

Pantheon Report

Generated at 2018-09-06 06:29:39 (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.

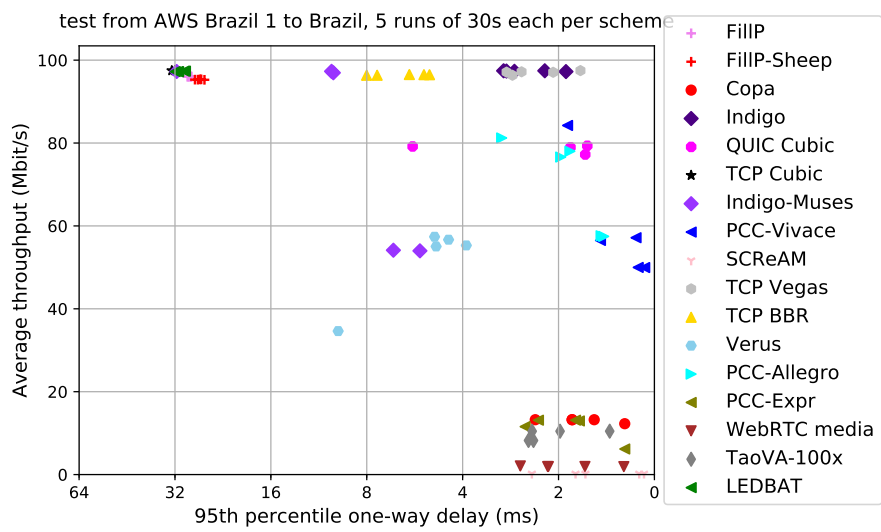
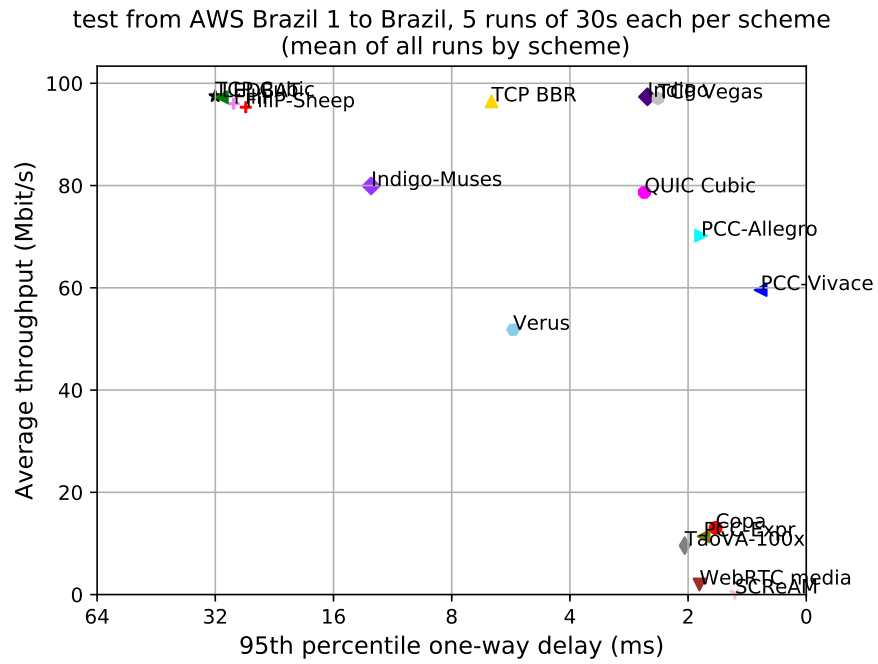
NTP offsets were measured against `gps.ntp.br` and have been applied to correct the timestamps in logs.

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 = 536870912 536870912 536870912
```

Git summary:

```
branch: muses @ f392ce15d580343f4432c3d7e068b3290f03eb4a
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ a28d20fb82a95a965a3da65fd1eb71b8994e9b84
third_party/pantheon-tunnel @ cbfce6db5ff5740d4fe1771f813cd646339e1952
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	5	96.45	6.34	0.00
Copa	5	13.05	1.53	68.11
TCP Cubic	5	97.48	32.04	0.01
FillP	5	96.02	28.74	4.00
FillP-Sheep	5	95.32	26.77	1.31
Indigo	5	97.36	2.54	0.00
LEDBAT	5	97.28	30.81	0.01
Indigo-Muses	5	79.93	12.83	2.26
PCC-Allegro	5	70.19	1.78	0.00
PCC-Expr	5	11.38	1.74	18.14
QUIC Cubic	4	78.68	2.58	0.27
SCReAM	5	0.22	1.21	0.00
Sprout	0	N/A	N/A	N/A
TaoVA-100x	5	9.57	2.04	77.86
TCP Vegas	5	97.04	2.39	0.00
Verus	5	51.81	5.58	1.32
PCC-Vivace	5	59.57	0.77	0.00
WebRTC media	5	1.97	1.81	0.01

Run 1: Statistics of TCP BBR

Start at: 2018-09-06 04:43:40

End at: 2018-09-06 04:44:11

Local clock offset: 1.301 ms

Remote clock offset: -0.673 ms

Below is generated by plot.py at 2018-09-06 06:22:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.50 Mbit/s

95th percentile per-packet one-way delay: 5.291 ms

Loss rate: 0.00%

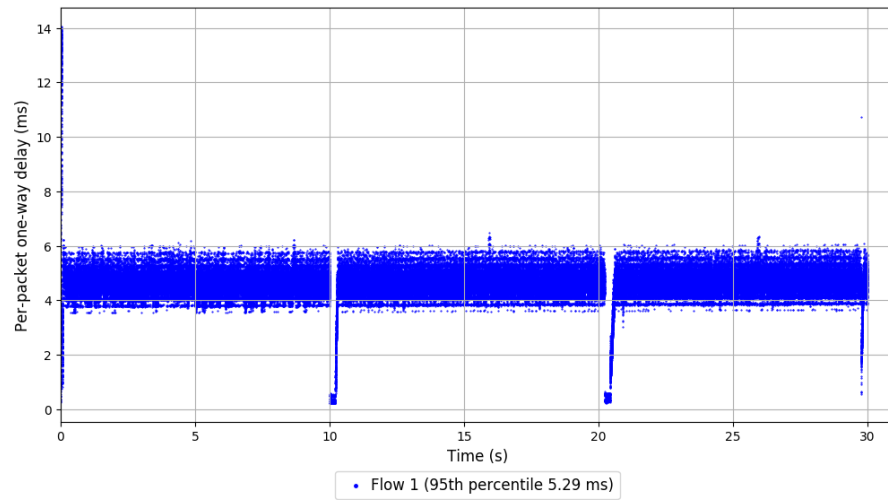
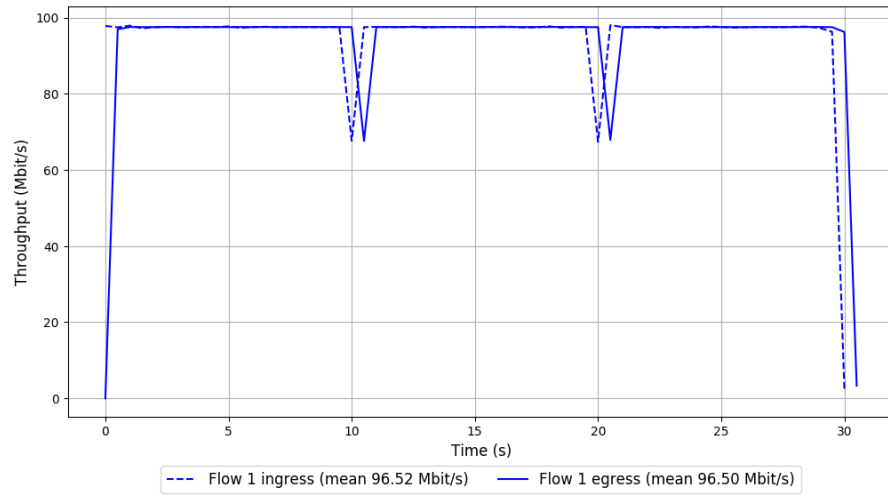
-- Flow 1:

Average throughput: 96.50 Mbit/s

95th percentile per-packet one-way delay: 5.291 ms

Loss rate: 0.00%

Run 1: Report of TCP BBR — Data Link

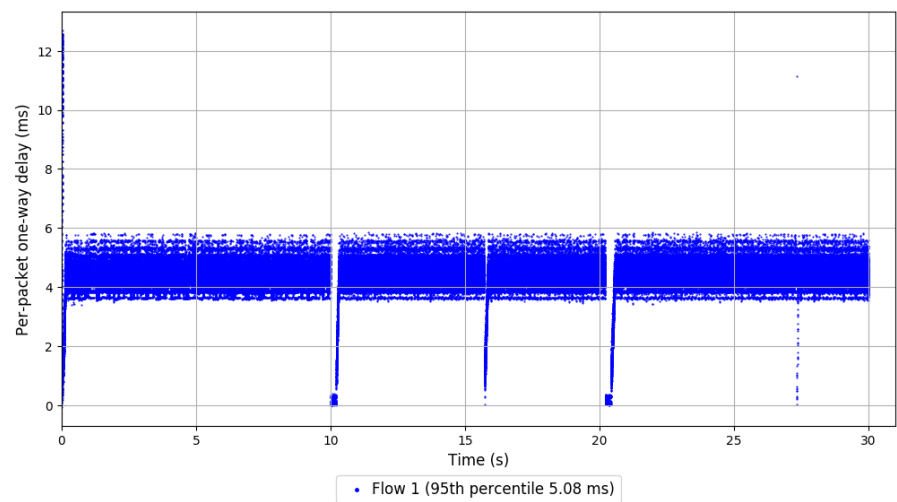
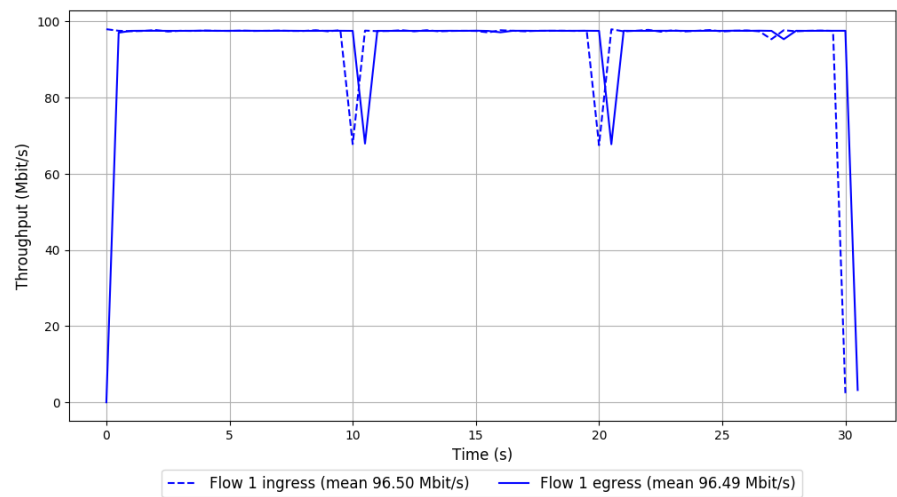


Run 2: Statistics of TCP BBR

Start at: 2018-09-06 05:03:42
End at: 2018-09-06 05:04:12
Local clock offset: -0.777 ms
Remote clock offset: -0.444 ms

Below is generated by plot.py at 2018-09-06 06:22:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.49 Mbit/s
95th percentile per-packet one-way delay: 5.083 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 96.49 Mbit/s
95th percentile per-packet one-way delay: 5.083 ms
Loss rate: 0.00%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-09-06 05:23:45

End at: 2018-09-06 05:24:15

Local clock offset: -4.207 ms

Remote clock offset: 1.067 ms

Below is generated by plot.py at 2018-09-06 06:22:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 7.421 ms

Loss rate: 0.00%

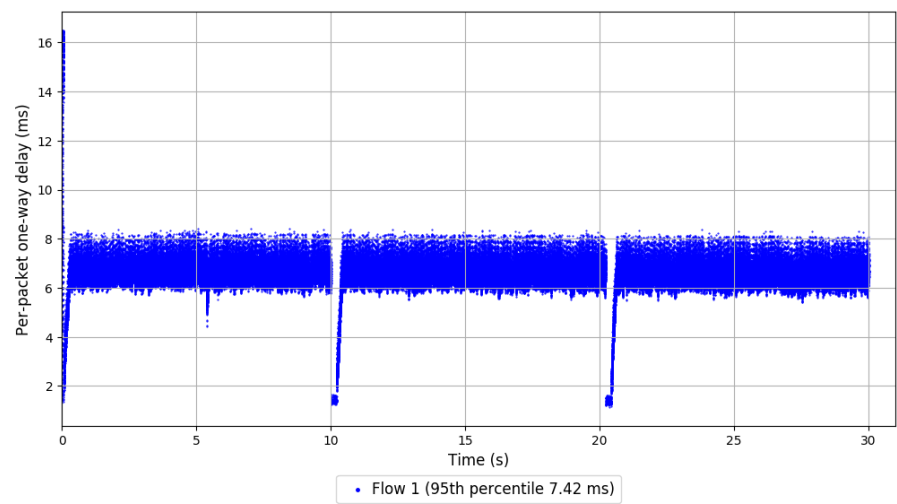
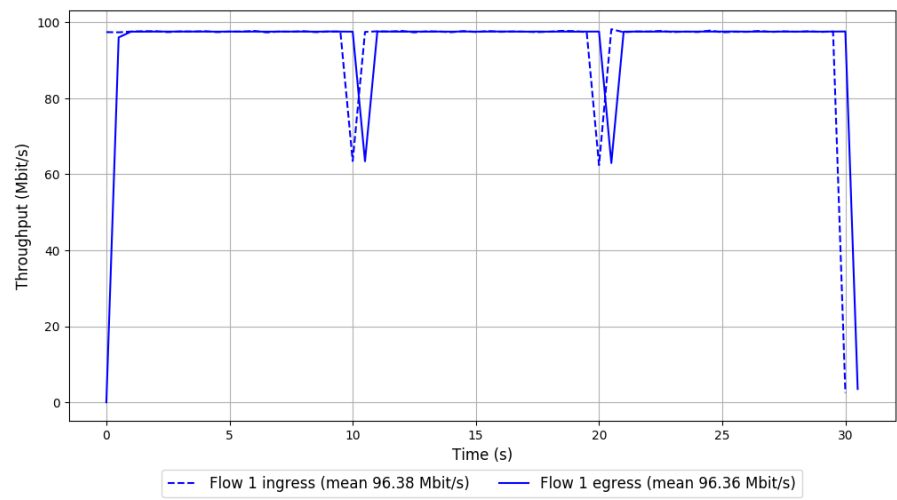
-- Flow 1:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 7.421 ms

Loss rate: 0.00%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-06 05:43:44

End at: 2018-09-06 05:44:14

Local clock offset: -6.954 ms

Remote clock offset: 1.727 ms

Below is generated by plot.py at 2018-09-06 06:22:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 5.879 ms

Loss rate: 0.00%

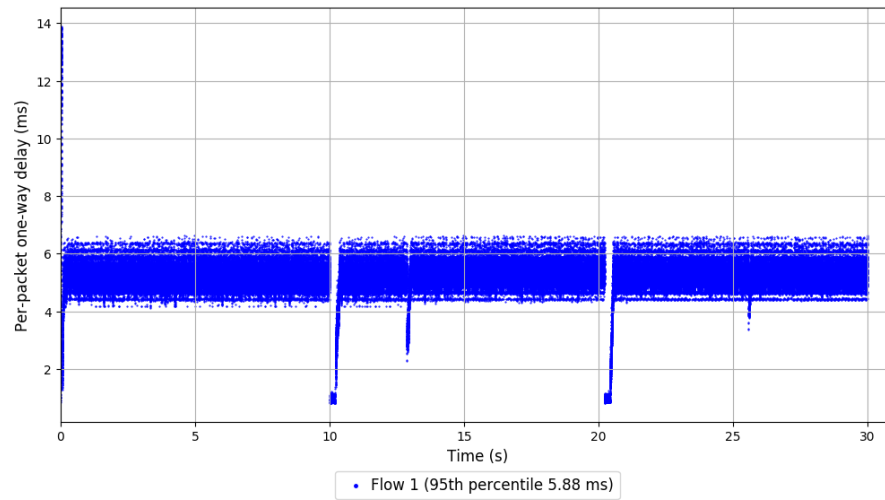
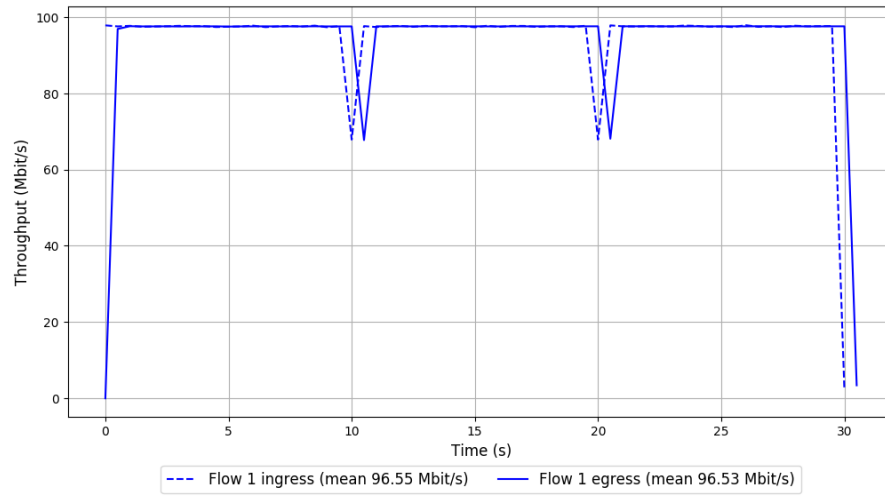
-- Flow 1:

Average throughput: 96.53 Mbit/s

95th percentile per-packet one-way delay: 5.879 ms

Loss rate: 0.00%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

Start at: 2018-09-06 06:03:44

End at: 2018-09-06 06:04:14

Local clock offset: -3.272 ms

Remote clock offset: 2.443 ms

Below is generated by plot.py at 2018-09-06 06:22:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 8.008 ms

Loss rate: 0.00%

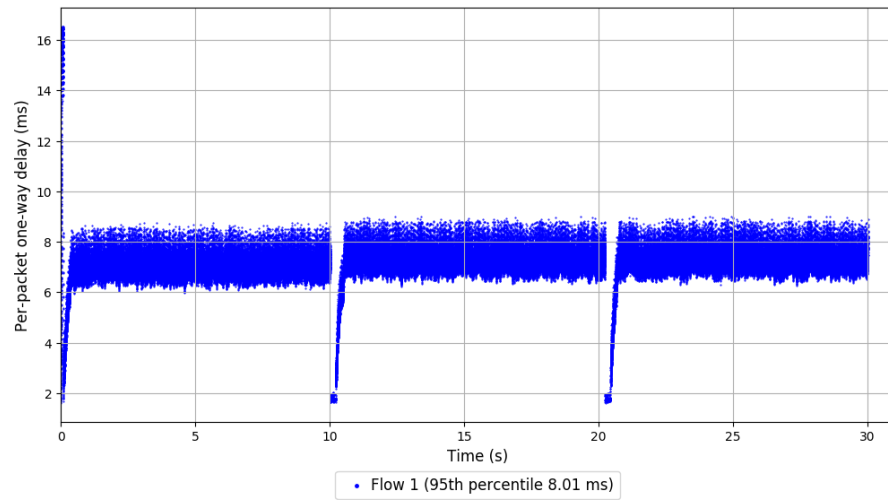
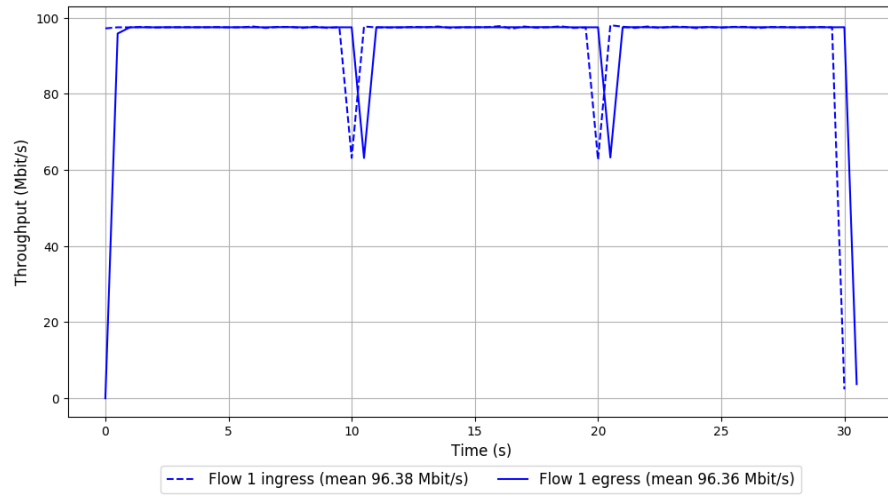
-- Flow 1:

Average throughput: 96.36 Mbit/s

95th percentile per-packet one-way delay: 8.008 ms

Loss rate: 0.00%

Run 5: Report of TCP BBR — Data Link

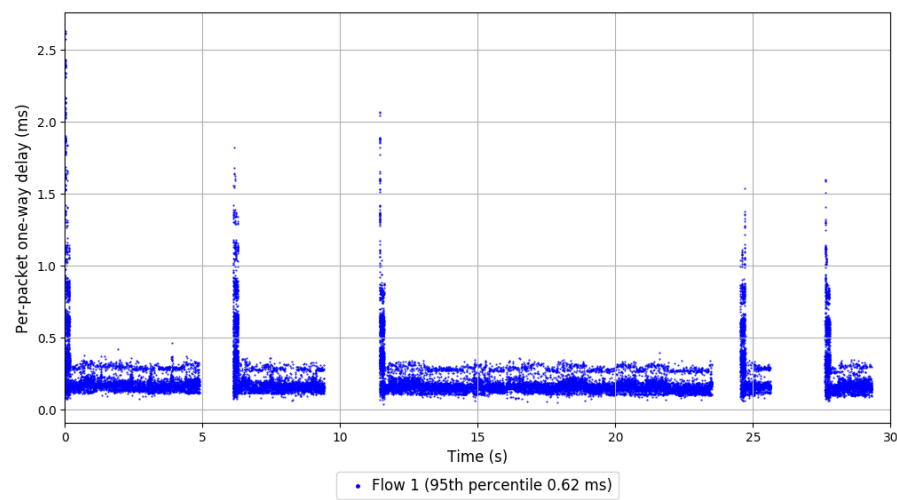
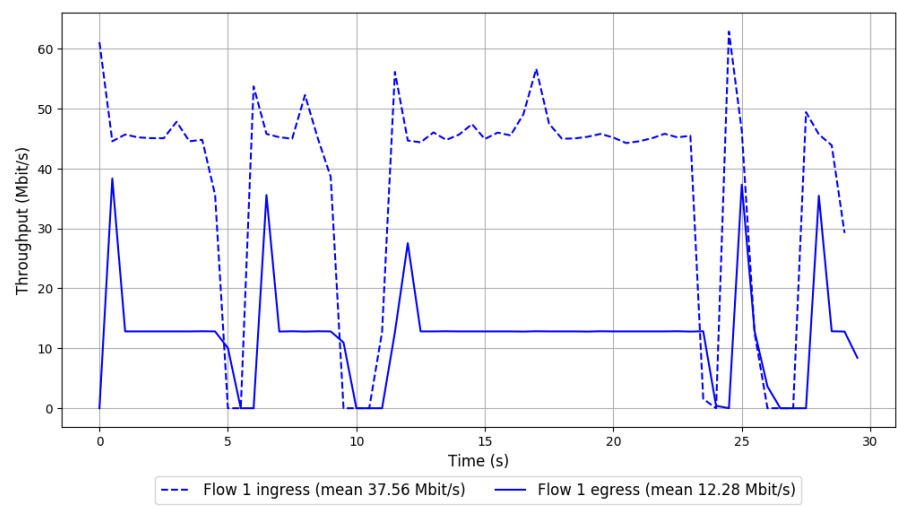


Run 1: Statistics of Copa

Start at: 2018-09-06 04:55:58
End at: 2018-09-06 04:56:28
Local clock offset: -0.989 ms
Remote clock offset: -0.557 ms

Below is generated by plot.py at 2018-09-06 06:22:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 12.28 Mbit/s
95th percentile per-packet one-way delay: 0.619 ms
Loss rate: 67.31%
-- Flow 1:
Average throughput: 12.28 Mbit/s
95th percentile per-packet one-way delay: 0.619 ms
Loss rate: 67.31%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-09-06 05:16:01

End at: 2018-09-06 05:16:31

Local clock offset: 0.199 ms

Remote clock offset: 0.704 ms

Below is generated by plot.py at 2018-09-06 06:22:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.24 Mbit/s

95th percentile per-packet one-way delay: 1.256 ms

Loss rate: 68.27%

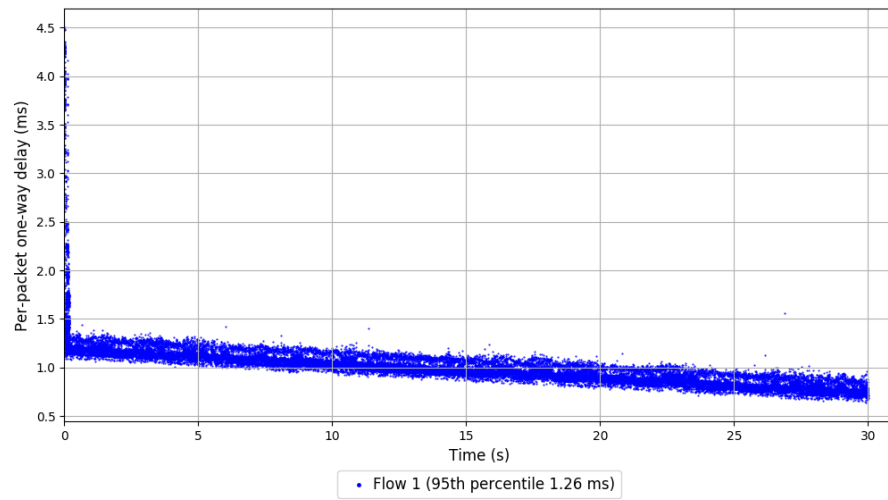
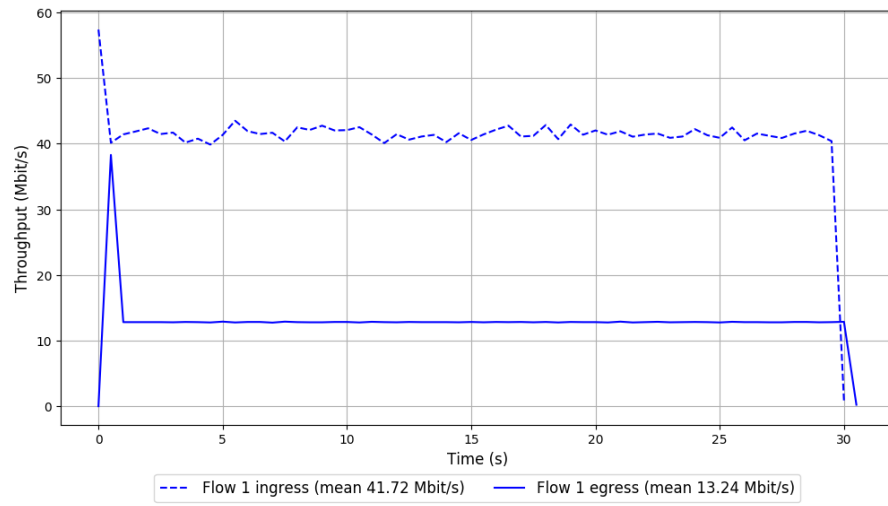
-- Flow 1:

Average throughput: 13.24 Mbit/s

95th percentile per-packet one-way delay: 1.256 ms

Loss rate: 68.27%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-09-06 05:36:00

End at: 2018-09-06 05:36:30

Local clock offset: -6.102 ms

Remote clock offset: 1.57 ms

Below is generated by plot.py at 2018-09-06 06:22:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.24 Mbit/s

95th percentile per-packet one-way delay: 1.717 ms

Loss rate: 68.28%

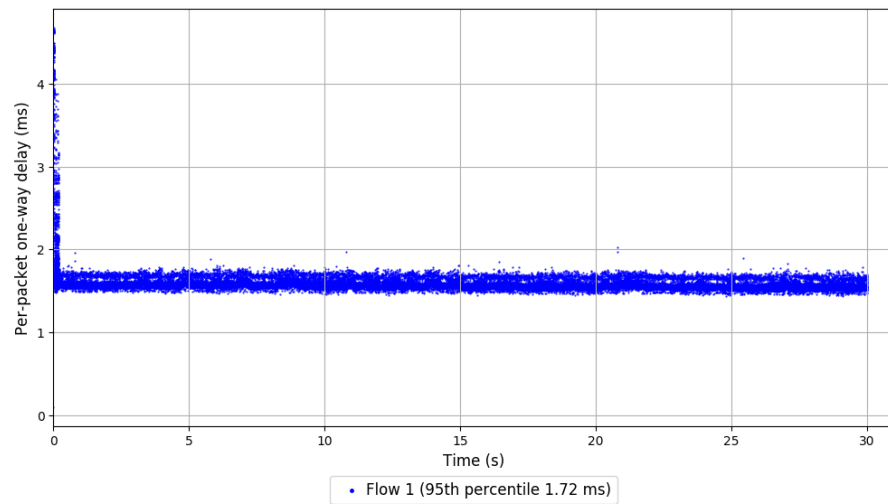
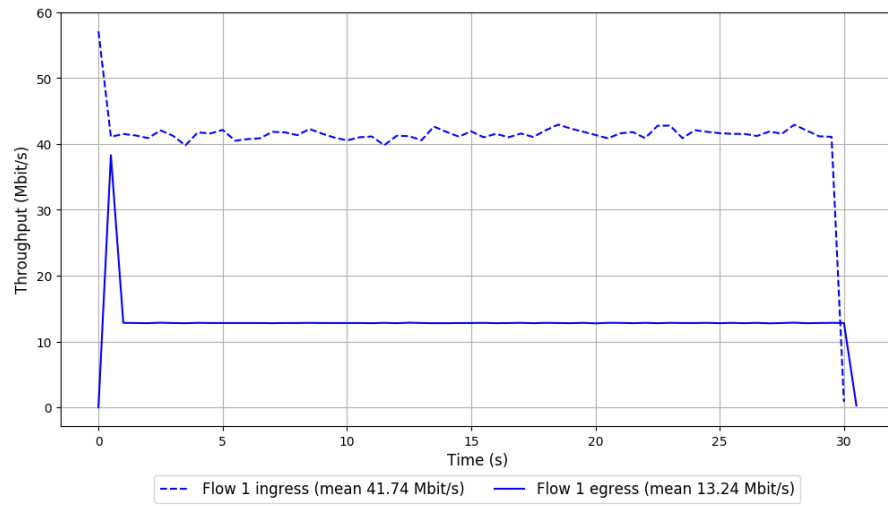
-- Flow 1:

Average throughput: 13.24 Mbit/s

95th percentile per-packet one-way delay: 1.717 ms

Loss rate: 68.28%

Run 3: Report of Copa — Data Link



Run 4: Statistics of Copa

Start at: 2018-09-06 05:56:00

End at: 2018-09-06 05:56:30

Local clock offset: -4.114 ms

Remote clock offset: 2.072 ms

Below is generated by plot.py at 2018-09-06 06:22:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.24 Mbit/s

95th percentile per-packet one-way delay: 1.716 ms

Loss rate: 68.27%

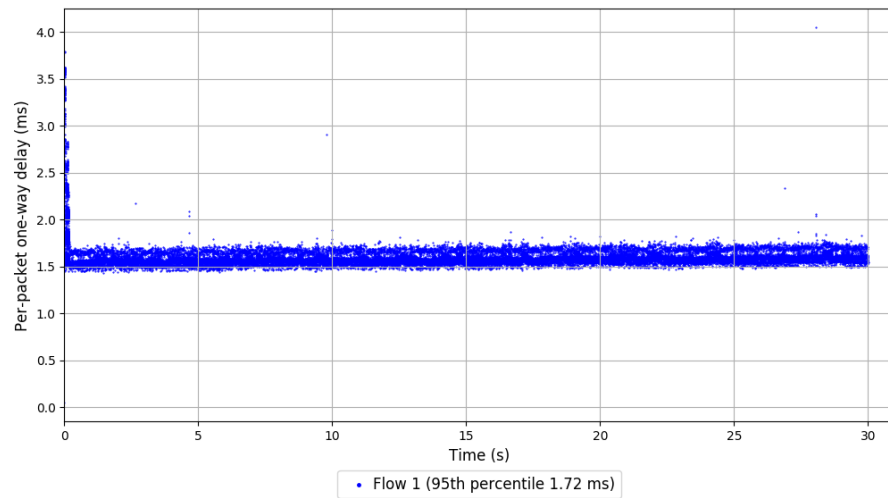
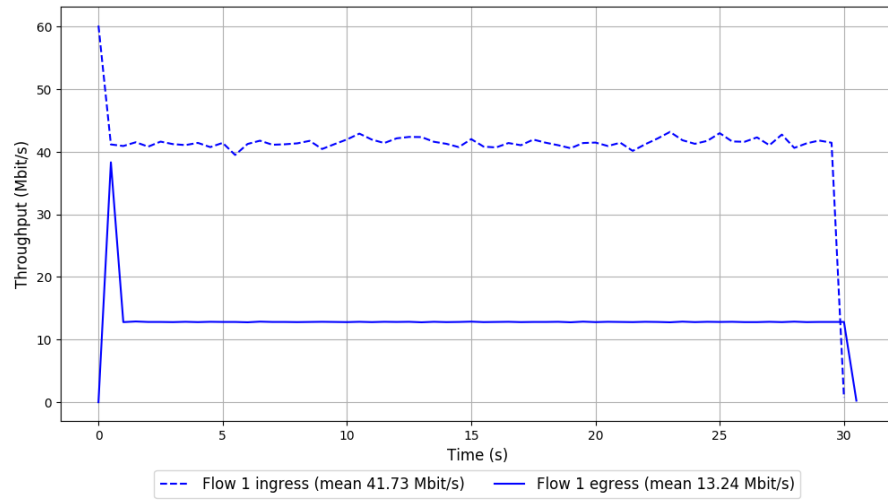
-- Flow 1:

Average throughput: 13.24 Mbit/s

95th percentile per-packet one-way delay: 1.716 ms

Loss rate: 68.27%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-06 06:16:01

End at: 2018-09-06 06:16:31

Local clock offset: -3.043 ms

Remote clock offset: 2.625 ms

Below is generated by plot.py at 2018-09-06 06:22:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.24 Mbit/s

95th percentile per-packet one-way delay: 2.366 ms

Loss rate: 68.43%

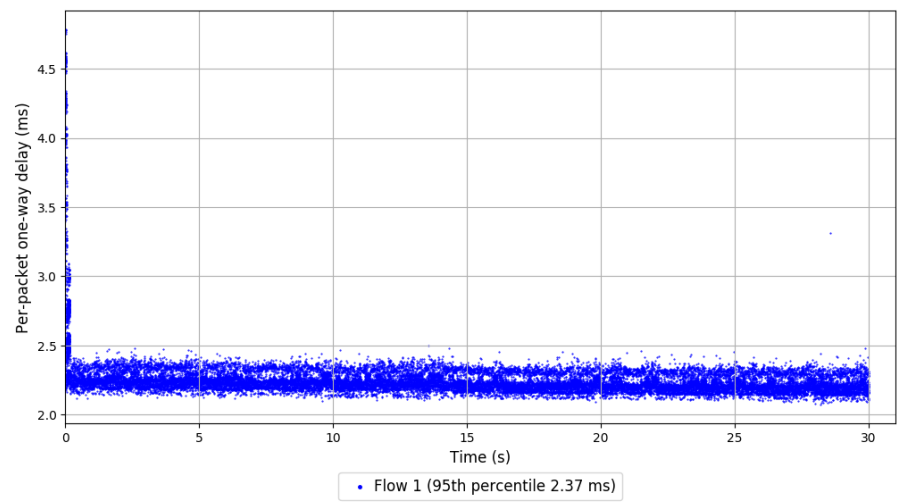
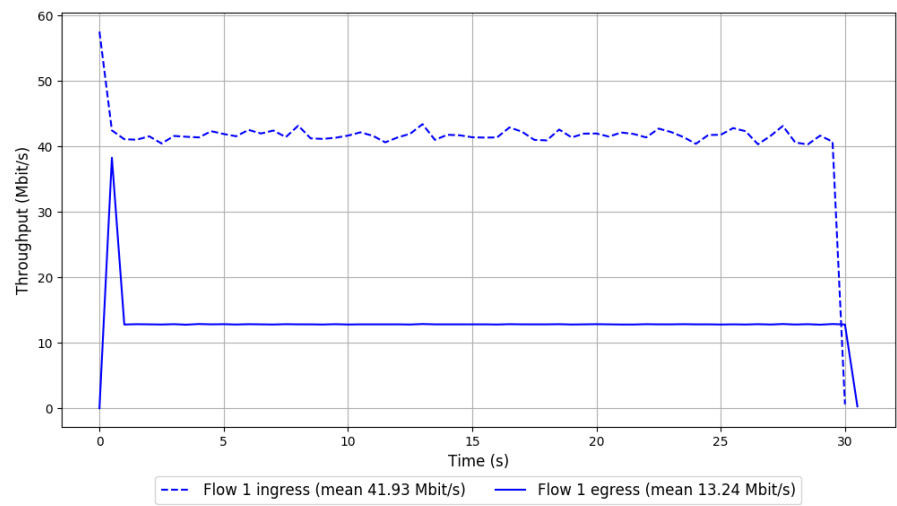
-- Flow 1:

Average throughput: 13.24 Mbit/s

95th percentile per-packet one-way delay: 2.366 ms

Loss rate: 68.43%

Run 5: Report of Copa — Data Link

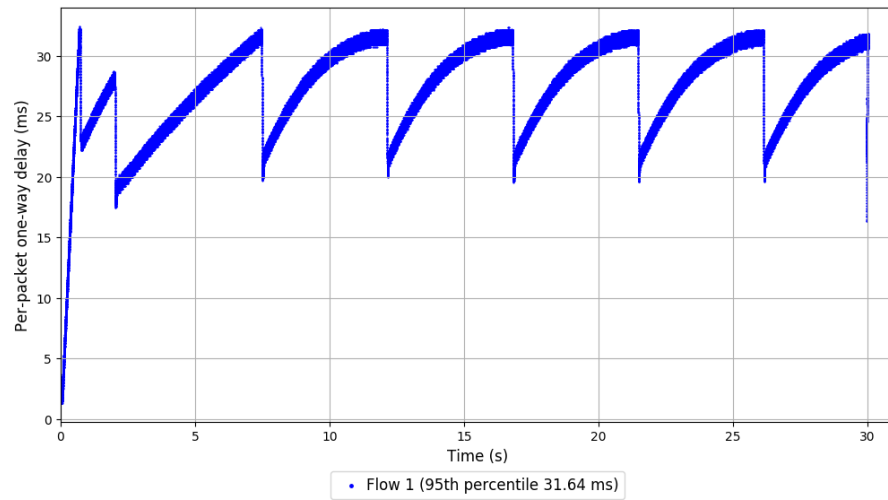
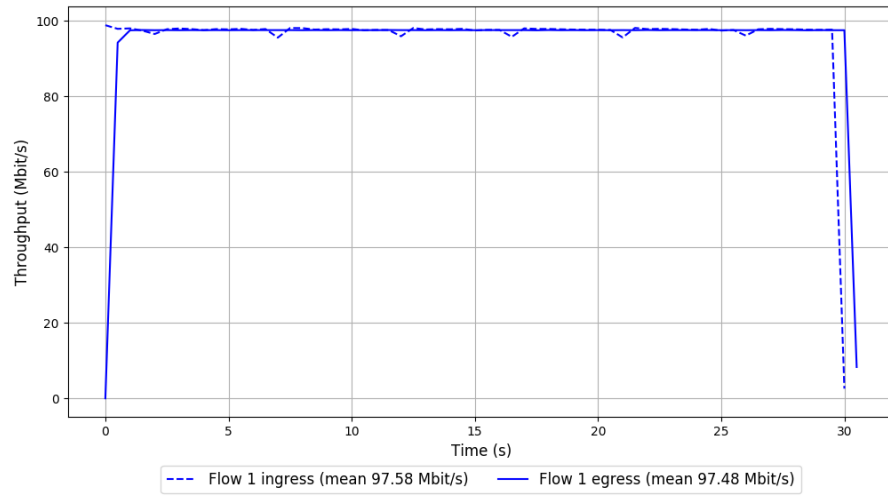


Run 1: Statistics of TCP Cubic

Start at: 2018-09-06 04:49:18
End at: 2018-09-06 04:49:49
Local clock offset: 0.116 ms
Remote clock offset: -0.666 ms

Below is generated by plot.py at 2018-09-06 06:22:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 31.644 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.48 Mbit/s
95th percentile per-packet one-way delay: 31.644 ms
Loss rate: 0.01%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-09-06 05:09:20

End at: 2018-09-06 05:09:50

Local clock offset: -0.208 ms

Remote clock offset: 0.195 ms

Below is generated by plot.py at 2018-09-06 06:22:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 32.009 ms

Loss rate: 0.01%

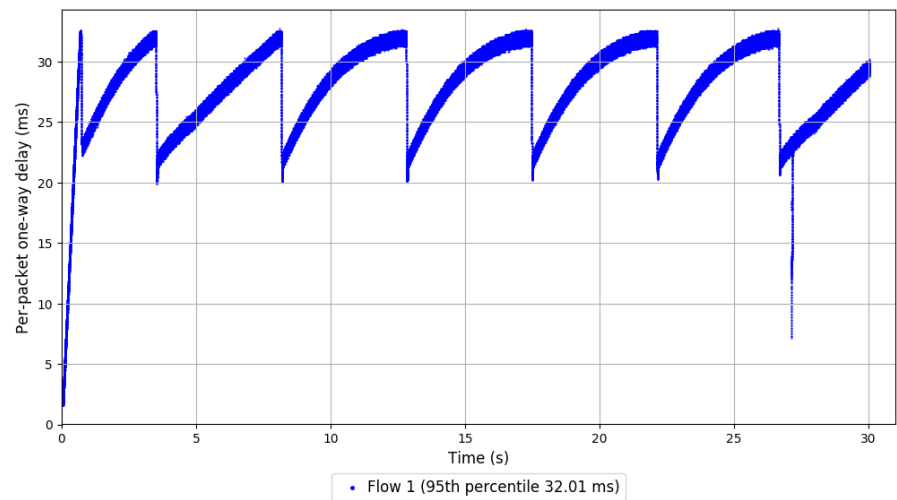
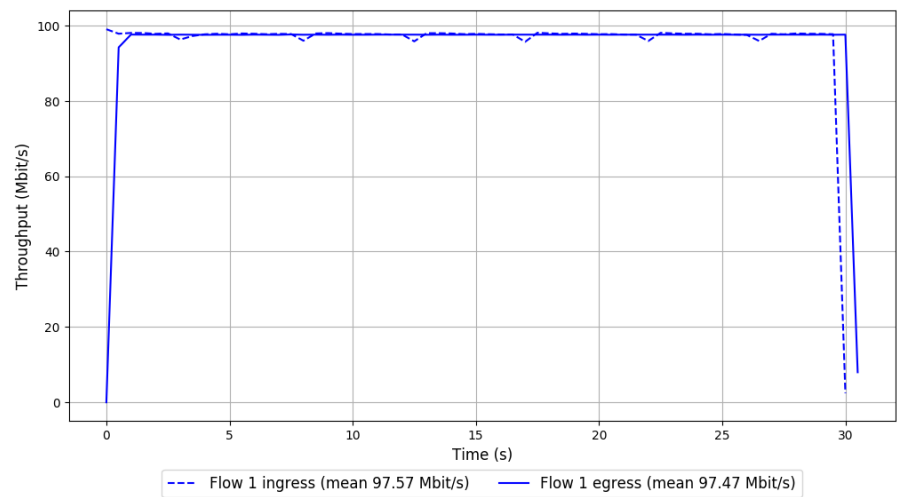
-- Flow 1:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 32.009 ms

Loss rate: 0.01%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-09-06 05:29:22

End at: 2018-09-06 05:29:52

Local clock offset: -5.558 ms

Remote clock offset: 1.232 ms

Below is generated by plot.py at 2018-09-06 06:22:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 31.784 ms

Loss rate: 0.01%

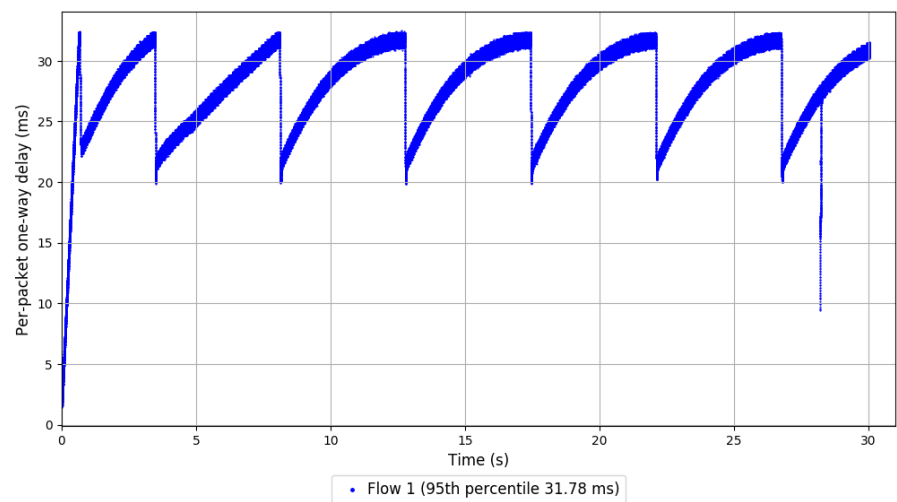
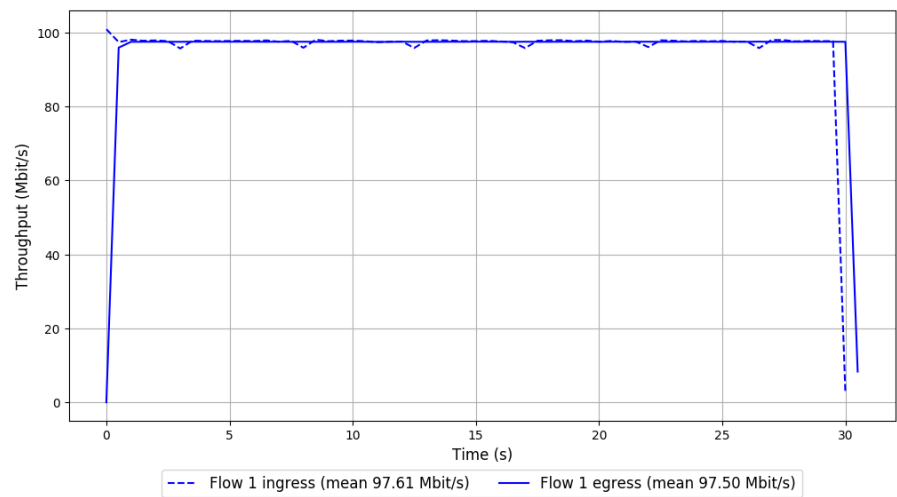
-- Flow 1:

Average throughput: 97.50 Mbit/s

95th percentile per-packet one-way delay: 31.784 ms

Loss rate: 0.01%

Run 3: Report of TCP Cubic — Data Link



Run 4: Statistics of TCP Cubic

Start at: 2018-09-06 05:49:22

End at: 2018-09-06 05:49:52

Local clock offset: -5.212 ms

Remote clock offset: 1.954 ms

Below is generated by plot.py at 2018-09-06 06:23:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 31.996 ms

Loss rate: 0.01%

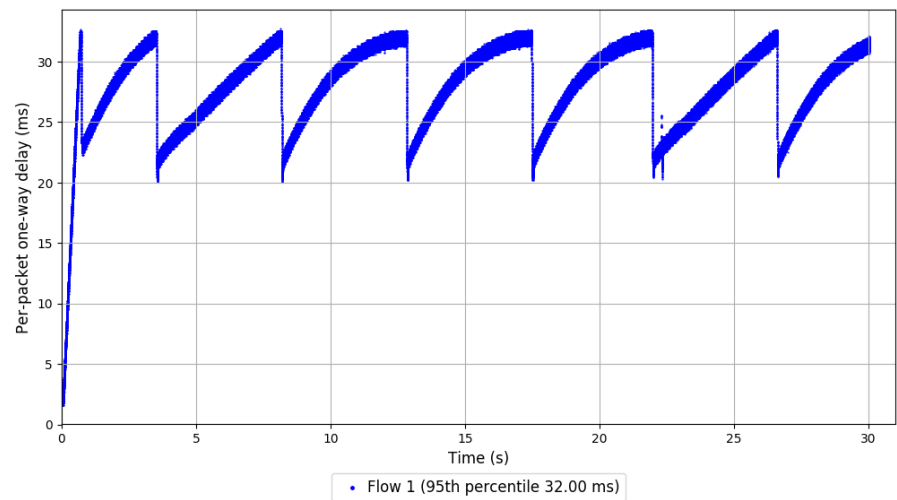
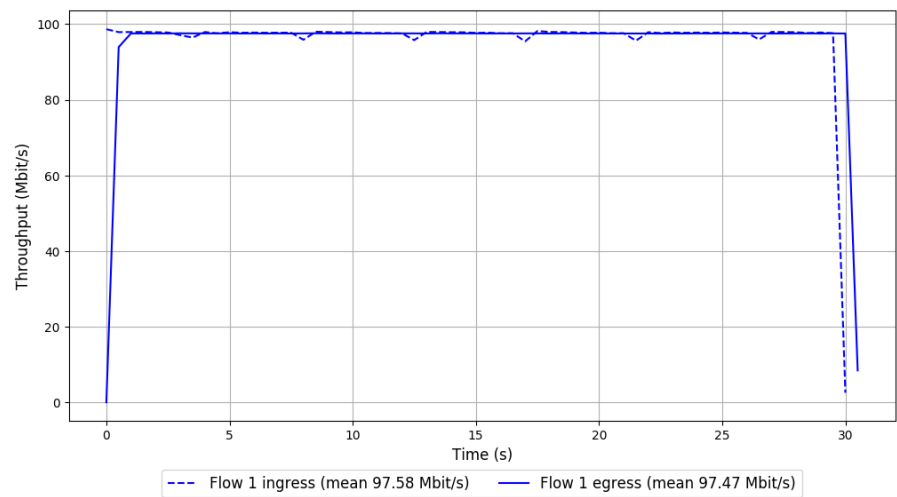
-- Flow 1:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 31.996 ms

Loss rate: 0.01%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-06 06:09:22

End at: 2018-09-06 06:09:52

Local clock offset: -3.469 ms

Remote clock offset: 2.64 ms

Below is generated by plot.py at 2018-09-06 06:23:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 32.749 ms

Loss rate: 0.01%

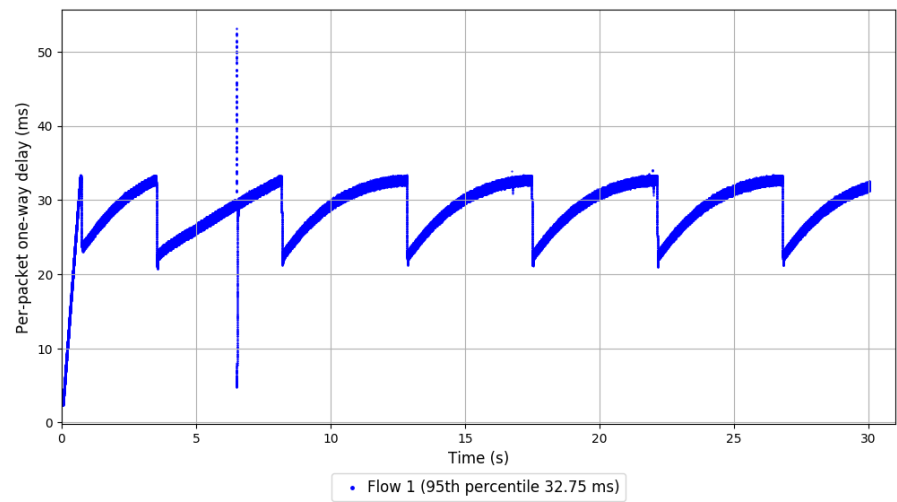
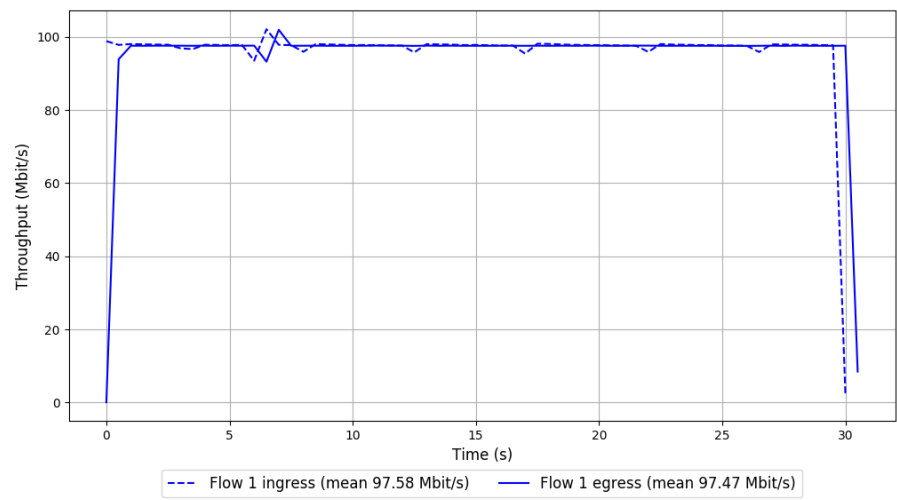
-- Flow 1:

Average throughput: 97.47 Mbit/s

95th percentile per-packet one-way delay: 32.749 ms

Loss rate: 0.01%

Run 5: Report of TCP Cubic — Data Link

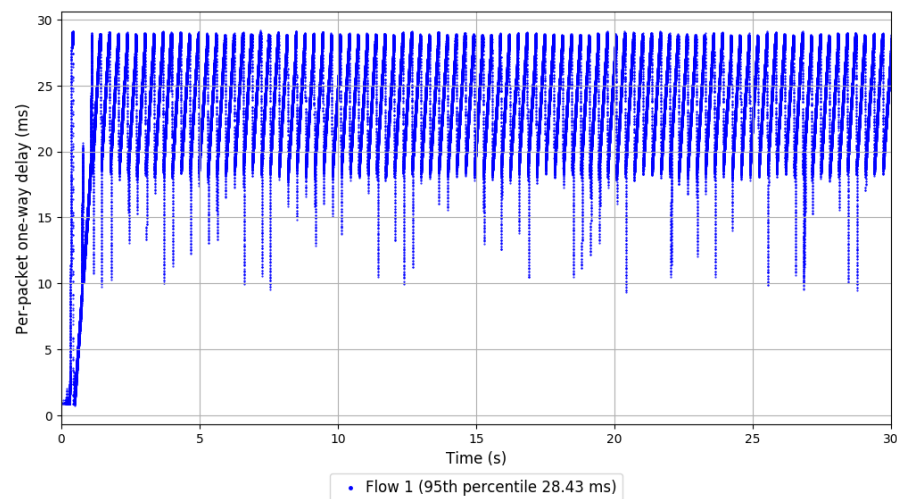
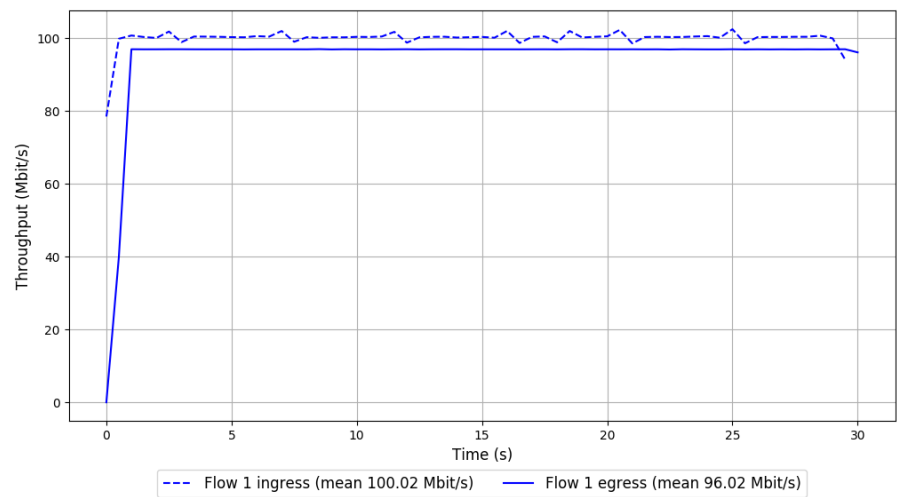


Run 1: Statistics of FillP

Start at: 2018-09-06 04:51:31
End at: 2018-09-06 04:52:01
Local clock offset: -1.243 ms
Remote clock offset: -0.569 ms

Below is generated by plot.py at 2018-09-06 06:23:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 28.434 ms
Loss rate: 3.91%
-- Flow 1:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 28.434 ms
Loss rate: 3.91%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-09-06 05:11:32

End at: 2018-09-06 05:12:02

Local clock offset: -0.717 ms

Remote clock offset: 0.295 ms

Below is generated by plot.py at 2018-09-06 06:23:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.03 Mbit/s

95th percentile per-packet one-way delay: 28.566 ms

Loss rate: 3.97%

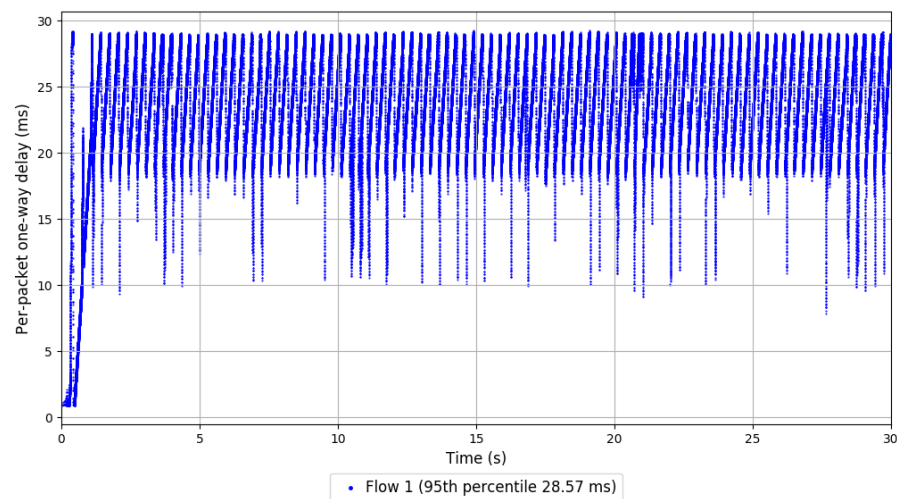
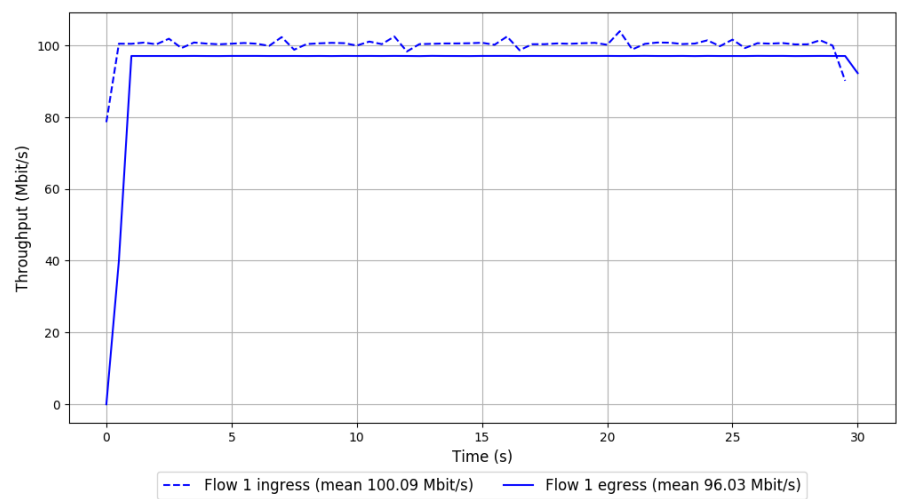
-- Flow 1:

Average throughput: 96.03 Mbit/s

95th percentile per-packet one-way delay: 28.566 ms

Loss rate: 3.97%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-09-06 05:31:35

End at: 2018-09-06 05:32:05

Local clock offset: -5.784 ms

Remote clock offset: 1.301 ms

Below is generated by plot.py at 2018-09-06 06:23:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 28.984 ms

Loss rate: 4.02%

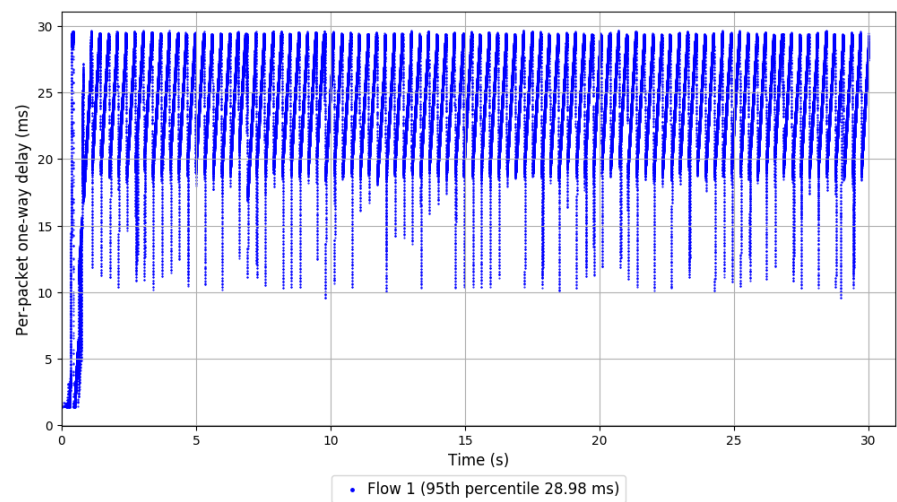
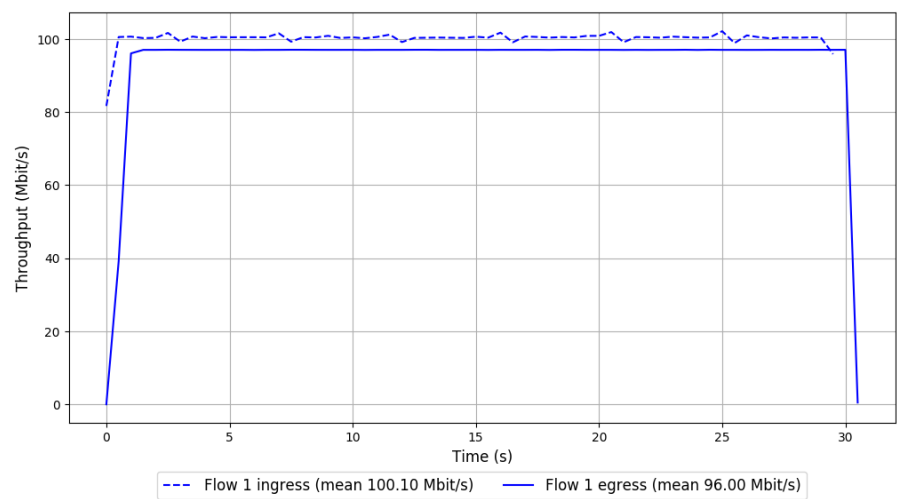
-- Flow 1:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 28.984 ms

Loss rate: 4.02%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-06 05:51:35

End at: 2018-09-06 05:52:05

Local clock offset: -5.535 ms

Remote clock offset: 1.951 ms

Below is generated by plot.py at 2018-09-06 06:23:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.04 Mbit/s

95th percentile per-packet one-way delay: 28.497 ms

Loss rate: 3.99%

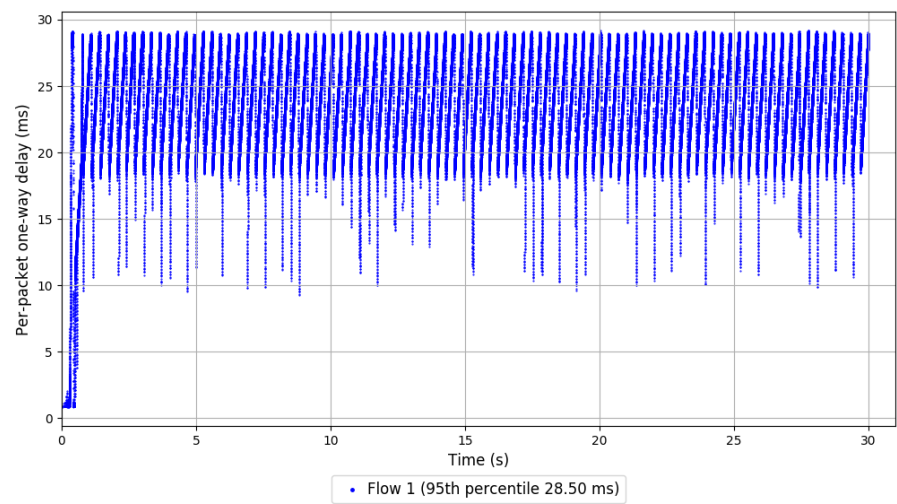
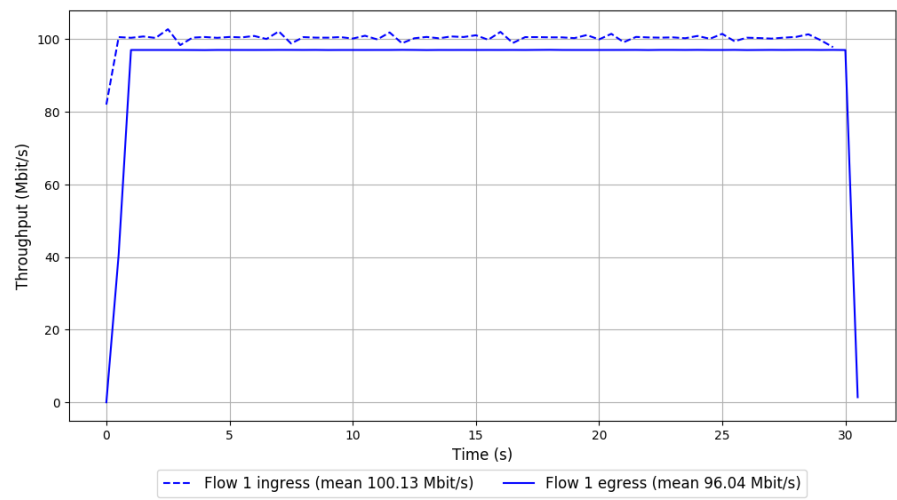
-- Flow 1:

Average throughput: 96.04 Mbit/s

95th percentile per-packet one-way delay: 28.497 ms

Loss rate: 3.99%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-06 06:11:34

