

Pantheon Report

Generated at 2018-10-09 20:41:57 (UTC).

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

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against `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

Figure 10: Average throughput (Mbps) vs. 95th percentile one-way delay (ms) for the congestion control algorithms. The plot shows a negative correlation between delay and throughput. Algorithms like FiLLP and EDBAT show high throughput at higher delays, while others like Indigo and Verus show lower throughput at lower delays.

Algorithm	95th percentile one-way delay (ms)	Average throughput (Mbps)
FiLLP	32	850
TCP-BBR	6	700
TCP-Cubic	5	680
EDBAT	18	550
PCC-Allegro	2	460
Verus	32	150
Indigo	-16	220
Indigo-96	1	180
Indigo-12	1	170
Indigo-24	1	160
Indigo-48	1	150
Indigo-96	1	140
Indigo-190x	1	130
QUIC-Cubic	1	80
Indigo-Muses	1	50
Sprout	5	50
Verus-96	1	10
Verus-12	1	10
Verus-24	1	10
Verus-48	1	10
Verus-96	1	10
Verus-190x	1	10



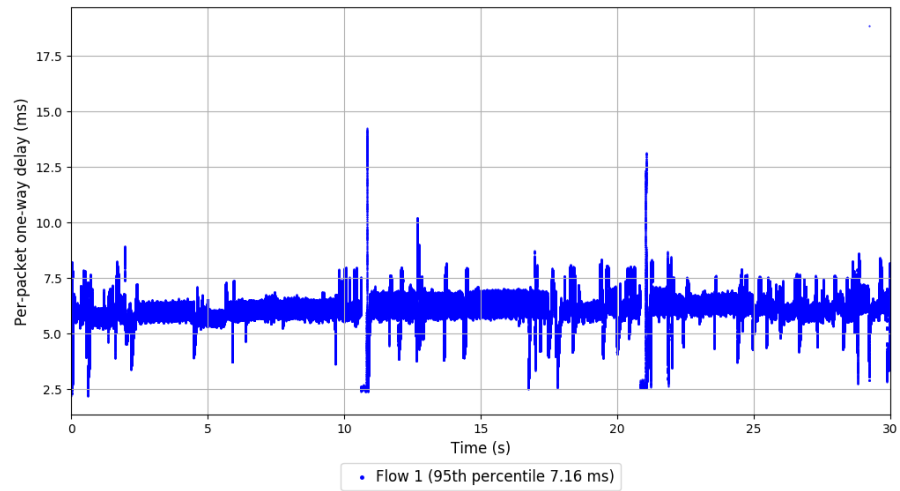
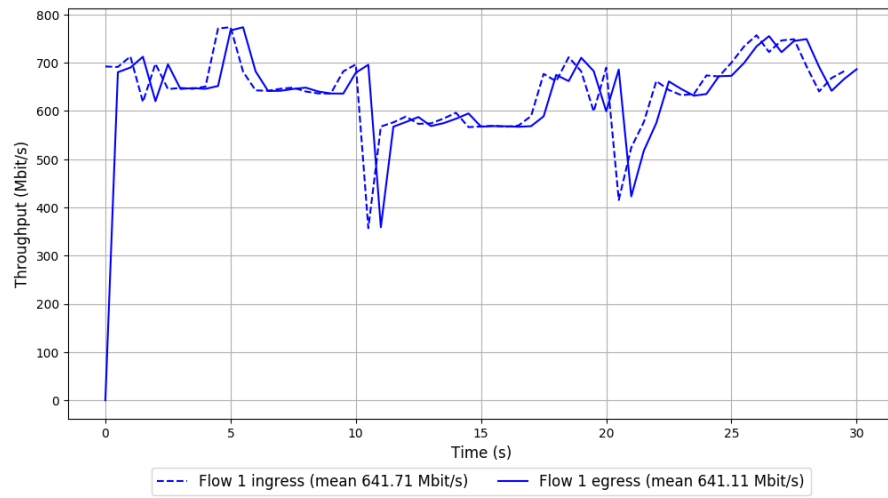
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	696.16	6.34	0.10
Copa	0	N/A	N/A	N/A
TCP Cubic	5	683.00	5.73	0.07
FillP	5	833.26	30.11	4.62
Indigo	5	223.04	-16.23	0.00
Indigo-96d2da3	5	178.65	1.56	0.01
LEDBAT	5	547.88	13.34	0.06
Indigo-Muses	5	48.71	1.09	0.00
PCC-Allegro	5	462.08	2.02	0.06
PCC-Expr	4	5.01	0.97	7.99
QUIC Cubic	5	76.82	1.15	0.00
SCReAM	5	0.22	1.53	0.00
Sprout	5	49.95	4.19	0.14
TaoVA-100x	1	7.40	0.07	60.33
TCP Vegas	5	167.06	1.52	0.00
Verus	5	151.83	33.12	2.09
PCC-Vivace	5	173.98	1.39	0.00
WebRTC media	5	1.97	1.88	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-10-09 18:04:17
End at: 2018-10-09 18:04:47
Local clock offset: -13.647 ms
Remote clock offset: -0.238 ms

Below is generated by plot.py at 2018-10-09 20:16:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 641.11 Mbit/s
95th percentile per-packet one-way delay: 7.155 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 641.11 Mbit/s
95th percentile per-packet one-way delay: 7.155 ms
Loss rate: 0.09%

Run 1: Report of TCP BBR — Data Link

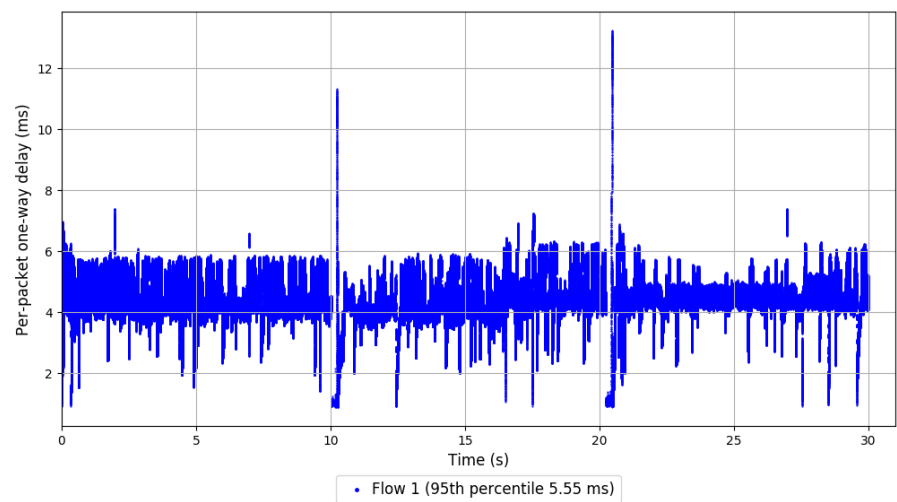
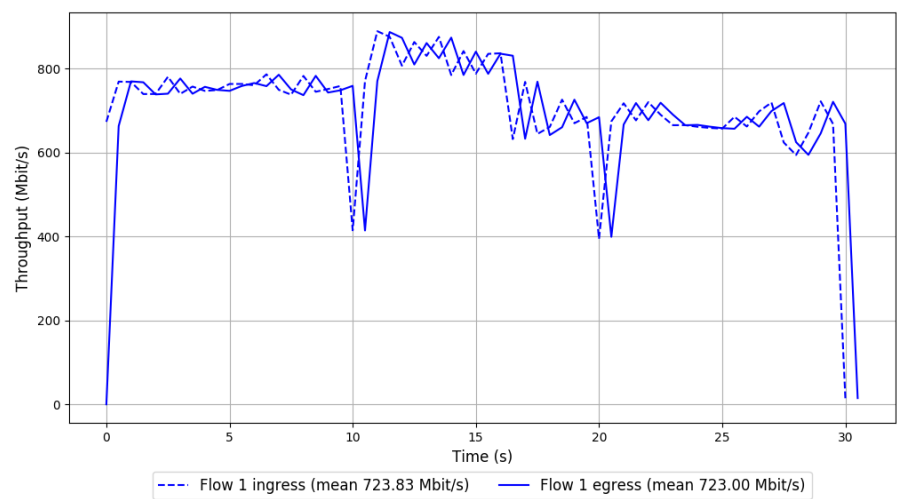


Run 2: Statistics of TCP BBR

Start at: 2018-10-09 18:30:09
End at: 2018-10-09 18:30:39
Local clock offset: -19.937 ms
Remote clock offset: -0.8 ms

Below is generated by plot.py at 2018-10-09 20:16:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 723.00 Mbit/s
95th percentile per-packet one-way delay: 5.552 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 723.00 Mbit/s
95th percentile per-packet one-way delay: 5.552 ms
Loss rate: 0.11%

Run 2: Report of TCP BBR — Data Link

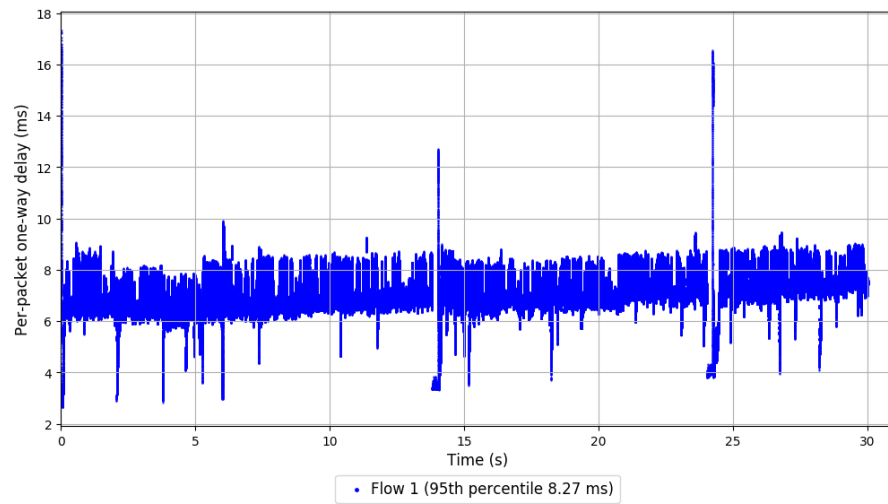
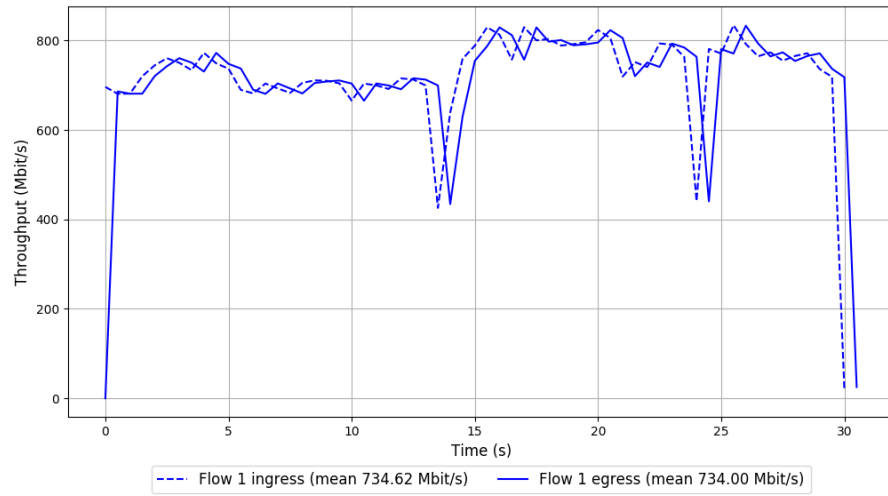


Run 3: Statistics of TCP BBR

Start at: 2018-10-09 18:56:00
End at: 2018-10-09 18:56:30
Local clock offset: -37.471 ms
Remote clock offset: -0.599 ms

Below is generated by plot.py at 2018-10-09 20:16:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 734.00 Mbit/s
95th percentile per-packet one-way delay: 8.269 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 734.00 Mbit/s
95th percentile per-packet one-way delay: 8.269 ms
Loss rate: 0.08%

Run 3: Report of TCP BBR — Data Link

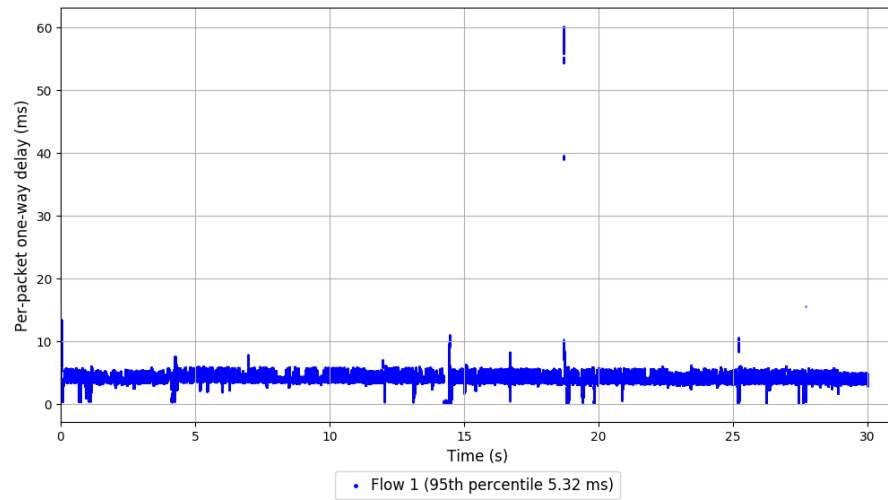
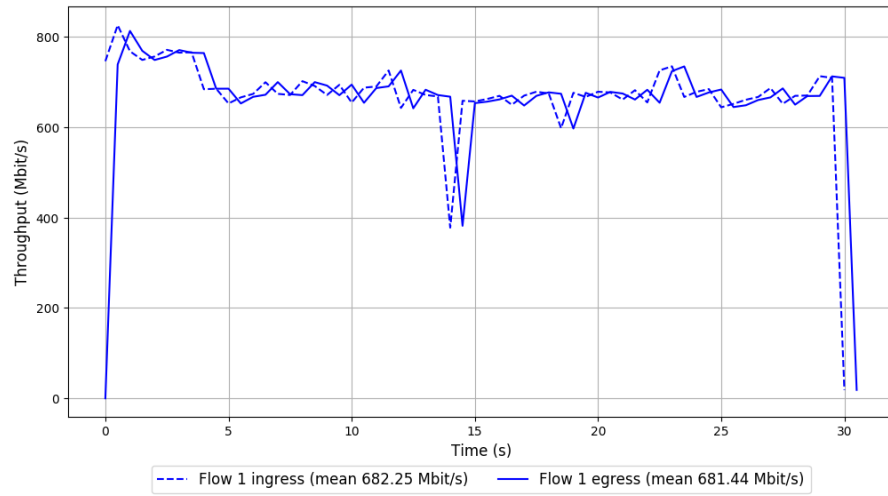


Run 4: Statistics of TCP BBR

Start at: 2018-10-09 19:21:55
End at: 2018-10-09 19:22:26
Local clock offset: -24.622 ms
Remote clock offset: 0.082 ms

Below is generated by plot.py at 2018-10-09 20:16:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 681.44 Mbit/s
95th percentile per-packet one-way delay: 5.318 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 681.44 Mbit/s
95th percentile per-packet one-way delay: 5.318 ms
Loss rate: 0.12%

Run 4: Report of TCP BBR — Data Link

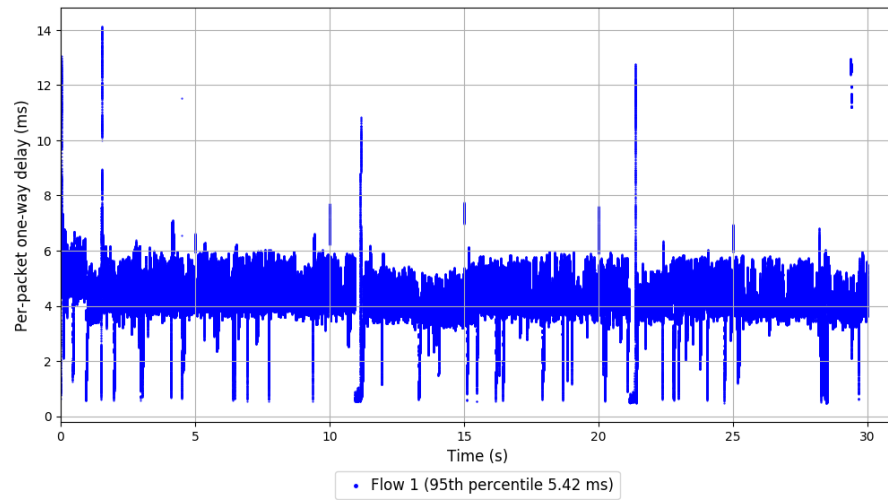
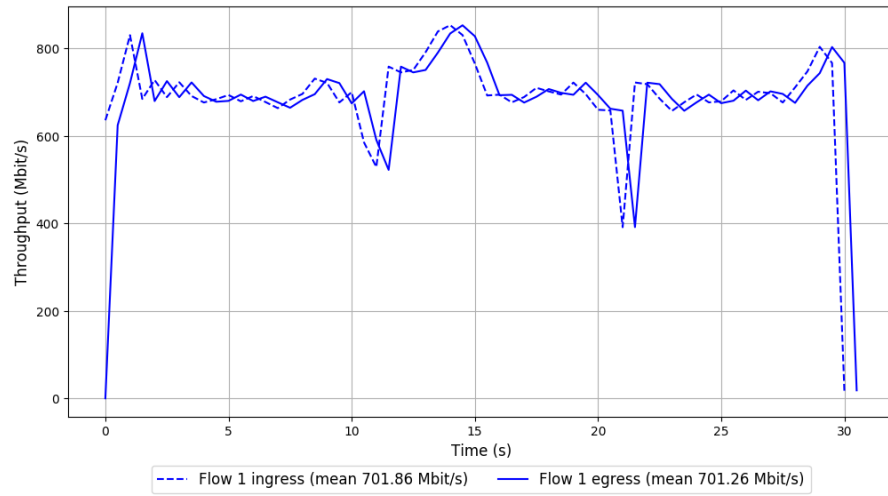


Run 5: Statistics of TCP BBR

Start at: 2018-10-09 19:47:31
End at: 2018-10-09 19:48:01
Local clock offset: -13.36 ms
Remote clock offset: -0.233 ms

Below is generated by plot.py at 2018-10-09 20:16:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 701.26 Mbit/s
95th percentile per-packet one-way delay: 5.416 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 701.26 Mbit/s
95th percentile per-packet one-way delay: 5.416 ms
Loss rate: 0.09%

Run 5: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

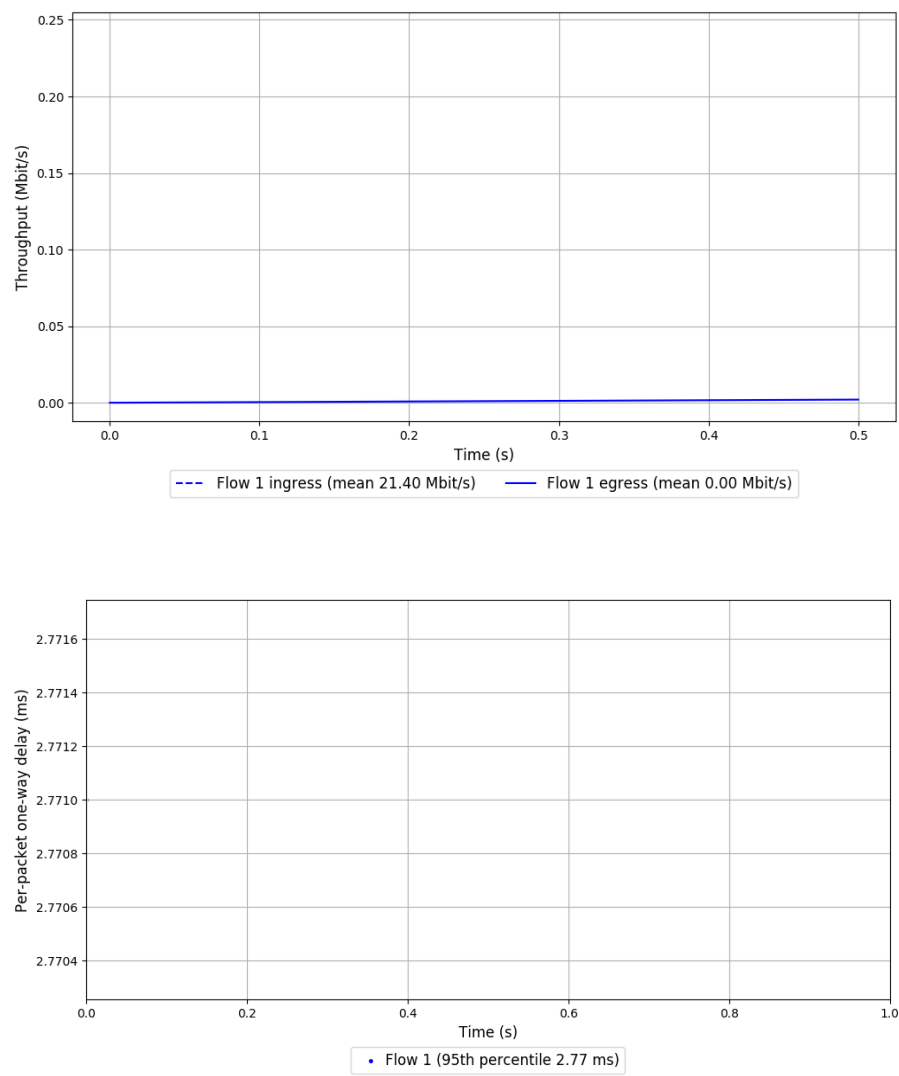
Start at: 2018-10-09 18:20:33

End at: 2018-10-09 18:21:03

Local clock offset: -18.322 ms

Remote clock offset: -1.06 ms

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

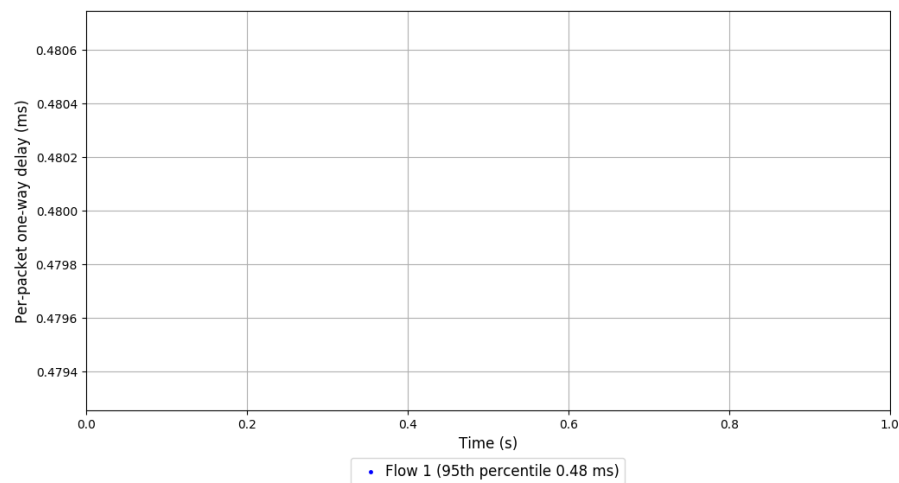
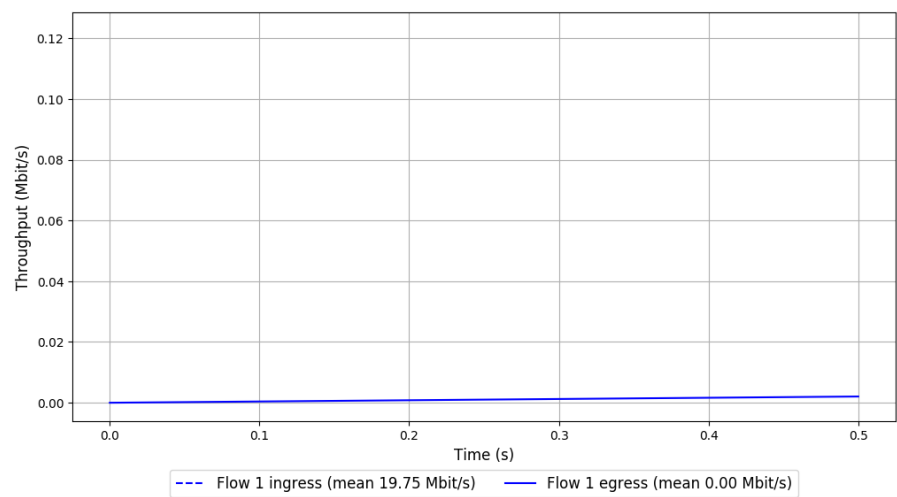
Start at: 2018-10-09 18:46:28

End at: 2018-10-09 18:46:58

Local clock offset: -29.959 ms

Remote clock offset: -0.475 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

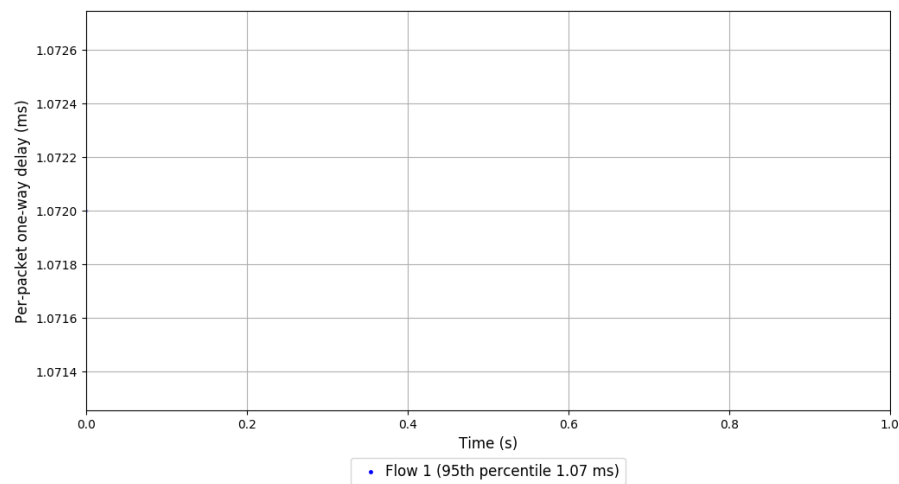
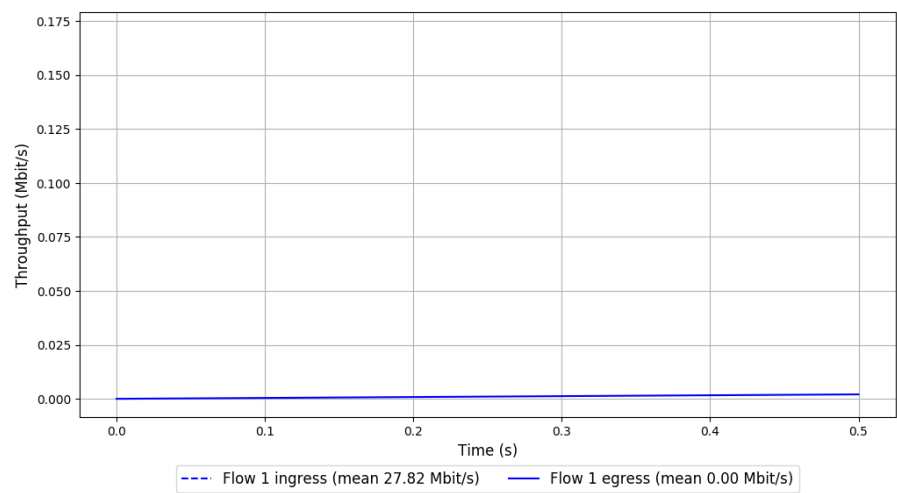
Start at: 2018-10-09 19:12:13

End at: 2018-10-09 19:12:43

Local clock offset: -20.66 ms

Remote clock offset: 0.07 ms

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

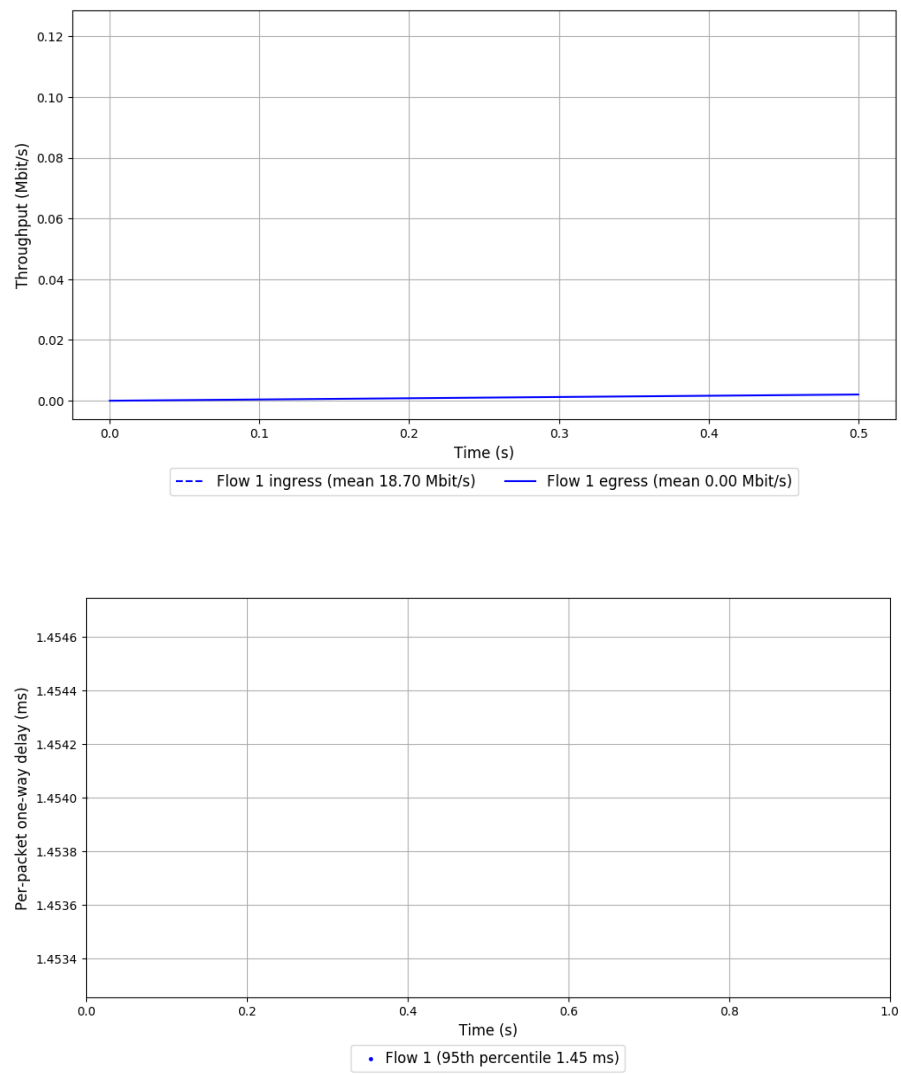
Start at: 2018-10-09 19:37:53

End at: 2018-10-09 19:38:23

Local clock offset: -13.132 ms

Remote clock offset: 0.008 ms

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

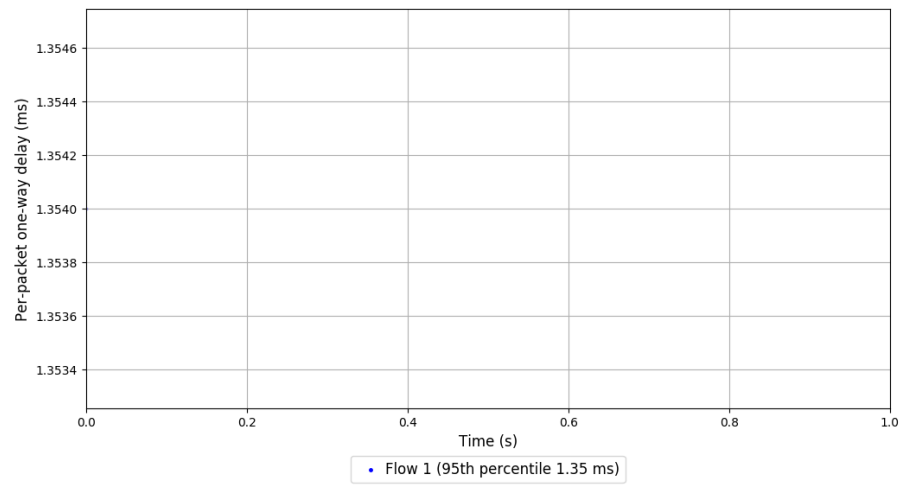
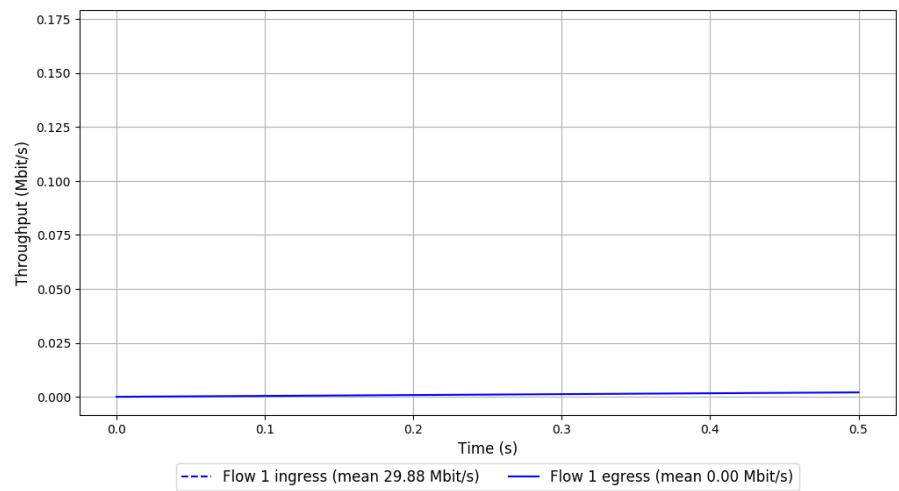
Start at: 2018-10-09 20:03:47

End at: 2018-10-09 20:04:17

Local clock offset: -6.87 ms

Remote clock offset: -0.419 ms

Run 5: Report of Copa — Data Link

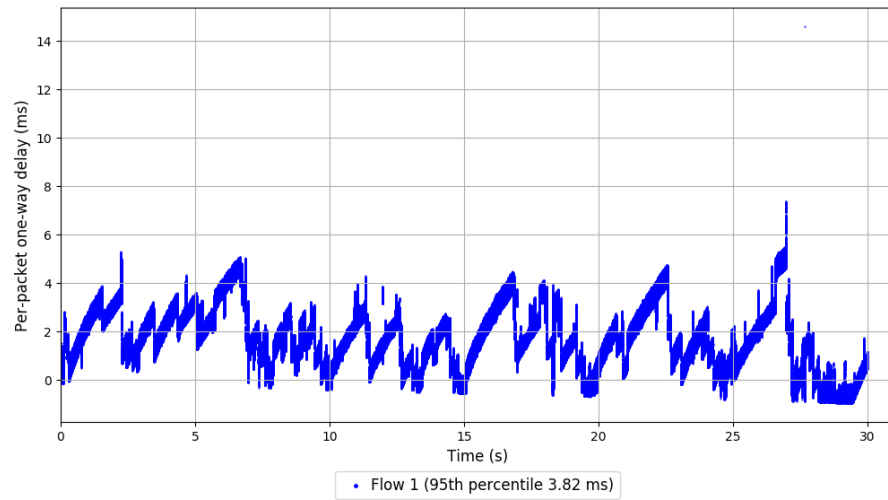
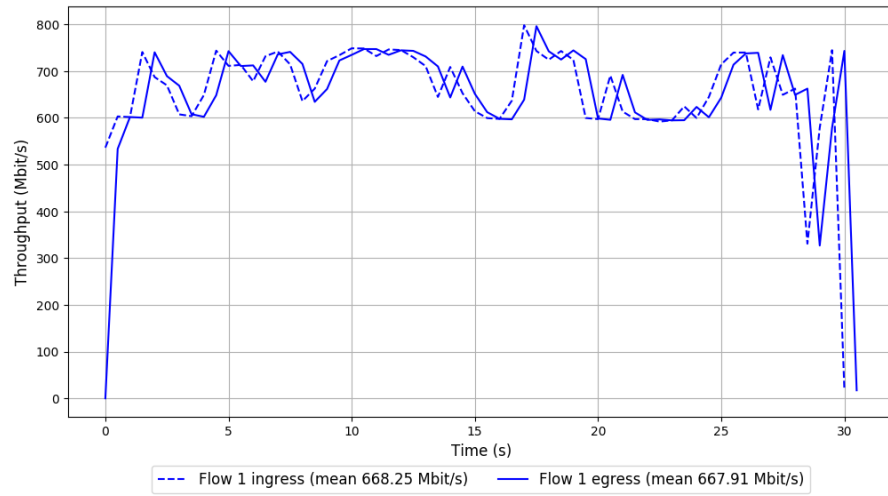


