

Pantheon Report

Generated at 2018-10-10 02:24:02 (UTC).

Data path: India on *em1 (remote)* → AWS India 1 on *ens5 (local)*.

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against **nets.org.sg** 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-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
```

third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851

Scatter plot showing Average throughput (Mbit/s) vs 95th percentile one-way delay (ms) for various congestion control algorithms. The plot shows a negative correlation between delay and throughput. Algorithms like Indigo-96d2d3p and BBR achieve high throughput at low delay, while others like PCC-Expr and Verus show lower throughput at higher delay. Sprout and Indigo-Muses show lower throughput at higher delay. WebRTC media and SCREAM show very low throughput at high delay.

Algorithm	95th percentile one-way delay (ms)	Average throughput (Mbit/s)
Indigo-96d2d3p	~65	~98
BBR	~55	~95
PCC-Expr	~75	~88
Verus	~55	~90
Indigo	~28	~98
TCP-CUBIC	~28	~95
PCC-Vegas	~28	~92
QUIC	~28	~90
PCC-Abr-100x	~28	~88
PCC-Vivace	~28	~85
ED	~28	~82
BPa	~28	~80
Sprout	~35	~25
Indigo-Muses	~20	~68
WebRTC media	~18	~2
SCREAM	~18	~1



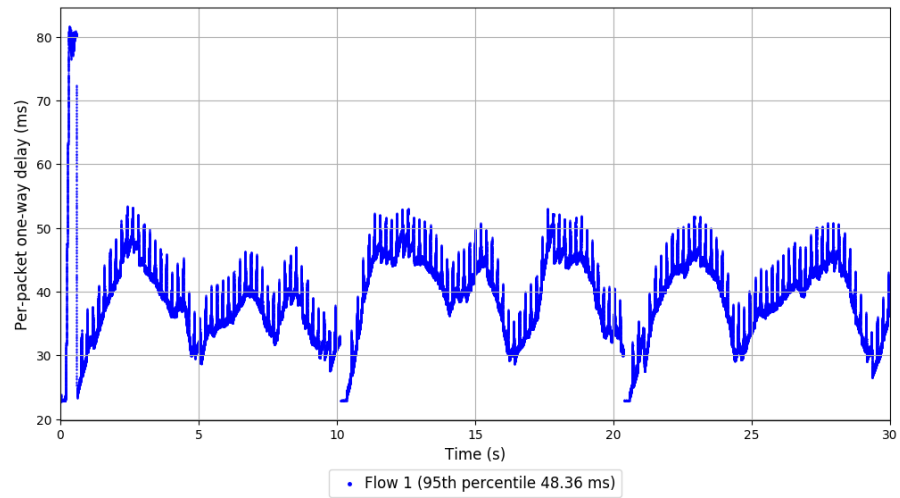
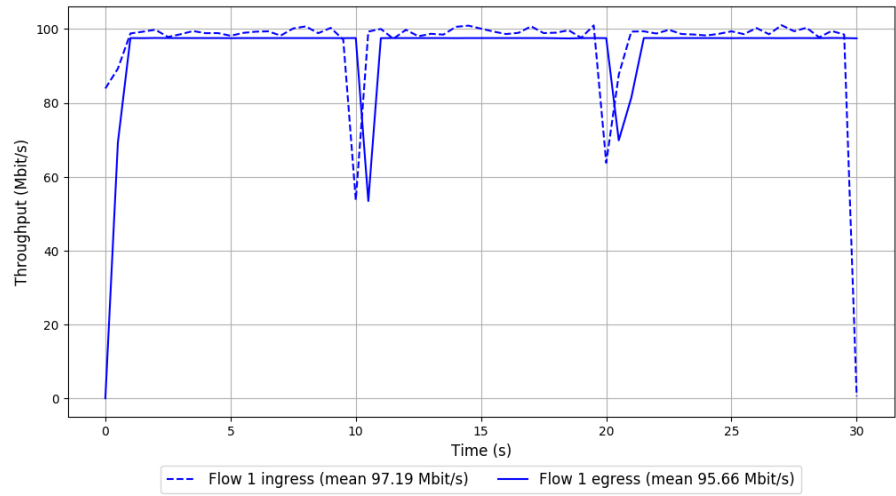
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	95.63	45.90	1.85
Copa	5	83.49	25.90	0.10
TCP Cubic	5	94.21	28.65	0.10
FillP	5	95.04	47.12	1.43
Indigo	5	96.79	25.38	0.09
Indigo-96d2da3	5	96.83	69.54	7.30
LEDBAT	5	84.53	29.11	0.12
Indigo-Muses	5	67.67	21.52	0.08
PCC-Allegro	5	91.43	26.63	0.09
PCC-Expr	5	85.96	88.03	0.17
QUIC Cubic	5	90.51	28.87	0.13
SCReAM	5	0.21	22.02	0.08
Sprout	5	24.57	28.52	0.10
TaoVA-100x	5	91.07	23.07	0.08
TCP Vegas	5	93.95	23.43	0.10
Verus	5	88.41	54.03	0.24
PCC-Vivace	5	87.03	26.96	0.09
WebRTC media	5	2.40	23.32	0.12

Run 1: Statistics of TCP BBR

Start at: 2018-10-10 00:37:21
End at: 2018-10-10 00:37:51
Local clock offset: 8.832 ms
Remote clock offset: -4.789 ms

Below is generated by plot.py at 2018-10-10 02:12:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 48.361 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 48.361 ms
Loss rate: 1.66%

Run 1: Report of TCP BBR — Data Link

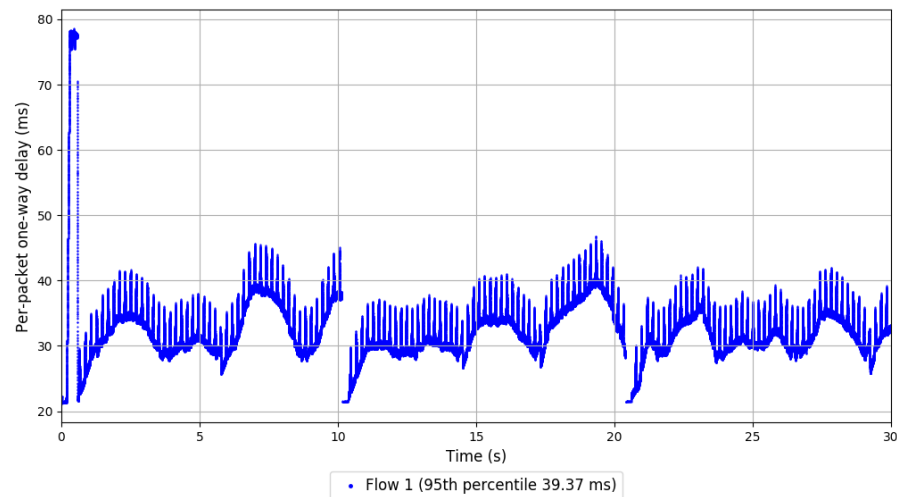
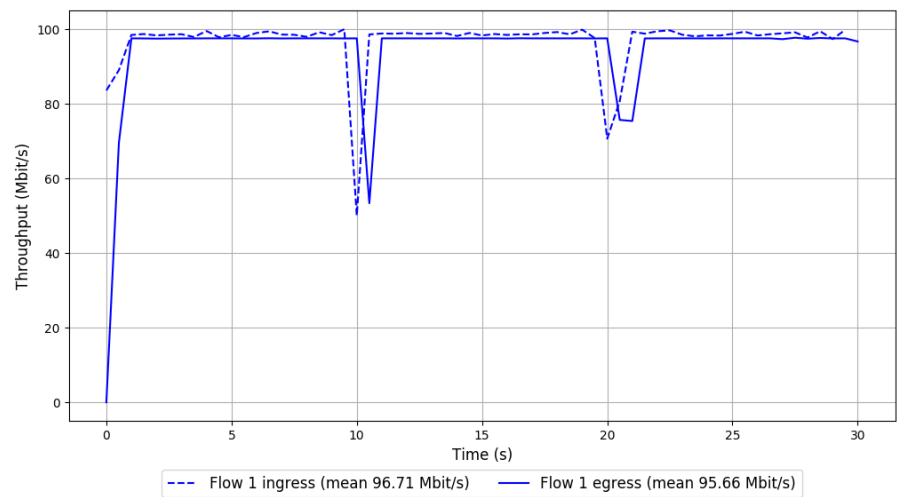


Run 2: Statistics of TCP BBR

Start at: 2018-10-10 00:59:00
End at: 2018-10-10 00:59:30
Local clock offset: 5.752 ms
Remote clock offset: -4.517 ms

Below is generated by plot.py at 2018-10-10 02:12:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 39.365 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 95.66 Mbit/s
95th percentile per-packet one-way delay: 39.365 ms
Loss rate: 1.17%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-10-10 01:20:18

End at: 2018-10-10 01:20:48

Local clock offset: 2.283 ms

Remote clock offset: -5.05 ms

Below is generated by plot.py at 2018-10-10 02:12:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.55 Mbit/s

95th percentile per-packet one-way delay: 49.997 ms

Loss rate: 2.10%

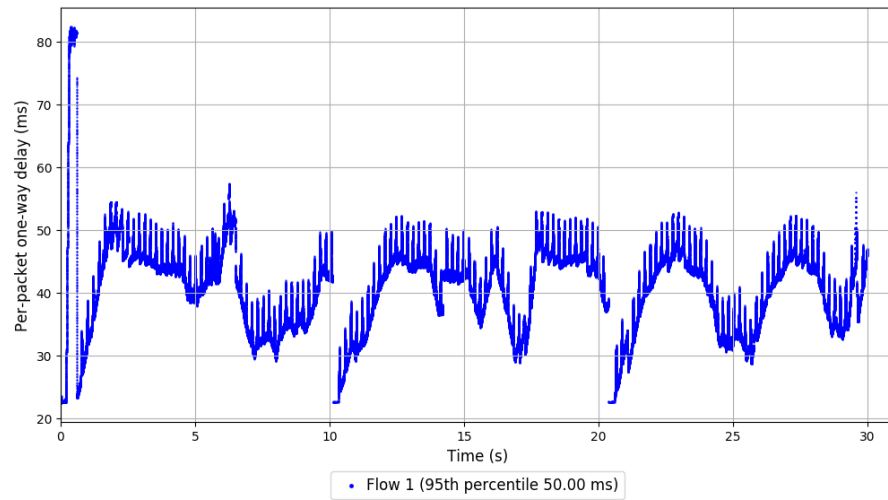
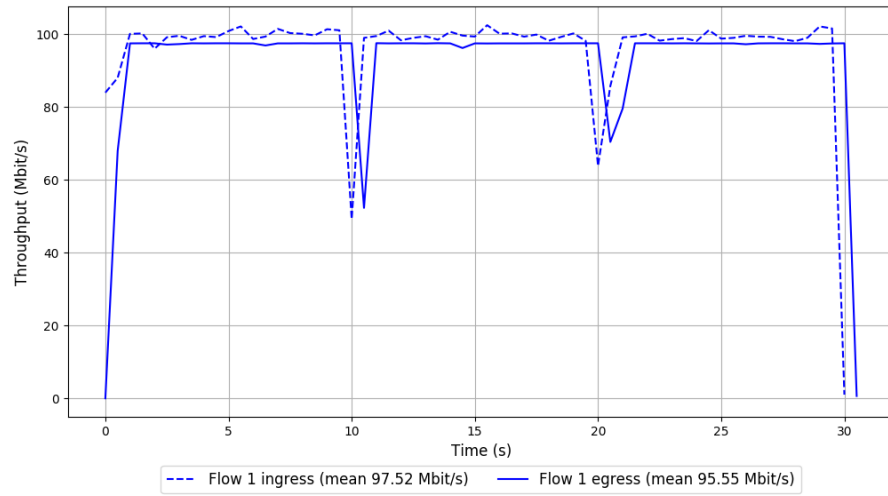
-- Flow 1:

Average throughput: 95.55 Mbit/s

95th percentile per-packet one-way delay: 49.997 ms

Loss rate: 2.10%

Run 3: Report of TCP BBR — Data Link

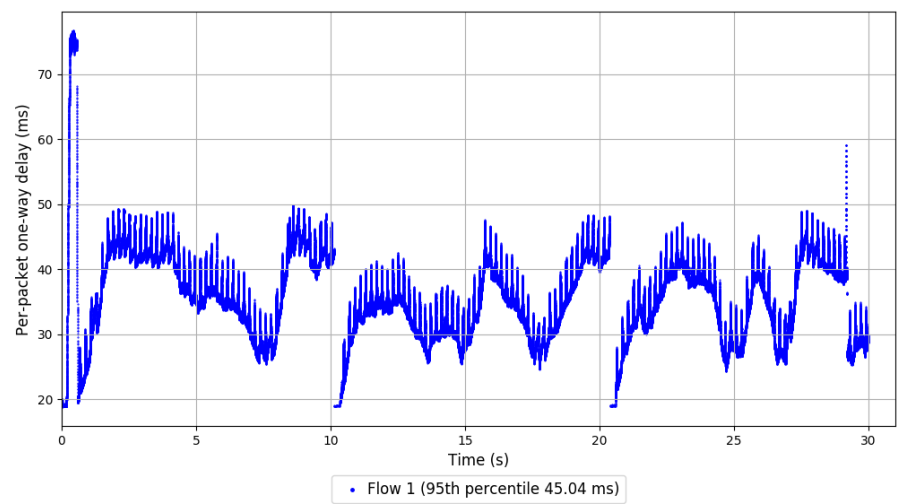
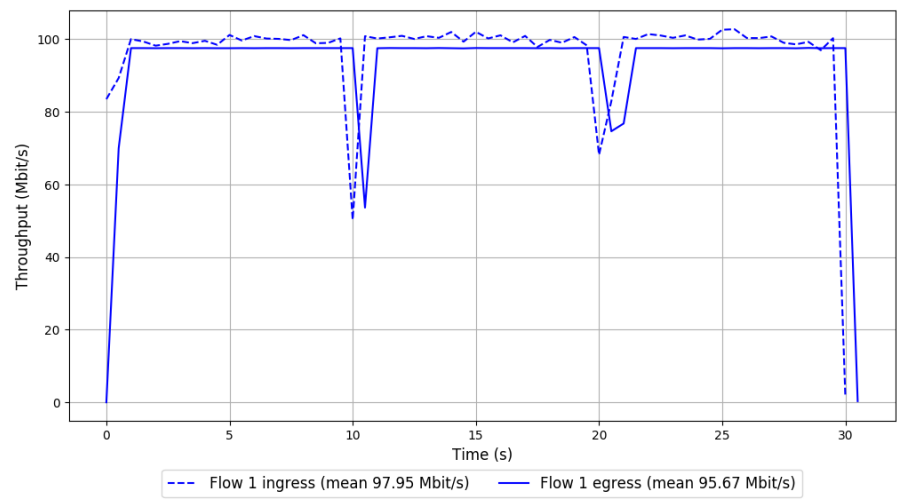


Run 4: Statistics of TCP BBR

Start at: 2018-10-10 01:41:49
End at: 2018-10-10 01:42:19
Local clock offset: 2.088 ms
Remote clock offset: -3.809 ms

Below is generated by plot.py at 2018-10-10 02:12:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 45.041 ms
Loss rate: 2.40%
-- Flow 1:
Average throughput: 95.67 Mbit/s
95th percentile per-packet one-way delay: 45.041 ms
Loss rate: 2.40%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-10-10 02:03:25

End at: 2018-10-10 02:03:55

Local clock offset: 1.549 ms

Remote clock offset: -5.283 ms

Below is generated by plot.py at 2018-10-10 02:12:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.60 Mbit/s

95th percentile per-packet one-way delay: 46.711 ms

Loss rate: 1.90%

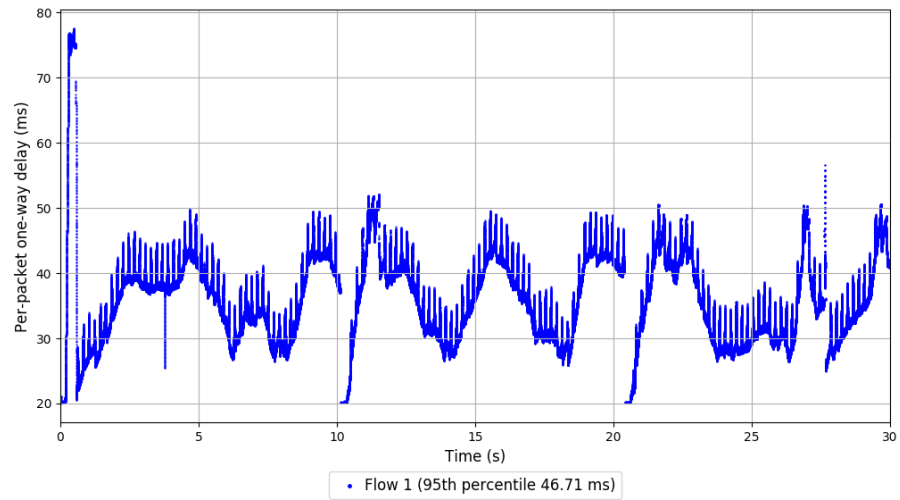
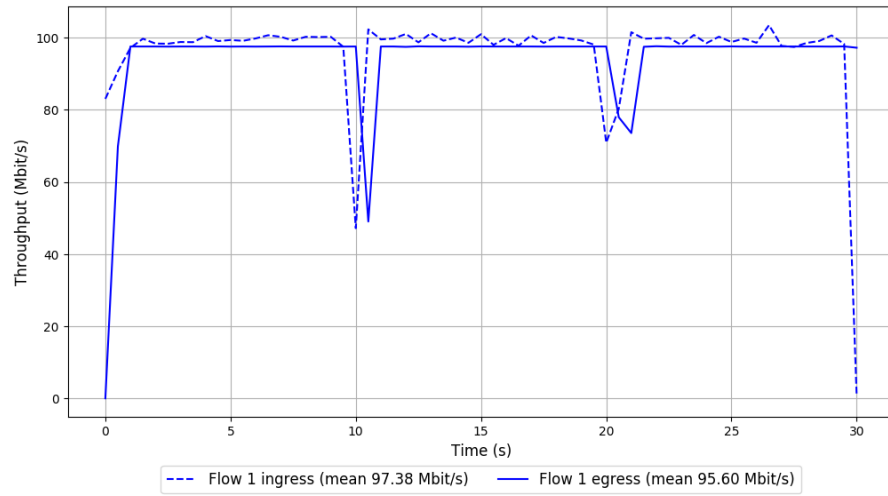
-- Flow 1:

Average throughput: 95.60 Mbit/s

95th percentile per-packet one-way delay: 46.711 ms

Loss rate: 1.90%

Run 5: Report of TCP BBR — Data Link

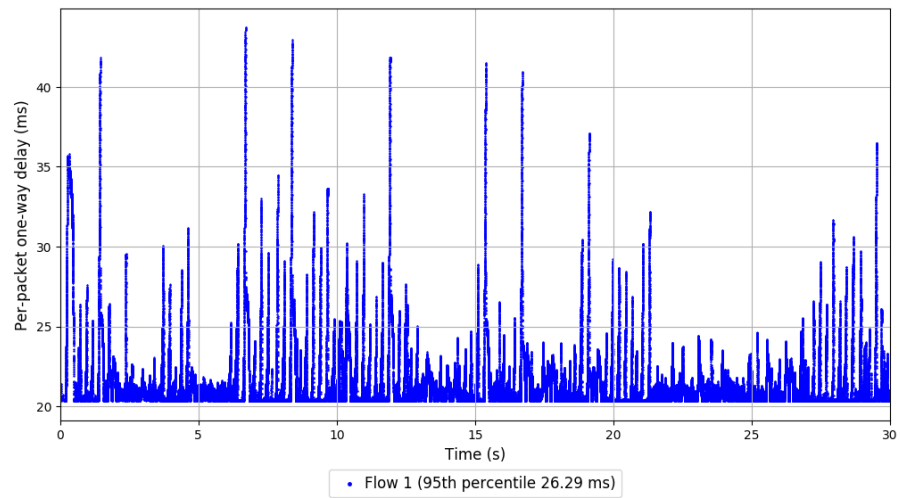
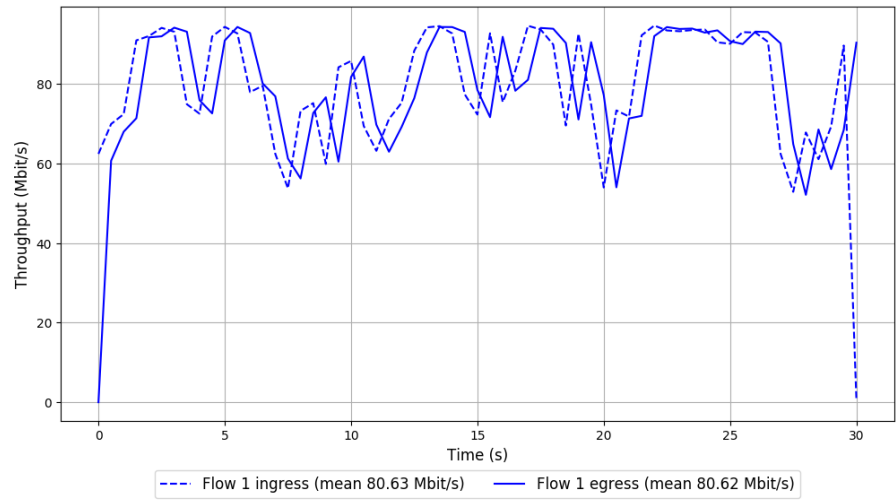


Run 1: Statistics of Copa

Start at: 2018-10-10 00:34:53
End at: 2018-10-10 00:35:23
Local clock offset: 6.198 ms
Remote clock offset: -4.794 ms

Below is generated by plot.py at 2018-10-10 02:13:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 80.62 Mbit/s
95th percentile per-packet one-way delay: 26.286 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 80.62 Mbit/s
95th percentile per-packet one-way delay: 26.286 ms
Loss rate: 0.10%

Run 1: Report of Copa — Data Link

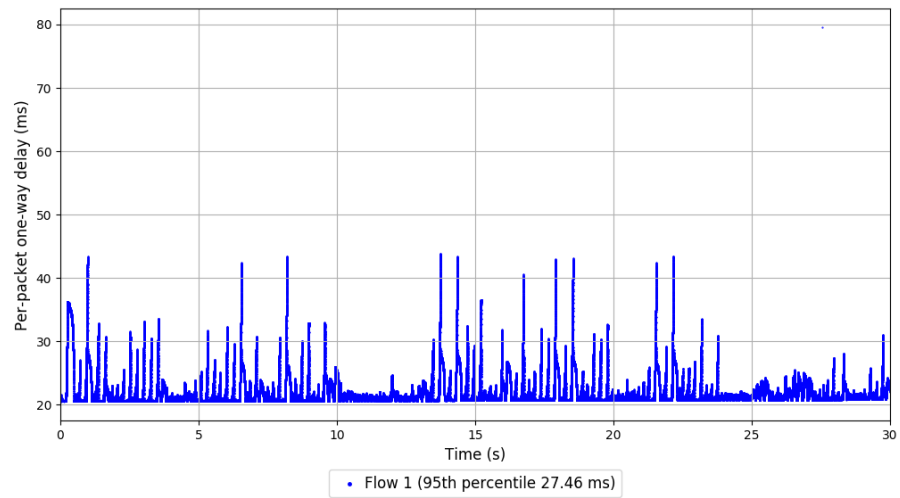
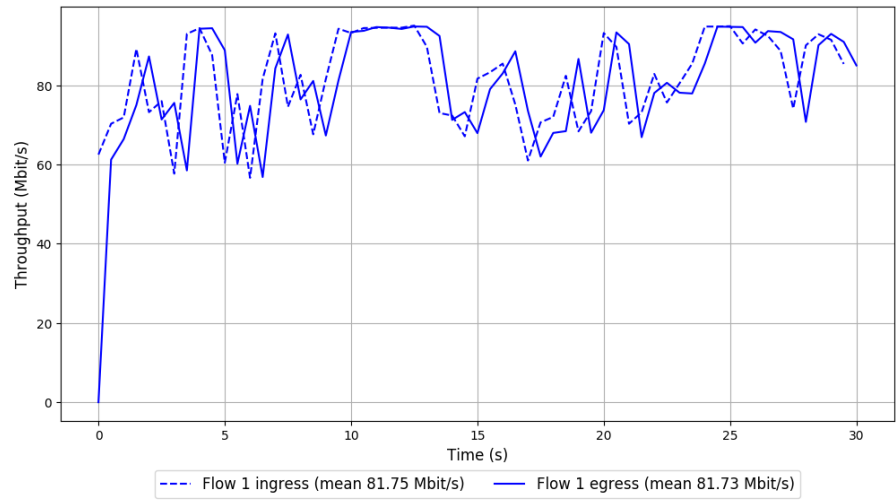


Run 2: Statistics of Copa

Start at: 2018-10-10 00:56:27
End at: 2018-10-10 00:56:57
Local clock offset: 6.462 ms
Remote clock offset: -4.353 ms

Below is generated by plot.py at 2018-10-10 02:13:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 81.73 Mbit/s
95th percentile per-packet one-way delay: 27.457 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 81.73 Mbit/s
95th percentile per-packet one-way delay: 27.457 ms
Loss rate: 0.10%

Run 2: Report of Copa — Data Link

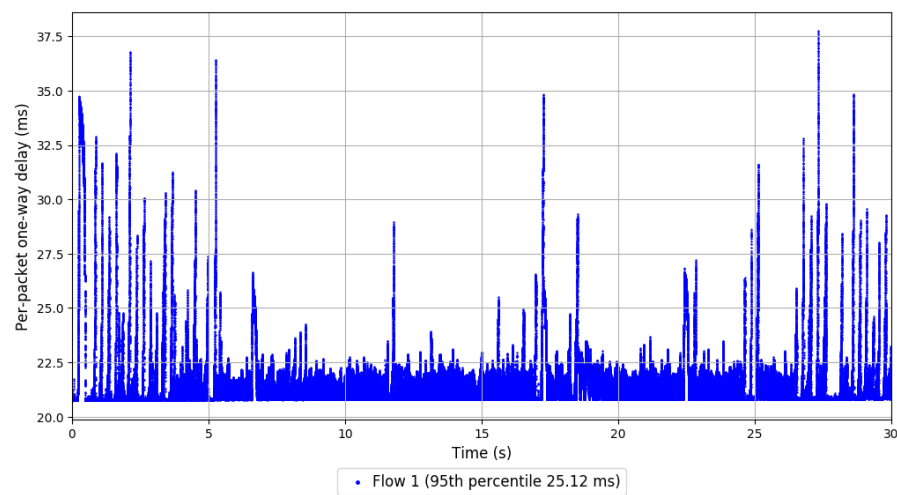
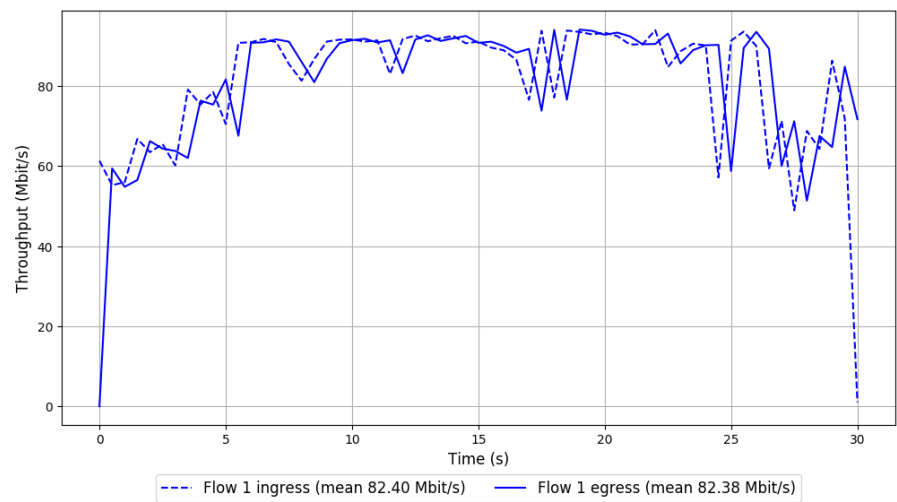


Run 3: Statistics of Copa

Start at: 2018-10-10 01:17:48
End at: 2018-10-10 01:18:18
Local clock offset: 1.274 ms
Remote clock offset: -4.453 ms

Below is generated by plot.py at 2018-10-10 02:13:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 82.38 Mbit/s
95th percentile per-packet one-way delay: 25.117 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 82.38 Mbit/s
95th percentile per-packet one-way delay: 25.117 ms
Loss rate: 0.11%

Run 3: Report of Copa — Data Link

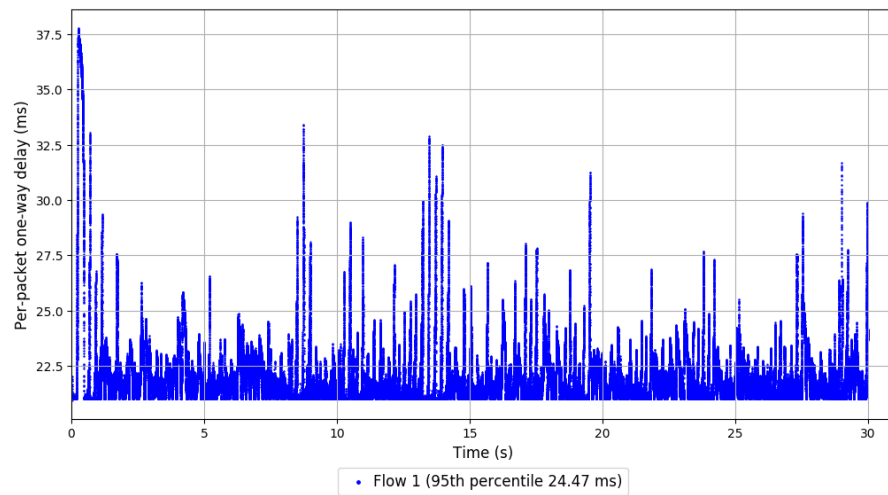
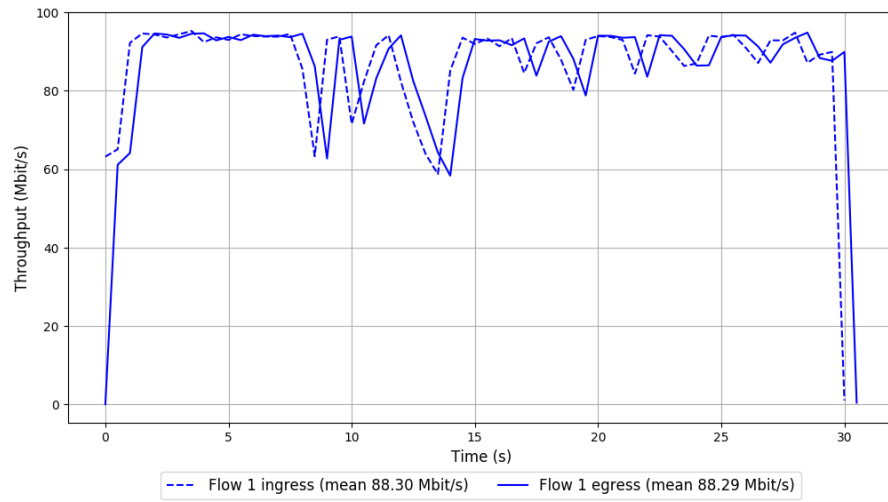


Run 4: Statistics of Copa

Start at: 2018-10-10 01:39:16
End at: 2018-10-10 01:39:46
Local clock offset: 4.045 ms
Remote clock offset: -3.905 ms

Below is generated by plot.py at 2018-10-10 02:14:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 88.29 Mbit/s
95th percentile per-packet one-way delay: 24.473 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 88.29 Mbit/s
95th percentile per-packet one-way delay: 24.473 ms
Loss rate: 0.10%

Run 4: Report of Copa — Data Link

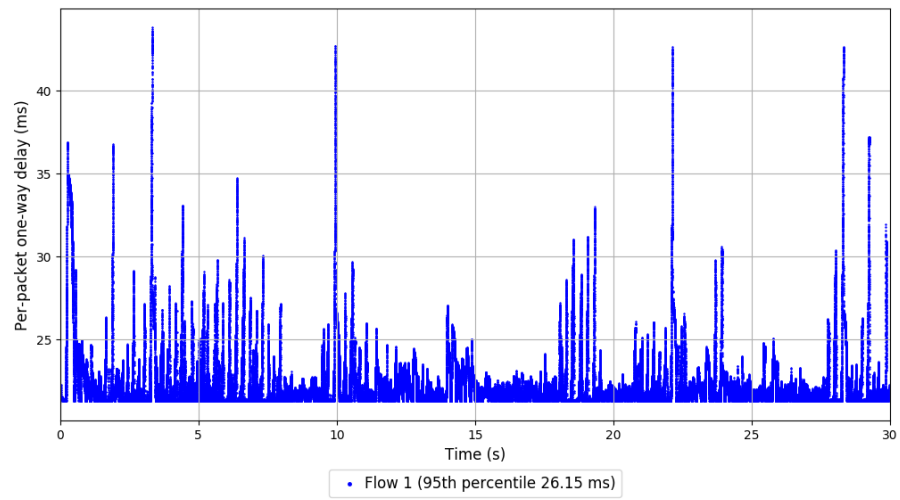
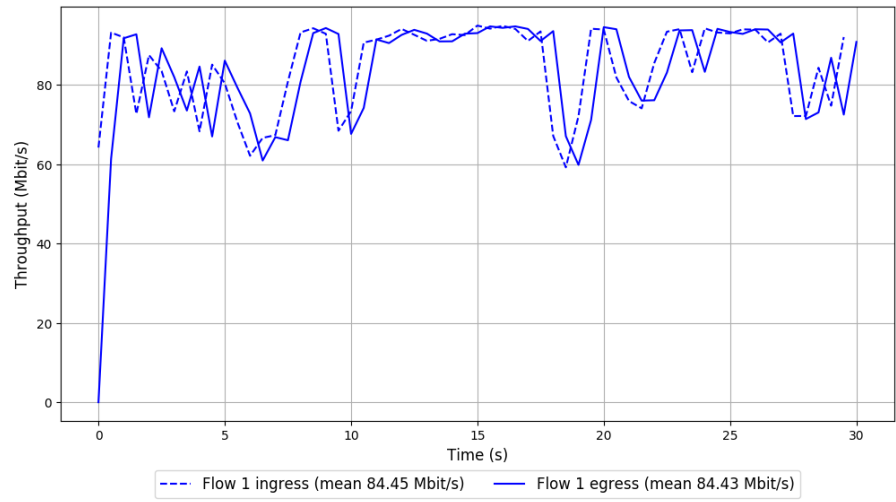


Run 5: Statistics of Copa

Start at: 2018-10-10 02:00:54
End at: 2018-10-10 02:01:24
Local clock offset: 2.763 ms
Remote clock offset: -5.352 ms

Below is generated by plot.py at 2018-10-10 02:14:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 84.43 Mbit/s
95th percentile per-packet one-way delay: 26.148 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 84.43 Mbit/s
95th percentile per-packet one-way delay: 26.148 ms
Loss rate: 0.10%

Run 5: Report of Copa — Data Link

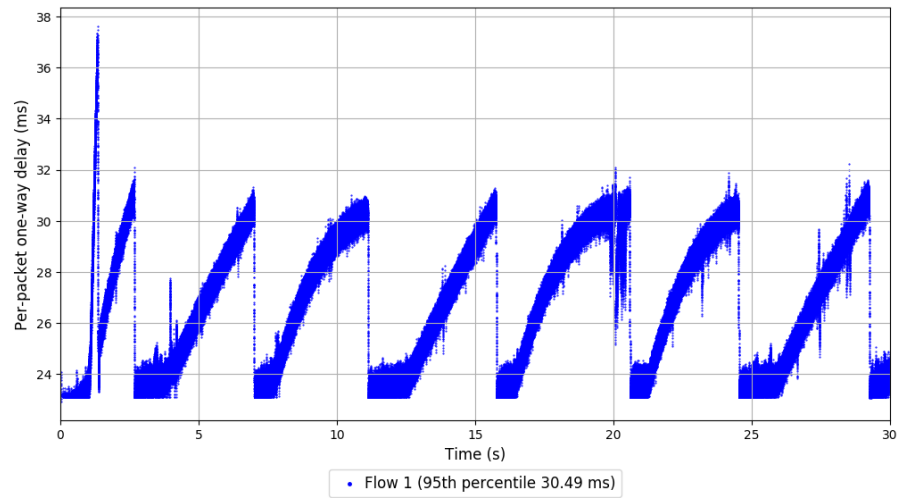
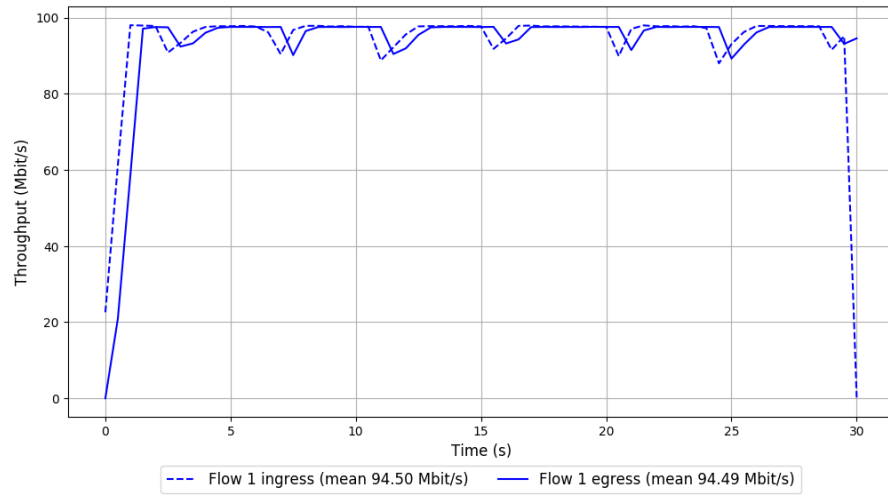


Run 1: Statistics of TCP Cubic

Start at: 2018-10-10 00:42:02
End at: 2018-10-10 00:42:32
