

Pantheon Report

Generated at 2018-11-30 05:53:54 (UTC).

Data path: AWS Korea on `ens5` (*local*) → China on `eno1` (*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 `ntp.nict.jp` and have been applied to correct the timestamps in logs.

System info:

```
Linux 4.15.0-1027-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 @ 7b6dad87cde3ab65f7c4052140eb54098aa58e9d
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
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-quick @ 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

Algorithm	95th percentile one-way delay (ms)	Average throughput (Mbit/s)
Indigo-96d2da3	~210	~88
Verus	~195	~68
TCP BBR	~165	~48
FiIP	~85	~90
FiIP-Sheep	~90	~75
TCP Cubic	~95	~20
QUIC Cubic	~85	~18
PCC-Expr	~80	~12
Indigo	~85	~18
gRTP	~85	~5
TCAM	~85	~2
SCREAM	~85	~2
BBR-AF	~85	~5
BBR-MD	~85	~5
BBR-100x	~85	~5
BBR-100x+media	~85	~5



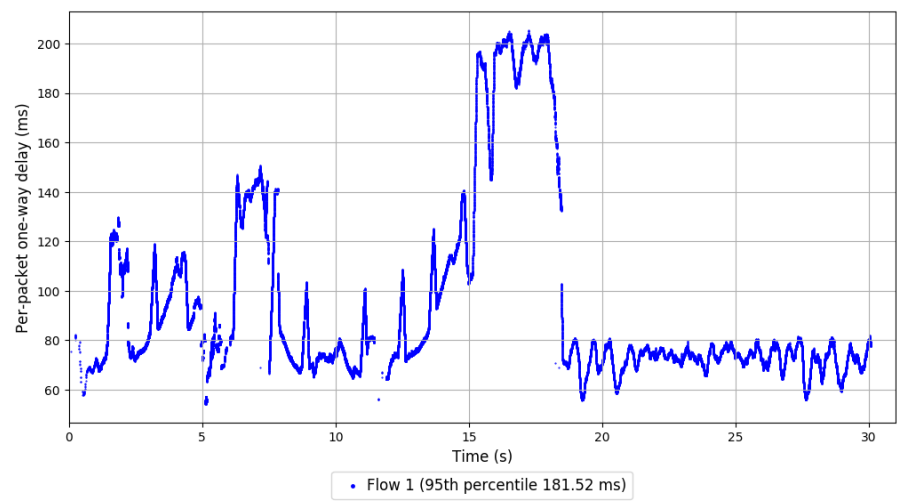
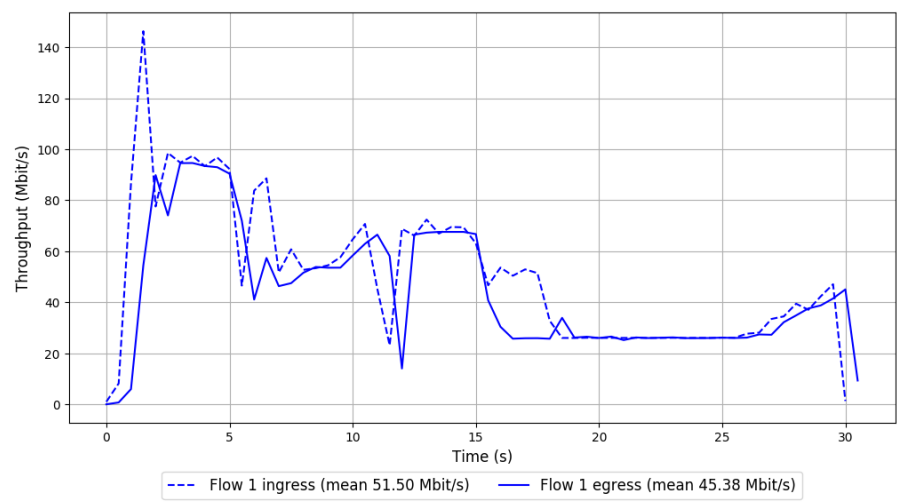
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	47.22	165.10	11.33
Copa	0	N/A	N/A	N/A
TCP Cubic	5	19.69	91.39	1.54
FillP	5	89.80	82.55	0.99
FillP-Sheep	5	73.05	90.59	1.29
Indigo	5	20.55	74.04	0.49
Indigo-96d2da3	5	86.70	216.78	19.30
LEDBAT	5	5.06	75.58	0.26
Indigo-Muses	5	3.10	85.90	0.21
PCC-Allegro	1	4.65	74.22	0.65
PCC-Expr	5	12.34	70.03	21.02
QUIC Cubic	5	17.67	82.90	0.37
SCReAM	5	0.17	72.13	0.24
Sprout	5	4.22	79.54	0.31
TaoVA-100x	5	5.63	73.10	6.53
TCP Vegas	5	1.52	75.52	0.46
Verus	5	67.48	196.75	18.82
PCC-Vivace	5	4.55	77.82	0.25
WebRTC media	5	1.98	71.93	0.35

Run 1: Statistics of TCP BBR

Start at: 2018-11-30 04:04:51
End at: 2018-11-30 04:05:21
Local clock offset: 1.703 ms
Remote clock offset: -6.934 ms

Below is generated by plot.py at 2018-11-30 05:49:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 45.38 Mbit/s
95th percentile per-packet one-way delay: 181.519 ms
Loss rate: 11.88%
-- Flow 1:
Average throughput: 45.38 Mbit/s
95th percentile per-packet one-way delay: 181.519 ms
Loss rate: 11.88%

Run 1: Report of TCP BBR — Data Link

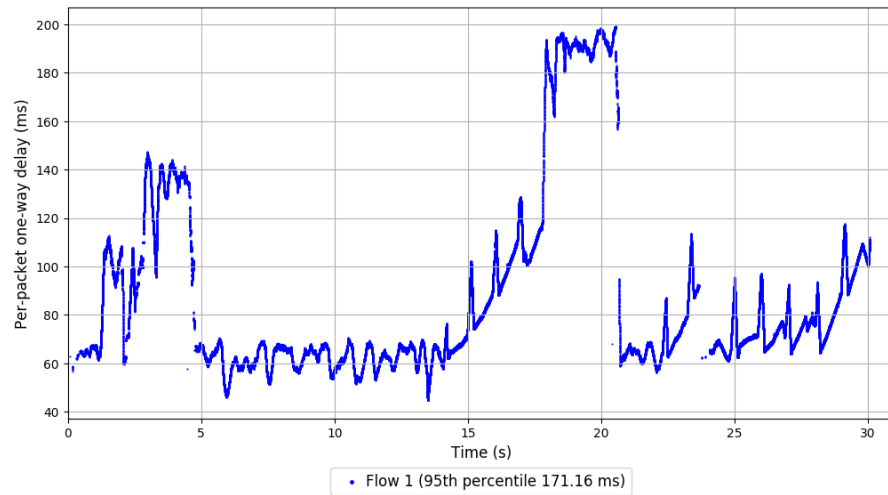
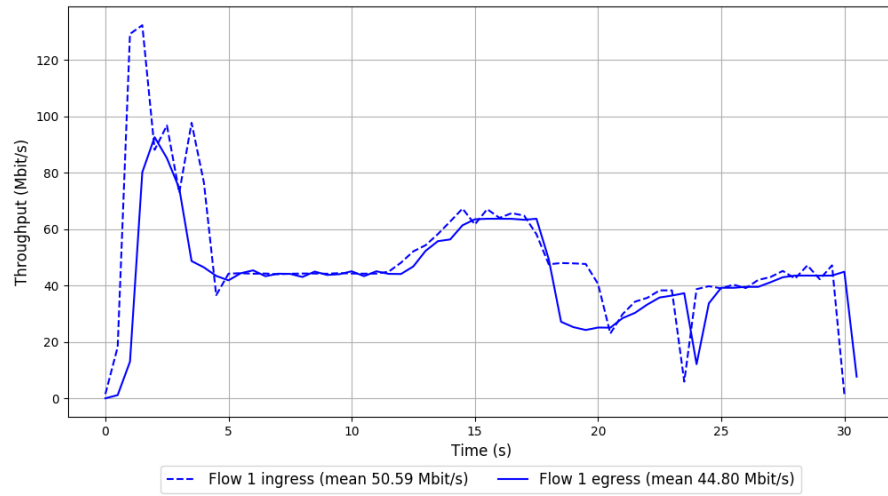


Run 2: Statistics of TCP BBR

Start at: 2018-11-30 04:27:34
End at: 2018-11-30 04:28:04
Local clock offset: 0.929 ms
Remote clock offset: -15.164 ms

Below is generated by plot.py at 2018-11-30 05:49:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 44.80 Mbit/s
95th percentile per-packet one-way delay: 171.157 ms
Loss rate: 11.42%
-- Flow 1:
Average throughput: 44.80 Mbit/s
95th percentile per-packet one-way delay: 171.157 ms
Loss rate: 11.42%

Run 2: Report of TCP BBR — Data Link

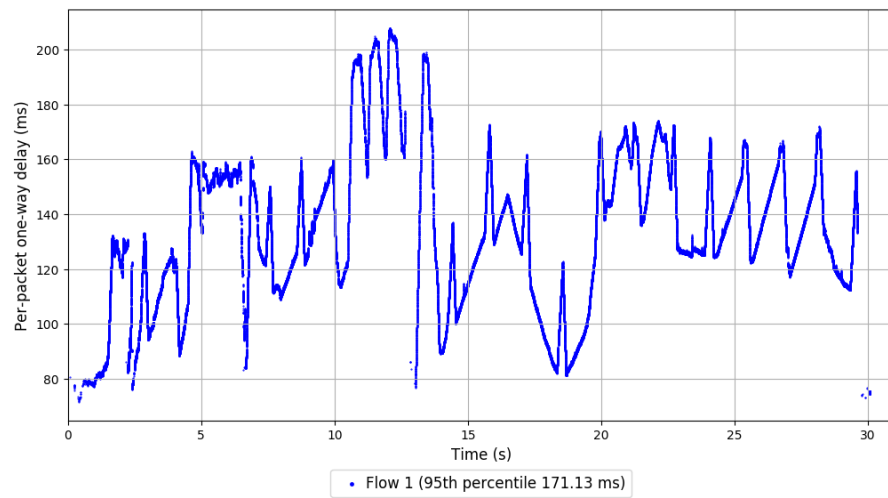
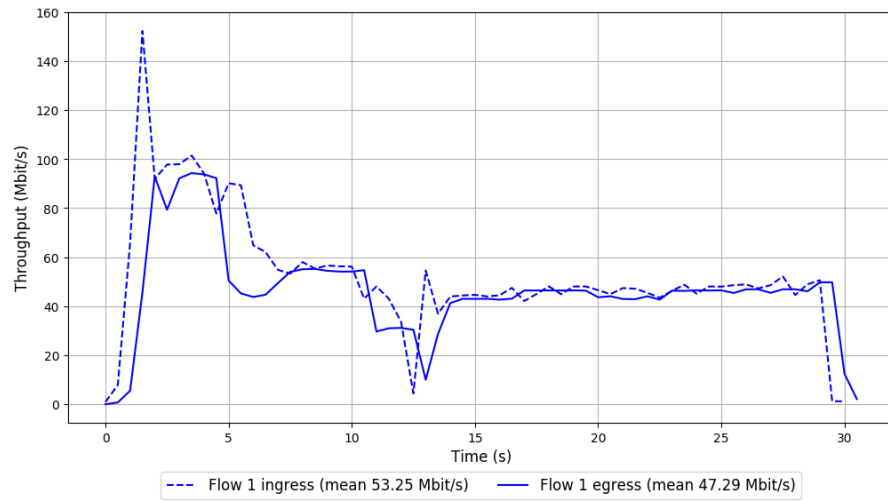


Run 3: Statistics of TCP BBR

Start at: 2018-11-30 04:50:17
End at: 2018-11-30 04:50:47
Local clock offset: 0.387 ms
Remote clock offset: -1.111 ms

Below is generated by plot.py at 2018-11-30 05:49:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 47.29 Mbit/s
95th percentile per-packet one-way delay: 171.127 ms
Loss rate: 11.21%
-- Flow 1:
Average throughput: 47.29 Mbit/s
95th percentile per-packet one-way delay: 171.127 ms
Loss rate: 11.21%

Run 3: Report of TCP BBR — Data Link

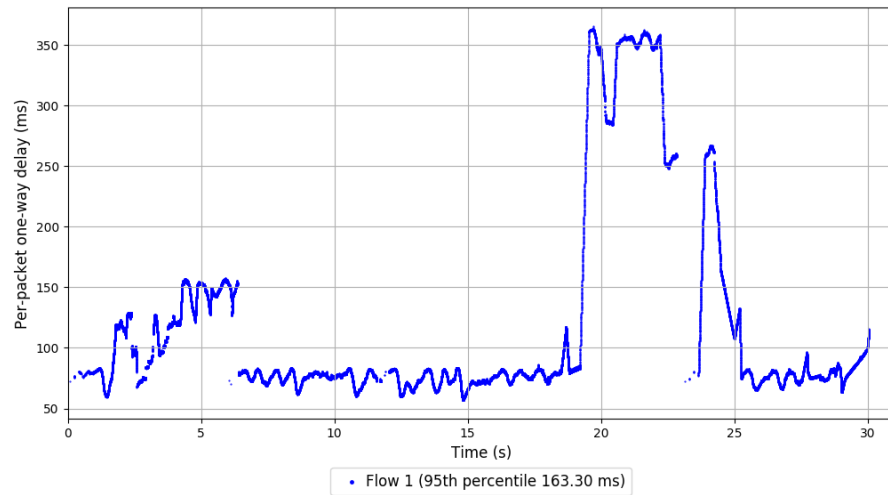
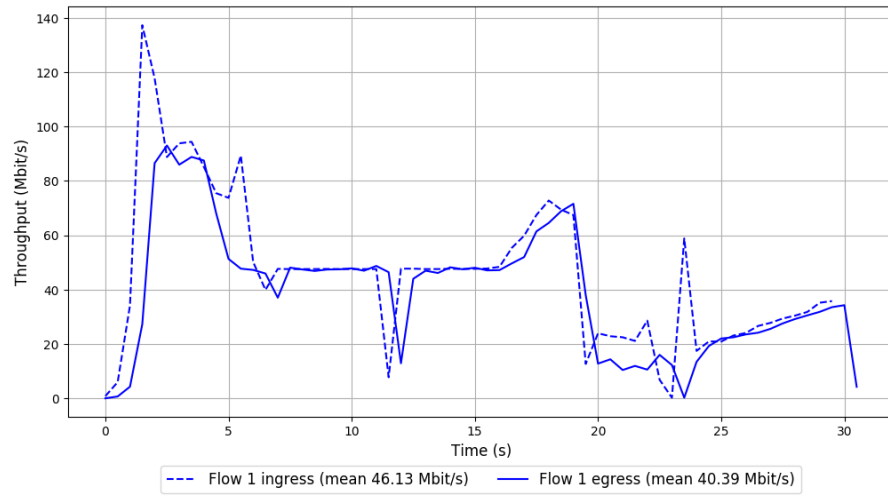


Run 4: Statistics of TCP BBR

Start at: 2018-11-30 05:13:08
End at: 2018-11-30 05:13:38
Local clock offset: -0.583 ms
Remote clock offset: 15.315 ms

Below is generated by plot.py at 2018-11-30 05:49:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 40.39 Mbit/s
95th percentile per-packet one-way delay: 163.296 ms
Loss rate: 12.40%
-- Flow 1:
Average throughput: 40.39 Mbit/s
95th percentile per-packet one-way delay: 163.296 ms
Loss rate: 12.40%

Run 4: Report of TCP BBR — Data Link

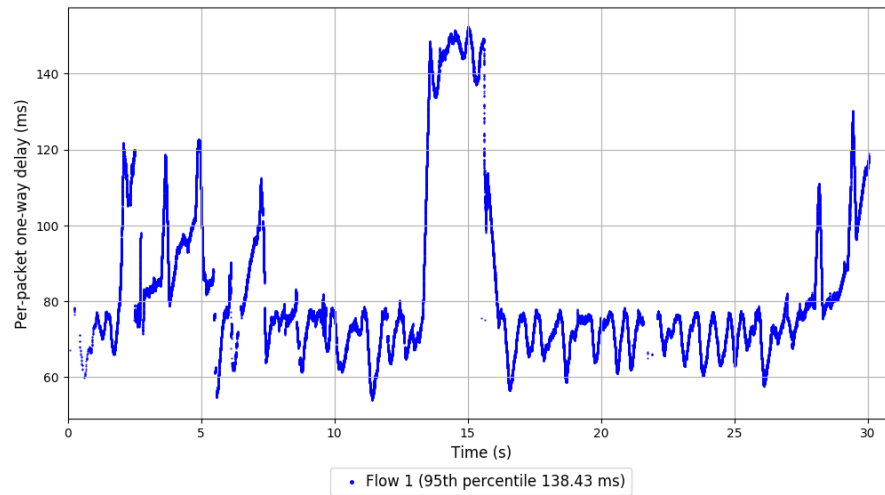
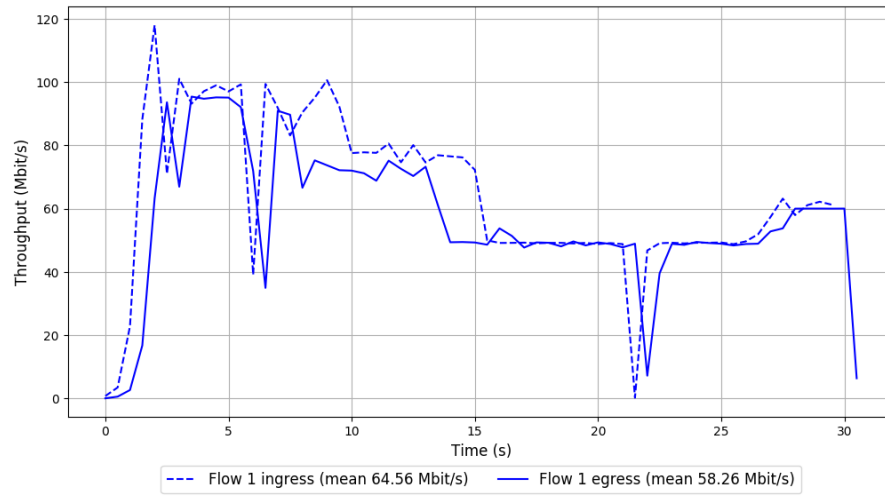


Run 5: Statistics of TCP BBR

Start at: 2018-11-30 05:35:59
End at: 2018-11-30 05:36:29
Local clock offset: 2.07 ms
Remote clock offset: 25.414 ms

Below is generated by plot.py at 2018-11-30 05:50:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 58.26 Mbit/s
95th percentile per-packet one-way delay: 138.425 ms
Loss rate: 9.74%
-- Flow 1:
Average throughput: 58.26 Mbit/s
95th percentile per-packet one-way delay: 138.425 ms
Loss rate: 9.74%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

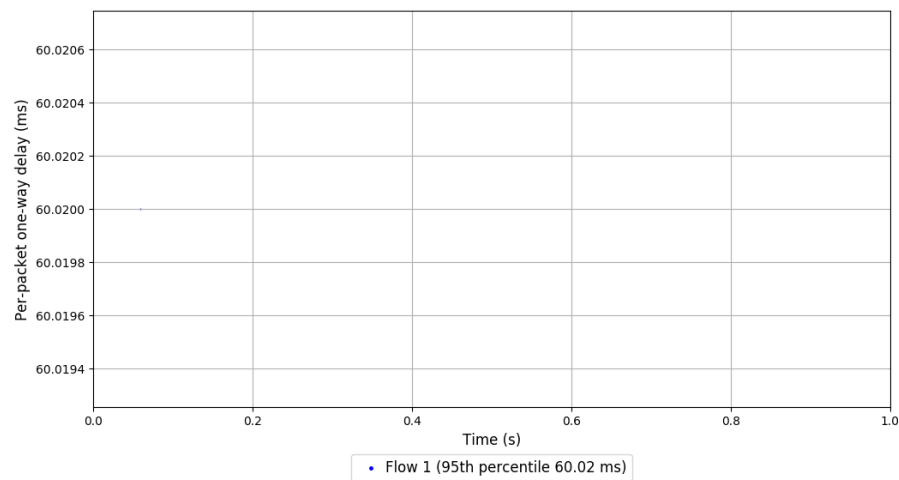
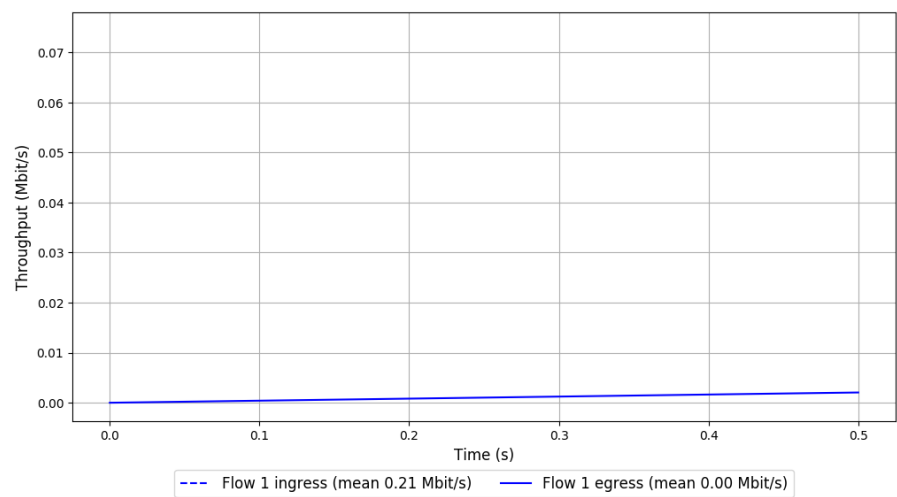
Start at: 2018-11-30 04:07:16

End at: 2018-11-30 04:07:46

Local clock offset: 1.174 ms

Remote clock offset: -11.205 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

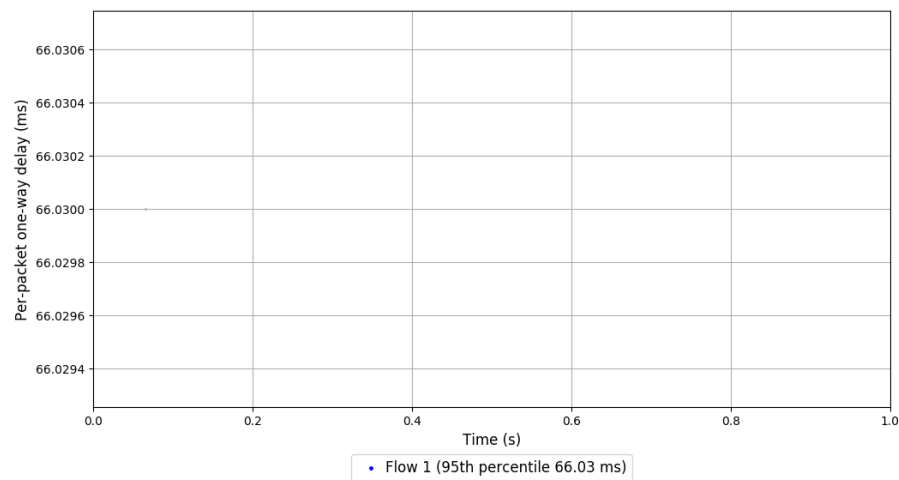
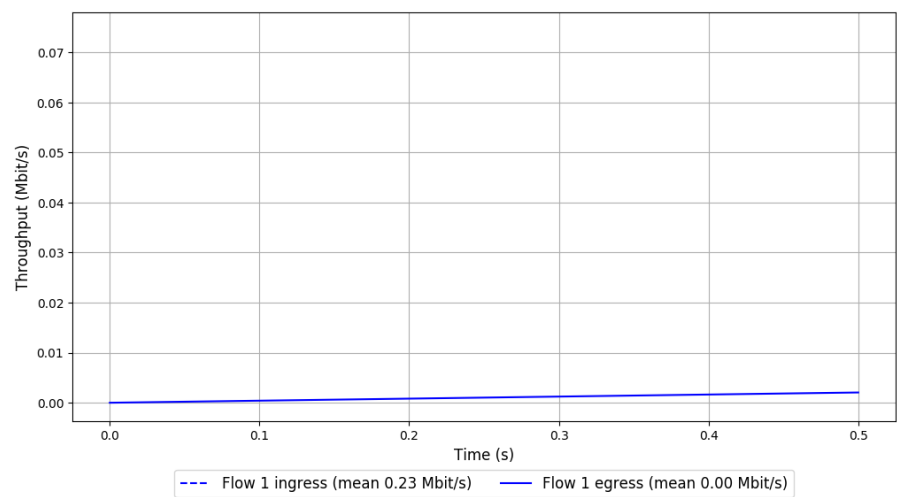
Start at: 2018-11-30 04:29:57

End at: 2018-11-30 04:30:27

Local clock offset: 1.057 ms

Remote clock offset: -14.44 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

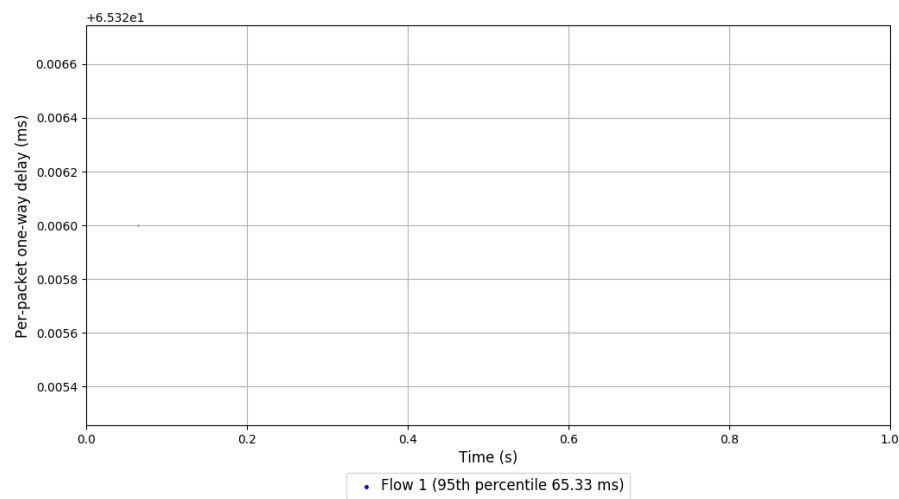
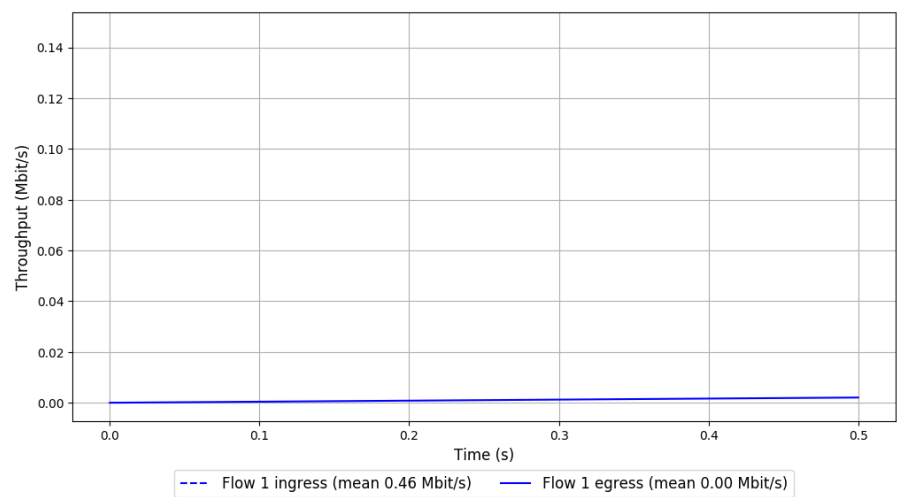
Start at: 2018-11-30 04:52:40

End at: 2018-11-30 04:53:10

Local clock offset: 0.212 ms

Remote clock offset: -11.007 ms

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

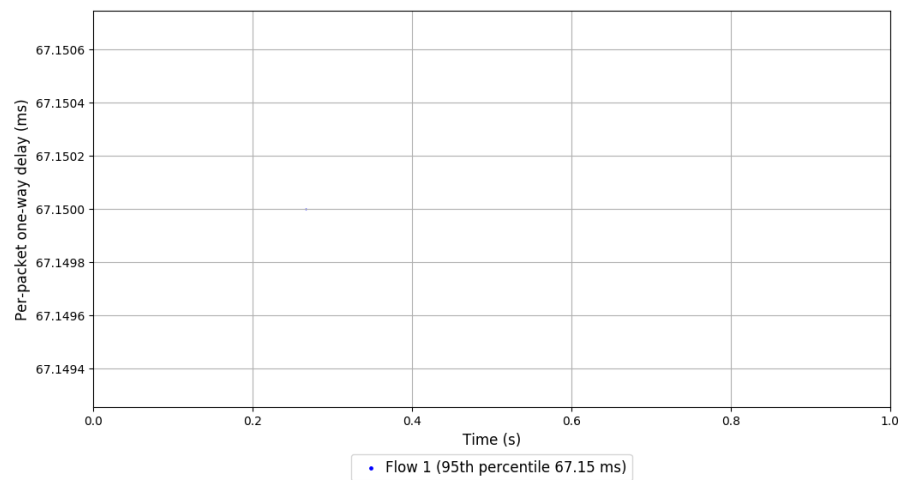
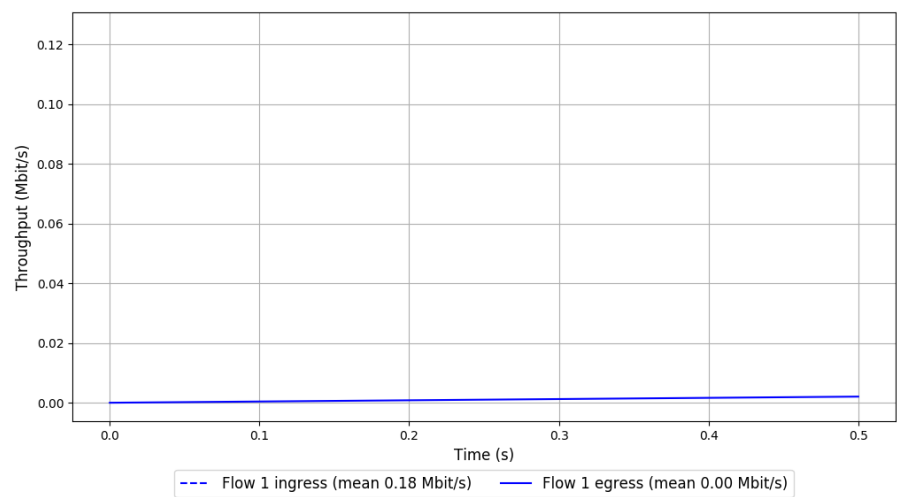
Start at: 2018-11-30 05:15:32

End at: 2018-11-30 05:16:02

Local clock offset: -0.655 ms

Remote clock offset: 12.147 ms

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

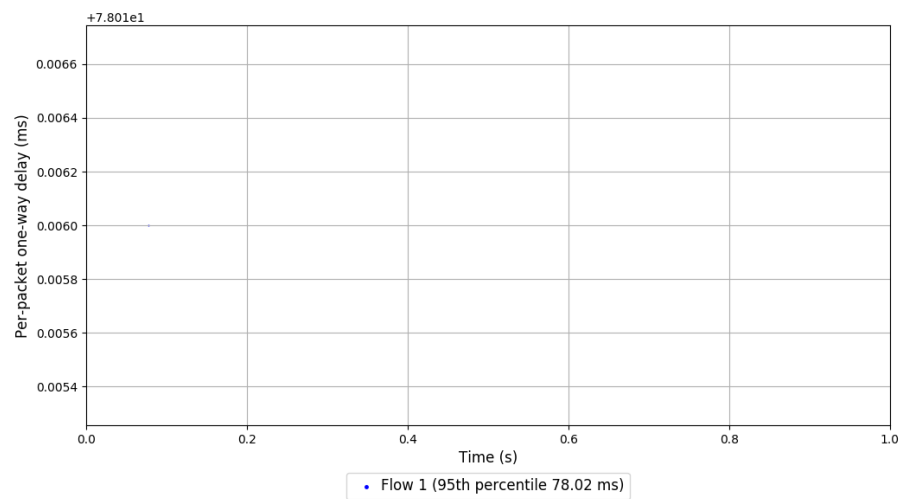
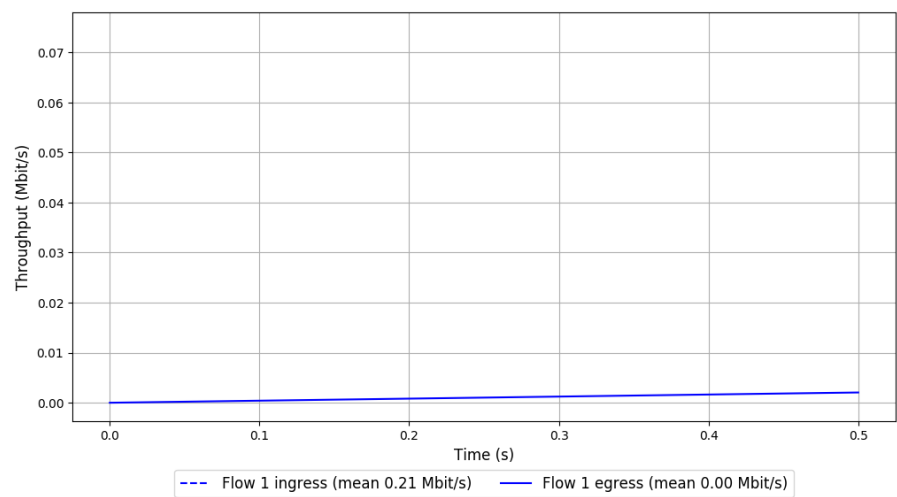
Start at: 2018-11-30 05:38:25

End at: 2018-11-30 05:38:55

Local clock offset: 2.365 ms

Remote clock offset: 33.703 ms

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-11-30 03:58:54

End at: 2018-11-30 03:59:24

Local clock offset: 2.972 ms

Remote clock offset: -4.95 ms

Below is generated by plot.py at 2018-11-30 05:50:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 47.87 Mbit/s

95th percentile per-packet one-way delay: 94.524 ms

Loss rate: 0.51%

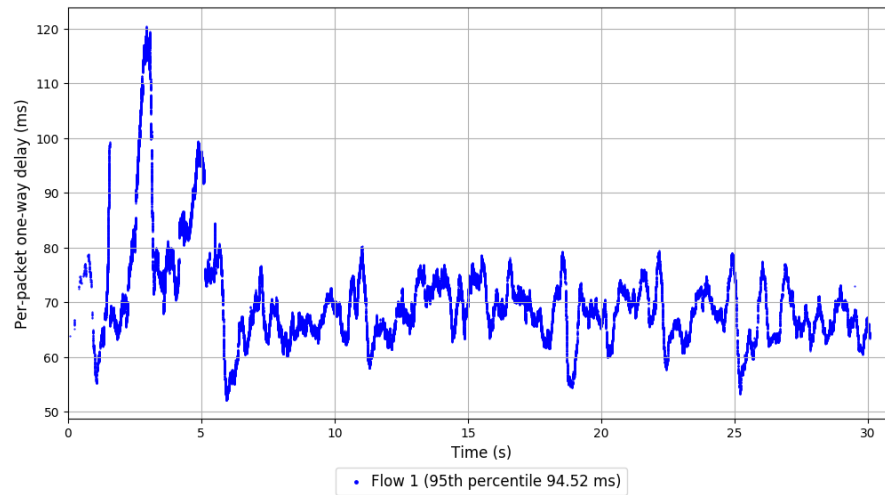
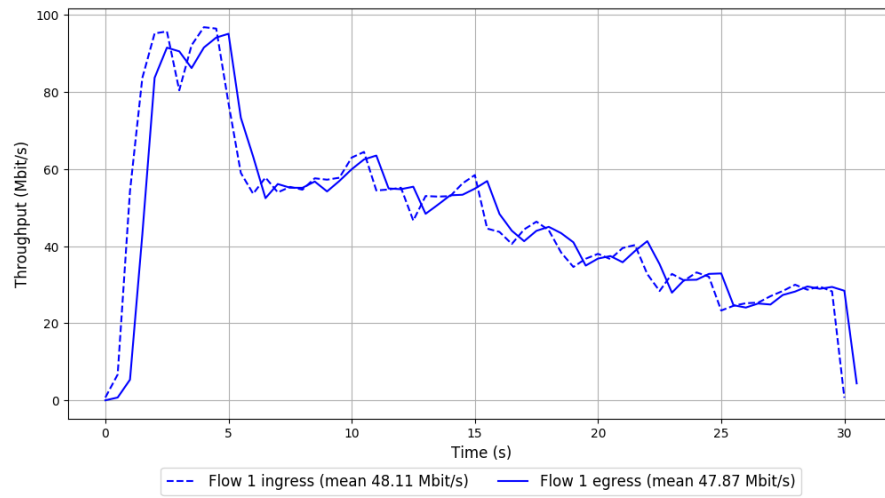
-- Flow 1:

Average throughput: 47.87 Mbit/s

95th percentile per-packet one-way delay: 94.524 ms

Loss rate: 0.51%

Run 1: Report of TCP Cubic — Data Link

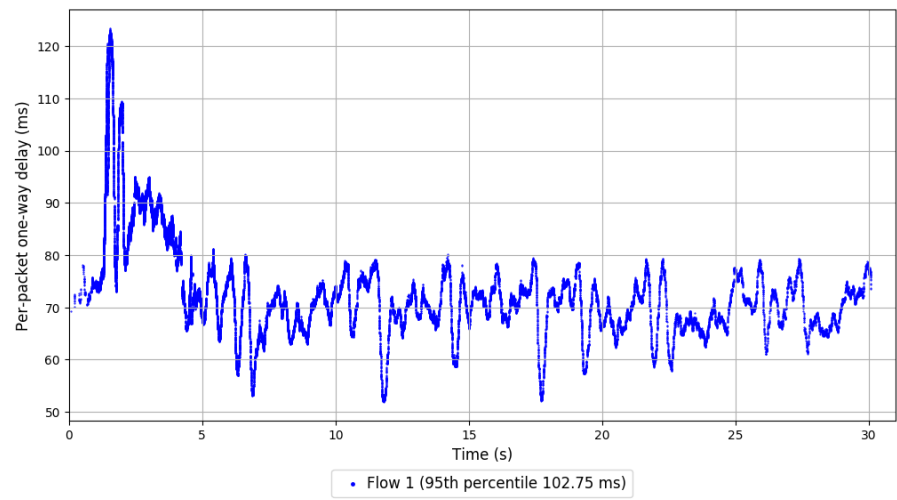
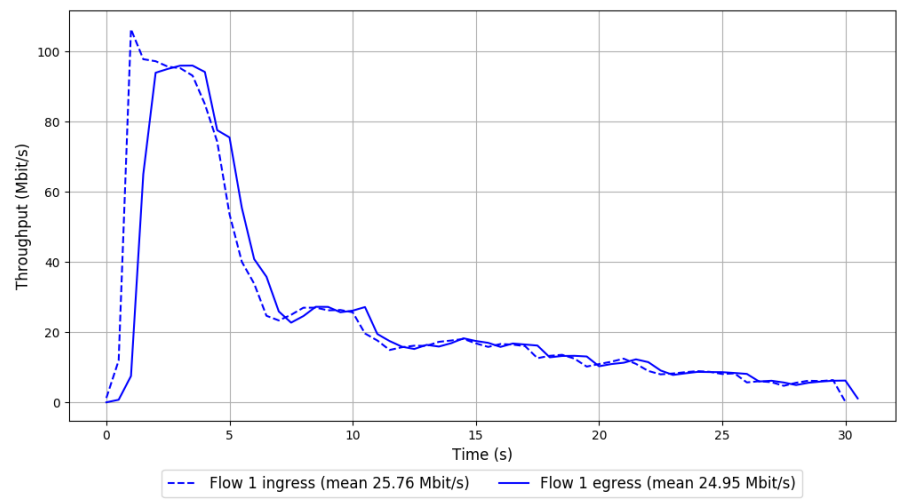


Run 2: Statistics of TCP Cubic

Start at: 2018-11-30 04:21:43
End at: 2018-11-30 04:22:13
Local clock offset: 0.913 ms
Remote clock offset: -12.925 ms

Below is generated by plot.py at 2018-11-30 05:50:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.95 Mbit/s
95th percentile per-packet one-way delay: 102.750 ms
Loss rate: 3.13%
-- Flow 1:
Average throughput: 24.95 Mbit/s
95th percentile per-packet one-way delay: 102.750 ms
Loss rate: 3.13%

Run 2: Report of TCP Cubic — Data Link

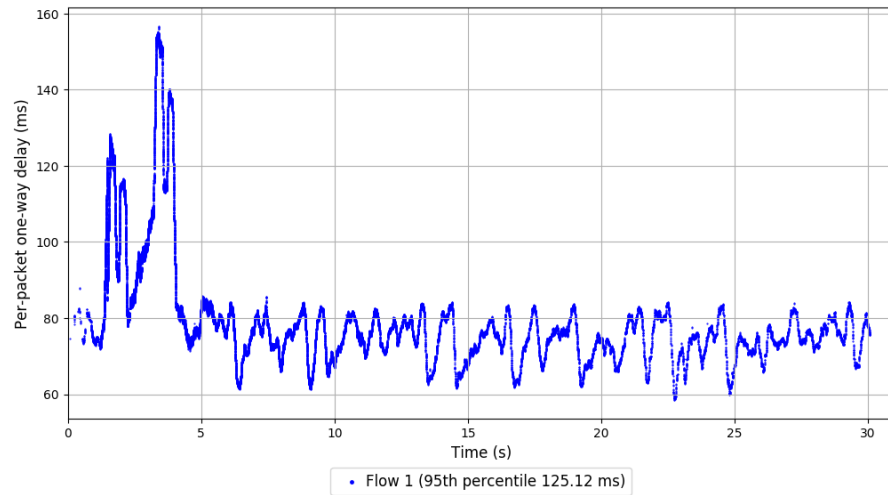
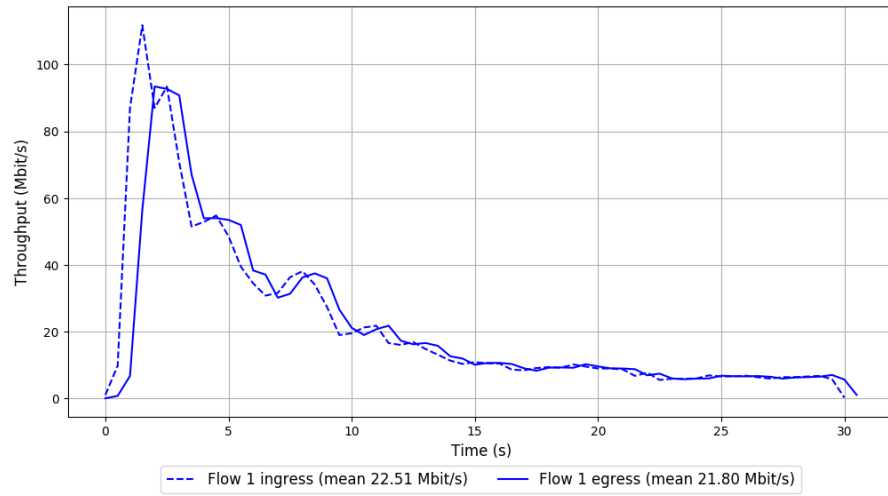


Run 3: Statistics of TCP Cubic

Start at: 2018-11-30 04:44:24
End at: 2018-11-30 04:44:54
Local clock offset: 0.54 ms
Remote clock offset: -6.341 ms