Run 1: Statistics of TCP Cubic

Start at: 2018-10-09 18:08:32
End at: 2018-10-09 18:09:02
Local clock offset: -13.999 ms
Remote clock offset: -0.506 ms

Below is generated by plot.py at 2018-10-09 20:16:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 667.91 Mbit/s
95th percentile per-packet one-way delay: 3.822 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 667.91 Mbit/s
95th percentile per-packet one-way delay: 3.822 ms
Loss rate: 0.05%

Run 1: Report of TCP Cubic — Data Link

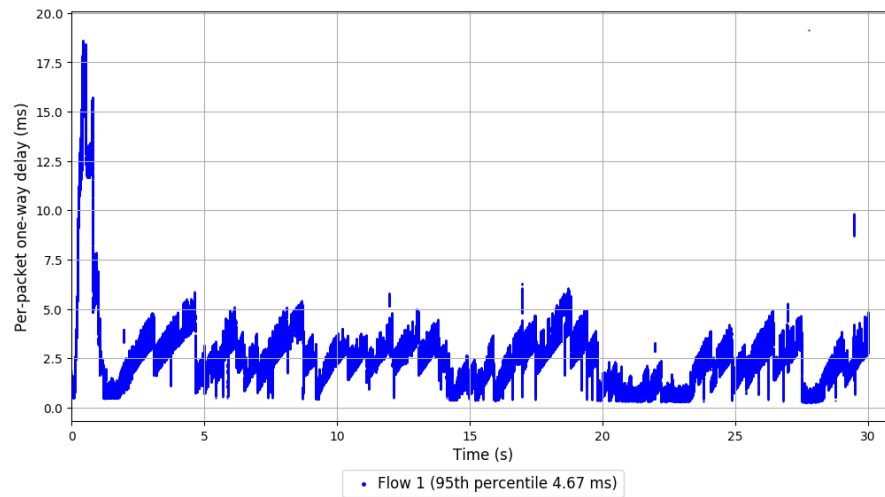
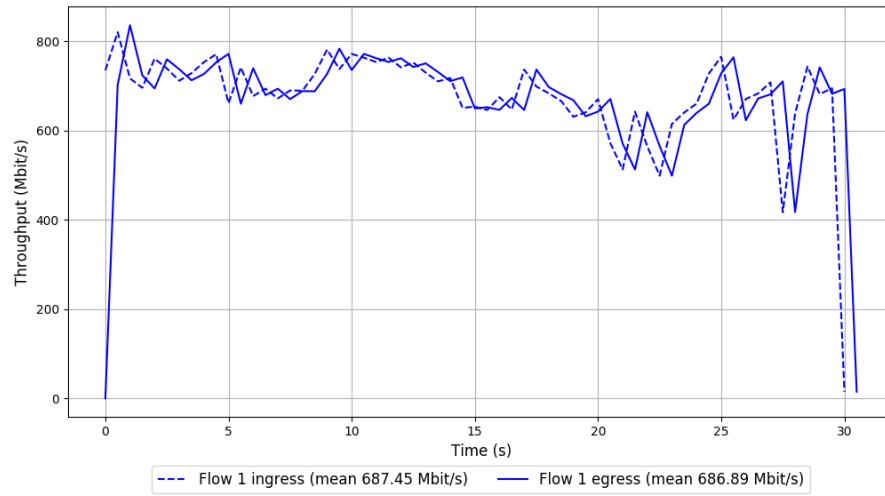


Run 2: Statistics of TCP Cubic

Start at: 2018-10-09 18:34:26
End at: 2018-10-09 18:34:56
Local clock offset: -20.165 ms
Remote clock offset: -0.583 ms

Below is generated by plot.py at 2018-10-09 20:16:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 686.89 Mbit/s
95th percentile per-packet one-way delay: 4.665 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 686.89 Mbit/s
95th percentile per-packet one-way delay: 4.665 ms
Loss rate: 0.08%

Run 2: Report of TCP Cubic — Data Link

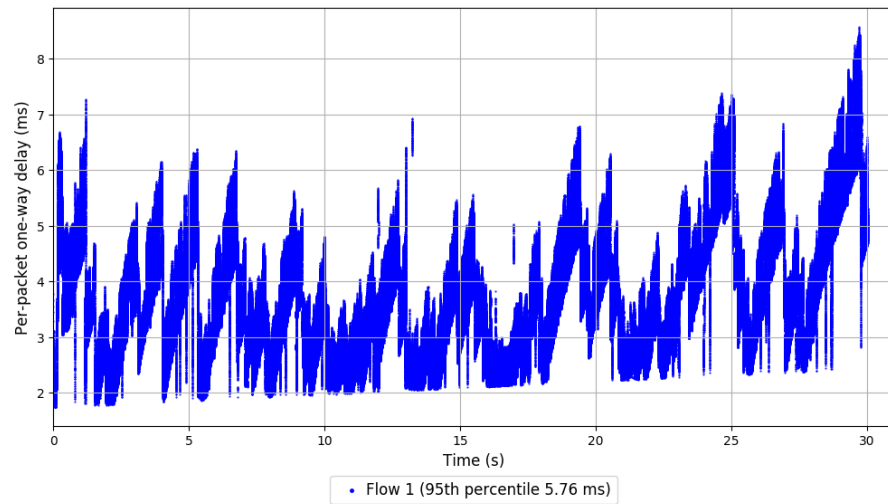
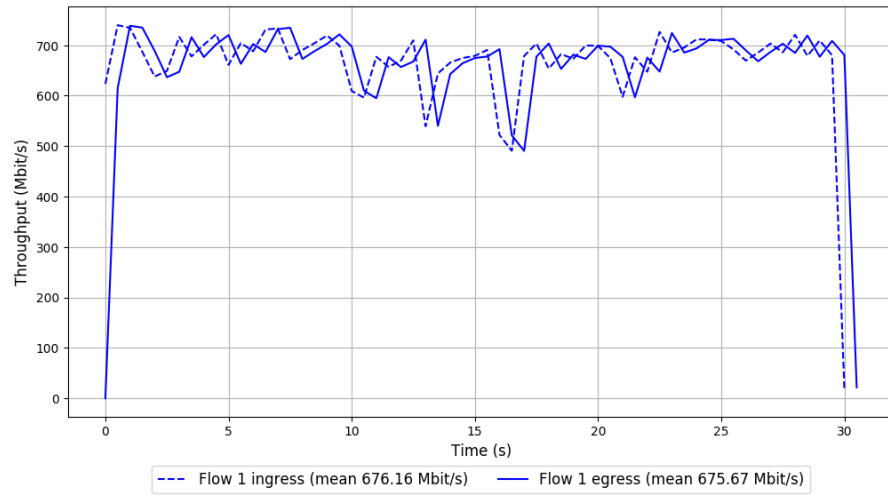


Run 3: Statistics of TCP Cubic

Start at: 2018-10-09 19:00:16
End at: 2018-10-09 19:00:47
Local clock offset: -27.184 ms
Remote clock offset: -0.414 ms

Below is generated by plot.py at 2018-10-09 20:16:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 675.67 Mbit/s
95th percentile per-packet one-way delay: 5.760 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 675.67 Mbit/s
95th percentile per-packet one-way delay: 5.760 ms
Loss rate: 0.07%

Run 3: Report of TCP Cubic — Data Link

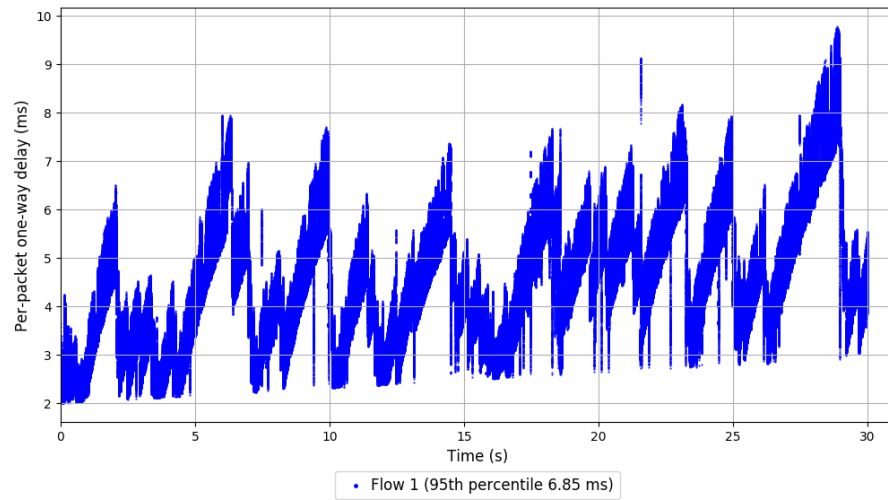
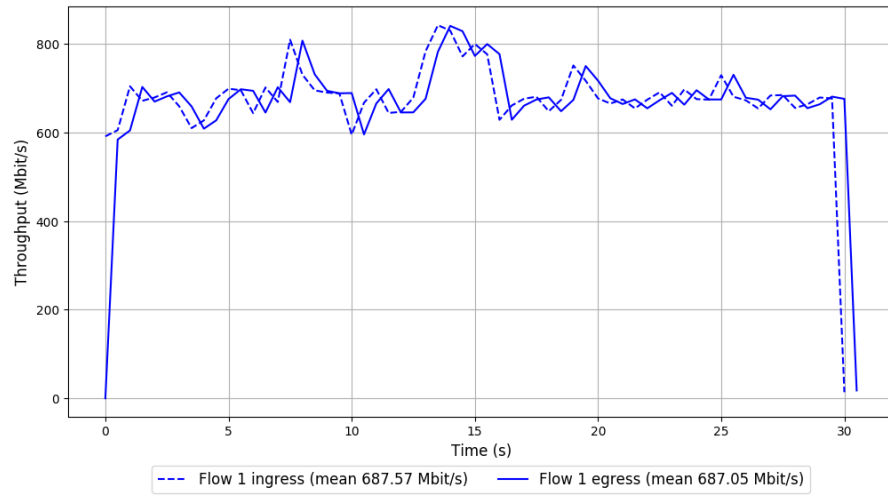


Run 4: Statistics of TCP Cubic

Start at: 2018-10-09 19:26:11
End at: 2018-10-09 19:26:41
Local clock offset: -24.347 ms
Remote clock offset: 0.117 ms

Below is generated by plot.py at 2018-10-09 20:22:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 687.05 Mbit/s
95th percentile per-packet one-way delay: 6.850 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 687.05 Mbit/s
95th percentile per-packet one-way delay: 6.850 ms
Loss rate: 0.07%

Run 4: Report of TCP Cubic — Data Link

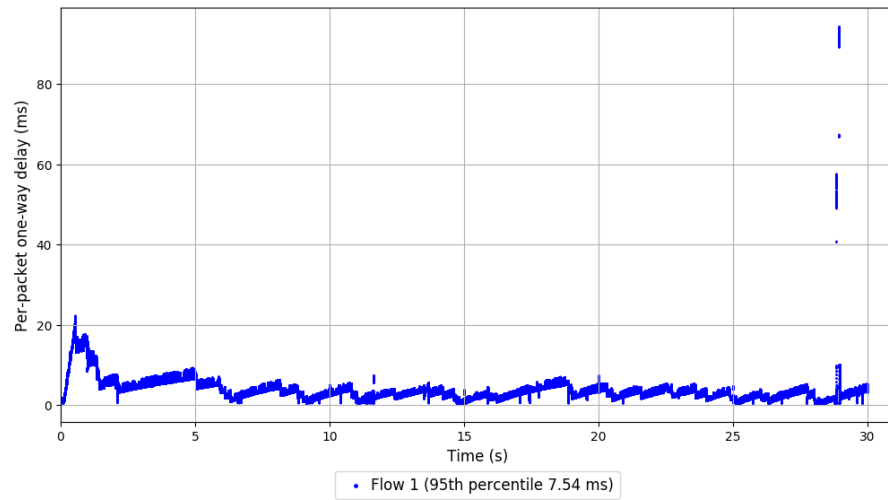
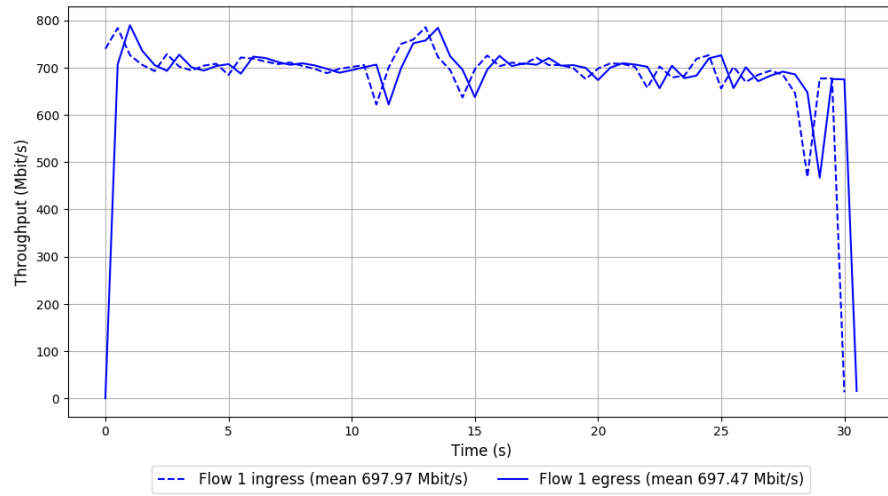


Run 5: Statistics of TCP Cubic

Start at: 2018-10-09 19:51:48
End at: 2018-10-09 19:52:18
Local clock offset: -14.435 ms
Remote clock offset: -0.261 ms

Below is generated by plot.py at 2018-10-09 20:23:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 697.47 Mbit/s
95th percentile per-packet one-way delay: 7.536 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 697.47 Mbit/s
95th percentile per-packet one-way delay: 7.536 ms
Loss rate: 0.07%

Run 5: Report of TCP Cubic — Data Link

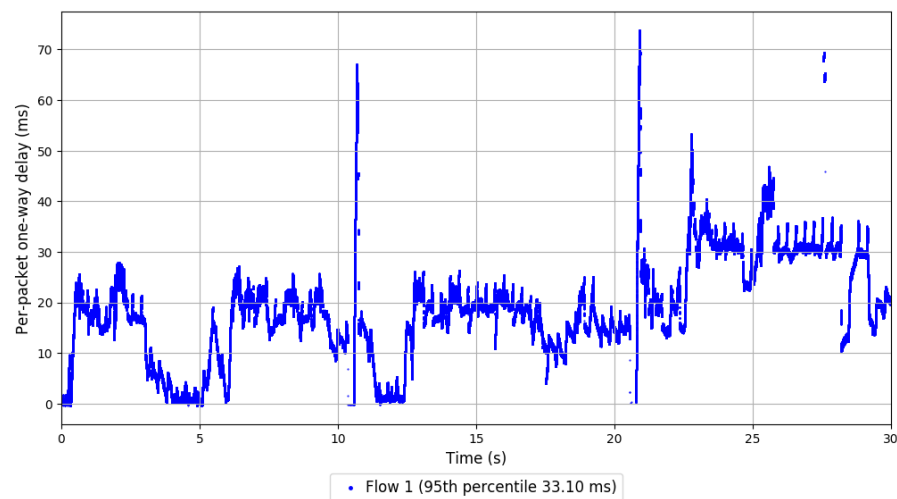
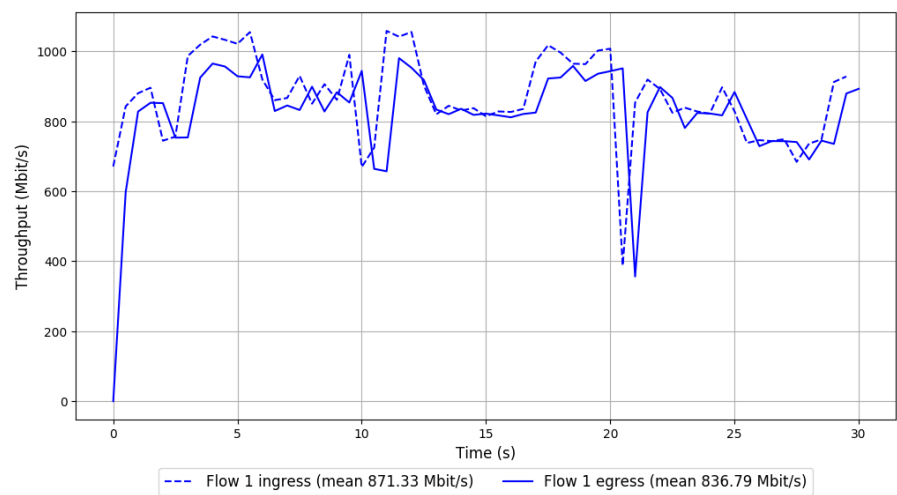


Run 1: Statistics of FillP

Start at: 2018-10-09 18:11:37
End at: 2018-10-09 18:12:07
Local clock offset: -19.703 ms
Remote clock offset: -0.762 ms

Below is generated by plot.py at 2018-10-09 20:28:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 836.79 Mbit/s
95th percentile per-packet one-way delay: 33.097 ms
Loss rate: 3.96%
-- Flow 1:
Average throughput: 836.79 Mbit/s
95th percentile per-packet one-way delay: 33.097 ms
Loss rate: 3.96%

Run 1: Report of FillP — Data Link

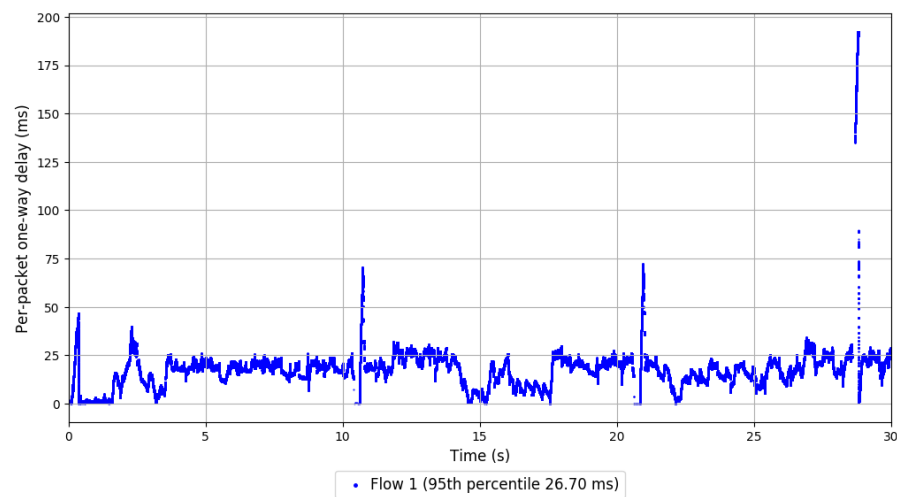
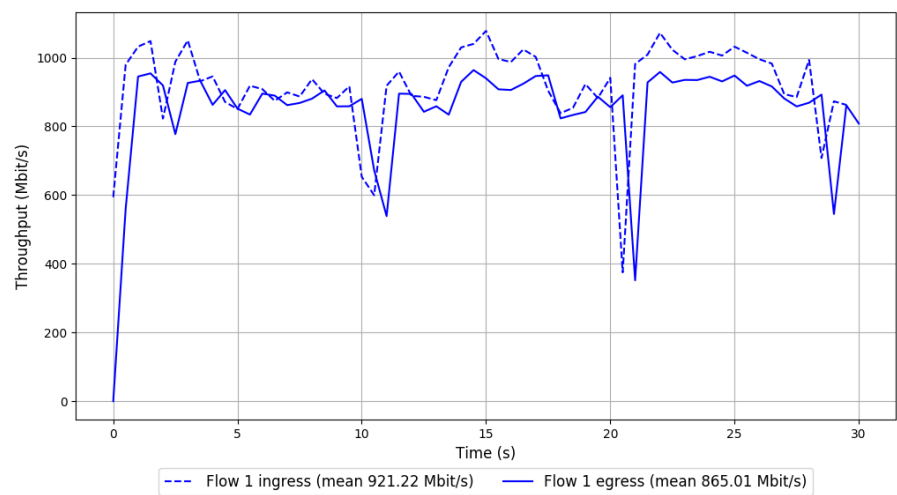


Run 2: Statistics of FillP

Start at: 2018-10-09 18:37:27
End at: 2018-10-09 18:37:57
Local clock offset: -21.668 ms
Remote clock offset: -0.562 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 865.01 Mbit/s
95th percentile per-packet one-way delay: 26.697 ms
Loss rate: 6.10%
-- Flow 1:
Average throughput: 865.01 Mbit/s
95th percentile per-packet one-way delay: 26.697 ms
Loss rate: 6.10%

Run 2: Report of FillP — Data Link

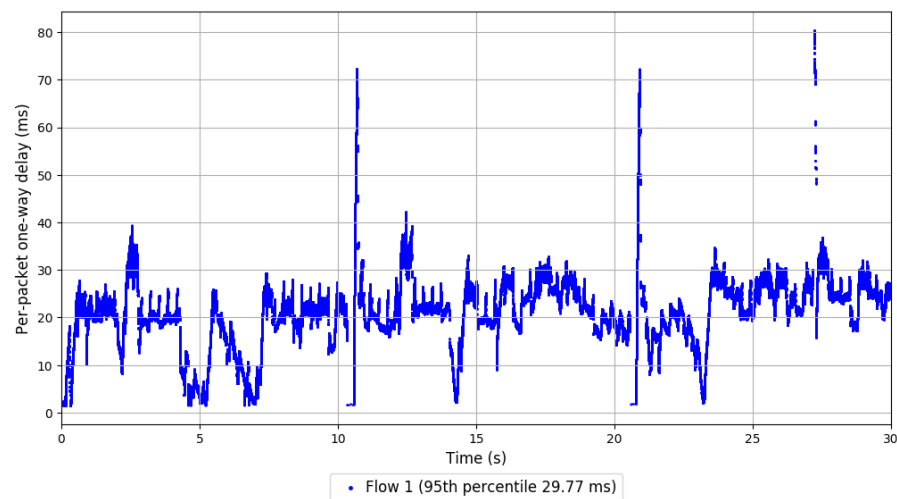
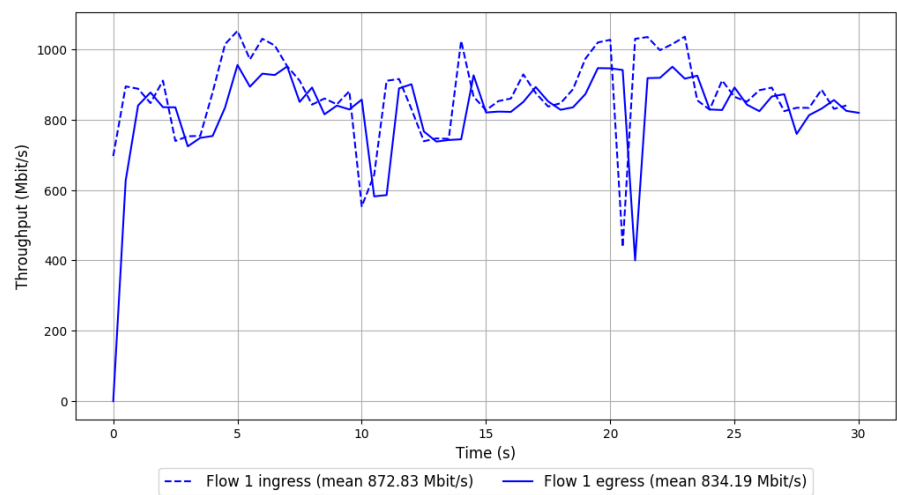


Run 3: Statistics of FillP

Start at: 2018-10-09 19:03:17
End at: 2018-10-09 19:03:47
Local clock offset: -23.471 ms
Remote clock offset: -0.249 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 834.19 Mbit/s
95th percentile per-packet one-way delay: 29.765 ms
Loss rate: 4.43%
-- Flow 1:
Average throughput: 834.19 Mbit/s
95th percentile per-packet one-way delay: 29.765 ms
Loss rate: 4.43%

Run 3: Report of FillP — Data Link

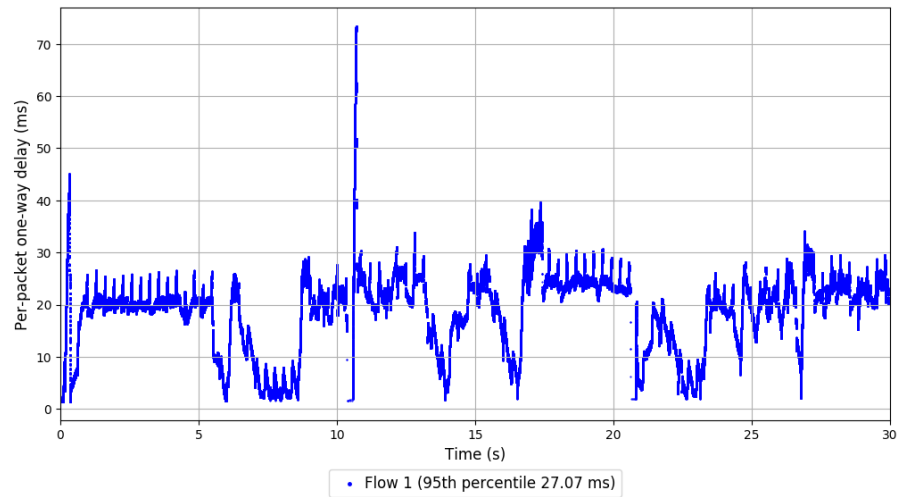
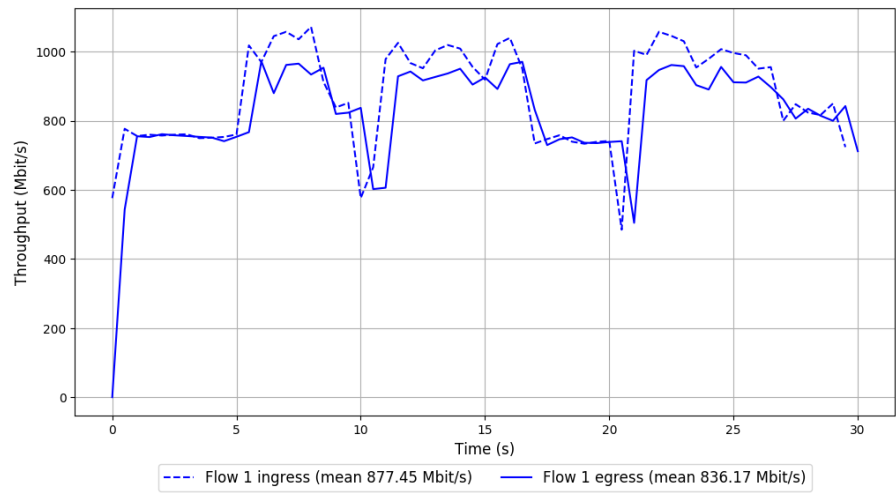


Run 4: Statistics of FillP

Start at: 2018-10-09 19:29:11
End at: 2018-10-09 19:29:41
Local clock offset: -19.085 ms
Remote clock offset: 0.095 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 836.17 Mbit/s
95th percentile per-packet one-way delay: 27.073 ms
Loss rate: 4.70%
-- Flow 1:
Average throughput: 836.17 Mbit/s
95th percentile per-packet one-way delay: 27.073 ms
Loss rate: 4.70%

Run 4: Report of FillP — Data Link

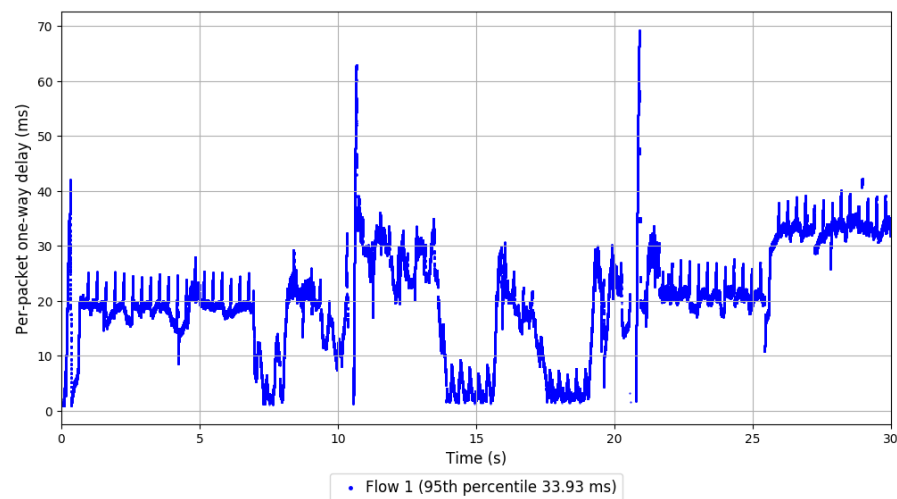
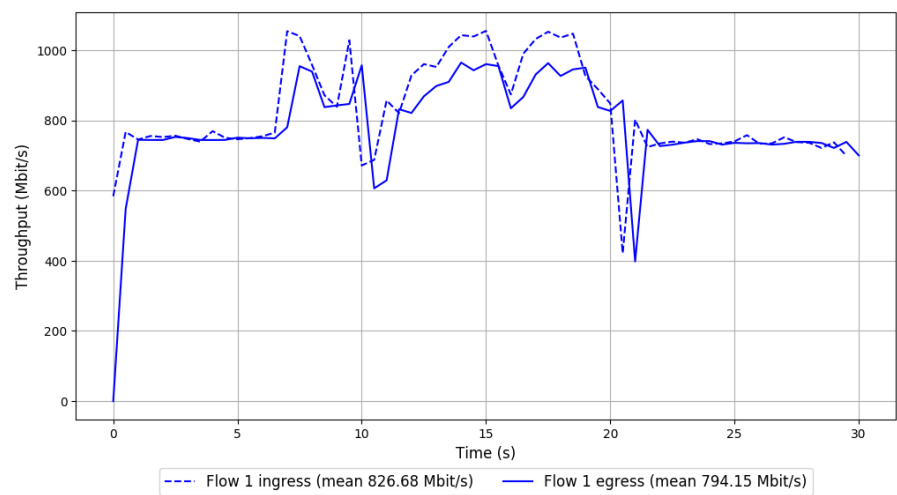


Run 5: Statistics of FillP

Start at: 2018-10-09 19:54:49
End at: 2018-10-09 19:55:19
Local clock offset: -15.289 ms
Remote clock offset: -0.346 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 794.15 Mbit/s
95th percentile per-packet one-way delay: 33.933 ms
Loss rate: 3.93%
-- Flow 1:
Average throughput: 794.15 Mbit/s
95th percentile per-packet one-way delay: 33.933 ms
Loss rate: 3.93%

