

Pantheon Report

Generated at 2018-10-26 01:30:09 (UTC).

Data path: AWS Korea on `ens5` (*local*) → China on `eno1` (*remote*).

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

System info:

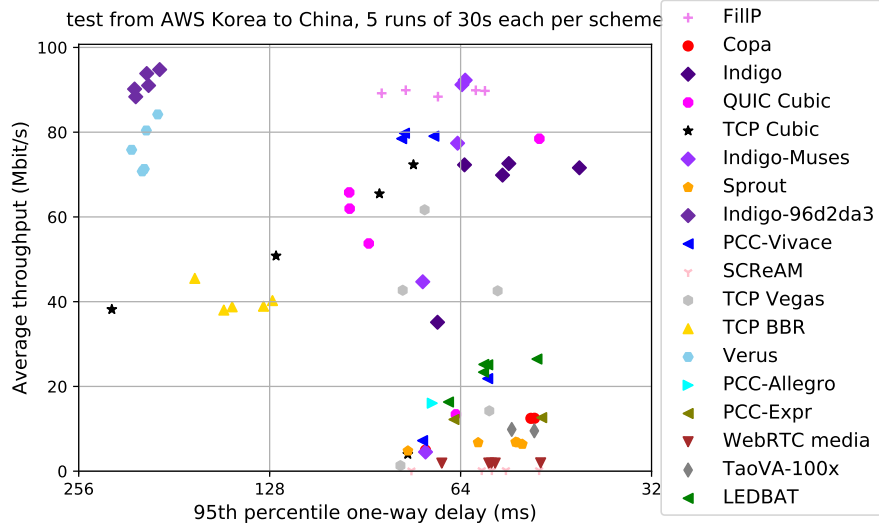
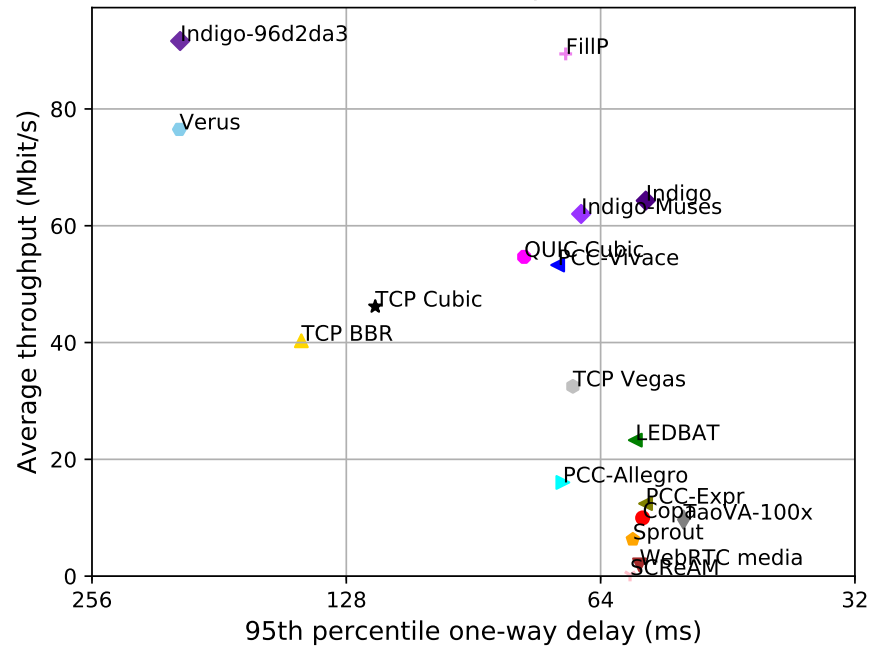
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 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

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



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	40.30	144.68	11.32
Copa	3	9.97	57.08	34.39
TCP Cubic	5	46.16	118.29	1.18
FillP	5	89.42	70.39	1.11
Indigo	5	64.30	56.59	3.73
Indigo-96d2da3	5	91.63	201.32	14.56
LEDBAT	5	23.29	58.22	0.03
Indigo-Muses	5	62.02	67.49	0.26
PCC-Allegro	1	16.04	70.94	0.07
PCC-Expr	2	12.42	56.62	24.00
QUIC Cubic	5	54.67	78.83	0.05
SCReAM	5	0.21	59.07	0.06
Sprout	5	6.30	58.62	0.01
TaoVA-100x	2	9.68	51.06	23.36
TCP Vegas	5	32.50	69.03	0.50
Verus	5	76.50	201.75	10.53
PCC-Vivace	5	53.27	71.95	0.06
WebRTC media	5	1.92	57.57	0.02

Run 1: Statistics of TCP BBR

Start at: 2018-10-25 23:50:13

End at: 2018-10-25 23:50:43

Local clock offset: 6.775 ms

Remote clock offset: 0.691 ms

Below is generated by plot.py at 2018-10-26 01:24:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 38.93 Mbit/s

95th percentile per-packet one-way delay: 130.892 ms

Loss rate: 10.00%

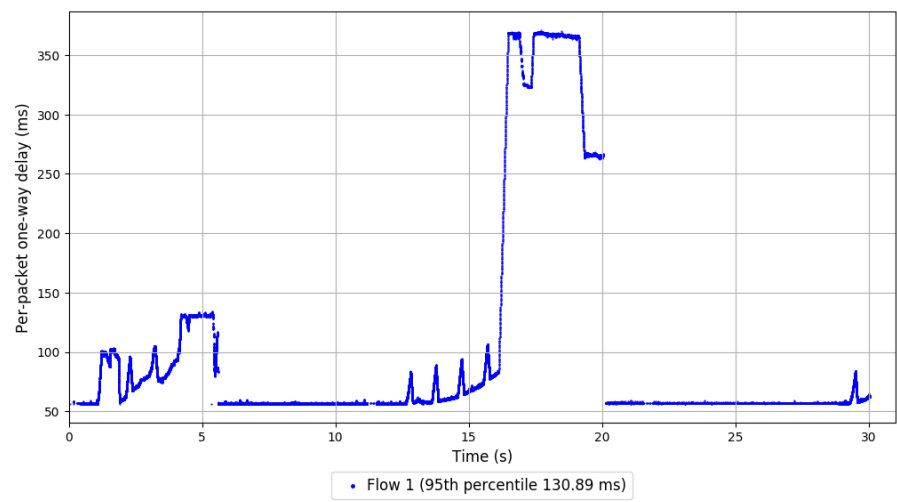
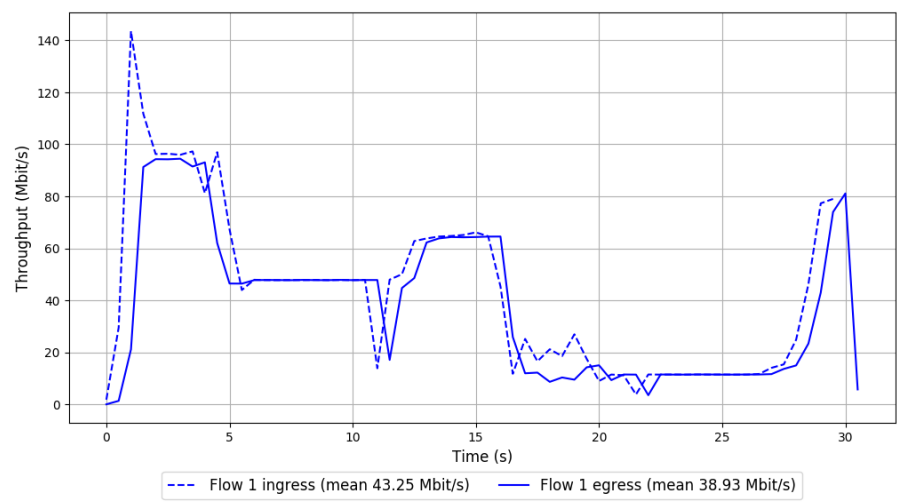
-- Flow 1:

Average throughput: 38.93 Mbit/s

95th percentile per-packet one-way delay: 130.892 ms

Loss rate: 10.00%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-10-26 00:12:31

End at: 2018-10-26 00:13:01

Local clock offset: 10.182 ms

Remote clock offset: 1.584 ms

Below is generated by plot.py at 2018-10-26 01:24:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 45.50 Mbit/s

95th percentile per-packet one-way delay: 167.964 ms

Loss rate: 10.74%

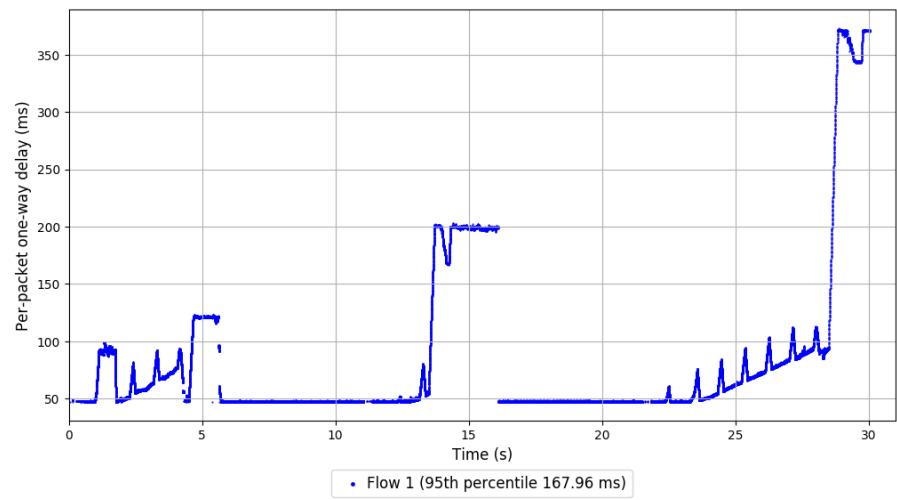
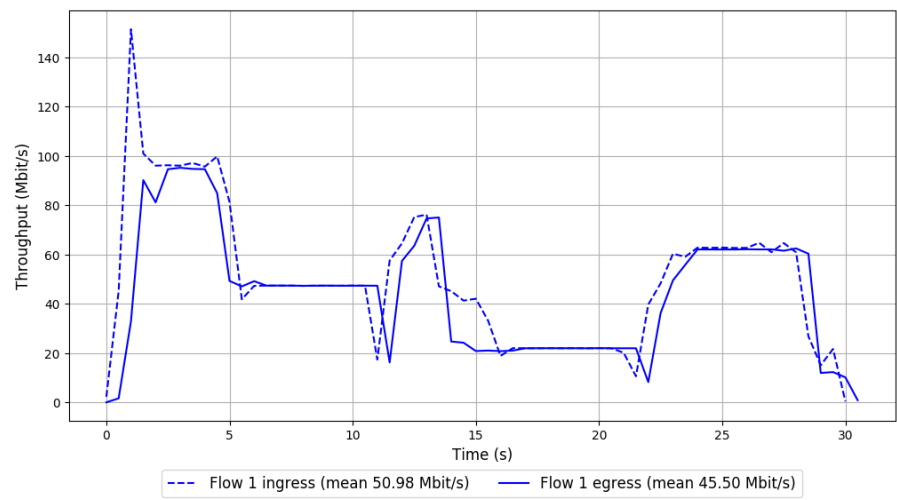
-- Flow 1:

Average throughput: 45.50 Mbit/s

95th percentile per-packet one-way delay: 167.964 ms

Loss rate: 10.74%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-10-26 00:34:58

End at: 2018-10-26 00:35:28

Local clock offset: 12.172 ms

Remote clock offset: 1.463 ms

Below is generated by plot.py at 2018-10-26 01:24:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 38.02 Mbit/s

95th percentile per-packet one-way delay: 151.181 ms

Loss rate: 11.86%

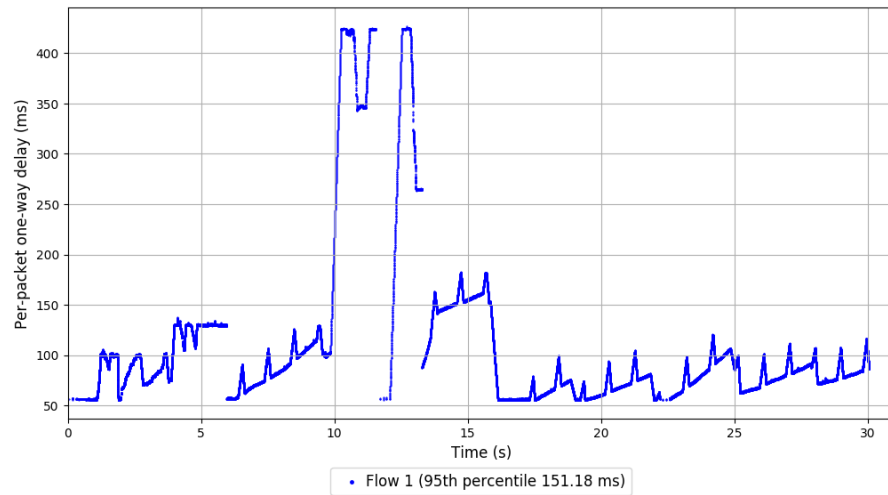
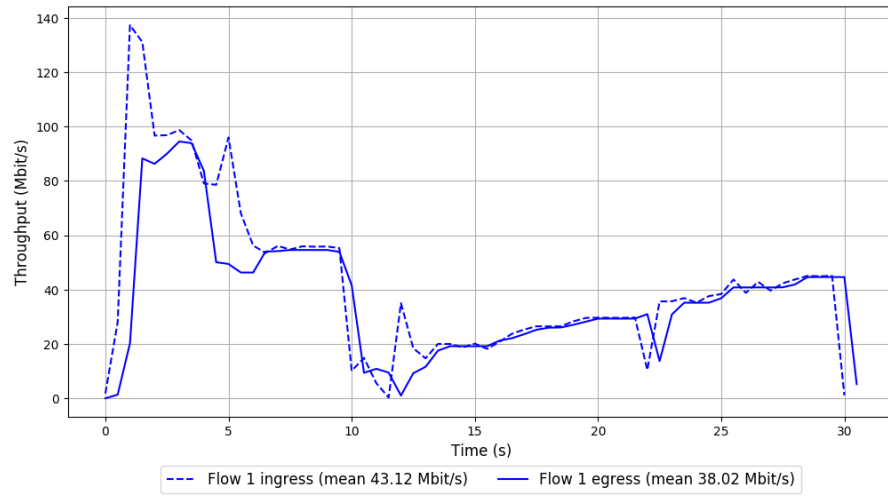
-- Flow 1:

Average throughput: 38.02 Mbit/s

95th percentile per-packet one-way delay: 151.181 ms

Loss rate: 11.86%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-10-26 00:57:05

End at: 2018-10-26 00:57:35

Local clock offset: 8.123 ms

Remote clock offset: 1.498 ms

Below is generated by plot.py at 2018-10-26 01:24:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 40.27 Mbit/s

95th percentile per-packet one-way delay: 126.698 ms

Loss rate: 11.03%

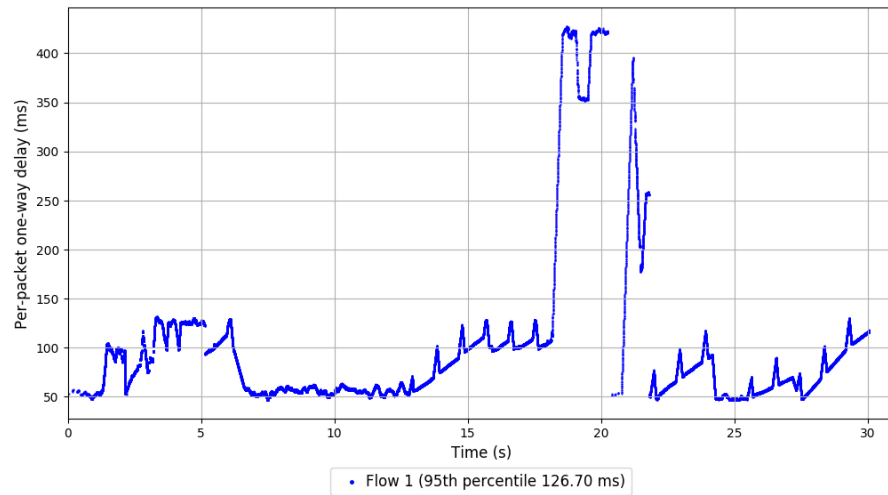
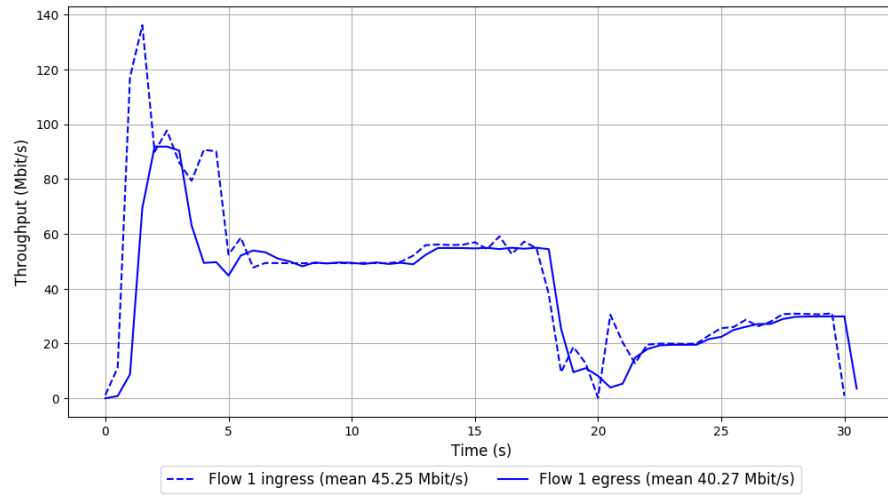
-- Flow 1:

Average throughput: 40.27 Mbit/s

95th percentile per-packet one-way delay: 126.698 ms

Loss rate: 11.03%

Run 4: Report of TCP BBR — Data Link

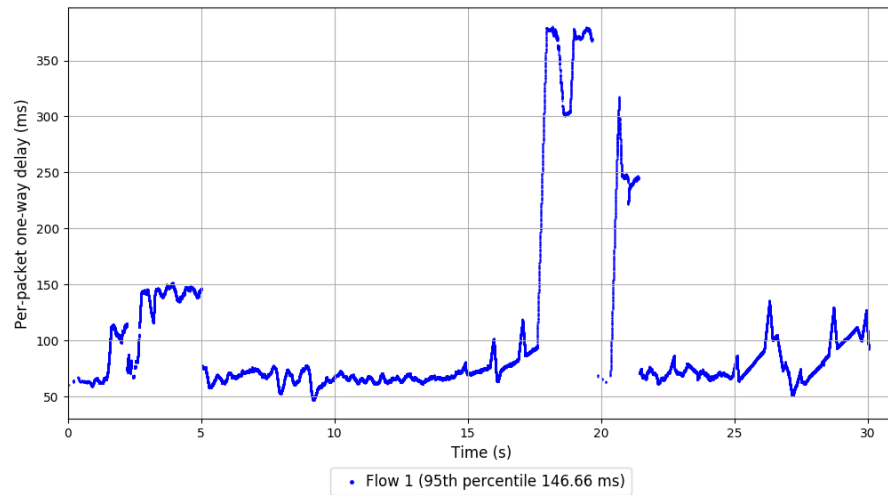
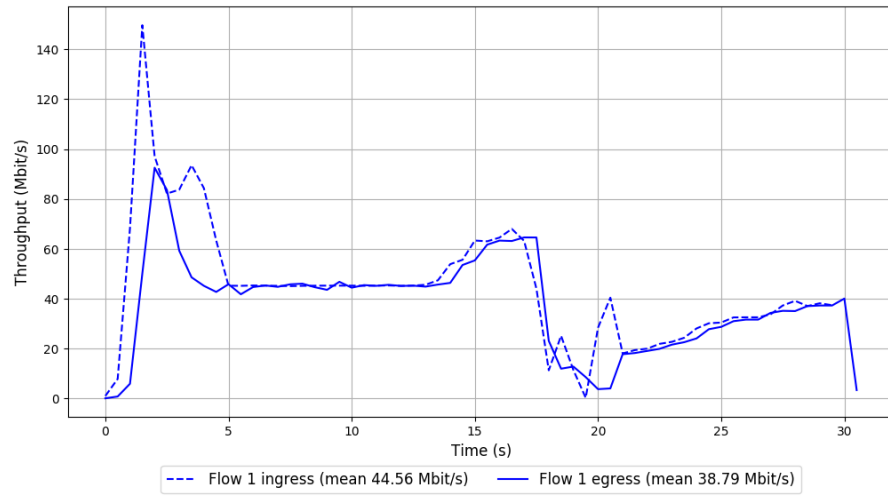


Run 5: Statistics of TCP BBR

Start at: 2018-10-26 01:18:59
End at: 2018-10-26 01:19:29
Local clock offset: 4.723 ms
Remote clock offset: -7.108 ms

Below is generated by plot.py at 2018-10-26 01:24:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 38.79 Mbit/s
95th percentile per-packet one-way delay: 146.658 ms
Loss rate: 12.96%
-- Flow 1:
Average throughput: 38.79 Mbit/s
95th percentile per-packet one-way delay: 146.658 ms
Loss rate: 12.96%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-10-25 23:46:20

End at: 2018-10-25 23:46:50

Local clock offset: 4.846 ms

Remote clock offset: 0.193 ms

Below is generated by plot.py at 2018-10-26 01:24:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.49 Mbit/s

95th percentile per-packet one-way delay: 48.951 ms

Loss rate: 59.36%

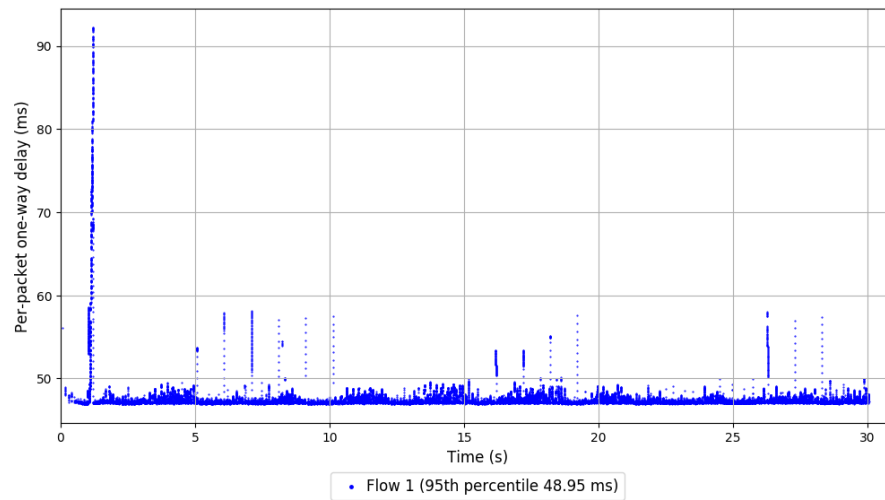
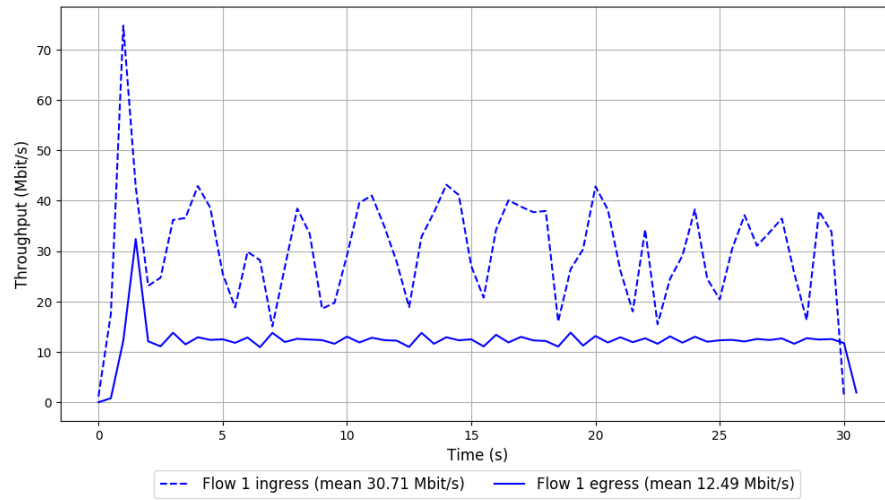
-- Flow 1:

Average throughput: 12.49 Mbit/s

95th percentile per-packet one-way delay: 48.951 ms

Loss rate: 59.36%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

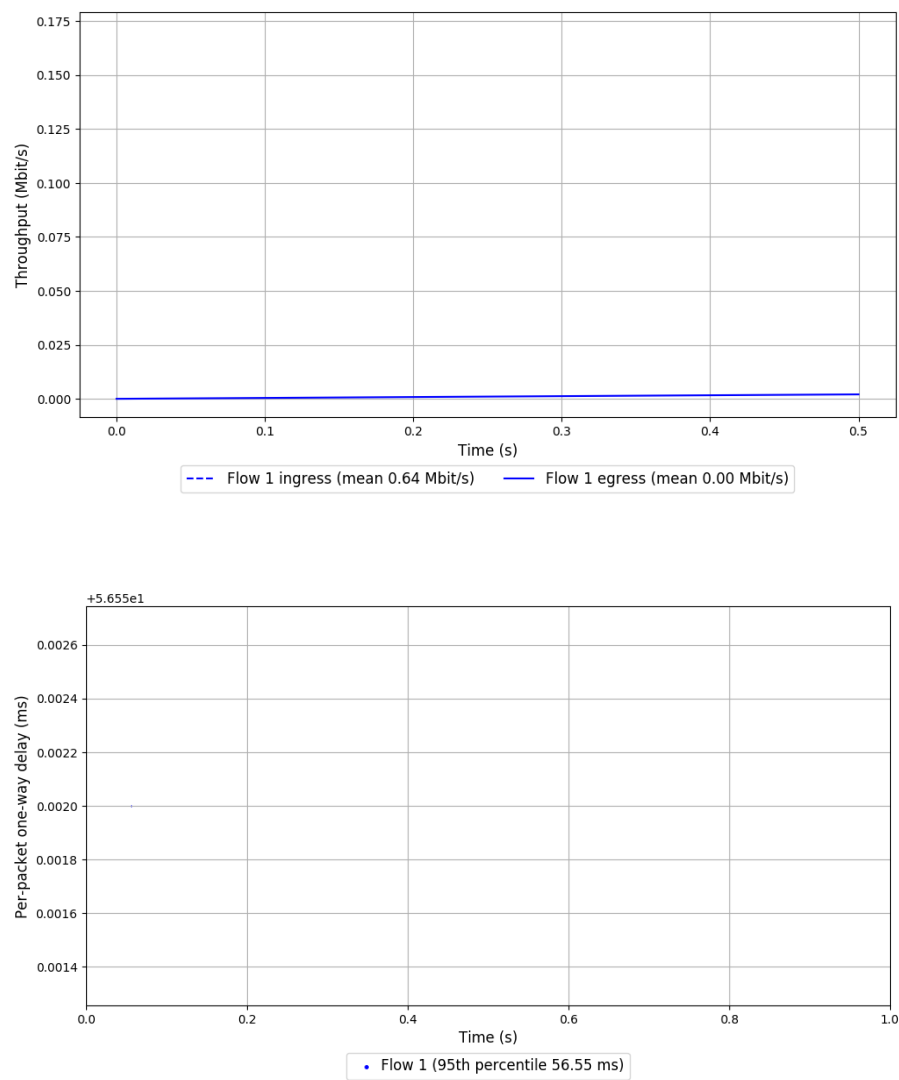
Start at: 2018-10-26 00:08:39

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

Local clock offset: 10.535 ms

Remote clock offset: 1.483 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-10-26 00:31:03

End at: 2018-10-26 00:31:33

Local clock offset: 16.245 ms

Remote clock offset: 1.165 ms

Below is generated by plot.py at 2018-10-26 01:24:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.47 Mbit/s

95th percentile per-packet one-way delay: 49.589 ms

Loss rate: 39.67%

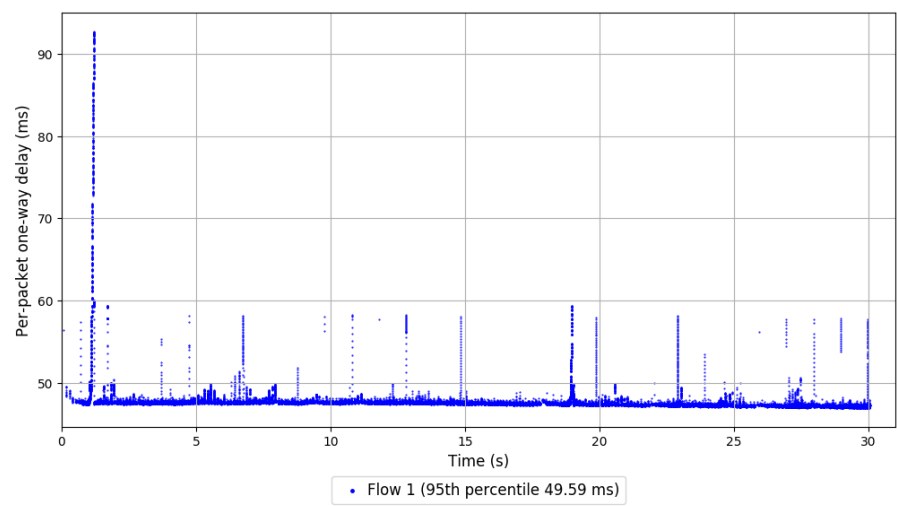
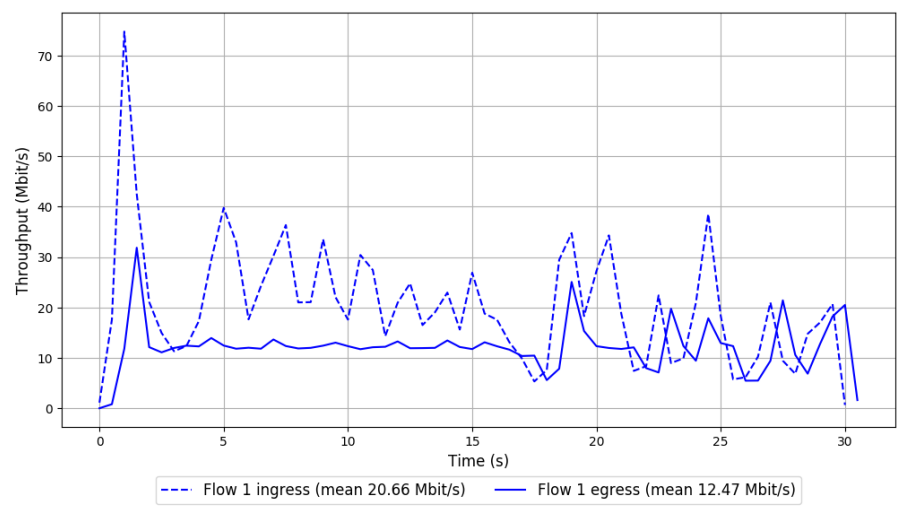
-- Flow 1:

Average throughput: 12.47 Mbit/s

95th percentile per-packet one-way delay: 49.589 ms

Loss rate: 39.67%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

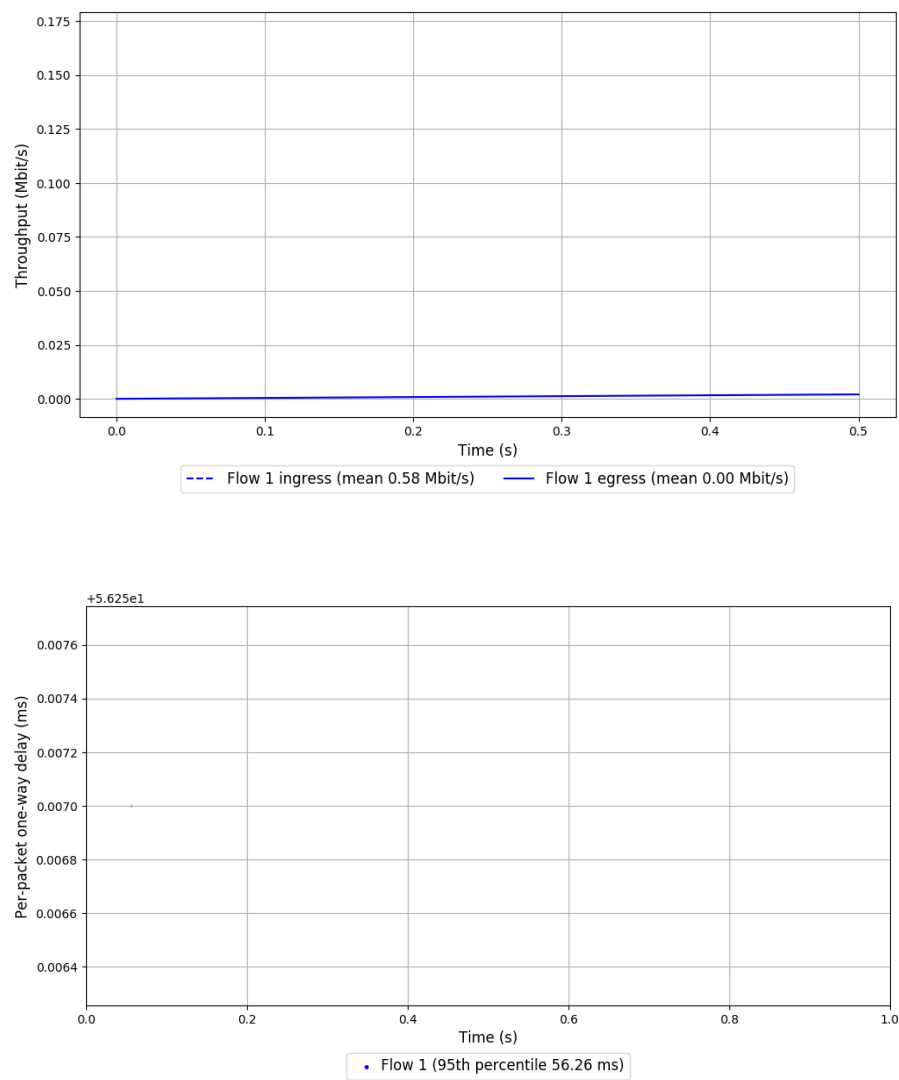
Start at: 2018-10-26 00:53:20

End at: 2018-10-26 00:53:50

Local clock offset: 7.266 ms

Remote clock offset: 1.836 ms

Run 4: Report of Copa — Data Link

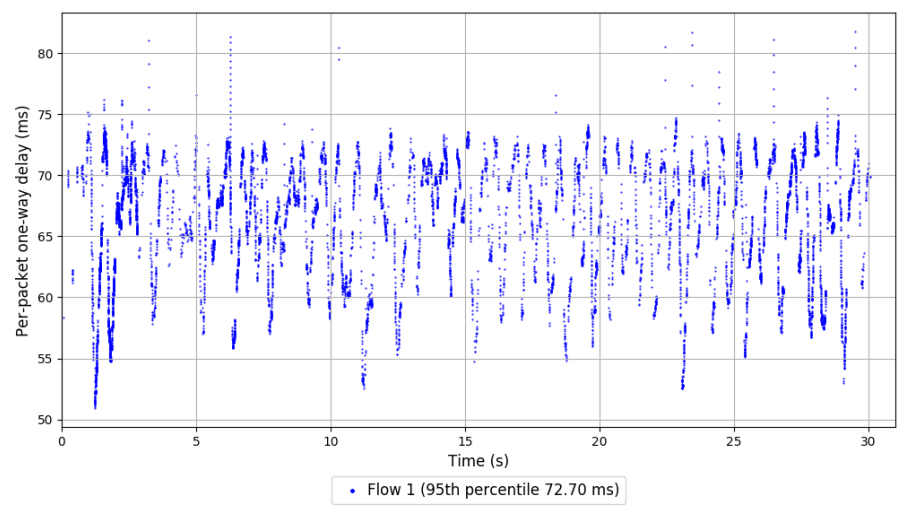
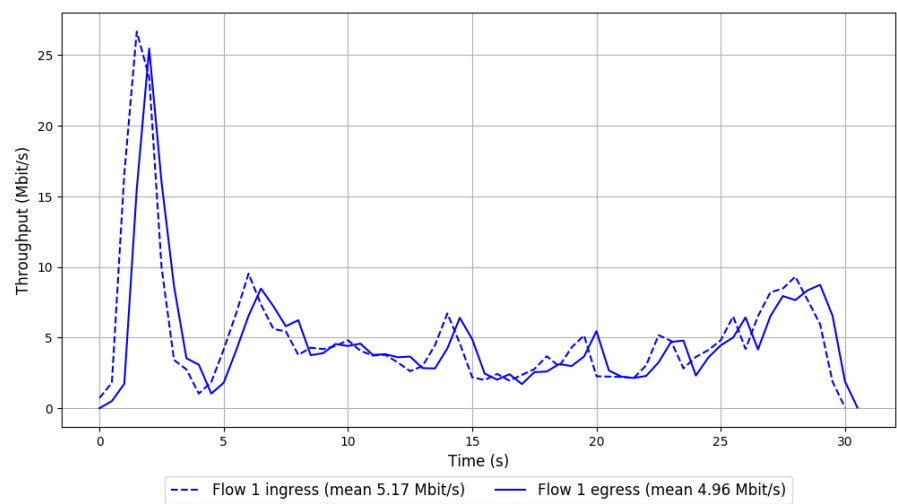


