

Pantheon Report

Generated at 2018-10-10 03:30:59 (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:

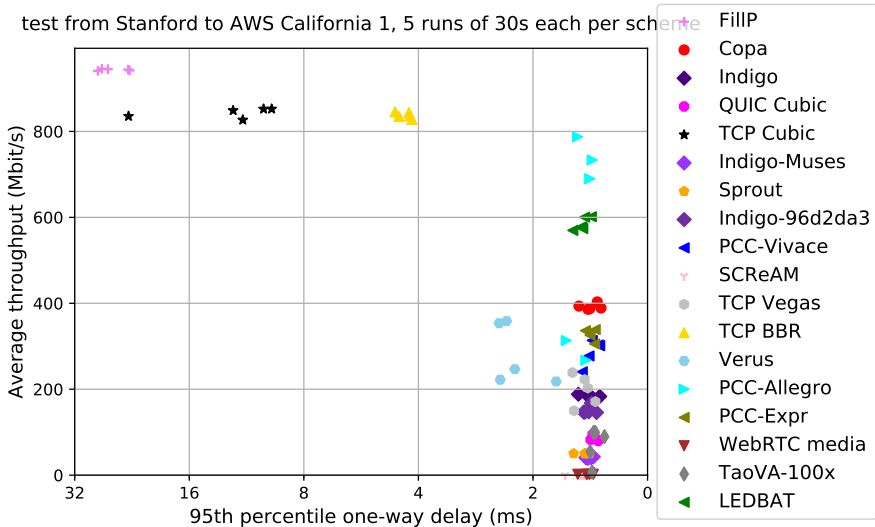
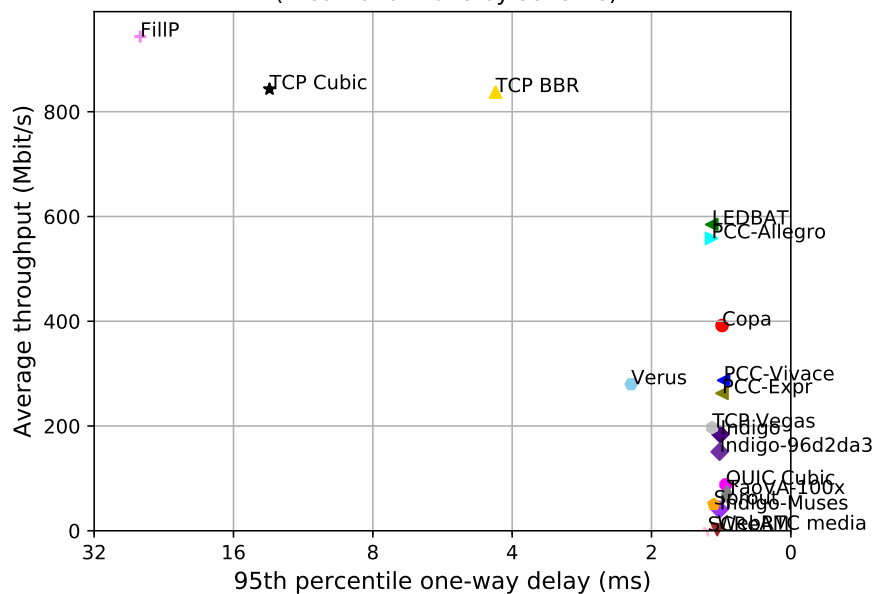
```
Linux 4.15.0-1023-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

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	837.53	4.34	0.02
Copa	5	391.85	0.99	0.01
TCP Cubic	5	843.08	13.38	0.03
FillP	5	943.51	25.45	0.55
Indigo	5	184.04	1.01	0.01
Indigo-96d2da3	5	150.76	1.02	0.01
LEDBAT	5	584.68	1.13	0.01
Indigo-Muses	5	40.61	1.02	0.01
PCC-Allegro	5	558.24	1.14	0.01
PCC-Expr	5	262.48	0.99	0.01
QUIC Cubic	5	88.14	0.93	0.01
SCReAM	5	0.22	1.19	0.03
Sprout	5	50.26	1.11	0.00
TaoVA-100x	5	70.07	0.92	0.01
TCP Vegas	5	196.99	1.13	0.00
Verus	5	279.79	2.21	0.01
PCC-Vivace	5	287.18	0.96	0.01
WebRTC media	5	2.10	1.06	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-10-10 00:29:15

End at: 2018-10-10 00:29:45

Local clock offset: 0.875 ms

Remote clock offset: 4.684 ms

Below is generated by plot.py at 2018-10-10 02:52:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 843.81 Mbit/s

95th percentile per-packet one-way delay: 4.236 ms

Loss rate: 0.02%

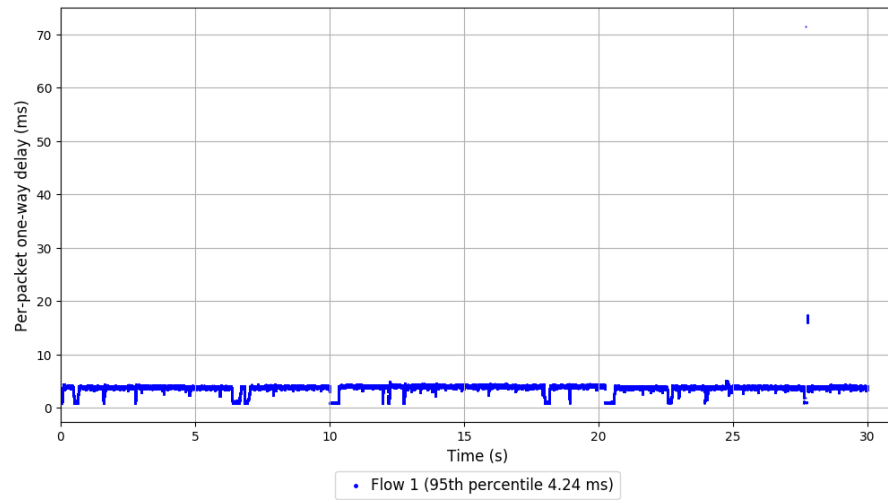
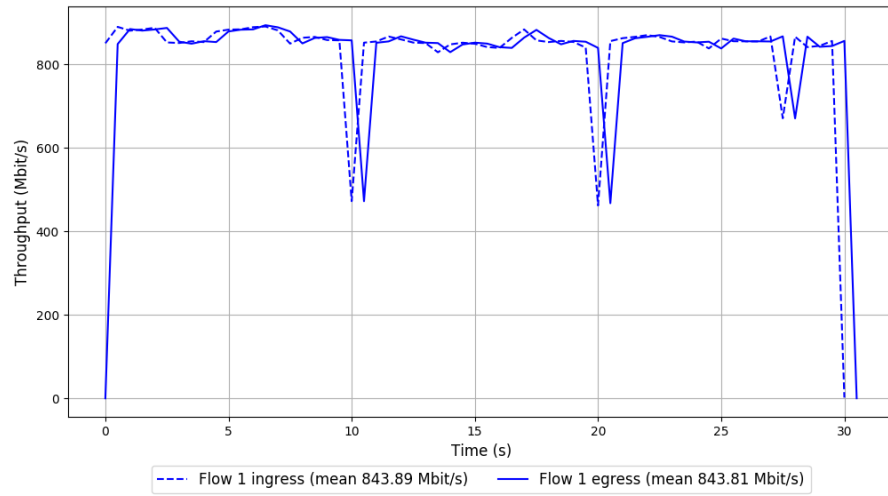
-- Flow 1:

Average throughput: 843.81 Mbit/s

95th percentile per-packet one-way delay: 4.236 ms

Loss rate: 0.02%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-10-10 00:55:59

End at: 2018-10-10 00:56:29

Local clock offset: 0.824 ms

Remote clock offset: 1.267 ms

Below is generated by plot.py at 2018-10-10 02:52:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 835.98 Mbit/s

95th percentile per-packet one-way delay: 4.218 ms

Loss rate: 0.02%

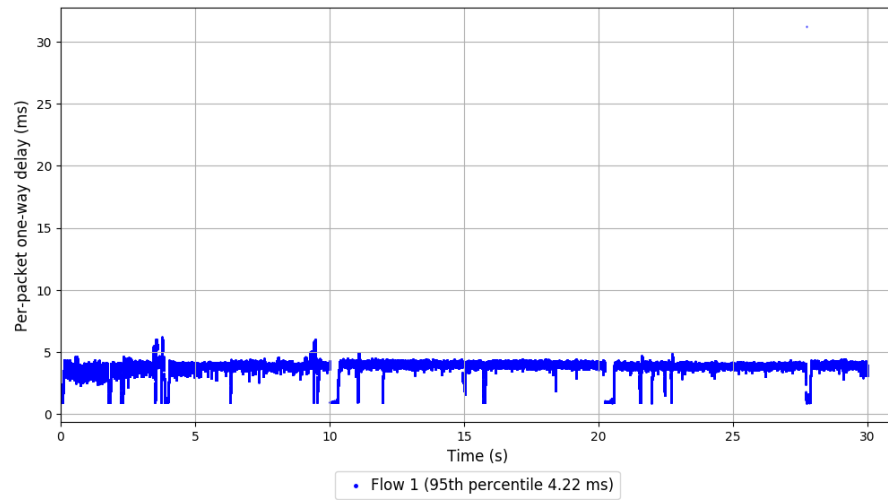
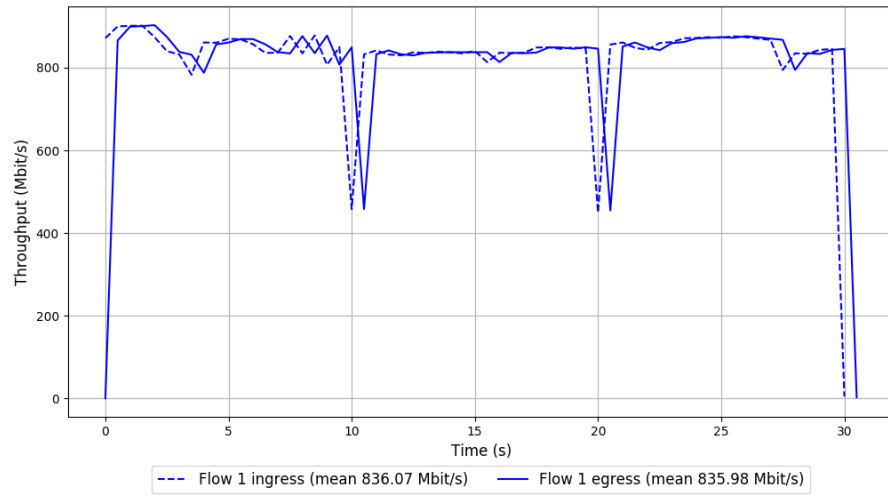
-- Flow 1:

Average throughput: 835.98 Mbit/s

95th percentile per-packet one-way delay: 4.218 ms

Loss rate: 0.02%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-10-10 01:23:01

End at: 2018-10-10 01:23:31

Local clock offset: 0.499 ms

Remote clock offset: -1.754 ms

Below is generated by plot.py at 2018-10-10 02:52:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 827.80 Mbit/s

95th percentile per-packet one-way delay: 4.159 ms

Loss rate: 0.02%

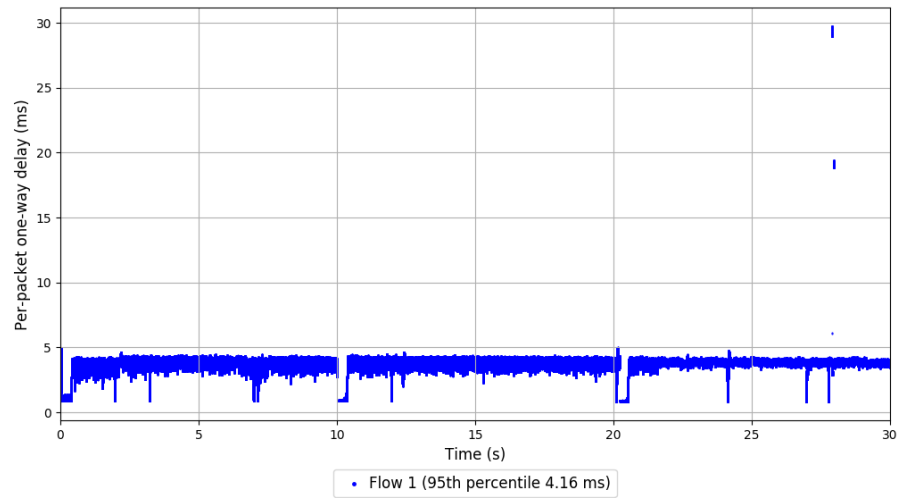
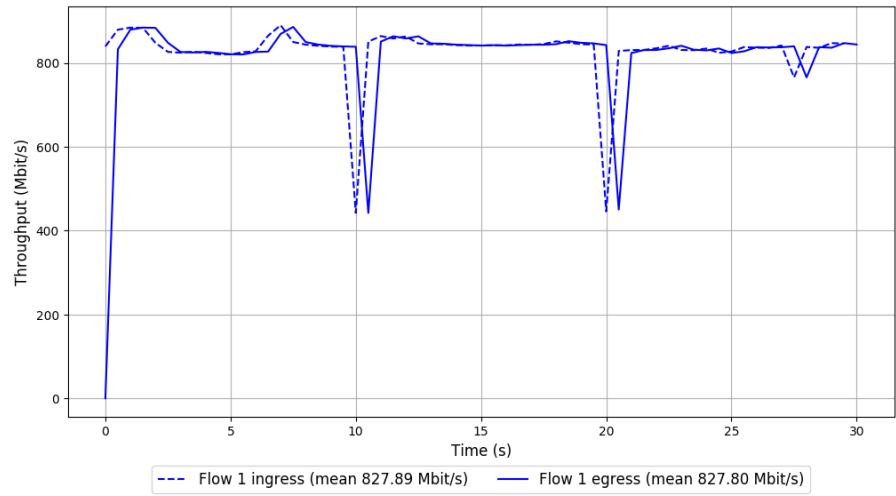
-- Flow 1:

Average throughput: 827.80 Mbit/s

95th percentile per-packet one-way delay: 4.159 ms

Loss rate: 0.02%

Run 3: Report of TCP BBR — Data Link

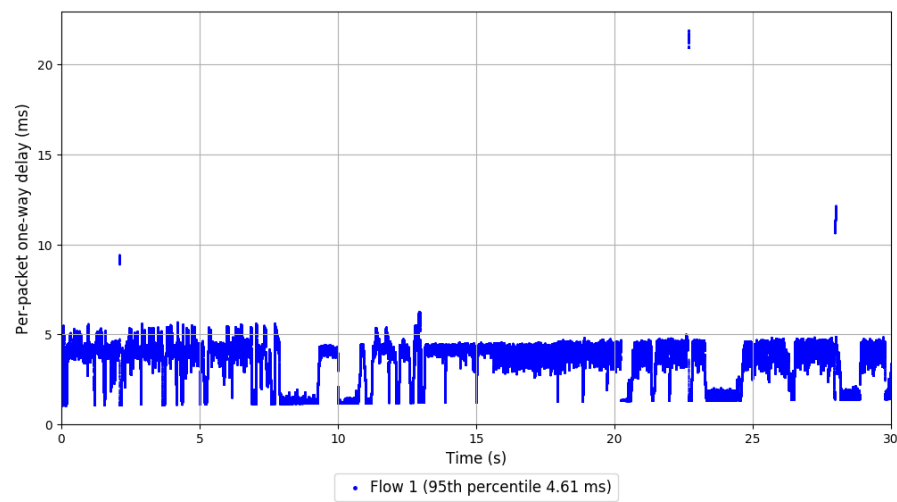
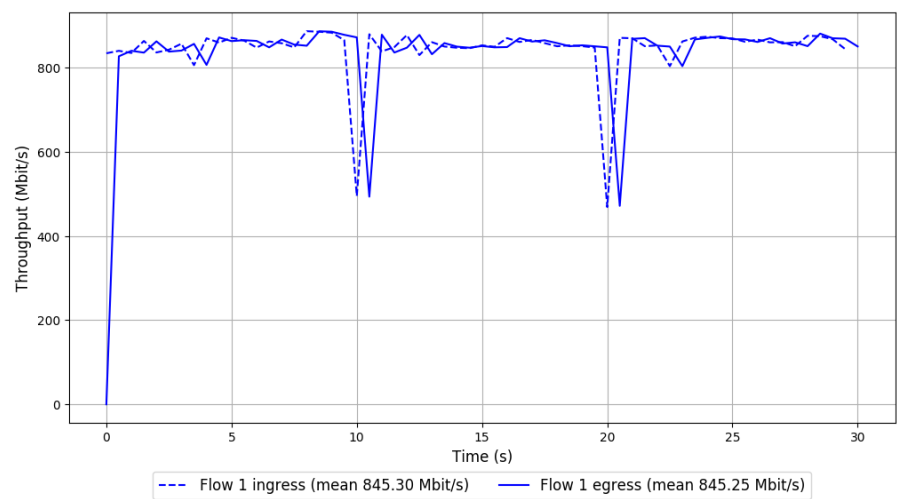


Run 4: Statistics of TCP BBR

Start at: 2018-10-10 01:49:44
End at: 2018-10-10 01:50:14
Local clock offset: 0.324 ms
Remote clock offset: -1.919 ms

Below is generated by plot.py at 2018-10-10 02:52:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 845.25 Mbit/s
95th percentile per-packet one-way delay: 4.607 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 845.25 Mbit/s
95th percentile per-packet one-way delay: 4.607 ms
Loss rate: 0.00%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-10-10 02:16:32

End at: 2018-10-10 02:17:02

Local clock offset: 0.35 ms

Remote clock offset: 6.251 ms

Below is generated by plot.py at 2018-10-10 02:52:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 834.80 Mbit/s

95th percentile per-packet one-way delay: 4.500 ms

Loss rate: 0.02%

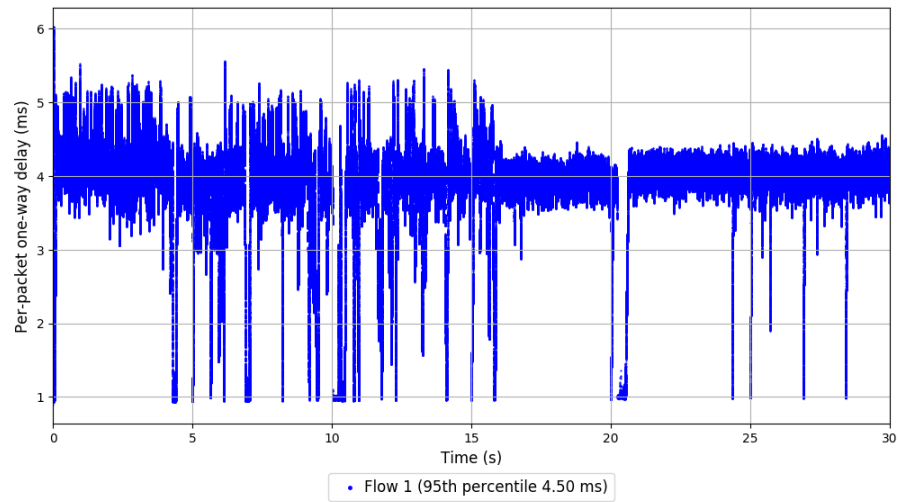
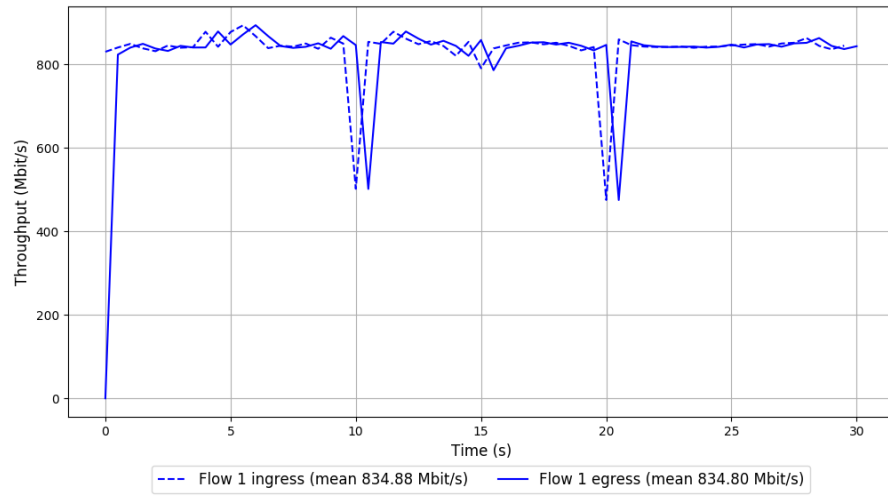
-- Flow 1:

Average throughput: 834.80 Mbit/s

95th percentile per-packet one-way delay: 4.500 ms

Loss rate: 0.02%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-10-10 00:40:57

End at: 2018-10-10 00:41:27

Local clock offset: 0.741 ms

Remote clock offset: 4.696 ms

Below is generated by plot.py at 2018-10-10 02:52:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 388.99 Mbit/s

95th percentile per-packet one-way delay: 0.813 ms

Loss rate: 0.01%

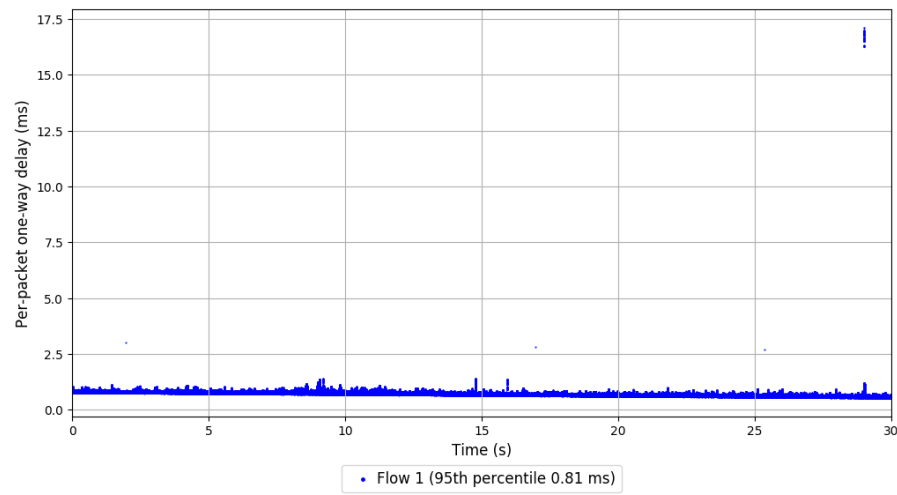
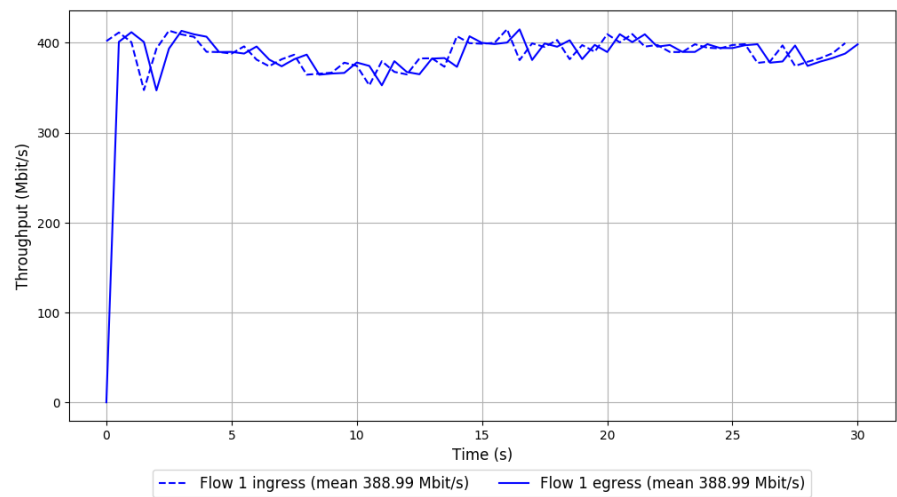
-- Flow 1:

Average throughput: 388.99 Mbit/s

95th percentile per-packet one-way delay: 0.813 ms

Loss rate: 0.01%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-10-10 01:07:53

End at: 2018-10-10 01:08:23

Local clock offset: 0.533 ms

Remote clock offset: 0.847 ms

Below is generated by plot.py at 2018-10-10 02:52:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 386.13 Mbit/s

95th percentile per-packet one-way delay: 1.040 ms

Loss rate: 0.01%

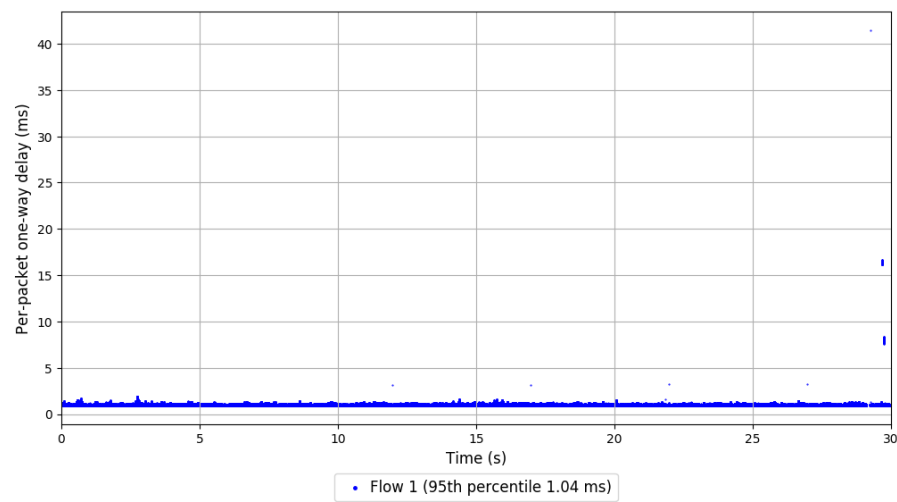
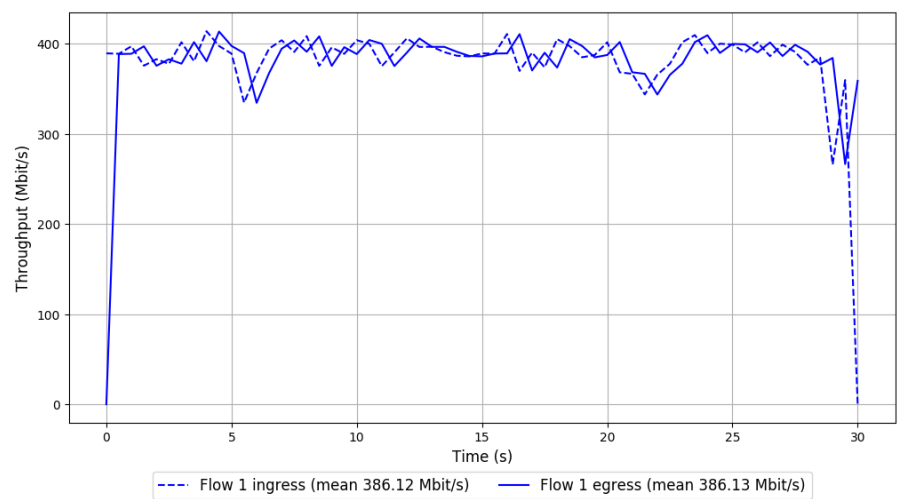
-- Flow 1:

Average throughput: 386.13 Mbit/s

95th percentile per-packet one-way delay: 1.040 ms

Loss rate: 0.01%

Run 2: Report of Copa — Data Link

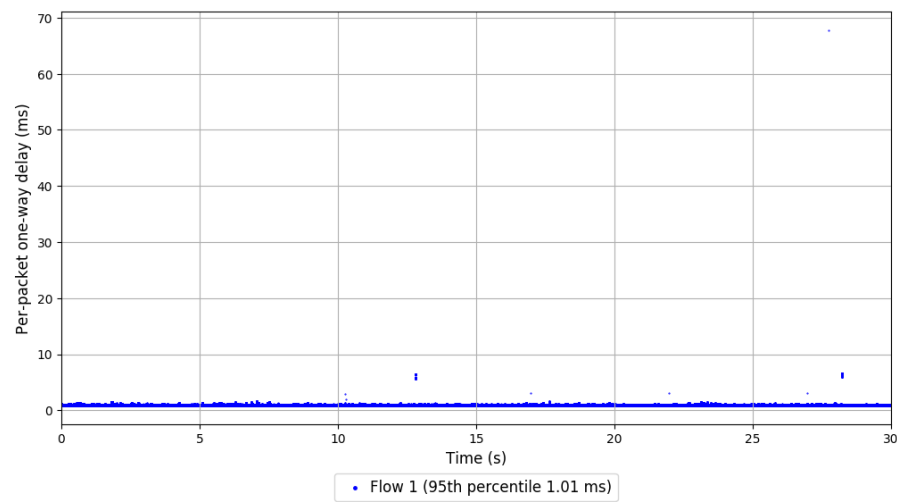
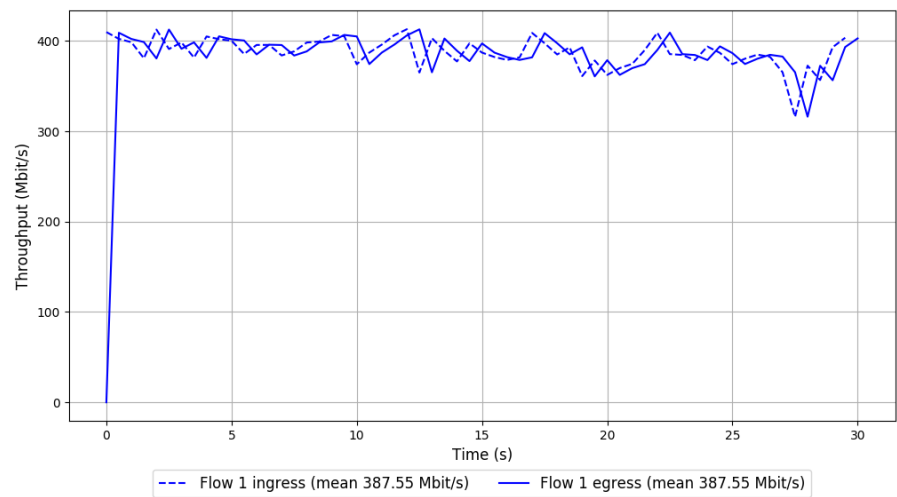


Run 3: Statistics of Copa

Start at: 2018-10-10 01:34:56
End at: 2018-10-10 01:35:26
Local clock offset: 0.378 ms
Remote clock offset: -3.043 ms

Below is generated by plot.py at 2018-10-10 02:52:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 387.55 Mbit/s
95th percentile per-packet one-way delay: 1.008 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 387.55 Mbit/s
95th percentile per-packet one-way delay: 1.008 ms
Loss rate: 0.01%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

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

End at: 2018-10-10 02:01:56

Local clock offset: 0.342 ms

Remote clock offset: 3.354 ms

Below is generated by plot.py at 2018-10-10 03:00:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 393.46 Mbit/s

95th percentile per-packet one-way delay: 1.197 ms

Loss rate: 0.01%

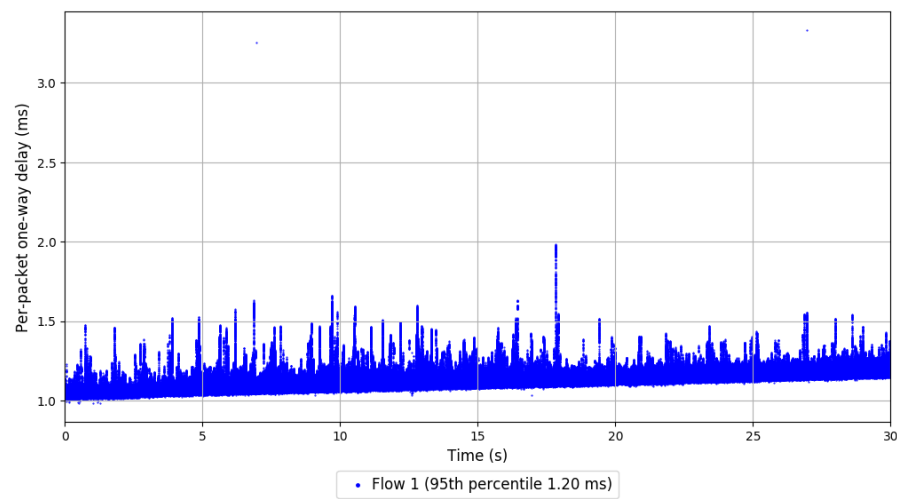
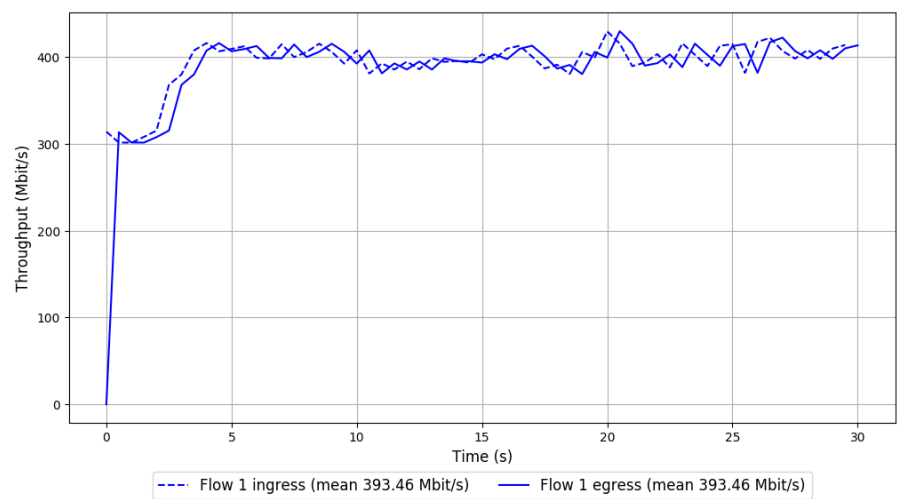
-- Flow 1:

Average throughput: 393.46 Mbit/s

95th percentile per-packet one-way delay: 1.197 ms

Loss rate: 0.01%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

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

End at: 2018-10-10 02:28:56

Local clock offset: 0.387 ms

Remote clock offset: 3.42 ms