Below is generated by plot.py at 2018-11-30 05:50:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 21.80 Mbit/s
95th percentile per-packet one-way delay: 125.116 ms
Loss rate: 3.13%
-- Flow 1:
Average throughput: 21.80 Mbit/s
95th percentile per-packet one-way delay: 125.116 ms
Loss rate: 3.13%

Run 3: Report of TCP Cubic — Data Link

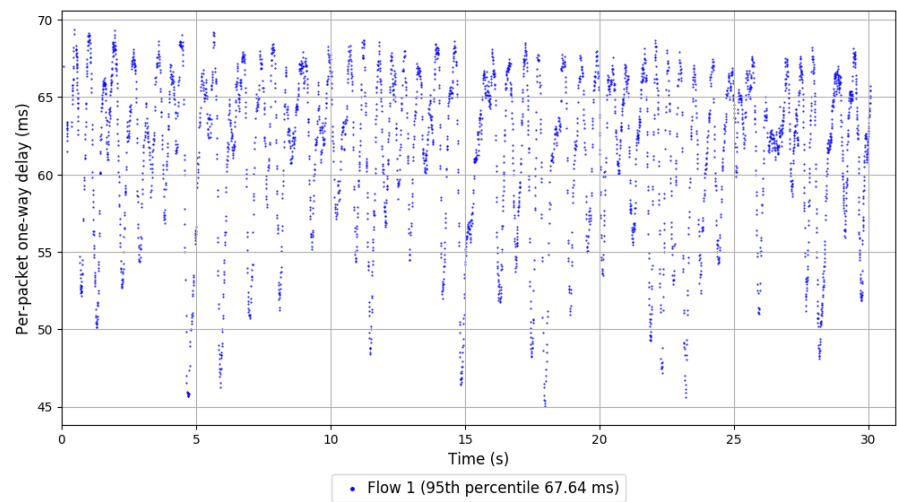
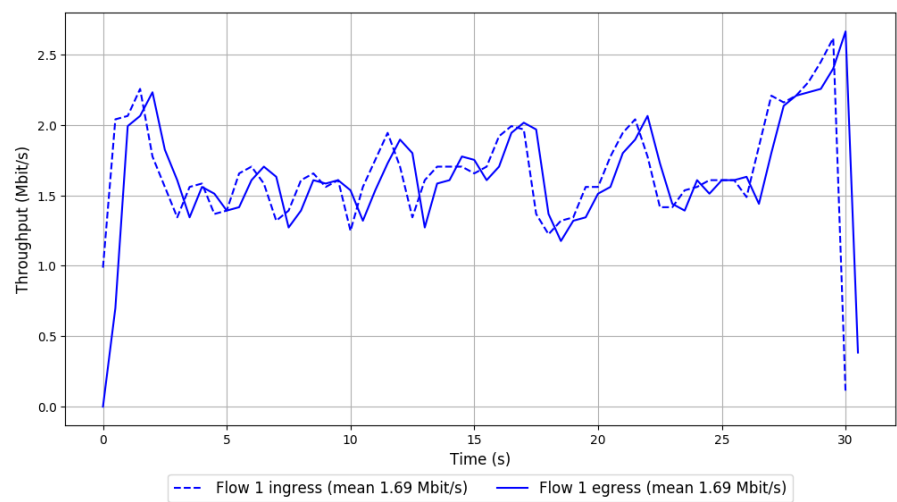


Run 4: Statistics of TCP Cubic

Start at: 2018-11-30 05:07:14
End at: 2018-11-30 05:07:44
Local clock offset: -0.476 ms
Remote clock offset: -0.137 ms

Below is generated by plot.py at 2018-11-30 05:50:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 67.639 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 67.639 ms
Loss rate: 0.38%

Run 4: Report of TCP Cubic — Data Link

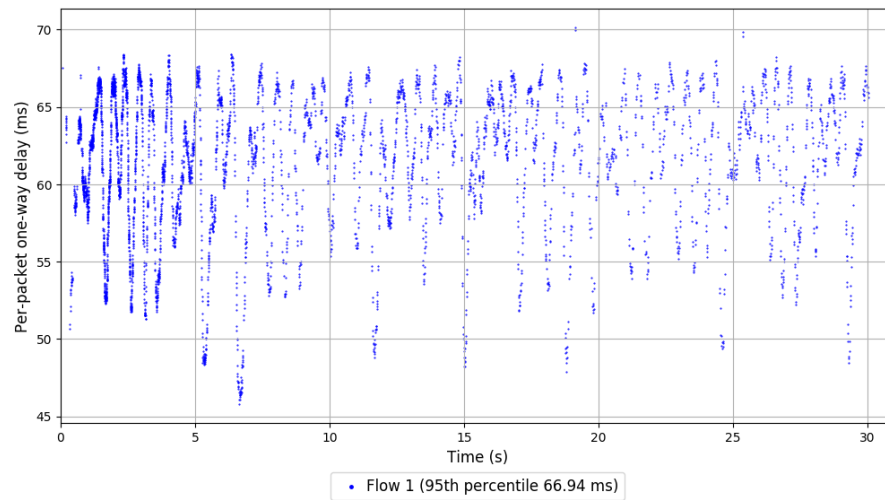
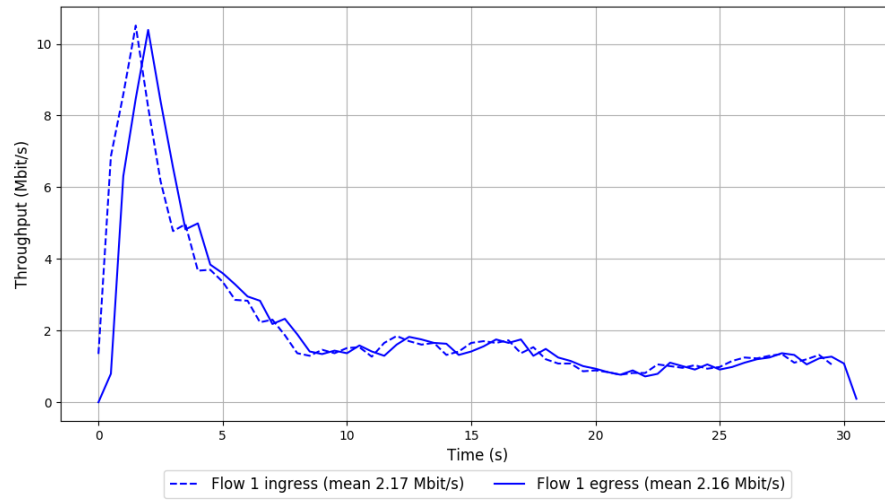


Run 5: Statistics of TCP Cubic

Start at: 2018-11-30 05:30:07
End at: 2018-11-30 05:30:37
Local clock offset: 1.923 ms
Remote clock offset: 22.035 ms

Below is generated by plot.py at 2018-11-30 05:50:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 66.945 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 66.945 ms
Loss rate: 0.53%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-11-30 03:56:29

End at: 2018-11-30 03:56:59

Local clock offset: 3.564 ms

Remote clock offset: 7.414 ms

Below is generated by plot.py at 2018-11-30 05:51:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.84 Mbit/s

95th percentile per-packet one-way delay: 96.616 ms

Loss rate: 1.04%

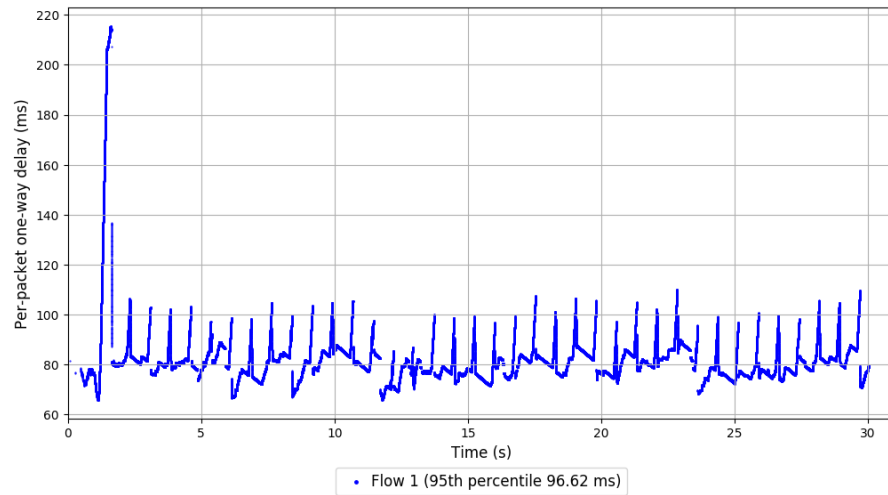
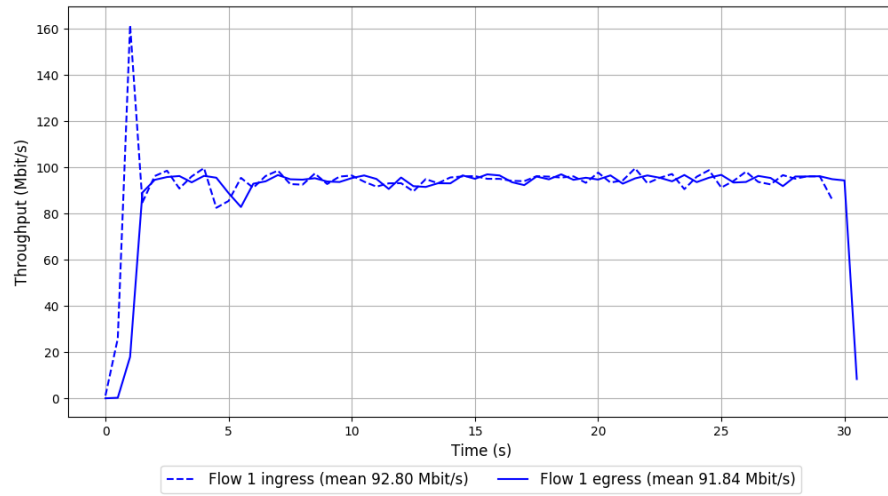
-- Flow 1:

Average throughput: 91.84 Mbit/s

95th percentile per-packet one-way delay: 96.616 ms

Loss rate: 1.04%

Run 1: Report of FillP — Data Link

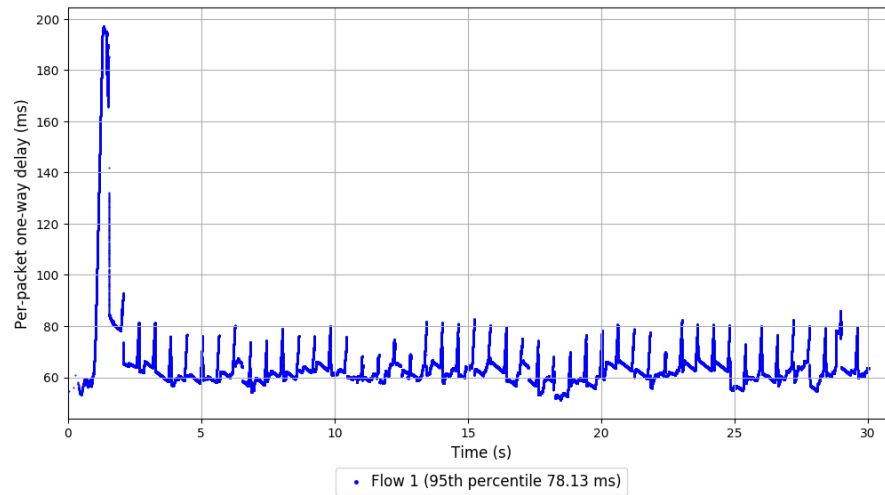
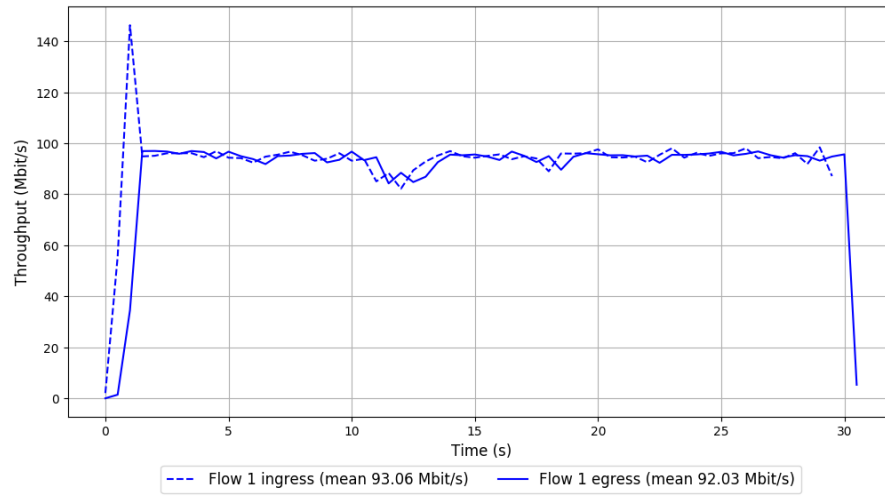


Run 2: Statistics of FillP

Start at: 2018-11-30 04:19:18
End at: 2018-11-30 04:19:48
Local clock offset: 0.766 ms
Remote clock offset: -15.454 ms

Below is generated by plot.py at 2018-11-30 05:51:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 92.03 Mbit/s
95th percentile per-packet one-way delay: 78.131 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 92.03 Mbit/s
95th percentile per-packet one-way delay: 78.131 ms
Loss rate: 1.08%

Run 2: Report of FillP — Data Link

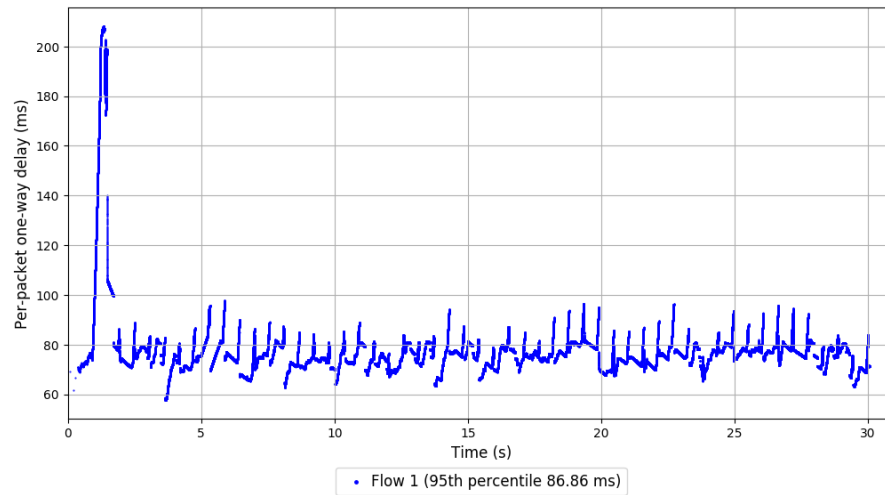
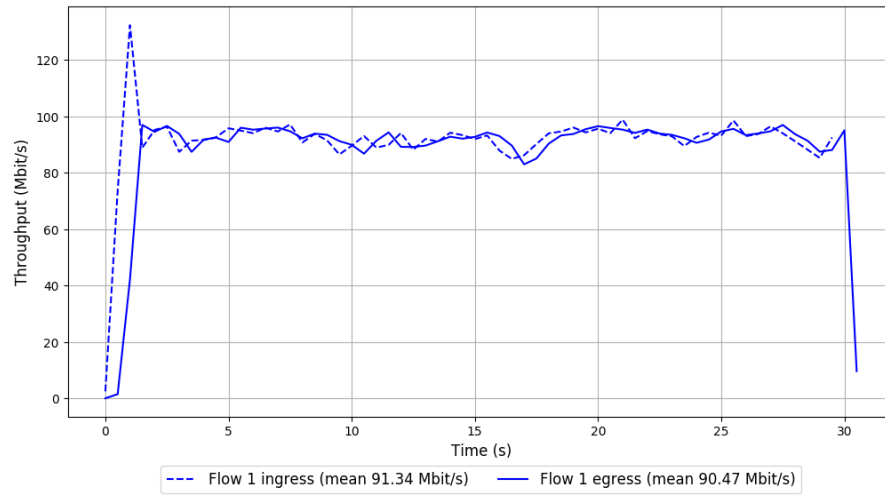


Run 3: Statistics of FillP

Start at: 2018-11-30 04:41:59
End at: 2018-11-30 04:42:29
Local clock offset: 0.505 ms
Remote clock offset: -7.955 ms

Below is generated by plot.py at 2018-11-30 05:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.47 Mbit/s
95th percentile per-packet one-way delay: 86.863 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 90.47 Mbit/s
95th percentile per-packet one-way delay: 86.863 ms
Loss rate: 0.95%

Run 3: Report of FillP — Data Link

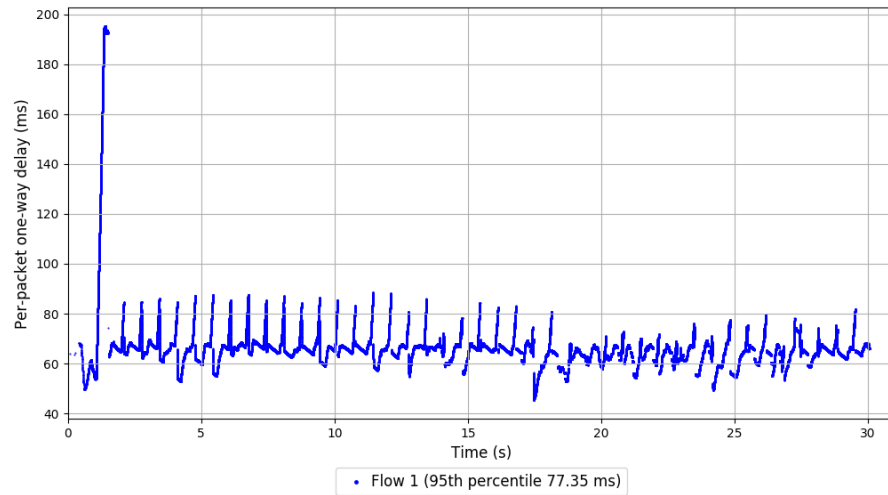
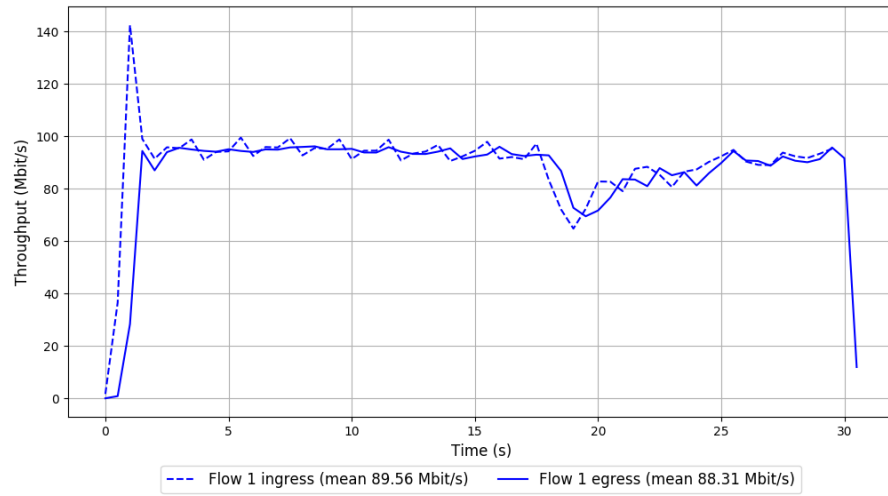


Run 4: Statistics of FillP

Start at: 2018-11-30 05:04:47
End at: 2018-11-30 05:05:17
Local clock offset: -0.393 ms
Remote clock offset: -4.631 ms

Below is generated by plot.py at 2018-11-30 05:51:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 88.31 Mbit/s
95th percentile per-packet one-way delay: 77.354 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 88.31 Mbit/s
95th percentile per-packet one-way delay: 77.354 ms
Loss rate: 1.39%

Run 4: Report of FillP — Data Link

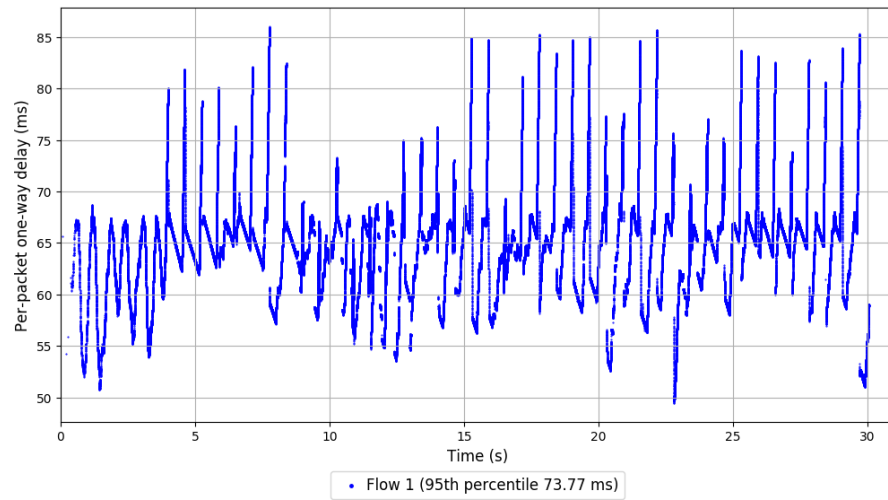
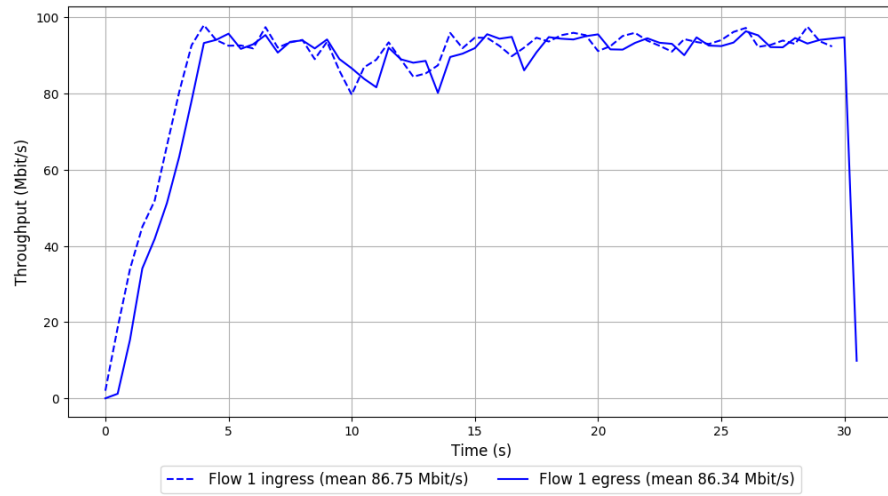


Run 5: Statistics of FillP

Start at: 2018-11-30 05:27:40
End at: 2018-11-30 05:28:10
Local clock offset: 1.577 ms
Remote clock offset: 21.057 ms

Below is generated by plot.py at 2018-11-30 05:51:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.34 Mbit/s
95th percentile per-packet one-way delay: 73.771 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 86.34 Mbit/s
95th percentile per-packet one-way delay: 73.771 ms
Loss rate: 0.50%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-11-30 04:08:25

End at: 2018-11-30 04:08:55

Local clock offset: 0.936 ms

Remote clock offset: -4.843 ms

Below is generated by plot.py at 2018-11-30 05:51:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.57 Mbit/s

95th percentile per-packet one-way delay: 77.833 ms

Loss rate: 0.68%

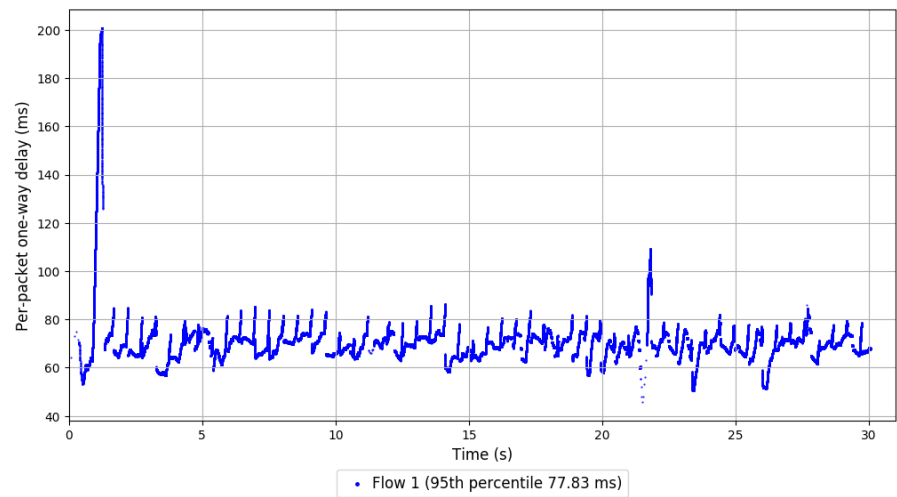
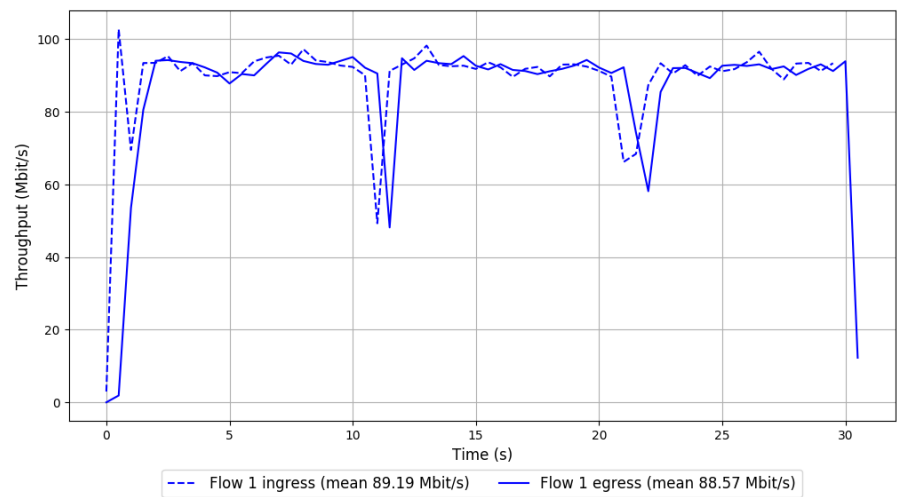
-- Flow 1:

Average throughput: 88.57 Mbit/s

95th percentile per-packet one-way delay: 77.833 ms

Loss rate: 0.68%

Run 1: Report of FillP-Sheep — Data Link

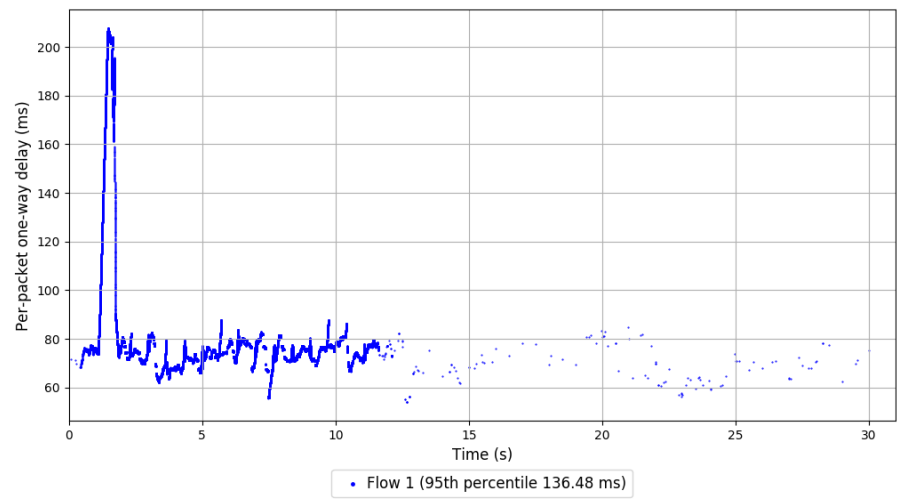
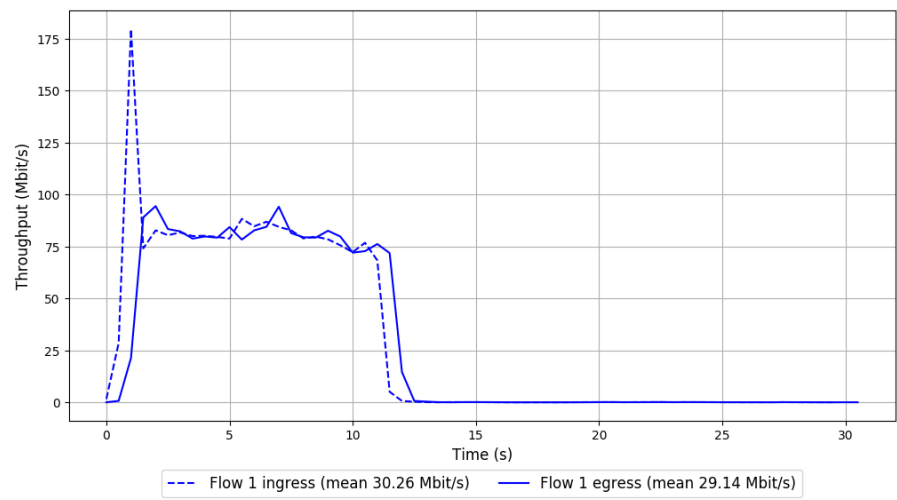


Run 2: Statistics of FillP-Sheep

Start at: 2018-11-30 04:31:06
End at: 2018-11-30 04:31:36
Local clock offset: 1.107 ms
Remote clock offset: -8.828 ms

Below is generated by plot.py at 2018-11-30 05:51:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 29.14 Mbit/s
95th percentile per-packet one-way delay: 136.479 ms
Loss rate: 3.68%
-- Flow 1:
Average throughput: 29.14 Mbit/s
95th percentile per-packet one-way delay: 136.479 ms
Loss rate: 3.68%

Run 2: Report of FillP-Sheep — Data Link

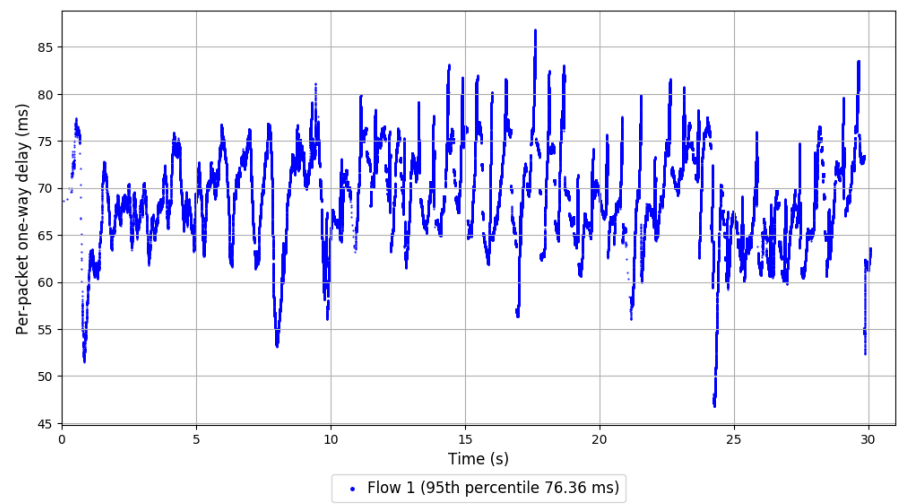
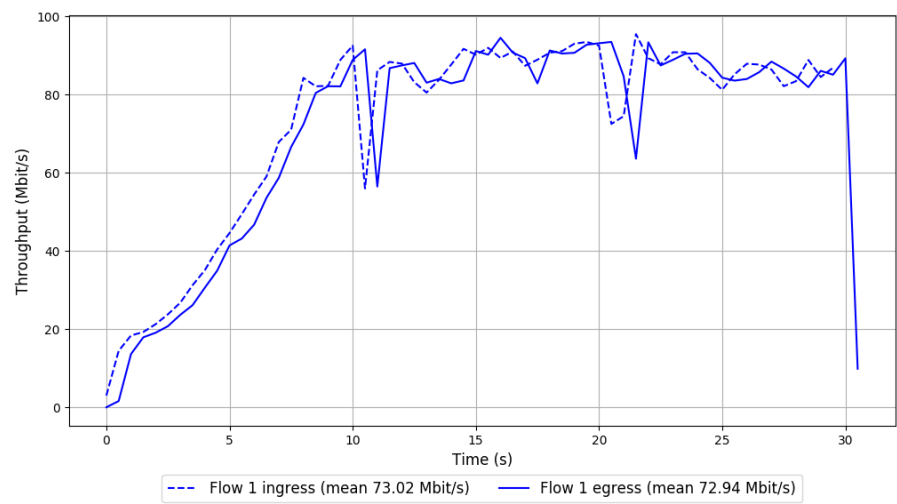


Run 3: Statistics of FillP-Sheep

Start at: 2018-11-30 04:53:49
End at: 2018-11-30 04:54:19
Local clock offset: 0.04 ms
Remote clock offset: -12.58 ms

Below is generated by plot.py at 2018-11-30 05:51:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 72.94 Mbit/s
95th percentile per-packet one-way delay: 76.365 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 72.94 Mbit/s
95th percentile per-packet one-way delay: 76.365 ms
Loss rate: 0.13%

Run 3: Report of FillP-Sheep — Data Link

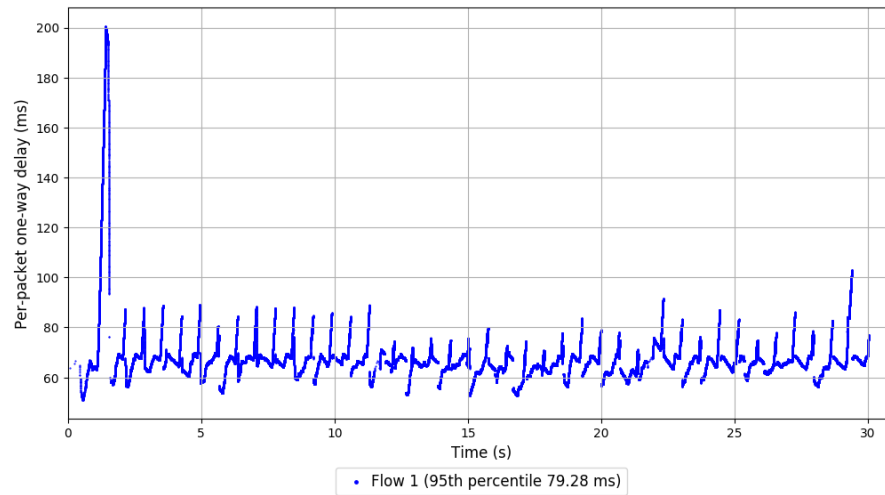
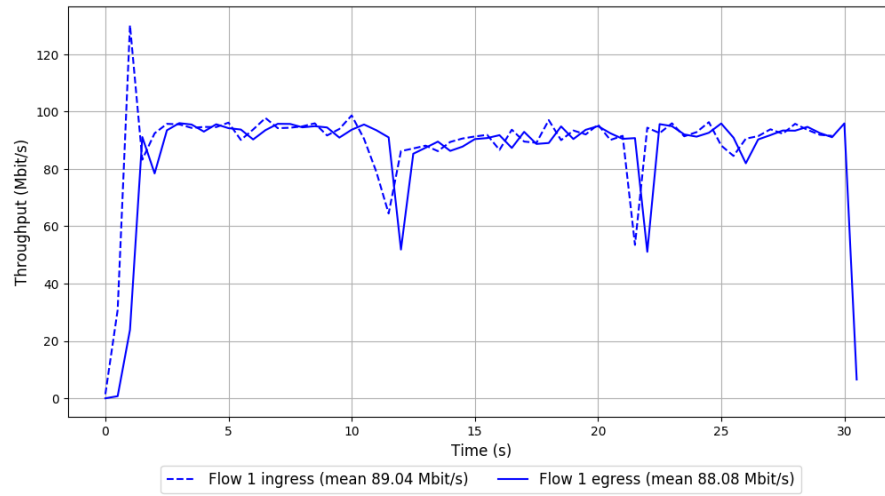


Run 4: Statistics of FillP-Sheep

Start at: 2018-11-30 05:16:41
End at: 2018-11-30 05:17:11
Local clock offset: -0.224 ms
Remote clock offset: 14.543 ms

Below is generated by plot.py at 2018-11-30 05:51:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 88.08 Mbit/s
95th percentile per-packet one-way delay: 79.280 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 88.08 Mbit/s
95th percentile per-packet one-way delay: 79.280 ms
Loss rate: 1.06%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-11-30 05:39:34

End at: 2018-11-30 05:40:04

Local clock offset: 2.2 ms

Remote clock offset: 33.795 ms

Below is generated by plot.py at 2018-11-30 05:52:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.50 Mbit/s

95th percentile per-packet one-way delay: 82.979 ms

Loss rate: 0.88%

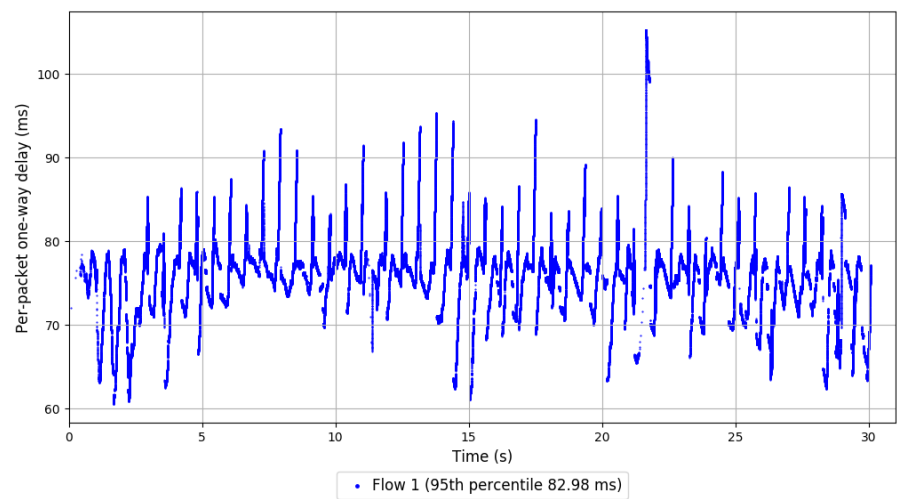
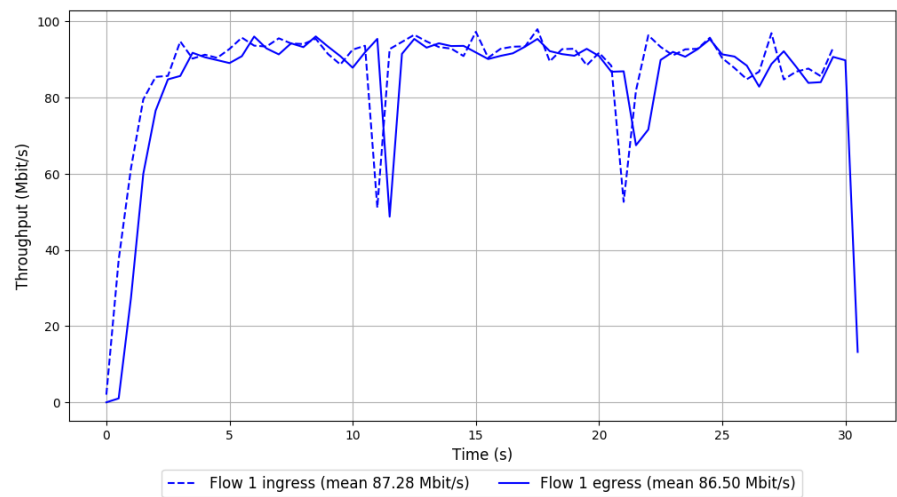
-- Flow 1:

Average throughput: 86.50 Mbit/s

95th percentile per-packet one-way delay: 82.979 ms

Loss rate: 0.88%

Run 5: Report of FillP-Sheep — Data Link

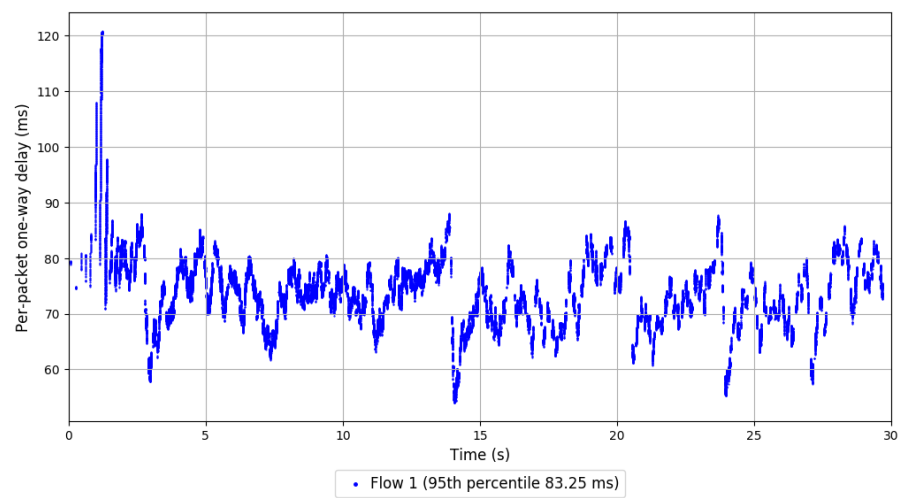
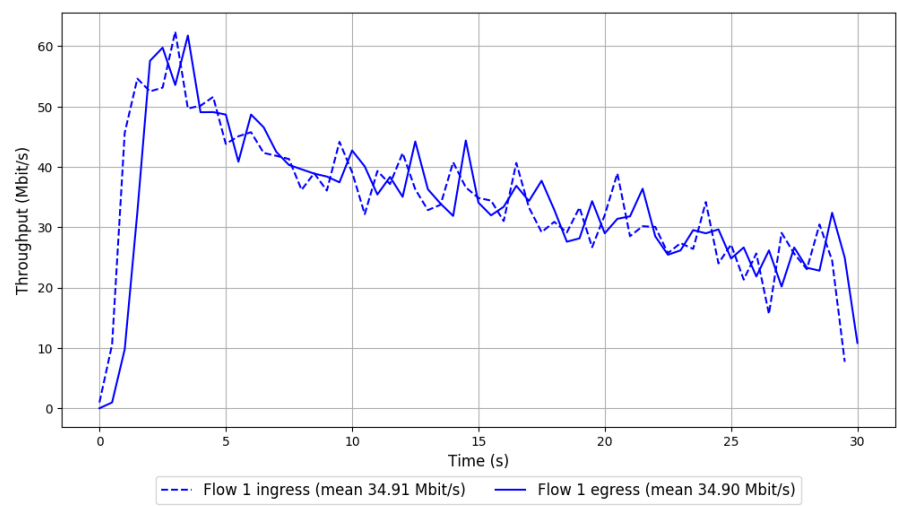


