

Pantheon Report

Generated at 2018-10-10 06:01:50 (UTC).

Data path: GCE Iowa on *ens4 (local)* → GCE Tokyo on *ens4 (remote)*.

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

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

System info:

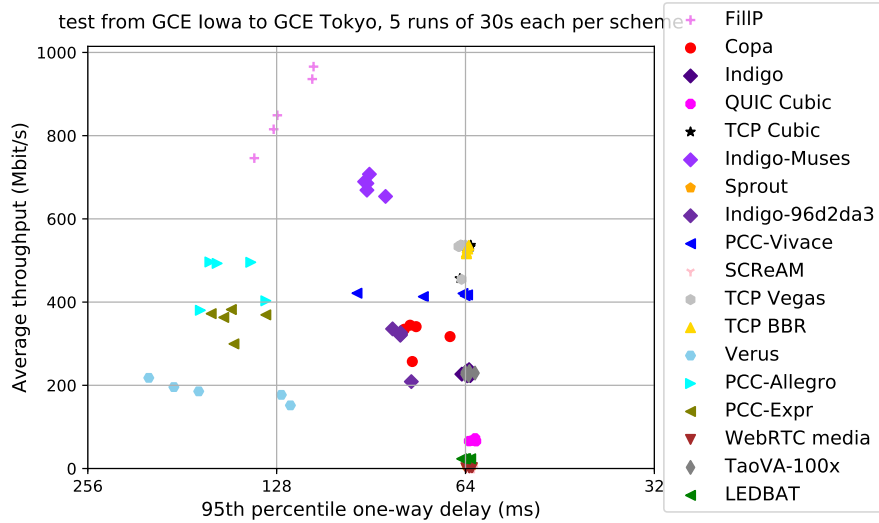
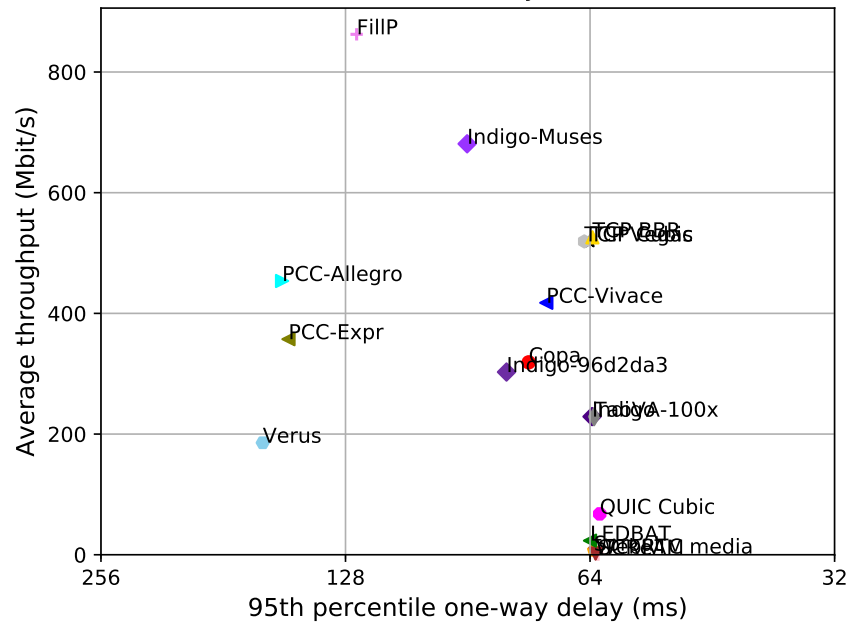
```
Linux 4.15.0-1021-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

```
branch: muses @ 2e19c0464530faa92c63f8217c9971438a26a3be
third_party/fillp @ 5332fc9127c63565e13f4933b336c02d1aabdac6
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/indigo-96d2da3 @ 8413272d46f8aa0bcb967ed7048b6a8f994abb95
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-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 GCE Iowa to GCE Tokyo, 5 runs of 30s each per scheme
(mean of all runs by scheme)



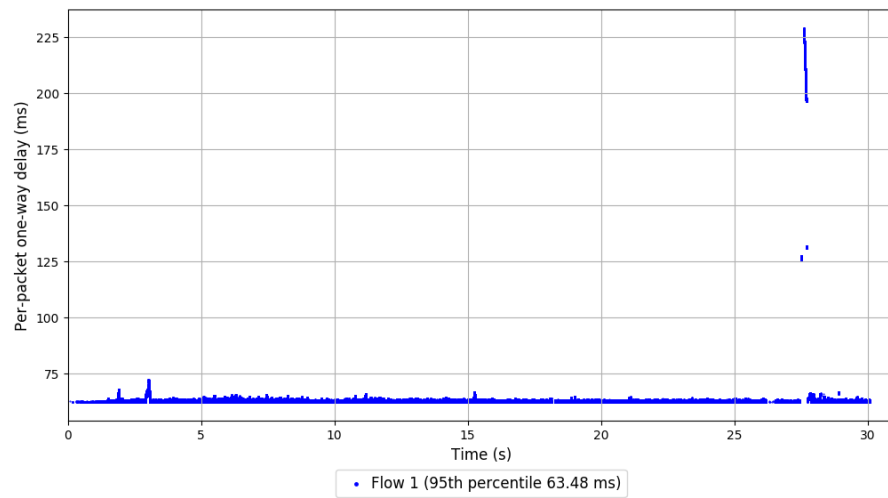
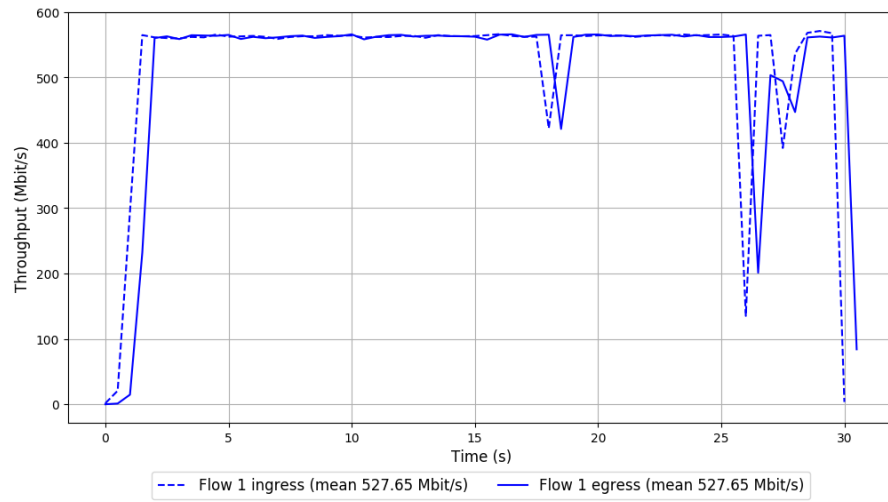
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	526.08	63.57	0.00
Copa	5	318.88	76.16	0.01
TCP Cubic	5	519.29	64.01	0.01
FillP	5	862.44	124.02	1.41
Indigo	5	228.96	63.64	0.00
Indigo-96d2da3	5	302.79	81.10	0.10
LEDBAT	5	23.37	64.01	0.00
Indigo-Muses	5	681.02	90.68	0.01
PCC-Allegro	5	453.69	153.21	1.49
PCC-Expr	5	357.26	150.47	1.80
QUIC Cubic	4	67.72	62.27	0.00
SCReAM	5	0.22	62.56	0.00
Sprout	5	6.79	63.32	0.00
TaoVA-100x	5	228.78	63.27	0.00
TCP Vegas	5	519.26	65.05	0.00
Verus	5	185.61	161.84	2.08
PCC-Vivace	5	417.55	72.45	0.04
WebRTC media	5	1.93	63.01	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-10-10 02:44:57
End at: 2018-10-10 02:45:27
Local clock offset: -0.022 ms
Remote clock offset: -0.337 ms

Below is generated by plot.py at 2018-10-10 04:50:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 527.65 Mbit/s
95th percentile per-packet one-way delay: 63.480 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 527.65 Mbit/s
95th percentile per-packet one-way delay: 63.480 ms
Loss rate: 0.00%

Run 1: Report of TCP BBR — Data Link

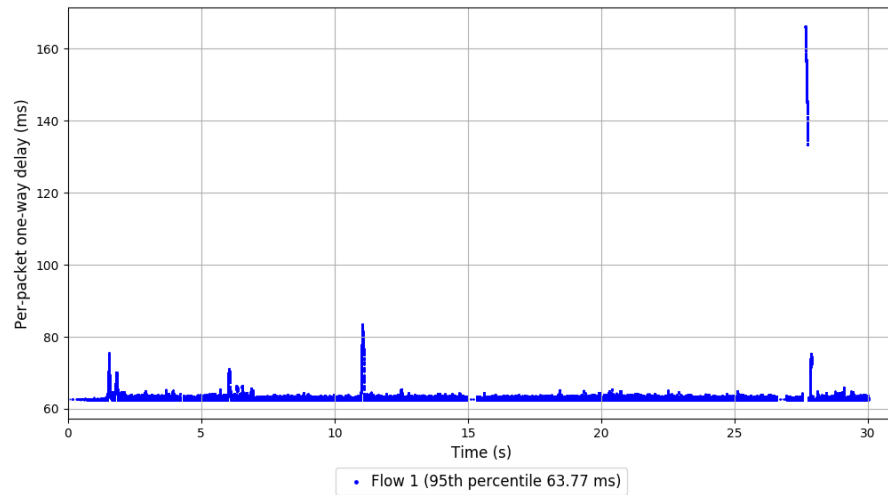
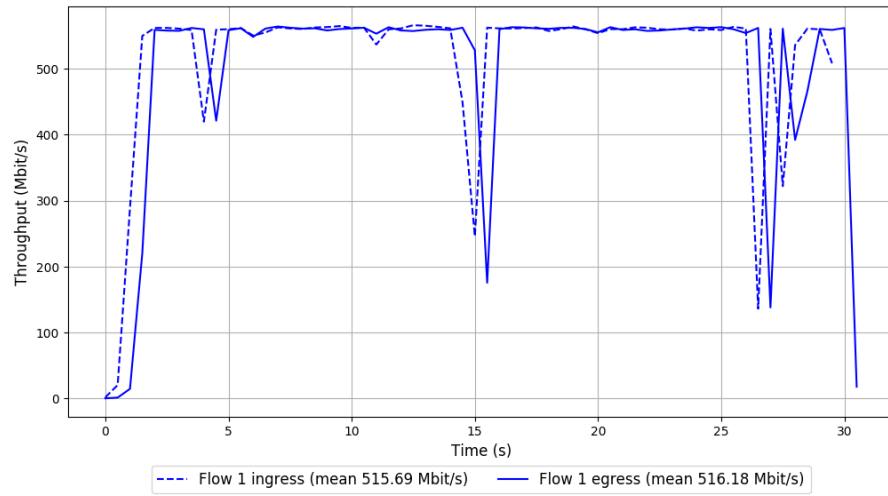


Run 2: Statistics of TCP BBR

Start at: 2018-10-10 03:10:43
End at: 2018-10-10 03:11:13
Local clock offset: -0.024 ms
Remote clock offset: -0.683 ms

Below is generated by plot.py at 2018-10-10 04:50:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 516.18 Mbit/s
95th percentile per-packet one-way delay: 63.767 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 516.18 Mbit/s
95th percentile per-packet one-way delay: 63.767 ms
Loss rate: 0.00%

Run 2: Report of TCP BBR — Data Link

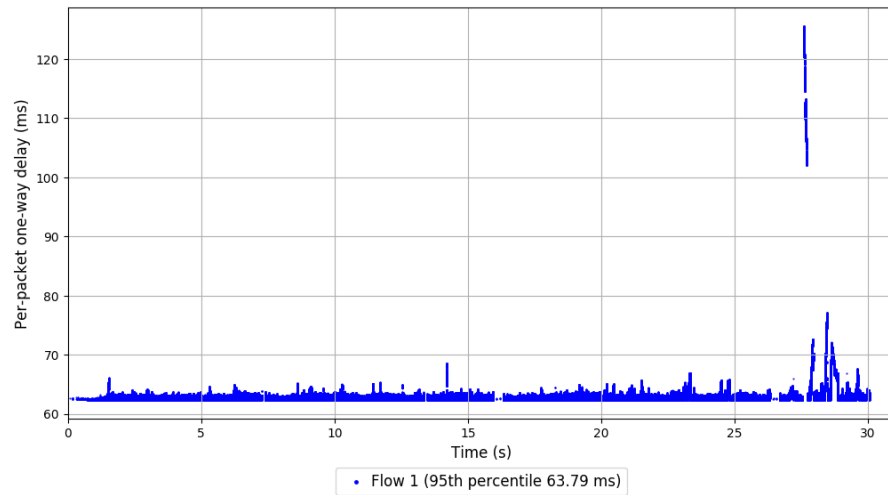
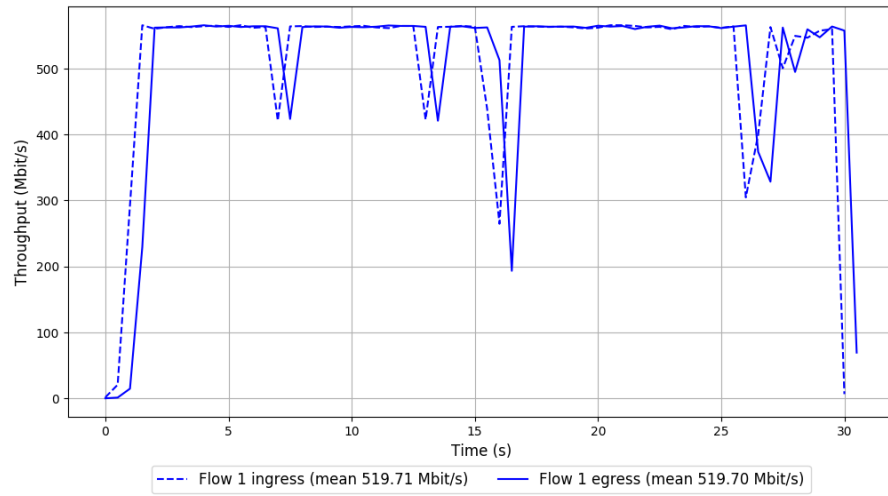


Run 3: Statistics of TCP BBR

Start at: 2018-10-10 03:36:26
End at: 2018-10-10 03:36:56
Local clock offset: -0.015 ms
Remote clock offset: -0.322 ms

Below is generated by plot.py at 2018-10-10 04:50:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 519.70 Mbit/s
95th percentile per-packet one-way delay: 63.793 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 519.70 Mbit/s
95th percentile per-packet one-way delay: 63.793 ms
Loss rate: 0.00%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-10-10 04:02:06

End at: 2018-10-10 04:02:36

Local clock offset: 0.02 ms

Remote clock offset: -0.585 ms

Below is generated by plot.py at 2018-10-10 04:51:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 536.39 Mbit/s

95th percentile per-packet one-way delay: 63.218 ms

Loss rate: 0.00%

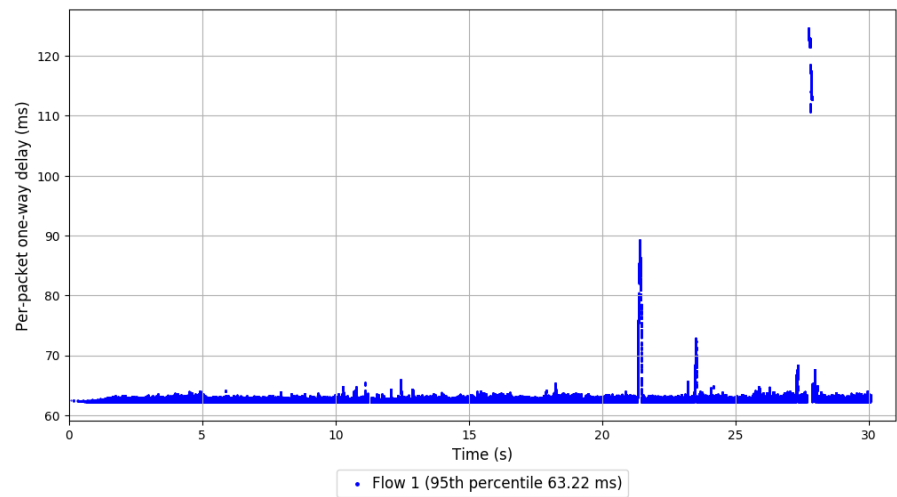
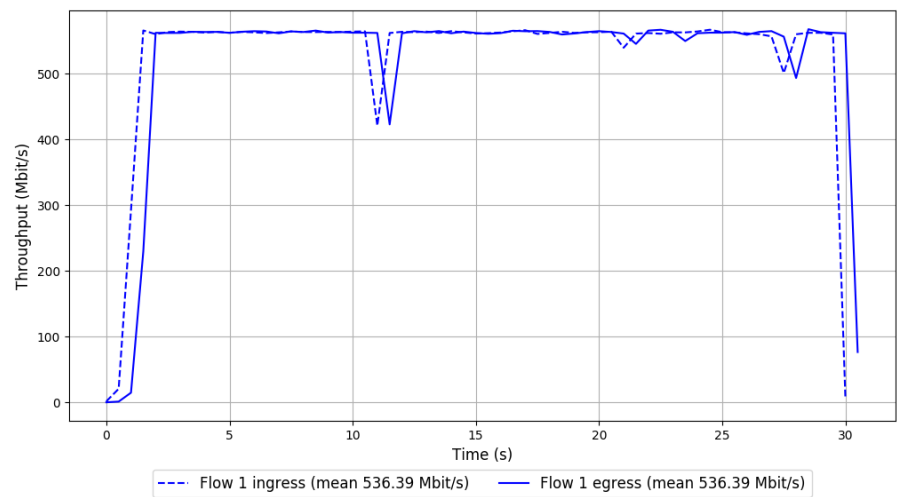
-- Flow 1:

Average throughput: 536.39 Mbit/s

95th percentile per-packet one-way delay: 63.218 ms

Loss rate: 0.00%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-10-10 04:28:04

End at: 2018-10-10 04:28:34

Local clock offset: 0.009 ms

Remote clock offset: -1.227 ms

Below is generated by plot.py at 2018-10-10 04:51:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 530.46 Mbit/s

95th percentile per-packet one-way delay: 63.600 ms

Loss rate: 0.00%

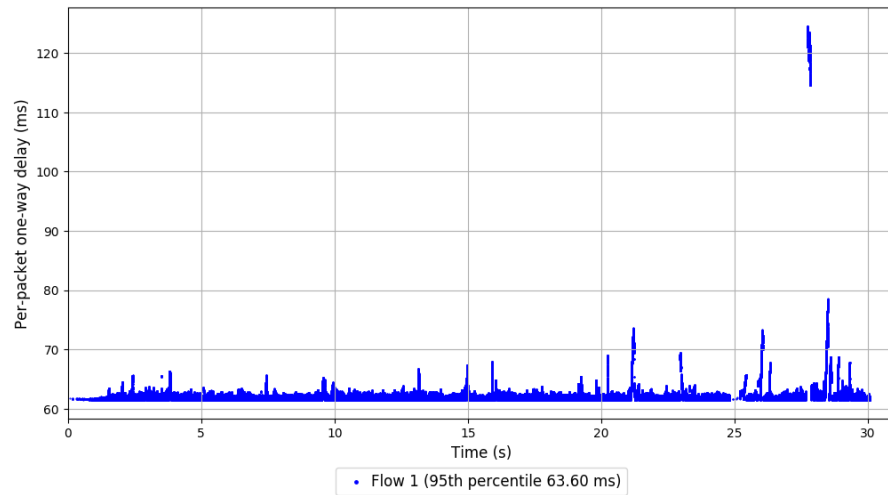
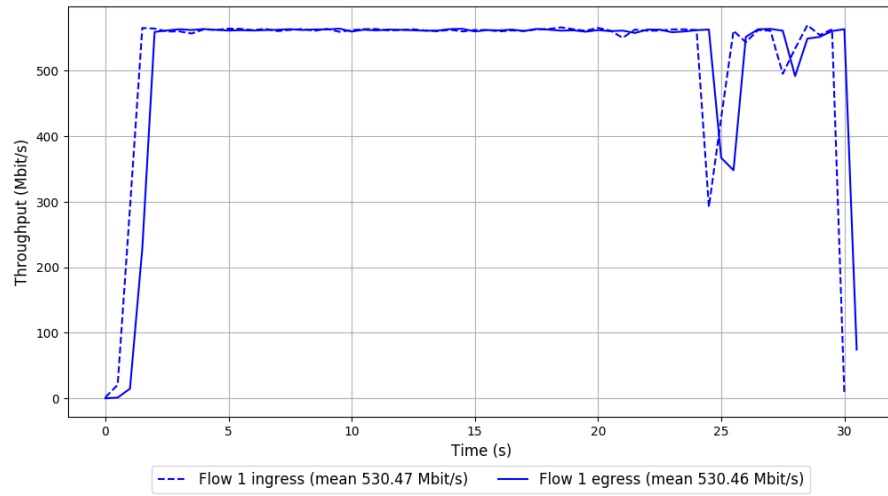
-- Flow 1:

Average throughput: 530.46 Mbit/s

95th percentile per-packet one-way delay: 63.600 ms

Loss rate: 0.00%

Run 5: Report of TCP BBR — Data Link

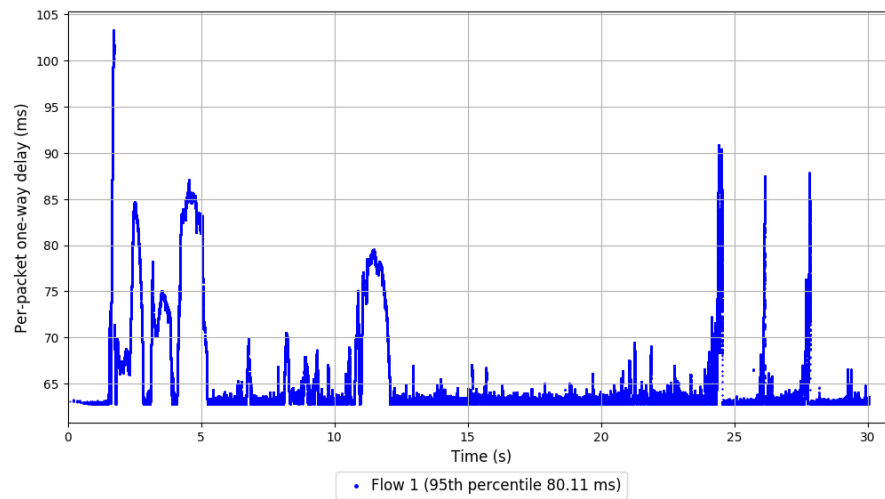
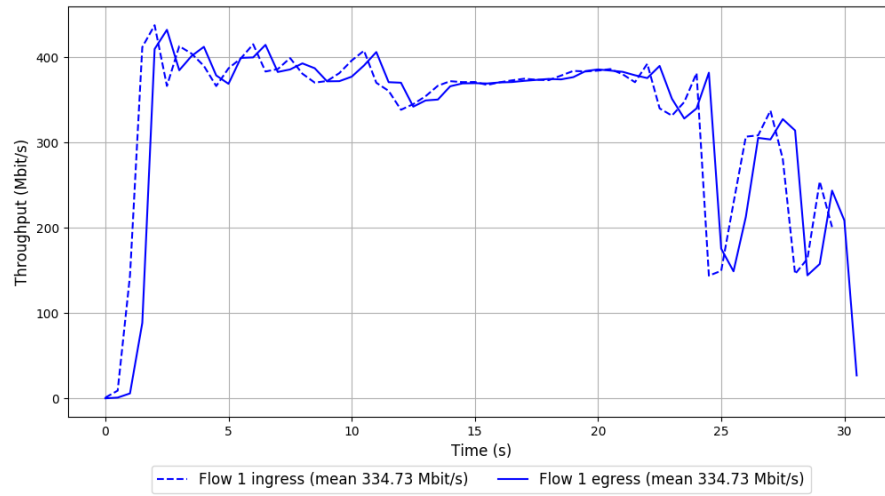


Run 1: Statistics of Copa

Start at: 2018-10-10 02:32:52
End at: 2018-10-10 02:33:22
Local clock offset: -0.03 ms
Remote clock offset: -0.075 ms

Below is generated by plot.py at 2018-10-10 04:52:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 334.73 Mbit/s
95th percentile per-packet one-way delay: 80.110 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 334.73 Mbit/s
95th percentile per-packet one-way delay: 80.110 ms
Loss rate: 0.00%

Run 1: Report of Copa — Data Link

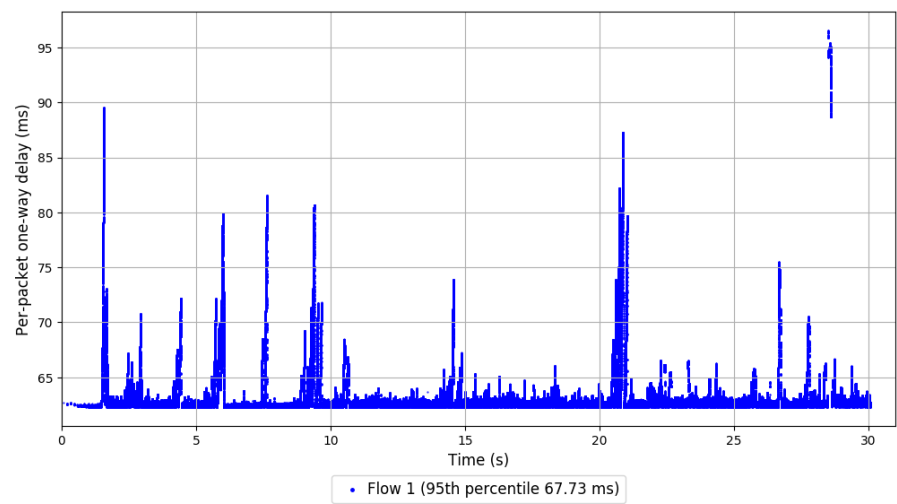
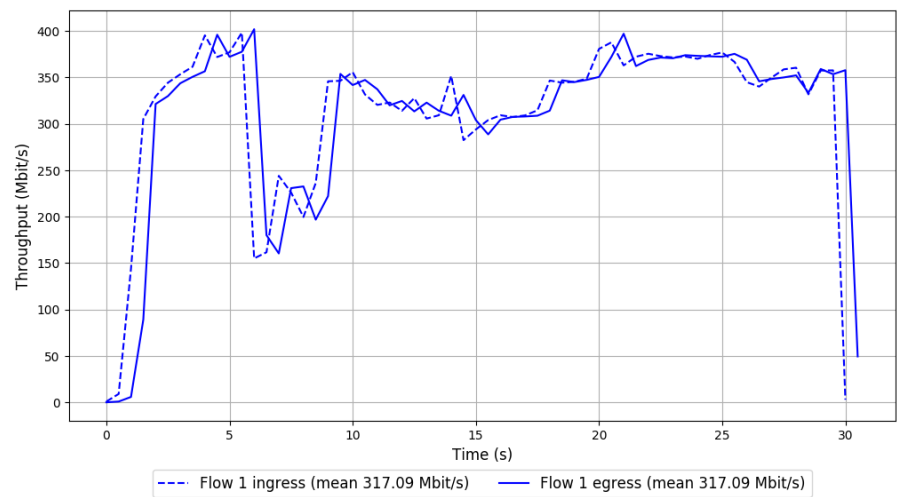


Run 2: Statistics of Copa

Start at: 2018-10-10 02:58:26
End at: 2018-10-10 02:58:56
Local clock offset: -0.018 ms
Remote clock offset: -0.694 ms

Below is generated by plot.py at 2018-10-10 04:52:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 317.09 Mbit/s
95th percentile per-packet one-way delay: 67.735 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 317.09 Mbit/s
95th percentile per-packet one-way delay: 67.735 ms
Loss rate: 0.00%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-10-10 03:24:09

End at: 2018-10-10 03:24:39

Local clock offset: 0.003 ms

Remote clock offset: 0.173 ms

Below is generated by plot.py at 2018-10-10 04:52:24

Datalink statistics

-- Total of 1 flow:

Average throughput: 344.47 Mbit/s

95th percentile per-packet one-way delay: 78.441 ms

Loss rate: 0.00%

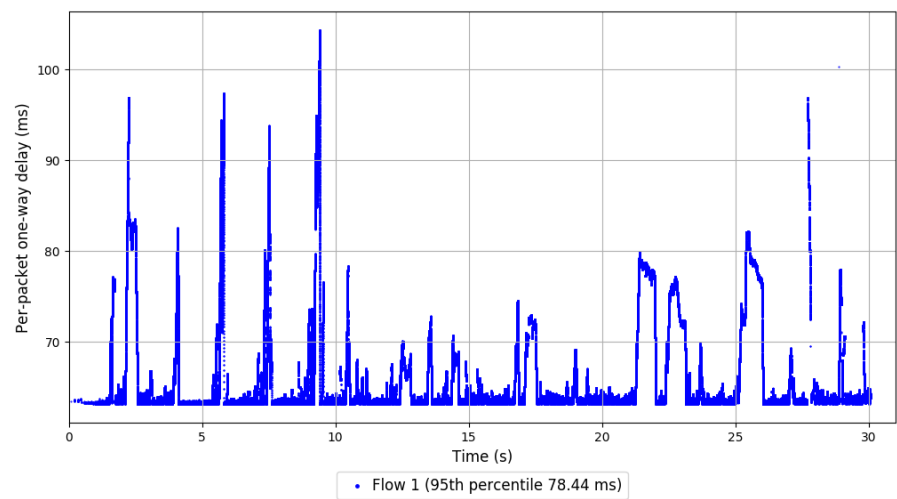
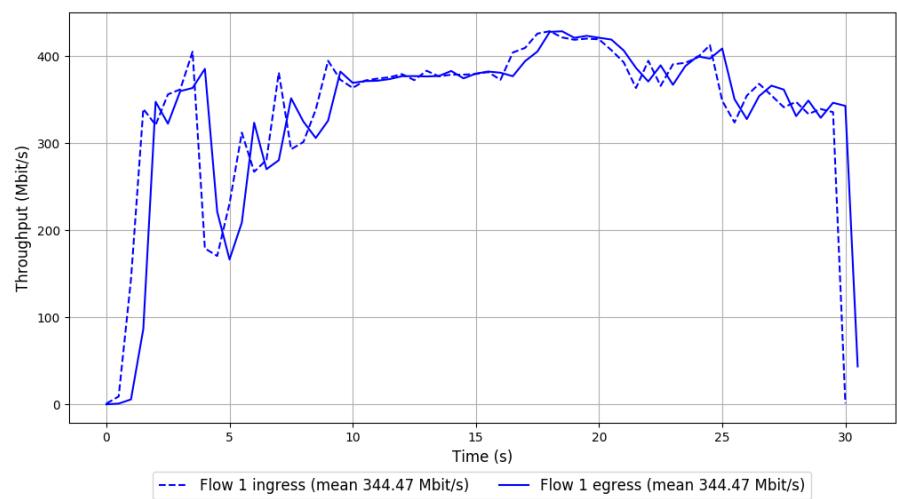
-- Flow 1:

Average throughput: 344.47 Mbit/s

95th percentile per-packet one-way delay: 78.441 ms

Loss rate: 0.00%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-10-10 03:49:58

End at: 2018-10-10 03:50:28

Local clock offset: -0.055 ms

Remote clock offset: 0.034 ms

Below is generated by plot.py at 2018-10-10 04:58:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 257.15 Mbit/s

95th percentile per-packet one-way delay: 77.797 ms

Loss rate: 0.00%

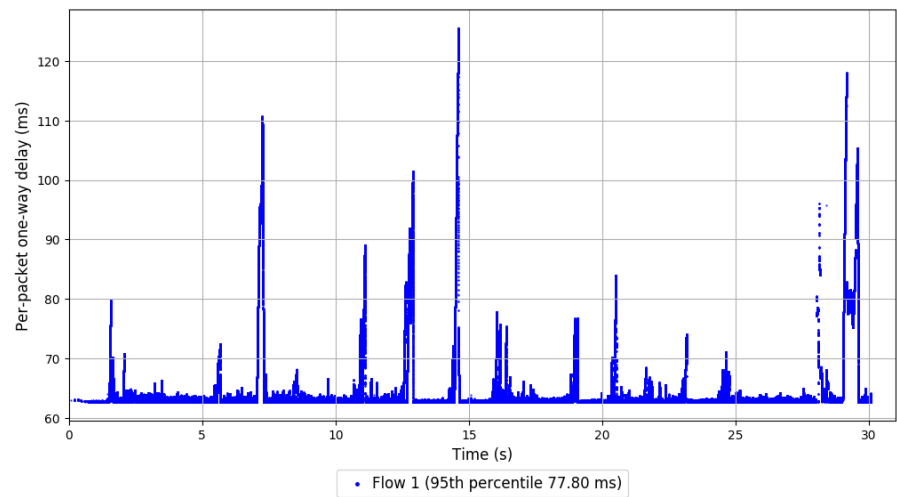
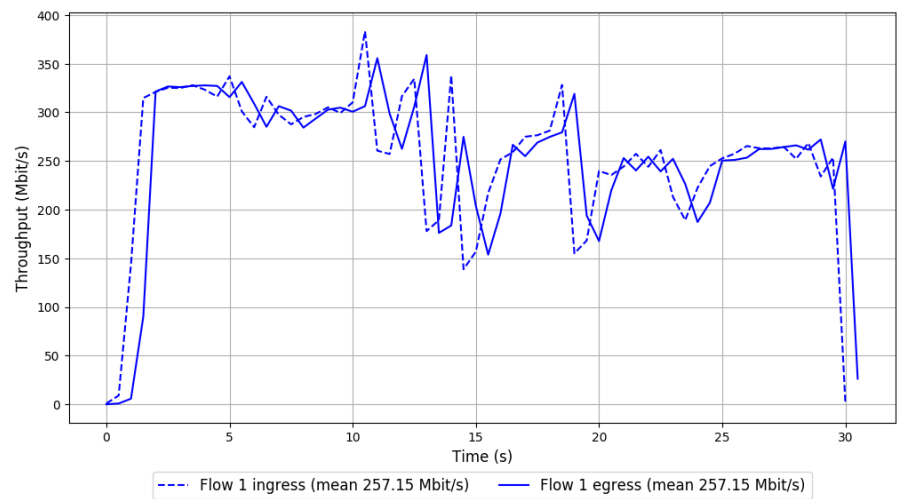
-- Flow 1:

Average throughput: 257.15 Mbit/s

95th percentile per-packet one-way delay: 77.797 ms

Loss rate: 0.00%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-10-10 04:15:40

End at: 2018-10-10 04:16:10

Local clock offset: -0.029 ms

Remote clock offset: 0.96 ms

Below is generated by plot.py at 2018-10-10 05:00:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 340.97 Mbit/s

95th percentile per-packet one-way delay: 76.719 ms

Loss rate: 0.06%

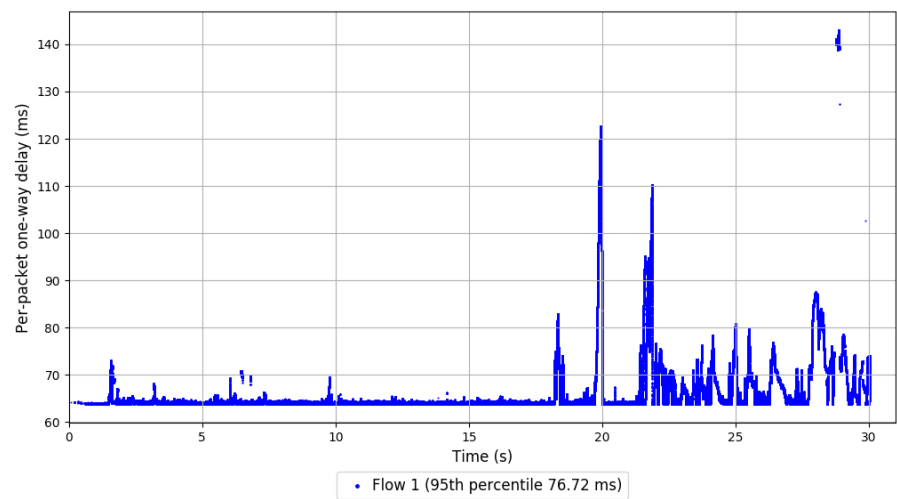
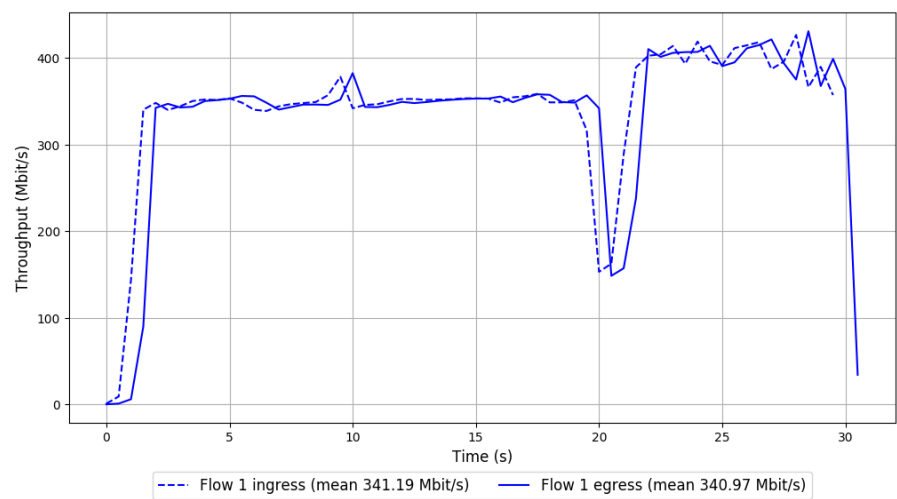
-- Flow 1:

Average throughput: 340.97 Mbit/s

95th percentile per-packet one-way delay: 76.719 ms

Loss rate: 0.06%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-10-10 02:23:38

End at: 2018-10-10 02:24:08

Local clock offset: -0.058 ms

Remote clock offset: 1.408 ms

Below is generated by plot.py at 2018-10-10 05:00:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 456.65 Mbit/s

95th percentile per-packet one-way delay: 65.326 ms

Loss rate: 0.00%

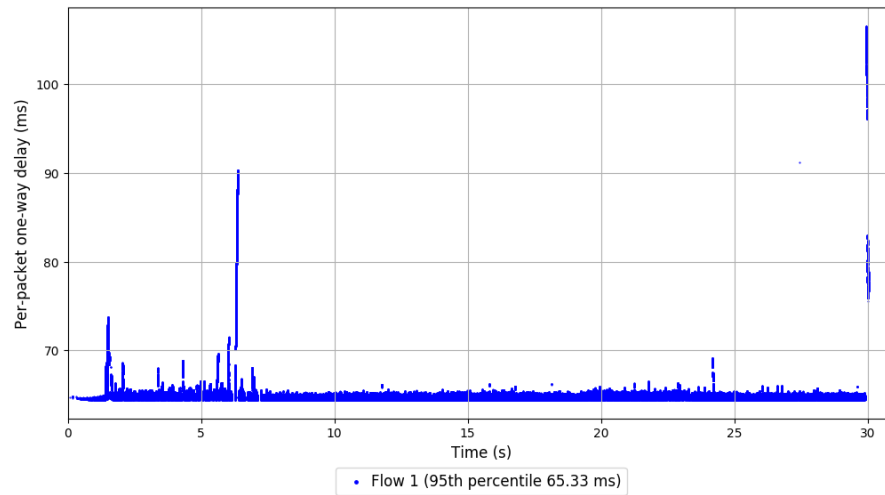
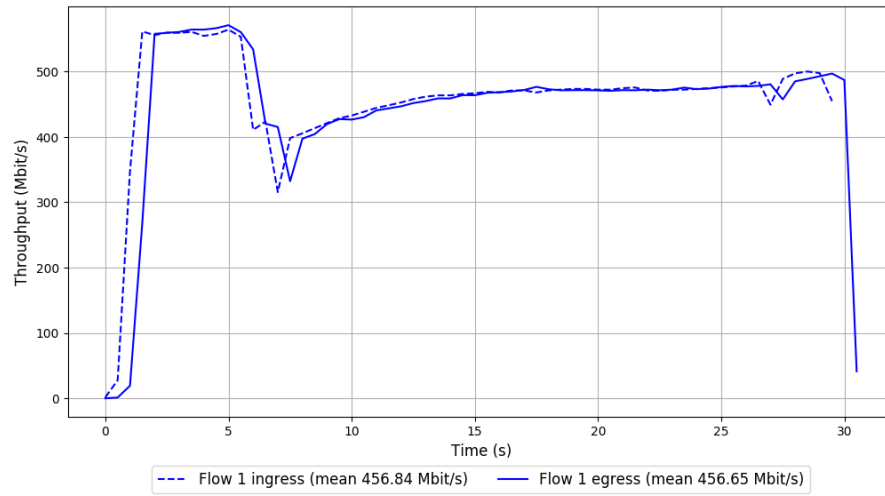
-- Flow 1:

Average throughput: 456.65 Mbit/s

95th percentile per-packet one-way delay: 65.326 ms

Loss rate: 0.00%

Run 1: Report of TCP Cubic — Data Link

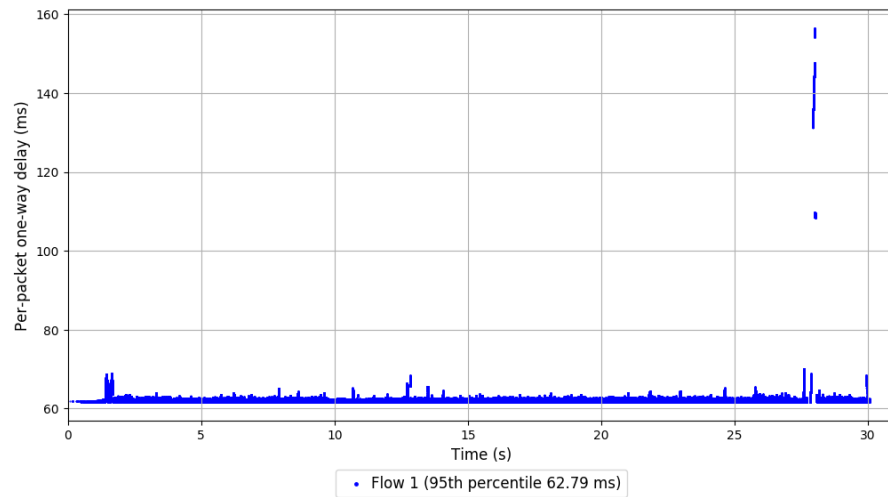
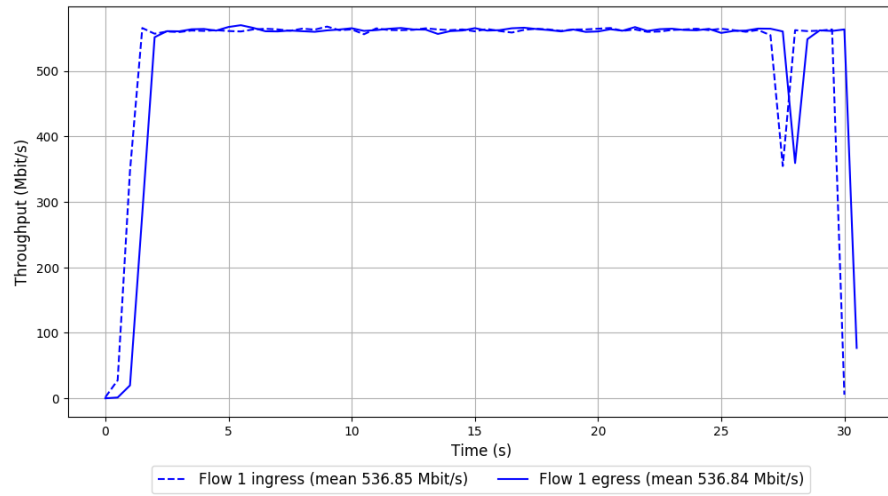


Run 2: Statistics of TCP Cubic

Start at: 2018-10-10 02:49:04
End at: 2018-10-10 02:49:34
Local clock offset: -0.045 ms
Remote clock offset: -1.393 ms

Below is generated by plot.py at 2018-10-10 05:00:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 536.84 Mbit/s
95th percentile per-packet one-way delay: 62.794 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 536.84 Mbit/s
95th percentile per-packet one-way delay: 62.794 ms
Loss rate: 0.00%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-10-10 03:14:48

End at: 2018-10-10 03:15:18

Local clock offset: -0.035 ms

Remote clock offset: 0.525 ms

Below is generated by plot.py at 2018-10-10 05:00:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 535.79 Mbit/s

95th percentile per-packet one-way delay: 64.899 ms

Loss rate: 0.00%

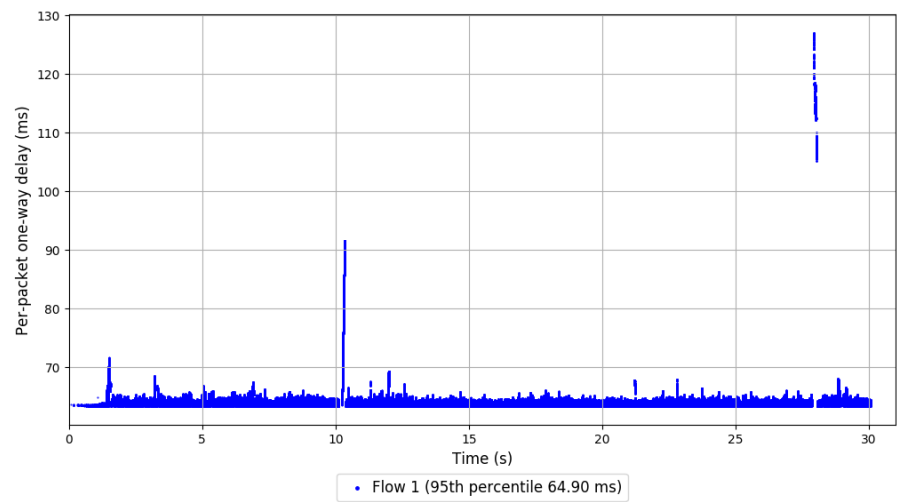
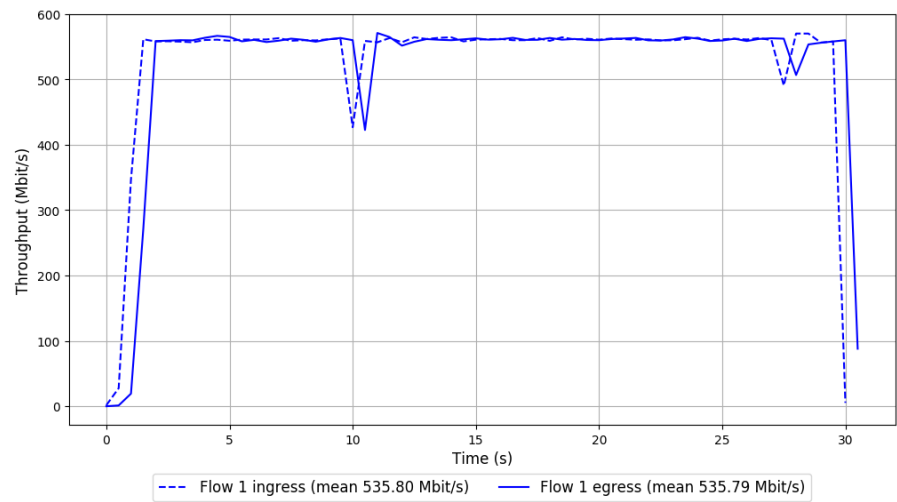
-- Flow 1:

Average throughput: 535.79 Mbit/s

95th percentile per-packet one-way delay: 64.899 ms

Loss rate: 0.00%

Run 3: Report of TCP Cubic — Data Link

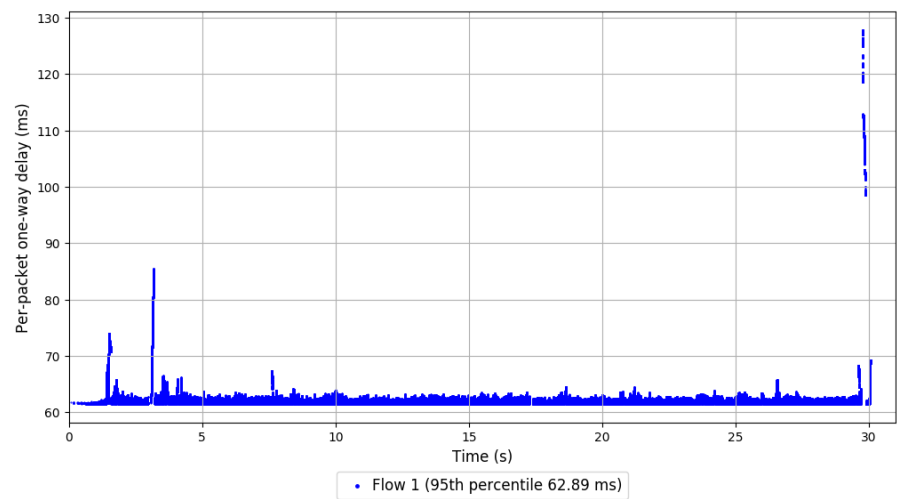
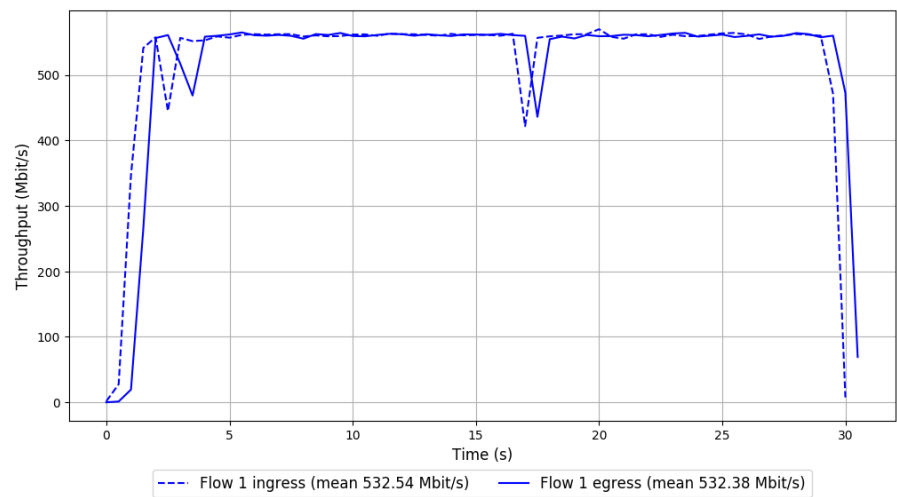


Run 4: Statistics of TCP Cubic

Start at: 2018-10-10 03:40:33
End at: 2018-10-10 03:41:03
Local clock offset: -0.007 ms
Remote clock offset: -1.149 ms

Below is generated by plot.py at 2018-10-10 05:00:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 532.38 Mbit/s
95th percentile per-packet one-way delay: 62.889 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 532.38 Mbit/s
95th percentile per-packet one-way delay: 62.889 ms
Loss rate: 0.03%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-10-10 04:06:13

End at: 2018-10-10 04:06:43

Local clock offset: -0.051 ms

Remote clock offset: 0.018 ms

Below is generated by plot.py at 2018-10-10 05:00:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 534.78 Mbit/s

95th percentile per-packet one-way delay: 64.128 ms

Loss rate: 0.00%

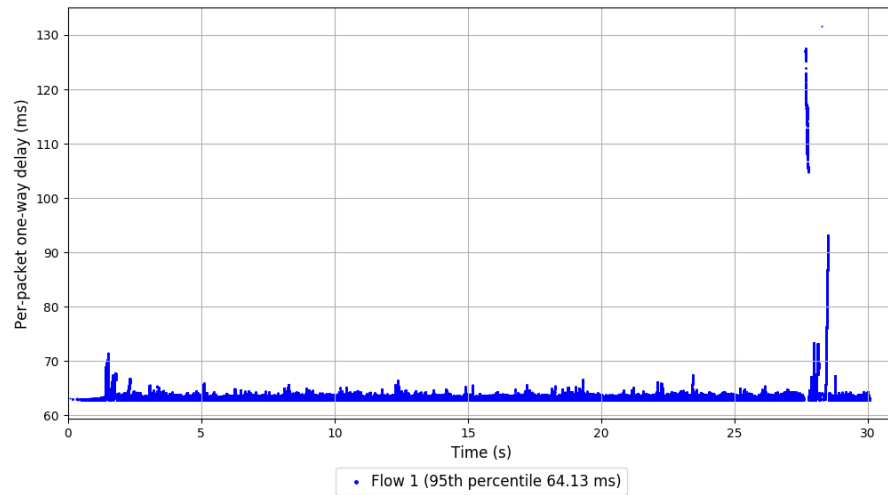
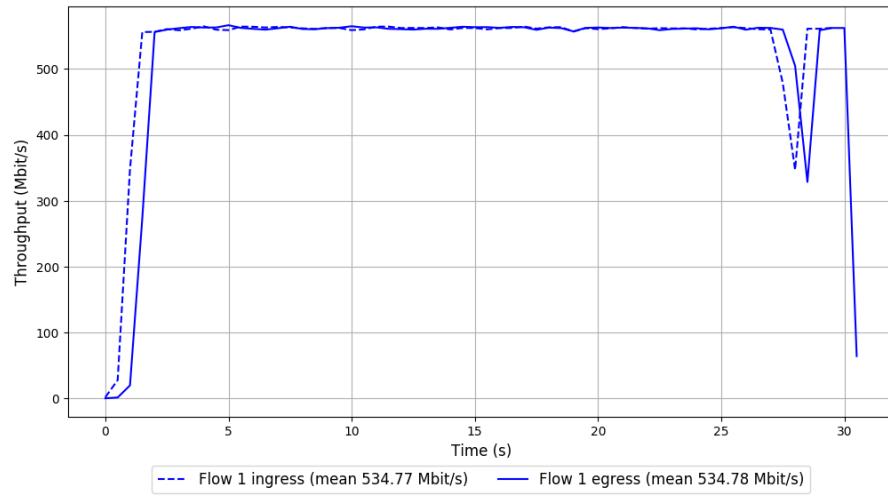
-- Flow 1:

Average throughput: 534.78 Mbit/s

95th percentile per-packet one-way delay: 64.128 ms

Loss rate: 0.00%

Run 5: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-10-10 02:25:09

End at: 2018-10-10 02:25:39

Local clock offset: -0.03 ms

Remote clock offset: 0.74 ms

Below is generated by plot.py at 2018-10-10 05:06:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 745.98 Mbit/s

95th percentile per-packet one-way delay: 138.938 ms

Loss rate: 2.74%

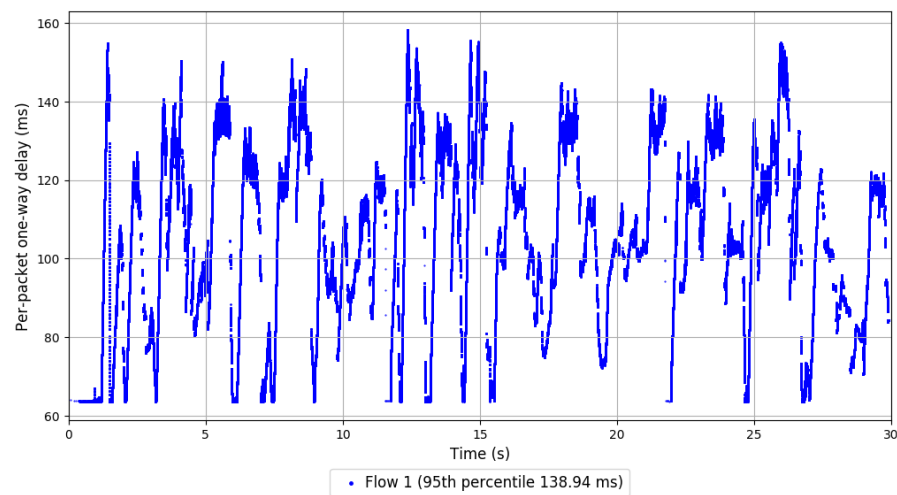
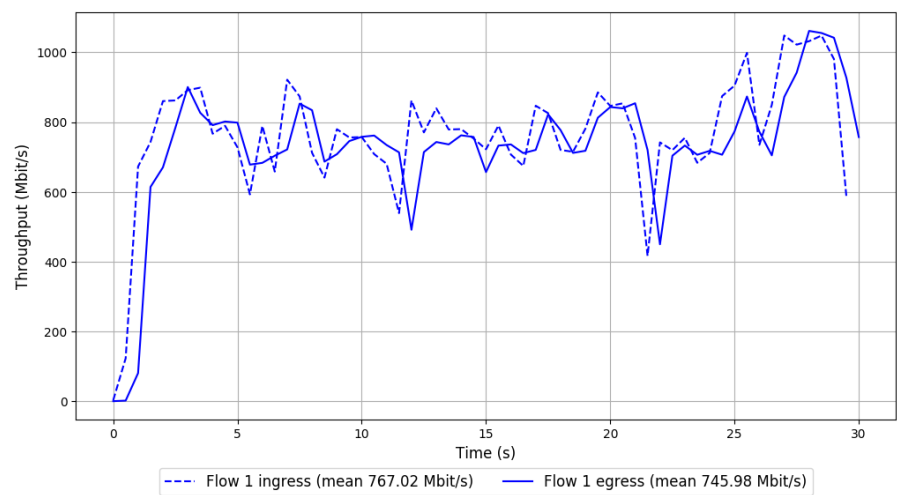
-- Flow 1:

Average throughput: 745.98 Mbit/s

95th percentile per-packet one-way delay: 138.938 ms

Loss rate: 2.74%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-10-10 02:50:37

End at: 2018-10-10 02:51:07

Local clock offset: -0.043 ms

Remote clock offset: -0.46 ms

Below is generated by plot.py at 2018-10-10 05:15:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 815.36 Mbit/s

95th percentile per-packet one-way delay: 129.409 ms

Loss rate: 0.91%

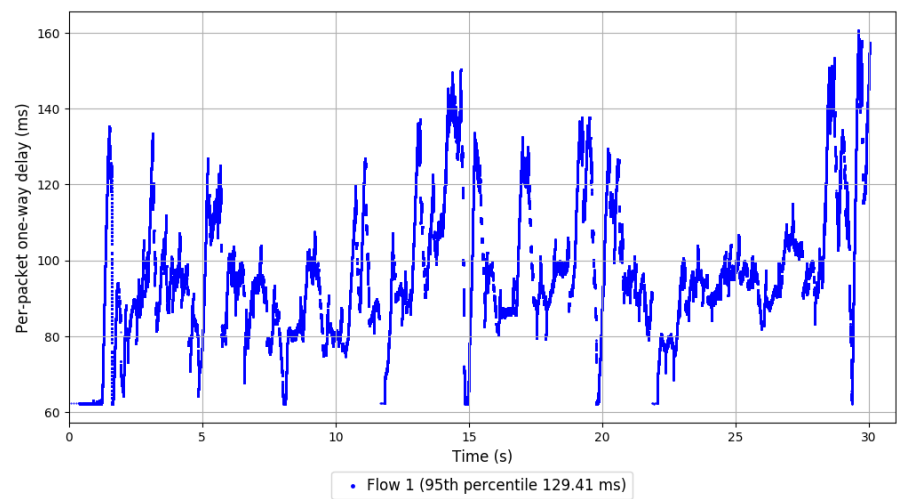
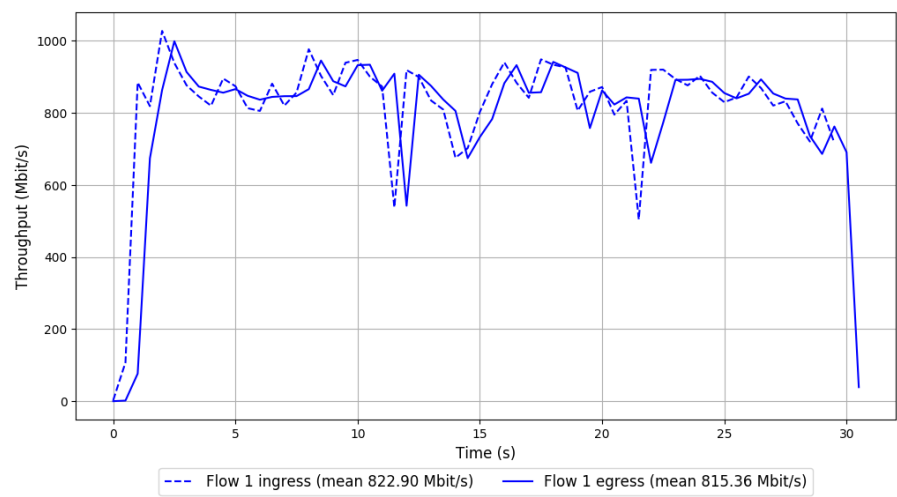
-- Flow 1:

Average throughput: 815.36 Mbit/s

95th percentile per-packet one-way delay: 129.409 ms

Loss rate: 0.91%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-10-10 03:16:21

End at: 2018-10-10 03:16:51

Local clock offset: -0.023 ms

Remote clock offset: 0.55 ms

Below is generated by plot.py at 2018-10-10 05:16:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 848.98 Mbit/s

95th percentile per-packet one-way delay: 127.669 ms

Loss rate: 1.78%

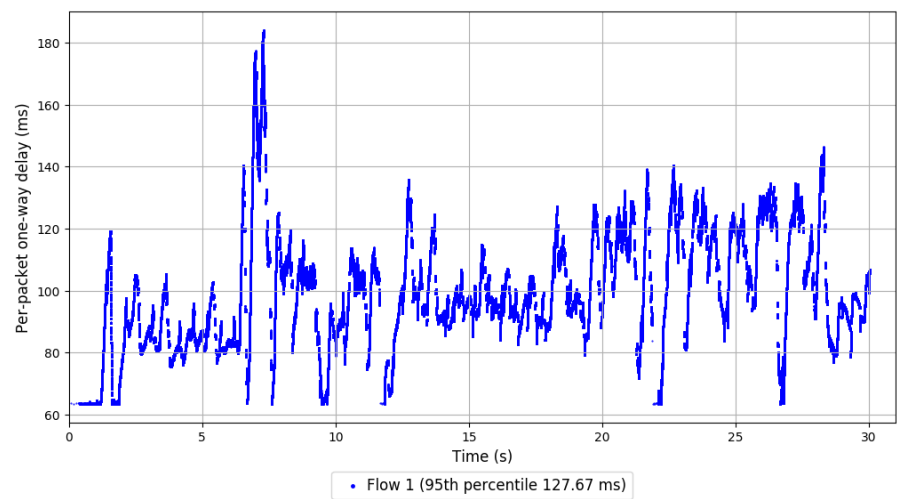
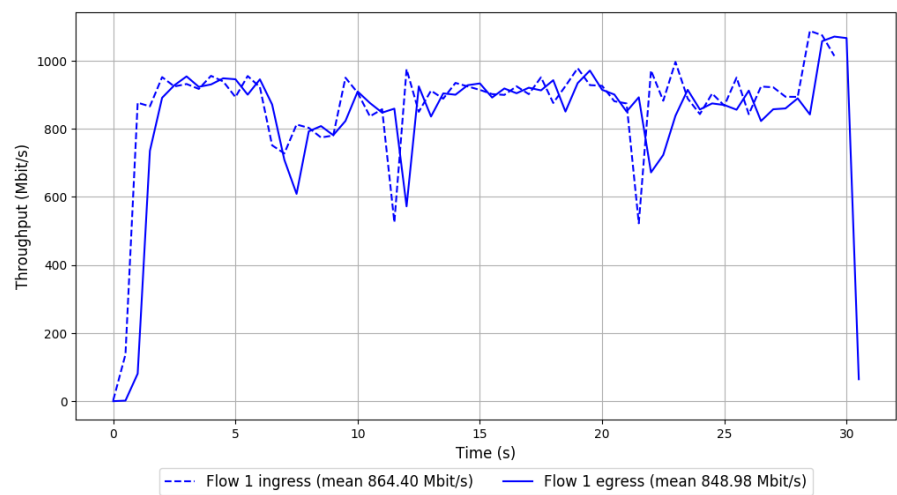
-- Flow 1:

Average throughput: 848.98 Mbit/s

95th percentile per-packet one-way delay: 127.669 ms

Loss rate: 1.78%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-10-10 03:42:05

End at: 2018-10-10 03:42:35

Local clock offset: -0.03 ms

Remote clock offset: -0.03 ms

Below is generated by plot.py at 2018-10-10 05:19:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 935.99 Mbit/s

95th percentile per-packet one-way delay: 112.310 ms

Loss rate: 0.79%

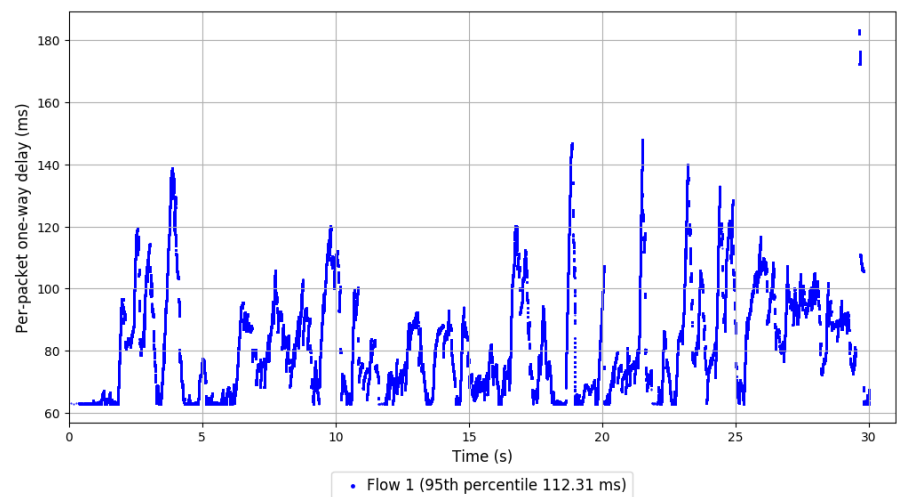
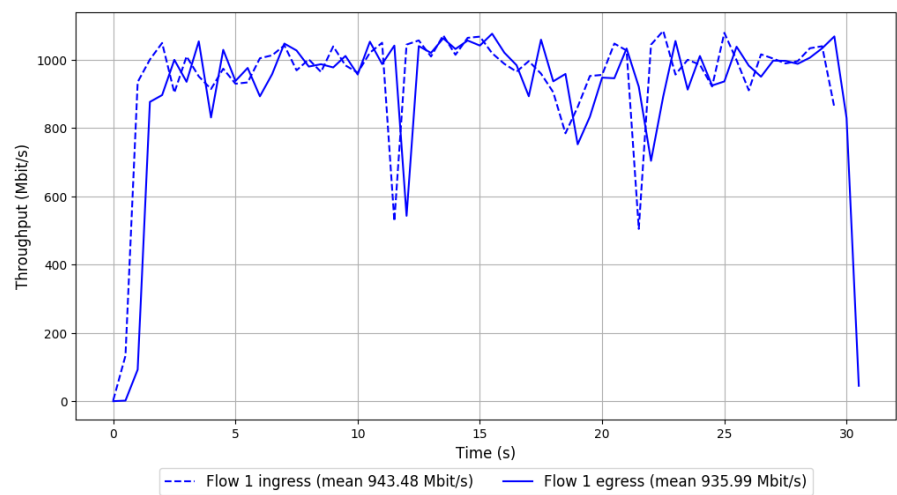
-- Flow 1:

Average throughput: 935.99 Mbit/s

95th percentile per-packet one-way delay: 112.310 ms

Loss rate: 0.79%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-10-10 04:07:46

End at: 2018-10-10 04:08:17

Local clock offset: -0.033 ms

Remote clock offset: 1.127 ms

Below is generated by plot.py at 2018-10-10 05:19:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 965.89 Mbit/s

95th percentile per-packet one-way delay: 111.787 ms

Loss rate: 0.85%

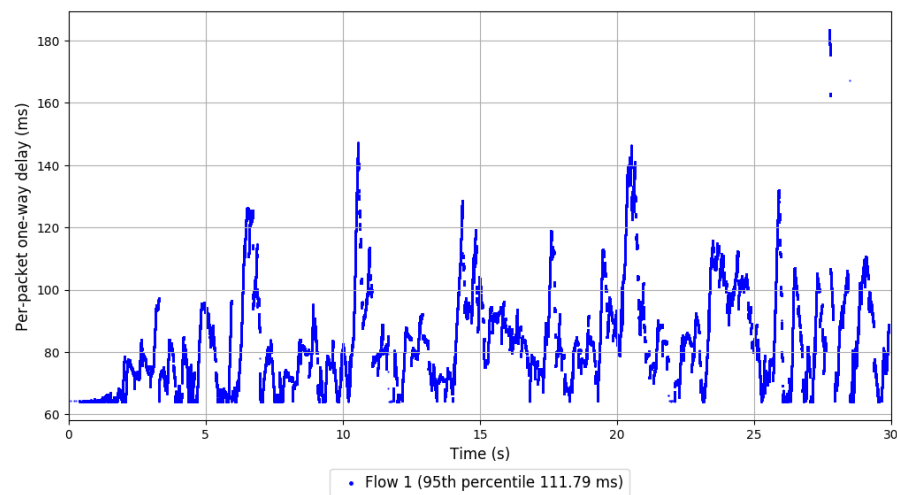
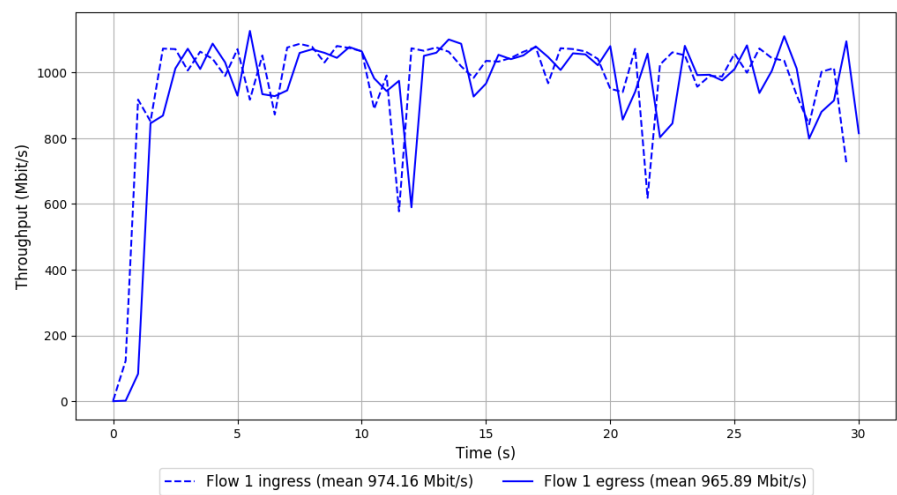
-- Flow 1:

Average throughput: 965.89 Mbit/s

95th percentile per-packet one-way delay: 111.787 ms

Loss rate: 0.85%

Run 5: Report of FillP — Data Link

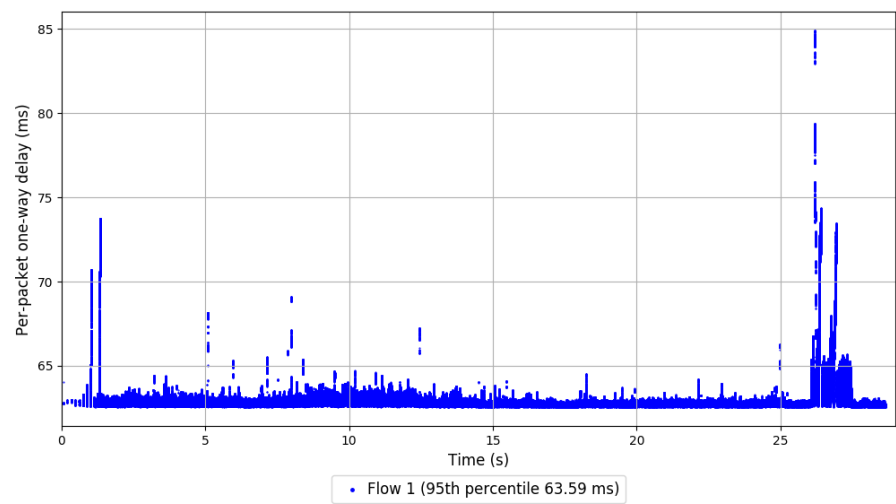
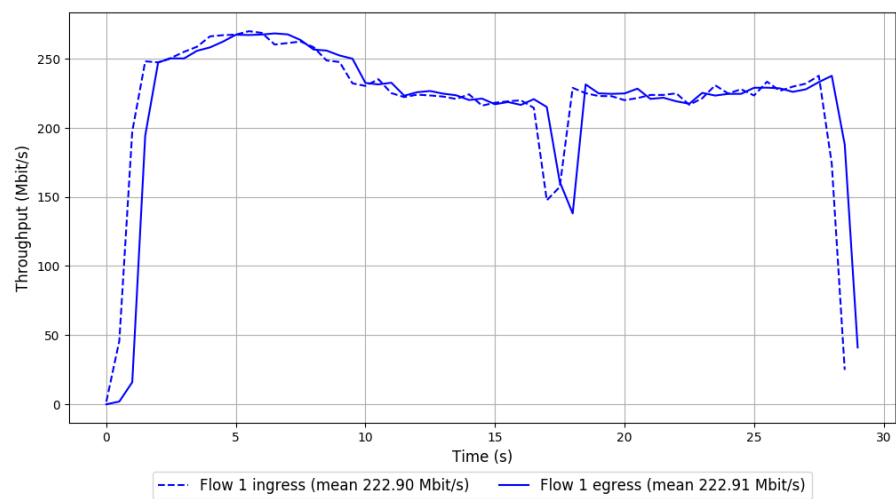


Run 1: Statistics of Indigo

Start at: 2018-10-10 02:41:51
End at: 2018-10-10 02:42:21
Local clock offset: -0.066 ms
Remote clock offset: -0.025 ms

Below is generated by plot.py at 2018-10-10 05:19:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 222.91 Mbit/s
95th percentile per-packet one-way delay: 63.589 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 222.91 Mbit/s
95th percentile per-packet one-way delay: 63.589 ms
Loss rate: 0.00%