Below is generated by plot.py at 2018-10-10 03:00:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 403.14 Mbit/s

95th percentile per-packet one-way delay: 0.878 ms

Loss rate: 0.01%

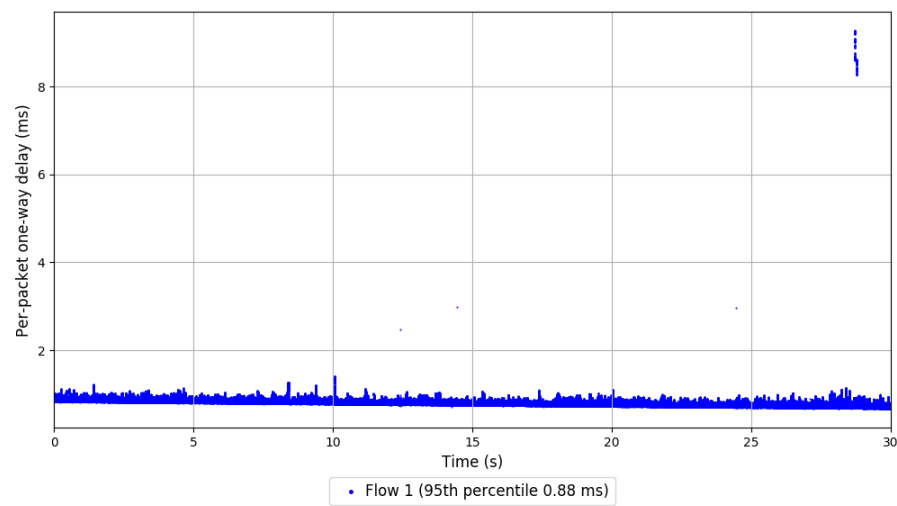
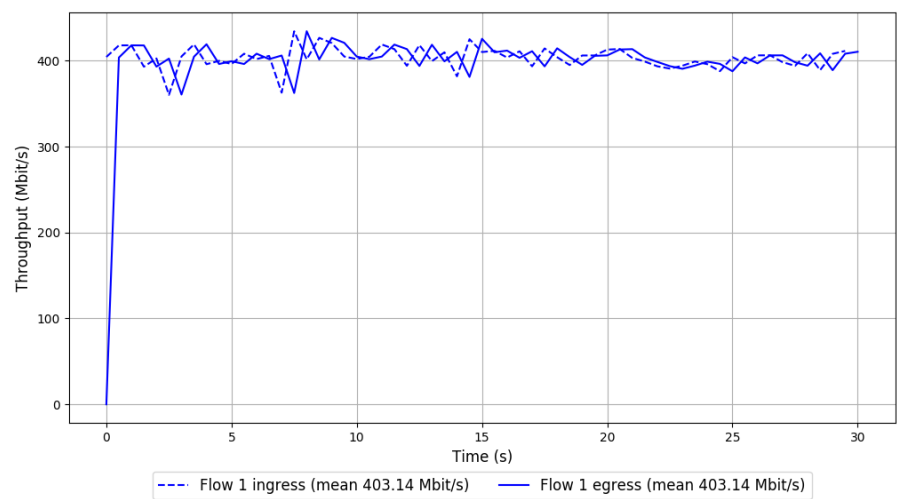
-- Flow 1:

Average throughput: 403.14 Mbit/s

95th percentile per-packet one-way delay: 0.878 ms

Loss rate: 0.01%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-10-10 00:23:06

End at: 2018-10-10 00:23:36

Local clock offset: 1.003 ms

Remote clock offset: 4.146 ms

Below is generated by plot.py at 2018-10-10 03:00:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 835.33 Mbit/s

95th percentile per-packet one-way delay: 23.107 ms

Loss rate: 0.03%

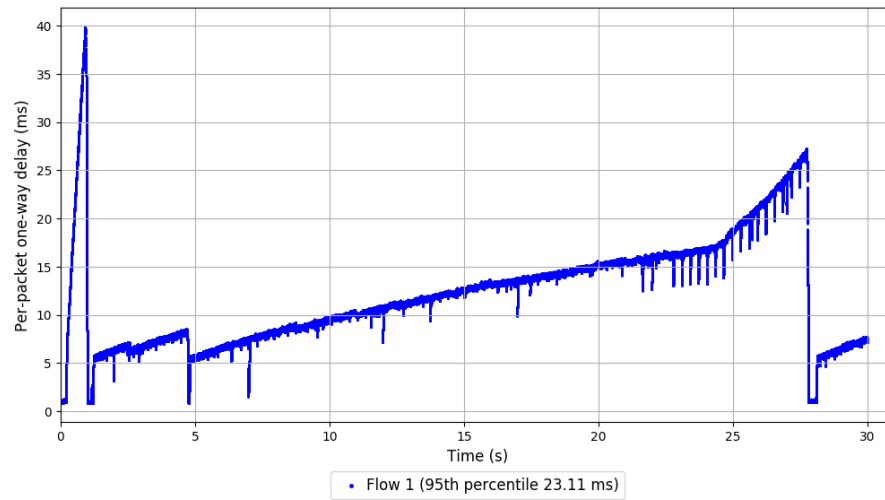
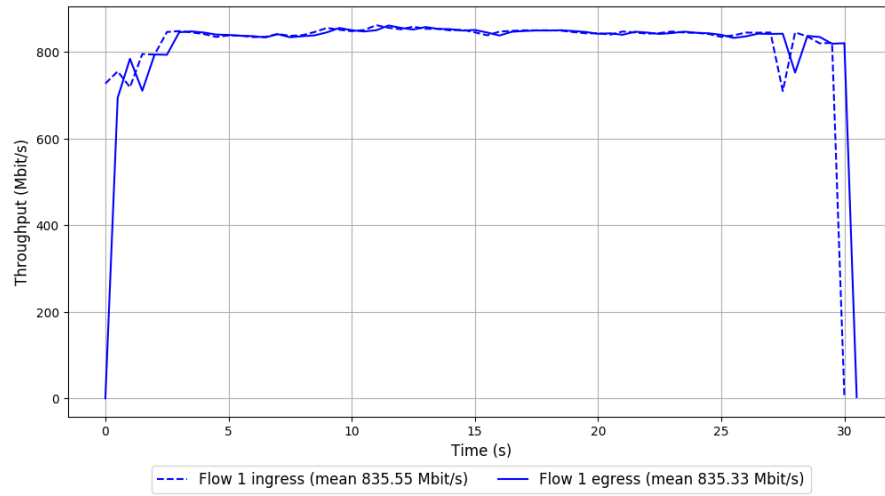
-- Flow 1:

Average throughput: 835.33 Mbit/s

95th percentile per-packet one-way delay: 23.107 ms

Loss rate: 0.03%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

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

End at: 2018-10-10 00:50:19

Local clock offset: 0.818 ms

Remote clock offset: 1.98 ms

Below is generated by plot.py at 2018-10-10 03:01:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 848.83 Mbit/s

95th percentile per-packet one-way delay: 12.271 ms

Loss rate: 0.03%

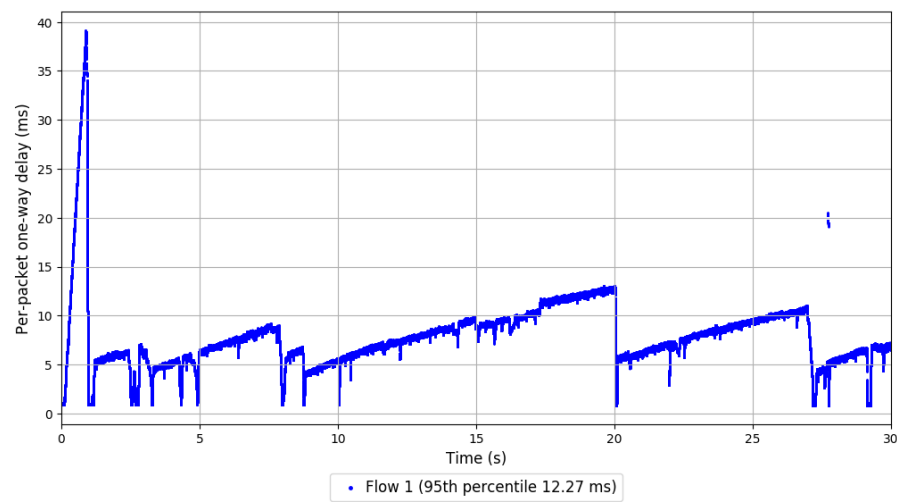
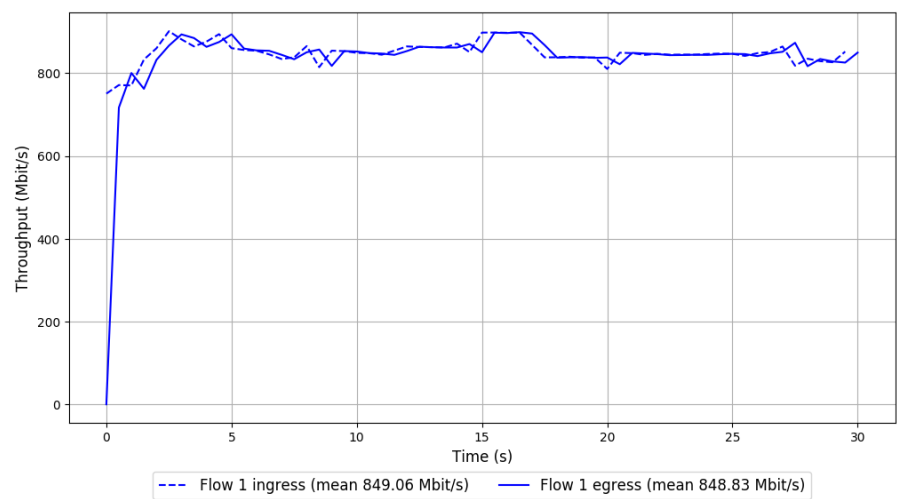
-- Flow 1:

Average throughput: 848.83 Mbit/s

95th percentile per-packet one-way delay: 12.271 ms

Loss rate: 0.03%

Run 2: Report of TCP Cubic — Data Link

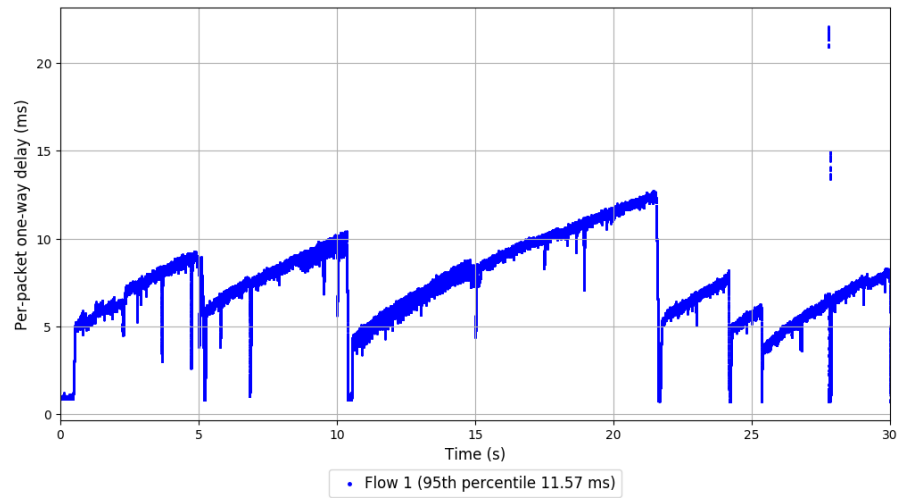
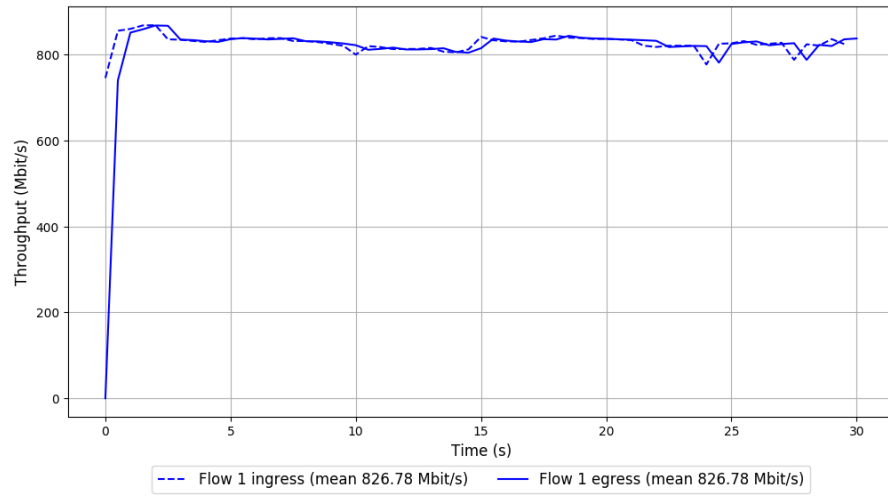


Run 3: Statistics of TCP Cubic

Start at: 2018-10-10 01:16:50
End at: 2018-10-10 01:17:21
Local clock offset: 0.501 ms
Remote clock offset: -0.344 ms

Below is generated by plot.py at 2018-10-10 03:01:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 826.78 Mbit/s
95th percentile per-packet one-way delay: 11.575 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 826.78 Mbit/s
95th percentile per-packet one-way delay: 11.575 ms
Loss rate: 0.00%

Run 3: Report of TCP Cubic — Data Link

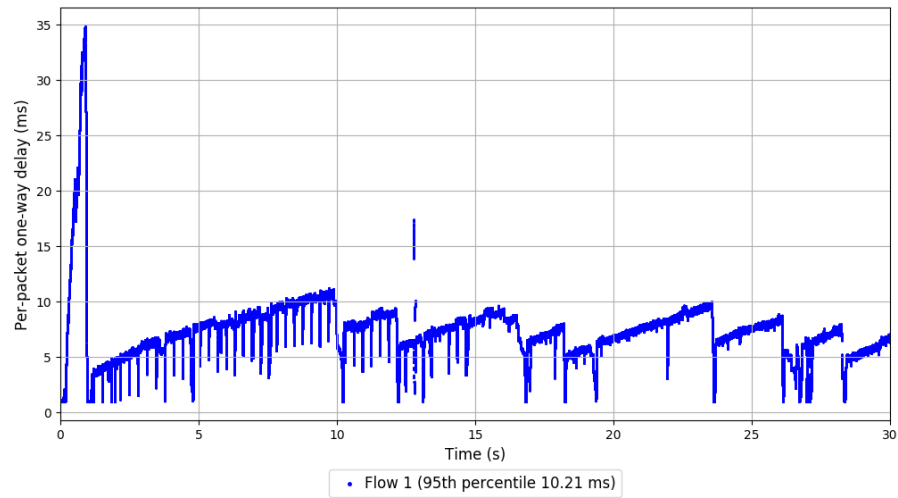
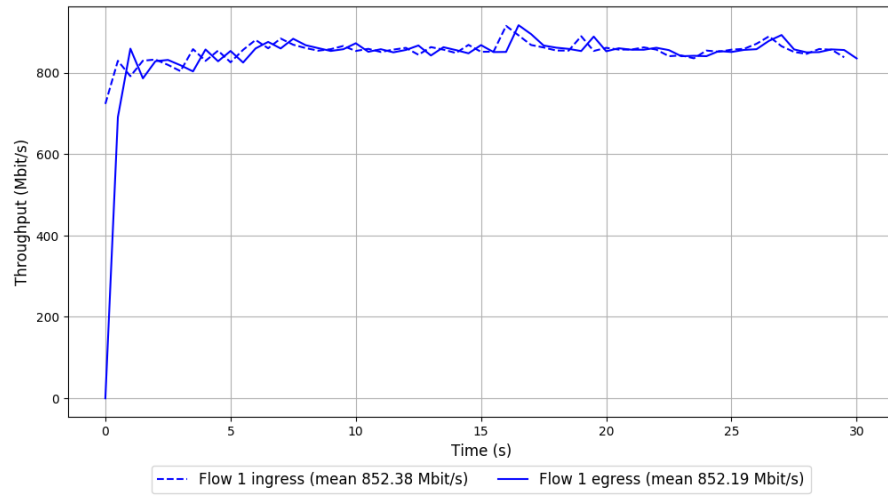


Run 4: Statistics of TCP Cubic

Start at: 2018-10-10 01:43:33
End at: 2018-10-10 01:44:03
Local clock offset: 0.334 ms
Remote clock offset: -3.576 ms

Below is generated by plot.py at 2018-10-10 03:01:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 852.19 Mbit/s
95th percentile per-packet one-way delay: 10.207 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 852.19 Mbit/s
95th percentile per-packet one-way delay: 10.207 ms
Loss rate: 0.03%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-10-10 02:10:22

End at: 2018-10-10 02:10:52

Local clock offset: 0.347 ms

Remote clock offset: 5.269 ms

Below is generated by plot.py at 2018-10-10 03:02:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 852.25 Mbit/s

95th percentile per-packet one-way delay: 9.720 ms

Loss rate: 0.04%

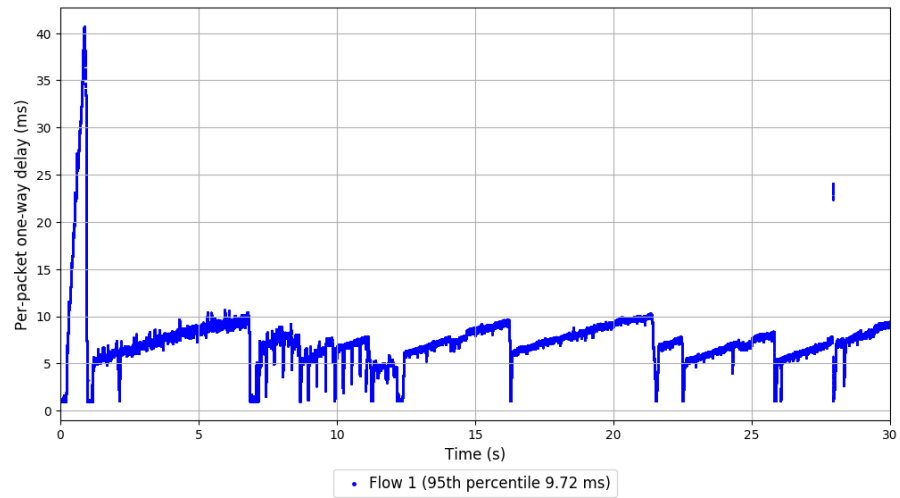
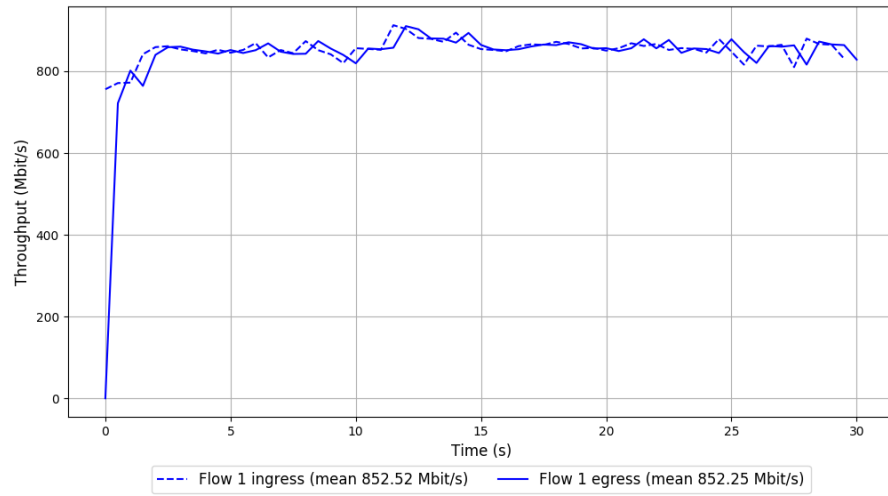
-- Flow 1:

Average throughput: 852.25 Mbit/s

95th percentile per-packet one-way delay: 9.720 ms

Loss rate: 0.04%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-10-10 00:27:32

End at: 2018-10-10 00:28:02

Local clock offset: 0.94 ms

Remote clock offset: 4.467 ms

Below is generated by plot.py at 2018-10-10 03:05:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 942.02 Mbit/s

95th percentile per-packet one-way delay: 22.945 ms

Loss rate: 0.45%

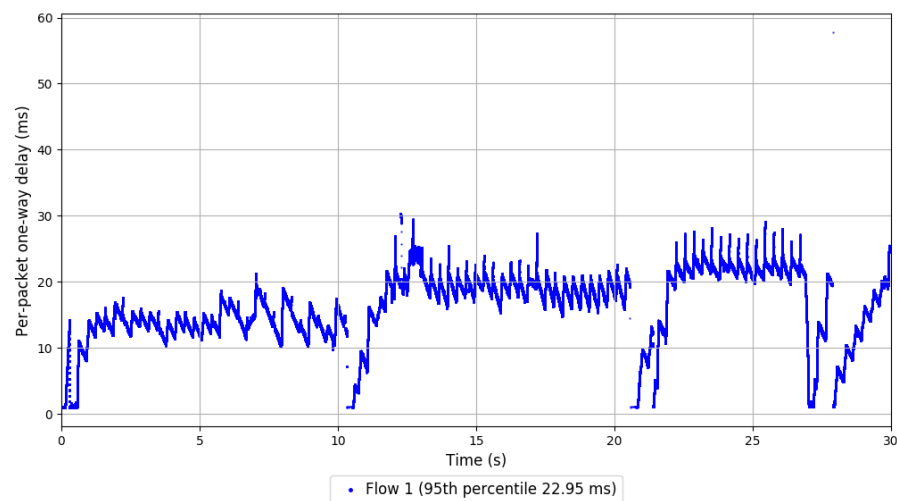
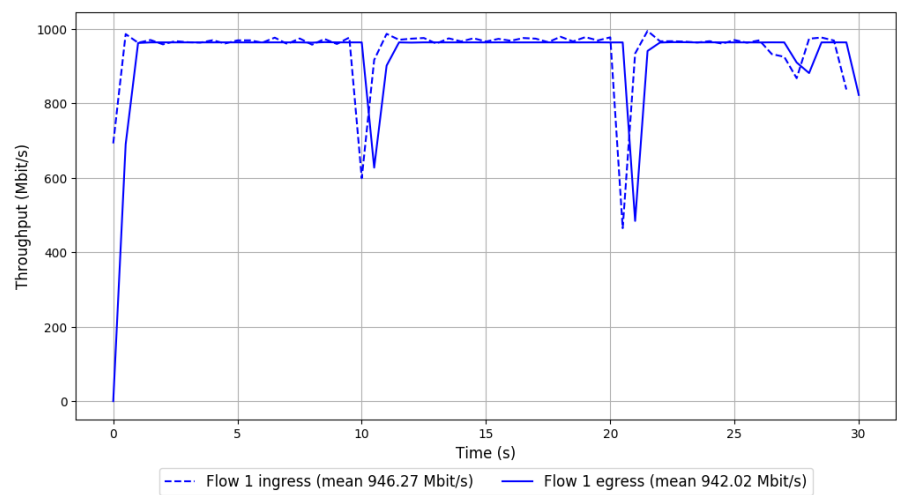
-- Flow 1:

Average throughput: 942.02 Mbit/s

95th percentile per-packet one-way delay: 22.945 ms

Loss rate: 0.45%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-10-10 00:54:15

End at: 2018-10-10 00:54:45

Local clock offset: 0.867 ms

Remote clock offset: 1.437 ms

Below is generated by plot.py at 2018-10-10 03:13:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 943.84 Mbit/s

95th percentile per-packet one-way delay: 23.155 ms

Loss rate: 0.67%

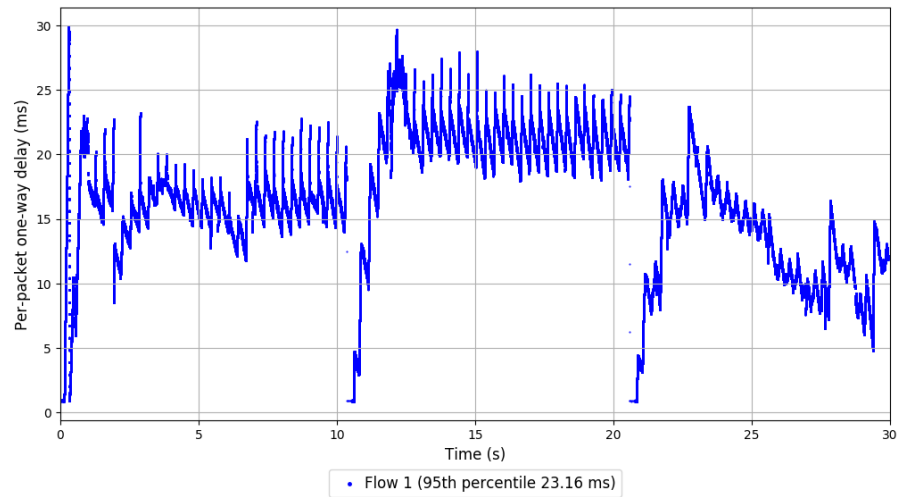
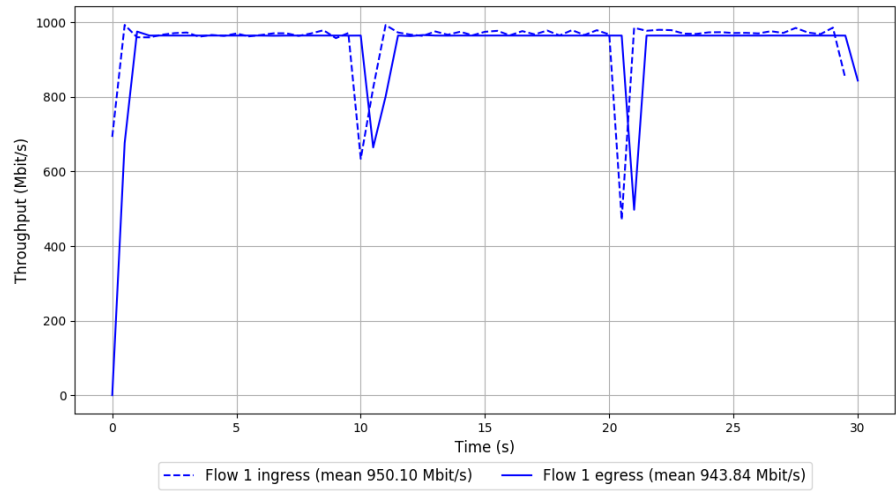
-- Flow 1:

Average throughput: 943.84 Mbit/s

95th percentile per-packet one-way delay: 23.155 ms

Loss rate: 0.67%

Run 2: Report of FillP — Data Link

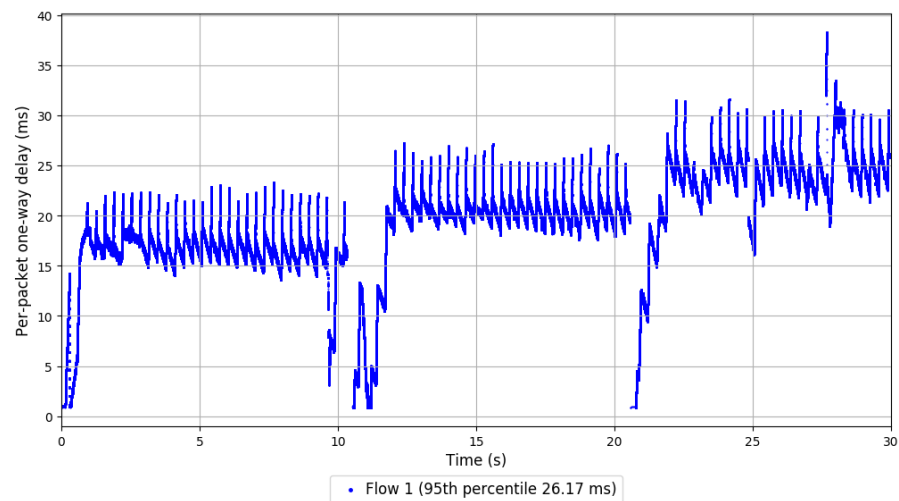
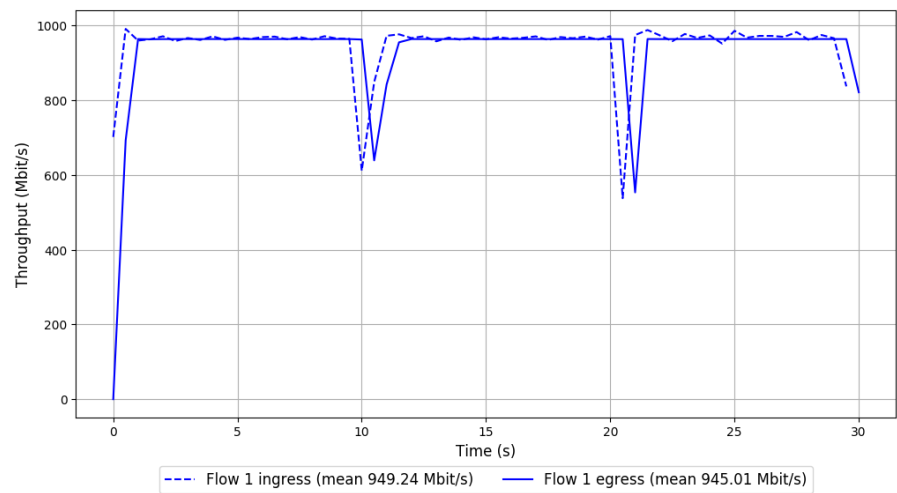


Run 3: Statistics of FillP

Start at: 2018-10-10 01:21:18
End at: 2018-10-10 01:21:48
Local clock offset: 0.492 ms
Remote clock offset: -1.501 ms

Below is generated by plot.py at 2018-10-10 03:13:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 945.01 Mbit/s
95th percentile per-packet one-way delay: 26.169 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 945.01 Mbit/s
95th percentile per-packet one-way delay: 26.169 ms
Loss rate: 0.45%

Run 3: Report of FillP — Data Link

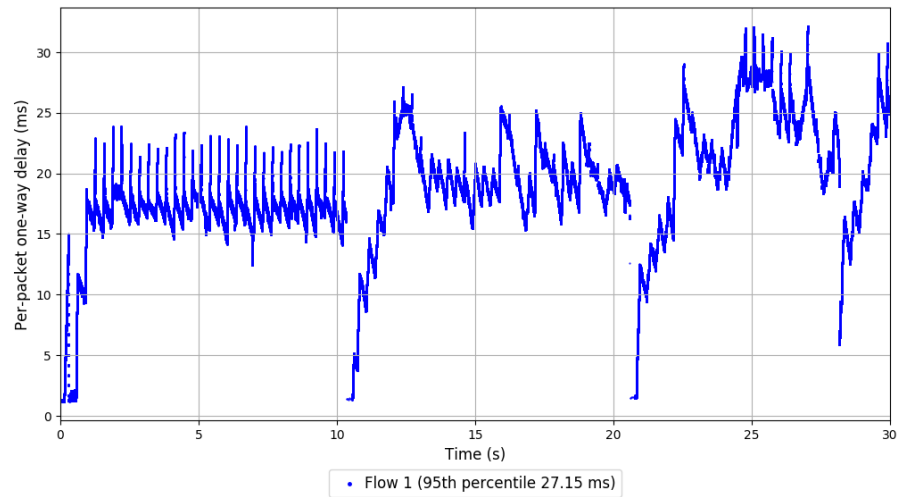
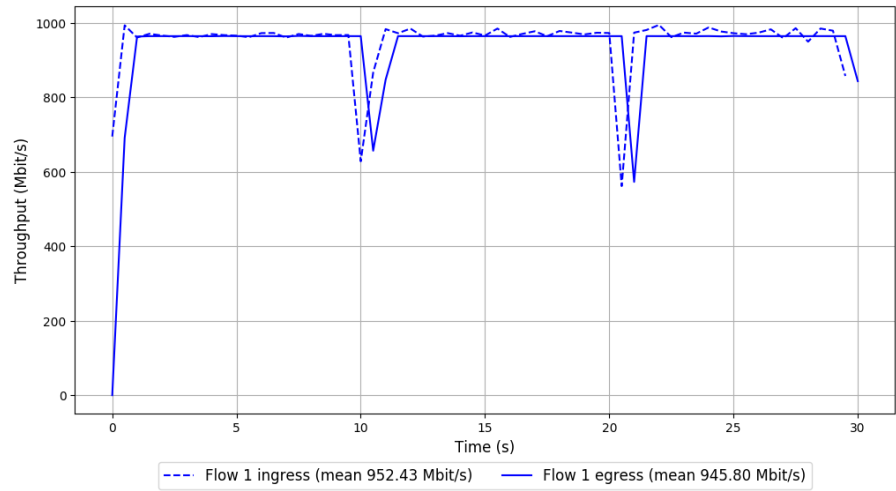


Run 4: Statistics of FillP

Start at: 2018-10-10 01:48:01
End at: 2018-10-10 01:48:31
Local clock offset: 0.324 ms
Remote clock offset: -3.453 ms

Below is generated by plot.py at 2018-10-10 03:14:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 945.80 Mbit/s
95th percentile per-packet one-way delay: 27.151 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 945.80 Mbit/s
95th percentile per-packet one-way delay: 27.151 ms
Loss rate: 0.70%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-10-10 02:14:49

End at: 2018-10-10 02:15:19

Local clock offset: 0.361 ms

Remote clock offset: 5.963 ms

Below is generated by plot.py at 2018-10-10 03:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 940.90 Mbit/s

95th percentile per-packet one-way delay: 27.819 ms

Loss rate: 0.49%

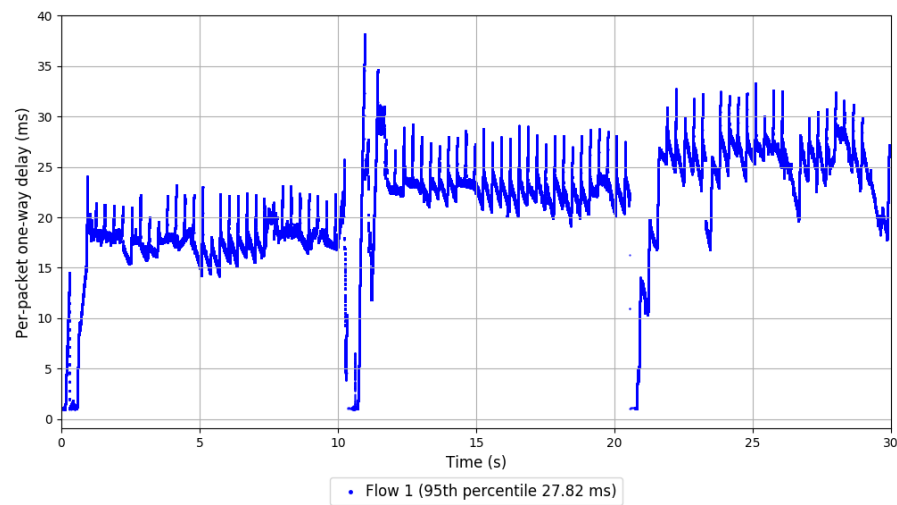
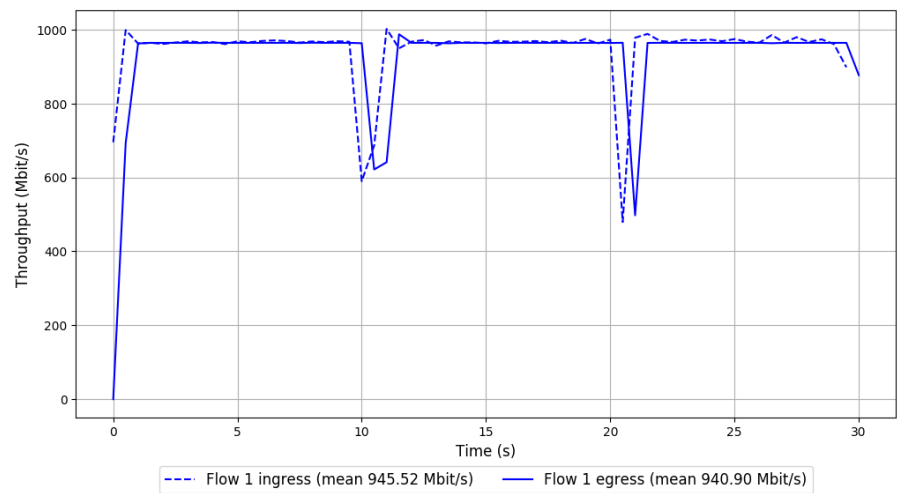
-- Flow 1:

Average throughput: 940.90 Mbit/s

95th percentile per-packet one-way delay: 27.819 ms

Loss rate: 0.49%

Run 5: Report of FillP — Data Link

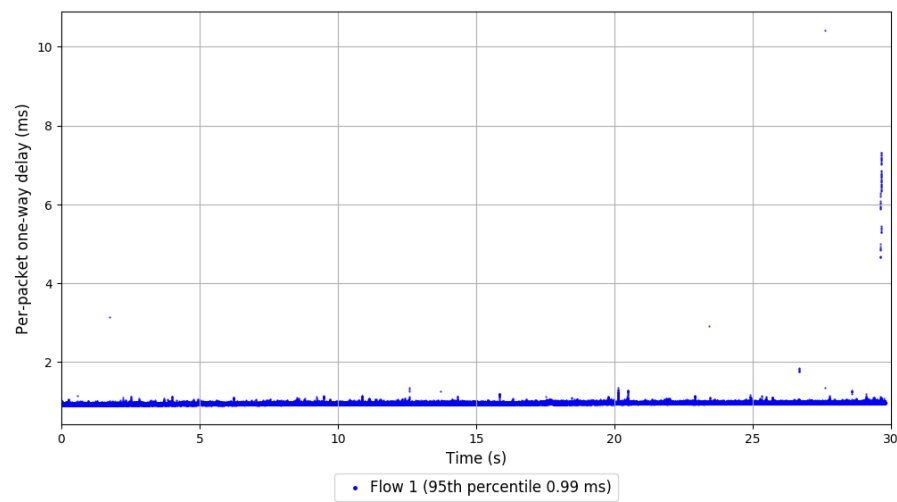
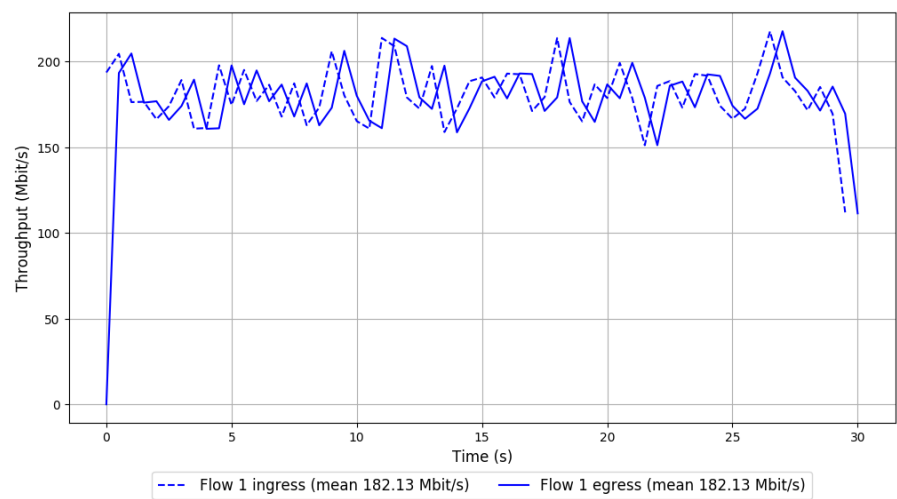