Run 5: Report of FillP — Data Link

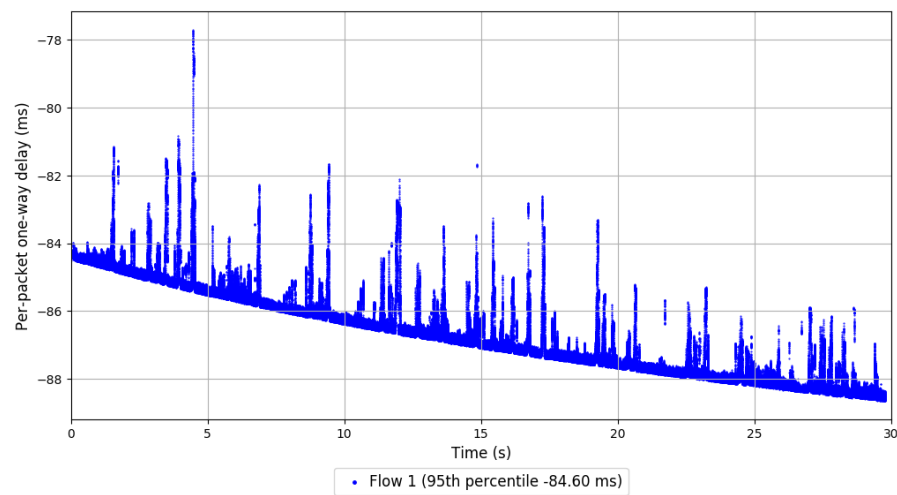
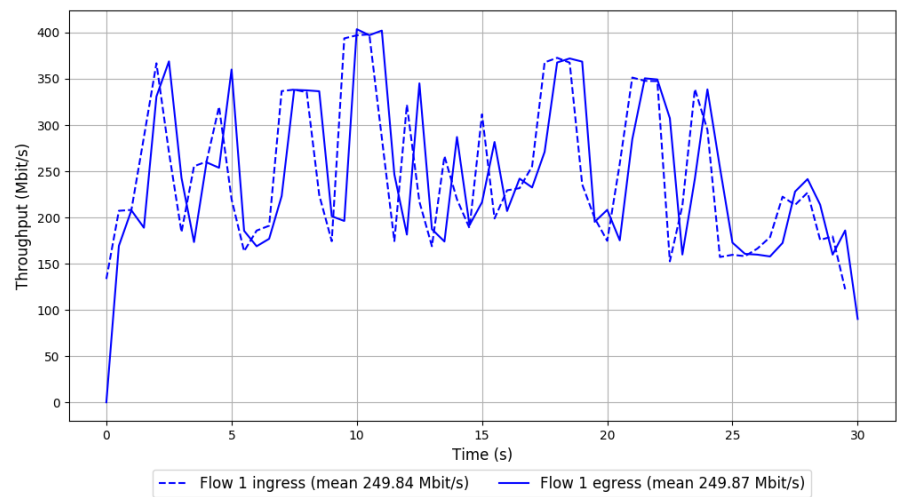


```
Run 1: Statistics of Indigo

Start at: 2018-10-09 17:56:00
End at: 2018-10-09 17:56:30
Local clock offset: 87.646 ms
Remote clock offset: 0.873 ms

# Below is generated by plot.py at 2018-10-09 20:28:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 249.87 Mbit/s
95th percentile per-packet one-way delay: -84.602 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 249.87 Mbit/s
95th percentile per-packet one-way delay: -84.602 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

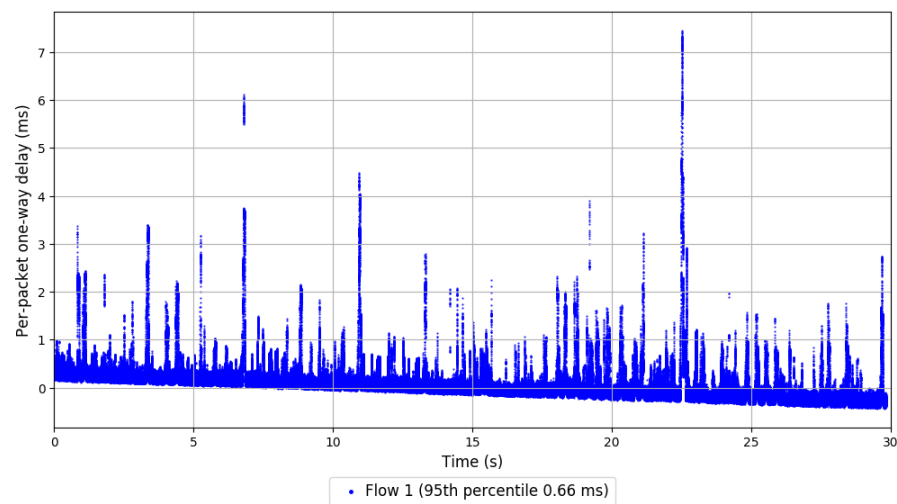
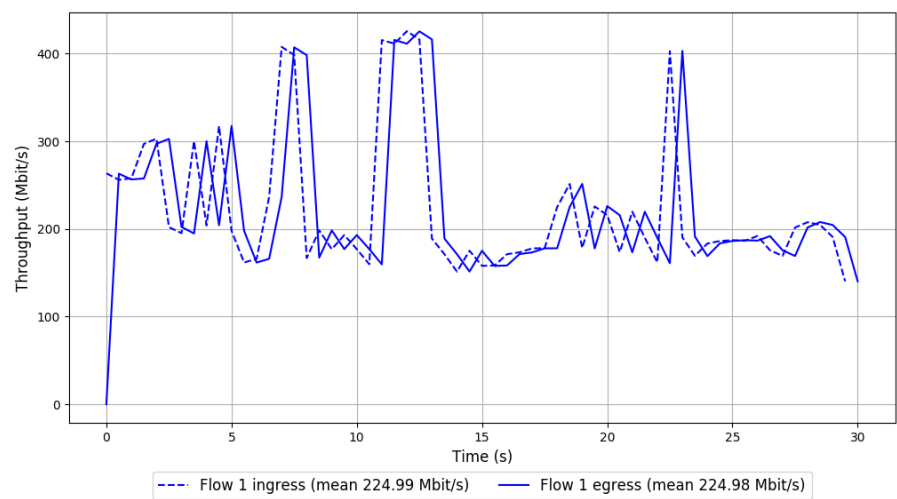


Run 2: Statistics of Indigo

Start at: 2018-10-09 18:21:51
End at: 2018-10-09 18:22:21
Local clock offset: -19.869 ms
Remote clock offset: -1.11 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 224.98 Mbit/s
95th percentile per-packet one-way delay: 0.657 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 224.98 Mbit/s
95th percentile per-packet one-way delay: 0.657 ms
Loss rate: 0.00%

Run 2: Report of Indigo — Data Link

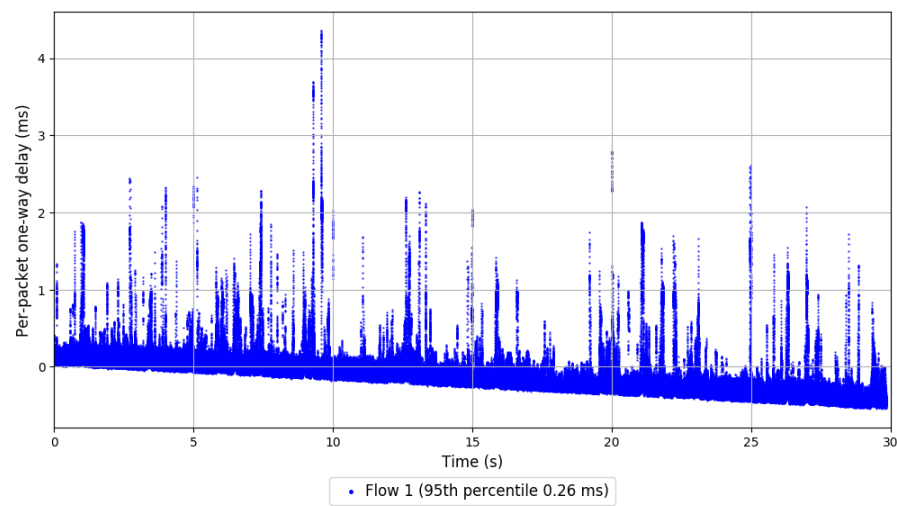
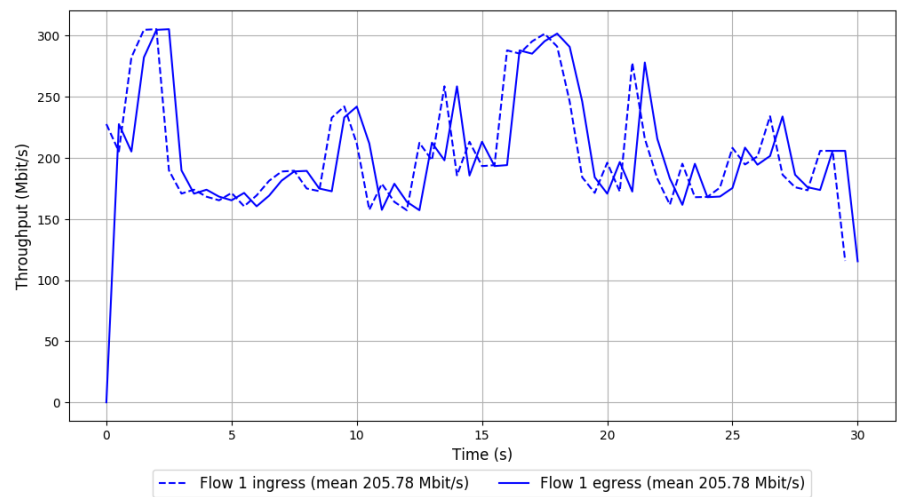


Run 3: Statistics of Indigo

Start at: 2018-10-09 18:47:46
End at: 2018-10-09 18:48:16
Local clock offset: -31.393 ms
Remote clock offset: -0.549 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 205.78 Mbit/s
95th percentile per-packet one-way delay: 0.261 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 205.78 Mbit/s
95th percentile per-packet one-way delay: 0.261 ms
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

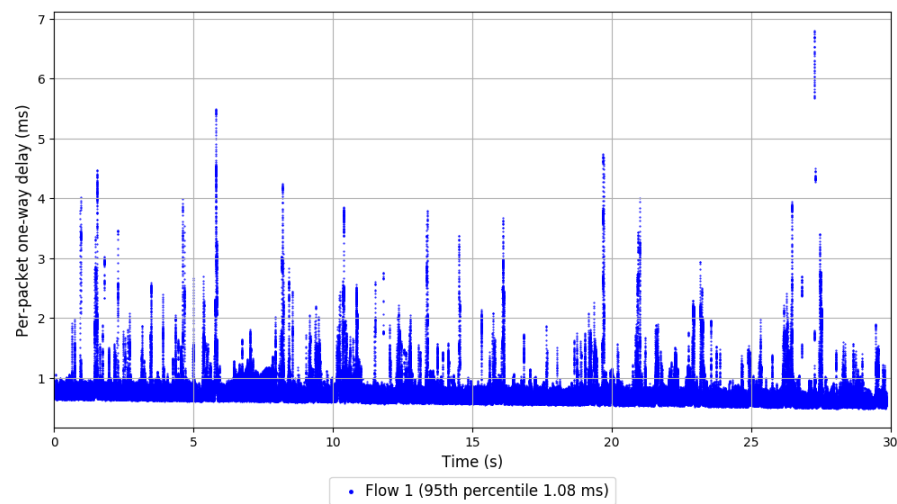
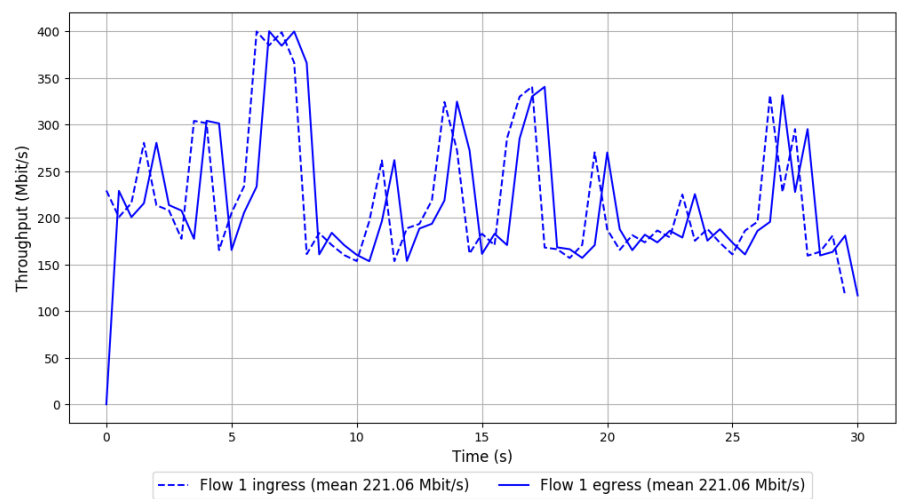


Run 4: Statistics of Indigo

Start at: 2018-10-09 19:13:30
End at: 2018-10-09 19:14:00
Local clock offset: -20.956 ms
Remote clock offset: 0.08 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 221.06 Mbit/s
95th percentile per-packet one-way delay: 1.080 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 221.06 Mbit/s
95th percentile per-packet one-way delay: 1.080 ms
Loss rate: 0.00%

Run 4: Report of Indigo — Data Link

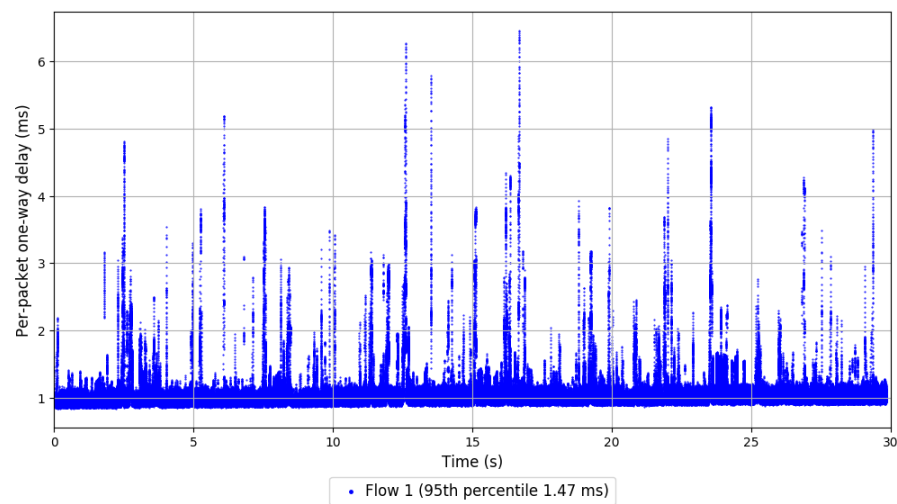
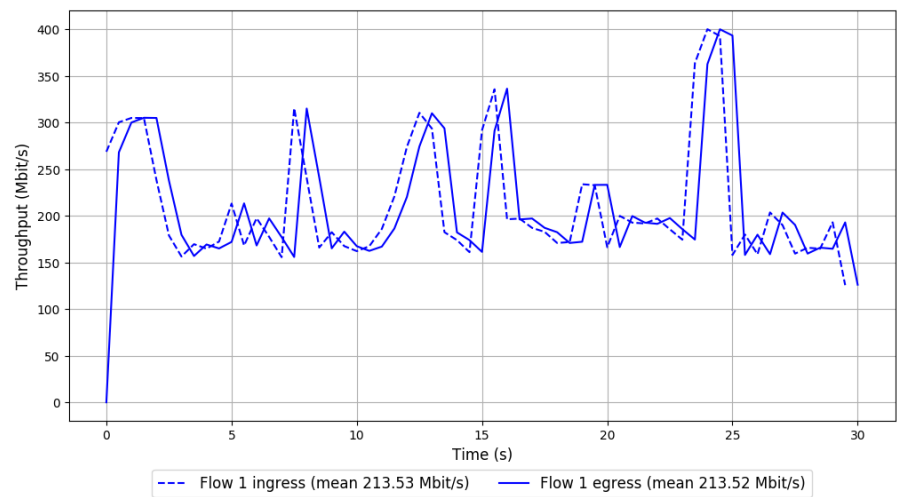


Run 5: Statistics of Indigo

Start at: 2018-10-09 19:39:11
End at: 2018-10-09 19:39:41
Local clock offset: -12.858 ms
Remote clock offset: 0.012 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 213.52 Mbit/s
95th percentile per-packet one-way delay: 1.465 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 213.52 Mbit/s
95th percentile per-packet one-way delay: 1.465 ms
Loss rate: 0.01%

Run 5: Report of Indigo — Data Link

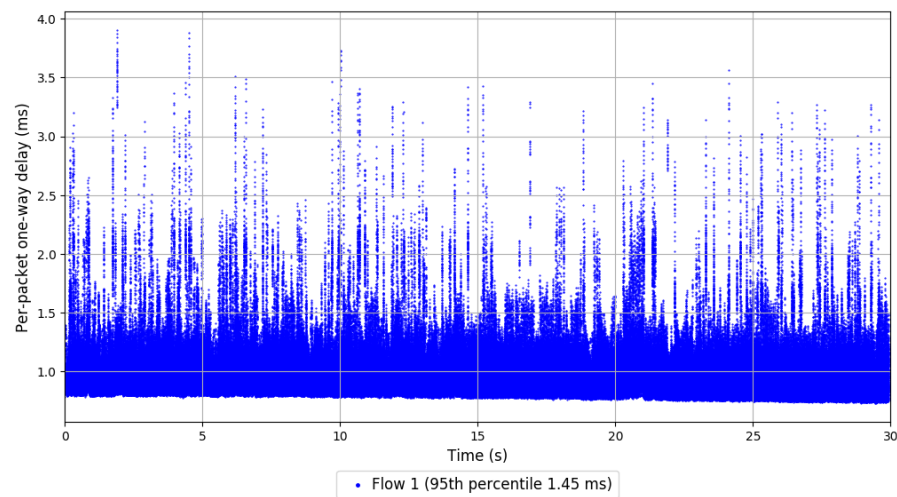
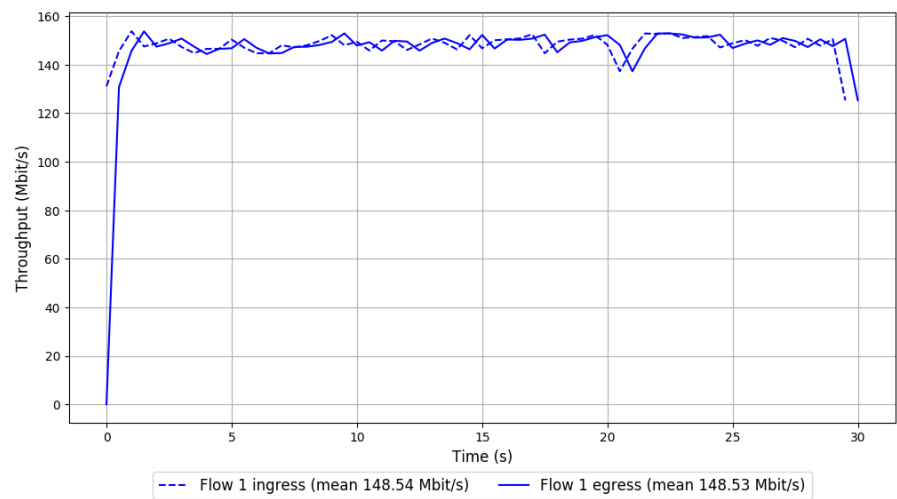


Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-09 18:16:08
End at: 2018-10-09 18:16:38
Local clock offset: -16.18 ms
Remote clock offset: -0.912 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 148.53 Mbit/s
95th percentile per-packet one-way delay: 1.451 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 148.53 Mbit/s
95th percentile per-packet one-way delay: 1.451 ms
Loss rate: 0.01%

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

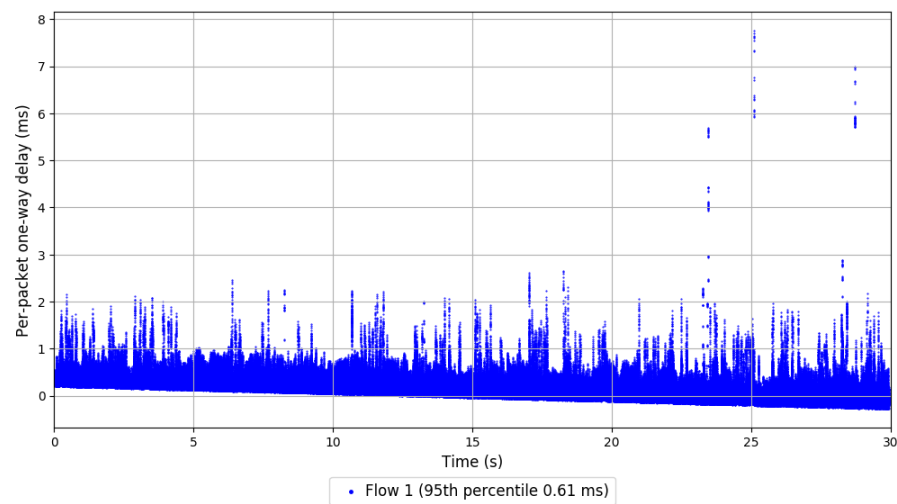
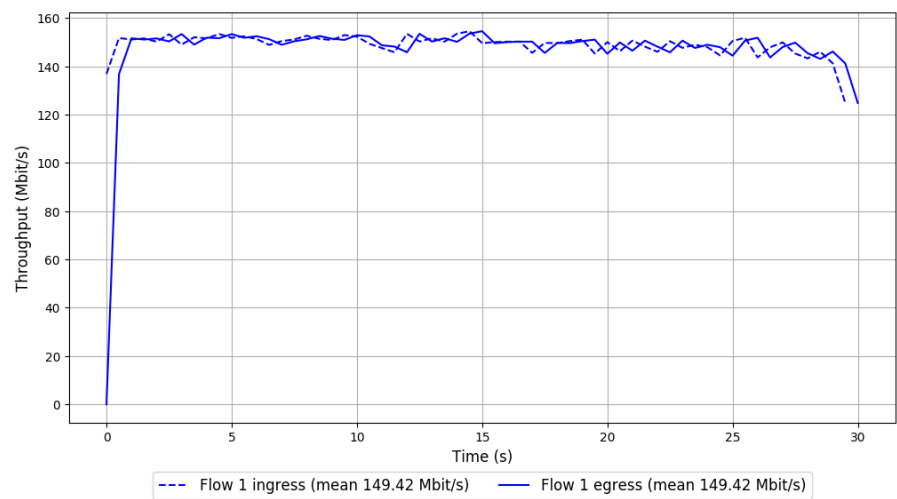


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-09 18:42:04
End at: 2018-10-09 18:42:34
Local clock offset: -25.56 ms
Remote clock offset: -0.573 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 149.42 Mbit/s
95th percentile per-packet one-way delay: 0.606 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 149.42 Mbit/s
95th percentile per-packet one-way delay: 0.606 ms
Loss rate: 0.00%

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

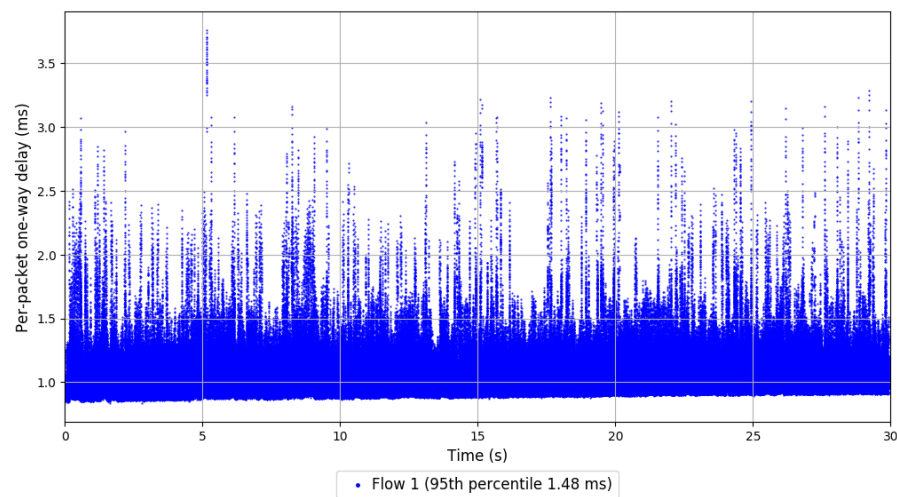
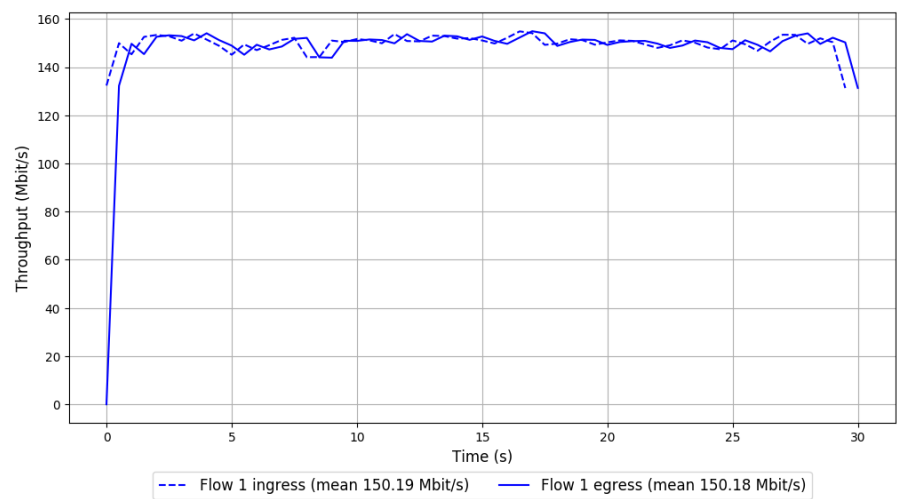


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-09 19:07:46
End at: 2018-10-09 19:08:16
Local clock offset: -20.742 ms
Remote clock offset: -0.11 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 150.18 Mbit/s
95th percentile per-packet one-way delay: 1.483 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 150.18 Mbit/s
95th percentile per-packet one-way delay: 1.483 ms
Loss rate: 0.00%

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

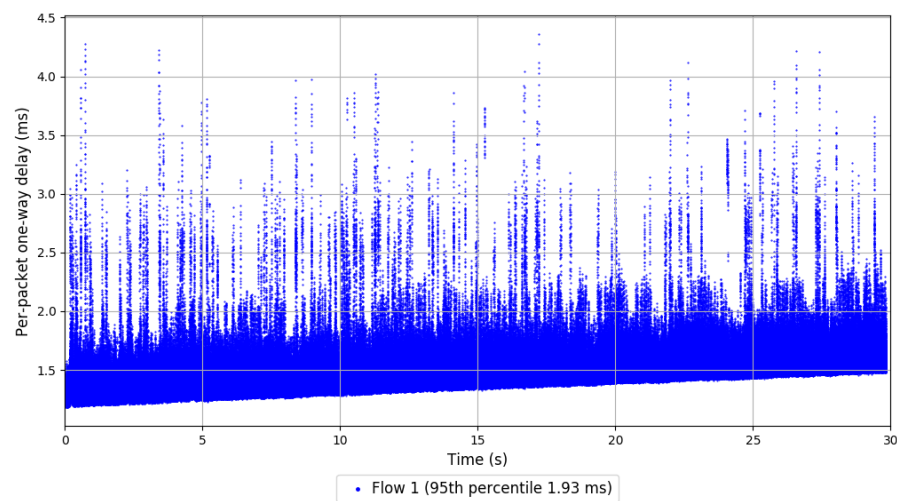
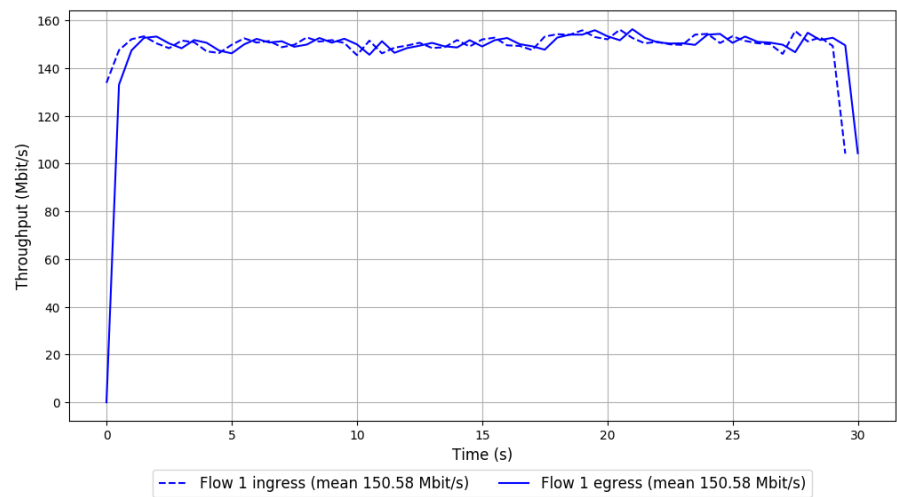


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-09 19:33:29
End at: 2018-10-09 19:33:59
Local clock offset: -14.993 ms
Remote clock offset: 0.124 ms

Below is generated by plot.py at 2018-10-09 20:28:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 150.58 Mbit/s
95th percentile per-packet one-way delay: 1.933 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 150.58 Mbit/s
95th percentile per-packet one-way delay: 1.933 ms
Loss rate: 0.00%

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

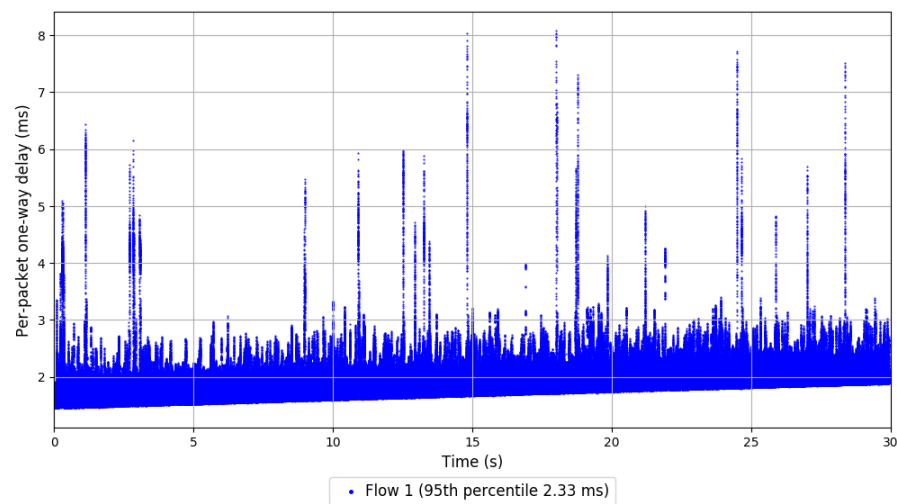
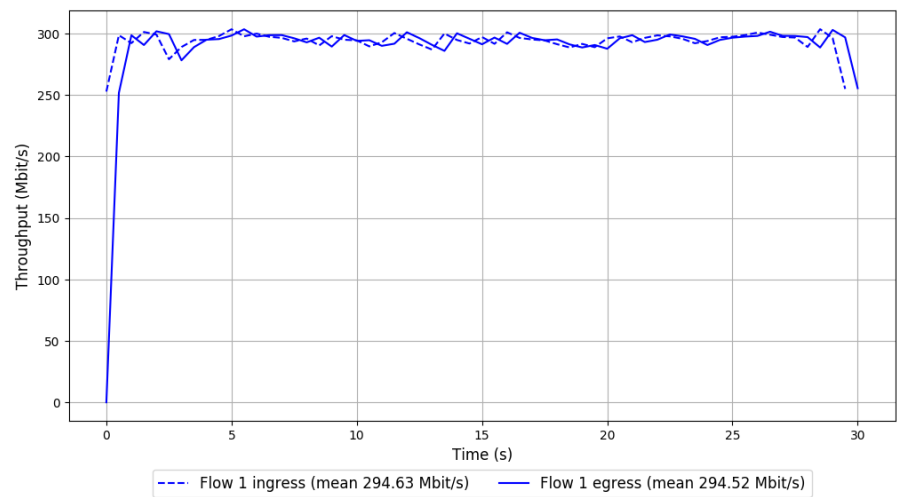


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-09 19:59:19
End at: 2018-10-09 19:59:49
Local clock offset: -10.188 ms
Remote clock offset: -0.329 ms

Below is generated by plot.py at 2018-10-09 20:31:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 294.52 Mbit/s
95th percentile per-packet one-way delay: 2.334 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 294.52 Mbit/s
95th percentile per-packet one-way delay: 2.334 ms
Loss rate: 0.03%

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

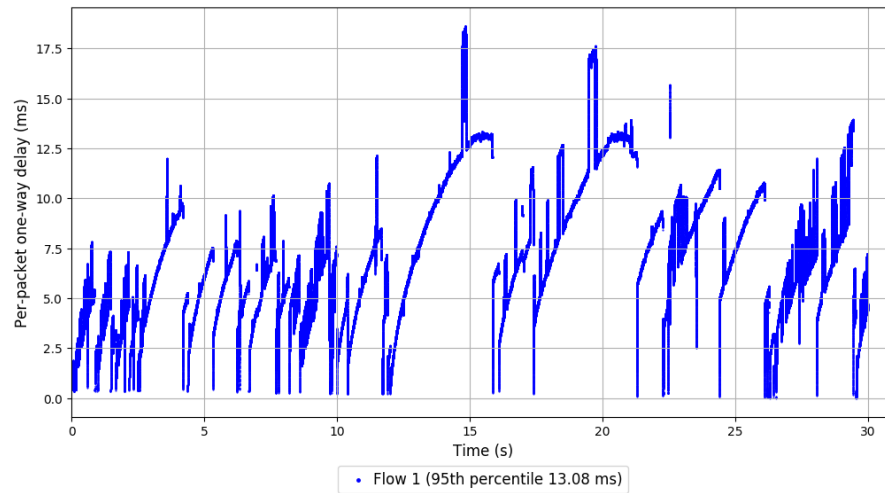
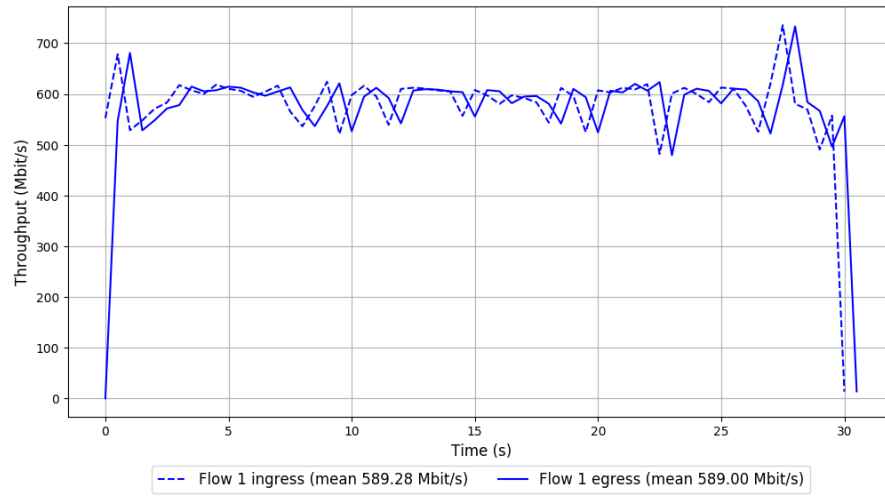


```
Run 1: Statistics of LEDBAT

Start at: 2018-10-09 18:18:50
End at: 2018-10-09 18:19:20
Local clock offset: -16.972 ms
Remote clock offset: -1.008 ms

