

Pantheon Report

Generated at 2018-12-11 12:15:00 (UTC).
Data path: AWS India 2 on `ens5` (*local*) → Saudi Arabia on `enp2s0` (*remote*).
Repeated the test of 19 congestion control schemes 5 times.
Each test lasted for 30 seconds running 1 flow.
NTP offsets were measured against `nets.org.sg` and have been applied to correct the timestamps in logs.

System info:

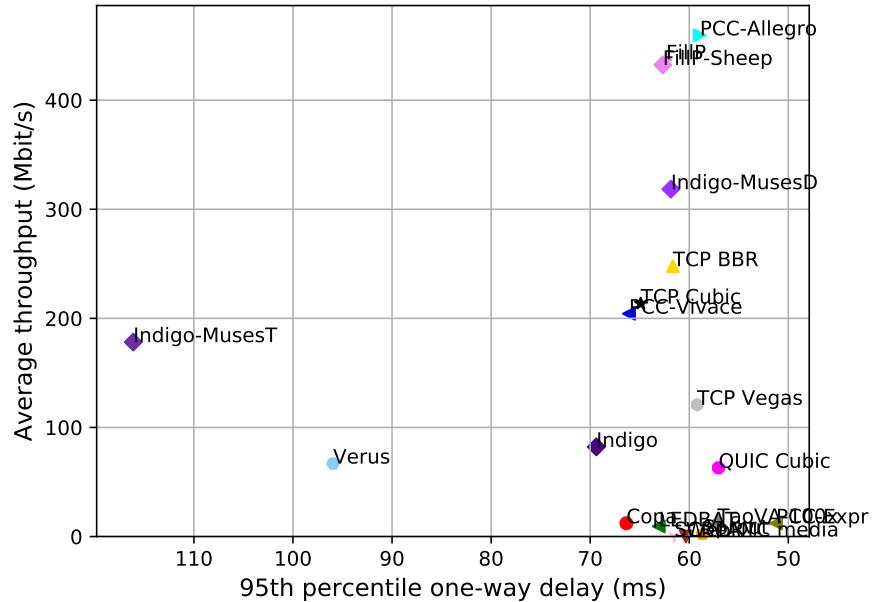
```
Linux 4.15.0-1029-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

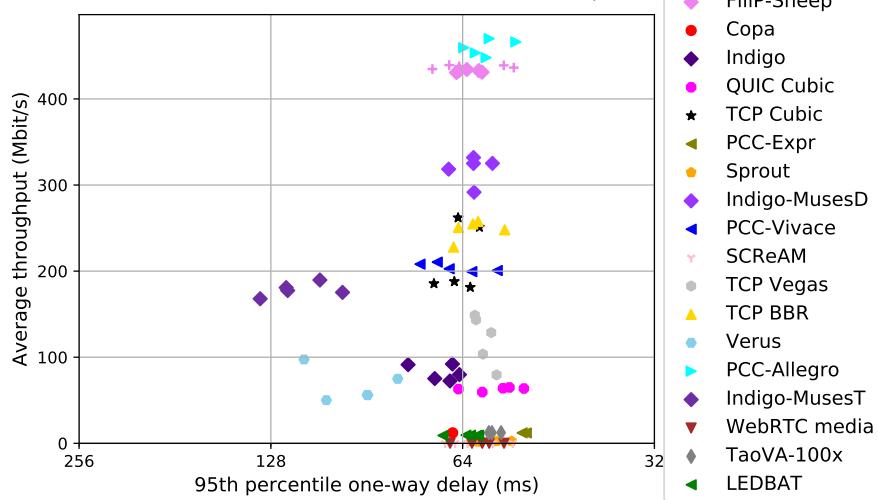
```
branch: muses @ c654af0b7d59d4ef4b914cfac404e1fc2e96dc68
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fc45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbfed0c6349ae986009b4fa8643c40a
third_party/muses-refactored @ 31f8f0ba8ef8b1da76c2bc0cd0a7850c33ff64fb
third_party/pantheon-tunnel @ f866d3f58d27af942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
```

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

test from AWS India 2 to Saudi Arabia, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS India 2 to Saudi Arabia, 5 runs of 30s each per scheme



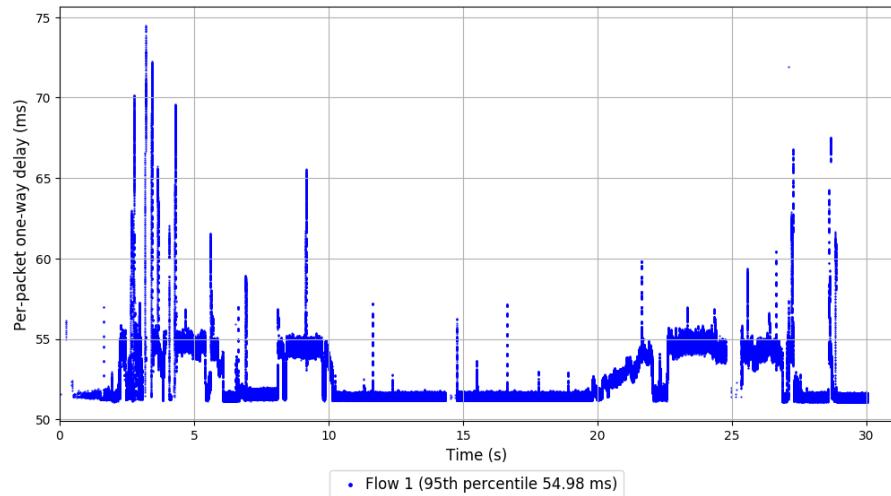
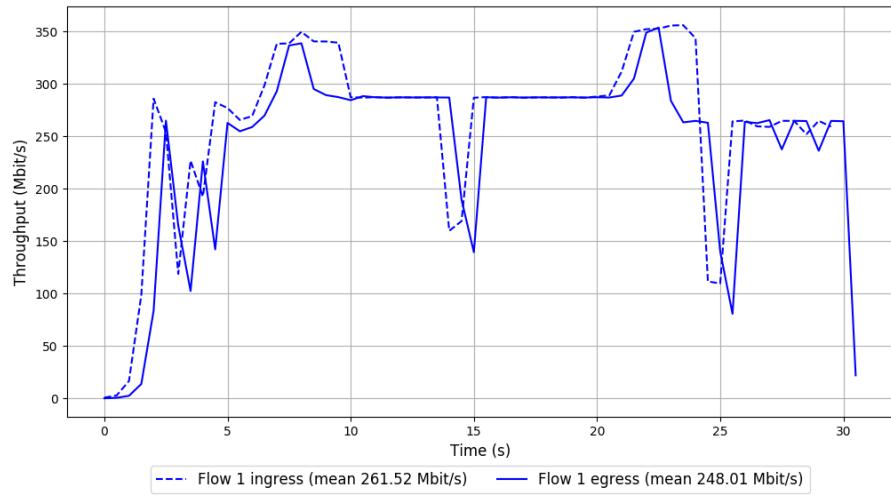
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	247.82	61.65	5.72
Copa	1	12.17	66.35	61.42
TCP Cubic	5	213.56	64.90	0.57
FillP	5	437.44	62.35	5.40
FillP-Sheep	5	432.33	62.67	5.12
Indigo	5	82.20	69.38	0.17
Indigo-MusesD	5	318.45	61.86	30.04
Indigo-MusesT	5	178.25	116.12	28.09
LEDBAT	5	9.34	63.08	0.00
PCC-Allegro	5	459.44	58.93	3.90
PCC-Expr	2	12.09	51.24	29.54
QUIC Cubic	5	63.00	57.04	0.00
SCReAM	5	0.22	61.52	0.00
Sprout	5	2.23	58.65	0.00
TaoVA-100x	3	12.39	57.16	20.71
TCP Vegas	5	120.77	59.21	0.55
Verus	5	66.92	95.95	60.12
PCC-Vivace	5	204.28	66.09	0.87
WebRTC media	5	0.05	60.35	0.00

Run 1: Statistics of TCP BBR

```
Start at: 2018-12-11 09:23:03
End at: 2018-12-11 09:23:33
Local clock offset: -1.503 ms
Remote clock offset: -44.249 ms

# Below is generated by plot.py at 2018-12-11 11:56:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 248.01 Mbit/s
95th percentile per-packet one-way delay: 54.979 ms
Loss rate: 5.17%
-- Flow 1:
Average throughput: 248.01 Mbit/s
95th percentile per-packet one-way delay: 54.979 ms
Loss rate: 5.17%
```

Run 1: Report of TCP BBR — Data Link

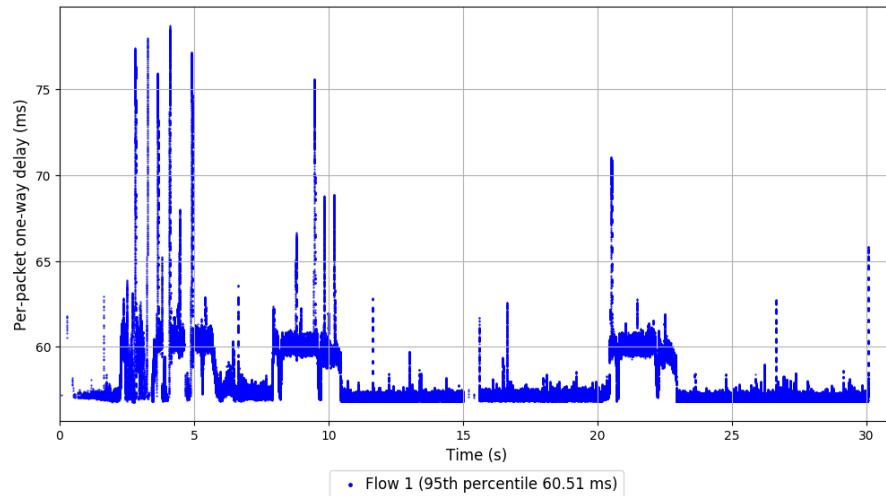
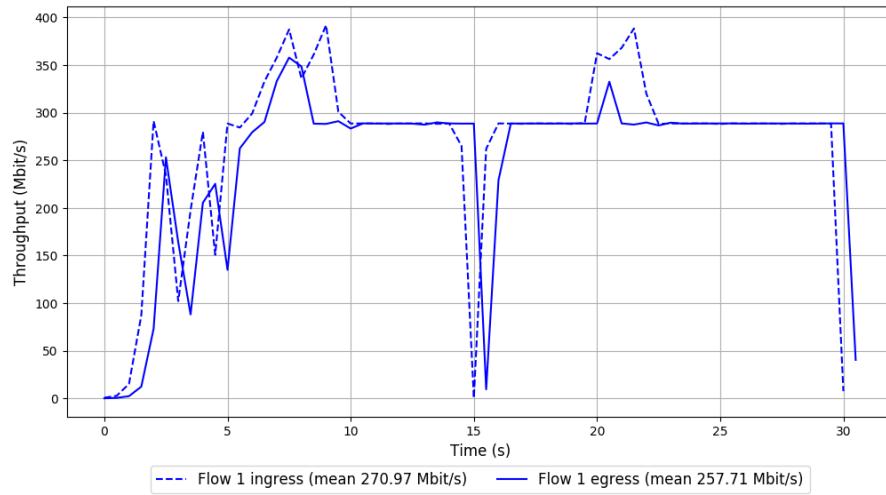


Run 2: Statistics of TCP BBR

```
Start at: 2018-12-11 09:58:45
End at: 2018-12-11 09:59:15
Local clock offset: -4.003 ms
Remote clock offset: -45.837 ms

# Below is generated by plot.py at 2018-12-11 11:57:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 257.71 Mbit/s
95th percentile per-packet one-way delay: 60.512 ms
Loss rate: 4.90%
-- Flow 1:
Average throughput: 257.71 Mbit/s
95th percentile per-packet one-way delay: 60.512 ms
Loss rate: 4.90%
```

Run 2: Report of TCP BBR — Data Link

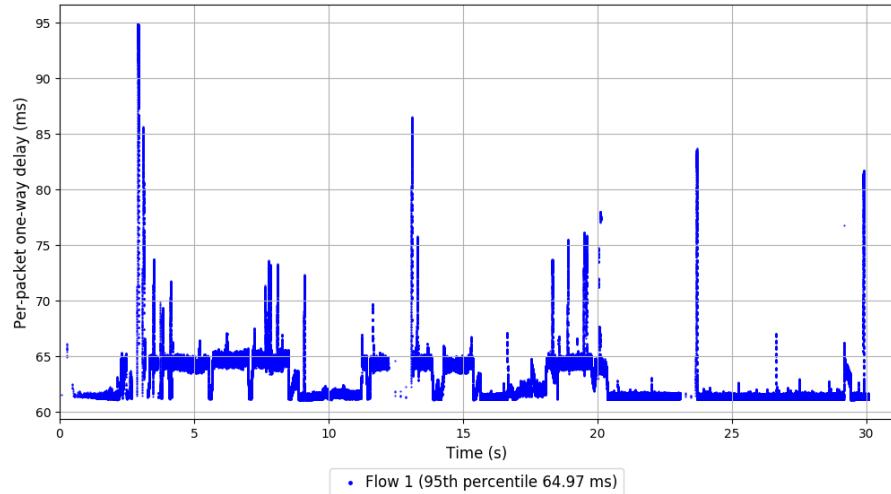
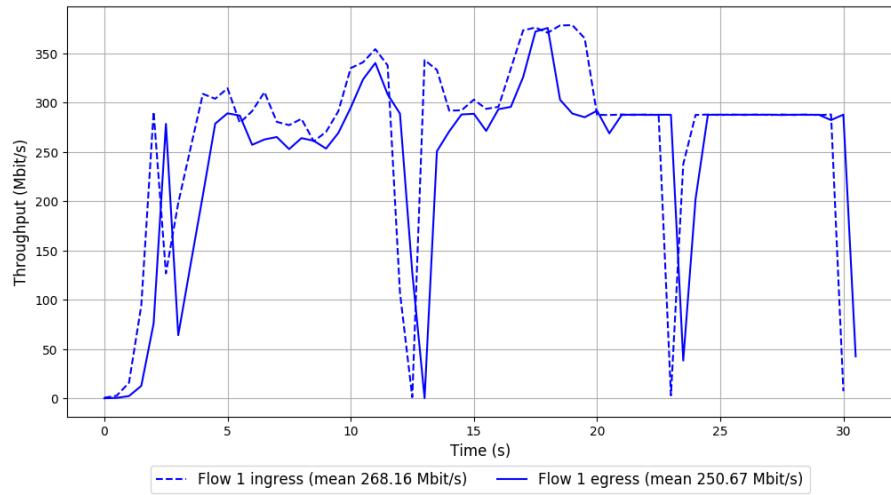


Run 3: Statistics of TCP BBR

```
Start at: 2018-12-11 10:29:09
End at: 2018-12-11 10:29:39
Local clock offset: -8.13 ms
Remote clock offset: -44.338 ms

# Below is generated by plot.py at 2018-12-11 11:57:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 250.67 Mbit/s
95th percentile per-packet one-way delay: 64.967 ms
Loss rate: 6.53%
-- Flow 1:
Average throughput: 250.67 Mbit/s
95th percentile per-packet one-way delay: 64.967 ms
Loss rate: 6.53%
```

Run 3: Report of TCP BBR — Data Link

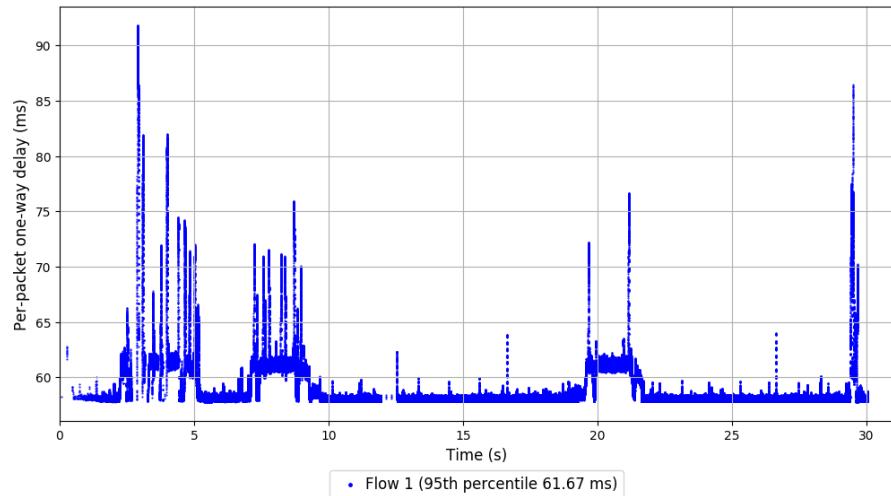
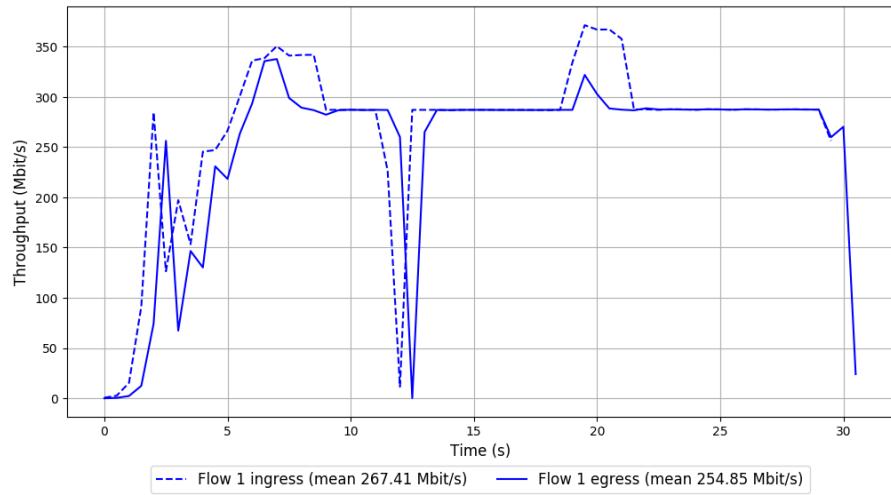


Run 4: Statistics of TCP BBR

```
Start at: 2018-12-11 11:08:58
End at: 2018-12-11 11:09:28
Local clock offset: -0.875 ms
Remote clock offset: -41.946 ms

# Below is generated by plot.py at 2018-12-11 11:57:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 254.85 Mbit/s
95th percentile per-packet one-way delay: 61.669 ms
Loss rate: 4.69%
-- Flow 1:
Average throughput: 254.85 Mbit/s
95th percentile per-packet one-way delay: 61.669 ms
Loss rate: 4.69%
```

Run 4: Report of TCP BBR — Data Link

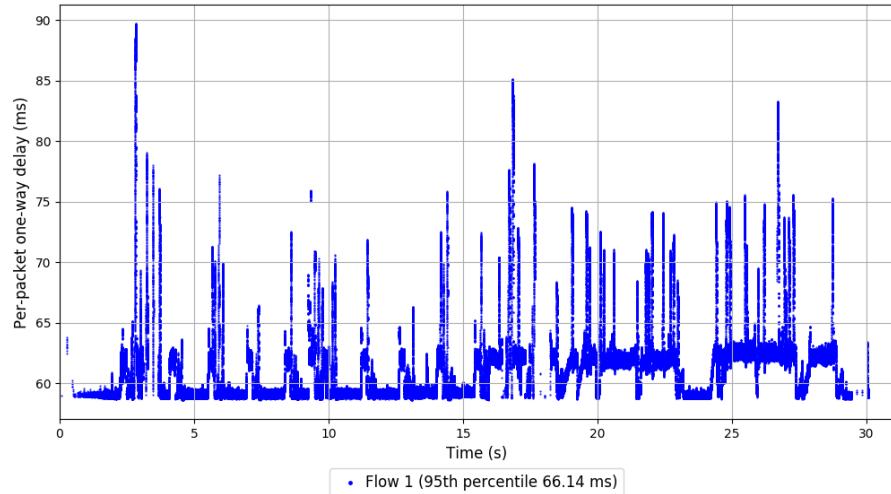
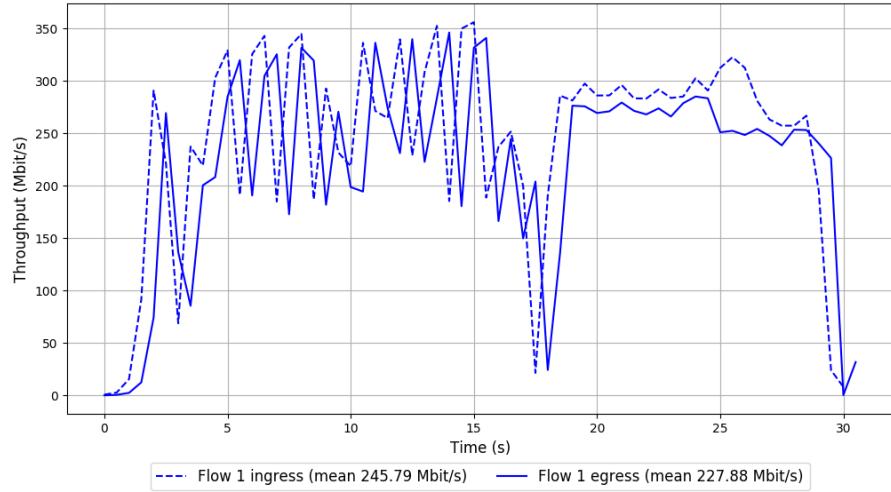


Run 5: Statistics of TCP BBR

```
Start at: 2018-12-11 11:39:17
End at: 2018-12-11 11:39:47
Local clock offset: -2.845 ms
Remote clock offset: -42.505 ms

# Below is generated by plot.py at 2018-12-11 11:57:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 227.88 Mbit/s
95th percentile per-packet one-way delay: 66.135 ms
Loss rate: 7.29%
-- Flow 1:
Average throughput: 227.88 Mbit/s
95th percentile per-packet one-way delay: 66.135 ms
Loss rate: 7.29%
```

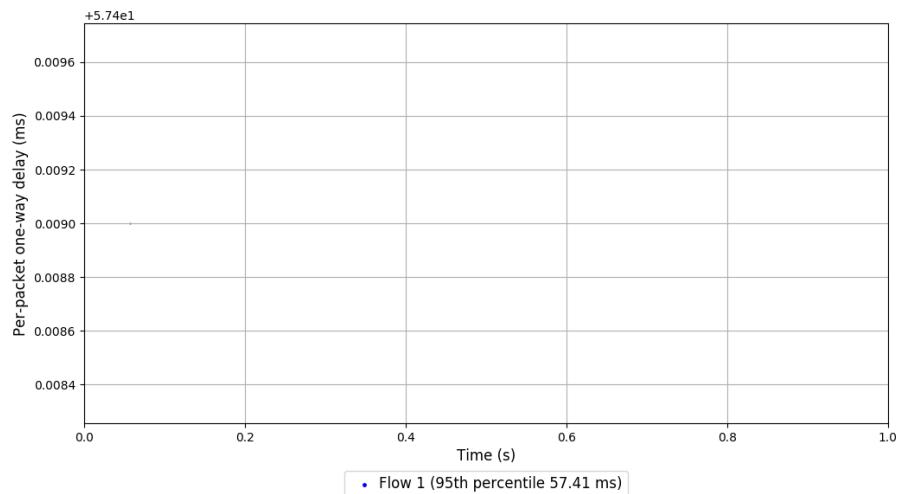
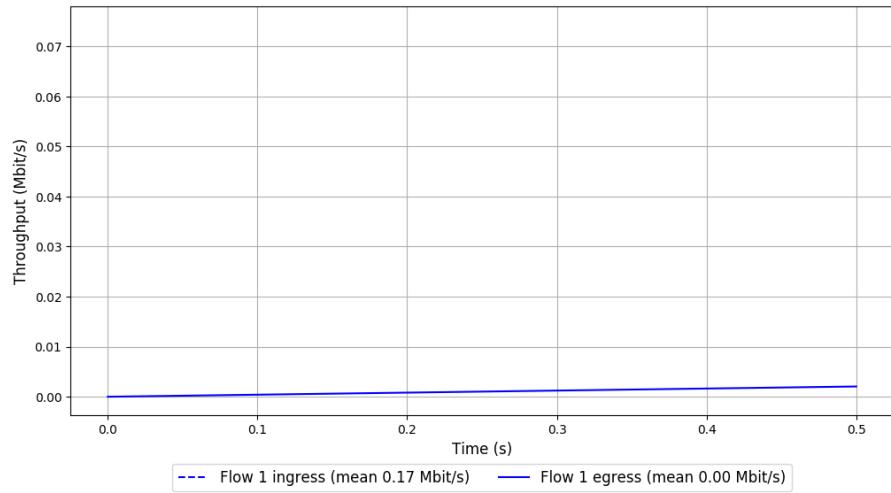
Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-12-11 09:13:45
End at: 2018-12-11 09:14:15
Local clock offset: -0.147 ms
Remote clock offset: -41.722 ms

Run 1: Report of Copa — Data Link

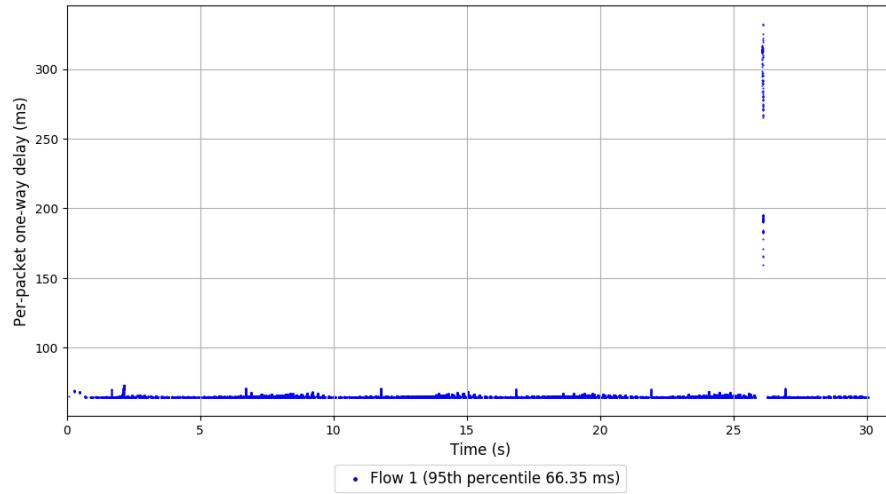
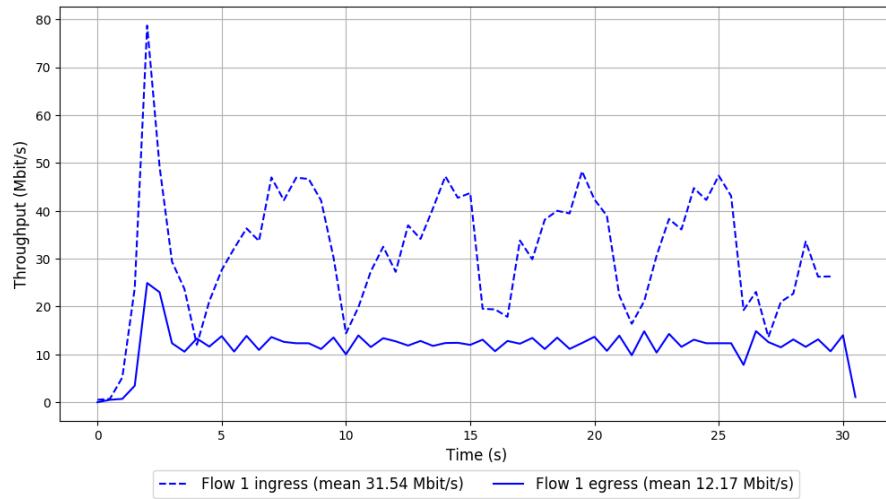


Run 2: Statistics of Copa

```
Start at: 2018-12-11 09:44:03
End at: 2018-12-11 09:44:33
Local clock offset: -6.083 ms
Remote clock offset: -36.258 ms

# Below is generated by plot.py at 2018-12-11 11:57:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.17 Mbit/s
95th percentile per-packet one-way delay: 66.347 ms
Loss rate: 61.42%
-- Flow 1:
Average throughput: 12.17 Mbit/s
95th percentile per-packet one-way delay: 66.347 ms
Loss rate: 61.42%
```

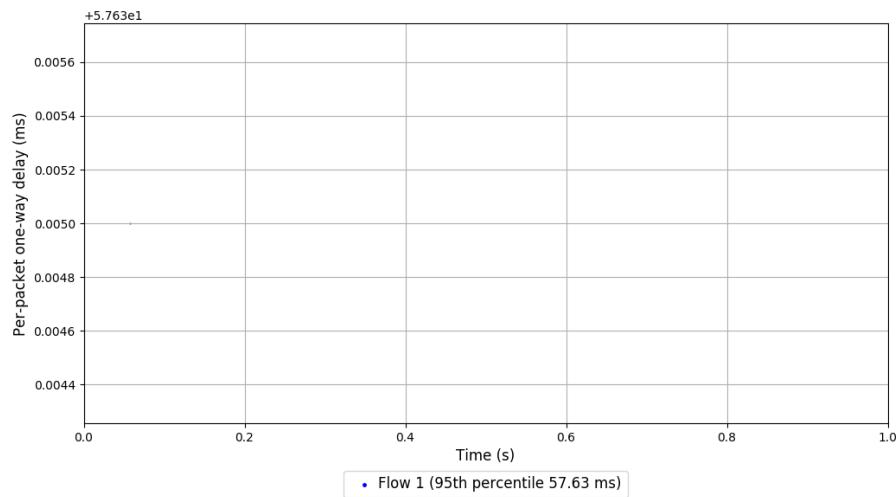
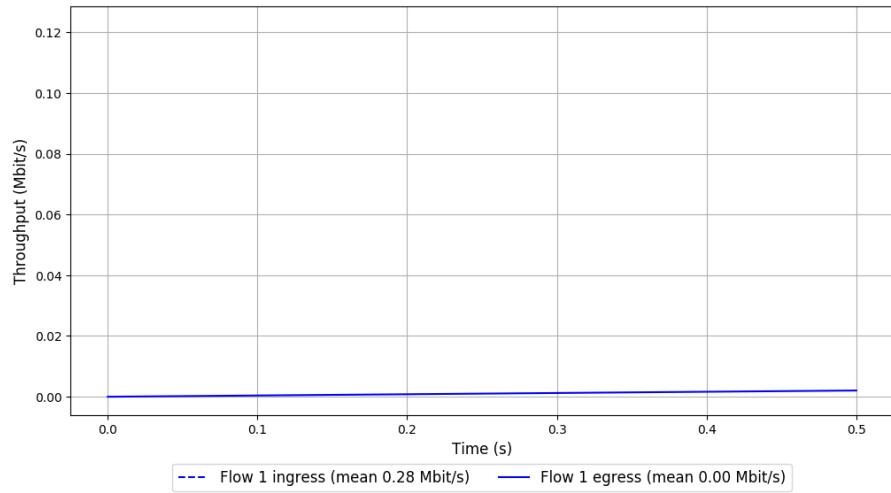
Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-12-11 10:14:14
End at: 2018-12-11 10:14:44
Local clock offset: -0.445 ms
Remote clock offset: -42.89 ms

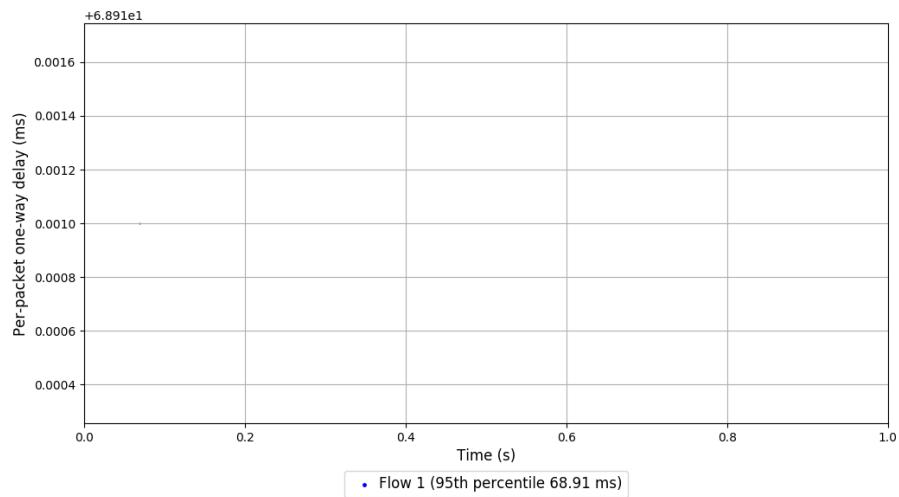
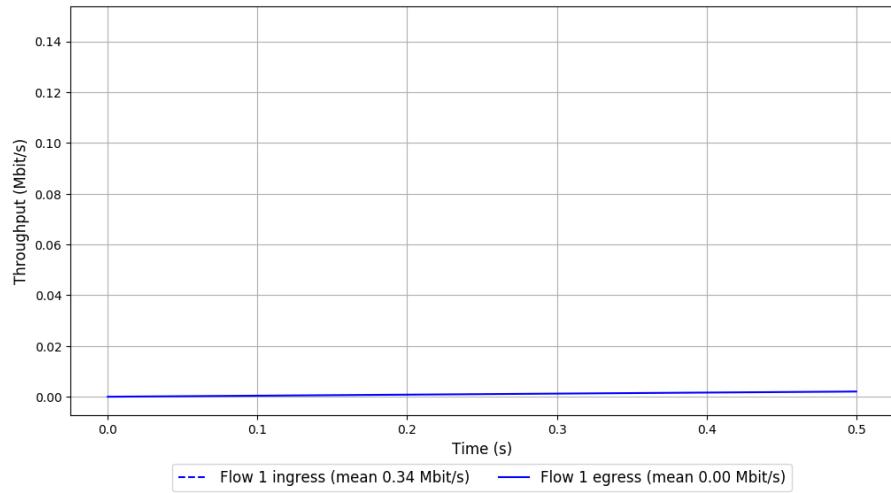
Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-12-11 10:54:17
End at: 2018-12-11 10:54:47
Local clock offset: -7.741 ms
Remote clock offset: -38.068 ms

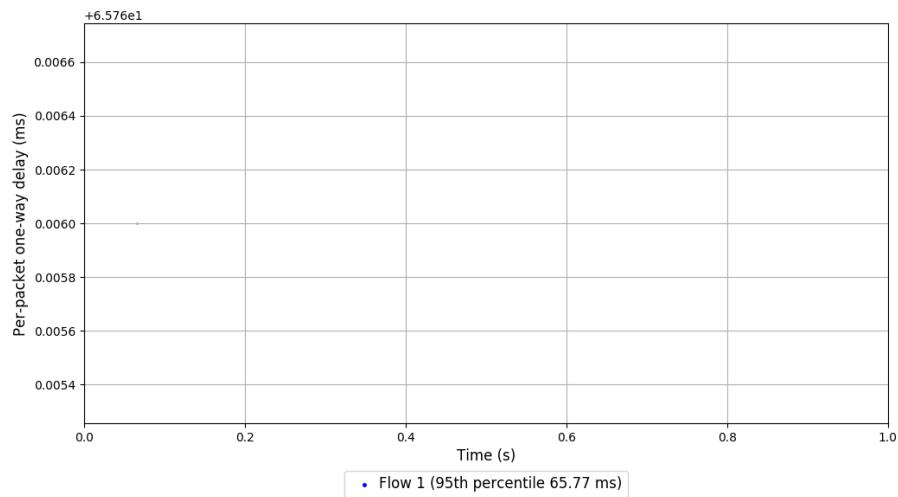
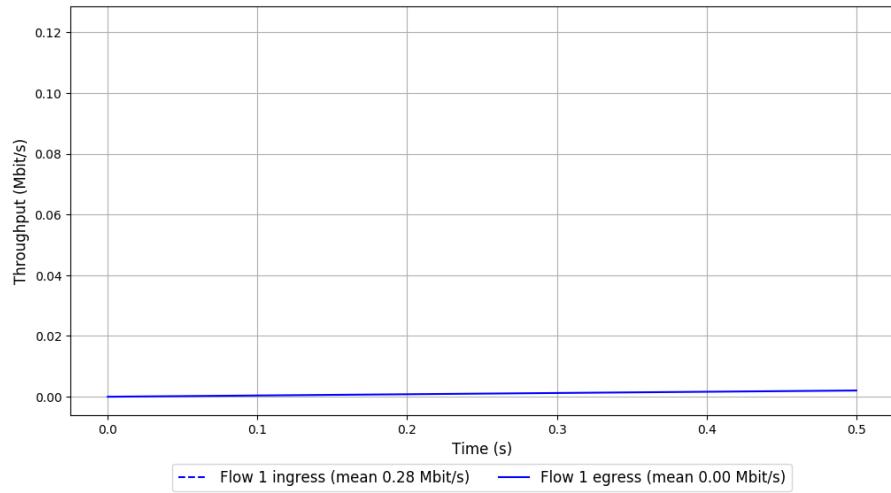
Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-12-11 11:30:08
End at: 2018-12-11 11:30:38
Local clock offset: -12.493 ms
Remote clock offset: -45.487 ms

Run 5: Report of Copa — Data Link

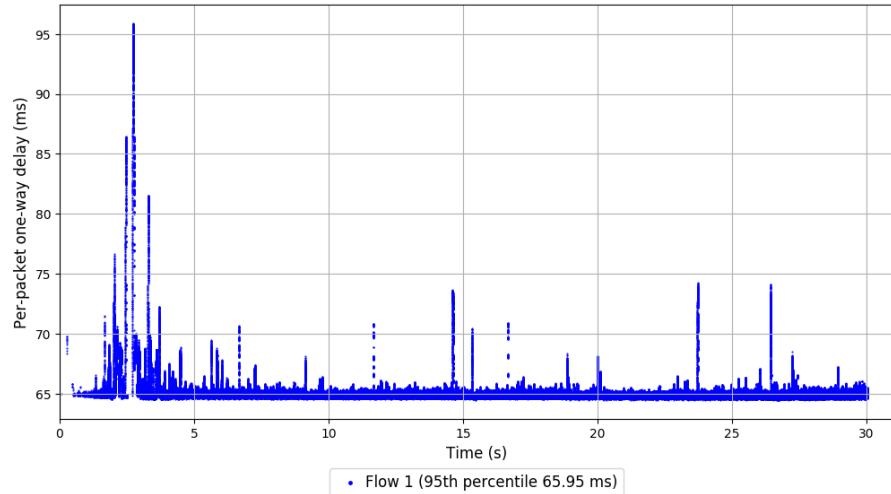
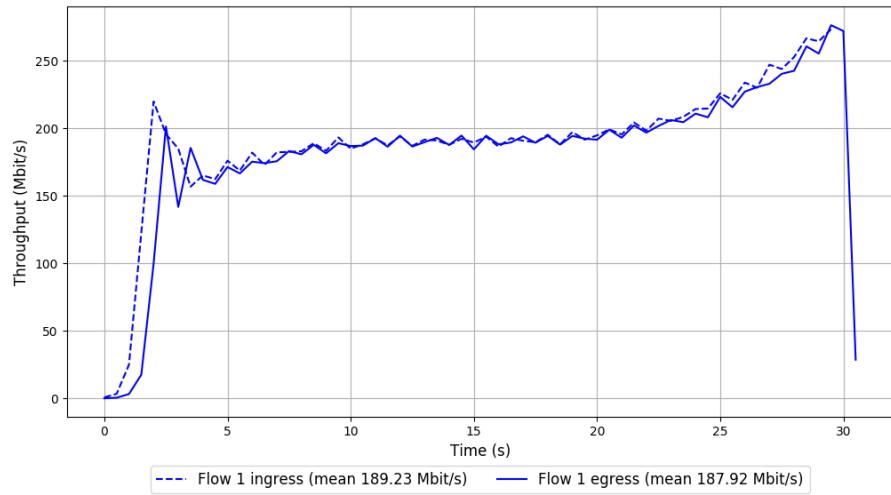