```
Run 1: Statistics of Indigo

Start at: 2018-10-10 00:38:01
End at: 2018-10-10 00:38:31
Local clock offset: 0.725 ms
Remote clock offset: 5.458 ms

# Below is generated by plot.py at 2018-10-10 03:14:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 182.13 Mbit/s
95th percentile per-packet one-way delay: 0.989 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 182.13 Mbit/s
95th percentile per-packet one-way delay: 0.989 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-10-10 01:04:57

End at: 2018-10-10 01:05:27

Local clock offset: 0.573 ms

Remote clock offset: 0.861 ms

Below is generated by plot.py at 2018-10-10 03:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 183.96 Mbit/s

95th percentile per-packet one-way delay: 1.036 ms

Loss rate: 0.01%

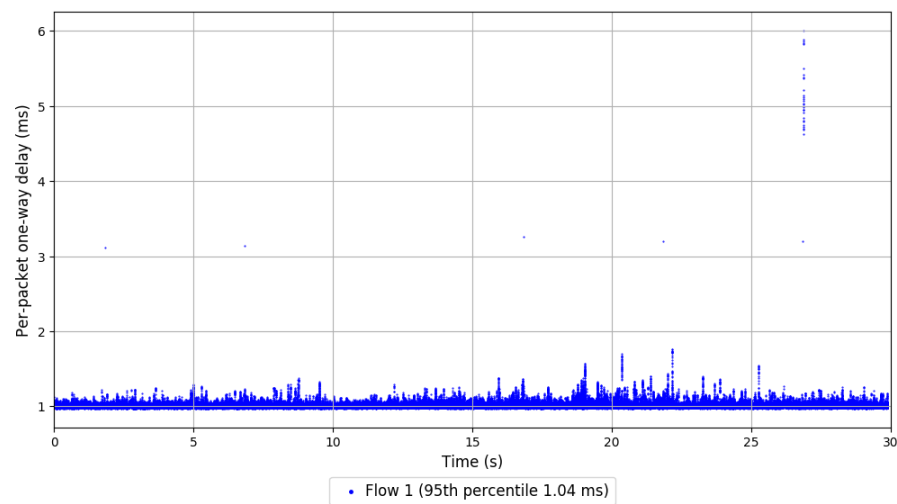
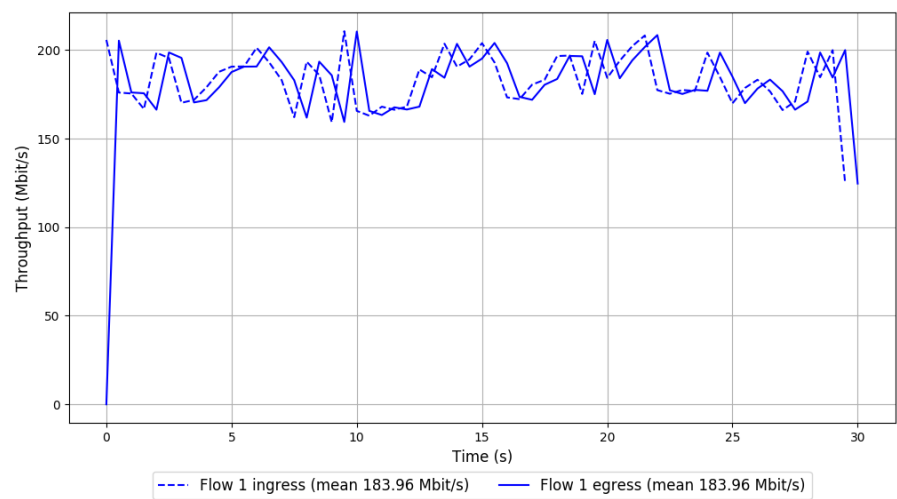
-- Flow 1:

Average throughput: 183.96 Mbit/s

95th percentile per-packet one-way delay: 1.036 ms

Loss rate: 0.01%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-10-10 01:31:58

End at: 2018-10-10 01:32:28

Local clock offset: 0.42 ms

Remote clock offset: -2.83 ms

Below is generated by plot.py at 2018-10-10 03:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 182.58 Mbit/s

95th percentile per-packet one-way delay: 0.984 ms

Loss rate: 0.00%

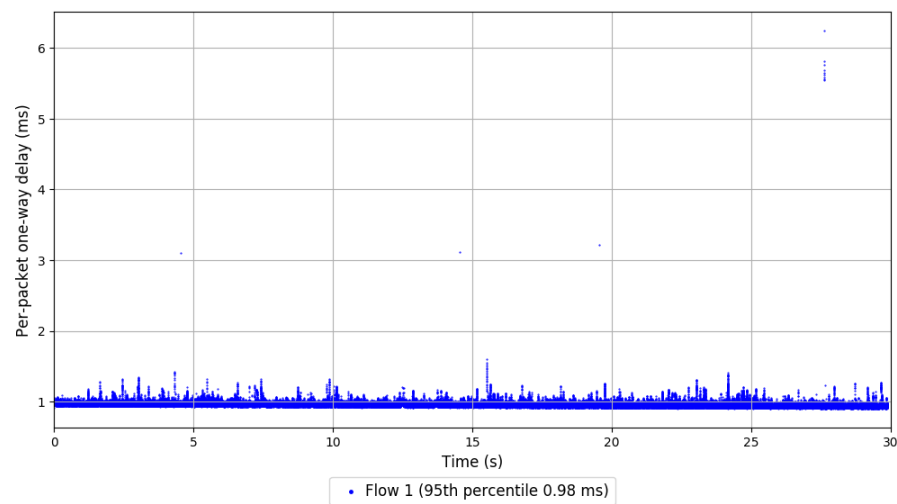
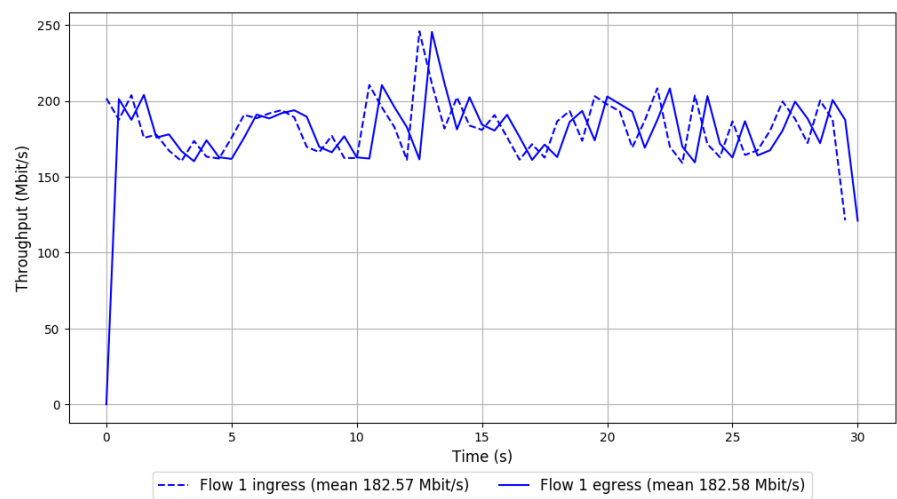
-- Flow 1:

Average throughput: 182.58 Mbit/s

95th percentile per-packet one-way delay: 0.984 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-10-10 01:58:31

End at: 2018-10-10 01:59:01

Local clock offset: 0.322 ms

Remote clock offset: 2.473 ms

Below is generated by plot.py at 2018-10-10 03:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 188.32 Mbit/s

95th percentile per-packet one-way delay: 1.207 ms

Loss rate: 0.01%

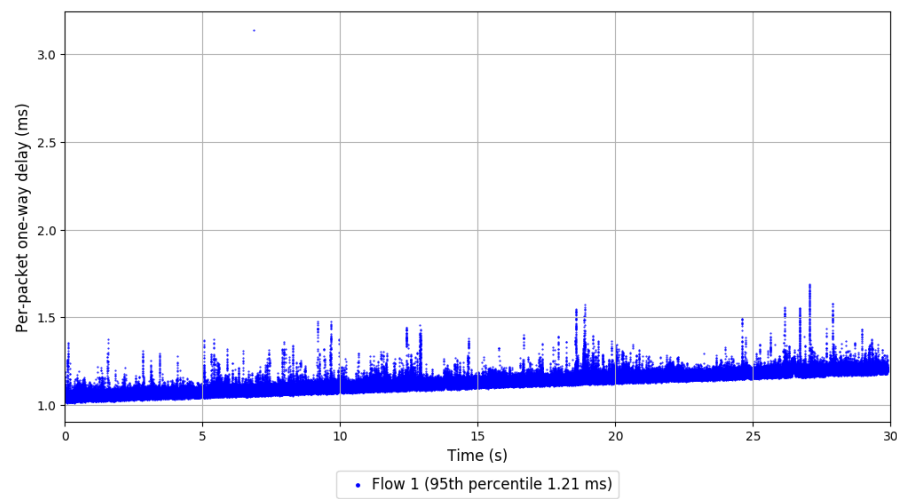
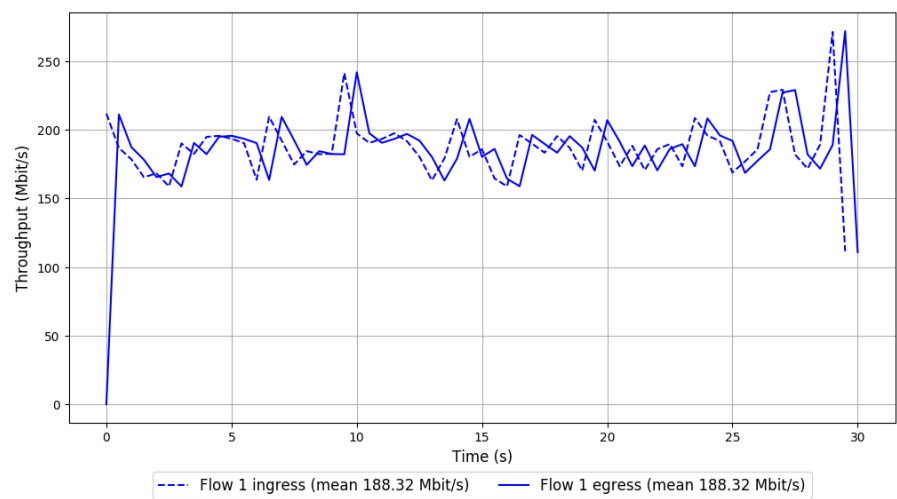
-- Flow 1:

Average throughput: 188.32 Mbit/s

95th percentile per-packet one-way delay: 1.207 ms

Loss rate: 0.01%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-10-10 02:25:29

End at: 2018-10-10 02:25:59

Local clock offset: 0.393 ms

Remote clock offset: 4.614 ms

Below is generated by plot.py at 2018-10-10 03:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 183.19 Mbit/s

95th percentile per-packet one-way delay: 0.835 ms

Loss rate: 0.00%

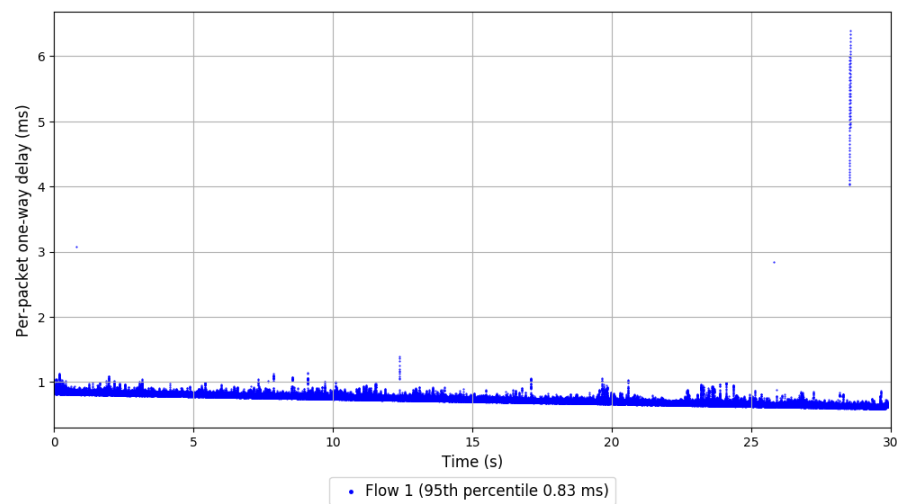
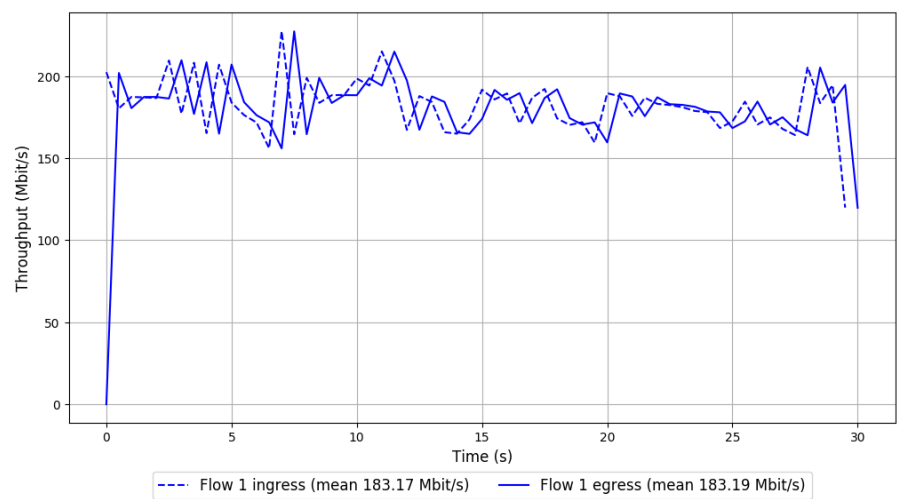
-- Flow 1:

Average throughput: 183.19 Mbit/s

95th percentile per-packet one-way delay: 0.835 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

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

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

Local clock offset: 1.029 ms

Remote clock offset: 4.361 ms

Below is generated by plot.py at 2018-10-10 03:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 146.68 Mbit/s

95th percentile per-packet one-way delay: 1.114 ms

Loss rate: 0.00%

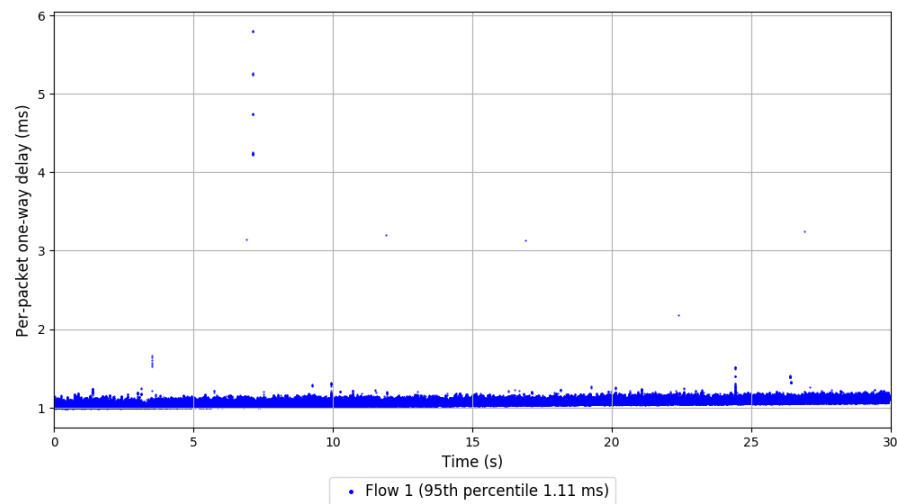
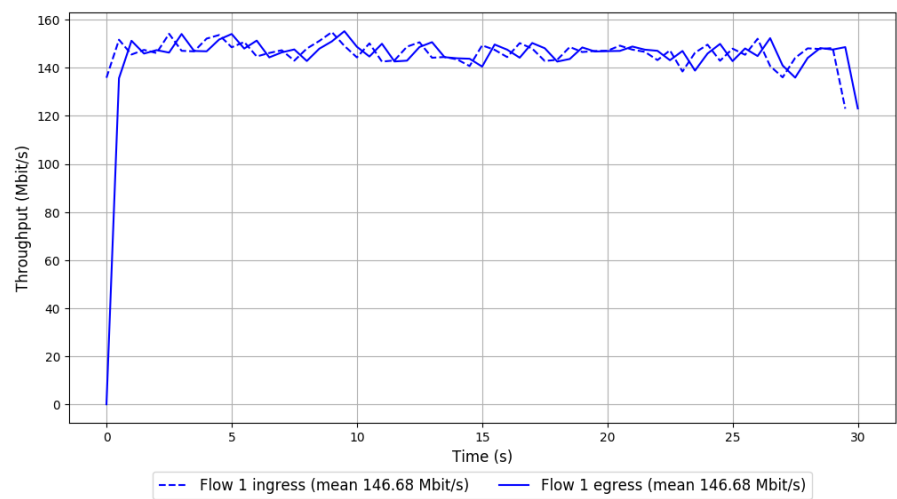
-- Flow 1:

Average throughput: 146.68 Mbit/s

95th percentile per-packet one-way delay: 1.114 ms

Loss rate: 0.00%

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



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-10 00:52:53

End at: 2018-10-10 00:53:23

Local clock offset: 0.851 ms

Remote clock offset: 1.614 ms

Below is generated by plot.py at 2018-10-10 03:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 145.84 Mbit/s

95th percentile per-packet one-way delay: 0.891 ms

Loss rate: 0.01%

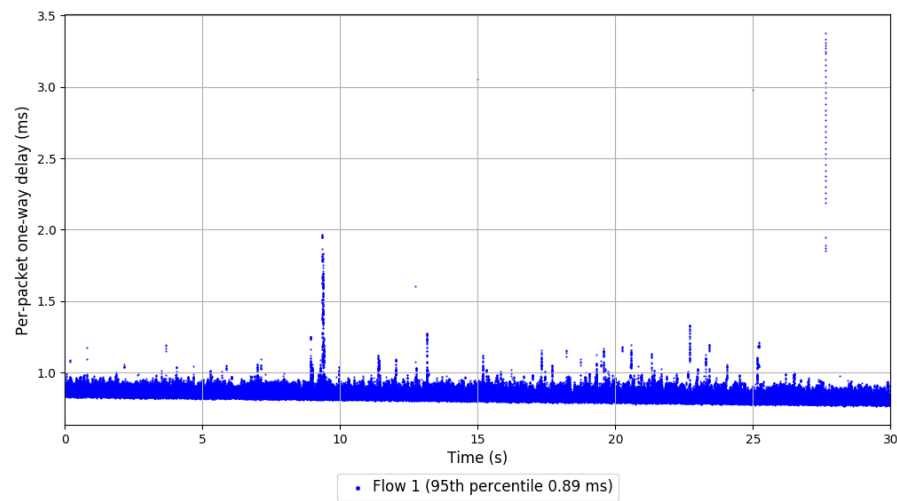
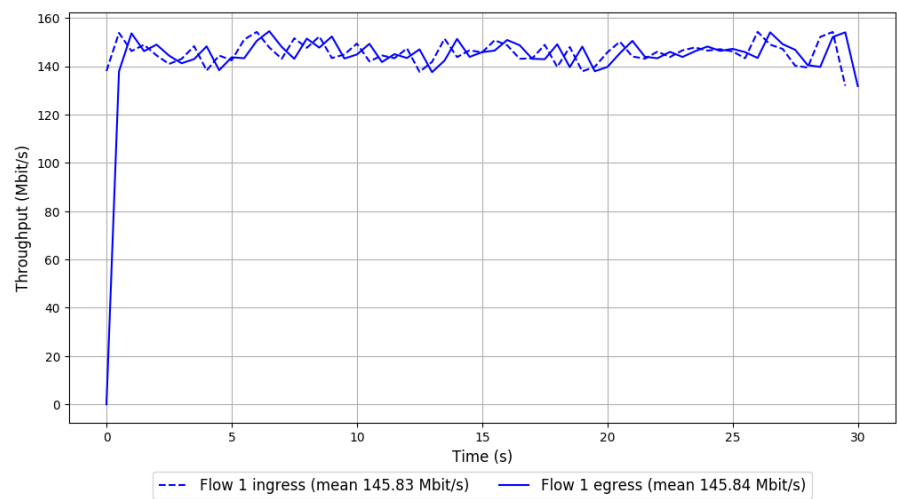
-- Flow 1:

Average throughput: 145.84 Mbit/s

95th percentile per-packet one-way delay: 0.891 ms

Loss rate: 0.01%

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

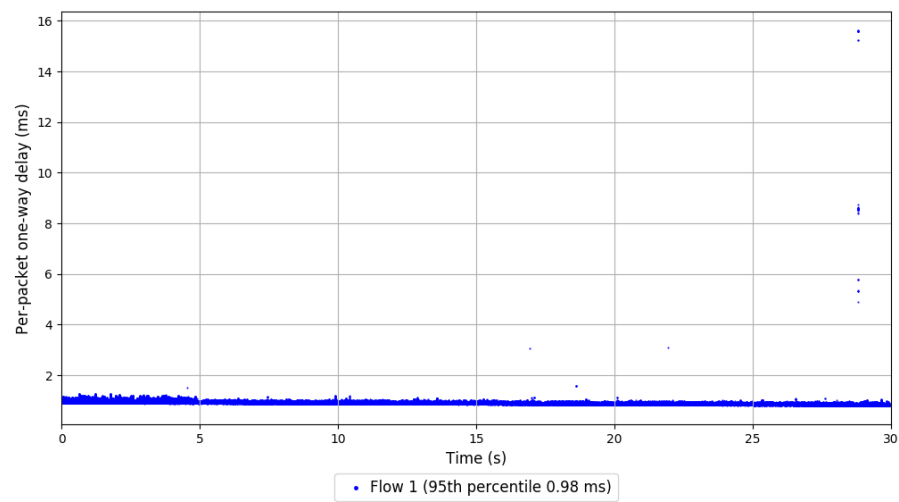
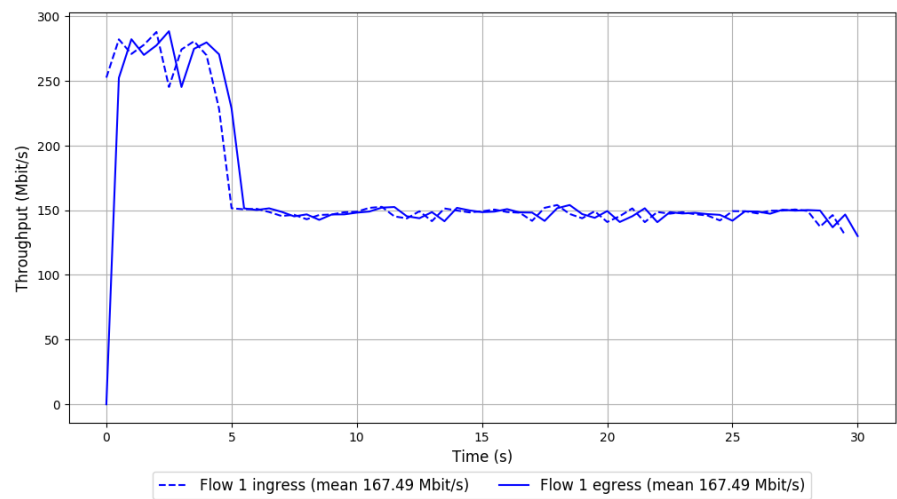


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-10 01:19:55
End at: 2018-10-10 01:20:25
Local clock offset: 0.502 ms
Remote clock offset: -1.182 ms

Below is generated by plot.py at 2018-10-10 03:14:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 167.49 Mbit/s
95th percentile per-packet one-way delay: 0.982 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 167.49 Mbit/s
95th percentile per-packet one-way delay: 0.982 ms
Loss rate: 0.01%

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

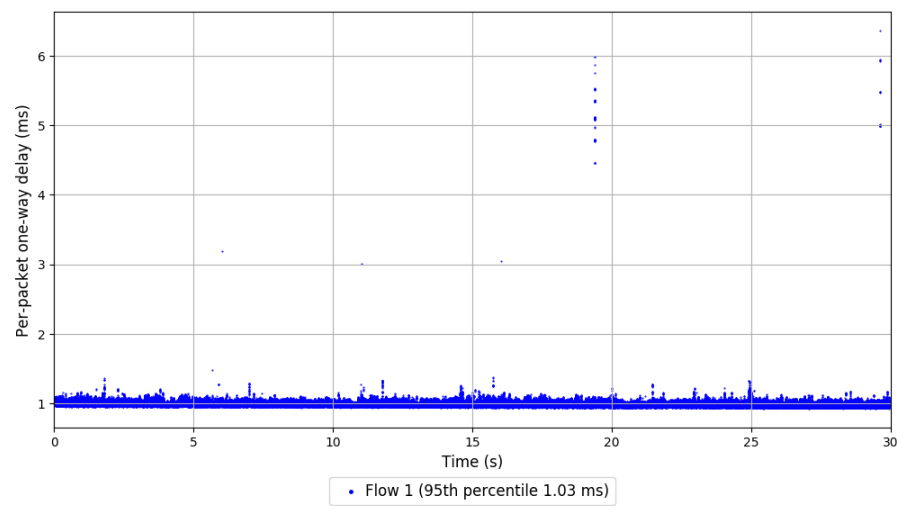
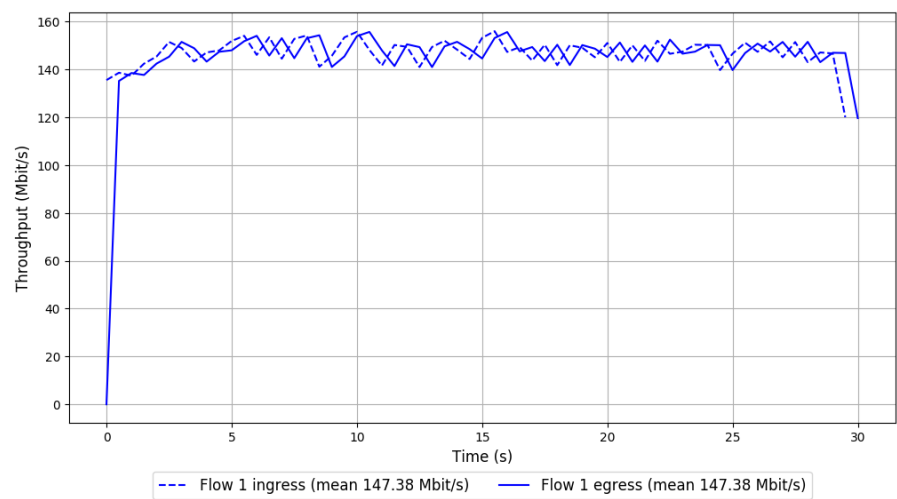


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-10 01:46:38
End at: 2018-10-10 01:47:08
Local clock offset: 0.333 ms
Remote clock offset: -3.711 ms

Below is generated by plot.py at 2018-10-10 03:14:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 147.38 Mbit/s
95th percentile per-packet one-way delay: 1.028 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 147.38 Mbit/s
95th percentile per-packet one-way delay: 1.028 ms
Loss rate: 0.01%

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



Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-10 02:13:26

End at: 2018-10-10 02:13:56

Local clock offset: 0.354 ms

Remote clock offset: 5.776 ms

Below is generated by plot.py at 2018-10-10 03:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 146.40 Mbit/s

95th percentile per-packet one-way delay: 1.097 ms

Loss rate: 0.01%

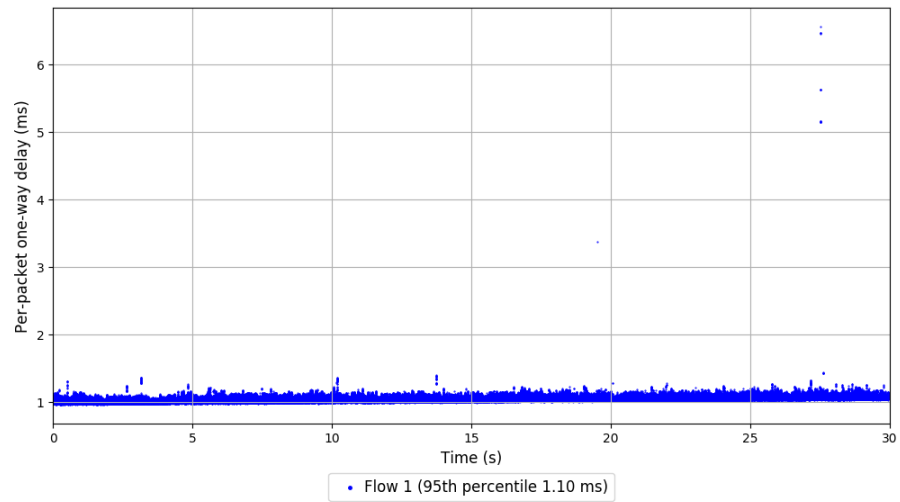
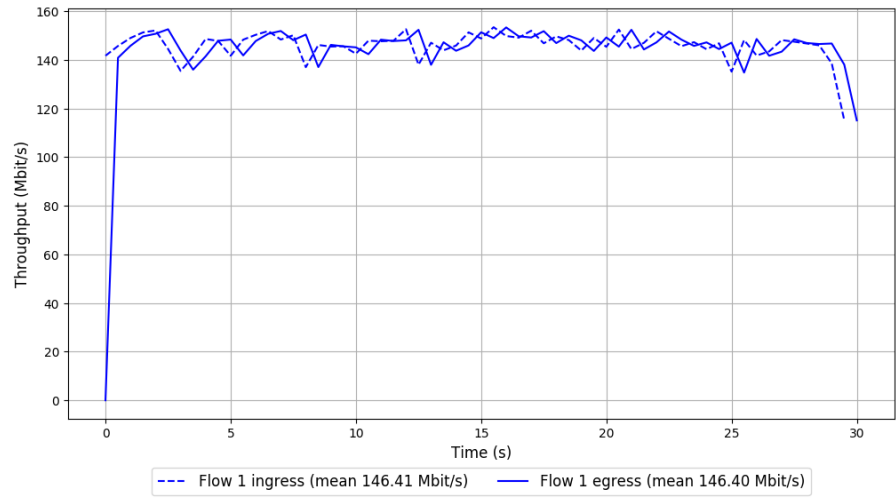
-- Flow 1:

Average throughput: 146.40 Mbit/s

95th percentile per-packet one-way delay: 1.097 ms

Loss rate: 0.01%

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

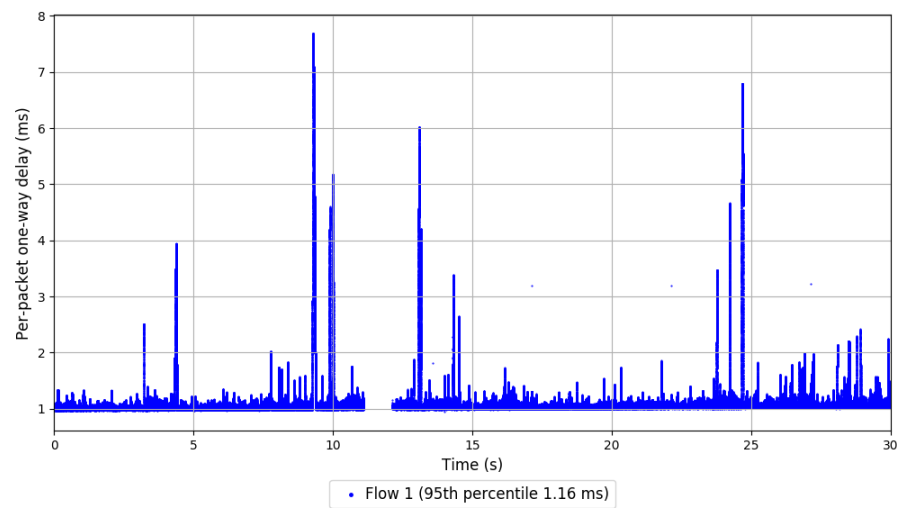
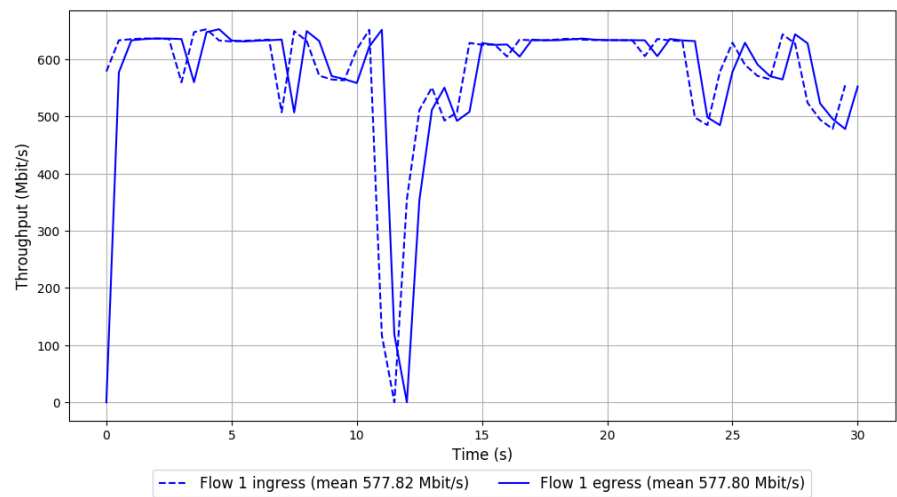



```
Run 1: Statistics of LEDBAT

Start at: 2018-10-10 00:35:00
End at: 2018-10-10 00:35:30
Local clock offset: 0.738 ms
Remote clock offset: 5.136 ms

# Below is generated by plot.py at 2018-10-10 03:14:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 577.80 Mbit/s
95th percentile per-packet one-way delay: 1.156 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 577.80 Mbit/s
95th percentile per-packet one-way delay: 1.156 ms
Loss rate: 0.01%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-10-10 01:01:56

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

Local clock offset: 0.629 ms

Remote clock offset: 0.946 ms

Below is generated by plot.py at 2018-10-10 03:14:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 600.45 Mbit/s

95th percentile per-packet one-way delay: 1.099 ms

Loss rate: 0.01%

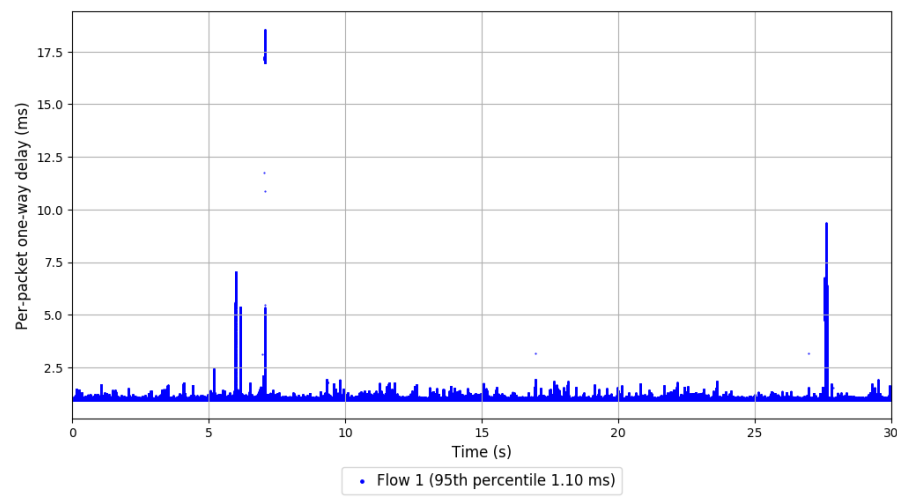
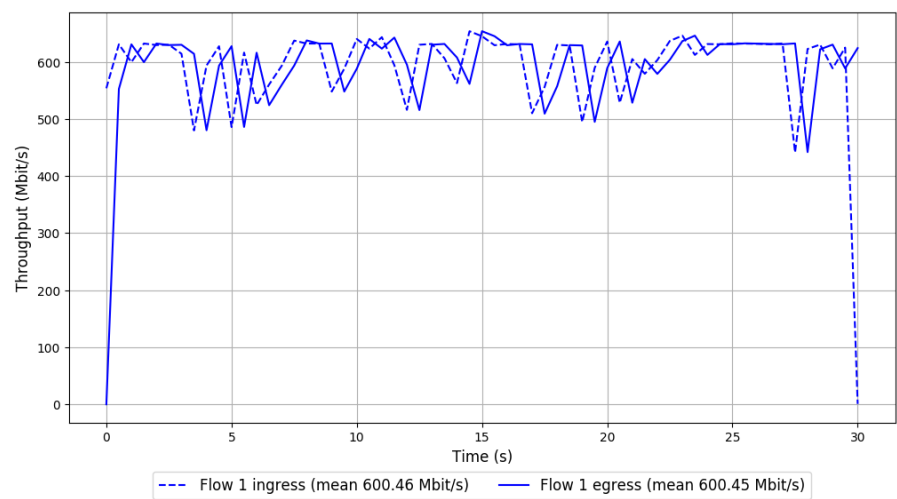
-- Flow 1:

Average throughput: 600.45 Mbit/s

95th percentile per-packet one-way delay: 1.099 ms

Loss rate: 0.01%

Run 2: Report of LEDBAT — Data Link

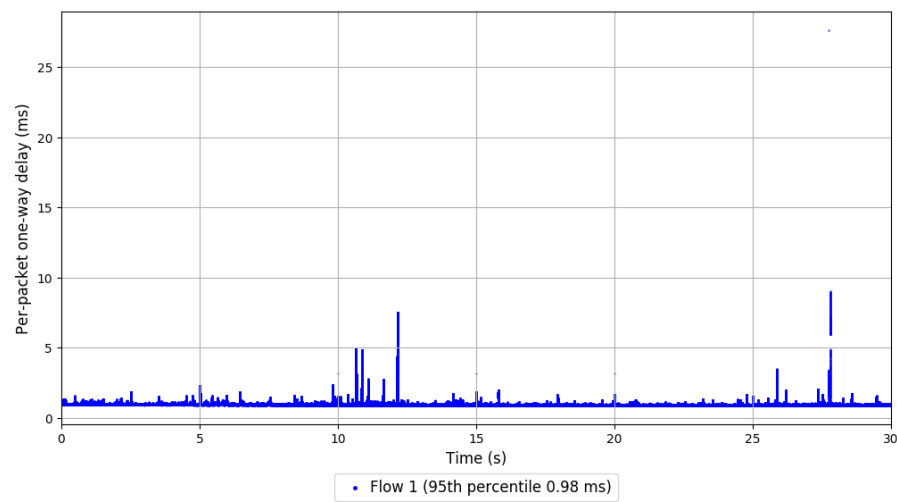
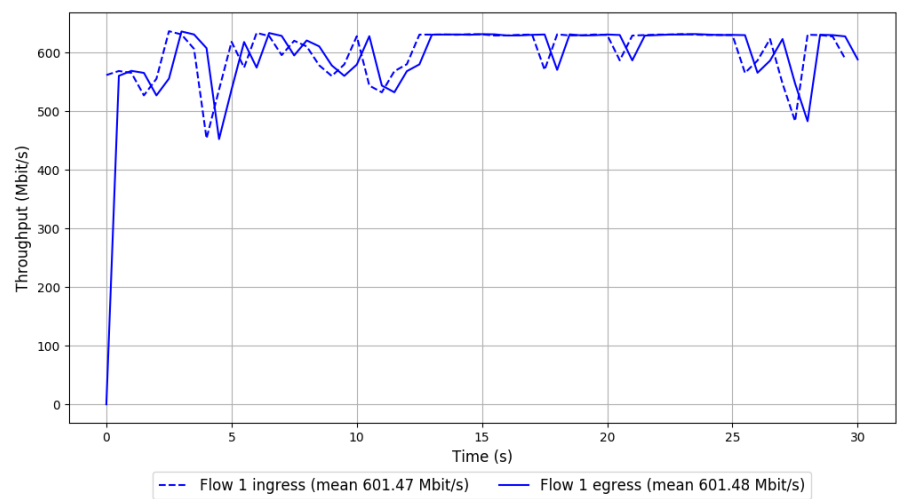


Run 3: Statistics of LEDBAT

Start at: 2018-10-10 01:28:58
End at: 2018-10-10 01:29:28
Local clock offset: 0.441 ms
Remote clock offset: -2.561 ms

Below is generated by plot.py at 2018-10-10 03:15:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 601.48 Mbit/s
95th percentile per-packet one-way delay: 0.982 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 601.48 Mbit/s
95th percentile per-packet one-way delay: 0.982 ms
Loss rate: 0.01%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-10-10 01:55:32

End at: 2018-10-10 01:56:02

Local clock offset: 0.302 ms

Remote clock offset: 1.31 ms

Below is generated by plot.py at 2018-10-10 03:15:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 569.66 Mbit/s

95th percentile per-packet one-way delay: 1.305 ms

Loss rate: 0.00%

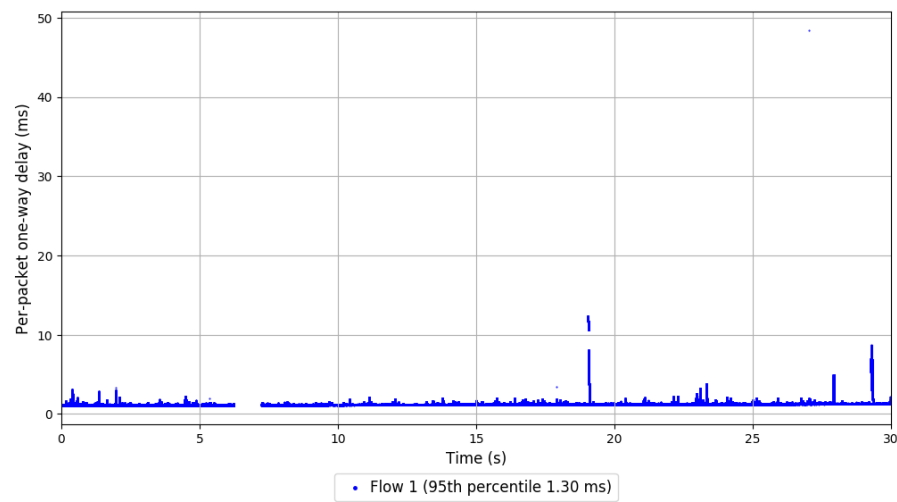
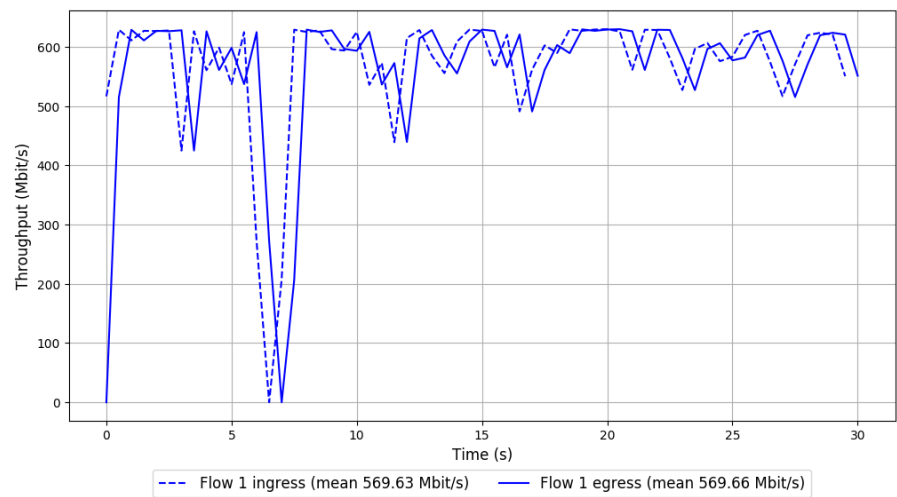
-- Flow 1:

Average throughput: 569.66 Mbit/s

95th percentile per-packet one-way delay: 1.305 ms

Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-10-10 02:22:30

End at: 2018-10-10 02:23:00

Local clock offset: 0.381 ms

Remote clock offset: 6.273 ms

Below is generated by plot.py at 2018-10-10 03:19:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 574.03 Mbit/s

95th percentile per-packet one-way delay: 1.131 ms

Loss rate: 0.00%

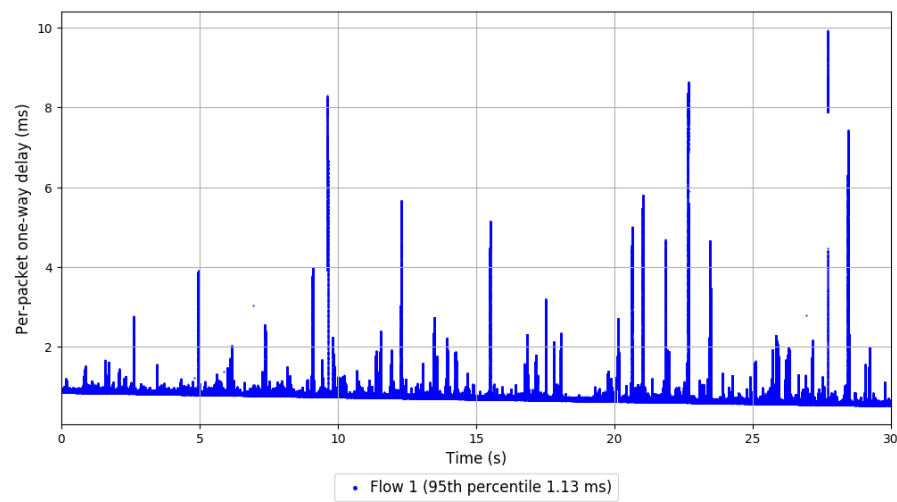
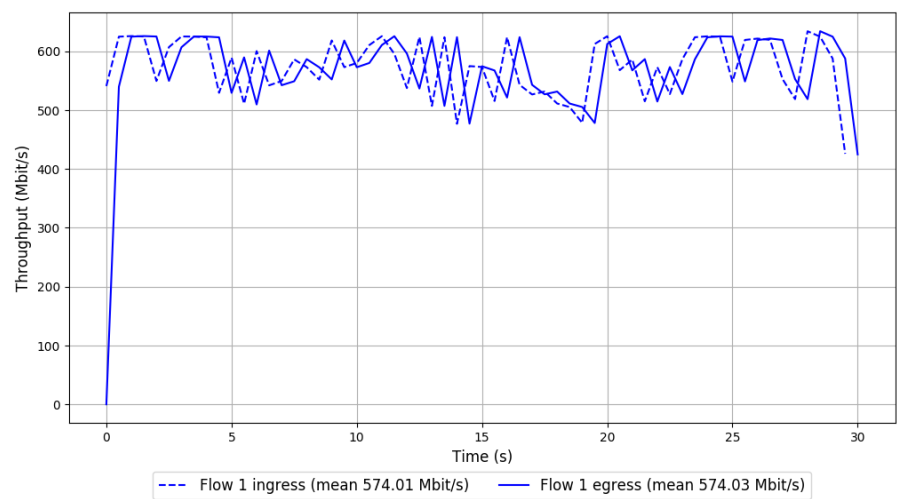
-- Flow 1:

Average throughput: 574.03 Mbit/s

95th percentile per-packet one-way delay: 1.131 ms

Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link

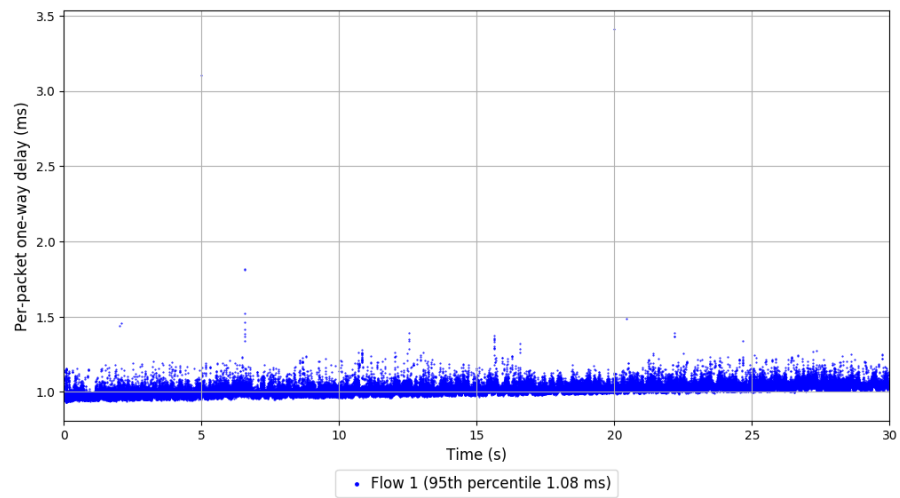
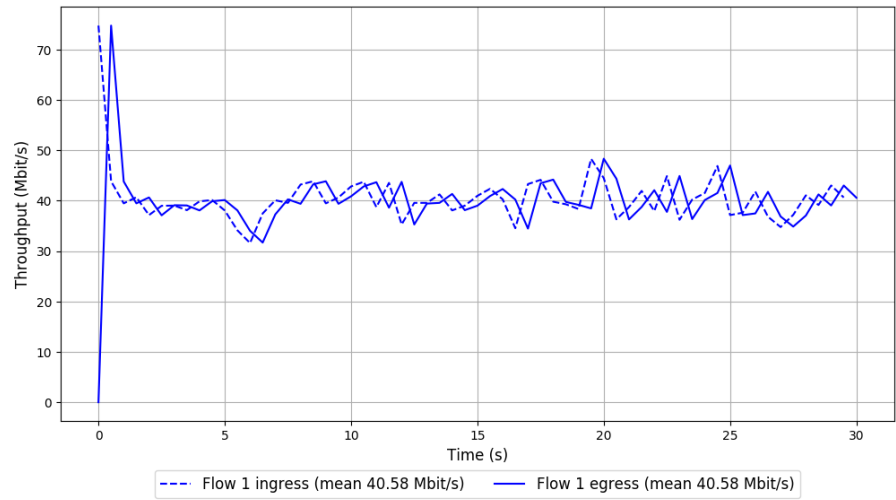


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-10 00:24:51
End at: 2018-10-10 00:25:21
Local clock offset: 1.08 ms
Remote clock offset: 4.275 ms

# Below is generated by plot.py at 2018-10-10 03:19:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.58 Mbit/s
95th percentile per-packet one-way delay: 1.076 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 40.58 Mbit/s
95th percentile per-packet one-way delay: 1.076 ms
Loss rate: 0.01%
```

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-10-10 00:51:34

End at: 2018-10-10 00:52:04

Local clock offset: 0.839 ms

Remote clock offset: 1.692 ms

Below is generated by plot.py at 2018-10-10 03:19:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 40.39 Mbit/s

95th percentile per-packet one-way delay: 0.991 ms

Loss rate: 0.01%

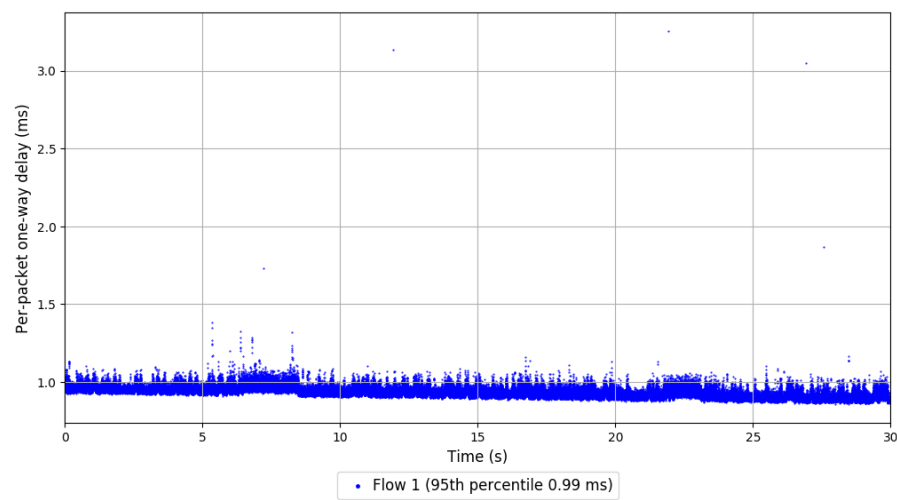
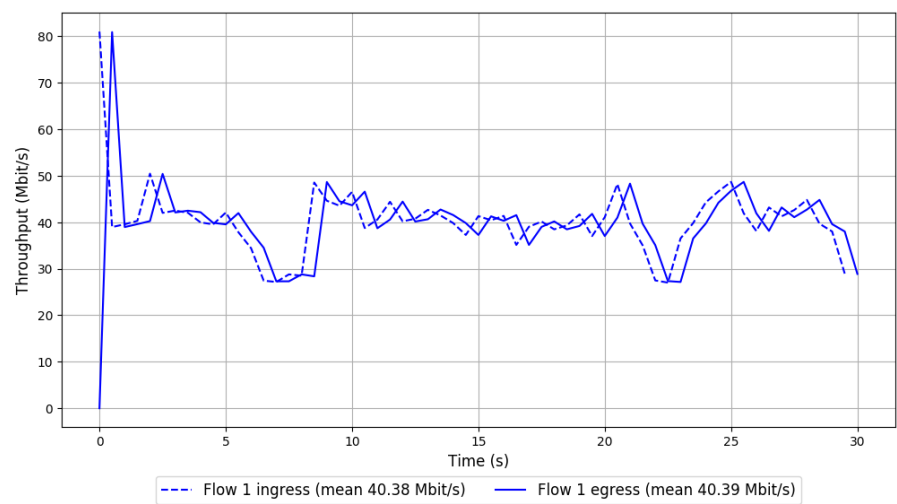
-- Flow 1:

Average throughput: 40.39 Mbit/s

95th percentile per-packet one-way delay: 0.991 ms

Loss rate: 0.01%

Run 2: Report of Indigo-Muses — Data Link

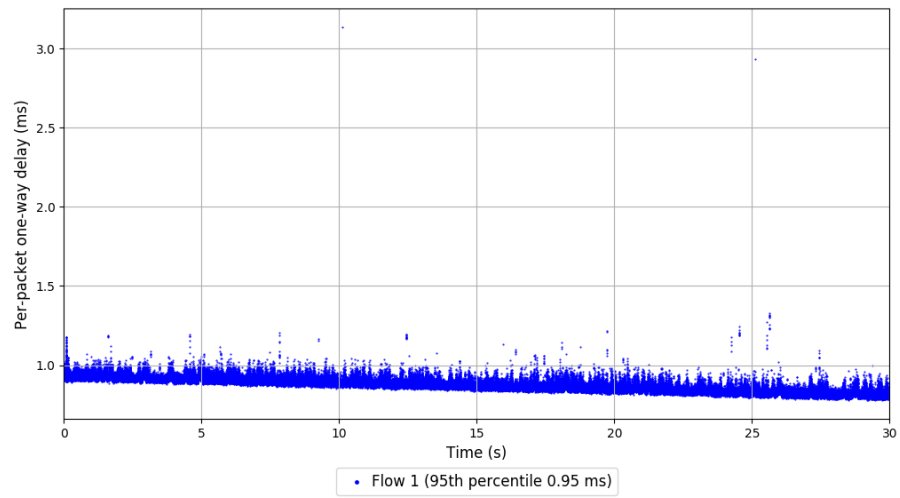
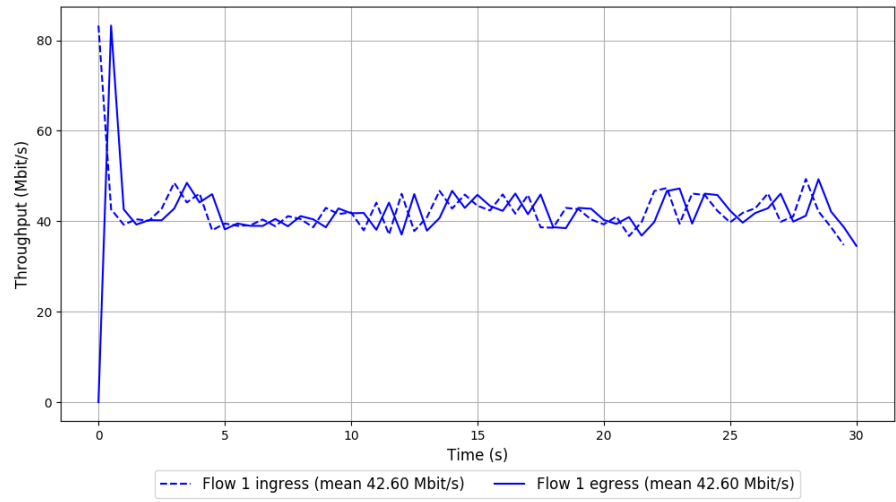


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-10 01:18:35
End at: 2018-10-10 01:19:05
Local clock offset: 0.492 ms
Remote clock offset: -0.878 ms

Below is generated by plot.py at 2018-10-10 03:19:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 42.60 Mbit/s
95th percentile per-packet one-way delay: 0.947 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 42.60 Mbit/s
95th percentile per-packet one-way delay: 0.947 ms
Loss rate: 0.01%

Run 3: Report of Indigo-Muses — Data Link

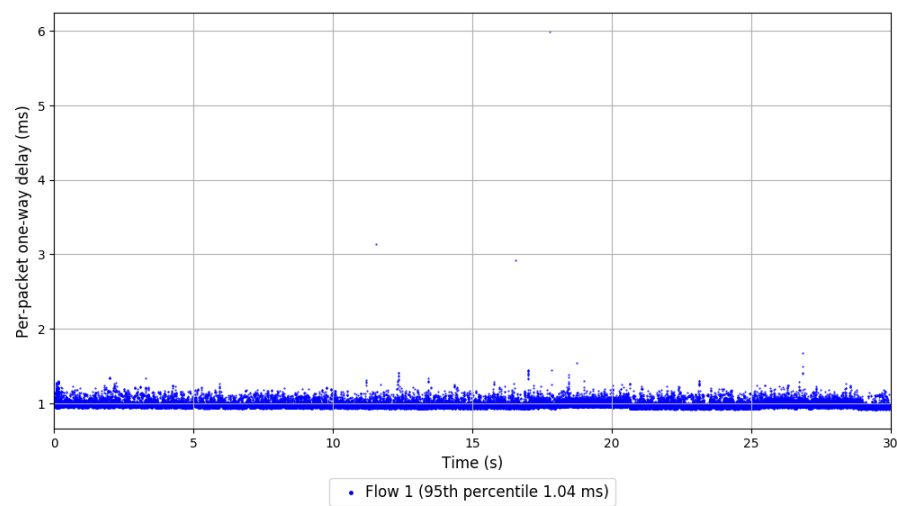
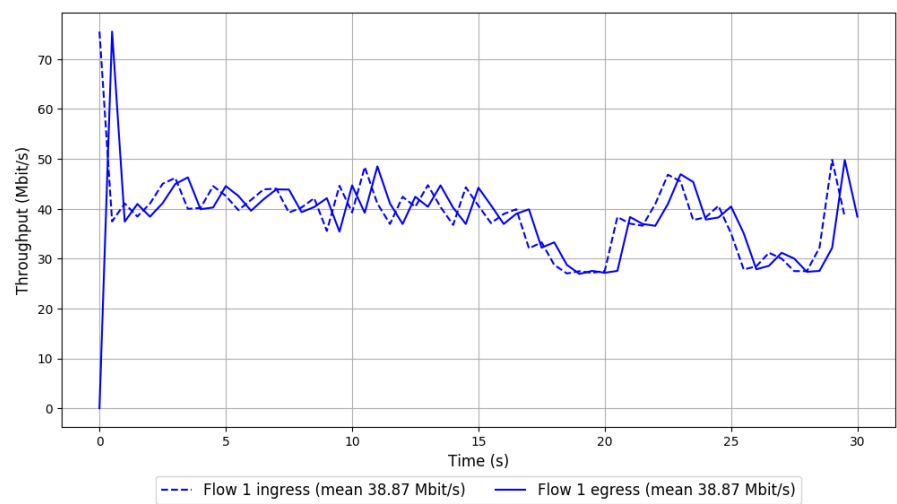


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-10 01:45:19
End at: 2018-10-10 01:45:49
Local clock offset: 0.326 ms
Remote clock offset: -3.652 ms

Below is generated by plot.py at 2018-10-10 03:19:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 38.87 Mbit/s
95th percentile per-packet one-way delay: 1.045 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 38.87 Mbit/s
95th percentile per-packet one-way delay: 1.045 ms
Loss rate: 0.01%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-10-10 02:12:07

End at: 2018-10-10 02:12:37

Local clock offset: 0.359 ms

Remote clock offset: 5.661 ms

Below is generated by plot.py at 2018-10-10 03:19:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 40.59 Mbit/s

95th percentile per-packet one-way delay: 1.053 ms

Loss rate: 0.01%

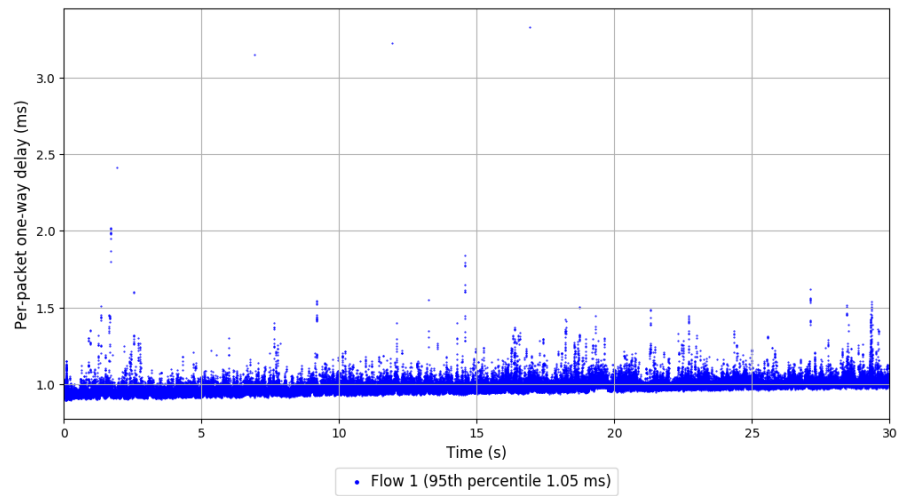
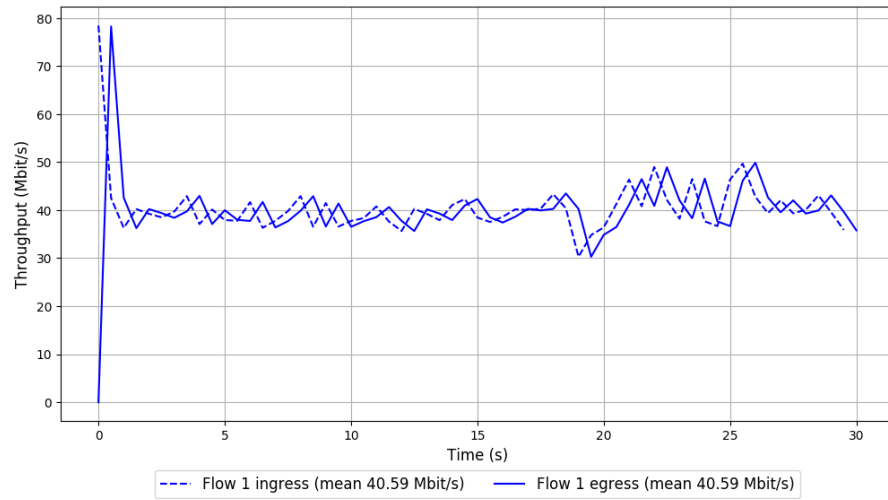
-- Flow 1:

Average throughput: 40.59 Mbit/s

95th percentile per-packet one-way delay: 1.053 ms

Loss rate: 0.01%

Run 5: Report of Indigo-Muses — Data Link

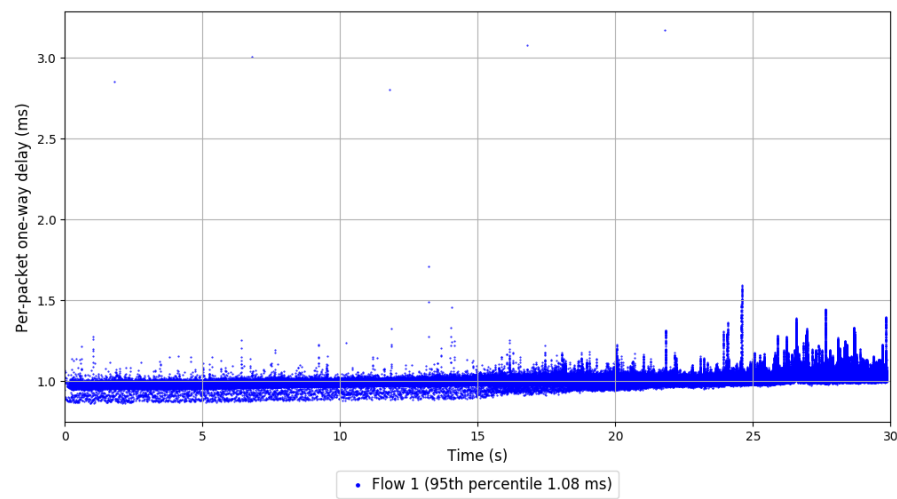
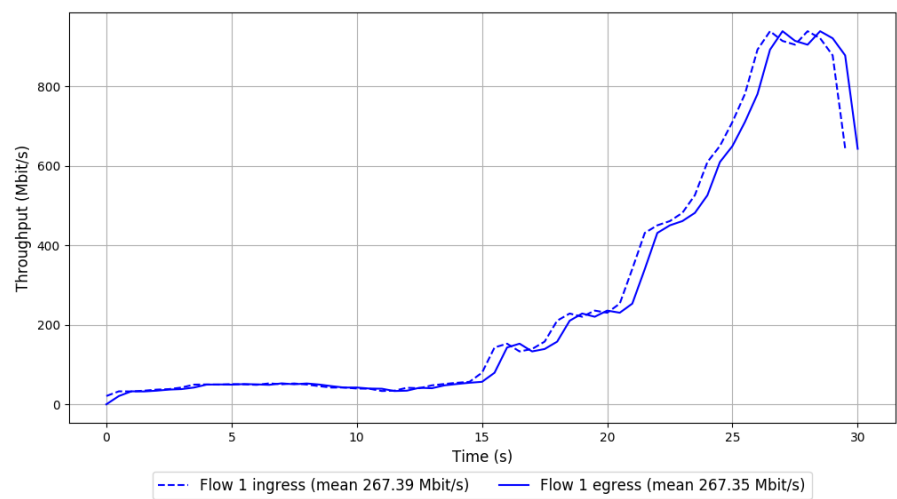


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-10 00:31:00
End at: 2018-10-10 00:31:30
Local clock offset: 0.821 ms
Remote clock offset: 4.841 ms

# Below is generated by plot.py at 2018-10-10 03:19:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 267.35 Mbit/s
95th percentile per-packet one-way delay: 1.077 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 267.35 Mbit/s
95th percentile per-packet one-way delay: 1.077 ms
Loss rate: 0.02%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-10-10 00:57:44

End at: 2018-10-10 00:58:14

Local clock offset: 0.754 ms

Remote clock offset: 1.19 ms

Below is generated by plot.py at 2018-10-10 03:22:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 689.77 Mbit/s

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

Loss rate: 0.01%

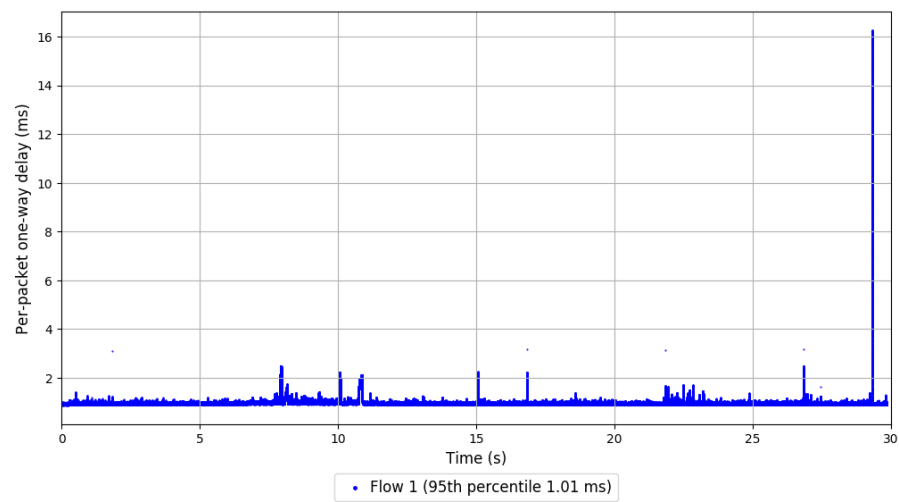
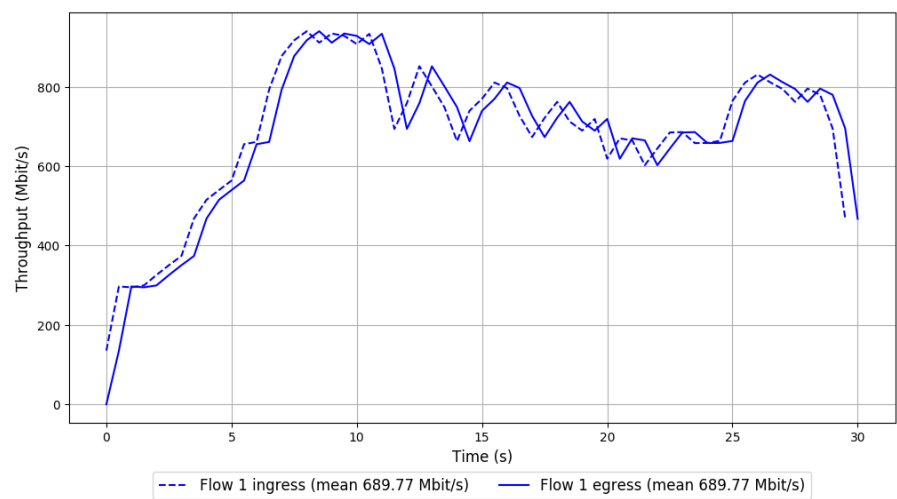
-- Flow 1:

Average throughput: 689.77 Mbit/s

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

Loss rate: 0.01%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-10-10 01:24:45

End at: 2018-10-10 01:25:15

Local clock offset: 0.502 ms

Remote clock offset: -2.036 ms

Below is generated by plot.py at 2018-10-10 03:23:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 733.48 Mbit/s

95th percentile per-packet one-way delay: 0.966 ms

Loss rate: 0.00%

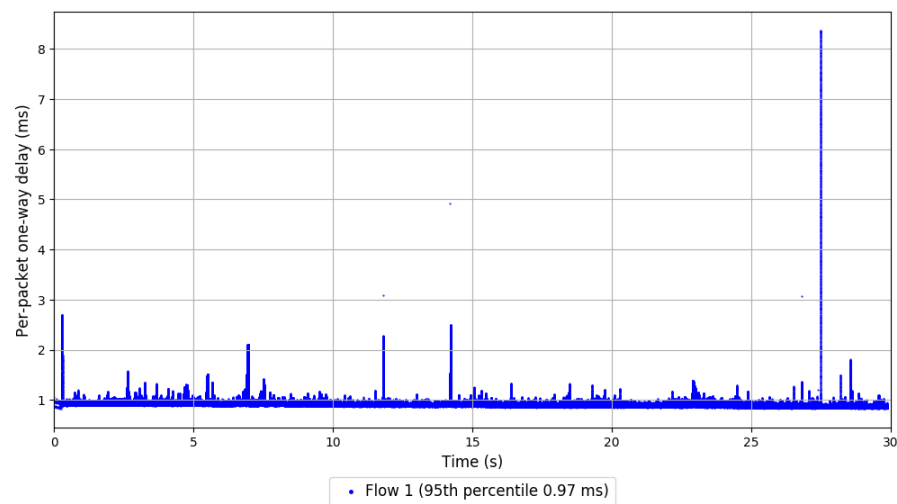
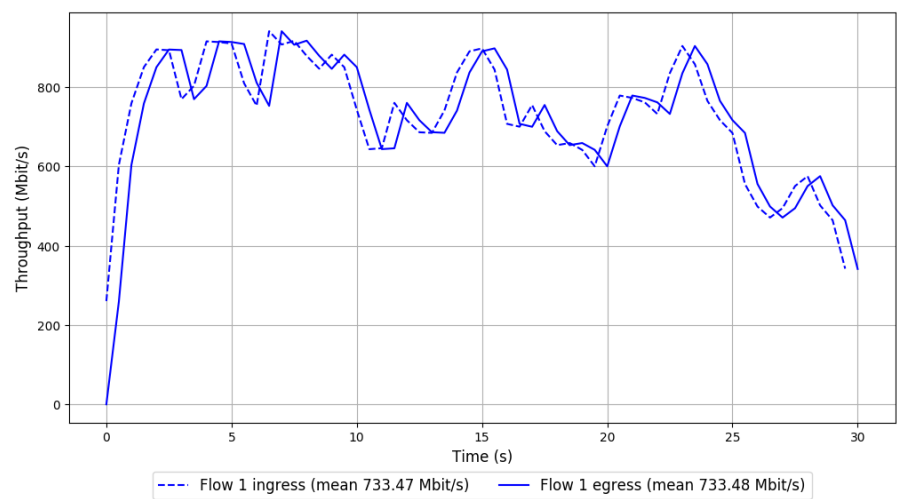
-- Flow 1:

Average throughput: 733.48 Mbit/s

95th percentile per-packet one-way delay: 0.966 ms

Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-10 01:51:29

End at: 2018-10-10 01:52:00

Local clock offset: 0.321 ms

Remote clock offset: -0.776 ms

Below is generated by plot.py at 2018-10-10 03:23:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 313.28 Mbit/s