# Below is generated by plot.py at 2018-10-09 20:35:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 589.00 Mbit/s
95th percentile per-packet one-way delay: 13.077 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 589.00 Mbit/s
95th percentile per-packet one-way delay: 13.077 ms
Loss rate: 0.05%
```

Run 1: Report of LEDBAT — Data Link

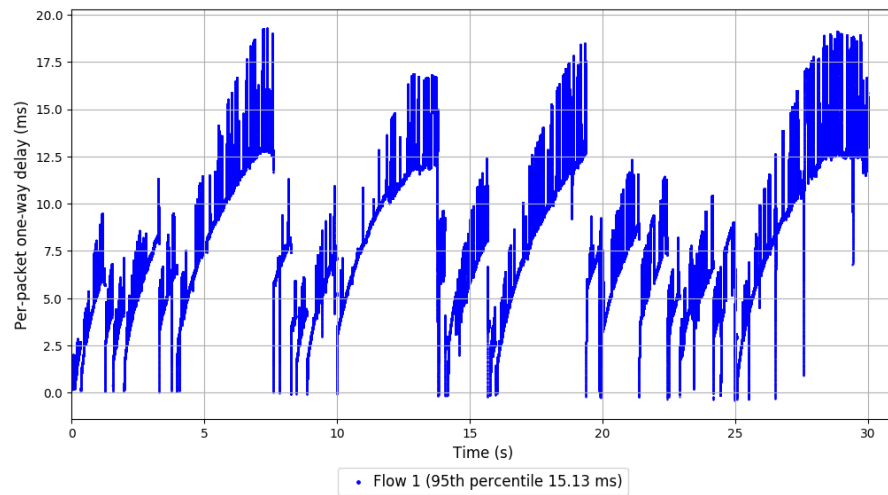
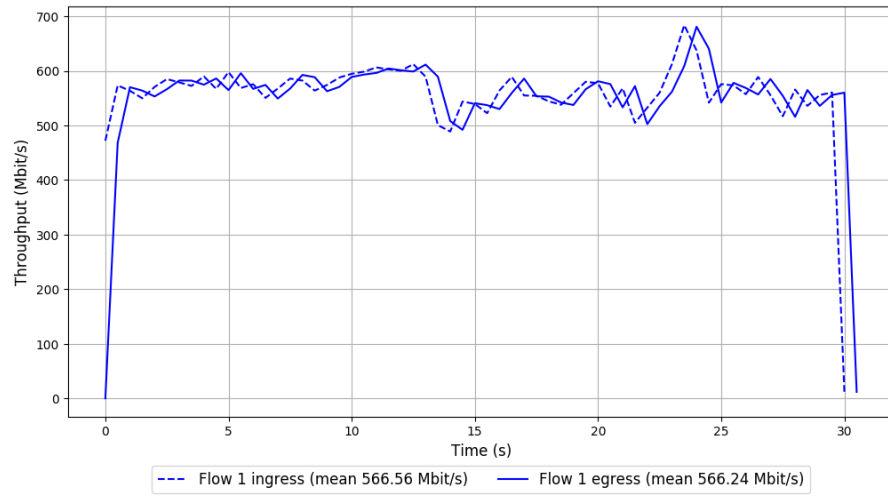


Run 2: Statistics of LEDBAT

Start at: 2018-10-09 18:44:46
End at: 2018-10-09 18:45:16
Local clock offset: -28.07 ms
Remote clock offset: -0.496 ms

Below is generated by plot.py at 2018-10-09 20:35:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 566.24 Mbit/s
95th percentile per-packet one-way delay: 15.127 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 566.24 Mbit/s
95th percentile per-packet one-way delay: 15.127 ms
Loss rate: 0.06%

Run 2: Report of LEDBAT — Data Link

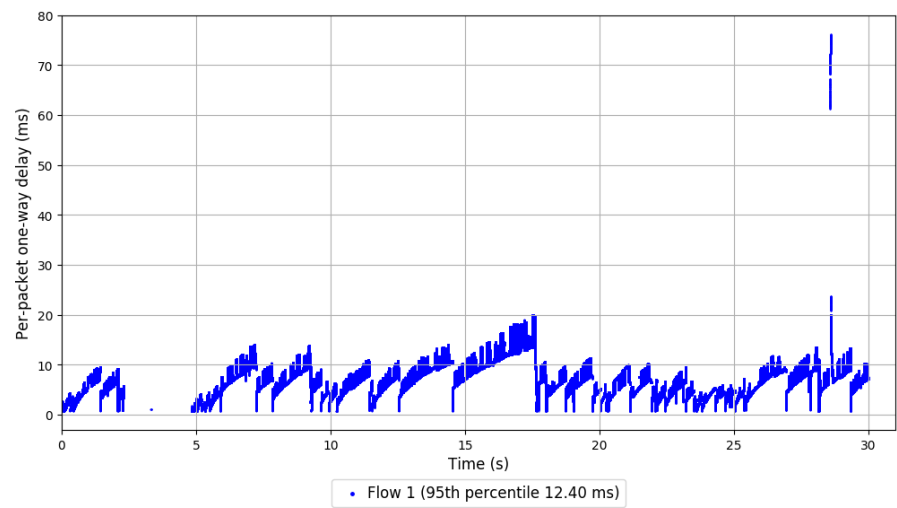
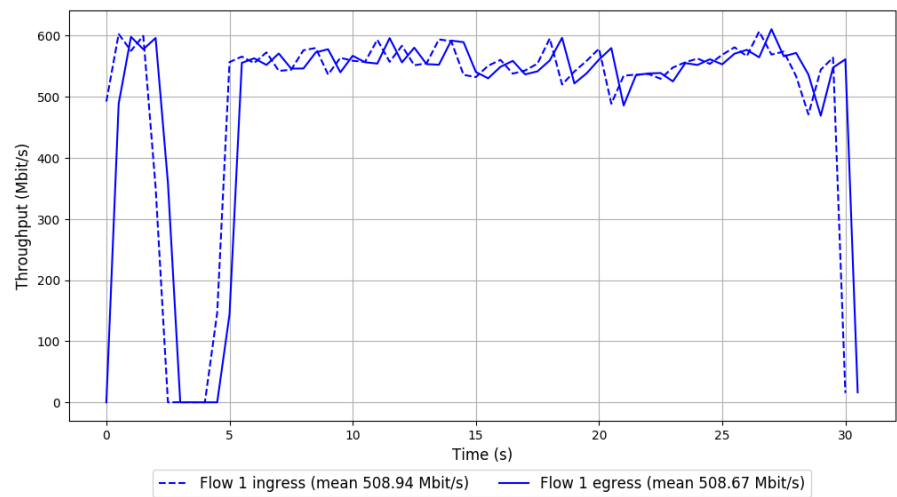


Run 3: Statistics of LEDBAT

Start at: 2018-10-09 19:10:27
End at: 2018-10-09 19:10:58
Local clock offset: -20.498 ms
Remote clock offset: 0.022 ms

Below is generated by plot.py at 2018-10-09 20:35:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 508.67 Mbit/s
95th percentile per-packet one-way delay: 12.400 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 508.67 Mbit/s
95th percentile per-packet one-way delay: 12.400 ms
Loss rate: 0.05%

Run 3: Report of LEDBAT — Data Link

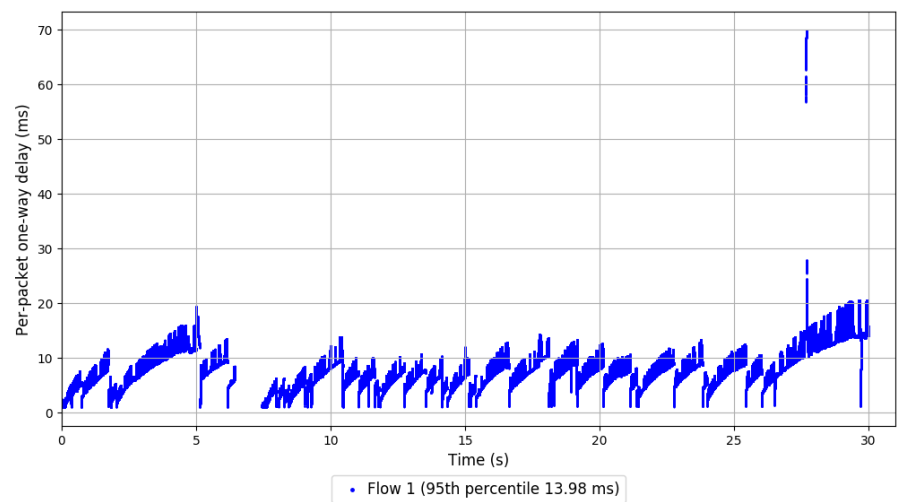
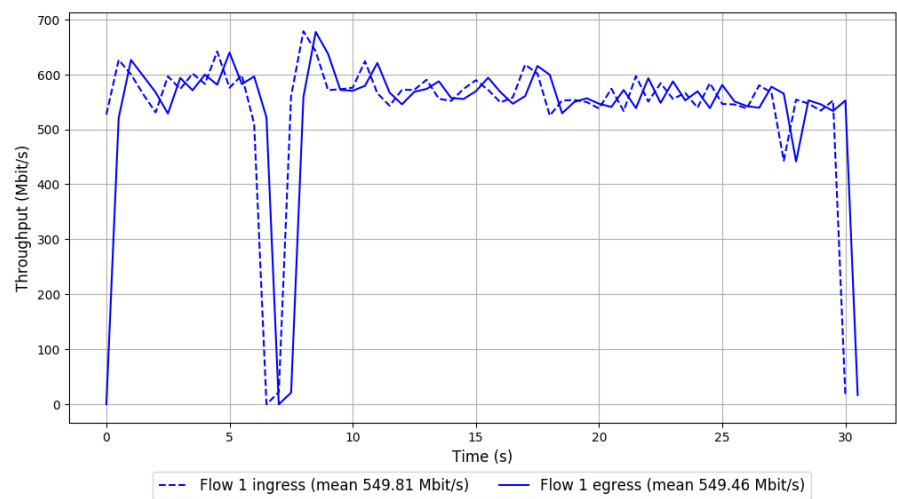


Run 4: Statistics of LEDBAT

Start at: 2018-10-09 19:36:11
End at: 2018-10-09 19:36:41
Local clock offset: -13.597 ms
Remote clock offset: 0.042 ms

Below is generated by plot.py at 2018-10-09 20:35:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 549.46 Mbit/s
95th percentile per-packet one-way delay: 13.984 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 549.46 Mbit/s
95th percentile per-packet one-way delay: 13.984 ms
Loss rate: 0.06%

Run 4: Report of LEDBAT — Data Link

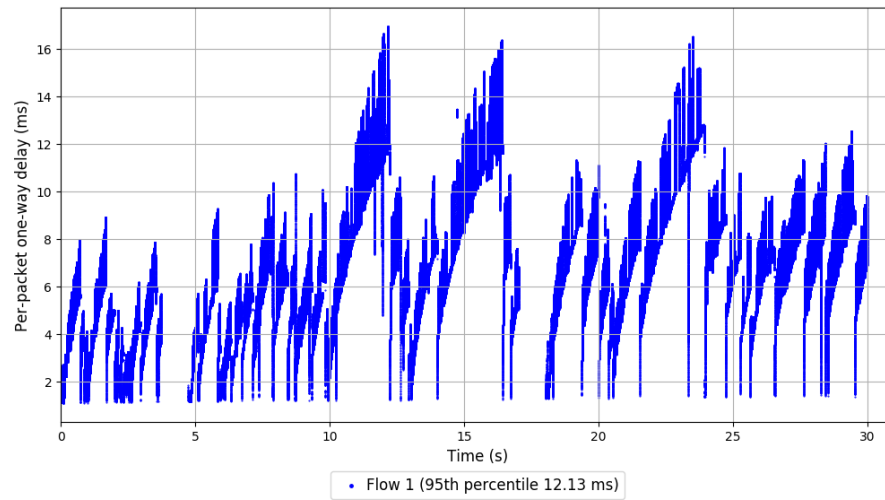
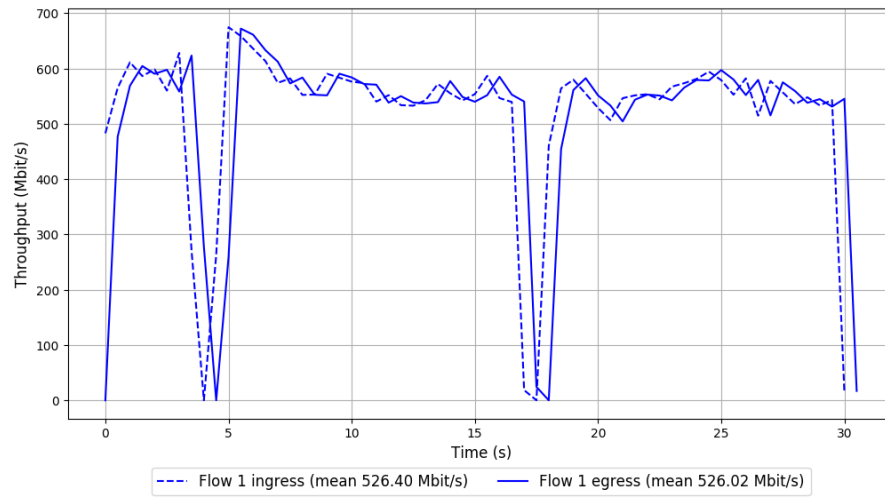


Run 5: Statistics of LEDBAT

Start at: 2018-10-09 20:02:06
End at: 2018-10-09 20:02:36
Local clock offset: -7.825 ms
Remote clock offset: -0.378 ms

Below is generated by plot.py at 2018-10-09 20:35:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 526.02 Mbit/s
95th percentile per-packet one-way delay: 12.128 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 526.02 Mbit/s
95th percentile per-packet one-way delay: 12.128 ms
Loss rate: 0.07%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-10-09 18:00:11

End at: 2018-10-09 18:00:41

Local clock offset: -8.689 ms

Remote clock offset: 0.202 ms

Below is generated by plot.py at 2018-10-09 20:35:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 48.52 Mbit/s

95th percentile per-packet one-way delay: 1.086 ms

Loss rate: 0.01%

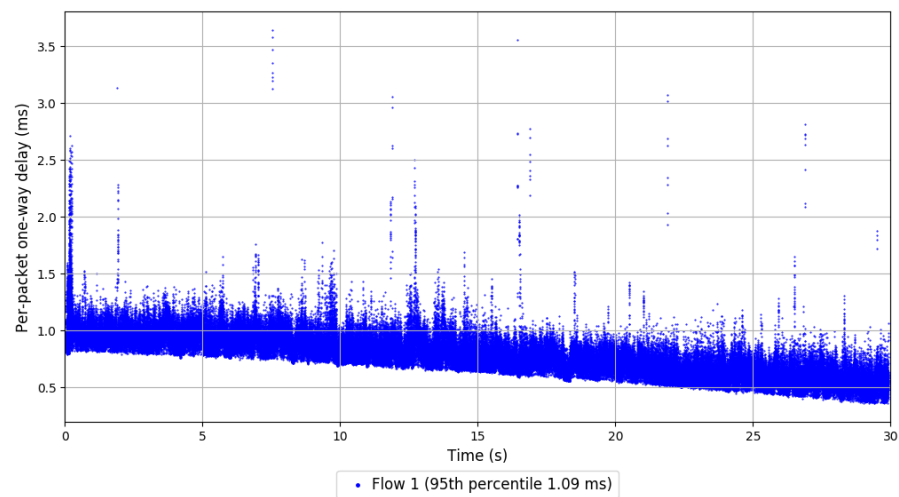
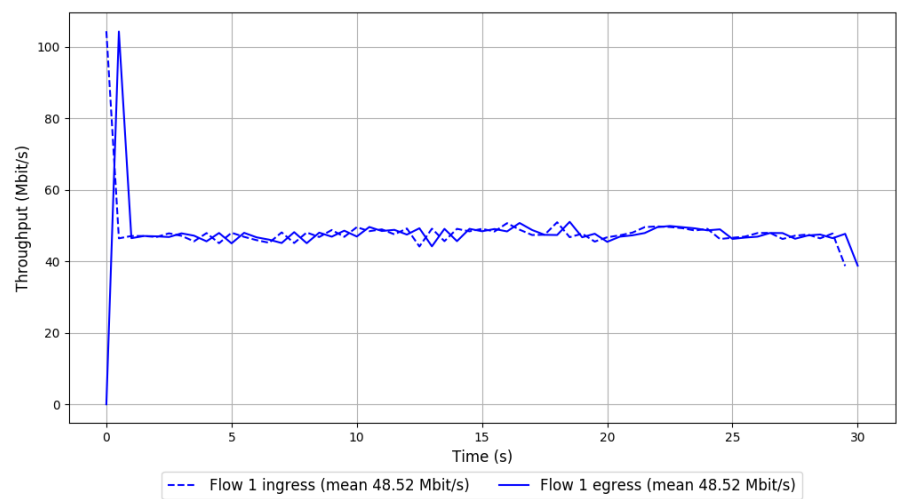
-- Flow 1:

Average throughput: 48.52 Mbit/s

95th percentile per-packet one-way delay: 1.086 ms

Loss rate: 0.01%

Run 1: Report of Indigo-Muses — Data Link

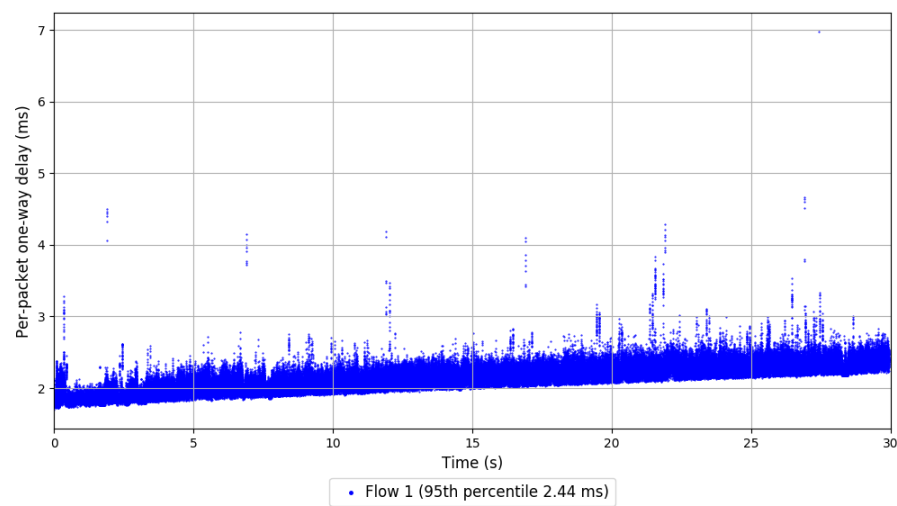
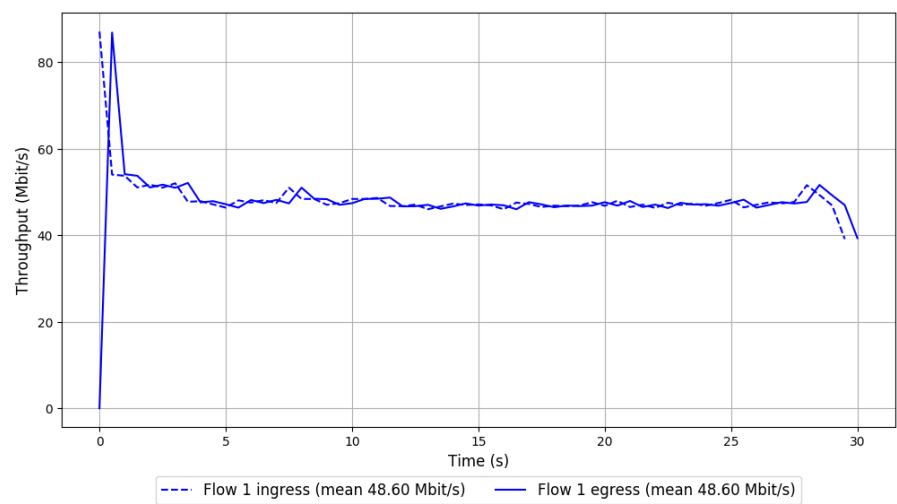


Run 2: Statistics of Indigo-Muses

Start at: 2018-10-09 18:26:01
End at: 2018-10-09 18:26:31
Local clock offset: -23.123 ms
Remote clock offset: -0.943 ms

Below is generated by plot.py at 2018-10-09 20:35:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 48.60 Mbit/s
95th percentile per-packet one-way delay: 2.442 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.60 Mbit/s
95th percentile per-packet one-way delay: 2.442 ms
Loss rate: 0.00%

Run 2: Report of Indigo-Muses — Data Link

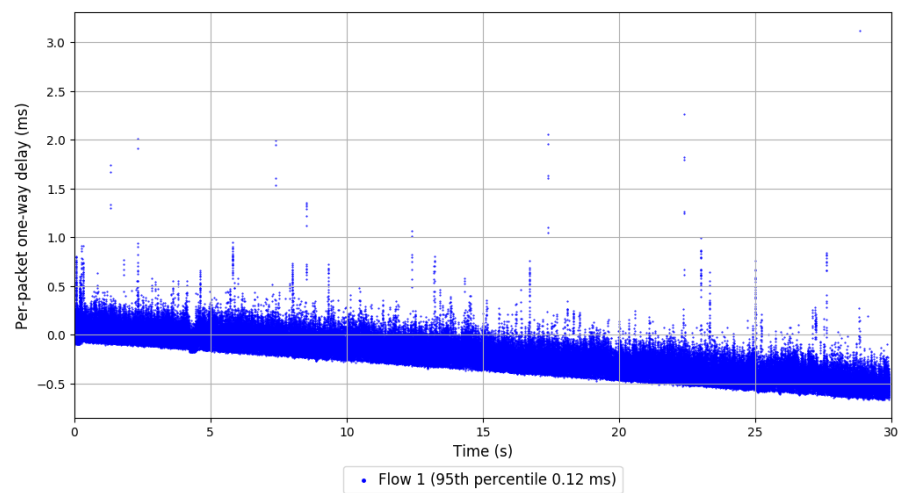
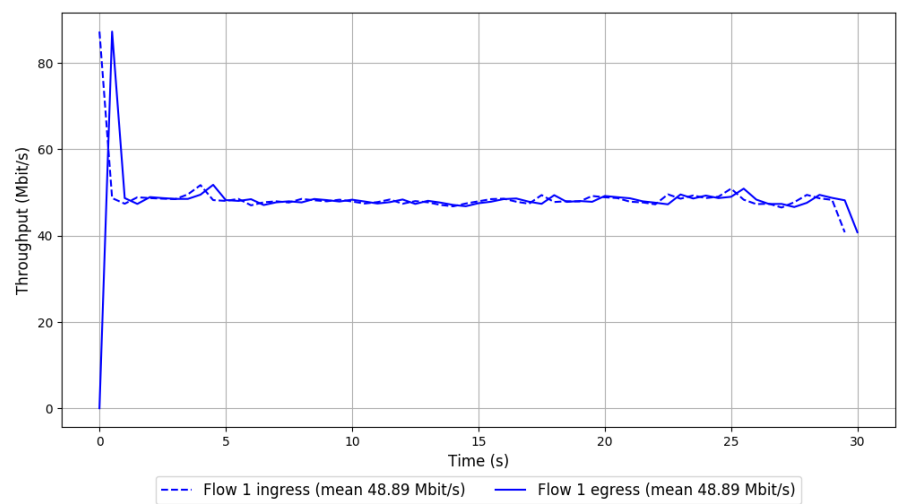


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-09 18:51:55
End at: 2018-10-09 18:52:25
Local clock offset: -36.14 ms
Remote clock offset: -0.543 ms

Below is generated by plot.py at 2018-10-09 20:35:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 48.89 Mbit/s
95th percentile per-packet one-way delay: 0.121 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.89 Mbit/s
95th percentile per-packet one-way delay: 0.121 ms
Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link

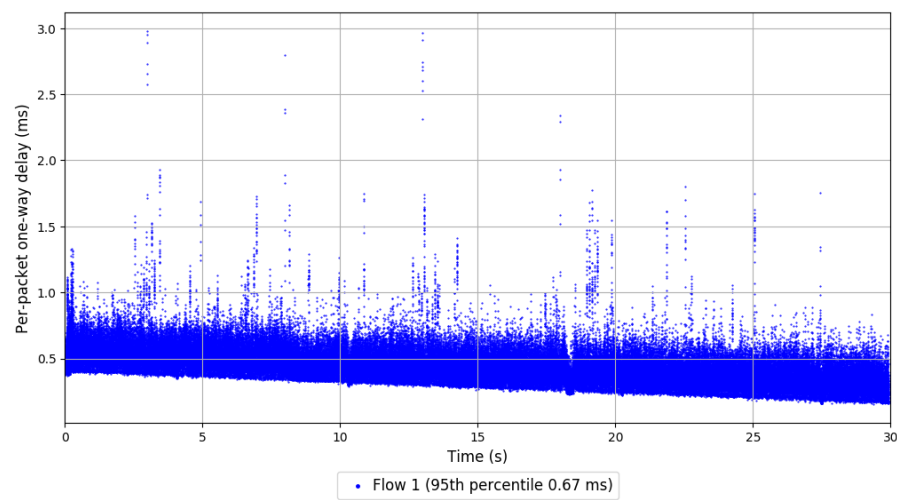
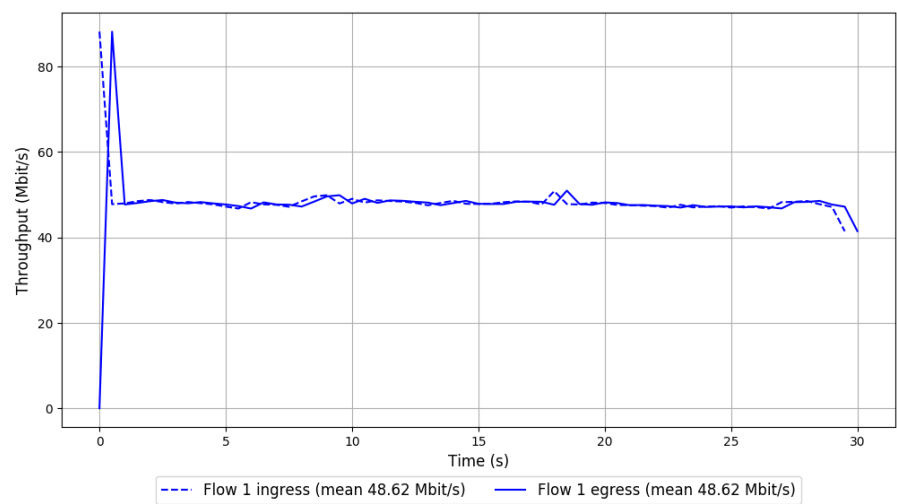


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-09 19:17:41
End at: 2018-10-09 19:18:11
Local clock offset: -22.332 ms
Remote clock offset: 0.093 ms

Below is generated by plot.py at 2018-10-09 20:35:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 48.62 Mbit/s
95th percentile per-packet one-way delay: 0.672 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.62 Mbit/s
95th percentile per-packet one-way delay: 0.672 ms
Loss rate: 0.00%

Run 4: Report of Indigo-Muses — Data Link

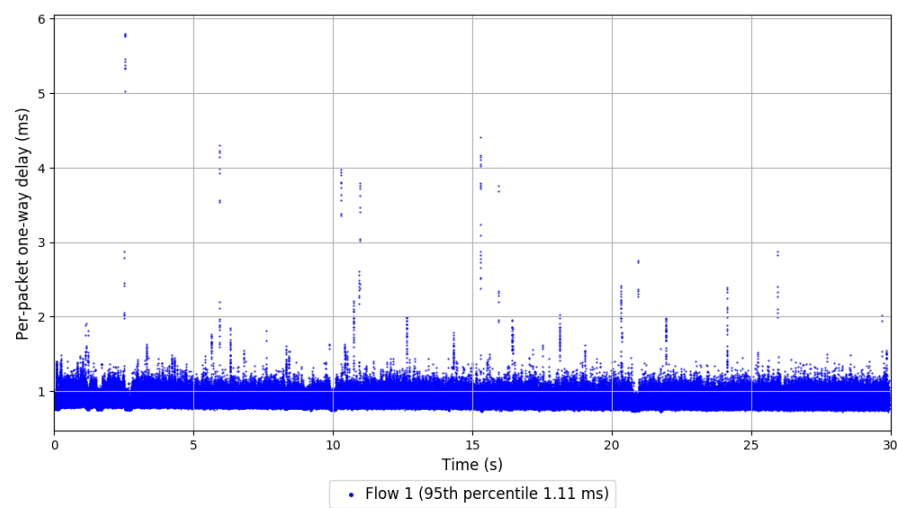
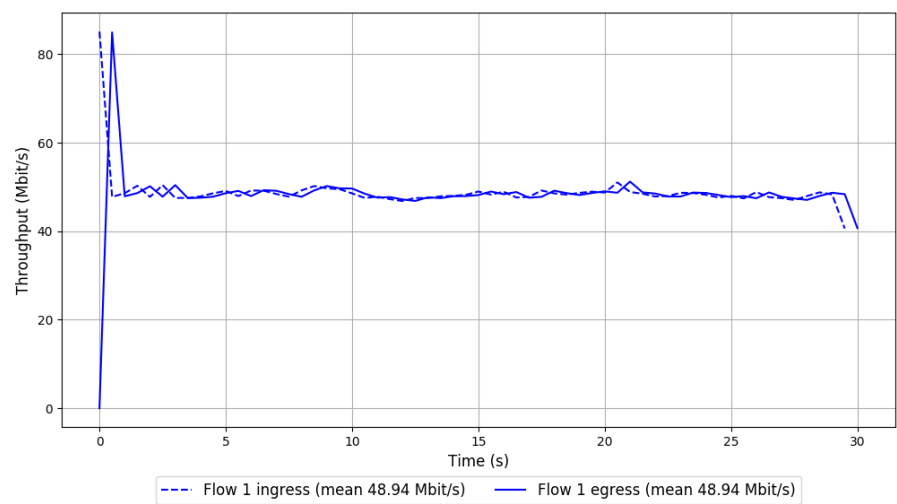


Run 5: Statistics of Indigo-Muses

Start at: 2018-10-09 19:43:19
End at: 2018-10-09 19:43:50
Local clock offset: -12.768 ms
Remote clock offset: -0.042 ms

Below is generated by plot.py at 2018-10-09 20:35:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 48.94 Mbit/s
95th percentile per-packet one-way delay: 1.107 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 48.94 Mbit/s
95th percentile per-packet one-way delay: 1.107 ms
Loss rate: 0.00%

Run 5: Report of Indigo-Muses — Data Link

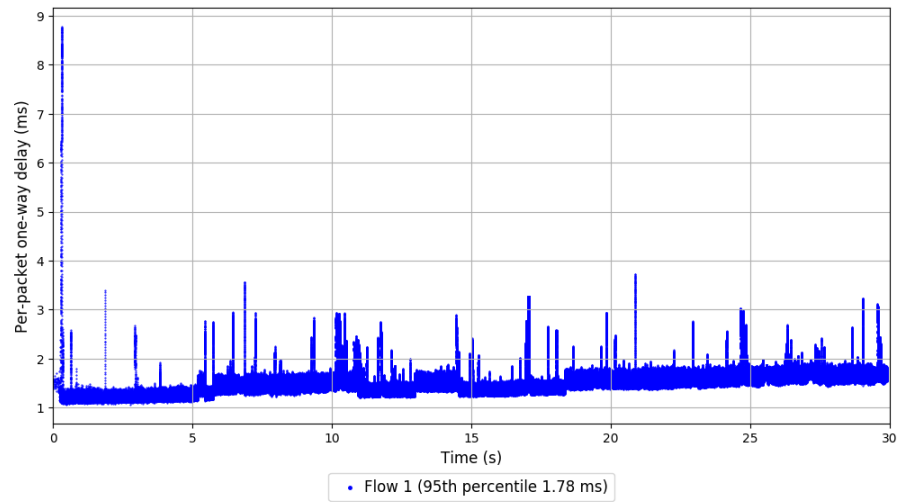
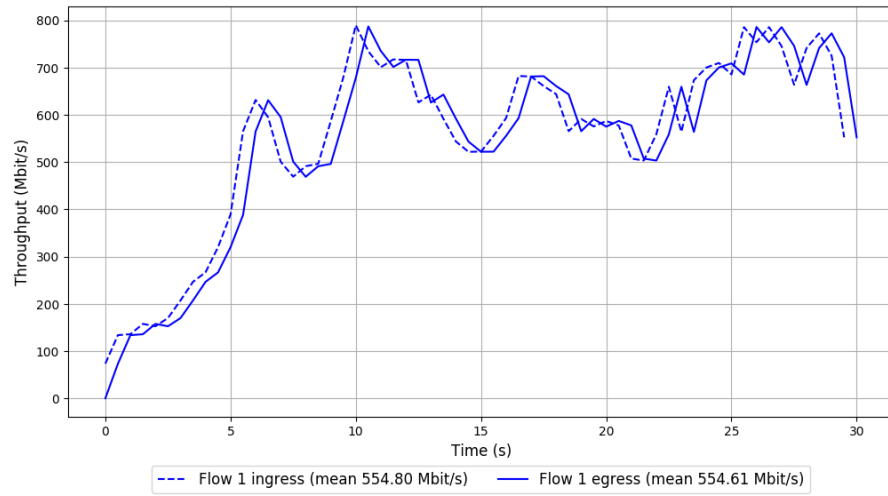


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-09 18:14:37
End at: 2018-10-09 18:15:07
Local clock offset: -16.898 ms
Remote clock offset: -0.92 ms

# Below is generated by plot.py at 2018-10-09 20:36:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 554.61 Mbit/s
95th percentile per-packet one-way delay: 1.783 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 554.61 Mbit/s
95th percentile per-packet one-way delay: 1.783 ms
Loss rate: 0.03%
```

Run 1: Report of PCC-Allegro — Data Link

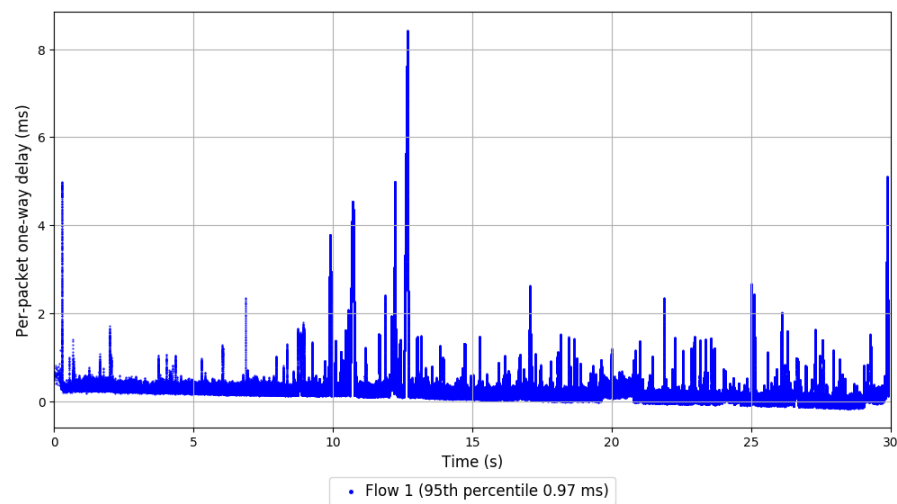
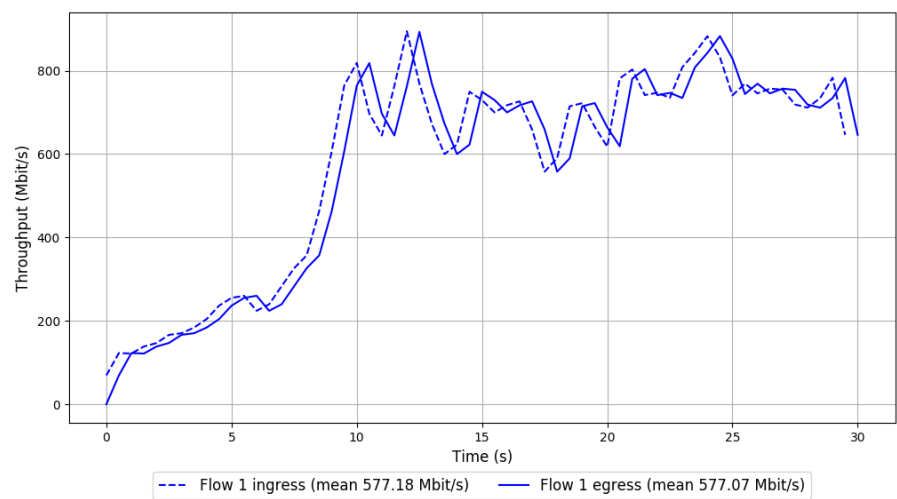


Run 2: Statistics of PCC-Allegro

Start at: 2018-10-09 18:40:33
End at: 2018-10-09 18:41:03
Local clock offset: -24.11 ms
Remote clock offset: -0.481 ms

Below is generated by plot.py at 2018-10-09 20:37:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 577.07 Mbit/s
95th percentile per-packet one-way delay: 0.969 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 577.07 Mbit/s
95th percentile per-packet one-way delay: 0.969 ms
Loss rate: 0.02%

Run 2: Report of PCC-Allegro — Data Link

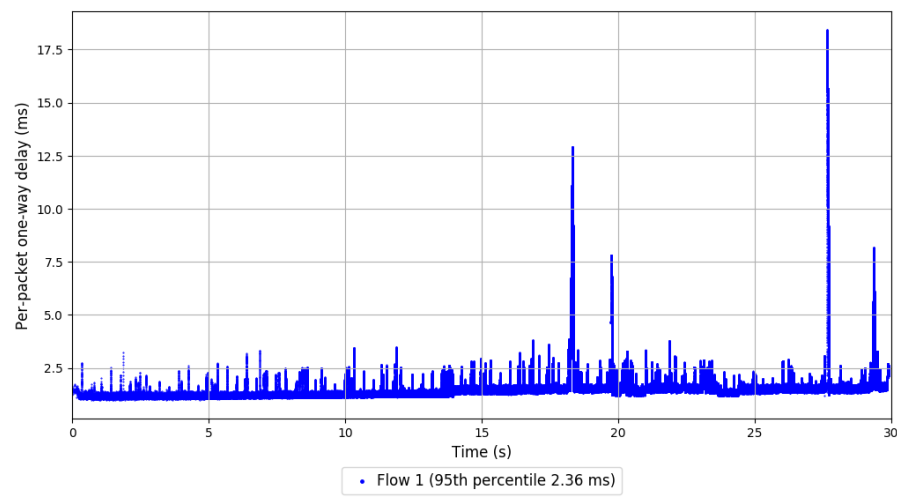
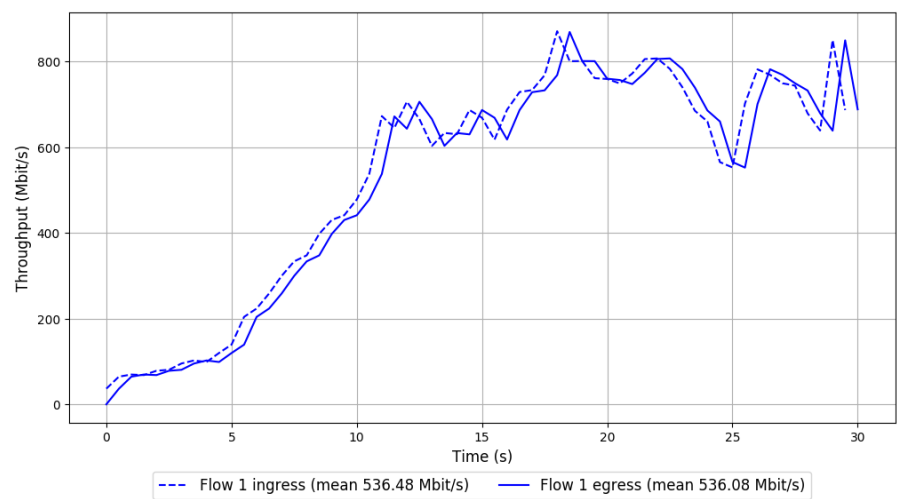


Run 3: Statistics of PCC-Allegro

Start at: 2018-10-09 19:06:16
End at: 2018-10-09 19:06:46
Local clock offset: -21.329 ms
Remote clock offset: -0.144 ms

Below is generated by plot.py at 2018-10-09 20:38:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 536.08 Mbit/s
95th percentile per-packet one-way delay: 2.358 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 536.08 Mbit/s
95th percentile per-packet one-way delay: 2.358 ms
Loss rate: 0.07%

Run 3: Report of PCC-Allegro — Data Link

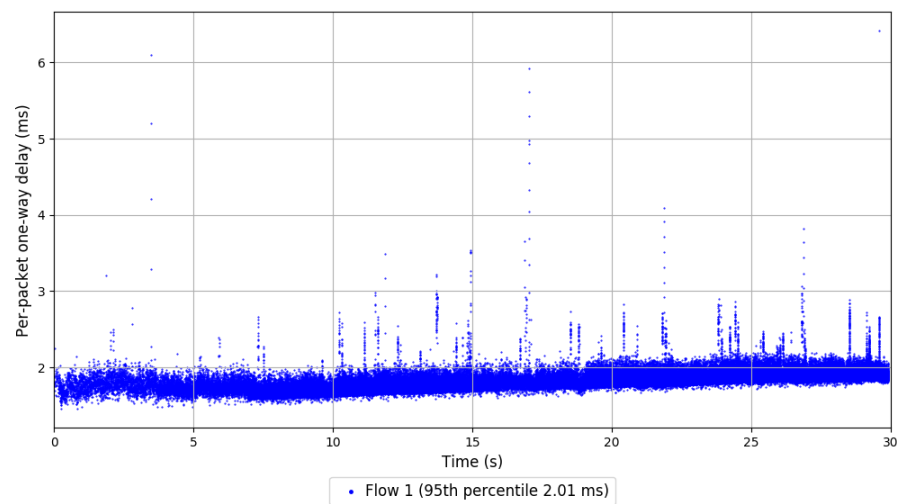
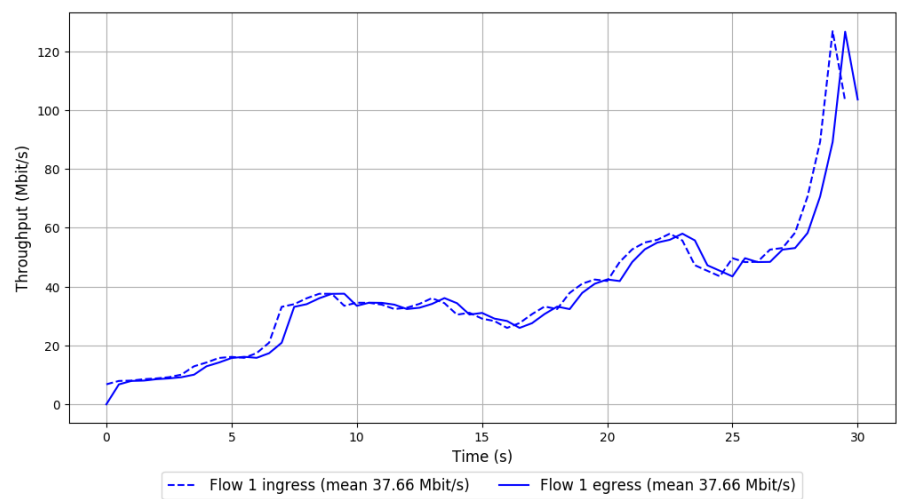


