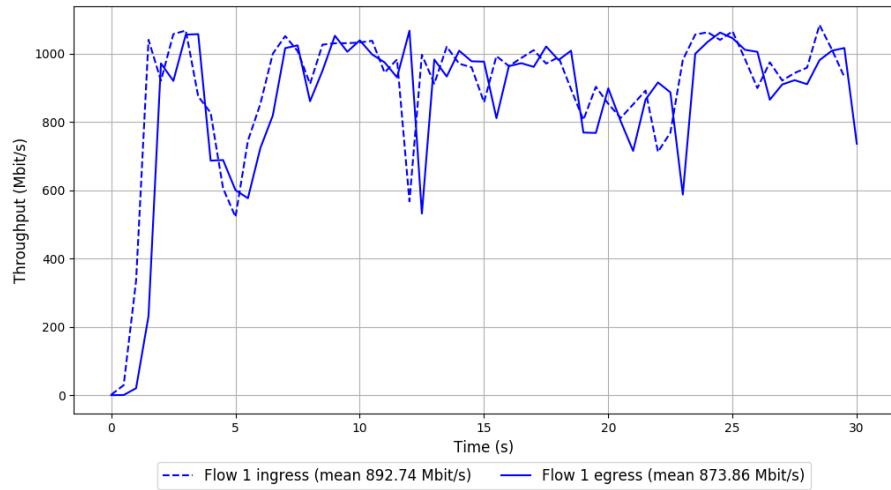


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-11-30 05:52:20
End at: 2018-11-30 05:52:50
Local clock offset: 0.343 ms
Remote clock offset: -0.223 ms

# Below is generated by plot.py at 2018-11-30 07:21:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 873.86 Mbit/s
95th percentile per-packet one-way delay: 156.107 ms
Loss rate: 2.67%
-- Flow 1:
Average throughput: 873.86 Mbit/s
95th percentile per-packet one-way delay: 156.107 ms
Loss rate: 2.67%
```

Run 5: Report of FillP-Sheep — Data Link

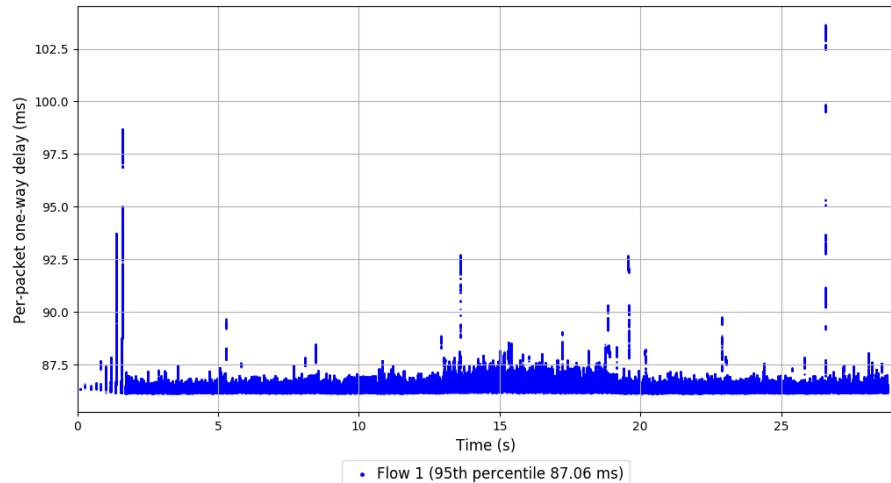
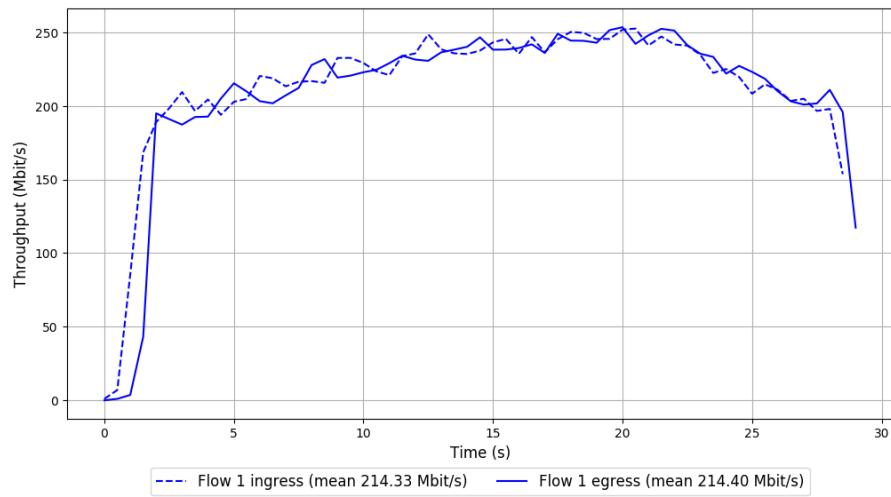


Run 1: Statistics of Indigo

```
Start at: 2018-11-30 04:04:51
End at: 2018-11-30 04:05:21
Local clock offset: -0.126 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2018-11-30 07:21:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 214.40 Mbit/s
95th percentile per-packet one-way delay: 87.059 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 214.40 Mbit/s
95th percentile per-packet one-way delay: 87.059 ms
Loss rate: 0.57%
```

Run 1: Report of Indigo — Data Link

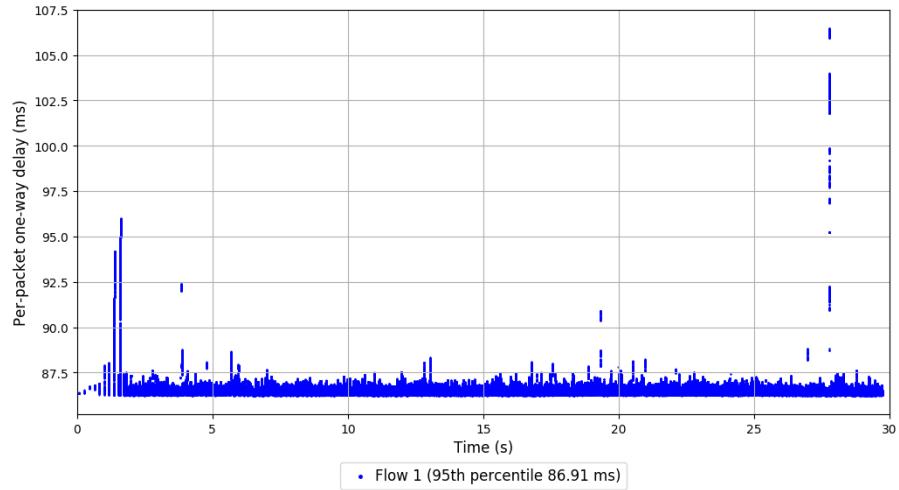
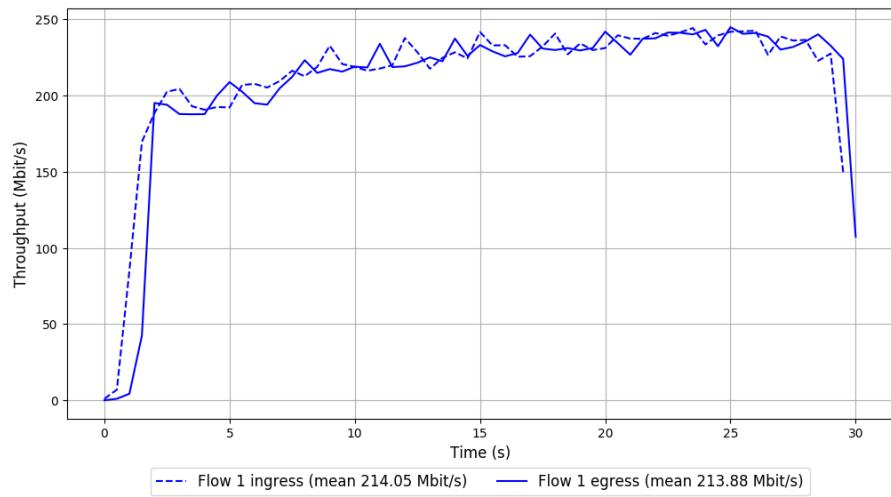


Run 2: Statistics of Indigo

```
Start at: 2018-11-30 04:33:15
End at: 2018-11-30 04:33:45
Local clock offset: -0.42 ms
Remote clock offset: -0.077 ms

# Below is generated by plot.py at 2018-11-30 07:21:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 213.88 Mbit/s
95th percentile per-packet one-way delay: 86.913 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 213.88 Mbit/s
95th percentile per-packet one-way delay: 86.913 ms
Loss rate: 0.63%
```

Run 2: Report of Indigo — Data Link

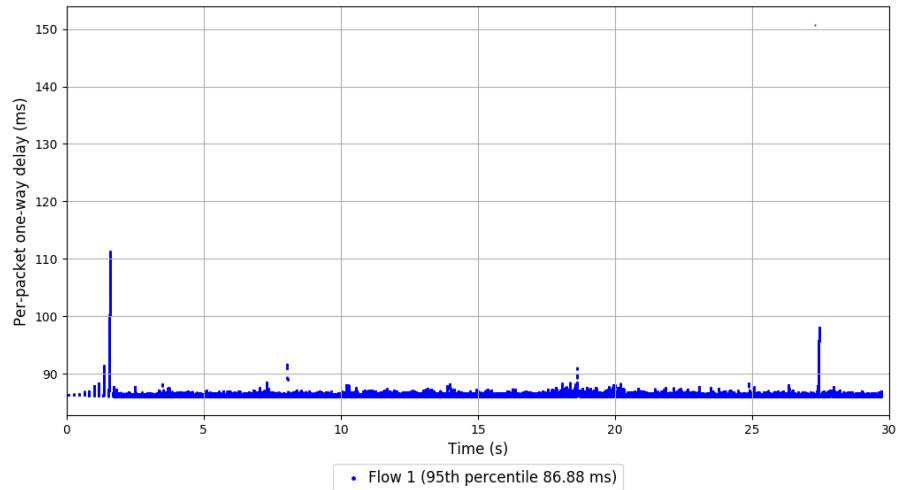
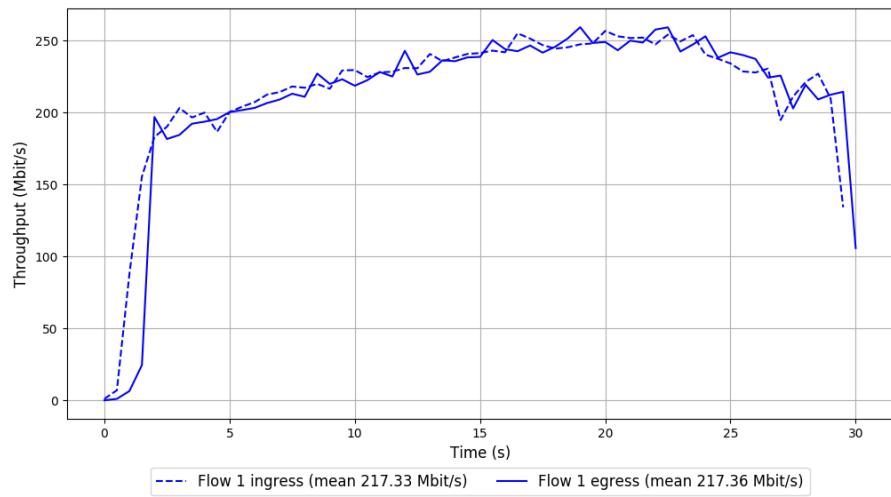


Run 3: Statistics of Indigo

```
Start at: 2018-11-30 05:01:35
End at: 2018-11-30 05:02:05
Local clock offset: 0.088 ms
Remote clock offset: -0.152 ms

# Below is generated by plot.py at 2018-11-30 07:21:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 217.36 Mbit/s
95th percentile per-packet one-way delay: 86.884 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 217.36 Mbit/s
95th percentile per-packet one-way delay: 86.884 ms
Loss rate: 0.57%
```

Run 3: Report of Indigo — Data Link

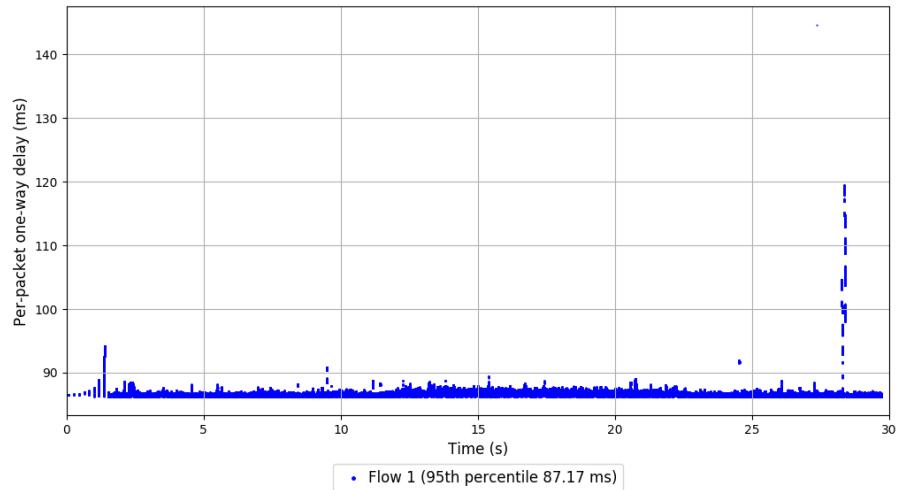
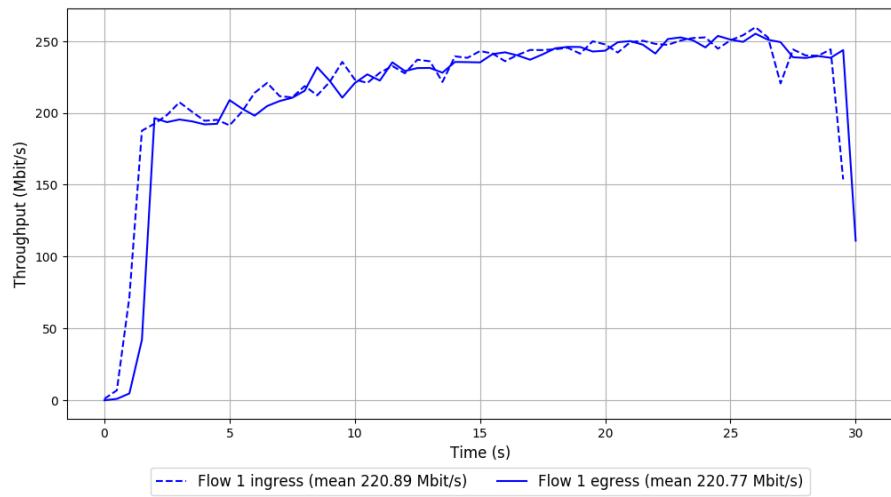


Run 4: Statistics of Indigo

```
Start at: 2018-11-30 05:29:50
End at: 2018-11-30 05:30:20
Local clock offset: -0.076 ms
Remote clock offset: -0.191 ms

# Below is generated by plot.py at 2018-11-30 07:21:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 220.77 Mbit/s
95th percentile per-packet one-way delay: 87.174 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 220.77 Mbit/s
95th percentile per-packet one-way delay: 87.174 ms
Loss rate: 0.64%
```

Run 4: Report of Indigo — Data Link

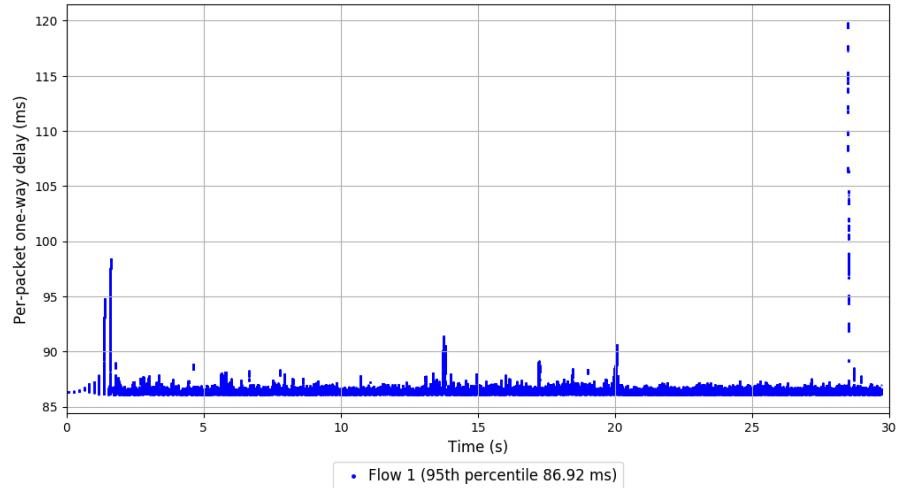
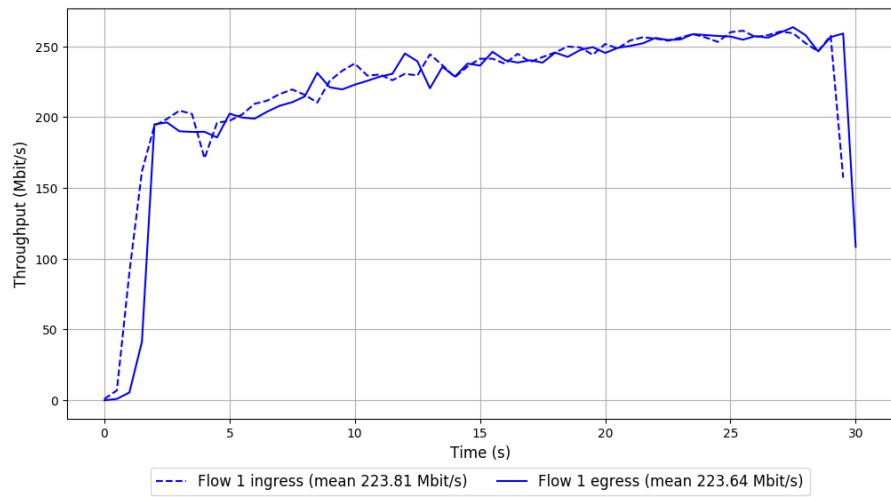


Run 5: Statistics of Indigo

```
Start at: 2018-11-30 05:58:02
End at: 2018-11-30 05:58:32
Local clock offset: -0.145 ms
Remote clock offset: -0.187 ms

# Below is generated by plot.py at 2018-11-30 07:21:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 223.64 Mbit/s
95th percentile per-packet one-way delay: 86.918 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 223.64 Mbit/s
95th percentile per-packet one-way delay: 86.918 ms
Loss rate: 0.66%
```

Run 5: Report of Indigo — Data Link

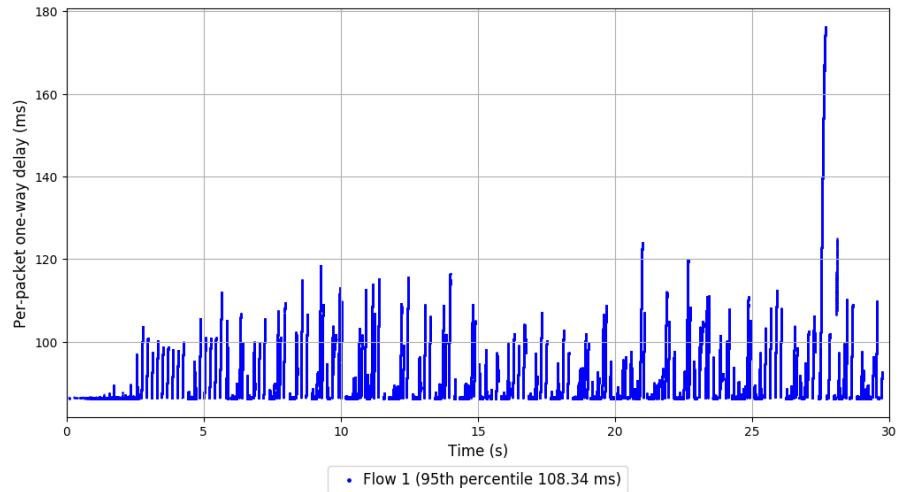
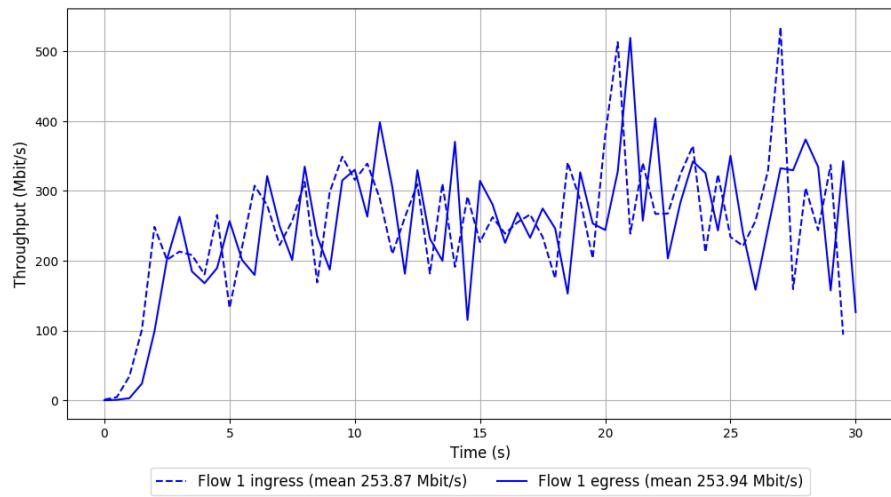


```
Run 1: Statistics of Indigo-96d2da3
```

```
Start at: 2018-11-30 04:16:00
End at: 2018-11-30 04:16:30
Local clock offset: -0.147 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2018-11-30 07:21:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 253.94 Mbit/s
95th percentile per-packet one-way delay: 108.345 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 253.94 Mbit/s
95th percentile per-packet one-way delay: 108.345 ms
Loss rate: 0.55%
```

Run 1: Report of Indigo-96d2da3 — Data Link

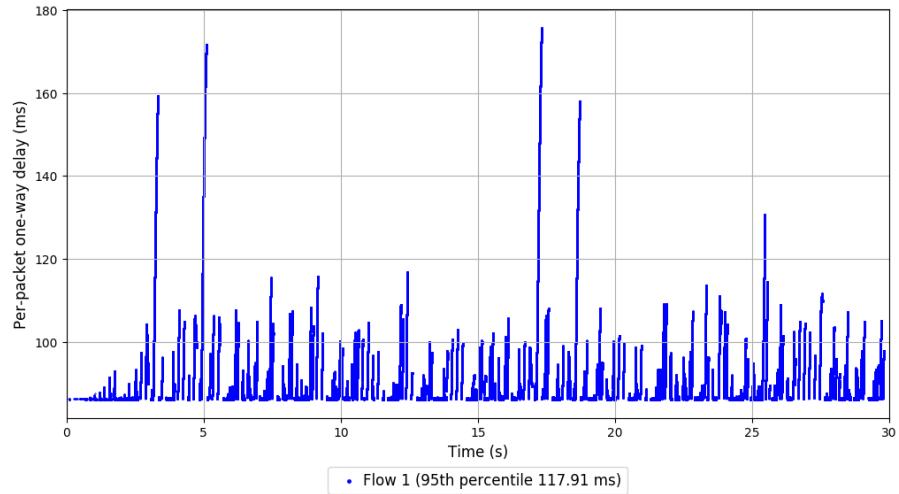
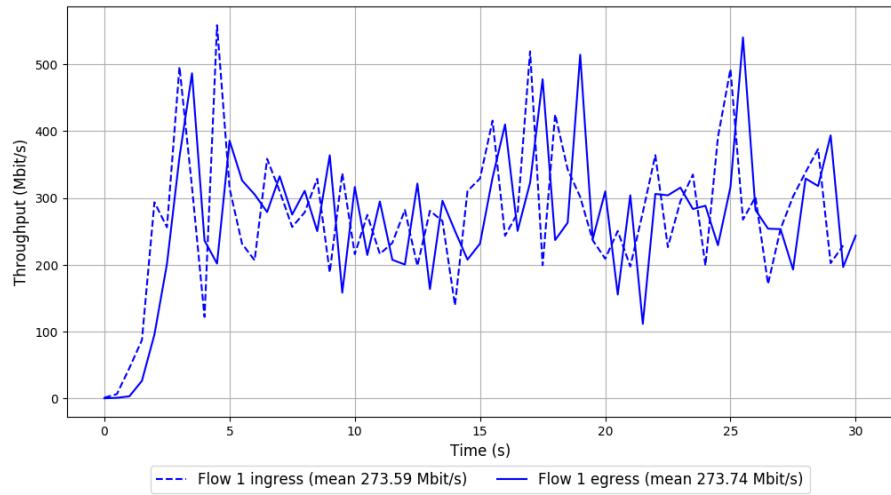


```
Run 2: Statistics of Indigo-96d2da3
```

```
Start at: 2018-11-30 04:44:26
End at: 2018-11-30 04:44:56
Local clock offset: -0.214 ms
Remote clock offset: -0.056 ms

# Below is generated by plot.py at 2018-11-30 07:21:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 273.74 Mbit/s
95th percentile per-packet one-way delay: 117.910 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 273.74 Mbit/s
95th percentile per-packet one-way delay: 117.910 ms
Loss rate: 0.62%
```

Run 2: Report of Indigo-96d2da3 — Data Link

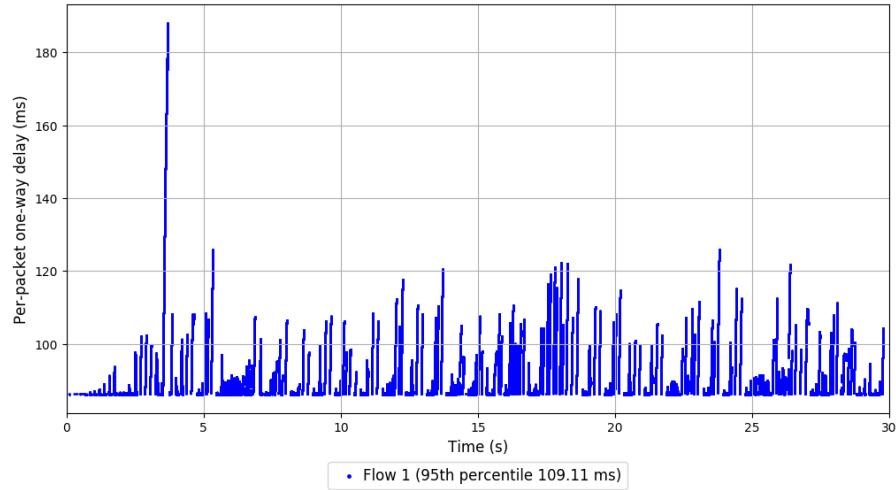
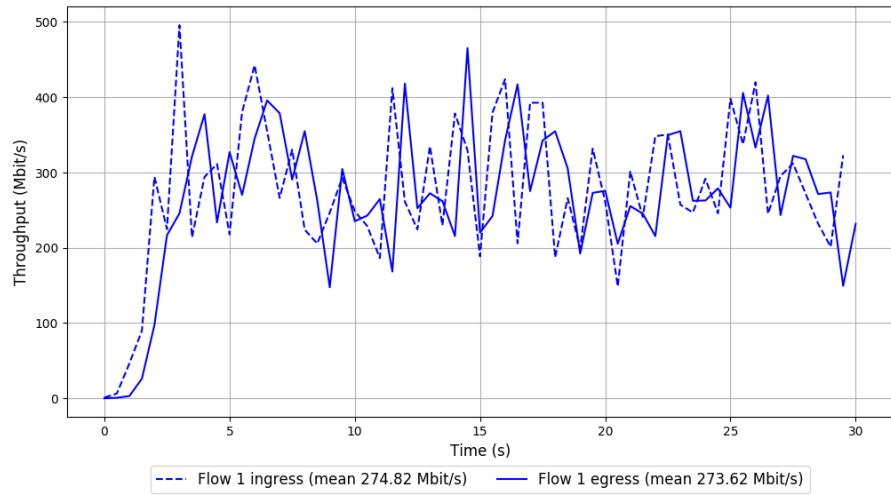


Run 3: Statistics of Indigo-96d2da3