Run 5: Statistics of Copa

Start at: 2018-10-26 01:15:11
End at: 2018-10-26 01:15:41
Local clock offset: 4.61 ms
Remote clock offset: -2.424 ms

Below is generated by plot.py at 2018-10-26 01:24:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.96 Mbit/s
95th percentile per-packet one-way delay: 72.699 ms
Loss rate: 4.15%
-- Flow 1:
Average throughput: 4.96 Mbit/s
95th percentile per-packet one-way delay: 72.699 ms
Loss rate: 4.15%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-10-25 23:45:03

End at: 2018-10-25 23:45:33

Local clock offset: 4.928 ms

Remote clock offset: 0.065 ms

Below is generated by plot.py at 2018-10-26 01:25:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 65.47 Mbit/s

95th percentile per-packet one-way delay: 85.924 ms

Loss rate: 0.79%

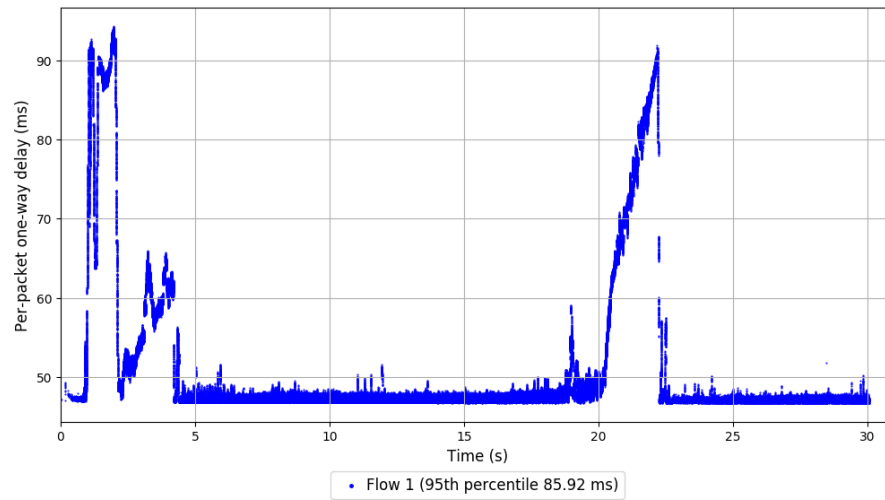
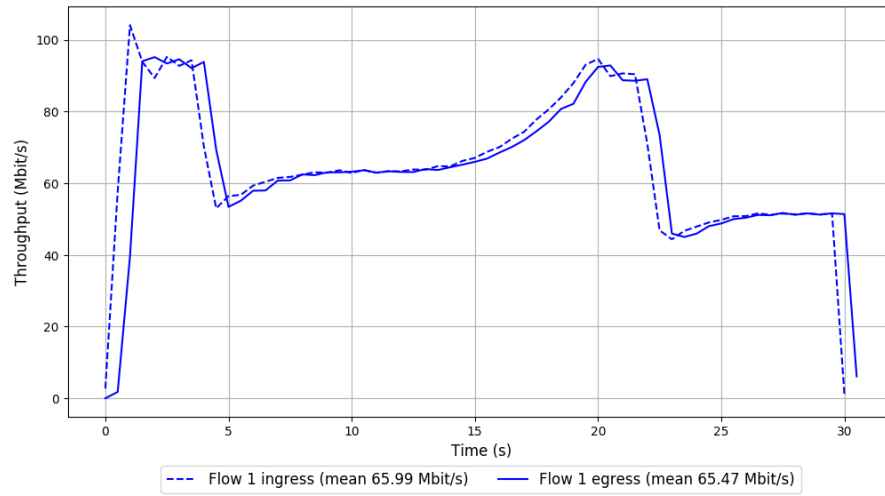
-- Flow 1:

Average throughput: 65.47 Mbit/s

95th percentile per-packet one-way delay: 85.924 ms

Loss rate: 0.79%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

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

End at: 2018-10-26 00:07:56

Local clock offset: 11.193 ms

Remote clock offset: 1.508 ms

Below is generated by plot.py at 2018-10-26 01:25:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 38.17 Mbit/s

95th percentile per-packet one-way delay: 227.004 ms

Loss rate: 2.16%

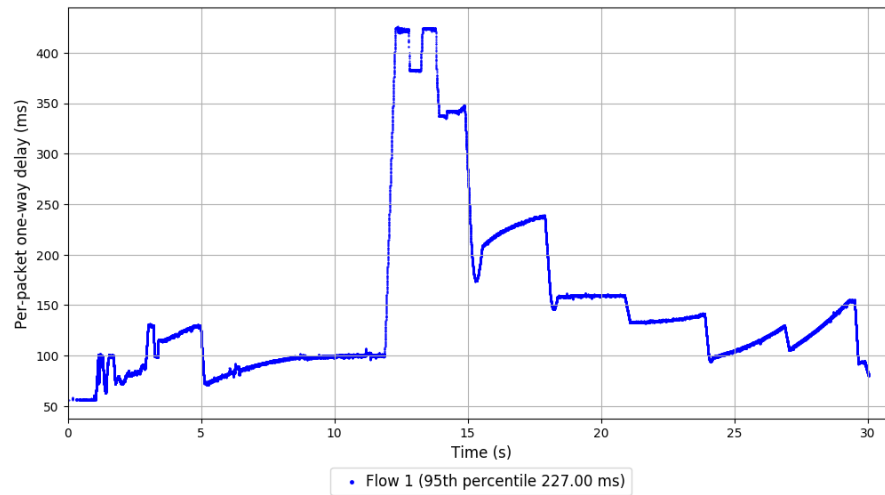
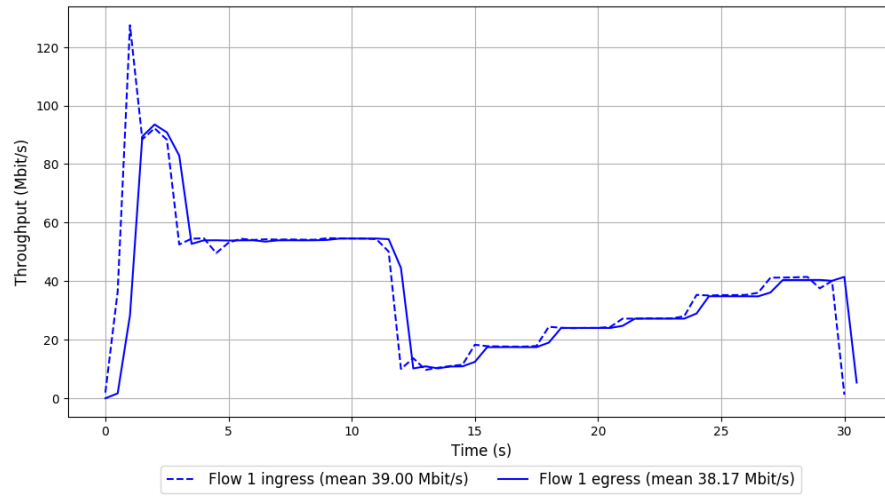
-- Flow 1:

Average throughput: 38.17 Mbit/s

95th percentile per-packet one-way delay: 227.004 ms

Loss rate: 2.16%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-10-26 00:29:46

End at: 2018-10-26 00:30:16

Local clock offset: 15.818 ms

Remote clock offset: 1.296 ms

Below is generated by plot.py at 2018-10-26 01:25:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 72.33 Mbit/s

95th percentile per-packet one-way delay: 75.947 ms

Loss rate: 1.19%

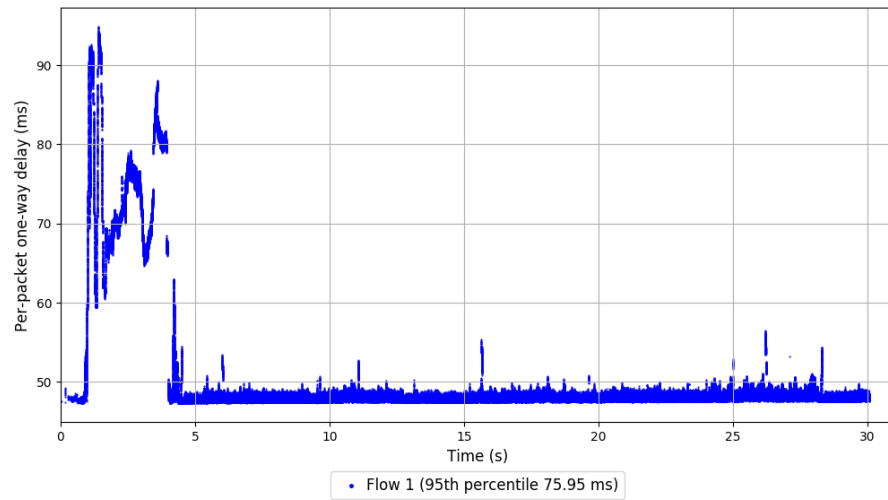
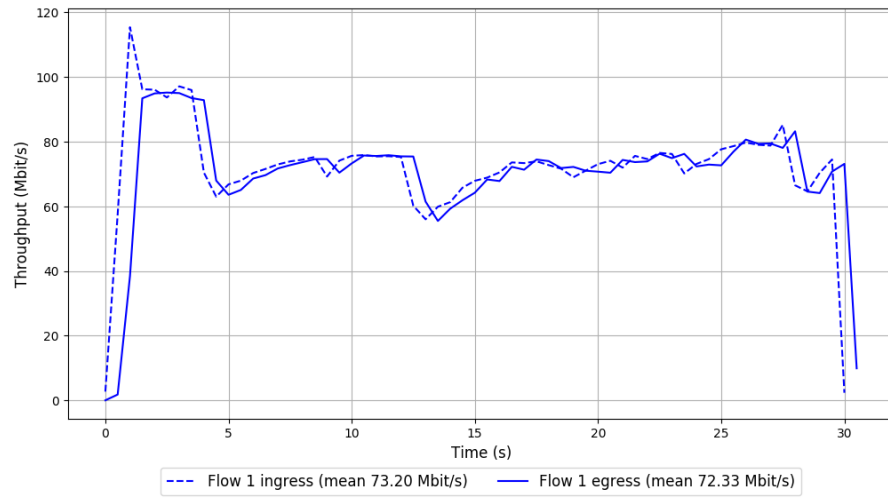
-- Flow 1:

Average throughput: 72.33 Mbit/s

95th percentile per-packet one-way delay: 75.947 ms

Loss rate: 1.19%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-10-26 00:52:06

End at: 2018-10-26 00:52:36

Local clock offset: 7.147 ms

Remote clock offset: 1.543 ms

Below is generated by plot.py at 2018-10-26 01:25:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.81 Mbit/s

95th percentile per-packet one-way delay: 125.058 ms

Loss rate: 1.54%

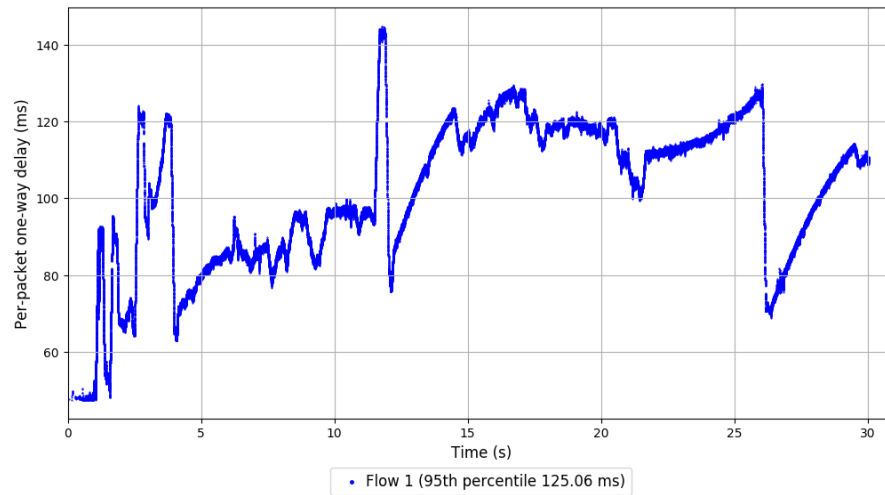
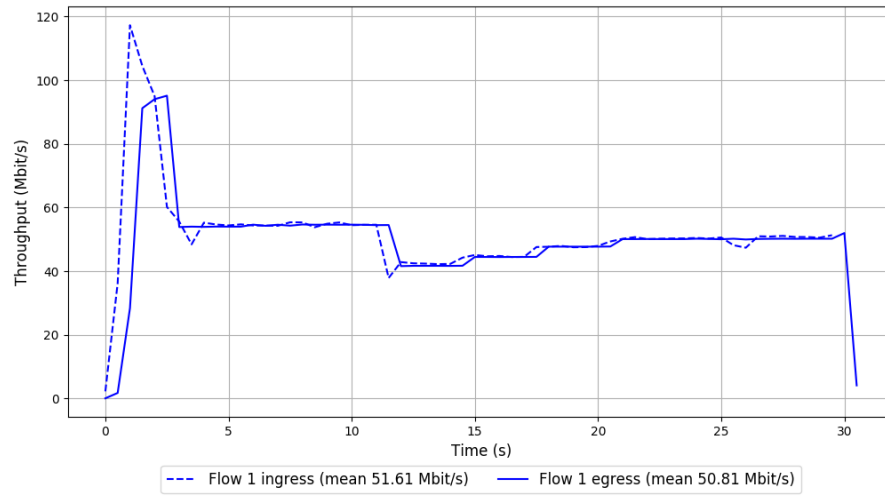
-- Flow 1:

Average throughput: 50.81 Mbit/s

95th percentile per-packet one-way delay: 125.058 ms

Loss rate: 1.54%

Run 4: Report of TCP Cubic — Data Link

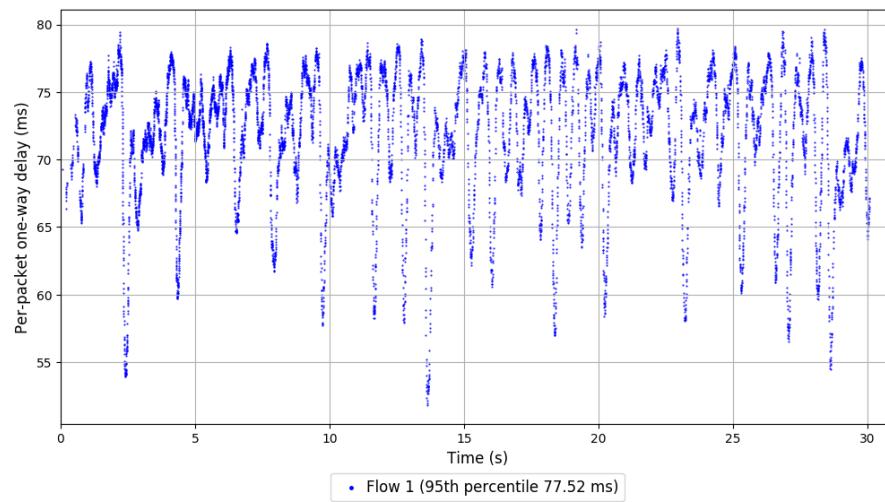
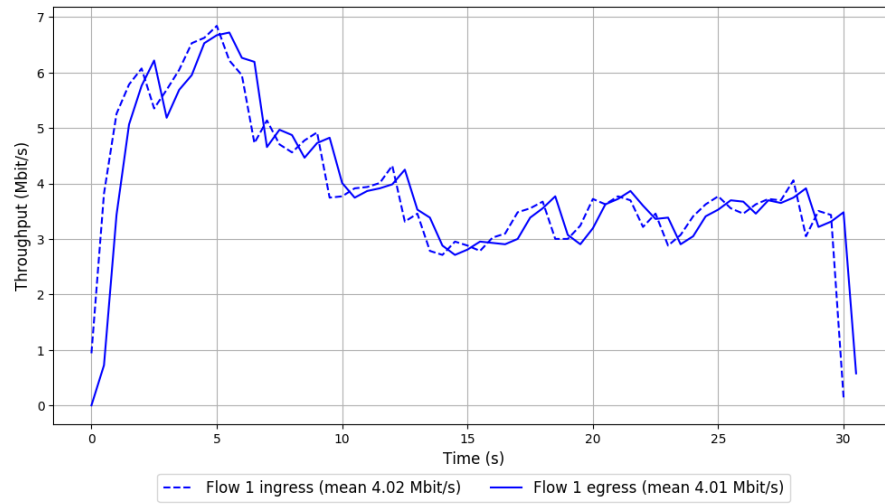


Run 5: Statistics of TCP Cubic

Start at: 2018-10-26 01:14:01
End at: 2018-10-26 01:14:31
Local clock offset: 4.74 ms
Remote clock offset: -6.251 ms

Below is generated by plot.py at 2018-10-26 01:25:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 77.521 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 77.521 ms
Loss rate: 0.23%

Run 5: Report of TCP Cubic — Data Link

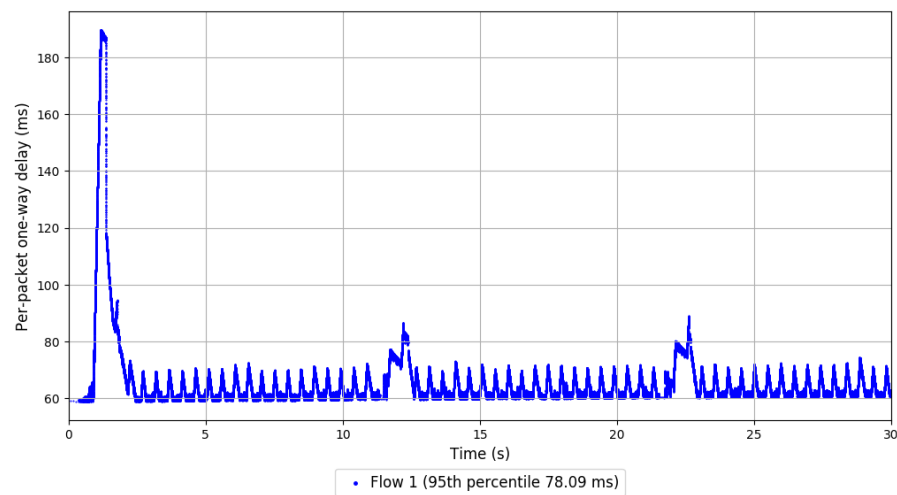
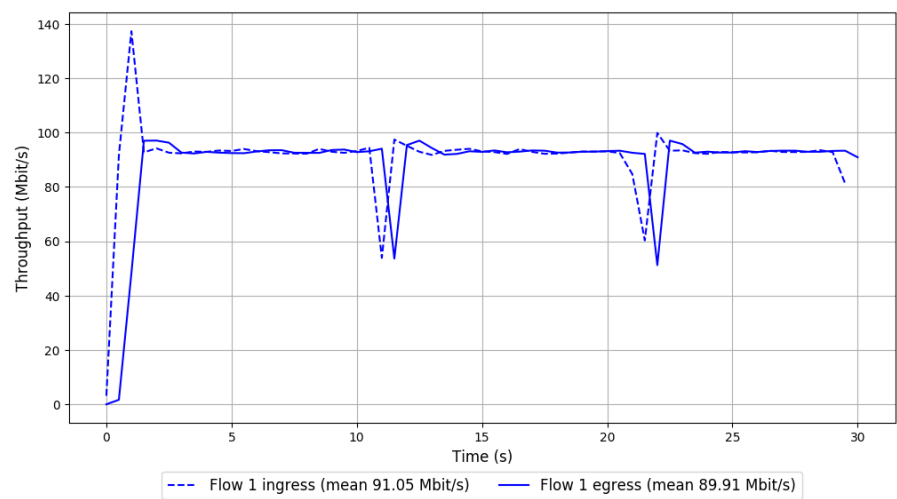


Run 1: Statistics of FillP

Start at: 2018-10-25 23:37:34
End at: 2018-10-25 23:38:04
Local clock offset: 13.862 ms
Remote clock offset: -0.301 ms

Below is generated by plot.py at 2018-10-26 01:26:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 89.91 Mbit/s
95th percentile per-packet one-way delay: 78.091 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 89.91 Mbit/s
95th percentile per-packet one-way delay: 78.091 ms
Loss rate: 1.27%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-10-25 23:59:56

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

Local clock offset: 14.596 ms

Remote clock offset: 1.988 ms

Below is generated by plot.py at 2018-10-26 01:26:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.89 Mbit/s

95th percentile per-packet one-way delay: 60.564 ms

Loss rate: 0.54%

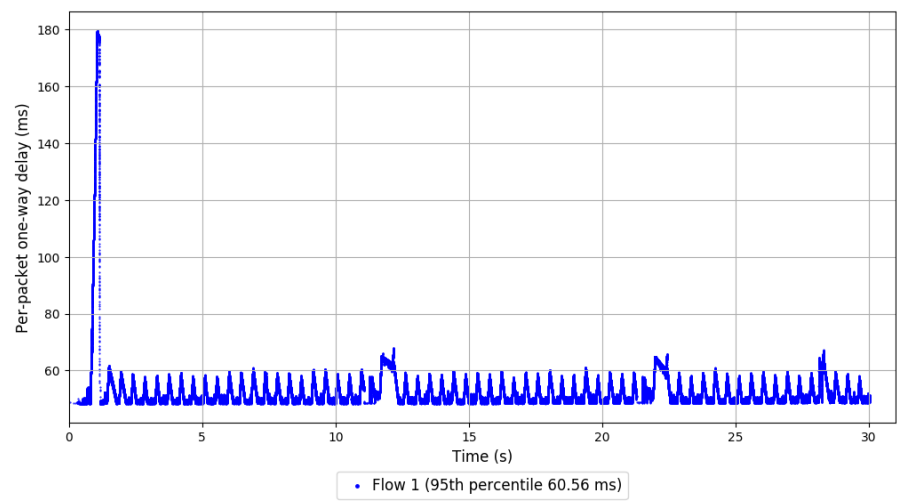
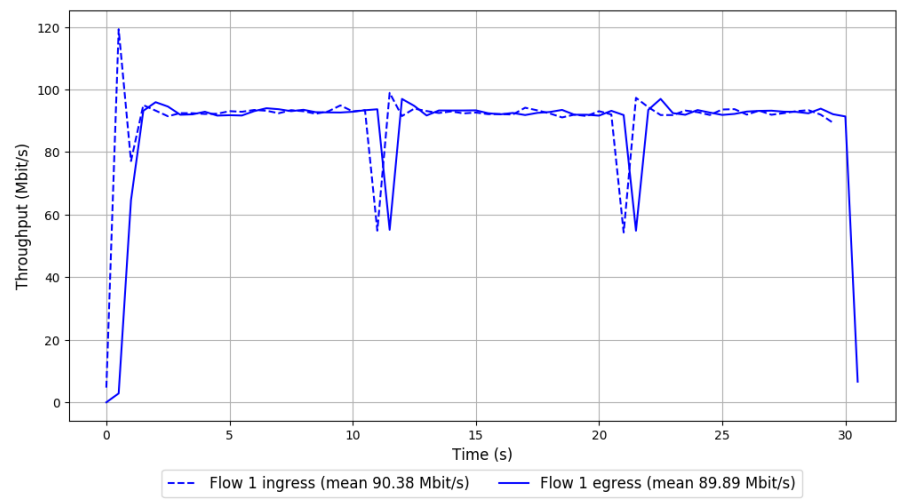
-- Flow 1:

Average throughput: 89.89 Mbit/s

95th percentile per-packet one-way delay: 60.564 ms

Loss rate: 0.54%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-10-26 00:22:18

End at: 2018-10-26 00:22:48

Local clock offset: 12.453 ms

Remote clock offset: 1.607 ms

Below is generated by plot.py at 2018-10-26 01:26:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.75 Mbit/s

95th percentile per-packet one-way delay: 58.586 ms

Loss rate: 0.75%

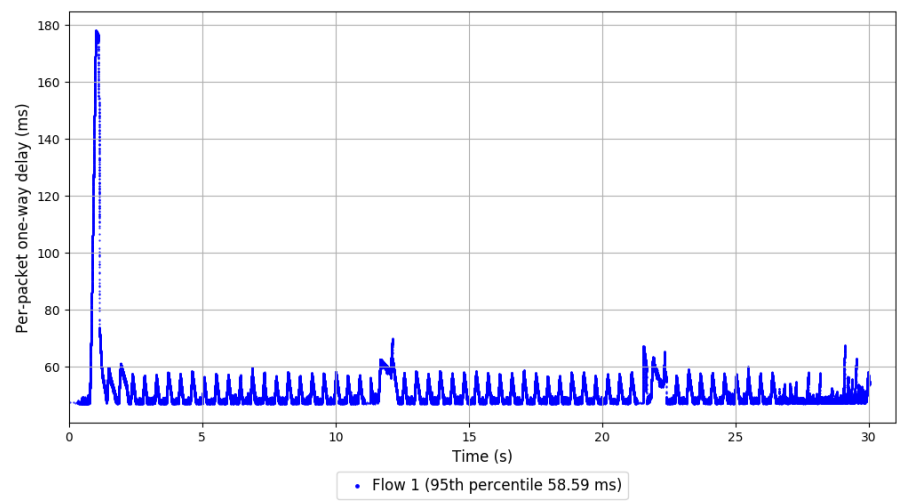
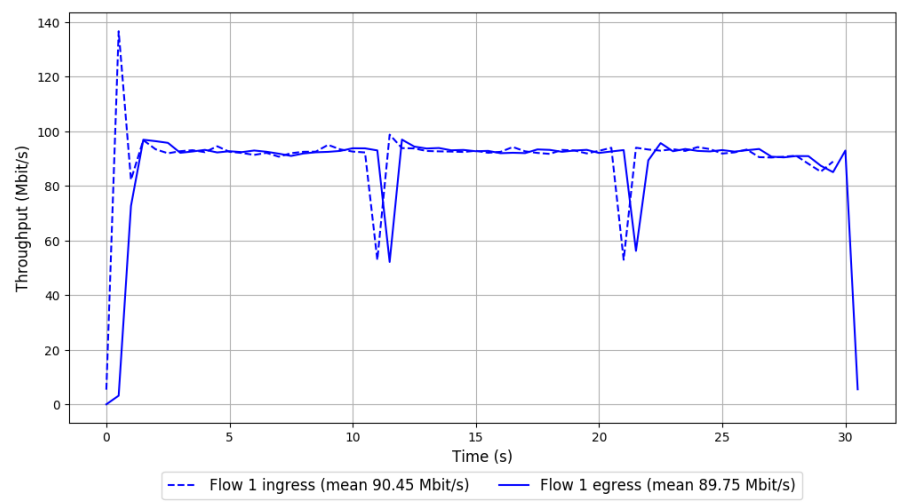
-- Flow 1:

Average throughput: 89.75 Mbit/s

95th percentile per-packet one-way delay: 58.586 ms

Loss rate: 0.75%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-10-26 00:44:40

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

Local clock offset: 7.172 ms

Remote clock offset: 1.697 ms

Below is generated by plot.py at 2018-10-26 01:26:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.38 Mbit/s

95th percentile per-packet one-way delay: 69.486 ms

Loss rate: 1.04%

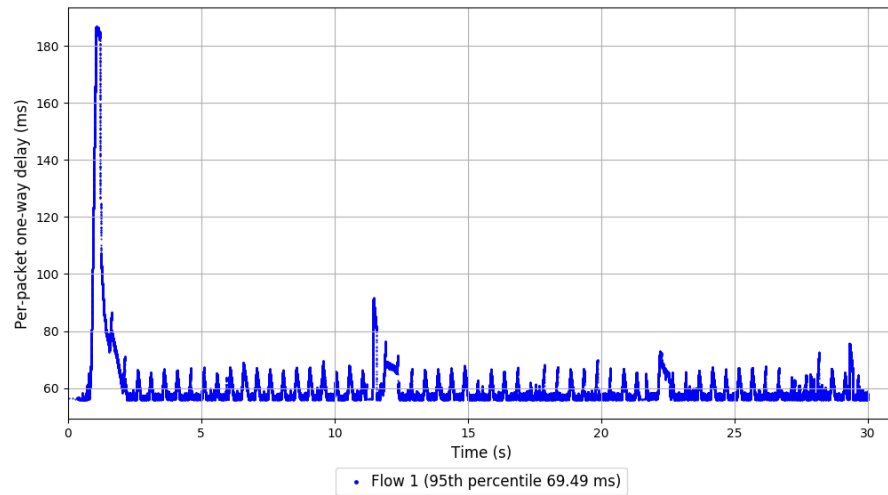
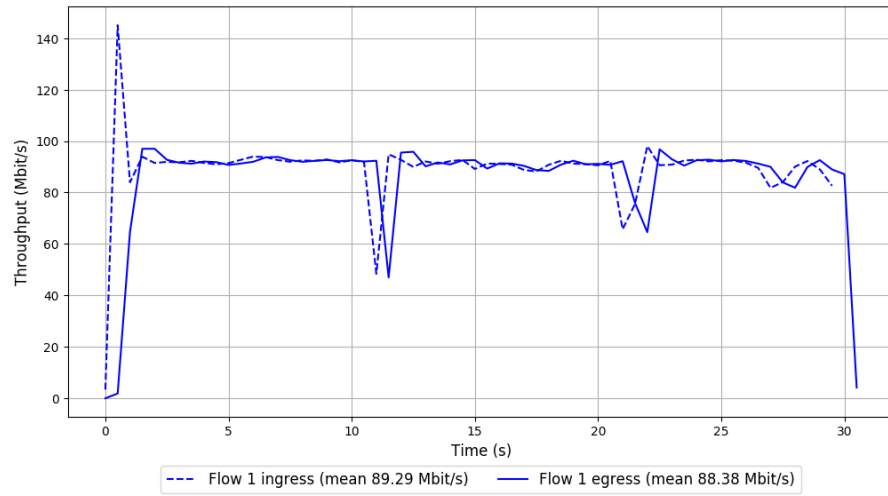
-- Flow 1:

Average throughput: 88.38 Mbit/s

95th percentile per-packet one-way delay: 69.486 ms

Loss rate: 1.04%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-10-26 01:06:48

End at: 2018-10-26 01:07:18

Local clock offset: 6.27 ms

Remote clock offset: -4.26 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.18 Mbit/s

95th percentile per-packet one-way delay: 85.227 ms

Loss rate: 1.95%

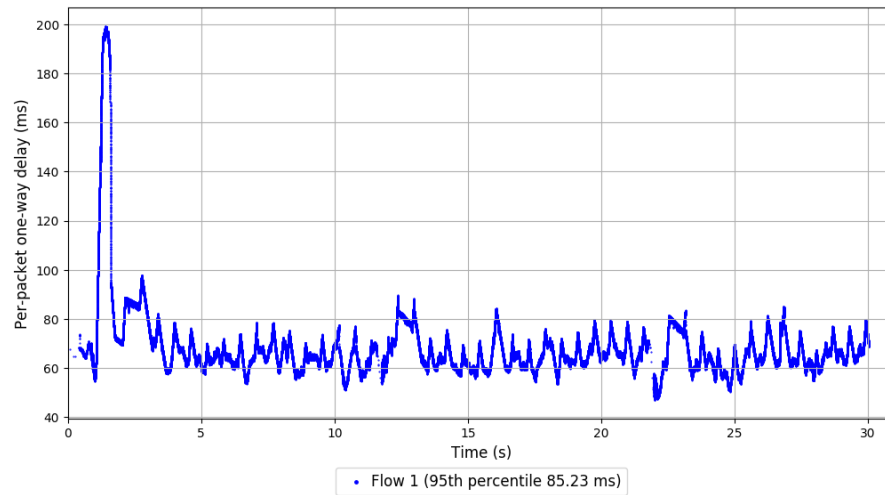
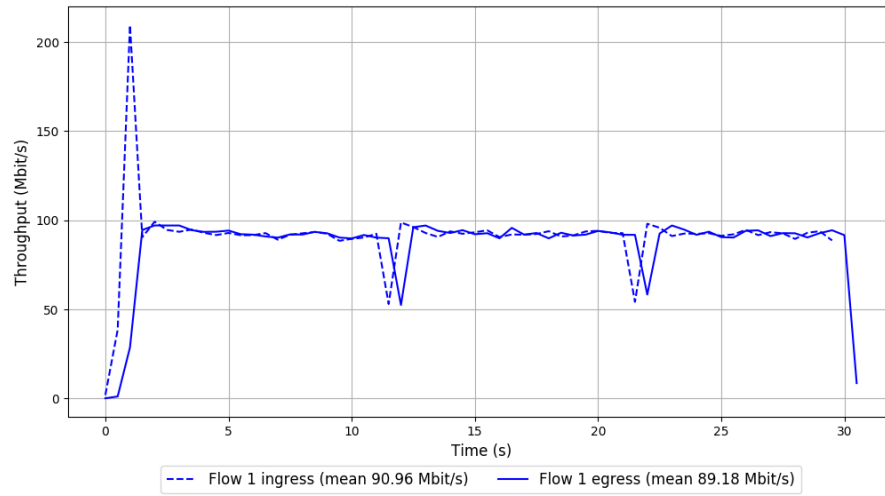
-- Flow 1:

Average throughput: 89.18 Mbit/s

95th percentile per-packet one-way delay: 85.227 ms

Loss rate: 1.95%

Run 5: Report of FillP — Data Link

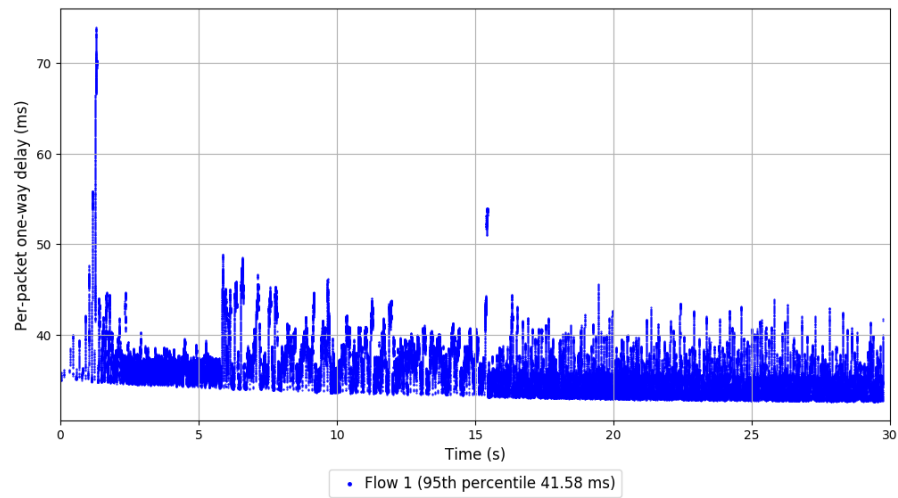
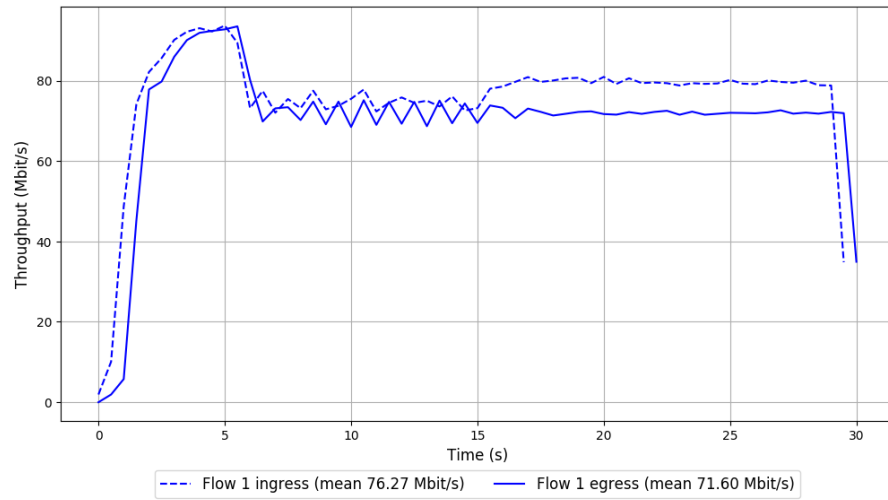



```
Run 1: Statistics of Indigo

Start at: 2018-10-25 23:32:44
End at: 2018-10-25 23:33:14
Local clock offset: 15.967 ms
Remote clock offset: -0.375 ms

# Below is generated by plot.py at 2018-10-26 01:26:16
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.60 Mbit/s
95th percentile per-packet one-way delay: 41.583 ms
Loss rate: 6.12%
-- Flow 1:
Average throughput: 71.60 Mbit/s
95th percentile per-packet one-way delay: 41.583 ms
Loss rate: 6.12%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-10-25 23:55:06

End at: 2018-10-25 23:55:36

Local clock offset: 11.131 ms

Remote clock offset: 0.794 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 72.59 Mbit/s

95th percentile per-packet one-way delay: 53.725 ms

Loss rate: 4.52%

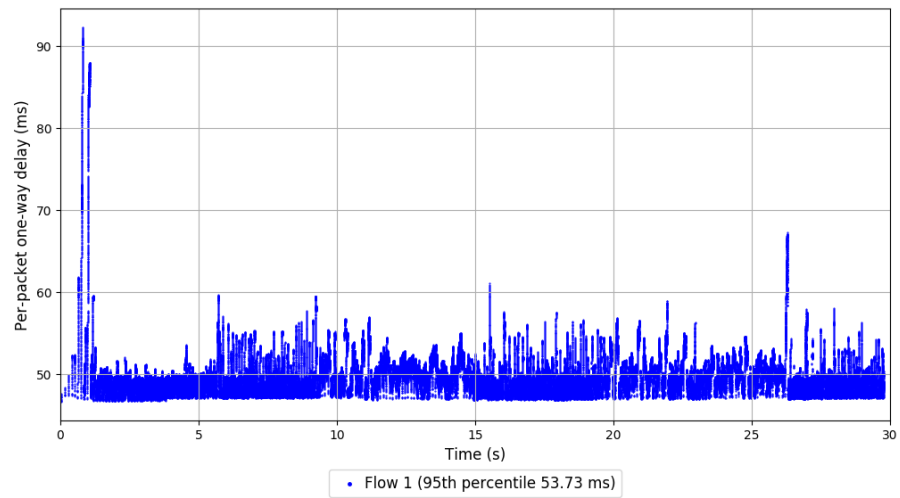
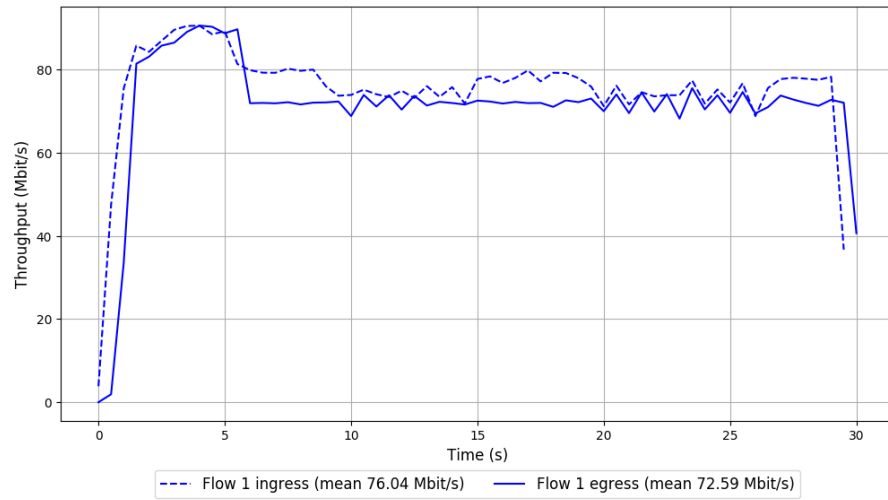
-- Flow 1:

Average throughput: 72.59 Mbit/s

95th percentile per-packet one-way delay: 53.725 ms

Loss rate: 4.52%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-10-26 00:17:28

End at: 2018-10-26 00:17:58

Local clock offset: 10.967 ms

Remote clock offset: 1.761 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 72.29 Mbit/s

95th percentile per-packet one-way delay: 63.100 ms

Loss rate: 6.90%

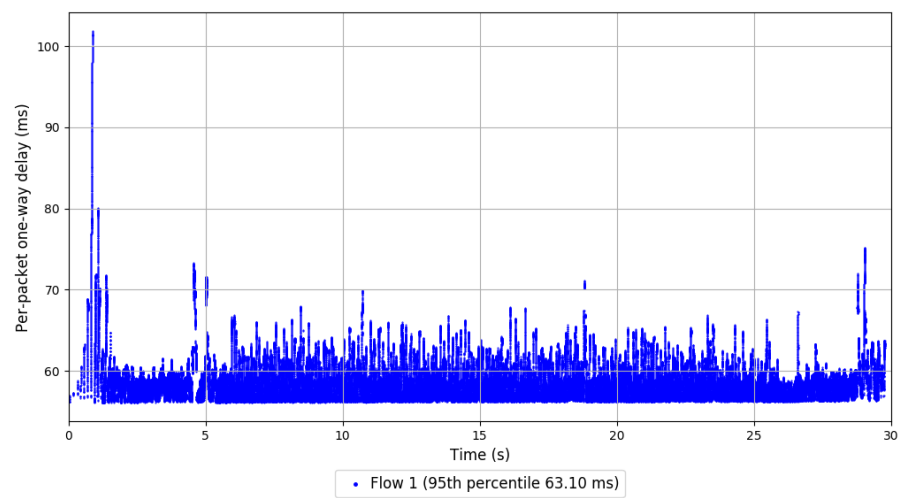
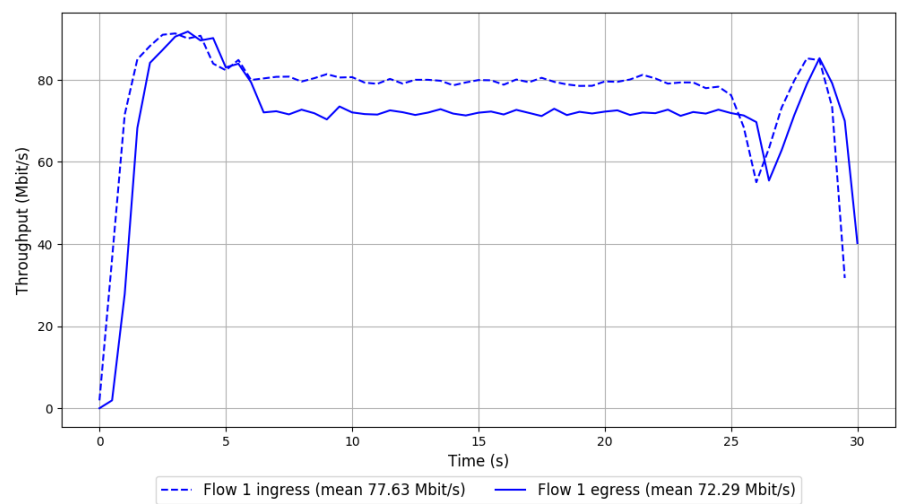
-- Flow 1:

Average throughput: 72.29 Mbit/s

95th percentile per-packet one-way delay: 63.100 ms

Loss rate: 6.90%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-10-26 00:39:50

End at: 2018-10-26 00:40:20

Local clock offset: 8.444 ms

Remote clock offset: 1.79 ms

Below is generated by plot.py at 2018-10-26 01:26:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 69.87 Mbit/s

95th percentile per-packet one-way delay: 54.961 ms

Loss rate: 0.92%

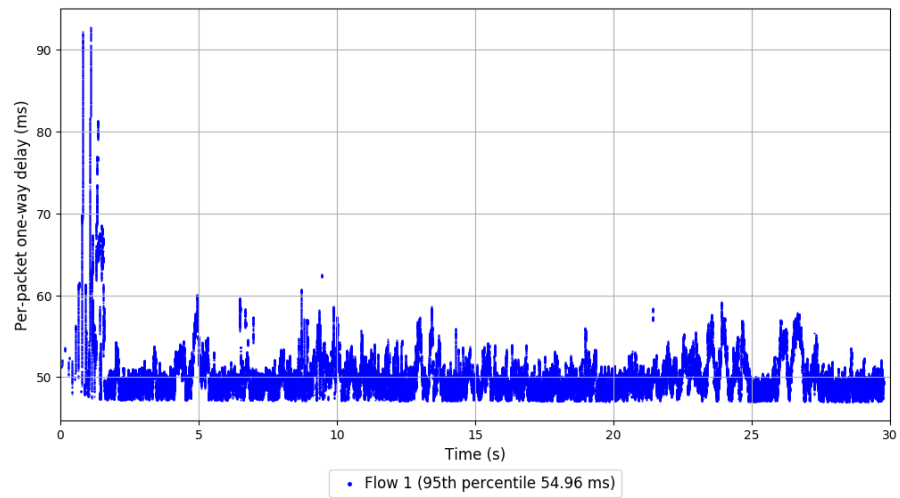
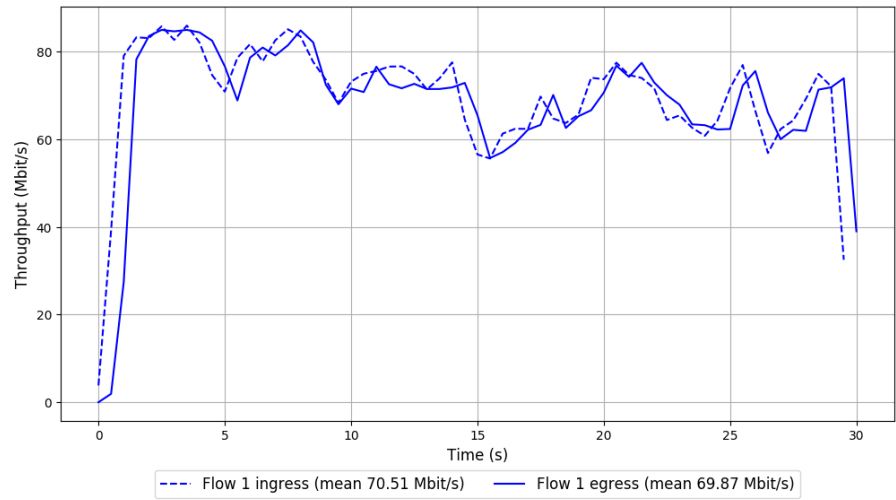
-- Flow 1:

Average throughput: 69.87 Mbit/s

95th percentile per-packet one-way delay: 54.961 ms

Loss rate: 0.92%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

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

End at: 2018-10-26 01:02:32

Local clock offset: 8.87 ms

Remote clock offset: -2.815 ms

Below is generated by plot.py at 2018-10-26 01:26:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 35.14 Mbit/s

95th percentile per-packet one-way delay: 69.593 ms

Loss rate: 0.17%

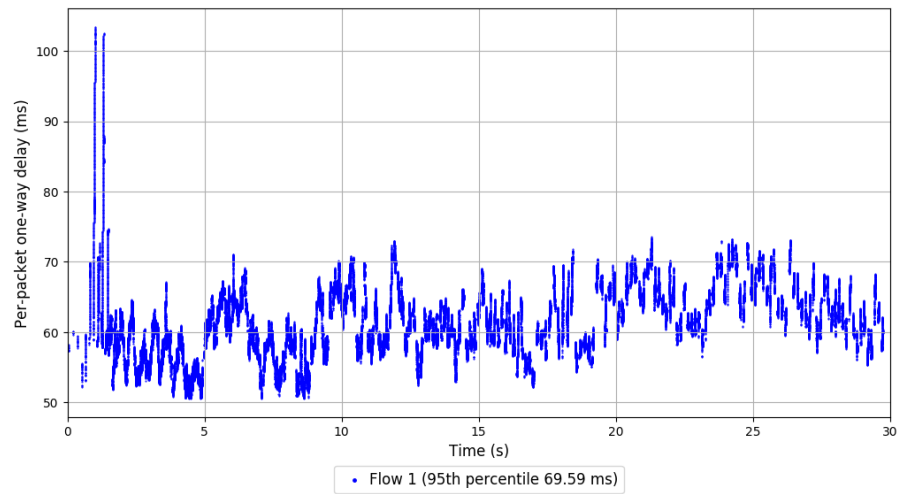
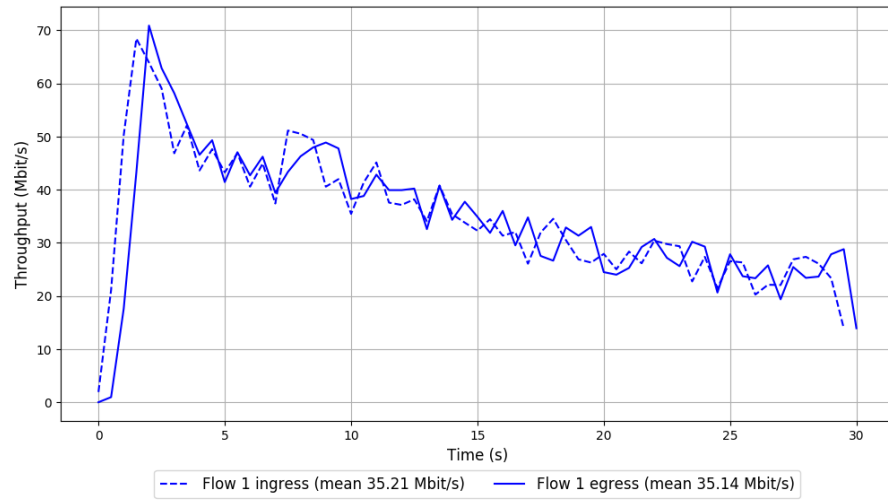
-- Flow 1:

Average throughput: 35.14 Mbit/s

95th percentile per-packet one-way delay: 69.593 ms

Loss rate: 0.17%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-25 23:51:26

End at: 2018-10-25 23:51:56

Local clock offset: 8.155 ms

Remote clock offset: 0.804 ms

Below is generated by plot.py at 2018-10-26 01:27:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.77 Mbit/s

95th percentile per-packet one-way delay: 190.813 ms

Loss rate: 7.80%

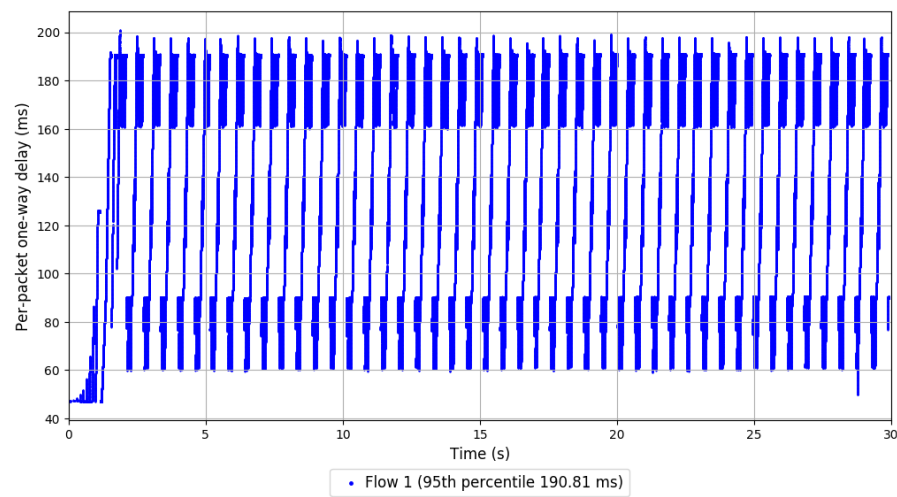
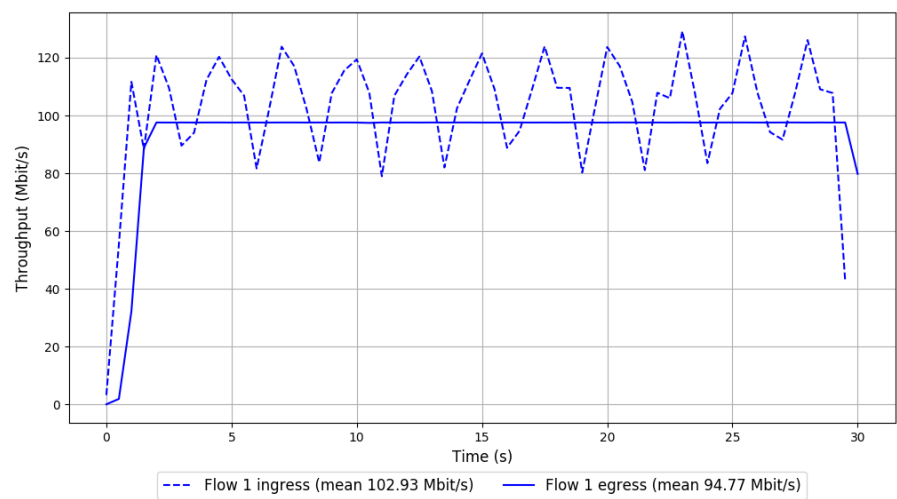
-- Flow 1:

Average throughput: 94.77 Mbit/s

95th percentile per-packet one-way delay: 190.813 ms

Loss rate: 7.80%

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



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-26 00:13:45

End at: 2018-10-26 00:14:15

Local clock offset: 10.23 ms

Remote clock offset: 2.209 ms

Below is generated by plot.py at 2018-10-26 01:27:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 93.84 Mbit/s

95th percentile per-packet one-way delay: 199.983 ms

Loss rate: 14.01%

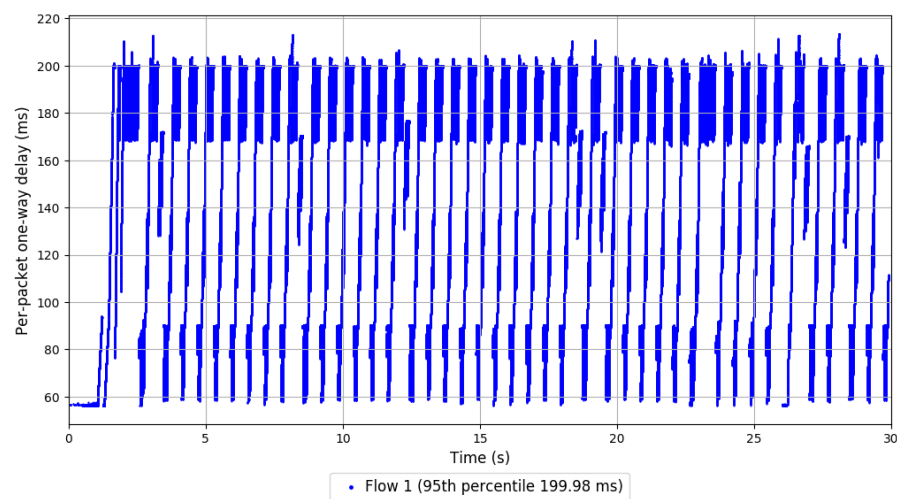
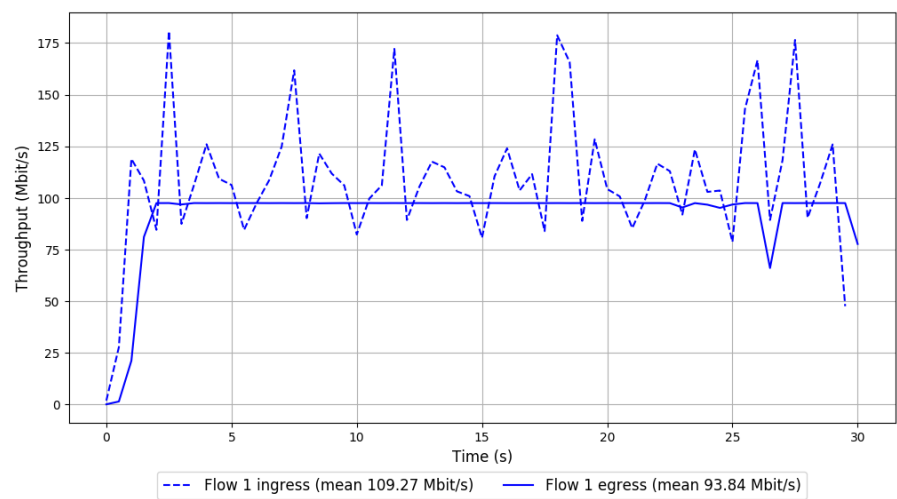
-- Flow 1:

Average throughput: 93.84 Mbit/s

95th percentile per-packet one-way delay: 199.983 ms

Loss rate: 14.01%

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



Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-26 00:36:12

End at: 2018-10-26 00:36:42

Local clock offset: 11.09 ms

Remote clock offset: 1.249 ms

Below is generated by plot.py at 2018-10-26 01:27:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.01 Mbit/s

95th percentile per-packet one-way delay: 198.654 ms

Loss rate: 19.22%

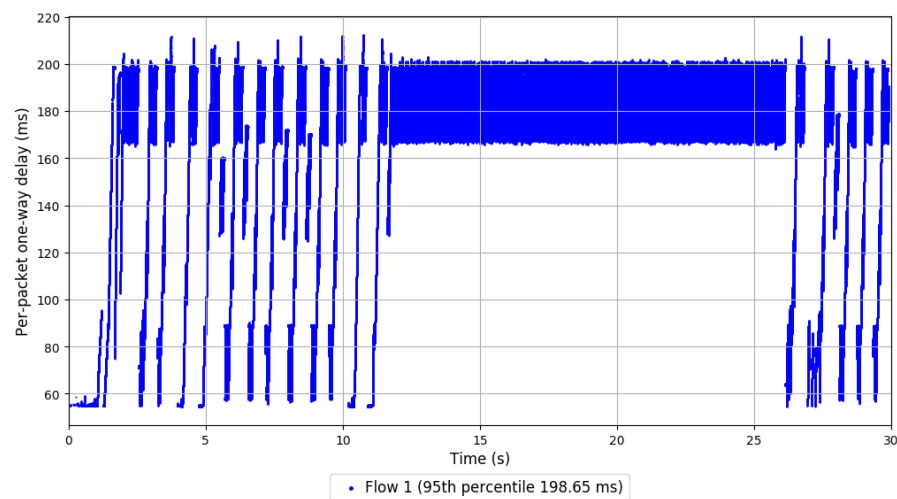
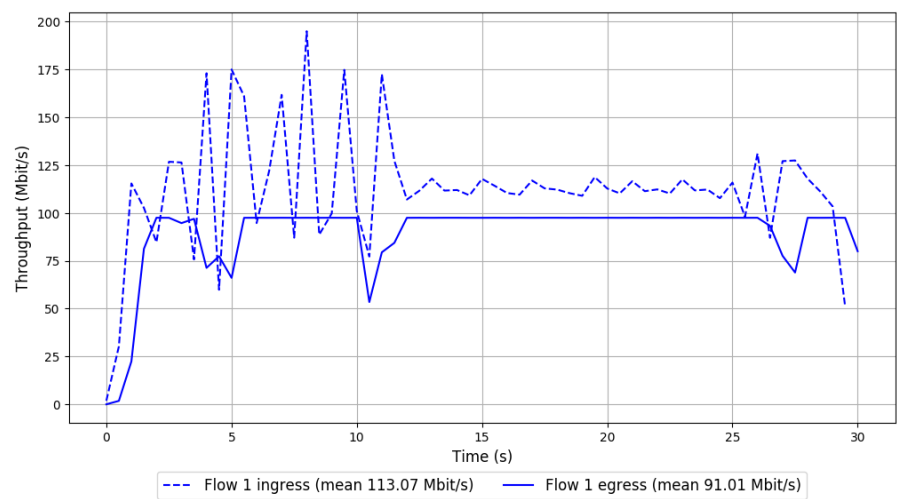
-- Flow 1:

Average throughput: 91.01 Mbit/s

95th percentile per-packet one-way delay: 198.654 ms

Loss rate: 19.22%

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



Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-26 00:58:19

End at: 2018-10-26 00:58:49

Local clock offset: 8.206 ms

Remote clock offset: 0.95 ms

Below is generated by plot.py at 2018-10-26 01:27:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.18 Mbit/s

95th percentile per-packet one-way delay: 209.018 ms

Loss rate: 18.83%

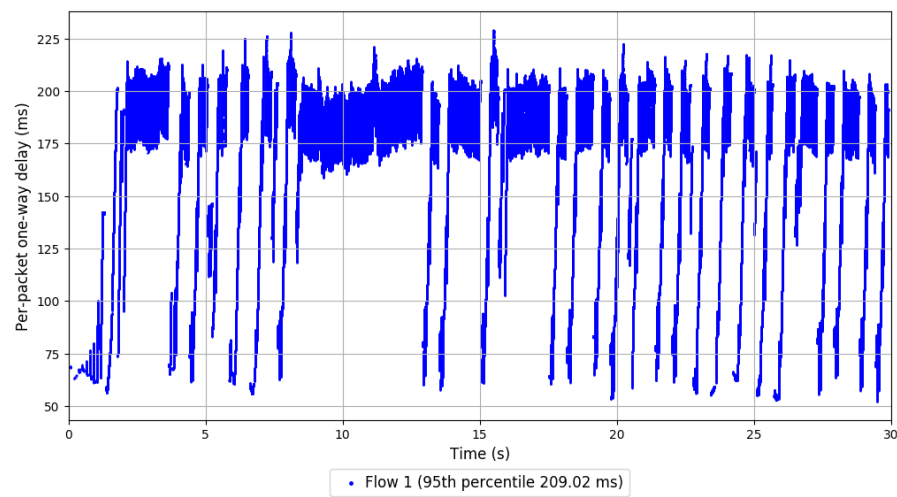
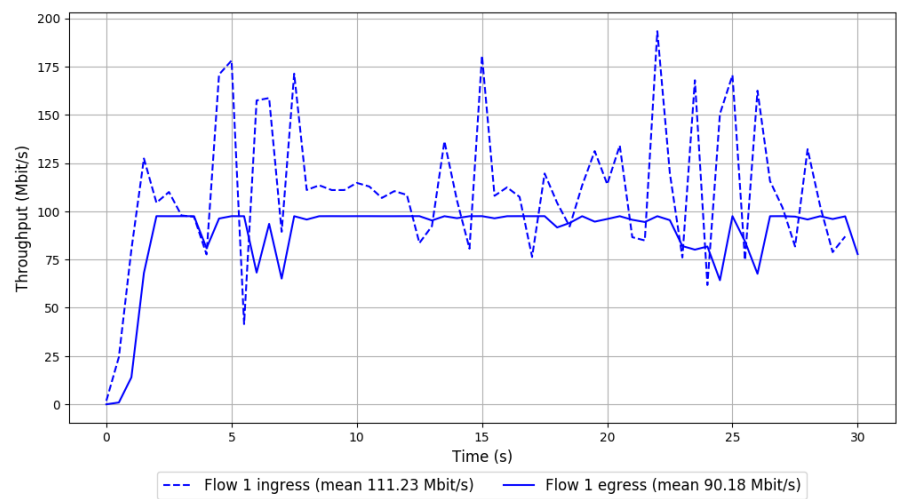
-- Flow 1:

Average throughput: 90.18 Mbit/s

95th percentile per-packet one-way delay: 209.018 ms

Loss rate: 18.83%

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



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-26 01:20:16

End at: 2018-10-26 01:20:46

Local clock offset: 4.8 ms

Remote clock offset: -6.254 ms

Below is generated by plot.py at 2018-10-26 01:27:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.36 Mbit/s

95th percentile per-packet one-way delay: 208.119 ms

Loss rate: 12.94%

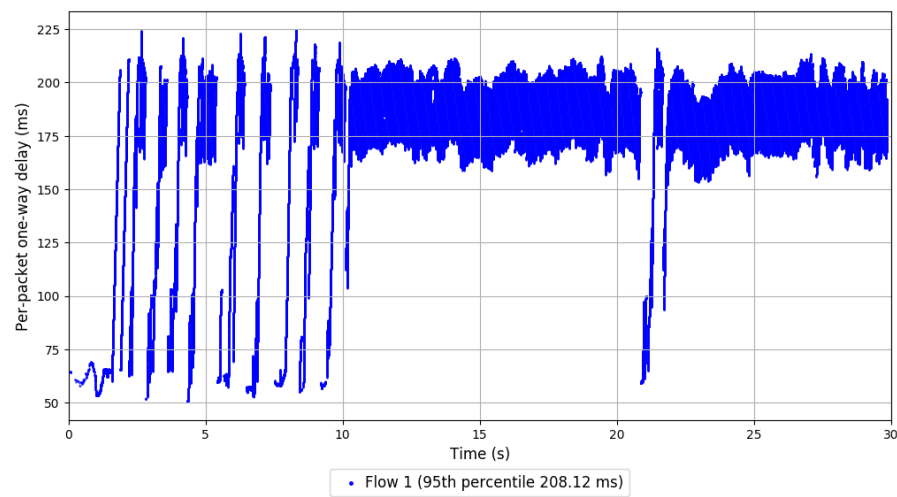
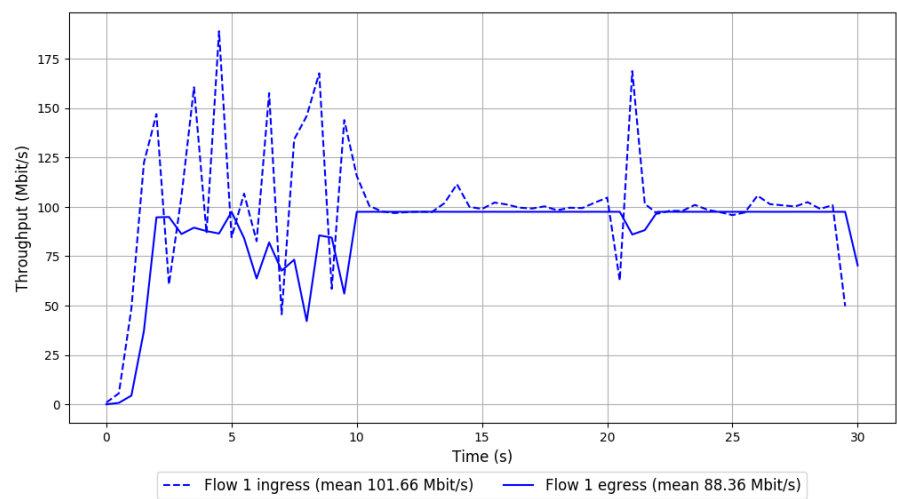
-- Flow 1:

Average throughput: 88.36 Mbit/s

95th percentile per-packet one-way delay: 208.119 ms

Loss rate: 12.94%

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

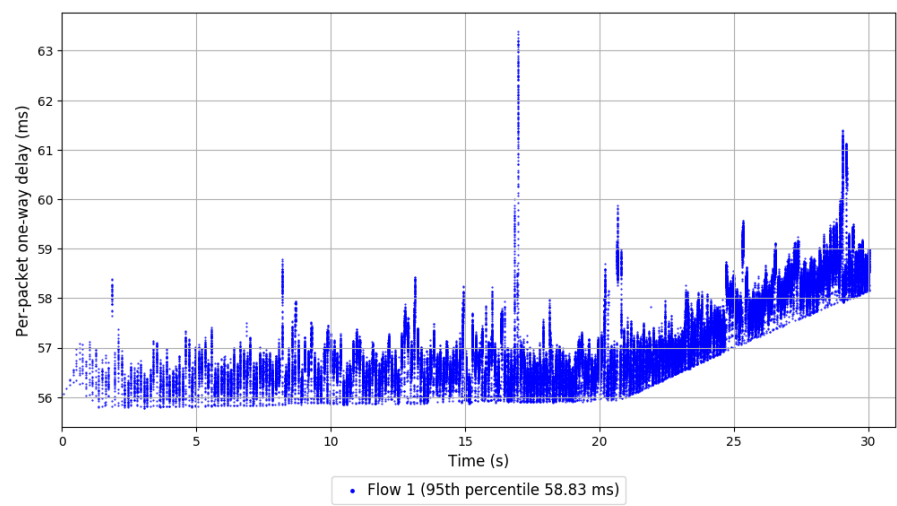
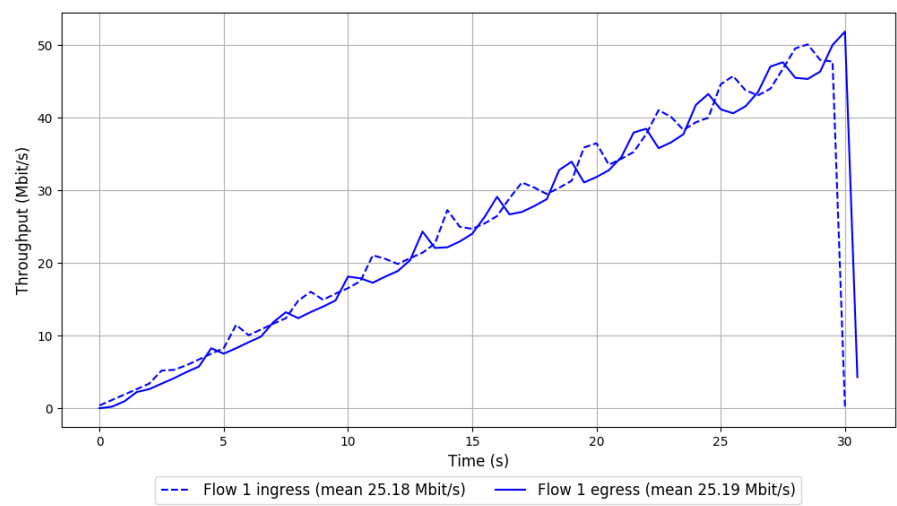


```
Run 1: Statistics of LEDBAT

Start at: 2018-10-25 23:35:13
End at: 2018-10-25 23:35:43
Local clock offset: 0.199 ms
Remote clock offset: -0.5 ms

# Below is generated by plot.py at 2018-10-26 01:27:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.19 Mbit/s
95th percentile per-packet one-way delay: 58.833 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 25.19 Mbit/s
95th percentile per-packet one-way delay: 58.833 ms
Loss rate: 0.02%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-10-25 23:57:35

End at: 2018-10-25 23:58:05

Local clock offset: 13.12 ms

Remote clock offset: 2.11 ms

Below is generated by plot.py at 2018-10-26 01:27:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 23.37 Mbit/s

95th percentile per-packet one-way delay: 58.896 ms

Loss rate: 0.10%

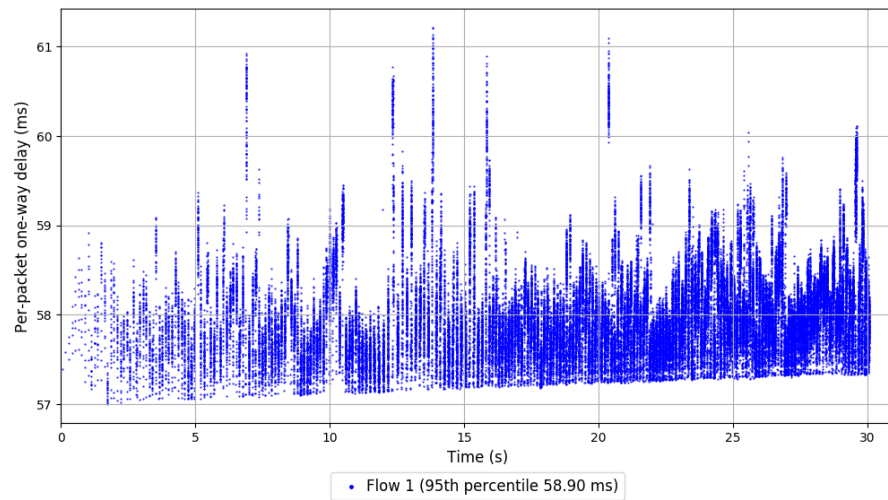
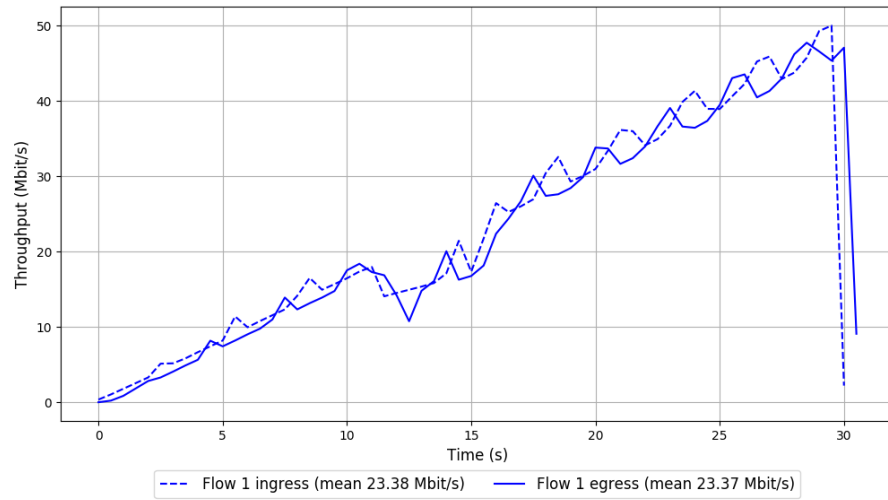
-- Flow 1:

Average throughput: 23.37 Mbit/s

95th percentile per-packet one-way delay: 58.896 ms

Loss rate: 0.10%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-10-26 00:19:57

End at: 2018-10-26 00:20:27

Local clock offset: 11.781 ms

Remote clock offset: 1.633 ms

Below is generated by plot.py at 2018-10-26 01:27:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 26.46 Mbit/s

