

Pantheon Report

Generated at 2018-10-26 01:21:48 (UTC).

Data path: AWS Brazil 1 on `ens5` (*local*) → Brazil on `p4p1` (*remote*).

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

System info:

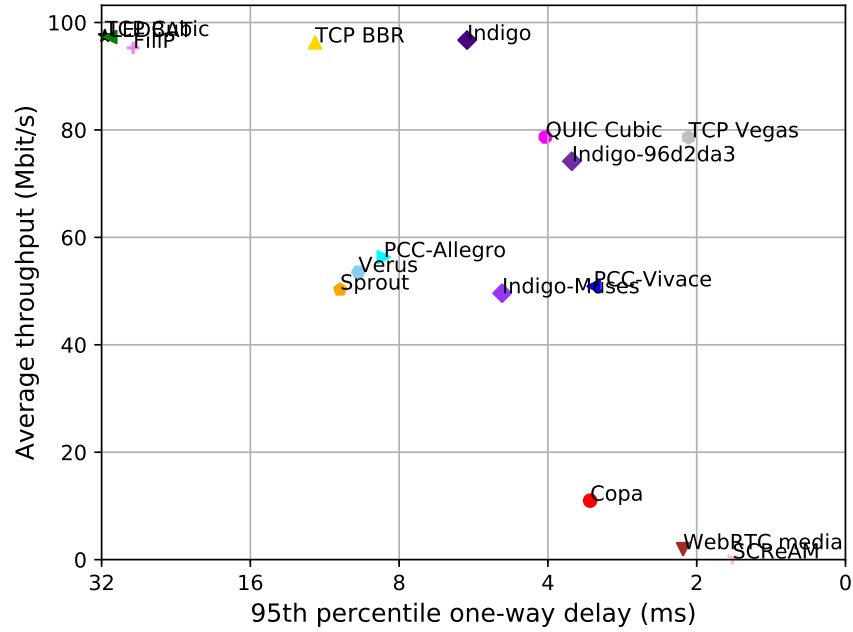
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