```
Run 1: Statistics of TCP Cubic
```

```
Start at: 2018-12-11 09:04:18
End at: 2018-12-11 09:04:48
Local clock offset: -1.848 ms
Remote clock offset: -32.622 ms

# Below is generated by plot.py at 2018-12-11 11:57:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 187.92 Mbit/s
95th percentile per-packet one-way delay: 65.948 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 187.92 Mbit/s
95th percentile per-packet one-way delay: 65.948 ms
Loss rate: 0.70%
```

Run 1: Report of TCP Cubic — Data Link

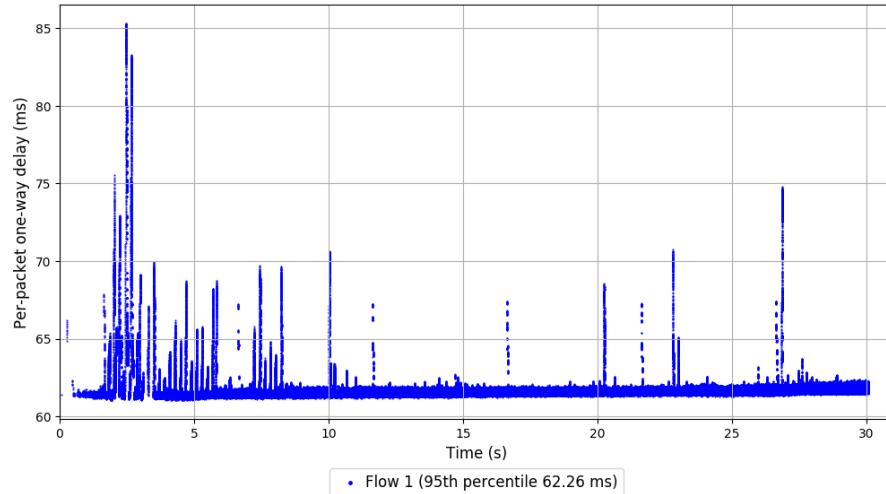
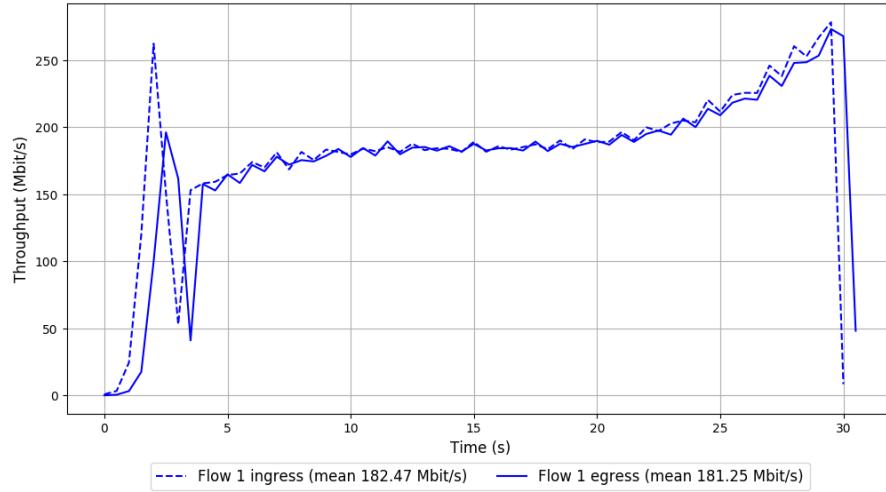


Run 2: Statistics of TCP Cubic

```
Start at: 2018-12-11 09:40:19
End at: 2018-12-11 09:40:49
Local clock offset: -7.494 ms
Remote clock offset: -39.194 ms

# Below is generated by plot.py at 2018-12-11 11:57:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 181.25 Mbit/s
95th percentile per-packet one-way delay: 62.260 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 181.25 Mbit/s
95th percentile per-packet one-way delay: 62.260 ms
Loss rate: 0.67%
```

Run 2: Report of TCP Cubic — Data Link

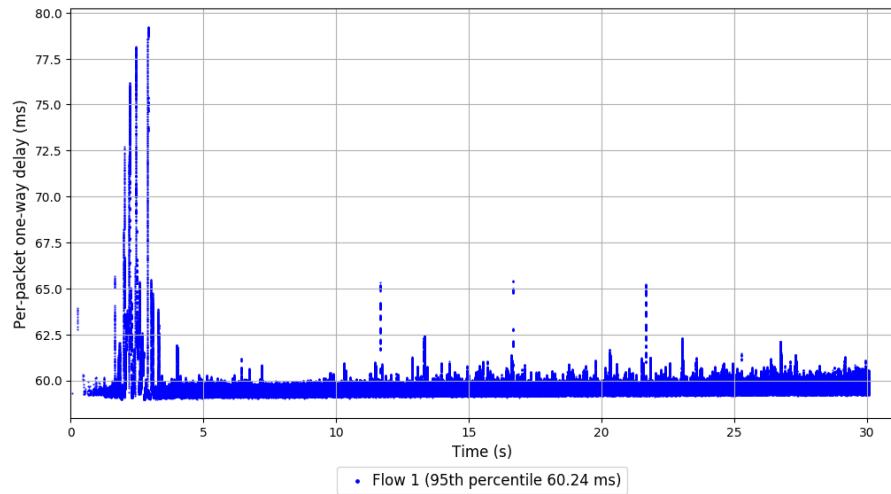
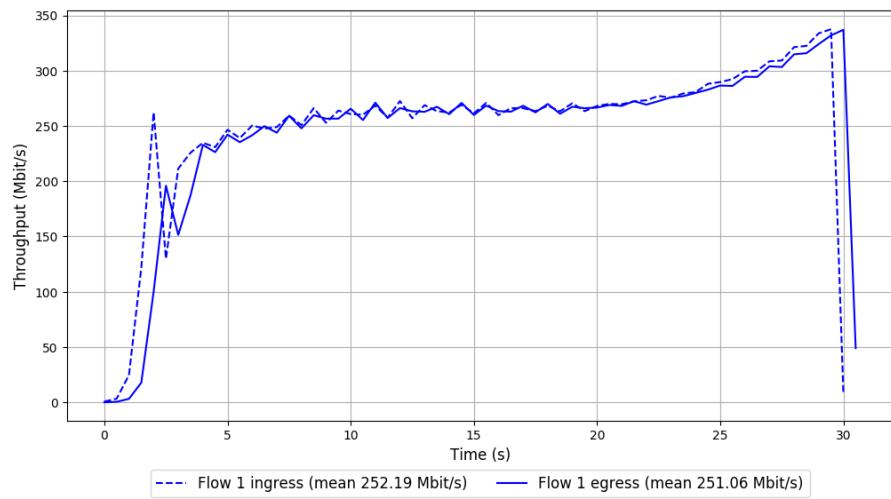


Run 3: Statistics of TCP Cubic

```
Start at: 2018-12-11 10:10:27
End at: 2018-12-11 10:10:57
Local clock offset: -4.632 ms
Remote clock offset: -41.305 ms

# Below is generated by plot.py at 2018-12-11 11:57:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 251.06 Mbit/s
95th percentile per-packet one-way delay: 60.240 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 251.06 Mbit/s
95th percentile per-packet one-way delay: 60.240 ms
Loss rate: 0.45%
```

Run 3: Report of TCP Cubic — Data Link

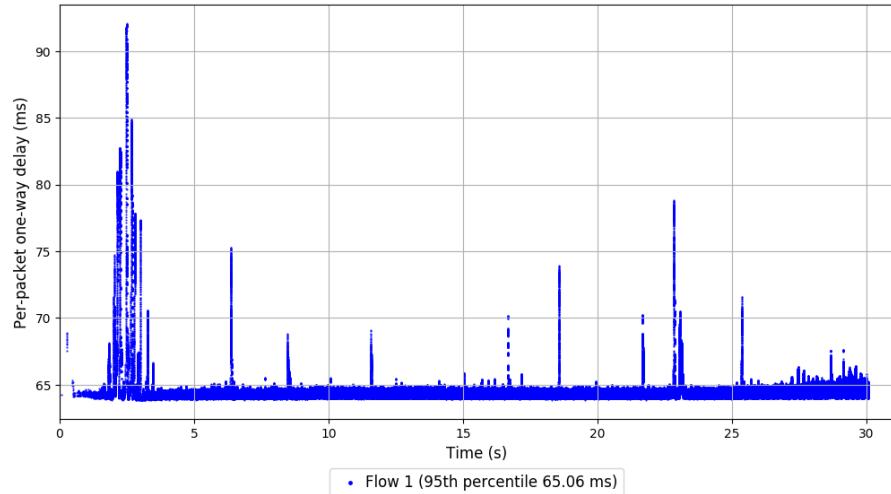
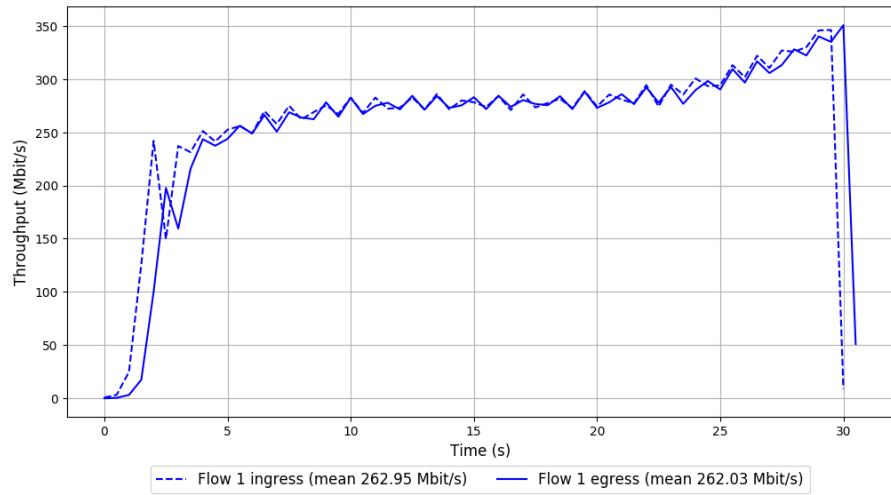


Run 4: Statistics of TCP Cubic

```
Start at: 2018-12-11 10:50:17
End at: 2018-12-11 10:50:47
Local clock offset: -8.566 ms
Remote clock offset: -42.883 ms

# Below is generated by plot.py at 2018-12-11 11:58:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 262.03 Mbit/s
95th percentile per-packet one-way delay: 65.063 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 262.03 Mbit/s
95th percentile per-packet one-way delay: 65.063 ms
Loss rate: 0.35%
```

Run 4: Report of TCP Cubic — Data Link

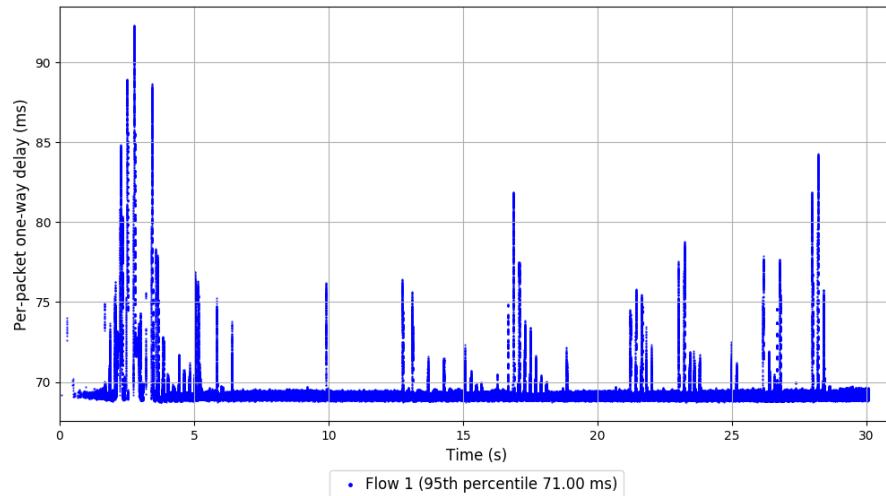
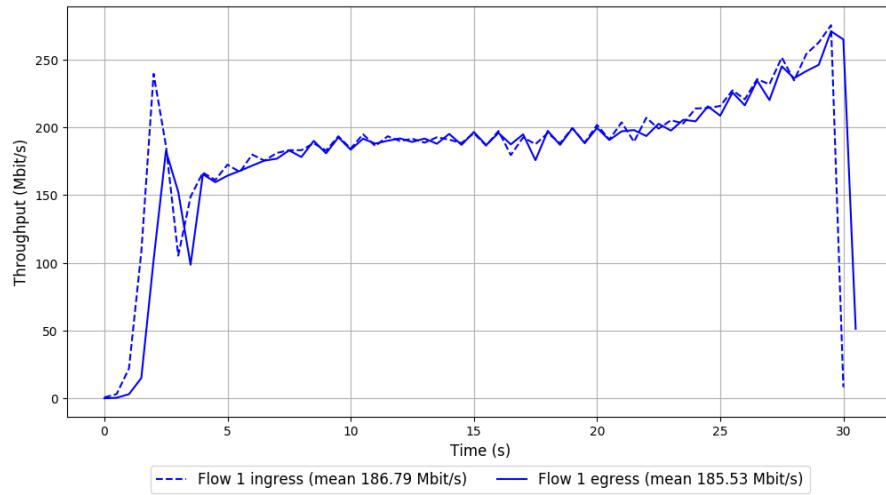


Run 5: Statistics of TCP Cubic

```
Start at: 2018-12-11 11:26:10
End at: 2018-12-11 11:26:40
Local clock offset: -0.561 ms
Remote clock offset: -32.836 ms

# Below is generated by plot.py at 2018-12-11 11:58:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 185.53 Mbit/s
95th percentile per-packet one-way delay: 70.998 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 185.53 Mbit/s
95th percentile per-packet one-way delay: 70.998 ms
Loss rate: 0.68%
```

Run 5: Report of TCP Cubic — Data Link

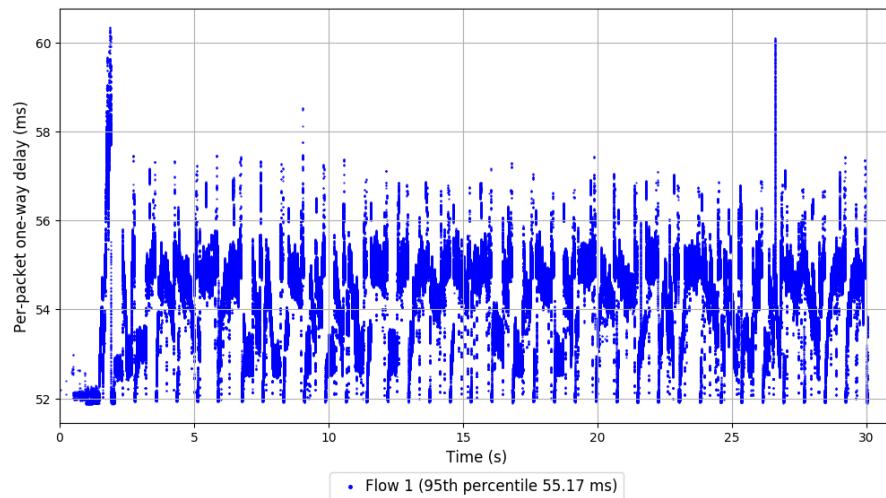
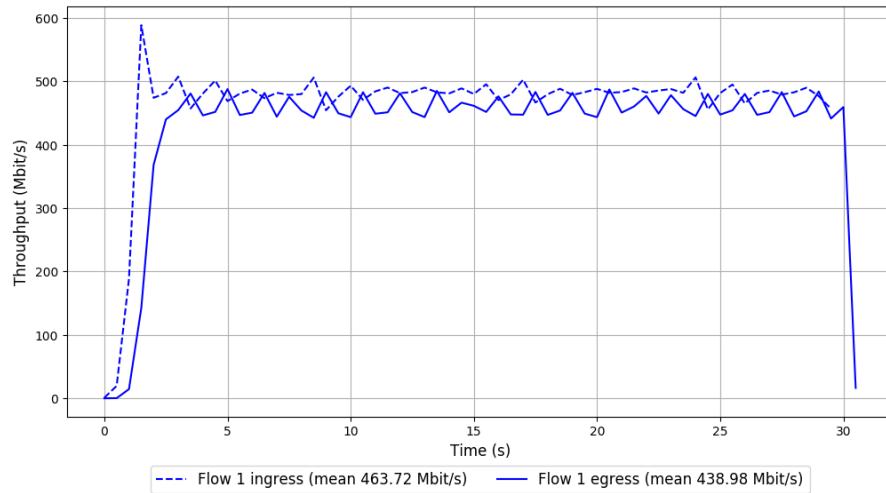


```
Run 1: Statistics of FillP

Start at: 2018-12-11 09:14:55
End at: 2018-12-11 09:15:25
Local clock offset: 0.353 ms
Remote clock offset: -42.827 ms

# Below is generated by plot.py at 2018-12-11 12:02:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 438.98 Mbit/s
95th percentile per-packet one-way delay: 55.166 ms
Loss rate: 5.33%
-- Flow 1:
Average throughput: 438.98 Mbit/s
95th percentile per-packet one-way delay: 55.166 ms
Loss rate: 5.33%
```

Run 1: Report of FillP — Data Link

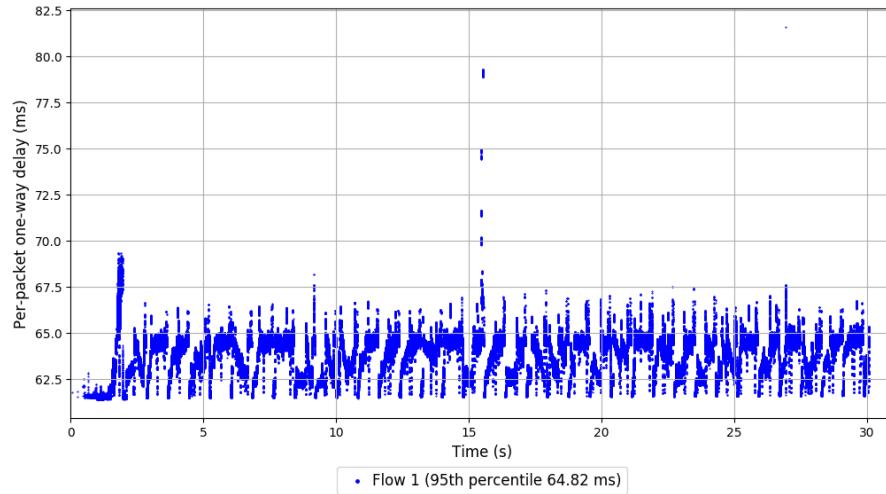
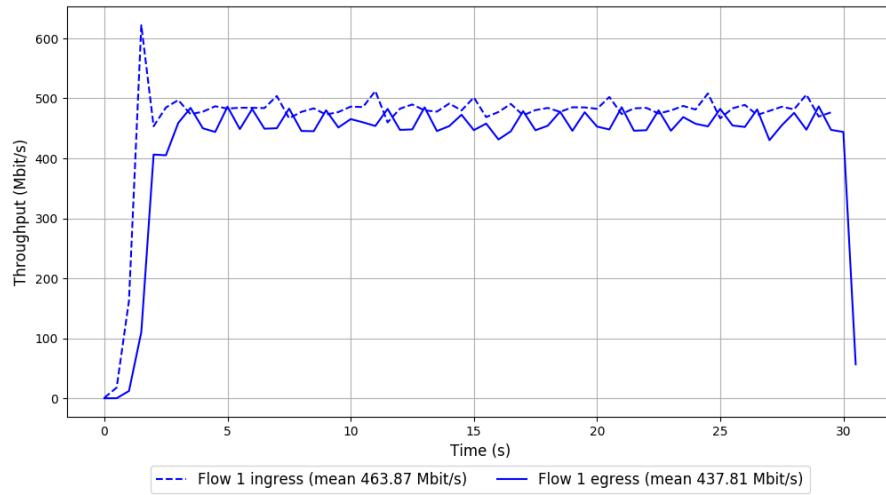


Run 2: Statistics of FillP

```
Start at: 2018-12-11 09:45:15
End at: 2018-12-11 09:45:45
Local clock offset: -5.285 ms
Remote clock offset: -41.721 ms

# Below is generated by plot.py at 2018-12-11 12:02:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 437.81 Mbit/s
95th percentile per-packet one-way delay: 64.823 ms
Loss rate: 5.61%
-- Flow 1:
Average throughput: 437.81 Mbit/s
95th percentile per-packet one-way delay: 64.823 ms
Loss rate: 5.61%
```

Run 2: Report of FillP — Data Link

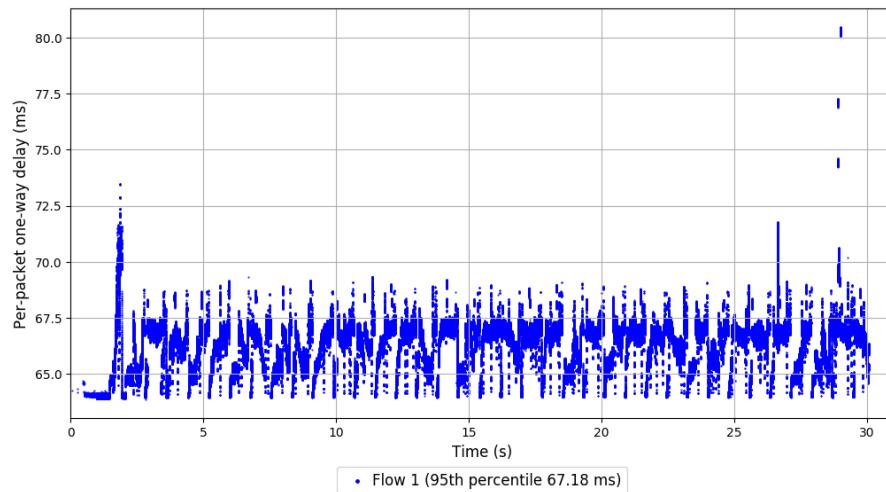
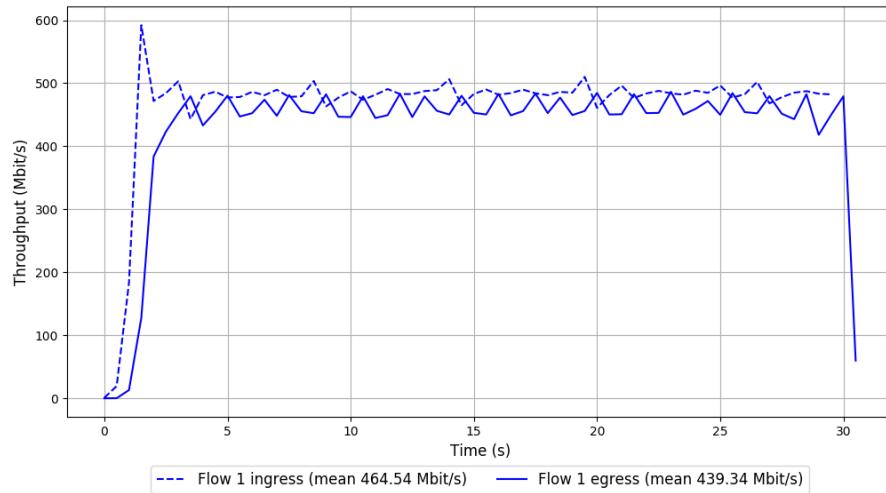


Run 3: Statistics of FillP

```
Start at: 2018-12-11 10:21:00
End at: 2018-12-11 10:21:30
Local clock offset: -2.956 ms
Remote clock offset: -36.193 ms

# Below is generated by plot.py at 2018-12-11 12:02:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 439.34 Mbit/s
95th percentile per-packet one-way delay: 67.177 ms
Loss rate: 5.42%
-- Flow 1:
Average throughput: 439.34 Mbit/s
95th percentile per-packet one-way delay: 67.177 ms
Loss rate: 5.42%
```

Run 3: Report of FillP — Data Link

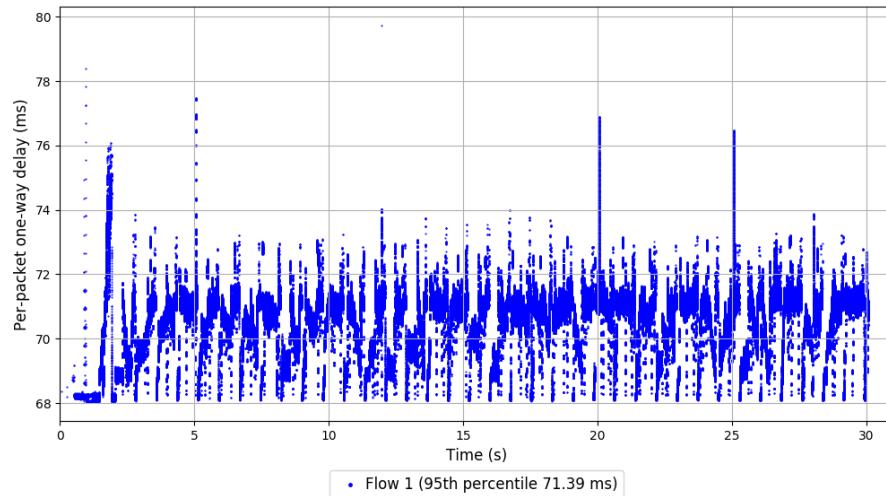
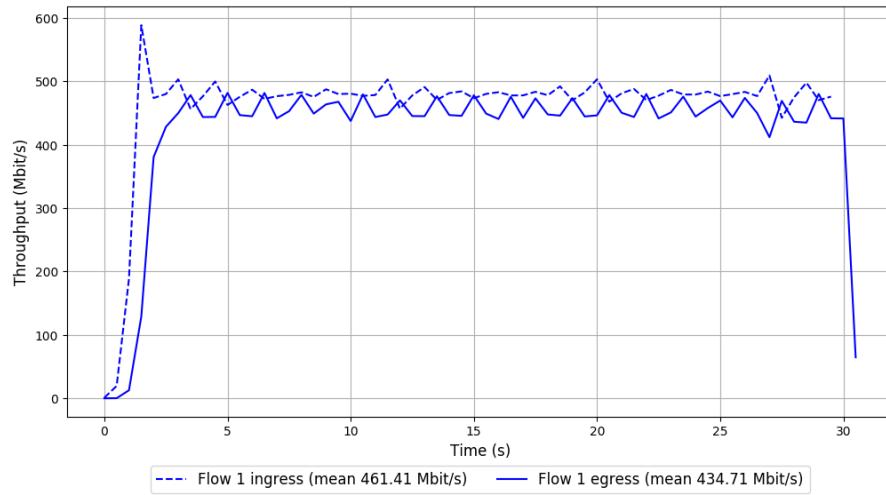


```
Run 4: Statistics of FillP
```

```
Start at: 2018-12-11 10:55:27
End at: 2018-12-11 10:55:57
Local clock offset: -9.146 ms
Remote clock offset: -39.517 ms

# Below is generated by plot.py at 2018-12-11 12:02:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 434.71 Mbit/s
95th percentile per-packet one-way delay: 71.389 ms
Loss rate: 5.78%
-- Flow 1:
Average throughput: 434.71 Mbit/s
95th percentile per-packet one-way delay: 71.389 ms
Loss rate: 5.78%
```

Run 4: Report of FillP — Data Link

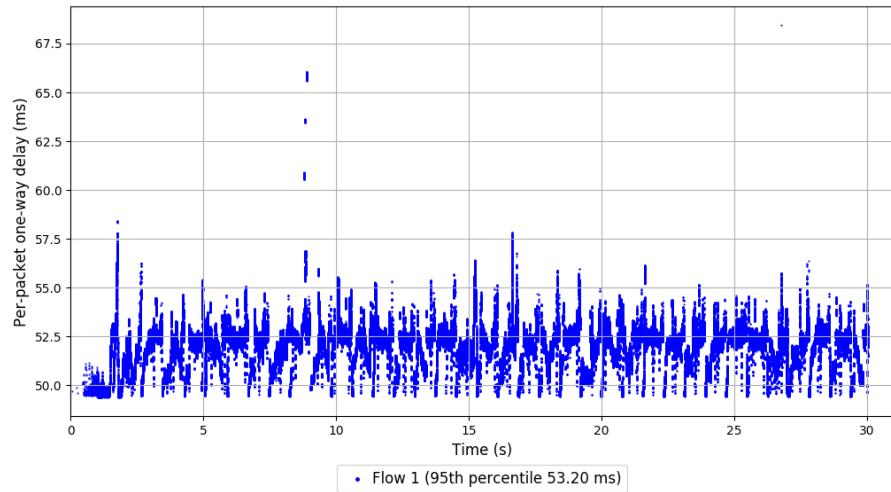
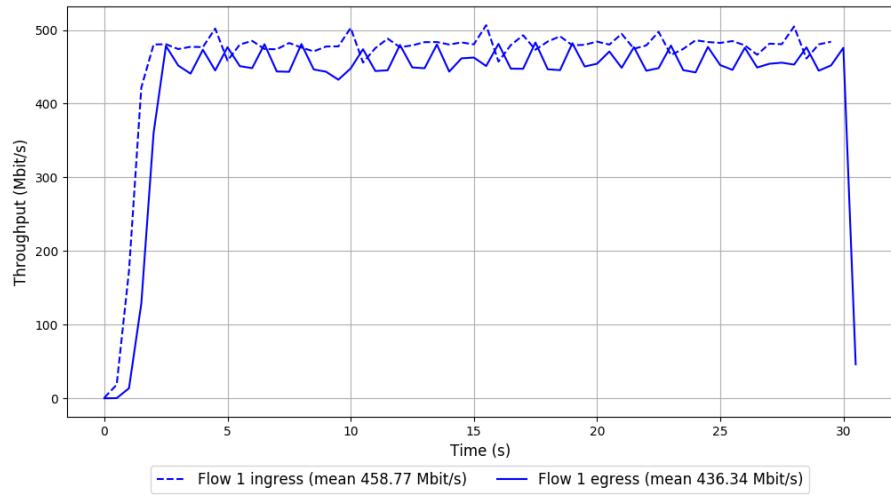


Run 5: Statistics of FillP

```
Start at: 2018-12-11 11:31:17
End at: 2018-12-11 11:31:47
Local clock offset: 0.079 ms
Remote clock offset: -48.644 ms

# Below is generated by plot.py at 2018-12-11 12:02:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 436.34 Mbit/s
95th percentile per-packet one-way delay: 53.201 ms
Loss rate: 4.88%
-- Flow 1:
Average throughput: 436.34 Mbit/s
95th percentile per-packet one-way delay: 53.201 ms
Loss rate: 4.88%
```

Run 5: Report of FillP — Data Link

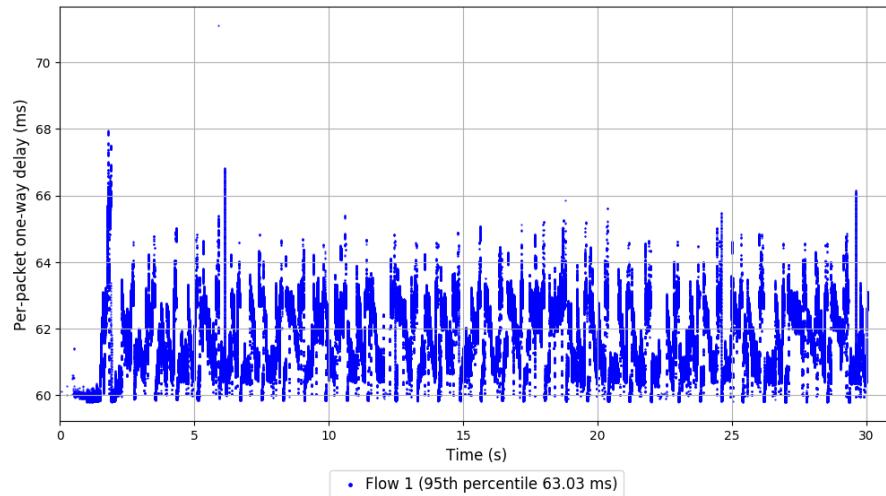
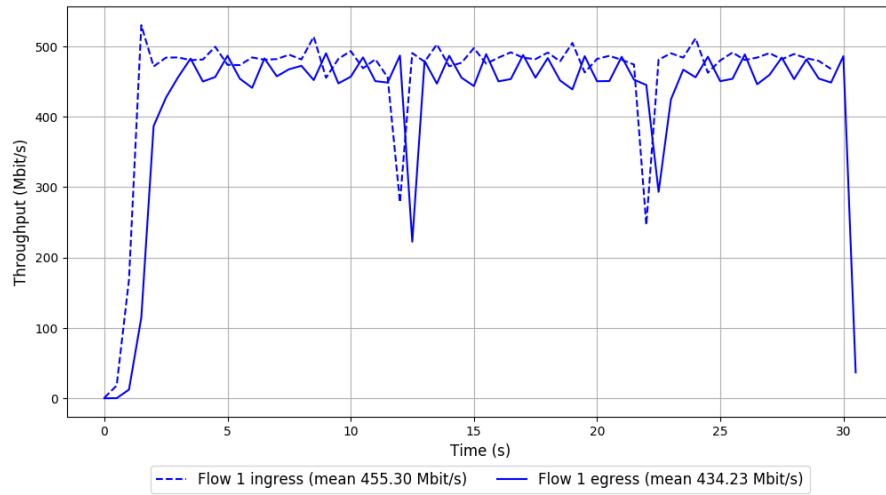


```
Run 1: Statistics of FillP-Sheep
```

```
Start at: 2018-12-11 09:24:26
End at: 2018-12-11 09:24:56
Local clock offset: -3.968 ms
Remote clock offset: -40.639 ms

# Below is generated by plot.py at 2018-12-11 12:02:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 434.23 Mbit/s
95th percentile per-packet one-way delay: 63.026 ms
Loss rate: 4.62%
-- Flow 1:
Average throughput: 434.23 Mbit/s
95th percentile per-packet one-way delay: 63.026 ms
Loss rate: 4.62%
```

Run 1: Report of FillP-Sheep — Data Link

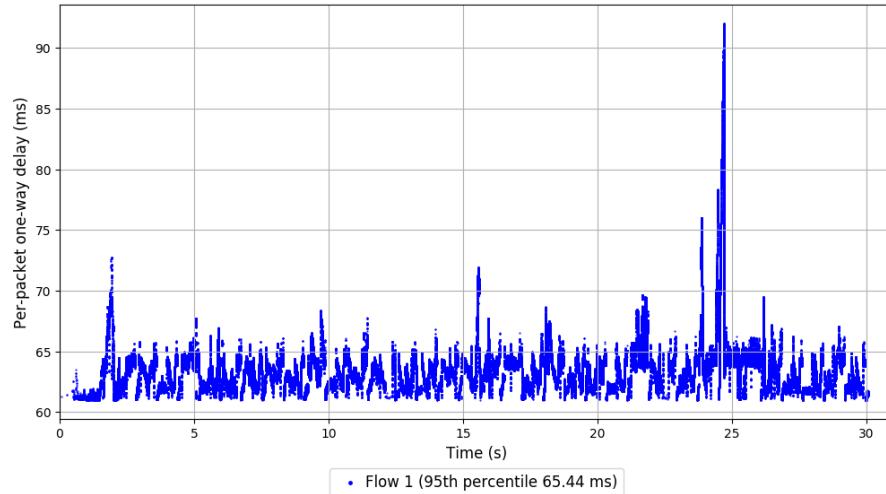
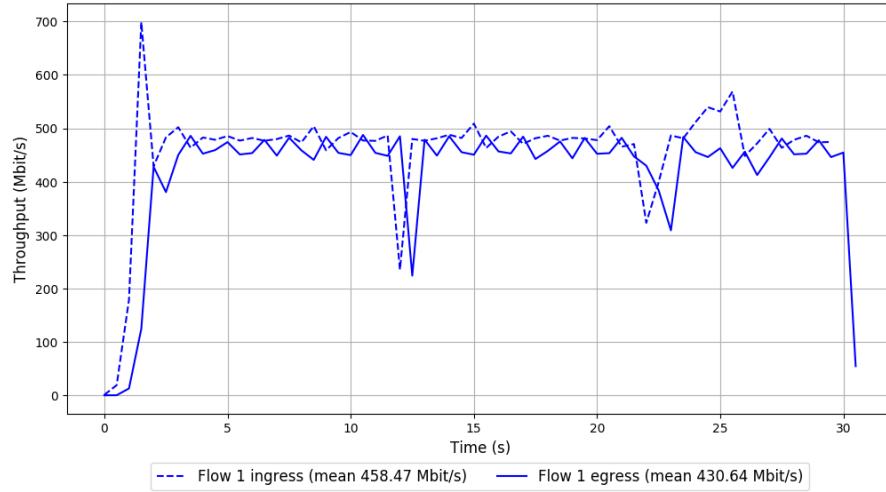


Run 2: Statistics of FillP-Sheep

```
Start at: 2018-12-11 10:00:16
End at: 2018-12-11 10:00:47
Local clock offset: -1.756 ms
Remote clock offset: -36.688 ms