```
Run 1: Statistics of Indigo

Start at: 2018-11-30 04:01:18
End at: 2018-11-30 04:01:48
Local clock offset: 2.212 ms
Remote clock offset: -0.86 ms

# Below is generated by plot.py at 2018-11-30 05:52:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 34.90 Mbit/s
95th percentile per-packet one-way delay: 83.245 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 34.90 Mbit/s
95th percentile per-packet one-way delay: 83.245 ms
Loss rate: 0.04%
```

Run 1: Report of Indigo — Data Link

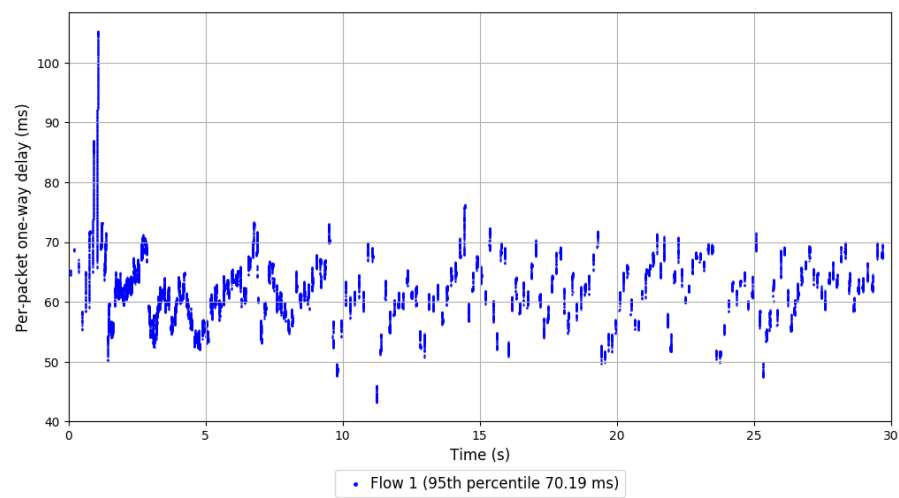
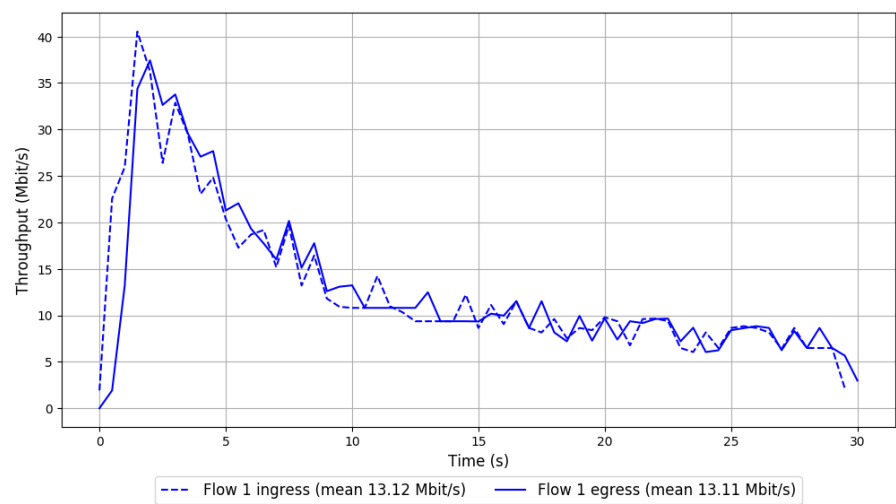


Run 2: Statistics of Indigo

Start at: 2018-11-30 04:24:04
End at: 2018-11-30 04:24:34
Local clock offset: 1.012 ms
Remote clock offset: -13.817 ms

Below is generated by plot.py at 2018-11-30 05:52:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 13.11 Mbit/s
95th percentile per-packet one-way delay: 70.193 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 13.11 Mbit/s
95th percentile per-packet one-way delay: 70.193 ms
Loss rate: 0.10%

Run 2: Report of Indigo — Data Link

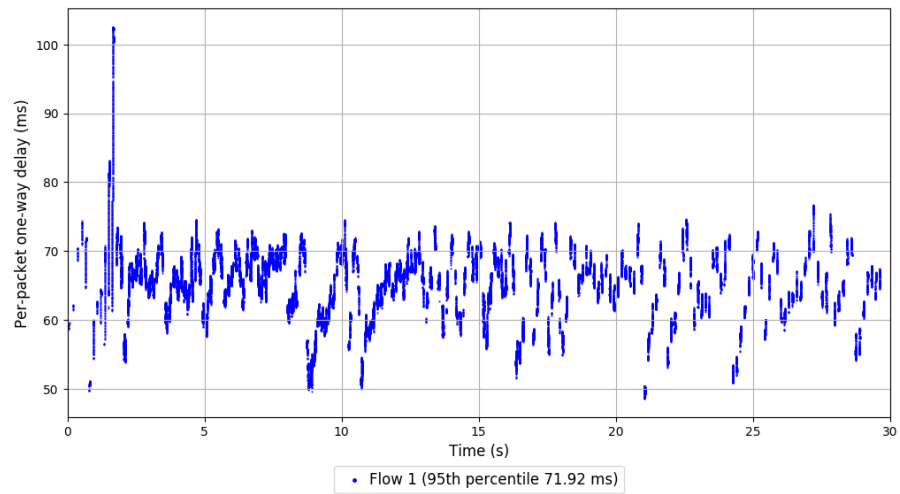
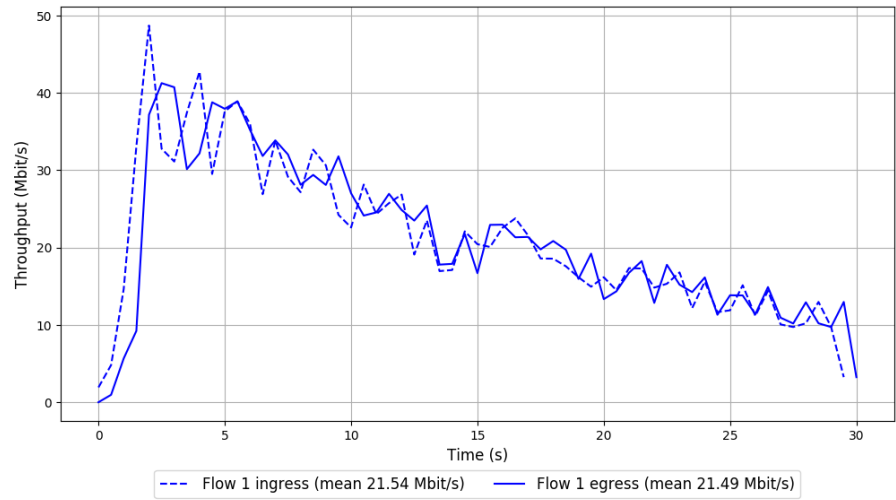


Run 3: Statistics of Indigo

Start at: 2018-11-30 04:46:45
End at: 2018-11-30 04:47:15
Local clock offset: 0.303 ms
Remote clock offset: -10.151 ms

Below is generated by plot.py at 2018-11-30 05:52:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 21.49 Mbit/s
95th percentile per-packet one-way delay: 71.922 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 21.49 Mbit/s
95th percentile per-packet one-way delay: 71.922 ms
Loss rate: 0.19%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-11-30 05:09:34

End at: 2018-11-30 05:10:04

Local clock offset: -0.441 ms

Remote clock offset: 4.632 ms

Below is generated by plot.py at 2018-11-30 05:52:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.67 Mbit/s

95th percentile per-packet one-way delay: 69.424 ms

Loss rate: 0.52%

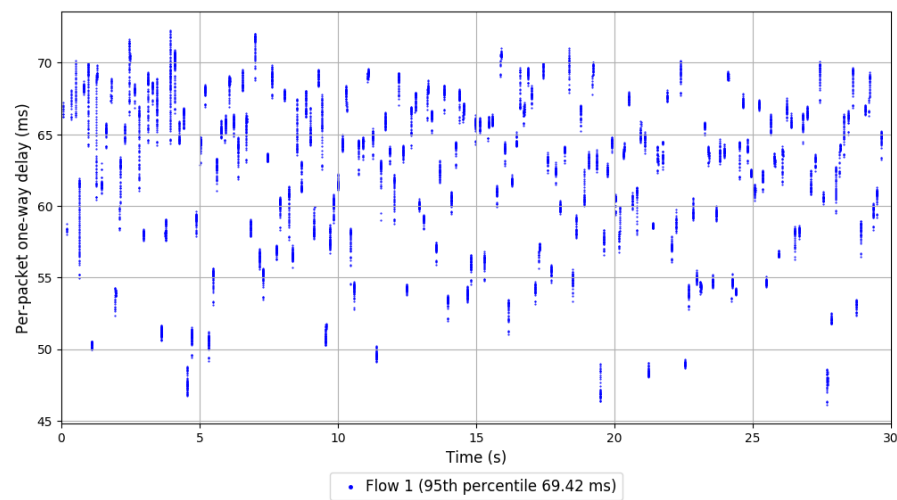
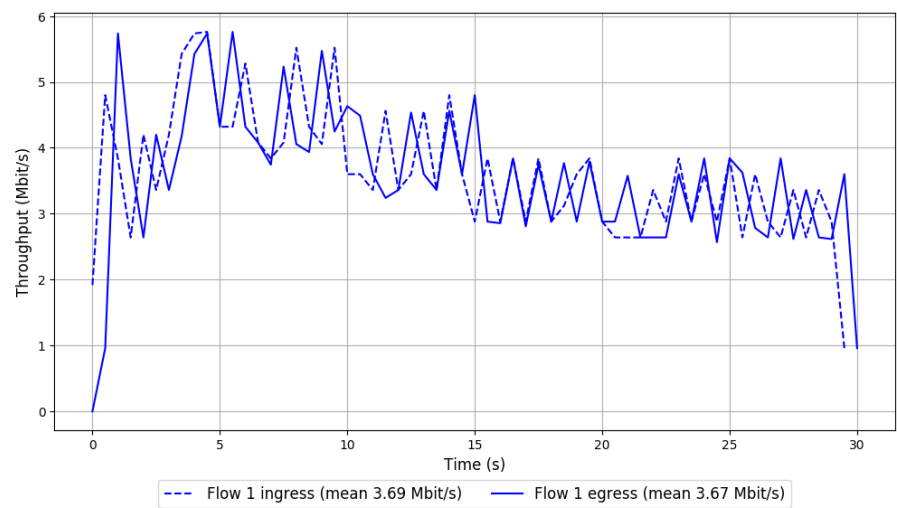
-- Flow 1:

Average throughput: 3.67 Mbit/s

95th percentile per-packet one-way delay: 69.424 ms

Loss rate: 0.52%

Run 4: Report of Indigo — Data Link

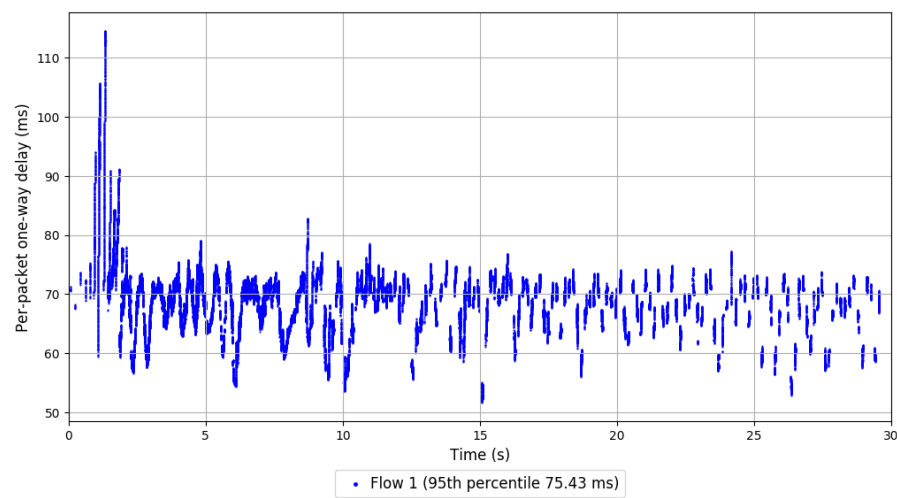
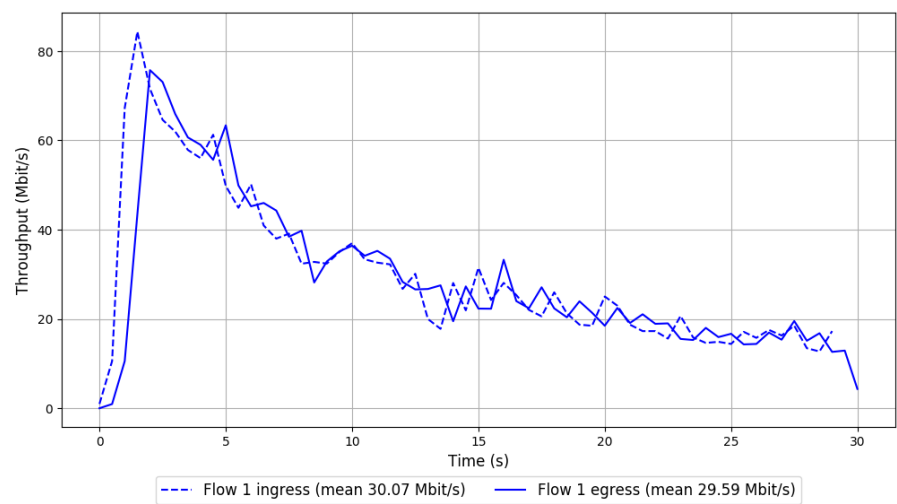


Run 5: Statistics of Indigo

Start at: 2018-11-30 05:32:27
End at: 2018-11-30 05:32:57
Local clock offset: 1.923 ms
Remote clock offset: 27.742 ms

Below is generated by plot.py at 2018-11-30 05:52:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 29.59 Mbit/s
95th percentile per-packet one-way delay: 75.430 ms
Loss rate: 1.59%
-- Flow 1:
Average throughput: 29.59 Mbit/s
95th percentile per-packet one-way delay: 75.430 ms
Loss rate: 1.59%

Run 5: Report of Indigo — Data Link

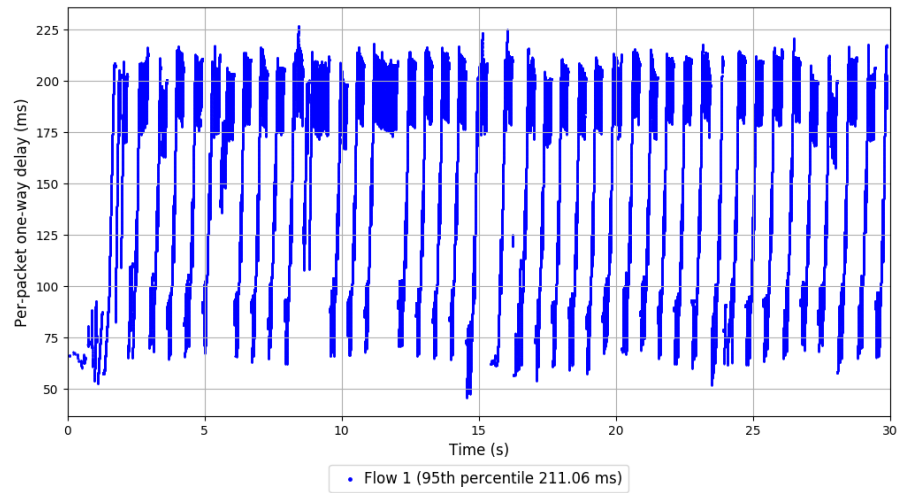
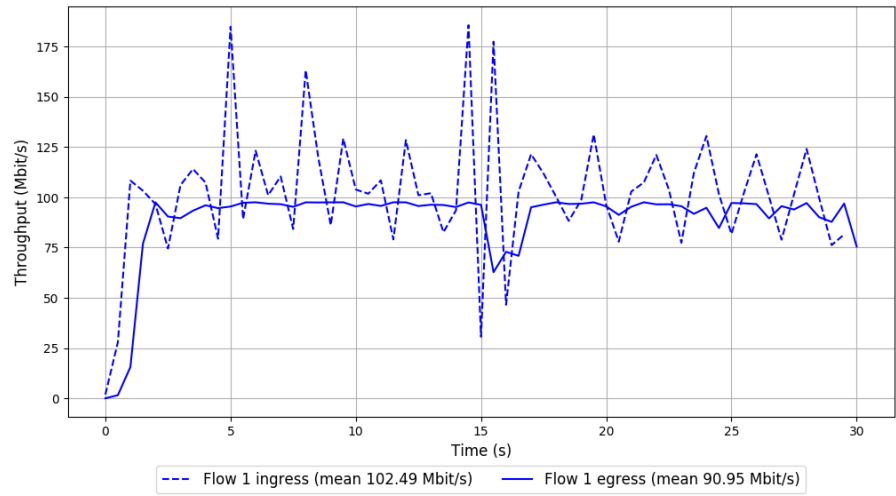


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-11-30 04:16:47
End at: 2018-11-30 04:17:17
Local clock offset: 0.568 ms
Remote clock offset: -9.228 ms

Below is generated by plot.py at 2018-11-30 05:52:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 90.95 Mbit/s
95th percentile per-packet one-way delay: 211.064 ms
Loss rate: 11.10%
-- Flow 1:
Average throughput: 90.95 Mbit/s
95th percentile per-packet one-way delay: 211.064 ms
Loss rate: 11.10%

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



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-11-30 04:39:24

End at: 2018-11-30 04:39:54

Local clock offset: 0.786 ms

Remote clock offset: -8.371 ms

Below is generated by plot.py at 2018-11-30 05:52:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 80.69 Mbit/s

95th percentile per-packet one-way delay: 221.789 ms

Loss rate: 34.59%

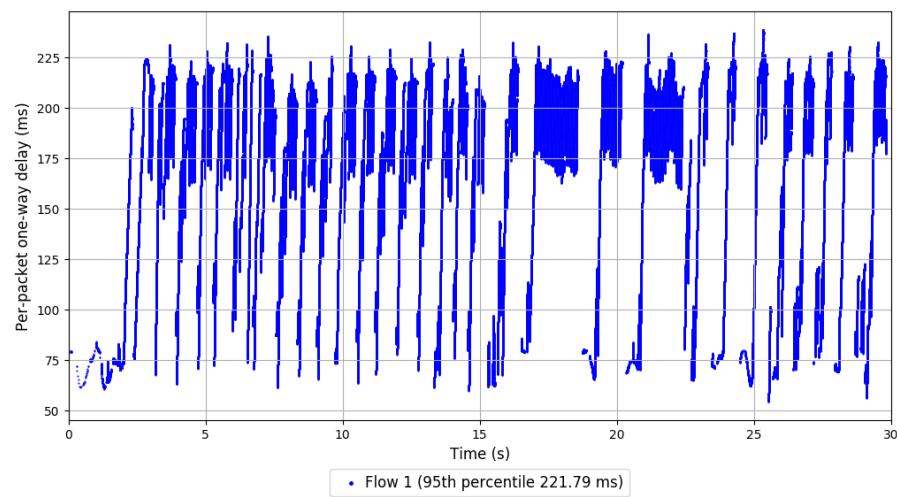
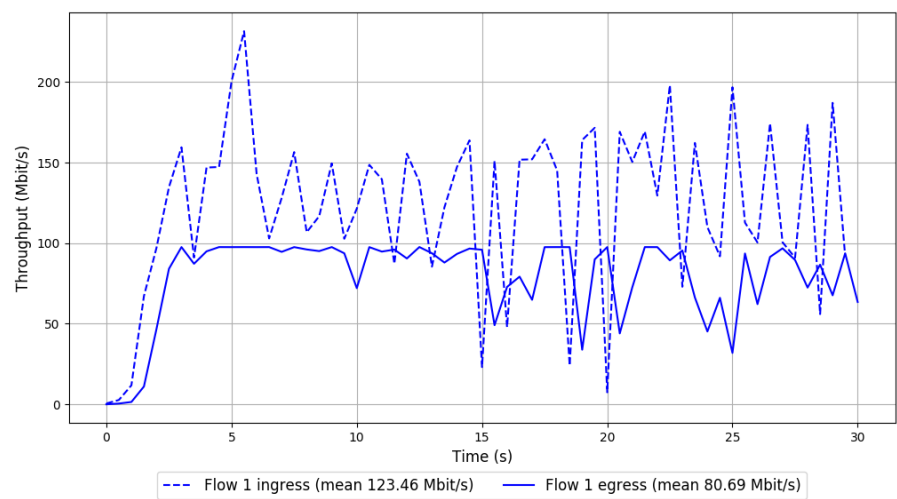
-- Flow 1:

Average throughput: 80.69 Mbit/s

95th percentile per-packet one-way delay: 221.789 ms

Loss rate: 34.59%

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

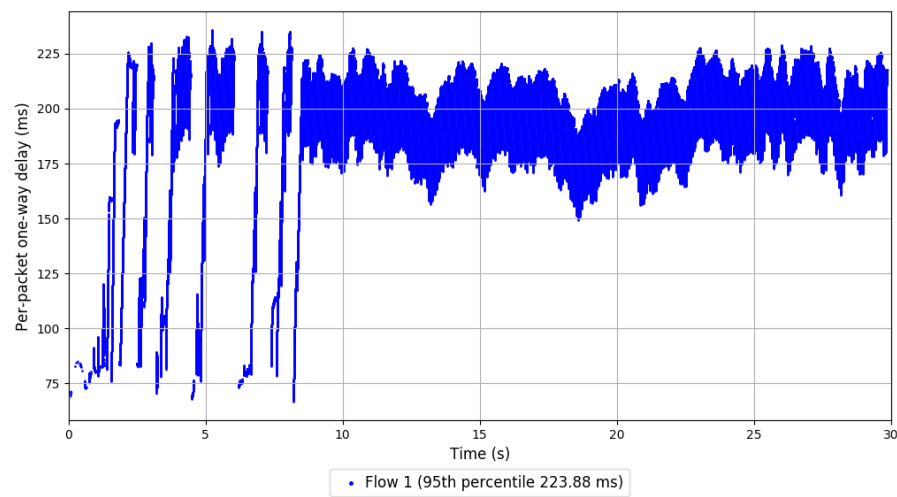
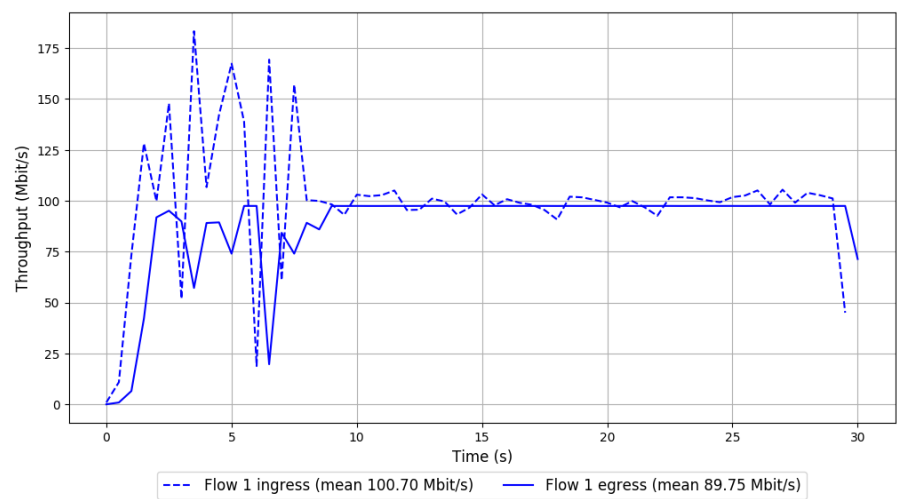


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-11-30 05:02:09
End at: 2018-11-30 05:02:39
Local clock offset: -0.282 ms
Remote clock offset: -4.213 ms

Below is generated by plot.py at 2018-11-30 05:52:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.75 Mbit/s
95th percentile per-packet one-way delay: 223.878 ms
Loss rate: 10.66%
-- Flow 1:
Average throughput: 89.75 Mbit/s
95th percentile per-packet one-way delay: 223.878 ms
Loss rate: 10.66%

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



Run 4: Statistics of Indigo-96d2da3

Start at: 2018-11-30 05:25:03

End at: 2018-11-30 05:25:33

Local clock offset: 1.435 ms

Remote clock offset: 22.023 ms

Below is generated by plot.py at 2018-11-30 05:52:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.47 Mbit/s

95th percentile per-packet one-way delay: 211.246 ms

Loss rate: 26.65%

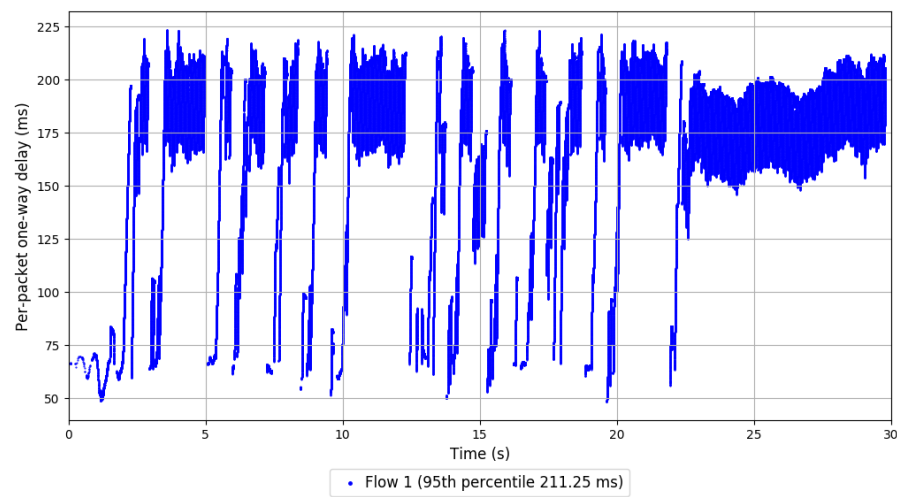
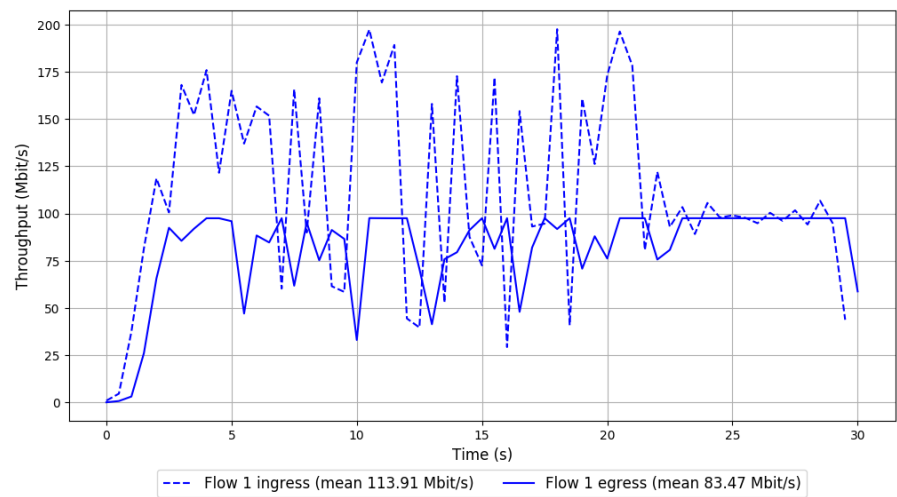
-- Flow 1:

Average throughput: 83.47 Mbit/s

95th percentile per-packet one-way delay: 211.246 ms

Loss rate: 26.65%

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



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-11-30 05:47:57

End at: 2018-11-30 05:48:27

Local clock offset: 2.22 ms

Remote clock offset: 41.364 ms

Below is generated by plot.py at 2018-11-30 05:52:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.65 Mbit/s

95th percentile per-packet one-way delay: 215.930 ms

Loss rate: 13.50%

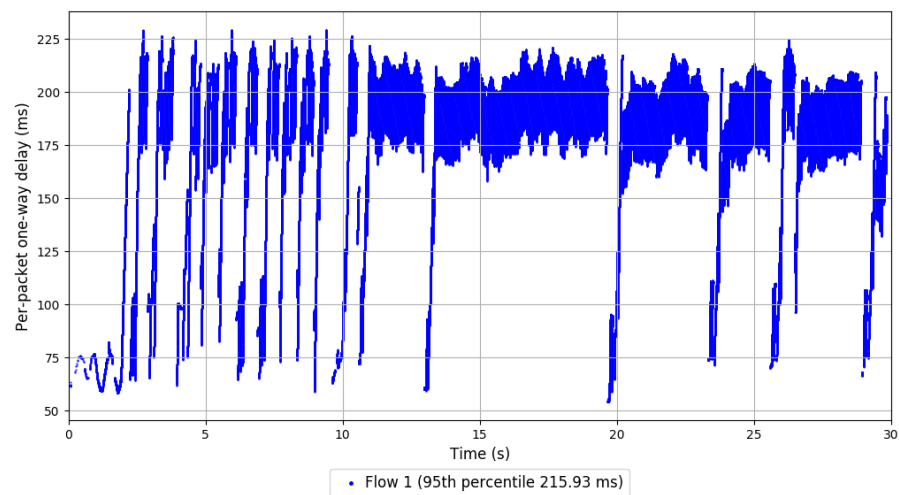
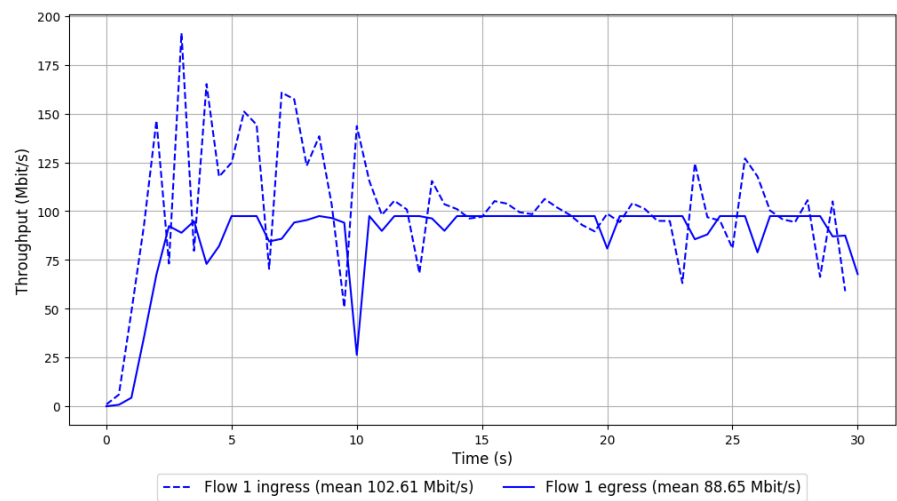
-- Flow 1:

Average throughput: 88.65 Mbit/s

95th percentile per-packet one-way delay: 215.930 ms

Loss rate: 13.50%

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

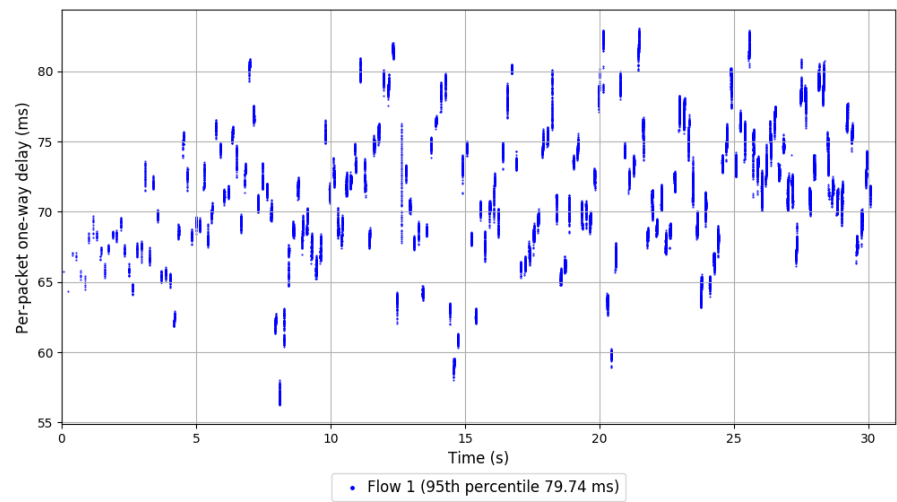
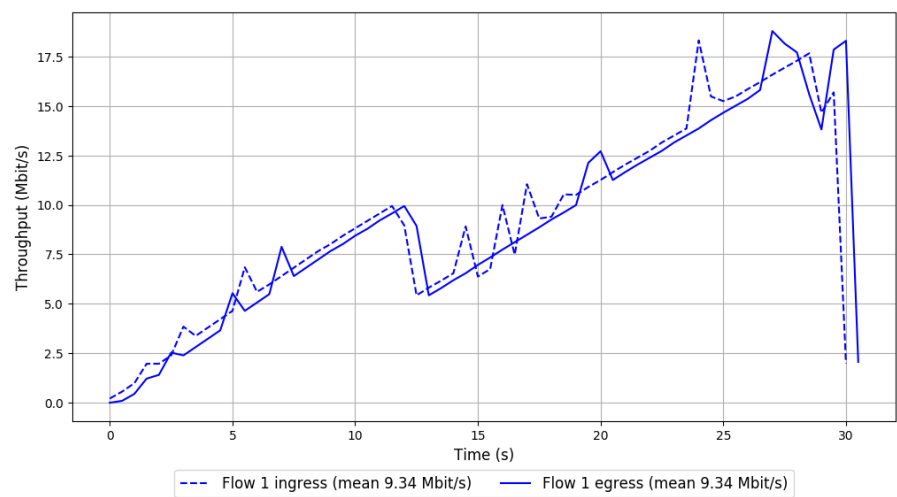