95th percentile per-packet one-way delay: 48.516 ms

Loss rate: 0.00%

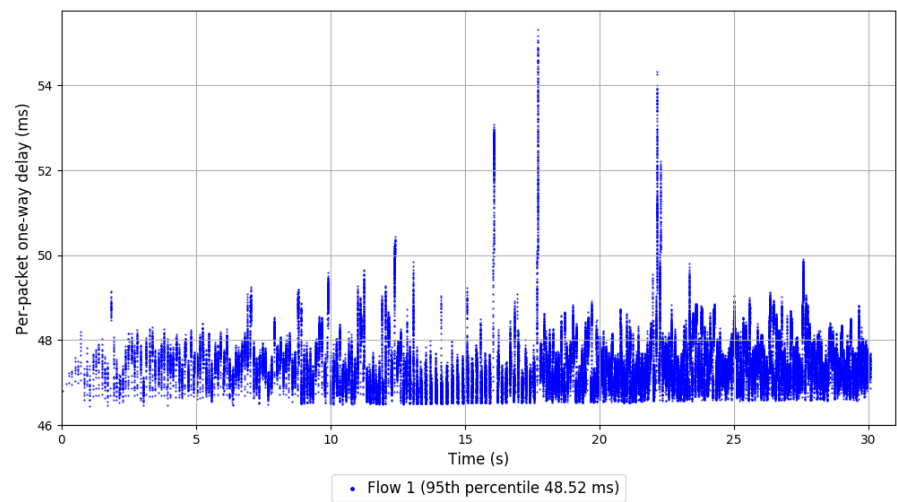
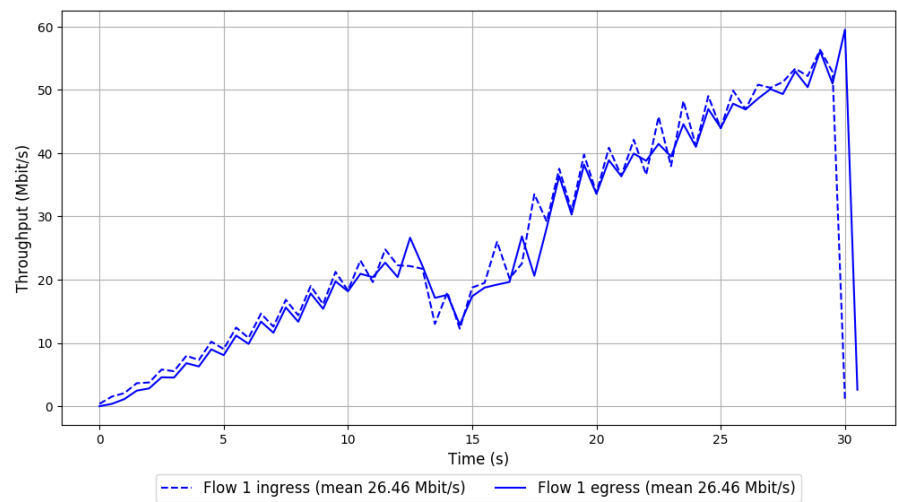
-- Flow 1:

Average throughput: 26.46 Mbit/s

95th percentile per-packet one-way delay: 48.516 ms

Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-10-26 00:42:19

End at: 2018-10-26 00:42:49

Local clock offset: 7.539 ms

Remote clock offset: 1.363 ms

Below is generated by plot.py at 2018-10-26 01:27:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 25.10 Mbit/s

95th percentile per-packet one-way delay: 57.996 ms

Loss rate: 0.00%

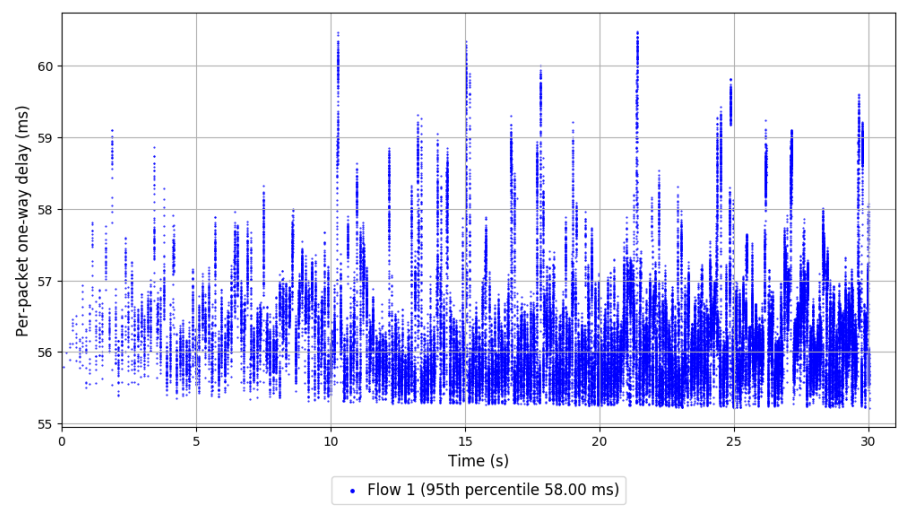
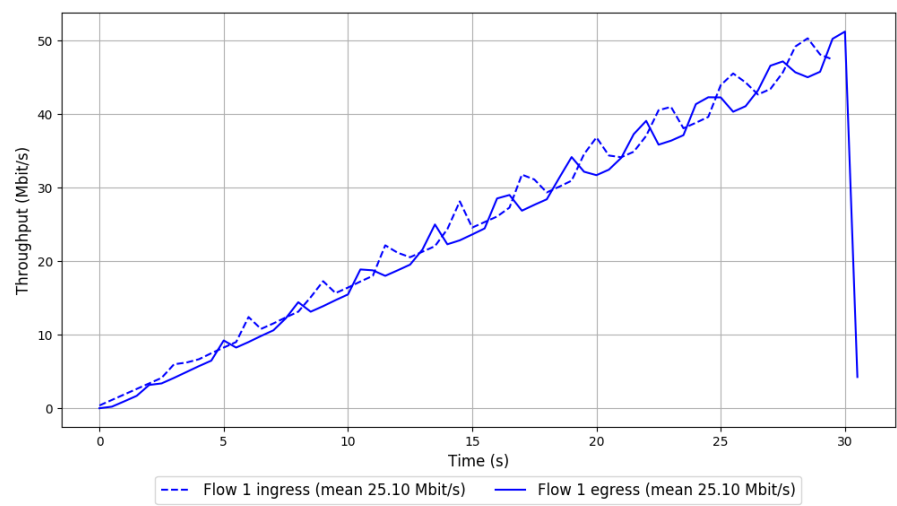
-- Flow 1:

Average throughput: 25.10 Mbit/s

95th percentile per-packet one-way delay: 57.996 ms

Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

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

End at: 2018-10-26 01:04:56

Local clock offset: 7.338 ms

Remote clock offset: -6.62 ms

Below is generated by plot.py at 2018-10-26 01:27:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 16.32 Mbit/s

95th percentile per-packet one-way delay: 66.880 ms

Loss rate: 0.04%

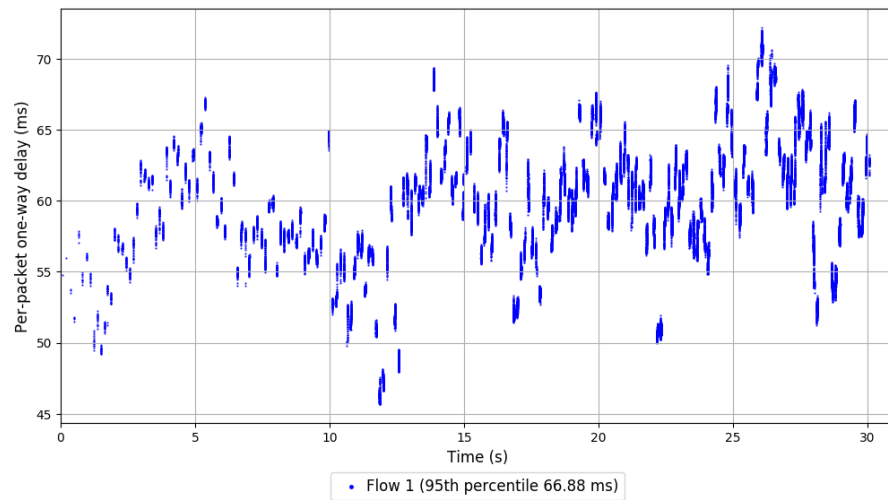
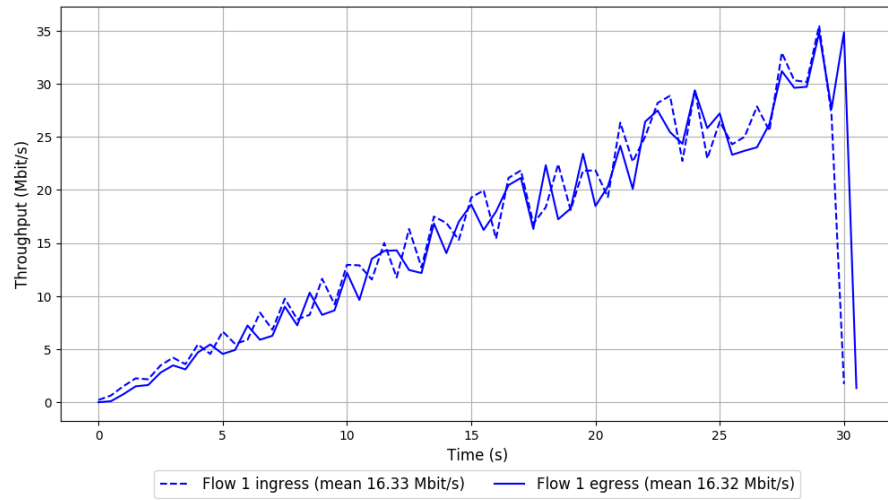
-- Flow 1:

Average throughput: 16.32 Mbit/s

95th percentile per-packet one-way delay: 66.880 ms

Loss rate: 0.04%

Run 5: Report of LEDBAT — Data Link

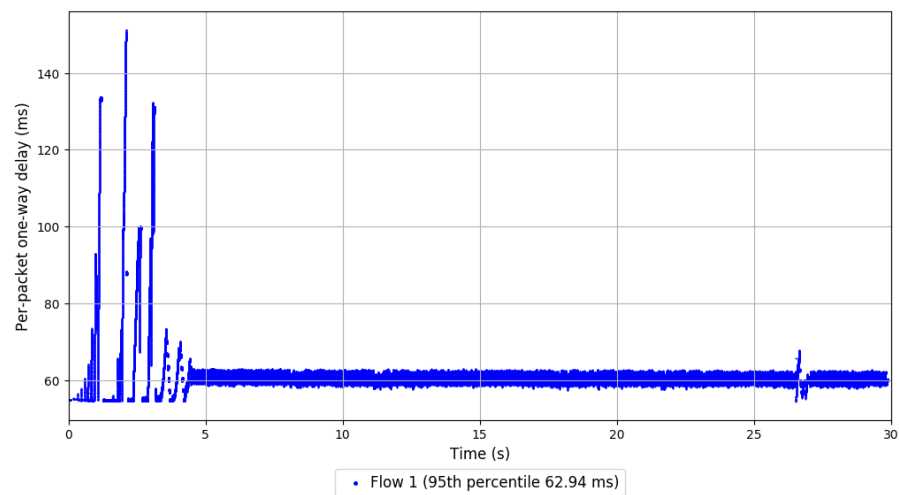
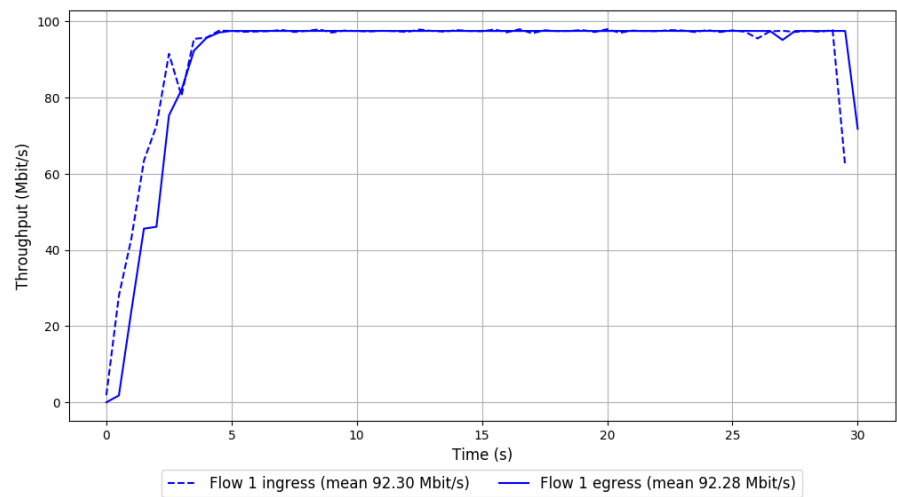


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-25 23:43:43
End at: 2018-10-25 23:44:13
Local clock offset: 6.633 ms
Remote clock offset: -0.616 ms