# Below is generated by plot.py at 2018-12-11 12:03:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 430.64 Mbit/s
95th percentile per-packet one-way delay: 65.445 ms
Loss rate: 6.07%
-- Flow 1:
Average throughput: 430.64 Mbit/s
95th percentile per-packet one-way delay: 65.445 ms
Loss rate: 6.07%
```

Run 2: Report of FillP-Sheep — Data Link

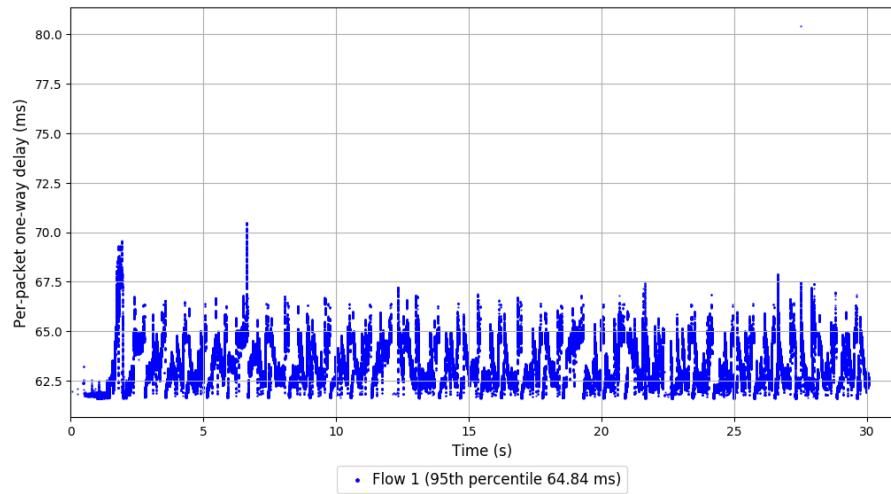
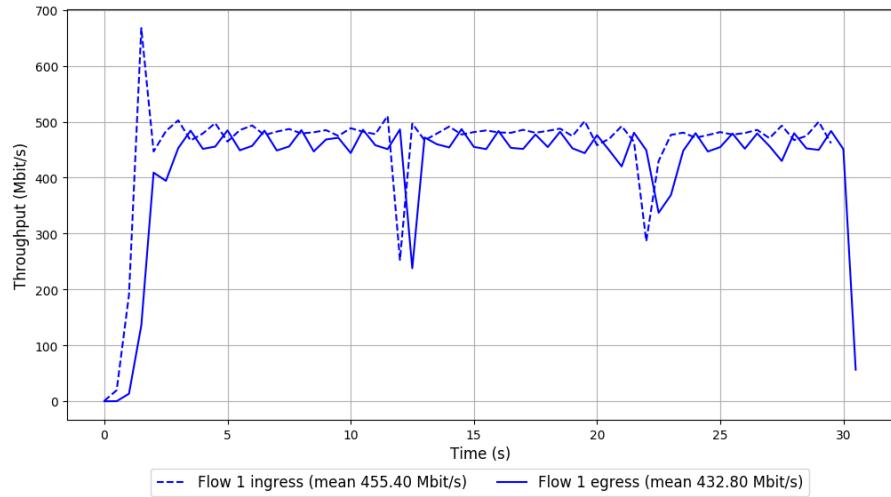


Run 3: Statistics of FillP-Sheep

```
Start at: 2018-12-11 10:30:33
End at: 2018-12-11 10:31:03
Local clock offset: -11.587 ms
Remote clock offset: -47.177 ms

# Below is generated by plot.py at 2018-12-11 12:04:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 432.80 Mbit/s
95th percentile per-packet one-way delay: 64.839 ms
Loss rate: 4.96%
-- Flow 1:
Average throughput: 432.80 Mbit/s
95th percentile per-packet one-way delay: 64.839 ms
Loss rate: 4.96%
```

Run 3: Report of FillP-Sheep — Data Link

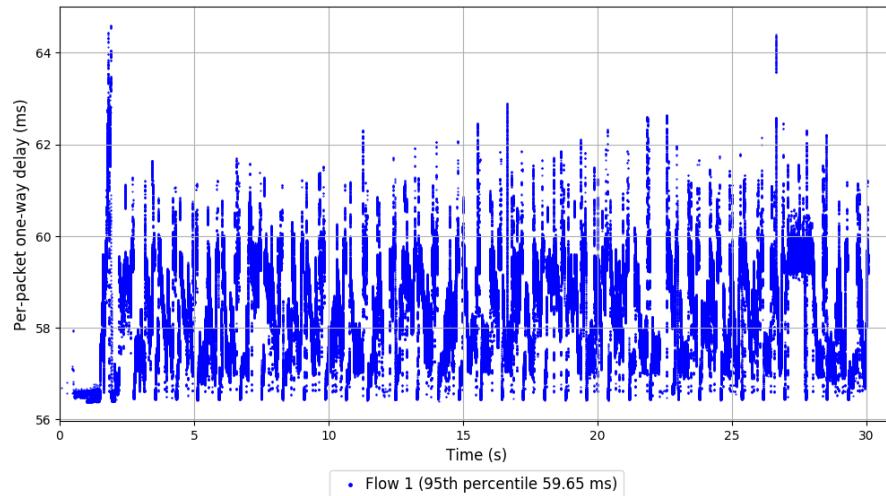
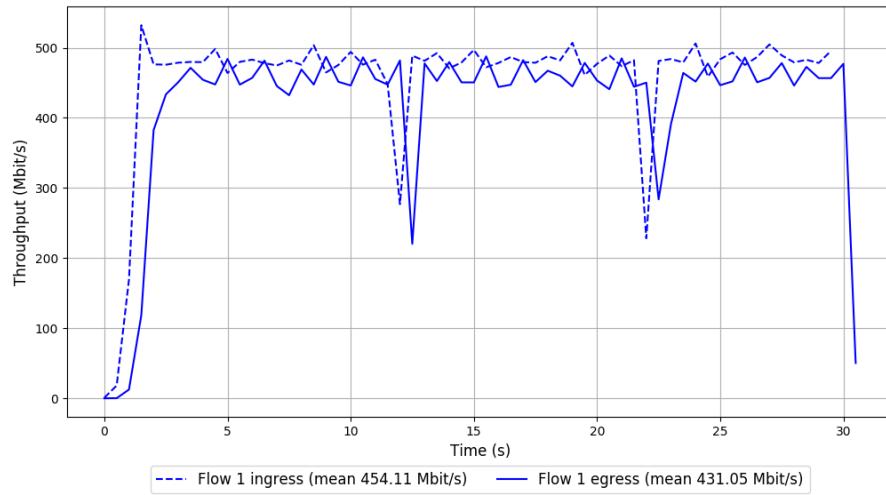


Run 4: Statistics of FillP-Sheep

```
Start at: 2018-12-11 11:10:21
End at: 2018-12-11 11:10:51
Local clock offset: -0.182 ms
Remote clock offset: -44.953 ms

# Below is generated by plot.py at 2018-12-11 12:07:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 431.05 Mbit/s
95th percentile per-packet one-way delay: 59.653 ms
Loss rate: 5.07%
-- Flow 1:
Average throughput: 431.05 Mbit/s
95th percentile per-packet one-way delay: 59.653 ms
Loss rate: 5.07%
```

Run 4: Report of FillP-Sheep — Data Link

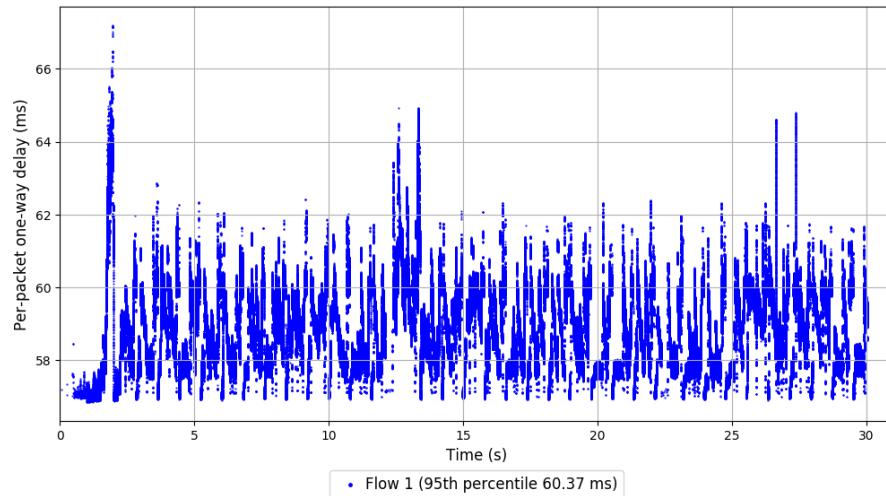
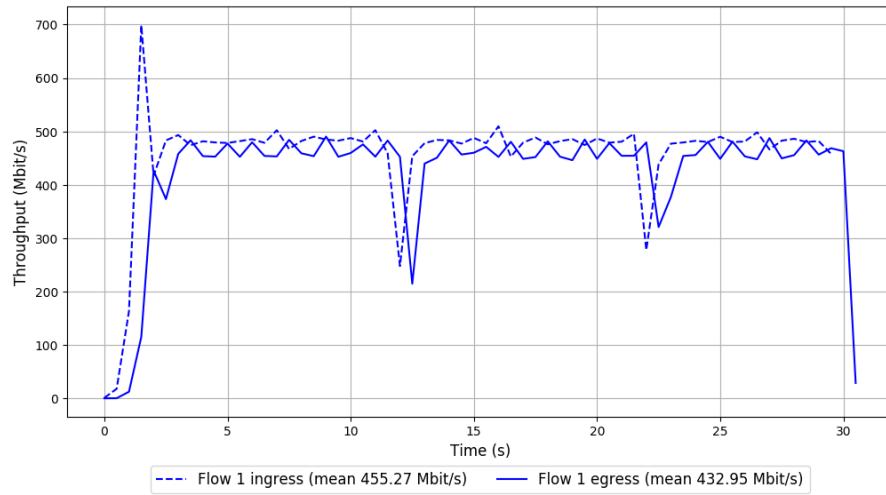


Run 5: Statistics of FillP-Sheep

```
Start at: 2018-12-11 11:46:12
End at: 2018-12-11 11:46:42
Local clock offset: -1.216 ms
Remote clock offset: -45.517 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 432.95 Mbit/s
95th percentile per-packet one-way delay: 60.371 ms
Loss rate: 4.90%
-- Flow 1:
Average throughput: 432.95 Mbit/s
95th percentile per-packet one-way delay: 60.371 ms
Loss rate: 4.90%
```

Run 5: Report of FillP-Sheep — Data Link

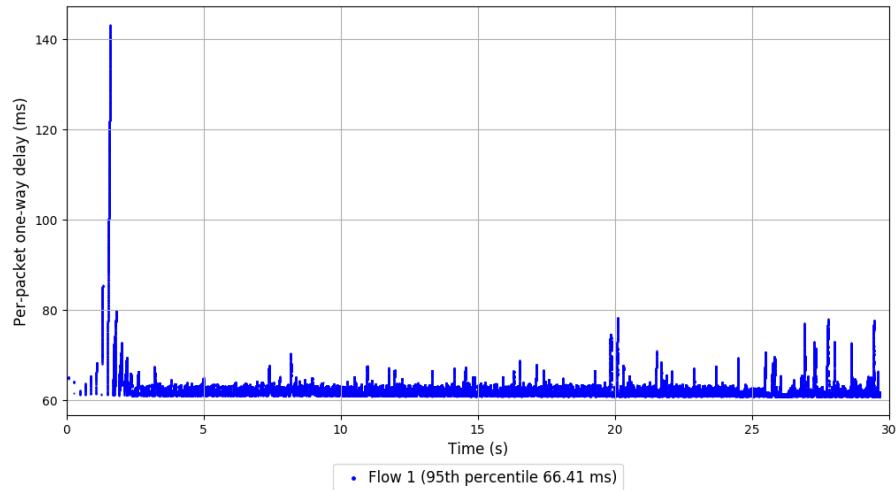
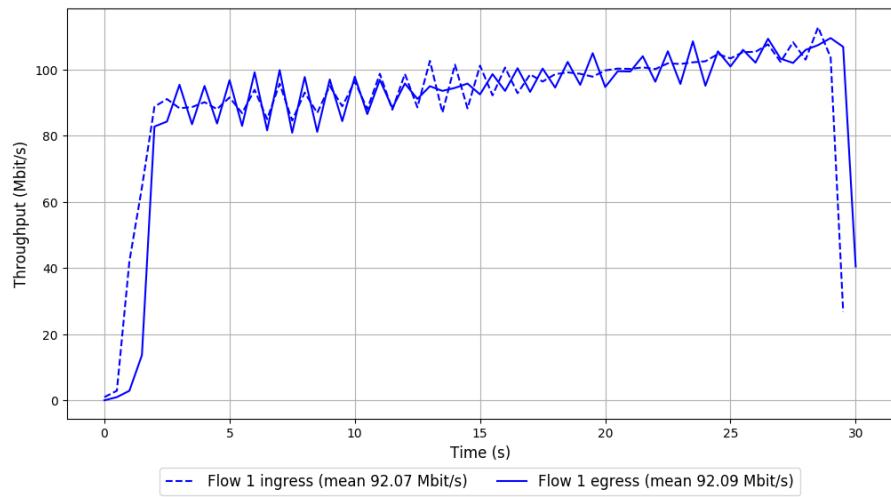


Run 1: Statistics of Indigo

```
Start at: 2018-12-11 09:34:13
End at: 2018-12-11 09:34:43
Local clock offset: -4.734 ms
Remote clock offset: -38.551 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.09 Mbit/s
95th percentile per-packet one-way delay: 66.405 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 92.09 Mbit/s
95th percentile per-packet one-way delay: 66.405 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

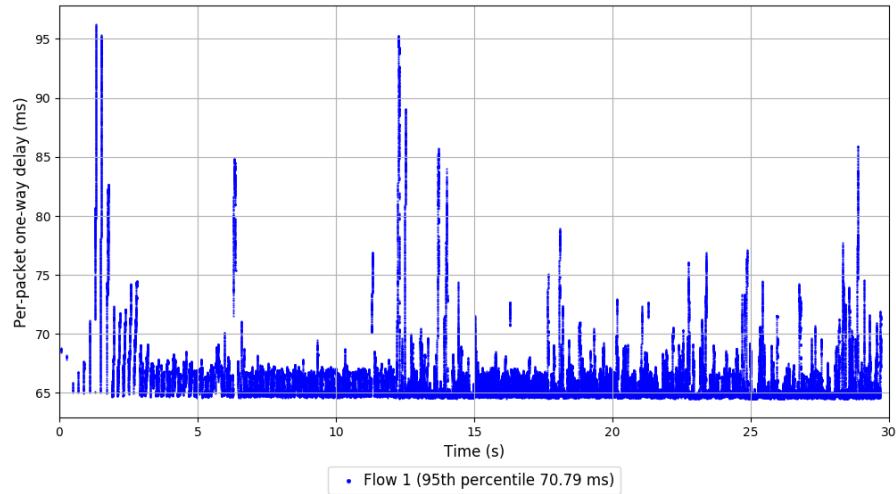
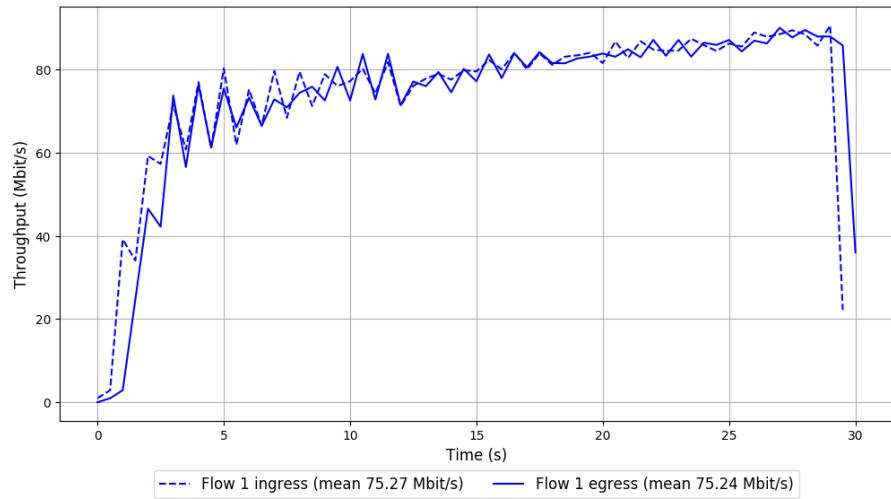


Run 2: Statistics of Indigo

```
Start at: 2018-12-11 10:04:24
End at: 2018-12-11 10:04:54
Local clock offset: -4.436 ms
Remote clock offset: -37.844 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.24 Mbit/s
95th percentile per-packet one-way delay: 70.791 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 75.24 Mbit/s
95th percentile per-packet one-way delay: 70.791 ms
Loss rate: 0.05%
```

Run 2: Report of Indigo — Data Link

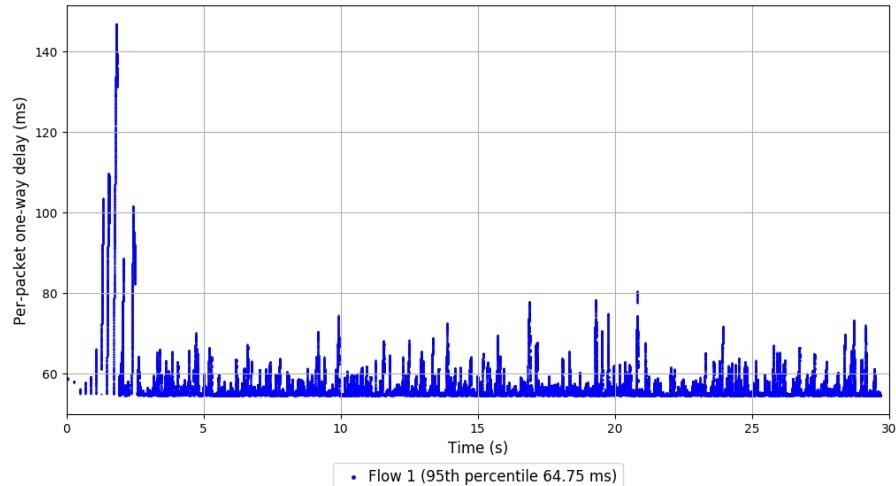
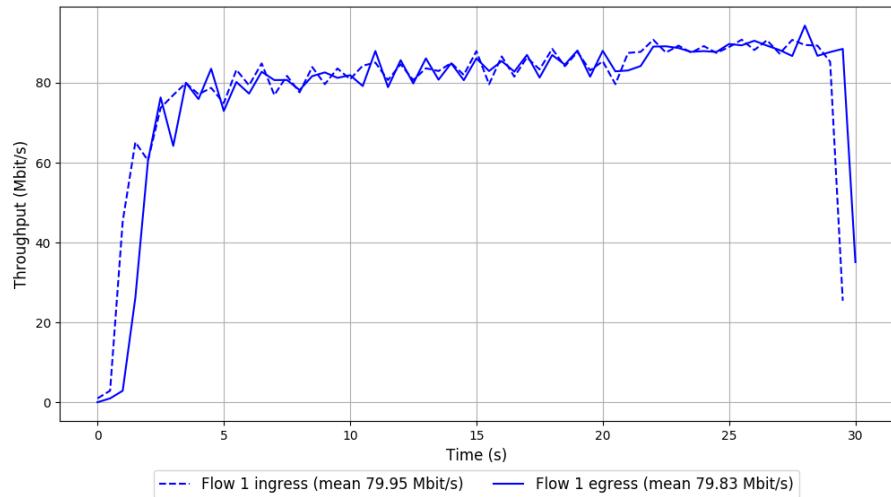


Run 3: Statistics of Indigo

```
Start at: 2018-12-11 10:34:40
End at: 2018-12-11 10:35:10
Local clock offset: -0.012 ms
Remote clock offset: -42.583 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.83 Mbit/s
95th percentile per-packet one-way delay: 64.746 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 79.83 Mbit/s
95th percentile per-packet one-way delay: 64.746 ms
Loss rate: 0.17%
```

Run 3: Report of Indigo — Data Link

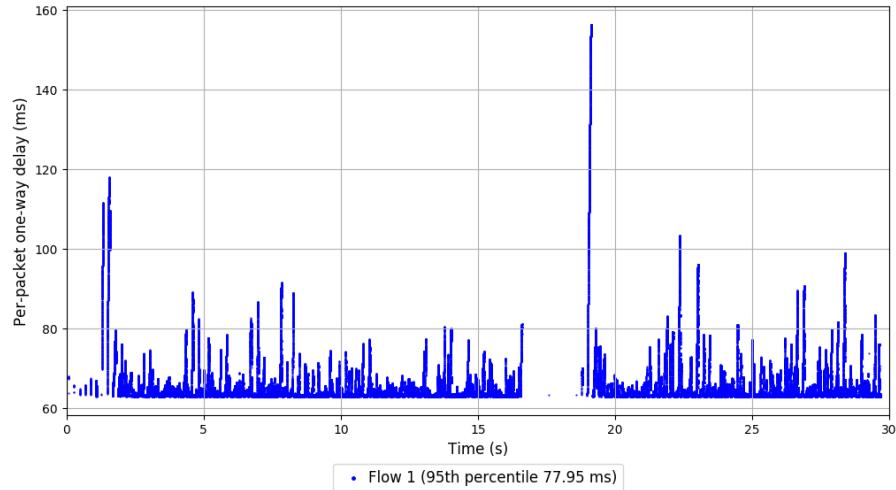
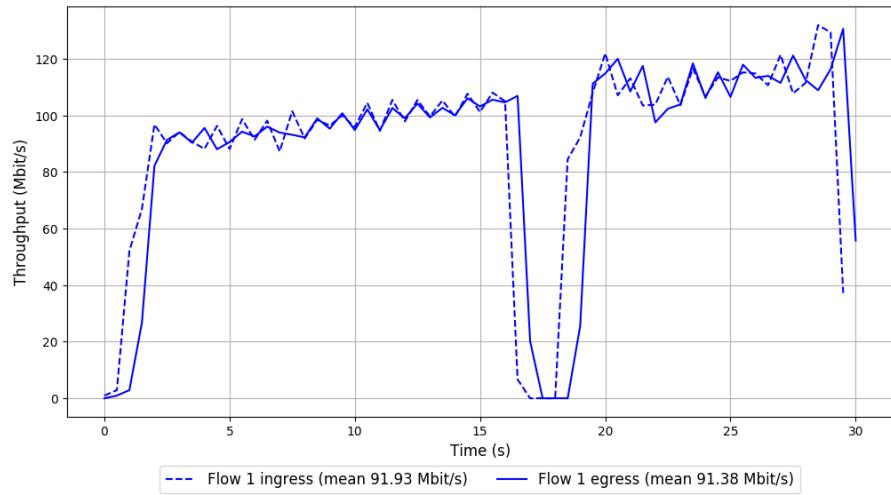


Run 4: Statistics of Indigo

```
Start at: 2018-12-11 11:14:29
End at: 2018-12-11 11:14:59
Local clock offset: 1.186 ms
Remote clock offset: -34.839 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 91.38 Mbit/s
95th percentile per-packet one-way delay: 77.951 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 91.38 Mbit/s
95th percentile per-packet one-way delay: 77.951 ms
Loss rate: 0.59%
```

Run 4: Report of Indigo — Data Link

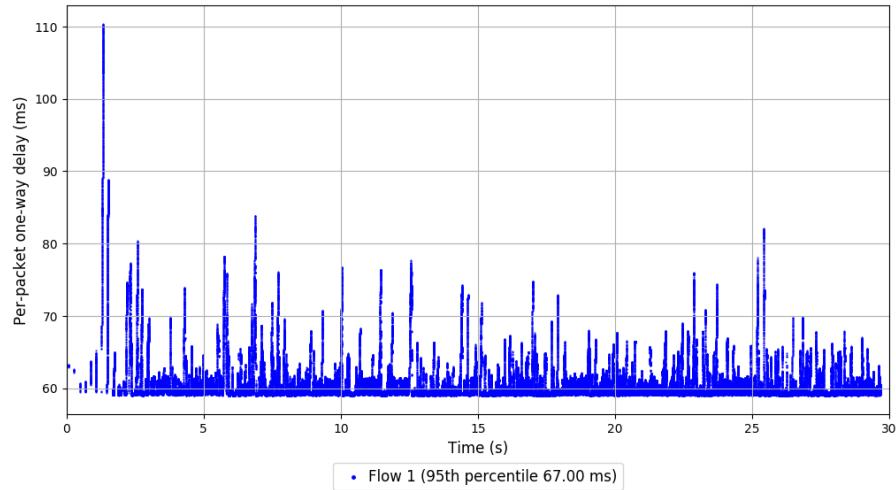
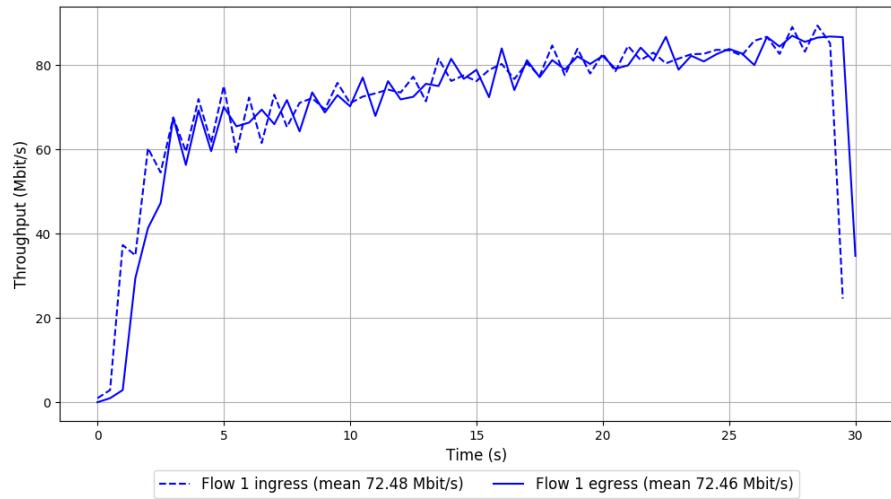


Run 5: Statistics of Indigo

```
Start at: 2018-12-11 11:50:54
End at: 2018-12-11 11:51:25
Local clock offset: 0.566 ms
Remote clock offset: -38.721 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.46 Mbit/s
95th percentile per-packet one-way delay: 66.996 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 72.46 Mbit/s
95th percentile per-packet one-way delay: 66.996 ms
Loss rate: 0.03%
```

Run 5: Report of Indigo — Data Link

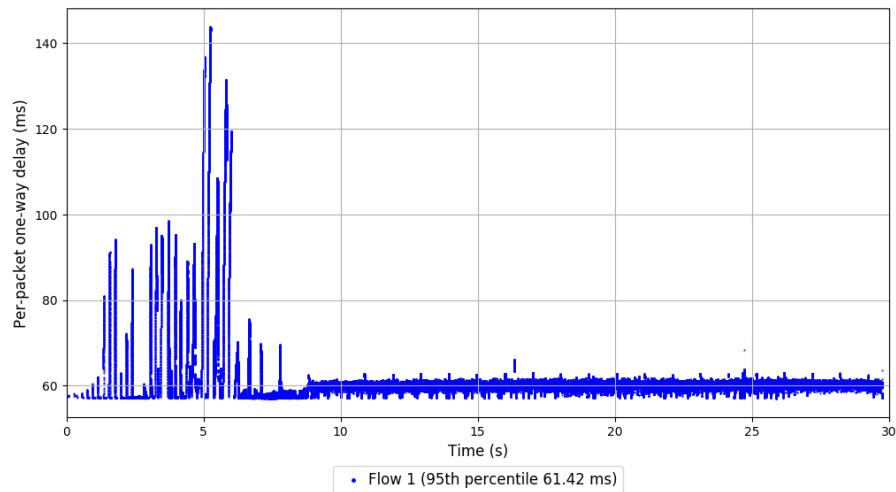
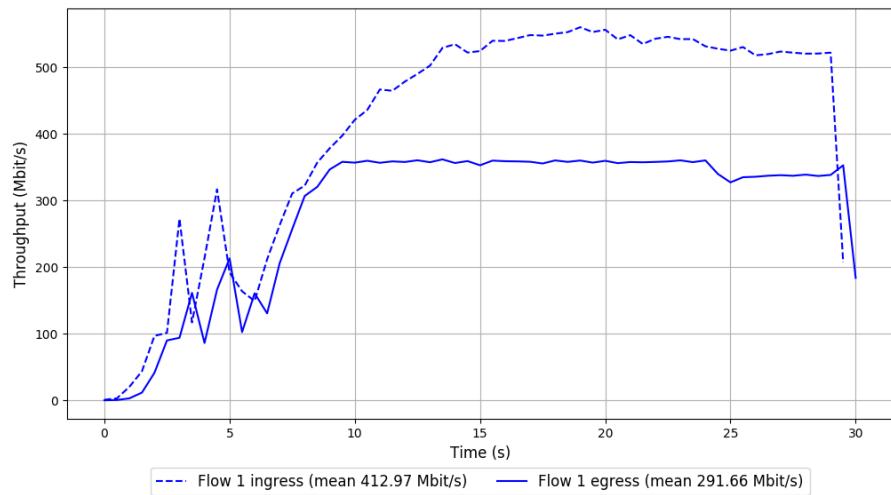


Run 1: Statistics of Indigo-MusesD

```
Start at: 2018-12-11 09:16:24
End at: 2018-12-11 09:16:54
Local clock offset: -4.371 ms
Remote clock offset: -42.155 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 291.66 Mbit/s
95th percentile per-packet one-way delay: 61.416 ms
Loss rate: 29.37%
-- Flow 1:
Average throughput: 291.66 Mbit/s
95th percentile per-packet one-way delay: 61.416 ms
Loss rate: 29.37%
```

Run 1: Report of Indigo-MusesD — Data Link

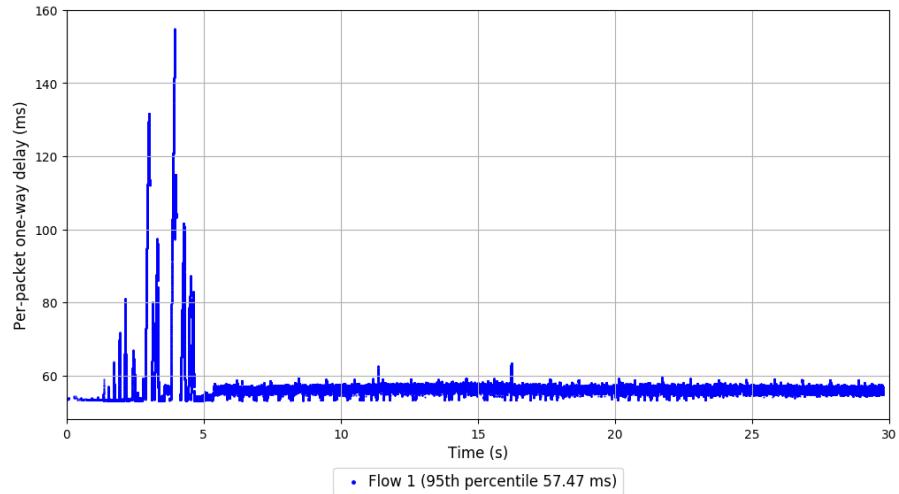
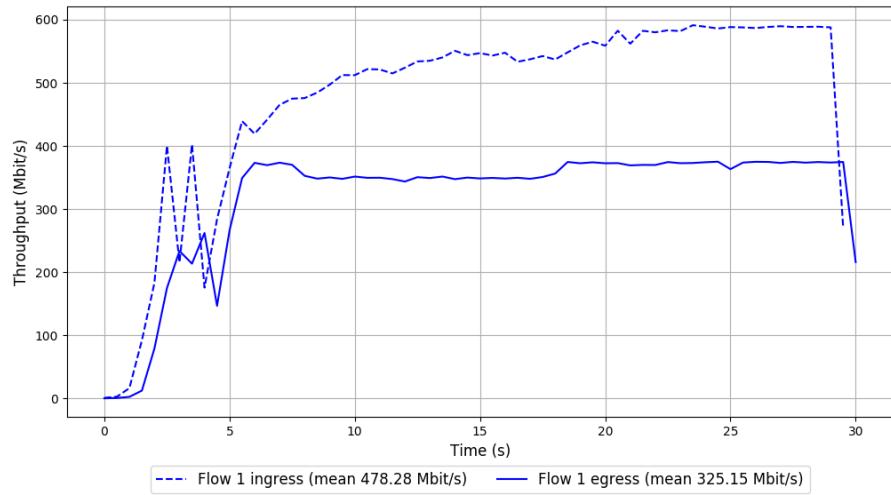


Run 2: Statistics of Indigo-MusesD

```
Start at: 2018-12-11 09:46:43
End at: 2018-12-11 09:47:13
Local clock offset: -3.845 ms
Remote clock offset: -45.983 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 325.15 Mbit/s
95th percentile per-packet one-way delay: 57.467 ms
Loss rate: 32.01%
-- Flow 1:
Average throughput: 325.15 Mbit/s
95th percentile per-packet one-way delay: 57.467 ms
Loss rate: 32.01%
```

Run 2: Report of Indigo-MusesD — Data Link

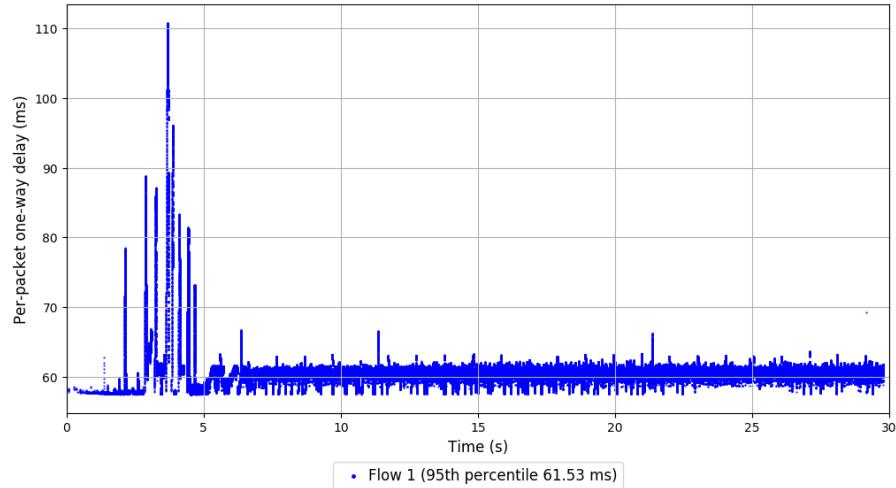
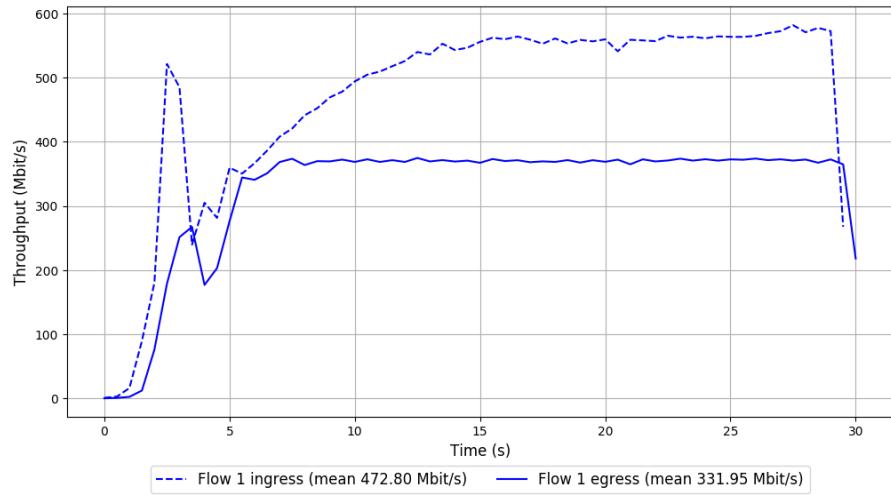


Run 3: Statistics of Indigo-MusesD

```
Start at: 2018-12-11 10:22:38
End at: 2018-12-11 10:23:08
Local clock offset: -2.418 ms
Remote clock offset: -45.312 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 331.95 Mbit/s
95th percentile per-packet one-way delay: 61.535 ms
Loss rate: 29.78%
-- Flow 1:
Average throughput: 331.95 Mbit/s
95th percentile per-packet one-way delay: 61.535 ms
Loss rate: 29.78%
```

Run 3: Report of Indigo-MusesD — Data Link

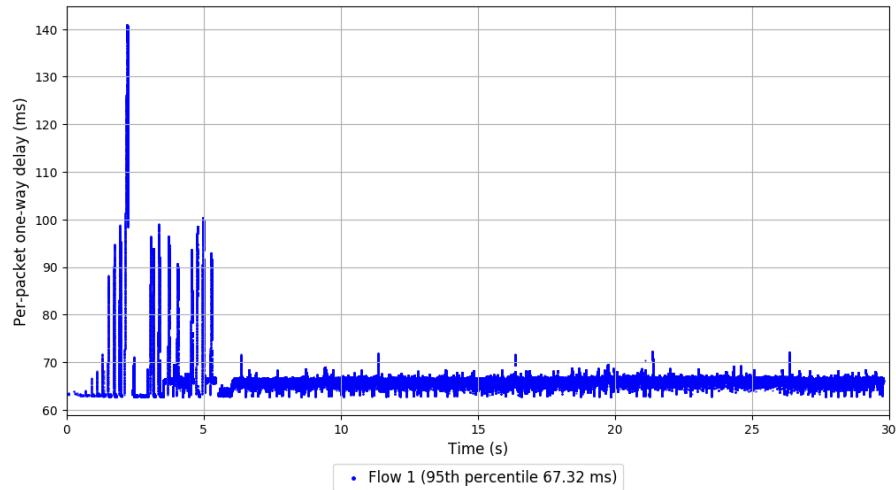
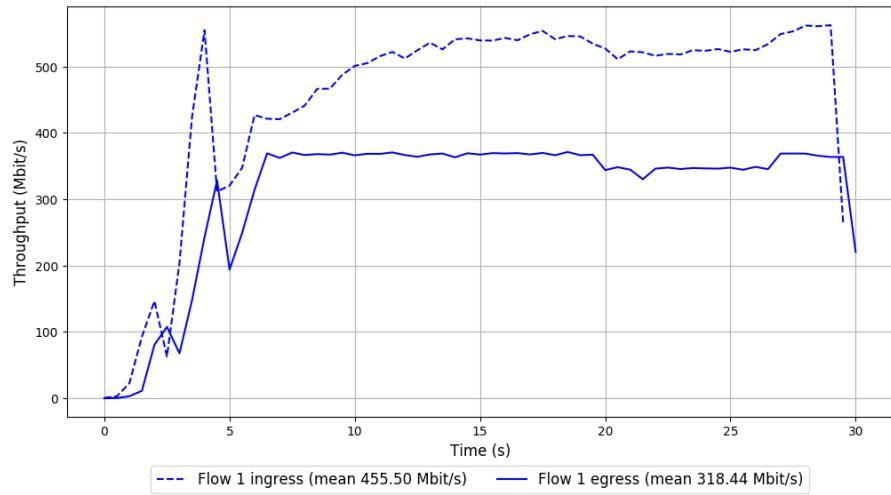


Run 4: Statistics of Indigo-MusesD

```
Start at: 2018-12-11 10:56:54
End at: 2018-12-11 10:57:24
Local clock offset: -0.066 ms
Remote clock offset: -38.576 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 318.44 Mbit/s
95th percentile per-packet one-way delay: 67.320 ms
Loss rate: 30.08%
-- Flow 1:
Average throughput: 318.44 Mbit/s
95th percentile per-packet one-way delay: 67.320 ms
Loss rate: 30.08%
```