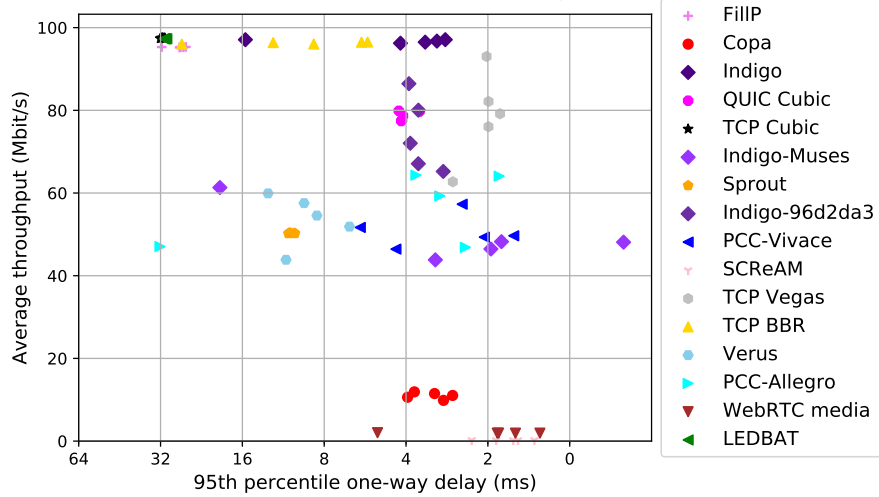
```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ 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-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 Brazil 1 to Brazil, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS Brazil 1 to Brazil, 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	96.28	11.83	0.00
Copa	5	10.98	3.29	63.54
TCP Cubic	5	97.48	31.51	0.01
FillP	5	95.28	27.62	1.23
Indigo	5	96.73	5.83	0.00
Indigo-96d2da3	5	74.17	3.58	0.00
LEDBAT	5	97.31	30.73	0.01
Indigo-Muses	5	49.60	4.95	1.77
PCC-Allegro	5	56.32	8.60	0.05
PCC-Expr	0	N/A	N/A	N/A
QUIC Cubic	5	78.70	4.05	0.24
SCReAM	5	0.22	1.52	0.00
Sprout	5	50.28	10.53	0.00
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	78.62	2.08	0.00
Verus	5	53.55	9.68	1.24
PCC-Vivace	5	50.88	3.23	0.03
WebRTC media	5	1.95	2.13	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-10-25 23:41:36

End at: 2018-10-25 23:42:06

Local clock offset: 3.422 ms

Remote clock offset: 0.418 ms

Below is generated by plot.py at 2018-10-26 01:14:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 26.721 ms

Loss rate: 0.01%

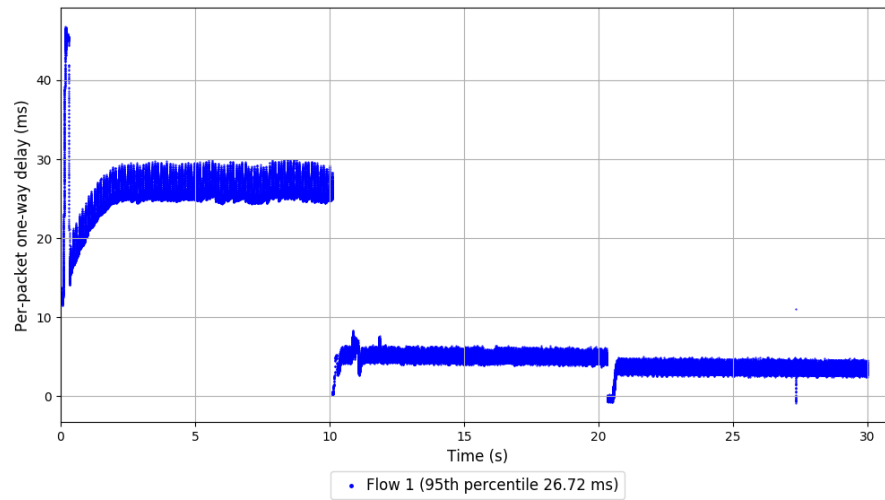
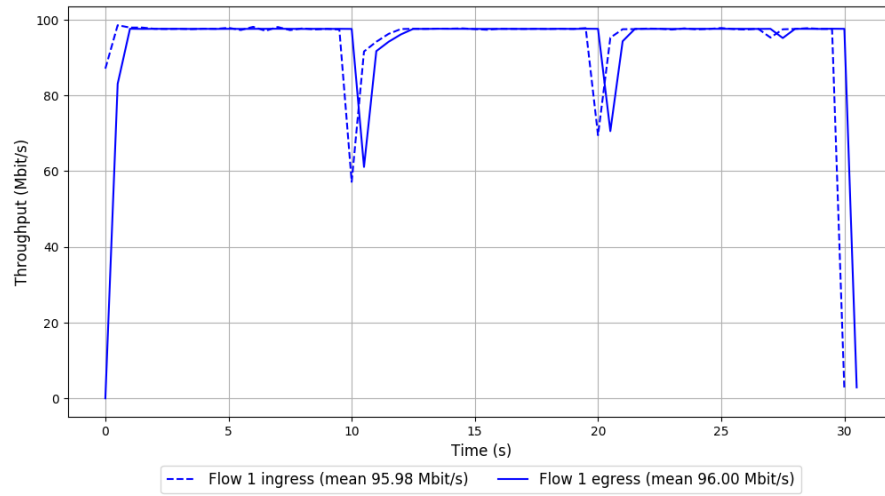
-- Flow 1:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 26.721 ms

Loss rate: 0.01%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-10-26 00:01:39

End at: 2018-10-26 00:02:09

Local clock offset: 2.503 ms

Remote clock offset: 0.491 ms

Below is generated by plot.py at 2018-10-26 01:14:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.39 Mbit/s

95th percentile per-packet one-way delay: 12.320 ms

Loss rate: 0.00%

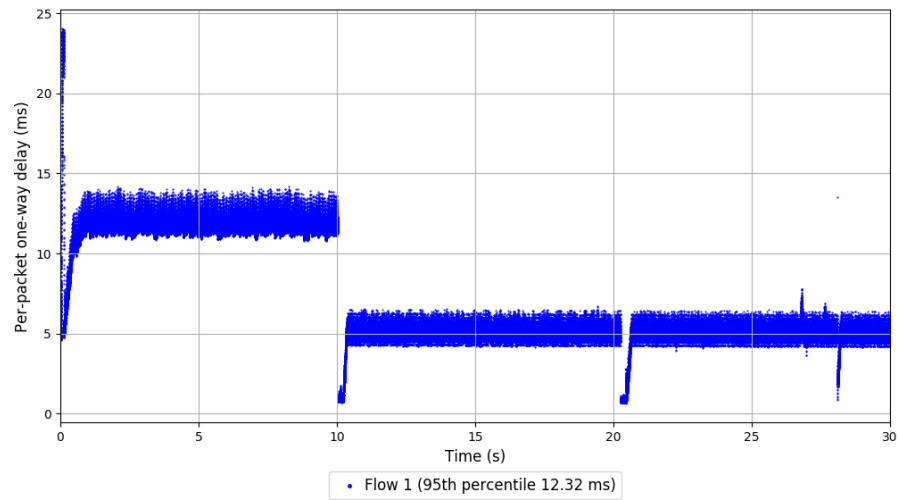
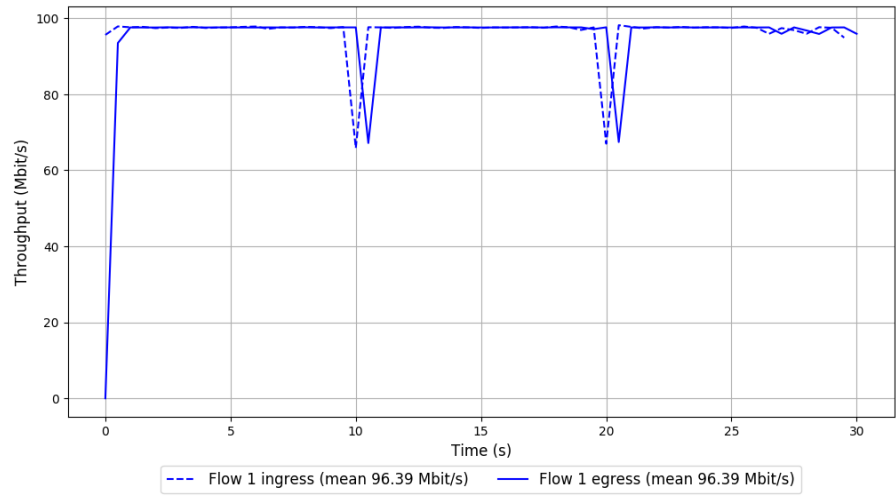
-- Flow 1:

Average throughput: 96.39 Mbit/s

95th percentile per-packet one-way delay: 12.320 ms

Loss rate: 0.00%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-10-26 00:21:40

End at: 2018-10-26 00:22:10

Local clock offset: 5.387 ms

Remote clock offset: 0.558 ms

Below is generated by plot.py at 2018-10-26 01:14:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.04 Mbit/s

95th percentile per-packet one-way delay: 8.739 ms

Loss rate: 0.00%

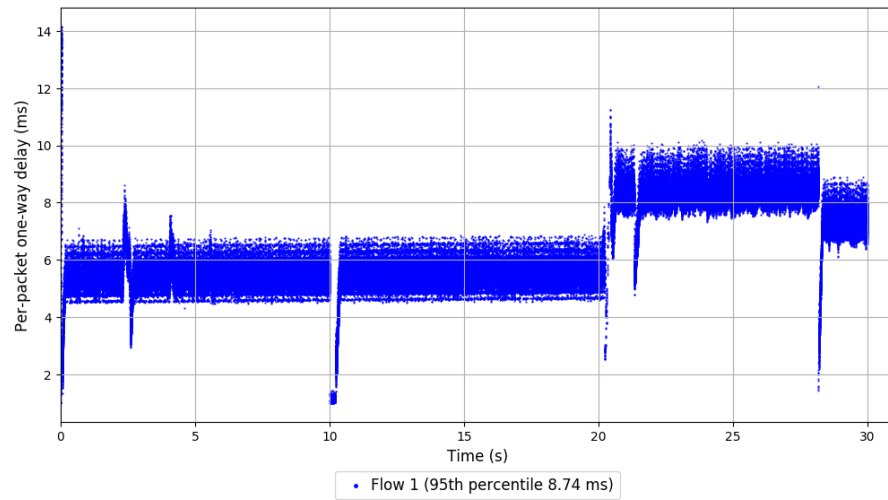
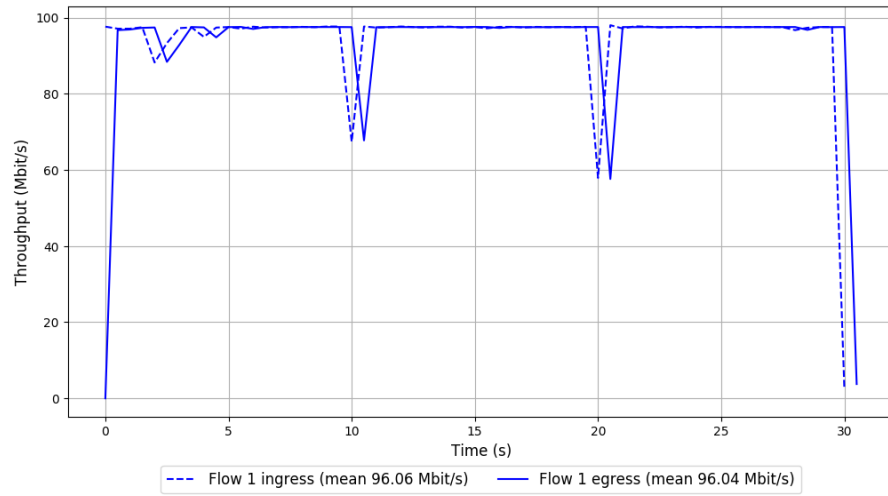
-- Flow 1:

Average throughput: 96.04 Mbit/s

95th percentile per-packet one-way delay: 8.739 ms

Loss rate: 0.00%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-10-26 00:41:41

End at: 2018-10-26 00:42:11

Local clock offset: 2.155 ms

Remote clock offset: 0.435 ms

Below is generated by plot.py at 2018-10-26 01:14:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.47 Mbit/s

95th percentile per-packet one-way delay: 5.834 ms

Loss rate: 0.00%

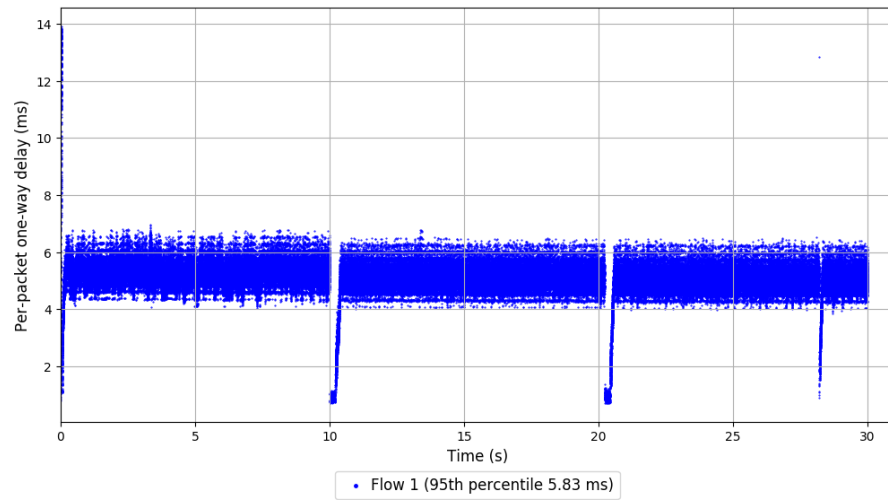
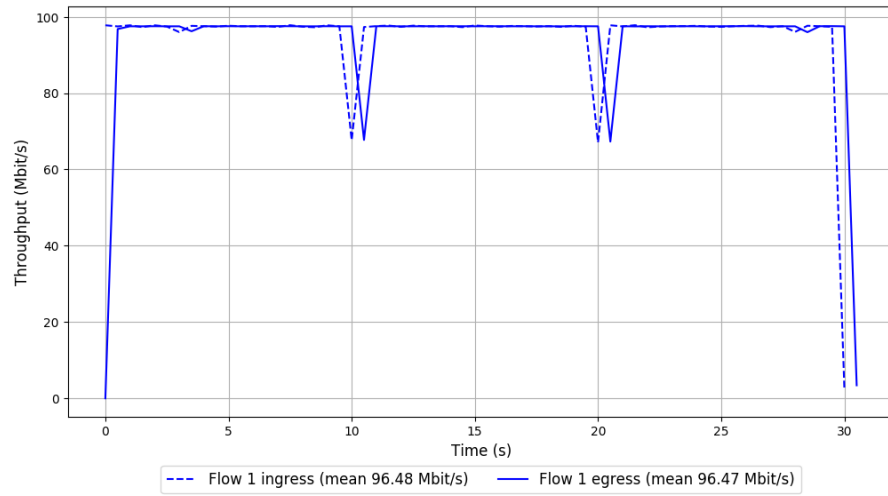
-- Flow 1:

Average throughput: 96.47 Mbit/s

95th percentile per-packet one-way delay: 5.834 ms

Loss rate: 0.00%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-10-26 01:01:44

End at: 2018-10-26 01:02:14

Local clock offset: 3.121 ms

Remote clock offset: 0.478 ms

Below is generated by plot.py at 2018-10-26 01:14:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.51 Mbit/s

95th percentile per-packet one-way delay: 5.539 ms

Loss rate: 0.00%

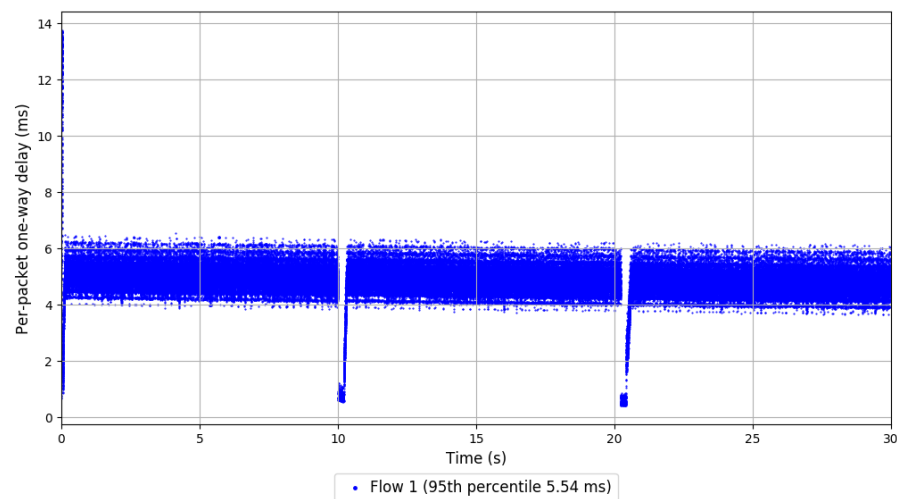
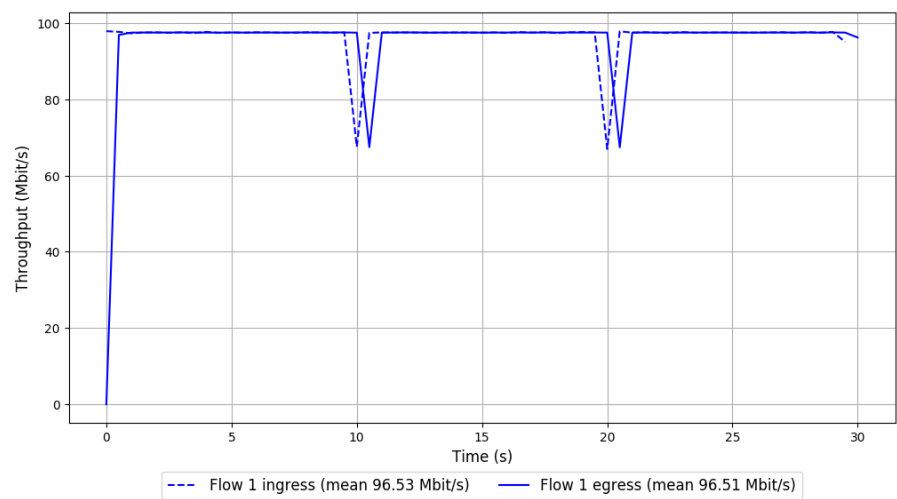
-- Flow 1:

Average throughput: 96.51 Mbit/s

95th percentile per-packet one-way delay: 5.539 ms

Loss rate: 0.00%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-10-25 23:46:09

End at: 2018-10-25 23:46:39

Local clock offset: 0.361 ms

Remote clock offset: 0.452 ms

Below is generated by plot.py at 2018-10-26 01:14:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.60 Mbit/s

95th percentile per-packet one-way delay: 3.948 ms

Loss rate: 61.09%

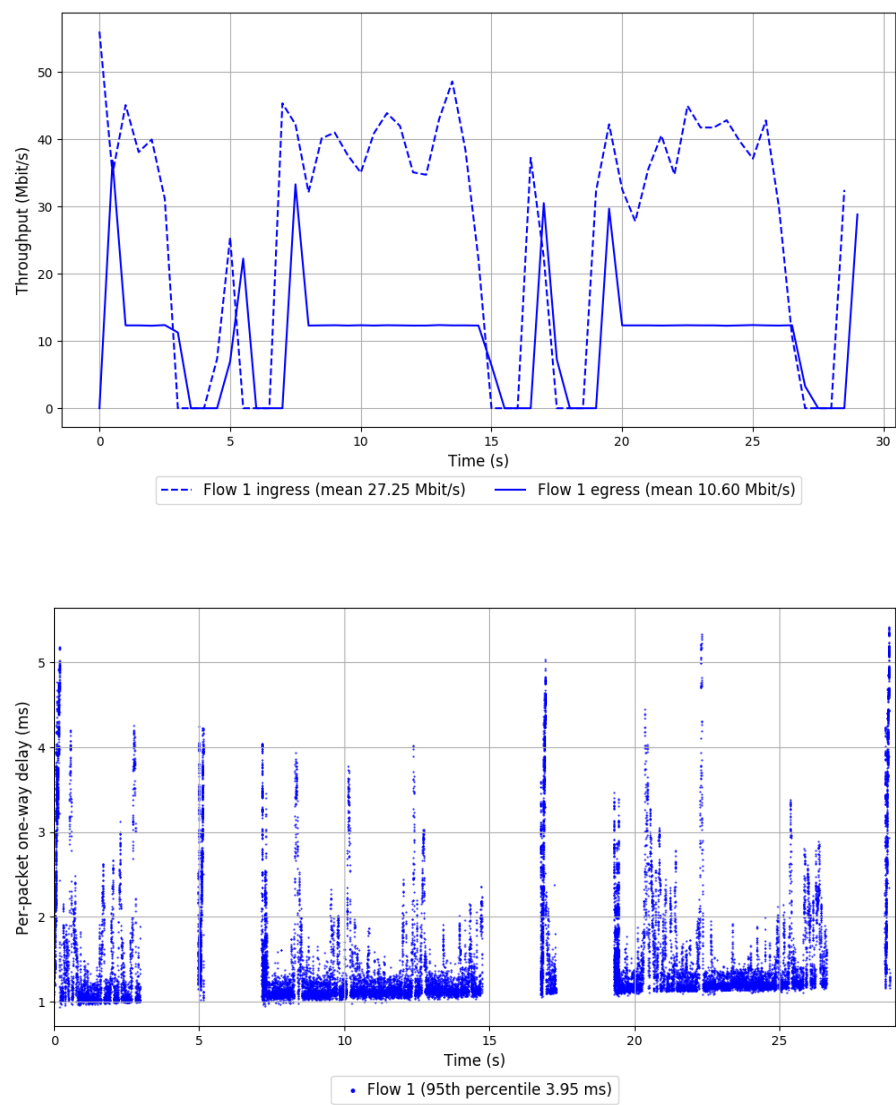
-- Flow 1:

Average throughput: 10.60 Mbit/s

95th percentile per-packet one-way delay: 3.948 ms

Loss rate: 61.09%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-10-26 00:06:12

End at: 2018-10-26 00:06:42

Local clock offset: 1.645 ms

Remote clock offset: 0.479 ms

Below is generated by plot.py at 2018-10-26 01:14:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.50 Mbit/s

95th percentile per-packet one-way delay: 3.142 ms

Loss rate: 66.29%

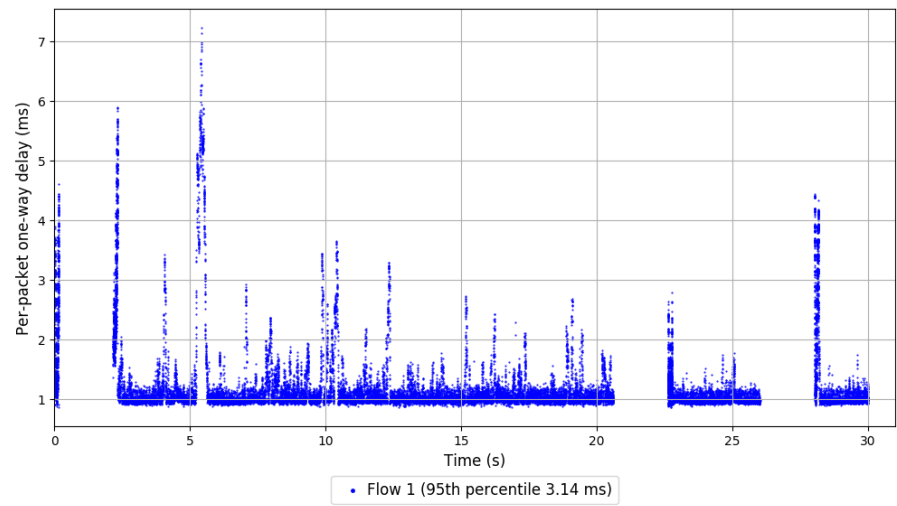
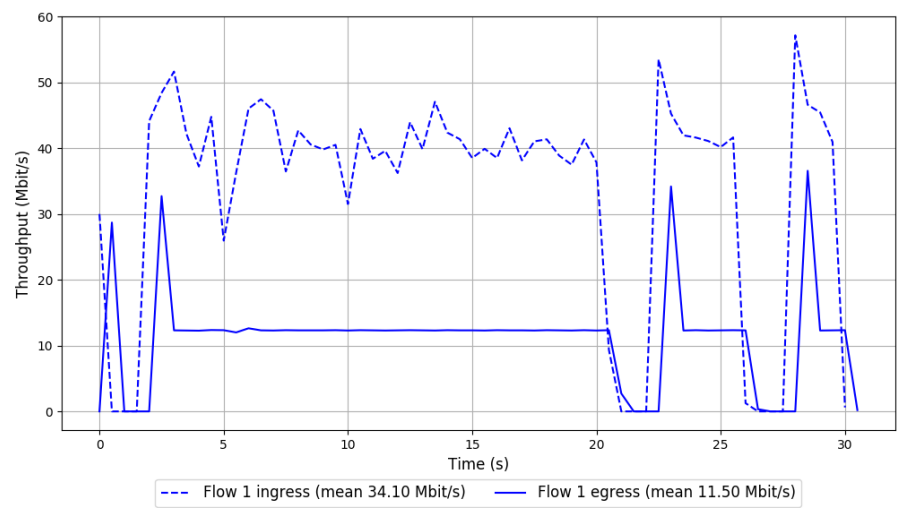
-- Flow 1:

Average throughput: 11.50 Mbit/s

95th percentile per-packet one-way delay: 3.142 ms

Loss rate: 66.29%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-10-26 00:26:12

End at: 2018-10-26 00:26:42

Local clock offset: 7.214 ms

Remote clock offset: 0.555 ms

Below is generated by plot.py at 2018-10-26 01:14:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.91 Mbit/s

95th percentile per-packet one-way delay: 3.728 ms

Loss rate: 63.53%

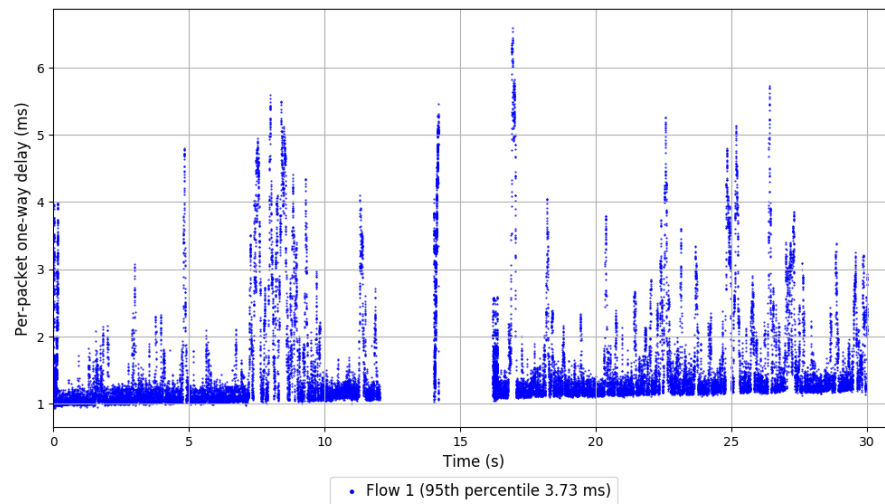
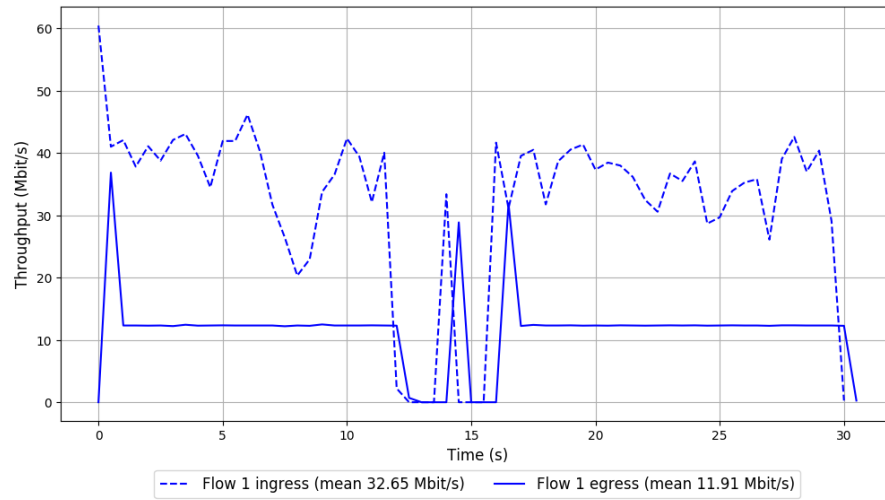
-- Flow 1:

Average throughput: 11.91 Mbit/s

95th percentile per-packet one-way delay: 3.728 ms

Loss rate: 63.53%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-10-26 00:46:15

End at: 2018-10-26 00:46:45

Local clock offset: 1.555 ms

Remote clock offset: 0.418 ms

Below is generated by plot.py at 2018-10-26 01:14:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.04 Mbit/s

95th percentile per-packet one-way delay: 2.696 ms

Loss rate: 64.73%

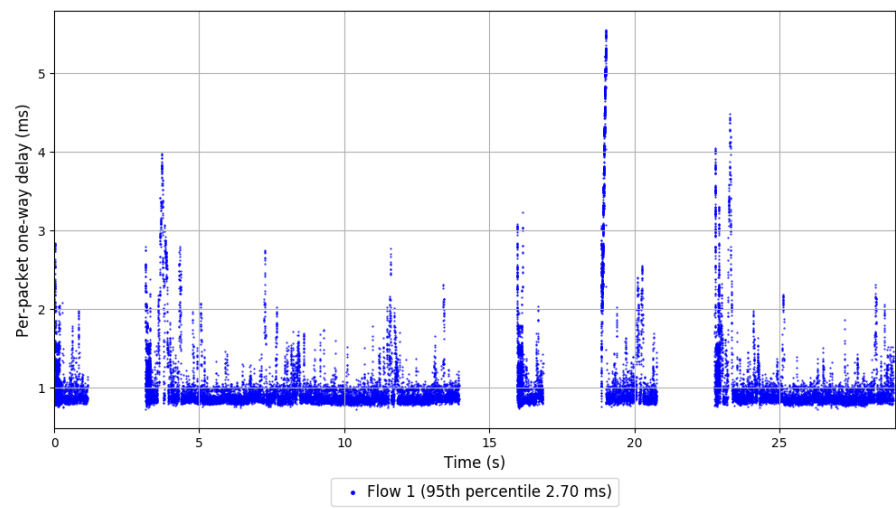
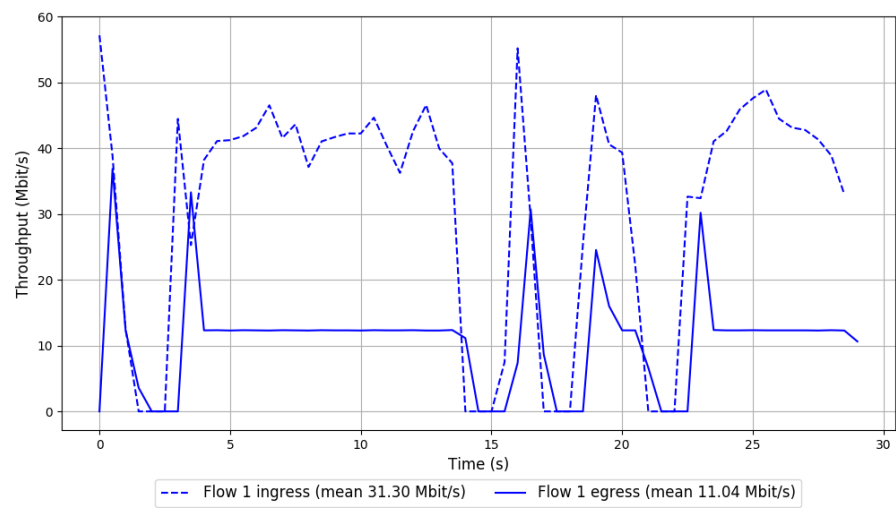
-- Flow 1:

Average throughput: 11.04 Mbit/s

95th percentile per-packet one-way delay: 2.696 ms

Loss rate: 64.73%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-10-26 01:06:17

End at: 2018-10-26 01:06:47

Local clock offset: 0.491 ms

Remote clock offset: 0.44 ms

Below is generated by plot.py at 2018-10-26 01:14:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 9.86 Mbit/s

95th percentile per-packet one-way delay: 2.913 ms

Loss rate: 62.05%

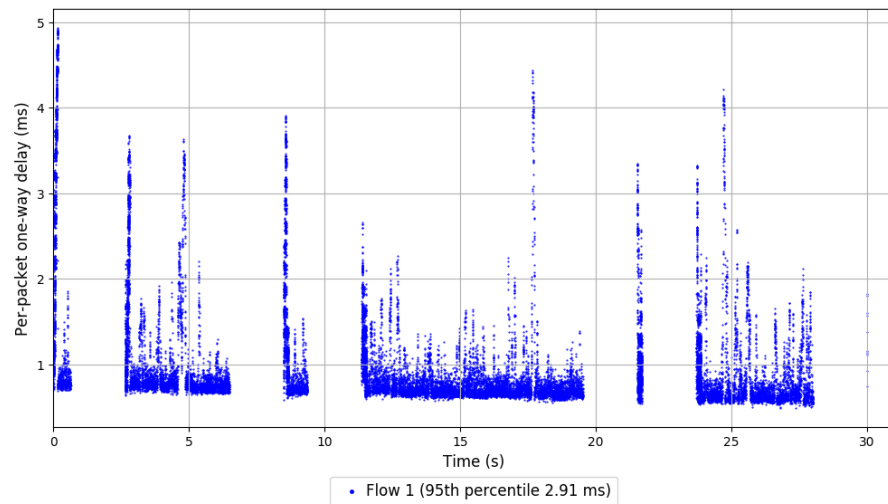
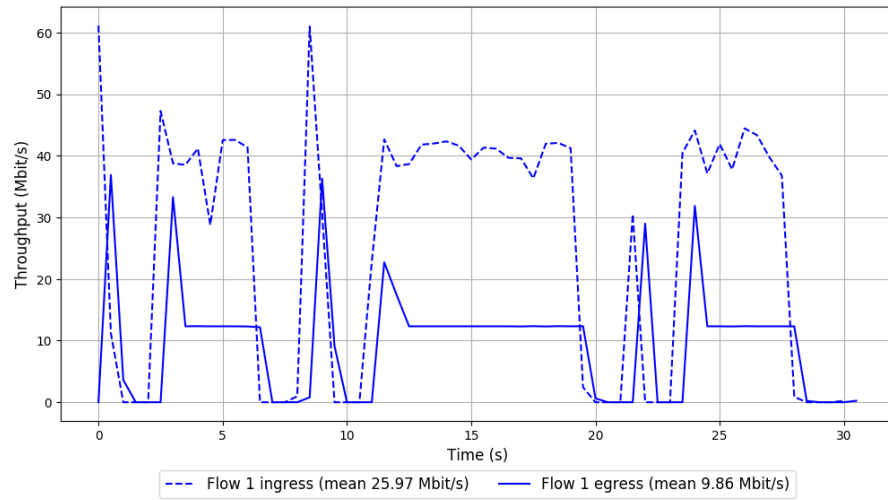
-- Flow 1:

Average throughput: 9.86 Mbit/s

95th percentile per-packet one-way delay: 2.913 ms

Loss rate: 62.05%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-10-25 23:38:17

End at: 2018-10-25 23:38:47

Local clock offset: 6.235 ms

Remote clock offset: 0.515 ms

Below is generated by plot.py at 2018-10-26 01:14:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.38 Mbit/s

95th percentile per-packet one-way delay: 32.078 ms

Loss rate: 0.01%

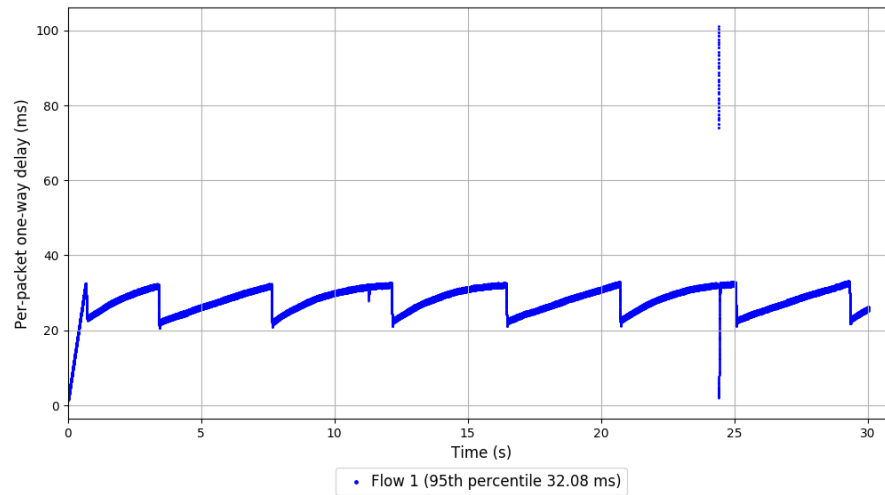
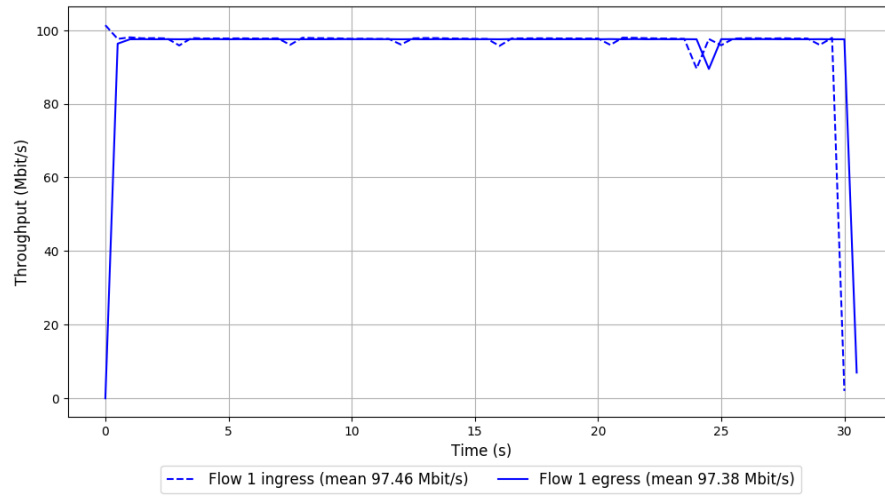
-- Flow 1:

Average throughput: 97.38 Mbit/s

95th percentile per-packet one-way delay: 32.078 ms

Loss rate: 0.01%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-10-25 23:58:19

End at: 2018-10-25 23:58:49

Local clock offset: 1.083 ms

Remote clock offset: 0.476 ms

Below is generated by plot.py at 2018-10-26 01:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 31.474 ms

Loss rate: 0.01%

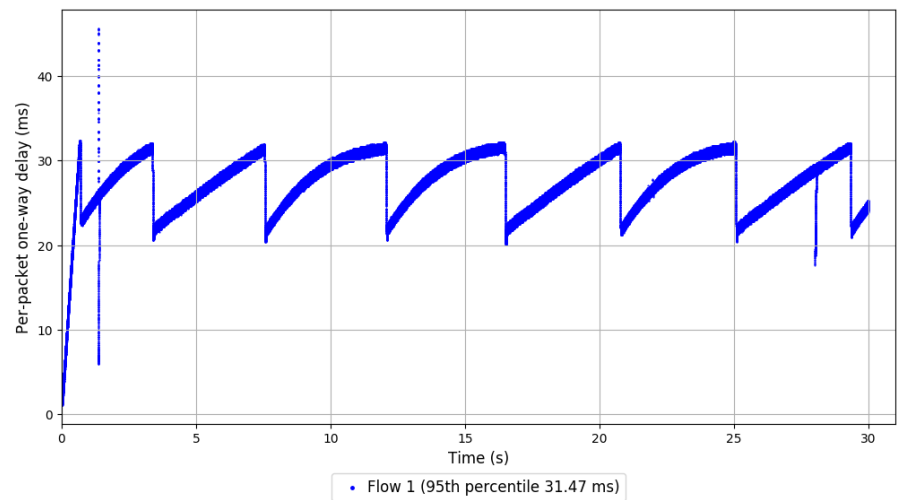
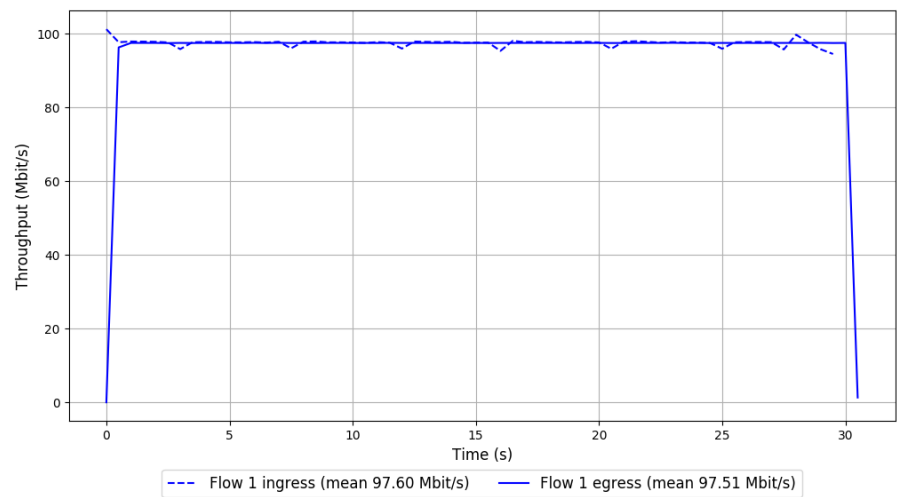
-- Flow 1:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 31.474 ms

Loss rate: 0.01%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-10-26 00:18:21

End at: 2018-10-26 00:18:51

Local clock offset: 4.001 ms

Remote clock offset: 0.628 ms

Below is generated by plot.py at 2018-10-26 01:14:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 31.778 ms

Loss rate: 0.02%

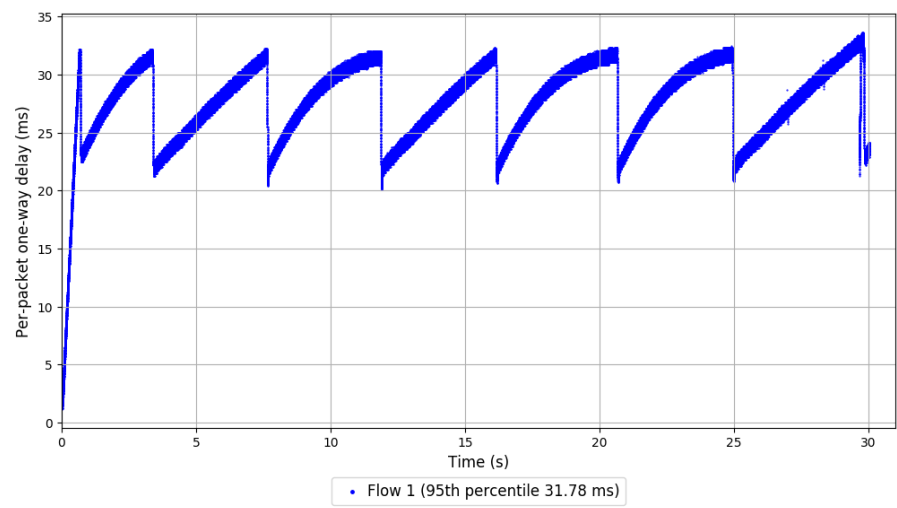
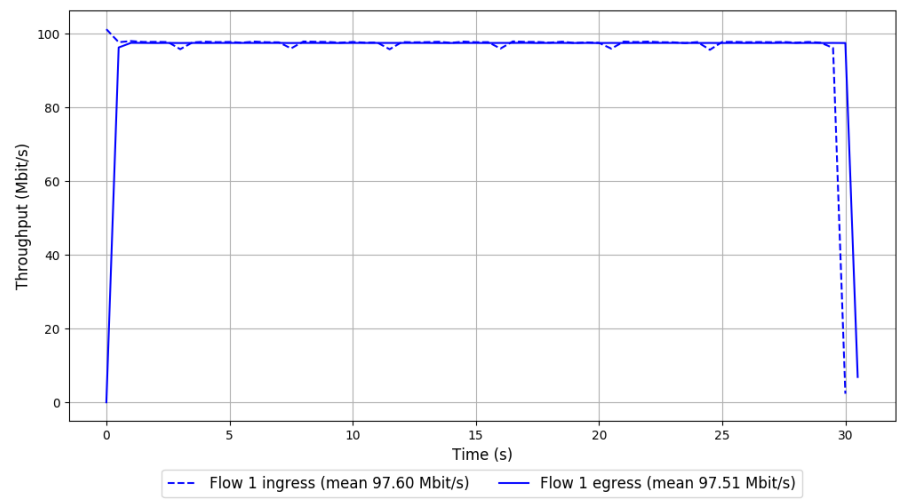
-- Flow 1:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 31.778 ms

Loss rate: 0.02%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-10-26 00:38:22

End at: 2018-10-26 00:38:52

Local clock offset: 3.474 ms

Remote clock offset: 0.406 ms

Below is generated by plot.py at 2018-10-26 01:15:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 30.892 ms

Loss rate: 0.01%

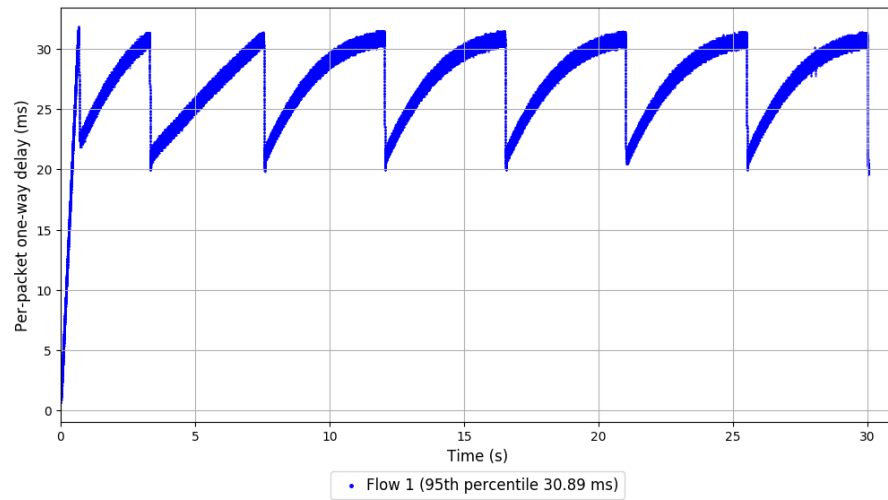
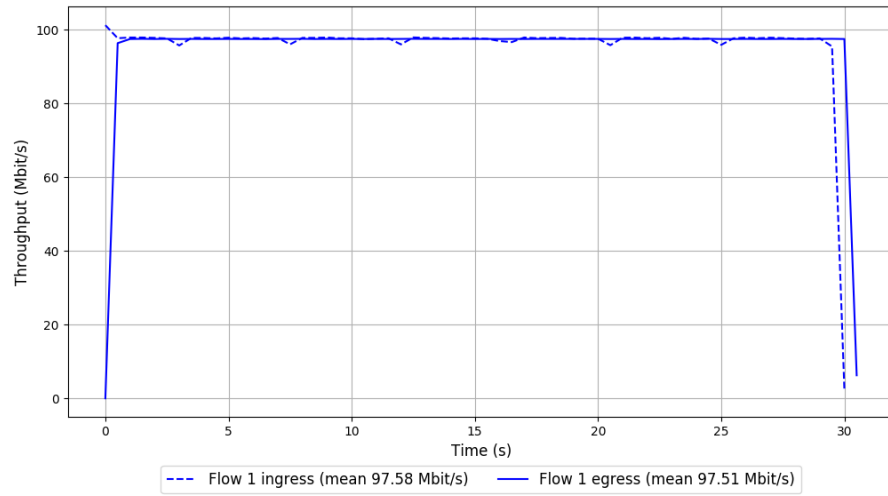
-- Flow 1:

Average throughput: 97.51 Mbit/s

95th percentile per-packet one-way delay: 30.892 ms

Loss rate: 0.01%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-10-26 00:58:25

End at: 2018-10-26 00:58:55

Local clock offset: 2.715 ms

Remote clock offset: 0.522 ms

Below is generated by plot.py at 2018-10-26 01:15:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 31.352 ms

Loss rate: 0.01%

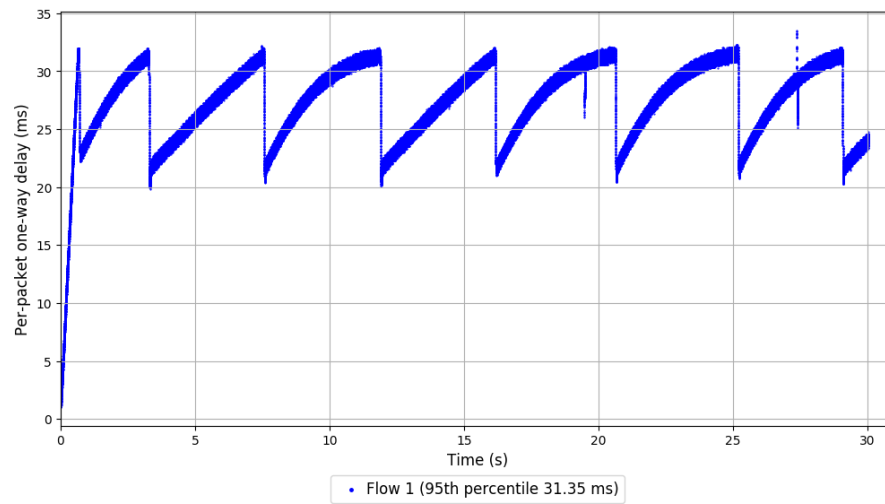
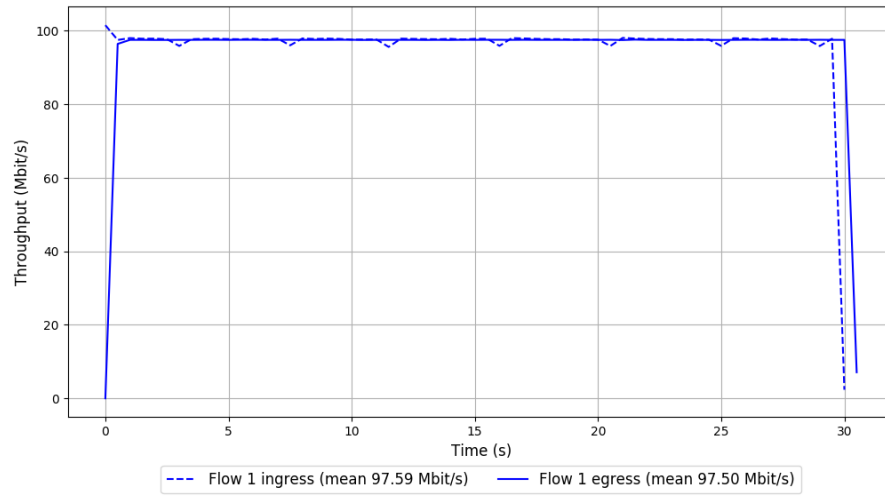
-- Flow 1:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 31.352 ms

Loss rate: 0.01%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-10-25 23:36:03

End at: 2018-10-25 23:36:33

Local clock offset: 2.374 ms

Remote clock offset: 0.481 ms

Below is generated by plot.py at 2018-10-26 01:16:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.31 Mbit/s

95th percentile per-packet one-way delay: 31.682 ms

Loss rate: 0.97%

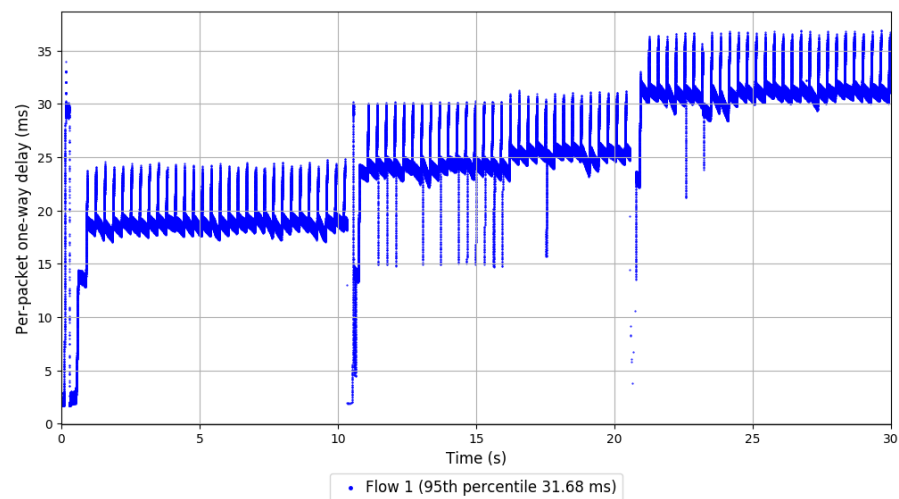
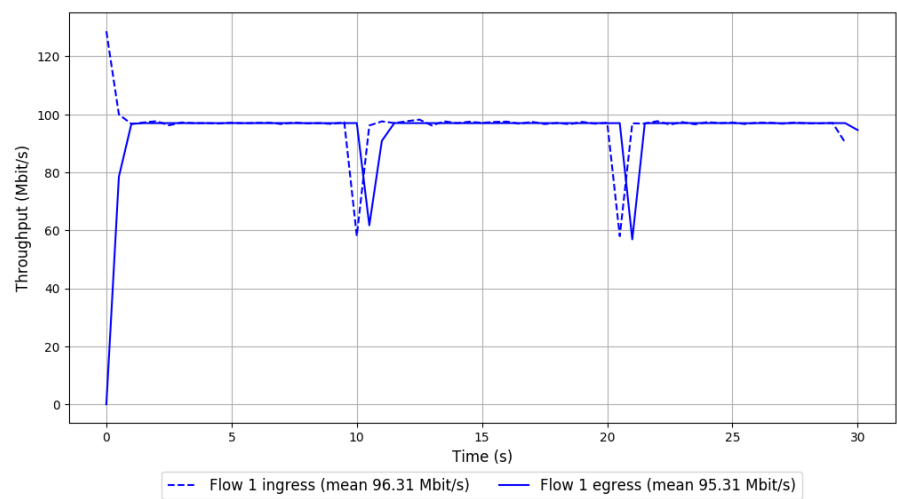
-- Flow 1:

Average throughput: 95.31 Mbit/s

95th percentile per-packet one-way delay: 31.682 ms

Loss rate: 0.97%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-10-25 23:56:06

End at: 2018-10-25 23:56:36

Local clock offset: 0.398 ms

Remote clock offset: 0.501 ms

Below is generated by plot.py at 2018-10-26 01:16:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.21 Mbit/s

95th percentile per-packet one-way delay: 27.238 ms

Loss rate: 1.47%

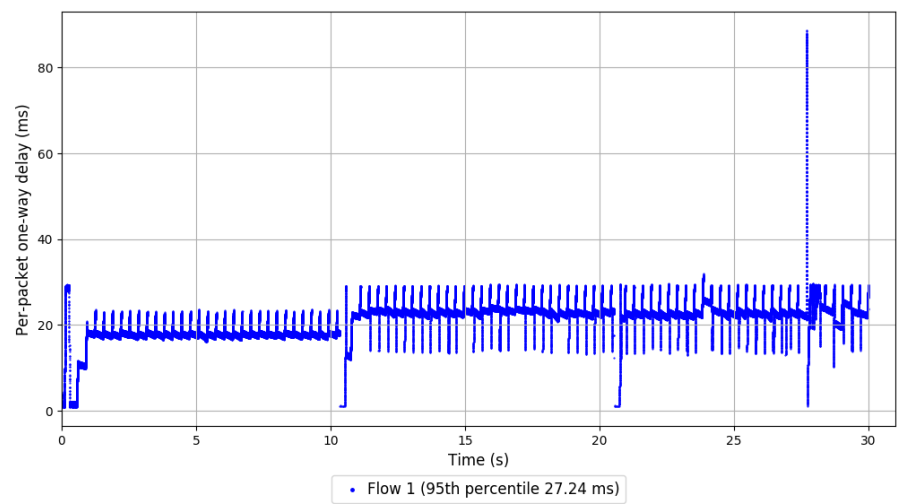
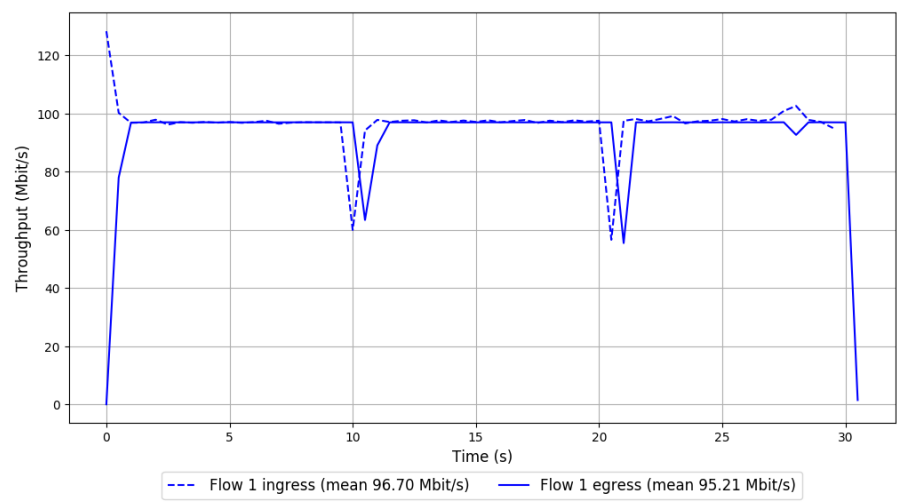
-- Flow 1:

Average throughput: 95.21 Mbit/s

95th percentile per-packet one-way delay: 27.238 ms

Loss rate: 1.47%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-10-26 00:16:08

End at: 2018-10-26 00:16:38

Local clock offset: 3.377 ms

Remote clock offset: 0.604 ms

Below is generated by plot.py at 2018-10-26 01:16:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.32 Mbit/s

95th percentile per-packet one-way delay: 27.003 ms

Loss rate: 1.26%

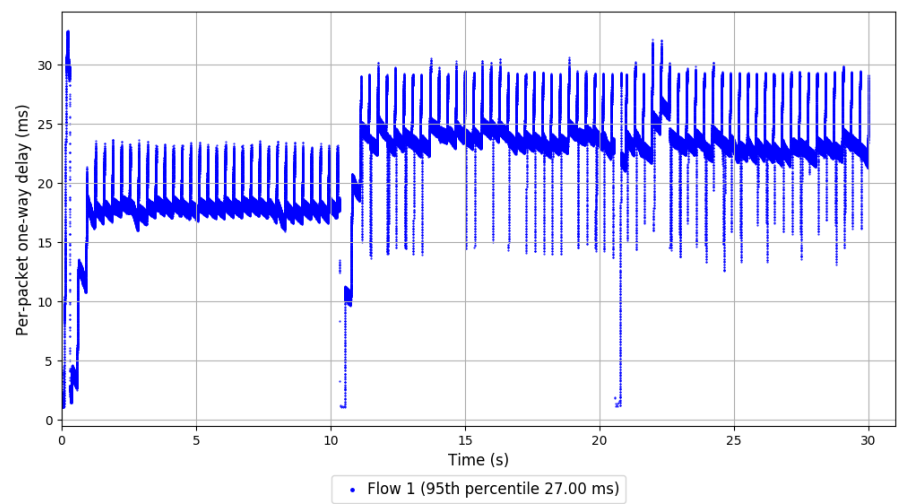
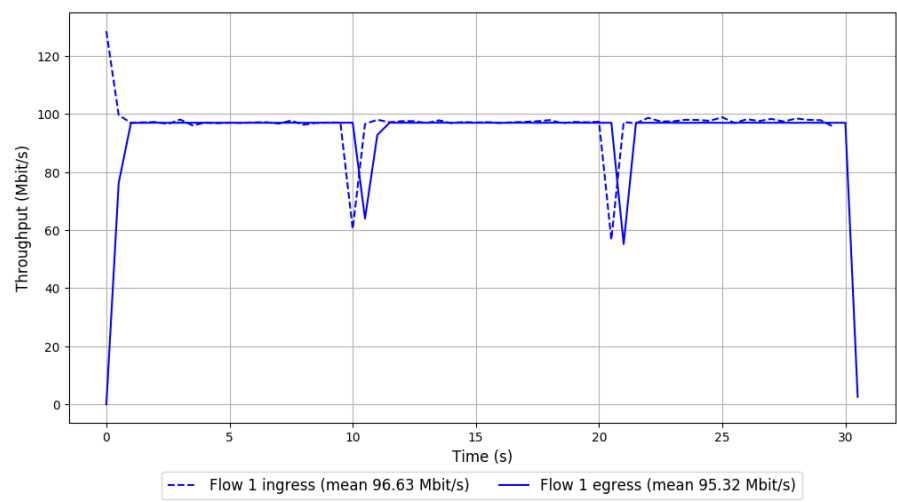
-- Flow 1:

Average throughput: 95.32 Mbit/s

95th percentile per-packet one-way delay: 27.003 ms

Loss rate: 1.26%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-10-26 00:36:09

End at: 2018-10-26 00:36:39

Local clock offset: 4.789 ms

Remote clock offset: 0.423 ms

Below is generated by plot.py at 2018-10-26 01:16:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.34 Mbit/s

95th percentile per-packet one-way delay: 25.821 ms

Loss rate: 1.24%

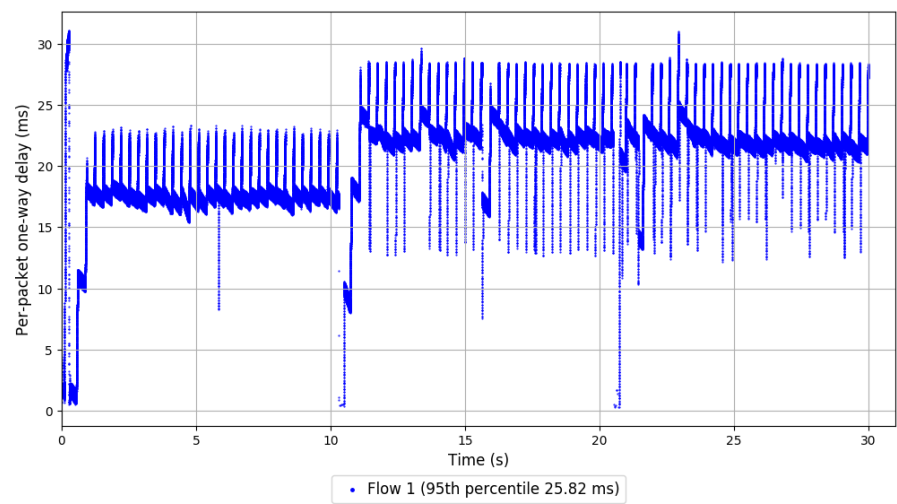
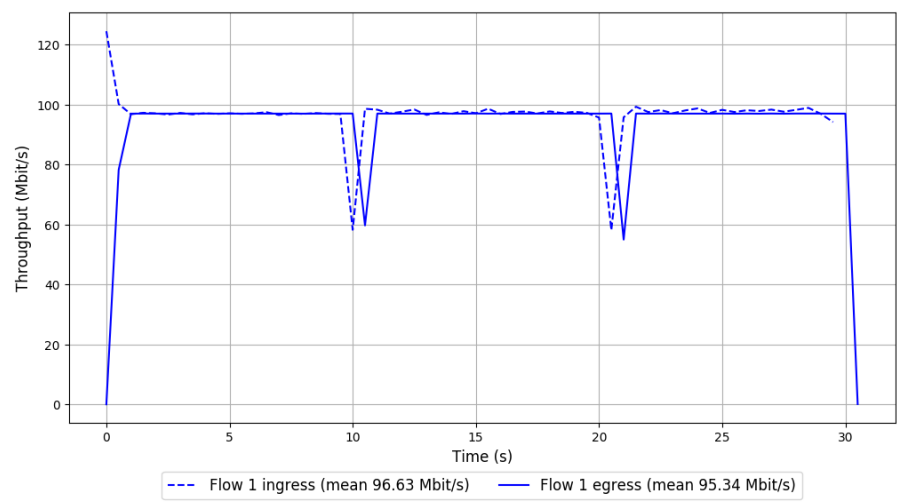
-- Flow 1:

Average throughput: 95.34 Mbit/s

95th percentile per-packet one-way delay: 25.821 ms

Loss rate: 1.24%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-10-26 00:56:11

End at: 2018-10-26 00:56:41

Local clock offset: 2.306 ms

Remote clock offset: 0.507 ms

Below is generated by plot.py at 2018-10-26 01:16:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.24 Mbit/s

95th percentile per-packet one-way delay: 26.369 ms

Loss rate: 1.19%

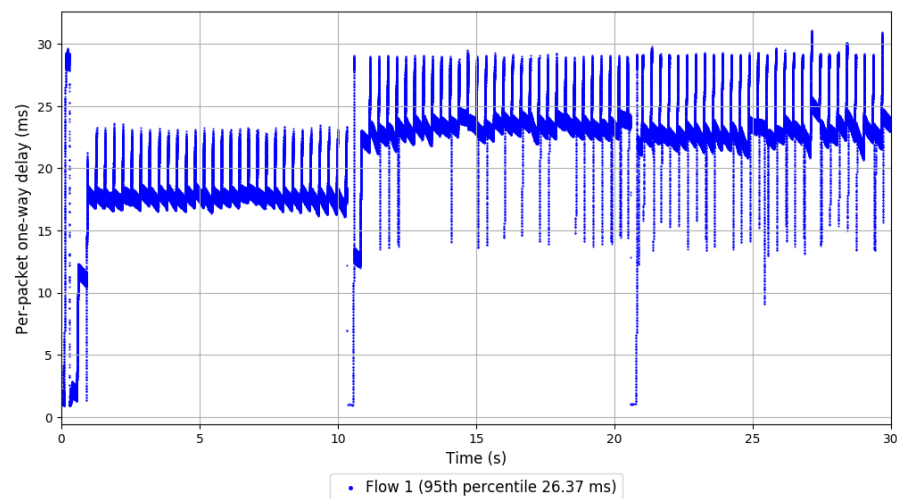
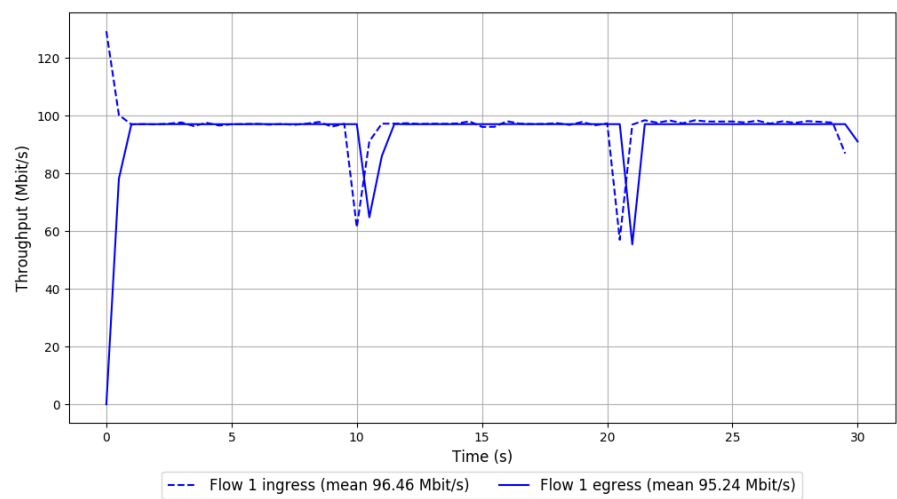
-- Flow 1:

Average throughput: 95.24 Mbit/s

95th percentile per-packet one-way delay: 26.369 ms

Loss rate: 1.19%

Run 5: Report of FillP — Data Link

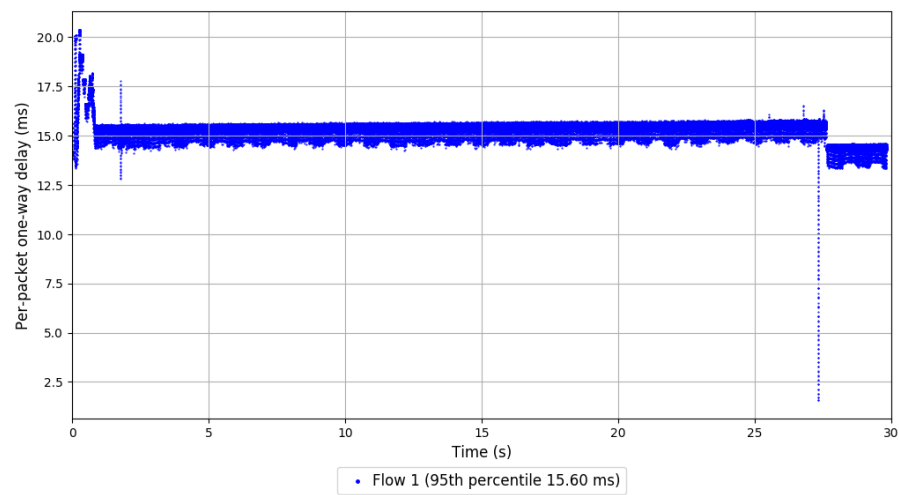
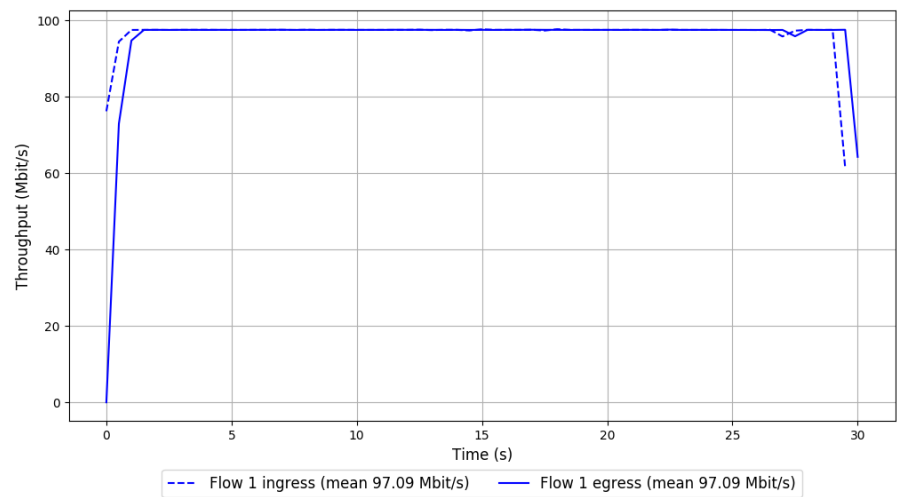



```
Run 1: Statistics of Indigo

Start at: 2018-10-25 23:47:14
End at: 2018-10-25 23:47:44
Local clock offset: 0.682 ms
Remote clock offset: 0.418 ms

# Below is generated by plot.py at 2018-10-26 01:16:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.09 Mbit/s
95th percentile per-packet one-way delay: 15.596 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 97.09 Mbit/s
95th percentile per-packet one-way delay: 15.596 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-10-26 00:07:18

End at: 2018-10-26 00:07:48

Local clock offset: 1.703 ms

Remote clock offset: 0.455 ms

Below is generated by plot.py at 2018-10-26 01:16:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.74 Mbit/s