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

Loss rate: 0.01%

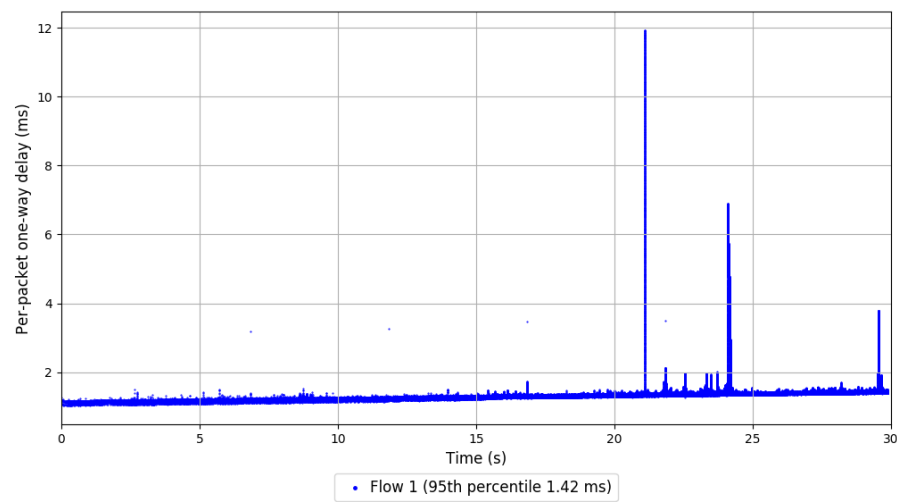
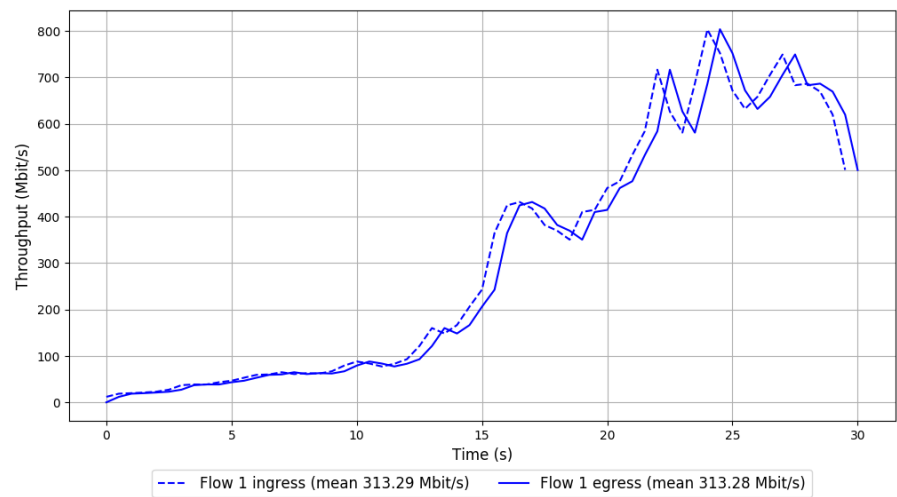
-- Flow 1:

Average throughput: 313.28 Mbit/s

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

Loss rate: 0.01%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-10-10 02:18:17

End at: 2018-10-10 02:18:47

Local clock offset: 0.382 ms

Remote clock offset: 6.441 ms

Below is generated by plot.py at 2018-10-10 03:24:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 787.34 Mbit/s

95th percentile per-packet one-way delay: 1.222 ms

Loss rate: 0.01%

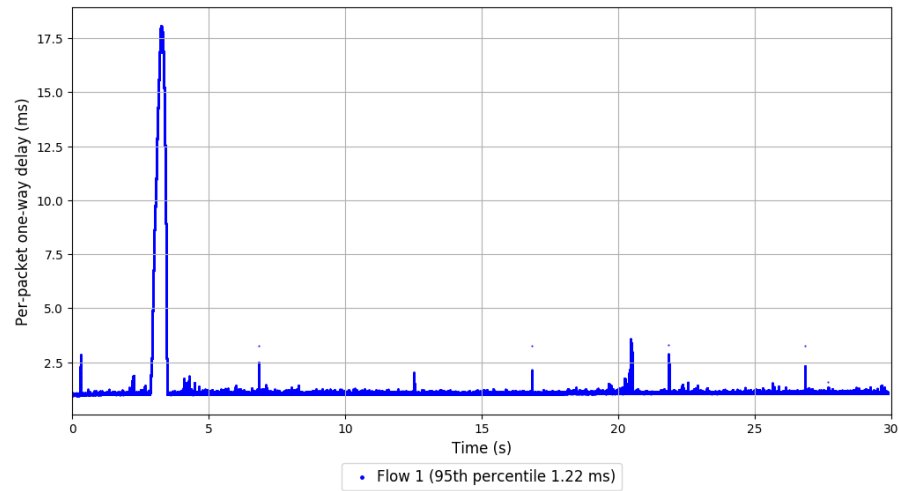
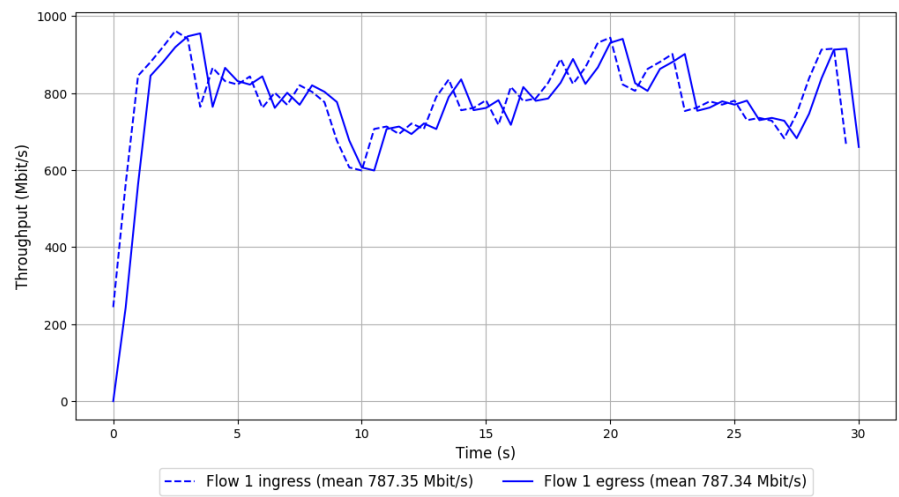
-- Flow 1:

Average throughput: 787.34 Mbit/s

95th percentile per-packet one-way delay: 1.222 ms

Loss rate: 0.01%

Run 5: Report of PCC-Allegro — Data Link

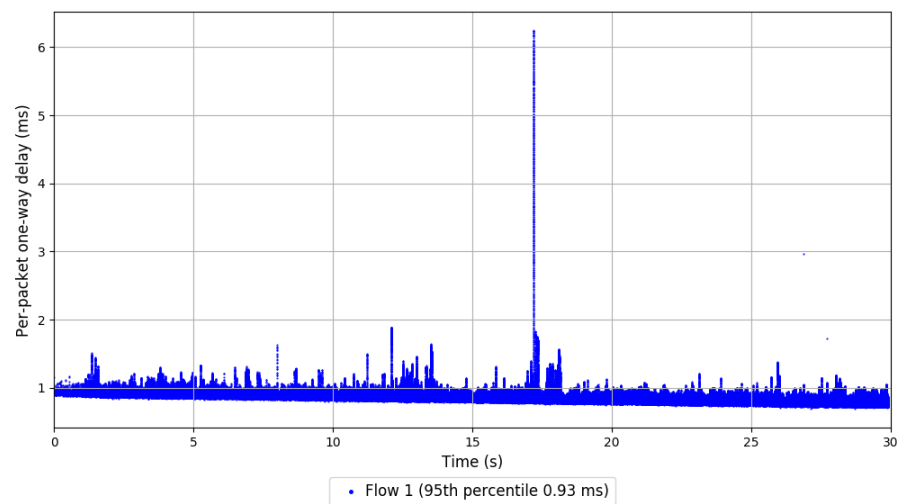
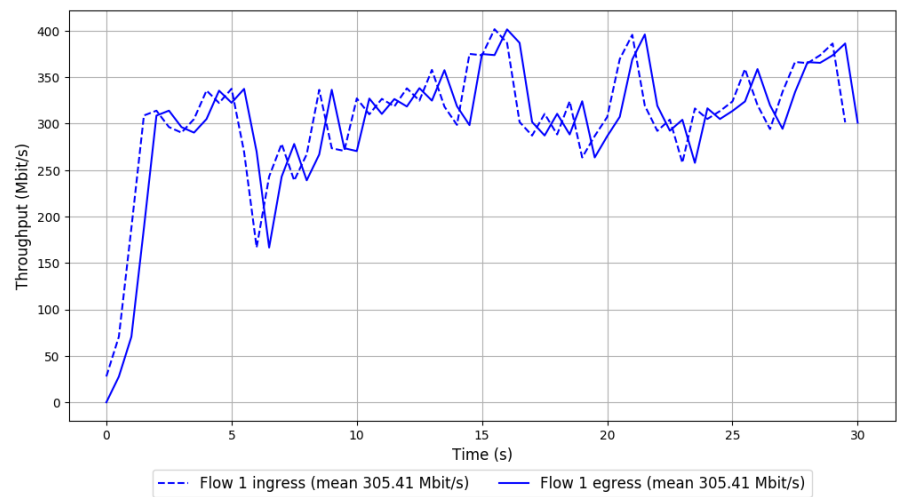


```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-10 00:44:02
End at: 2018-10-10 00:44:32
Local clock offset: 0.743 ms
Remote clock offset: 3.34 ms

# Below is generated by plot.py at 2018-10-10 03:24:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 305.41 Mbit/s
95th percentile per-packet one-way delay: 0.925 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 305.41 Mbit/s
95th percentile per-packet one-way delay: 0.925 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-10-10 01:10:59

End at: 2018-10-10 01:11:29

Local clock offset: 0.494 ms

Remote clock offset: 0.844 ms

Below is generated by plot.py at 2018-10-10 03:24:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 325.85 Mbit/s

95th percentile per-packet one-way delay: 1.006 ms

Loss rate: 0.01%

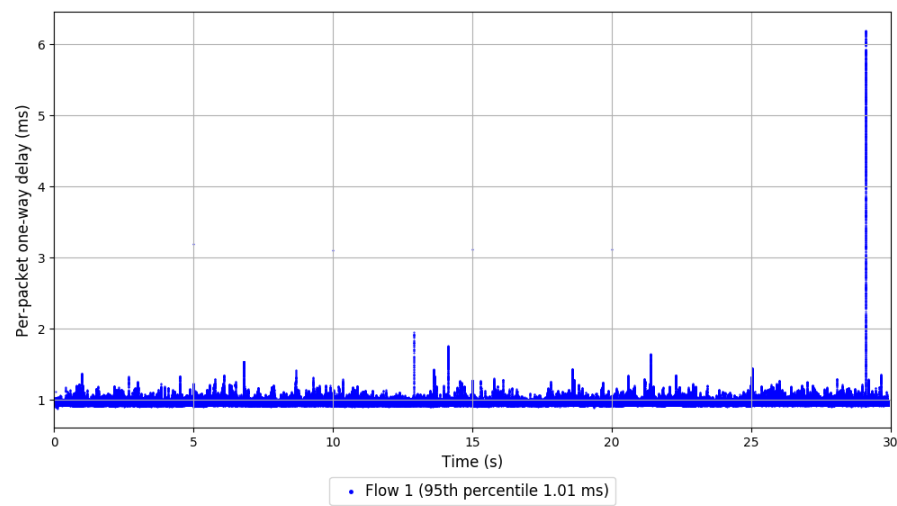
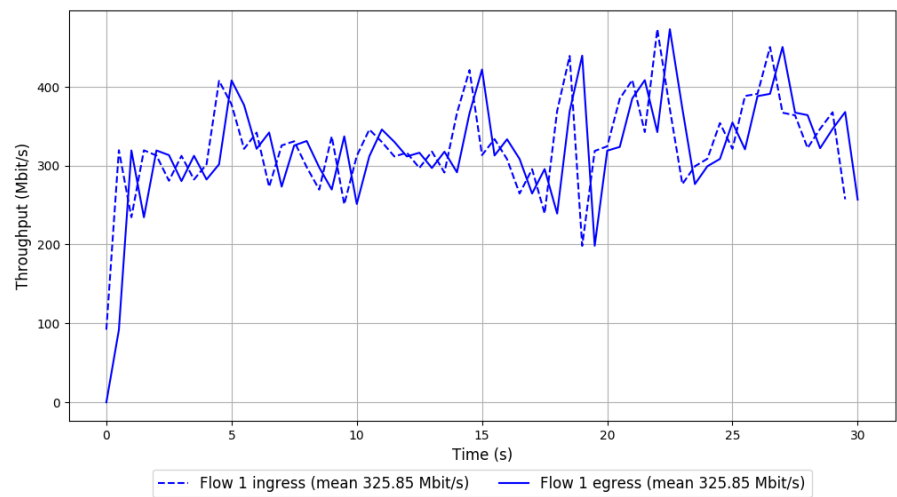
-- Flow 1:

Average throughput: 325.85 Mbit/s

95th percentile per-packet one-way delay: 1.006 ms

Loss rate: 0.01%

Run 2: Report of PCC-Expr — Data Link

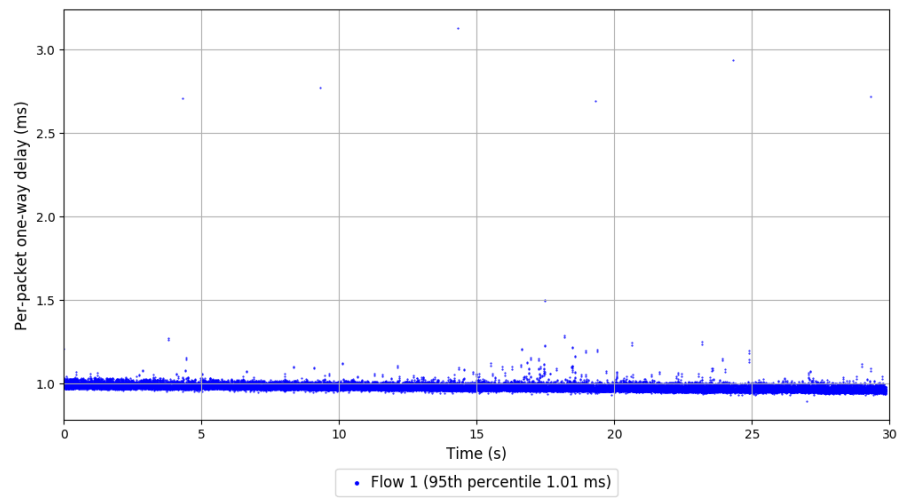
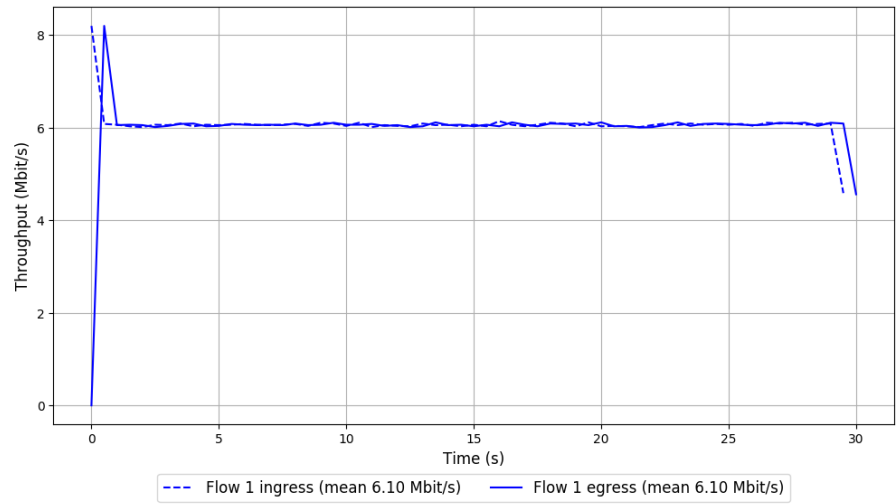


Run 3: Statistics of PCC-Expr

Start at: 2018-10-10 01:37:56
End at: 2018-10-10 01:38:26
Local clock offset: 0.36 ms
Remote clock offset: -3.256 ms

Below is generated by plot.py at 2018-10-10 03:24:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 1.010 ms
Loss rate: 0.01%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-10-10 02:04:29

End at: 2018-10-10 02:04:59

Local clock offset: 0.33 ms

Remote clock offset: 4.191 ms

Below is generated by plot.py at 2018-10-10 03:25:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 336.26 Mbit/s

95th percentile per-packet one-way delay: 1.084 ms

Loss rate: 0.01%

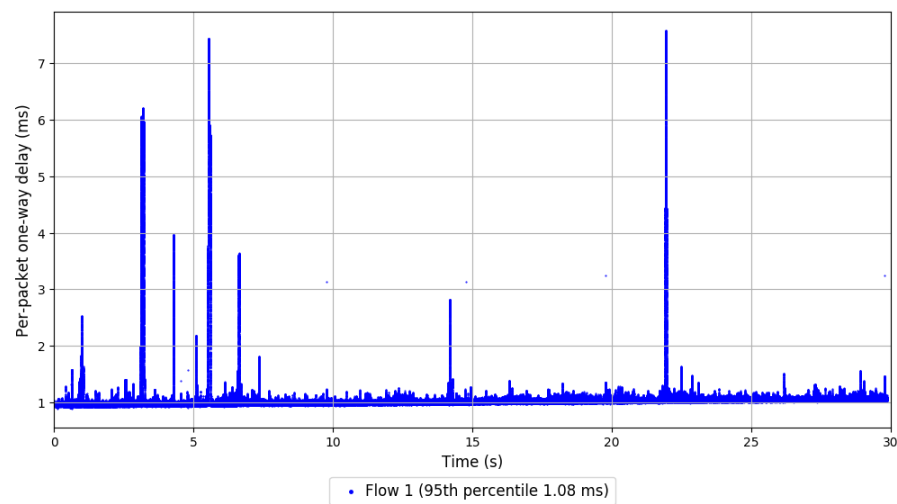
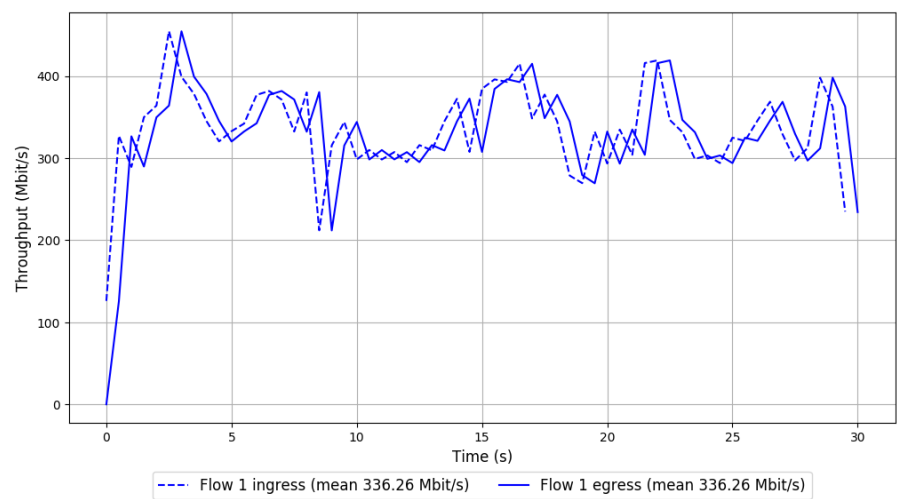
-- Flow 1:

Average throughput: 336.26 Mbit/s

95th percentile per-packet one-way delay: 1.084 ms

Loss rate: 0.01%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-10-10 02:31:33

End at: 2018-10-10 02:32:03

Local clock offset: 0.399 ms

Remote clock offset: 2.545 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 338.79 Mbit/s

95th percentile per-packet one-way delay: 0.914 ms

Loss rate: 0.01%

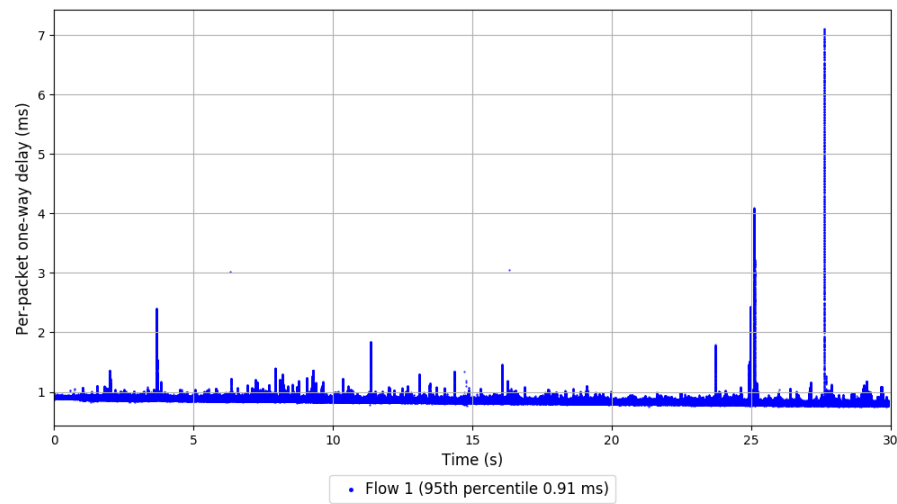
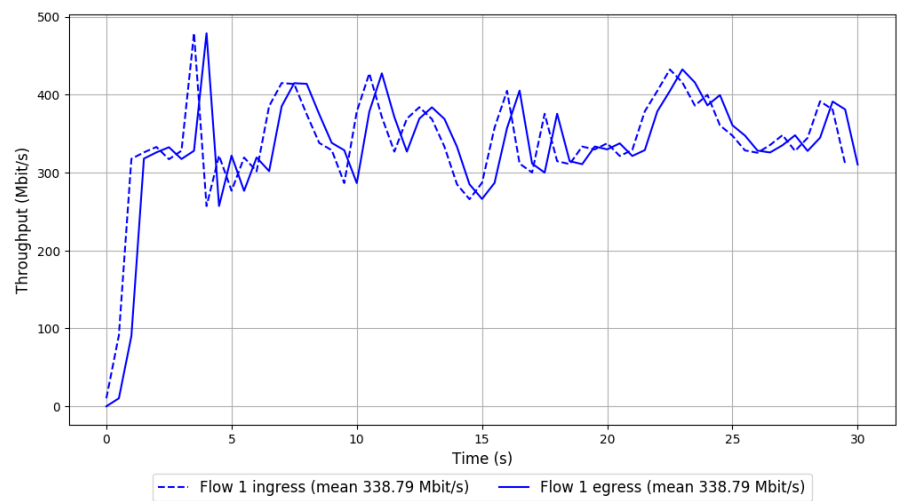
-- Flow 1:

Average throughput: 338.79 Mbit/s

95th percentile per-packet one-way delay: 0.914 ms

Loss rate: 0.01%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-10-10 00:47:01

End at: 2018-10-10 00:47:31

Local clock offset: 0.786 ms

Remote clock offset: 2.567 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.59 Mbit/s

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

Loss rate: 0.01%

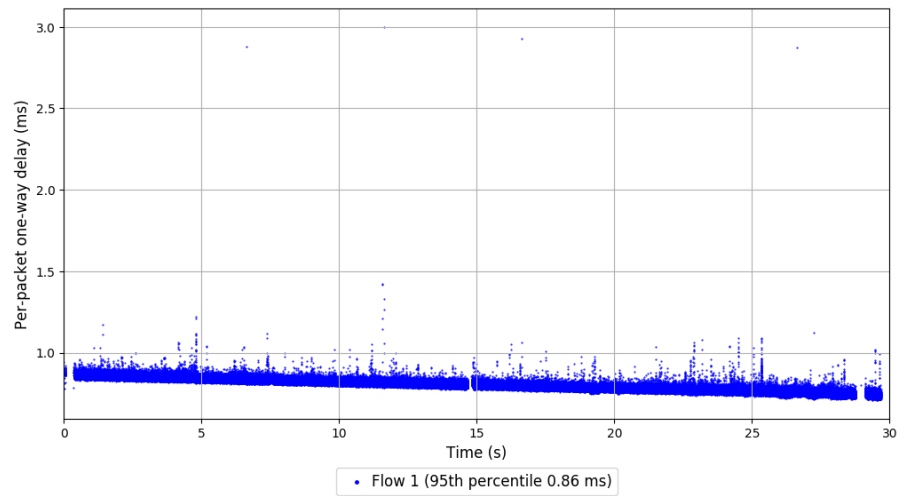
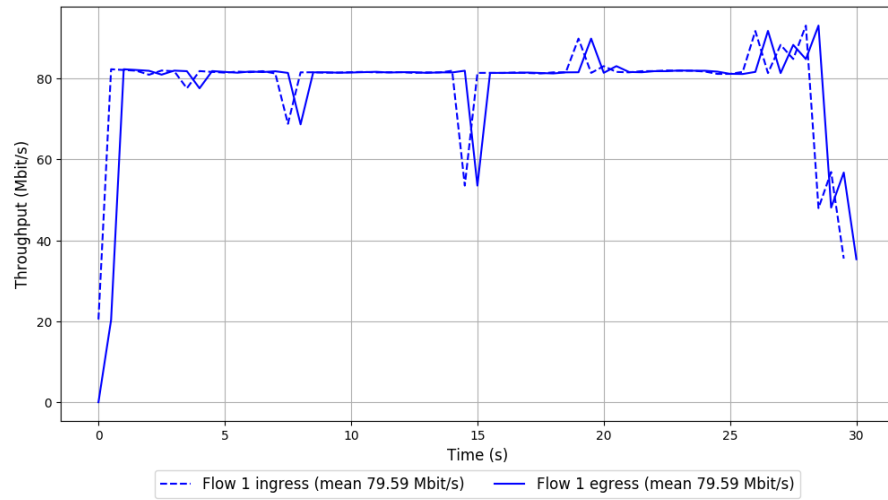
-- Flow 1:

Average throughput: 79.59 Mbit/s

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

Loss rate: 0.01%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-10-10 01:14:02

End at: 2018-10-10 01:14:32

Local clock offset: 0.485 ms

Remote clock offset: 0.531 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.81 Mbit/s

95th percentile per-packet one-way delay: 0.946 ms

Loss rate: 0.01%

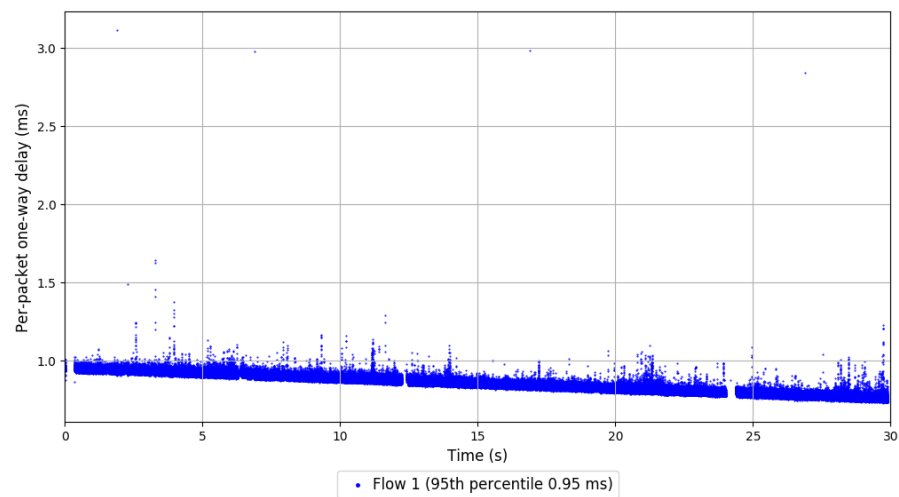
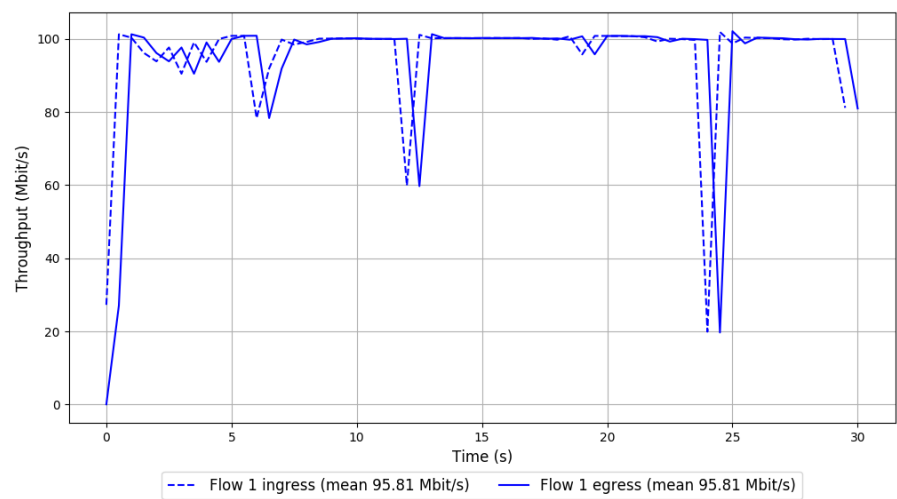
-- Flow 1:

Average throughput: 95.81 Mbit/s

95th percentile per-packet one-way delay: 0.946 ms

Loss rate: 0.01%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-10-10 01:40:39

End at: 2018-10-10 01:41:09

Local clock offset: 0.362 ms

Remote clock offset: -3.31 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.29 Mbit/s

95th percentile per-packet one-way delay: 0.913 ms

Loss rate: 0.01%

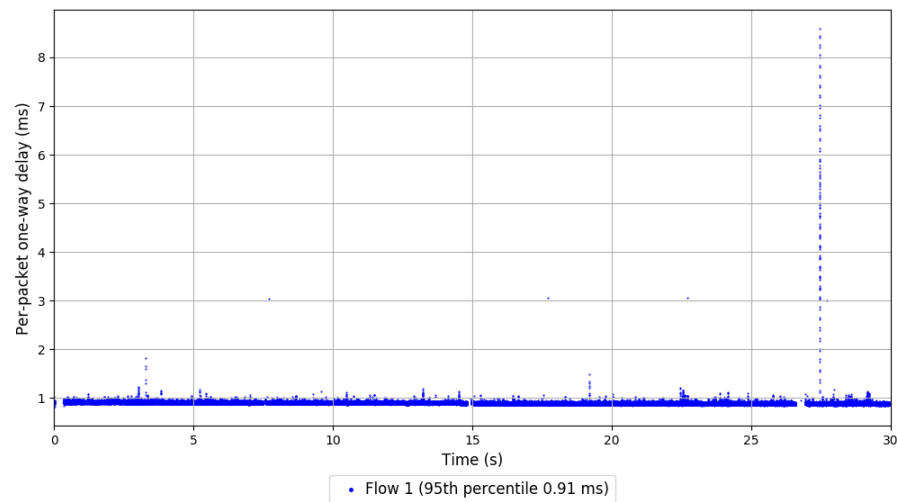
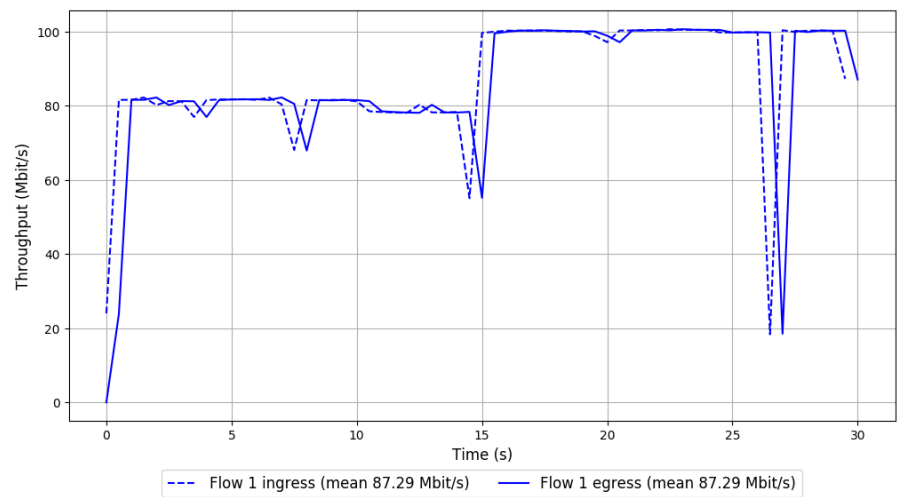
-- Flow 1:

Average throughput: 87.29 Mbit/s

95th percentile per-packet one-way delay: 0.913 ms

Loss rate: 0.01%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-10-10 02:07:32

End at: 2018-10-10 02:08:02

Local clock offset: 0.33 ms

Remote clock offset: 4.907 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.46 Mbit/s

95th percentile per-packet one-way delay: 0.958 ms

Loss rate: 0.01%

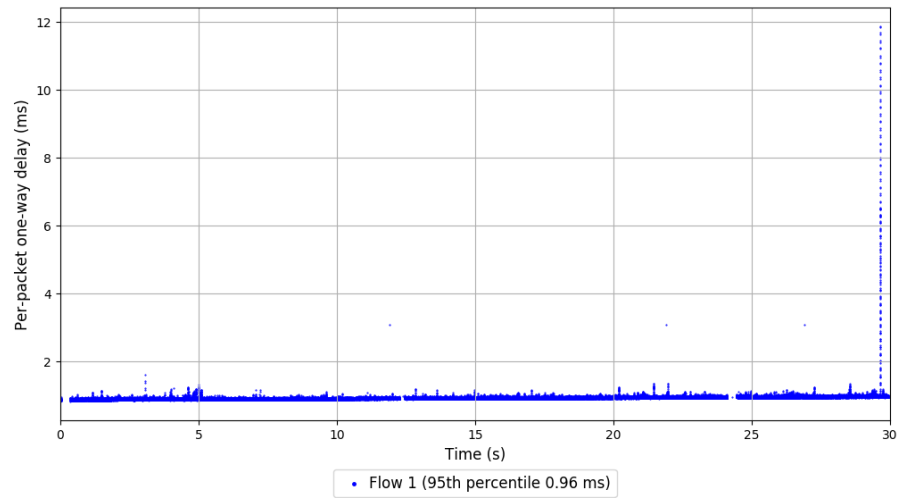
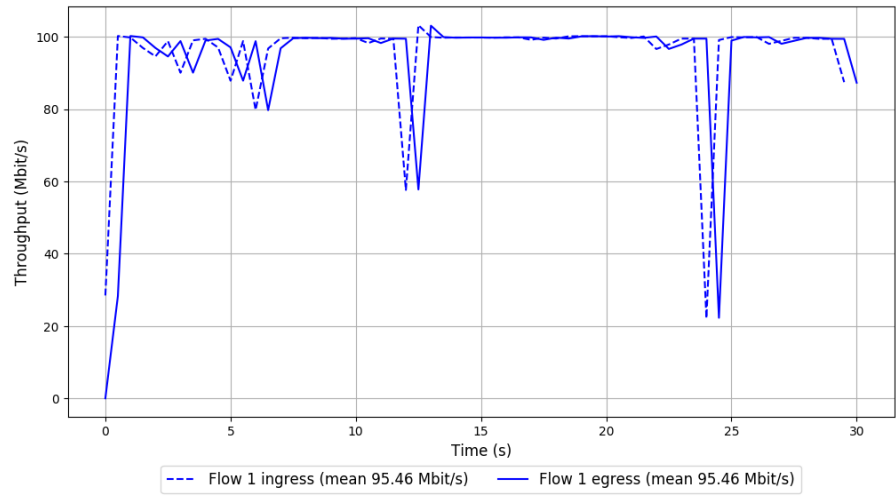
-- Flow 1:

Average throughput: 95.46 Mbit/s

95th percentile per-packet one-way delay: 0.958 ms

Loss rate: 0.01%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-10-10 02:34:34

End at: 2018-10-10 02:35:04

Local clock offset: 0.416 ms

Remote clock offset: 1.92 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 82.56 Mbit/s

95th percentile per-packet one-way delay: 0.994 ms

Loss rate: 0.01%

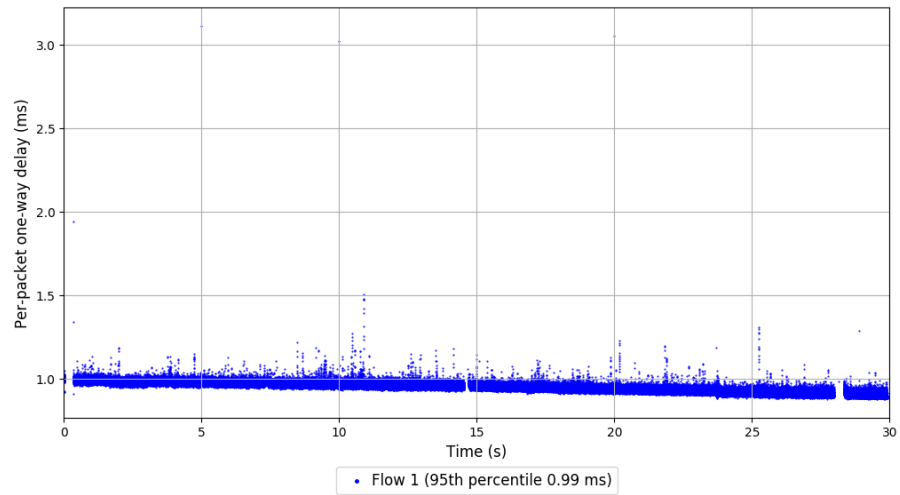
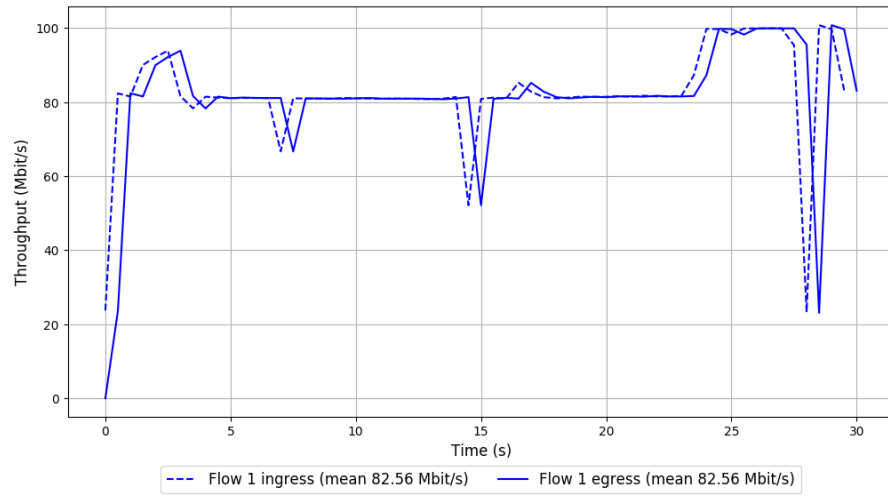
-- Flow 1:

Average throughput: 82.56 Mbit/s

95th percentile per-packet one-way delay: 0.994 ms

Loss rate: 0.01%

Run 5: Report of QUIC Cubic — Data Link

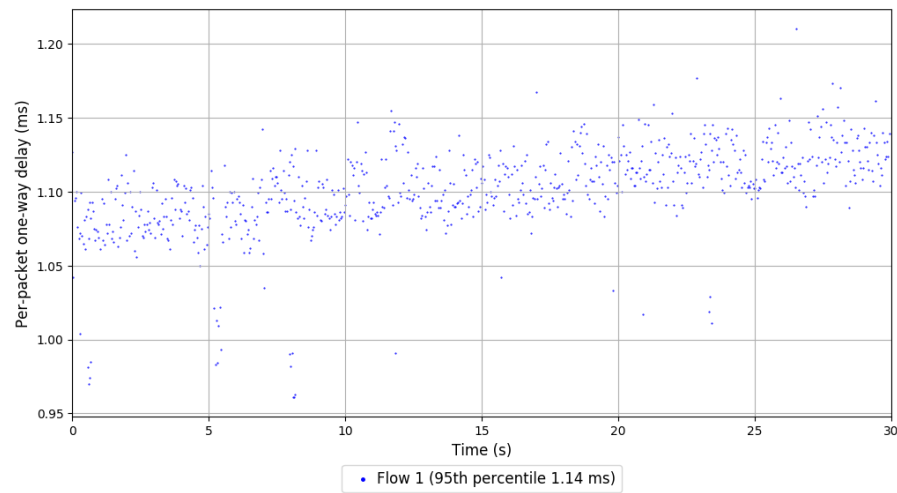
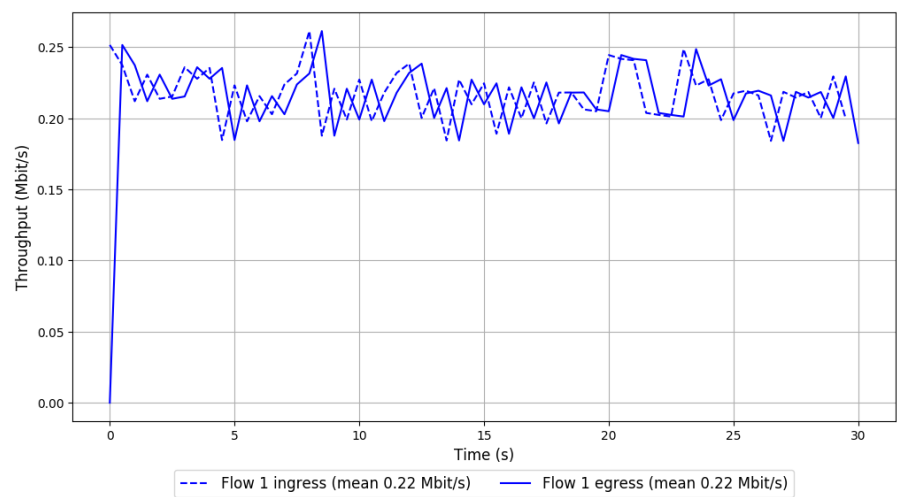


