

Pantheon Report

Generated at 2018-10-26 09:15:30 (UTC).

Data path: Stanford on `eno1` (*remote*) → AWS California 1 on `ens5` (*local*).

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `time.stanford.edu` and have been applied to correct the timestamps in logs.

System info:

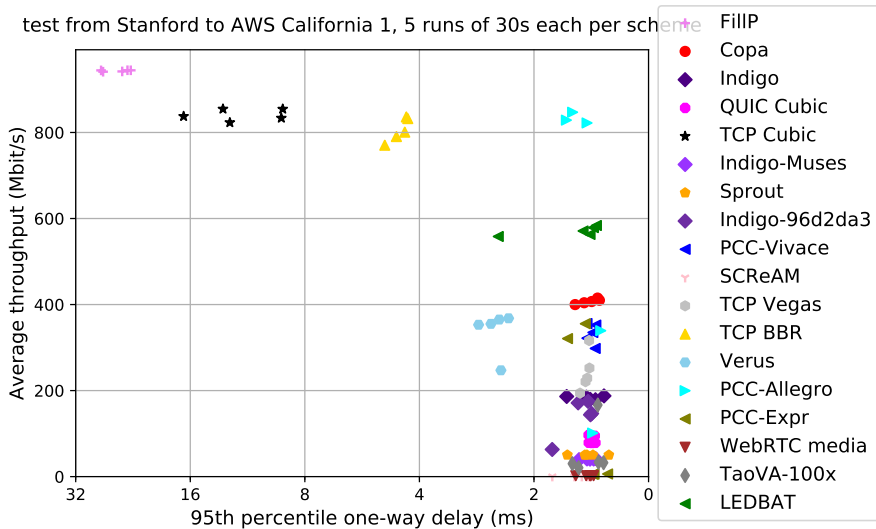
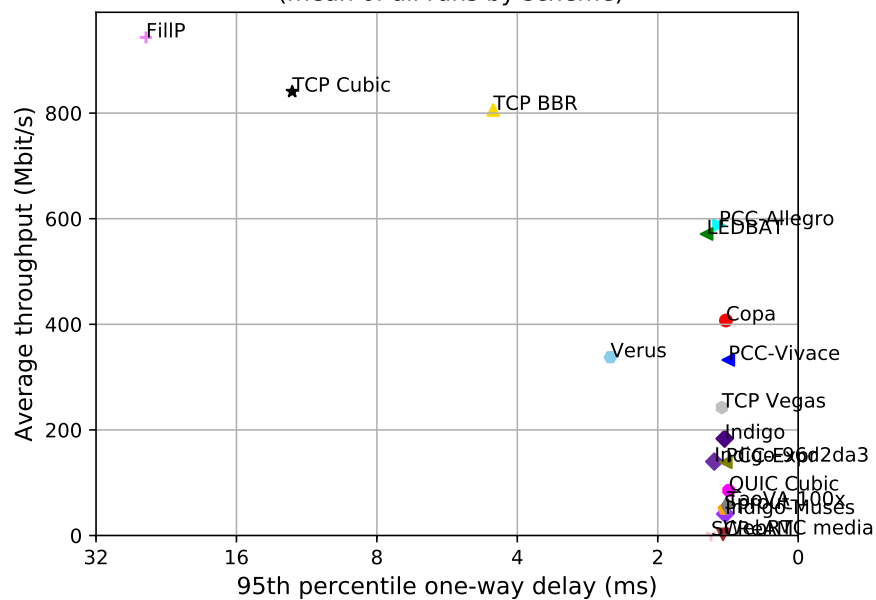
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

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 Stanford to AWS California 1, 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	806.04	4.50	0.02
Copa	5	407.21	1.03	0.01
TCP Cubic	5	840.65	12.15	0.03
FillP	5	943.33	25.01	0.55
Indigo	5	183.43	1.05	0.01
Indigo-96d2da3	5	139.98	1.19	0.01
LEDBAT	5	570.97	1.30	0.01
Indigo-Muses	5	40.84	1.04	0.01
PCC-Allegro	5	587.70	1.13	0.02
PCC-Expr	5	138.76	1.03	0.01
QUIC Cubic	5	85.43	0.99	0.01
SCReAM	5	0.22	1.24	0.00
Sprout	5	50.29	1.05	0.01
TaoVA-100x	5	56.65	1.02	0.00
TCP Vegas	5	242.46	1.09	0.00
Verus	5	337.70	2.53	0.01
PCC-Vivace	5	332.58	1.00	0.01
WebRTC media	5	2.10	1.07	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-10-26 06:12:14

End at: 2018-10-26 06:12:44

Local clock offset: 0.765 ms

Remote clock offset: -2.772 ms

Below is generated by plot.py at 2018-10-26 08:37:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 770.41 Mbit/s

95th percentile per-packet one-way delay: 4.933 ms

Loss rate: 0.02%

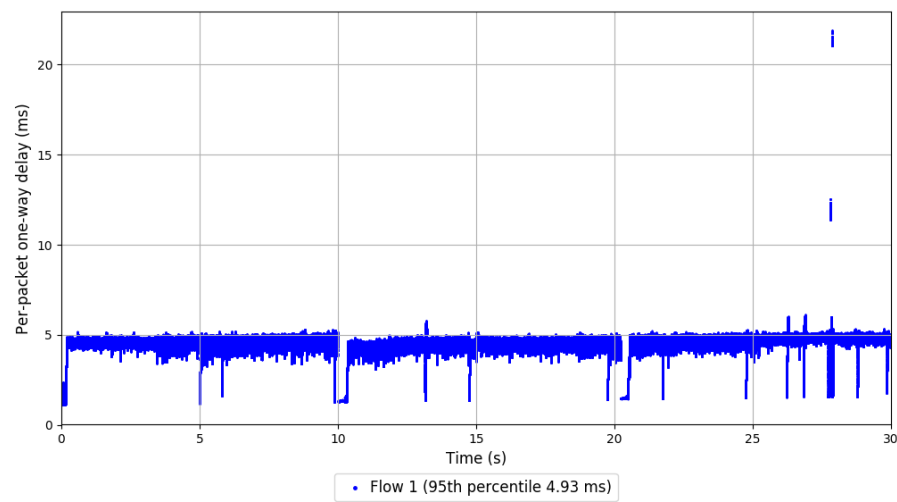
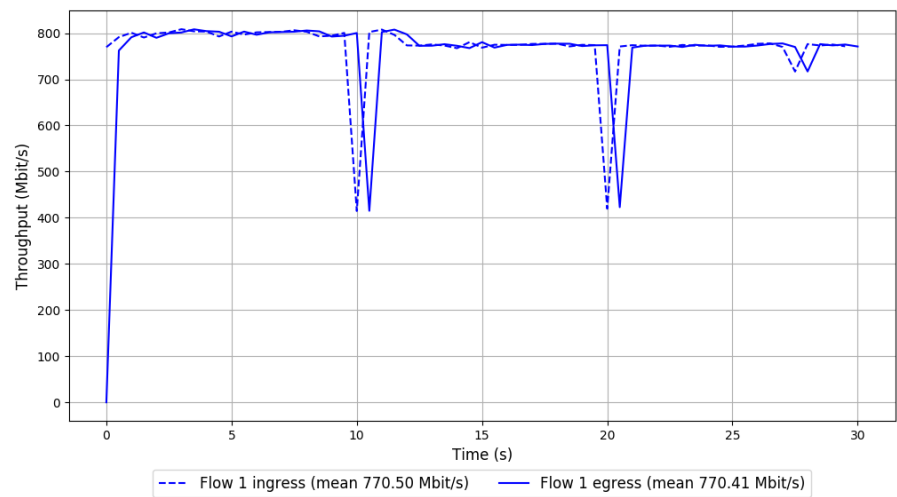
-- Flow 1:

Average throughput: 770.41 Mbit/s

95th percentile per-packet one-way delay: 4.933 ms

Loss rate: 0.02%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-10-26 06:39:08

End at: 2018-10-26 06:39:38

Local clock offset: -0.496 ms

Remote clock offset: 6.407 ms

Below is generated by plot.py at 2018-10-26 08:37:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 800.78 Mbit/s

95th percentile per-packet one-way delay: 4.371 ms

Loss rate: 0.02%

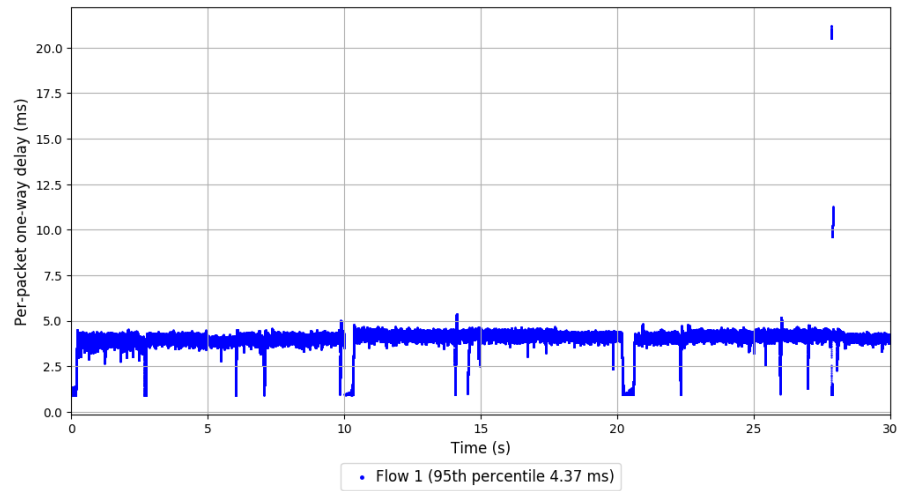
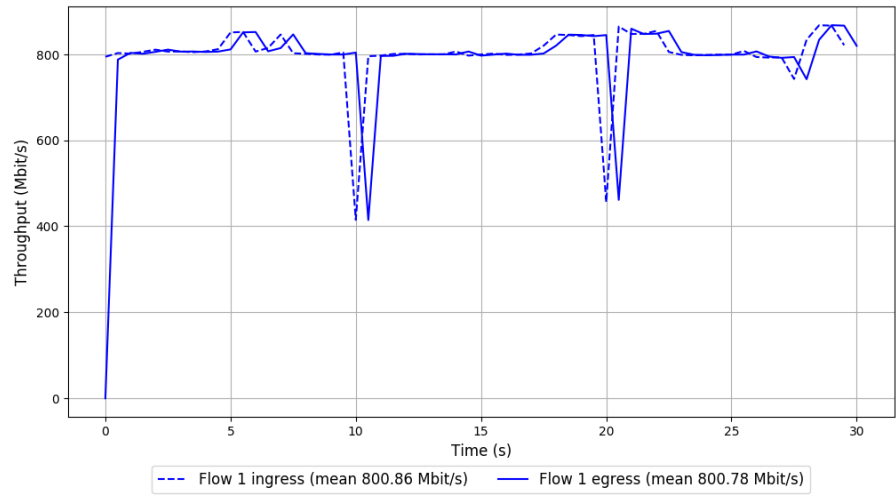
-- Flow 1:

Average throughput: 800.78 Mbit/s

95th percentile per-packet one-way delay: 4.371 ms

Loss rate: 0.02%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-10-26 07:05:39

End at: 2018-10-26 07:06:09

Local clock offset: -1.376 ms

Remote clock offset: 4.492 ms

Below is generated by plot.py at 2018-10-26 08:37:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 790.54 Mbit/s

95th percentile per-packet one-way delay: 4.597 ms

Loss rate: 0.02%

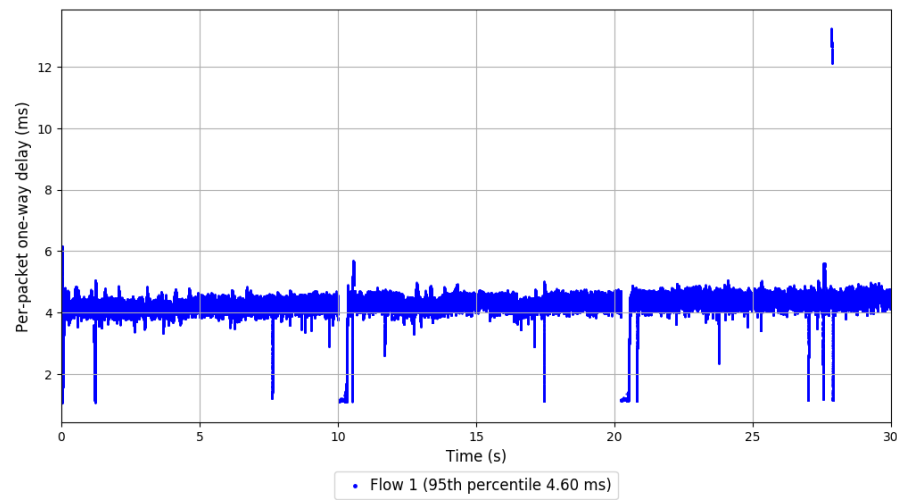
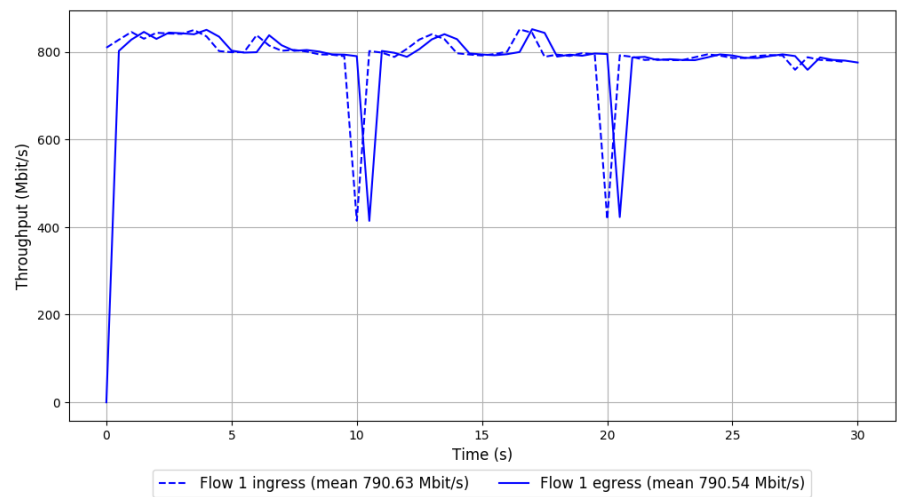
-- Flow 1:

Average throughput: 790.54 Mbit/s

95th percentile per-packet one-way delay: 4.597 ms

Loss rate: 0.02%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-10-26 07:32:40

End at: 2018-10-26 07:33:10

Local clock offset: -3.822 ms

Remote clock offset: 3.771 ms

Below is generated by plot.py at 2018-10-26 08:37:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 832.31 Mbit/s

95th percentile per-packet one-way delay: 4.292 ms

Loss rate: 0.02%

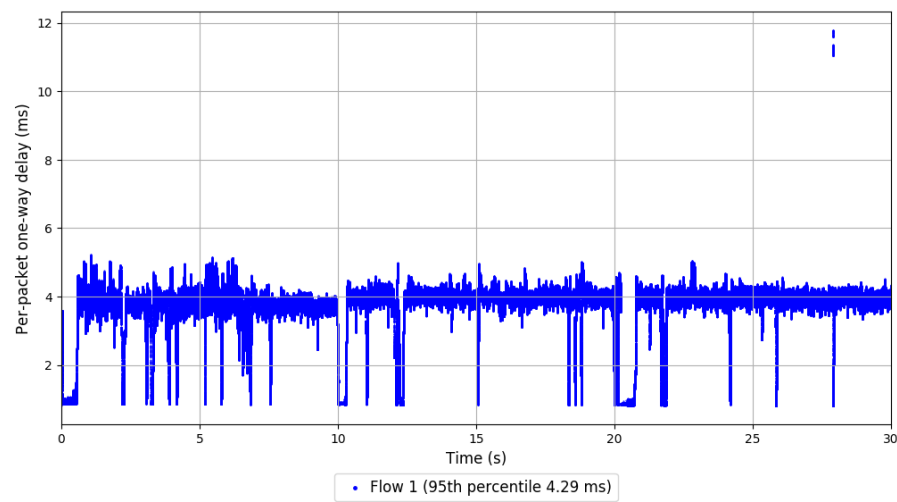
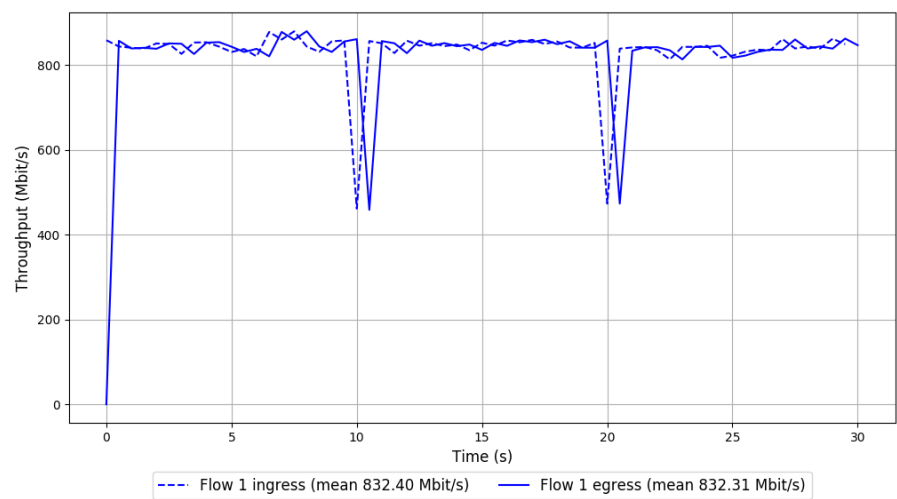
-- Flow 1:

Average throughput: 832.31 Mbit/s

95th percentile per-packet one-way delay: 4.292 ms

Loss rate: 0.02%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-10-26 07:59:31

End at: 2018-10-26 08:00:01

Local clock offset: -3.397 ms

Remote clock offset: 3.553 ms

Below is generated by plot.py at 2018-10-26 08:37:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 836.16 Mbit/s

95th percentile per-packet one-way delay: 4.329 ms

Loss rate: 0.02%

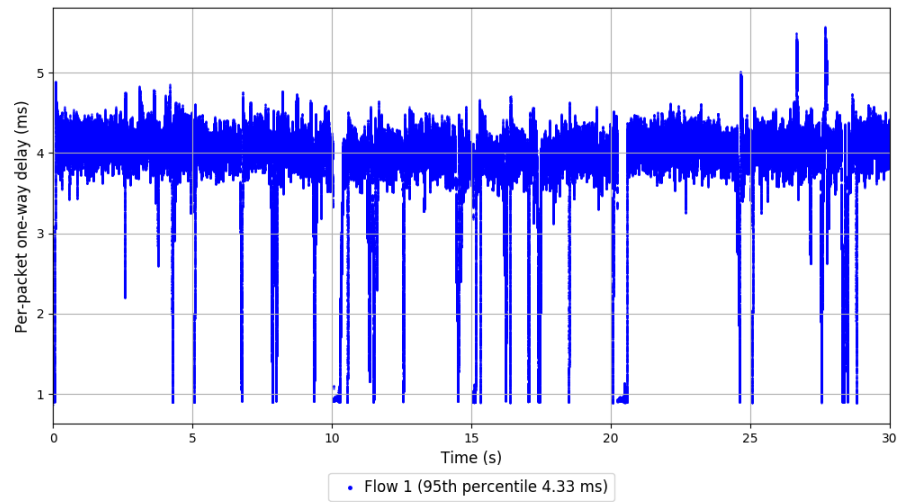
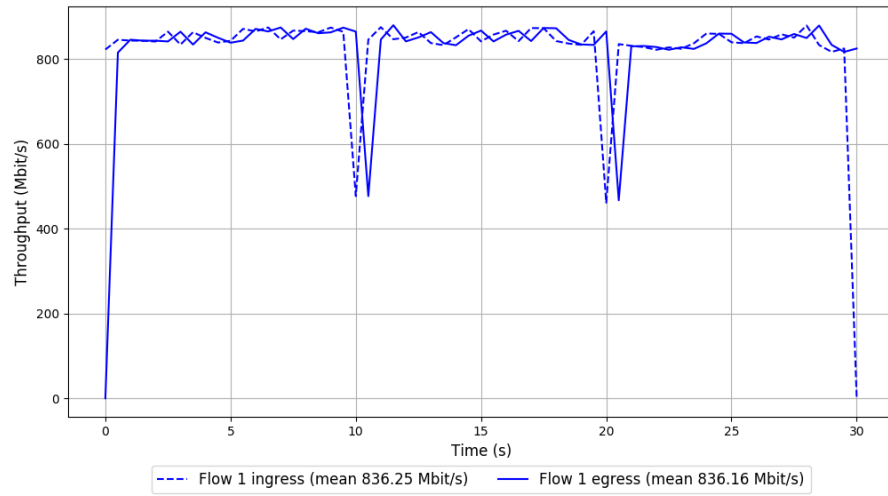
-- Flow 1:

Average throughput: 836.16 Mbit/s

95th percentile per-packet one-way delay: 4.329 ms

Loss rate: 0.02%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-10-26 06:24:21

End at: 2018-10-26 06:24:51

Local clock offset: -0.599 ms

Remote clock offset: 3.185 ms

Below is generated by plot.py at 2018-10-26 08:37:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 399.95 Mbit/s

95th percentile per-packet one-way delay: 1.282 ms

Loss rate: 0.01%

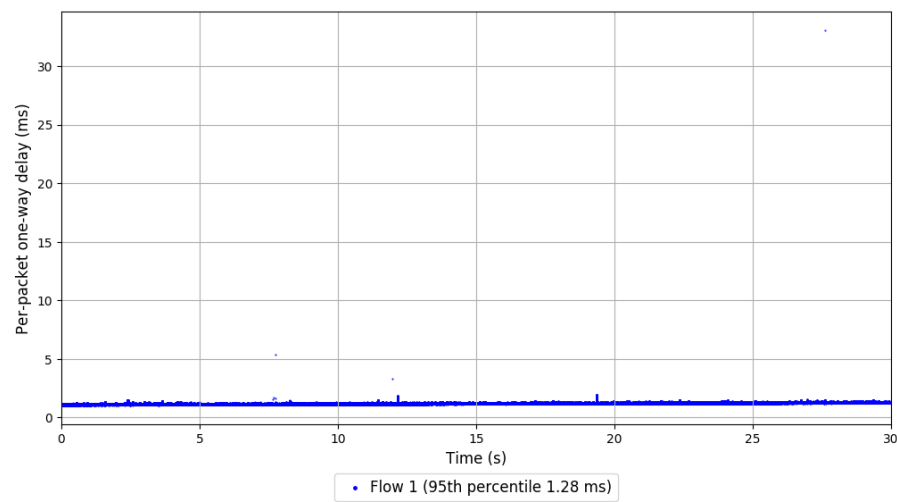
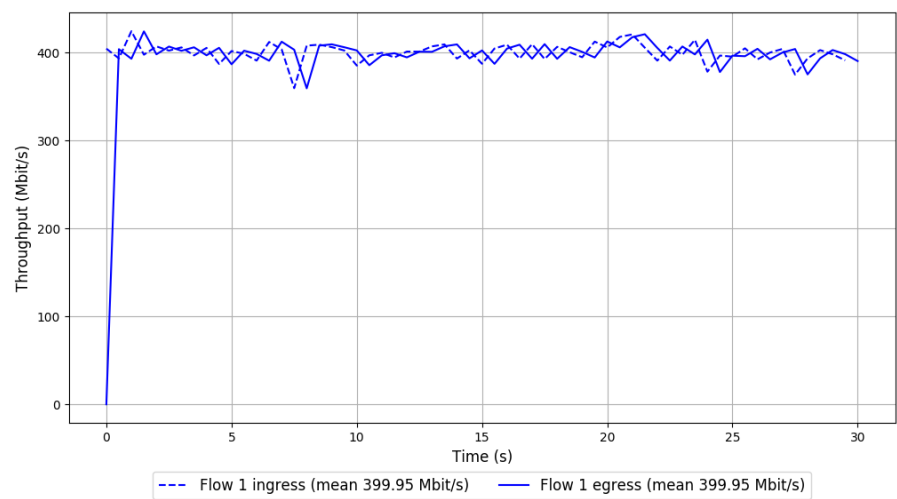
-- Flow 1:

Average throughput: 399.95 Mbit/s

95th percentile per-packet one-way delay: 1.282 ms

Loss rate: 0.01%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-10-26 06:50:57

End at: 2018-10-26 06:51:27

Local clock offset: -0.327 ms

Remote clock offset: 5.241 ms

Below is generated by plot.py at 2018-10-26 08:37:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 409.90 Mbit/s

95th percentile per-packet one-way delay: 0.858 ms

Loss rate: 0.01%

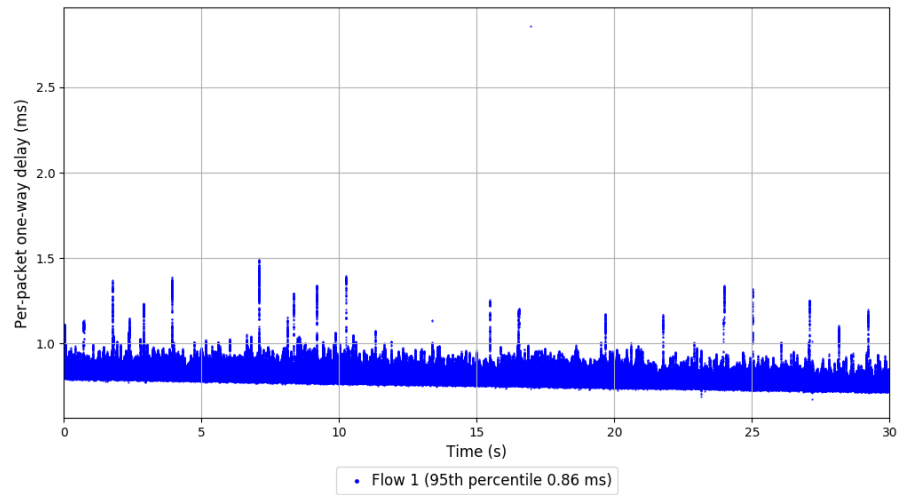
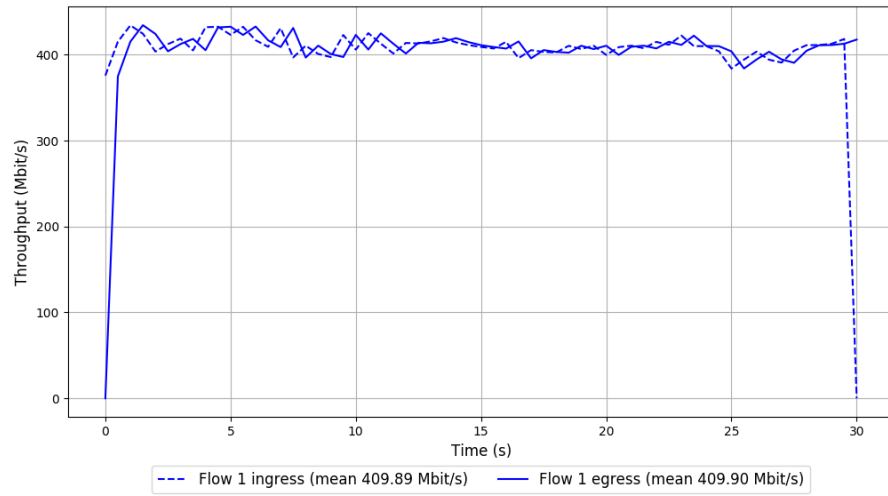
-- Flow 1:

Average throughput: 409.90 Mbit/s

95th percentile per-packet one-way delay: 0.858 ms

Loss rate: 0.01%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-10-26 07:17:46

End at: 2018-10-26 07:18:16

Local clock offset: -2.99 ms

Remote clock offset: 4.917 ms

Below is generated by plot.py at 2018-10-26 08:37:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 404.17 Mbit/s

95th percentile per-packet one-way delay: 1.124 ms

Loss rate: 0.01%

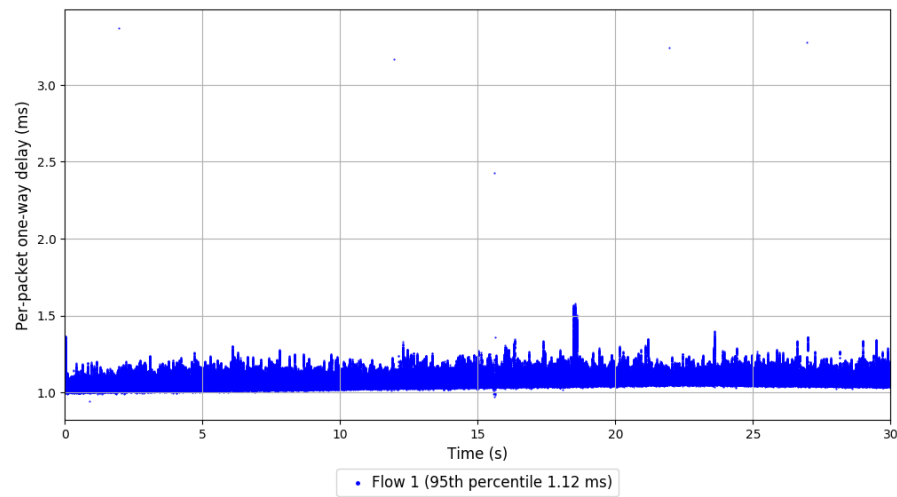
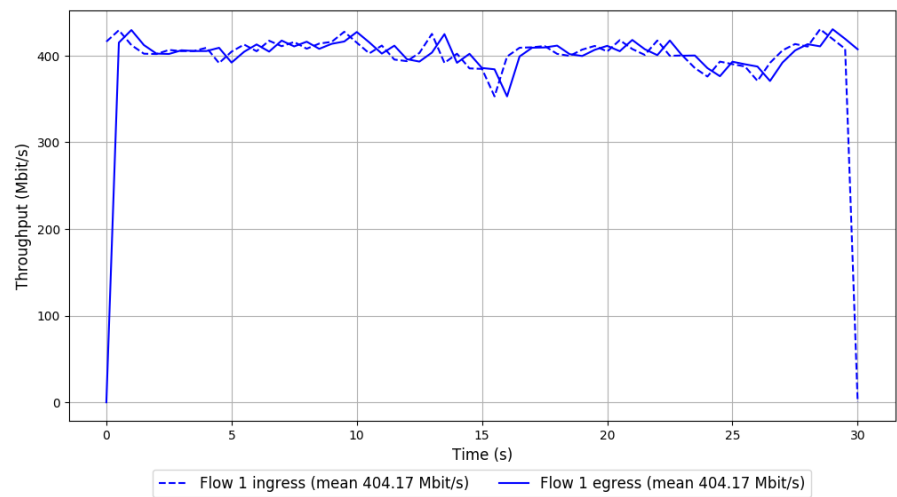
-- Flow 1:

Average throughput: 404.17 Mbit/s

95th percentile per-packet one-way delay: 1.124 ms

Loss rate: 0.01%

Run 3: Report of Copa — Data Link

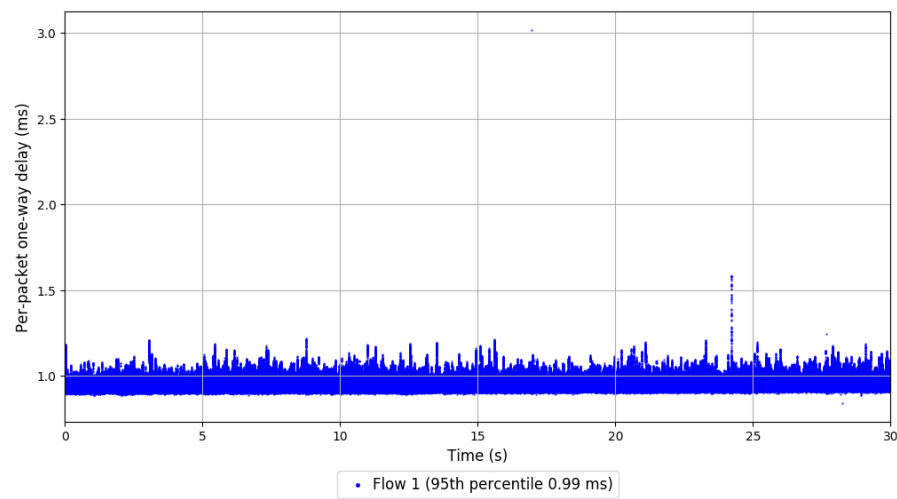
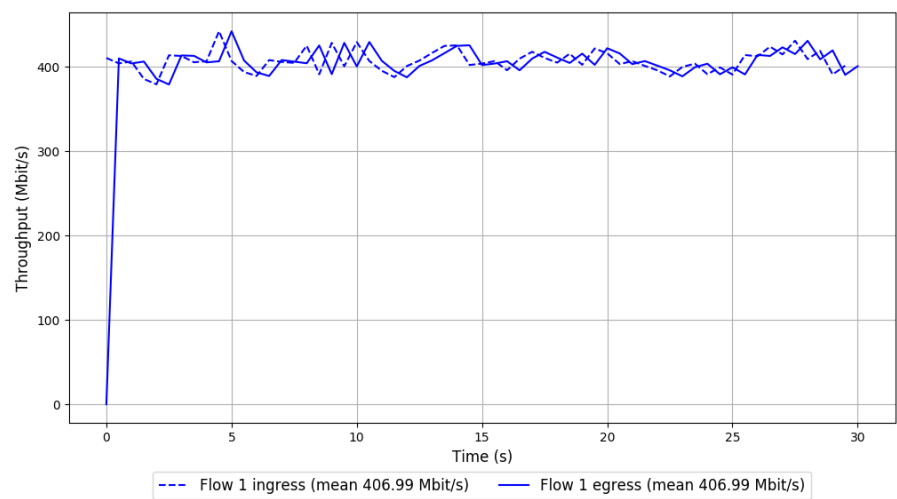


Run 4: Statistics of Copa

Start at: 2018-10-26 07:44:35
End at: 2018-10-26 07:45:05
Local clock offset: -3.212 ms
Remote clock offset: 3.925 ms

Below is generated by plot.py at 2018-10-26 08:45:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 406.99 Mbit/s
95th percentile per-packet one-way delay: 0.993 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 406.99 Mbit/s
95th percentile per-packet one-way delay: 0.993 ms
Loss rate: 0.01%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-10-26 08:11:20

End at: 2018-10-26 08:11:50

Local clock offset: -0.782 ms

Remote clock offset: 3.194 ms

Below is generated by plot.py at 2018-10-26 08:46:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 415.04 Mbit/s

95th percentile per-packet one-way delay: 0.890 ms

Loss rate: 0.01%

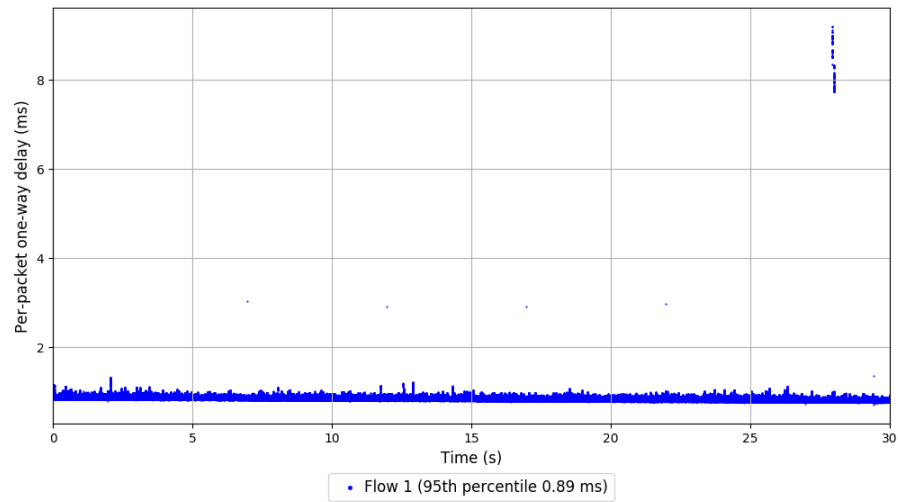
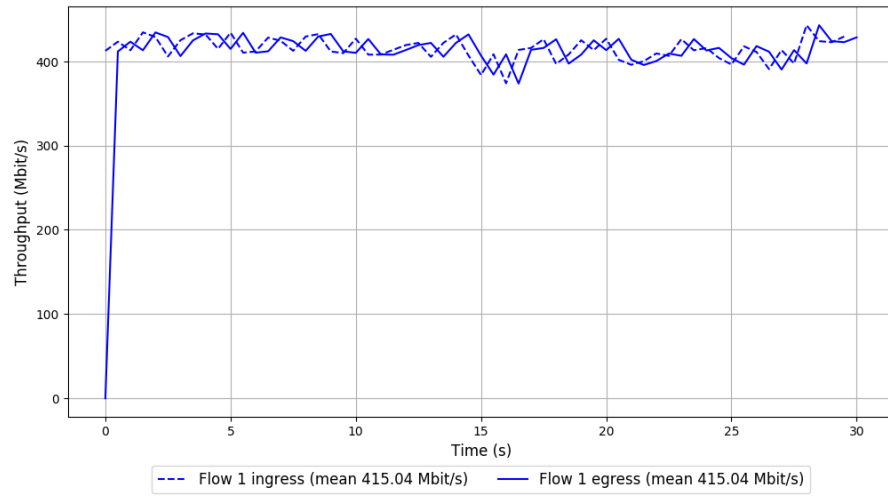
-- Flow 1:

Average throughput: 415.04 Mbit/s

95th percentile per-packet one-way delay: 0.890 ms

Loss rate: 0.01%

Run 5: Report of Copa — Data Link

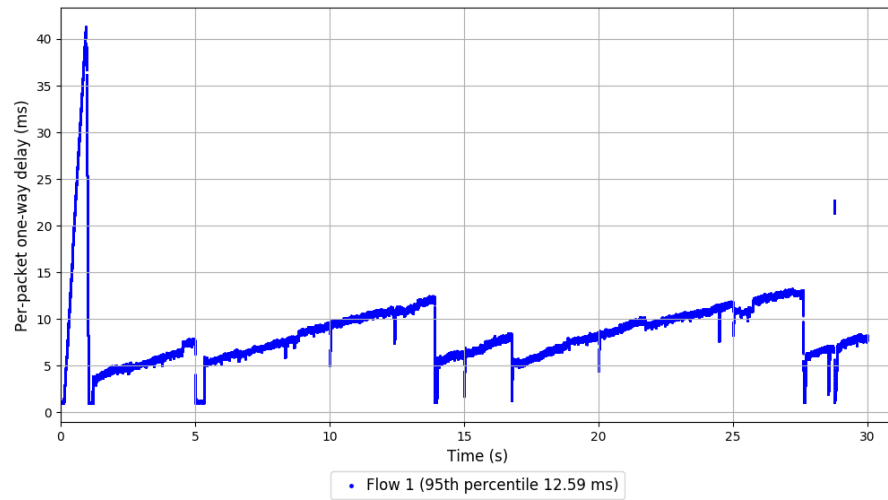
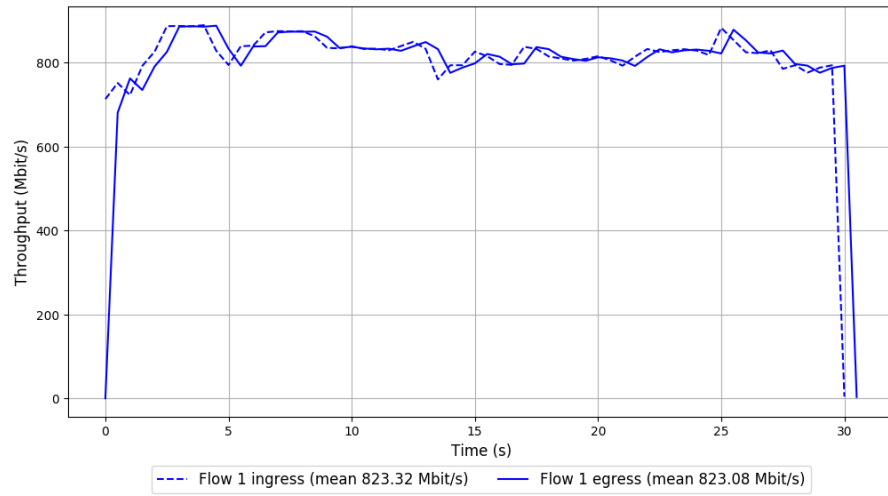


Run 1: Statistics of TCP Cubic

Start at: 2018-10-26 06:09:10
End at: 2018-10-26 06:09:40
Local clock offset: 1.356 ms
Remote clock offset: -4.797 ms

Below is generated by plot.py at 2018-10-26 08:46:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 823.08 Mbit/s
95th percentile per-packet one-way delay: 12.594 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 823.08 Mbit/s
95th percentile per-packet one-way delay: 12.594 ms
Loss rate: 0.04%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-10-26 06:36:01

End at: 2018-10-26 06:36:31

Local clock offset: -0.65 ms

Remote clock offset: 5.865 ms

Below is generated by plot.py at 2018-10-26 08:46:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 837.53 Mbit/s

95th percentile per-packet one-way delay: 16.659 ms

Loss rate: 0.02%

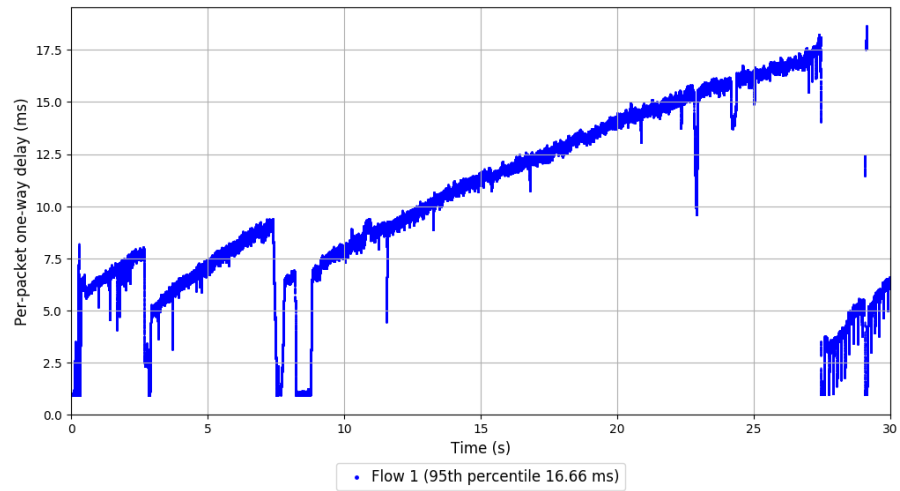
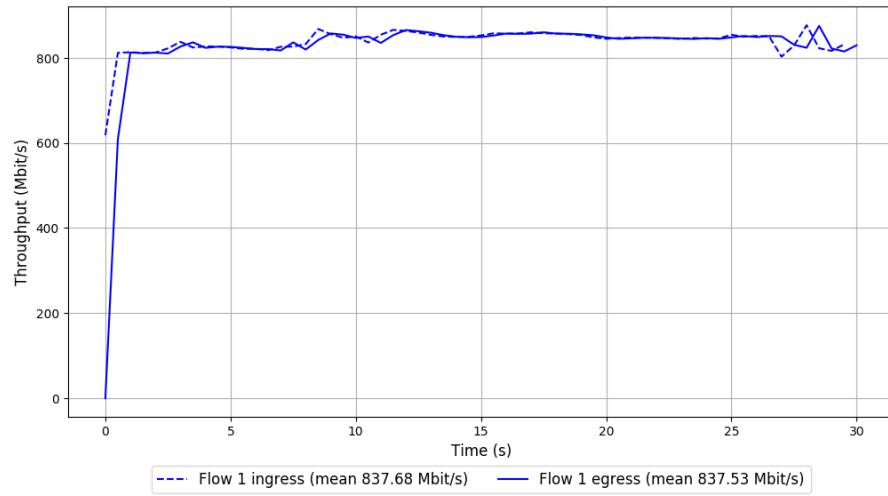
-- Flow 1:

Average throughput: 837.53 Mbit/s

95th percentile per-packet one-way delay: 16.659 ms

Loss rate: 0.02%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-10-26 07:02:30

End at: 2018-10-26 07:03:00

Local clock offset: -0.661 ms

Remote clock offset: 4.5 ms

Below is generated by plot.py at 2018-10-26 08:46:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 854.61 Mbit/s

95th percentile per-packet one-way delay: 13.129 ms

Loss rate: 0.02%

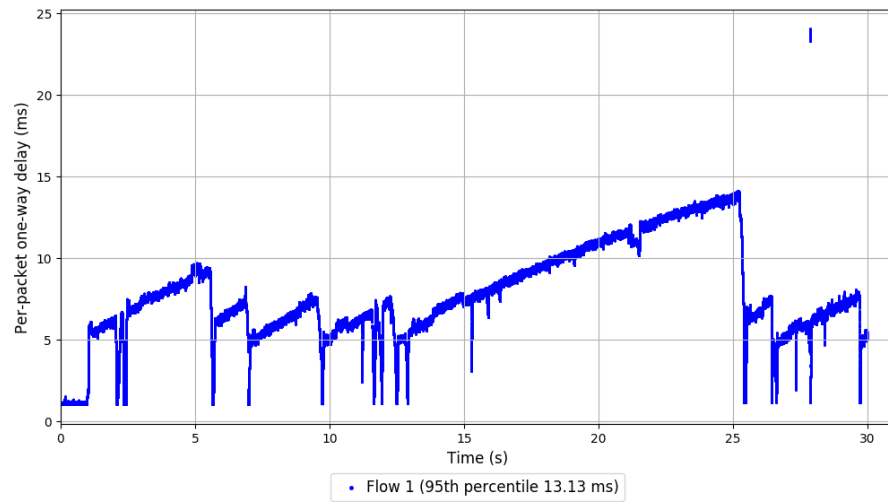
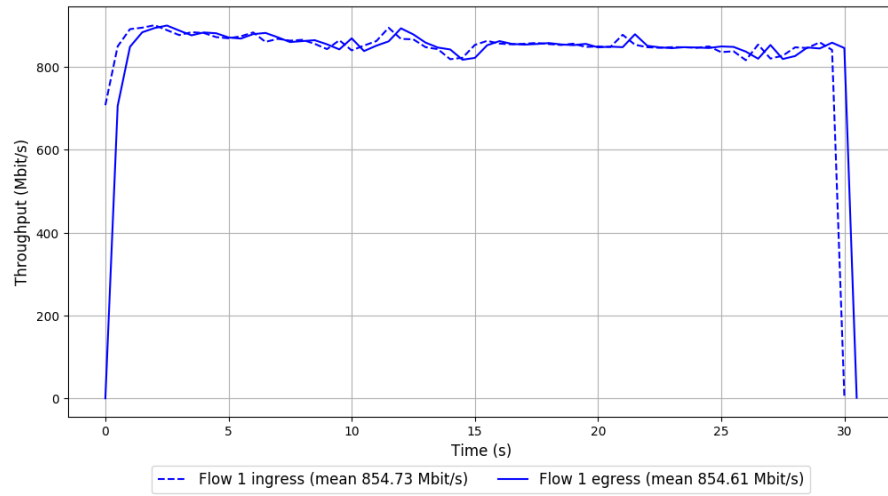
-- Flow 1:

Average throughput: 854.61 Mbit/s

95th percentile per-packet one-way delay: 13.129 ms

Loss rate: 0.02%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-10-26 07:29:33

End at: 2018-10-26 07:30:03

Local clock offset: -3.807 ms

Remote clock offset: 3.858 ms

Below is generated by plot.py at 2018-10-26 08:46:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 833.55 Mbit/s

95th percentile per-packet one-way delay: 9.223 ms

Loss rate: 0.03%

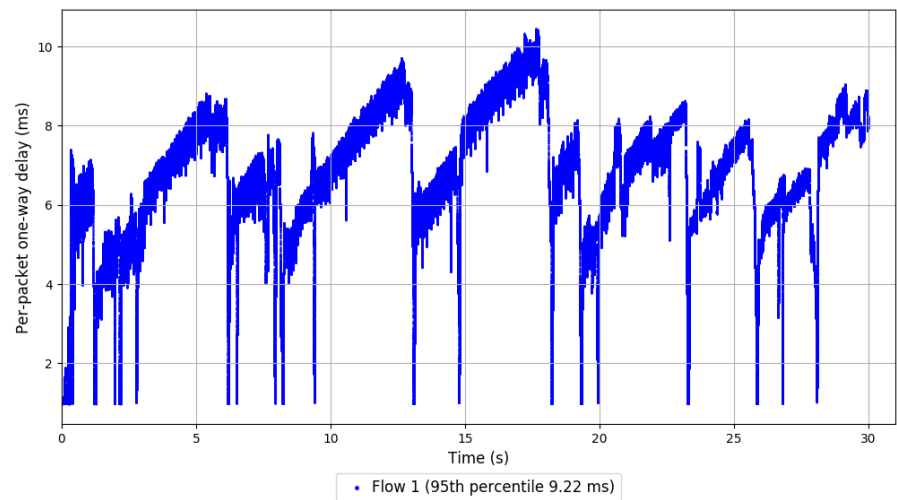
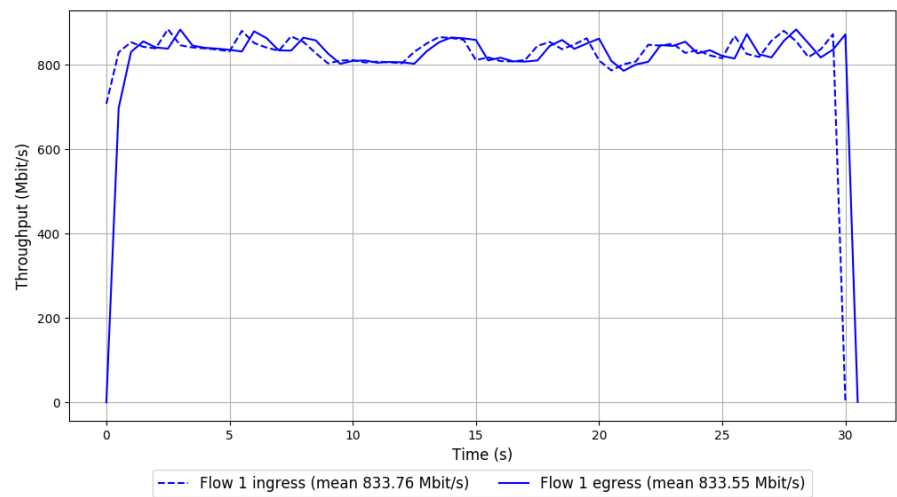
-- Flow 1:

Average throughput: 833.55 Mbit/s

95th percentile per-packet one-way delay: 9.223 ms

Loss rate: 0.03%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-10-26 07:56:23

End at: 2018-10-26 07:56:53

Local clock offset: -3.332 ms

Remote clock offset: 3.709 ms

Below is generated by plot.py at 2018-10-26 08:47:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 854.47 Mbit/s

95th percentile per-packet one-way delay: 9.146 ms

Loss rate: 0.02%

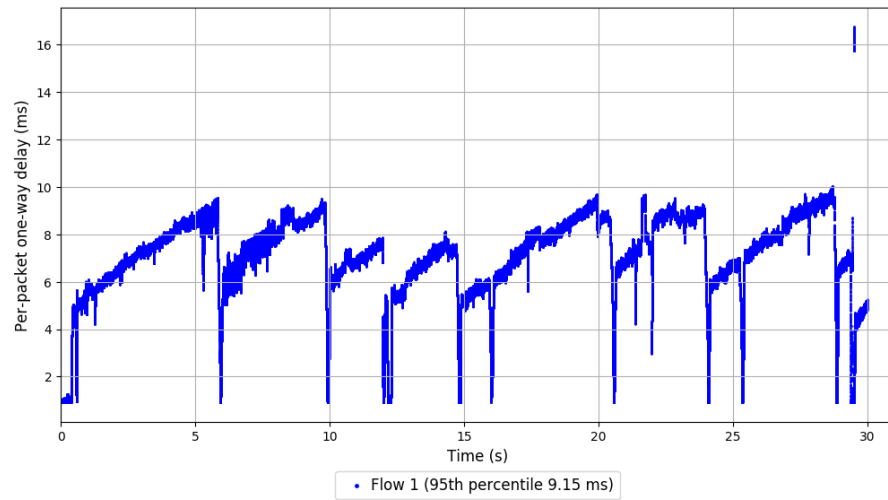
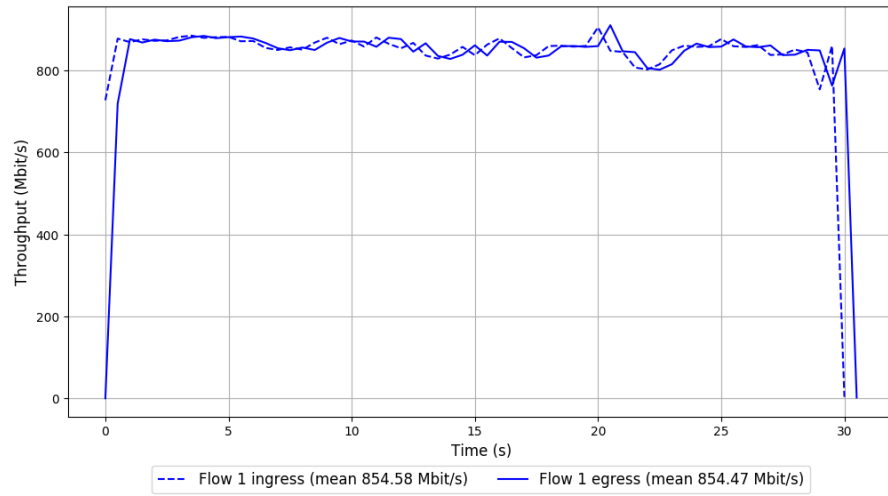
-- Flow 1:

Average throughput: 854.47 Mbit/s

95th percentile per-packet one-way delay: 9.146 ms

Loss rate: 0.02%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-10-26 06:22:37

End at: 2018-10-26 06:23:07

Local clock offset: -0.453 ms

Remote clock offset: 2.747 ms

Below is generated by plot.py at 2018-10-26 08:50:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 944.65 Mbit/s

95th percentile per-packet one-way delay: 23.396 ms

Loss rate: 0.45%

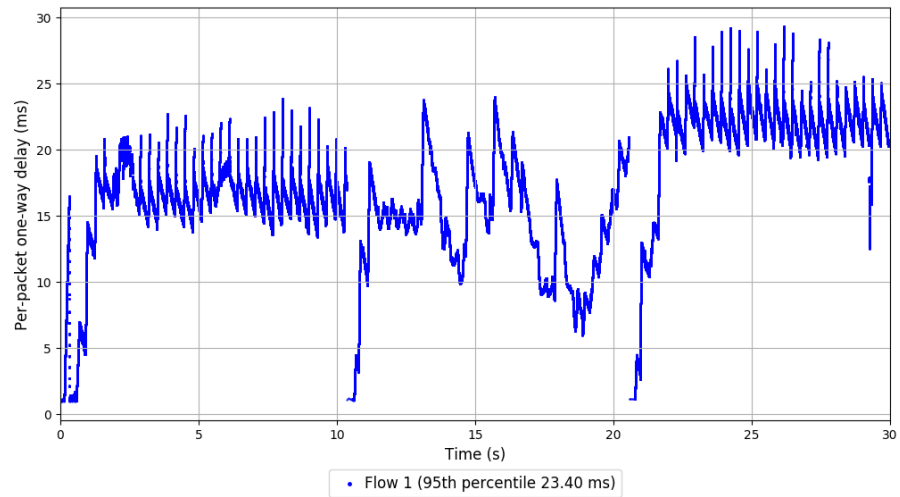
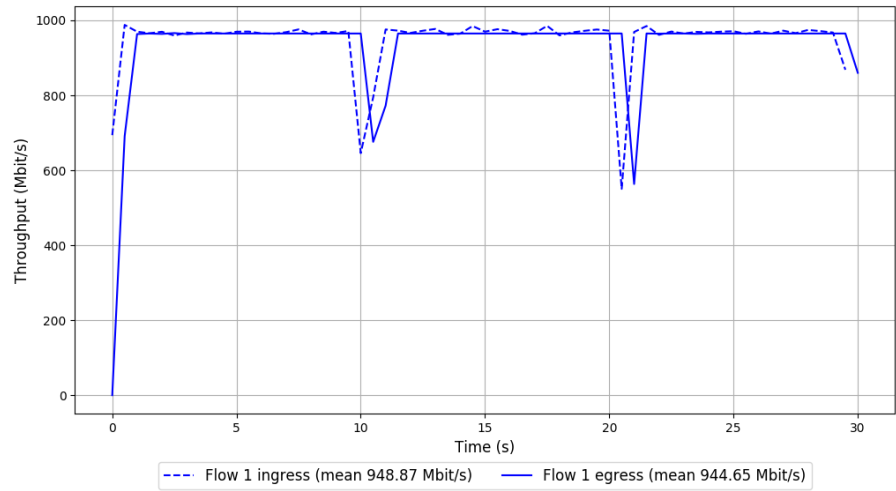
-- Flow 1:

Average throughput: 944.65 Mbit/s

95th percentile per-packet one-way delay: 23.396 ms

Loss rate: 0.45%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-10-26 06:49:13

End at: 2018-10-26 06:49:43

Local clock offset: -0.333 ms

Remote clock offset: 5.523 ms

Below is generated by plot.py at 2018-10-26 08:59:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 941.89 Mbit/s

95th percentile per-packet one-way delay: 24.153 ms

Loss rate: 0.46%

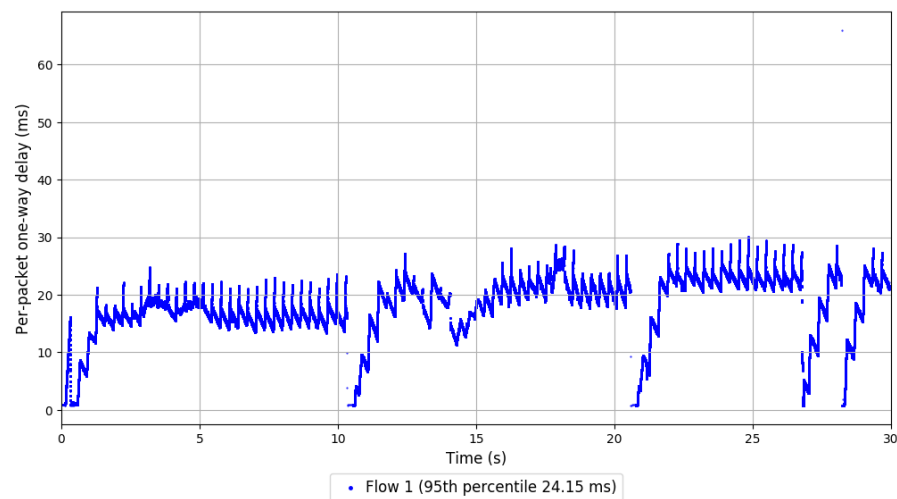
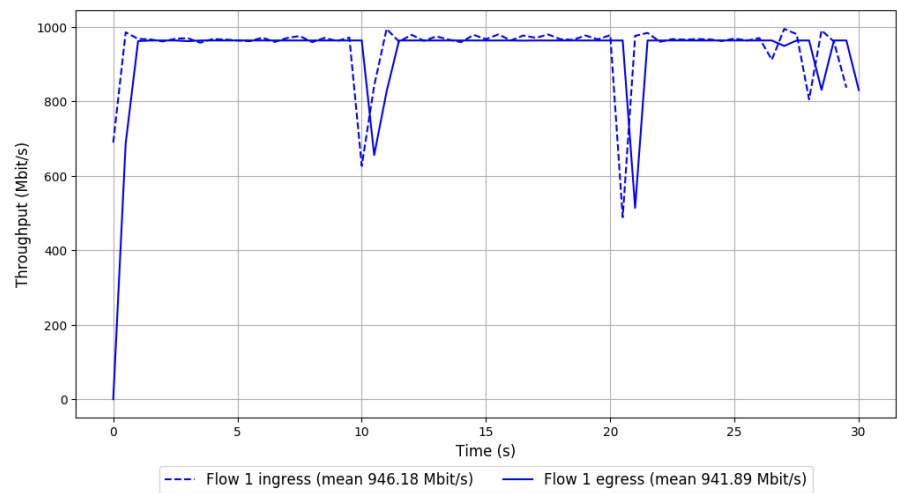
-- Flow 1:

Average throughput: 941.89 Mbit/s

95th percentile per-packet one-way delay: 24.153 ms

Loss rate: 0.46%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-10-26 07:16:03

End at: 2018-10-26 07:16:33

Local clock offset: -2.825 ms

Remote clock offset: 4.808 ms

Below is generated by plot.py at 2018-10-26 08:59:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 941.25 Mbit/s

95th percentile per-packet one-way delay: 27.113 ms

Loss rate: 0.67%

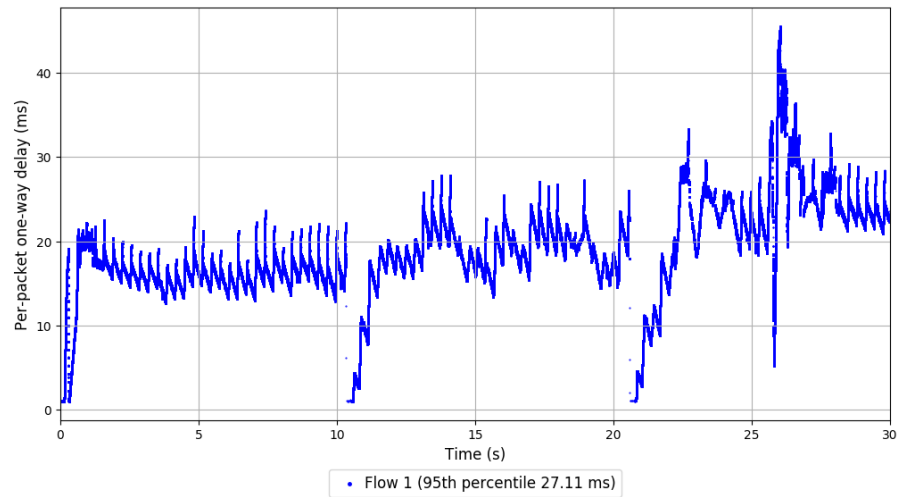
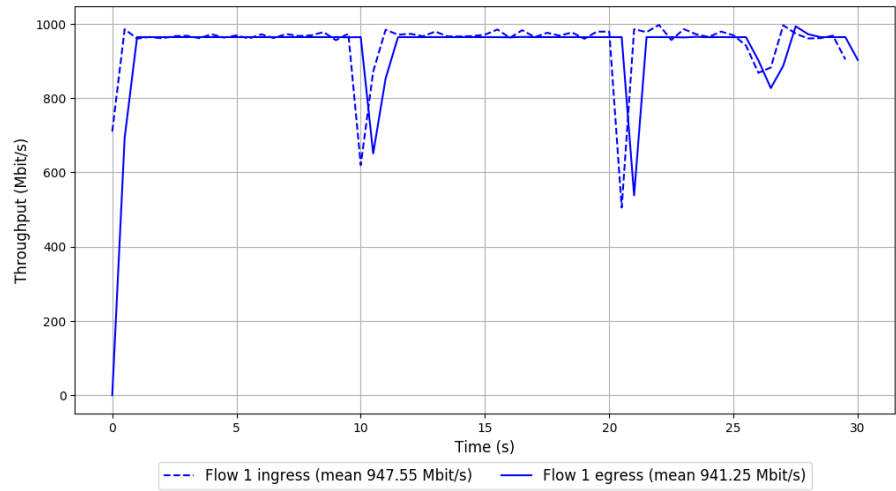
-- Flow 1:

Average throughput: 941.25 Mbit/s

95th percentile per-packet one-way delay: 27.113 ms

Loss rate: 0.67%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-10-26 07:42:52

End at: 2018-10-26 07:43:22

Local clock offset: -3.242 ms

Remote clock offset: 3.854 ms

Below is generated by plot.py at 2018-10-26 08:59:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 944.52 Mbit/s

95th percentile per-packet one-way delay: 22.933 ms

Loss rate: 0.44%

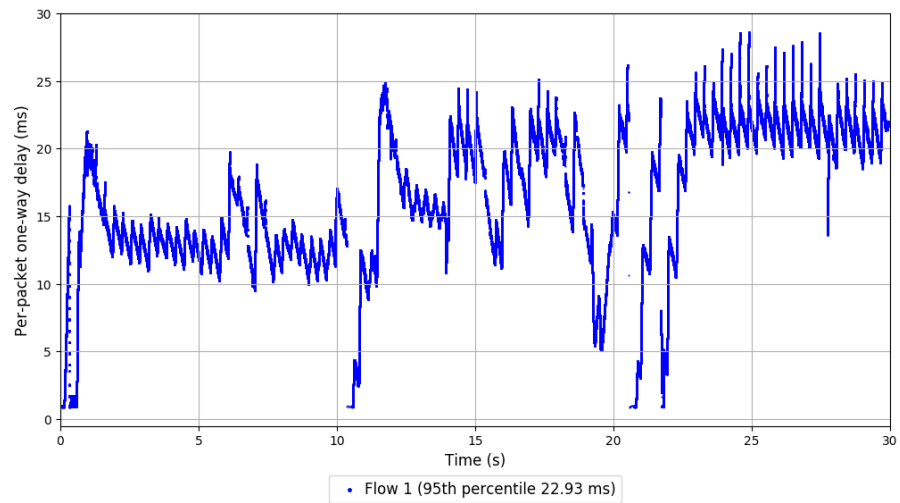
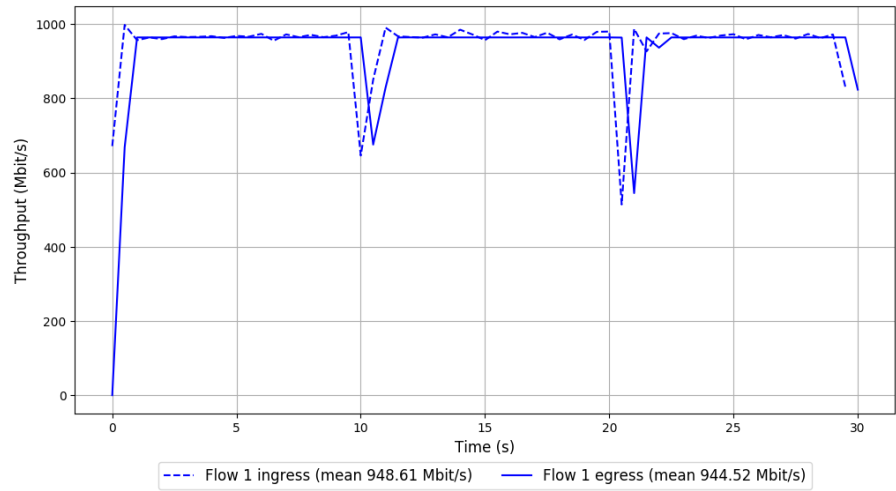
-- Flow 1:

Average throughput: 944.52 Mbit/s

95th percentile per-packet one-way delay: 22.933 ms

Loss rate: 0.44%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-10-26 08:09:37

End at: 2018-10-26 08:10:07

Local clock offset: -1.088 ms

Remote clock offset: 3.268 ms

Below is generated by plot.py at 2018-10-26 08:59:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 944.35 Mbit/s

95th percentile per-packet one-way delay: 27.449 ms

Loss rate: 0.75%

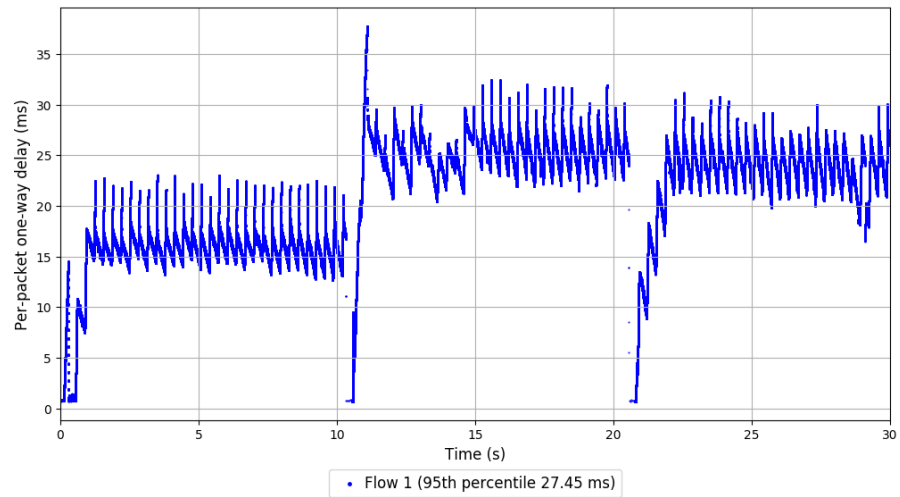
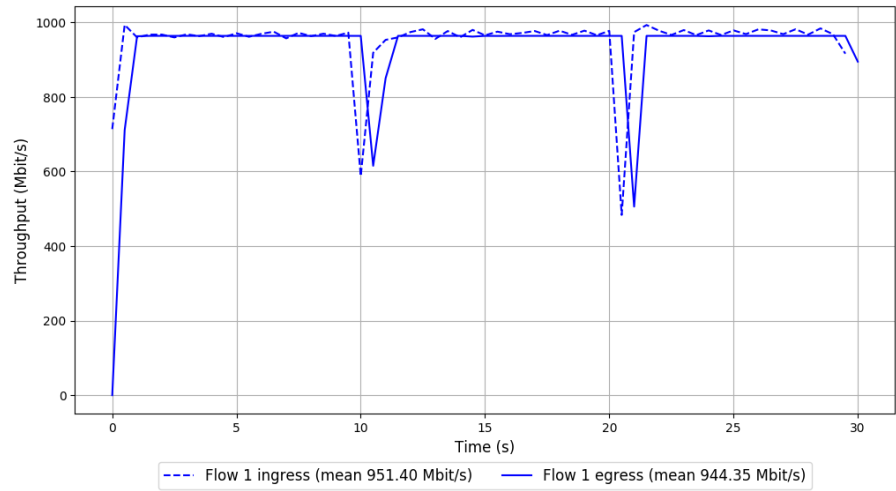
-- Flow 1:

Average throughput: 944.35 Mbit/s

95th percentile per-packet one-way delay: 27.449 ms

Loss rate: 0.75%

Run 5: Report of FillP — Data Link



Run 1: Statistics of Indigo

Start at: 2018-10-26 06:15:14

End at: 2018-10-26 06:15:44

Local clock offset: 0.27 ms

Remote clock offset: -0.657 ms

Below is generated by plot.py at 2018-10-26 08:59:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 186.29 Mbit/s

95th percentile per-packet one-way delay: 1.429 ms

Loss rate: 0.01%

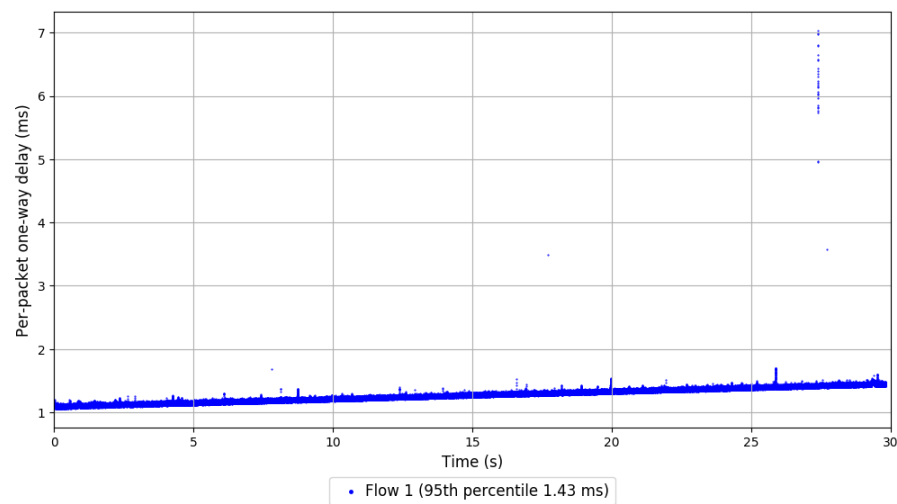
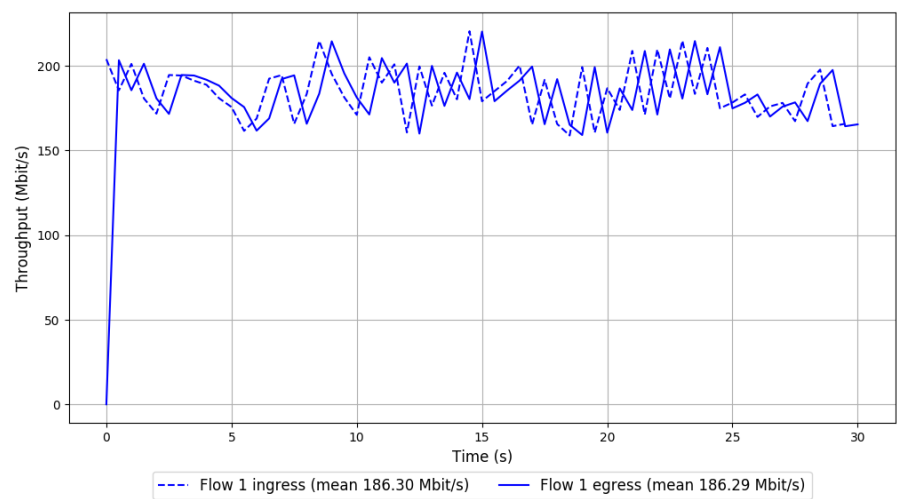
-- Flow 1:

Average throughput: 186.29 Mbit/s

95th percentile per-packet one-way delay: 1.429 ms

Loss rate: 0.01%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-10-26 06:42:09

End at: 2018-10-26 06:42:39

Local clock offset: -0.38 ms

Remote clock offset: 6.907 ms

Below is generated by plot.py at 2018-10-26 08:59:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 179.63 Mbit/s