End at: 2018-09-06 06:12:04

Local clock offset: -2.613 ms

Remote clock offset: 2.614 ms

Below is generated by plot.py at 2018-09-06 06:23:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 29.215 ms

Loss rate: 4.12%

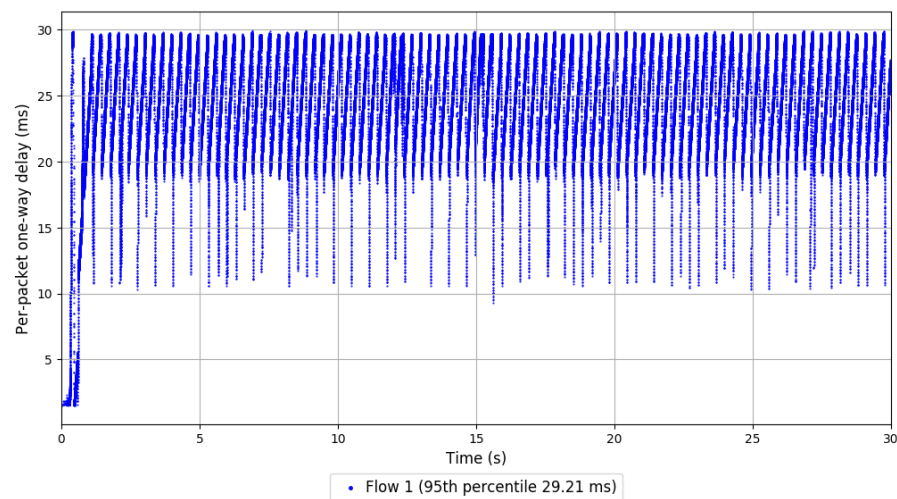
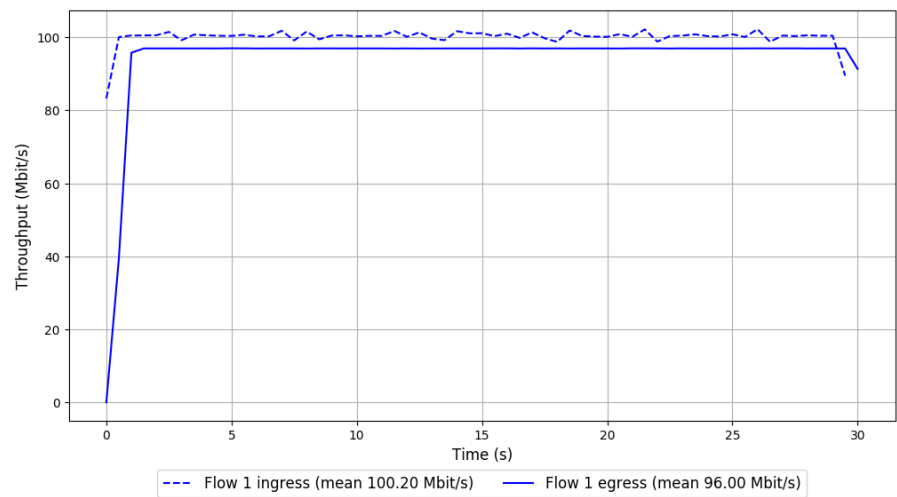
-- Flow 1:

Average throughput: 96.00 Mbit/s

95th percentile per-packet one-way delay: 29.215 ms

Loss rate: 4.12%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-06 04:41:25

End at: 2018-09-06 04:41:55

Local clock offset: 0.067 ms

Remote clock offset: -0.658 ms

Below is generated by plot.py at 2018-09-06 06:24:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.37 Mbit/s

95th percentile per-packet one-way delay: 26.707 ms

Loss rate: 1.31%

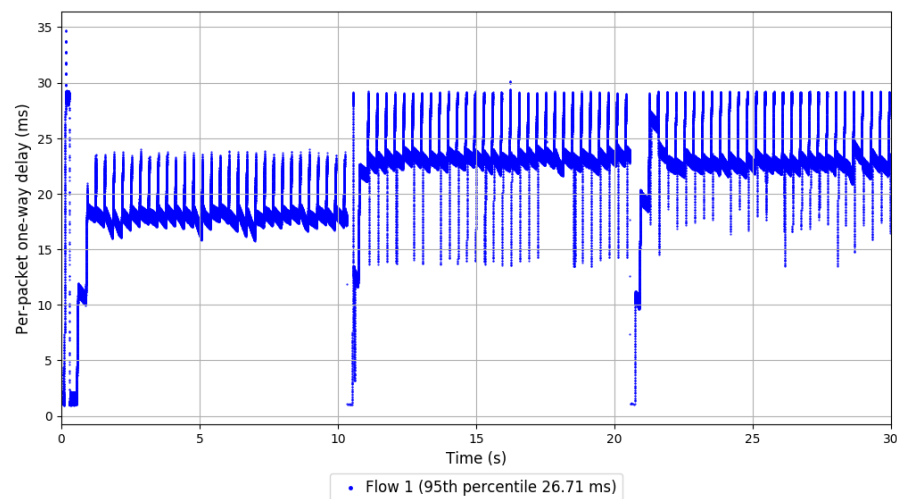
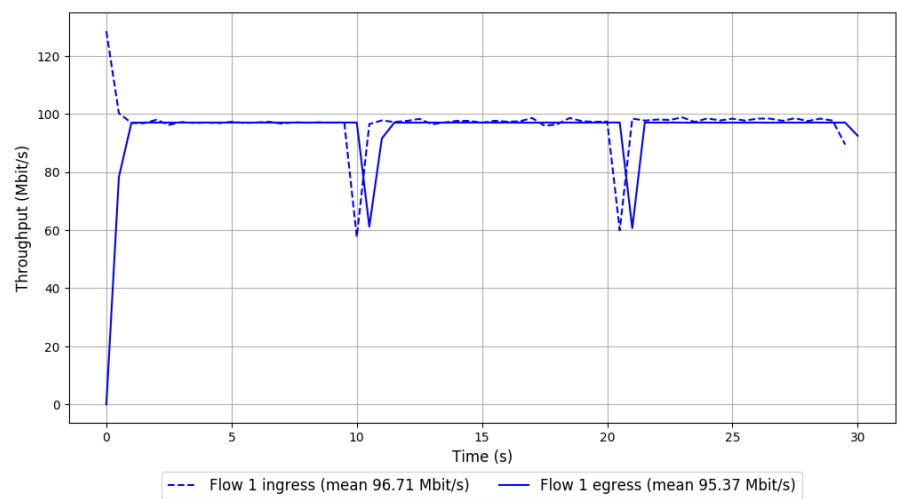
-- Flow 1:

Average throughput: 95.37 Mbit/s

95th percentile per-packet one-way delay: 26.707 ms

Loss rate: 1.31%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-09-06 05:01:26

End at: 2018-09-06 05:01:56

Local clock offset: -1.67 ms

Remote clock offset: -0.465 ms

Below is generated by plot.py at 2018-09-06 06:24:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.30 Mbit/s

95th percentile per-packet one-way delay: 27.700 ms

Loss rate: 1.29%

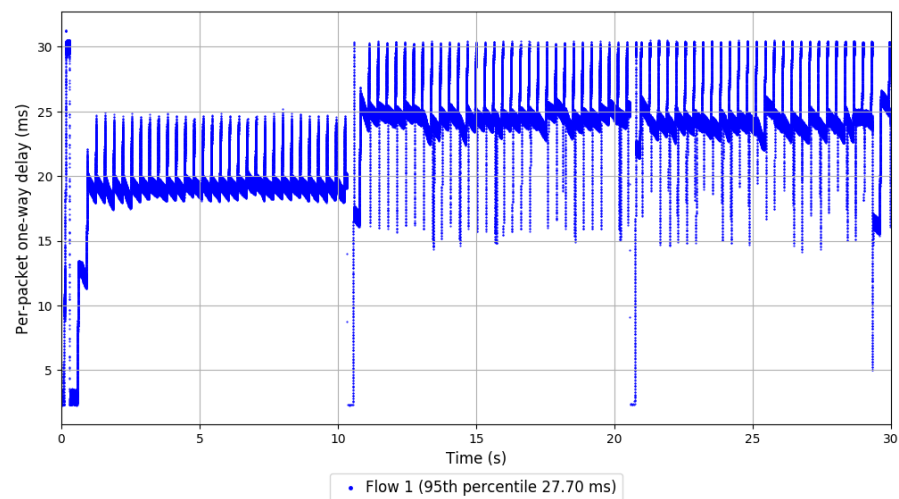
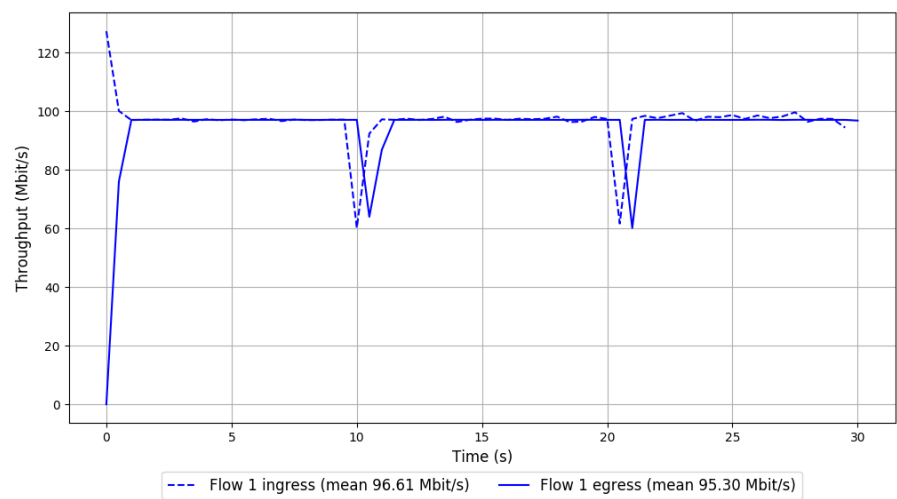
-- Flow 1:

Average throughput: 95.30 Mbit/s

95th percentile per-packet one-way delay: 27.700 ms

Loss rate: 1.29%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-09-06 05:21:30

End at: 2018-09-06 05:22:00

Local clock offset: -4.105 ms

Remote clock offset: 0.924 ms

Below is generated by plot.py at 2018-09-06 06:24:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.26 Mbit/s

95th percentile per-packet one-way delay: 25.857 ms

Loss rate: 1.27%

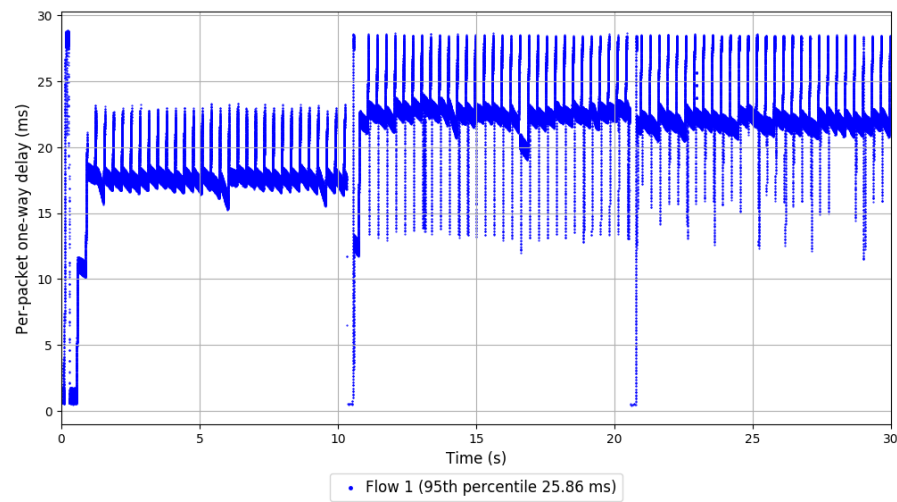
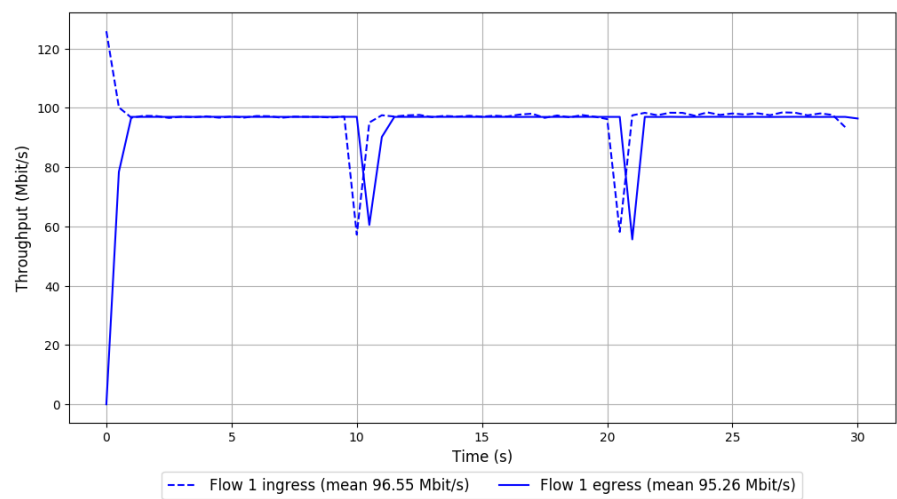
-- Flow 1:

Average throughput: 95.26 Mbit/s

95th percentile per-packet one-way delay: 25.857 ms

Loss rate: 1.27%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-06 05:41:29

End at: 2018-09-06 05:41:59

Local clock offset: -7.027 ms

Remote clock offset: 1.72 ms

Below is generated by plot.py at 2018-09-06 06:24:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.36 Mbit/s

95th percentile per-packet one-way delay: 26.474 ms

Loss rate: 1.37%

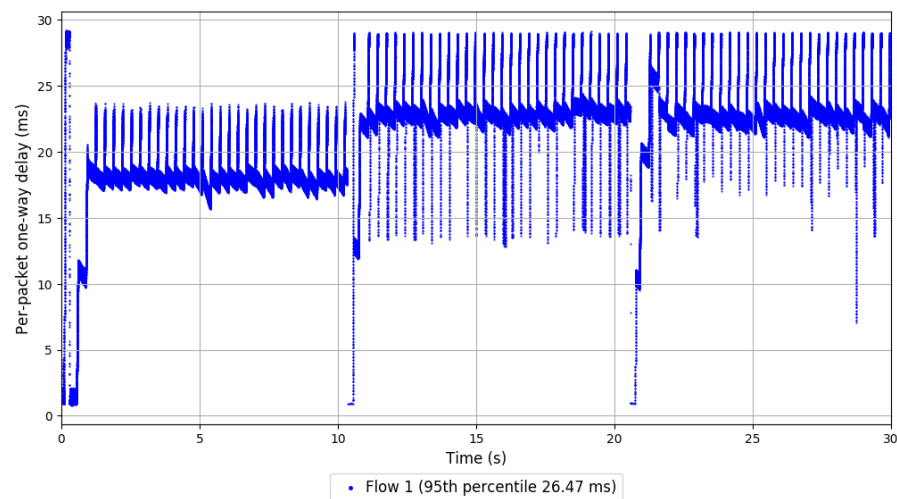
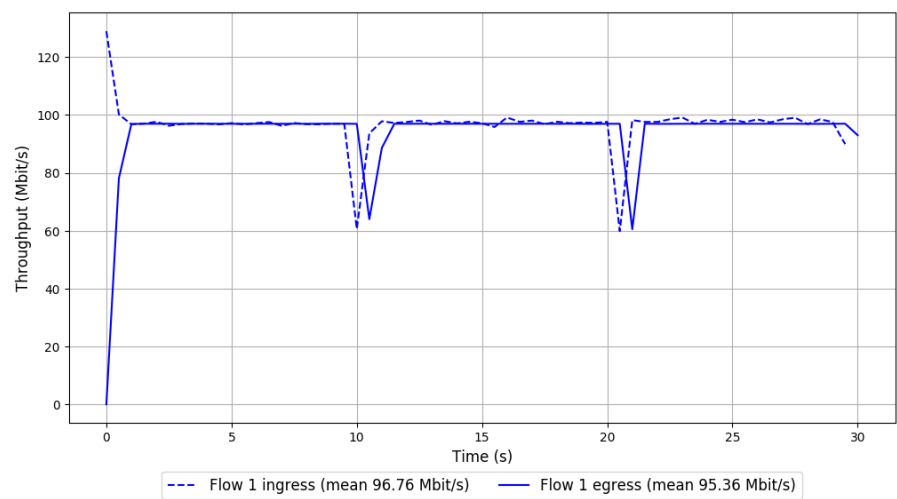
-- Flow 1:

Average throughput: 95.36 Mbit/s

95th percentile per-packet one-way delay: 26.474 ms

Loss rate: 1.37%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-06 06:01:28

End at: 2018-09-06 06:01:58

Local clock offset: -3.465 ms

Remote clock offset: 2.326 ms

Below is generated by plot.py at 2018-09-06 06:24:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 95.30 Mbit/s

95th percentile per-packet one-way delay: 27.112 ms

Loss rate: 1.33%

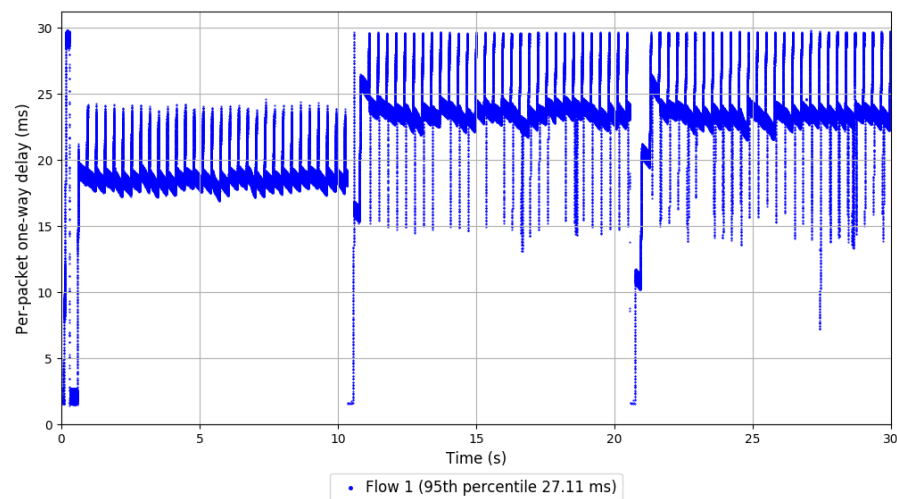
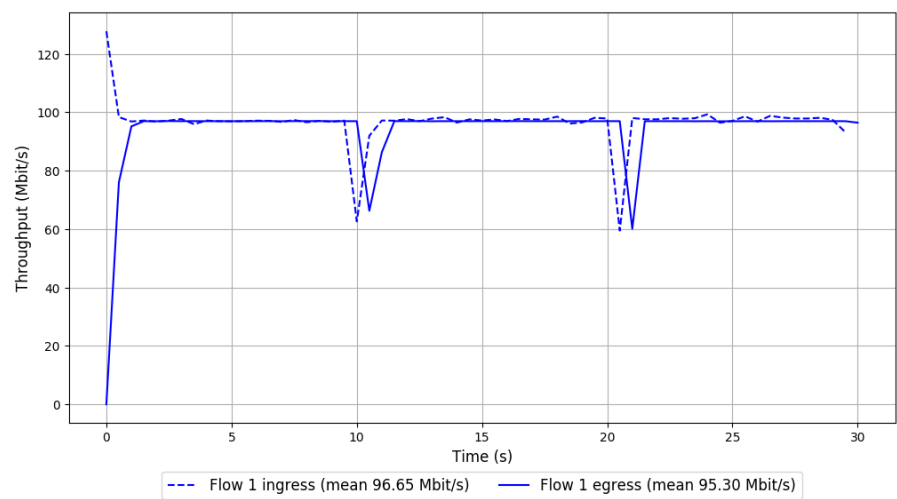
-- Flow 1:

Average throughput: 95.30 Mbit/s

95th percentile per-packet one-way delay: 27.112 ms

Loss rate: 1.33%

Run 5: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-09-06 04:47:00

End at: 2018-09-06 04:47:30

Local clock offset: 0.929 ms

Remote clock offset: -0.743 ms

Below is generated by plot.py at 2018-09-06 06:24:59

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.24 Mbit/s

95th percentile per-packet one-way delay: 1.845 ms

Loss rate: 0.00%

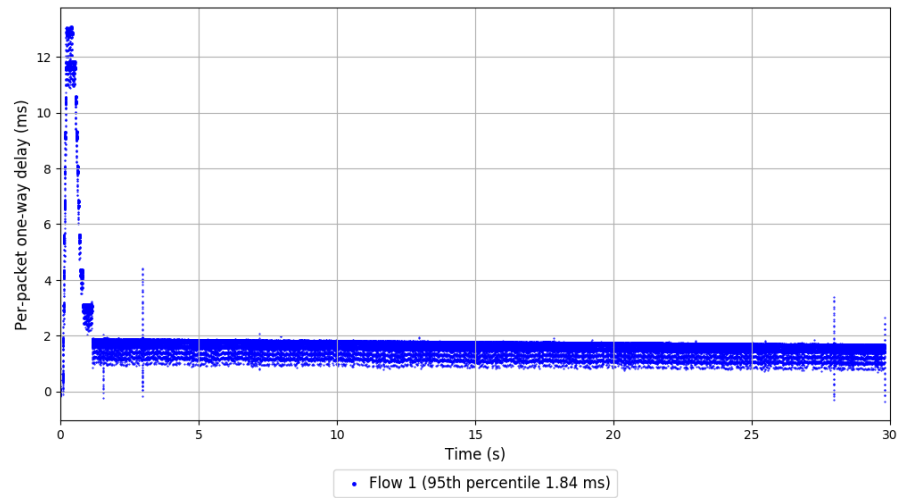
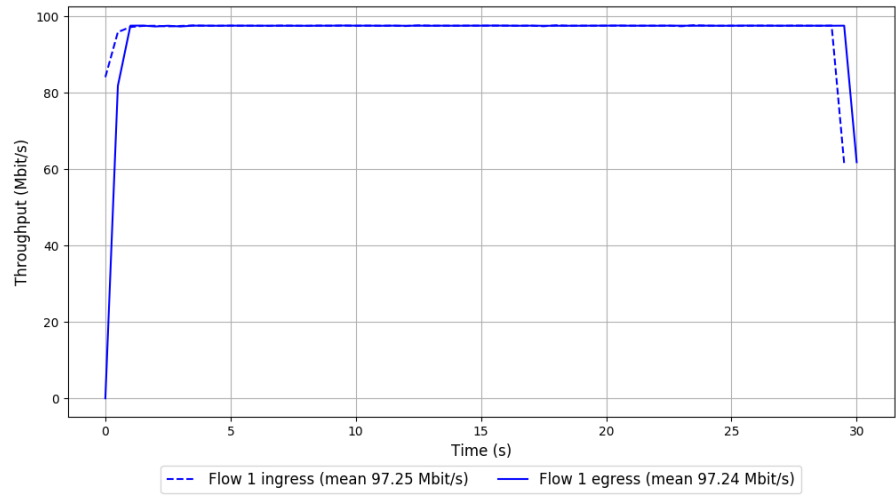
-- Flow 1:

Average throughput: 97.24 Mbit/s

95th percentile per-packet one-way delay: 1.845 ms

Loss rate: 0.00%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-09-06 05:07:01

End at: 2018-09-06 05:07:31

Local clock offset: -1.195 ms

Remote clock offset: -0.02 ms

Below is generated by plot.py at 2018-09-06 06:25:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 2.914 ms

Loss rate: 0.00%

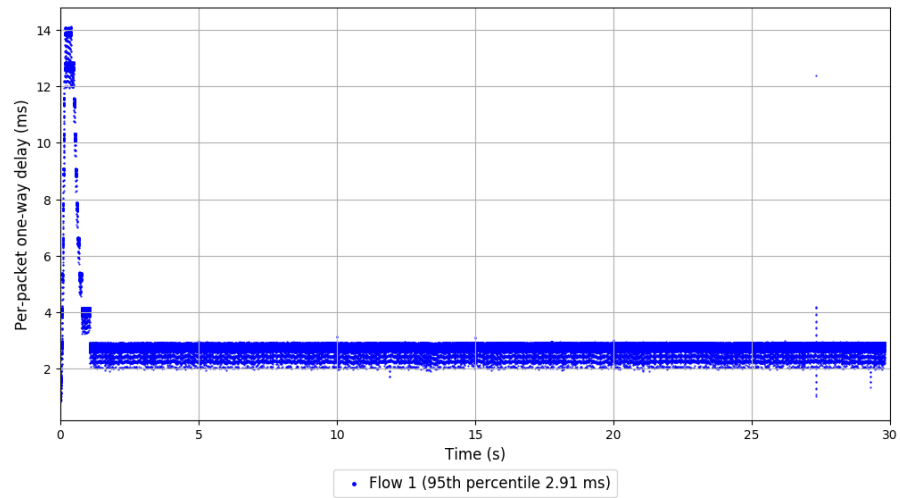
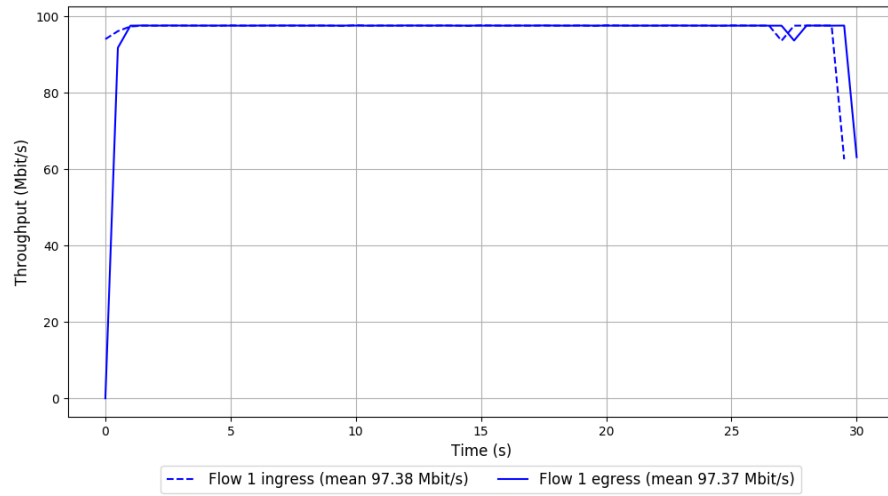
-- Flow 1:

Average throughput: 97.37 Mbit/s

95th percentile per-packet one-way delay: 2.914 ms

Loss rate: 0.00%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-09-06 05:27:04

End at: 2018-09-06 05:27:34

Local clock offset: -5.871 ms

Remote clock offset: 1.183 ms

Below is generated by plot.py at 2018-09-06 06:25:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 2.751 ms

Loss rate: 0.00%

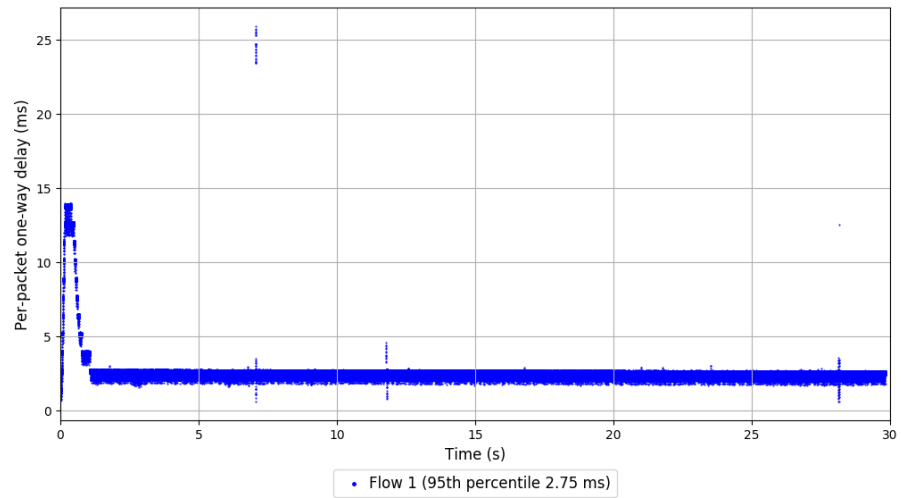
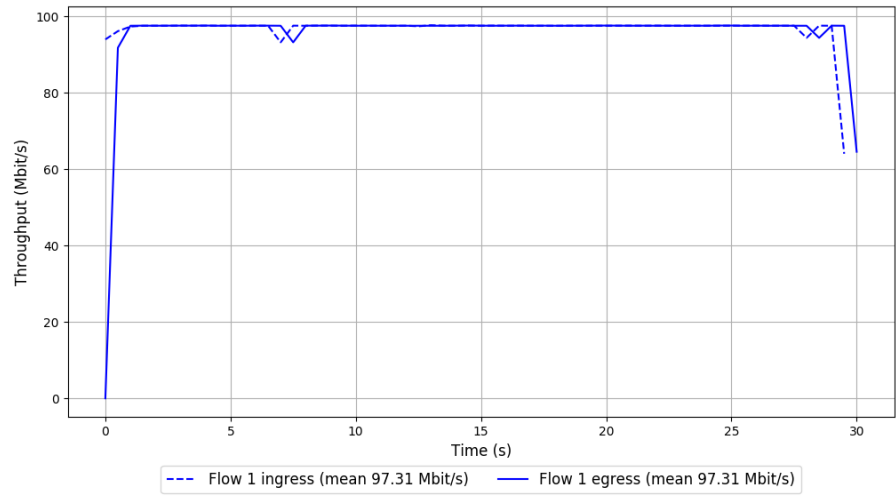
-- Flow 1:

Average throughput: 97.31 Mbit/s

95th percentile per-packet one-way delay: 2.751 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-09-06 05:47:03

End at: 2018-09-06 05:47:33

Local clock offset: -6.472 ms

Remote clock offset: 1.835 ms

Below is generated by plot.py at 2018-09-06 06:25:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.43 Mbit/s

95th percentile per-packet one-way delay: 2.975 ms

Loss rate: 0.00%

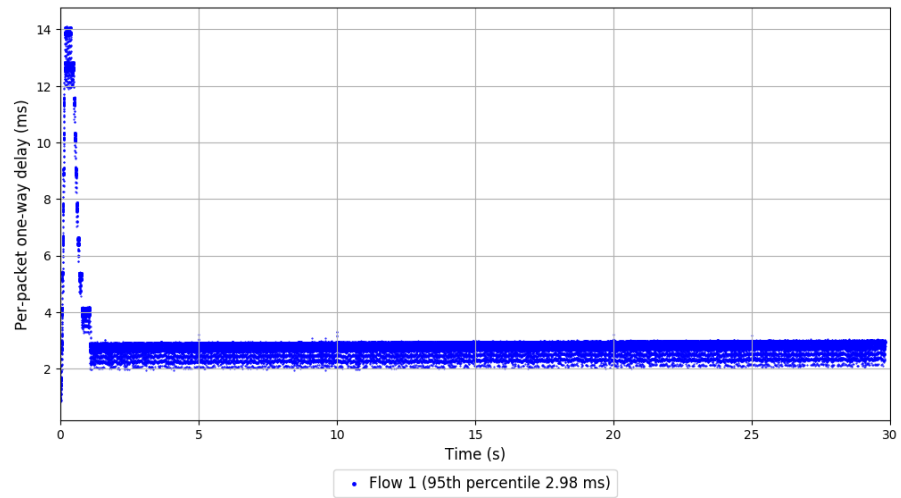
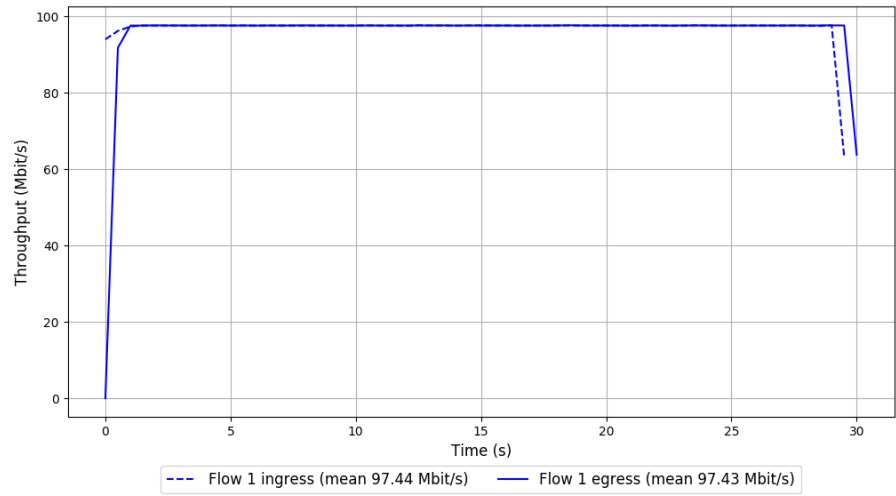
-- Flow 1:

Average throughput: 97.43 Mbit/s

95th percentile per-packet one-way delay: 2.975 ms

Loss rate: 0.00%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-06 06:07:03

End at: 2018-09-06 06:07:33

Local clock offset: -2.917 ms

Remote clock offset: 2.551 ms

Below is generated by plot.py at 2018-09-06 06:25:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 2.209 ms