```
Start at: 2018-11-30 05:12:36
End at: 2018-11-30 05:13:06
Local clock offset: -0.062 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2018-11-30 07:22:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 273.62 Mbit/s
95th percentile per-packet one-way delay: 109.107 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 273.62 Mbit/s
95th percentile per-packet one-way delay: 109.107 ms
Loss rate: 1.20%
```

Run 3: Report of Indigo-96d2da3 — Data Link

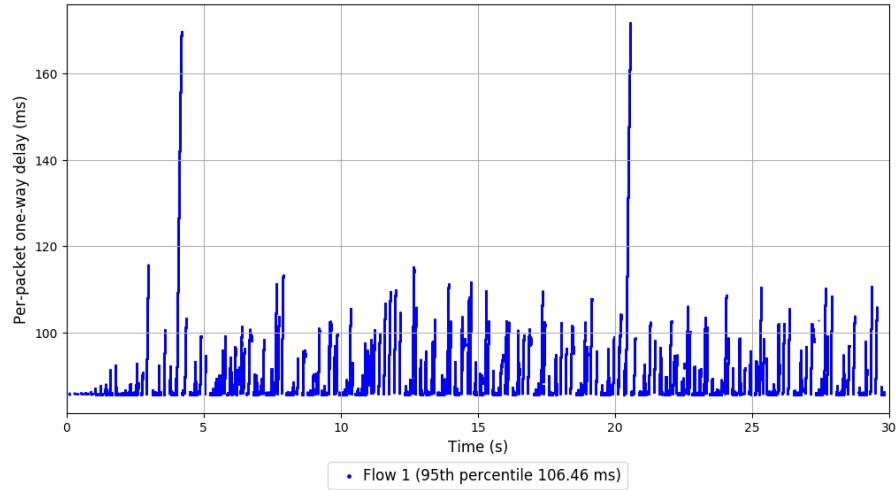
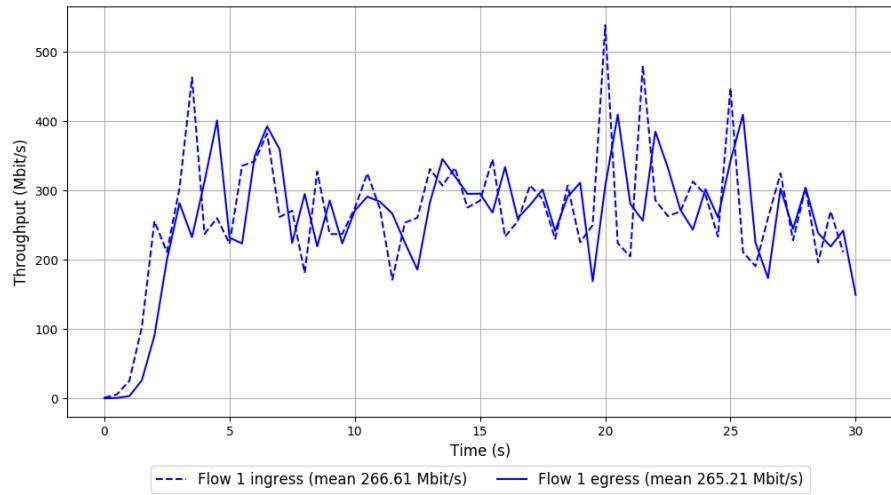


Run 4: Statistics of Indigo-96d2da3

```
Start at: 2018-11-30 05:41:00
End at: 2018-11-30 05:41:30
Local clock offset: -0.524 ms
Remote clock offset: -0.153 ms

# Below is generated by plot.py at 2018-11-30 07:23:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 265.21 Mbit/s
95th percentile per-packet one-way delay: 106.460 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 265.21 Mbit/s
95th percentile per-packet one-way delay: 106.460 ms
Loss rate: 1.10%
```

Run 4: Report of Indigo-96d2da3 — Data Link

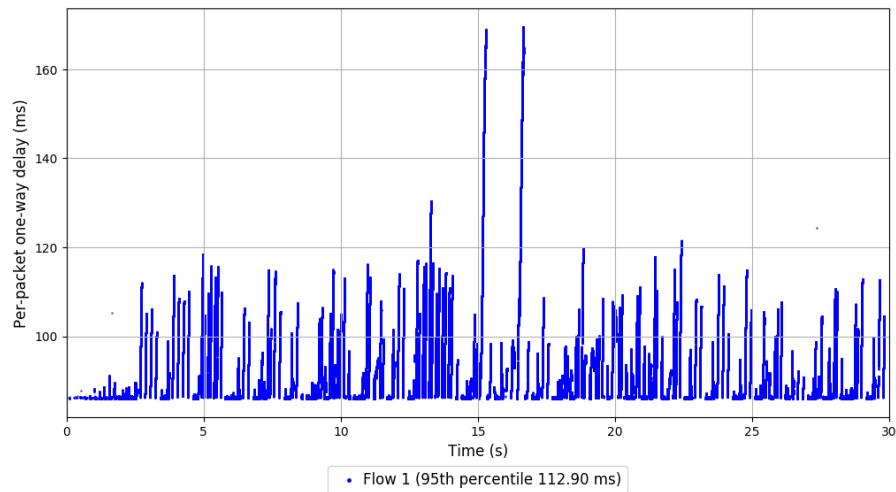
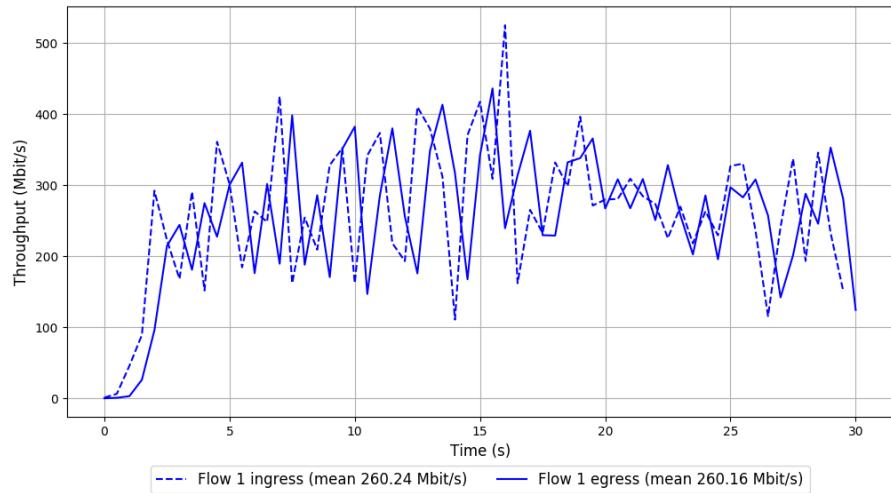


Run 5: Statistics of Indigo-96d2da3

```
Start at: 2018-11-30 06:09:12
End at: 2018-11-30 06:09:42
Local clock offset: 0.157 ms
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2018-11-30 07:23:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 260.16 Mbit/s
95th percentile per-packet one-way delay: 112.899 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 260.16 Mbit/s
95th percentile per-packet one-way delay: 112.899 ms
Loss rate: 0.61%
```

Run 5: Report of Indigo-96d2da3 — Data Link

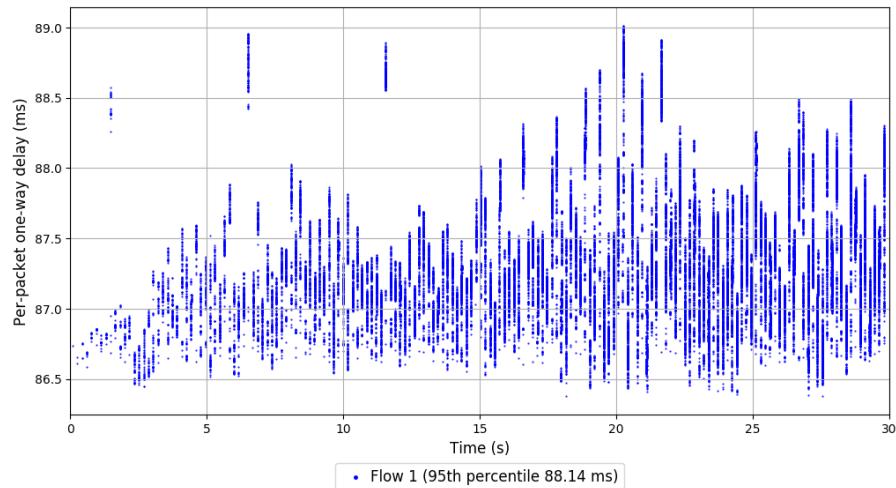
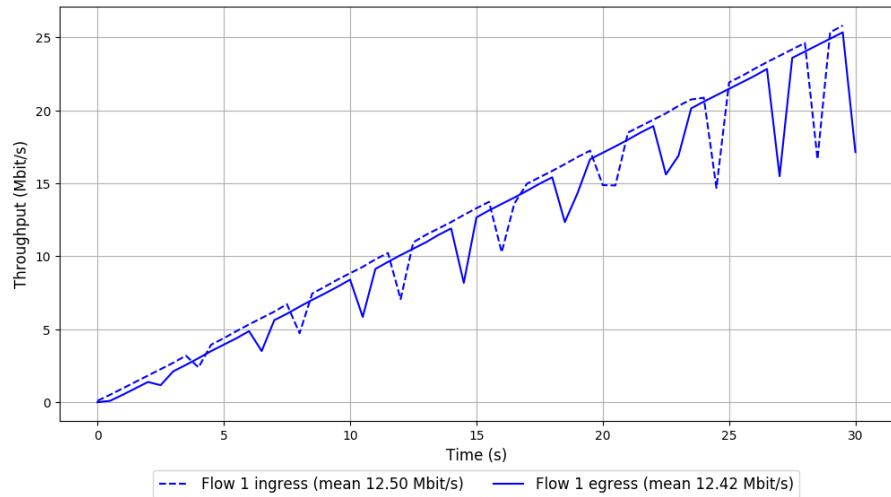


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-11-30 03:54:35
End at: 2018-11-30 03:55:05
Local clock offset: 0.147 ms
Remote clock offset: -0.117 ms

# Below is generated by plot.py at 2018-11-30 07:23:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.42 Mbit/s
95th percentile per-packet one-way delay: 88.135 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 12.42 Mbit/s
95th percentile per-packet one-way delay: 88.135 ms
Loss rate: 1.16%
```

Run 1: Report of LEDBAT — Data Link

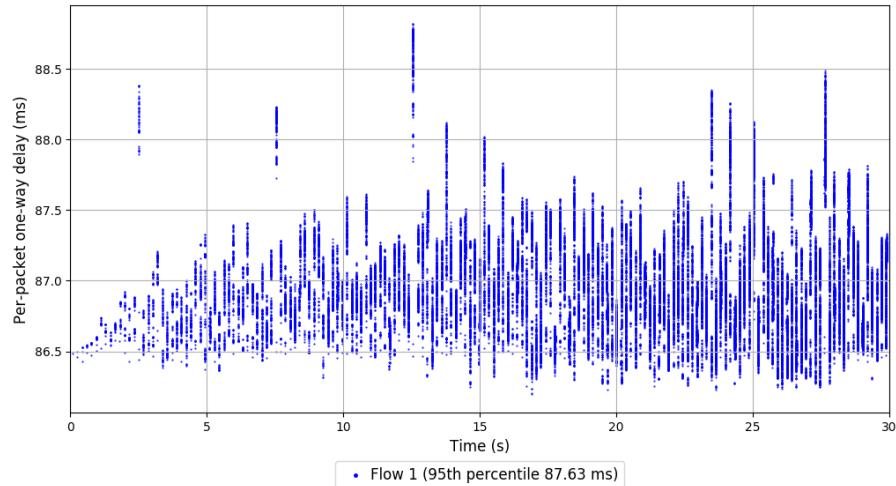
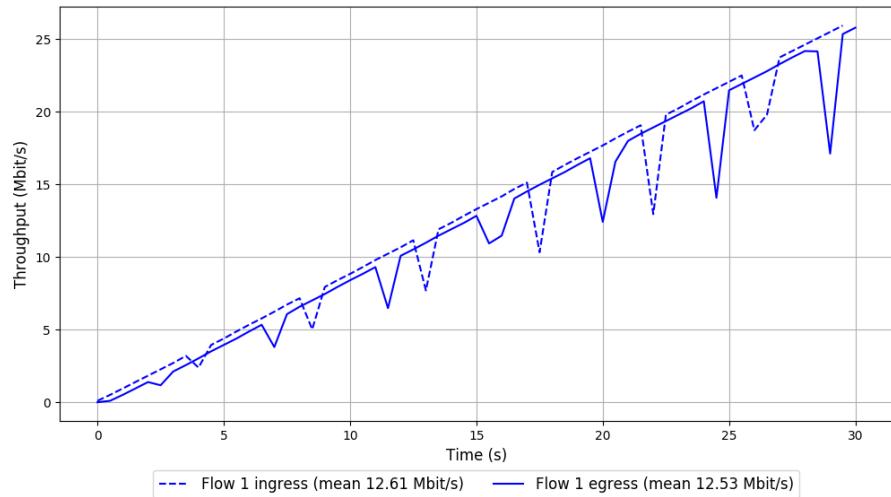


Run 2: Statistics of LEDBAT

```
Start at: 2018-11-30 04:22:52
End at: 2018-11-30 04:23:22
Local clock offset: -0.127 ms
Remote clock offset: -0.072 ms

# Below is generated by plot.py at 2018-11-30 07:23:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 87.633 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 12.53 Mbit/s
95th percentile per-packet one-way delay: 87.633 ms
Loss rate: 1.15%
```

Run 2: Report of LEDBAT — Data Link

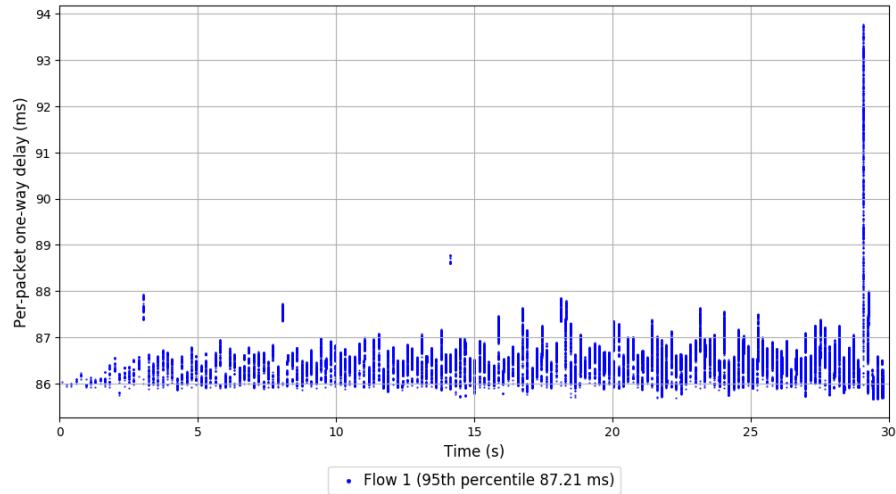
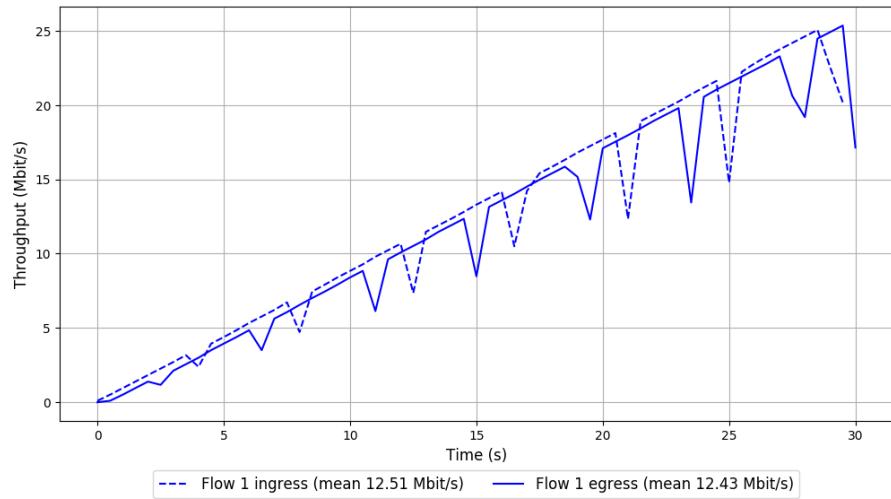


Run 3: Statistics of LEDBAT

```
Start at: 2018-11-30 04:51:25
End at: 2018-11-30 04:51:55
Local clock offset: -0.583 ms
Remote clock offset: -0.072 ms

# Below is generated by plot.py at 2018-11-30 07:23:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.43 Mbit/s
95th percentile per-packet one-way delay: 87.213 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 12.43 Mbit/s
95th percentile per-packet one-way delay: 87.213 ms
Loss rate: 1.16%
```

Run 3: Report of LEDBAT — Data Link

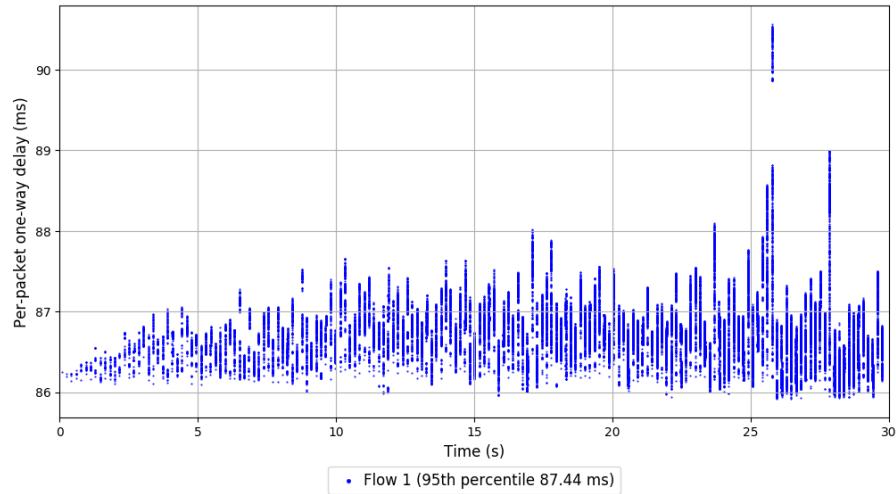
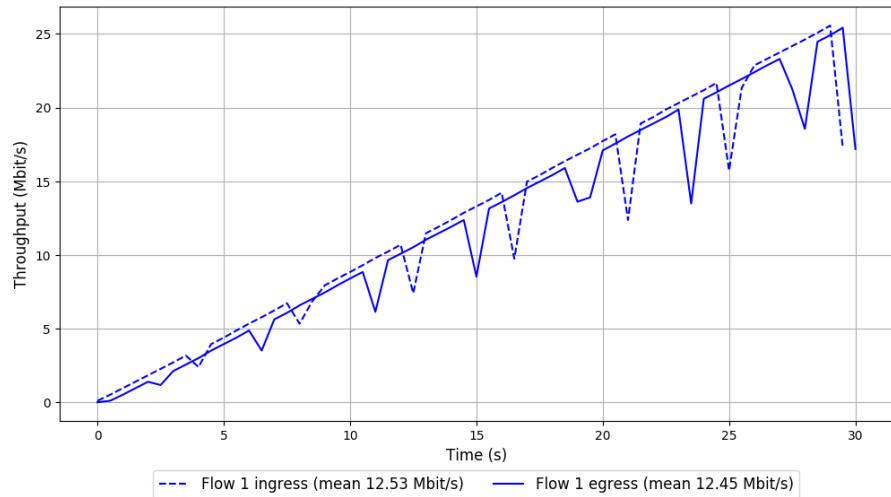


Run 4: Statistics of LEDBAT

```
Start at: 2018-11-30 05:19:31
End at: 2018-11-30 05:20:01
Local clock offset: 0.047 ms
Remote clock offset: -0.138 ms

# Below is generated by plot.py at 2018-11-30 07:23:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.45 Mbit/s
95th percentile per-packet one-way delay: 87.445 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 12.45 Mbit/s
95th percentile per-packet one-way delay: 87.445 ms
Loss rate: 1.16%
```

Run 4: Report of LEDBAT — Data Link

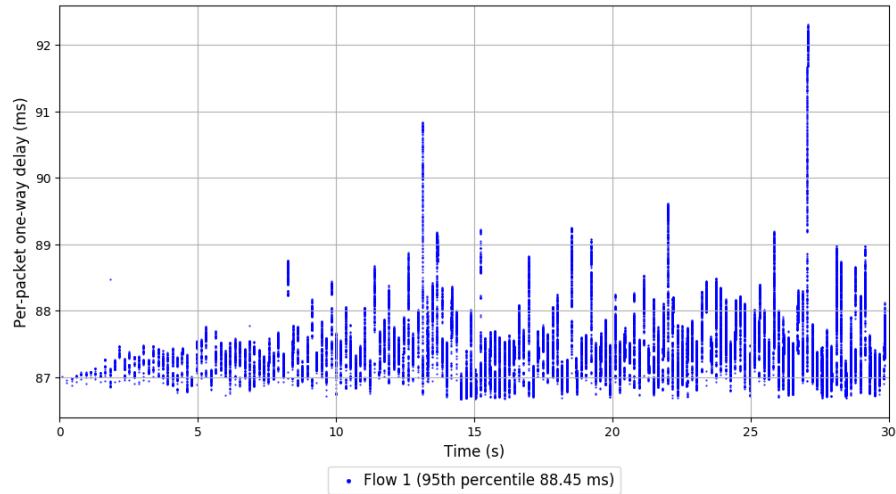
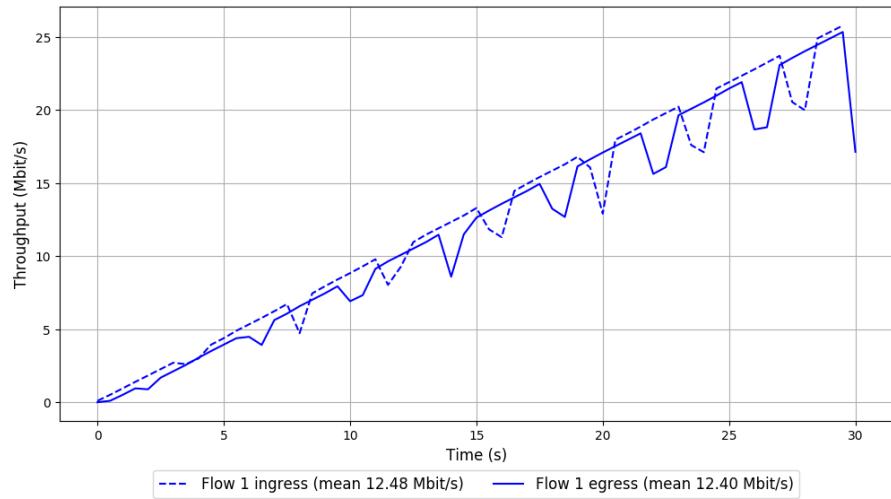


Run 5: Statistics of LEDBAT

```
Start at: 2018-11-30 05:48:09
End at: 2018-11-30 05:48:39
Local clock offset: 0.16 ms
Remote clock offset: -0.157 ms

# Below is generated by plot.py at 2018-11-30 07:23:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.40 Mbit/s
95th percentile per-packet one-way delay: 88.451 ms
Loss rate: 1.16%
-- Flow 1:
Average throughput: 12.40 Mbit/s
95th percentile per-packet one-way delay: 88.451 ms
Loss rate: 1.16%
```

Run 5: Report of LEDBAT — Data Link

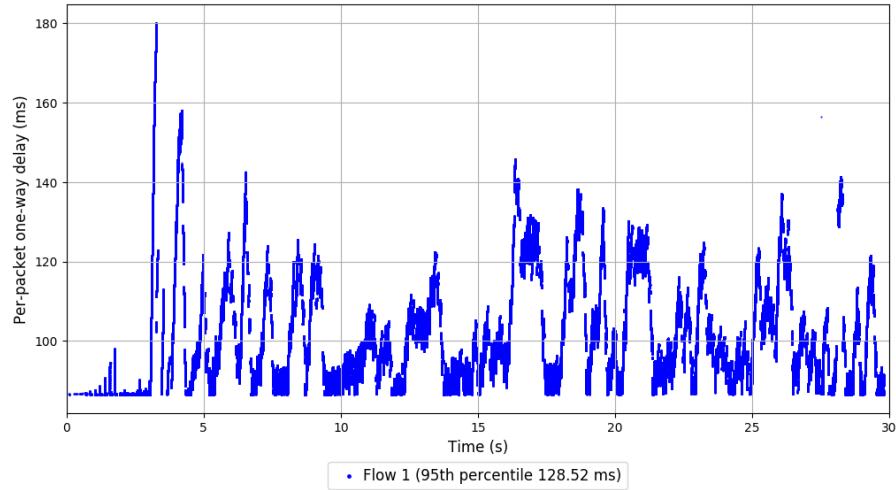
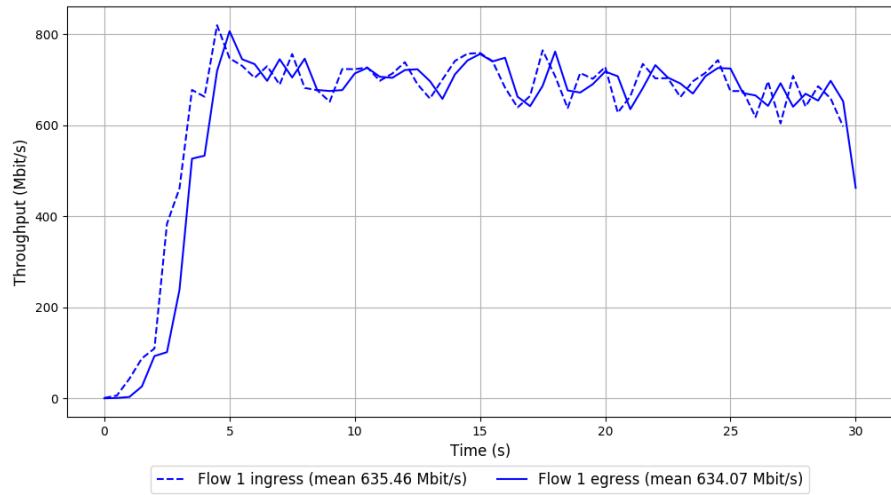


Run 1: Statistics of Indigo-Muses

```
Start at: 2018-11-30 04:20:02
End at: 2018-11-30 04:20:32
Local clock offset: -0.173 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2018-11-30 07:32:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 634.07 Mbit/s
95th percentile per-packet one-way delay: 128.517 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 634.07 Mbit/s
95th percentile per-packet one-way delay: 128.517 ms
Loss rate: 0.80%
```

Run 1: Report of Indigo-Muses — Data Link

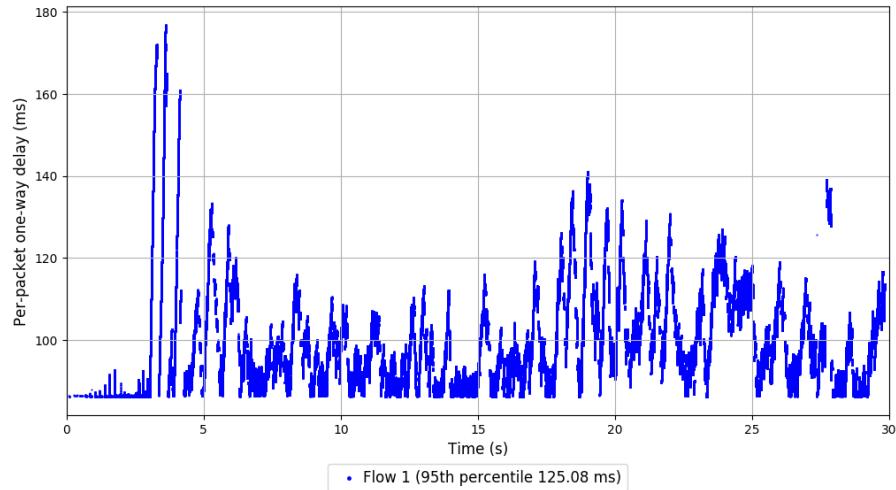
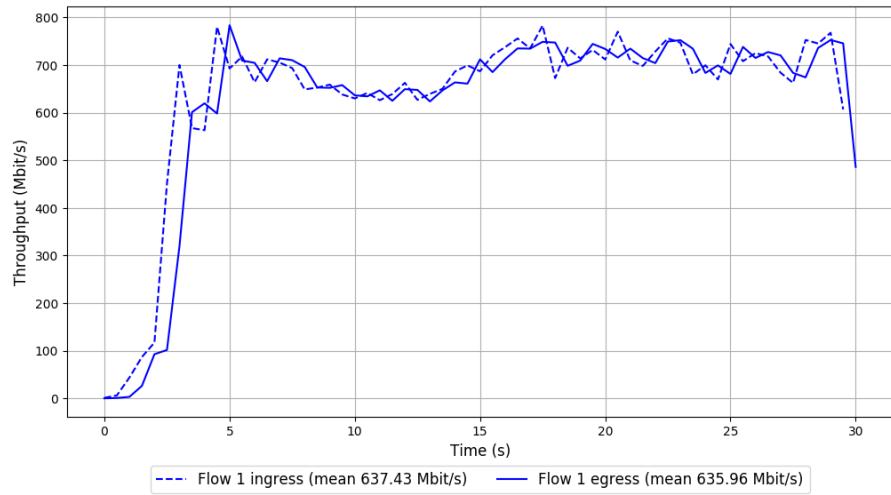