95th percentile per-packet one-way delay: 1.018 ms

Loss rate: 0.01%

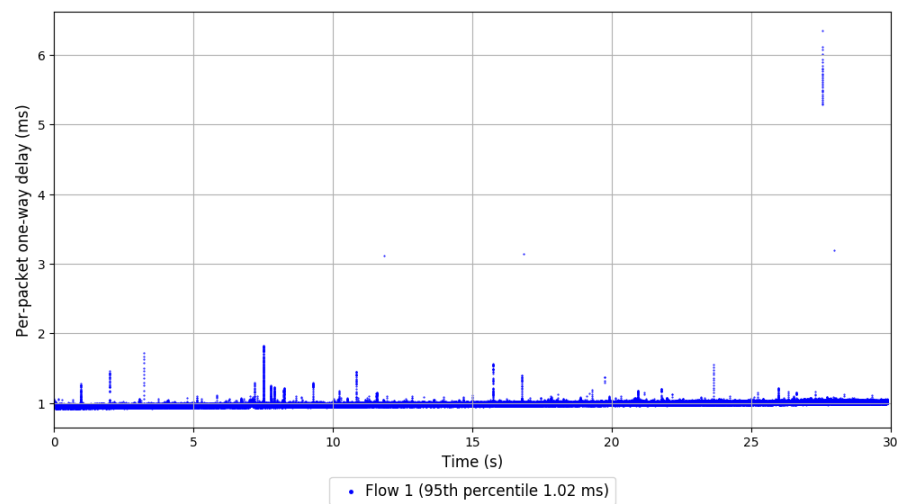
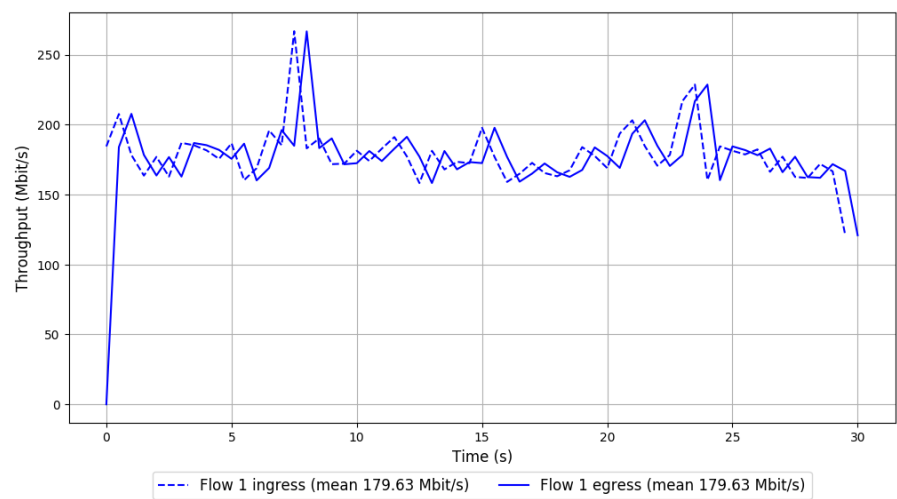
-- Flow 1:

Average throughput: 179.63 Mbit/s

95th percentile per-packet one-way delay: 1.018 ms

Loss rate: 0.01%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-10-26 07:08:40

End at: 2018-10-26 07:09:10

Local clock offset: -1.942 ms

Remote clock offset: 4.615 ms

Below is generated by plot.py at 2018-10-26 08:59:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 184.77 Mbit/s

95th percentile per-packet one-way delay: 1.085 ms

Loss rate: 0.01%

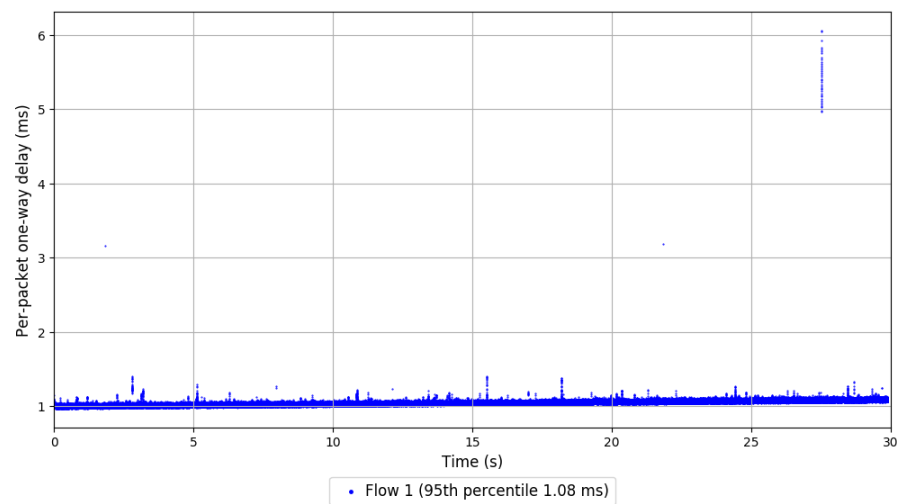
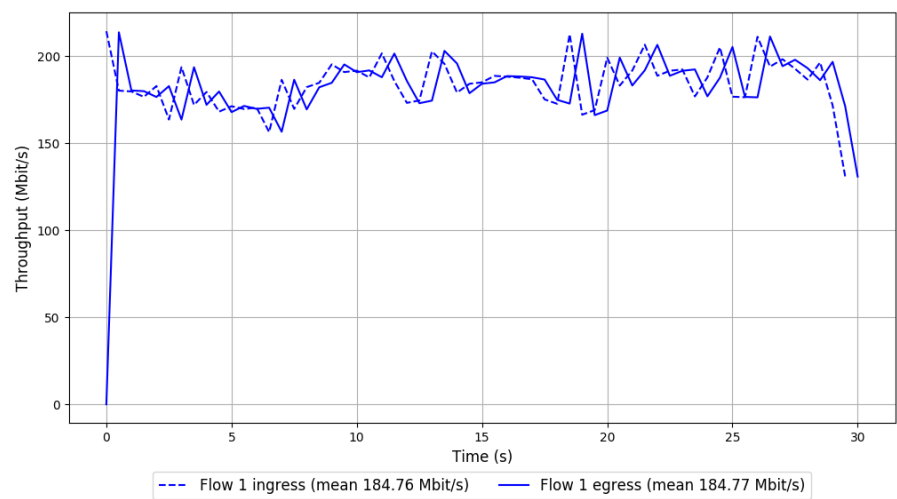
-- Flow 1:

Average throughput: 184.77 Mbit/s

95th percentile per-packet one-way delay: 1.085 ms

Loss rate: 0.01%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-10-26 07:35:41

End at: 2018-10-26 07:36:11

Local clock offset: -3.527 ms

Remote clock offset: 3.784 ms

Below is generated by plot.py at 2018-10-26 08:59:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 178.78 Mbit/s

95th percentile per-packet one-way delay: 0.927 ms

Loss rate: 0.01%

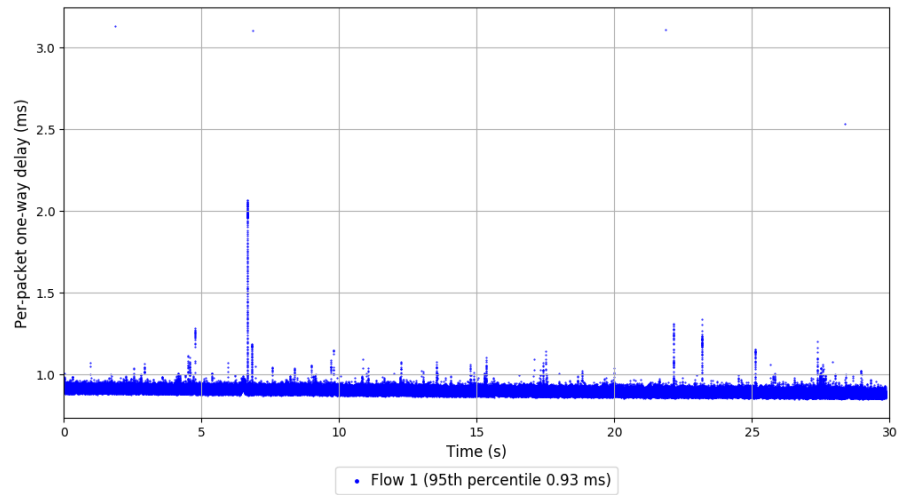
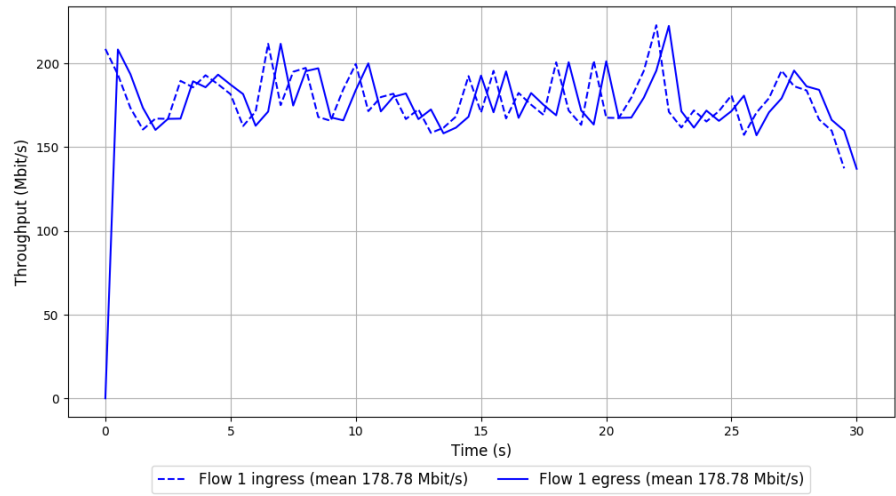
-- Flow 1:

Average throughput: 178.78 Mbit/s

95th percentile per-packet one-way delay: 0.927 ms

Loss rate: 0.01%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-10-26 08:02:33

End at: 2018-10-26 08:03:03

Local clock offset: -3.043 ms

Remote clock offset: 3.359 ms

Below is generated by plot.py at 2018-10-26 08:59:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 187.66 Mbit/s

95th percentile per-packet one-way delay: 0.778 ms

Loss rate: 0.01%

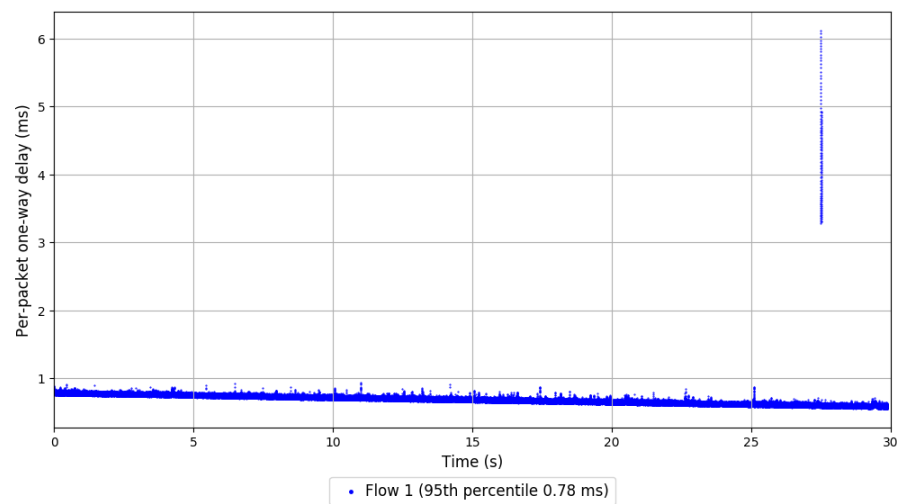
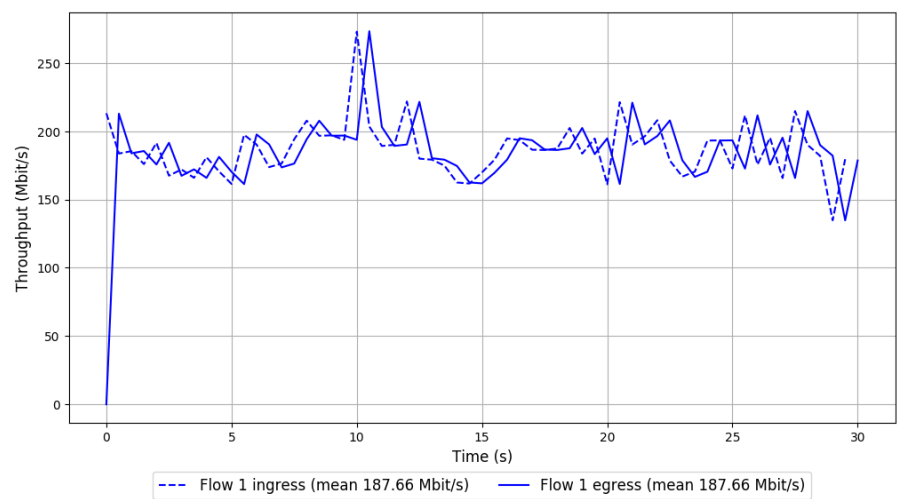
-- Flow 1:

Average throughput: 187.66 Mbit/s

95th percentile per-packet one-way delay: 0.778 ms

Loss rate: 0.01%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-26 06:10:54

End at: 2018-10-26 06:11:24

Local clock offset: 0.974 ms

Remote clock offset: -3.949 ms

Below is generated by plot.py at 2018-10-26 08:59:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 63.12 Mbit/s

95th percentile per-packet one-way delay: 1.682 ms

Loss rate: 0.01%

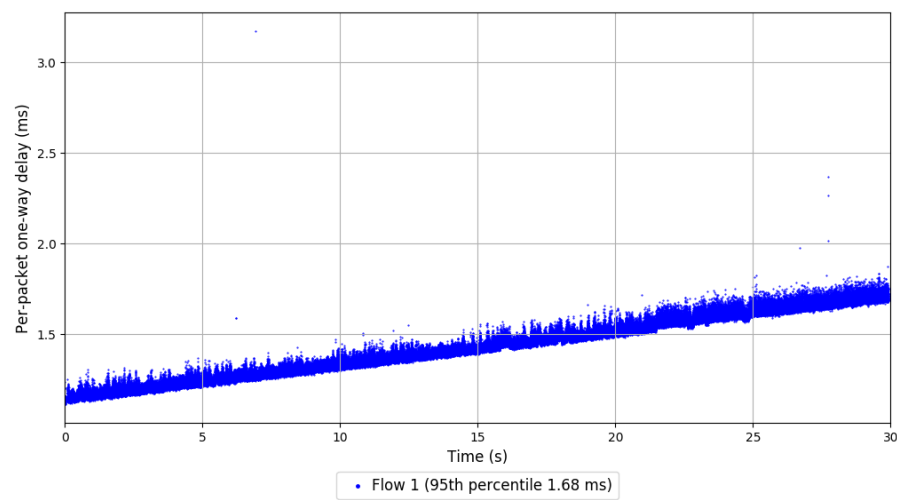
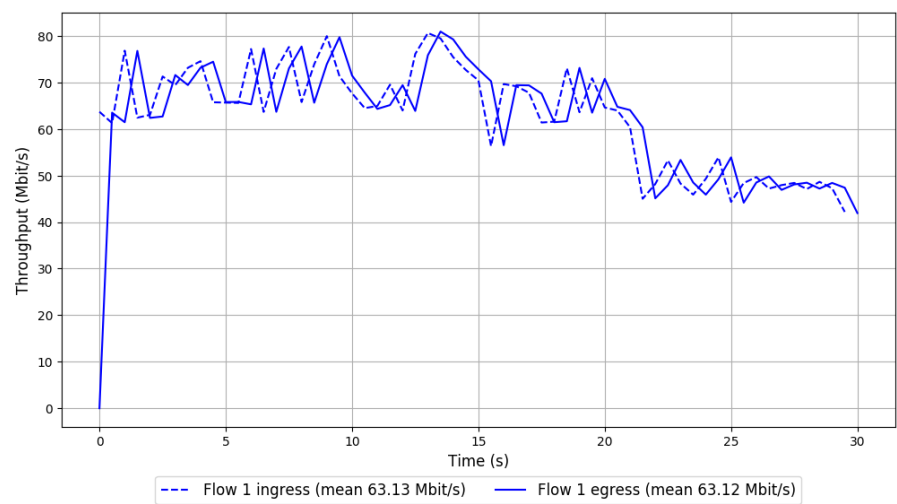
-- Flow 1:

Average throughput: 63.12 Mbit/s

95th percentile per-packet one-way delay: 1.682 ms

Loss rate: 0.01%

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



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-26 06:37:45

End at: 2018-10-26 06:38:15

Local clock offset: -0.544 ms

Remote clock offset: 6.221 ms

Below is generated by plot.py at 2018-10-26 08:59:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 143.76 Mbit/s

95th percentile per-packet one-way delay: 1.014 ms

Loss rate: 0.00%

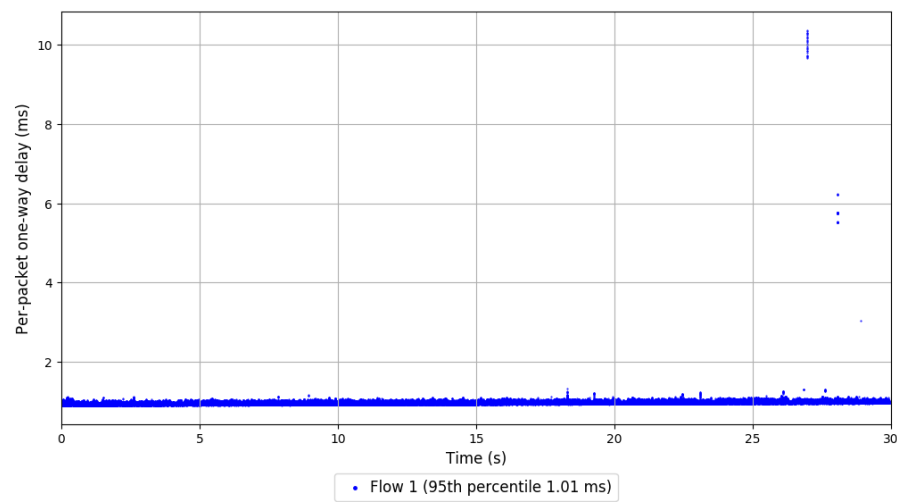
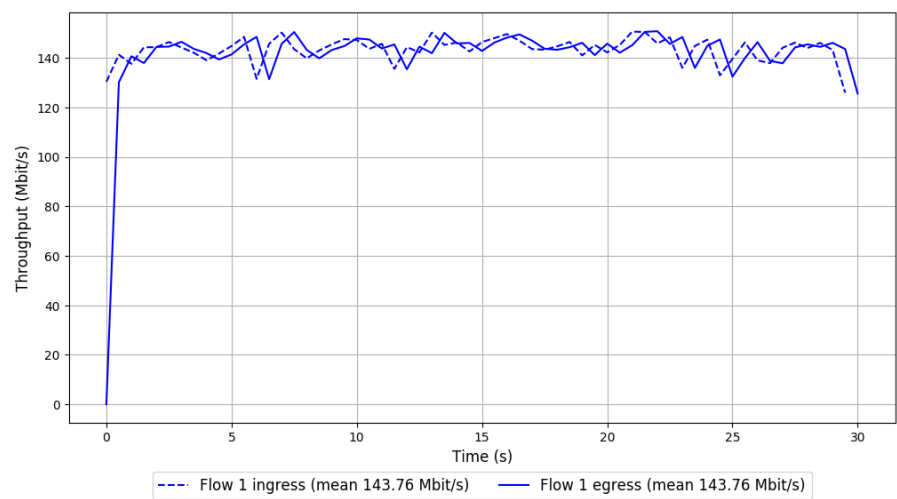
-- Flow 1:

Average throughput: 143.76 Mbit/s

95th percentile per-packet one-way delay: 1.014 ms

Loss rate: 0.00%

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



Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-26 07:04:15

End at: 2018-10-26 07:04:45

Local clock offset: -1.108 ms

Remote clock offset: 4.429 ms

Below is generated by plot.py at 2018-10-26 08:59:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 171.41 Mbit/s

95th percentile per-packet one-way delay: 1.229 ms

Loss rate: 0.00%

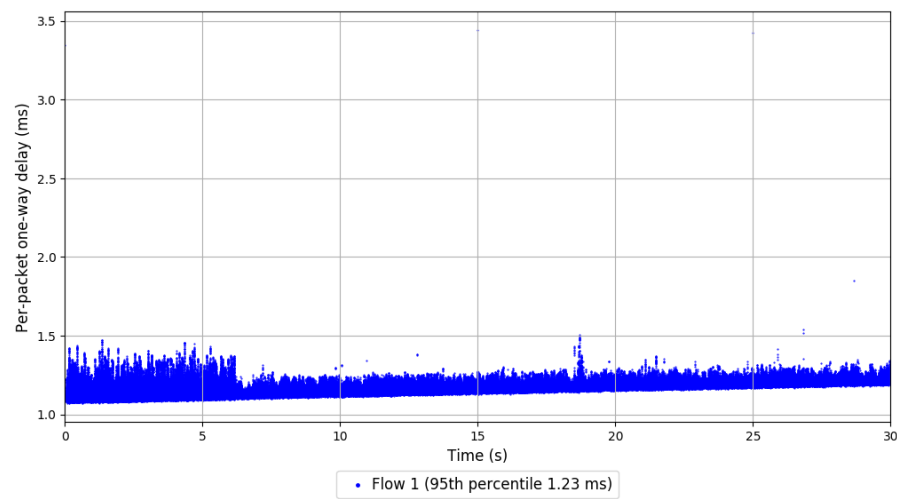
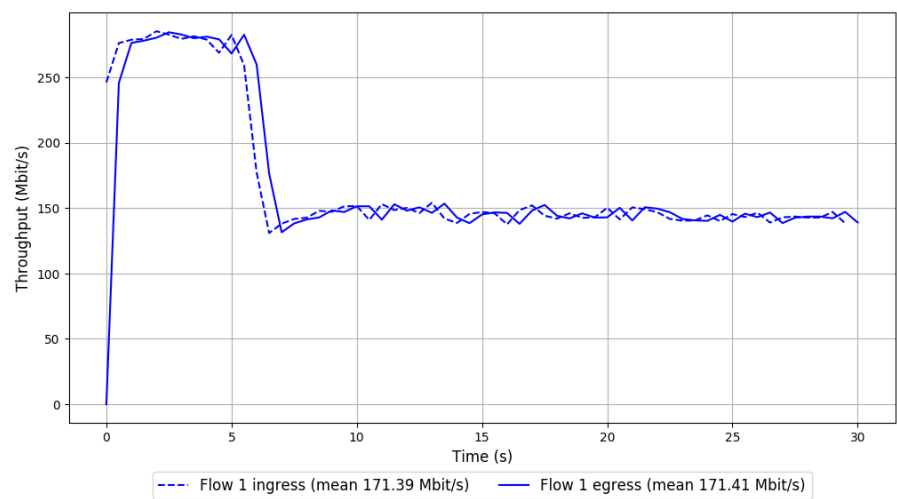
-- Flow 1:

Average throughput: 171.41 Mbit/s

95th percentile per-packet one-way delay: 1.229 ms

Loss rate: 0.00%

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



Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-26 07:31:17

End at: 2018-10-26 07:31:47

Local clock offset: -3.92 ms

Remote clock offset: 3.79 ms

Below is generated by plot.py at 2018-10-26 08:59:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 146.66 Mbit/s

95th percentile per-packet one-way delay: 0.993 ms

Loss rate: 0.01%

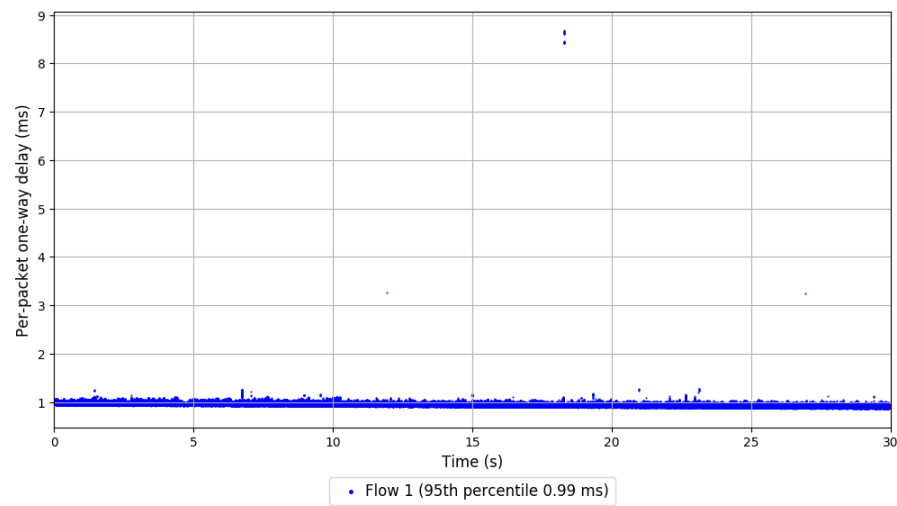
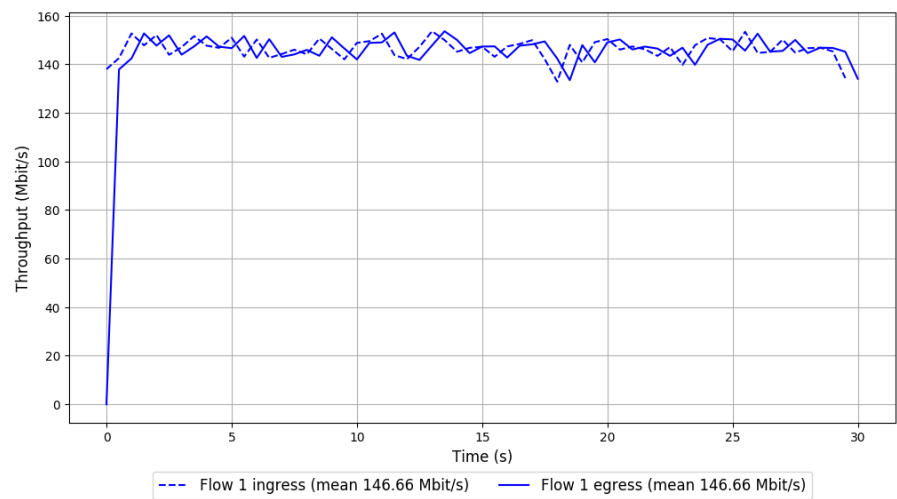
-- Flow 1:

Average throughput: 146.66 Mbit/s

95th percentile per-packet one-way delay: 0.993 ms

Loss rate: 0.01%

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



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-26 07:58:08

End at: 2018-10-26 07:58:38

Local clock offset: -3.374 ms

Remote clock offset: 3.556 ms

Below is generated by plot.py at 2018-10-26 08:59:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 174.94 Mbit/s

95th percentile per-packet one-way delay: 1.056 ms

Loss rate: 0.01%

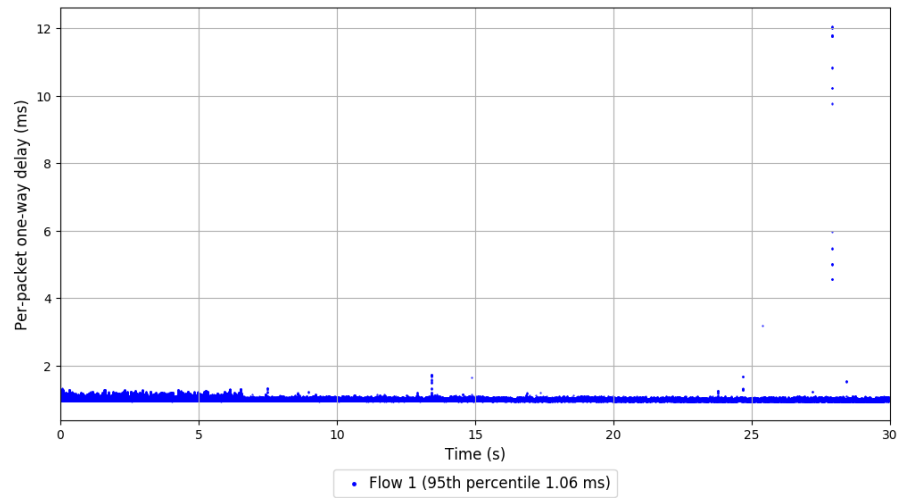
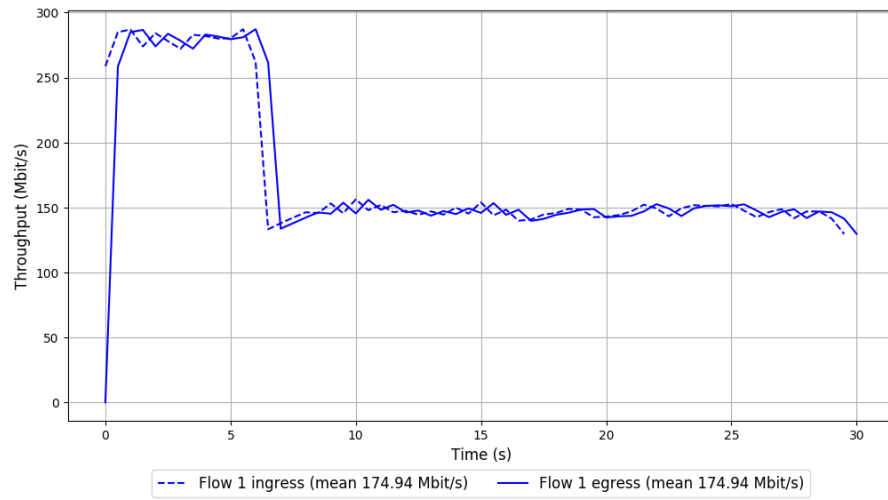
-- Flow 1:

Average throughput: 174.94 Mbit/s

95th percentile per-packet one-way delay: 1.056 ms

Loss rate: 0.01%

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

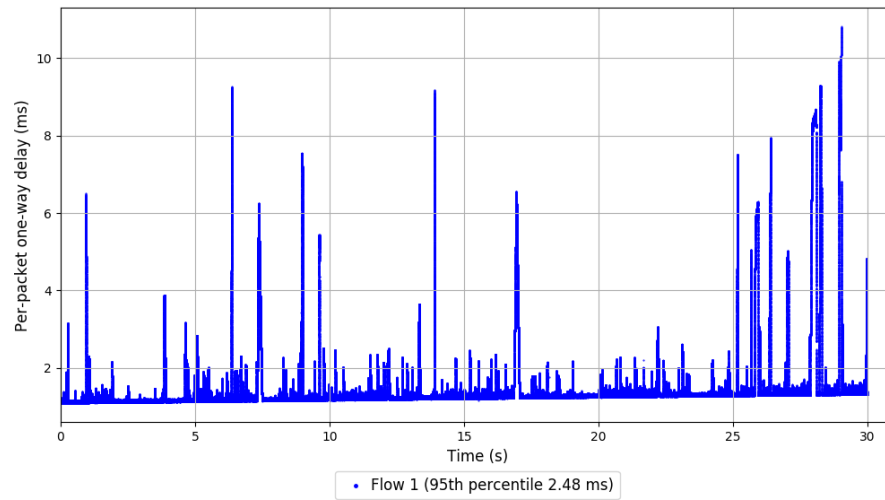
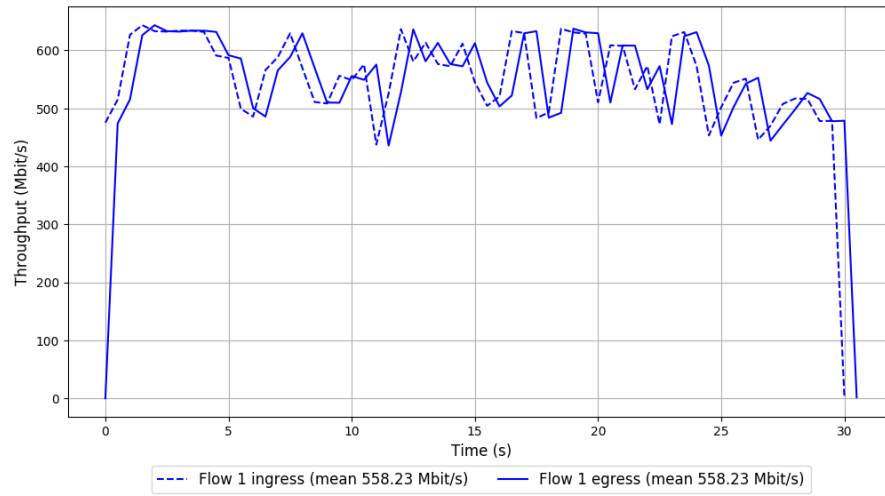



```
Run 1: Statistics of LEDBAT

Start at: 2018-10-26 06:20:56
End at: 2018-10-26 06:21:26
Local clock offset: -0.323 ms
Remote clock offset: 2.021 ms

# Below is generated by plot.py at 2018-10-26 08:59:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 558.23 Mbit/s
95th percentile per-packet one-way delay: 2.483 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 558.23 Mbit/s
95th percentile per-packet one-way delay: 2.483 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-10-26 06:47:32

End at: 2018-10-26 06:48:02

Local clock offset: -0.321 ms

Remote clock offset: 5.9 ms

Below is generated by plot.py at 2018-10-26 08:59:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 578.86 Mbit/s

95th percentile per-packet one-way delay: 0.963 ms

Loss rate: 0.00%

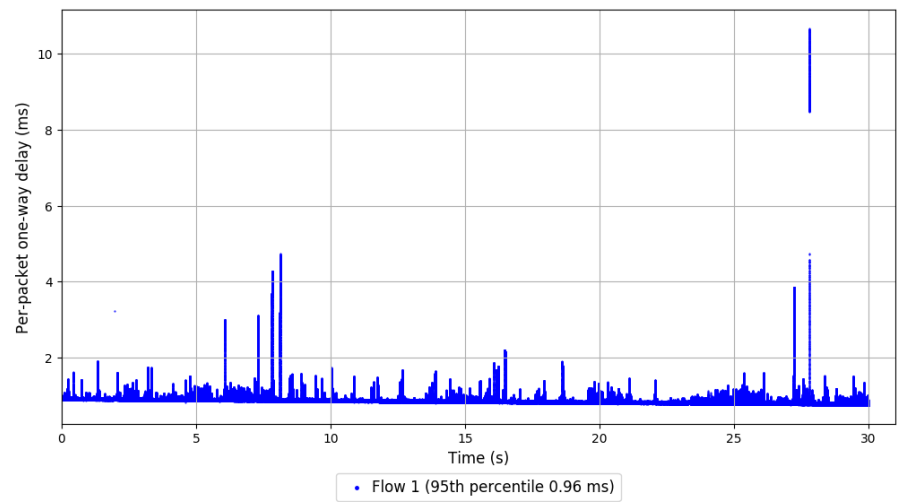
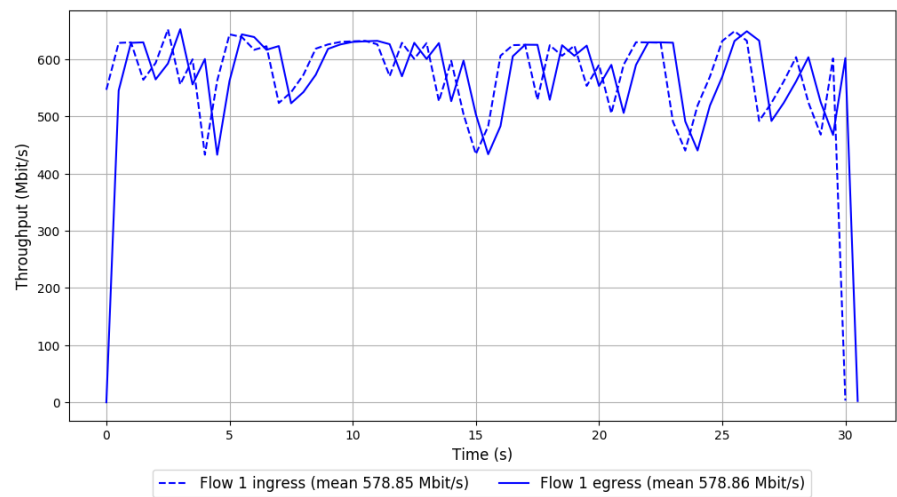
-- Flow 1:

Average throughput: 578.86 Mbit/s

95th percentile per-packet one-way delay: 0.963 ms

Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-10-26 07:14:23

End at: 2018-10-26 07:14:53

Local clock offset: -2.684 ms

Remote clock offset: 4.746 ms

Below is generated by plot.py at 2018-10-26 08:59:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 571.01 Mbit/s

95th percentile per-packet one-way delay: 1.144 ms

Loss rate: 0.01%

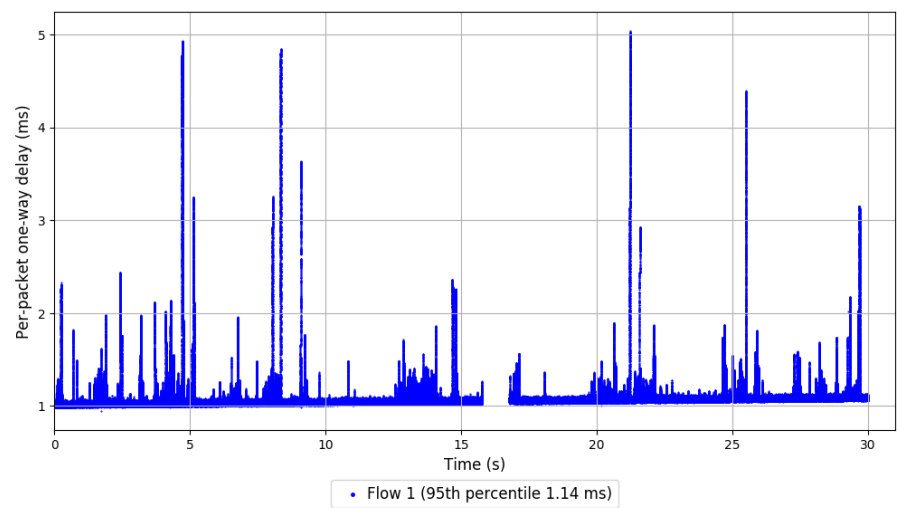
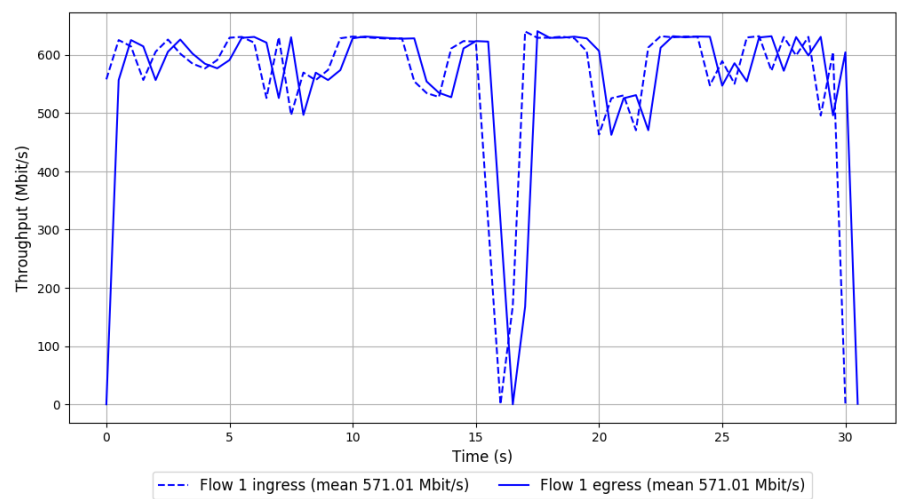
-- Flow 1:

Average throughput: 571.01 Mbit/s

95th percentile per-packet one-way delay: 1.144 ms

Loss rate: 0.01%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-10-26 07:41:11

End at: 2018-10-26 07:41:41

Local clock offset: -3.265 ms

Remote clock offset: 3.8 ms

Below is generated by plot.py at 2018-10-26 09:00:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 563.00 Mbit/s

95th percentile per-packet one-way delay: 1.022 ms

Loss rate: 0.01%

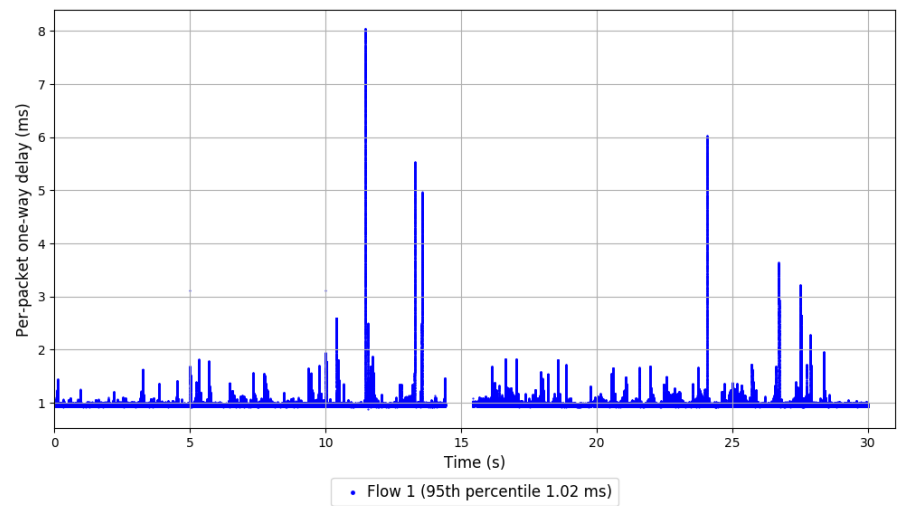
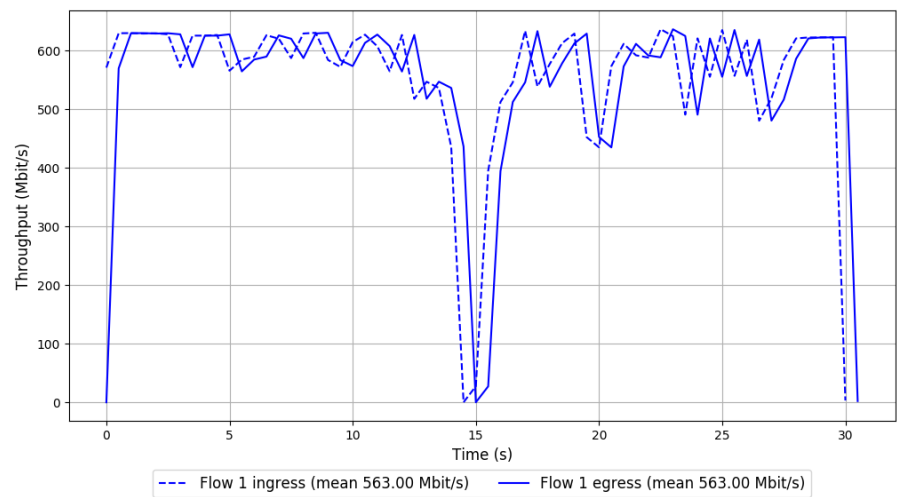
-- Flow 1:

Average throughput: 563.00 Mbit/s

95th percentile per-packet one-way delay: 1.022 ms

Loss rate: 0.01%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-10-26 08:07:55

End at: 2018-10-26 08:08:25

Local clock offset: -1.47 ms

Remote clock offset: 3.252 ms

Below is generated by plot.py at 2018-10-26 09:05:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 583.77 Mbit/s

95th percentile per-packet one-way delay: 0.911 ms

Loss rate: 0.01%

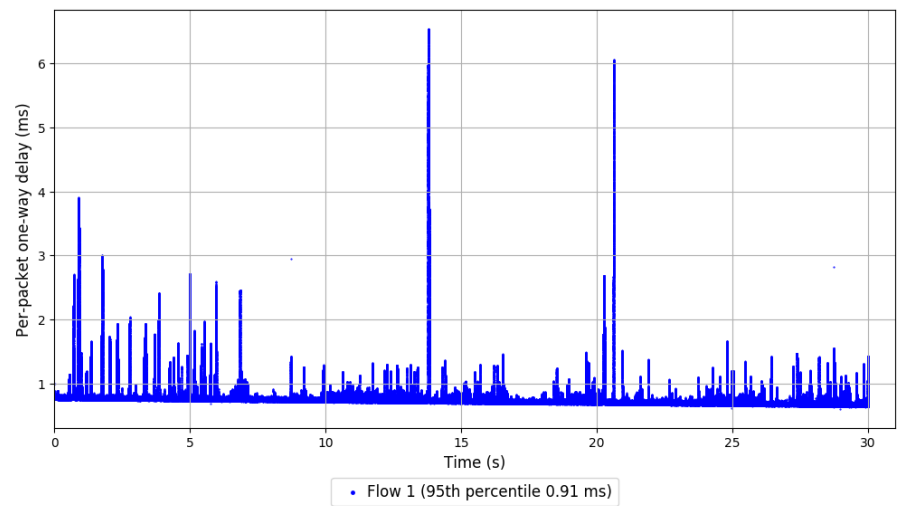
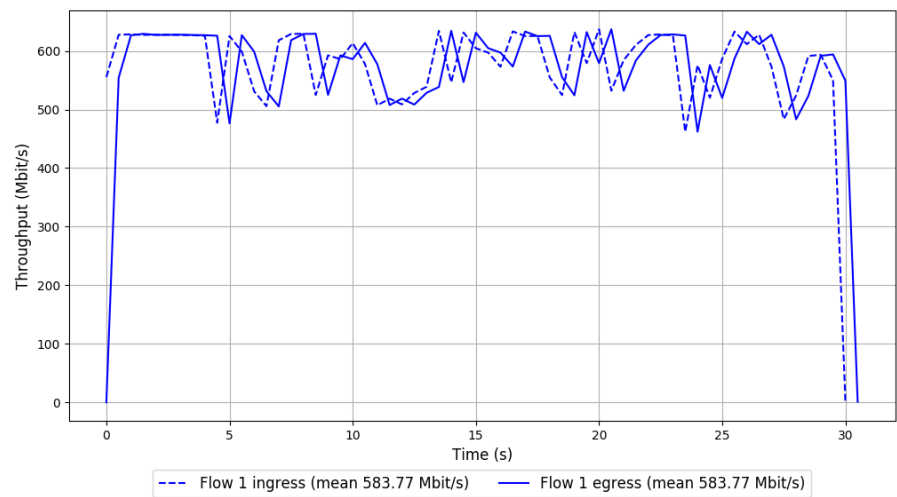
-- Flow 1:

Average throughput: 583.77 Mbit/s

95th percentile per-packet one-way delay: 0.911 ms

Loss rate: 0.01%

Run 5: Report of LEDBAT — Data Link

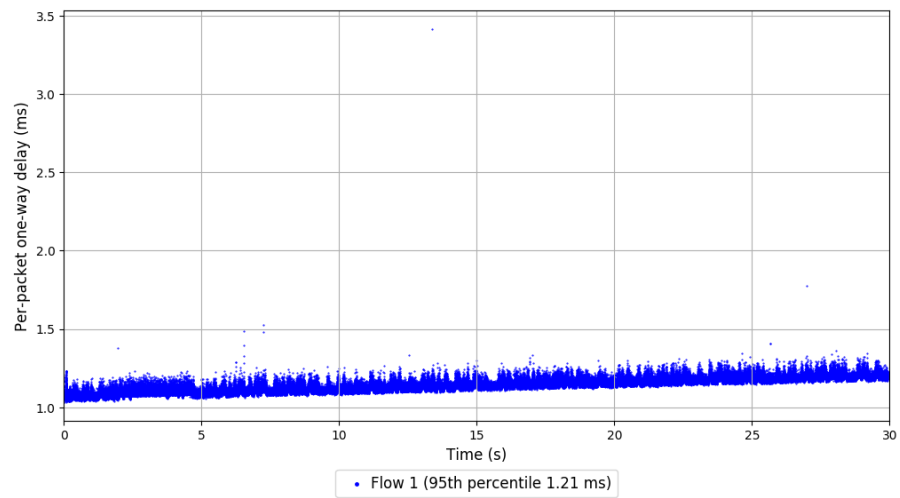
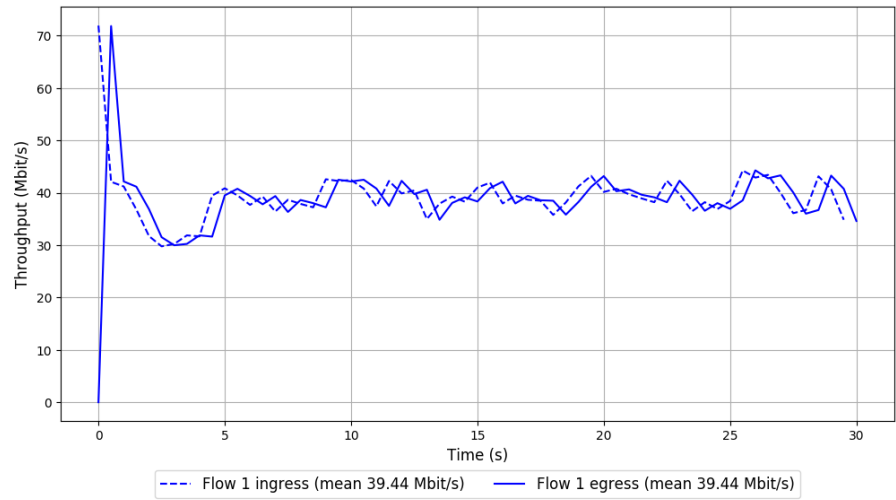


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-26 06:30:26
End at: 2018-10-26 06:30:56
Local clock offset: -0.979 ms
Remote clock offset: 4.772 ms

# Below is generated by plot.py at 2018-10-26 09:05:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.44 Mbit/s
95th percentile per-packet one-way delay: 1.213 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 39.44 Mbit/s
95th percentile per-packet one-way delay: 1.213 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-10-26 06:56:51

End at: 2018-10-26 06:57:21

Local clock offset: -0.366 ms

Remote clock offset: 4.598 ms

Below is generated by plot.py at 2018-10-26 09:05:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 40.90 Mbit/s

95th percentile per-packet one-way delay: 0.959 ms

Loss rate: 0.01%

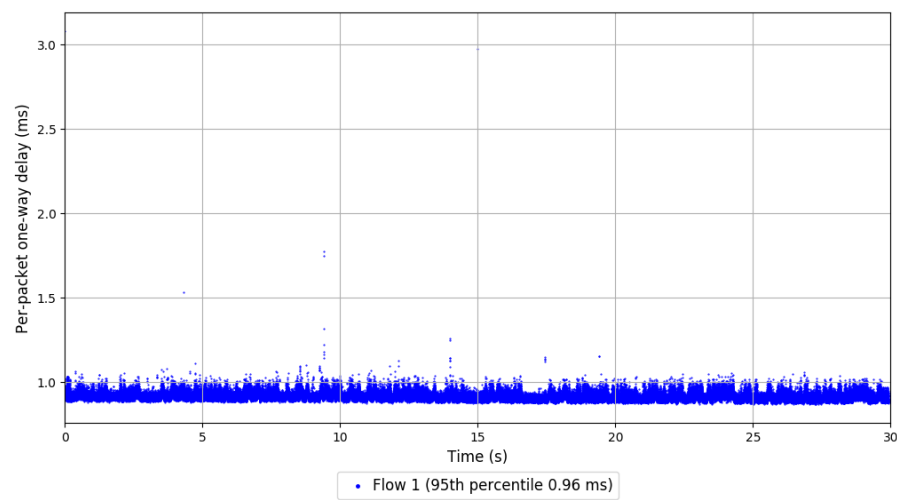
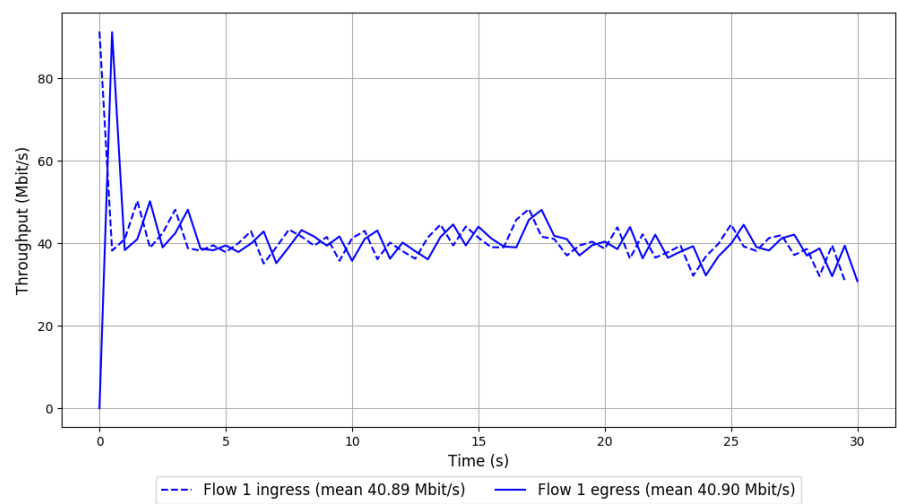
-- Flow 1:

Average throughput: 40.90 Mbit/s

95th percentile per-packet one-way delay: 0.959 ms

Loss rate: 0.01%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-10-26 07:23:56

End at: 2018-10-26 07:24:26

Local clock offset: -3.45 ms

Remote clock offset: 4.215 ms

Below is generated by plot.py at 2018-10-26 09:05:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 40.67 Mbit/s

95th percentile per-packet one-way delay: 1.022 ms

Loss rate: 0.00%

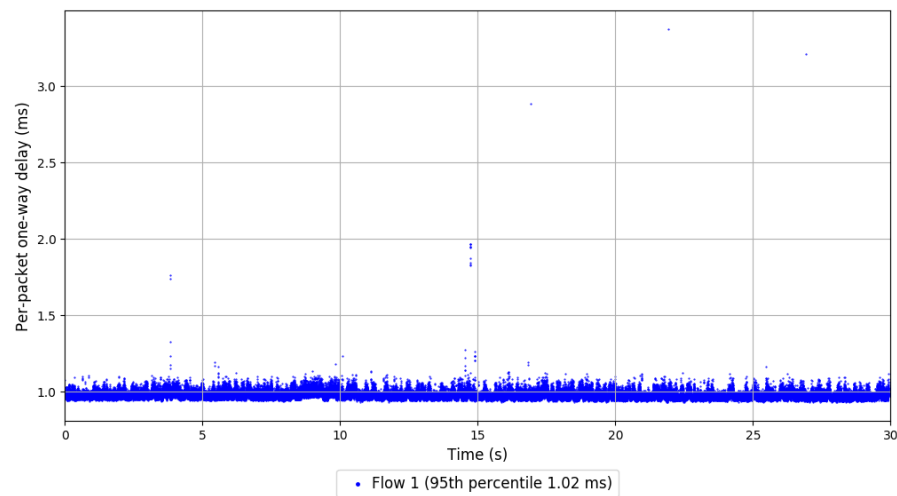
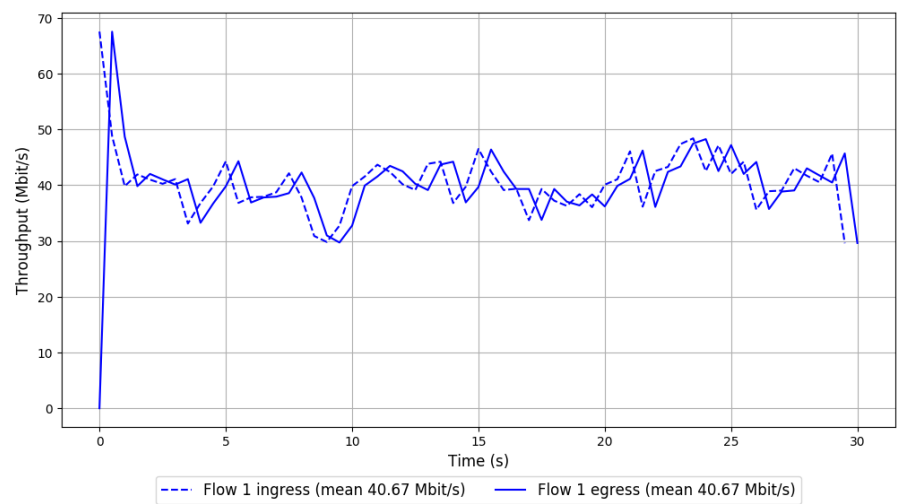
-- Flow 1:

Average throughput: 40.67 Mbit/s

95th percentile per-packet one-way delay: 1.022 ms

Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-10-26 07:50:45

End at: 2018-10-26 07:51:15

Local clock offset: -3.235 ms

Remote clock offset: 4.052 ms

Below is generated by plot.py at 2018-10-26 09:05:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 41.14 Mbit/s

95th percentile per-packet one-way delay: 1.075 ms

Loss rate: 0.01%

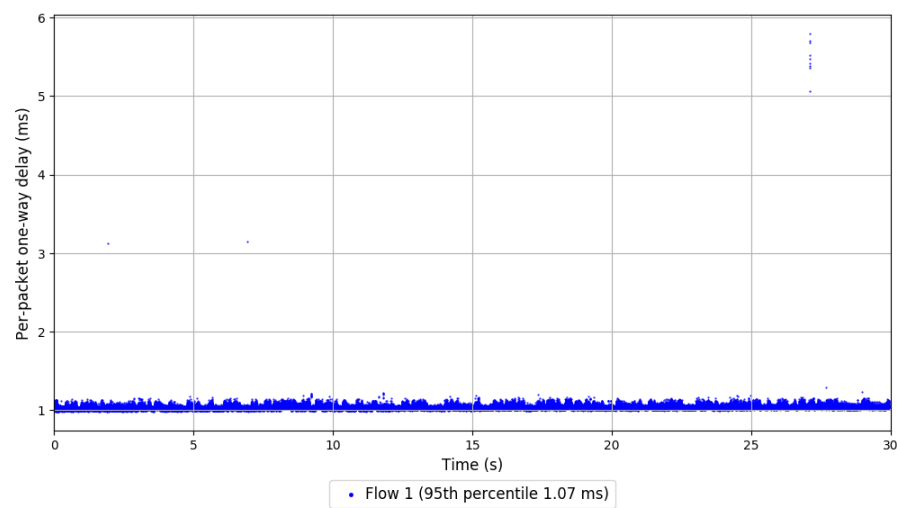
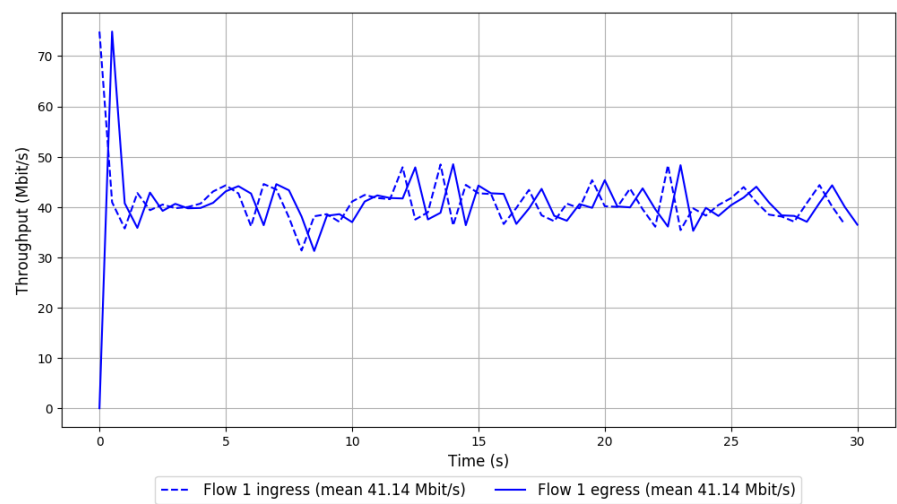
-- Flow 1:

Average throughput: 41.14 Mbit/s

95th percentile per-packet one-way delay: 1.075 ms

Loss rate: 0.01%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-10-26 08:17:21

End at: 2018-10-26 08:17:51

Local clock offset: -0.02 ms

Remote clock offset: 3.296 ms

Below is generated by plot.py at 2018-10-26 09:05:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 42.04 Mbit/s

95th percentile per-packet one-way delay: 0.927 ms

Loss rate: 0.00%

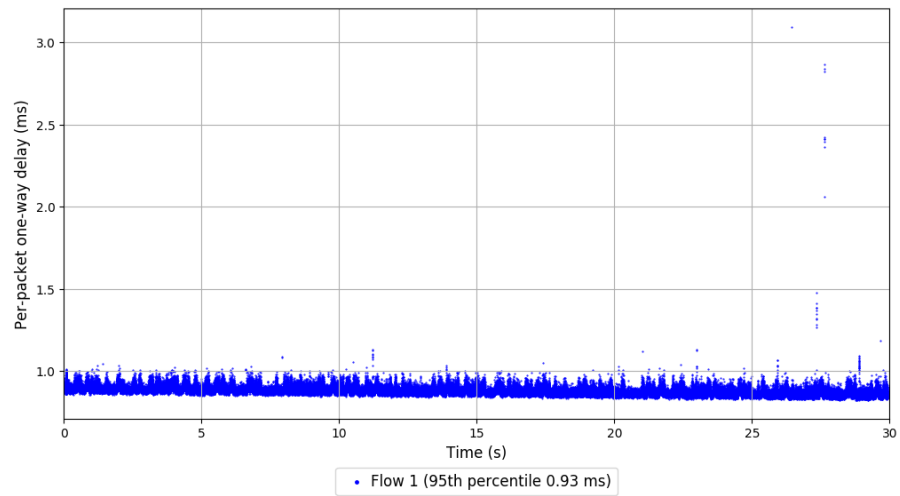
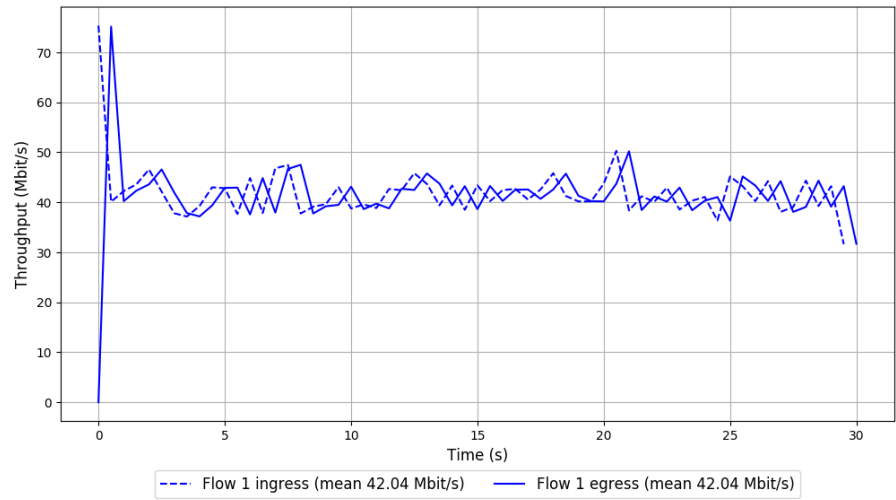
-- Flow 1:

Average throughput: 42.04 Mbit/s

95th percentile per-packet one-way delay: 0.927 ms

Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-10-26 06:28:49

End at: 2018-10-26 06:29:19

Local clock offset: -0.898 ms

Remote clock offset: 4.45 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 828.69 Mbit/s

95th percentile per-packet one-way delay: 1.434 ms

Loss rate: 0.01%

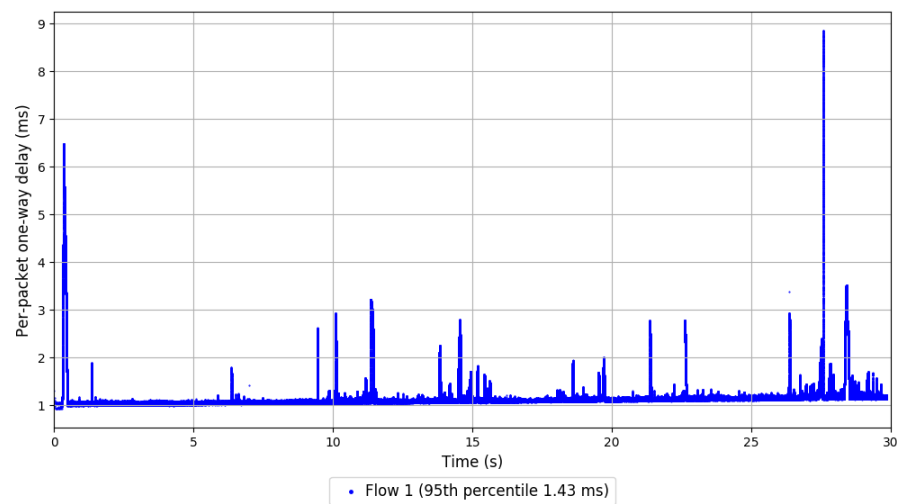
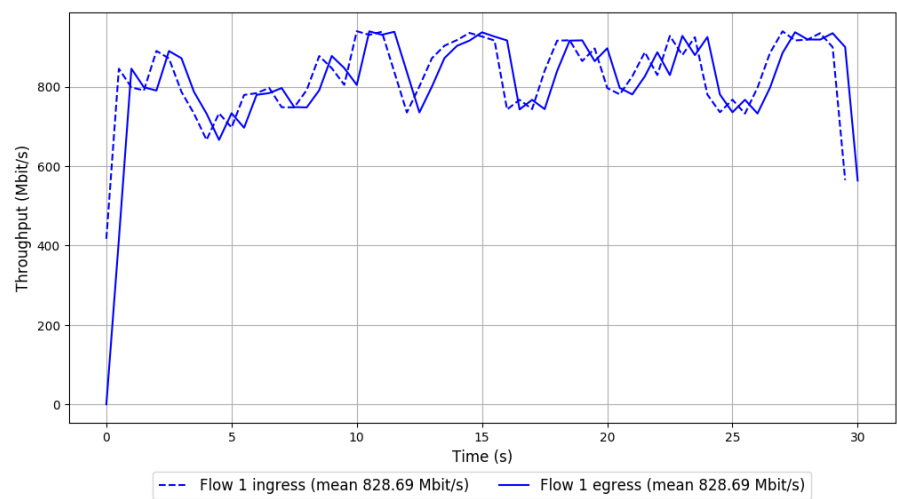
-- Flow 1:

Average throughput: 828.69 Mbit/s

95th percentile per-packet one-way delay: 1.434 ms

Loss rate: 0.01%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-10-26 06:55:31

End at: 2018-10-26 06:56:01

Local clock offset: -0.368 ms

Remote clock offset: 4.596 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 101.29 Mbit/s

95th percentile per-packet one-way delay: 0.976 ms

Loss rate: 0.05%

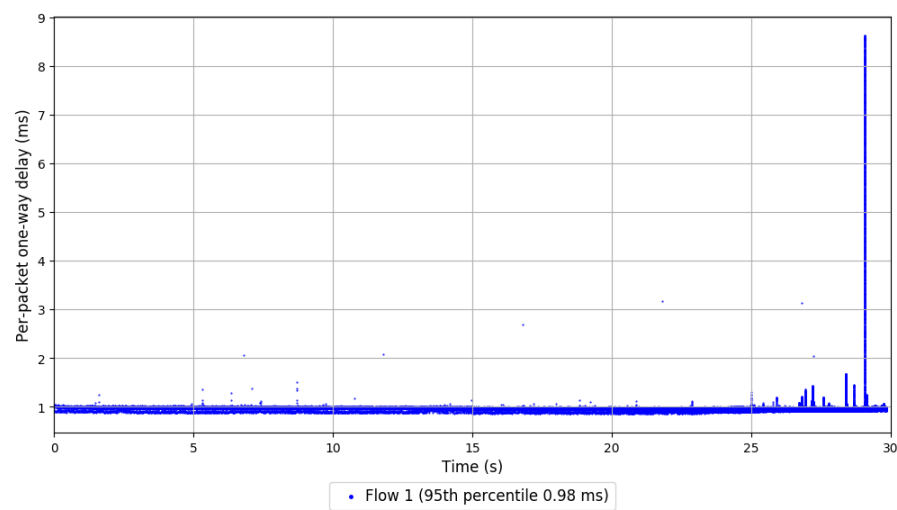
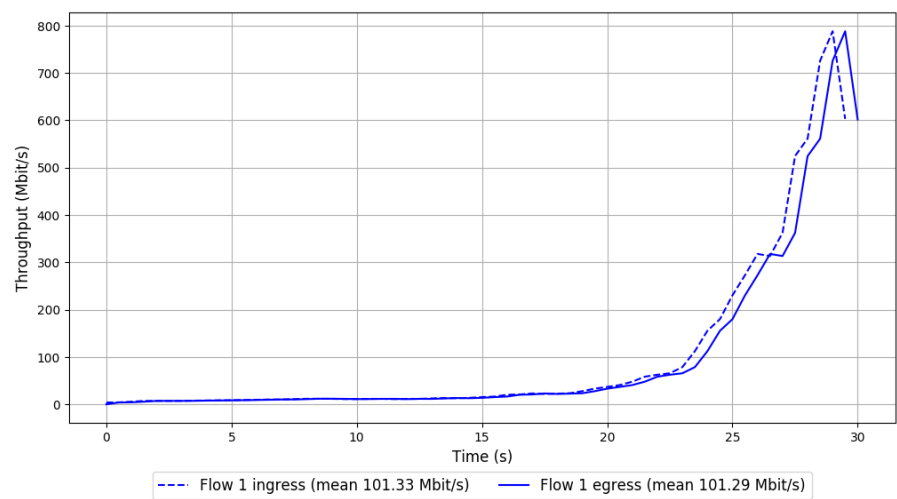
-- Flow 1:

Average throughput: 101.29 Mbit/s

95th percentile per-packet one-way delay: 0.976 ms

Loss rate: 0.05%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-10-26 07:22:19

End at: 2018-10-26 07:22:49

Local clock offset: -3.351 ms

Remote clock offset: 4.407 ms

Below is generated by plot.py at 2018-10-26 09:09:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 822.16 Mbit/s

95th percentile per-packet one-way delay: 1.073 ms

Loss rate: 0.01%

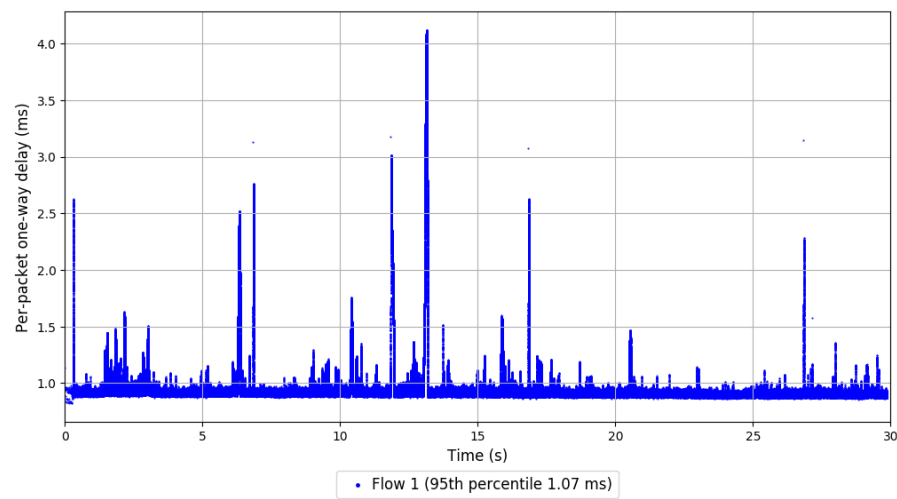
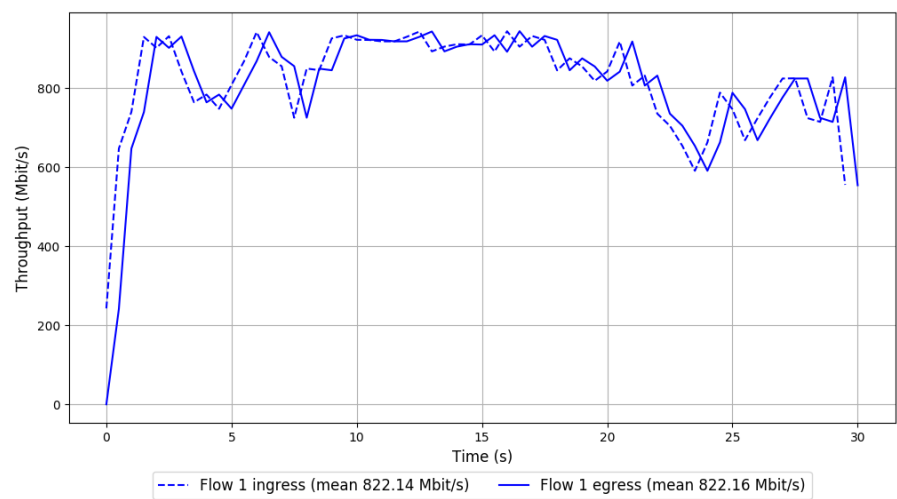
-- Flow 1:

Average throughput: 822.16 Mbit/s

95th percentile per-packet one-way delay: 1.073 ms

Loss rate: 0.01%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-26 07:49:07

End at: 2018-10-26 07:49:37

Local clock offset: -3.229 ms

Remote clock offset: 3.986 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 847.06 Mbit/s

95th percentile per-packet one-way delay: 1.325 ms

Loss rate: 0.01%

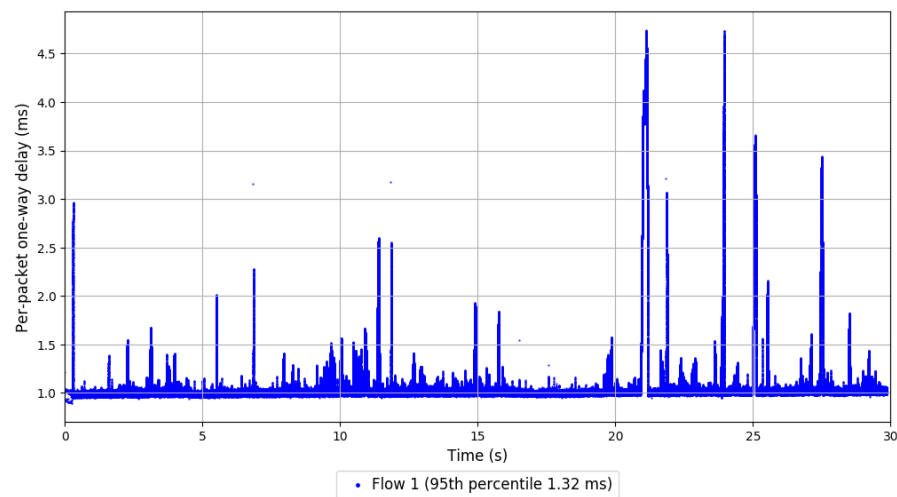
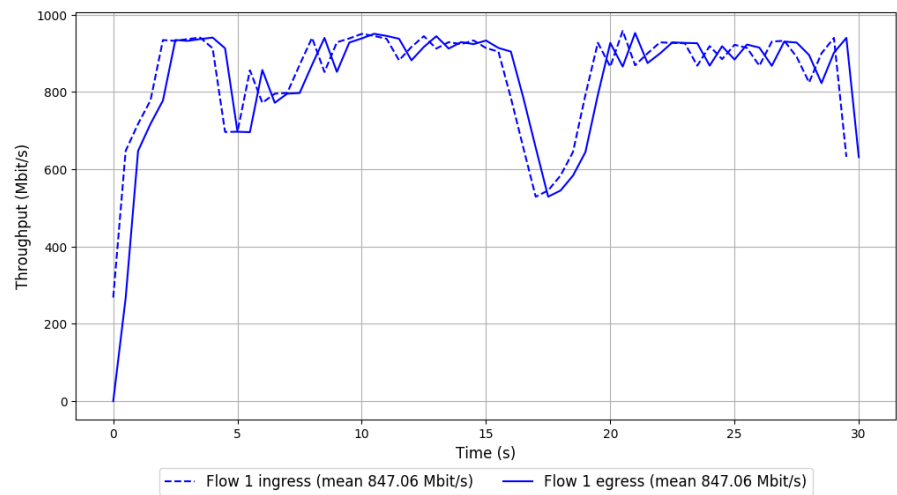
-- Flow 1:

Average throughput: 847.06 Mbit/s

95th percentile per-packet one-way delay: 1.325 ms

Loss rate: 0.01%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-10-26 08:15:55

End at: 2018-10-26 08:16:25

Local clock offset: -0.183 ms

Remote clock offset: 3.337 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 339.28 Mbit/s

95th percentile per-packet one-way delay: 0.834 ms

Loss rate: 0.02%

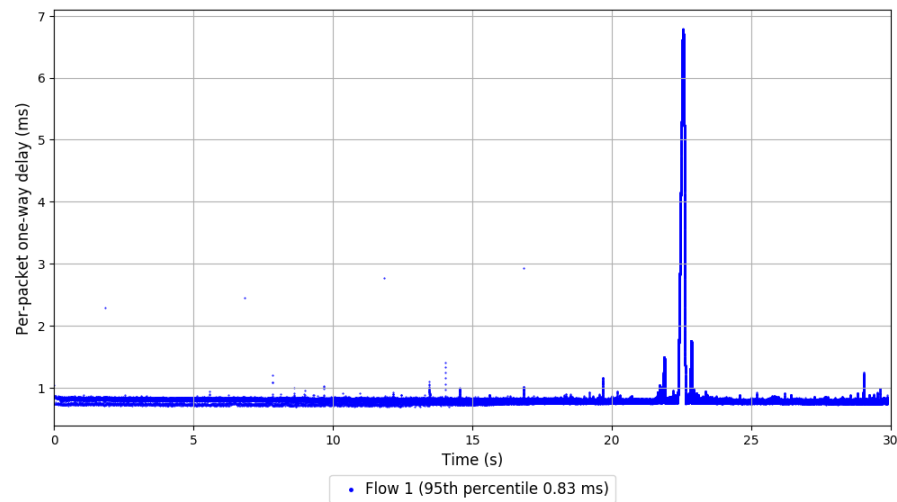
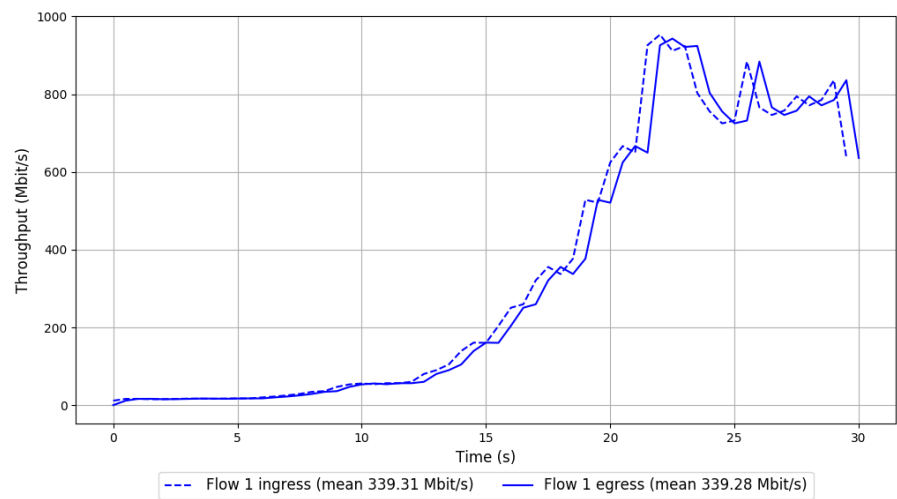
-- Flow 1:

Average throughput: 339.28 Mbit/s

95th percentile per-packet one-way delay: 0.834 ms

Loss rate: 0.02%

Run 5: Report of PCC-Allegro — Data Link

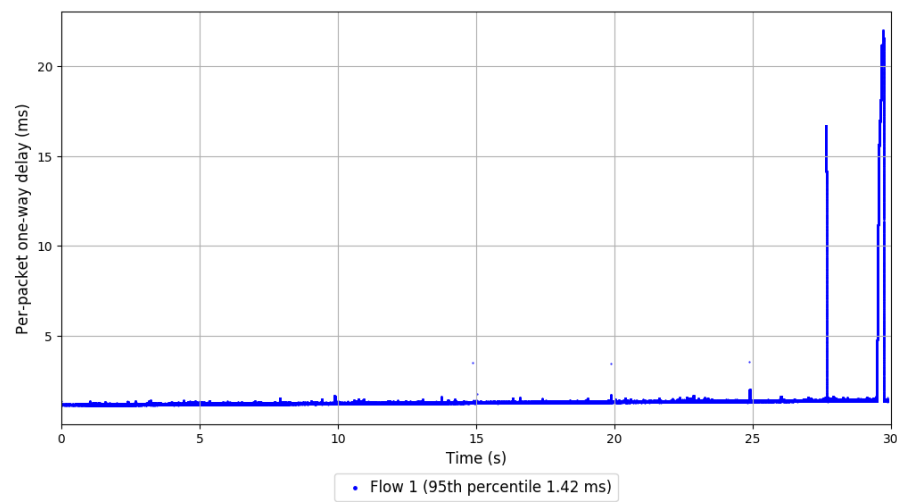
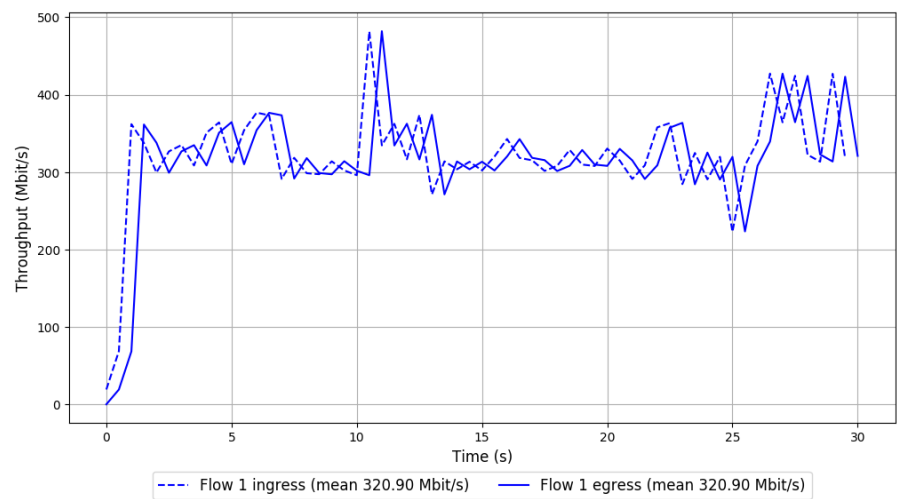