Local clock offset: 9.107 ms
Remote clock offset: -4.973 ms

Below is generated by plot.py at 2018-10-10 02:14:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.49 Mbit/s
95th percentile per-packet one-way delay: 30.492 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 94.49 Mbit/s
95th percentile per-packet one-way delay: 30.492 ms
Loss rate: 0.09%

Run 1: Report of TCP Cubic — Data Link

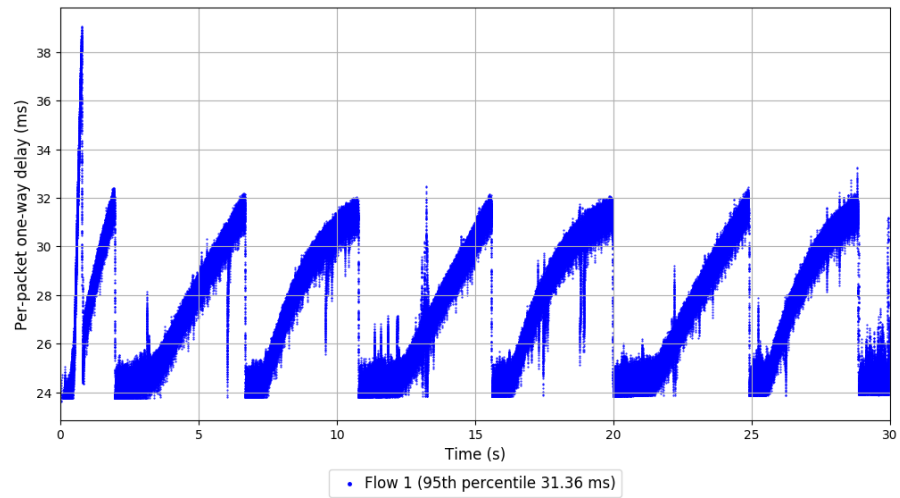
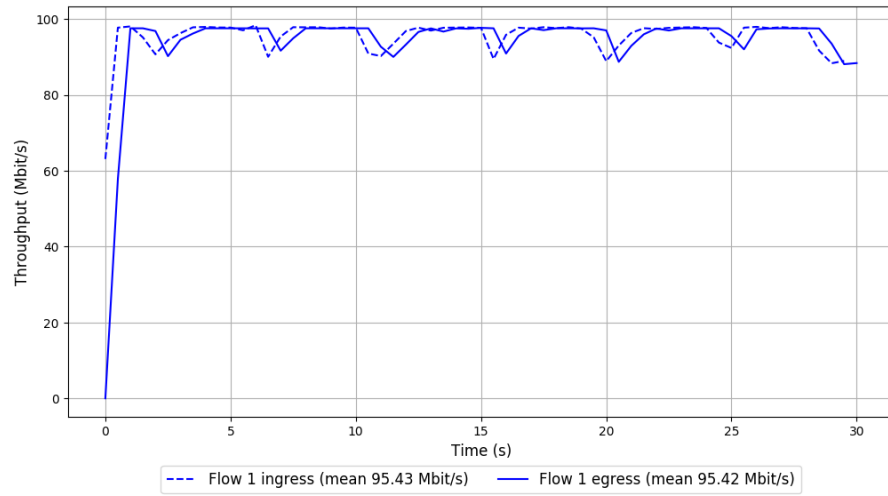


Run 2: Statistics of TCP Cubic

Start at: 2018-10-10 01:03:35
End at: 2018-10-10 01:04:05
Local clock offset: 5.981 ms
Remote clock offset: -5.054 ms

Below is generated by plot.py at 2018-10-10 02:14:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.42 Mbit/s
95th percentile per-packet one-way delay: 31.362 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 95.42 Mbit/s
95th percentile per-packet one-way delay: 31.362 ms
Loss rate: 0.09%

Run 2: Report of TCP Cubic — Data Link

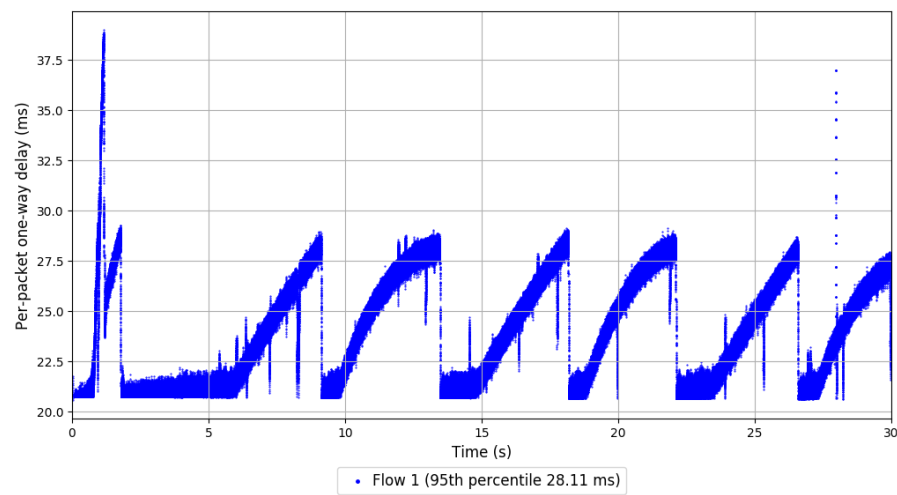
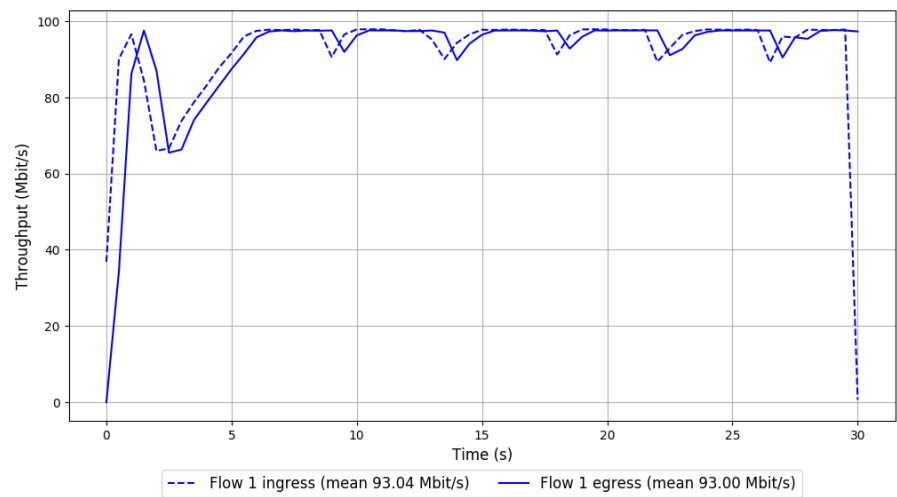


Run 3: Statistics of TCP Cubic

Start at: 2018-10-10 01:25:01
End at: 2018-10-10 01:25:31
Local clock offset: -2.997 ms
Remote clock offset: -8.281 ms

Below is generated by plot.py at 2018-10-10 02:14:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 93.00 Mbit/s
95th percentile per-packet one-way delay: 28.109 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 93.00 Mbit/s
95th percentile per-packet one-way delay: 28.109 ms
Loss rate: 0.12%

Run 3: Report of TCP Cubic — Data Link

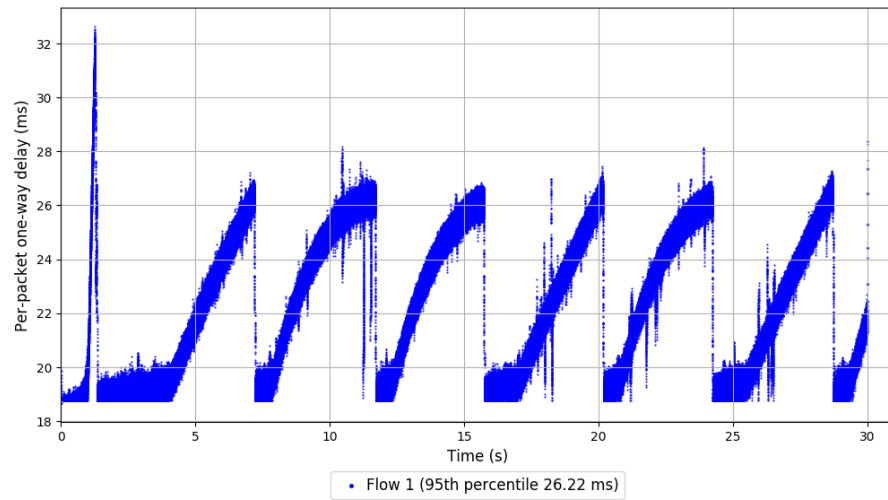
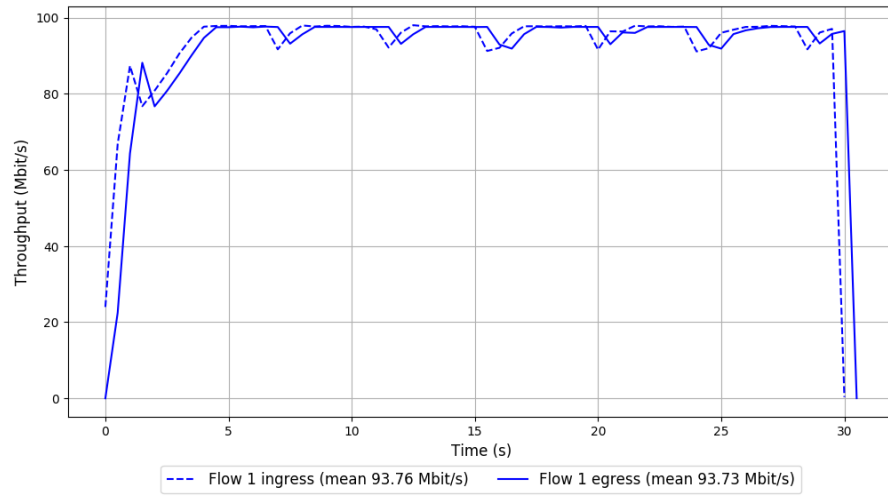


Run 4: Statistics of TCP Cubic

Start at: 2018-10-10 01:46:30
End at: 2018-10-10 01:47:00
Local clock offset: 2.138 ms
Remote clock offset: -3.626 ms

Below is generated by plot.py at 2018-10-10 02:14:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 93.73 Mbit/s
95th percentile per-packet one-way delay: 26.219 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 93.73 Mbit/s
95th percentile per-packet one-way delay: 26.219 ms
Loss rate: 0.09%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-10-10 02:08:06

End at: 2018-10-10 02:08:36

Local clock offset: 1.996 ms

Remote clock offset: -4.32 ms

Below is generated by plot.py at 2018-10-10 02:14:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.40 Mbit/s

95th percentile per-packet one-way delay: 27.070 ms

Loss rate: 0.09%

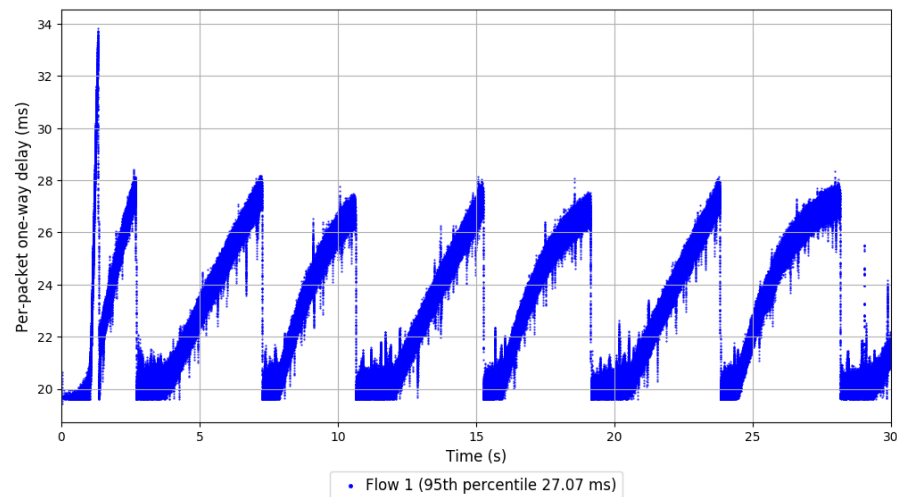
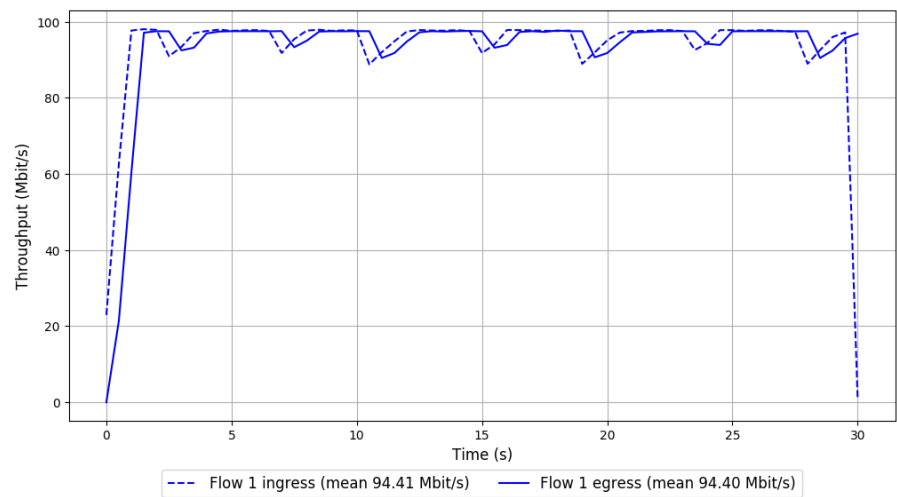
-- Flow 1:

Average throughput: 94.40 Mbit/s

95th percentile per-packet one-way delay: 27.070 ms

Loss rate: 0.09%

Run 5: Report of TCP Cubic — Data Link

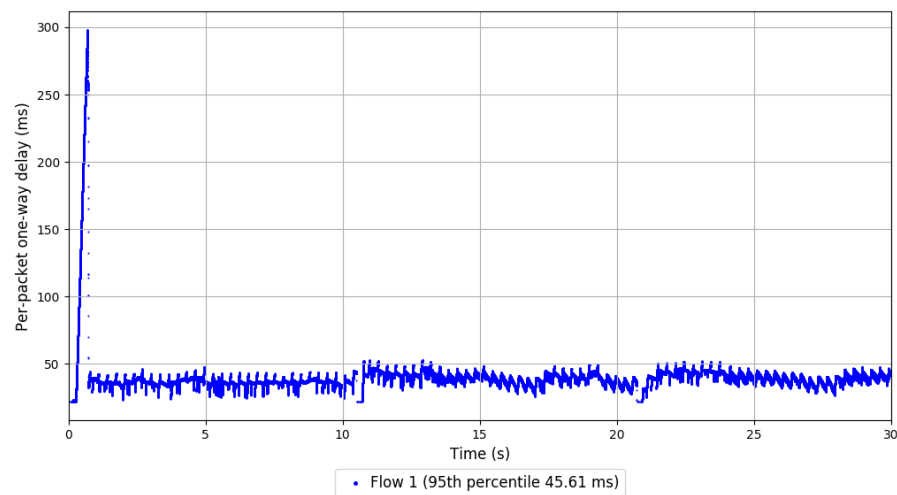
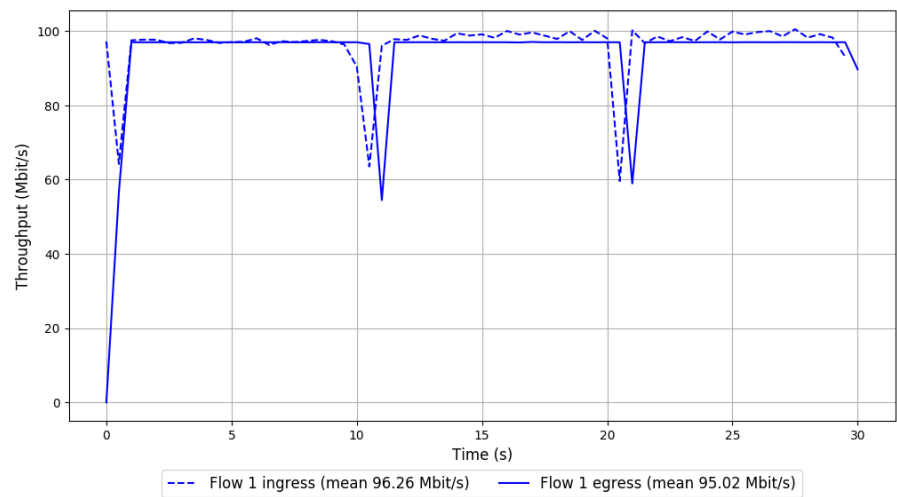


Run 1: Statistics of FillP

Start at: 2018-10-10 00:39:44
End at: 2018-10-10 00:40:14
Local clock offset: 7.35 ms
Remote clock offset: -5.297 ms

Below is generated by plot.py at 2018-10-10 02:15:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.02 Mbit/s
95th percentile per-packet one-way delay: 45.607 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 95.02 Mbit/s
95th percentile per-packet one-way delay: 45.607 ms
Loss rate: 1.37%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

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

End at: 2018-10-10 01:01:50

Local clock offset: 3.906 ms

Remote clock offset: -5.2 ms

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

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.95 Mbit/s

95th percentile per-packet one-way delay: 44.327 ms

Loss rate: 1.39%

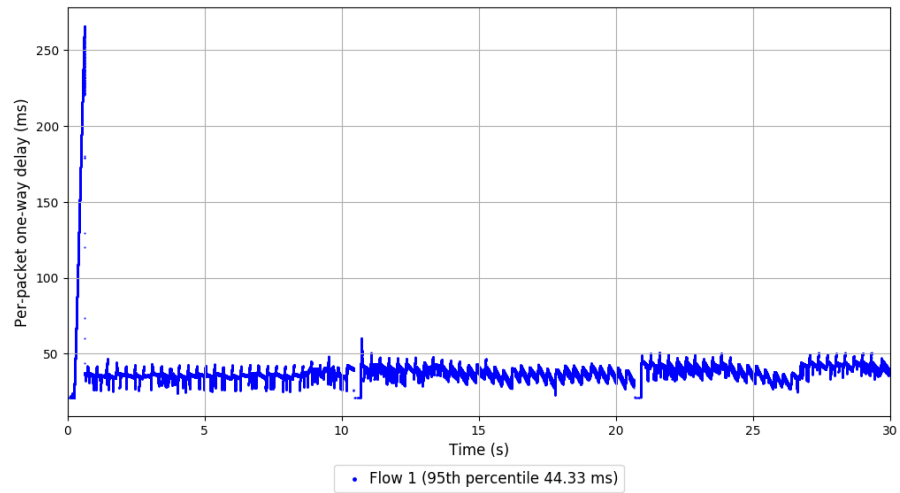
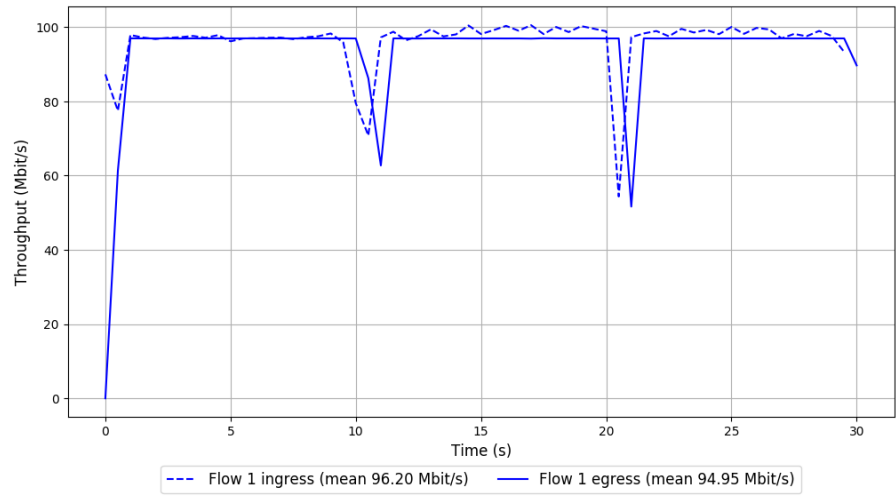
-- Flow 1:

Average throughput: 94.95 Mbit/s

95th percentile per-packet one-way delay: 44.327 ms

Loss rate: 1.39%

Run 2: Report of FillP — Data Link

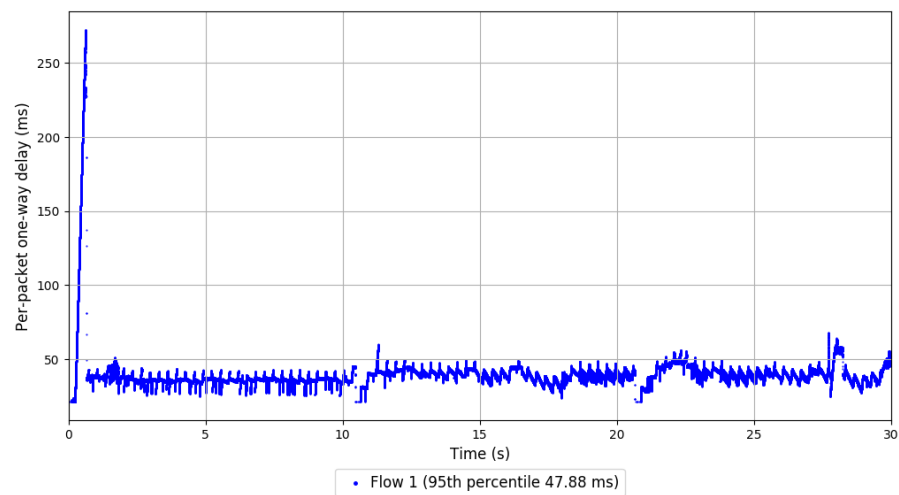
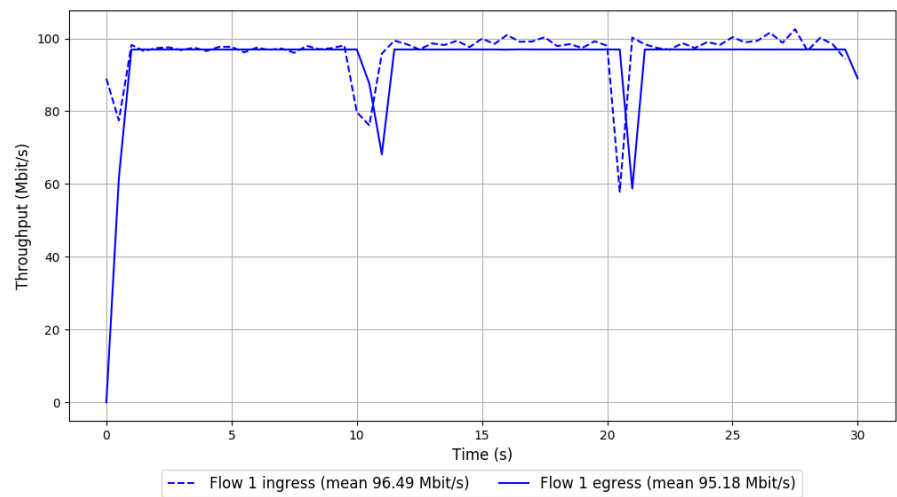


Run 3: Statistics of FillP

Start at: 2018-10-10 01:22:43
End at: 2018-10-10 01:23:13
Local clock offset: 0.441 ms
Remote clock offset: -5.586 ms

Below is generated by plot.py at 2018-10-10 02:15:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.18 Mbit/s
95th percentile per-packet one-way delay: 47.882 ms
Loss rate: 1.43%
-- Flow 1:
Average throughput: 95.18 Mbit/s
95th percentile per-packet one-way delay: 47.882 ms
Loss rate: 1.43%

Run 3: Report of FillP — Data Link

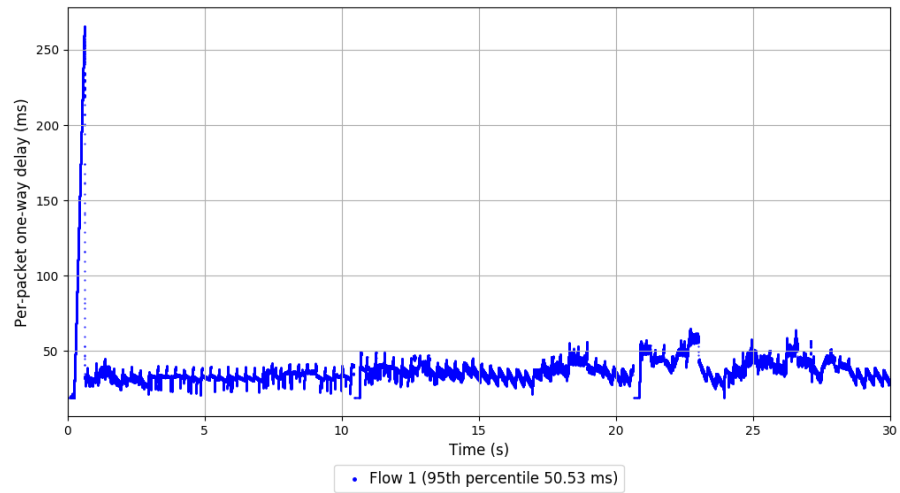
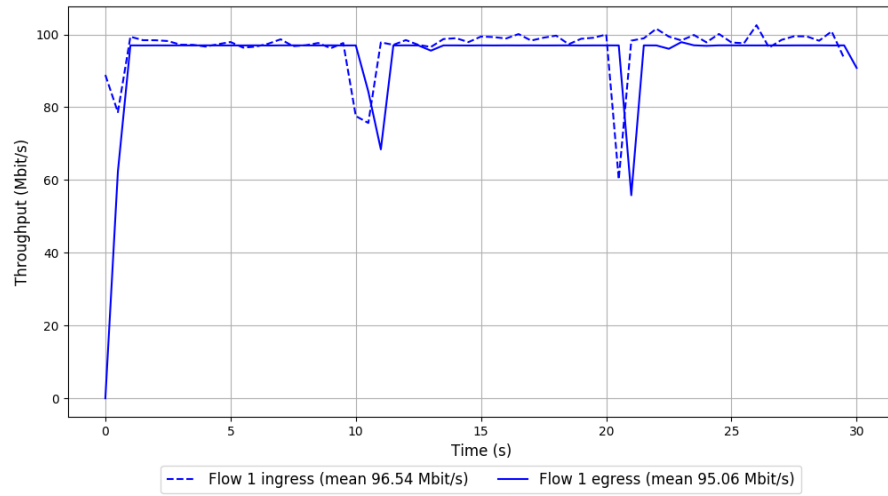


Run 4: Statistics of FillP

Start at: 2018-10-10 01:44:14
End at: 2018-10-10 01:44:44
Local clock offset: 2.188 ms
Remote clock offset: -3.846 ms

Below is generated by plot.py at 2018-10-10 02:15:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.06 Mbit/s
95th percentile per-packet one-way delay: 50.528 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 95.06 Mbit/s
95th percentile per-packet one-way delay: 50.528 ms
Loss rate: 1.61%

Run 4: Report of FillP — Data Link

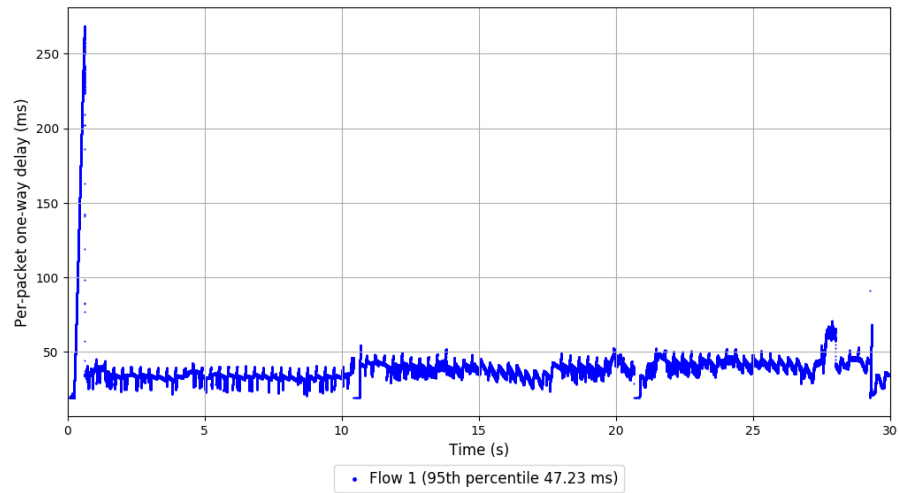
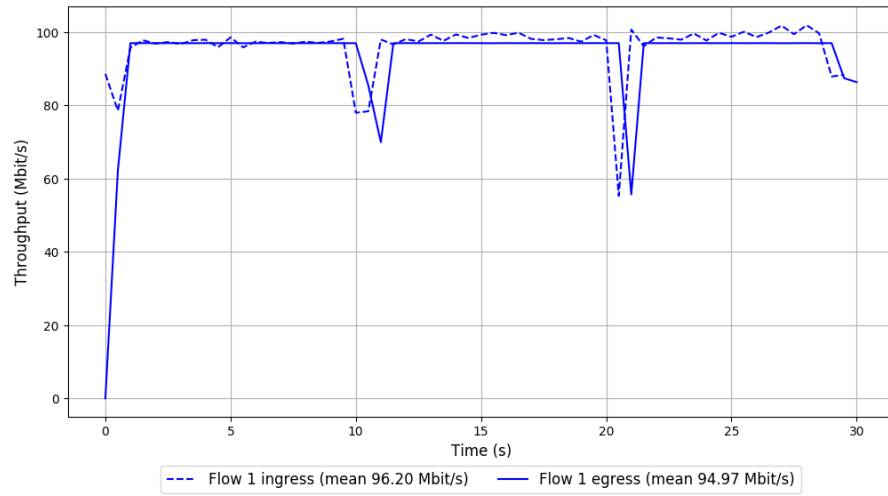


Run 5: Statistics of FillP

Start at: 2018-10-10 02:05:49
End at: 2018-10-10 02:06:19
Local clock offset: 1.85 ms
Remote clock offset: -4.409 ms

Below is generated by plot.py at 2018-10-10 02:15:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.97 Mbit/s
95th percentile per-packet one-way delay: 47.233 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 94.97 Mbit/s
95th percentile per-packet one-way delay: 47.233 ms
Loss rate: 1.36%

Run 5: Report of FillP — Data Link

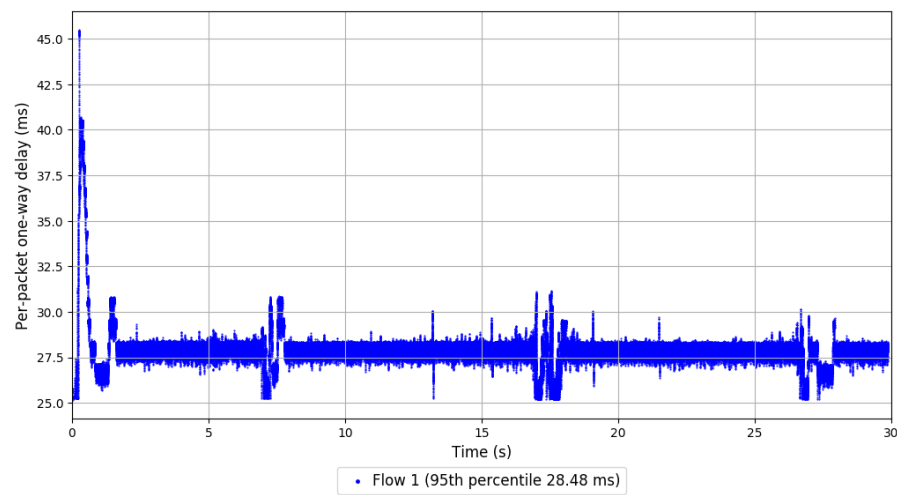
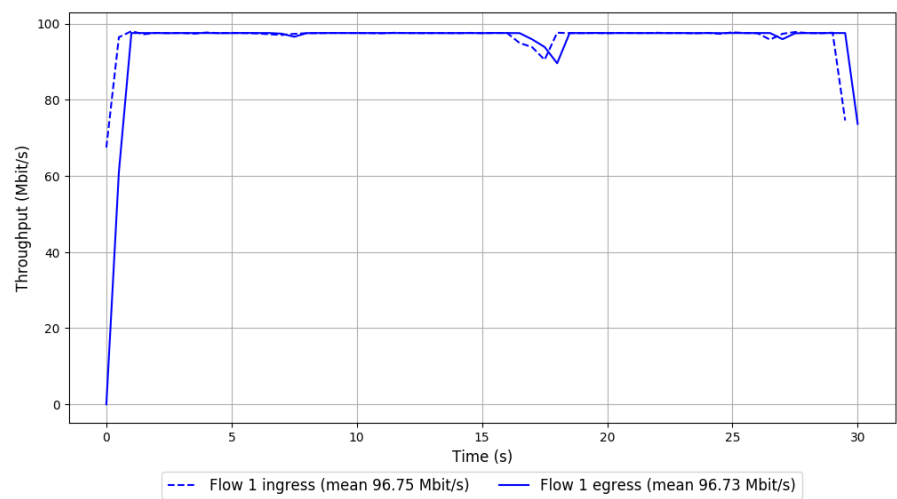


Run 1: Statistics of Indigo

Start at: 2018-10-10 00:26:31
End at: 2018-10-10 00:27:01
Local clock offset: 6.292 ms
Remote clock offset: -4.127 ms

Below is generated by plot.py at 2018-10-10 02:15:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.73 Mbit/s
95th percentile per-packet one-way delay: 28.483 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 96.73 Mbit/s
95th percentile per-packet one-way delay: 28.483 ms
Loss rate: 0.11%

Run 1: Report of Indigo — Data Link

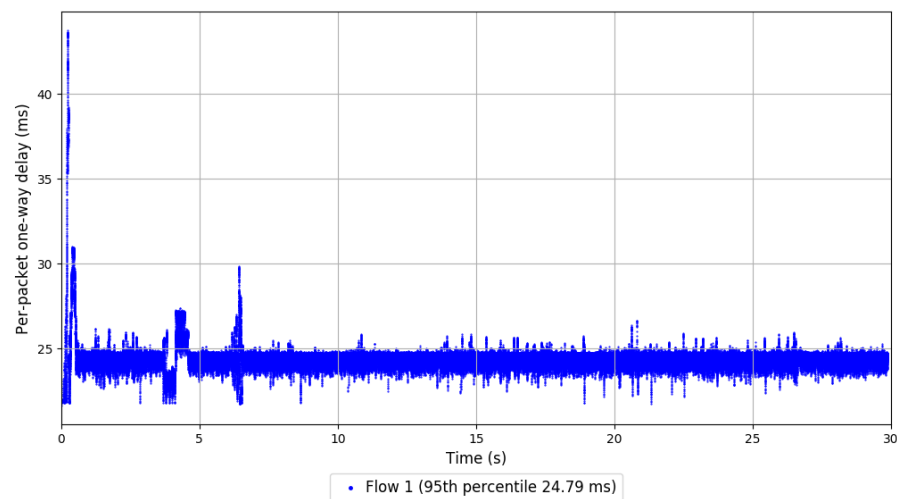
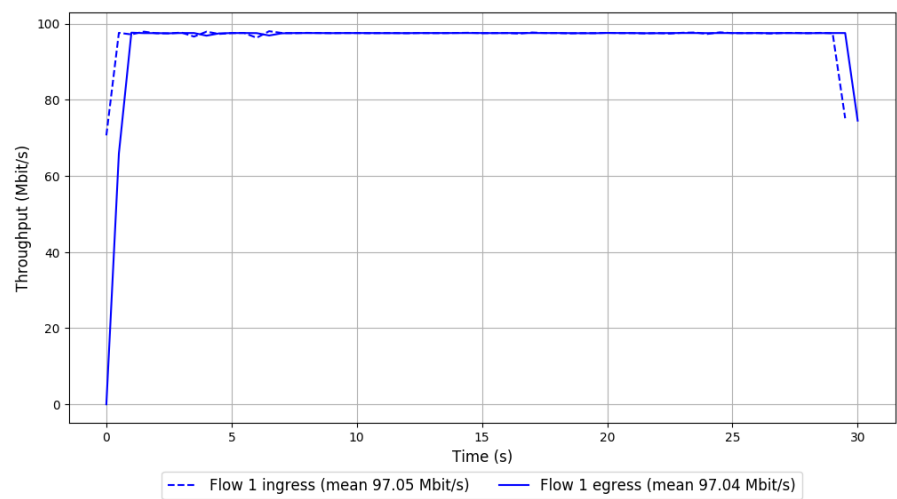


Run 2: Statistics of Indigo

Start at: 2018-10-10 00:48:00
End at: 2018-10-10 00:48:30
Local clock offset: 7.937 ms
Remote clock offset: -5.114 ms

Below is generated by plot.py at 2018-10-10 02:15:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.04 Mbit/s
95th percentile per-packet one-way delay: 24.790 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 97.04 Mbit/s
95th percentile per-packet one-way delay: 24.790 ms
Loss rate: 0.09%

Run 2: Report of Indigo — Data Link

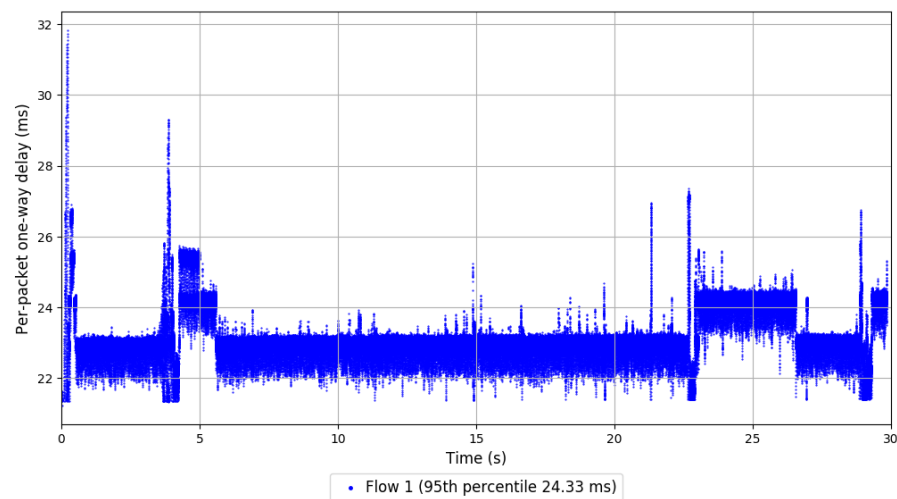
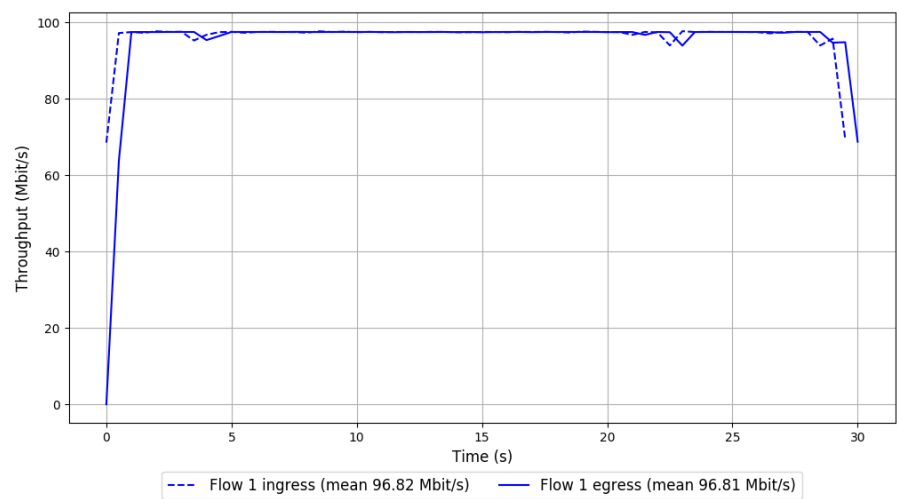


Run 3: Statistics of Indigo

Start at: 2018-10-10 01:09:26
End at: 2018-10-10 01:09:56
Local clock offset: 1.895 ms
Remote clock offset: -5.448 ms

Below is generated by plot.py at 2018-10-10 02:15:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.81 Mbit/s
95th percentile per-packet one-way delay: 24.327 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 96.81 Mbit/s
95th percentile per-packet one-way delay: 24.327 ms
Loss rate: 0.09%

Run 3: Report of Indigo — Data Link

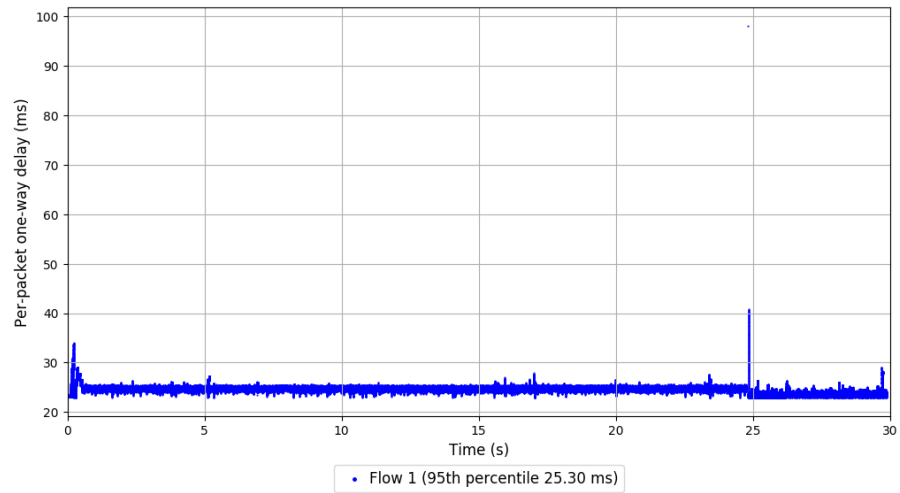
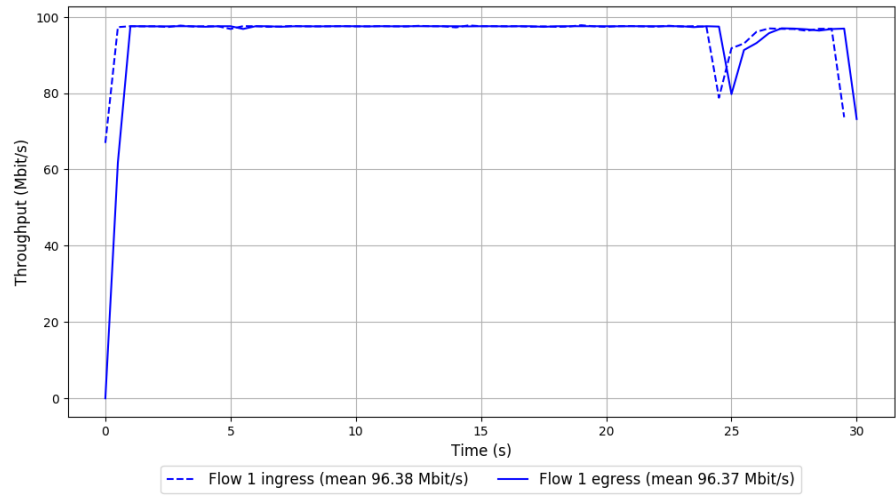


Run 4: Statistics of Indigo

Start at: 2018-10-10 01:30:58