Loss rate: 0.00%

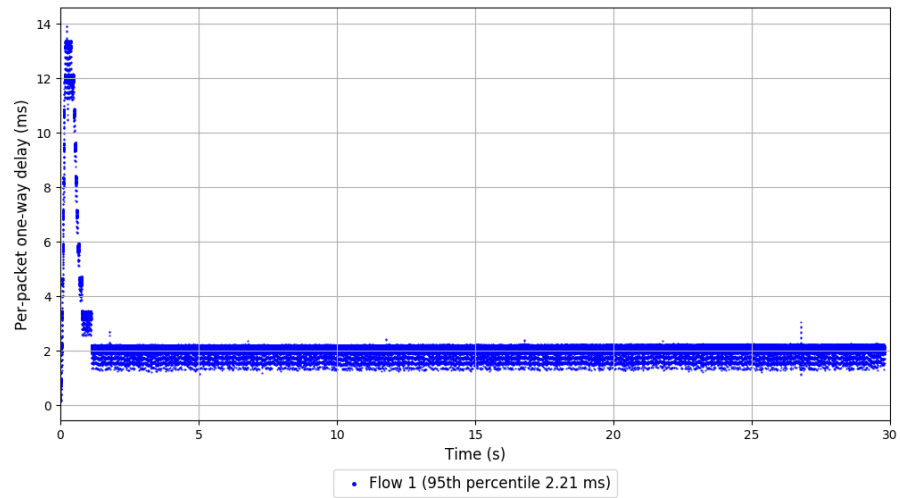
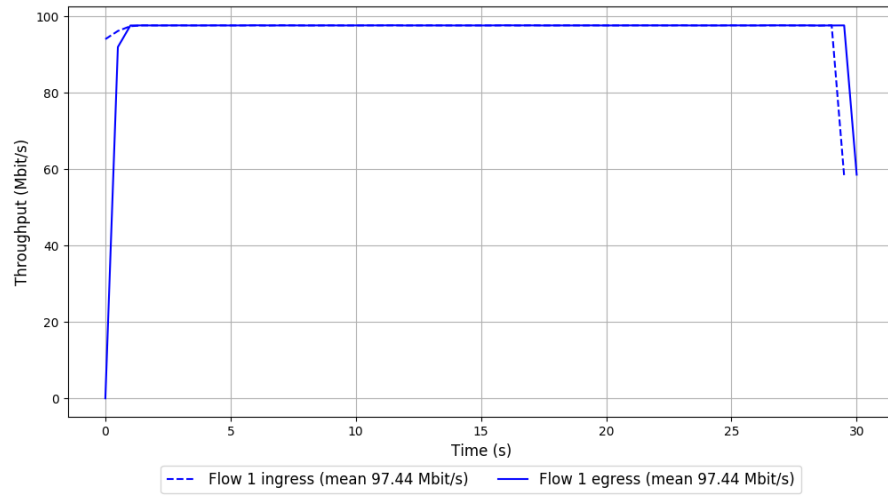
-- Flow 1:

Average throughput: 97.44 Mbit/s

95th percentile per-packet one-way delay: 2.209 ms

Loss rate: 0.00%

Run 5: Report of Indigo — Data Link

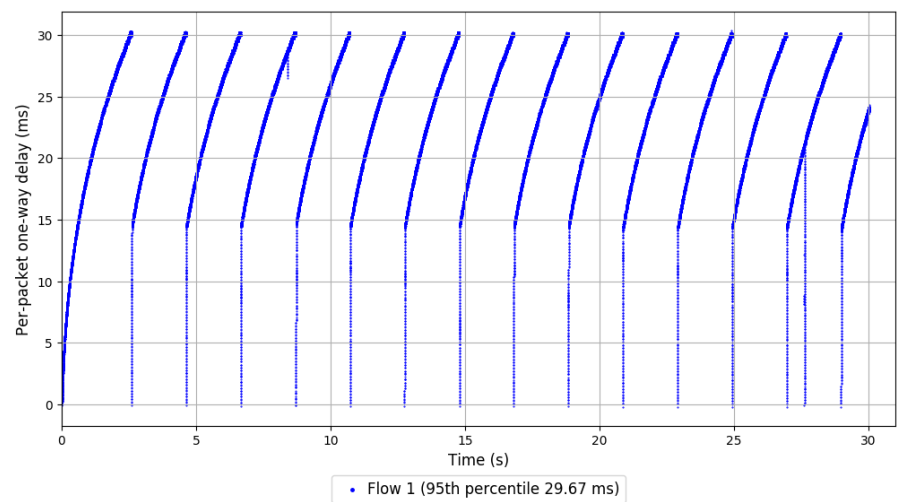
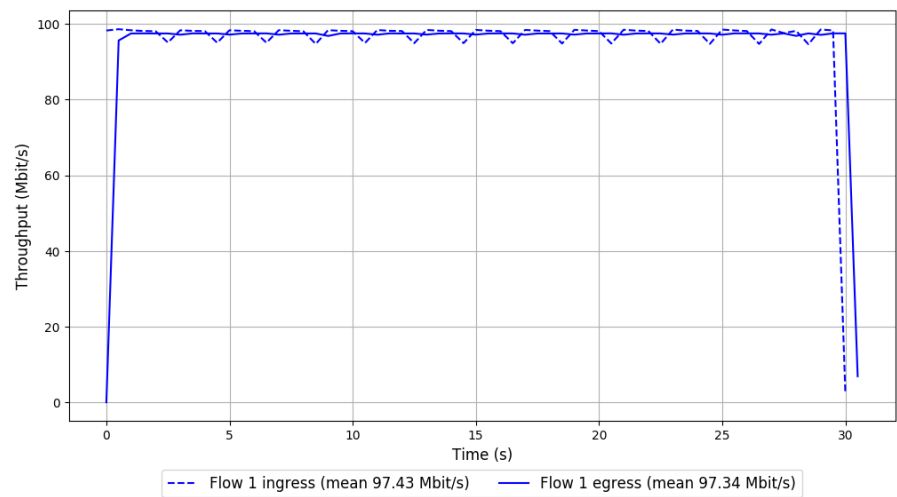


Run 1: Statistics of LEDBAT

Start at: 2018-09-06 04:48:09
End at: 2018-09-06 04:48:39
Local clock offset: 0.41 ms
Remote clock offset: -0.684 ms

Below is generated by plot.py at 2018-09-06 06:25:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.34 Mbit/s
95th percentile per-packet one-way delay: 29.673 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.34 Mbit/s
95th percentile per-packet one-way delay: 29.673 ms
Loss rate: 0.01%

Run 1: Report of LEDBAT — Data Link

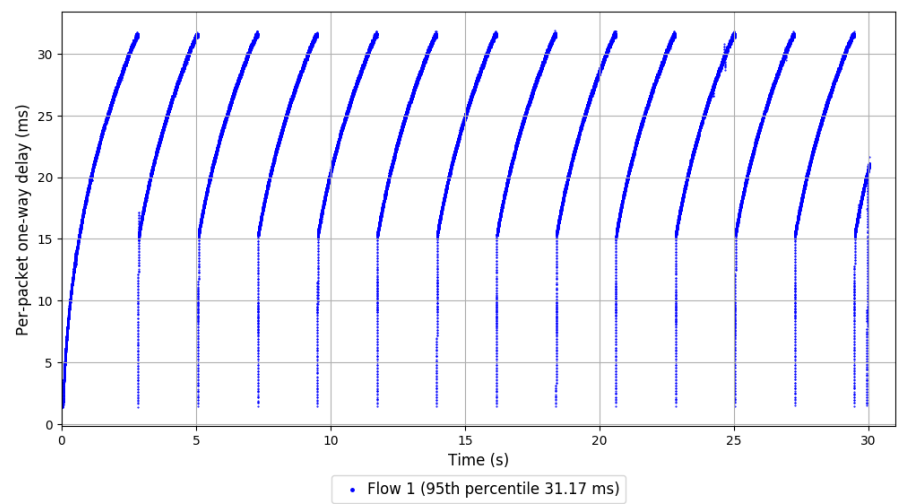
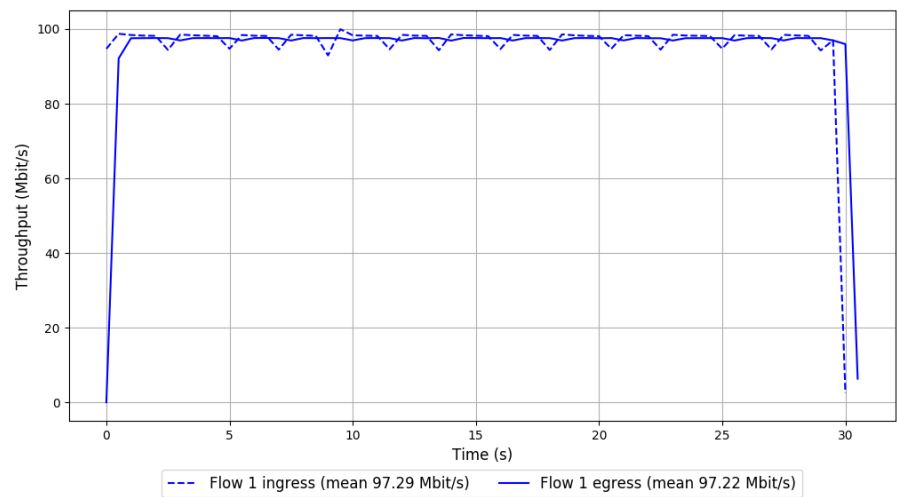


Run 2: Statistics of LEDBAT

Start at: 2018-09-06 05:08:11
End at: 2018-09-06 05:08:41
Local clock offset: -0.324 ms
Remote clock offset: -0.058 ms

Below is generated by plot.py at 2018-09-06 06:25:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.22 Mbit/s
95th percentile per-packet one-way delay: 31.168 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 97.22 Mbit/s
95th percentile per-packet one-way delay: 31.168 ms
Loss rate: 0.01%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-09-06 05:28:13

End at: 2018-09-06 05:28:43

Local clock offset: -6.07 ms

Remote clock offset: 1.29 ms

Below is generated by plot.py at 2018-09-06 06:26:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.24 Mbit/s

95th percentile per-packet one-way delay: 31.949 ms

Loss rate: 0.02%

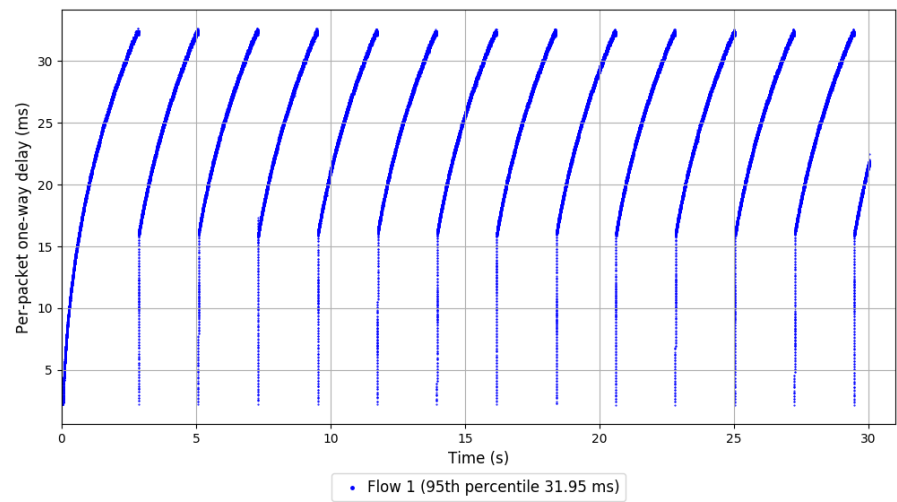
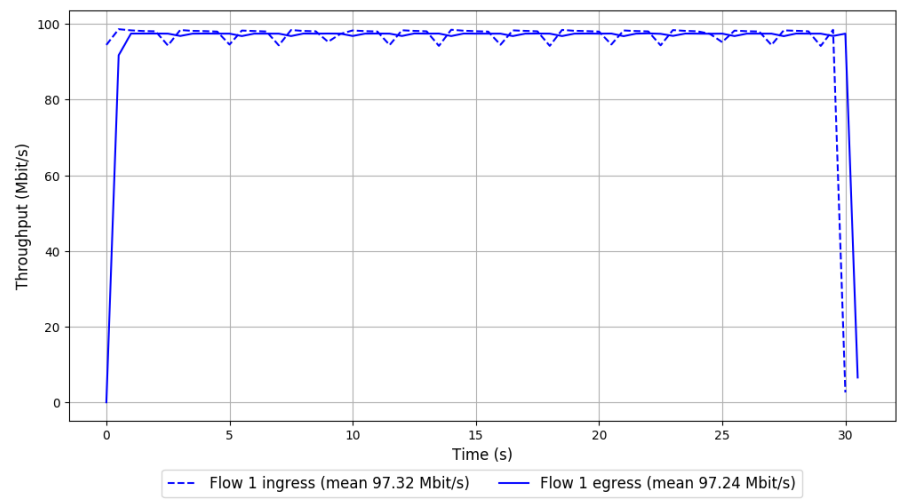
-- Flow 1:

Average throughput: 97.24 Mbit/s

95th percentile per-packet one-way delay: 31.949 ms

Loss rate: 0.02%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-09-06 05:48:13

End at: 2018-09-06 05:48:43

Local clock offset: -5.497 ms

Remote clock offset: 1.887 ms

Below is generated by plot.py at 2018-09-06 06:26:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.23 Mbit/s

95th percentile per-packet one-way delay: 31.318 ms

Loss rate: 0.02%

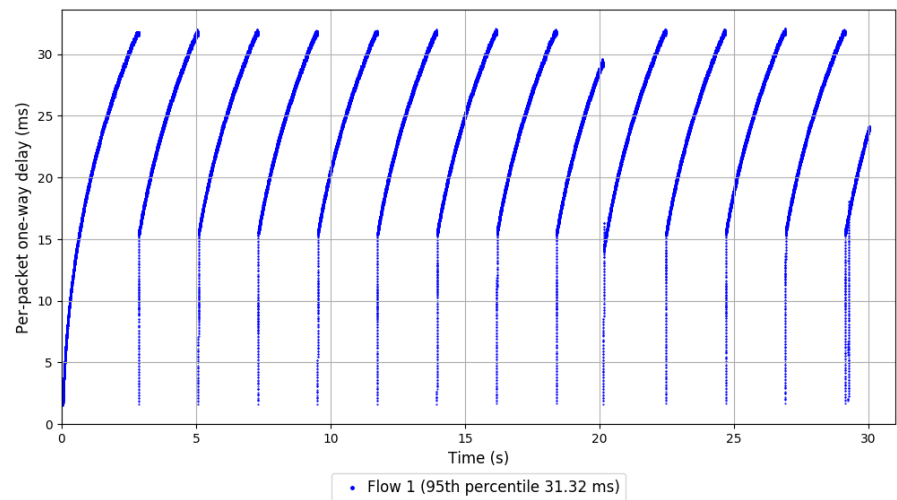
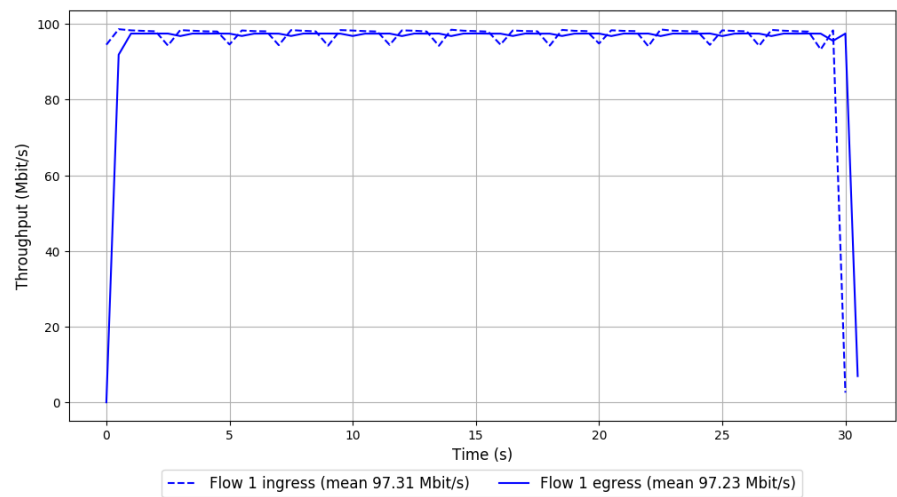
-- Flow 1:

Average throughput: 97.23 Mbit/s

95th percentile per-packet one-way delay: 31.318 ms

Loss rate: 0.02%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-06 06:08:12

End at: 2018-09-06 06:08:42

Local clock offset: -2.827 ms

Remote clock offset: 2.539 ms

Below is generated by plot.py at 2018-09-06 06:26:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.36 Mbit/s

95th percentile per-packet one-way delay: 29.929 ms

Loss rate: 0.01%

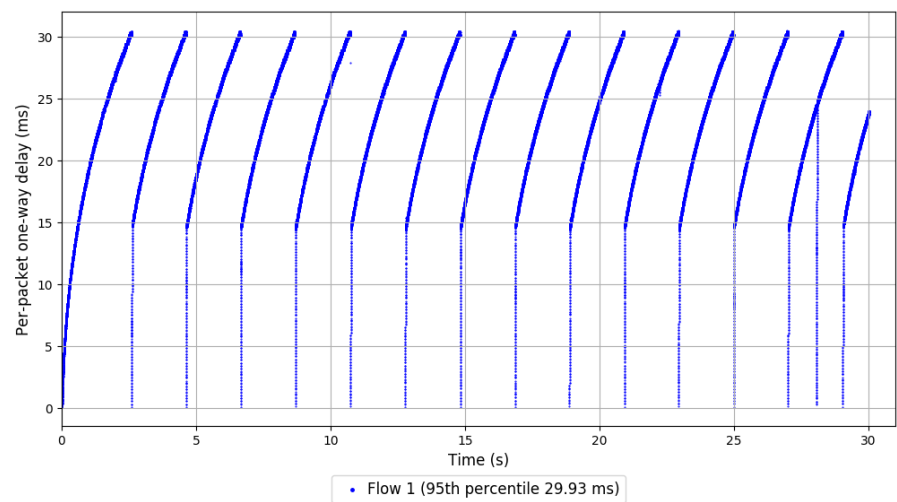
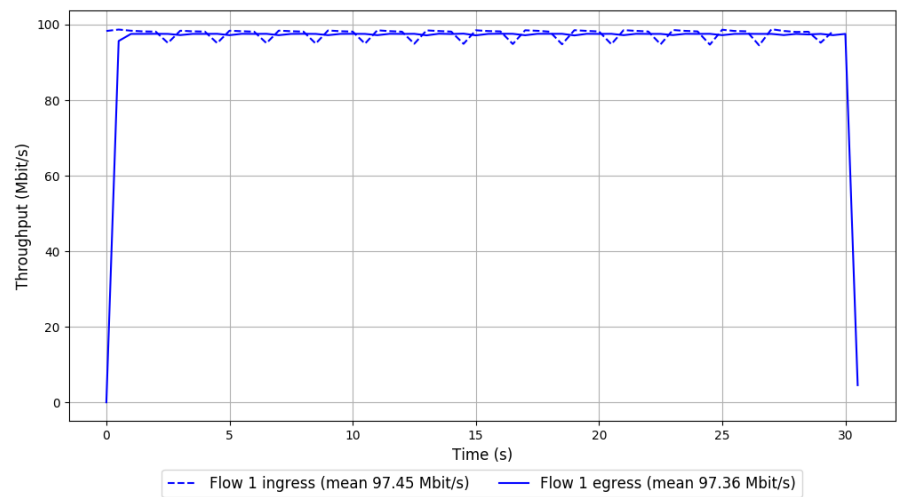
-- Flow 1:

Average throughput: 97.36 Mbit/s

95th percentile per-packet one-way delay: 29.929 ms

Loss rate: 0.01%

Run 5: Report of LEDBAT — Data Link

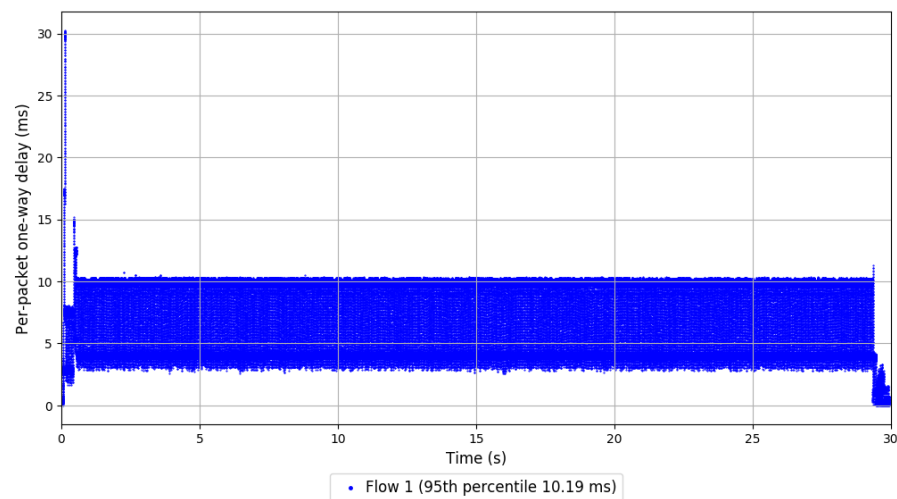
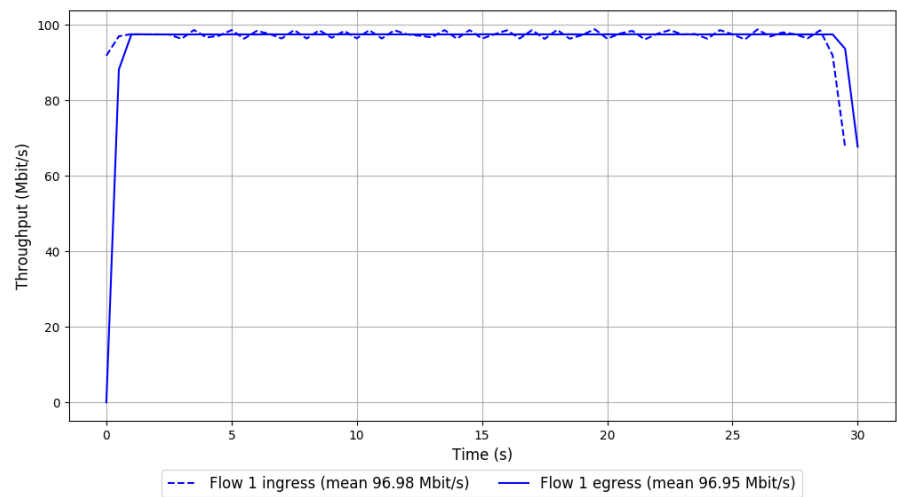


```
Run 1: Statistics of Indigo-Muses

Start at: 2018-09-06 04:53:45
End at: 2018-09-06 04:54:15
Local clock offset: -0.86 ms
Remote clock offset: -0.662 ms

# Below is generated by plot.py at 2018-09-06 06:26:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.95 Mbit/s
95th percentile per-packet one-way delay: 10.186 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 96.95 Mbit/s
95th percentile per-packet one-way delay: 10.186 ms
Loss rate: 0.02%
```

Run 1: Report of Indigo-Muses — Data Link



Run 2: Statistics of Indigo-Muses

Start at: 2018-09-06 05:13:49

End at: 2018-09-06 05:14:19

Local clock offset: 0.416 ms

Remote clock offset: 0.56 ms

Below is generated by plot.py at 2018-09-06 06:26:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.26 Mbit/s

95th percentile per-packet one-way delay: 31.609 ms

Loss rate: 11.14%

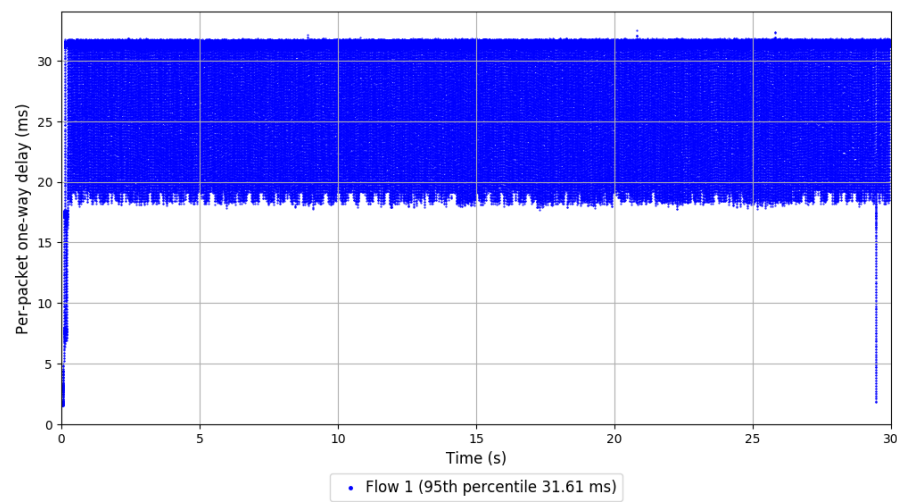
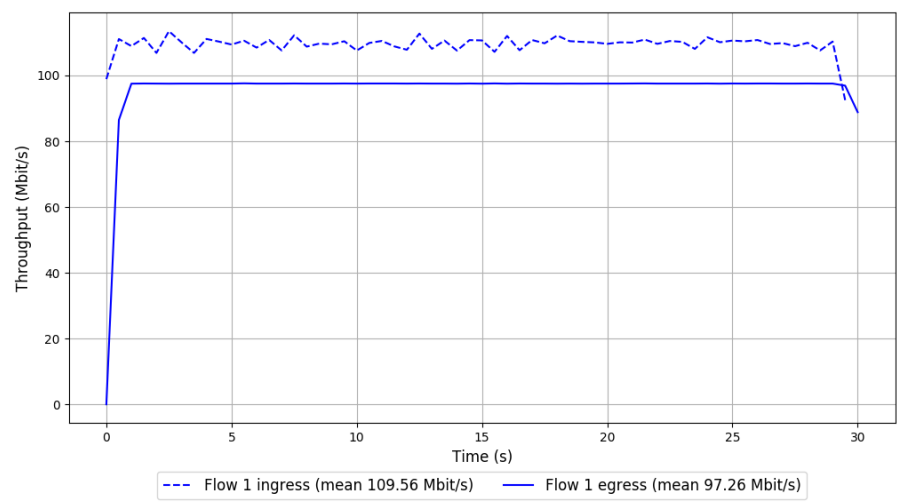
-- Flow 1:

Average throughput: 97.26 Mbit/s

95th percentile per-packet one-way delay: 31.609 ms

Loss rate: 11.14%

Run 2: Report of Indigo-Muses — Data Link



Run 3: Statistics of Indigo-Muses

Start at: 2018-09-06 05:33:49

End at: 2018-09-06 05:34:19

Local clock offset: -6.721 ms

Remote clock offset: 1.438 ms

Below is generated by plot.py at 2018-09-06 06:26:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 54.14 Mbit/s

95th percentile per-packet one-way delay: 6.599 ms

Loss rate: 0.05%

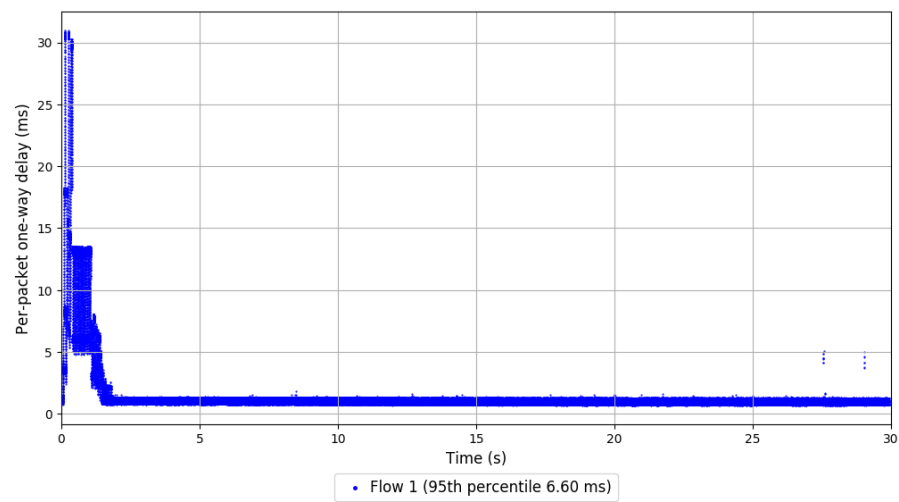
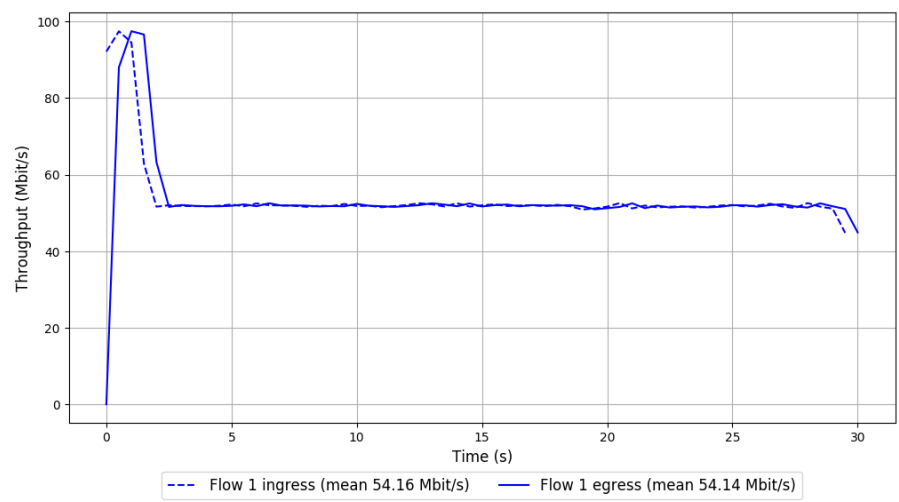
-- Flow 1:

Average throughput: 54.14 Mbit/s

95th percentile per-packet one-way delay: 6.599 ms

Loss rate: 0.05%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-09-06 05:53:49

End at: 2018-09-06 05:54:19

Local clock offset: -4.461 ms

Remote clock offset: 2.067 ms

Below is generated by plot.py at 2018-09-06 06:26:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 53.99 Mbit/s

95th percentile per-packet one-way delay: 5.447 ms

Loss rate: 0.05%

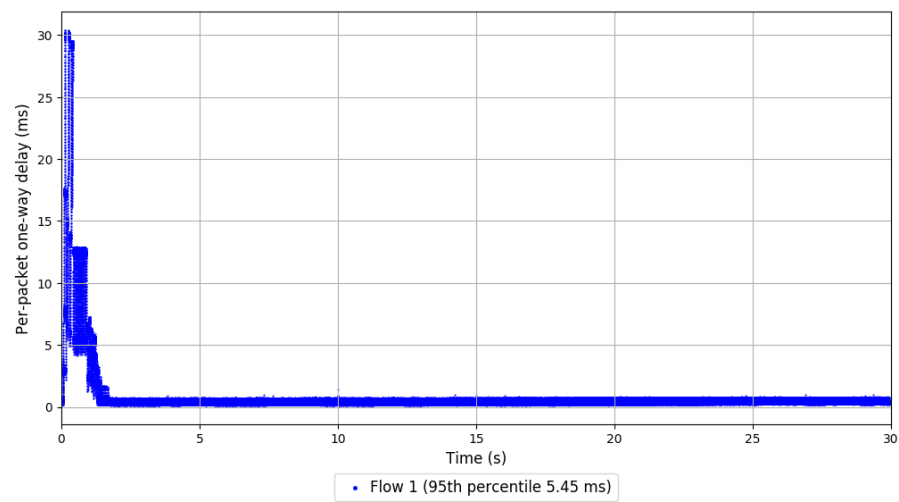
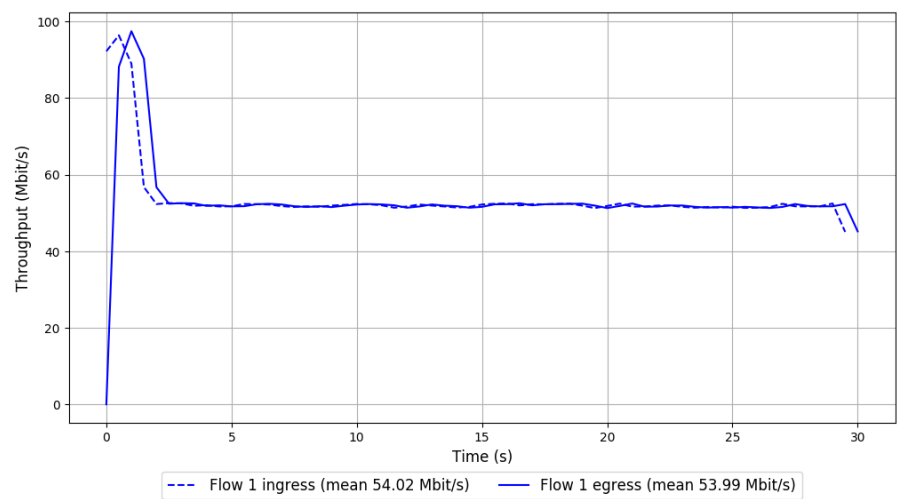
-- Flow 1:

Average throughput: 53.99 Mbit/s

95th percentile per-packet one-way delay: 5.447 ms

Loss rate: 0.05%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-06 06:13:49

End at: 2018-09-06 06:14:19

Local clock offset: -2.354 ms

Remote clock offset: 2.656 ms

Below is generated by plot.py at 2018-09-06 06:27:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.30 Mbit/s