```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-26 06:19:19
End at: 2018-10-26 06:19:49
Local clock offset: -0.181 ms
Remote clock offset: 1.34 ms

# Below is generated by plot.py at 2018-10-26 09:10:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 320.90 Mbit/s
95th percentile per-packet one-way delay: 1.415 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 320.90 Mbit/s
95th percentile per-packet one-way delay: 1.415 ms
Loss rate: 0.01%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-10-26 06:46:14

End at: 2018-10-26 06:46:44

Local clock offset: -0.351 ms

Remote clock offset: 6.259 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.89 Mbit/s

95th percentile per-packet one-way delay: 0.952 ms

Loss rate: 0.01%

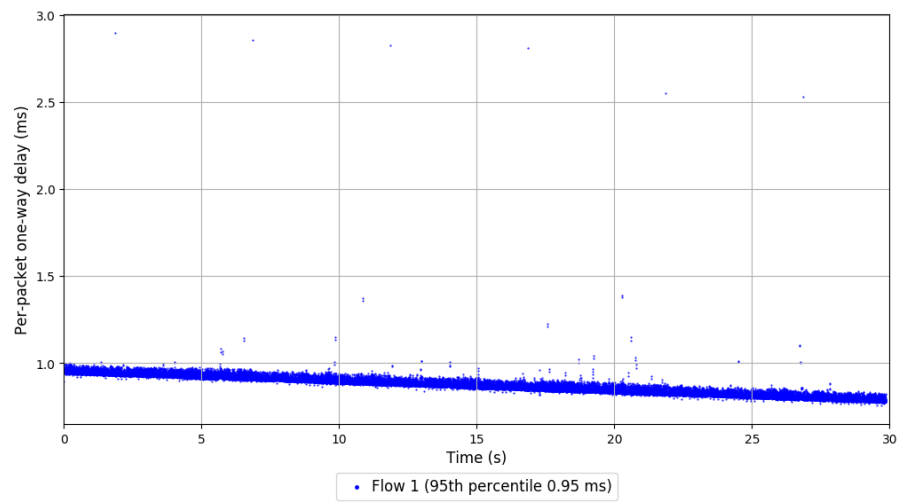
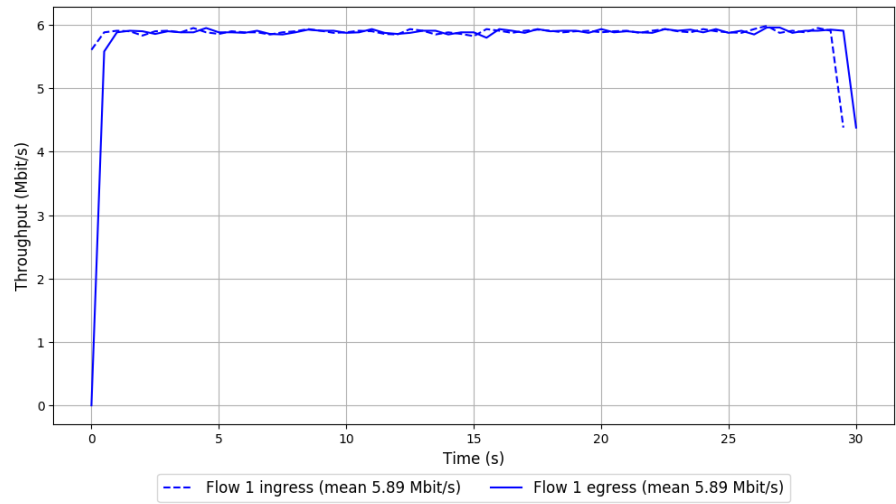
-- Flow 1:

Average throughput: 5.89 Mbit/s

95th percentile per-packet one-way delay: 0.952 ms

Loss rate: 0.01%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-10-26 07:12:44

End at: 2018-10-26 07:13:14

Local clock offset: -2.442 ms

Remote clock offset: 4.74 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 355.41 Mbit/s

95th percentile per-packet one-way delay: 1.105 ms

Loss rate: 0.01%

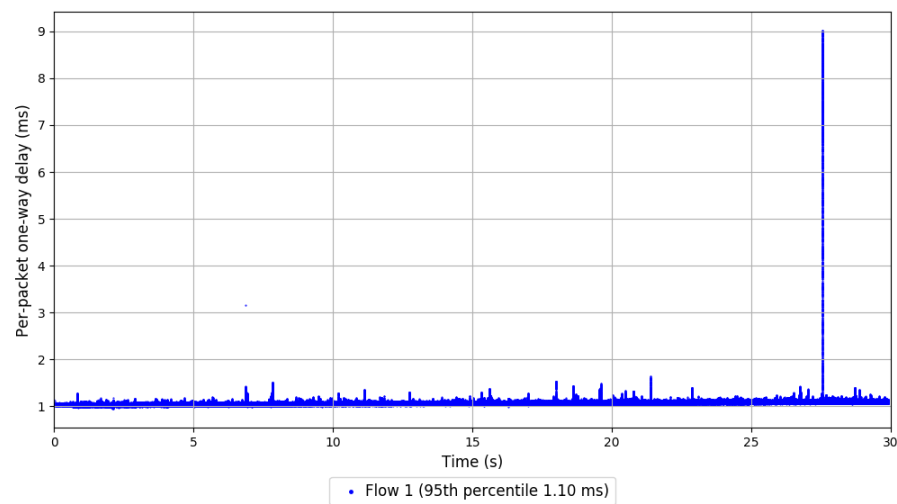
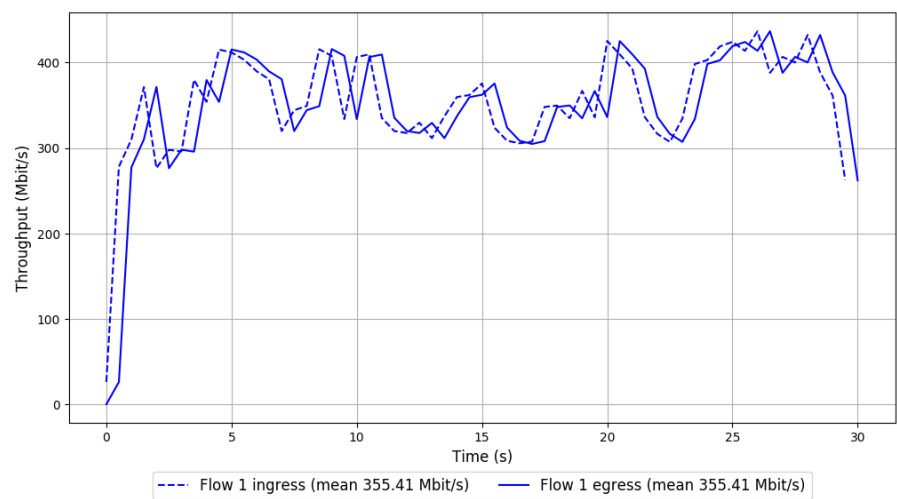
-- Flow 1:

Average throughput: 355.41 Mbit/s

95th percentile per-packet one-way delay: 1.105 ms

Loss rate: 0.01%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-10-26 07:39:53

End at: 2018-10-26 07:40:23

Local clock offset: -3.313 ms

Remote clock offset: 3.801 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 5.44 Mbit/s

95th percentile per-packet one-way delay: 0.970 ms

Loss rate: 0.00%

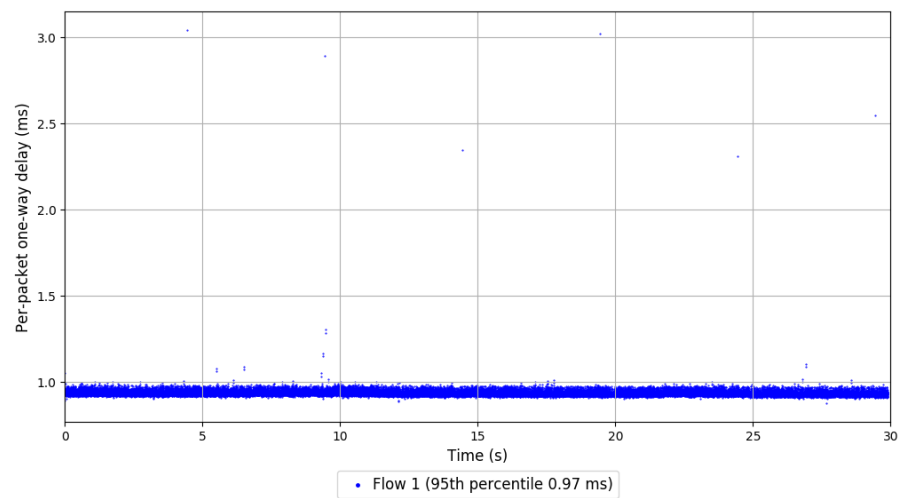
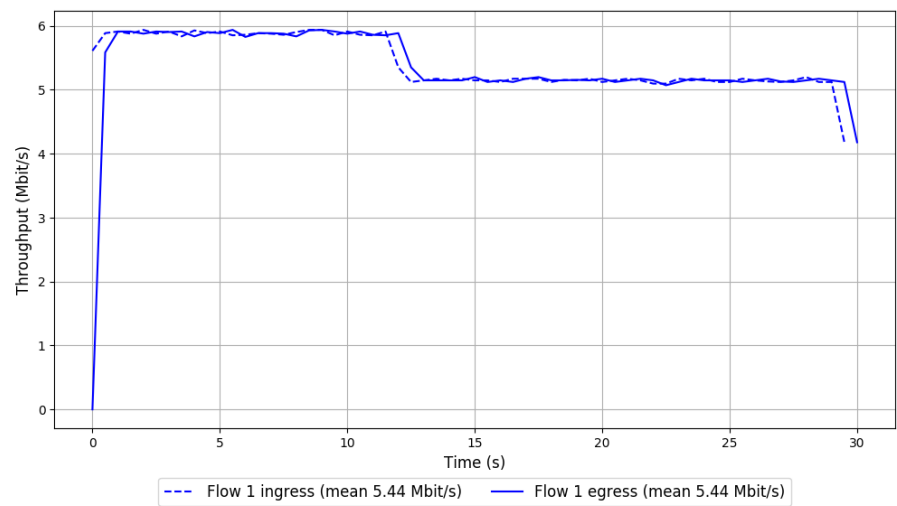
-- Flow 1:

Average throughput: 5.44 Mbit/s

95th percentile per-packet one-way delay: 0.970 ms

Loss rate: 0.00%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-10-26 08:06:37

End at: 2018-10-26 08:07:07

Local clock offset: -1.771 ms

Remote clock offset: 3.342 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.17 Mbit/s

95th percentile per-packet one-way delay: 0.715 ms

Loss rate: 0.01%

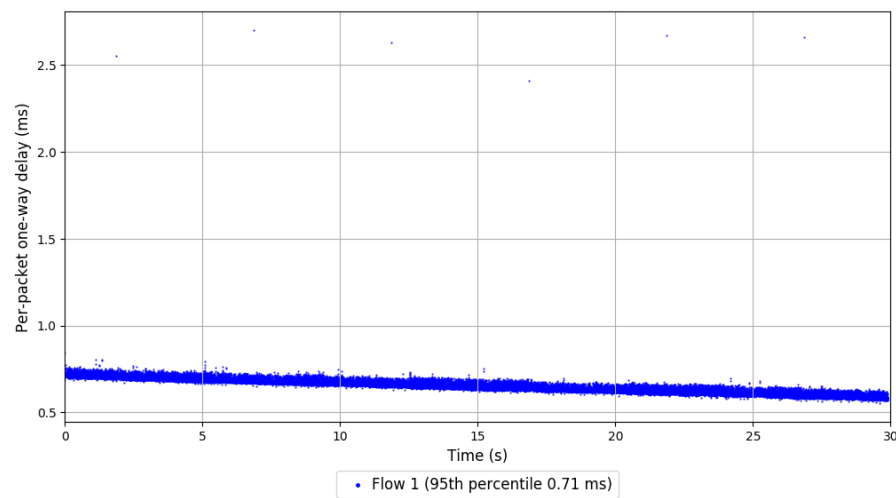
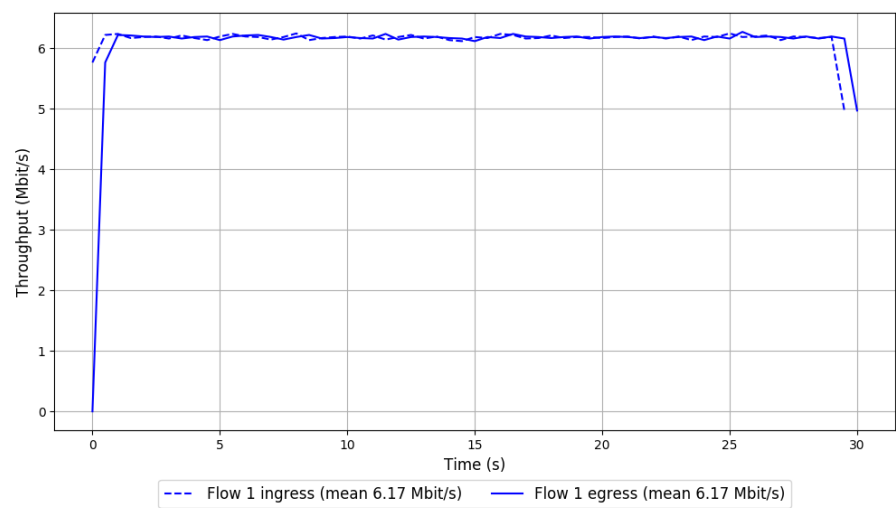
-- Flow 1:

Average throughput: 6.17 Mbit/s

95th percentile per-packet one-way delay: 0.715 ms

Loss rate: 0.01%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-10-26 06:31:45

End at: 2018-10-26 06:32:15

Local clock offset: -1.041 ms

Remote clock offset: 5.085 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.32 Mbit/s

95th percentile per-packet one-way delay: 0.989 ms

Loss rate: 0.00%

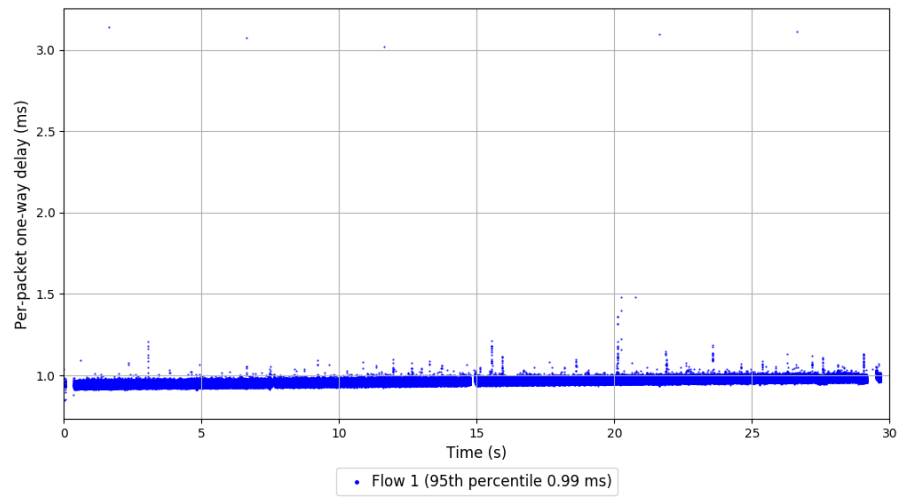
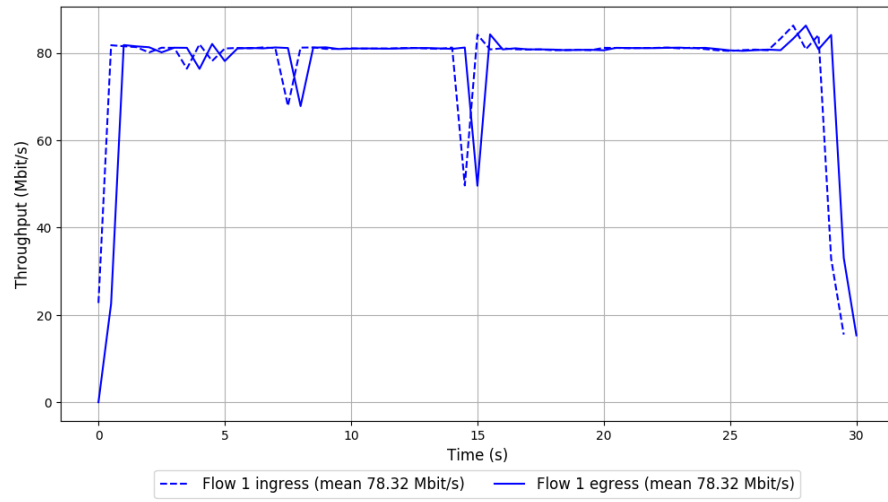
-- Flow 1:

Average throughput: 78.32 Mbit/s

95th percentile per-packet one-way delay: 0.989 ms

Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-10-26 06:58:11

End at: 2018-10-26 06:58:41

Local clock offset: -0.391 ms

Remote clock offset: 4.522 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.78 Mbit/s

95th percentile per-packet one-way delay: 0.939 ms

Loss rate: 0.01%

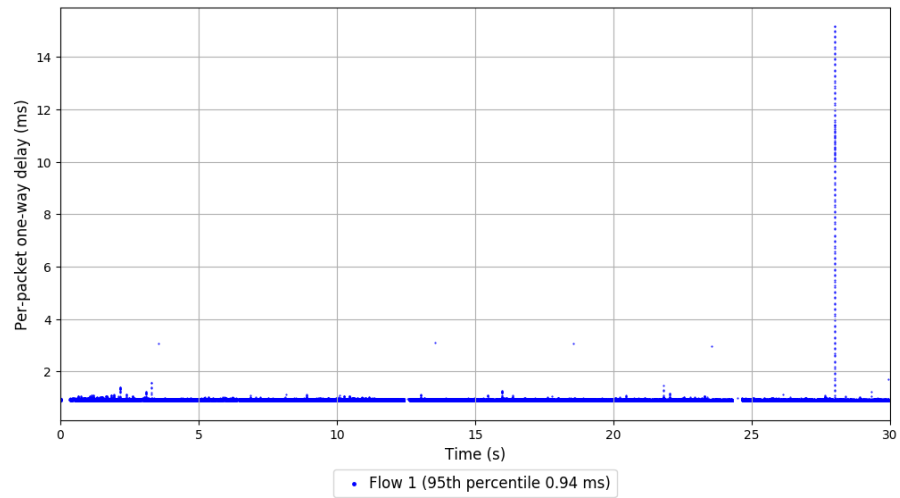
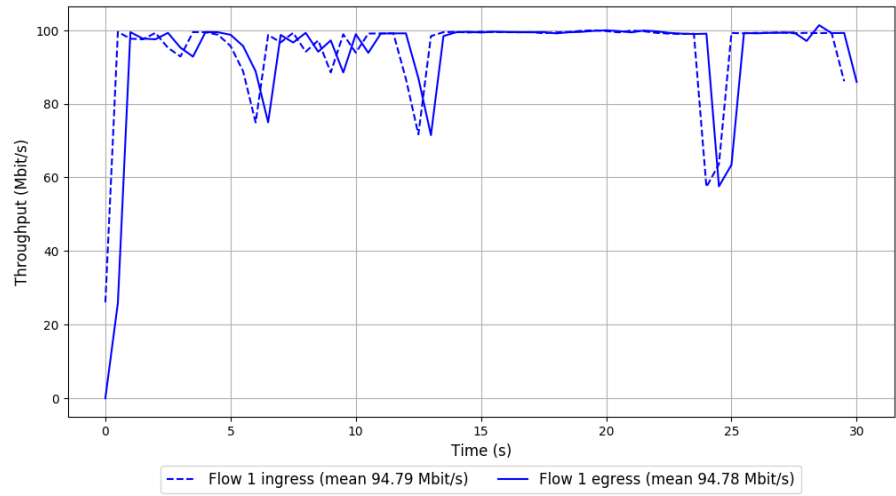
-- Flow 1:

Average throughput: 94.78 Mbit/s

95th percentile per-packet one-way delay: 0.939 ms

Loss rate: 0.01%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-10-26 07:25:15

End at: 2018-10-26 07:25:45

Local clock offset: -3.551 ms

Remote clock offset: 4.047 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.84 Mbit/s

95th percentile per-packet one-way delay: 1.043 ms

Loss rate: 0.01%

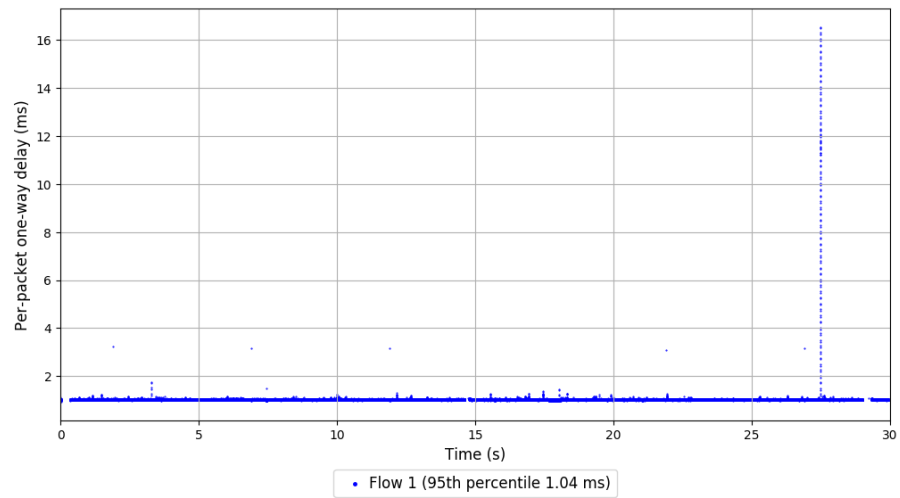
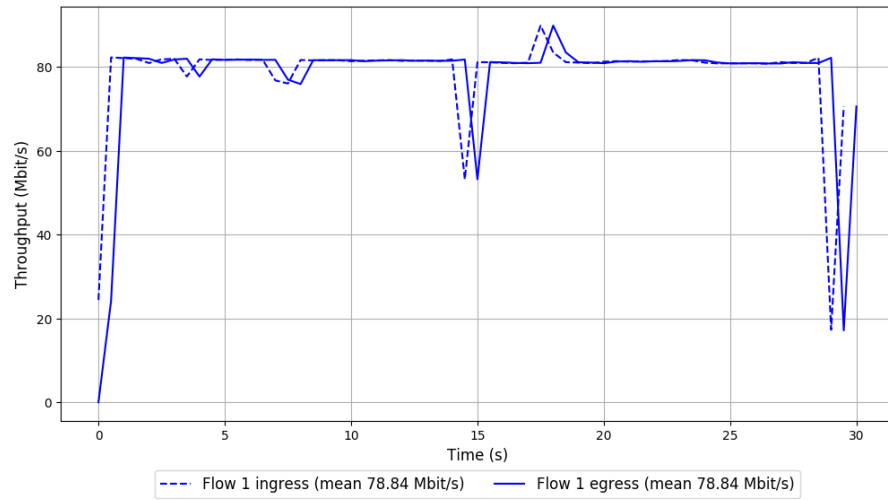
-- Flow 1:

Average throughput: 78.84 Mbit/s

95th percentile per-packet one-way delay: 1.043 ms

Loss rate: 0.01%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-10-26 07:52:04

End at: 2018-10-26 07:52:34

Local clock offset: -3.257 ms

Remote clock offset: 4.073 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.61 Mbit/s

95th percentile per-packet one-way delay: 1.046 ms

Loss rate: 0.01%

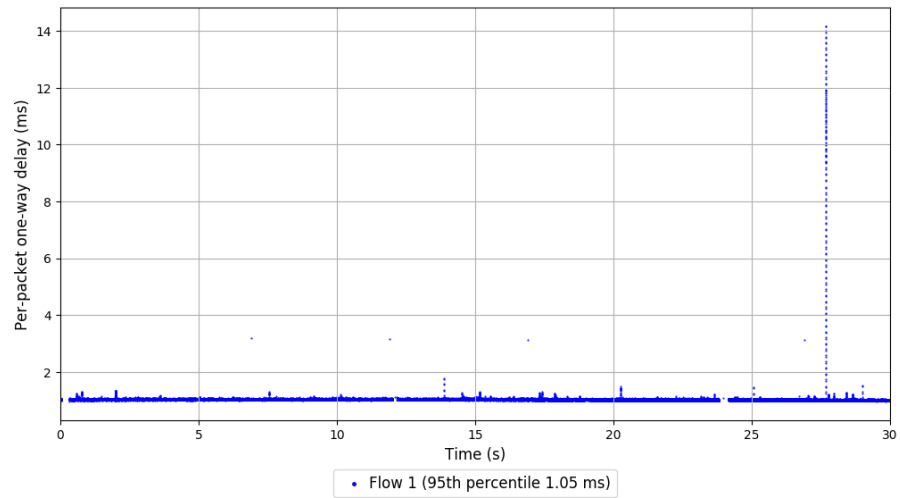
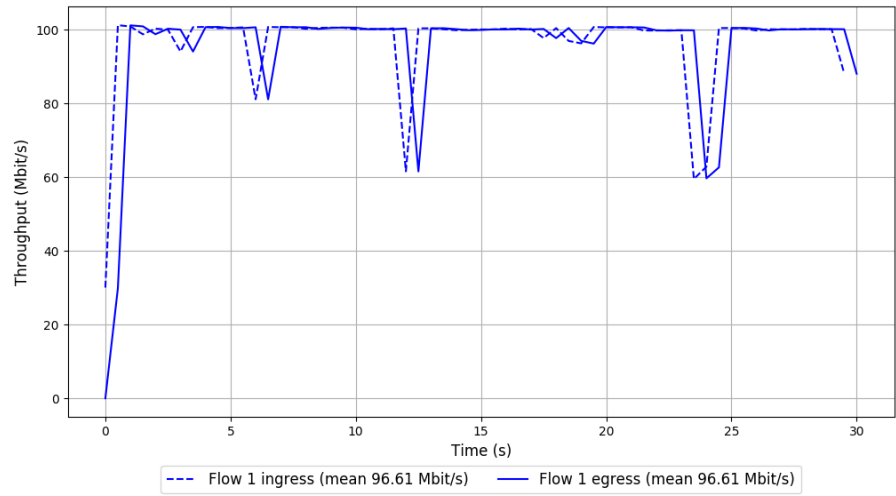
-- Flow 1:

Average throughput: 96.61 Mbit/s

95th percentile per-packet one-way delay: 1.046 ms

Loss rate: 0.01%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-10-26 08:18:40

End at: 2018-10-26 08:19:10

Local clock offset: 0.062 ms

Remote clock offset: 3.257 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.61 Mbit/s

95th percentile per-packet one-way delay: 0.928 ms

Loss rate: 0.01%

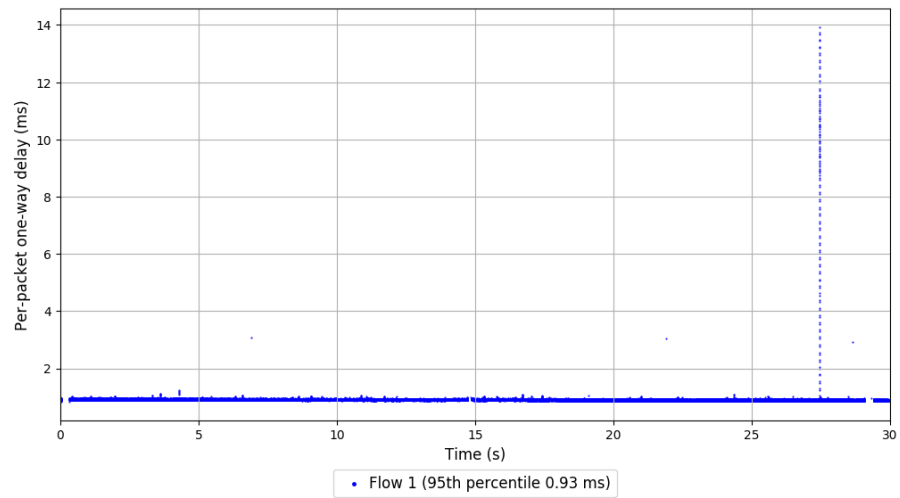
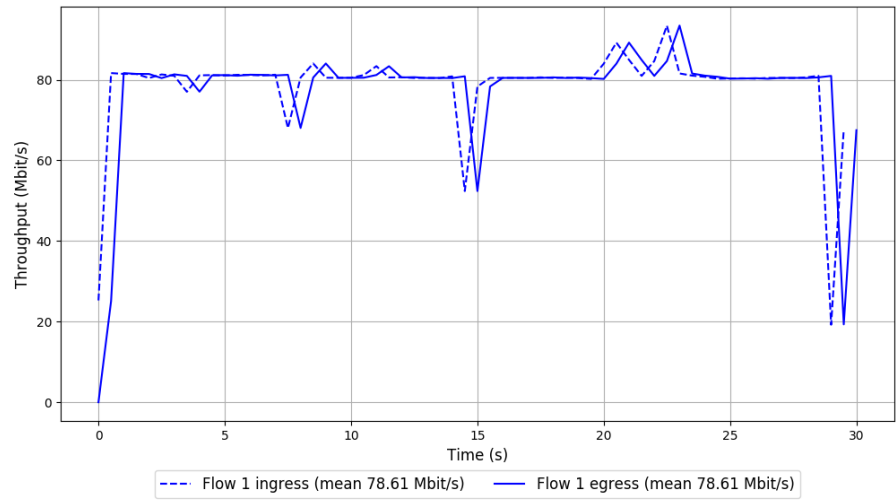
-- Flow 1:

Average throughput: 78.61 Mbit/s

95th percentile per-packet one-way delay: 0.928 ms

Loss rate: 0.01%

Run 5: Report of QUIC Cubic — Data Link

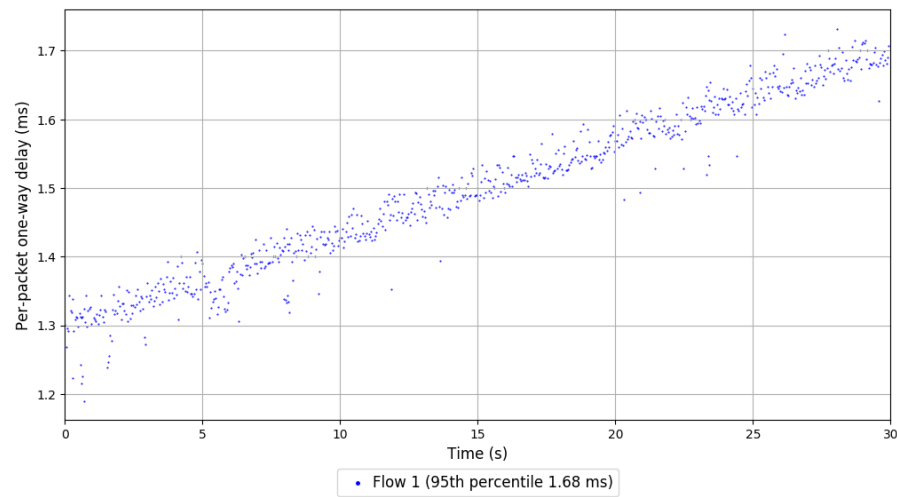
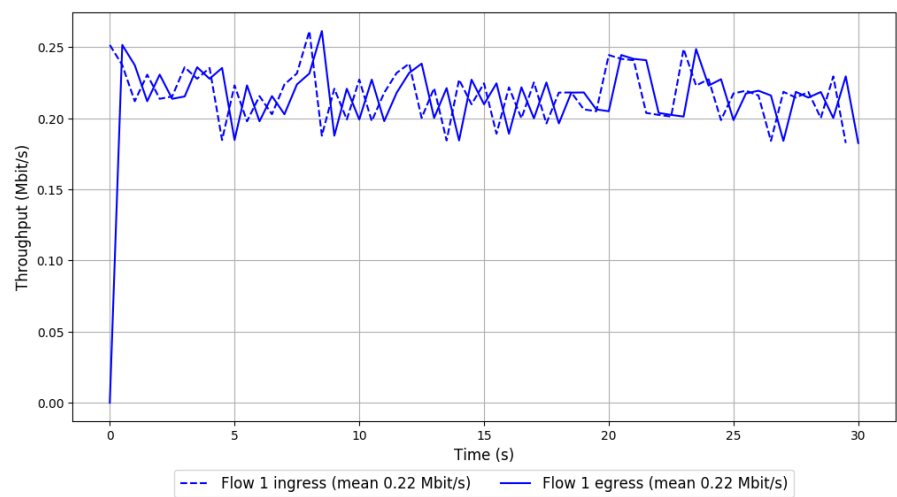


```
Run 1: Statistics of SCReAM

Start at: 2018-10-26 06:13:57
End at: 2018-10-26 06:14:27
Local clock offset: 0.462 ms
Remote clock offset: -1.575 ms

# Below is generated by plot.py at 2018-10-26 09:10:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.680 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.680 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-10-26 06:40:51

End at: 2018-10-26 06:41:21

Local clock offset: -0.423 ms

Remote clock offset: 6.648 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.165 ms

Loss rate: 0.00%

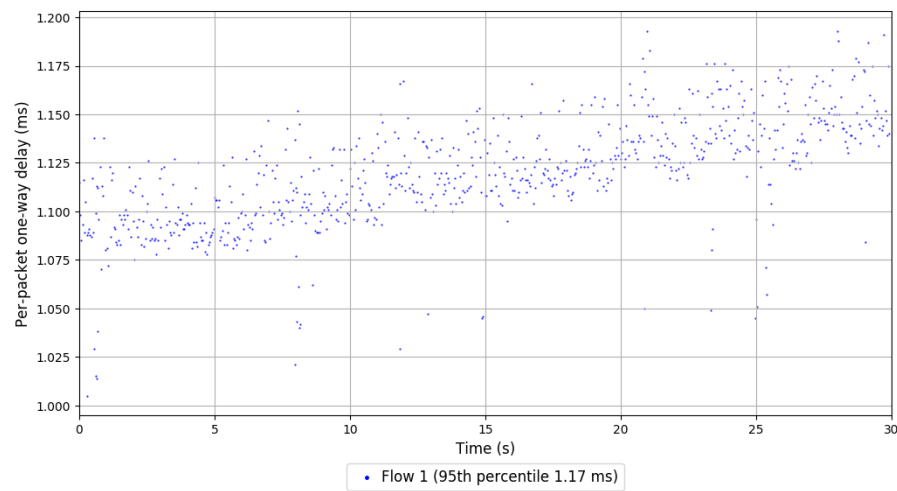
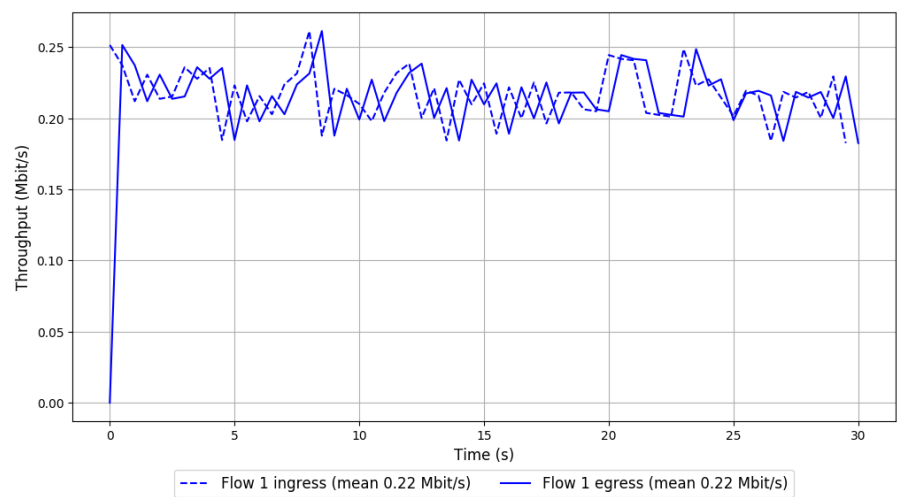
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.165 ms

Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

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

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

Local clock offset: -1.689 ms

Remote clock offset: 4.545 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.295 ms

Loss rate: 0.00%

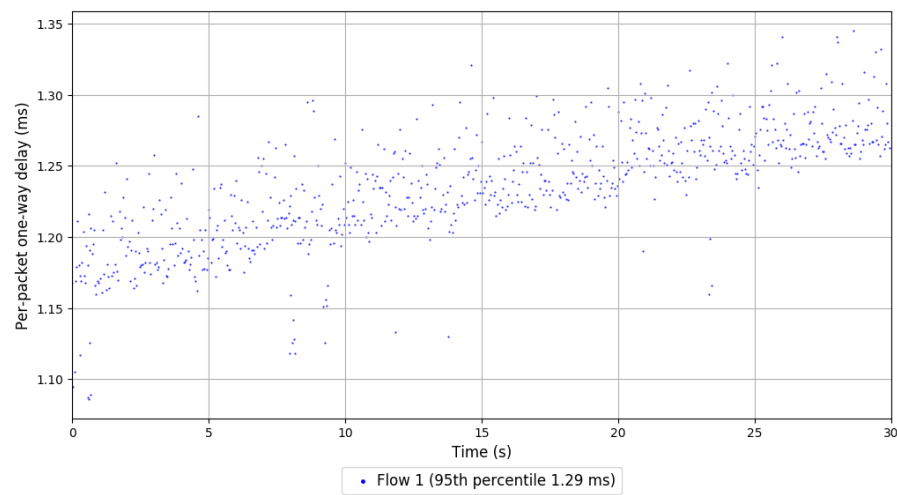
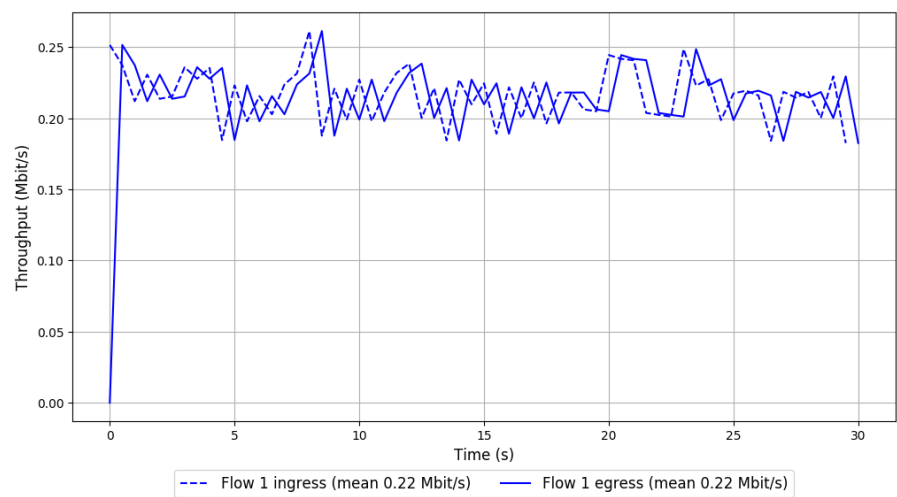
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.295 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-10-26 07:34:24

End at: 2018-10-26 07:34:54

Local clock offset: -3.63 ms

Remote clock offset: 3.758 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.054 ms

Loss rate: 0.00%

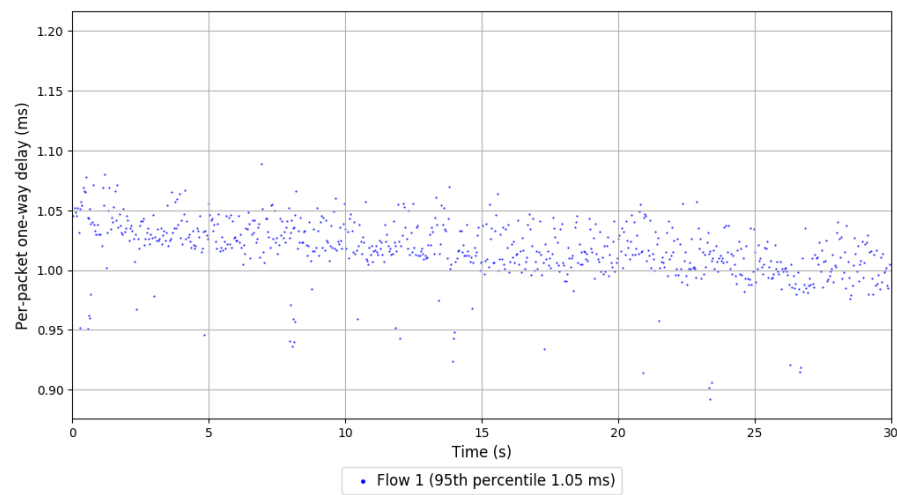
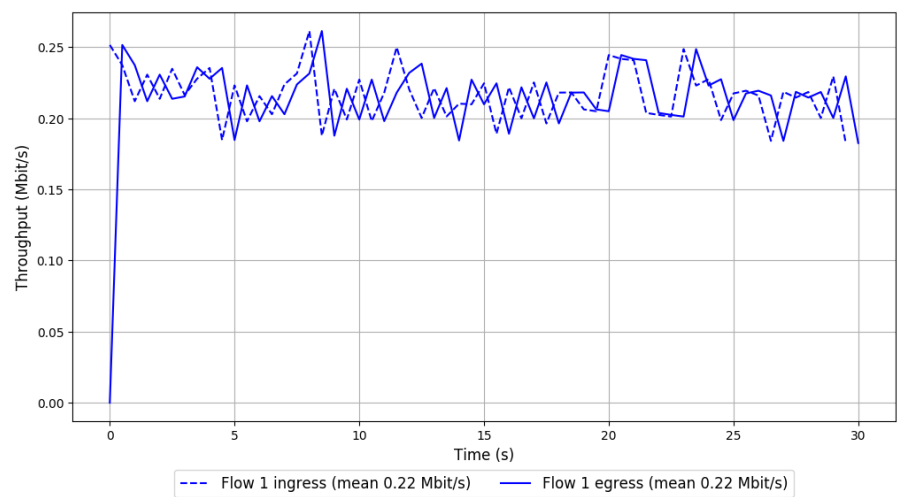
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.054 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-10-26 08:01:15

End at: 2018-10-26 08:01:45

Local clock offset: -3.435 ms

Remote clock offset: 3.412 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.010 ms

Loss rate: 0.00%

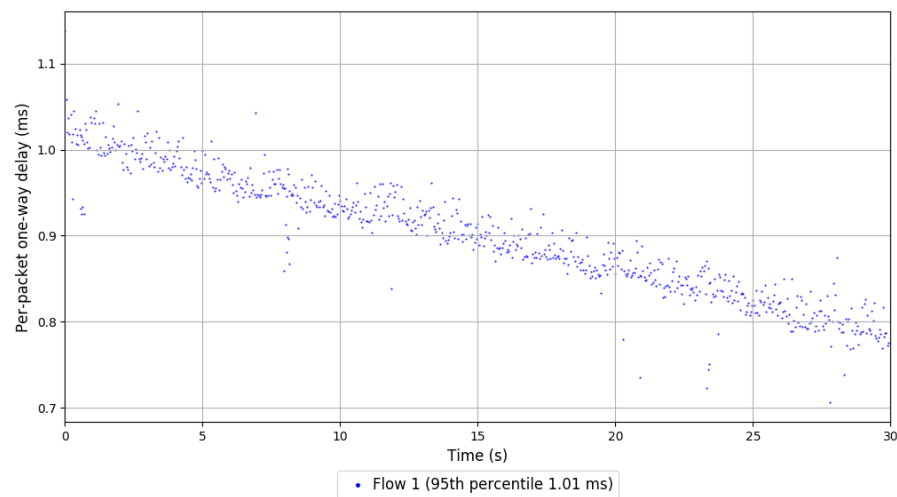
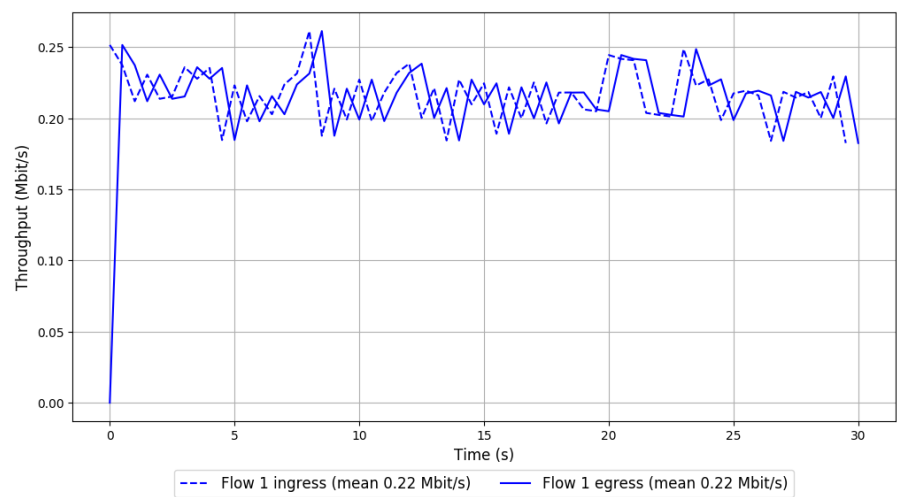
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.010 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-10-26 06:16:40

End at: 2018-10-26 06:17:10

Local clock offset: 0.109 ms

Remote clock offset: 0.158 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.34 Mbit/s

95th percentile per-packet one-way delay: 1.417 ms

Loss rate: 0.00%

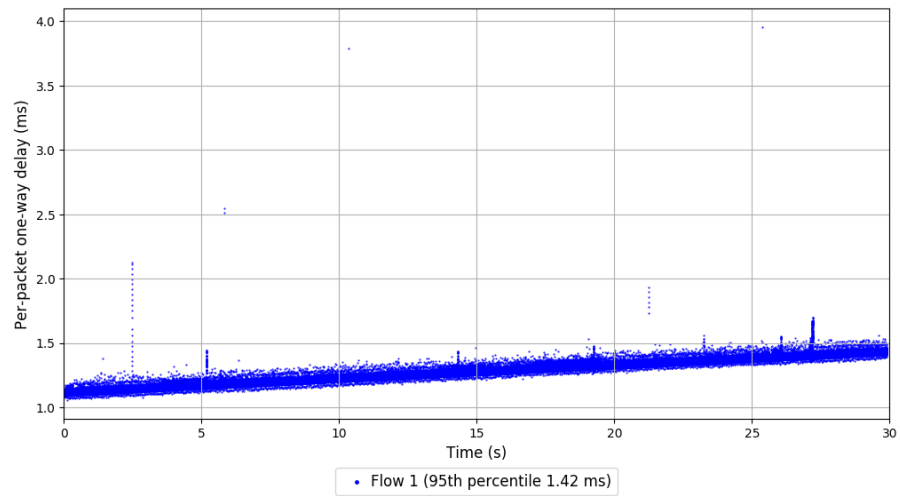
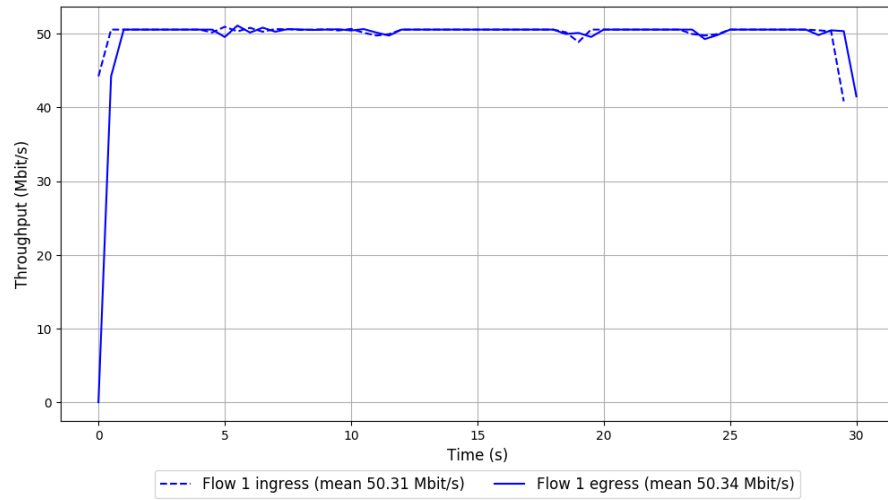
-- Flow 1:

Average throughput: 50.34 Mbit/s

95th percentile per-packet one-way delay: 1.417 ms

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

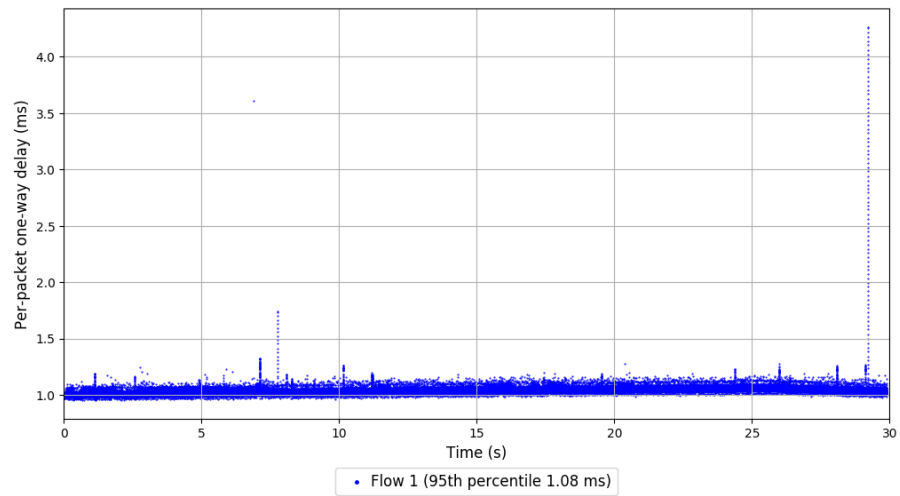
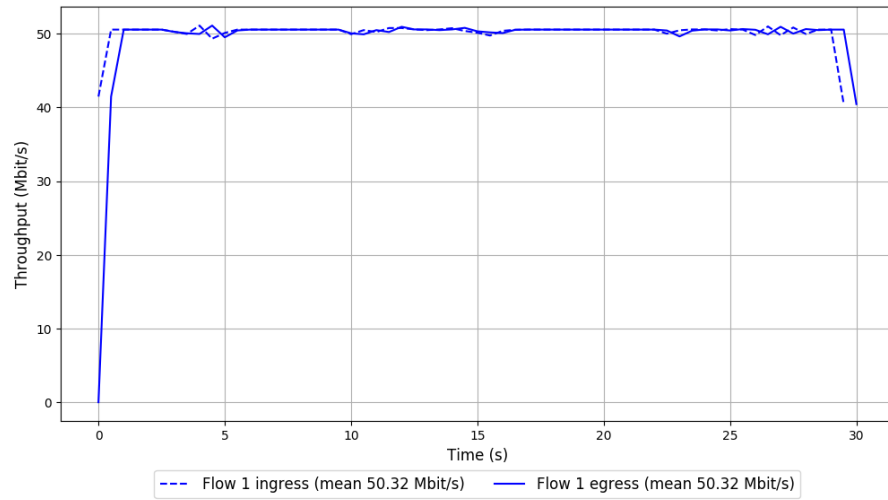


Run 2: Statistics of Sprout

Start at: 2018-10-26 06:43:35
End at: 2018-10-26 06:44:05
Local clock offset: -0.361 ms
Remote clock offset: 7.065 ms

Below is generated by plot.py at 2018-10-26 09:10:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.32 Mbit/s
95th percentile per-packet one-way delay: 1.076 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.32 Mbit/s
95th percentile per-packet one-way delay: 1.076 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-10-26 07:10:06

End at: 2018-10-26 07:10:36

Local clock offset: -2.163 ms

Remote clock offset: 4.644 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.26 Mbit/s

95th percentile per-packet one-way delay: 1.112 ms

Loss rate: 0.02%

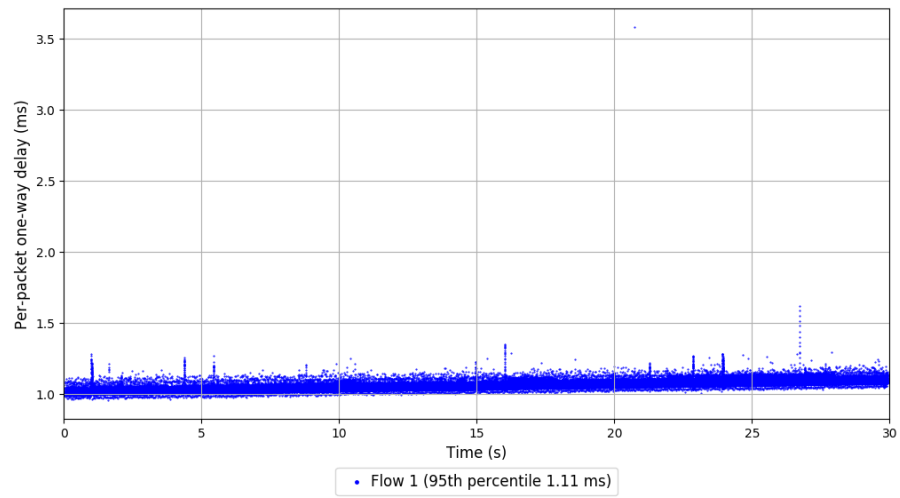
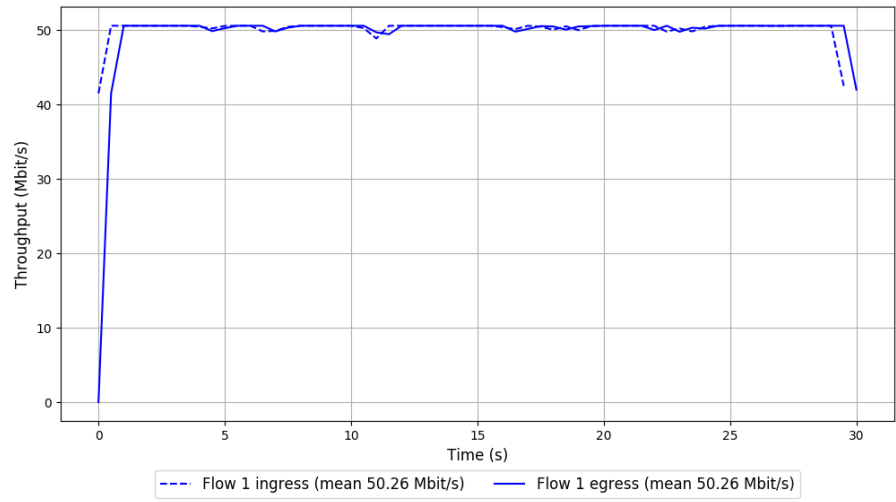
-- Flow 1:

Average throughput: 50.26 Mbit/s

95th percentile per-packet one-way delay: 1.112 ms

Loss rate: 0.02%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-10-26 07:37:07

End at: 2018-10-26 07:37:37

Local clock offset: -3.438 ms

Remote clock offset: 3.764 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.30 Mbit/s

95th percentile per-packet one-way delay: 0.971 ms

Loss rate: 0.00%

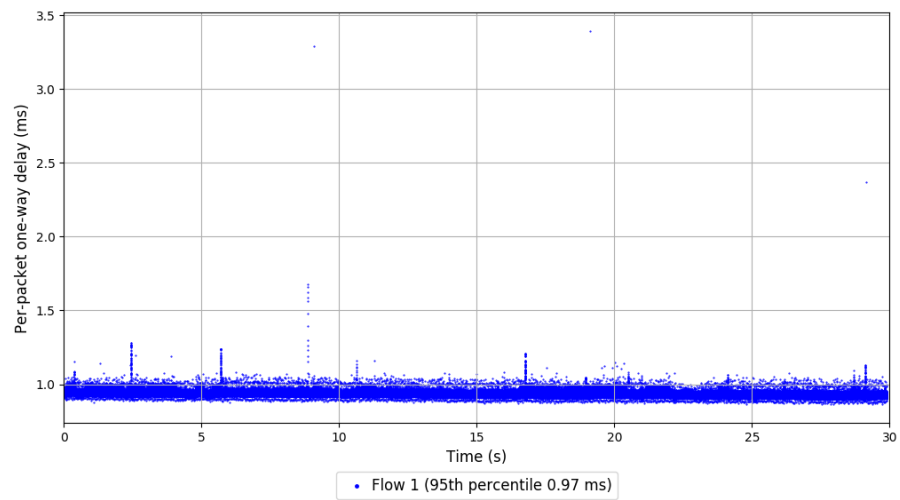
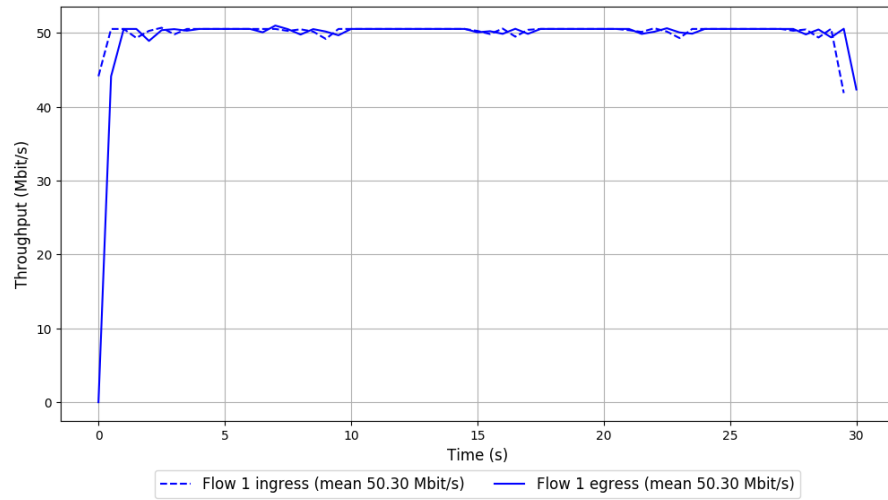
-- Flow 1:

Average throughput: 50.30 Mbit/s

95th percentile per-packet one-way delay: 0.971 ms

Loss rate: 0.00%

Run 4: Report of Sprout — Data Link

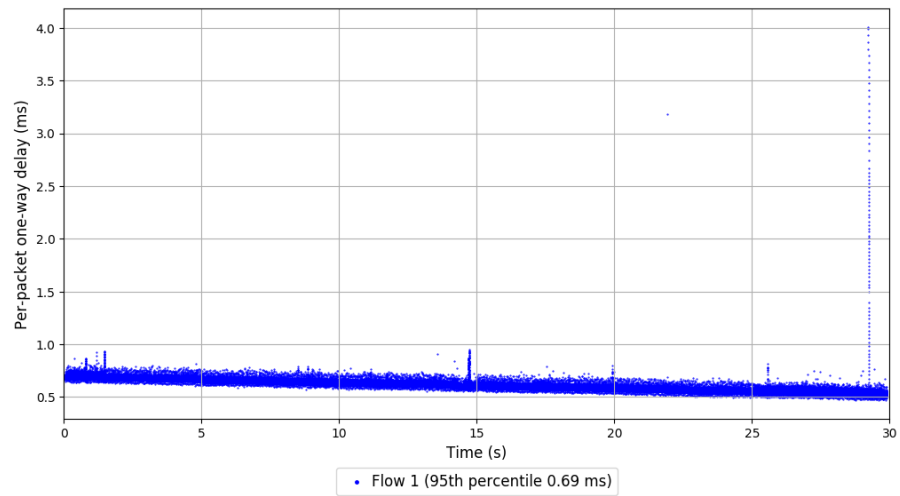
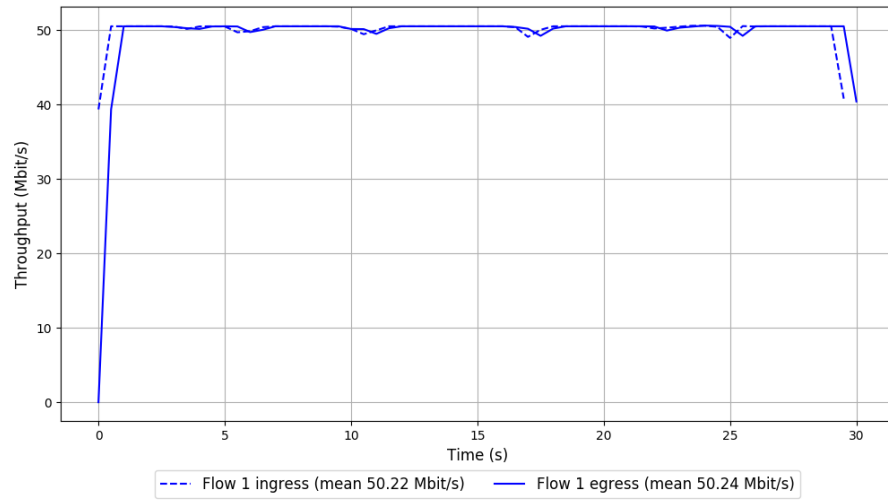


Run 5: Statistics of Sprout

Start at: 2018-10-26 08:03:59
End at: 2018-10-26 08:04:29
Local clock offset: -2.596 ms
Remote clock offset: 3.361 ms

Below is generated by plot.py at 2018-10-26 09:10:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.24 Mbit/s
95th percentile per-packet one-way delay: 0.693 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 50.24 Mbit/s
95th percentile per-packet one-way delay: 0.693 ms
Loss rate: 0.01%

Run 5: Report of Sprout — Data Link

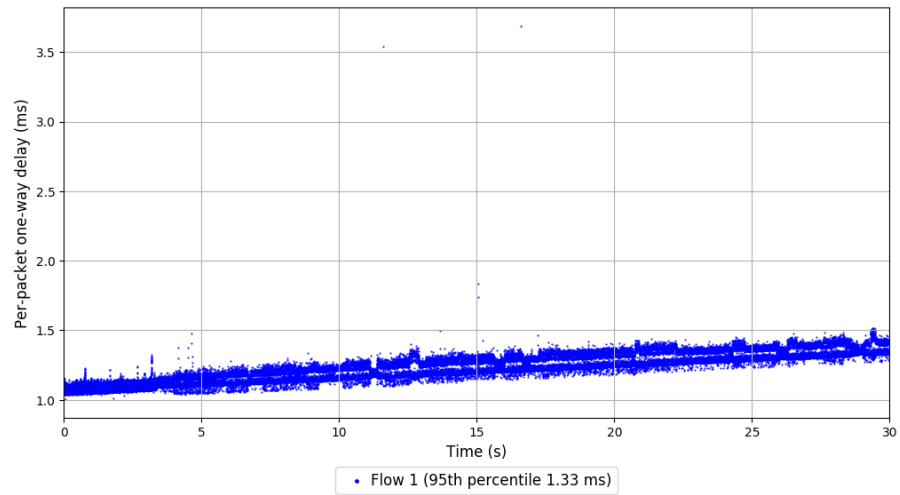
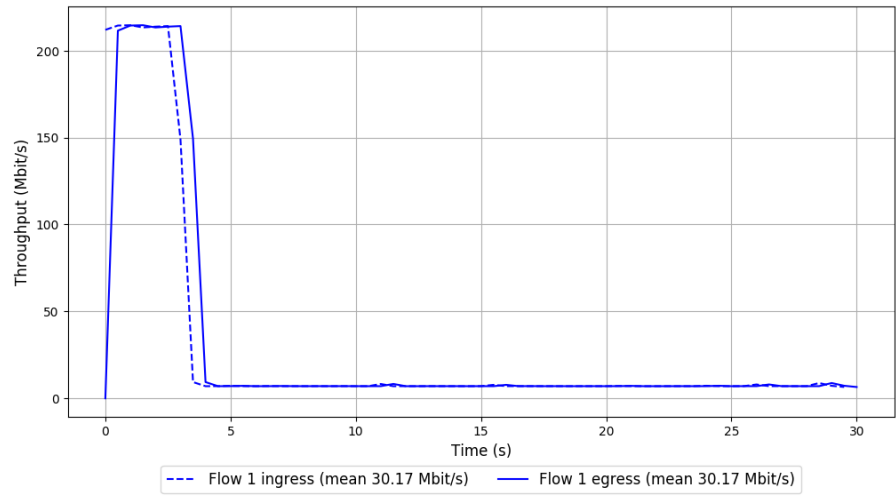


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-10-26 06:17:59
End at: 2018-10-26 06:18:29
Local clock offset: -0.046 ms
Remote clock offset: 0.841 ms

# Below is generated by plot.py at 2018-10-26 09:10:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.17 Mbit/s
95th percentile per-packet one-way delay: 1.330 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 30.17 Mbit/s
95th percentile per-packet one-way delay: 1.330 ms
Loss rate: 0.00%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-10-26 06:44:54

End at: 2018-10-26 06:45:24

Local clock offset: -0.33 ms

Remote clock offset: 6.885 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 33.44 Mbit/s

95th percentile per-packet one-way delay: 0.874 ms

Loss rate: 0.00%

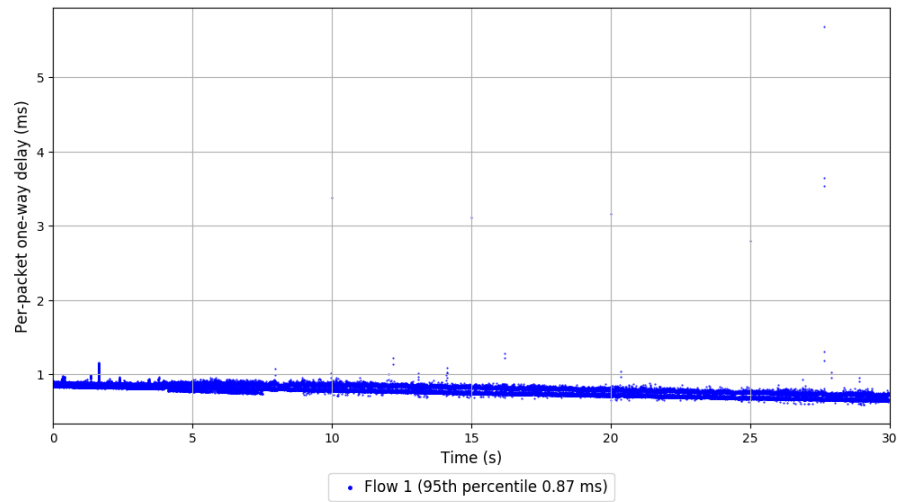
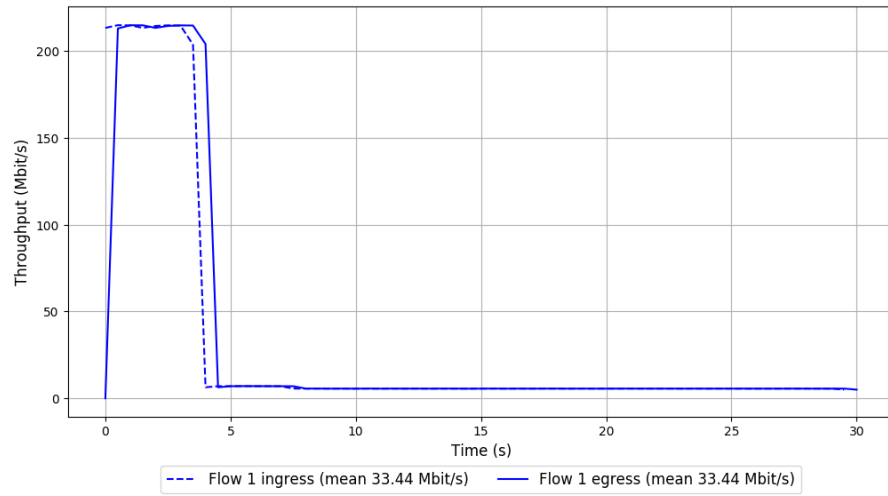
-- Flow 1:

Average throughput: 33.44 Mbit/s

95th percentile per-packet one-way delay: 0.874 ms

Loss rate: 0.00%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-10-26 07:11:25

End at: 2018-10-26 07:11:55

Local clock offset: -2.29 ms

Remote clock offset: 4.624 ms

Below is generated by plot.py at 2018-10-26 09:10:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 20.76 Mbit/s