```
Run 1: Statistics of LEDBAT

Start at: 2018-11-30 04:00:07
End at: 2018-11-30 04:00:37
Local clock offset: 2.645 ms
Remote clock offset: -2.687 ms

# Below is generated by plot.py at 2018-11-30 05:52:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 79.738 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 9.34 Mbit/s
95th percentile per-packet one-way delay: 79.738 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link

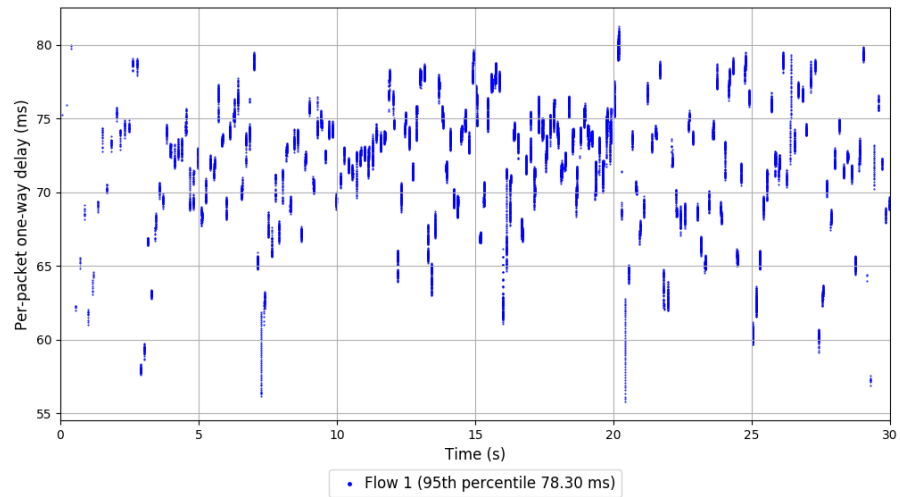
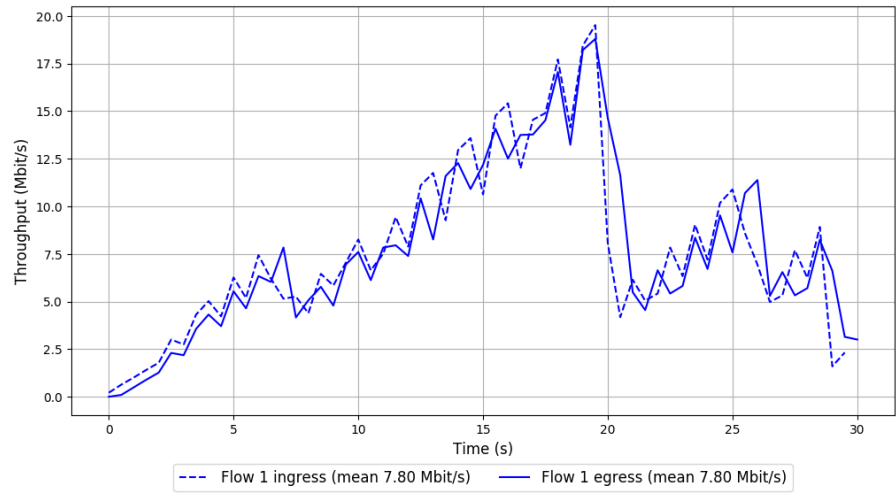


Run 2: Statistics of LEDBAT

Start at: 2018-11-30 04:22:54
End at: 2018-11-30 04:23:24
Local clock offset: 1.04 ms
Remote clock offset: -12.355 ms

Below is generated by plot.py at 2018-11-30 05:52:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.80 Mbit/s
95th percentile per-packet one-way delay: 78.300 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 7.80 Mbit/s
95th percentile per-packet one-way delay: 78.300 ms
Loss rate: 0.05%

Run 2: Report of LEDBAT — Data Link

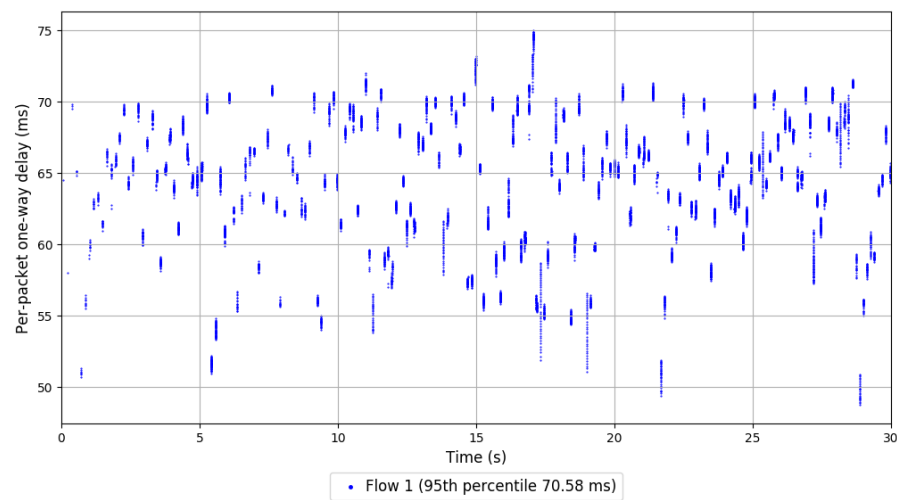
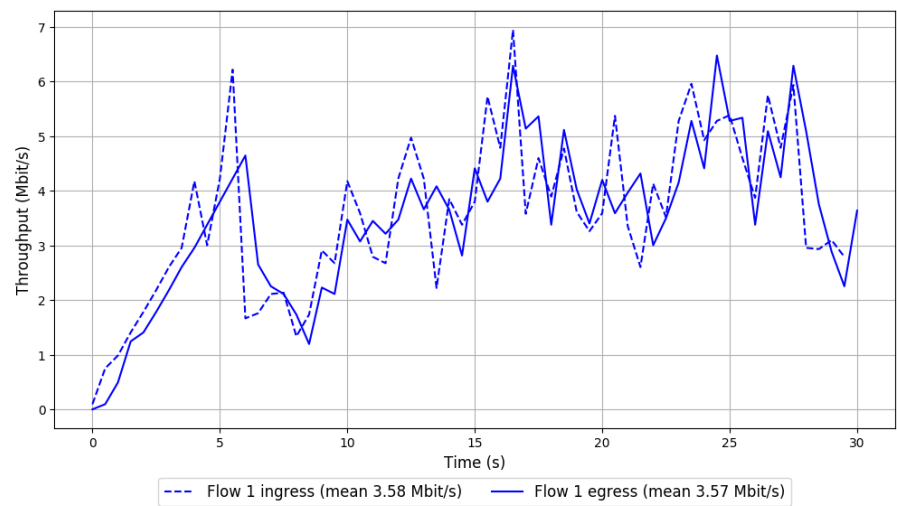


Run 3: Statistics of LEDBAT

Start at: 2018-11-30 04:45:35
End at: 2018-11-30 04:46:05
Local clock offset: 0.695 ms
Remote clock offset: -9.458 ms

Below is generated by plot.py at 2018-11-30 05:52:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 70.575 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 70.575 ms
Loss rate: 0.20%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-11-30 05:08:24

End at: 2018-11-30 05:08:54

Local clock offset: -0.458 ms

Remote clock offset: 6.628 ms

Below is generated by plot.py at 2018-11-30 05:52:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.43 Mbit/s

95th percentile per-packet one-way delay: 72.467 ms

Loss rate: 0.48%

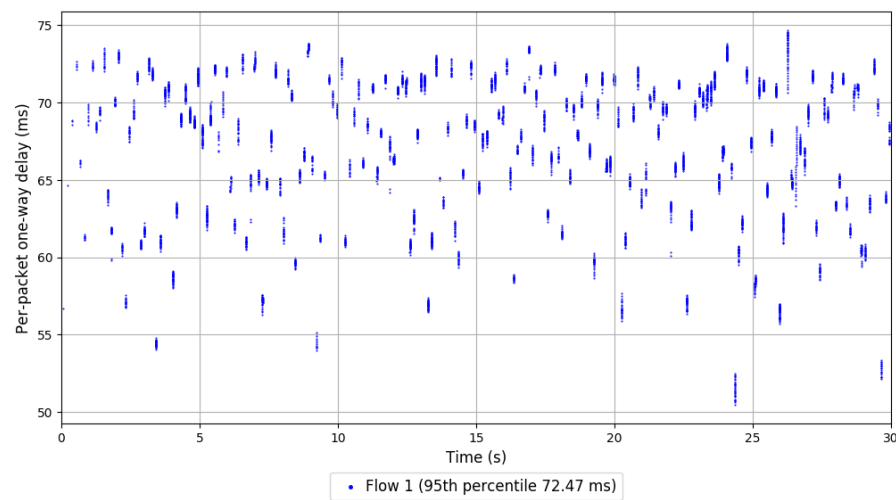
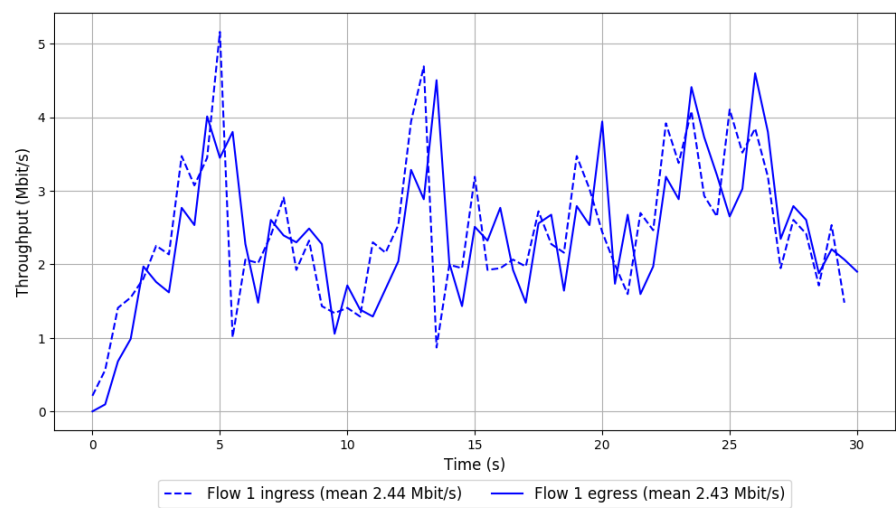
-- Flow 1:

Average throughput: 2.43 Mbit/s

95th percentile per-packet one-way delay: 72.467 ms

Loss rate: 0.48%

Run 4: Report of LEDBAT — Data Link

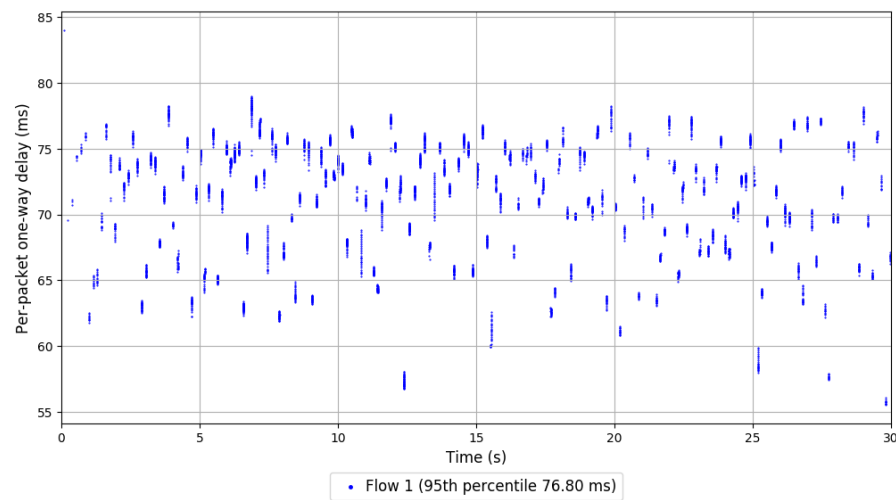
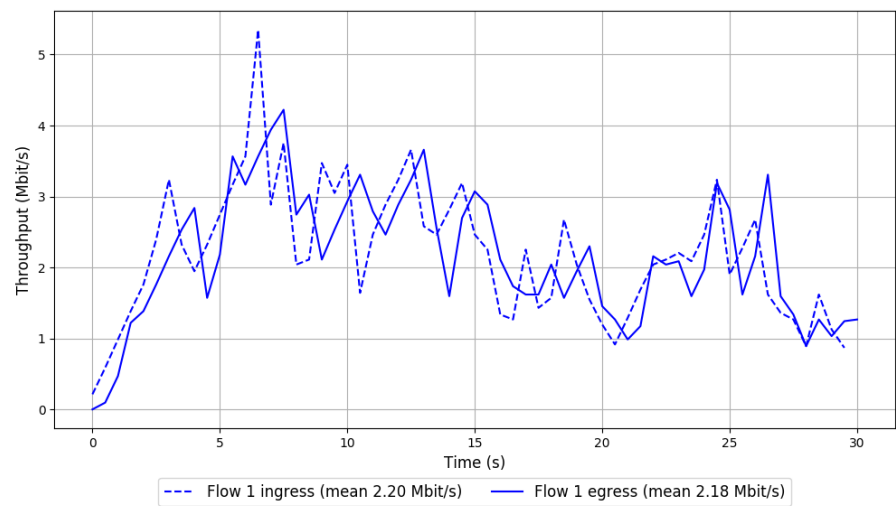


Run 5: Statistics of LEDBAT

Start at: 2018-11-30 05:31:17
End at: 2018-11-30 05:31:47
Local clock offset: 1.968 ms
Remote clock offset: 31.959 ms

Below is generated by plot.py at 2018-11-30 05:52:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 76.798 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 76.798 ms
Loss rate: 0.59%

Run 5: Report of LEDBAT — Data Link

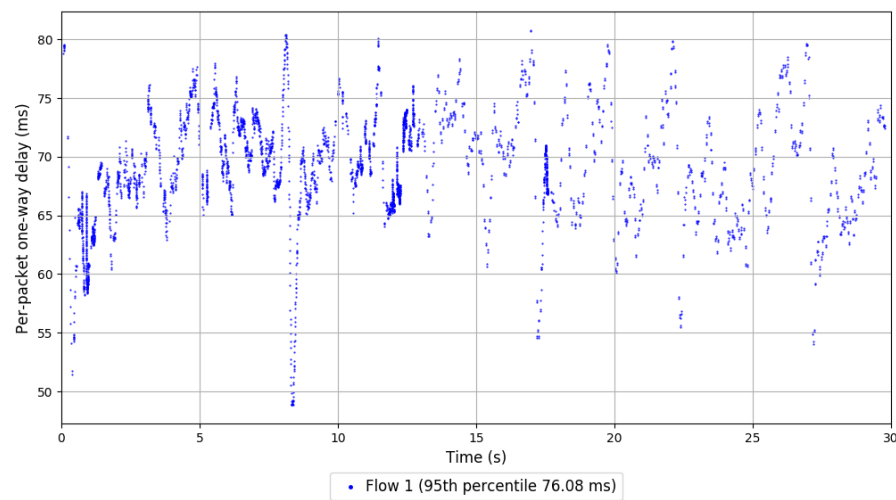
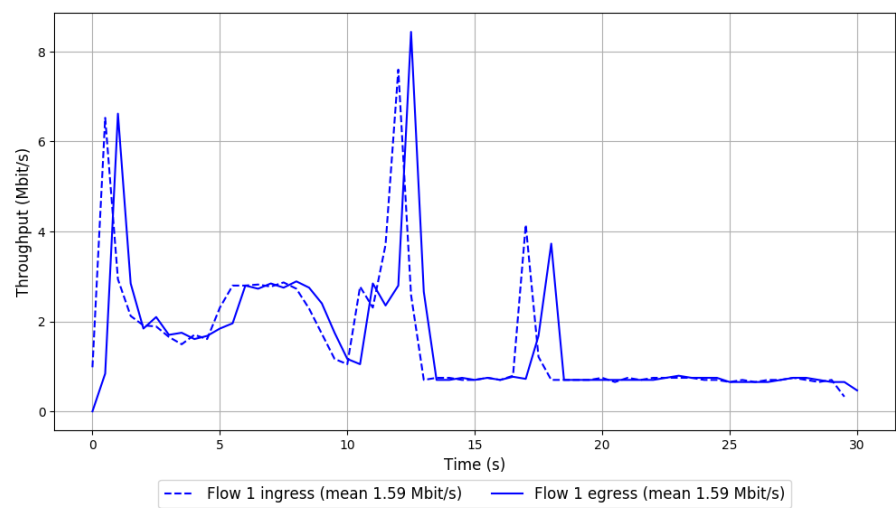



```
Run 1: Statistics of Indigo-Muses

Start at: 2018-11-30 04:02:32
End at: 2018-11-30 04:03:02
Local clock offset: 2.041 ms
Remote clock offset: -6.365 ms

# Below is generated by plot.py at 2018-11-30 05:52:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 76.079 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 76.079 ms
Loss rate: 0.02%
```

Run 1: Report of Indigo-Muses — Data Link

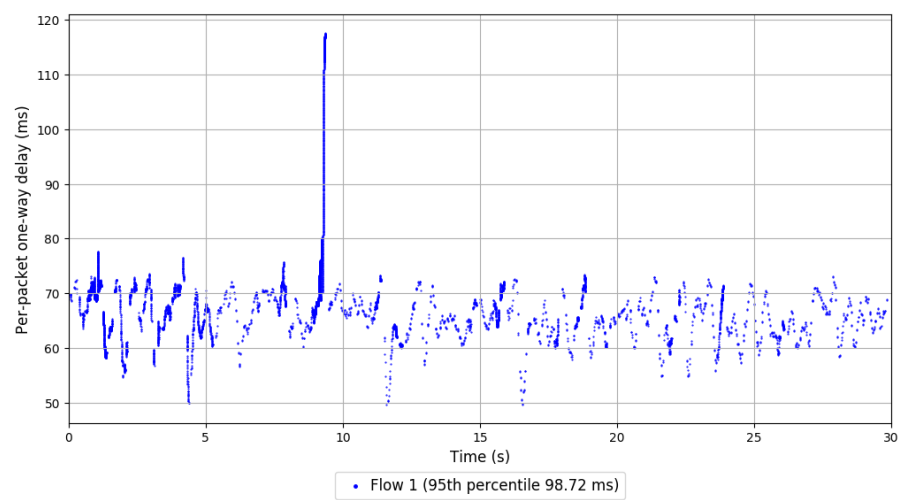
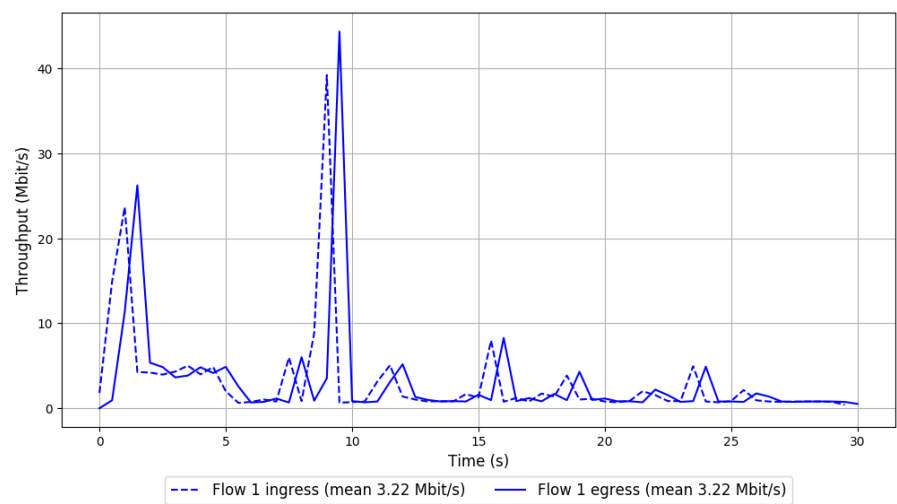


Run 2: Statistics of Indigo-Muses

Start at: 2018-11-30 04:25:15
End at: 2018-11-30 04:25:45
Local clock offset: 0.817 ms
Remote clock offset: -10.856 ms

Below is generated by plot.py at 2018-11-30 05:52:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.22 Mbit/s
95th percentile per-packet one-way delay: 98.719 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 3.22 Mbit/s
95th percentile per-packet one-way delay: 98.719 ms
Loss rate: 0.11%

Run 2: Report of Indigo-Muses — Data Link

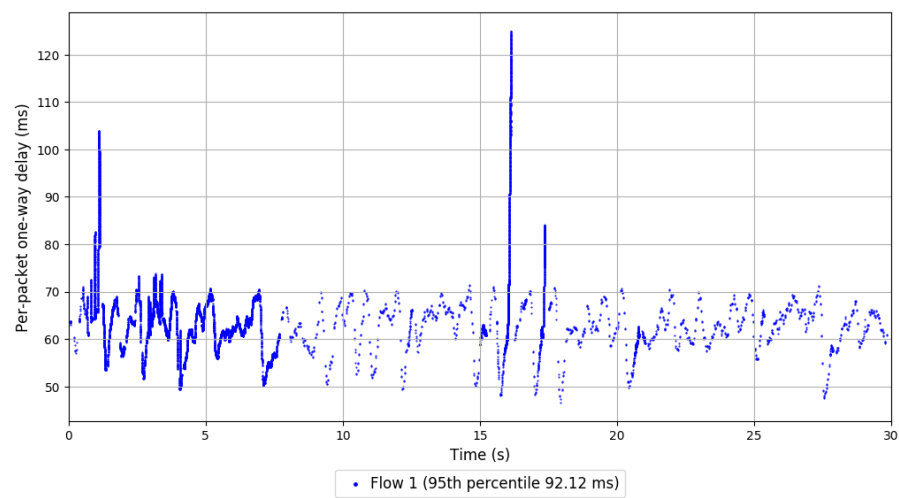
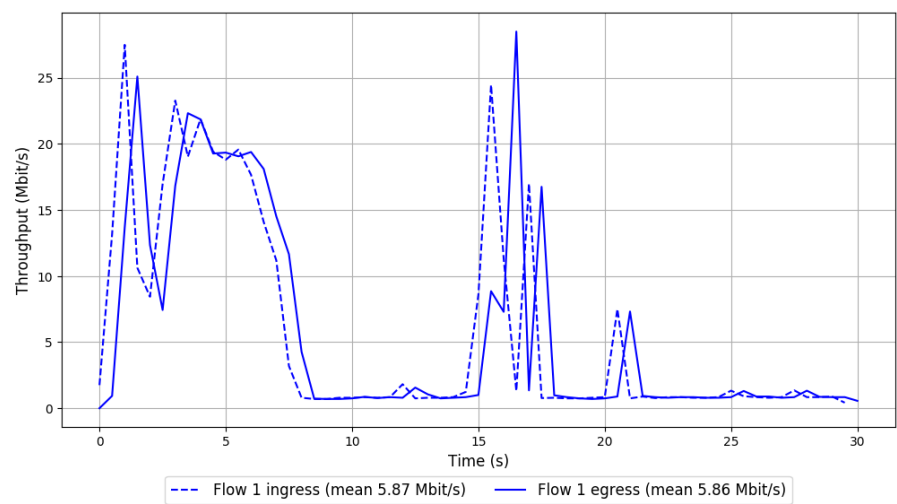


Run 3: Statistics of Indigo-Muses

Start at: 2018-11-30 04:47:57
End at: 2018-11-30 04:48:27
Local clock offset: 0.377 ms
Remote clock offset: -10.105 ms

Below is generated by plot.py at 2018-11-30 05:52:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.86 Mbit/s
95th percentile per-packet one-way delay: 92.117 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 5.86 Mbit/s
95th percentile per-packet one-way delay: 92.117 ms
Loss rate: 0.13%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-11-30 05:10:44

End at: 2018-11-30 05:11:14

Local clock offset: -0.759 ms

Remote clock offset: 8.099 ms

Below is generated by plot.py at 2018-11-30 05:52:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.28 Mbit/s

95th percentile per-packet one-way delay: 78.116 ms

Loss rate: 0.25%

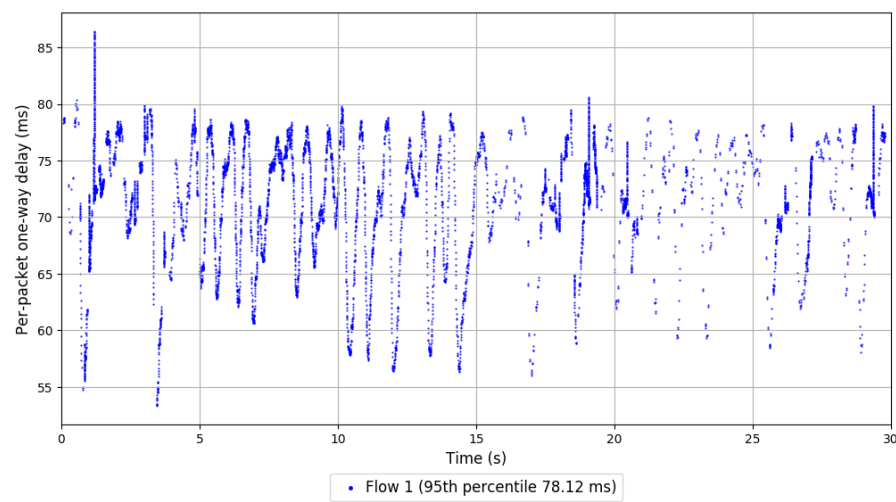
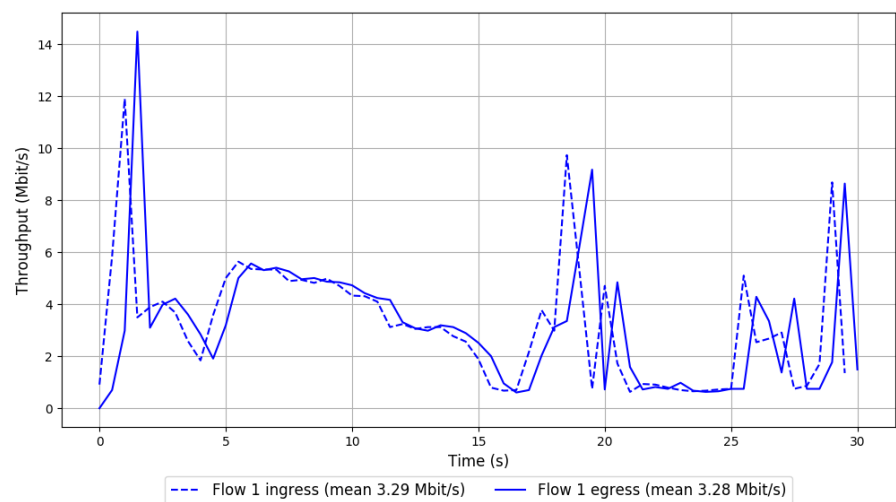
-- Flow 1:

Average throughput: 3.28 Mbit/s

95th percentile per-packet one-way delay: 78.116 ms

Loss rate: 0.25%

Run 4: Report of Indigo-Muses — Data Link

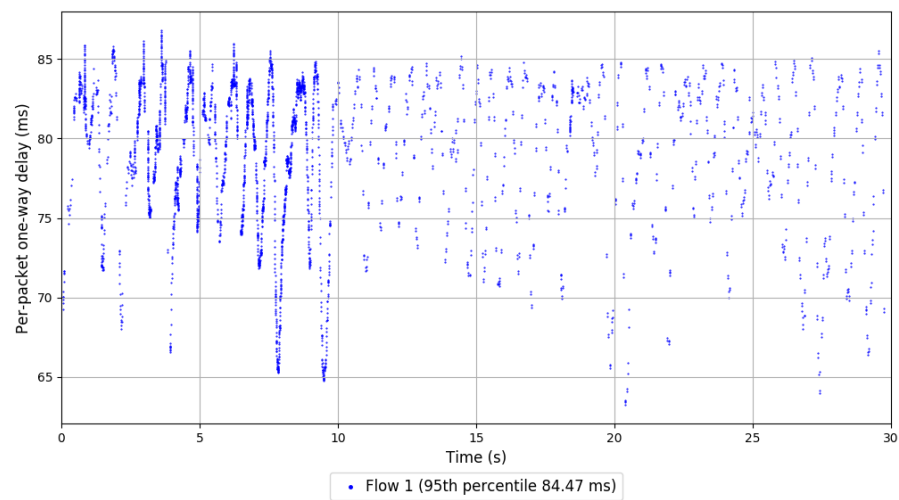
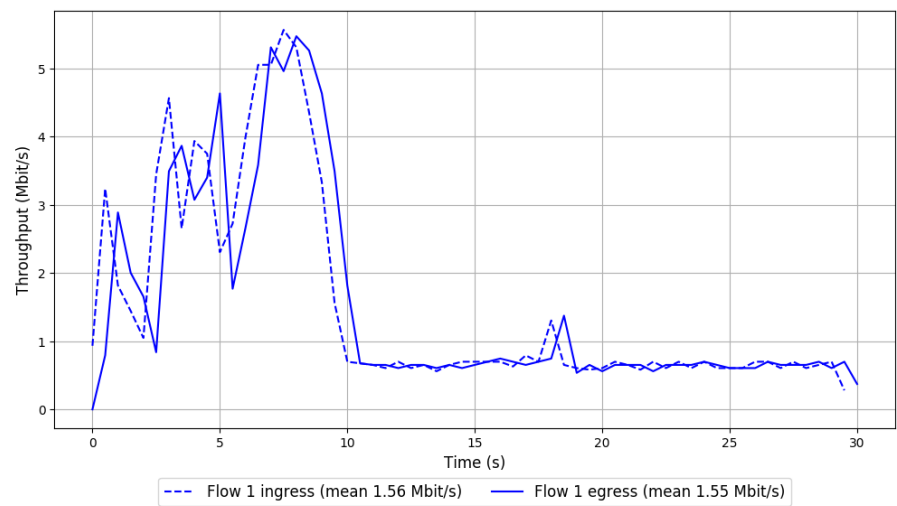


Run 5: Statistics of Indigo-Muses

Start at: 2018-11-30 05:33:40
End at: 2018-11-30 05:34:10
Local clock offset: 2.145 ms
Remote clock offset: 32.644 ms

Below is generated by plot.py at 2018-11-30 05:52:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 84.470 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 84.470 ms
Loss rate: 0.53%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

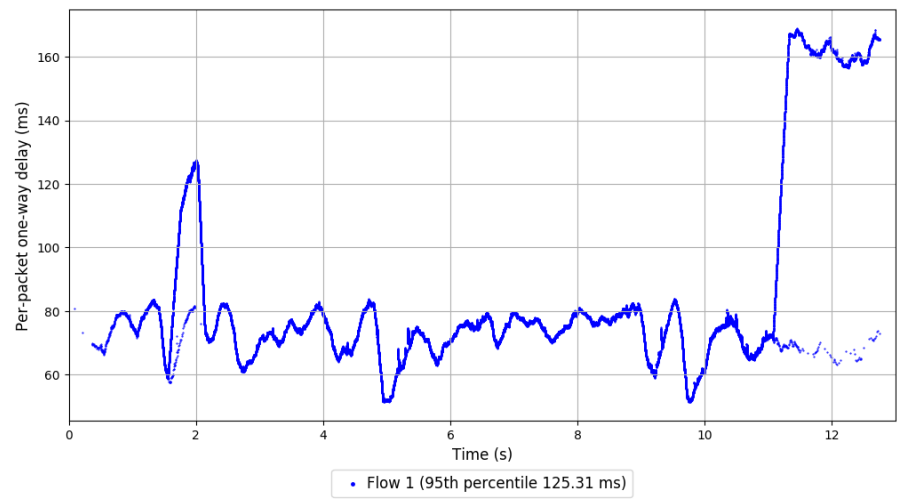
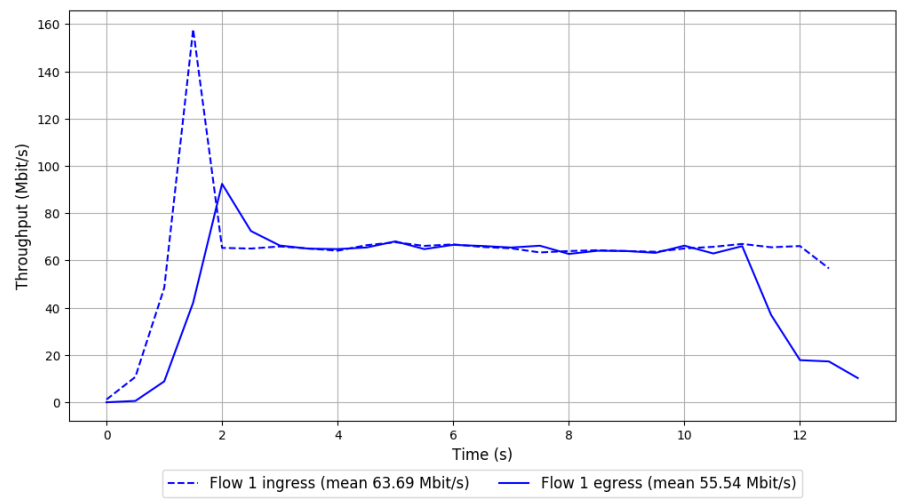
Start at: 2018-11-30 04:13:16

End at: 2018-11-30 04:13:46

Local clock offset: 0.564 ms

Remote clock offset: -7.791 ms

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

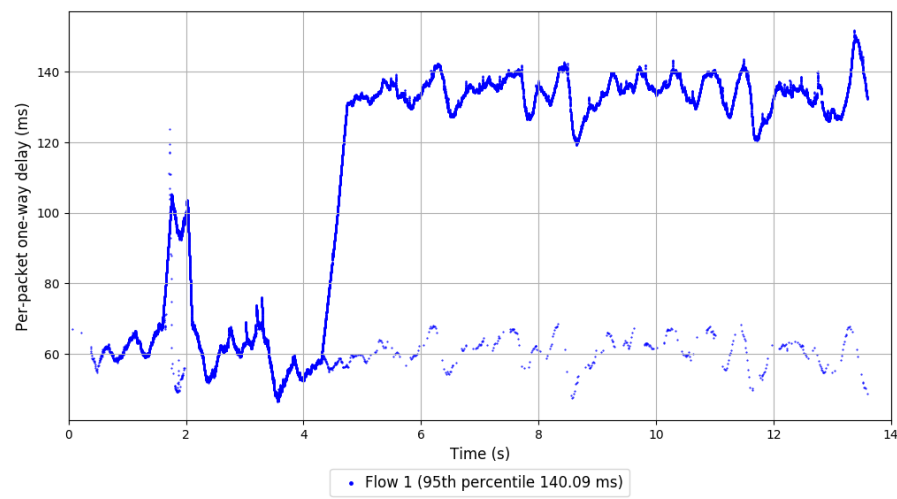
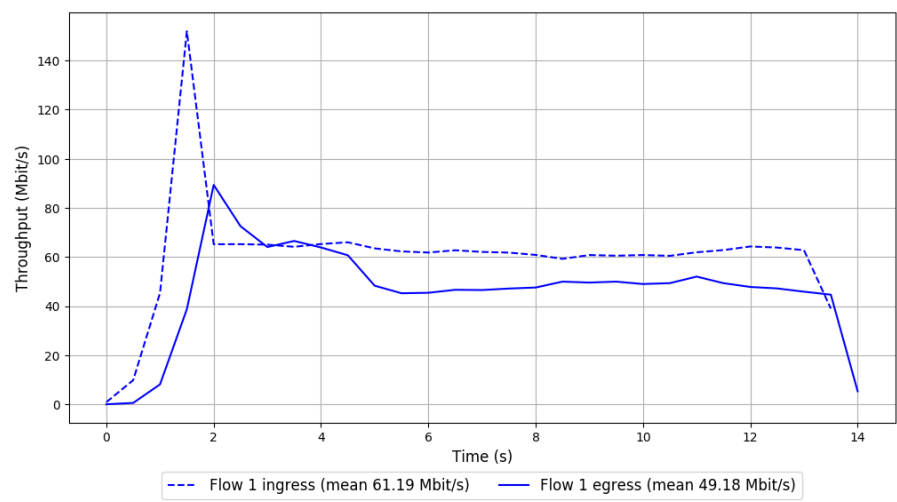
Start at: 2018-11-30 04:35:53