End at: 2018-10-10 01:31:28
Local clock offset: 3.752 ms
Remote clock offset: -4.769 ms

Below is generated by plot.py at 2018-10-10 02:16:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.37 Mbit/s
95th percentile per-packet one-way delay: 25.300 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 96.37 Mbit/s
95th percentile per-packet one-way delay: 25.300 ms
Loss rate: 0.09%

Run 4: Report of Indigo — Data Link

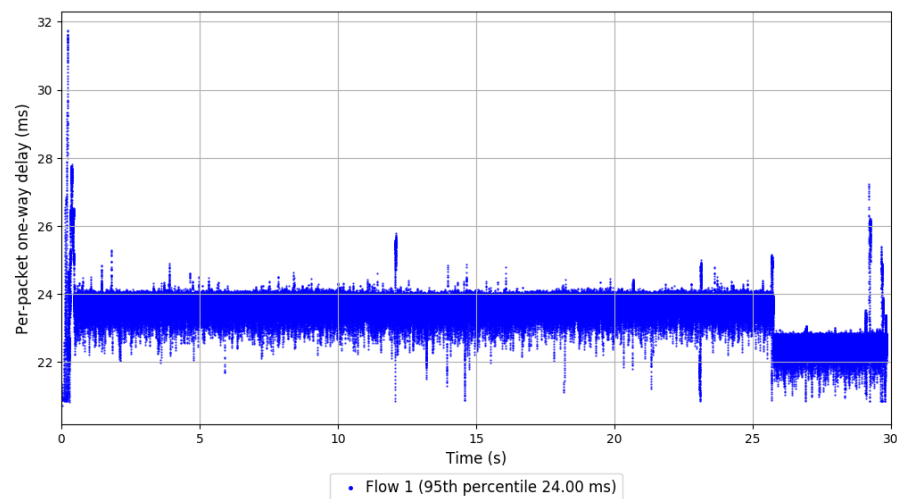
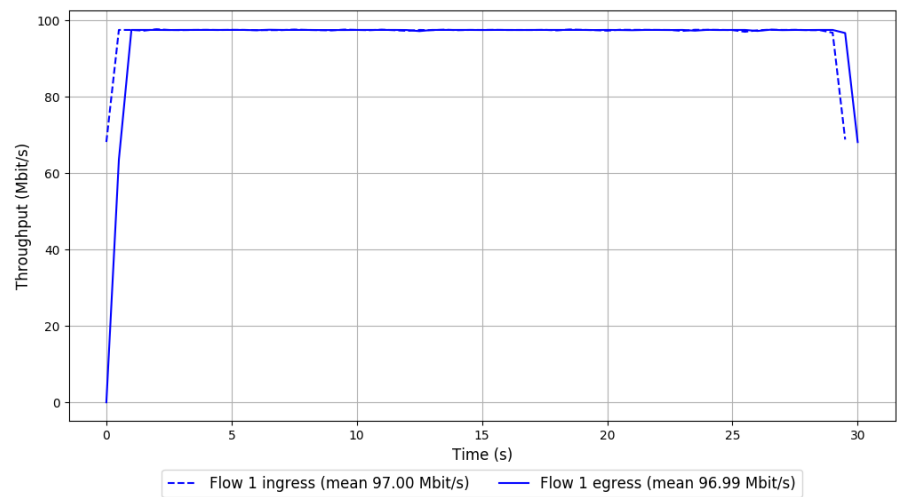


Run 5: Statistics of Indigo

Start at: 2018-10-10 01:52:28
End at: 2018-10-10 01:52:58
Local clock offset: 2.18 ms
Remote clock offset: -5.606 ms

Below is generated by plot.py at 2018-10-10 02:16:24
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.99 Mbit/s
95th percentile per-packet one-way delay: 23.997 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 96.99 Mbit/s
95th percentile per-packet one-way delay: 23.997 ms
Loss rate: 0.09%

Run 5: Report of Indigo — Data Link



Run 1: Statistics of Indigo-96d2da3

Start at: 2018-10-10 00:31:22

End at: 2018-10-10 00:31:52

Local clock offset: 6.595 ms

Remote clock offset: -3.834 ms

Below is generated by plot.py at 2018-10-10 02:16:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.83 Mbit/s

95th percentile per-packet one-way delay: 69.404 ms

Loss rate: 8.23%

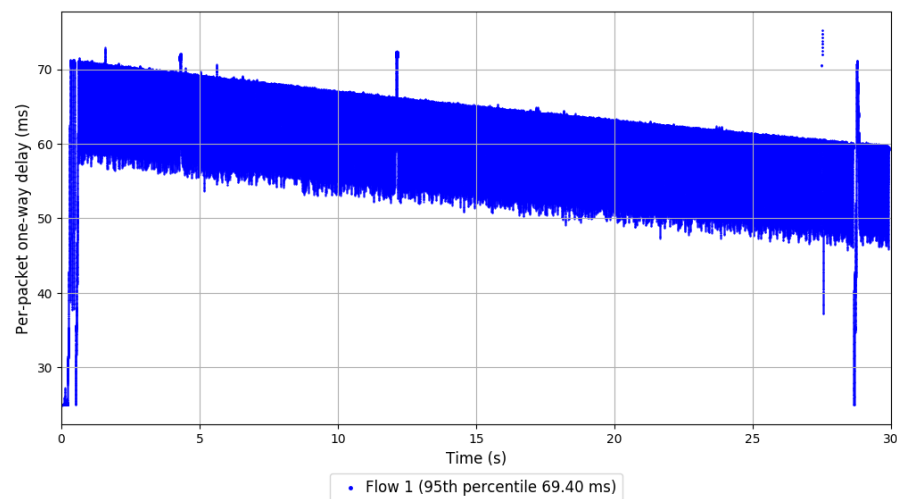
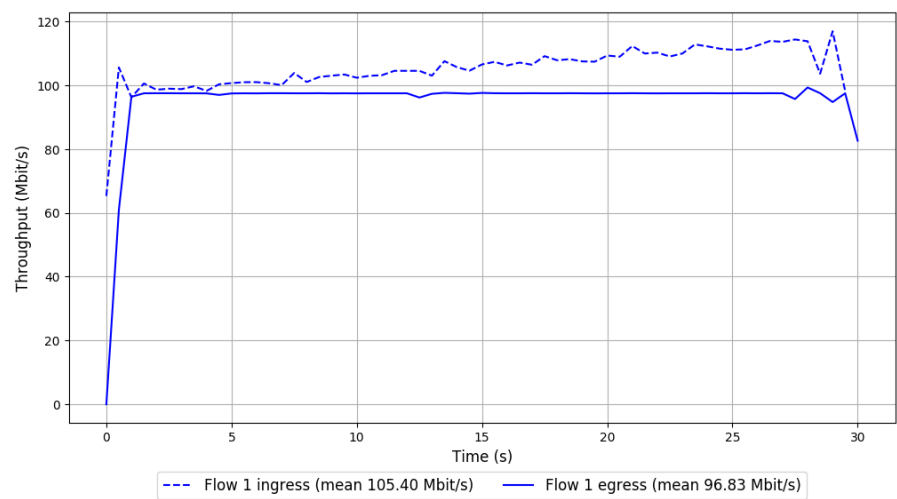
-- Flow 1:

Average throughput: 96.83 Mbit/s

95th percentile per-packet one-way delay: 69.404 ms

Loss rate: 8.23%

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

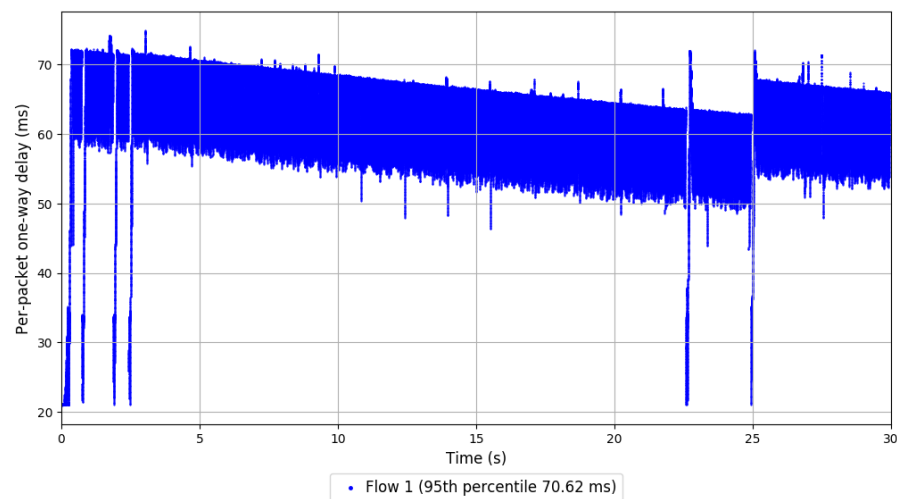
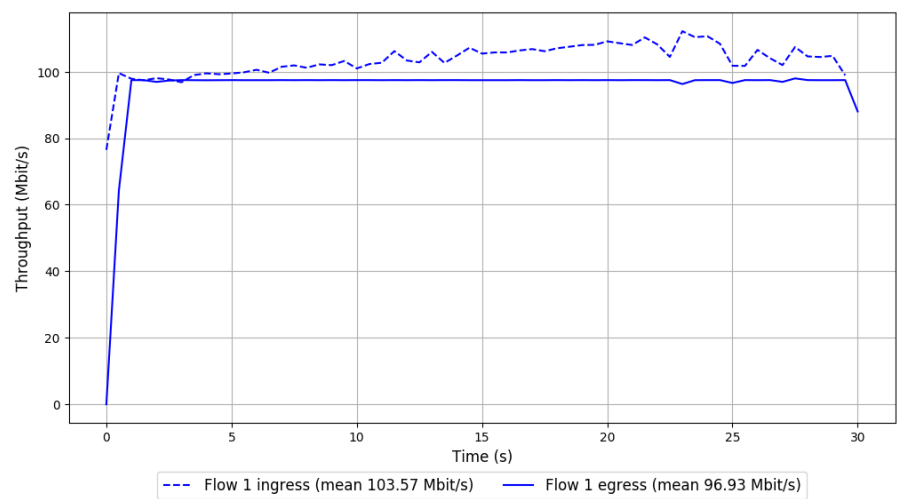


Run 2: Statistics of Indigo-96d2da3

Start at: 2018-10-10 00:52:51
End at: 2018-10-10 00:53:21
Local clock offset: 7.568 ms
Remote clock offset: -4.907 ms

Below is generated by plot.py at 2018-10-10 02:16:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.93 Mbit/s
95th percentile per-packet one-way delay: 70.621 ms
Loss rate: 6.50%
-- Flow 1:
Average throughput: 96.93 Mbit/s
95th percentile per-packet one-way delay: 70.621 ms
Loss rate: 6.50%

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

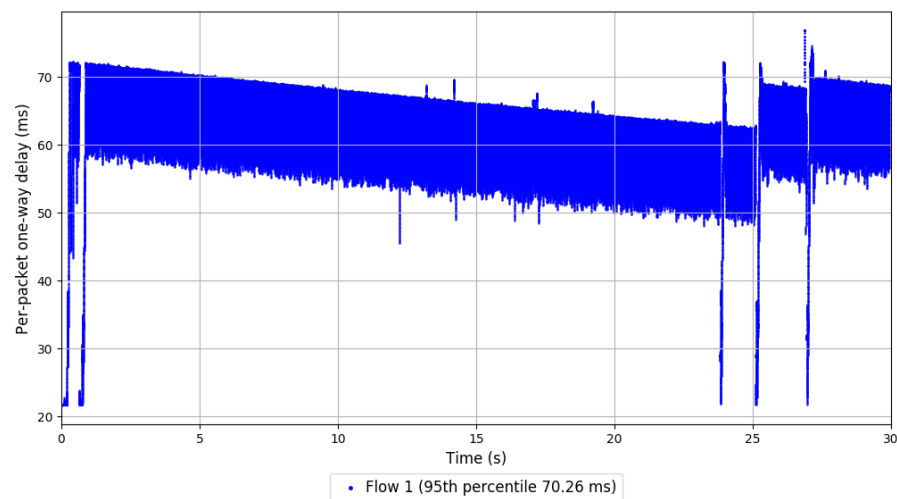
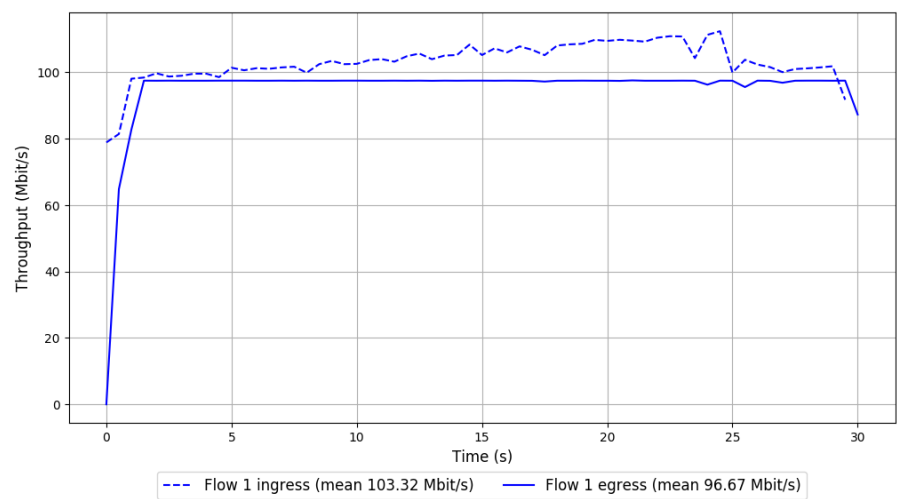


Run 3: Statistics of Indigo-96d2da3

Start at: 2018-10-10 01:14:12
End at: 2018-10-10 01:14:42
Local clock offset: 1.609 ms
Remote clock offset: -5.437 ms

Below is generated by plot.py at 2018-10-10 02:17:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.67 Mbit/s
95th percentile per-packet one-way delay: 70.260 ms
Loss rate: 6.51%
-- Flow 1:
Average throughput: 96.67 Mbit/s
95th percentile per-packet one-way delay: 70.260 ms
Loss rate: 6.51%

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

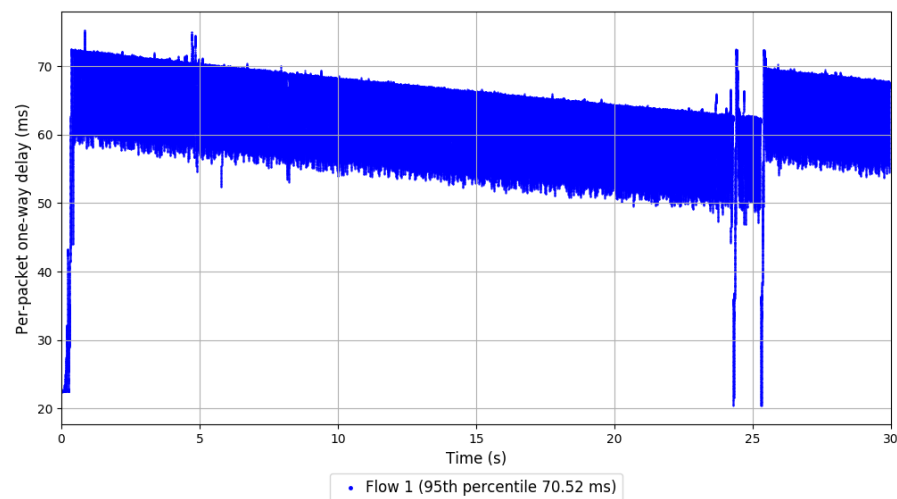
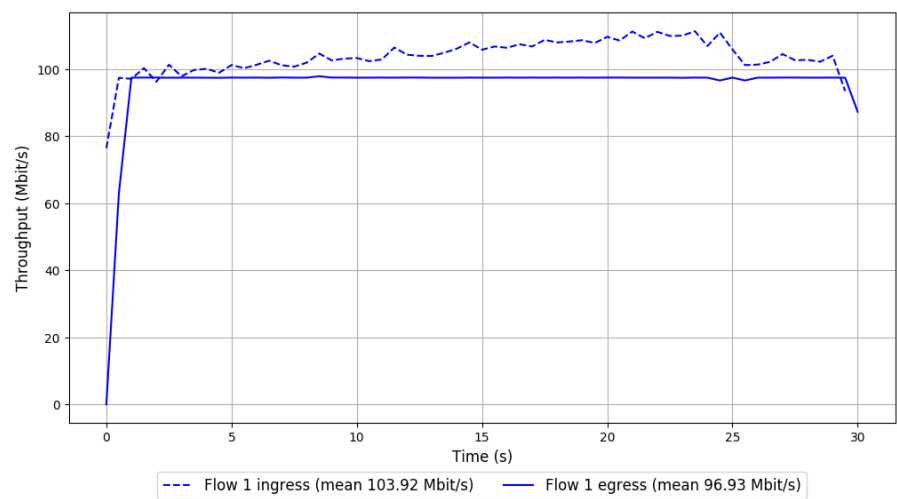


Run 4: Statistics of Indigo-96d2da3

Start at: 2018-10-10 01:35:44
End at: 2018-10-10 01:36:14
Local clock offset: 1.854 ms
Remote clock offset: -5.381 ms

Below is generated by plot.py at 2018-10-10 02:17:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.93 Mbit/s
95th percentile per-packet one-way delay: 70.518 ms
Loss rate: 6.79%
-- Flow 1:
Average throughput: 96.93 Mbit/s
95th percentile per-packet one-way delay: 70.518 ms
Loss rate: 6.79%

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

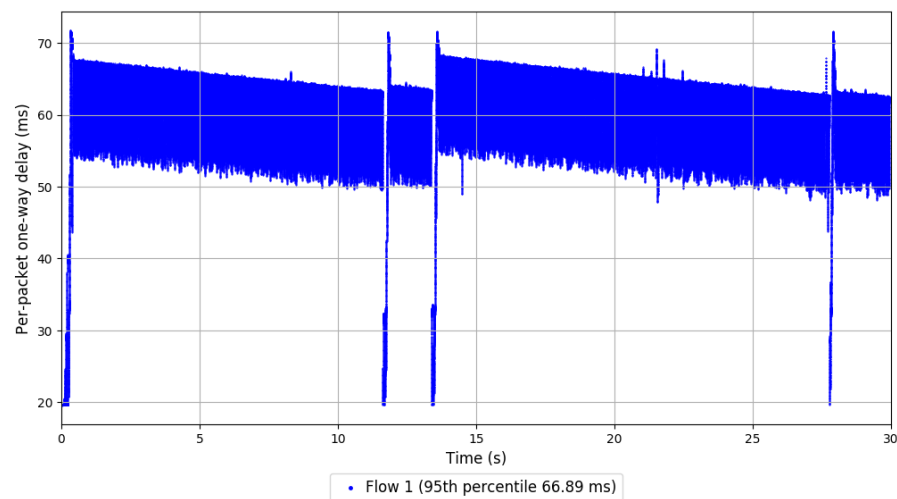
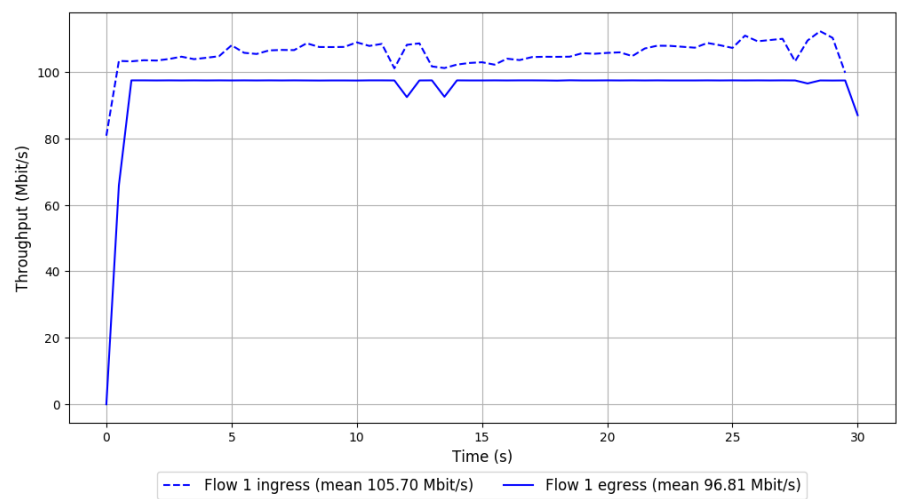


Run 5: Statistics of Indigo-96d2da3

Start at: 2018-10-10 01:57:16
End at: 2018-10-10 01:57:46
Local clock offset: 1.786 ms
Remote clock offset: -4.716 ms

Below is generated by plot.py at 2018-10-10 02:17:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.81 Mbit/s
95th percentile per-packet one-way delay: 66.892 ms
Loss rate: 8.48%
-- Flow 1:
Average throughput: 96.81 Mbit/s
95th percentile per-packet one-way delay: 66.892 ms
Loss rate: 8.48%

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

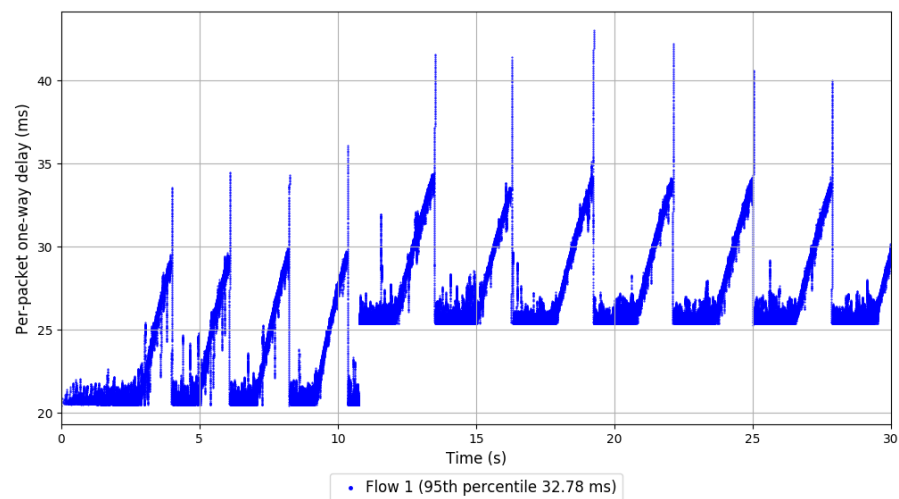
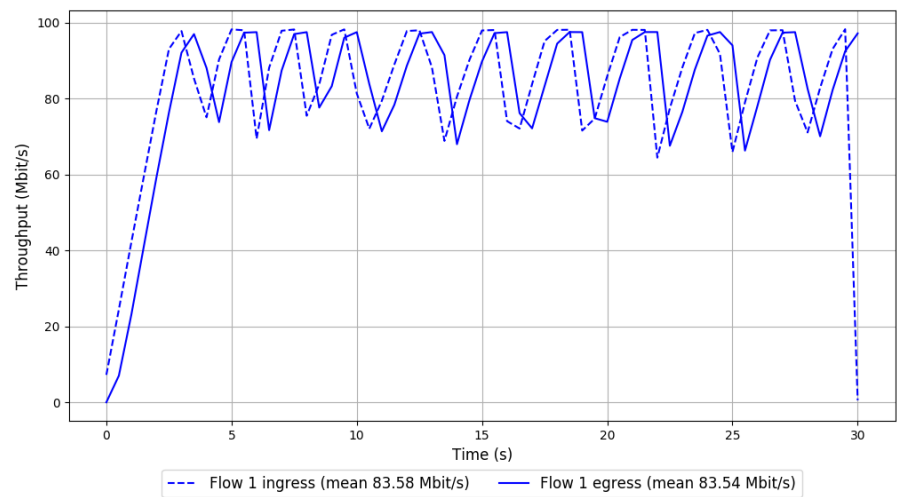


Run 1: Statistics of LEDBAT

Start at: 2018-10-10 00:24:12
End at: 2018-10-10 00:24:42
Local clock offset: 5.755 ms
Remote clock offset: -4.673 ms

Below is generated by plot.py at 2018-10-10 02:17:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 83.54 Mbit/s
95th percentile per-packet one-way delay: 32.780 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 83.54 Mbit/s
95th percentile per-packet one-way delay: 32.780 ms
Loss rate: 0.14%

Run 1: Report of LEDBAT — Data Link

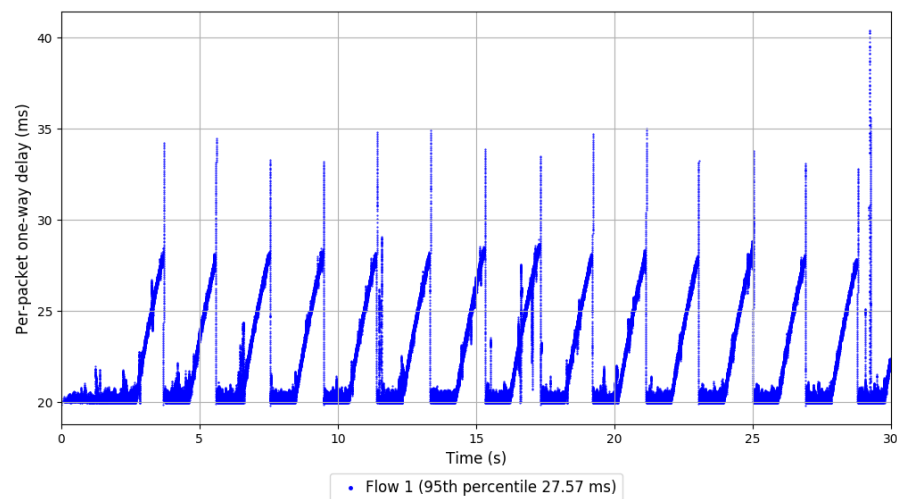
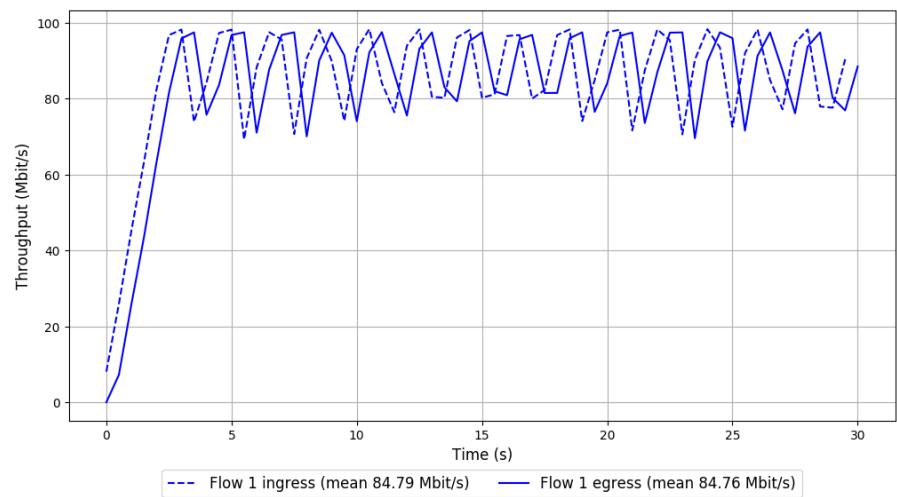


Run 2: Statistics of LEDBAT

Start at: 2018-10-10 00:45:39
End at: 2018-10-10 00:46:09
Local clock offset: 6.559 ms
Remote clock offset: -4.588 ms

Below is generated by plot.py at 2018-10-10 02:17:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 84.76 Mbit/s
95th percentile per-packet one-way delay: 27.568 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 84.76 Mbit/s
95th percentile per-packet one-way delay: 27.568 ms
Loss rate: 0.11%

Run 2: Report of LEDBAT — Data Link

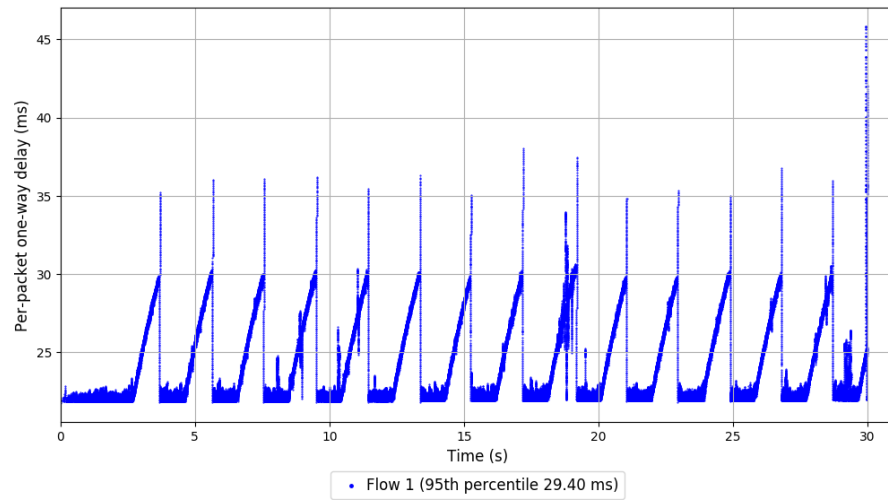
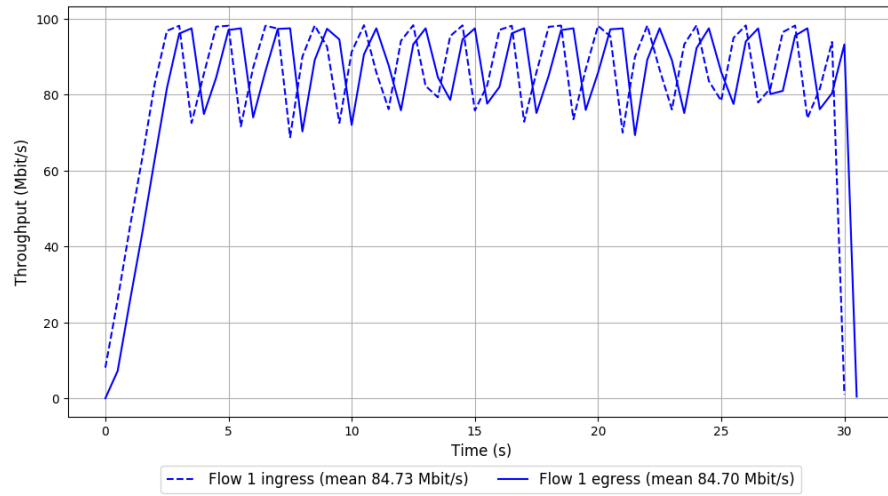


Run 3: Statistics of LEDBAT

Start at: 2018-10-10 01:07:09
End at: 2018-10-10 01:07:39
Local clock offset: 3.359 ms
Remote clock offset: -4.864 ms

Below is generated by plot.py at 2018-10-10 02:17:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 84.70 Mbit/s
95th percentile per-packet one-way delay: 29.400 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 84.70 Mbit/s
95th percentile per-packet one-way delay: 29.400 ms
Loss rate: 0.12%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-10-10 01:28:42

End at: 2018-10-10 01:29:12

Local clock offset: 1.207 ms

Remote clock offset: -5.41 ms

Below is generated by plot.py at 2018-10-10 02:17:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.51 Mbit/s

95th percentile per-packet one-way delay: 29.050 ms

Loss rate: 0.12%

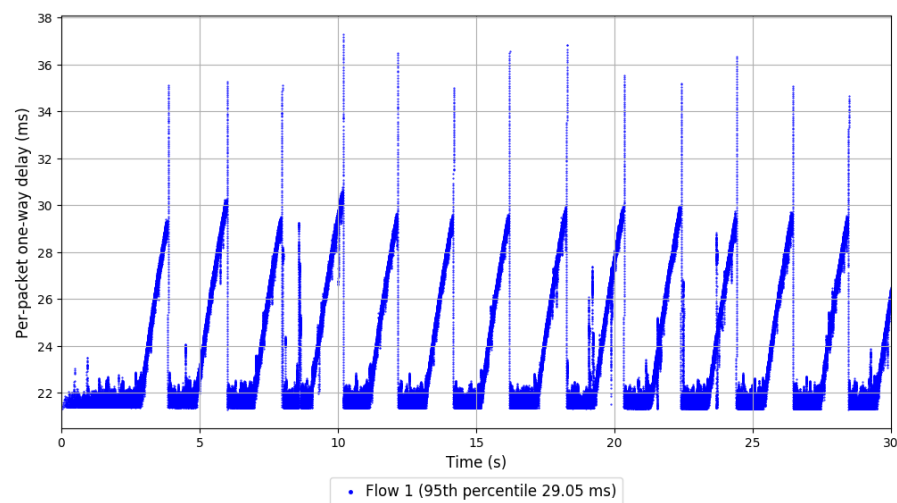
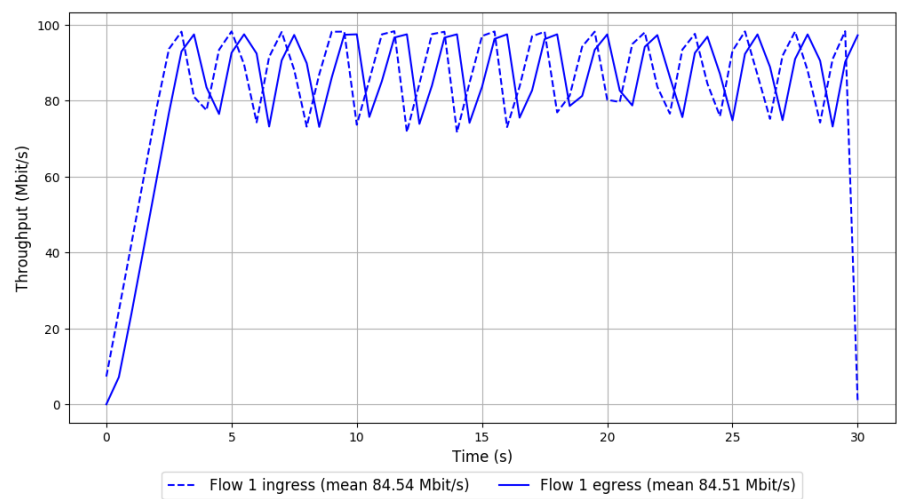
-- Flow 1:

Average throughput: 84.51 Mbit/s

95th percentile per-packet one-way delay: 29.050 ms

Loss rate: 0.12%

Run 4: Report of LEDBAT — Data Link

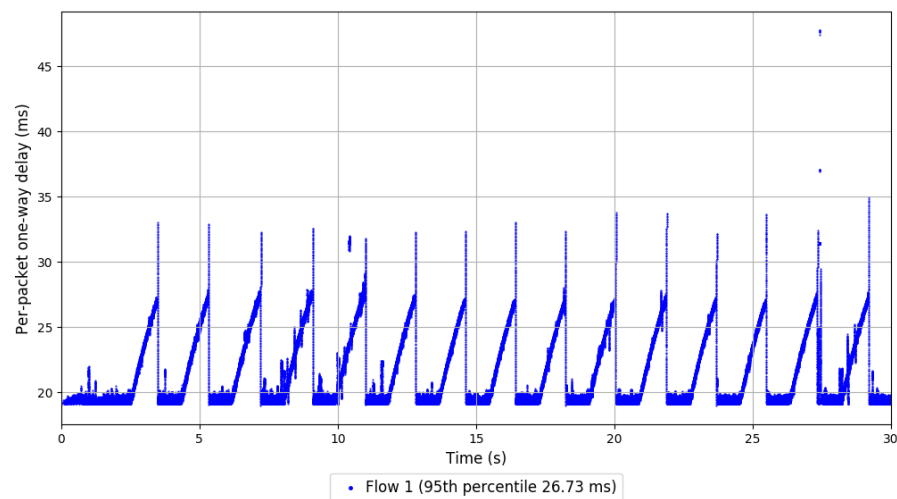
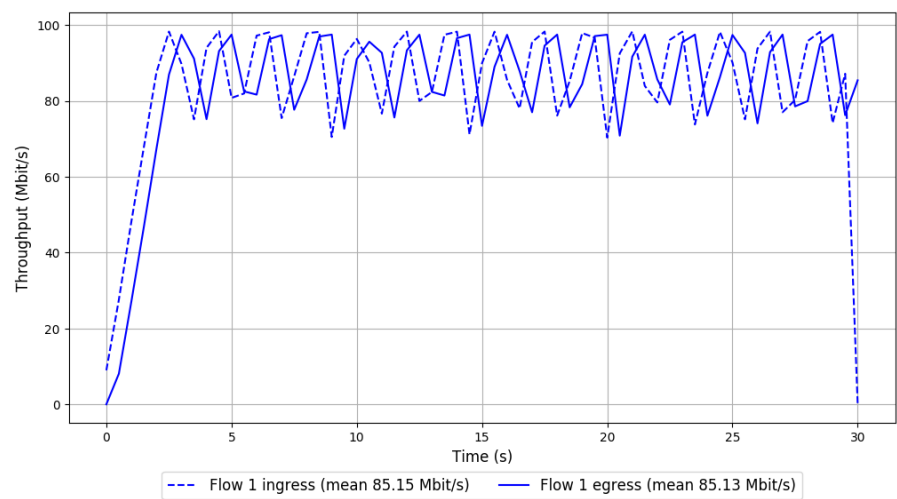


Run 5: Statistics of LEDBAT

Start at: 2018-10-10 01:50:12
End at: 2018-10-10 01:50:42
Local clock offset: 1.826 ms
Remote clock offset: -4.287 ms

Below is generated by plot.py at 2018-10-10 02:17:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.13 Mbit/s
95th percentile per-packet one-way delay: 26.728 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 85.13 Mbit/s
95th percentile per-packet one-way delay: 26.728 ms
Loss rate: 0.10%

Run 5: Report of LEDBAT — Data Link

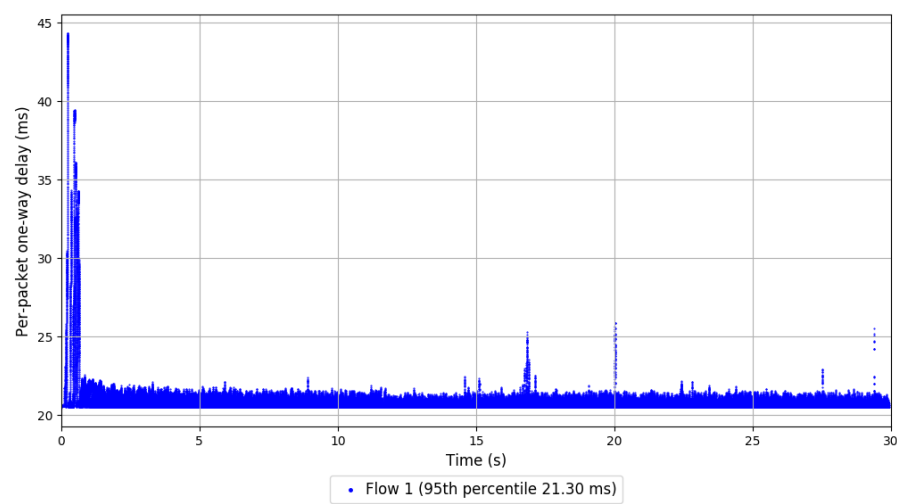
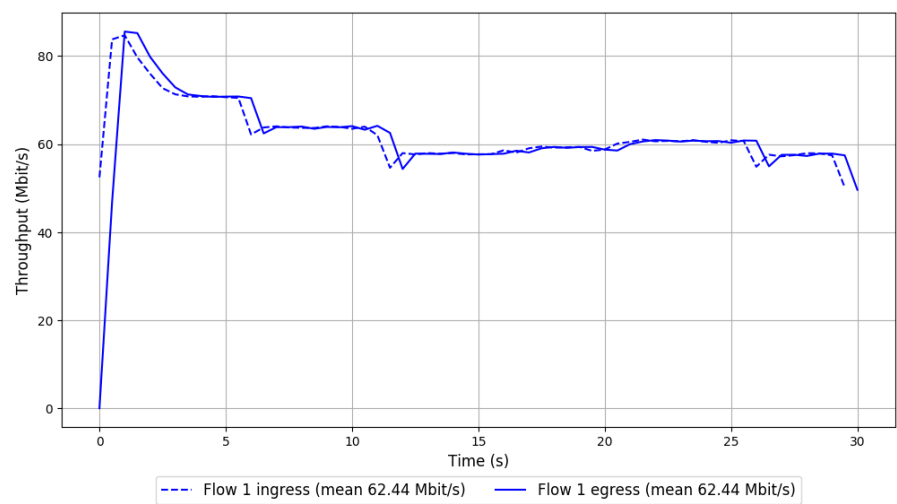


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-10-10 00:38:35
End at: 2018-10-10 00:39:05
Local clock offset: 6.649 ms
Remote clock offset: -4.742 ms

# Below is generated by plot.py at 2018-10-10 02:17:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.44 Mbit/s
95th percentile per-packet one-way delay: 21.300 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 62.44 Mbit/s
95th percentile per-packet one-way delay: 21.300 ms
Loss rate: 0.08%
```