Run 4: Report of Indigo-MusesD — Data Link

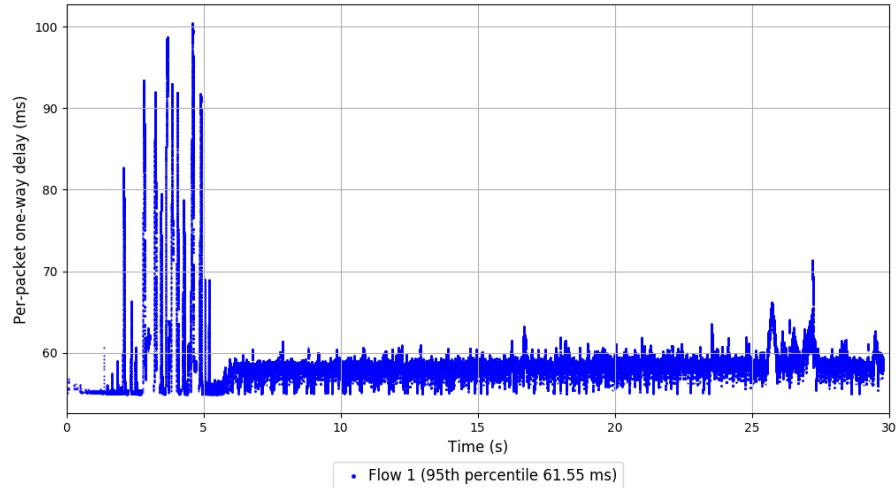
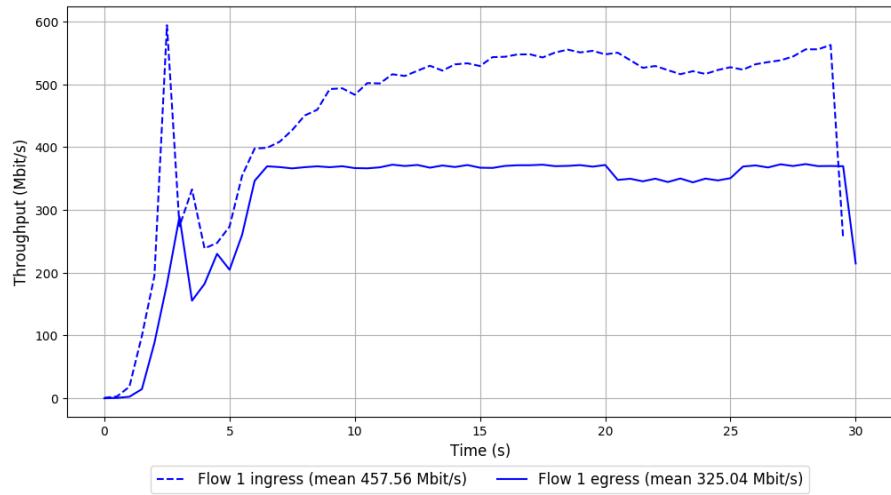


Run 5: Statistics of Indigo-MusesD

```
Start at: 2018-12-11 11:32:45
End at: 2018-12-11 11:33:15
Local clock offset: -1.794 ms
Remote clock offset: -44.785 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 325.04 Mbit/s
95th percentile per-packet one-way delay: 61.545 ms
Loss rate: 28.96%
-- Flow 1:
Average throughput: 325.04 Mbit/s
95th percentile per-packet one-way delay: 61.545 ms
Loss rate: 28.96%
```

Run 5: Report of Indigo-MusesD — Data Link

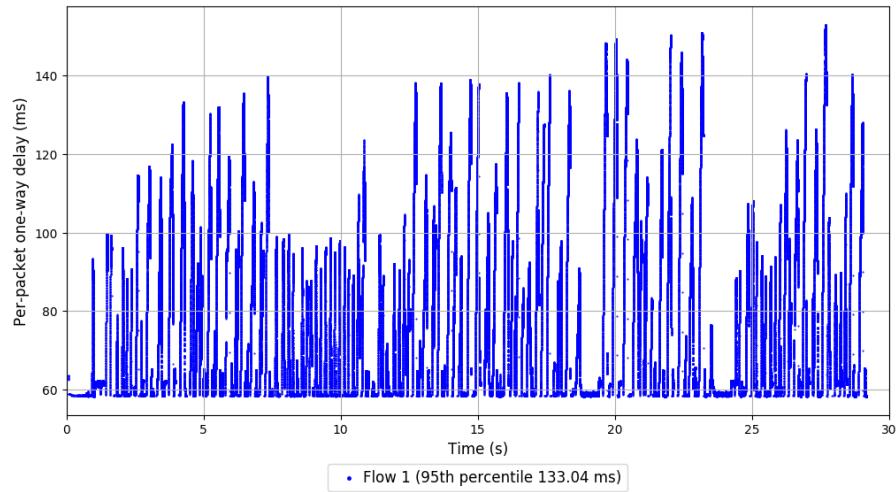
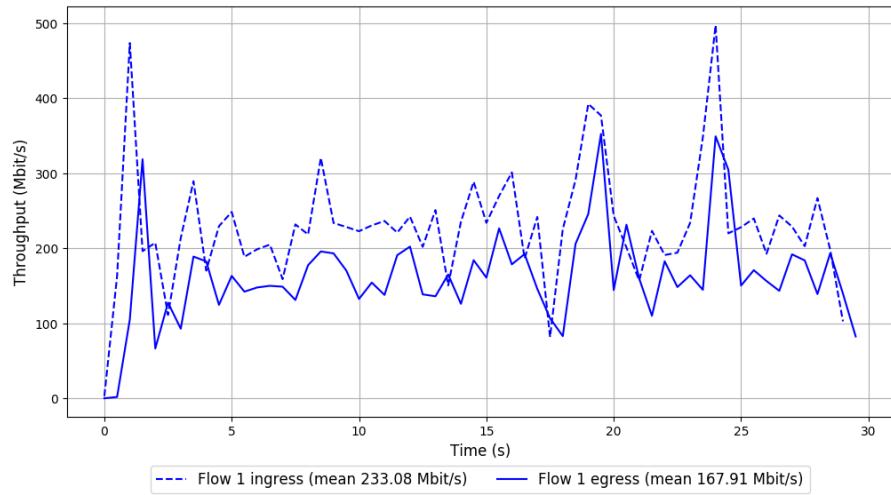


Run 1: Statistics of Indigo-MusesT

```
Start at: 2018-12-11 09:17:59
End at: 2018-12-11 09:18:29
Local clock offset: -1.627 ms
Remote clock offset: -40.795 ms

# Below is generated by plot.py at 2018-12-11 12:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 167.91 Mbit/s
95th percentile per-packet one-way delay: 133.036 ms
Loss rate: 27.97%
-- Flow 1:
Average throughput: 167.91 Mbit/s
95th percentile per-packet one-way delay: 133.036 ms
Loss rate: 27.97%
```

Run 1: Report of Indigo-MusesT — Data Link

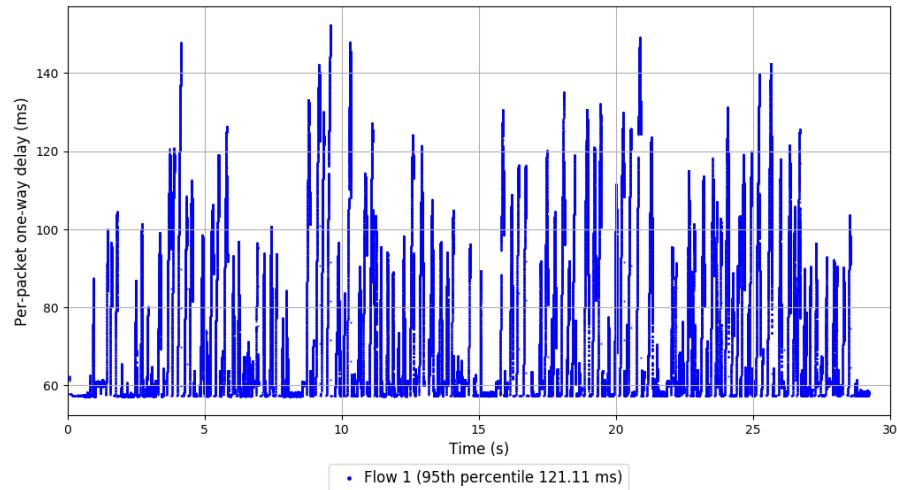
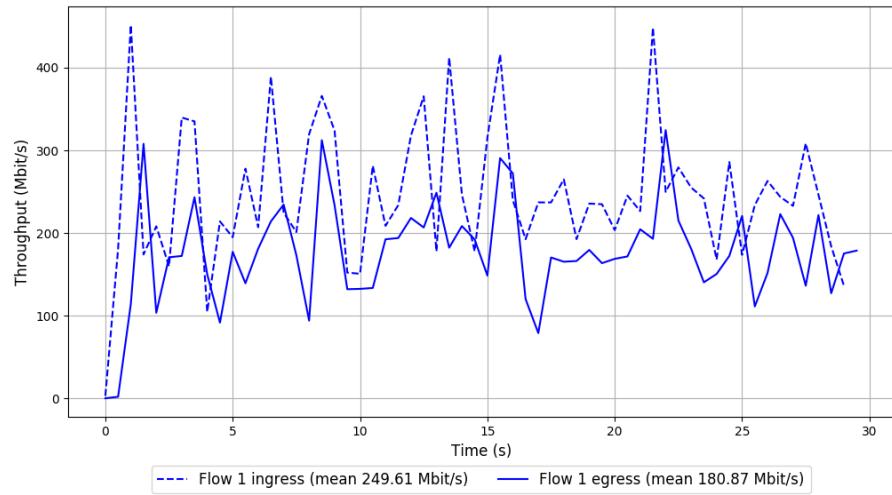


Run 2: Statistics of Indigo-MusesT

```
Start at: 2018-12-11 09:48:10
End at: 2018-12-11 09:48:40
Local clock offset: -2.791 ms
Remote clock offset: -41.211 ms

# Below is generated by plot.py at 2018-12-11 12:08:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 180.87 Mbit/s
95th percentile per-packet one-way delay: 121.113 ms
Loss rate: 27.55%
-- Flow 1:
Average throughput: 180.87 Mbit/s
95th percentile per-packet one-way delay: 121.113 ms
Loss rate: 27.55%
```

Run 2: Report of Indigo-MusesT — Data Link

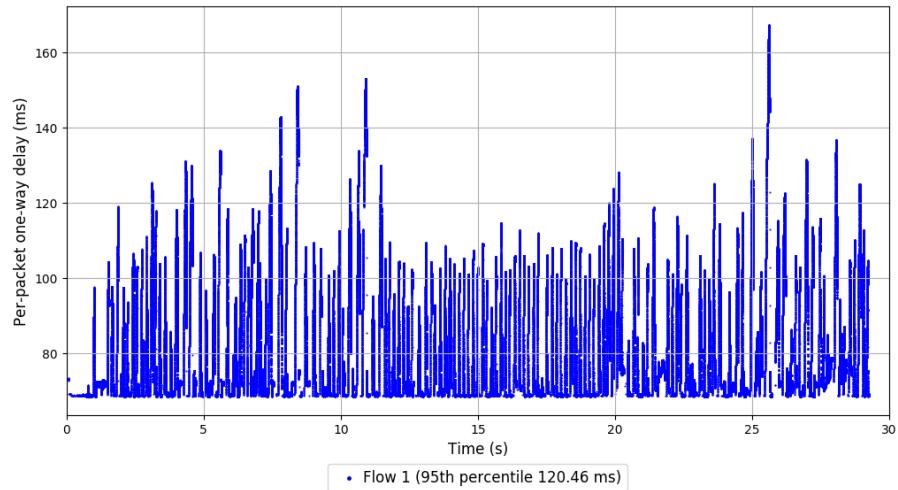
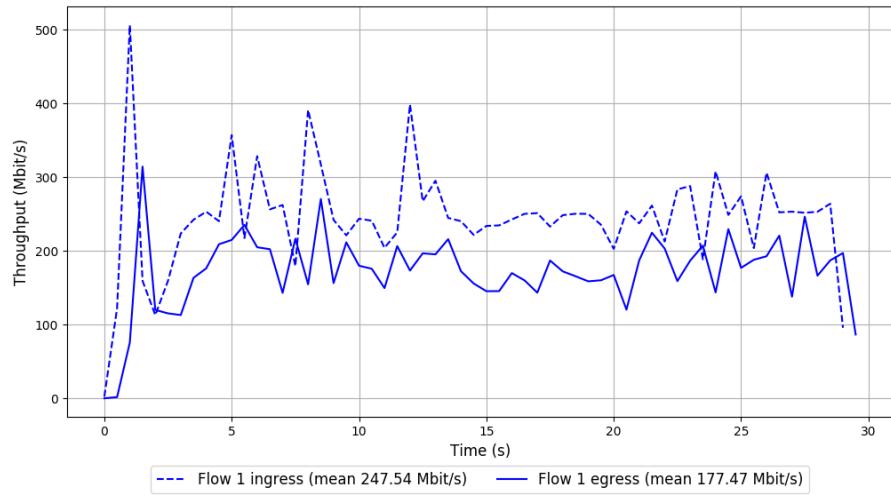


Run 3: Statistics of Indigo-MusesT

```
Start at: 2018-12-11 10:24:06
End at: 2018-12-11 10:24:36
Local clock offset: -2.719 ms
Remote clock offset: -34.702 ms

# Below is generated by plot.py at 2018-12-11 12:08:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 177.47 Mbit/s
95th percentile per-packet one-way delay: 120.458 ms
Loss rate: 28.32%
-- Flow 1:
Average throughput: 177.47 Mbit/s
95th percentile per-packet one-way delay: 120.458 ms
Loss rate: 28.32%
```

Run 3: Report of Indigo-MusesT — Data Link

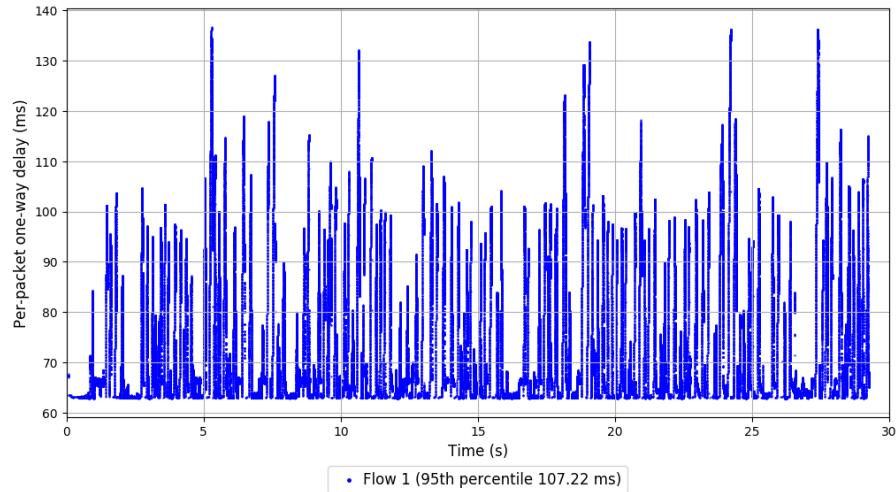
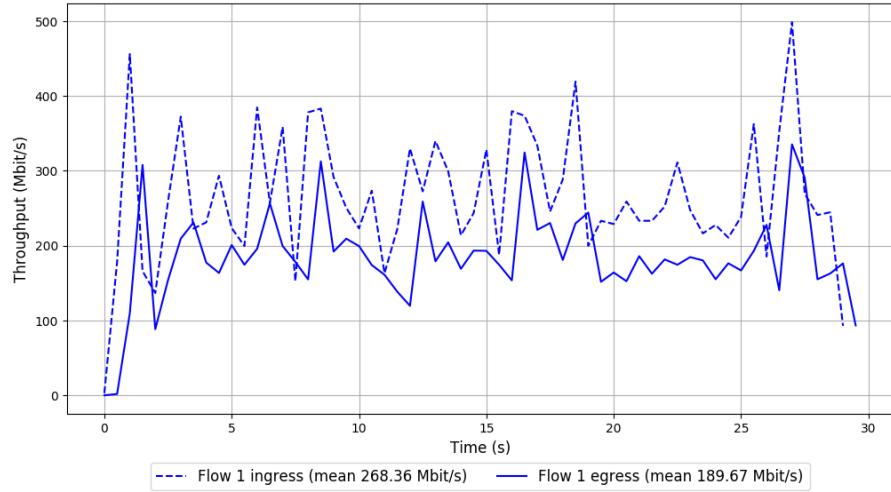


Run 4: Statistics of Indigo-MusesT

```
Start at: 2018-12-11 10:58:21
End at: 2018-12-11 10:58:51
Local clock offset: -8.909 ms
Remote clock offset: -47.138 ms

# Below is generated by plot.py at 2018-12-11 12:09:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 189.67 Mbit/s
95th percentile per-packet one-way delay: 107.215 ms
Loss rate: 29.33%
-- Flow 1:
Average throughput: 189.67 Mbit/s
95th percentile per-packet one-way delay: 107.215 ms
Loss rate: 29.33%
```

Run 4: Report of Indigo-MusesT — Data Link

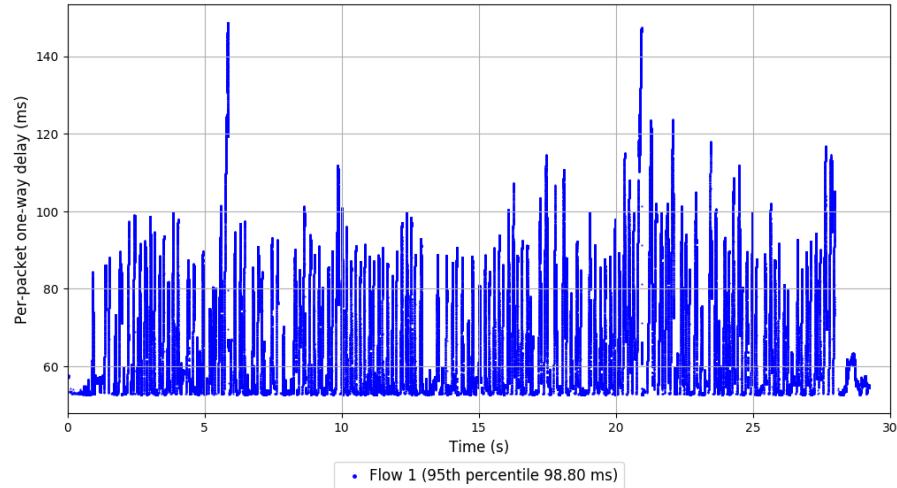
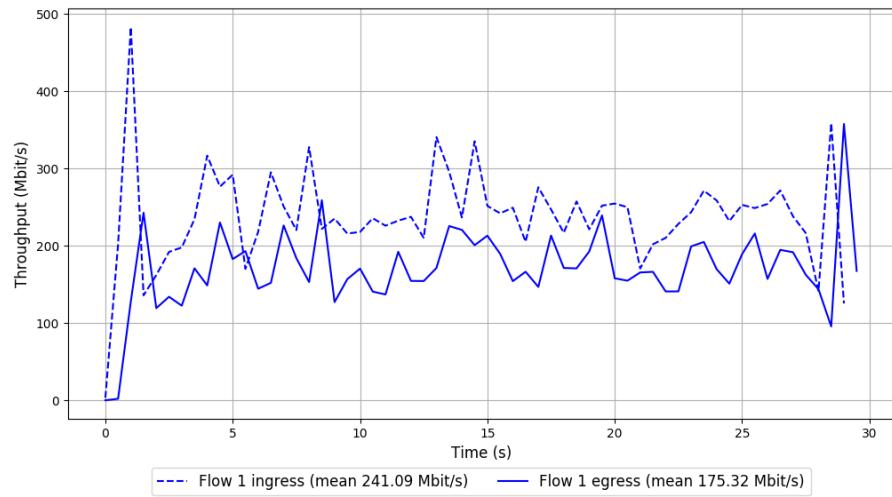


Run 5: Statistics of Indigo-MusesT

```
Start at: 2018-12-11 11:34:12
End at: 2018-12-11 11:34:42
Local clock offset: 0.768 ms
Remote clock offset: -44.647 ms

# Below is generated by plot.py at 2018-12-11 12:09:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 175.32 Mbit/s
95th percentile per-packet one-way delay: 98.796 ms
Loss rate: 27.28%
-- Flow 1:
Average throughput: 175.32 Mbit/s
95th percentile per-packet one-way delay: 98.796 ms
Loss rate: 27.28%
```

Run 5: Report of Indigo-MusesT — Data Link

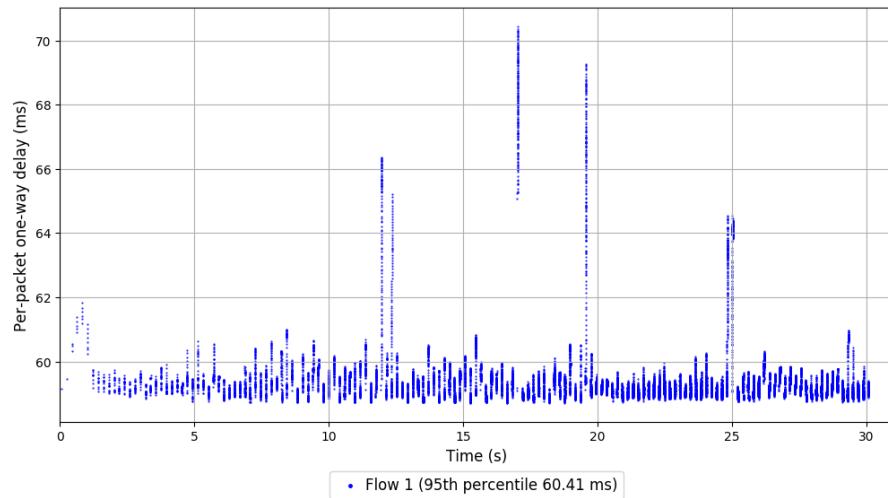
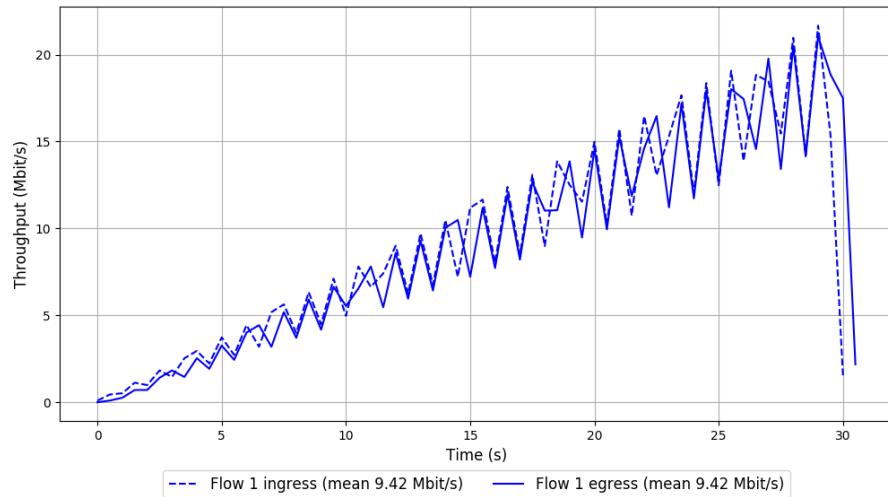


```
Run 1: Statistics of LEDBAT
```

```
Start at: 2018-12-11 09:01:52
End at: 2018-12-11 09:02:22
Local clock offset: -1.407 ms
Remote clock offset: -38.173 ms

# Below is generated by plot.py at 2018-12-11 12:09:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.42 Mbit/s
95th percentile per-packet one-way delay: 60.410 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.42 Mbit/s
95th percentile per-packet one-way delay: 60.410 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

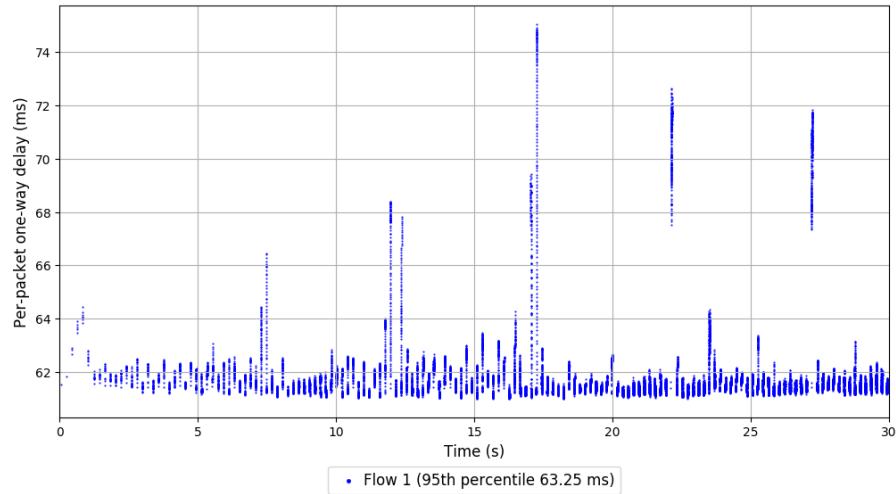
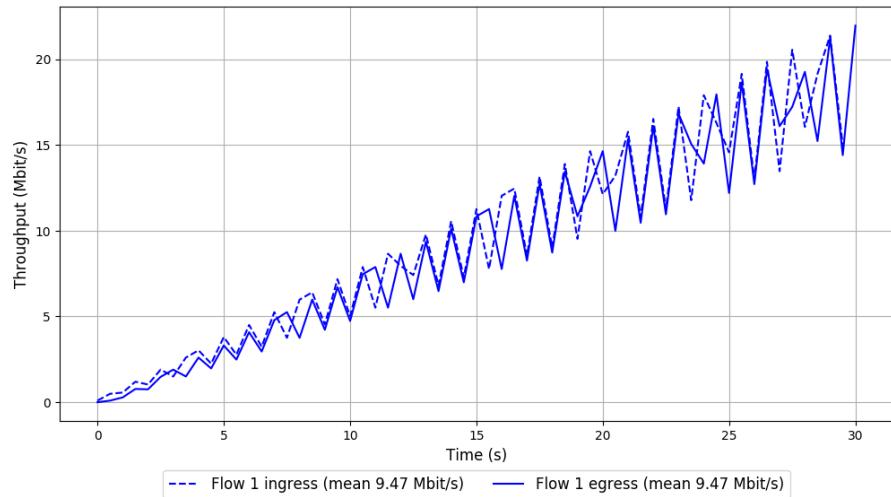


Run 2: Statistics of LEDBAT

```
Start at: 2018-12-11 09:37:48
End at: 2018-12-11 09:38:18
Local clock offset: -8.441 ms
Remote clock offset: -38.416 ms

# Below is generated by plot.py at 2018-12-11 12:09:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.47 Mbit/s
95th percentile per-packet one-way delay: 63.250 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.47 Mbit/s
95th percentile per-packet one-way delay: 63.250 ms
Loss rate: 0.00%
```

Run 2: Report of LEDBAT — Data Link

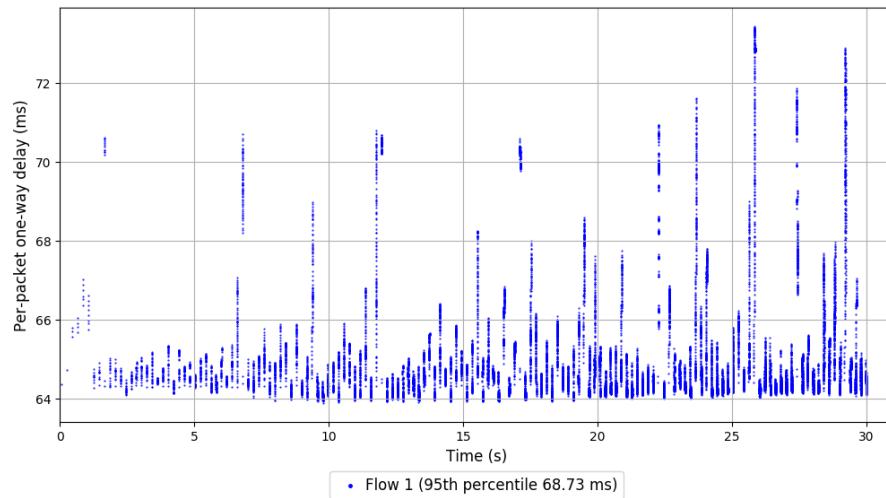
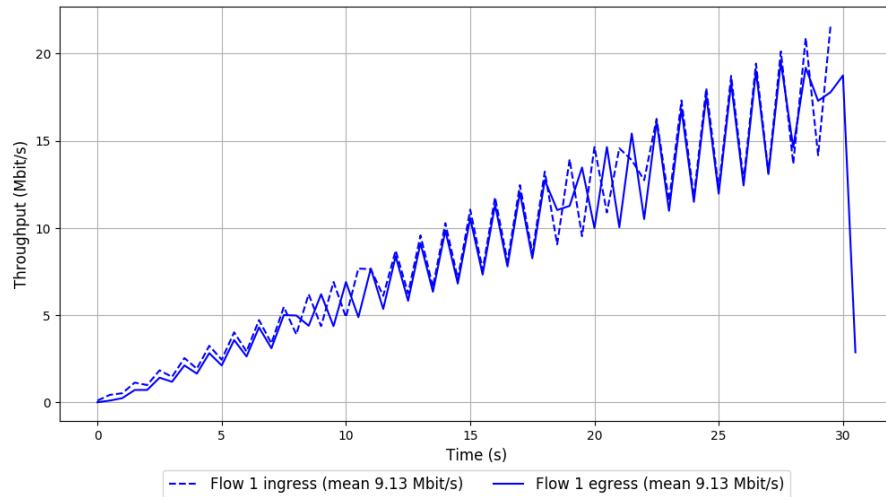


Run 3: Statistics of LEDBAT

```
Start at: 2018-12-11 10:08:01
End at: 2018-12-11 10:08:31
Local clock offset: -5.548 ms
Remote clock offset: -39.139 ms

# Below is generated by plot.py at 2018-12-11 12:09:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.13 Mbit/s
95th percentile per-packet one-way delay: 68.734 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.13 Mbit/s
95th percentile per-packet one-way delay: 68.734 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link

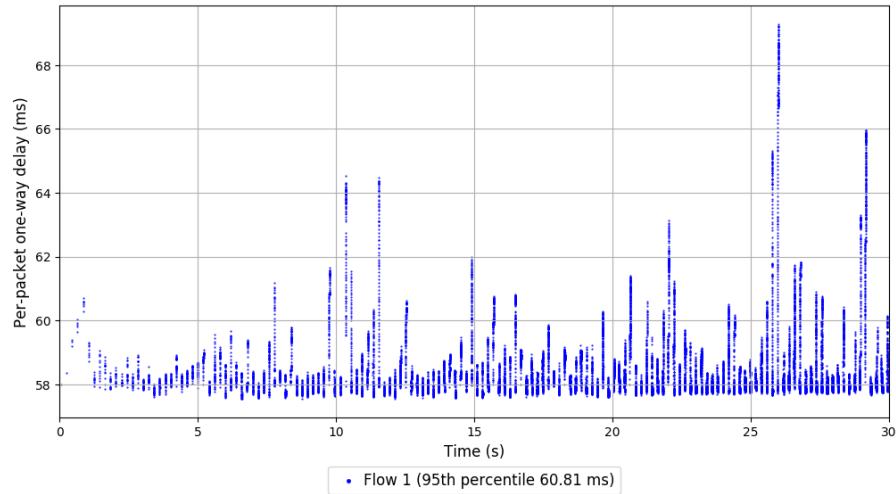
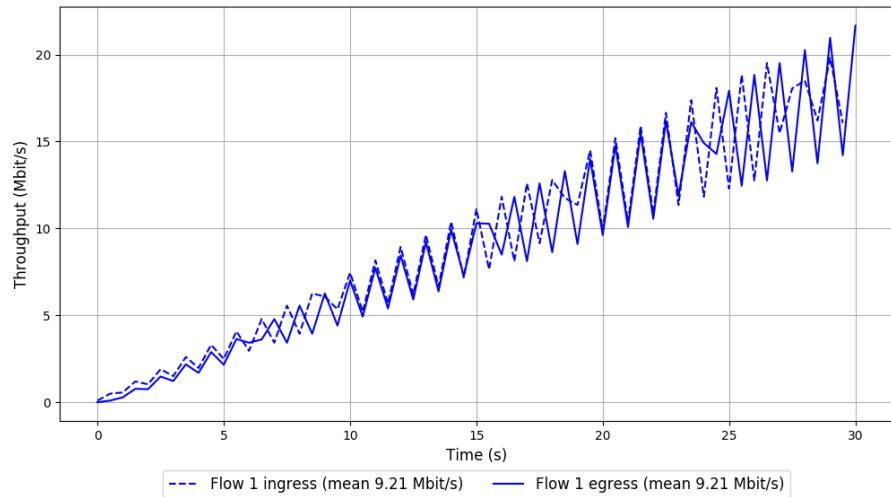


Run 4: Statistics of LEDBAT

```
Start at: 2018-12-11 10:38:17
End at: 2018-12-11 10:38:47
Local clock offset: -0.265 ms
Remote clock offset: -41.801 ms

# Below is generated by plot.py at 2018-12-11 12:09:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.21 Mbit/s
95th percentile per-packet one-way delay: 60.808 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.21 Mbit/s
95th percentile per-packet one-way delay: 60.808 ms
Loss rate: 0.00%
```

Run 4: Report of LEDBAT — Data Link

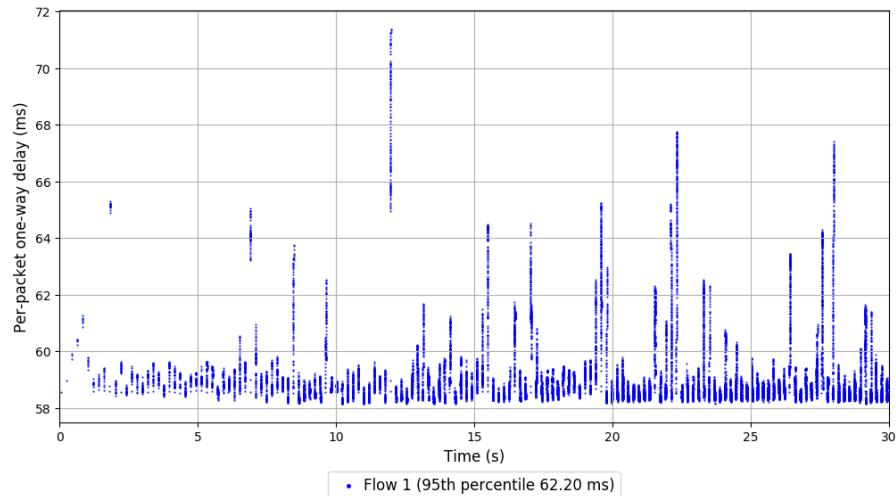
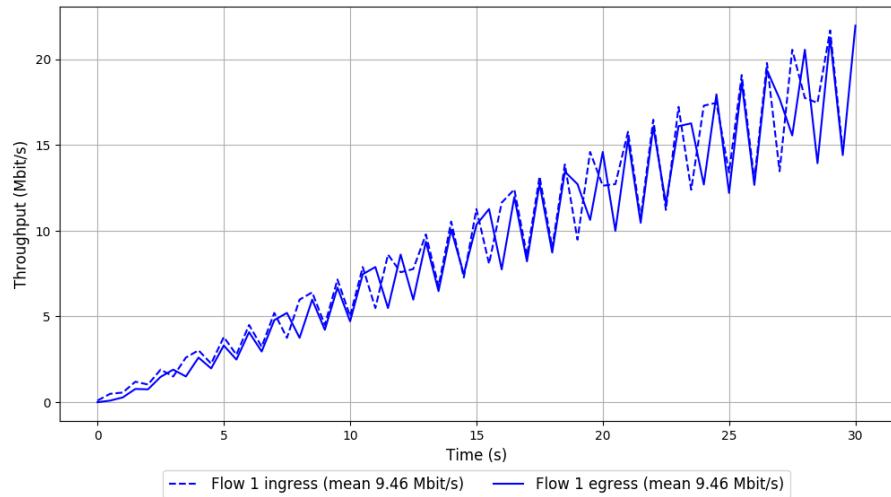


Run 5: Statistics of LEDBAT

```
Start at: 2018-12-11 11:18:06
End at: 2018-12-11 11:18:36
Local clock offset: 0.005 ms
Remote clock offset: -40.142 ms

# Below is generated by plot.py at 2018-12-11 12:09:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.46 Mbit/s
95th percentile per-packet one-way delay: 62.205 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.46 Mbit/s
95th percentile per-packet one-way delay: 62.205 ms
Loss rate: 0.00%
```

Run 5: Report of LEDBAT — Data Link

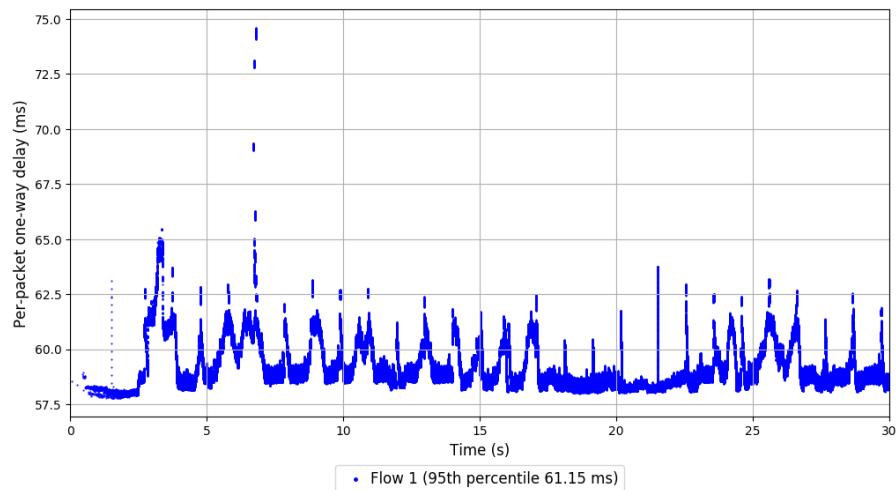
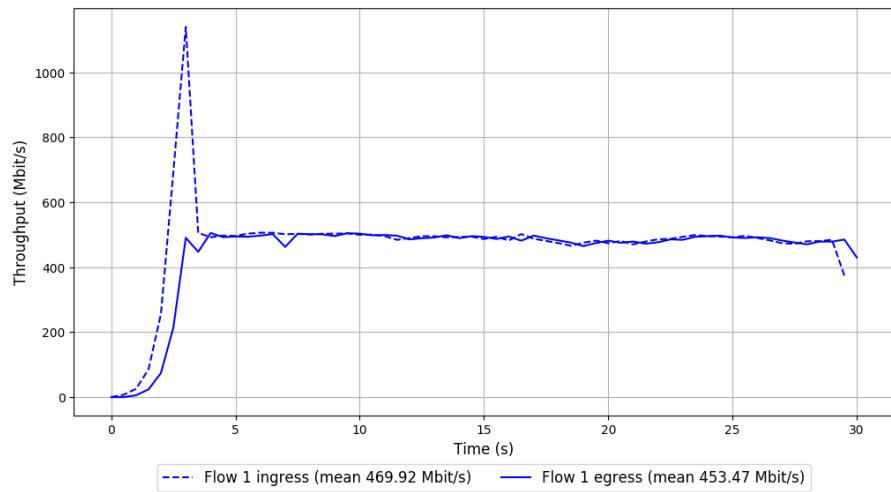


```
Run 1: Statistics of PCC-Allegro
```

```
Start at: 2018-12-11 09:31:25
End at: 2018-12-11 09:31:55
Local clock offset: -2.53 ms
Remote clock offset: -40.017 ms

# Below is generated by plot.py at 2018-12-11 12:12:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 453.47 Mbit/s
95th percentile per-packet one-way delay: 61.145 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 453.47 Mbit/s
95th percentile per-packet one-way delay: 61.145 ms
Loss rate: 3.50%
```