Run 2: Statistics of Indigo-Muses

```
Start at: 2018-11-30 04:48:31
End at: 2018-11-30 04:49:01
Local clock offset: -0.177 ms
Remote clock offset: -0.073 ms

# Below is generated by plot.py at 2018-11-30 07:32:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 635.96 Mbit/s
95th percentile per-packet one-way delay: 125.083 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 635.96 Mbit/s
95th percentile per-packet one-way delay: 125.083 ms
Loss rate: 0.81%
```

Run 2: Report of Indigo-Muses — Data Link

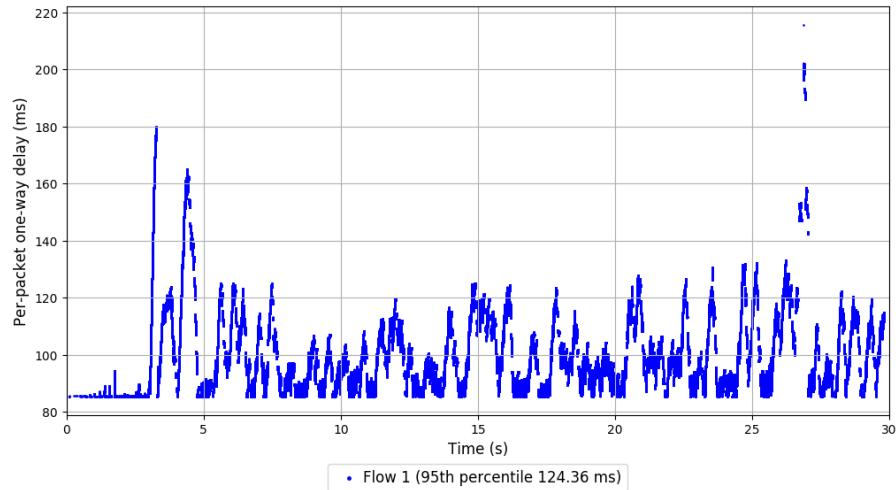
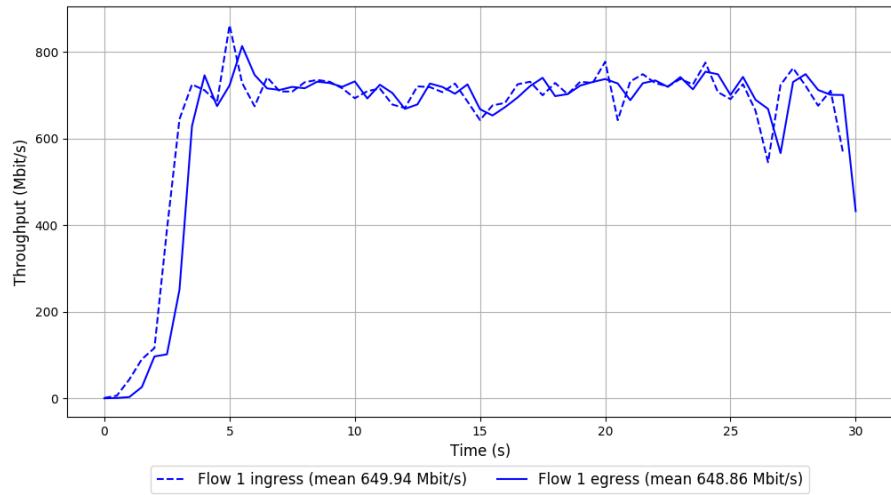


Run 3: Statistics of Indigo-Muses

```
Start at: 2018-11-30 05:16:39
End at: 2018-11-30 05:17:09
Local clock offset: -0.524 ms
Remote clock offset: -0.101 ms

# Below is generated by plot.py at 2018-11-30 07:33:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 648.86 Mbit/s
95th percentile per-packet one-way delay: 124.356 ms
Loss rate: 0.73%
-- Flow 1:
Average throughput: 648.86 Mbit/s
95th percentile per-packet one-way delay: 124.356 ms
Loss rate: 0.73%
```

Run 3: Report of Indigo-Muses — Data Link

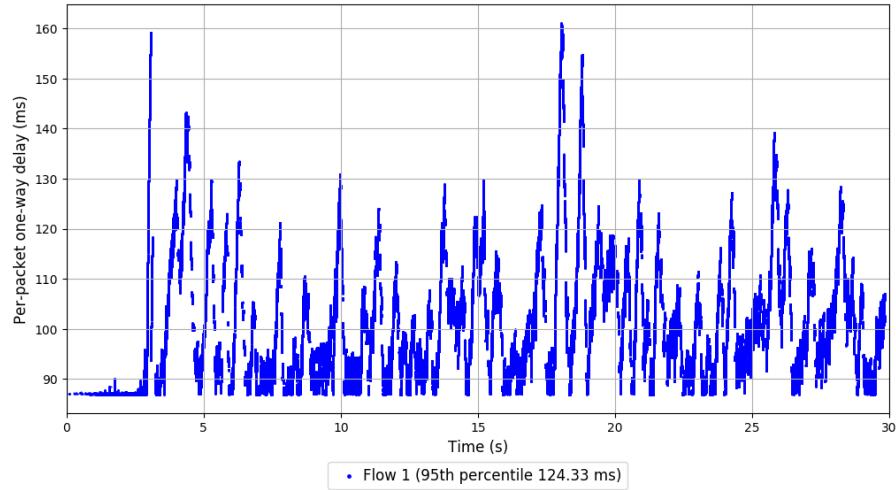
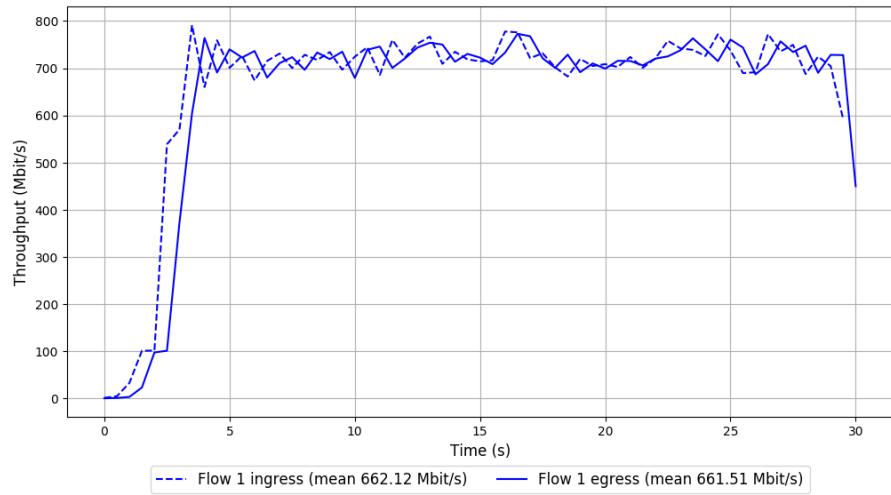


Run 4: Statistics of Indigo-Muses

```
Start at: 2018-11-30 05:45:05
End at: 2018-11-30 05:45:35
Local clock offset: 0.311 ms
Remote clock offset: -0.215 ms

# Below is generated by plot.py at 2018-11-30 07:34:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 661.51 Mbit/s
95th percentile per-packet one-way delay: 124.329 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 661.51 Mbit/s
95th percentile per-packet one-way delay: 124.329 ms
Loss rate: 0.67%
```

Run 4: Report of Indigo-Muses — Data Link

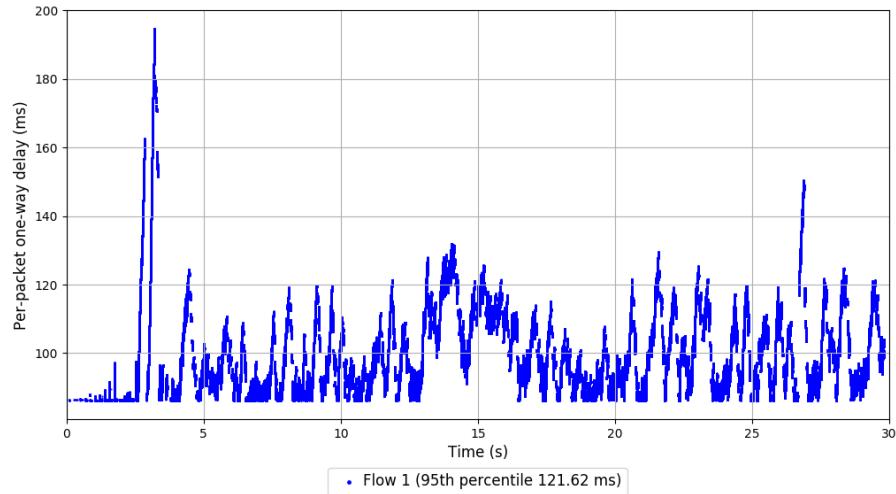
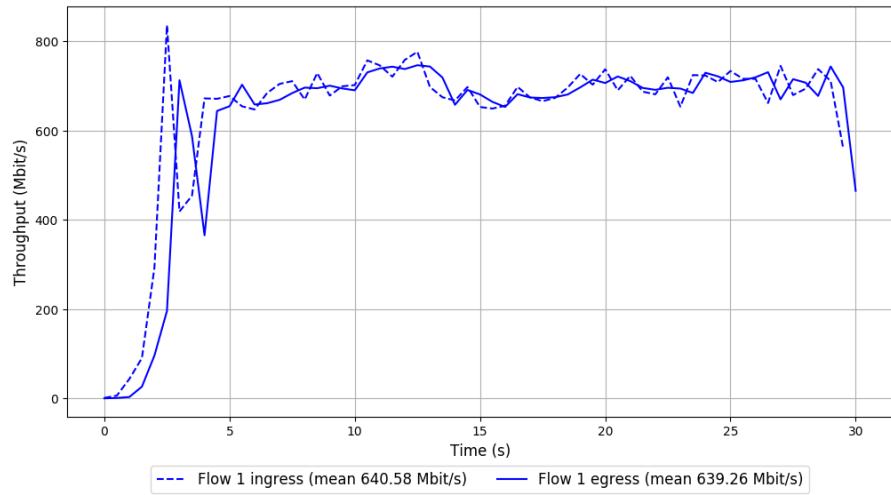


Run 5: Statistics of Indigo-Muses

```
Start at: 2018-11-30 06:13:15
End at: 2018-11-30 06:13:45
Local clock offset: -0.117 ms
Remote clock offset: -0.089 ms

# Below is generated by plot.py at 2018-11-30 07:34:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 639.26 Mbit/s
95th percentile per-packet one-way delay: 121.617 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 639.26 Mbit/s
95th percentile per-packet one-way delay: 121.617 ms
Loss rate: 0.78%
```

Run 5: Report of Indigo-Muses — Data Link

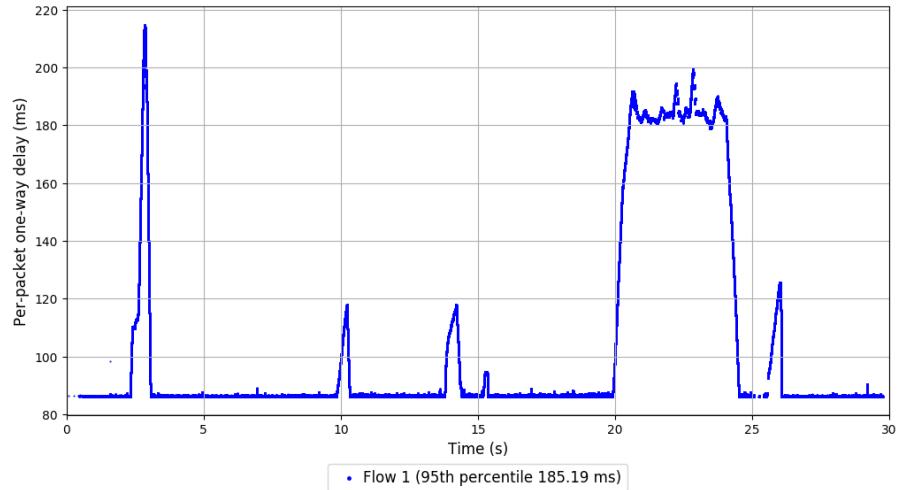
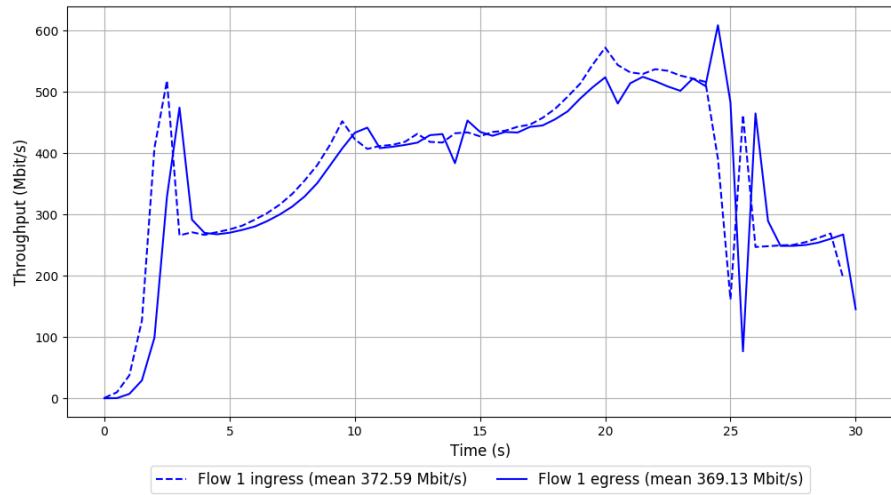


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-11-30 04:14:25
End at: 2018-11-30 04:14:55
Local clock offset: -0.166 ms
Remote clock offset: -0.105 ms

# Below is generated by plot.py at 2018-11-30 07:36:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 369.13 Mbit/s
95th percentile per-packet one-way delay: 185.186 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 369.13 Mbit/s
95th percentile per-packet one-way delay: 185.186 ms
Loss rate: 1.50%
```

Run 1: Report of PCC-Allegro — Data Link

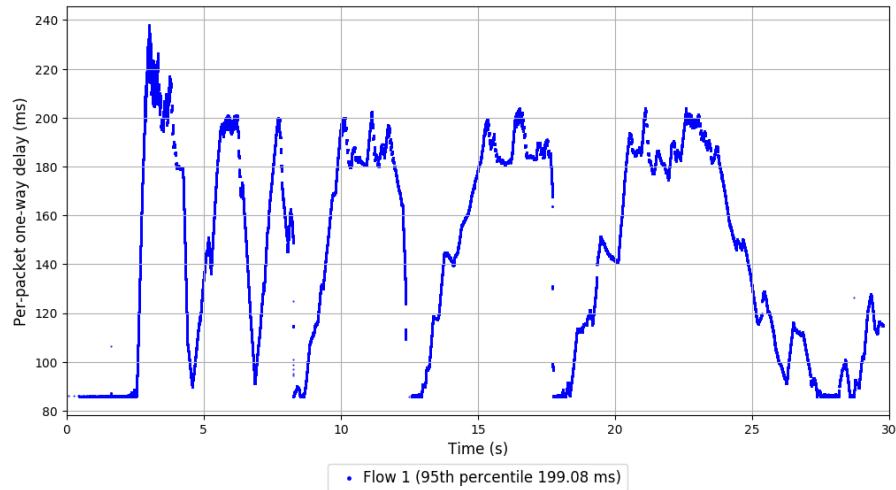
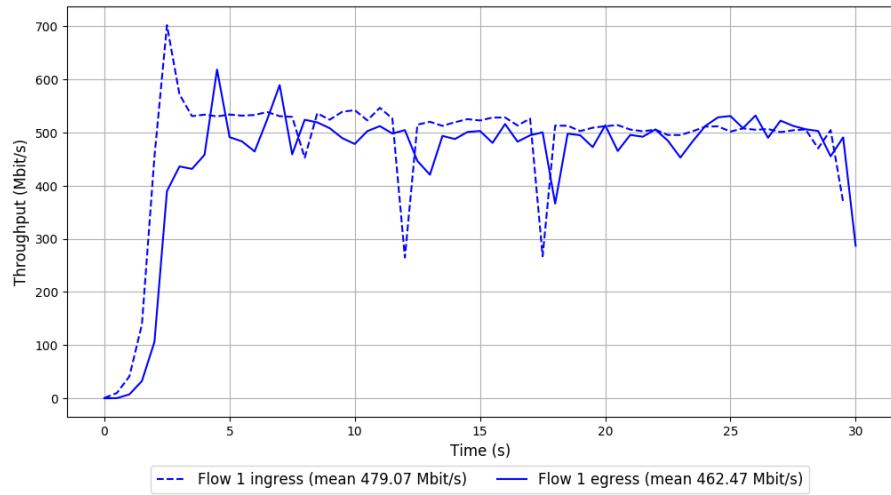


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-11-30 04:42:44
End at: 2018-11-30 04:43:14
Local clock offset: -0.158 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2018-11-30 07:40:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 462.47 Mbit/s
95th percentile per-packet one-way delay: 199.079 ms
Loss rate: 4.02%
-- Flow 1:
Average throughput: 462.47 Mbit/s
95th percentile per-packet one-way delay: 199.079 ms
Loss rate: 4.02%
```

Run 2: Report of PCC-Allegro — Data Link

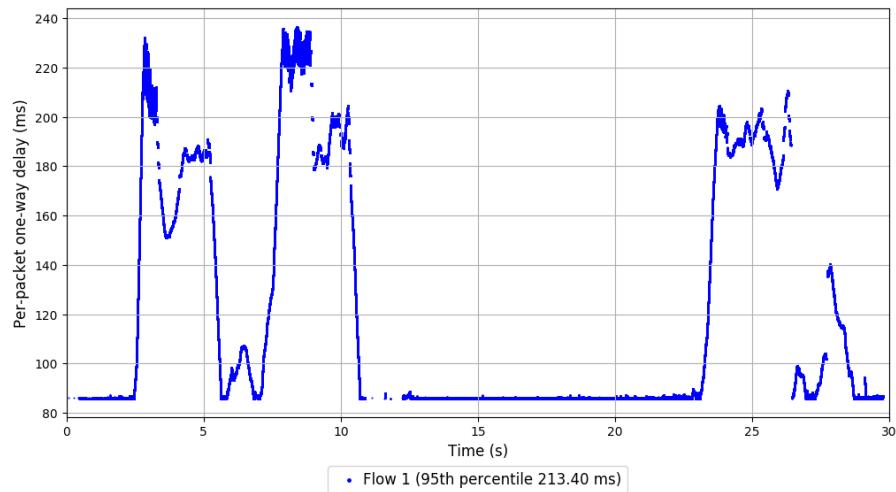
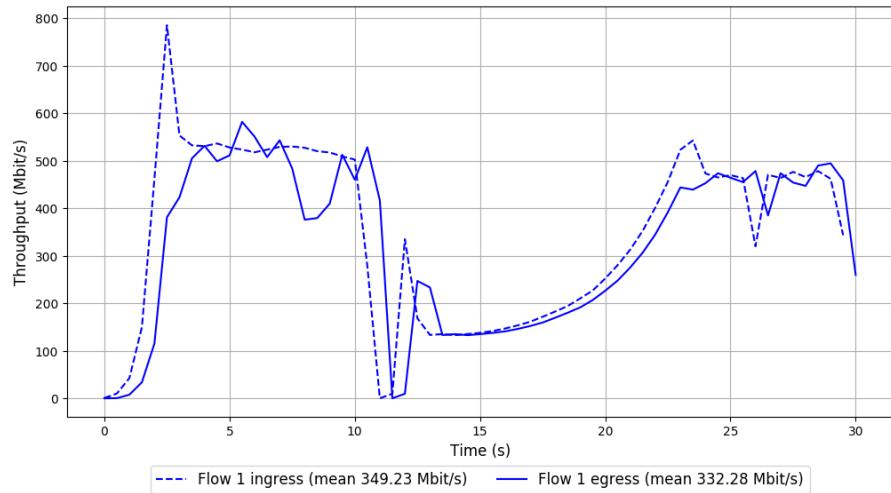


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-11-30 05:11:03
End at: 2018-11-30 05:11:33
Local clock offset: -0.1 ms
Remote clock offset: -0.124 ms

# Below is generated by plot.py at 2018-11-30 07:40:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 332.28 Mbit/s
95th percentile per-packet one-way delay: 213.402 ms
Loss rate: 5.40%
-- Flow 1:
Average throughput: 332.28 Mbit/s
95th percentile per-packet one-way delay: 213.402 ms
Loss rate: 5.40%
```

Run 3: Report of PCC-Allegro — Data Link

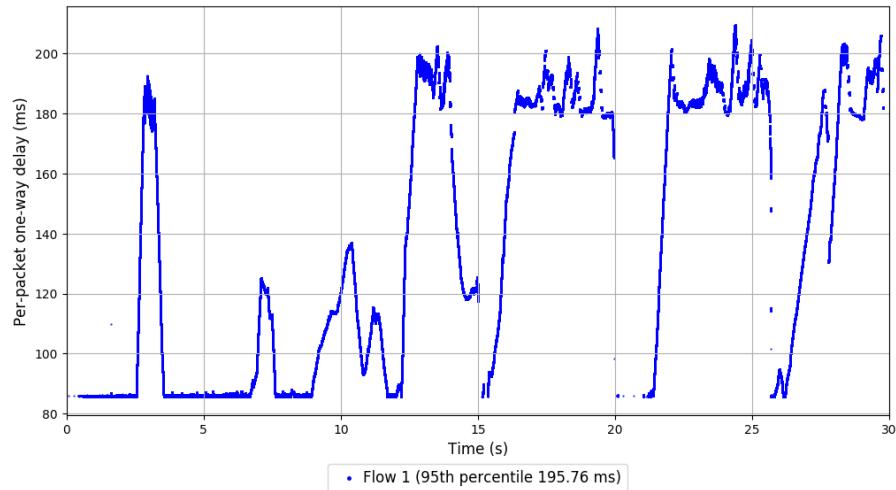
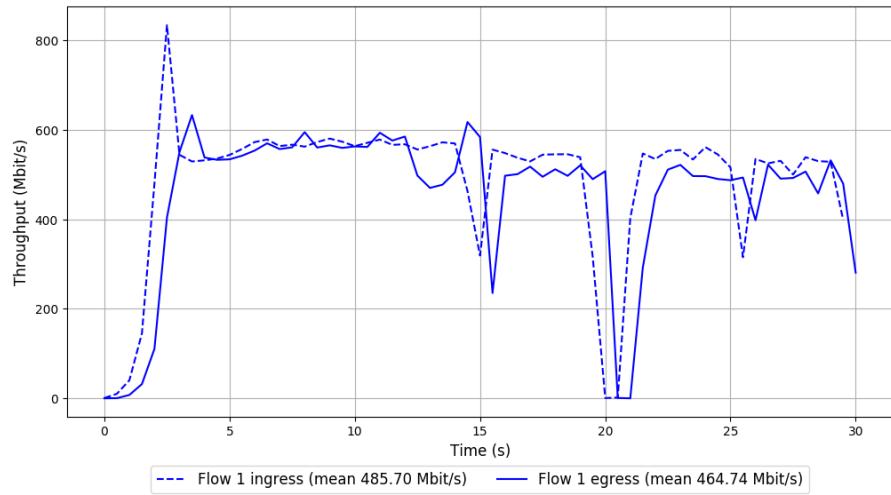


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-11-30 05:39:18
End at: 2018-11-30 05:39:48
Local clock offset: -0.1 ms
Remote clock offset: -0.139 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 464.74 Mbit/s
95th percentile per-packet one-way delay: 195.759 ms
Loss rate: 4.87%
-- Flow 1:
Average throughput: 464.74 Mbit/s
95th percentile per-packet one-way delay: 195.759 ms
Loss rate: 4.87%
```

Run 4: Report of PCC-Allegro — Data Link

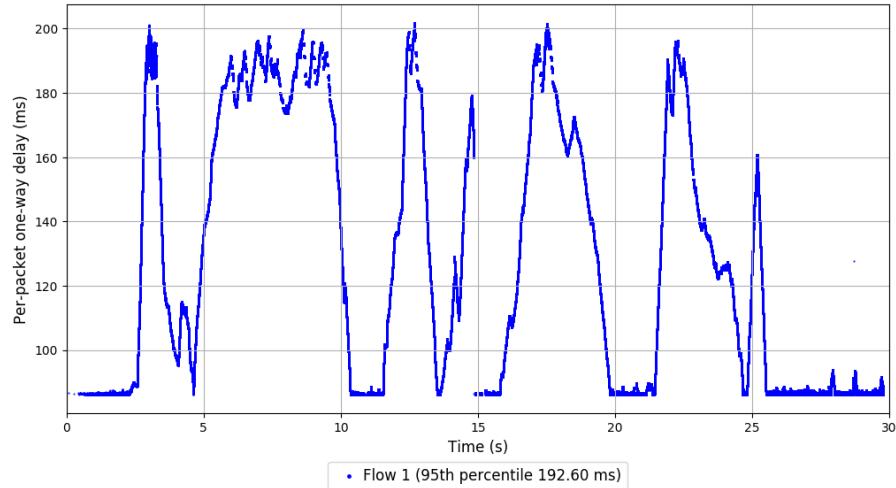
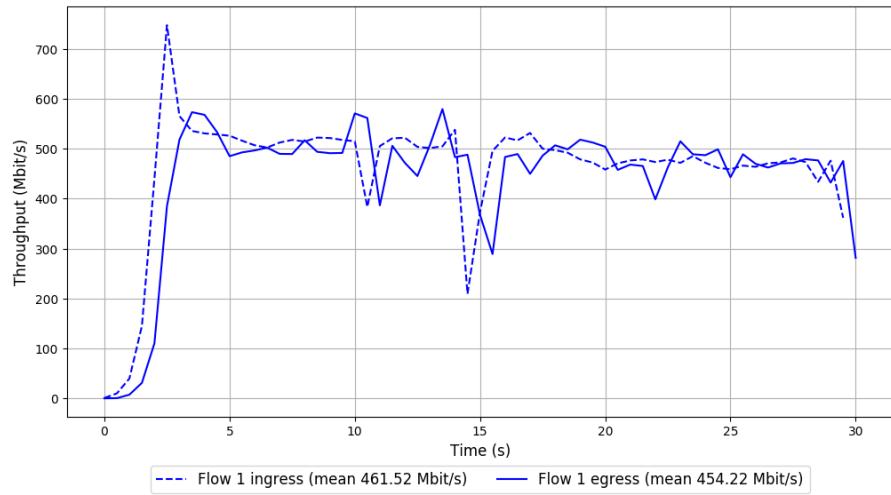