Run 1: Report of Indigo-Muses — Data Link

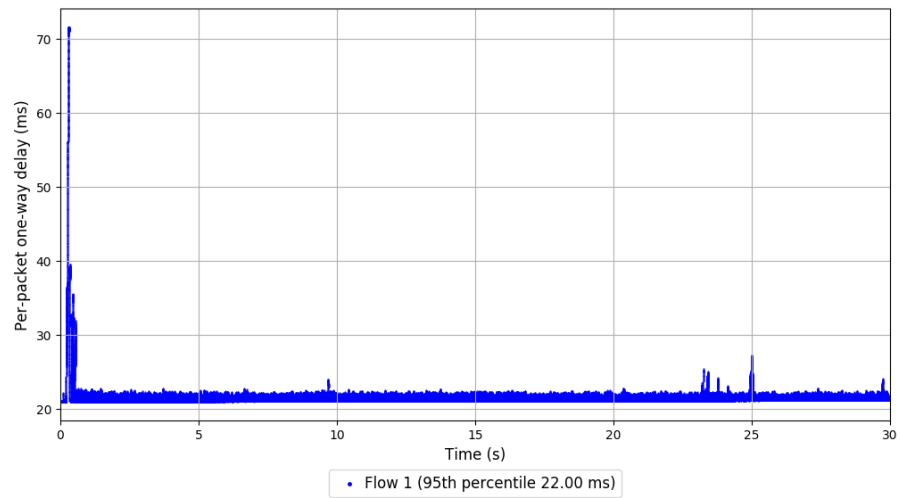
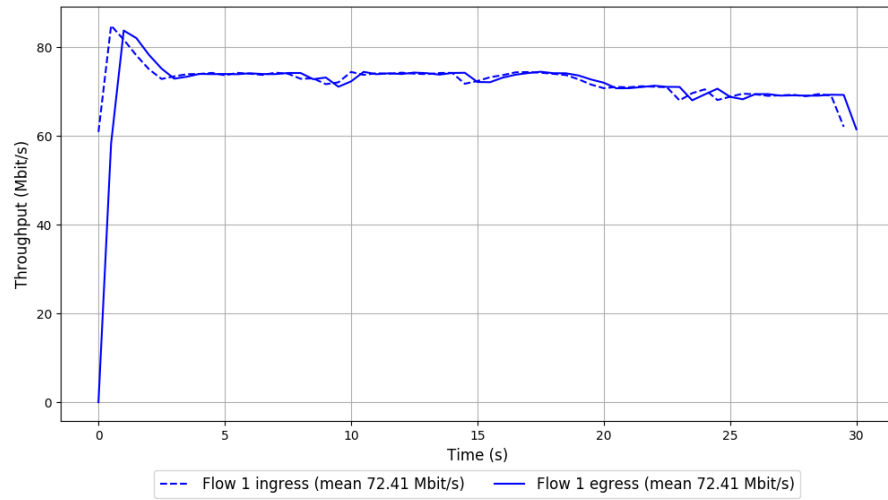


Run 2: Statistics of Indigo-Muses

Start at: 2018-10-10 01:00:12
End at: 2018-10-10 01:00:42
Local clock offset: 4.597 ms
Remote clock offset: -4.845 ms

Below is generated by plot.py at 2018-10-10 02:17:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 72.41 Mbit/s
95th percentile per-packet one-way delay: 22.003 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 72.41 Mbit/s
95th percentile per-packet one-way delay: 22.003 ms
Loss rate: 0.08%

Run 2: Report of Indigo-Muses — Data Link

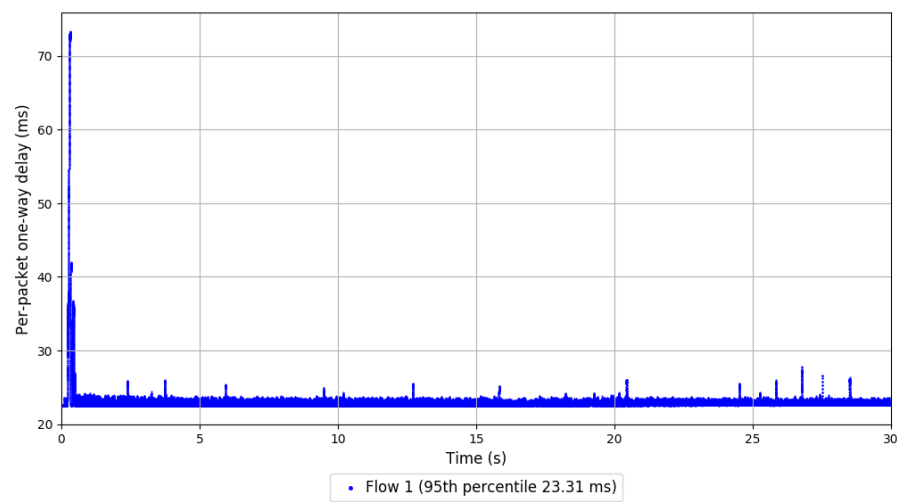
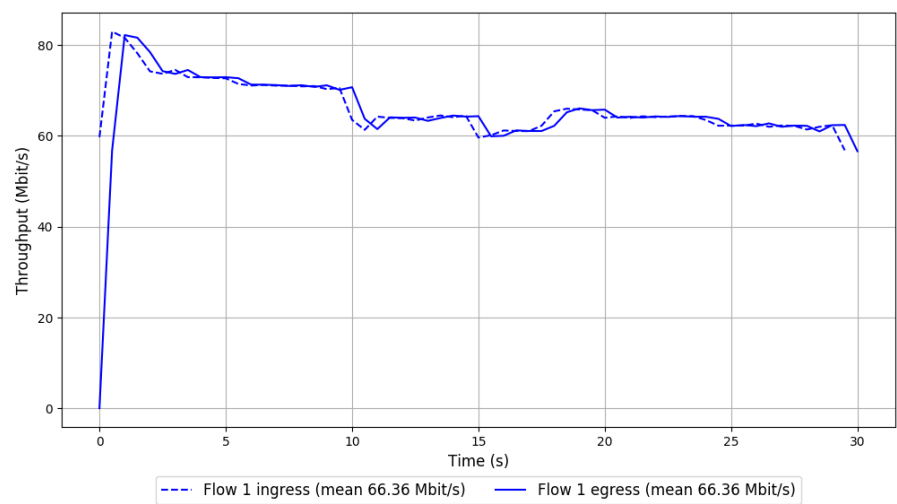


Run 3: Statistics of Indigo-Muses

Start at: 2018-10-10 01:21:31
End at: 2018-10-10 01:22:01
Local clock offset: 2.334 ms
Remote clock offset: -4.852 ms

Below is generated by plot.py at 2018-10-10 02:17:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 66.36 Mbit/s
95th percentile per-packet one-way delay: 23.312 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 66.36 Mbit/s
95th percentile per-packet one-way delay: 23.312 ms
Loss rate: 0.08%

Run 3: Report of Indigo-Muses — Data Link

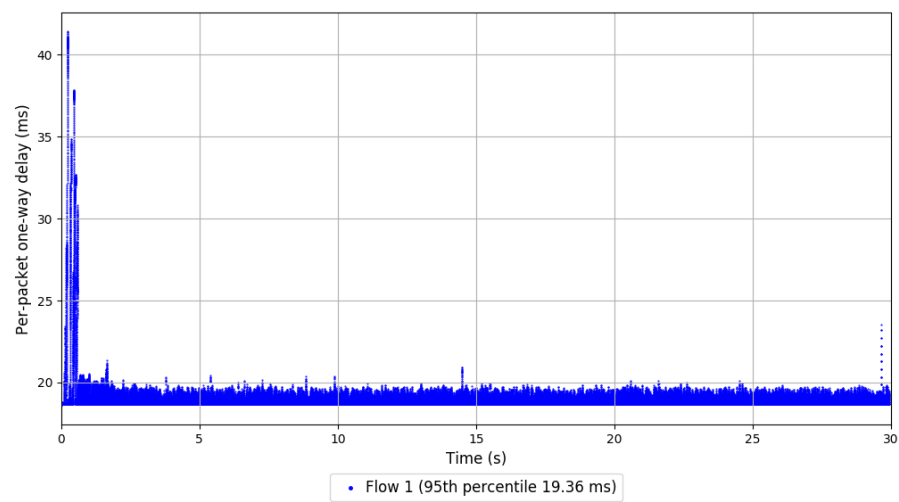
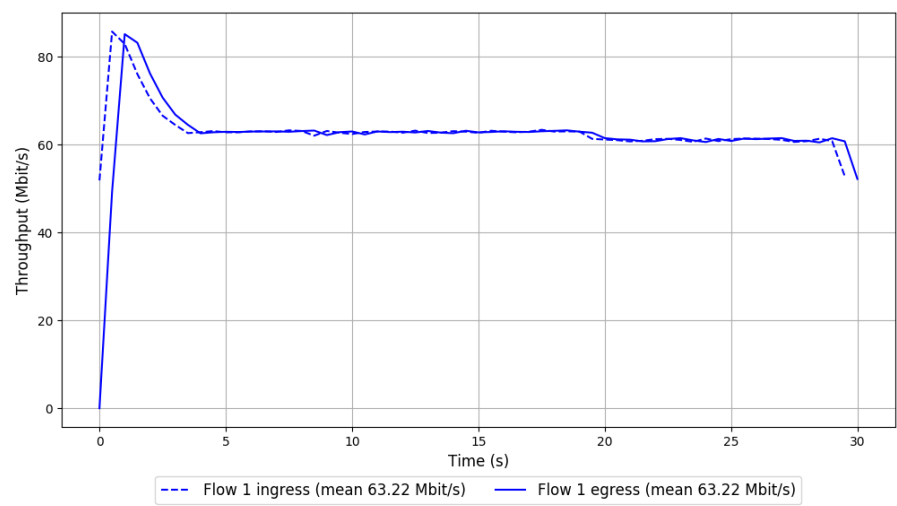


Run 4: Statistics of Indigo-Muses

Start at: 2018-10-10 01:43:05
End at: 2018-10-10 01:43:35
Local clock offset: 1.464 ms
Remote clock offset: -4.199 ms

Below is generated by plot.py at 2018-10-10 02:17:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 63.22 Mbit/s
95th percentile per-packet one-way delay: 19.360 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 63.22 Mbit/s
95th percentile per-packet one-way delay: 19.360 ms
Loss rate: 0.08%

Run 4: Report of Indigo-Muses — Data Link

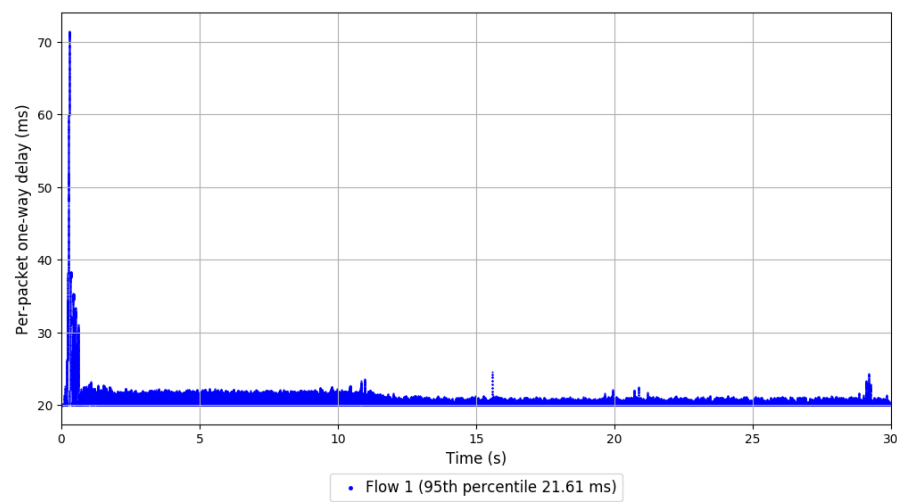
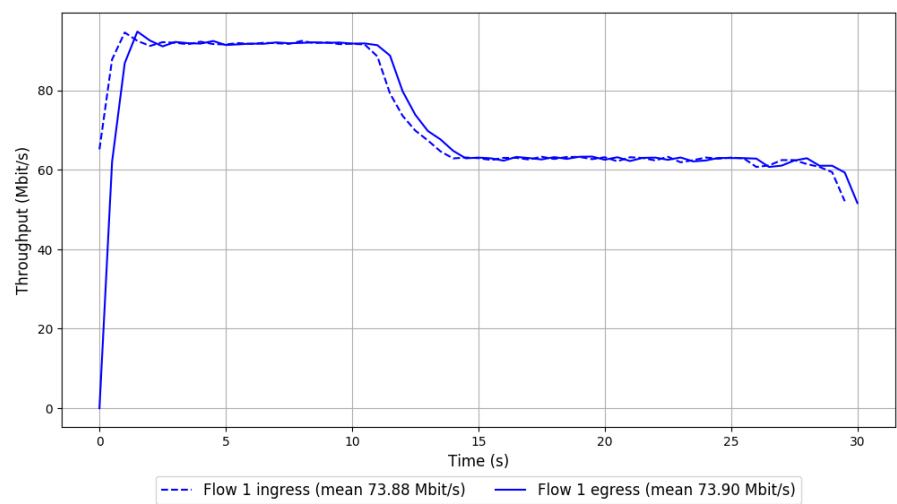


Run 5: Statistics of Indigo-Muses

Start at: 2018-10-10 02:04:39
End at: 2018-10-10 02:05:09
Local clock offset: 1.946 ms
Remote clock offset: -4.797 ms

Below is generated by plot.py at 2018-10-10 02:18:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 73.90 Mbit/s
95th percentile per-packet one-way delay: 21.609 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 73.90 Mbit/s
95th percentile per-packet one-way delay: 21.609 ms
Loss rate: 0.07%

Run 5: Report of Indigo-Muses — Data Link

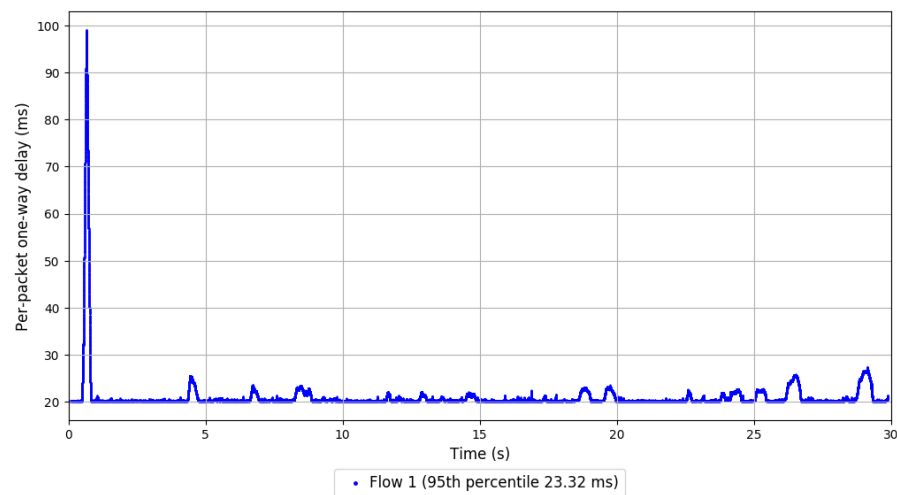
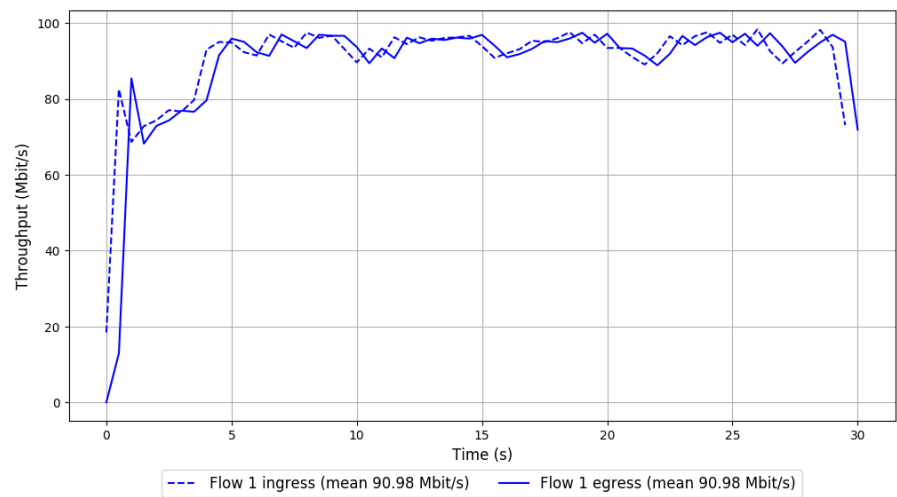


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-10-10 00:32:34
End at: 2018-10-10 00:33:04
Local clock offset: 6.628 ms
Remote clock offset: -3.985 ms

# Below is generated by plot.py at 2018-10-10 02:18:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.98 Mbit/s
95th percentile per-packet one-way delay: 23.322 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 90.98 Mbit/s
95th percentile per-packet one-way delay: 23.322 ms
Loss rate: 0.09%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-10-10 00:54:05

End at: 2018-10-10 00:54:35

Local clock offset: 7.98 ms

Remote clock offset: -4.67 ms

Below is generated by plot.py at 2018-10-10 02:18:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.87 Mbit/s

95th percentile per-packet one-way delay: 23.500 ms

Loss rate: 0.09%

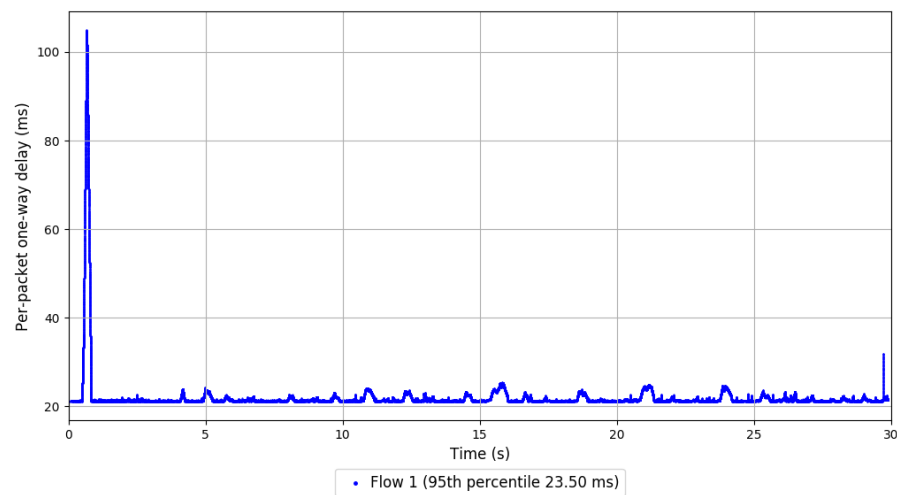
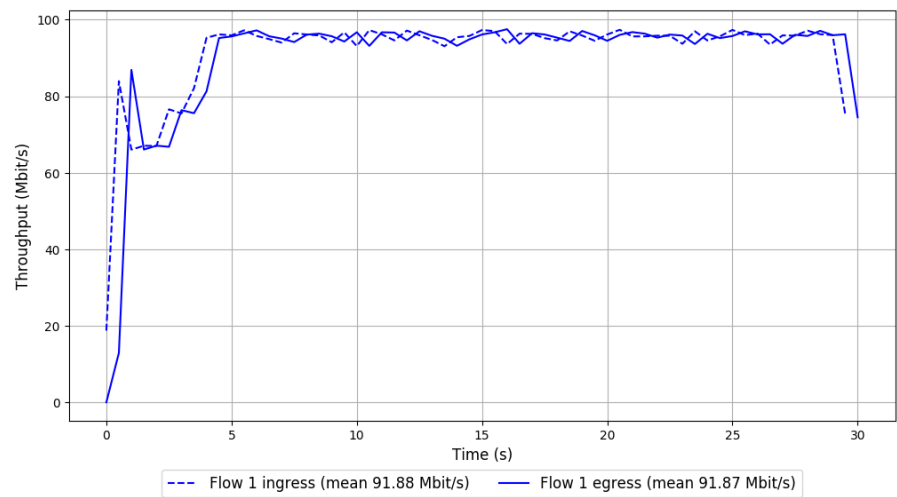
-- Flow 1:

Average throughput: 91.87 Mbit/s

95th percentile per-packet one-way delay: 23.500 ms

Loss rate: 0.09%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-10-10 01:15:22

End at: 2018-10-10 01:15:52

Local clock offset: 1.111 ms

Remote clock offset: -4.809 ms

Below is generated by plot.py at 2018-10-10 02:18:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.23 Mbit/s

95th percentile per-packet one-way delay: 25.871 ms

Loss rate: 0.09%

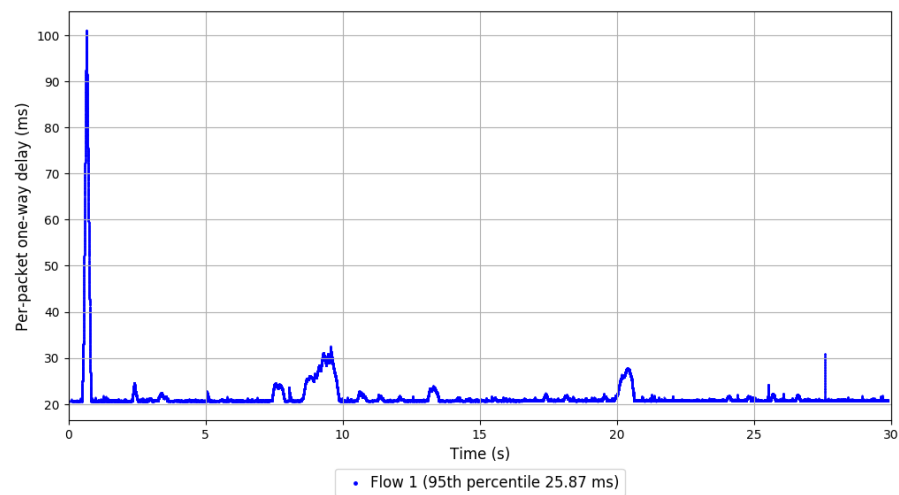
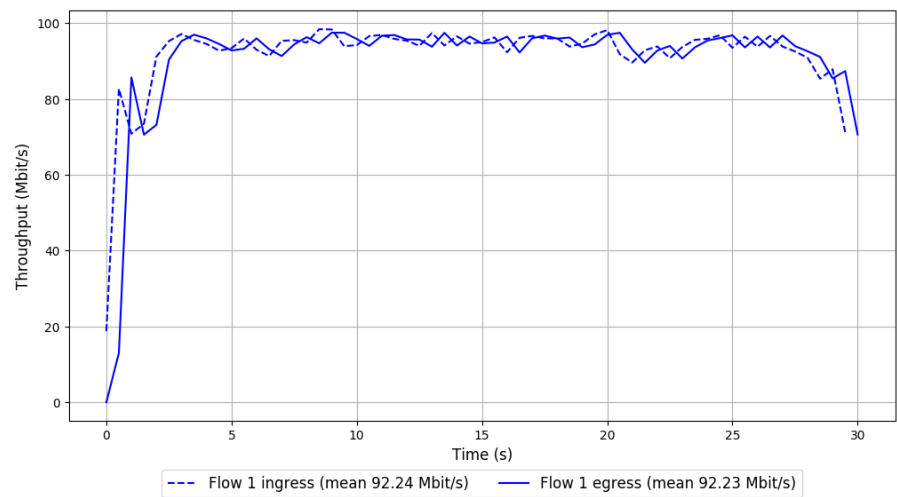
-- Flow 1:

Average throughput: 92.23 Mbit/s

95th percentile per-packet one-way delay: 25.871 ms

Loss rate: 0.09%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-10-10 01:36:54

End at: 2018-10-10 01:37:24

Local clock offset: 2.451 ms

Remote clock offset: -5.495 ms

Below is generated by plot.py at 2018-10-10 02:18:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.76 Mbit/s

95th percentile per-packet one-way delay: 24.711 ms

Loss rate: 0.09%

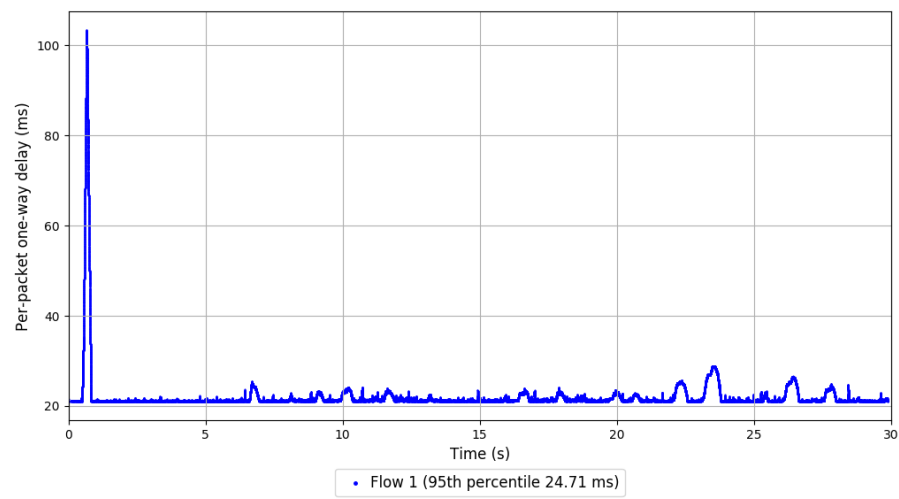
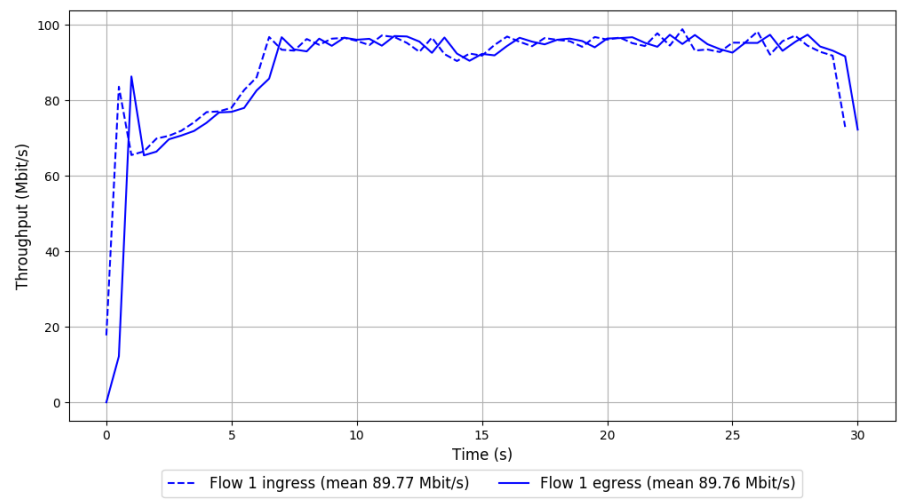
-- Flow 1:

Average throughput: 89.76 Mbit/s

95th percentile per-packet one-way delay: 24.711 ms

Loss rate: 0.09%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-10-10 01:58:28

End at: 2018-10-10 01:58:58

Local clock offset: 1.611 ms

Remote clock offset: -5.454 ms

Below is generated by plot.py at 2018-10-10 02:18:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.31 Mbit/s

95th percentile per-packet one-way delay: 35.735 ms

Loss rate: 0.10%

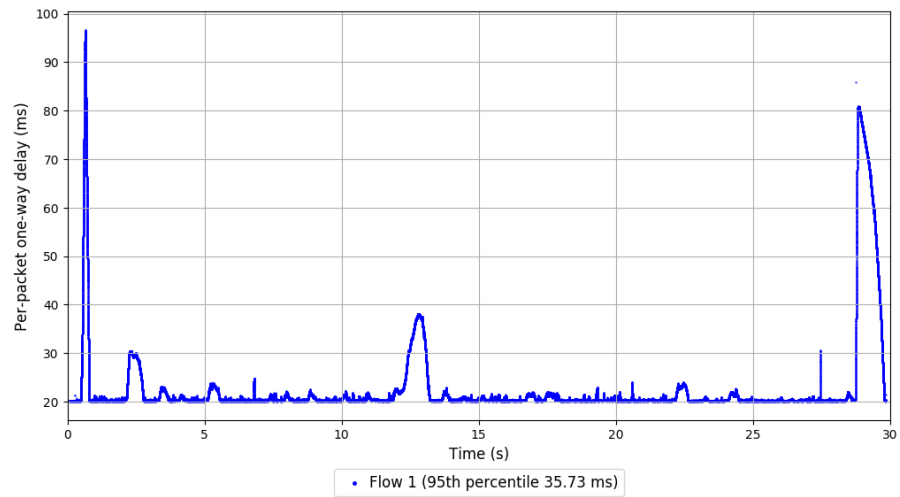
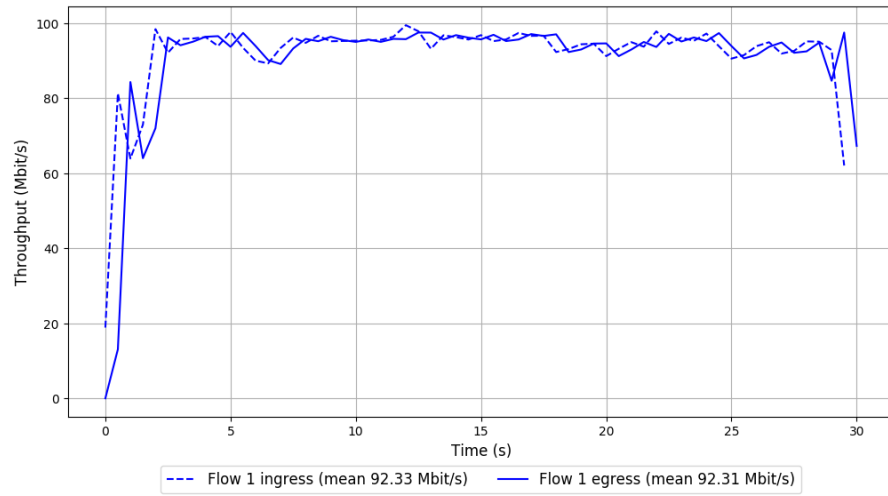
-- Flow 1:

Average throughput: 92.31 Mbit/s

95th percentile per-packet one-way delay: 35.735 ms

Loss rate: 0.10%

Run 5: Report of PCC-Allegro — Data Link

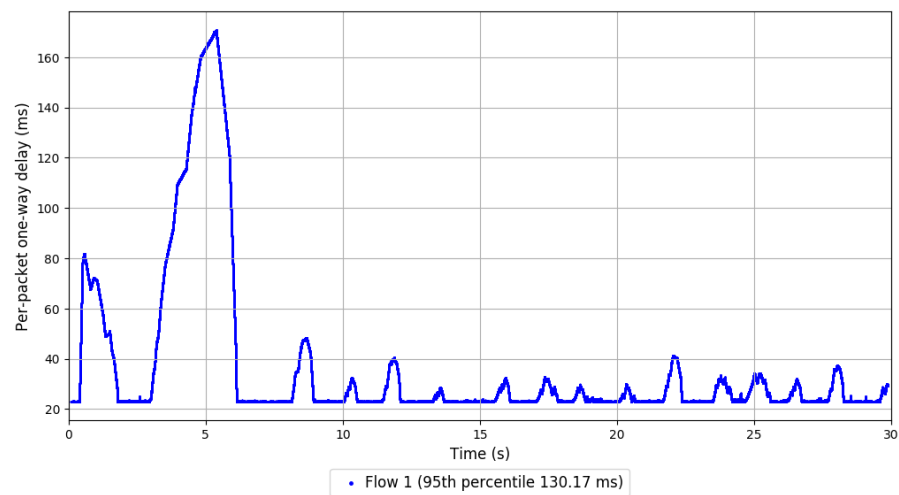
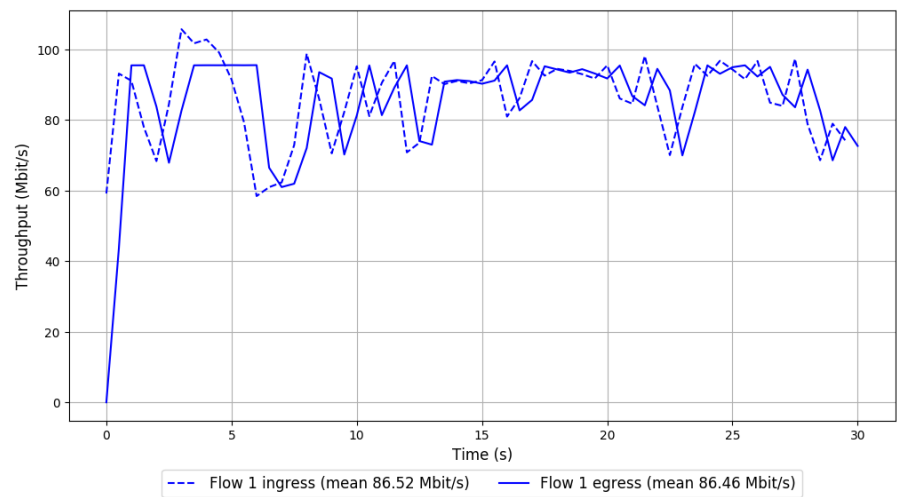


Run 1: Statistics of PCC-Expr

Start at: 2018-10-10 00:43:13
End at: 2018-10-10 00:43:43
Local clock offset: 8.821 ms
Remote clock offset: -5.248 ms

Below is generated by plot.py at 2018-10-10 02:19:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.46 Mbit/s
95th percentile per-packet one-way delay: 130.168 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 86.46 Mbit/s
95th percentile per-packet one-way delay: 130.168 ms
Loss rate: 0.16%

Run 1: Report of PCC-Expr — Data Link

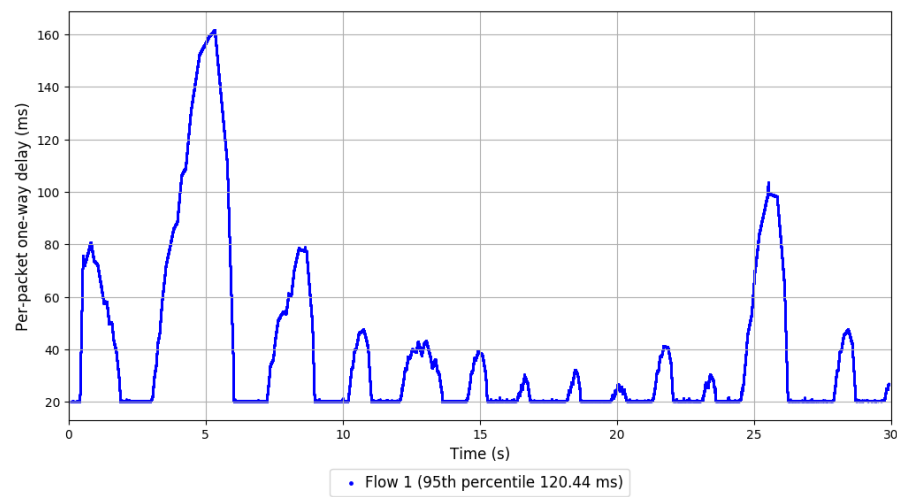
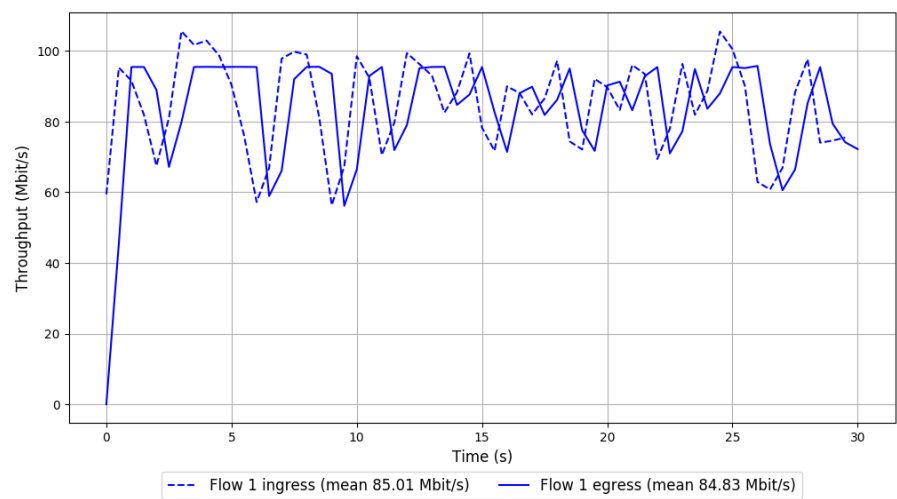


Run 2: Statistics of PCC-Expr

Start at: 2018-10-10 01:04:45
End at: 2018-10-10 01:05:15
Local clock offset: 2.987 ms
Remote clock offset: -4.154 ms

Below is generated by plot.py at 2018-10-10 02:19:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 84.83 Mbit/s
95th percentile per-packet one-way delay: 120.436 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 84.83 Mbit/s
95th percentile per-packet one-way delay: 120.436 ms
Loss rate: 0.30%

Run 2: Report of PCC-Expr — Data Link

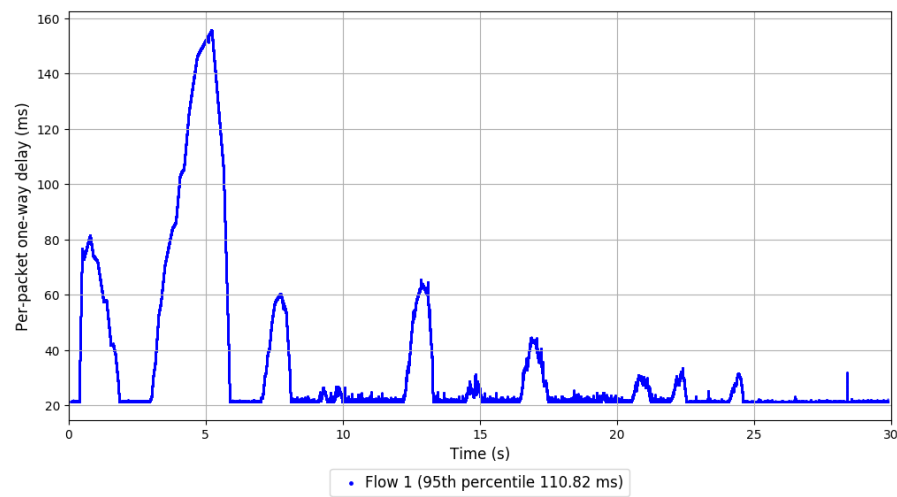
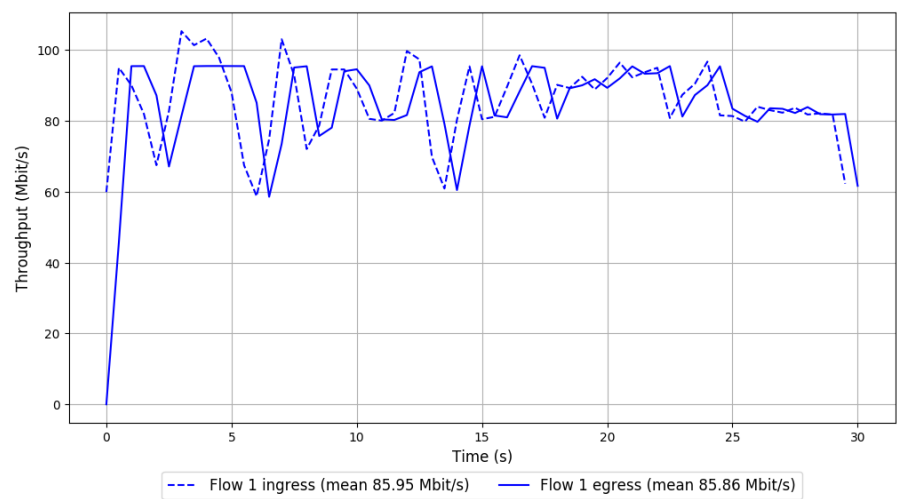


Run 3: Statistics of PCC-Expr

Start at: 2018-10-10 01:26:12
End at: 2018-10-10 01:26:42
Local clock offset: 1.151 ms
Remote clock offset: -5.133 ms

Below is generated by plot.py at 2018-10-10 02:19:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 85.86 Mbit/s
95th percentile per-packet one-way delay: 110.816 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 85.86 Mbit/s
95th percentile per-packet one-way delay: 110.816 ms
Loss rate: 0.19%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-10-10 01:47:40

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

Local clock offset: 1.486 ms

Remote clock offset: -4.27 ms

Below is generated by plot.py at 2018-10-10 02:20:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.76 Mbit/s

95th percentile per-packet one-way delay: 37.399 ms

Loss rate: 0.10%

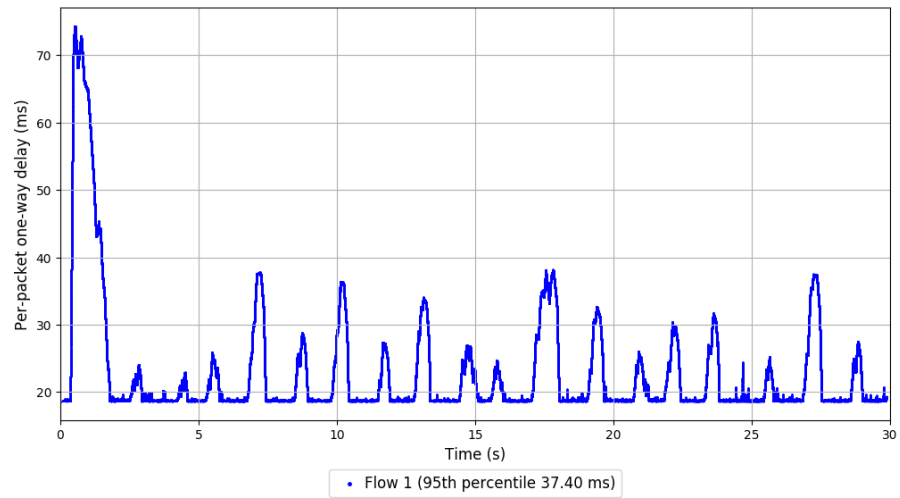
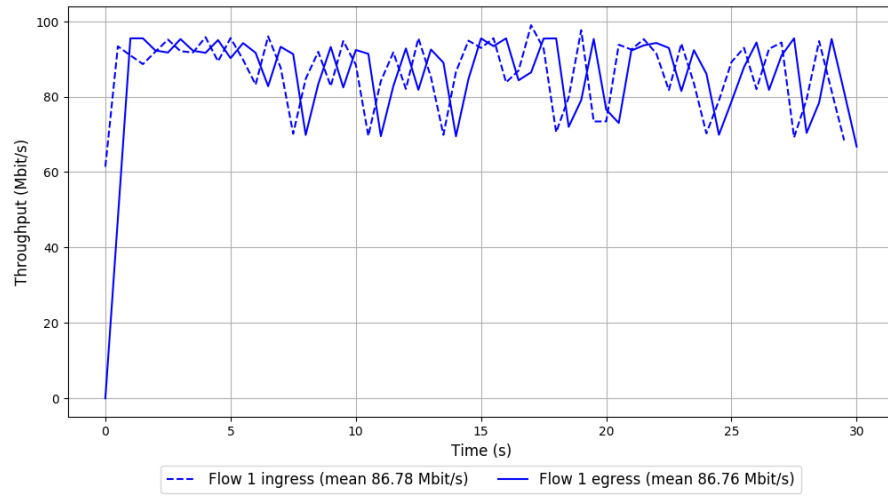
-- Flow 1:

Average throughput: 86.76 Mbit/s

95th percentile per-packet one-way delay: 37.399 ms

Loss rate: 0.10%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-10-10 02:09:16

End at: 2018-10-10 02:09:46

Local clock offset: 1.425 ms

Remote clock offset: -4.87 ms

Below is generated by plot.py at 2018-10-10 02:20:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.89 Mbit/s

95th percentile per-packet one-way delay: 41.309 ms

Loss rate: 0.11%

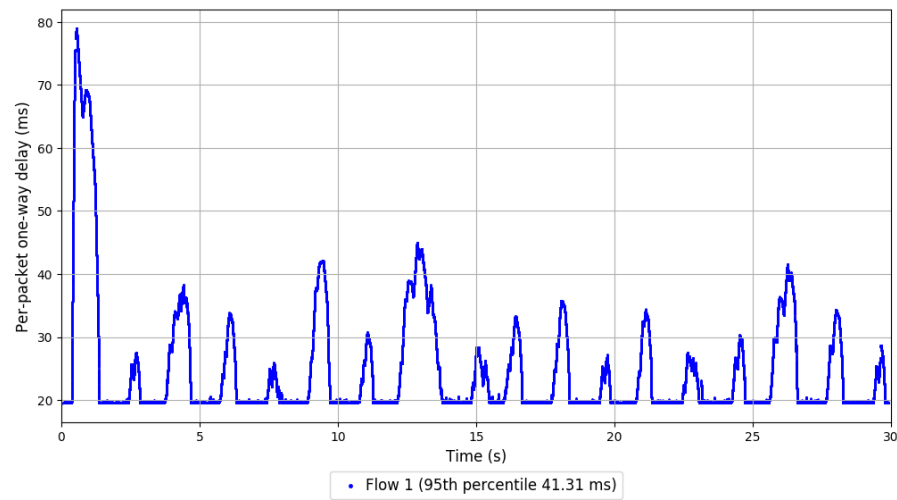
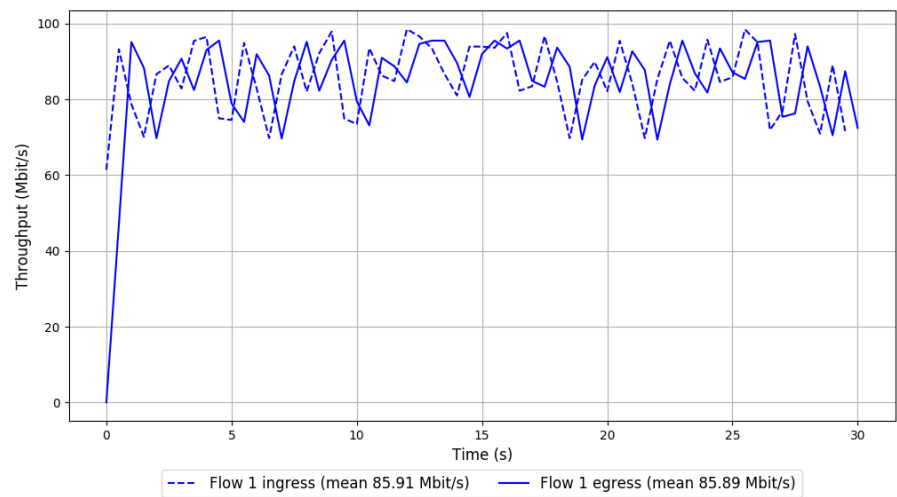
-- Flow 1:

Average throughput: 85.89 Mbit/s

95th percentile per-packet one-way delay: 41.309 ms

Loss rate: 0.11%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-10-10 00:33:43

End at: 2018-10-10 00:34:13

Local clock offset: 6.834 ms

Remote clock offset: -4.516 ms

Below is generated by plot.py at 2018-10-10 02:20:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.88 Mbit/s

95th percentile per-packet one-way delay: 28.487 ms

Loss rate: 0.13%

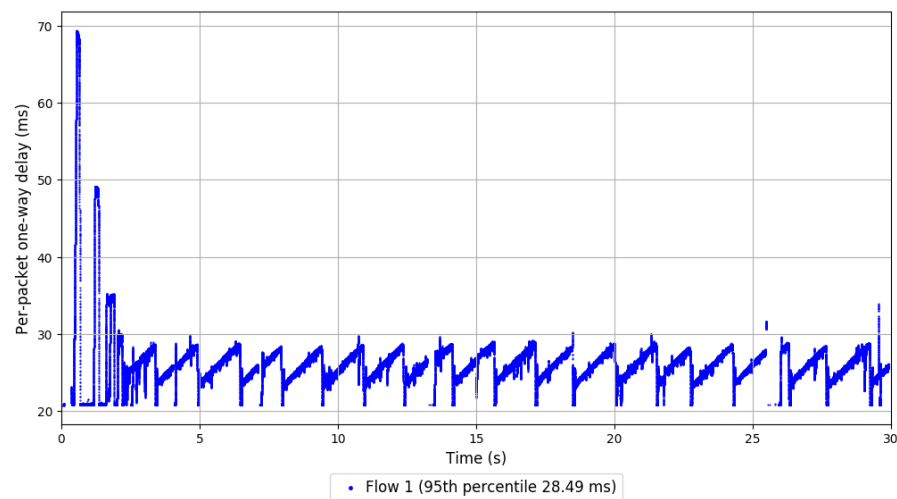
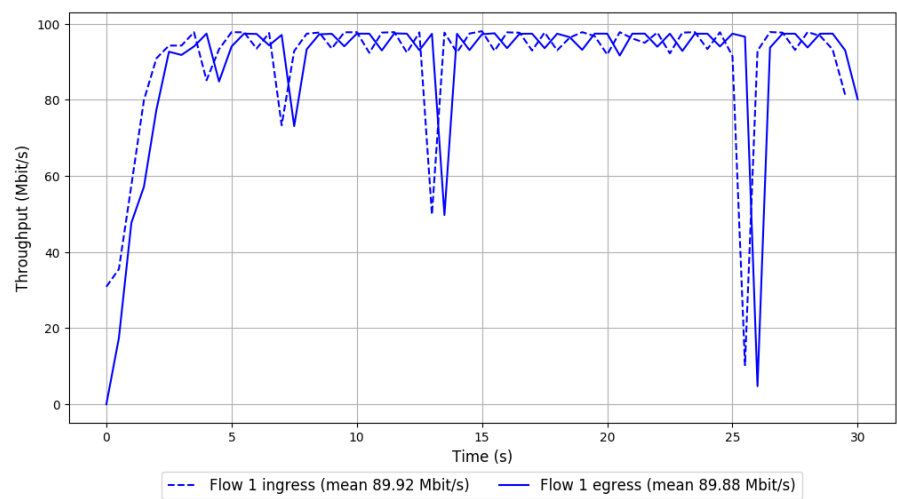
-- Flow 1:

Average throughput: 89.88 Mbit/s

95th percentile per-packet one-way delay: 28.487 ms

Loss rate: 0.13%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-10-10 00:55:15

End at: 2018-10-10 00:55:45

Local clock offset: 7.289 ms

Remote clock offset: -4.929 ms

Below is generated by plot.py at 2018-10-10 02:20:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.94 Mbit/s

95th percentile per-packet one-way delay: 29.248 ms

Loss rate: 0.12%

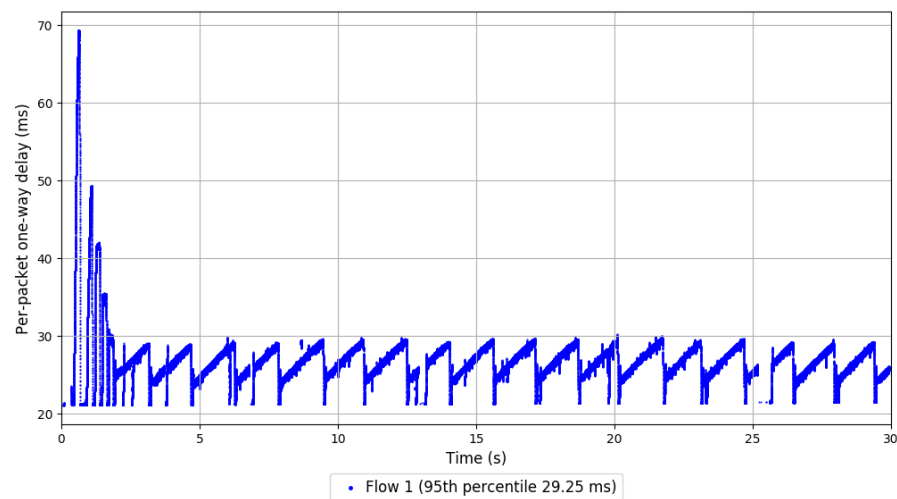
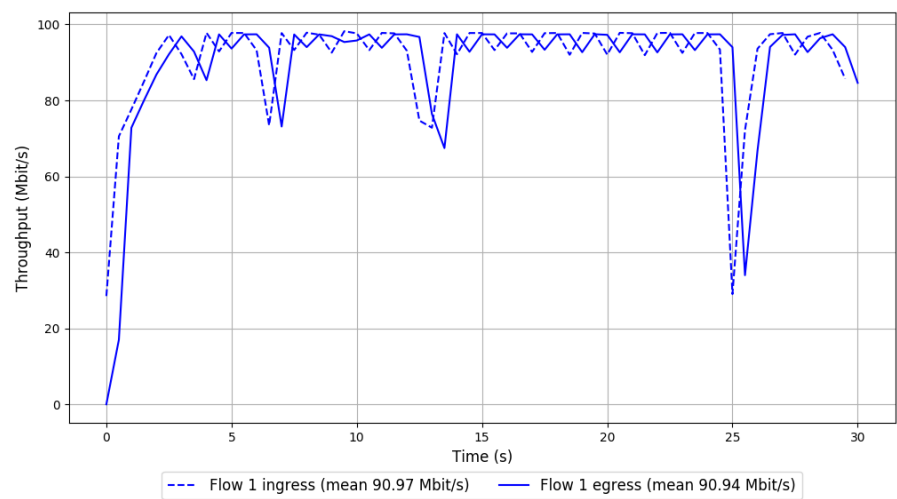
-- Flow 1:

Average throughput: 90.94 Mbit/s

95th percentile per-packet one-way delay: 29.248 ms

Loss rate: 0.12%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-10-10 01:16:34

End at: 2018-10-10 01:17:04

Local clock offset: 1.122 ms

Remote clock offset: -5.348 ms

Below is generated by plot.py at 2018-10-10 02:20:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.12 Mbit/s

95th percentile per-packet one-way delay: 29.256 ms

Loss rate: 0.16%

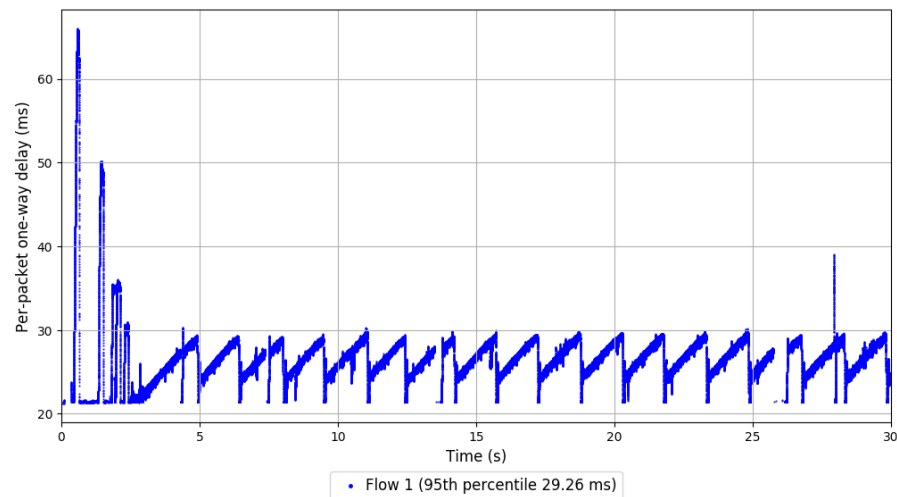
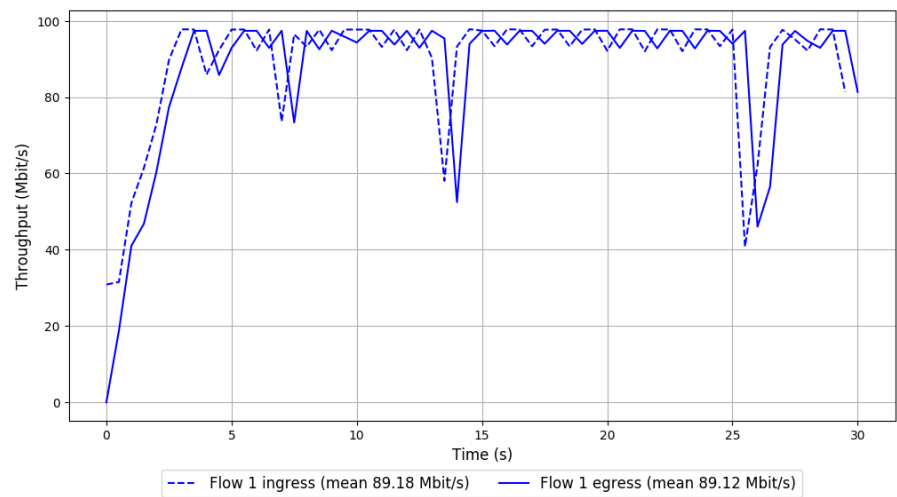
-- Flow 1:

Average throughput: 89.12 Mbit/s

95th percentile per-packet one-way delay: 29.256 ms

Loss rate: 0.16%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-10-10 01:38:04

End at: 2018-10-10 01:38:34

Local clock offset: 3.883 ms

Remote clock offset: -5.111 ms

Below is generated by plot.py at 2018-10-10 02:20:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.23 Mbit/s

95th percentile per-packet one-way delay: 30.151 ms

Loss rate: 0.12%

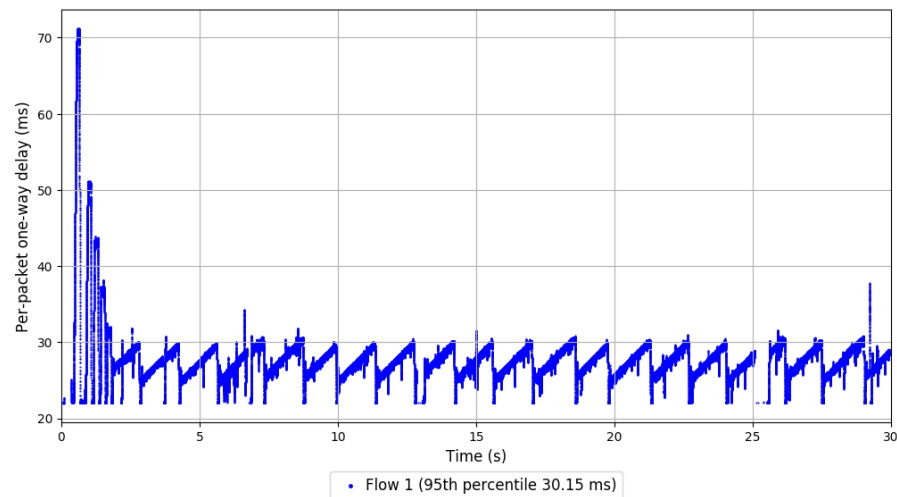
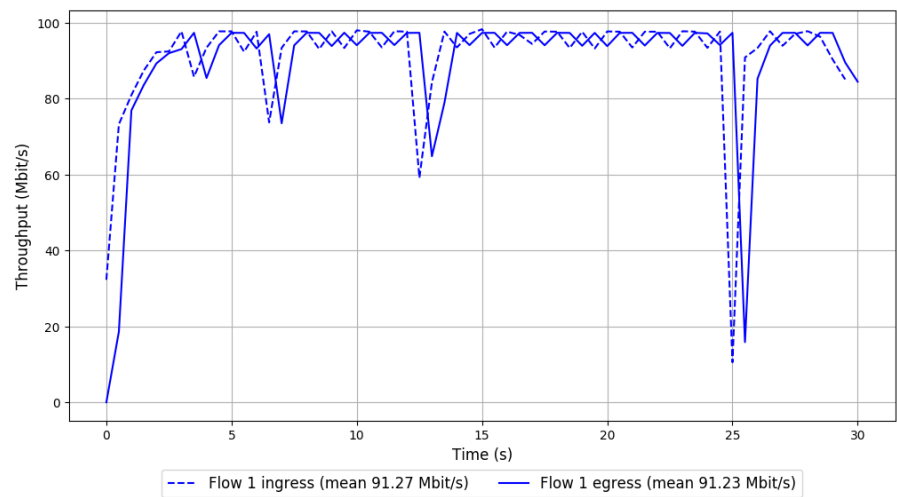
-- Flow 1:

Average throughput: 91.23 Mbit/s

95th percentile per-packet one-way delay: 30.151 ms

Loss rate: 0.12%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-10-10 01:59:40

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

Local clock offset: 1.674 ms

Remote clock offset: -4.546 ms

Below is generated by plot.py at 2018-10-10 02:20:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.38 Mbit/s

95th percentile per-packet one-way delay: 27.222 ms

Loss rate: 0.12%

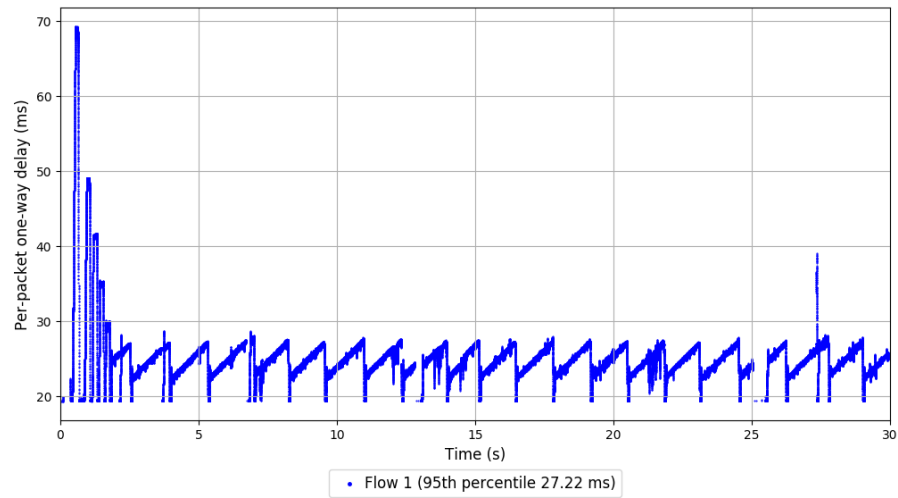
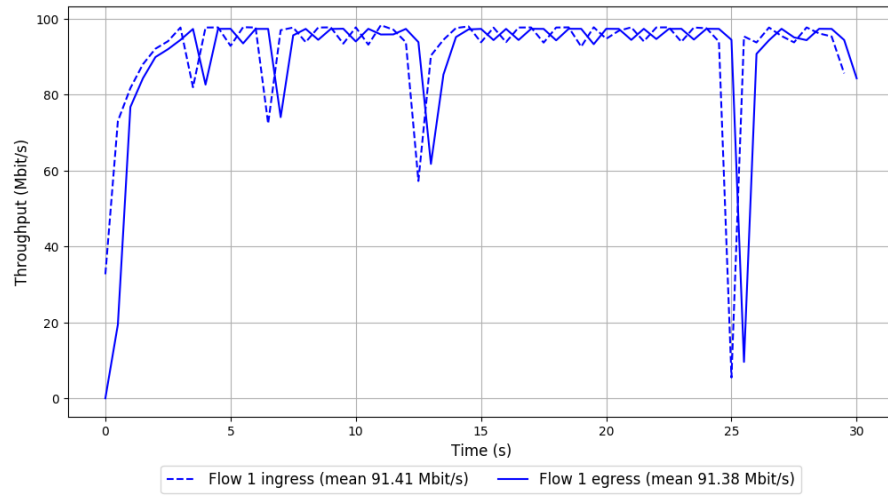
-- Flow 1:

Average throughput: 91.38 Mbit/s

95th percentile per-packet one-way delay: 27.222 ms

Loss rate: 0.12%

Run 5: Report of QUIC Cubic — Data Link

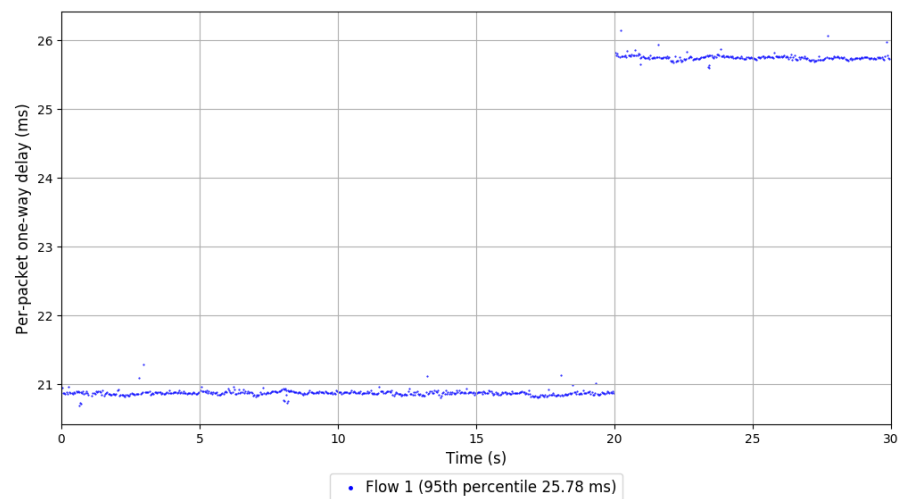
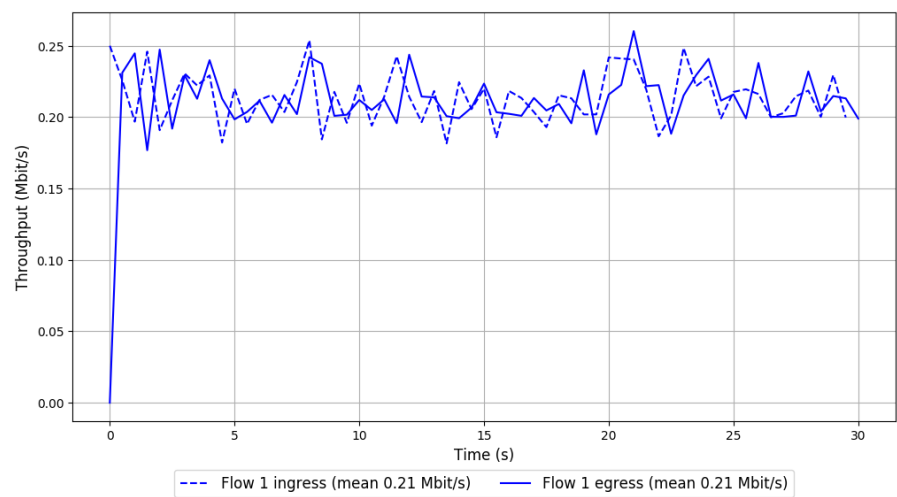


```
Run 1: Statistics of SCReAM

Start at: 2018-10-10 00:25:26
End at: 2018-10-10 00:25:56
Local clock offset: 5.953 ms
Remote clock offset: -4.902 ms

# Below is generated by plot.py at 2018-10-10 02:20:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 25.776 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 25.776 ms
Loss rate: 0.13%
```

Run 1: Report of SReAM — Data Link

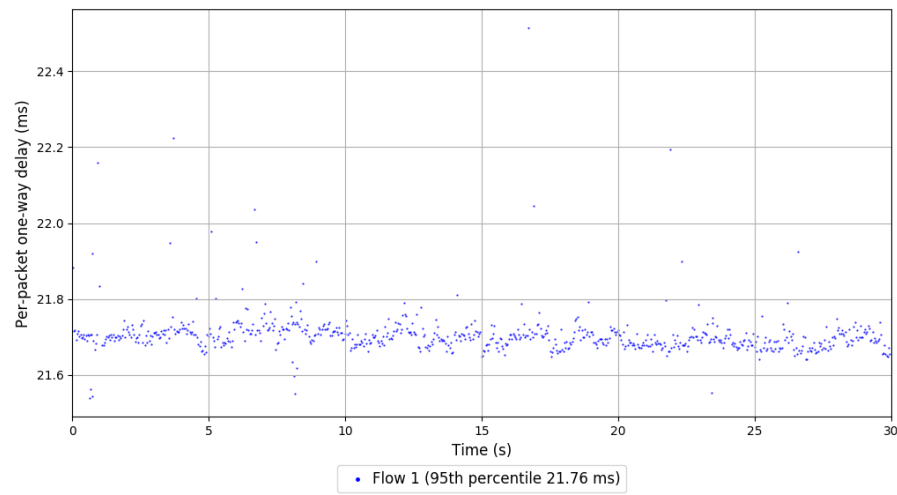
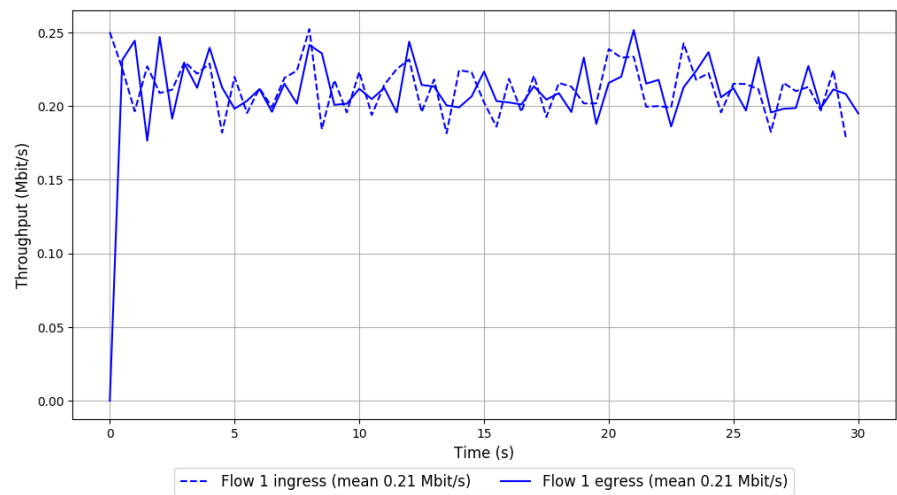


Run 2: Statistics of SCReAM

Start at: 2018-10-10 00:46:55
End at: 2018-10-10 00:47:25
Local clock offset: 7.63 ms
Remote clock offset: -5.291 ms

Below is generated by plot.py at 2018-10-10 02:20:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 21.756 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 21.756 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link

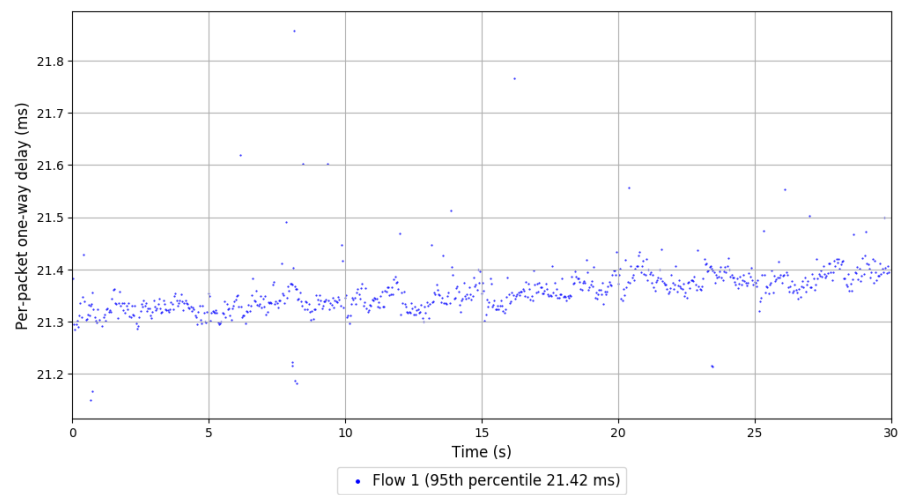
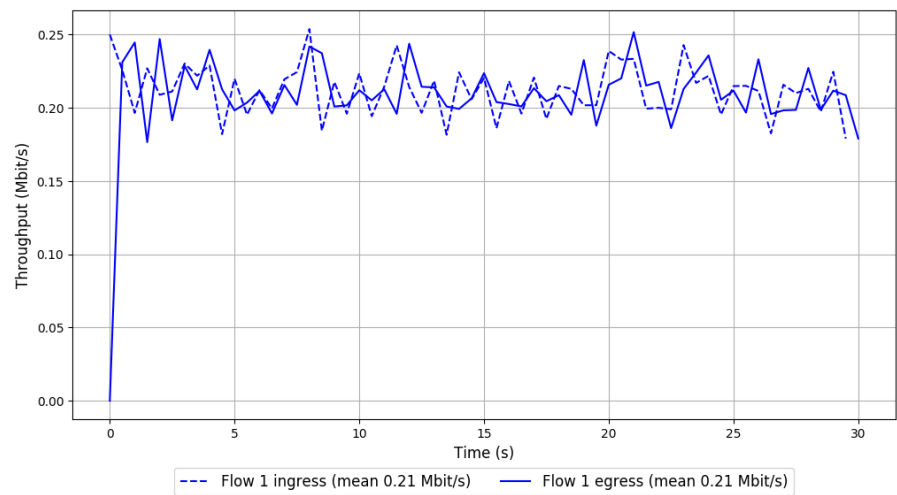


Run 3: Statistics of SCReAM

Start at: 2018-10-10 01:08:21
End at: 2018-10-10 01:08:51
Local clock offset: 2.764 ms
Remote clock offset: -4.706 ms

Below is generated by plot.py at 2018-10-10 02:20:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 21.416 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 21.416 ms
Loss rate: 0.13%

Run 3: Report of SReAM — Data Link

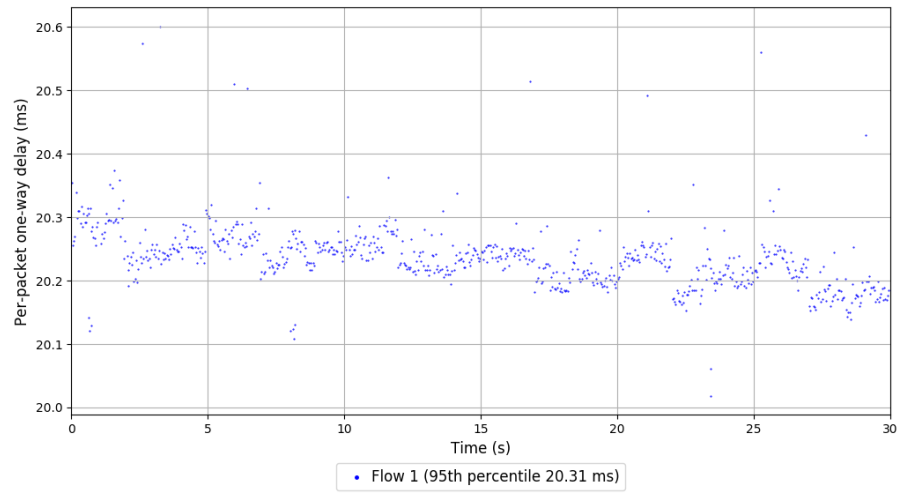
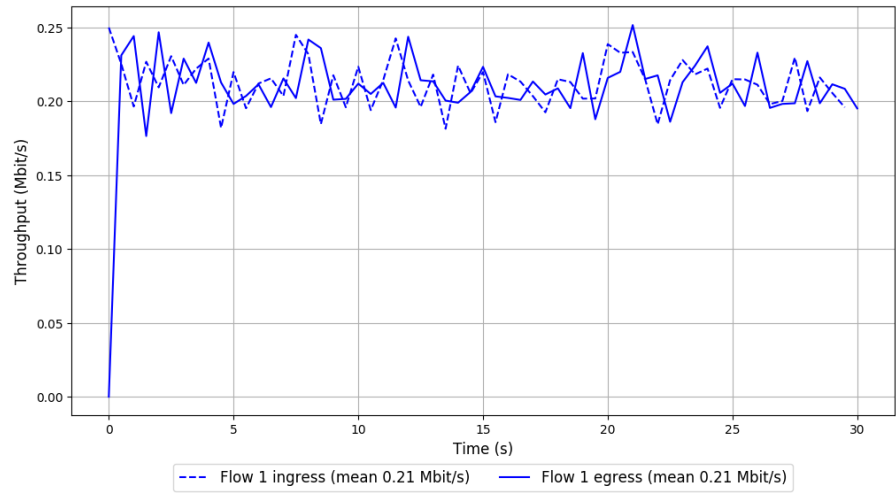


Run 4: Statistics of SCReAM

Start at: 2018-10-10 01:29:53
End at: 2018-10-10 01:30:23
Local clock offset: 1.595 ms
Remote clock offset: -4.038 ms

Below is generated by plot.py at 2018-10-10 02:20:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.306 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.306 ms
Loss rate: 0.13%

Run 4: Report of SReAM — Data Link

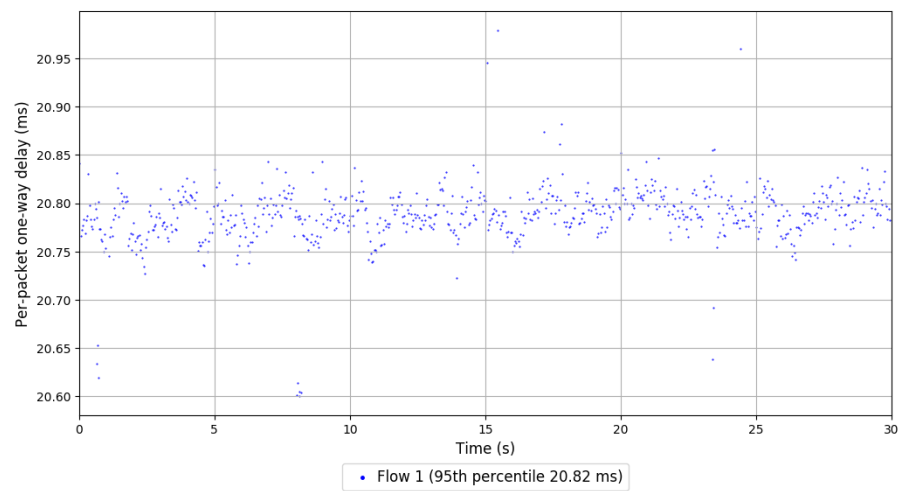
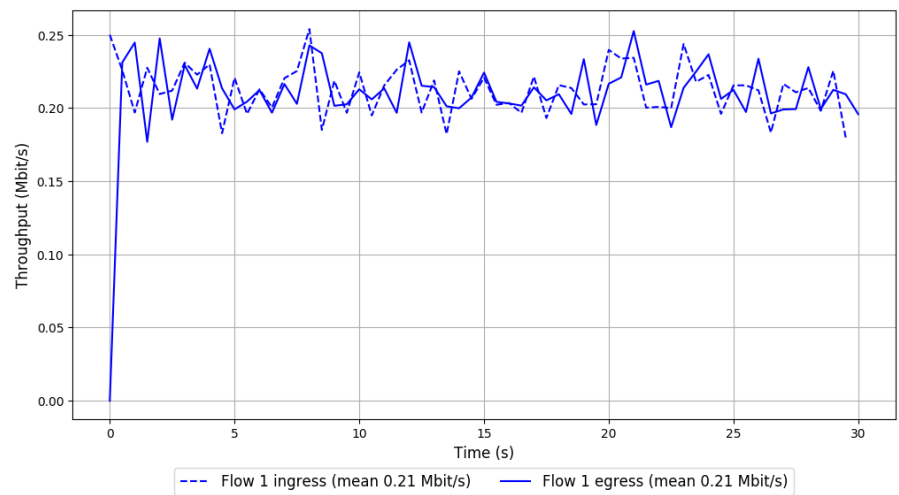


Run 5: Statistics of SCReAM

Start at: 2018-10-10 01:51:23
End at: 2018-10-10 01:51:53
Local clock offset: 2.005 ms
Remote clock offset: -5.731 ms

Below is generated by plot.py at 2018-10-10 02:20:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.823 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.823 ms
Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

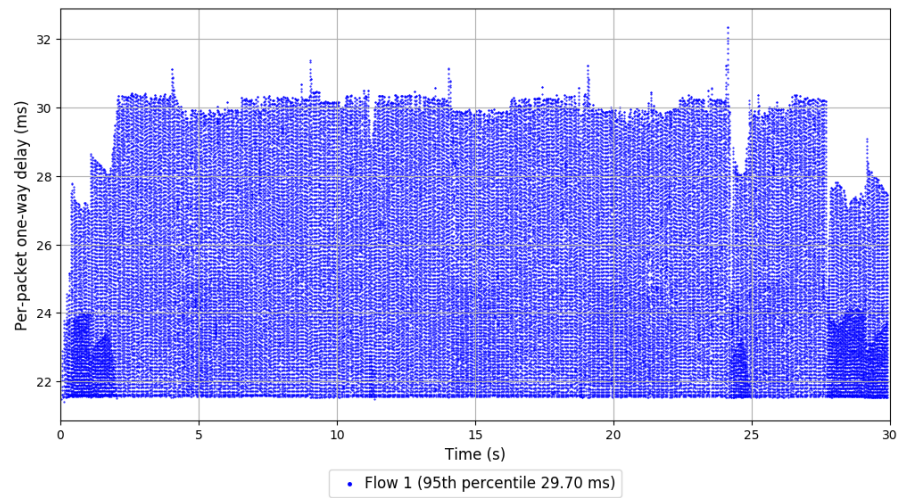
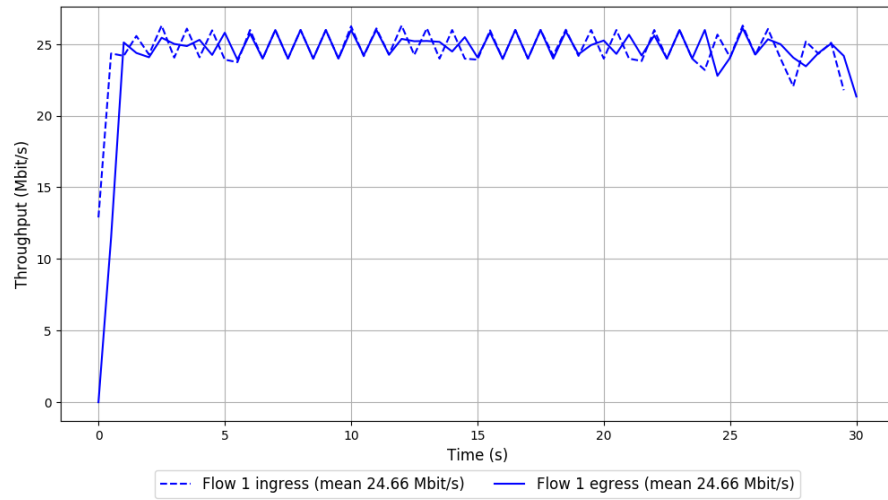


Run 1: Statistics of Sprout

Start at: 2018-10-10 00:40:56
End at: 2018-10-10 00:41:26
Local clock offset: 7.697 ms
Remote clock offset: -4.746 ms

Below is generated by plot.py at 2018-10-10 02:20:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.66 Mbit/s
95th percentile per-packet one-way delay: 29.696 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 24.66 Mbit/s
95th percentile per-packet one-way delay: 29.696 ms
Loss rate: 0.13%

Run 1: Report of Sprout — Data Link

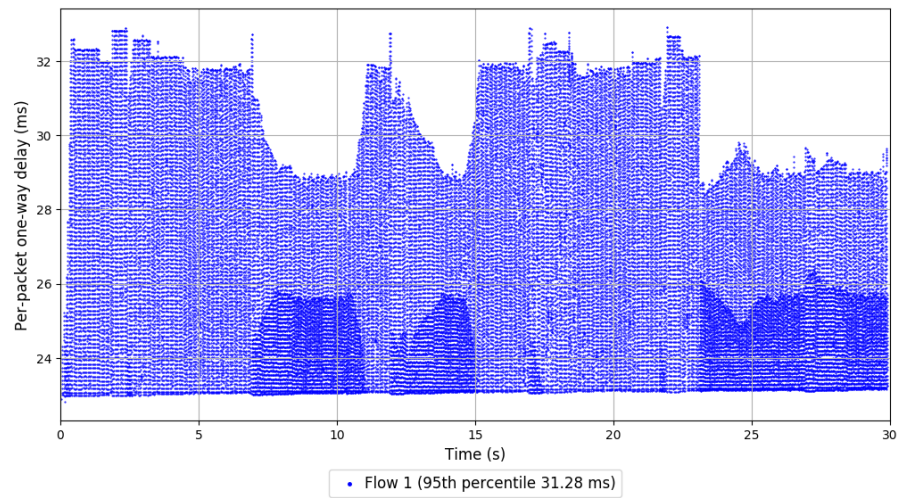
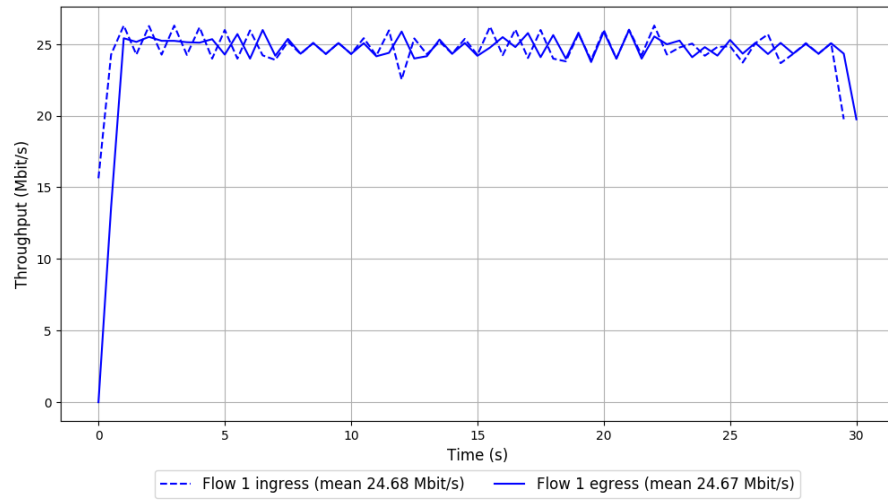


Run 2: Statistics of Sprout

Start at: 2018-10-10 01:02:29
End at: 2018-10-10 01:02:59
Local clock offset: 5.76 ms
Remote clock offset: -4.802 ms

Below is generated by plot.py at 2018-10-10 02:20:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.67 Mbit/s
95th percentile per-packet one-way delay: 31.284 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 24.67 Mbit/s
95th percentile per-packet one-way delay: 31.284 ms
Loss rate: 0.09%

Run 2: Report of Sprout — Data Link

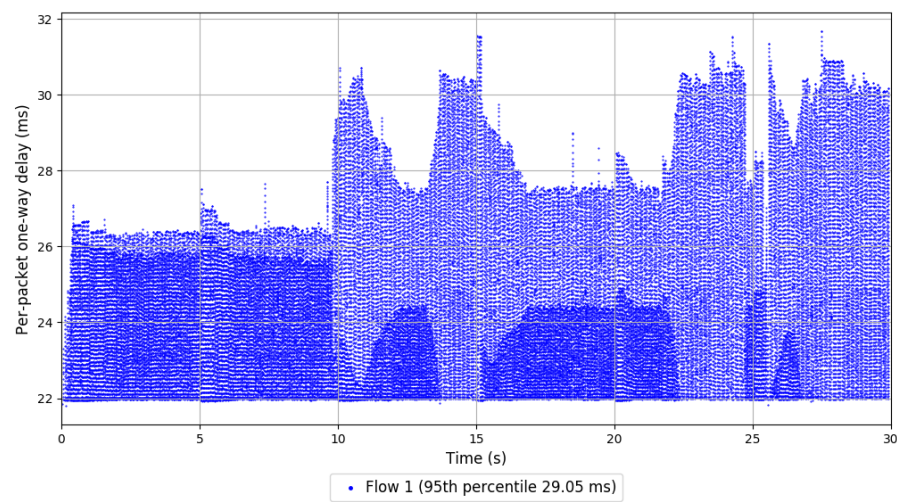
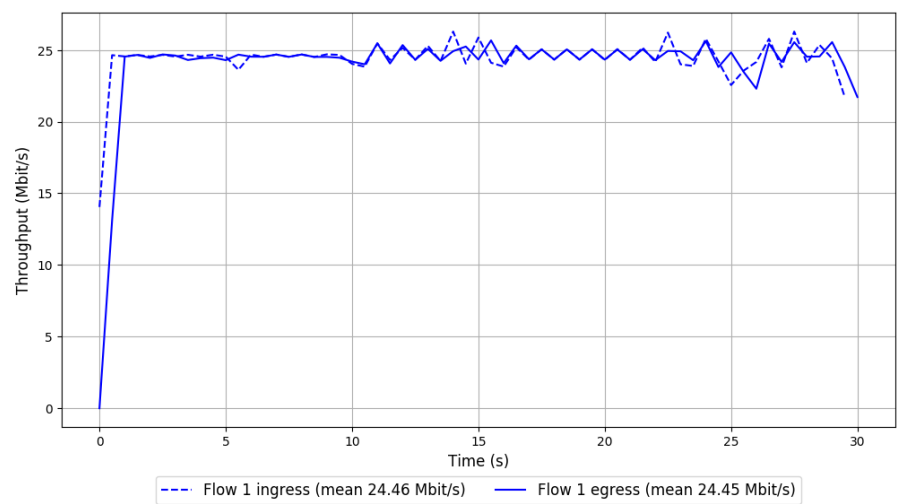


Run 3: Statistics of Sprout

Start at: 2018-10-10 01:23:55
End at: 2018-10-10 01:24:25
Local clock offset: 0.958 ms
Remote clock offset: -5.434 ms

Below is generated by plot.py at 2018-10-10 02:20:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 29.045 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 29.045 ms
Loss rate: 0.13%

Run 3: Report of Sprout — Data Link

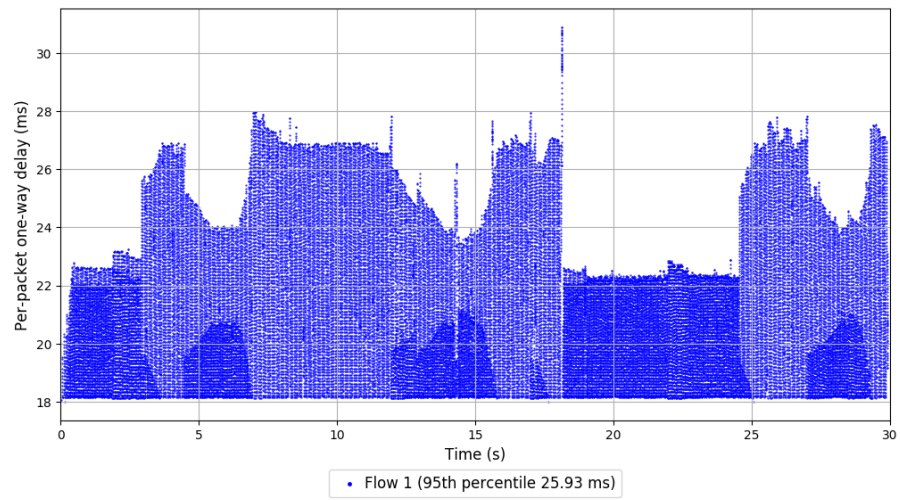
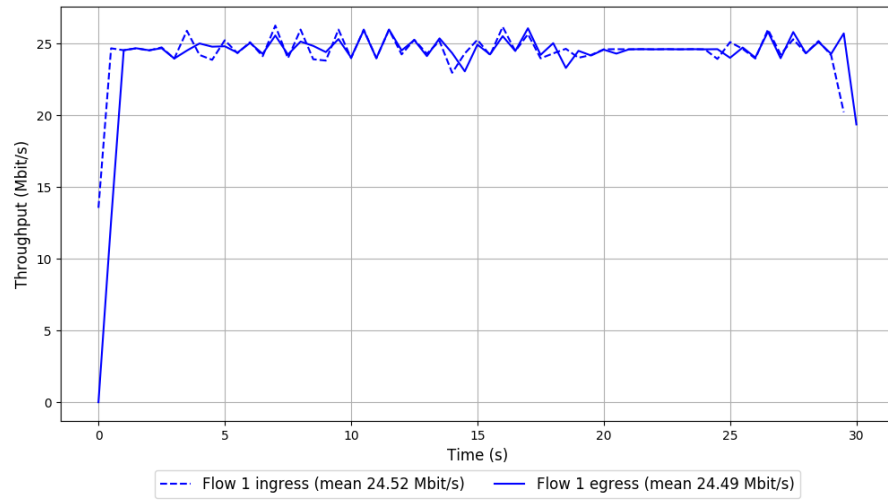


Run 4: Statistics of Sprout

Start at: 2018-10-10 01:45:24
End at: 2018-10-10 01:45:54
Local clock offset: 1.417 ms
Remote clock offset: -3.701 ms

Below is generated by plot.py at 2018-10-10 02:20:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.49 Mbit/s
95th percentile per-packet one-way delay: 25.926 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 24.49 Mbit/s
95th percentile per-packet one-way delay: 25.926 ms
Loss rate: 0.11%

Run 4: Report of Sprout — Data Link

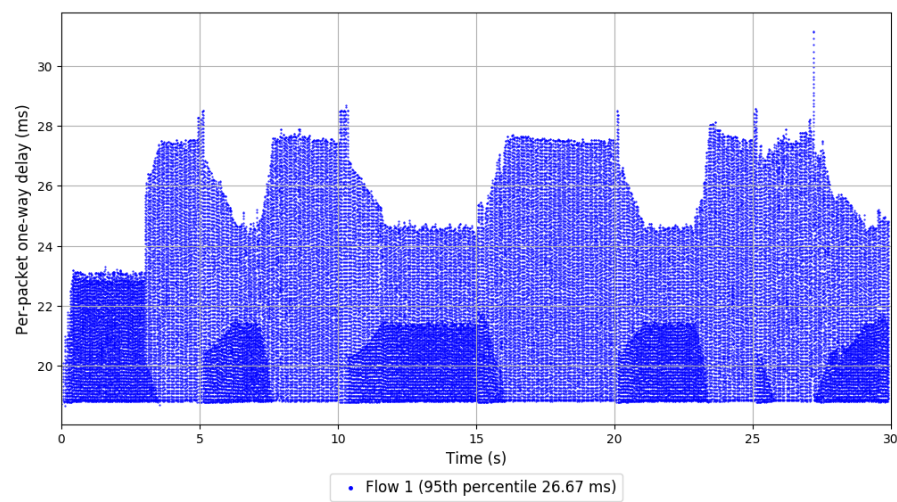
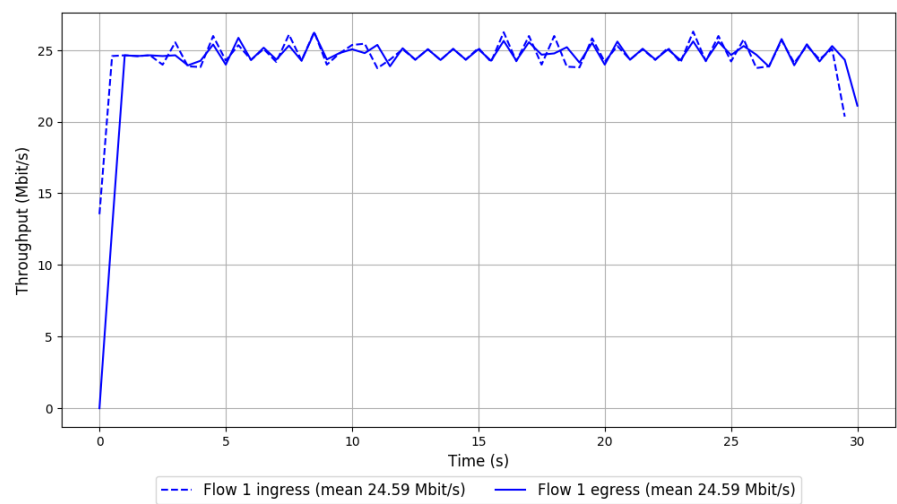


Run 5: Statistics of Sprout

Start at: 2018-10-10 02:07:00
End at: 2018-10-10 02:07:30
Local clock offset: 1.234 ms
Remote clock offset: -4.251 ms

Below is generated by plot.py at 2018-10-10 02:20:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.59 Mbit/s
95th percentile per-packet one-way delay: 26.666 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 24.59 Mbit/s
95th percentile per-packet one-way delay: 26.666 ms
Loss rate: 0.04%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-10-10 00:28:50

End at: 2018-10-10 00:29:20

Local clock offset: 5.87 ms

Remote clock offset: -4.26 ms

Below is generated by plot.py at 2018-10-10 02:22:22

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.53 Mbit/s

95th percentile per-packet one-way delay: 28.652 ms

Loss rate: 0.10%

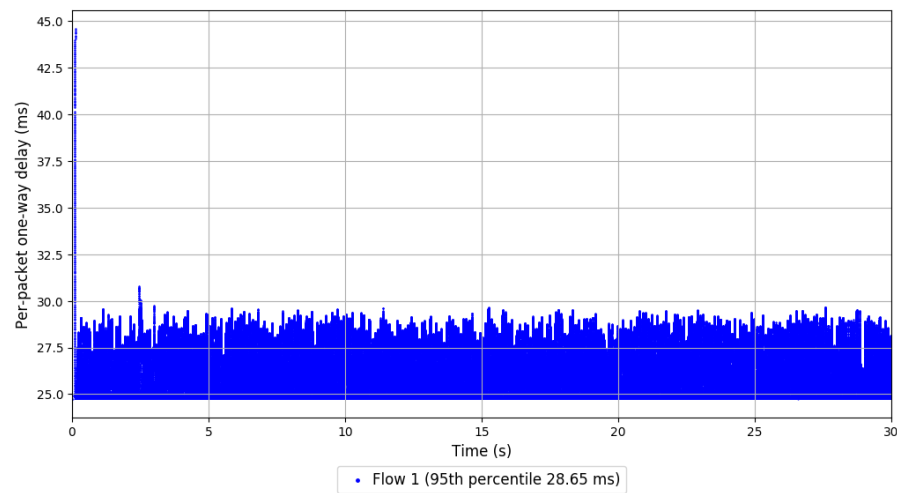
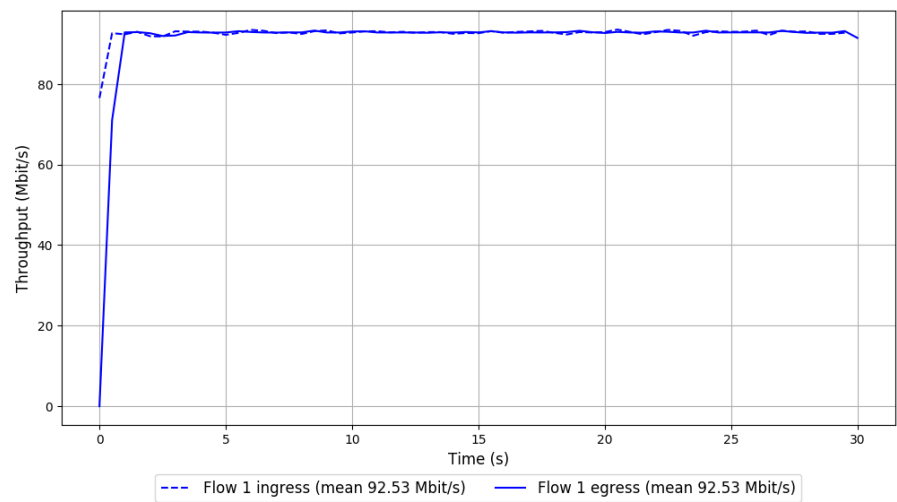
-- Flow 1:

Average throughput: 92.53 Mbit/s

95th percentile per-packet one-way delay: 28.652 ms

Loss rate: 0.10%

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

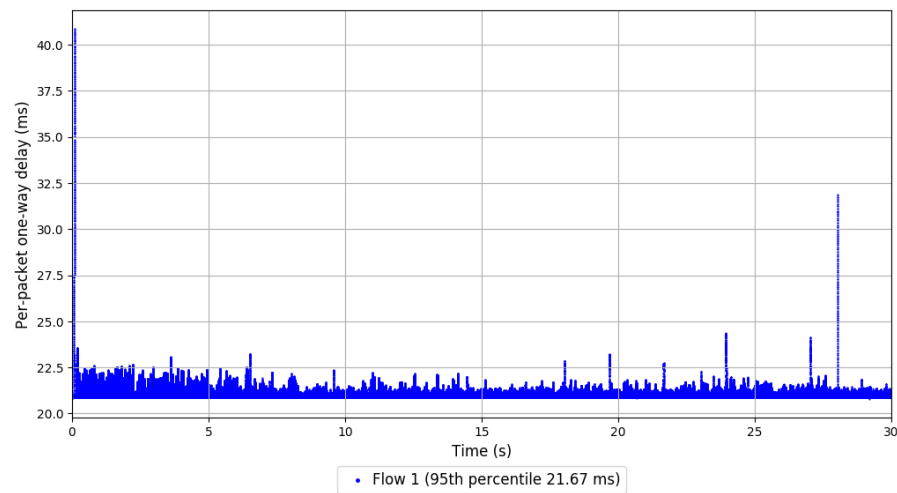
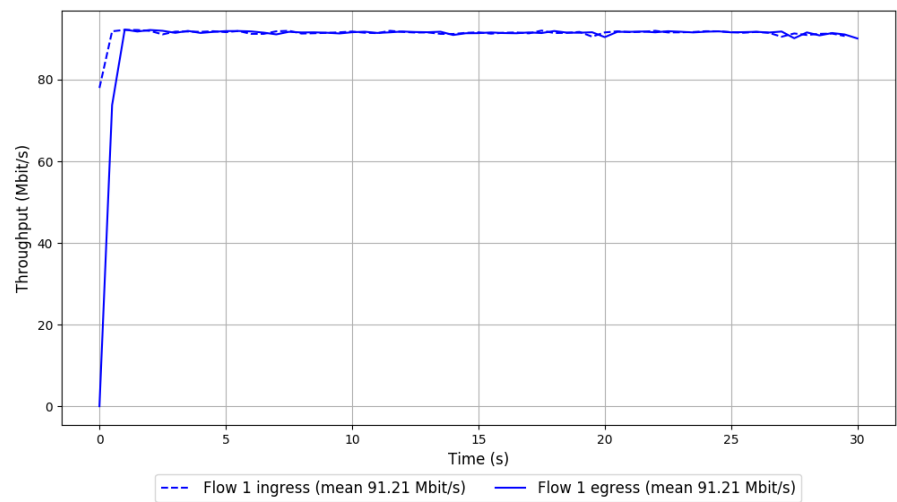