Run 1: Report of Indigo — Data Link

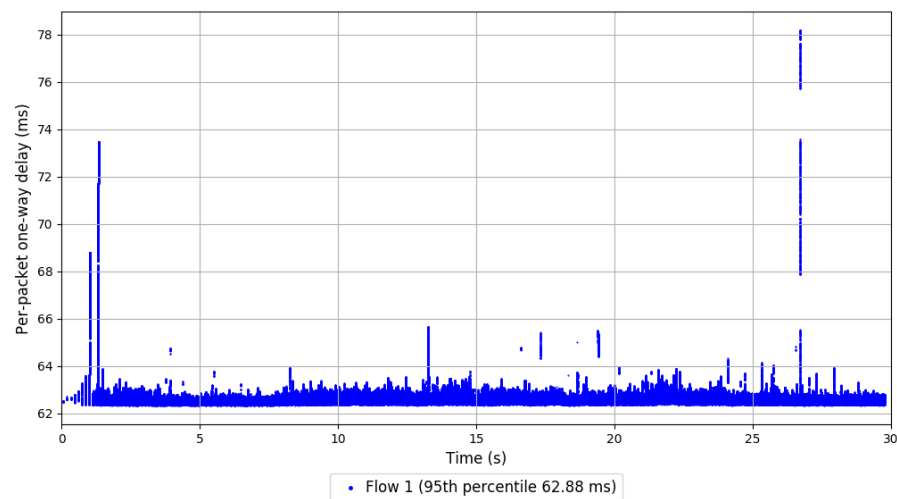
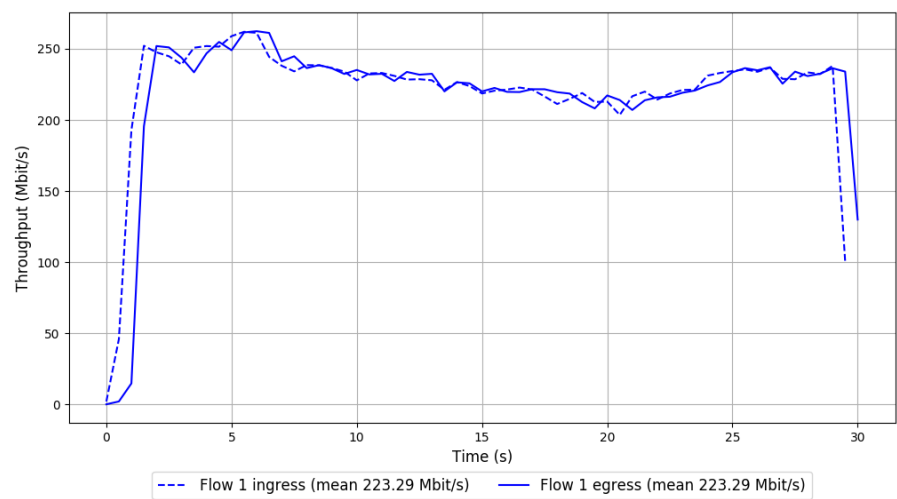


Run 2: Statistics of Indigo

Start at: 2018-10-10 03:07:35
End at: 2018-10-10 03:08:05
Local clock offset: -0.026 ms
Remote clock offset: -0.494 ms

Below is generated by plot.py at 2018-10-10 05:19:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 223.29 Mbit/s
95th percentile per-packet one-way delay: 62.881 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 223.29 Mbit/s
95th percentile per-packet one-way delay: 62.881 ms
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-10-10 03:33:25

End at: 2018-10-10 03:33:55

Local clock offset: -0.026 ms

Remote clock offset: 1.402 ms

Below is generated by plot.py at 2018-10-10 05:19:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 226.82 Mbit/s

95th percentile per-packet one-way delay: 64.866 ms

Loss rate: 0.00%

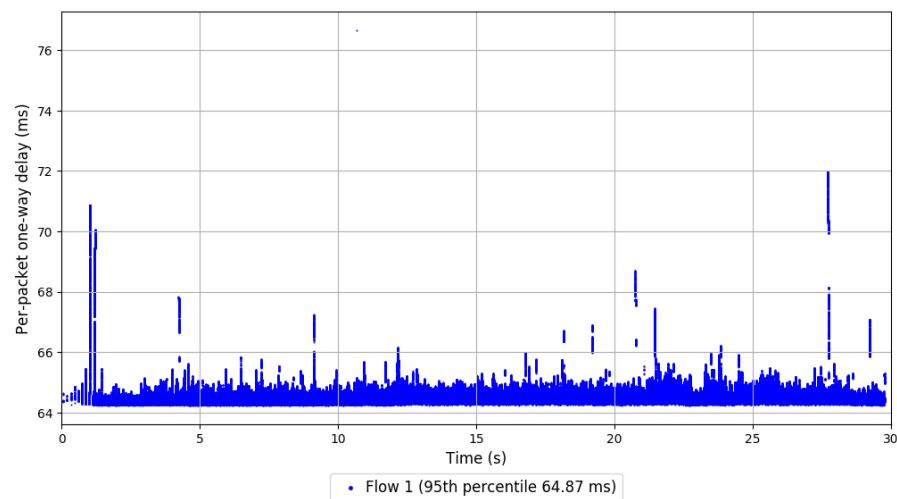
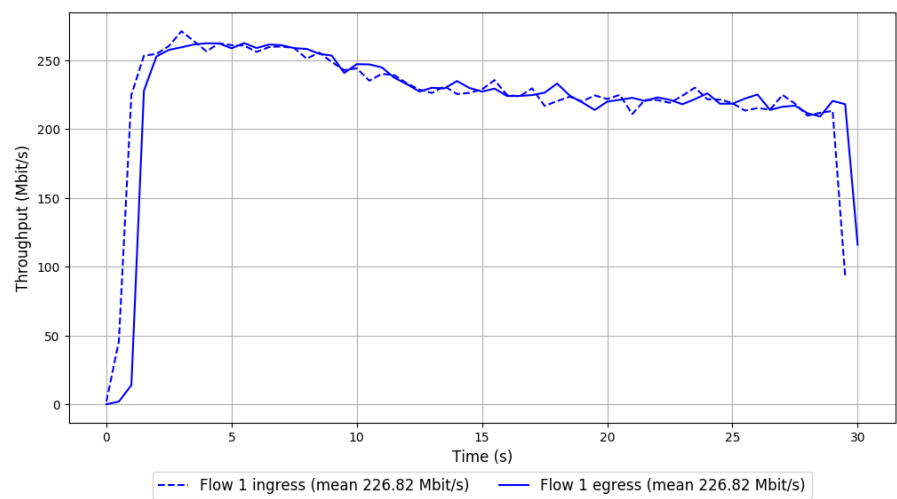
-- Flow 1:

Average throughput: 226.82 Mbit/s

95th percentile per-packet one-way delay: 64.866 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-10-10 03:59:00

End at: 2018-10-10 03:59:30

Local clock offset: -0.059 ms

Remote clock offset: 0.459 ms

Below is generated by plot.py at 2018-10-10 05:19:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 234.13 Mbit/s

95th percentile per-packet one-way delay: 63.704 ms

Loss rate: 0.00%

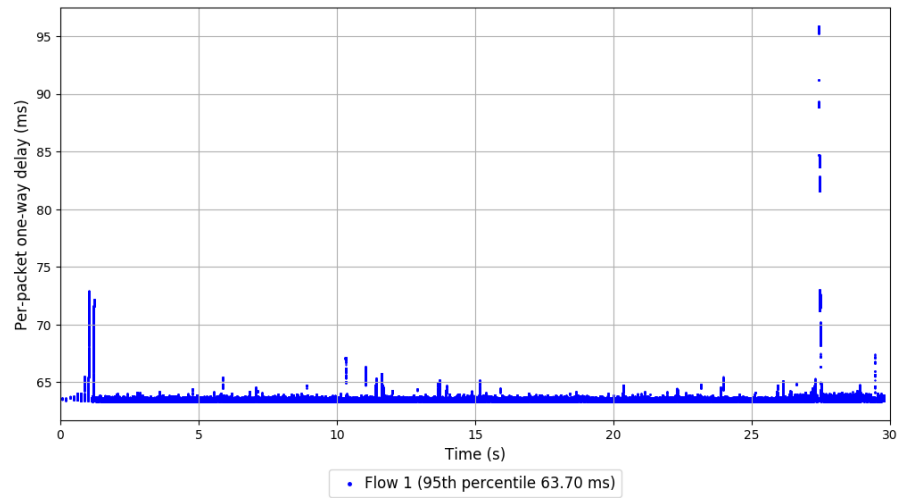
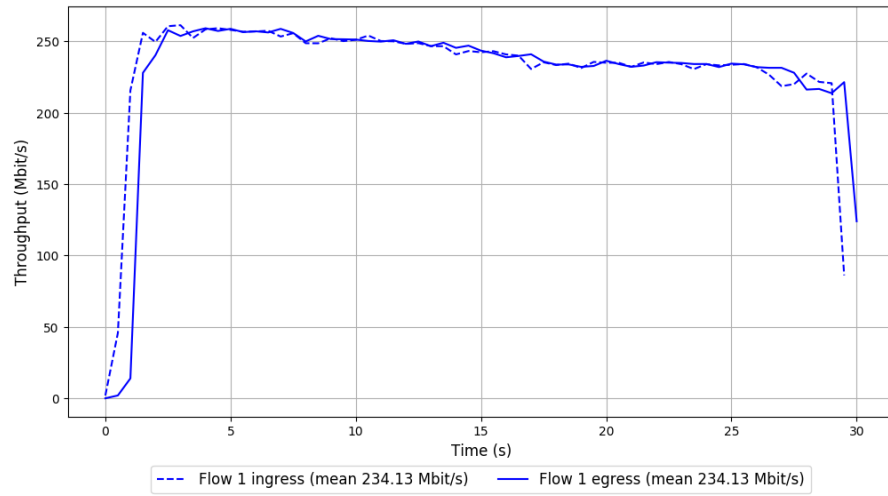
-- Flow 1:

Average throughput: 234.13 Mbit/s

95th percentile per-packet one-way delay: 63.704 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-10-10 04:24:55

End at: 2018-10-10 04:25:25

Local clock offset: -0.031 ms

Remote clock offset: 0.273 ms

Below is generated by plot.py at 2018-10-10 05:19:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 237.63 Mbit/s

95th percentile per-packet one-way delay: 63.166 ms

Loss rate: 0.00%

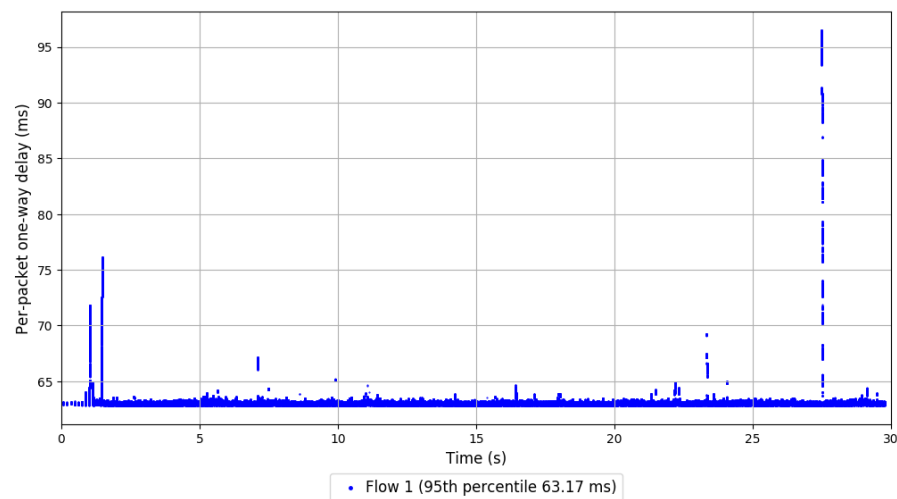
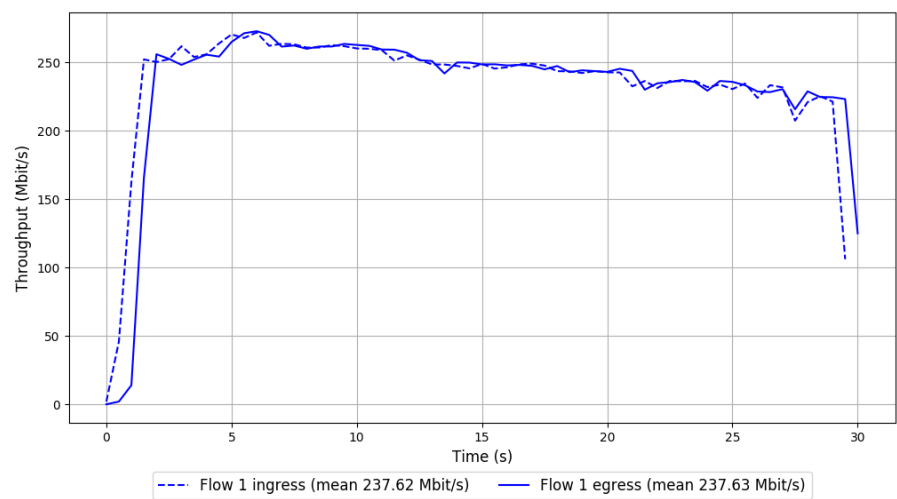
-- Flow 1:

Average throughput: 237.63 Mbit/s

95th percentile per-packet one-way delay: 63.166 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

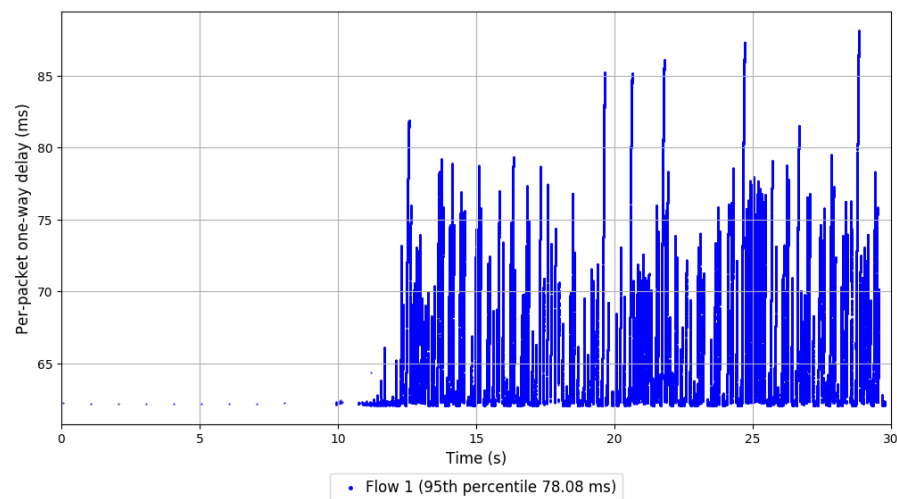
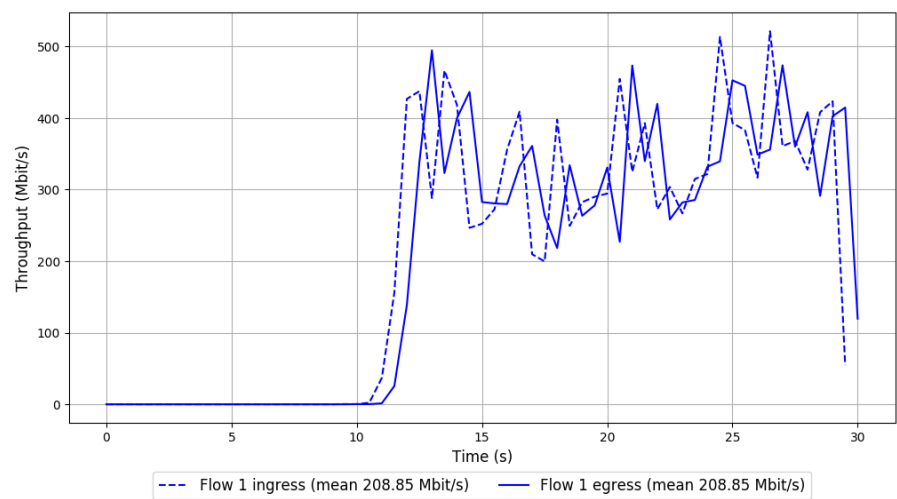


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-10 02:34:29
End at: 2018-10-10 02:34:59
Local clock offset: -0.038 ms
Remote clock offset: -0.763 ms

Below is generated by plot.py at 2018-10-10 05:19:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 208.85 Mbit/s
95th percentile per-packet one-way delay: 78.076 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 208.85 Mbit/s
95th percentile per-packet one-way delay: 78.076 ms
Loss rate: 0.00%

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



Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-10 03:00:01

End at: 2018-10-10 03:00:31

Local clock offset: -0.023 ms

Remote clock offset: 0.918 ms

Below is generated by plot.py at 2018-10-10 05:19:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 322.58 Mbit/s

95th percentile per-packet one-way delay: 81.247 ms

Loss rate: 0.23%

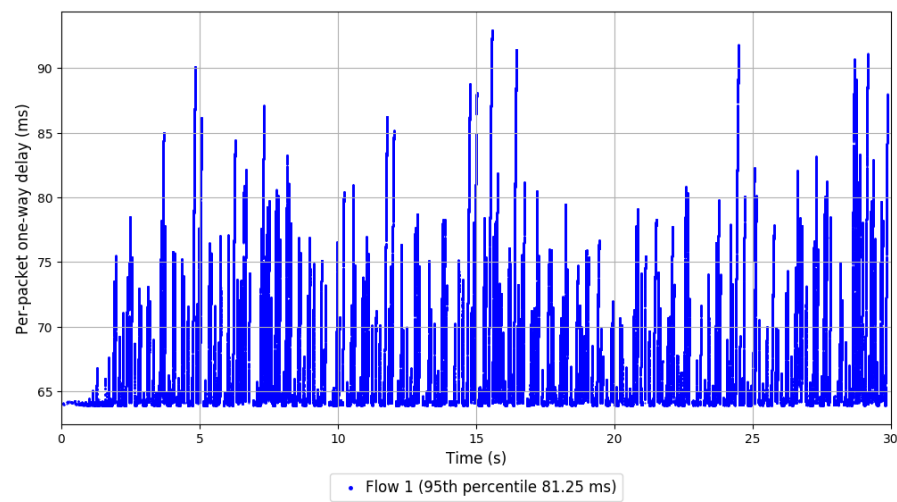
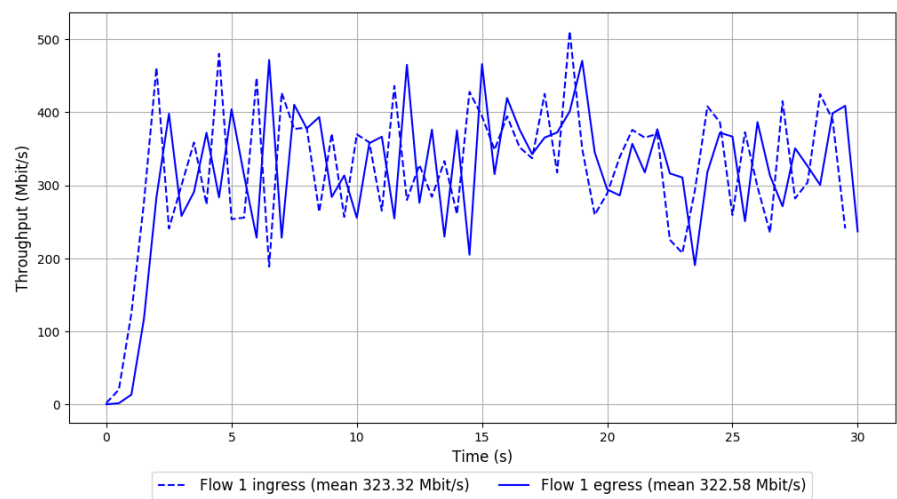
-- Flow 1:

Average throughput: 322.58 Mbit/s

95th percentile per-packet one-way delay: 81.247 ms

Loss rate: 0.23%

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



Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-10 03:25:47

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

Local clock offset: 0.053 ms

Remote clock offset: 1.256 ms

Below is generated by plot.py at 2018-10-10 05:19:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 335.65 Mbit/s

95th percentile per-packet one-way delay: 83.647 ms

Loss rate: 0.20%

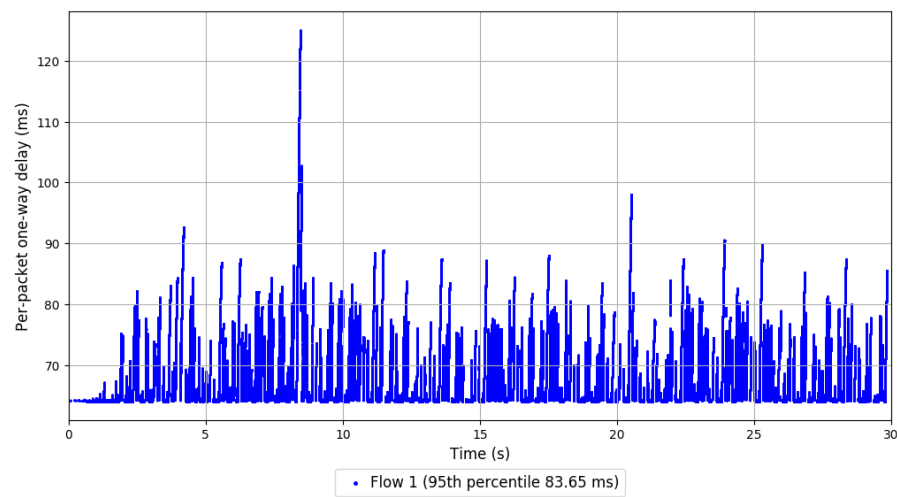
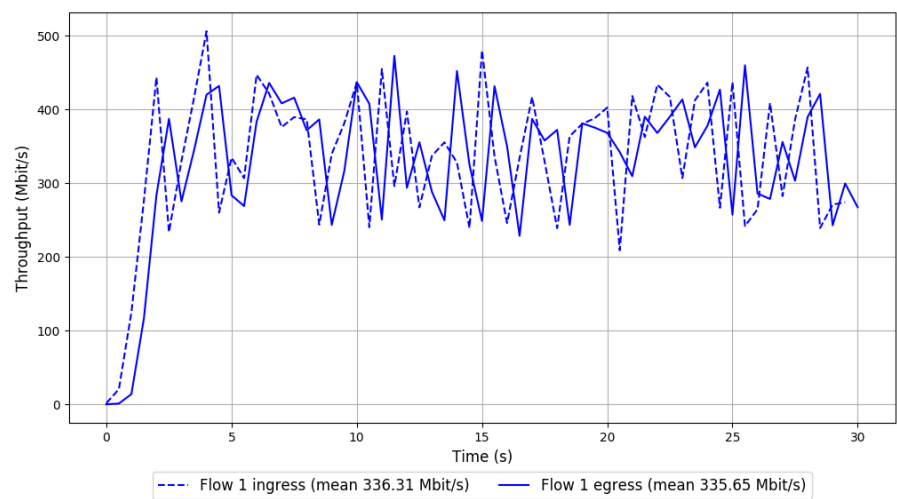
-- Flow 1:

Average throughput: 335.65 Mbit/s

95th percentile per-packet one-way delay: 83.647 ms

Loss rate: 0.20%

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

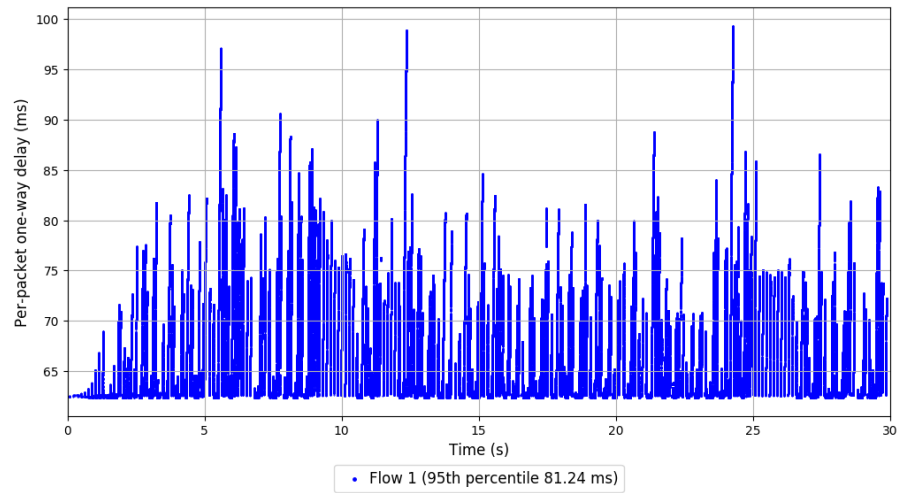
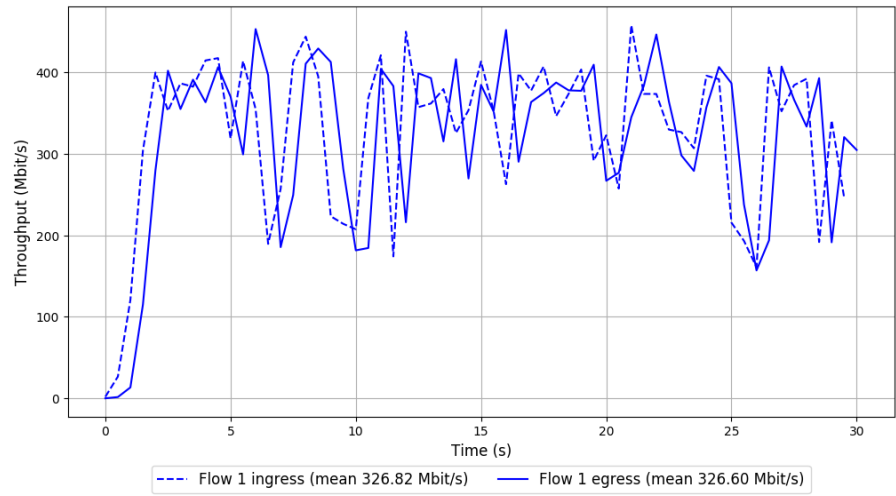


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-10 03:51:28
End at: 2018-10-10 03:51:58
Local clock offset: -0.038 ms
Remote clock offset: -0.421 ms

Below is generated by plot.py at 2018-10-10 05:19:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 326.60 Mbit/s
95th percentile per-packet one-way delay: 81.241 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 326.60 Mbit/s
95th percentile per-packet one-way delay: 81.241 ms
Loss rate: 0.06%

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

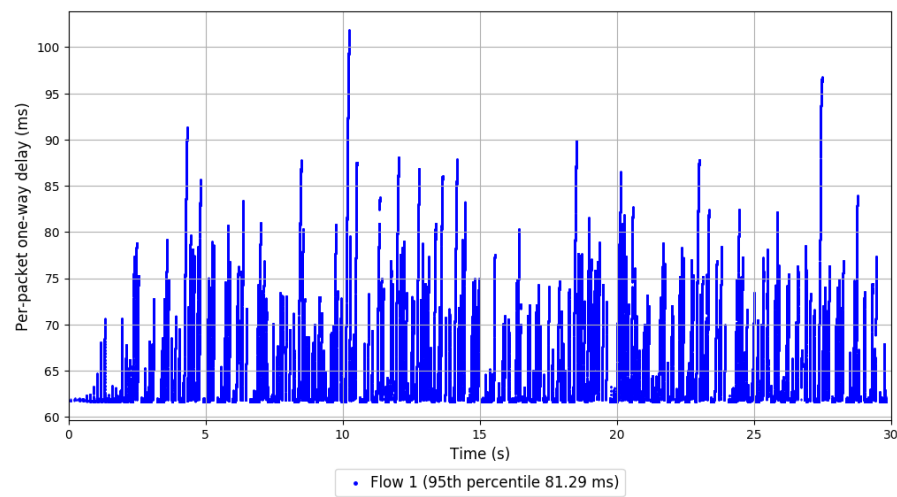
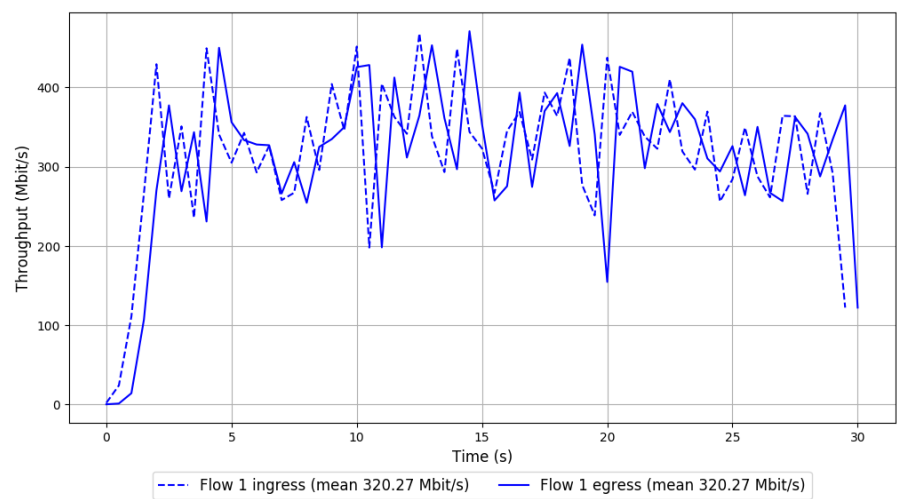


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-10 04:17:18
End at: 2018-10-10 04:17:48
Local clock offset: -0.023 ms
Remote clock offset: -1.073 ms

Below is generated by plot.py at 2018-10-10 05:20:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 320.27 Mbit/s
95th percentile per-packet one-way delay: 81.292 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 320.27 Mbit/s
95th percentile per-packet one-way delay: 81.292 ms
Loss rate: 0.00%