```
Run 1: Statistics of SCReAM

Start at: 2018-10-10 00:32:24
End at: 2018-10-10 00:32:54
Local clock offset: 0.792 ms
Remote clock offset: 4.963 ms

# Below is generated by plot.py at 2018-10-10 03:25:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.141 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.141 ms
Loss rate: 0.13%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-10-10 00:59:18

End at: 2018-10-10 00:59:48

Local clock offset: 0.698 ms

Remote clock offset: 1.05 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.129 ms

Loss rate: 0.00%

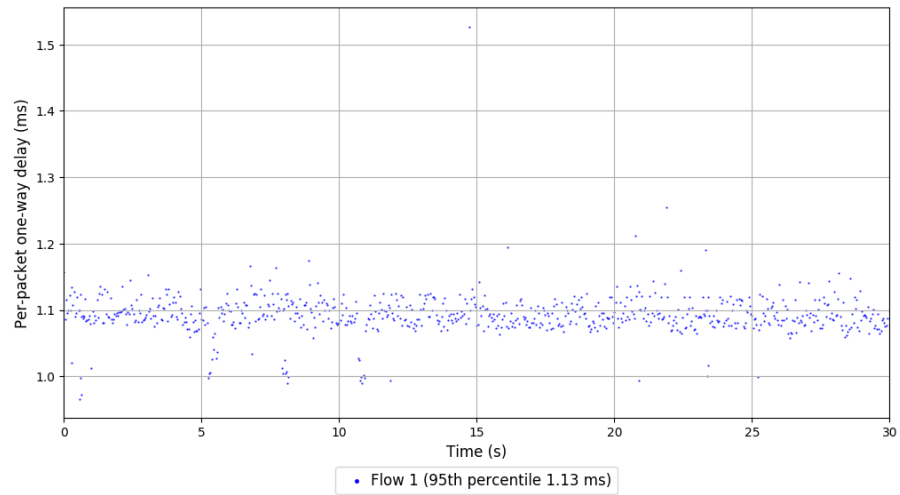
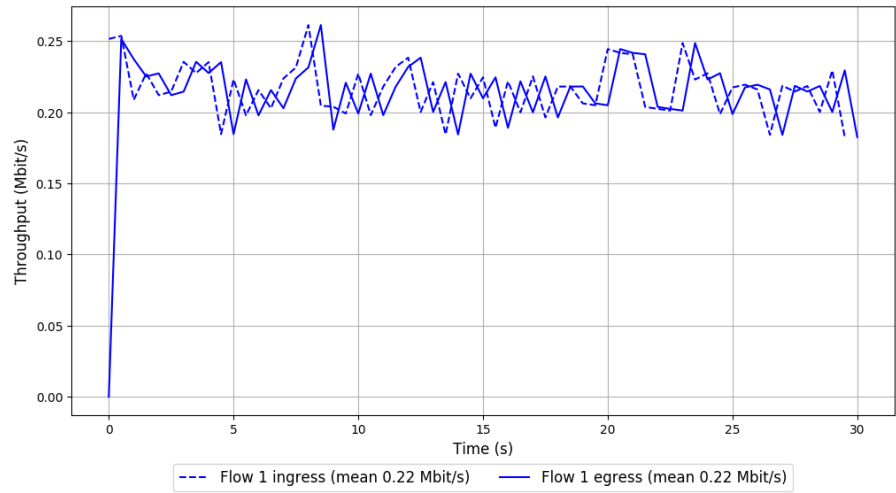
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.129 ms

Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

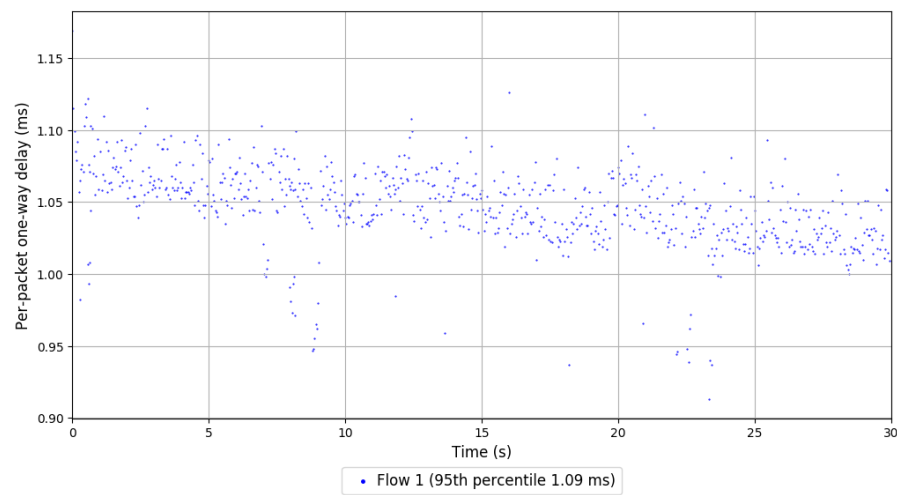
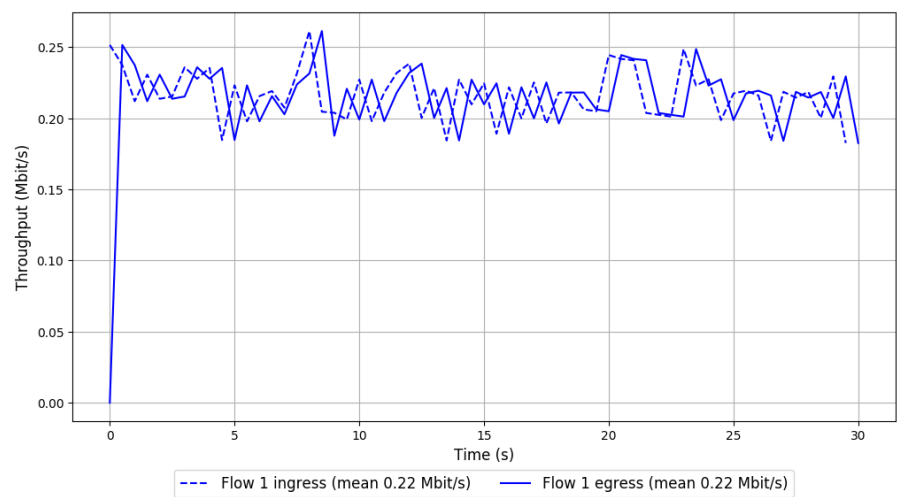


Run 3: Statistics of SCReAM

Start at: 2018-10-10 01:26:20
End at: 2018-10-10 01:26:50
Local clock offset: 0.483 ms
Remote clock offset: -2.254 ms

Below is generated by plot.py at 2018-10-10 03:25:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.089 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.089 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-10-10 01:52:55

End at: 2018-10-10 01:53:25

Local clock offset: 0.315 ms

Remote clock offset: 0.092 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.439 ms

Loss rate: 0.00%

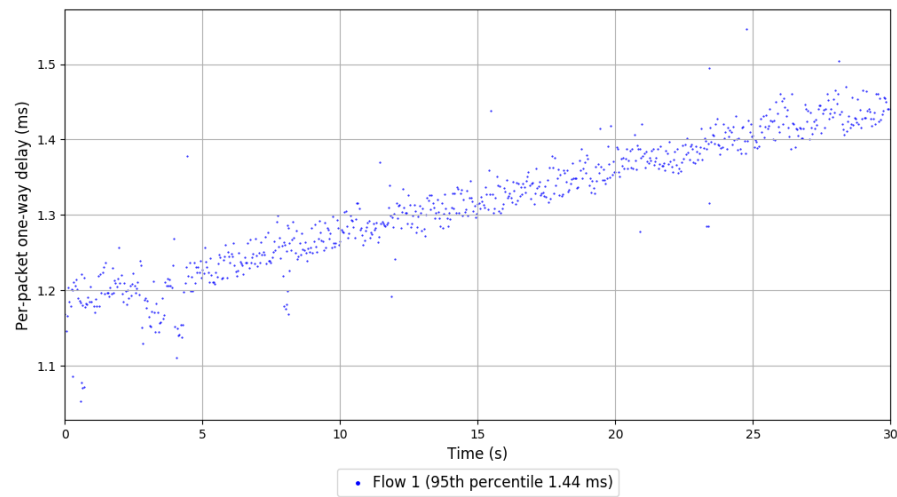
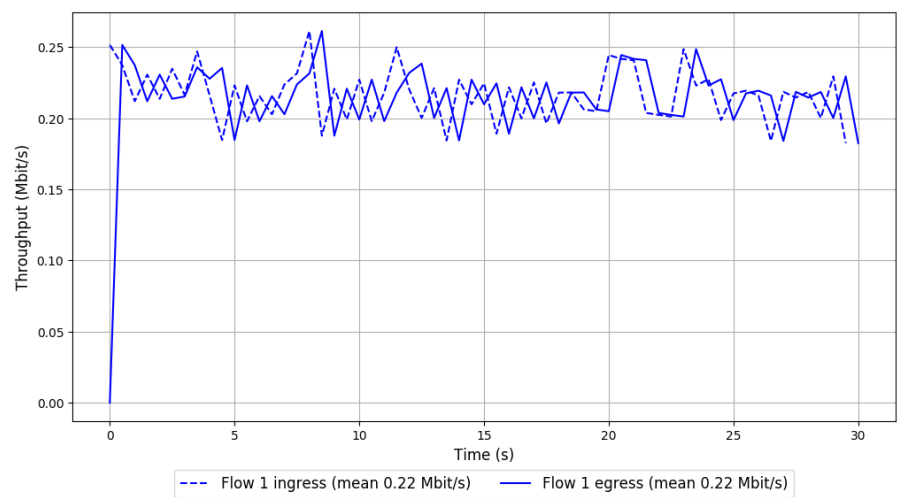
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.439 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-10-10 02:19:53

End at: 2018-10-10 02:20:23

Local clock offset: 0.365 ms

Remote clock offset: 6.675 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.170 ms

Loss rate: 0.00%

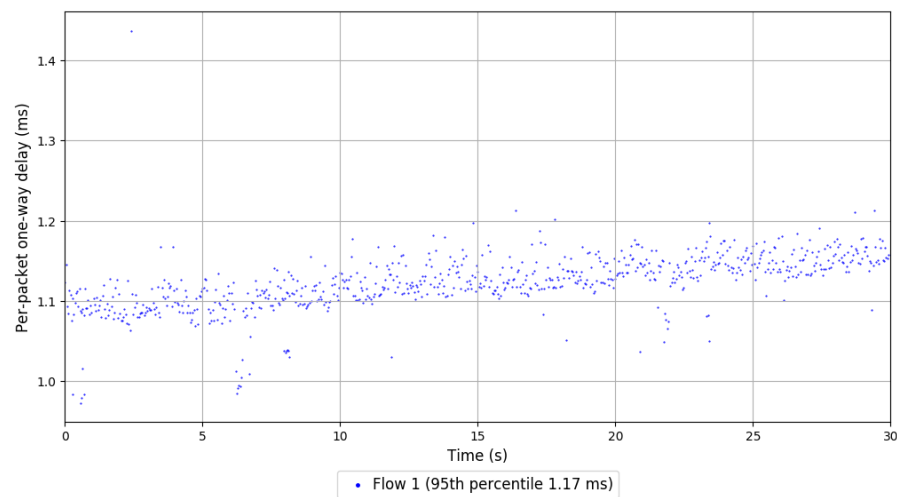
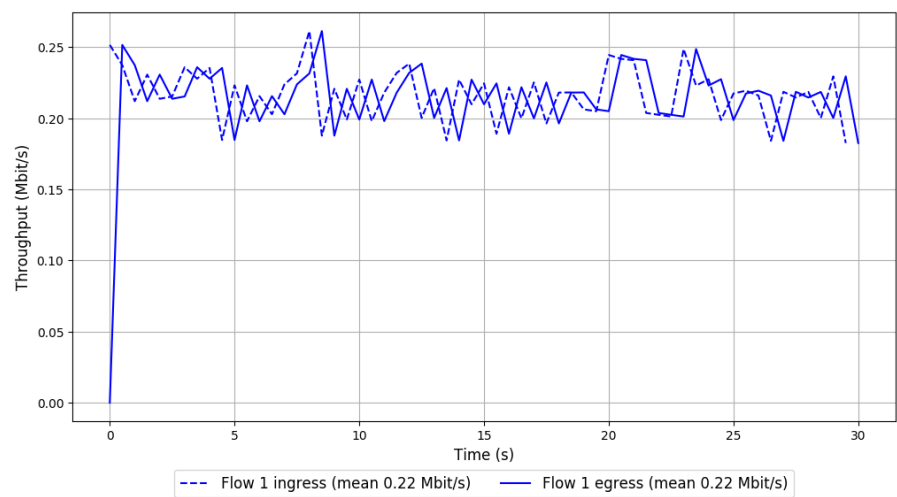
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.170 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-10-10 00:33:42

End at: 2018-10-10 00:34:12

Local clock offset: 0.762 ms

Remote clock offset: 5.026 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.22 Mbit/s

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

Loss rate: 0.00%

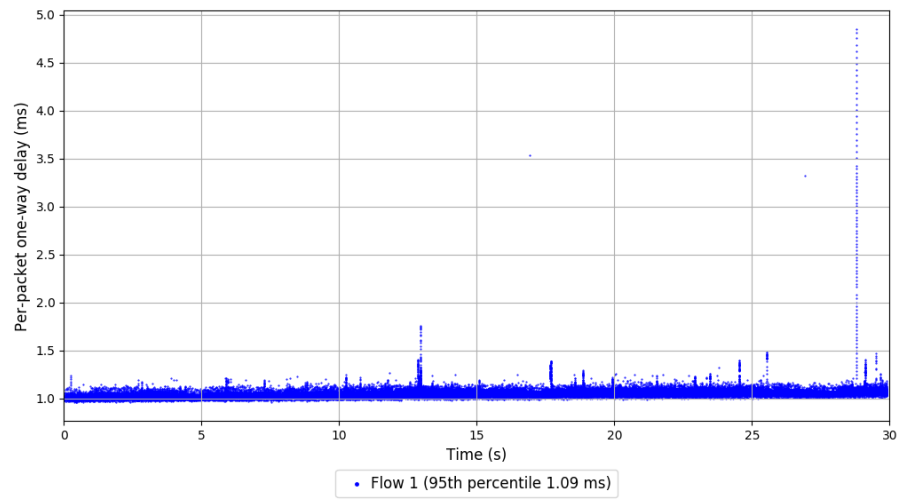
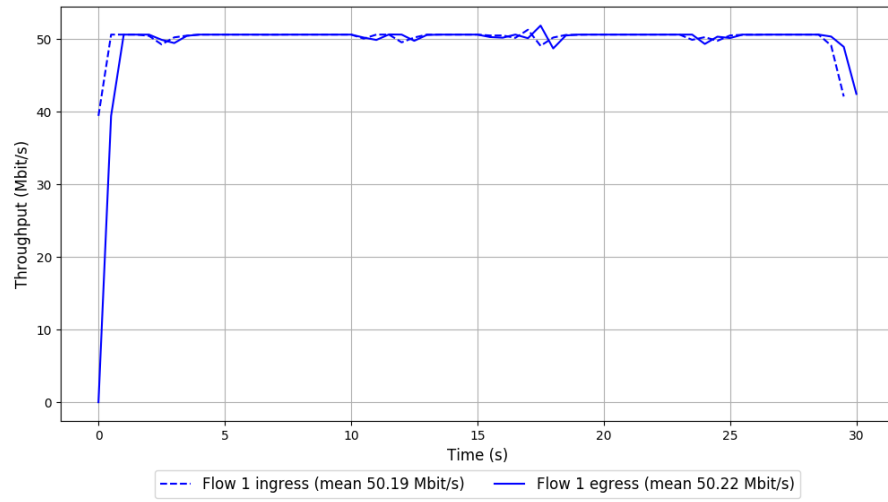
-- Flow 1:

Average throughput: 50.22 Mbit/s

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

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-10-10 01:00:36

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

Local clock offset: 0.67 ms

Remote clock offset: 1.057 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.28 Mbit/s

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

Loss rate: 0.00%

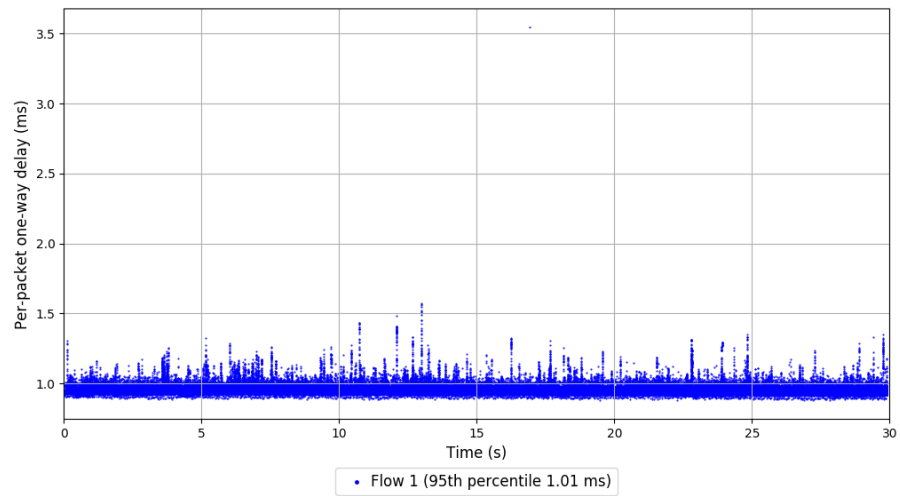
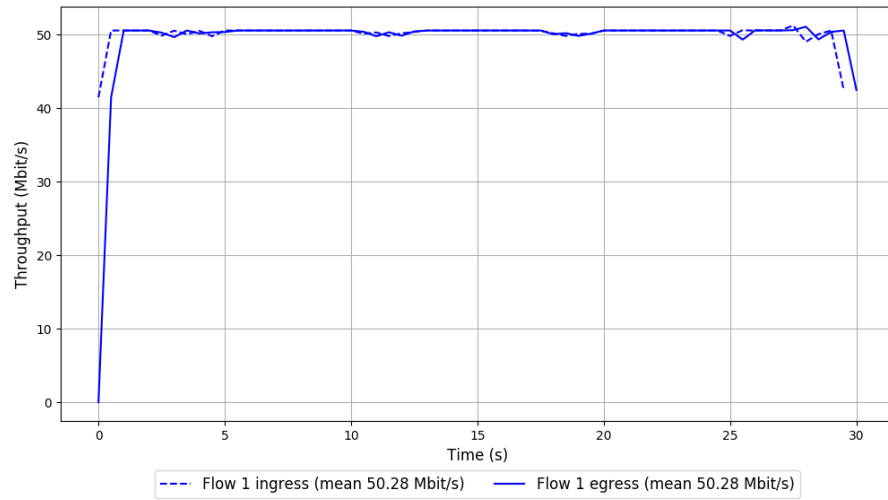
-- Flow 1:

Average throughput: 50.28 Mbit/s

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

Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

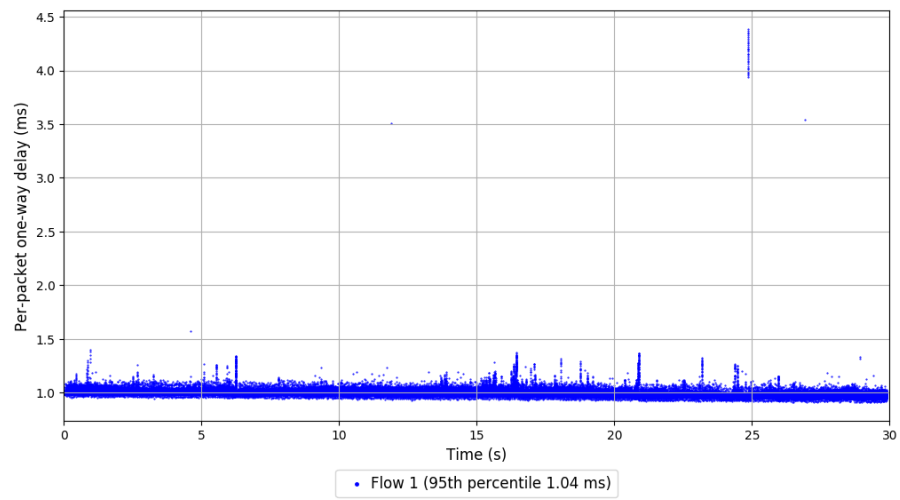
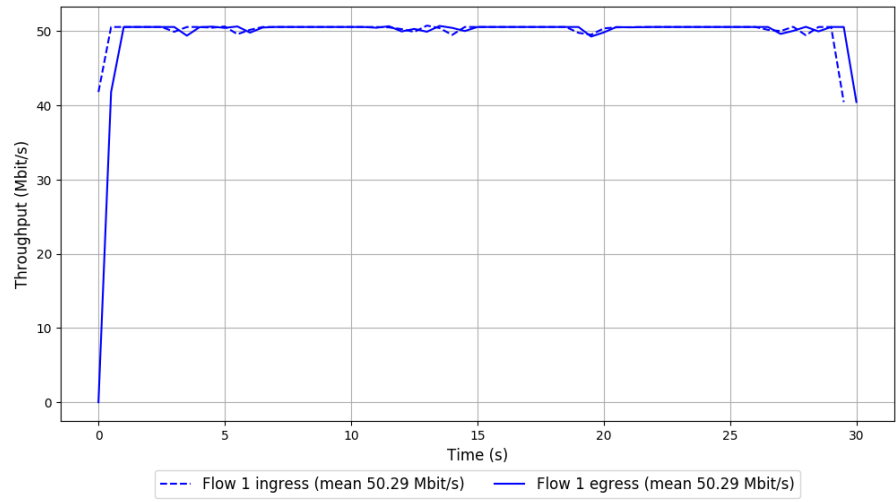


Run 3: Statistics of Sprout

Start at: 2018-10-10 01:27:38
End at: 2018-10-10 01:28:08
Local clock offset: 0.474 ms
Remote clock offset: -2.421 ms

Below is generated by plot.py at 2018-10-10 03:25:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.29 Mbit/s
95th percentile per-packet one-way delay: 1.039 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.29 Mbit/s
95th percentile per-packet one-way delay: 1.039 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-10-10 01:54:13

End at: 2018-10-10 01:54:43

Local clock offset: 0.307 ms

Remote clock offset: 0.77 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.26 Mbit/s

95th percentile per-packet one-way delay: 1.290 ms

Loss rate: 0.00%

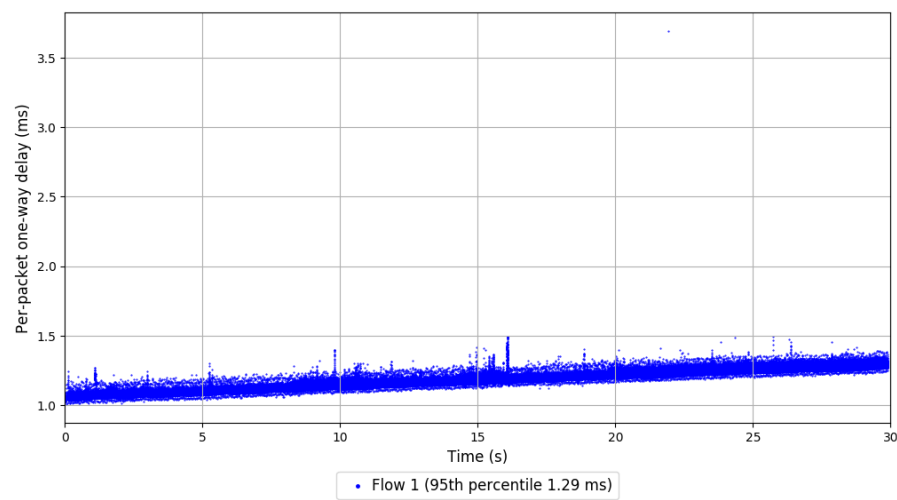
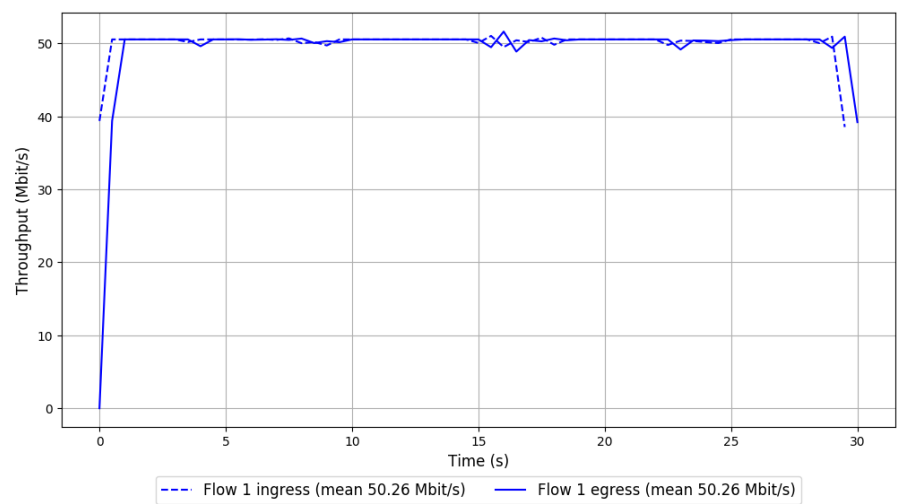
-- Flow 1:

Average throughput: 50.26 Mbit/s

95th percentile per-packet one-way delay: 1.290 ms

Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-10-10 02:21:11

End at: 2018-10-10 02:21:41

Local clock offset: 0.378 ms

Remote clock offset: 6.843 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.23 Mbit/s

95th percentile per-packet one-way delay: 1.098 ms

Loss rate: 0.00%

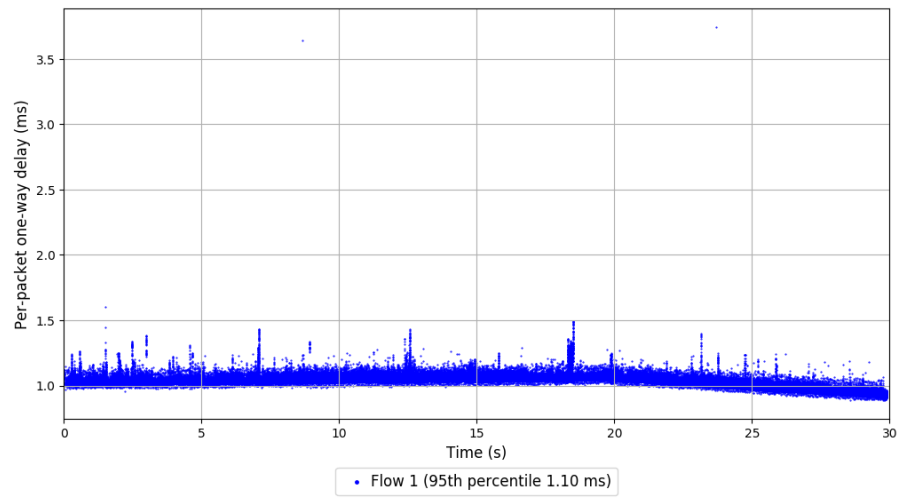
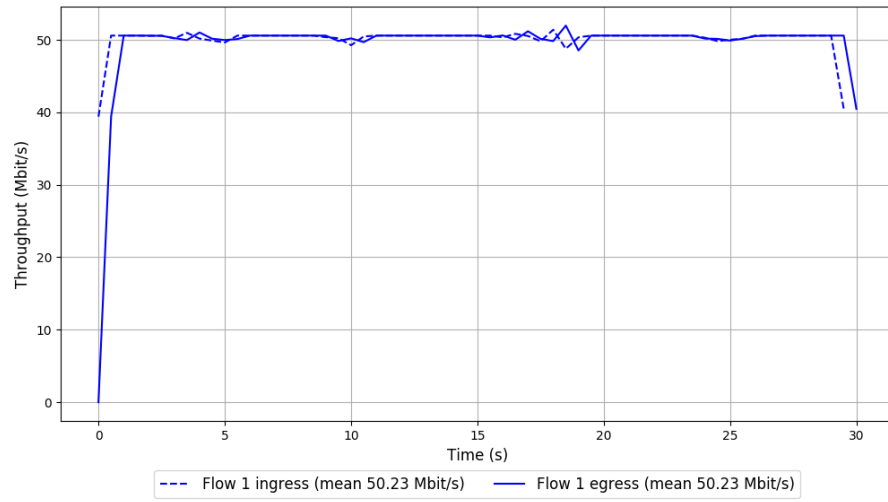
-- Flow 1:

Average throughput: 50.23 Mbit/s

95th percentile per-packet one-way delay: 1.098 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link

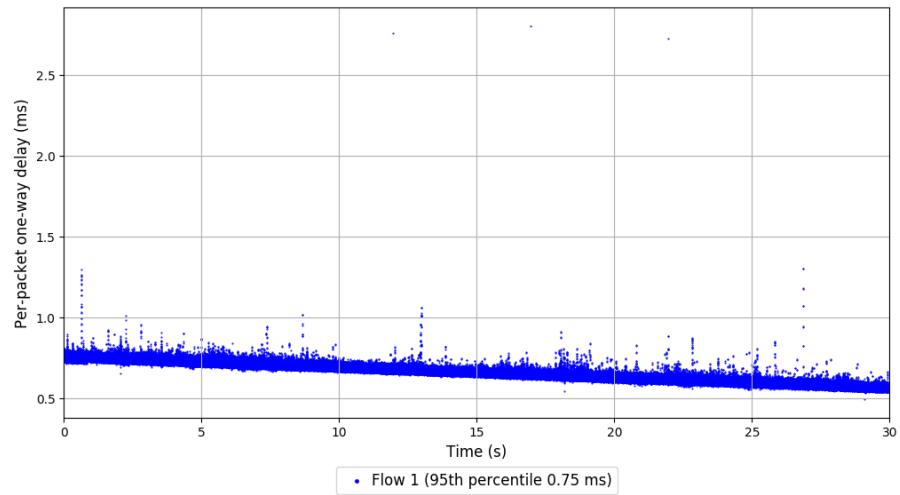
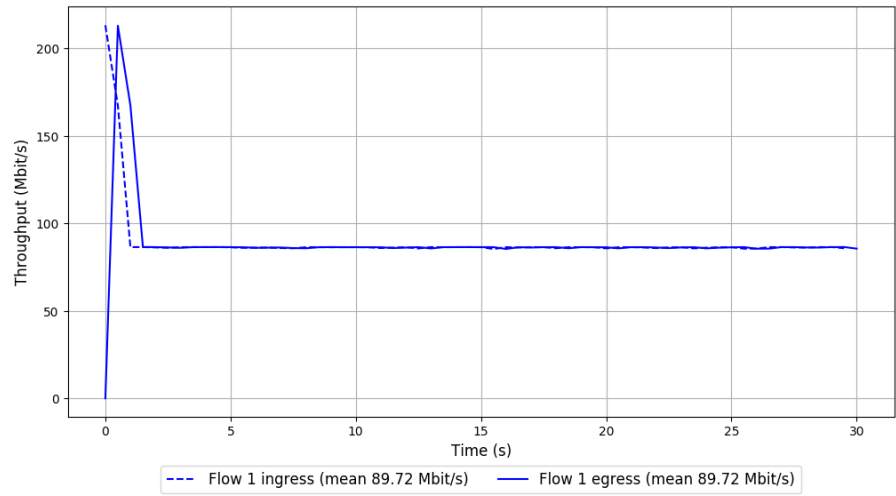


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-10-10 00:42:39
End at: 2018-10-10 00:43:09
Local clock offset: 0.723 ms
Remote clock offset: 3.976 ms

# Below is generated by plot.py at 2018-10-10 03:25:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.72 Mbit/s
95th percentile per-packet one-way delay: 0.752 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 89.72 Mbit/s
95th percentile per-packet one-way delay: 0.752 ms
Loss rate: 0.01%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-10-10 01:09:35

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

Local clock offset: 0.519 ms

Remote clock offset: 0.915 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 99.18 Mbit/s