95th percentile per-packet one-way delay: 3.080 ms

Loss rate: 0.00%

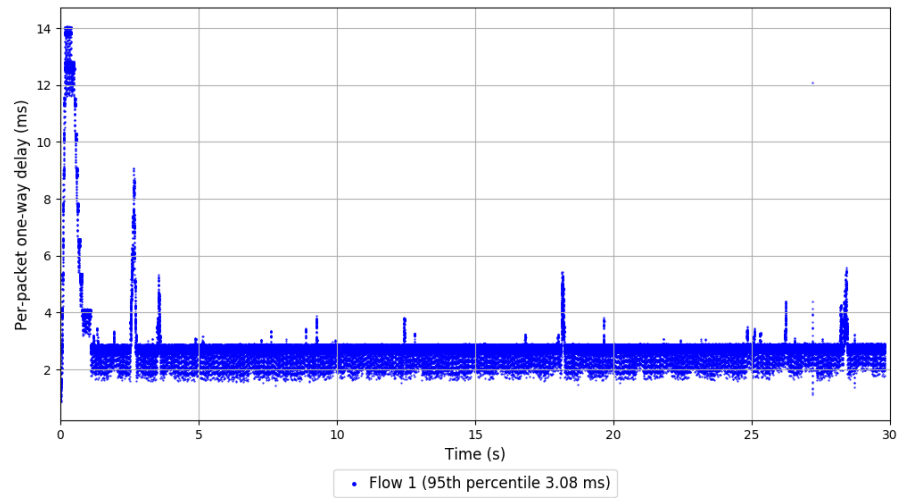
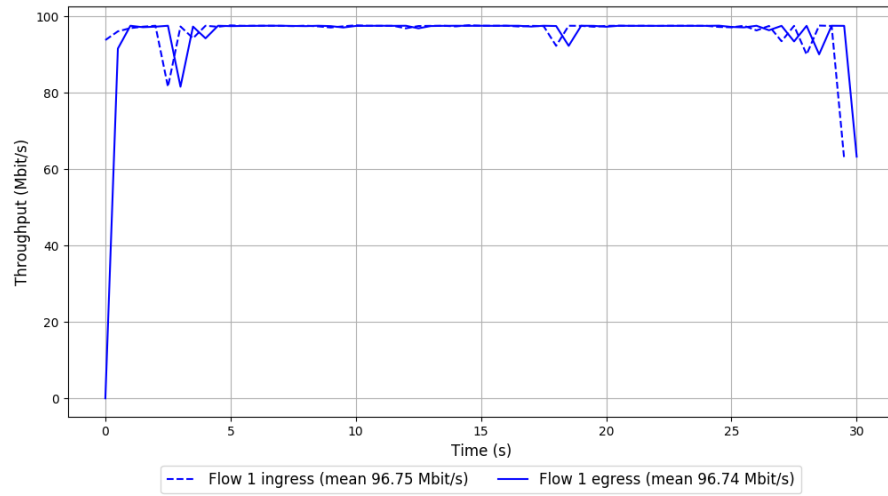
-- Flow 1:

Average throughput: 96.74 Mbit/s

95th percentile per-packet one-way delay: 3.080 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-10-26 00:27:18

End at: 2018-10-26 00:27:48

Local clock offset: 7.327 ms

Remote clock offset: 0.475 ms

Below is generated by plot.py at 2018-10-26 01:17:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.24 Mbit/s

95th percentile per-packet one-way delay: 4.194 ms

Loss rate: 0.00%

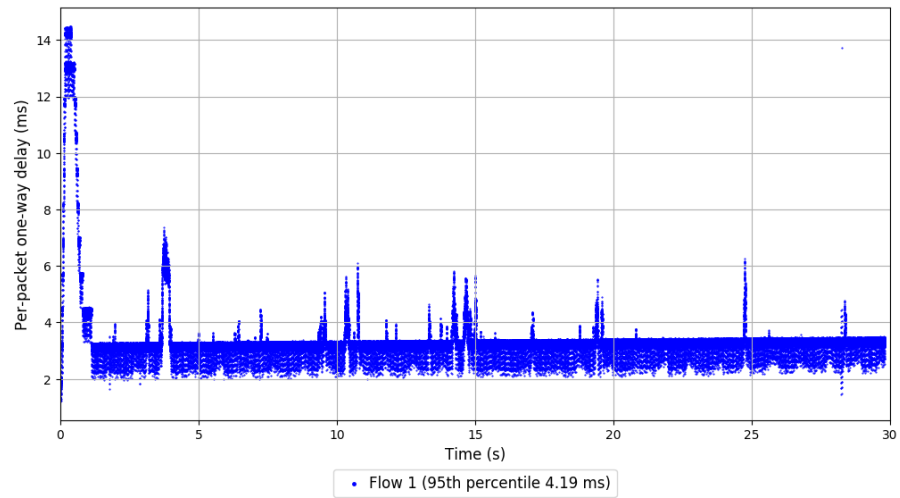
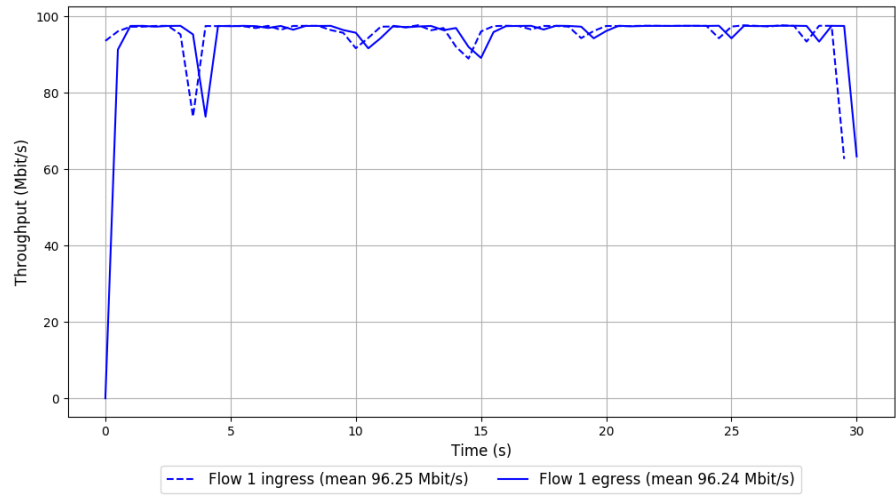
-- Flow 1:

Average throughput: 96.24 Mbit/s

95th percentile per-packet one-way delay: 4.194 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-10-26 00:47:20

End at: 2018-10-26 00:47:50

Local clock offset: 1.516 ms

Remote clock offset: 0.445 ms

Below is generated by plot.py at 2018-10-26 01:17:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.09 Mbit/s

95th percentile per-packet one-way delay: 2.869 ms

Loss rate: 0.00%

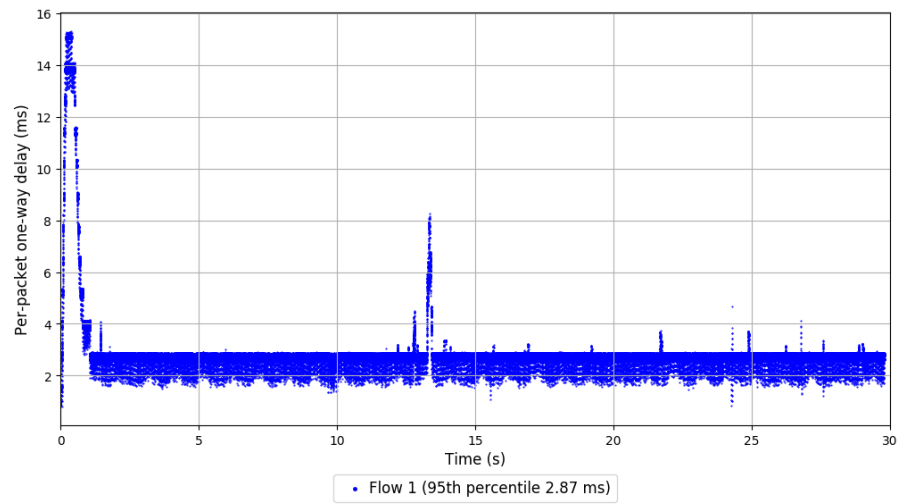
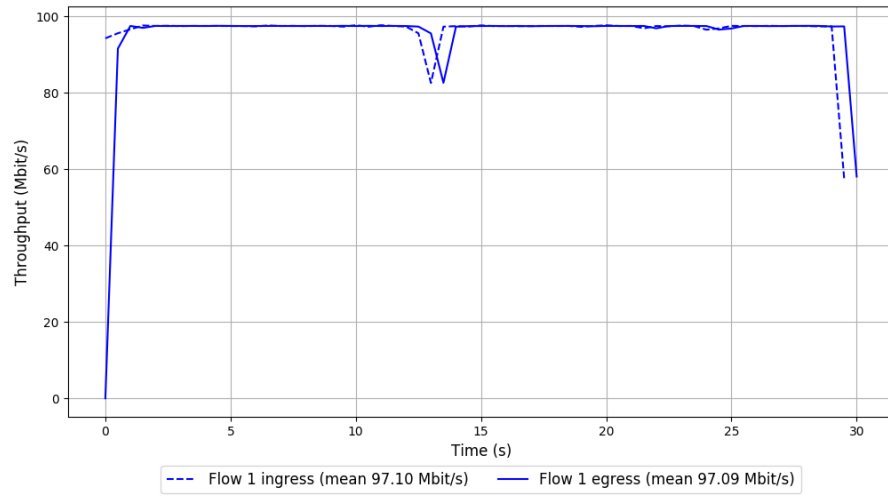
-- Flow 1:

Average throughput: 97.09 Mbit/s

95th percentile per-packet one-way delay: 2.869 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-10-26 01:07:22

End at: 2018-10-26 01:07:52

Local clock offset: 0.04 ms

Remote clock offset: 0.474 ms

Below is generated by plot.py at 2018-10-26 01:17:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.50 Mbit/s

95th percentile per-packet one-way delay: 3.401 ms

Loss rate: 0.00%

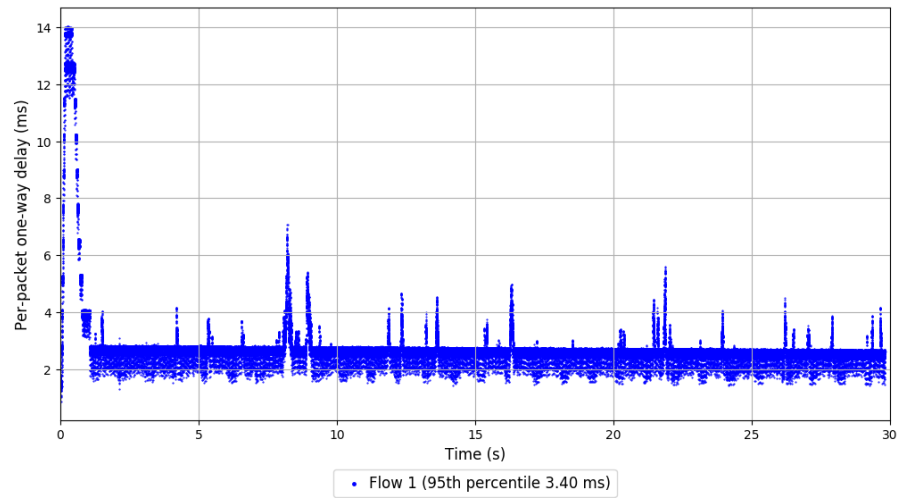
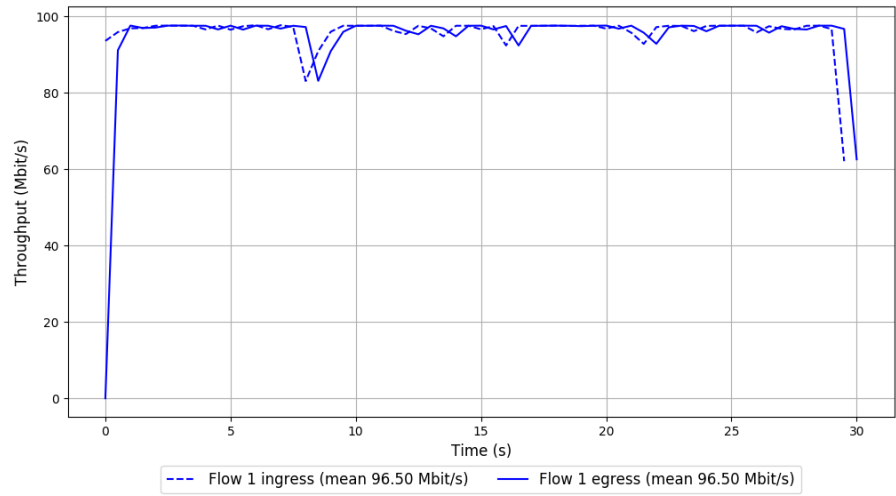
-- Flow 1:

Average throughput: 96.50 Mbit/s

95th percentile per-packet one-way delay: 3.401 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-25 23:42:44

End at: 2018-10-25 23:43:14

Local clock offset: 1.159 ms

Remote clock offset: 0.491 ms

Below is generated by plot.py at 2018-10-26 01:17:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 80.04 Mbit/s

95th percentile per-packet one-way delay: 3.603 ms

Loss rate: 0.00%

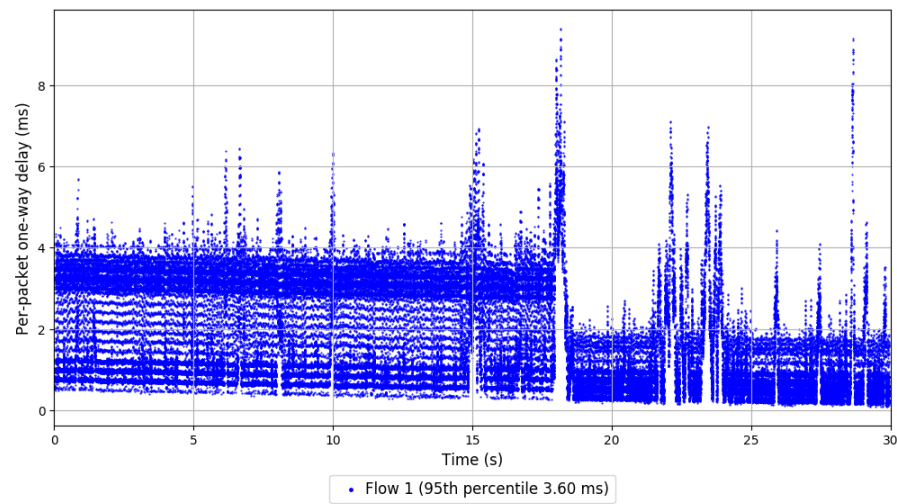
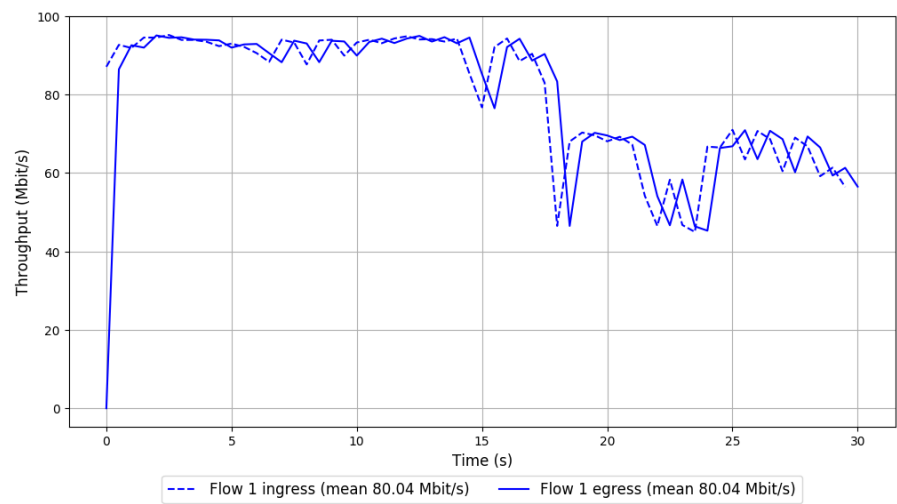
-- Flow 1:

Average throughput: 80.04 Mbit/s

95th percentile per-packet one-way delay: 3.603 ms

Loss rate: 0.00%

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



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-26 00:02:47

End at: 2018-10-26 00:03:17

Local clock offset: 2.216 ms

Remote clock offset: 0.488 ms

Below is generated by plot.py at 2018-10-26 01:17:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 72.04 Mbit/s

95th percentile per-packet one-way delay: 3.859 ms

Loss rate: 0.00%

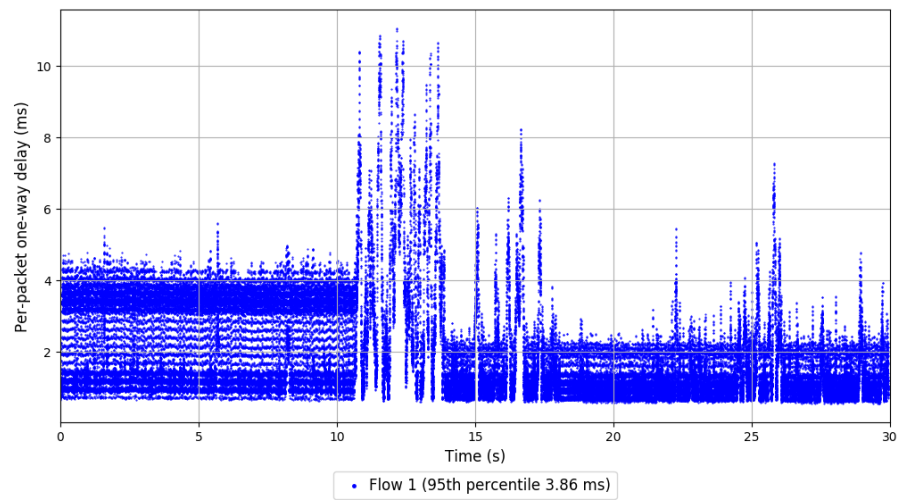
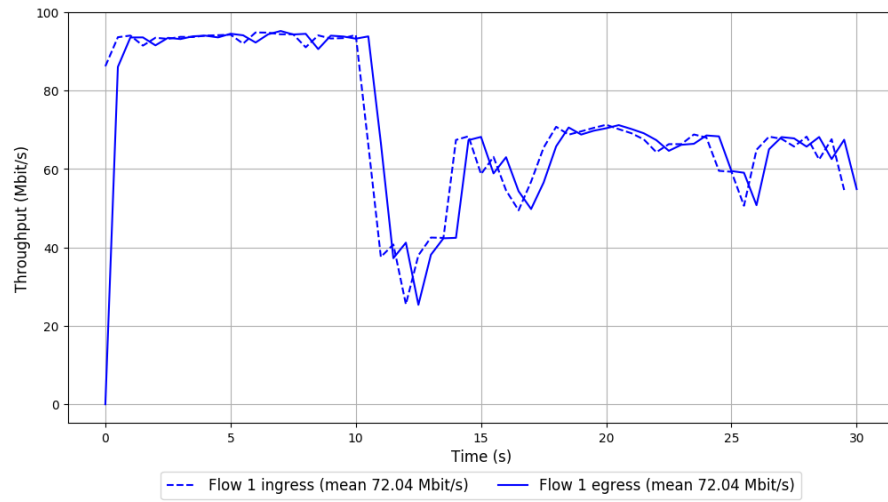
-- Flow 1:

Average throughput: 72.04 Mbit/s

95th percentile per-packet one-way delay: 3.859 ms

Loss rate: 0.00%

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



Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-26 00:22:49

End at: 2018-10-26 00:23:19

Local clock offset: 5.761 ms

Remote clock offset: 0.57 ms

Below is generated by plot.py at 2018-10-26 01:17:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 65.23 Mbit/s

95th percentile per-packet one-way delay: 2.919 ms

Loss rate: 0.00%

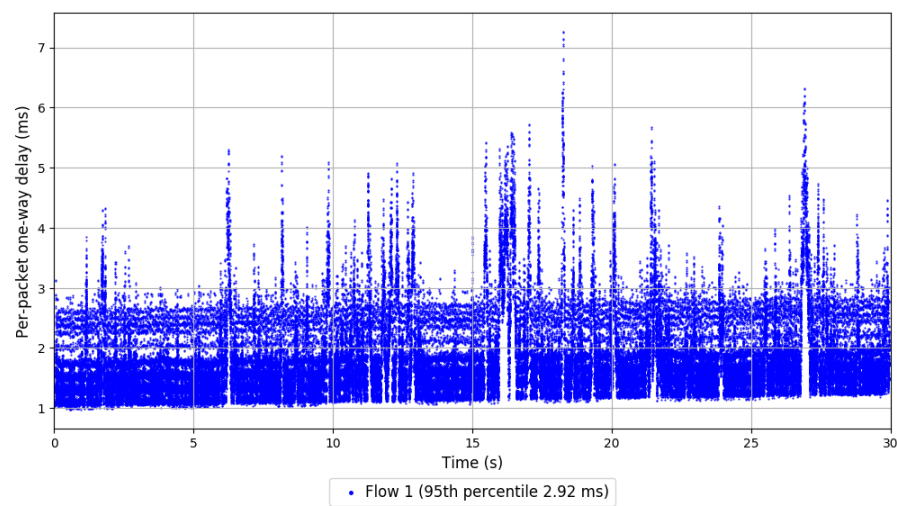
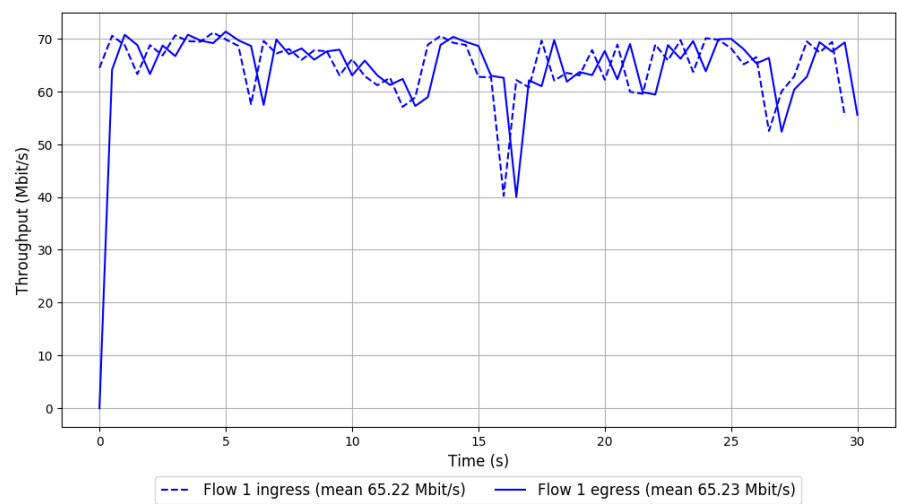
-- Flow 1:

Average throughput: 65.23 Mbit/s

95th percentile per-packet one-way delay: 2.919 ms

Loss rate: 0.00%

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



Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-26 00:42:50

End at: 2018-10-26 00:43:20

Local clock offset: 1.877 ms

Remote clock offset: 0.451 ms

Below is generated by plot.py at 2018-10-26 01:17:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.45 Mbit/s

95th percentile per-packet one-way delay: 3.904 ms

Loss rate: 0.00%

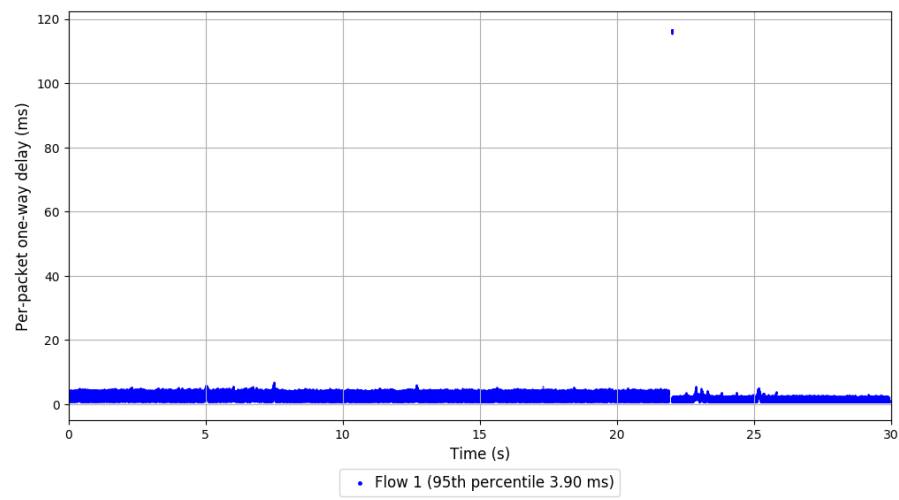
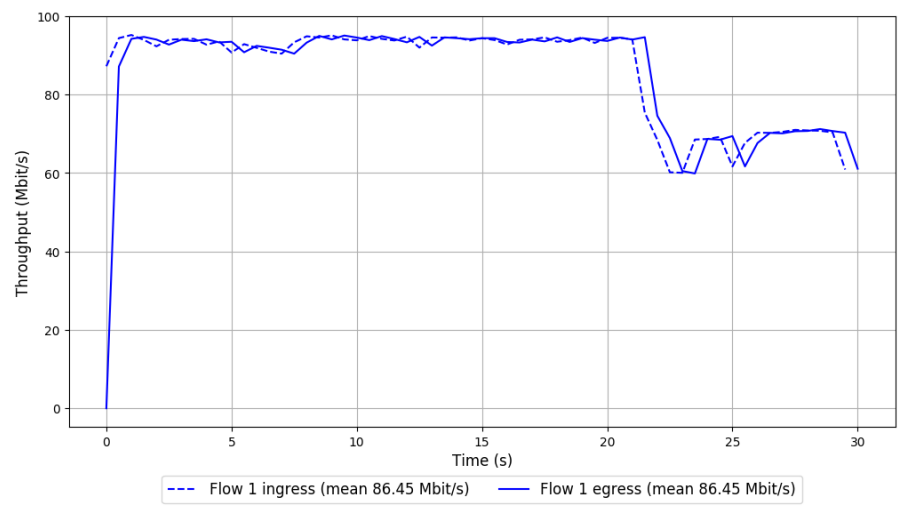
-- Flow 1:

Average throughput: 86.45 Mbit/s

95th percentile per-packet one-way delay: 3.904 ms

Loss rate: 0.00%

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



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-26 01:02:52

End at: 2018-10-26 01:03:22

Local clock offset: 2.376 ms

Remote clock offset: 0.447 ms

Below is generated by plot.py at 2018-10-26 01:17:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 67.09 Mbit/s

95th percentile per-packet one-way delay: 3.605 ms

Loss rate: 0.00%

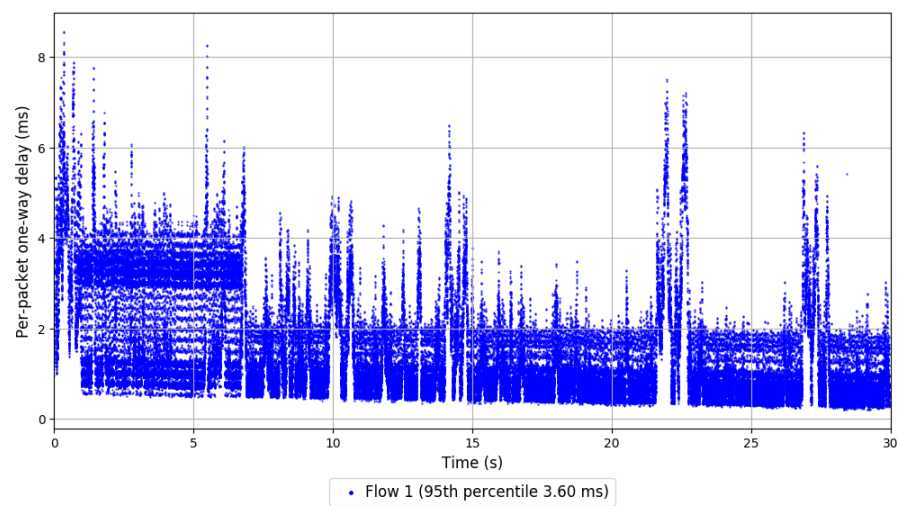
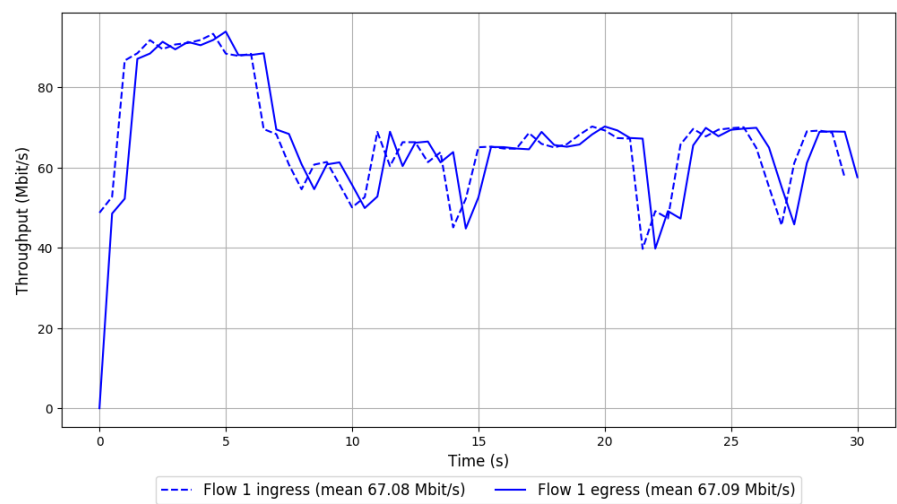
-- Flow 1:

Average throughput: 67.09 Mbit/s

95th percentile per-packet one-way delay: 3.605 ms

Loss rate: 0.00%

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

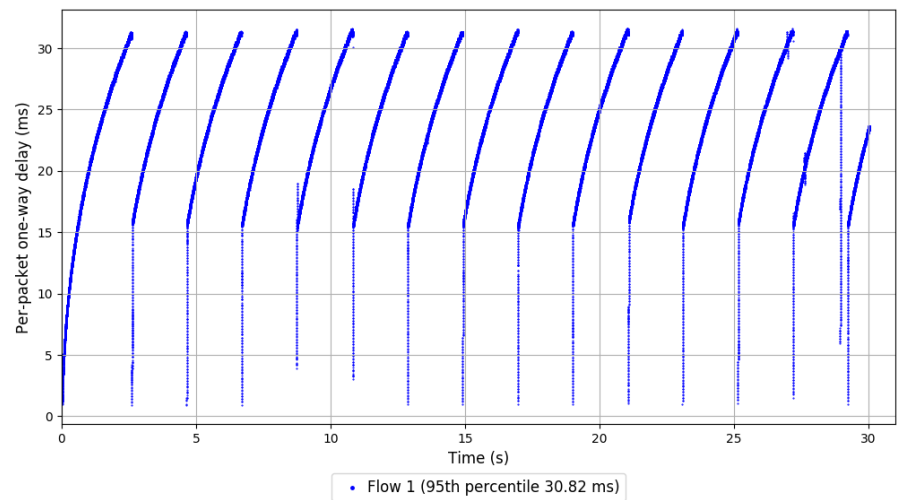
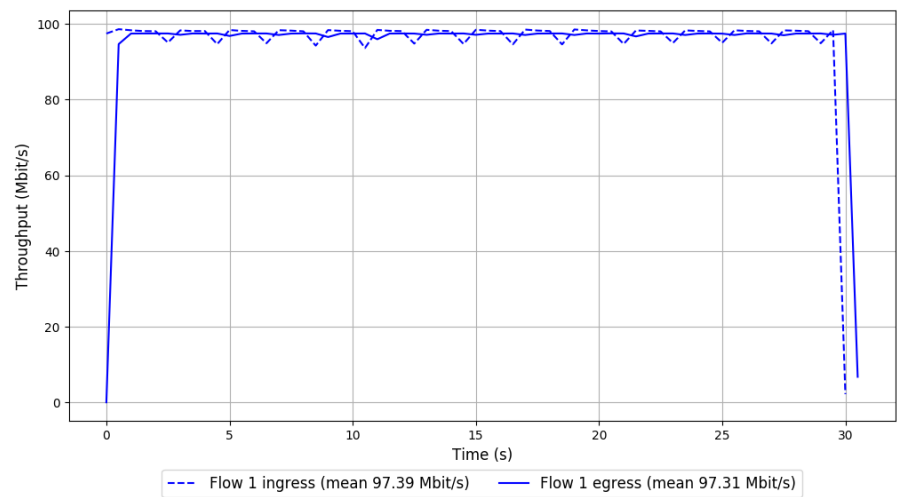


```
Run 1: Statistics of LEDBAT

Start at: 2018-10-25 23:44:59
End at: 2018-10-25 23:45:29
Local clock offset: 0.064 ms
Remote clock offset: 0.461 ms

# Below is generated by plot.py at 2018-10-26 01:18:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.31 Mbit/s
95th percentile per-packet one-way delay: 30.820 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.31 Mbit/s
95th percentile per-packet one-way delay: 30.820 ms
Loss rate: 0.01%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-10-26 00:05:02

End at: 2018-10-26 00:05:32

Local clock offset: 1.769 ms

Remote clock offset: 0.433 ms

Below is generated by plot.py at 2018-10-26 01:18:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.27 Mbit/s

95th percentile per-packet one-way delay: 30.812 ms

Loss rate: 0.01%

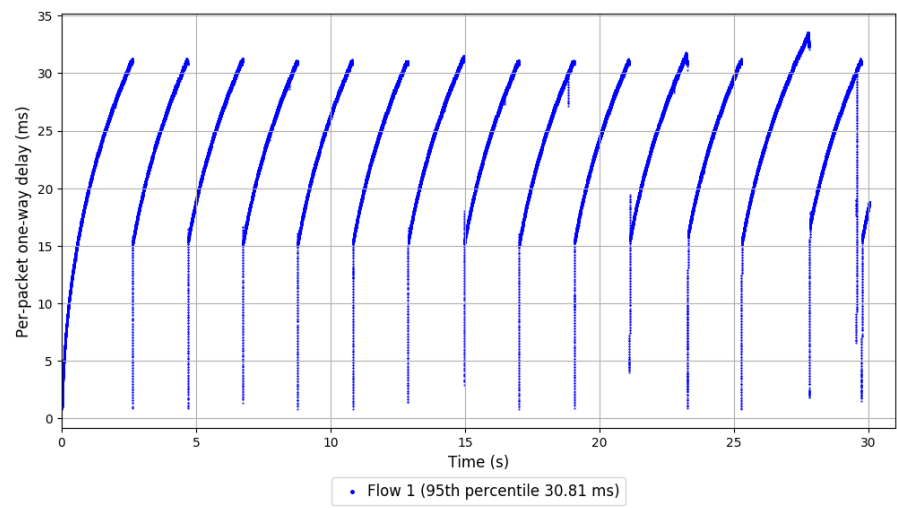
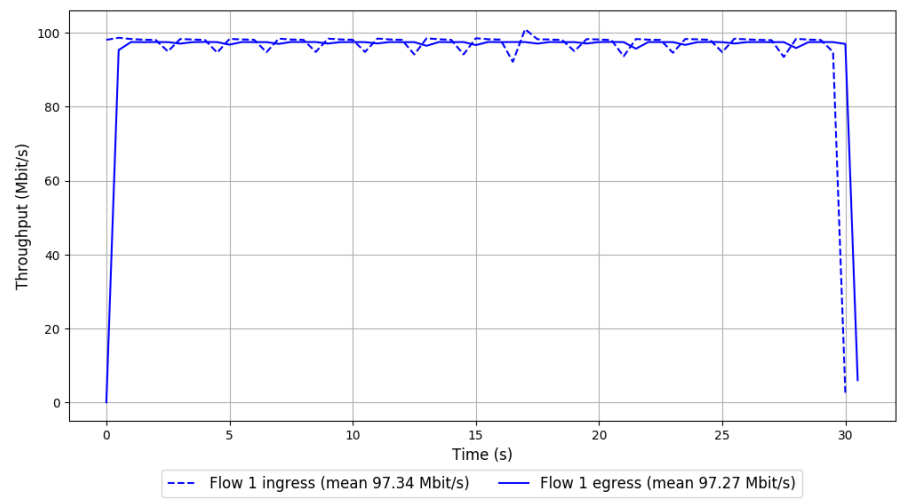
-- Flow 1:

Average throughput: 97.27 Mbit/s

95th percentile per-packet one-way delay: 30.812 ms

Loss rate: 0.01%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-10-26 00:25:03

End at: 2018-10-26 00:25:33

Local clock offset: 6.516 ms

Remote clock offset: 0.488 ms

Below is generated by plot.py at 2018-10-26 01:18:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.32 Mbit/s

95th percentile per-packet one-way delay: 31.064 ms

Loss rate: 0.01%

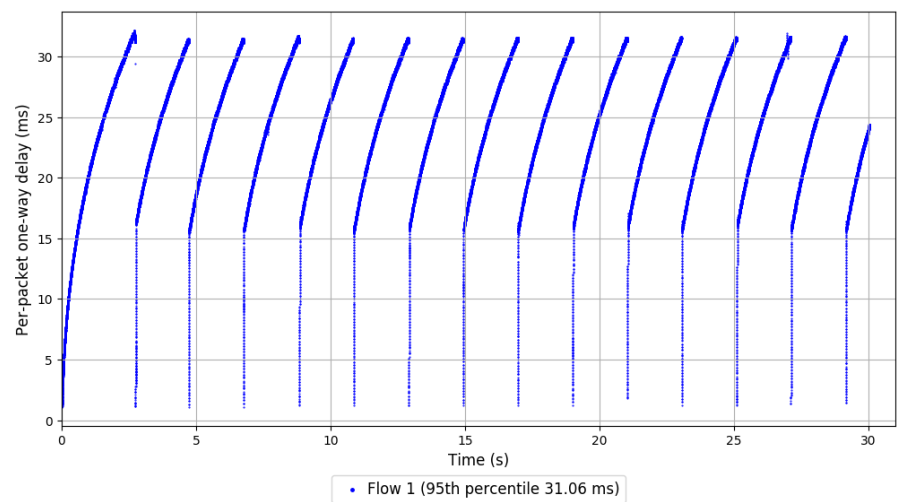
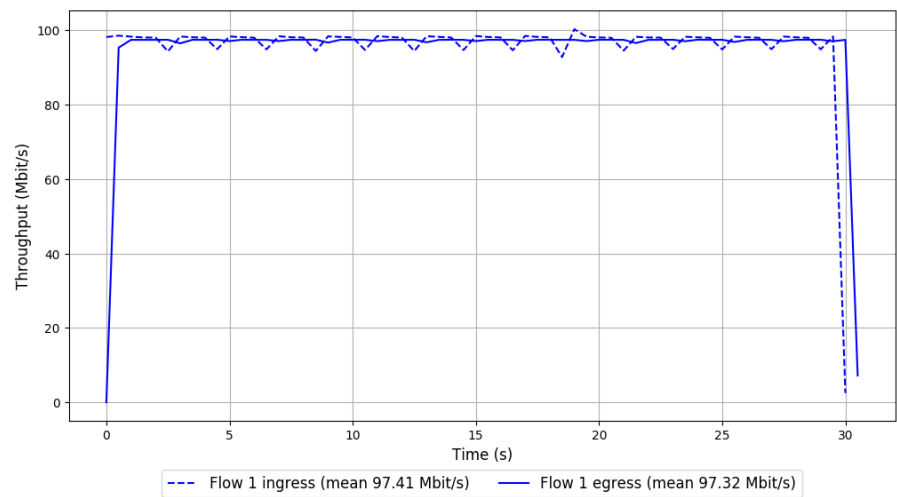
-- Flow 1:

Average throughput: 97.32 Mbit/s

95th percentile per-packet one-way delay: 31.064 ms

Loss rate: 0.01%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-10-26 00:45:05

End at: 2018-10-26 00:45:35

Local clock offset: 1.631 ms

Remote clock offset: 0.453 ms

Below is generated by plot.py at 2018-10-26 01:18:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 30.589 ms

Loss rate: 0.01%

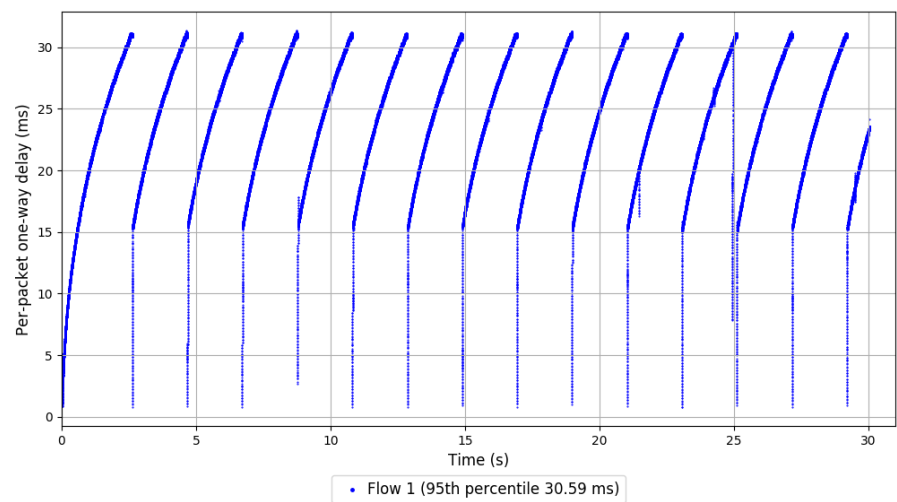
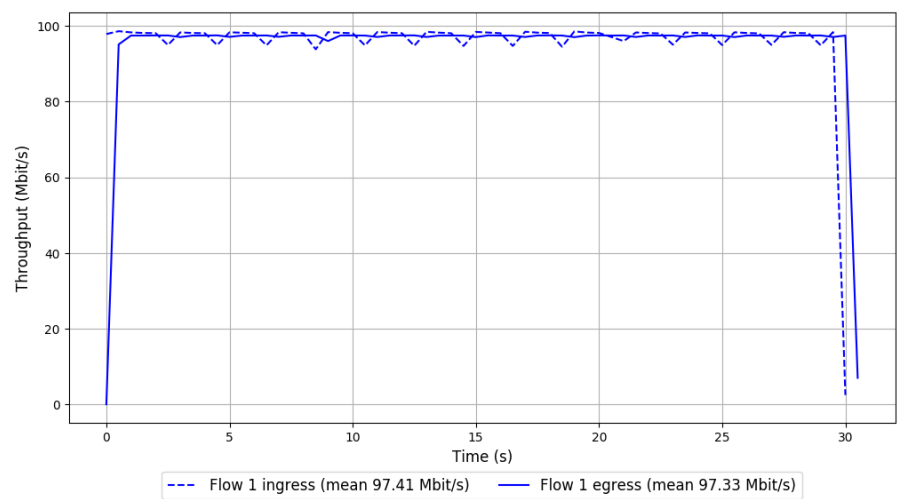
-- Flow 1:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 30.589 ms

Loss rate: 0.01%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-10-26 01:05:07

End at: 2018-10-26 01:05:37

Local clock offset: 0.99 ms

Remote clock offset: 0.344 ms

Below is generated by plot.py at 2018-10-26 01:18:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 30.348 ms

Loss rate: 0.01%

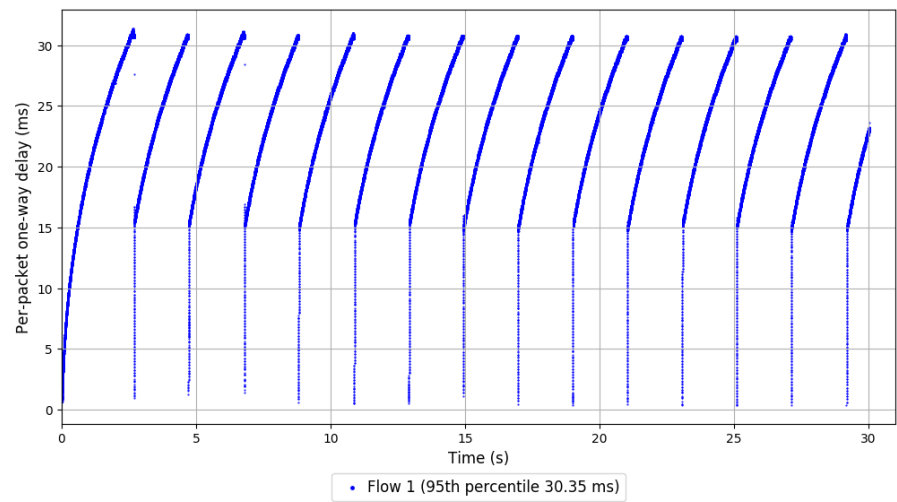
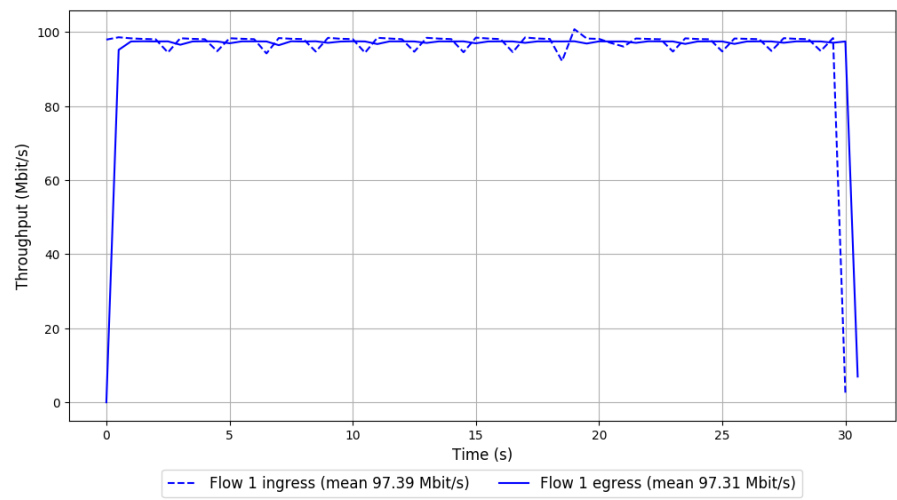
-- Flow 1:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 30.348 ms

Loss rate: 0.01%

Run 5: Report of LEDBAT — Data Link

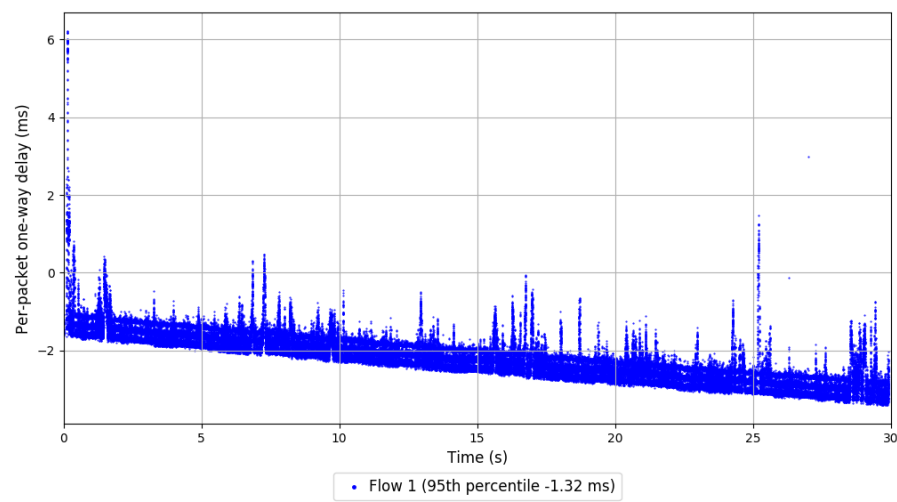
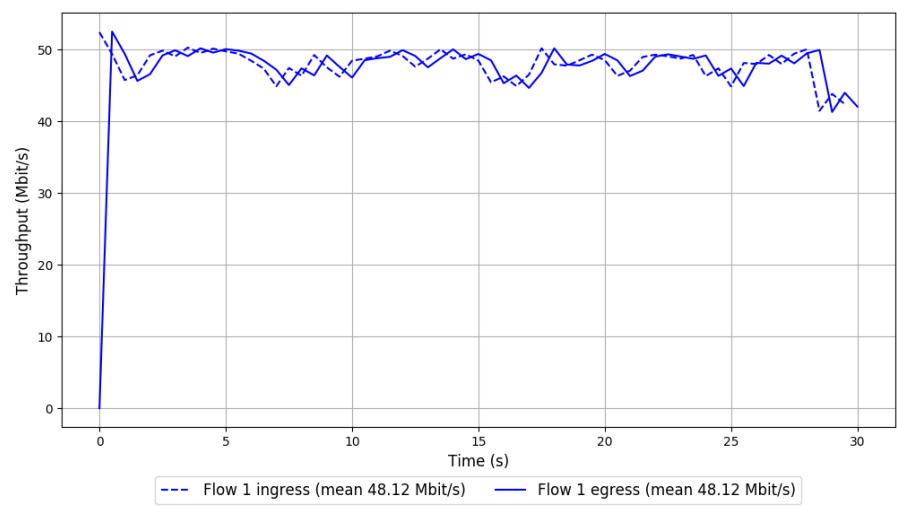


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-25 23:40:30
End at: 2018-10-25 23:41:00
Local clock offset: 8.295 ms
Remote clock offset: 0.544 ms

# Below is generated by plot.py at 2018-10-26 01:18:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.12 Mbit/s
95th percentile per-packet one-way delay: -1.316 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.12 Mbit/s
95th percentile per-packet one-way delay: -1.316 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-10-26 00:00:32

End at: 2018-10-26 00:01:02

Local clock offset: 2.033 ms

Remote clock offset: 0.433 ms

Below is generated by plot.py at 2018-10-26 01:18:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 61.33 Mbit/s

95th percentile per-packet one-way delay: 19.362 ms

Loss rate: 8.84%

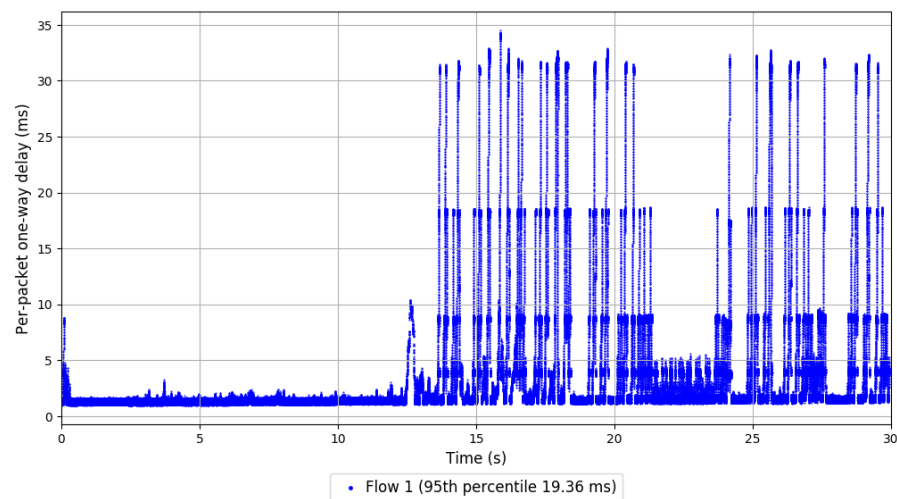
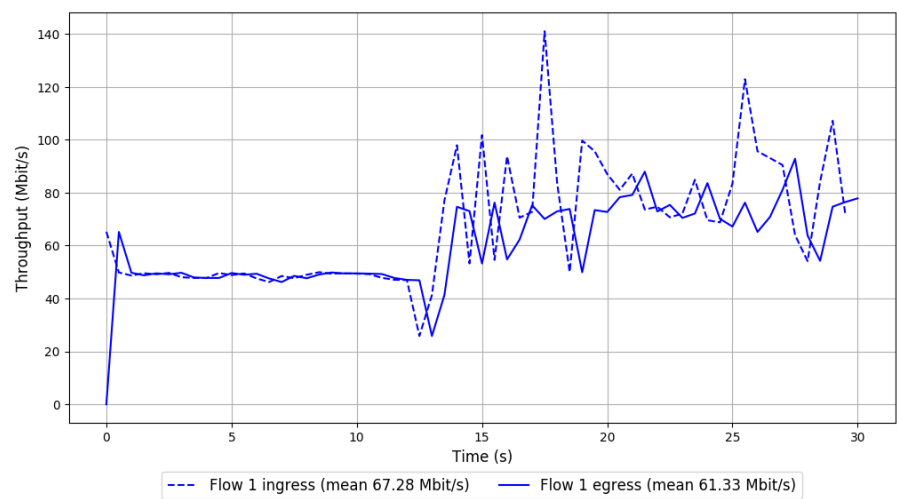
-- Flow 1:

Average throughput: 61.33 Mbit/s

95th percentile per-packet one-way delay: 19.362 ms

Loss rate: 8.84%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-10-26 00:20:34

End at: 2018-10-26 00:21:04

Local clock offset: 4.905 ms

Remote clock offset: 0.57 ms

Below is generated by plot.py at 2018-10-26 01:18:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 43.84 Mbit/s

95th percentile per-packet one-way delay: 3.121 ms

Loss rate: 0.00%

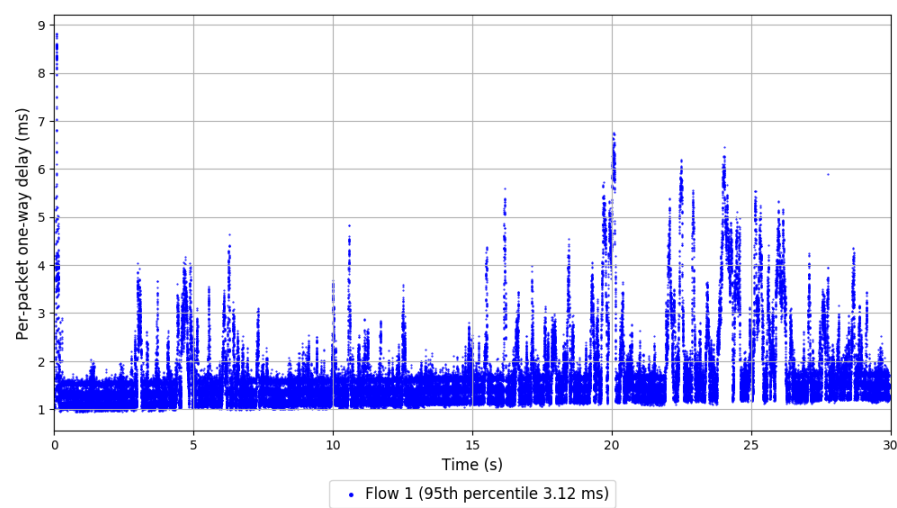
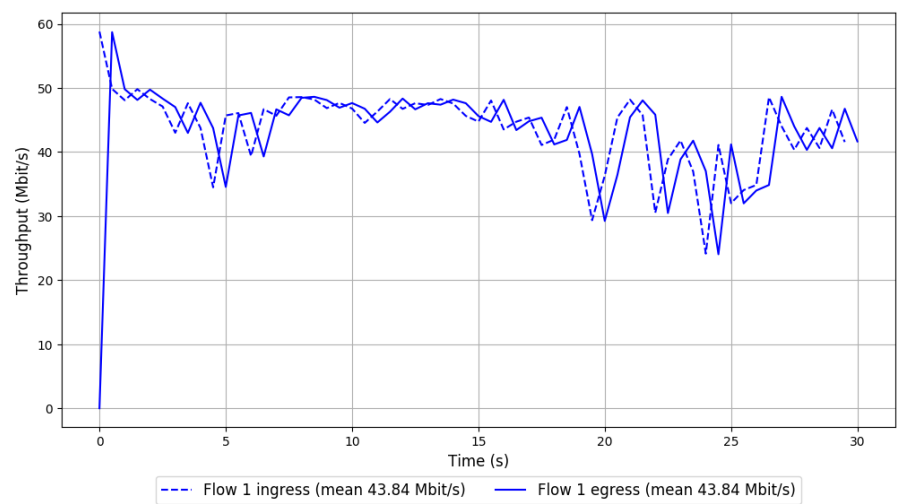
-- Flow 1:

Average throughput: 43.84 Mbit/s

95th percentile per-packet one-way delay: 3.121 ms

Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-10-26 00:40:35

End at: 2018-10-26 00:41:05

Local clock offset: 2.401 ms

Remote clock offset: 0.384 ms

Below is generated by plot.py at 2018-10-26 01:18:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 46.47 Mbit/s

95th percentile per-packet one-way delay: 1.926 ms

Loss rate: 0.00%

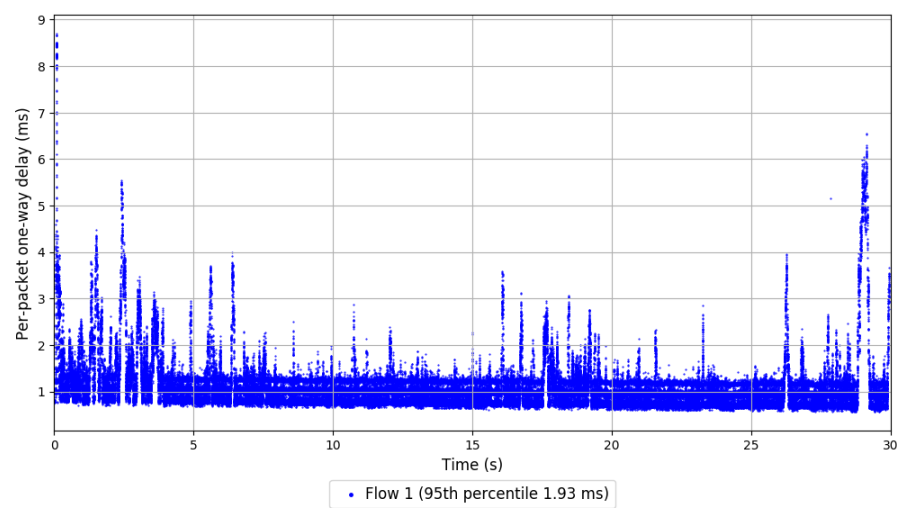
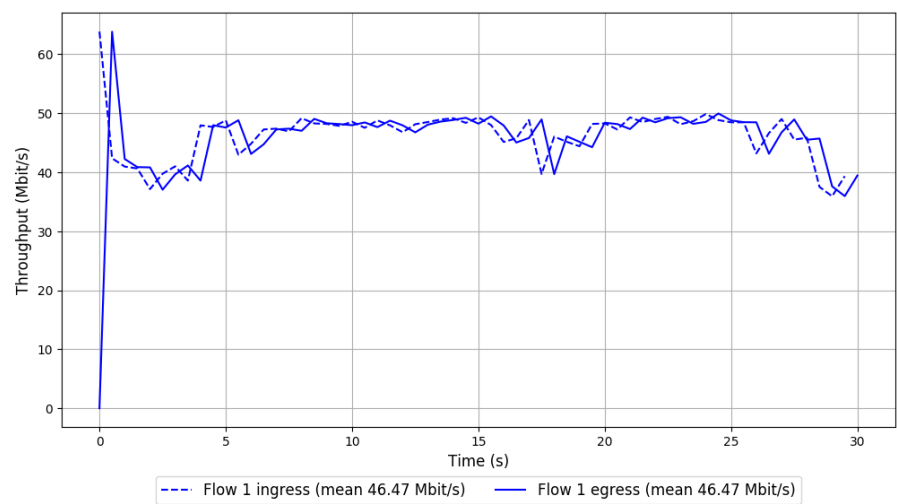
-- Flow 1:

Average throughput: 46.47 Mbit/s

95th percentile per-packet one-way delay: 1.926 ms

Loss rate: 0.00%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-10-26 01:00:37

End at: 2018-10-26 01:01:08

Local clock offset: 3.081 ms

Remote clock offset: 0.477 ms

Below is generated by plot.py at 2018-10-26 01:18:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 48.24 Mbit/s

95th percentile per-packet one-way delay: 1.668 ms

Loss rate: 0.00%

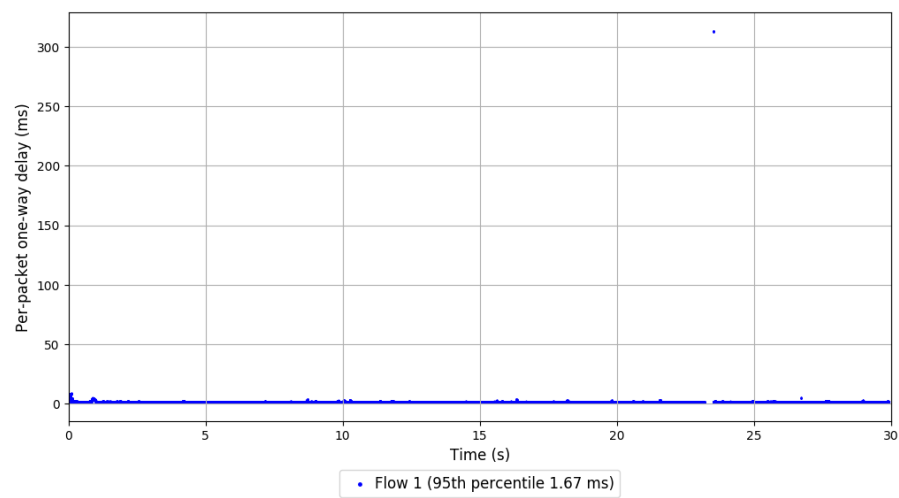
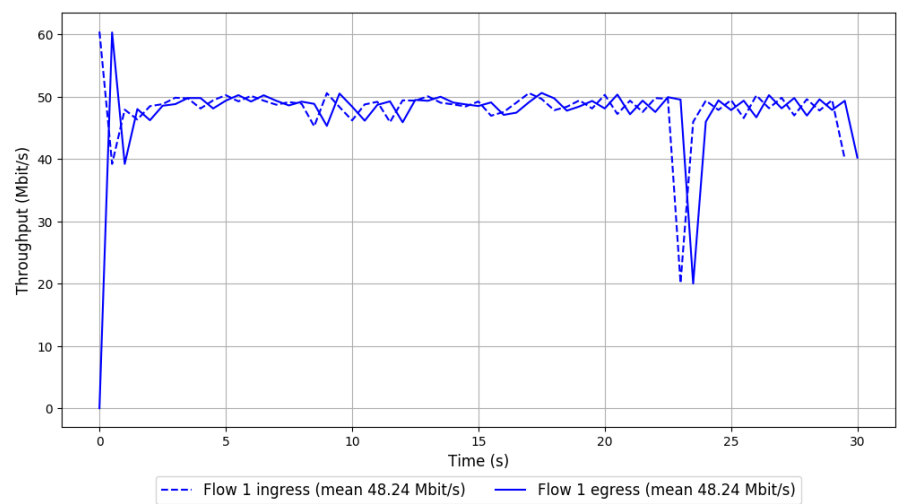
-- Flow 1:

Average throughput: 48.24 Mbit/s

95th percentile per-packet one-way delay: 1.668 ms

Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-10-25 23:37:11

End at: 2018-10-25 23:37:41

Local clock offset: 4.276 ms

Remote clock offset: 0.434 ms

Below is generated by plot.py at 2018-10-26 01:19:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 59.30 Mbit/s

95th percentile per-packet one-way delay: 3.006 ms

Loss rate: 0.00%

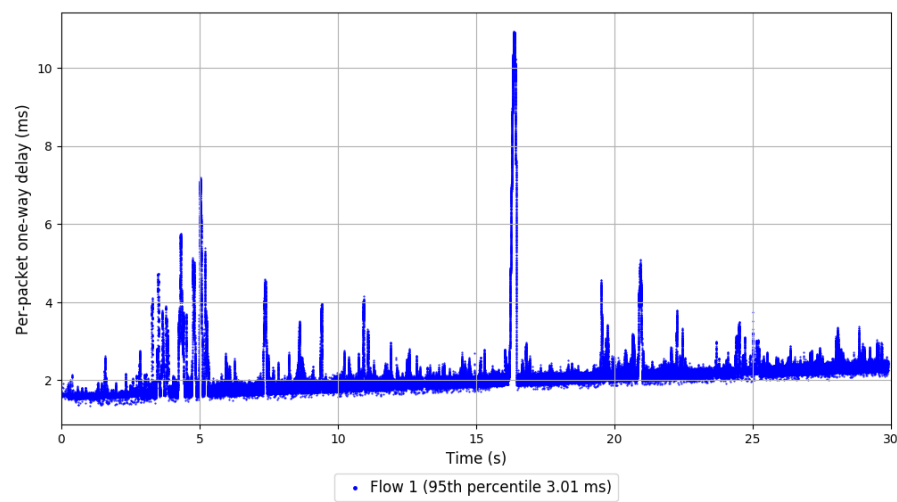
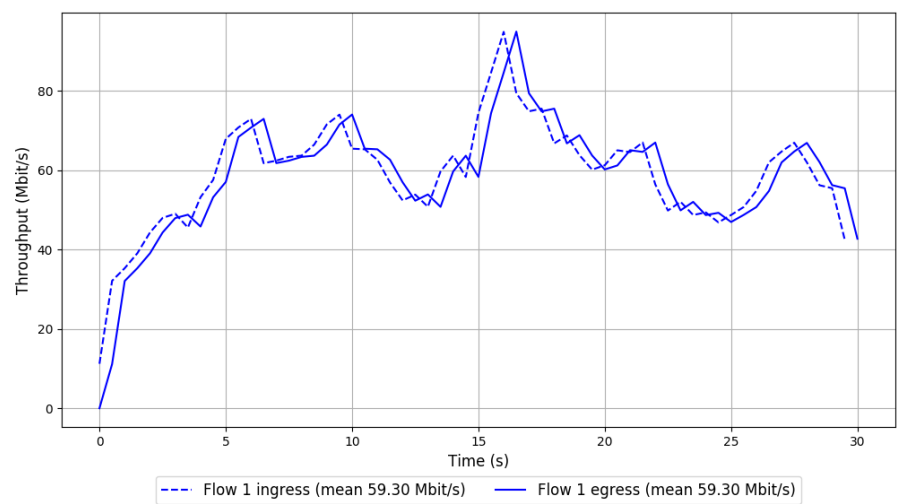
-- Flow 1:

Average throughput: 59.30 Mbit/s

95th percentile per-packet one-way delay: 3.006 ms

Loss rate: 0.00%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-10-25 23:57:13

End at: 2018-10-25 23:57:43

Local clock offset: 0.637 ms

