

Pantheon Report

Generated at 2018-09-11 00:23:42 (UTC).

Data path: AWS Brazil 1 on `ens5` (*local*) → Brazil on `p4p1` (*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 `gps.ntp.br` and have been applied to correct the timestamps in logs.

System info:

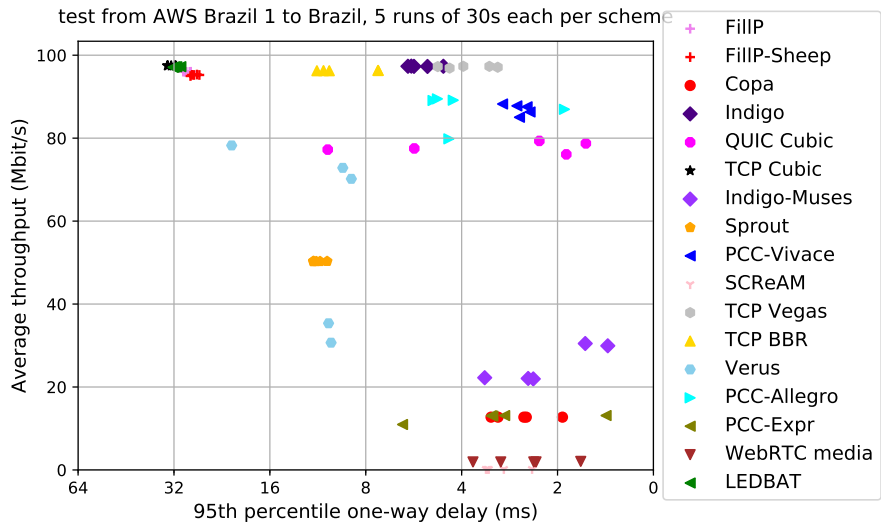
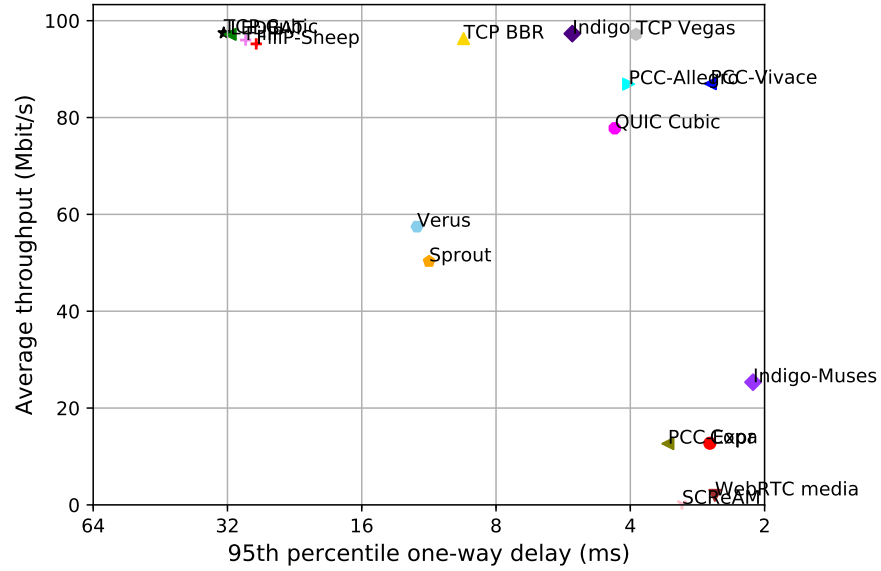
```
Linux 4.15.0-1020-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 184101 245469 368202
```