Run 1: Report of PCC-Allegro — Data Link

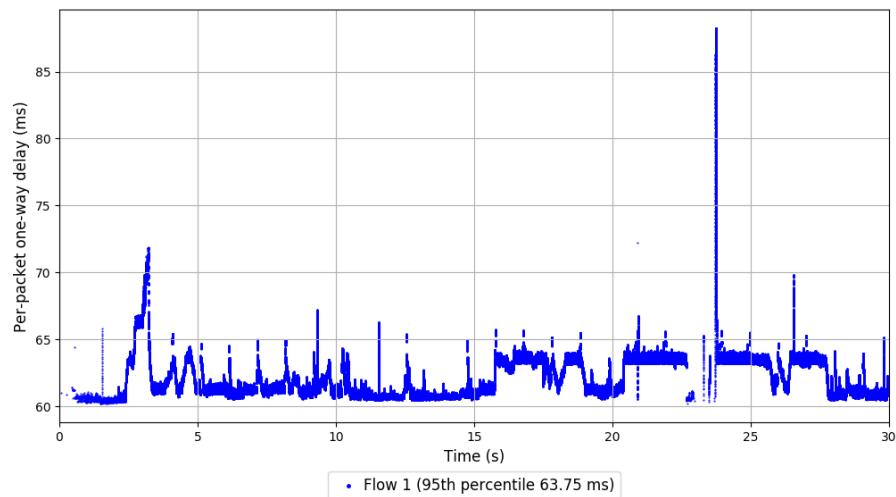
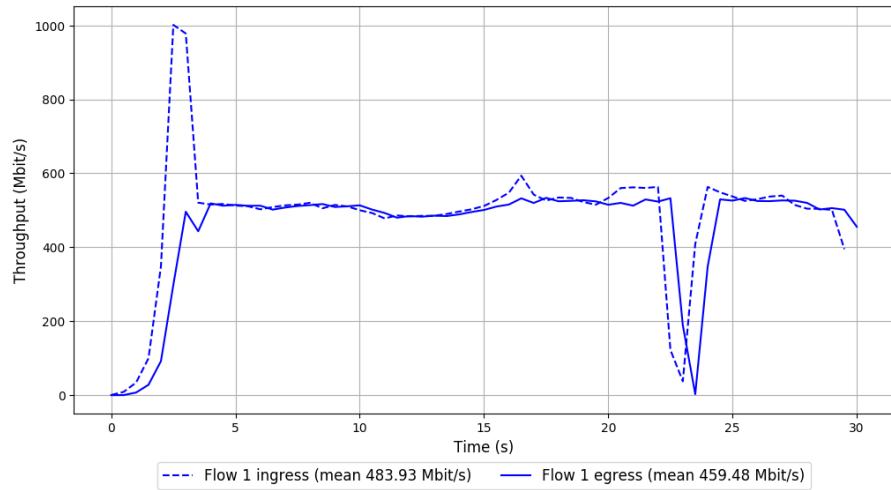


Run 2: Statistics of PCC-Allegro

```
Start at: 2018-12-11 10:01:44
End at: 2018-12-11 10:02:14
Local clock offset: -4.406 ms
Remote clock offset: -39.538 ms

# Below is generated by plot.py at 2018-12-11 12:12:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 459.48 Mbit/s
95th percentile per-packet one-way delay: 63.752 ms
Loss rate: 5.05%
-- Flow 1:
Average throughput: 459.48 Mbit/s
95th percentile per-packet one-way delay: 63.752 ms
Loss rate: 5.05%
```

Run 2: Report of PCC-Allegro — Data Link

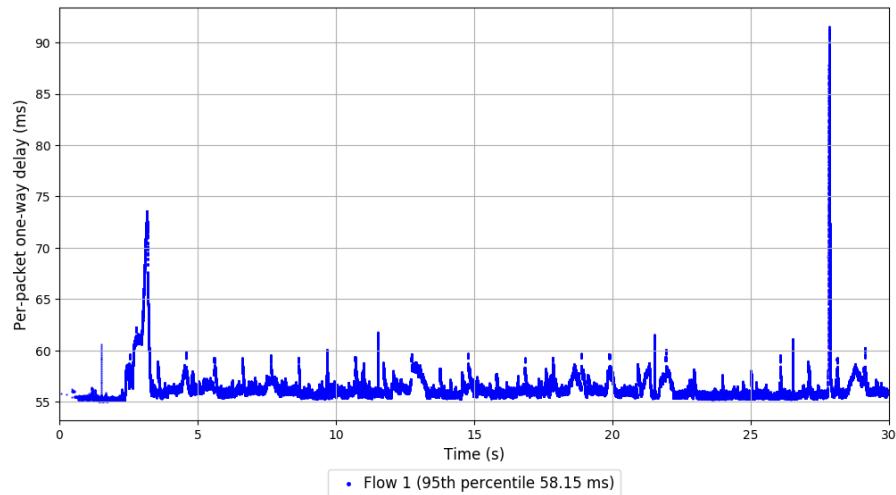
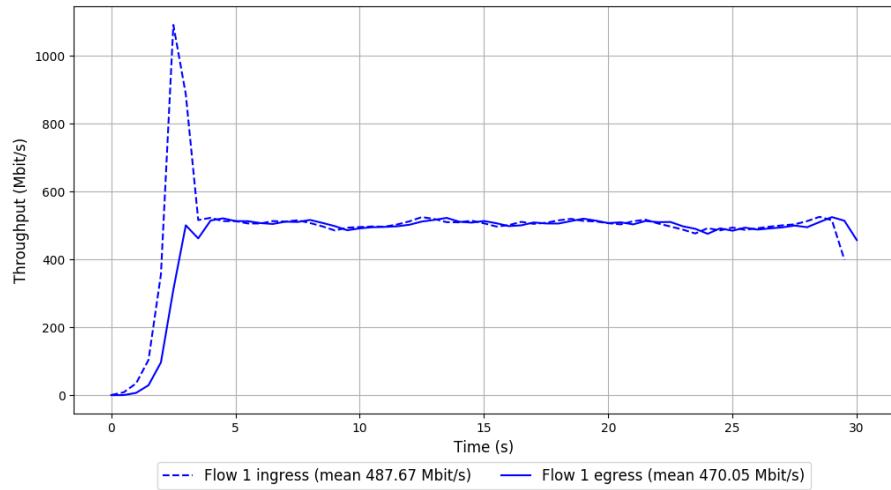


Run 3: Statistics of PCC-Allegro

```
Start at: 2018-12-11 10:32:00
End at: 2018-12-11 10:32:30
Local clock offset: -0.042 ms
Remote clock offset: -41.774 ms

# Below is generated by plot.py at 2018-12-11 12:12:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 470.05 Mbit/s
95th percentile per-packet one-way delay: 58.148 ms
Loss rate: 3.61%
-- Flow 1:
Average throughput: 470.05 Mbit/s
95th percentile per-packet one-way delay: 58.148 ms
Loss rate: 3.61%
```

Run 3: Report of PCC-Allegro — Data Link

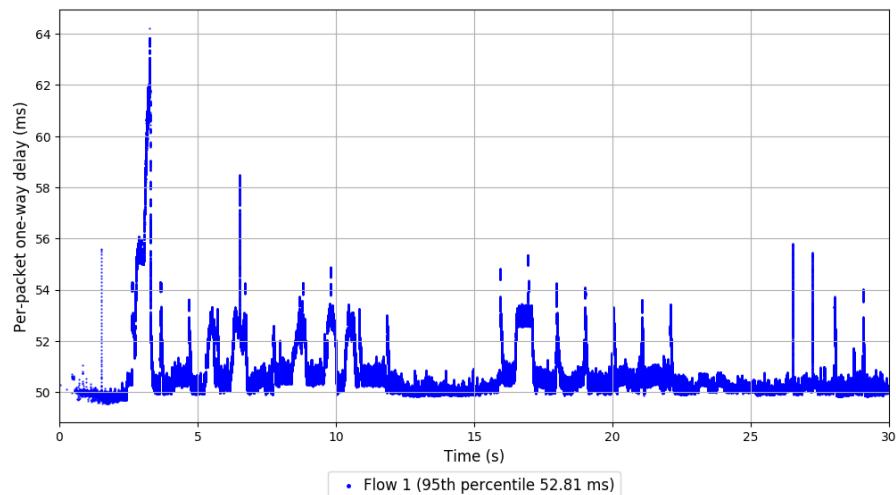
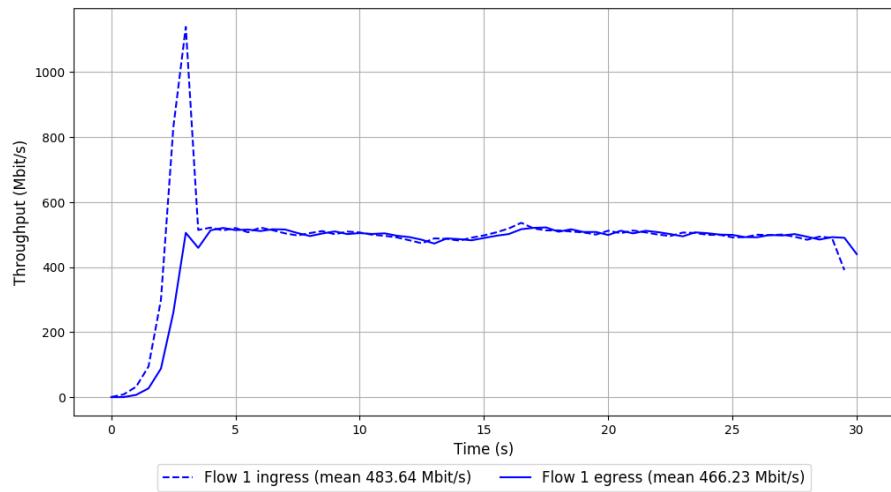


Run 4: Statistics of PCC-Allegro

```
Start at: 2018-12-11 11:11:48
End at: 2018-12-11 11:12:18
Local clock offset: 1.605 ms
Remote clock offset: -47.503 ms

# Below is generated by plot.py at 2018-12-11 12:12:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 466.23 Mbit/s
95th percentile per-packet one-way delay: 52.808 ms
Loss rate: 3.60%
-- Flow 1:
Average throughput: 466.23 Mbit/s
95th percentile per-packet one-way delay: 52.808 ms
Loss rate: 3.60%
```

Run 4: Report of PCC-Allegro — Data Link

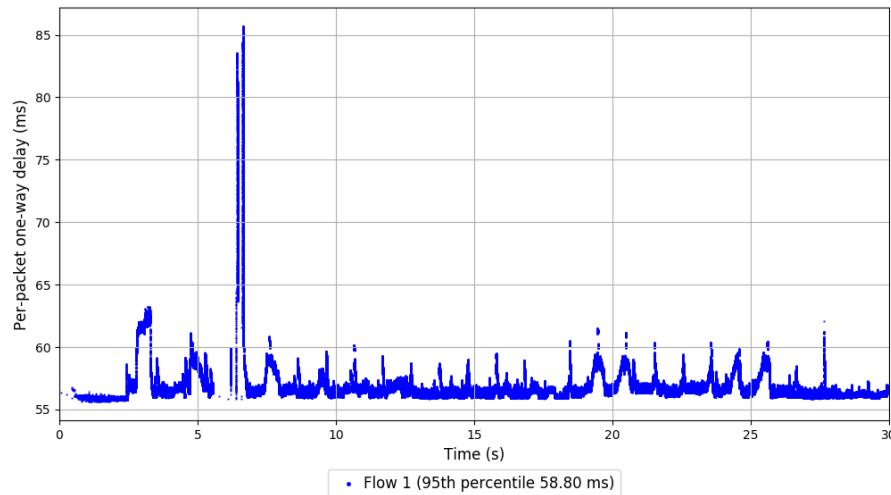
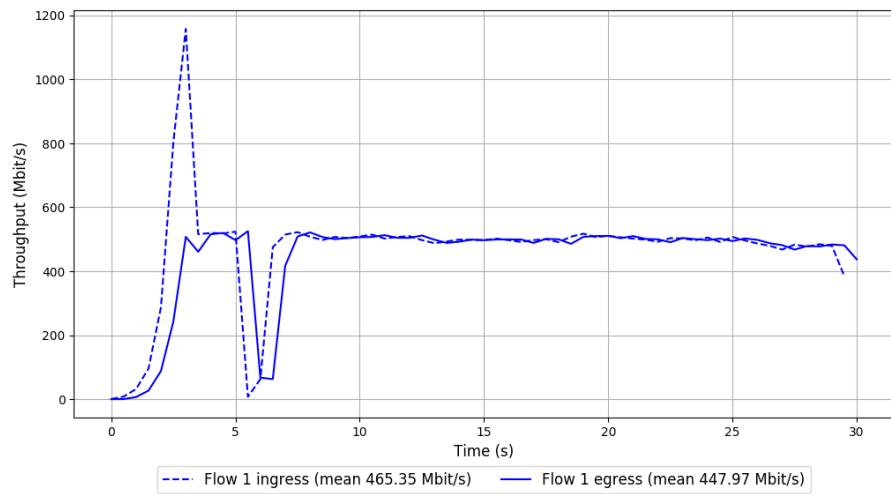


Run 5: Statistics of PCC-Allegro

```
Start at: 2018-12-11 11:47:54
End at: 2018-12-11 11:48:24
Local clock offset: -1.059 ms
Remote clock offset: -43.907 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 447.97 Mbit/s
95th percentile per-packet one-way delay: 58.799 ms
Loss rate: 3.74%
-- Flow 1:
Average throughput: 447.97 Mbit/s
95th percentile per-packet one-way delay: 58.799 ms
Loss rate: 3.74%
```

Run 5: Report of PCC-Allegro — Data Link

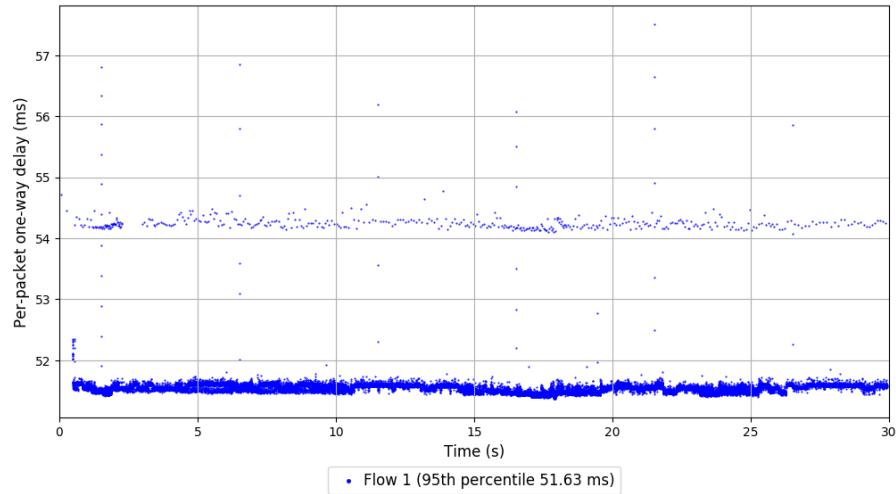
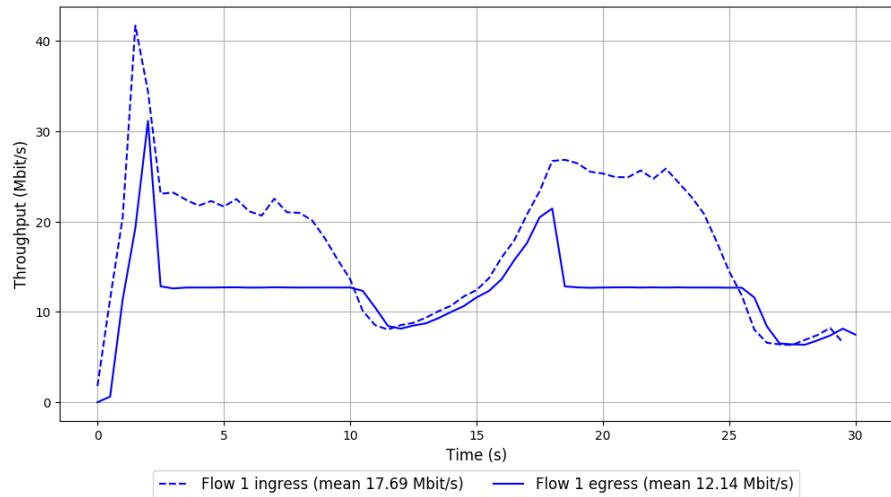


Run 1: Statistics of PCC-Expr

```
Start at: 2018-12-11 09:20:41
End at: 2018-12-11 09:21:11
Local clock offset: -1.591 ms
Remote clock offset: -44.55 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.14 Mbit/s
95th percentile per-packet one-way delay: 51.628 ms
Loss rate: 31.39%
-- Flow 1:
Average throughput: 12.14 Mbit/s
95th percentile per-packet one-way delay: 51.628 ms
Loss rate: 31.39%
```

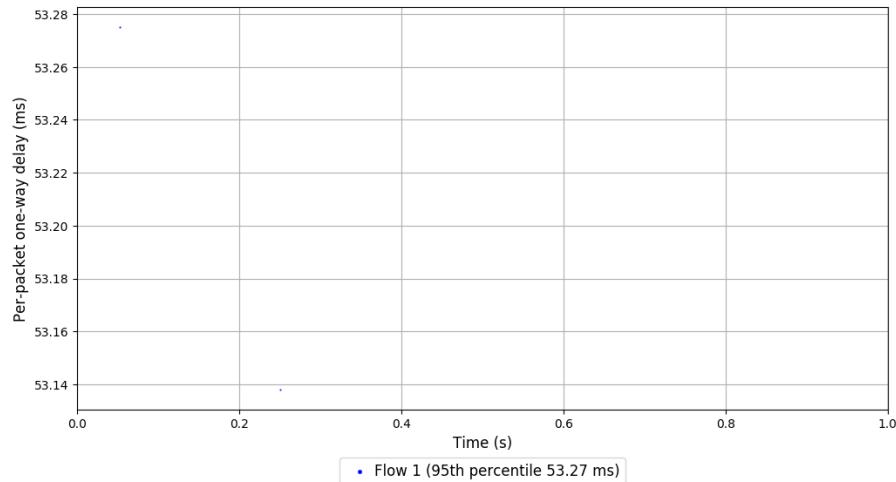
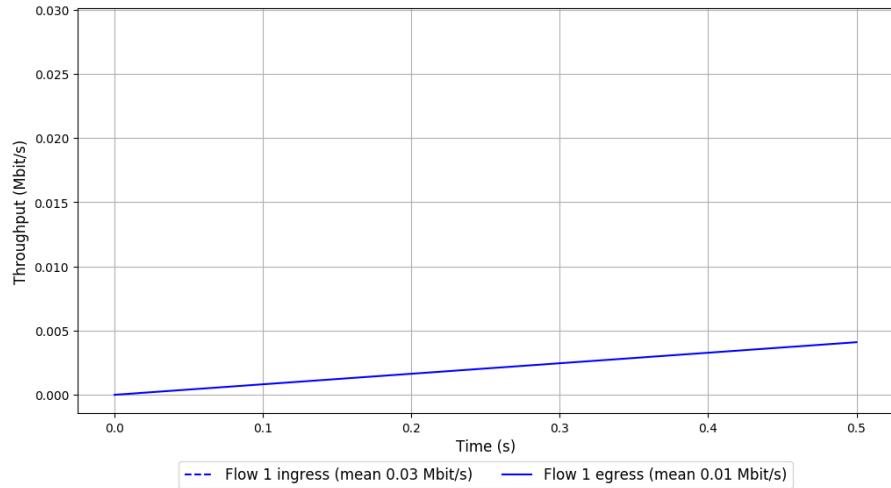
Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-12-11 09:56:25
End at: 2018-12-11 09:56:55
Local clock offset: -1.959 ms
Remote clock offset: -48.041 ms

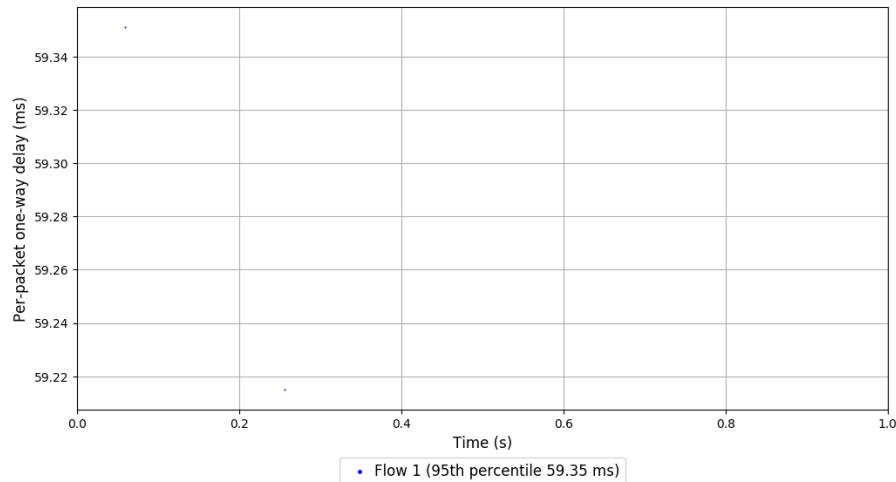
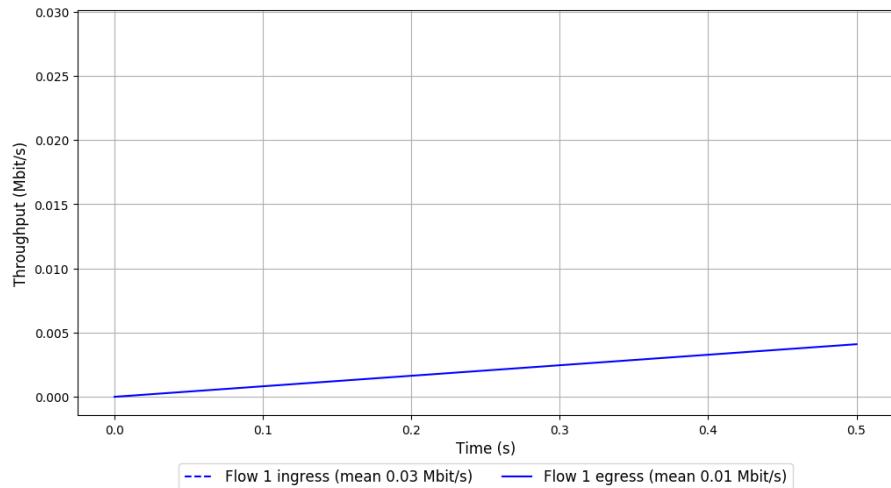
Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-12-11 10:26:49
End at: 2018-12-11 10:27:19
Local clock offset: 0.056 ms
Remote clock offset: -38.636 ms

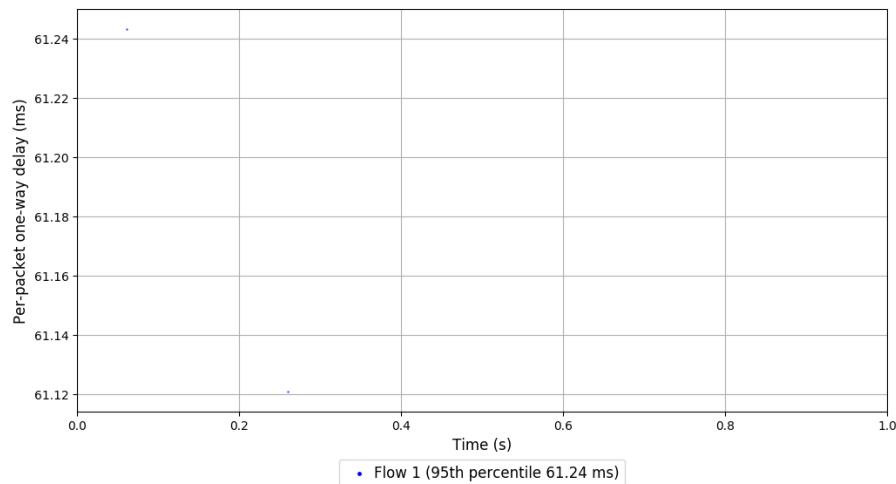
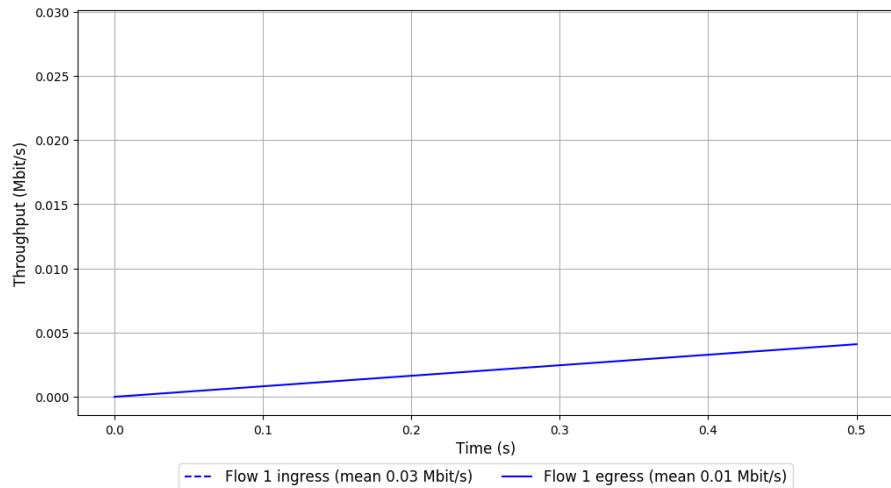
Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-12-11 11:06:38
End at: 2018-12-11 11:07:08
Local clock offset: 1.748 ms
Remote clock offset: -38.929 ms

Run 4: Report of PCC-Expr — Data Link

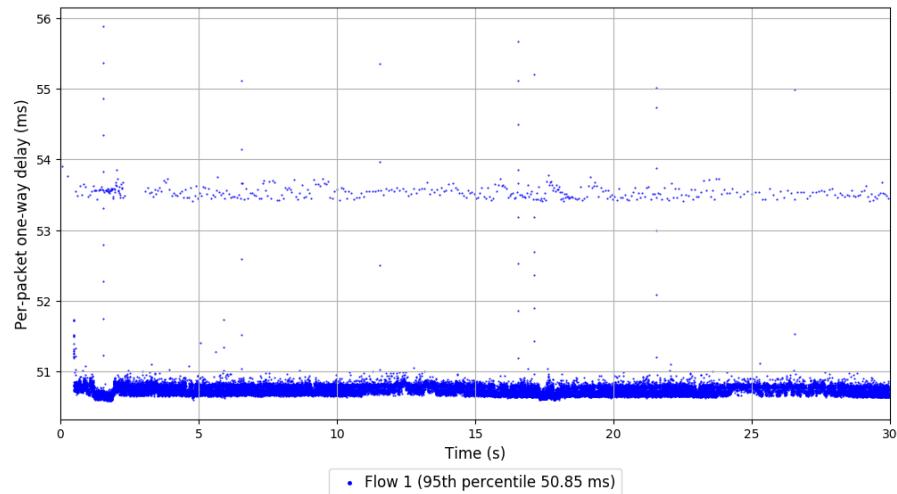
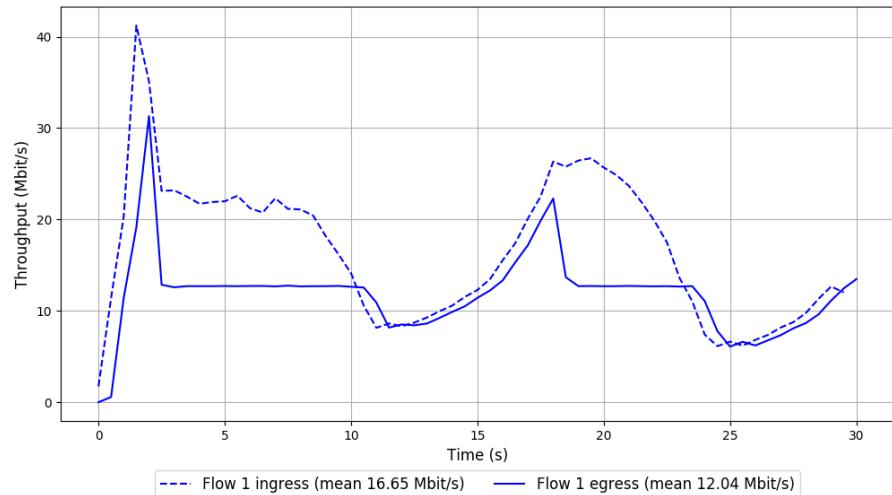


Run 5: Statistics of PCC-Expr

```
Start at: 2018-12-11 11:36:55
End at: 2018-12-11 11:37:25
Local clock offset: -0.627 ms
Remote clock offset: -47.946 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.04 Mbit/s
95th percentile per-packet one-way delay: 50.853 ms
Loss rate: 27.69%
-- Flow 1:
Average throughput: 12.04 Mbit/s
95th percentile per-packet one-way delay: 50.853 ms
Loss rate: 27.69%
```

Run 5: Report of PCC-Expr — Data Link

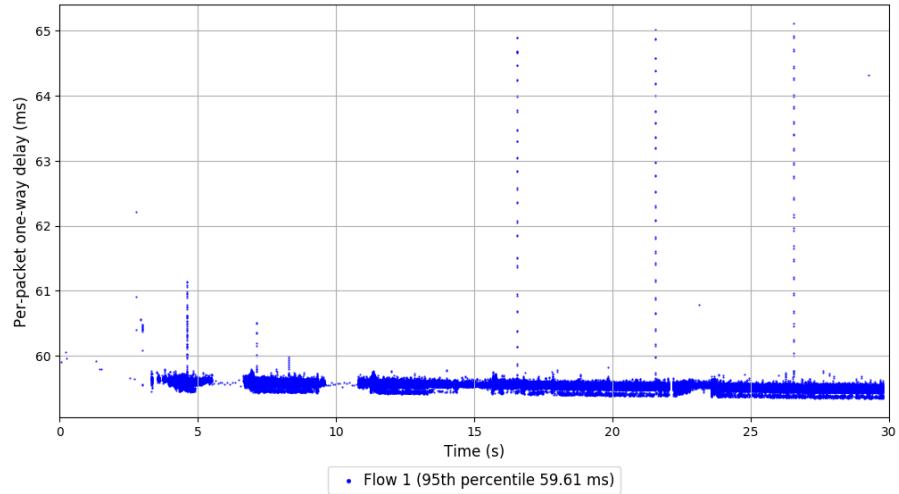
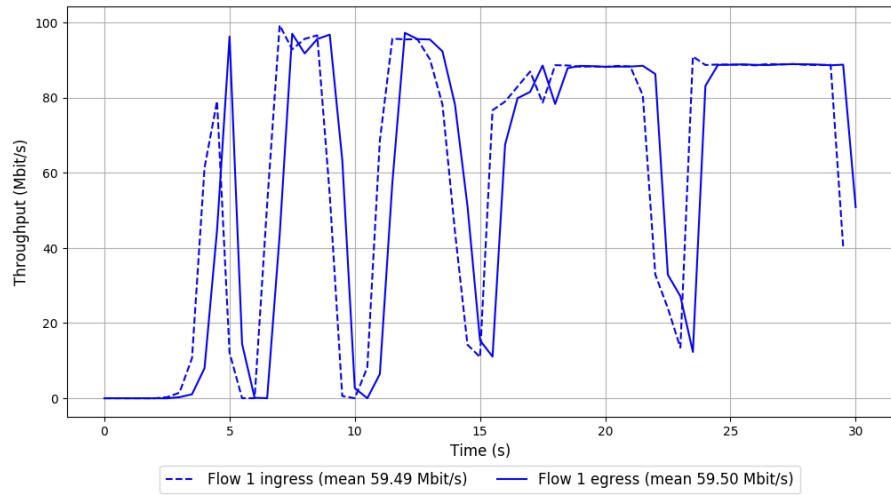


```
Run 1: Statistics of QUIC Cubic

Start at: 2018-12-11 09:32:59
End at: 2018-12-11 09:38:29
Local clock offset: -7.246 ms
Remote clock offset: -40.127 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.50 Mbit/s
95th percentile per-packet one-way delay: 59.611 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 59.50 Mbit/s
95th percentile per-packet one-way delay: 59.611 ms
Loss rate: 0.00%
```

Run 1: Report of QUIC Cubic — Data Link

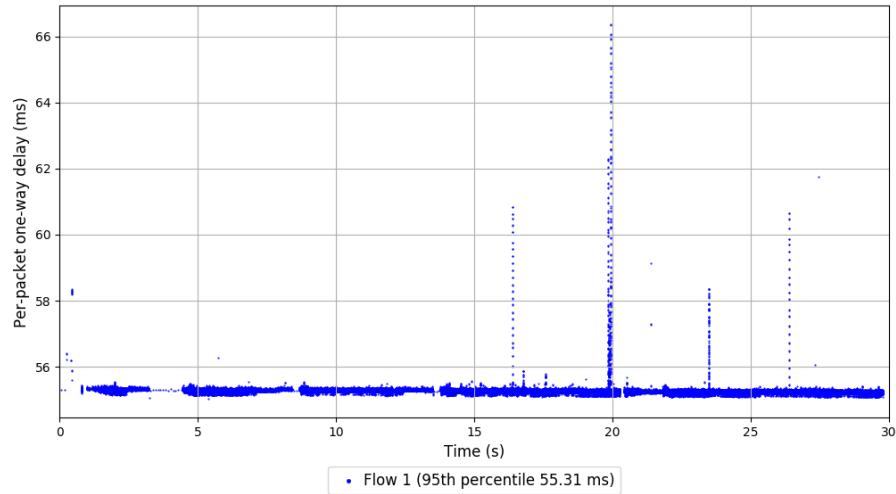
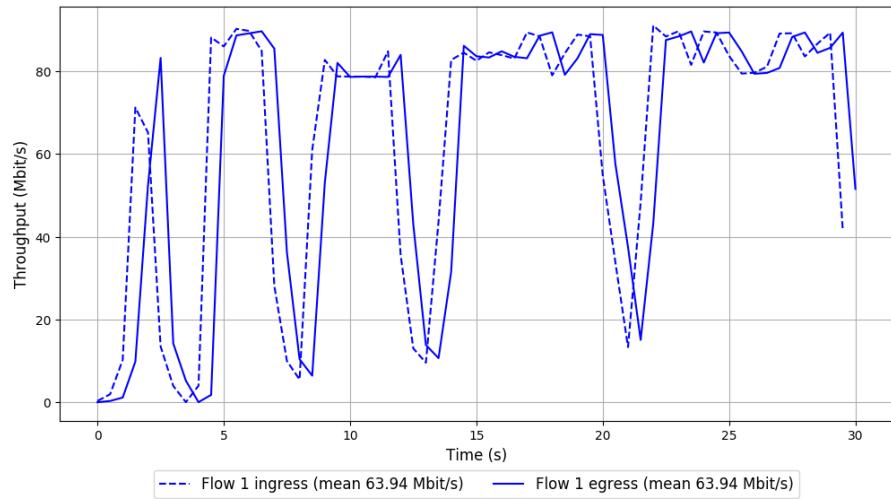


Run 2: Statistics of QUIC Cubic

```
Start at: 2018-12-11 10:03:10
End at: 2018-12-11 10:03:40
Local clock offset: -1.96 ms
Remote clock offset: -42.258 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.94 Mbit/s
95th percentile per-packet one-way delay: 55.312 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.94 Mbit/s
95th percentile per-packet one-way delay: 55.312 ms
Loss rate: 0.00%
```

Run 2: Report of QUIC Cubic — Data Link

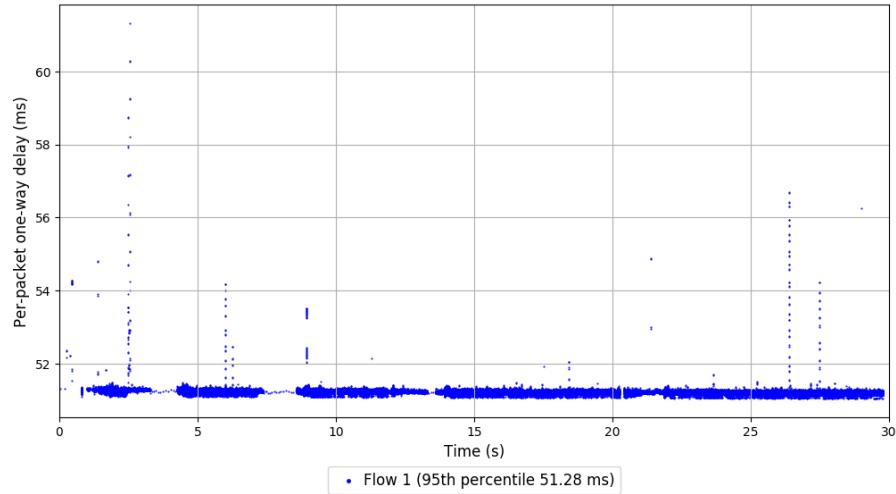
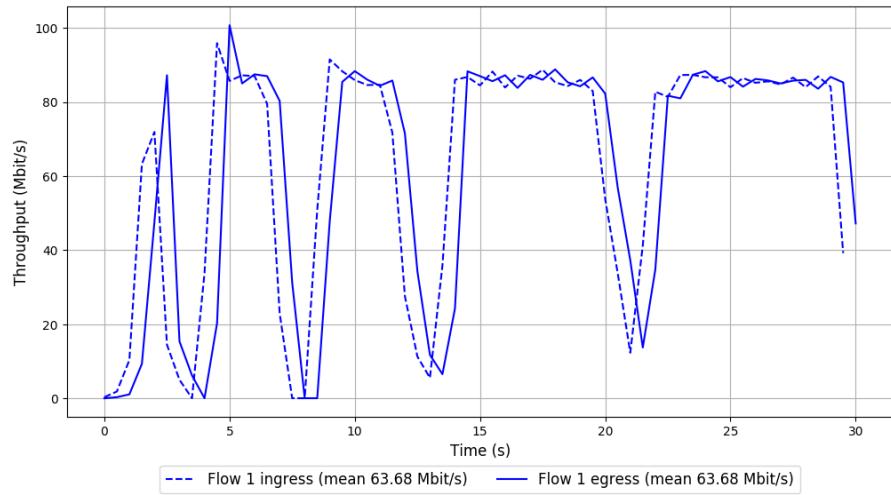