Remote clock offset: 0.341 ms

Below is generated by plot.py at 2018-10-26 01:19:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 64.07 Mbit/s

95th percentile per-packet one-way delay: 1.724 ms

Loss rate: 0.00%

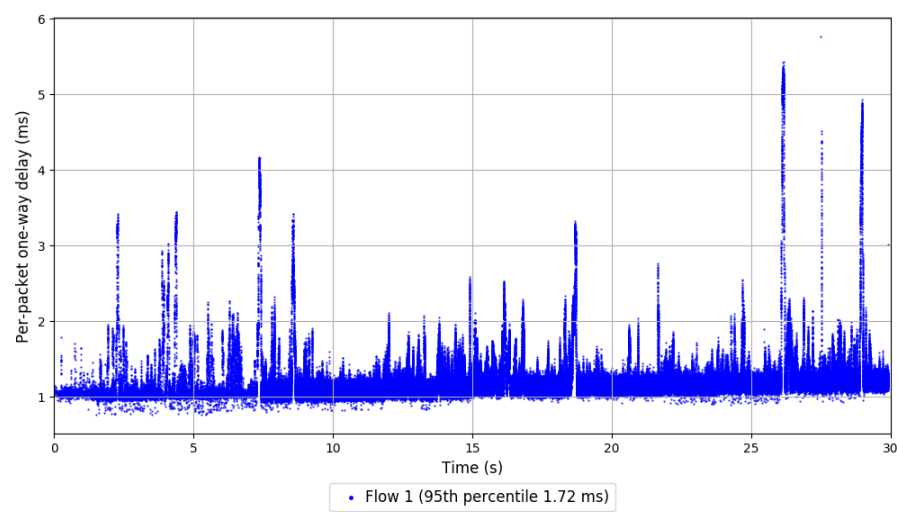
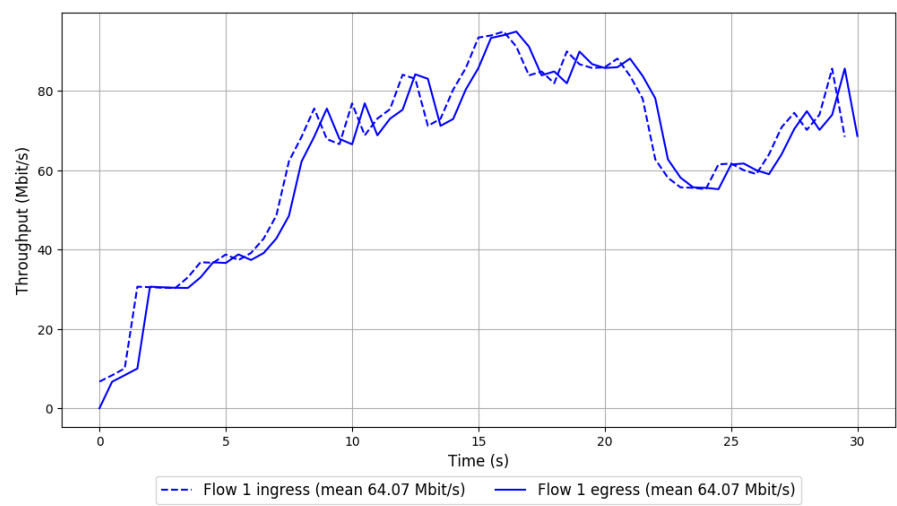
-- Flow 1:

Average throughput: 64.07 Mbit/s

95th percentile per-packet one-way delay: 1.724 ms

Loss rate: 0.00%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-10-26 00:17:15

End at: 2018-10-26 00:17:45

Local clock offset: 3.621 ms

Remote clock offset: 0.588 ms

Below is generated by plot.py at 2018-10-26 01:19:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 47.06 Mbit/s

95th percentile per-packet one-way delay: 32.149 ms

Loss rate: 0.26%

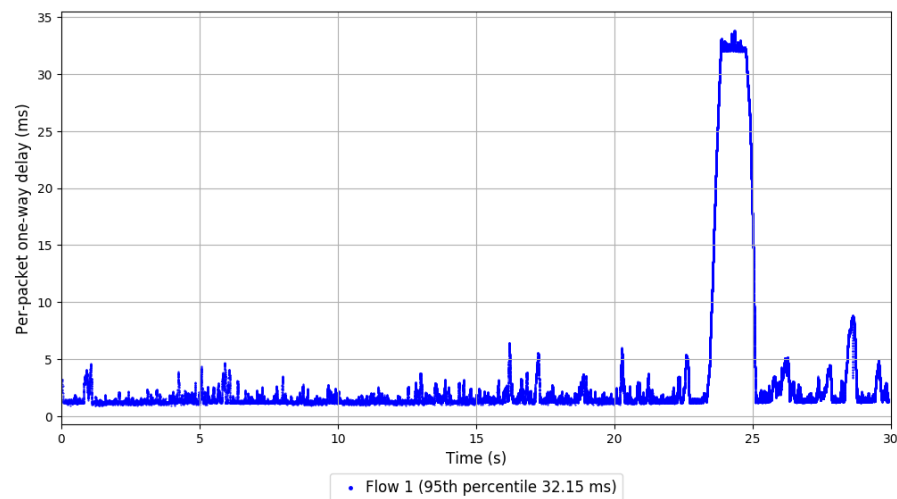
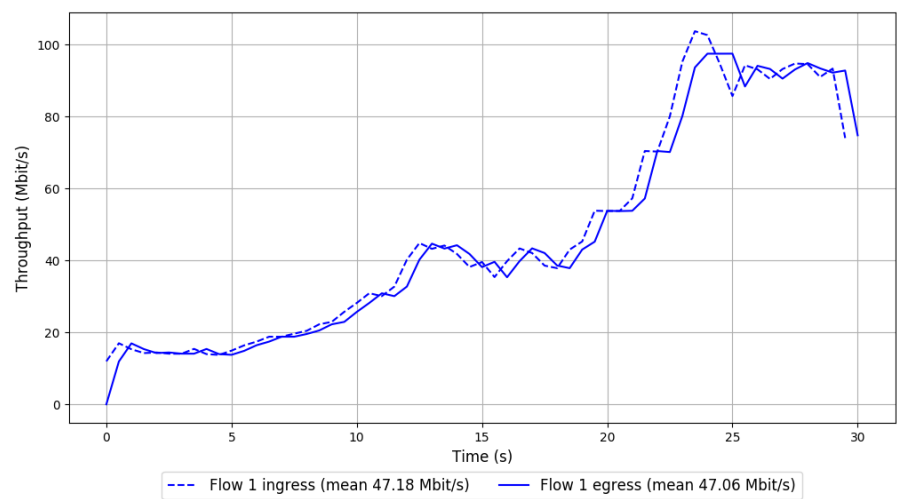
-- Flow 1:

Average throughput: 47.06 Mbit/s

95th percentile per-packet one-way delay: 32.149 ms

Loss rate: 0.26%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-26 00:37:17

End at: 2018-10-26 00:37:47

Local clock offset: 4.133 ms

Remote clock offset: 0.399 ms

Below is generated by plot.py at 2018-10-26 01:19:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 46.86 Mbit/s

95th percentile per-packet one-way delay: 2.420 ms

Loss rate: 0.00%

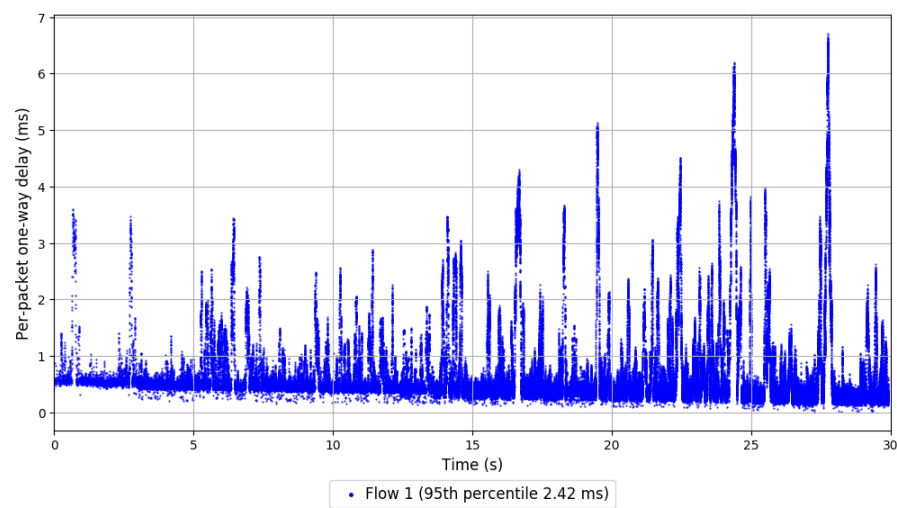
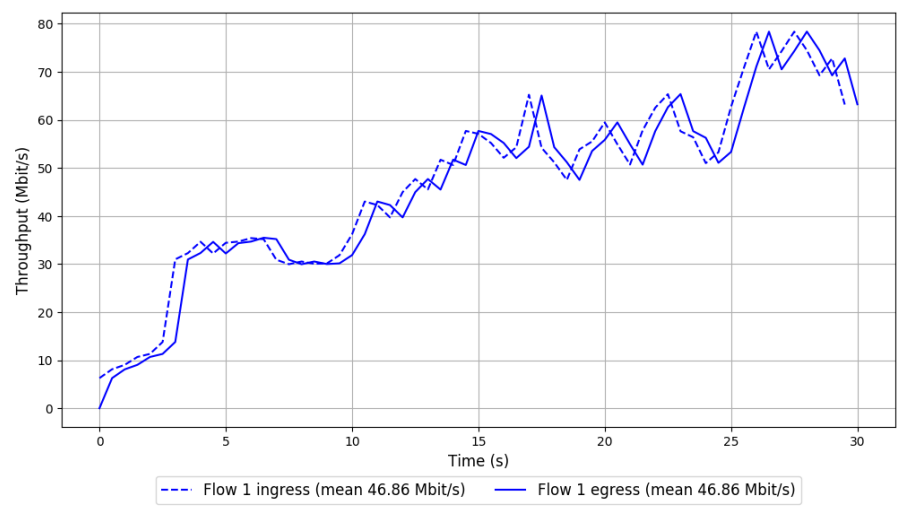
-- Flow 1:

Average throughput: 46.86 Mbit/s

95th percentile per-packet one-way delay: 2.420 ms

Loss rate: 0.00%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-10-26 00:57:18

End at: 2018-10-26 00:57:48

Local clock offset: 2.489 ms

Remote clock offset: 0.5 ms

Below is generated by plot.py at 2018-10-26 01:19:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 64.31 Mbit/s

95th percentile per-packet one-way delay: 3.679 ms

Loss rate: 0.00%

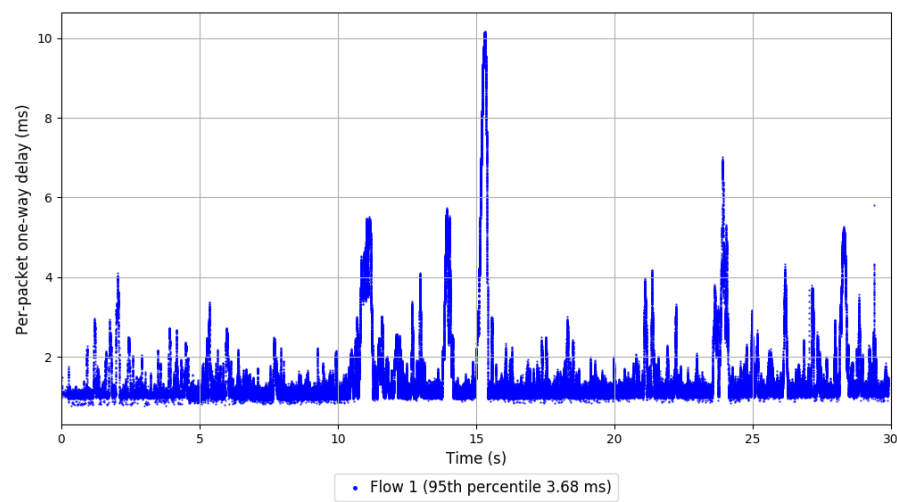
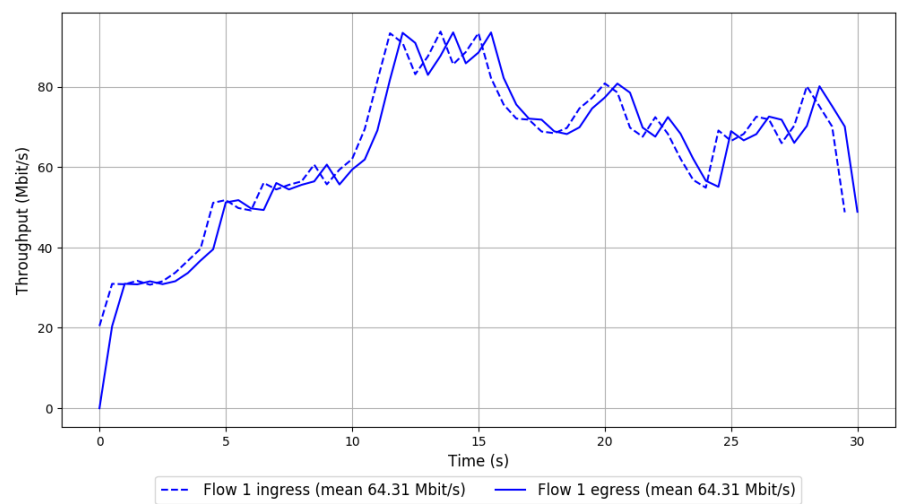
-- Flow 1:

Average throughput: 64.31 Mbit/s

95th percentile per-packet one-way delay: 3.679 ms

Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

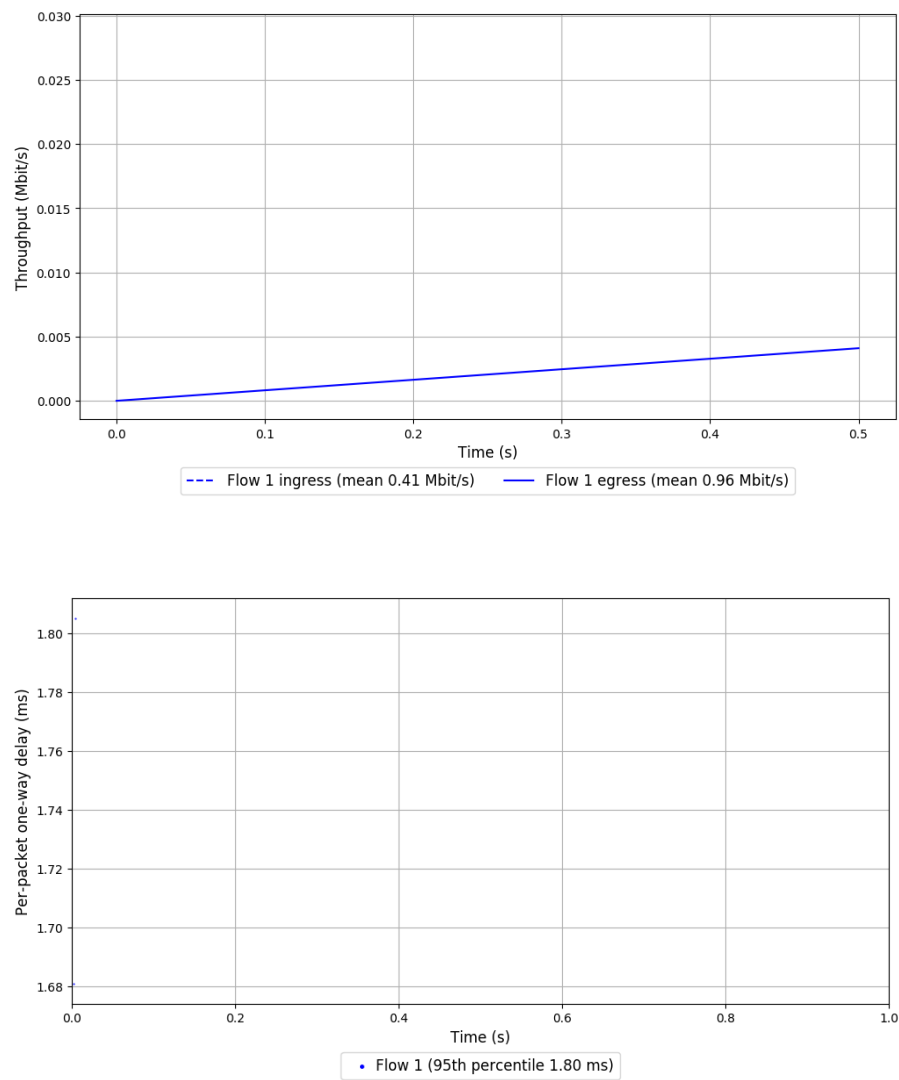
Start at: 2018-10-25 23:39:25

End at: 2018-10-25 23:39:55

Local clock offset: 7.59 ms

Remote clock offset: 0.49 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

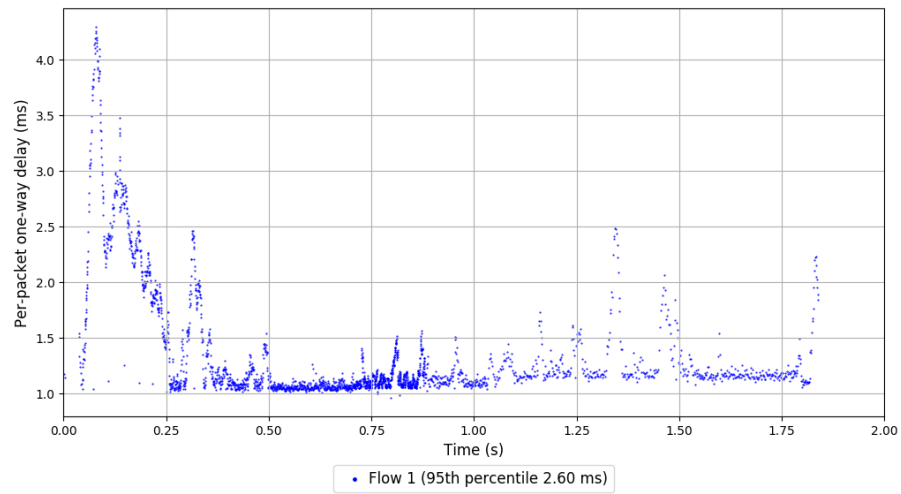
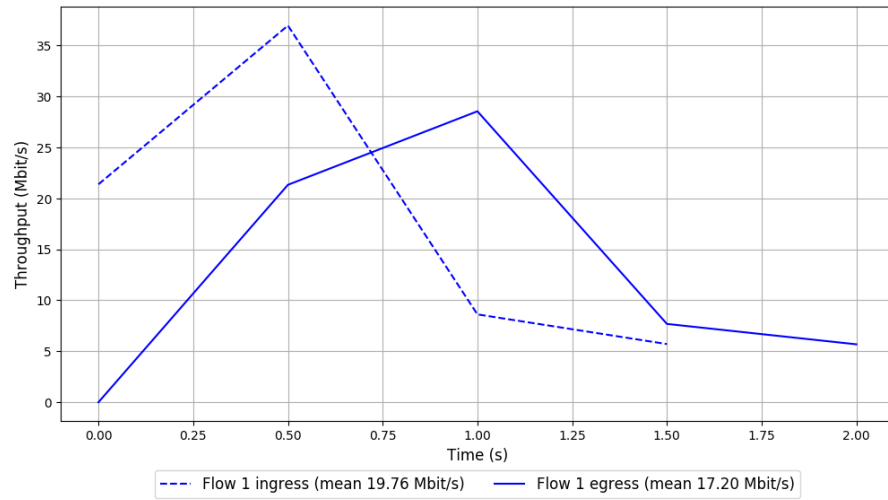
Start at: 2018-10-25 23:59:28

End at: 2018-10-25 23:59:58

Local clock offset: 1.479 ms

Remote clock offset: 0.381 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

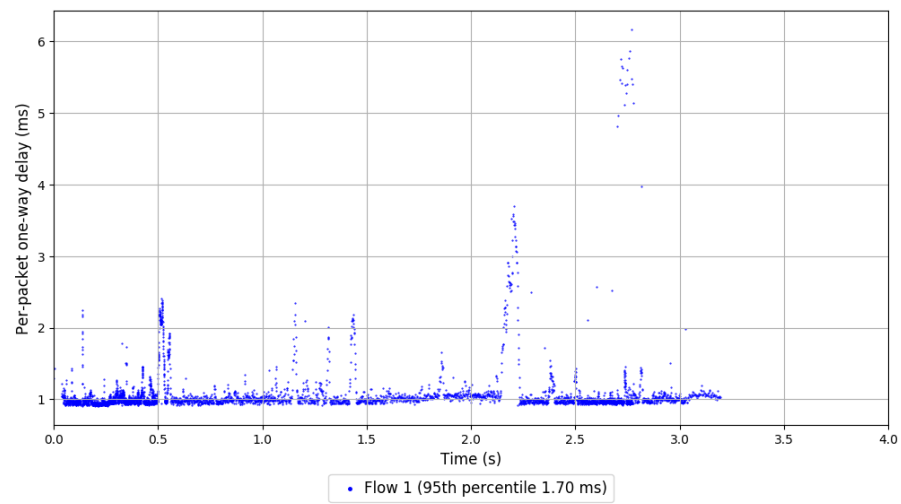
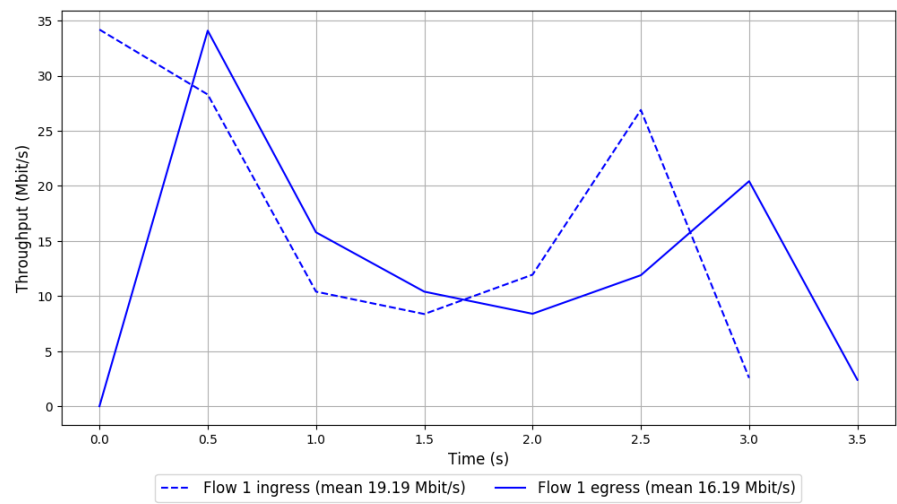
Start at: 2018-10-26 00:19:29

End at: 2018-10-26 00:19:59

Local clock offset: 4.582 ms

Remote clock offset: 0.552 ms

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

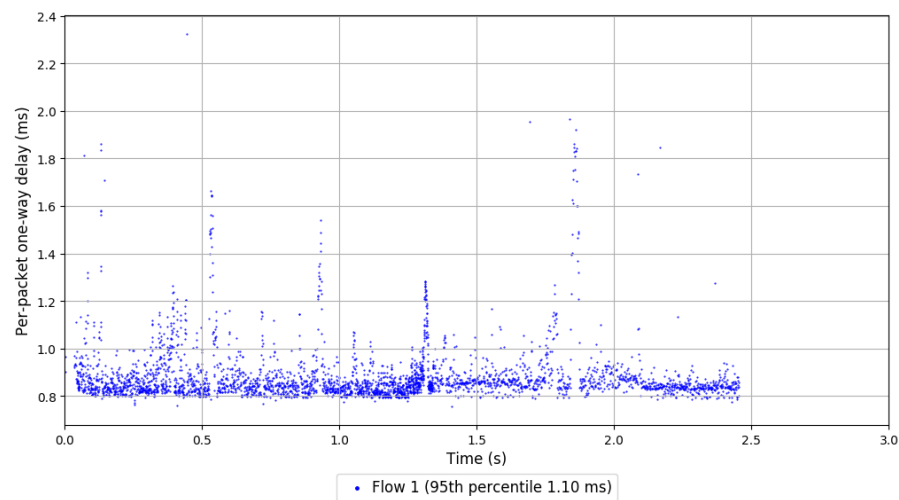
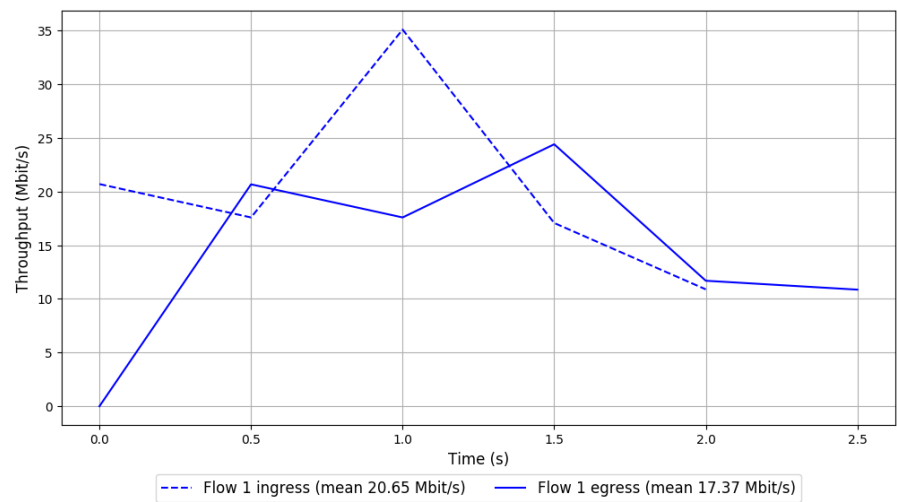
Start at: 2018-10-26 00:39:31

End at: 2018-10-26 00:40:01

Local clock offset: 2.828 ms

Remote clock offset: 0.474 ms

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

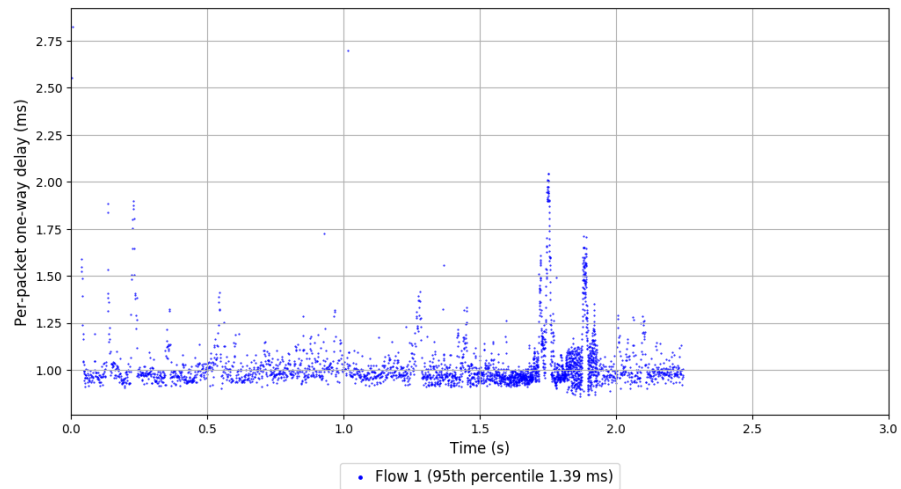
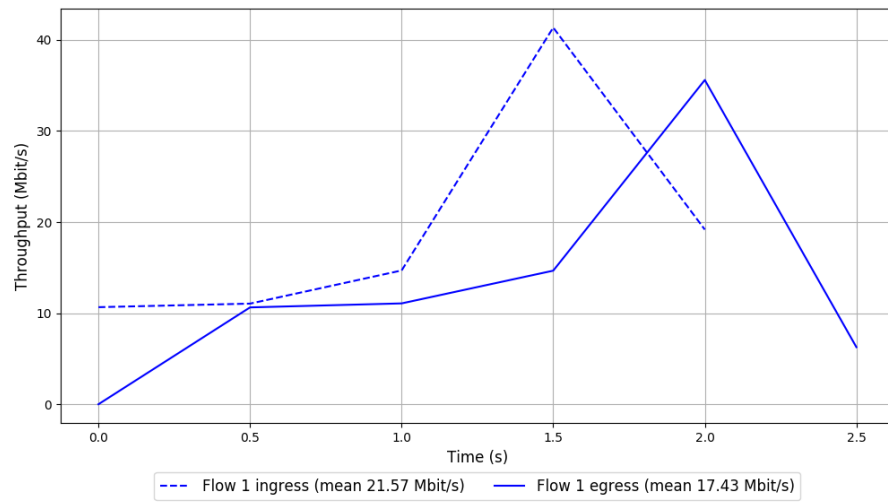
Start at: 2018-10-26 00:59:33

End at: 2018-10-26 01:00:03

Local clock offset: 2.876 ms

Remote clock offset: 0.433 ms

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-10-25 23:34:55

End at: 2018-10-25 23:35:25

Local clock offset: 1.398 ms

Remote clock offset: 0.533 ms

Below is generated by plot.py at 2018-10-26 01:19:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.73 Mbit/s

95th percentile per-packet one-way delay: 4.137 ms

Loss rate: 0.14%

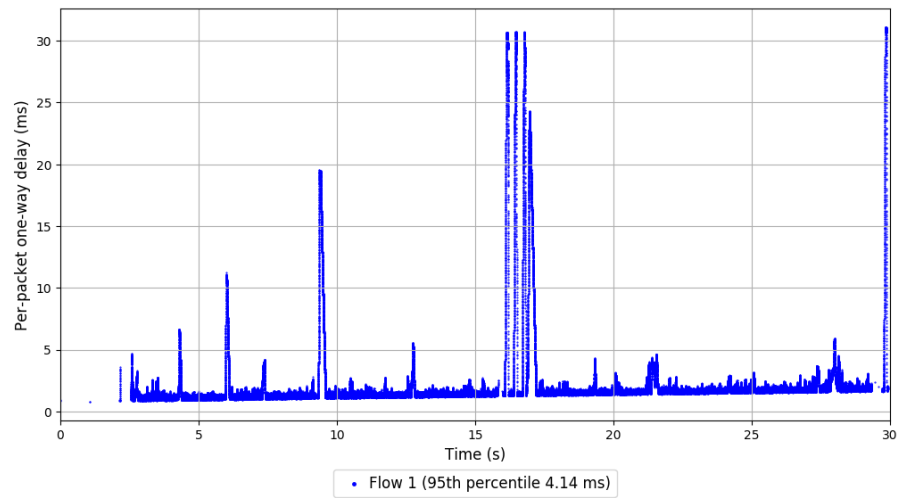
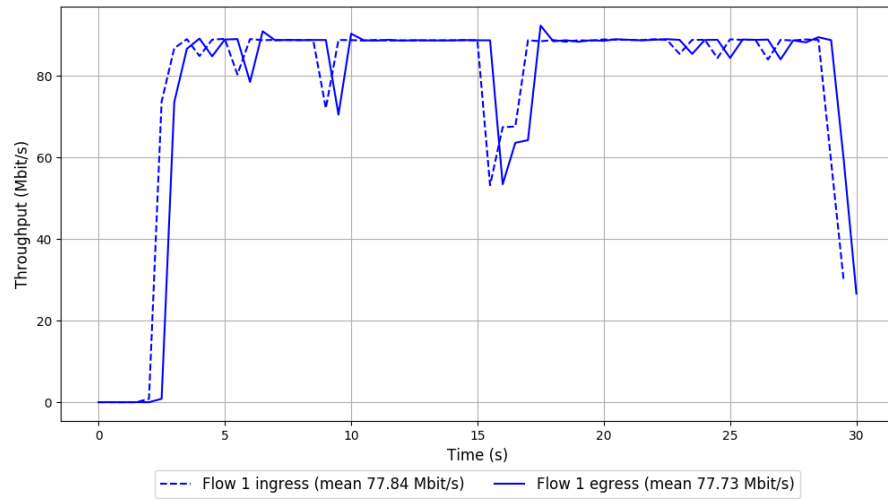
-- Flow 1:

Average throughput: 77.73 Mbit/s

95th percentile per-packet one-way delay: 4.137 ms

Loss rate: 0.14%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-10-25 23:54:58

End at: 2018-10-25 23:55:28

Local clock offset: 0.089 ms

Remote clock offset: 0.501 ms

Below is generated by plot.py at 2018-10-26 01:19:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.88 Mbit/s

95th percentile per-packet one-way delay: 4.253 ms

Loss rate: 0.23%

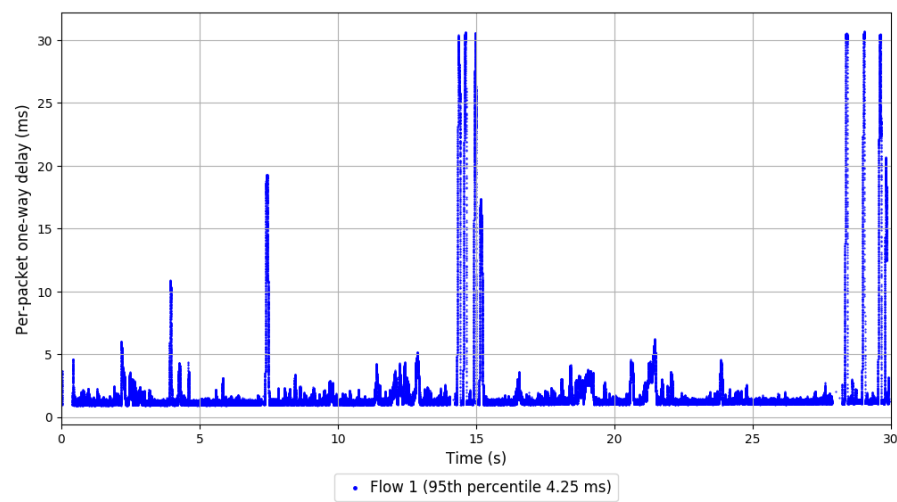
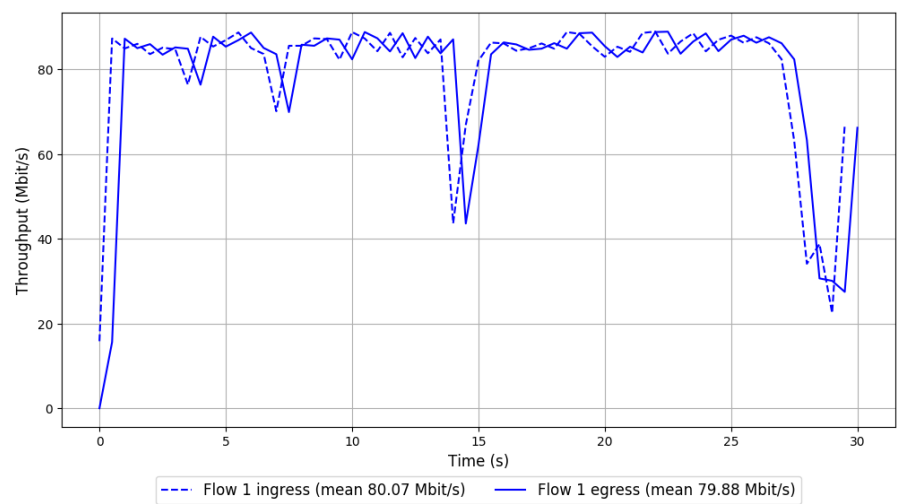
-- Flow 1:

Average throughput: 79.88 Mbit/s

95th percentile per-packet one-way delay: 4.253 ms

Loss rate: 0.23%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-10-26 00:15:00

End at: 2018-10-26 00:15:30

Local clock offset: 2.983 ms

Remote clock offset: 0.518 ms

Below is generated by plot.py at 2018-10-26 01:20:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.73 Mbit/s

95th percentile per-packet one-way delay: 4.106 ms

Loss rate: 0.33%

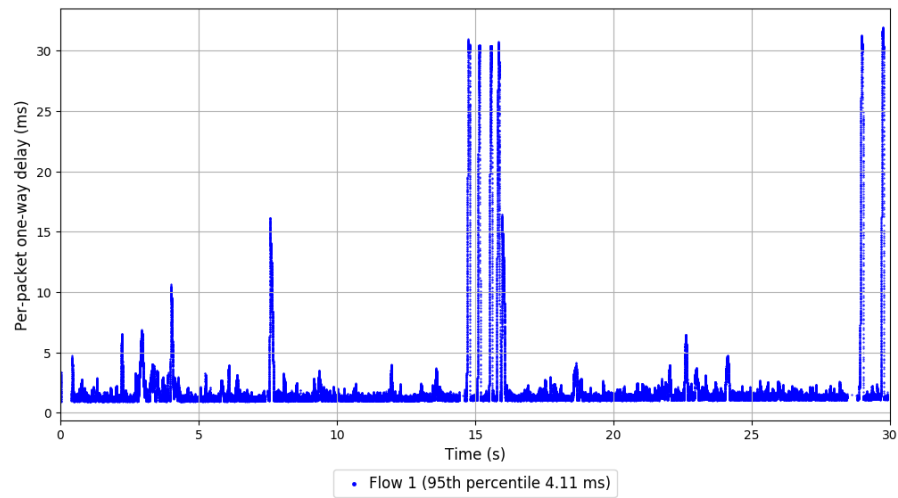
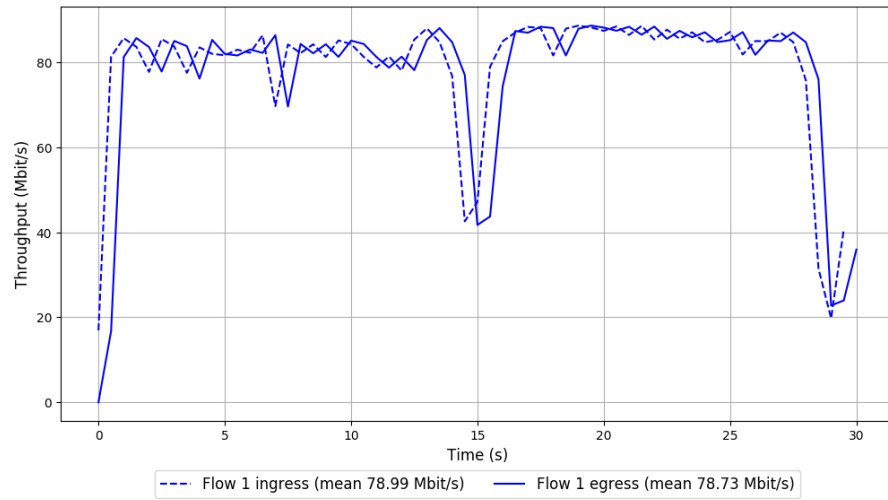
-- Flow 1:

Average throughput: 78.73 Mbit/s

95th percentile per-packet one-way delay: 4.106 ms

Loss rate: 0.33%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-10-26 00:35:01

End at: 2018-10-26 00:35:31

Local clock offset: 5.552 ms

Remote clock offset: 0.435 ms

Below is generated by plot.py at 2018-10-26 01:20:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.73 Mbit/s

95th percentile per-packet one-way delay: 3.567 ms

Loss rate: 0.18%

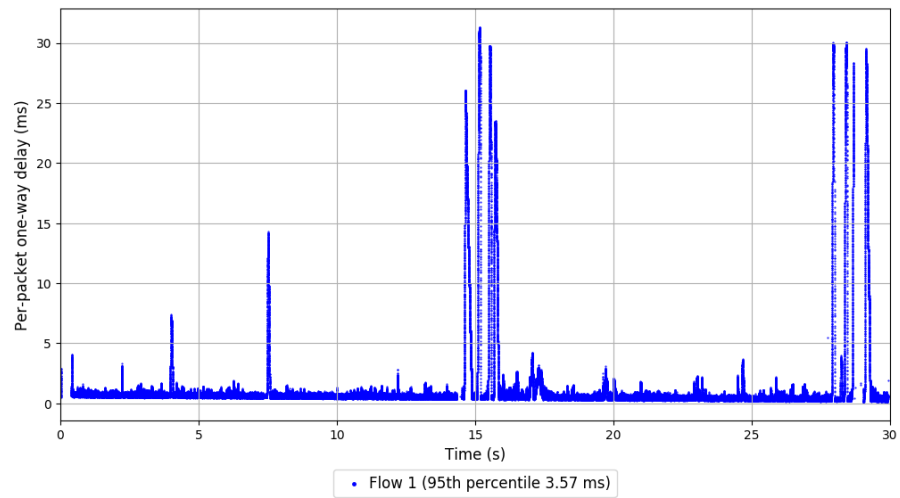
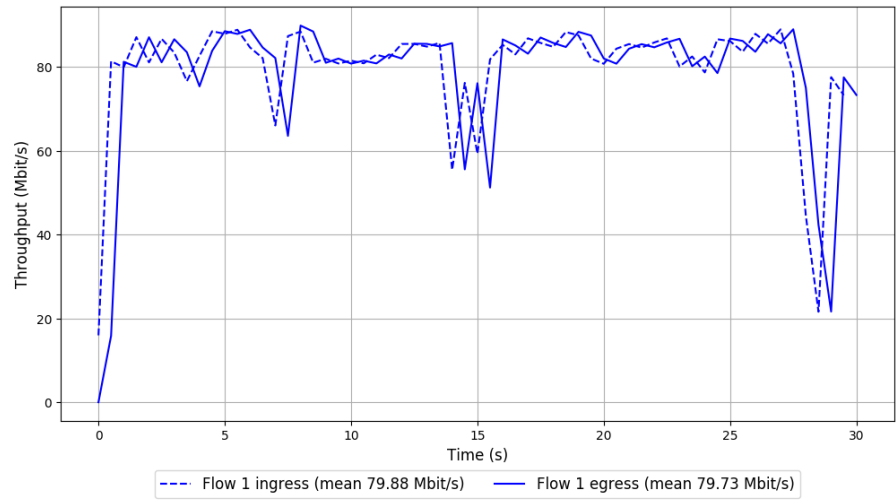
-- Flow 1:

Average throughput: 79.73 Mbit/s

95th percentile per-packet one-way delay: 3.567 ms

Loss rate: 0.18%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-10-26 00:55:03

End at: 2018-10-26 00:55:33

Local clock offset: 1.999 ms

Remote clock offset: 0.481 ms

Below is generated by plot.py at 2018-10-26 01:20:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.42 Mbit/s

95th percentile per-packet one-way delay: 4.168 ms

Loss rate: 0.33%

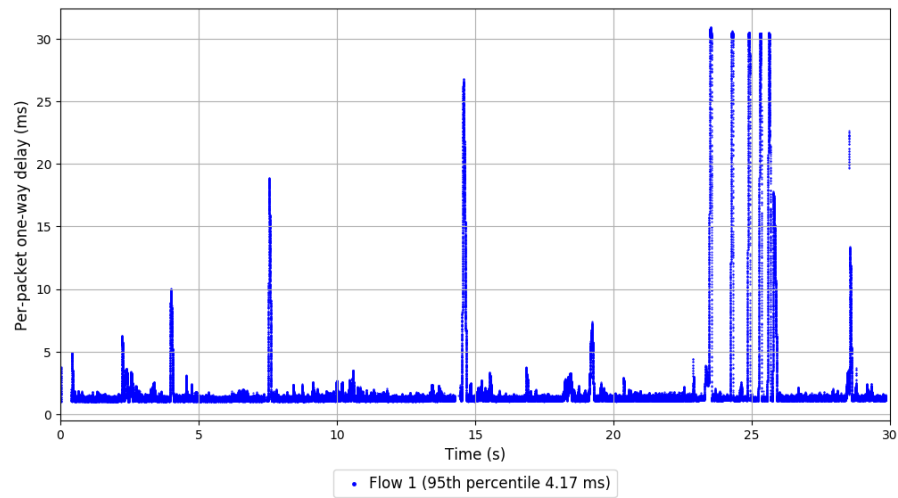
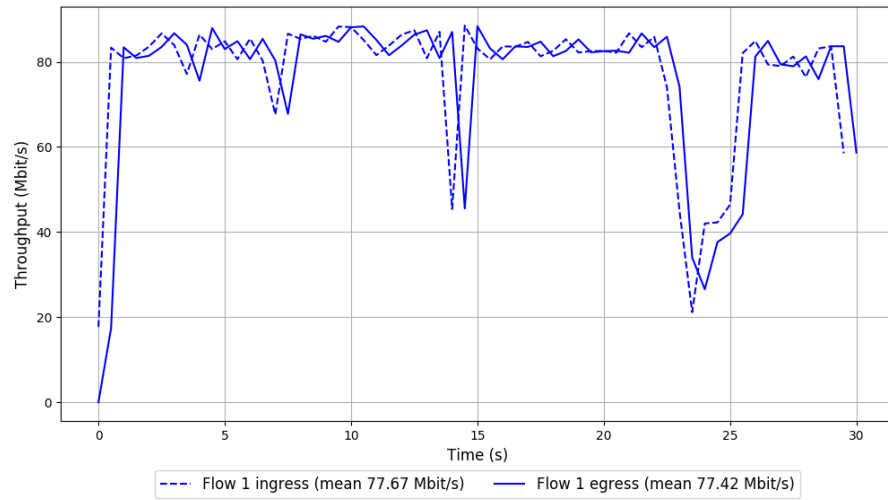
-- Flow 1:

Average throughput: 77.42 Mbit/s

95th percentile per-packet one-way delay: 4.168 ms

Loss rate: 0.33%

Run 5: Report of QUIC Cubic — Data Link

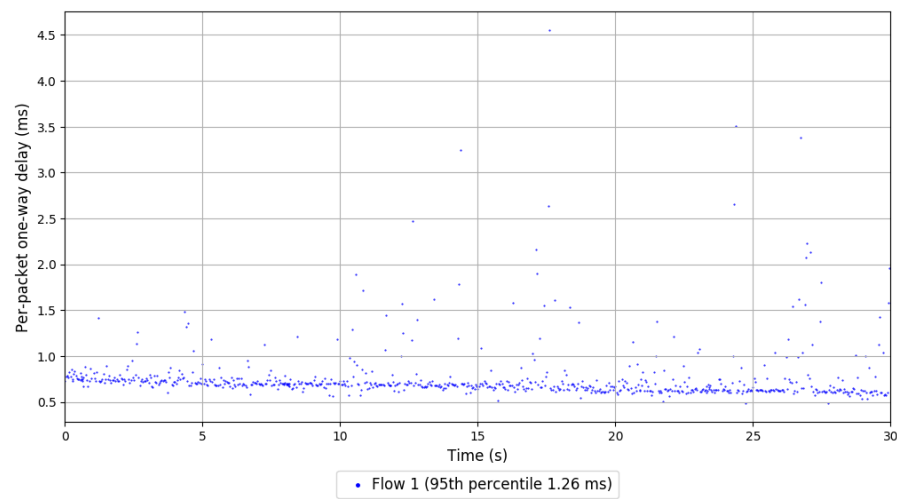
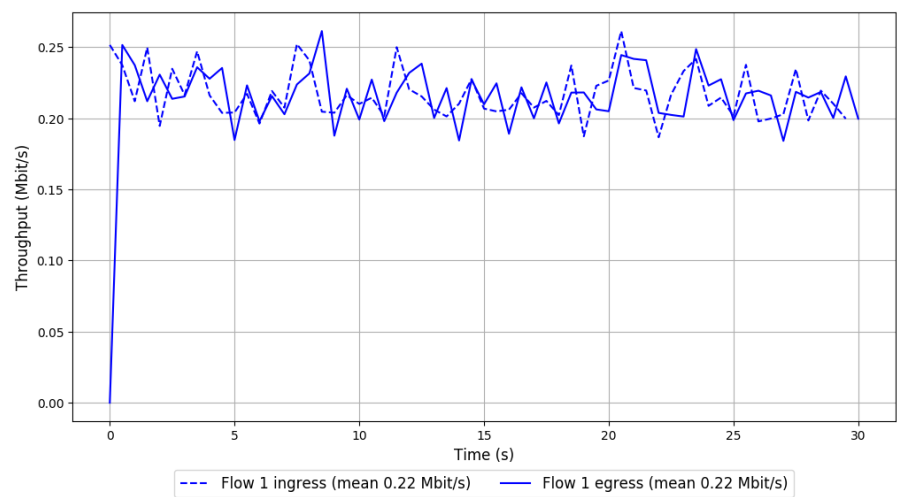