95th percentile per-packet one-way delay: 1.220 ms

Loss rate: 0.00%

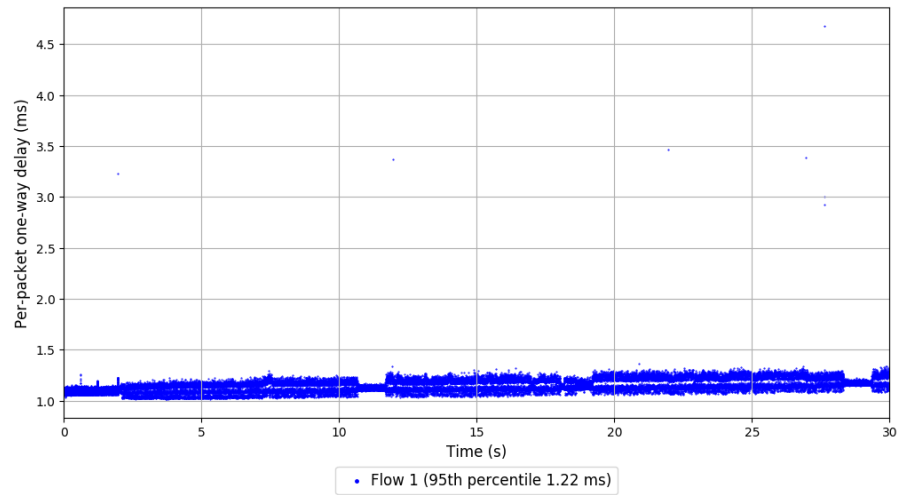
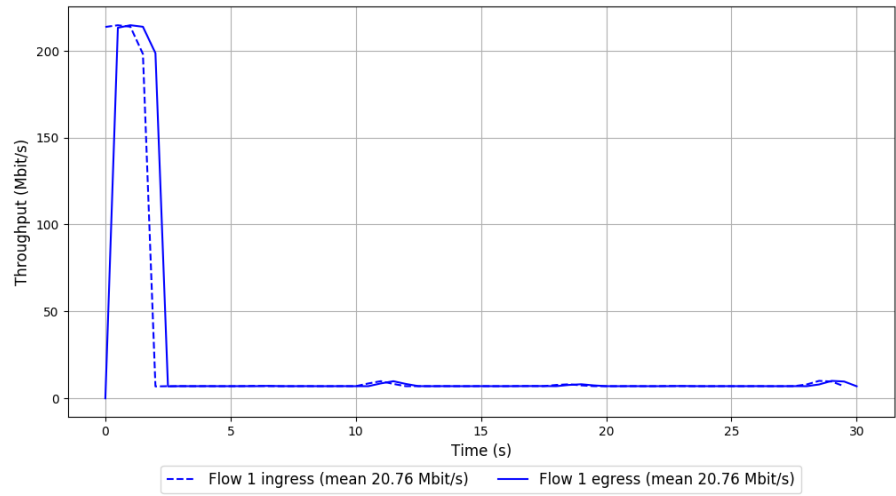
-- Flow 1:

Average throughput: 20.76 Mbit/s

95th percentile per-packet one-way delay: 1.220 ms

Loss rate: 0.00%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-10-26 07:38:25

End at: 2018-10-26 07:38:55

Local clock offset: -3.363 ms

Remote clock offset: 3.856 ms

Below is generated by plot.py at 2018-10-26 09:10:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 166.50 Mbit/s

95th percentile per-packet one-way delay: 0.886 ms

Loss rate: 0.00%

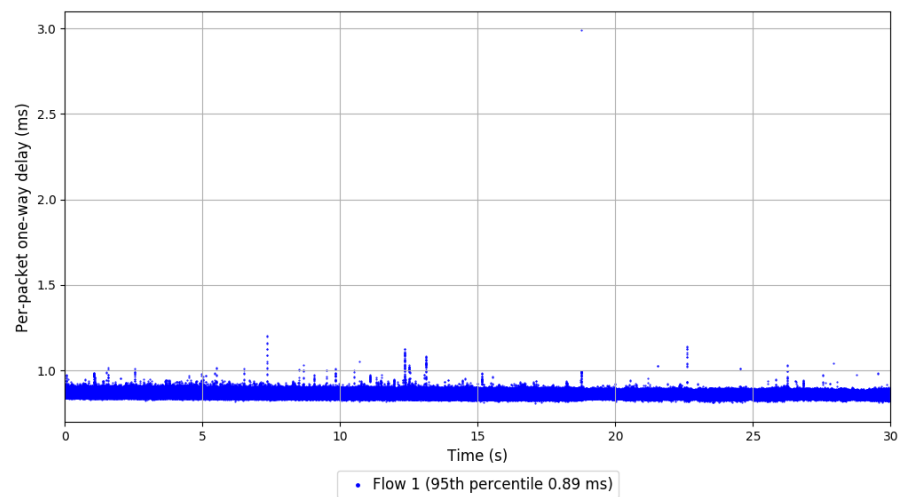
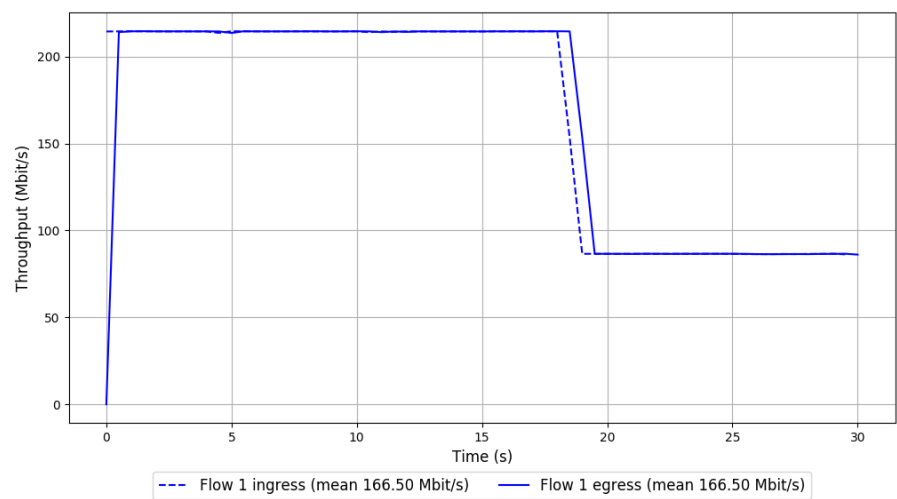
-- Flow 1:

Average throughput: 166.50 Mbit/s

95th percentile per-packet one-way delay: 0.886 ms

Loss rate: 0.00%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-10-26 08:05:17

End at: 2018-10-26 08:05:47

Local clock offset: -2.09 ms

Remote clock offset: 3.338 ms

Below is generated by plot.py at 2018-10-26 09:10:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 32.38 Mbit/s

95th percentile per-packet one-way delay: 0.785 ms

Loss rate: 0.00%

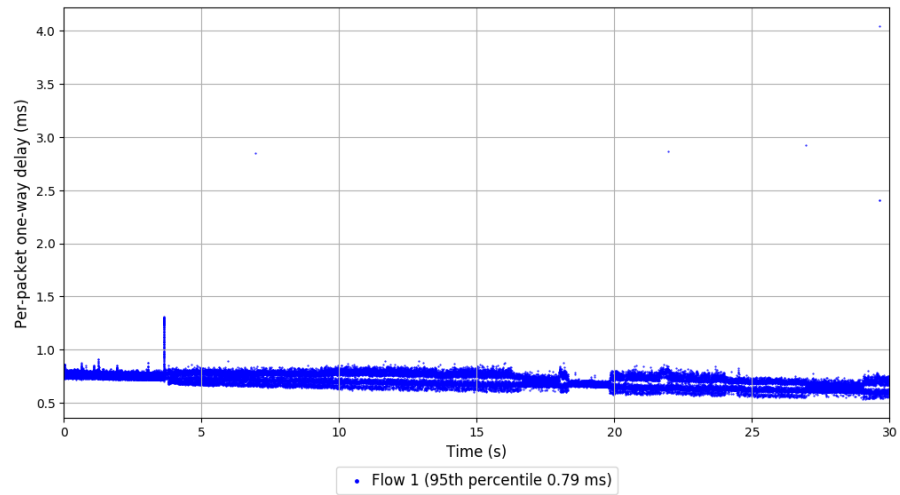
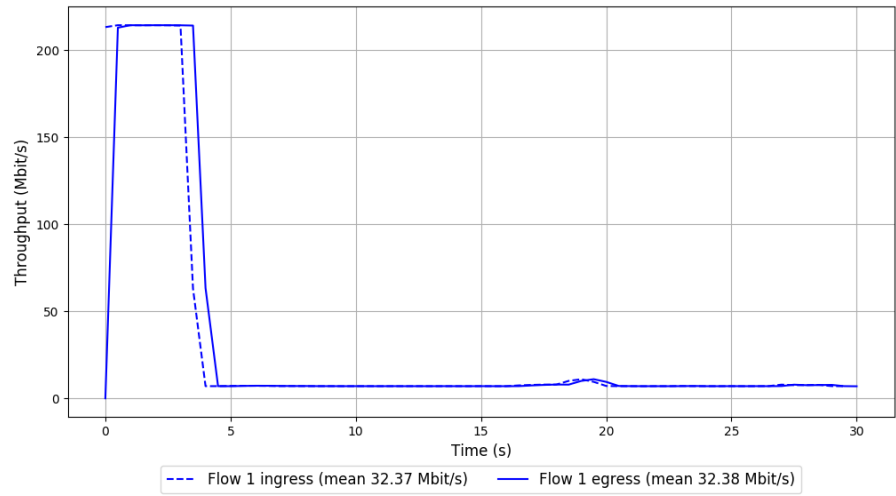
-- Flow 1:

Average throughput: 32.38 Mbit/s

95th percentile per-packet one-way delay: 0.785 ms

Loss rate: 0.00%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-10-26 06:33:06

End at: 2018-10-26 06:33:36

Local clock offset: -0.876 ms

Remote clock offset: 5.352 ms

Below is generated by plot.py at 2018-10-26 09:10:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 194.07 Mbit/s

95th percentile per-packet one-way delay: 1.196 ms

Loss rate: 0.00%

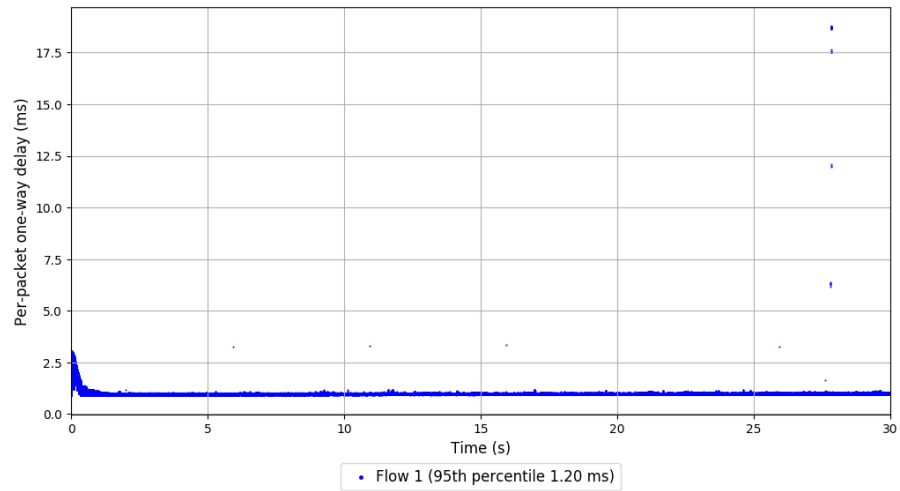
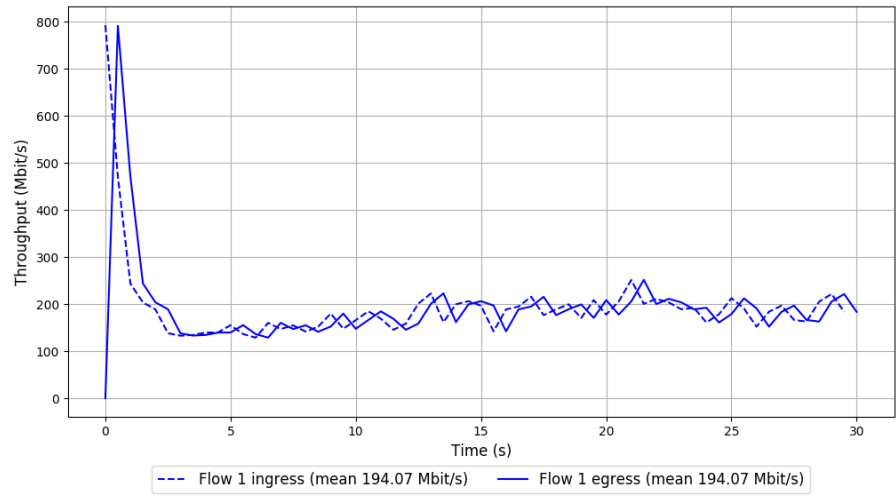
-- Flow 1:

Average throughput: 194.07 Mbit/s

95th percentile per-packet one-way delay: 1.196 ms

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-10-26 06:59:32

End at: 2018-10-26 07:00:02

Local clock offset: -0.412 ms

Remote clock offset: 4.415 ms

Below is generated by plot.py at 2018-10-26 09:10:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 228.79 Mbit/s

95th percentile per-packet one-way delay: 1.071 ms

Loss rate: 0.01%

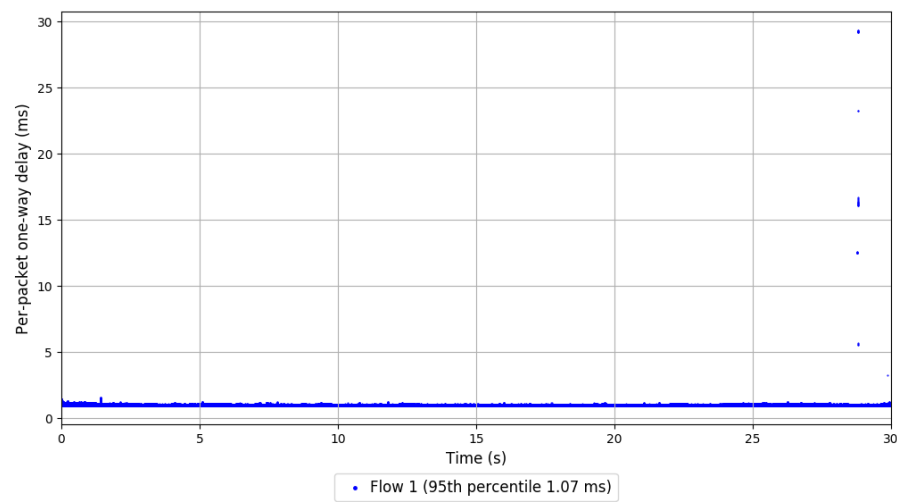
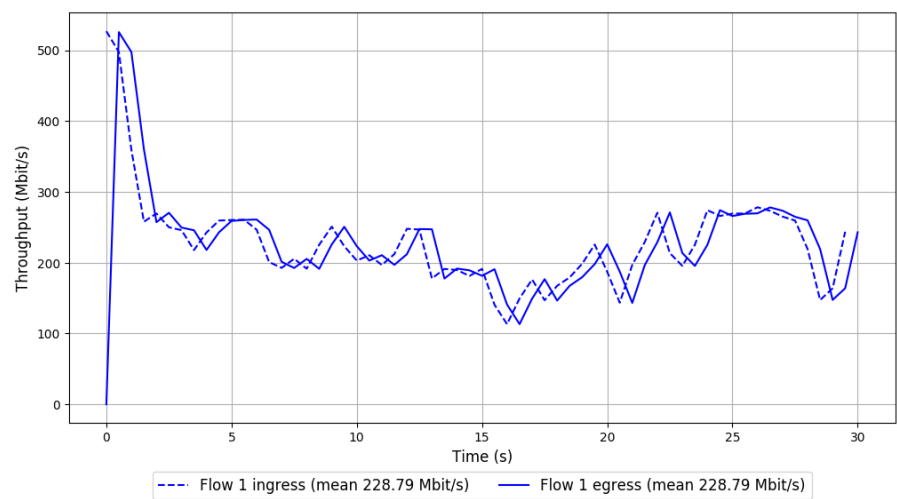
-- Flow 1:

Average throughput: 228.79 Mbit/s

95th percentile per-packet one-way delay: 1.071 ms

Loss rate: 0.01%

Run 2: Report of TCP Vegas — Data Link

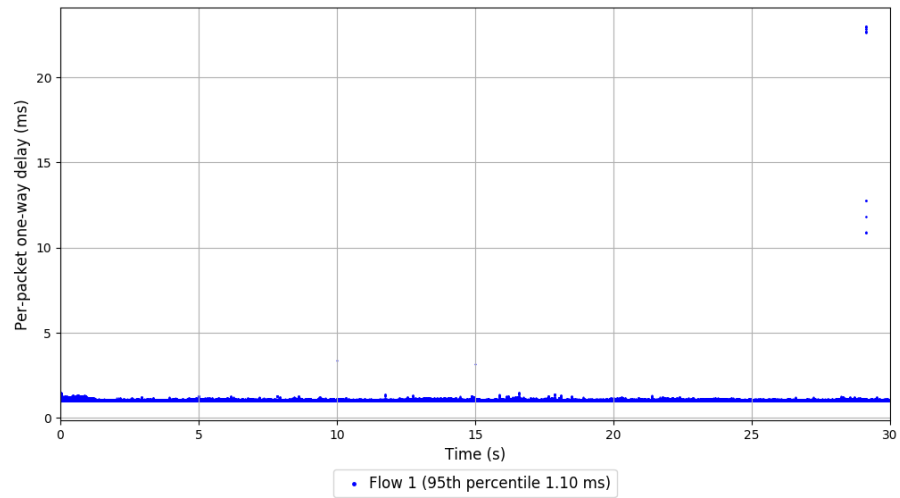
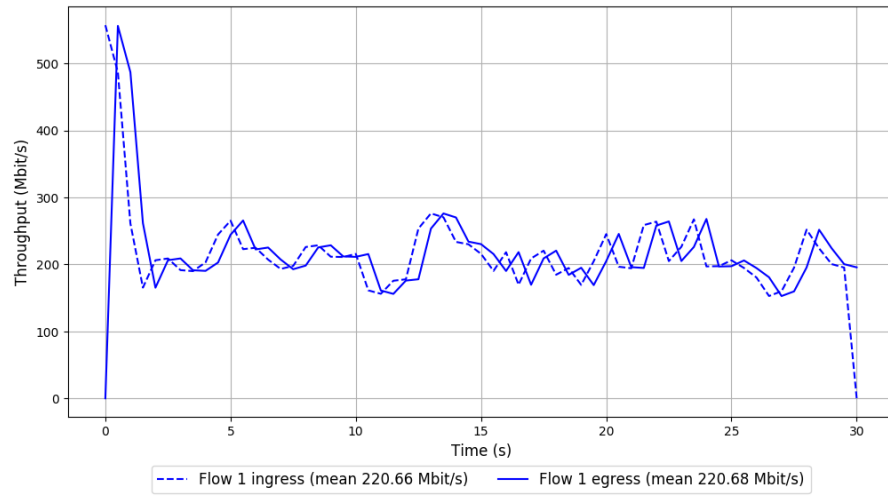


Run 3: Statistics of TCP Vegas

Start at: 2018-10-26 07:26:35
End at: 2018-10-26 07:27:05
Local clock offset: -3.614 ms
Remote clock offset: 3.964 ms

Below is generated by plot.py at 2018-10-26 09:10:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 220.68 Mbit/s
95th percentile per-packet one-way delay: 1.100 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 220.68 Mbit/s
95th percentile per-packet one-way delay: 1.100 ms
Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link

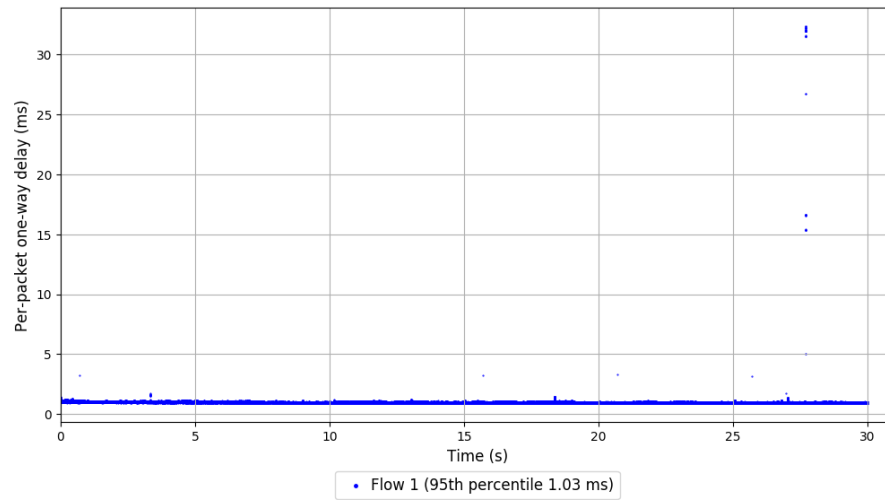
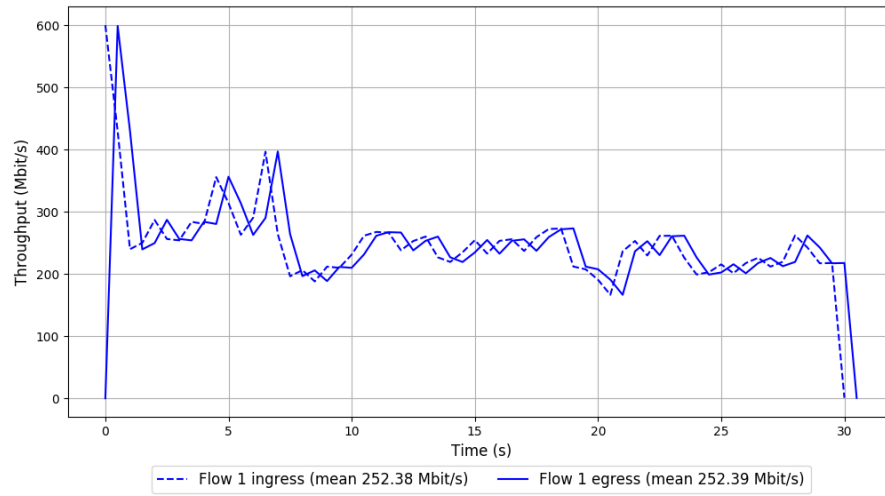


Run 4: Statistics of TCP Vegas

Start at: 2018-10-26 07:53:25
End at: 2018-10-26 07:53:55
Local clock offset: -3.281 ms
Remote clock offset: 3.978 ms

Below is generated by plot.py at 2018-10-26 09:10:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 252.39 Mbit/s
95th percentile per-packet one-way delay: 1.032 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 252.39 Mbit/s
95th percentile per-packet one-way delay: 1.032 ms
Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-10-26 08:20:00

End at: 2018-10-26 08:20:30

Local clock offset: 0.152 ms

Remote clock offset: 3.252 ms

Below is generated by plot.py at 2018-10-26 09:12:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 316.35 Mbit/s

95th percentile per-packet one-way delay: 1.038 ms

Loss rate: 0.01%

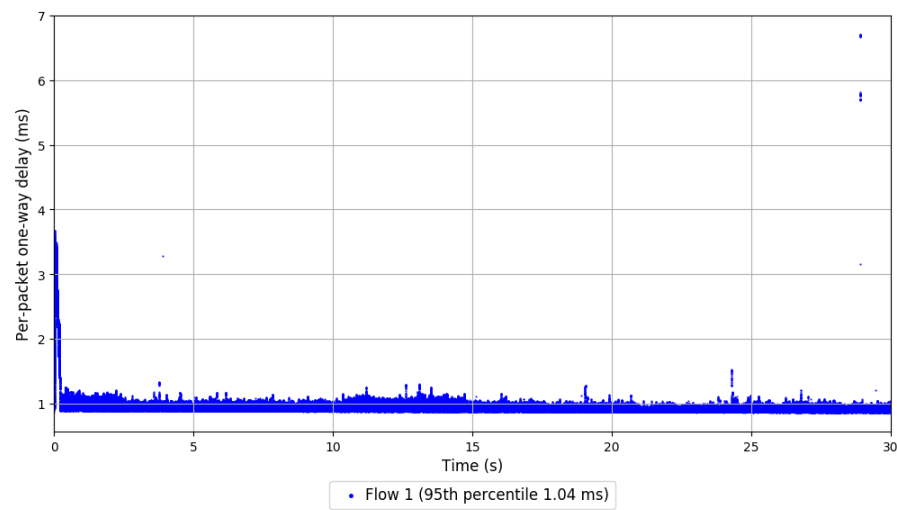
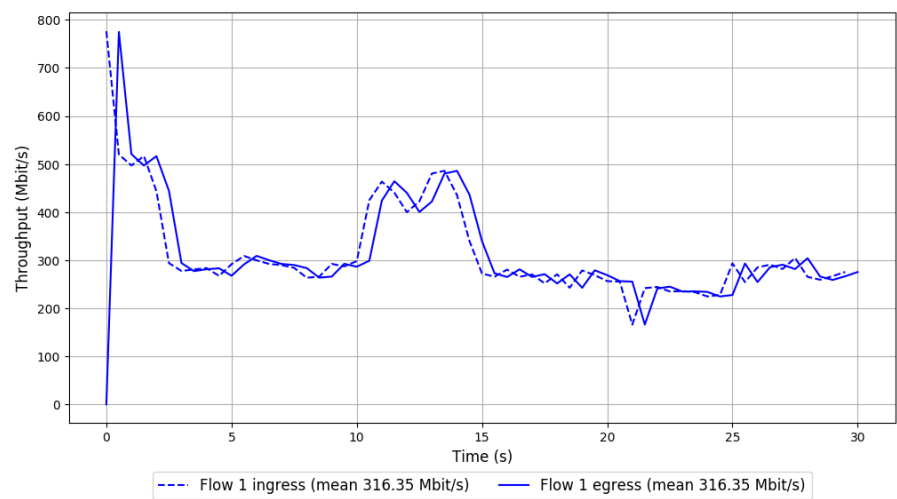
-- Flow 1:

Average throughput: 316.35 Mbit/s

95th percentile per-packet one-way delay: 1.038 ms

Loss rate: 0.01%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-10-26 06:27:21

End at: 2018-10-26 06:27:51

Local clock offset: -0.799 ms

Remote clock offset: 4.102 ms

Below is generated by plot.py at 2018-10-26 09:12:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 247.15 Mbit/s

95th percentile per-packet one-way delay: 2.443 ms

Loss rate: 0.01%

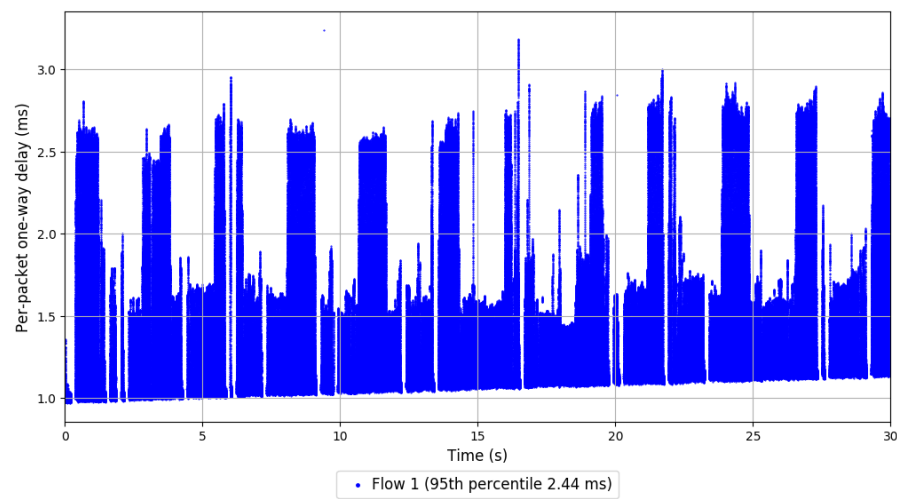
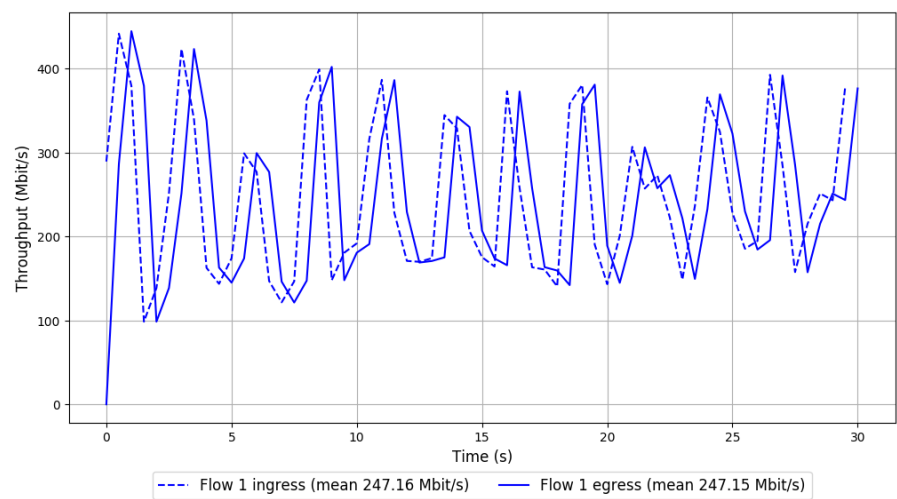
-- Flow 1:

Average throughput: 247.15 Mbit/s

95th percentile per-packet one-way delay: 2.443 ms

Loss rate: 0.01%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-10-26 06:53:58

End at: 2018-10-26 06:54:28

Local clock offset: -0.34 ms

Remote clock offset: 4.731 ms

Below is generated by plot.py at 2018-10-26 09:13:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 355.12 Mbit/s

95th percentile per-packet one-way delay: 2.595 ms

Loss rate: 0.01%

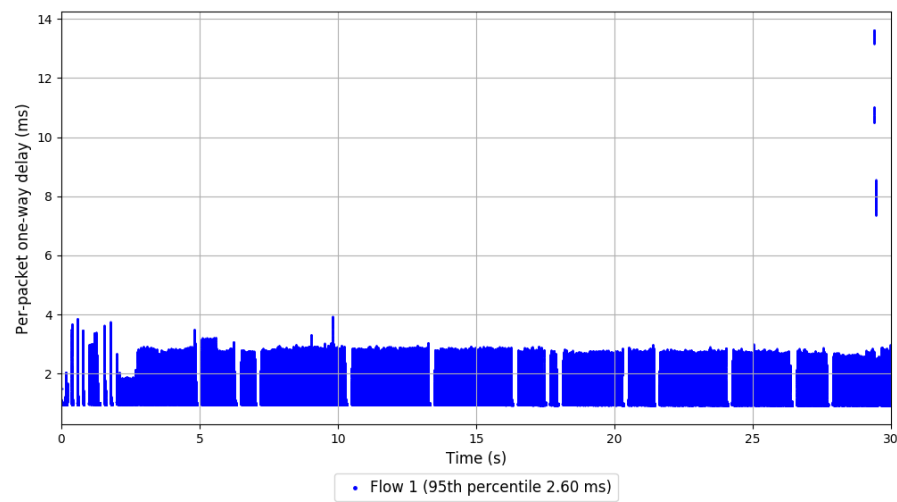
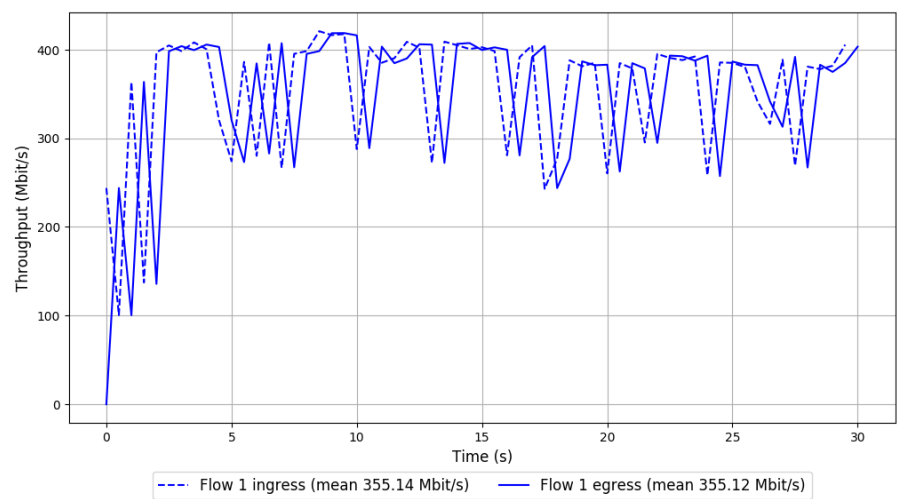
-- Flow 1:

Average throughput: 355.12 Mbit/s

95th percentile per-packet one-way delay: 2.595 ms

Loss rate: 0.01%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-10-26 07:20:46

End at: 2018-10-26 07:21:16

Local clock offset: -3.237 ms

Remote clock offset: 4.562 ms

Below is generated by plot.py at 2018-10-26 09:14:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 365.14 Mbit/s

95th percentile per-packet one-way delay: 2.467 ms

Loss rate: 0.01%

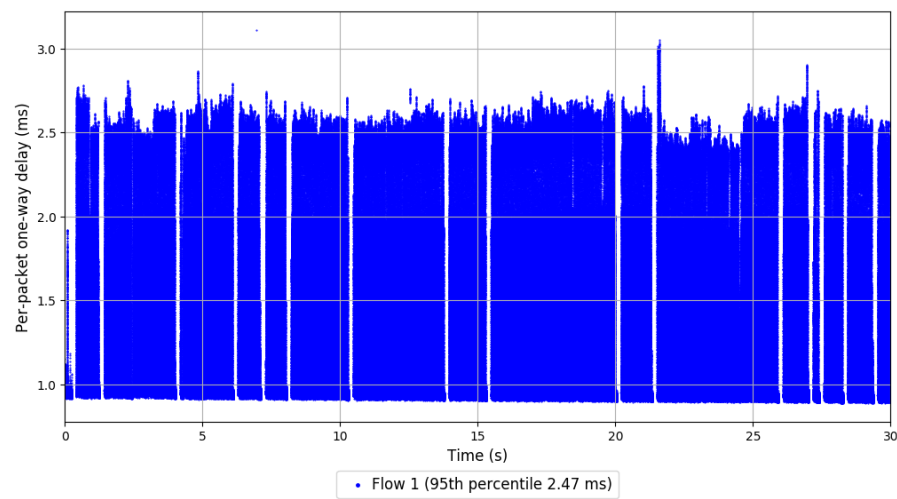
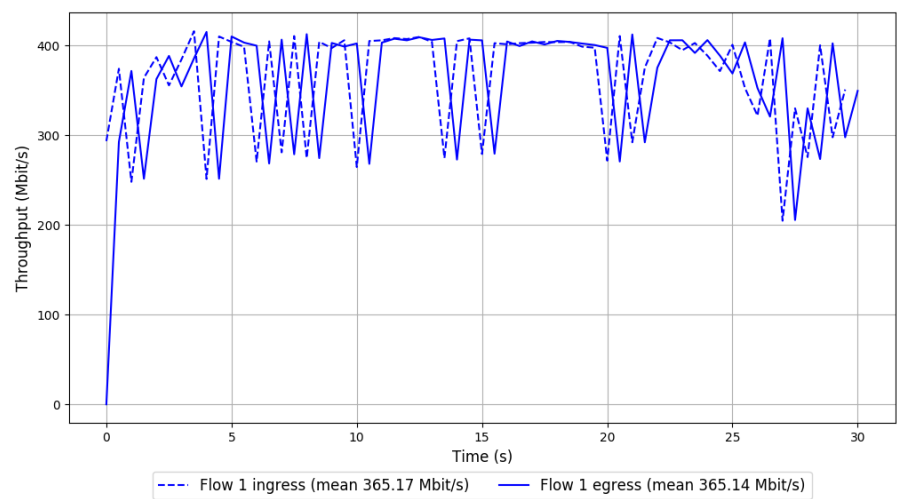
-- Flow 1:

Average throughput: 365.14 Mbit/s

95th percentile per-packet one-way delay: 2.467 ms

Loss rate: 0.01%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-10-26 07:47:35

End at: 2018-10-26 07:48:05

Local clock offset: -3.217 ms

Remote clock offset: 3.916 ms