95th percentile per-packet one-way delay: 10.318 ms

Loss rate: 0.02%

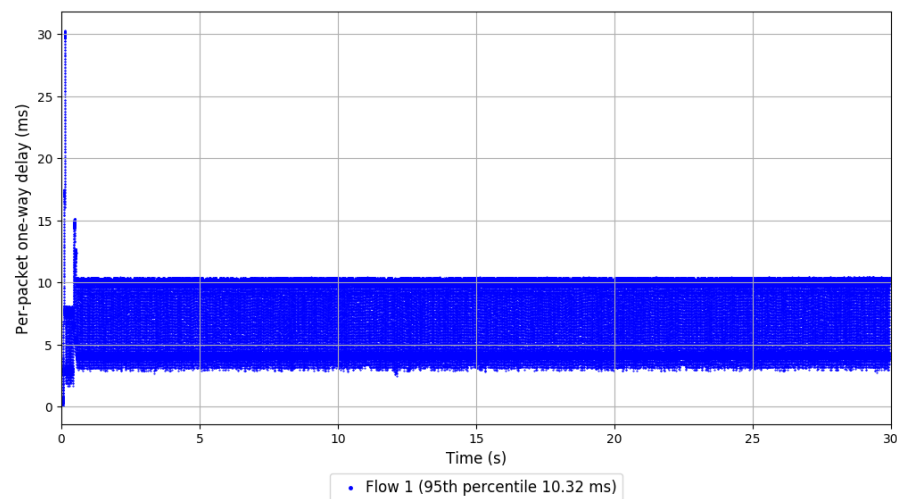
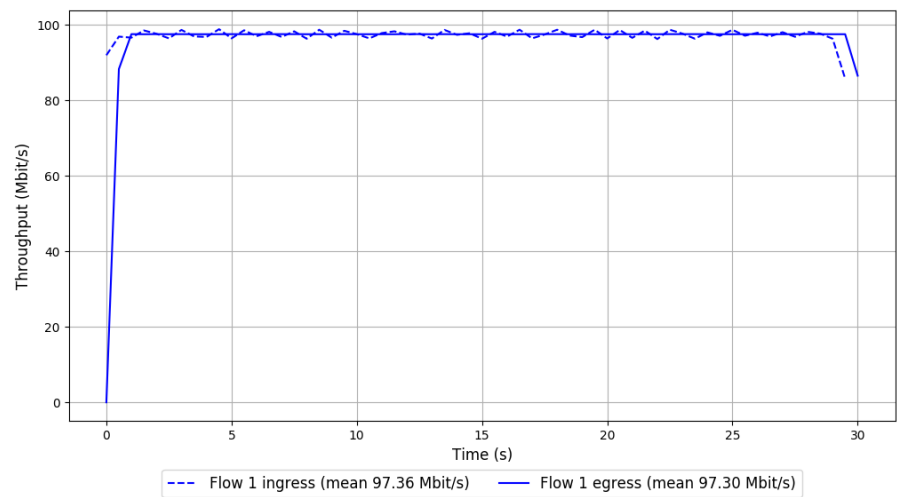
-- Flow 1:

Average throughput: 97.30 Mbit/s

95th percentile per-packet one-way delay: 10.318 ms

Loss rate: 0.02%

Run 5: Report of Indigo-Muses — Data Link

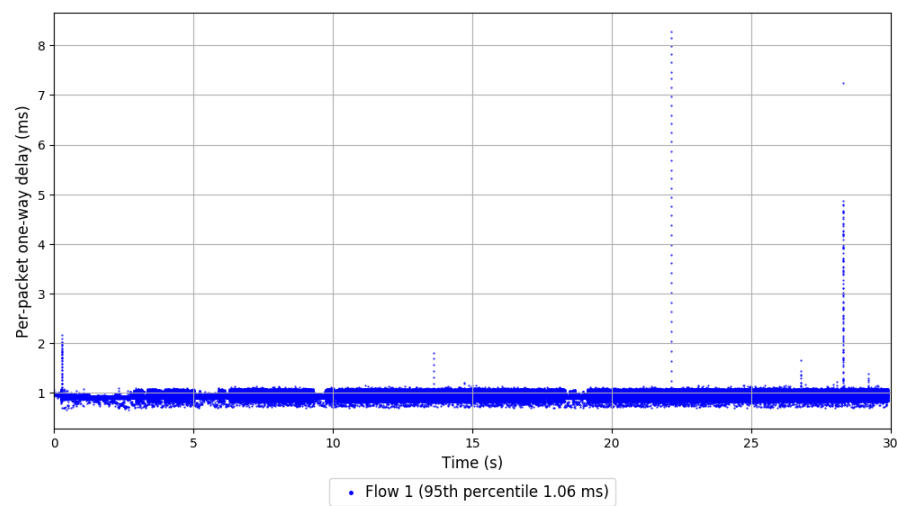
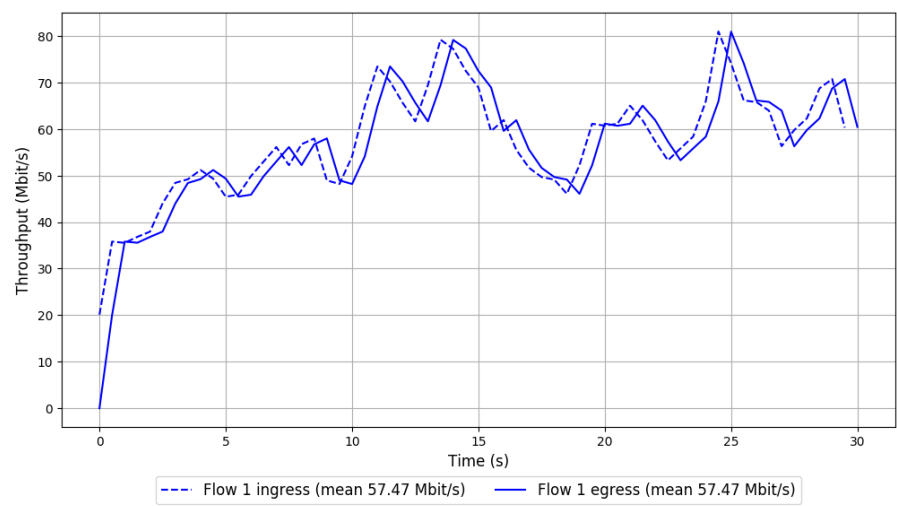


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-09-06 04:58:08
End at: 2018-09-06 04:58:38
Local clock offset: -1.767 ms
Remote clock offset: -0.506 ms

# Below is generated by plot.py at 2018-09-06 06:27:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.47 Mbit/s
95th percentile per-packet one-way delay: 1.057 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.47 Mbit/s
95th percentile per-packet one-way delay: 1.057 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-06 05:18:11

End at: 2018-09-06 05:18:41

Local clock offset: -1.48 ms

Remote clock offset: 0.883 ms

Below is generated by plot.py at 2018-09-06 06:27:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 76.62 Mbit/s

95th percentile per-packet one-way delay: 1.954 ms

Loss rate: 0.00%

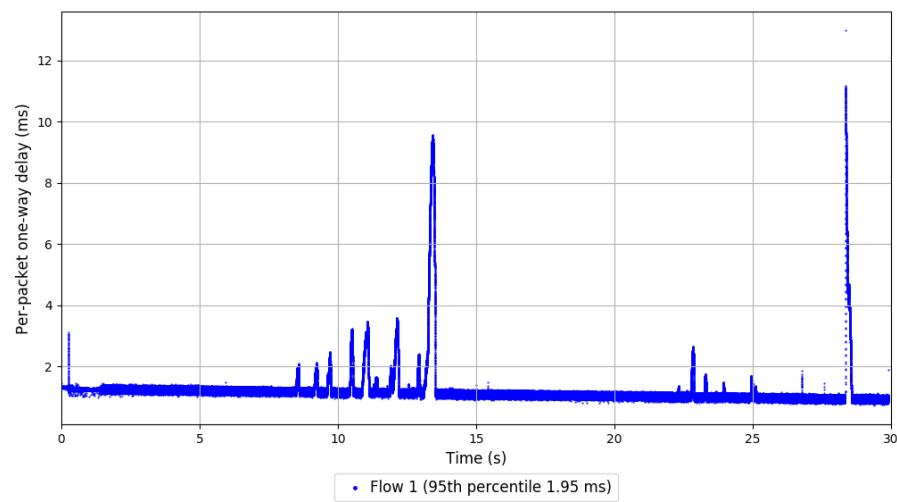
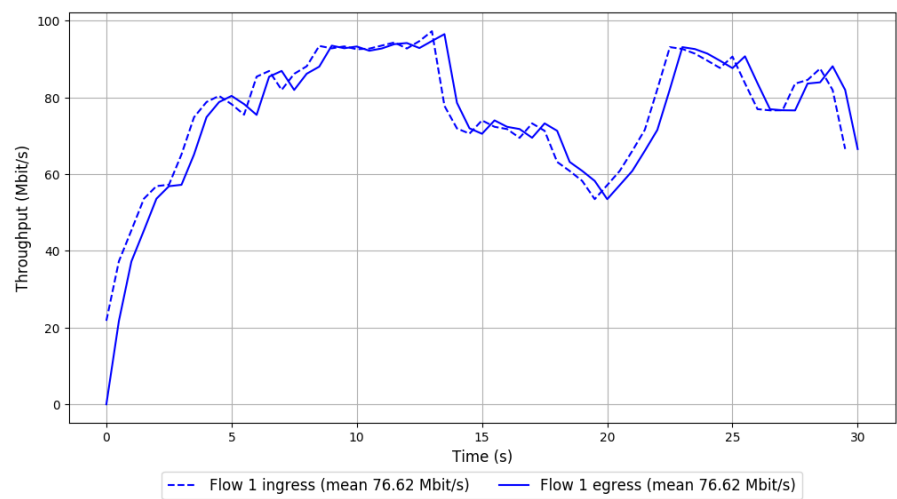
-- Flow 1:

Average throughput: 76.62 Mbit/s

95th percentile per-packet one-way delay: 1.954 ms

Loss rate: 0.00%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-09-06 05:38:10

End at: 2018-09-06 05:38:40

Local clock offset: -6.918 ms

Remote clock offset: 1.551 ms

Below is generated by plot.py at 2018-09-06 06:27:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.02 Mbit/s

95th percentile per-packet one-way delay: 1.762 ms

Loss rate: 0.00%

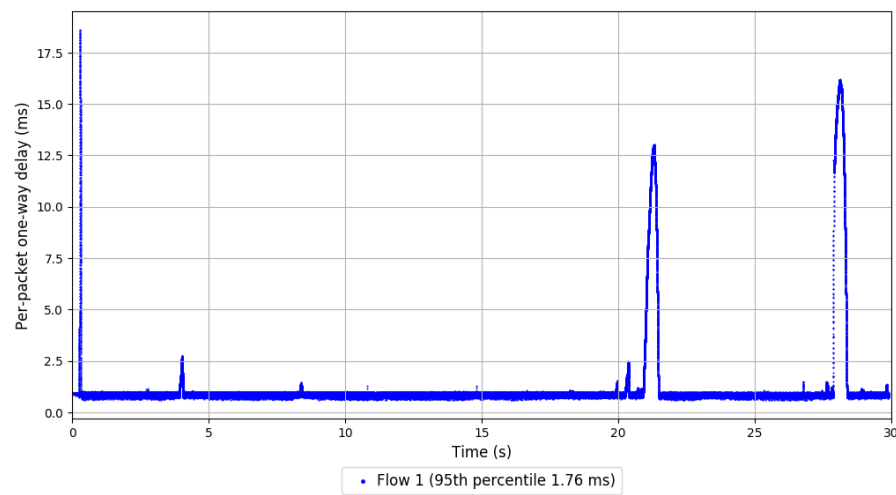
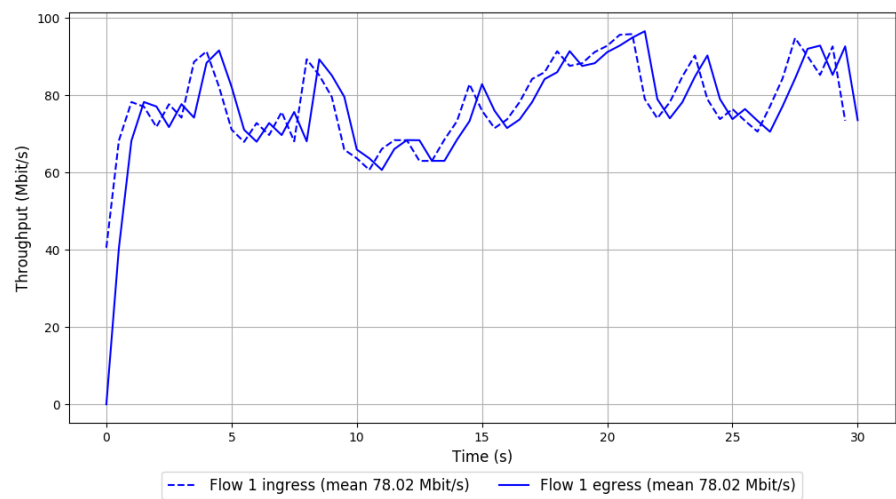
-- Flow 1:

Average throughput: 78.02 Mbit/s

95th percentile per-packet one-way delay: 1.762 ms

Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-06 05:58:10

End at: 2018-09-06 05:58:40

Local clock offset: -4.591 ms

Remote clock offset: 2.223 ms

Below is generated by plot.py at 2018-09-06 06:27:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 57.62 Mbit/s

95th percentile per-packet one-way delay: 1.112 ms

Loss rate: 0.00%

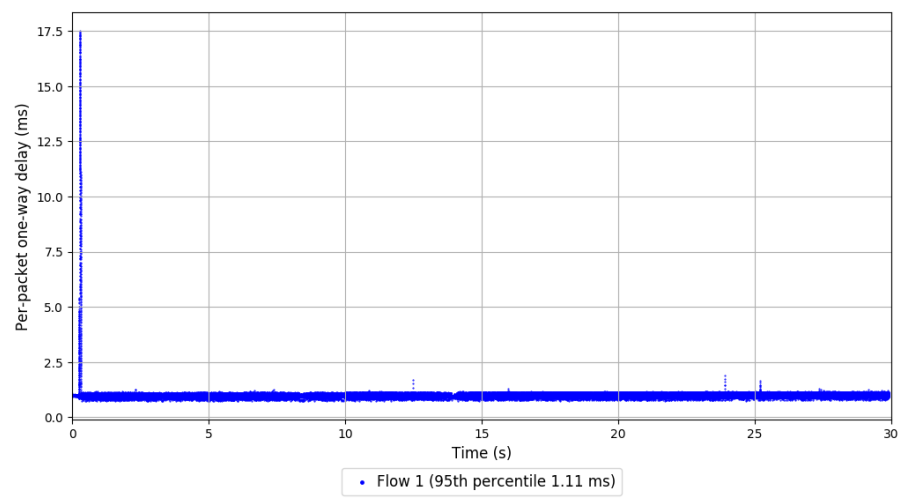
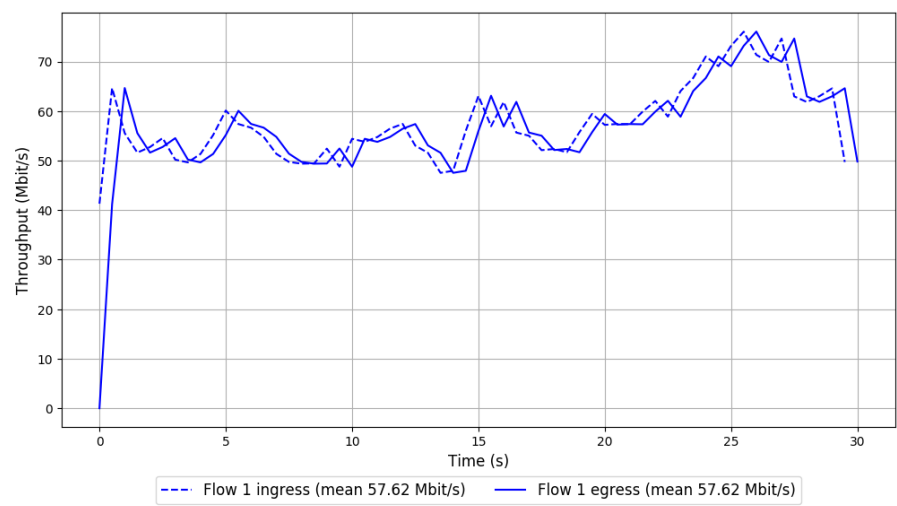
-- Flow 1:

Average throughput: 57.62 Mbit/s

95th percentile per-packet one-way delay: 1.112 ms

Loss rate: 0.00%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-06 06:18:11

End at: 2018-09-06 06:18:41

Local clock offset: -3.254 ms

Remote clock offset: 2.511 ms

Below is generated by plot.py at 2018-09-06 06:27:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 81.23 Mbit/s

95th percentile per-packet one-way delay: 3.016 ms

Loss rate: 0.00%

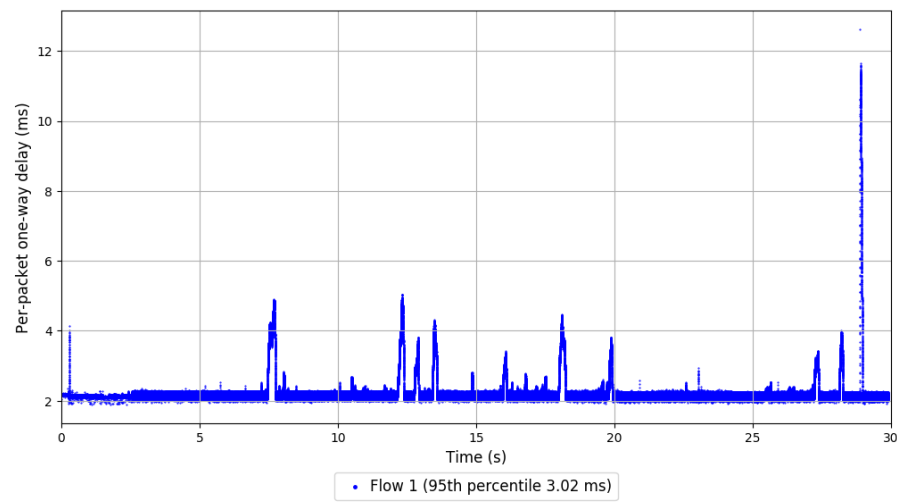
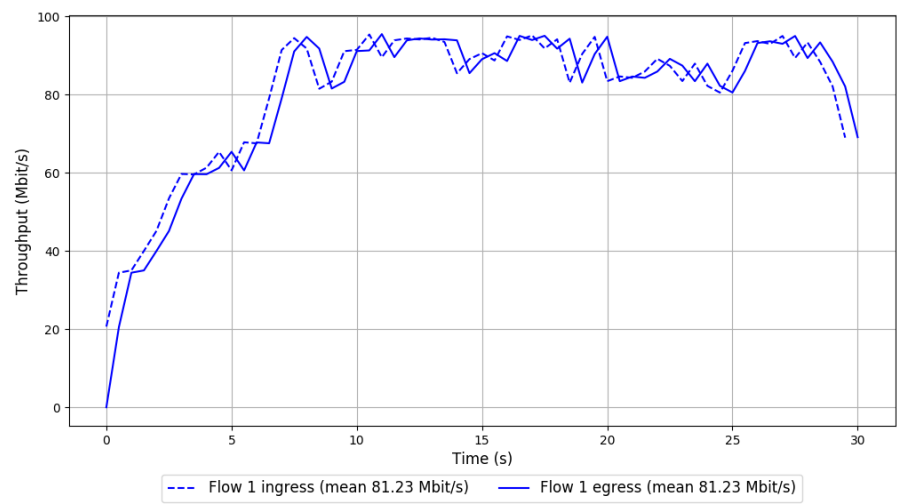
-- Flow 1:

Average throughput: 81.23 Mbit/s

95th percentile per-packet one-way delay: 3.016 ms

Loss rate: 0.00%

Run 5: Report of PCC-Allegro — Data Link

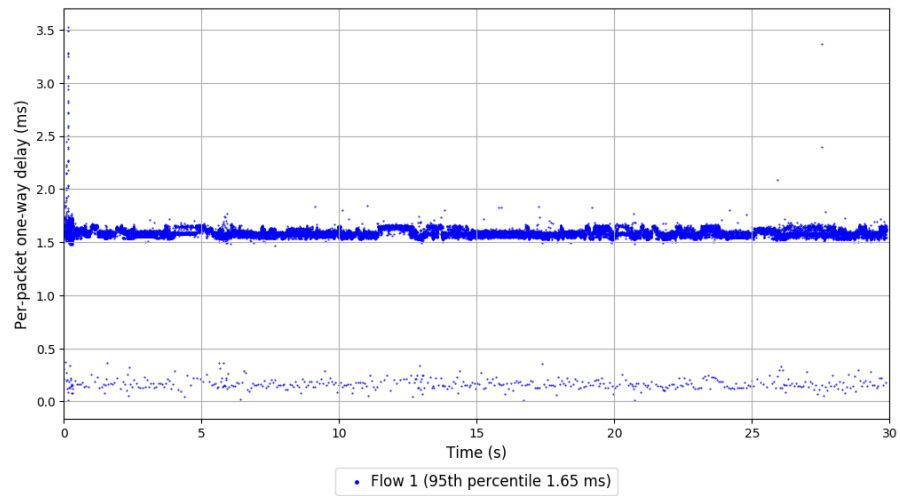
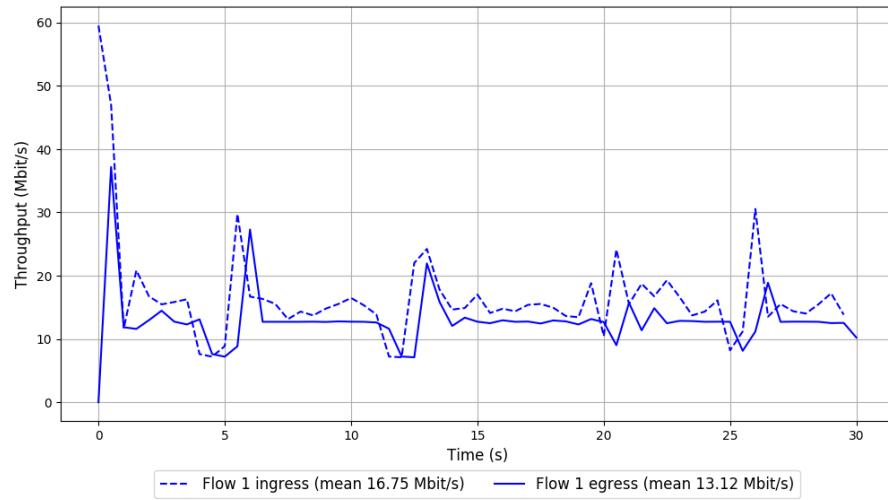


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-06 04:57:03
End at: 2018-09-06 04:57:33
Local clock offset: -1.018 ms
Remote clock offset: -0.535 ms

# Below is generated by plot.py at 2018-09-06 06:27:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 1.646 ms
Loss rate: 21.67%
-- Flow 1:
Average throughput: 13.12 Mbit/s
95th percentile per-packet one-way delay: 1.646 ms
Loss rate: 21.67%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-09-06 05:17:06

End at: 2018-09-06 05:17:37

Local clock offset: -1.45 ms

Remote clock offset: 0.811 ms

Below is generated by plot.py at 2018-09-06 06:27:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 6.17 Mbit/s

95th percentile per-packet one-way delay: 0.619 ms

Loss rate: 1.32%

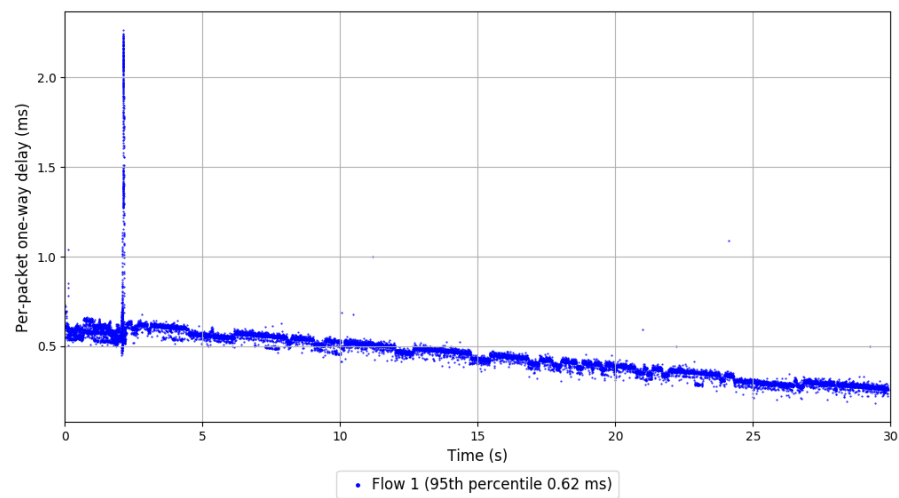
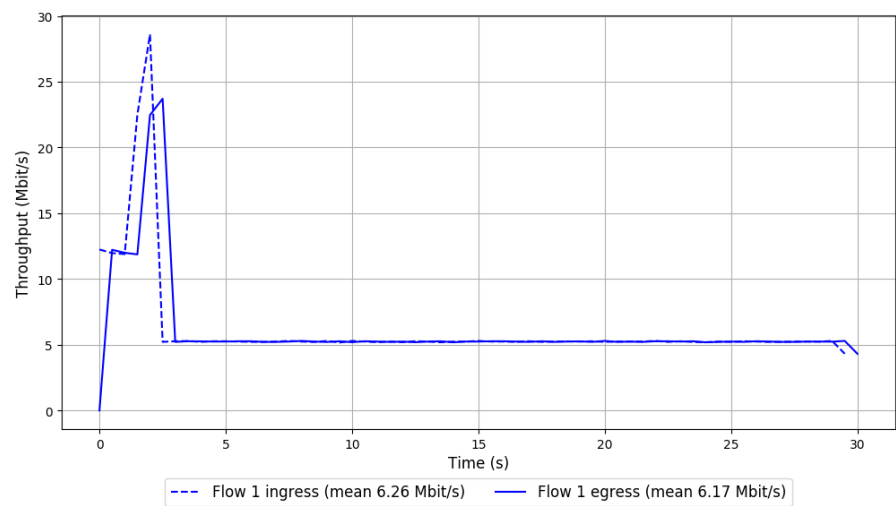
-- Flow 1:

Average throughput: 6.17 Mbit/s

95th percentile per-packet one-way delay: 0.619 ms

Loss rate: 1.32%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-09-06 05:37:05

End at: 2018-09-06 05:37:35

Local clock offset: -6.89 ms

Remote clock offset: 1.533 ms

Below is generated by plot.py at 2018-09-06 06:27:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 13.12 Mbit/s

95th percentile per-packet one-way delay: 2.313 ms

Loss rate: 14.63%

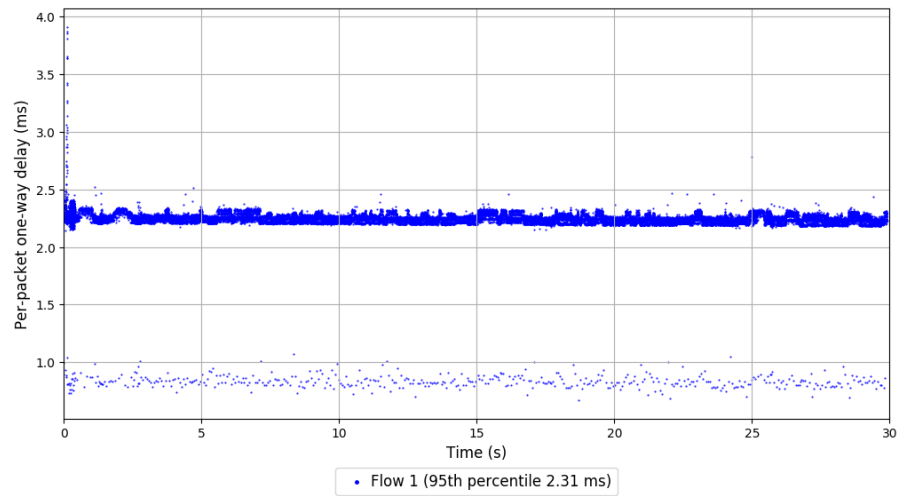
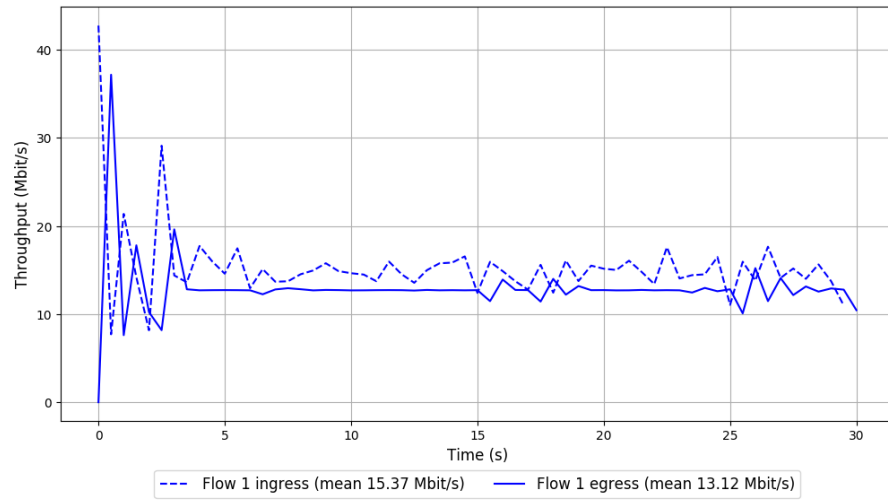
-- Flow 1:

Average throughput: 13.12 Mbit/s

95th percentile per-packet one-way delay: 2.313 ms

Loss rate: 14.63%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-09-06 05:57:05

End at: 2018-09-06 05:57:35

Local clock offset: -4.776 ms

Remote clock offset: 2.172 ms

Below is generated by plot.py at 2018-09-06 06:27:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 11.57 Mbit/s

95th percentile per-packet one-way delay: 2.547 ms

Loss rate: 31.70%

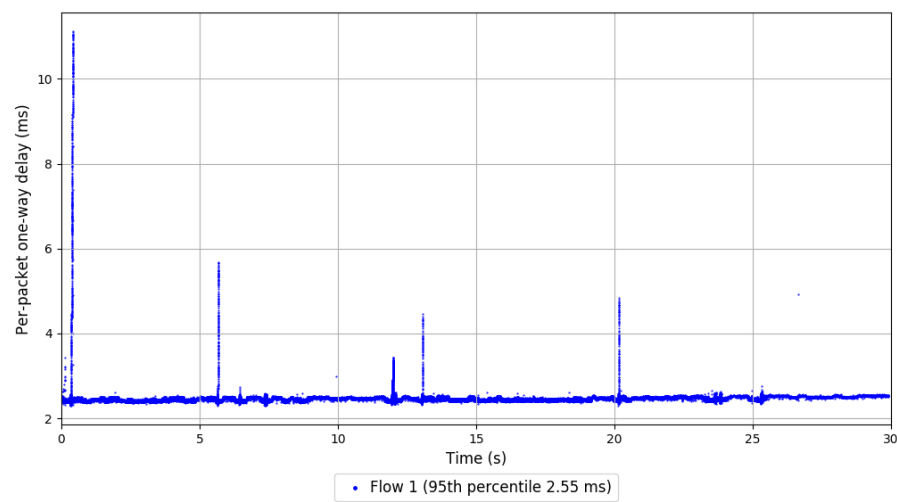
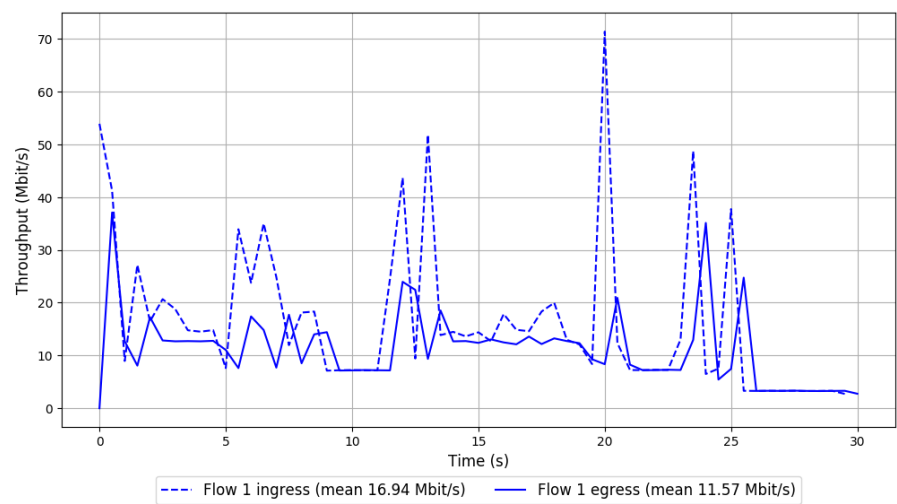
-- Flow 1:

Average throughput: 11.57 Mbit/s

95th percentile per-packet one-way delay: 2.547 ms

Loss rate: 31.70%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-06 06:17:06

End at: 2018-09-06 06:17:36

Local clock offset: -2.424 ms

Remote clock offset: 2.627 ms

Below is generated by plot.py at 2018-09-06 06:27:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 12.94 Mbit/s