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

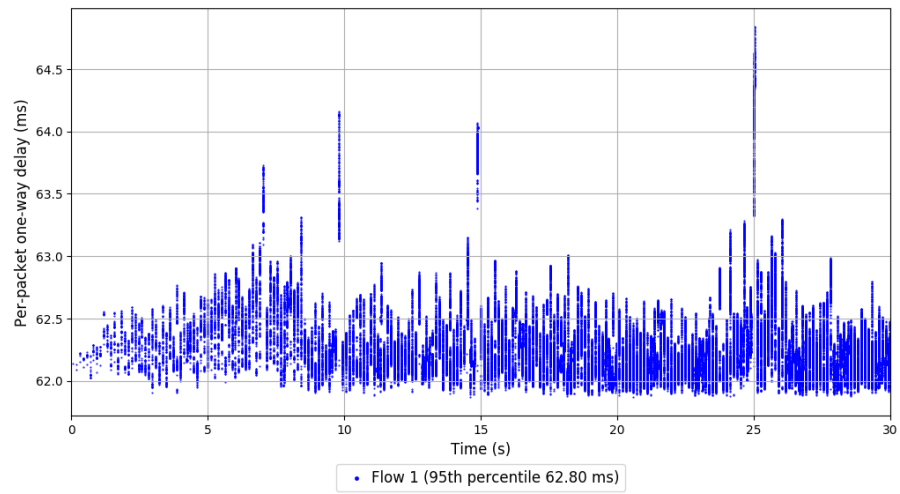
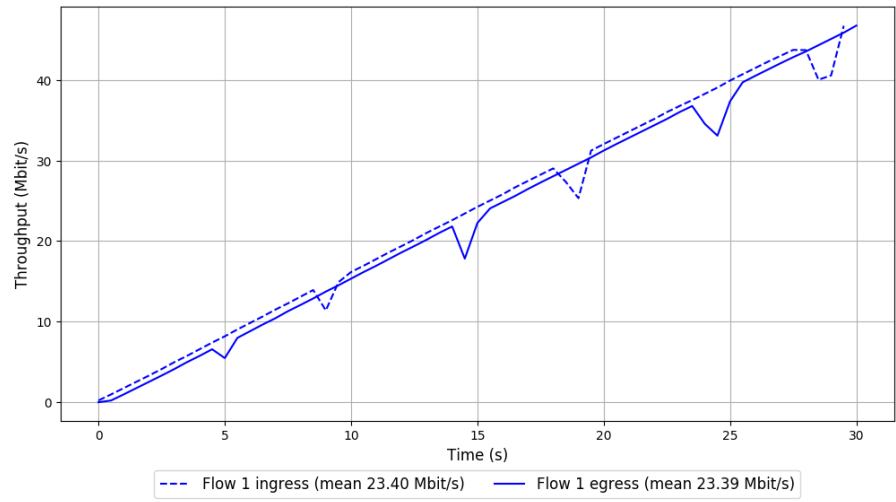



```
Run 1: Statistics of LEDBAT

Start at: 2018-10-10 02:27:54
End at: 2018-10-10 02:28:24
Local clock offset: -0.065 ms
Remote clock offset: -0.74 ms

# Below is generated by plot.py at 2018-10-10 05:20:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 23.39 Mbit/s
95th percentile per-packet one-way delay: 62.799 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.39 Mbit/s
95th percentile per-packet one-way delay: 62.799 ms
Loss rate: 0.00%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-10-10 02:53:25

End at: 2018-10-10 02:53:55

Local clock offset: -0.07 ms

Remote clock offset: 0.171 ms

Below is generated by plot.py at 2018-10-10 05:20:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 23.36 Mbit/s

95th percentile per-packet one-way delay: 64.313 ms

Loss rate: 0.00%

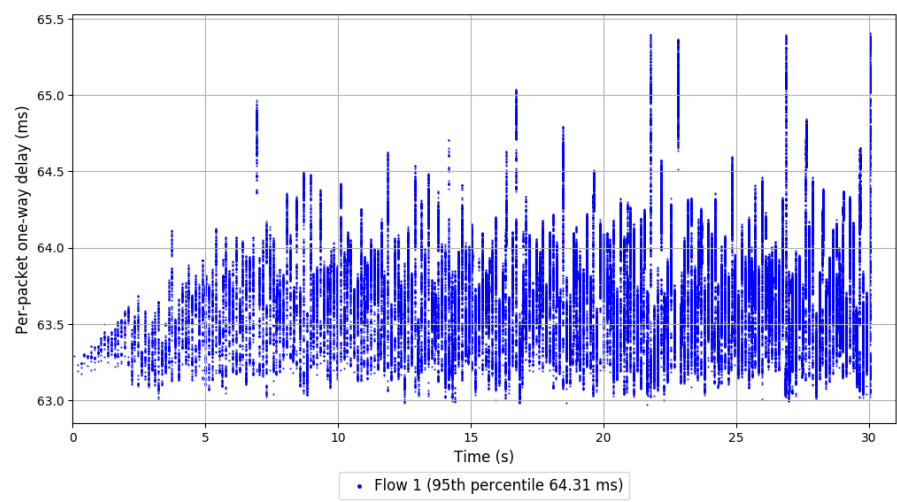
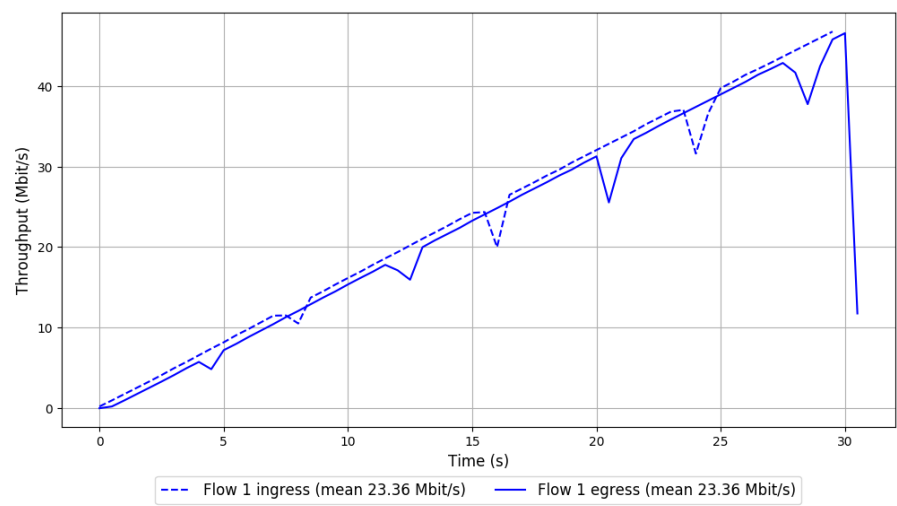
-- Flow 1:

Average throughput: 23.36 Mbit/s

95th percentile per-packet one-way delay: 64.313 ms

Loss rate: 0.00%

Run 2: Report of LEDBAT — Data Link

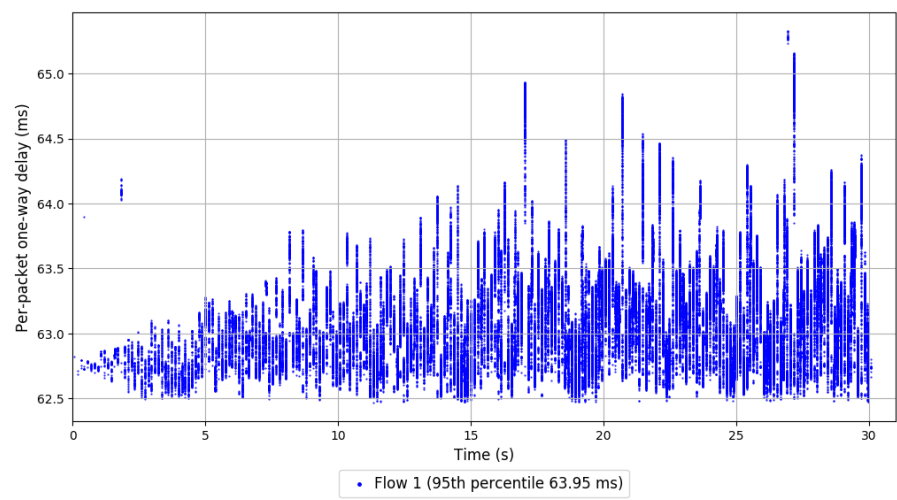
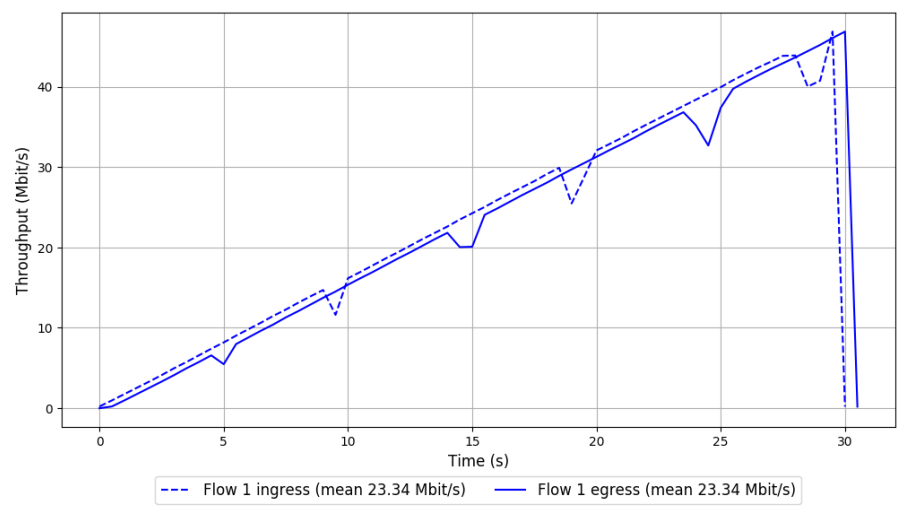


Run 3: Statistics of LEDBAT

Start at: 2018-10-10 03:19:08
End at: 2018-10-10 03:19:38
Local clock offset: -0.012 ms
Remote clock offset: -0.204 ms

Below is generated by plot.py at 2018-10-10 05:20:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 23.34 Mbit/s
95th percentile per-packet one-way delay: 63.953 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.34 Mbit/s
95th percentile per-packet one-way delay: 63.953 ms
Loss rate: 0.00%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-10-10 03:44:57

End at: 2018-10-10 03:45:27

Local clock offset: -0.048 ms

Remote clock offset: 1.033 ms

Below is generated by plot.py at 2018-10-10 05:20:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 23.34 Mbit/s

95th percentile per-packet one-way delay: 64.911 ms

Loss rate: 0.00%

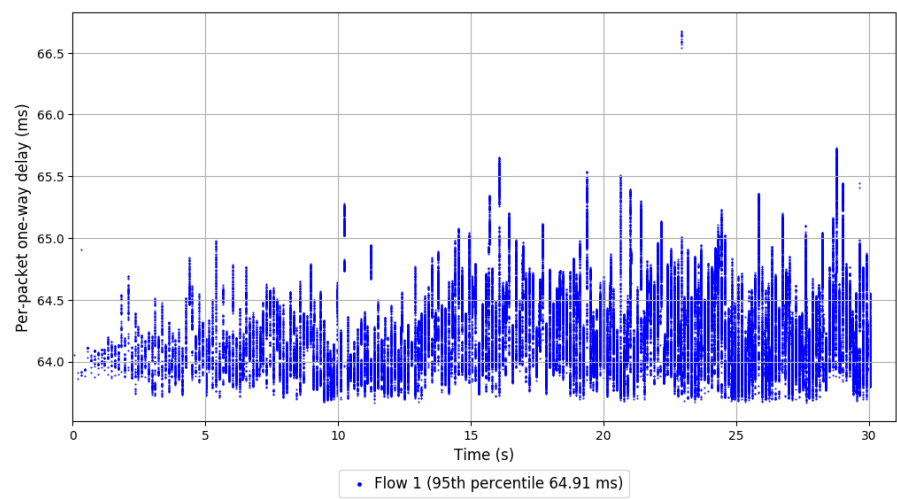
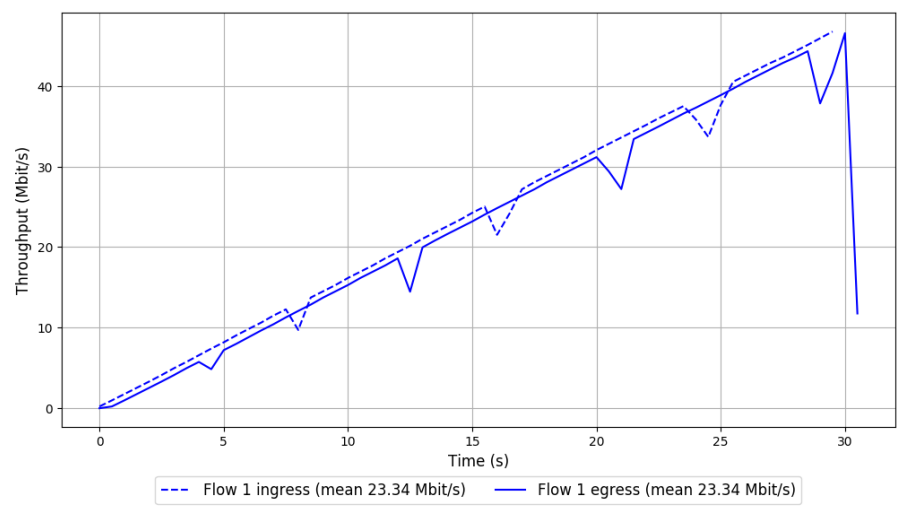
-- Flow 1:

Average throughput: 23.34 Mbit/s

95th percentile per-packet one-way delay: 64.911 ms

Loss rate: 0.00%

Run 4: Report of LEDBAT — Data Link

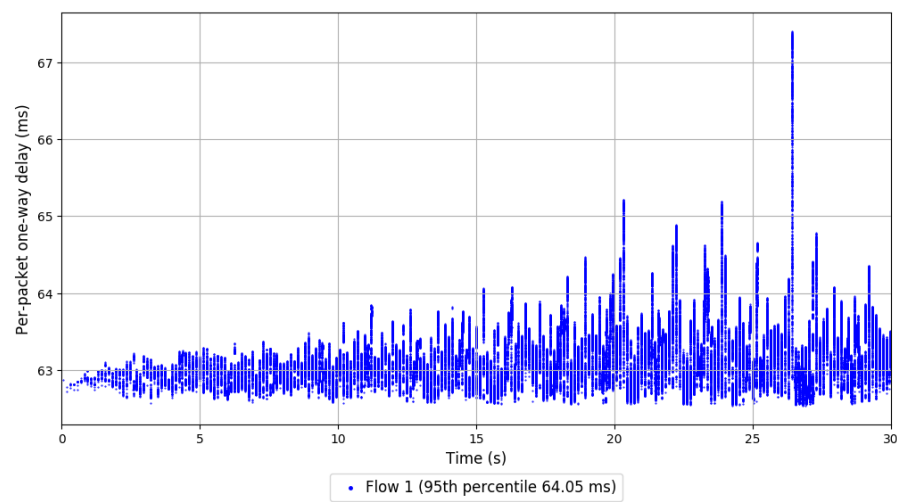
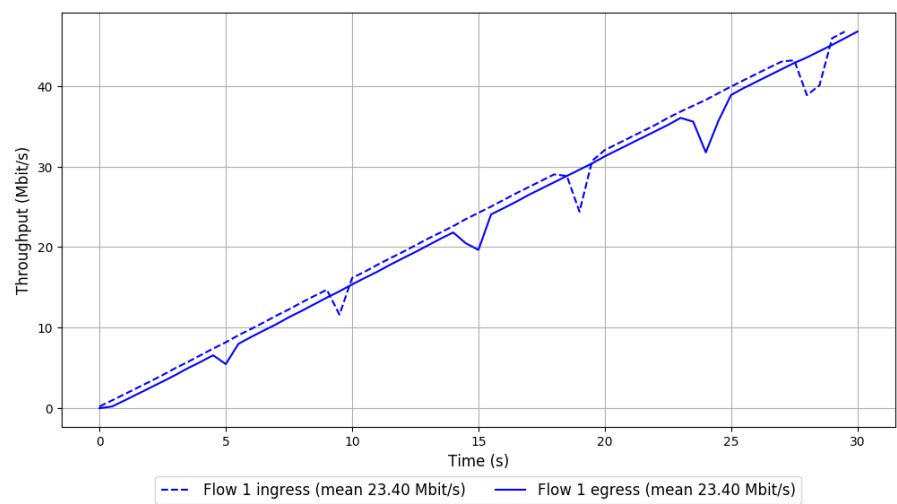


Run 5: Statistics of LEDBAT

Start at: 2018-10-10 04:10:39
End at: 2018-10-10 04:11:09
Local clock offset: -0.043 ms
Remote clock offset: -0.227 ms

Below is generated by plot.py at 2018-10-10 05:20:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 23.40 Mbit/s
95th percentile per-packet one-way delay: 64.051 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.40 Mbit/s
95th percentile per-packet one-way delay: 64.051 ms
Loss rate: 0.00%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-10-10 02:37:09

End at: 2018-10-10 02:37:39

Local clock offset: -0.023 ms

Remote clock offset: 1.08 ms

Below is generated by plot.py at 2018-10-10 05:28:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 707.40 Mbit/s

95th percentile per-packet one-way delay: 91.061 ms

Loss rate: 0.00%

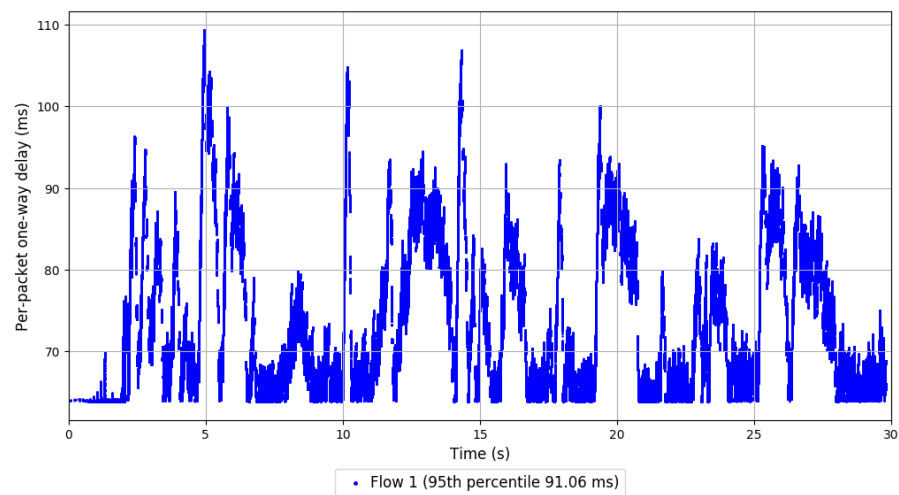
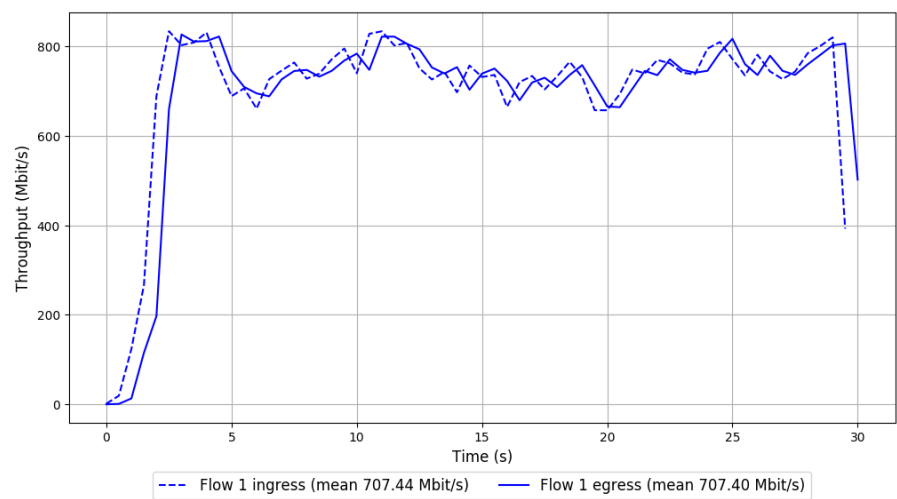
-- Flow 1:

Average throughput: 707.40 Mbit/s

95th percentile per-packet one-way delay: 91.061 ms

Loss rate: 0.00%

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-10-10 03:02:45

End at: 2018-10-10 03:03:15

Local clock offset: -0.035 ms

Remote clock offset: 0.274 ms

Below is generated by plot.py at 2018-10-10 05:28:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 689.44 Mbit/s

95th percentile per-packet one-way delay: 92.691 ms

Loss rate: 0.00%

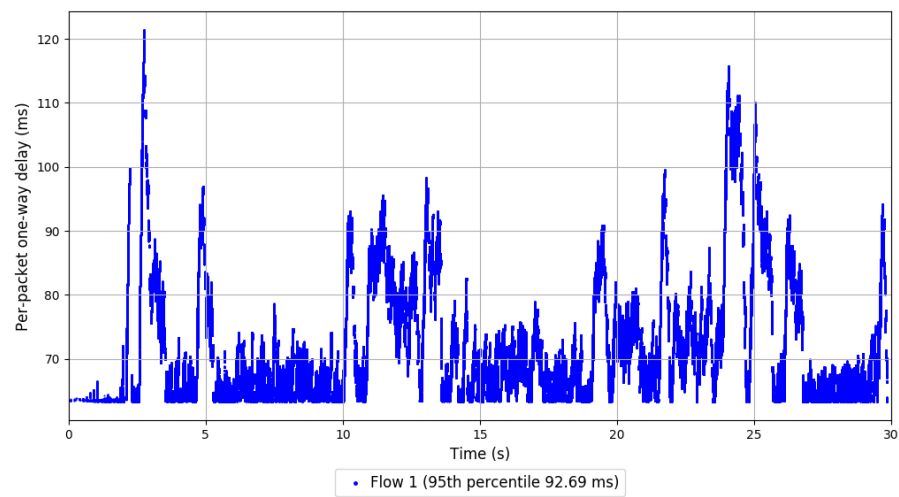
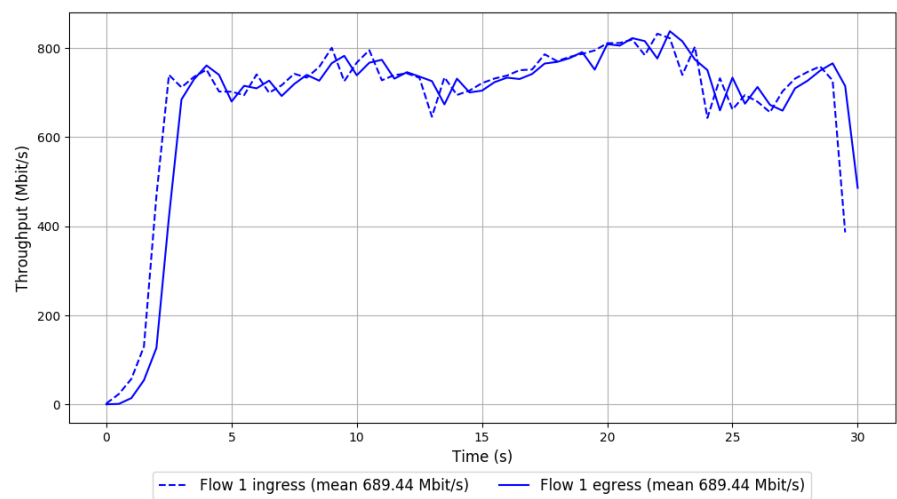
-- Flow 1:

Average throughput: 689.44 Mbit/s

95th percentile per-packet one-way delay: 92.691 ms

Loss rate: 0.00%

Run 2: Report of Indigo-Muses — Data Link

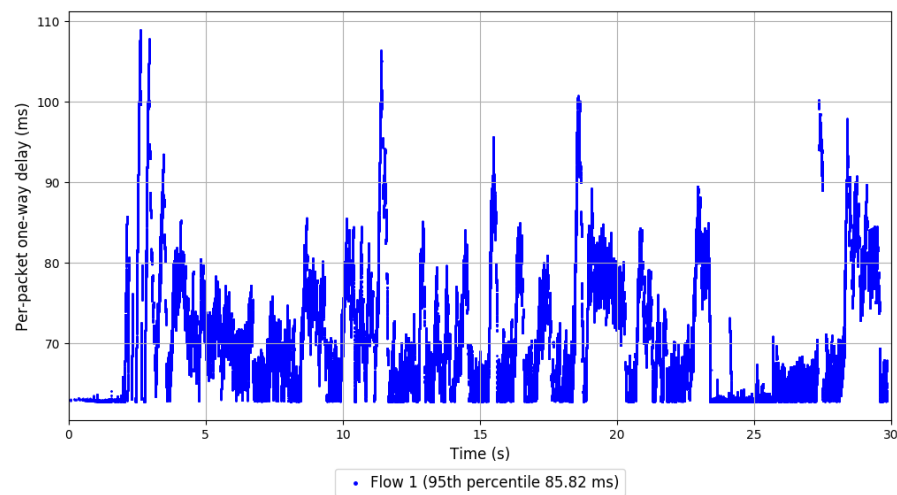
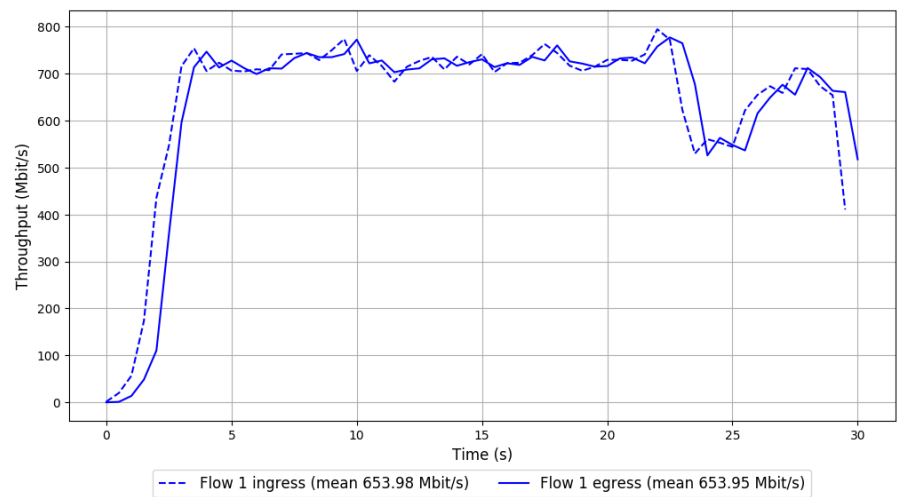


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-10 03:28:36
End at: 2018-10-10 03:29:06
Local clock offset: 0.008 ms
Remote clock offset: -0.039 ms

Below is generated by plot.py at 2018-10-10 05:28:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 653.95 Mbit/s
95th percentile per-packet one-way delay: 85.824 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 653.95 Mbit/s
95th percentile per-packet one-way delay: 85.824 ms
Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-10-10 03:54:17

End at: 2018-10-10 03:54:47

Local clock offset: -0.052 ms

Remote clock offset: 0.127 ms

Below is generated by plot.py at 2018-10-10 05:29:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 685.30 Mbit/s

95th percentile per-packet one-way delay: 91.909 ms

Loss rate: 0.02%

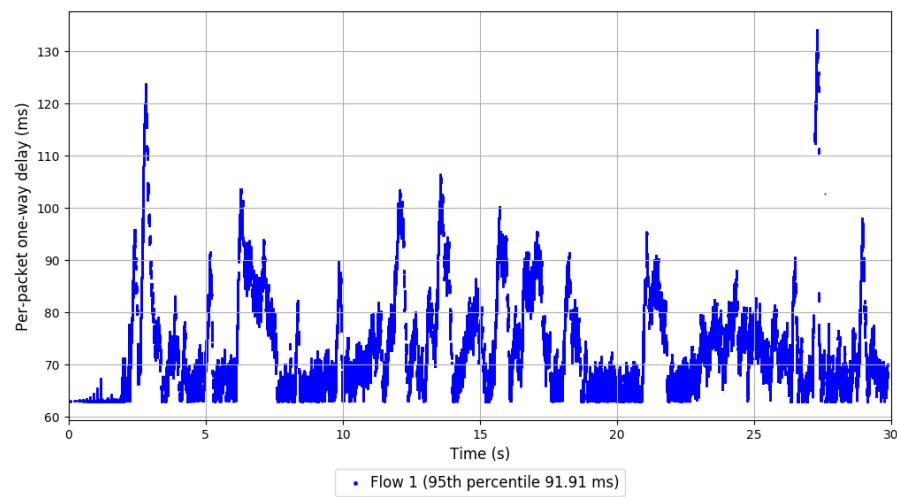
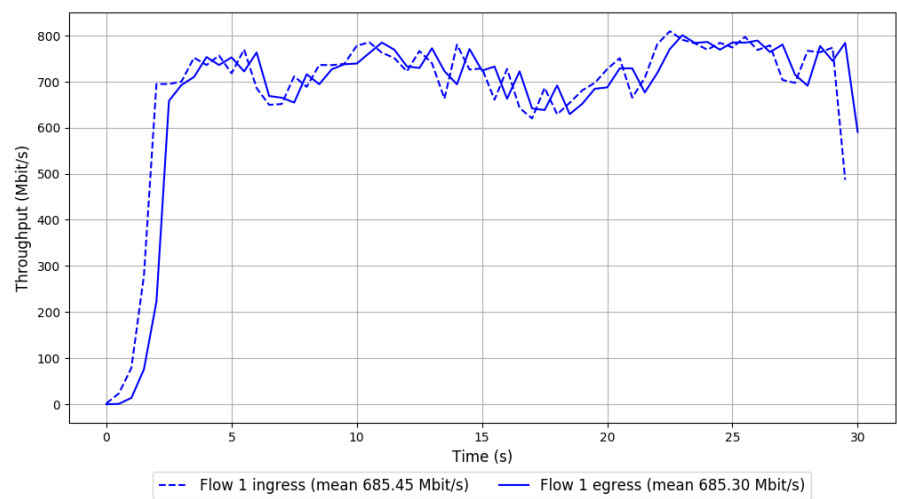
-- Flow 1:

Average throughput: 685.30 Mbit/s

95th percentile per-packet one-way delay: 91.909 ms

Loss rate: 0.02%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-10-10 04:20:04

End at: 2018-10-10 04:20:34

Local clock offset: -0.043 ms

Remote clock offset: 0.032 ms

Below is generated by plot.py at 2018-10-10 05:30:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 668.99 Mbit/s

95th percentile per-packet one-way delay: 91.900 ms

Loss rate: 0.03%

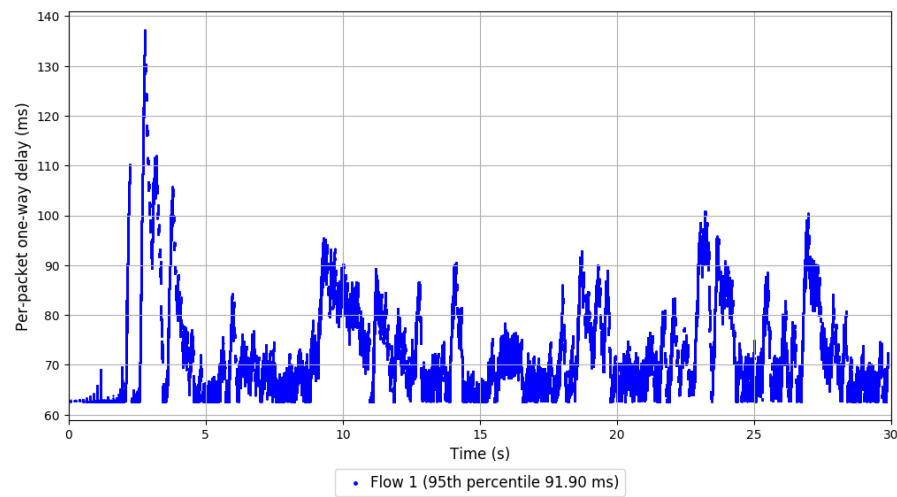
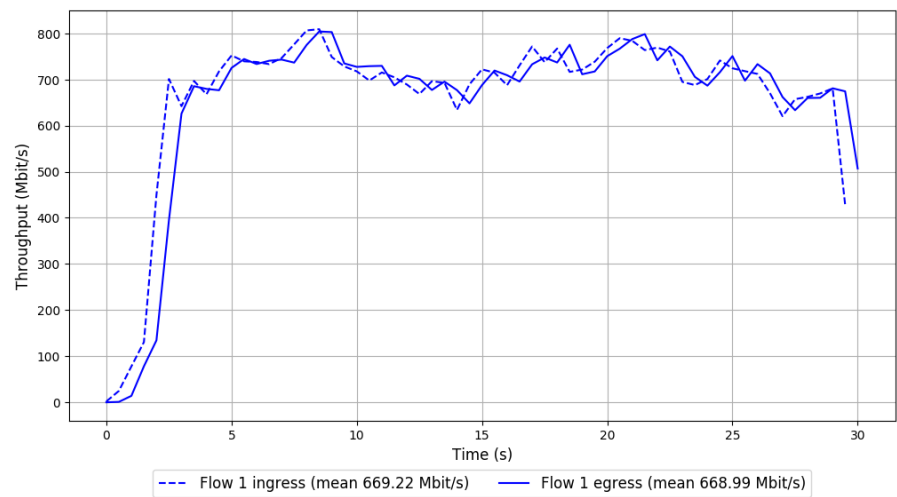
-- Flow 1:

Average throughput: 668.99 Mbit/s

95th percentile per-packet one-way delay: 91.900 ms

Loss rate: 0.03%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-10-10 02:40:19

End at: 2018-10-10 02:40:49

Local clock offset: -0.019 ms

Remote clock offset: 0.069 ms

Below is generated by plot.py at 2018-10-10 05:32:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 403.08 Mbit/s

95th percentile per-packet one-way delay: 133.170 ms

Loss rate: 0.33%

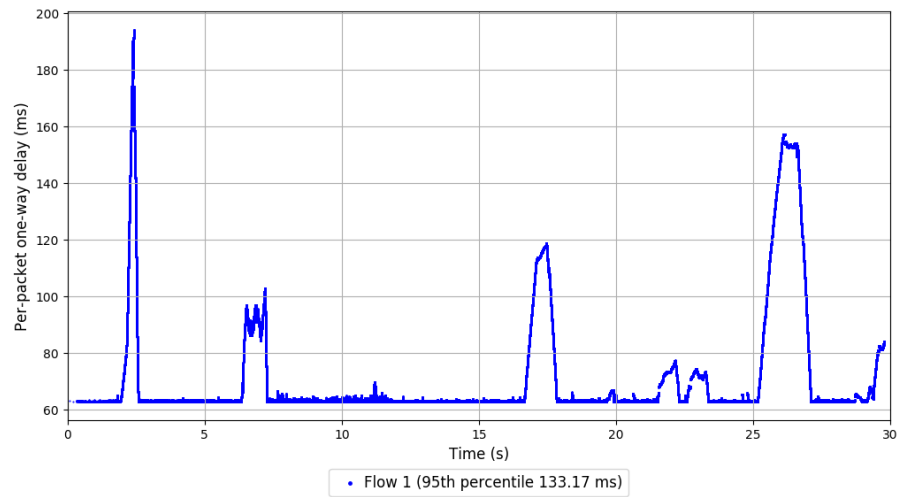
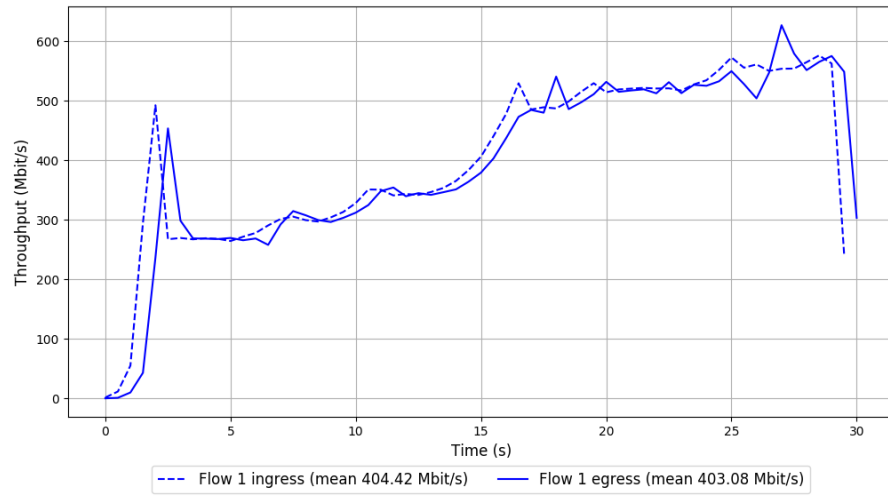
-- Flow 1:

Average throughput: 403.08 Mbit/s

95th percentile per-packet one-way delay: 133.170 ms

Loss rate: 0.33%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-10-10 03:05:56

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

Local clock offset: -0.045 ms

Remote clock offset: 0.299 ms

Below is generated by plot.py at 2018-10-10 05:34:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 496.43 Mbit/s

95th percentile per-packet one-way delay: 163.528 ms

Loss rate: 2.58%

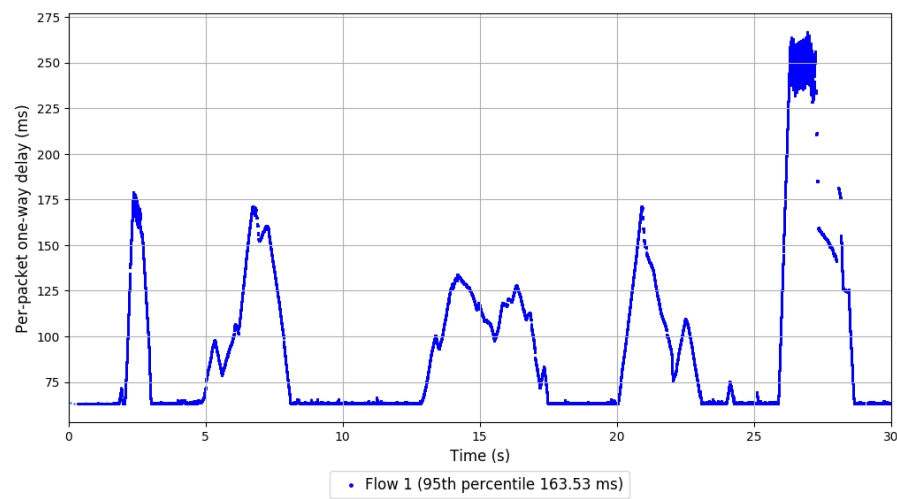
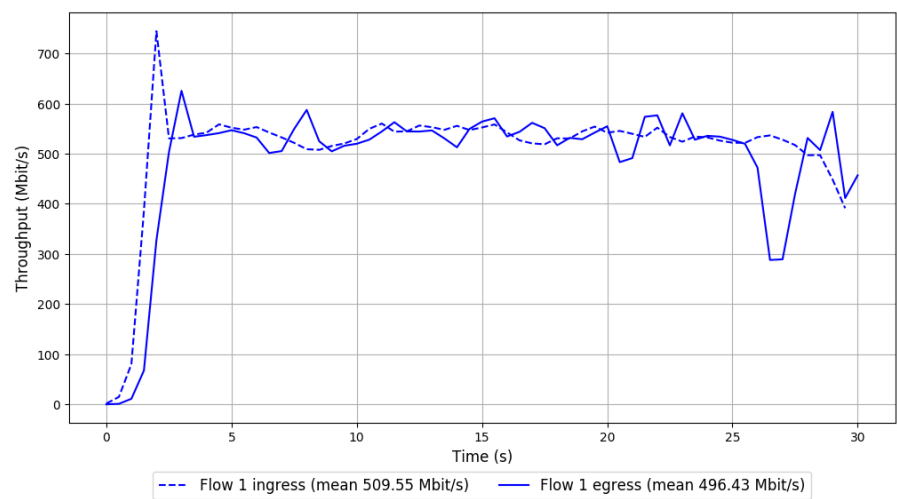
-- Flow 1:

Average throughput: 496.43 Mbit/s

95th percentile per-packet one-way delay: 163.528 ms

Loss rate: 2.58%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-10-10 03:31:46

End at: 2018-10-10 03:32:16

Local clock offset: -0.029 ms

Remote clock offset: 0.555 ms

Below is generated by plot.py at 2018-10-10 05:35:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 495.68 Mbit/s

95th percentile per-packet one-way delay: 140.744 ms

Loss rate: 0.72%

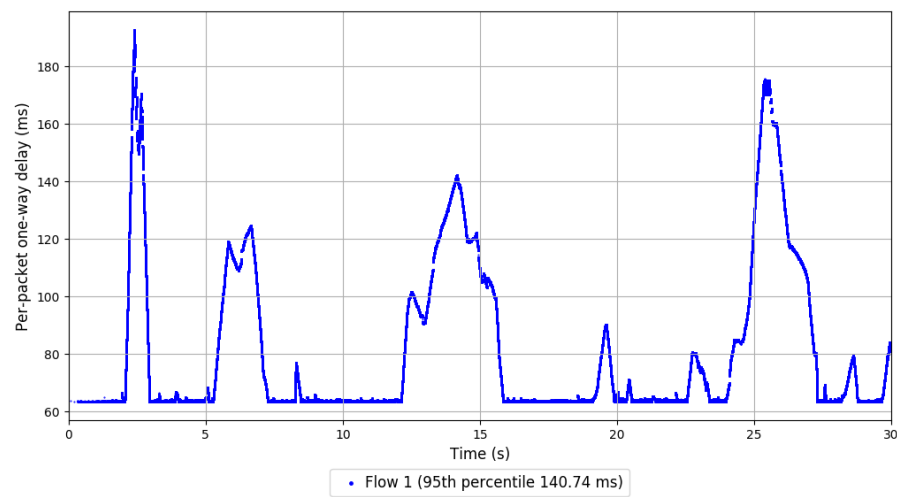
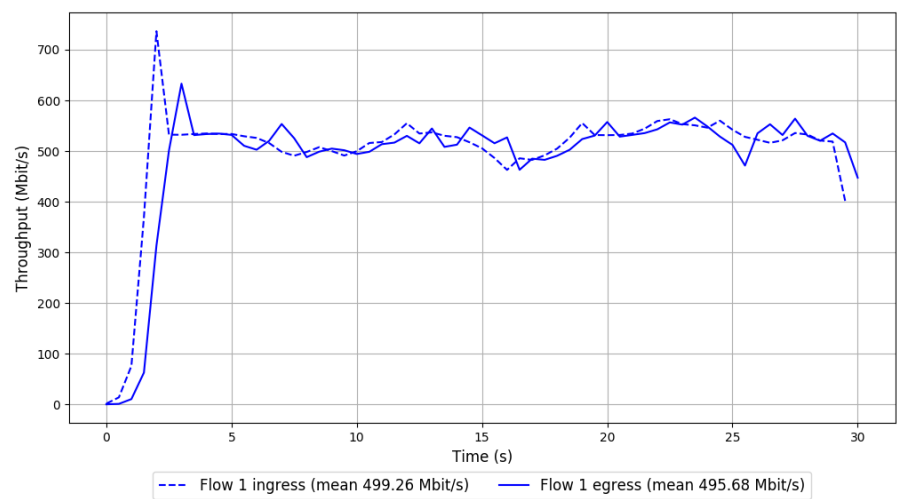
-- Flow 1:

Average throughput: 495.68 Mbit/s

95th percentile per-packet one-way delay: 140.744 ms

Loss rate: 0.72%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-10 03:57:29

End at: 2018-10-10 03:57:59

Local clock offset: -0.05 ms

Remote clock offset: 0.746 ms

Below is generated by plot.py at 2018-10-10 05:41:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 380.29 Mbit/s

95th percentile per-packet one-way delay: 169.369 ms

Loss rate: 2.70%

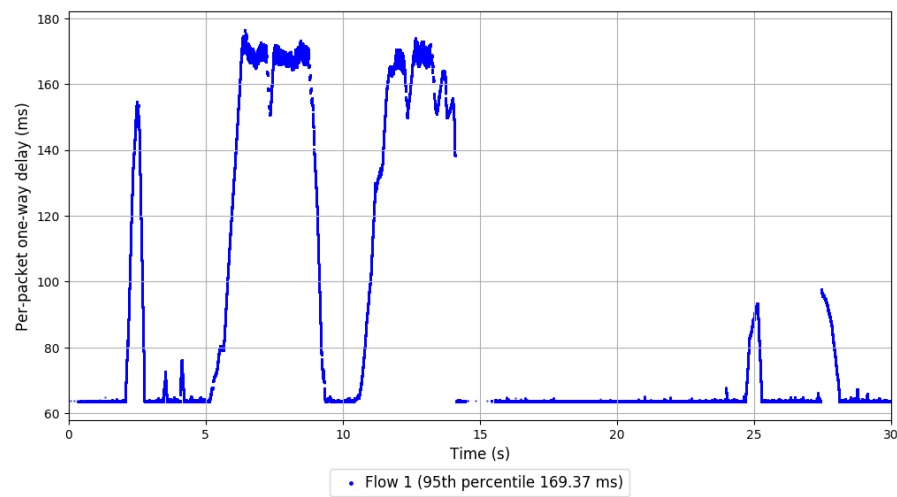
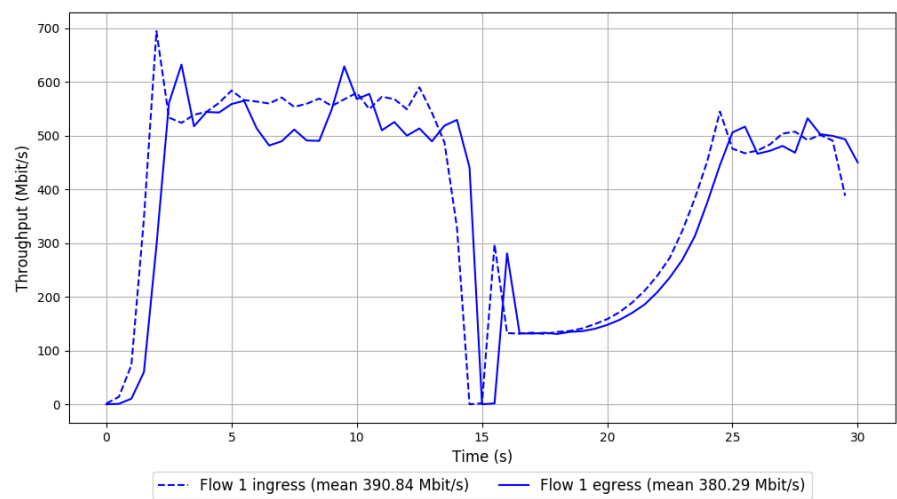
-- Flow 1:

Average throughput: 380.29 Mbit/s

95th percentile per-packet one-way delay: 169.369 ms

Loss rate: 2.70%

Run 4: Report of PCC-Allegro — Data Link

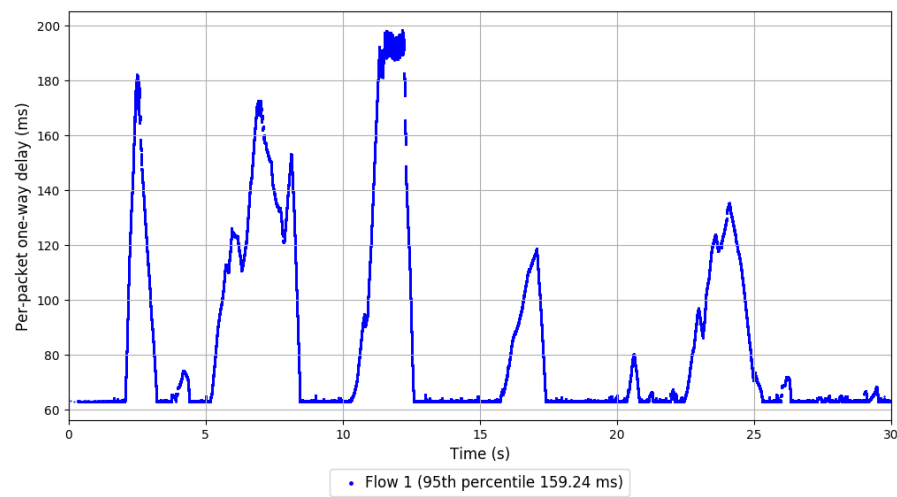
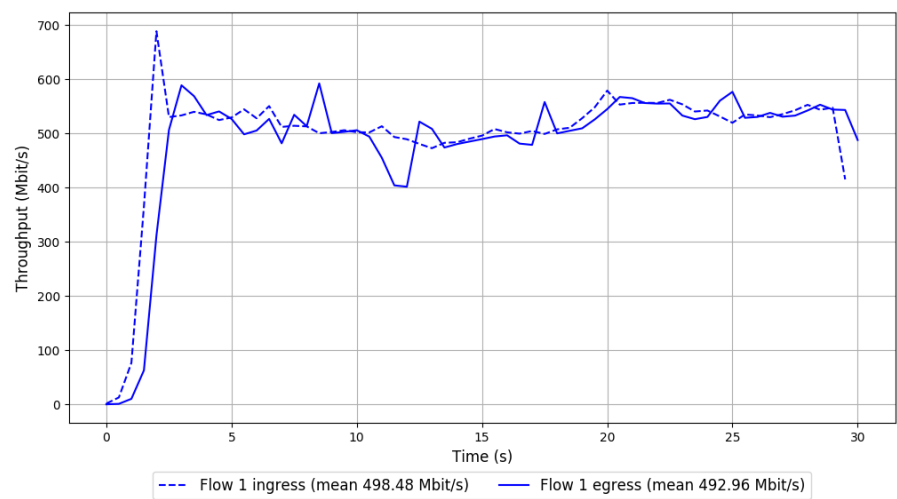


Run 5: Statistics of PCC-Allegro

Start at: 2018-10-10 04:23:16
End at: 2018-10-10 04:23:47
Local clock offset: -0.032 ms
Remote clock offset: -0.005 ms

Below is generated by plot.py at 2018-10-10 05:44:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 492.96 Mbit/s
95th percentile per-packet one-way delay: 159.236 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 492.96 Mbit/s
95th percentile per-packet one-way delay: 159.236 ms
Loss rate: 1.11%

Run 5: Report of PCC-Allegro — Data Link

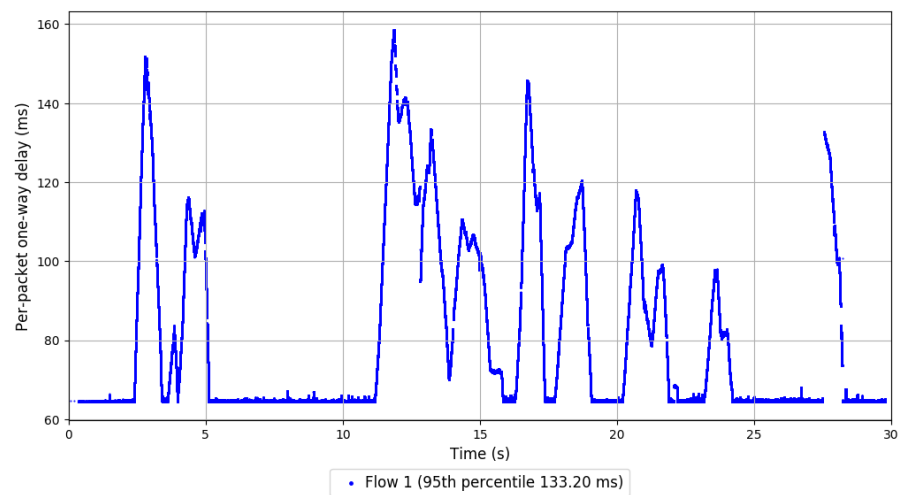
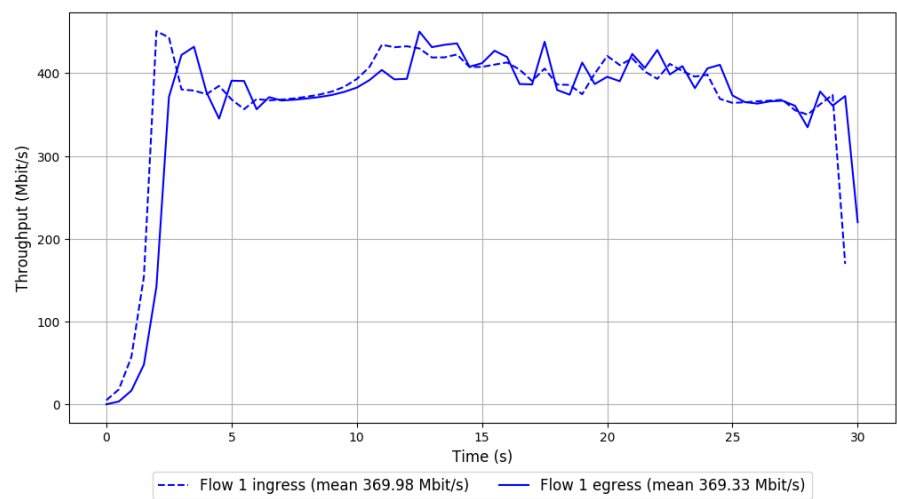