95th percentile per-packet one-way delay: 0.944 ms

Loss rate: 0.01%

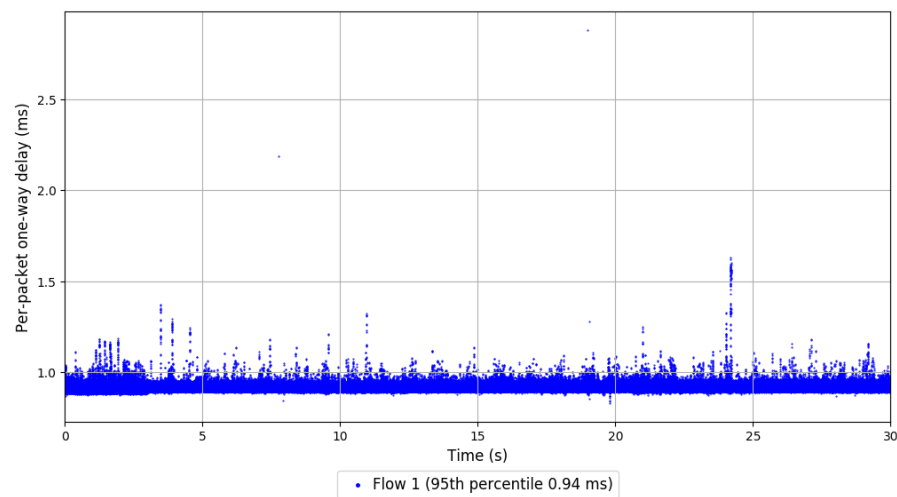
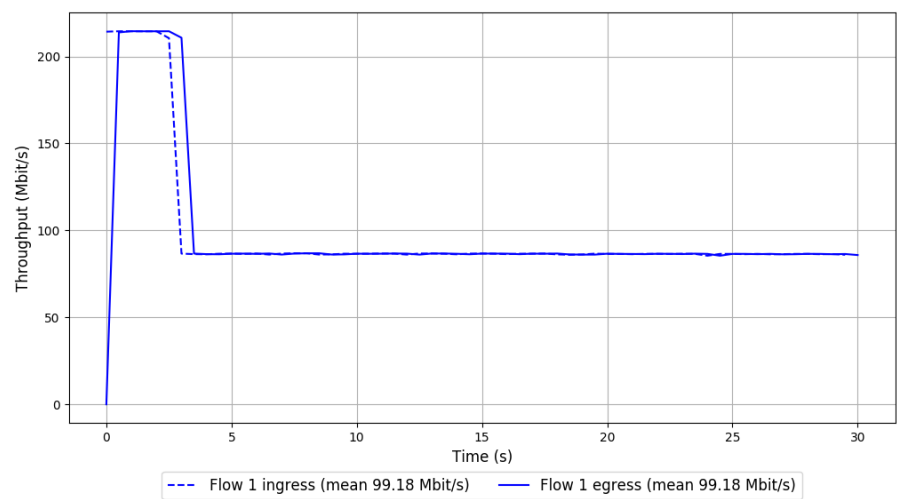
-- Flow 1:

Average throughput: 99.18 Mbit/s

95th percentile per-packet one-way delay: 0.944 ms

Loss rate: 0.01%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-10-10 01:36:38

End at: 2018-10-10 01:37:08

Local clock offset: 0.364 ms

Remote clock offset: -3.06 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 7.09 Mbit/s

95th percentile per-packet one-way delay: 0.968 ms

Loss rate: 0.01%

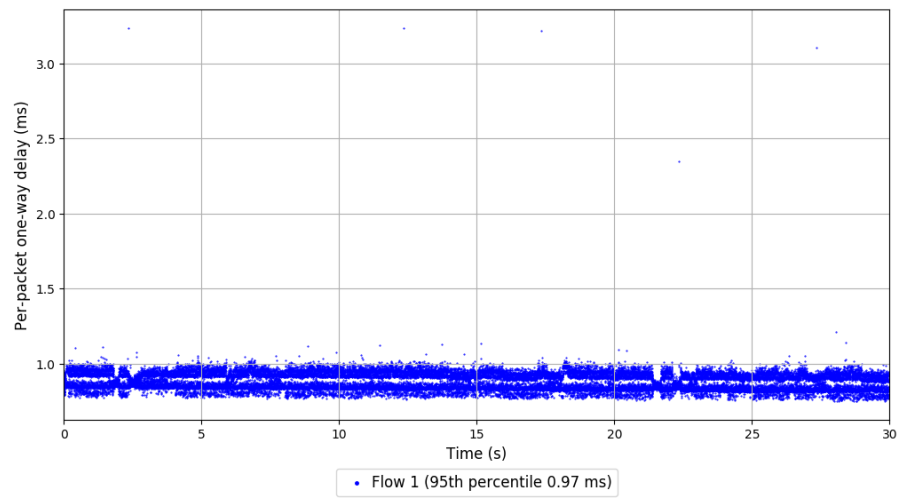
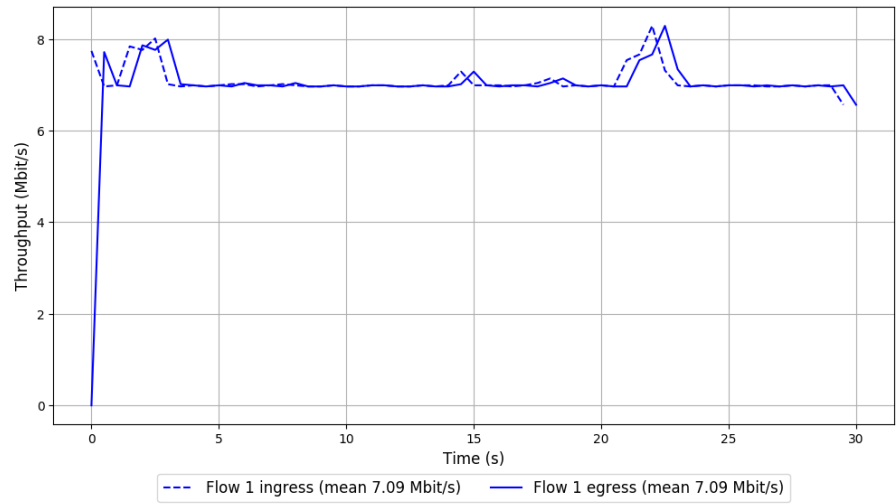
-- Flow 1:

Average throughput: 7.09 Mbit/s

95th percentile per-packet one-way delay: 0.968 ms

Loss rate: 0.01%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-10-10 02:03:08

End at: 2018-10-10 02:03:38

Local clock offset: 0.334 ms

Remote clock offset: 3.921 ms

Below is generated by plot.py at 2018-10-10 03:25:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 54.54 Mbit/s

95th percentile per-packet one-way delay: 1.003 ms

Loss rate: 0.00%

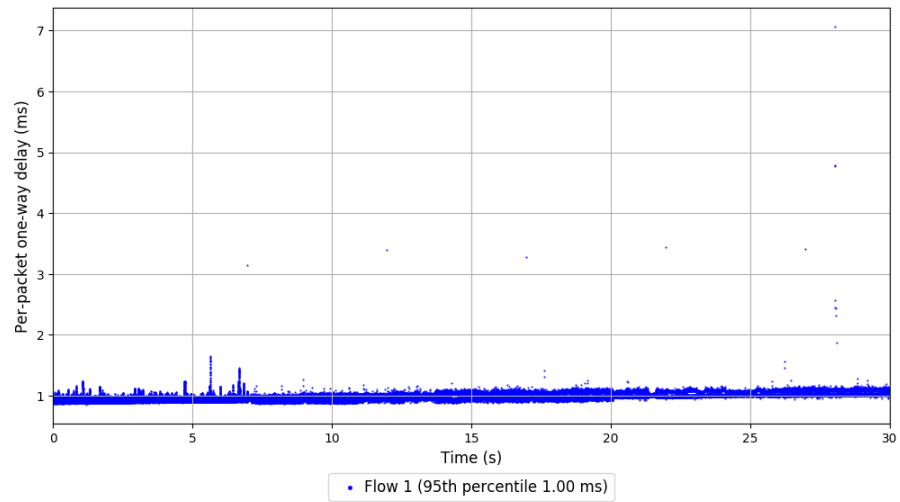
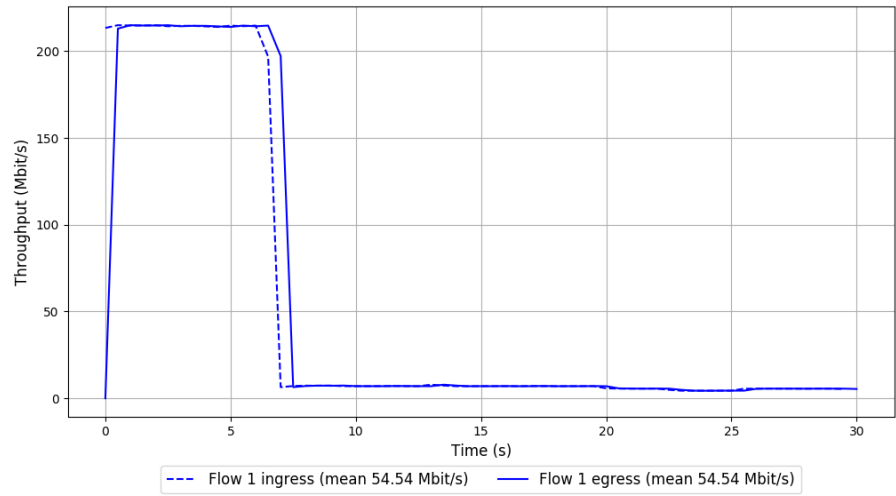
-- Flow 1:

Average throughput: 54.54 Mbit/s

95th percentile per-packet one-way delay: 1.003 ms

Loss rate: 0.00%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-10-10 02:30:09

End at: 2018-10-10 02:30:39

Local clock offset: 0.397 ms

Remote clock offset: 2.883 ms

Below is generated by plot.py at 2018-10-10 03:26:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 99.83 Mbit/s

95th percentile per-packet one-way delay: 0.914 ms

Loss rate: 0.01%

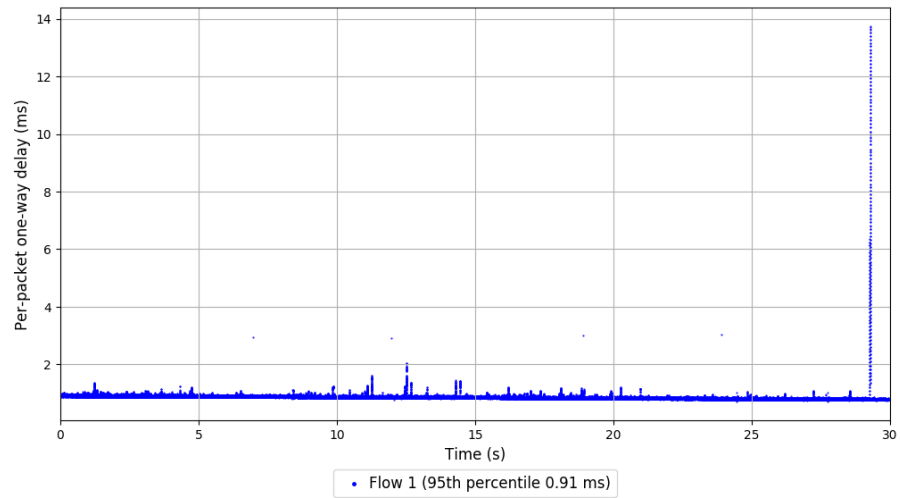
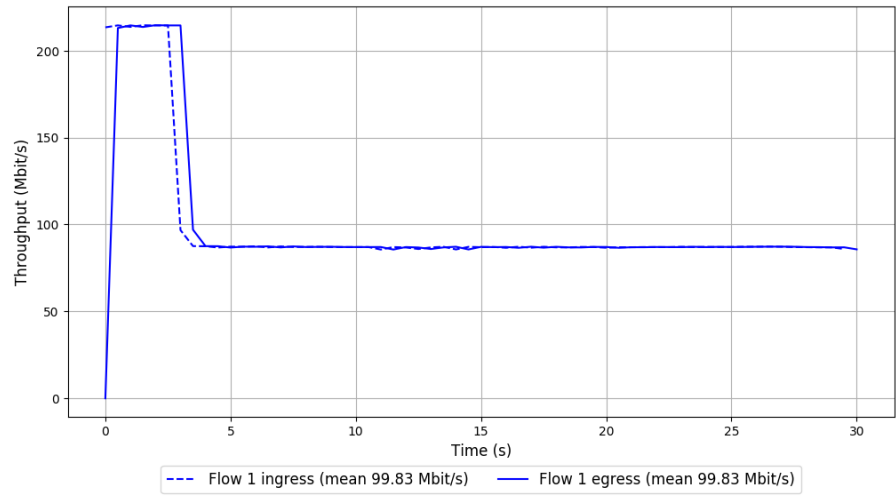
-- Flow 1:

Average throughput: 99.83 Mbit/s

95th percentile per-packet one-way delay: 0.914 ms

Loss rate: 0.01%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-10-10 00:45:38

End at: 2018-10-10 00:46:08

Local clock offset: 0.761 ms

Remote clock offset: 2.912 ms

Below is generated by plot.py at 2018-10-10 03:26:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 171.12 Mbit/s

95th percentile per-packet one-way delay: 0.910 ms

Loss rate: 0.00%

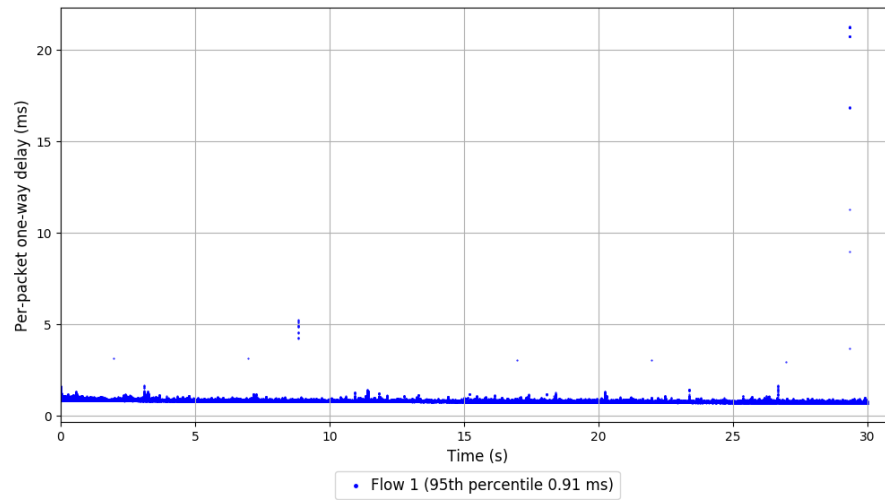
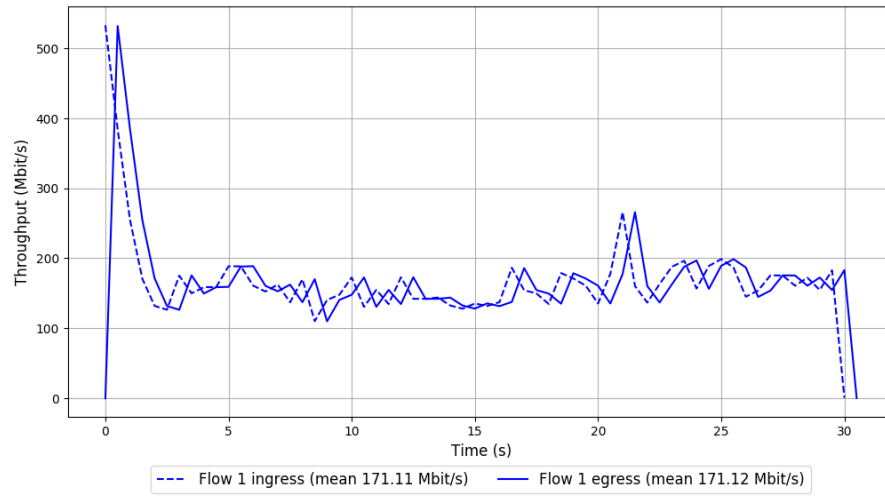
-- Flow 1:

Average throughput: 171.12 Mbit/s

95th percentile per-packet one-way delay: 0.910 ms

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-10-10 01:12:36

End at: 2018-10-10 01:13:06

Local clock offset: 0.491 ms

Remote clock offset: 0.84 ms

Below is generated by plot.py at 2018-10-10 03:26:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 222.46 Mbit/s

95th percentile per-packet one-way delay: 1.098 ms

Loss rate: 0.00%

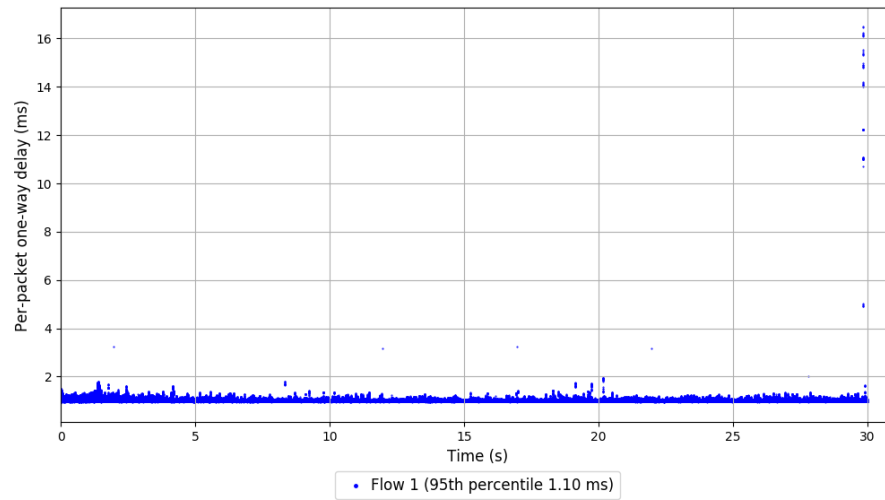
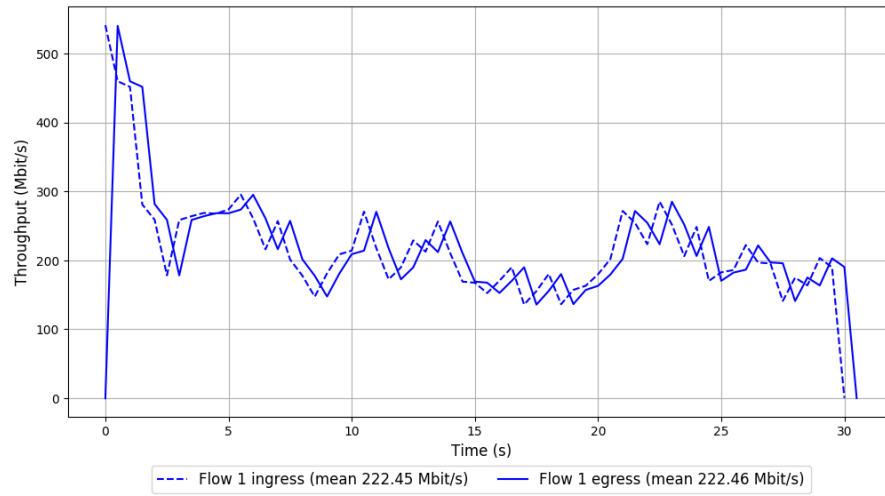
-- Flow 1:

Average throughput: 222.46 Mbit/s

95th percentile per-packet one-way delay: 1.098 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

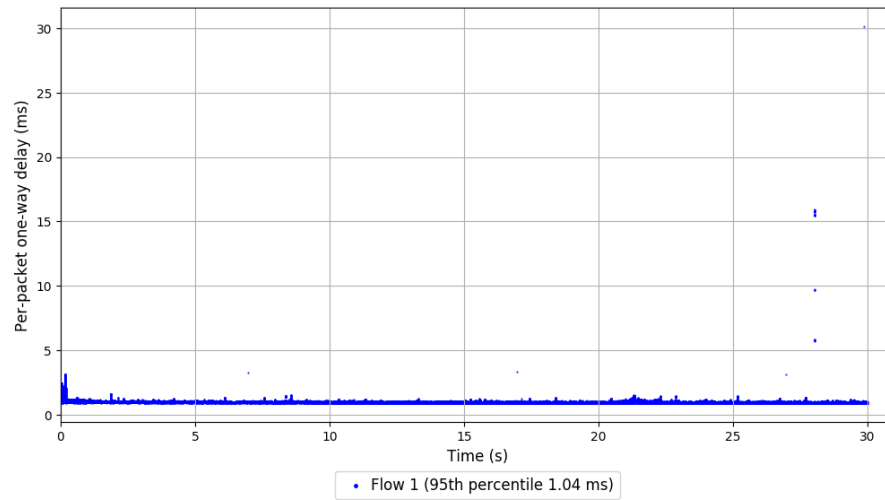
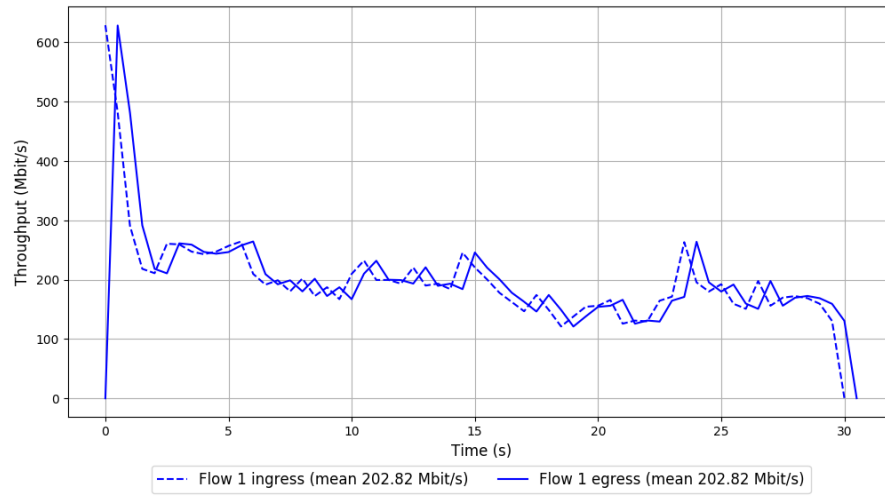


Run 3: Statistics of TCP Vegas

Start at: 2018-10-10 01:39:15
End at: 2018-10-10 01:39:45
Local clock offset: 0.33 ms
Remote clock offset: -3.345 ms

Below is generated by plot.py at 2018-10-10 03:27:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 202.82 Mbit/s
95th percentile per-packet one-way delay: 1.042 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 202.82 Mbit/s
95th percentile per-packet one-way delay: 1.042 ms
Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-10-10 02:06:07

End at: 2018-10-10 02:06:37

Local clock offset: 0.343 ms

Remote clock offset: 4.489 ms

Below is generated by plot.py at 2018-10-10 03:27:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 238.69 Mbit/s

95th percentile per-packet one-way delay: 1.310 ms

Loss rate: 0.00%

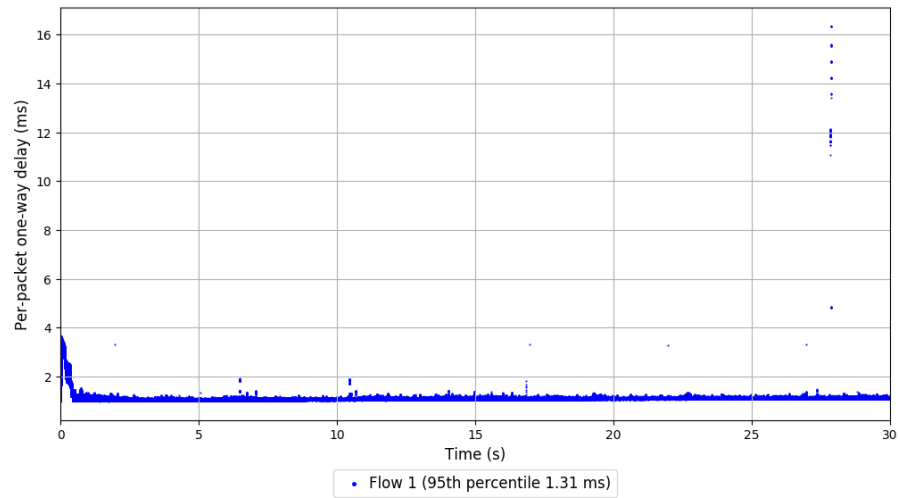
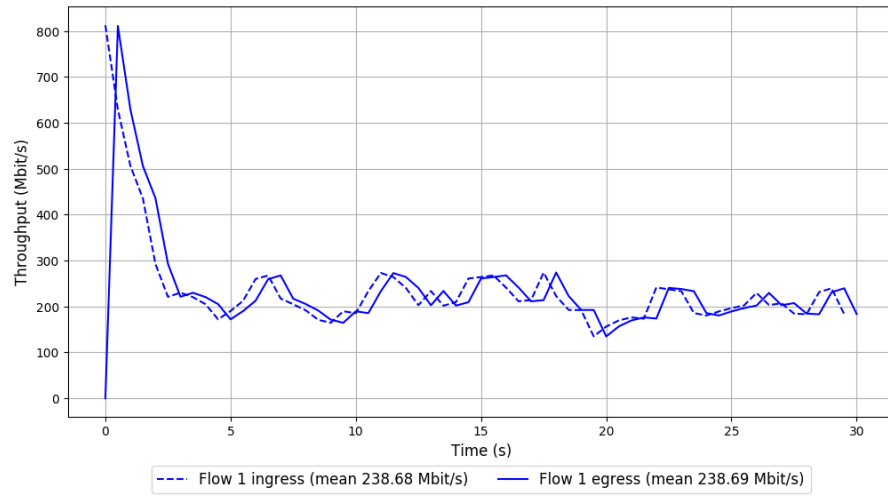
-- Flow 1:

Average throughput: 238.69 Mbit/s

95th percentile per-packet one-way delay: 1.310 ms

Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-10-10 02:33:11

End at: 2018-10-10 02:33:41

Local clock offset: 0.415 ms

Remote clock offset: 2.312 ms

Below is generated by plot.py at 2018-10-10 03:27:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 149.87 Mbit/s

95th percentile per-packet one-way delay: 1.283 ms

Loss rate: 0.00%

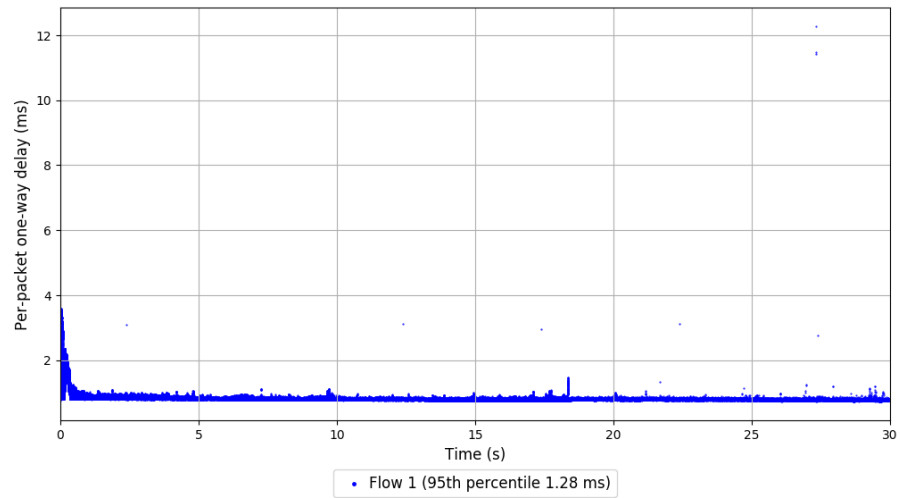
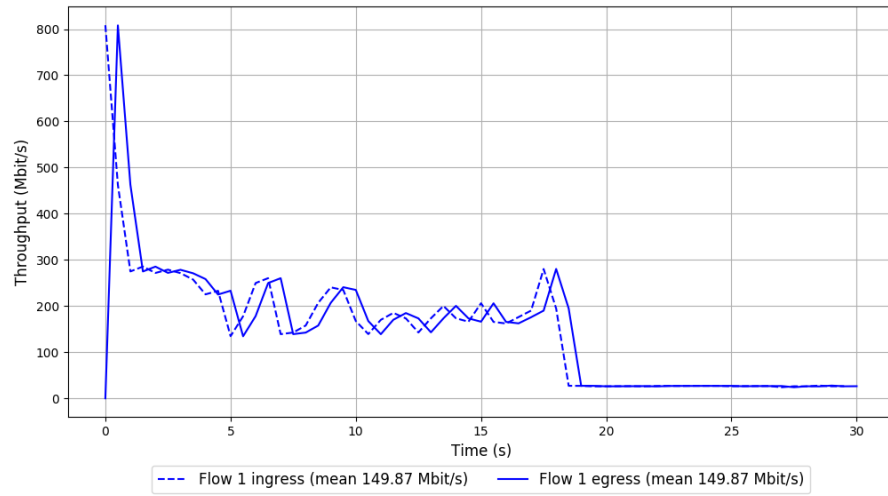
-- Flow 1:

Average throughput: 149.87 Mbit/s

95th percentile per-packet one-way delay: 1.283 ms

Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-10-10 00:48:22

End at: 2018-10-10 00:48:52

Local clock offset: 0.8 ms

Remote clock offset: 2.17 ms

Below is generated by plot.py at 2018-10-10 03:28:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 222.03 Mbit/s

95th percentile per-packet one-way delay: 2.439 ms

Loss rate: 0.02%

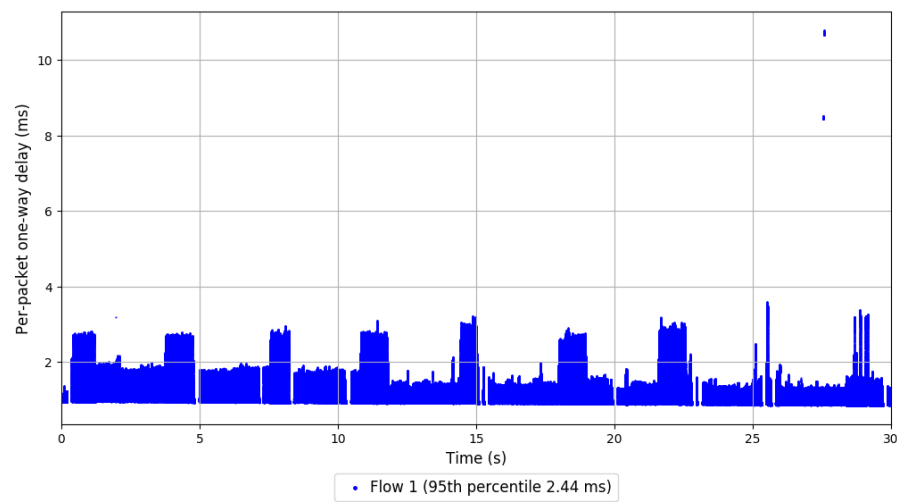
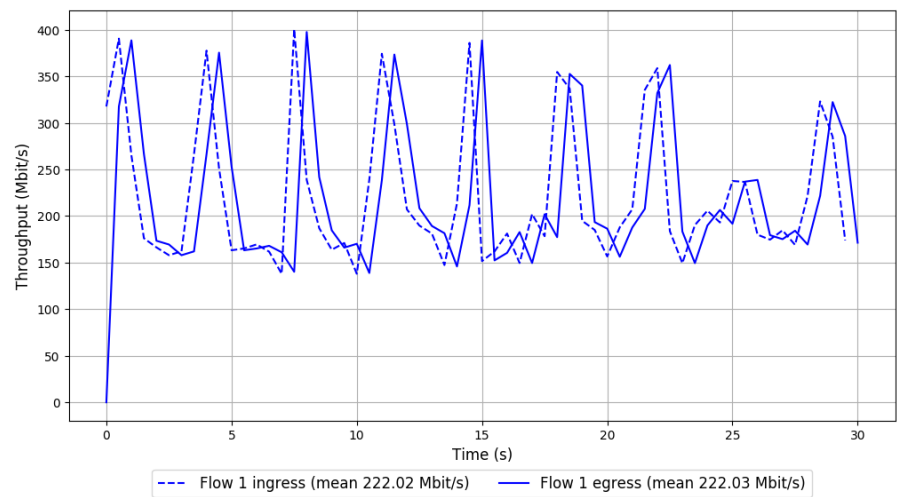
-- Flow 1:

Average throughput: 222.03 Mbit/s

95th percentile per-packet one-way delay: 2.439 ms

Loss rate: 0.02%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-10-10 01:15:23

End at: 2018-10-10 01:15:53

Local clock offset: 0.5 ms

Remote clock offset: 0.105 ms

Below is generated by plot.py at 2018-10-10 03:28:23

Datalink statistics

-- Total of 1 flow:

Average throughput: 218.05 Mbit/s

95th percentile per-packet one-way delay: 1.595 ms

Loss rate: 0.01%

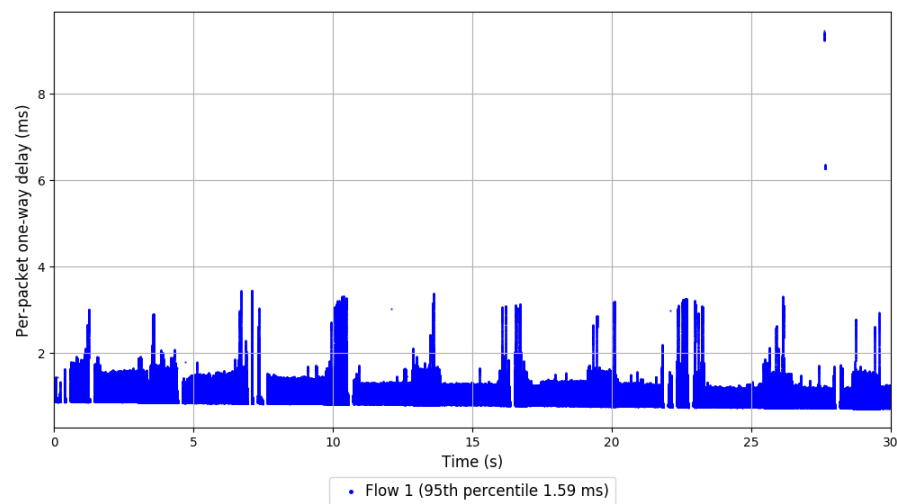
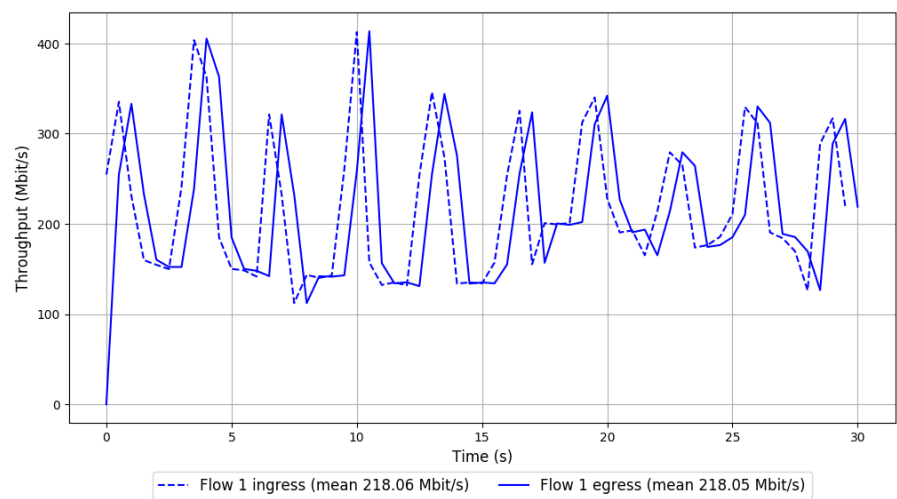
-- Flow 1:

Average throughput: 218.05 Mbit/s

95th percentile per-packet one-way delay: 1.595 ms

Loss rate: 0.01%

Run 2: Report of Verus — Data Link

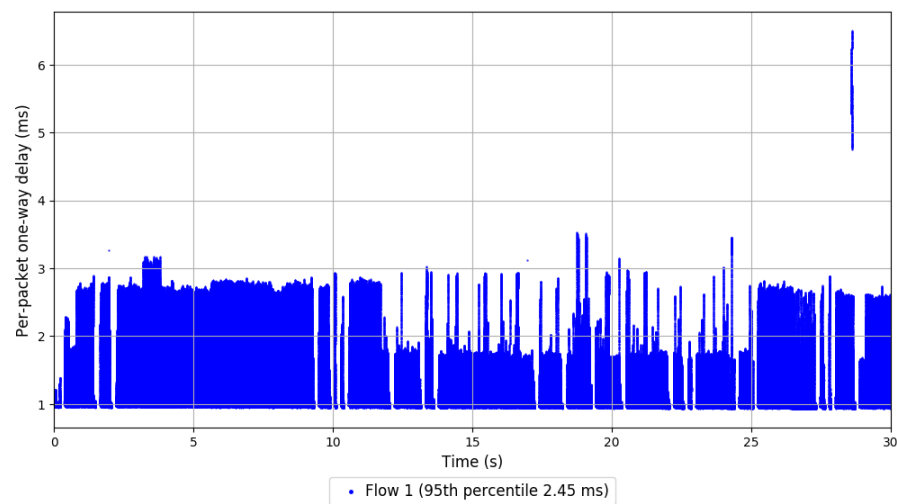
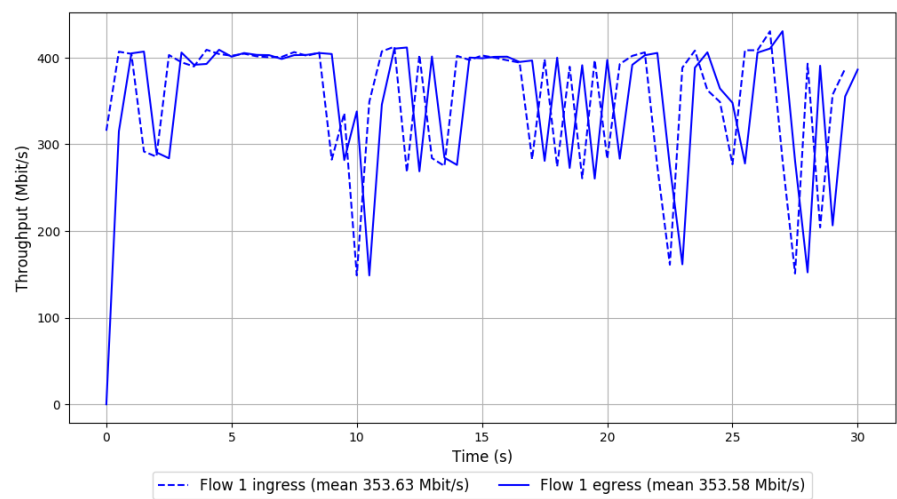