Git summary:

```
branch: muses @ f30bceca2aec2ef14a3cf71e25642f4a30905a03
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 65ac1b19bbefed0c6349ae986009b4fa8643c40a
third_party/pantheon-tunnel @ cbfce6db5ff5740dafa1771f813cd646339e1952
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

test from AWS Brazil 1 to Brazil, 5 runs of 30s each per scheme
(mean of all runs by scheme)



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	96.29	9.46	0.00
Copa	5	12.73	2.65	64.71
TCP Cubic	5	97.47	32.62	0.01
FillP	5	96.00	29.13	3.97
FillP-Sheep	5	95.21	27.58	1.14
Indigo	5	97.33	5.40	0.00
LEDBAT	5	97.18	31.55	0.01
Indigo-Muses	5	25.34	2.12	0.00
PCC-Allegro	5	86.90	4.04	0.00
PCC-Expr	5	12.65	3.29	30.34
QUIC Cubic	5	77.79	4.33	0.24
SCReAM	5	0.22	3.06	0.00
Sprout	5	50.30	11.30	0.00
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	5	97.17	3.89	0.00
Verus	5	57.46	12.03	1.36
PCC-Vivace	5	86.99	2.65	0.00
WebRTC media	5	1.96	2.59	0.00

Run 1: Statistics of TCP BBR

Start at: 2018-09-10 22:48:58

End at: 2018-09-10 22:49:28

Local clock offset: 0.976 ms

Remote clock offset: -0.139 ms

Below is generated by plot.py at 2018-09-11 00:15:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.33 Mbit/s

95th percentile per-packet one-way delay: 7.323 ms

Loss rate: 0.00%

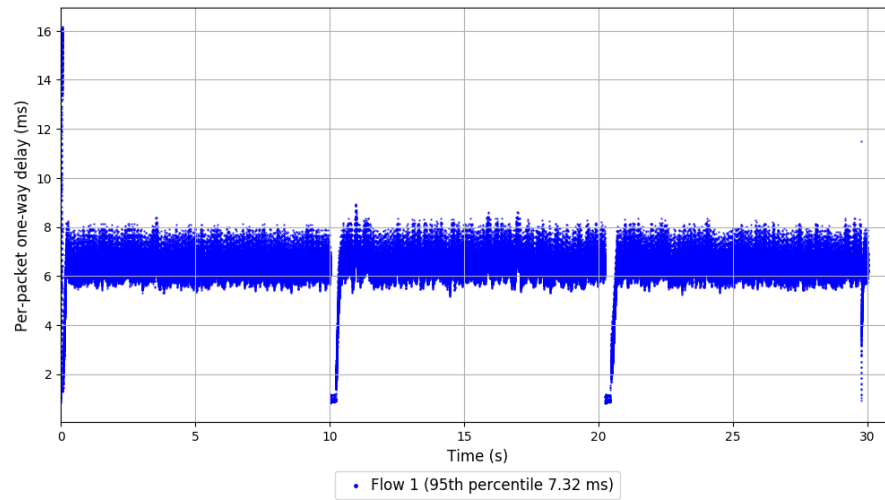
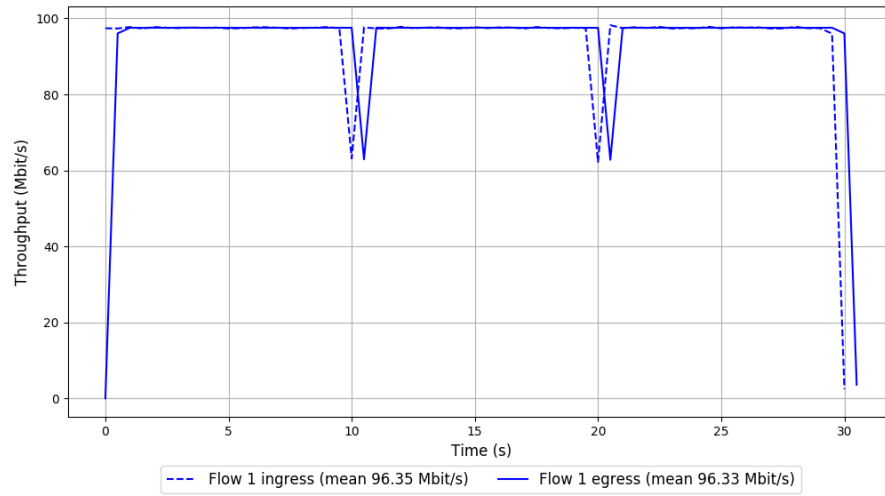
-- Flow 1:

Average throughput: 96.33 Mbit/s

95th percentile per-packet one-way delay: 7.323 ms

Loss rate: 0.00%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-09-10 23:09:00

End at: 2018-09-10 23:09:30

Local clock offset: -1.381 ms

Remote clock offset: 0.137 ms

Below is generated by plot.py at 2018-09-11 00:15:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.29 Mbit/s

95th percentile per-packet one-way delay: 10.858 ms

Loss rate: 0.00%

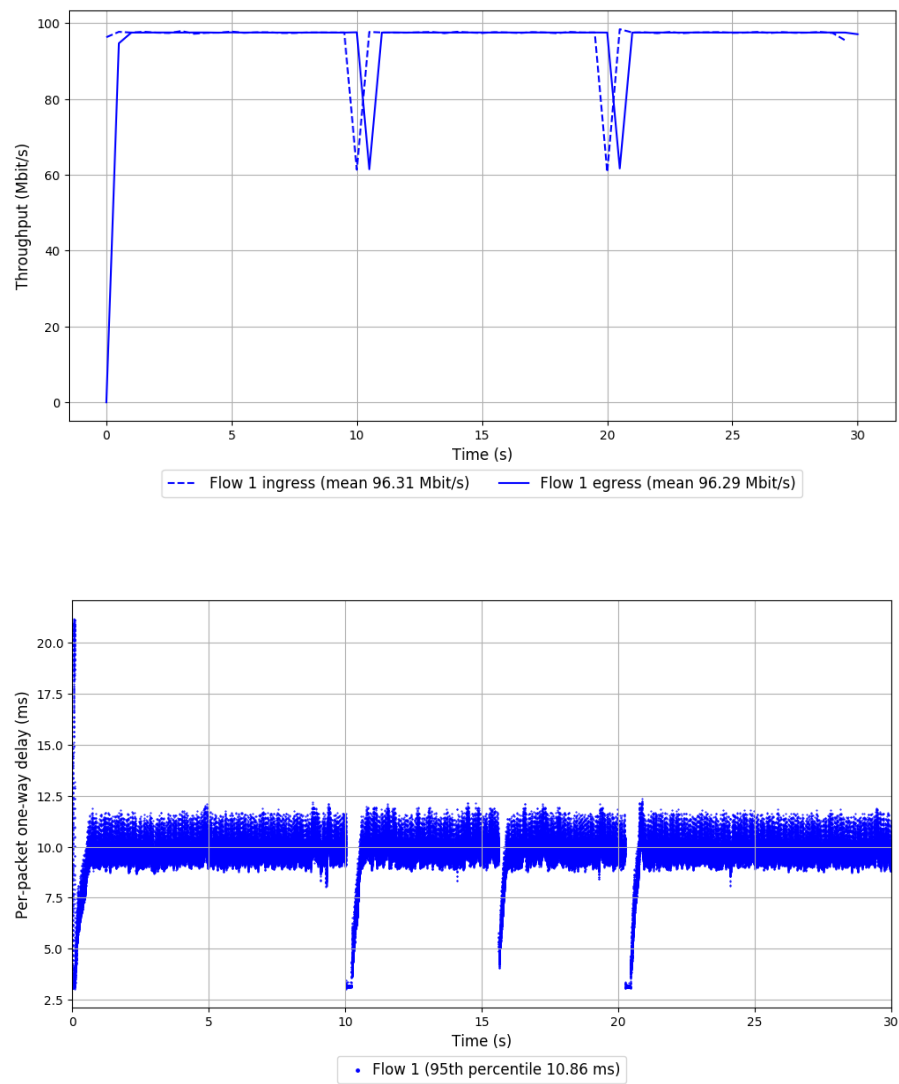
-- Flow 1:

Average throughput: 96.29 Mbit/s

95th percentile per-packet one-way delay: 10.858 ms

Loss rate: 0.00%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-10 23:29:04

End at: 2018-09-10 23:29:34

Local clock offset: -1.265 ms

Remote clock offset: 0.349 ms

Below is generated by plot.py at 2018-09-11 00:15:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.26 Mbit/s

95th percentile per-packet one-way delay: 11.388 ms

Loss rate: 0.00%

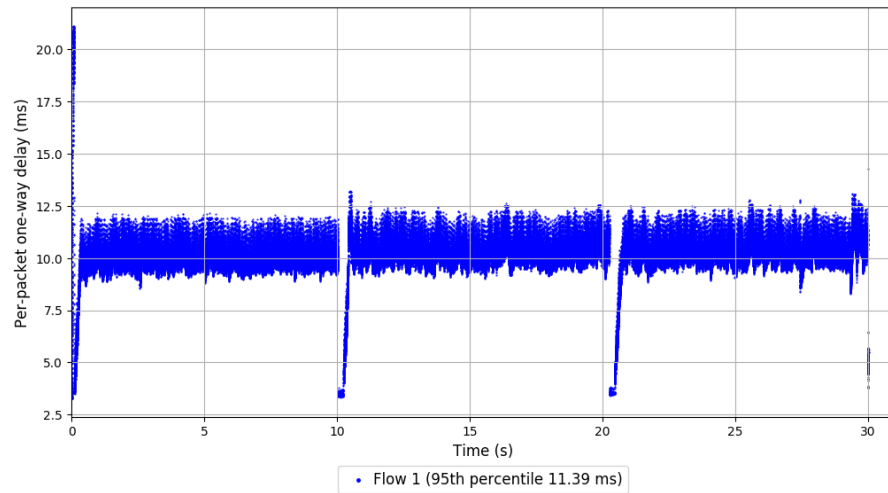
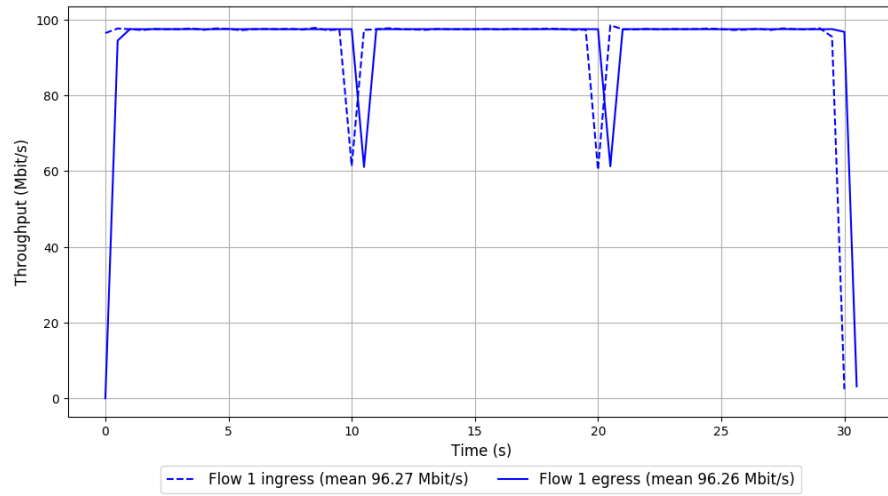
-- Flow 1:

Average throughput: 96.26 Mbit/s

95th percentile per-packet one-way delay: 11.388 ms

Loss rate: 0.00%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-10 23:49:08

End at: 2018-09-10 23:49:38

Local clock offset: 4.154 ms

Remote clock offset: 0.648 ms

Below is generated by plot.py at 2018-09-11 00:15:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.26 Mbit/s

95th percentile per-packet one-way delay: 10.413 ms

Loss rate: 0.00%

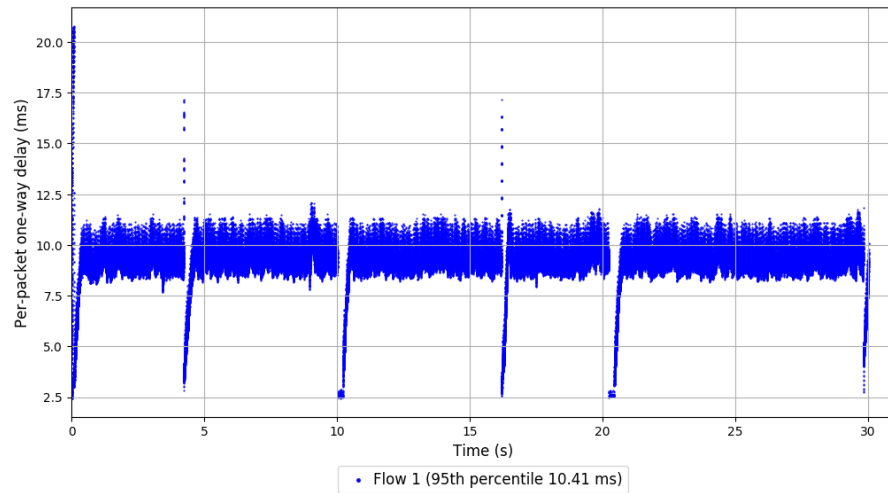
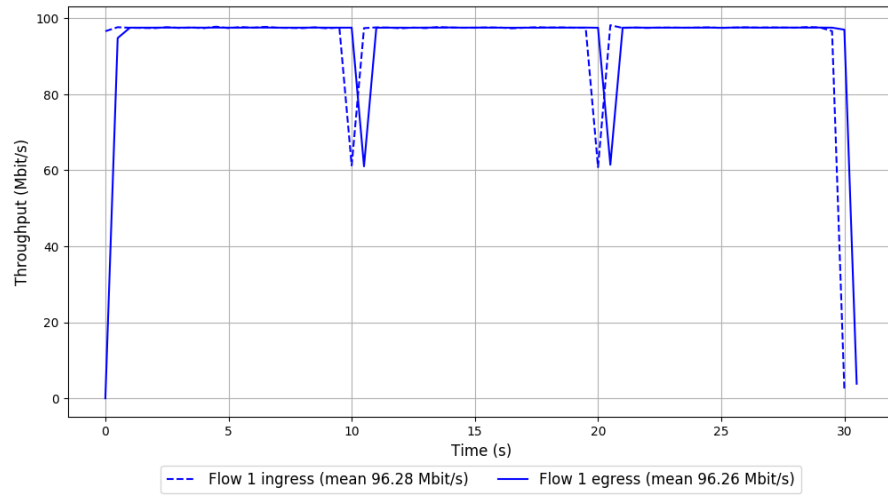
-- Flow 1:

Average throughput: 96.26 Mbit/s

95th percentile per-packet one-way delay: 10.413 ms

Loss rate: 0.00%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

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

End at: 2018-09-11 00:09:39

Local clock offset: 0.307 ms

Remote clock offset: 0.787 ms

Below is generated by plot.py at 2018-09-11 00:15:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 7.311 ms

Loss rate: 0.00%

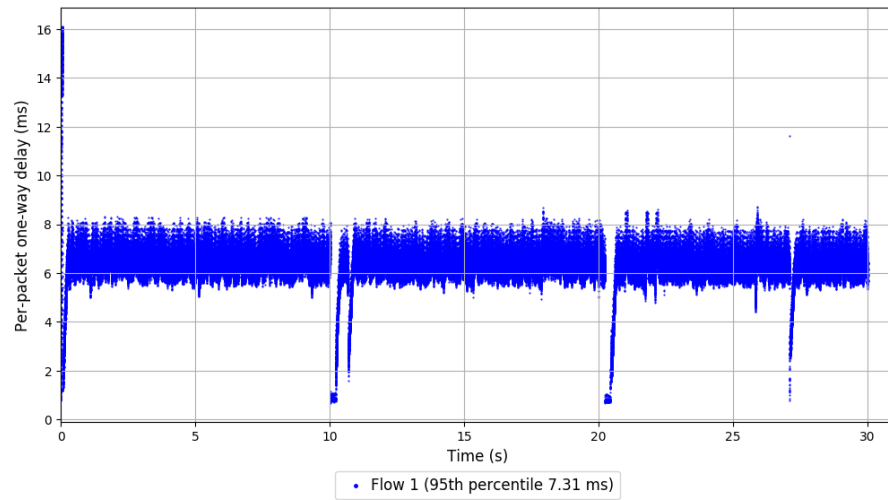
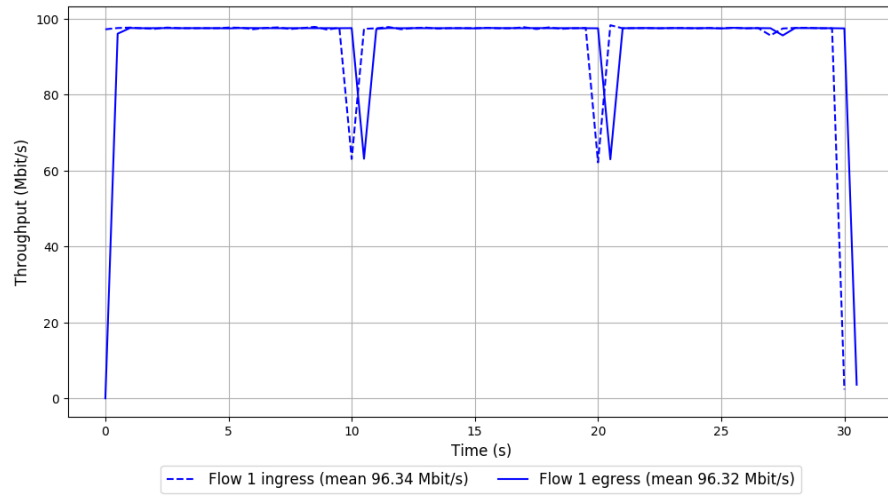
-- Flow 1:

Average throughput: 96.32 Mbit/s

95th percentile per-packet one-way delay: 7.311 ms

Loss rate: 0.00%

Run 5: Report of TCP BBR — Data Link

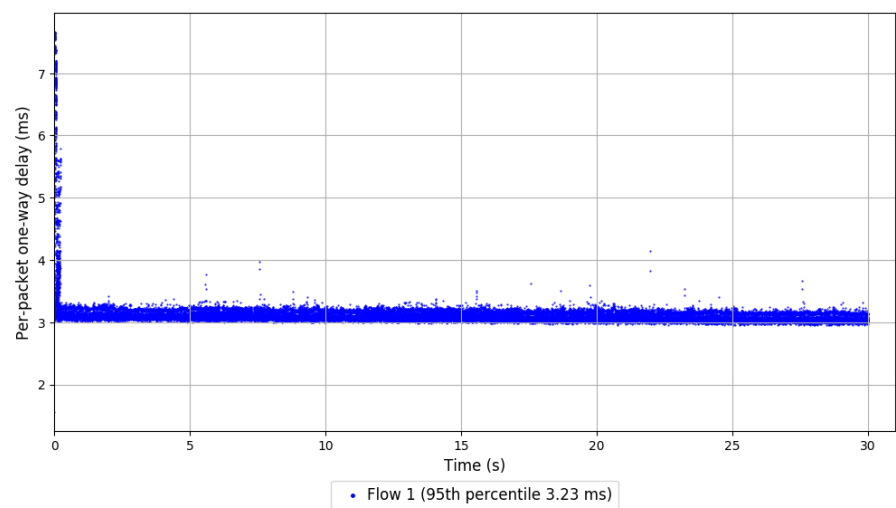
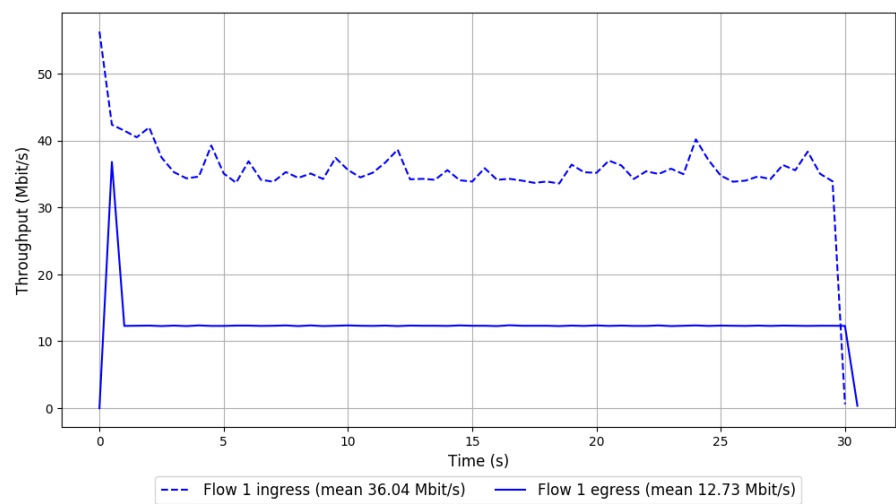


Run 1: Statistics of Copa

Start at: 2018-09-10 22:45:43
End at: 2018-09-10 22:46:13
Local clock offset: 0.615 ms
Remote clock offset: -0.062 ms

Below is generated by plot.py at 2018-09-11 00:15:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 3.234 ms
Loss rate: 64.68%
-- Flow 1:
Average throughput: 12.73 Mbit/s
95th percentile per-packet one-way delay: 3.234 ms
Loss rate: 64.68%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-09-10 23:05:45

End at: 2018-09-10 23:06:15

Local clock offset: -0.388 ms

Remote clock offset: 0.13 ms

Below is generated by plot.py at 2018-09-11 00:15:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.507 ms

Loss rate: 63.84%

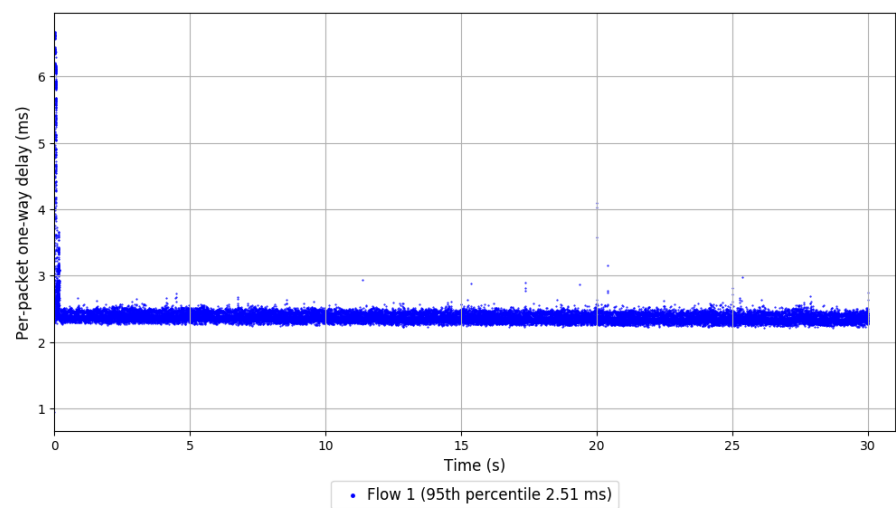
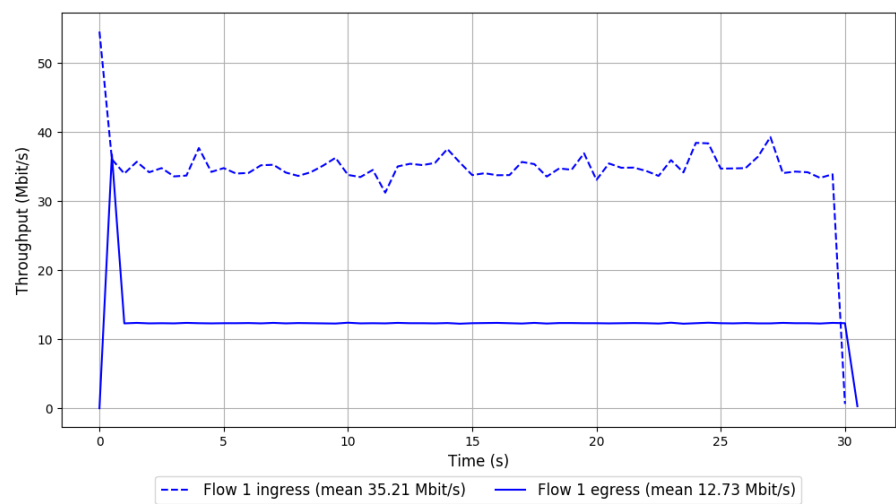
-- Flow 1:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.507 ms

Loss rate: 63.84%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-09-10 23:25:49

End at: 2018-09-10 23:26:19

Local clock offset: -0.856 ms

Remote clock offset: 0.385 ms

Below is generated by plot.py at 2018-09-11 00:15:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.551 ms

Loss rate: 63.82%

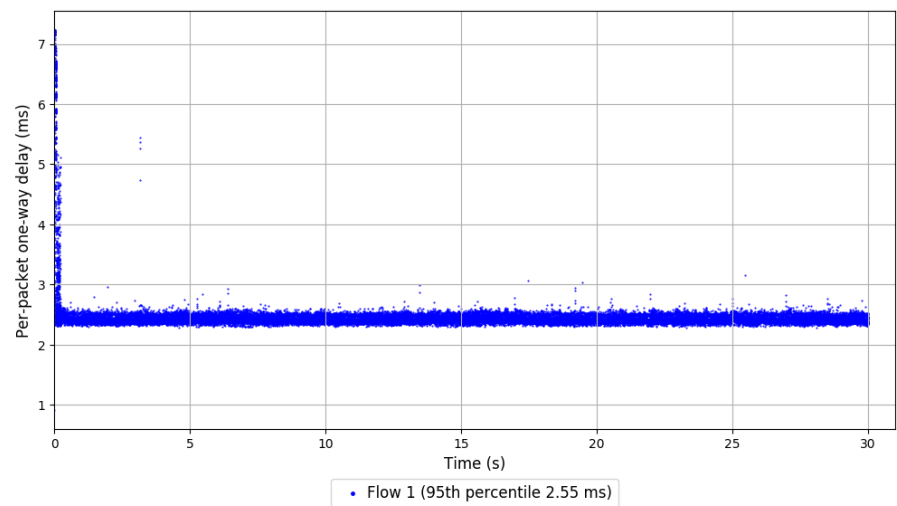
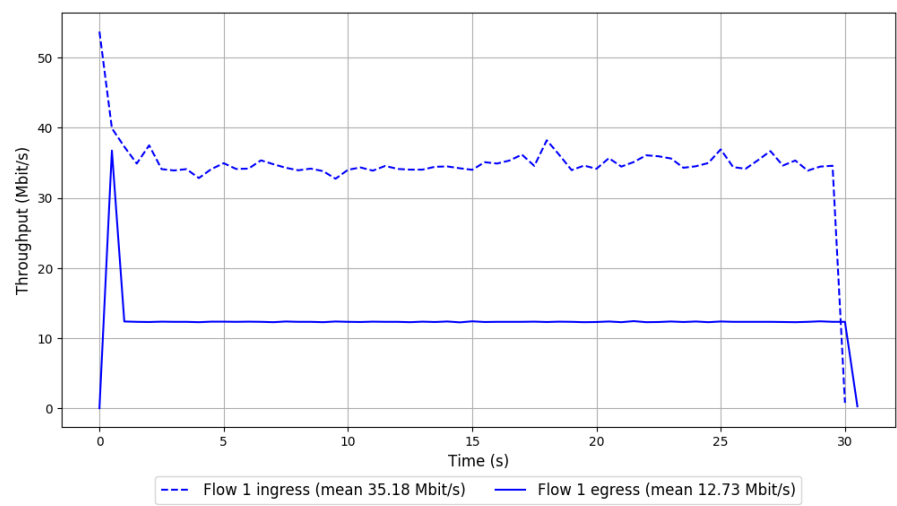
-- Flow 1:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 2.551 ms

Loss rate: 63.82%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-09-10 23:45:53

End at: 2018-09-10 23:46:23

Local clock offset: 2.991 ms

Remote clock offset: 0.529 ms

Below is generated by plot.py at 2018-09-11 00:15:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 1.897 ms

Loss rate: 67.48%

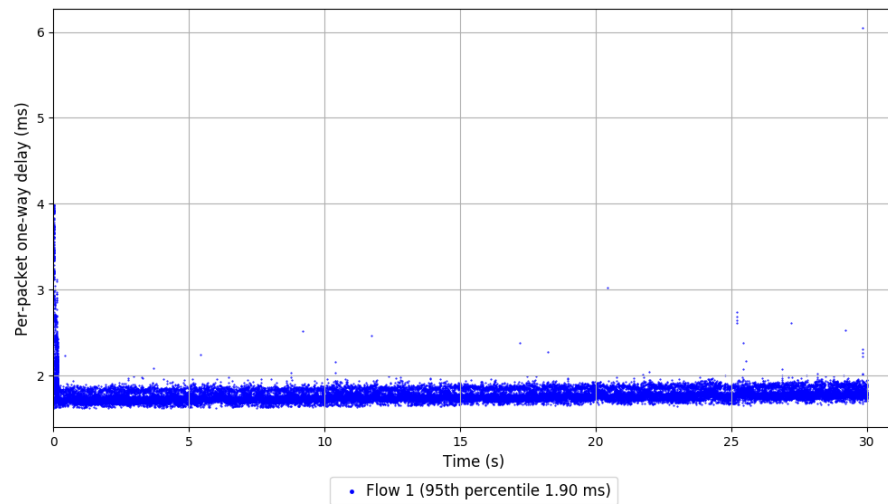
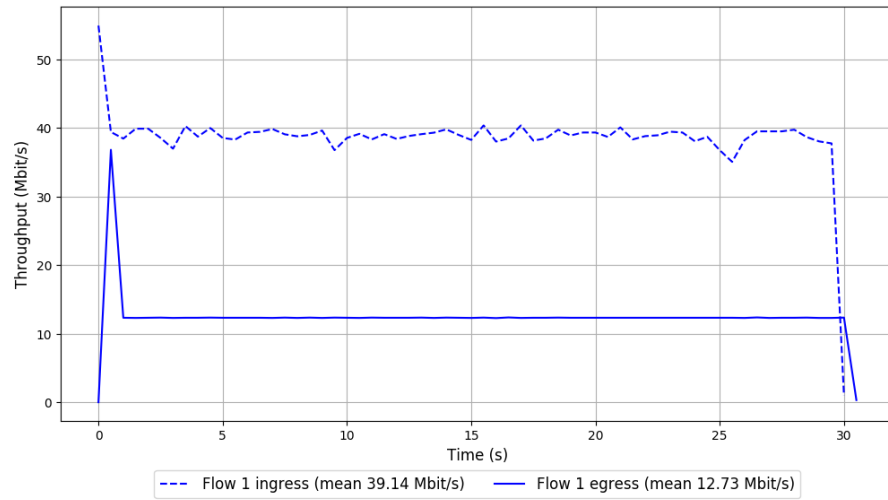
-- Flow 1:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 1.897 ms

Loss rate: 67.48%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-11 00:05:55

End at: 2018-09-11 00:06:25

Local clock offset: 0.499 ms

Remote clock offset: 0.784 ms

Below is generated by plot.py at 2018-09-11 00:15:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.075 ms

Loss rate: 63.72%

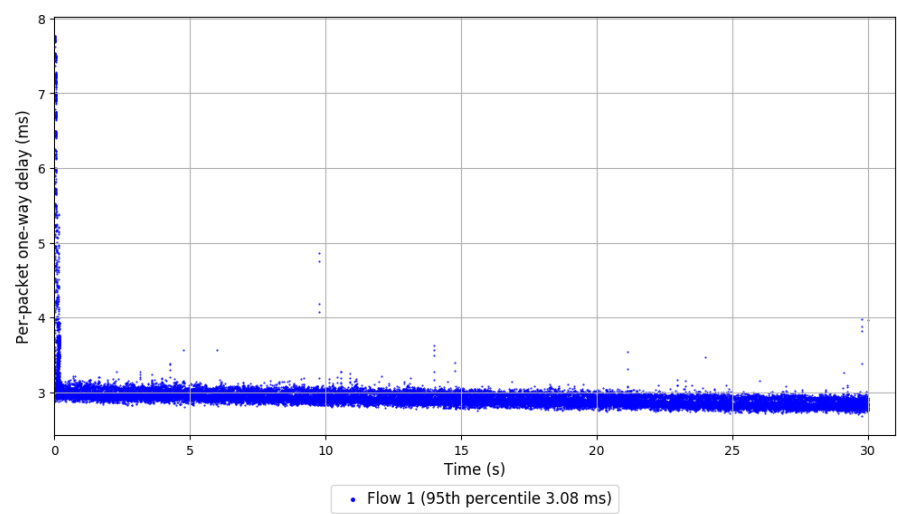
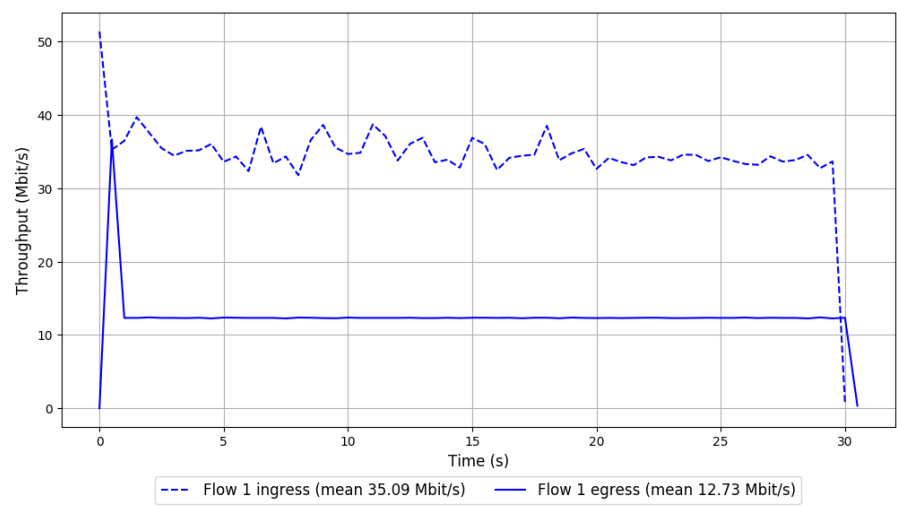
-- Flow 1:

Average throughput: 12.73 Mbit/s

95th percentile per-packet one-way delay: 3.075 ms

Loss rate: 63.72%

Run 5: Report of Copa — Data Link

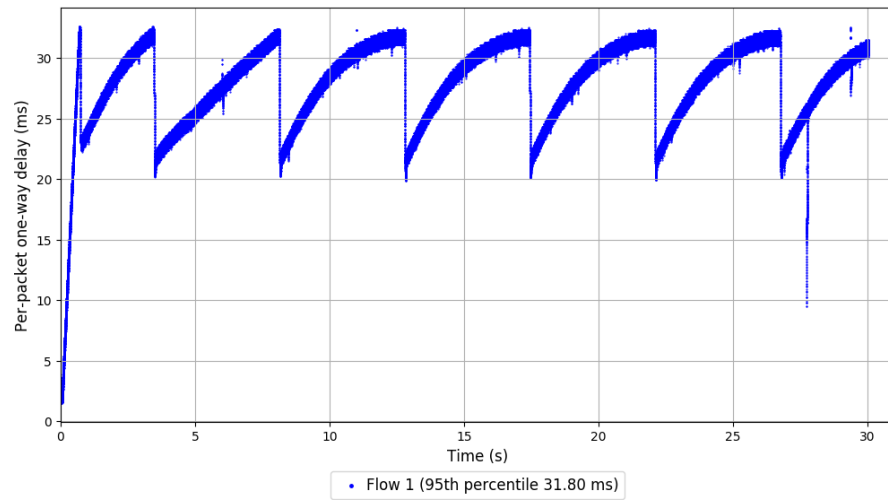
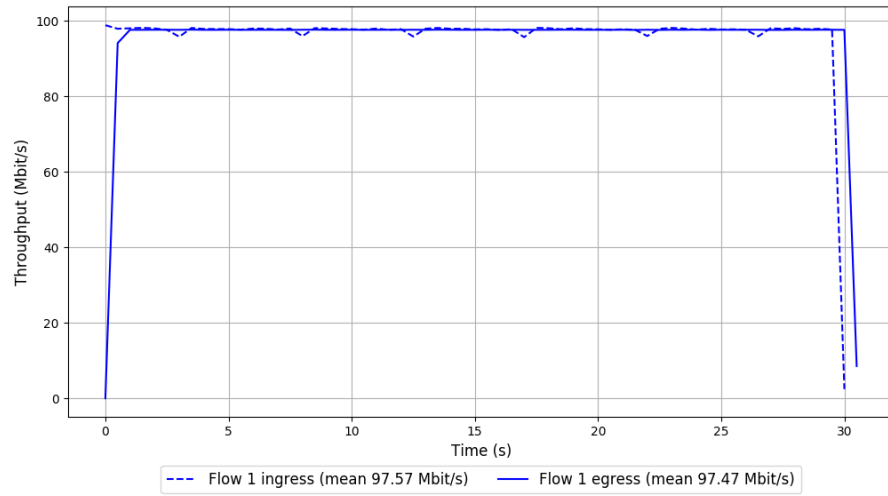


Run 1: Statistics of TCP Cubic

Start at: 2018-09-10 22:40:06
End at: 2018-09-10 22:40:36
Local clock offset: 1.761 ms
Remote clock offset: -0.114 ms

Below is generated by plot.py at 2018-09-11 00:15:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 31.805 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.47 Mbit/s
95th percentile per-packet one-way delay: 31.805 ms
Loss rate: 0.01%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-10 23:00:08

End at: 2018-09-10 23:00:38

Local clock offset: 0.375 ms

Remote clock offset: 0.097 ms

Below is generated by plot.py at 2018-09-11 00:16:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.45 Mbit/s

95th percentile per-packet one-way delay: 32.648 ms

Loss rate: 0.01%

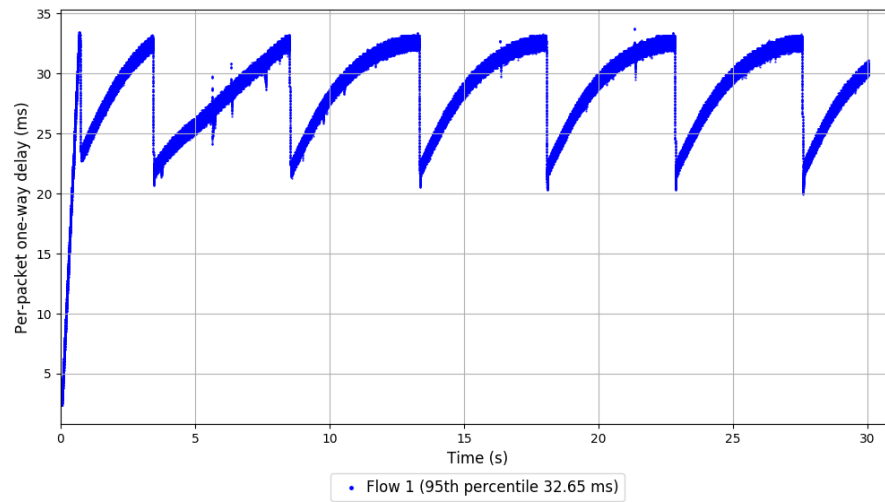
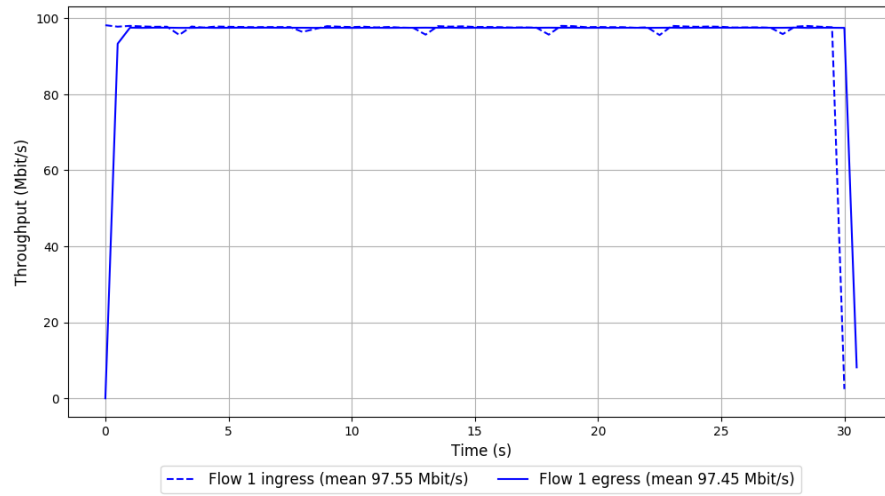
-- Flow 1:

Average throughput: 97.45 Mbit/s

95th percentile per-packet one-way delay: 32.648 ms

Loss rate: 0.01%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-09-10 23:20:11

End at: 2018-09-10 23:20:41

Local clock offset: -1.636 ms

Remote clock offset: 0.309 ms

Below is generated by plot.py at 2018-09-11 00:16:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 33.453 ms