```
Run 1: Statistics of PCC-Expr

Start at: 2018-10-10 02:43:17
End at: 2018-10-10 02:43:47
Local clock offset: -0.043 ms
Remote clock offset: 1.439 ms

# Below is generated by plot.py at 2018-10-10 05:44:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 369.33 Mbit/s
95th percentile per-packet one-way delay: 133.203 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 369.33 Mbit/s
95th percentile per-packet one-way delay: 133.203 ms
Loss rate: 0.18%
```

Run 1: Report of PCC-Expr — Data Link

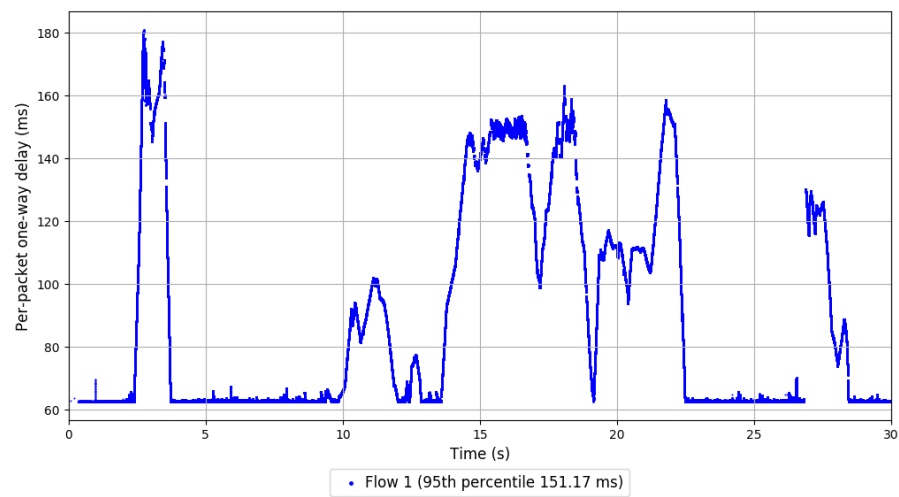
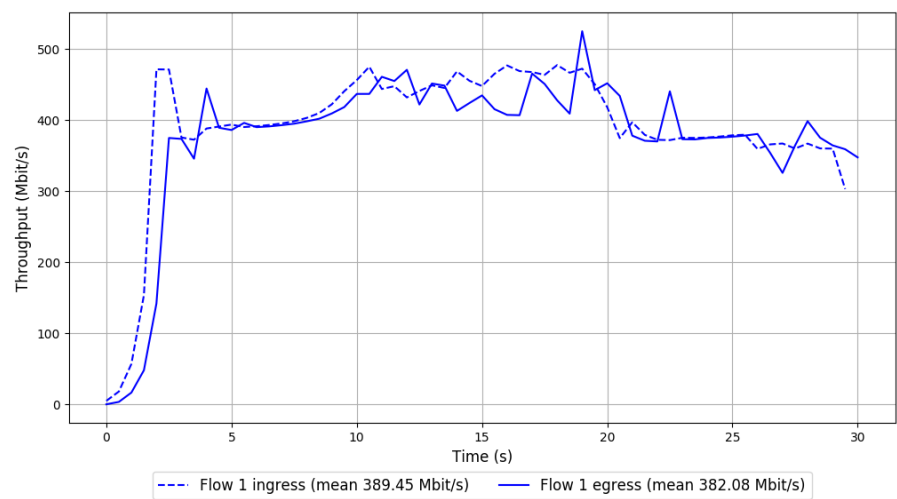


Run 2: Statistics of PCC-Expr

Start at: 2018-10-10 03:09:02
End at: 2018-10-10 03:09:32
Local clock offset: -0.018 ms
Remote clock offset: -0.548 ms

Below is generated by plot.py at 2018-10-10 05:44:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 382.08 Mbit/s
95th percentile per-packet one-way delay: 151.170 ms
Loss rate: 1.89%
-- Flow 1:
Average throughput: 382.08 Mbit/s
95th percentile per-packet one-way delay: 151.170 ms
Loss rate: 1.89%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-10-10 03:34:53

End at: 2018-10-10 03:35:23

Local clock offset: 0.008 ms

Remote clock offset: 0.075 ms

Below is generated by plot.py at 2018-10-10 05:44:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 299.58 Mbit/s

95th percentile per-packet one-way delay: 149.740 ms

Loss rate: 2.99%

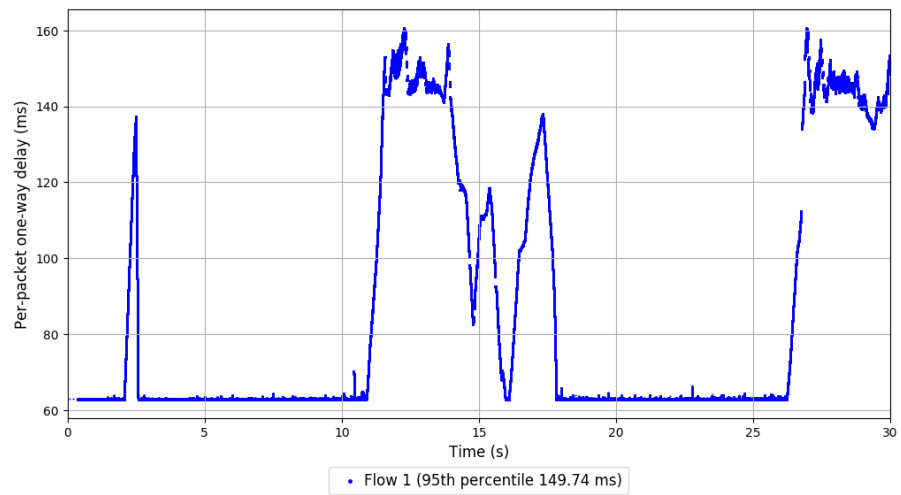
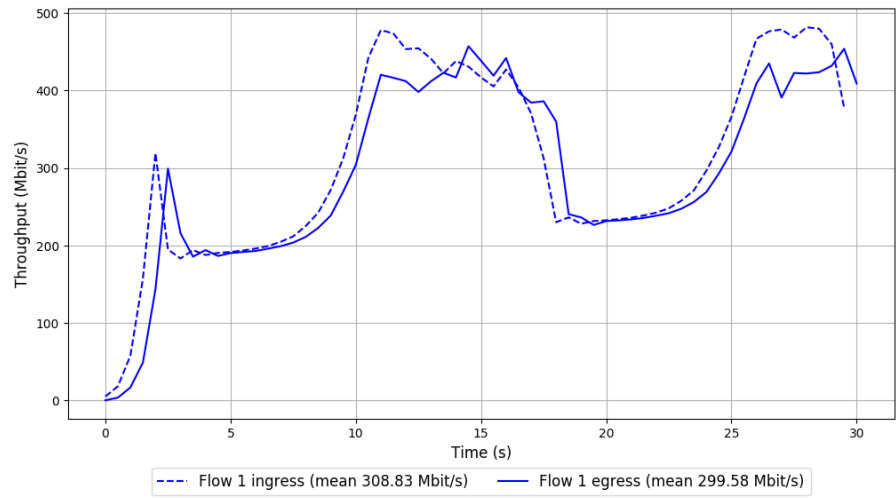
-- Flow 1:

Average throughput: 299.58 Mbit/s

95th percentile per-packet one-way delay: 149.740 ms

Loss rate: 2.99%

Run 3: Report of PCC-Expr — Data Link

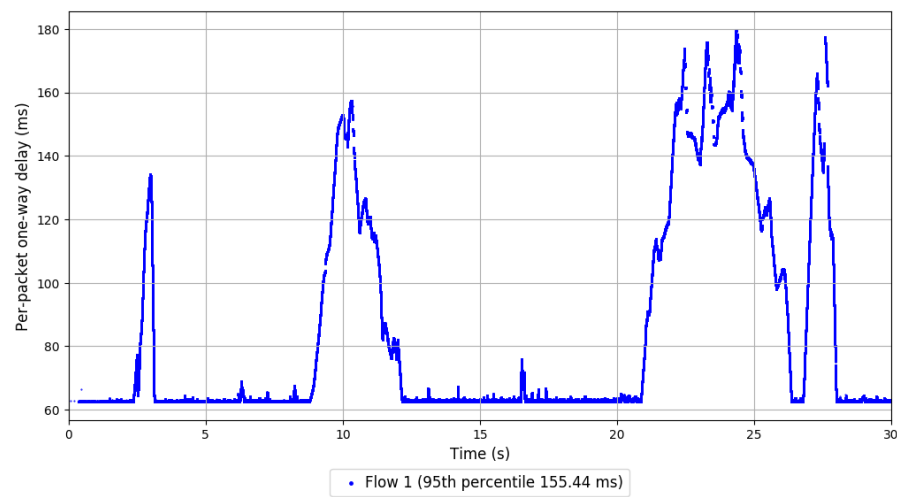
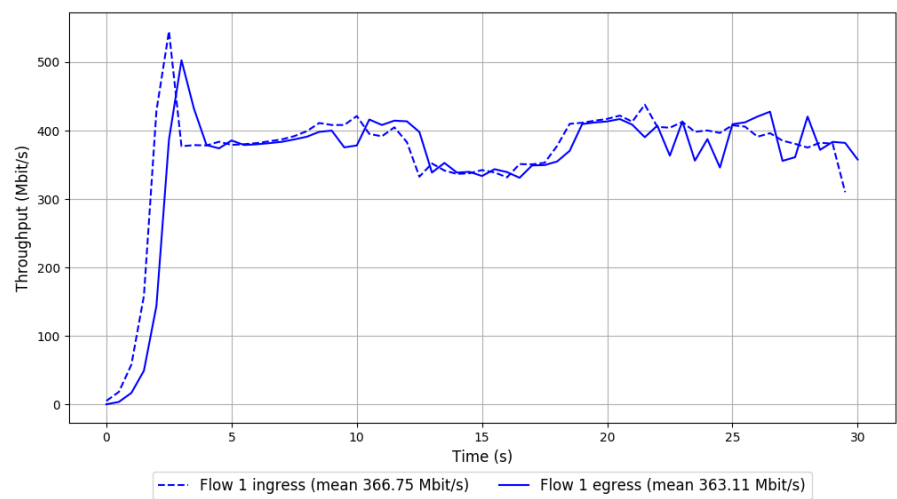


Run 4: Statistics of PCC-Expr

Start at: 2018-10-10 04:00:28
End at: 2018-10-10 04:00:58
Local clock offset: -0.043 ms
Remote clock offset: -0.087 ms

Below is generated by plot.py at 2018-10-10 05:44:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 363.11 Mbit/s
95th percentile per-packet one-way delay: 155.444 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 363.11 Mbit/s
95th percentile per-packet one-way delay: 155.444 ms
Loss rate: 0.99%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-10-10 04:26:24

End at: 2018-10-10 04:26:54

Local clock offset: -0.049 ms

Remote clock offset: 1.412 ms

Below is generated by plot.py at 2018-10-10 05:48:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 372.20 Mbit/s

95th percentile per-packet one-way delay: 162.783 ms

Loss rate: 2.93%

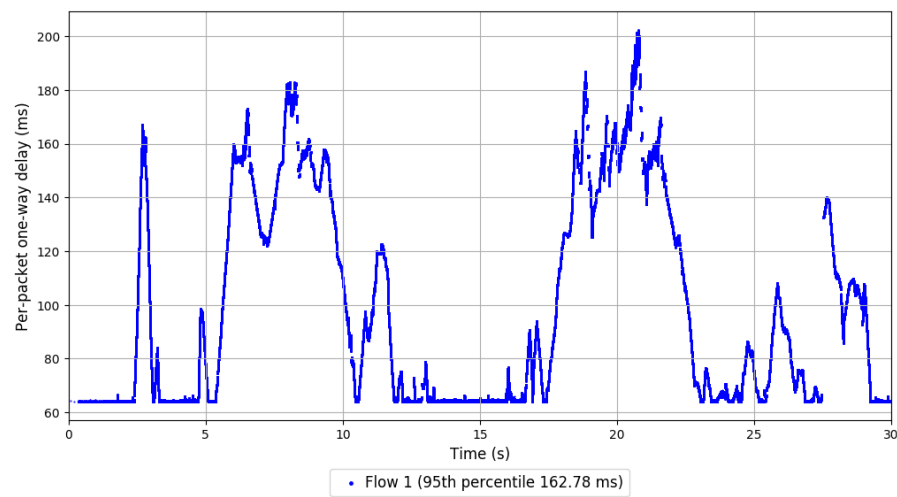
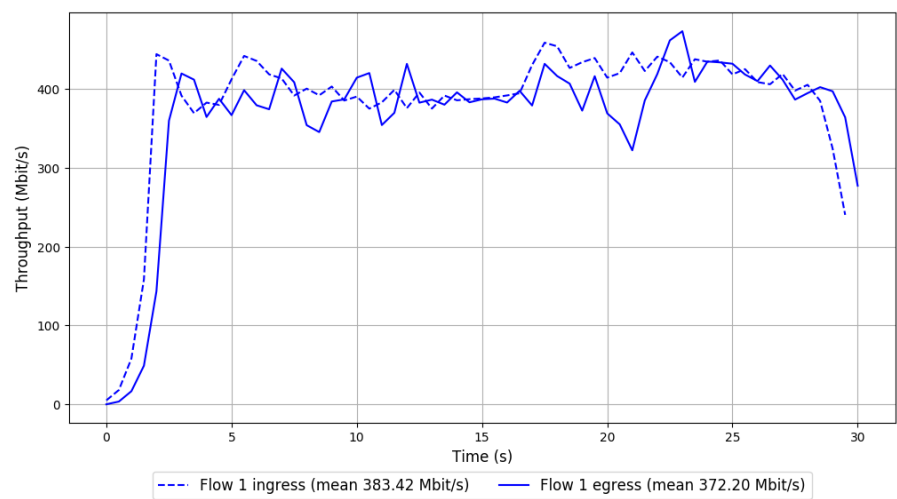
-- Flow 1:

Average throughput: 372.20 Mbit/s

95th percentile per-packet one-way delay: 162.783 ms

Loss rate: 2.93%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

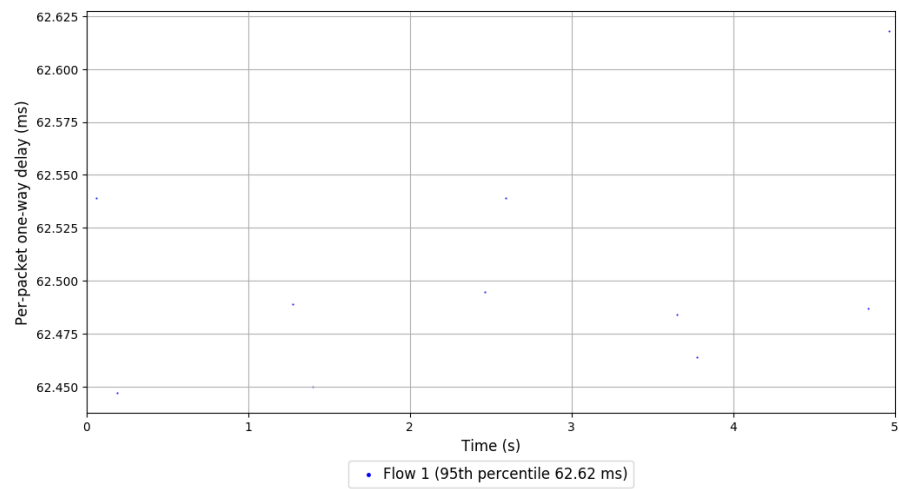
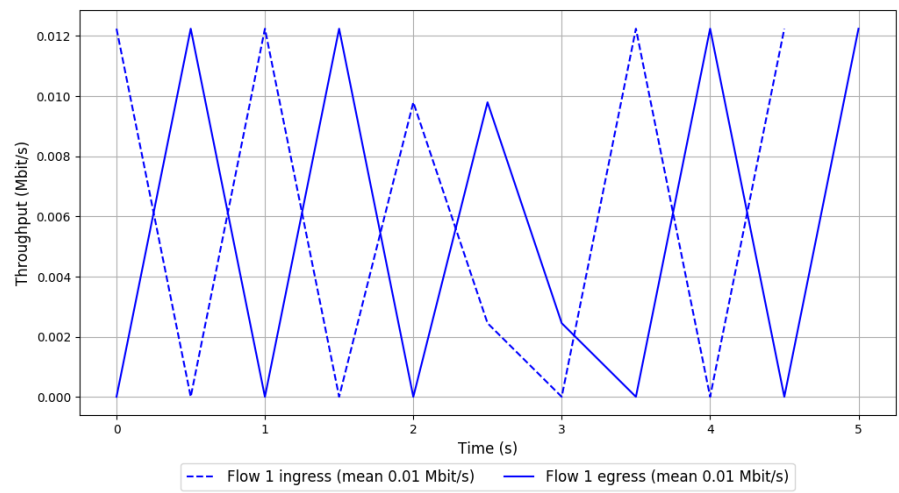
Start at: 2018-10-10 02:30:38

End at: 2018-10-10 02:31:08

Local clock offset: -0.078 ms

Remote clock offset: -0.521 ms

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-10-10 02:56:09

End at: 2018-10-10 02:56:39

Local clock offset: -0.038 ms

Remote clock offset: 0.05 ms

Below is generated by plot.py at 2018-10-10 05:48:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 65.94 Mbit/s

95th percentile per-packet one-way delay: 63.175 ms

Loss rate: 0.00%

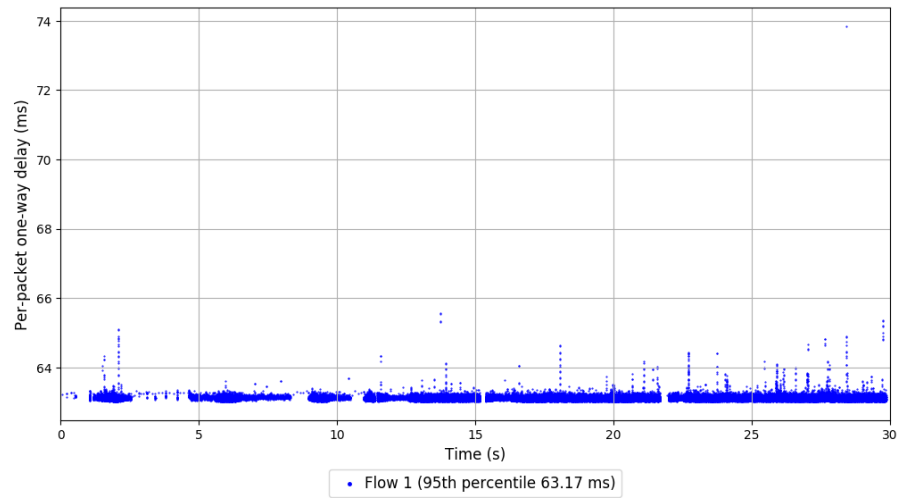
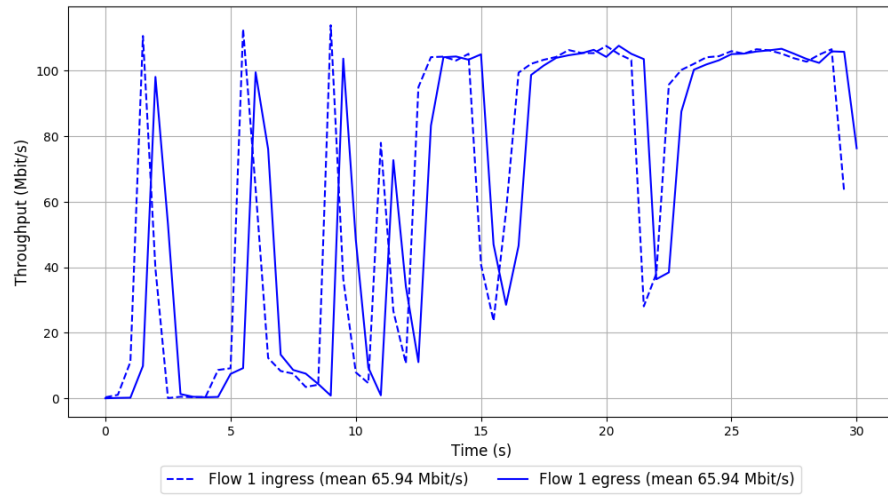
-- Flow 1:

Average throughput: 65.94 Mbit/s

95th percentile per-packet one-way delay: 63.175 ms

Loss rate: 0.00%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-10-10 03:21:52

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

Local clock offset: -0.043 ms

Remote clock offset: -0.184 ms

Below is generated by plot.py at 2018-10-10 05:48:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 66.82 Mbit/s

95th percentile per-packet one-way delay: 62.555 ms

Loss rate: 0.00%

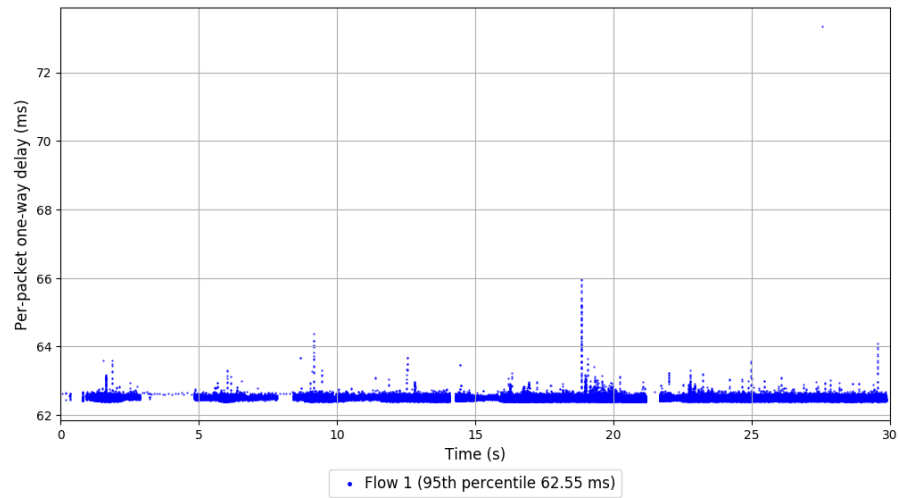
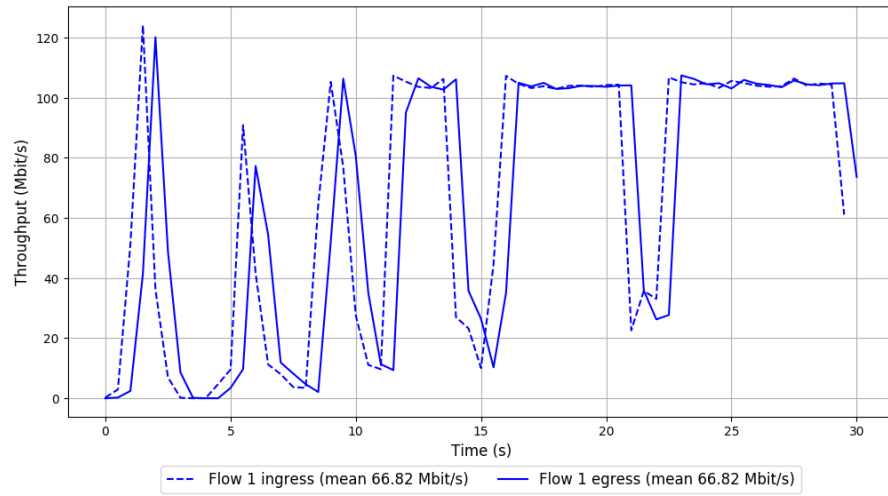
-- Flow 1:

Average throughput: 66.82 Mbit/s

95th percentile per-packet one-way delay: 62.555 ms

Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link

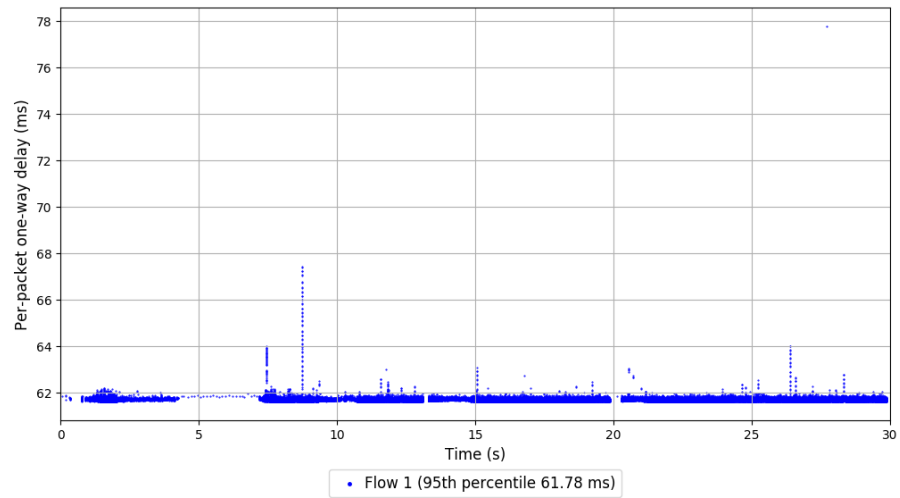
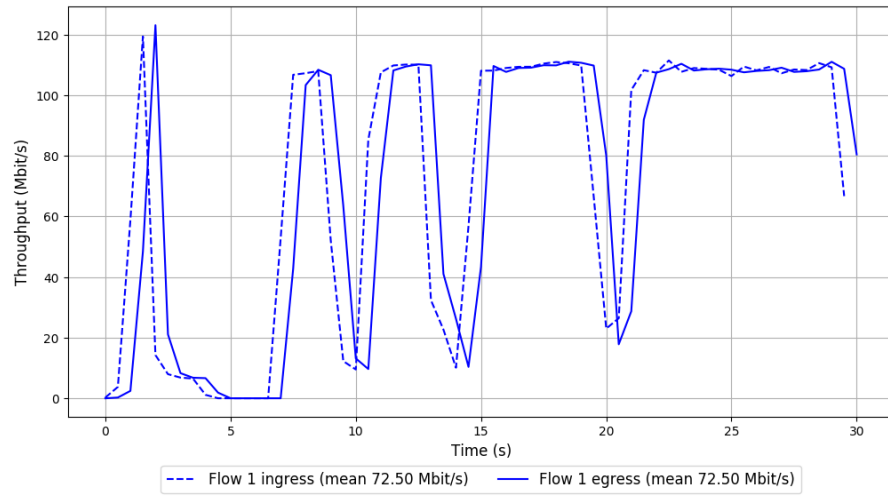


Run 4: Statistics of QUIC Cubic

Start at: 2018-10-10 03:47:40
End at: 2018-10-10 03:48:10
Local clock offset: -0.037 ms
Remote clock offset: -1.216 ms

Below is generated by plot.py at 2018-10-10 05:48:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 72.50 Mbit/s
95th percentile per-packet one-way delay: 61.776 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 72.50 Mbit/s
95th percentile per-packet one-way delay: 61.776 ms
Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-10-10 04:13:23

End at: 2018-10-10 04:13:53

Local clock offset: -0.032 ms

Remote clock offset: -1.311 ms

Below is generated by plot.py at 2018-10-10 05:48:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 65.64 Mbit/s

95th percentile per-packet one-way delay: 61.570 ms

Loss rate: 0.00%

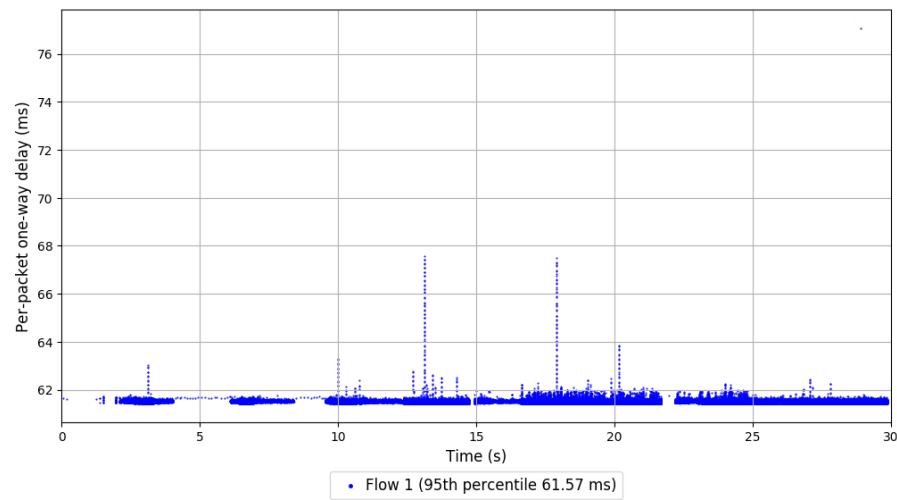
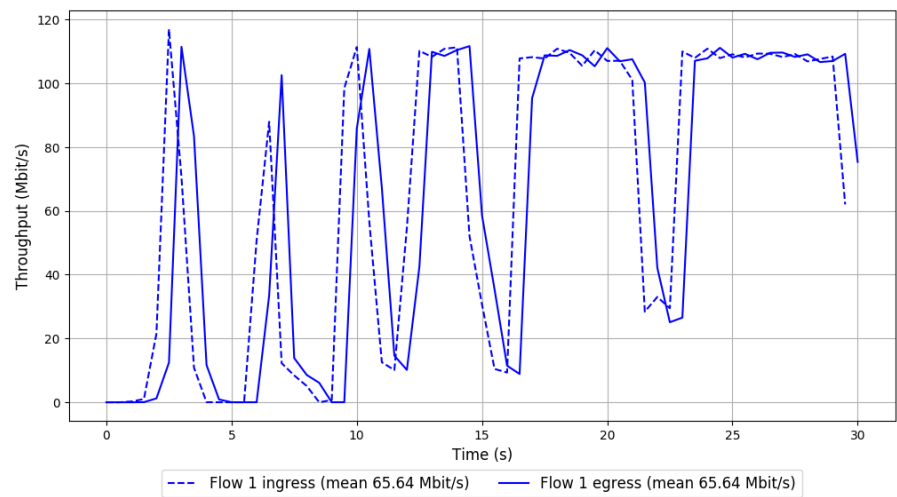
-- Flow 1:

Average throughput: 65.64 Mbit/s

95th percentile per-packet one-way delay: 61.570 ms

Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

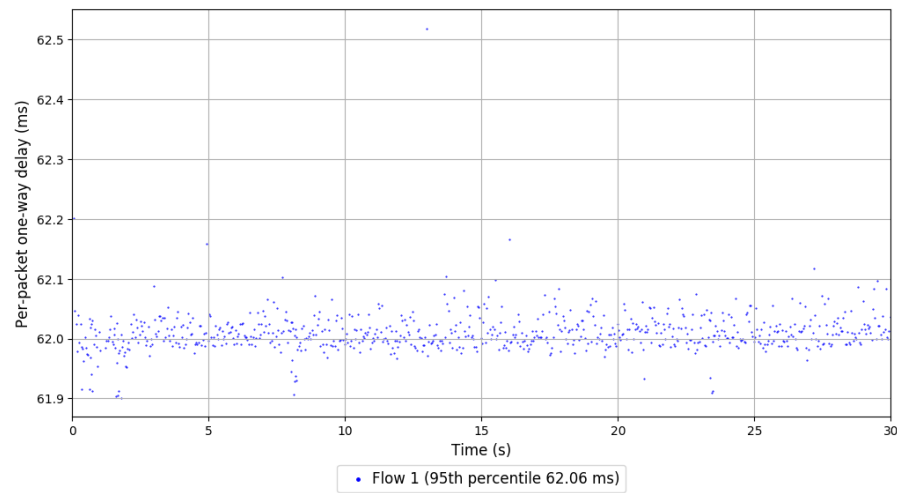
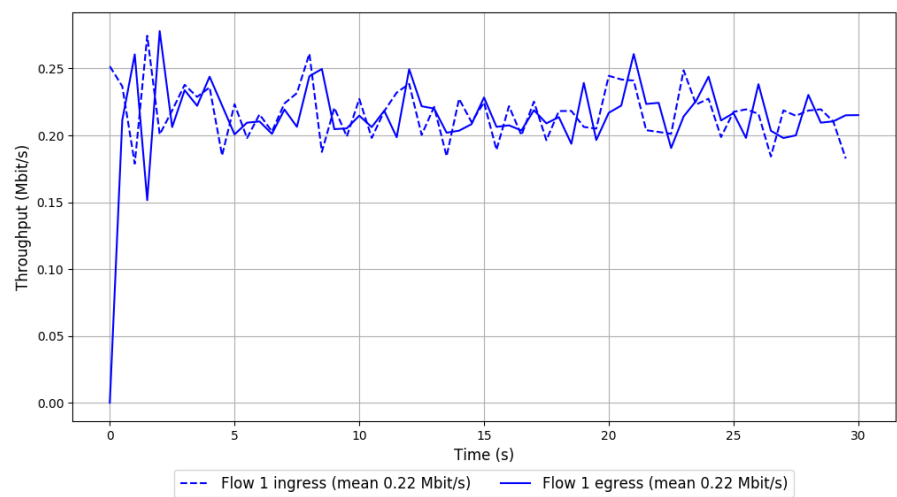