Run 3: Statistics of Verus

Start at: 2018-10-10 01:42:00
End at: 2018-10-10 01:42:30
Local clock offset: 0.344 ms
Remote clock offset: -3.492 ms

Below is generated by plot.py at 2018-10-10 03:30:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 353.58 Mbit/s
95th percentile per-packet one-way delay: 2.454 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 353.58 Mbit/s
95th percentile per-packet one-way delay: 2.454 ms
Loss rate: 0.01%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-10-10 02:08:53

End at: 2018-10-10 02:09:23

Local clock offset: 0.343 ms

Remote clock offset: 5.013 ms

Below is generated by plot.py at 2018-10-10 03:30:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 246.72 Mbit/s

95th percentile per-packet one-way delay: 2.232 ms

Loss rate: 0.02%

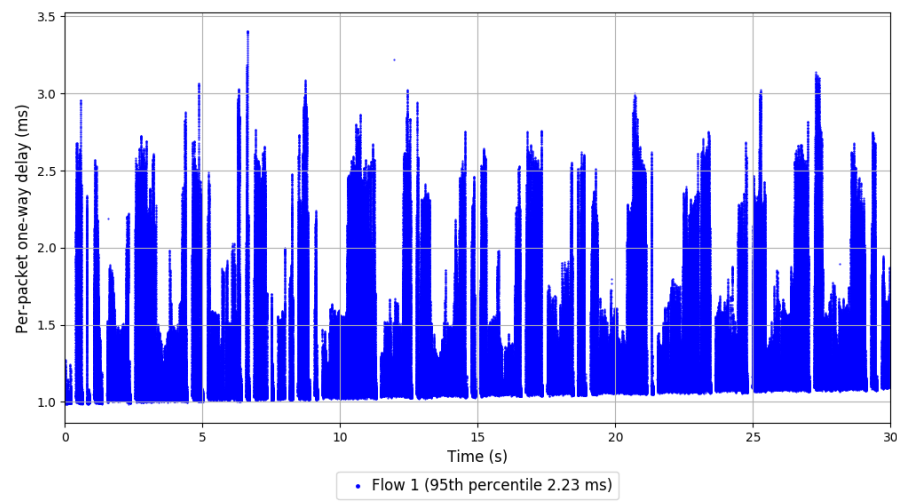
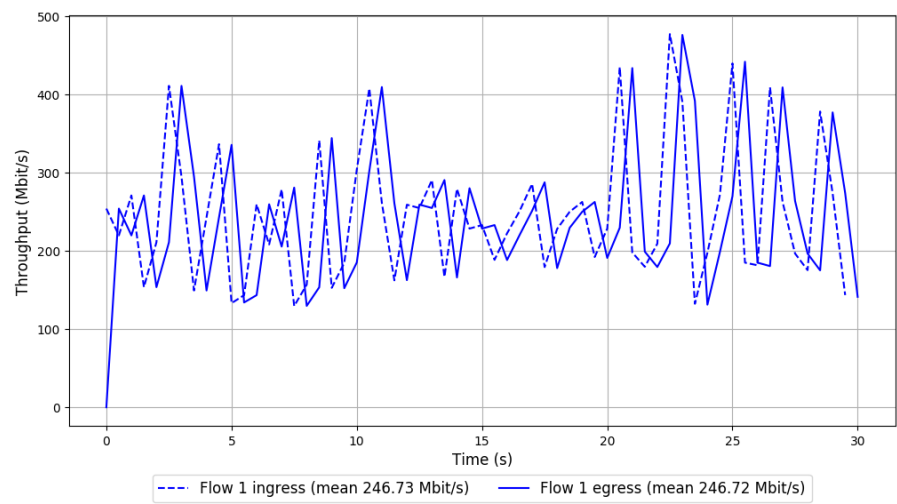
-- Flow 1:

Average throughput: 246.72 Mbit/s

95th percentile per-packet one-way delay: 2.232 ms

Loss rate: 0.02%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-10-10 02:35:55

End at: 2018-10-10 02:36:25

Local clock offset: 0.43 ms

Remote clock offset: 1.769 ms

Below is generated by plot.py at 2018-10-10 03:30:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 358.57 Mbit/s

95th percentile per-packet one-way delay: 2.346 ms

Loss rate: 0.00%

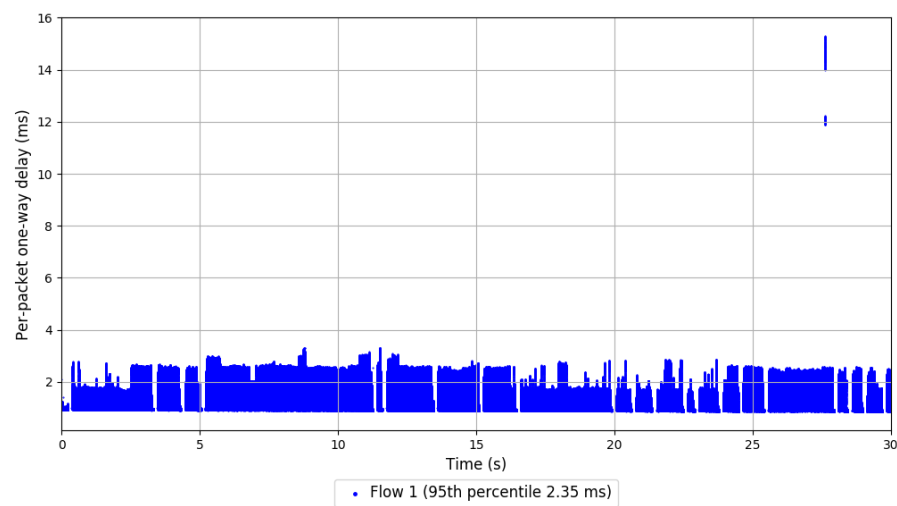
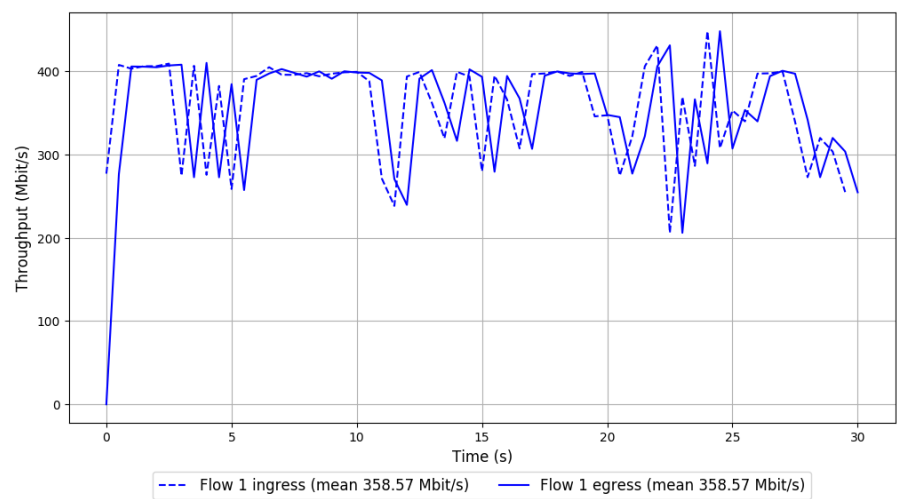
-- Flow 1:

Average throughput: 358.57 Mbit/s

95th percentile per-packet one-way delay: 2.346 ms

Loss rate: 0.00%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

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

End at: 2018-10-10 00:39:56

Local clock offset: 0.724 ms

Remote clock offset: 5.442 ms

Below is generated by plot.py at 2018-10-10 03:30:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 301.29 Mbit/s

95th percentile per-packet one-way delay: 0.836 ms

Loss rate: 0.01%

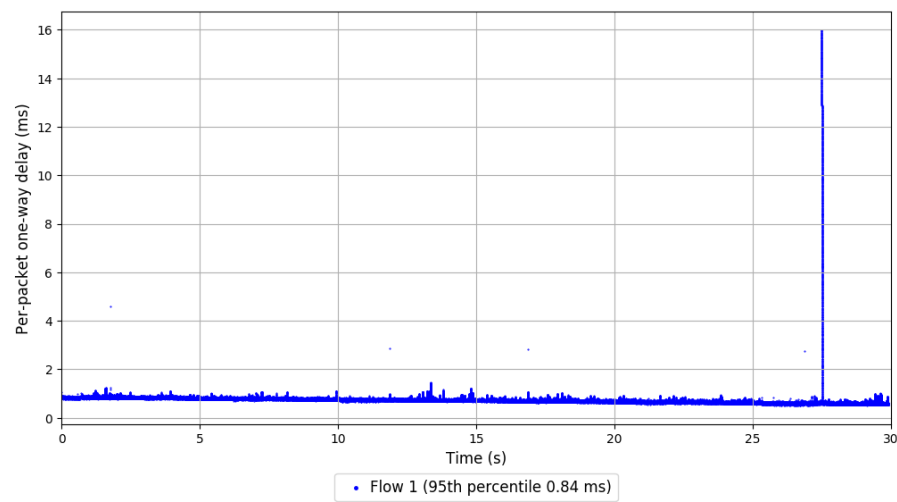
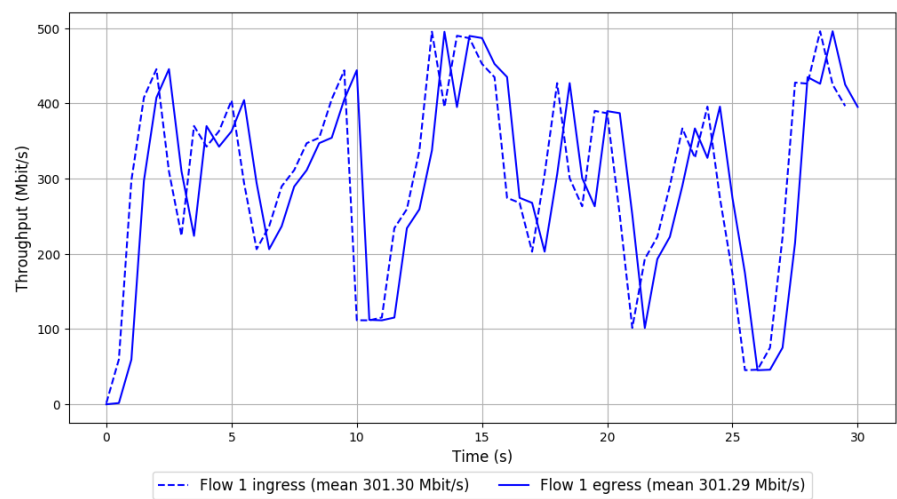
-- Flow 1:

Average throughput: 301.29 Mbit/s

95th percentile per-packet one-way delay: 0.836 ms

Loss rate: 0.01%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-10-10 01:06:23

End at: 2018-10-10 01:06:53

Local clock offset: 0.538 ms

Remote clock offset: 0.852 ms

Below is generated by plot.py at 2018-10-10 03:30:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 277.44 Mbit/s

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

Loss rate: 0.01%

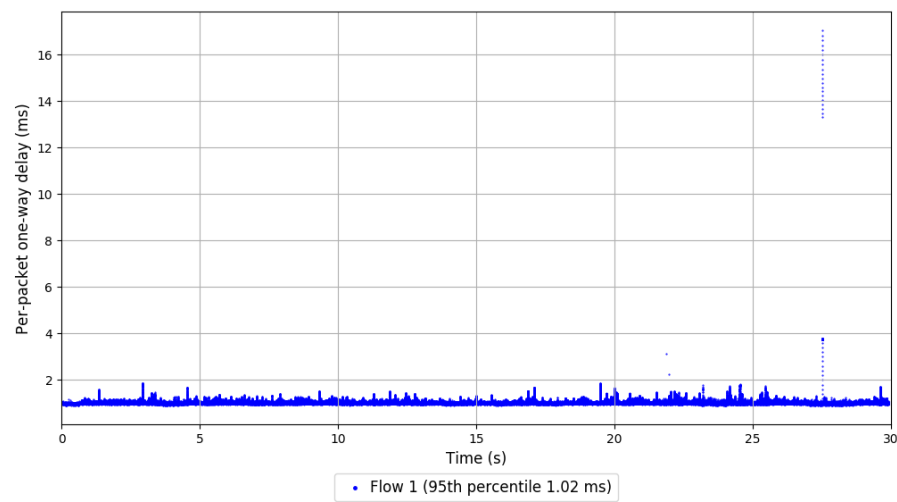
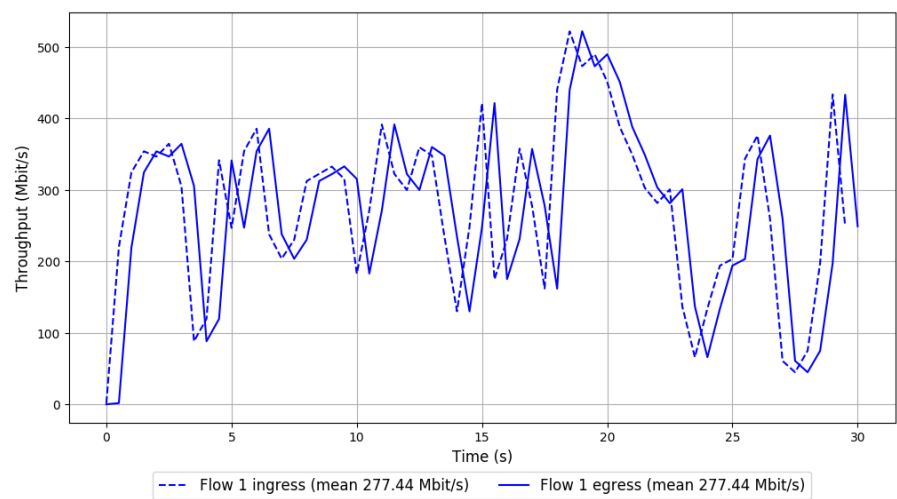
-- Flow 1:

Average throughput: 277.44 Mbit/s

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

Loss rate: 0.01%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-10-10 01:33:23

End at: 2018-10-10 01:33:53

Local clock offset: 0.396 ms

Remote clock offset: -2.938 ms

Below is generated by plot.py at 2018-10-10 03:30:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 313.61 Mbit/s

95th percentile per-packet one-way delay: 0.966 ms

Loss rate: 0.01%

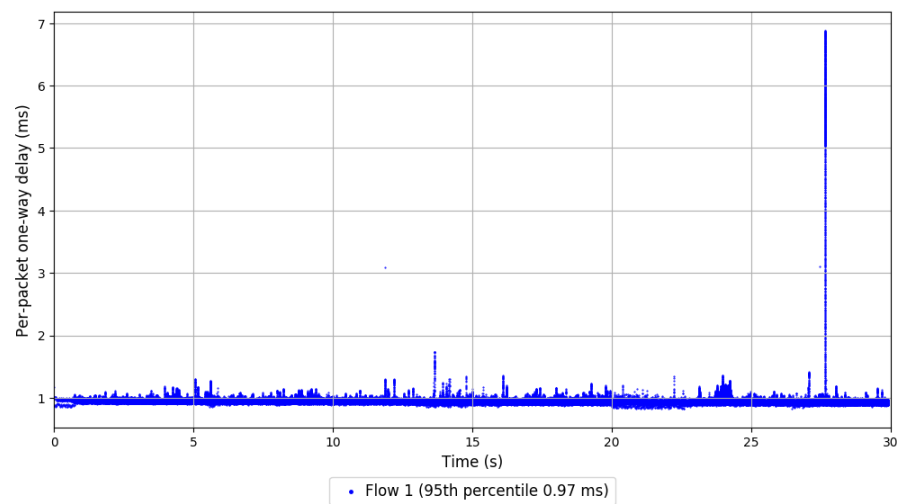
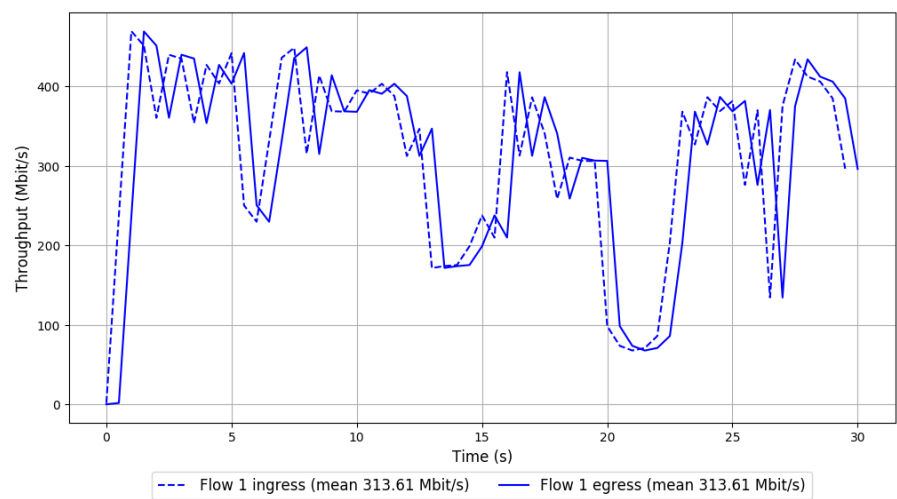
-- Flow 1:

Average throughput: 313.61 Mbit/s

95th percentile per-packet one-way delay: 0.966 ms

Loss rate: 0.01%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-10-10 01:59:57

End at: 2018-10-10 02:00:27

Local clock offset: 0.317 ms

Remote clock offset: 2.973 ms

Below is generated by plot.py at 2018-10-10 03:30:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 240.49 Mbit/s

95th percentile per-packet one-way delay: 1.140 ms

Loss rate: 0.01%

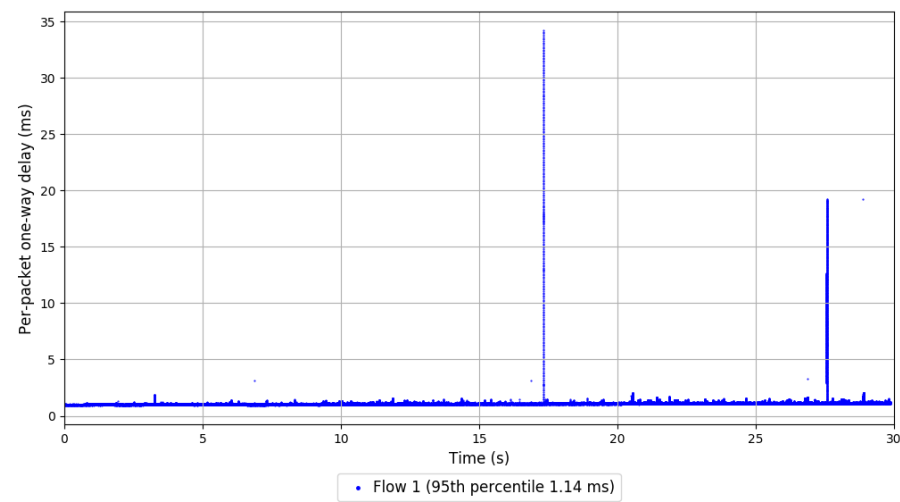
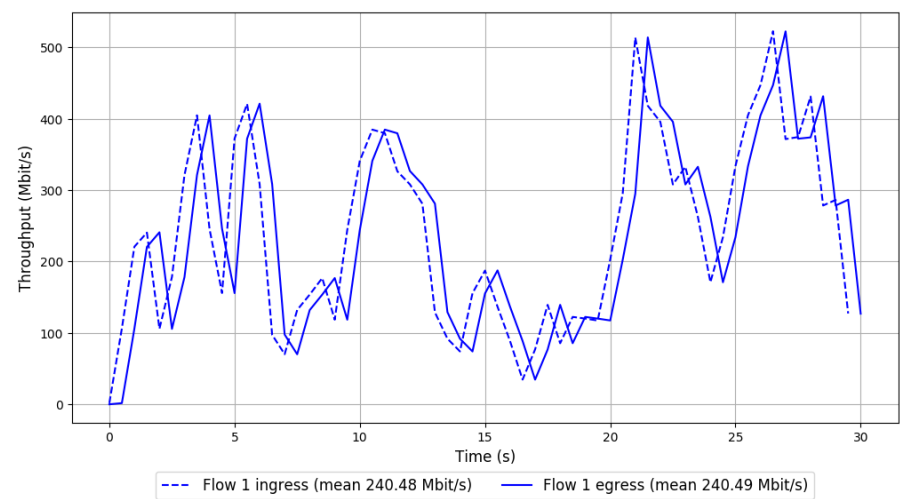
-- Flow 1:

Average throughput: 240.49 Mbit/s

95th percentile per-packet one-way delay: 1.140 ms

Loss rate: 0.01%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-10-10 02:26:55

End at: 2018-10-10 02:27:25

Local clock offset: 0.398 ms

Remote clock offset: 3.974 ms

Below is generated by plot.py at 2018-10-10 03:30:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 303.05 Mbit/s

95th percentile per-packet one-way delay: 0.860 ms

Loss rate: 0.00%

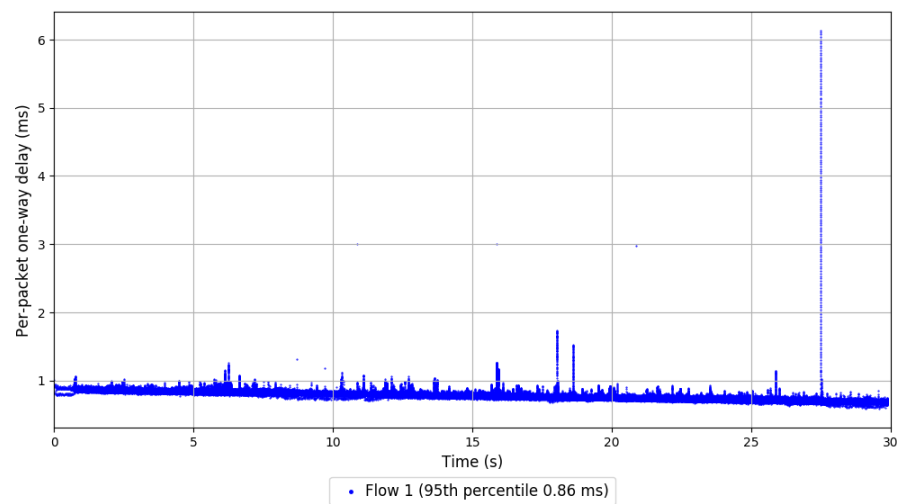
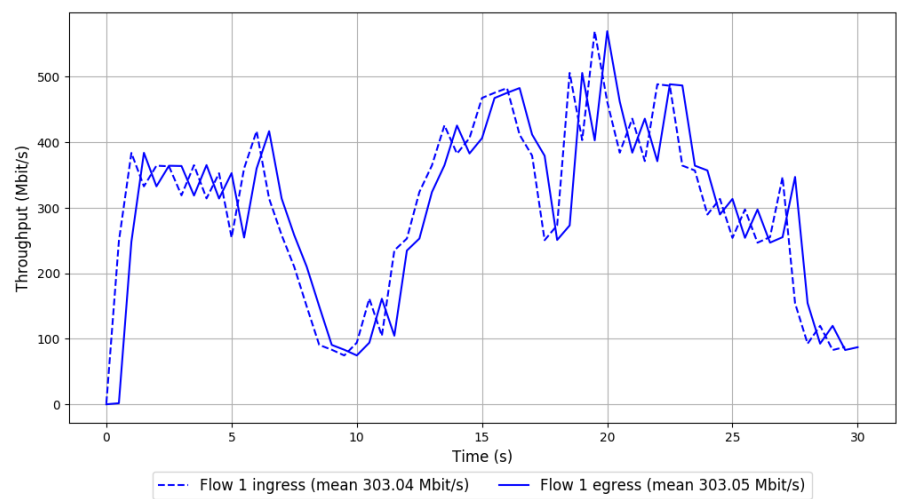
-- Flow 1:

Average throughput: 303.05 Mbit/s

95th percentile per-packet one-way delay: 0.860 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-10-10 00:36:43

End at: 2018-10-10 00:37:13

Local clock offset: 0.739 ms

Remote clock offset: 5.378 ms

Below is generated by plot.py at 2018-10-10 03:30:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.10 Mbit/s

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

Loss rate: 0.00%

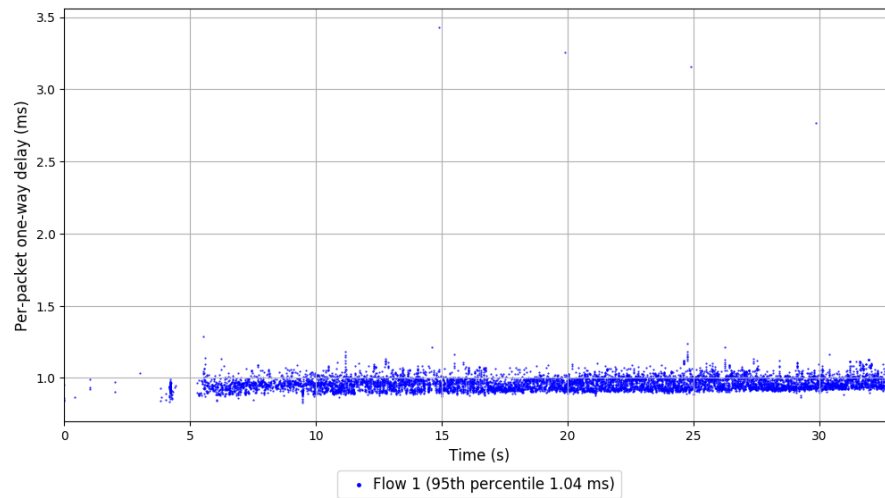
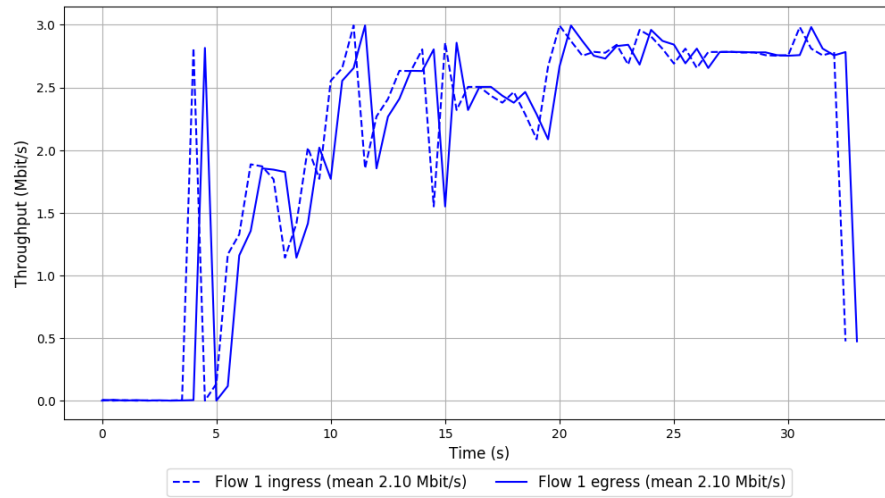
-- Flow 1:

Average throughput: 2.10 Mbit/s

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

Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-10-10 01:03:38

End at: 2018-10-10 01:04:08

Local clock offset: 0.584 ms

Remote clock offset: 0.89 ms

Below is generated by plot.py at 2018-10-10 03:30:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.10 Mbit/s

95th percentile per-packet one-way delay: 1.065 ms

Loss rate: 0.00%

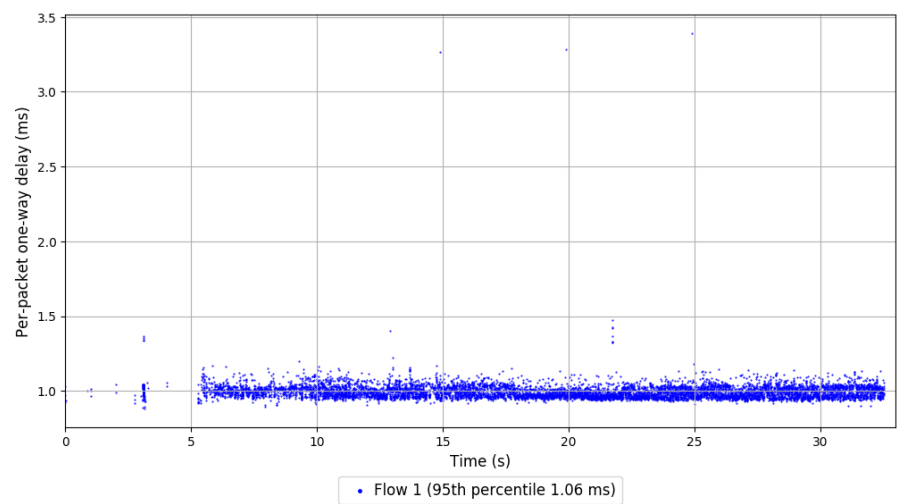
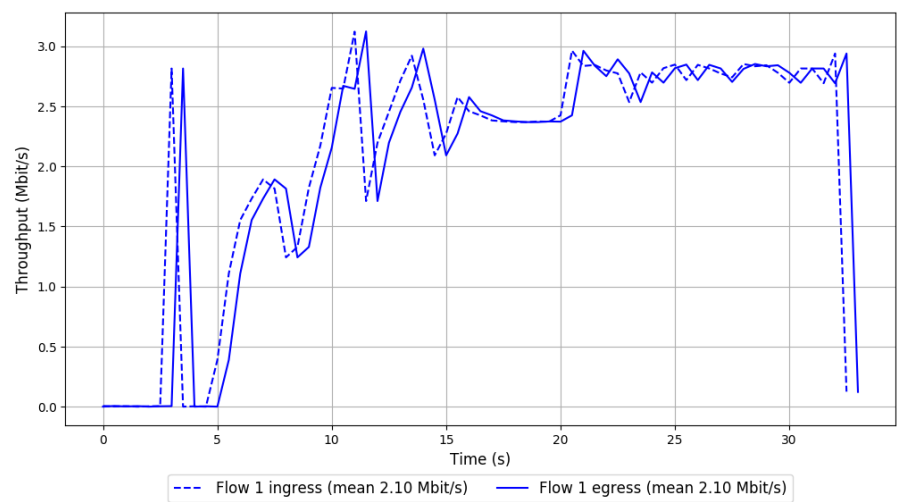
-- Flow 1:

Average throughput: 2.10 Mbit/s

95th percentile per-packet one-way delay: 1.065 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

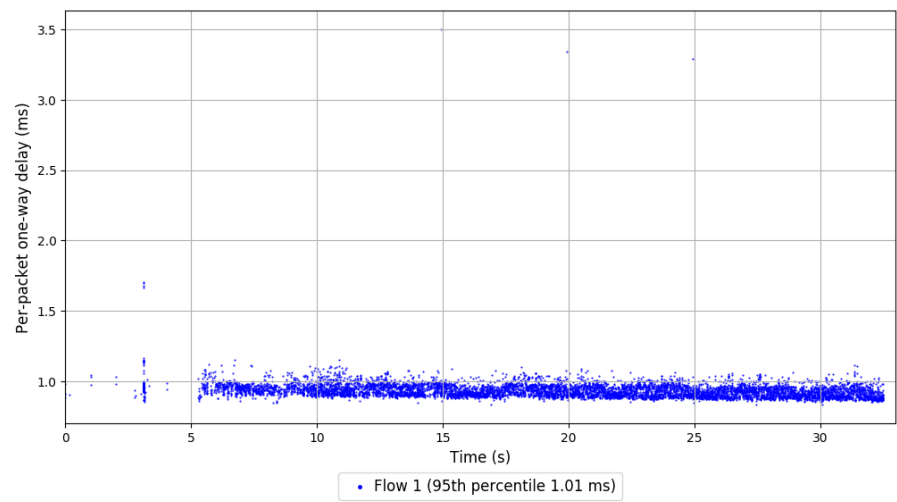
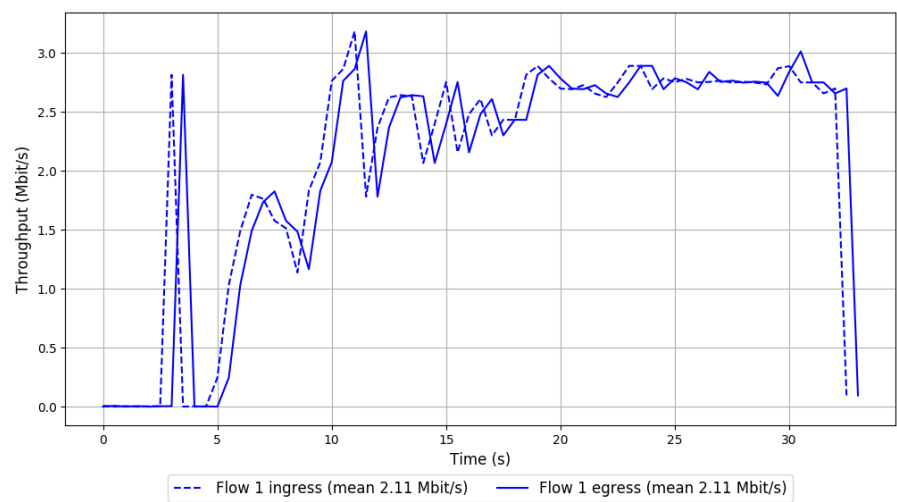


Run 3: Statistics of WebRTC media

Start at: 2018-10-10 01:30:40
End at: 2018-10-10 01:31:10
Local clock offset: 0.417 ms
Remote clock offset: -2.701 ms

Below is generated by plot.py at 2018-10-10 03:30:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 1.011 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 1.011 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-10-10 01:57:13

End at: 2018-10-10 01:57:43

Local clock offset: 0.301 ms

Remote clock offset: 2.029 ms

Below is generated by plot.py at 2018-10-10 03:30:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.10 Mbit/s

95th percentile per-packet one-way delay: 1.218 ms

Loss rate: 0.00%

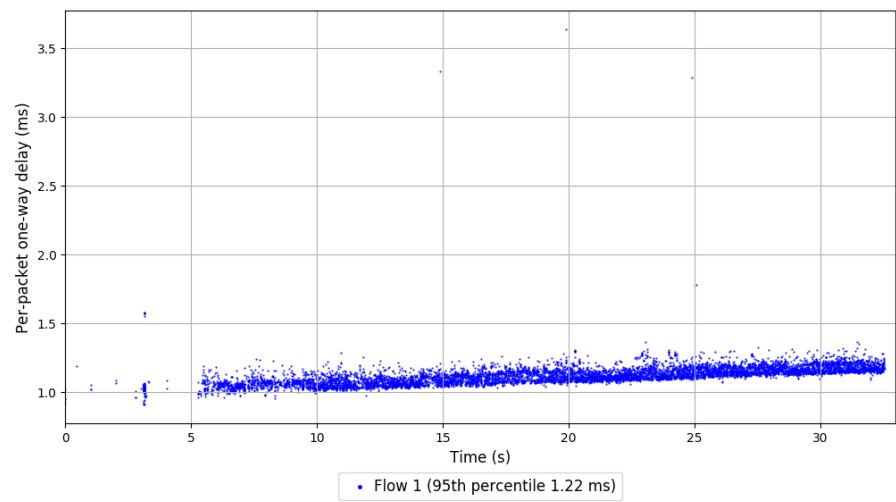
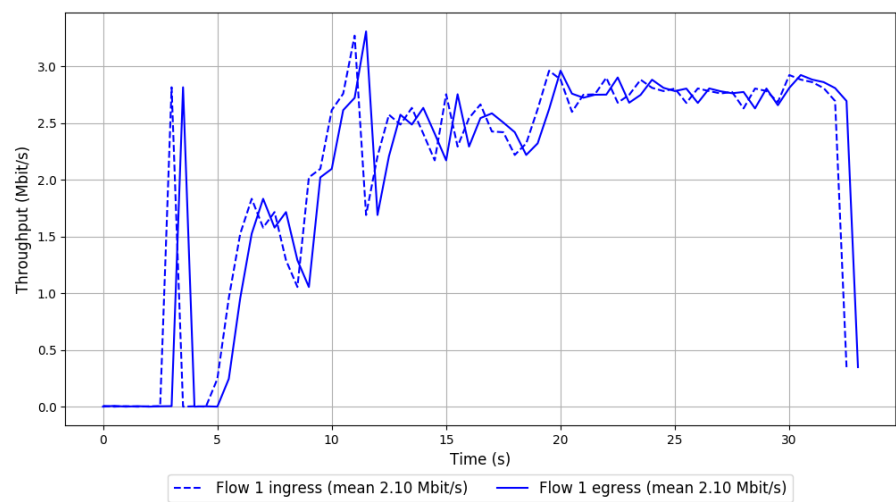
-- Flow 1:

Average throughput: 2.10 Mbit/s

95th percentile per-packet one-way delay: 1.218 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-10 02:24:11

End at: 2018-10-10 02:24:41

Local clock offset: 0.392 ms

Remote clock offset: 5.189 ms

Below is generated by plot.py at 2018-10-10 03:30:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 0.946 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 0.946 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