95th percentile per-packet one-way delay: 1.566 ms

Loss rate: 21.37%

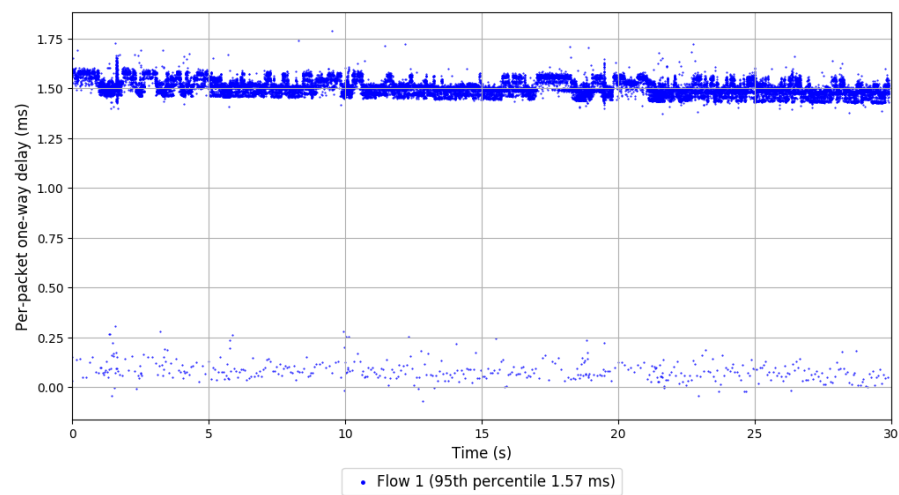
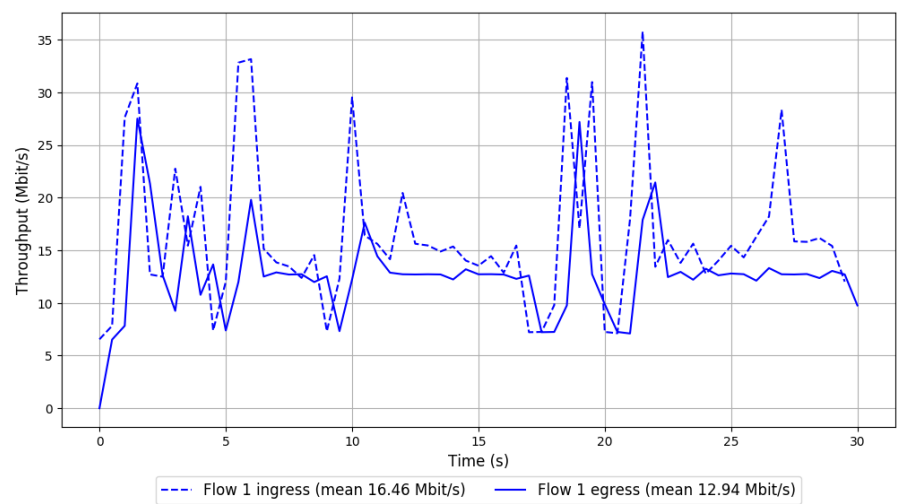
-- Flow 1:

Average throughput: 12.94 Mbit/s

95th percentile per-packet one-way delay: 1.566 ms

Loss rate: 21.37%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

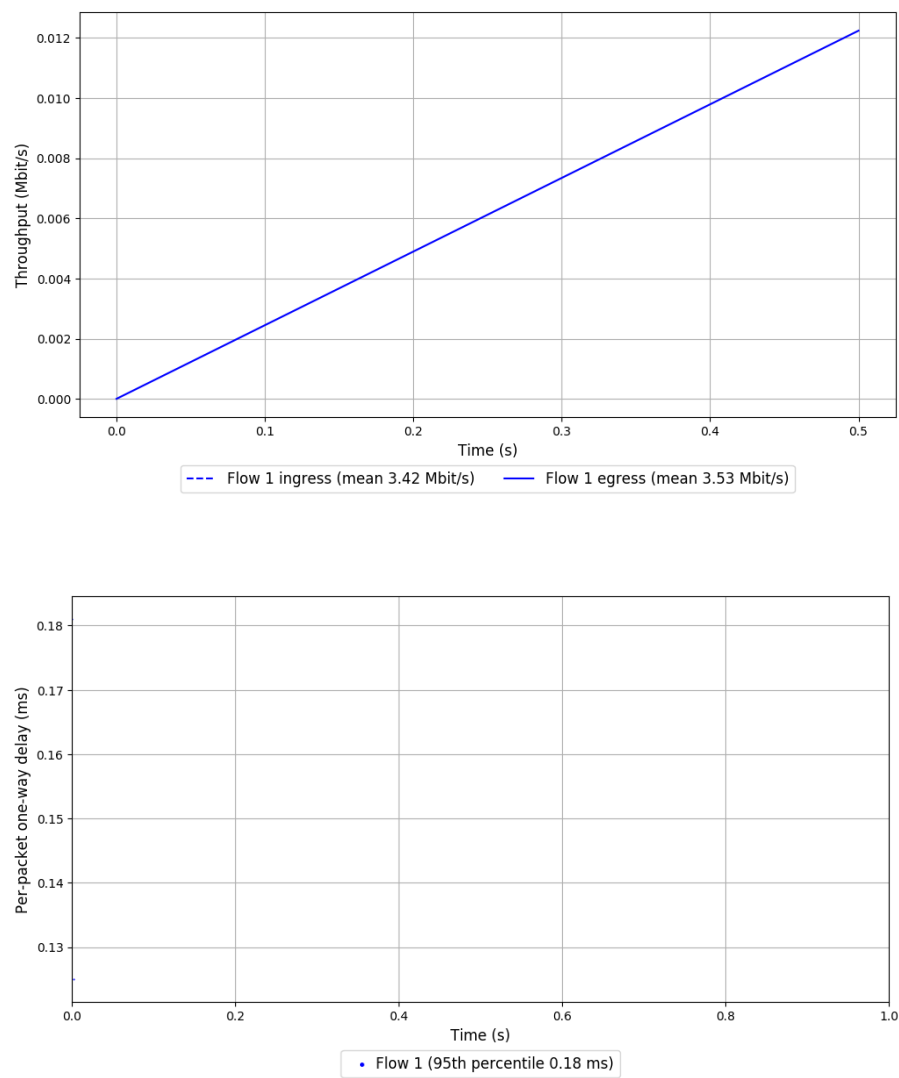
Start at: 2018-09-06 04:40:21

End at: 2018-09-06 04:40:51

Local clock offset: 0.694 ms

Remote clock offset: -0.595 ms

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-06 05:00:19

End at: 2018-09-06 05:00:49

Local clock offset: -1.723 ms

Remote clock offset: -0.49 ms

Below is generated by plot.py at 2018-09-06 06:28:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.33 Mbit/s

95th percentile per-packet one-way delay: 1.400 ms

Loss rate: 0.24%

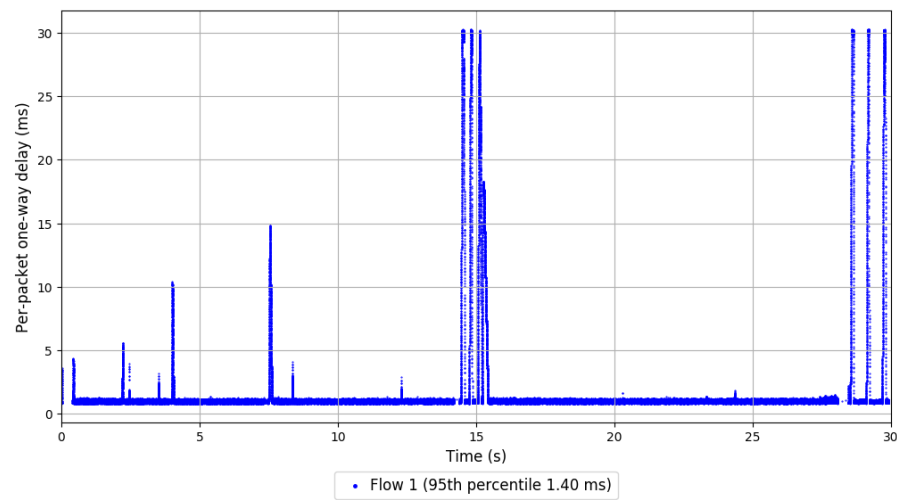
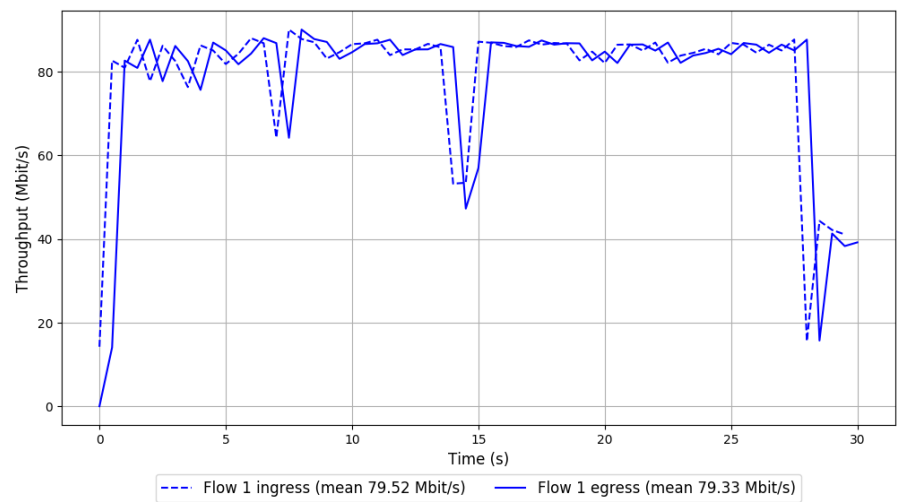
-- Flow 1:

Average throughput: 79.33 Mbit/s

95th percentile per-packet one-way delay: 1.400 ms

Loss rate: 0.24%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-06 05:20:23

End at: 2018-09-06 05:20:53

Local clock offset: -3.601 ms

Remote clock offset: 1.034 ms

Below is generated by plot.py at 2018-09-06 06:28:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 77.23 Mbit/s

95th percentile per-packet one-way delay: 1.443 ms

Loss rate: 0.38%

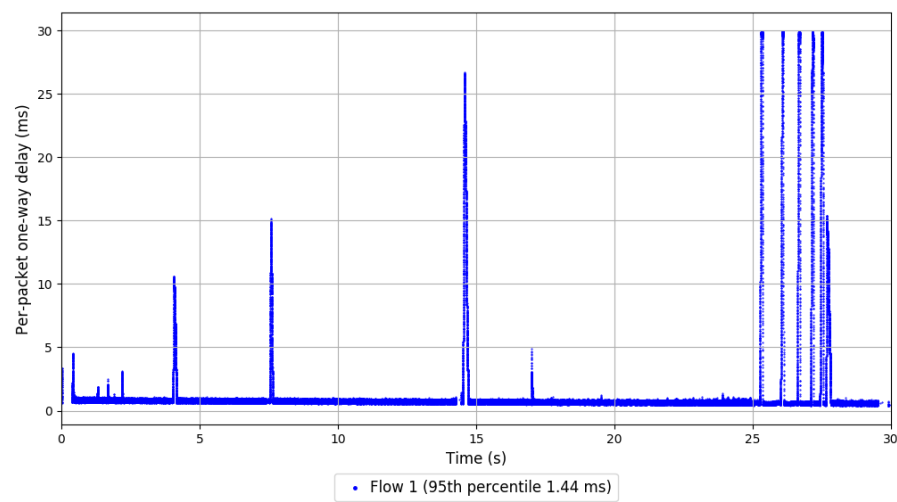
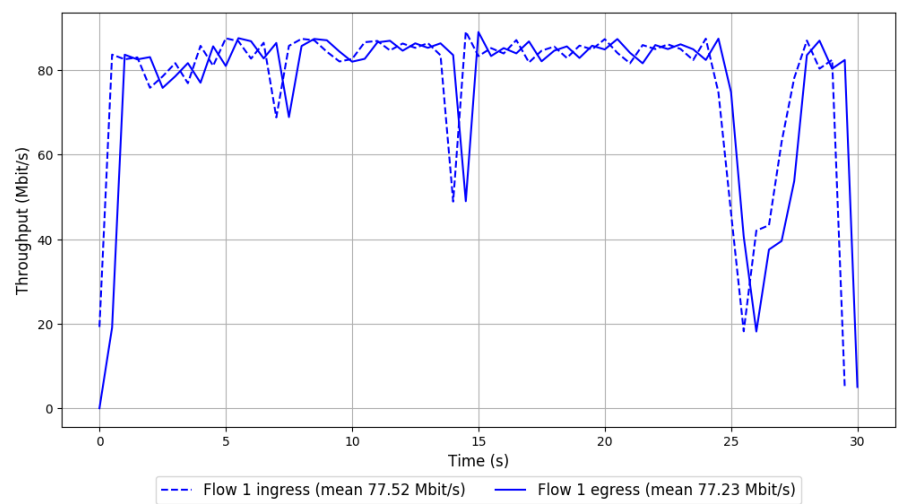
-- Flow 1:

Average throughput: 77.23 Mbit/s

95th percentile per-packet one-way delay: 1.443 ms

Loss rate: 0.38%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-06 05:40:21

End at: 2018-09-06 05:40:51

Local clock offset: -6.959 ms

Remote clock offset: 1.696 ms

Below is generated by plot.py at 2018-09-06 06:28:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 78.98 Mbit/s

95th percentile per-packet one-way delay: 1.751 ms

Loss rate: 0.25%

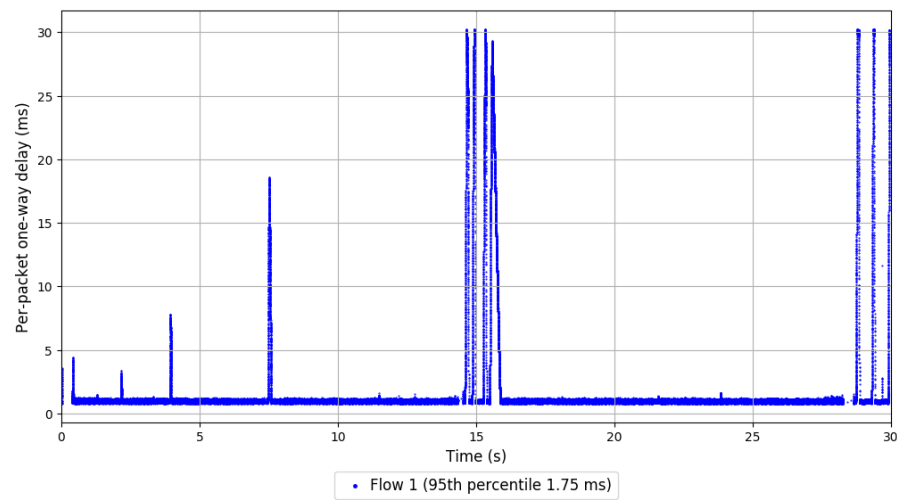
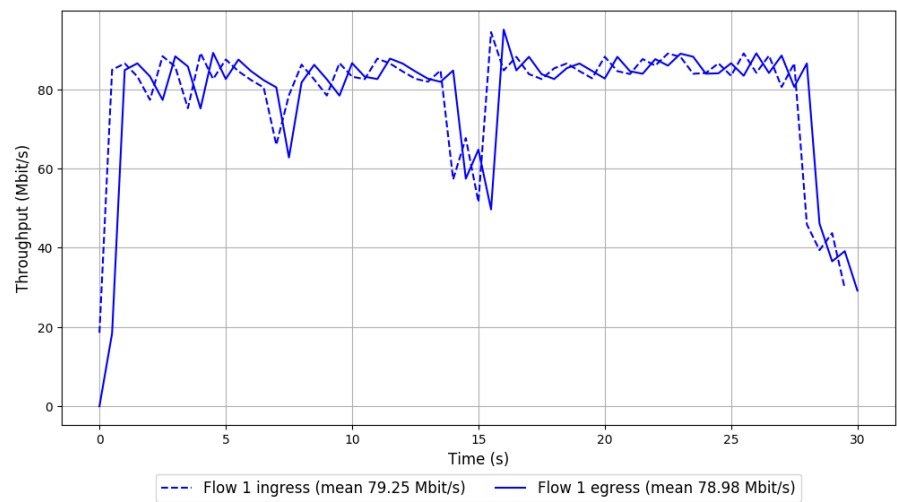
-- Flow 1:

Average throughput: 78.98 Mbit/s

95th percentile per-packet one-way delay: 1.751 ms

Loss rate: 0.25%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-06 06:00:21

End at: 2018-09-06 06:00:51

Local clock offset: -4.367 ms

Remote clock offset: 2.346 ms

Below is generated by plot.py at 2018-09-06 06:28:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 79.17 Mbit/s

95th percentile per-packet one-way delay: 5.742 ms

Loss rate: 0.22%

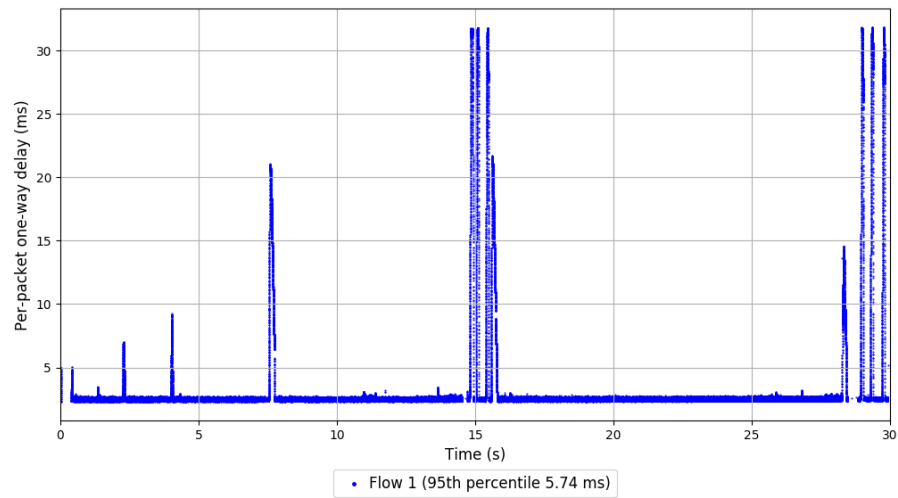
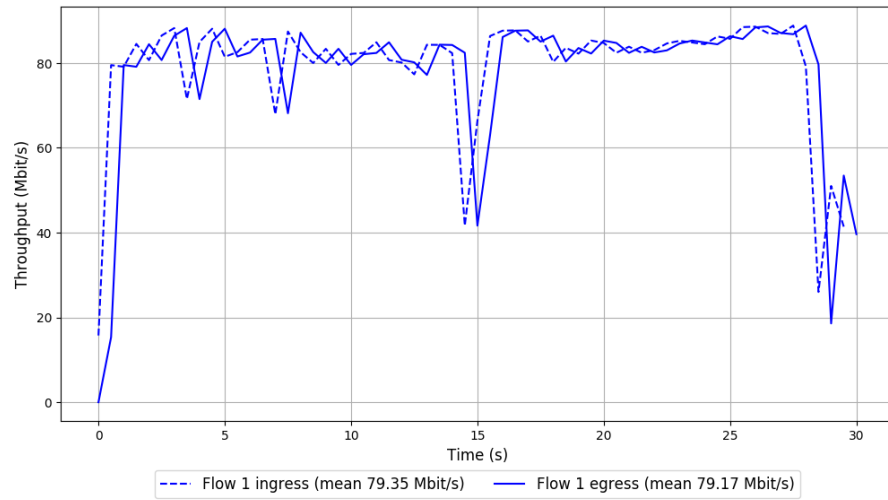
-- Flow 1:

Average throughput: 79.17 Mbit/s

95th percentile per-packet one-way delay: 5.742 ms

Loss rate: 0.22%

Run 5: Report of QUIC Cubic — Data Link

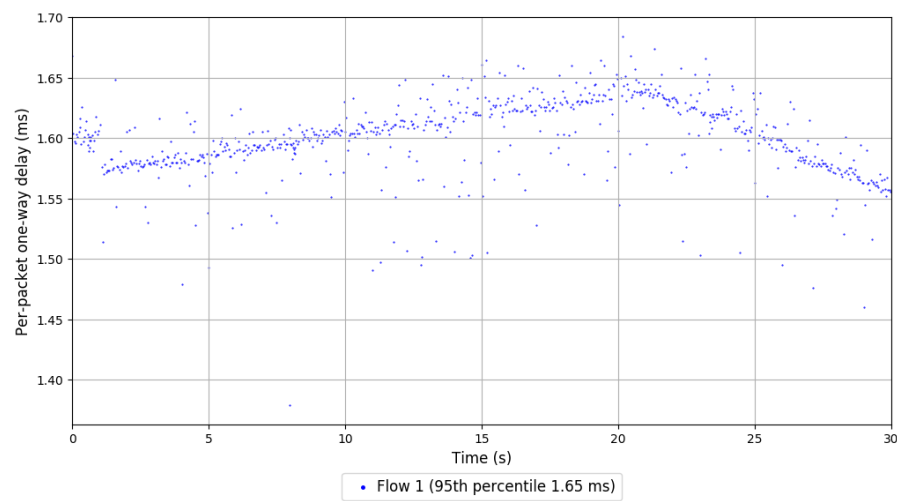
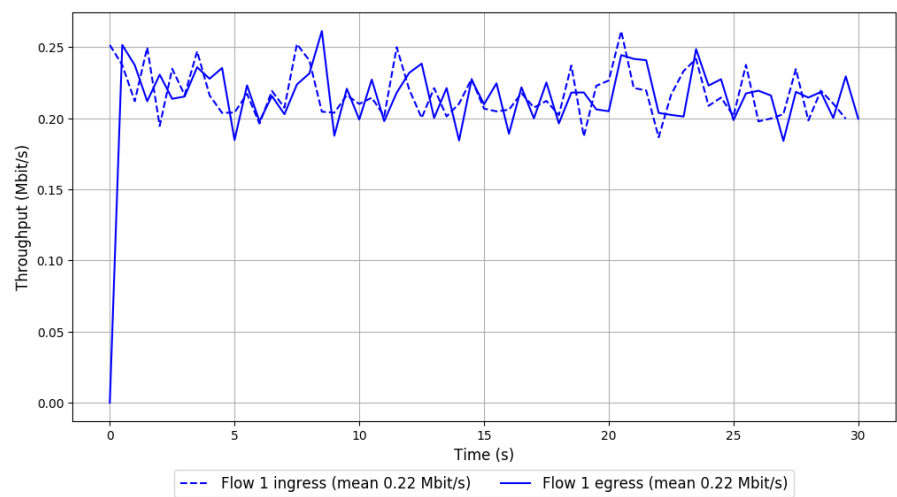


```
Run 1: Statistics of SCReAM

Start at: 2018-09-06 04:44:48
End at: 2018-09-06 04:45:18
Local clock offset: 1.535 ms
Remote clock offset: -0.776 ms

# Below is generated by plot.py at 2018-09-06 06:28:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.645 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.645 ms
Loss rate: 0.00%
```

Run 1: Report of SReAM — Data Link

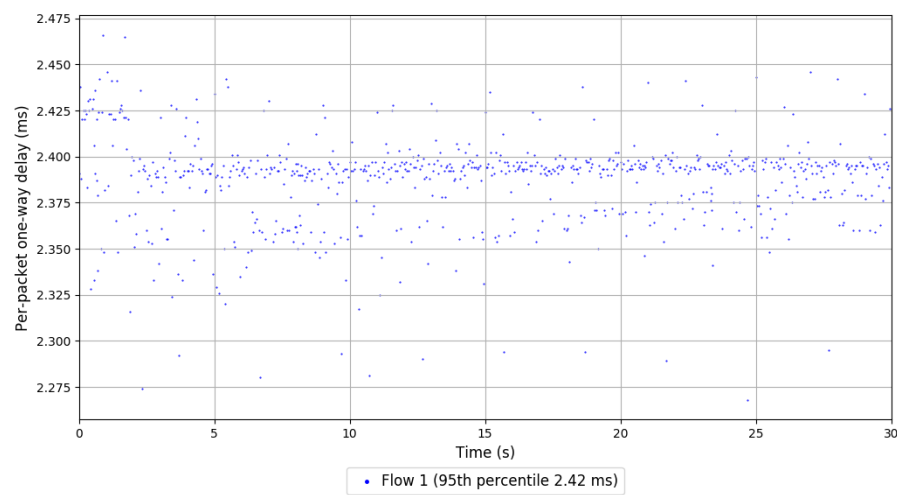
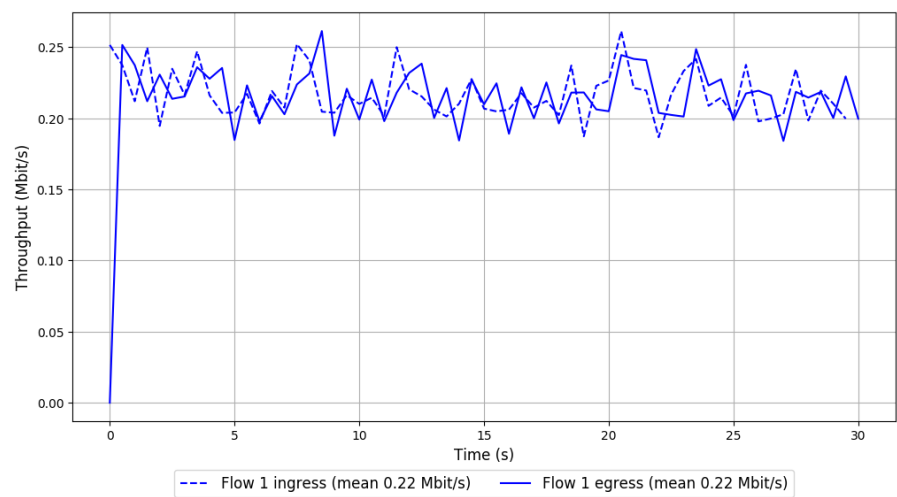


Run 2: Statistics of SCReAM

Start at: 2018-09-06 05:04:50
End at: 2018-09-06 05:05:20
Local clock offset: -1.428 ms
Remote clock offset: -0.207 ms

Below is generated by plot.py at 2018-09-06 06:28:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.425 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 2.425 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-09-06 05:24:53

End at: 2018-09-06 05:25:23

Local clock offset: -4.524 ms

Remote clock offset: 1.154 ms

Below is generated by plot.py at 2018-09-06 06:28:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

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

Loss rate: 0.00%

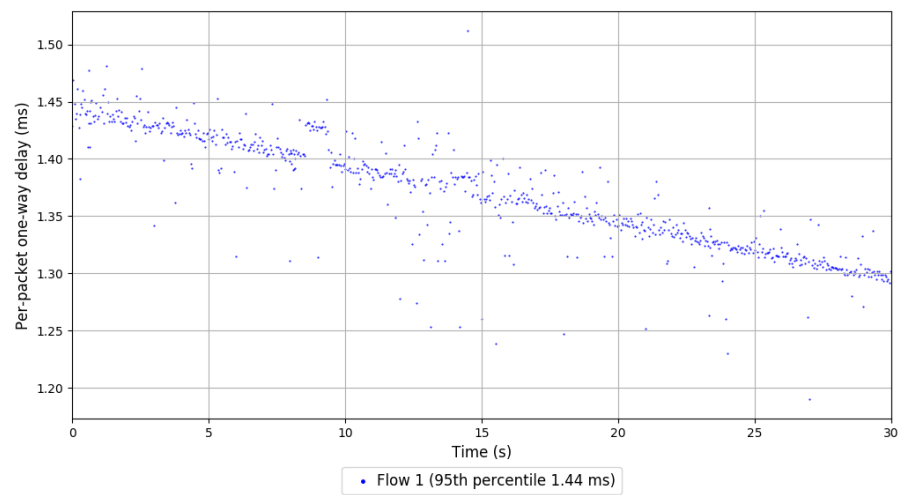
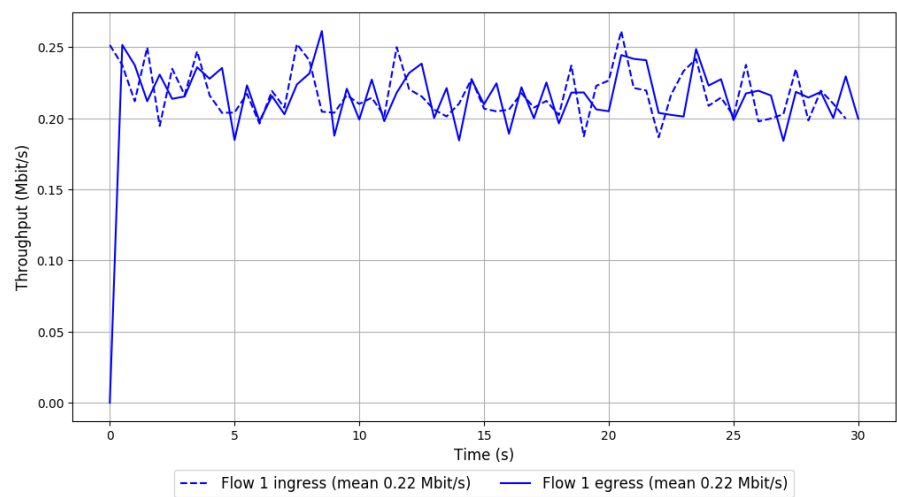
-- Flow 1:

Average throughput: 0.22 Mbit/s

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

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-09-06 05:44:52

End at: 2018-09-06 05:45:22

Local clock offset: -6.205 ms

Remote clock offset: 1.762 ms

Below is generated by plot.py at 2018-09-06 06:28:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.217 ms

Loss rate: 0.00%

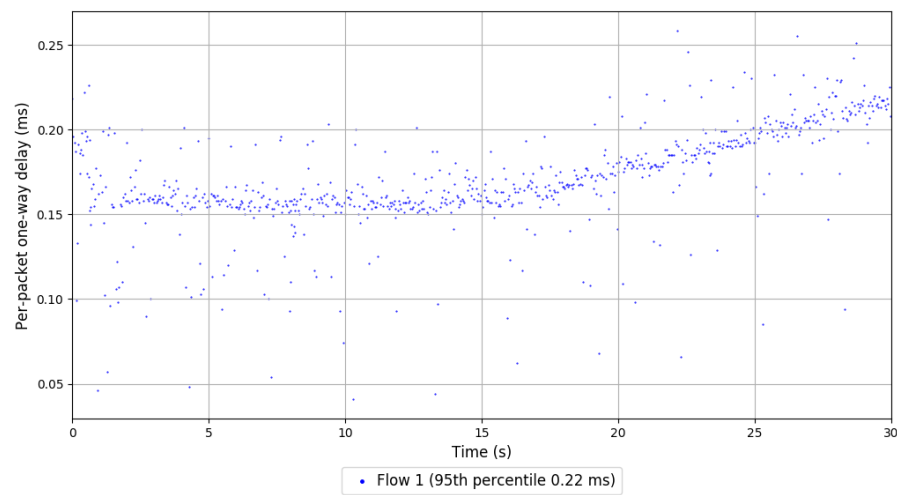
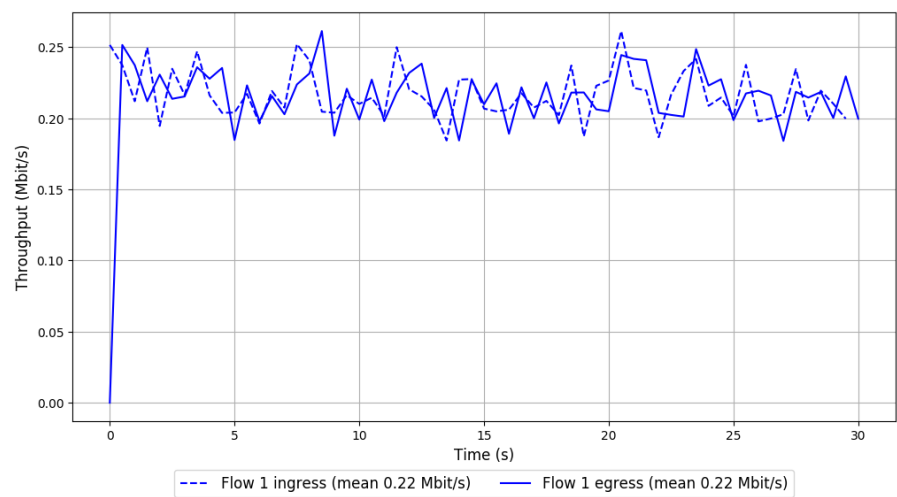
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.217 ms

Loss rate: 0.00%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-06 06:04:52

End at: 2018-09-06 06:05:22

Local clock offset: -3.117 ms

Remote clock offset: 2.493 ms

Below is generated by plot.py at 2018-09-06 06:28:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.317 ms

Loss rate: 0.00%

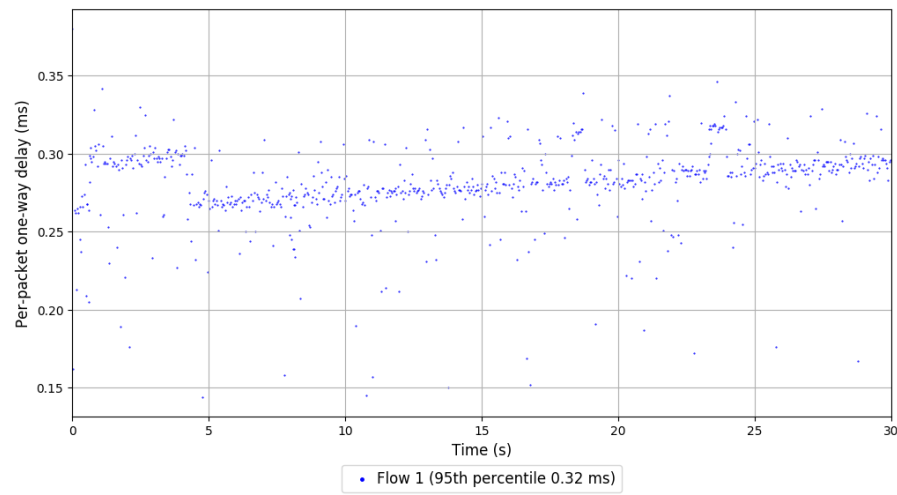
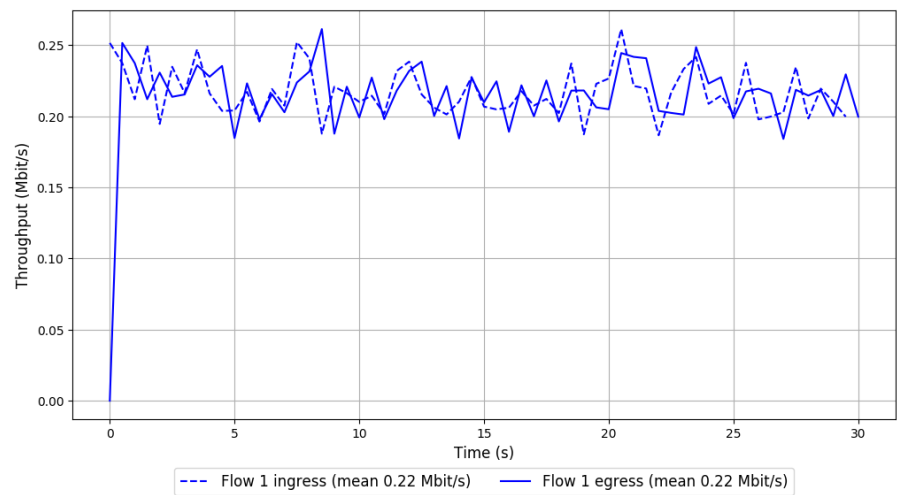
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 0.317 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link