Run 4: Statistics of PCC-Allegro

Start at: 2018-10-09 19:32:11
End at: 2018-10-09 19:32:41
Local clock offset: -16.076 ms
Remote clock offset: 0.223 ms

Below is generated by plot.py at 2018-10-09 20:38:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 37.66 Mbit/s
95th percentile per-packet one-way delay: 2.012 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 37.66 Mbit/s
95th percentile per-packet one-way delay: 2.012 ms
Loss rate: 0.00%

Run 4: Report of PCC-Allegro — Data Link

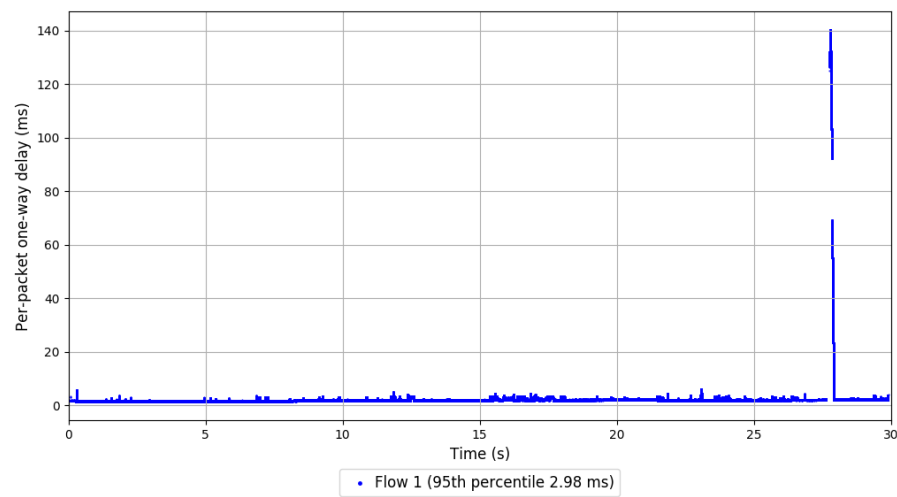
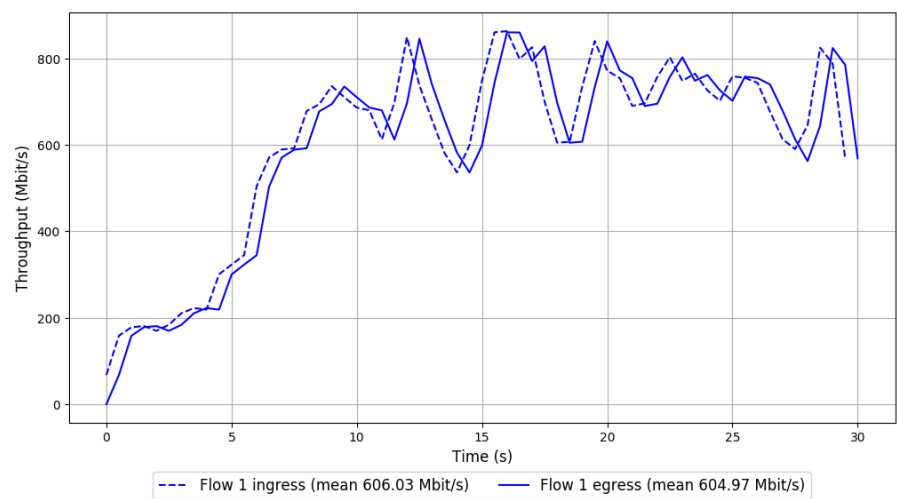


Run 5: Statistics of PCC-Allegro

Start at: 2018-10-09 19:57:47
End at: 2018-10-09 19:58:17
Local clock offset: -11.657 ms
Remote clock offset: -0.384 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 604.97 Mbit/s
95th percentile per-packet one-way delay: 2.983 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 604.97 Mbit/s
95th percentile per-packet one-way delay: 2.983 ms
Loss rate: 0.17%

Run 5: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

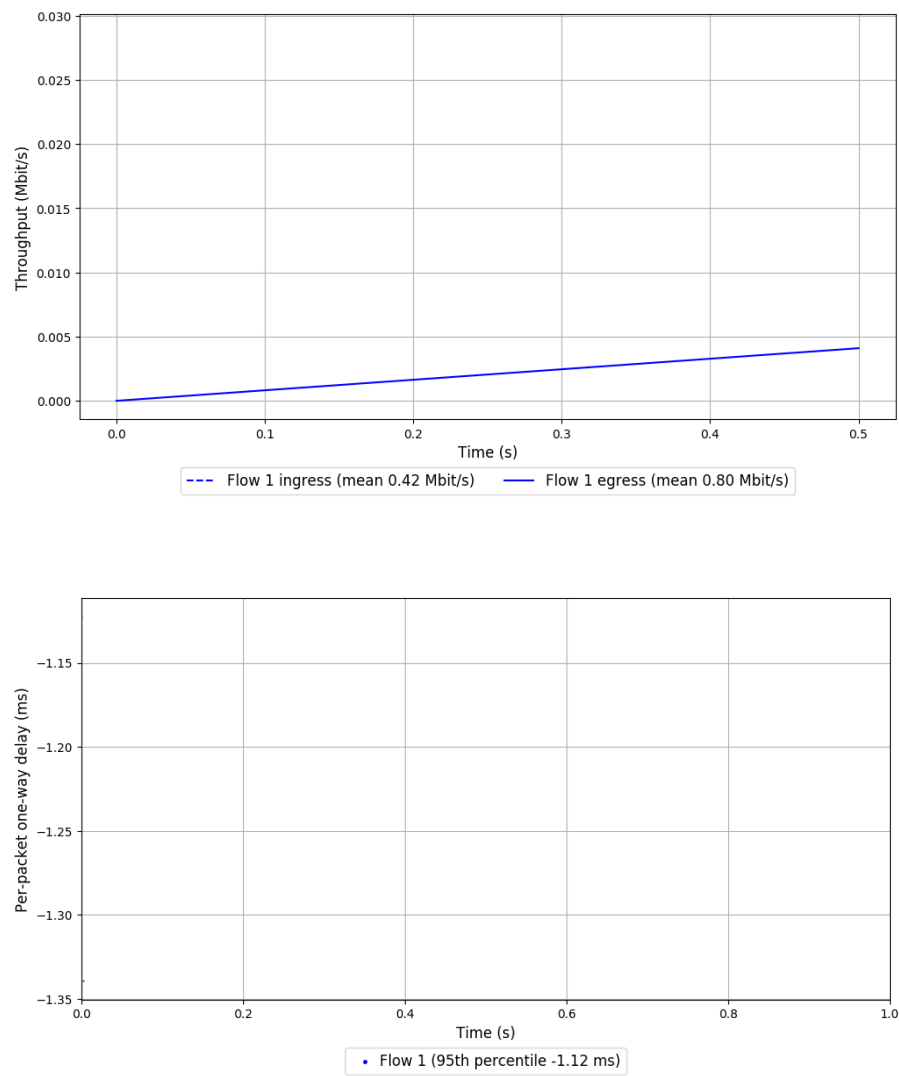
Start at: 2018-10-09 17:58:53

End at: 2018-10-09 17:59:23

Local clock offset: -8.315 ms

Remote clock offset: 0.38 ms

Run 1: Report of PCC-Expr — Data Link

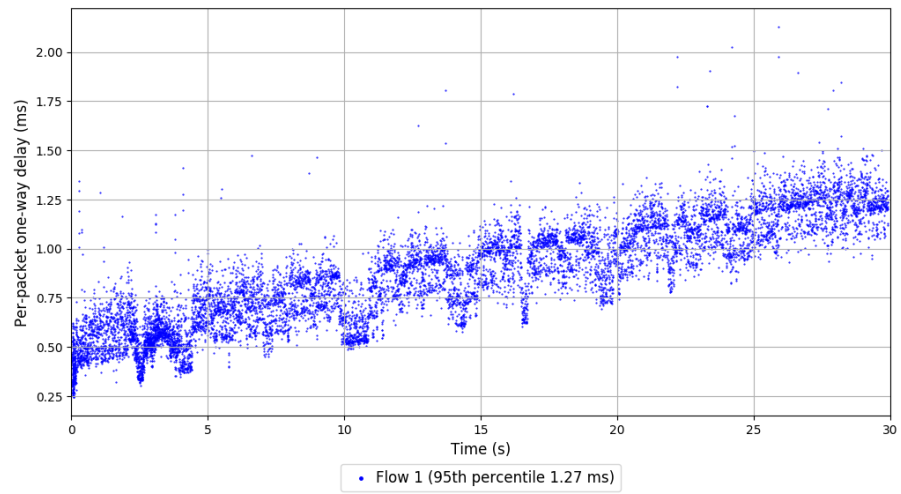
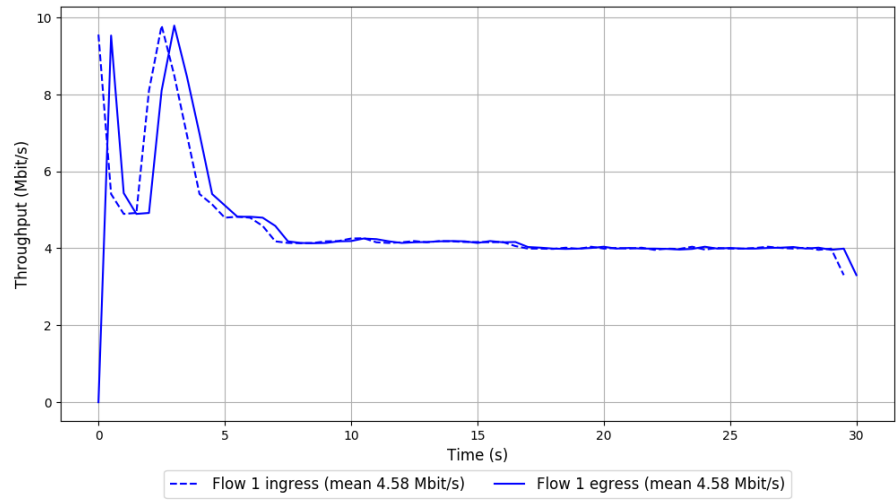


Run 2: Statistics of PCC-Expr

Start at: 2018-10-09 18:24:43
End at: 2018-10-09 18:25:13
Local clock offset: -23.25 ms
Remote clock offset: -1.028 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 1.267 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 1.267 ms
Loss rate: 0.00%

Run 2: Report of PCC-Expr — Data Link

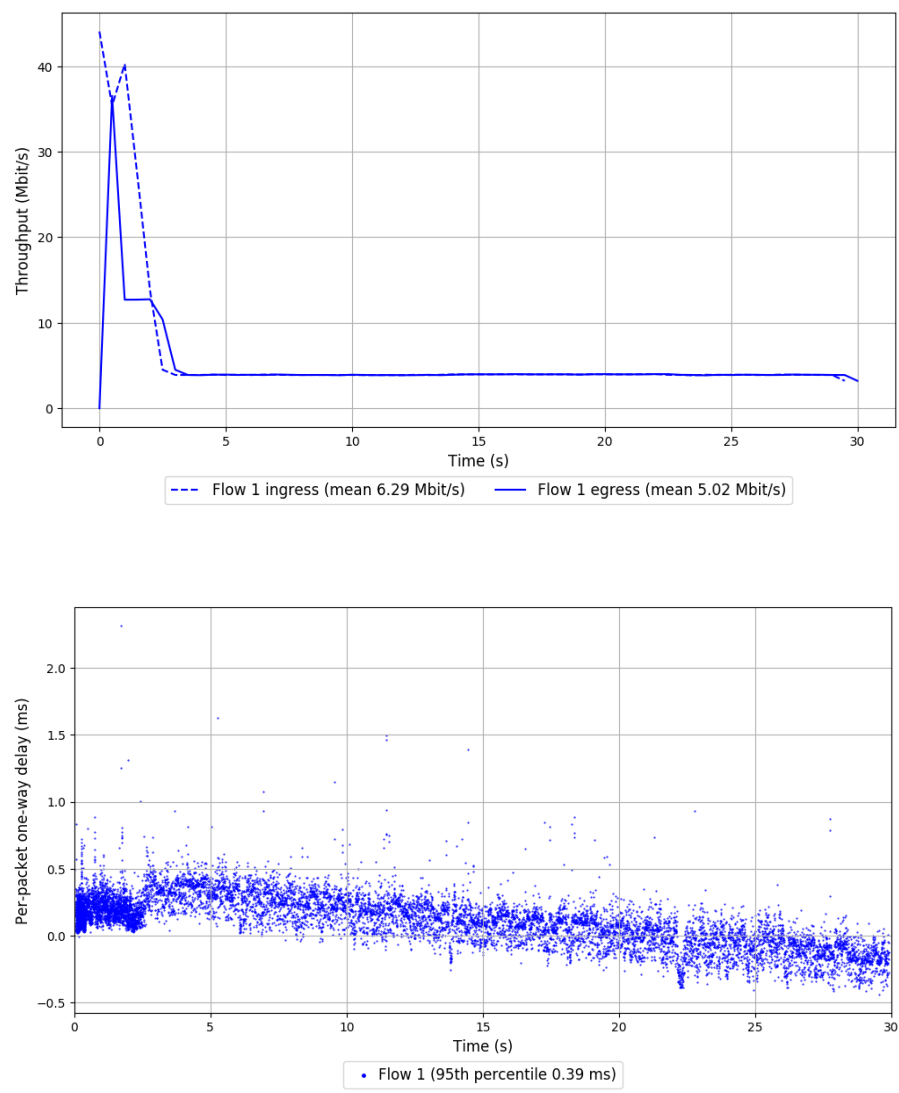


Run 3: Statistics of PCC-Expr

Start at: 2018-10-09 18:50:37
End at: 2018-10-09 18:51:07
Local clock offset: -34.578 ms
Remote clock offset: -0.425 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 0.389 ms
Loss rate: 20.12%
-- Flow 1:
Average throughput: 5.02 Mbit/s
95th percentile per-packet one-way delay: 0.389 ms
Loss rate: 20.12%

Run 3: Report of PCC-Expr — Data Link

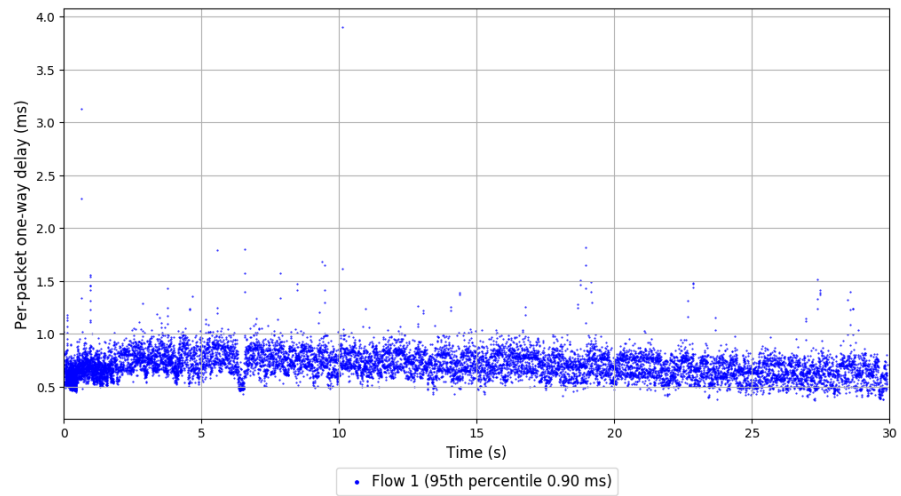
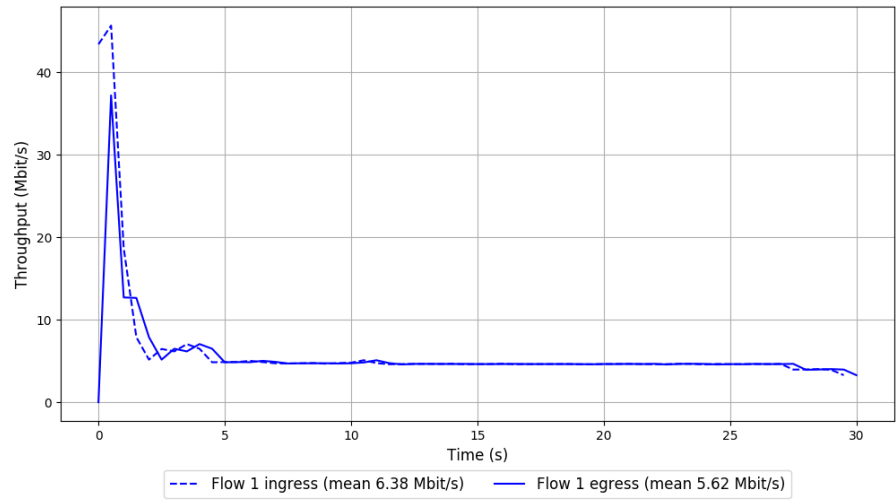


Run 4: Statistics of PCC-Expr

Start at: 2018-10-09 19:16:23
End at: 2018-10-09 19:16:53
Local clock offset: -21.851 ms
Remote clock offset: 0.068 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 0.898 ms
Loss rate: 11.83%
-- Flow 1:
Average throughput: 5.62 Mbit/s
95th percentile per-packet one-way delay: 0.898 ms
Loss rate: 11.83%

Run 4: Report of PCC-Expr — Data Link

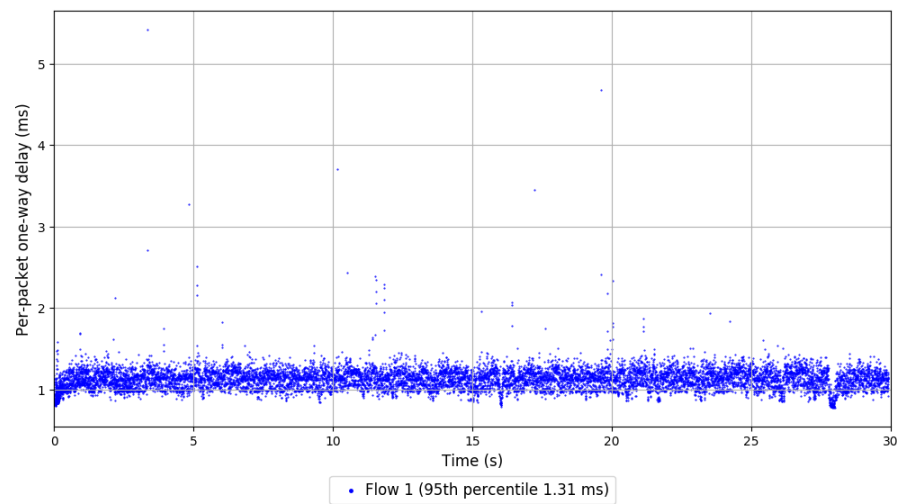
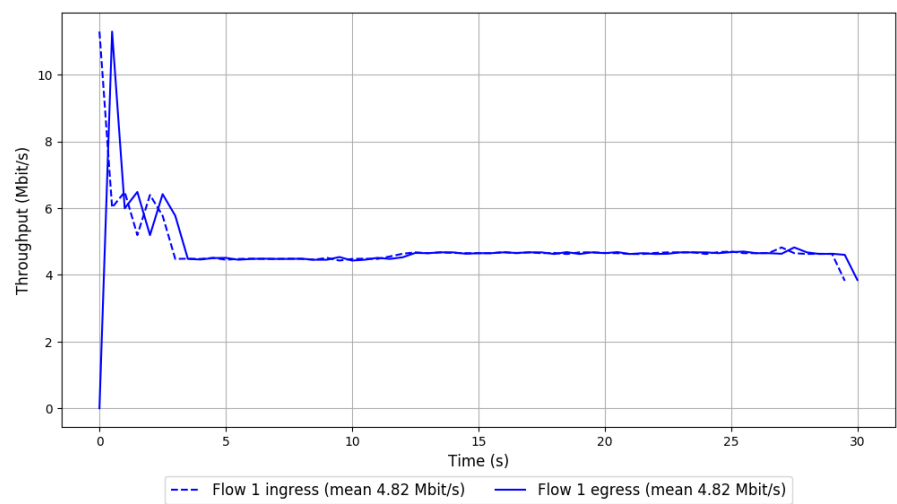


Run 5: Statistics of PCC-Expr

Start at: 2018-10-09 19:42:02
End at: 2018-10-09 19:42:32
Local clock offset: -12.706 ms
Remote clock offset: -0.04 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 1.311 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.82 Mbit/s
95th percentile per-packet one-way delay: 1.311 ms
Loss rate: 0.00%

Run 5: Report of PCC-Expr — Data Link

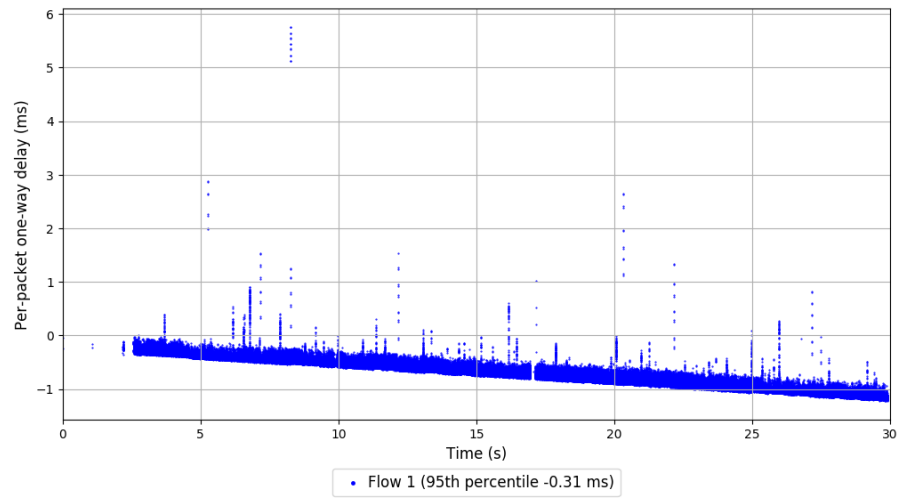
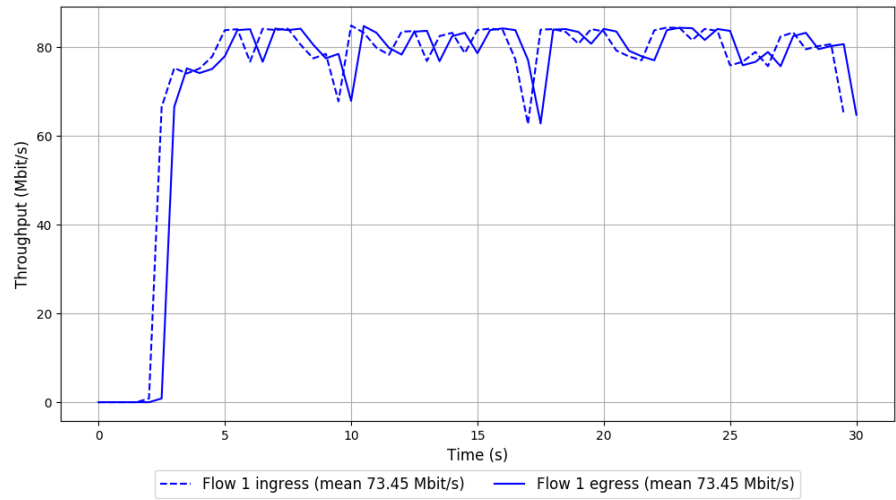


Run 1: Statistics of QUIC Cubic

Start at: 2018-10-09 18:10:16
End at: 2018-10-09 18:10:46
Local clock offset: -17.123 ms
Remote clock offset: -0.698 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 73.45 Mbit/s
95th percentile per-packet one-way delay: -0.313 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 73.45 Mbit/s
95th percentile per-packet one-way delay: -0.313 ms
Loss rate: 0.00%

Run 1: Report of QUIC Cubic — Data Link

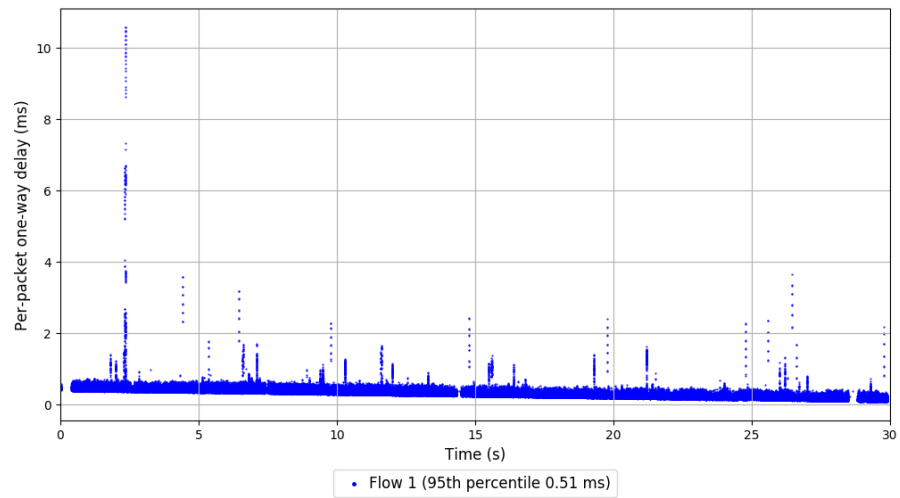
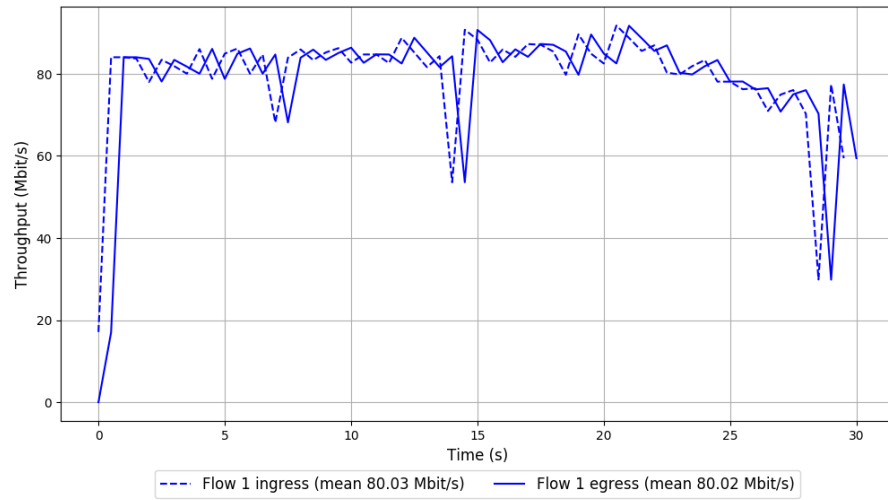


Run 2: Statistics of QUIC Cubic

Start at: 2018-10-09 18:36:06
End at: 2018-10-09 18:36:36
Local clock offset: -20.932 ms
Remote clock offset: -0.552 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 80.02 Mbit/s
95th percentile per-packet one-way delay: 0.509 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 80.02 Mbit/s
95th percentile per-packet one-way delay: 0.509 ms
Loss rate: 0.01%

Run 2: Report of QUIC Cubic — Data Link

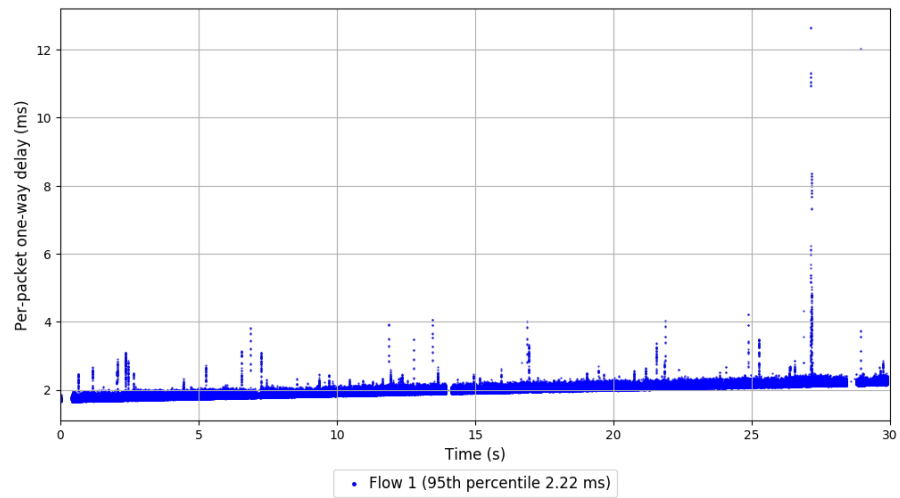
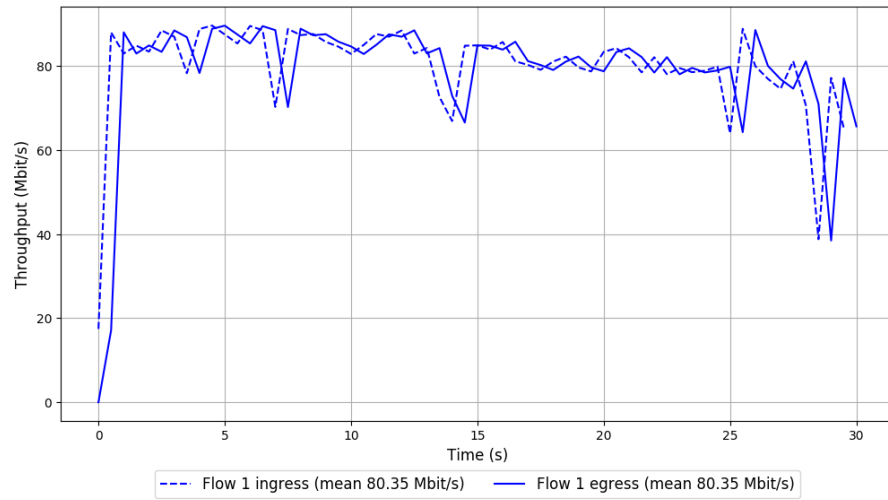


Run 3: Statistics of QUIC Cubic

Start at: 2018-10-09 19:01:56
End at: 2018-10-09 19:02:26
Local clock offset: -24.974 ms
Remote clock offset: -0.363 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 80.35 Mbit/s
95th percentile per-packet one-way delay: 2.223 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 80.35 Mbit/s
95th percentile per-packet one-way delay: 2.223 ms
Loss rate: 0.00%

Run 3: Report of QUIC Cubic — Data Link

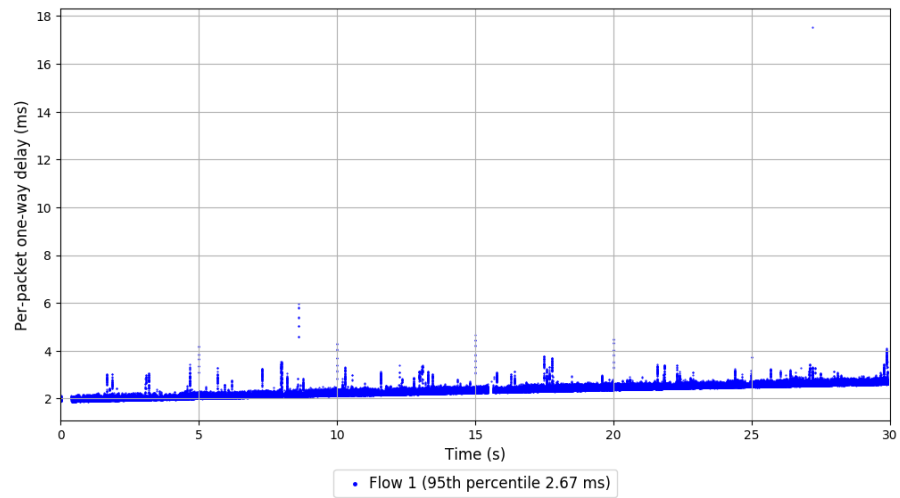
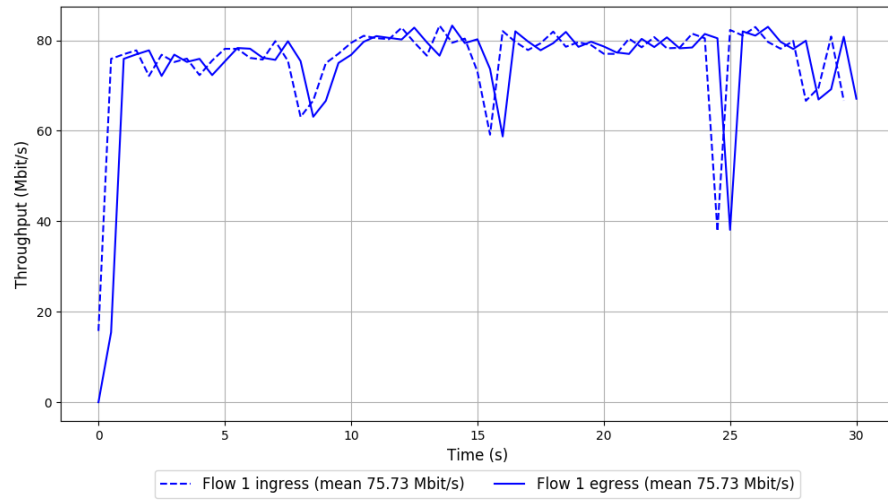


Run 4: Statistics of QUIC Cubic

Start at: 2018-10-09 19:27:51
End at: 2018-10-09 19:28:21
Local clock offset: -21.363 ms
Remote clock offset: 0.127 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 75.73 Mbit/s
95th percentile per-packet one-way delay: 2.668 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 75.73 Mbit/s
95th percentile per-packet one-way delay: 2.668 ms
Loss rate: 0.00%

Run 4: Report of QUIC Cubic — Data Link

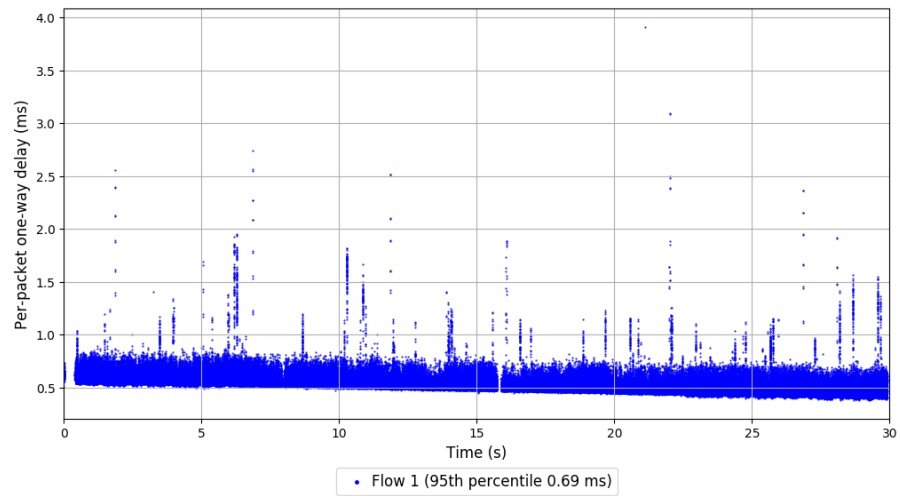
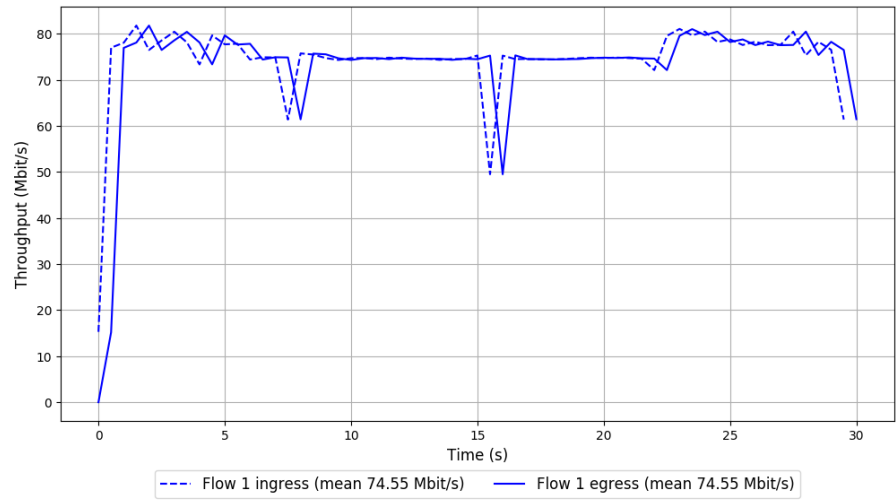


Run 5: Statistics of QUIC Cubic

Start at: 2018-10-09 19:53:29
End at: 2018-10-09 19:53:59
Local clock offset: -14.918 ms
Remote clock offset: -0.321 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 74.55 Mbit/s
95th percentile per-packet one-way delay: 0.687 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 74.55 Mbit/s
95th percentile per-packet one-way delay: 0.687 ms
Loss rate: 0.00%