Loss rate: 0.01%

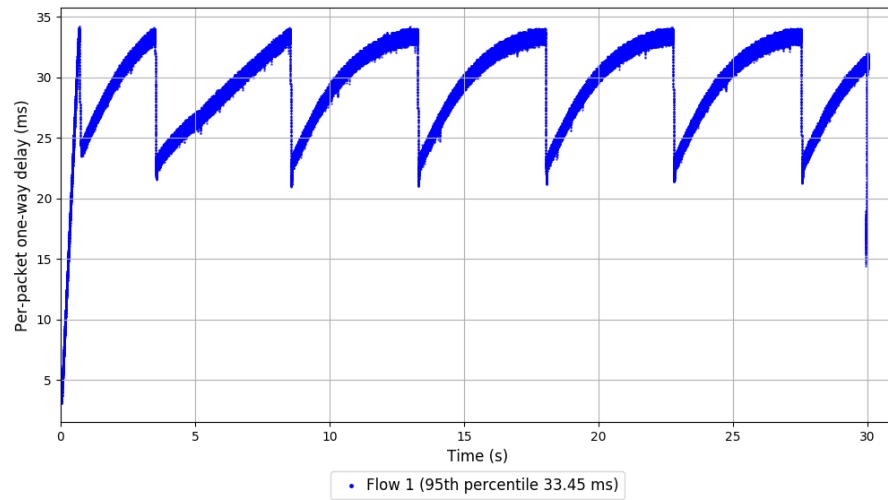
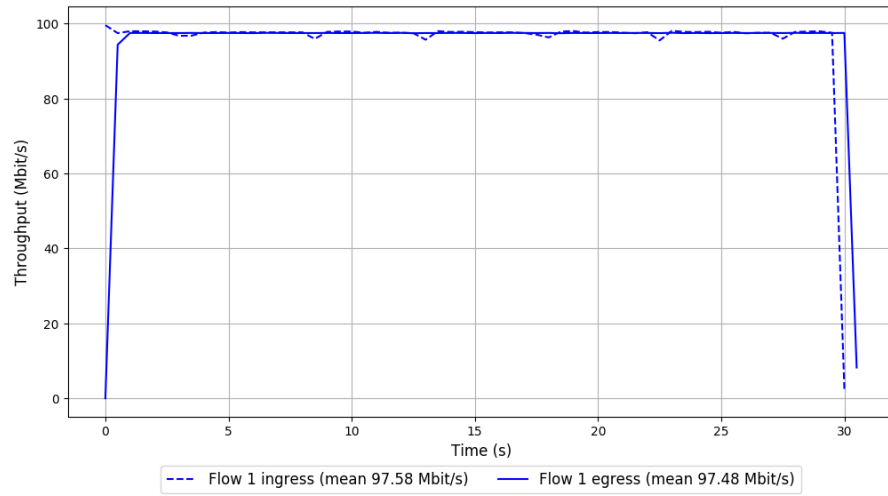
-- Flow 1:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 33.453 ms

Loss rate: 0.01%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-09-10 23:40:16

End at: 2018-09-10 23:40:46

Local clock offset: 2.193 ms

Remote clock offset: 0.602 ms

Below is generated by plot.py at 2018-09-11 00:16:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 33.586 ms

Loss rate: 0.01%

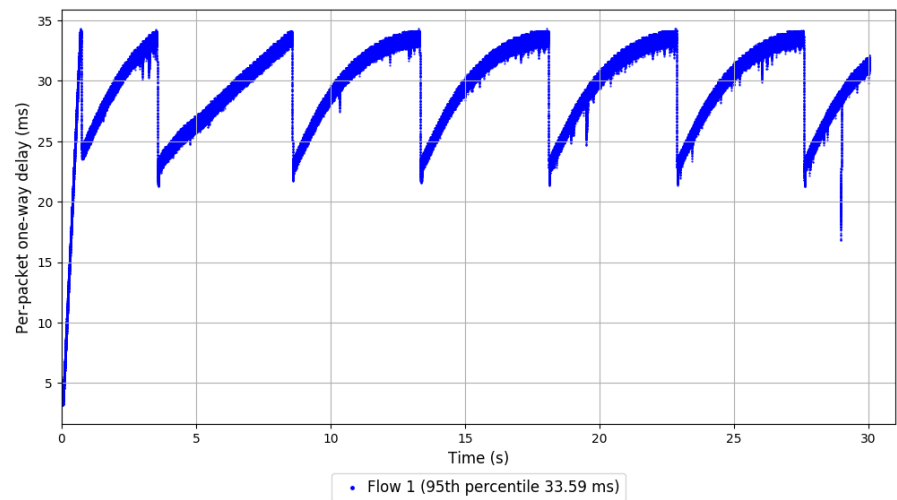
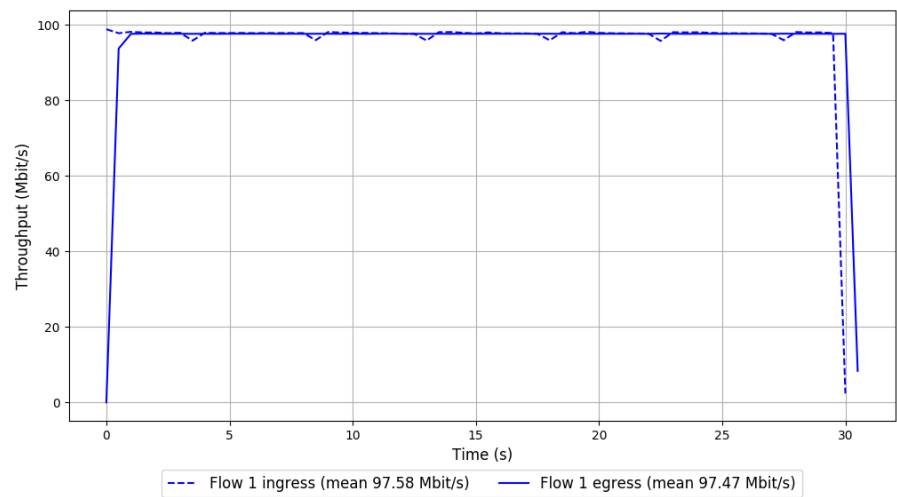
-- Flow 1:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 33.586 ms

Loss rate: 0.01%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-11 00:00:17

End at: 2018-09-11 00:00:47

Local clock offset: 2.969 ms

Remote clock offset: 0.729 ms

Below is generated by plot.py at 2018-09-11 00:16:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 31.606 ms

Loss rate: 0.01%

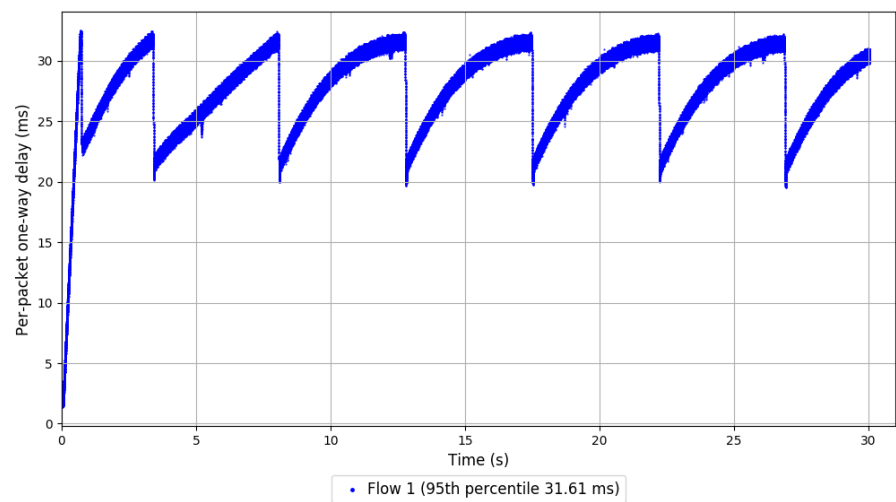
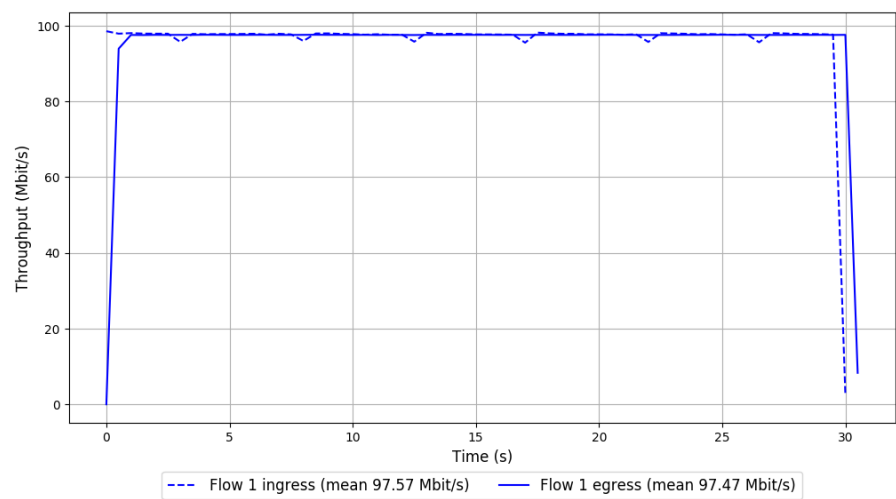
-- Flow 1:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 31.606 ms

Loss rate: 0.01%

Run 5: Report of TCP Cubic — Data Link

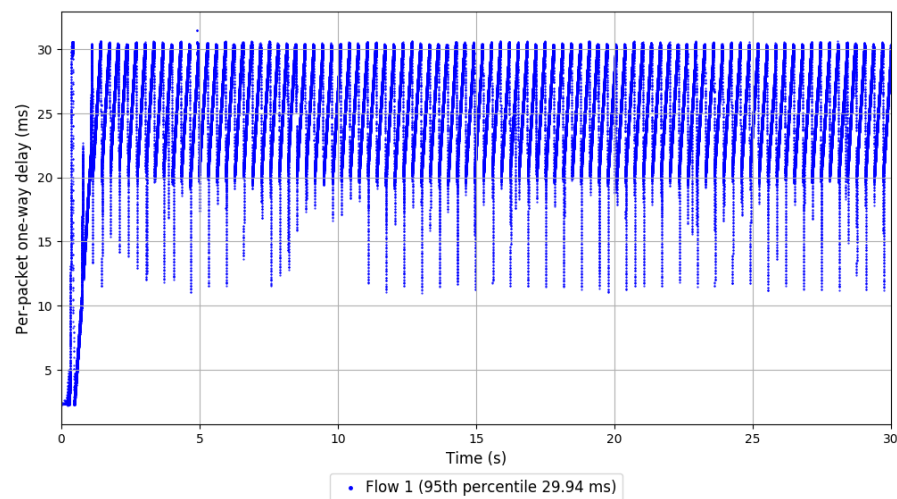
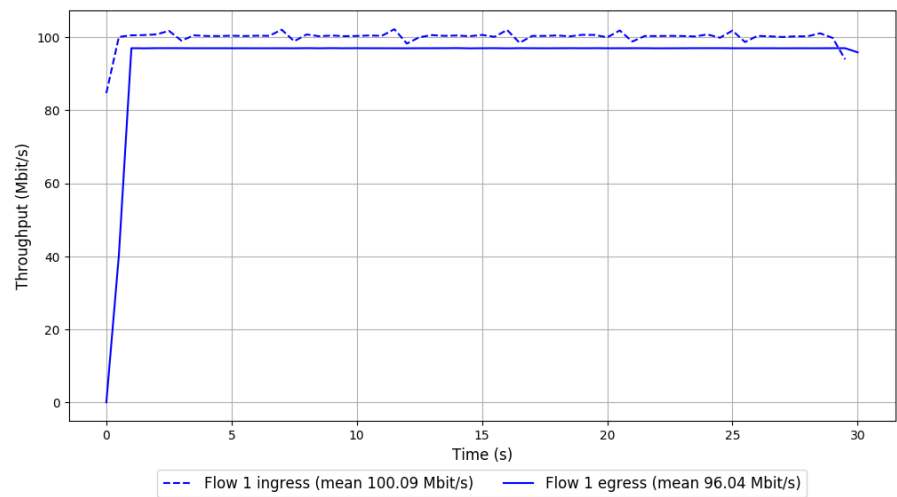


Run 1: Statistics of FillP

Start at: 2018-09-10 22:51:15
End at: 2018-09-10 22:51:45
Local clock offset: 0.92 ms
Remote clock offset: -0.015 ms

Below is generated by plot.py at 2018-09-11 00:16:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.04 Mbit/s
95th percentile per-packet one-way delay: 29.939 ms
Loss rate: 3.97%
-- Flow 1:
Average throughput: 96.04 Mbit/s
95th percentile per-packet one-way delay: 29.939 ms
Loss rate: 3.97%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-10 23:11:17

End at: 2018-09-10 23:11:47

Local clock offset: -1.513 ms

Remote clock offset: 0.189 ms

Below is generated by plot.py at 2018-09-11 00:16:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.98 Mbit/s

95th percentile per-packet one-way delay: 29.268 ms

Loss rate: 3.99%

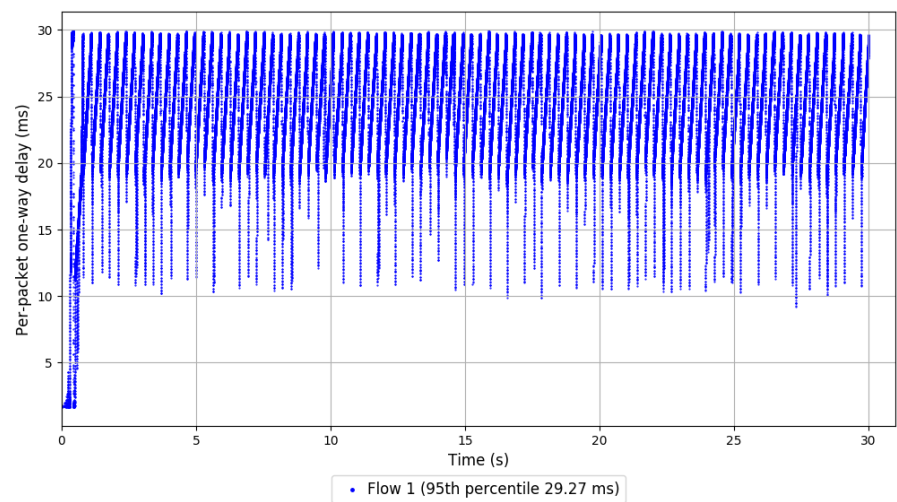
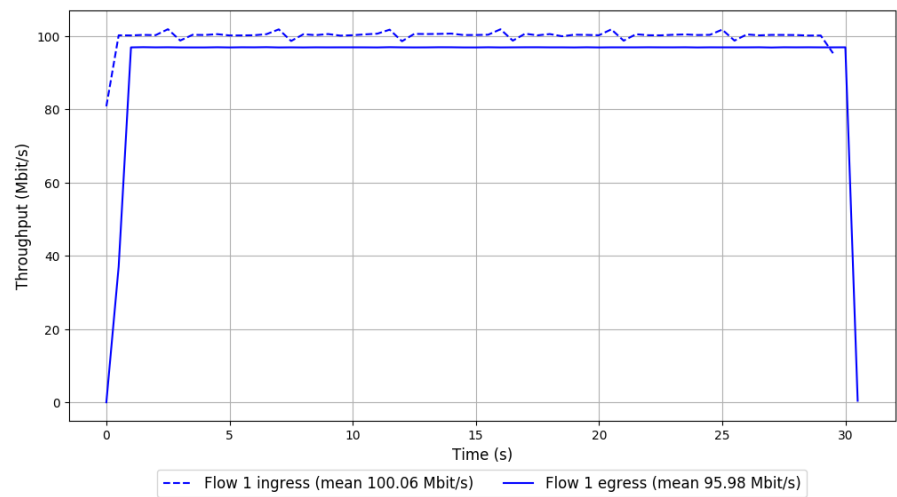
-- Flow 1:

Average throughput: 95.98 Mbit/s

95th percentile per-packet one-way delay: 29.268 ms

Loss rate: 3.99%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-10 23:31:21

End at: 2018-09-10 23:31:51

Local clock offset: -0.261 ms

Remote clock offset: 0.454 ms

Below is generated by plot.py at 2018-09-11 00:16:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 29.560 ms

Loss rate: 3.99%

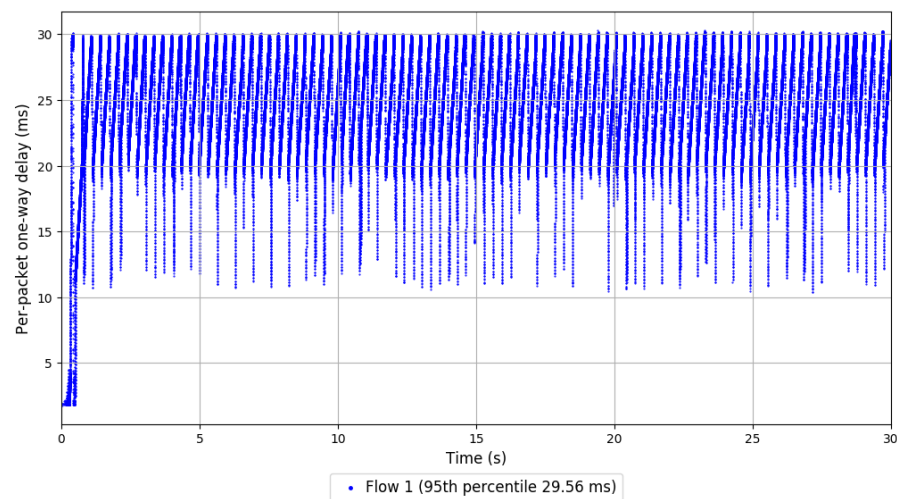
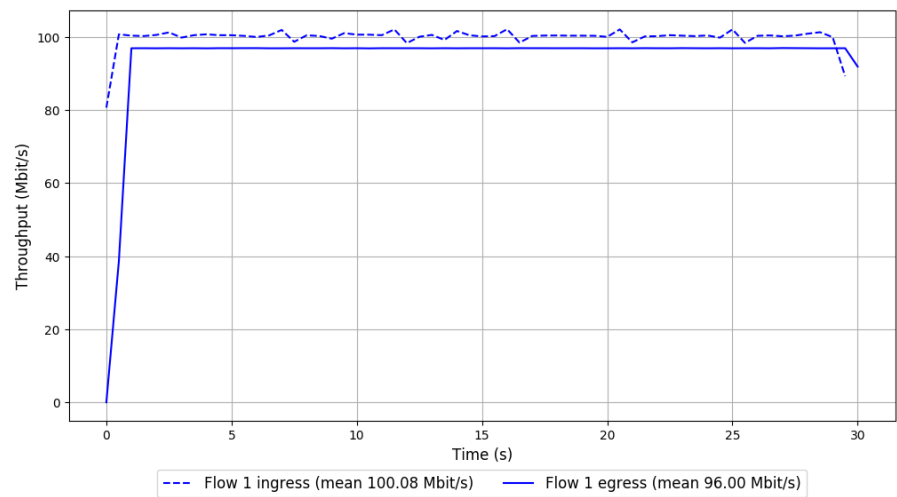
-- Flow 1:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 29.560 ms

Loss rate: 3.99%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-10 23:51:25

End at: 2018-09-10 23:51:55

Local clock offset: 4.461 ms

Remote clock offset: 0.639 ms

Below is generated by plot.py at 2018-09-11 00:17:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.98 Mbit/s

95th percentile per-packet one-way delay: 28.553 ms

Loss rate: 3.95%

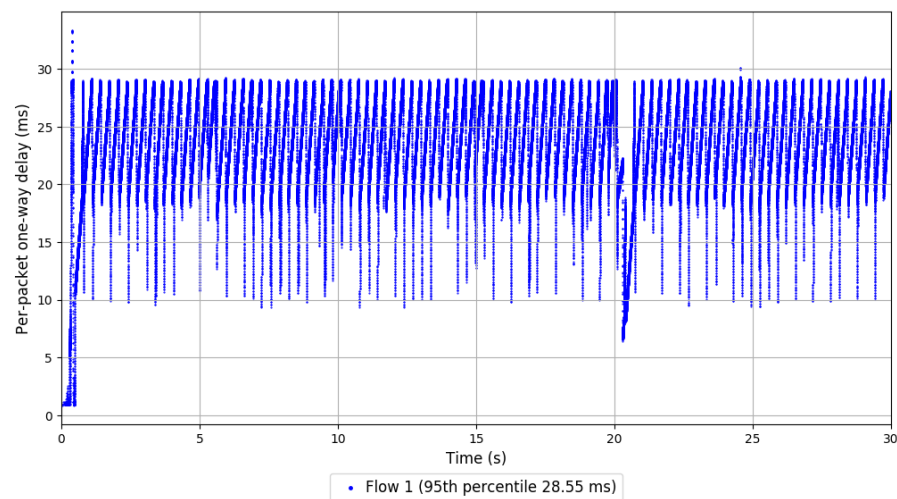
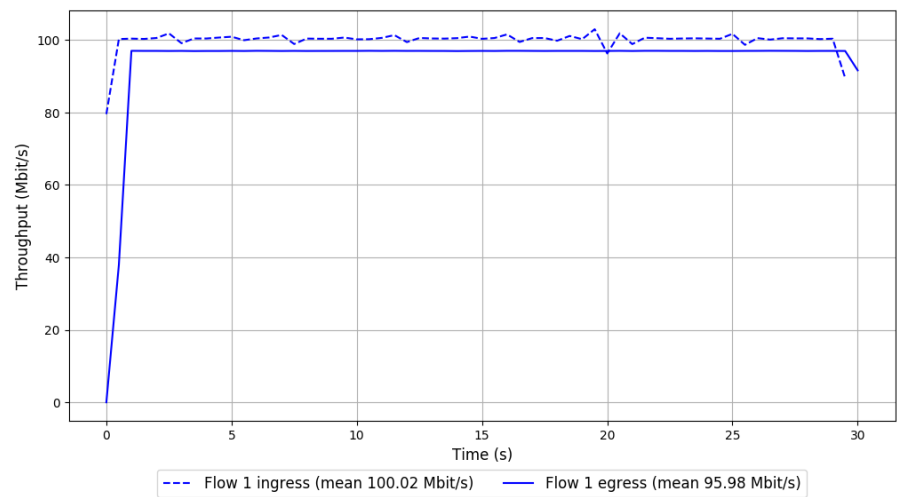
-- Flow 1:

Average throughput: 95.98 Mbit/s

95th percentile per-packet one-way delay: 28.553 ms

Loss rate: 3.95%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-11 00:11:27

End at: 2018-09-11 00:11:57

Local clock offset: -0.092 ms

Remote clock offset: 0.833 ms

Below is generated by plot.py at 2018-09-11 00:17:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.01 Mbit/s

95th percentile per-packet one-way delay: 28.339 ms

Loss rate: 3.96%

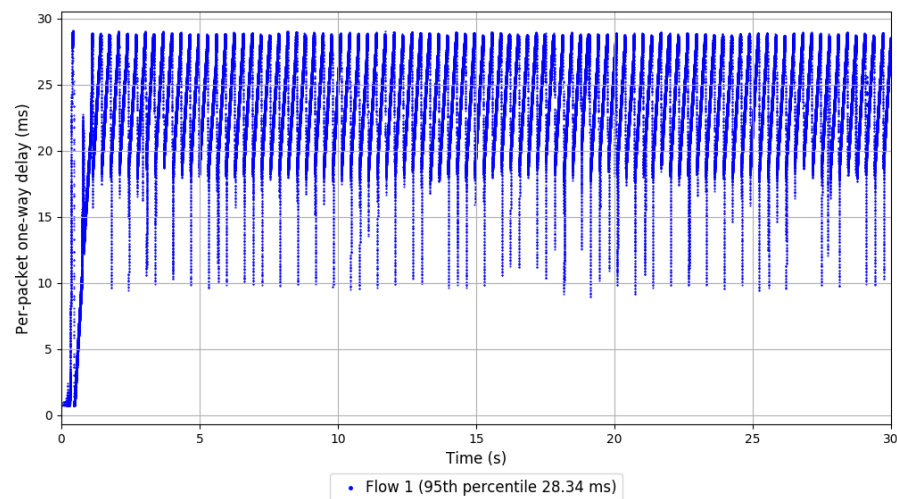
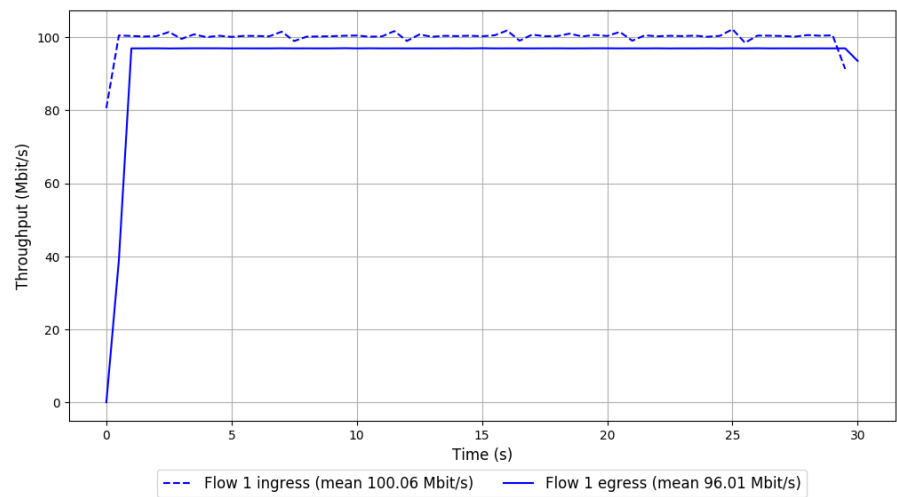
-- Flow 1:

Average throughput: 96.01 Mbit/s

95th percentile per-packet one-way delay: 28.339 ms

Loss rate: 3.96%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-10 22:52:23

End at: 2018-09-10 22:52:53

Local clock offset: 0.116 ms

Remote clock offset: -0.089 ms

Below is generated by plot.py at 2018-09-11 00:17:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.34 Mbit/s

95th percentile per-packet one-way delay: 27.099 ms

Loss rate: 1.21%

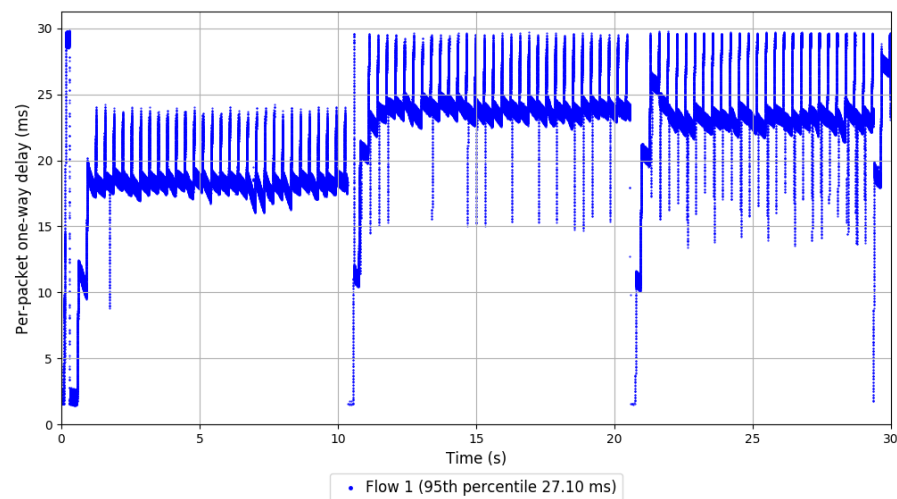
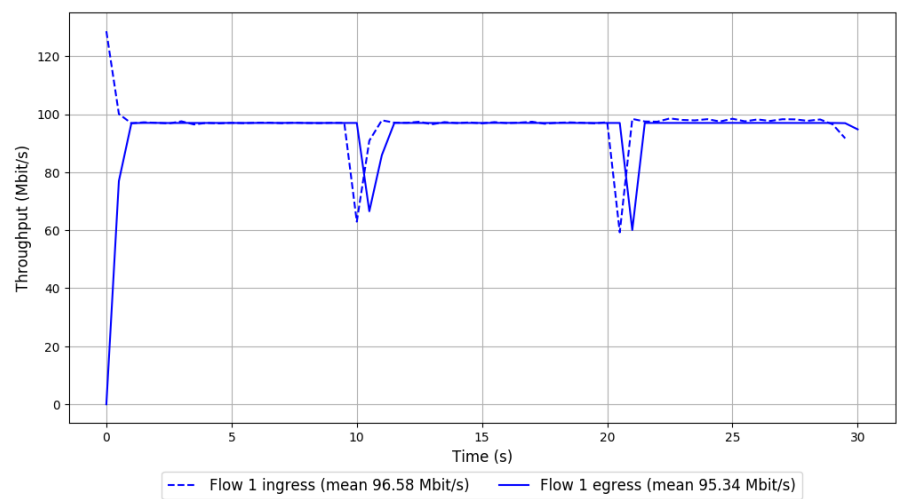
-- Flow 1:

Average throughput: 95.34 Mbit/s

95th percentile per-packet one-way delay: 27.099 ms

Loss rate: 1.21%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-09-10 23:12:25

End at: 2018-09-10 23:12:55

Local clock offset: -0.785 ms

Remote clock offset: 0.225 ms

Below is generated by plot.py at 2018-09-11 00:18:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.23 Mbit/s

95th percentile per-packet one-way delay: 27.687 ms

Loss rate: 1.09%

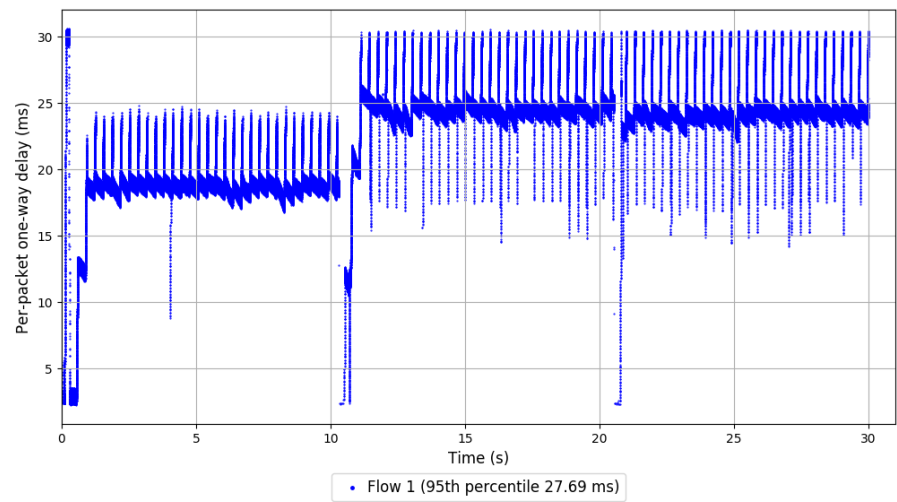
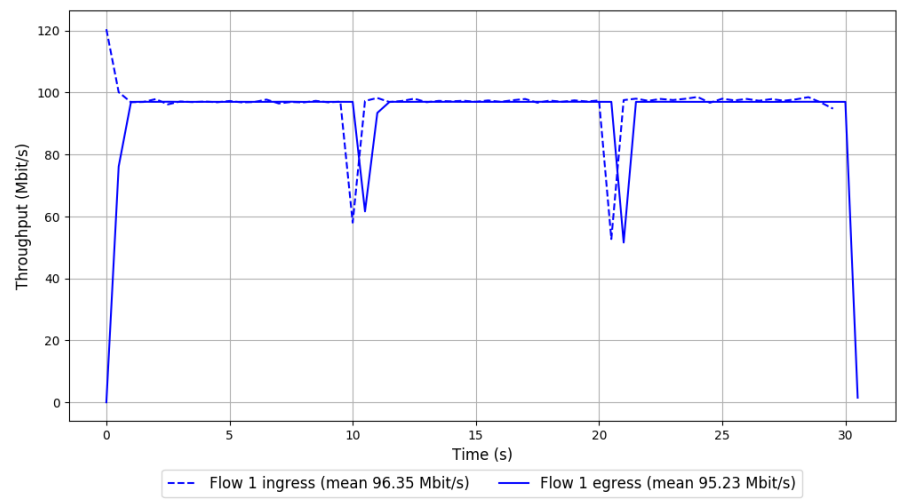
-- Flow 1:

Average throughput: 95.23 Mbit/s

95th percentile per-packet one-way delay: 27.687 ms

Loss rate: 1.09%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-10 23:32:29

End at: 2018-09-10 23:32:59

Local clock offset: 0.921 ms

Remote clock offset: 0.472 ms

Below is generated by plot.py at 2018-09-11 00:18:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.24 Mbit/s

95th percentile per-packet one-way delay: 26.634 ms

Loss rate: 1.23%

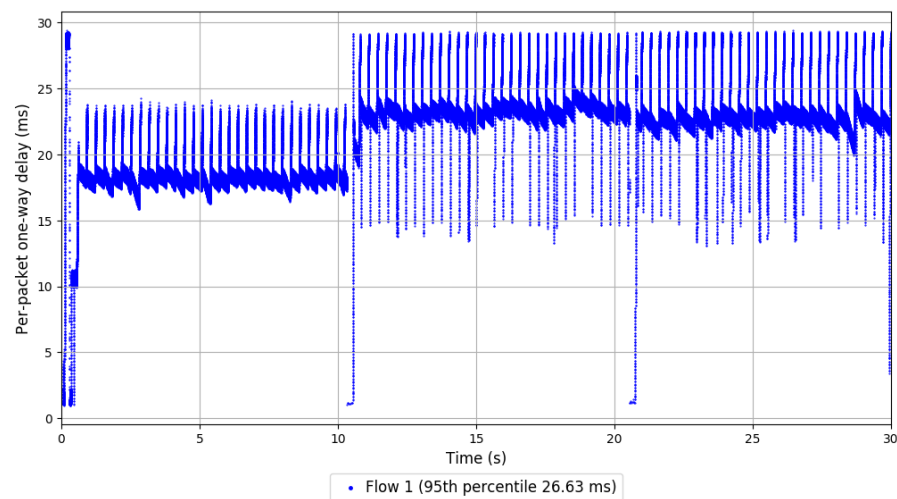
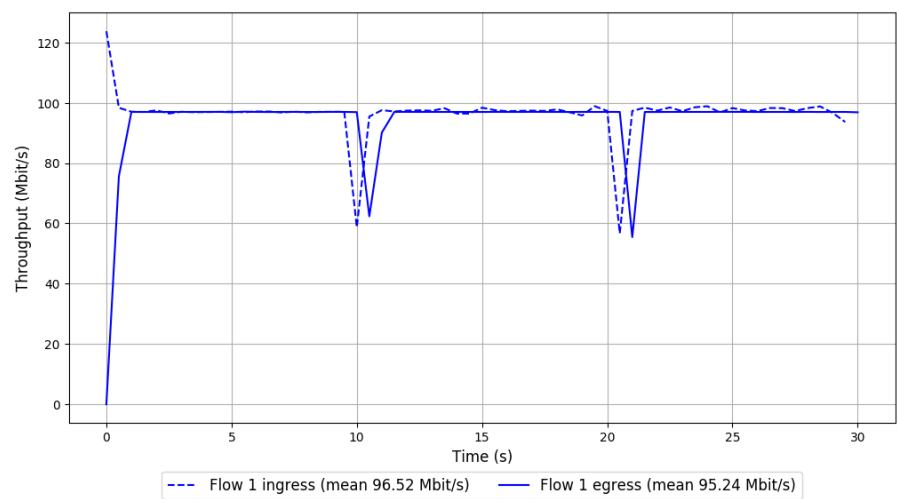
-- Flow 1:

Average throughput: 95.24 Mbit/s

95th percentile per-packet one-way delay: 26.634 ms

Loss rate: 1.23%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-10 23:52:33

End at: 2018-09-10 23:53:03

Local clock offset: 3.8 ms

Remote clock offset: 0.743 ms

Below is generated by plot.py at 2018-09-11 00:18:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 94.99 Mbit/s

95th percentile per-packet one-way delay: 28.401 ms

Loss rate: 1.09%

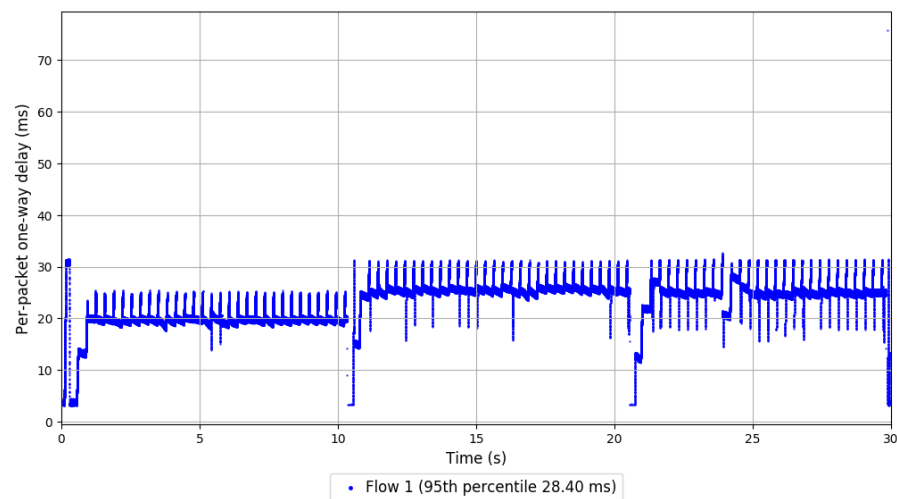
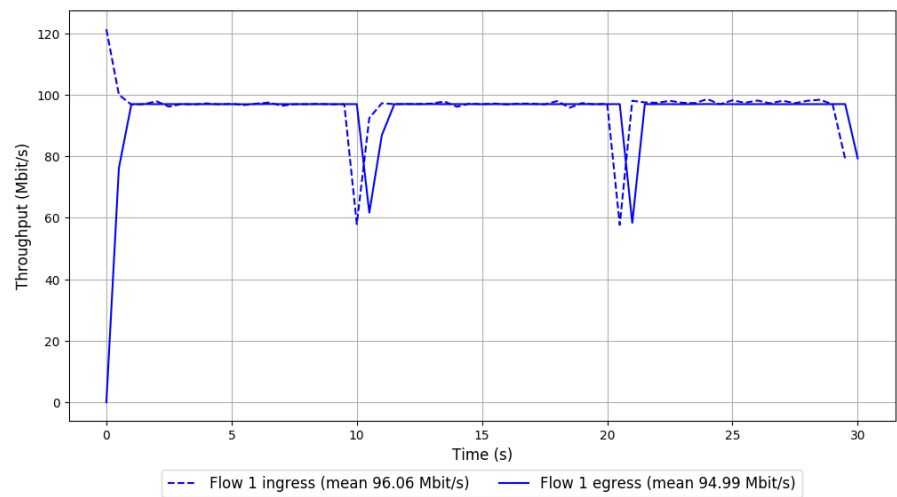
-- Flow 1:

Average throughput: 94.99 Mbit/s

95th percentile per-packet one-way delay: 28.401 ms

Loss rate: 1.09%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-11 00:12:34

End at: 2018-09-11 00:13:04

Local clock offset: -1.068 ms

Remote clock offset: 0.809 ms

Below is generated by plot.py at 2018-09-11 00:18:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.26 Mbit/s

95th percentile per-packet one-way delay: 28.097 ms

Loss rate: 1.08%

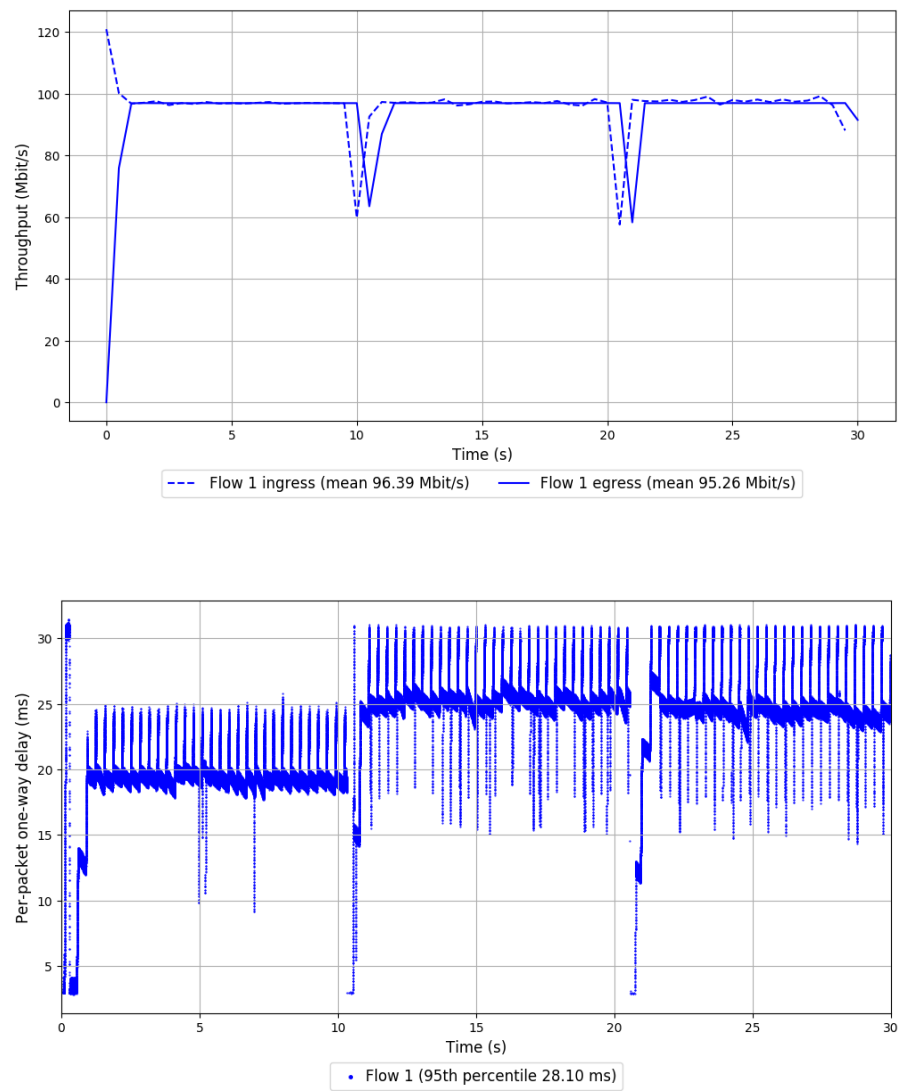
-- Flow 1:

Average throughput: 95.26 Mbit/s

95th percentile per-packet one-way delay: 28.097 ms

Loss rate: 1.08%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-09-10 22:44:34

End at: 2018-09-10 22:45:04

Local clock offset: 0.764 ms

Remote clock offset: -0.16 ms

Below is generated by plot.py at 2018-09-11 00:18:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 5.755 ms

Loss rate: 0.00%

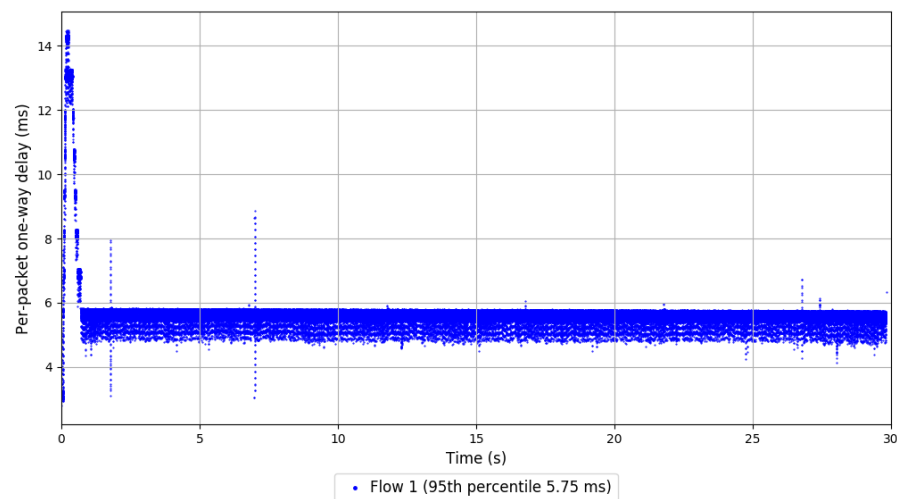
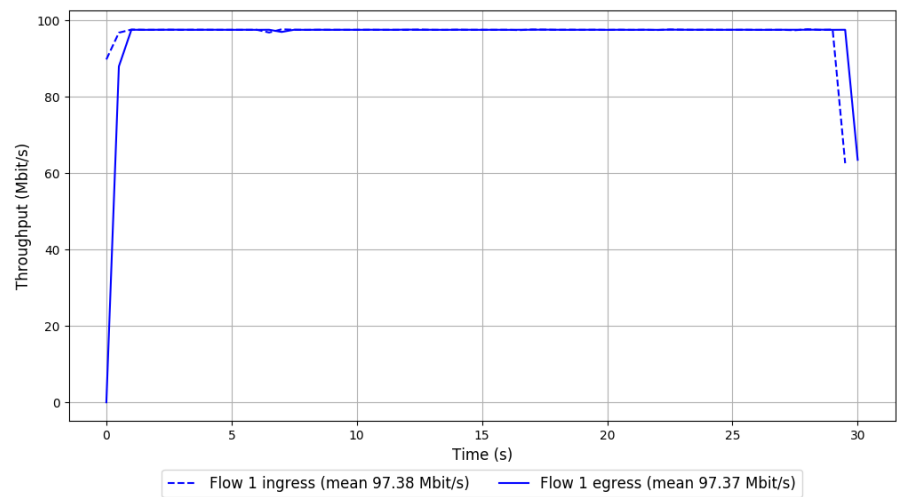
-- Flow 1:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 5.755 ms

Loss rate: 0.00%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-09-10 23:04:36

End at: 2018-09-10 23:05:06

Local clock offset: -1.017 ms

Remote clock offset: 0.075 ms

Below is generated by plot.py at 2018-09-11 00:18:33

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 4.565 ms

Loss rate: 0.00%

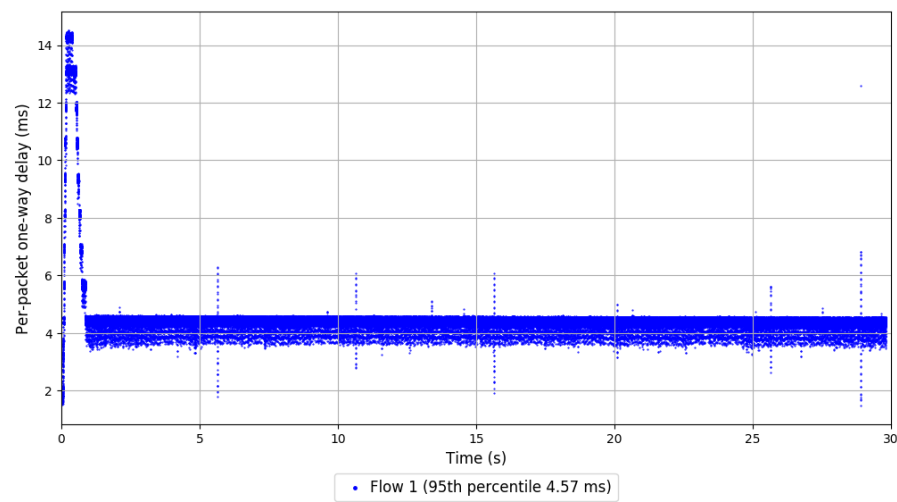