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-11-30 06:07:32
End at: 2018-11-30 06:08:02
Local clock offset: -0.126 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 454.22 Mbit/s
95th percentile per-packet one-way delay: 192.604 ms
Loss rate: 2.15%
-- Flow 1:
Average throughput: 454.22 Mbit/s
95th percentile per-packet one-way delay: 192.604 ms
Loss rate: 2.15%
```

Run 5: Report of PCC-Allegro — Data Link

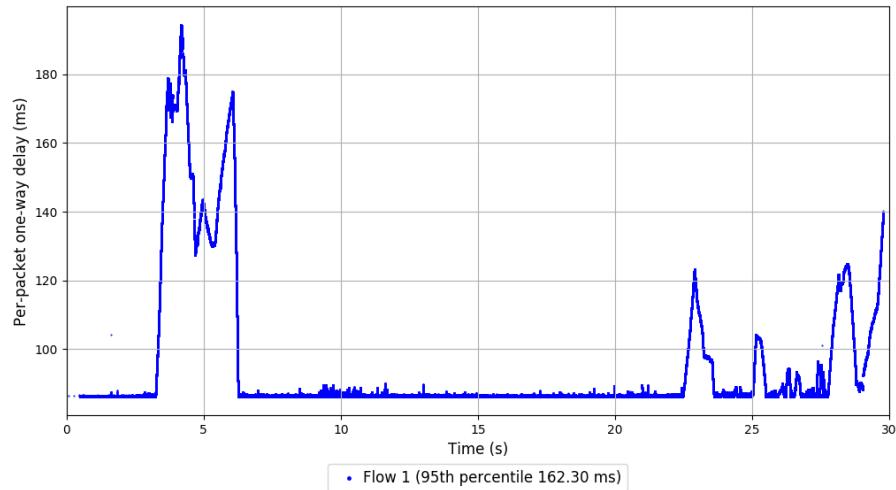
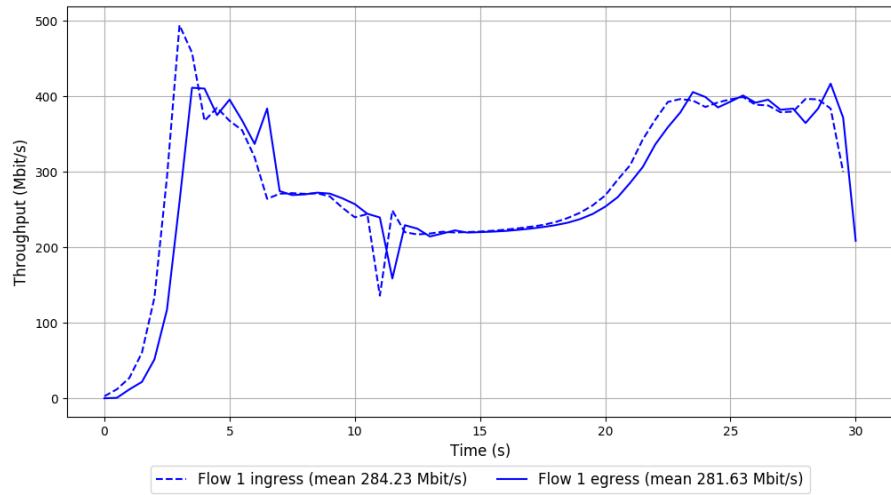


```
Run 1: Statistics of PCC-Expr
```

```
Start at: 2018-11-30 04:12:50
End at: 2018-11-30 04:13:20
Local clock offset: -0.165 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 281.63 Mbit/s
95th percentile per-packet one-way delay: 162.296 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 281.63 Mbit/s
95th percentile per-packet one-way delay: 162.296 ms
Loss rate: 1.49%
```

Run 1: Report of PCC-Expr — Data Link

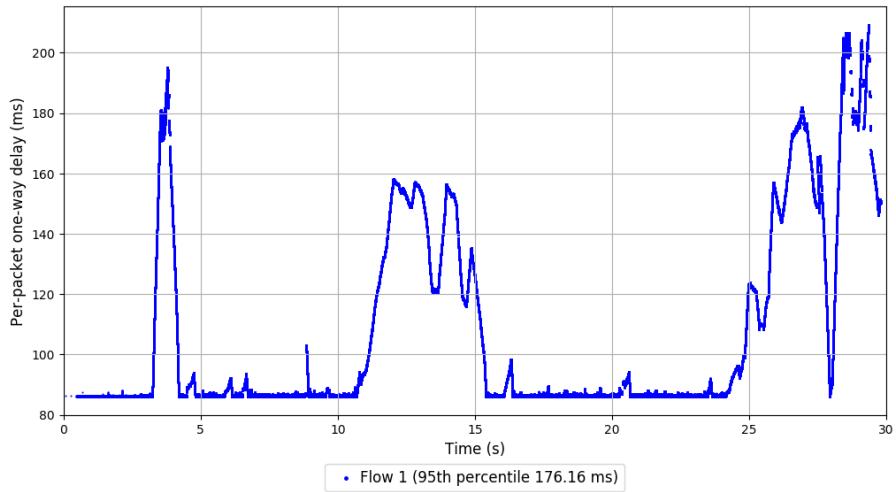
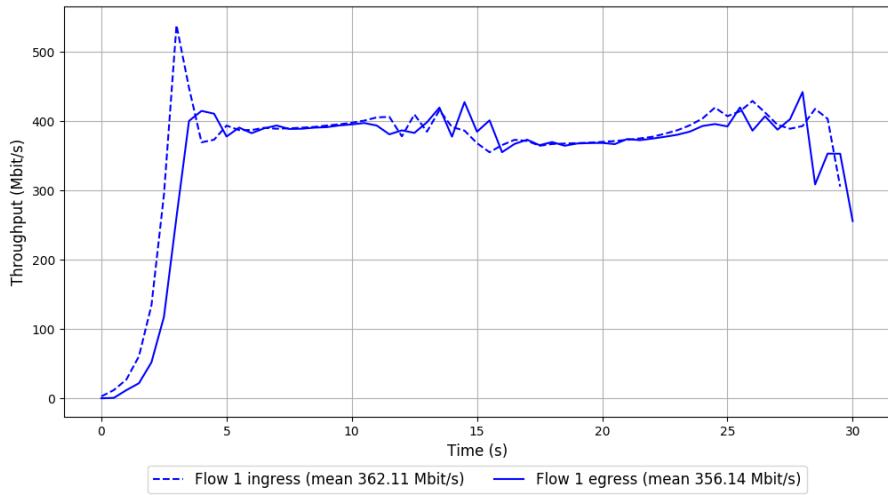


Run 2: Statistics of PCC-Expr

```
Start at: 2018-11-30 04:41:01
End at: 2018-11-30 04:41:31
Local clock offset: -0.214 ms
Remote clock offset: -0.033 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 356.14 Mbit/s
95th percentile per-packet one-way delay: 176.156 ms
Loss rate: 2.22%
-- Flow 1:
Average throughput: 356.14 Mbit/s
95th percentile per-packet one-way delay: 176.156 ms
Loss rate: 2.22%
```

Run 2: Report of PCC-Expr — Data Link

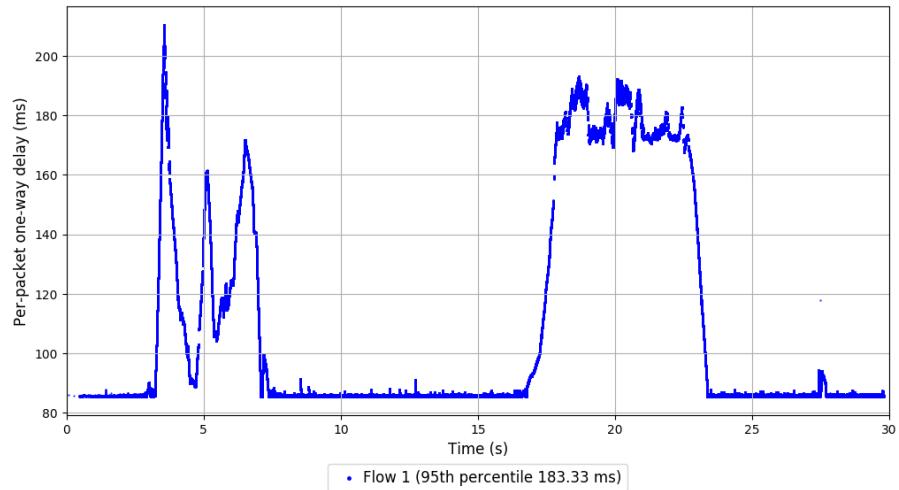
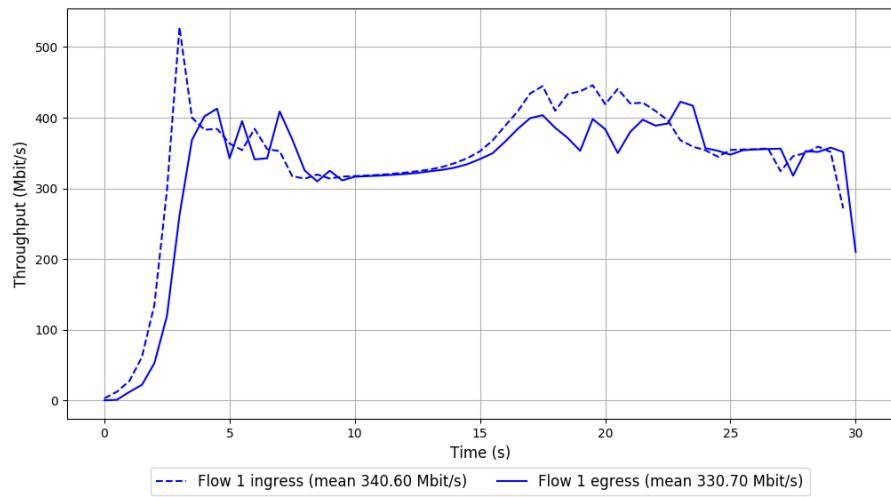


Run 3: Statistics of PCC-Expr

```
Start at: 2018-11-30 05:09:21
End at: 2018-11-30 05:09:51
Local clock offset: -0.519 ms
Remote clock offset: -0.12 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 330.70 Mbit/s
95th percentile per-packet one-way delay: 183.326 ms
Loss rate: 3.47%
-- Flow 1:
Average throughput: 330.70 Mbit/s
95th percentile per-packet one-way delay: 183.326 ms
Loss rate: 3.47%
```

Run 3: Report of PCC-Expr — Data Link

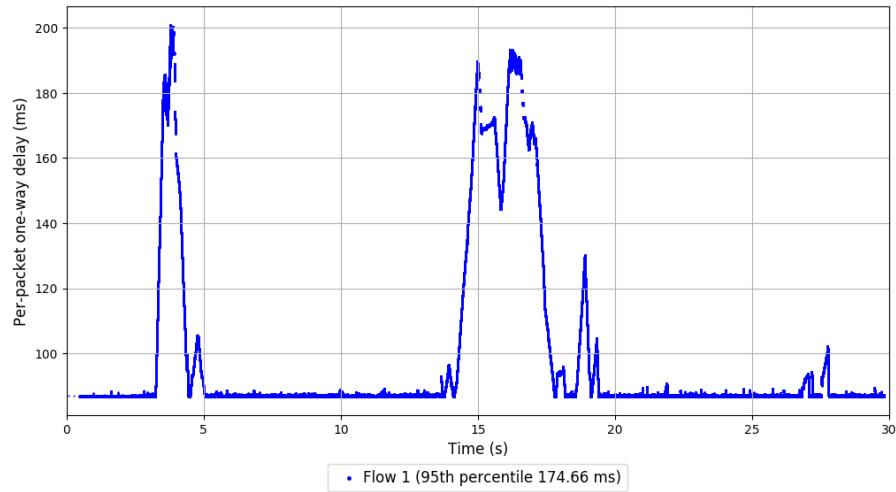
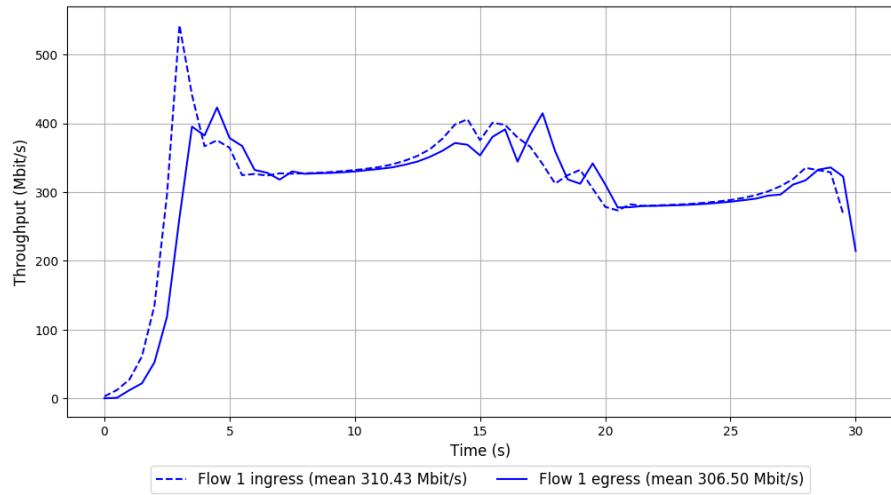


Run 4: Statistics of PCC-Expr

```
Start at: 2018-11-30 05:37:39
End at: 2018-11-30 05:38:09
Local clock offset: 0.137 ms
Remote clock offset: -0.174 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 306.50 Mbit/s
95th percentile per-packet one-way delay: 174.663 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 306.50 Mbit/s
95th percentile per-packet one-way delay: 174.663 ms
Loss rate: 1.84%
```

Run 4: Report of PCC-Expr — Data Link

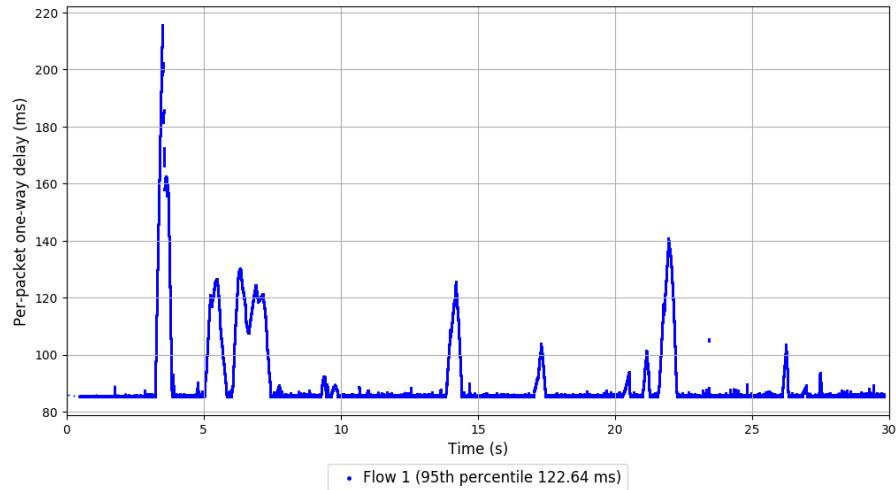
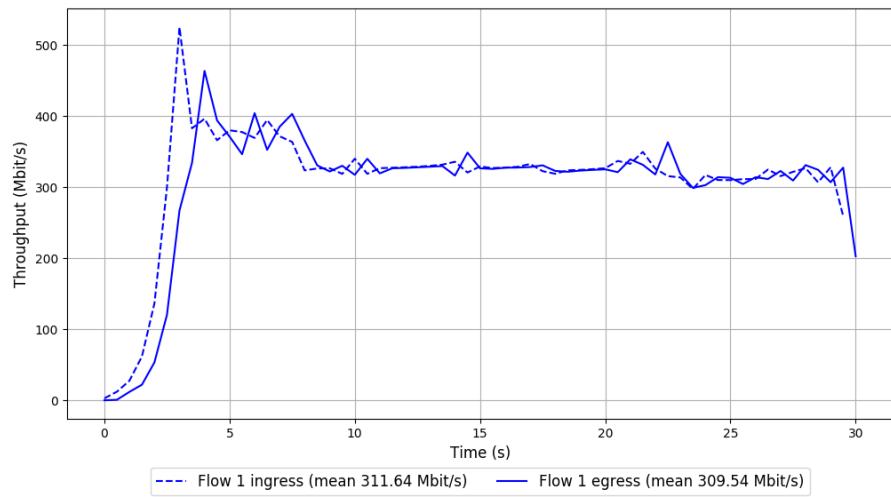


Run 5: Statistics of PCC-Expr

```
Start at: 2018-11-30 06:05:52
End at: 2018-11-30 06:06:22
Local clock offset: -0.507 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 309.54 Mbit/s
95th percentile per-packet one-way delay: 122.638 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 309.54 Mbit/s
95th percentile per-packet one-way delay: 122.638 ms
Loss rate: 1.25%
```

Run 5: Report of PCC-Expr — Data Link

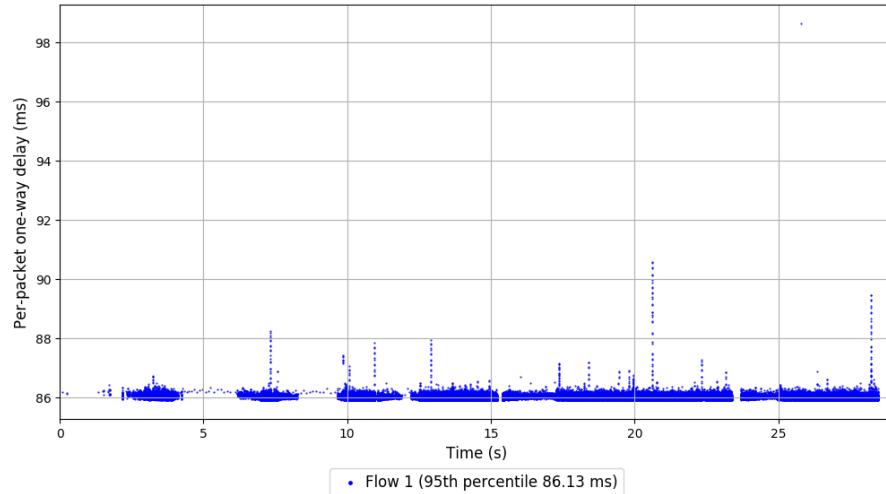
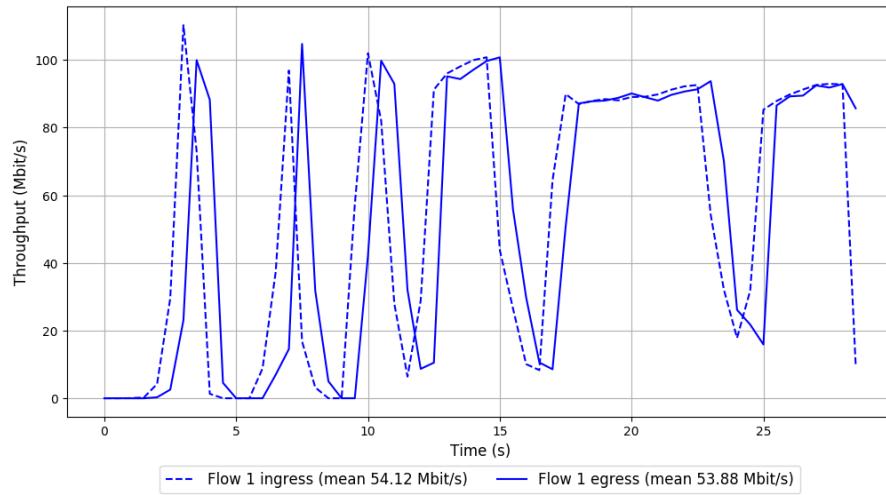


Run 1: Statistics of QUIC Cubic

```
Start at: 2018-11-30 04:02:30
End at: 2018-11-30 04:03:00
Local clock offset: 0.041 ms
Remote clock offset: -0.115 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 53.88 Mbit/s
95th percentile per-packet one-way delay: 86.131 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 53.88 Mbit/s
95th percentile per-packet one-way delay: 86.131 ms
Loss rate: 1.05%
```

Run 1: Report of QUIC Cubic — Data Link

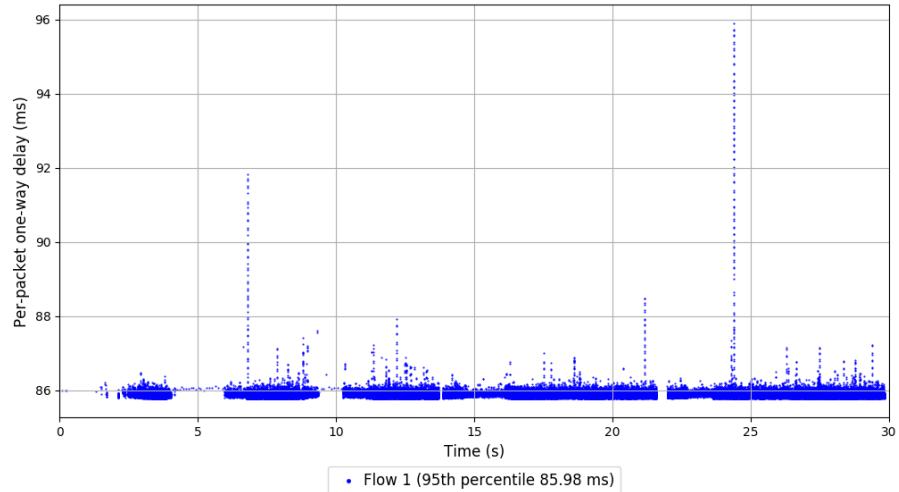
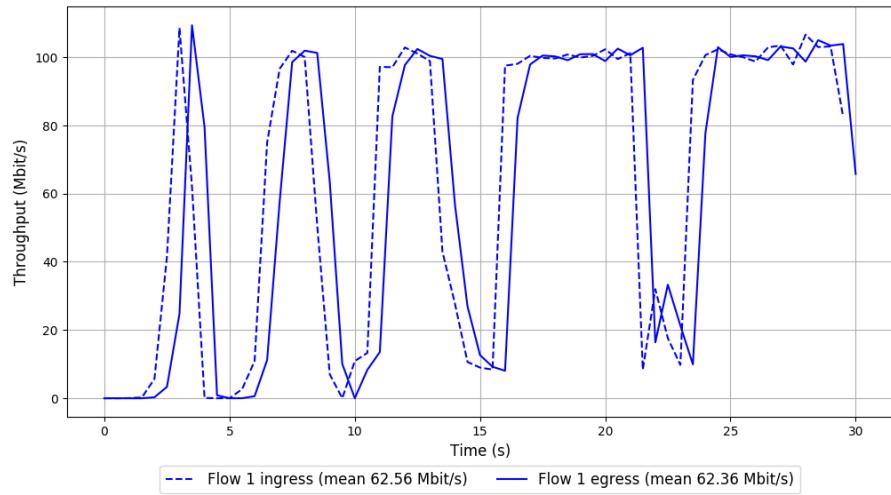


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-11-30 04:30:52
End at: 2018-11-30 04:31:22
Local clock offset: -0.127 ms
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.36 Mbit/s
95th percentile per-packet one-way delay: 85.983 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 62.36 Mbit/s
95th percentile per-packet one-way delay: 85.983 ms
Loss rate: 0.90%
```

Run 2: Report of QUIC Cubic — Data Link

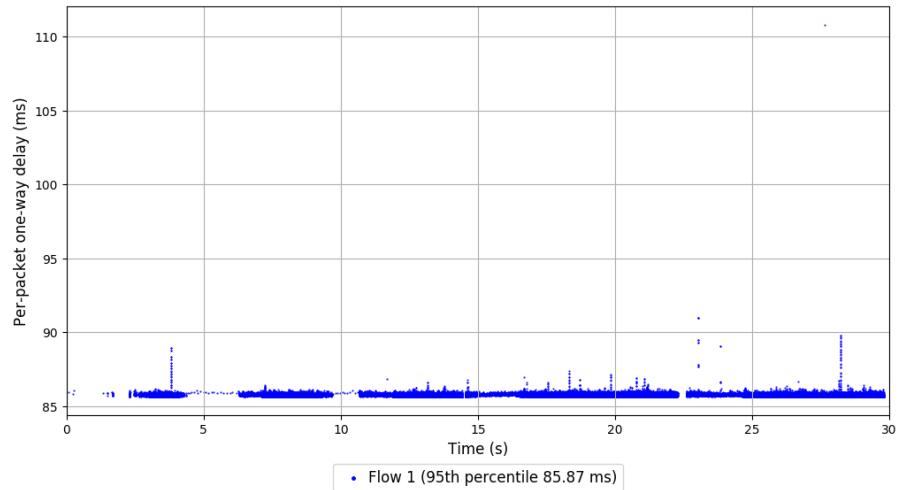
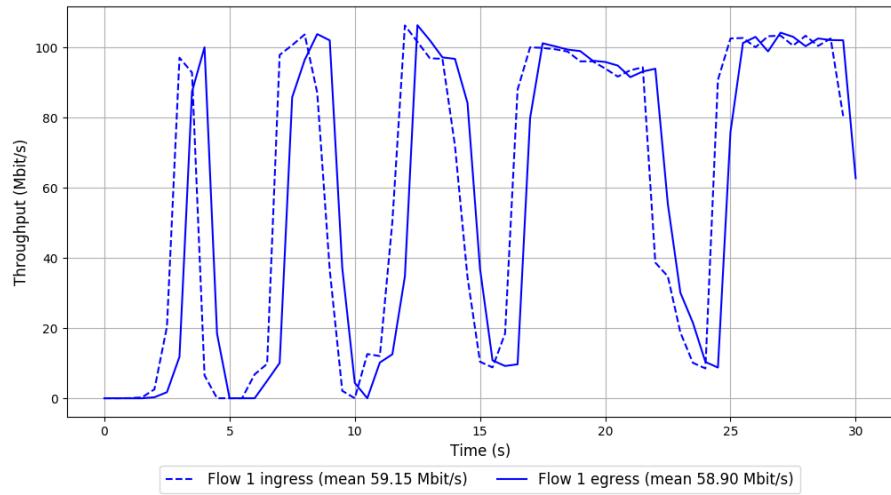


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-11-30 04:59:13
End at: 2018-11-30 04:59:43
Local clock offset: -0.556 ms
Remote clock offset: -0.088 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 58.90 Mbit/s
95th percentile per-packet one-way delay: 85.868 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 58.90 Mbit/s
95th percentile per-packet one-way delay: 85.868 ms
Loss rate: 1.00%
```

Run 3: Report of QUIC Cubic — Data Link

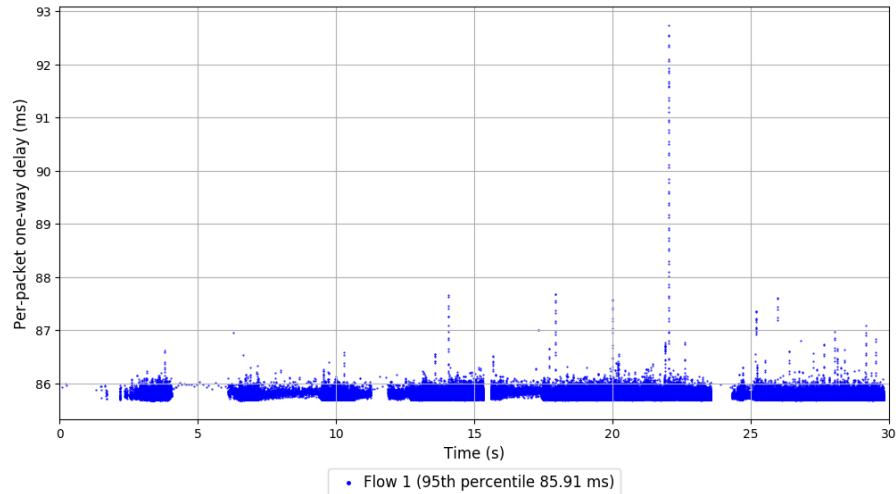
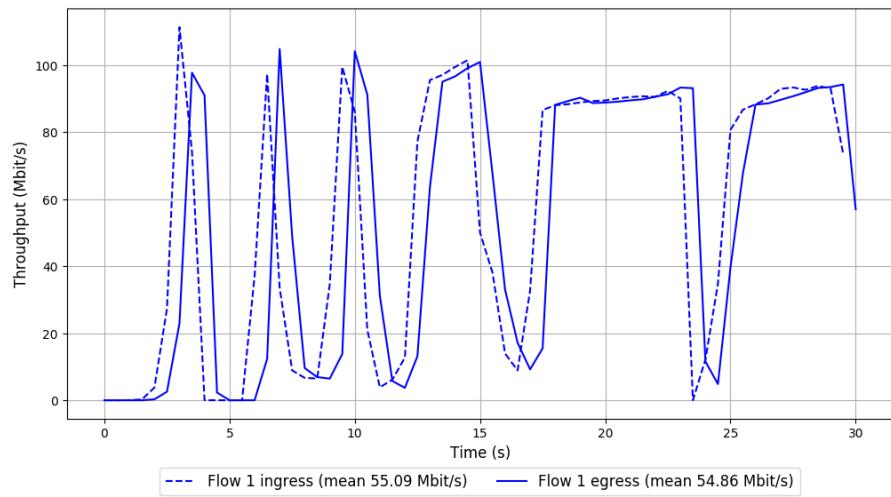


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-11-30 05:27:29
End at: 2018-11-30 05:27:59
Local clock offset: -0.1 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.86 Mbit/s
95th percentile per-packet one-way delay: 85.910 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 54.86 Mbit/s
95th percentile per-packet one-way delay: 85.910 ms
Loss rate: 0.99%
```