Run 2: Statistics of TaoVA-100x

Start at: 2018-10-10 00:50:21
End at: 2018-10-10 00:50:52
Local clock offset: 7.626 ms
Remote clock offset: -4.665 ms

Below is generated by plot.py at 2018-10-10 02:22:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.21 Mbit/s
95th percentile per-packet one-way delay: 21.666 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 91.21 Mbit/s
95th percentile per-packet one-way delay: 21.666 ms
Loss rate: 0.08%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-10-10 01:11:43

End at: 2018-10-10 01:12:13

Local clock offset: 1.529 ms

Remote clock offset: -5.058 ms

Below is generated by plot.py at 2018-10-10 02:22:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.30 Mbit/s

95th percentile per-packet one-way delay: 21.826 ms

Loss rate: 0.08%

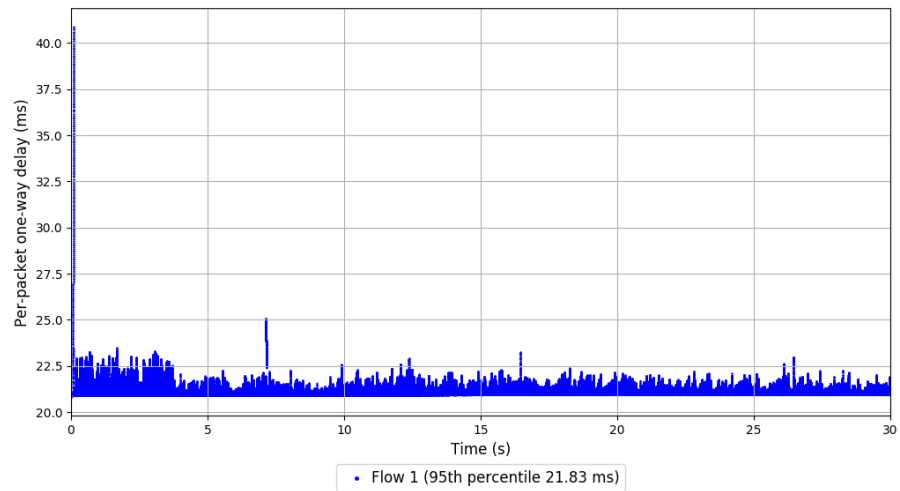
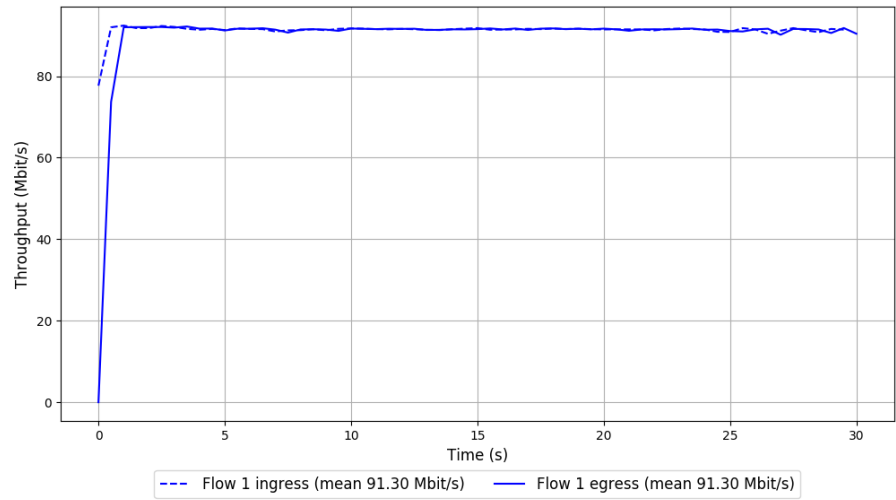
-- Flow 1:

Average throughput: 91.30 Mbit/s

95th percentile per-packet one-way delay: 21.826 ms

Loss rate: 0.08%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-10-10 01:33:15

End at: 2018-10-10 01:33:45

Local clock offset: 2.0 ms

Remote clock offset: -4.93 ms

Below is generated by plot.py at 2018-10-10 02:22:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 91.19 Mbit/s

95th percentile per-packet one-way delay: 21.877 ms

Loss rate: 0.08%

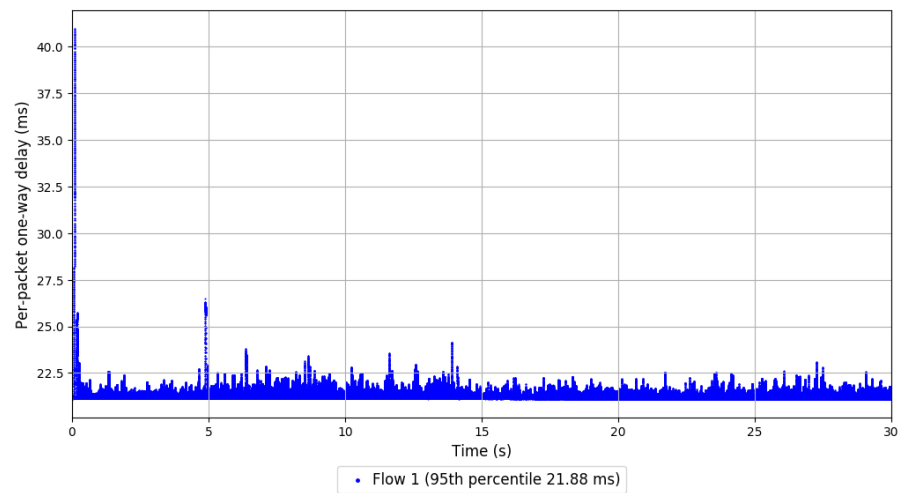
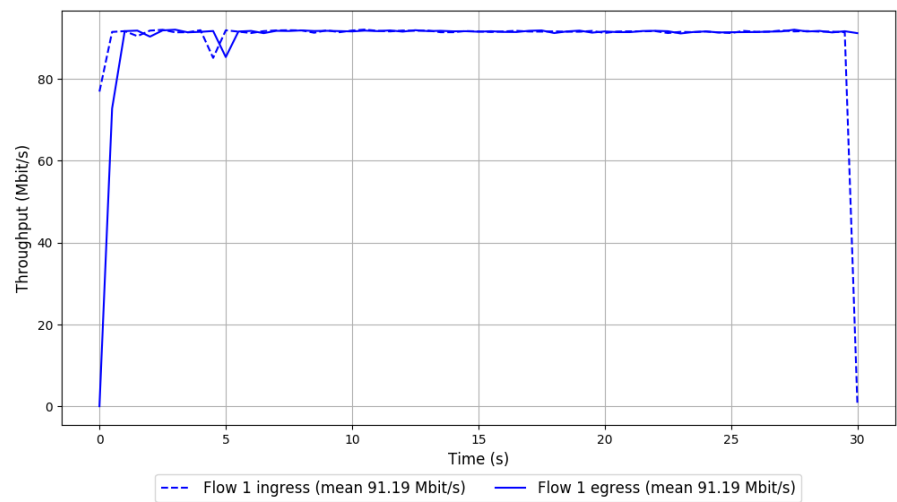
-- Flow 1:

Average throughput: 91.19 Mbit/s

95th percentile per-packet one-way delay: 21.877 ms

Loss rate: 0.08%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-10-10 01:54:44

End at: 2018-10-10 01:55:14

Local clock offset: 3.426 ms

Remote clock offset: -3.962 ms

Below is generated by plot.py at 2018-10-10 02:22:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.12 Mbit/s

95th percentile per-packet one-way delay: 21.317 ms

Loss rate: 0.08%

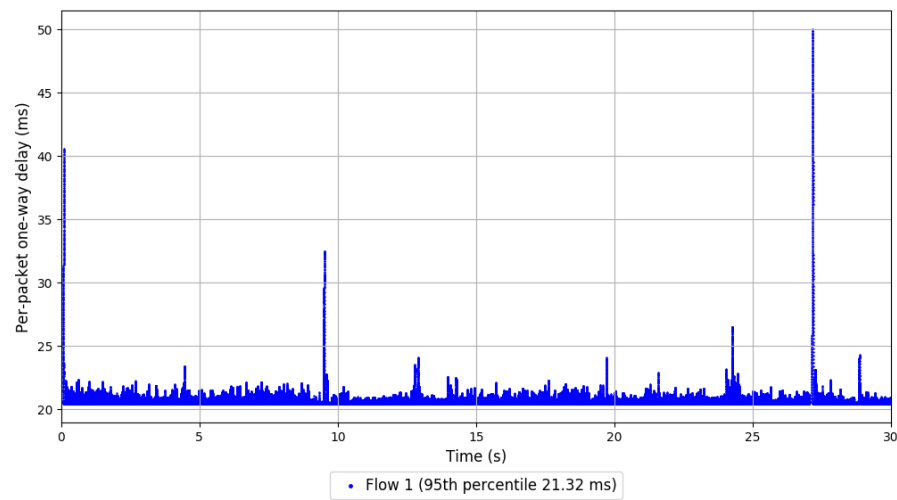
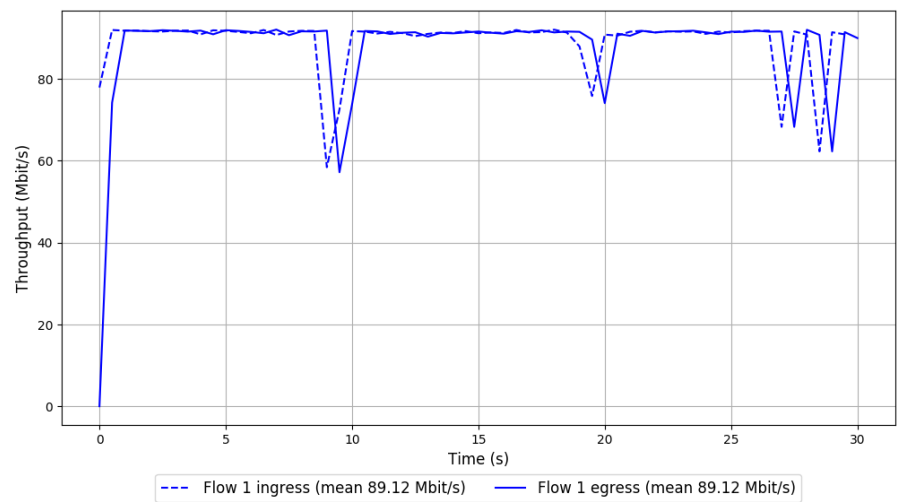
-- Flow 1:

Average throughput: 89.12 Mbit/s

95th percentile per-packet one-way delay: 21.317 ms

Loss rate: 0.08%

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

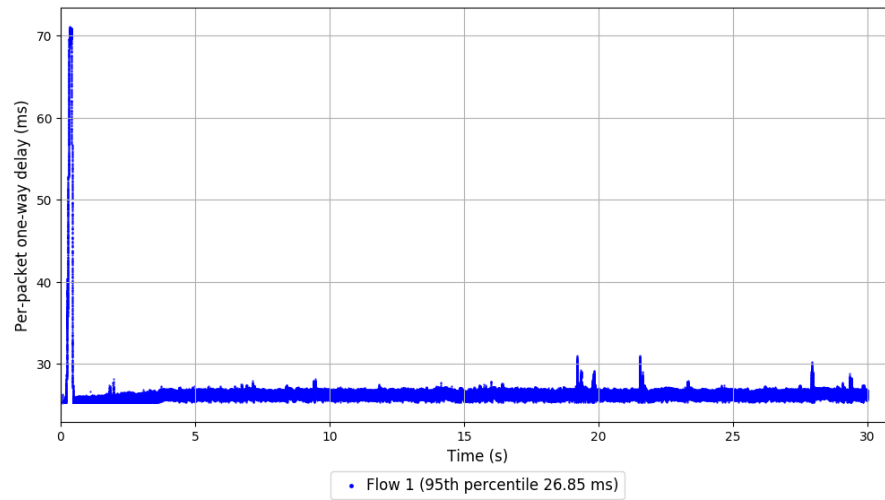
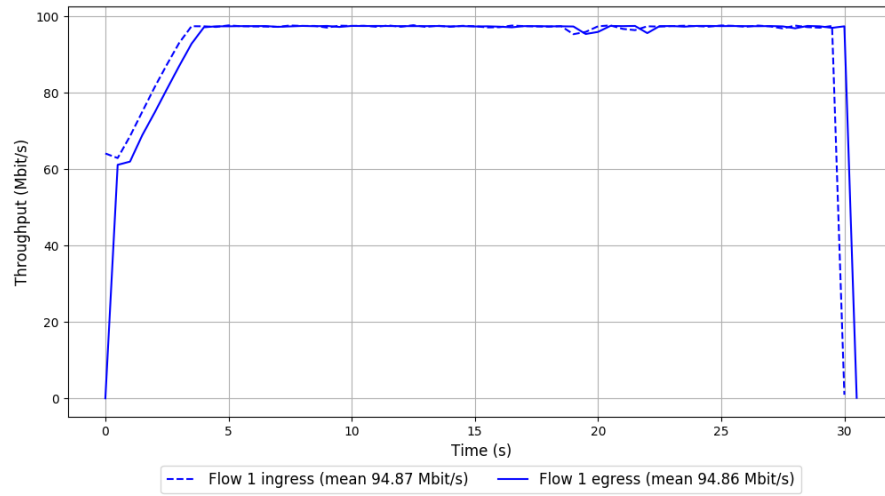


Run 1: Statistics of TCP Vegas

Start at: 2018-10-10 00:30:11
End at: 2018-10-10 00:30:41
Local clock offset: 6.355 ms
Remote clock offset: -4.426 ms

Below is generated by plot.py at 2018-10-10 02:22:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 94.86 Mbit/s
95th percentile per-packet one-way delay: 26.851 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 94.86 Mbit/s
95th percentile per-packet one-way delay: 26.851 ms
Loss rate: 0.11%

Run 1: Report of TCP Vegas — Data Link

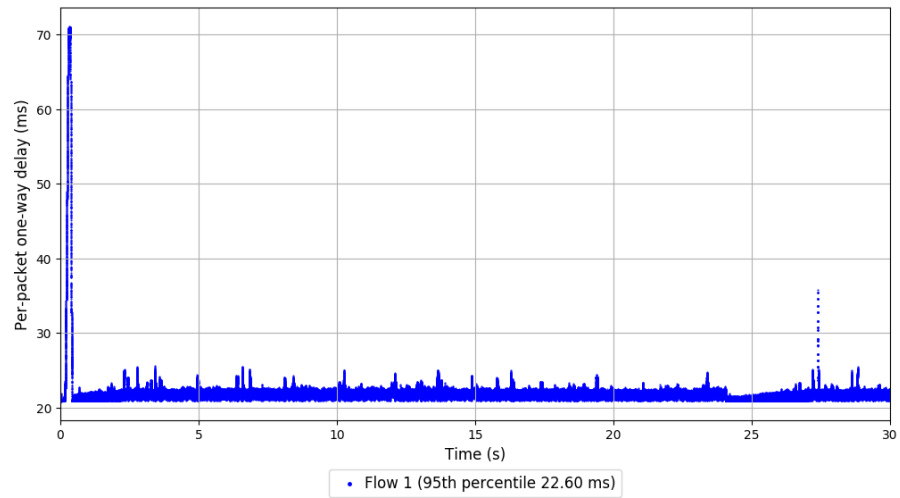
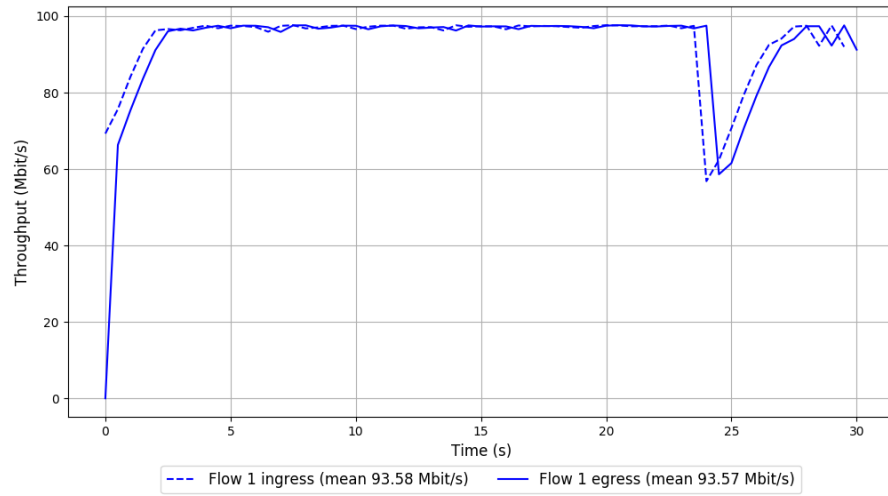


Run 2: Statistics of TCP Vegas

Start at: 2018-10-10 00:51:39
End at: 2018-10-10 00:52:09
Local clock offset: 7.441 ms
Remote clock offset: -4.979 ms

Below is generated by plot.py at 2018-10-10 02:22:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 93.57 Mbit/s
95th percentile per-packet one-way delay: 22.596 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 93.57 Mbit/s
95th percentile per-packet one-way delay: 22.596 ms
Loss rate: 0.09%

Run 2: Report of TCP Vegas — Data Link

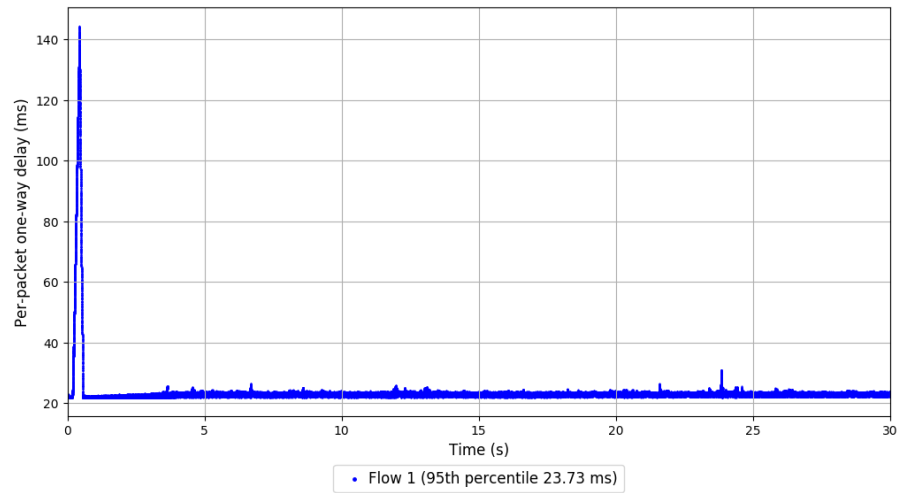
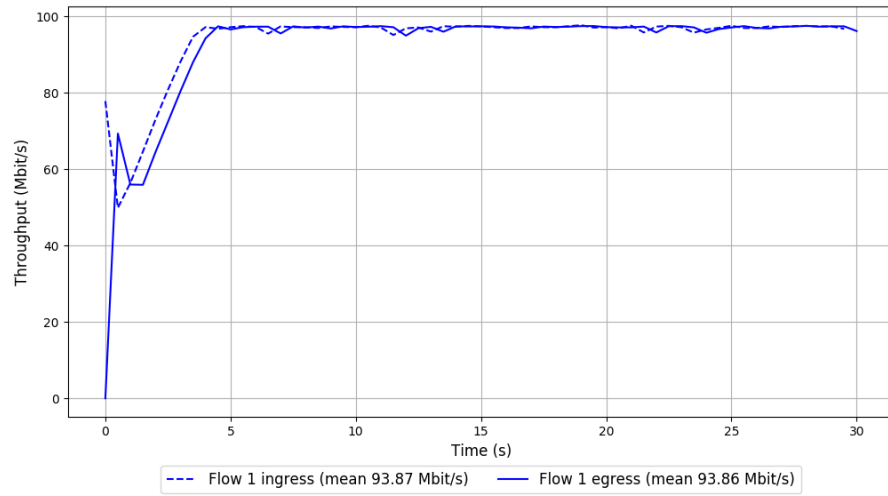


Run 3: Statistics of TCP Vegas

Start at: 2018-10-10 01:13:01
End at: 2018-10-10 01:13:31
Local clock offset: 2.503 ms
Remote clock offset: -4.965 ms

Below is generated by plot.py at 2018-10-10 02:22:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 93.86 Mbit/s
95th percentile per-packet one-way delay: 23.733 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 93.86 Mbit/s
95th percentile per-packet one-way delay: 23.733 ms
Loss rate: 0.09%

Run 3: Report of TCP Vegas — Data Link

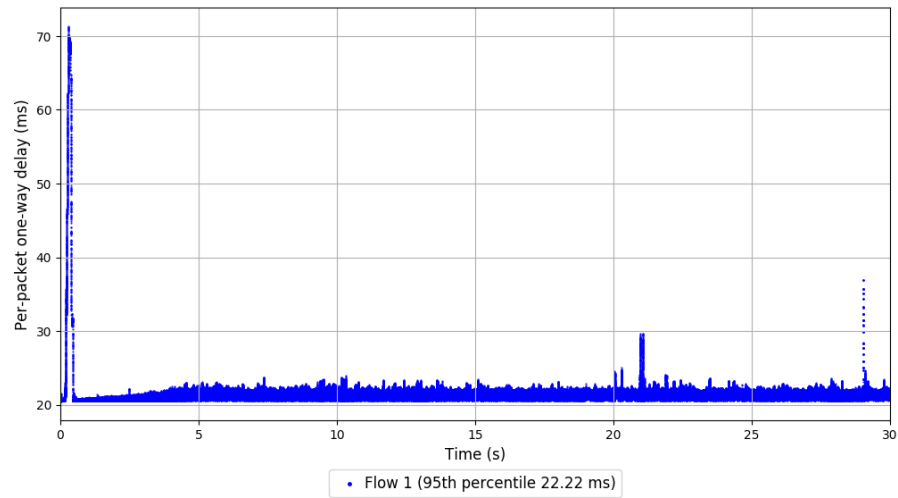
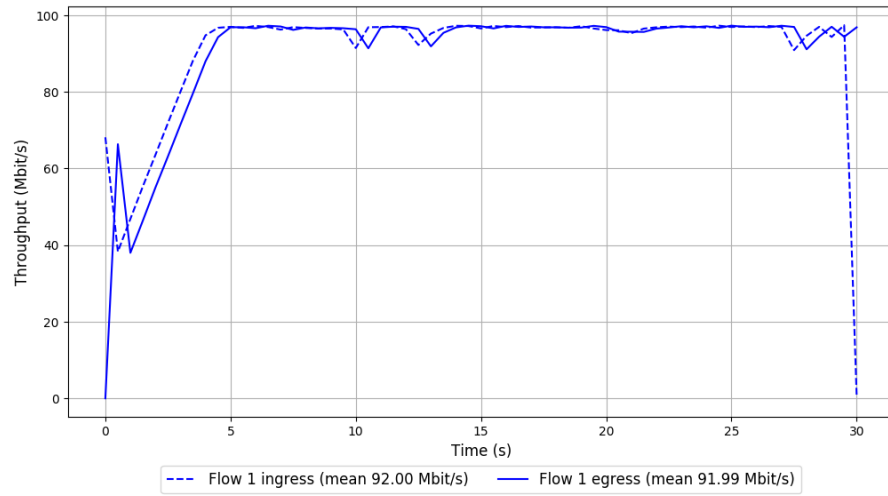


Run 4: Statistics of TCP Vegas

Start at: 2018-10-10 01:34:34
End at: 2018-10-10 01:35:04
Local clock offset: 1.69 ms
Remote clock offset: -4.731 ms

Below is generated by plot.py at 2018-10-10 02:22:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.99 Mbit/s
95th percentile per-packet one-way delay: 22.220 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 91.99 Mbit/s
95th percentile per-packet one-way delay: 22.220 ms
Loss rate: 0.10%

Run 4: Report of TCP Vegas — Data Link

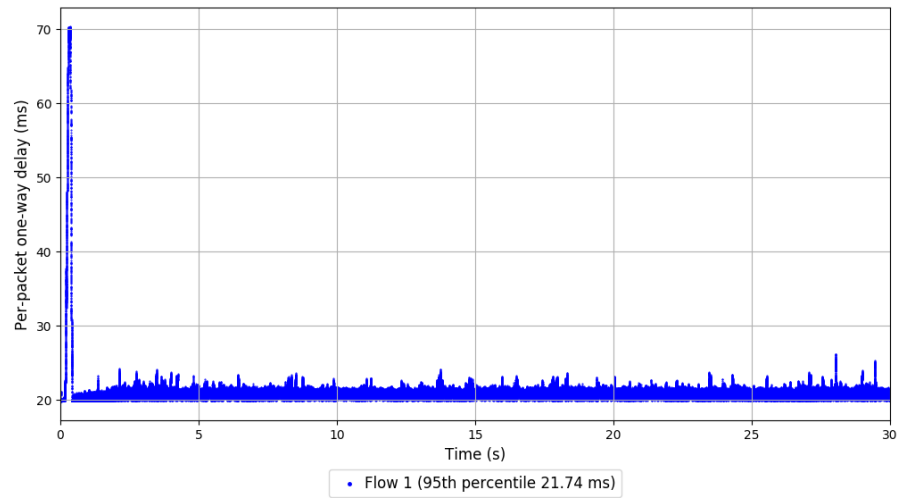
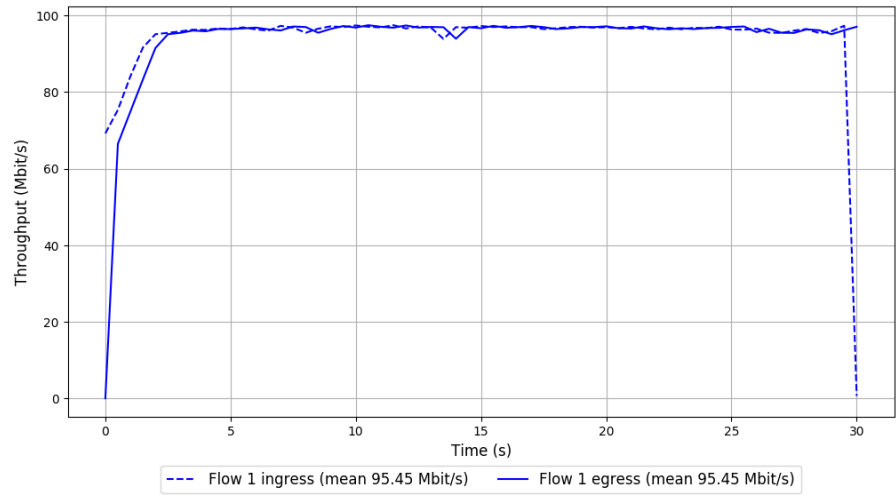


Run 5: Statistics of TCP Vegas

Start at: 2018-10-10 01:56:01
End at: 2018-10-10 01:56:31
Local clock offset: 1.613 ms
Remote clock offset: -5.194 ms

Below is generated by plot.py at 2018-10-10 02:23:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 95.45 Mbit/s
95th percentile per-packet one-way delay: 21.741 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 95.45 Mbit/s
95th percentile per-packet one-way delay: 21.741 ms
Loss rate: 0.09%

Run 5: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

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

End at: 2018-10-10 00:23:32

Local clock offset: 7.85 ms

Remote clock offset: -5.17 ms

Below is generated by plot.py at 2018-10-10 02:23:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.82 Mbit/s

95th percentile per-packet one-way delay: 59.282 ms

Loss rate: 0.25%

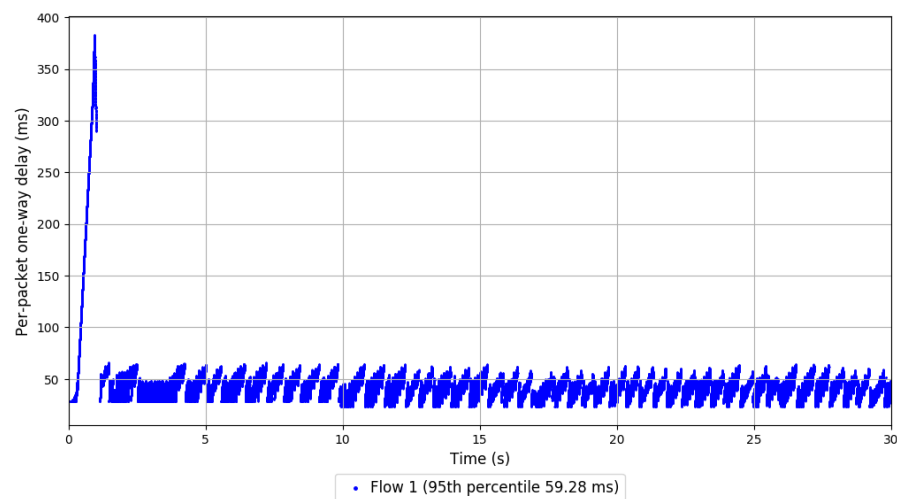
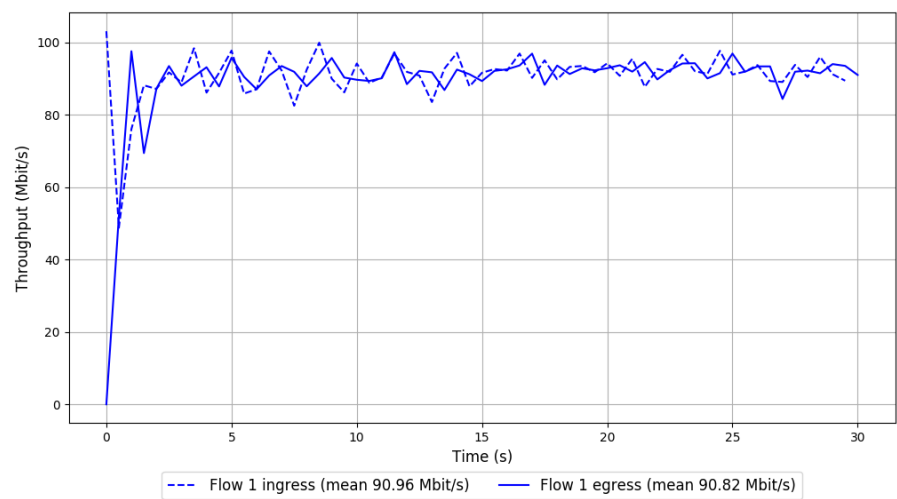
-- Flow 1:

Average throughput: 90.82 Mbit/s

95th percentile per-packet one-way delay: 59.282 ms

Loss rate: 0.25%

Run 1: Report of Verus — Data Link

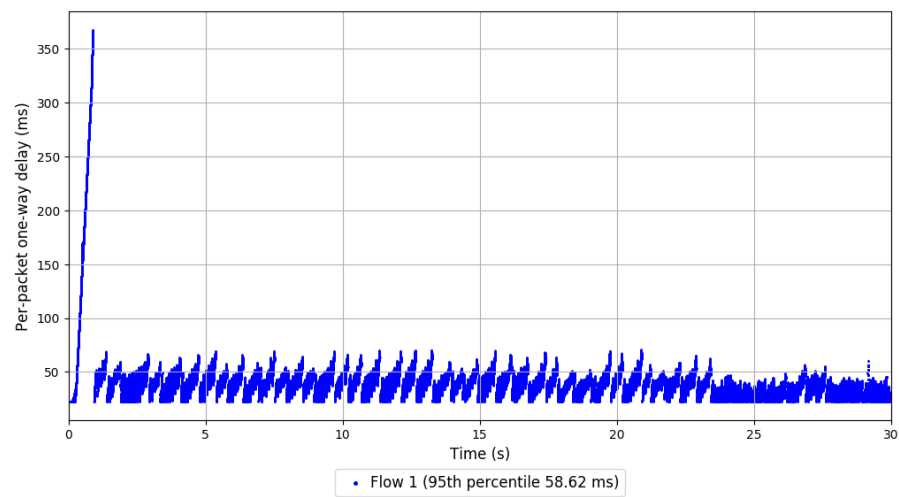
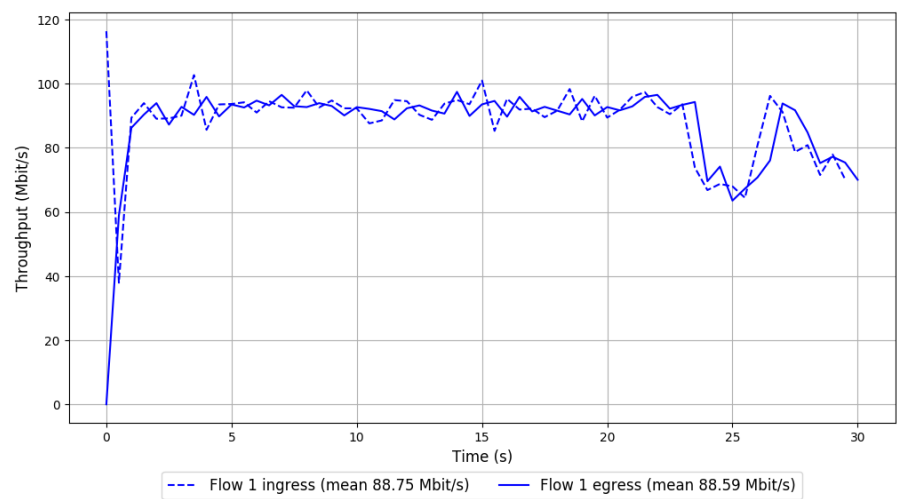


Run 2: Statistics of Verus

Start at: 2018-10-10 00:44:27
End at: 2018-10-10 00:44:57
Local clock offset: 8.366 ms
Remote clock offset: -5.043 ms

Below is generated by plot.py at 2018-10-10 02:23:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 88.59 Mbit/s
95th percentile per-packet one-way delay: 58.620 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 88.59 Mbit/s
95th percentile per-packet one-way delay: 58.620 ms
Loss rate: 0.18%

Run 2: Report of Verus — Data Link

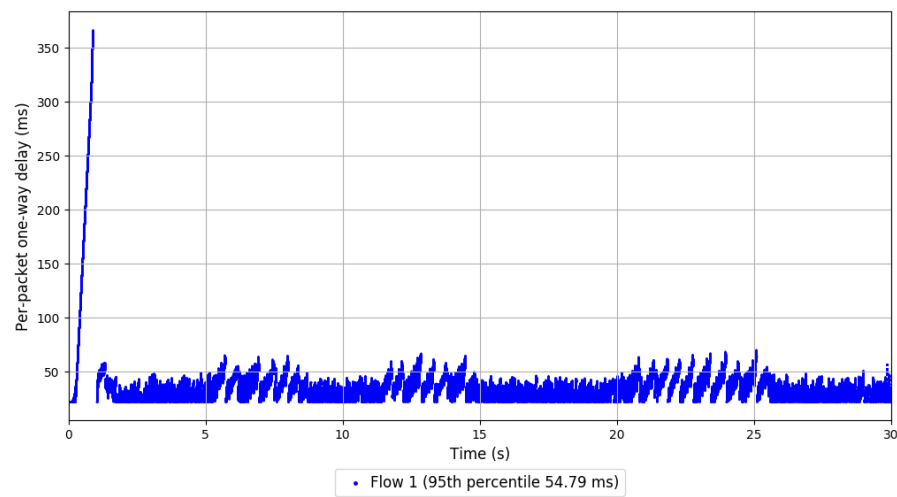
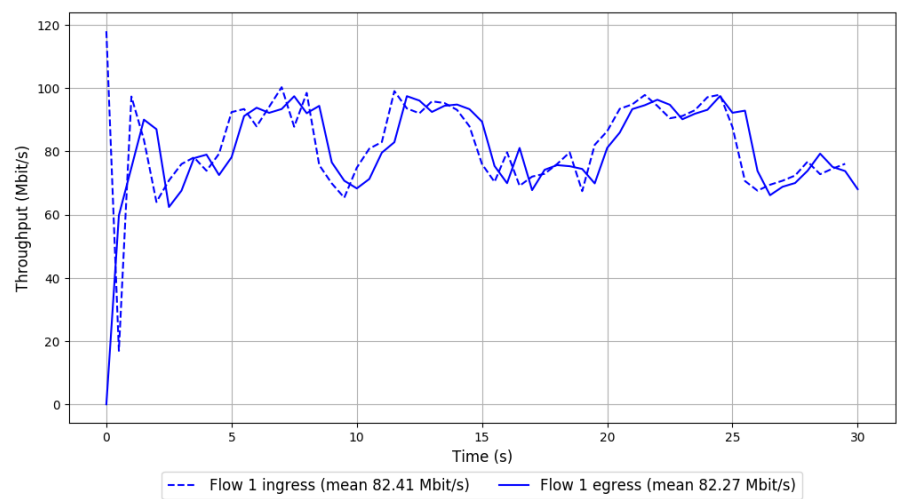