Run 3: Statistics of QUIC Cubic

```
Start at: 2018-12-11 10:33:26
End at: 2018-12-11 10:38:56
Local clock offset: -1.105 ms
Remote clock offset: -46.943 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.68 Mbit/s
95th percentile per-packet one-way delay: 51.281 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.68 Mbit/s
95th percentile per-packet one-way delay: 51.281 ms
Loss rate: 0.00%
```

Run 3: Report of QUIC Cubic — Data Link

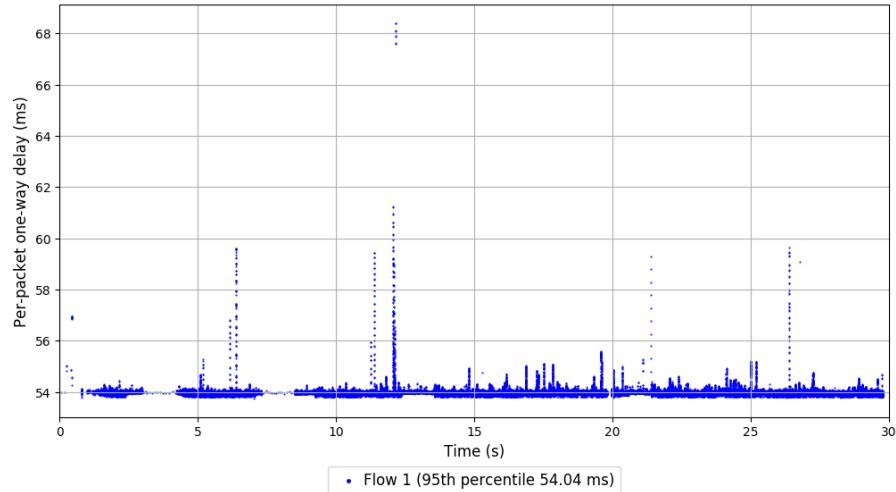
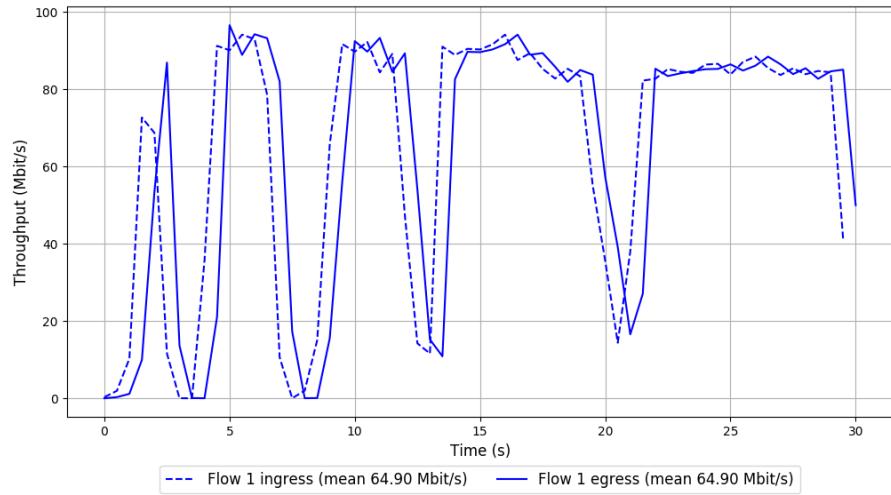


Run 4: Statistics of QUIC Cubic

```
Start at: 2018-12-11 11:13:15
End at: 2018-12-11 11:13:45
Local clock offset: 0.365 ms
Remote clock offset: -44.266 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.90 Mbit/s
95th percentile per-packet one-way delay: 54.039 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 64.90 Mbit/s
95th percentile per-packet one-way delay: 54.039 ms
Loss rate: 0.00%
```

Run 4: Report of QUIC Cubic — Data Link

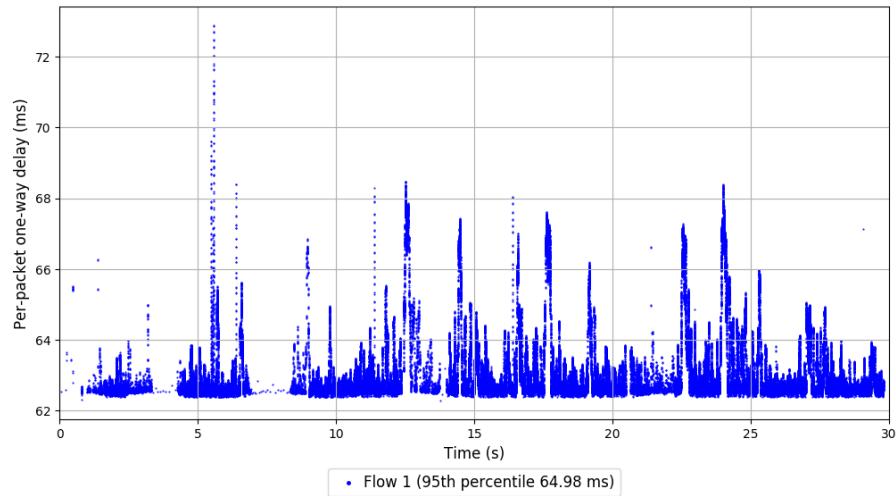
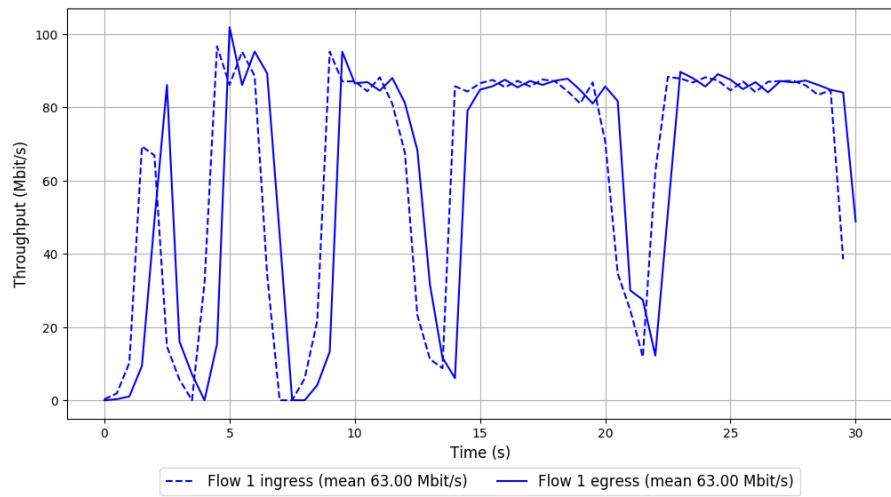


Run 5: Statistics of QUIC Cubic

```
Start at: 2018-12-11 11:49:20
End at: 2018-12-11 11:49:50
Local clock offset: -2.374 ms
Remote clock offset: -38.62 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.00 Mbit/s
95th percentile per-packet one-way delay: 64.980 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.00 Mbit/s
95th percentile per-packet one-way delay: 64.980 ms
Loss rate: 0.00%
```

Run 5: Report of QUIC Cubic — Data Link

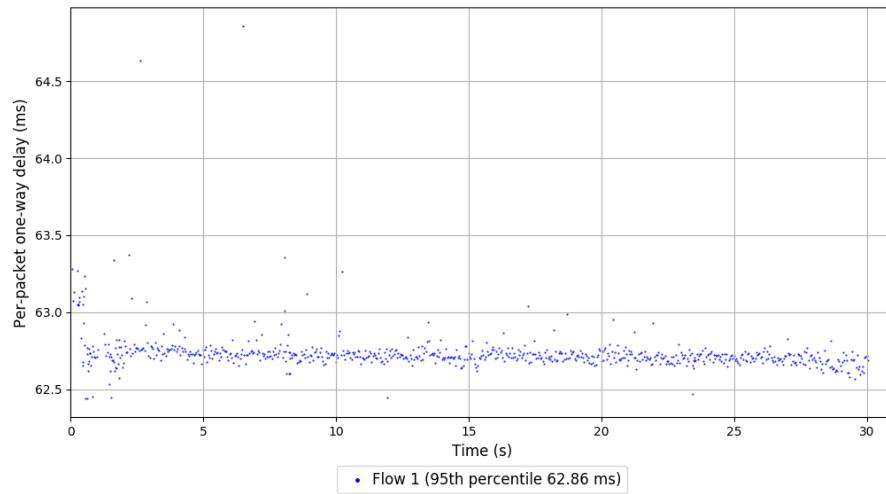
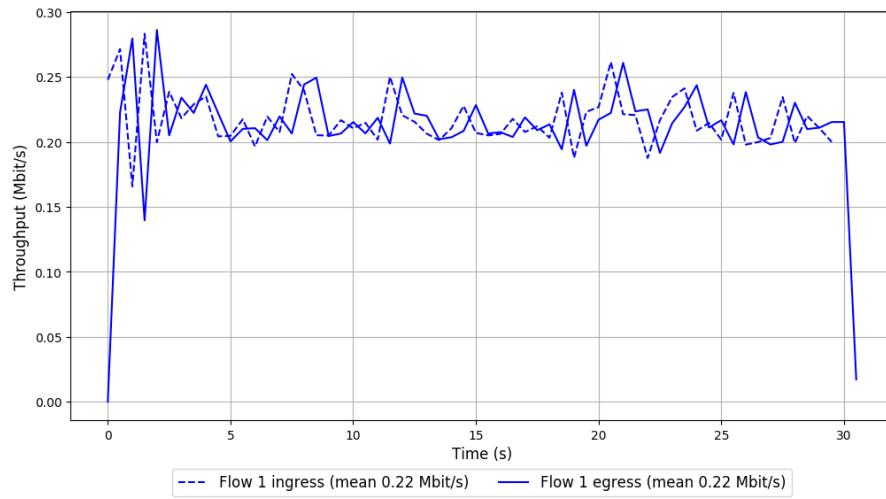


```
Run 1: Statistics of SCReAM

Start at: 2018-12-11 09:21:53
End at: 2018-12-11 09:22:23
Local clock offset: -3.02 ms
Remote clock offset: -34.495 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.861 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.861 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

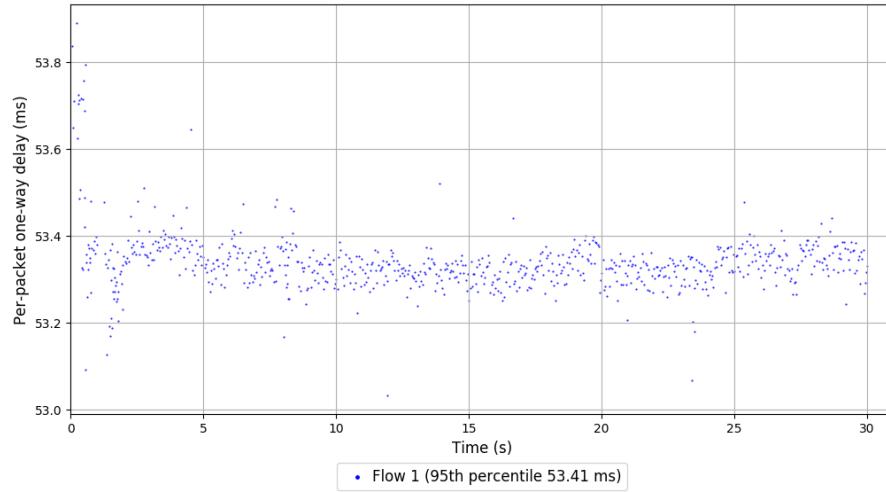
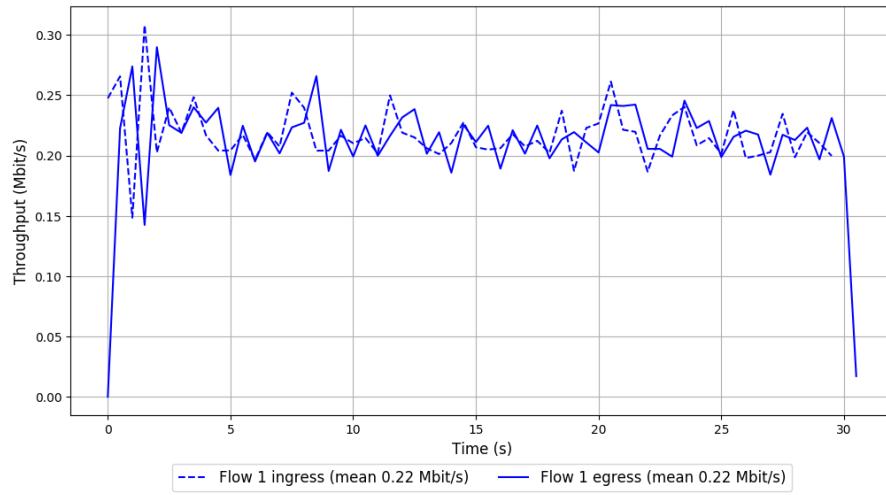


Run 2: Statistics of SCReAM

```
Start at: 2018-12-11 09:57:35
End at: 2018-12-11 09:58:05
Local clock offset: -3.932 ms
Remote clock offset: -46.974 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.412 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.412 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

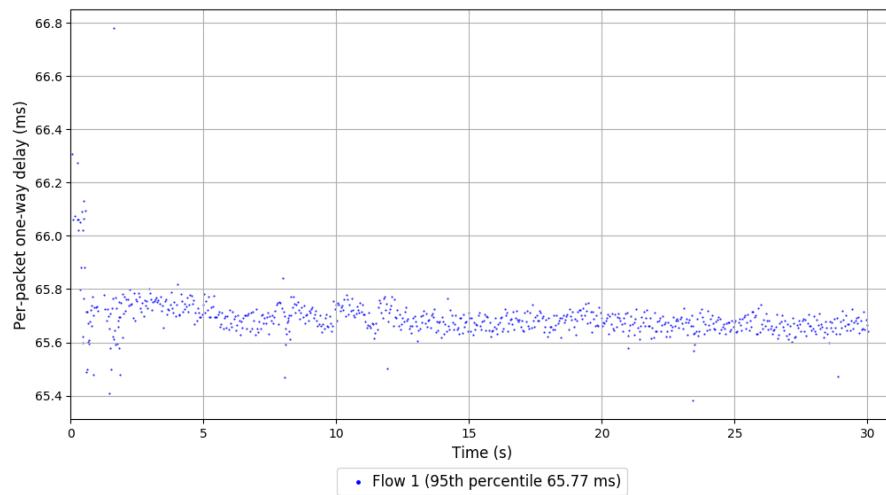
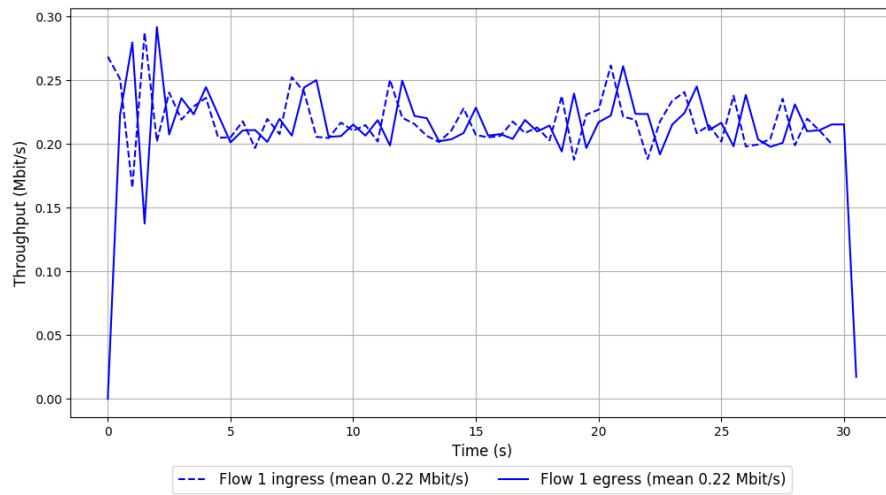


Run 3: Statistics of SCReAM

```
Start at: 2018-12-11 10:27:59
End at: 2018-12-11 10:28:29
Local clock offset: -0.449 ms
Remote clock offset: -32.565 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.771 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.771 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

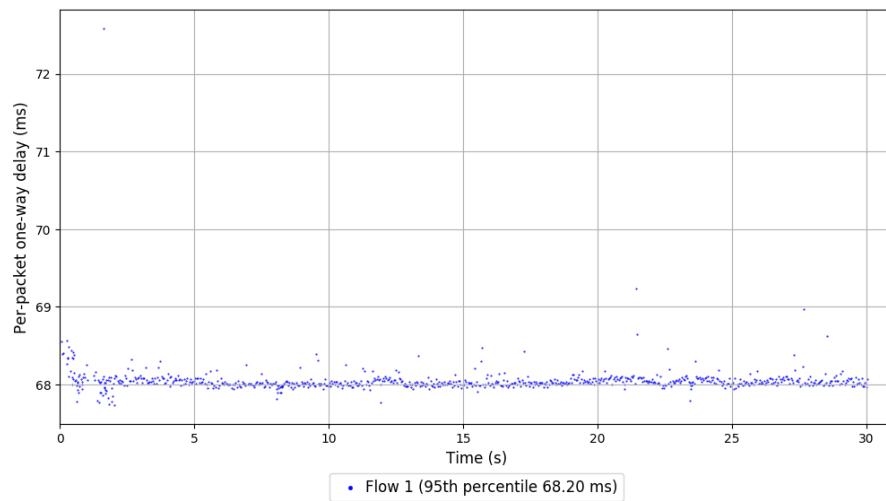
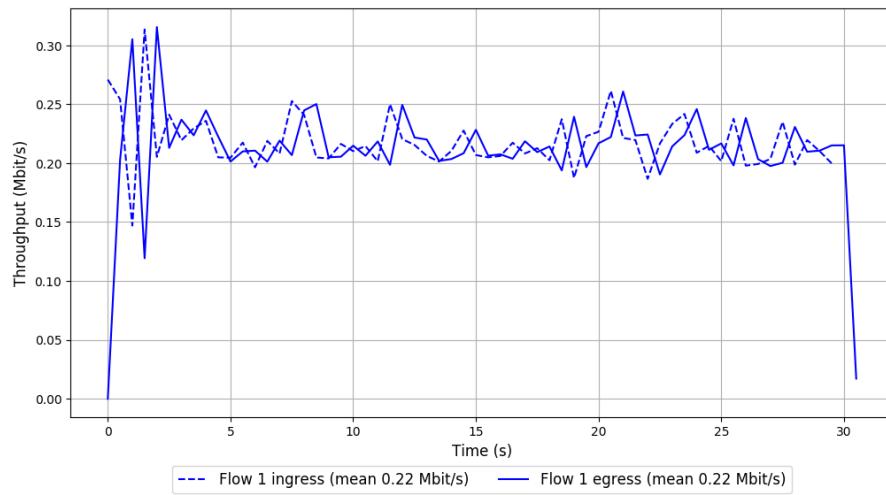


Run 4: Statistics of SCReAM

```
Start at: 2018-12-11 11:07:48
End at: 2018-12-11 11:08:18
Local clock offset: 1.233 ms
Remote clock offset: -32.3 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 68.198 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 68.198 ms
Loss rate: 0.00%
```

Run 4: Report of SCReAM — Data Link

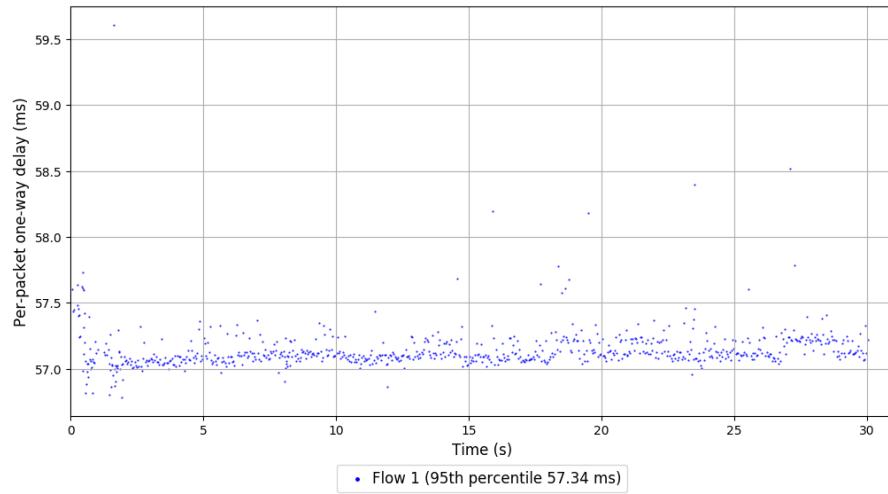
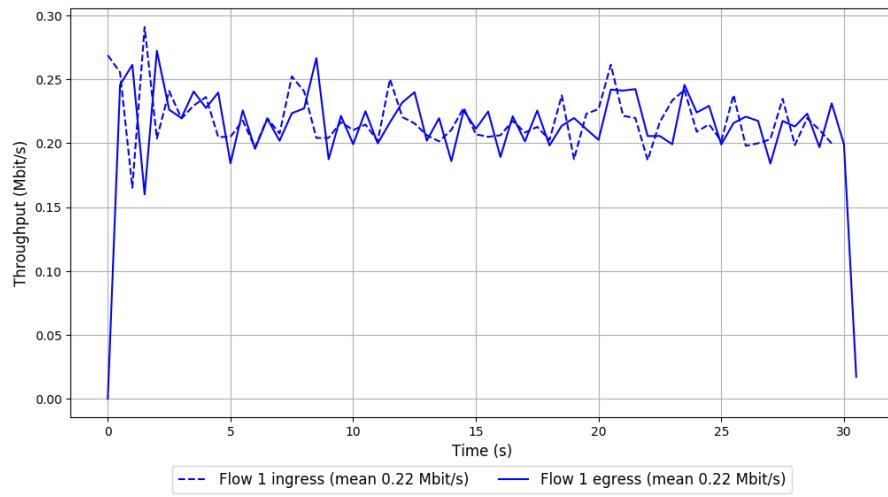


Run 5: Statistics of SCReAM

```
Start at: 2018-12-11 11:38:06
End at: 2018-12-11 11:38:36
Local clock offset: -1.209 ms
Remote clock offset: -45.075 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.342 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 57.342 ms
Loss rate: 0.00%
```

Run 5: Report of SCReAM — Data Link

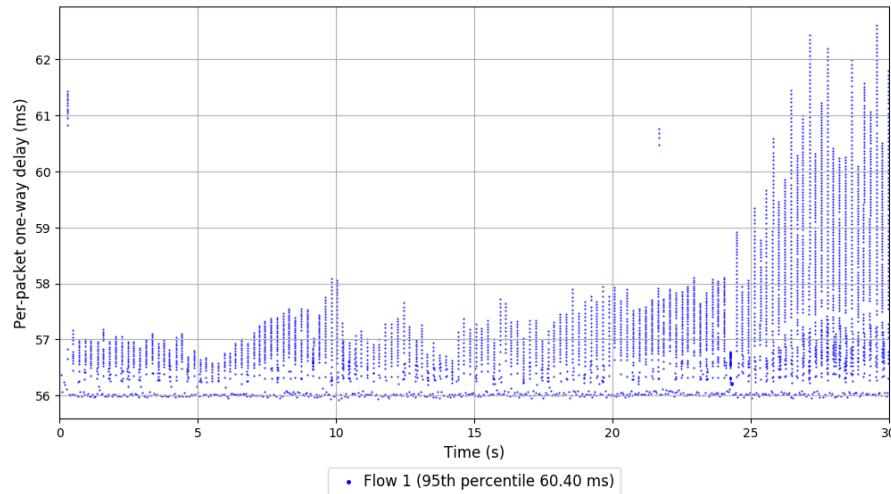
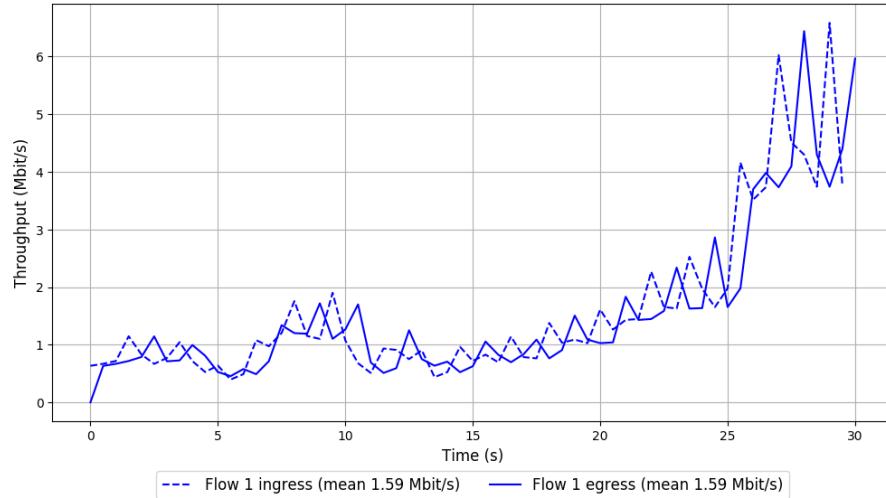


Run 1: Statistics of Sprout

```
Start at: 2018-12-11 09:12:35
End at: 2018-12-11 09:13:05
Local clock offset: -1.431 ms
Remote clock offset: -40.594 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 60.398 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 60.398 ms
Loss rate: 0.00%
```

Run 1: Report of Sprout — Data Link

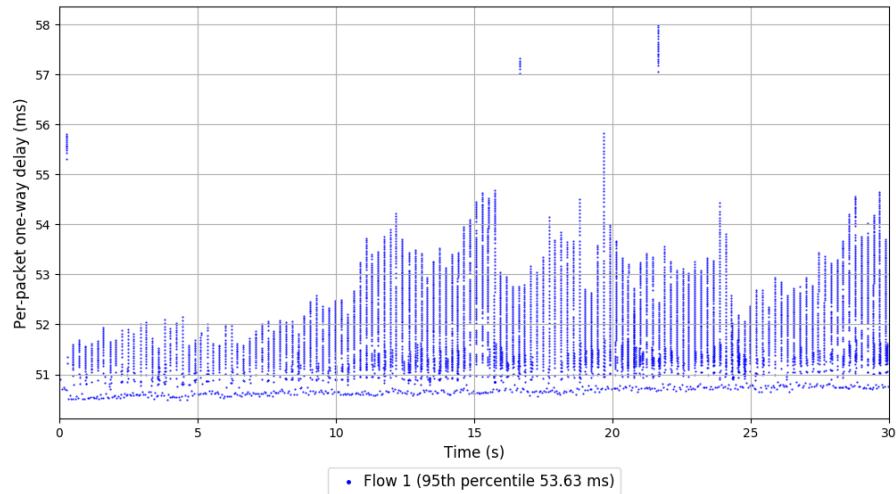
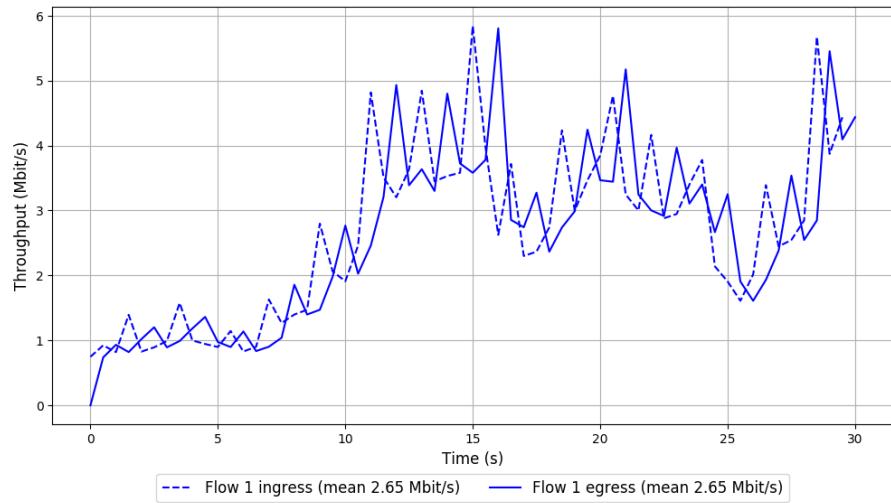


Run 2: Statistics of Sprout

```
Start at: 2018-12-11 09:42:53
End at: 2018-12-11 09:43:23
Local clock offset: -4.748 ms
Remote clock offset: -48.344 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.65 Mbit/s
95th percentile per-packet one-way delay: 53.629 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.65 Mbit/s
95th percentile per-packet one-way delay: 53.629 ms
Loss rate: 0.00%
```

Run 2: Report of Sprout — Data Link

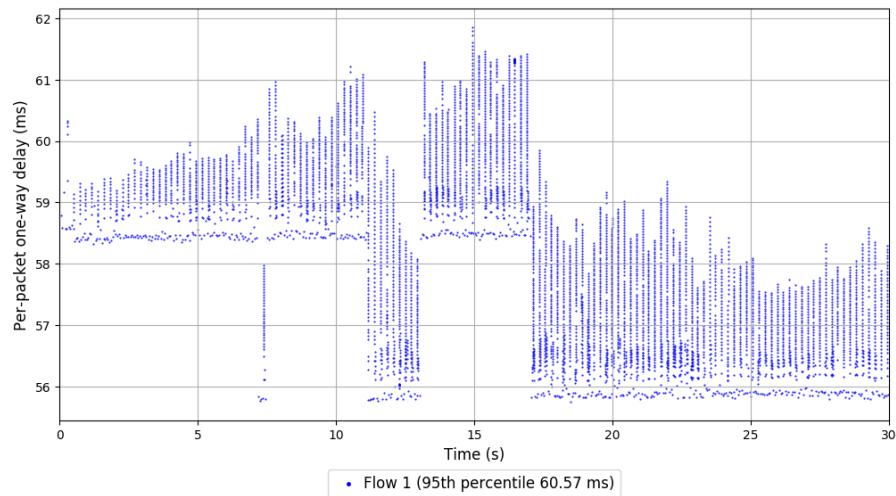
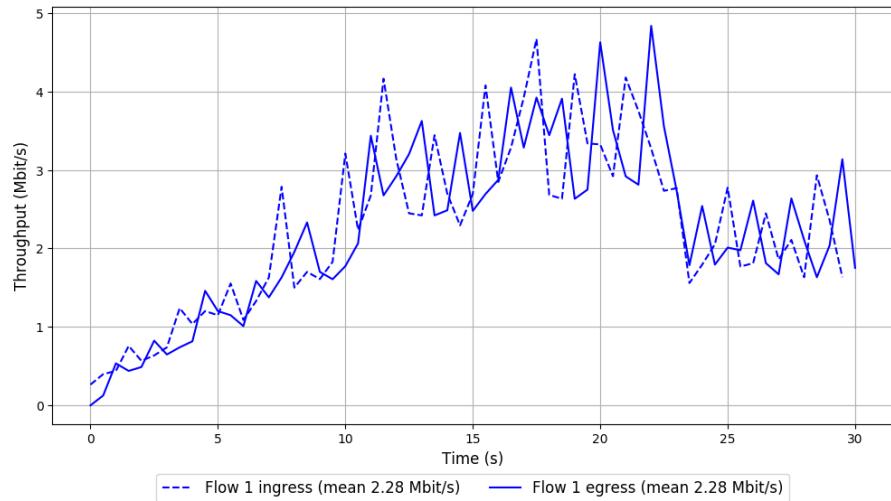


Run 3: Statistics of Sprout

```
Start at: 2018-12-11 10:13:03
End at: 2018-12-11 10:13:33
Local clock offset: -1.742 ms
Remote clock offset: -42.5 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 60.571 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 60.571 ms
Loss rate: 0.00%
```

Run 3: Report of Sprout — Data Link

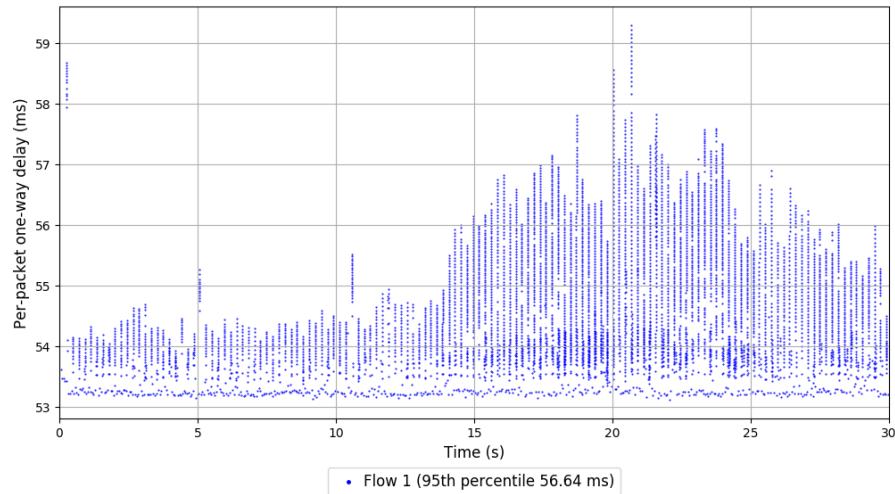
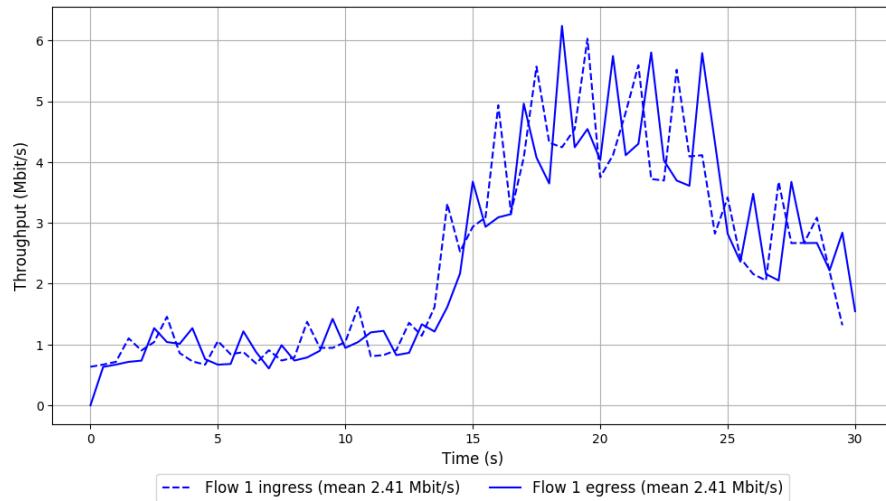


Run 4: Statistics of Sprout

```
Start at: 2018-12-11 10:53:06
End at: 2018-12-11 10:53:36
Local clock offset: 1.447 ms
Remote clock offset: -43.704 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 56.637 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 56.637 ms
Loss rate: 0.00%
```

Run 4: Report of Sprout — Data Link

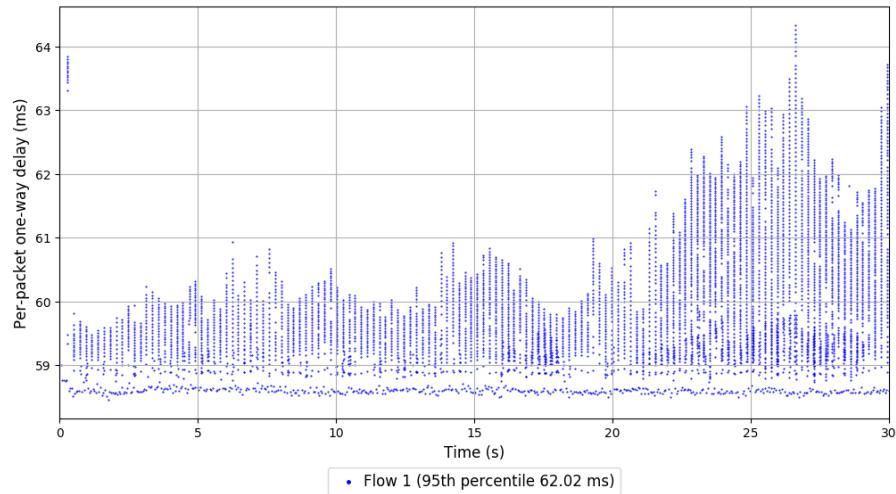
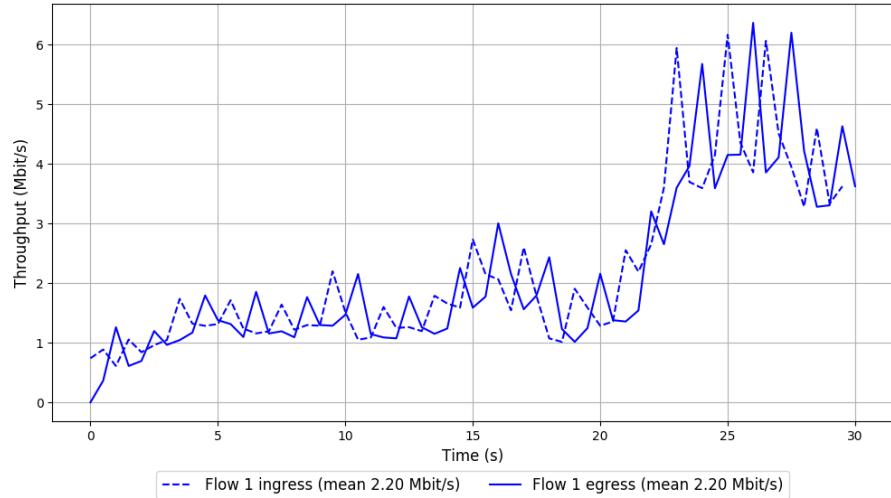


Run 5: Statistics of Sprout