End at: 2018-11-30 04:36:23

Local clock offset: 0.887 ms

Remote clock offset: -12.92 ms

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

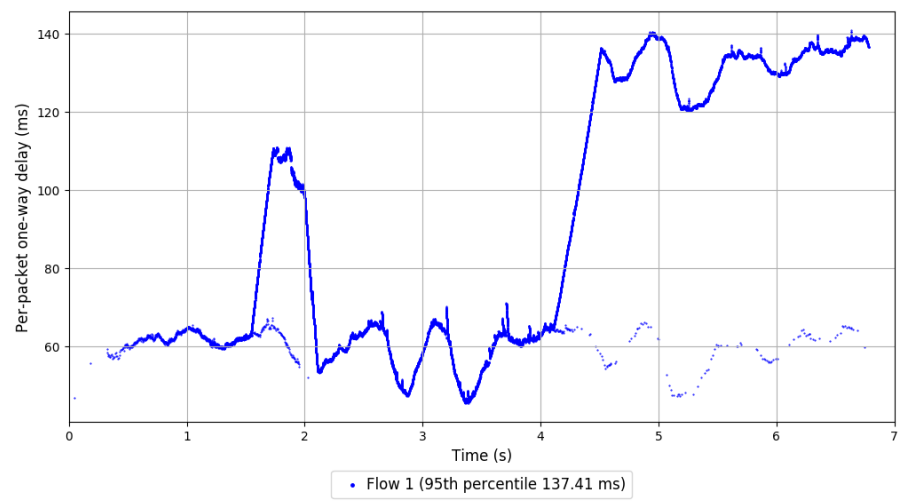
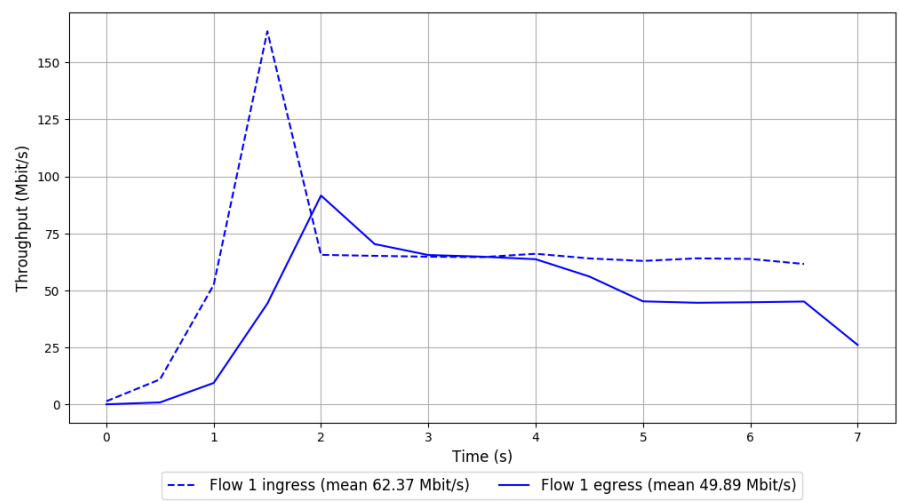
Start at: 2018-11-30 04:58:38

End at: 2018-11-30 04:59:08

Local clock offset: -0.114 ms

Remote clock offset: -14.887 ms

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

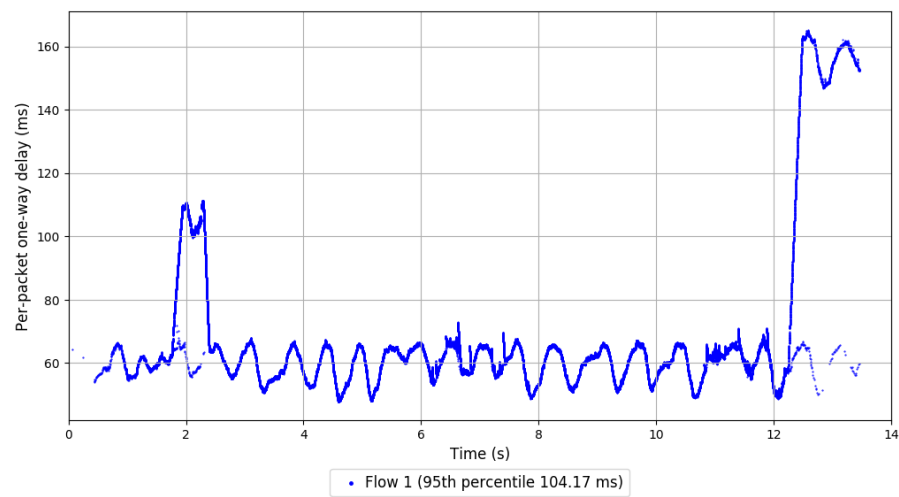
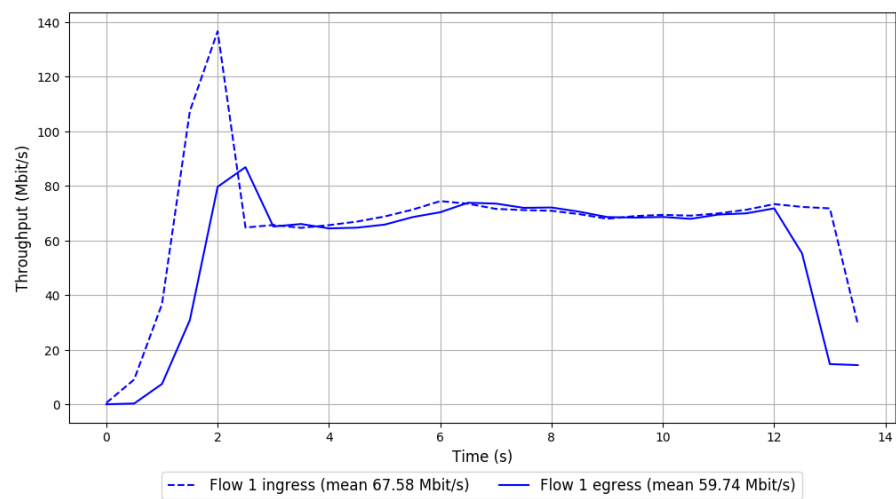
Start at: 2018-11-30 05:21:30

End at: 2018-11-30 05:22:00

Local clock offset: 0.798 ms

Remote clock offset: 15.376 ms

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-11-30 05:44:22

End at: 2018-11-30 05:44:52

Local clock offset: 2.253 ms

Remote clock offset: 36.113 ms

Below is generated by plot.py at 2018-11-30 05:52:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.65 Mbit/s

95th percentile per-packet one-way delay: 74.218 ms

Loss rate: 0.65%

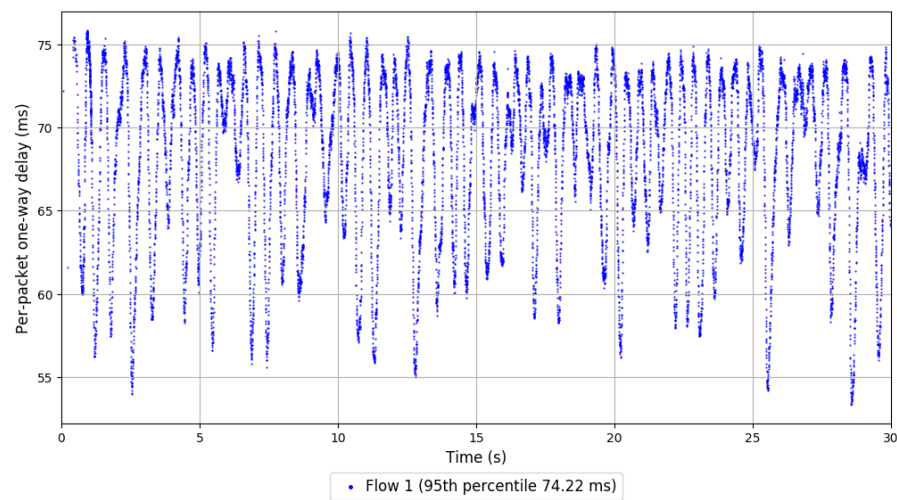
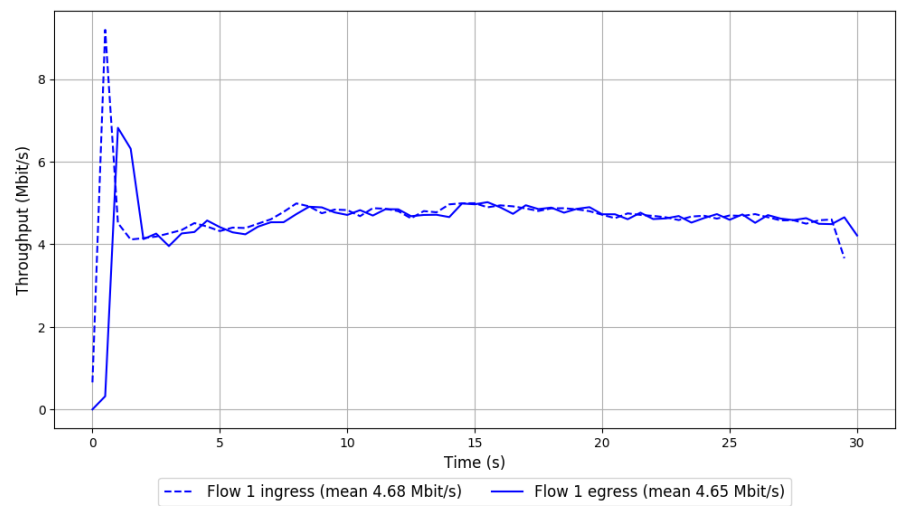
-- Flow 1:

Average throughput: 4.65 Mbit/s

95th percentile per-packet one-way delay: 74.218 ms

Loss rate: 0.65%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-11-30 04:10:51

End at: 2018-11-30 04:11:21

Local clock offset: 0.746 ms

Remote clock offset: -6.58 ms

Below is generated by plot.py at 2018-11-30 05:52:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.50 Mbit/s

95th percentile per-packet one-way delay: 73.471 ms

Loss rate: 17.83%

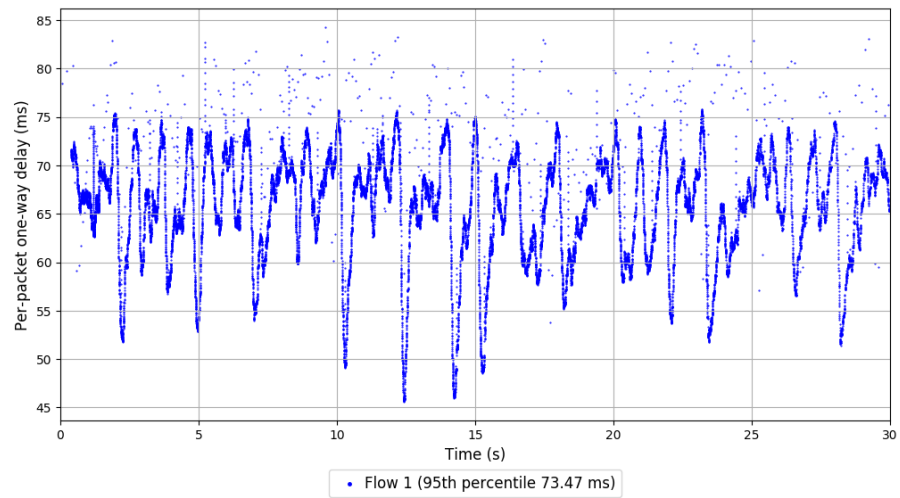
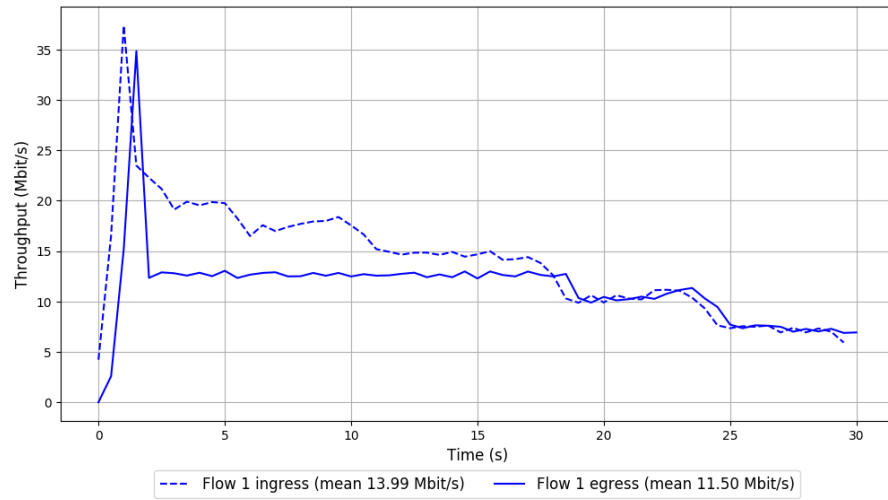
-- Flow 1:

Average throughput: 11.50 Mbit/s

95th percentile per-packet one-way delay: 73.471 ms

Loss rate: 17.83%

Run 1: Report of PCC-Expr — Data Link

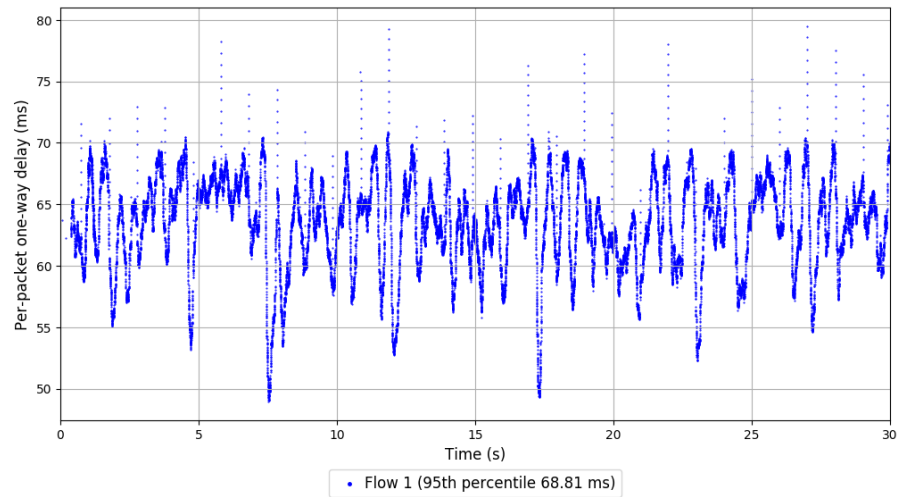
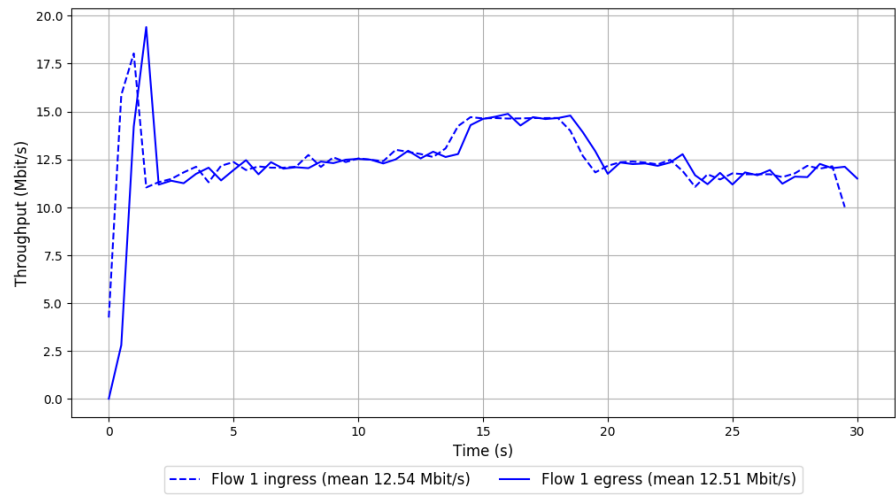


Run 2: Statistics of PCC-Expr

Start at: 2018-11-30 04:33:29
End at: 2018-11-30 04:33:59
Local clock offset: 0.937 ms
Remote clock offset: -11.891 ms

Below is generated by plot.py at 2018-11-30 05:52:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.51 Mbit/s
95th percentile per-packet one-way delay: 68.809 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 12.51 Mbit/s
95th percentile per-packet one-way delay: 68.809 ms
Loss rate: 0.21%

Run 2: Report of PCC-Expr — Data Link

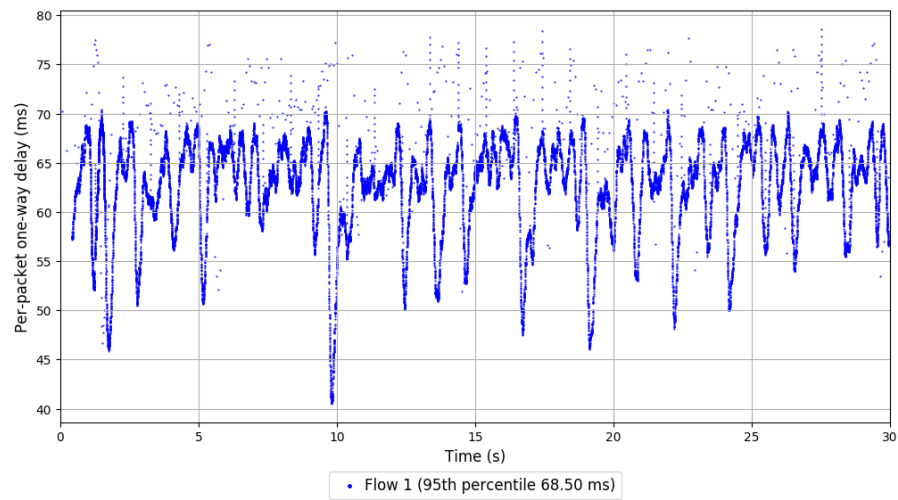
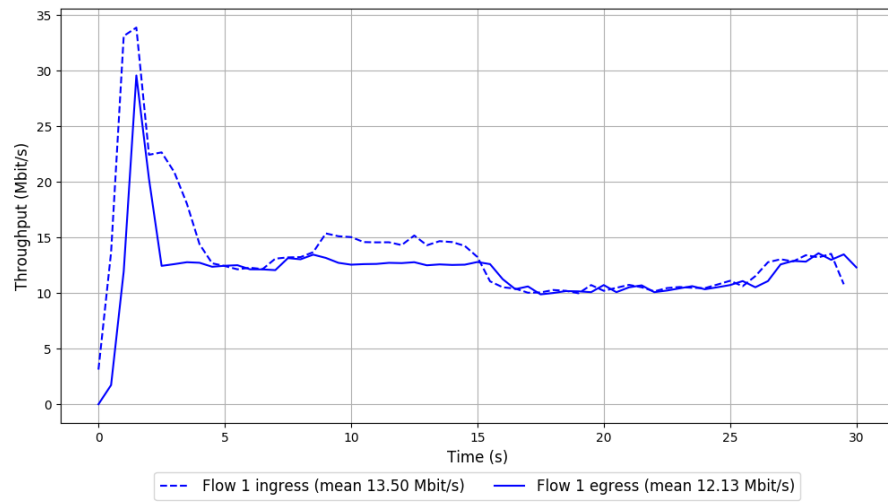


Run 3: Statistics of PCC-Expr

Start at: 2018-11-30 04:56:15
End at: 2018-11-30 04:56:45
Local clock offset: 0.053 ms
Remote clock offset: -11.881 ms

Below is generated by plot.py at 2018-11-30 05:52:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 68.498 ms
Loss rate: 10.17%
-- Flow 1:
Average throughput: 12.13 Mbit/s
95th percentile per-packet one-way delay: 68.498 ms
Loss rate: 10.17%

Run 3: Report of PCC-Expr — Data Link

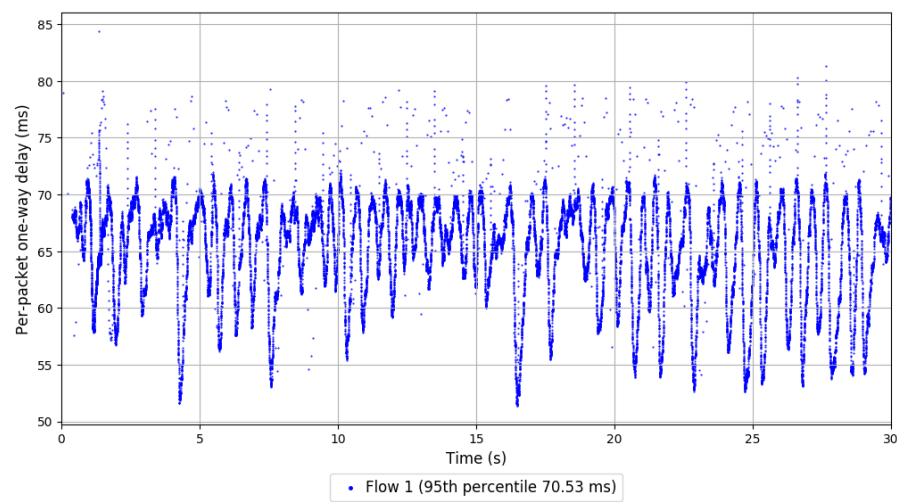
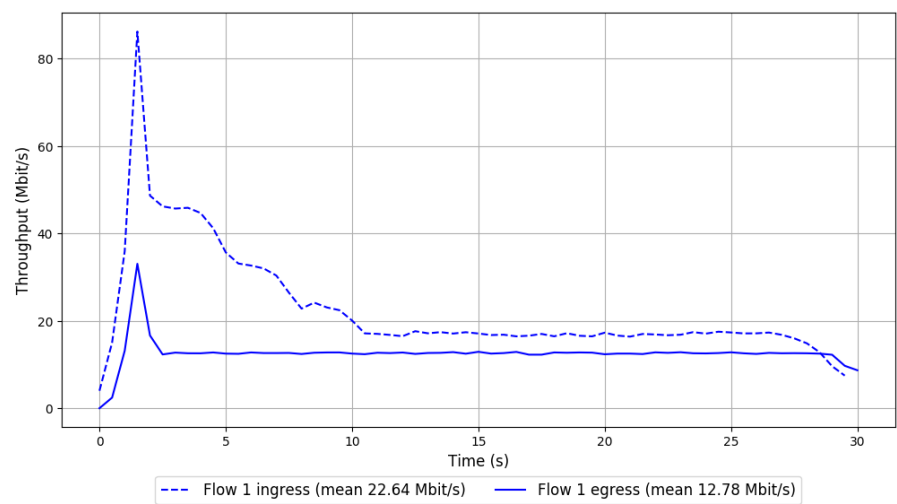


Run 4: Statistics of PCC-Expr

Start at: 2018-11-30 05:19:08
End at: 2018-11-30 05:19:38
Local clock offset: 0.395 ms
Remote clock offset: 17.501 ms

Below is generated by plot.py at 2018-11-30 05:52:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.78 Mbit/s
95th percentile per-packet one-way delay: 70.532 ms
Loss rate: 43.56%
-- Flow 1:
Average throughput: 12.78 Mbit/s
95th percentile per-packet one-way delay: 70.532 ms
Loss rate: 43.56%

Run 4: Report of PCC-Expr — Data Link

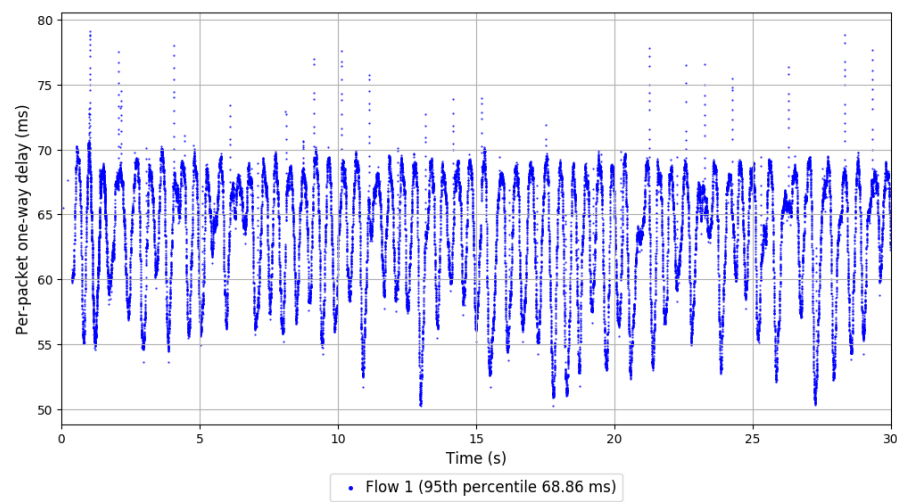
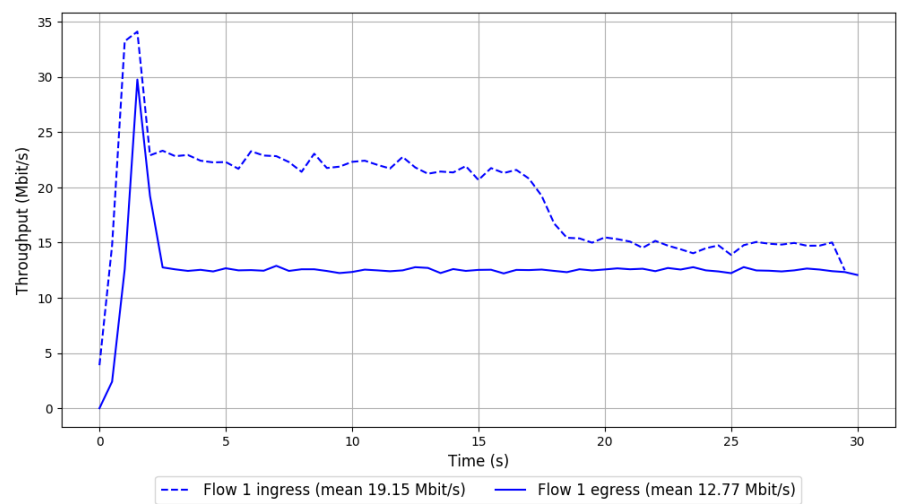


Run 5: Statistics of PCC-Expr

Start at: 2018-11-30 05:42:00
End at: 2018-11-30 05:42:30
Local clock offset: 2.332 ms
Remote clock offset: 36.113 ms

Below is generated by plot.py at 2018-11-30 05:52:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.77 Mbit/s
95th percentile per-packet one-way delay: 68.862 ms
Loss rate: 33.31%
-- Flow 1:
Average throughput: 12.77 Mbit/s
95th percentile per-packet one-way delay: 68.862 ms
Loss rate: 33.31%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-11-30 04:12:03
End at: 2018-11-30 04:12:33
Local clock offset: 0.782 ms
Remote clock offset: -12.958 ms

Below is generated by plot.py at 2018-11-30 05:53:20

Datalink statistics

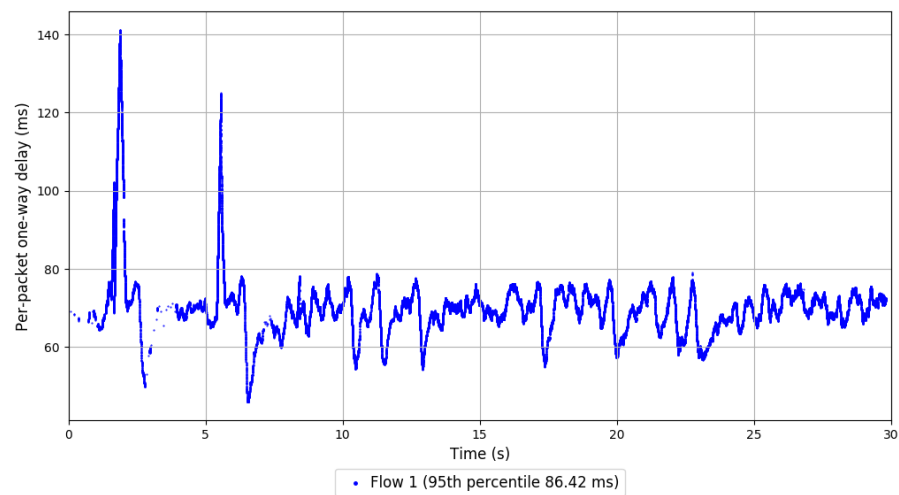
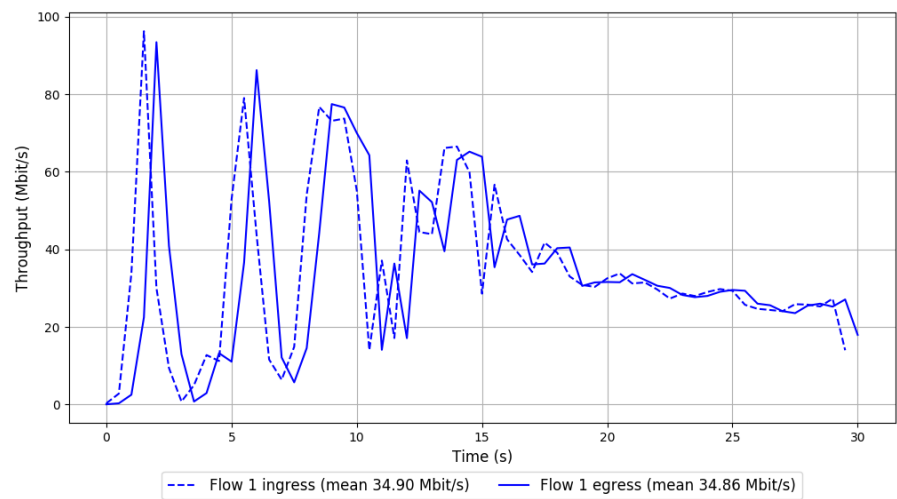
-- Total of 1 flow:

Average throughput: 34.86 Mbit/s
95th percentile per-packet one-way delay: 86.417 ms
Loss rate: 0.12%

-- Flow 1:

Average throughput: 34.86 Mbit/s
95th percentile per-packet one-way delay: 86.417 ms
Loss rate: 0.12%

Run 1: Report of QUIC Cubic — Data Link

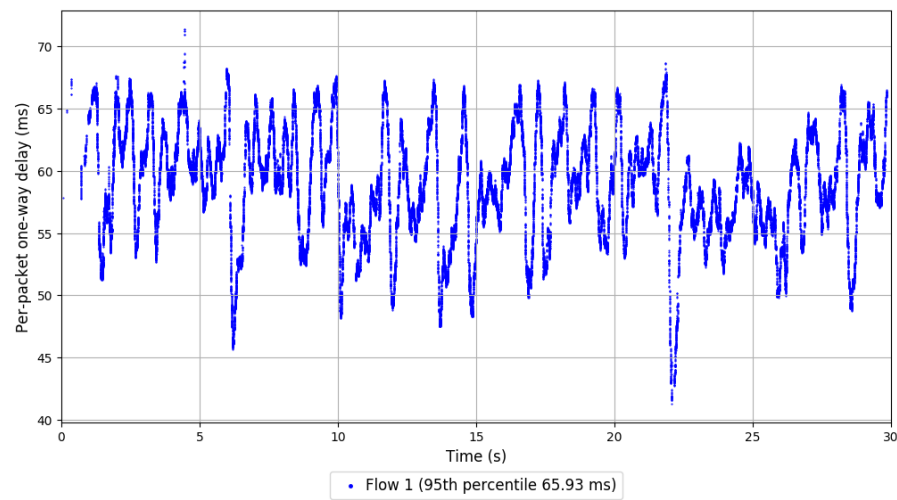
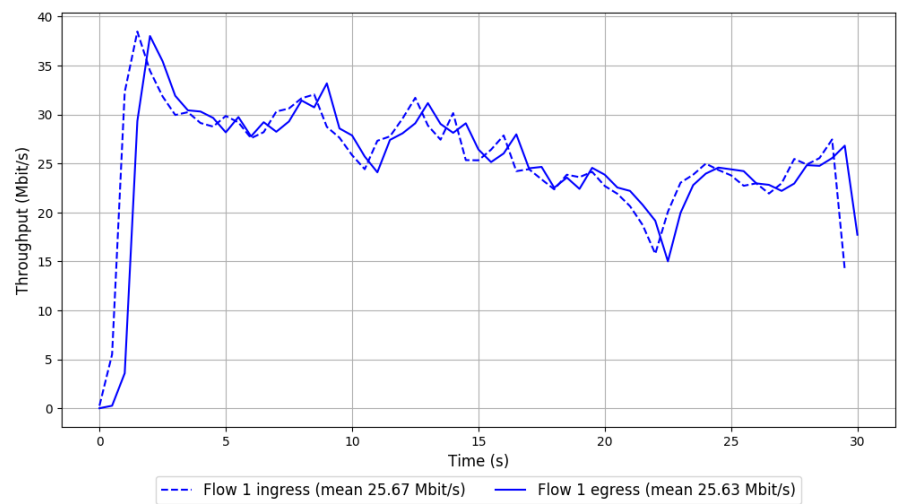


Run 2: Statistics of QUIC Cubic

Start at: 2018-11-30 04:34:40
End at: 2018-11-30 04:35:10
Local clock offset: 0.772 ms
Remote clock offset: -14.223 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 25.63 Mbit/s
95th percentile per-packet one-way delay: 65.931 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 25.63 Mbit/s
95th percentile per-packet one-way delay: 65.931 ms
Loss rate: 0.13%

Run 2: Report of QUIC Cubic — Data Link

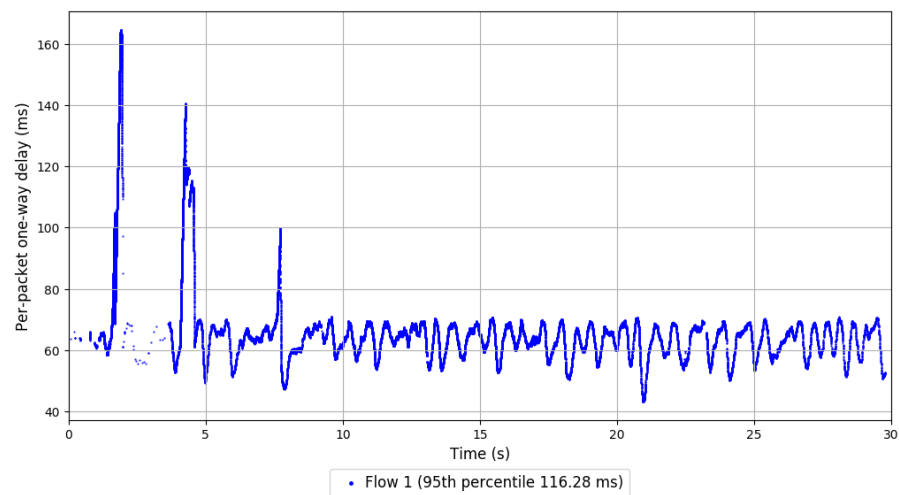
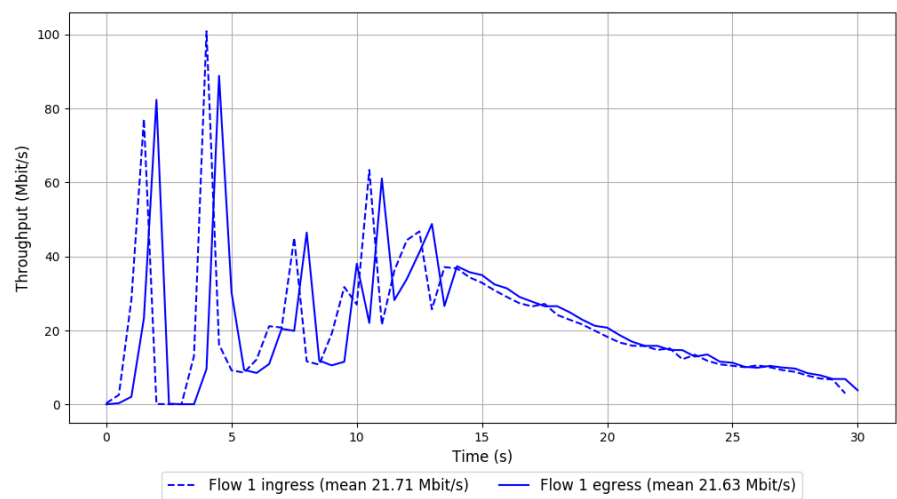


Run 3: Statistics of QUIC Cubic

Start at: 2018-11-30 04:57:26
End at: 2018-11-30 04:57:56
Local clock offset: -0.066 ms
Remote clock offset: -10.929 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 21.63 Mbit/s
95th percentile per-packet one-way delay: 116.281 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 21.63 Mbit/s
95th percentile per-packet one-way delay: 116.281 ms
Loss rate: 0.41%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-11-30 05:20:19

End at: 2018-11-30 05:20:49

Local clock offset: 0.746 ms

Remote clock offset: 17.092 ms

Below is generated by plot.py at 2018-11-30 05:53:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.45 Mbit/s