```
Run 1: Statistics of SCReAM

Start at: 2018-10-10 02:46:29
End at: 2018-10-10 02:46:59
Local clock offset: -0.028 ms
Remote clock offset: -0.982 ms

# Below is generated by plot.py at 2018-10-10 05:48:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.058 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.058 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

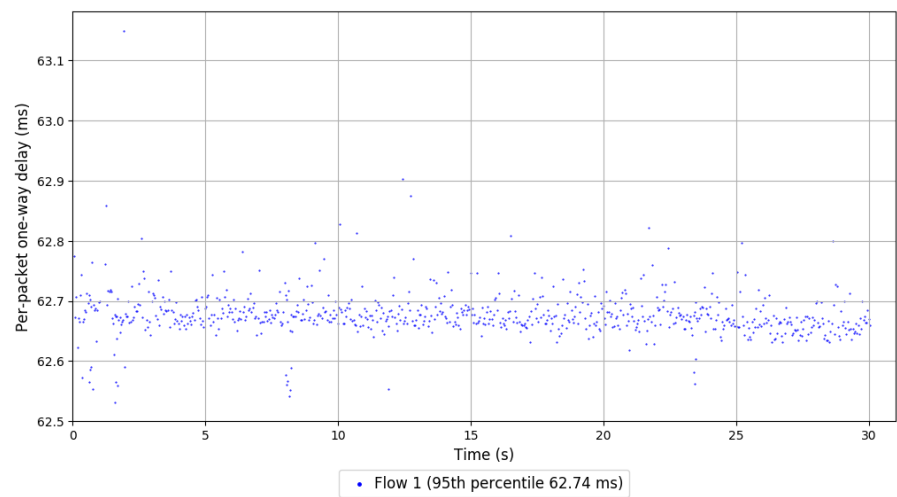
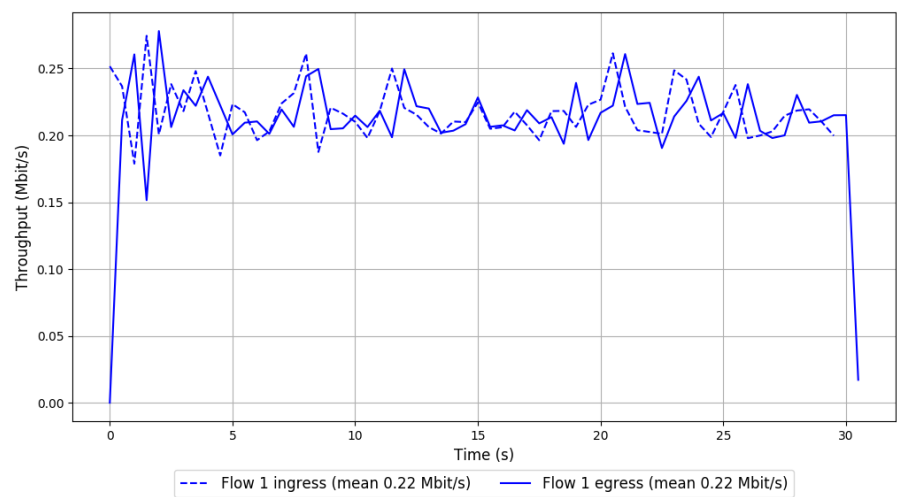


Run 2: Statistics of SCReAM

Start at: 2018-10-10 03:12:14
End at: 2018-10-10 03:12:44
Local clock offset: 0.032 ms
Remote clock offset: -0.182 ms

Below is generated by plot.py at 2018-10-10 05:48:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.739 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.739 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-10-10 03:37:59

End at: 2018-10-10 03:38:29

Local clock offset: -0.018 ms

Remote clock offset: 0.148 ms

Below is generated by plot.py at 2018-10-10 05:48:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.238 ms

Loss rate: 0.00%

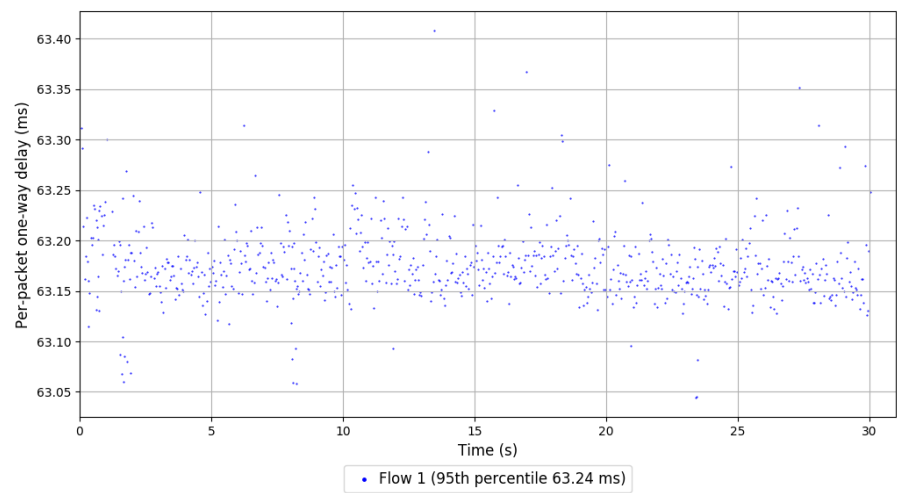
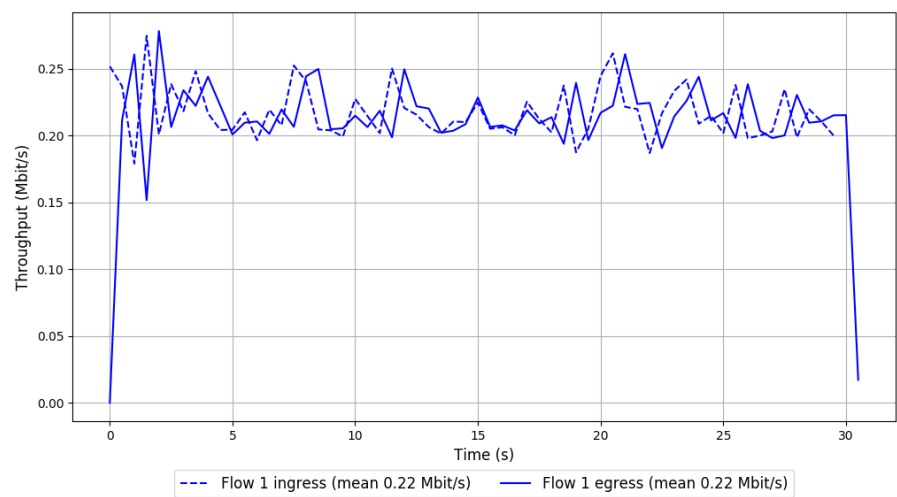
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 63.238 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

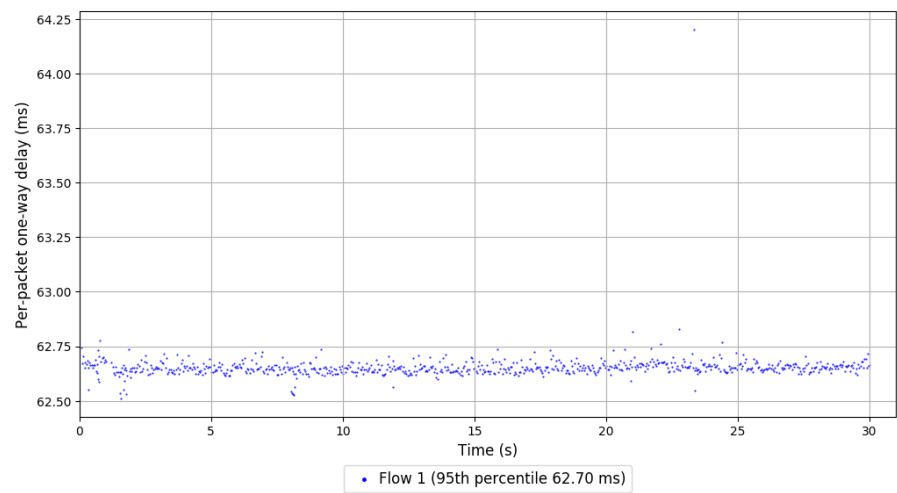
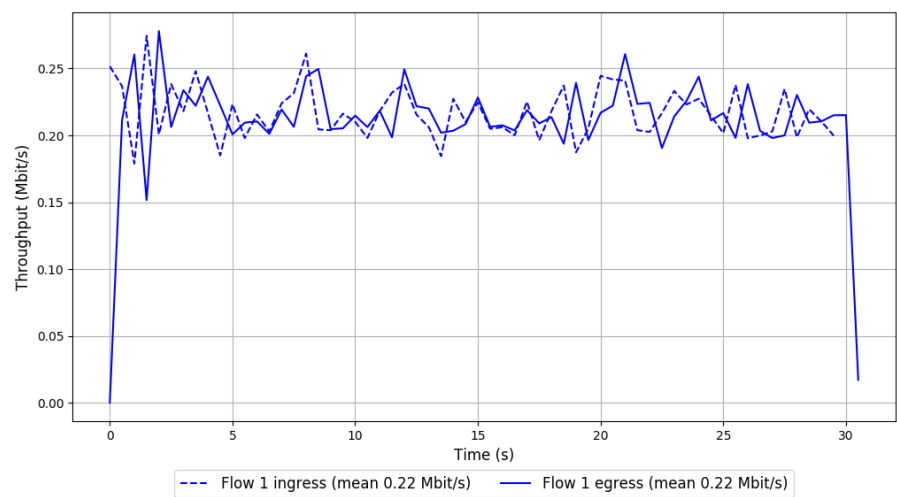


Run 4: Statistics of SCReAM

Start at: 2018-10-10 04:03:39
End at: 2018-10-10 04:04:09
Local clock offset: -0.034 ms
Remote clock offset: -0.343 ms

Below is generated by plot.py at 2018-10-10 05:48:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.700 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.700 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

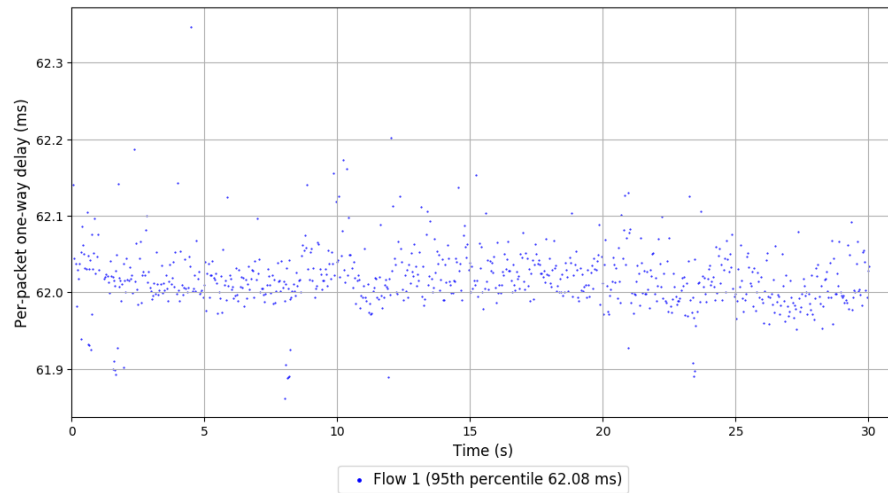
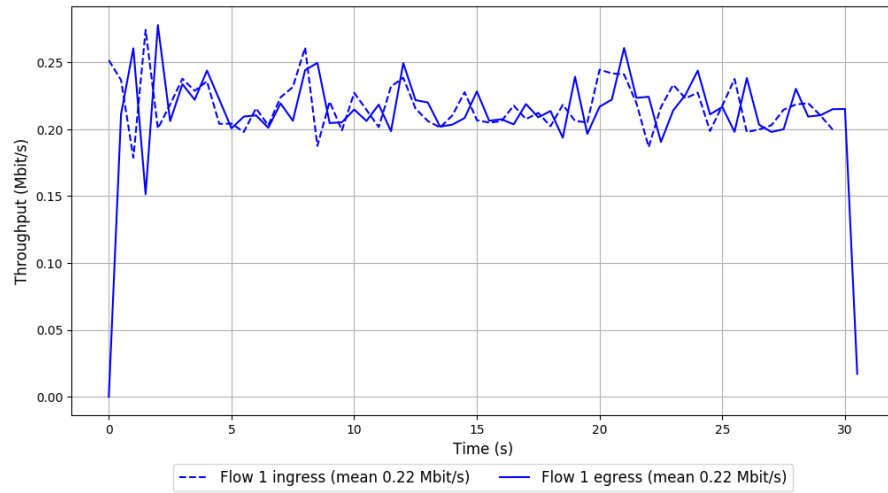


Run 5: Statistics of SCReAM

Start at: 2018-10-10 04:29:37
End at: 2018-10-10 04:30:07
Local clock offset: -0.03 ms
Remote clock offset: -0.764 ms

Below is generated by plot.py at 2018-10-10 05:48:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.083 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 62.083 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

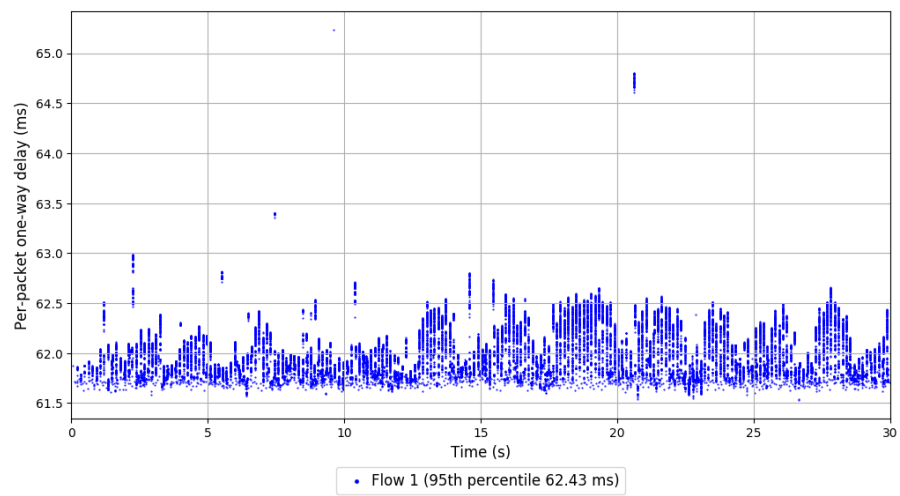
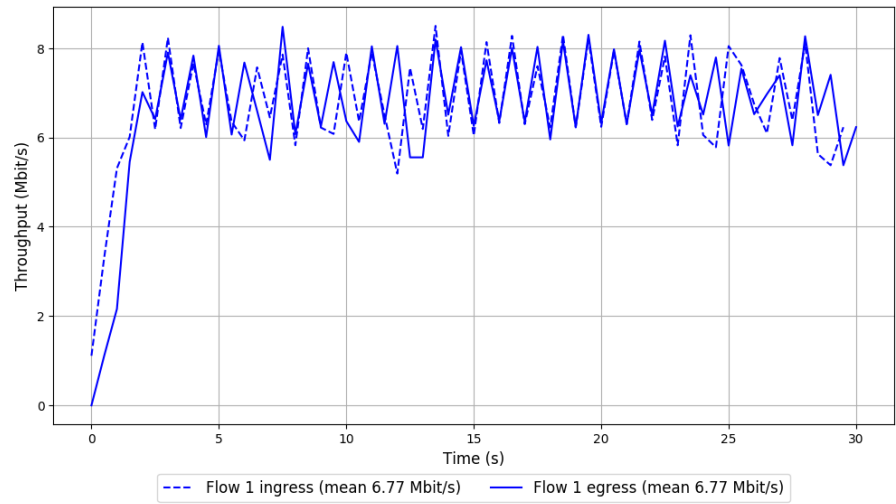


Run 1: Statistics of Sprout

Start at: 2018-10-10 02:26:46
End at: 2018-10-10 02:27:16
Local clock offset: -0.039 ms
Remote clock offset: -1.379 ms

Below is generated by plot.py at 2018-10-10 05:48:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.77 Mbit/s
95th percentile per-packet one-way delay: 62.426 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.77 Mbit/s
95th percentile per-packet one-way delay: 62.426 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link

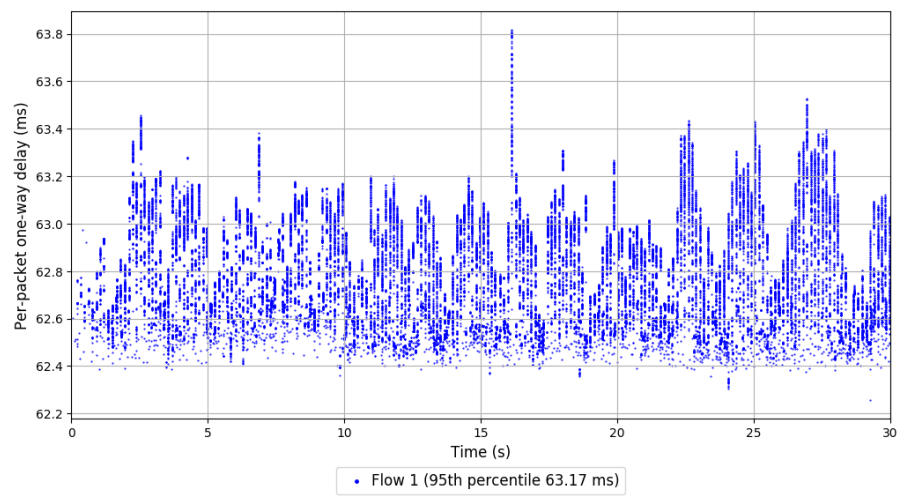
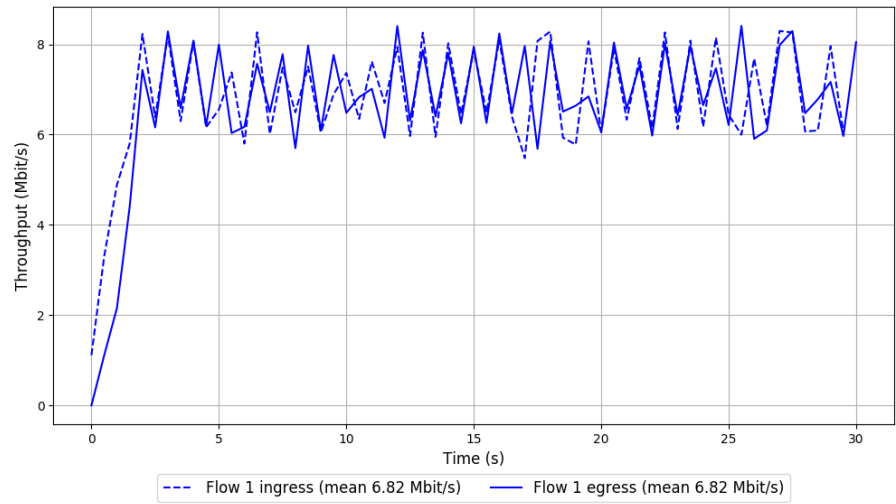


Run 2: Statistics of Sprout

Start at: 2018-10-10 02:52:17
End at: 2018-10-10 02:52:47
Local clock offset: -0.046 ms
Remote clock offset: -0.454 ms

Below is generated by plot.py at 2018-10-10 05:48:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 63.167 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 63.167 ms
Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

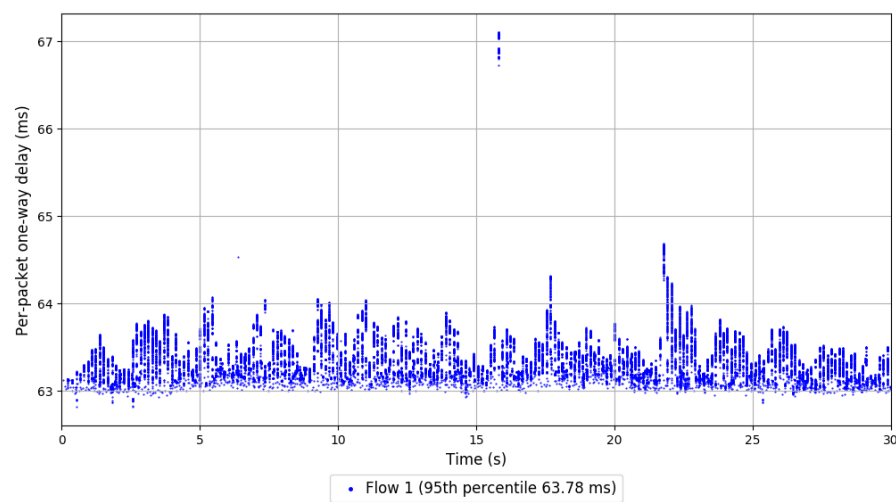
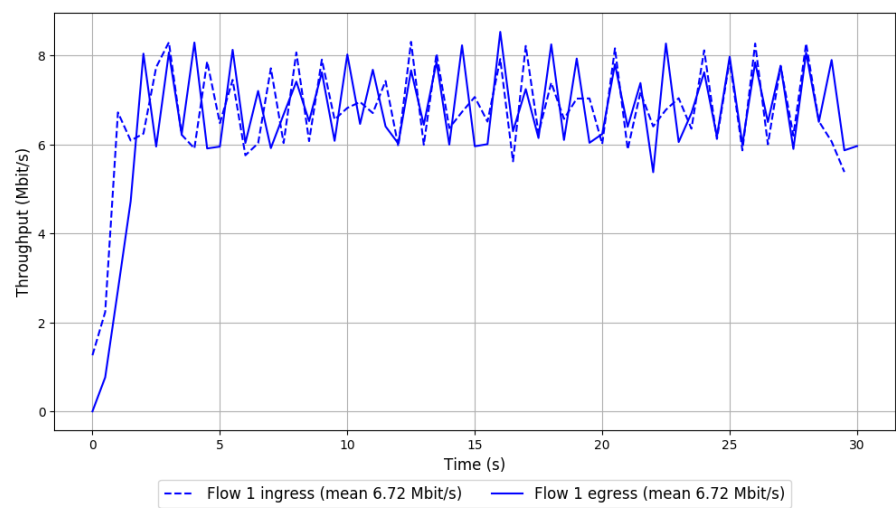


Run 3: Statistics of Sprout

Start at: 2018-10-10 03:18:00
End at: 2018-10-10 03:18:31
Local clock offset: -0.014 ms
Remote clock offset: -0.234 ms

Below is generated by plot.py at 2018-10-10 05:48:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.72 Mbit/s
95th percentile per-packet one-way delay: 63.785 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.72 Mbit/s
95th percentile per-packet one-way delay: 63.785 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link

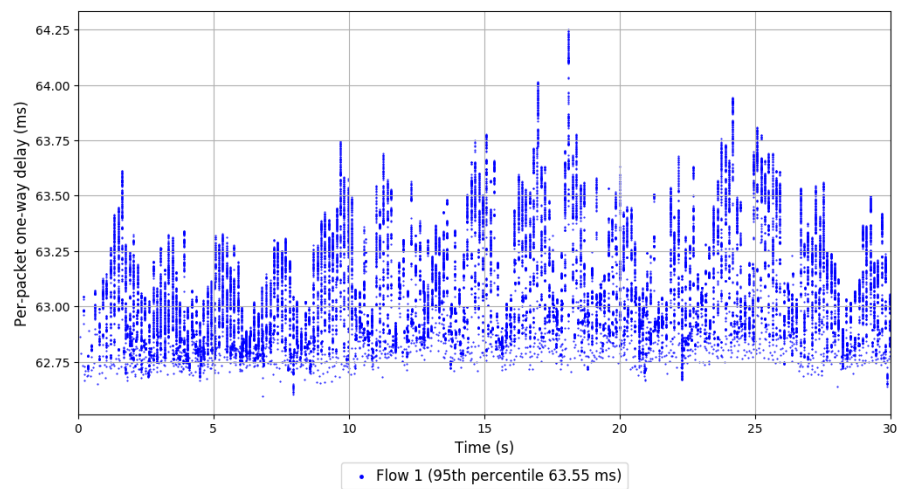
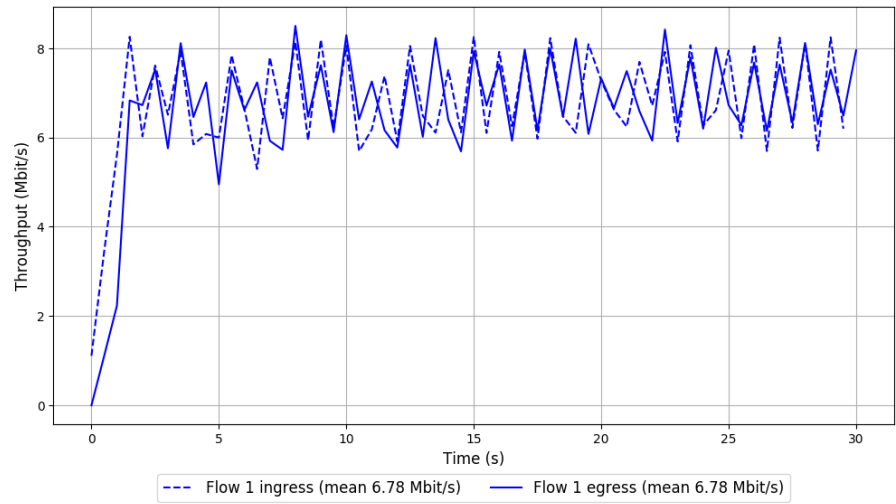


Run 4: Statistics of Sprout

Start at: 2018-10-10 03:43:49
End at: 2018-10-10 03:44:19
Local clock offset: -0.023 ms
Remote clock offset: -0.119 ms

Below is generated by plot.py at 2018-10-10 05:48:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 63.551 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 63.551 ms
Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-10-10 04:09:32

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

Local clock offset: -0.033 ms

Remote clock offset: 0.116 ms

Below is generated by plot.py at 2018-10-10 05:48:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.86 Mbit/s

95th percentile per-packet one-way delay: 63.659 ms

Loss rate: 0.00%

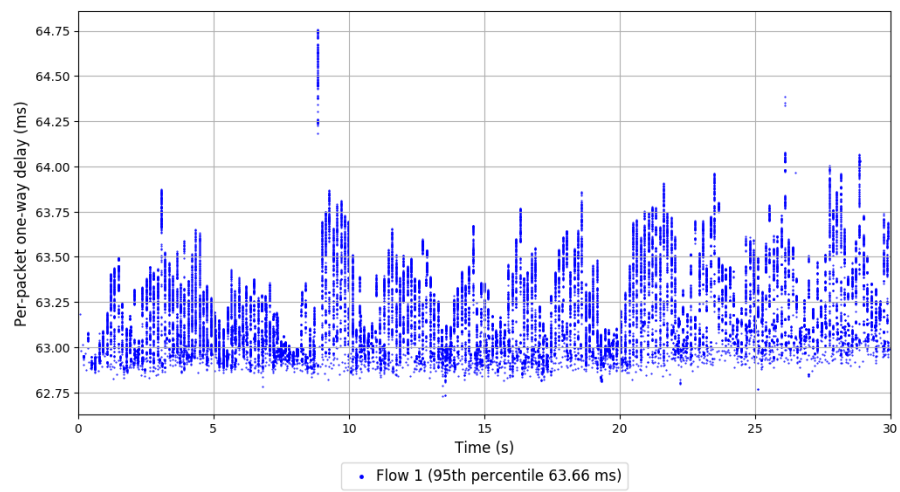
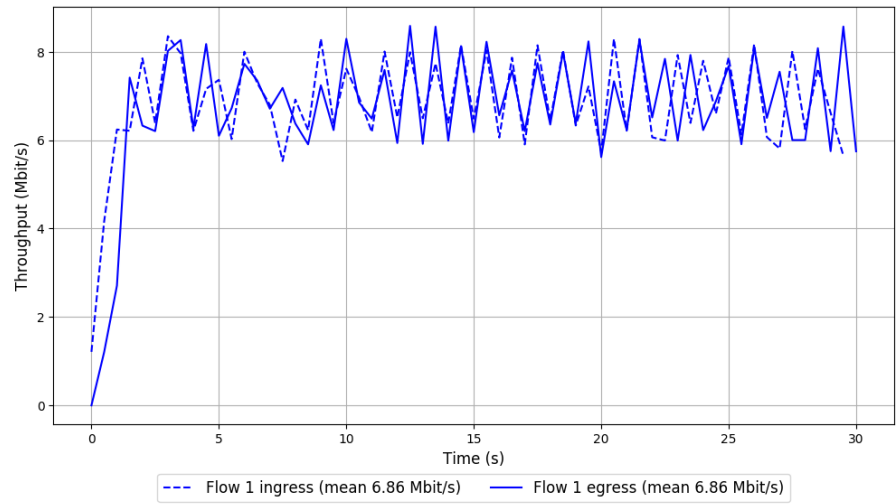
-- Flow 1:

Average throughput: 6.86 Mbit/s

95th percentile per-packet one-way delay: 63.659 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link

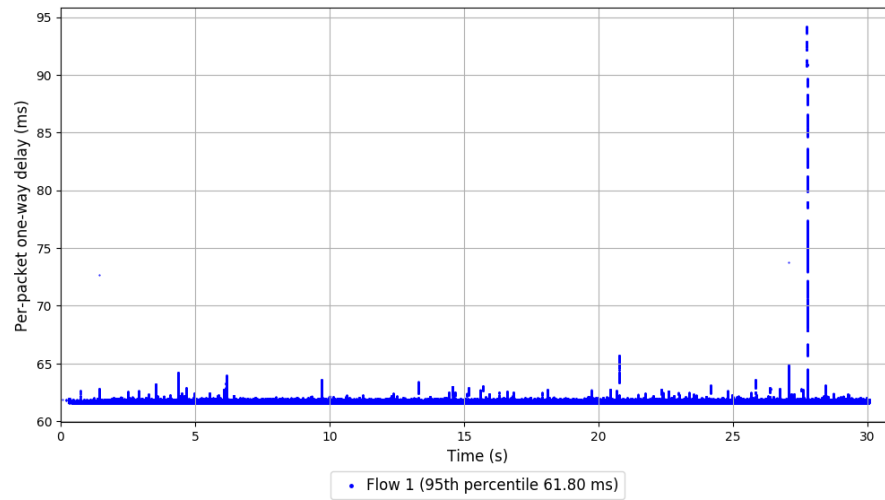
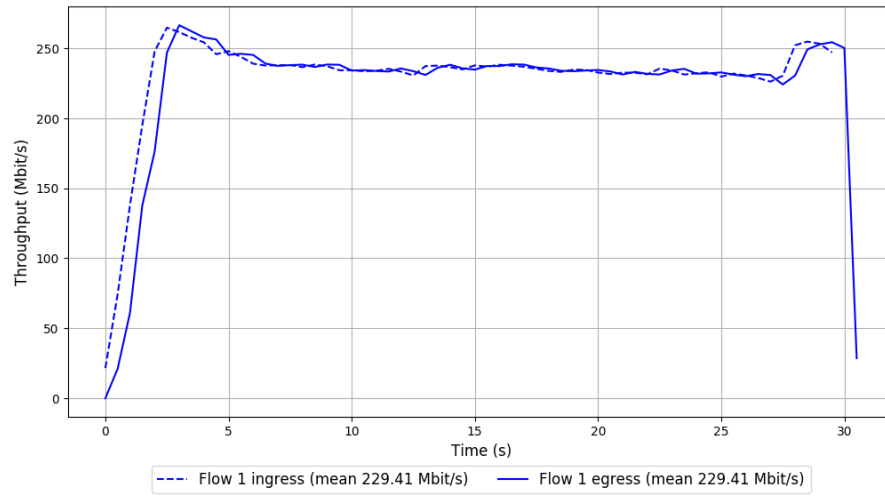


Run 1: Statistics of TaoVA-100x

Start at: 2018-10-10 02:47:36
End at: 2018-10-10 02:48:06
Local clock offset: -0.005 ms
Remote clock offset: -1.072 ms

Below is generated by plot.py at 2018-10-10 05:48:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 229.41 Mbit/s
95th percentile per-packet one-way delay: 61.798 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 229.41 Mbit/s
95th percentile per-packet one-way delay: 61.798 ms
Loss rate: 0.00%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-10-10 03:13:21

End at: 2018-10-10 03:13:51

Local clock offset: -0.033 ms

Remote clock offset: 1.297 ms

Below is generated by plot.py at 2018-10-10 05:48:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 226.36 Mbit/s