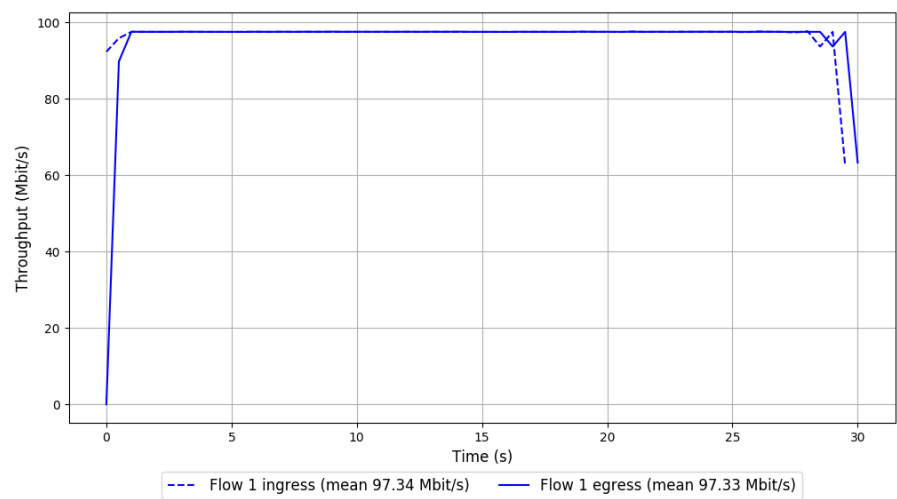
-- Flow 1:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 4.565 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-09-10 23:24:40

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

Local clock offset: -1.683 ms

Remote clock offset: 0.279 ms

Below is generated by plot.py at 2018-09-11 00:18:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 5.898 ms

Loss rate: 0.00%

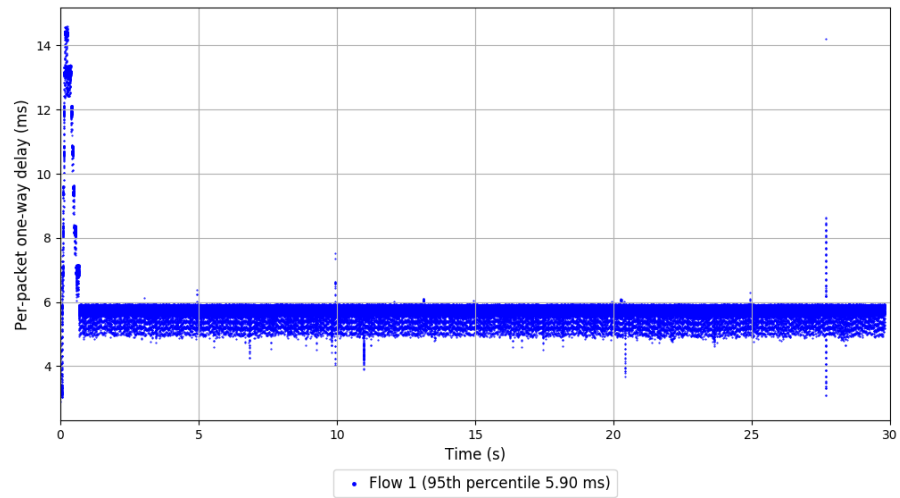
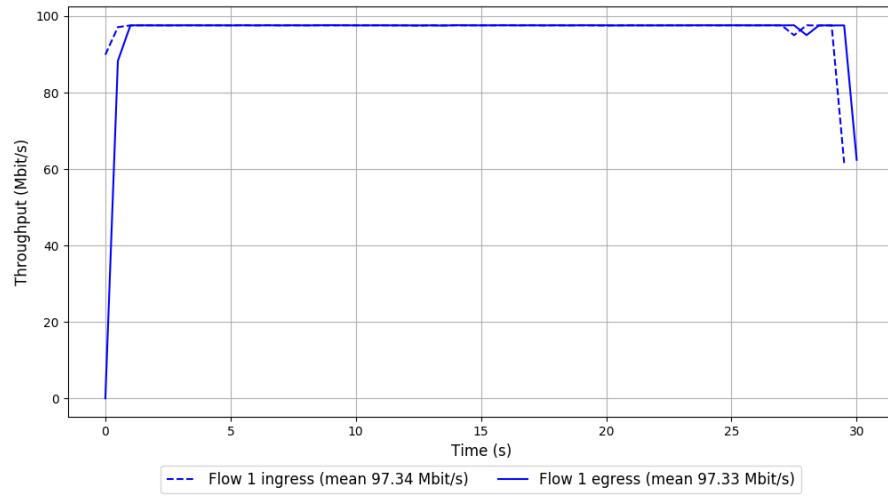
-- Flow 1:

Average throughput: 97.33 Mbit/s

95th percentile per-packet one-way delay: 5.898 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-09-10 23:44:44

End at: 2018-09-10 23:45:14

Local clock offset: 3.646 ms

Remote clock offset: 0.487 ms

Below is generated by plot.py at 2018-09-11 00:18:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.29 Mbit/s

95th percentile per-packet one-way delay: 5.120 ms

Loss rate: 0.00%

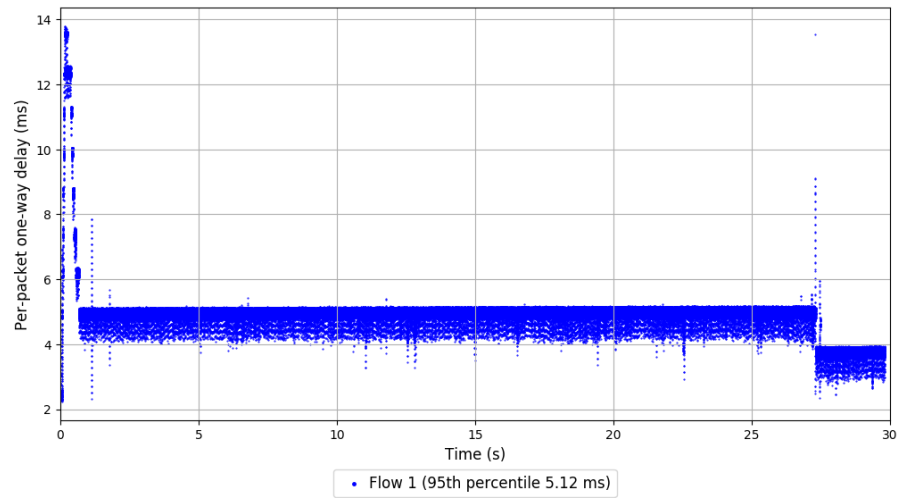
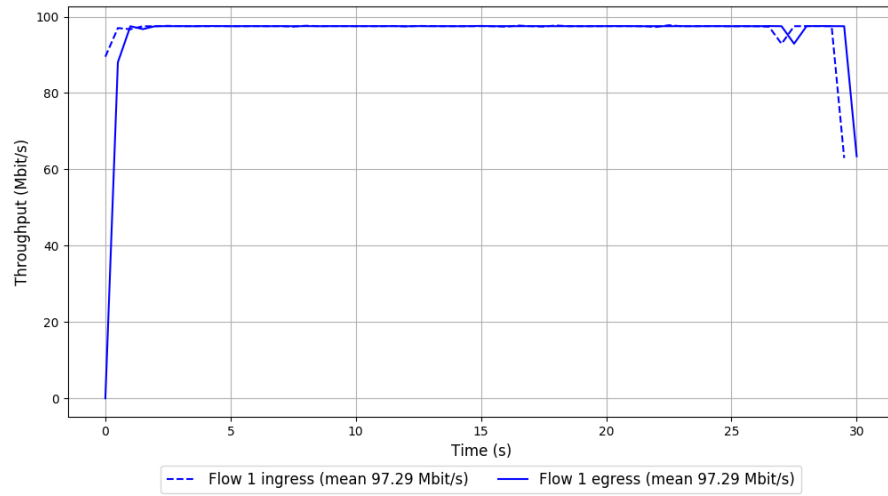
-- Flow 1:

Average throughput: 97.29 Mbit/s

95th percentile per-packet one-way delay: 5.120 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-11 00:04:45

End at: 2018-09-11 00:05:15

Local clock offset: 0.888 ms

Remote clock offset: 0.761 ms

Below is generated by plot.py at 2018-09-11 00:19:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 5.646 ms

Loss rate: 0.00%

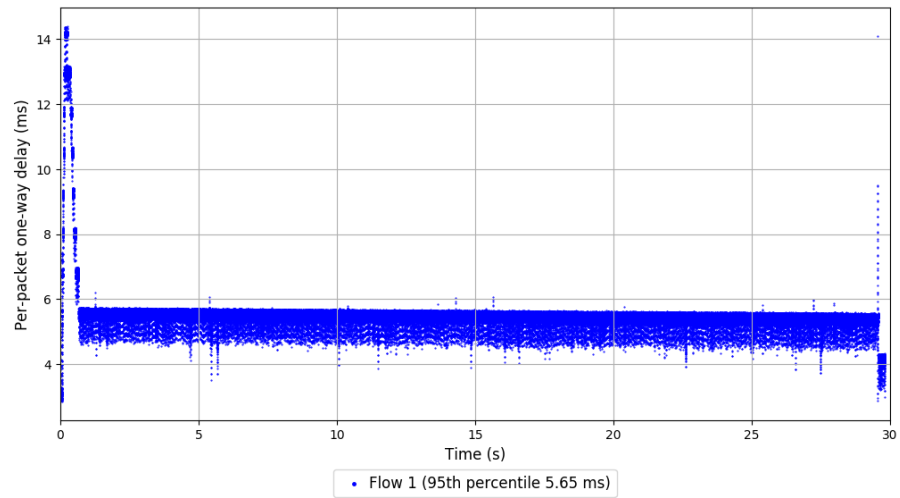
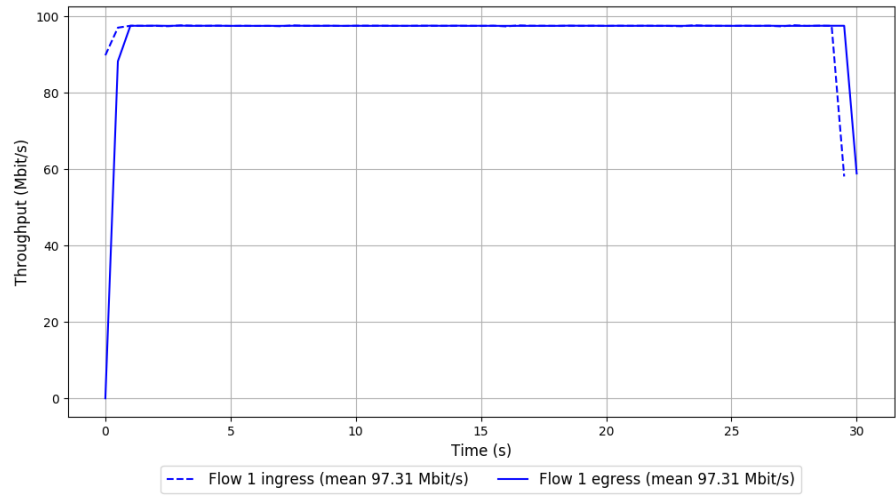
-- Flow 1:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 5.646 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

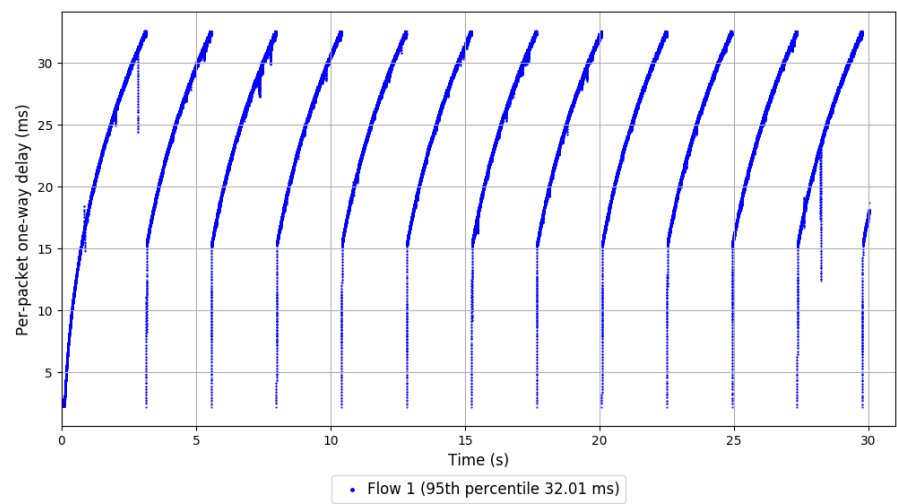
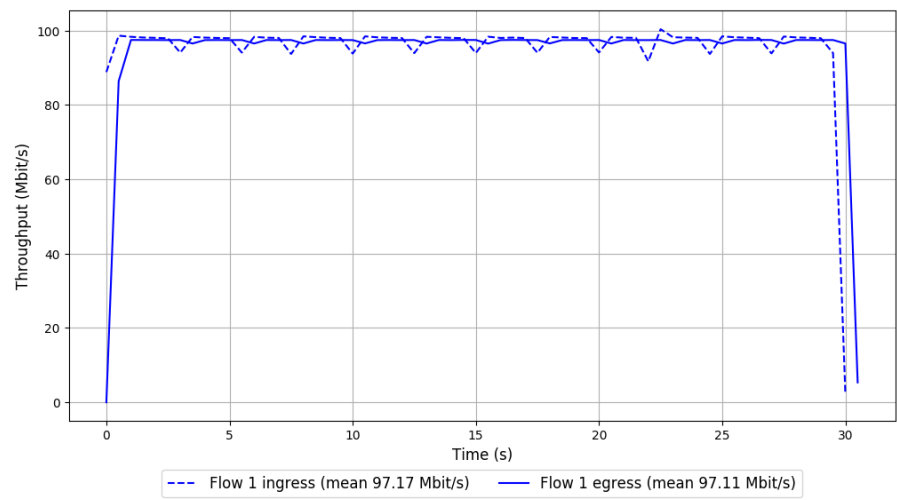


Run 1: Statistics of LEDBAT

Start at: 2018-09-10 22:50:06
End at: 2018-09-10 22:50:36
Local clock offset: 0.968 ms
Remote clock offset: -0.132 ms

Below is generated by plot.py at 2018-09-11 00:19:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.11 Mbit/s
95th percentile per-packet one-way delay: 32.006 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.11 Mbit/s
95th percentile per-packet one-way delay: 32.006 ms
Loss rate: 0.01%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-09-10 23:10:08

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

Local clock offset: -1.506 ms

Remote clock offset: 0.067 ms

Below is generated by plot.py at 2018-09-11 00:19:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.22 Mbit/s

95th percentile per-packet one-way delay: 31.355 ms

Loss rate: 0.01%

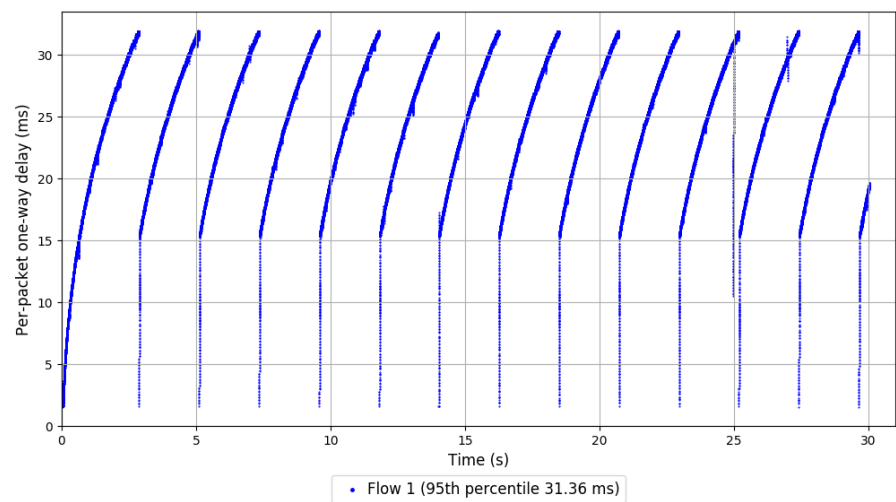
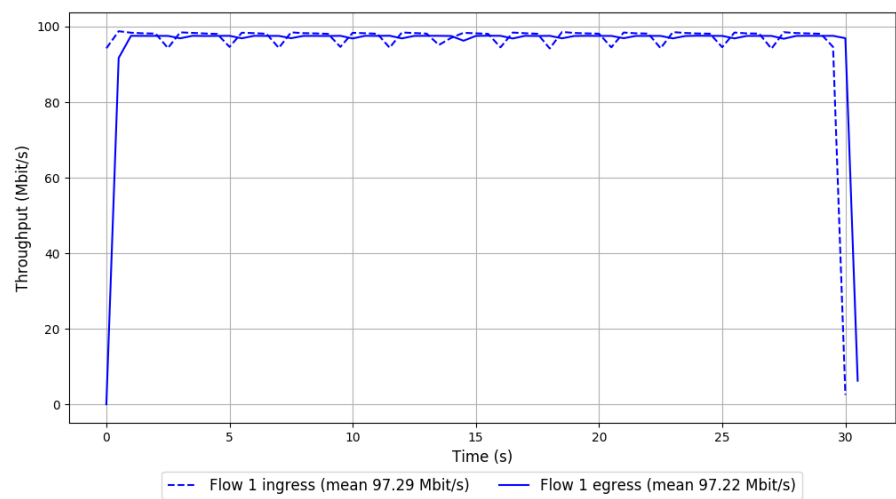
-- Flow 1:

Average throughput: 97.22 Mbit/s

95th percentile per-packet one-way delay: 31.355 ms

Loss rate: 0.01%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-09-10 23:30:12

End at: 2018-09-10 23:30:42

Local clock offset: -0.704 ms

Remote clock offset: 0.455 ms

Below is generated by plot.py at 2018-09-11 00:19:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.23 Mbit/s

95th percentile per-packet one-way delay: 31.726 ms

Loss rate: 0.01%

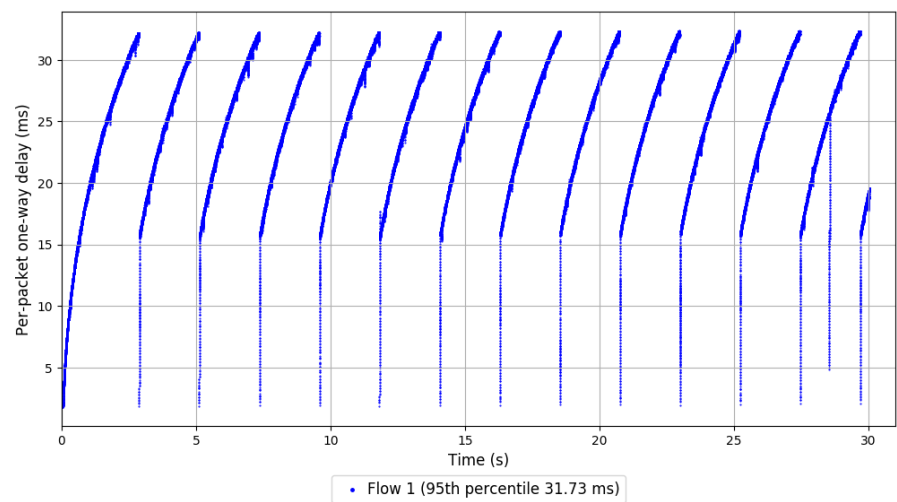
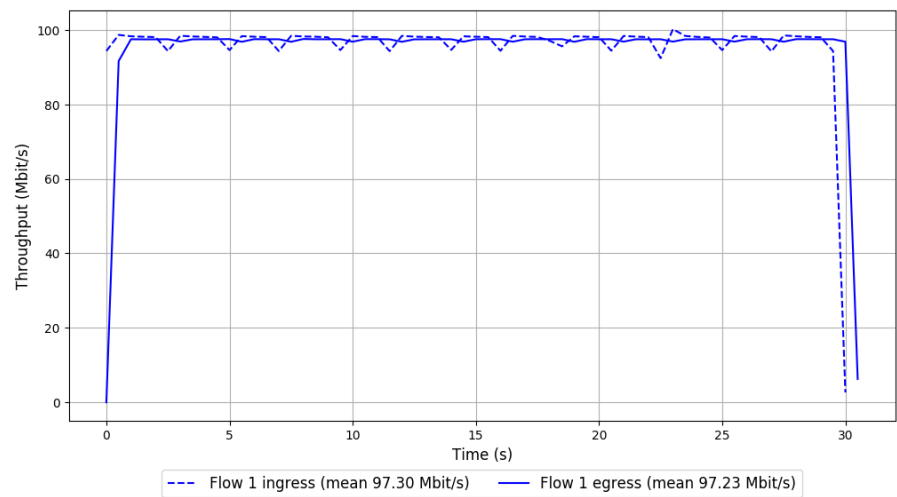
-- Flow 1:

Average throughput: 97.23 Mbit/s

95th percentile per-packet one-way delay: 31.726 ms

Loss rate: 0.01%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-09-10 23:50:16

End at: 2018-09-10 23:50:46

Local clock offset: 4.344 ms

Remote clock offset: 0.704 ms

Below is generated by plot.py at 2018-09-11 00:19:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.08 Mbit/s

95th percentile per-packet one-way delay: 32.232 ms

Loss rate: 0.01%

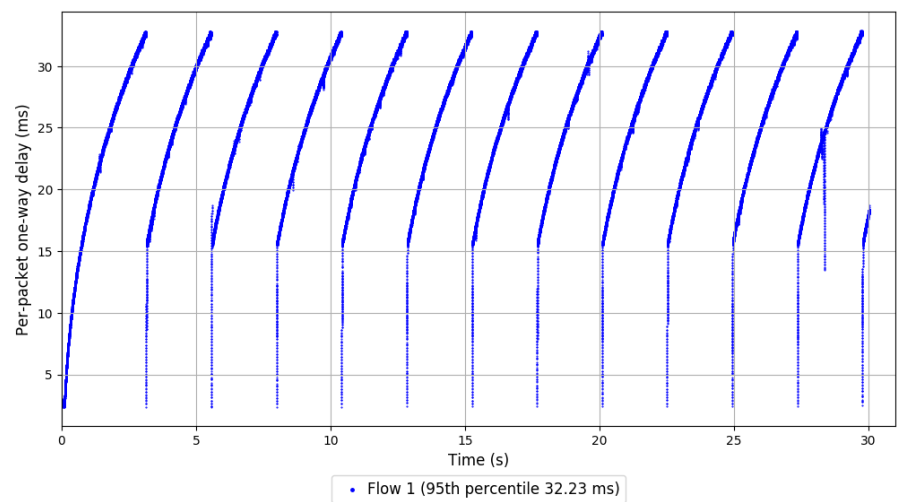
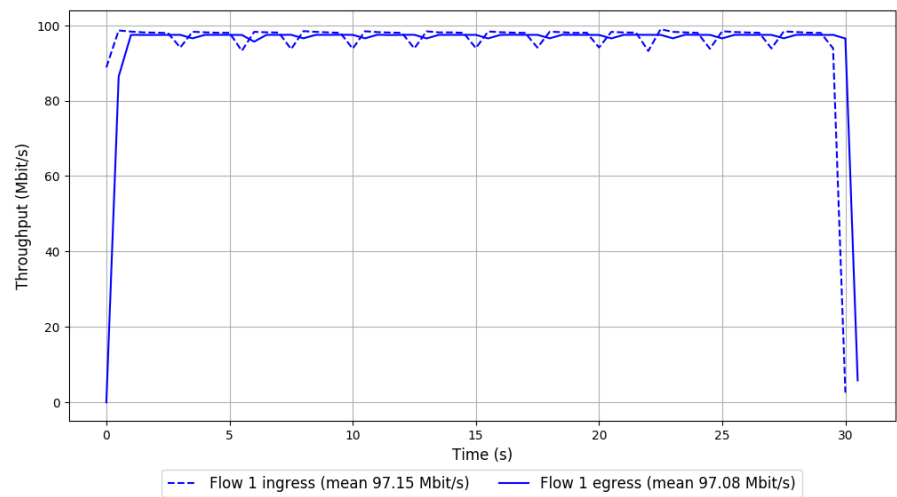
-- Flow 1:

Average throughput: 97.08 Mbit/s

95th percentile per-packet one-way delay: 32.232 ms

Loss rate: 0.01%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-11 00:10:17

End at: 2018-09-11 00:10:47

Local clock offset: 0.126 ms

Remote clock offset: 0.796 ms

Below is generated by plot.py at 2018-09-11 00:19:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.24 Mbit/s

95th percentile per-packet one-way delay: 30.455 ms

Loss rate: 0.01%

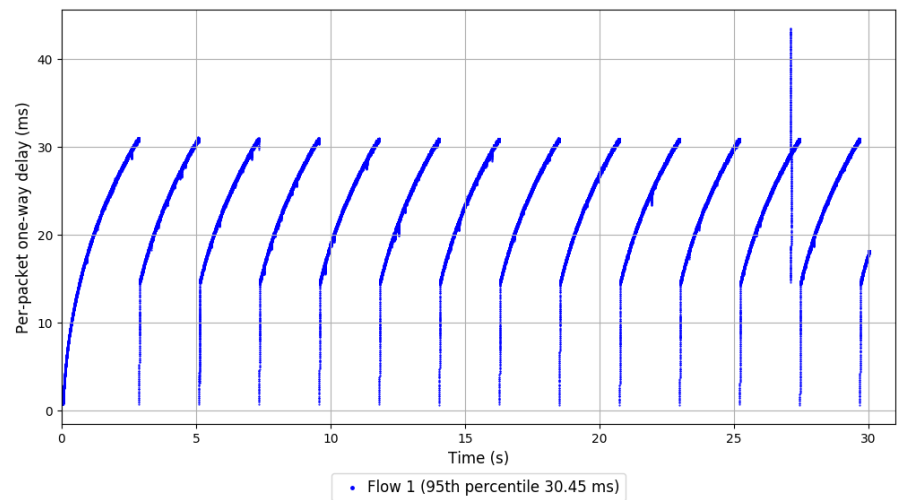
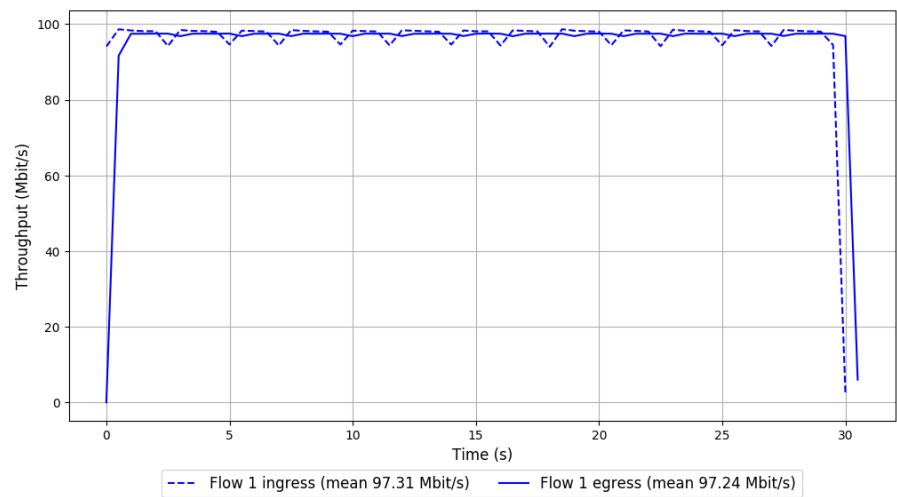
-- Flow 1:

Average throughput: 97.24 Mbit/s

95th percentile per-packet one-way delay: 30.455 ms

Loss rate: 0.01%

Run 5: Report of LEDBAT — Data Link

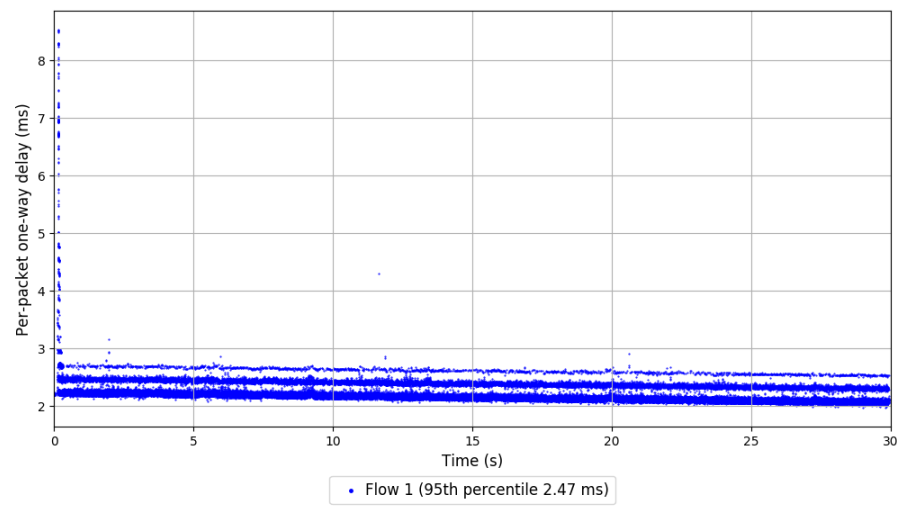
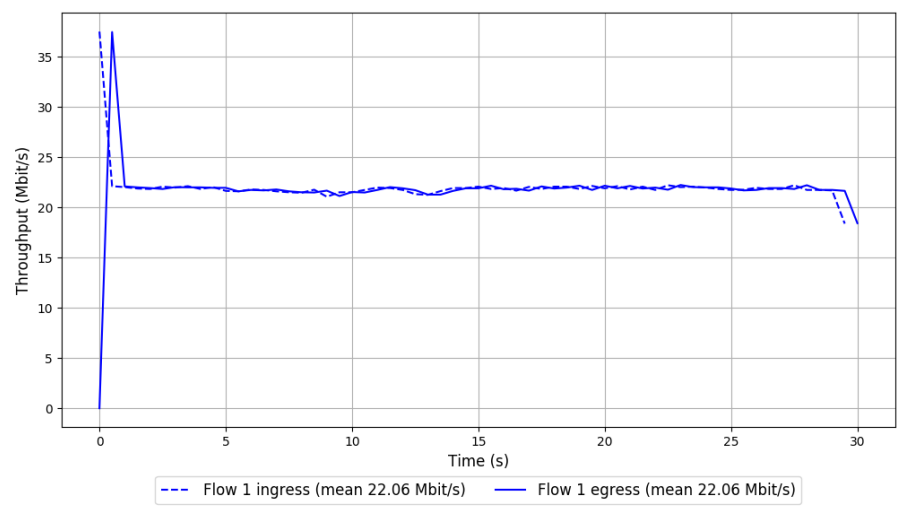


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-10 22:39:01
End at: 2018-09-10 22:39:31
Local clock offset: 2.929 ms
Remote clock offset: -0.121 ms

# Below is generated by plot.py at 2018-09-11 00:19:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 22.06 Mbit/s
95th percentile per-packet one-way delay: 2.473 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 22.06 Mbit/s
95th percentile per-packet one-way delay: 2.473 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo-Muses — Data Link

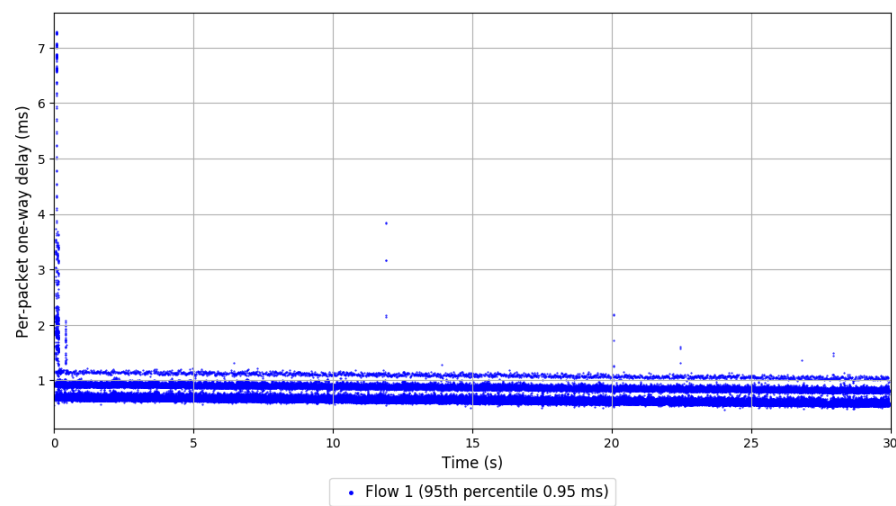
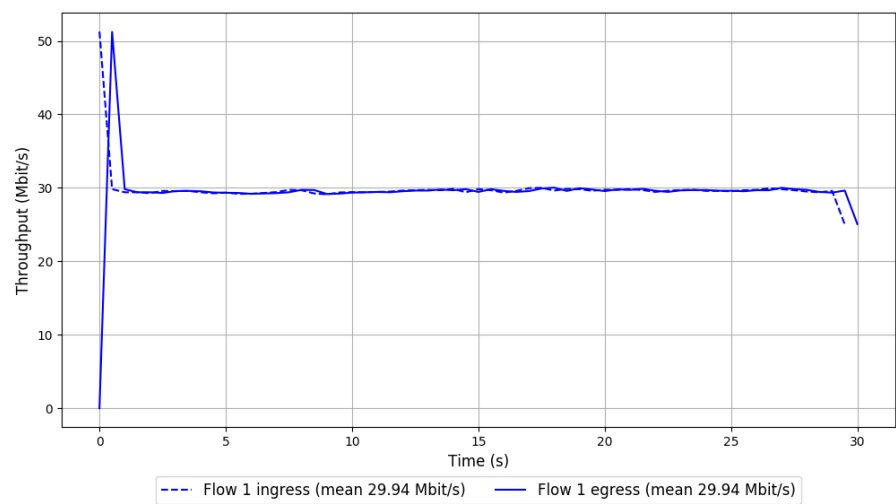


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-10 22:59:02
End at: 2018-09-10 22:59:32
Local clock offset: 0.688 ms
Remote clock offset: -0.066 ms

Below is generated by plot.py at 2018-09-11 00:19:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 29.94 Mbit/s
95th percentile per-packet one-way delay: 0.952 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 29.94 Mbit/s
95th percentile per-packet one-way delay: 0.952 ms
Loss rate: 0.00%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-09-10 23:19:06

End at: 2018-09-10 23:19:36

Local clock offset: -1.641 ms

Remote clock offset: 0.254 ms

Below is generated by plot.py at 2018-09-11 00:19:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 22.24 Mbit/s

95th percentile per-packet one-way delay: 3.386 ms

Loss rate: 0.00%

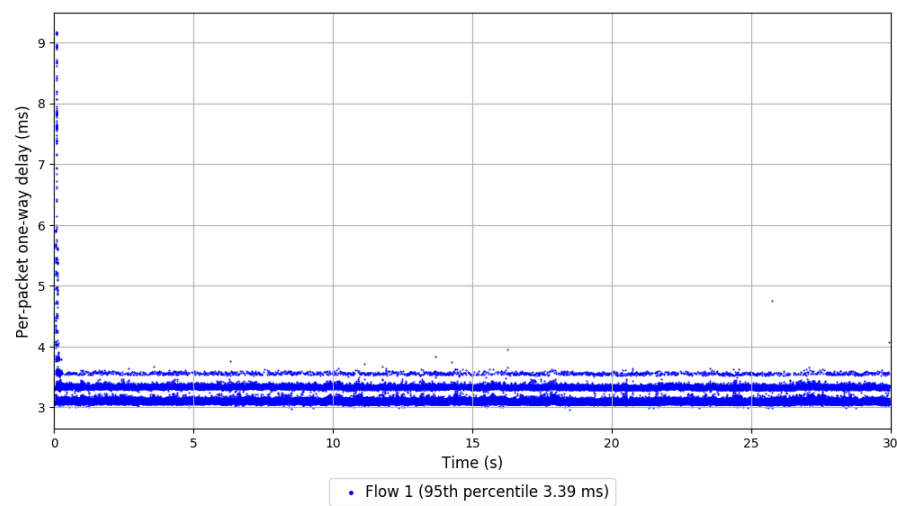
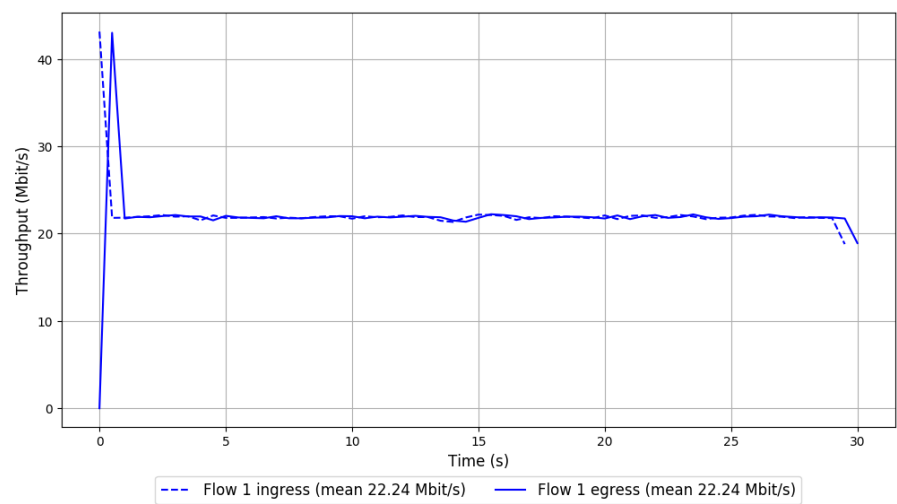
-- Flow 1:

Average throughput: 22.24 Mbit/s

95th percentile per-packet one-way delay: 3.386 ms

Loss rate: 0.00%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-09-10 23:39:10

End at: 2018-09-10 23:39:40

Local clock offset: 2.705 ms

Remote clock offset: 0.579 ms

Below is generated by plot.py at 2018-09-11 00:19:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 30.49 Mbit/s

95th percentile per-packet one-way delay: 1.422 ms

Loss rate: 0.00%

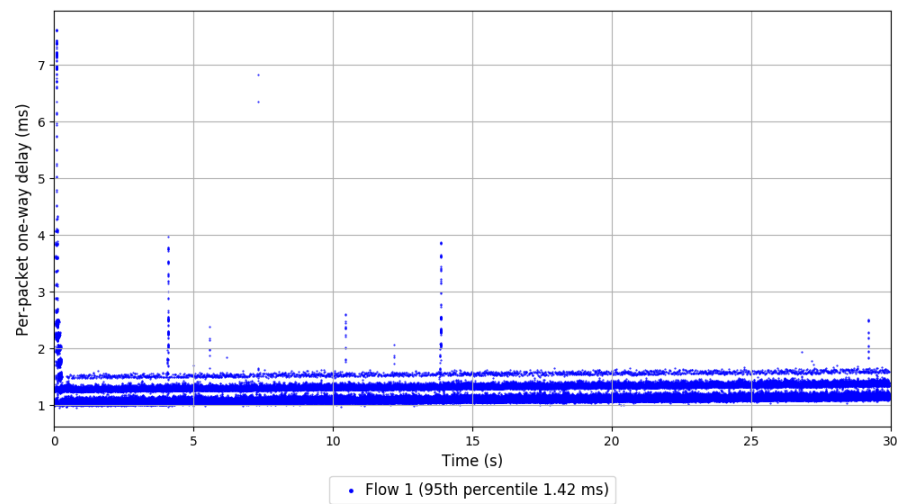
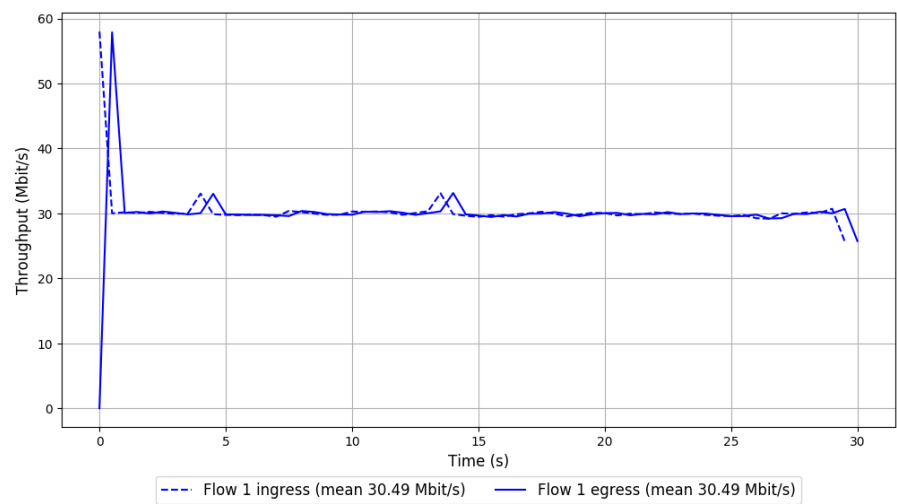
-- Flow 1:

Average throughput: 30.49 Mbit/s

95th percentile per-packet one-way delay: 1.422 ms

Loss rate: 0.00%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-10 23:59:12

End at: 2018-09-10 23:59:42

Local clock offset: 4.494 ms

Remote clock offset: 0.812 ms

Below is generated by plot.py at 2018-09-11 00:19:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 21.95 Mbit/s

95th percentile per-packet one-way delay: 2.383 ms

Loss rate: 0.01%

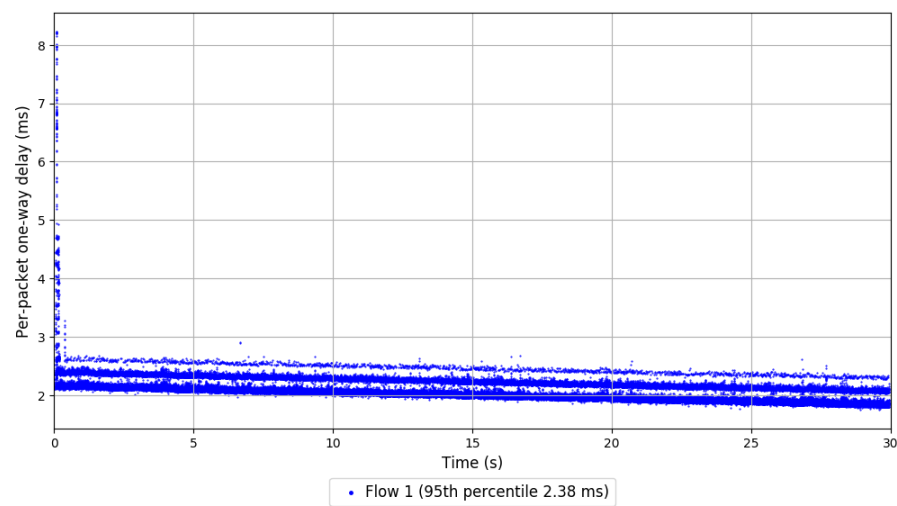
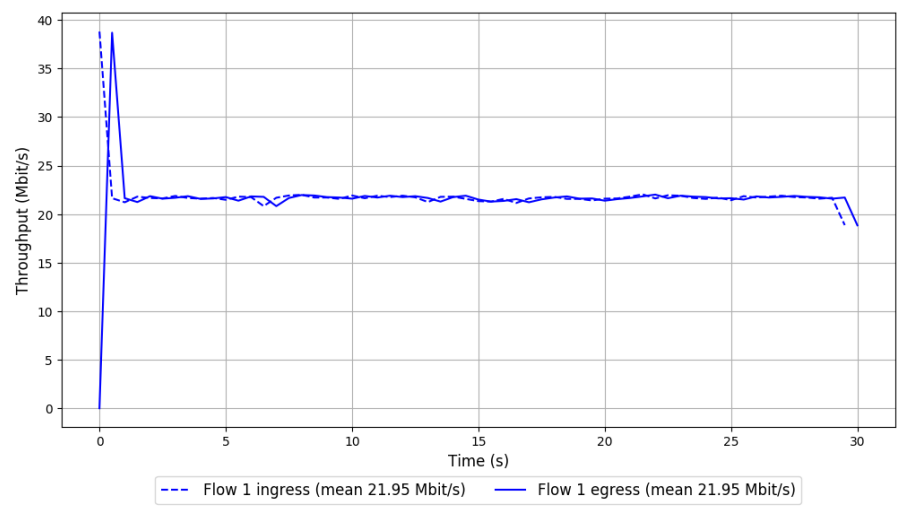
-- Flow 1:

Average throughput: 21.95 Mbit/s

95th percentile per-packet one-way delay: 2.383 ms

Loss rate: 0.01%

Run 5: Report of Indigo-Muses — Data Link

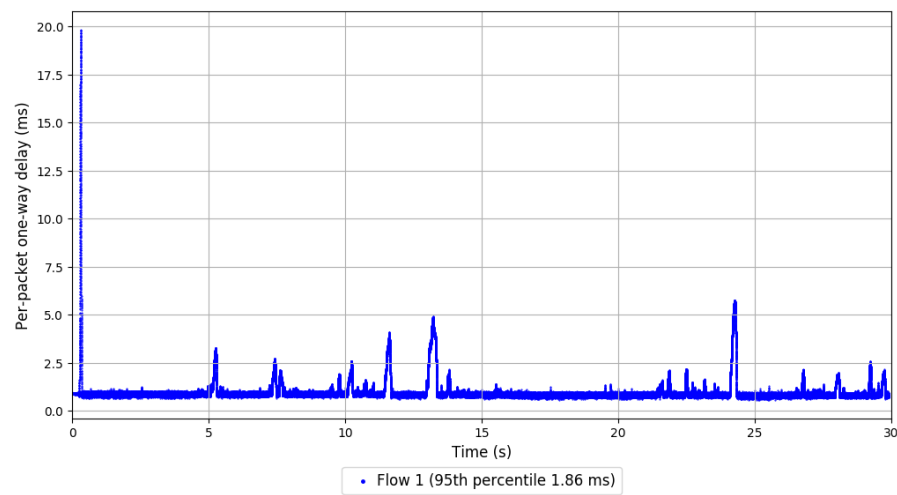
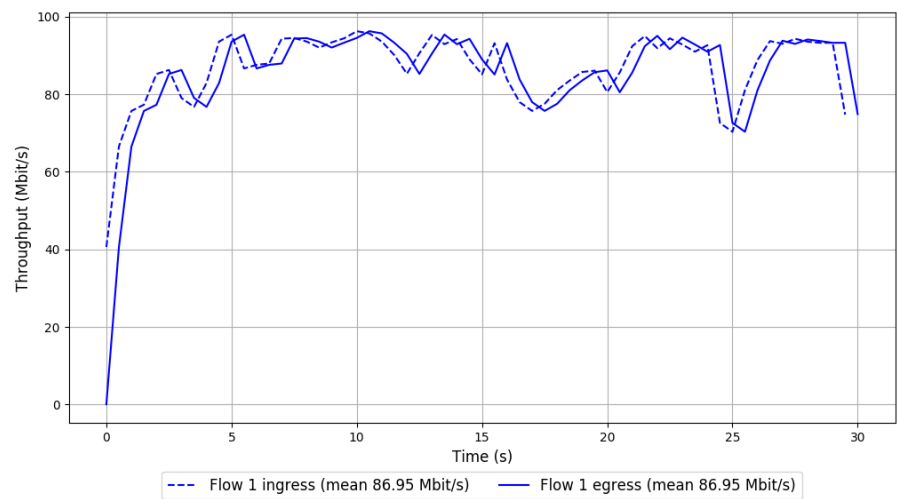