Run 5: Report of QUIC Cubic — Data Link

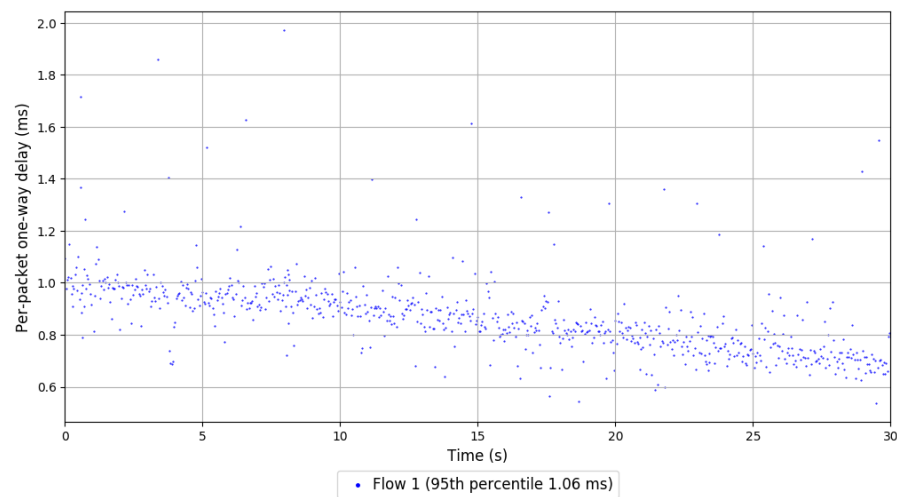
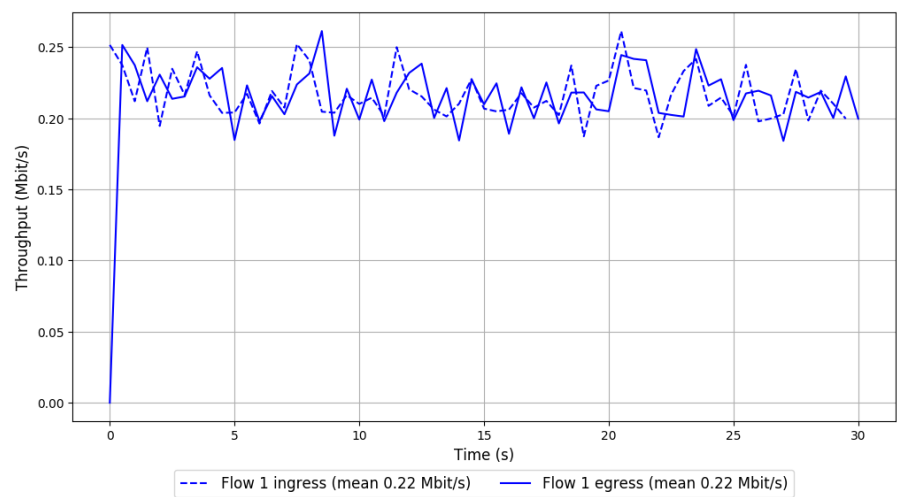


```
Run 1: Statistics of SCReAM

Start at: 2018-10-09 18:05:56
End at: 2018-10-09 18:06:26
Local clock offset: -11.632 ms
Remote clock offset: -0.333 ms

# Below is generated by plot.py at 2018-10-09 20:41:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.061 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.061 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

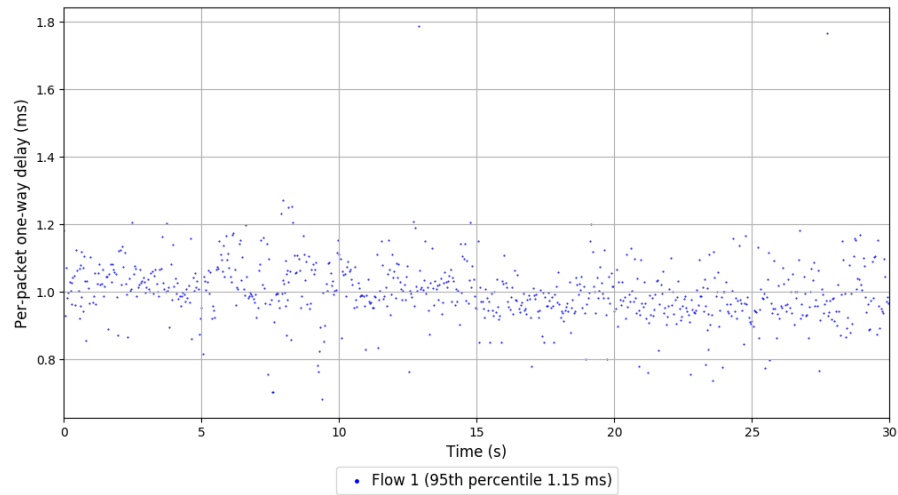
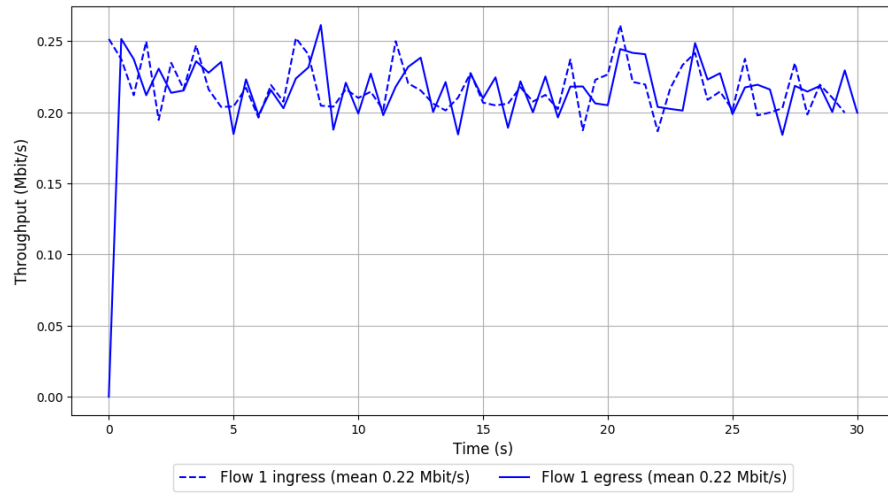


Run 2: Statistics of SCReAM

Start at: 2018-10-09 18:31:50
End at: 2018-10-09 18:32:20
Local clock offset: -19.704 ms
Remote clock offset: -0.741 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.148 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.148 ms
Loss rate: 0.00%

Run 2: Report of SCReAM — Data Link

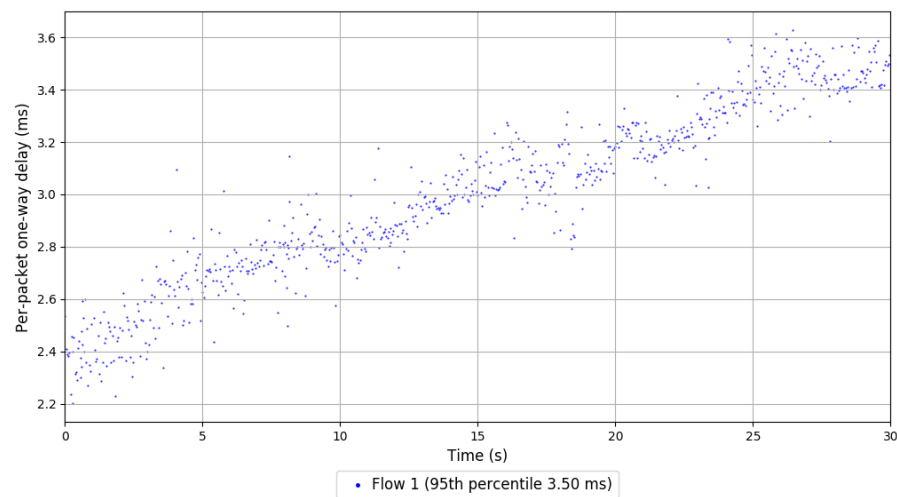
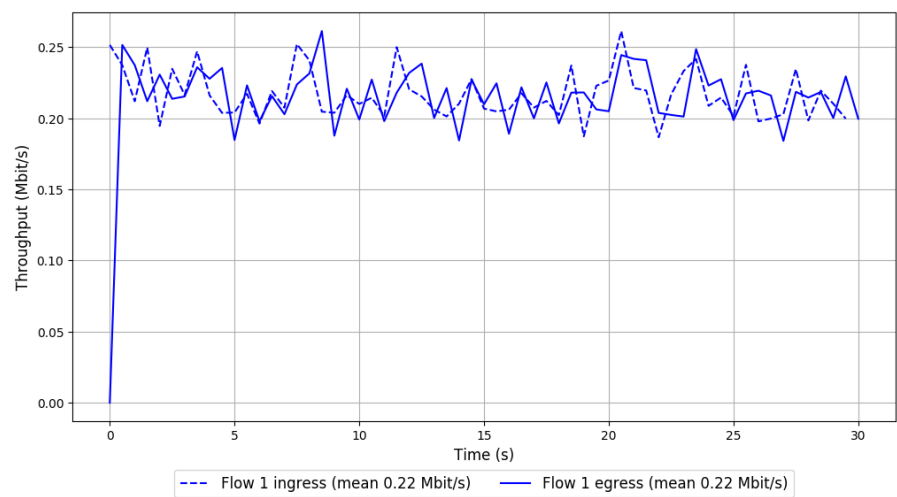


Run 3: Statistics of SCReAM

Start at: 2018-10-09 18:57:41
End at: 2018-10-09 18:58:11
Local clock offset: -32.37 ms
Remote clock offset: -0.541 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.502 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 3.502 ms
Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

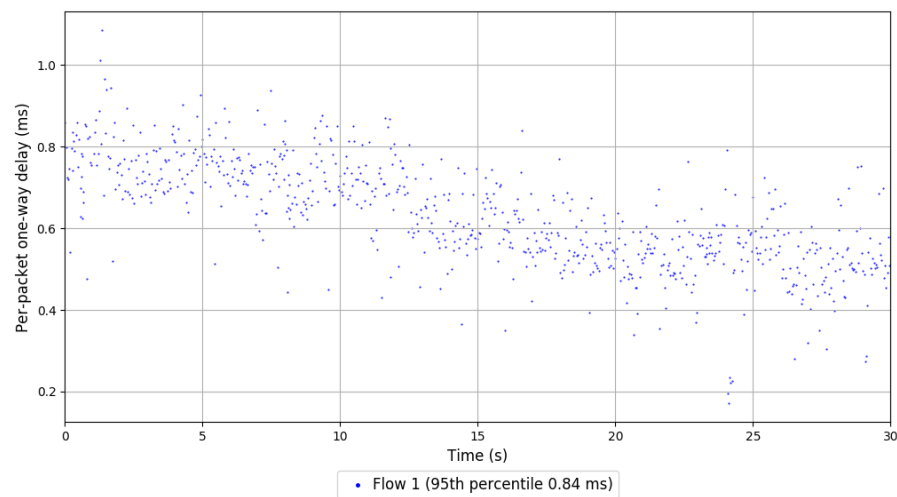
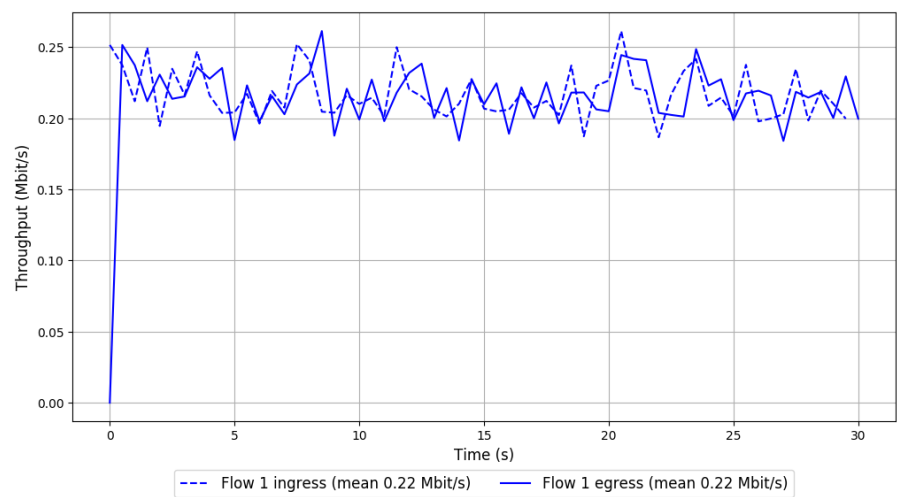


Run 4: Statistics of SCReAM

Start at: 2018-10-09 19:23:35
End at: 2018-10-09 19:24:05
Local clock offset: -25.551 ms
Remote clock offset: 0.169 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.836 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 0.836 ms
Loss rate: 0.00%

Run 4: Report of SReAM — Data Link

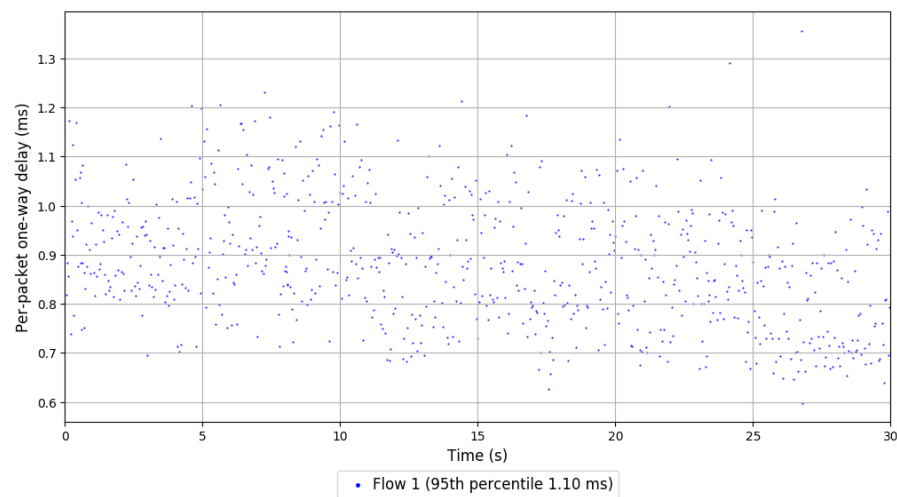
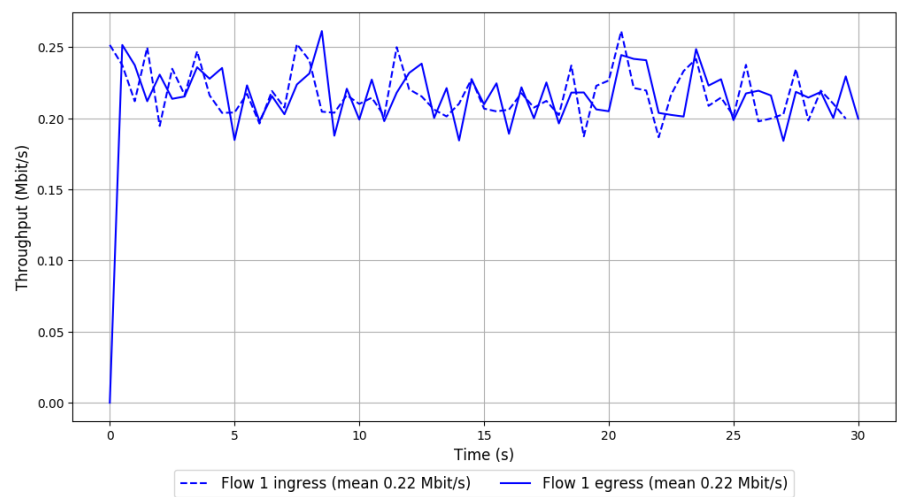


Run 5: Statistics of SCReAM

Start at: 2018-10-09 19:49:12
End at: 2018-10-09 19:49:42
Local clock offset: -13.751 ms
Remote clock offset: -0.219 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.096 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.096 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

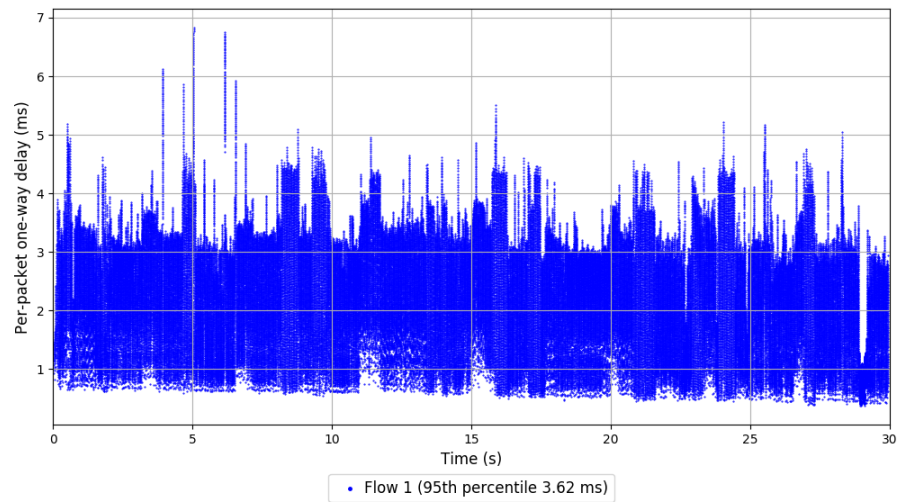
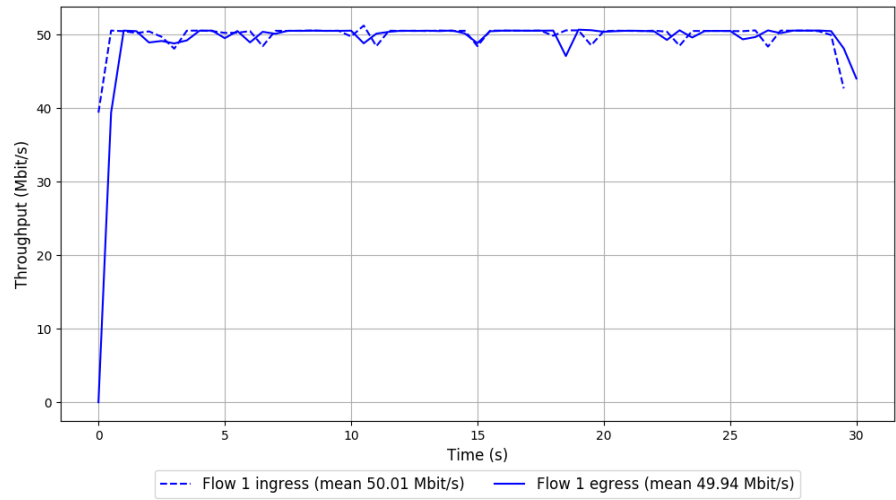


Run 1: Statistics of Sprout

Start at: 2018-10-09 18:17:31
End at: 2018-10-09 18:18:01
Local clock offset: -16.333 ms
Remote clock offset: -0.931 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 49.94 Mbit/s
95th percentile per-packet one-way delay: 3.625 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 49.94 Mbit/s
95th percentile per-packet one-way delay: 3.625 ms
Loss rate: 0.14%

Run 1: Report of Sprout — Data Link

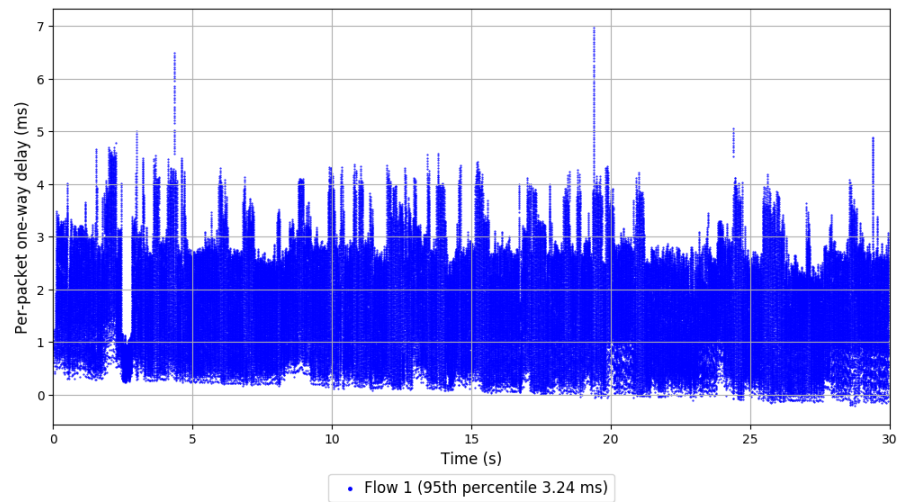
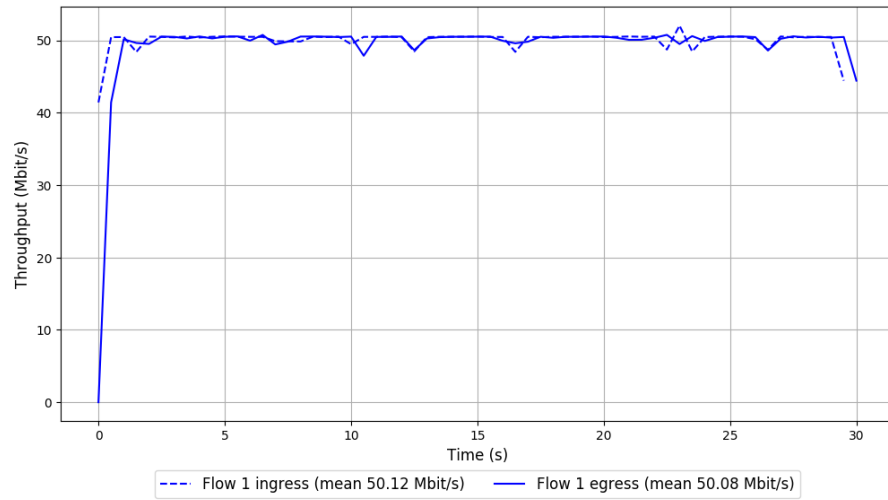


Run 2: Statistics of Sprout

Start at: 2018-10-09 18:43:27
End at: 2018-10-09 18:43:57
Local clock offset: -26.897 ms
Remote clock offset: -0.513 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.08 Mbit/s
95th percentile per-packet one-way delay: 3.237 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 50.08 Mbit/s
95th percentile per-packet one-way delay: 3.237 ms
Loss rate: 0.07%

Run 2: Report of Sprout — Data Link

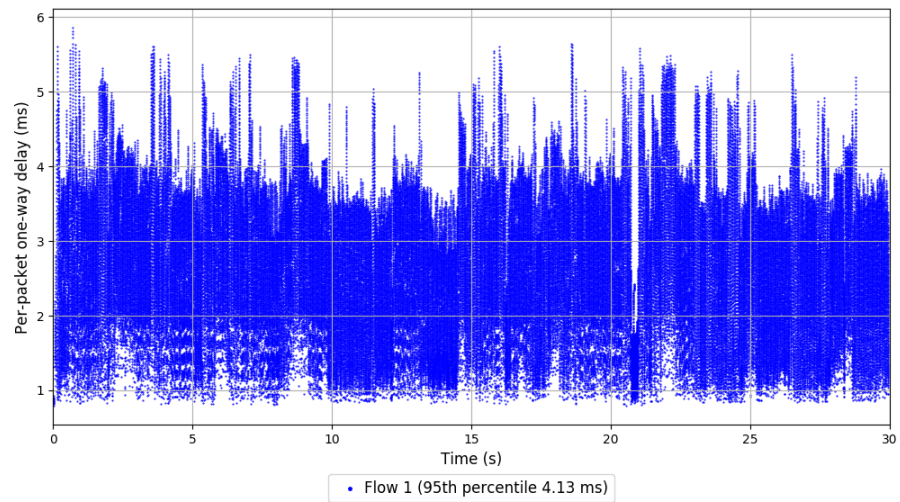
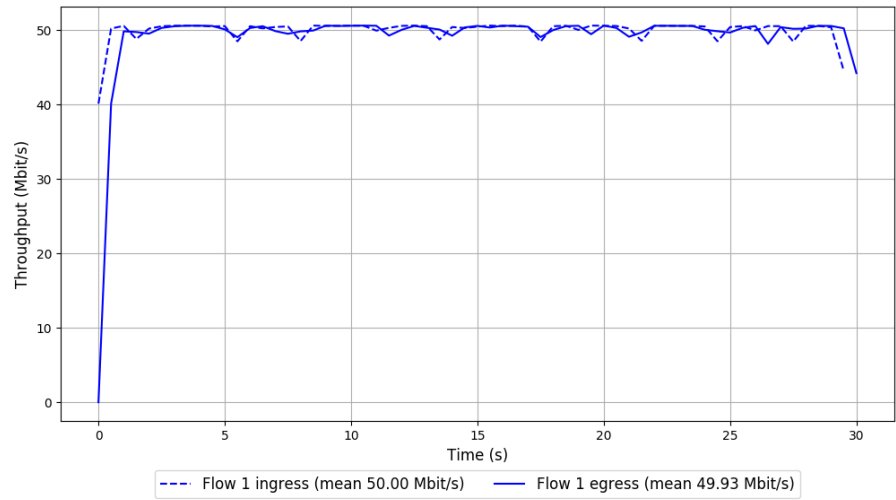


Run 3: Statistics of Sprout

Start at: 2018-10-09 19:09:09
End at: 2018-10-09 19:09:39
Local clock offset: -20.531 ms
Remote clock offset: -0.08 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 49.93 Mbit/s
95th percentile per-packet one-way delay: 4.130 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 49.93 Mbit/s
95th percentile per-packet one-way delay: 4.130 ms
Loss rate: 0.14%

Run 3: Report of Sprout — Data Link

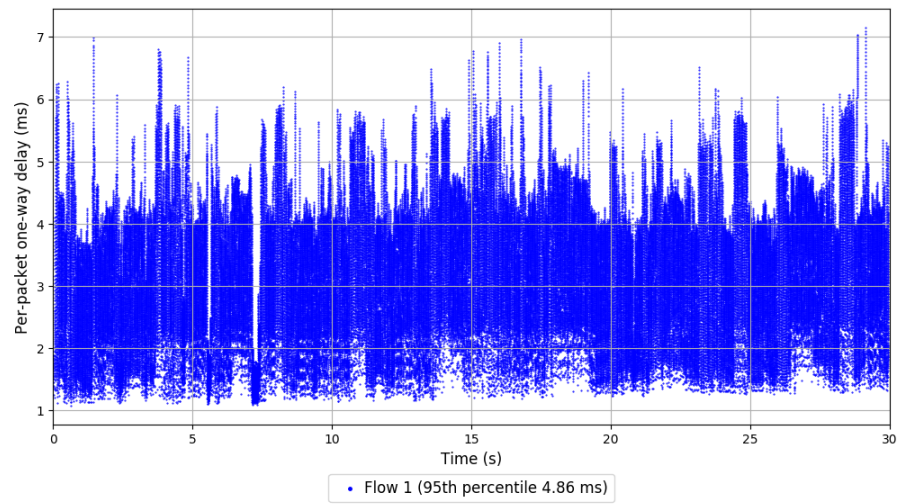
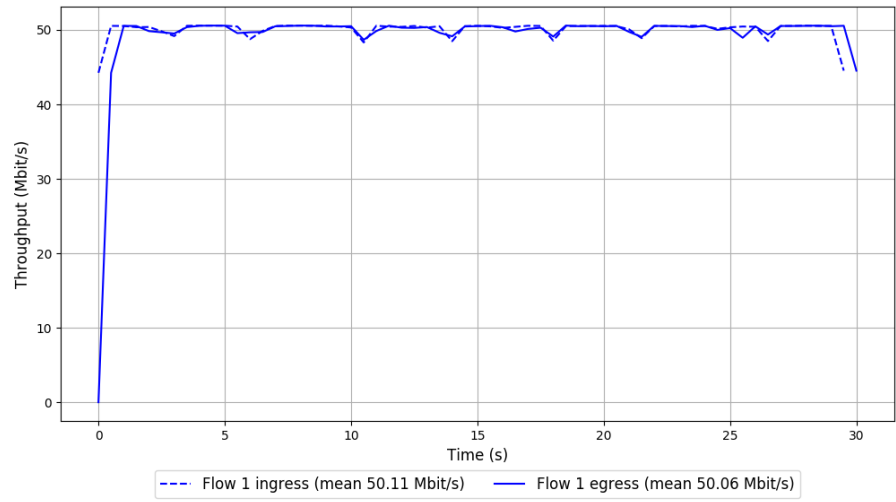


Run 4: Statistics of Sprout

Start at: 2018-10-09 19:34:52
End at: 2018-10-09 19:35:22
Local clock offset: -14.179 ms
Remote clock offset: 0.051 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.06 Mbit/s
95th percentile per-packet one-way delay: 4.864 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 50.06 Mbit/s
95th percentile per-packet one-way delay: 4.864 ms
Loss rate: 0.10%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-10-09 20:00:47

End at: 2018-10-09 20:01:17

Local clock offset: -8.759 ms

Remote clock offset: -0.36 ms

Below is generated by plot.py at 2018-10-09 20:41:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 49.75 Mbit/s

95th percentile per-packet one-way delay: 5.097 ms

Loss rate: 0.23%

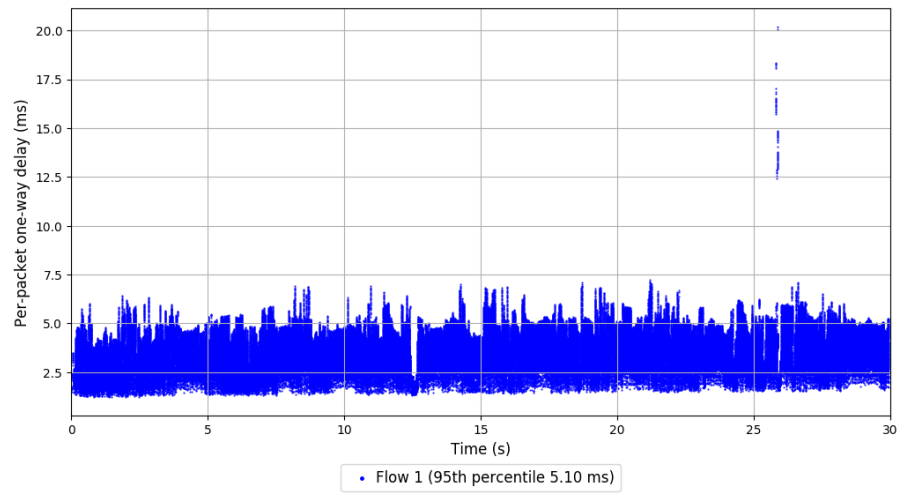
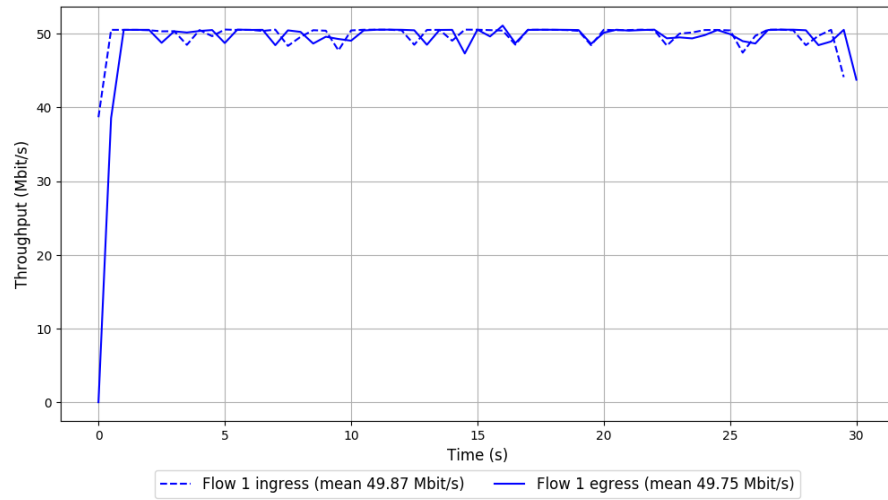
-- Flow 1:

Average throughput: 49.75 Mbit/s

95th percentile per-packet one-way delay: 5.097 ms

Loss rate: 0.23%

Run 5: Report of Sprout — Data Link

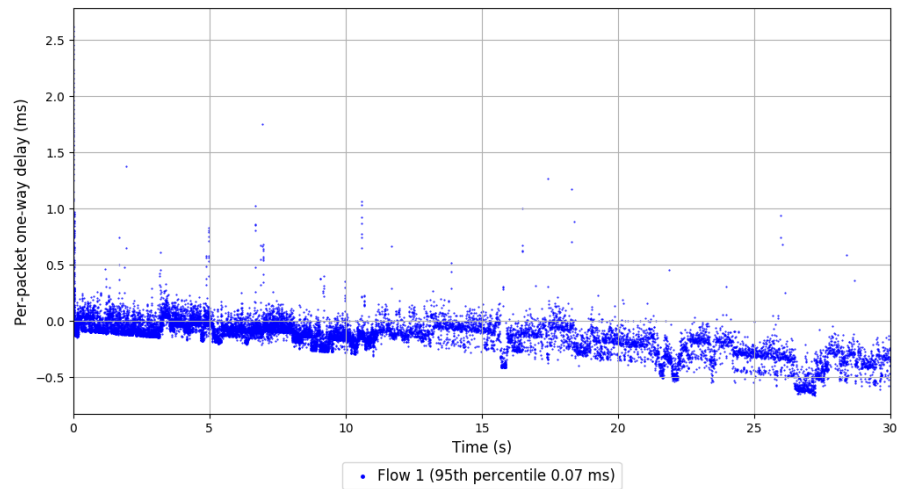
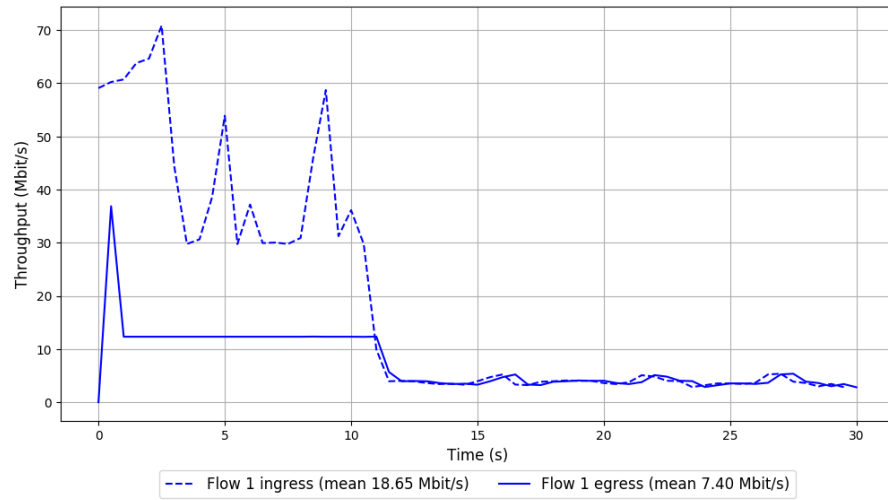


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-10-09 18:07:14
End at: 2018-10-09 18:07:44
Local clock offset: -12.167 ms
Remote clock offset: -0.518 ms

# Below is generated by plot.py at 2018-10-09 20:41:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.40 Mbit/s
95th percentile per-packet one-way delay: 0.074 ms
Loss rate: 60.33%
-- Flow 1:
Average throughput: 7.40 Mbit/s
95th percentile per-packet one-way delay: 0.074 ms
Loss rate: 60.33%
```