# Below is generated by plot.py at 2018-10-26 01:28:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.28 Mbit/s
95th percentile per-packet one-way delay: 62.941 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 92.28 Mbit/s
95th percentile per-packet one-way delay: 62.941 ms
Loss rate: 0.03%
```

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

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

End at: 2018-10-26 00:06:36

Local clock offset: 11.995 ms

Remote clock offset: 2.242 ms

Below is generated by plot.py at 2018-10-26 01:28:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.21 Mbit/s

95th percentile per-packet one-way delay: 63.683 ms

Loss rate: 0.02%

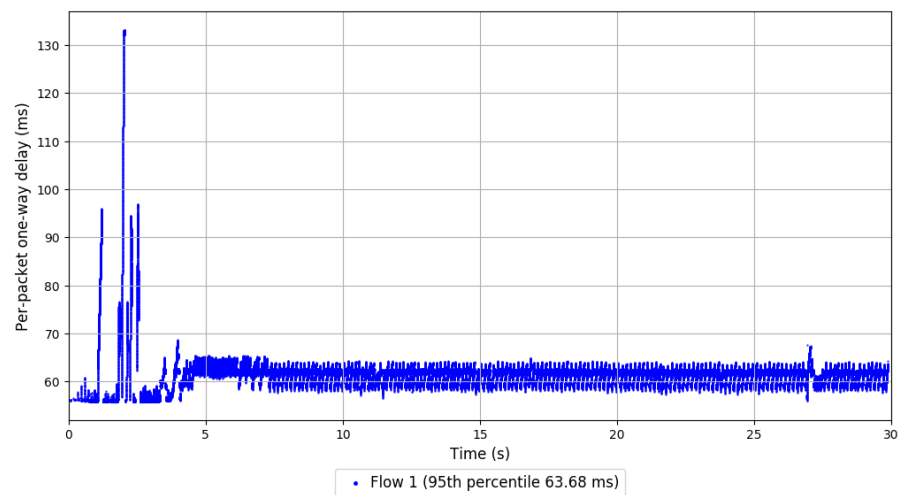
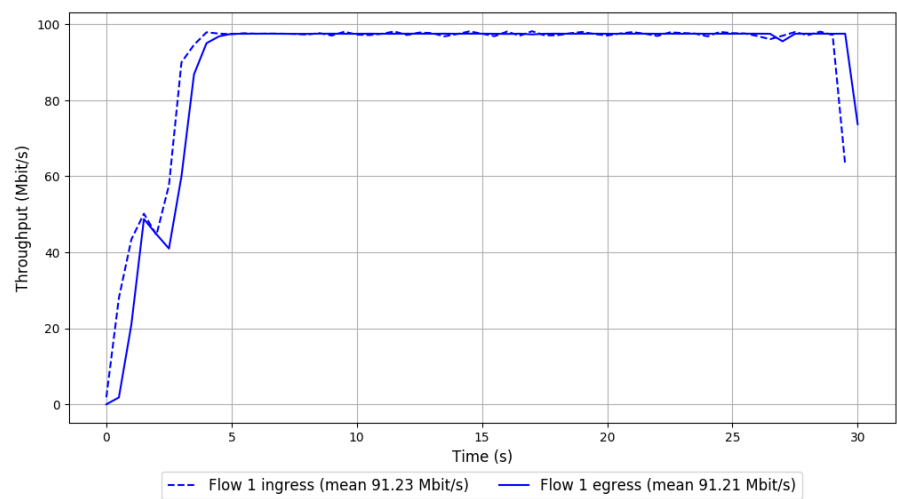
-- Flow 1:

Average throughput: 91.21 Mbit/s

95th percentile per-packet one-way delay: 63.683 ms

Loss rate: 0.02%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

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

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

Local clock offset: 15.443 ms

Remote clock offset: 1.106 ms

Below is generated by plot.py at 2018-10-26 01:28:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.40 Mbit/s

95th percentile per-packet one-way delay: 64.707 ms

Loss rate: 0.05%

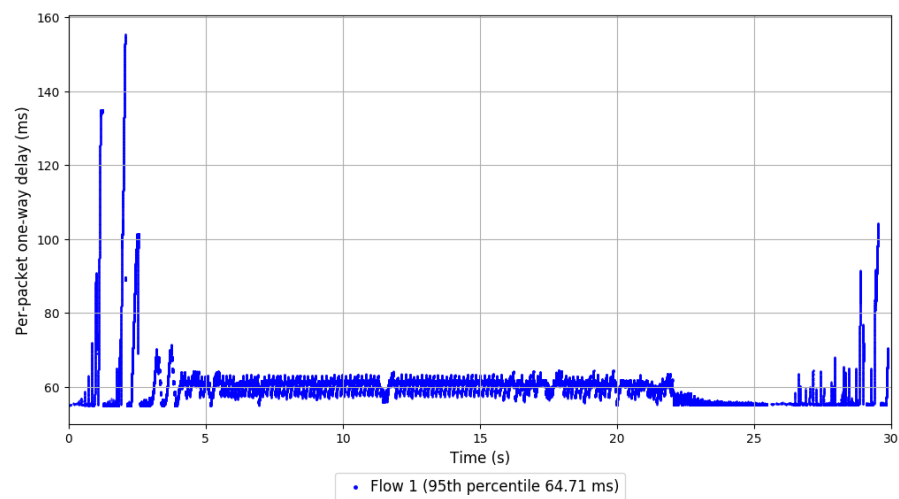
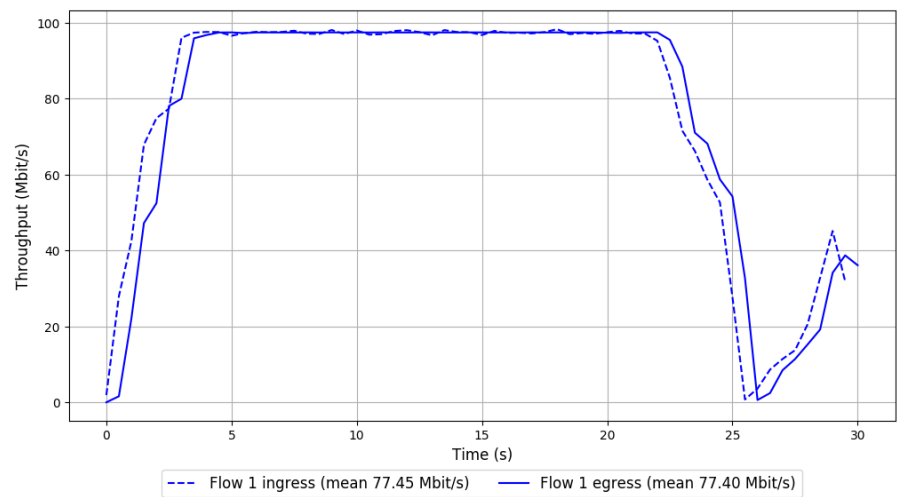
-- Flow 1:

Average throughput: 77.40 Mbit/s

95th percentile per-packet one-way delay: 64.707 ms

Loss rate: 0.05%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-10-26 00:50:52

End at: 2018-10-26 00:51:22

Local clock offset: 7.009 ms

Remote clock offset: 1.472 ms

Below is generated by plot.py at 2018-10-26 01:28:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 44.70 Mbit/s

95th percentile per-packet one-way delay: 73.426 ms

Loss rate: 0.32%

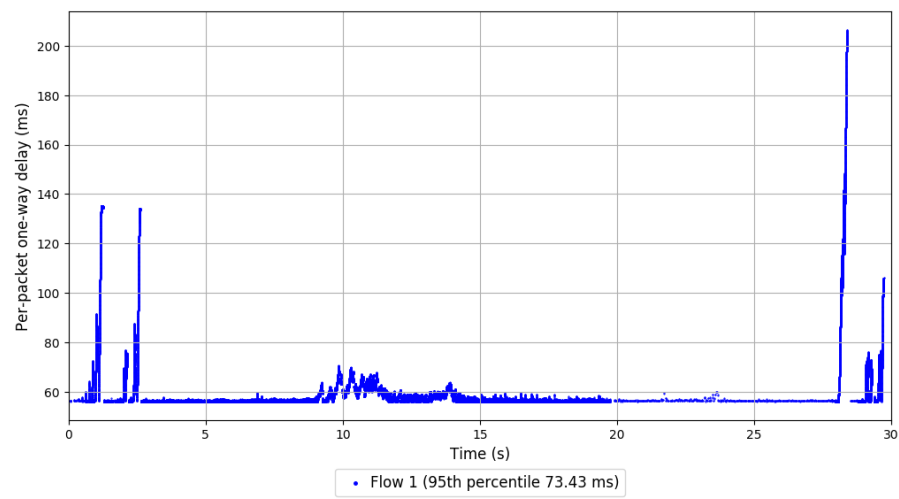
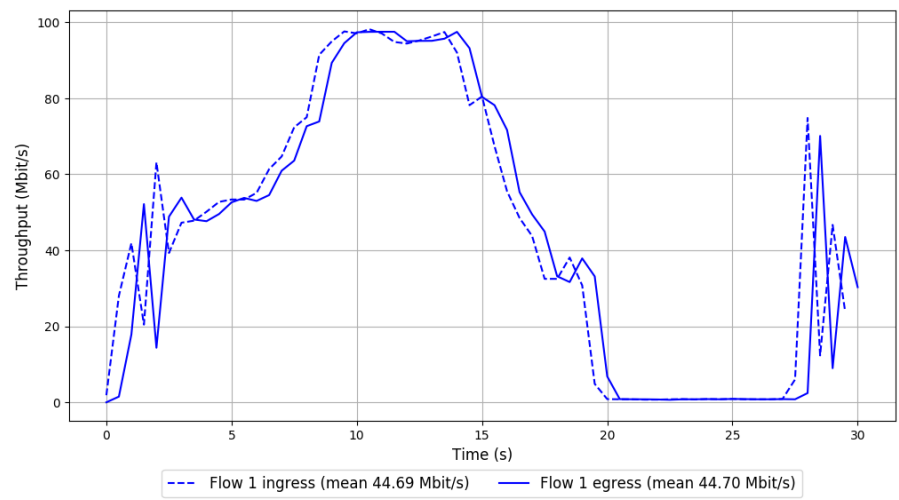
-- Flow 1:

Average throughput: 44.70 Mbit/s

95th percentile per-packet one-way delay: 73.426 ms

Loss rate: 0.32%

Run 4: Report of Indigo-Muses — Data Link

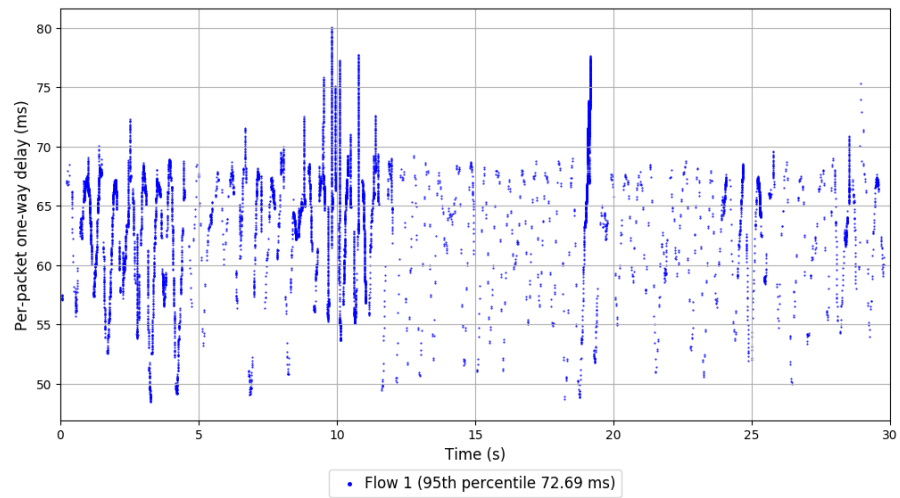
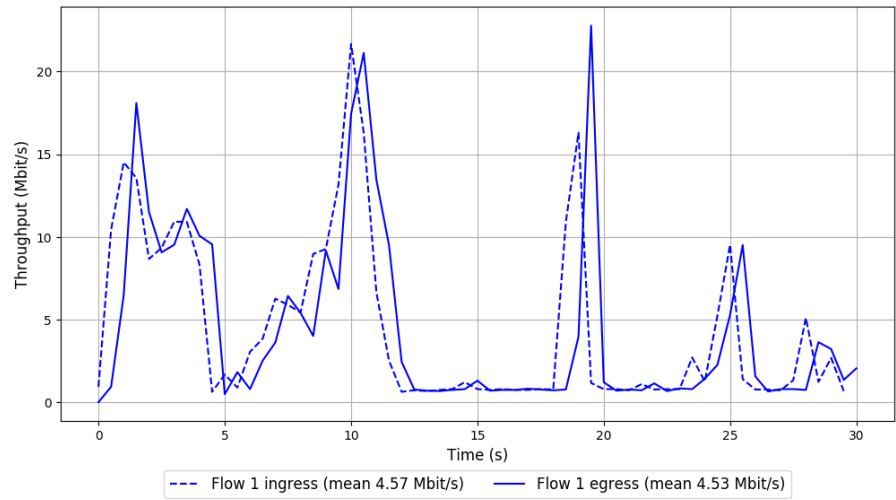


Run 5: Statistics of Indigo-Muses

Start at: 2018-10-26 01:12:52
End at: 2018-10-26 01:13:22
Local clock offset: 4.67 ms
Remote clock offset: -6.727 ms

Below is generated by plot.py at 2018-10-26 01:28:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.53 Mbit/s
95th percentile per-packet one-way delay: 72.694 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 4.53 Mbit/s
95th percentile per-packet one-way delay: 72.694 ms
Loss rate: 0.88%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

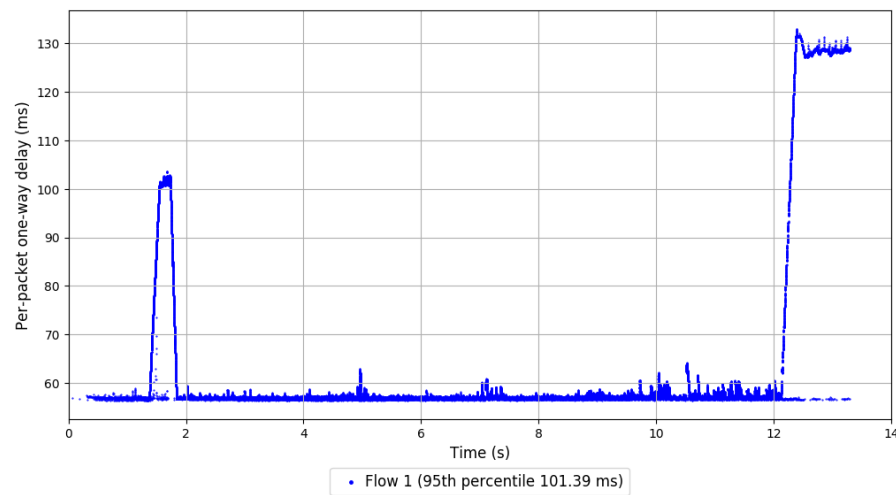
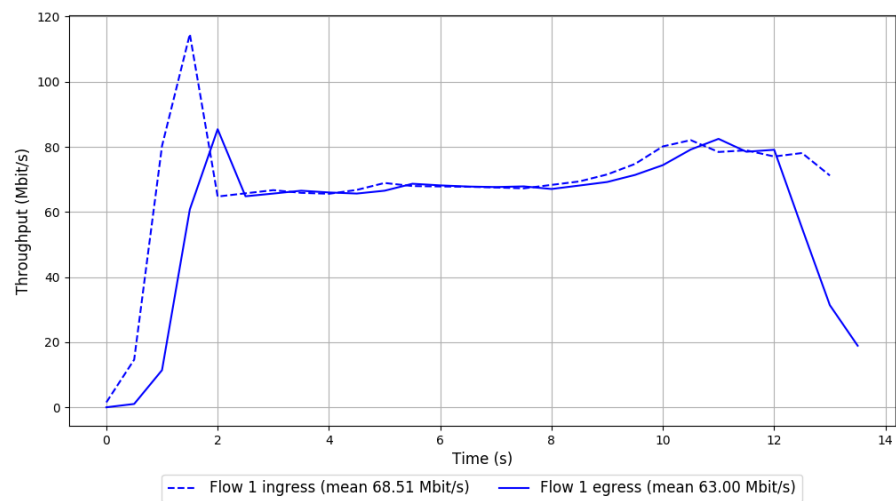
Start at: 2018-10-25 23:52:47

End at: 2018-10-25 23:53:17

Local clock offset: 9.065 ms

Remote clock offset: 0.991 ms

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

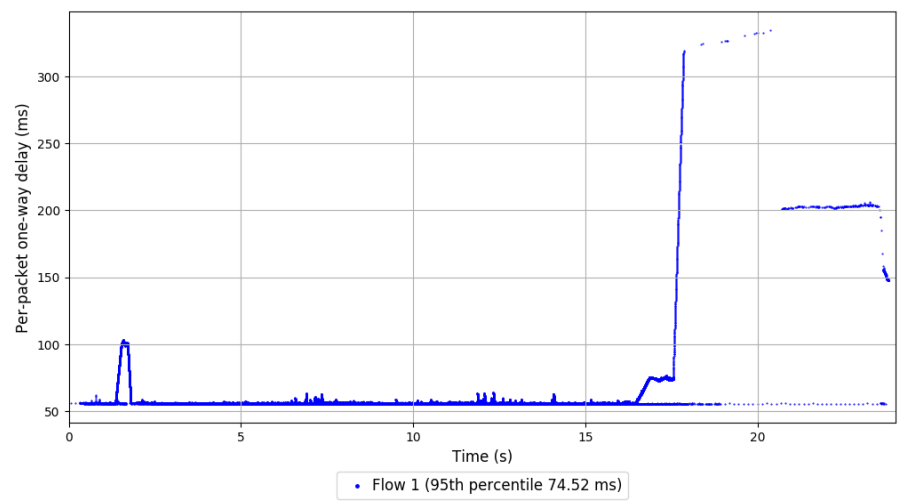
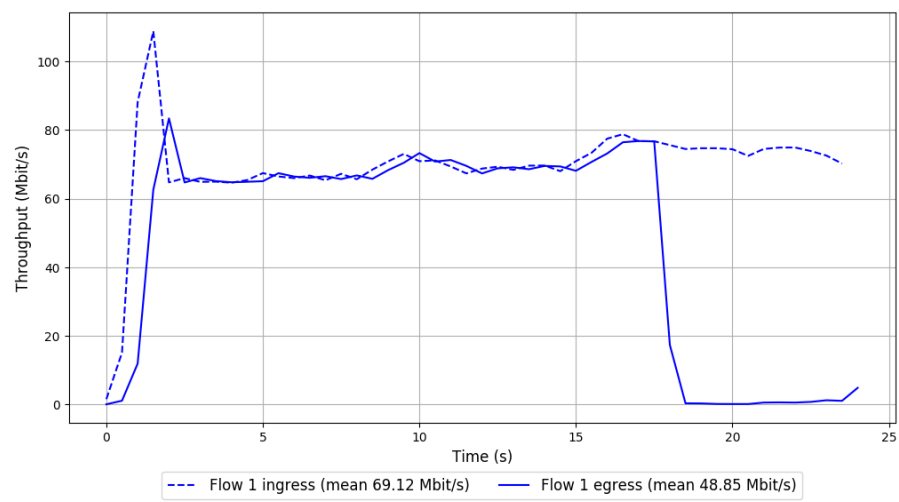
Start at: 2018-10-26 00:15:05

End at: 2018-10-26 00:15:35

Local clock offset: 10.539 ms

Remote clock offset: 1.408 ms

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

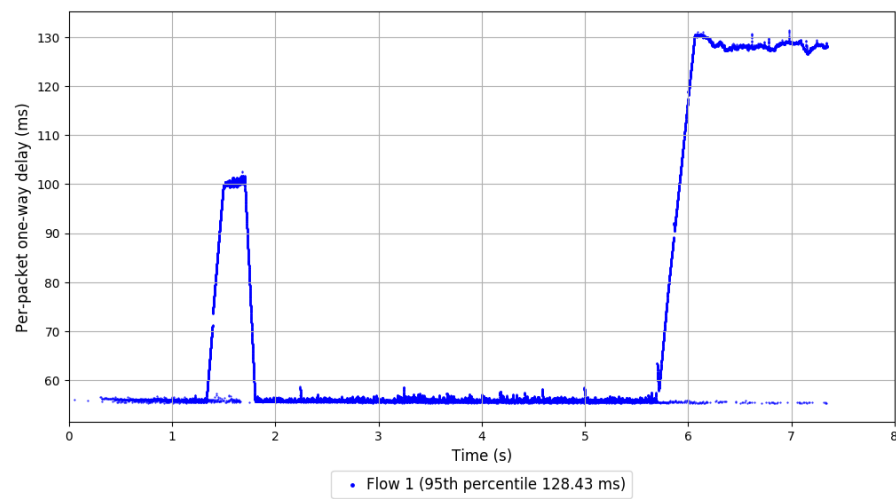
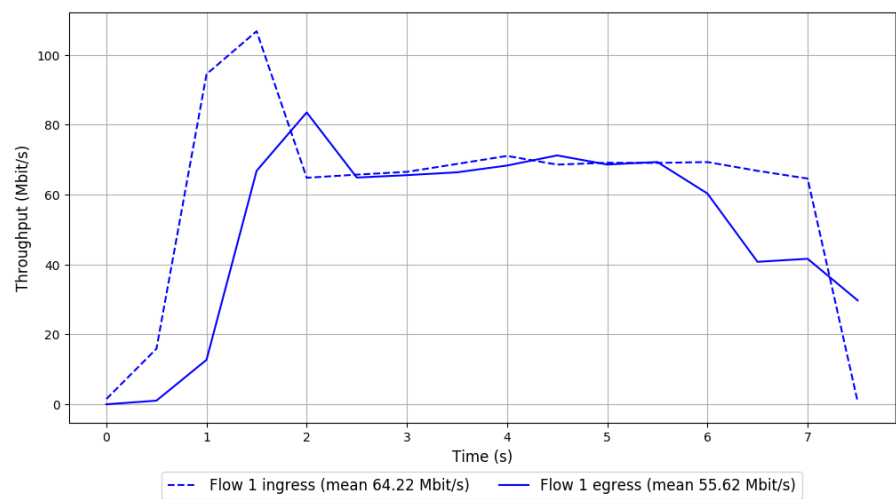
Start at: 2018-10-26 00:37:32

End at: 2018-10-26 00:38:02

Local clock offset: 9.996 ms

Remote clock offset: 1.559 ms

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-26 00:59:40

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

Local clock offset: 8.757 ms

Remote clock offset: -2.499 ms

Below is generated by plot.py at 2018-10-26 01:28:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 16.04 Mbit/s

95th percentile per-packet one-way delay: 70.935 ms

Loss rate: 0.07%

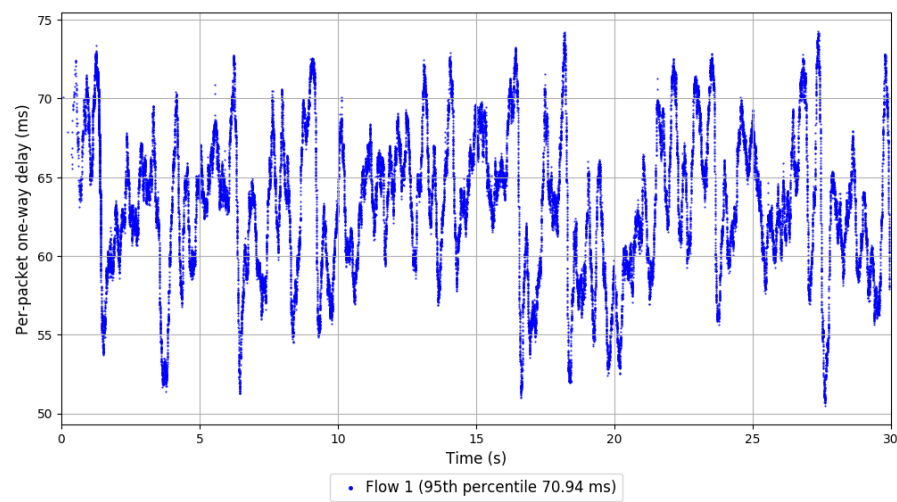
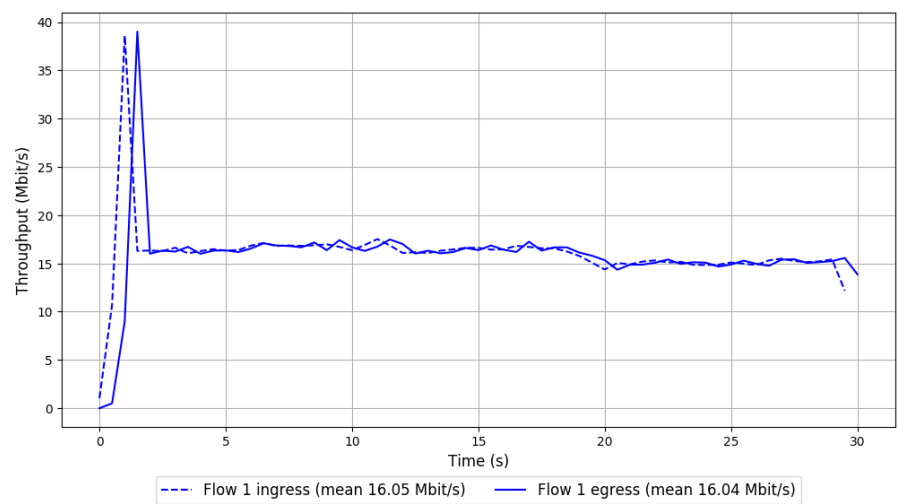
-- Flow 1:

Average throughput: 16.04 Mbit/s

95th percentile per-packet one-way delay: 70.935 ms

Loss rate: 0.07%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

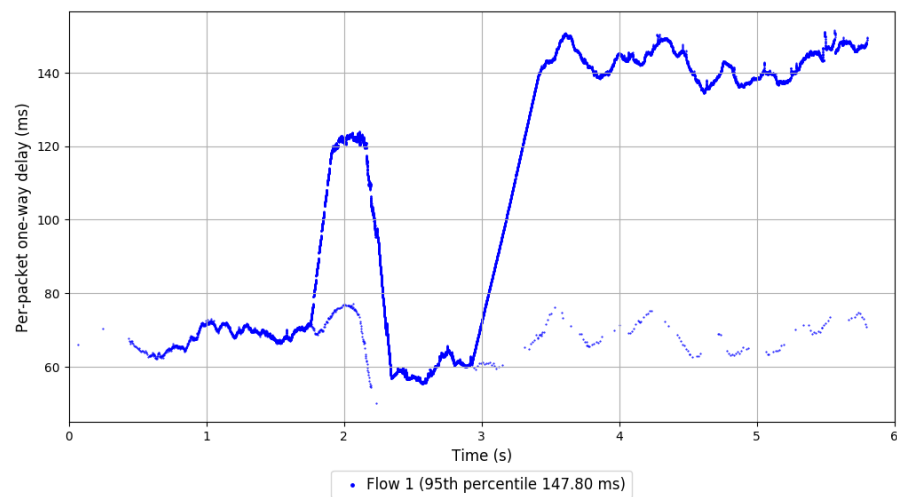
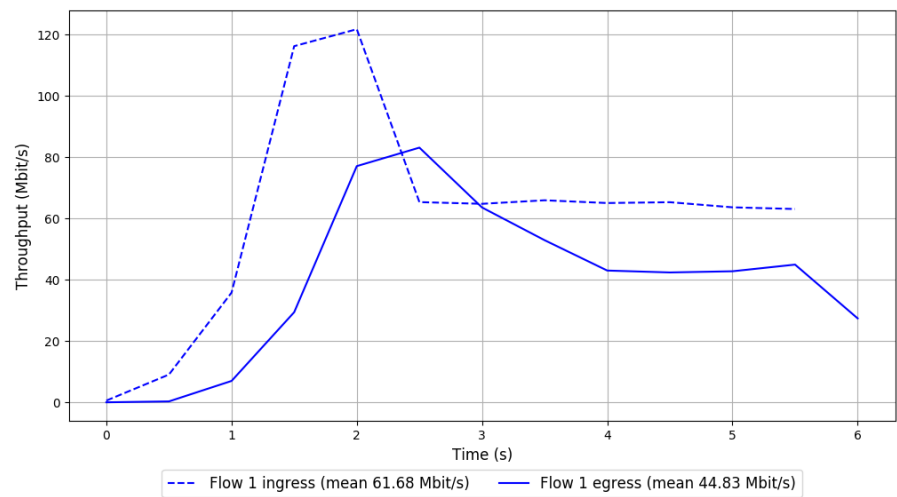
Start at: 2018-10-26 01:21:41

End at: 2018-10-26 01:22:11

Local clock offset: 4.804 ms

Remote clock offset: -6.625 ms

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

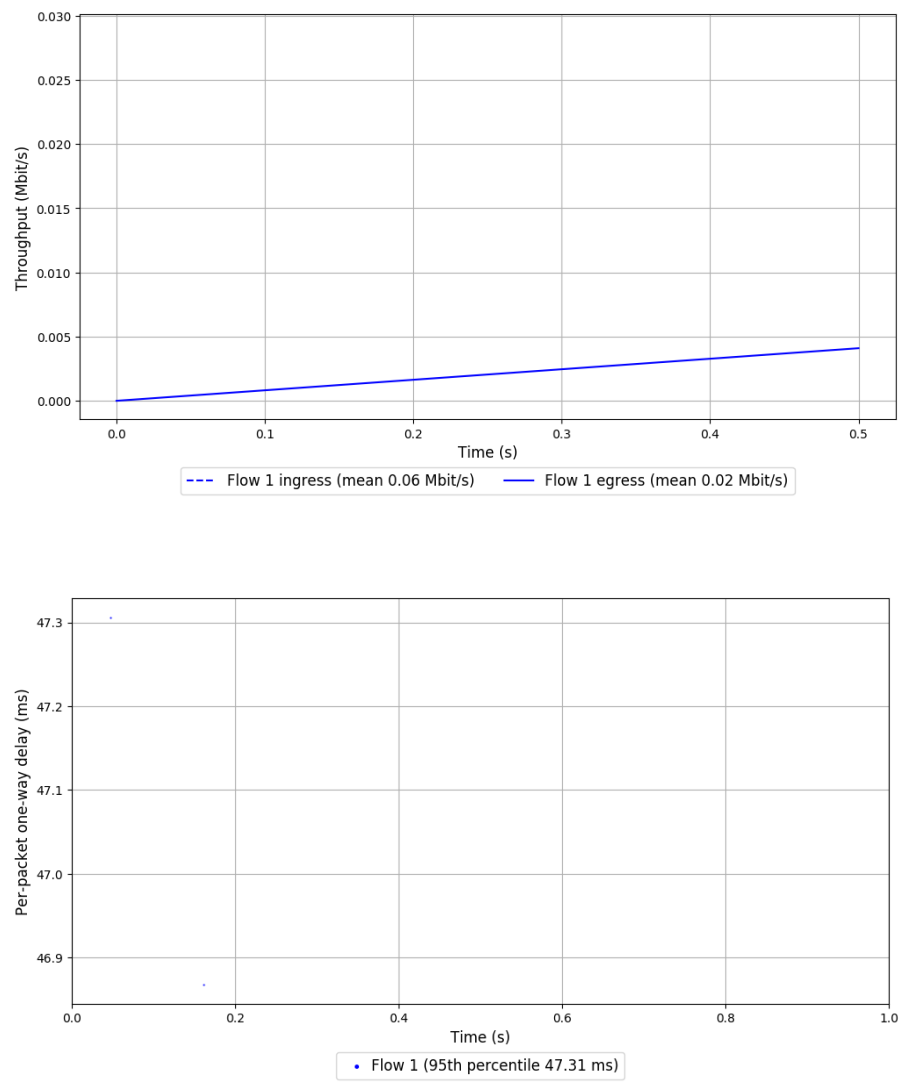
Start at: 2018-10-25 23:53:58

End at: 2018-10-25 23:54:28

Local clock offset: 10.348 ms

Remote clock offset: 1.057 ms

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-10-26 00:16:17

End at: 2018-10-26 00:16:47

Local clock offset: 10.602 ms

Remote clock offset: 1.756 ms

Below is generated by plot.py at 2018-10-26 01:28:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.64 Mbit/s

95th percentile per-packet one-way delay: 47.681 ms

Loss rate: 47.01%

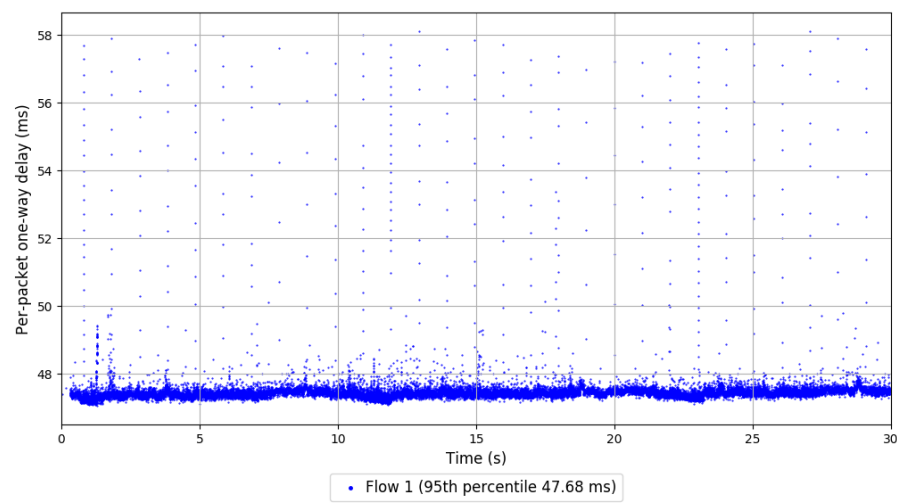
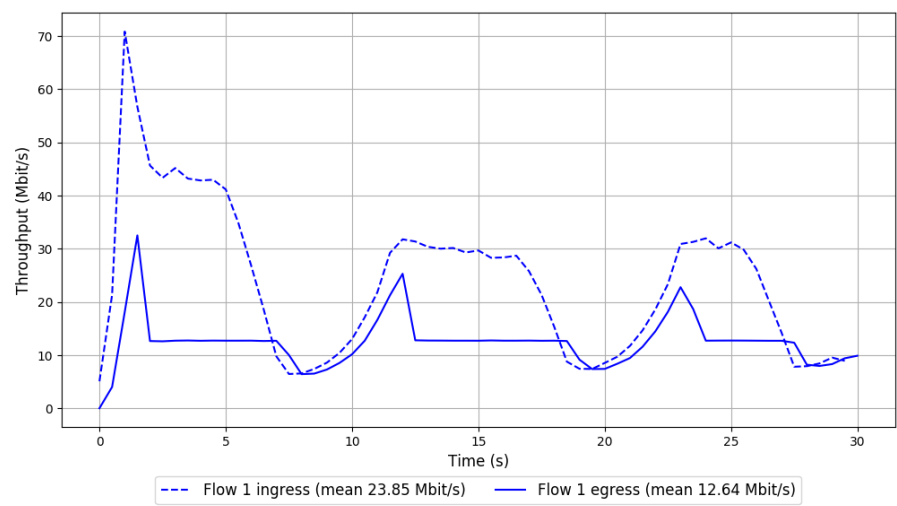
-- Flow 1:

Average throughput: 12.64 Mbit/s

95th percentile per-packet one-way delay: 47.681 ms

Loss rate: 47.01%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

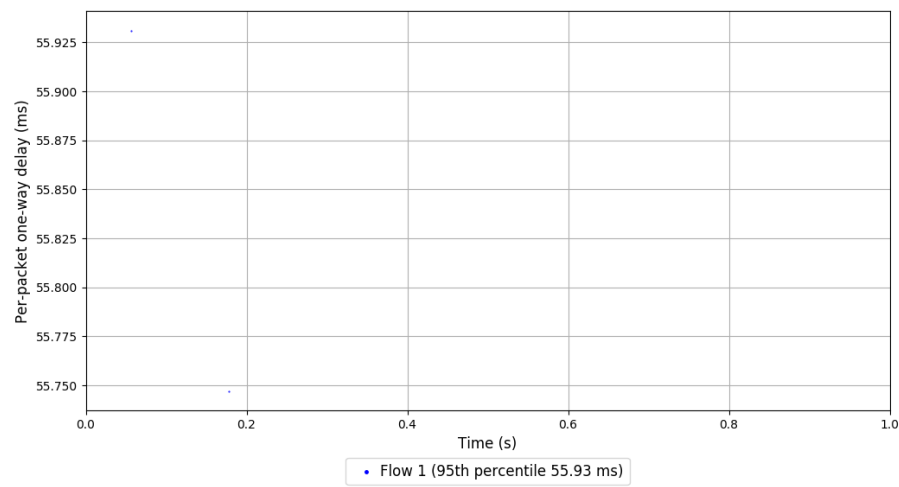
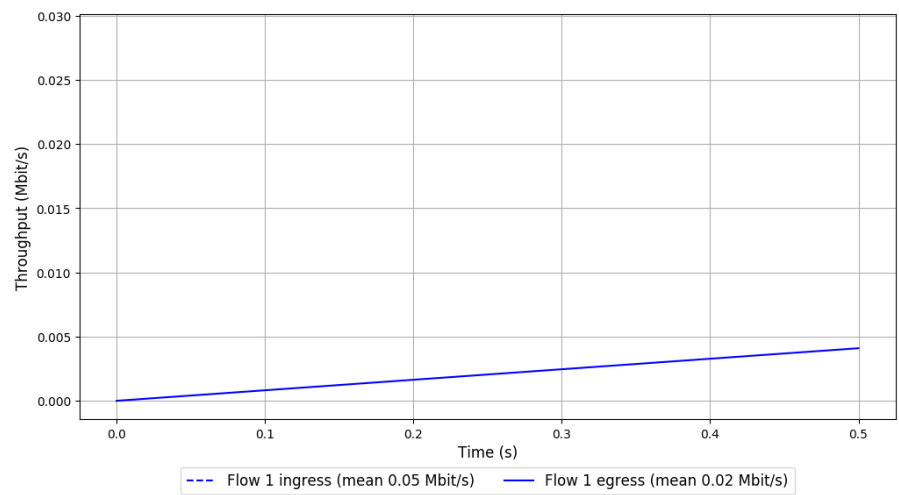
Start at: 2018-10-26 00:38:42

End at: 2018-10-26 00:39:12

Local clock offset: 9.085 ms

Remote clock offset: 1.328 ms

Run 3: Report of PCC-Expr — Data Link

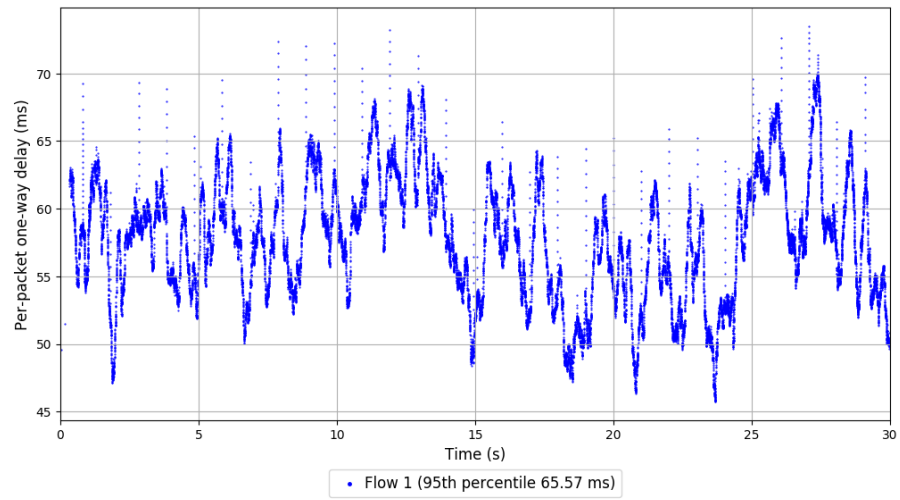
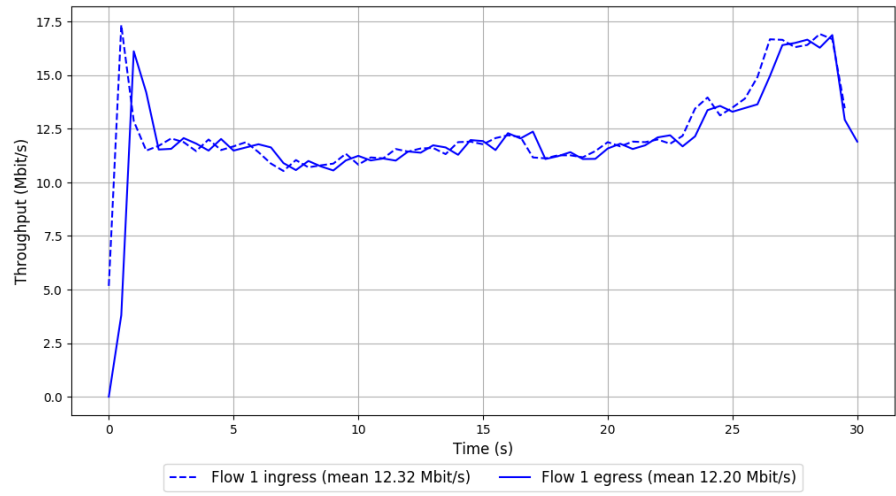


Run 4: Statistics of PCC-Expr

Start at: 2018-10-26 01:00:51
End at: 2018-10-26 01:01:21
Local clock offset: 8.844 ms
Remote clock offset: -5.317 ms

Below is generated by plot.py at 2018-10-26 01:28:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 65.568 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 12.20 Mbit/s
95th percentile per-packet one-way delay: 65.568 ms
Loss rate: 1.00%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

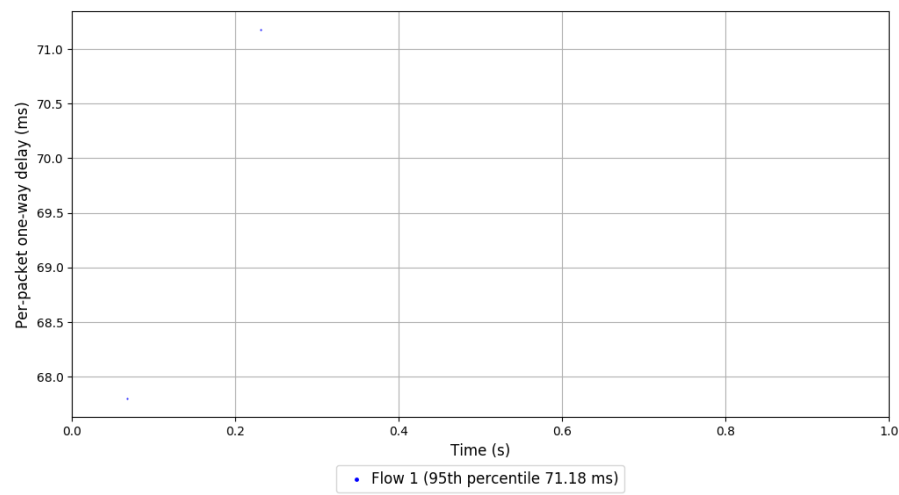
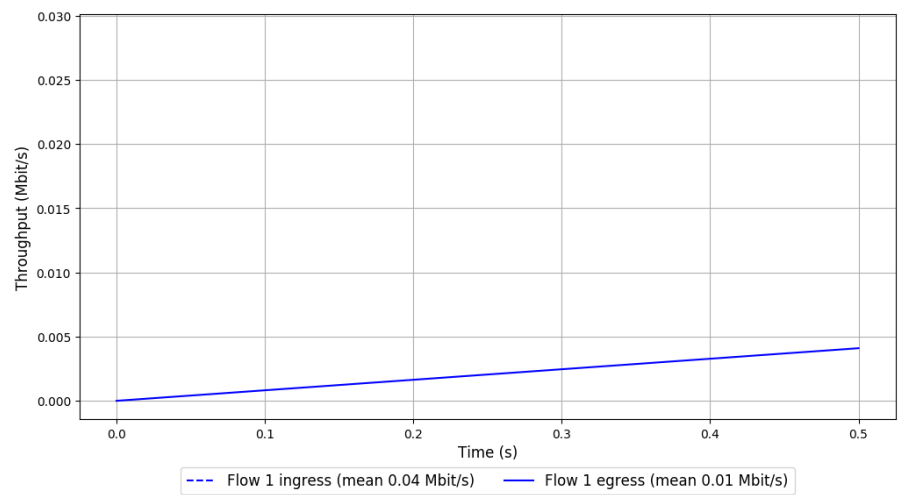
Start at: 2018-10-26 01:22:51

End at: 2018-10-26 01:23:21

Local clock offset: 5.096 ms

Remote clock offset: -4.866 ms

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-10-25 23:40:03

End at: 2018-10-25 23:40:33

Local clock offset: 22.972 ms

Remote clock offset: -0.698 ms

Below is generated by plot.py at 2018-10-26 01:28:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 53.73 Mbit/s

95th percentile per-packet one-way delay: 89.329 ms

Loss rate: 0.00%

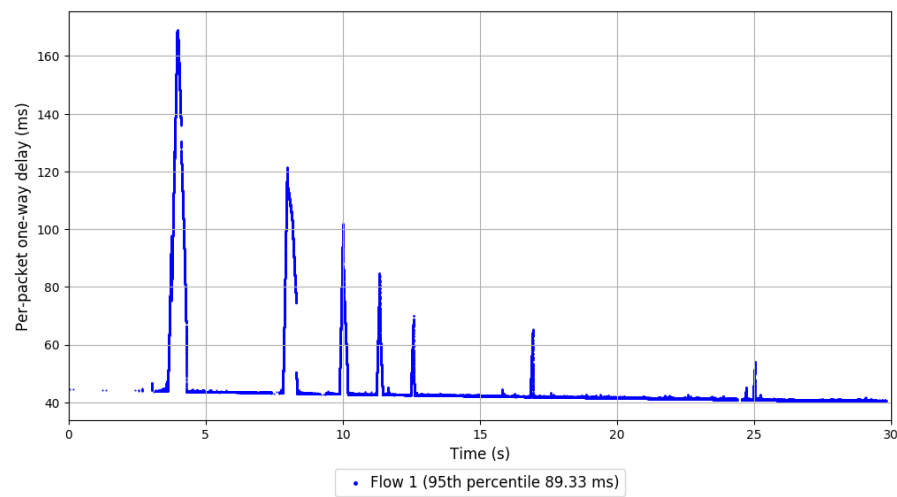
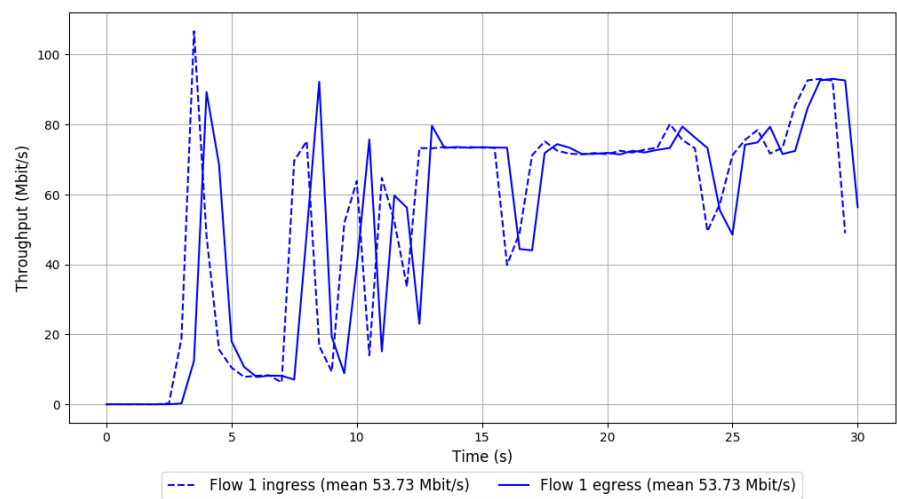
-- Flow 1:

Average throughput: 53.73 Mbit/s

95th percentile per-packet one-way delay: 89.329 ms

Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-10-26 00:02:28

End at: 2018-10-26 00:02:58

Local clock offset: 14.952 ms

Remote clock offset: 1.85 ms

Below is generated by plot.py at 2018-10-26 01:28:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 61.95 Mbit/s

95th percentile per-packet one-way delay: 95.741 ms

Loss rate: 0.00%

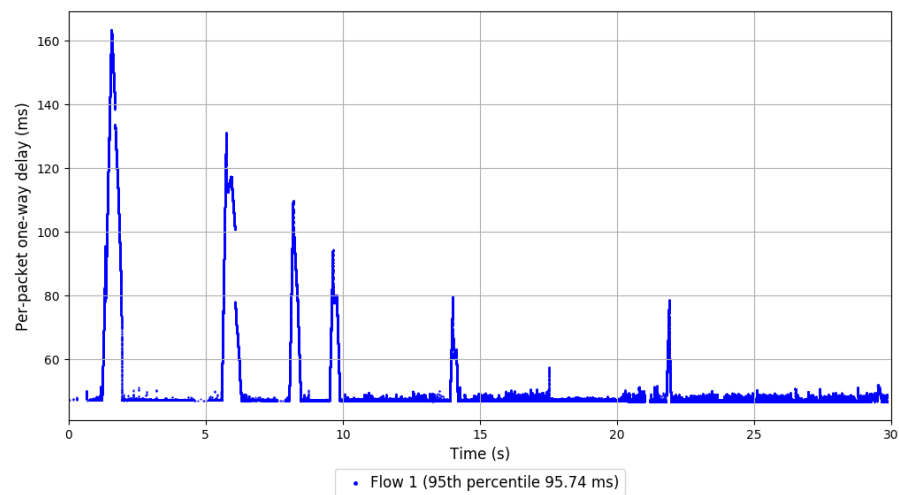
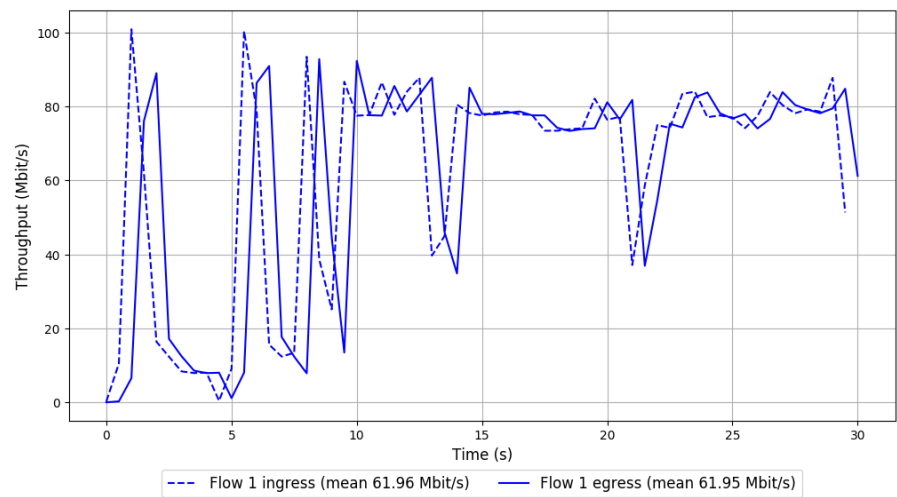
-- Flow 1:

Average throughput: 61.95 Mbit/s

95th percentile per-packet one-way delay: 95.741 ms

Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-10-26 00:24:48

End at: 2018-10-26 00:25:18

Local clock offset: 13.687 ms

Remote clock offset: 2.224 ms

Below is generated by plot.py at 2018-10-26 01:28:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 65.78 Mbit/s

95th percentile per-packet one-way delay: 95.892 ms

Loss rate: 0.04%

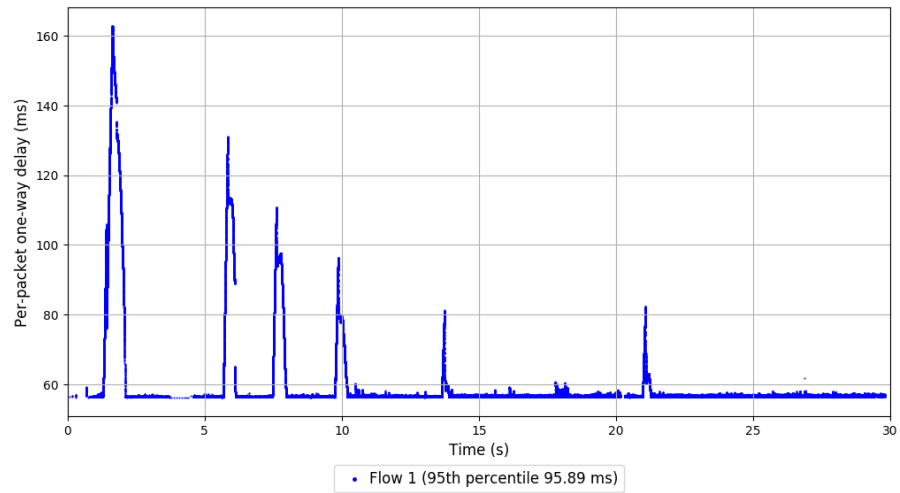
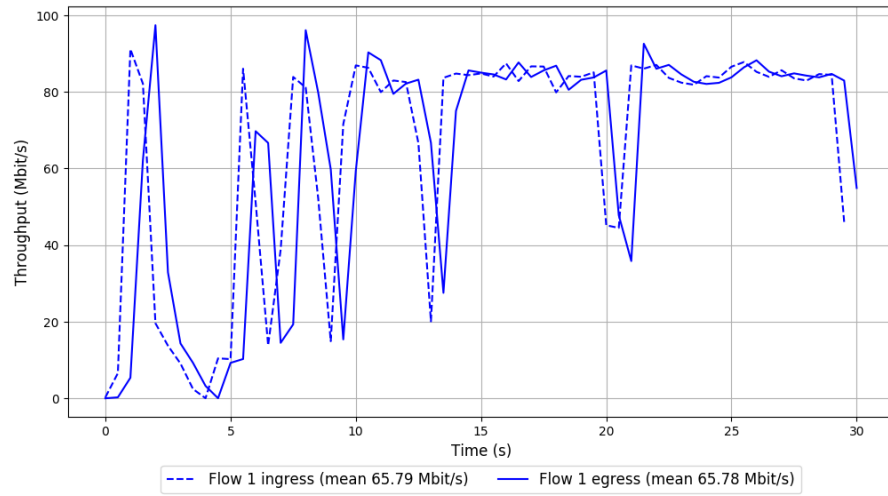
-- Flow 1:

Average throughput: 65.78 Mbit/s

95th percentile per-packet one-way delay: 95.892 ms

Loss rate: 0.04%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-10-26 00:47:14

End at: 2018-10-26 00:47:44

Local clock offset: 6.963 ms

Remote clock offset: 1.298 ms

Below is generated by plot.py at 2018-10-26 01:29:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.46 Mbit/s

95th percentile per-packet one-way delay: 48.084 ms

Loss rate: 0.00%

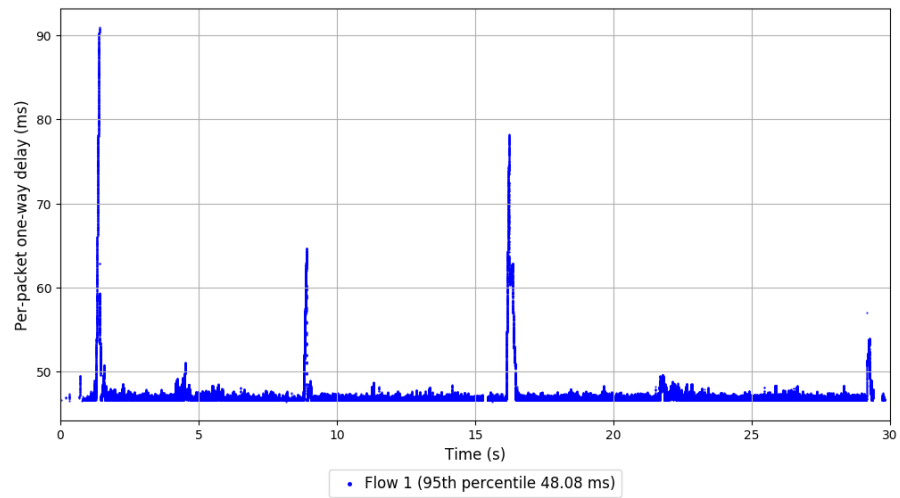
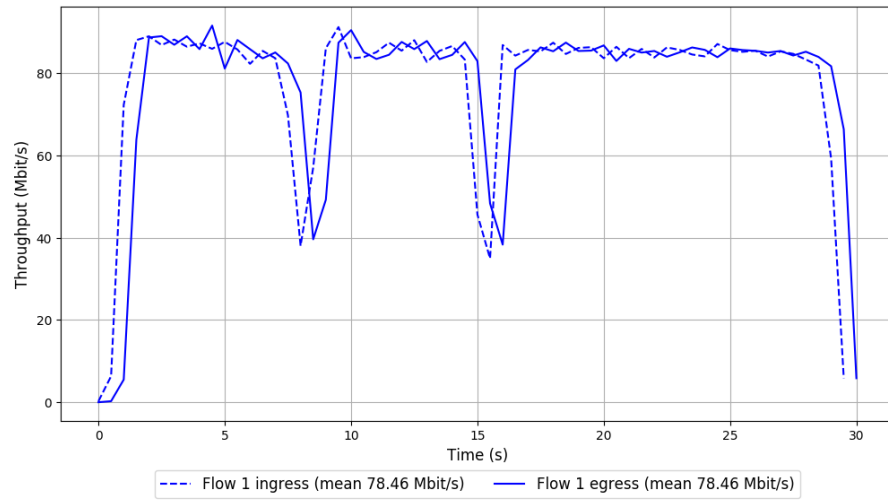
-- Flow 1:

Average throughput: 78.46 Mbit/s

95th percentile per-packet one-way delay: 48.084 ms

Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-10-26 01:09:22

End at: 2018-10-26 01:09:52

Local clock offset: 5.266 ms

Remote clock offset: -8.716 ms

Below is generated by plot.py at 2018-10-26 01:29:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.41 Mbit/s

95th percentile per-packet one-way delay: 65.102 ms

Loss rate: 0.19%

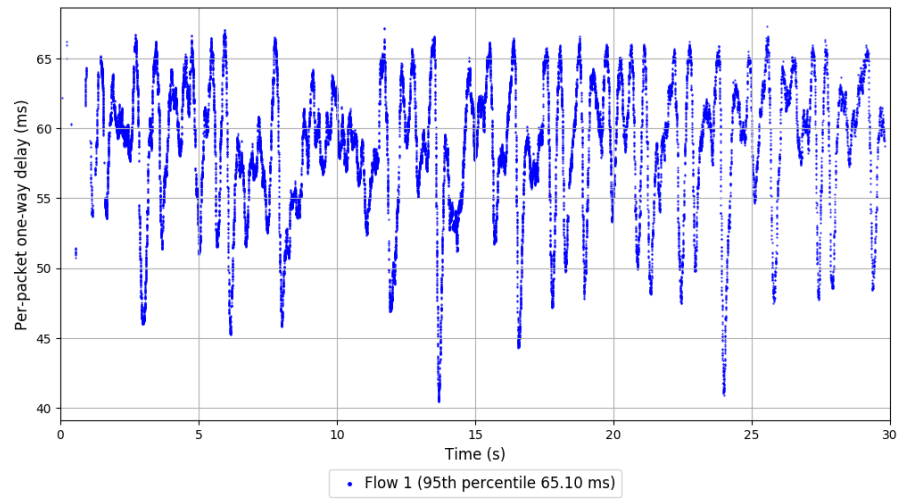
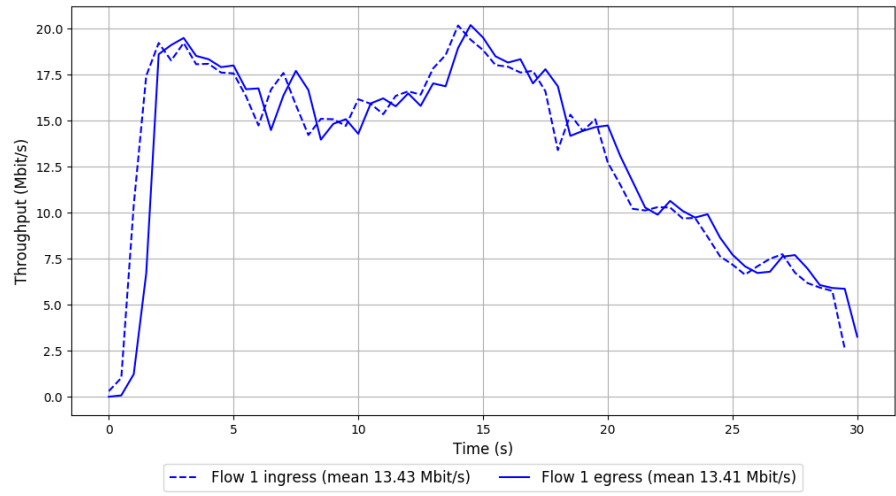
-- Flow 1:

Average throughput: 13.41 Mbit/s

95th percentile per-packet one-way delay: 65.102 ms

Loss rate: 0.19%

Run 5: Report of QUIC Cubic — Data Link

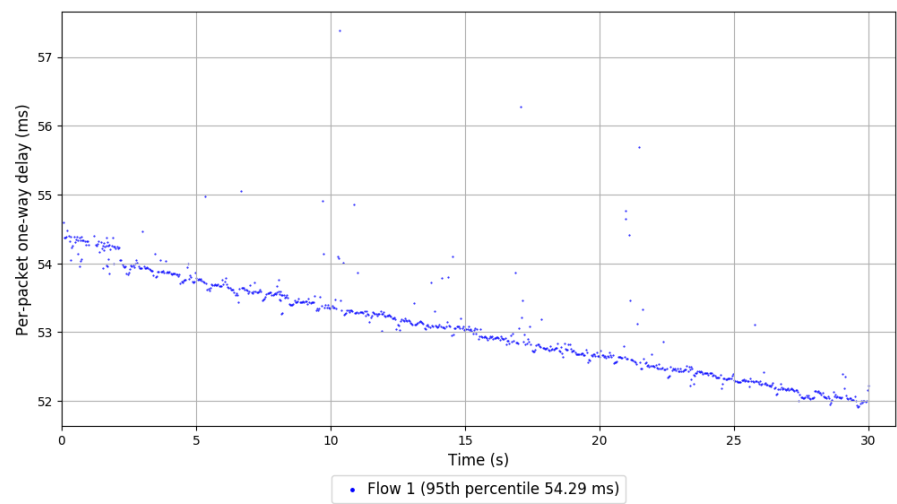
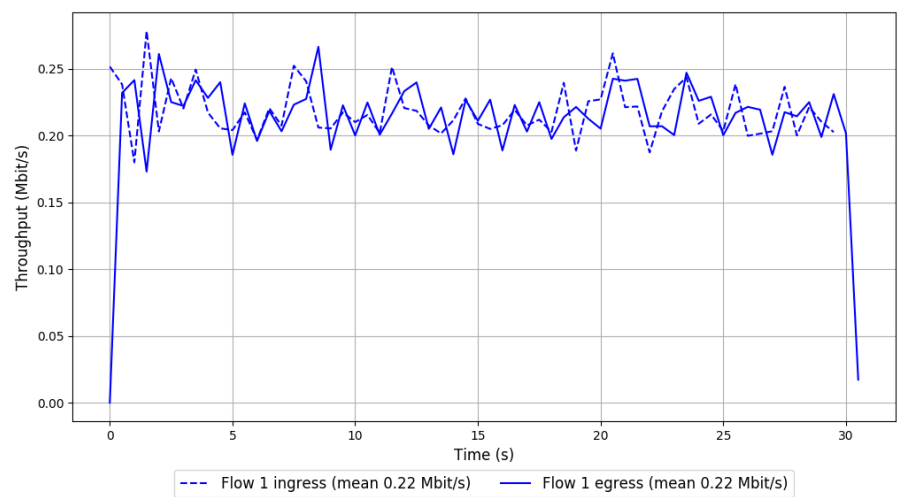