Run 1: Statistics of Sprout

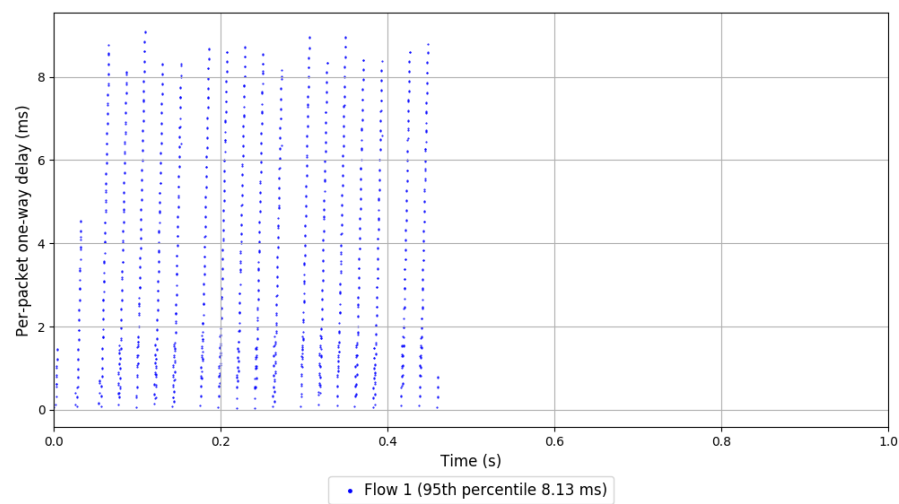
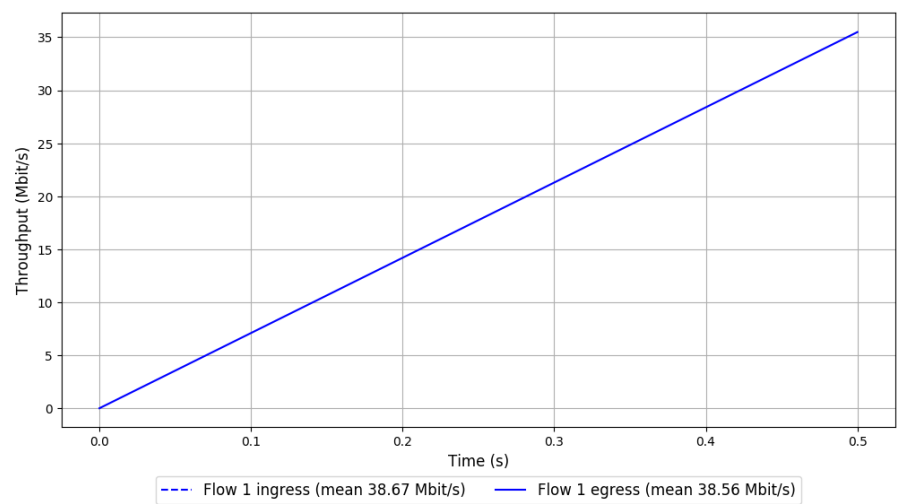
Start at: 2018-09-06 04:50:27

End at: 2018-09-06 04:50:57

Local clock offset: -0.306 ms

Remote clock offset: -0.621 ms

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

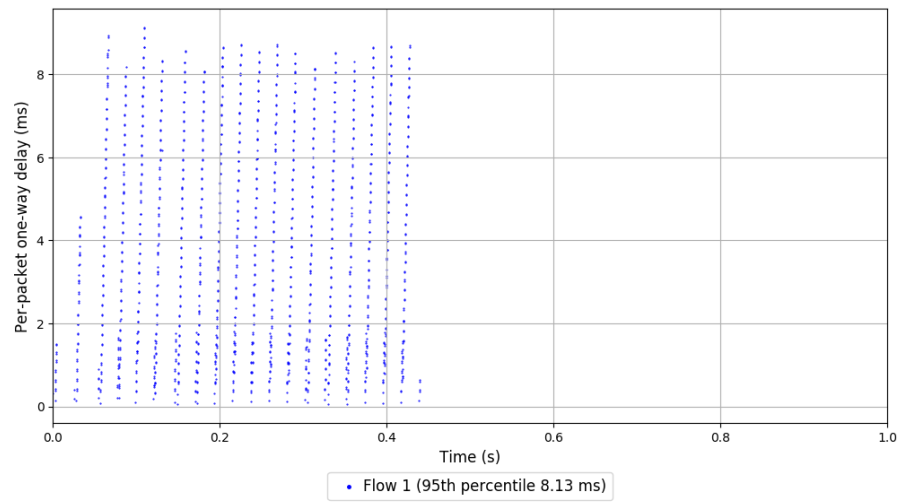
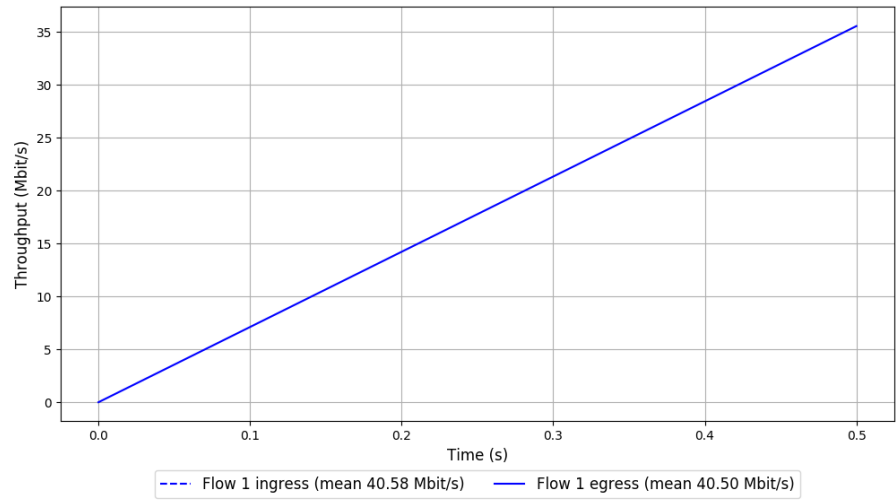
Start at: 2018-09-06 05:10:28

End at: 2018-09-06 05:10:58

Local clock offset: -0.051 ms

Remote clock offset: 0.251 ms

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

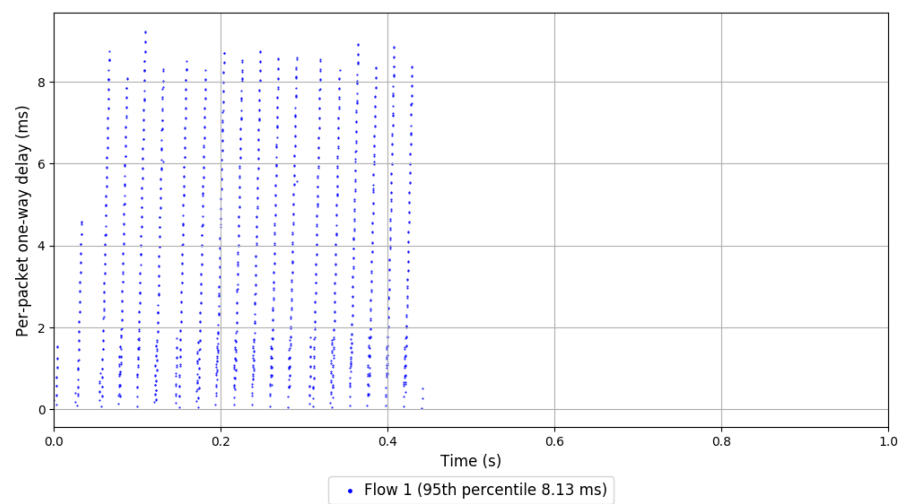
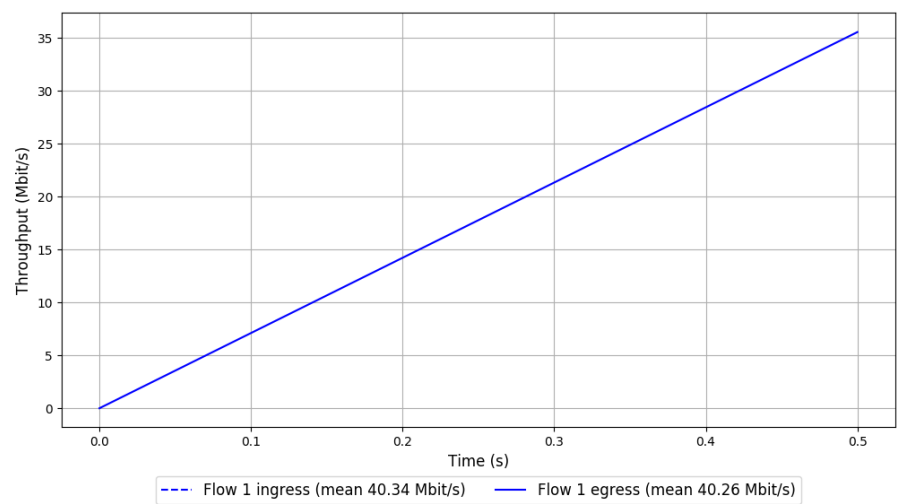
Start at: 2018-09-06 05:30:30

End at: 2018-09-06 05:31:00

Local clock offset: -5.674 ms

Remote clock offset: 1.377 ms

Run 3: Report of Sprout — Data Link



Run 4: Statistics of Sprout

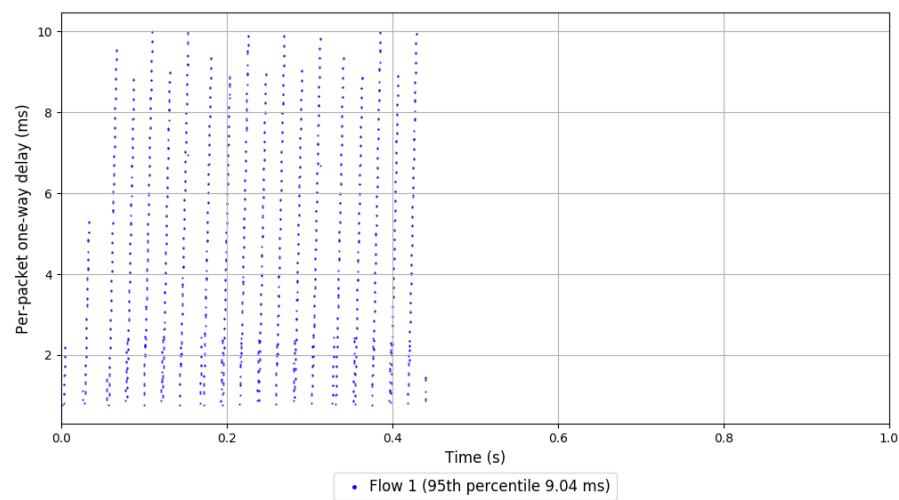
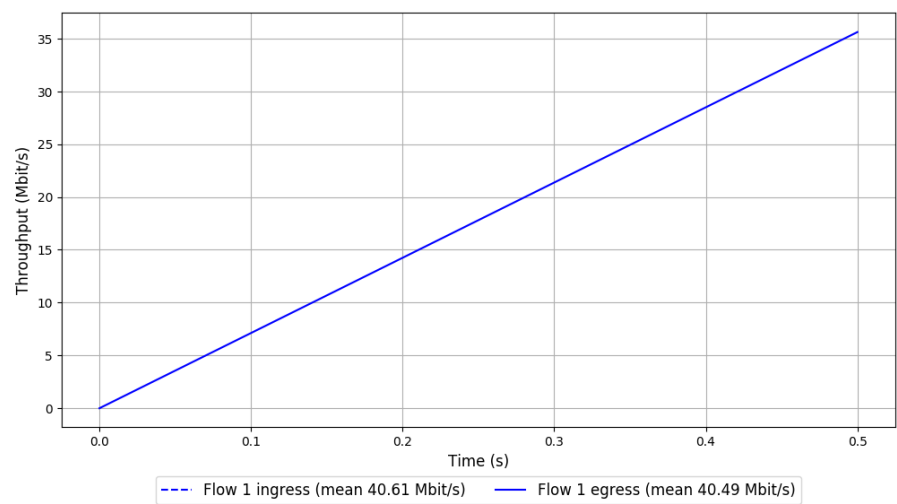
Start at: 2018-09-06 05:50:30

End at: 2018-09-06 05:51:00

Local clock offset: -5.747 ms

Remote clock offset: 1.863 ms

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

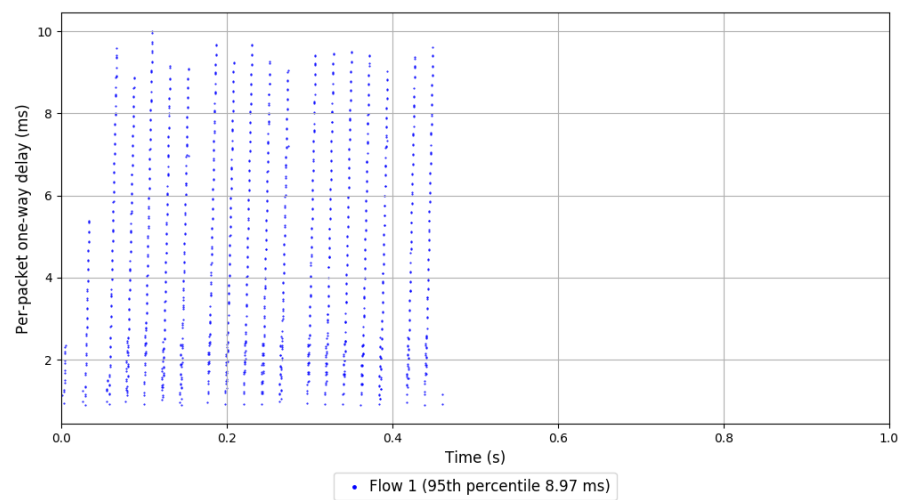
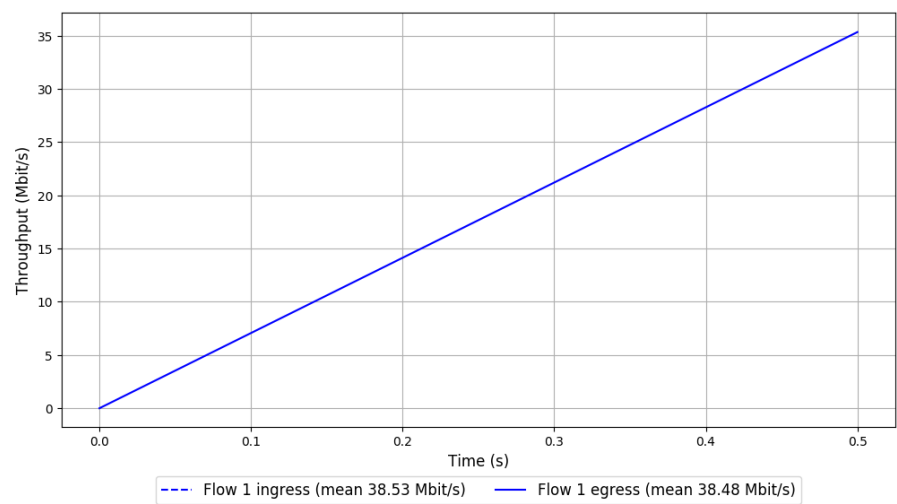
Start at: 2018-09-06 06:10:30

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

Local clock offset: -3.366 ms

Remote clock offset: 2.676 ms

Run 5: Report of Sprout — Data Link

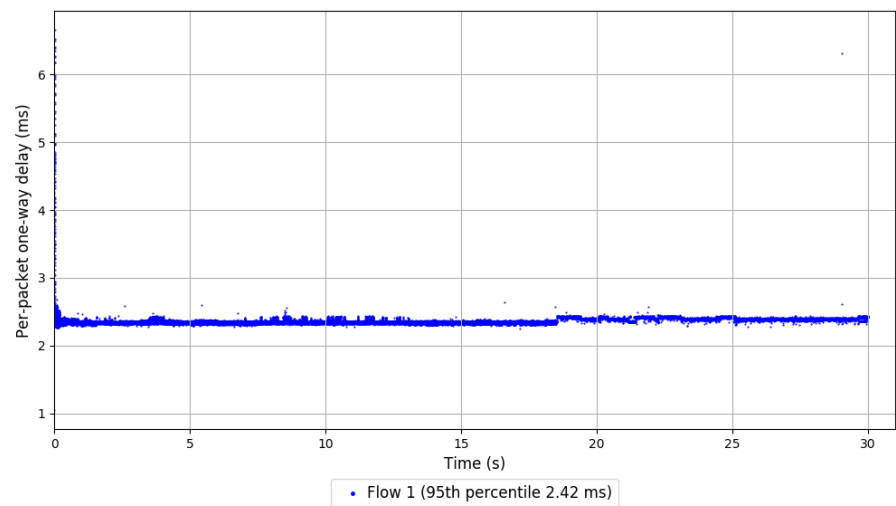
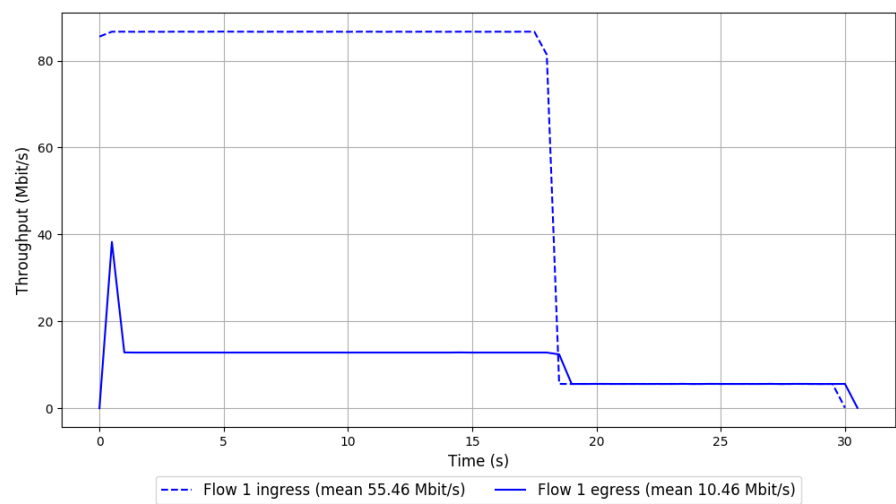


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-06 04:59:14
End at: 2018-09-06 04:59:44
Local clock offset: -1.752 ms
Remote clock offset: -0.498 ms

# Below is generated by plot.py at 2018-09-06 06:28:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 10.46 Mbit/s
95th percentile per-packet one-way delay: 2.420 ms
Loss rate: 81.14%
-- Flow 1:
Average throughput: 10.46 Mbit/s
95th percentile per-packet one-way delay: 2.420 ms
Loss rate: 81.14%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-06 05:19:18

End at: 2018-09-06 05:19:48

Local clock offset: -2.821 ms

Remote clock offset: 0.974 ms

Below is generated by plot.py at 2018-09-06 06:28:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.46 Mbit/s

95th percentile per-packet one-way delay: 1.968 ms

Loss rate: 81.13%

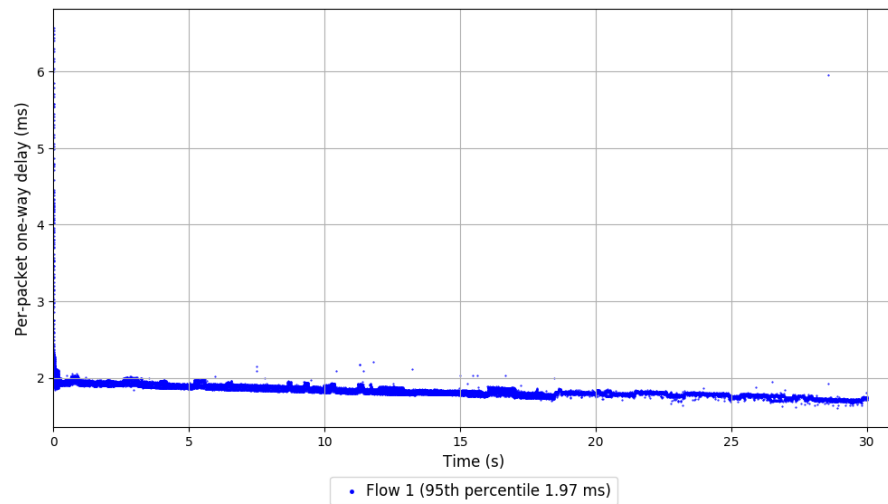
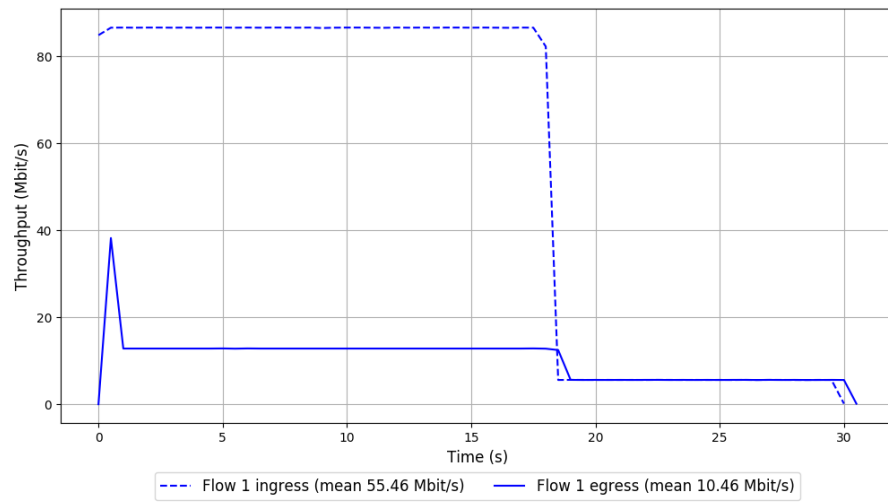
-- Flow 1:

Average throughput: 10.46 Mbit/s

95th percentile per-packet one-way delay: 1.968 ms

Loss rate: 81.13%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-06 05:39:16

End at: 2018-09-06 05:39:46

Local clock offset: -7.013 ms

Remote clock offset: 1.586 ms

Below is generated by plot.py at 2018-09-06 06:28:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 8.23 Mbit/s

95th percentile per-packet one-way delay: 2.397 ms

Loss rate: 72.95%

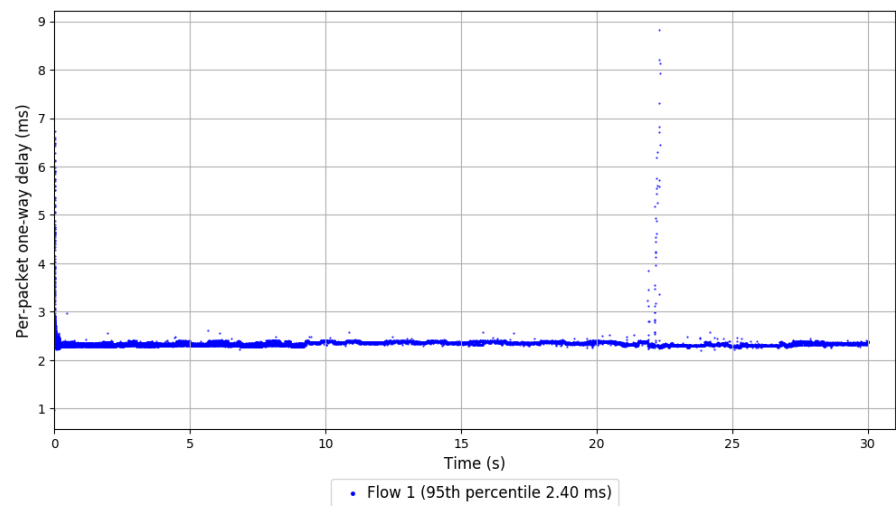
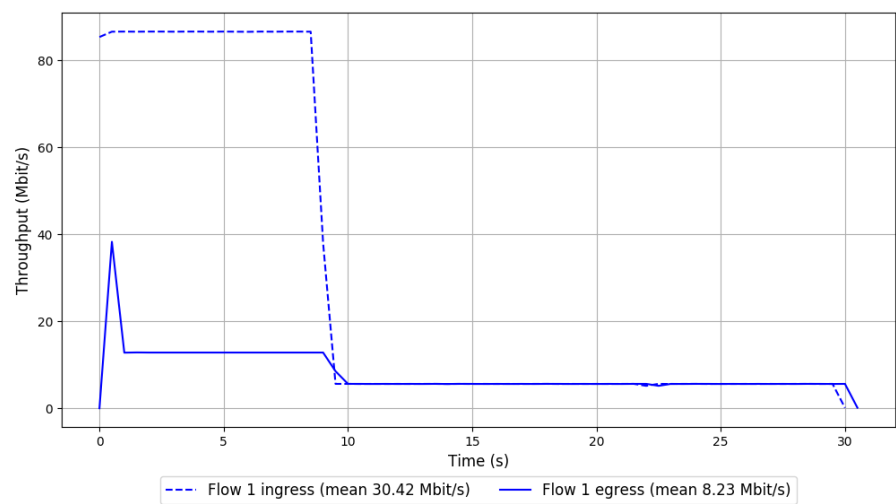
-- Flow 1:

Average throughput: 8.23 Mbit/s

95th percentile per-packet one-way delay: 2.397 ms

Loss rate: 72.95%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-06 05:59:16

End at: 2018-09-06 05:59:46

Local clock offset: -4.504 ms

Remote clock offset: 2.236 ms

Below is generated by plot.py at 2018-09-06 06:28:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 8.23 Mbit/s

95th percentile per-packet one-way delay: 2.485 ms

Loss rate: 72.94%

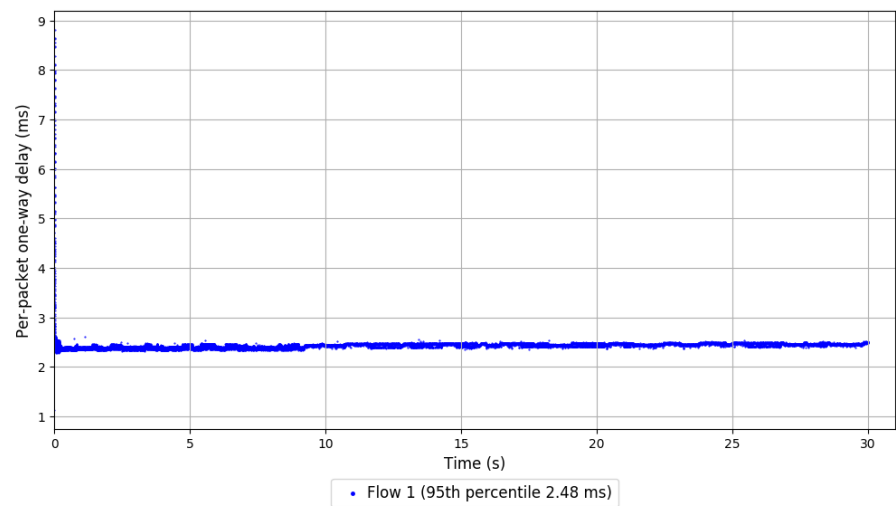
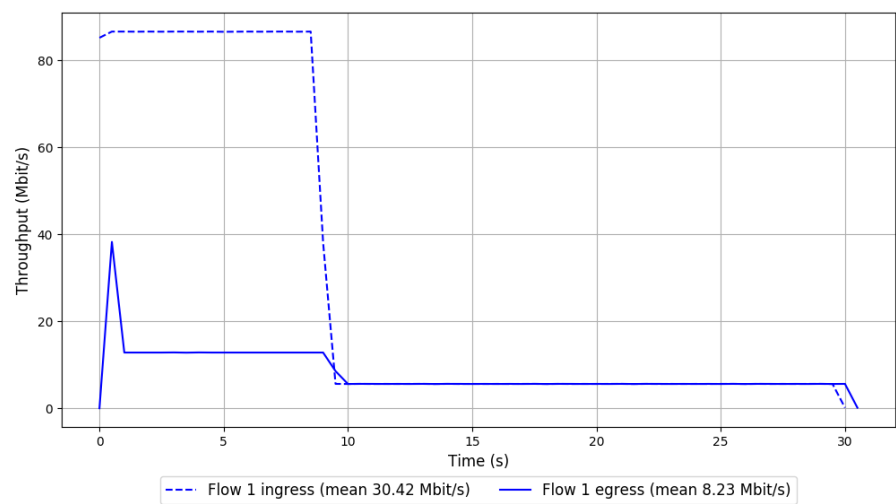
-- Flow 1:

Average throughput: 8.23 Mbit/s

95th percentile per-packet one-way delay: 2.485 ms

Loss rate: 72.94%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-06 06:19:18

End at: 2018-09-06 06:19:48

Local clock offset: -3.347 ms

Remote clock offset: 2.617 ms

Below is generated by plot.py at 2018-09-06 06:28:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 10.47 Mbit/s

95th percentile per-packet one-way delay: 0.933 ms

Loss rate: 81.12%

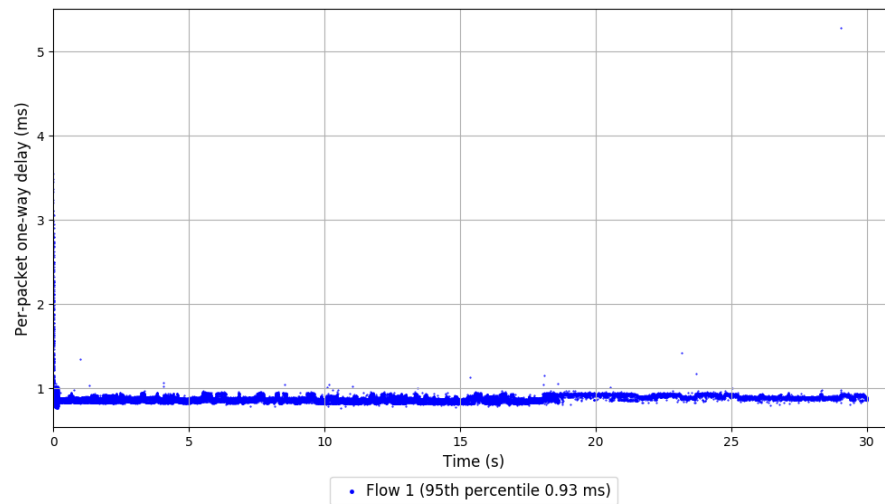
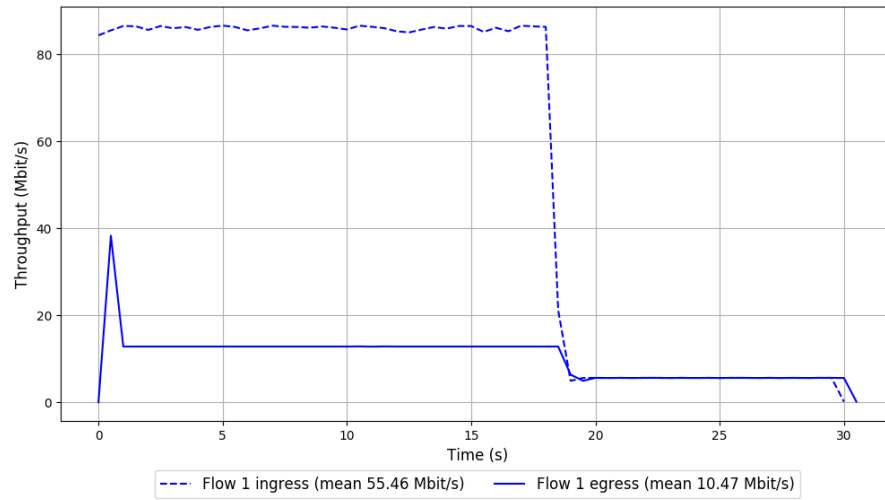
-- Flow 1:

Average throughput: 10.47 Mbit/s

95th percentile per-packet one-way delay: 0.933 ms

Loss rate: 81.12%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-06 04:42:33

End at: 2018-09-06 04:43:03

Local clock offset: 1.101 ms

Remote clock offset: -0.637 ms

Below is generated by plot.py at 2018-09-06 06:28:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 1.543 ms