95th percentile per-packet one-way delay: 76.703 ms

Loss rate: 0.52%

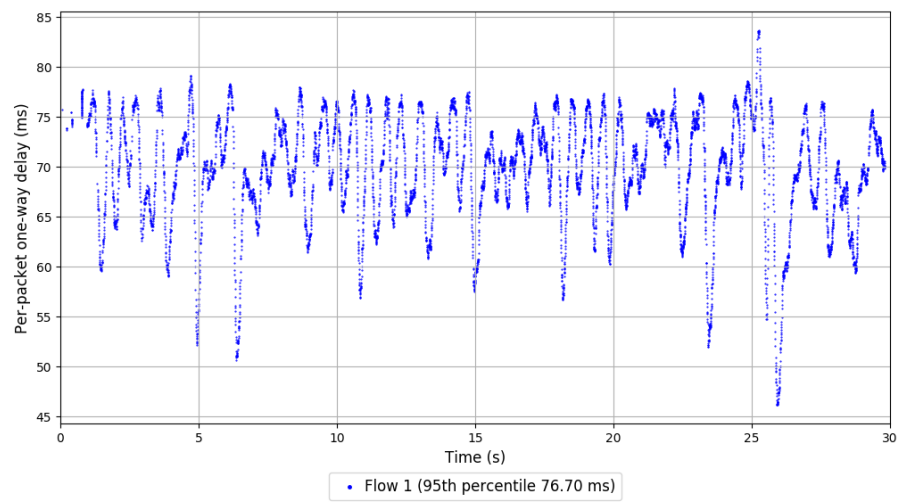
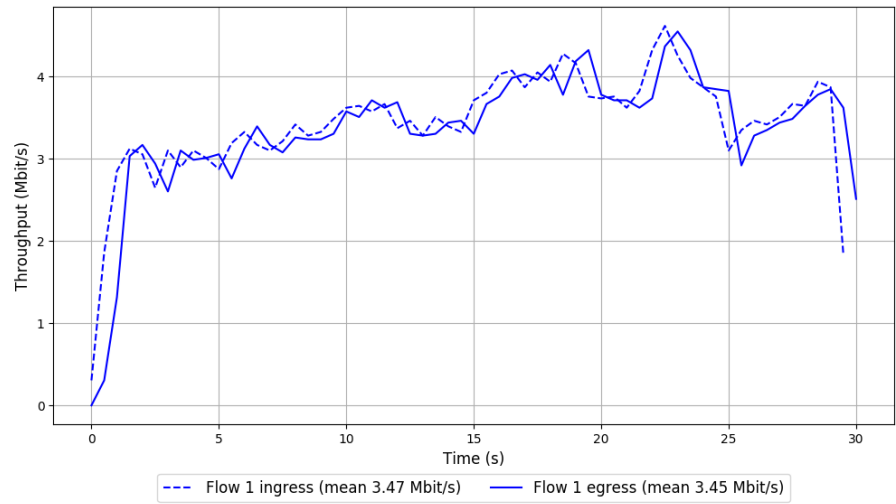
-- Flow 1:

Average throughput: 3.45 Mbit/s

95th percentile per-packet one-way delay: 76.703 ms

Loss rate: 0.52%

Run 4: Report of QUIC Cubic — Data Link

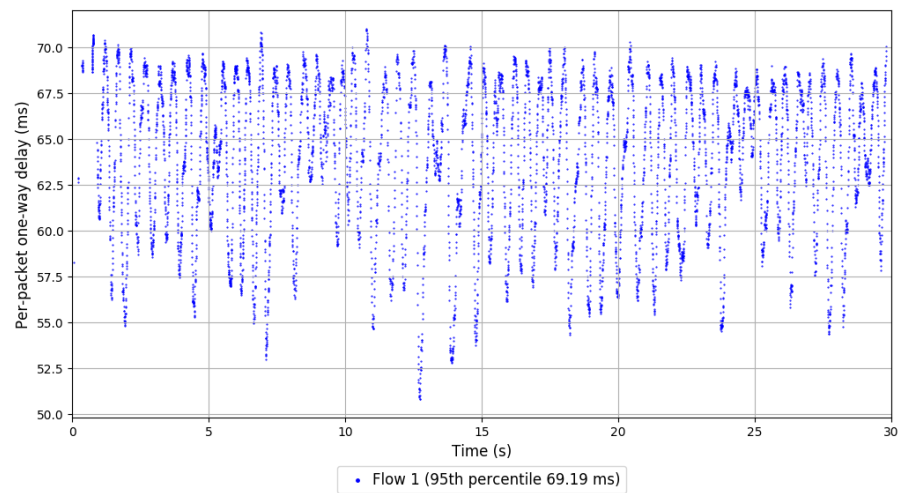
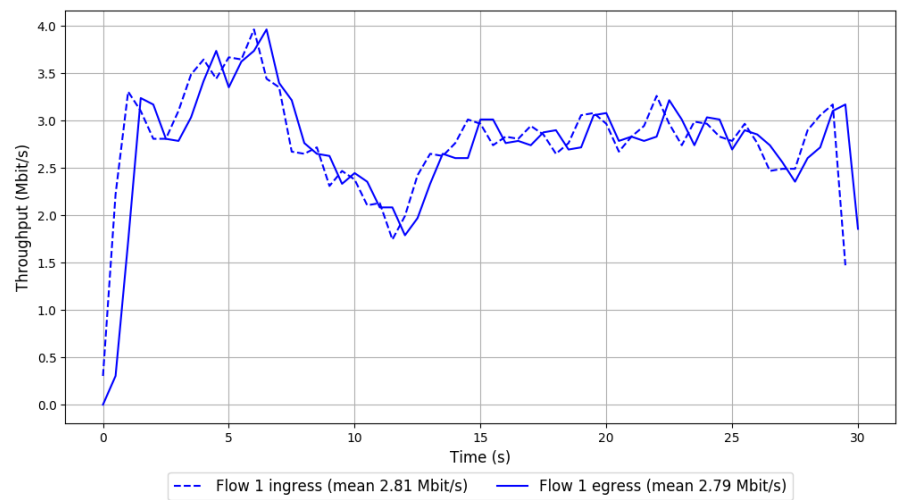


Run 5: Statistics of QUIC Cubic

Start at: 2018-11-30 05:43:11
End at: 2018-11-30 05:43:42
Local clock offset: 2.359 ms
Remote clock offset: 38.978 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.79 Mbit/s
95th percentile per-packet one-way delay: 69.191 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 2.79 Mbit/s
95th percentile per-packet one-way delay: 69.191 ms
Loss rate: 0.68%