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



Run 2: Statistics of TaoVA-100x

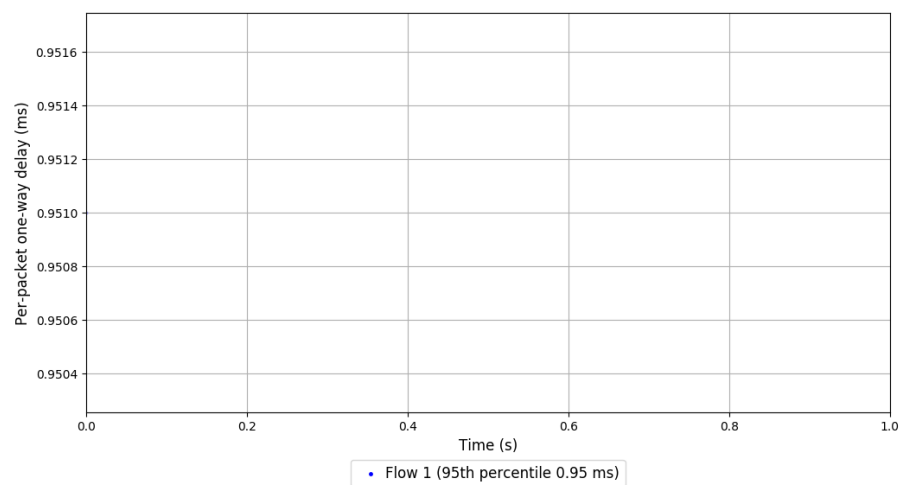
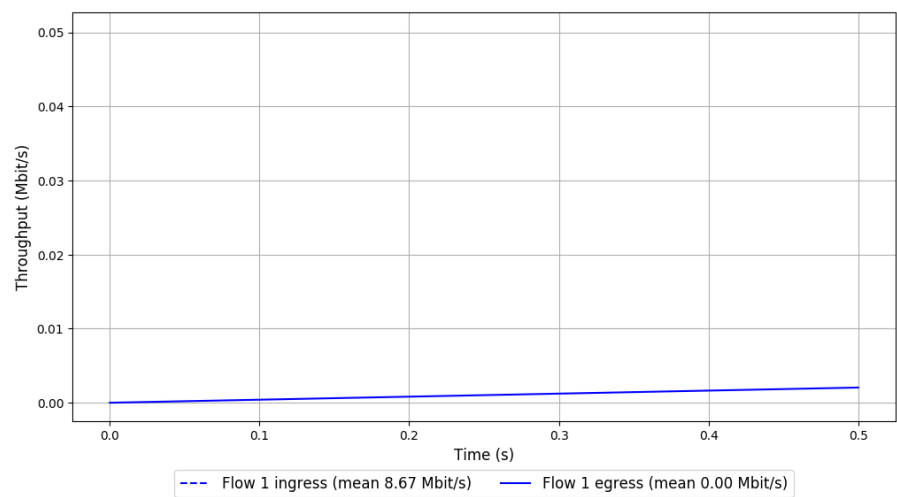
Start at: 2018-10-09 18:33:08

End at: 2018-10-09 18:33:38

Local clock offset: -19.829 ms

Remote clock offset: -0.689 ms

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



Run 3: Statistics of TaoVA-100x

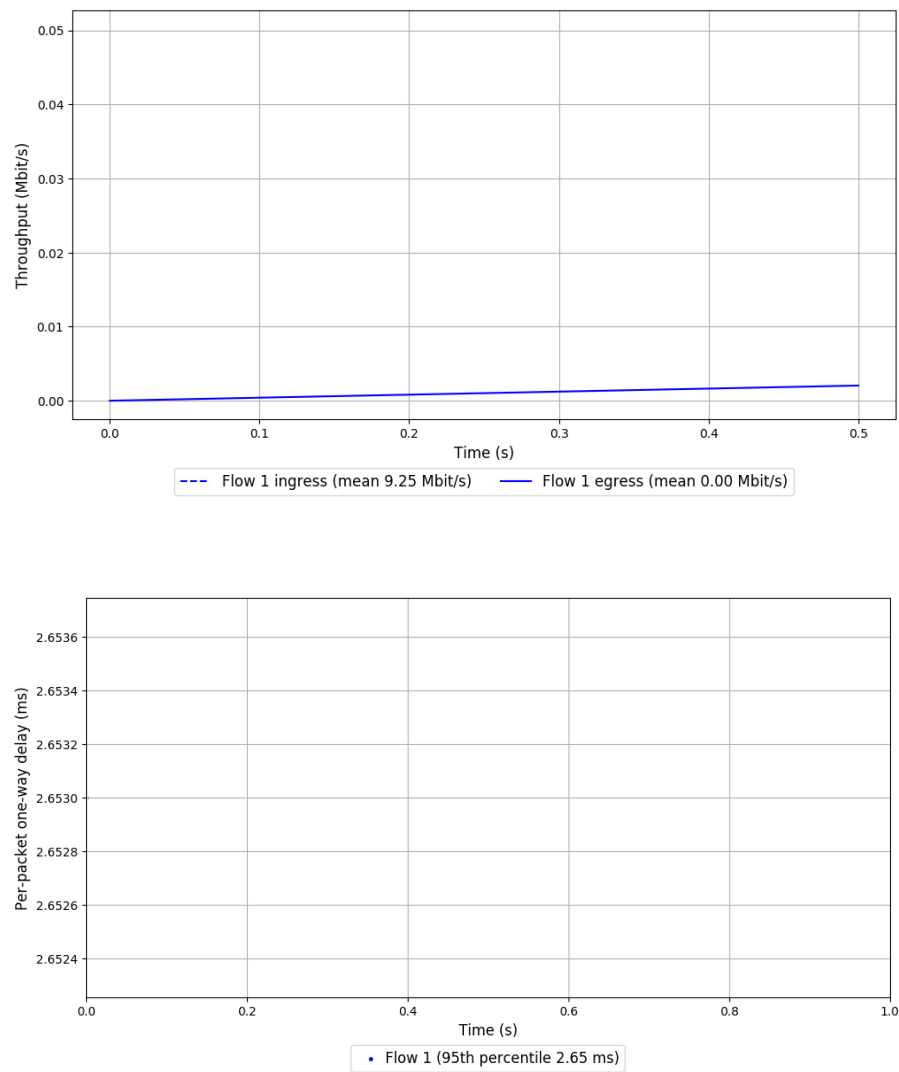
Start at: 2018-10-09 18:58:59

End at: 2018-10-09 18:59:29

Local clock offset: -29.95 ms

Remote clock offset: -0.502 ms

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



Run 4: Statistics of TaoVA-100x

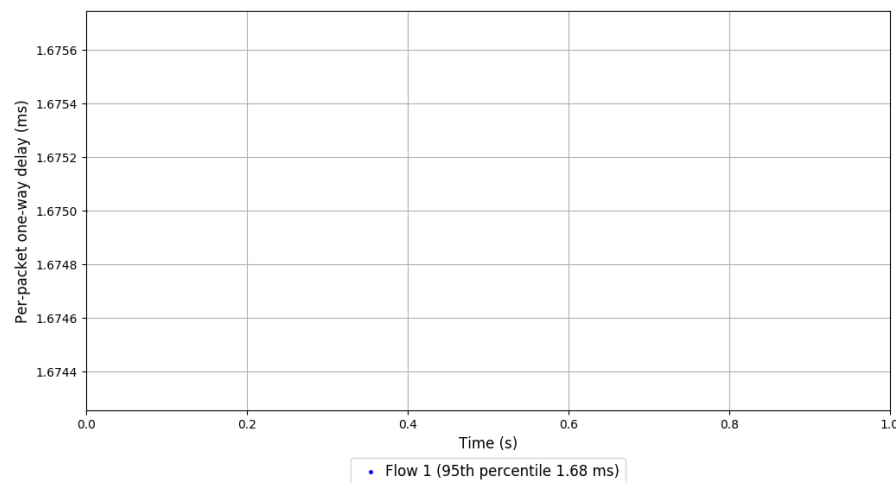
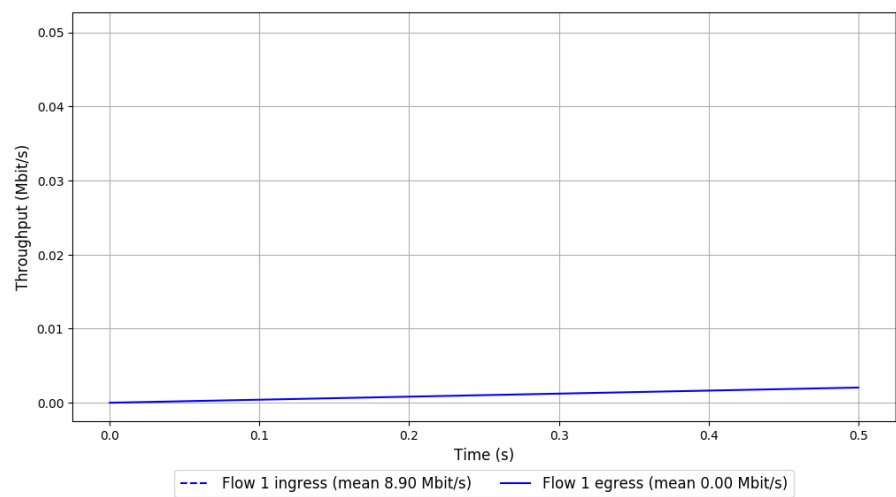
Start at: 2018-10-09 19:24:53

End at: 2018-10-09 19:25:23

Local clock offset: -26.35 ms

Remote clock offset: 0.162 ms

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



Run 5: Statistics of TaoVA-100x

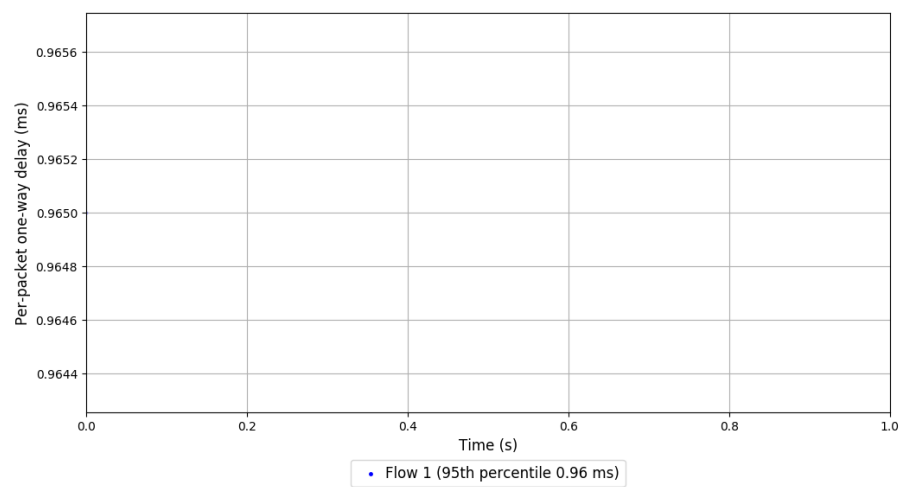
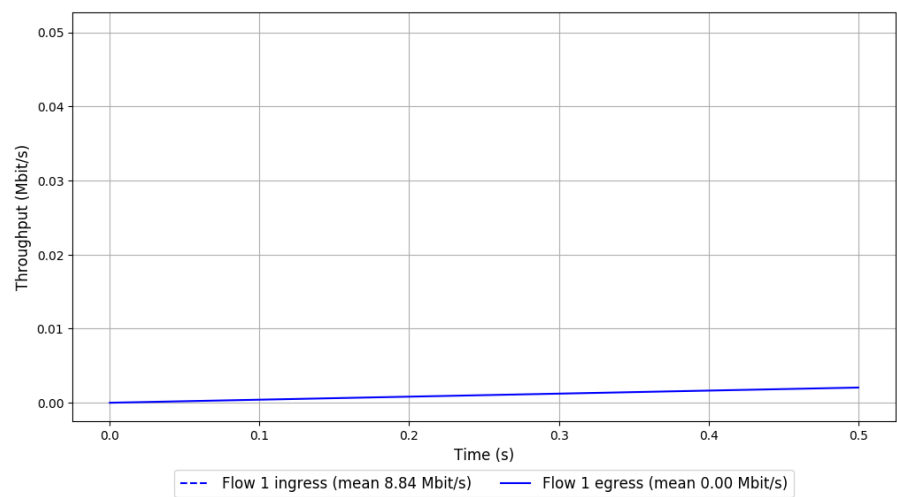
Start at: 2018-10-09 19:50:30

End at: 2018-10-09 19:51:00

Local clock offset: -14.036 ms

Remote clock offset: -0.263 ms

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



Run 1: Statistics of TCP Vegas

Start at: 2018-10-09 18:01:31

End at: 2018-10-09 18:02:01

Local clock offset: -9.38 ms

Remote clock offset: 0.06 ms

Below is generated by plot.py at 2018-10-09 20:41:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 61.51 Mbit/s

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

Loss rate: 0.00%

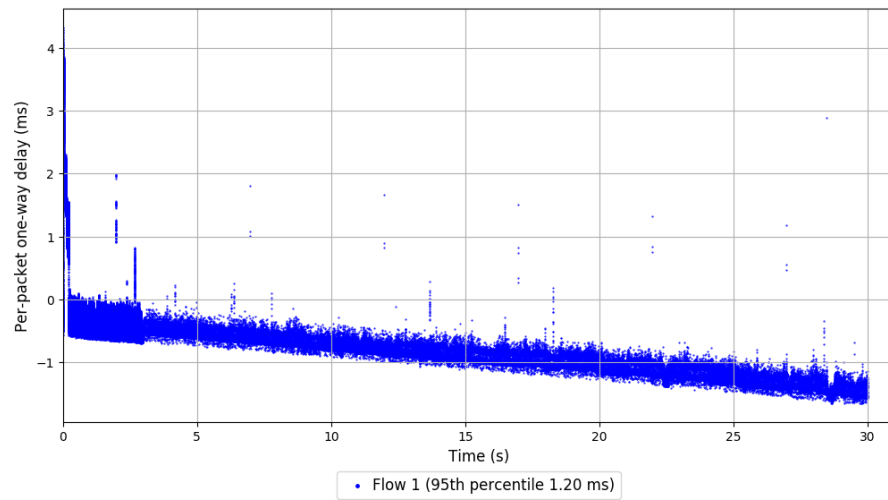
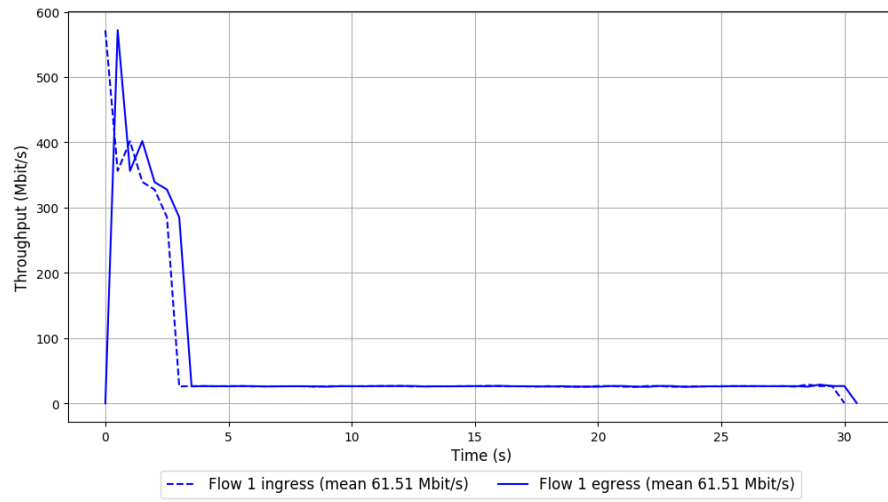
-- Flow 1:

Average throughput: 61.51 Mbit/s

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

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

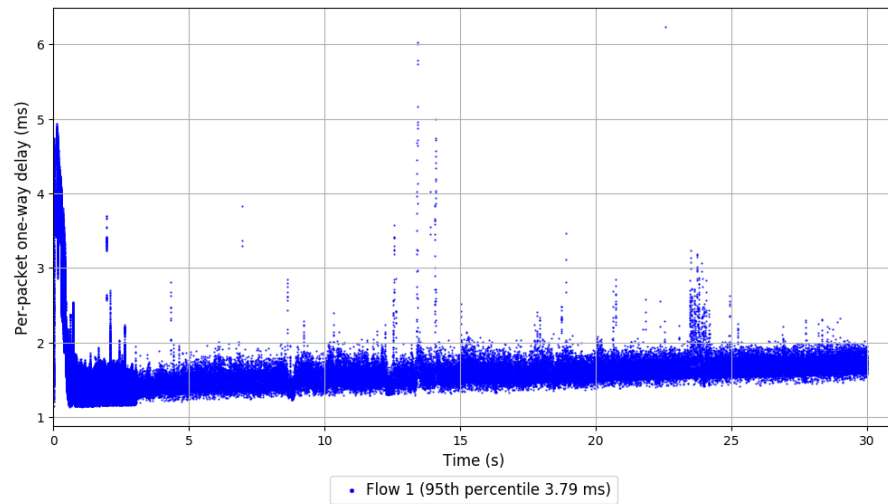
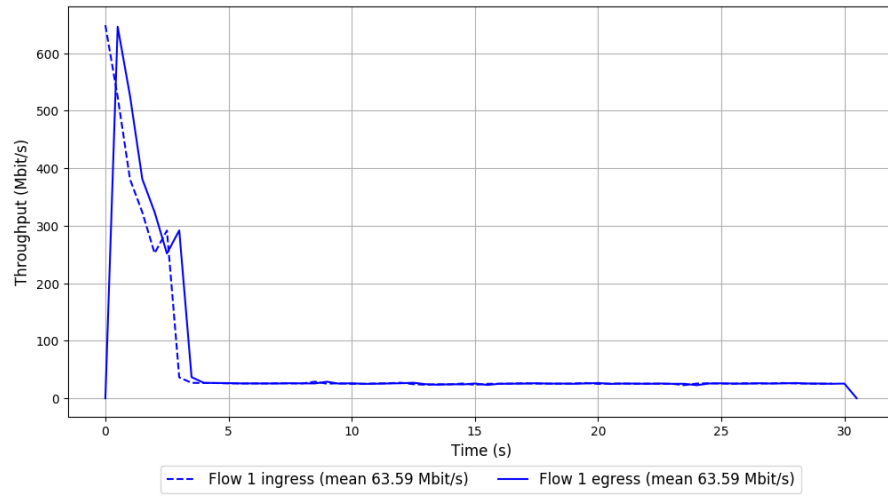


Run 2: Statistics of TCP Vegas

Start at: 2018-10-09 18:27:21
End at: 2018-10-09 18:27:51
Local clock offset: -21.417 ms
Remote clock offset: -0.943 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 63.59 Mbit/s
95th percentile per-packet one-way delay: 3.792 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 63.59 Mbit/s
95th percentile per-packet one-way delay: 3.792 ms
Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

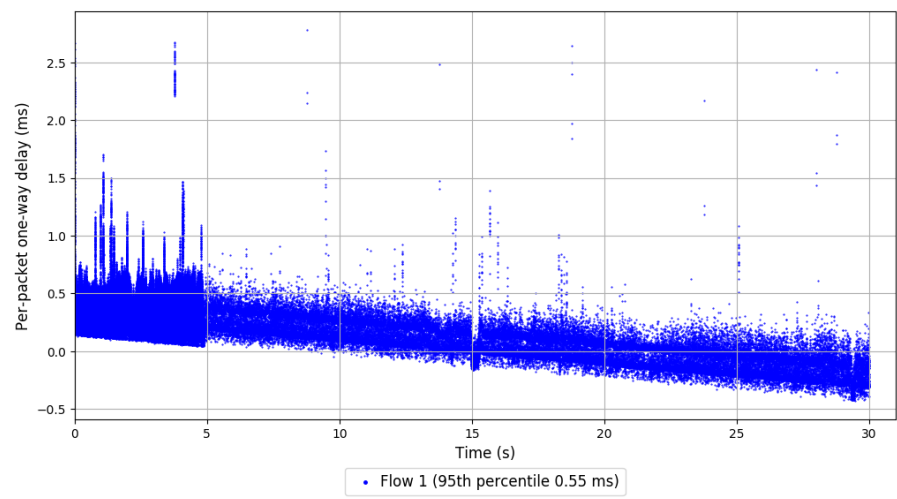
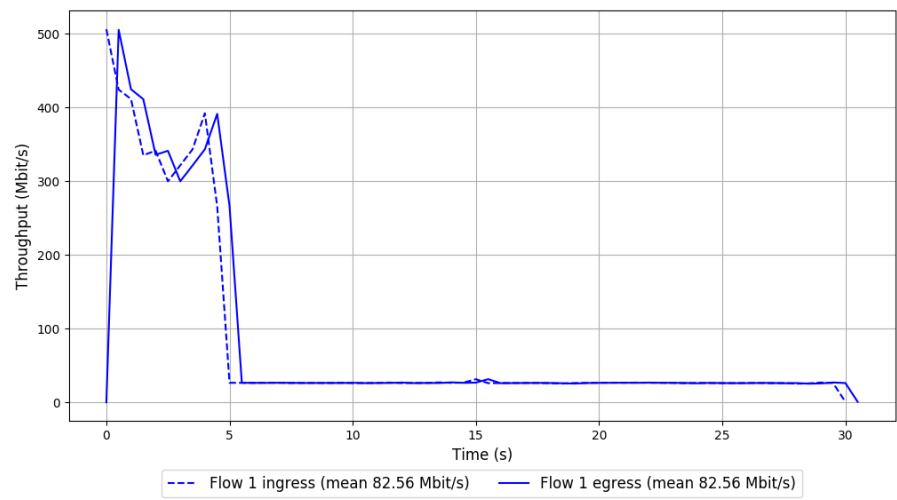


Run 3: Statistics of TCP Vegas

Start at: 2018-10-09 18:53:15
End at: 2018-10-09 18:53:45
Local clock offset: -37.928 ms
Remote clock offset: -0.506 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 82.56 Mbit/s
95th percentile per-packet one-way delay: 0.554 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 82.56 Mbit/s
95th percentile per-packet one-way delay: 0.554 ms
Loss rate: 0.01%

Run 3: Report of TCP Vegas — Data Link

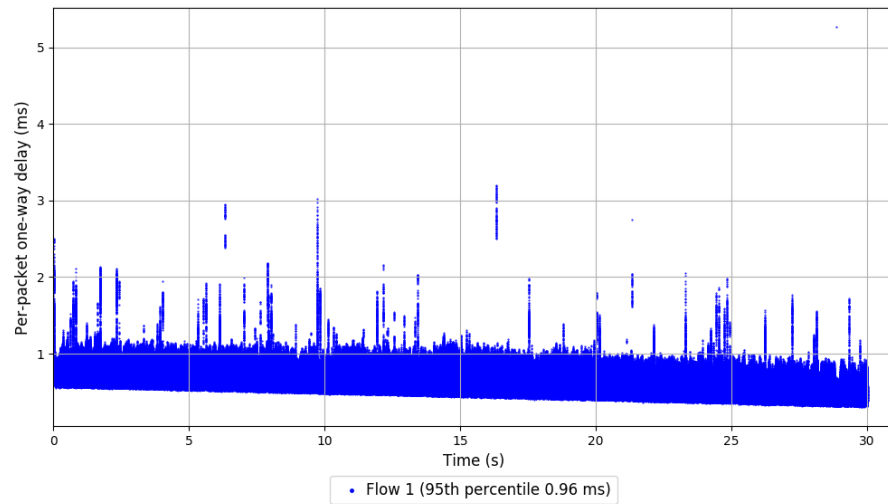
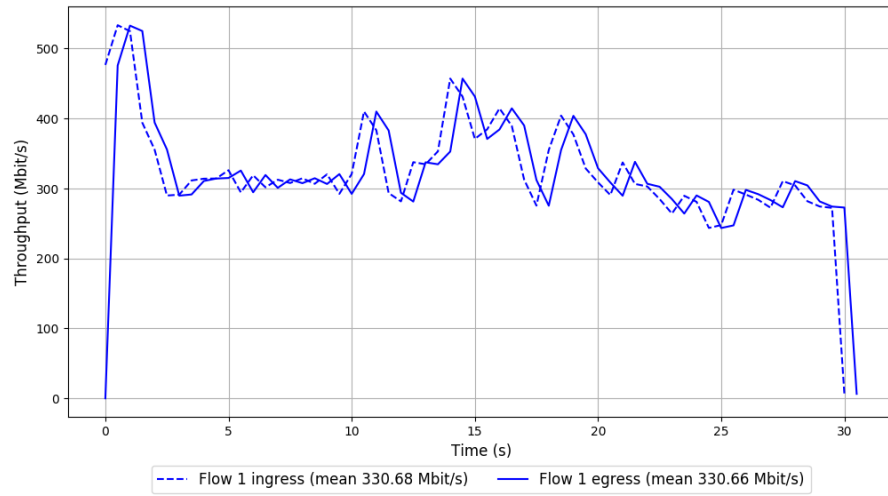


Run 4: Statistics of TCP Vegas

Start at: 2018-10-09 19:19:01
End at: 2018-10-09 19:19:31
Local clock offset: -23.083 ms
Remote clock offset: 0.176 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 330.66 Mbit/s
95th percentile per-packet one-way delay: 0.965 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 330.66 Mbit/s
95th percentile per-packet one-way delay: 0.965 ms
Loss rate: 0.01%

Run 4: Report of TCP Vegas — Data Link

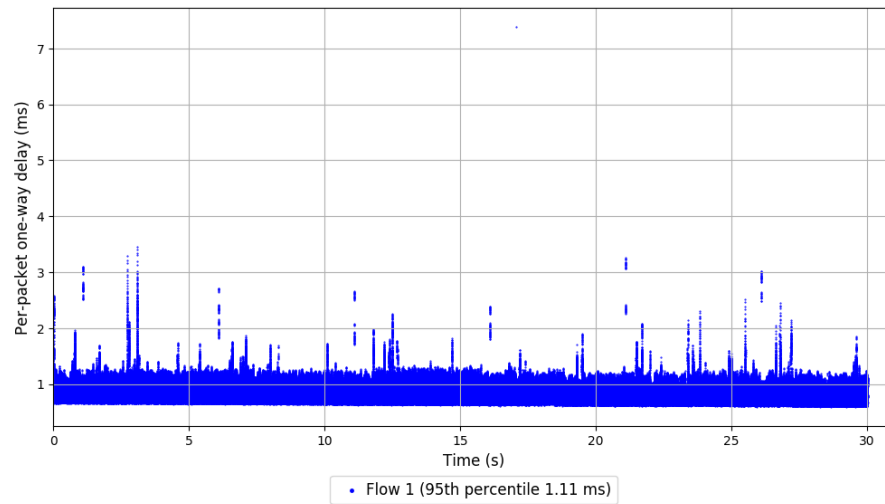
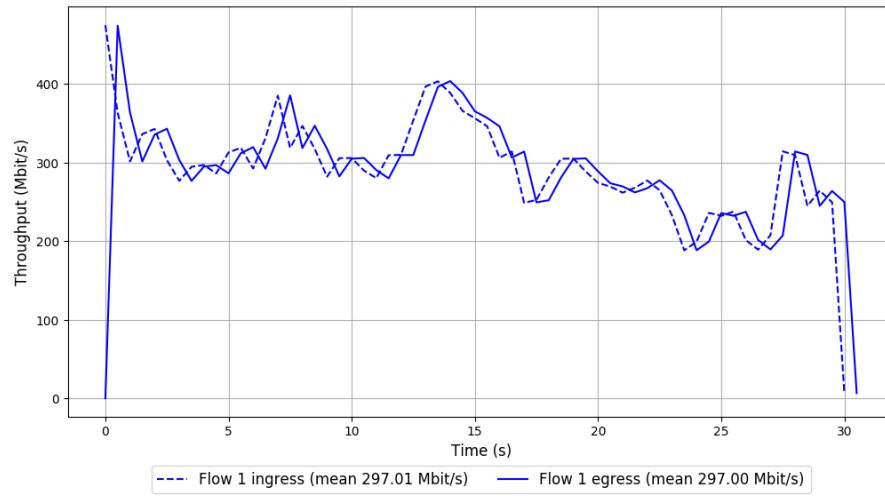


Run 5: Statistics of TCP Vegas

Start at: 2018-10-09 19:44:39
End at: 2018-10-09 19:45:09
Local clock offset: -12.901 ms
Remote clock offset: -0.133 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 297.00 Mbit/s
95th percentile per-packet one-way delay: 1.115 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 297.00 Mbit/s
95th percentile per-packet one-way delay: 1.115 ms
Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-10-09 17:57:29

End at: 2018-10-09 17:57:59

Local clock offset: -3.246 ms

Remote clock offset: 0.583 ms

Below is generated by plot.py at 2018-10-09 20:41:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 150.55 Mbit/s

95th percentile per-packet one-way delay: 15.466 ms

Loss rate: 2.10%

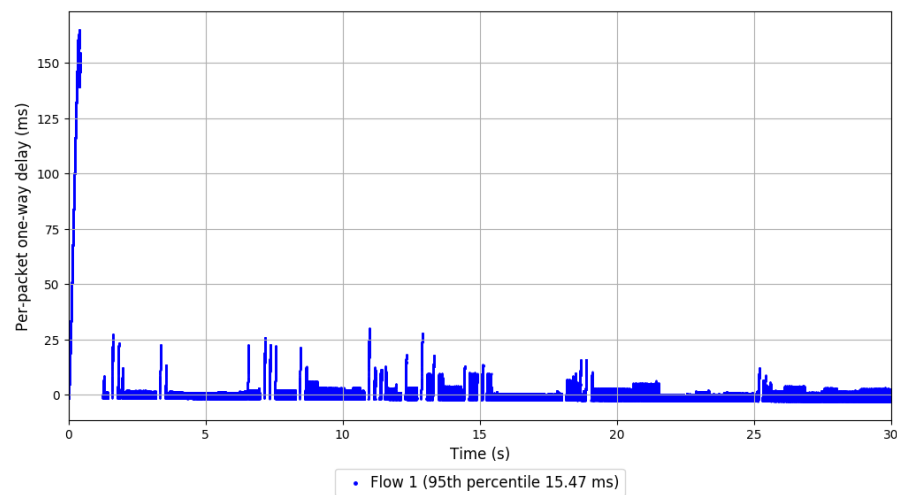
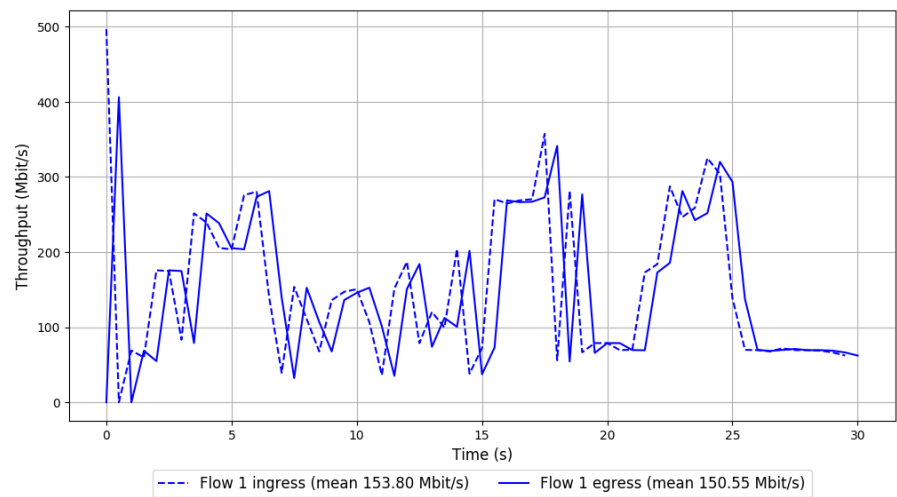
-- Flow 1:

Average throughput: 150.55 Mbit/s

95th percentile per-packet one-way delay: 15.466 ms

Loss rate: 2.10%

Run 1: Report of Verus — Data Link

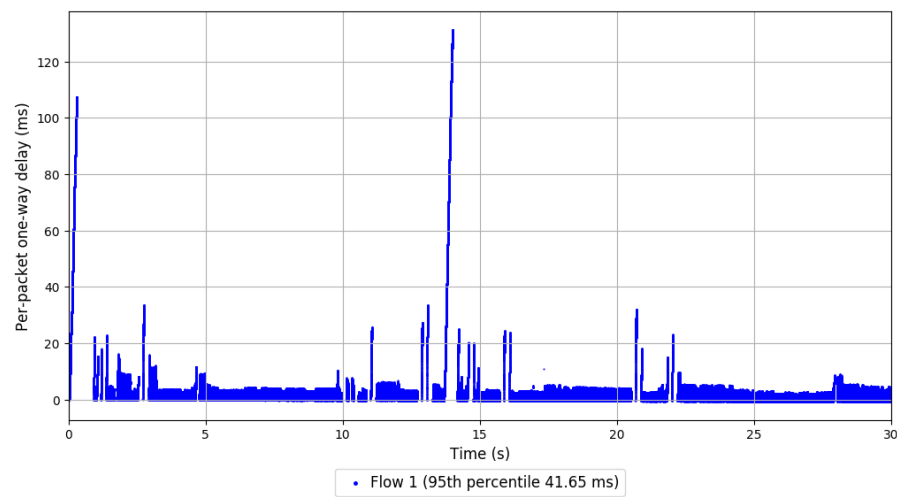
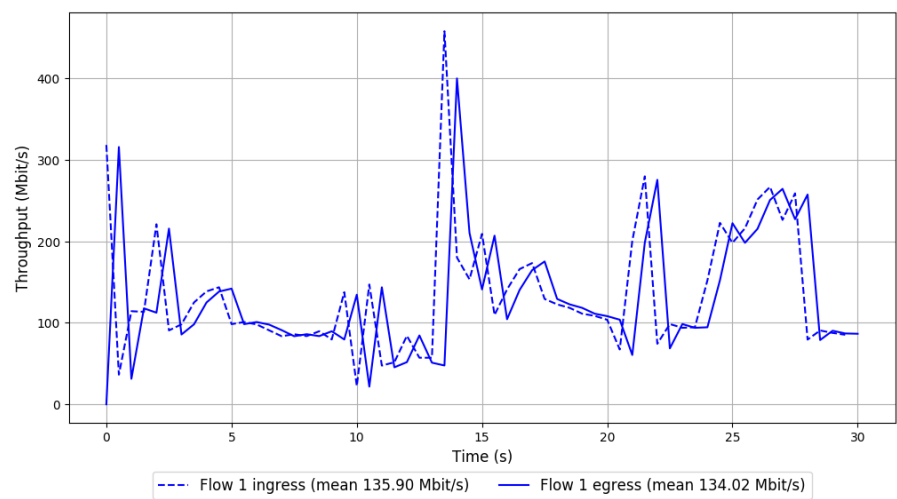


Run 2: Statistics of Verus

Start at: 2018-10-09 18:23:19
End at: 2018-10-09 18:23:49
Local clock offset: -21.527 ms
Remote clock offset: -1.216 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 134.02 Mbit/s
95th percentile per-packet one-way delay: 41.647 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 134.02 Mbit/s
95th percentile per-packet one-way delay: 41.647 ms
Loss rate: 1.39%

Run 2: Report of Verus — Data Link

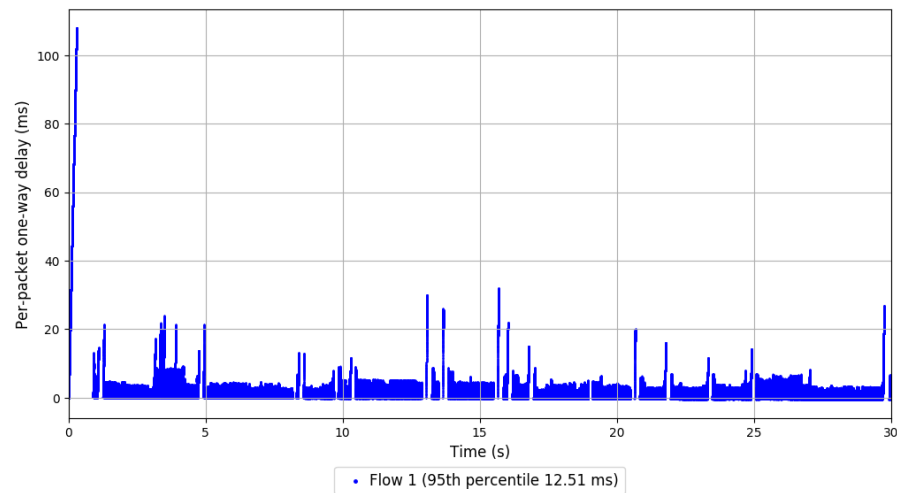
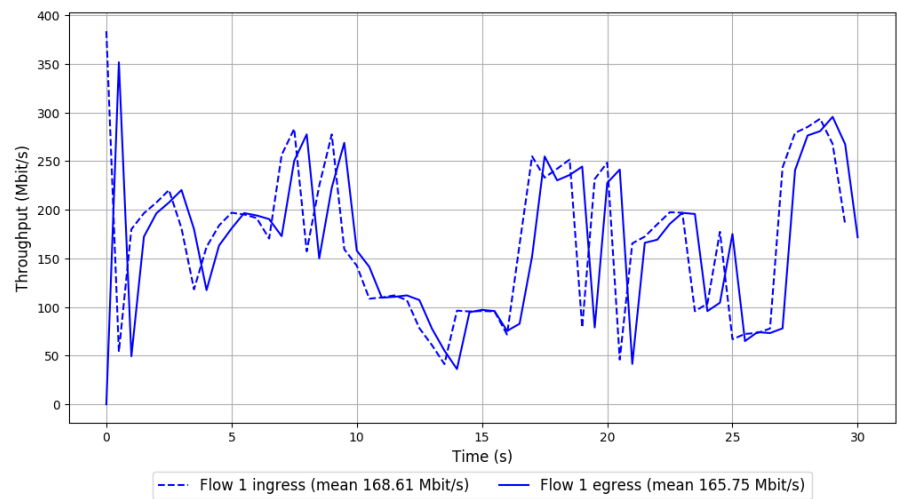