Run 4: Report of QUIC Cubic — Data Link

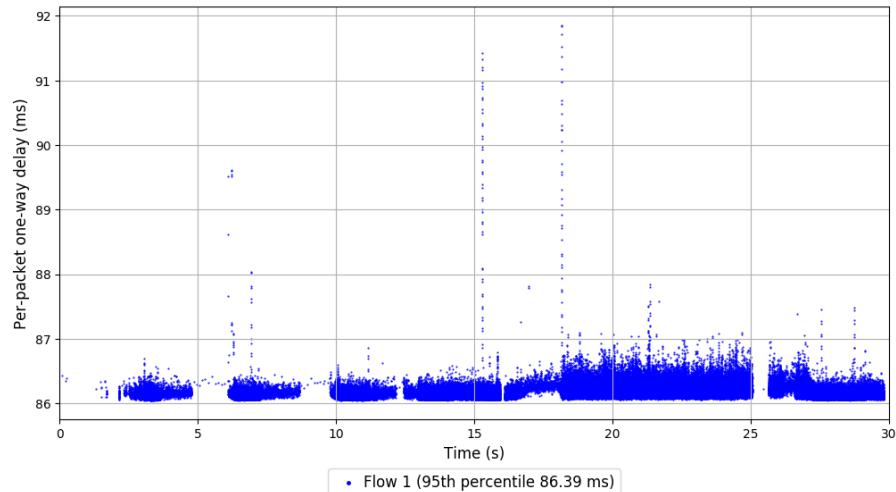
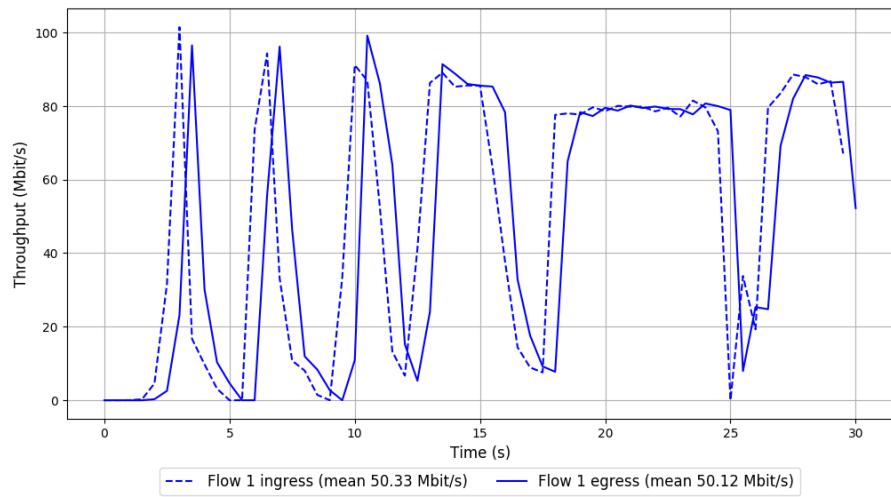


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-11-30 05:55:41
End at: 2018-11-30 05:56:11
Local clock offset: -0.262 ms
Remote clock offset: -0.204 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.12 Mbit/s
95th percentile per-packet one-way delay: 86.386 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 50.12 Mbit/s
95th percentile per-packet one-way delay: 86.386 ms
Loss rate: 0.99%
```

Run 5: Report of QUIC Cubic — Data Link

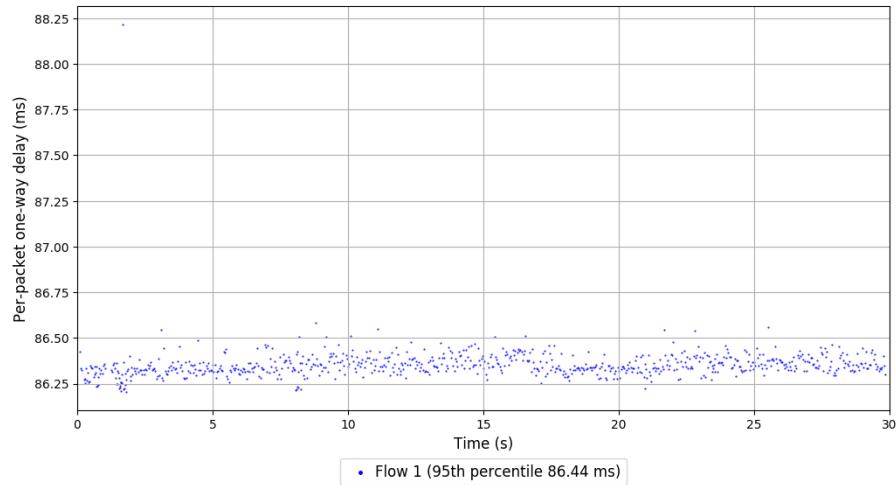
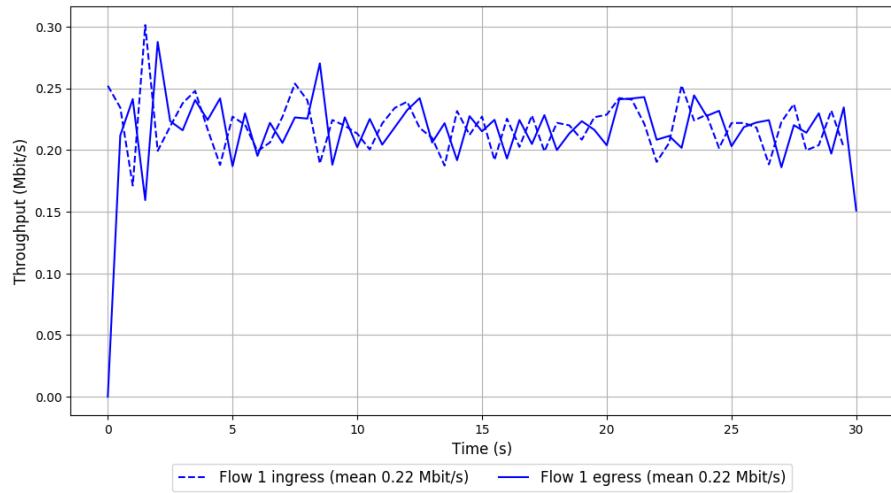


Run 1: Statistics of SCReAM

```
Start at: 2018-11-30 04:21:43
End at: 2018-11-30 04:22:13
Local clock offset: -0.159 ms
Remote clock offset: -0.043 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.443 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.443 ms
Loss rate: 0.64%
```

Run 1: Report of SCReAM — Data Link

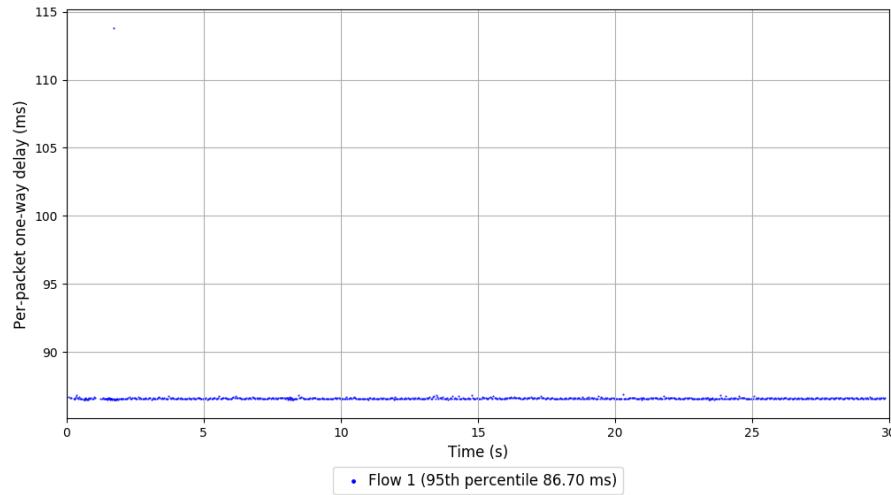
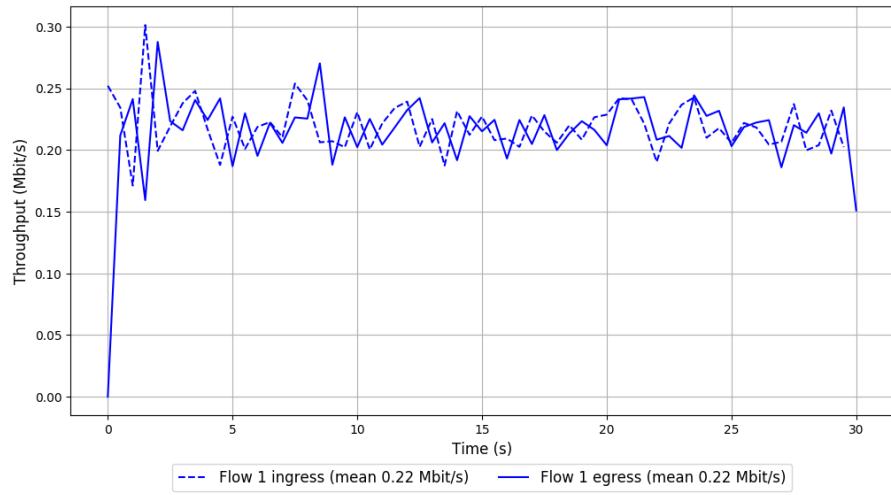


Run 2: Statistics of SCReAM

```
Start at: 2018-11-30 04:50:16
End at: 2018-11-30 04:50:46
Local clock offset: 0.075 ms
Remote clock offset: -0.112 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.696 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.696 ms
Loss rate: 0.64%
```

Run 2: Report of SCReAM — Data Link

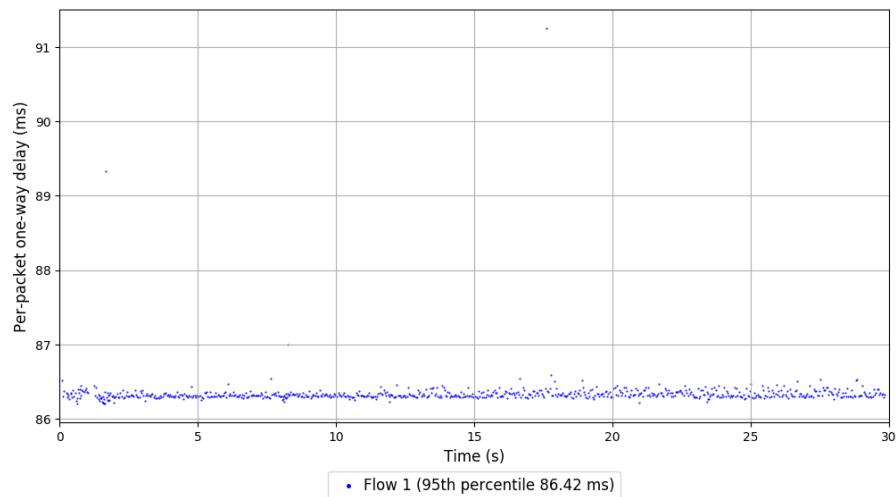
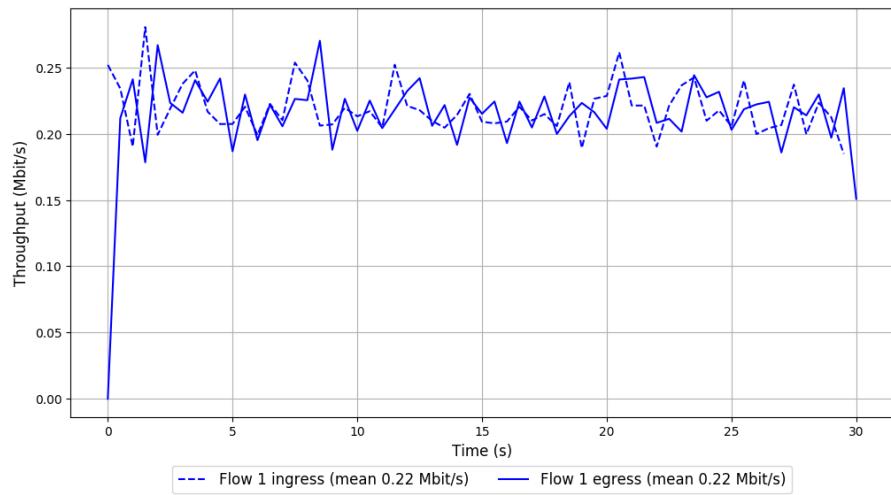


Run 3: Statistics of SCReAM

```
Start at: 2018-11-30 05:18:22
End at: 2018-11-30 05:18:52
Local clock offset: -0.15 ms
Remote clock offset: -0.149 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.423 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.423 ms
Loss rate: 0.51%
```

Run 3: Report of SCReAM — Data Link

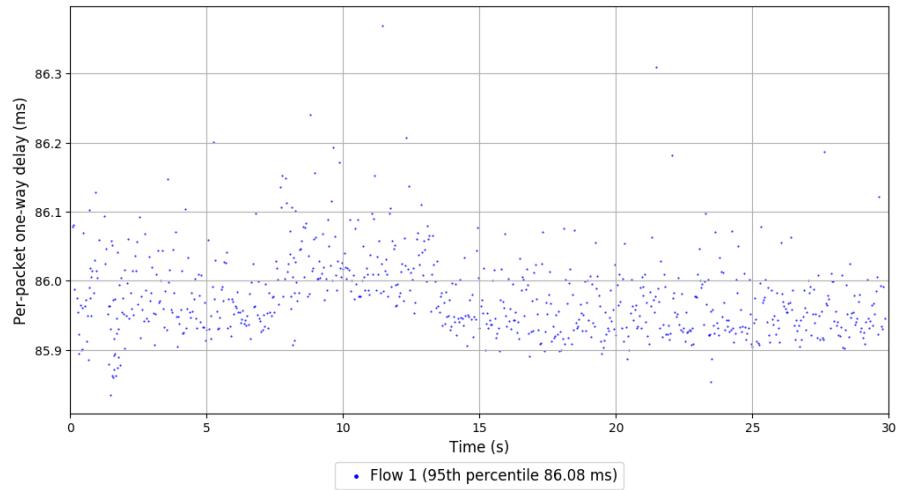
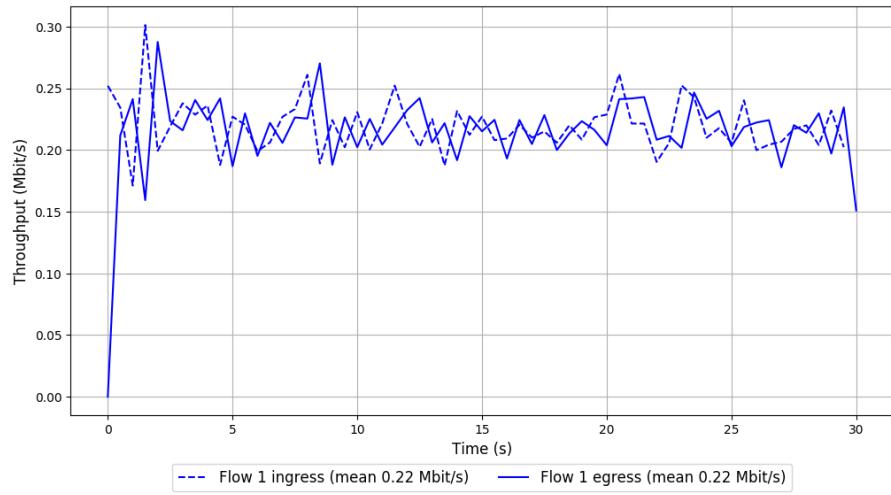


Run 4: Statistics of SCReAM

```
Start at: 2018-11-30 05:47:00
End at: 2018-11-30 05:47:30
Local clock offset: -0.515 ms
Remote clock offset: -0.198 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.081 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.081 ms
Loss rate: 0.64%
```

Run 4: Report of SCReAM — Data Link

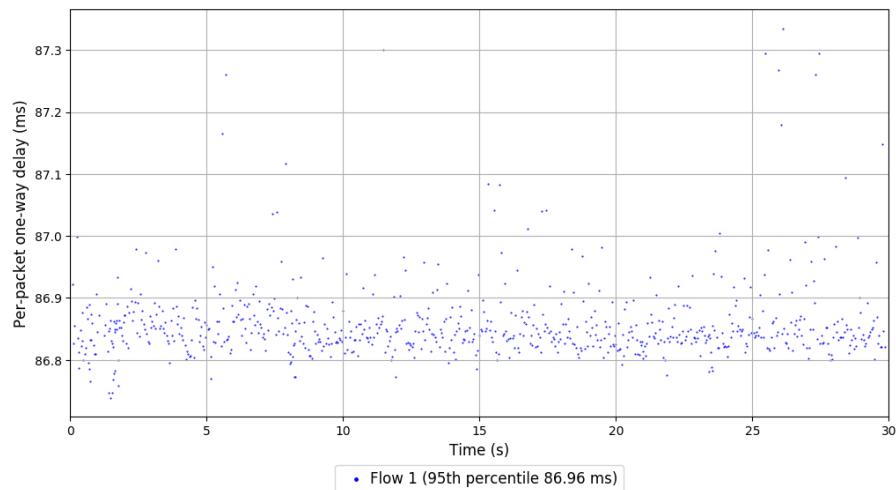
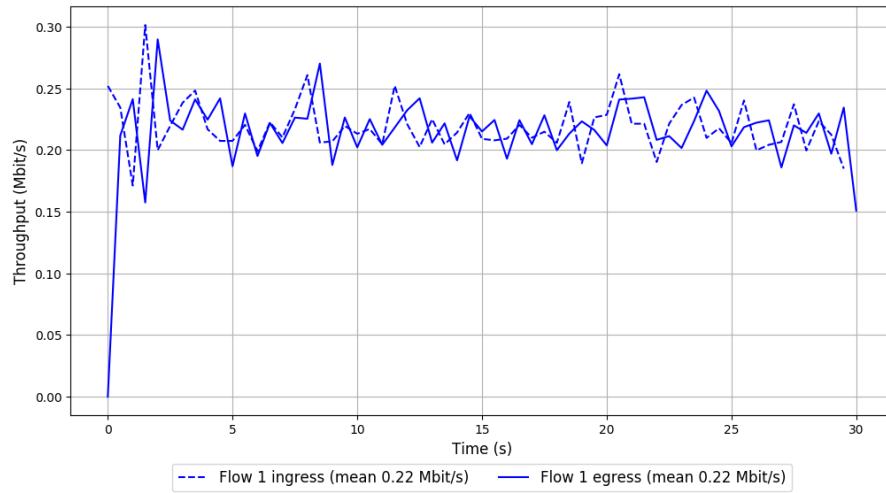


Run 5: Statistics of SCReAM

```
Start at: 2018-11-30 06:14:57
End at: 2018-11-30 06:15:27
Local clock offset: 0.001 ms
Remote clock offset: -0.093 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.962 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.962 ms
Loss rate: 0.51%
```

Run 5: Report of SCReAM — Data Link

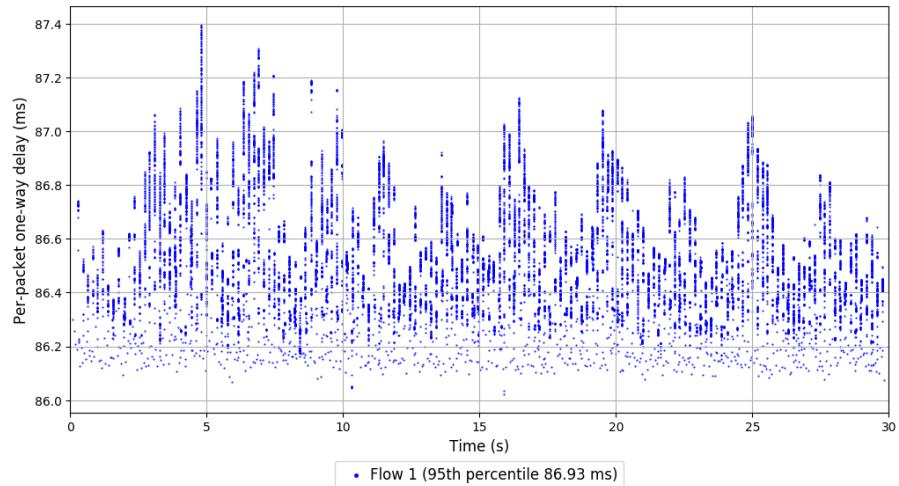
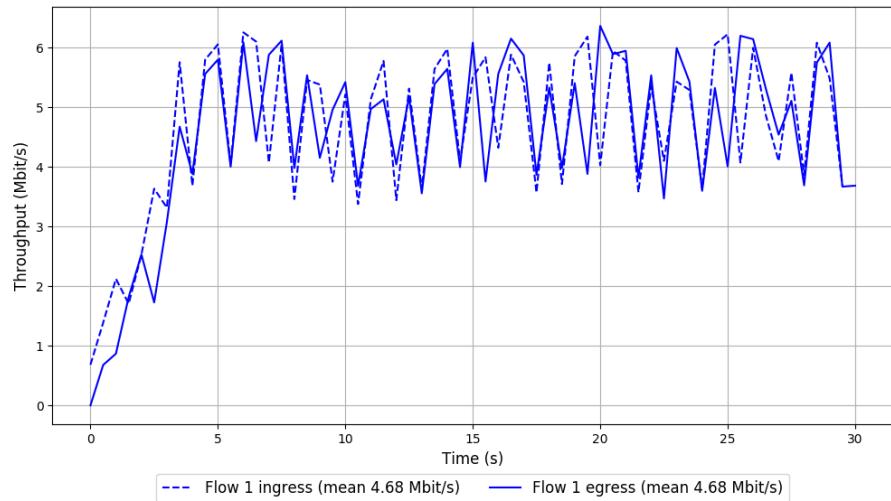


Run 1: Statistics of Sprout

```
Start at: 2018-11-30 04:18:52
End at: 2018-11-30 04:19:22
Local clock offset: 0.055 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.68 Mbit/s
95th percentile per-packet one-way delay: 86.929 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 4.68 Mbit/s
95th percentile per-packet one-way delay: 86.929 ms
Loss rate: 0.65%
```

Run 1: Report of Sprout — Data Link

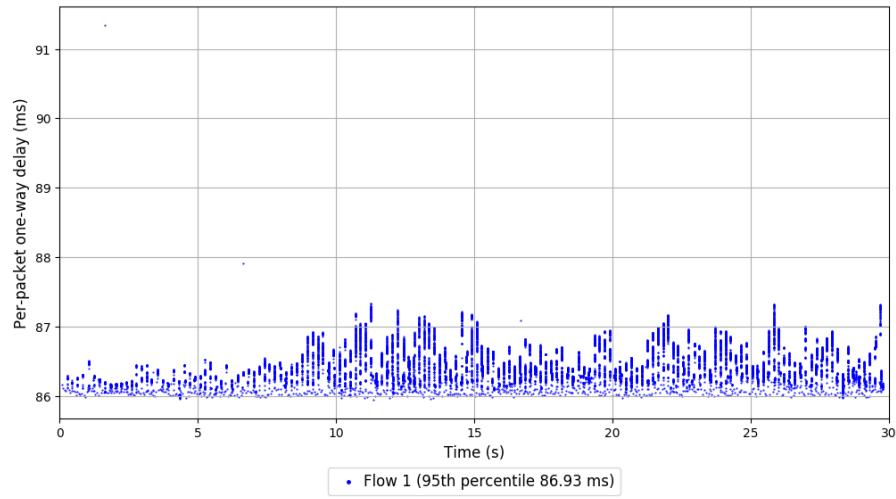
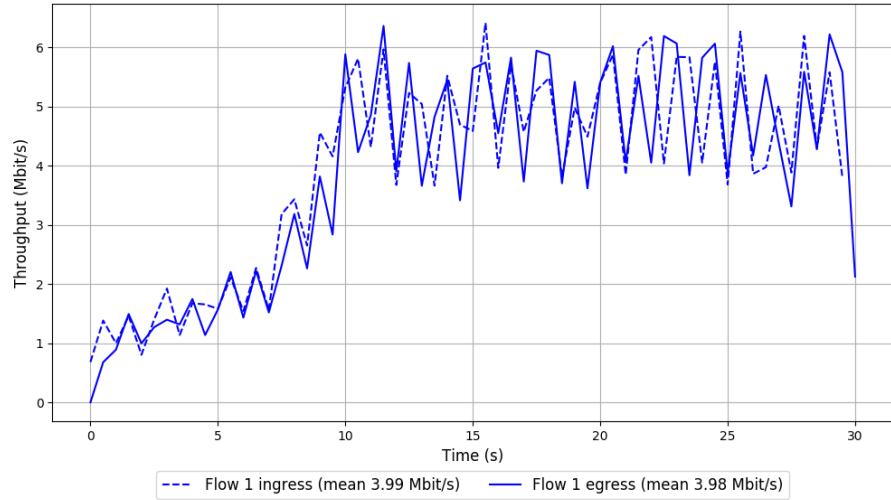


Run 2: Statistics of Sprout

```
Start at: 2018-11-30 04:47:21
End at: 2018-11-30 04:47:51
Local clock offset: -0.44 ms
Remote clock offset: -0.055 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 86.928 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 86.928 ms
Loss rate: 0.71%
```

Run 2: Report of Sprout — Data Link

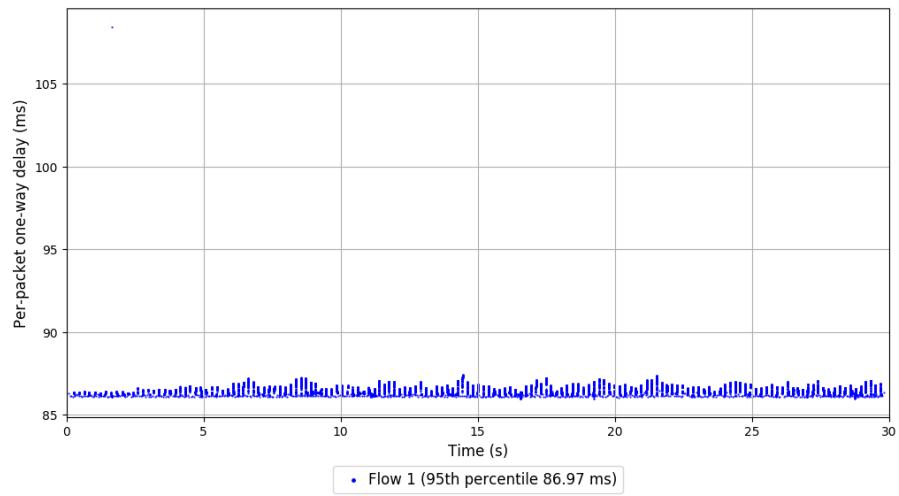
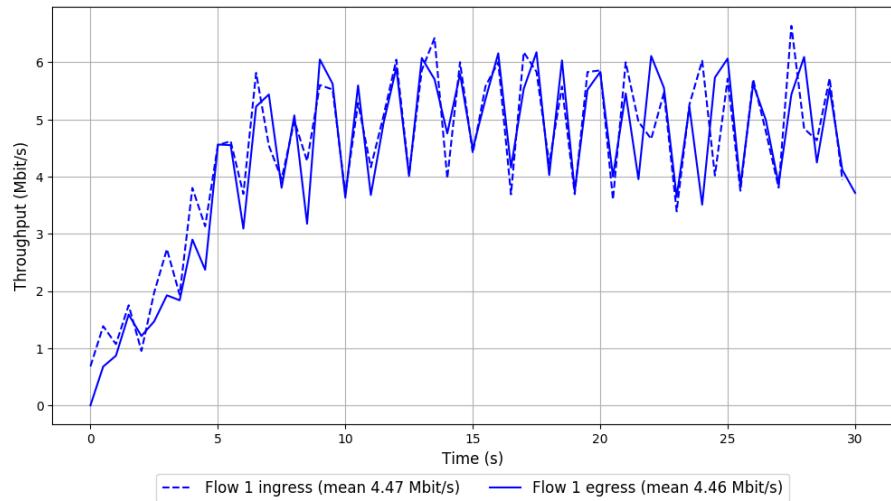


Run 3: Statistics of Sprout