Run 5: Report of QUIC Cubic — Data Link

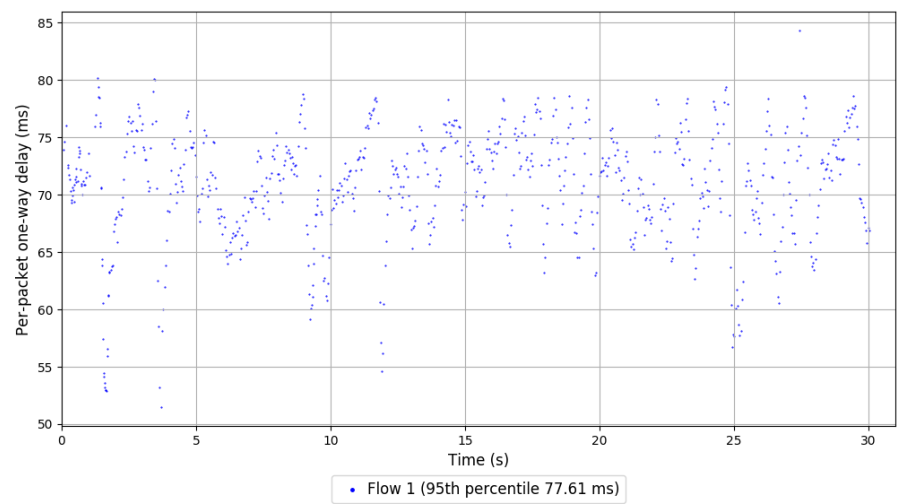
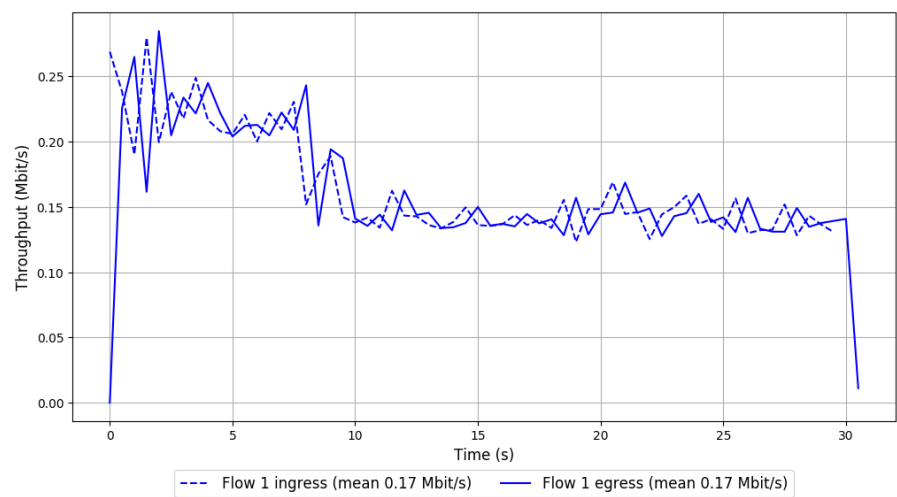



```
Run 1: Statistics of SCReAM

Start at: 2018-11-30 04:03:42
End at: 2018-11-30 04:04:12
Local clock offset: 1.757 ms
Remote clock offset: 1.502 ms

# Below is generated by plot.py at 2018-11-30 05:53:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 77.607 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 77.607 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

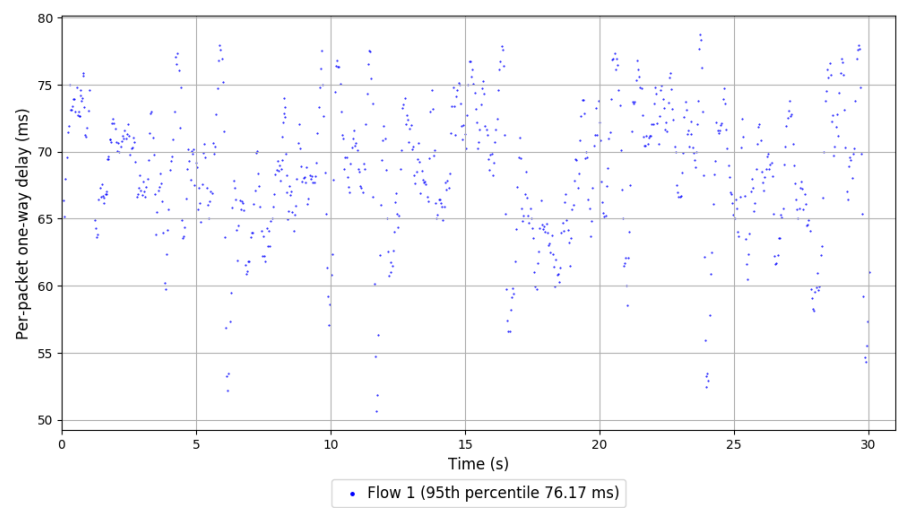
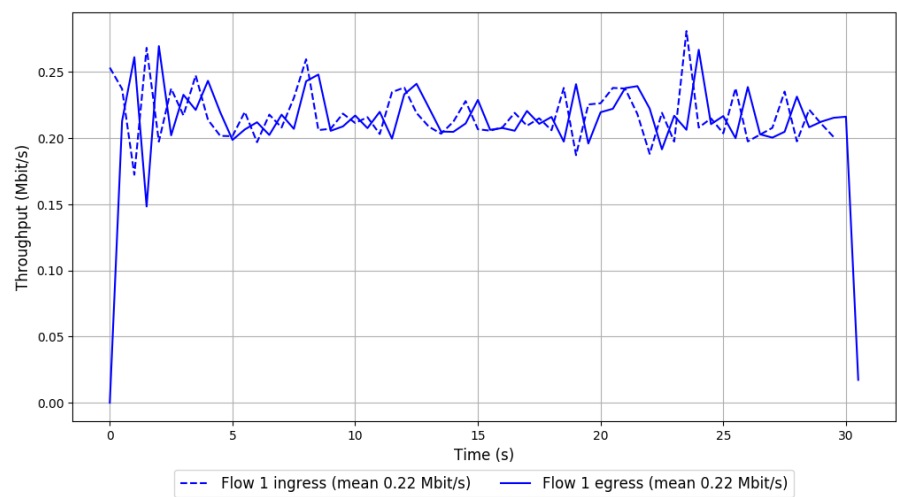


Run 2: Statistics of SCReAM

Start at: 2018-11-30 04:26:25
End at: 2018-11-30 04:26:55
Local clock offset: 1.009 ms
Remote clock offset: -14.219 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 76.170 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 76.170 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

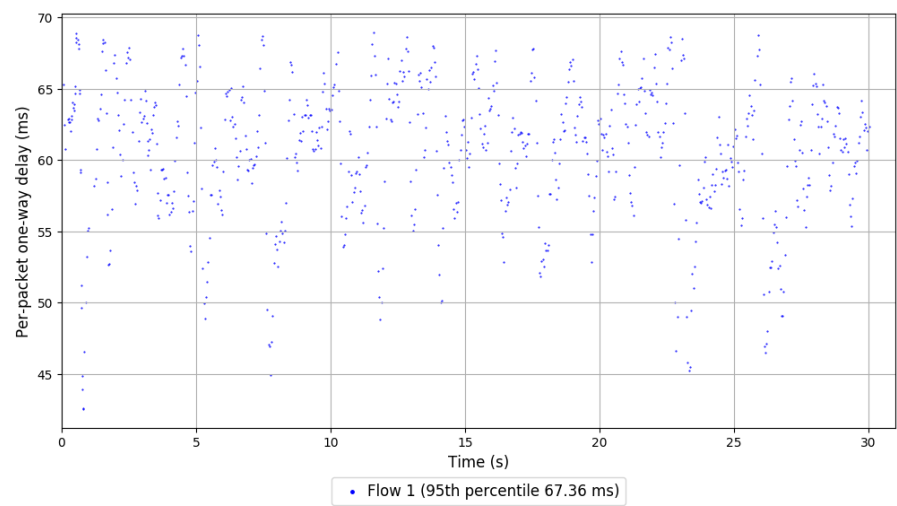
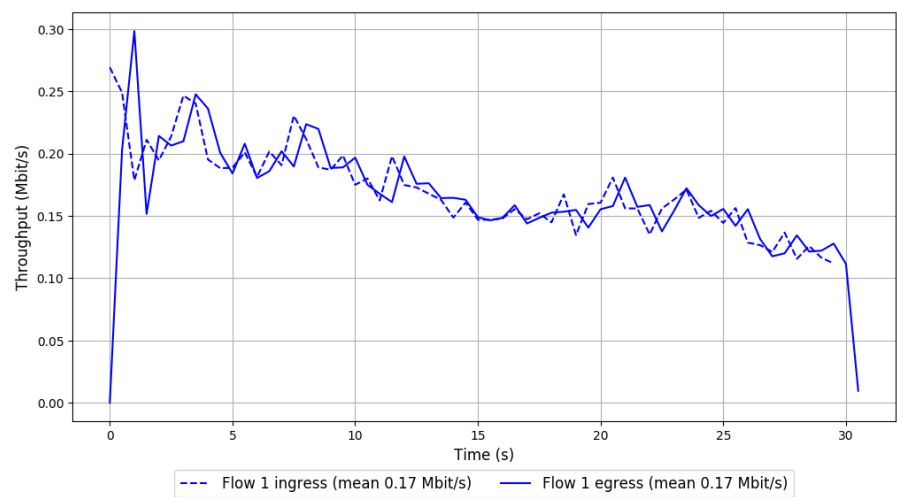


Run 3: Statistics of SCReAM

Start at: 2018-11-30 04:49:07
End at: 2018-11-30 04:49:37
Local clock offset: 0.43 ms
Remote clock offset: -11.75 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 67.364 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 67.364 ms
Loss rate: 0.28%

Run 3: Report of SReAM — Data Link

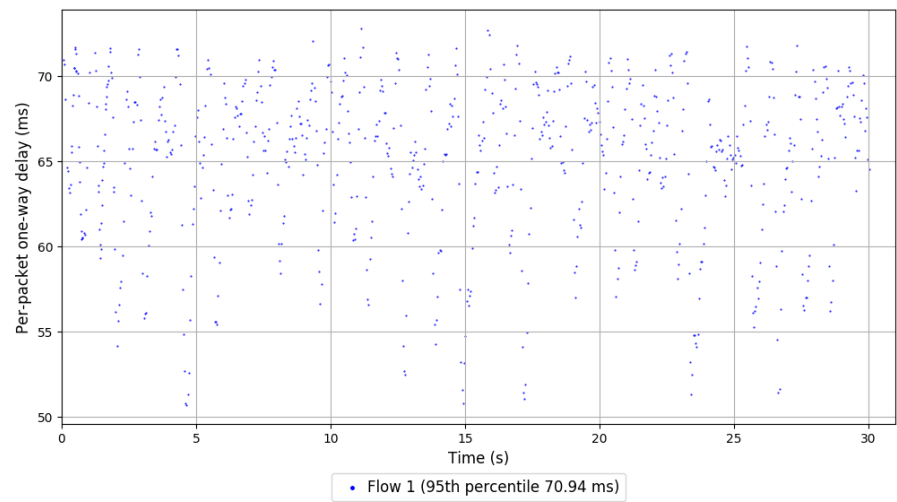
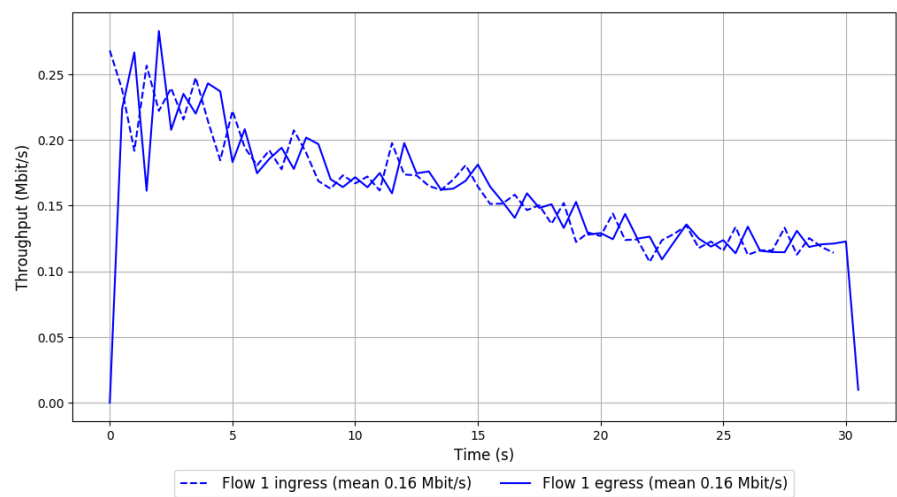


Run 4: Statistics of SCReAM

Start at: 2018-11-30 05:11:59
End at: 2018-11-30 05:12:29
Local clock offset: -0.719 ms
Remote clock offset: 11.848 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 70.944 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 70.944 ms
Loss rate: 0.27%

Run 4: Report of SReAM — Data Link

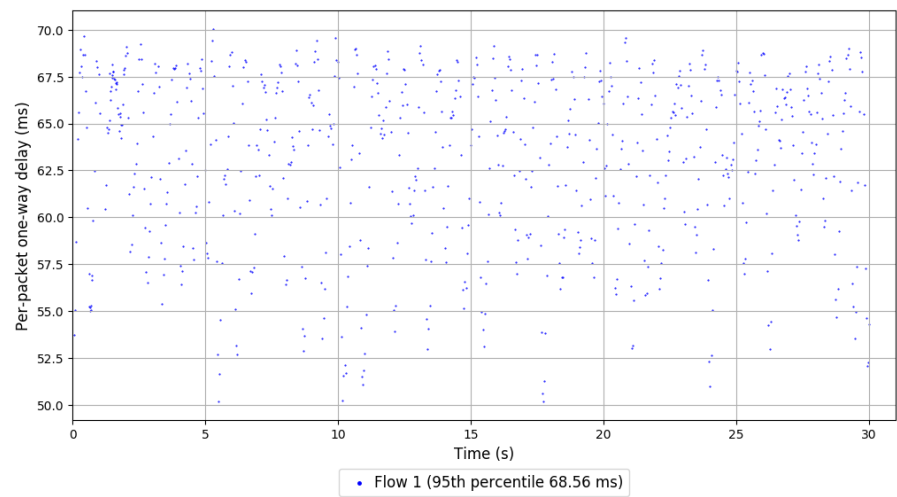
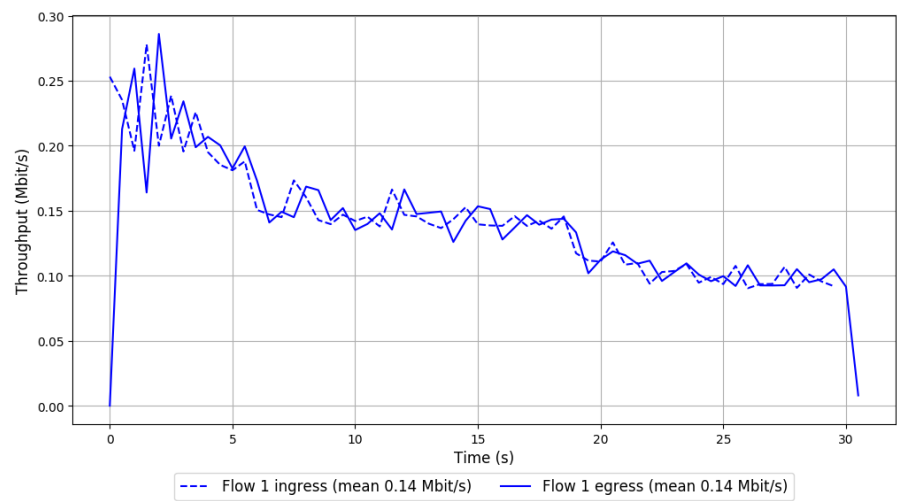


Run 5: Statistics of SCReAM

Start at: 2018-11-30 05:34:50
End at: 2018-11-30 05:35:20
Local clock offset: 2.196 ms
Remote clock offset: 26.112 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 68.555 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 68.555 ms
Loss rate: 0.64%

Run 5: Report of SReAM — Data Link

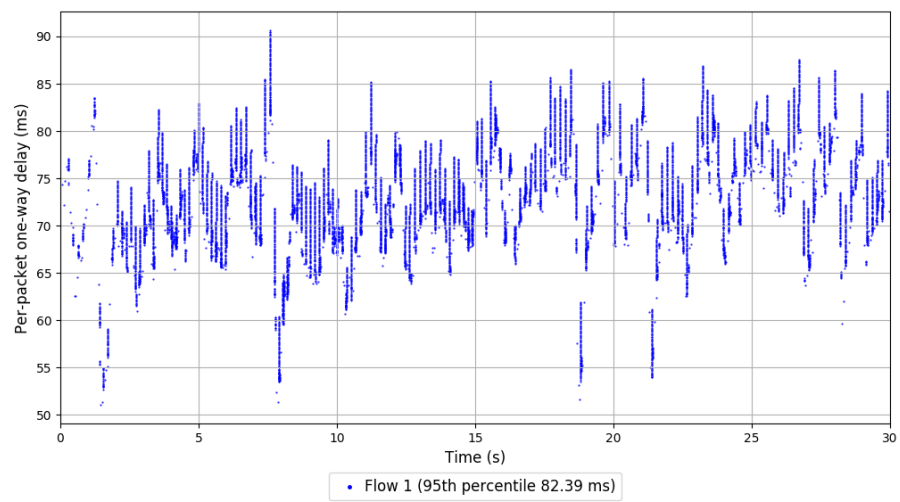
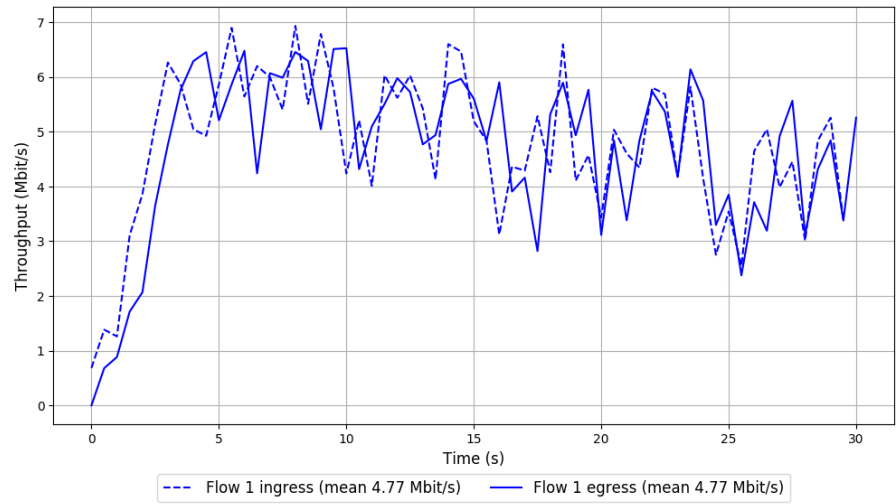


Run 1: Statistics of Sprout

Start at: 2018-11-30 03:57:44
End at: 2018-11-30 03:58:14
Local clock offset: 3.185 ms
Remote clock offset: -1.335 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 82.394 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 82.394 ms
Loss rate: 0.07%

Run 1: Report of Sprout — Data Link

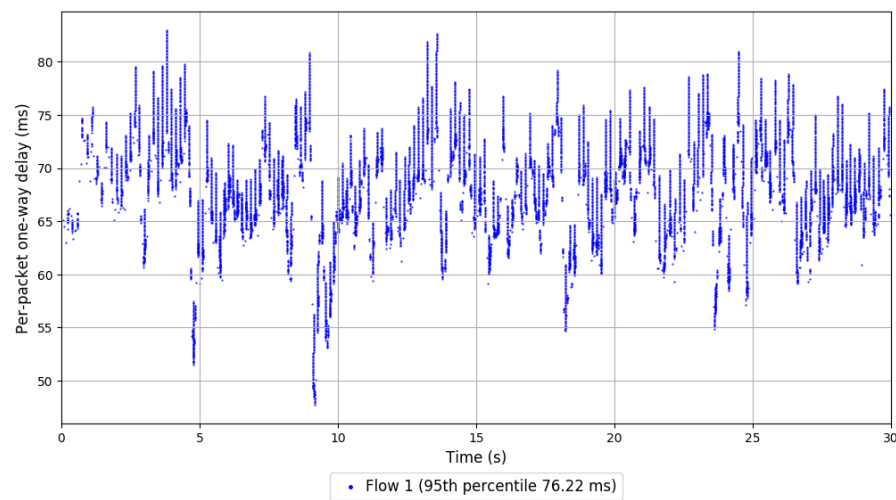
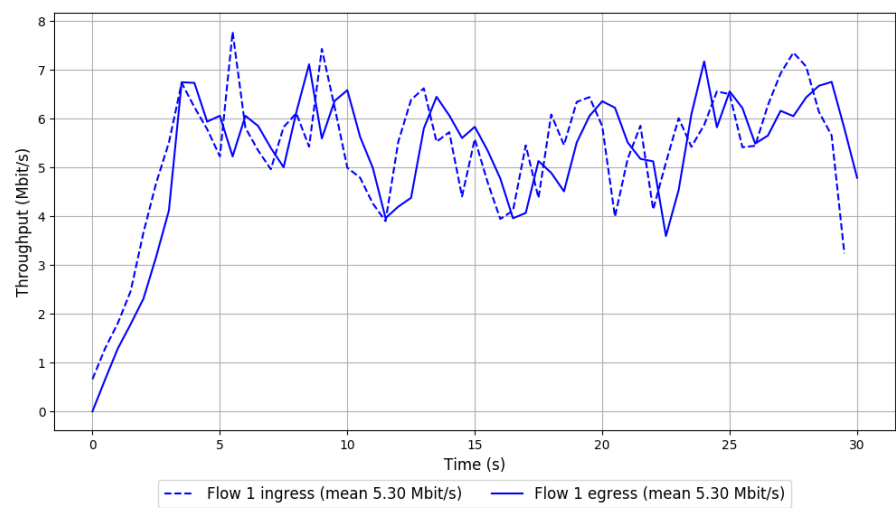


Run 2: Statistics of Sprout

Start at: 2018-11-30 04:20:33
End at: 2018-11-30 04:21:03
Local clock offset: 0.948 ms
Remote clock offset: -16.691 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.30 Mbit/s
95th percentile per-packet one-way delay: 76.220 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 5.30 Mbit/s
95th percentile per-packet one-way delay: 76.220 ms
Loss rate: 0.04%

Run 2: Report of Sprout — Data Link

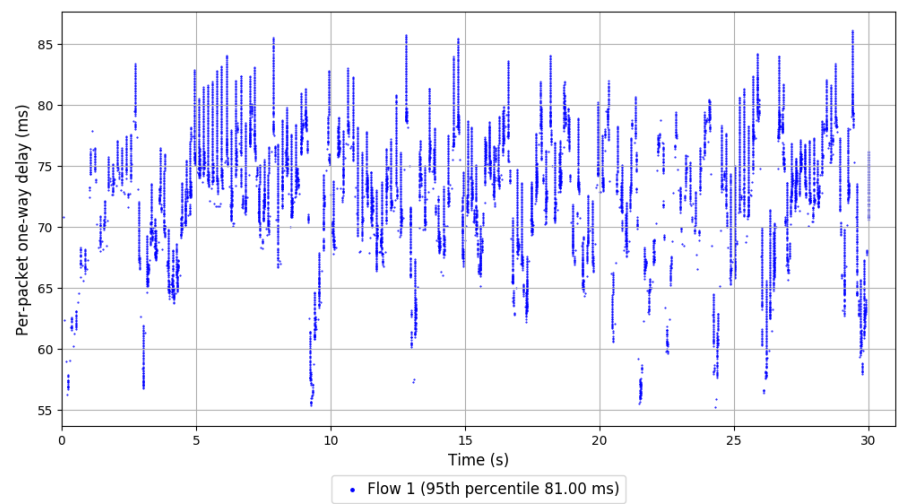
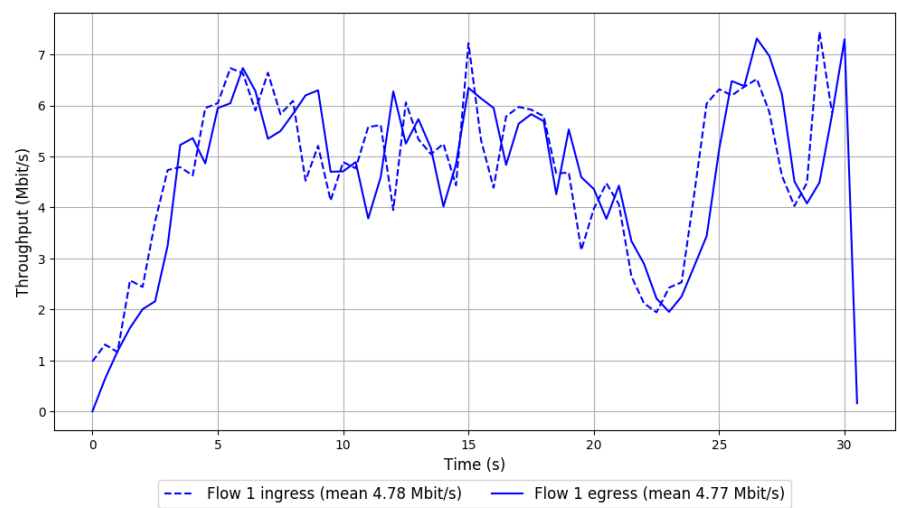


Run 3: Statistics of Sprout

Start at: 2018-11-30 04:43:15
End at: 2018-11-30 04:43:45
Local clock offset: 0.786 ms
Remote clock offset: -9.726 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 80.996 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 4.77 Mbit/s
95th percentile per-packet one-way delay: 80.996 ms
Loss rate: 0.13%

Run 3: Report of Sprout — Data Link

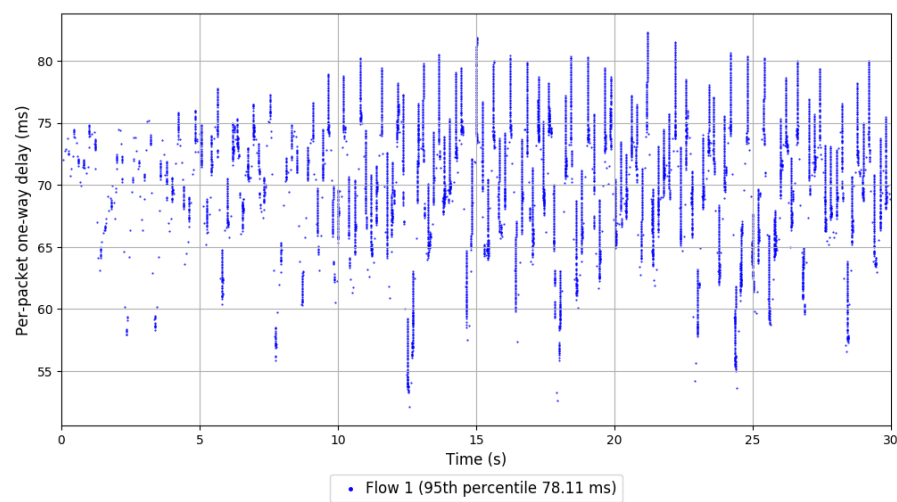
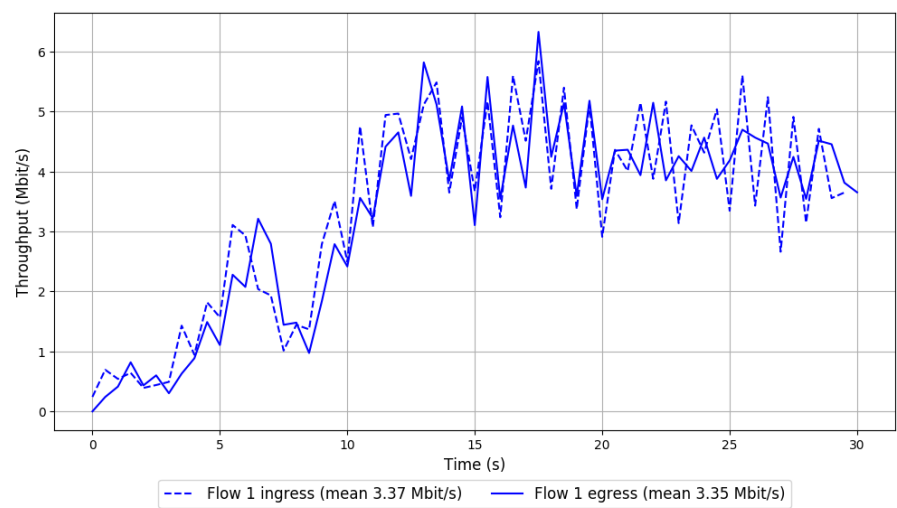


Run 4: Statistics of Sprout

Start at: 2018-11-30 05:06:03
End at: 2018-11-30 05:06:33
Local clock offset: -0.227 ms
Remote clock offset: -3.924 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 78.111 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 3.35 Mbit/s
95th percentile per-packet one-way delay: 78.111 ms
Loss rate: 0.60%

Run 4: Report of Sprout — Data Link

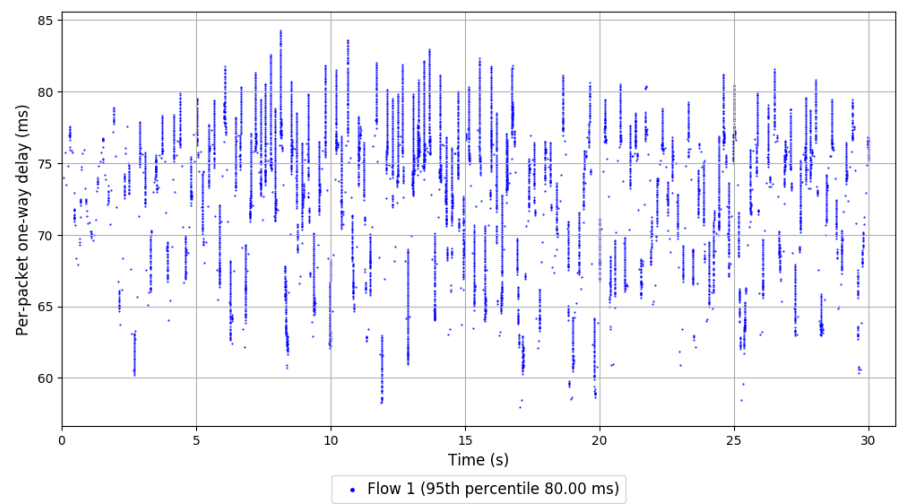
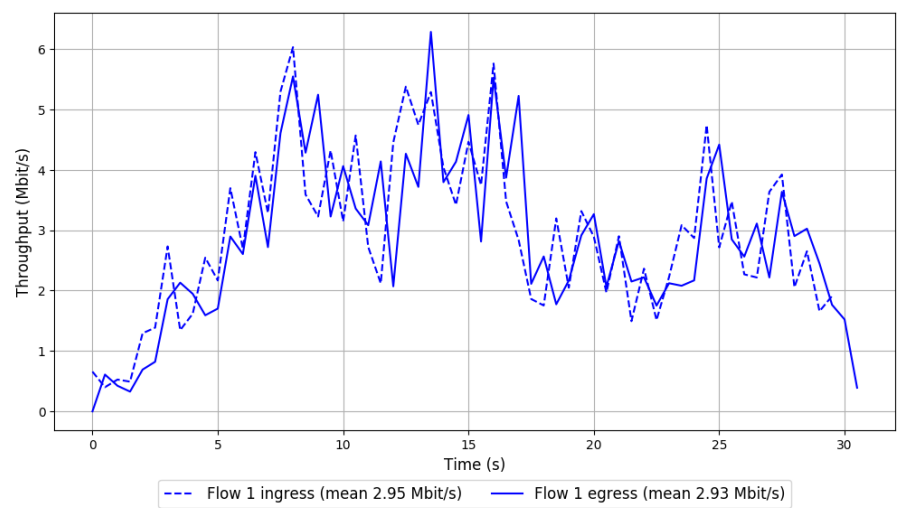


Run 5: Statistics of Sprout

Start at: 2018-11-30 05:28:57
End at: 2018-11-30 05:29:27
Local clock offset: 1.578 ms
Remote clock offset: 22.148 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.93 Mbit/s
95th percentile per-packet one-way delay: 79.997 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 2.93 Mbit/s
95th percentile per-packet one-way delay: 79.997 ms
Loss rate: 0.70%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-11-30 04:09:39

End at: 2018-11-30 04:10:10

Local clock offset: 0.895 ms

Remote clock offset: -5.13 ms

Below is generated by plot.py at 2018-11-30 05:53:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.60 Mbit/s

95th percentile per-packet one-way delay: 78.923 ms

Loss rate: 5.73%

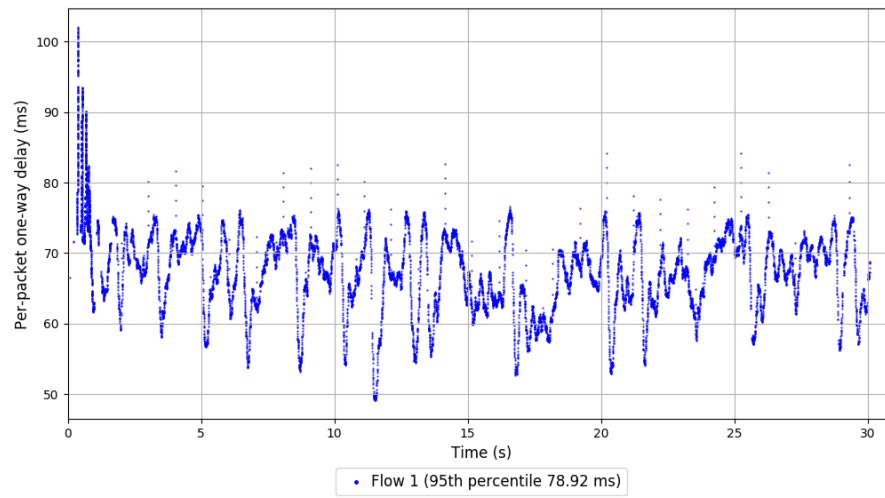
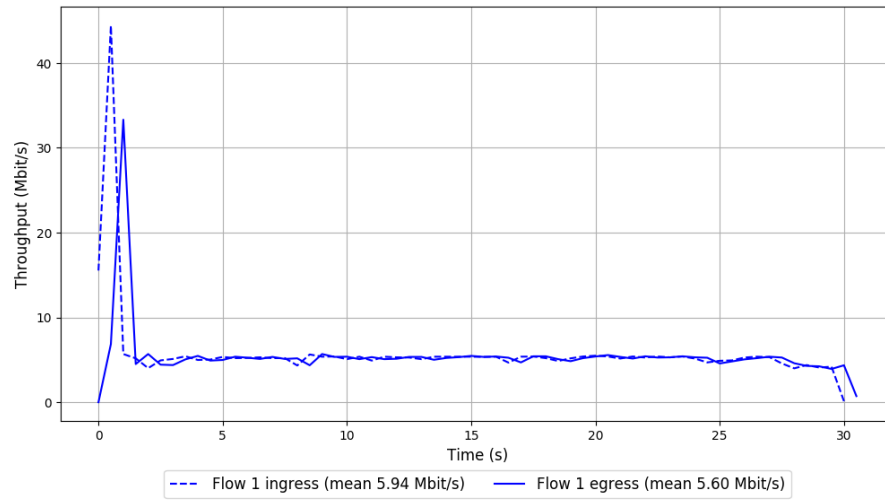
-- Flow 1:

Average throughput: 5.60 Mbit/s

95th percentile per-packet one-way delay: 78.923 ms

Loss rate: 5.73%

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

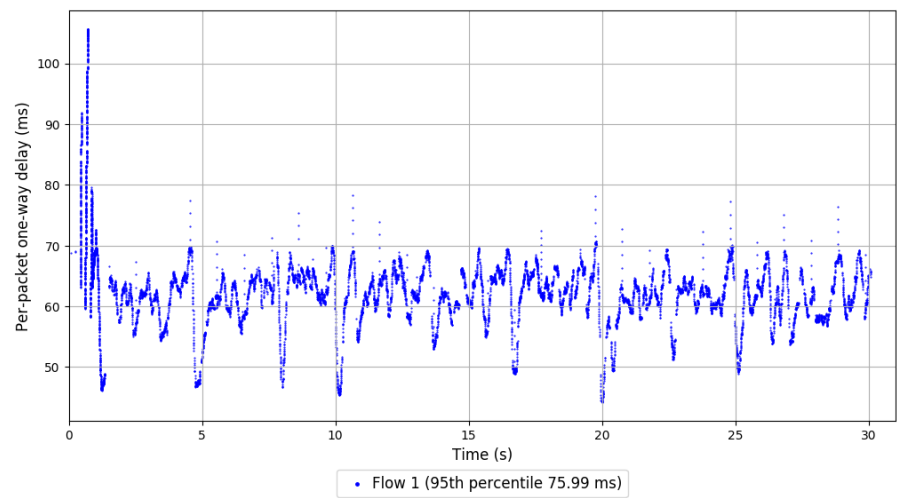
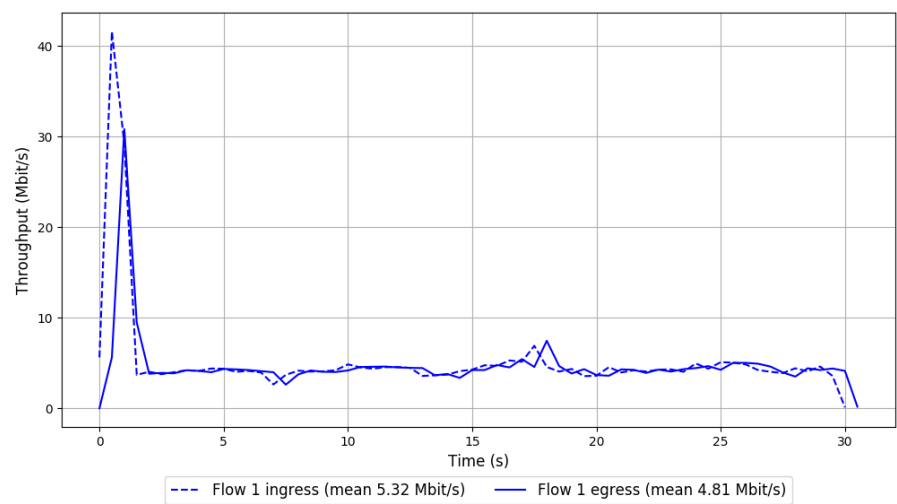


Run 2: Statistics of TaoVA-100x

Start at: 2018-11-30 04:32:18
End at: 2018-11-30 04:32:48
Local clock offset: 0.922 ms
Remote clock offset: -12.768 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.81 Mbit/s
95th percentile per-packet one-way delay: 75.993 ms
Loss rate: 9.51%
-- Flow 1:
Average throughput: 4.81 Mbit/s
95th percentile per-packet one-way delay: 75.993 ms
Loss rate: 9.51%

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

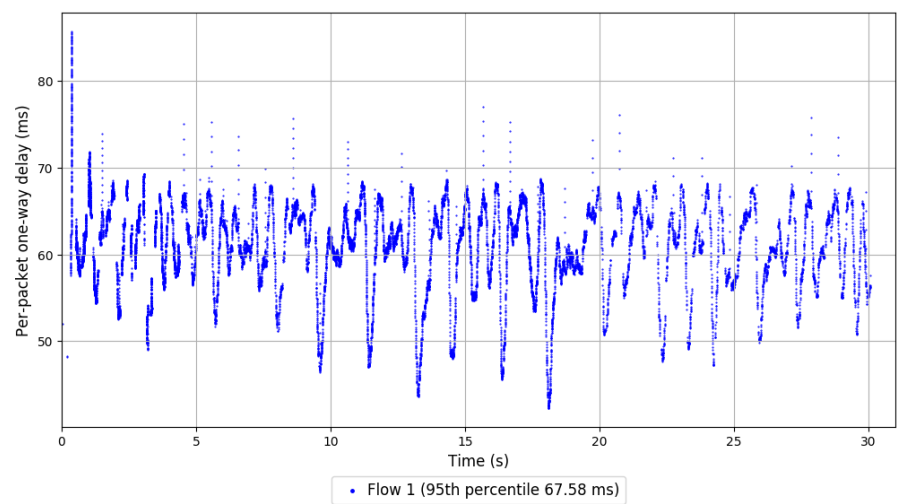
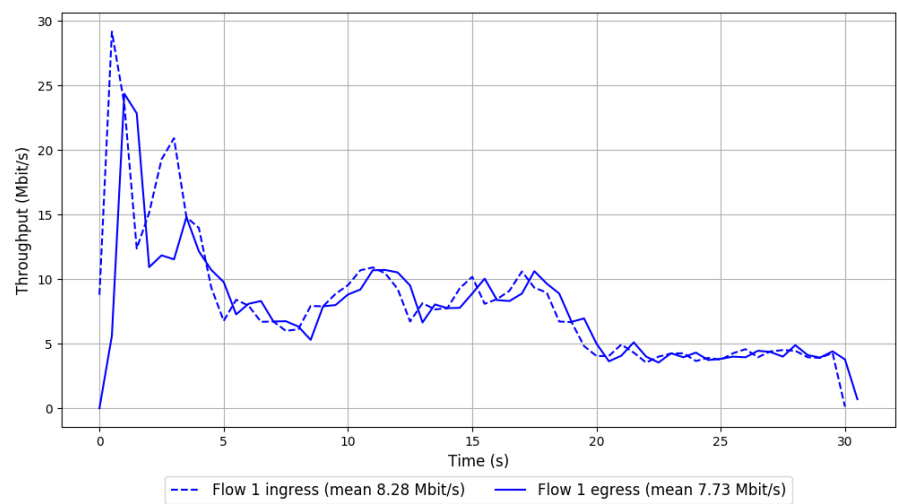


Run 3: Statistics of TaoVA-100x

Start at: 2018-11-30 04:55:05
End at: 2018-11-30 04:55:35
Local clock offset: 0.268 ms
Remote clock offset: -13.017 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 67.581 ms
Loss rate: 6.62%
-- Flow 1:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 67.581 ms
Loss rate: 6.62%

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

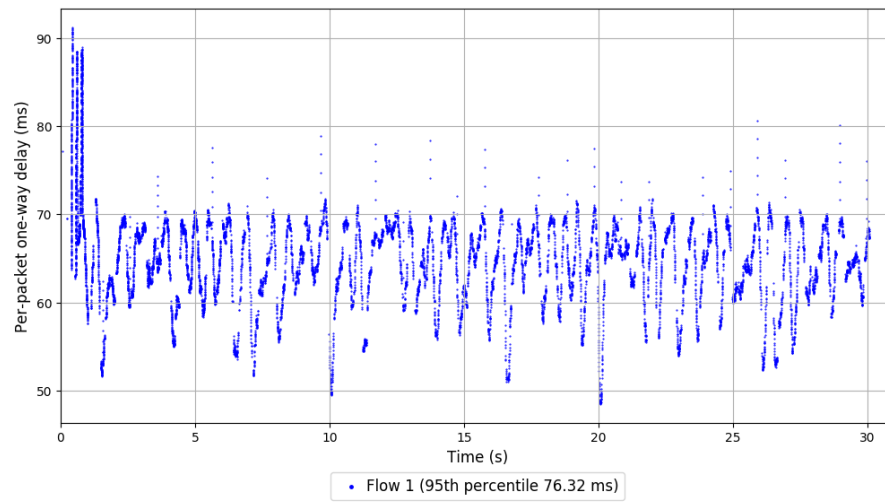
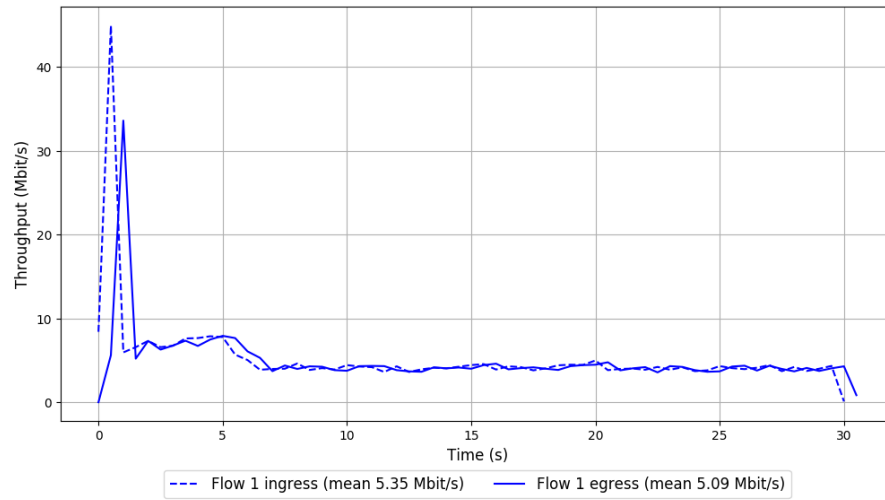


Run 4: Statistics of TaoVA-100x

Start at: 2018-11-30 05:17:57
End at: 2018-11-30 05:18:27
Local clock offset: 0.326 ms
Remote clock offset: 16.119 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 76.322 ms
Loss rate: 4.82%
-- Flow 1:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 76.322 ms
Loss rate: 4.82%

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

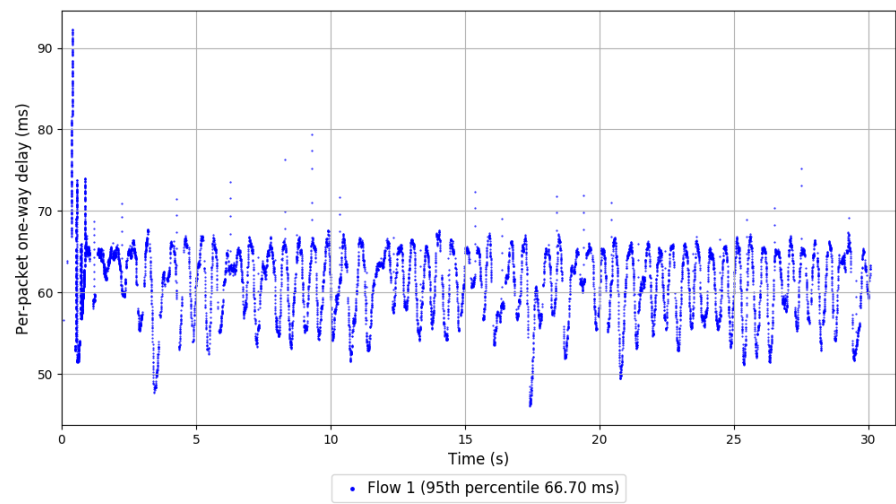
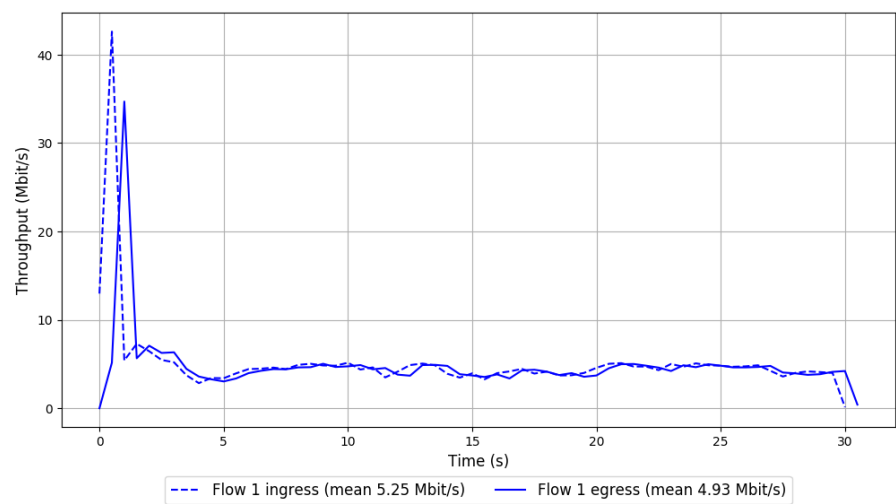


Run 5: Statistics of TaoVA-100x

Start at: 2018-11-30 05:40:50
End at: 2018-11-30 05:41:20
Local clock offset: 2.177 ms
Remote clock offset: 31.542 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 66.704 ms
Loss rate: 5.97%
-- Flow 1:
Average throughput: 4.93 Mbit/s
95th percentile per-packet one-way delay: 66.704 ms
Loss rate: 5.97%

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

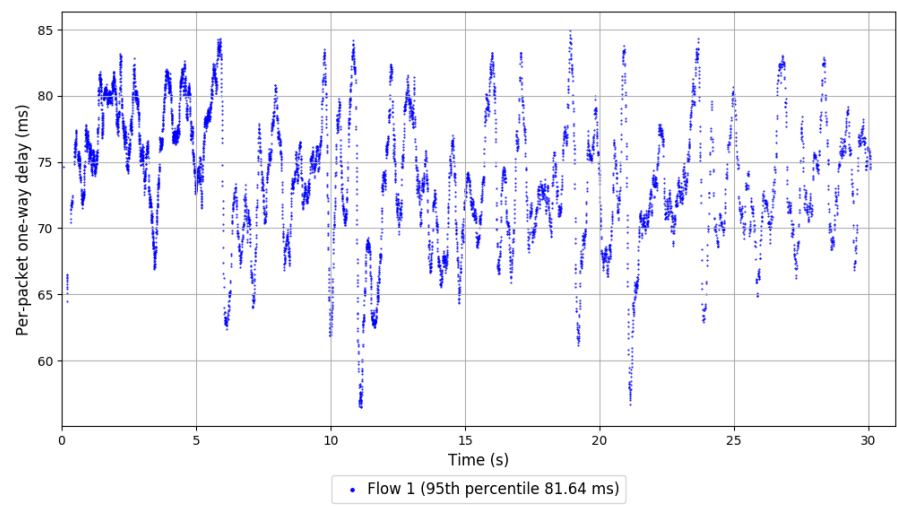
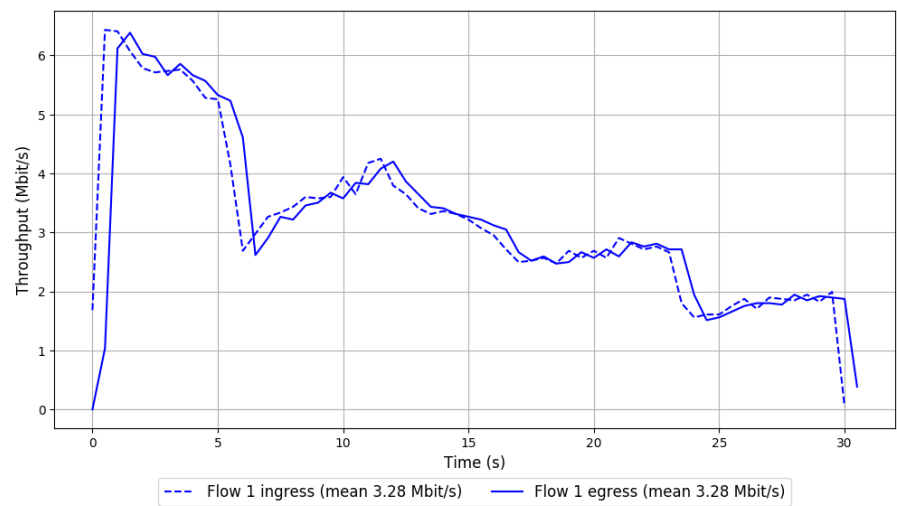


Run 1: Statistics of TCP Vegas

Start at: 2018-11-30 04:15:37
End at: 2018-11-30 04:16:08
Local clock offset: 0.473 ms
Remote clock offset: -7.609 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.28 Mbit/s
95th percentile per-packet one-way delay: 81.637 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 3.28 Mbit/s
95th percentile per-packet one-way delay: 81.637 ms
Loss rate: 0.09%

Run 1: Report of TCP Vegas — Data Link

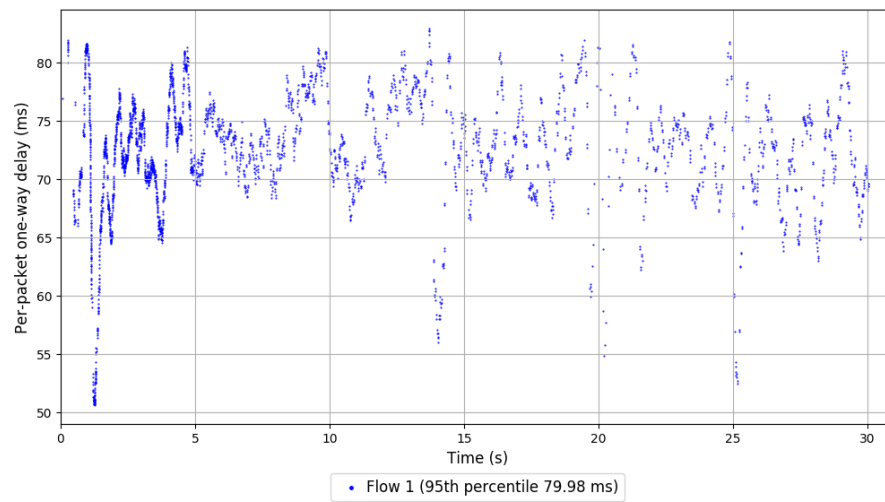
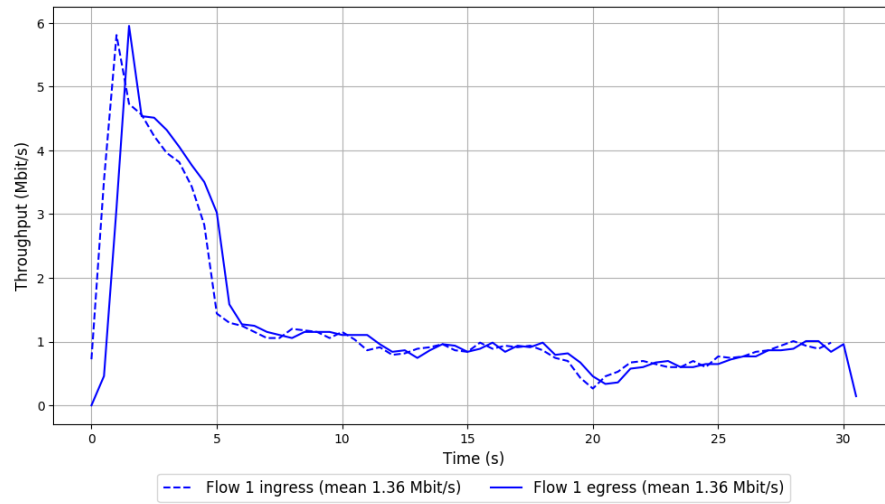


Run 2: Statistics of TCP Vegas

Start at: 2018-11-30 04:38:13
End at: 2018-11-30 04:38:43
Local clock offset: 0.828 ms
Remote clock offset: -8.405 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 79.981 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 79.981 ms
Loss rate: 0.12%

Run 2: Report of TCP Vegas — Data Link

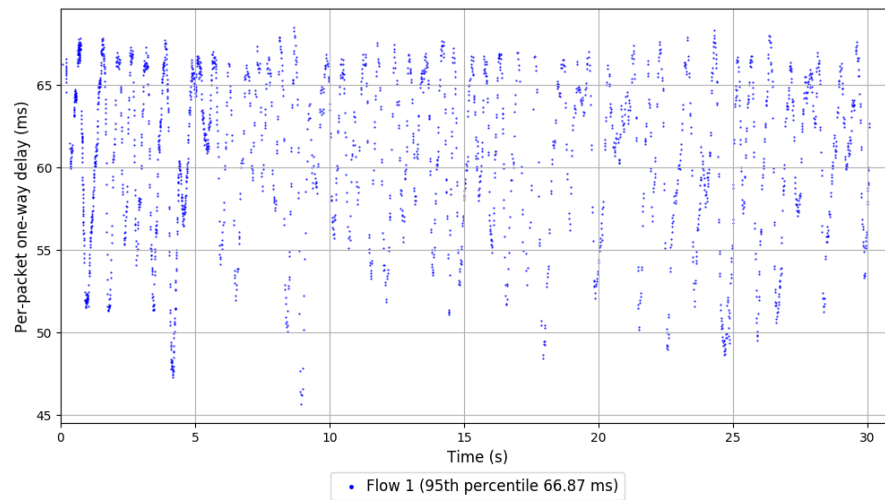
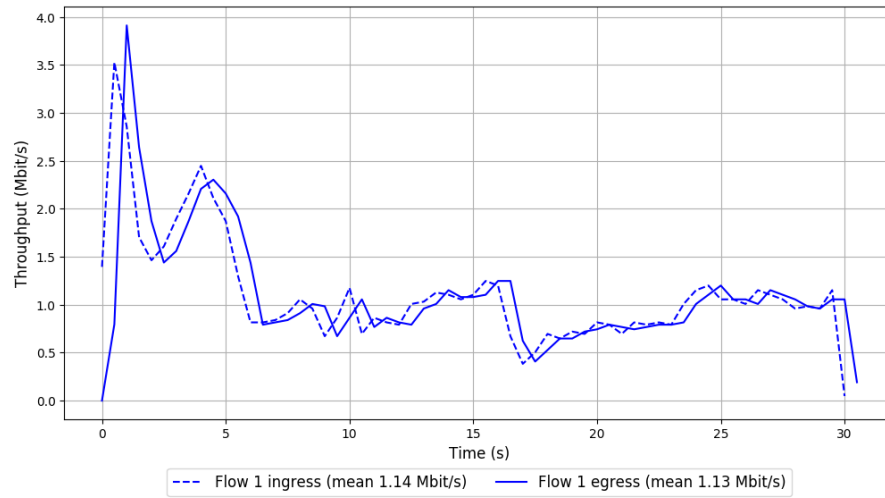


Run 3: Statistics of TCP Vegas

Start at: 2018-11-30 05:00:59
End at: 2018-11-30 05:01:29
Local clock offset: -0.143 ms
Remote clock offset: -13.663 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 66.866 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 66.866 ms
Loss rate: 0.39%

Run 3: Report of TCP Vegas — Data Link

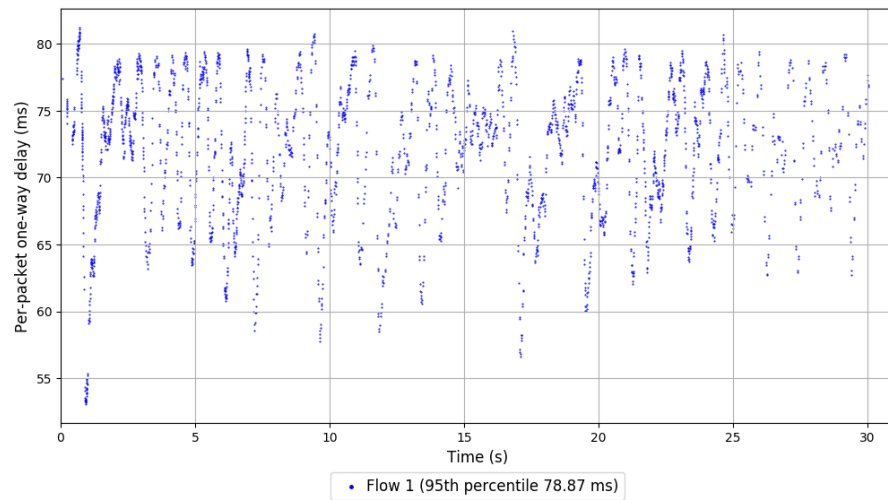
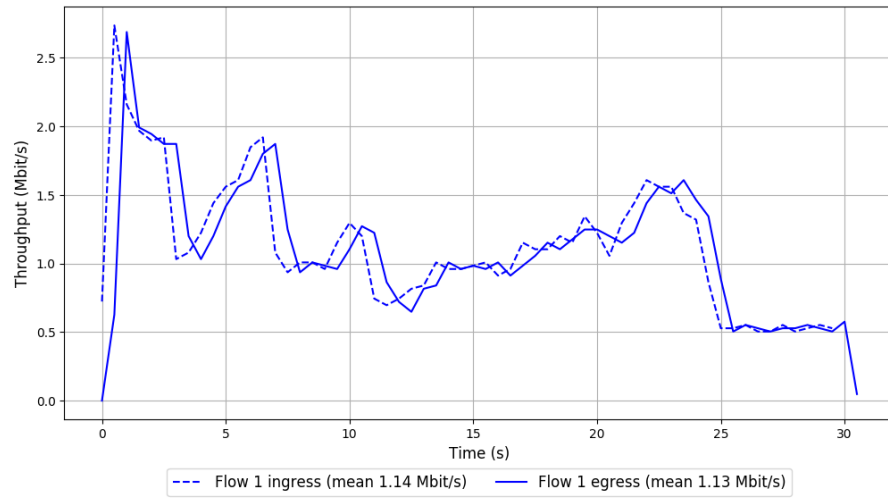


Run 4: Statistics of TCP Vegas

Start at: 2018-11-30 05:23:53
End at: 2018-11-30 05:24:23
Local clock offset: 1.332 ms