```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-10 22:43:27
End at: 2018-09-10 22:43:57
Local clock offset: 1.732 ms
Remote clock offset: -0.091 ms

# Below is generated by plot.py at 2018-09-11 00:20:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.95 Mbit/s
95th percentile per-packet one-way delay: 1.856 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 86.95 Mbit/s
95th percentile per-packet one-way delay: 1.856 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-10 23:03:29

End at: 2018-09-10 23:03:59

Local clock offset: -0.108 ms

Remote clock offset: 0.112 ms

Below is generated by plot.py at 2018-09-11 00:20:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.08 Mbit/s

95th percentile per-packet one-way delay: 4.918 ms

Loss rate: 0.00%

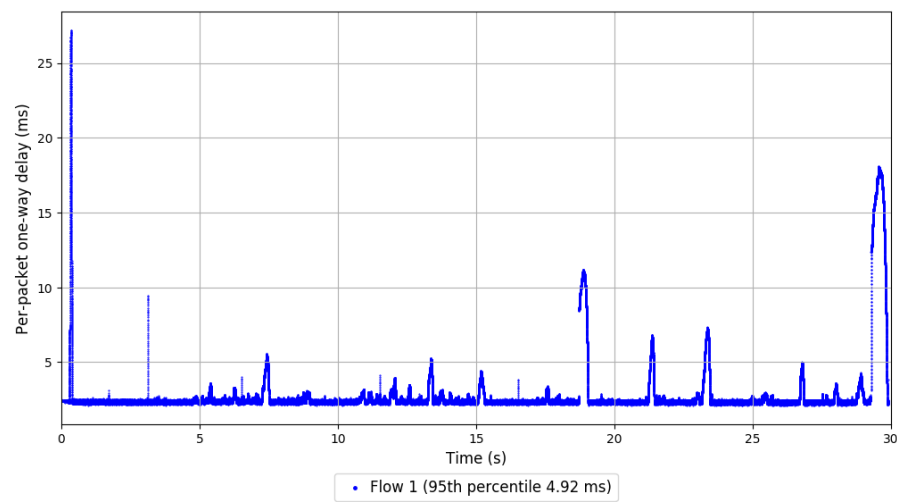
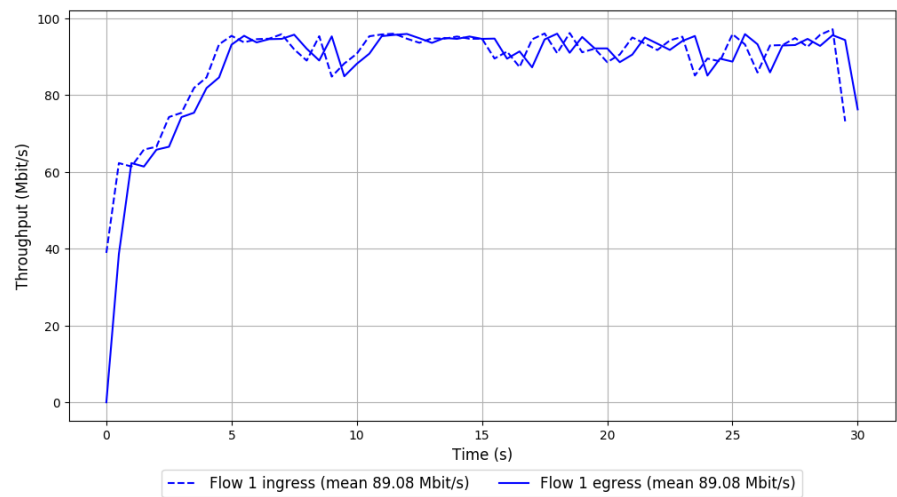
-- Flow 1:

Average throughput: 89.08 Mbit/s

95th percentile per-packet one-way delay: 4.918 ms

Loss rate: 0.00%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-10 23:23:33

End at: 2018-09-10 23:24:03

Local clock offset: -1.679 ms

Remote clock offset: 0.265 ms

Below is generated by plot.py at 2018-09-11 00:20:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.15 Mbit/s

95th percentile per-packet one-way delay: 4.250 ms

Loss rate: 0.00%

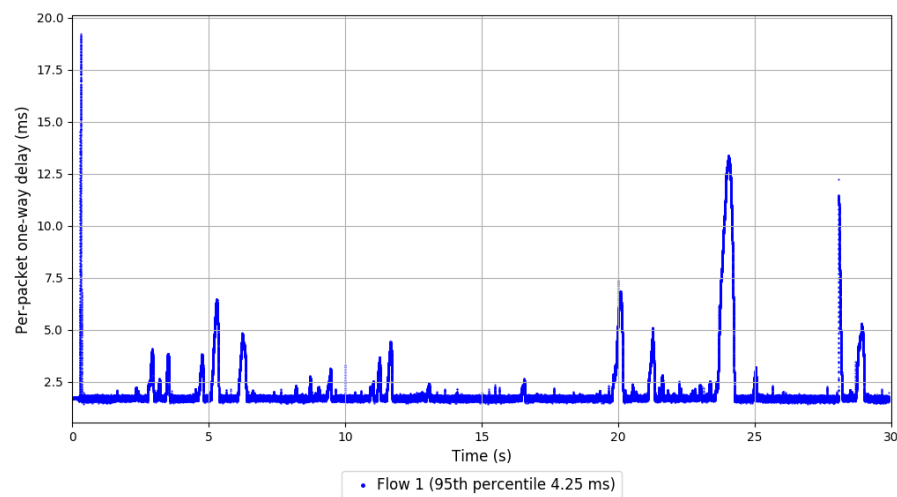
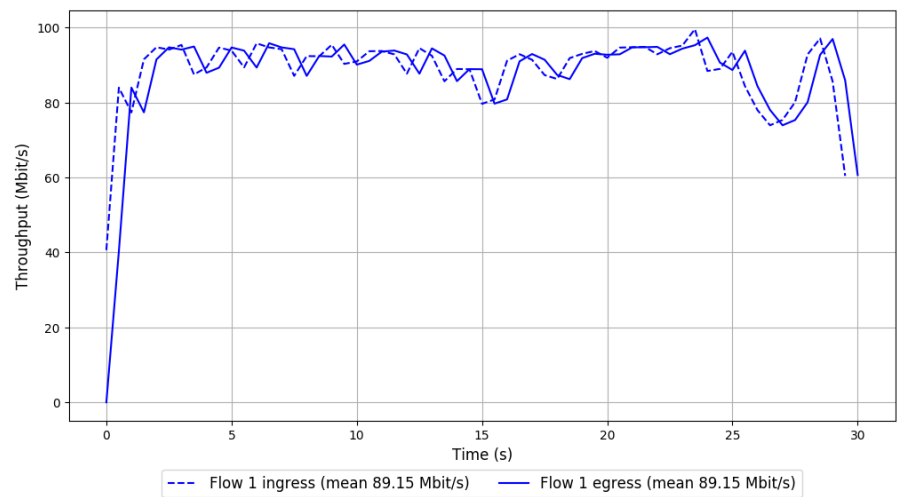
-- Flow 1:

Average throughput: 89.15 Mbit/s

95th percentile per-packet one-way delay: 4.250 ms

Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-10 23:43:37

End at: 2018-09-10 23:44:07

Local clock offset: 2.672 ms

Remote clock offset: 0.638 ms

Below is generated by plot.py at 2018-09-11 00:20:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 89.48 Mbit/s

95th percentile per-packet one-way delay: 4.765 ms

Loss rate: 0.00%

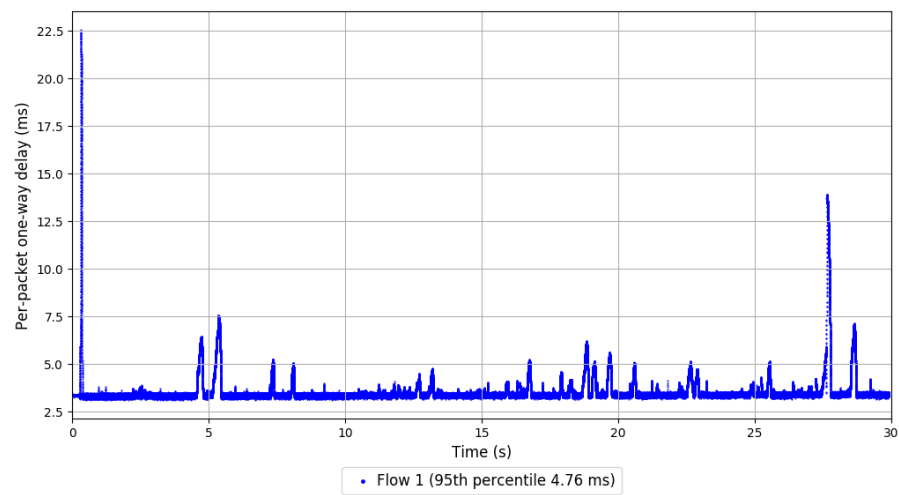
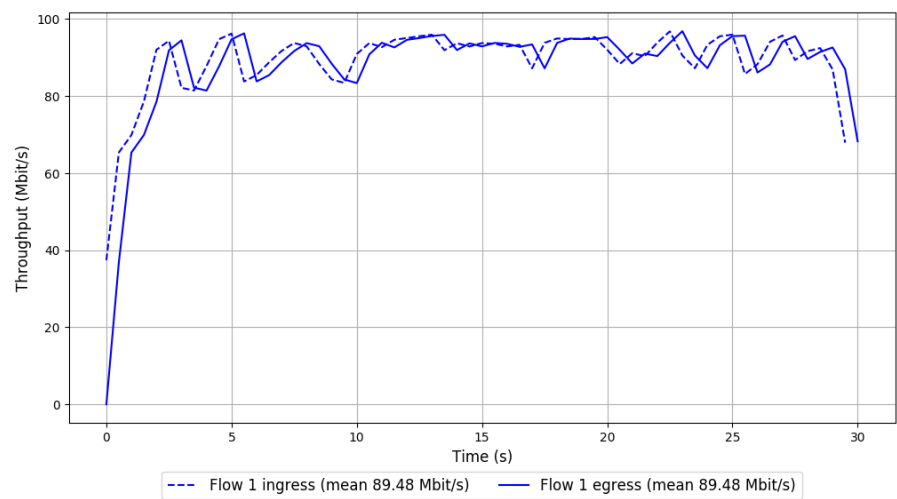
-- Flow 1:

Average throughput: 89.48 Mbit/s

95th percentile per-packet one-way delay: 4.765 ms

Loss rate: 0.00%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-11 00:03:39

End at: 2018-09-11 00:04:09

Local clock offset: 2.118 ms

Remote clock offset: 0.81 ms

Below is generated by plot.py at 2018-09-11 00:20:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.84 Mbit/s

95th percentile per-packet one-way delay: 4.386 ms

Loss rate: 0.01%

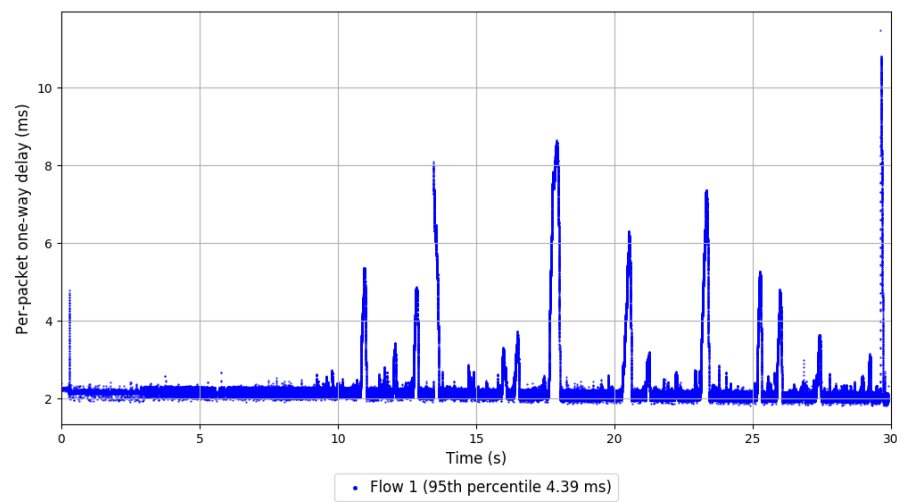
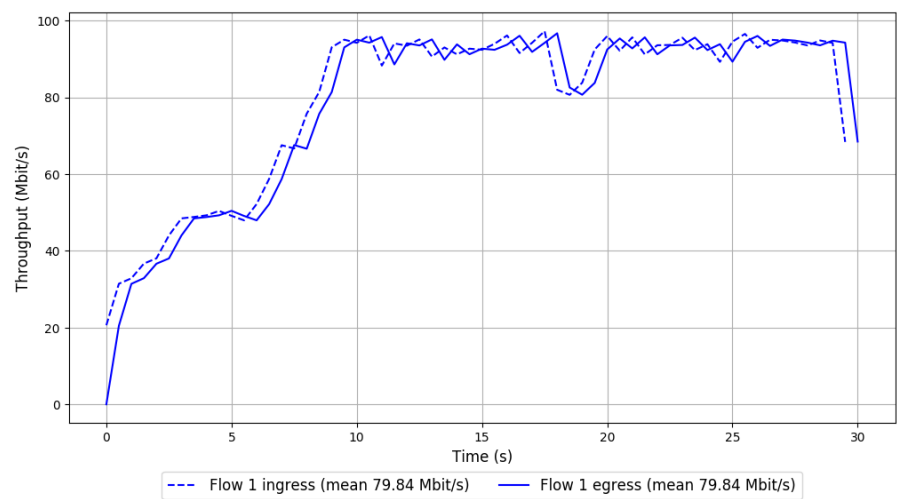
-- Flow 1:

Average throughput: 79.84 Mbit/s

95th percentile per-packet one-way delay: 4.386 ms

Loss rate: 0.01%

Run 5: Report of PCC-Allegro — Data Link

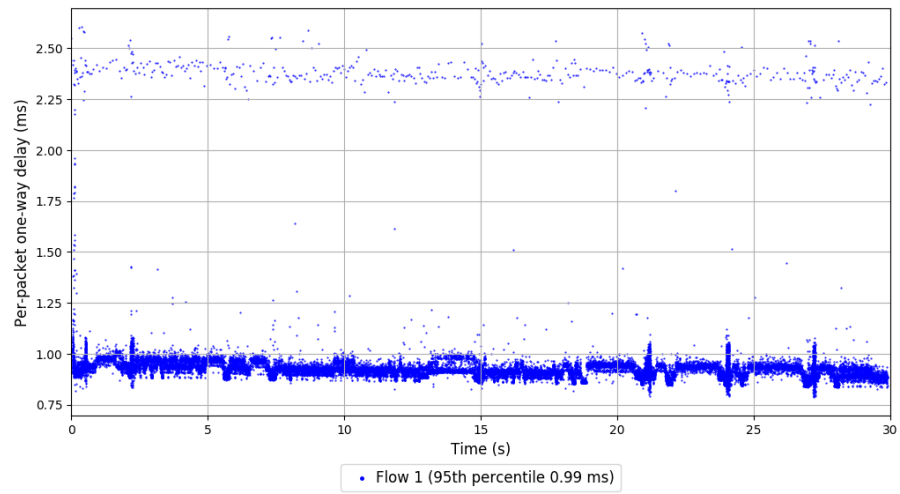
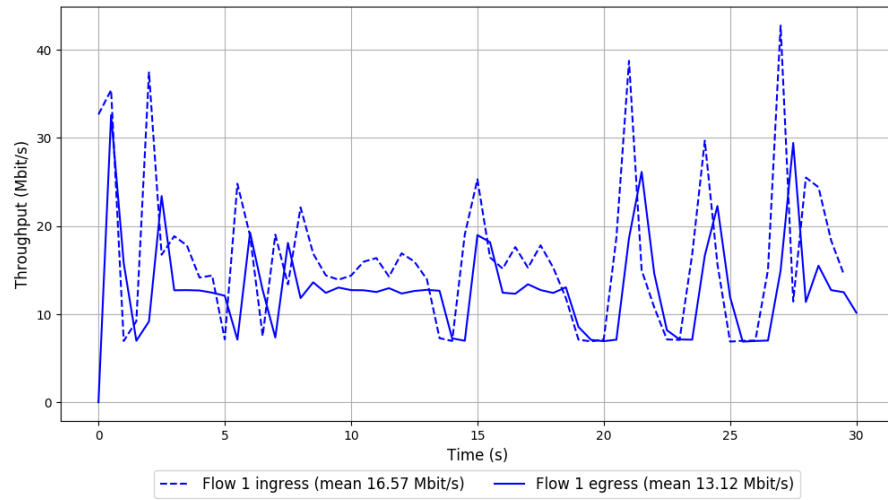


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-10 22:46:48
End at: 2018-09-10 22:47:18
Local clock offset: 1.187 ms
Remote clock offset: -0.076 ms

# Below is generated by plot.py at 2018-09-11 00:20:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 0.988 ms
Loss rate: 20.81%
-- Flow 1:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 0.988 ms
Loss rate: 20.81%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-09-10 23:06:50

End at: 2018-09-10 23:07:20

Local clock offset: -1.299 ms

Remote clock offset: 0.084 ms

Below is generated by plot.py at 2018-09-11 00:20:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.98 Mbit/s

95th percentile per-packet one-way delay: 3.192 ms

Loss rate: 30.20%

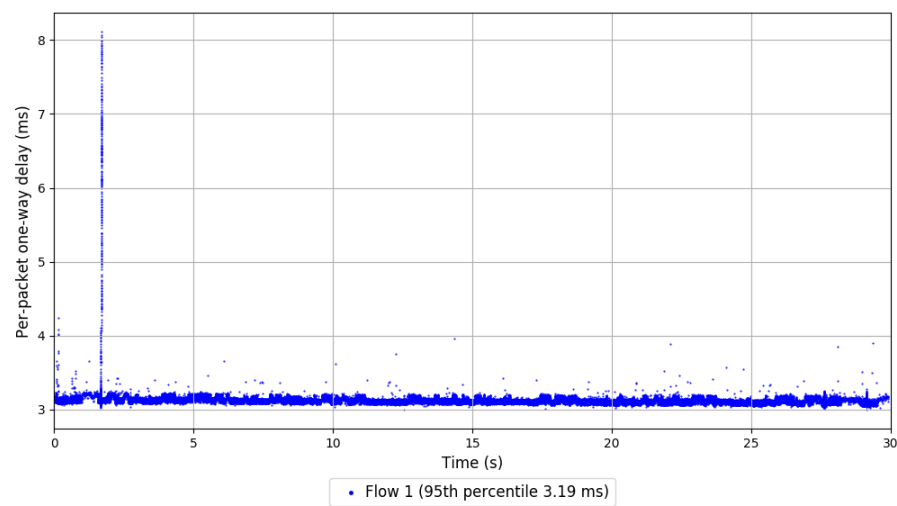
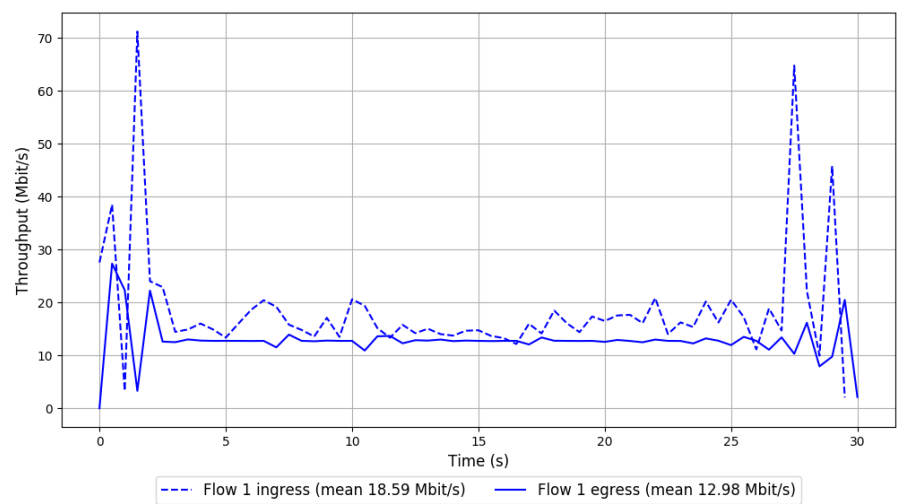
-- Flow 1:

Average throughput: 12.98 Mbit/s

95th percentile per-packet one-way delay: 3.192 ms

Loss rate: 30.20%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-10 23:26:54

End at: 2018-09-10 23:27:24

Local clock offset: -1.66 ms

Remote clock offset: 0.326 ms

Below is generated by plot.py at 2018-09-11 00:20:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.08 Mbit/s

95th percentile per-packet one-way delay: 3.228 ms

Loss rate: 38.86%

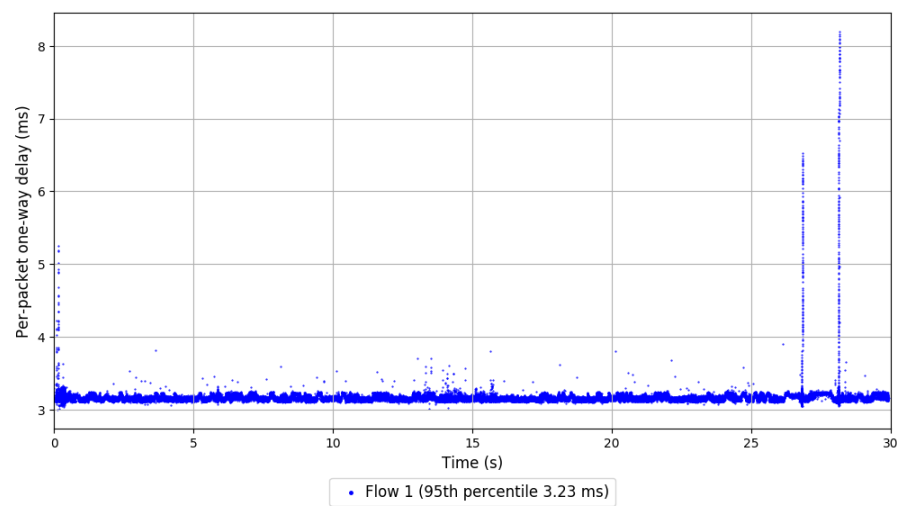
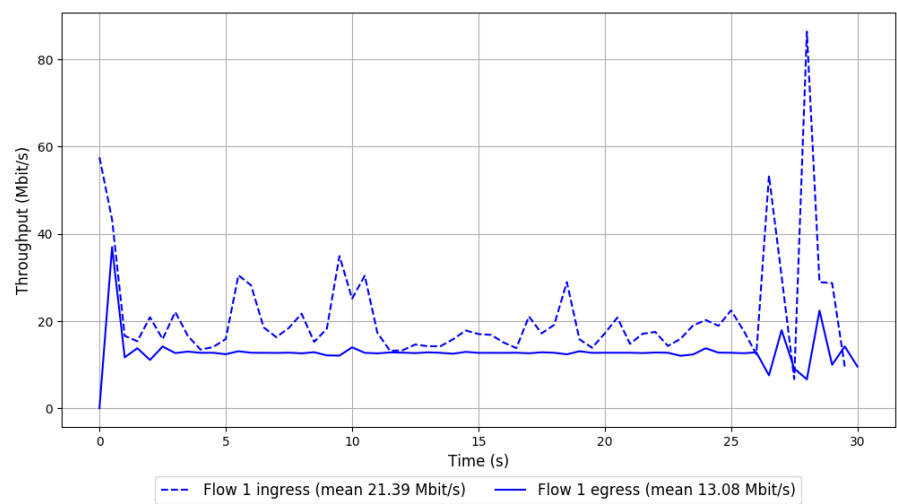
-- Flow 1:

Average throughput: 13.08 Mbit/s

95th percentile per-packet one-way delay: 3.228 ms

Loss rate: 38.86%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-09-10 23:46:59

End at: 2018-09-10 23:47:29

Local clock offset: 3.969 ms

Remote clock offset: 0.644 ms

Below is generated by plot.py at 2018-09-11 00:20:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.96 Mbit/s

95th percentile per-packet one-way delay: 6.133 ms

Loss rate: 45.25%

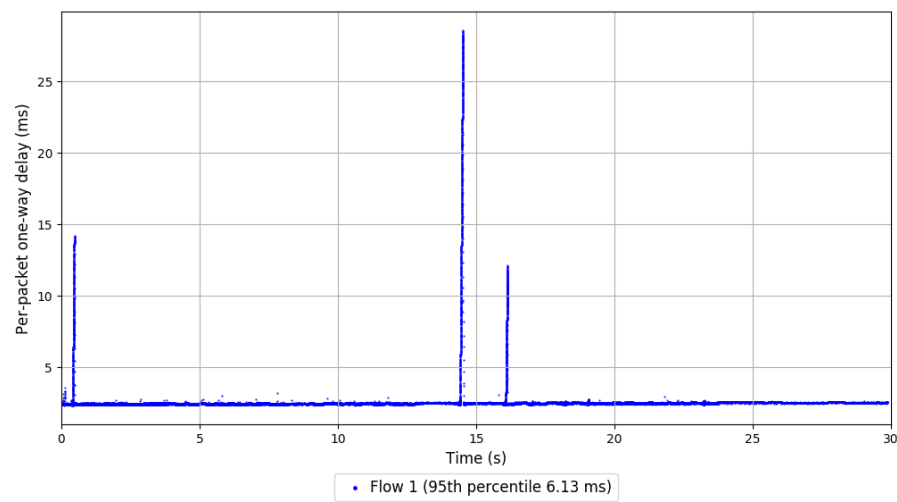
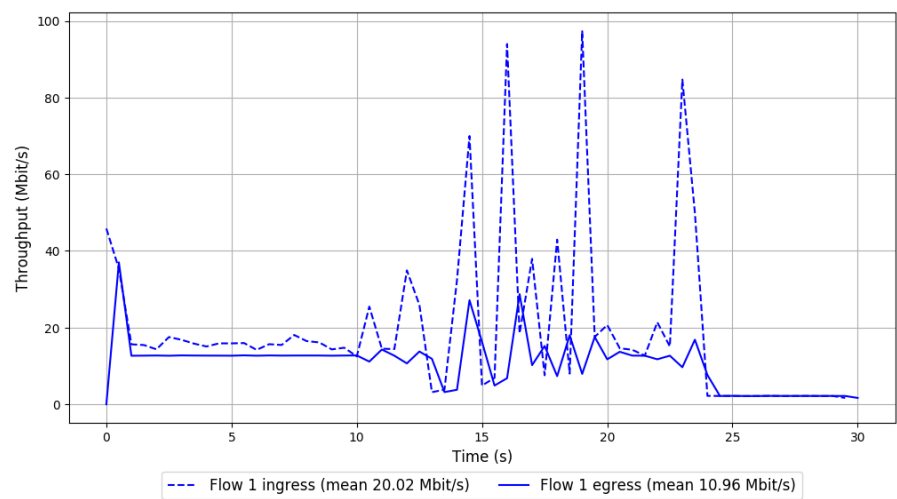
-- Flow 1:

Average throughput: 10.96 Mbit/s

95th percentile per-packet one-way delay: 6.133 ms

Loss rate: 45.25%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-11 00:07:00

End at: 2018-09-11 00:07:30

Local clock offset: 0.13 ms

Remote clock offset: 0.7 ms

Below is generated by plot.py at 2018-09-11 00:20:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.12 Mbit/s

95th percentile per-packet one-way delay: 2.931 ms

Loss rate: 16.57%

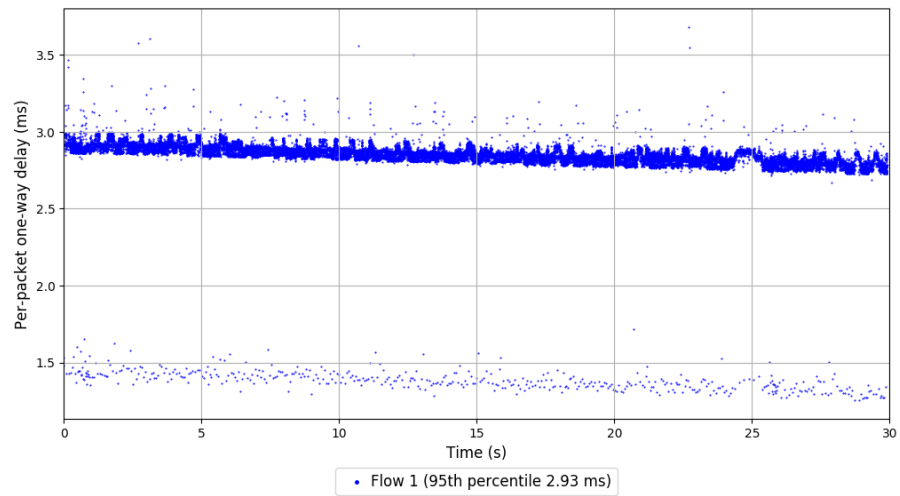
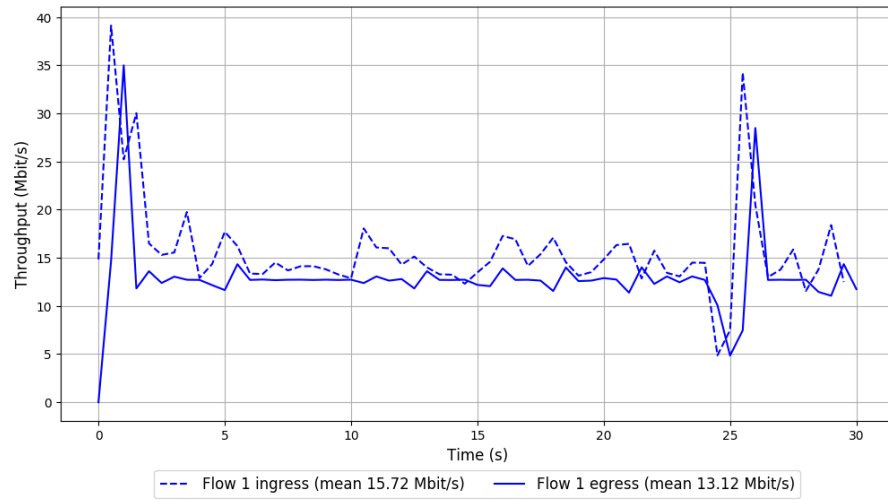
-- Flow 1:

Average throughput: 13.12 Mbit/s

95th percentile per-packet one-way delay: 2.931 ms

Loss rate: 16.57%

Run 5: Report of PCC-Expr — Data Link

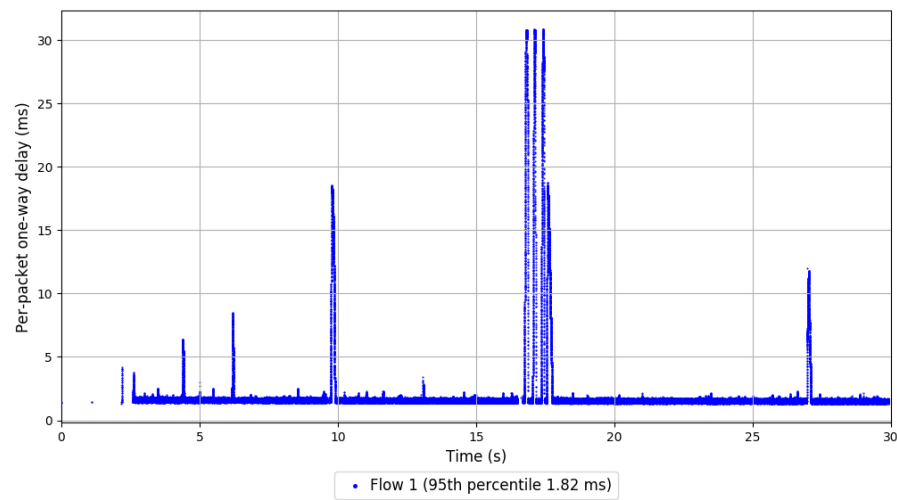
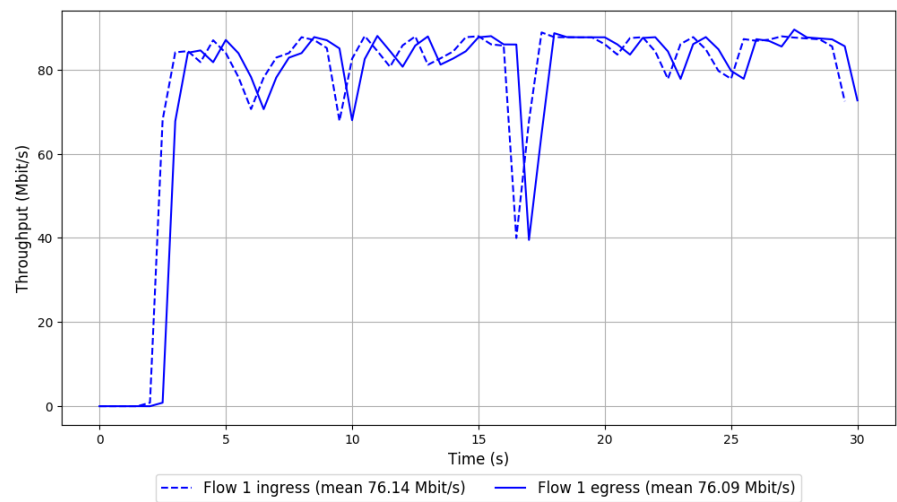


Run 1: Statistics of QUIC Cubic

Start at: 2018-09-10 22:42:19
End at: 2018-09-10 22:42:49
Local clock offset: 1.193 ms
Remote clock offset: -0.172 ms

Below is generated by plot.py at 2018-09-11 00:21:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 76.09 Mbit/s
95th percentile per-packet one-way delay: 1.817 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 76.09 Mbit/s
95th percentile per-packet one-way delay: 1.817 ms
Loss rate: 0.07%

Run 1: Report of QUIC Cubic — Data Link

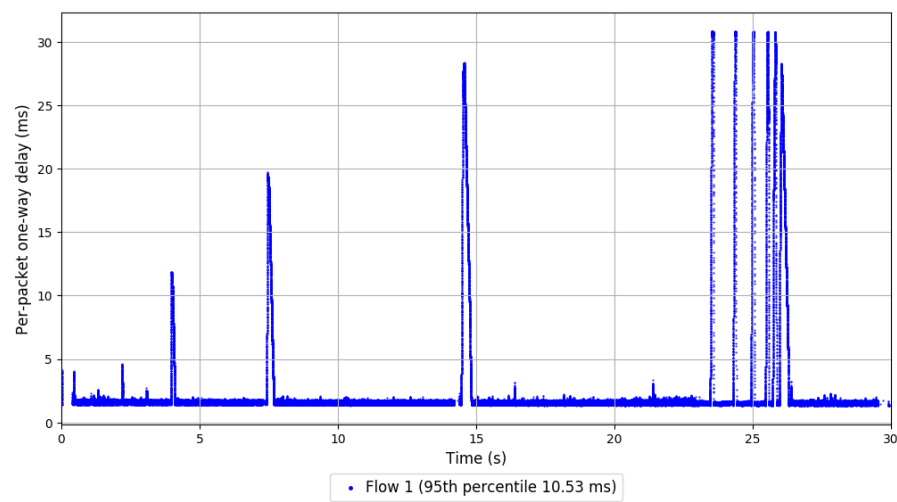
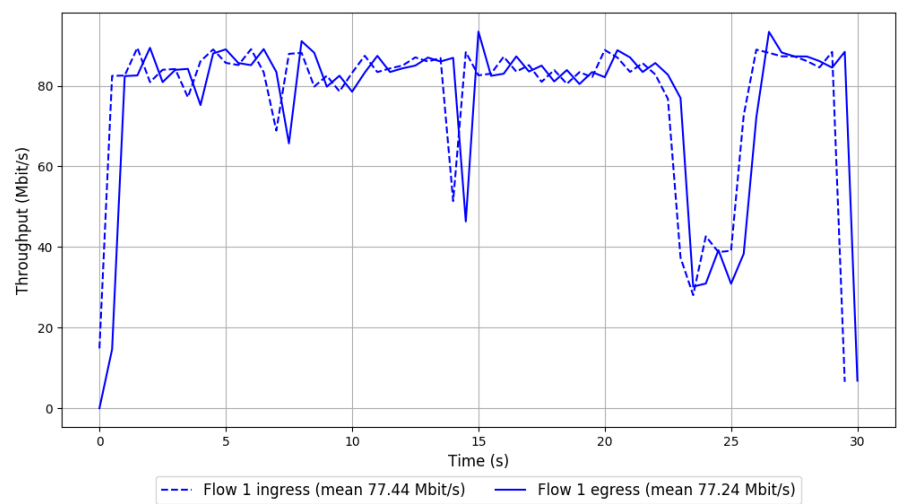


Run 2: Statistics of QUIC Cubic

Start at: 2018-09-10 23:02:21
End at: 2018-09-10 23:02:51
Local clock offset: -0.724 ms
Remote clock offset: -0.018 ms

Below is generated by plot.py at 2018-09-11 00:21:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 77.24 Mbit/s
95th percentile per-packet one-way delay: 10.531 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 77.24 Mbit/s
95th percentile per-packet one-way delay: 10.531 ms
Loss rate: 0.26%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-10 23:22:25

End at: 2018-09-10 23:22:55

Local clock offset: -1.649 ms

Remote clock offset: 0.266 ms

Below is generated by plot.py at 2018-09-11 00:21:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.34 Mbit/s

95th percentile per-packet one-way delay: 2.281 ms

Loss rate: 0.24%

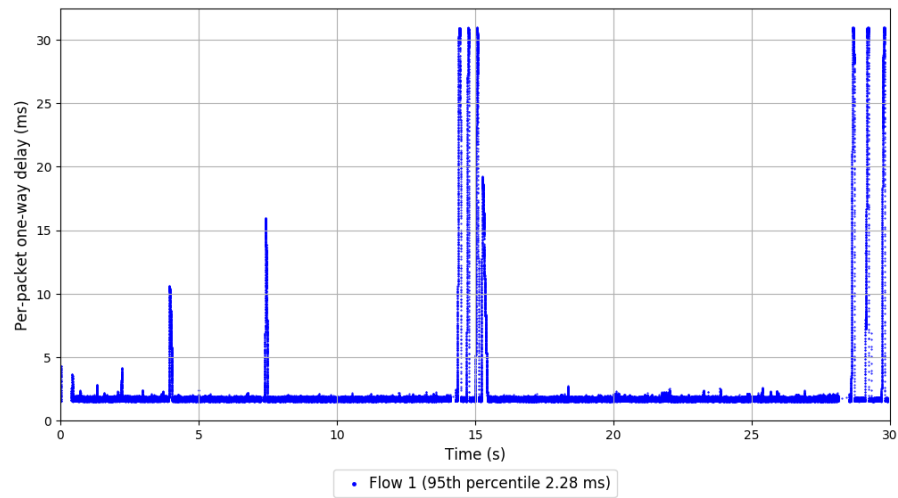
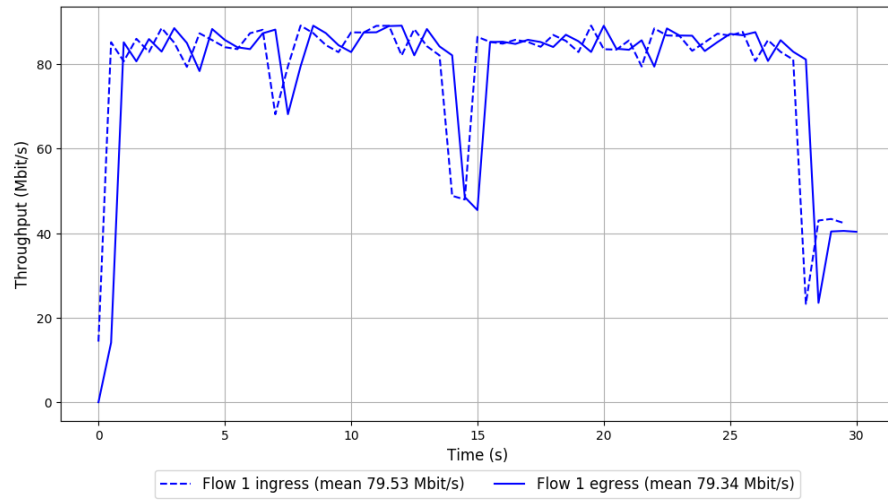
-- Flow 1:

Average throughput: 79.34 Mbit/s

95th percentile per-packet one-way delay: 2.281 ms

Loss rate: 0.24%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-10 23:42:30

End at: 2018-09-10 23:43:00

Local clock offset: 3.247 ms

Remote clock offset: 0.598 ms

Below is generated by plot.py at 2018-09-11 00:21:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.52 Mbit/s

95th percentile per-packet one-way delay: 5.633 ms

Loss rate: 0.41%

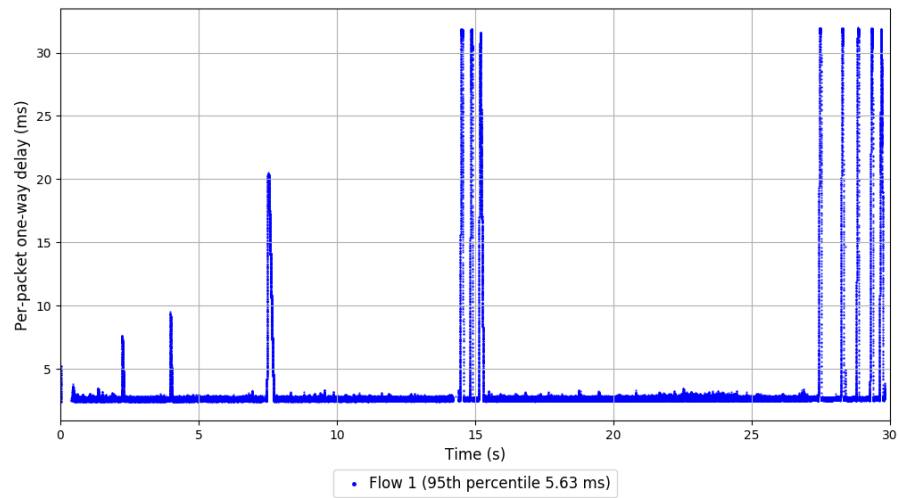
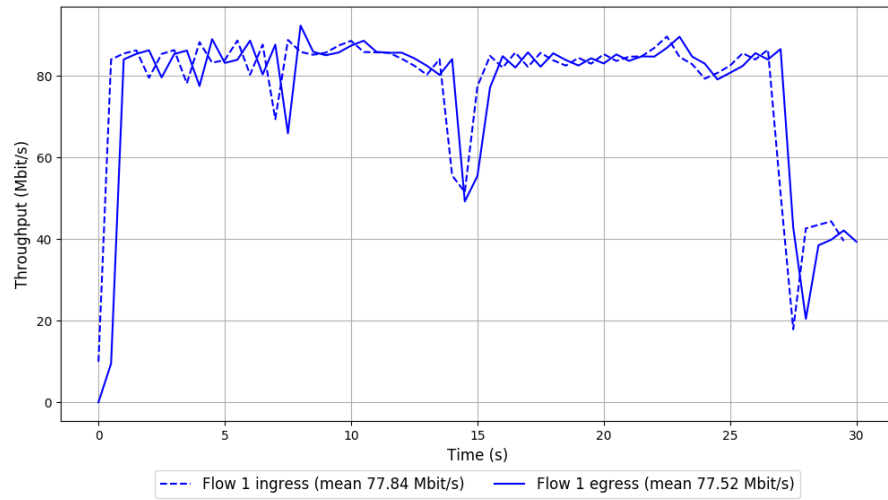
-- Flow 1:

Average throughput: 77.52 Mbit/s

95th percentile per-packet one-way delay: 5.633 ms

Loss rate: 0.41%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-11 00:02:31

End at: 2018-09-11 00:03:01

Local clock offset: 2.558 ms

Remote clock offset: 0.759 ms

Below is generated by plot.py at 2018-09-11 00:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.74 Mbit/s

95th percentile per-packet one-way delay: 1.409 ms

Loss rate: 0.24%

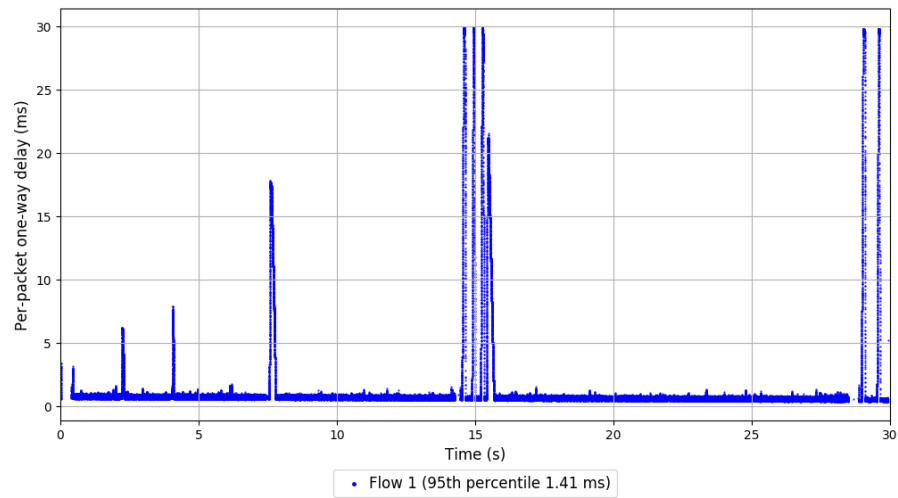
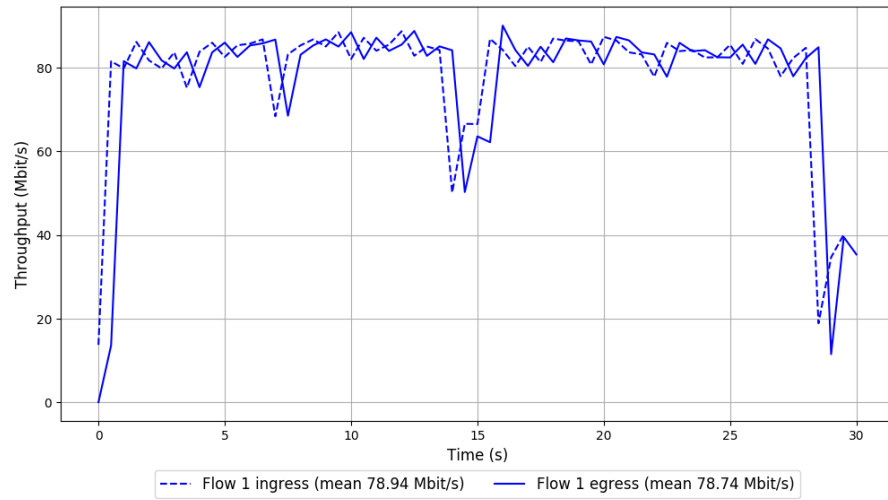
-- Flow 1:

Average throughput: 78.74 Mbit/s

95th percentile per-packet one-way delay: 1.409 ms

Loss rate: 0.24%

Run 5: Report of QUIC Cubic — Data Link

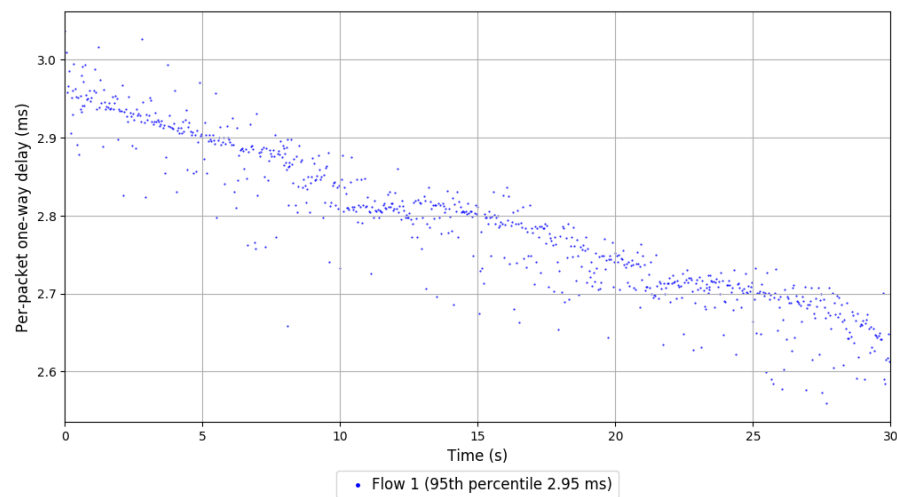
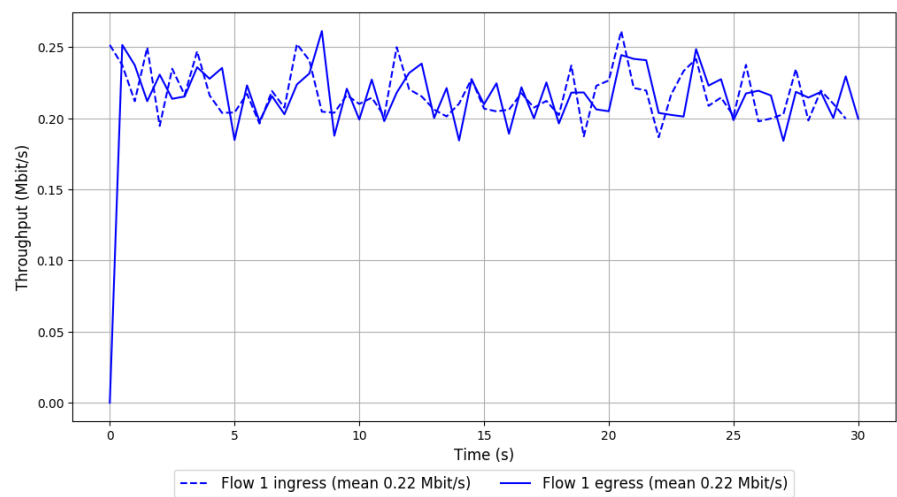


```
Run 1: Statistics of SCReAM

Start at: 2018-09-10 22:34:35
End at: 2018-09-10 22:35:05
Local clock offset: 4.217 ms
Remote clock offset: -0.227 ms

# Below is generated by plot.py at 2018-09-11 00:21:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.948 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.948 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

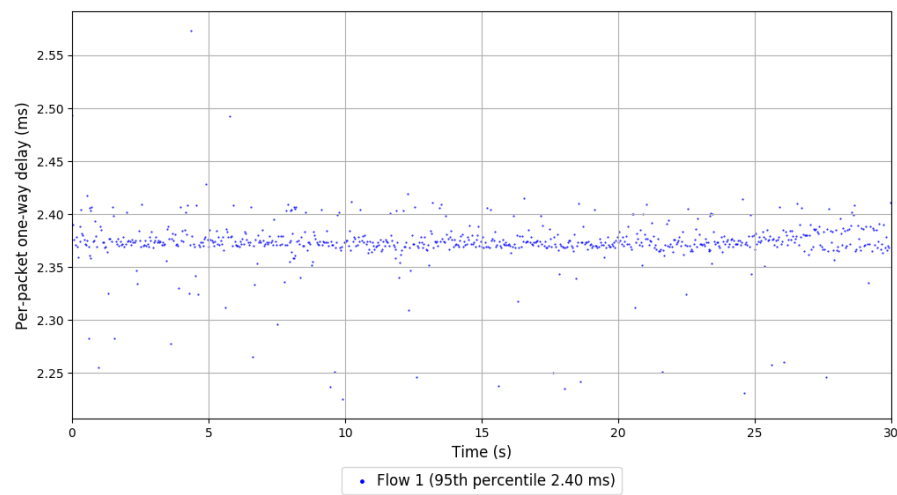
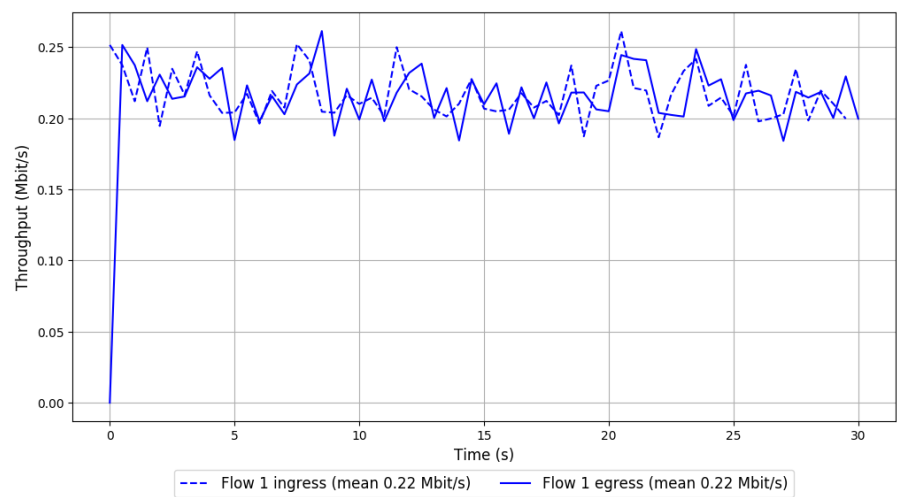


Run 2: Statistics of SCReAM

Start at: 2018-09-10 22:54:36
End at: 2018-09-10 22:55:06
Local clock offset: 0.825 ms
Remote clock offset: -0.037 ms

Below is generated by plot.py at 2018-09-11 00:21:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.404 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.404 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-09-10 23:14:41

End at: 2018-09-10 23:15:11

Local clock offset: -1.613 ms

Remote clock offset: 0.268 ms

Below is generated by plot.py at 2018-09-11 00:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 3.289 ms

Loss rate: 0.00%

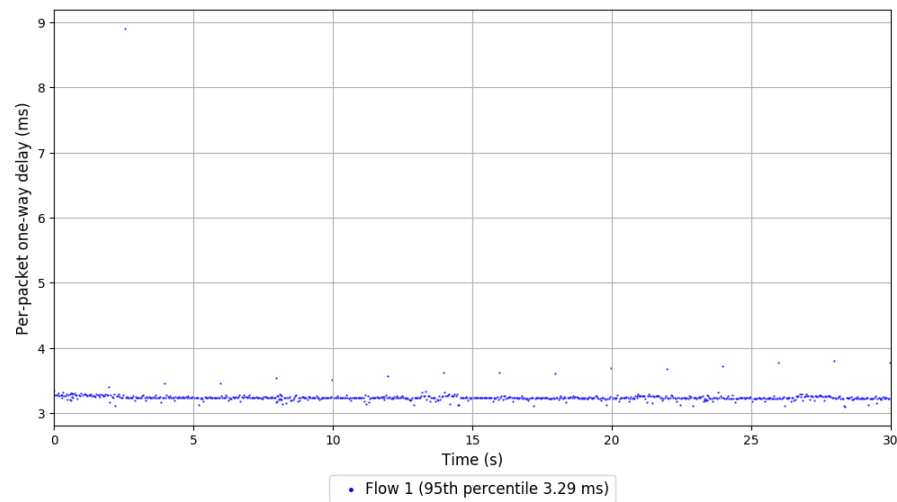
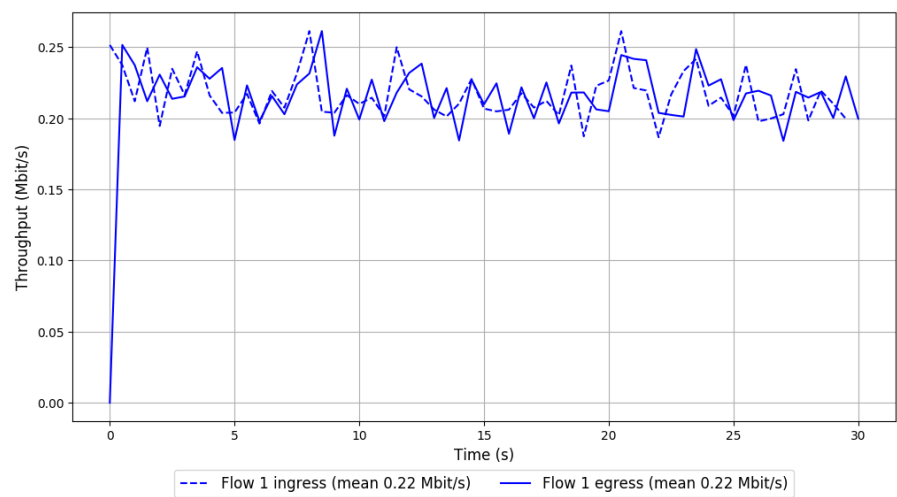
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 3.289 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-09-10 23:34:45

End at: 2018-09-10 23:35:15

Local clock offset: 0.905 ms

Remote clock offset: 0.442 ms

Below is generated by plot.py at 2018-09-11 00:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 3.355 ms

Loss rate: 0.00%

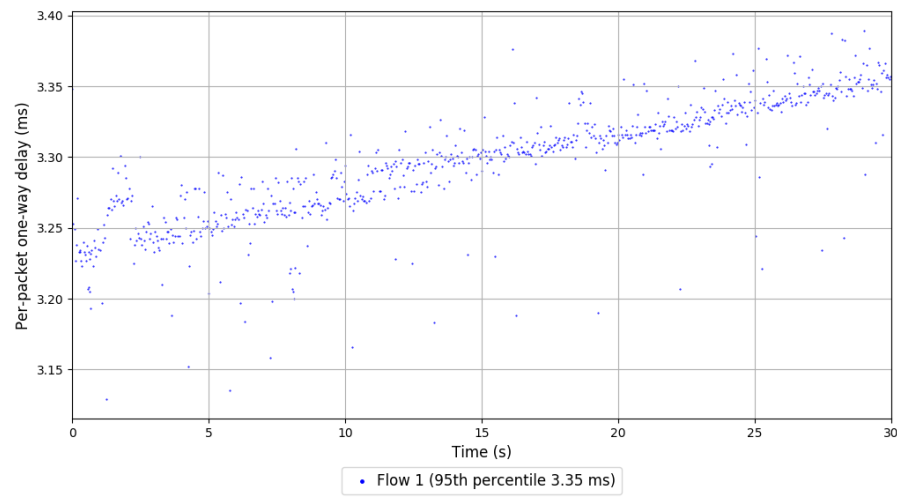
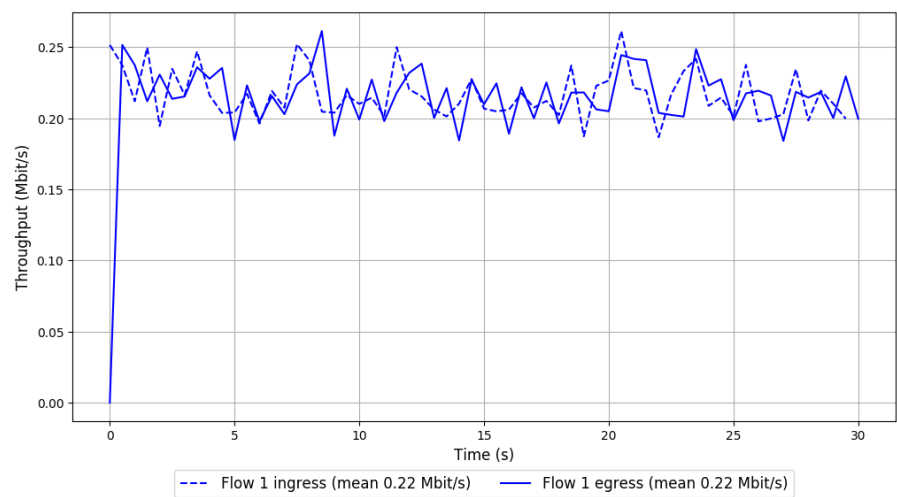
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 3.355 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-10 23:54:47

End at: 2018-09-10 23:55:17

Local clock offset: 3.982 ms

Remote clock offset: 0.715 ms

Below is generated by plot.py at 2018-09-11 00:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 3.323 ms

Loss rate: 0.00%

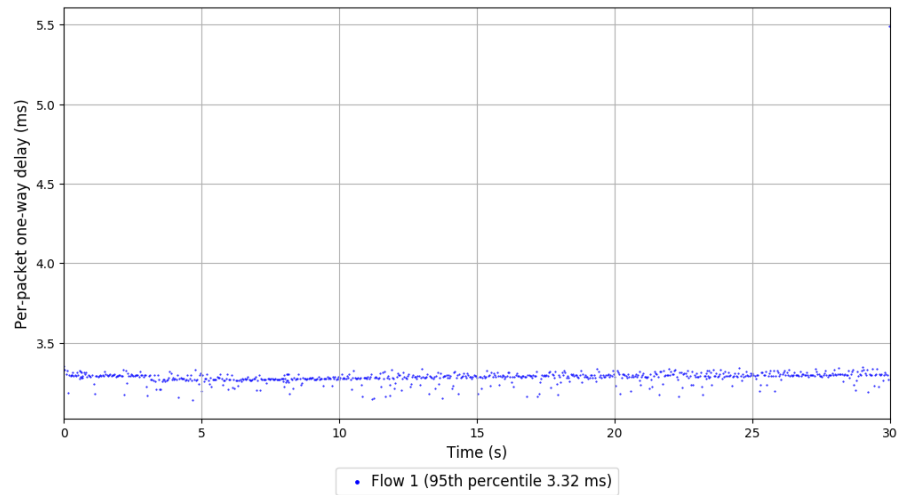
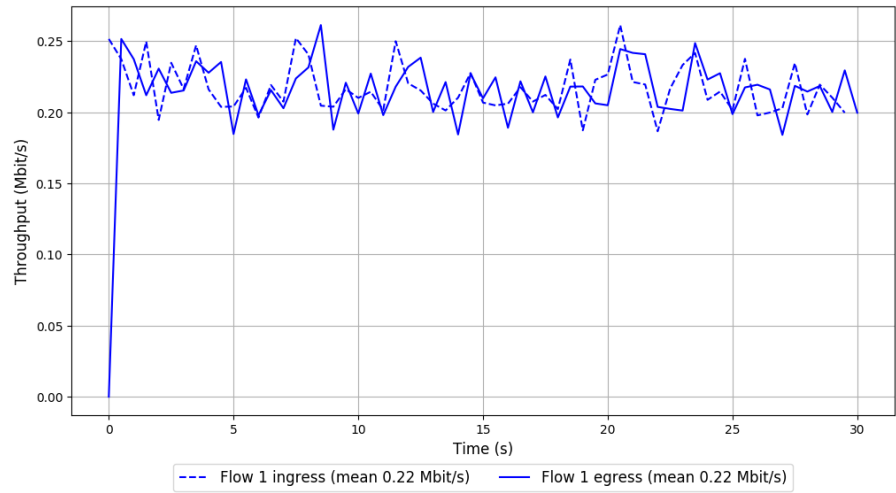
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 3.323 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

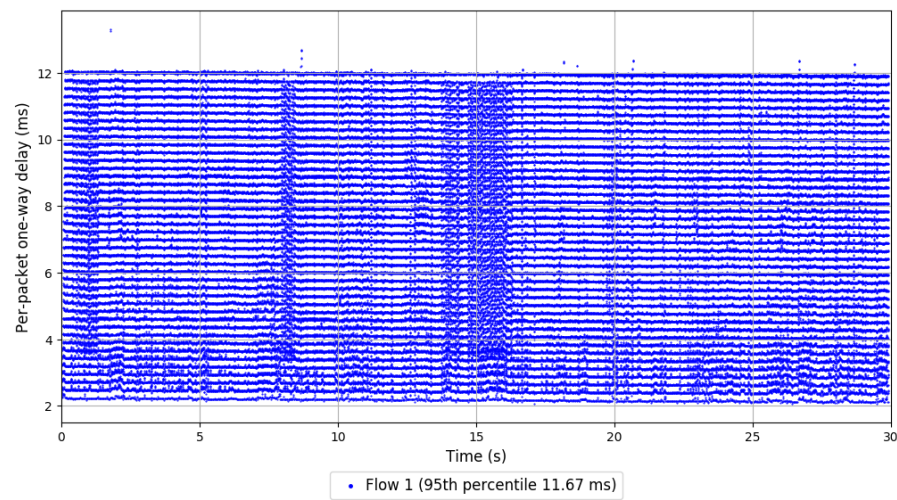
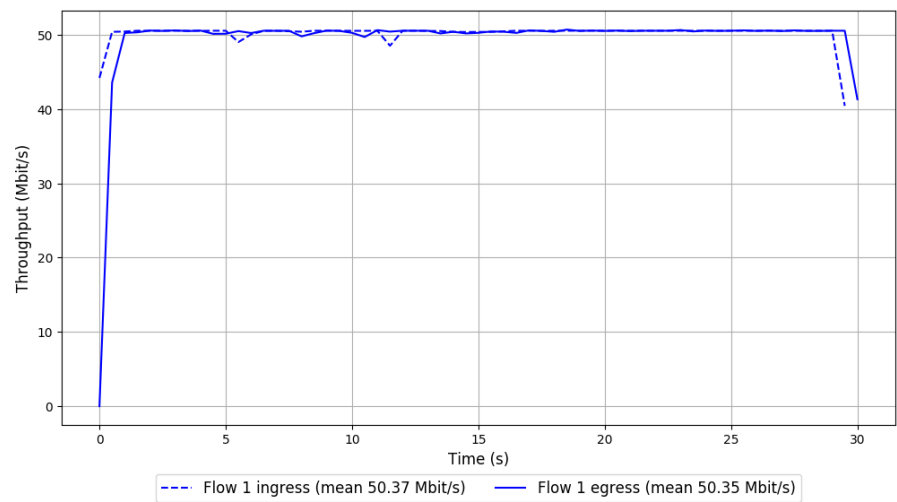


Run 1: Statistics of Sprout

Start at: 2018-09-10 22:41:14
End at: 2018-09-10 22:41:44
Local clock offset: 2.247 ms
Remote clock offset: -0.107 ms

Below is generated by plot.py at 2018-09-11 00:21:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.35 Mbit/s
95th percentile per-packet one-way delay: 11.674 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.35 Mbit/s
95th percentile per-packet one-way delay: 11.674 ms
Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-09-10 23:01:16

End at: 2018-09-10 23:01:46

Local clock offset: 0.229 ms

Remote clock offset: 0.012 ms

Below is generated by plot.py at 2018-09-11 00:21:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.24 Mbit/s

95th percentile per-packet one-way delay: 11.690 ms

Loss rate: 0.00%

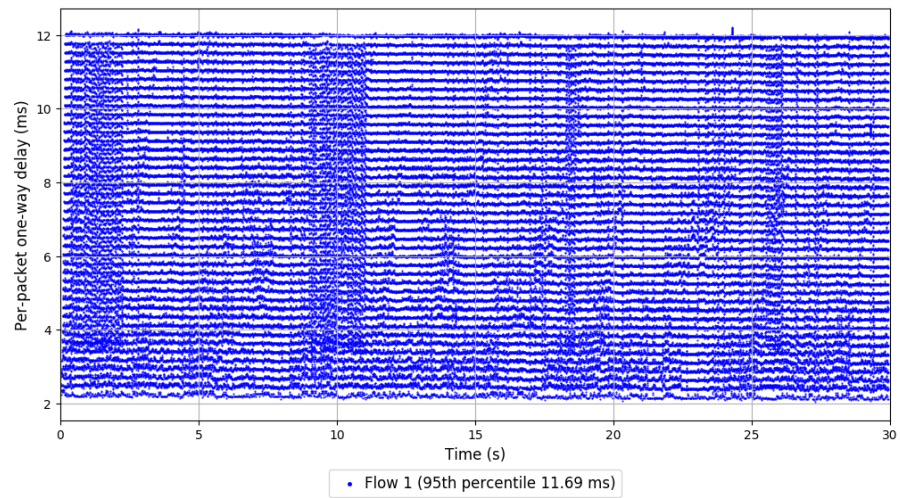
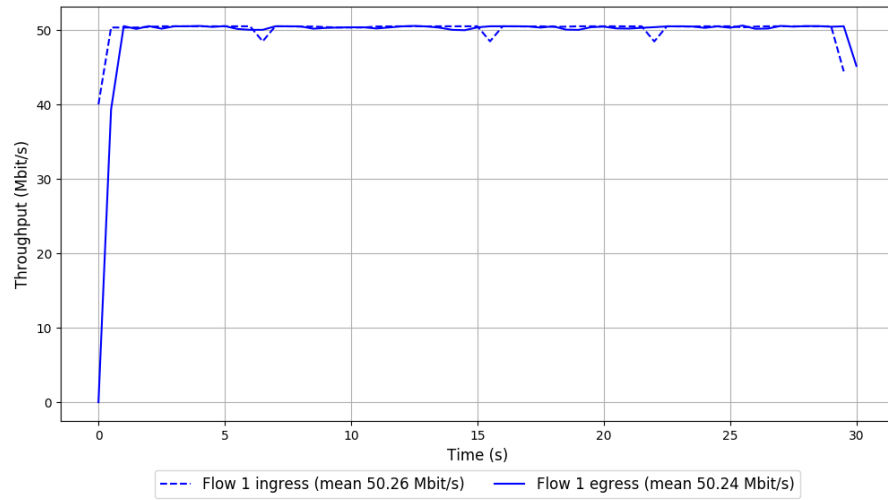
-- Flow 1:

Average throughput: 50.24 Mbit/s

95th percentile per-packet one-way delay: 11.690 ms

Loss rate: 0.00%

Run 2: Report of Sprout — Data Link

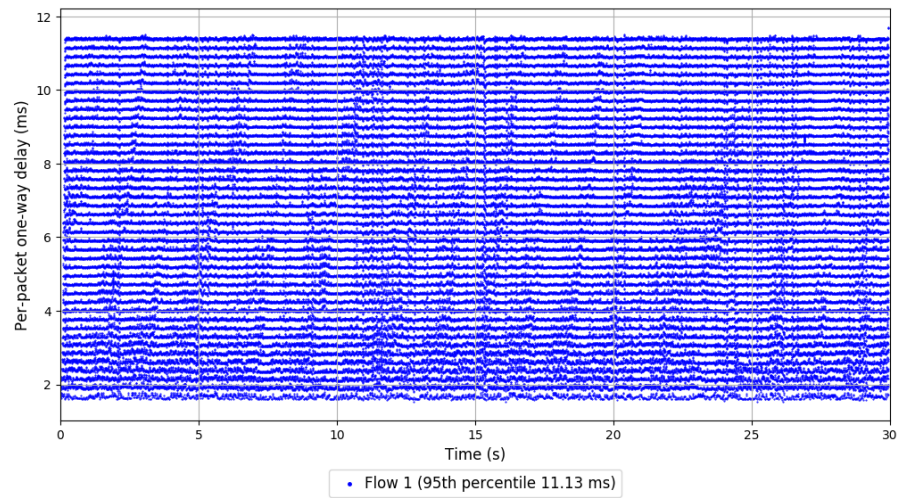
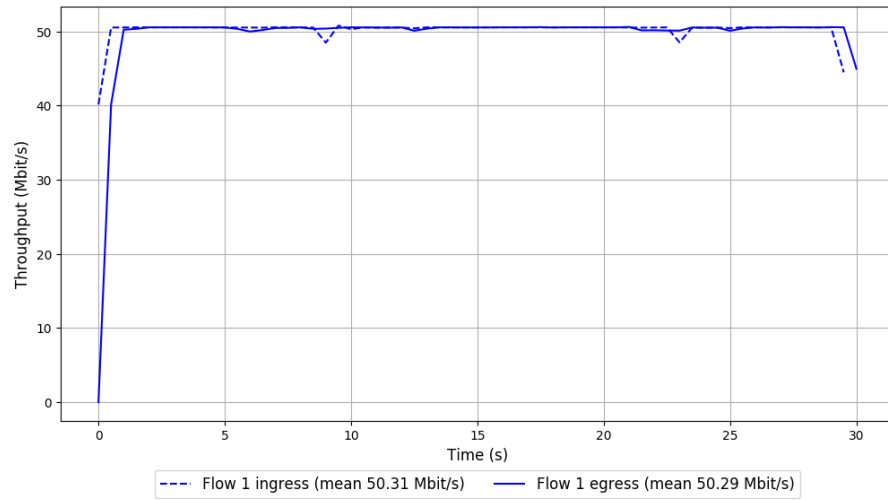


Run 3: Statistics of Sprout

Start at: 2018-09-10 23:21:20
End at: 2018-09-10 23:21:50
Local clock offset: -1.655 ms
Remote clock offset: 0.272 ms

Below is generated by plot.py at 2018-09-11 00:21:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 50.29 Mbit/s
95th percentile per-packet one-way delay: 11.134 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 50.29 Mbit/s
95th percentile per-packet one-way delay: 11.134 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

Start at: 2018-09-10 23:41:24

End at: 2018-09-10 23:41:54

Local clock offset: 3.074 ms

Remote clock offset: 0.549 ms

Below is generated by plot.py at 2018-09-11 00:21:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.32 Mbit/s

95th percentile per-packet one-way delay: 10.577 ms

Loss rate: 0.00%

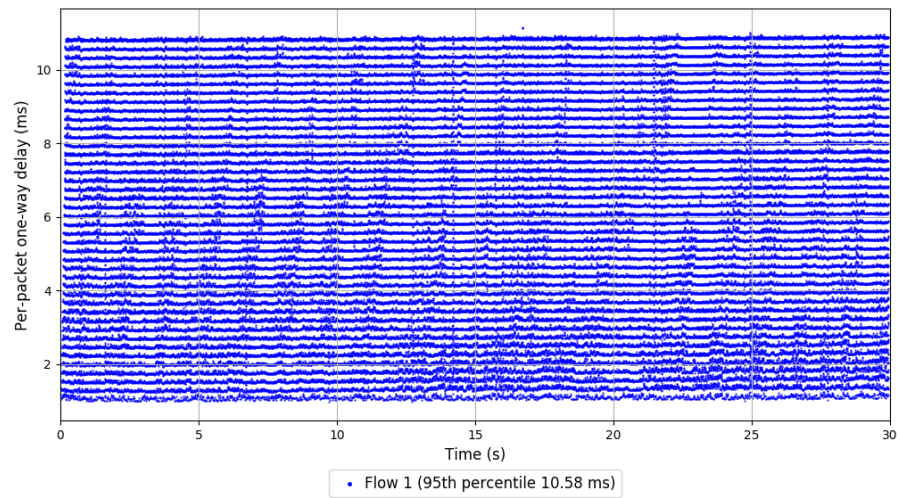
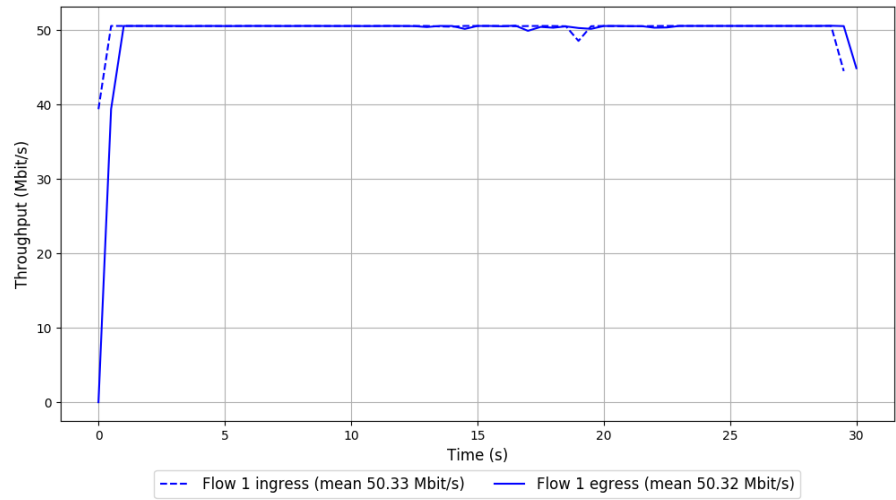
-- Flow 1:

Average throughput: 50.32 Mbit/s

95th percentile per-packet one-way delay: 10.577 ms

Loss rate: 0.00%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-09-11 00:01:25

End at: 2018-09-11 00:01:56

Local clock offset: 3.187 ms

Remote clock offset: 0.767 ms

Below is generated by plot.py at 2018-09-11 00:21:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 50.28 Mbit/s

95th percentile per-packet one-way delay: 11.440 ms

Loss rate: 0.00%

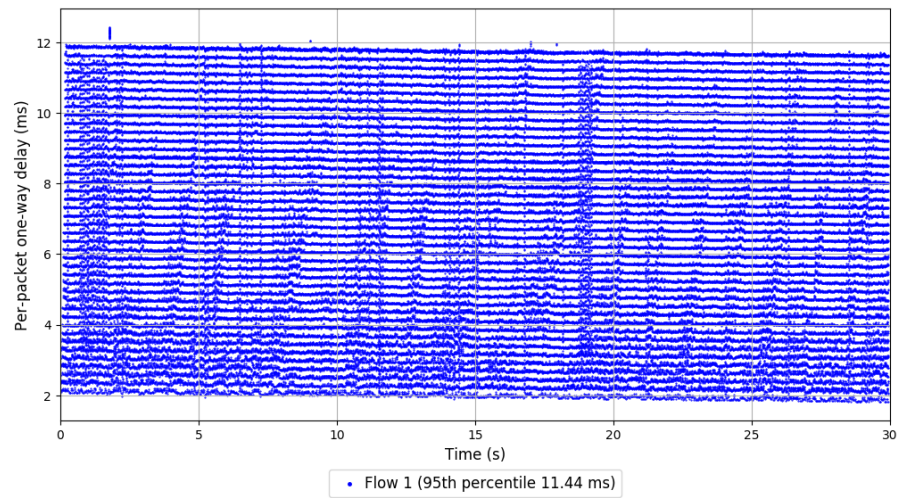
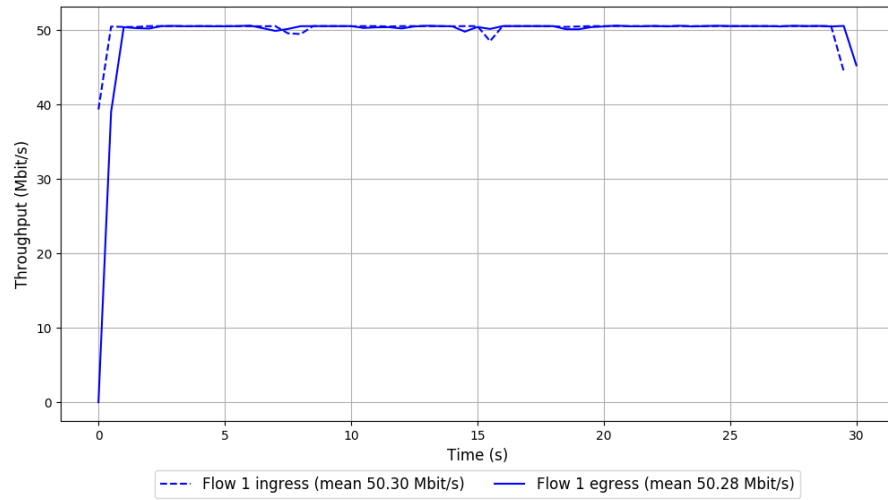
-- Flow 1:

Average throughput: 50.28 Mbit/s

95th percentile per-packet one-way delay: 11.440 ms

Loss rate: 0.00%

Run 5: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

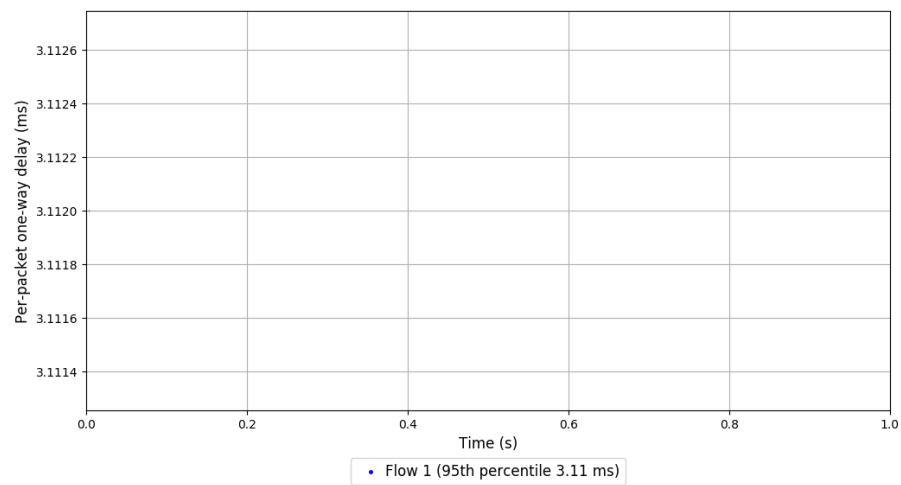
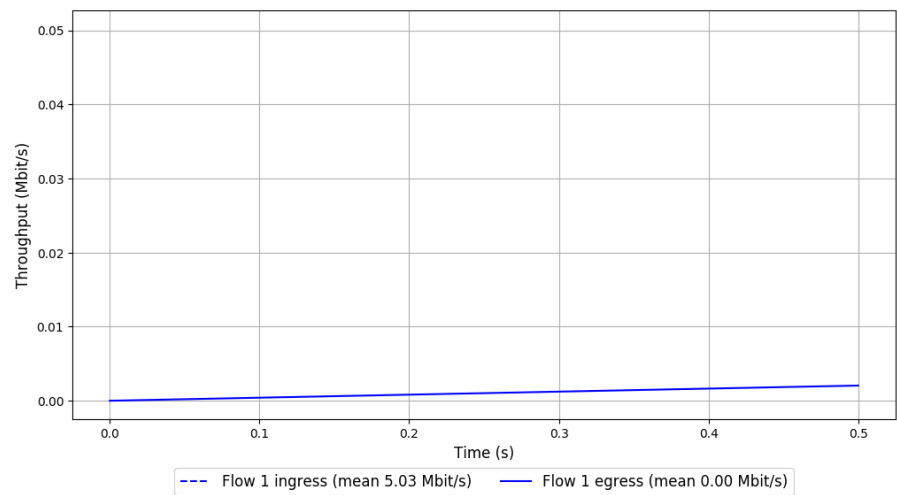
Start at: 2018-09-10 22:37:56

End at: 2018-09-10 22:38:26

Local clock offset: 2.518 ms

Remote clock offset: -0.12 ms

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



Run 2: Statistics of TaoVA-100x

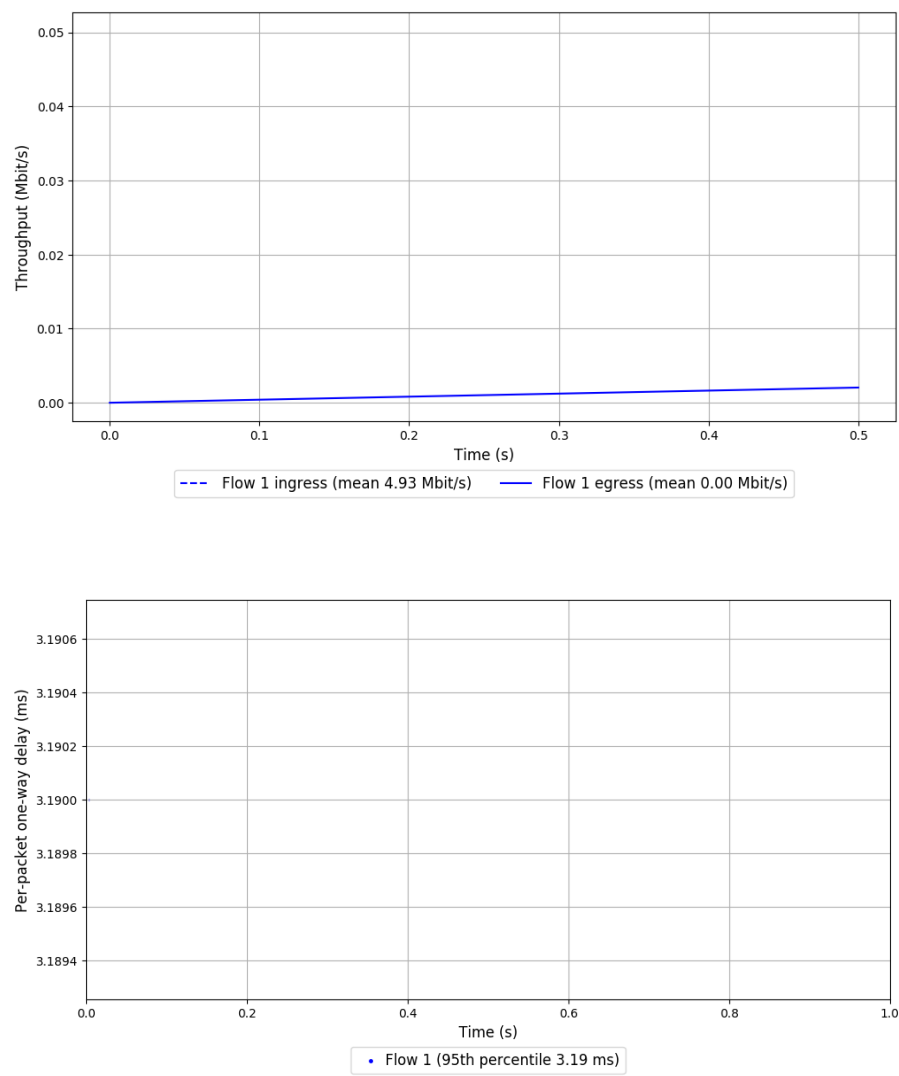
Start at: 2018-09-10 22:57:58

End at: 2018-09-10 22:58:28

Local clock offset: 0.062 ms

Remote clock offset: -0.04 ms

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



Run 3: Statistics of TaoVA-100x

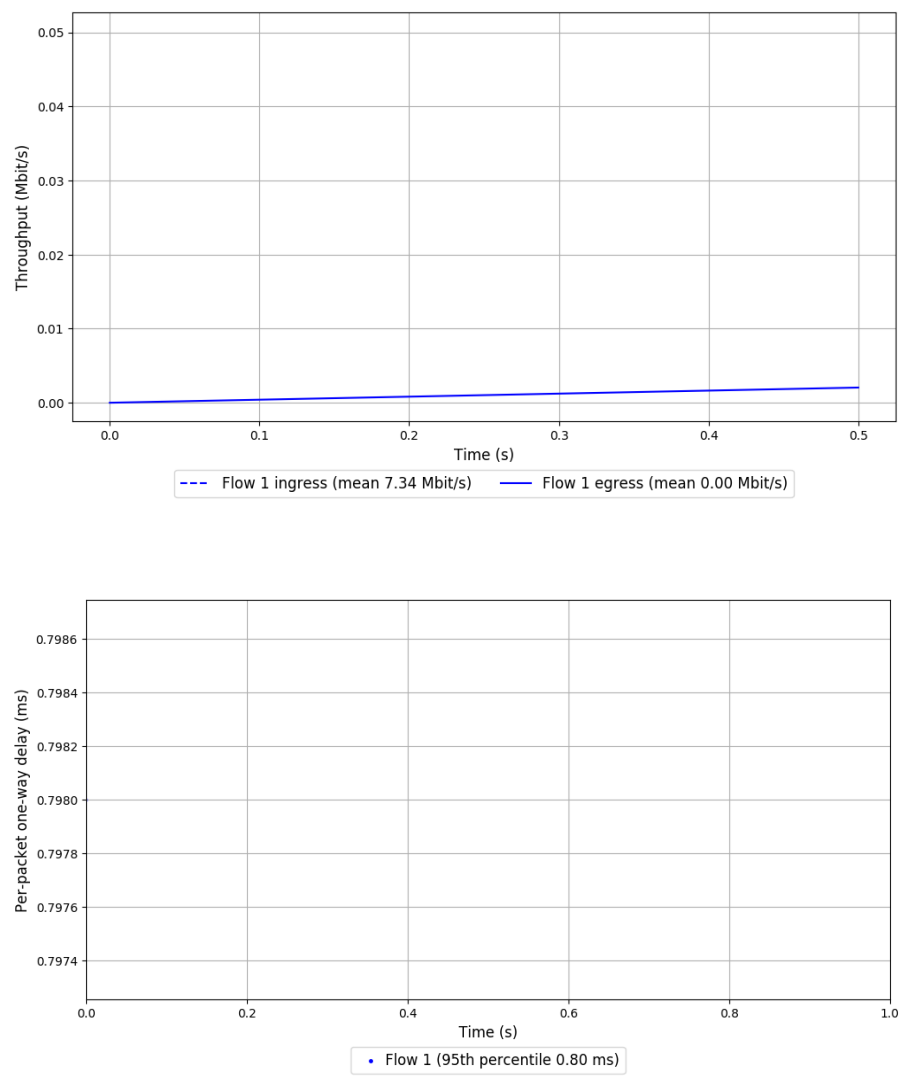
Start at: 2018-09-10 23:18:02

End at: 2018-09-10 23:18:32

Local clock offset: -0.873 ms

Remote clock offset: 0.241 ms

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



Run 4: Statistics of TaoVA-100x

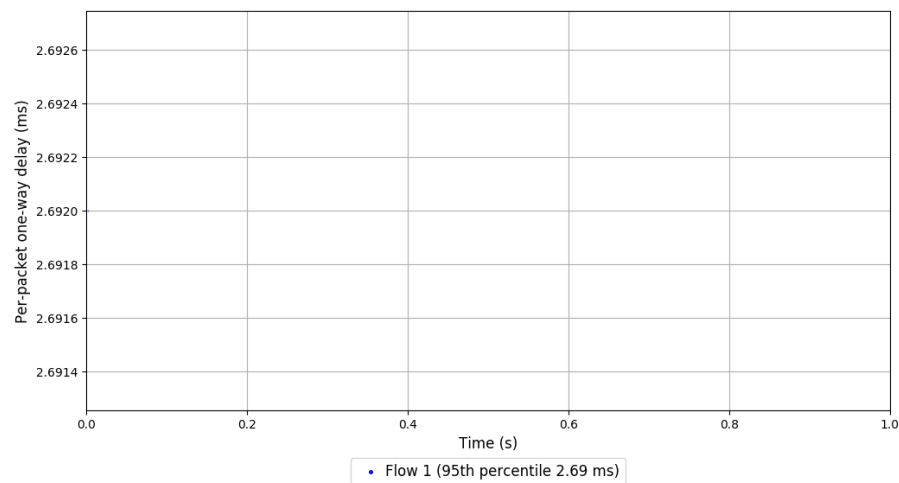
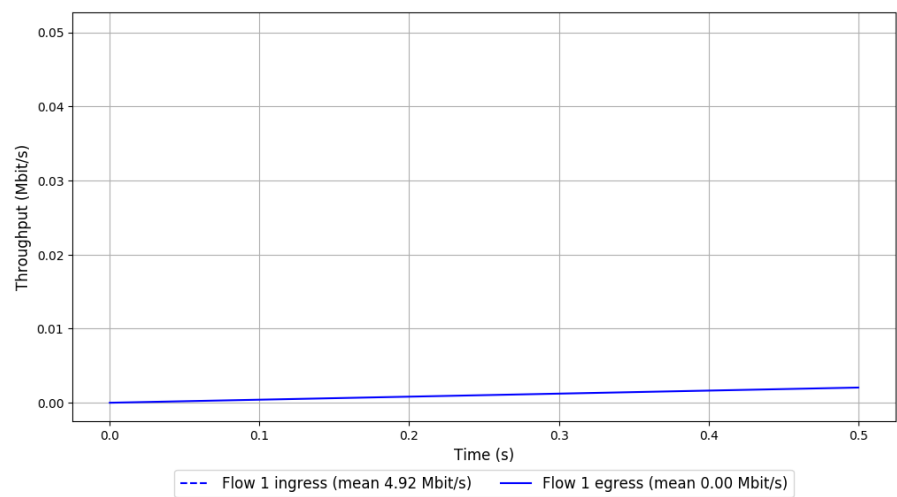
Start at: 2018-09-10 23:38:06

End at: 2018-09-10 23:38:36

Local clock offset: 2.441 ms

Remote clock offset: 0.562 ms

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



Run 5: Statistics of TaoVA-100x

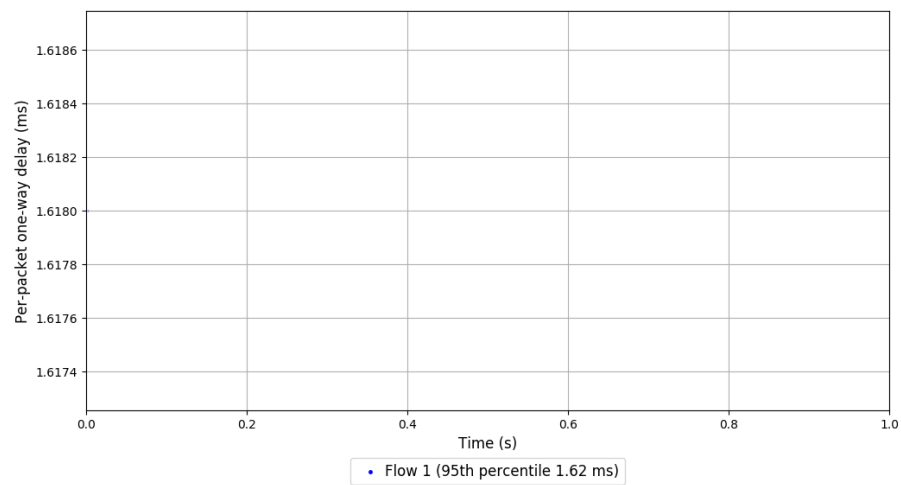
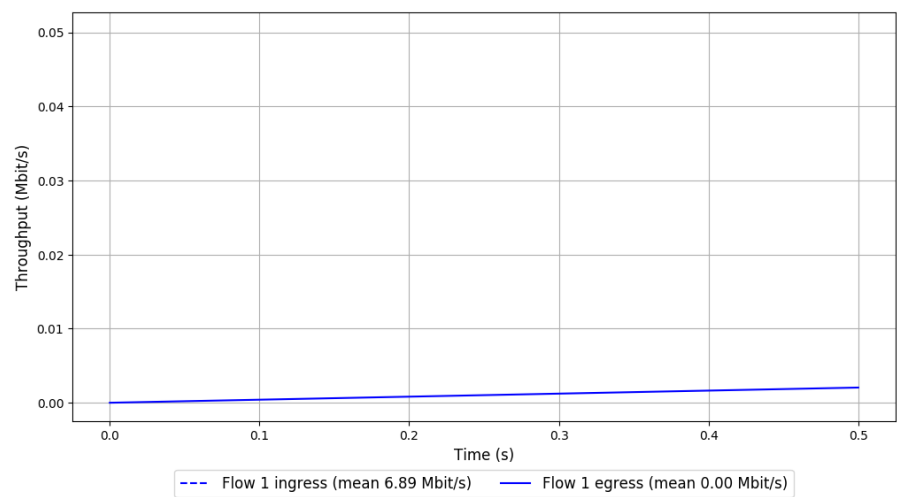
Start at: 2018-09-10 23:58:08

End at: 2018-09-10 23:58:38

Local clock offset: 4.344 ms

Remote clock offset: 0.671 ms

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-10 22:36:48

End at: 2018-09-10 22:37:18

Local clock offset: 3.069 ms

Remote clock offset: -0.21 ms

Below is generated by plot.py at 2018-09-11 00:22:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.89 Mbit/s

95th percentile per-packet one-way delay: 4.364 ms

Loss rate: 0.00%

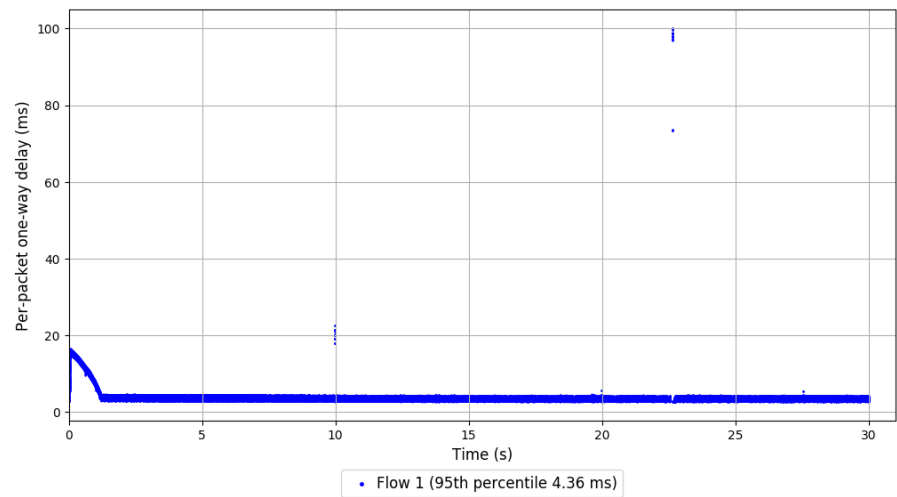
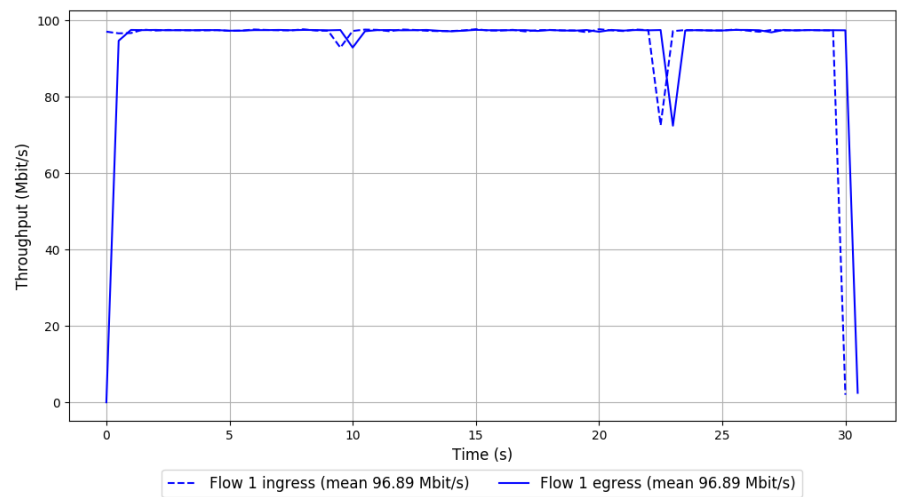
-- Flow 1:

Average throughput: 96.89 Mbit/s

95th percentile per-packet one-way delay: 4.364 ms

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

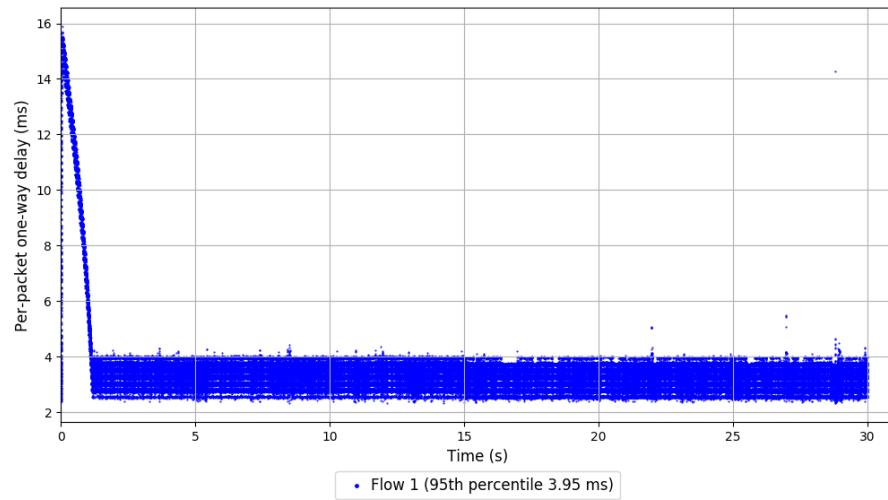
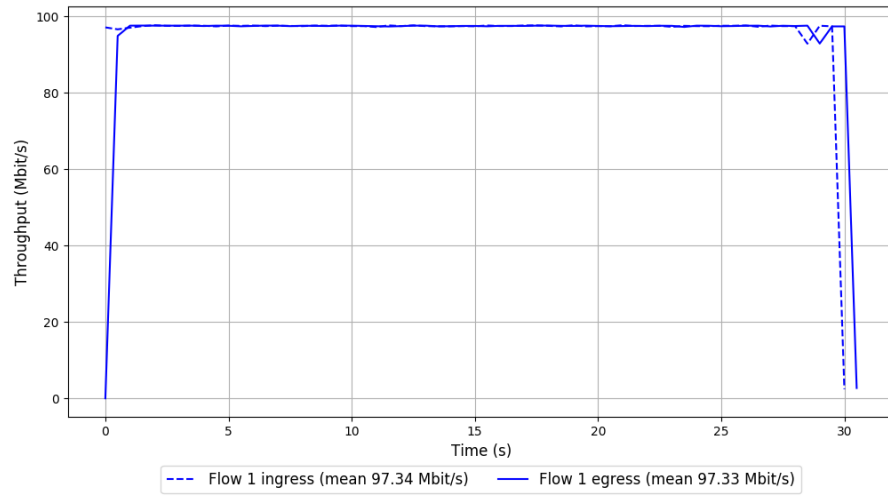


Run 2: Statistics of TCP Vegas

Start at: 2018-09-10 22:56:50
End at: 2018-09-10 22:57:20
Local clock offset: 0.757 ms
Remote clock offset: -0.011 ms

Below is generated by plot.py at 2018-09-11 00:22:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.33 Mbit/s
95th percentile per-packet one-way delay: 3.952 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.33 Mbit/s
95th percentile per-packet one-way delay: 3.952 ms
Loss rate: 0.01%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-09-10 23:16:54

End at: 2018-09-10 23:17:24

Local clock offset: -1.699 ms

Remote clock offset: 0.266 ms

Below is generated by plot.py at 2018-09-11 00:22:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.25 Mbit/s

95th percentile per-packet one-way delay: 4.755 ms

Loss rate: 0.00%

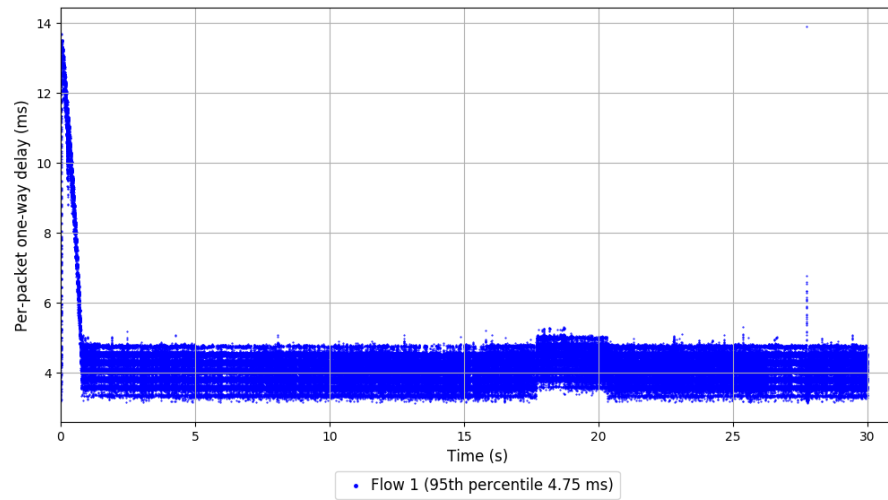
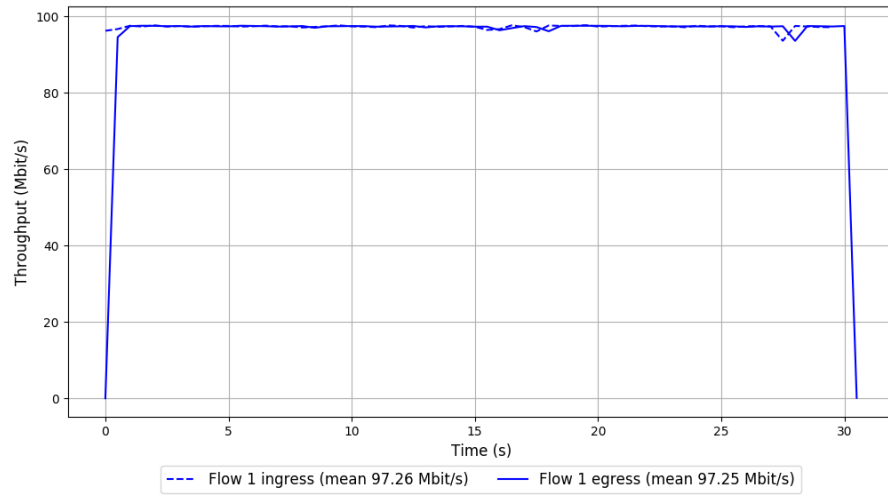
-- Flow 1:

Average throughput: 97.25 Mbit/s

95th percentile per-packet one-way delay: 4.755 ms

Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-09-10 23:36:58

End at: 2018-09-10 23:37:28

Local clock offset: 1.407 ms

Remote clock offset: 0.553 ms

Below is generated by plot.py at 2018-09-11 00:22:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 3.273 ms

Loss rate: 0.00%