```
Run 1: Statistics of SCReAM

Start at: 2018-10-25 23:41:19
End at: 2018-10-25 23:41:49
Local clock offset: 14.885 ms
Remote clock offset: 0.232 ms

# Below is generated by plot.py at 2018-10-26 01:29:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 54.294 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 54.294 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-10-26 00:03:45

End at: 2018-10-26 00:04:15

Local clock offset: 14.048 ms

Remote clock offset: 5.33 ms

Below is generated by plot.py at 2018-10-26 01:29:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 59.271 ms

Loss rate: 0.13%

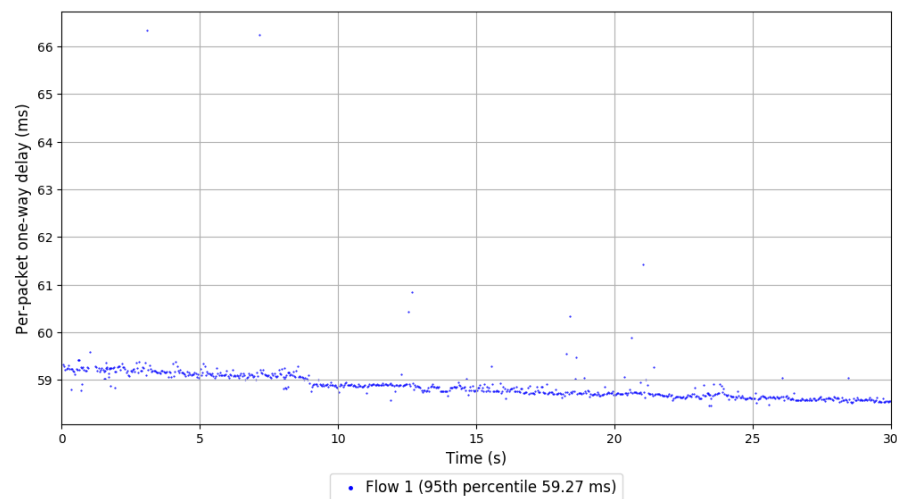
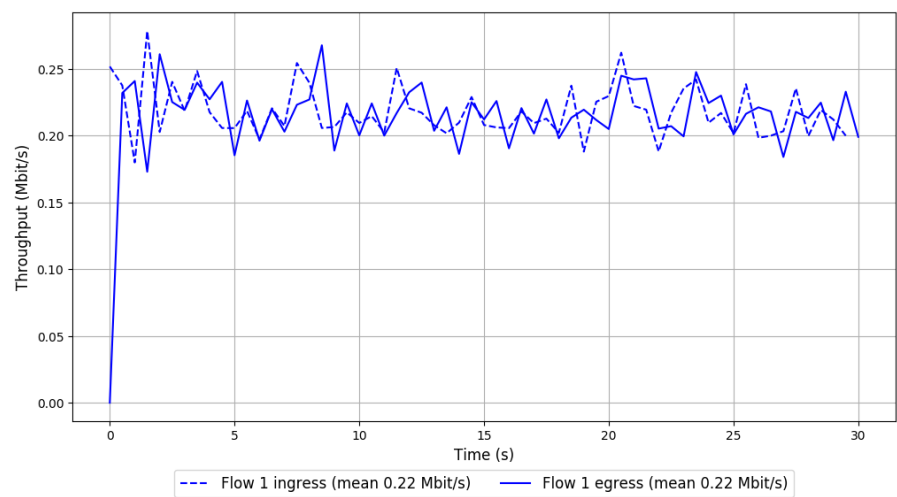
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 59.271 ms

Loss rate: 0.13%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

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

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

Local clock offset: 13.961 ms

Remote clock offset: 1.593 ms

Below is generated by plot.py at 2018-10-26 01:29:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 57.136 ms

Loss rate: 0.00%

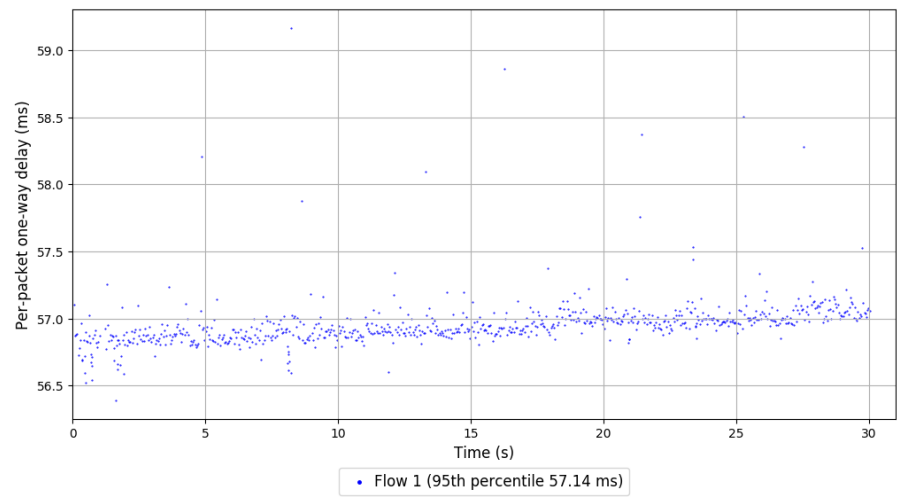
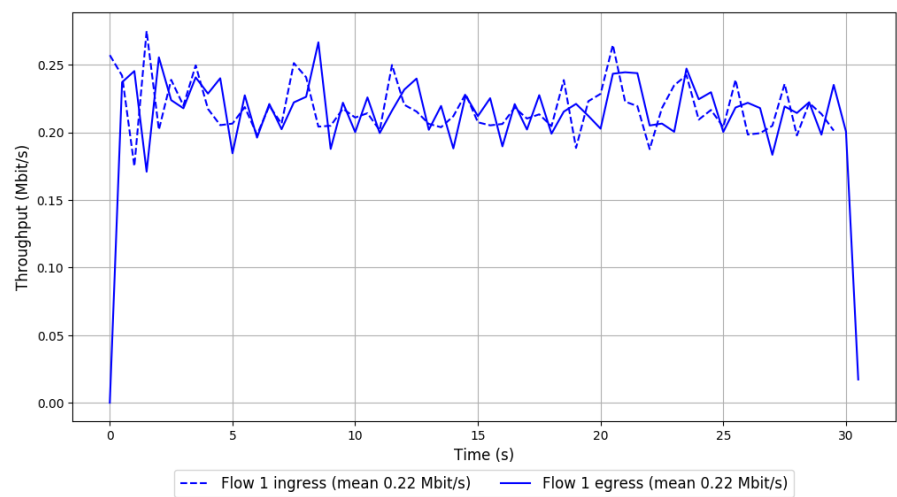
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 57.136 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-10-26 00:48:33

End at: 2018-10-26 00:49:03

Local clock offset: 6.958 ms

Remote clock offset: 1.458 ms

Below is generated by plot.py at 2018-10-26 01:29:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 48.129 ms

Loss rate: 0.00%

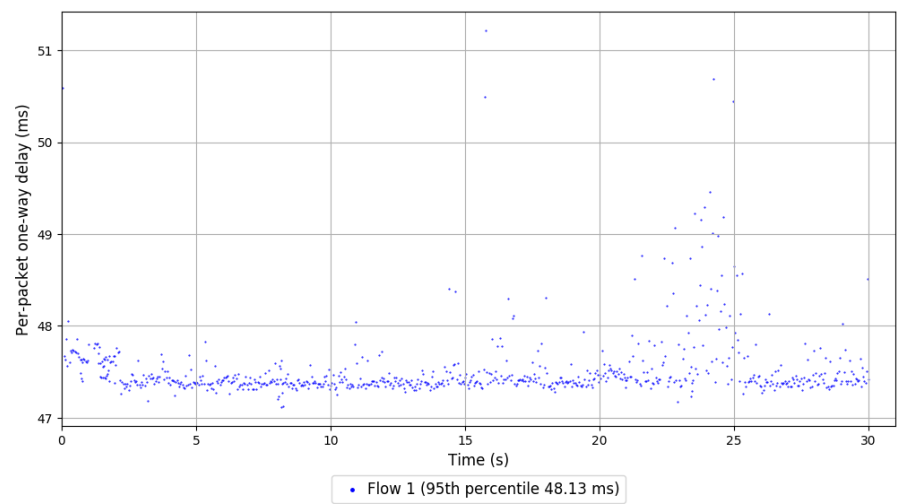
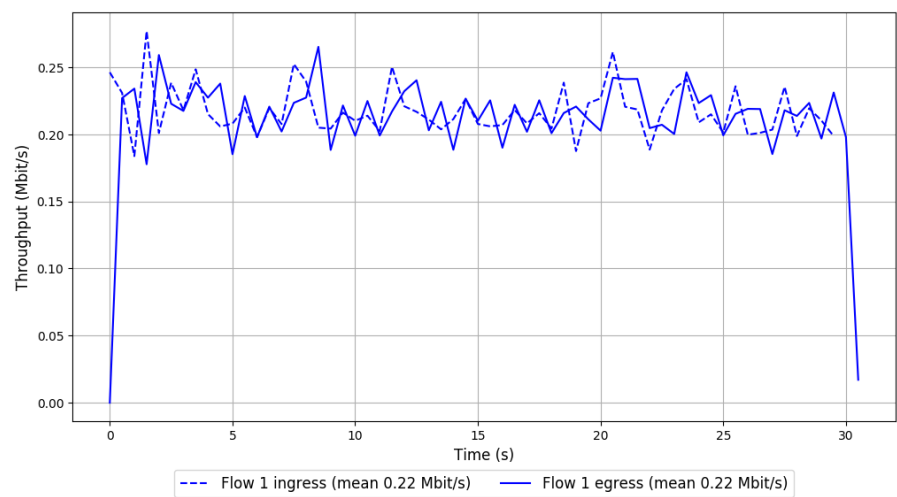
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 48.129 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

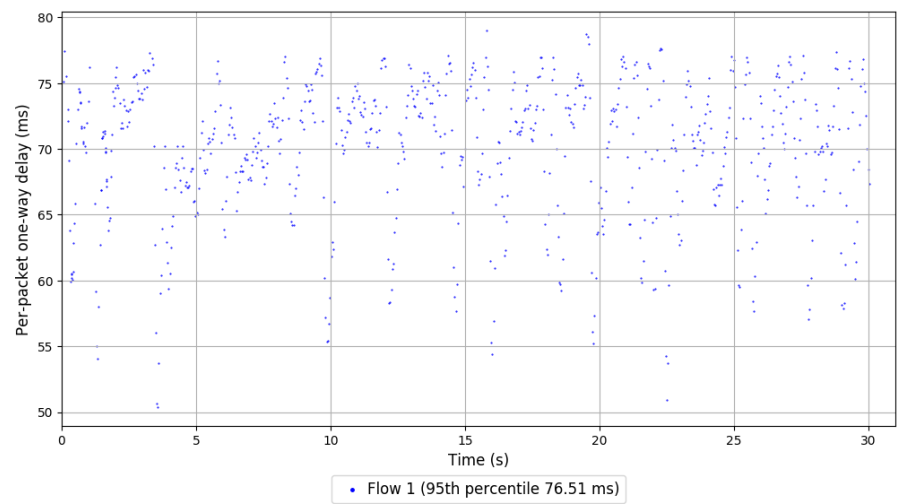
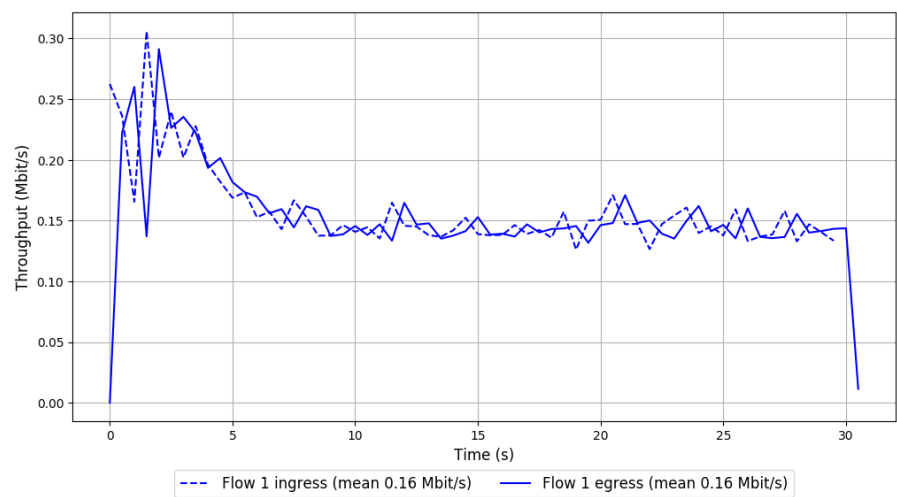


Run 5: Statistics of SCReAM

Start at: 2018-10-26 01:10:33
End at: 2018-10-26 01:11:03
Local clock offset: 5.011 ms
Remote clock offset: -6.303 ms

Below is generated by plot.py at 2018-10-26 01:29:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 76.510 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 0.16 Mbit/s
95th percentile per-packet one-way delay: 76.510 ms
Loss rate: 0.18%

Run 5: Report of SReAM — Data Link

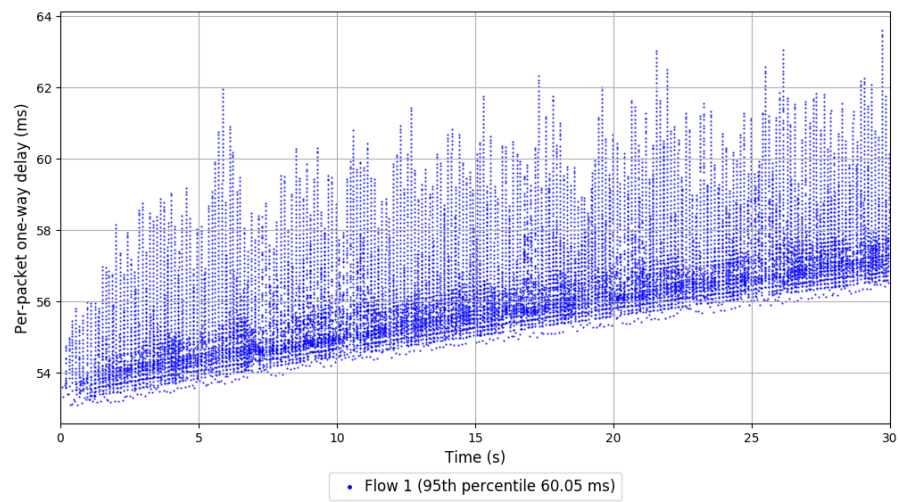
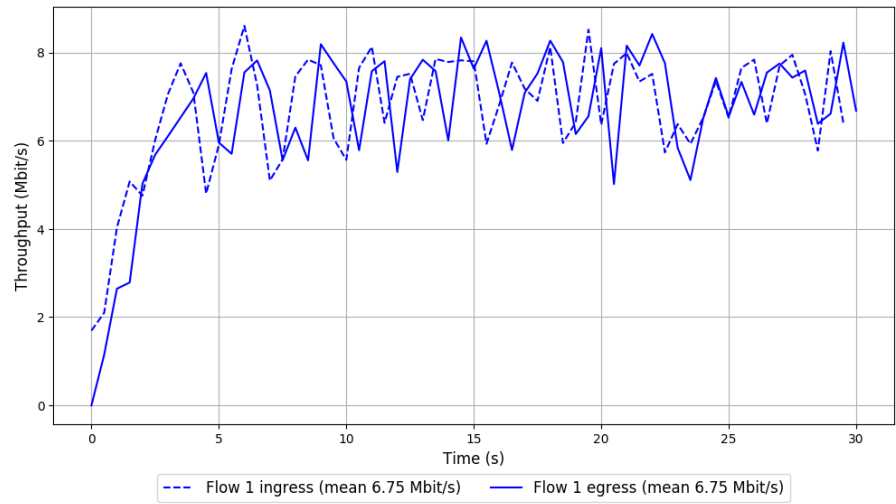


Run 1: Statistics of Sprout

Start at: 2018-10-25 23:36:25
End at: 2018-10-25 23:36:55
Local clock offset: 4.046 ms
Remote clock offset: -0.269 ms

Below is generated by plot.py at 2018-10-26 01:29:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 60.055 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.75 Mbit/s
95th percentile per-packet one-way delay: 60.055 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-10-25 23:58:47

End at: 2018-10-25 23:59:17

Local clock offset: 13.93 ms

Remote clock offset: 1.23 ms

Below is generated by plot.py at 2018-10-26 01:29:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.86 Mbit/s

95th percentile per-packet one-way delay: 52.401 ms

Loss rate: 0.00%

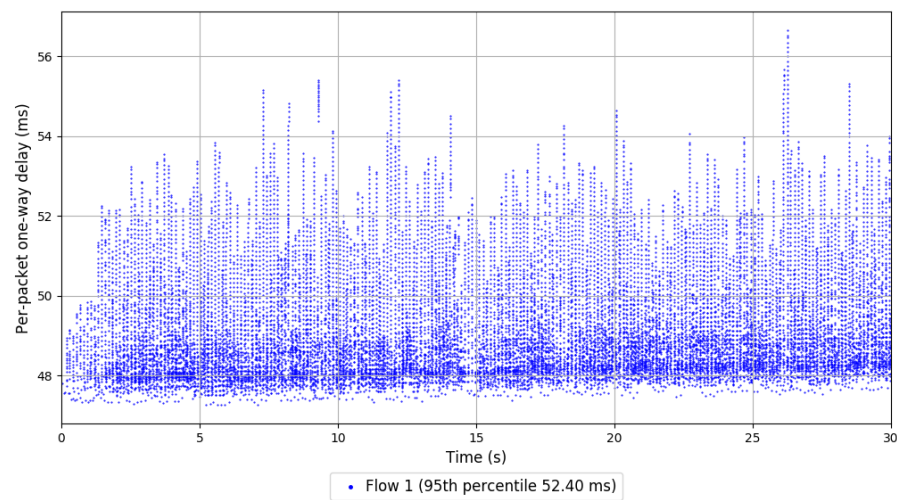
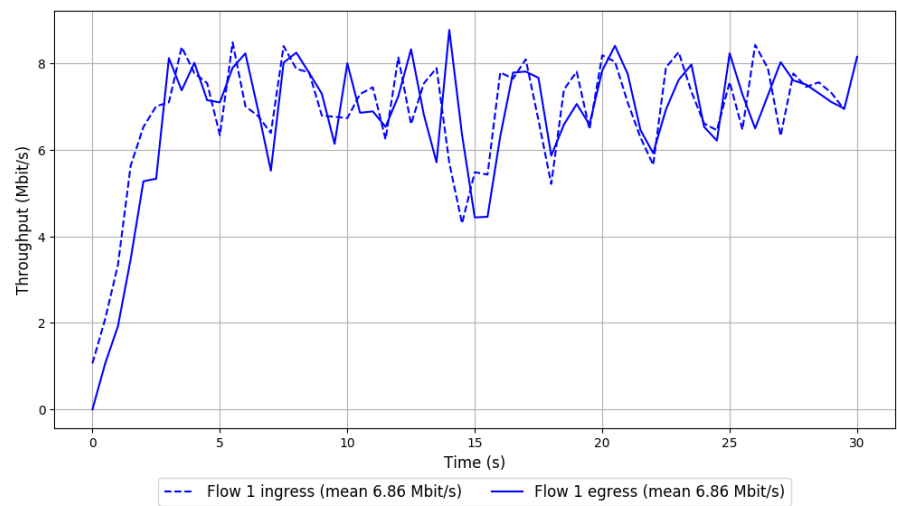
-- Flow 1:

Average throughput: 6.86 Mbit/s

95th percentile per-packet one-way delay: 52.401 ms

Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

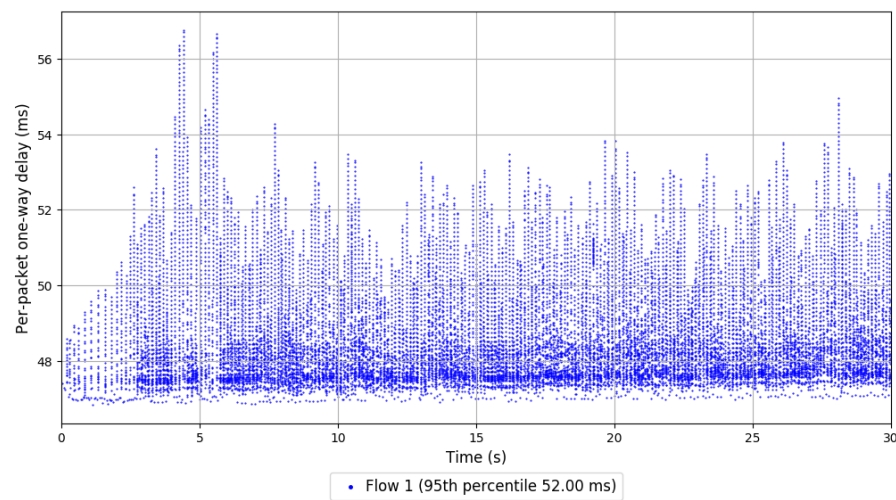
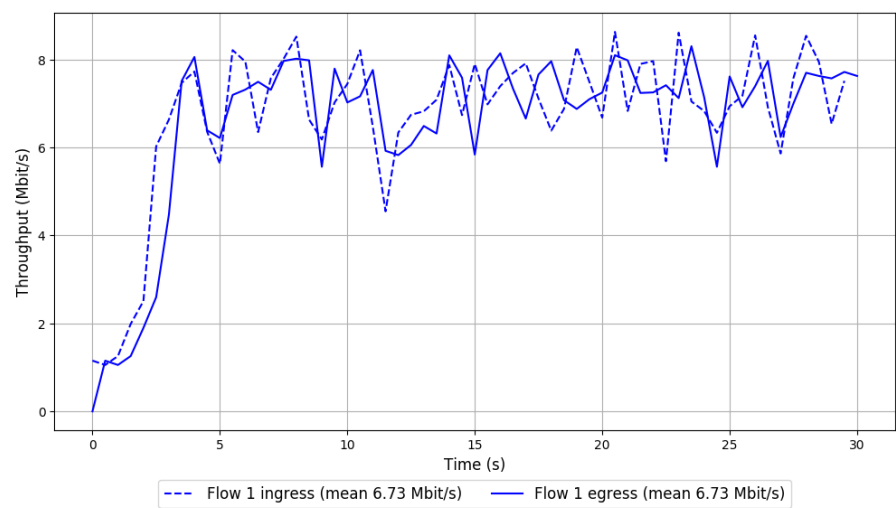


Run 3: Statistics of Sprout

Start at: 2018-10-26 00:21:09
End at: 2018-10-26 00:21:39
Local clock offset: 12.173 ms
Remote clock offset: 1.486 ms

Below is generated by plot.py at 2018-10-26 01:29:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.73 Mbit/s
95th percentile per-packet one-way delay: 52.004 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.73 Mbit/s
95th percentile per-packet one-way delay: 52.004 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-10-26 00:43:31

End at: 2018-10-26 00:44:01

Local clock offset: 7.411 ms

Remote clock offset: 1.164 ms

Below is generated by plot.py at 2018-10-26 01:29:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.38 Mbit/s

95th percentile per-packet one-way delay: 51.160 ms

Loss rate: 0.00%

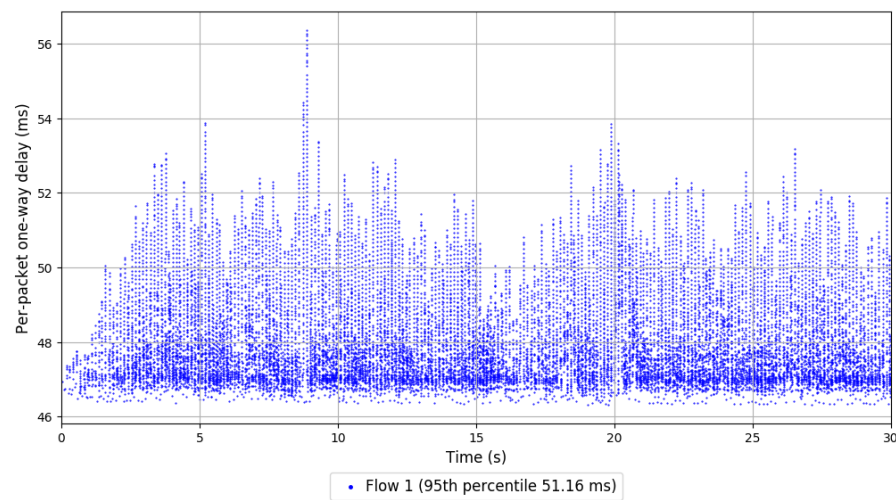
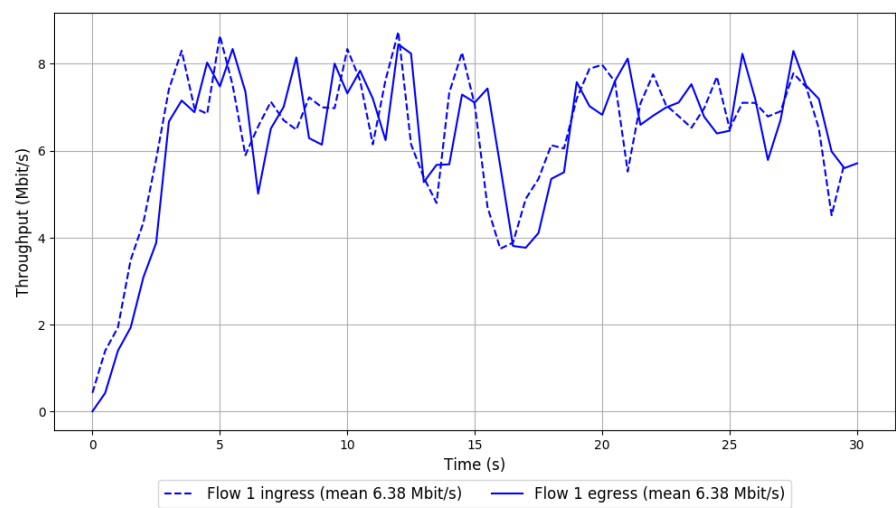
-- Flow 1:

Average throughput: 6.38 Mbit/s

95th percentile per-packet one-way delay: 51.160 ms

Loss rate: 0.00%

Run 4: Report of Sprout — Data Link

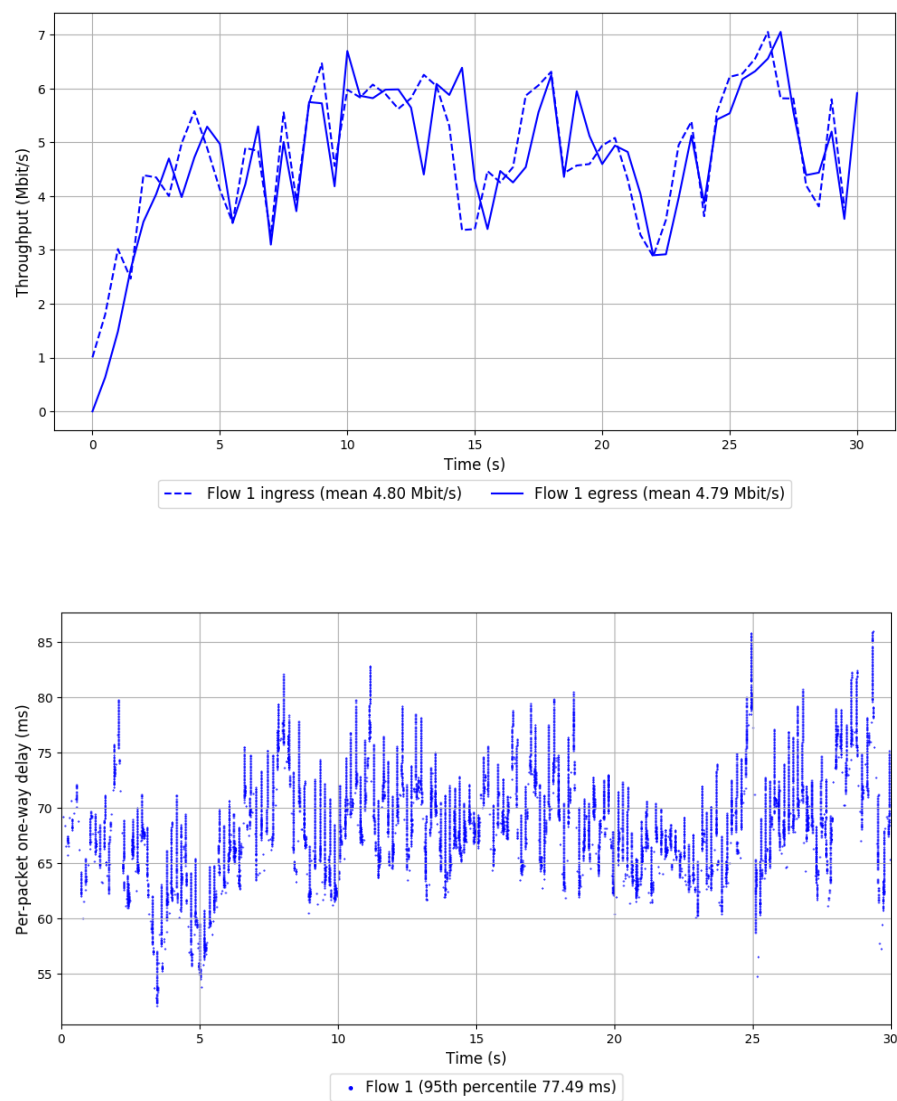


Run 5: Statistics of Sprout

Start at: 2018-10-26 01:05:39
End at: 2018-10-26 01:06:09
Local clock offset: 6.686 ms
Remote clock offset: -3.678 ms

Below is generated by plot.py at 2018-10-26 01:29:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 77.490 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 4.79 Mbit/s
95th percentile per-packet one-way delay: 77.490 ms
Loss rate: 0.06%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

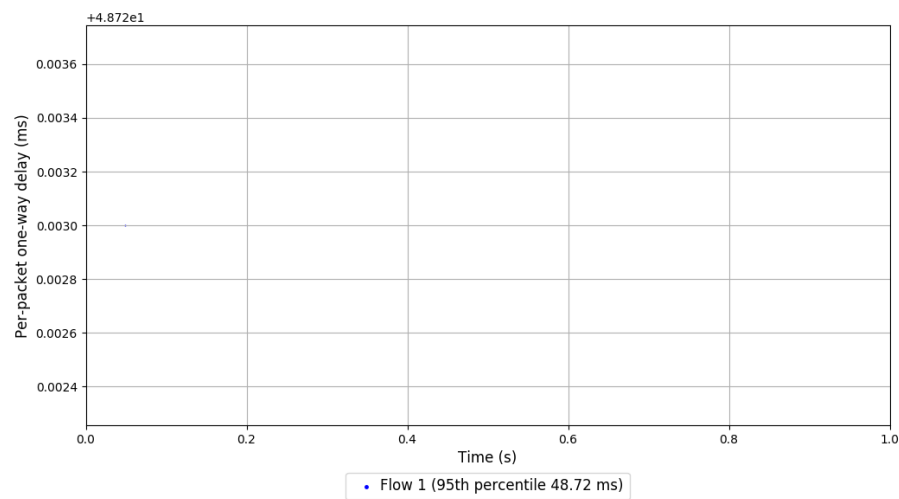
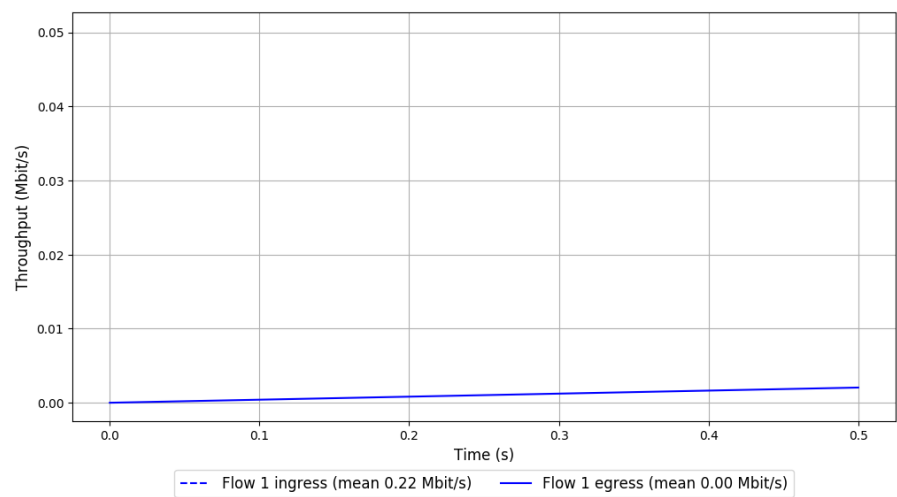
Start at: 2018-10-25 23:38:55

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

Local clock offset: 19.508 ms

Remote clock offset: -0.461 ms

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-10-26 00:01:18

End at: 2018-10-26 00:01:48

Local clock offset: 15.919 ms

Remote clock offset: 1.158 ms

Below is generated by plot.py at 2018-10-26 01:29:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 9.85 Mbit/s