Below is generated by plot.py at 2018-10-26 09:14:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 353.02 Mbit/s

95th percentile per-packet one-way delay: 2.796 ms

Loss rate: 0.01%

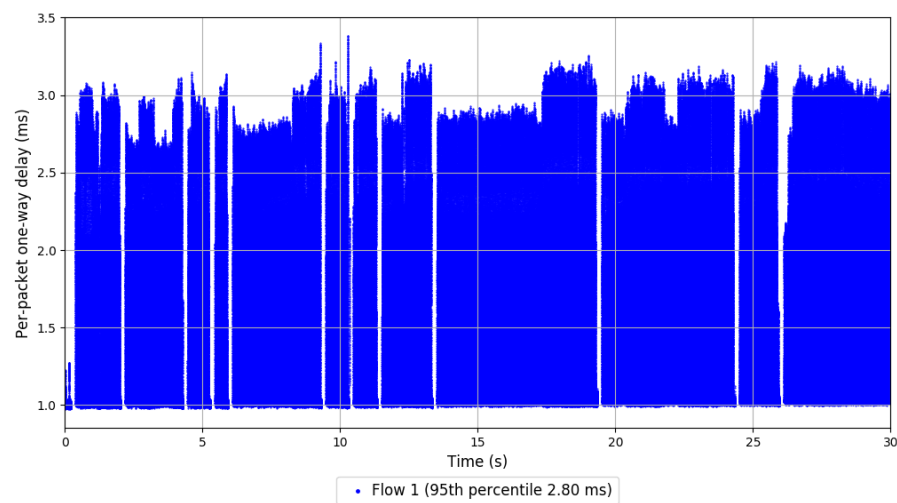
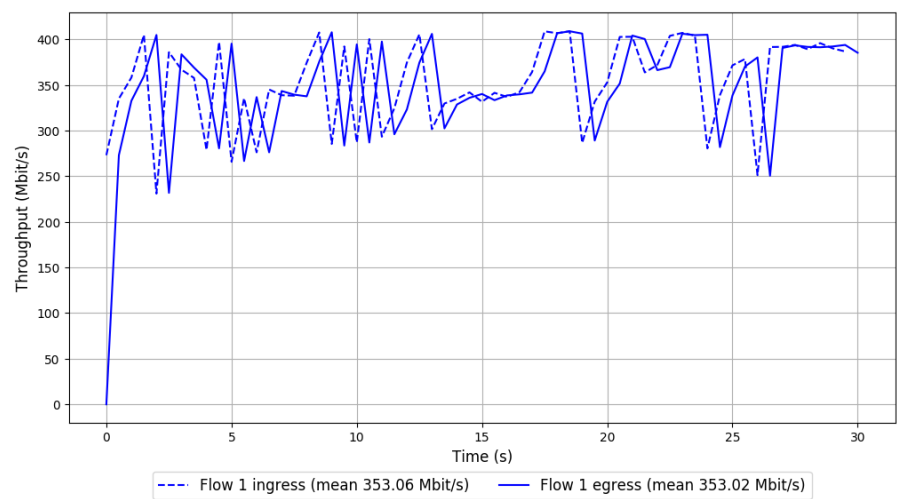
-- Flow 1:

Average throughput: 353.02 Mbit/s

95th percentile per-packet one-way delay: 2.796 ms

Loss rate: 0.01%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-10-26 08:14:21

End at: 2018-10-26 08:14:51

Local clock offset: -0.358 ms

Remote clock offset: 3.291 ms

Below is generated by plot.py at 2018-10-26 09:14:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 368.07 Mbit/s

95th percentile per-packet one-way delay: 2.332 ms

Loss rate: 0.00%

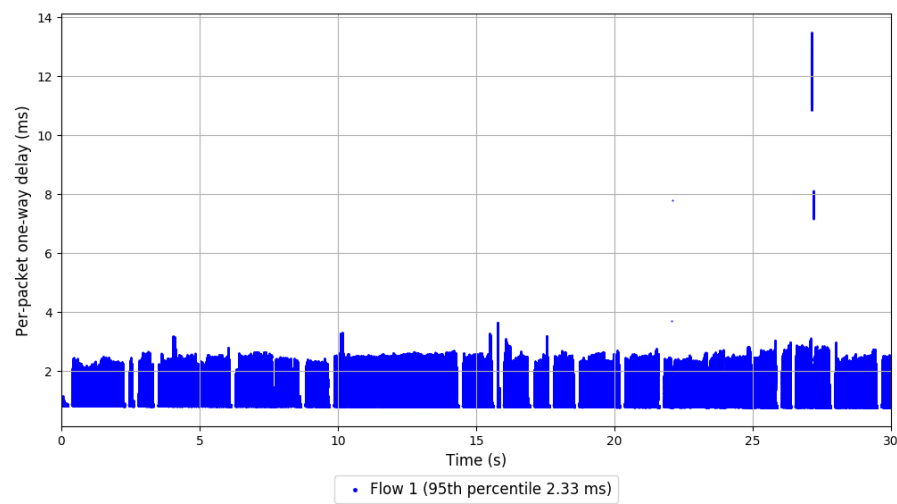
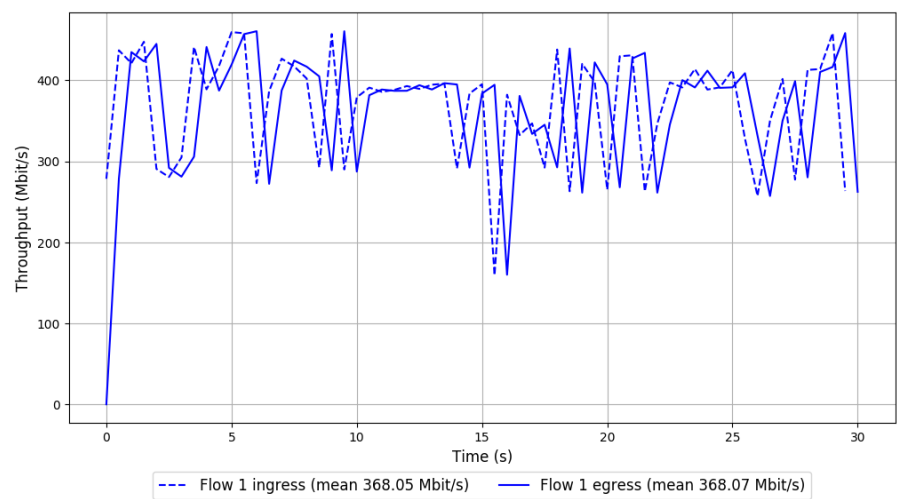
-- Flow 1:

Average throughput: 368.07 Mbit/s

95th percentile per-packet one-way delay: 2.332 ms

Loss rate: 0.00%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-10-26 06:34:30

End at: 2018-10-26 06:35:00

Local clock offset: -0.763 ms

Remote clock offset: 5.678 ms

Below is generated by plot.py at 2018-10-26 09:14:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 297.95 Mbit/s

95th percentile per-packet one-way delay: 0.932 ms

Loss rate: 0.00%

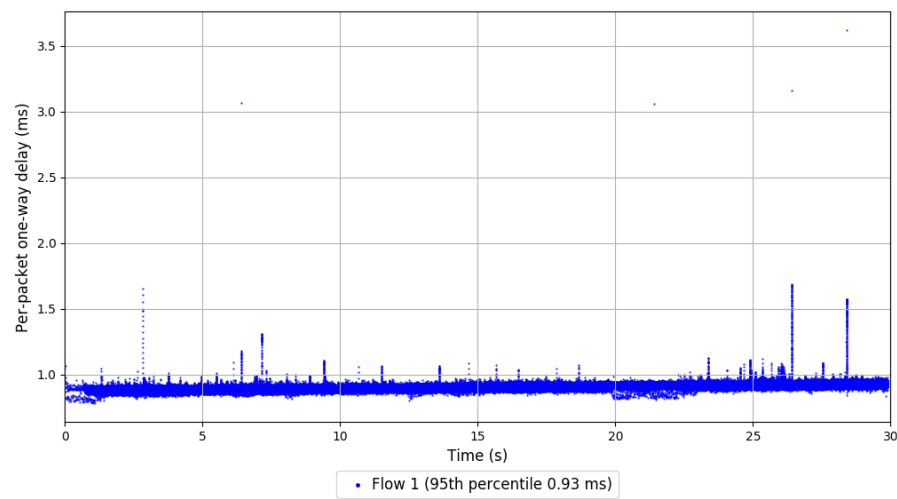
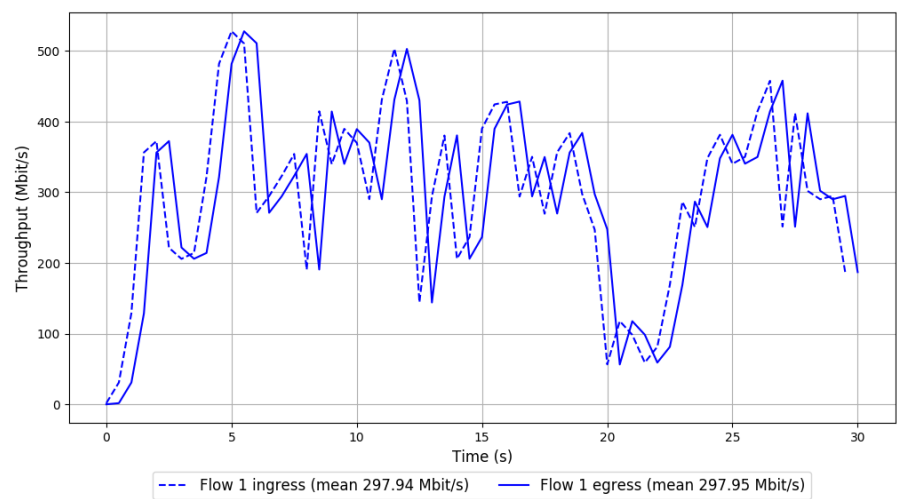
-- Flow 1:

Average throughput: 297.95 Mbit/s

95th percentile per-packet one-way delay: 0.932 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-10-26 07:00:57

End at: 2018-10-26 07:01:27

Local clock offset: -0.449 ms

Remote clock offset: 4.399 ms

Below is generated by plot.py at 2018-10-26 09:14:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 321.76 Mbit/s

95th percentile per-packet one-way delay: 1.077 ms

Loss rate: 0.01%

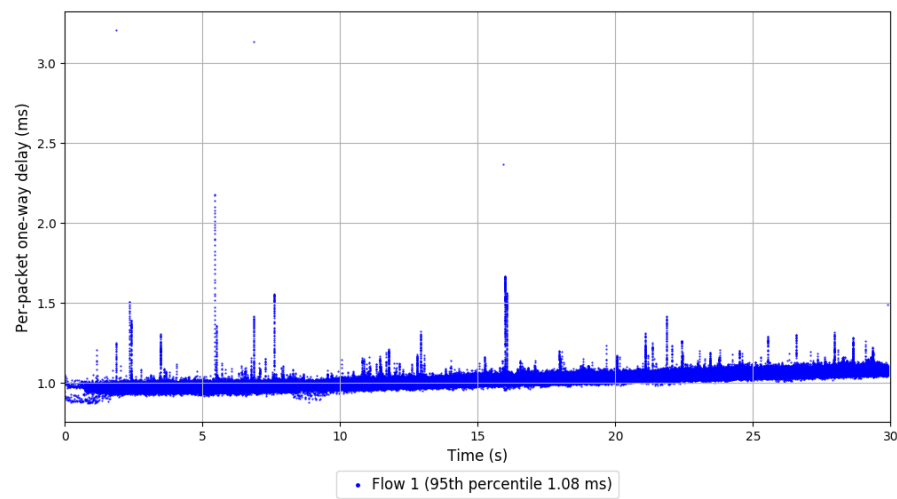
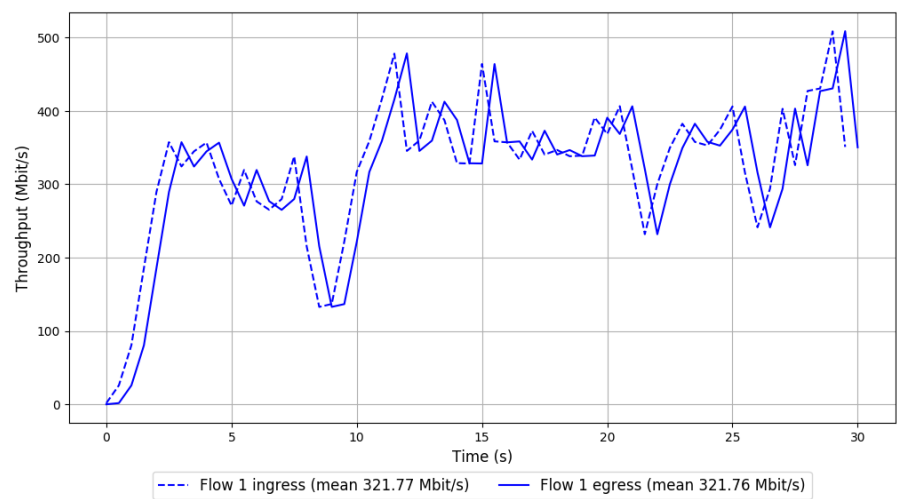
-- Flow 1:

Average throughput: 321.76 Mbit/s

95th percentile per-packet one-way delay: 1.077 ms

Loss rate: 0.01%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-10-26 07:28:00

End at: 2018-10-26 07:28:30

Local clock offset: -3.699 ms

Remote clock offset: 3.878 ms

Below is generated by plot.py at 2018-10-26 09:15:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 355.87 Mbit/s

95th percentile per-packet one-way delay: 1.075 ms

Loss rate: 0.01%

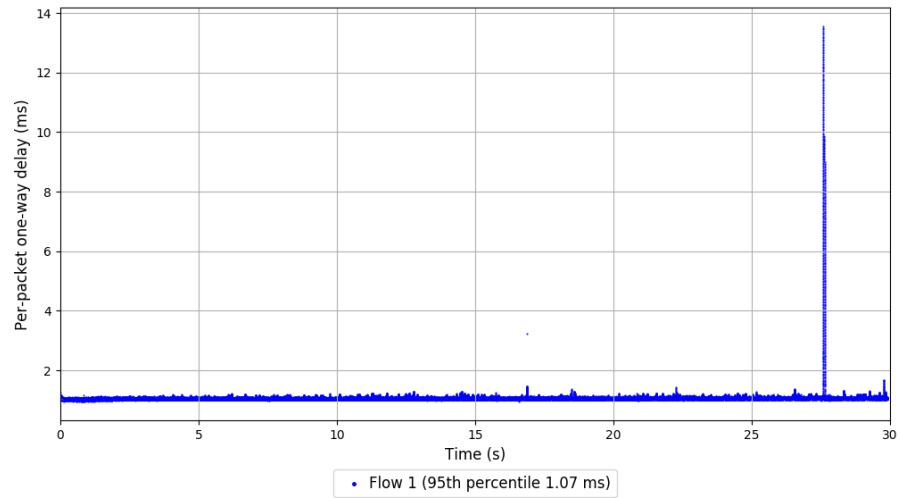
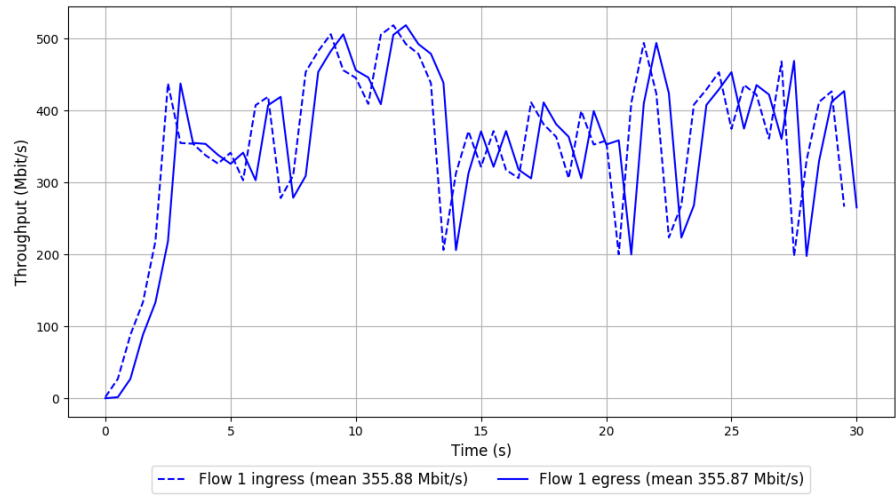
-- Flow 1:

Average throughput: 355.87 Mbit/s

95th percentile per-packet one-way delay: 1.075 ms

Loss rate: 0.01%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-10-26 07:54:50

End at: 2018-10-26 07:55:20

Local clock offset: -3.305 ms

Remote clock offset: 3.837 ms

Below is generated by plot.py at 2018-10-26 09:15:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 335.03 Mbit/s

95th percentile per-packet one-way delay: 0.973 ms

Loss rate: 0.01%

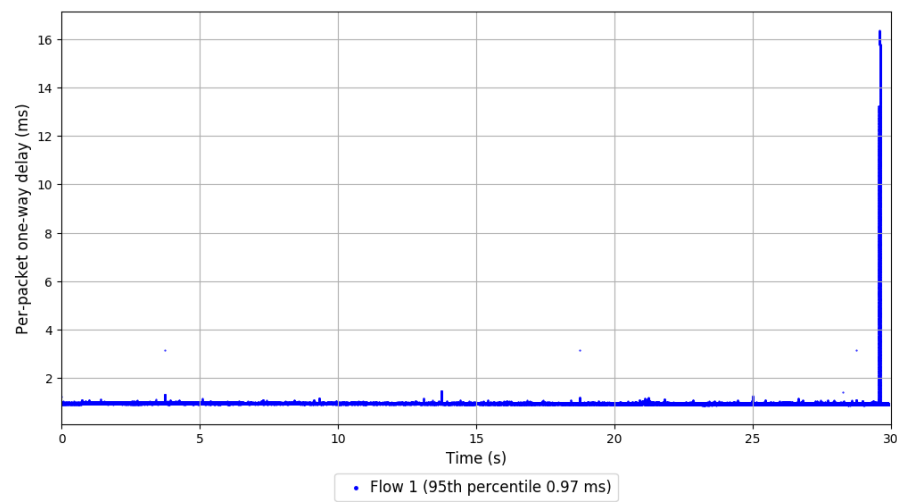
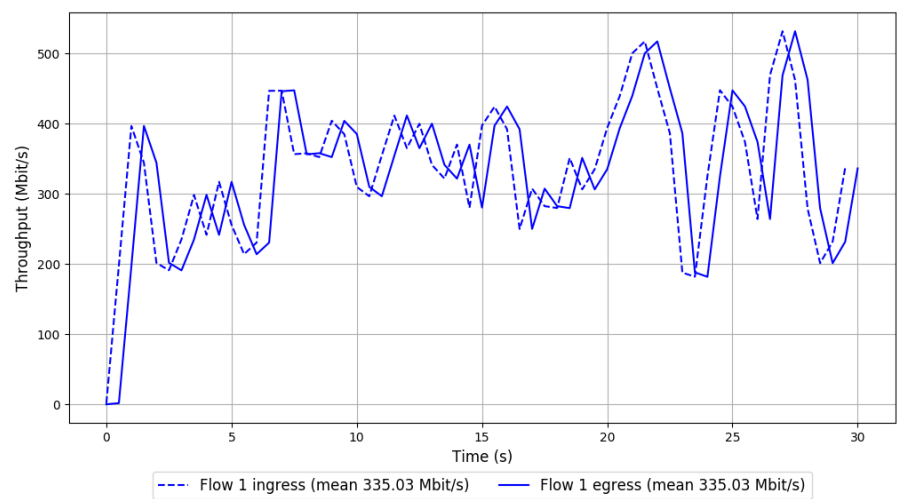
-- Flow 1:

Average throughput: 335.03 Mbit/s

95th percentile per-packet one-way delay: 0.973 ms

Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-10-26 08:21:28

End at: 2018-10-26 08:21:58

Local clock offset: 0.274 ms

Remote clock offset: 3.294 ms

Below is generated by plot.py at 2018-10-26 09:15:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 352.30 Mbit/s

95th percentile per-packet one-way delay: 0.921 ms

Loss rate: 0.01%

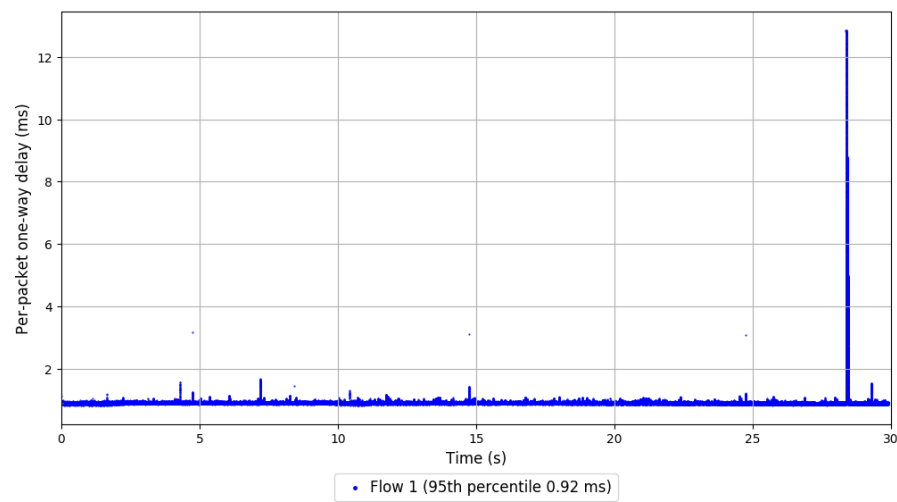
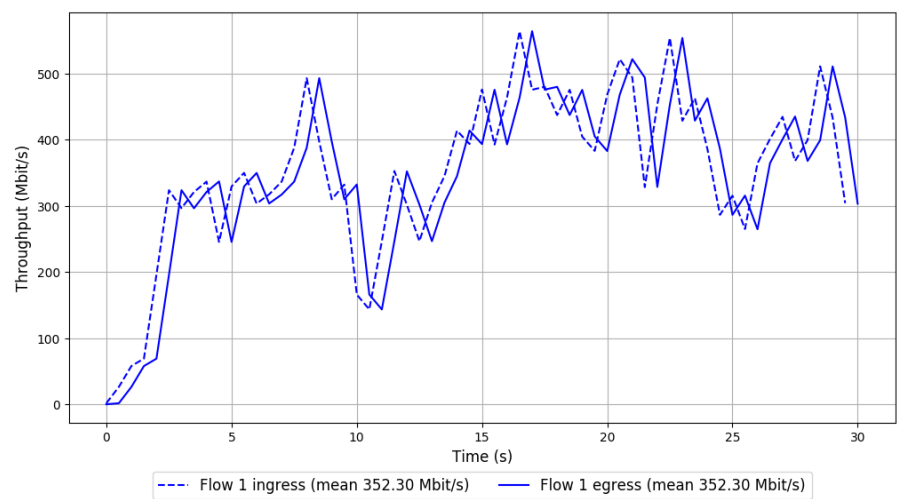
-- Flow 1:

Average throughput: 352.30 Mbit/s

95th percentile per-packet one-way delay: 0.921 ms

Loss rate: 0.01%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-10-26 06:26:03

End at: 2018-10-26 06:26:33

Local clock offset: -0.714 ms

Remote clock offset: 3.706 ms

Below is generated by plot.py at 2018-10-26 09:15:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.08 Mbit/s

95th percentile per-packet one-way delay: 1.271 ms

Loss rate: 0.00%

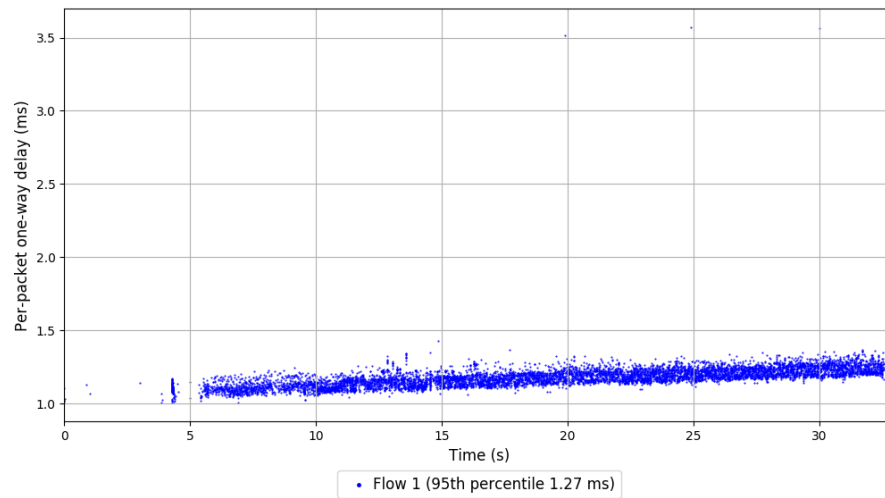
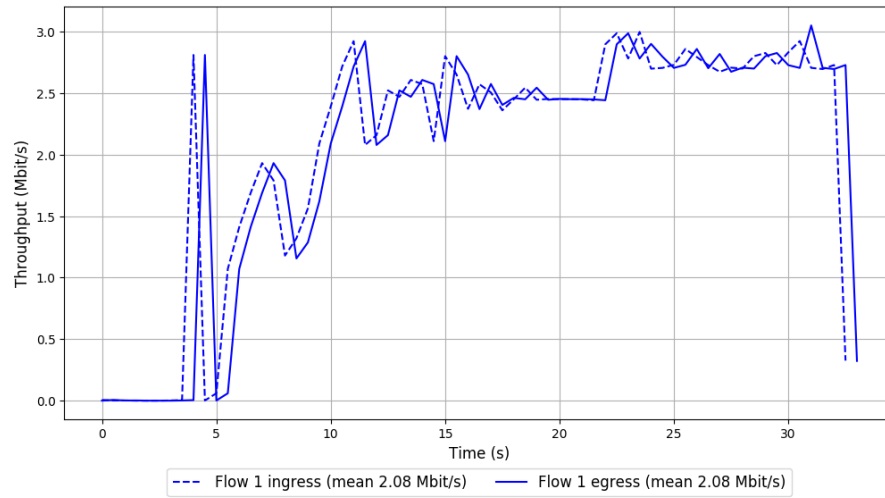
-- Flow 1:

Average throughput: 2.08 Mbit/s

95th percentile per-packet one-way delay: 1.271 ms

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-10-26 06:52:40

End at: 2018-10-26 06:53:10

Local clock offset: -0.344 ms

Remote clock offset: 4.871 ms

Below is generated by plot.py at 2018-10-26 09:15:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.09 Mbit/s

95th percentile per-packet one-way delay: 1.022 ms

Loss rate: 0.00%

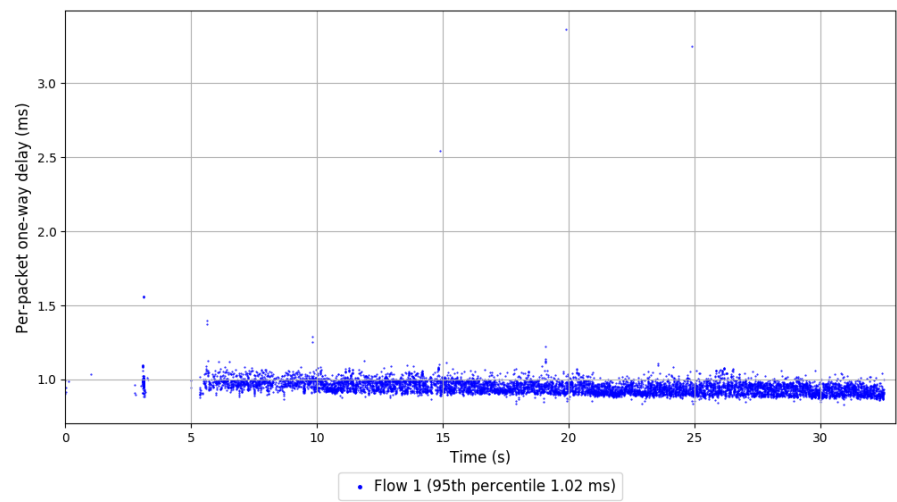
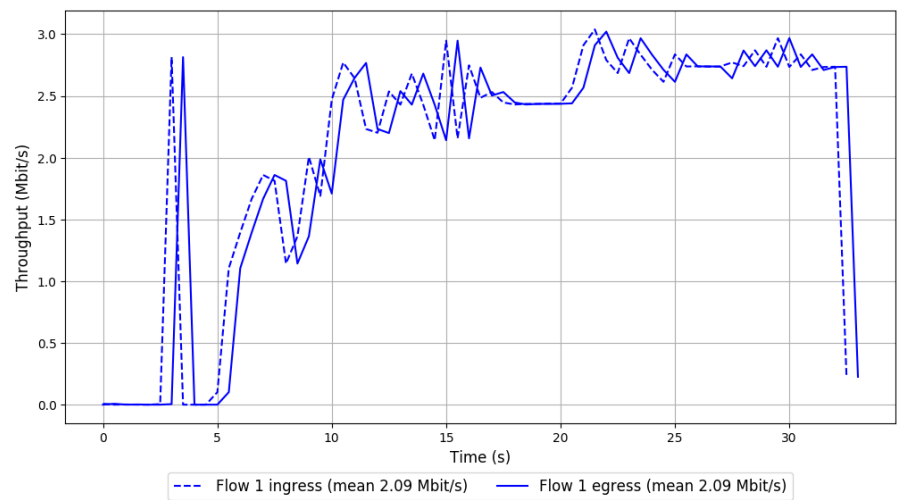
-- Flow 1:

Average throughput: 2.09 Mbit/s

95th percentile per-packet one-way delay: 1.022 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-10-26 07:19:28

End at: 2018-10-26 07:19:58

Local clock offset: -3.118 ms

Remote clock offset: 4.701 ms

Below is generated by plot.py at 2018-10-26 09:15:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 1.089 ms

Loss rate: 0.00%

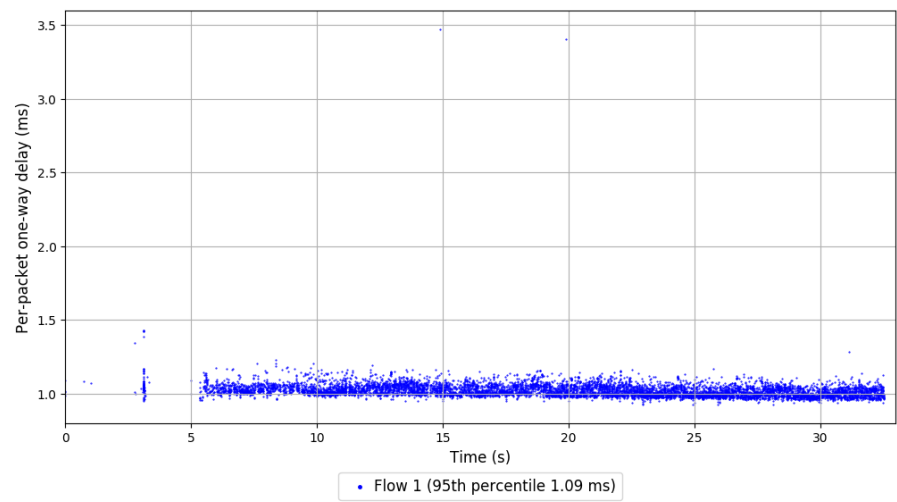
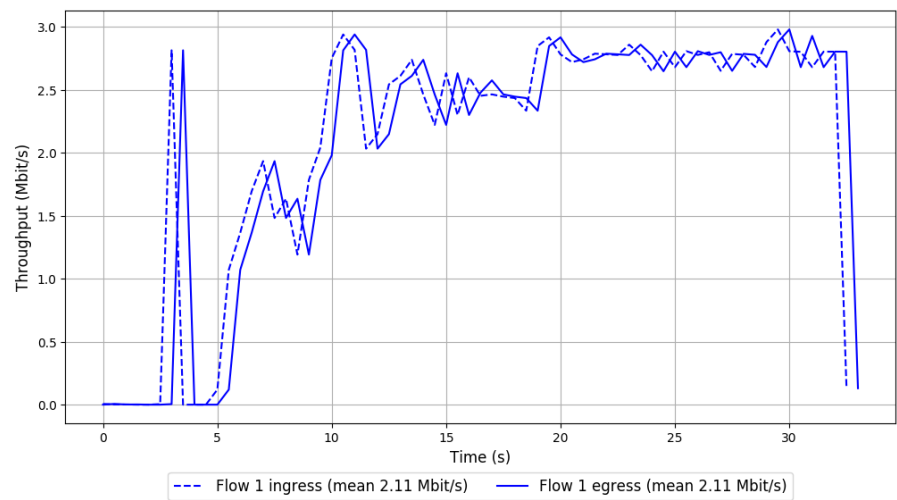
-- Flow 1:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 1.089 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-10-26 07:46:17

End at: 2018-10-26 07:46:47

Local clock offset: -3.215 ms

Remote clock offset: 3.97 ms

Below is generated by plot.py at 2018-10-26 09:15:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 1.009 ms

Loss rate: 0.00%

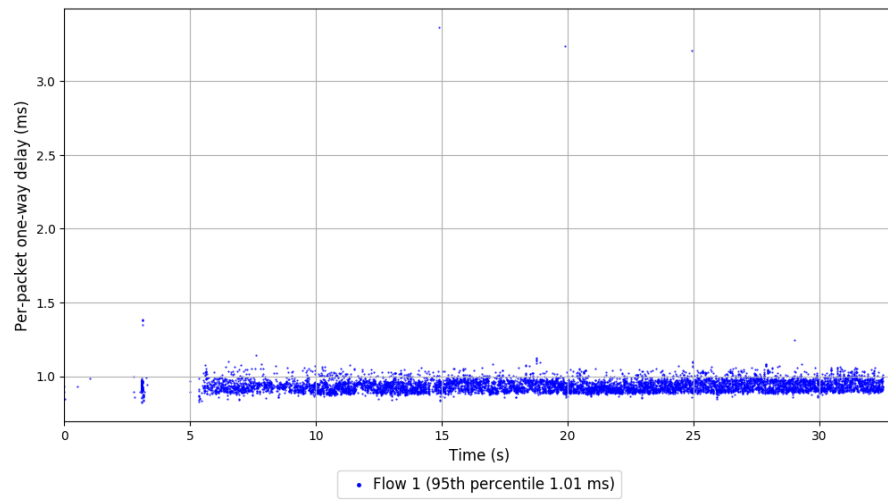
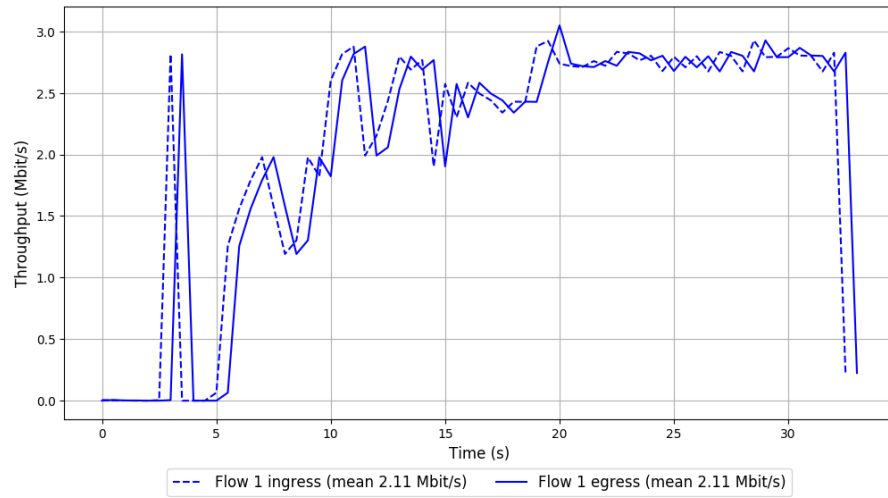
-- Flow 1:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 1.009 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-26 08:13:03

End at: 2018-10-26 08:13:33

Local clock offset: -0.526 ms

Remote clock offset: 3.197 ms

Below is generated by plot.py at 2018-10-26 09:15:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.10 Mbit/s

95th percentile per-packet one-way delay: 0.960 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.10 Mbit/s

95th percentile per-packet one-way delay: 0.960 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