95th percentile per-packet one-way delay: 64.119 ms

Loss rate: 0.00%

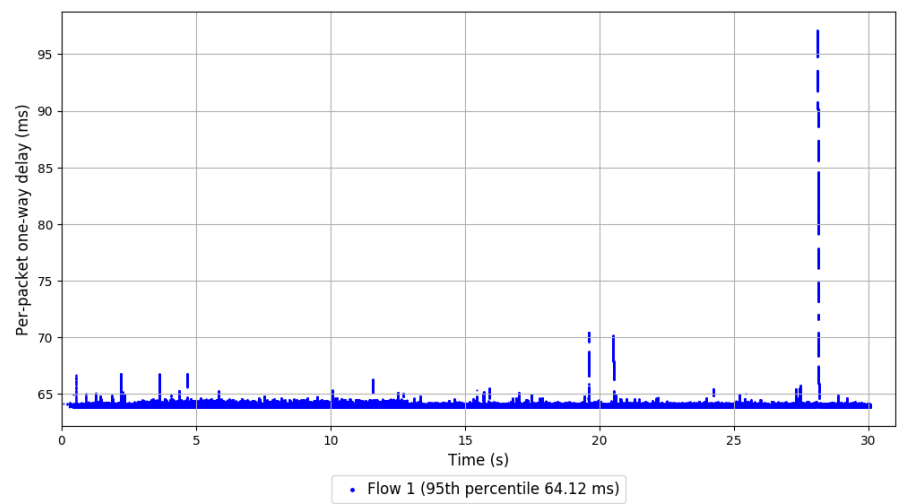
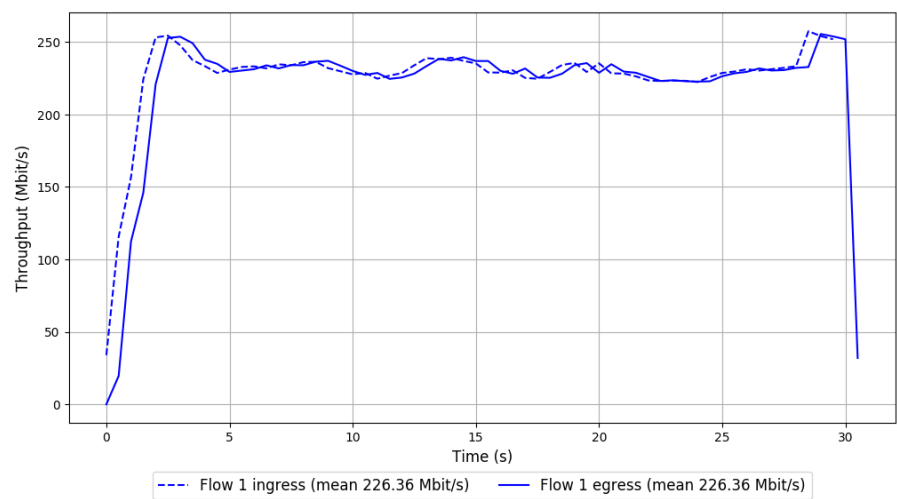
-- Flow 1:

Average throughput: 226.36 Mbit/s

95th percentile per-packet one-way delay: 64.119 ms

Loss rate: 0.00%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-10-10 03:39:05

End at: 2018-10-10 03:39:35

Local clock offset: -0.035 ms

Remote clock offset: 1.093 ms

Below is generated by plot.py at 2018-10-10 05:48:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 231.46 Mbit/s

95th percentile per-packet one-way delay: 64.064 ms

Loss rate: 0.00%

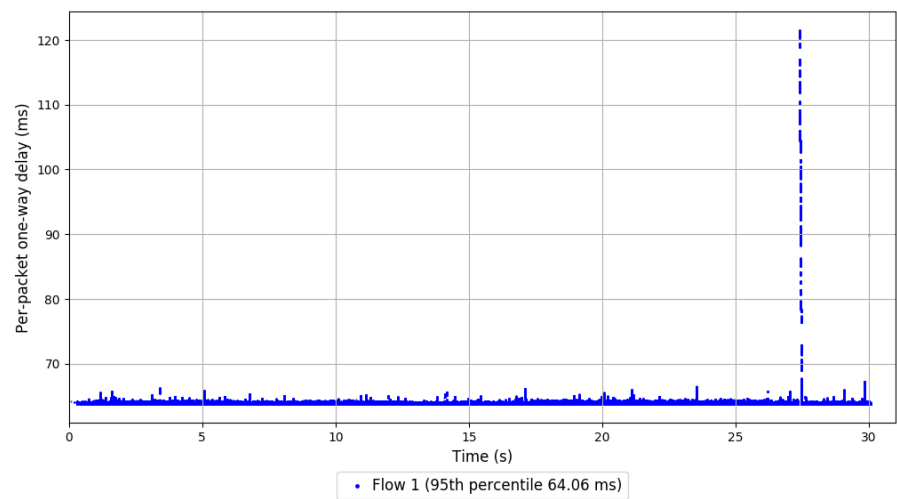
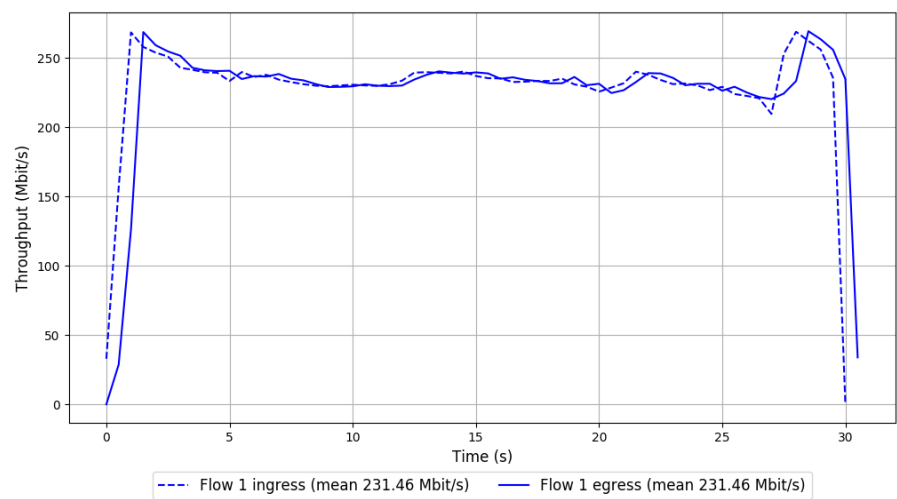
-- Flow 1:

Average throughput: 231.46 Mbit/s

95th percentile per-packet one-way delay: 64.064 ms

Loss rate: 0.00%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-10-10 04:04:46

End at: 2018-10-10 04:05:16

Local clock offset: -0.033 ms

Remote clock offset: 0.156 ms

Below is generated by plot.py at 2018-10-10 05:48:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 223.66 Mbit/s

95th percentile per-packet one-way delay: 63.280 ms

Loss rate: 0.01%

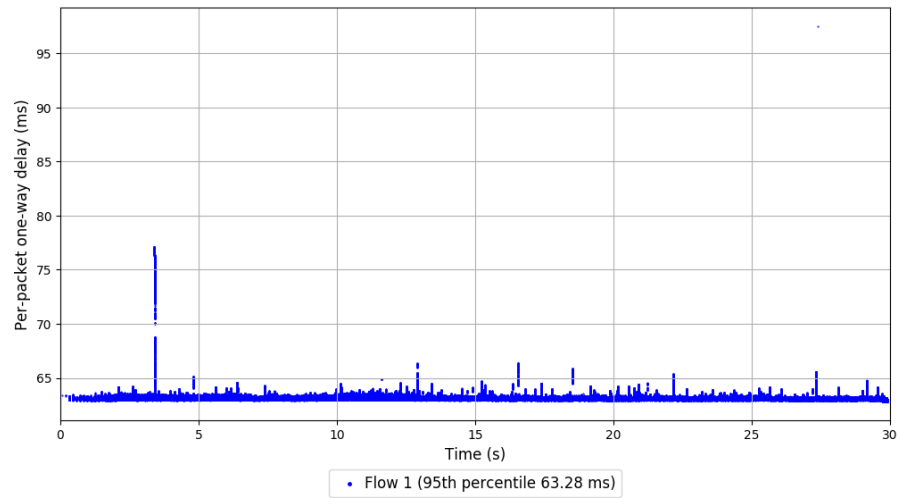
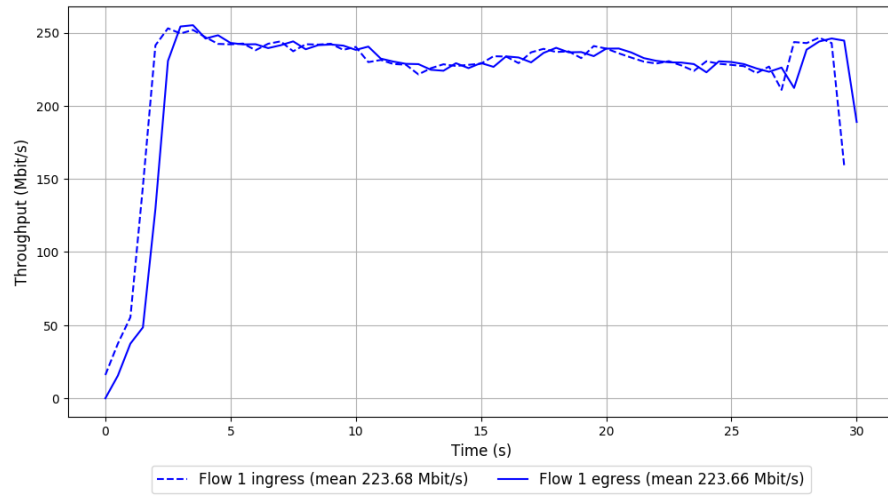
-- Flow 1:

Average throughput: 223.66 Mbit/s

95th percentile per-packet one-way delay: 63.280 ms

Loss rate: 0.01%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-10-10 04:30:43

End at: 2018-10-10 04:31:13

Local clock offset: -0.048 ms

Remote clock offset: 0.065 ms

Below is generated by plot.py at 2018-10-10 05:49:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 233.01 Mbit/s

95th percentile per-packet one-way delay: 63.112 ms

Loss rate: 0.00%

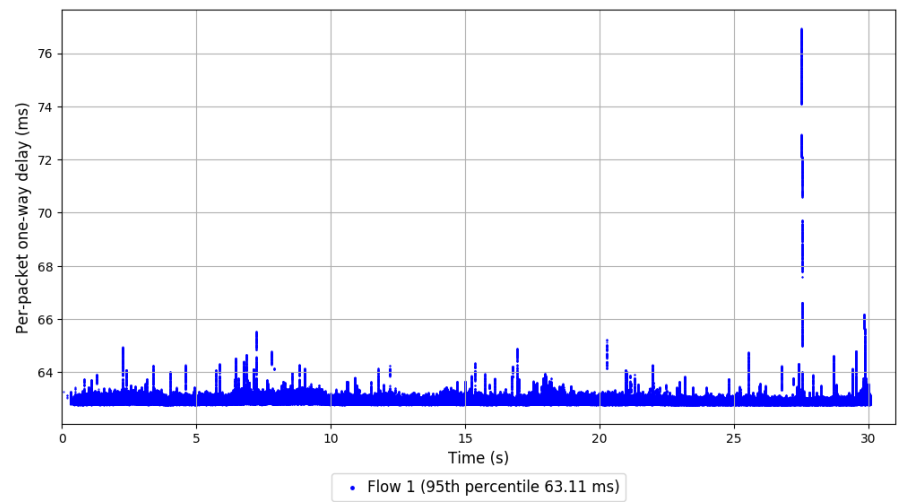
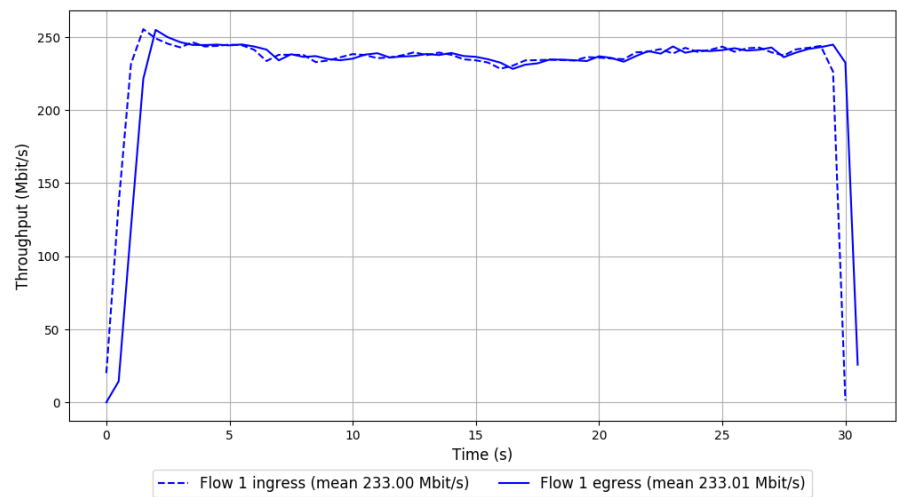
-- Flow 1:

Average throughput: 233.01 Mbit/s

95th percentile per-packet one-way delay: 63.112 ms

Loss rate: 0.00%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-10-10 02:38:50

End at: 2018-10-10 02:39:20

Local clock offset: -0.011 ms

Remote clock offset: 0.907 ms

Below is generated by plot.py at 2018-10-10 05:52:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 454.67 Mbit/s

95th percentile per-packet one-way delay: 64.931 ms

Loss rate: 0.00%

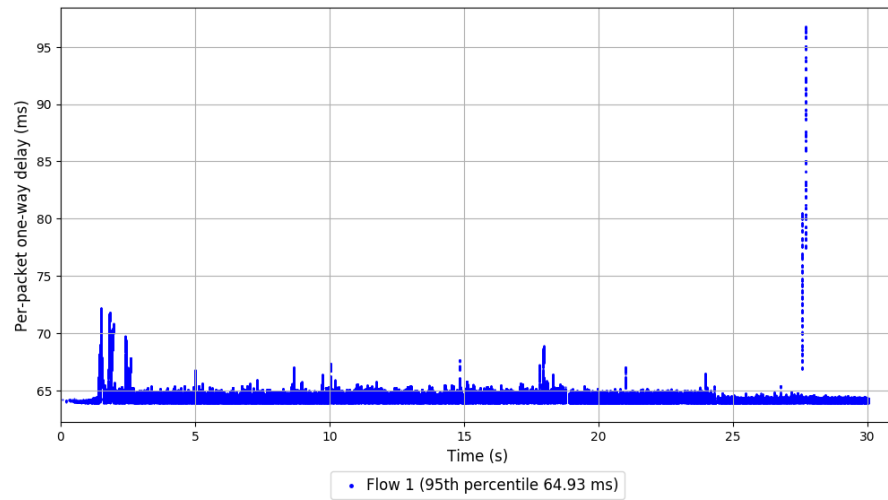
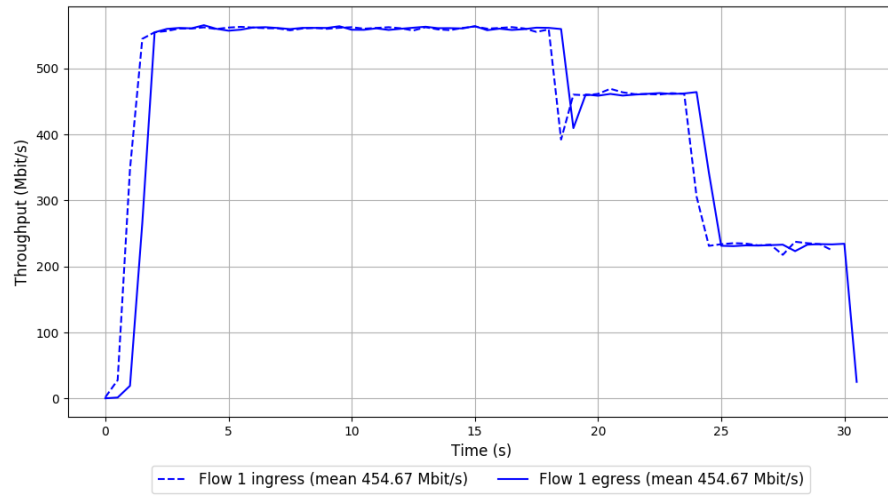
-- Flow 1:

Average throughput: 454.67 Mbit/s

95th percentile per-packet one-way delay: 64.931 ms

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-10-10 03:04:24

End at: 2018-10-10 03:04:54

Local clock offset: -0.056 ms

Remote clock offset: 1.396 ms

Below is generated by plot.py at 2018-10-10 05:54:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 533.51 Mbit/s

95th percentile per-packet one-way delay: 65.672 ms

Loss rate: 0.00%

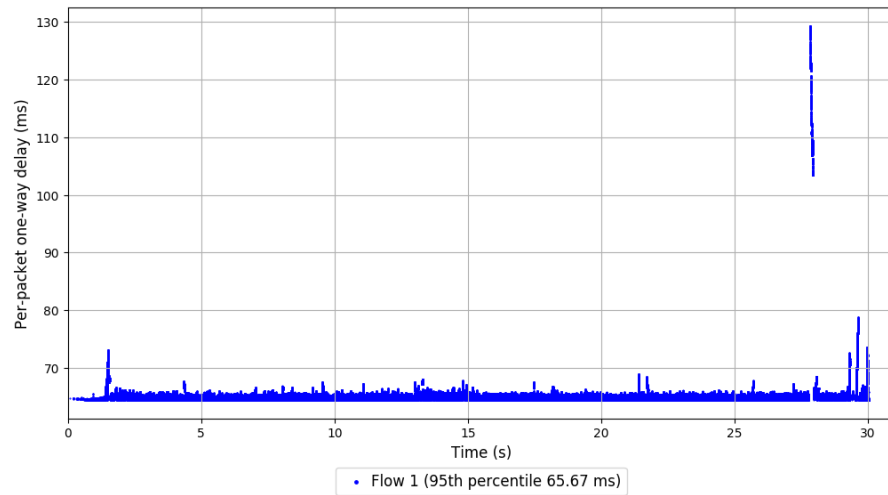
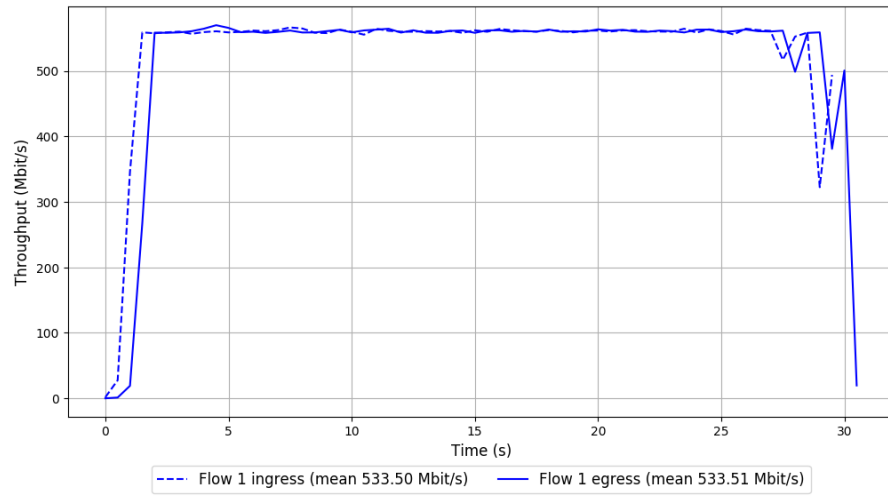
-- Flow 1:

Average throughput: 533.51 Mbit/s

95th percentile per-packet one-way delay: 65.672 ms

Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

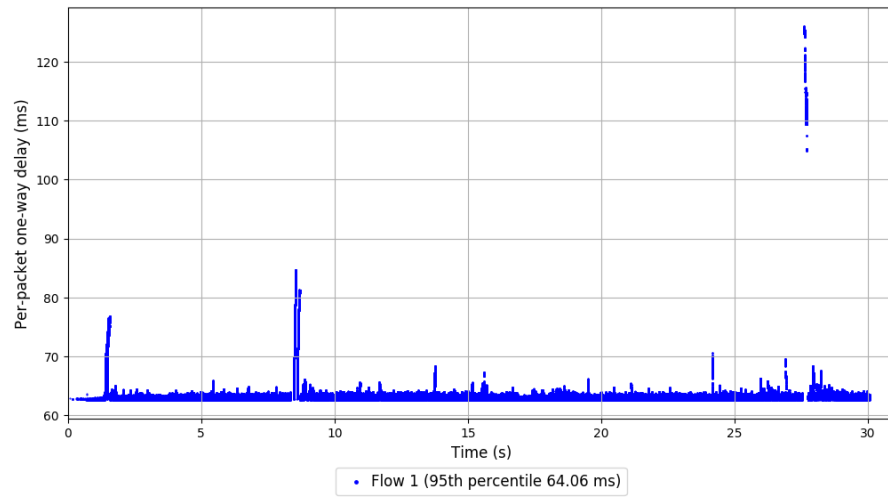
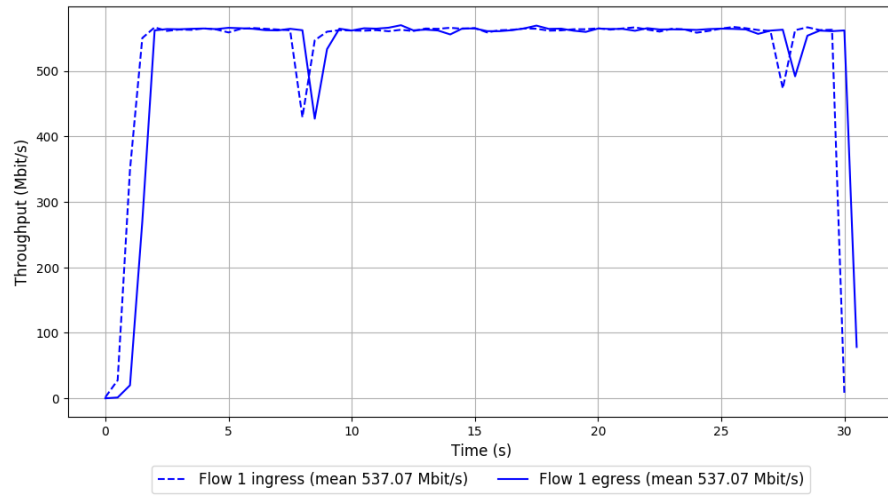


Run 3: Statistics of TCP Vegas

Start at: 2018-10-10 03:30:14
End at: 2018-10-10 03:30:44
Local clock offset: 0.0 ms
Remote clock offset: -0.045 ms

Below is generated by plot.py at 2018-10-10 05:57:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 537.07 Mbit/s
95th percentile per-packet one-way delay: 64.057 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 537.07 Mbit/s
95th percentile per-packet one-way delay: 64.057 ms
Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-10-10 03:55:57

End at: 2018-10-10 03:56:27

Local clock offset: -0.022 ms

Remote clock offset: 1.16 ms

Below is generated by plot.py at 2018-10-10 05:57:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 537.33 Mbit/s

95th percentile per-packet one-way delay: 65.129 ms

Loss rate: 0.00%

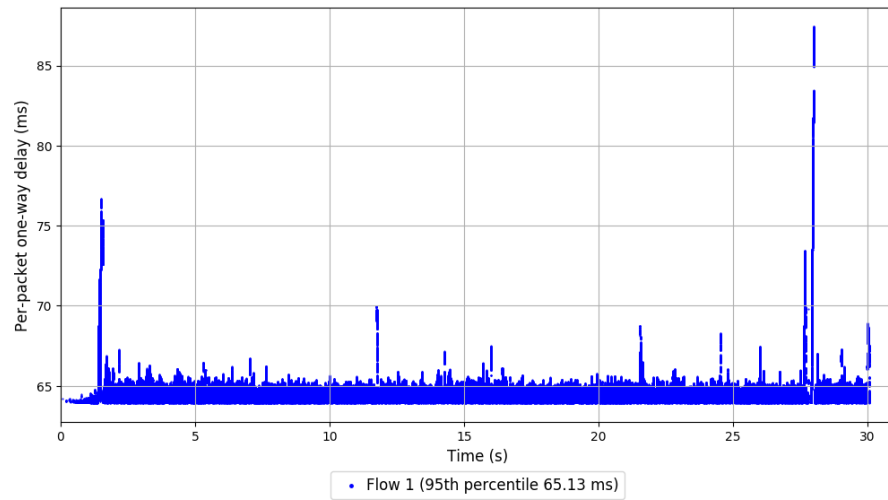
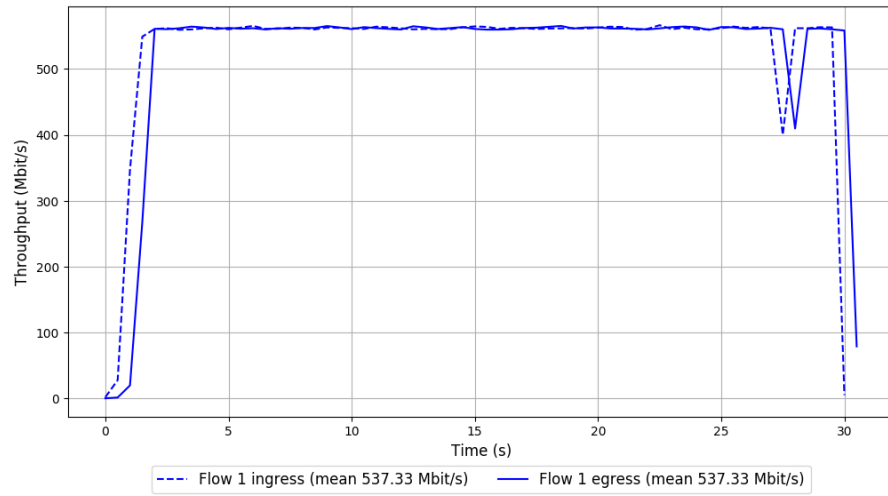
-- Flow 1:

Average throughput: 537.33 Mbit/s

95th percentile per-packet one-way delay: 65.129 ms

Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-10-10 04:21:44

End at: 2018-10-10 04:22:14

Local clock offset: 0.007 ms

Remote clock offset: 1.393 ms

Below is generated by plot.py at 2018-10-10 05:57:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 533.72 Mbit/s

95th percentile per-packet one-way delay: 65.452 ms

Loss rate: 0.00%

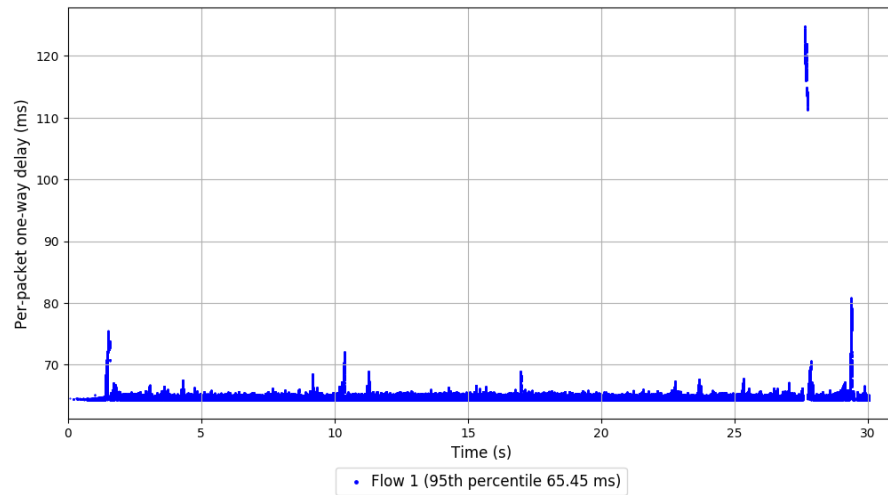
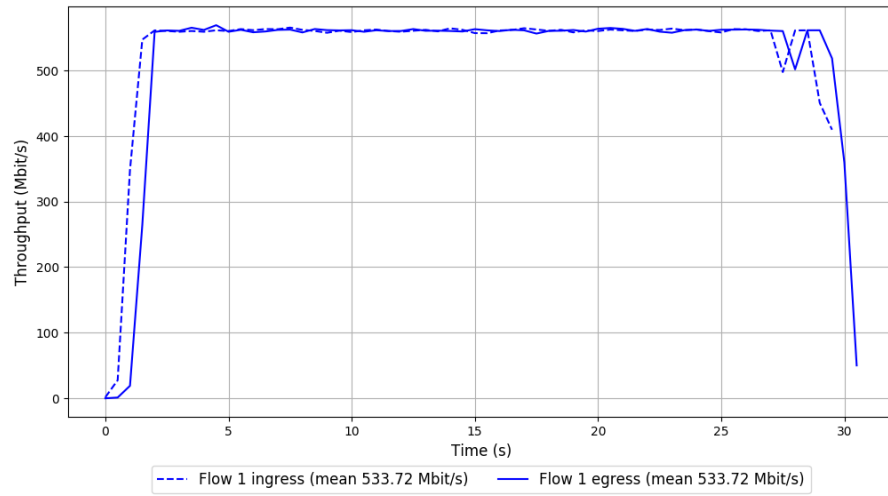
-- Flow 1:

Average throughput: 533.72 Mbit/s

95th percentile per-packet one-way delay: 65.452 ms

Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-10-10 02:35:46

End at: 2018-10-10 02:36:16

Local clock offset: -0.019 ms

Remote clock offset: -1.32 ms

Below is generated by plot.py at 2018-10-10 05:57:31

Datalink statistics

-- Total of 1 flow:

Average throughput: 177.05 Mbit/s

95th percentile per-packet one-way delay: 125.811 ms

Loss rate: 0.70%

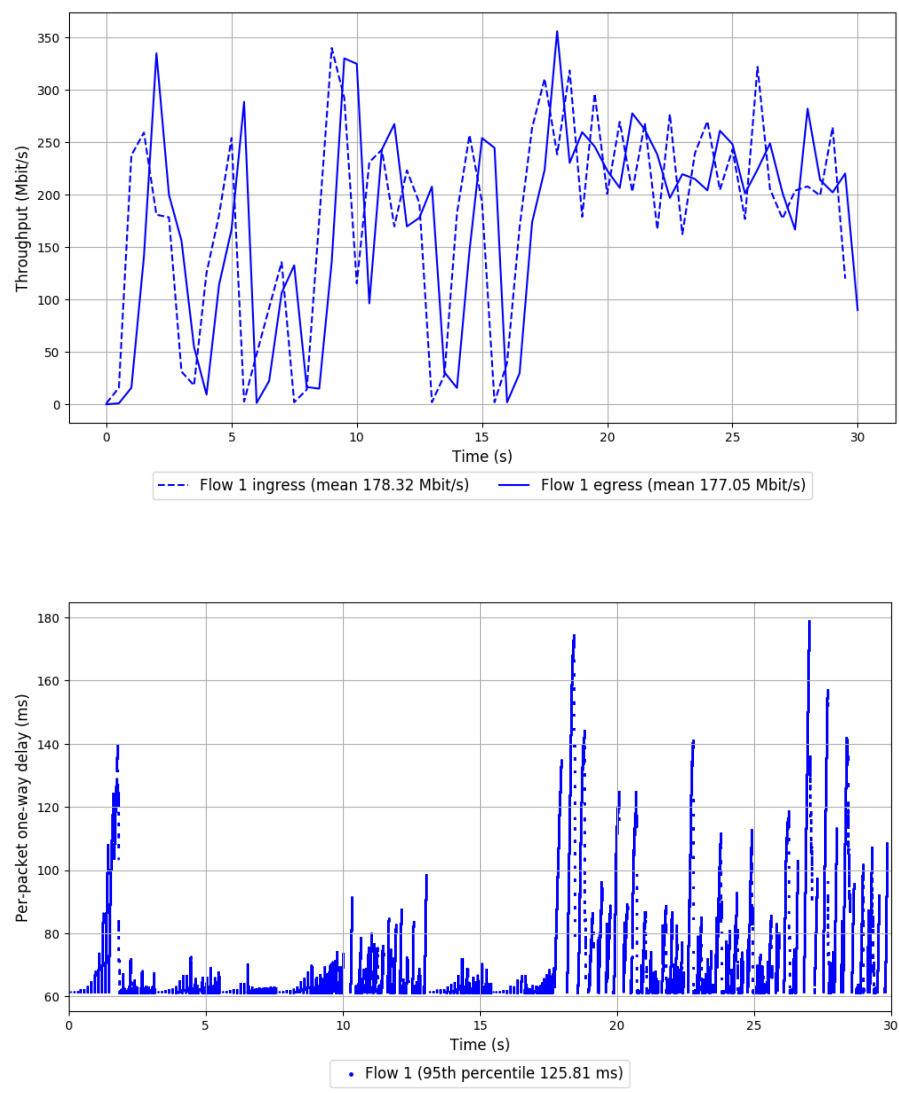
-- Flow 1:

Average throughput: 177.05 Mbit/s

95th percentile per-packet one-way delay: 125.811 ms

Loss rate: 0.70%

Run 1: Report of Verus — Data Link

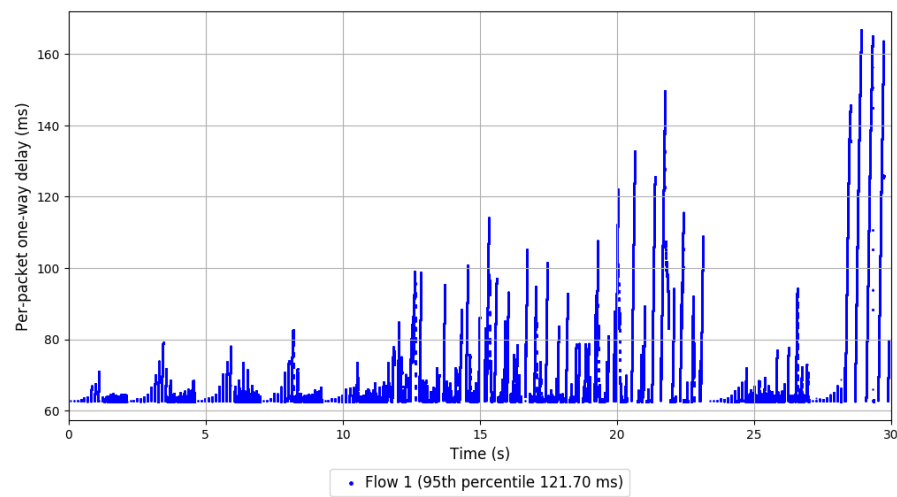
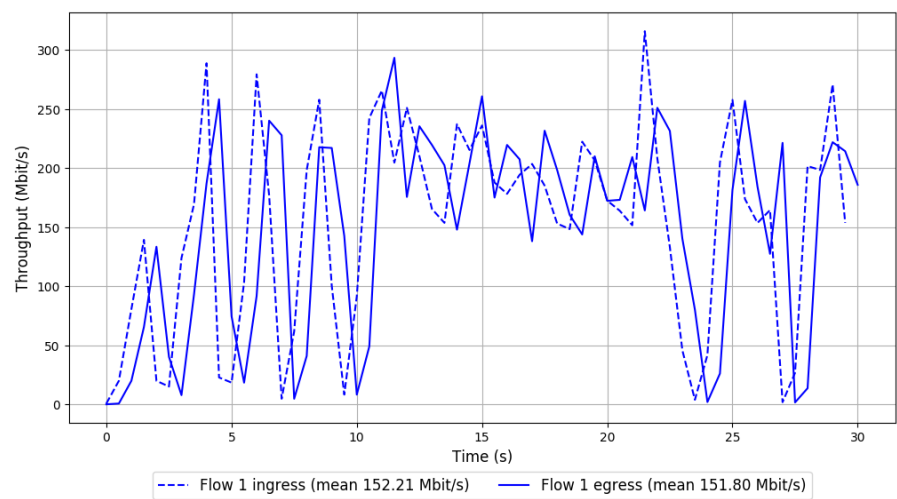


Run 2: Statistics of Verus

Start at: 2018-10-10 03:01:24
End at: 2018-10-10 03:01:54
Local clock offset: -0.024 ms
Remote clock offset: -0.289 ms

Below is generated by plot.py at 2018-10-10 05:57:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 151.80 Mbit/s
95th percentile per-packet one-way delay: 121.700 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 151.80 Mbit/s
95th percentile per-packet one-way delay: 121.700 ms
Loss rate: 0.27%

Run 2: Report of Verus — Data Link

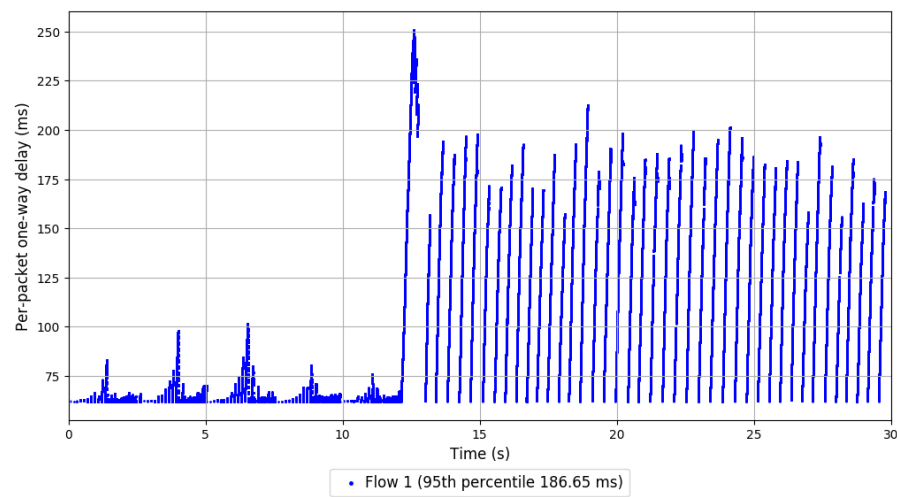
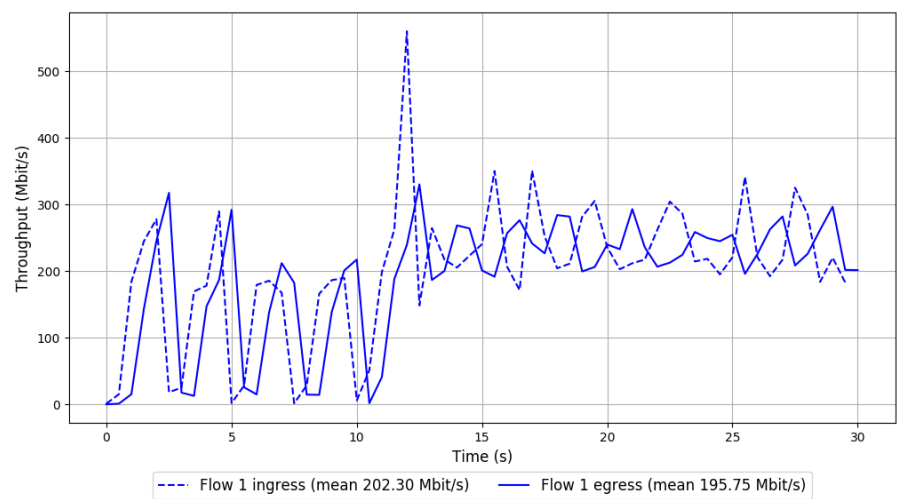