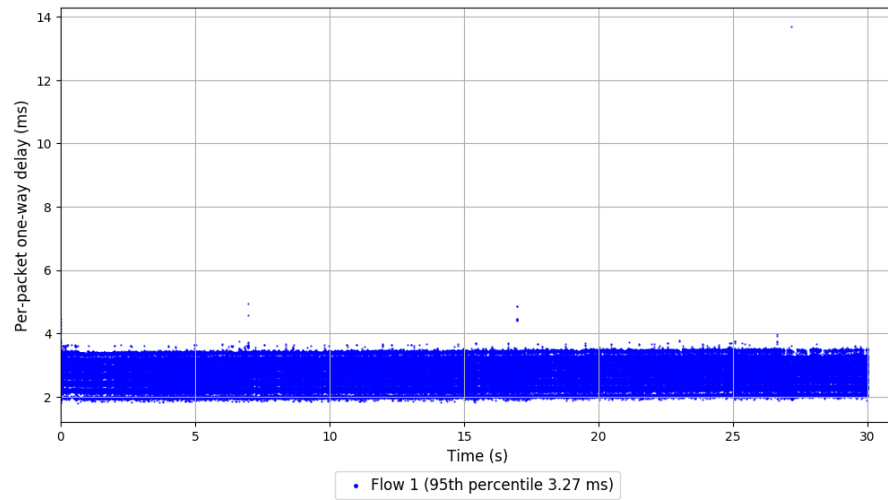
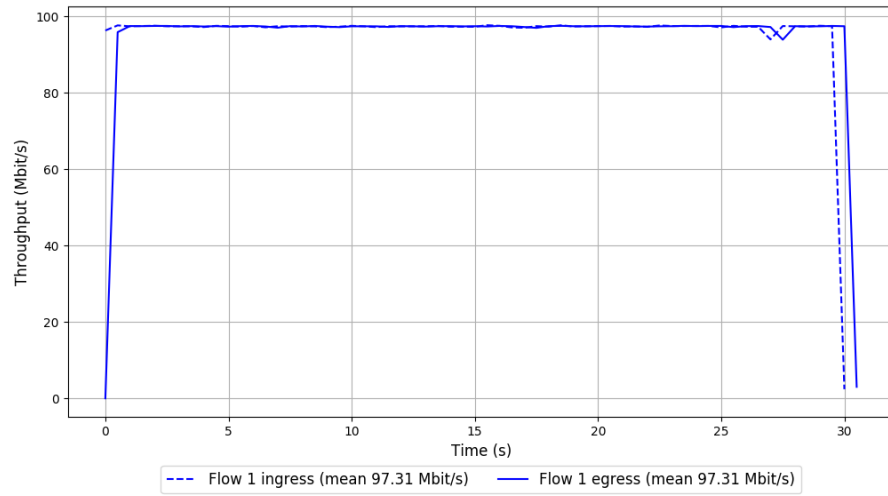
-- Flow 1:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 3.273 ms

Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-10 23:57:00

End at: 2018-09-10 23:57:30

Local clock offset: 4.241 ms

Remote clock offset: 0.763 ms

Below is generated by plot.py at 2018-09-11 00:22:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.09 Mbit/s

95th percentile per-packet one-way delay: 3.082 ms

Loss rate: 0.00%

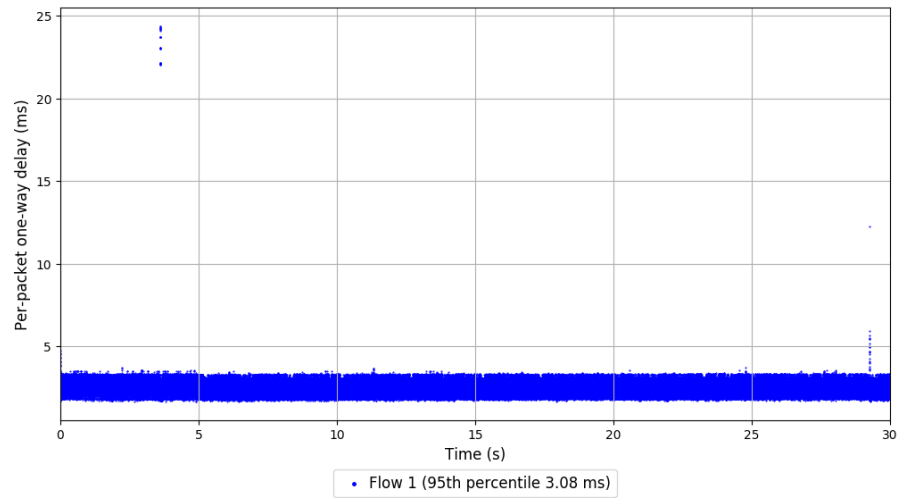
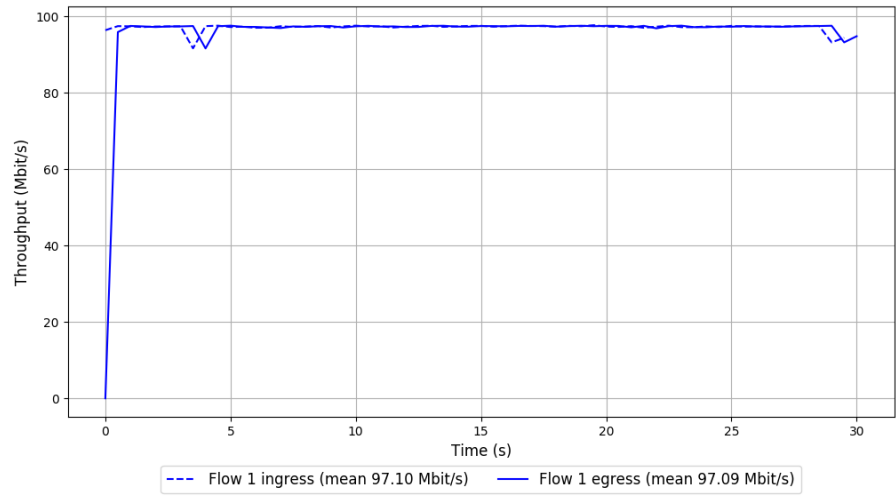
-- Flow 1:

Average throughput: 97.09 Mbit/s

95th percentile per-packet one-way delay: 3.082 ms

Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link

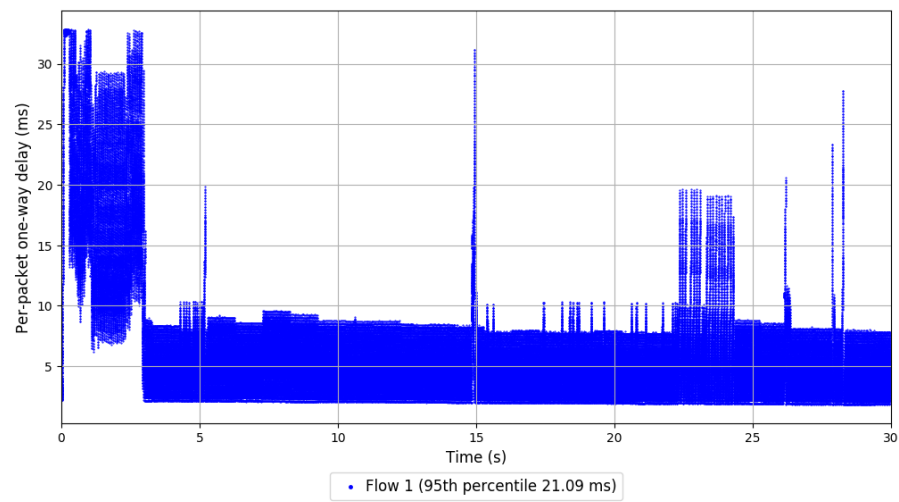
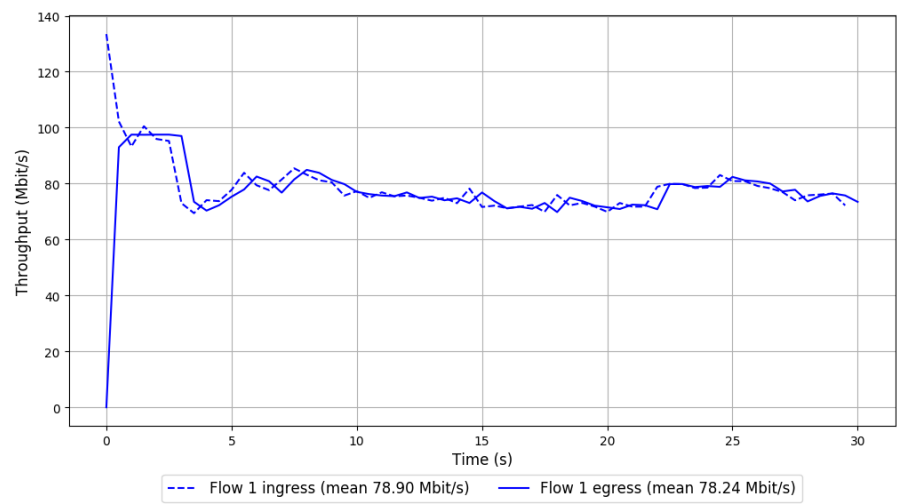


Run 1: Statistics of Verus

Start at: 2018-09-10 22:33:26
End at: 2018-09-10 22:33:56
Local clock offset: 5.716 ms
Remote clock offset: -0.131 ms

Below is generated by plot.py at 2018-09-11 00:22:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 78.24 Mbit/s
95th percentile per-packet one-way delay: 21.085 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 78.24 Mbit/s
95th percentile per-packet one-way delay: 21.085 ms
Loss rate: 0.83%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-09-10 22:53:30

End at: 2018-09-10 22:54:00

Local clock offset: 0.089 ms

Remote clock offset: 0.01 ms

Below is generated by plot.py at 2018-09-11 00:22:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 30.69 Mbit/s

95th percentile per-packet one-way delay: 10.279 ms

Loss rate: 2.16%

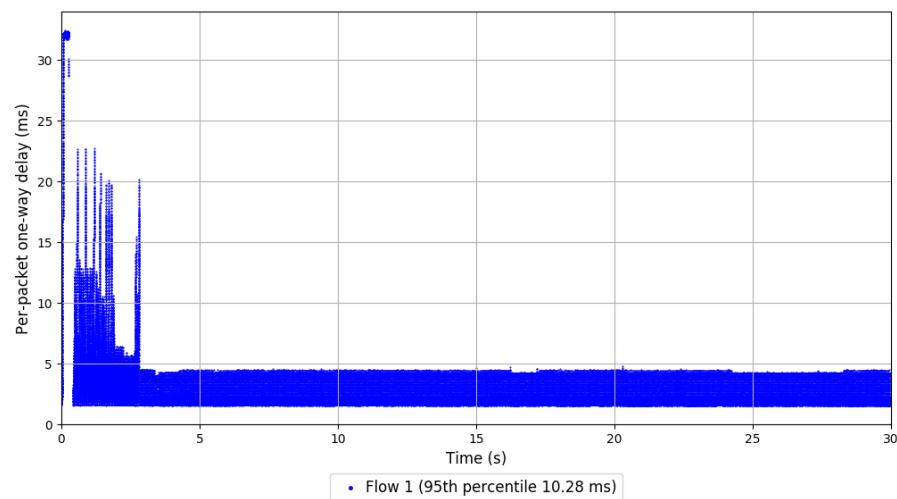
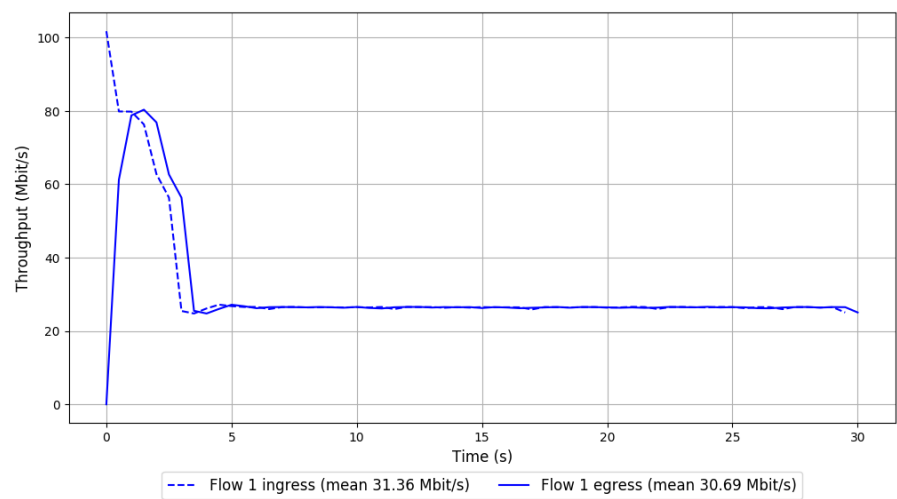
-- Flow 1:

Average throughput: 30.69 Mbit/s

95th percentile per-packet one-way delay: 10.279 ms

Loss rate: 2.16%

Run 2: Report of Verus — Data Link

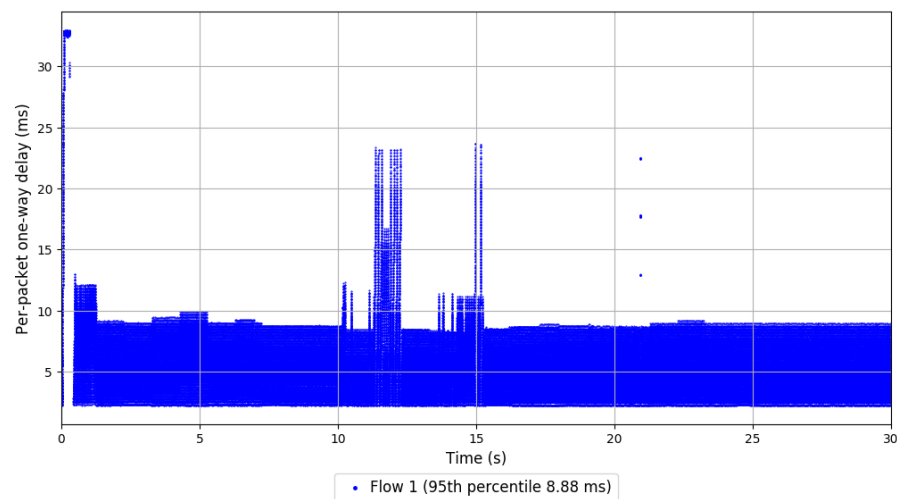
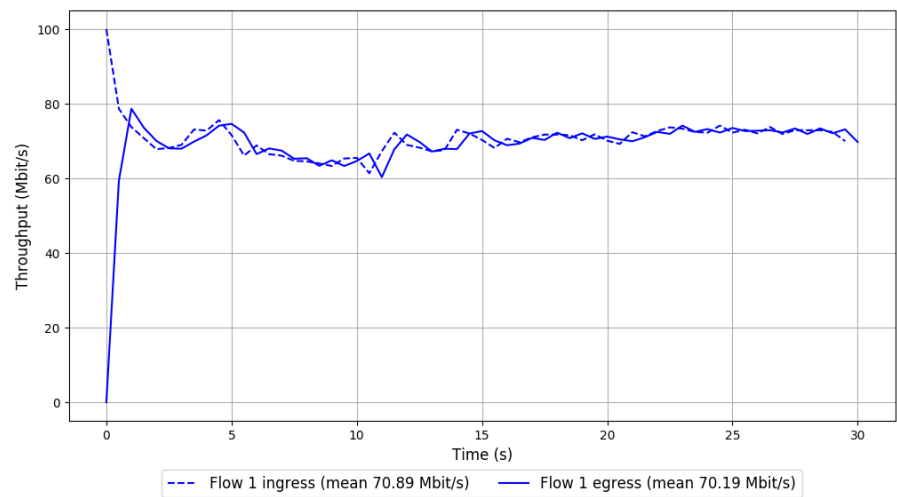


Run 3: Statistics of Verus

Start at: 2018-09-10 23:13:33
End at: 2018-09-10 23:14:03
Local clock offset: -0.881 ms
Remote clock offset: 0.137 ms

Below is generated by plot.py at 2018-09-11 00:22:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 70.19 Mbit/s
95th percentile per-packet one-way delay: 8.878 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 70.19 Mbit/s
95th percentile per-packet one-way delay: 8.878 ms
Loss rate: 0.98%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-10 23:33:36

End at: 2018-09-10 23:34:06

Local clock offset: 0.533 ms

Remote clock offset: 0.444 ms

Below is generated by plot.py at 2018-09-11 00:23:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 72.84 Mbit/s

95th percentile per-packet one-way delay: 9.445 ms

Loss rate: 0.93%

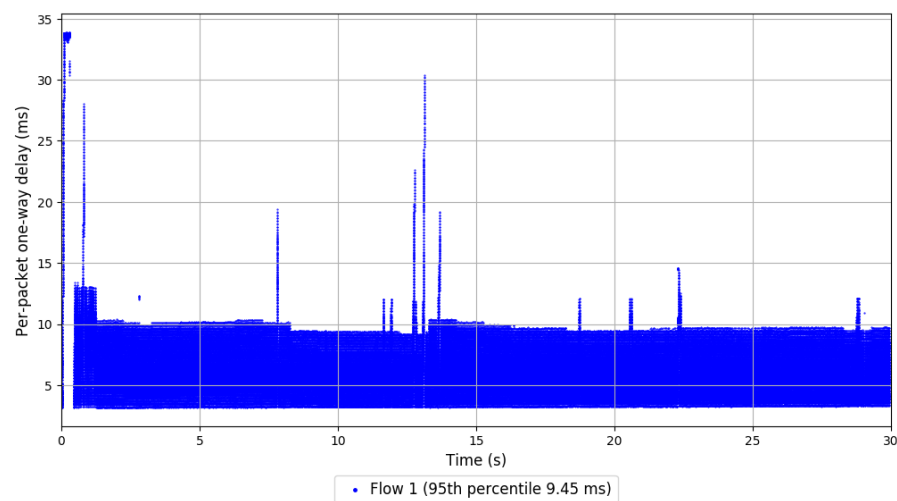
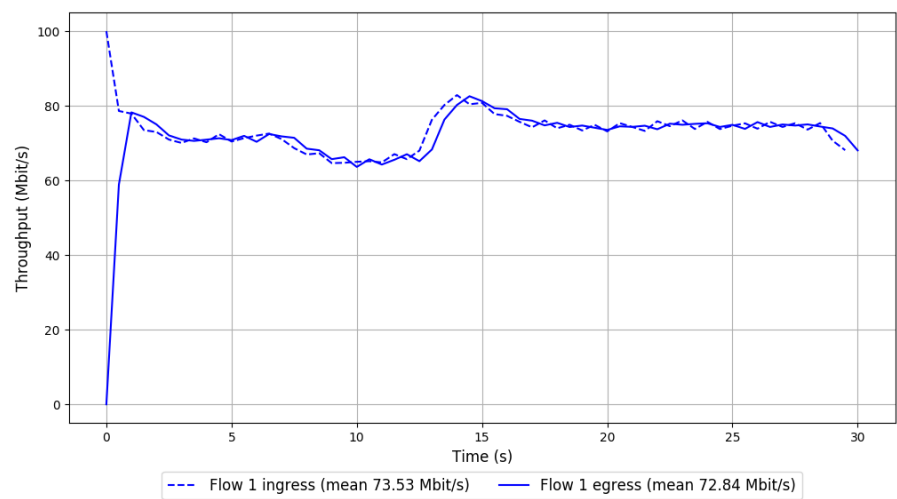
-- Flow 1:

Average throughput: 72.84 Mbit/s

95th percentile per-packet one-way delay: 9.445 ms

Loss rate: 0.93%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-10 23:53:40

End at: 2018-09-10 23:54:10

Local clock offset: 3.863 ms

Remote clock offset: 0.651 ms

Below is generated by plot.py at 2018-09-11 00:23:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 35.36 Mbit/s

95th percentile per-packet one-way delay: 10.467 ms

Loss rate: 1.88%

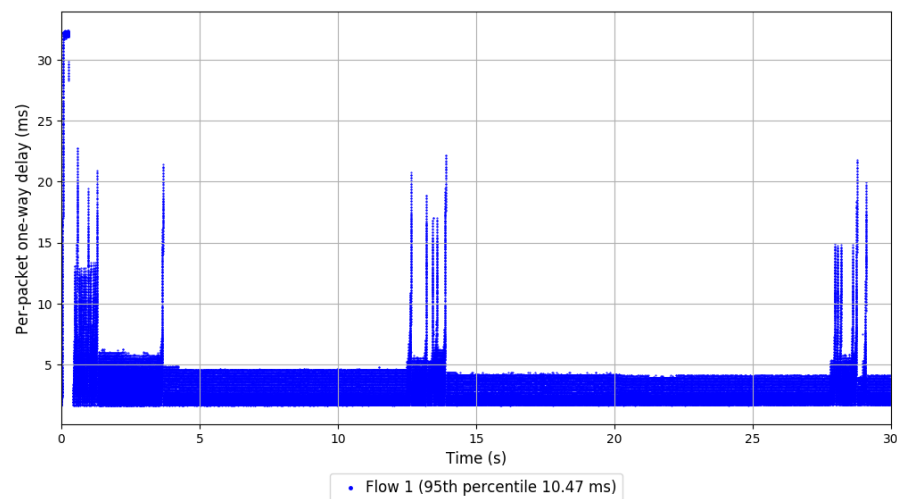
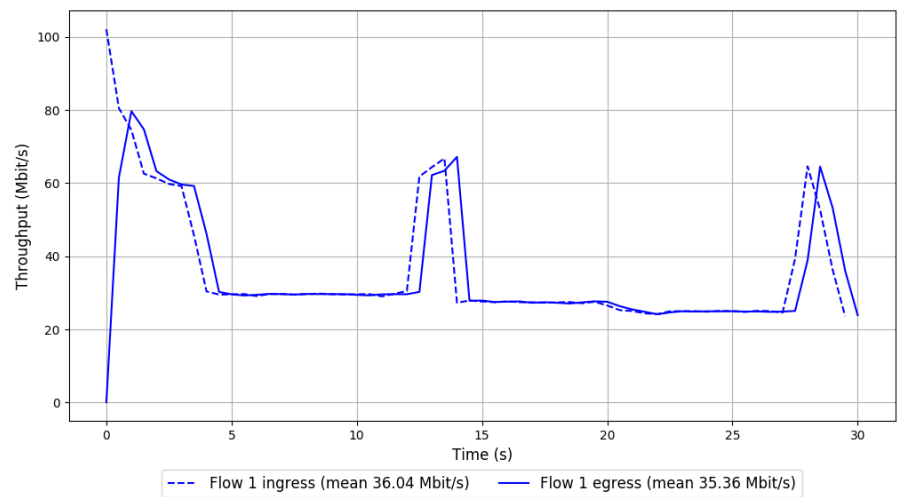
-- Flow 1:

Average throughput: 35.36 Mbit/s

95th percentile per-packet one-way delay: 10.467 ms

Loss rate: 1.88%

Run 5: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-09-10 22:35:39

End at: 2018-09-10 22:36:09

Local clock offset: 3.704 ms

Remote clock offset: -0.147 ms

Below is generated by plot.py at 2018-09-11 00:23:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 88.24 Mbit/s

95th percentile per-packet one-way delay: 2.976 ms

Loss rate: 0.01%

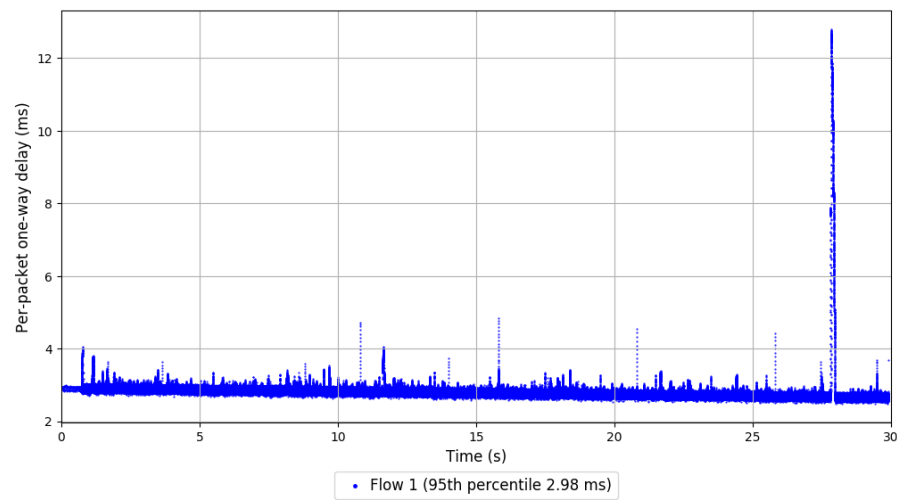
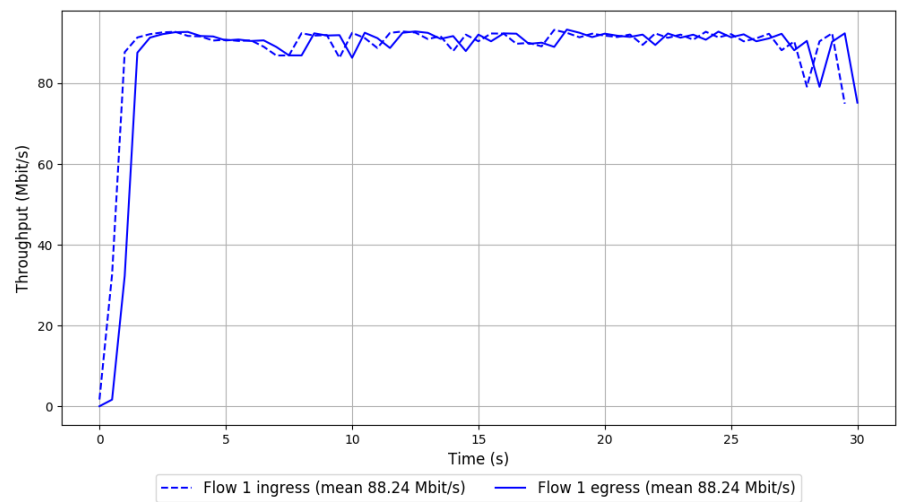
-- Flow 1:

Average throughput: 88.24 Mbit/s

95th percentile per-packet one-way delay: 2.976 ms

Loss rate: 0.01%

Run 1: Report of PCC-Vivace — Data Link

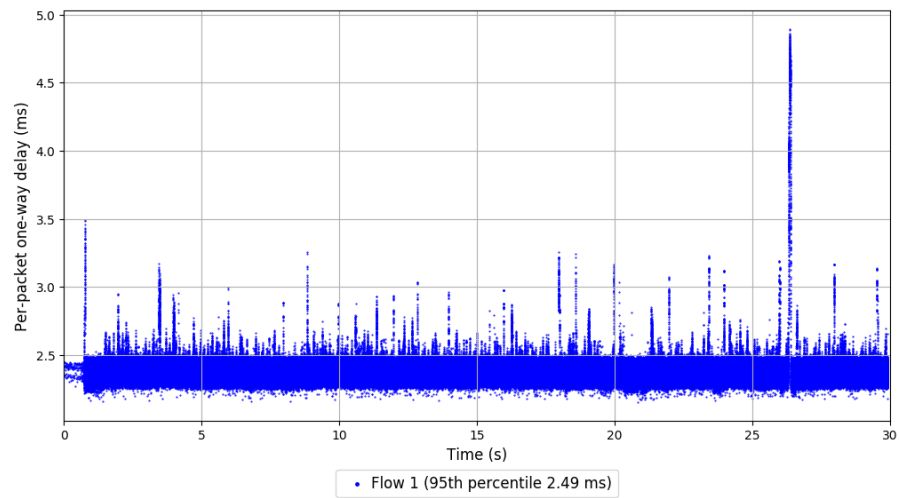
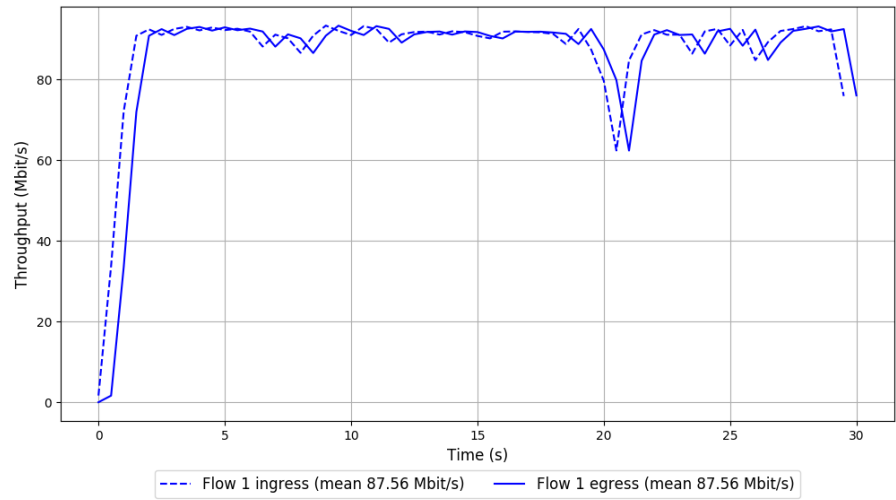


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-10 22:55:41
End at: 2018-09-10 22:56:11
Local clock offset: 0.821 ms
Remote clock offset: -0.016 ms

Below is generated by plot.py at 2018-09-11 00:23:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 87.56 Mbit/s
95th percentile per-packet one-way delay: 2.493 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 87.56 Mbit/s
95th percentile per-packet one-way delay: 2.493 ms
Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-10 23:15:45

End at: 2018-09-10 23:16:15

Local clock offset: -0.849 ms

Remote clock offset: 0.171 ms

Below is generated by plot.py at 2018-09-11 00:23:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 86.32 Mbit/s

95th percentile per-packet one-way delay: 2.440 ms

Loss rate: 0.00%

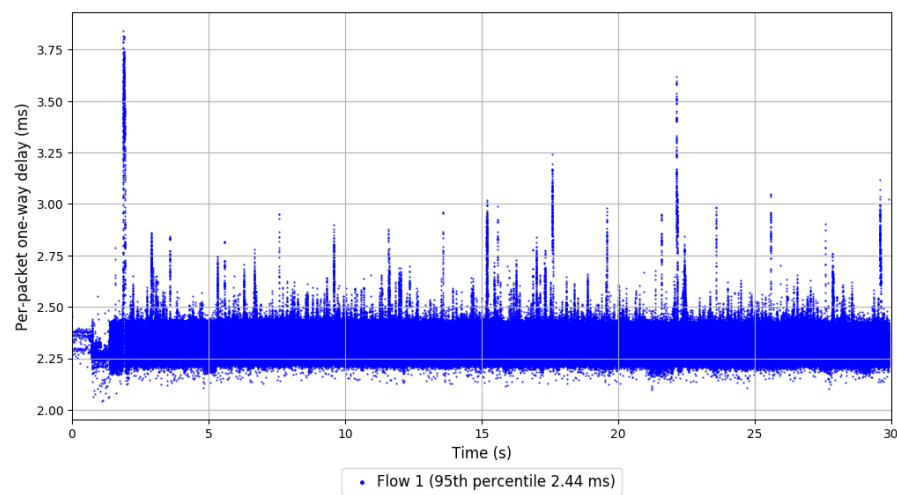
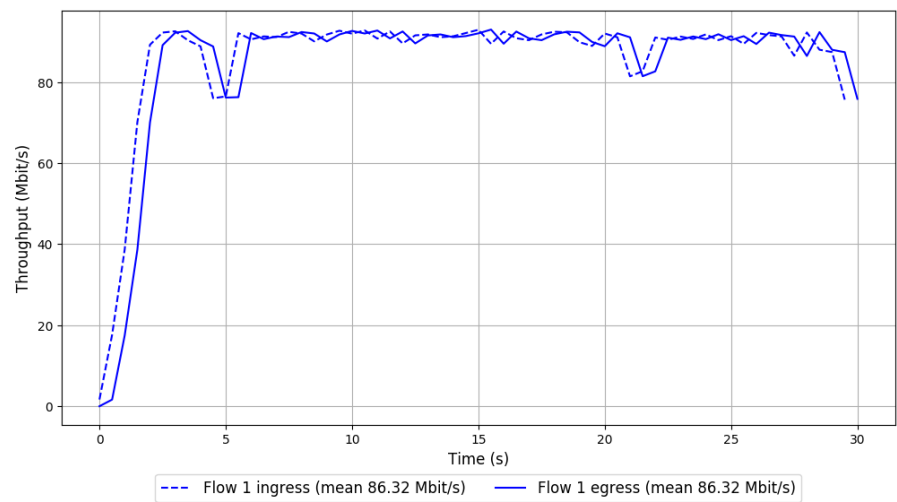
-- Flow 1:

Average throughput: 86.32 Mbit/s

95th percentile per-packet one-way delay: 2.440 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-10 23:35:49

End at: 2018-09-10 23:36:19

Local clock offset: 1.958 ms

Remote clock offset: 0.452 ms

Below is generated by plot.py at 2018-09-11 00:23:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 87.78 Mbit/s

95th percentile per-packet one-way delay: 2.684 ms

Loss rate: 0.00%

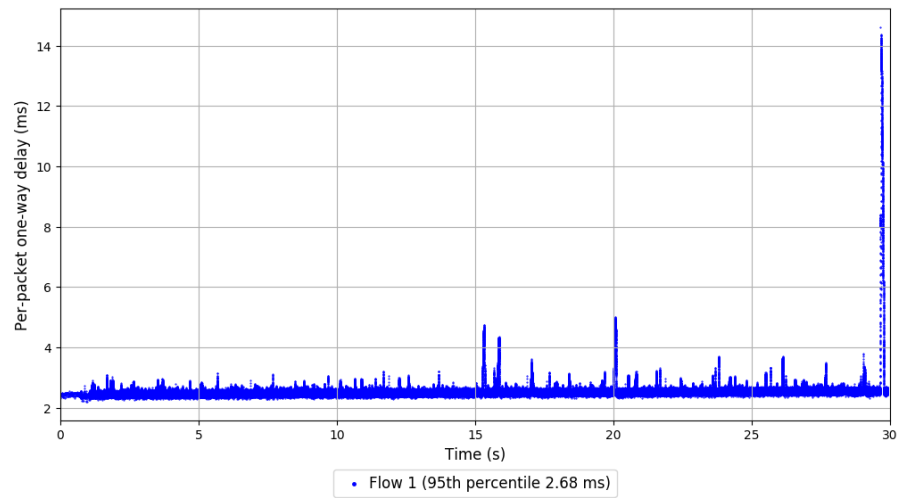
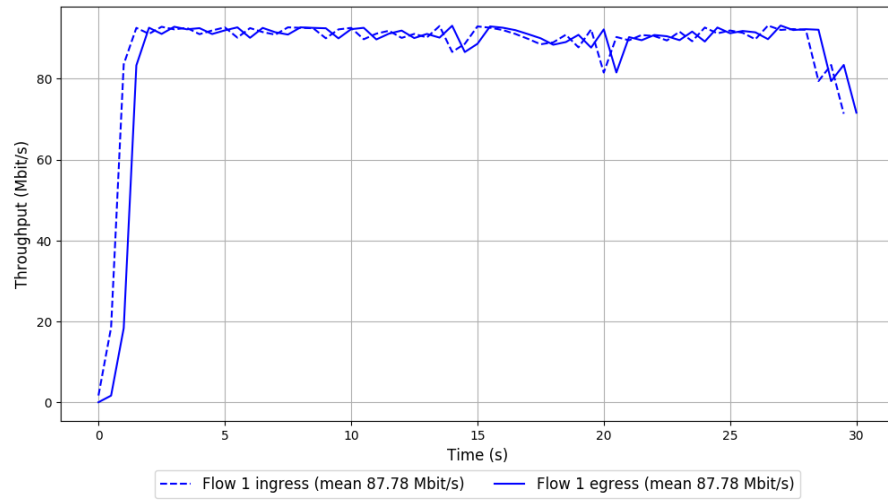
-- Flow 1:

Average throughput: 87.78 Mbit/s

95th percentile per-packet one-way delay: 2.684 ms

Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-10 23:55:51

End at: 2018-09-10 23:56:21

Local clock offset: 4.904 ms

Remote clock offset: 0.735 ms

Below is generated by plot.py at 2018-09-11 00:23:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 85.03 Mbit/s

95th percentile per-packet one-way delay: 2.634 ms

Loss rate: 0.00%

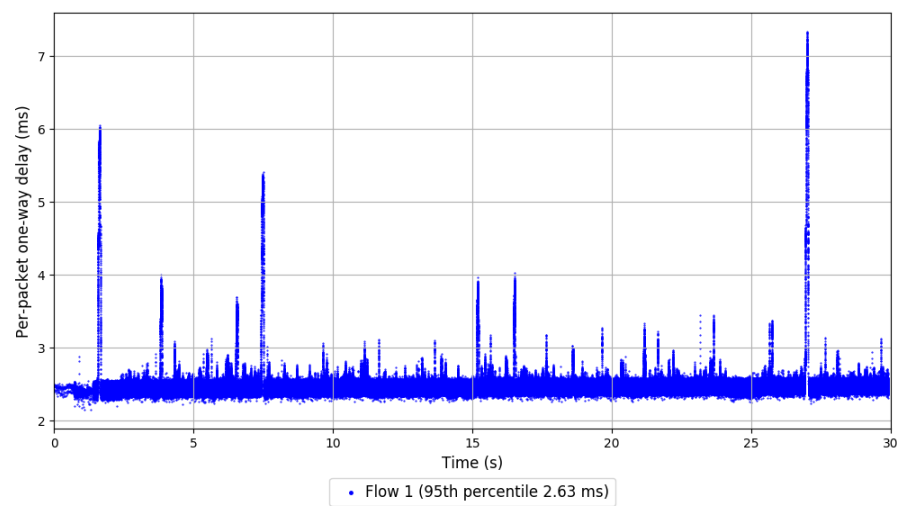
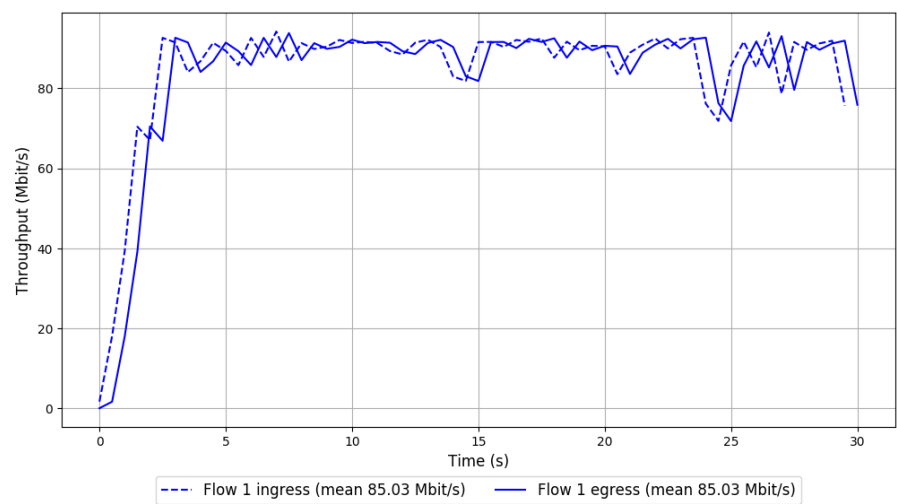
-- Flow 1:

Average throughput: 85.03 Mbit/s

95th percentile per-packet one-way delay: 2.634 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

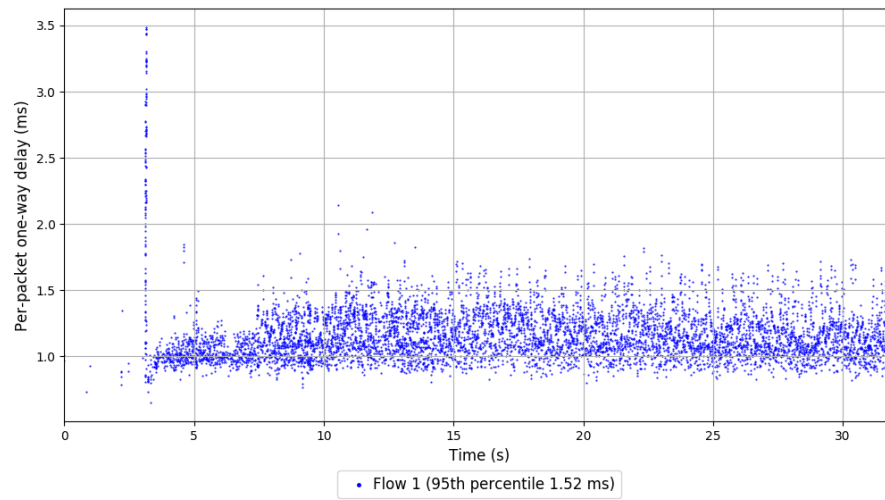
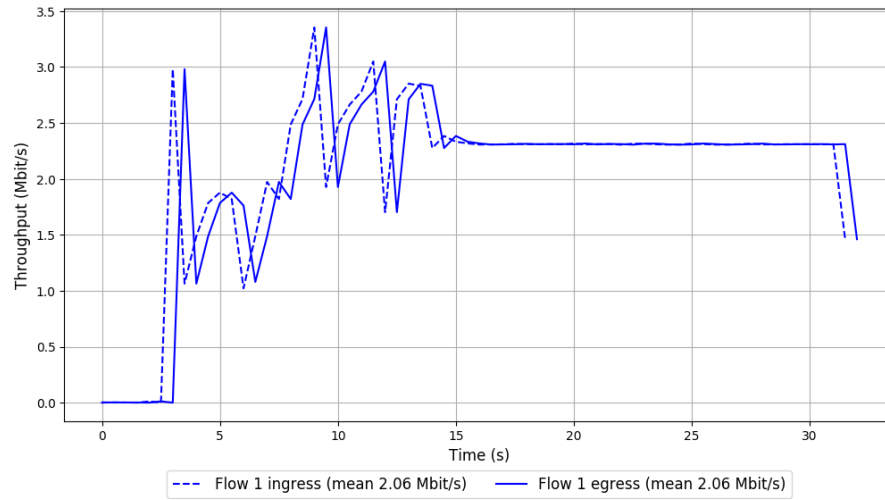


Run 1: Statistics of WebRTC media

Start at: 2018-09-10 22:47:53
End at: 2018-09-10 22:48:23
Local clock offset: 1.075 ms
Remote clock offset: -0.129 ms

Below is generated by plot.py at 2018-09-11 00:23:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 1.516 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 1.516 ms
Loss rate: 0.00%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-09-10 23:07:55

End at: 2018-09-10 23:08:25

Local clock offset: -0.635 ms

Remote clock offset: 0.112 ms

Below is generated by plot.py at 2018-09-11 00:23:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 3.015 ms

Loss rate: 0.00%

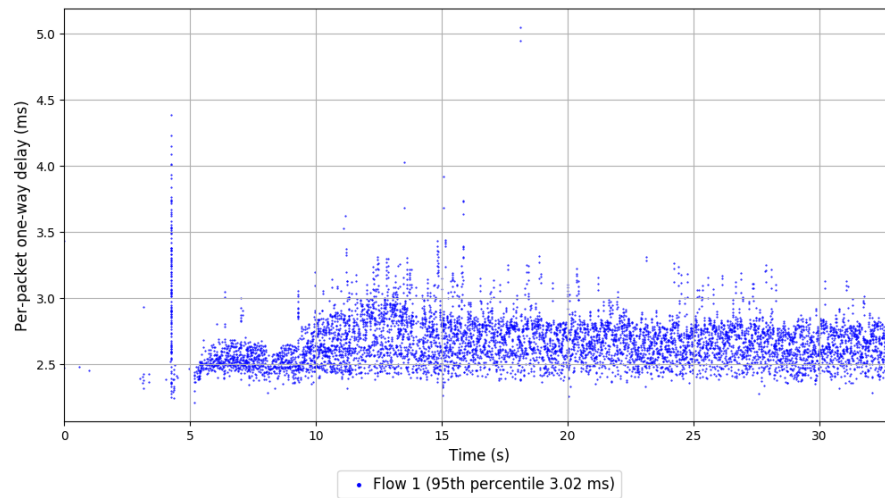
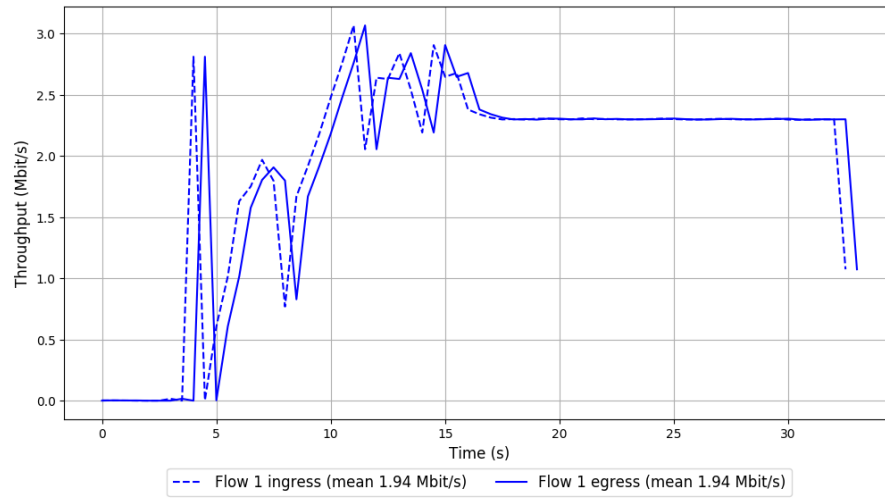
-- Flow 1:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 3.015 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-09-10 23:27:59

End at: 2018-09-10 23:28:29

Local clock offset: -1.596 ms

Remote clock offset: 0.41 ms

Below is generated by plot.py at 2018-09-11 00:23:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 2.375 ms

Loss rate: 0.00%

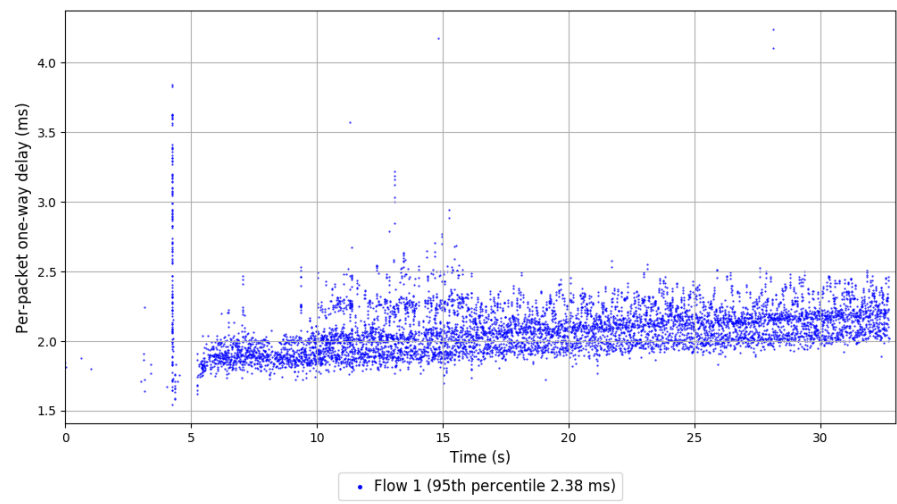
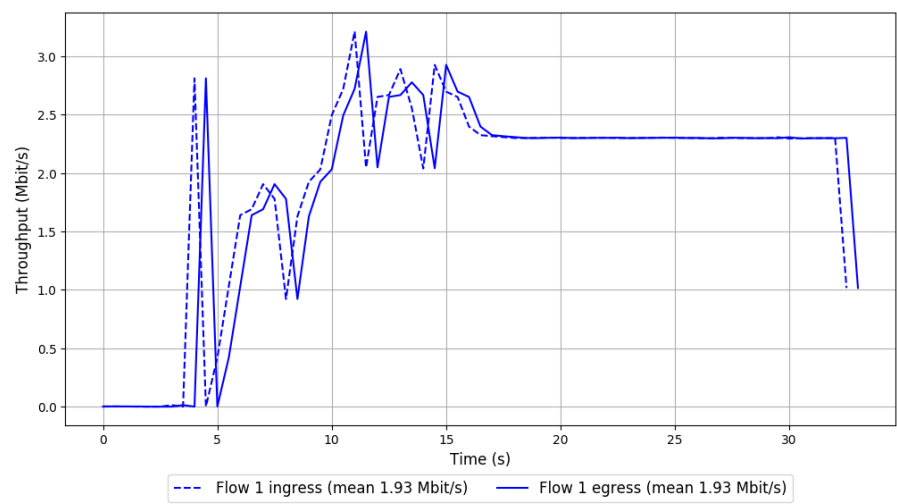
-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 2.375 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-09-10 23:48:04

End at: 2018-09-10 23:48:34

Local clock offset: 3.341 ms

Remote clock offset: 0.578 ms

Below is generated by plot.py at 2018-09-11 00:23:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 2.336 ms

Loss rate: 0.00%

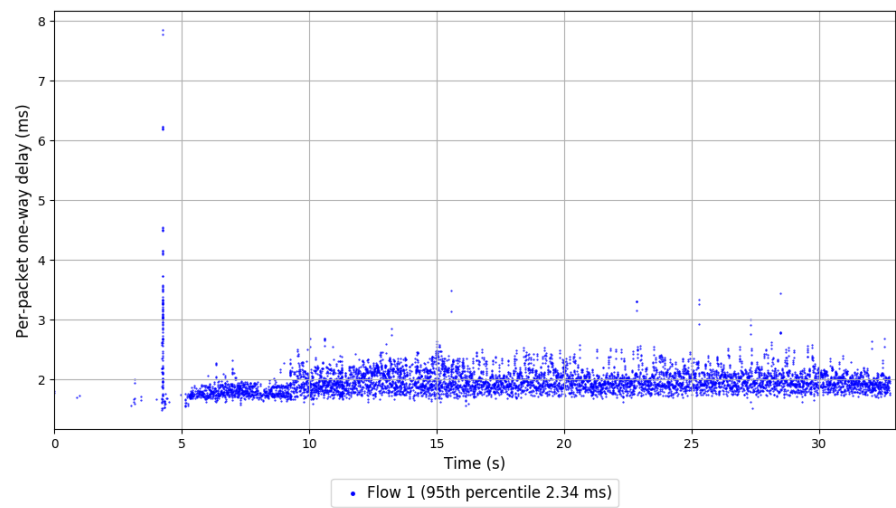
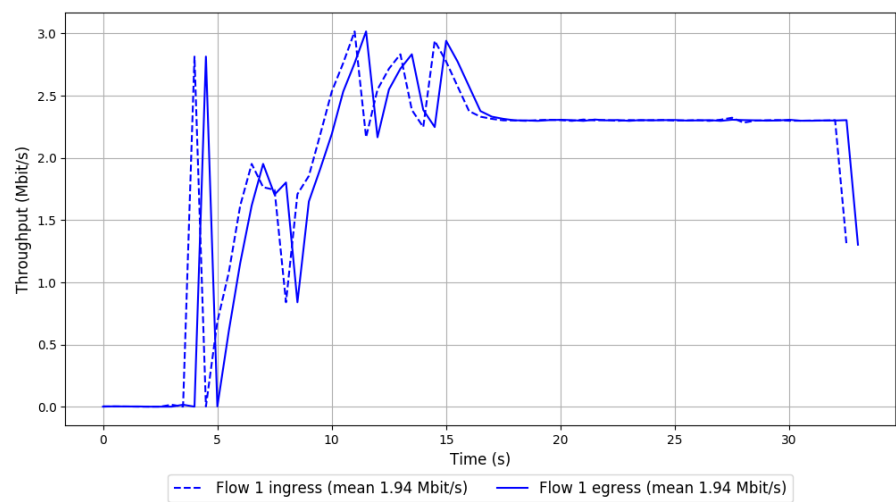
-- Flow 1:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 2.336 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-11 00:08:05

End at: 2018-09-11 00:08:35

Local clock offset: -0.196 ms

Remote clock offset: 0.832 ms

Below is generated by plot.py at 2018-09-11 00:23:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 3.685 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 3.685 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