```
Start at: 2018-11-30 05:15:29
End at: 2018-11-30 05:15:59
Local clock offset: 0.066 ms
Remote clock offset: -0.116 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 86.969 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 4.46 Mbit/s
95th percentile per-packet one-way delay: 86.969 ms
Loss rate: 0.77%
```

Run 3: Report of Sprout — Data Link

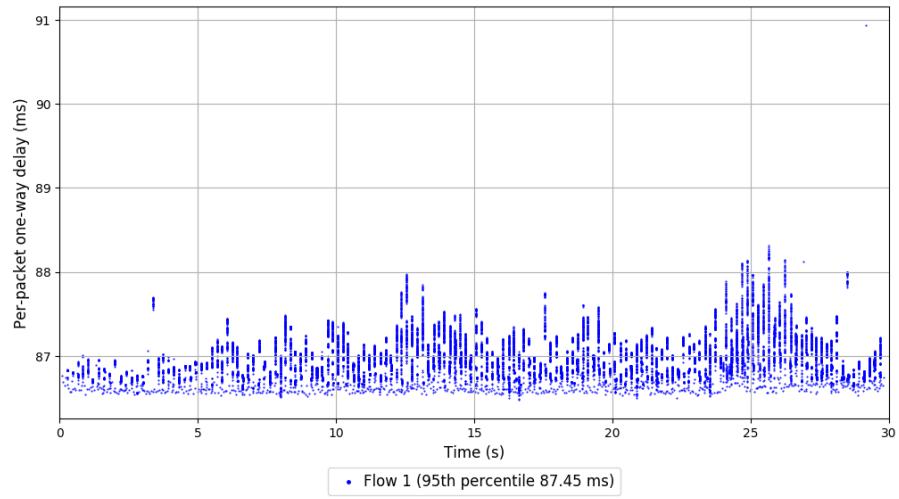
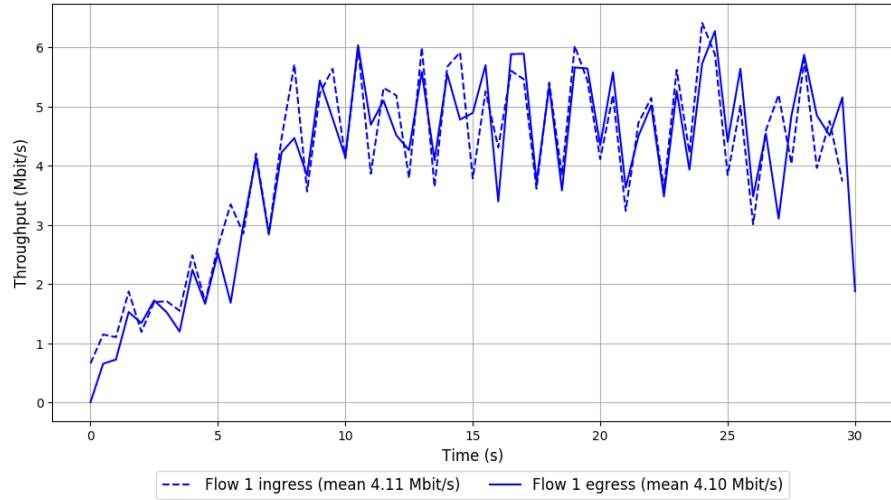


Run 4: Statistics of Sprout

```
Start at: 2018-11-30 05:43:55
End at: 2018-11-30 05:44:25
Local clock offset: -0.114 ms
Remote clock offset: -0.149 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 87.449 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 4.10 Mbit/s
95th percentile per-packet one-way delay: 87.449 ms
Loss rate: 0.76%
```

Run 4: Report of Sprout — Data Link

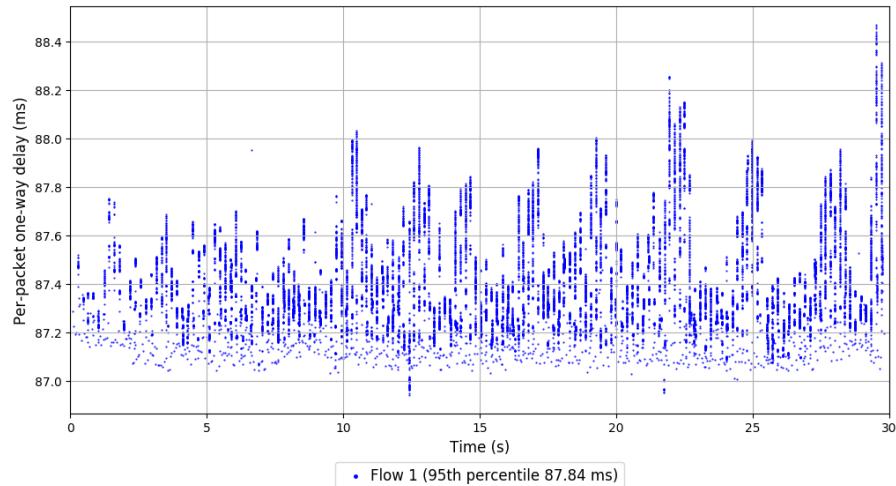
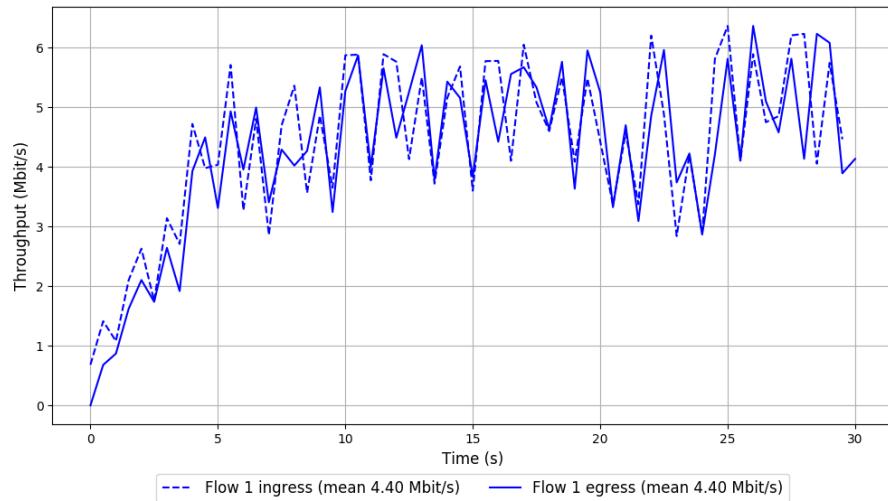


Run 5: Statistics of Sprout

```
Start at: 2018-11-30 06:12:05
End at: 2018-11-30 06:12:35
Local clock offset: 0.301 ms
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2018-11-30 07:50:34
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 87.837 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 4.40 Mbit/s
95th percentile per-packet one-way delay: 87.837 ms
Loss rate: 0.85%
```

Run 5: Report of Sprout — Data Link

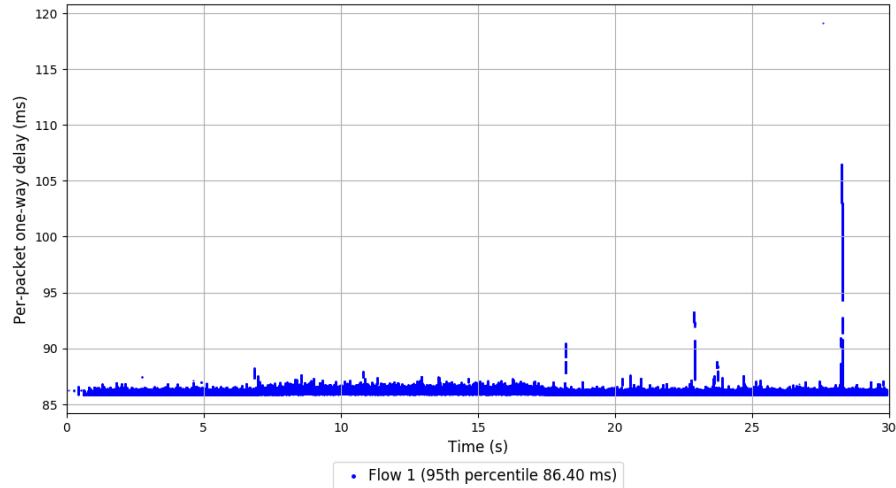
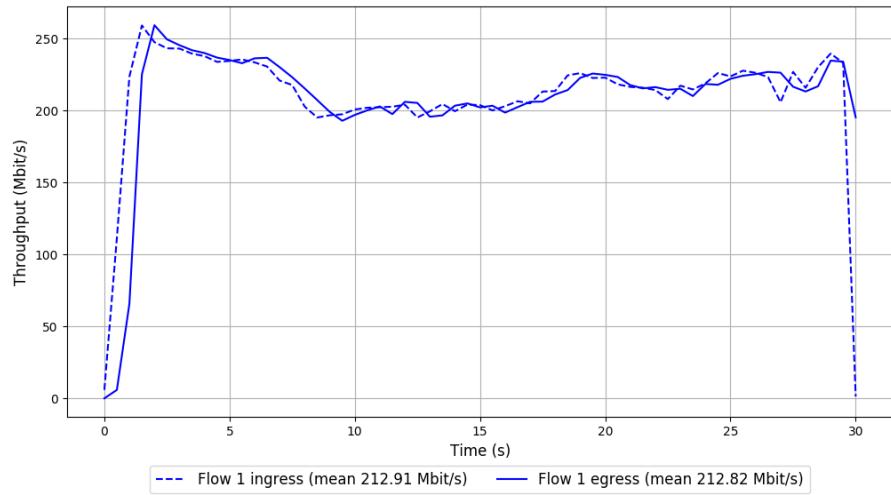


Run 1: Statistics of TaoVA-100x

```
Start at: 2018-11-30 04:17:22
End at: 2018-11-30 04:17:52
Local clock offset: -0.421 ms
Remote clock offset: -0.075 ms

# Below is generated by plot.py at 2018-11-30 07:54:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 212.82 Mbit/s
95th percentile per-packet one-way delay: 86.402 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 212.82 Mbit/s
95th percentile per-packet one-way delay: 86.402 ms
Loss rate: 0.62%
```

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

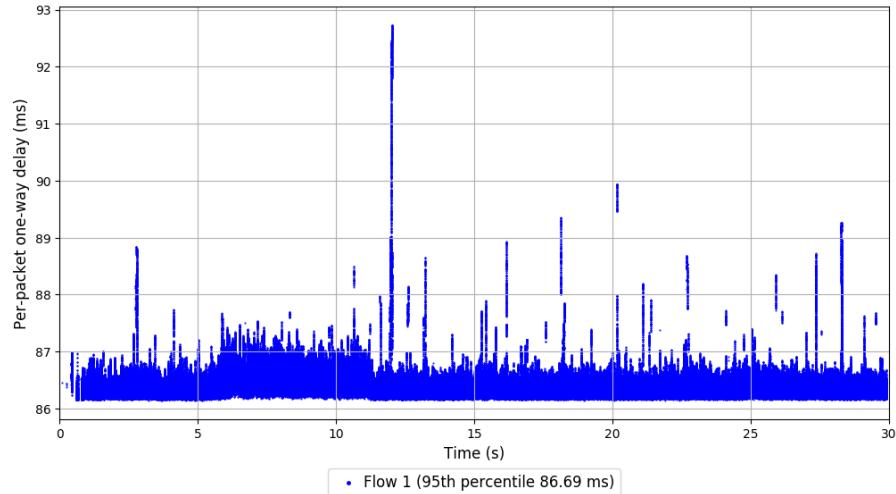
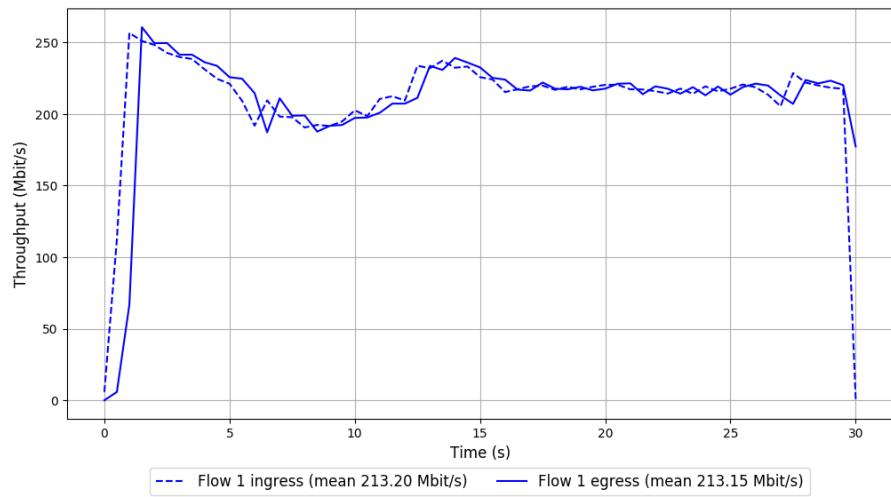


Run 2: Statistics of TaoVA-100x

```
Start at: 2018-11-30 04:45:49
End at: 2018-11-30 04:46:19
Local clock offset: -0.184 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2018-11-30 07:54:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 213.15 Mbit/s
95th percentile per-packet one-way delay: 86.691 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 213.15 Mbit/s
95th percentile per-packet one-way delay: 86.691 ms
Loss rate: 0.60%
```

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

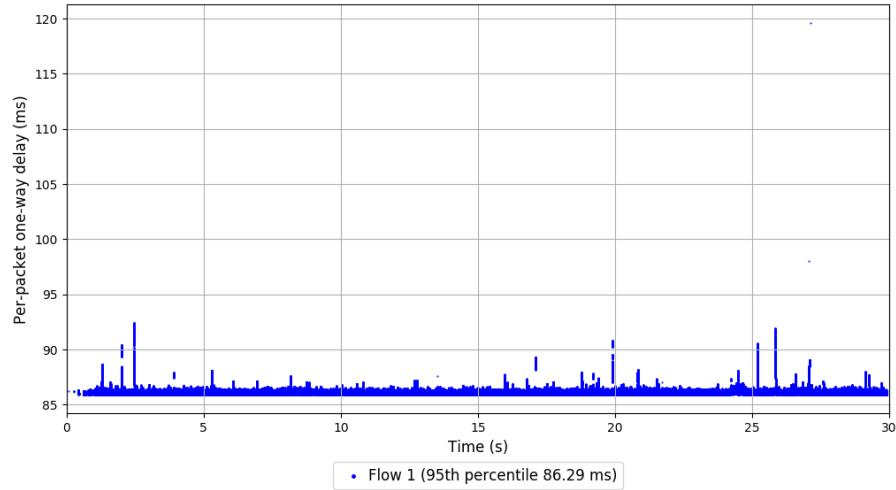
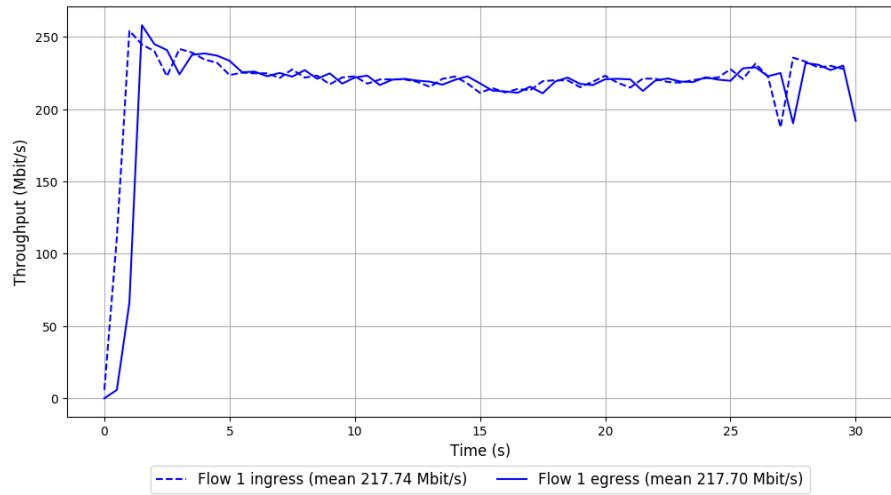


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-11-30 05:13:59
End at: 2018-11-30 05:14:29
Local clock offset: -0.378 ms
Remote clock offset: -0.175 ms

# Below is generated by plot.py at 2018-11-30 07:56:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 217.70 Mbit/s
95th percentile per-packet one-way delay: 86.288 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 217.70 Mbit/s
95th percentile per-packet one-way delay: 86.288 ms
Loss rate: 0.60%
```

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

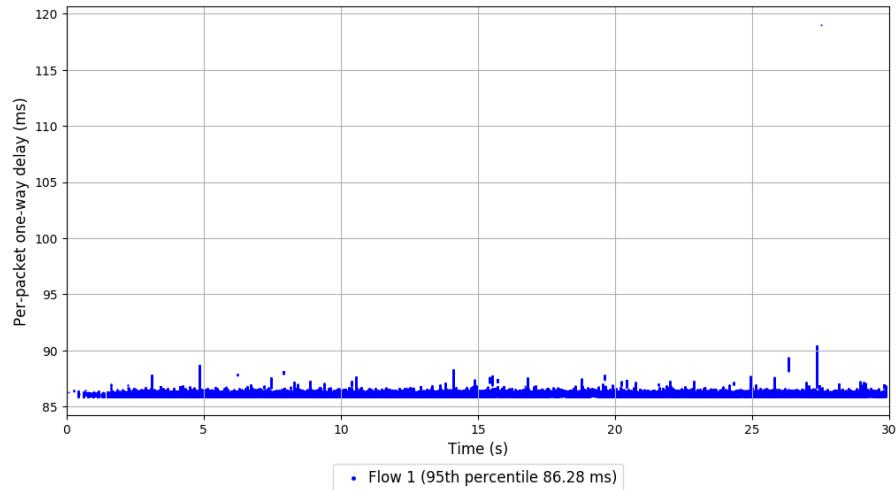
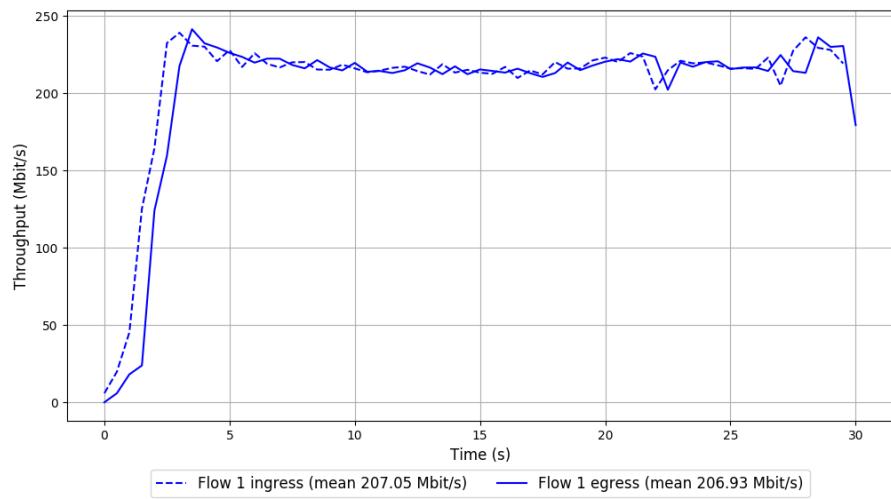


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-11-30 05:42:23
End at: 2018-11-30 05:42:53
Local clock offset: 0.14 ms
Remote clock offset: -0.168 ms

# Below is generated by plot.py at 2018-11-30 07:56:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 206.93 Mbit/s
95th percentile per-packet one-way delay: 86.285 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 206.93 Mbit/s
95th percentile per-packet one-way delay: 86.285 ms
Loss rate: 0.63%
```

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

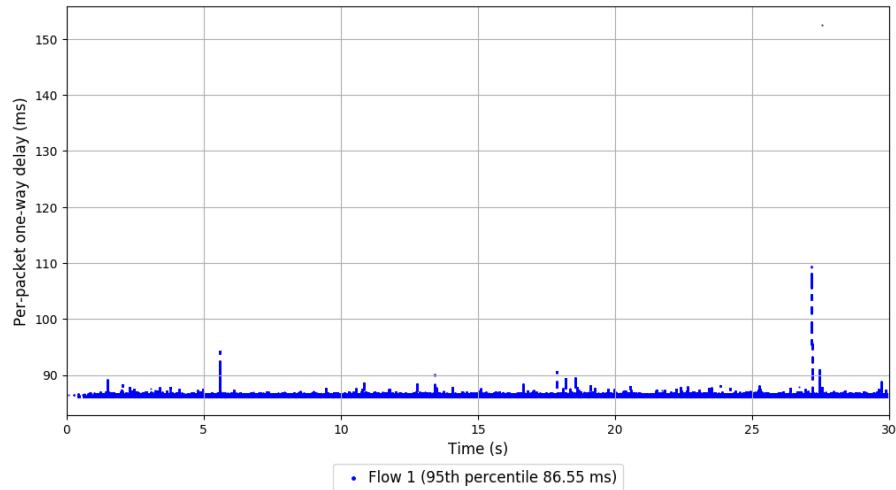
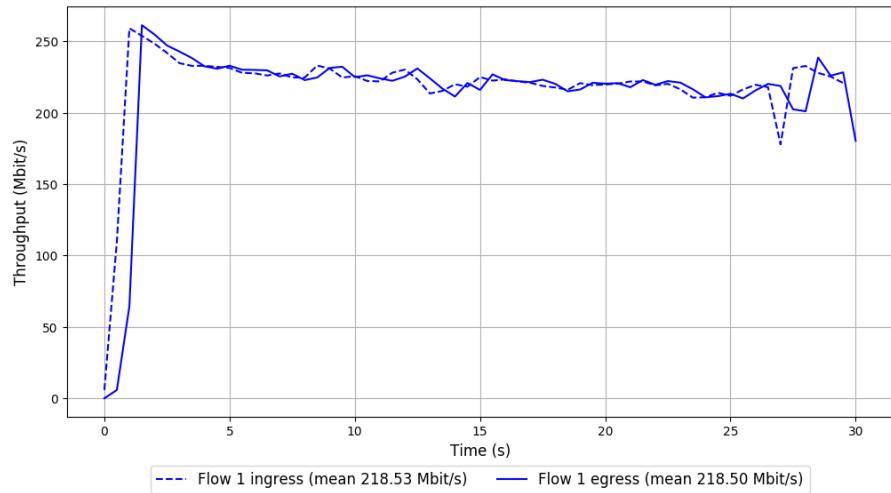


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-11-30 06:10:35
End at: 2018-11-30 06:11:05
Local clock offset: -0.101 ms
Remote clock offset: -0.068 ms

# Below is generated by plot.py at 2018-11-30 07:56:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 218.50 Mbit/s
95th percentile per-packet one-way delay: 86.552 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 218.50 Mbit/s
95th percentile per-packet one-way delay: 86.552 ms
Loss rate: 0.59%
```

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

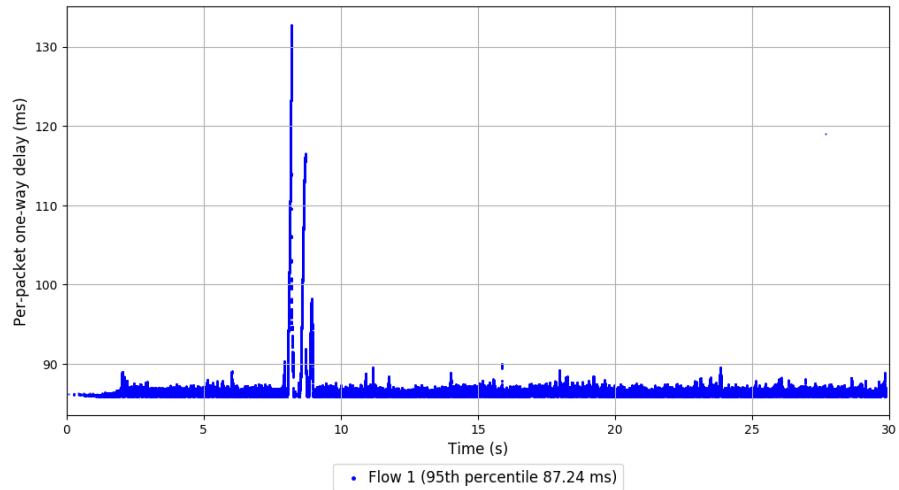
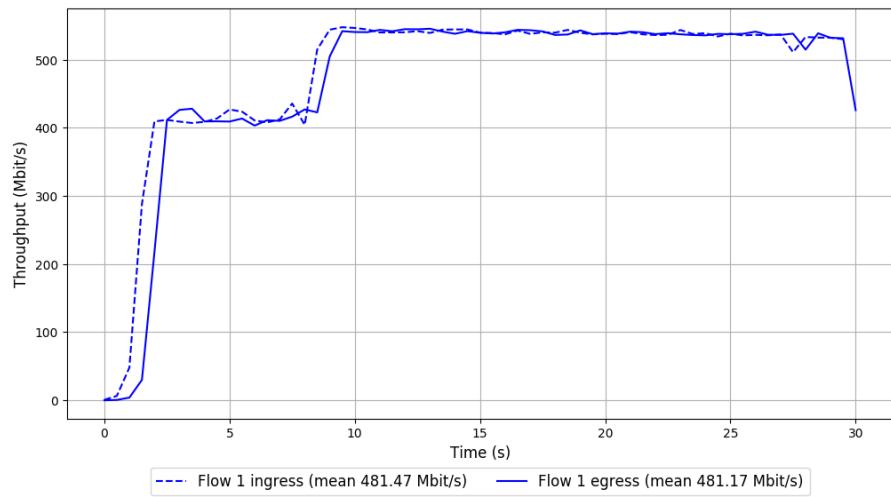


Run 1: Statistics of TCP Vegas

```
Start at: 2018-11-30 04:00:56
End at: 2018-11-30 04:01:26
Local clock offset: 0.096 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2018-11-30 07:58:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 481.17 Mbit/s
95th percentile per-packet one-way delay: 87.243 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 481.17 Mbit/s
95th percentile per-packet one-way delay: 87.243 ms
Loss rate: 0.64%
```

Run 1: Report of TCP Vegas — Data Link

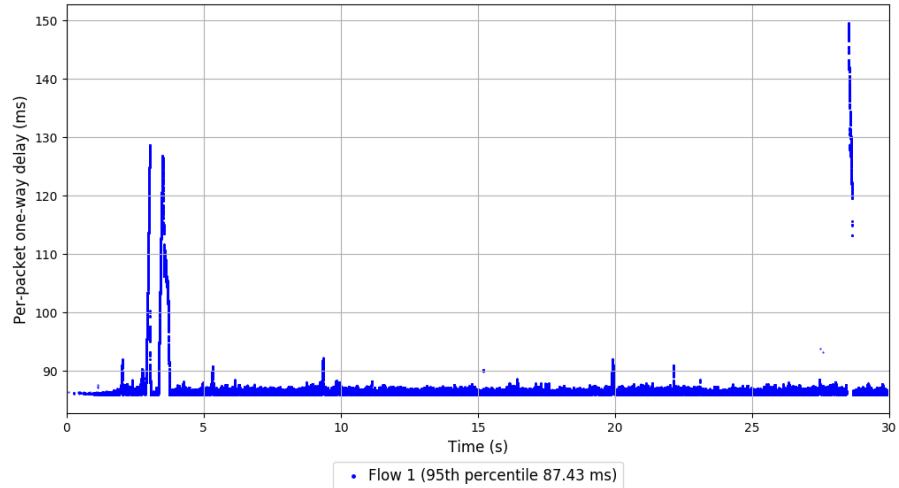
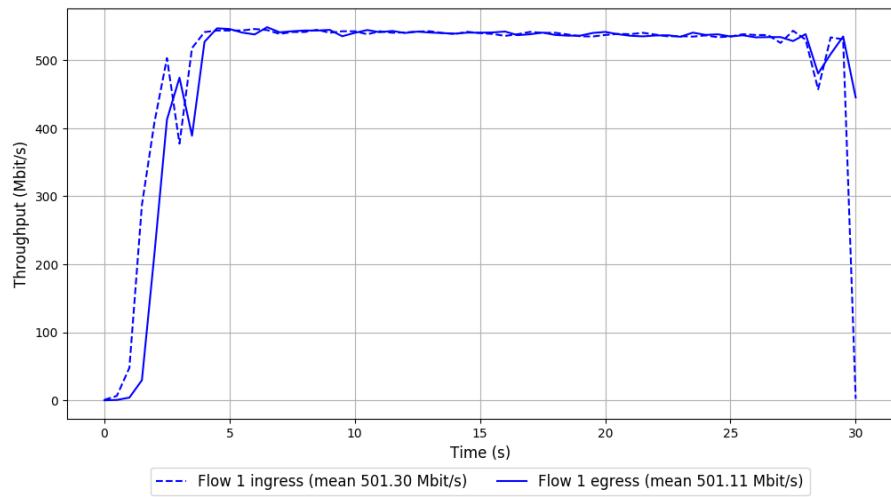