Run 3: Statistics of Verus

Start at: 2018-10-10 03:27:10
End at: 2018-10-10 03:27:40
Local clock offset: 0.002 ms
Remote clock offset: -0.866 ms

Below is generated by plot.py at 2018-10-10 05:57:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 195.75 Mbit/s
95th percentile per-packet one-way delay: 186.652 ms
Loss rate: 2.91%
-- Flow 1:
Average throughput: 195.75 Mbit/s
95th percentile per-packet one-way delay: 186.652 ms
Loss rate: 2.91%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-10-10 03:52:50

End at: 2018-10-10 03:53:20

Local clock offset: -0.042 ms

Remote clock offset: 0.009 ms

Below is generated by plot.py at 2018-10-10 06:00:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 217.94 Mbit/s

95th percentile per-packet one-way delay: 204.659 ms

Loss rate: 5.72%

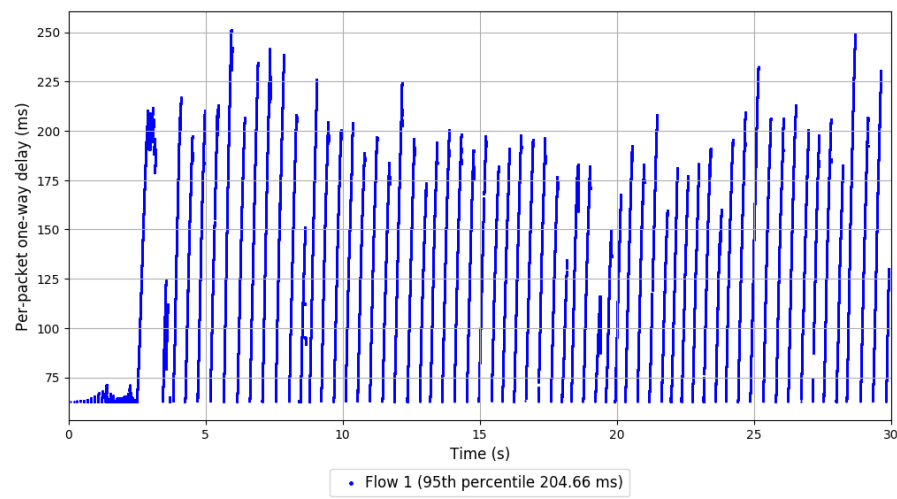
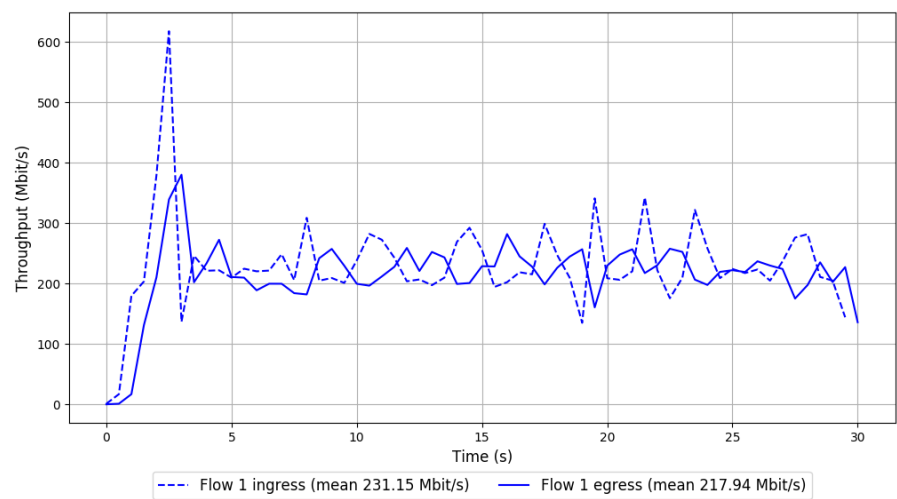
-- Flow 1:

Average throughput: 217.94 Mbit/s

95th percentile per-packet one-way delay: 204.659 ms

Loss rate: 5.72%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-10-10 04:18:40

End at: 2018-10-10 04:19:10

Local clock offset: -0.04 ms

Remote clock offset: 0.33 ms

Below is generated by plot.py at 2018-10-10 06:00:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 185.49 Mbit/s

95th percentile per-packet one-way delay: 170.388 ms

Loss rate: 0.79%

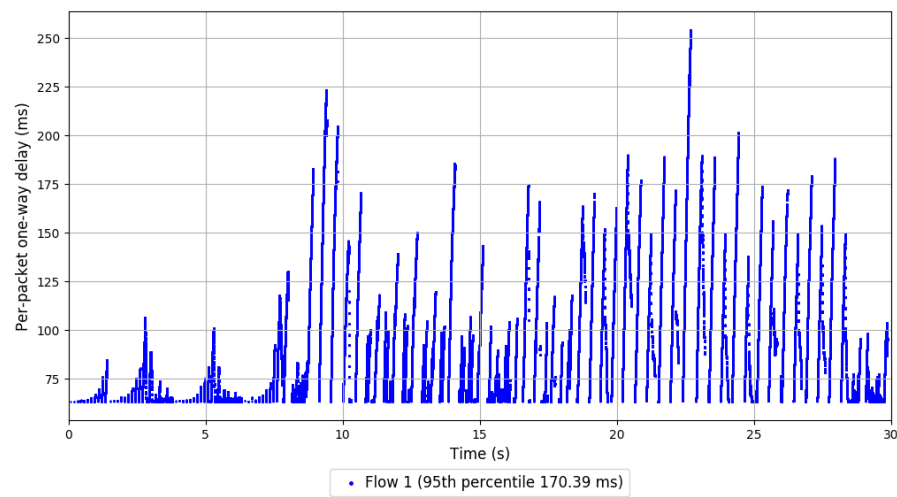
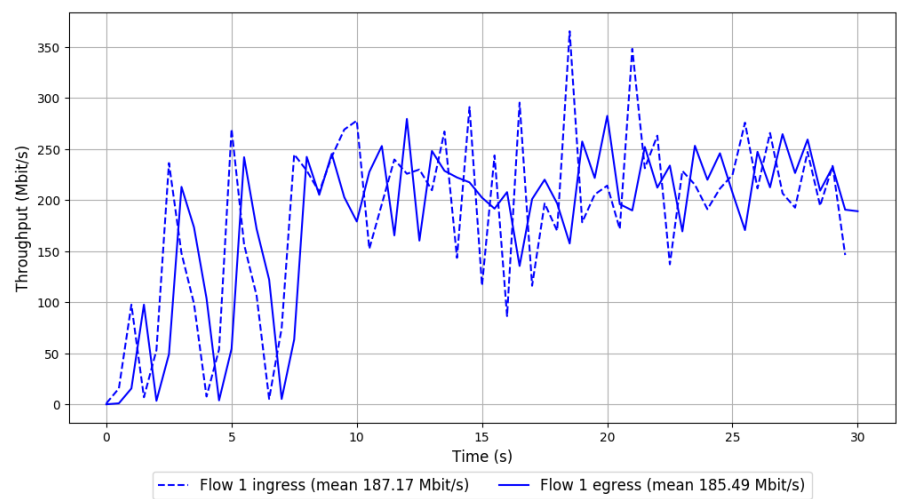
-- Flow 1:

Average throughput: 185.49 Mbit/s

95th percentile per-packet one-way delay: 170.388 ms

Loss rate: 0.79%

Run 5: Report of Verus — Data Link

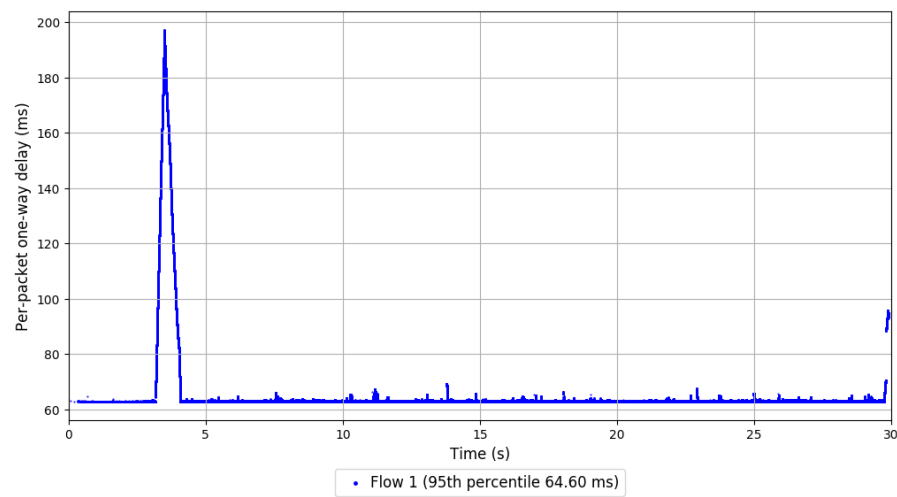
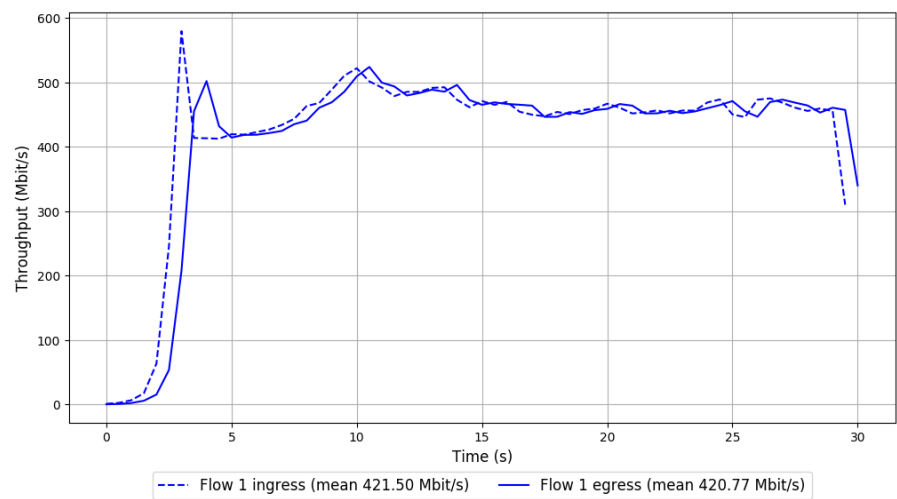


Run 1: Statistics of PCC-Vivace

Start at: 2018-10-10 02:29:03
End at: 2018-10-10 02:29:33
Local clock offset: -0.045 ms
Remote clock offset: -0.008 ms

Below is generated by plot.py at 2018-10-10 06:00:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 420.77 Mbit/s
95th percentile per-packet one-way delay: 64.600 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 420.77 Mbit/s
95th percentile per-packet one-way delay: 64.600 ms
Loss rate: 0.17%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-10-10 02:54:34

End at: 2018-10-10 02:55:04

Local clock offset: -0.05 ms

Remote clock offset: 1.502 ms

Below is generated by plot.py at 2018-10-10 06:00:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 421.30 Mbit/s

95th percentile per-packet one-way delay: 95.322 ms

Loss rate: 0.00%

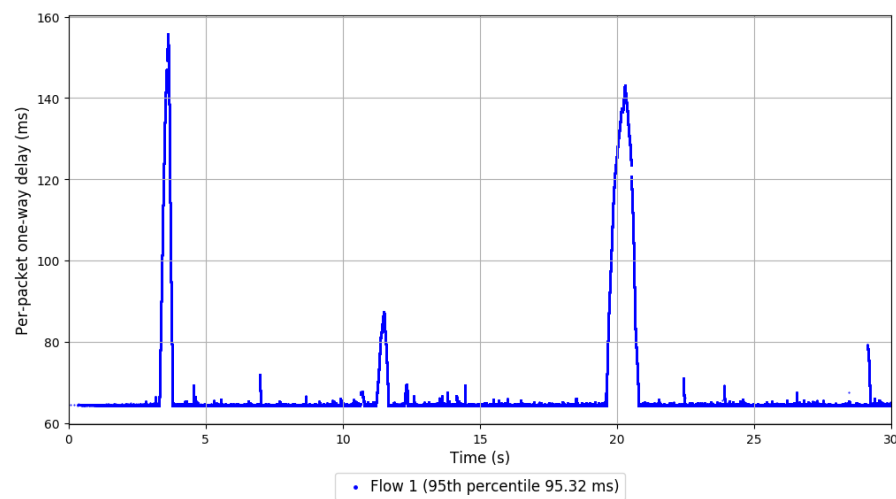
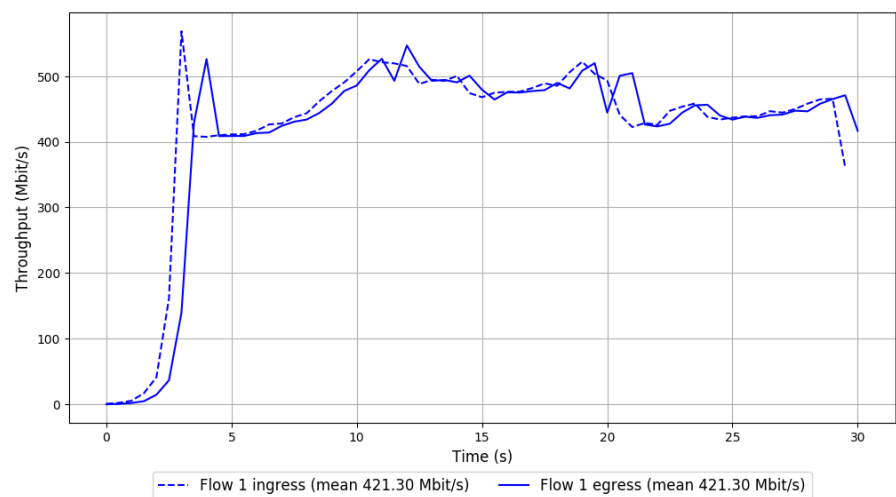
-- Flow 1:

Average throughput: 421.30 Mbit/s

95th percentile per-packet one-way delay: 95.322 ms

Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-10-10 03:20:17

End at: 2018-10-10 03:20:47

Local clock offset: -0.024 ms

Remote clock offset: 0.146 ms

Below is generated by plot.py at 2018-10-10 06:01:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 413.09 Mbit/s

95th percentile per-packet one-way delay: 74.717 ms

Loss rate: 0.01%

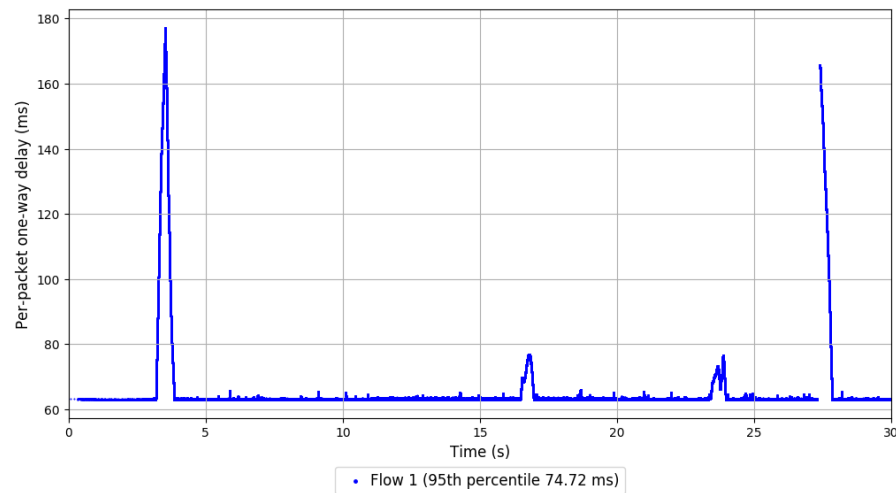
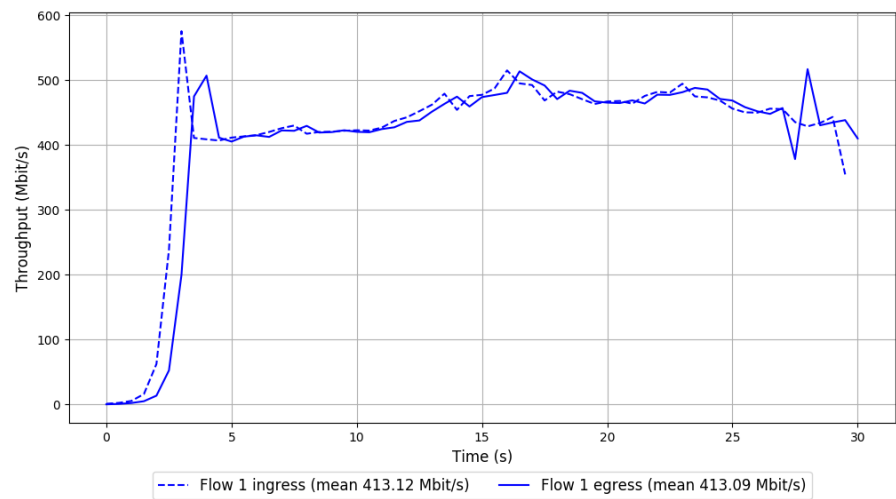
-- Flow 1:

Average throughput: 413.09 Mbit/s

95th percentile per-packet one-way delay: 74.717 ms

Loss rate: 0.01%

Run 3: Report of PCC-Vivace — Data Link

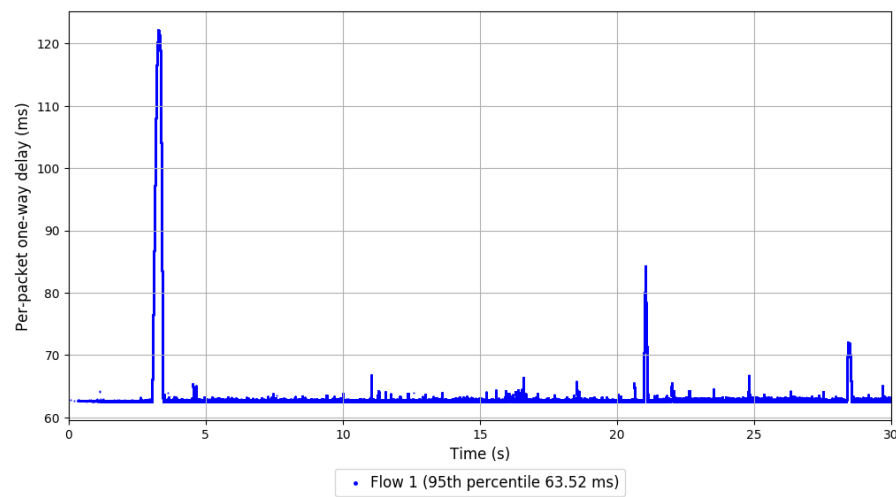
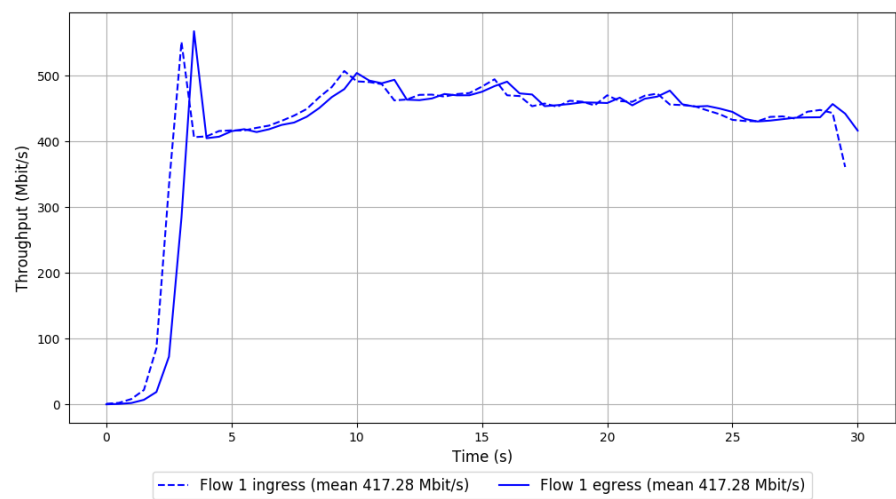


Run 4: Statistics of PCC-Vivace

Start at: 2018-10-10 03:46:06
End at: 2018-10-10 03:46:36
Local clock offset: -0.038 ms
Remote clock offset: -0.333 ms

Below is generated by plot.py at 2018-10-10 06:01:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 417.28 Mbit/s
95th percentile per-packet one-way delay: 63.521 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 417.28 Mbit/s
95th percentile per-packet one-way delay: 63.521 ms
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

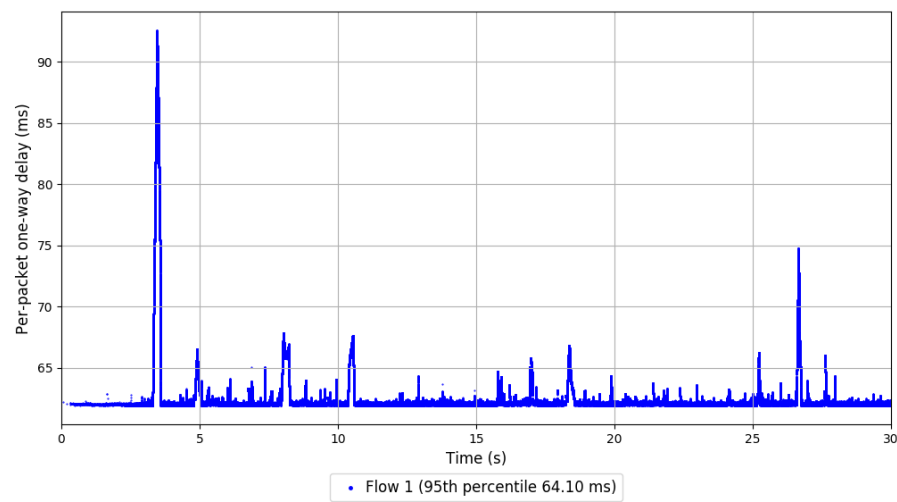
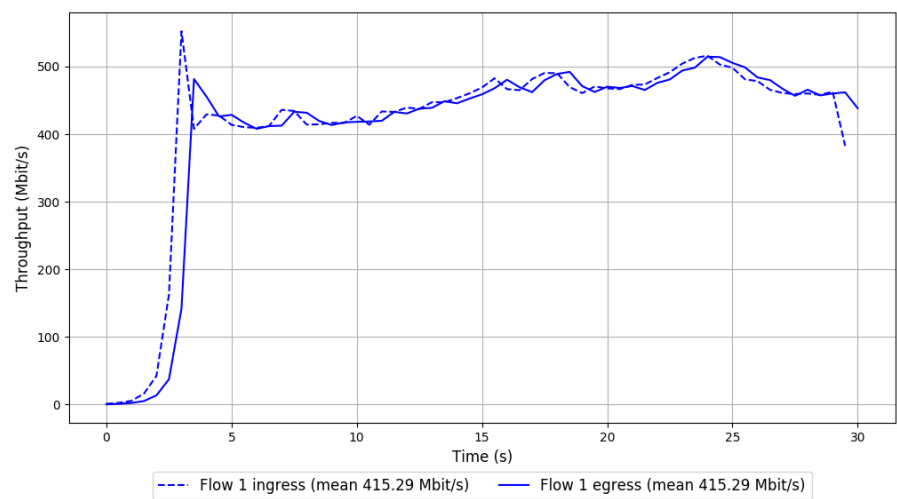


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-10 04:11:48
End at: 2018-10-10 04:12:19
Local clock offset: -0.048 ms
Remote clock offset: -1.049 ms

Below is generated by plot.py at 2018-10-10 06:01:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 415.29 Mbit/s
95th percentile per-packet one-way delay: 64.101 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 415.29 Mbit/s
95th percentile per-packet one-way delay: 64.101 ms
Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

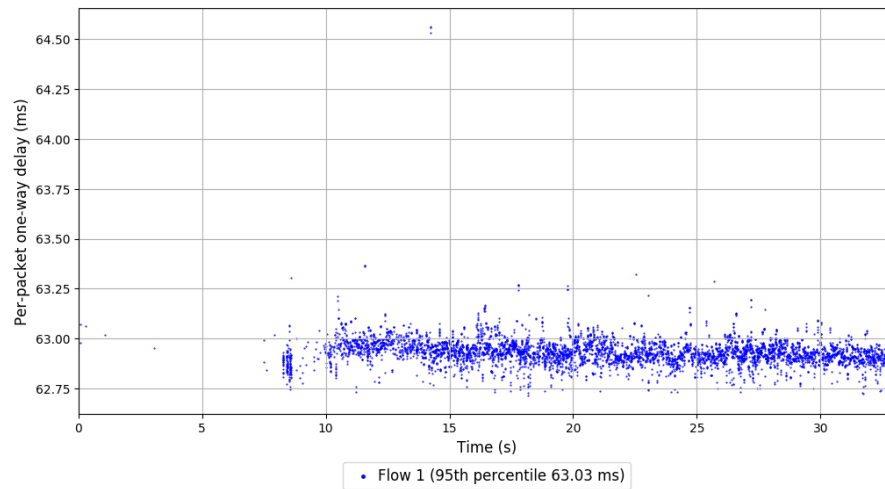
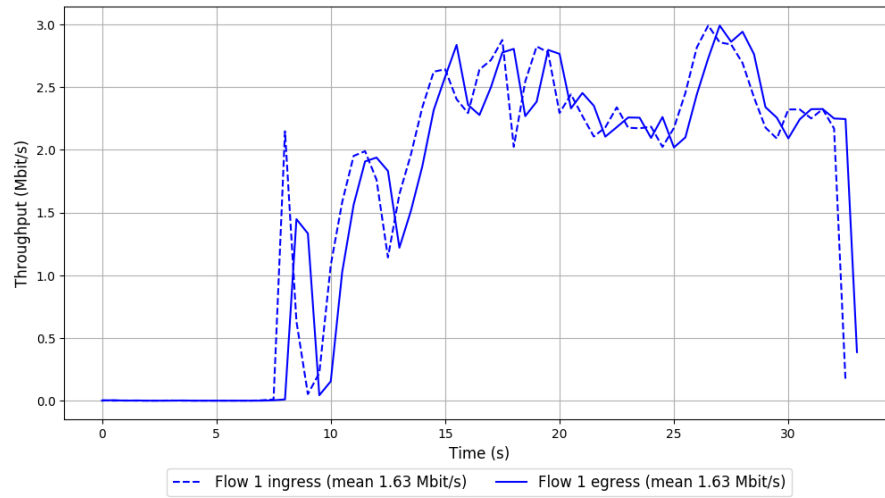


Run 1: Statistics of WebRTC media

Start at: 2018-10-10 02:31:45
End at: 2018-10-10 02:32:15
Local clock offset: -0.03 ms
Remote clock offset: -0.106 ms

Below is generated by plot.py at 2018-10-10 06:01:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 63.030 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 63.030 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

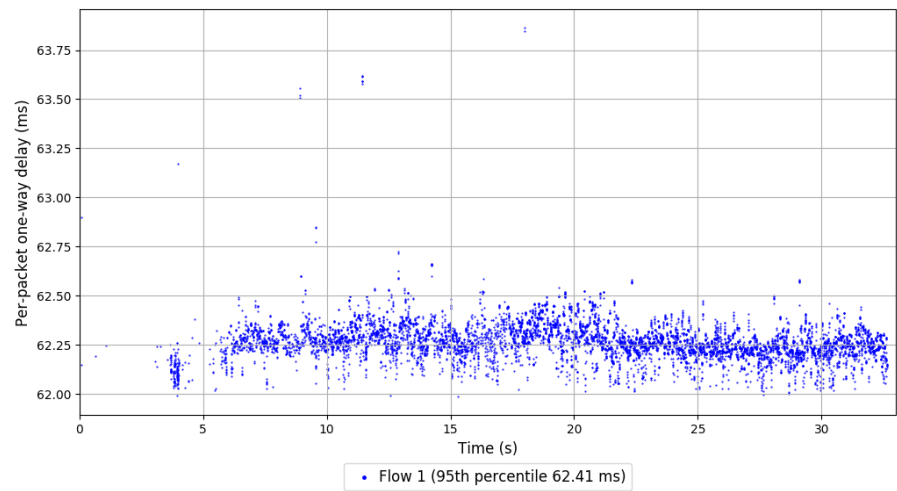
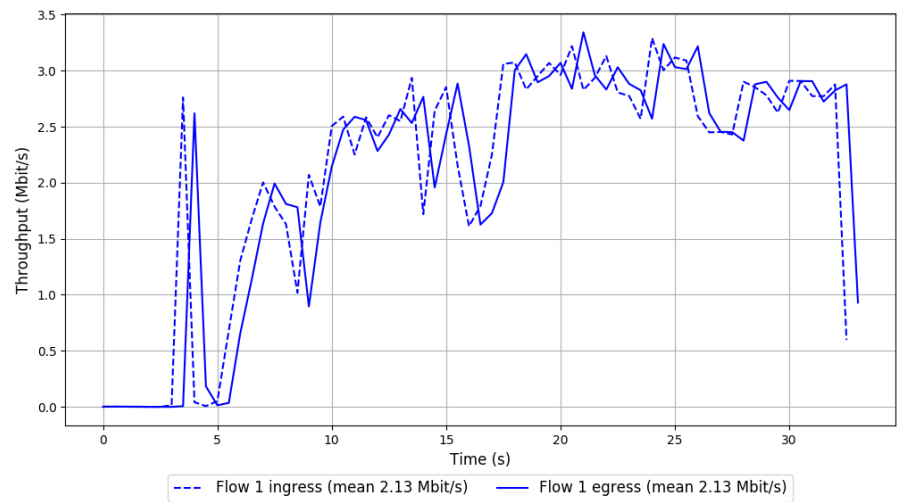


Run 2: Statistics of WebRTC media

Start at: 2018-10-10 02:57:19
End at: 2018-10-10 02:57:49
Local clock offset: -0.038 ms
Remote clock offset: -0.689 ms

Below is generated by plot.py at 2018-10-10 06:01:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 62.409 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 62.409 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-10-10 03:23:02

End at: 2018-10-10 03:23:32

Local clock offset: -0.002 ms

Remote clock offset: 0.592 ms

Below is generated by plot.py at 2018-10-10 06:01:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.89 Mbit/s

95th percentile per-packet one-way delay: 63.907 ms

Loss rate: 0.00%

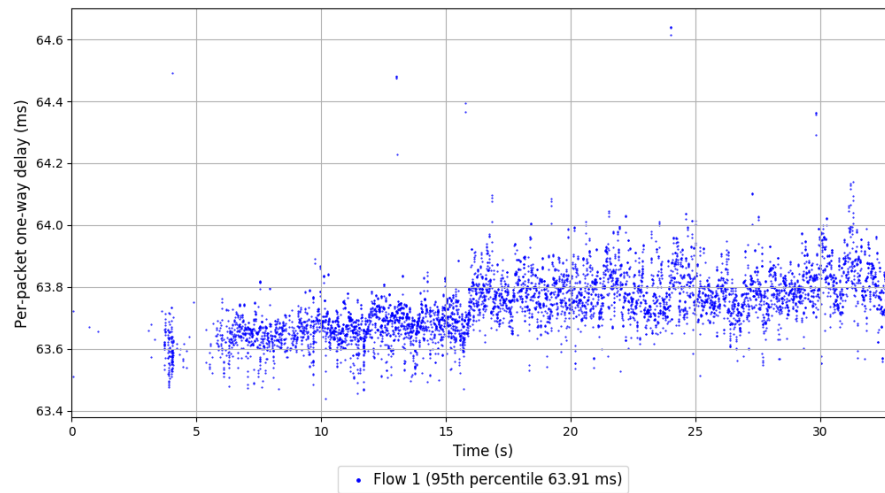
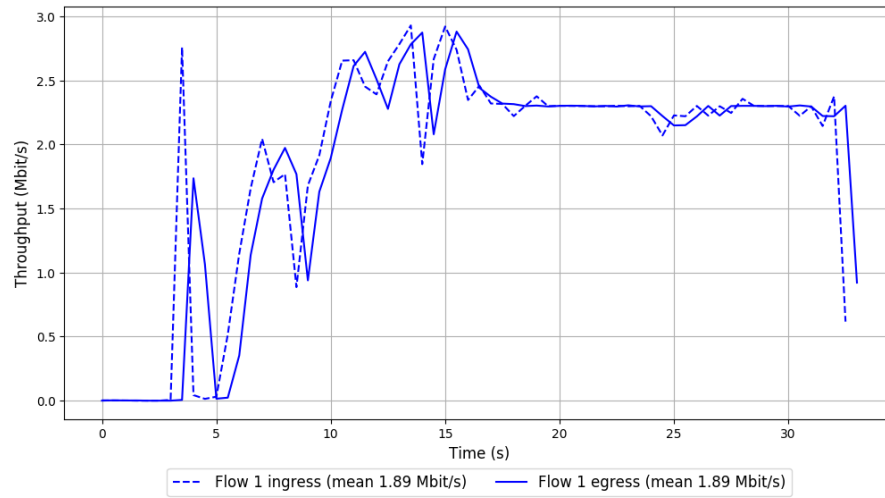
-- Flow 1:

Average throughput: 1.89 Mbit/s

95th percentile per-packet one-way delay: 63.907 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

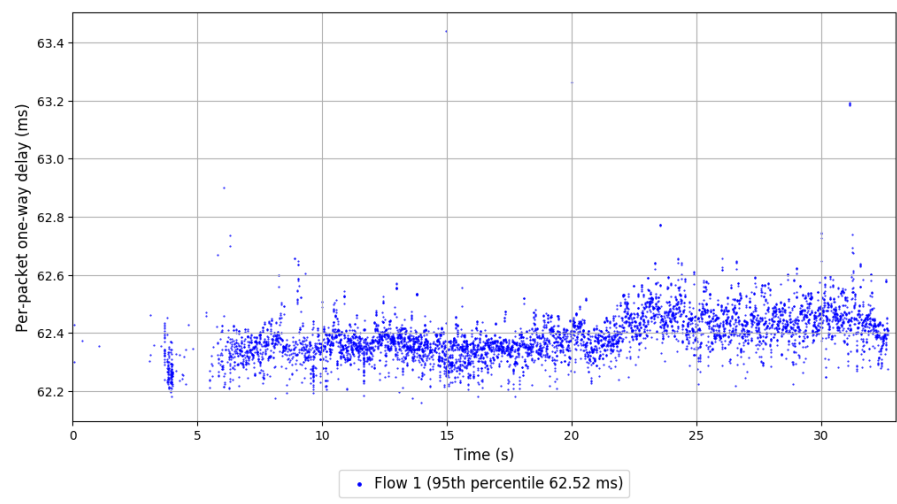
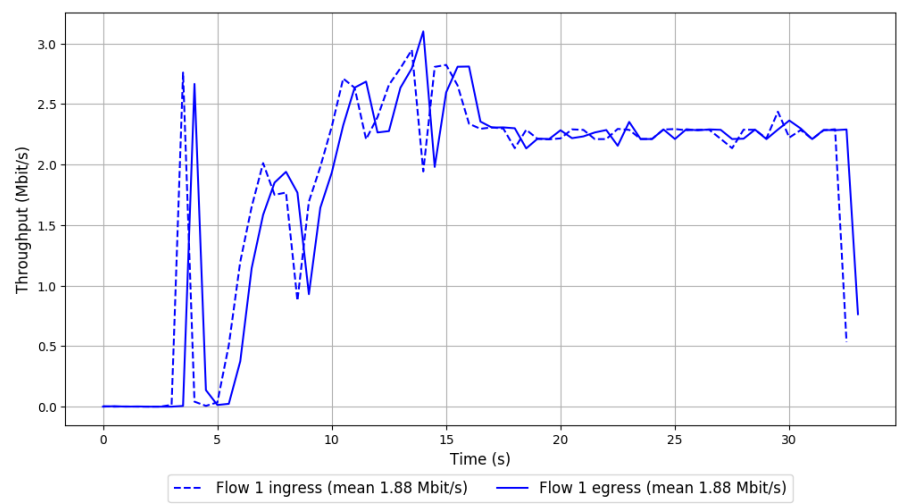


Run 4: Statistics of WebRTC media

Start at: 2018-10-10 03:48:51
End at: 2018-10-10 03:49:21
Local clock offset: -0.023 ms
Remote clock offset: -0.621 ms

Below is generated by plot.py at 2018-10-10 06:01:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 62.525 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 62.525 ms
Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-10 04:14:33

End at: 2018-10-10 04:15:03

Local clock offset: -0.037 ms

Remote clock offset: 0.026 ms

Below is generated by plot.py at 2018-10-10 06:01:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 63.172 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 63.172 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