Run 3: Statistics of Verus

Start at: 2018-10-10 01:05:57
End at: 2018-10-10 01:06:27
Local clock offset: 3.022 ms
Remote clock offset: -5.408 ms

Below is generated by plot.py at 2018-10-10 02:23:26
Datalink statistics
-- Total of 1 flow:
Average throughput: 82.27 Mbit/s
95th percentile per-packet one-way delay: 54.792 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 82.27 Mbit/s
95th percentile per-packet one-way delay: 54.792 ms
Loss rate: 0.25%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-10-10 01:27:28

End at: 2018-10-10 01:27:58

Local clock offset: 0.715 ms

Remote clock offset: -5.09 ms

Below is generated by plot.py at 2018-10-10 02:23:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.06 Mbit/s

95th percentile per-packet one-way delay: 42.648 ms

Loss rate: 0.26%

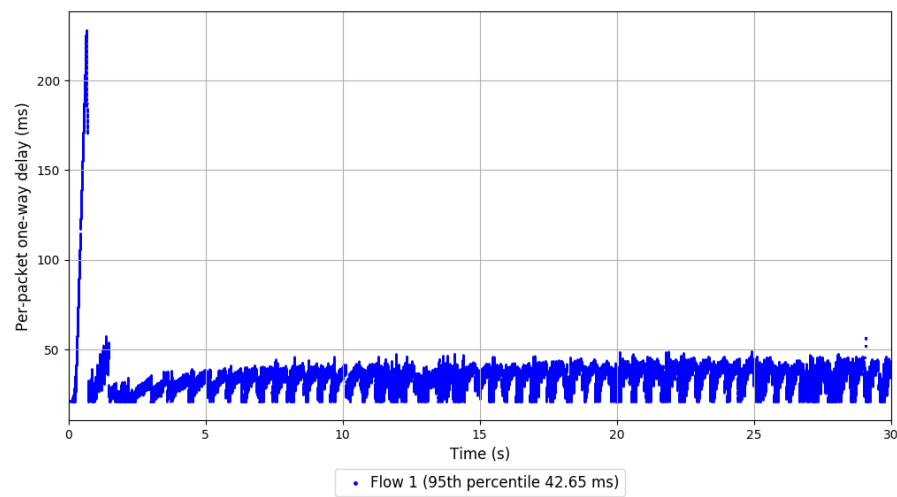
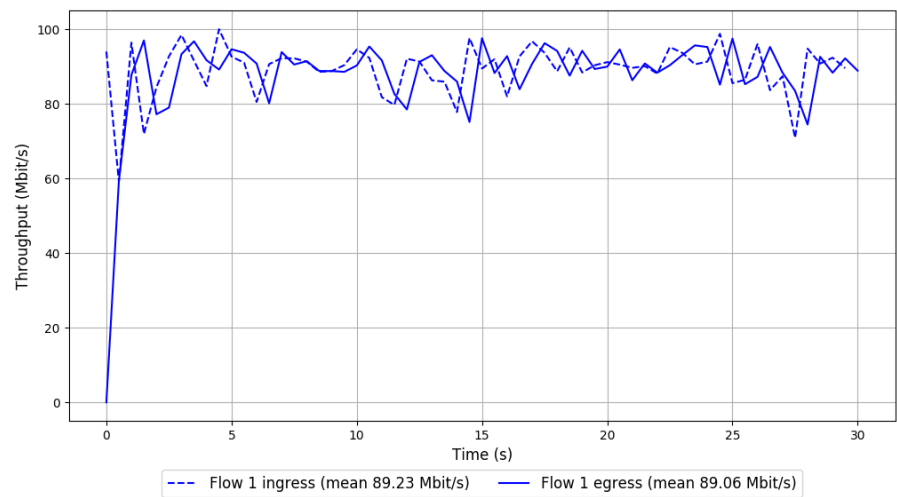
-- Flow 1:

Average throughput: 89.06 Mbit/s

95th percentile per-packet one-way delay: 42.648 ms

Loss rate: 0.26%

Run 4: Report of Verus — Data Link

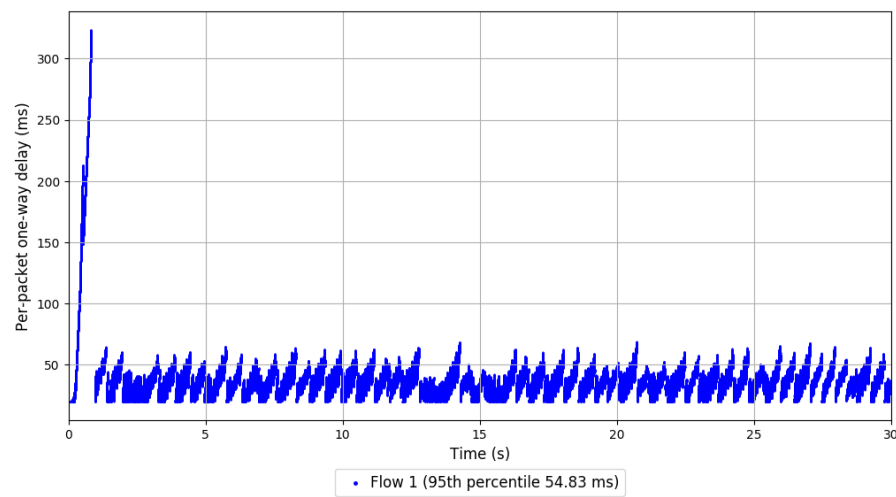
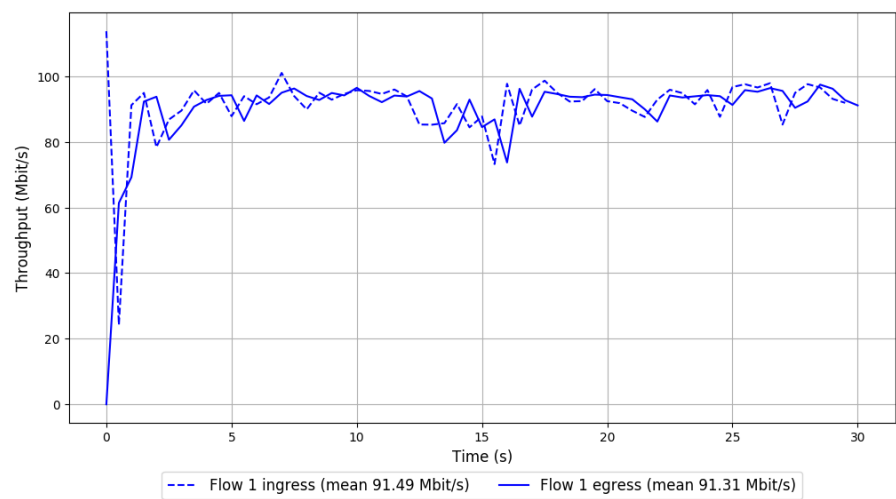


Run 5: Statistics of Verus

Start at: 2018-10-10 01:48:58
End at: 2018-10-10 01:49:28
Local clock offset: 2.748 ms
Remote clock offset: -3.978 ms

Below is generated by plot.py at 2018-10-10 02:23:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 91.31 Mbit/s
95th percentile per-packet one-way delay: 54.833 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 91.31 Mbit/s
95th percentile per-packet one-way delay: 54.833 ms
Loss rate: 0.27%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-10-10 00:36:08

End at: 2018-10-10 00:36:38

Local clock offset: 6.692 ms

Remote clock offset: -4.809 ms

Below is generated by plot.py at 2018-10-10 02:23:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.88 Mbit/s

95th percentile per-packet one-way delay: 21.285 ms

Loss rate: 0.10%

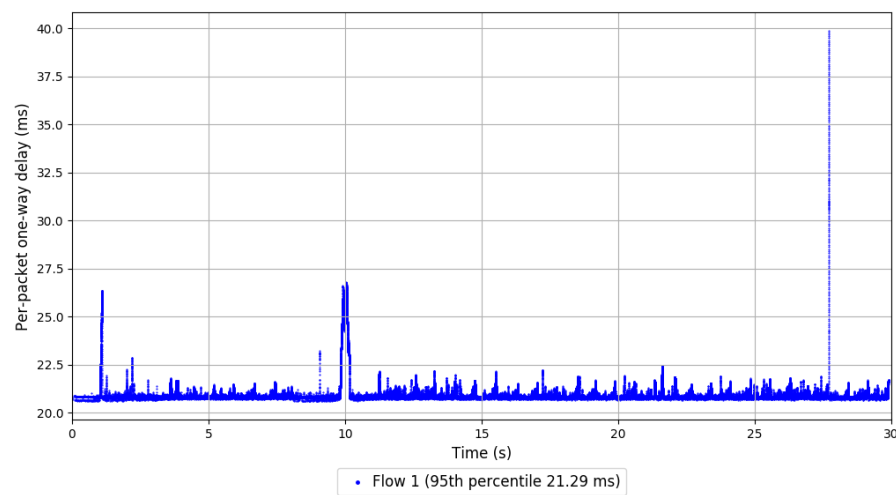
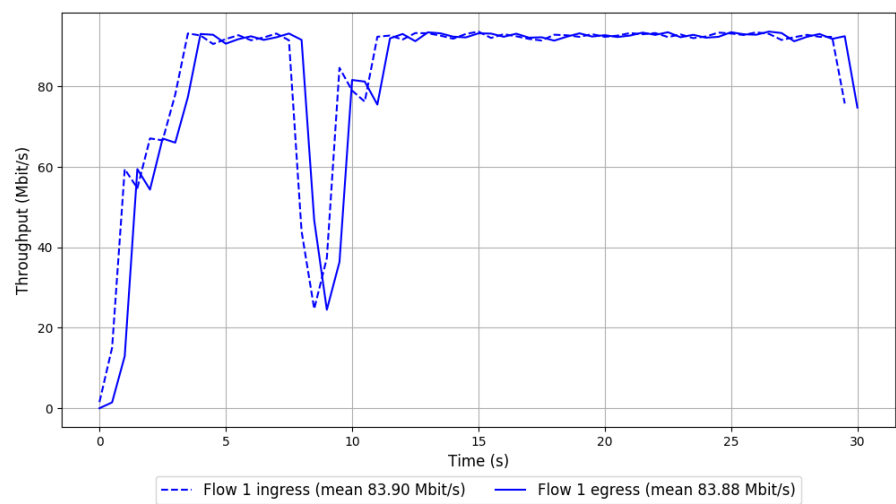
-- Flow 1:

Average throughput: 83.88 Mbit/s

95th percentile per-packet one-way delay: 21.285 ms

Loss rate: 0.10%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-10-10 00:57:47

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

Local clock offset: 5.944 ms

Remote clock offset: -4.717 ms

Below is generated by plot.py at 2018-10-10 02:23:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.58 Mbit/s

95th percentile per-packet one-way delay: 21.737 ms

Loss rate: 0.09%

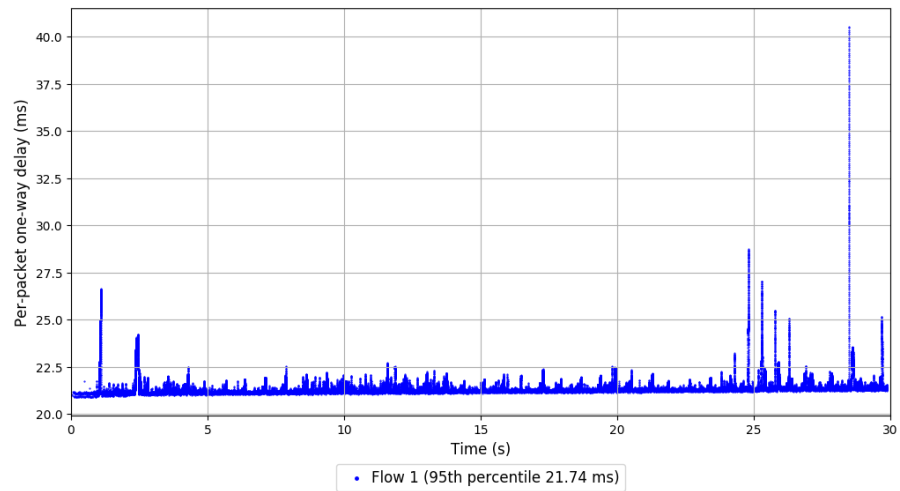
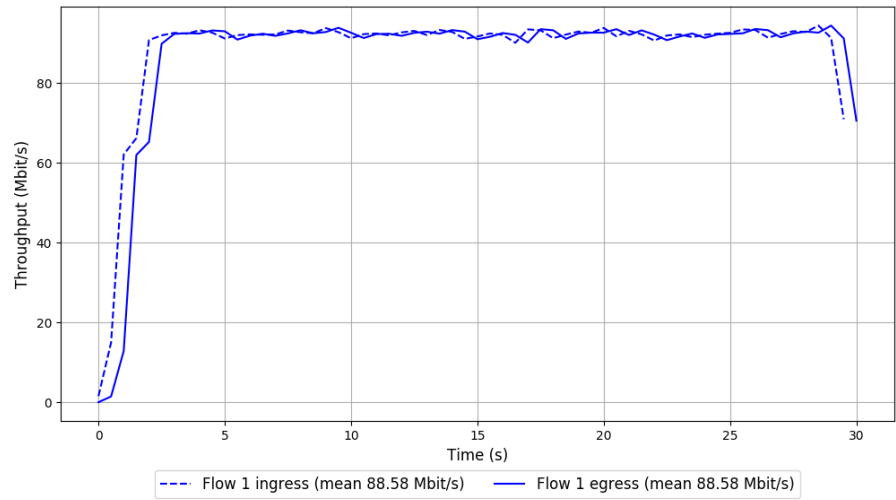
-- Flow 1:

Average throughput: 88.58 Mbit/s

95th percentile per-packet one-way delay: 21.737 ms

Loss rate: 0.09%

Run 2: Report of PCC-Vivace — Data Link

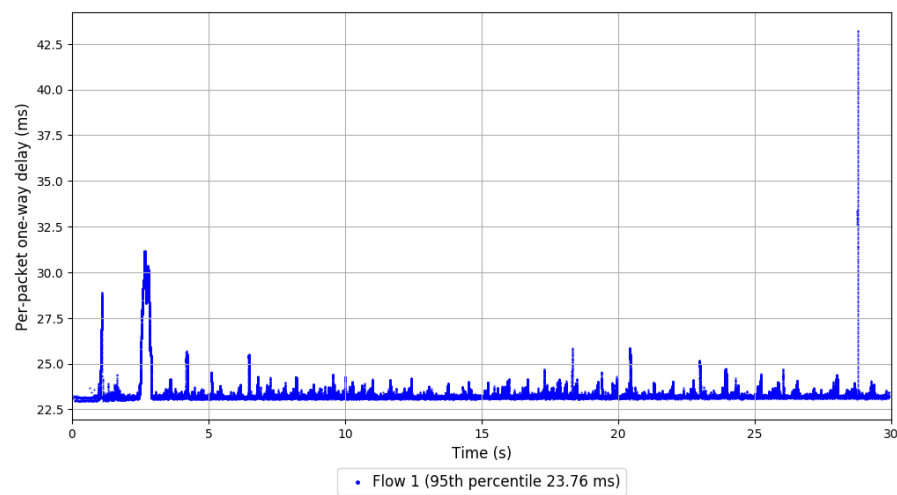
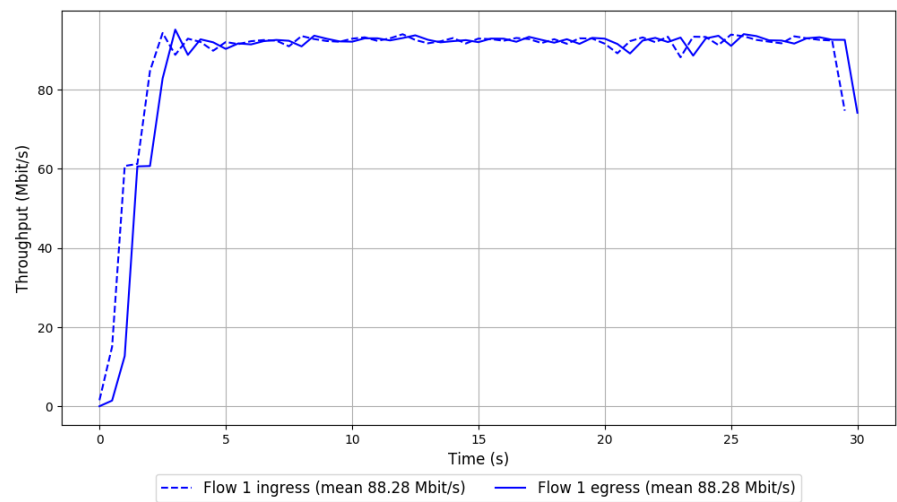


Run 3: Statistics of PCC-Vivace

Start at: 2018-10-10 01:19:01
End at: 2018-10-10 01:19:31
Local clock offset: 2.799 ms
Remote clock offset: -5.192 ms

Below is generated by plot.py at 2018-10-10 02:23:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 88.28 Mbit/s
95th percentile per-packet one-way delay: 23.759 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 88.28 Mbit/s
95th percentile per-packet one-way delay: 23.759 ms
Loss rate: 0.09%

Run 3: Report of PCC-Vivace — Data Link

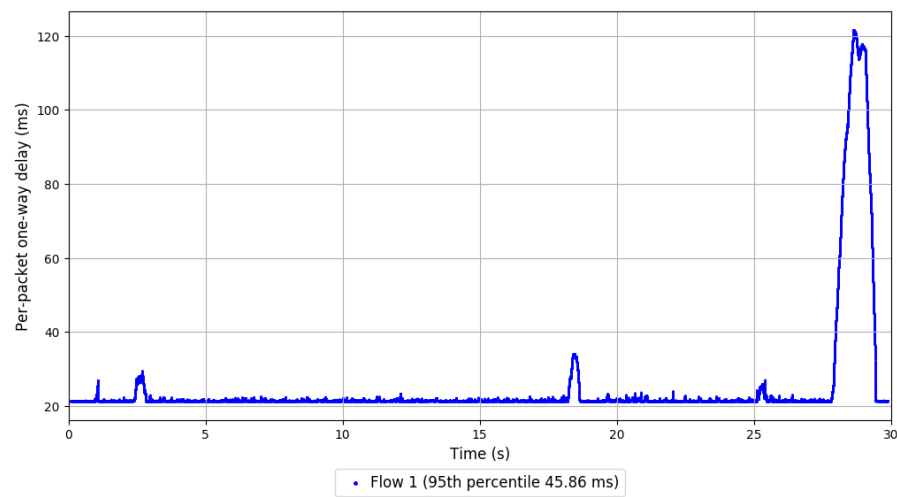
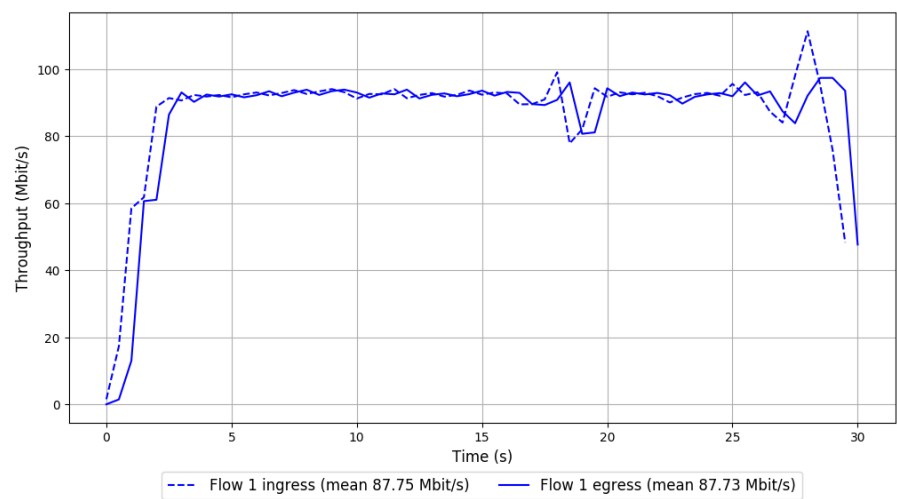


Run 4: Statistics of PCC-Vivace

Start at: 2018-10-10 01:40:35
End at: 2018-10-10 01:41:05
Local clock offset: 3.924 ms
Remote clock offset: -4.424 ms

Below is generated by plot.py at 2018-10-10 02:23:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 87.73 Mbit/s
95th percentile per-packet one-way delay: 45.857 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 87.73 Mbit/s
95th percentile per-packet one-way delay: 45.857 ms
Loss rate: 0.10%

Run 4: Report of PCC-Vivace — Data Link

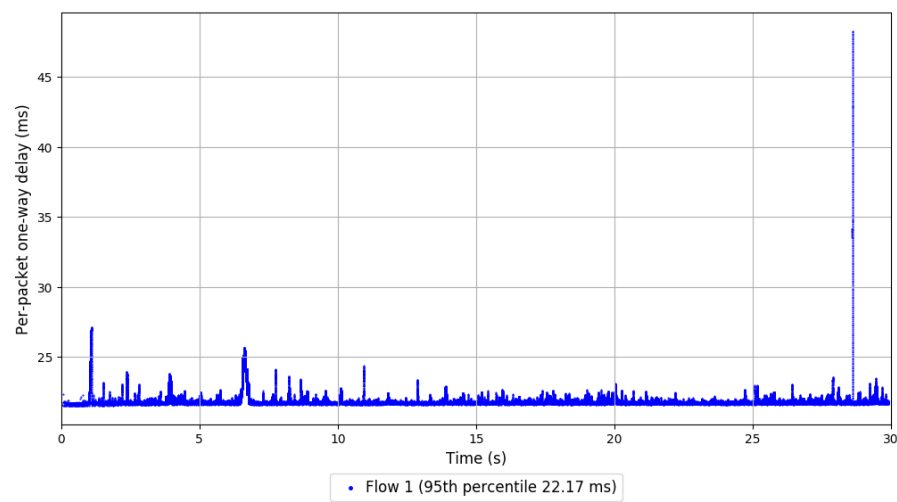
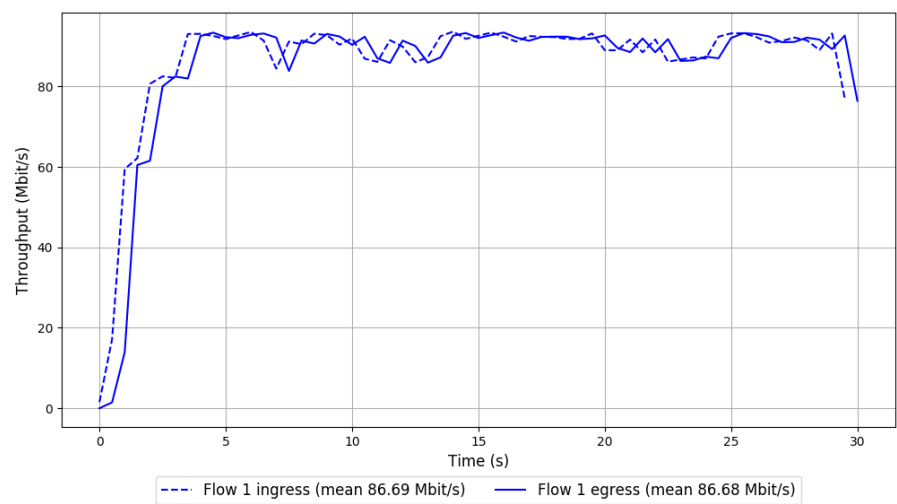


Run 5: Statistics of PCC-Vivace

Start at: 2018-10-10 02:02:12
End at: 2018-10-10 02:02:42
Local clock offset: 3.275 ms
Remote clock offset: -5.219 ms

Below is generated by plot.py at 2018-10-10 02:24:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 86.68 Mbit/s
95th percentile per-packet one-way delay: 22.173 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 86.68 Mbit/s
95th percentile per-packet one-way delay: 22.173 ms
Loss rate: 0.09%

Run 5: Report of PCC-Vivace — Data Link

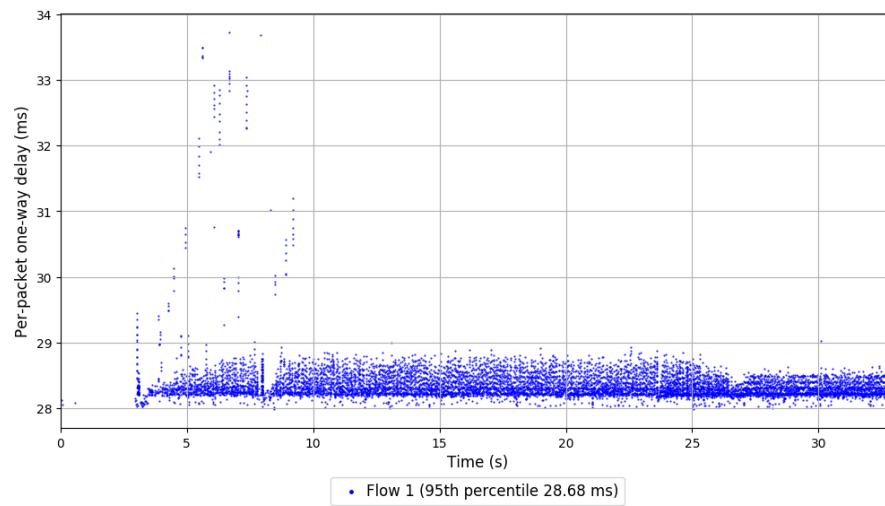
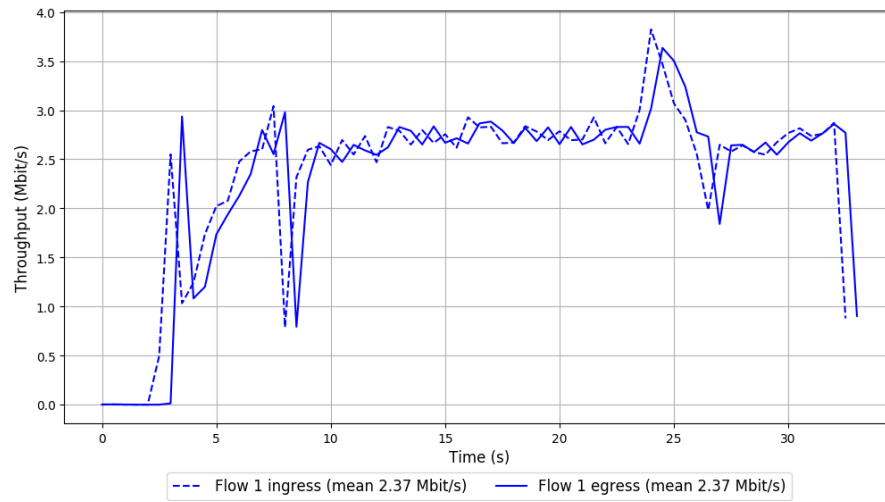


Run 1: Statistics of WebRTC media

Start at: 2018-10-10 00:27:44
End at: 2018-10-10 00:28:14
Local clock offset: 8.618 ms
Remote clock offset: -4.846 ms

Below is generated by plot.py at 2018-10-10 02:24:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 28.678 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 28.678 ms
Loss rate: 0.11%

Run 1: Report of WebRTC media — Data Link

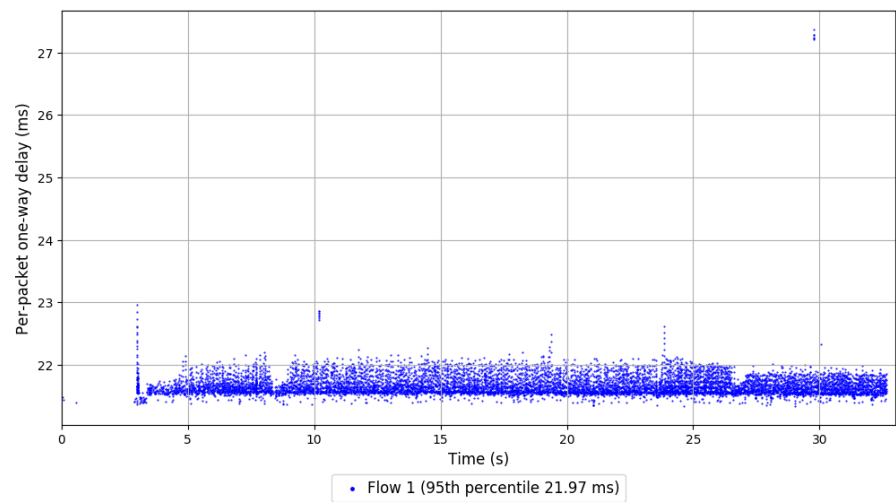
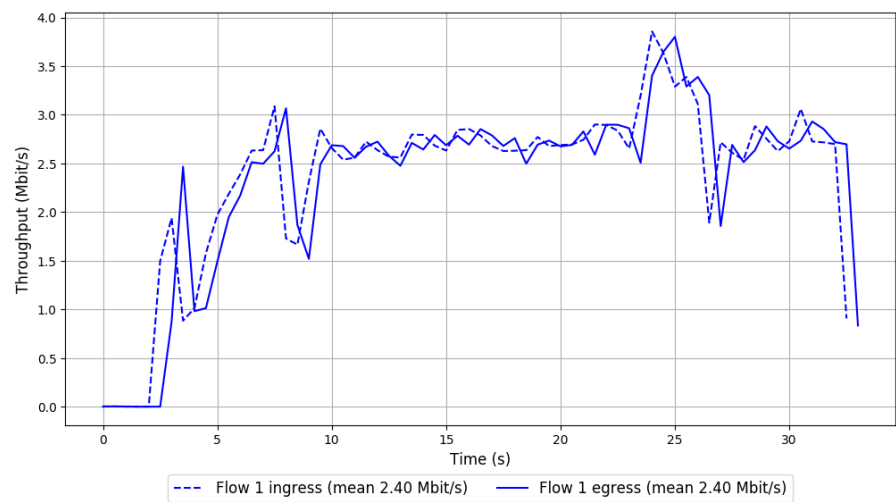


Run 2: Statistics of WebRTC media

Start at: 2018-10-10 00:49:16
End at: 2018-10-10 00:49:46
Local clock offset: 7.724 ms
Remote clock offset: -5.157 ms

Below is generated by plot.py at 2018-10-10 02:24:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 21.967 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 21.967 ms
Loss rate: 0.11%

Run 2: Report of WebRTC media — Data Link

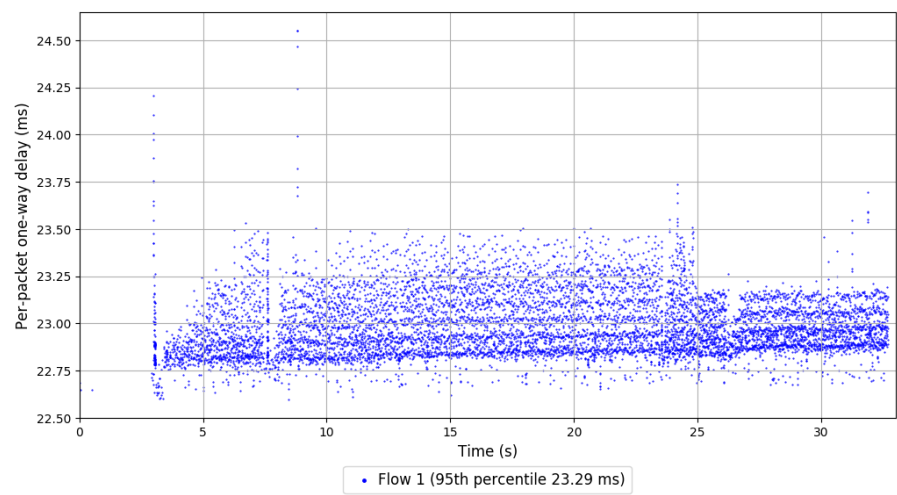
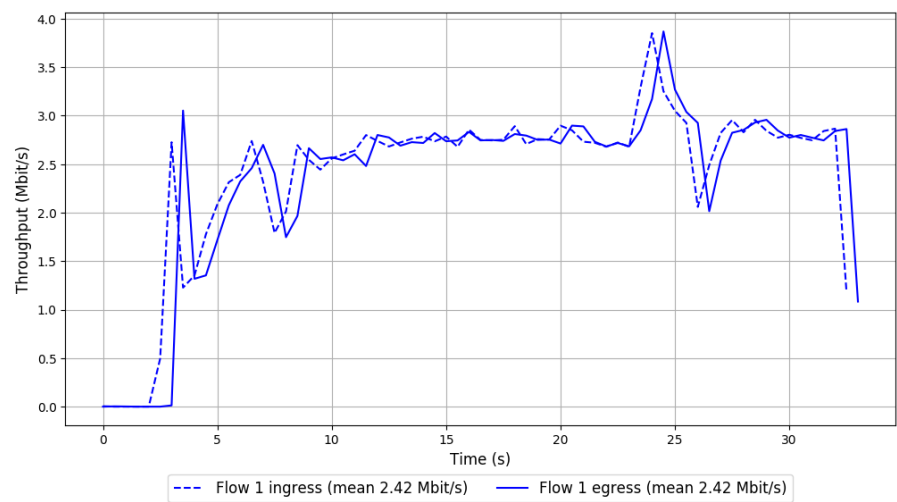


Run 3: Statistics of WebRTC media

Start at: 2018-10-10 01:10:38
End at: 2018-10-10 01:11:08
Local clock offset: 4.319 ms
Remote clock offset: -4.287 ms

Below is generated by plot.py at 2018-10-10 02:24:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 23.290 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 23.290 ms
Loss rate: 0.13%

Run 3: Report of WebRTC media — Data Link

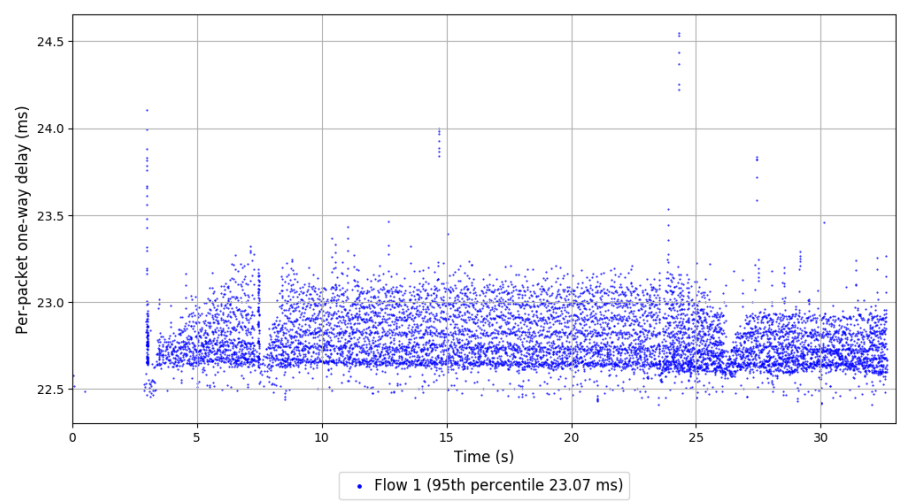
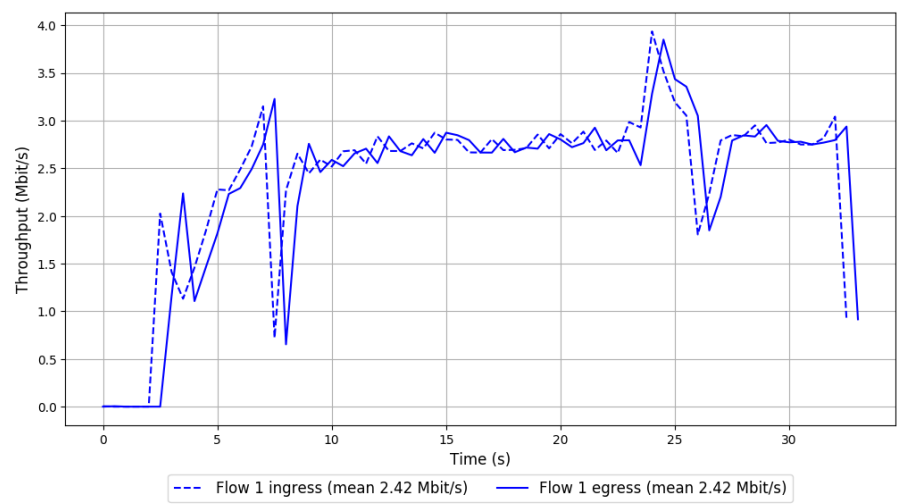


Run 4: Statistics of WebRTC media

Start at: 2018-10-10 01:32:10
End at: 2018-10-10 01:32:40
Local clock offset: 3.824 ms
Remote clock offset: -4.474 ms

Below is generated by plot.py at 2018-10-10 02:24:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 23.074 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 23.074 ms
Loss rate: 0.13%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-10-10 01:53:39
End at: 2018-10-10 01:54:09
Local clock offset: 1.387 ms
Remote clock offset: -4.665 ms

Below is generated by plot.py at 2018-10-10 02:24:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 19.605 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 19.605 ms
Loss rate: 0.12%

Run 5: Report of WebRTC media — Data Link