95th percentile per-packet one-way delay: 53.158 ms

Loss rate: 45.01%

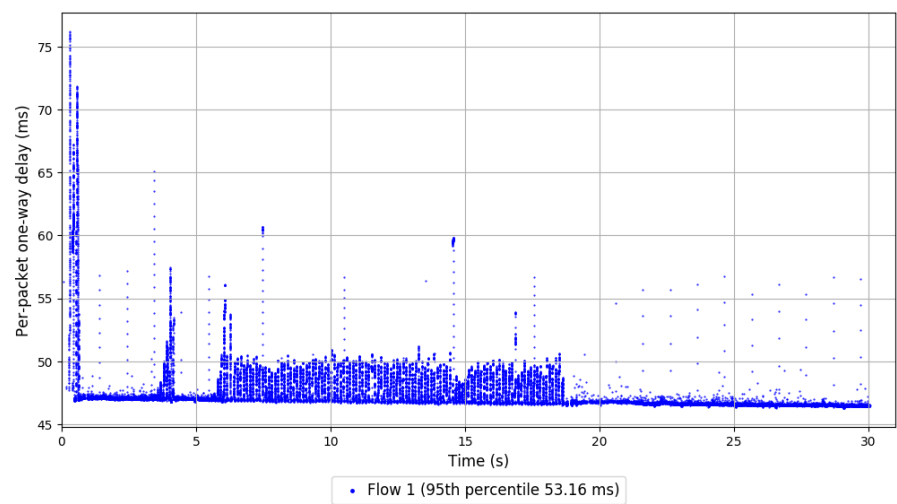
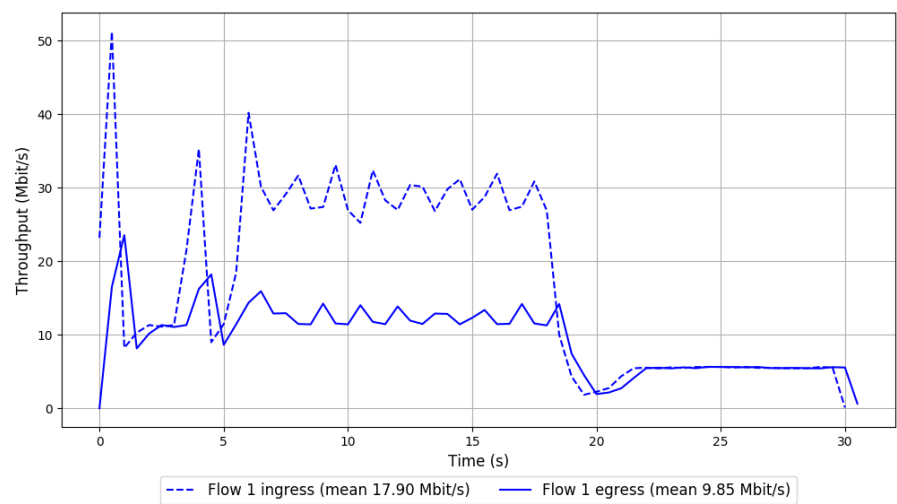
-- Flow 1:

Average throughput: 9.85 Mbit/s

95th percentile per-packet one-way delay: 53.158 ms

Loss rate: 45.01%

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



Run 3: Statistics of TaoVA-100x

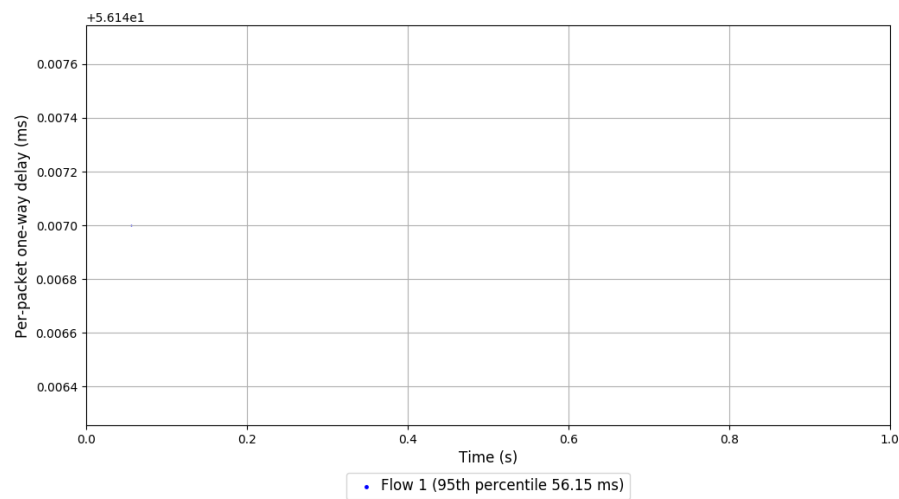
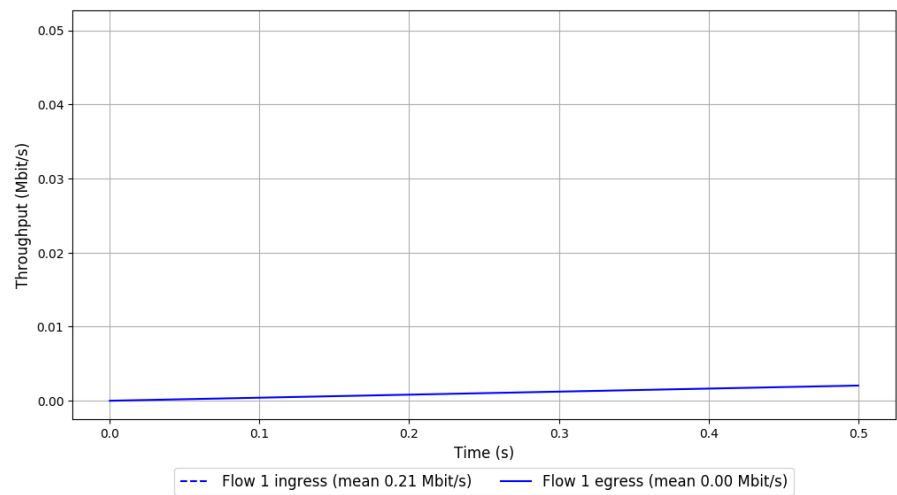
Start at: 2018-10-26 00:23:40

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

Local clock offset: 12.914 ms

Remote clock offset: 1.281 ms

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-10-26 00:46:03

End at: 2018-10-26 00:46:33

Local clock offset: 7.184 ms

Remote clock offset: 1.245 ms

Below is generated by plot.py at 2018-10-26 01:29:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 9.52 Mbit/s

95th percentile per-packet one-way delay: 48.971 ms

Loss rate: 1.72%

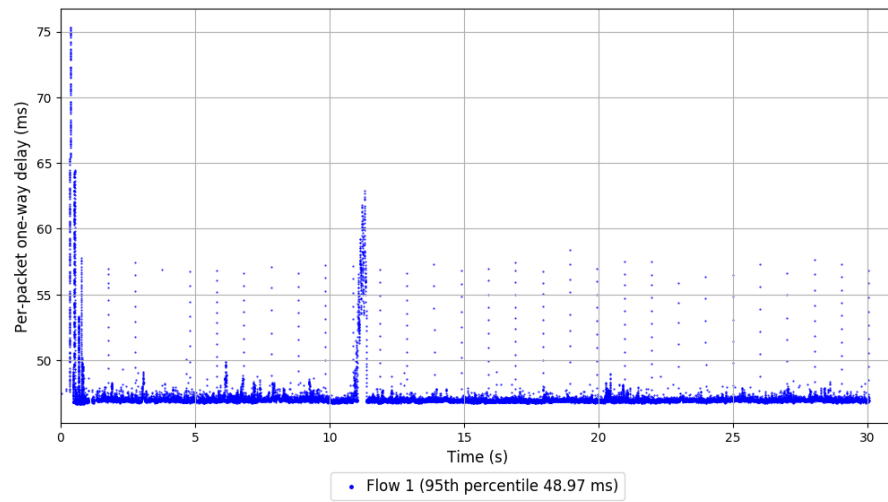
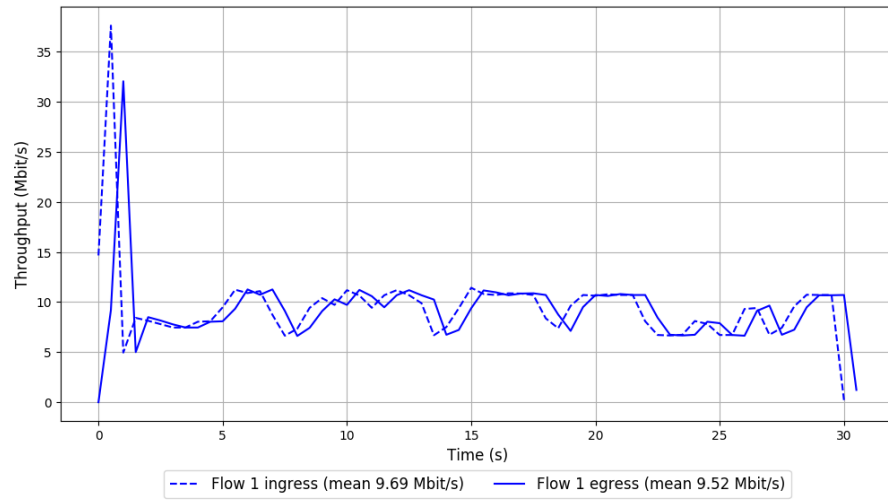
-- Flow 1:

Average throughput: 9.52 Mbit/s

95th percentile per-packet one-way delay: 48.971 ms

Loss rate: 1.72%

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



Run 5: Statistics of TaoVA-100x

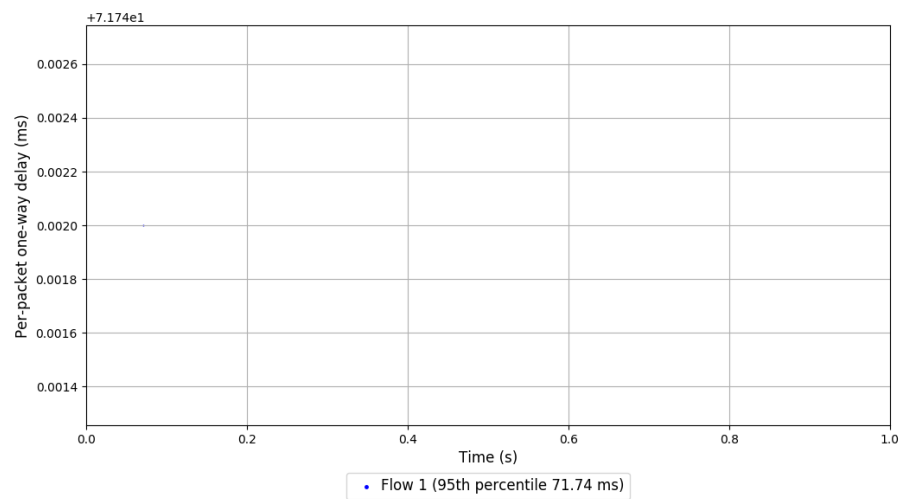
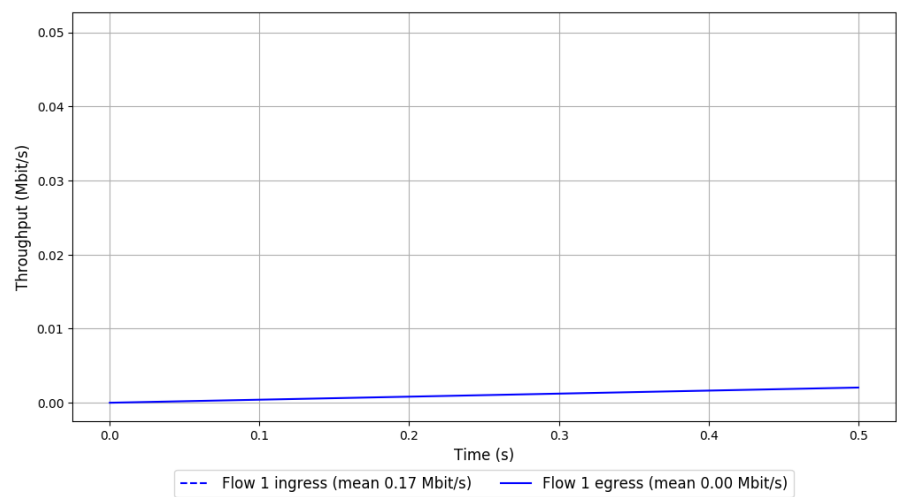
Start at: 2018-10-26 01:08:13

End at: 2018-10-26 01:08:43

Local clock offset: 5.613 ms

Remote clock offset: -8.005 ms

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

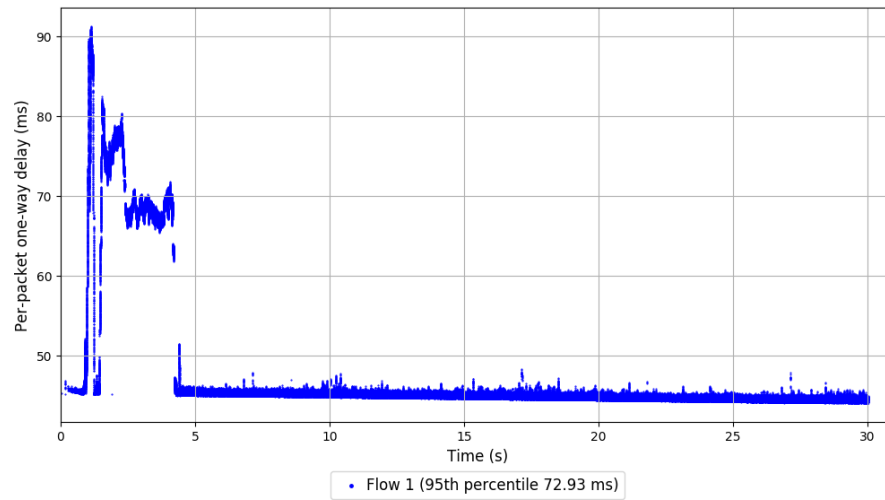
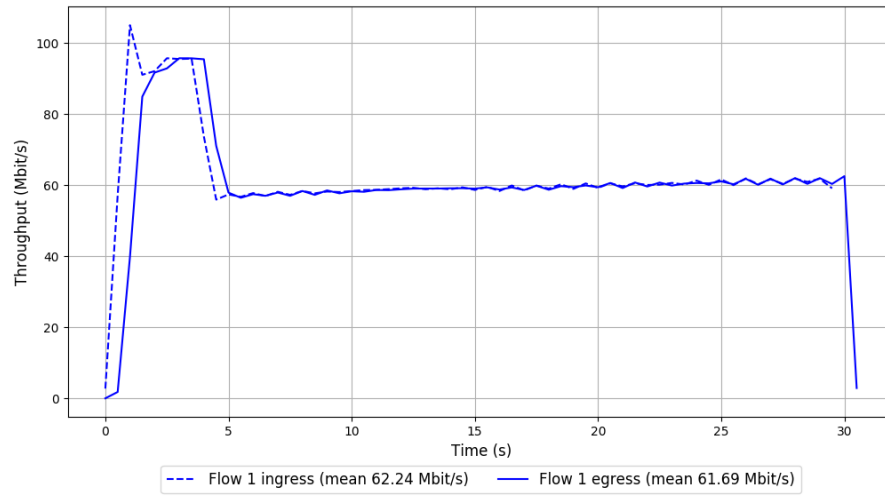


Run 1: Statistics of TCP Vegas

Start at: 2018-10-25 23:42:27
End at: 2018-10-25 23:42:57
Local clock offset: 9.622 ms
Remote clock offset: -0.821 ms

Below is generated by plot.py at 2018-10-26 01:29:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 61.69 Mbit/s
95th percentile per-packet one-way delay: 72.928 ms
Loss rate: 0.89%
-- Flow 1:
Average throughput: 61.69 Mbit/s
95th percentile per-packet one-way delay: 72.928 ms
Loss rate: 0.89%

Run 1: Report of TCP Vegas — Data Link

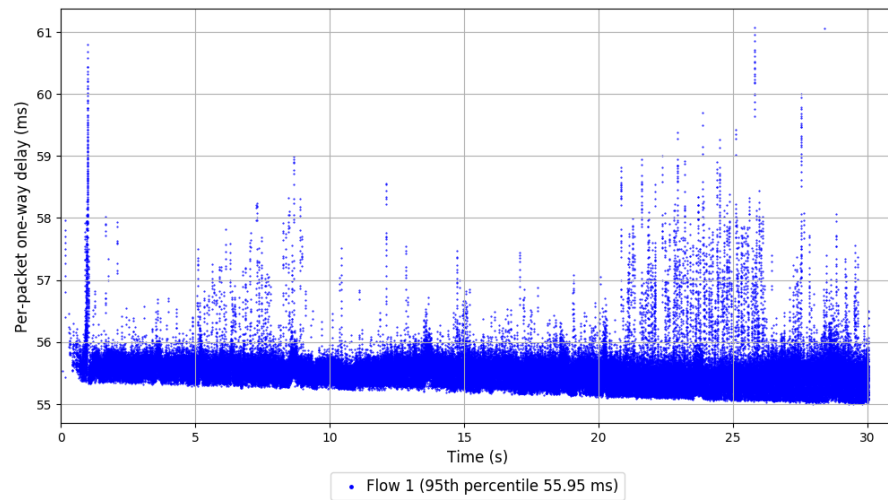
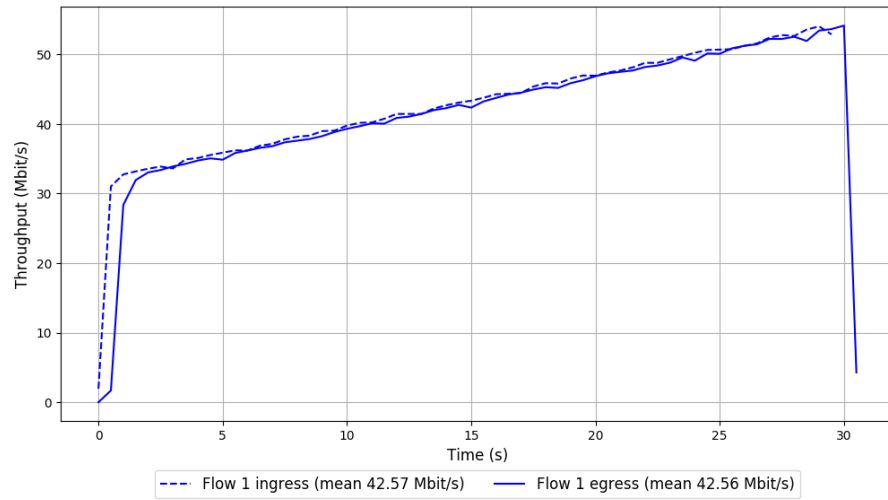


Run 2: Statistics of TCP Vegas

Start at: 2018-10-26 00:04:53
End at: 2018-10-26 00:05:23
Local clock offset: 12.831 ms
Remote clock offset: 1.5 ms

Below is generated by plot.py at 2018-10-26 01:29:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 42.56 Mbit/s
95th percentile per-packet one-way delay: 55.949 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 42.56 Mbit/s
95th percentile per-packet one-way delay: 55.949 ms
Loss rate: 0.04%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-10-26 00:27:14

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

Local clock offset: 14.722 ms

Remote clock offset: 1.461 ms

Below is generated by plot.py at 2018-10-26 01:29:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 42.69 Mbit/s

95th percentile per-packet one-way delay: 78.969 ms

Loss rate: 1.19%

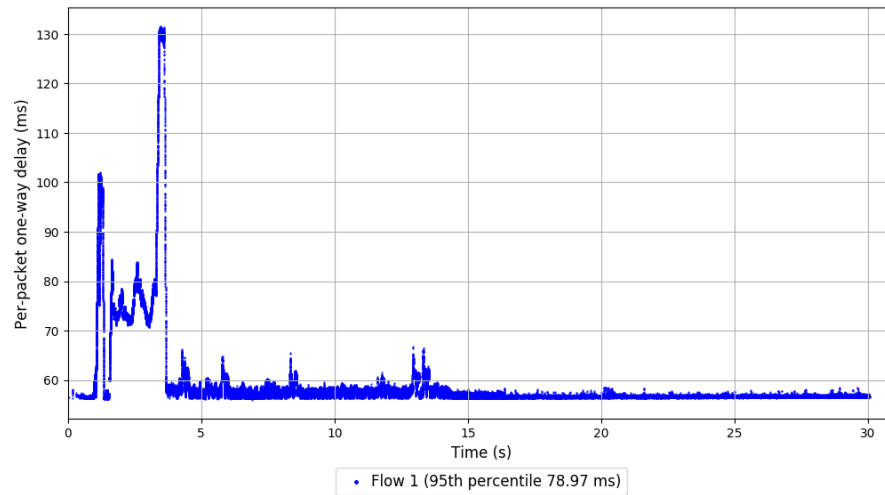
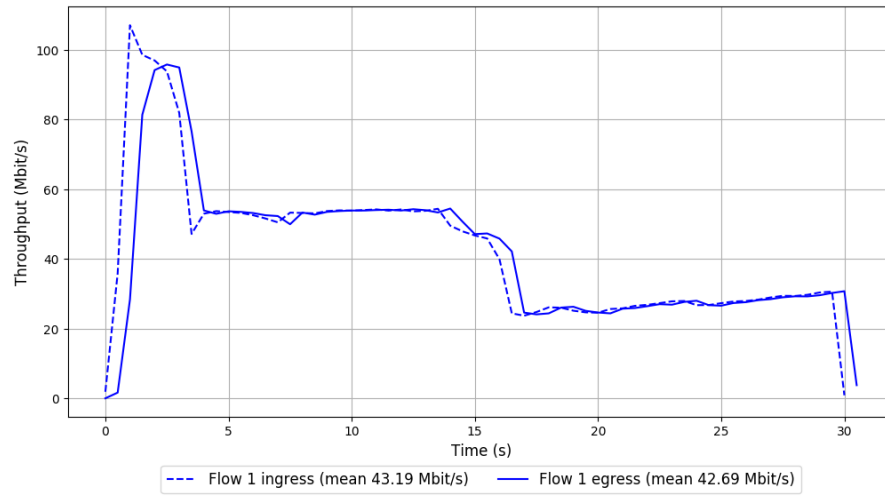
-- Flow 1:

Average throughput: 42.69 Mbit/s

95th percentile per-packet one-way delay: 78.969 ms

Loss rate: 1.19%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-10-26 00:49:42

End at: 2018-10-26 00:50:12

Local clock offset: 7.141 ms

Remote clock offset: 1.986 ms

Below is generated by plot.py at 2018-10-26 01:29:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 14.24 Mbit/s

95th percentile per-packet one-way delay: 57.671 ms

Loss rate: 0.03%

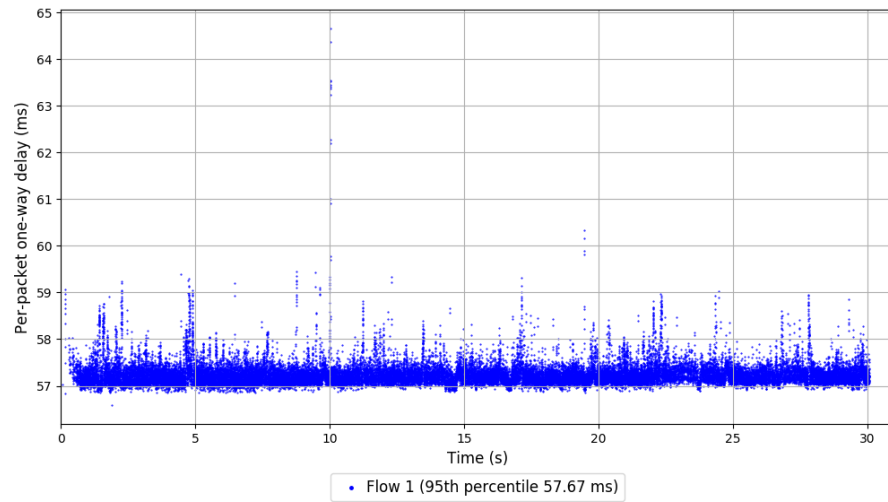
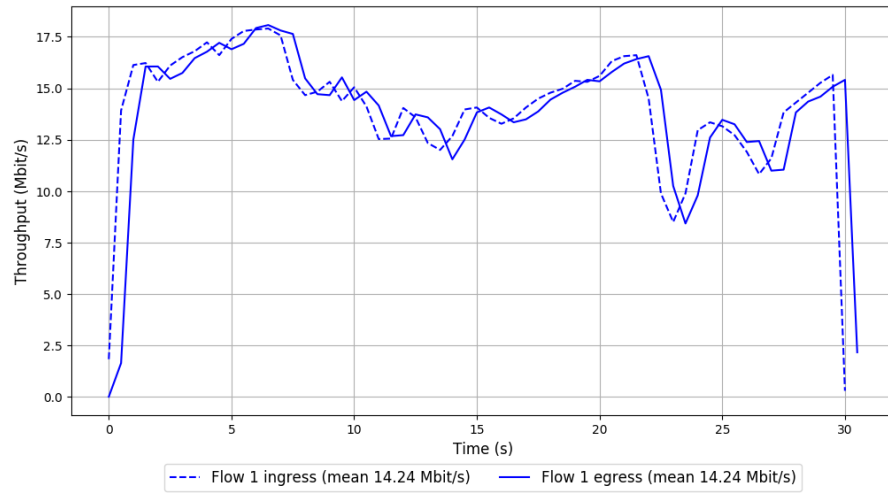
-- Flow 1:

Average throughput: 14.24 Mbit/s

95th percentile per-packet one-way delay: 57.671 ms

Loss rate: 0.03%

Run 4: Report of TCP Vegas — Data Link

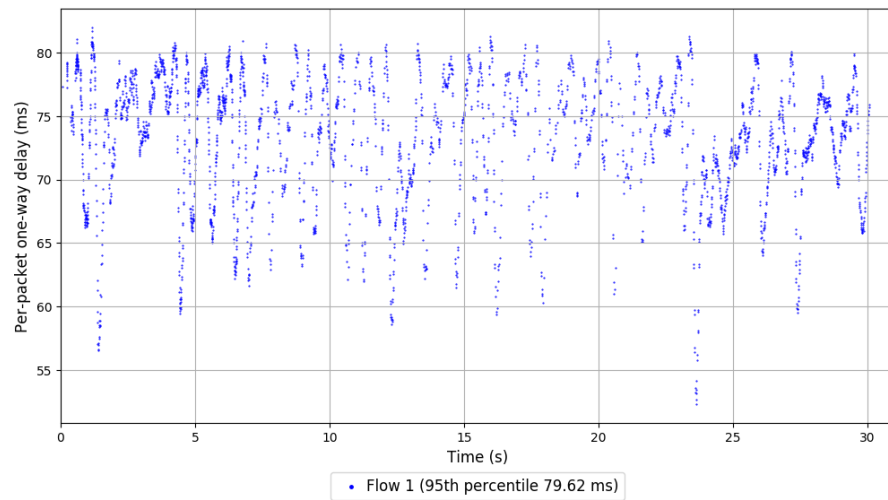
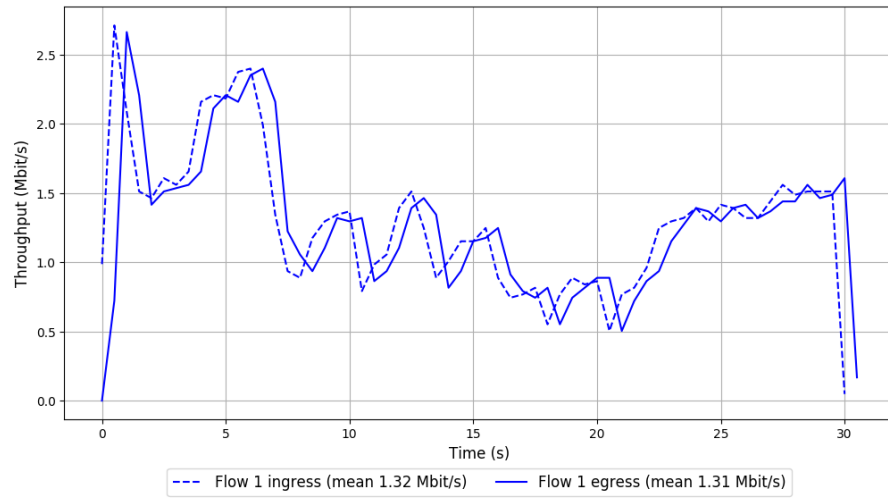


Run 5: Statistics of TCP Vegas

Start at: 2018-10-26 01:11:42
End at: 2018-10-26 01:12:12
Local clock offset: 4.936 ms
Remote clock offset: -4.125 ms

Below is generated by plot.py at 2018-10-26 01:29:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 79.623 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 79.623 ms
Loss rate: 0.33%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-10-25 23:48:53

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

Local clock offset: 5.547 ms

Remote clock offset: 1.156 ms

Below is generated by plot.py at 2018-10-26 01:29:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 70.75 Mbit/s

95th percentile per-packet one-way delay: 203.254 ms

Loss rate: 14.70%

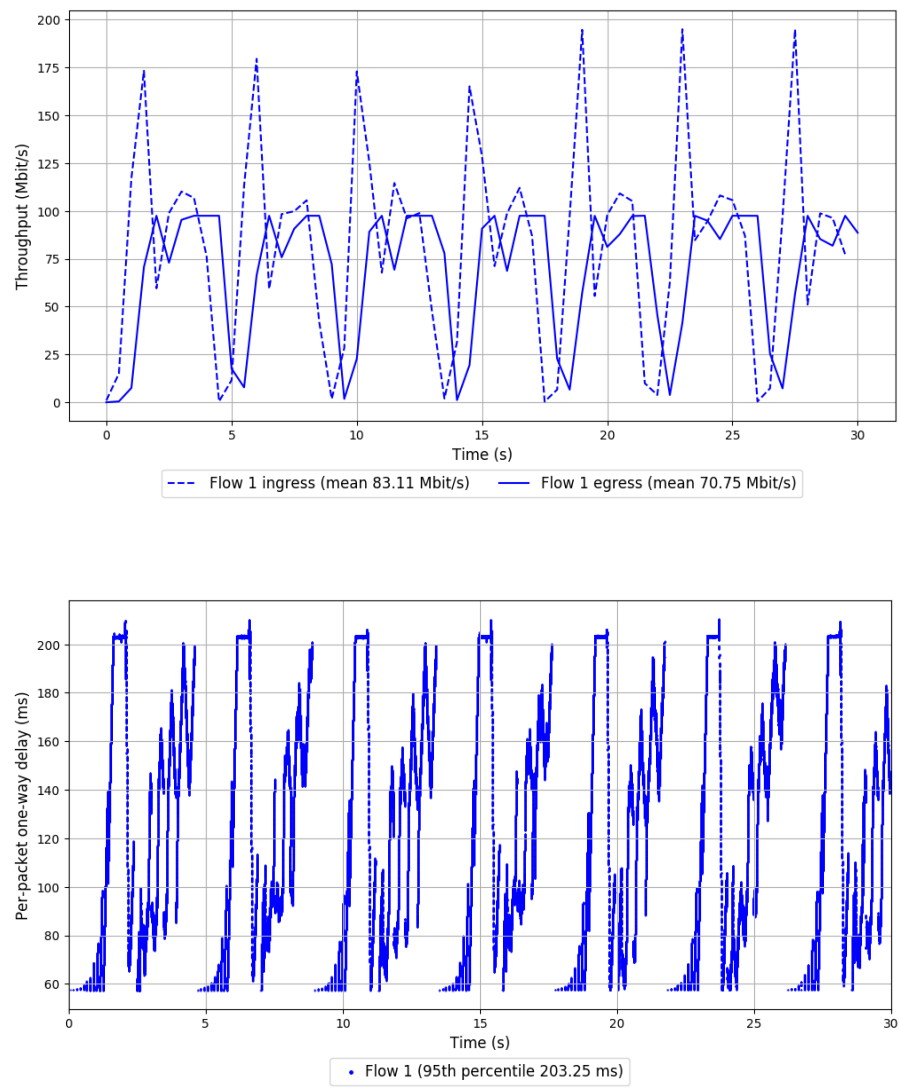
-- Flow 1:

Average throughput: 70.75 Mbit/s

95th percentile per-packet one-way delay: 203.254 ms

Loss rate: 14.70%

Run 1: Report of Verus — Data Link

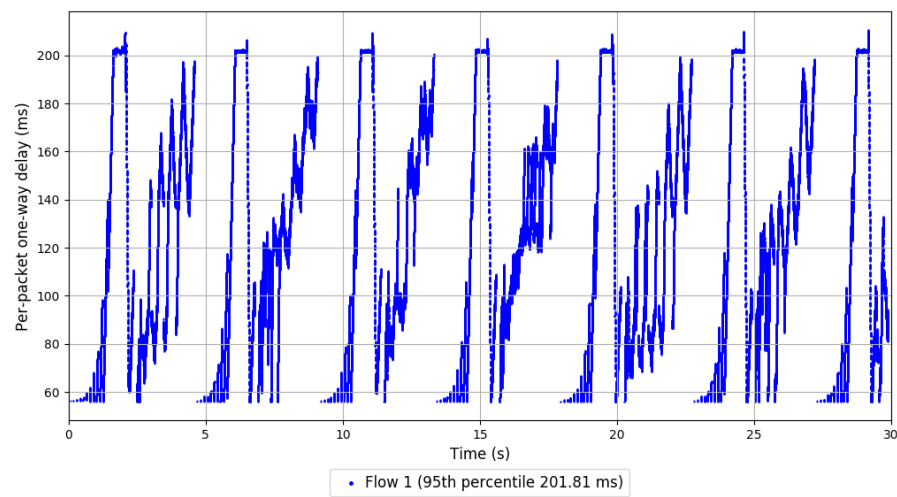
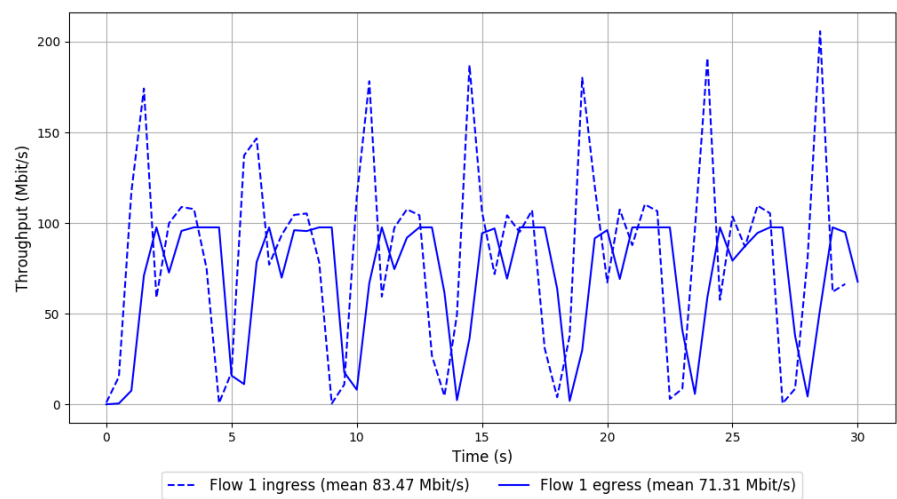


Run 2: Statistics of Verus

Start at: 2018-10-26 00:11:10
End at: 2018-10-26 00:11:40
Local clock offset: 10.436 ms
Remote clock offset: 1.545 ms

Below is generated by plot.py at 2018-10-26 01:29:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 71.31 Mbit/s
95th percentile per-packet one-way delay: 201.806 ms
Loss rate: 14.49%
-- Flow 1:
Average throughput: 71.31 Mbit/s
95th percentile per-packet one-way delay: 201.806 ms
Loss rate: 14.49%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-10-26 00:33:36

End at: 2018-10-26 00:34:06

Local clock offset: 14.161 ms

Remote clock offset: 1.25 ms

Below is generated by plot.py at 2018-10-26 01:29:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 80.40 Mbit/s

95th percentile per-packet one-way delay: 200.266 ms

Loss rate: 10.17%

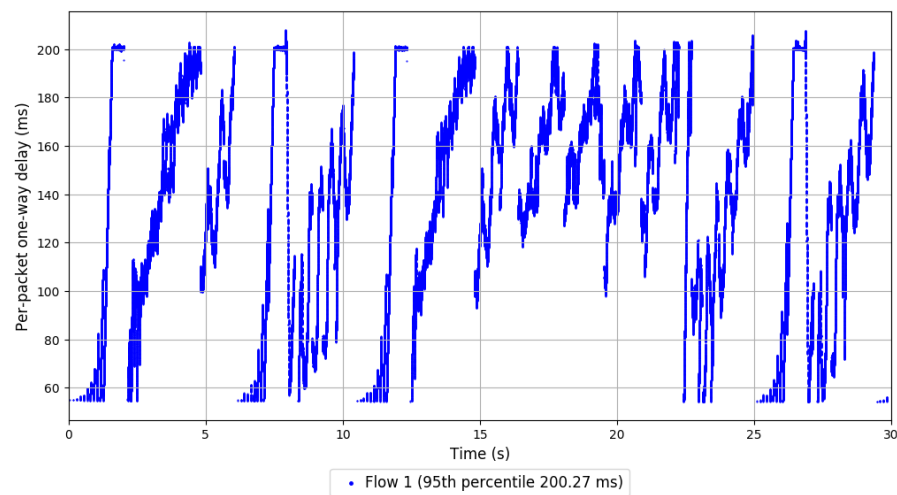
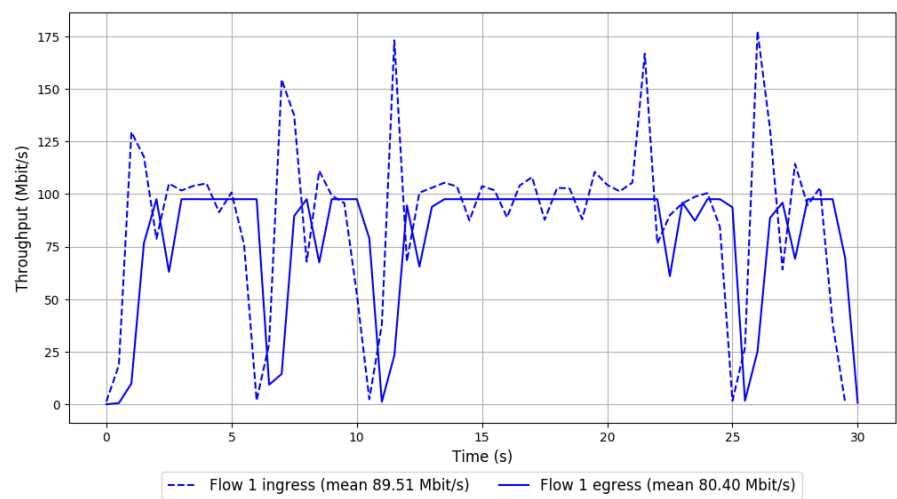
-- Flow 1:

Average throughput: 80.40 Mbit/s

95th percentile per-packet one-way delay: 200.266 ms

Loss rate: 10.17%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-10-26 00:55:41

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

Local clock offset: 7.902 ms

Remote clock offset: 1.607 ms

Below is generated by plot.py at 2018-10-26 01:30:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.19 Mbit/s

95th percentile per-packet one-way delay: 192.157 ms

Loss rate: 6.57%

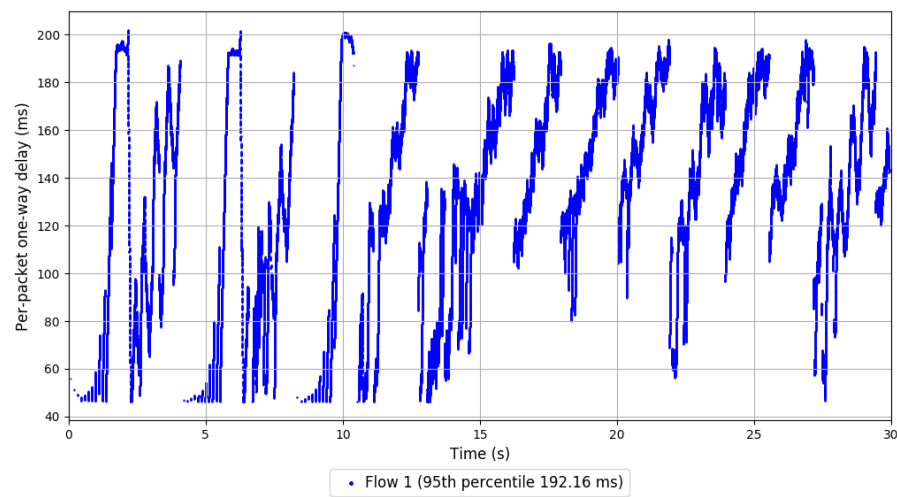
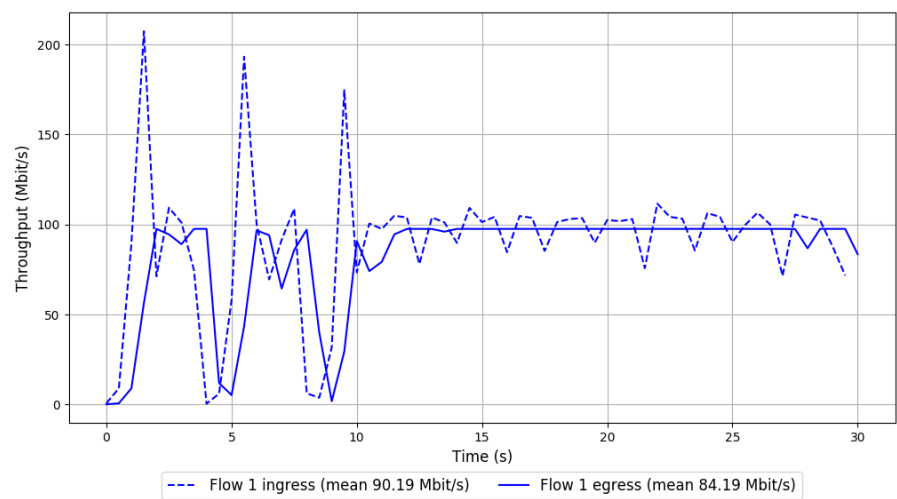
-- Flow 1:

Average throughput: 84.19 Mbit/s

95th percentile per-packet one-way delay: 192.157 ms

Loss rate: 6.57%

Run 4: Report of Verus — Data Link

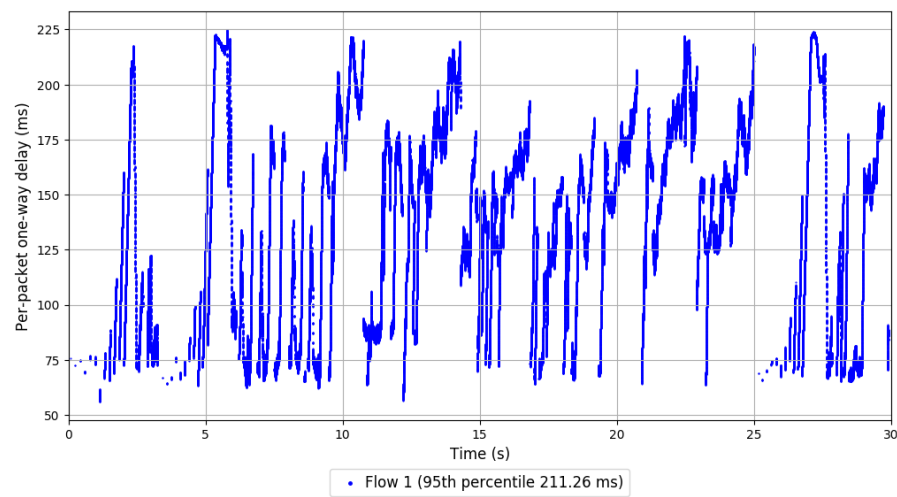
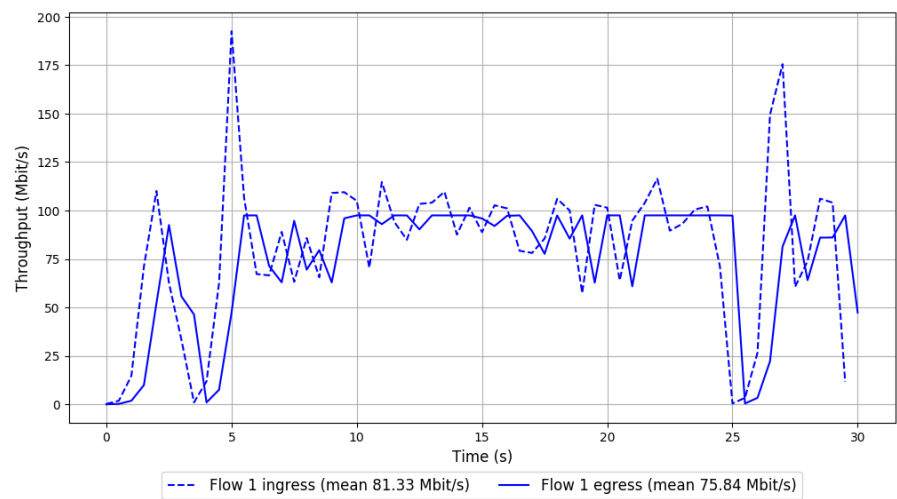


Run 5: Statistics of Verus

Start at: 2018-10-26 01:17:33
End at: 2018-10-26 01:18:03
Local clock offset: 4.625 ms
Remote clock offset: -6.301 ms

Below is generated by plot.py at 2018-10-26 01:30:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 75.84 Mbit/s
95th percentile per-packet one-way delay: 211.261 ms
Loss rate: 6.72%
-- Flow 1:
Average throughput: 75.84 Mbit/s
95th percentile per-packet one-way delay: 211.261 ms
Loss rate: 6.72%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-10-25 23:47:30

End at: 2018-10-25 23:48:00

Local clock offset: 4.965 ms

Remote clock offset: 0.457 ms

Below is generated by plot.py at 2018-10-26 01:30:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.06 Mbit/s

95th percentile per-packet one-way delay: 70.528 ms

Loss rate: 0.00%

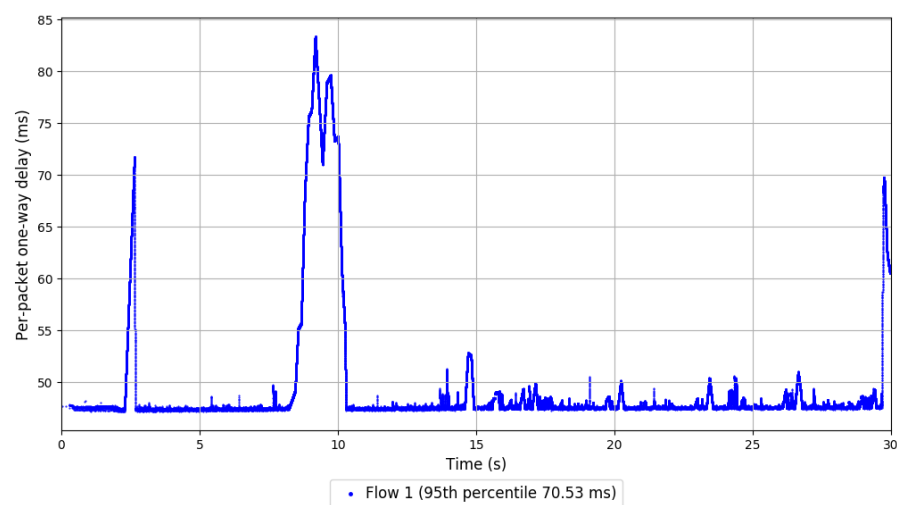
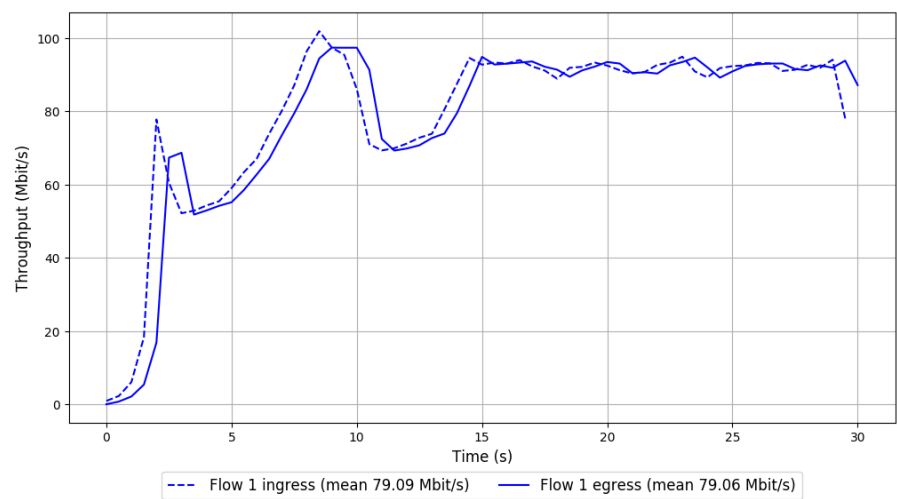
-- Flow 1:

Average throughput: 79.06 Mbit/s

95th percentile per-packet one-way delay: 70.528 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-10-26 00:09:47

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

Local clock offset: 10.424 ms

Remote clock offset: 1.831 ms

Below is generated by plot.py at 2018-10-26 01:30:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.75 Mbit/s

95th percentile per-packet one-way delay: 78.475 ms

Loss rate: 0.07%

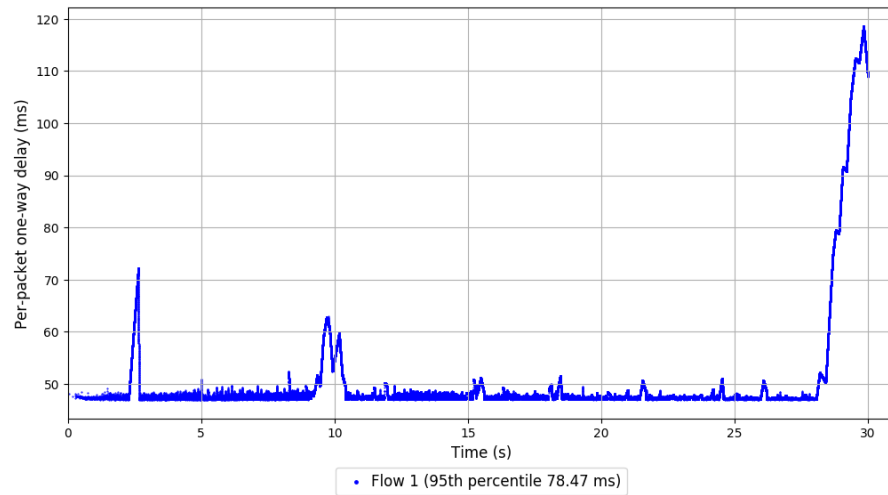
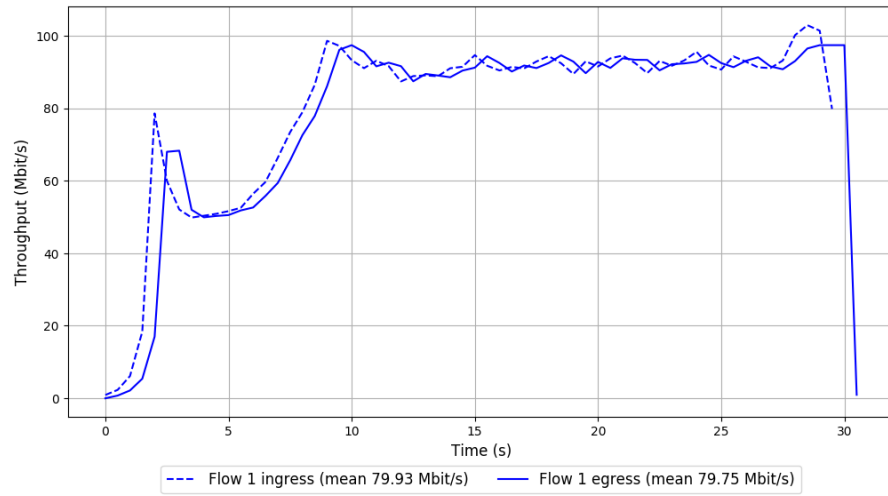
-- Flow 1:

Average throughput: 79.75 Mbit/s

95th percentile per-packet one-way delay: 78.475 ms

Loss rate: 0.07%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-10-26 00:32:14

End at: 2018-10-26 00:32:44

Local clock offset: 16.088 ms

Remote clock offset: 1.296 ms

Below is generated by plot.py at 2018-10-26 01:30:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.48 Mbit/s

95th percentile per-packet one-way delay: 79.273 ms

Loss rate: 0.04%

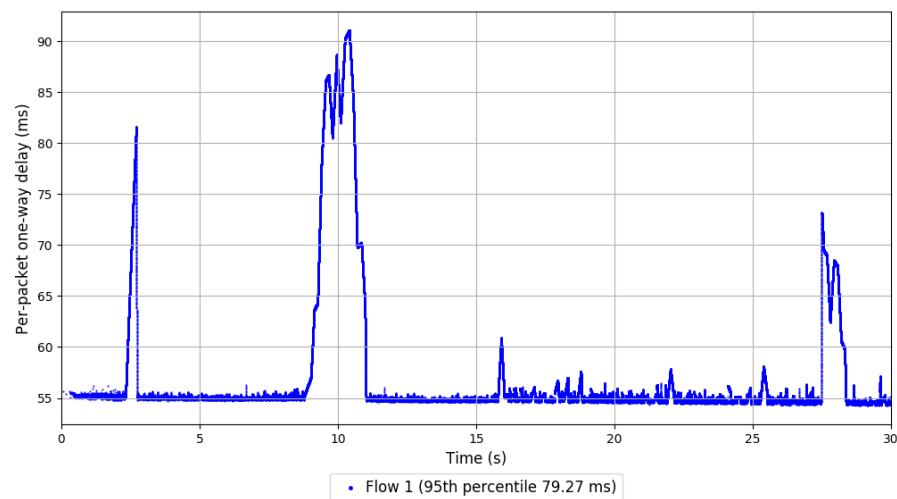
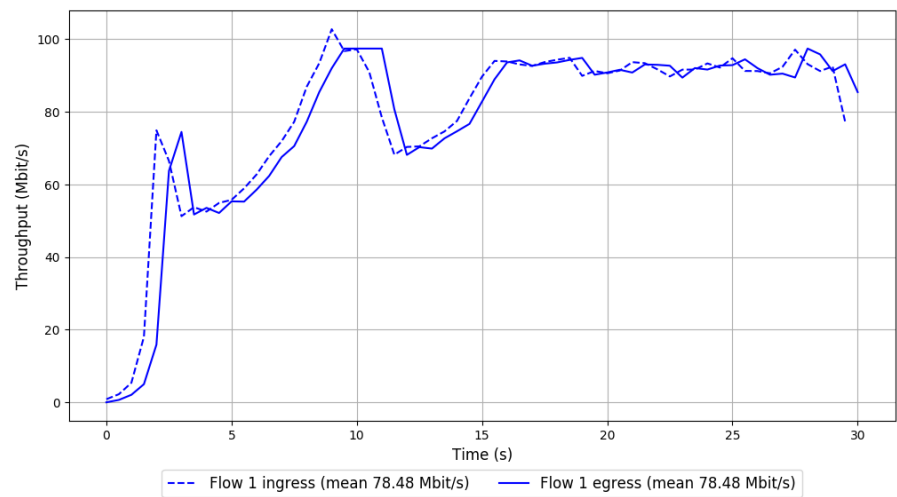
-- Flow 1:

Average throughput: 78.48 Mbit/s

95th percentile per-packet one-way delay: 79.273 ms

Loss rate: 0.04%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-10-26 00:54:29

End at: 2018-10-26 00:54:59

Local clock offset: 7.585 ms

Remote clock offset: 1.573 ms

Below is generated by plot.py at 2018-10-26 01:30:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 21.85 Mbit/s

95th percentile per-packet one-way delay: 58.010 ms

Loss rate: 0.05%

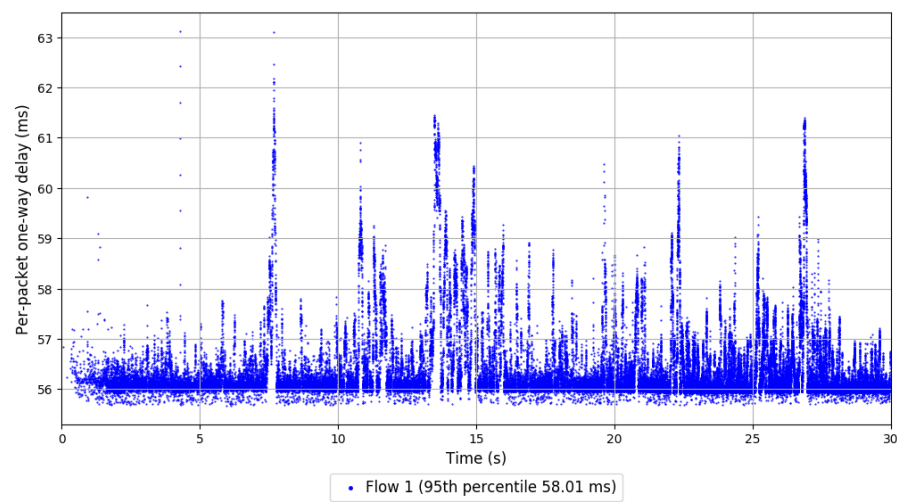
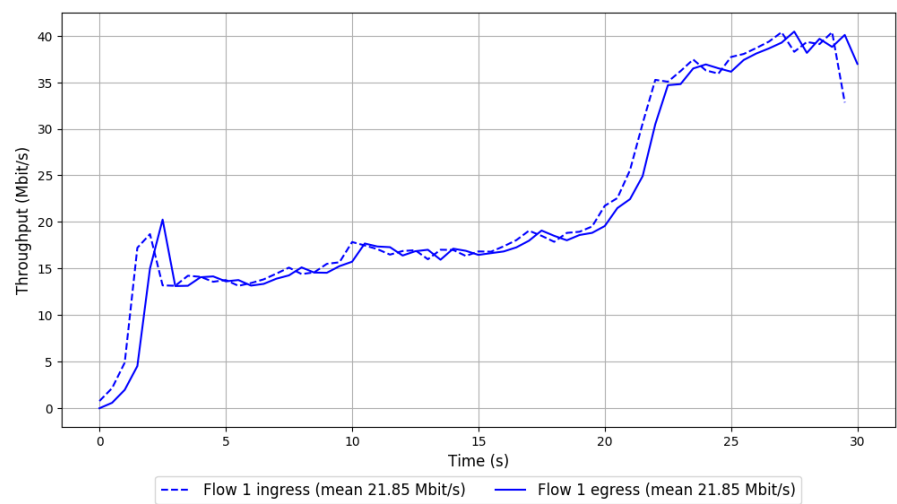
-- Flow 1:

Average throughput: 21.85 Mbit/s

95th percentile per-packet one-way delay: 58.010 ms

Loss rate: 0.05%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-10-26 01:16:22

End at: 2018-10-26 01:16:52

Local clock offset: 4.416 ms

Remote clock offset: -8.839 ms

Below is generated by plot.py at 2018-10-26 01:30:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 7.22 Mbit/s

95th percentile per-packet one-way delay: 73.478 ms

Loss rate: 0.13%

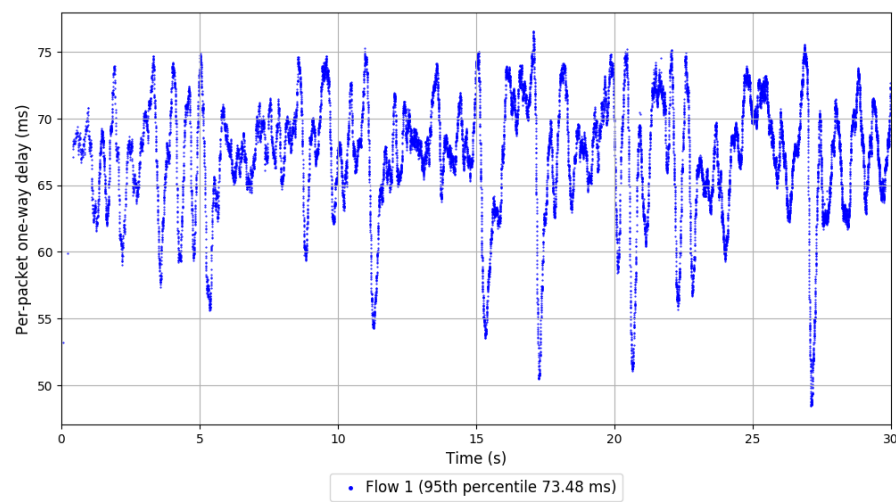
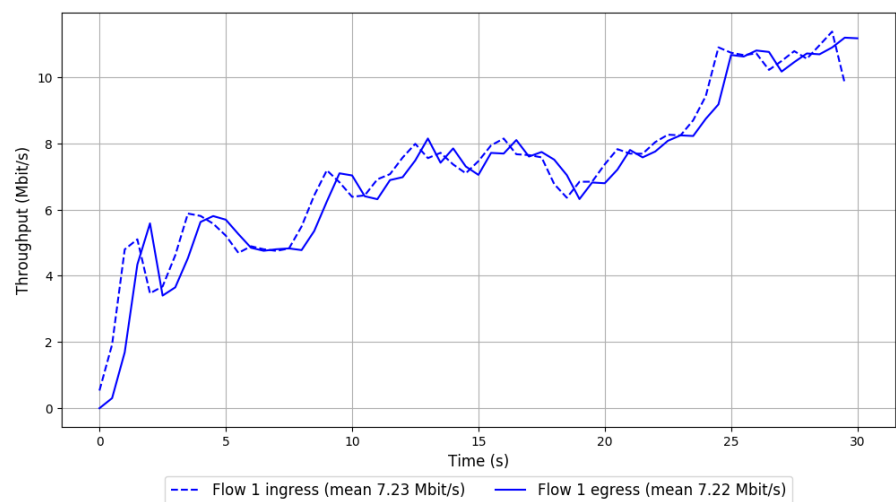
-- Flow 1:

Average throughput: 7.22 Mbit/s

95th percentile per-packet one-way delay: 73.478 ms

Loss rate: 0.13%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-10-25 23:34:04

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

Local clock offset: 0.842 ms

Remote clock offset: 0.413 ms

Below is generated by plot.py at 2018-10-26 01:30:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.96 Mbit/s

95th percentile per-packet one-way delay: 47.860 ms

Loss rate: 0.00%

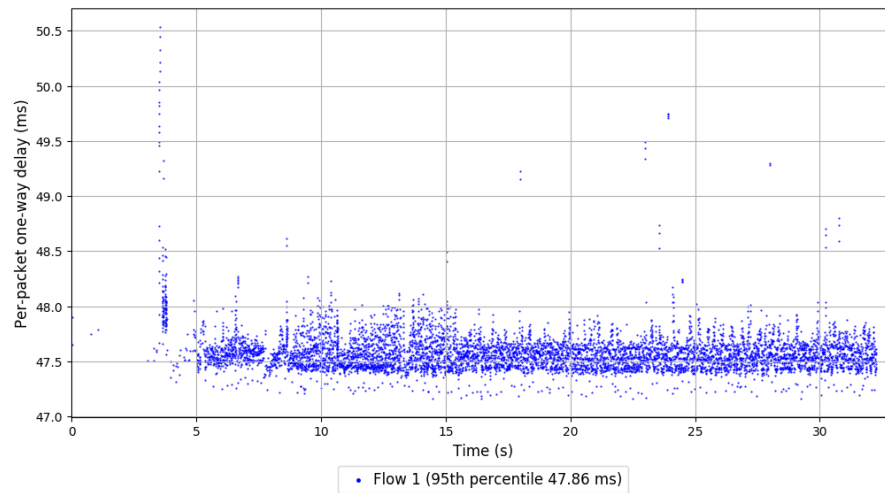
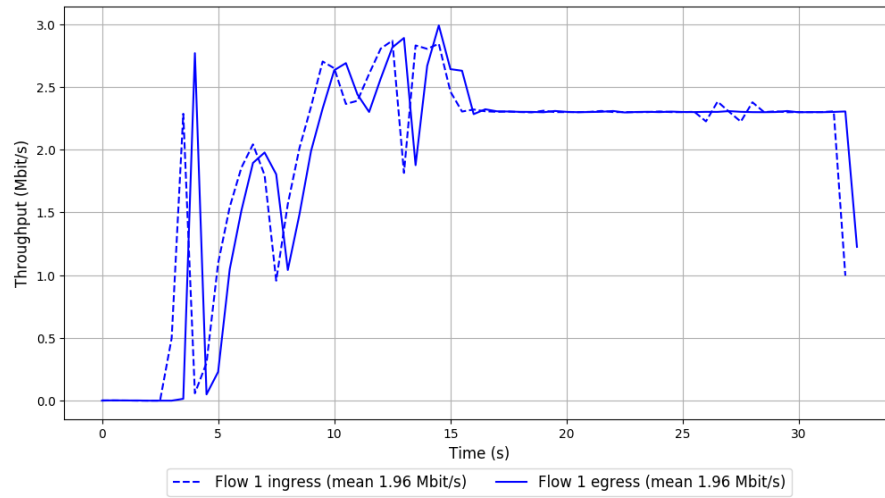
-- Flow 1:

Average throughput: 1.96 Mbit/s

95th percentile per-packet one-way delay: 47.860 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-10-25 23:56:26

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

Local clock offset: 12.022 ms

Remote clock offset: 1.77 ms

Below is generated by plot.py at 2018-10-26 01:30:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.90 Mbit/s

95th percentile per-packet one-way delay: 57.223 ms

Loss rate: 0.06%

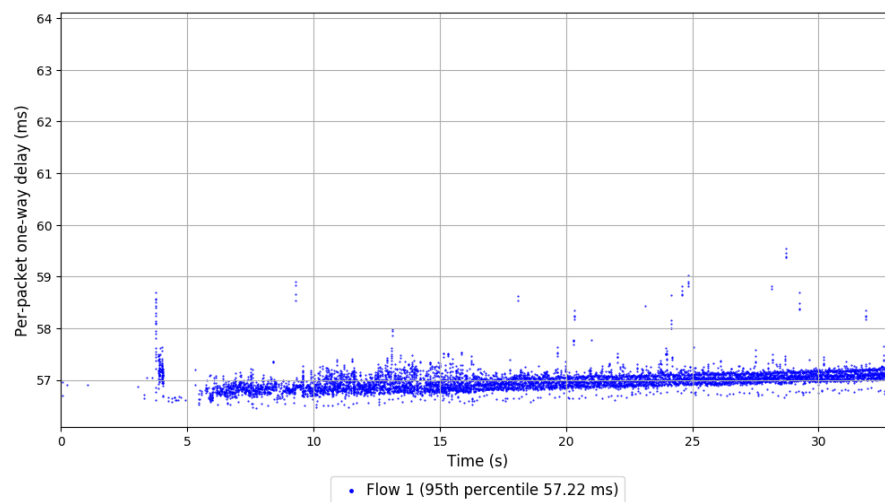
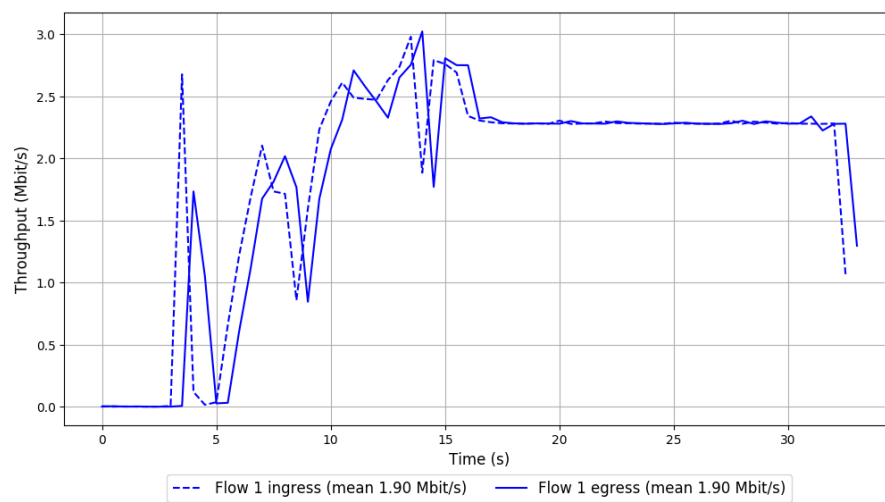
-- Flow 1:

Average throughput: 1.90 Mbit/s

95th percentile per-packet one-way delay: 57.223 ms

Loss rate: 0.06%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-10-26 00:18:48

End at: 2018-10-26 00:19:18

Local clock offset: 11.538 ms

Remote clock offset: 1.677 ms

Below is generated by plot.py at 2018-10-26 01:30:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 56.447 ms

Loss rate: 0.00%

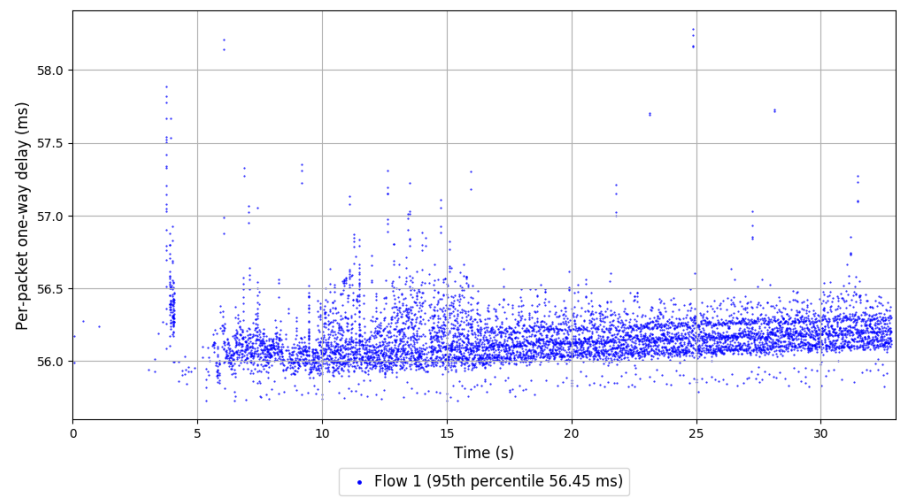
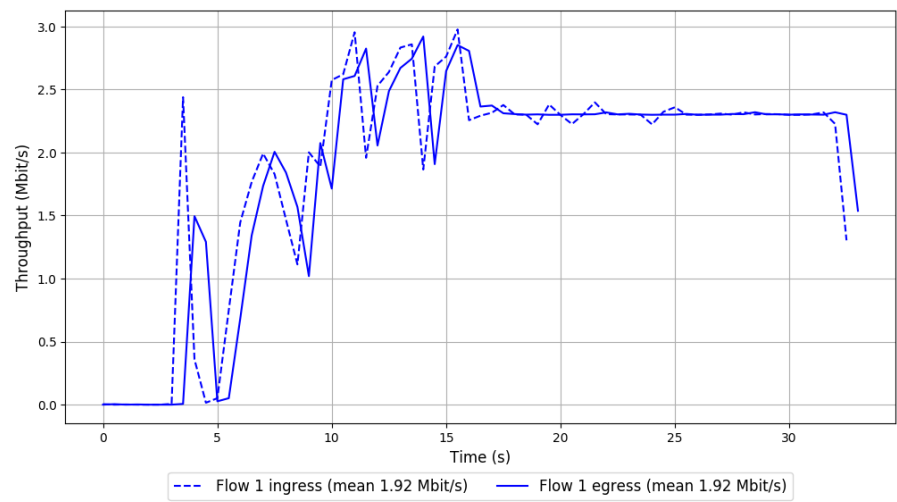
-- Flow 1:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 56.447 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

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

End at: 2018-10-26 00:41:40

Local clock offset: 7.994 ms

Remote clock offset: 2.109 ms

Below is generated by plot.py at 2018-10-26 01:30:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.91 Mbit/s

95th percentile per-packet one-way delay: 57.783 ms

Loss rate: 0.06%

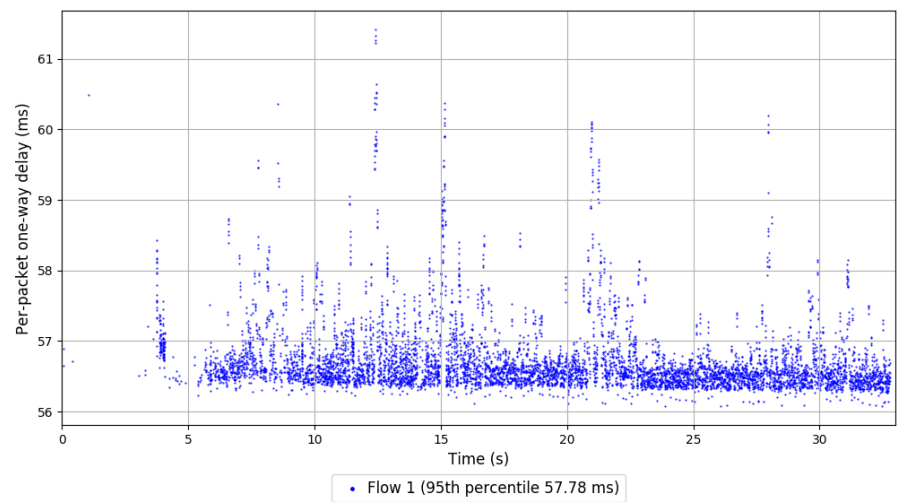
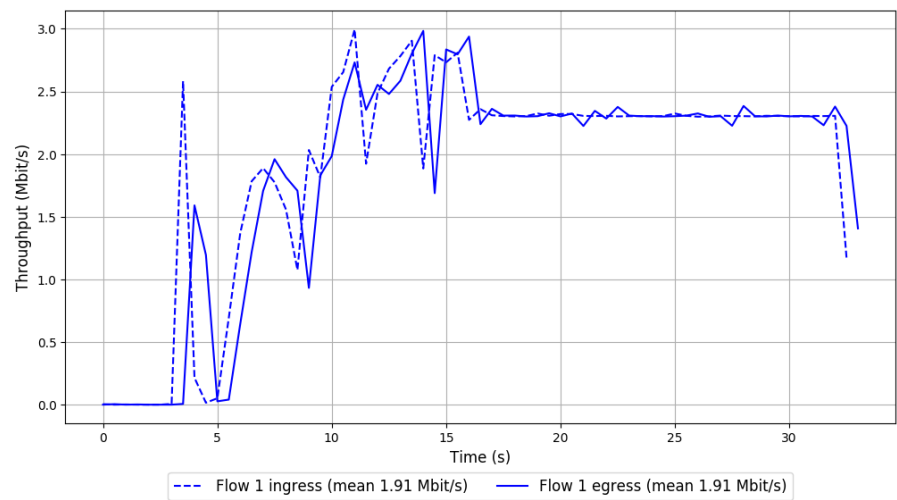
-- Flow 1:

Average throughput: 1.91 Mbit/s

95th percentile per-packet one-way delay: 57.783 ms

Loss rate: 0.06%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-26 01:03:17
End at: 2018-10-26 01:03:47
Local clock offset: 7.934 ms
Remote clock offset: -4.061 ms

Below is generated by plot.py at 2018-10-26 01:30:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 68.522 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.91 Mbit/s
95th percentile per-packet one-way delay: 68.522 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