```
Run 1: Statistics of SCReAM

Start at: 2018-10-25 23:50:34
End at: 2018-10-25 23:51:04
Local clock offset: 0.491 ms
Remote clock offset: 0.524 ms

# Below is generated by plot.py at 2018-10-26 01:20:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.263 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.263 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-10-26 00:10:37

End at: 2018-10-26 00:11:07

Local clock offset: 1.905 ms

Remote clock offset: 0.427 ms

Below is generated by plot.py at 2018-10-26 01:20:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.379 ms

Loss rate: 0.00%

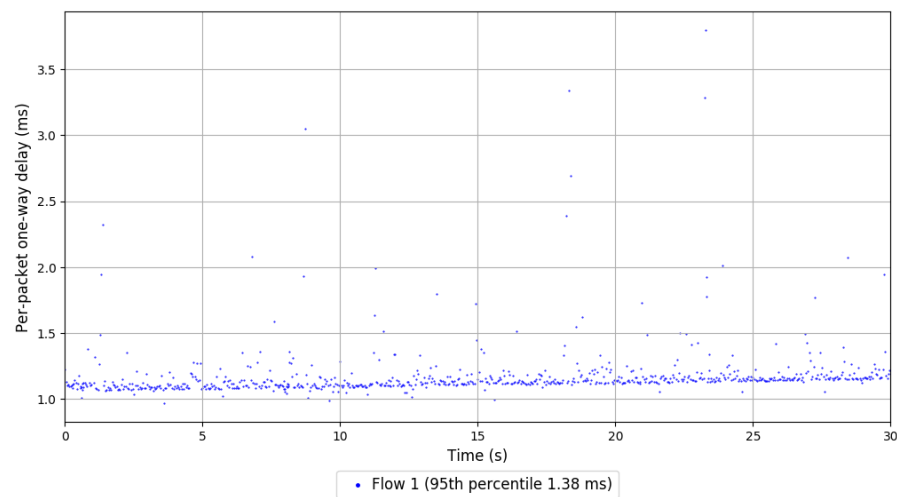
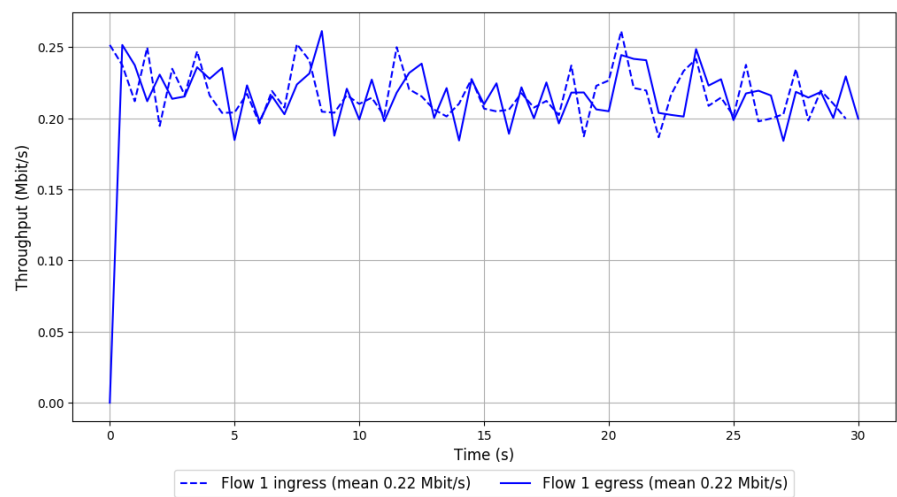
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.379 ms

Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-10-26 00:30:38

End at: 2018-10-26 00:31:08

Local clock offset: 8.982 ms

Remote clock offset: 0.55 ms

Below is generated by plot.py at 2018-10-26 01:20:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.798 ms

Loss rate: 0.00%

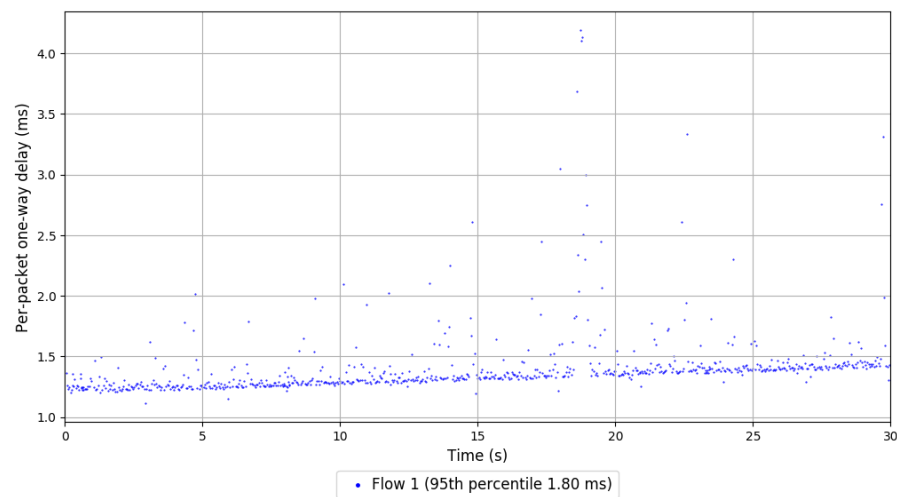
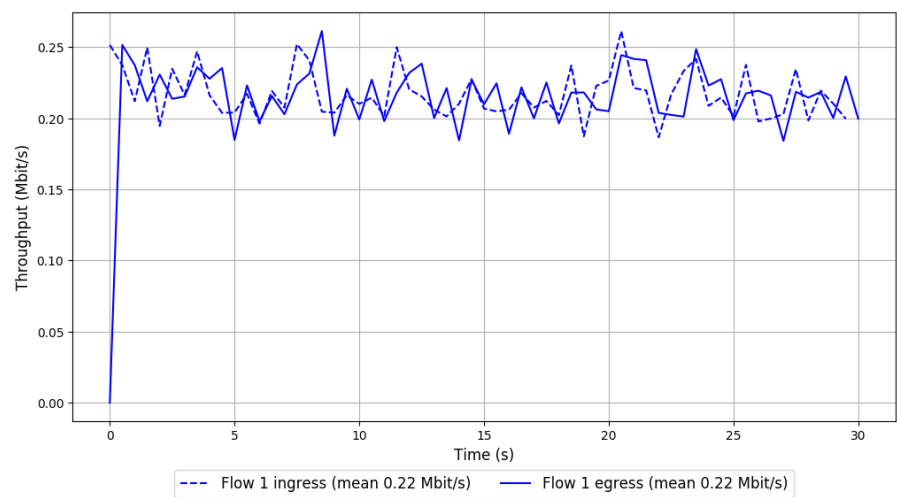
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.798 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-10-26 00:50:40

End at: 2018-10-26 00:51:10

Local clock offset: 1.521 ms

Remote clock offset: 0.415 ms

Below is generated by plot.py at 2018-10-26 01:20:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.294 ms

Loss rate: 0.00%

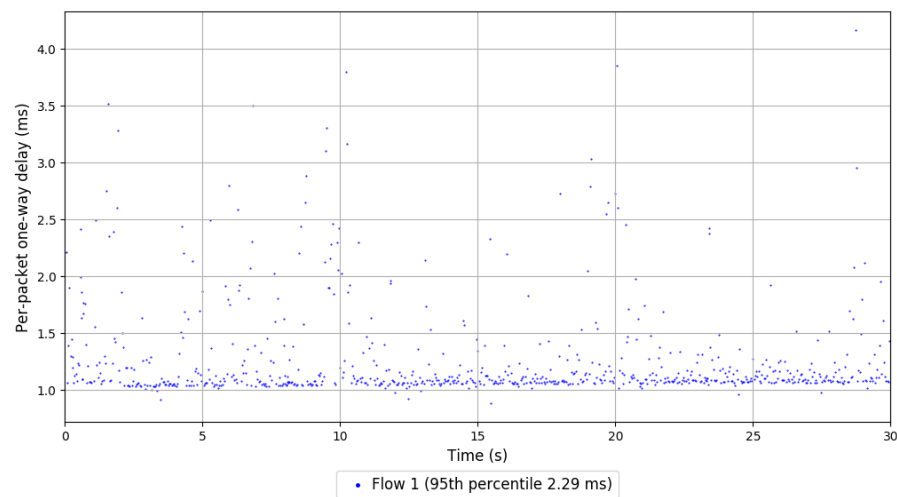
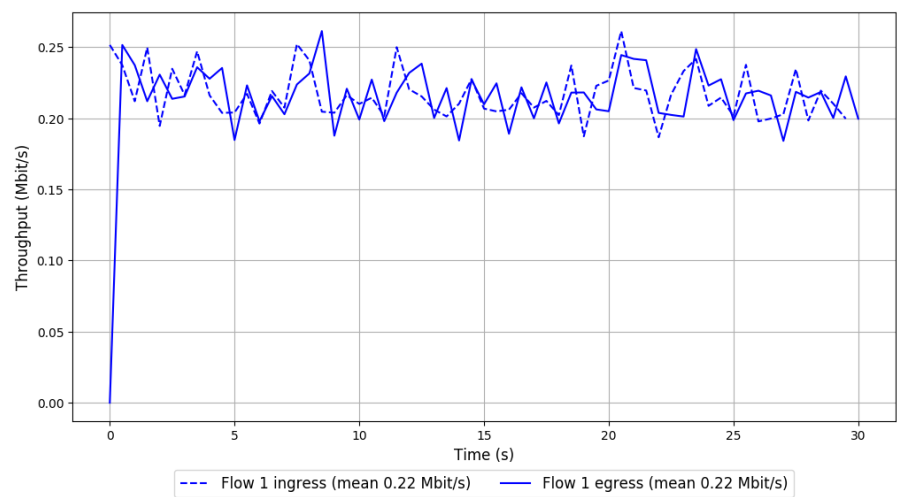
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 2.294 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-10-26 01:10:41

End at: 2018-10-26 01:11:11

Local clock offset: -0.8 ms

Remote clock offset: 0.407 ms

Below is generated by plot.py at 2018-10-26 01:20:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.863 ms

Loss rate: 0.00%

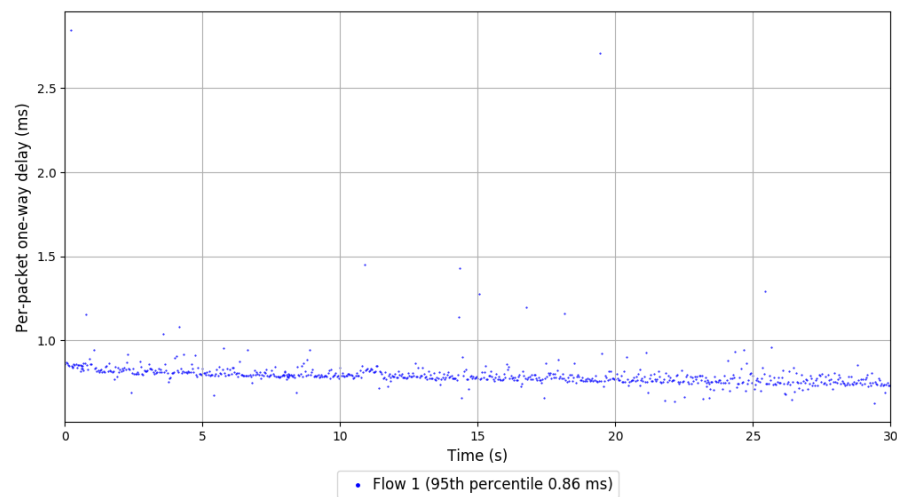
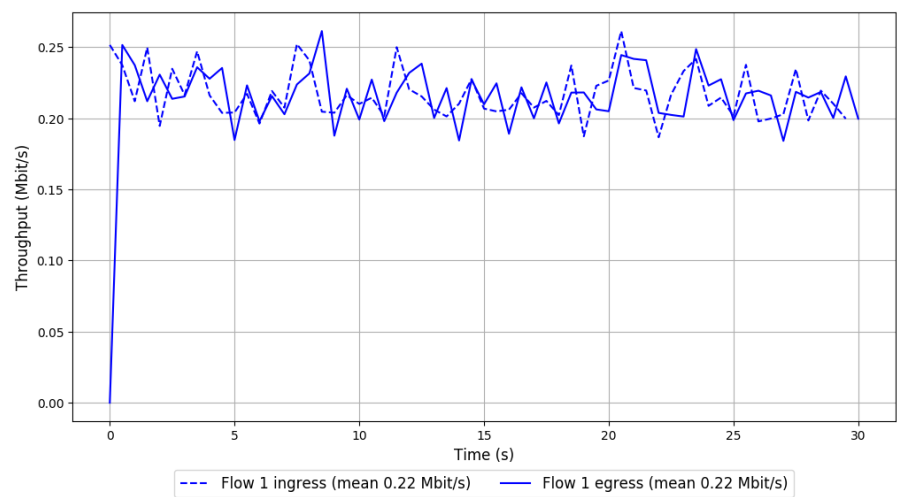
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.863 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-10-25 23:48:24

End at: 2018-10-25 23:48:54

Local clock offset: 1.512 ms

Remote clock offset: 0.423 ms

Below is generated by plot.py at 2018-10-26 01:20:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.30 Mbit/s

95th percentile per-packet one-way delay: 10.277 ms

Loss rate: 0.00%

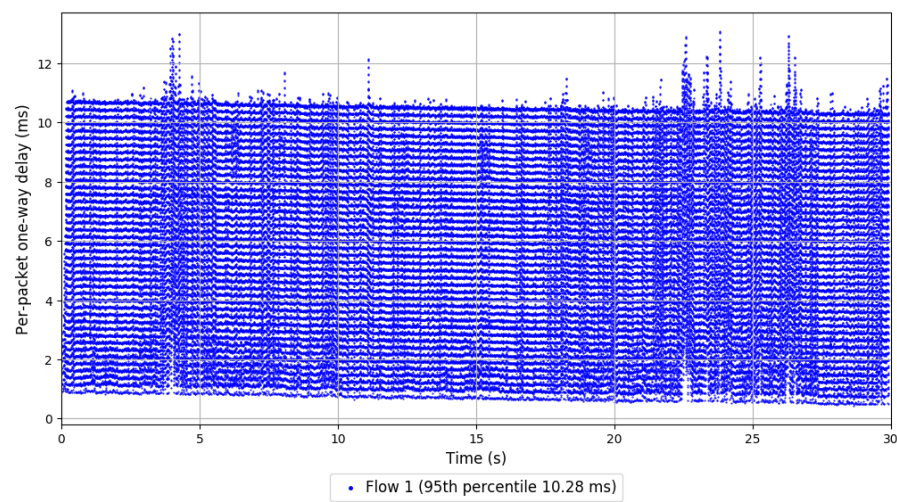
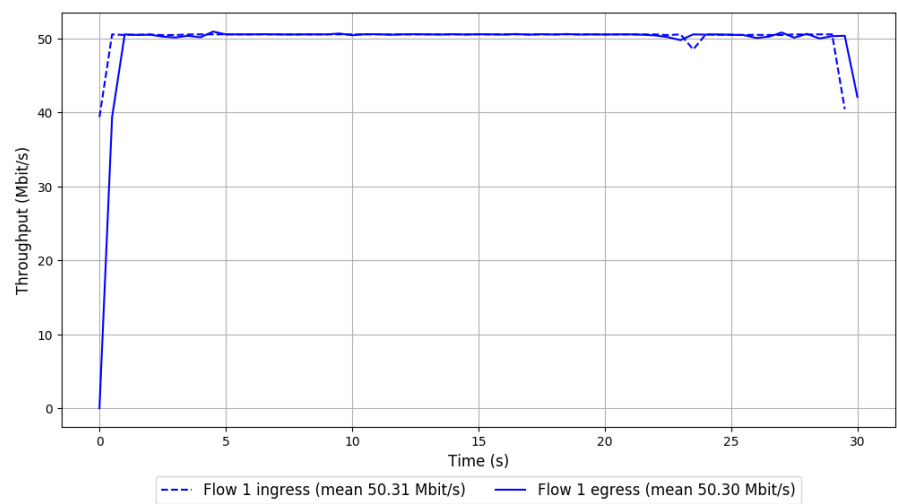
-- Flow 1:

Average throughput: 50.30 Mbit/s

95th percentile per-packet one-way delay: 10.277 ms

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-10-26 00:08:27

End at: 2018-10-26 00:08:57

Local clock offset: 1.649 ms

Remote clock offset: 0.418 ms

Below is generated by plot.py at 2018-10-26 01:20:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.28 Mbit/s

95th percentile per-packet one-way delay: 10.566 ms

Loss rate: 0.00%

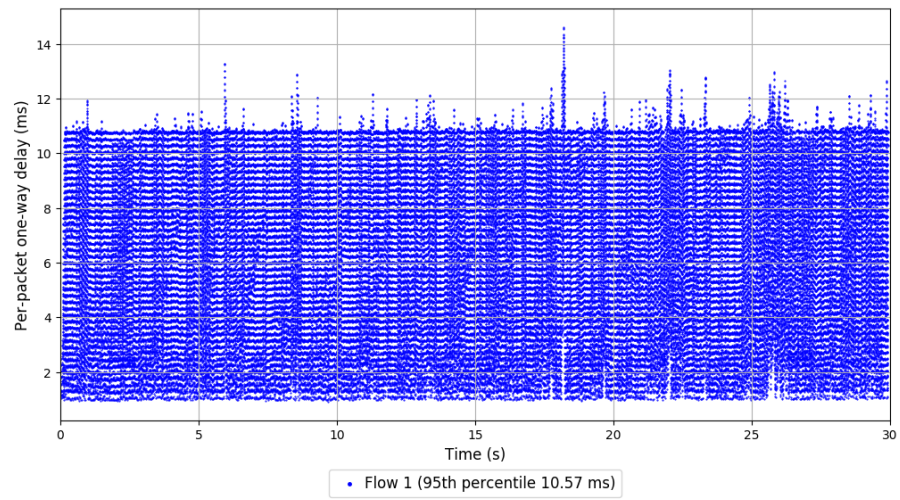
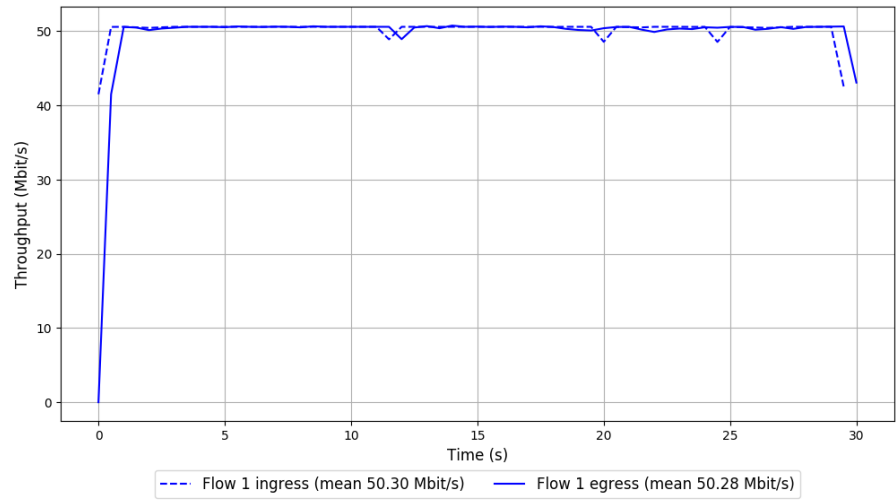
-- Flow 1:

Average throughput: 50.28 Mbit/s

95th percentile per-packet one-way delay: 10.566 ms

Loss rate: 0.00%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-10-26 00:28:27

End at: 2018-10-26 00:28:57

Local clock offset: 8.115 ms

Remote clock offset: 0.578 ms

Below is generated by plot.py at 2018-10-26 01:20:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.40 Mbit/s

95th percentile per-packet one-way delay: 10.725 ms

Loss rate: 0.00%

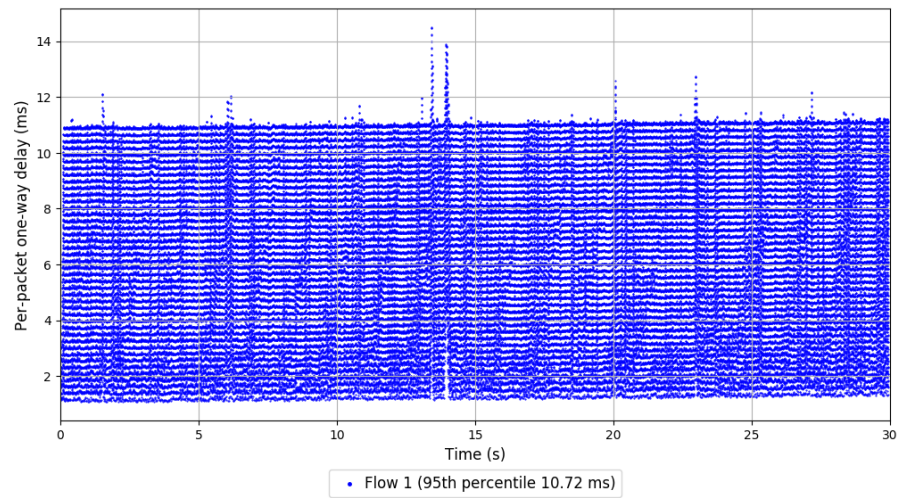
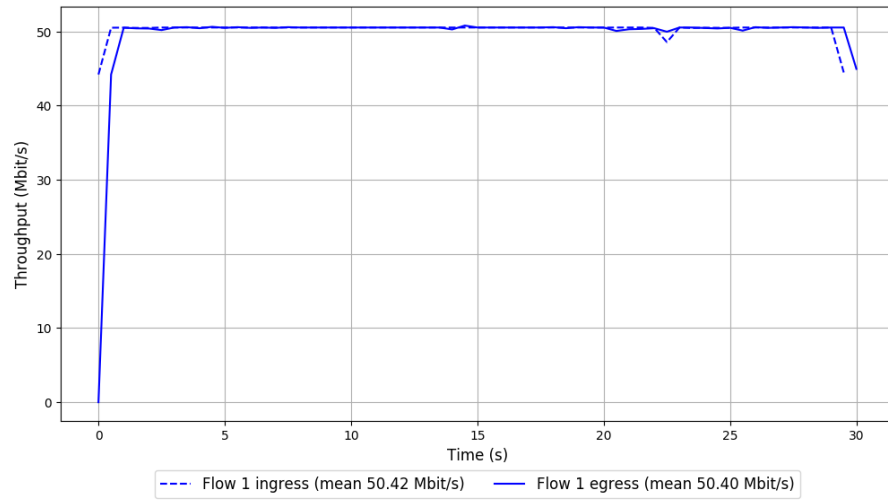
-- Flow 1:

Average throughput: 50.40 Mbit/s

95th percentile per-packet one-way delay: 10.725 ms

Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

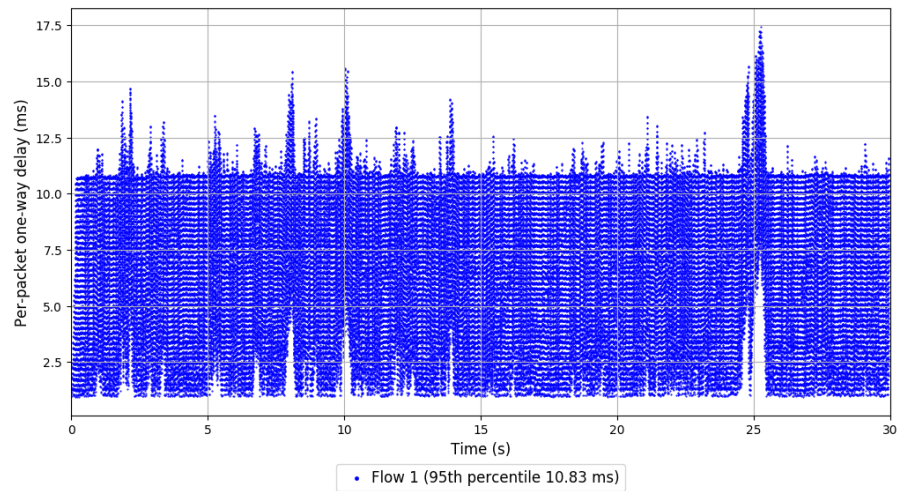
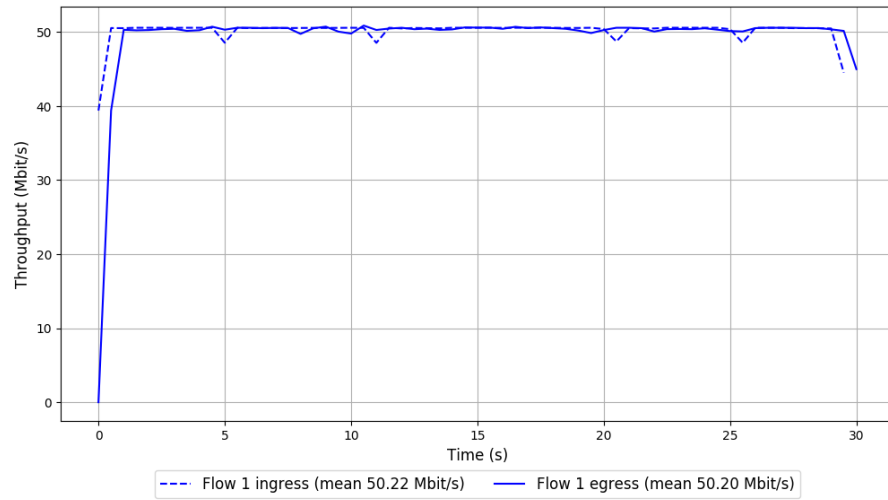


Run 4: Statistics of Sprout

Start at: 2018-10-26 00:48:30
End at: 2018-10-26 00:49:00
Local clock offset: 1.403 ms
Remote clock offset: 0.43 ms

Below is generated by plot.py at 2018-10-26 01:20:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.20 Mbit/s
95th percentile per-packet one-way delay: 10.834 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.20 Mbit/s
95th percentile per-packet one-way delay: 10.834 ms
Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-10-26 01:08:31

End at: 2018-10-26 01:09:01

Local clock offset: -0.299 ms

Remote clock offset: 0.443 ms

Below is generated by plot.py at 2018-10-26 01:20:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.21 Mbit/s

95th percentile per-packet one-way delay: 10.256 ms

Loss rate: 0.00%

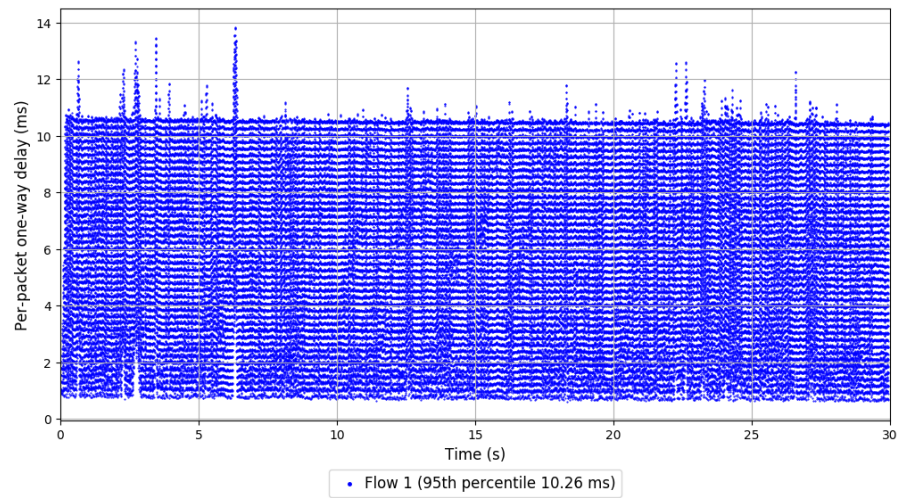
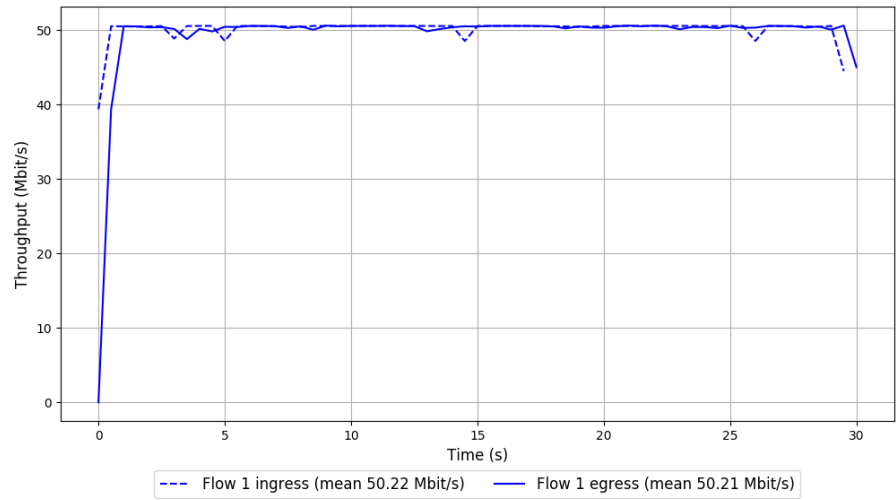
-- Flow 1:

Average throughput: 50.21 Mbit/s

95th percentile per-packet one-way delay: 10.256 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

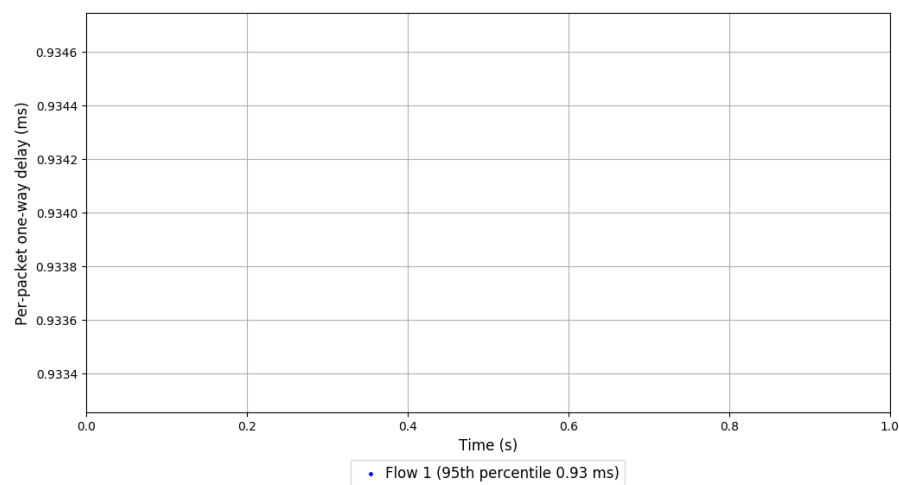
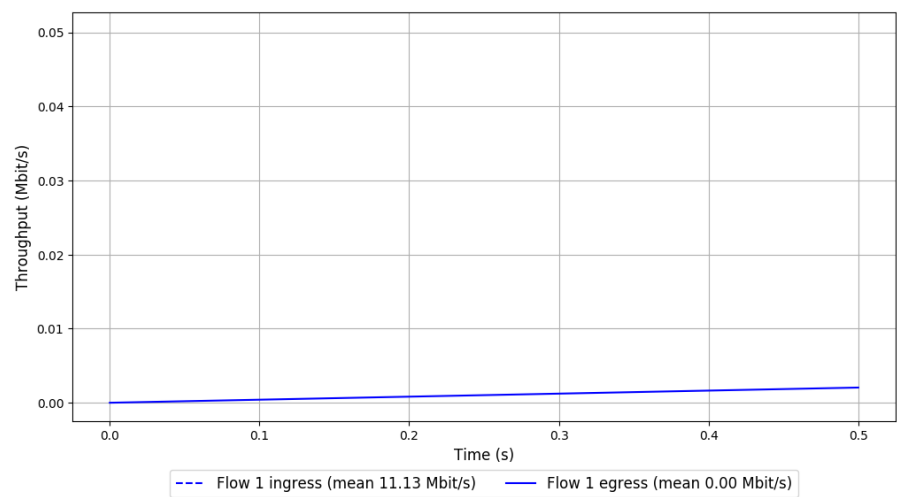
Start at: 2018-10-25 23:49:29