Run 3: Statistics of Verus

Start at: 2018-10-09 18:49:12
End at: 2018-10-09 18:49:42
Local clock offset: -32.937 ms
Remote clock offset: -0.487 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 165.75 Mbit/s
95th percentile per-packet one-way delay: 12.511 ms
Loss rate: 1.68%
-- Flow 1:
Average throughput: 165.75 Mbit/s
95th percentile per-packet one-way delay: 12.511 ms
Loss rate: 1.68%

Run 3: Report of Verus — Data Link

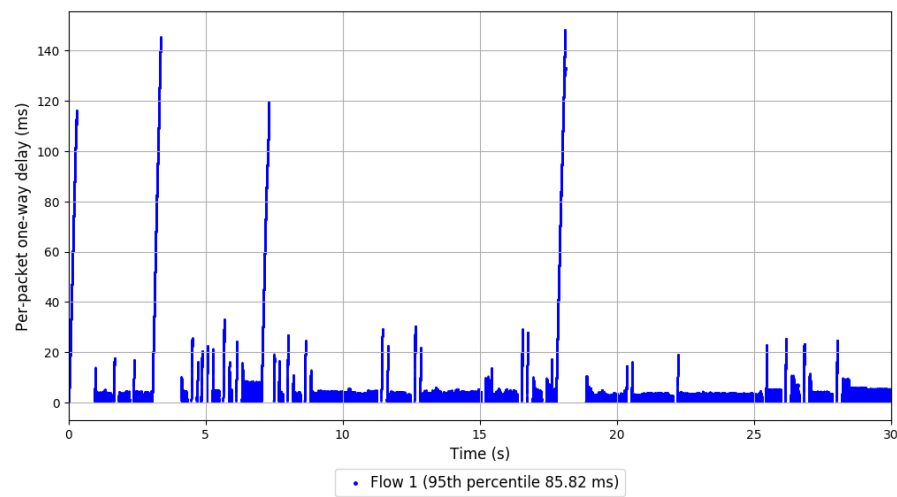
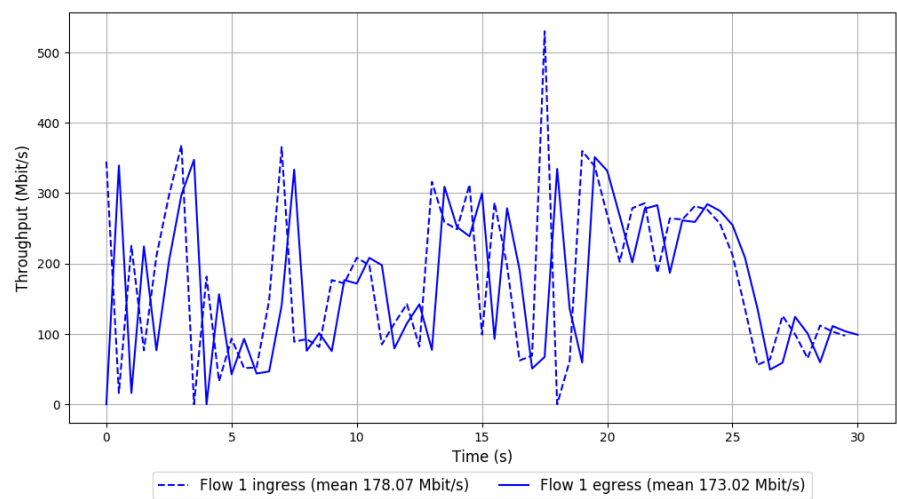


Run 4: Statistics of Verus

Start at: 2018-10-09 19:14:58
End at: 2018-10-09 19:15:28
Local clock offset: -21.385 ms
Remote clock offset: 0.028 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 173.02 Mbit/s
95th percentile per-packet one-way delay: 85.816 ms
Loss rate: 2.83%
-- Flow 1:
Average throughput: 173.02 Mbit/s
95th percentile per-packet one-way delay: 85.816 ms
Loss rate: 2.83%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-10-09 19:40:38

End at: 2018-10-09 19:41:08

Local clock offset: -12.73 ms

Remote clock offset: 0.025 ms

Below is generated by plot.py at 2018-10-09 20:41:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 135.79 Mbit/s

95th percentile per-packet one-way delay: 10.136 ms

Loss rate: 2.43%

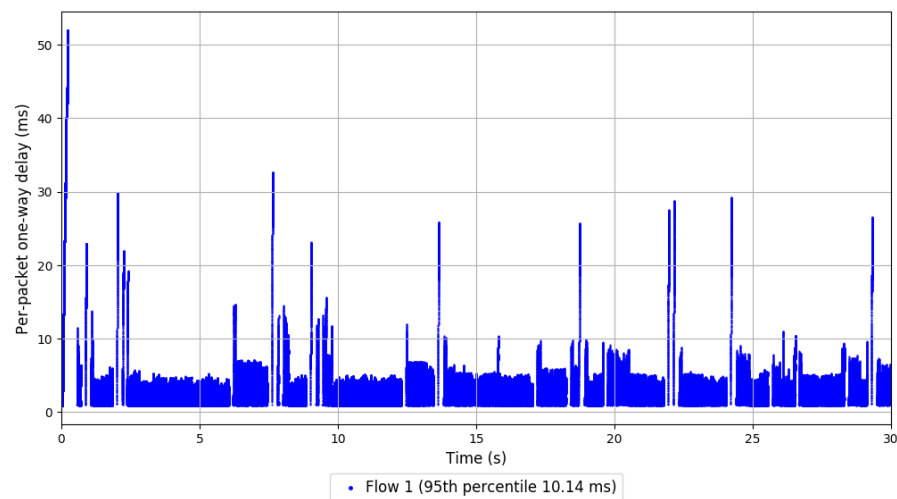
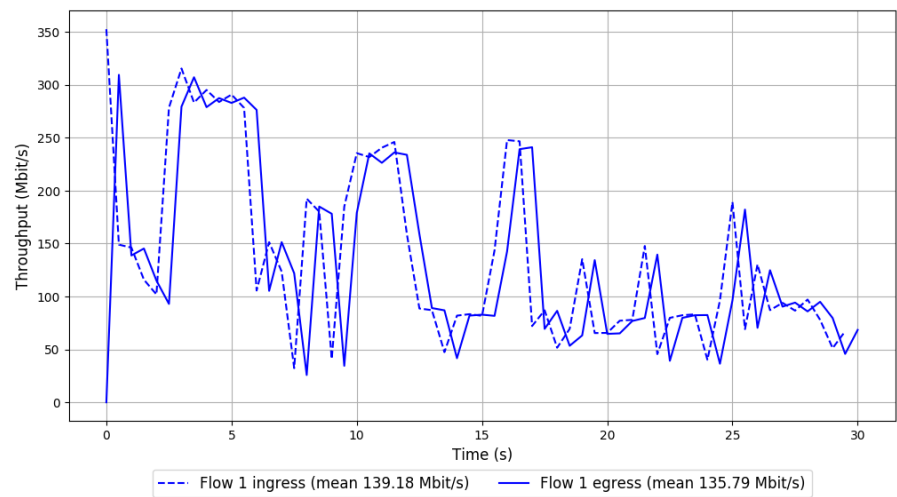
-- Flow 1:

Average throughput: 135.79 Mbit/s

95th percentile per-packet one-way delay: 10.136 ms

Loss rate: 2.43%

Run 5: Report of Verus — Data Link

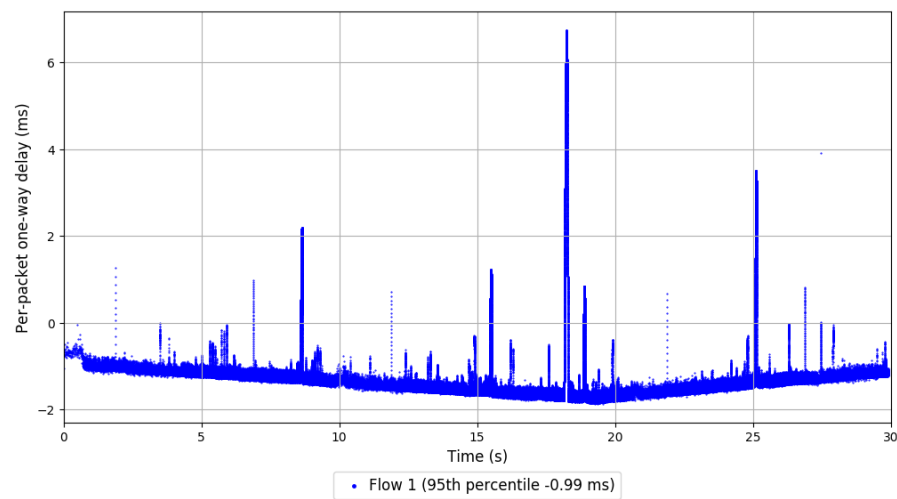
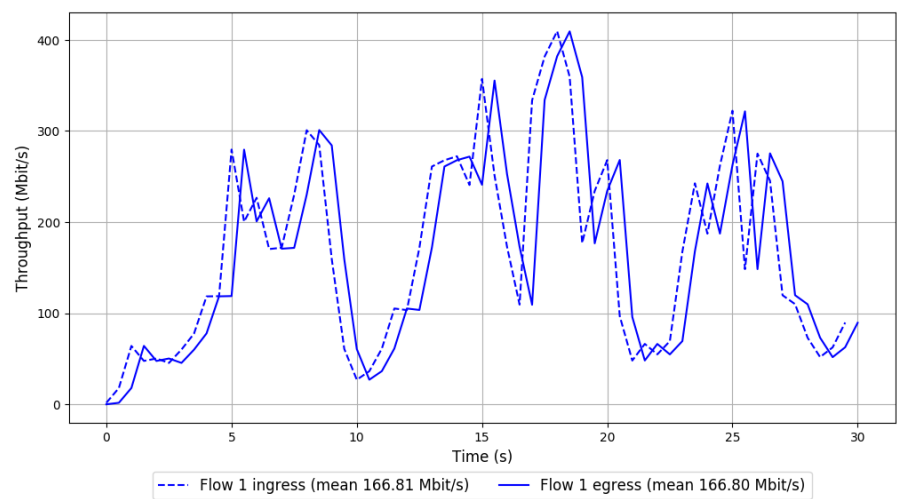


Run 1: Statistics of PCC-Vivace

Start at: 2018-10-09 18:02:51
End at: 2018-10-09 18:03:21
Local clock offset: -12.259 ms
Remote clock offset: -0.047 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 166.80 Mbit/s
95th percentile per-packet one-way delay: -0.988 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 166.80 Mbit/s
95th percentile per-packet one-way delay: -0.988 ms
Loss rate: 0.01%

Run 1: Report of PCC-Vivace — Data Link

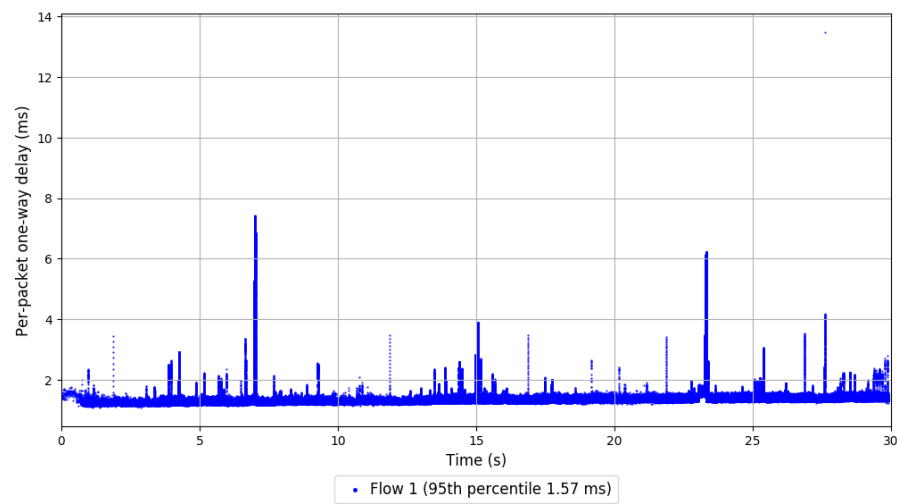
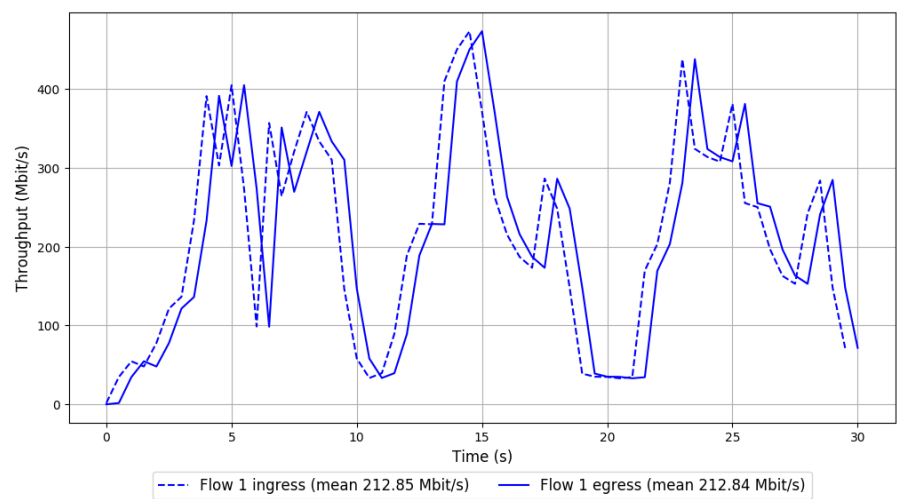


Run 2: Statistics of PCC-Vivace

Start at: 2018-10-09 18:28:41
End at: 2018-10-09 18:29:11
Local clock offset: -20.608 ms
Remote clock offset: -0.827 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 212.84 Mbit/s
95th percentile per-packet one-way delay: 1.570 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 212.84 Mbit/s
95th percentile per-packet one-way delay: 1.570 ms
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link

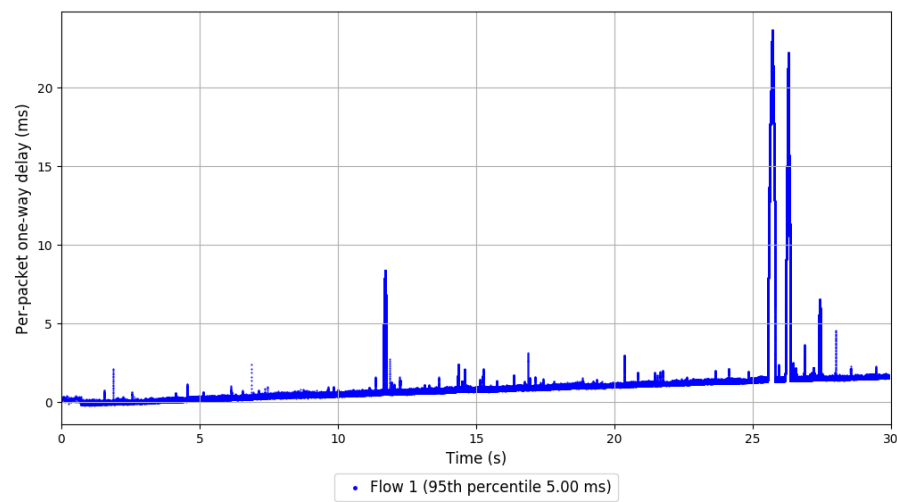
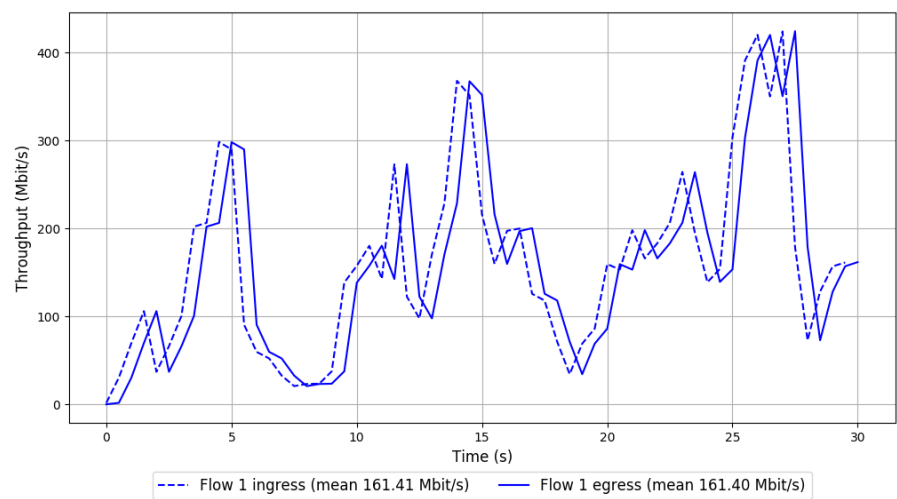


Run 3: Statistics of PCC-Vivace

Start at: 2018-10-09 18:54:35
End at: 2018-10-09 18:55:05
Local clock offset: -39.259 ms
Remote clock offset: -0.547 ms

Below is generated by plot.py at 2018-10-09 20:41:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 161.40 Mbit/s
95th percentile per-packet one-way delay: 5.003 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 161.40 Mbit/s
95th percentile per-packet one-way delay: 5.003 ms
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

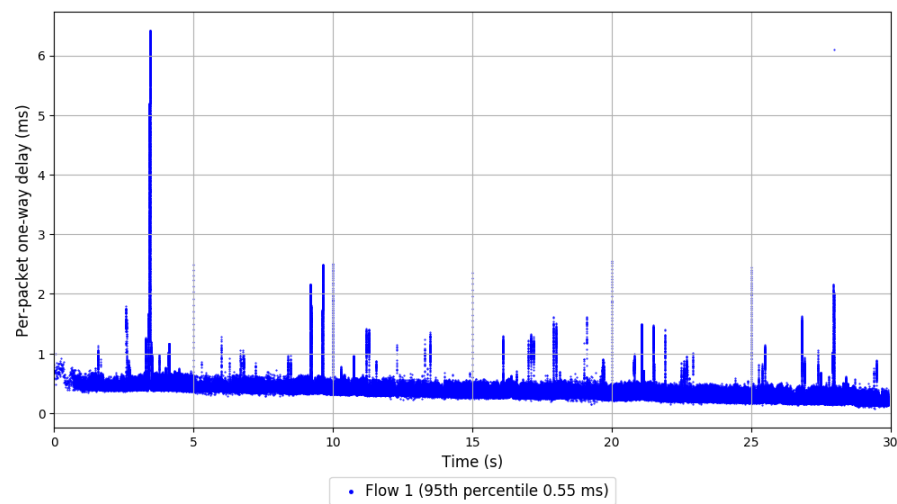
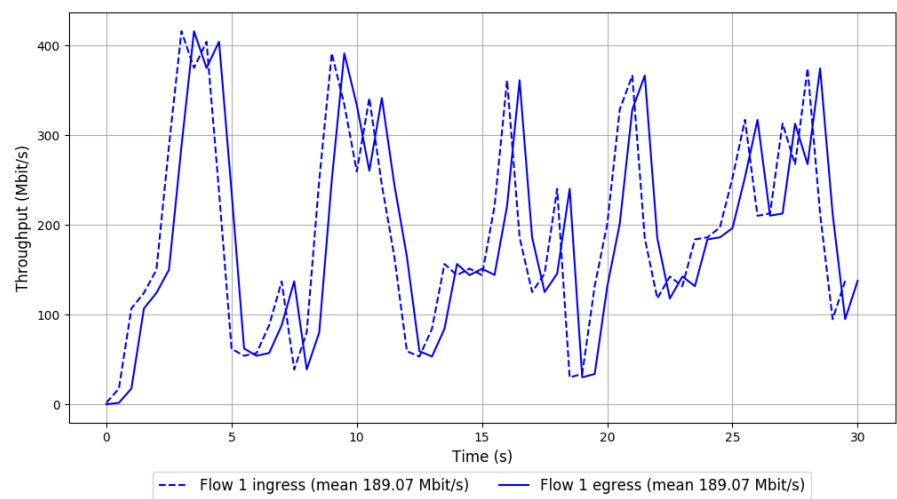


Run 4: Statistics of PCC-Vivace

Start at: 2018-10-09 19:20:29
End at: 2018-10-09 19:20:59
Local clock offset: -23.842 ms
Remote clock offset: 0.076 ms

Below is generated by plot.py at 2018-10-09 20:41:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 189.07 Mbit/s
95th percentile per-packet one-way delay: 0.553 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 189.07 Mbit/s
95th percentile per-packet one-way delay: 0.553 ms
Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link

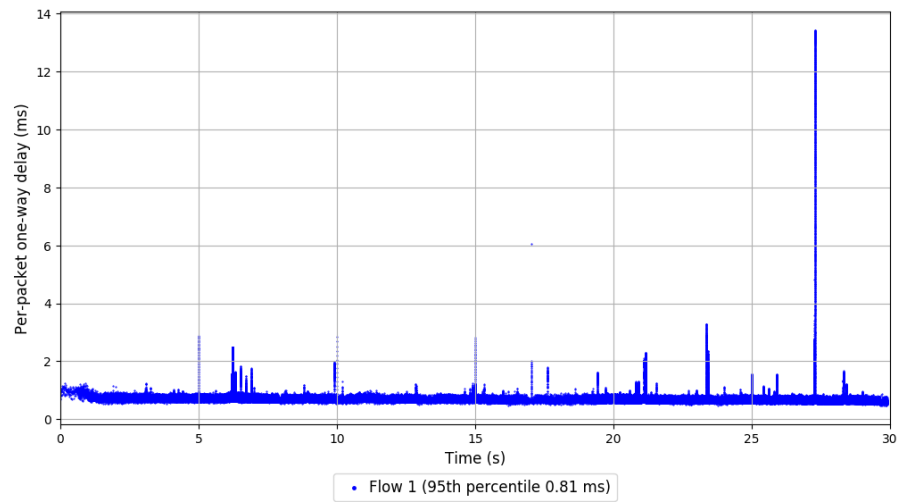
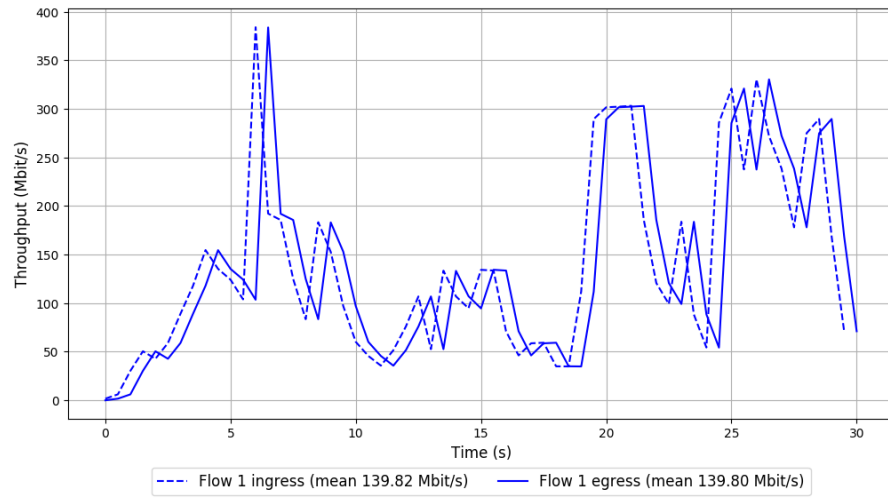


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-09 19:46:07
End at: 2018-10-09 19:46:37
Local clock offset: -13.098 ms
Remote clock offset: -0.167 ms

Below is generated by plot.py at 2018-10-09 20:41:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 139.80 Mbit/s
95th percentile per-packet one-way delay: 0.812 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 139.80 Mbit/s
95th percentile per-packet one-way delay: 0.812 ms
Loss rate: 0.01%

Run 5: Report of PCC-Vivace — Data Link

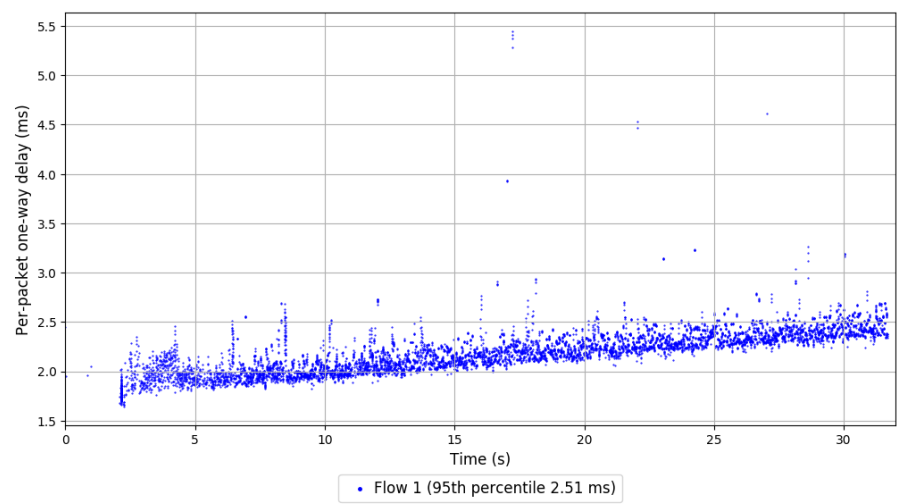
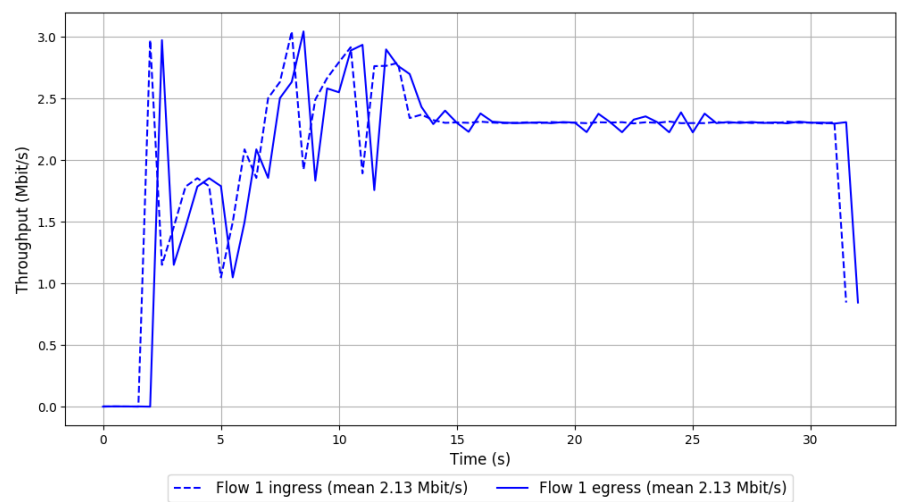


Run 1: Statistics of WebRTC media

Start at: 2018-10-09 18:13:18
End at: 2018-10-09 18:13:48
Local clock offset: -18.584 ms
Remote clock offset: -0.738 ms

Below is generated by plot.py at 2018-10-09 20:41:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 2.506 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.13 Mbit/s
95th percentile per-packet one-way delay: 2.506 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link

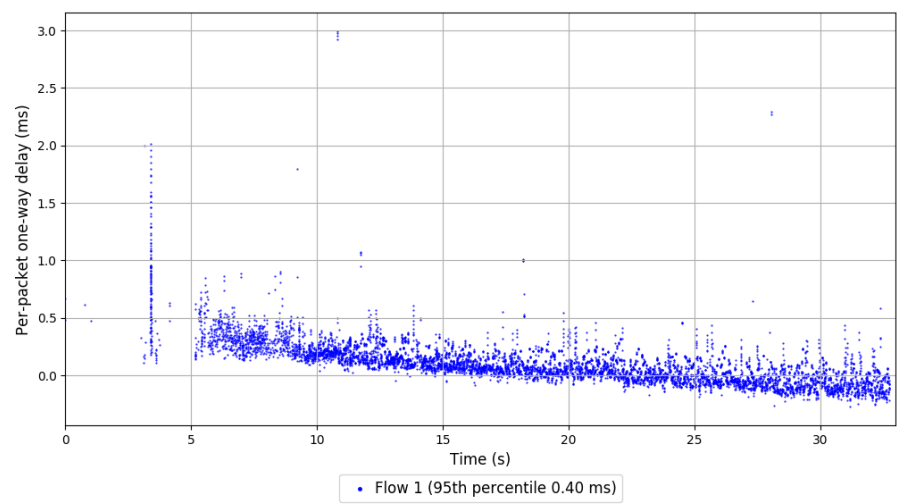
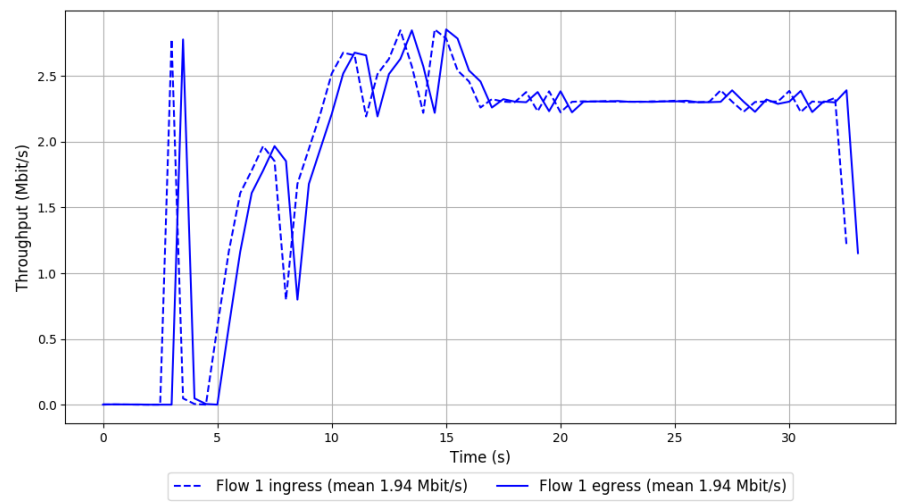


Run 2: Statistics of WebRTC media

Start at: 2018-10-09 18:39:10
End at: 2018-10-09 18:39:40
Local clock offset: -22.843 ms
Remote clock offset: -0.528 ms

Below is generated by plot.py at 2018-10-09 20:41:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 0.404 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 0.404 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link

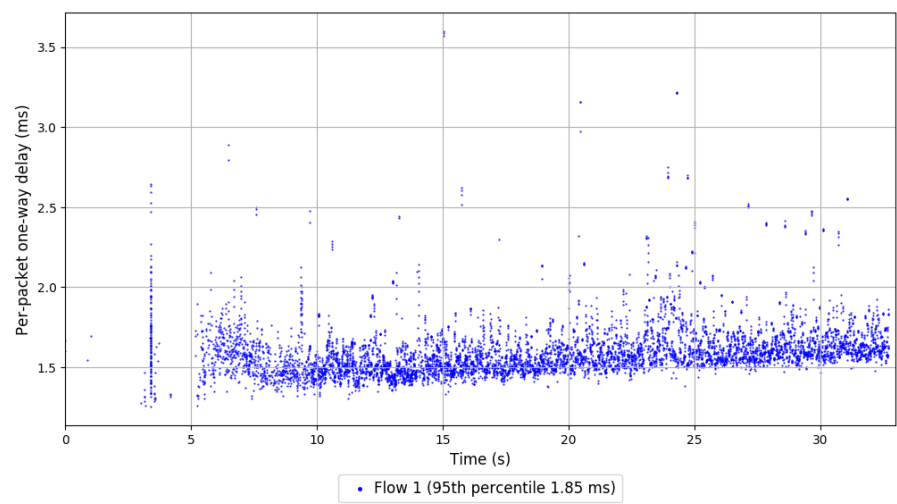
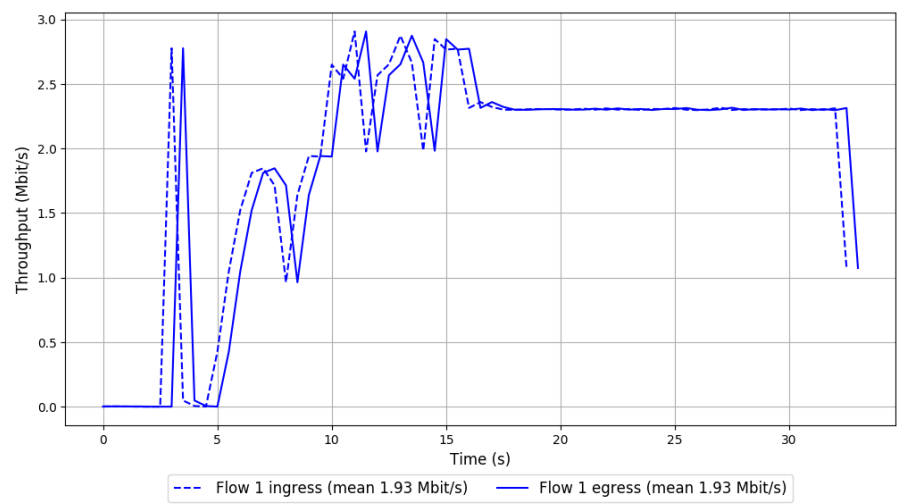


Run 3: Statistics of WebRTC media

Start at: 2018-10-09 19:04:58
End at: 2018-10-09 19:05:28
Local clock offset: -22.078 ms
Remote clock offset: -0.161 ms

Below is generated by plot.py at 2018-10-09 20:41:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 1.855 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 1.855 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-10-09 19:30:53

End at: 2018-10-09 19:31:23

Local clock offset: -17.28 ms

Remote clock offset: 0.113 ms

Below is generated by plot.py at 2018-10-09 20:41:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 2.218 ms

Loss rate: 0.00%

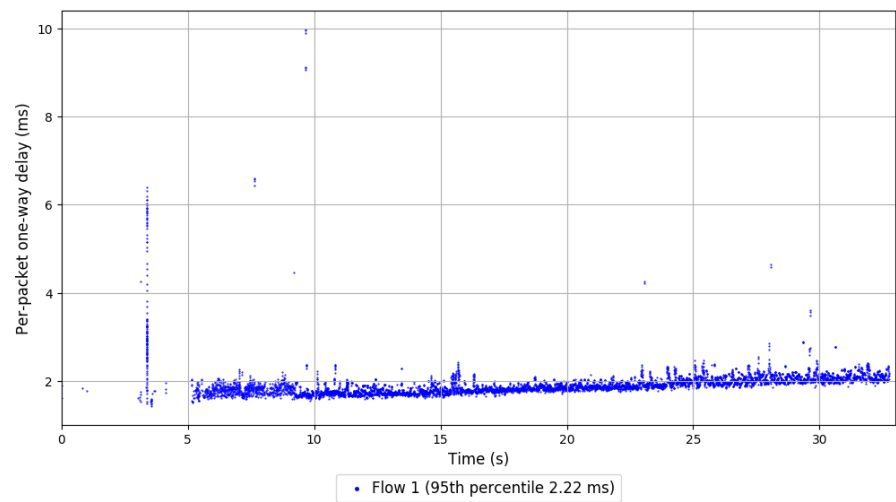
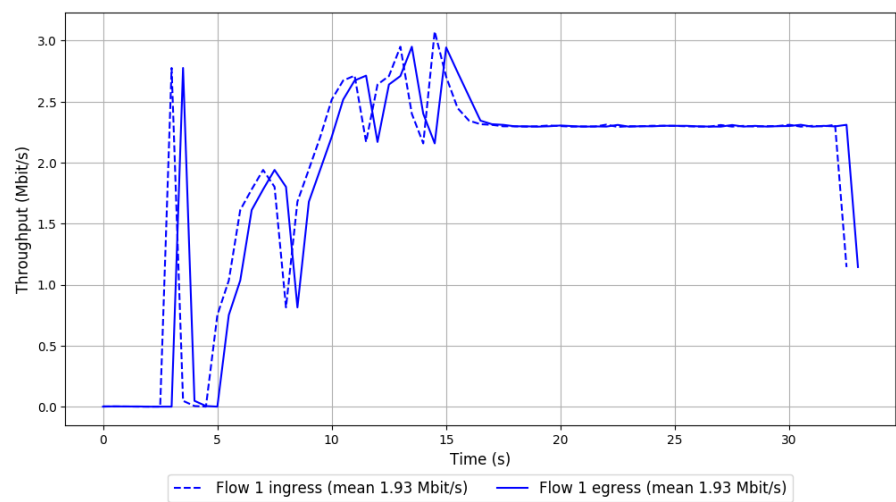
-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 2.218 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-09 19:56:29
End at: 2018-10-09 19:56:59
Local clock offset: -13.455 ms
Remote clock offset: -0.344 ms

Below is generated by plot.py at 2018-10-09 20:41:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 2.427 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.93 Mbit/s
95th percentile per-packet one-way delay: 2.427 ms
Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