```
Start at: 2018-12-11 11:28:58
End at: 2018-12-11 11:29:28
Local clock offset: 0.319 ms
Remote clock offset: -39.506 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 62.017 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 62.017 ms
Loss rate: 0.00%
```

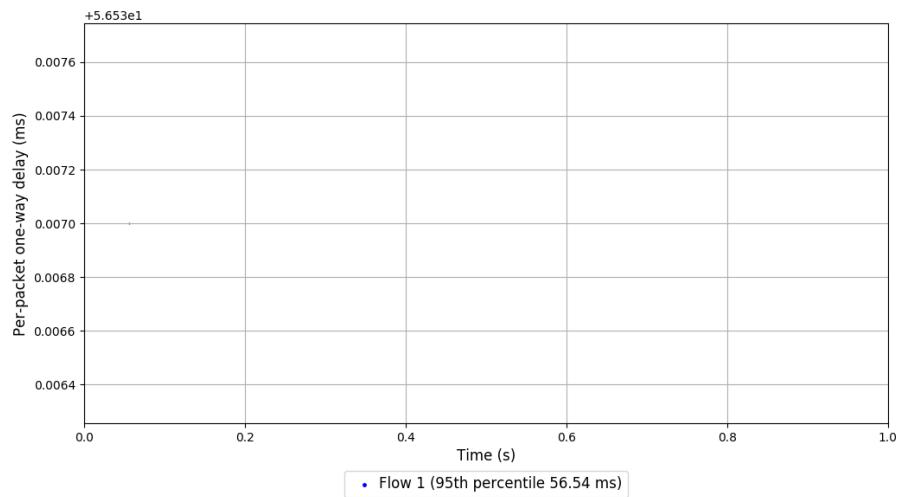
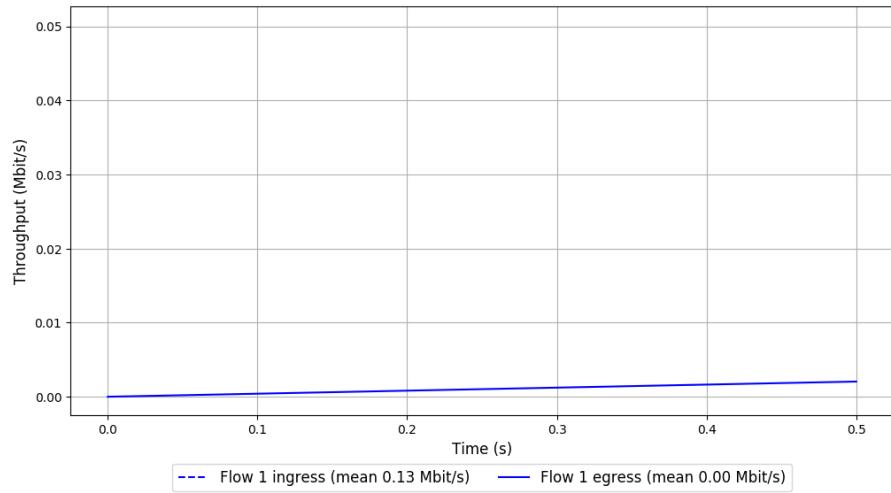
Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-12-11 08:59:32
End at: 2018-12-11 09:00:02
Local clock offset: -0.825 ms
Remote clock offset: -40.368 ms

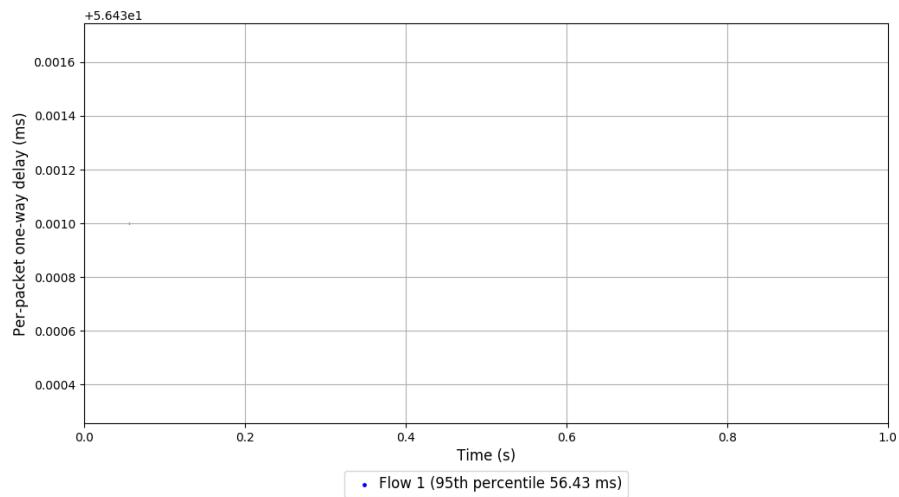
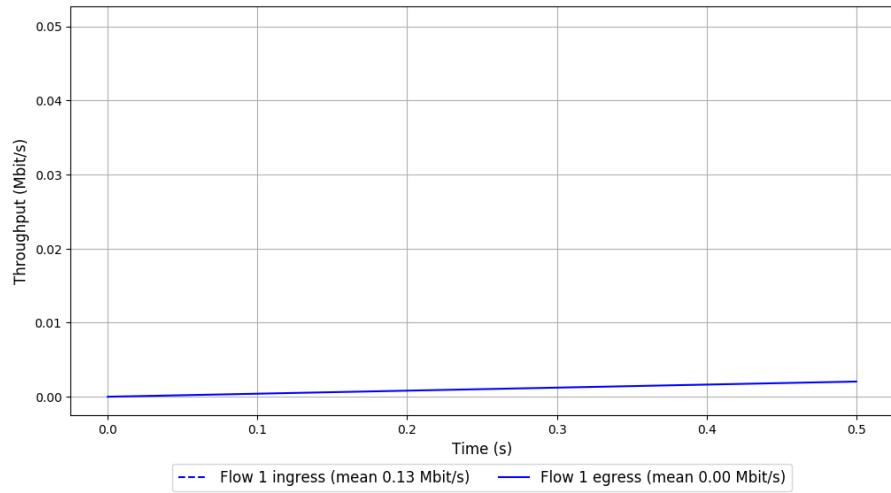
Run 1: Report of TaoVA-100x — Data Link



Run 2: Statistics of TaoVA-100x

Start at: 2018-12-11 09:35:29
End at: 2018-12-11 09:36:00
Local clock offset: -6.217 ms
Remote clock offset: -44.647 ms

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

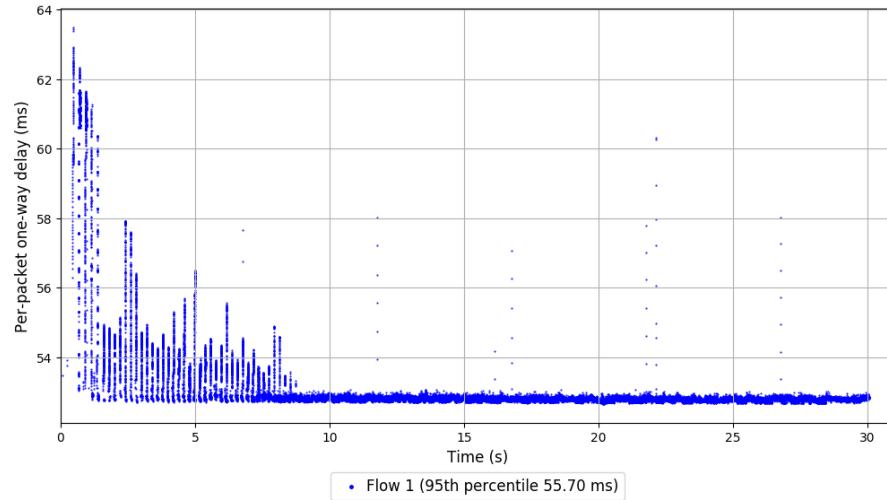
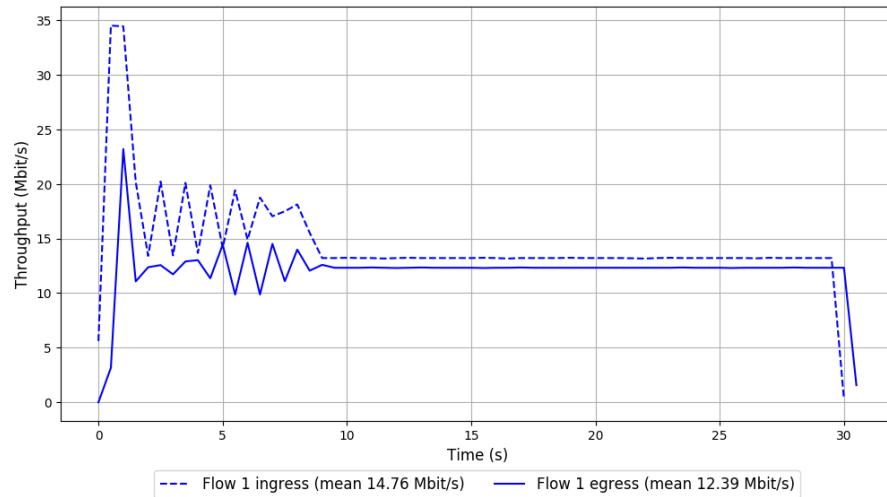


Run 3: Statistics of TaoVA-100x

```
Start at: 2018-12-11 10:05:39
End at: 2018-12-11 10:06:09
Local clock offset: -2.632 ms
Remote clock offset: -45.032 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 55.699 ms
Loss rate: 16.08%
-- Flow 1:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 55.699 ms
Loss rate: 16.08%
```

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

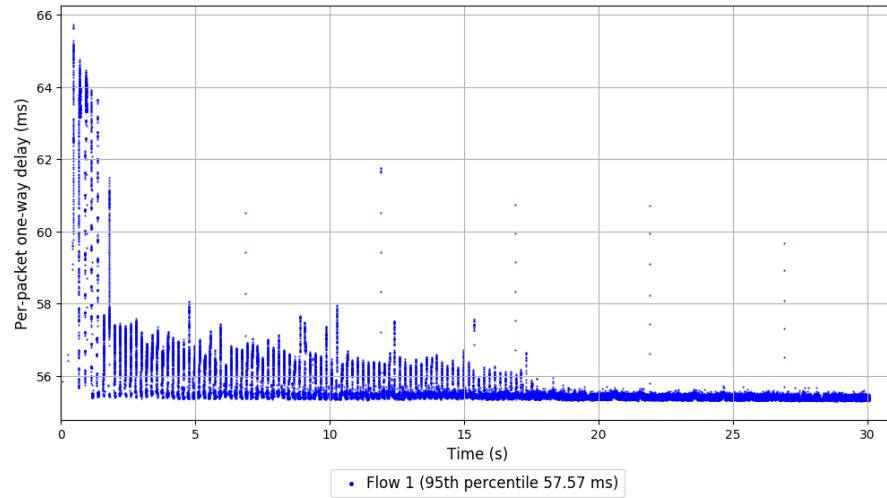
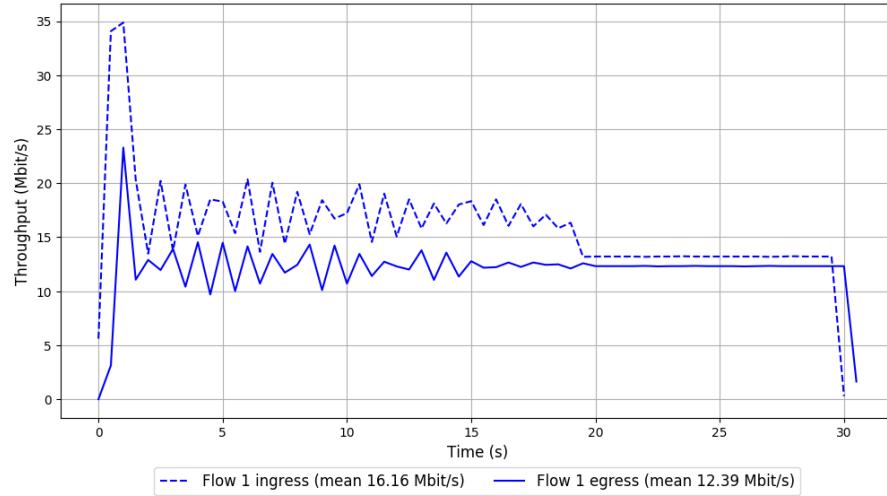


Run 4: Statistics of TaoVA-100x

```
Start at: 2018-12-11 10:35:55
End at: 2018-12-11 10:36:25
Local clock offset: -0.949 ms
Remote clock offset: -42.229 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 57.574 ms
Loss rate: 23.34%
-- Flow 1:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 57.574 ms
Loss rate: 23.34%
```

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

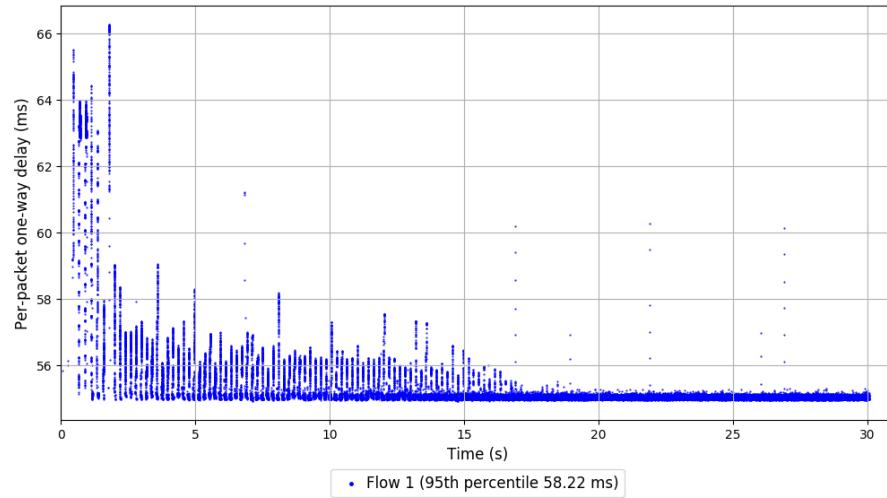
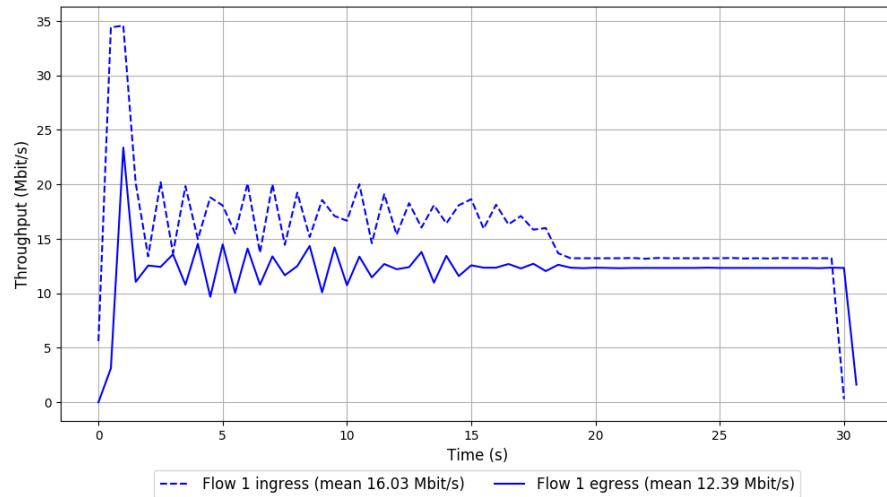


Run 5: Statistics of TaoVA-100x

```
Start at: 2018-12-11 11:15:45
End at: 2018-12-11 11:16:15
Local clock offset: 1.227 ms
Remote clock offset: -42.389 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 58.221 ms
Loss rate: 22.71%
-- Flow 1:
Average throughput: 12.39 Mbit/s
95th percentile per-packet one-way delay: 58.221 ms
Loss rate: 22.71%
```

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

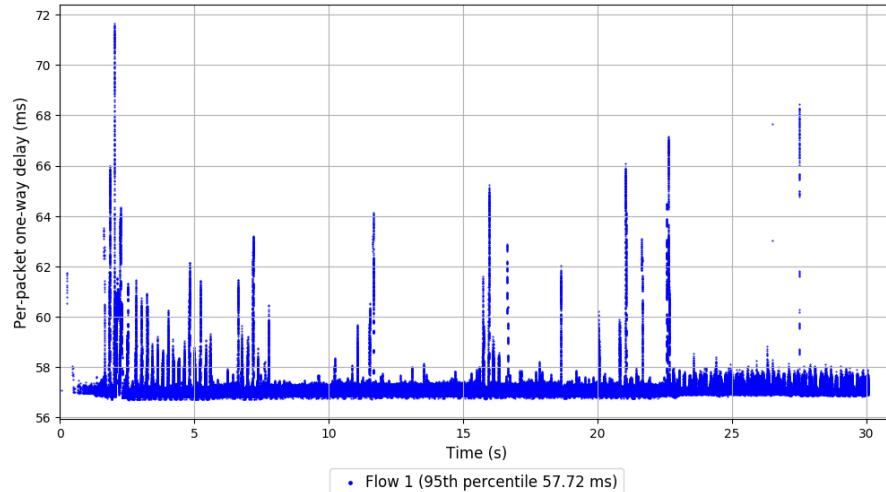
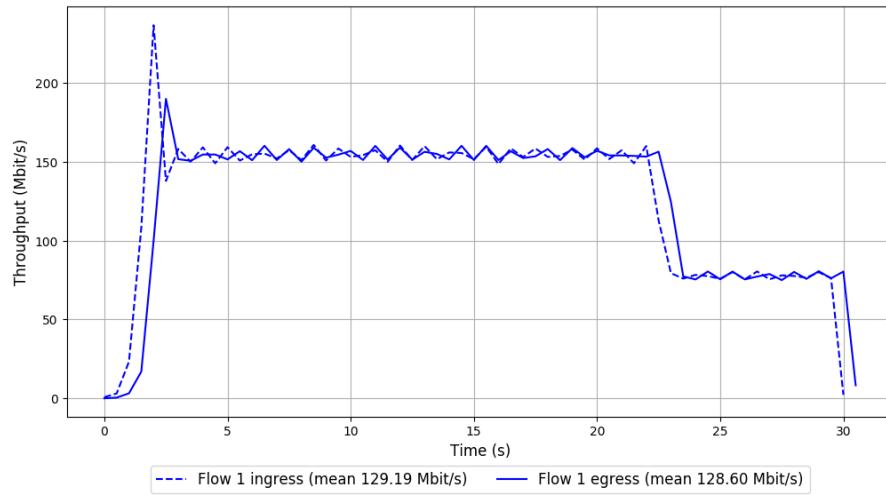


Run 1: Statistics of TCP Vegas

```
Start at: 2018-12-11 09:11:10
End at: 2018-12-11 09:11:40
Local clock offset: -3.074 ms
Remote clock offset: -41.355 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 128.60 Mbit/s
95th percentile per-packet one-way delay: 57.721 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 128.60 Mbit/s
95th percentile per-packet one-way delay: 57.721 ms
Loss rate: 0.45%
```

Run 1: Report of TCP Vegas — Data Link

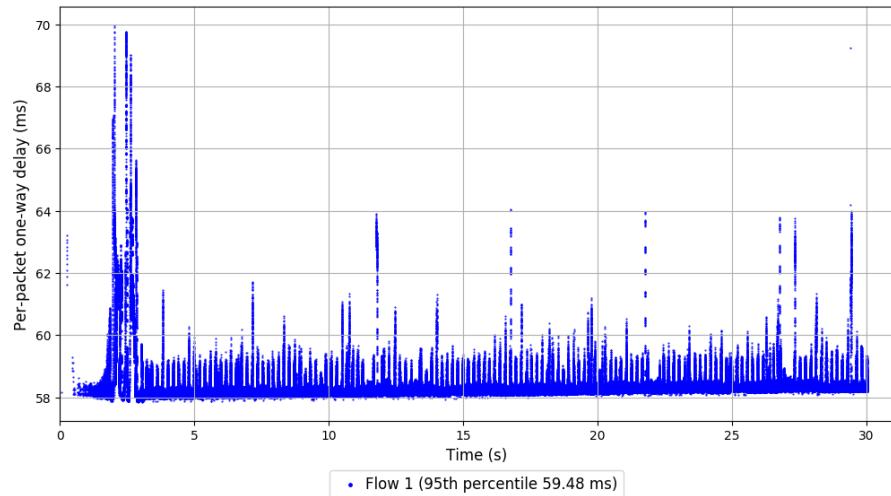
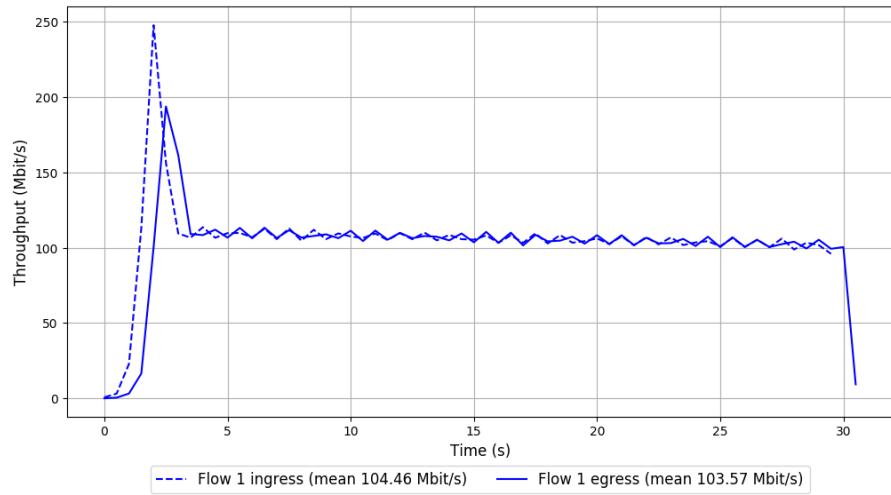


Run 2: Statistics of TCP Vegas

```
Start at: 2018-12-11 09:41:37
End at: 2018-12-11 09:42:07
Local clock offset: -2.999 ms
Remote clock offset: -38.642 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 103.57 Mbit/s
95th percentile per-packet one-way delay: 59.477 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 103.57 Mbit/s
95th percentile per-packet one-way delay: 59.477 ms
Loss rate: 0.85%
```

Run 2: Report of TCP Vegas — Data Link

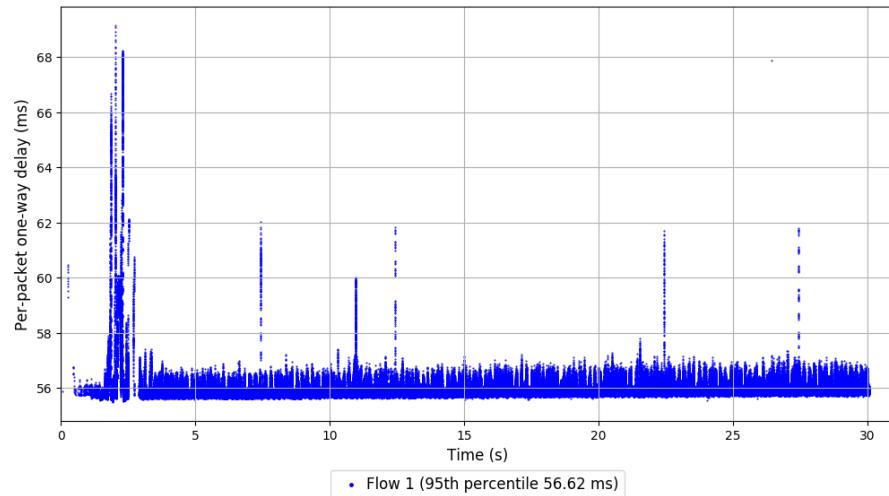
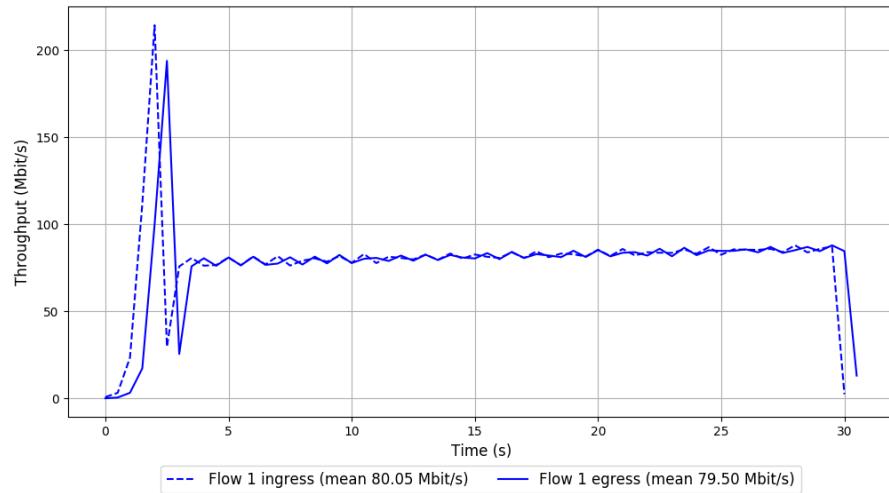


Run 3: Statistics of TCP Vegas

```
Start at: 2018-12-11 10:11:49
End at: 2018-12-11 10:12:19
Local clock offset: -2.222 ms
Remote clock offset: -42.902 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.50 Mbit/s
95th percentile per-packet one-way delay: 56.617 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 79.50 Mbit/s
95th percentile per-packet one-way delay: 56.617 ms
Loss rate: 0.69%
```

Run 3: Report of TCP Vegas — Data Link

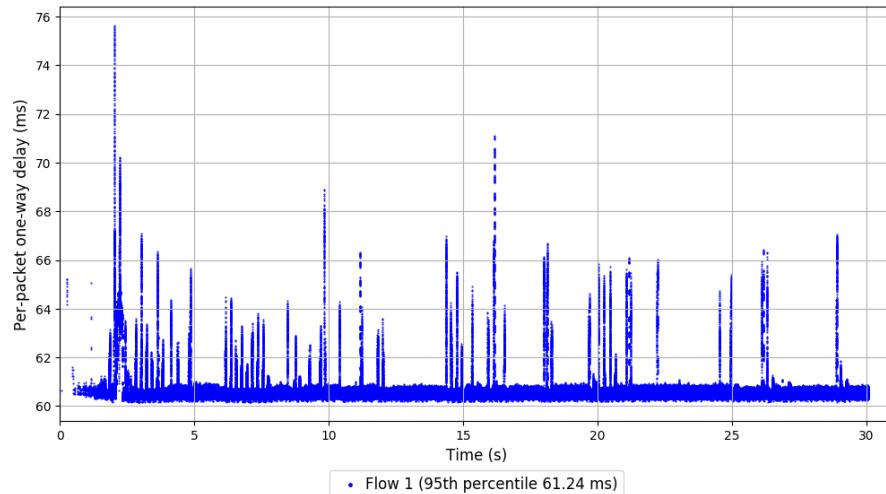
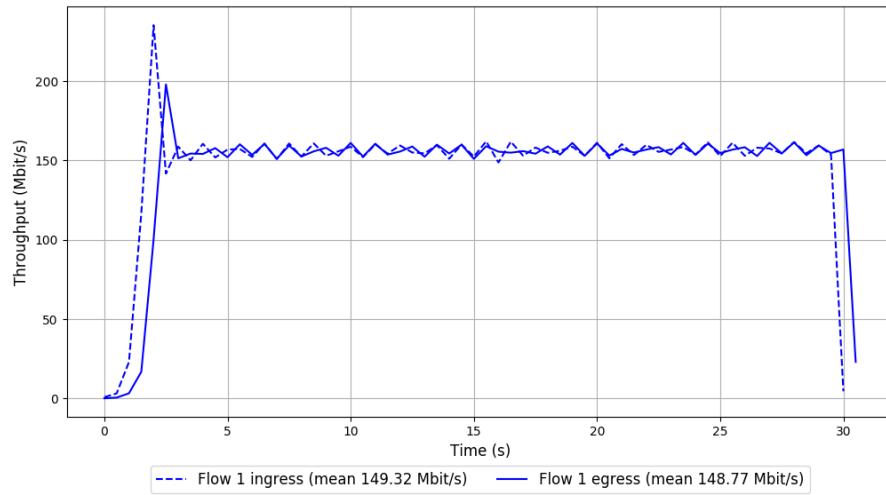


Run 4: Statistics of TCP Vegas

```
Start at: 2018-12-11 10:51:49
End at: 2018-12-11 10:52:19
Local clock offset: -7.578 ms
Remote clock offset: -45.738 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 148.77 Mbit/s
95th percentile per-packet one-way delay: 61.243 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 148.77 Mbit/s
95th percentile per-packet one-way delay: 61.243 ms
Loss rate: 0.37%
```

Run 4: Report of TCP Vegas — Data Link

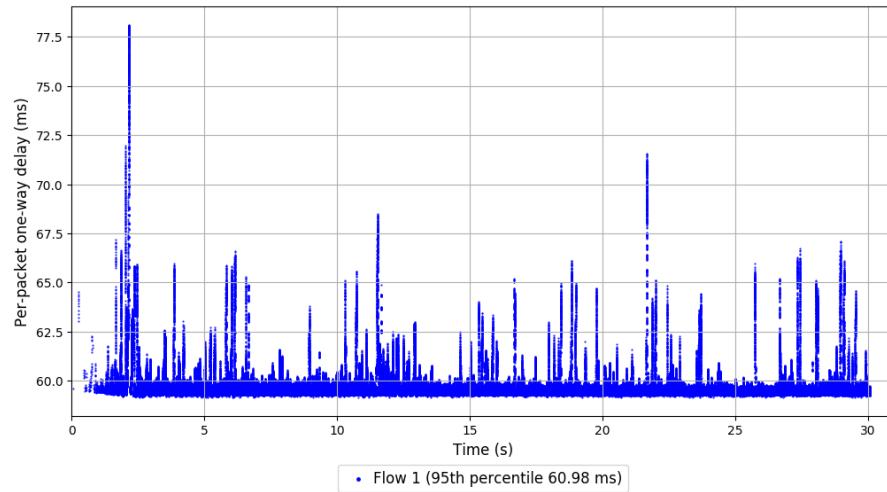
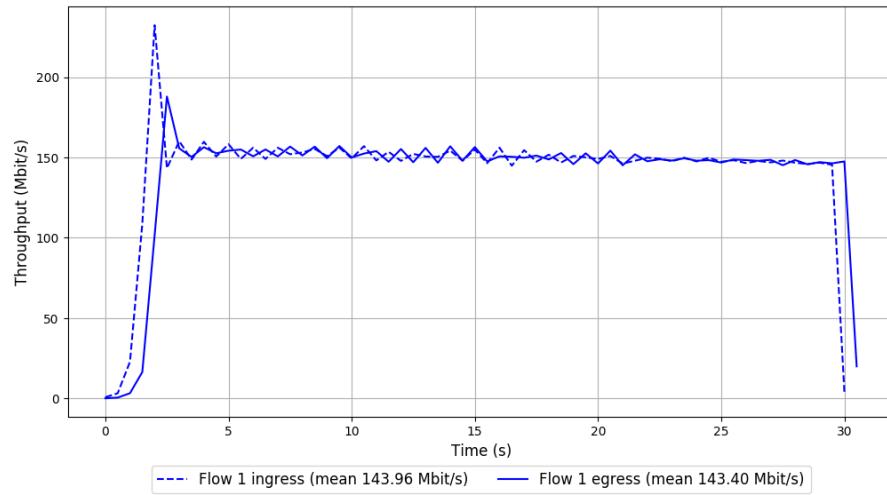


Run 5: Statistics of TCP Vegas

```
Start at: 2018-12-11 11:27:40
End at: 2018-12-11 11:28:10
Local clock offset: -1.262 ms
Remote clock offset: -40.218 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 143.40 Mbit/s
95th percentile per-packet one-way delay: 60.984 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 143.40 Mbit/s
95th percentile per-packet one-way delay: 60.984 ms
Loss rate: 0.39%
```

Run 5: Report of TCP Vegas — Data Link

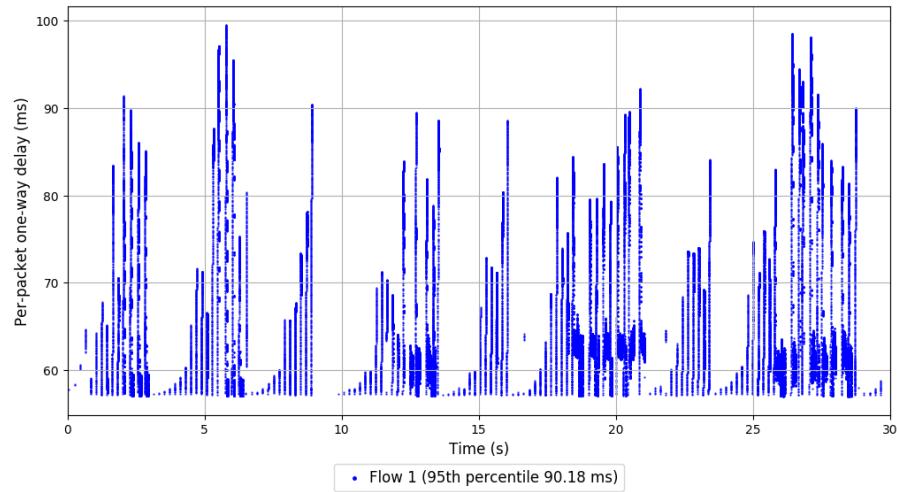
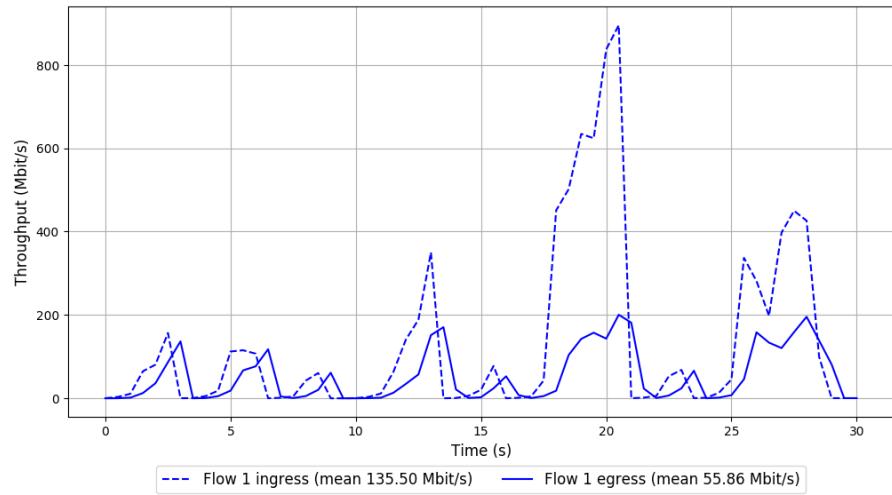


Run 1: Statistics of Verus

```
Start at: 2018-12-11 09:03:04
End at: 2018-12-11 09:03:34
Local clock offset: -3.754 ms
Remote clock offset: -42.014 ms

# Below is generated by plot.py at 2018-12-11 12:13:17
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.86 Mbit/s
95th percentile per-packet one-way delay: 90.178 ms
Loss rate: 58.77%
-- Flow 1:
Average throughput: 55.86 Mbit/s
95th percentile per-packet one-way delay: 90.178 ms
Loss rate: 58.77%
```

Run 1: Report of Verus — Data Link

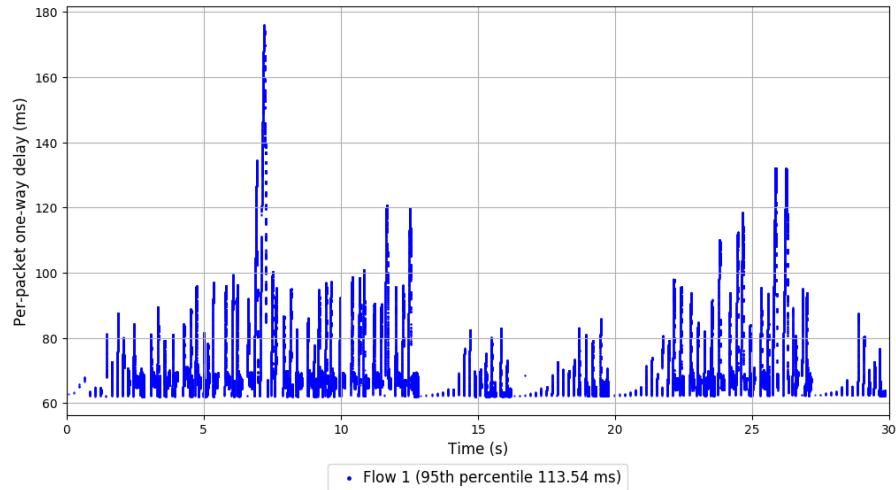
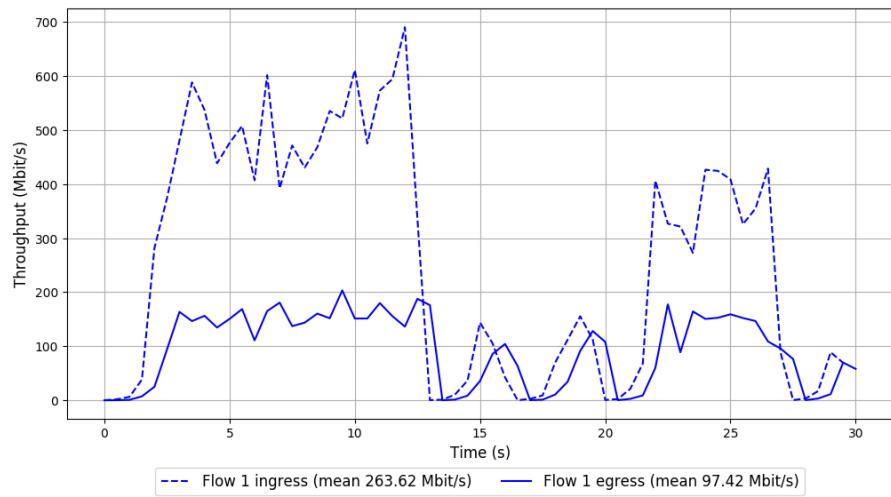


Run 2: Statistics of Verus

```
Start at: 2018-12-11 09:39:00
End at: 2018-12-11 09:39:30
Local clock offset: -8.493 ms
Remote clock offset: -38.459 ms