Remote clock offset: 21.223 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 78.873 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 78.873 ms
Loss rate: 0.25%

Run 4: Report of TCP Vegas — Data Link

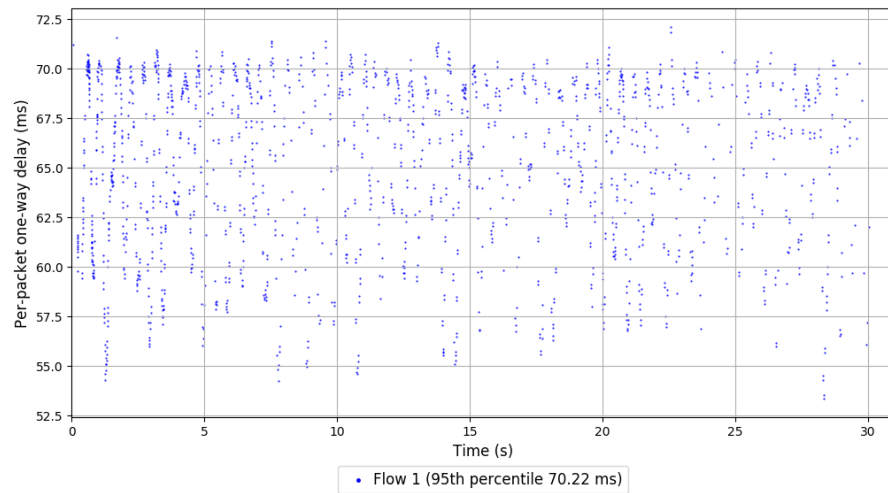
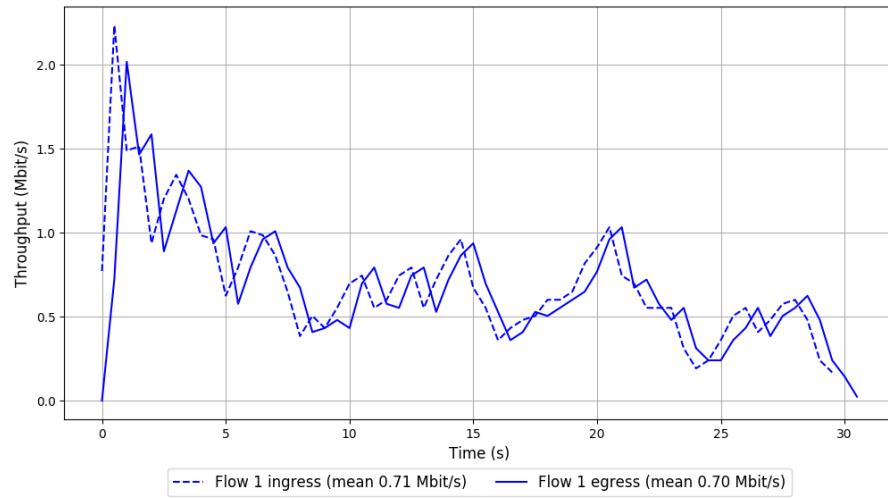


Run 5: Statistics of TCP Vegas

Start at: 2018-11-30 05:46:47
End at: 2018-11-30 05:47:17
Local clock offset: 2.323 ms
Remote clock offset: 42.707 ms

Below is generated by plot.py at 2018-11-30 05:53:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 70.224 ms
Loss rate: 1.47%
-- Flow 1:
Average throughput: 0.70 Mbit/s
95th percentile per-packet one-way delay: 70.224 ms
Loss rate: 1.47%

Run 5: Report of TCP Vegas — Data Link

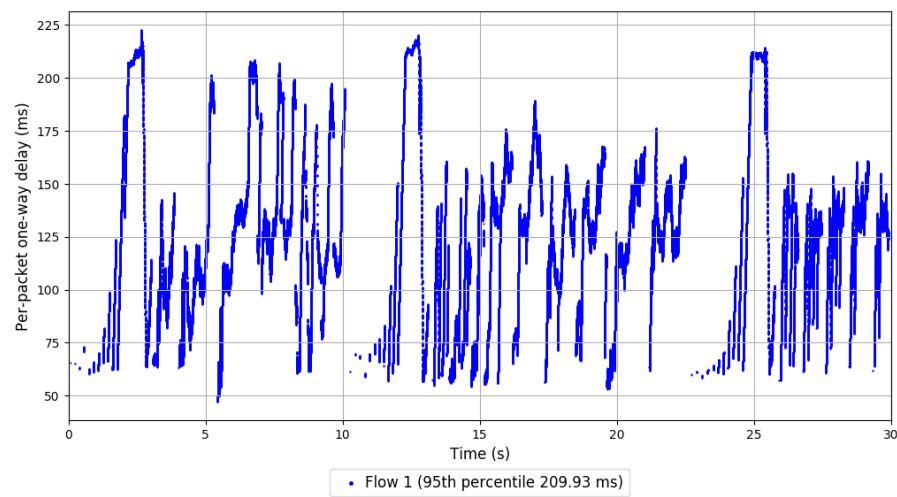
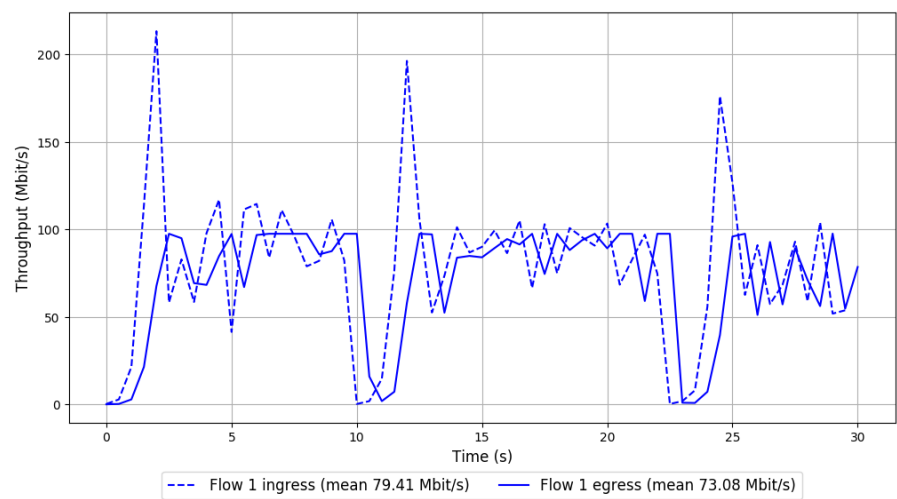


Run 1: Statistics of Verus

Start at: 2018-11-30 03:55:12
End at: 2018-11-30 03:55:42
Local clock offset: 4.042 ms
Remote clock offset: -0.277 ms

Below is generated by plot.py at 2018-11-30 05:53:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 73.08 Mbit/s
95th percentile per-packet one-way delay: 209.927 ms
Loss rate: 7.81%
-- Flow 1:
Average throughput: 73.08 Mbit/s
95th percentile per-packet one-way delay: 209.927 ms
Loss rate: 7.81%

Run 1: Report of Verus — Data Link

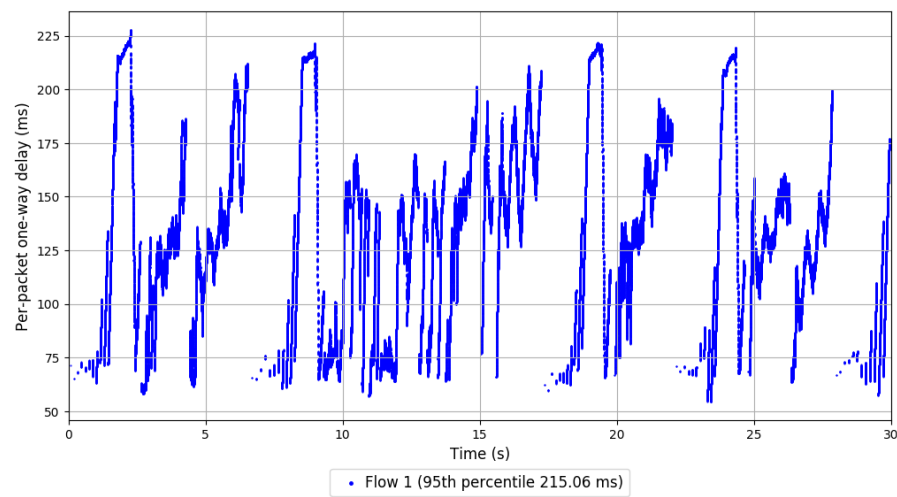
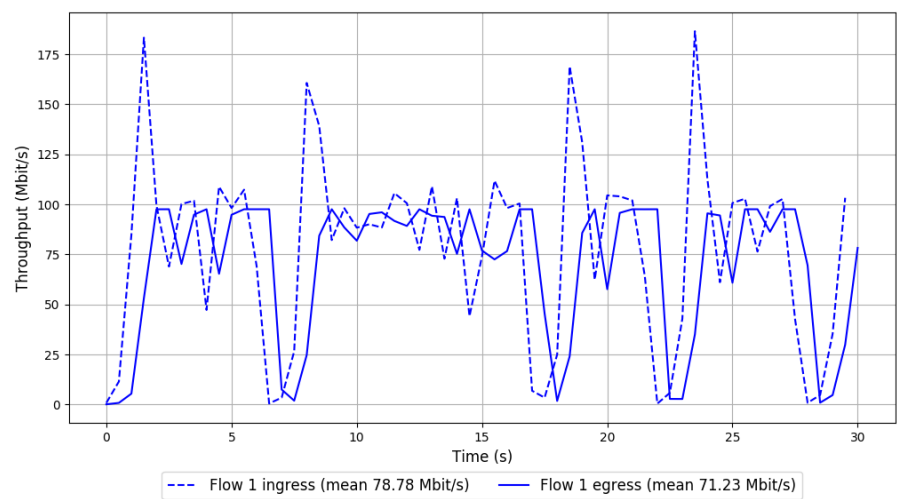


Run 2: Statistics of Verus

Start at: 2018-11-30 04:18:02
End at: 2018-11-30 04:18:32
Local clock offset: 0.742 ms
Remote clock offset: -13.973 ms

Below is generated by plot.py at 2018-11-30 05:53:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 71.23 Mbit/s
95th percentile per-packet one-way delay: 215.056 ms
Loss rate: 9.49%
-- Flow 1:
Average throughput: 71.23 Mbit/s
95th percentile per-packet one-way delay: 215.056 ms
Loss rate: 9.49%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-11-30 04:40:41

End at: 2018-11-30 04:41:11

Local clock offset: 0.757 ms

Remote clock offset: -8.9 ms

Below is generated by plot.py at 2018-11-30 05:53:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 65.76 Mbit/s

95th percentile per-packet one-way delay: 184.594 ms

Loss rate: 3.10%

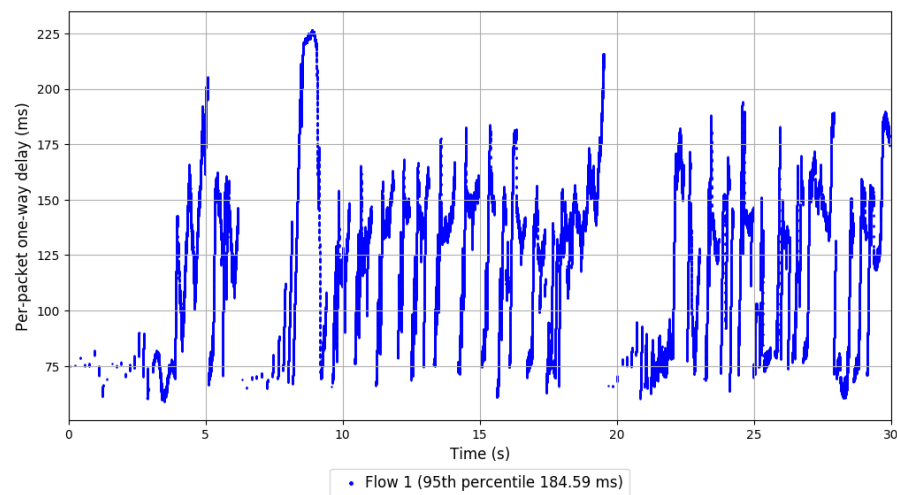
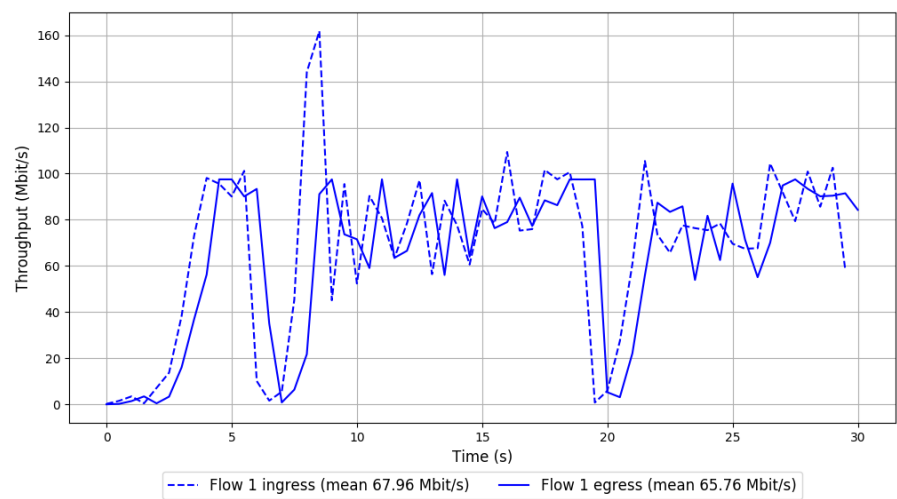
-- Flow 1:

Average throughput: 65.76 Mbit/s

95th percentile per-packet one-way delay: 184.594 ms

Loss rate: 3.10%

Run 3: Report of Verus — Data Link

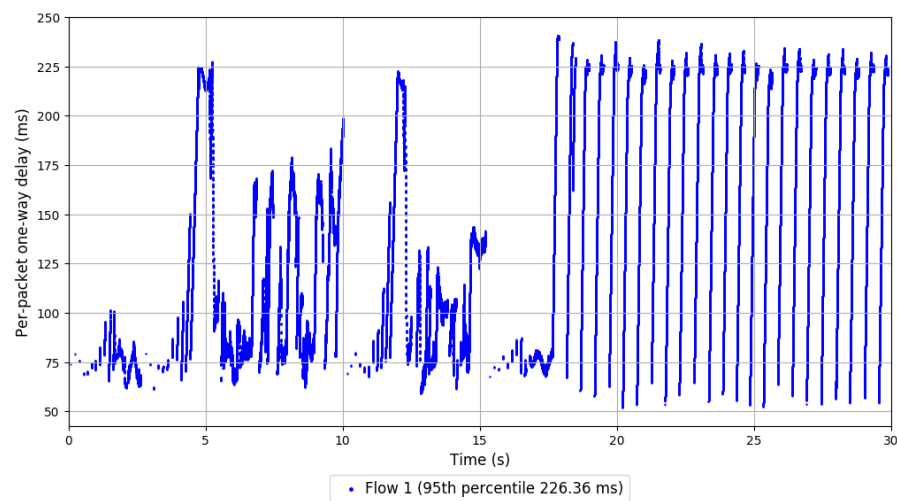
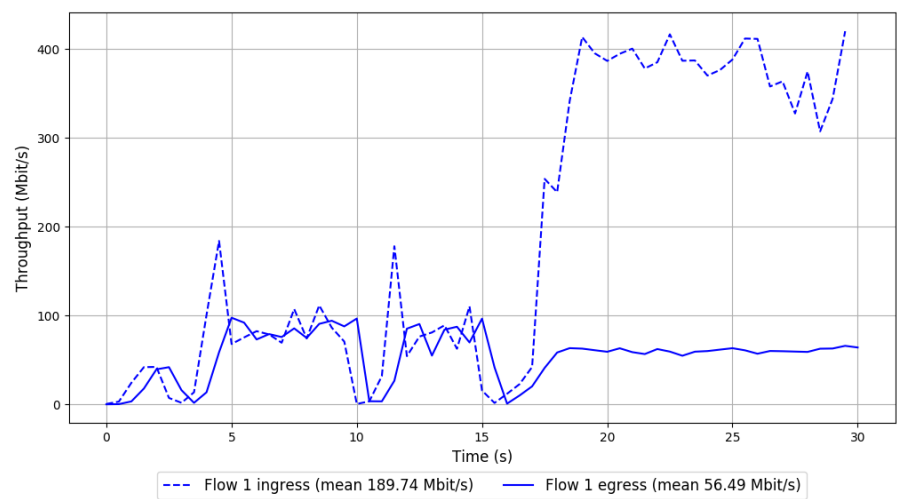


Run 4: Statistics of Verus

Start at: 2018-11-30 05:03:31
End at: 2018-11-30 05:04:01
Local clock offset: -0.335 ms
Remote clock offset: -5.763 ms

Below is generated by plot.py at 2018-11-30 05:53:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 56.49 Mbit/s
95th percentile per-packet one-way delay: 226.357 ms
Loss rate: 70.08%
-- Flow 1:
Average throughput: 56.49 Mbit/s
95th percentile per-packet one-way delay: 226.357 ms
Loss rate: 70.08%

Run 4: Report of Verus — Data Link

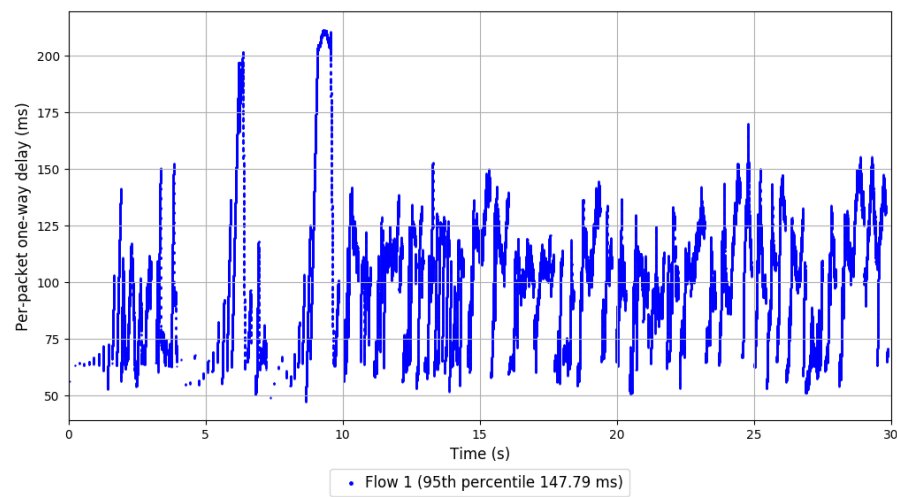
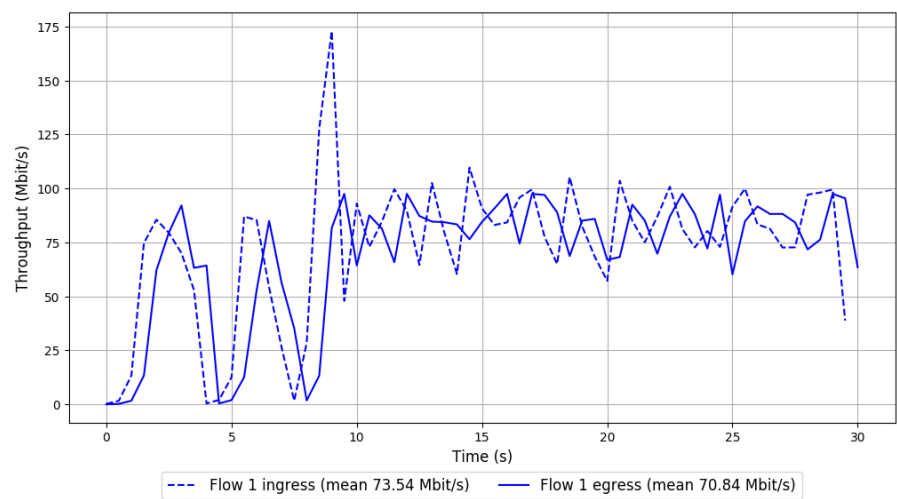


Run 5: Statistics of Verus

Start at: 2018-11-30 05:26:21
End at: 2018-11-30 05:26:51
Local clock offset: 1.709 ms
Remote clock offset: 18.122 ms

Below is generated by plot.py at 2018-11-30 05:53:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 70.84 Mbit/s
95th percentile per-packet one-way delay: 147.795 ms
Loss rate: 3.62%
-- Flow 1:
Average throughput: 70.84 Mbit/s
95th percentile per-packet one-way delay: 147.795 ms
Loss rate: 3.62%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-11-30 04:06:06

End at: 2018-11-30 04:06:36

Local clock offset: 1.484 ms

Remote clock offset: -3.646 ms

Below is generated by plot.py at 2018-11-30 05:53:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.77 Mbit/s

95th percentile per-packet one-way delay: 74.085 ms

Loss rate: 0.13%

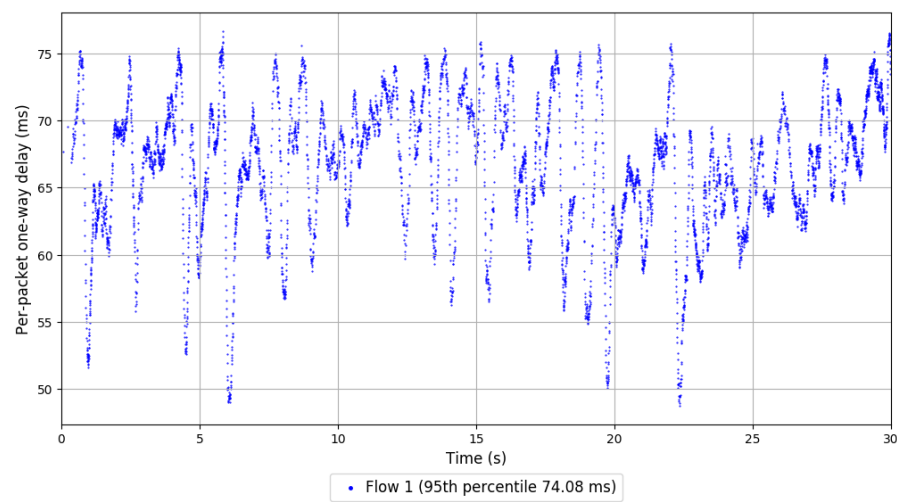
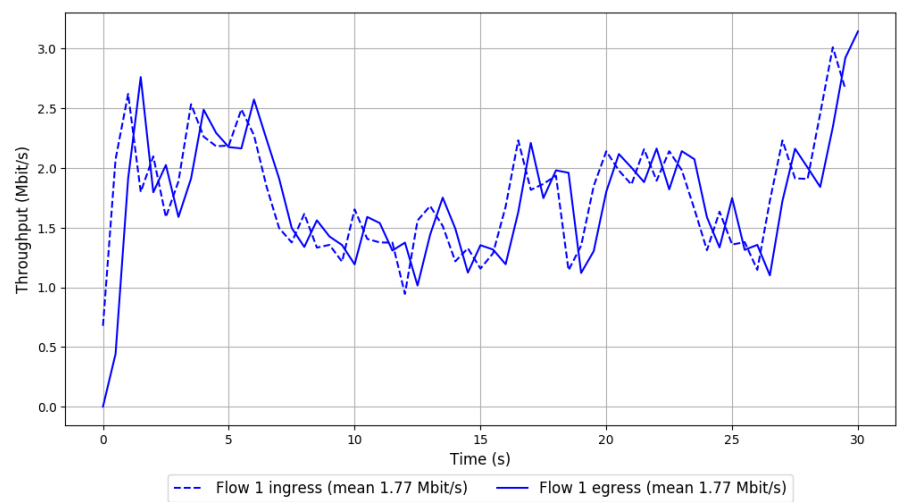
-- Flow 1:

Average throughput: 1.77 Mbit/s

95th percentile per-packet one-way delay: 74.085 ms

Loss rate: 0.13%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-11-30 04:28:47

End at: 2018-11-30 04:29:17

Local clock offset: 0.867 ms

Remote clock offset: -7.82 ms

Below is generated by plot.py at 2018-11-30 05:53:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.31 Mbit/s

95th percentile per-packet one-way delay: 80.622 ms

Loss rate: 0.07%

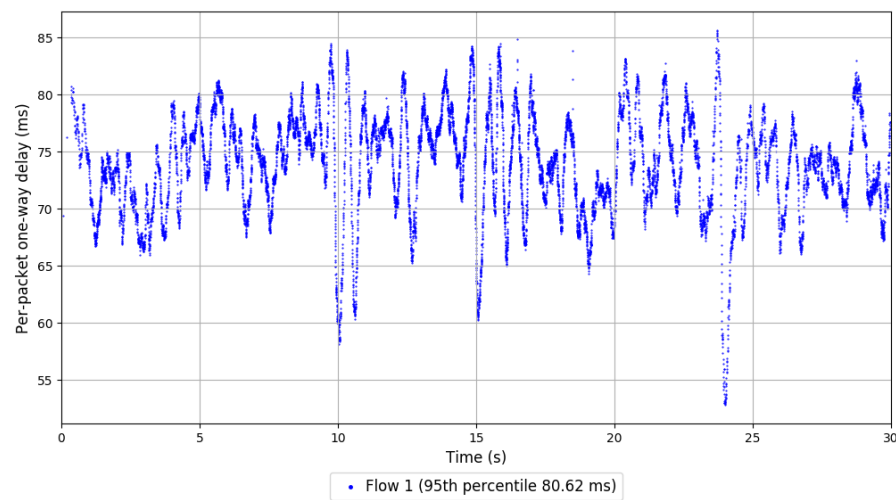
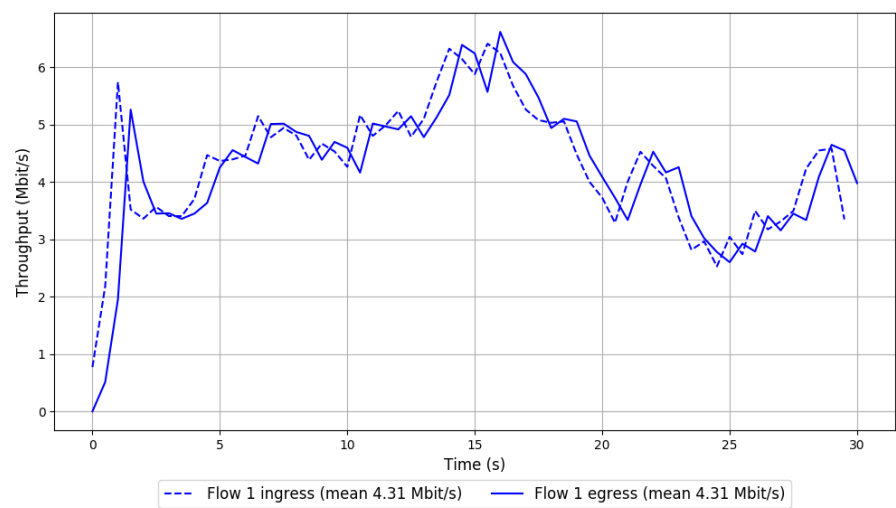
-- Flow 1:

Average throughput: 4.31 Mbit/s

95th percentile per-packet one-way delay: 80.622 ms

Loss rate: 0.07%

Run 2: Report of PCC-Vivace — Data Link

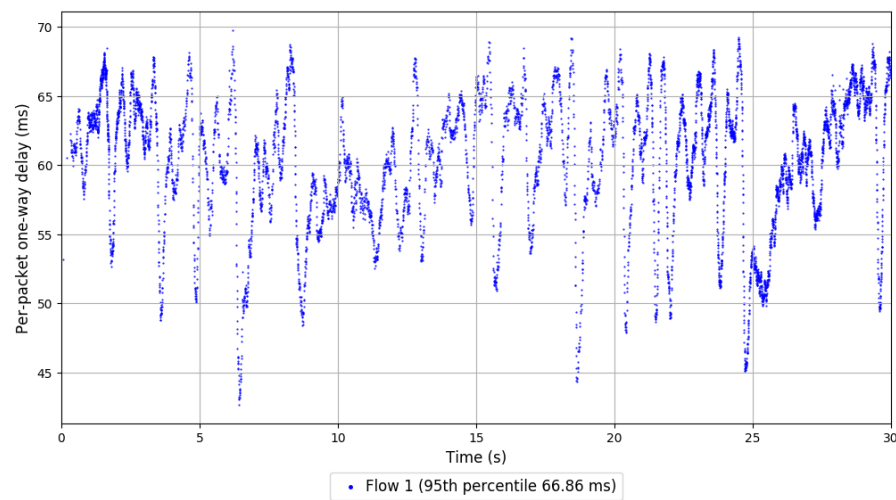
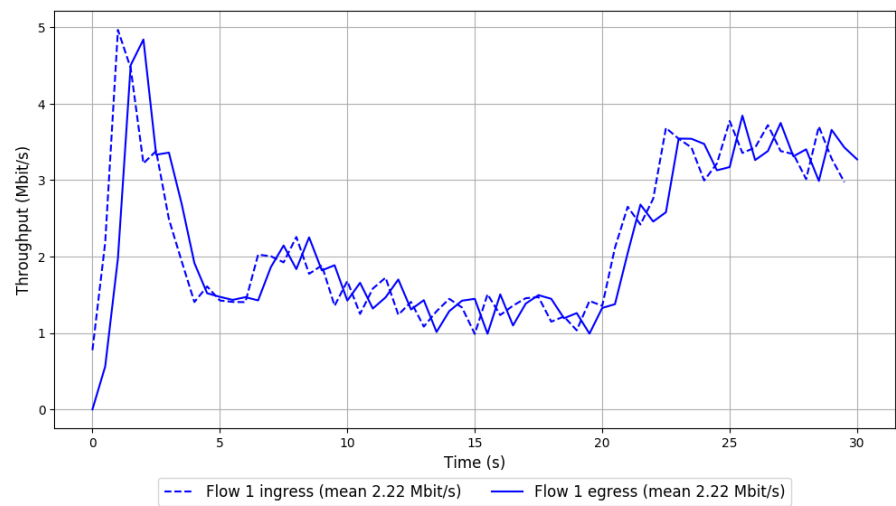


Run 3: Statistics of PCC-Vivace

Start at: 2018-11-30 04:51:31
End at: 2018-11-30 04:52:01
Local clock offset: 0.062 ms
Remote clock offset: -12.211 ms

Below is generated by plot.py at 2018-11-30 05:53:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 66.857 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 66.857 ms
Loss rate: 0.09%

Run 3: Report of PCC-Vivace — Data Link

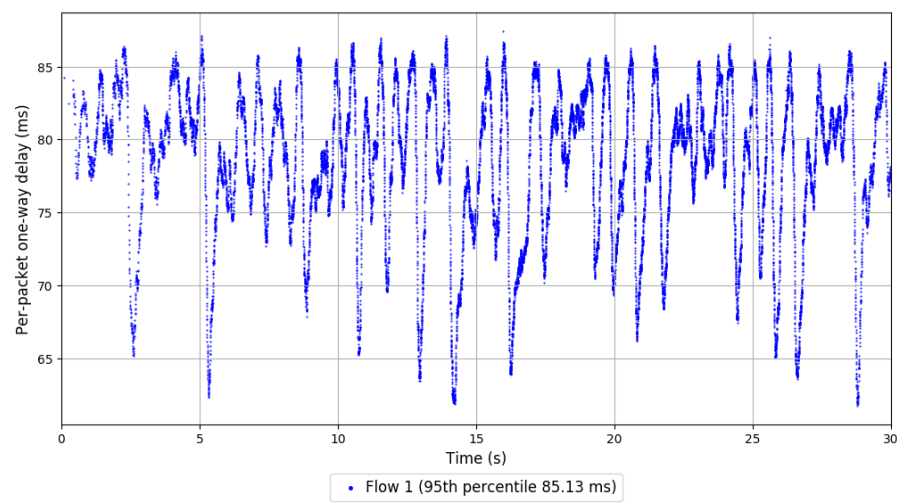
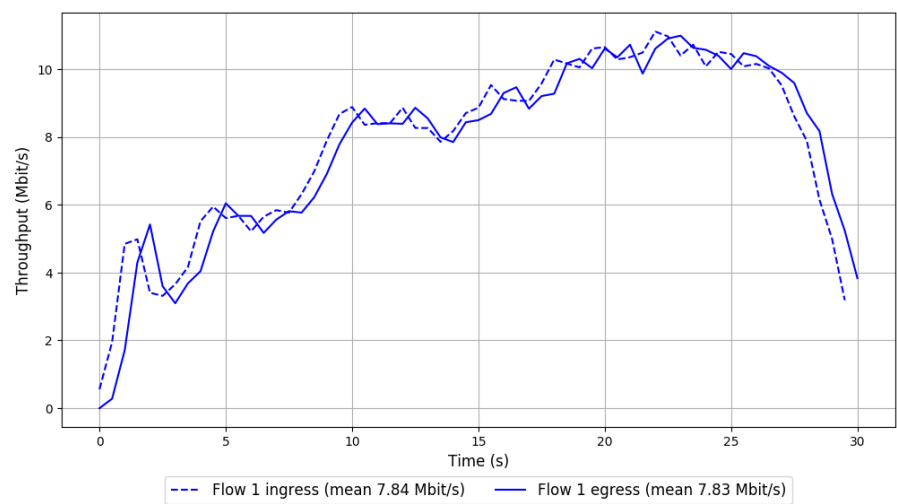


Run 4: Statistics of PCC-Vivace

Start at: 2018-11-30 05:14:21
End at: 2018-11-30 05:14:51
Local clock offset: -0.577 ms
Remote clock offset: 20.404 ms

Below is generated by plot.py at 2018-11-30 05:53:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 7.83 Mbit/s
95th percentile per-packet one-way delay: 85.134 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 7.83 Mbit/s
95th percentile per-packet one-way delay: 85.134 ms
Loss rate: 0.19%

Run 4: Report of PCC-Vivace — Data Link

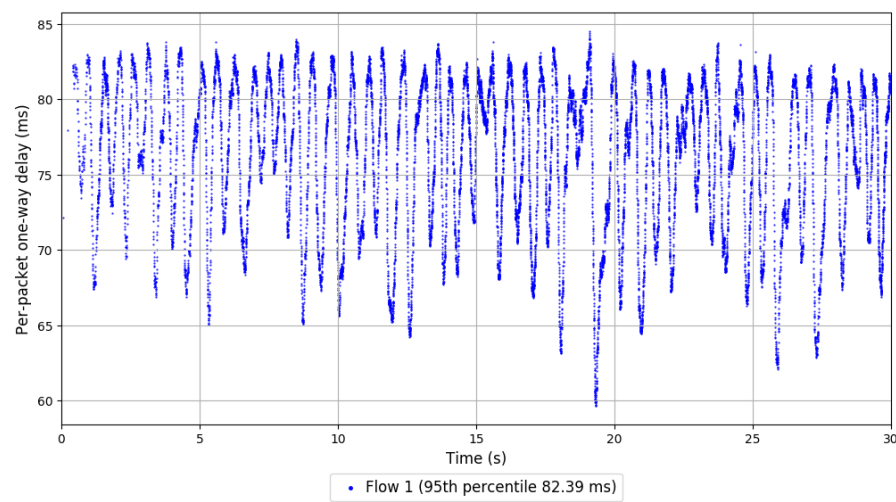
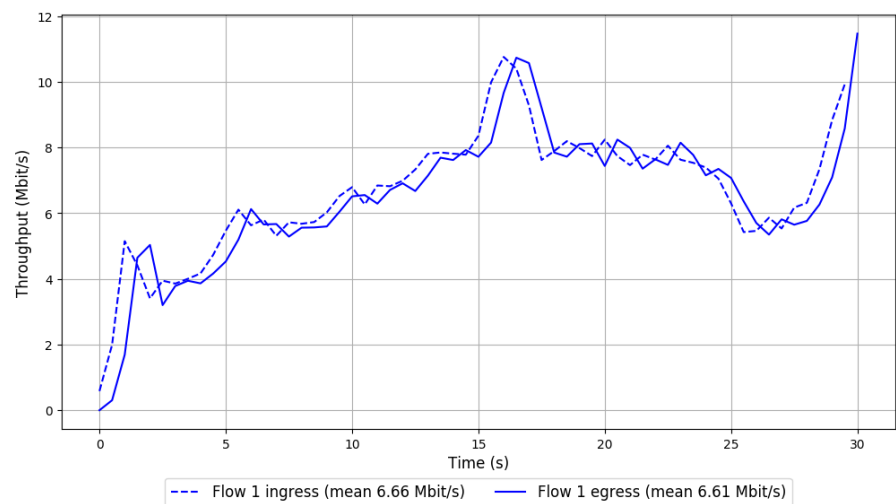


Run 5: Statistics of PCC-Vivace

Start at: 2018-11-30 05:37:15
End at: 2018-11-30 05:37:45
Local clock offset: 2.098 ms
Remote clock offset: 33.532 ms

Below is generated by plot.py at 2018-11-30 05:53:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 82.385 ms
Loss rate: 0.76%
-- Flow 1:
Average throughput: 6.61 Mbit/s
95th percentile per-packet one-way delay: 82.385 ms
Loss rate: 0.76%

Run 5: Report of PCC-Vivace — Data Link

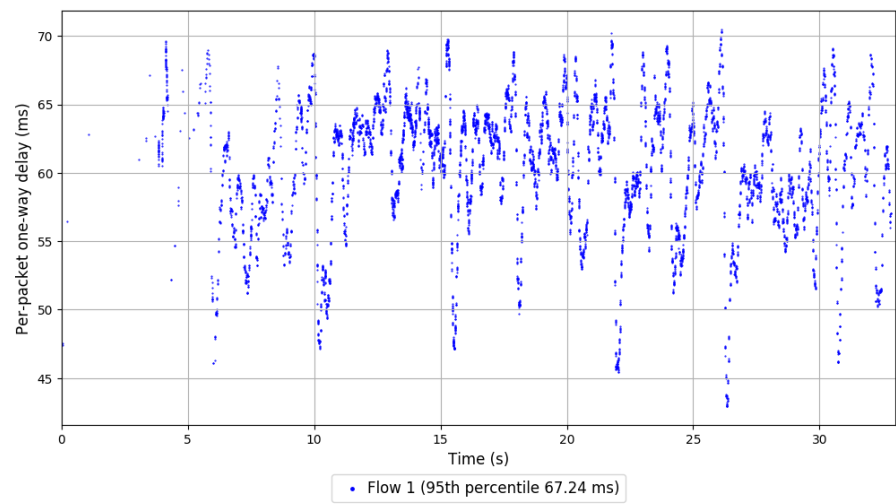
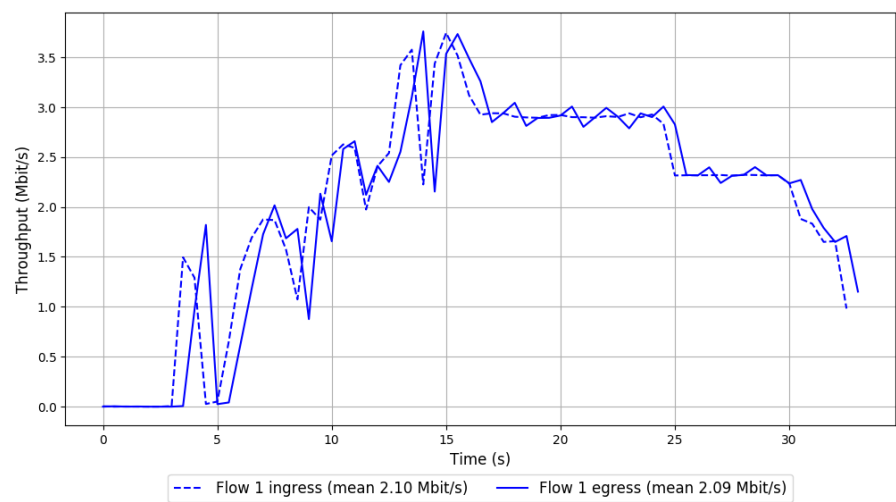


Run 1: Statistics of WebRTC media

Start at: 2018-11-30 04:14:28
End at: 2018-11-30 04:14:58
Local clock offset: 0.43 ms
Remote clock offset: -12.47 ms

Below is generated by plot.py at 2018-11-30 05:53:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 67.244 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 2.09 Mbit/s
95th percentile per-packet one-way delay: 67.244 ms
Loss rate: 0.09%

Run 1: Report of WebRTC media — Data Link

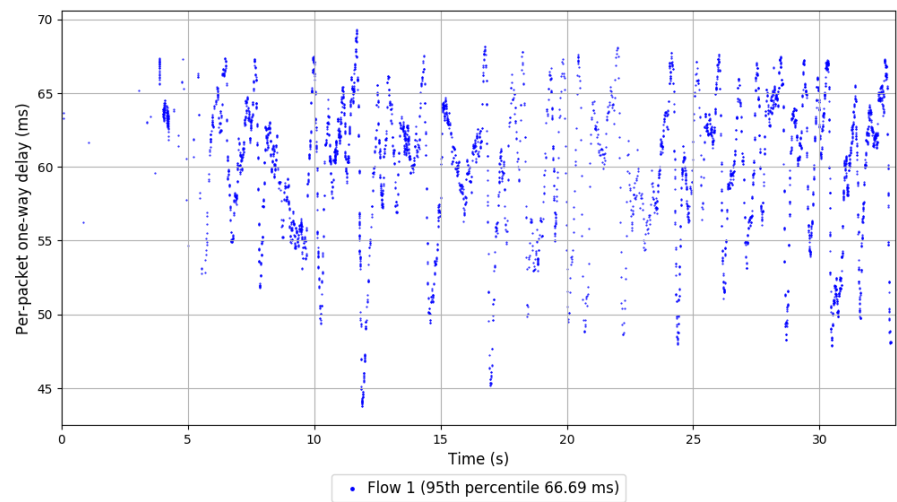
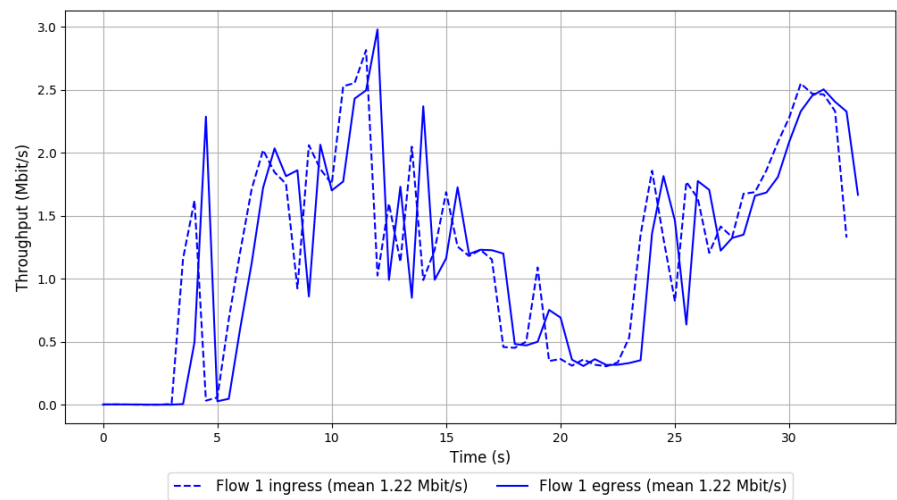


Run 2: Statistics of WebRTC media

Start at: 2018-11-30 04:37:04
End at: 2018-11-30 04:37:34
Local clock offset: 0.649 ms
Remote clock offset: -13.486 ms

Below is generated by plot.py at 2018-11-30 05:53:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 66.686 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 66.686 ms
Loss rate: 0.16%

Run 2: Report of WebRTC media — Data Link

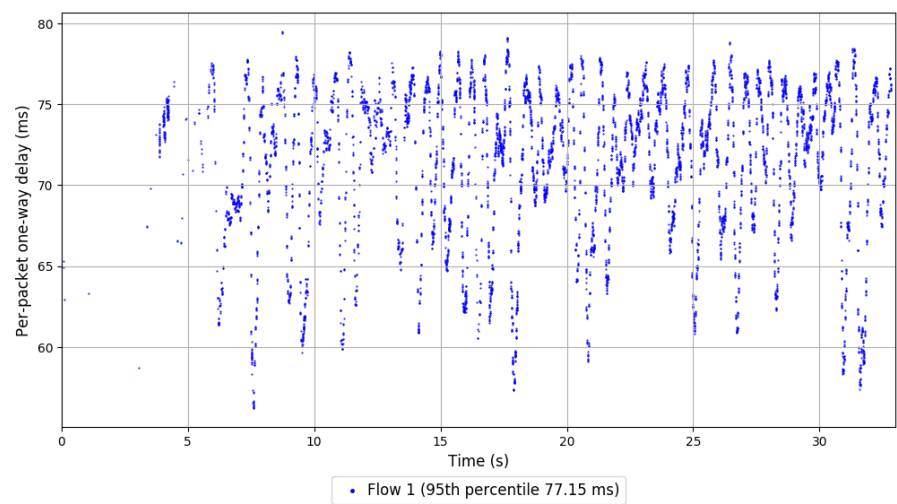
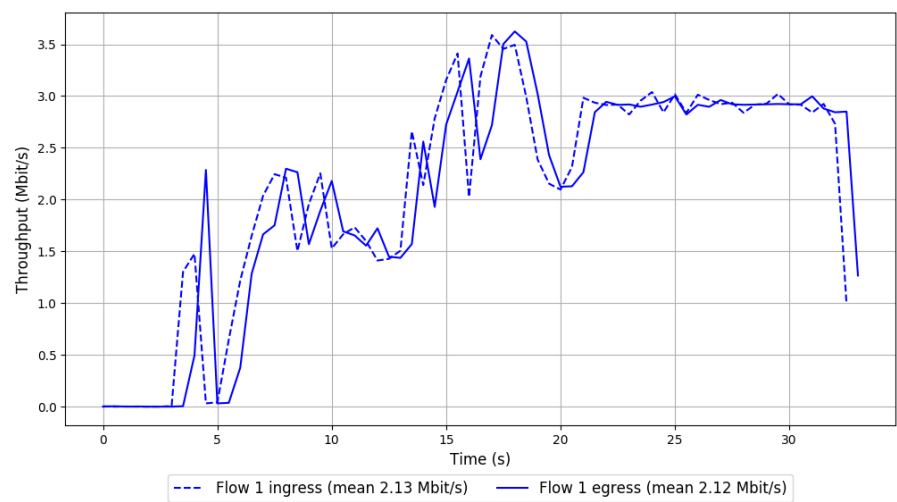


Run 3: Statistics of WebRTC media

Start at: 2018-11-30 04:59:50
End at: 2018-11-30 05:00:20
Local clock offset: 0.1 ms
Remote clock offset: -11.592 ms

Below is generated by plot.py at 2018-11-30 05:53:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 77.154 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 77.154 ms
Loss rate: 0.45%

Run 3: Report of WebRTC media — Data Link

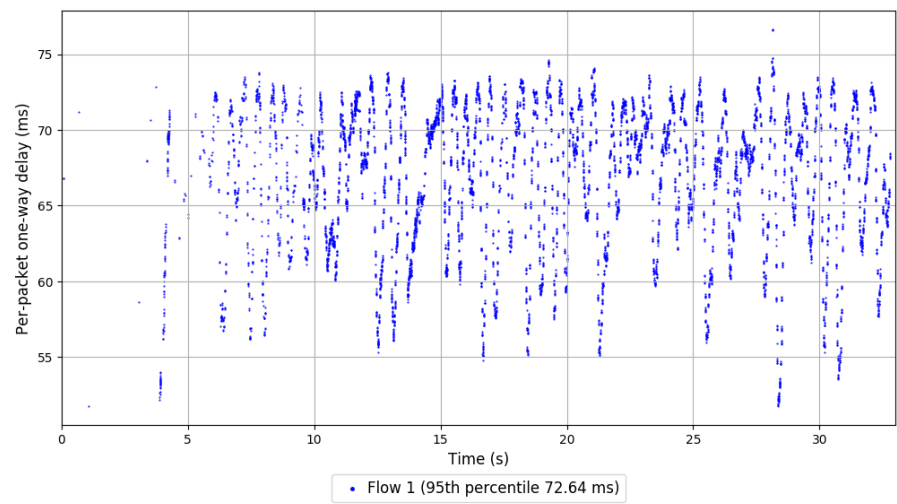
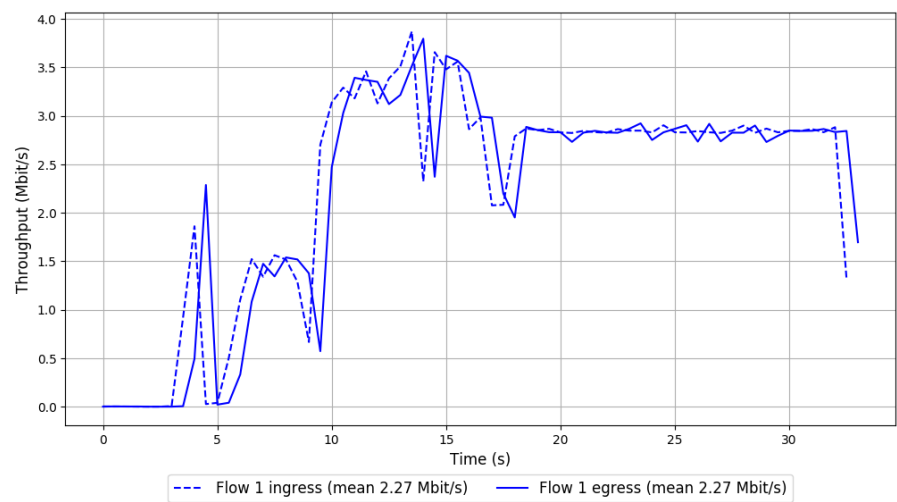


Run 4: Statistics of WebRTC media

Start at: 2018-11-30 05:22:43
End at: 2018-11-30 05:23:13
Local clock offset: 1.155 ms
Remote clock offset: 23.286 ms

Below is generated by plot.py at 2018-11-30 05:53:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 72.637 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 72.637 ms
Loss rate: 0.38%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-11-30 05:45:32

End at: 2018-11-30 05:46:02

Local clock offset: 2.361 ms

Remote clock offset: 39.28 ms

Below is generated by plot.py at 2018-11-30 05:53:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.20 Mbit/s

95th percentile per-packet one-way delay: 75.928 ms

Loss rate: 0.65%

-- Flow 1:

Average throughput: 2.20 Mbit/s

95th percentile per-packet one-way delay: 75.928 ms

Loss rate: 0.65%

Run 5: Report of WebRTC media — Data Link