Run 2: Statistics of TCP Vegas

```
Start at: 2018-11-30 04:29:18
End at: 2018-11-30 04:29:48
Local clock offset: 0.001 ms
Remote clock offset: -0.078 ms

# Below is generated by plot.py at 2018-11-30 08:00:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 501.11 Mbit/s
95th percentile per-packet one-way delay: 87.430 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 501.11 Mbit/s
95th percentile per-packet one-way delay: 87.430 ms
Loss rate: 0.61%
```

Run 2: Report of TCP Vegas — Data Link

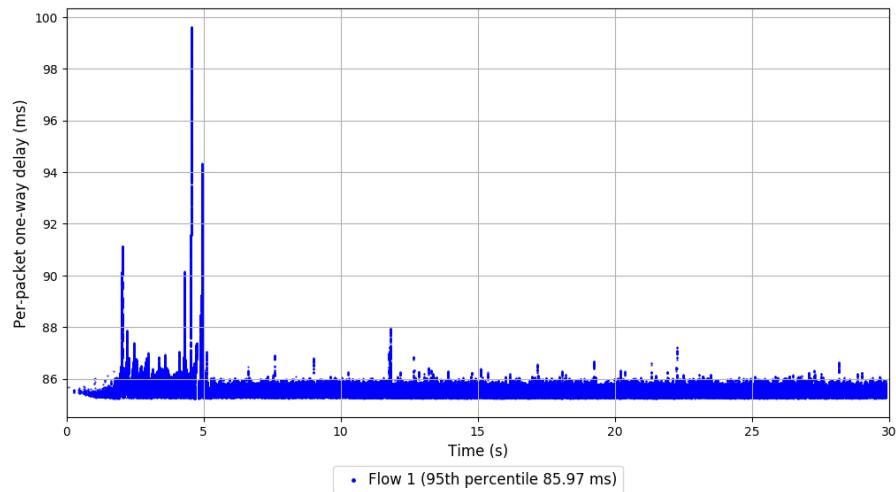
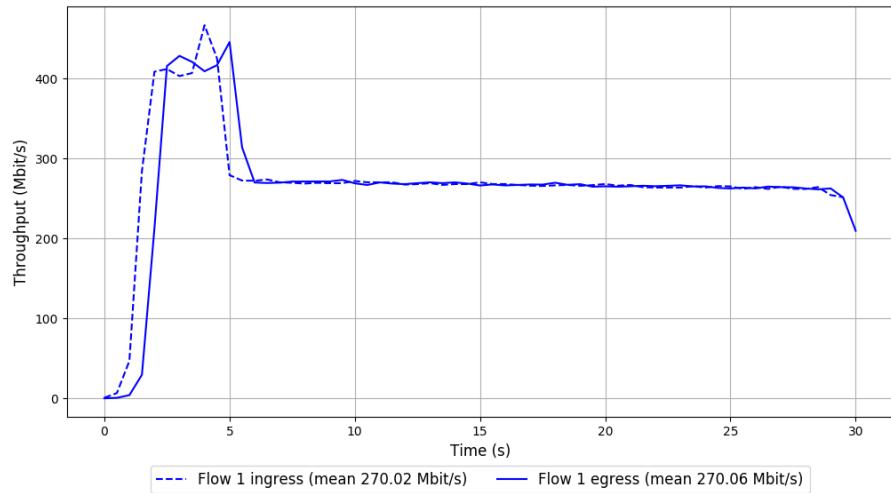


Run 3: Statistics of TCP Vegas

```
Start at: 2018-11-30 04:57:50
End at: 2018-11-30 04:58:20
Local clock offset: -0.526 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2018-11-30 08:00:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 270.06 Mbit/s
95th percentile per-packet one-way delay: 85.966 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 270.06 Mbit/s
95th percentile per-packet one-way delay: 85.966 ms
Loss rate: 0.56%
```

Run 3: Report of TCP Vegas — Data Link

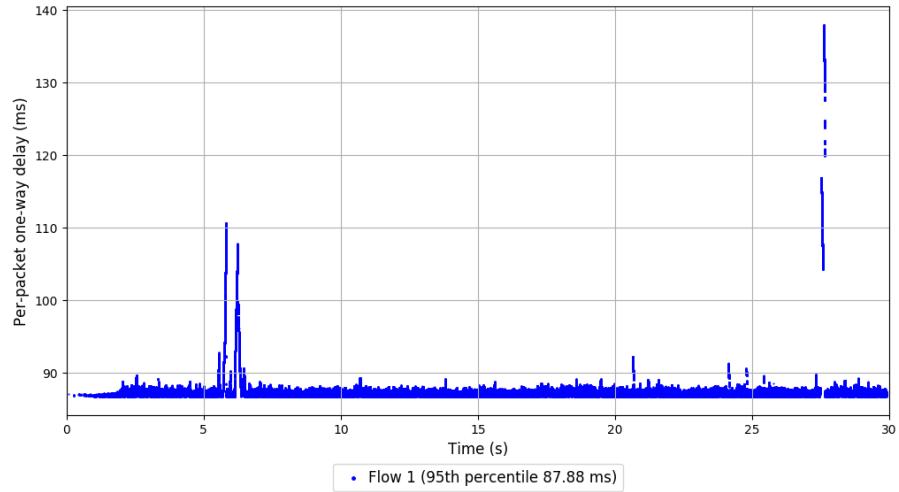
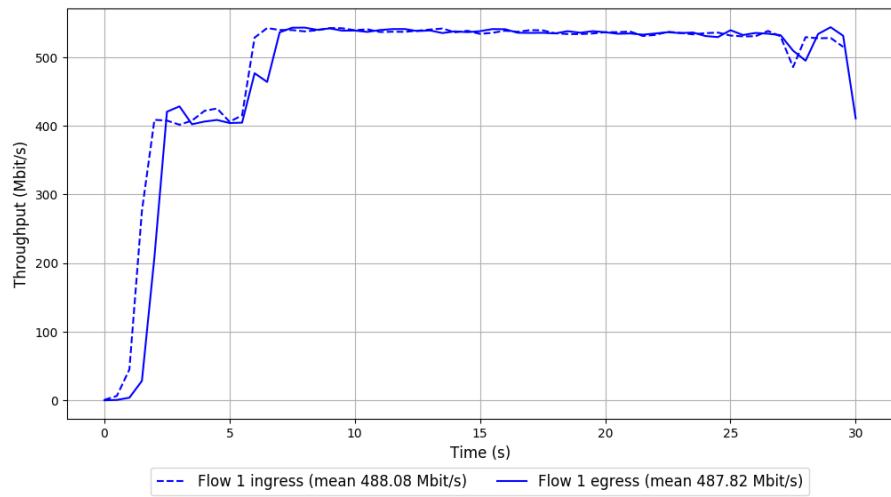


Run 4: Statistics of TCP Vegas

```
Start at: 2018-11-30 05:25:54
End at: 2018-11-30 05:26:24
Local clock offset: 0.128 ms
Remote clock offset: -0.122 ms

# Below is generated by plot.py at 2018-11-30 08:04:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 487.82 Mbit/s
95th percentile per-packet one-way delay: 87.880 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 487.82 Mbit/s
95th percentile per-packet one-way delay: 87.880 ms
Loss rate: 0.63%
```

Run 4: Report of TCP Vegas — Data Link

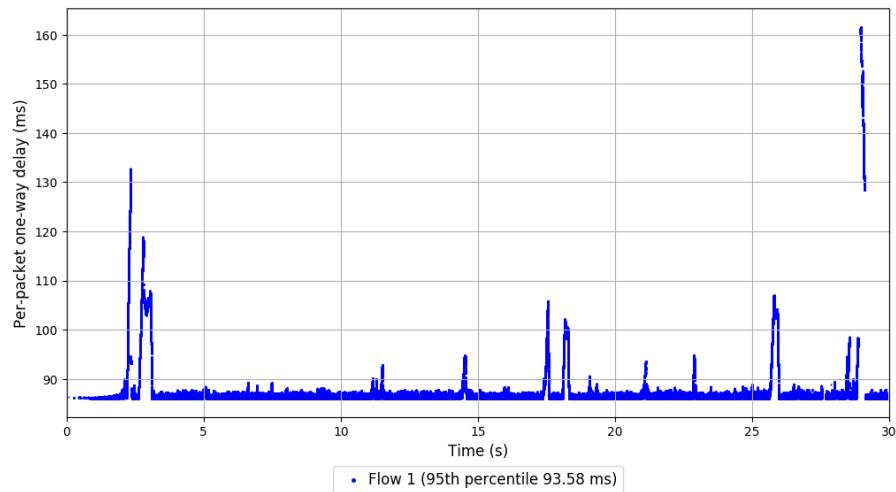
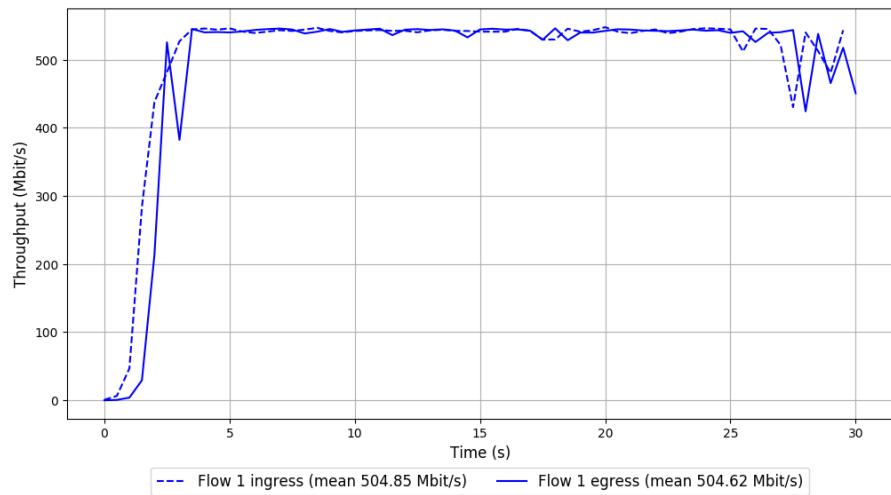


Run 5: Statistics of TCP Vegas

```
Start at: 2018-11-30 05:54:06
End at: 2018-11-30 05:54:36
Local clock offset: 0.146 ms
Remote clock offset: -0.216 ms

# Below is generated by plot.py at 2018-11-30 08:05:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 504.62 Mbit/s
95th percentile per-packet one-way delay: 93.579 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 504.62 Mbit/s
95th percentile per-packet one-way delay: 93.579 ms
Loss rate: 0.62%
```

Run 5: Report of TCP Vegas — Data Link

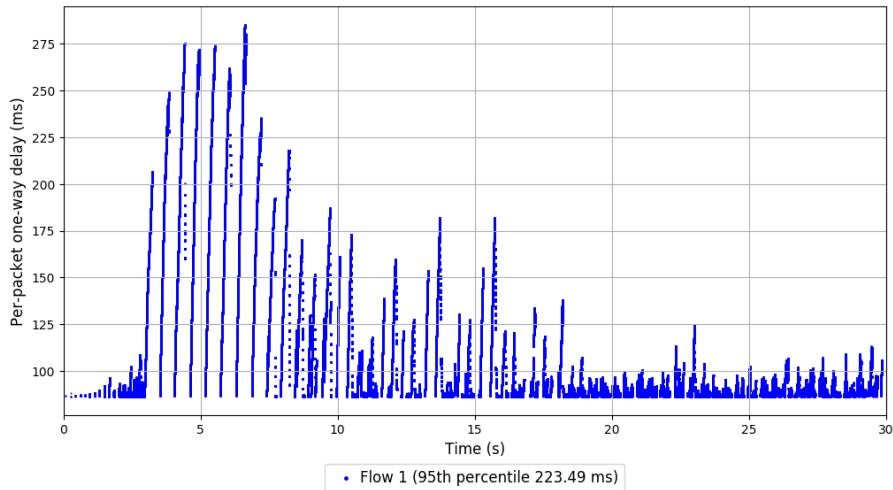
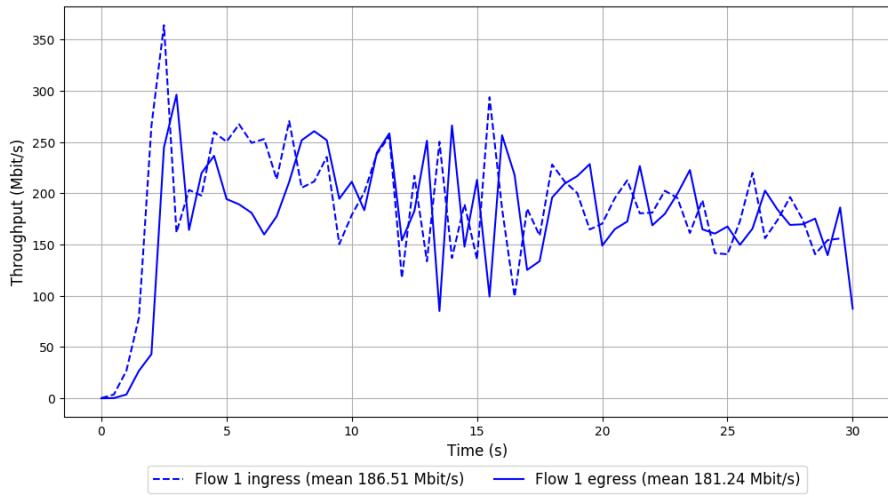


Run 1: Statistics of Verus

```
Start at: 2018-11-30 04:09:46
End at: 2018-11-30 04:10:16
Local clock offset: -0.165 ms
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2018-11-30 08:05:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 181.24 Mbit/s
95th percentile per-packet one-way delay: 223.489 ms
Loss rate: 3.38%
-- Flow 1:
Average throughput: 181.24 Mbit/s
95th percentile per-packet one-way delay: 223.489 ms
Loss rate: 3.38%
```

Run 1: Report of Verus — Data Link

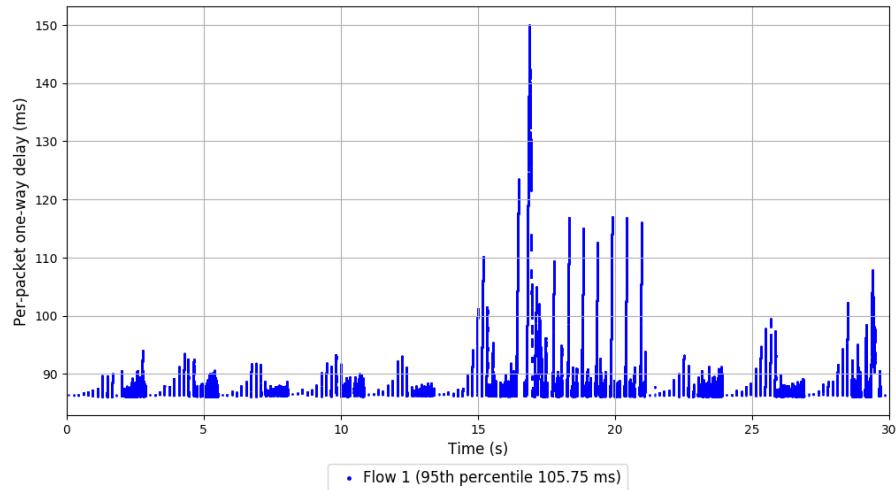
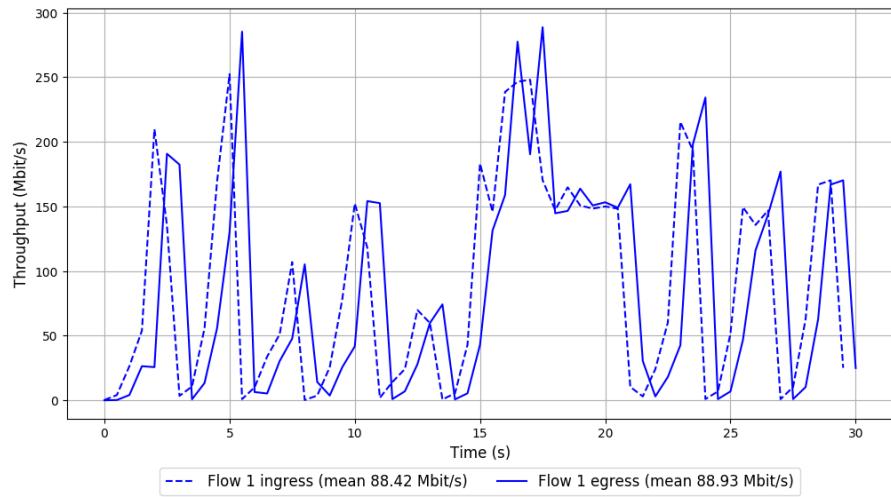


Run 2: Statistics of Verus

```
Start at: 2018-11-30 04:38:06
End at: 2018-11-30 04:38:36
Local clock offset: 0.179 ms
Remote clock offset: -0.058 ms

# Below is generated by plot.py at 2018-11-30 08:05:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.93 Mbit/s
95th percentile per-packet one-way delay: 105.749 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 88.93 Mbit/s
95th percentile per-packet one-way delay: 105.749 ms
Loss rate: 0.00%
```

Run 2: Report of Verus — Data Link

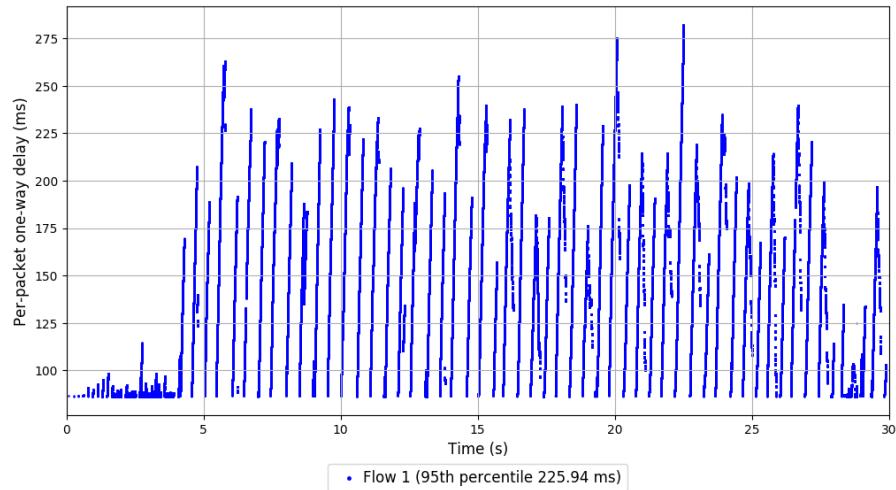
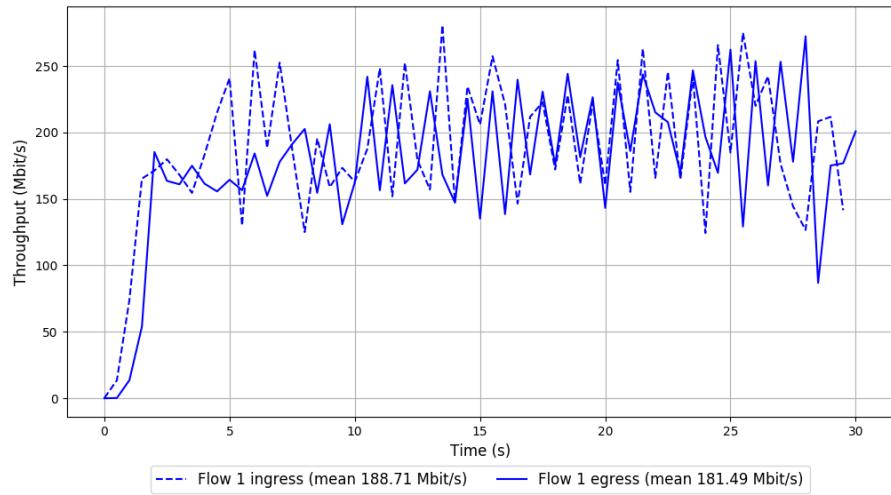


Run 3: Statistics of Verus

```
Start at: 2018-11-30 05:06:25
End at: 2018-11-30 05:06:55
Local clock offset: -0.106 ms
Remote clock offset: -0.119 ms

# Below is generated by plot.py at 2018-11-30 08:05:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 181.49 Mbit/s
95th percentile per-packet one-way delay: 225.939 ms
Loss rate: 3.87%
-- Flow 1:
Average throughput: 181.49 Mbit/s
95th percentile per-packet one-way delay: 225.939 ms
Loss rate: 3.87%
```

Run 3: Report of Verus — Data Link

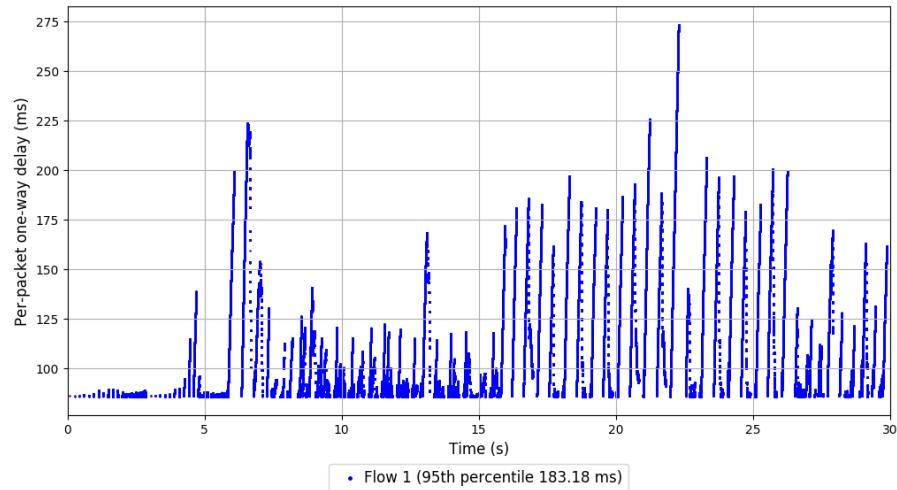
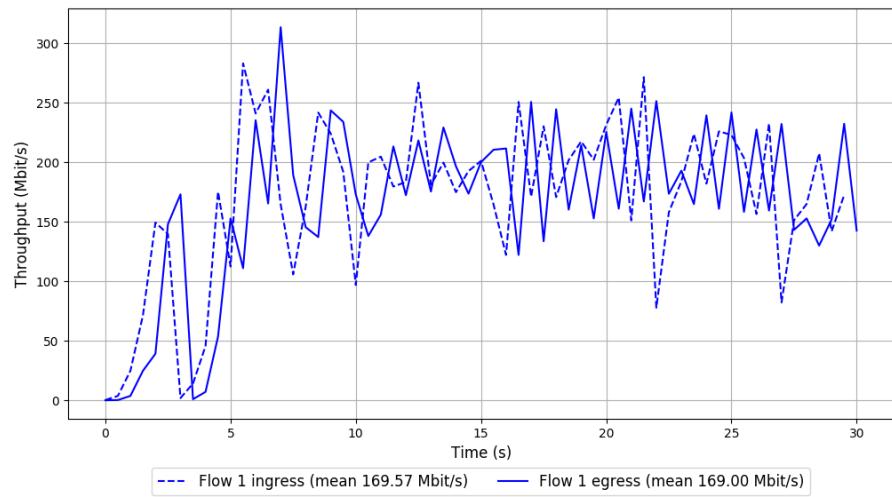


Run 4: Statistics of Verus

```
Start at: 2018-11-30 05:34:36
End at: 2018-11-30 05:35:06
Local clock offset: -0.516 ms
Remote clock offset: -0.132 ms

# Below is generated by plot.py at 2018-11-30 08:05:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 169.00 Mbit/s
95th percentile per-packet one-way delay: 183.179 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 169.00 Mbit/s
95th percentile per-packet one-way delay: 183.179 ms
Loss rate: 0.43%
```

Run 4: Report of Verus — Data Link

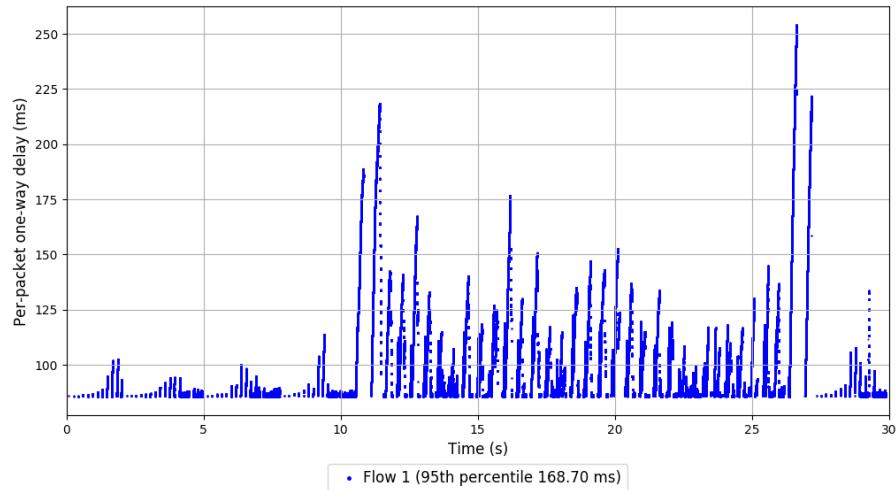
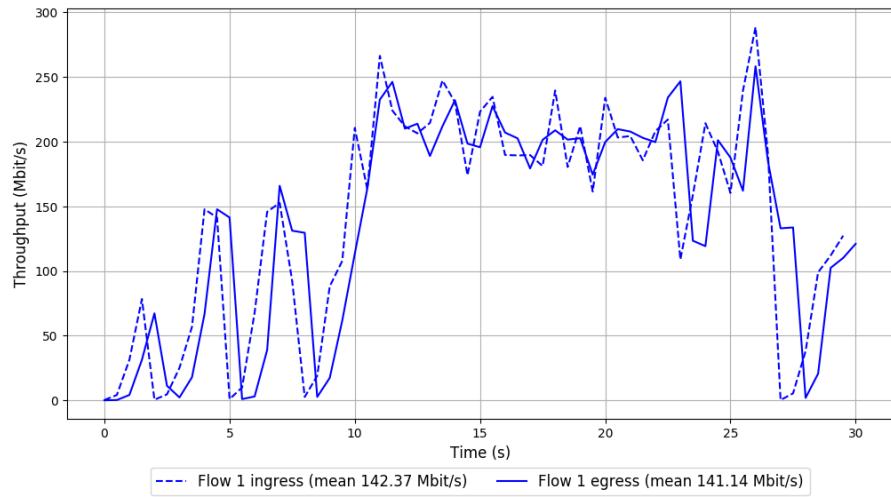


Run 5: Statistics of Verus

```
Start at: 2018-11-30 06:02:57
End at: 2018-11-30 06:03:27
Local clock offset: -0.338 ms
Remote clock offset: -0.097 ms

# Below is generated by plot.py at 2018-11-30 08:05:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 141.14 Mbit/s
95th percentile per-packet one-way delay: 168.699 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 141.14 Mbit/s
95th percentile per-packet one-way delay: 168.699 ms
Loss rate: 1.18%
```