# Below is generated by plot.py at 2018-12-11 12:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.42 Mbit/s
95th percentile per-packet one-way delay: 113.542 ms
Loss rate: 63.04%
-- Flow 1:
Average throughput: 97.42 Mbit/s
95th percentile per-packet one-way delay: 113.542 ms
Loss rate: 63.04%
```

Run 2: Report of Verus — Data Link

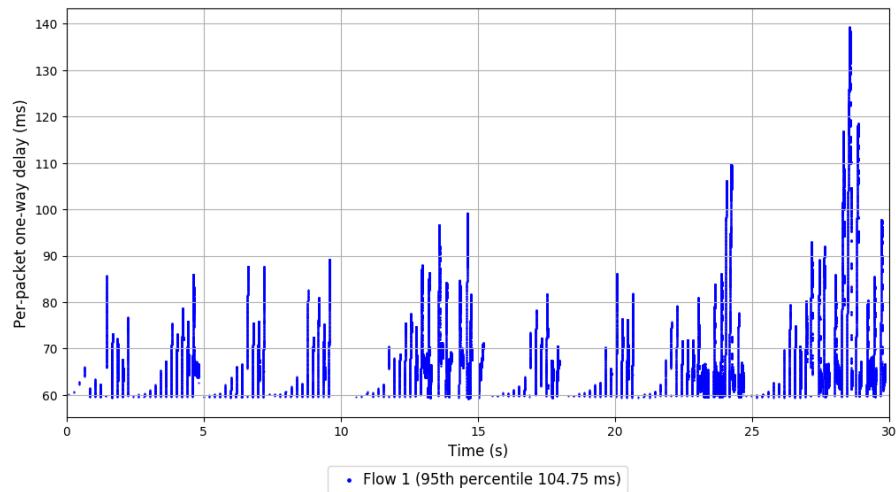
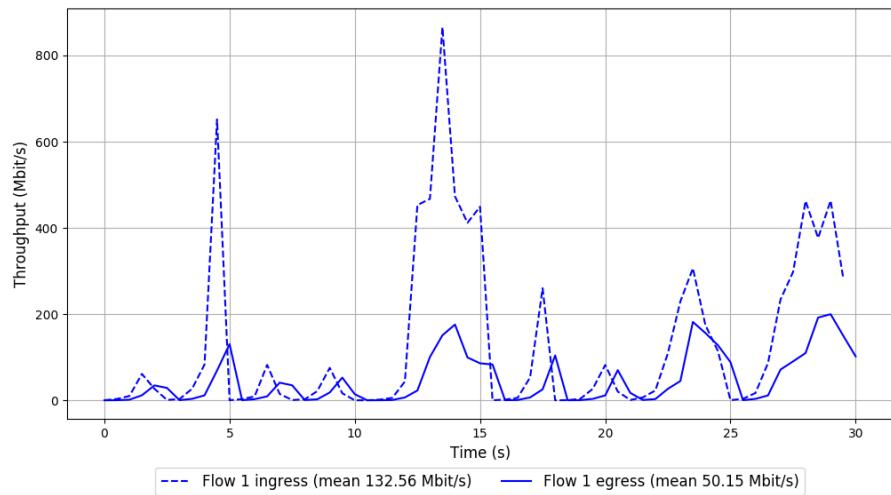


Run 3: Statistics of Verus

```
Start at: 2018-12-11 10:09:12
End at: 2018-12-11 10:09:42
Local clock offset: -3.174 ms
Remote clock offset: -39.276 ms

# Below is generated by plot.py at 2018-12-11 12:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 104.747 ms
Loss rate: 62.16%
-- Flow 1:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 104.747 ms
Loss rate: 62.16%
```

Run 3: Report of Verus — Data Link

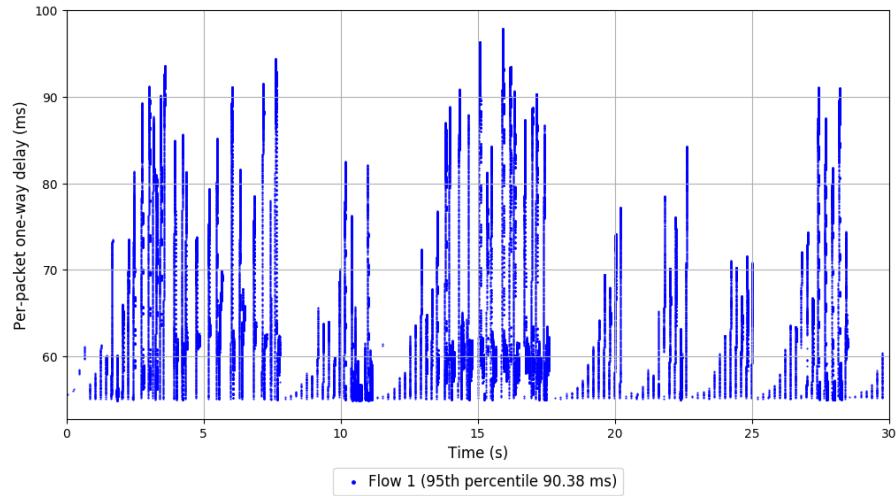
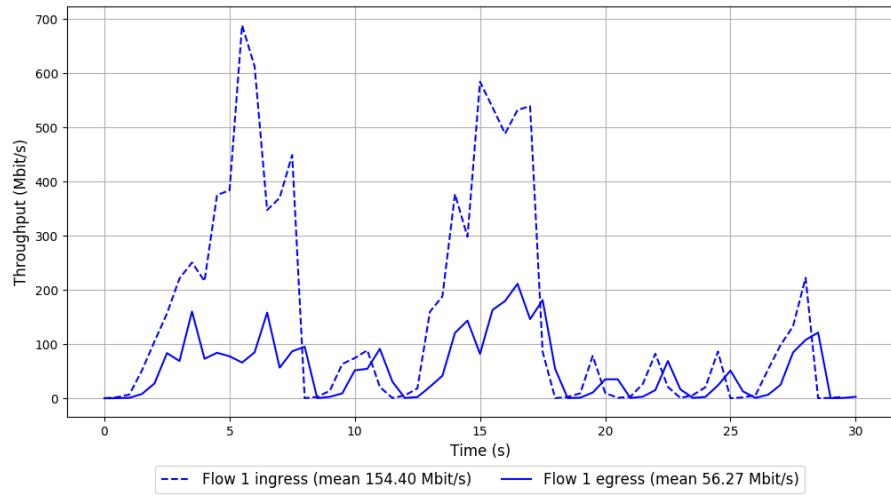


Run 4: Statistics of Verus

```
Start at: 2018-12-11 10:39:29
End at: 2018-12-11 10:39:59
Local clock offset: 0.49 ms
Remote clock offset: -41.824 ms

# Below is generated by plot.py at 2018-12-11 12:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.27 Mbit/s
95th percentile per-packet one-way delay: 90.381 ms
Loss rate: 63.55%
-- Flow 1:
Average throughput: 56.27 Mbit/s
95th percentile per-packet one-way delay: 90.381 ms
Loss rate: 63.55%
```

Run 4: Report of Verus — Data Link

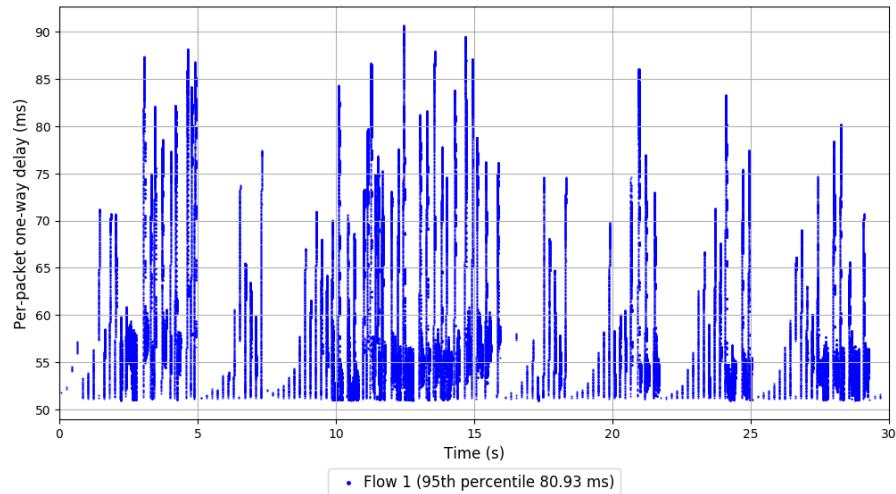
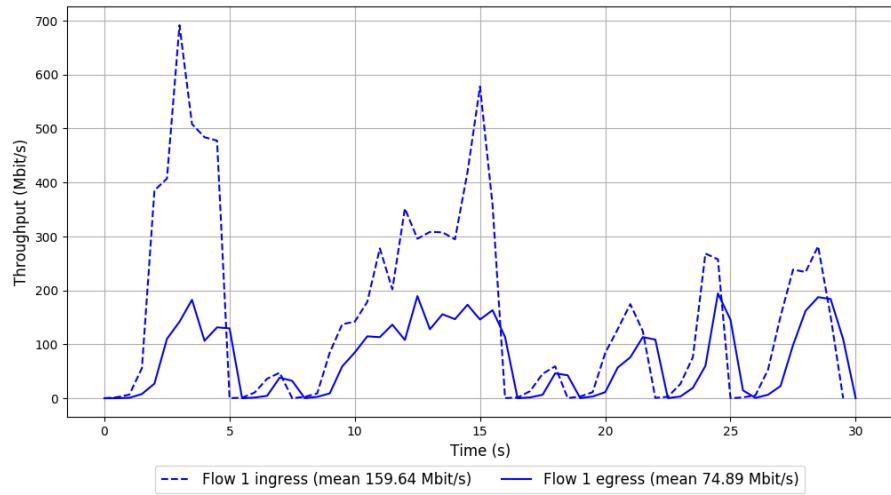


Run 5: Statistics of Verus

```
Start at: 2018-12-11 11:19:18
End at: 2018-12-11 11:19:48
Local clock offset: 0.688 ms
Remote clock offset: -47.192 ms

# Below is generated by plot.py at 2018-12-11 12:14:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 74.89 Mbit/s
95th percentile per-packet one-way delay: 80.927 ms
Loss rate: 53.09%
-- Flow 1:
Average throughput: 74.89 Mbit/s
95th percentile per-packet one-way delay: 80.927 ms
Loss rate: 53.09%
```

Run 5: Report of Verus — Data Link

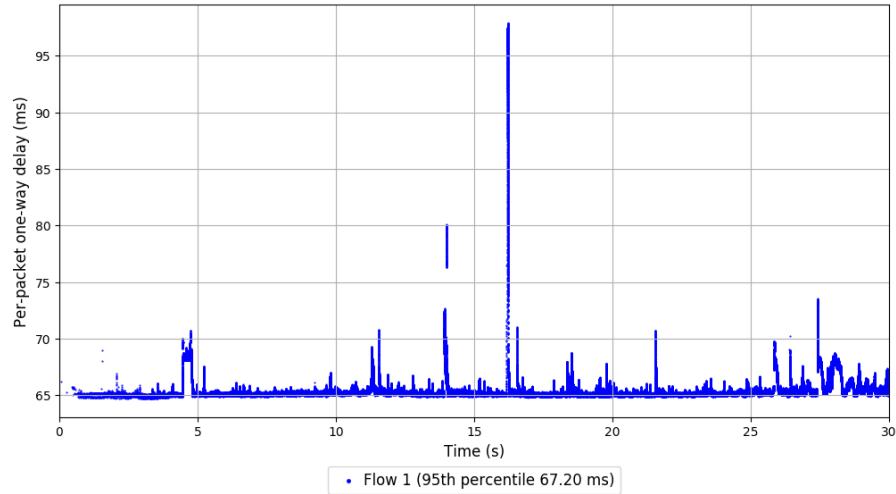
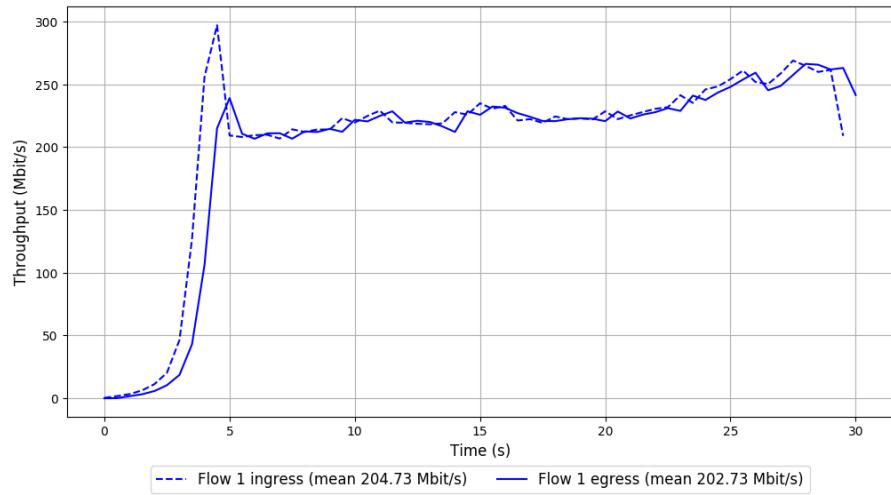


```
Run 1: Statistics of PCC-Vivace
```

```
Start at: 2018-12-11 09:19:18
End at: 2018-12-11 09:19:48
Local clock offset: -1.389 ms
Remote clock offset: -31.265 ms

# Below is generated by plot.py at 2018-12-11 12:14:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 202.73 Mbit/s
95th percentile per-packet one-way delay: 67.204 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 202.73 Mbit/s
95th percentile per-packet one-way delay: 67.204 ms
Loss rate: 0.98%
```

Run 1: Report of PCC-Vivace — Data Link

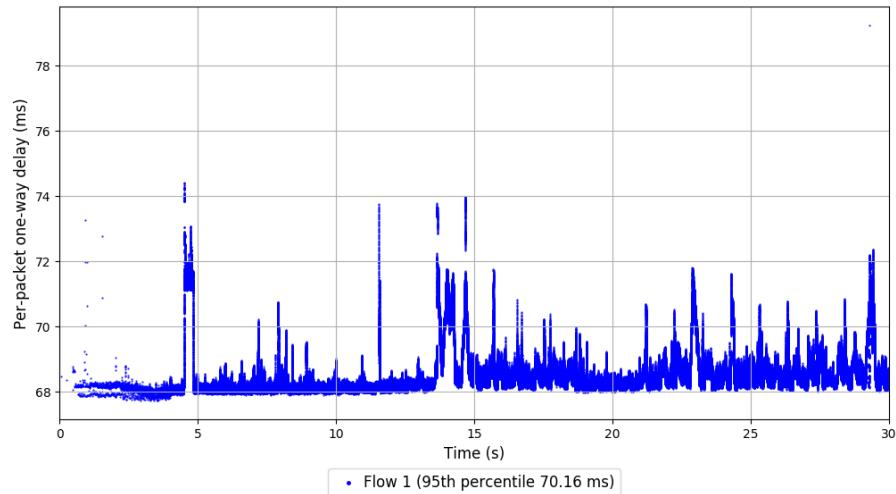
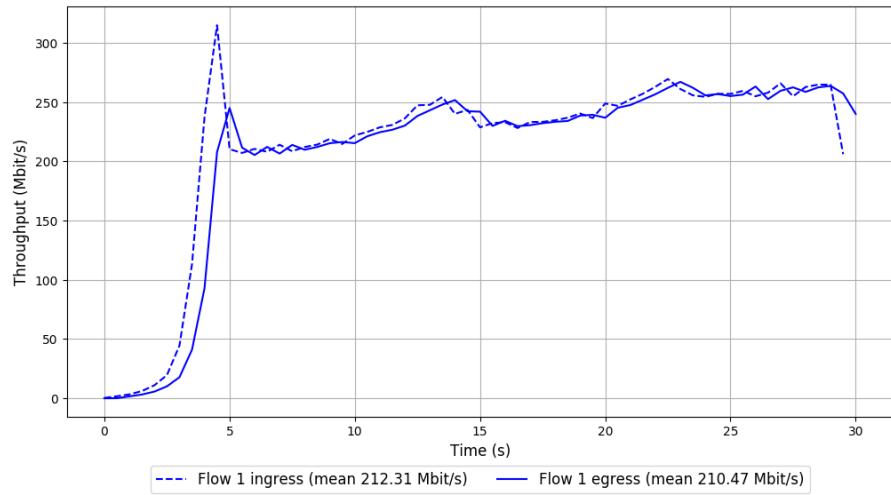


Run 2: Statistics of PCC-Vivace

```
Start at: 2018-12-11 09:49:30
End at: 2018-12-11 09:50:00
Local clock offset: -3.115 ms
Remote clock offset: -33.808 ms

# Below is generated by plot.py at 2018-12-11 12:14:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 210.47 Mbit/s
95th percentile per-packet one-way delay: 70.162 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 210.47 Mbit/s
95th percentile per-packet one-way delay: 70.162 ms
Loss rate: 0.87%
```

Run 2: Report of PCC-Vivace — Data Link

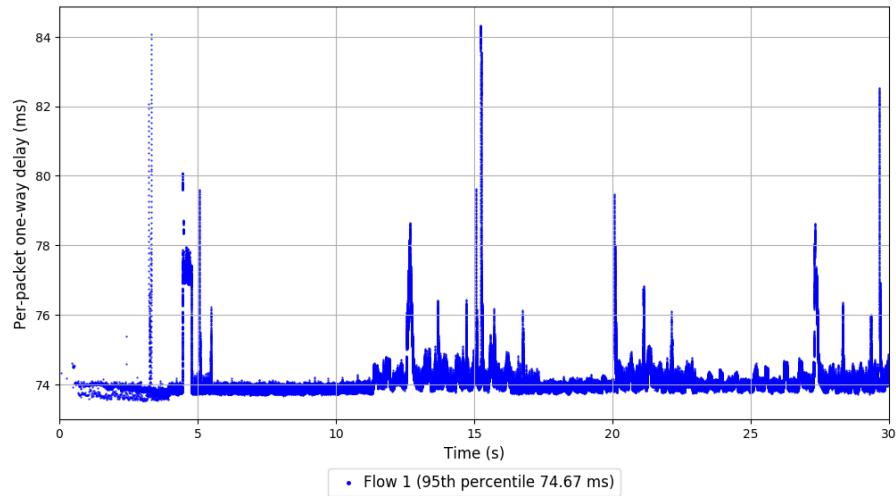
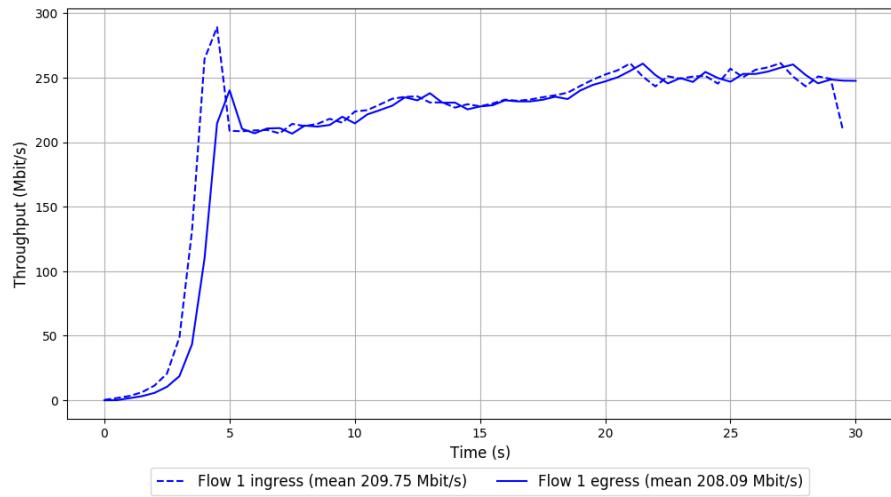


Run 3: Statistics of PCC-Vivace

```
Start at: 2018-12-11 10:25:26
End at: 2018-12-11 10:25:56
Local clock offset: -8.423 ms
Remote clock offset: -32.207 ms

# Below is generated by plot.py at 2018-12-11 12:14:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 208.09 Mbit/s
95th percentile per-packet one-way delay: 74.665 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 208.09 Mbit/s
95th percentile per-packet one-way delay: 74.665 ms
Loss rate: 0.79%
```

Run 3: Report of PCC-Vivace — Data Link

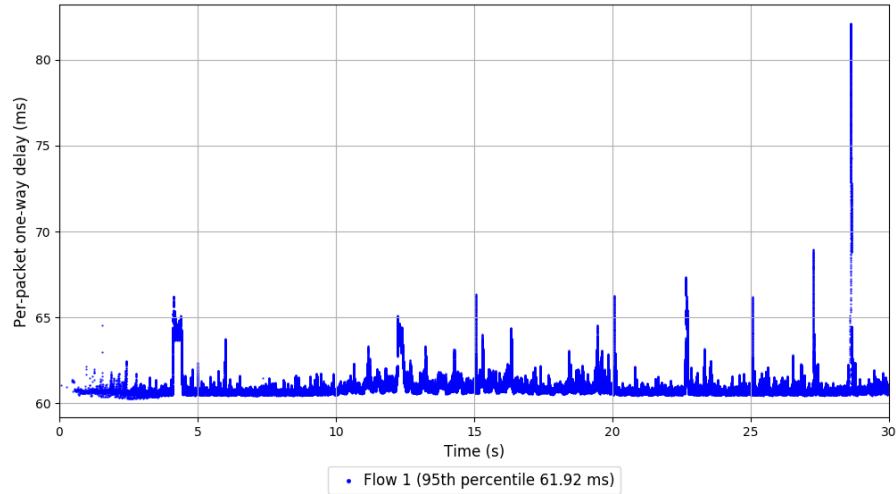
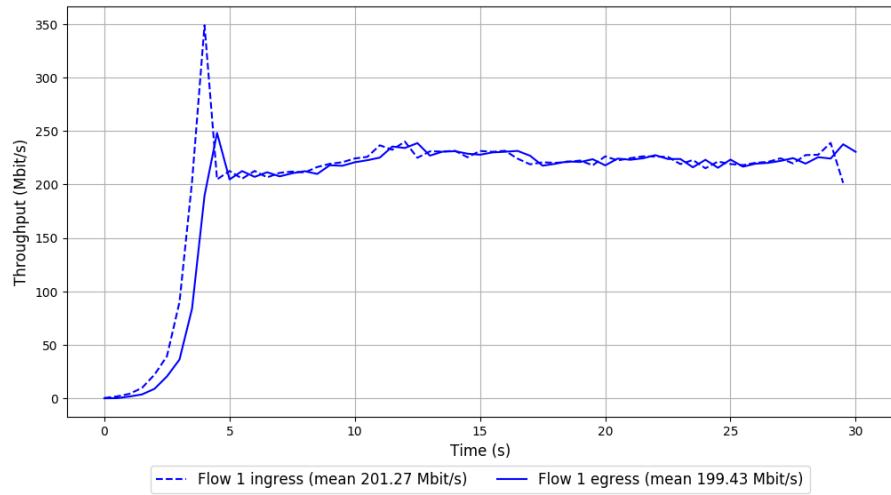


Run 4: Statistics of PCC-Vivace

```
Start at: 2018-12-11 10:59:41
End at: 2018-12-11 11:00:11
Local clock offset: 1.212 ms
Remote clock offset: -39.489 ms

# Below is generated by plot.py at 2018-12-11 12:14:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 199.43 Mbit/s
95th percentile per-packet one-way delay: 61.920 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 199.43 Mbit/s
95th percentile per-packet one-way delay: 61.920 ms
Loss rate: 0.91%
```

Run 4: Report of PCC-Vivace — Data Link

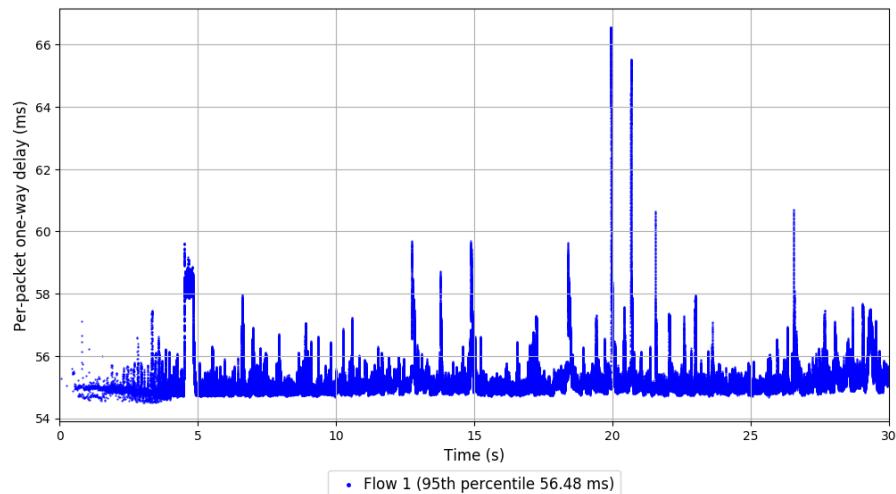
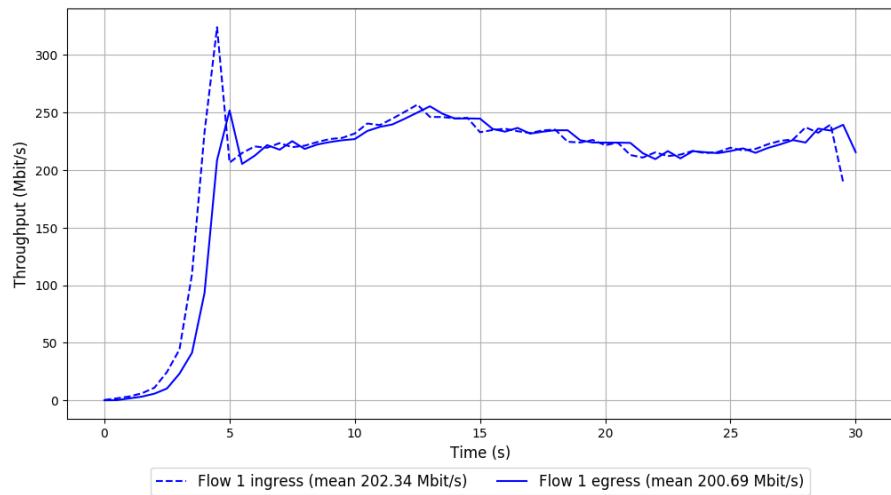


Run 5: Statistics of PCC-Vivace

```
Start at: 2018-12-11 11:35:31
End at: 2018-12-11 11:36:01
Local clock offset: 0.017 ms
Remote clock offset: -45.972 ms

# Below is generated by plot.py at 2018-12-11 12:14:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 200.69 Mbit/s
95th percentile per-packet one-way delay: 56.483 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 200.69 Mbit/s
95th percentile per-packet one-way delay: 56.483 ms
Loss rate: 0.82%
```

Run 5: Report of PCC-Vivace — Data Link

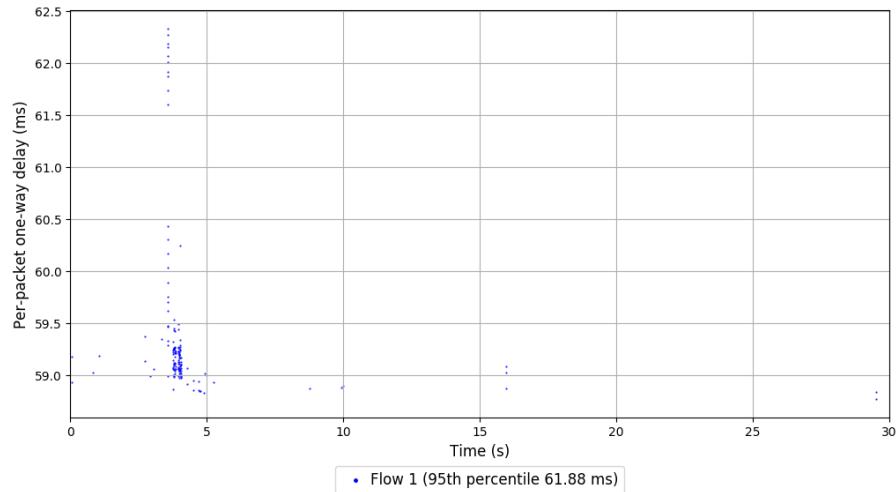
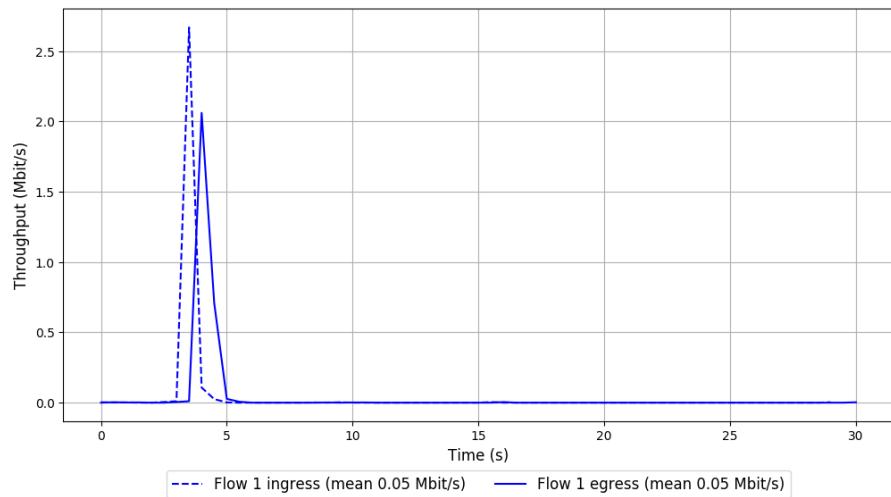


Run 1: Statistics of WebRTC media

```
Start at: 2018-12-11 09:00:42
End at: 2018-12-11 09:01:12
Local clock offset: -2.247 ms
Remote clock offset: -39.039 ms

# Below is generated by plot.py at 2018-12-11 12:14:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 61.877 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 61.877 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

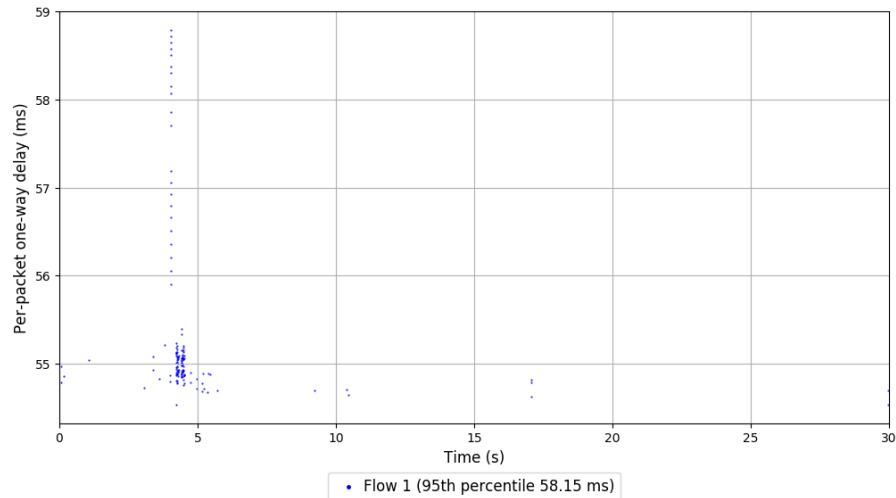
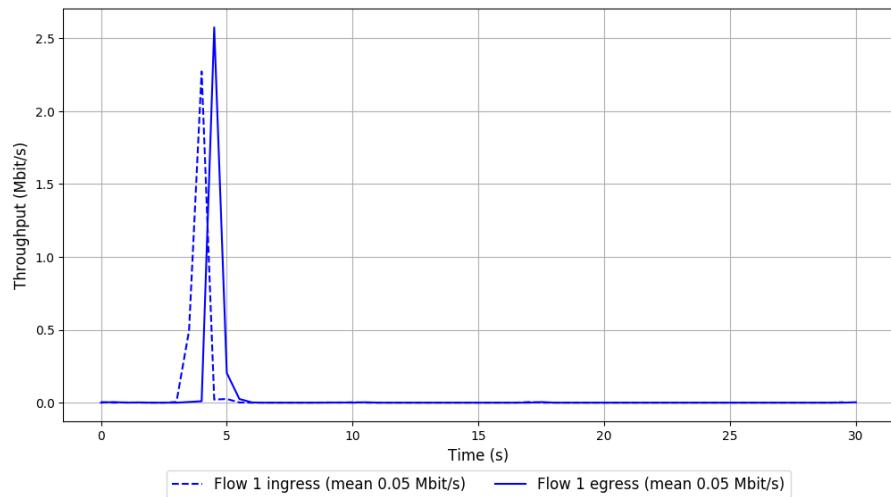


Run 2: Statistics of WebRTC media

```
Start at: 2018-12-11 09:36:39
End at: 2018-12-11 09:37:09
Local clock offset: -6.175 ms
Remote clock offset: -42.977 ms

# Below is generated by plot.py at 2018-12-11 12:14:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 58.152 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 58.152 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

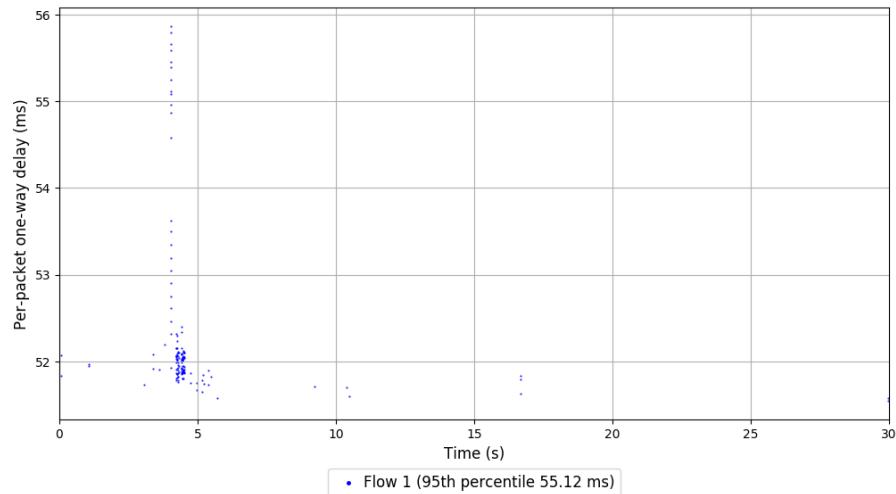
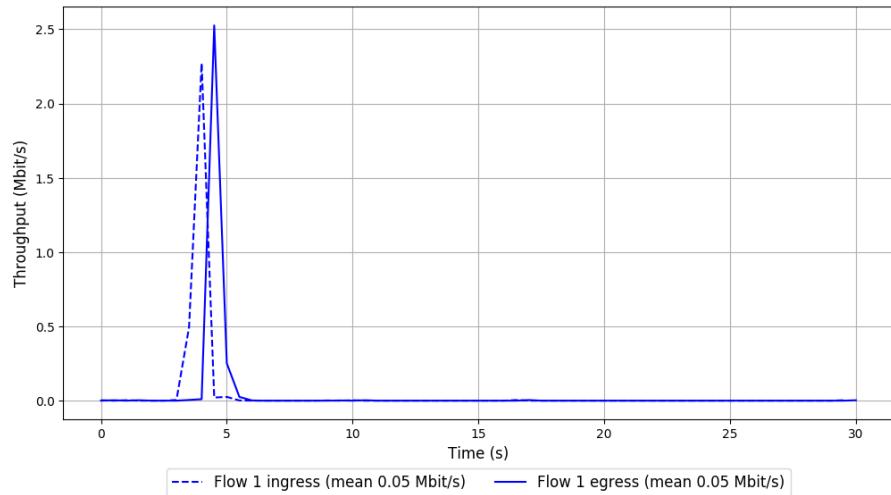


Run 3: Statistics of WebRTC media

```
Start at: 2018-12-11 10:06:51
End at: 2018-12-11 10:07:21
Local clock offset: -1.903 ms
Remote clock offset: -45.161 ms

# Below is generated by plot.py at 2018-12-11 12:14:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 55.118 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 55.118 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

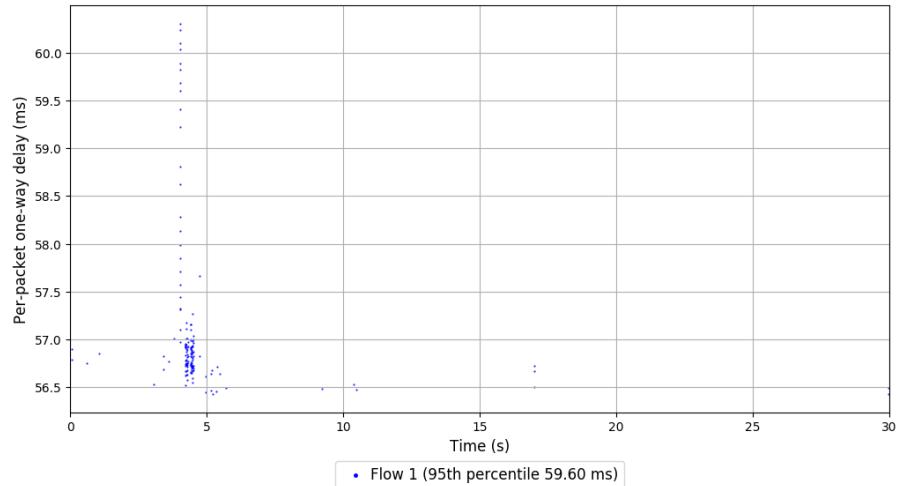
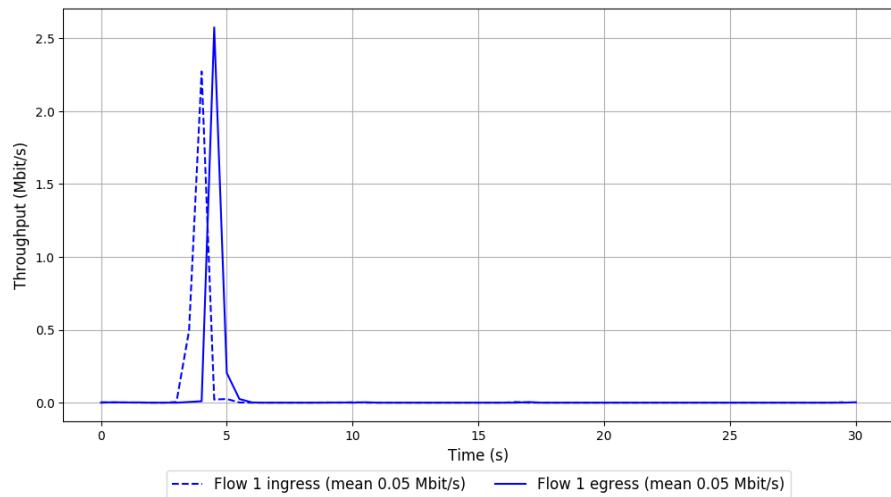


Run 4: Statistics of WebRTC media

```
Start at: 2018-12-11 10:37:07
End at: 2018-12-11 10:37:37
Local clock offset: -1.164 ms
Remote clock offset: -41.44 ms

# Below is generated by plot.py at 2018-12-11 12:14:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 59.605 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 59.605 ms
Loss rate: 0.00%
```

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

```
Start at: 2018-12-11 11:16:57
End at: 2018-12-11 11:17:27
Local clock offset: -0.515 ms
Remote clock offset: -38.557 ms

# Below is generated by plot.py at 2018-12-11 12:14:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 66.975 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 66.975 ms
Loss rate: 0.00%
```

Run 5: Report of WebRTC media — Data Link