End at: 2018-10-25 23:50:00

Local clock offset: 0.982 ms

Remote clock offset: 0.436 ms

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



Run 2: Statistics of TaoVA-100x

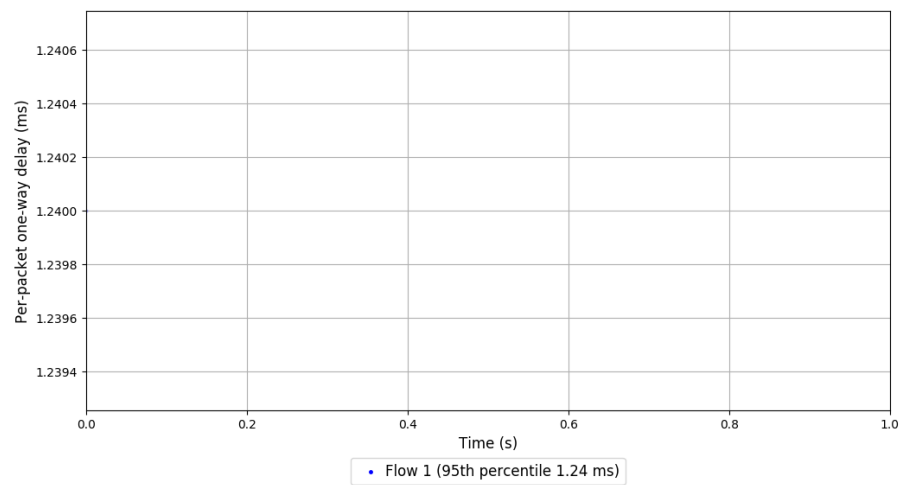
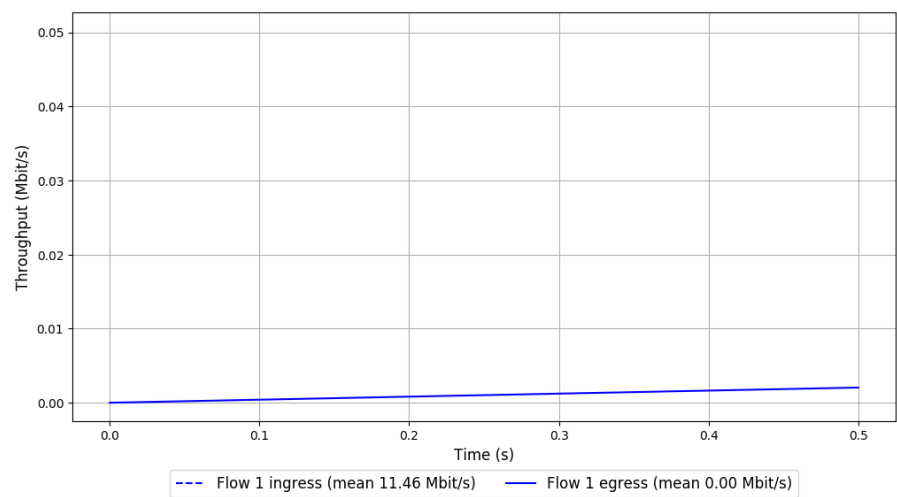
Start at: 2018-10-26 00:09:33

End at: 2018-10-26 00:10:03

Local clock offset: 1.775 ms

Remote clock offset: 0.506 ms

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



Run 3: Statistics of TaoVA-100x

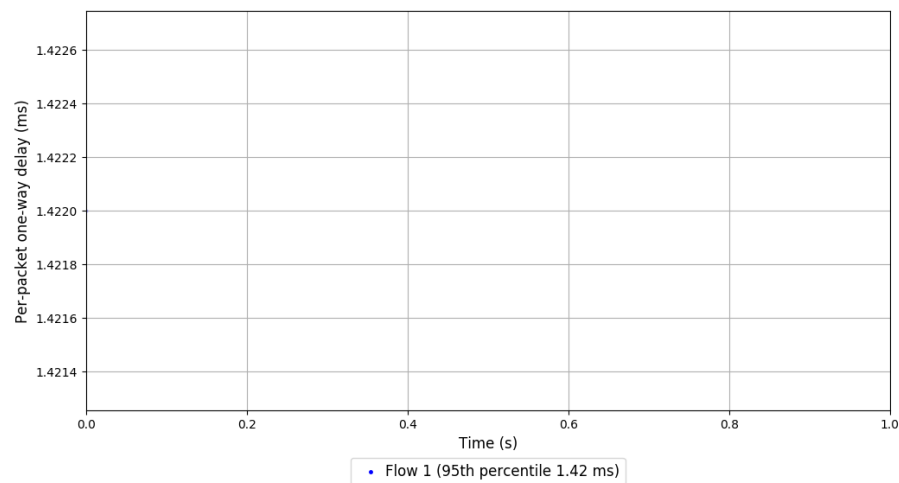
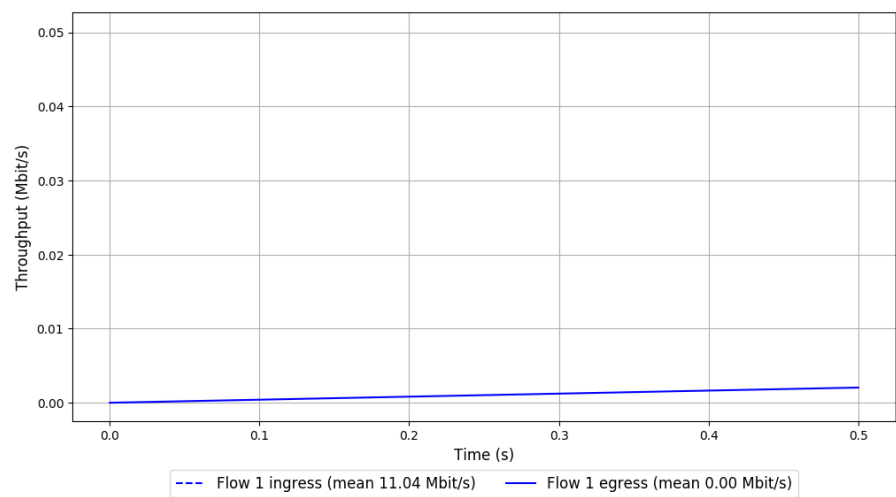
Start at: 2018-10-26 00:29:33

End at: 2018-10-26 00:30:03

Local clock offset: 8.475 ms

Remote clock offset: 0.542 ms

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



Run 4: Statistics of TaoVA-100x

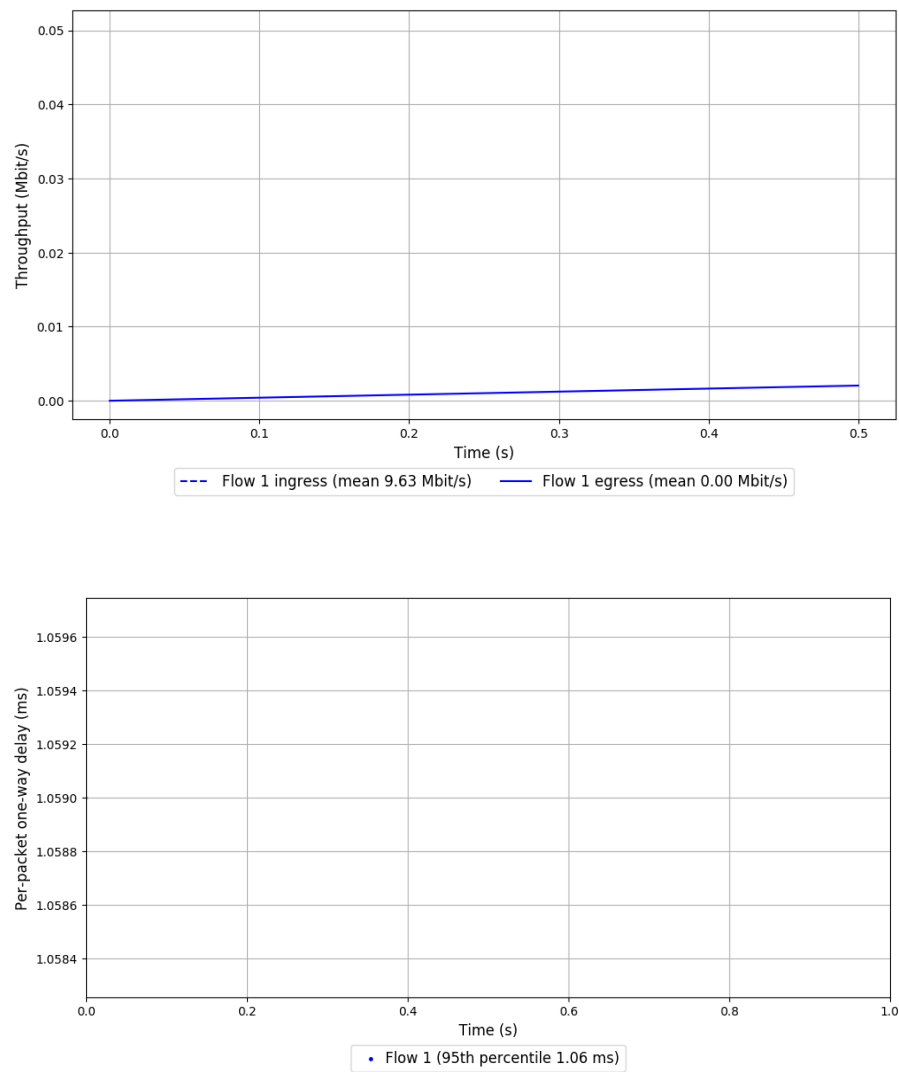
Start at: 2018-10-26 00:49:35

End at: 2018-10-26 00:50:06

Local clock offset: 1.605 ms

Remote clock offset: 0.396 ms

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



Run 5: Statistics of TaoVA-100x

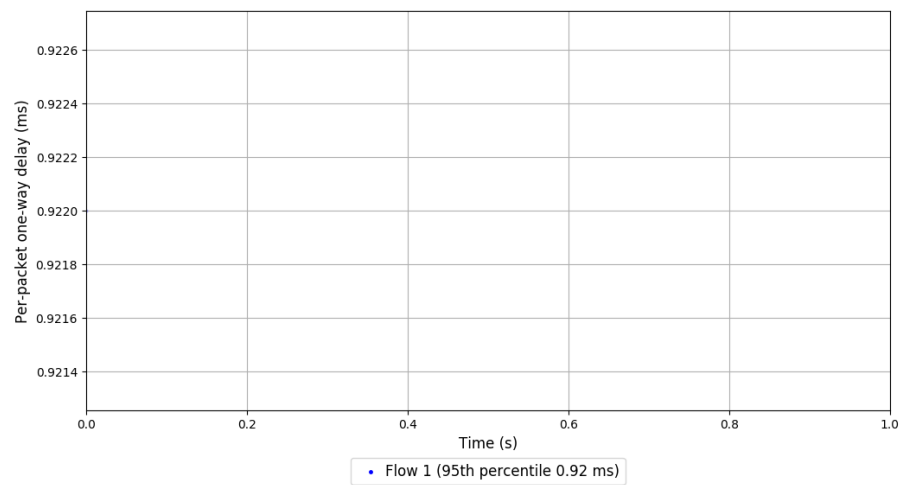
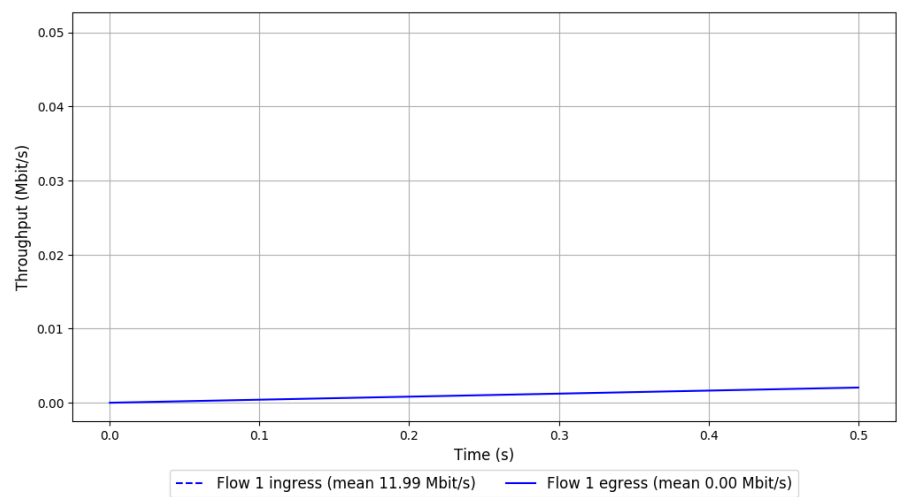
Start at: 2018-10-26 01:09:37

End at: 2018-10-26 01:10:07

Local clock offset: -0.597 ms

Remote clock offset: 0.476 ms

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



Run 1: Statistics of TCP Vegas

Start at: 2018-10-25 23:43:52

End at: 2018-10-25 23:44:22

Local clock offset: 0.347 ms

Remote clock offset: 0.527 ms

Below is generated by plot.py at 2018-10-26 01:21:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 76.05 Mbit/s

95th percentile per-packet one-way delay: 1.986 ms

Loss rate: 0.00%

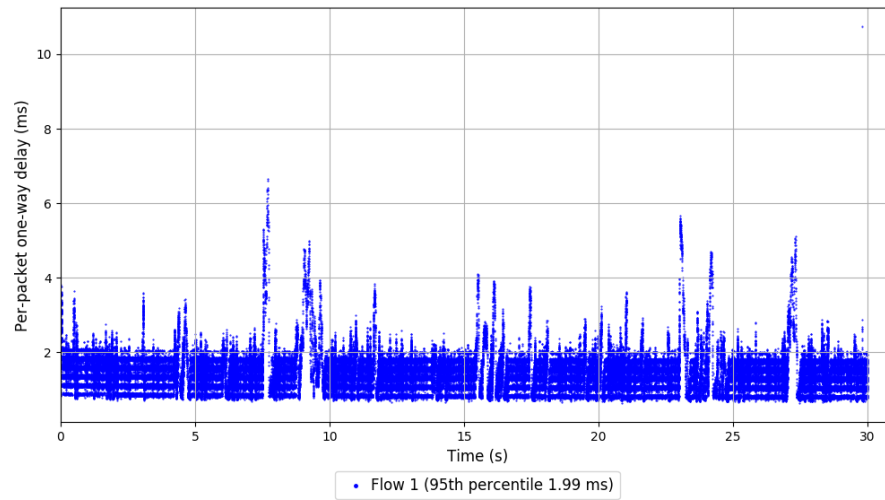
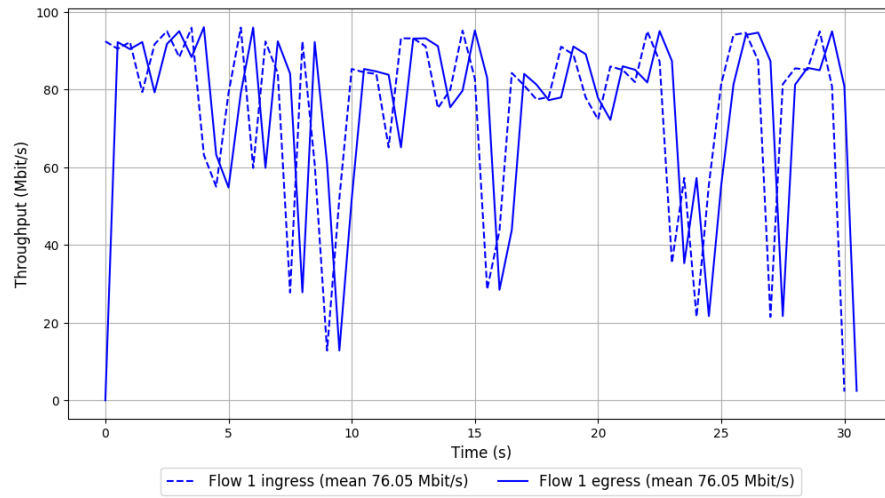
-- Flow 1:

Average throughput: 76.05 Mbit/s

95th percentile per-packet one-way delay: 1.986 ms

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-10-26 00:03:54

End at: 2018-10-26 00:04:24

Local clock offset: 1.933 ms

Remote clock offset: 0.456 ms

Below is generated by plot.py at 2018-10-26 01:21:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 82.14 Mbit/s

95th percentile per-packet one-way delay: 1.984 ms

Loss rate: 0.00%

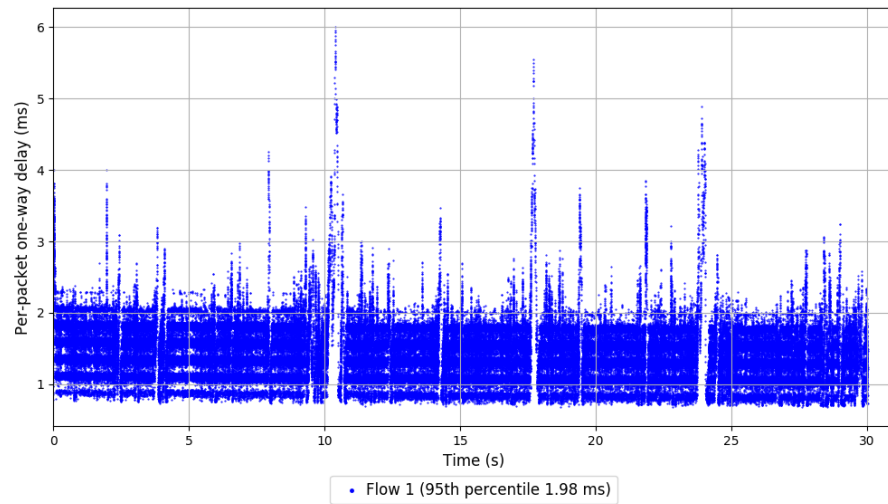
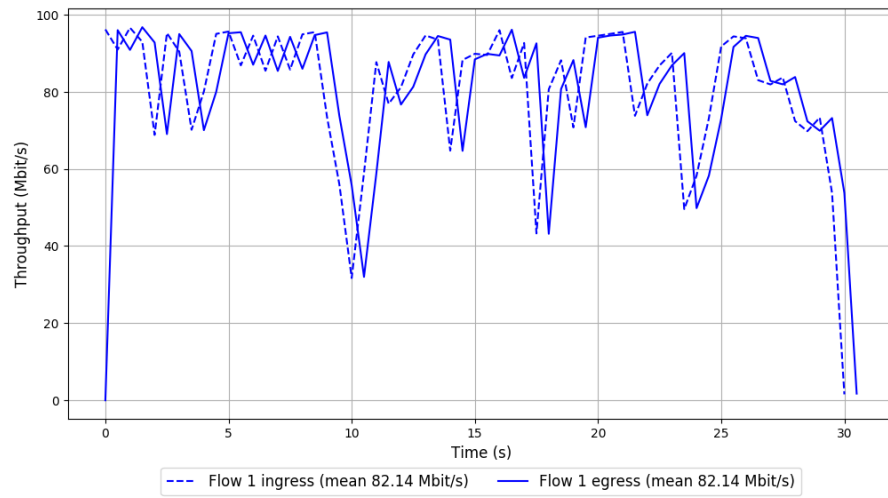
-- Flow 1:

Average throughput: 82.14 Mbit/s

95th percentile per-packet one-way delay: 1.984 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

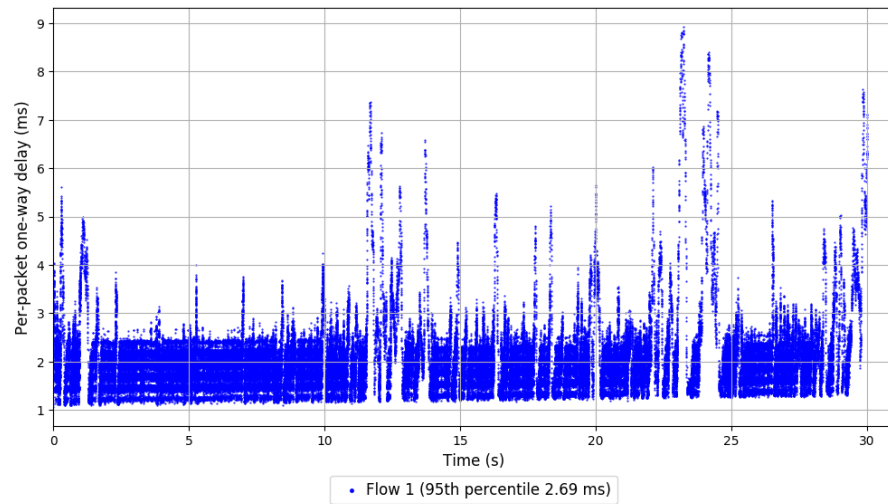
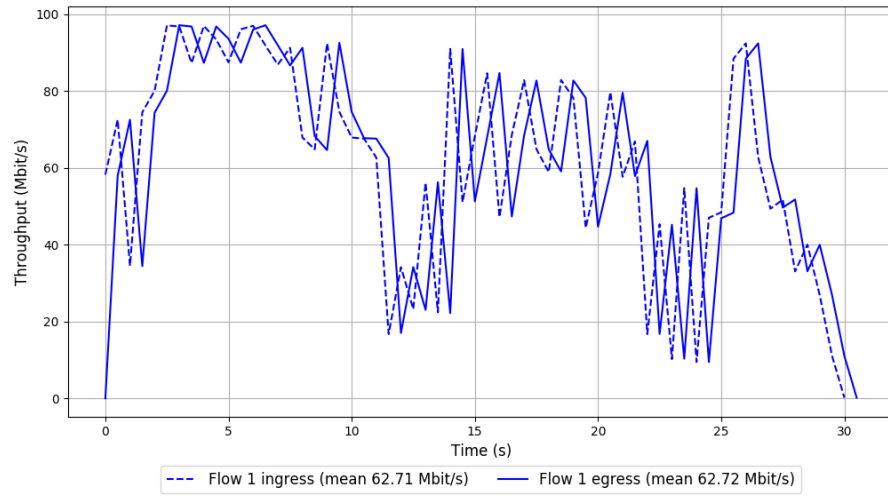


Run 3: Statistics of TCP Vegas

Start at: 2018-10-26 00:23:56
End at: 2018-10-26 00:24:26
Local clock offset: 6.073 ms
Remote clock offset: 0.5 ms

Below is generated by plot.py at 2018-10-26 01:21:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 62.72 Mbit/s
95th percentile per-packet one-way delay: 2.692 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.72 Mbit/s
95th percentile per-packet one-way delay: 2.692 ms
Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-10-26 00:43:57

End at: 2018-10-26 00:44:27

Local clock offset: 1.754 ms

Remote clock offset: 0.437 ms

Below is generated by plot.py at 2018-10-26 01:21:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.02 Mbit/s

95th percentile per-packet one-way delay: 2.022 ms

Loss rate: 0.00%

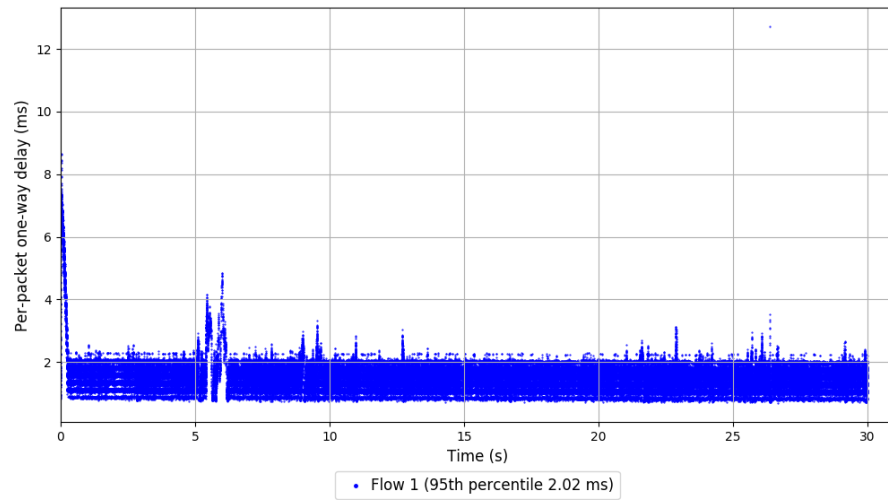
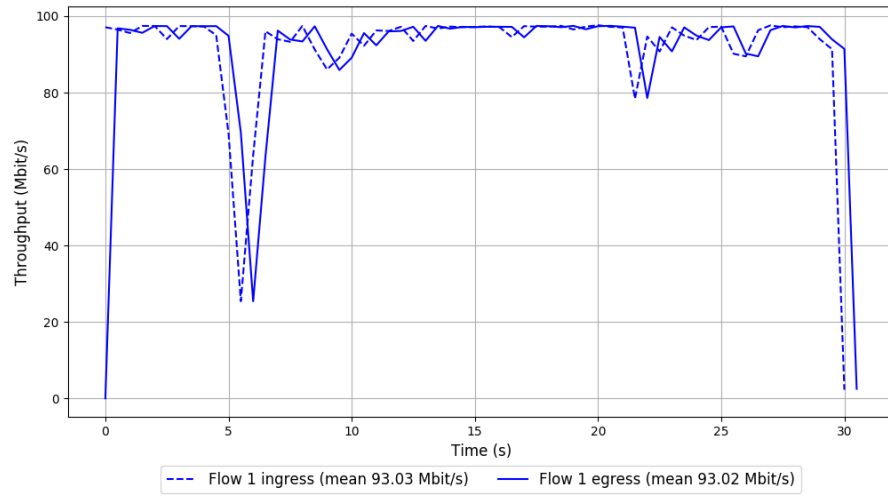
-- Flow 1:

Average throughput: 93.02 Mbit/s

95th percentile per-packet one-way delay: 2.022 ms

Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-10-26 01:04:00

End at: 2018-10-26 01:04:30

Local clock offset: 1.771 ms

Remote clock offset: 0.427 ms

Below is generated by plot.py at 2018-10-26 01:21:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.17 Mbit/s

95th percentile per-packet one-way delay: 1.702 ms

Loss rate: 0.00%

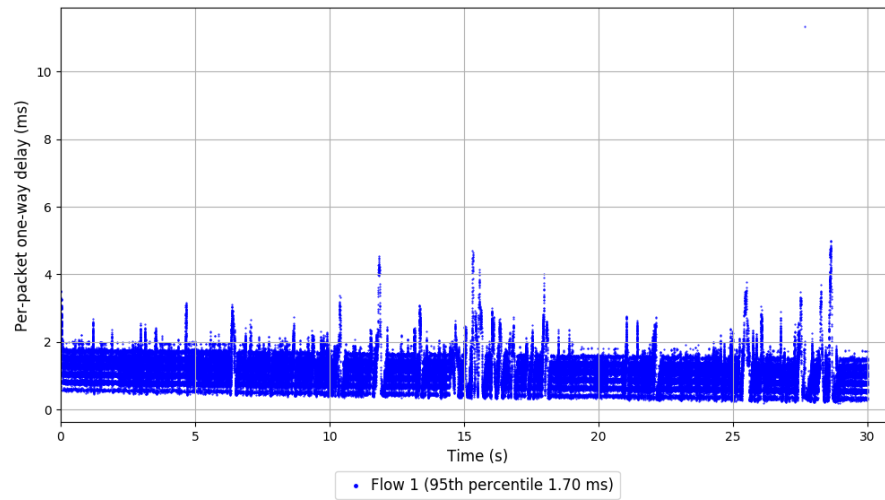
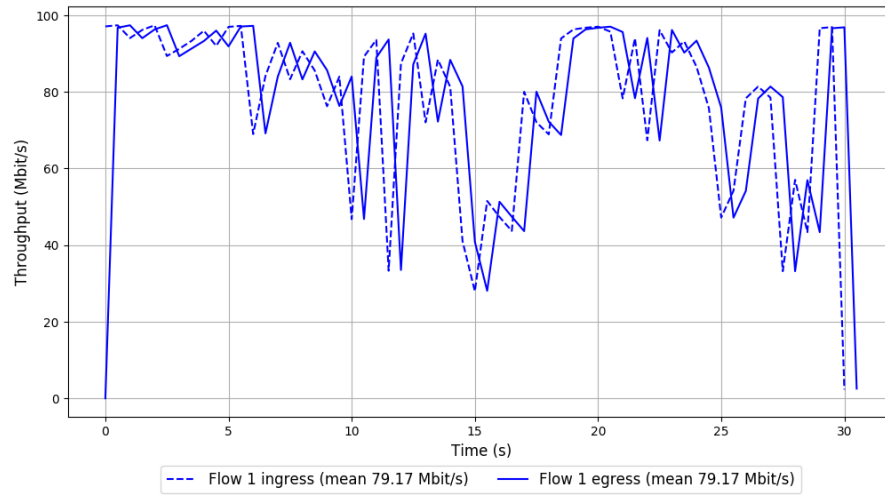
-- Flow 1:

Average throughput: 79.17 Mbit/s

95th percentile per-packet one-way delay: 1.702 ms

Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-10-25 23:32:41

End at: 2018-10-25 23:33:11

Local clock offset: -4.959 ms

Remote clock offset: 0.571 ms

Below is generated by plot.py at 2018-10-26 01:21:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 43.86 Mbit/s

95th percentile per-packet one-way delay: 11.054 ms

Loss rate: 1.51%

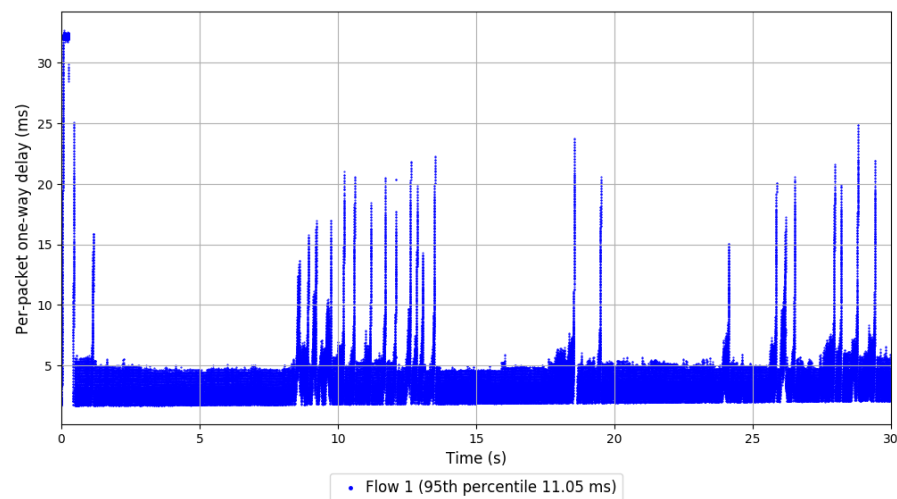
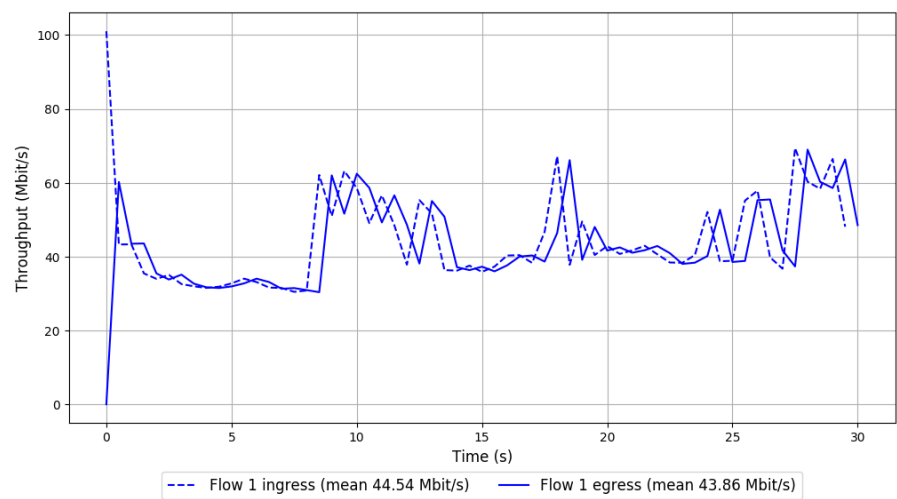
-- Flow 1:

Average throughput: 43.86 Mbit/s

95th percentile per-packet one-way delay: 11.054 ms

Loss rate: 1.51%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-10-25 23:52:43

End at: 2018-10-25 23:53:13

Local clock offset: -0.086 ms

Remote clock offset: 0.469 ms

Below is generated by plot.py at 2018-10-26 01:21:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 59.91 Mbit/s

95th percentile per-packet one-way delay: 12.871 ms

Loss rate: 1.08%

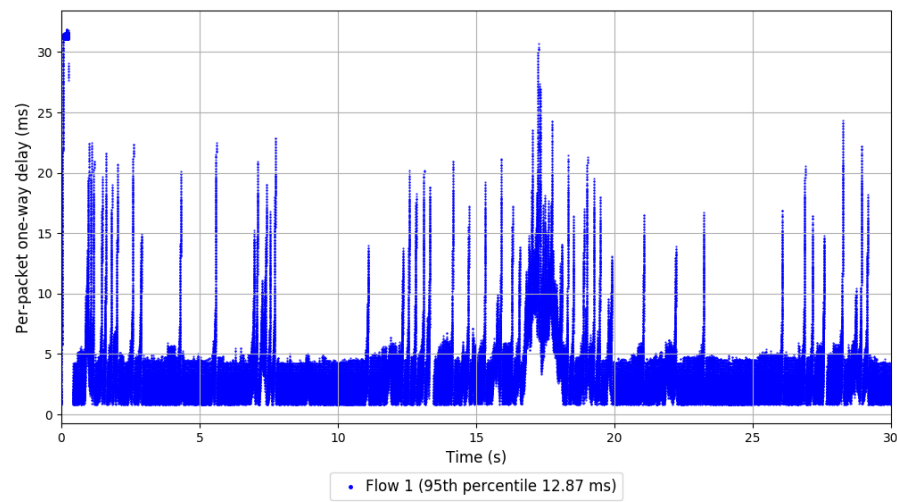
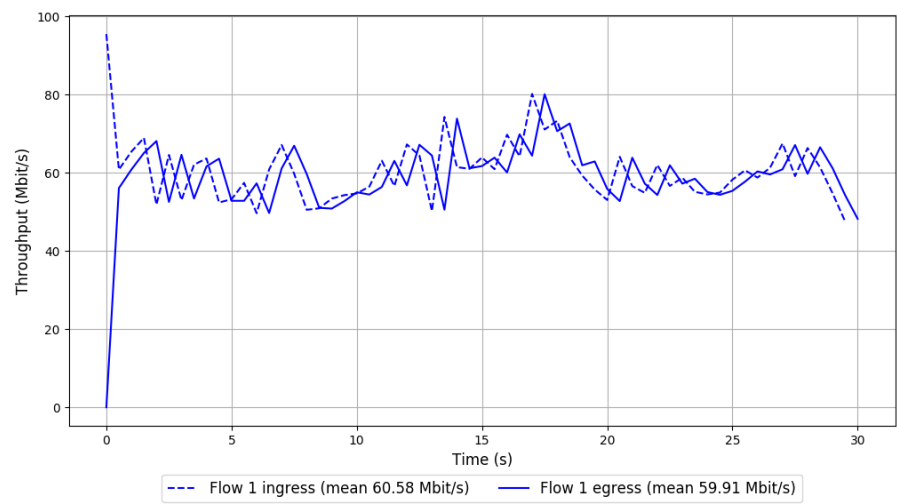
-- Flow 1:

Average throughput: 59.91 Mbit/s

95th percentile per-packet one-way delay: 12.871 ms

Loss rate: 1.08%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-10-26 00:12:46

End at: 2018-10-26 00:13:16

Local clock offset: 2.33 ms

Remote clock offset: 0.496 ms

Below is generated by plot.py at 2018-10-26 01:21:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 54.55 Mbit/s

95th percentile per-packet one-way delay: 8.510 ms

Loss rate: 1.19%

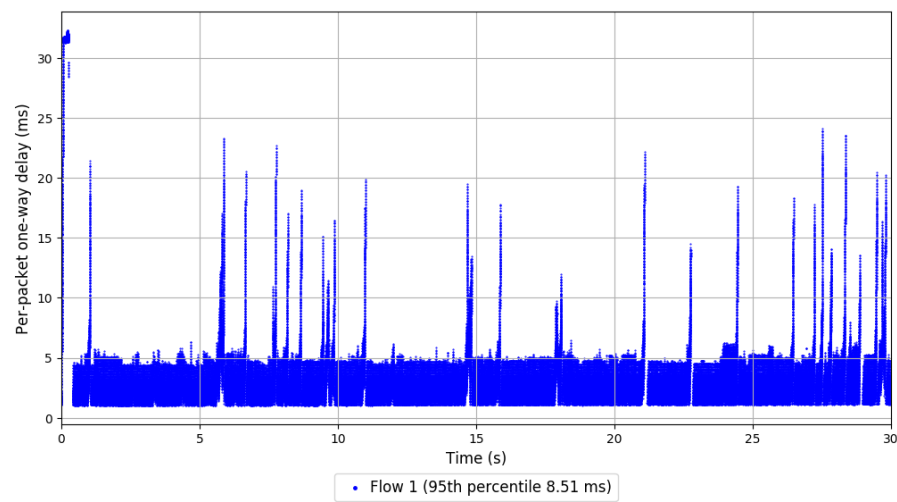
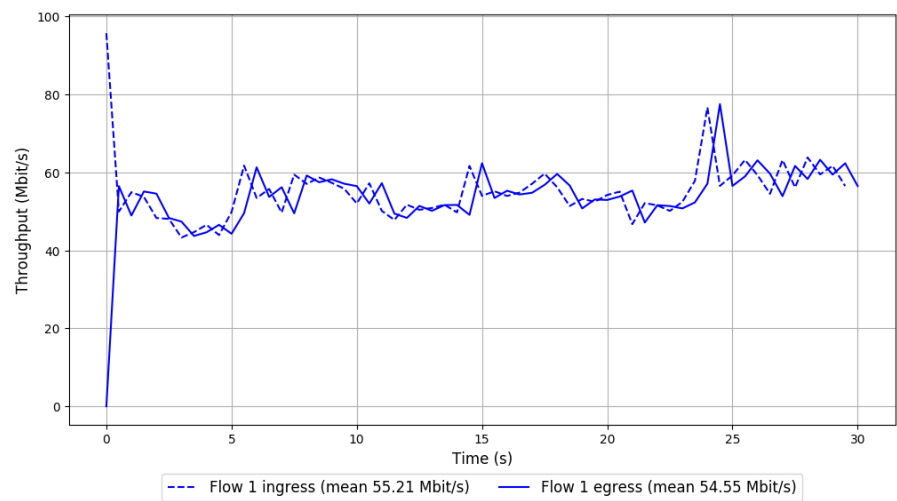
-- Flow 1:

Average throughput: 54.55 Mbit/s

95th percentile per-packet one-way delay: 8.510 ms

Loss rate: 1.19%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-10-26 00:32:46

End at: 2018-10-26 00:33:16

Local clock offset: 8.093 ms

Remote clock offset: 0.427 ms

Below is generated by plot.py at 2018-10-26 01:21:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 57.56 Mbit/s

95th percentile per-packet one-way delay: 9.487 ms

Loss rate: 1.13%

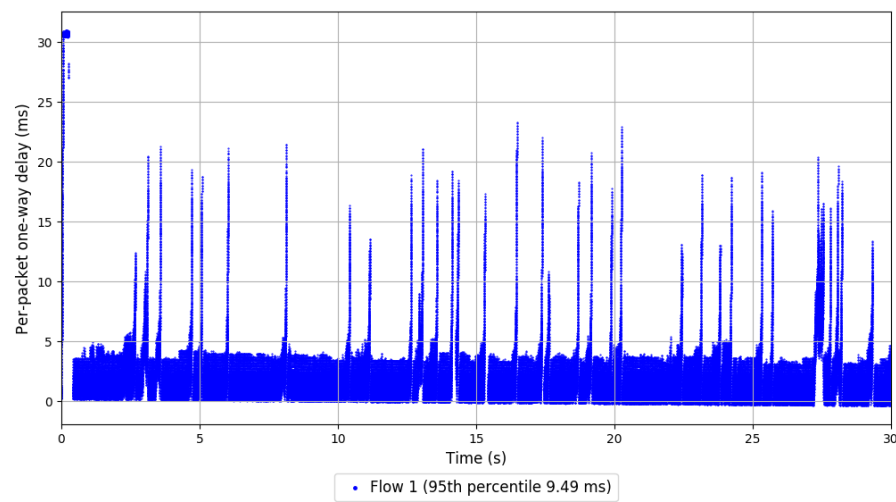
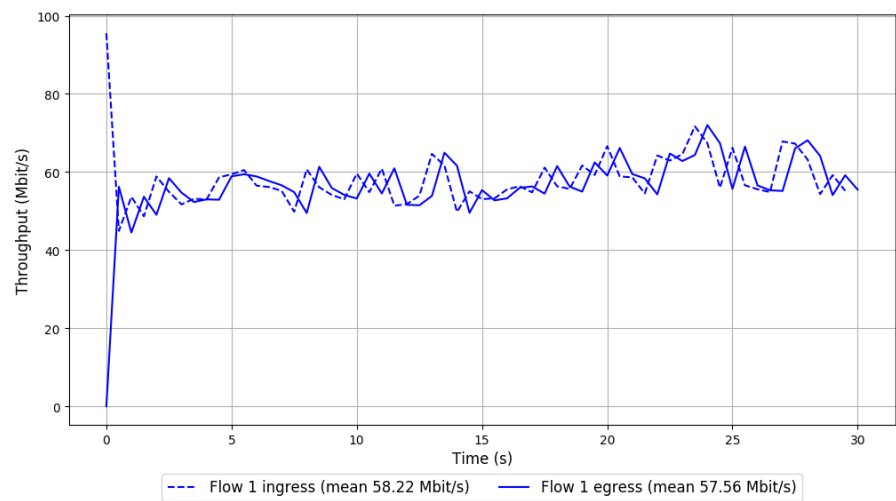
-- Flow 1:

Average throughput: 57.56 Mbit/s

95th percentile per-packet one-way delay: 9.487 ms

Loss rate: 1.13%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-10-26 00:52:49

End at: 2018-10-26 00:53:19

Local clock offset: 2.271 ms

Remote clock offset: 0.515 ms

Below is generated by plot.py at 2018-10-26 01:21:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 51.88 Mbit/s

95th percentile per-packet one-way delay: 6.455 ms

Loss rate: 1.29%

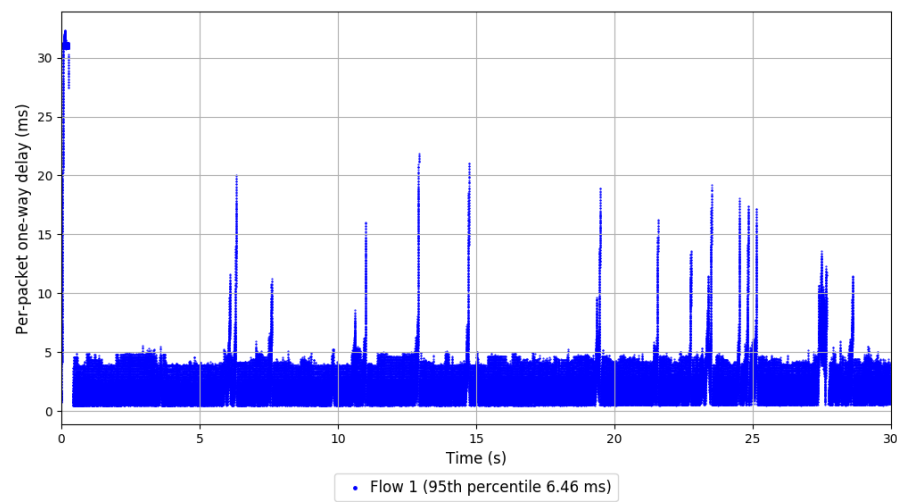
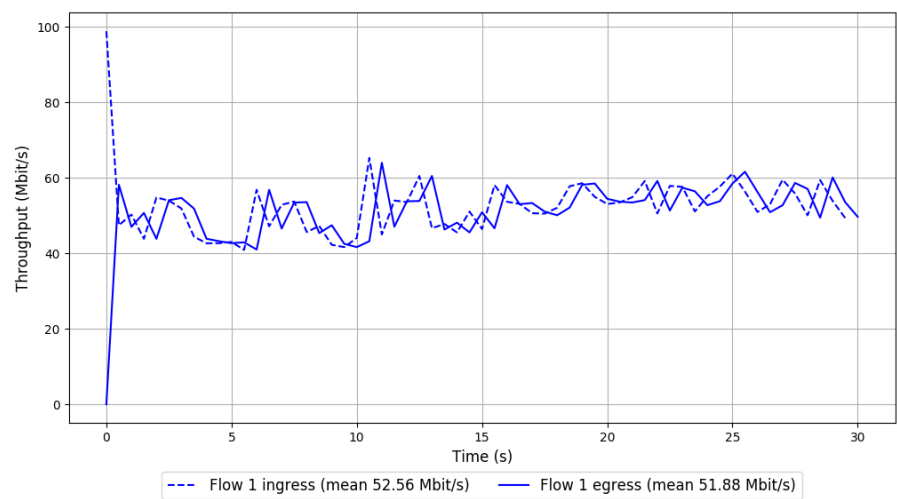
-- Flow 1:

Average throughput: 51.88 Mbit/s

95th percentile per-packet one-way delay: 6.455 ms

Loss rate: 1.29%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-10-25 23:33:48

End at: 2018-10-25 23:34:18

Local clock offset: -3.133 ms

Remote clock offset: 0.48 ms

Below is generated by plot.py at 2018-10-26 01:21:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 51.67 Mbit/s

95th percentile per-packet one-way delay: 5.894 ms

Loss rate: 0.05%

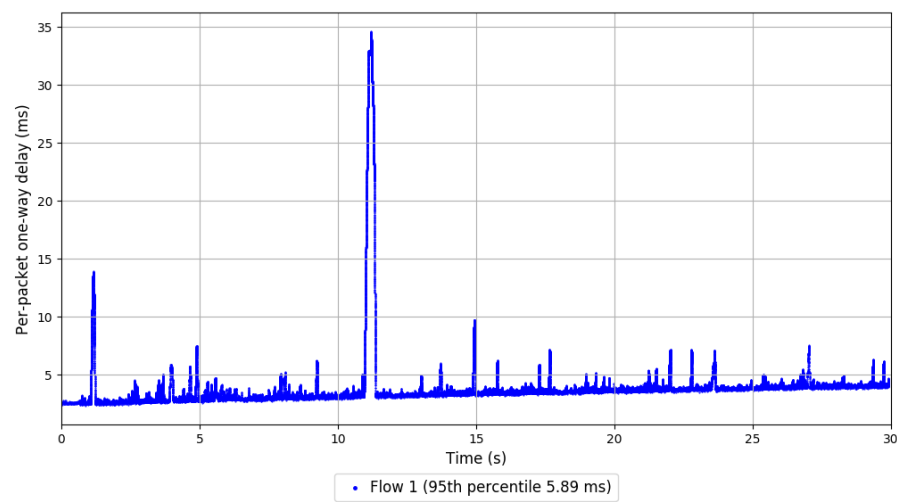
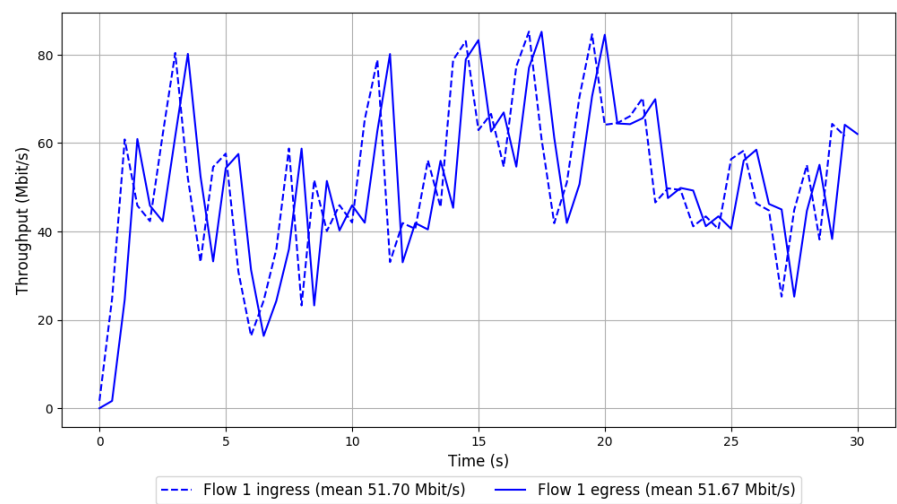
-- Flow 1:

Average throughput: 51.67 Mbit/s

95th percentile per-packet one-way delay: 5.894 ms

Loss rate: 0.05%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-10-25 23:53:50

End at: 2018-10-25 23:54:20

Local clock offset: -0.204 ms

Remote clock offset: 0.459 ms

Below is generated by plot.py at 2018-10-26 01:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 57.30 Mbit/s

95th percentile per-packet one-way delay: 2.487 ms

Loss rate: 0.10%

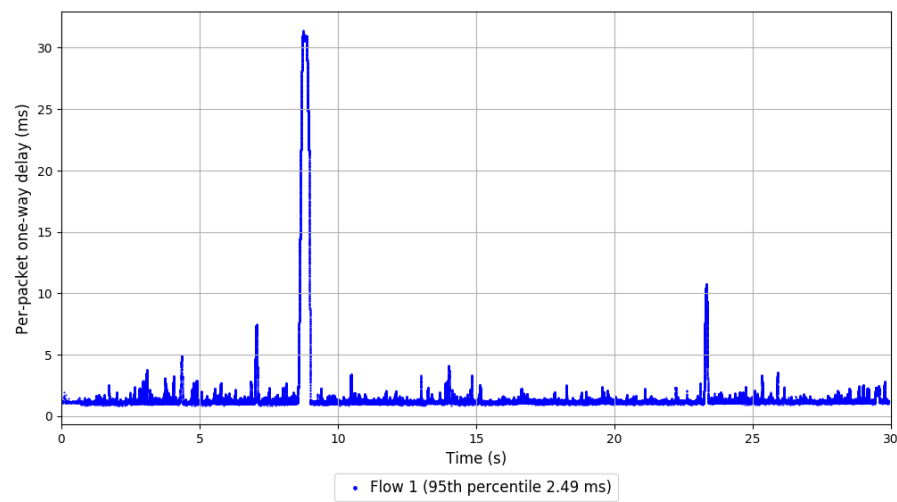
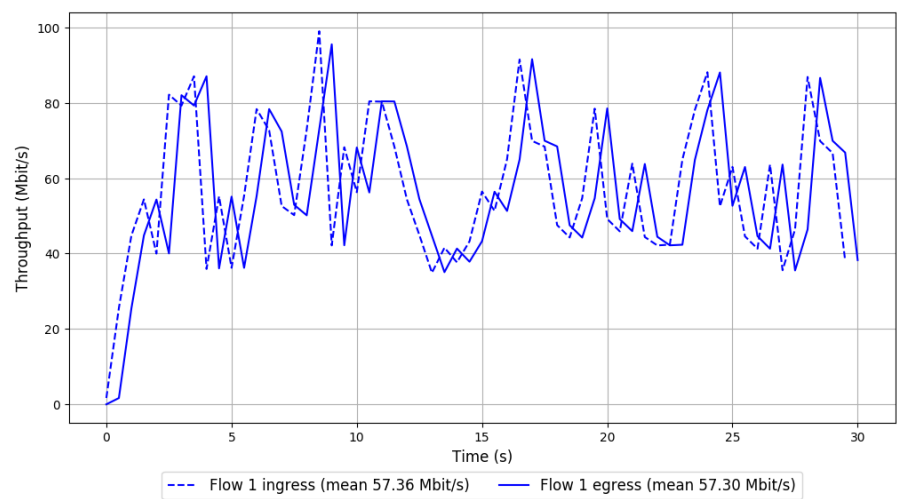
-- Flow 1:

Average throughput: 57.30 Mbit/s

95th percentile per-packet one-way delay: 2.487 ms

Loss rate: 0.10%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-10-26 00:13:53

End at: 2018-10-26 00:14:23

Local clock offset: 2.647 ms

Remote clock offset: 0.546 ms

Below is generated by plot.py at 2018-10-26 01:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 49.34 Mbit/s

95th percentile per-packet one-way delay: 2.062 ms

Loss rate: 0.00%

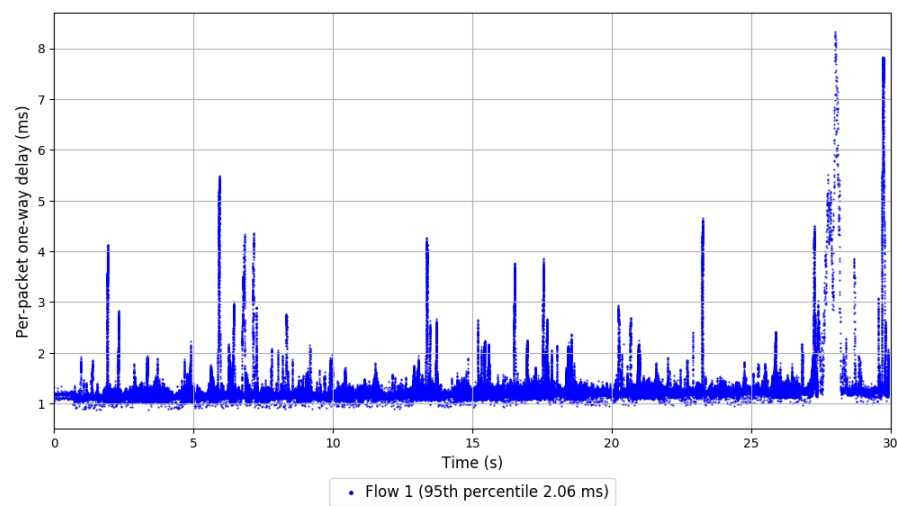
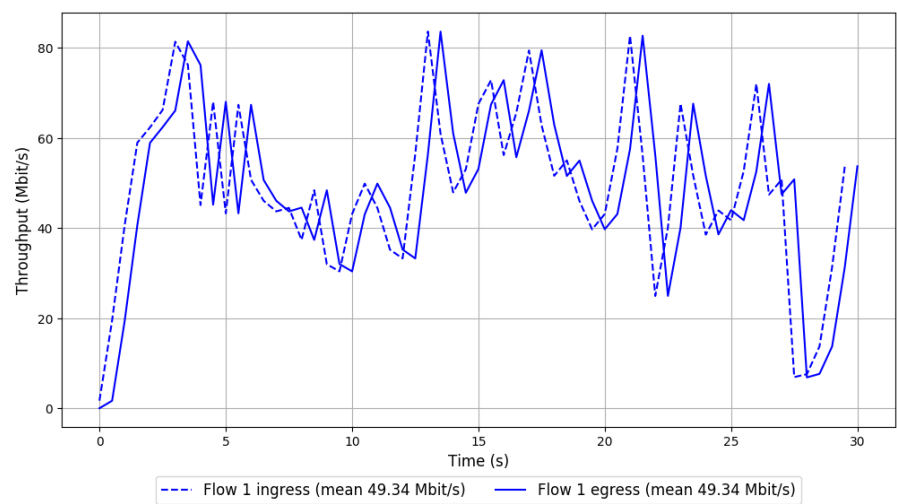
-- Flow 1:

Average throughput: 49.34 Mbit/s

95th percentile per-packet one-way delay: 2.062 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-10-26 00:33:54

End at: 2018-10-26 00:34:24

Local clock offset: 6.645 ms

Remote clock offset: 0.483 ms

Below is generated by plot.py at 2018-10-26 01:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 49.66 Mbit/s

95th percentile per-packet one-way delay: 1.368 ms

Loss rate: 0.00%

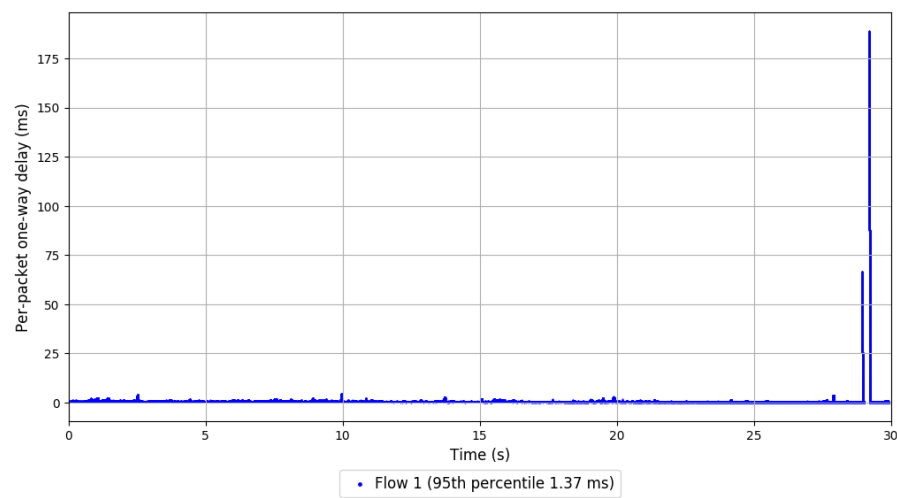
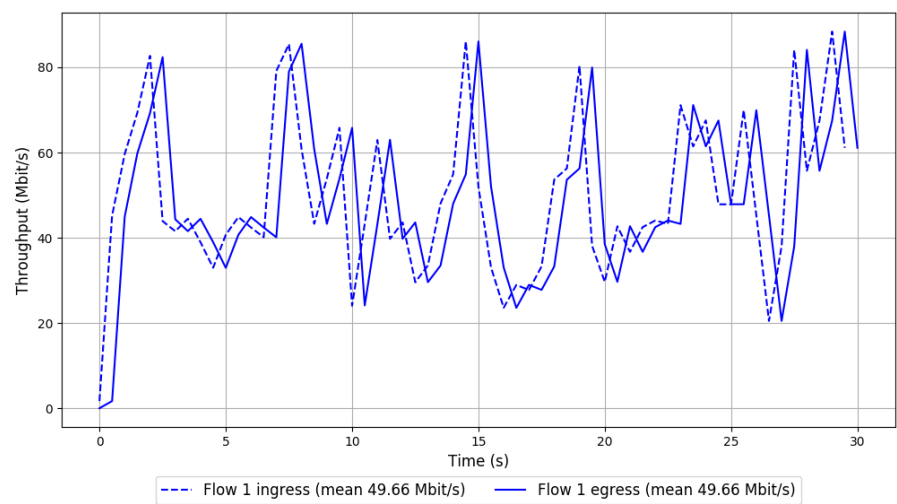
-- Flow 1:

Average throughput: 49.66 Mbit/s

95th percentile per-packet one-way delay: 1.368 ms

Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-10-26 00:53:56

End at: 2018-10-26 00:54:26

Local clock offset: 1.935 ms

Remote clock offset: 0.393 ms

Below is generated by plot.py at 2018-10-26 01:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 46.44 Mbit/s

95th percentile per-packet one-way delay: 4.359 ms

Loss rate: 0.00%

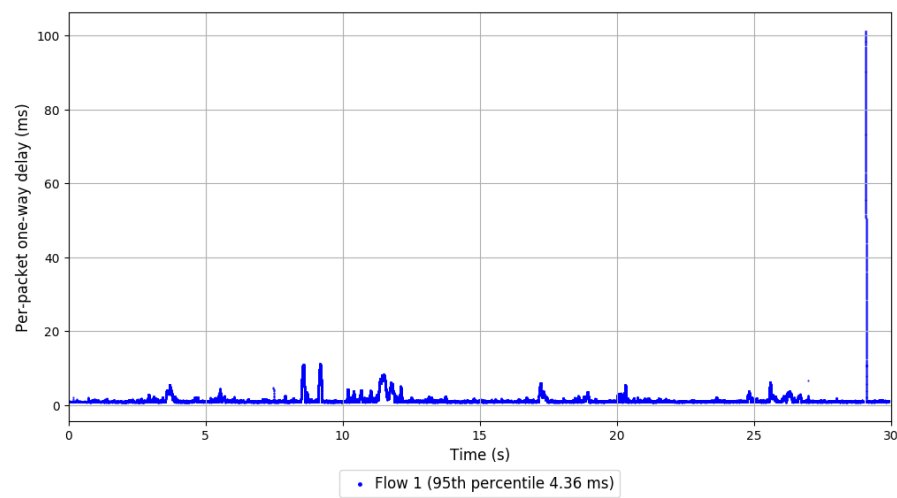
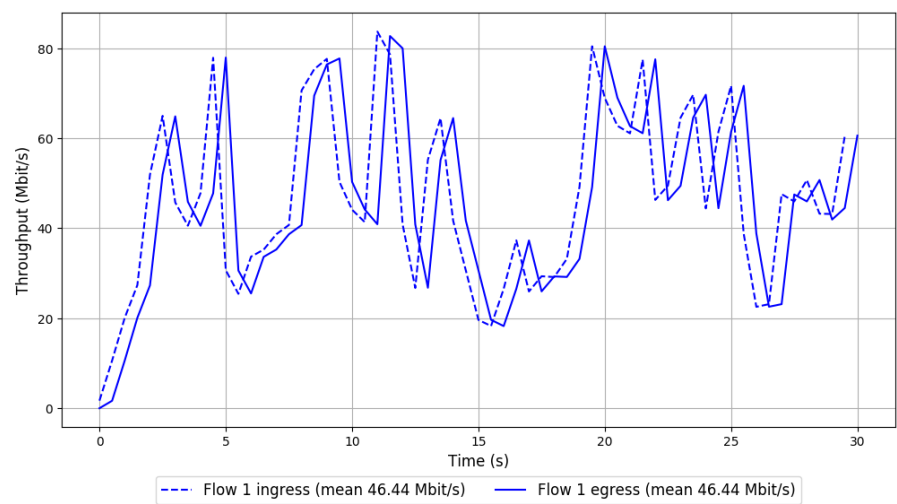
-- Flow 1:

Average throughput: 46.44 Mbit/s

95th percentile per-packet one-way delay: 4.359 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

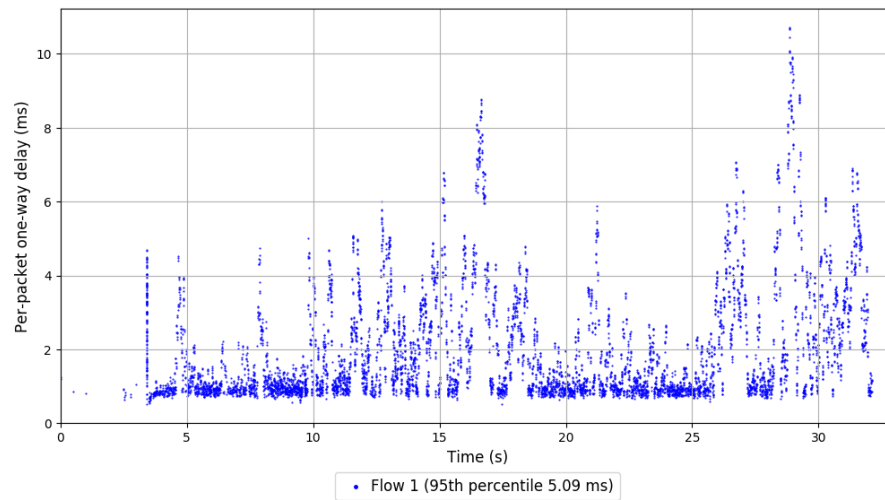
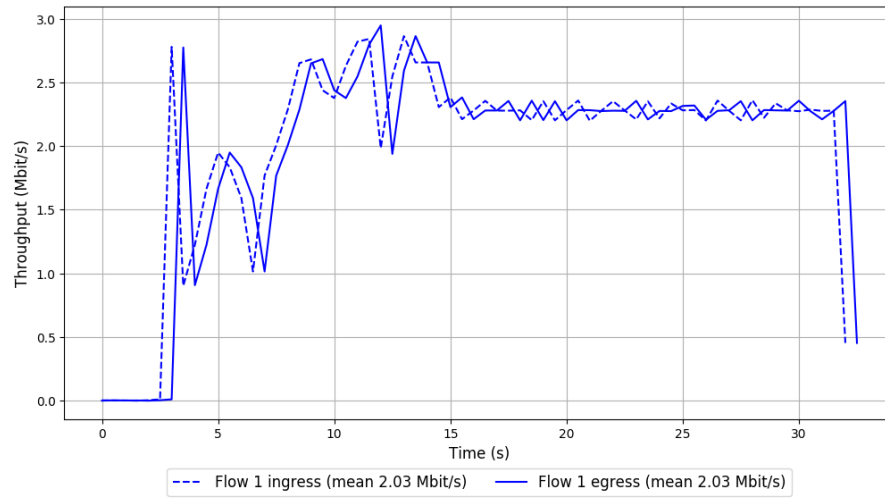


```
Run 1: Statistics of WebRTC media

Start at: 2018-10-25 23:51:38
End at: 2018-10-25 23:52:08
Local clock offset: 0.039 ms
Remote clock offset: 0.346 ms

# Below is generated by plot.py at 2018-10-26 01:21:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 5.092 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 5.092 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-10-26 00:11:41

End at: 2018-10-26 00:12:11

Local clock offset: 2.273 ms

Remote clock offset: 0.554 ms

Below is generated by plot.py at 2018-10-26 01:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 1.770 ms

Loss rate: 0.00%

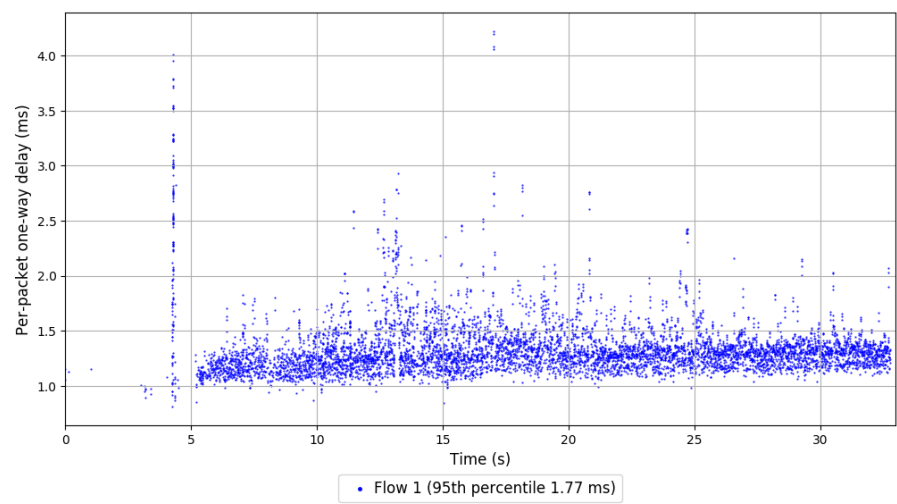
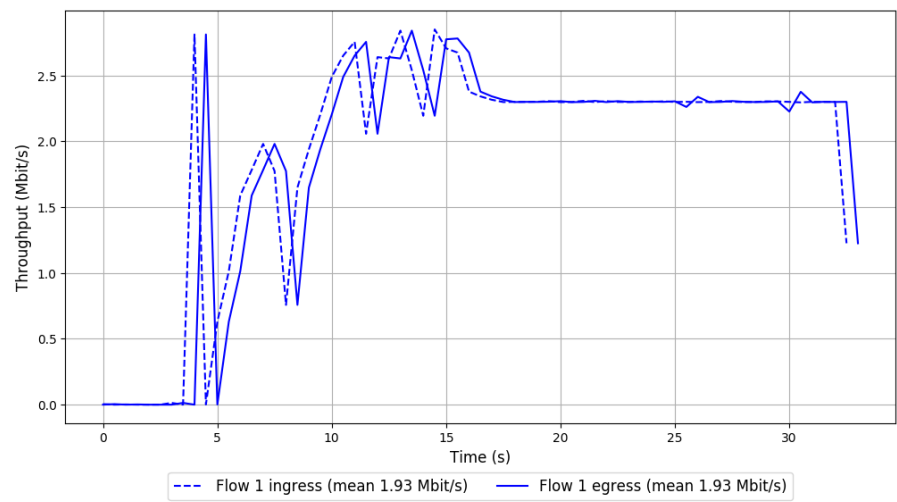
-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 1.770 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-10-26 00:31:42

End at: 2018-10-26 00:32:12

Local clock offset: 9.475 ms

Remote clock offset: 0.486 ms

Below is generated by plot.py at 2018-10-26 01:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 0.728 ms

Loss rate: 0.00%

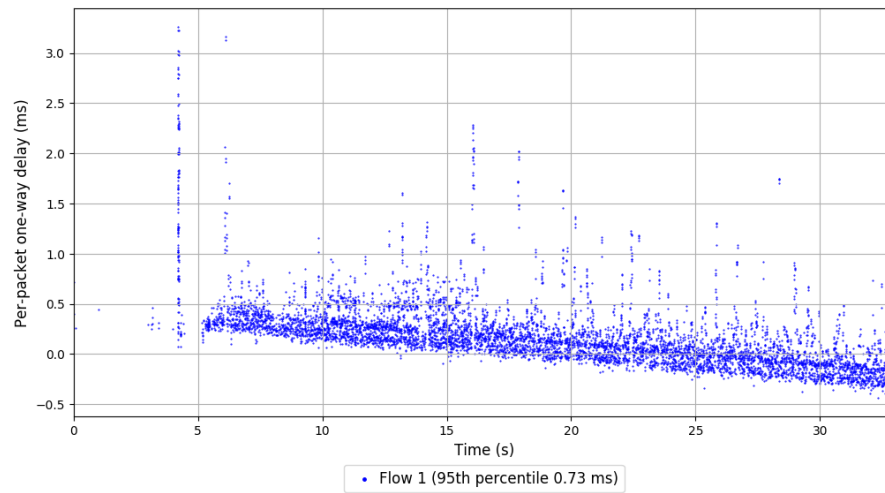
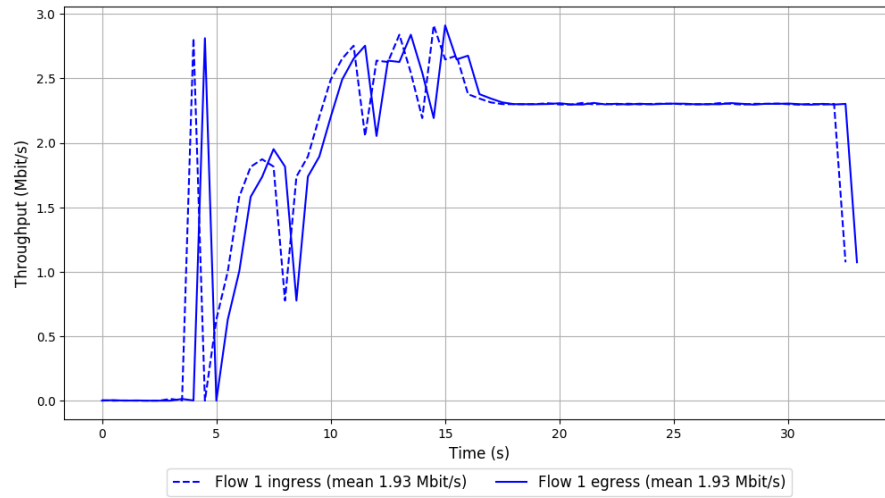
-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 0.728 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-10-26 00:51:44

End at: 2018-10-26 00:52:14

Local clock offset: 1.724 ms

Remote clock offset: 0.337 ms

Below is generated by plot.py at 2018-10-26 01:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 1.739 ms

Loss rate: 0.00%

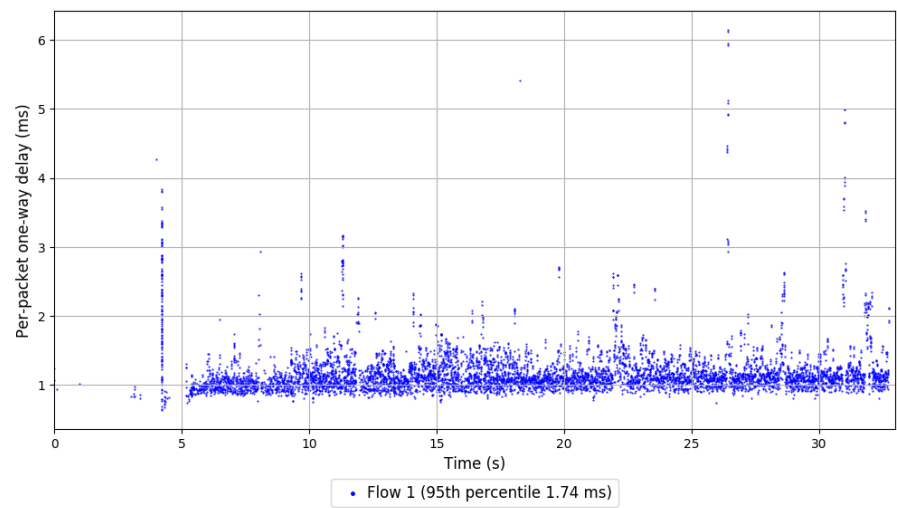
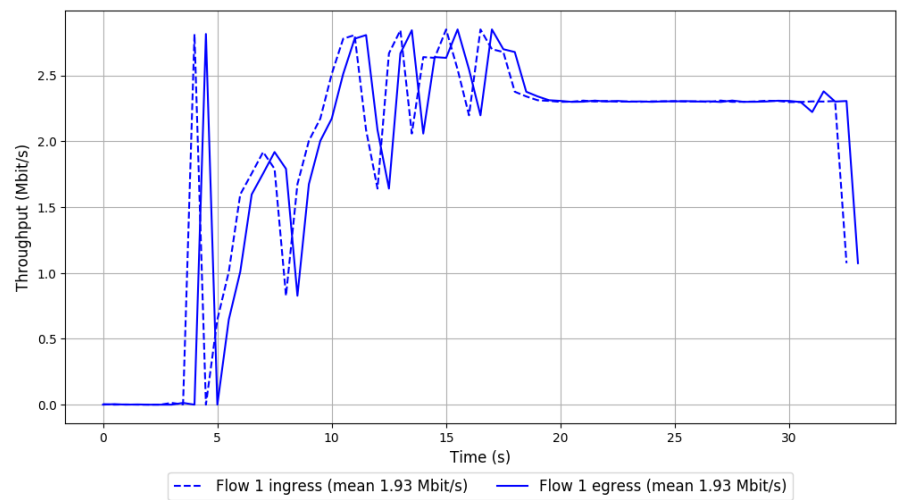
-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 1.739 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-26 01:11:45

End at: 2018-10-26 01:12:15

Local clock offset: -1.002 ms

Remote clock offset: 0.356 ms

Below is generated by plot.py at 2018-10-26 01:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 1.326 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 1.326 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