Run 5: Report of Verus — Data Link

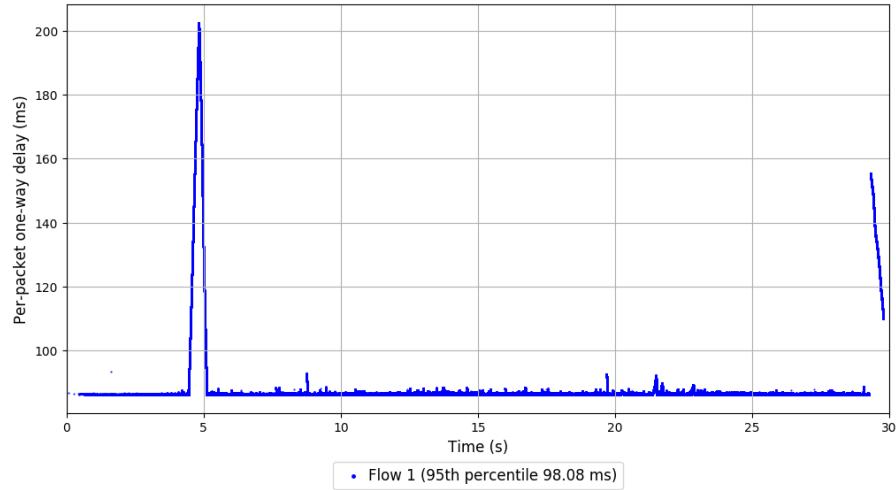
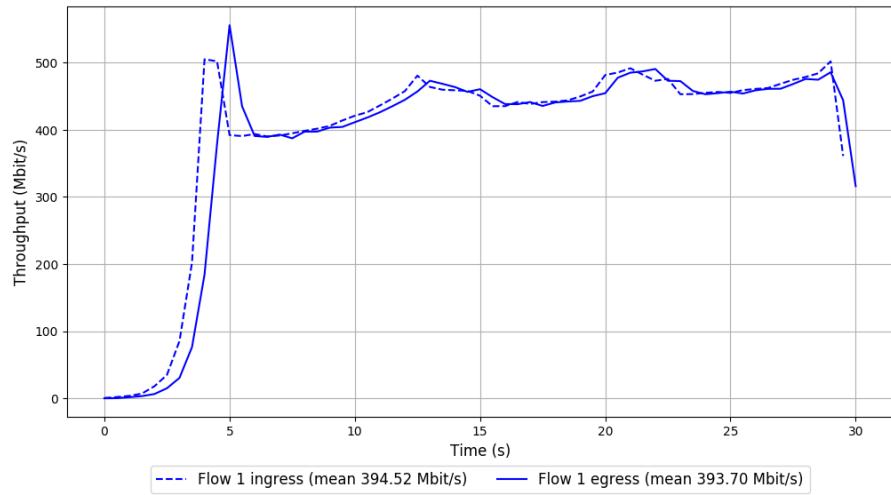


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-11-30 04:11:13
End at: 2018-11-30 04:11:43
Local clock offset: -0.13 ms
Remote clock offset: -0.137 ms

# Below is generated by plot.py at 2018-11-30 08:06:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 393.70 Mbit/s
95th percentile per-packet one-way delay: 98.085 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 393.70 Mbit/s
95th percentile per-packet one-way delay: 98.085 ms
Loss rate: 0.79%
```

Run 1: Report of PCC-Vivace — Data Link

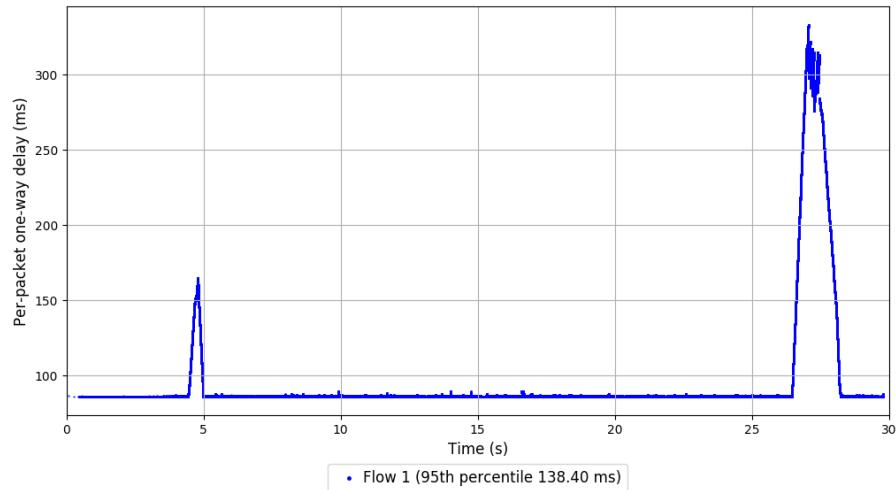
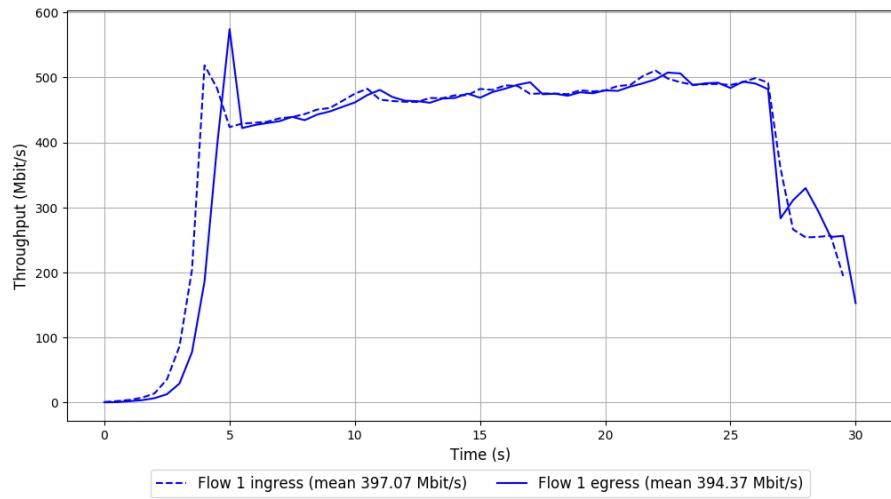


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-11-30 04:39:24
End at: 2018-11-30 04:39:54
Local clock offset: -0.611 ms
Remote clock offset: -0.061 ms

# Below is generated by plot.py at 2018-11-30 08:07:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 394.37 Mbit/s
95th percentile per-packet one-way delay: 138.399 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 394.37 Mbit/s
95th percentile per-packet one-way delay: 138.399 ms
Loss rate: 1.26%
```

Run 2: Report of PCC-Vivace — Data Link

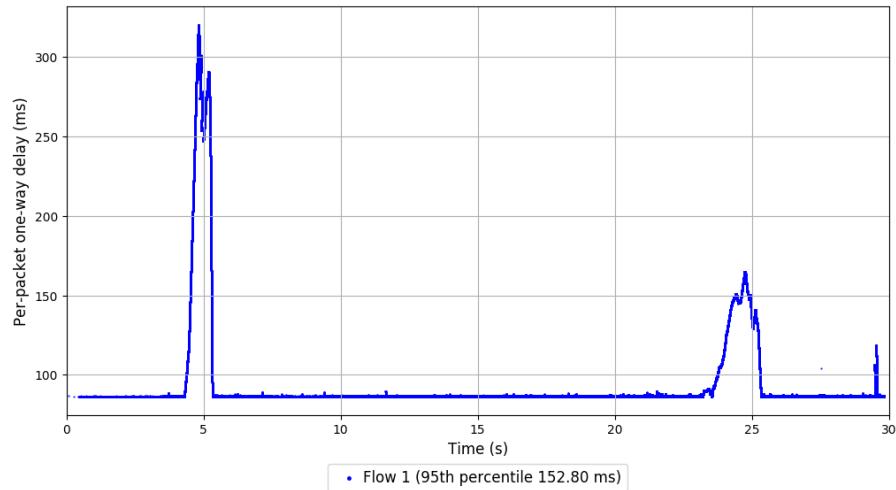
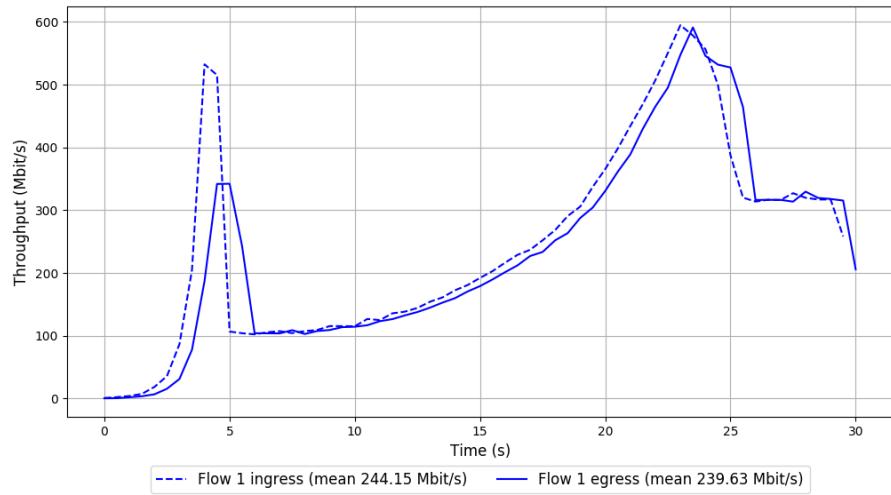


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-11-30 05:07:54
End at: 2018-11-30 05:08:24
Local clock offset: 0.375 ms
Remote clock offset: -0.134 ms

# Below is generated by plot.py at 2018-11-30 08:07:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 239.63 Mbit/s
95th percentile per-packet one-way delay: 152.799 ms
Loss rate: 2.42%
-- Flow 1:
Average throughput: 239.63 Mbit/s
95th percentile per-packet one-way delay: 152.799 ms
Loss rate: 2.42%
```

Run 3: Report of PCC-Vivace — Data Link

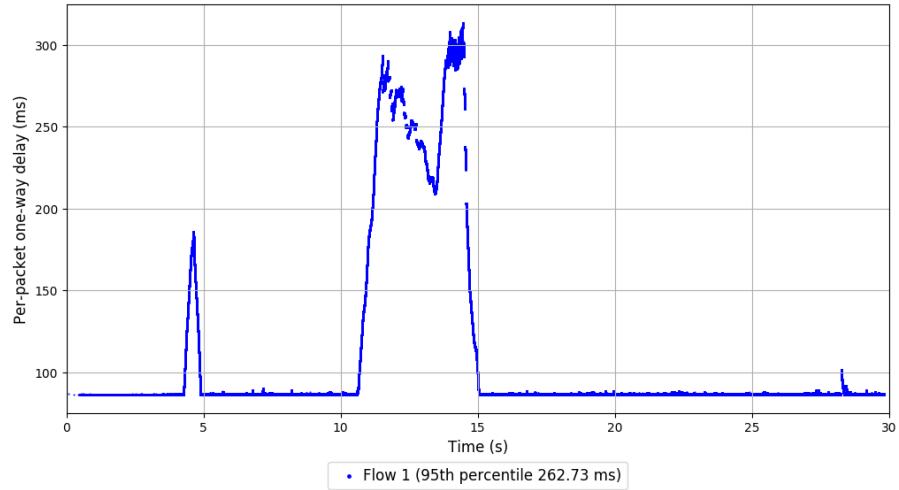
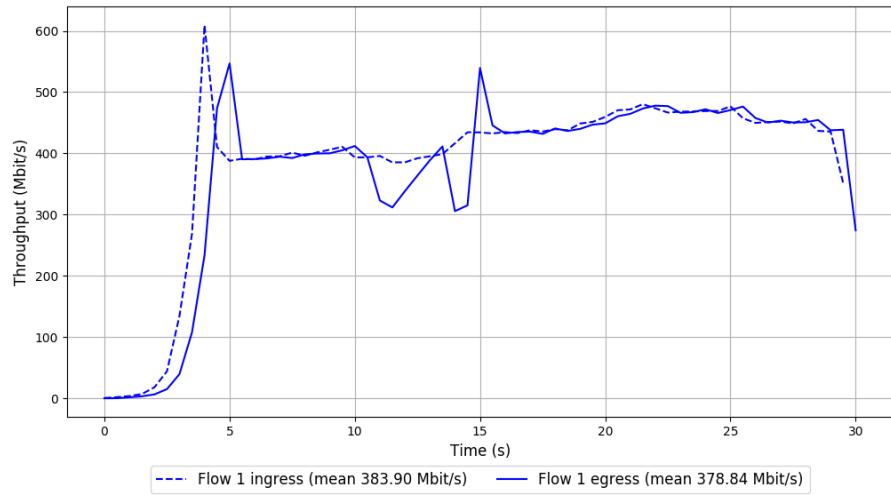


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-11-30 05:36:03
End at: 2018-11-30 05:36:33
Local clock offset: -0.079 ms
Remote clock offset: -0.185 ms

# Below is generated by plot.py at 2018-11-30 08:07:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 378.84 Mbit/s
95th percentile per-packet one-way delay: 262.733 ms
Loss rate: 1.89%
-- Flow 1:
Average throughput: 378.84 Mbit/s
95th percentile per-packet one-way delay: 262.733 ms
Loss rate: 1.89%
```

Run 4: Report of PCC-Vivace — Data Link

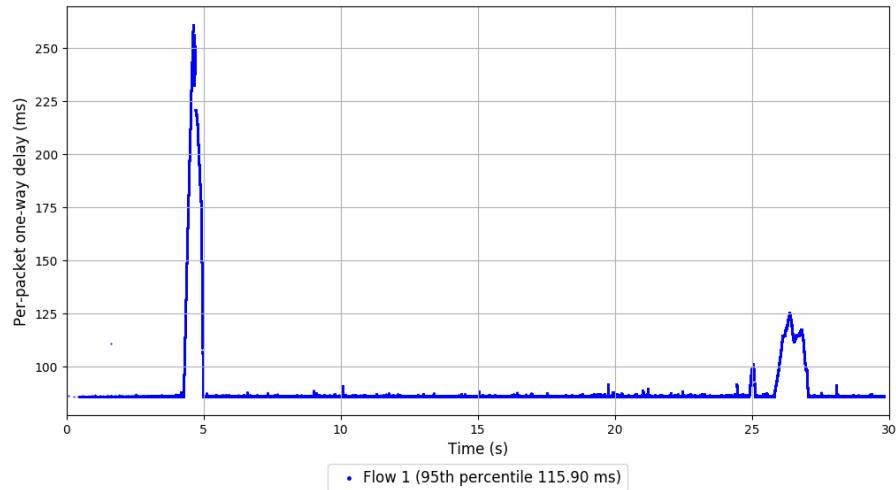
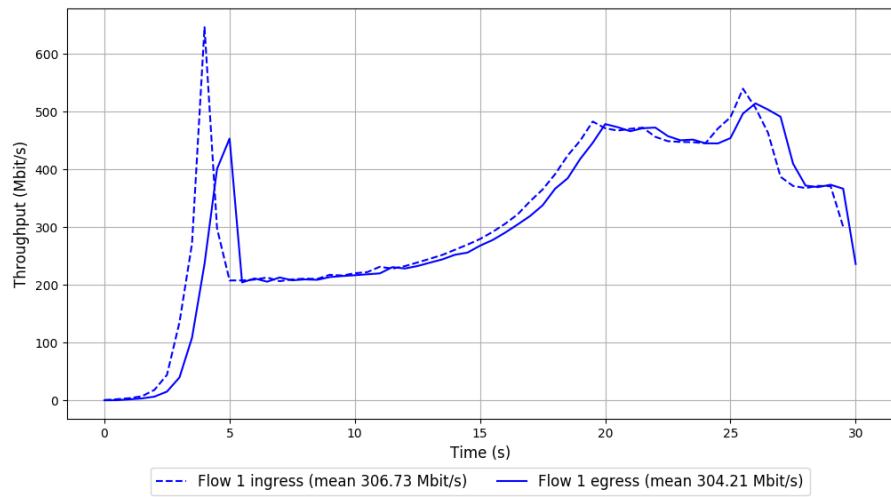


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-11-30 06:04:20
End at: 2018-11-30 06:04:51
Local clock offset: -0.159 ms
Remote clock offset: -0.167 ms

# Below is generated by plot.py at 2018-11-30 08:07:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 304.21 Mbit/s
95th percentile per-packet one-way delay: 115.903 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 304.21 Mbit/s
95th percentile per-packet one-way delay: 115.903 ms
Loss rate: 1.39%
```

Run 5: Report of PCC-Vivace — Data Link

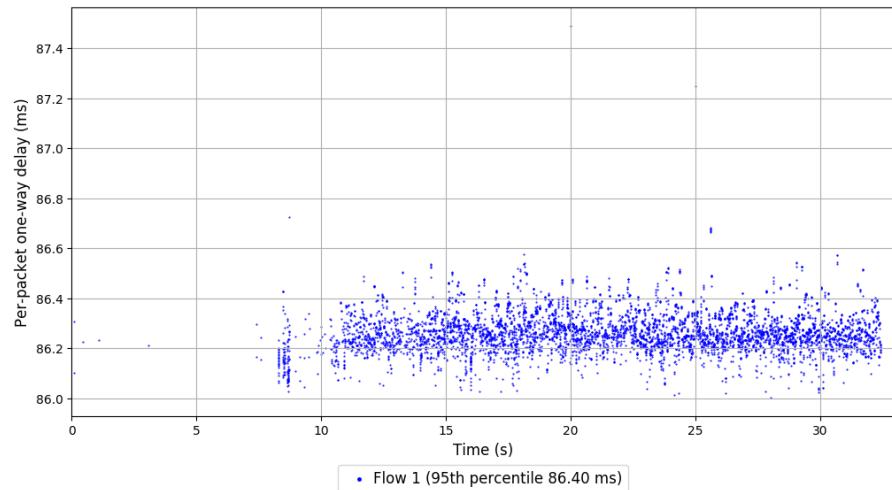
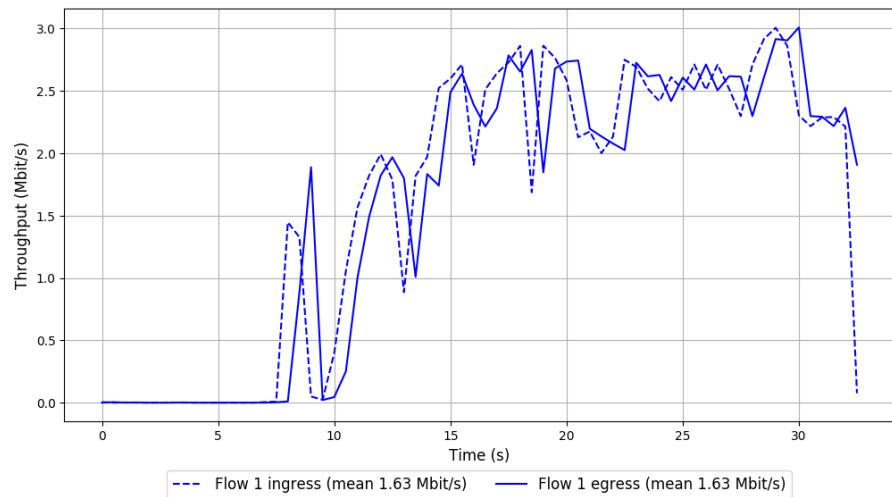


```
Run 1: Statistics of WebRTC media
```

```
Start at: 2018-11-30 04:03:42
End at: 2018-11-30 04:04:12
Local clock offset: 0.107 ms
Remote clock offset: -0.125 ms

# Below is generated by plot.py at 2018-11-30 08:07:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 86.402 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 86.402 ms
Loss rate: 0.72%
```

Run 1: Report of WebRTC media — Data Link

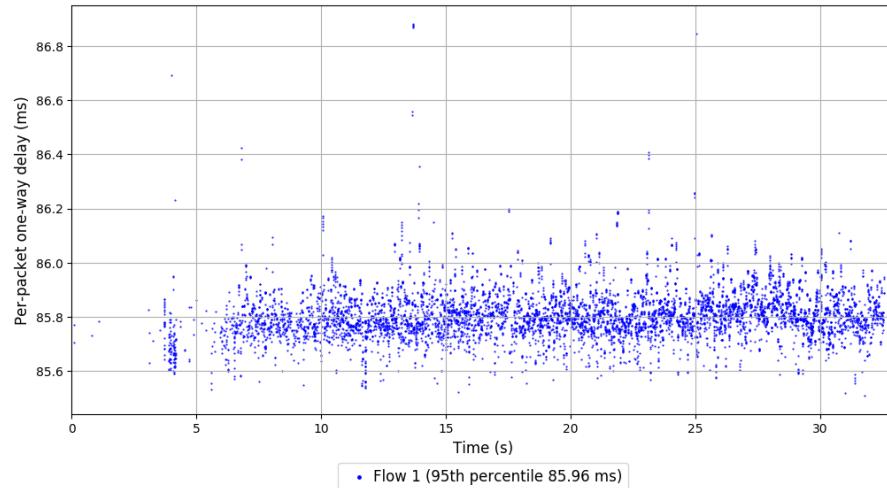
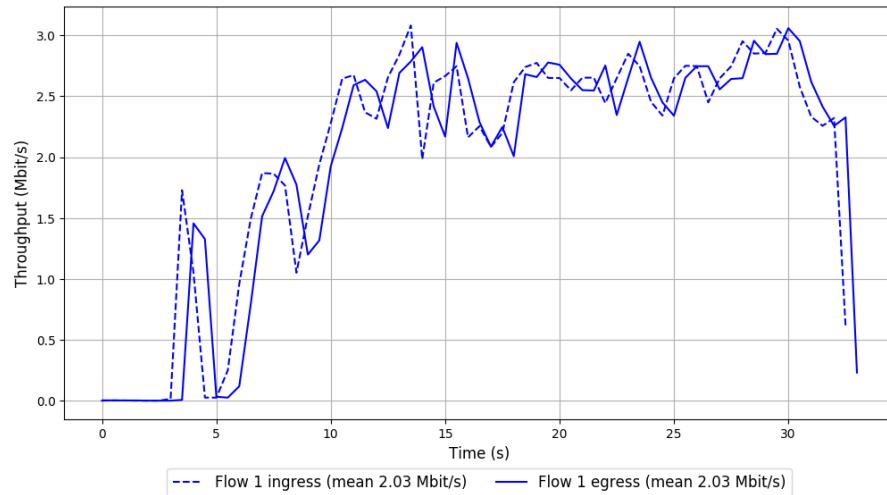


Run 2: Statistics of WebRTC media

```
Start at: 2018-11-30 04:32:05
End at: 2018-11-30 04:32:35
Local clock offset: -0.386 ms
Remote clock offset: -0.07 ms

# Below is generated by plot.py at 2018-11-30 08:07:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 85.962 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 85.962 ms
Loss rate: 0.58%
```

Run 2: Report of WebRTC media — Data Link

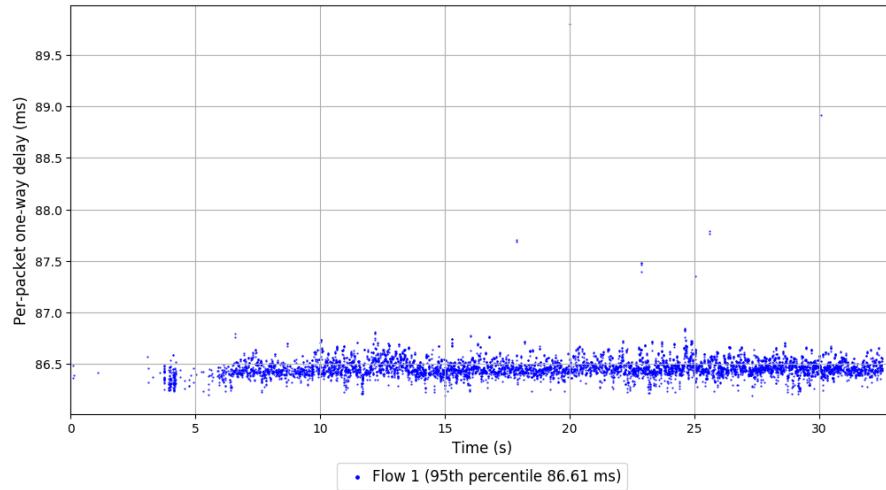
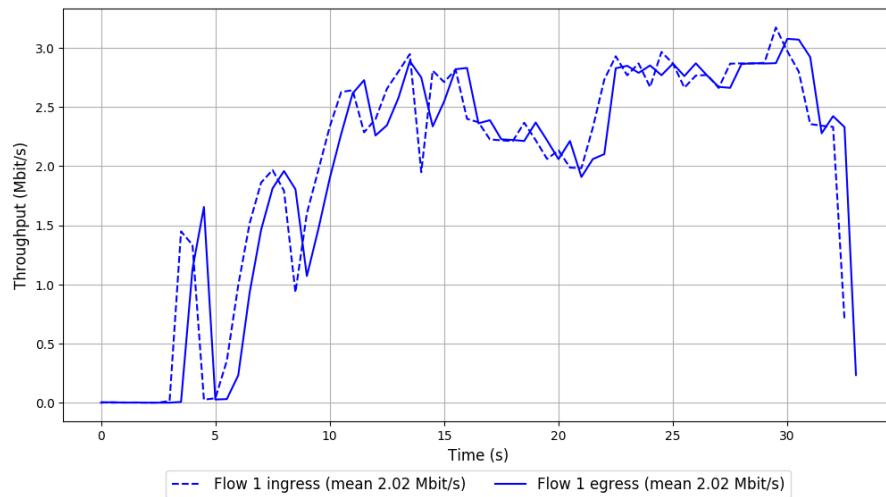


Run 3: Statistics of WebRTC media

```
Start at: 2018-11-30 05:00:26
End at: 2018-11-30 05:00:56
Local clock offset: -0.163 ms
Remote clock offset: -0.107 ms

# Below is generated by plot.py at 2018-11-30 08:07:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 86.612 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 2.02 Mbit/s
95th percentile per-packet one-way delay: 86.612 ms
Loss rate: 0.65%
```

Run 3: Report of WebRTC media — Data Link

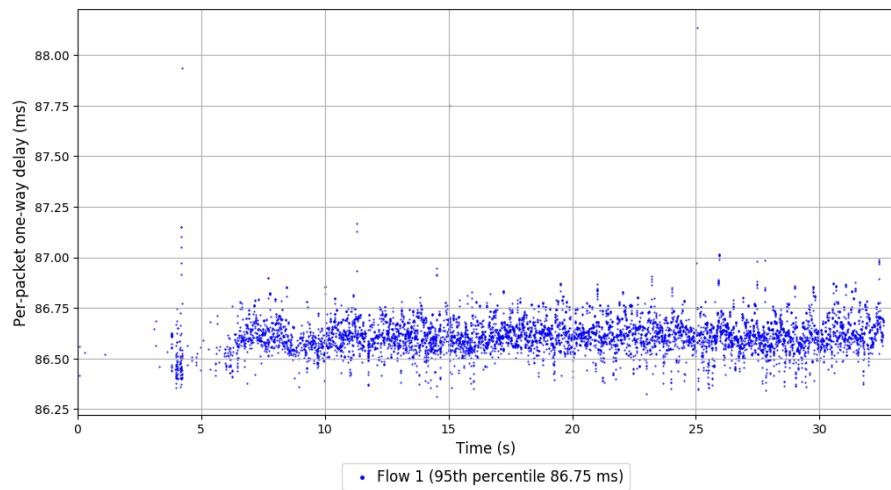
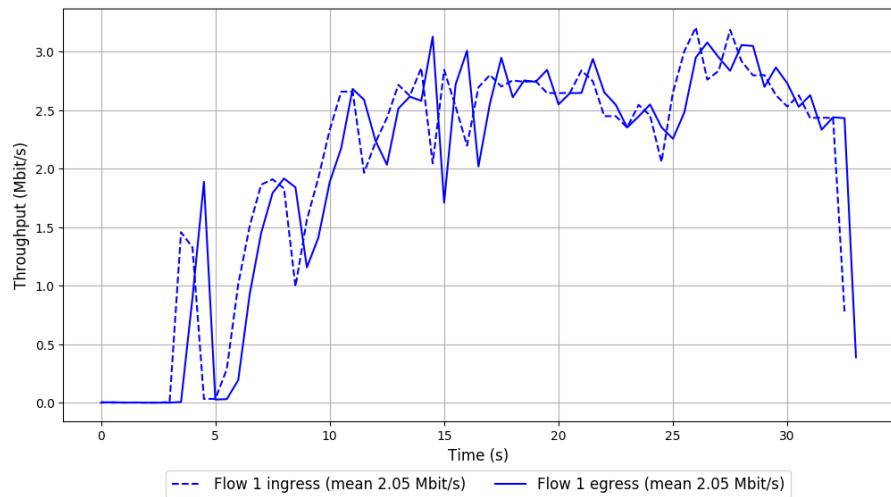


Run 4: Statistics of WebRTC media

```
Start at: 2018-11-30 05:28:41
End at: 2018-11-30 05:29:11
Local clock offset: 0.023 ms
Remote clock offset: -0.173 ms

# Below is generated by plot.py at 2018-11-30 08:07:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 86.754 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 86.754 ms
Loss rate: 0.65%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-11-30 05:56:53
End at: 2018-11-30 05:57:23
Local clock offset: -0.07 ms
Remote clock offset: -0.158 ms

# Below is generated by plot.py at 2018-11-30 08:07:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 86.152 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 1.86 Mbit/s
95th percentile per-packet one-way delay: 86.152 ms
Loss rate: 0.57%
```

Run 5: Report of WebRTC media — Data Link