Loss rate: 0.00%

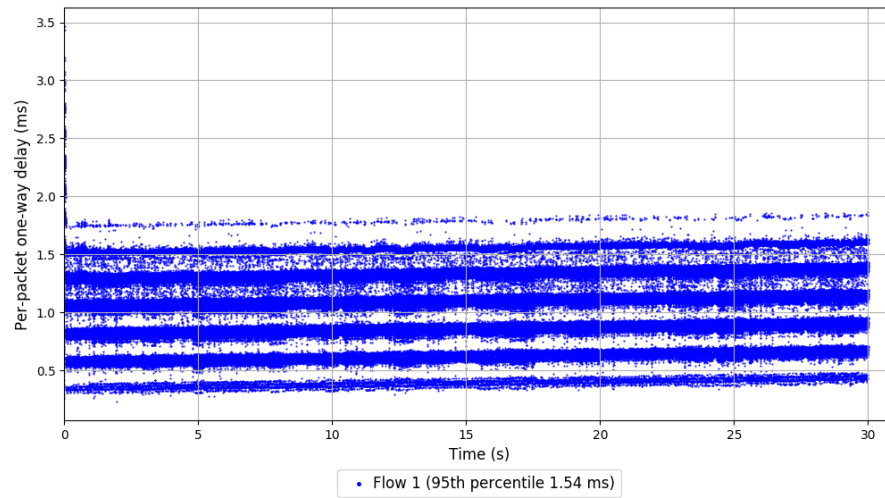
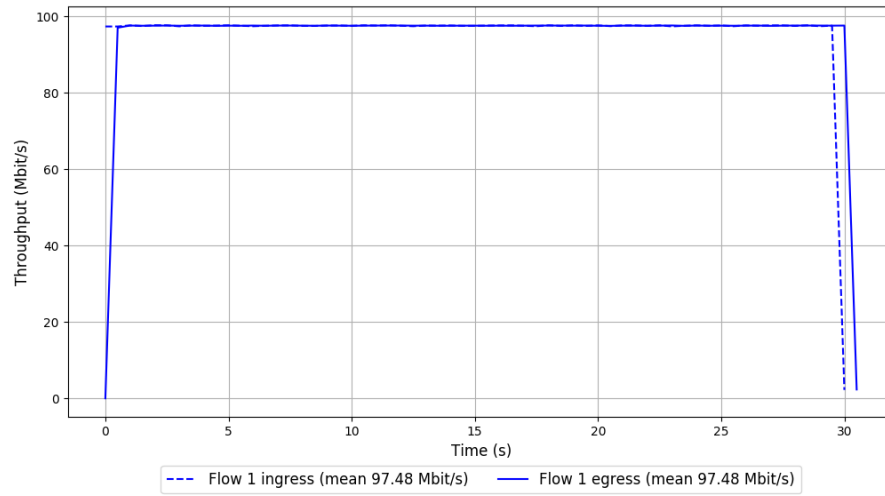
-- Flow 1:

Average throughput: 97.48 Mbit/s

95th percentile per-packet one-way delay: 1.543 ms

Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

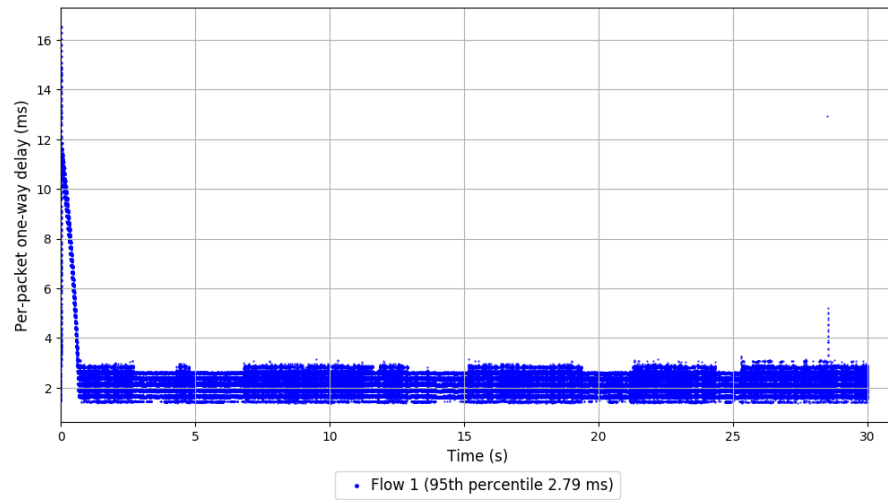
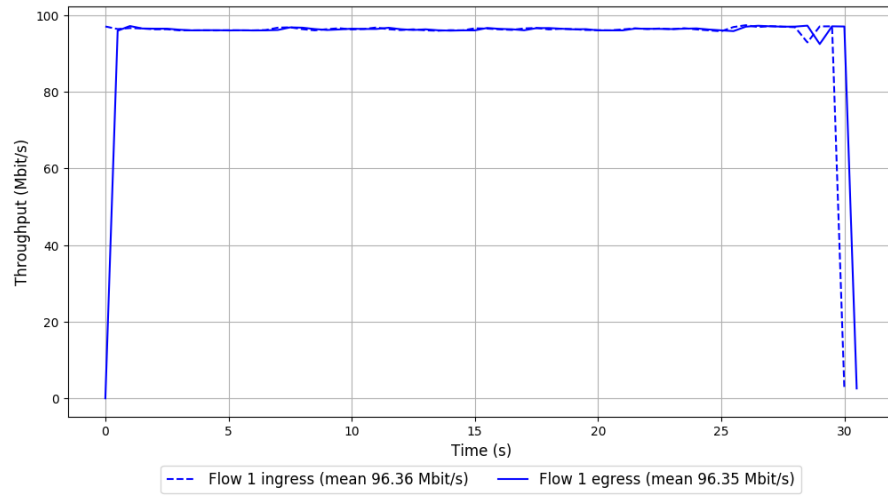


Run 2: Statistics of TCP Vegas

Start at: 2018-09-06 05:02:34
End at: 2018-09-06 05:03:04
Local clock offset: -0.874 ms
Remote clock offset: -0.524 ms

Below is generated by plot.py at 2018-09-06 06:28:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 96.35 Mbit/s
95th percentile per-packet one-way delay: 2.791 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 96.35 Mbit/s
95th percentile per-packet one-way delay: 2.791 ms
Loss rate: 0.00%

Run 2: Report of TCP Vegas — Data Link

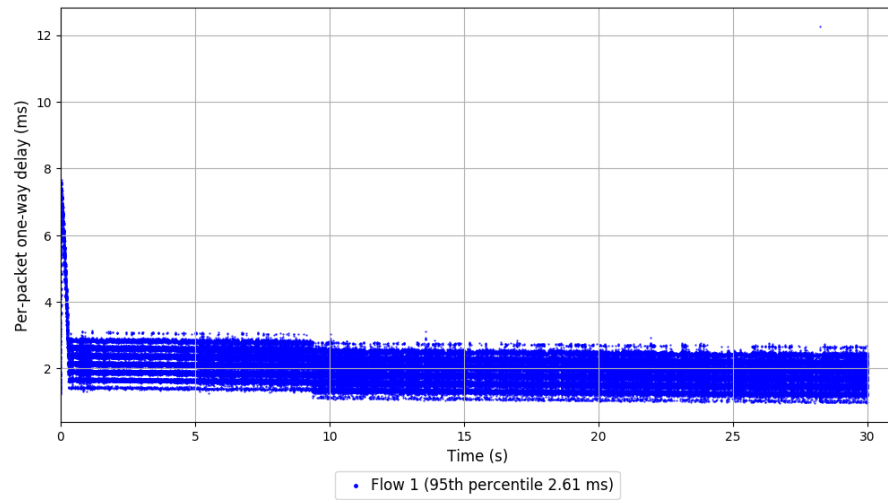
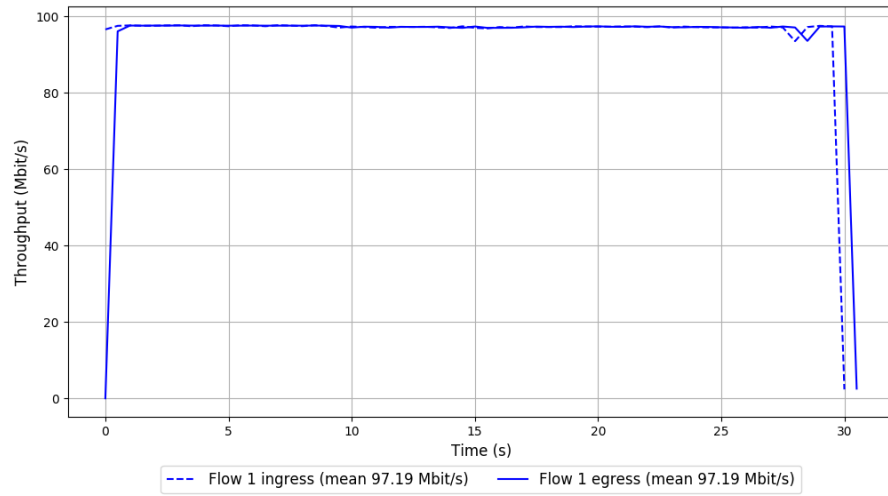


Run 3: Statistics of TCP Vegas

Start at: 2018-09-06 05:22:38
End at: 2018-09-06 05:23:08
Local clock offset: -3.766 ms
Remote clock offset: 0.975 ms

Below is generated by plot.py at 2018-09-06 06:28:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 97.19 Mbit/s
95th percentile per-packet one-way delay: 2.613 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 97.19 Mbit/s
95th percentile per-packet one-way delay: 2.613 ms
Loss rate: 0.00%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-09-06 05:42:36

End at: 2018-09-06 05:43:06

Local clock offset: -6.288 ms

Remote clock offset: 1.644 ms

Below is generated by plot.py at 2018-09-06 06:29:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.11 Mbit/s

95th percentile per-packet one-way delay: 2.912 ms

Loss rate: 0.00%

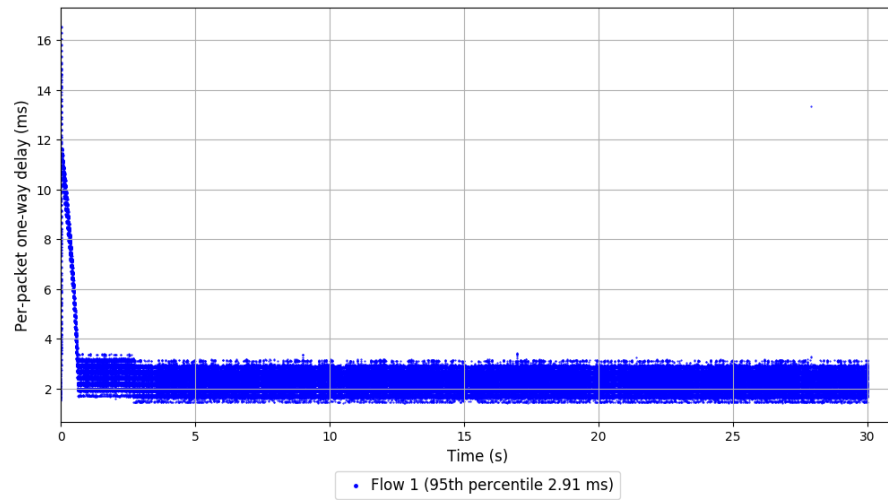
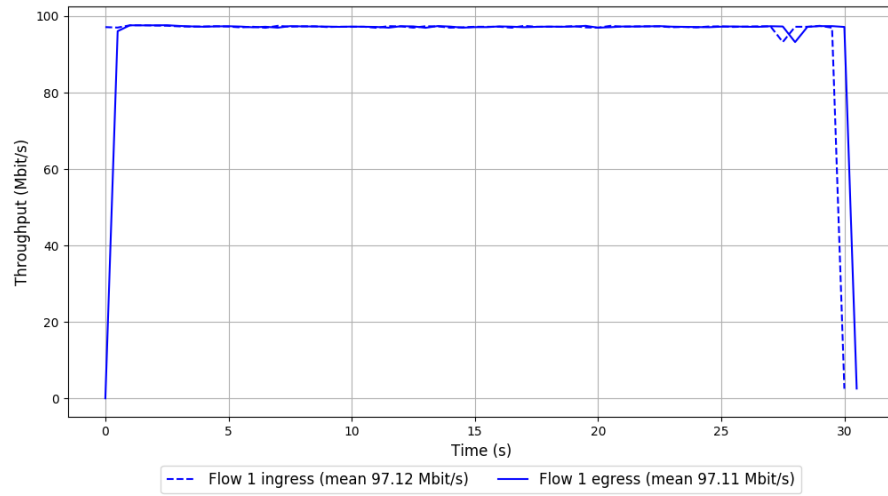
-- Flow 1:

Average throughput: 97.11 Mbit/s

95th percentile per-packet one-way delay: 2.912 ms

Loss rate: 0.00%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-06 06:02:36

End at: 2018-09-06 06:03:06

Local clock offset: -4.073 ms

Remote clock offset: 2.349 ms

Below is generated by plot.py at 2018-09-06 06:29:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 97.07 Mbit/s

95th percentile per-packet one-way delay: 2.079 ms

Loss rate: 0.00%

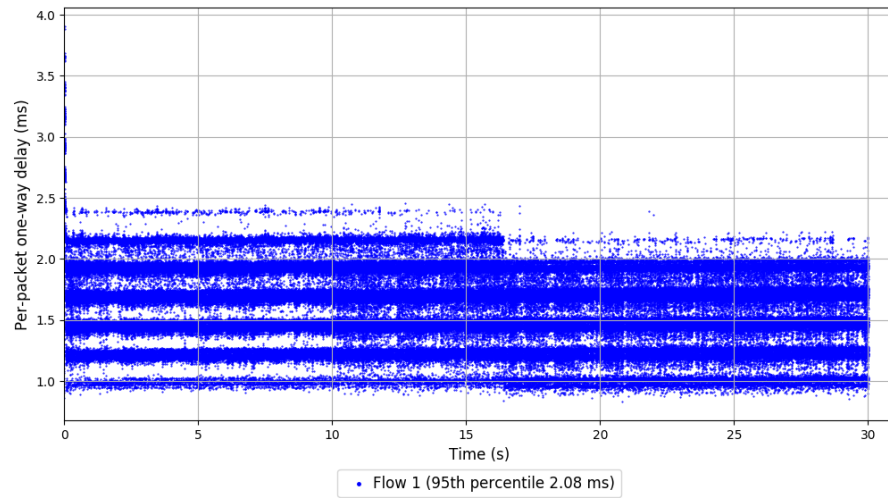
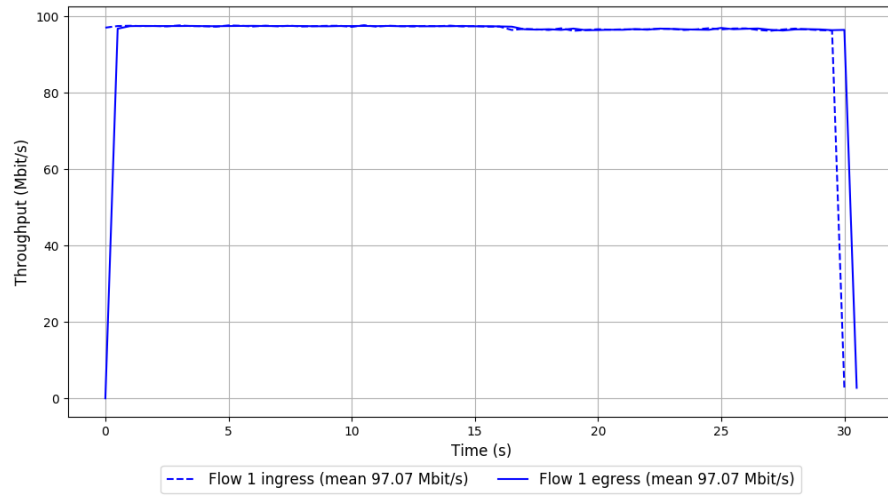
-- Flow 1:

Average throughput: 97.07 Mbit/s

95th percentile per-packet one-way delay: 2.079 ms

Loss rate: 0.00%

Run 5: Report of TCP Vegas — Data Link

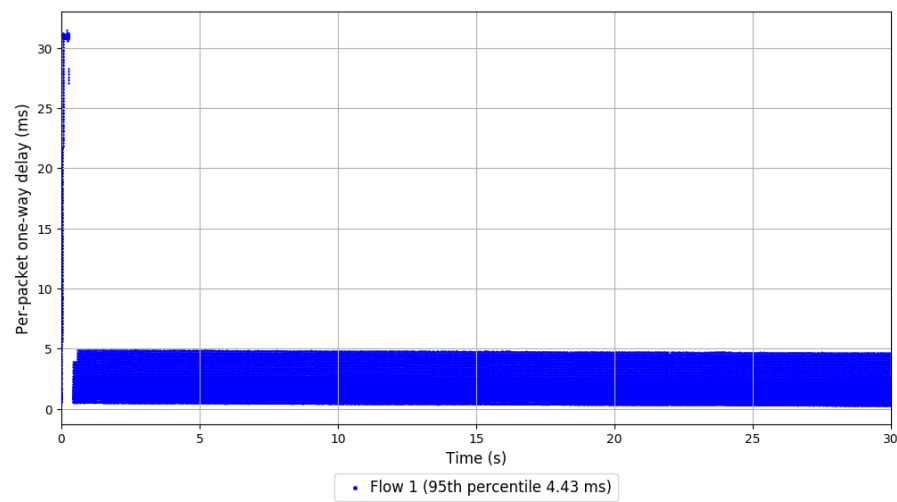
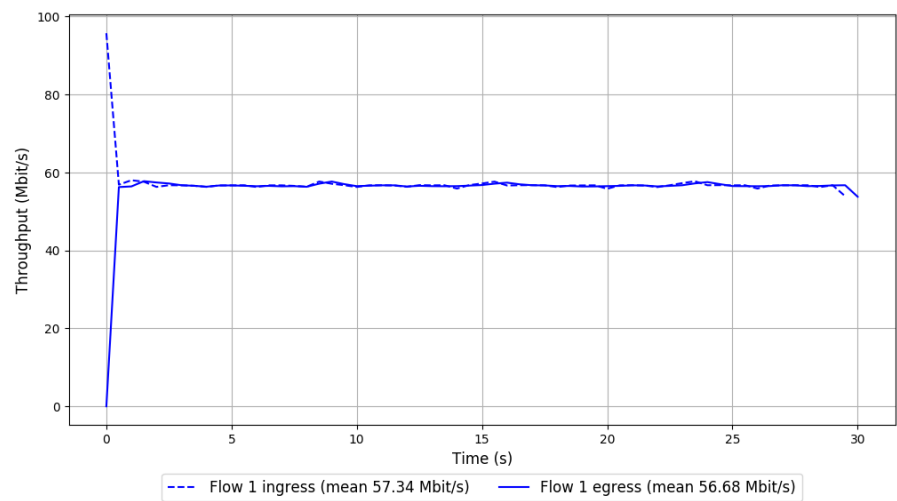


Run 1: Statistics of Verus

Start at: 2018-09-06 04:45:53
End at: 2018-09-06 04:46:23
Local clock offset: 0.825 ms
Remote clock offset: -0.668 ms

Below is generated by plot.py at 2018-09-06 06:29:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 56.68 Mbit/s
95th percentile per-packet one-way delay: 4.428 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 56.68 Mbit/s
95th percentile per-packet one-way delay: 4.428 ms
Loss rate: 1.15%

Run 1: Report of Verus — Data Link

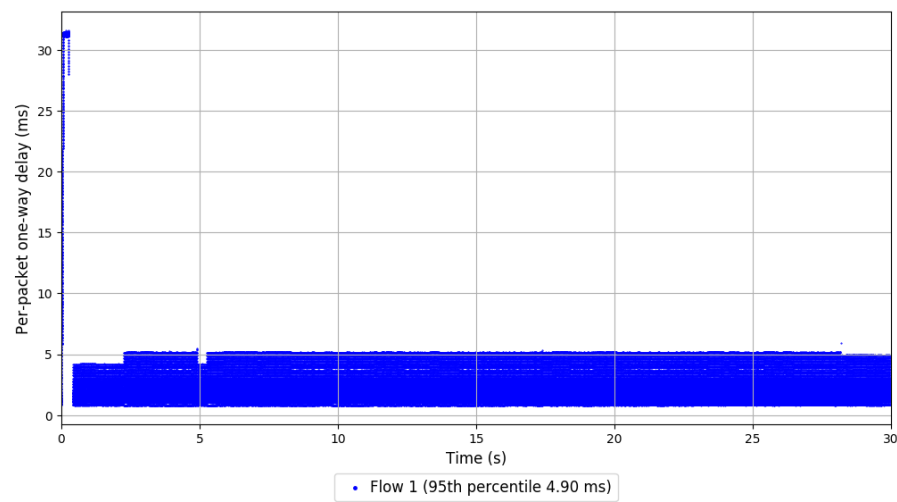
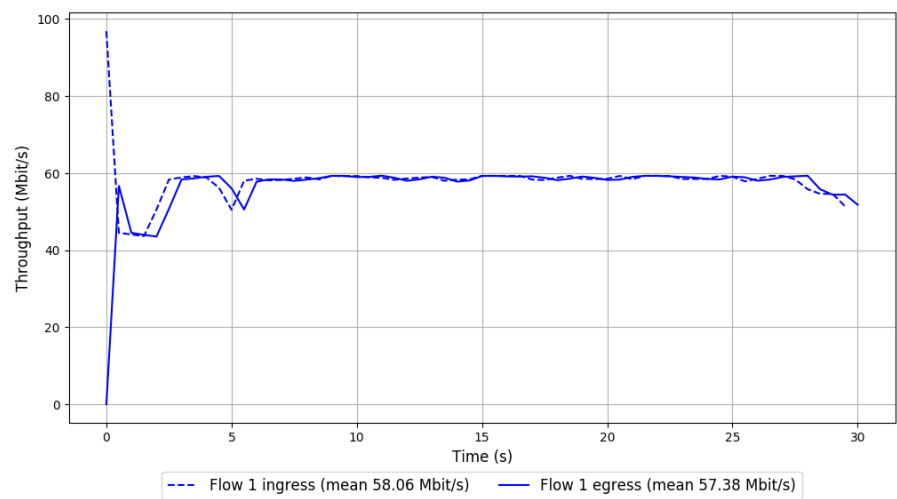


Run 2: Statistics of Verus

Start at: 2018-09-06 05:05:54
End at: 2018-09-06 05:06:24
Local clock offset: -1.387 ms
Remote clock offset: -0.211 ms

Below is generated by plot.py at 2018-09-06 06:29:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 57.38 Mbit/s
95th percentile per-packet one-way delay: 4.900 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 57.38 Mbit/s
95th percentile per-packet one-way delay: 4.900 ms
Loss rate: 1.15%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-09-06 05:25:58

End at: 2018-09-06 05:26:28

Local clock offset: -4.793 ms

Remote clock offset: 1.161 ms

Below is generated by plot.py at 2018-09-06 06:29:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 34.62 Mbit/s

95th percentile per-packet one-way delay: 9.837 ms

Loss rate: 1.92%

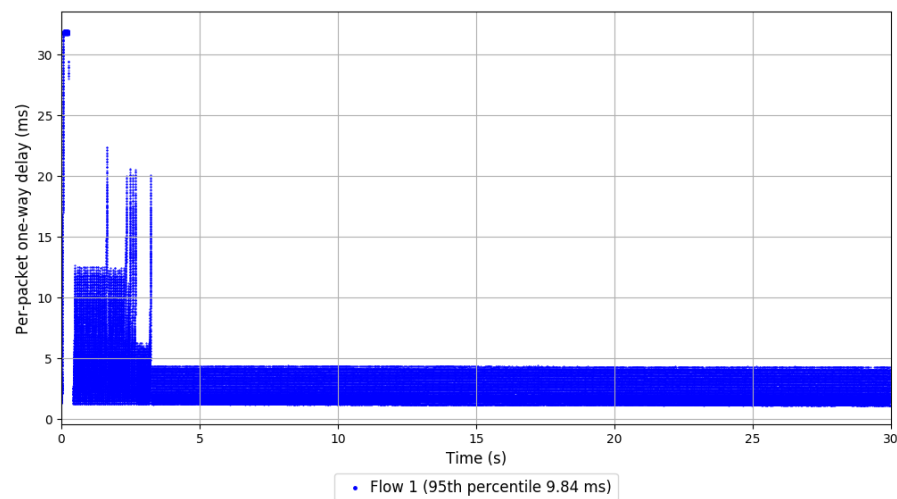
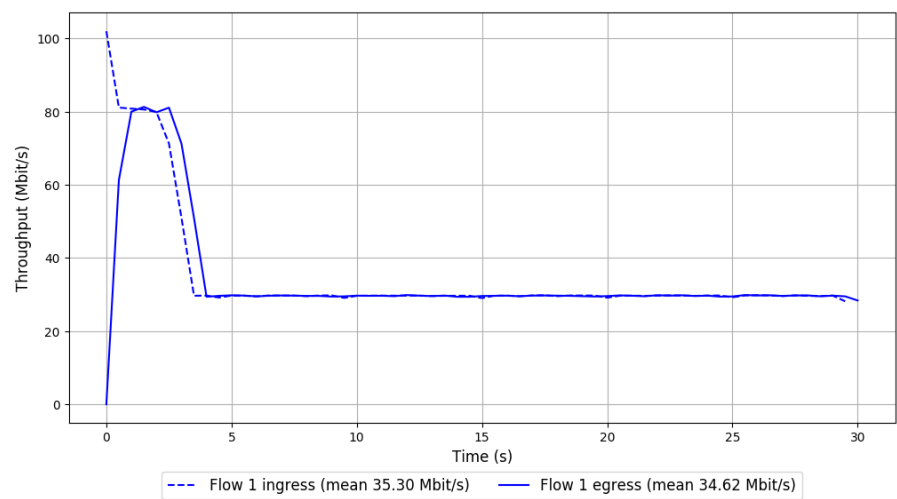
-- Flow 1:

Average throughput: 34.62 Mbit/s

95th percentile per-packet one-way delay: 9.837 ms

Loss rate: 1.92%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-06 05:45:56

End at: 2018-09-06 05:46:26

Local clock offset: -6.87 ms

Remote clock offset: 1.79 ms

Below is generated by plot.py at 2018-09-06 06:29:25

Datalink statistics

-- Total of 1 flow:

Average throughput: 55.05 Mbit/s

95th percentile per-packet one-way delay: 4.845 ms

Loss rate: 1.19%

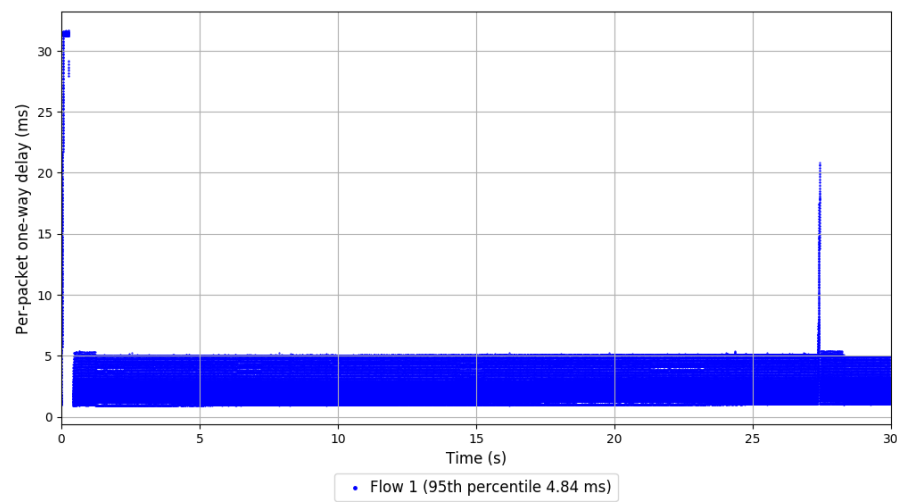
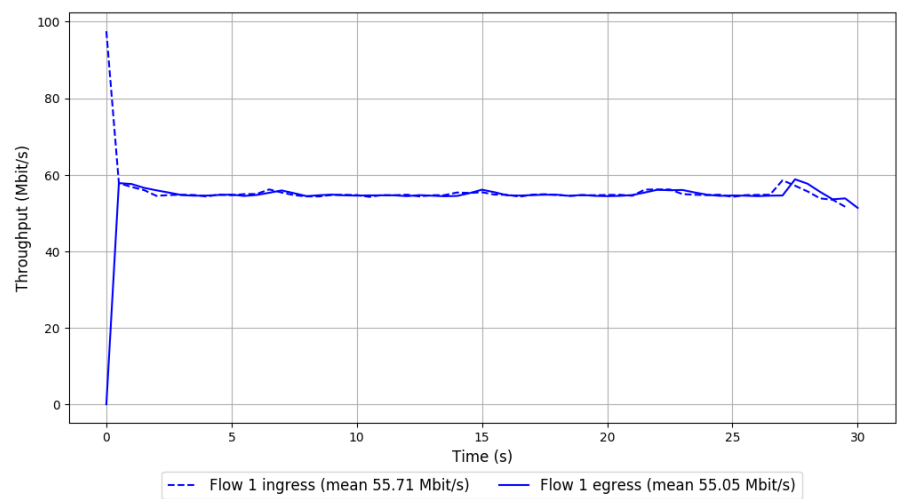
-- Flow 1:

Average throughput: 55.05 Mbit/s

95th percentile per-packet one-way delay: 4.845 ms

Loss rate: 1.19%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-06 06:05:56

End at: 2018-09-06 06:06:26

Local clock offset: -3.011 ms

Remote clock offset: 2.449 ms

Below is generated by plot.py at 2018-09-06 06:29:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 55.30 Mbit/s

95th percentile per-packet one-way delay: 3.895 ms

Loss rate: 1.17%

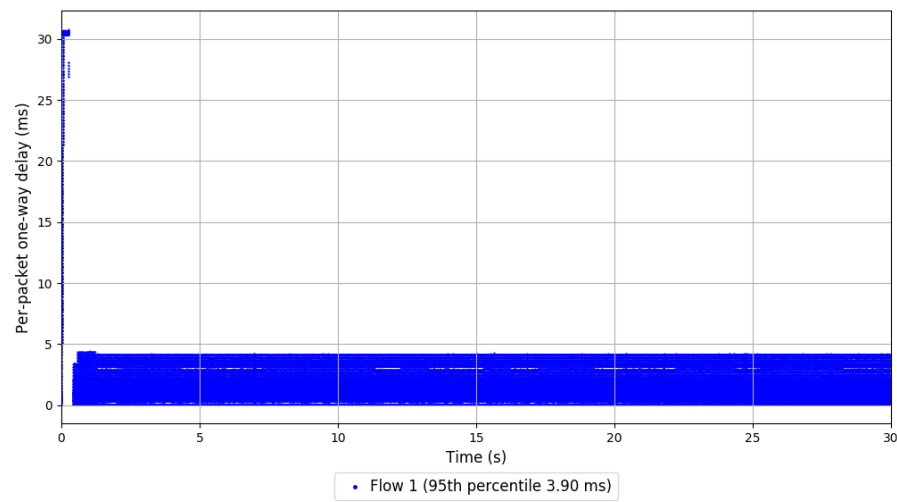
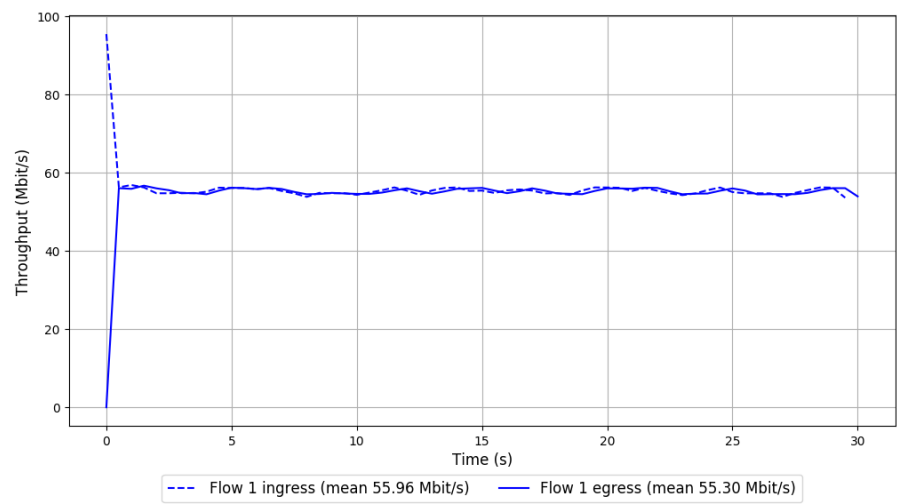
-- Flow 1:

Average throughput: 55.30 Mbit/s

95th percentile per-packet one-way delay: 3.895 ms

Loss rate: 1.17%

Run 5: Report of Verus — Data Link

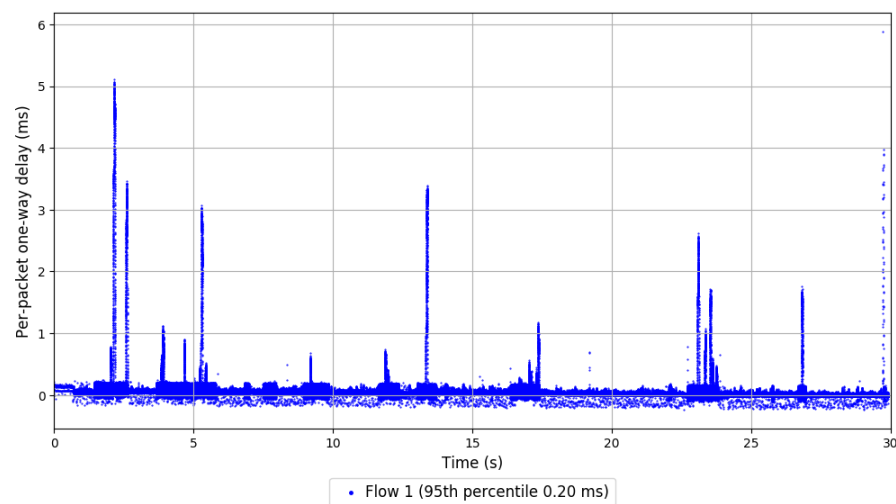
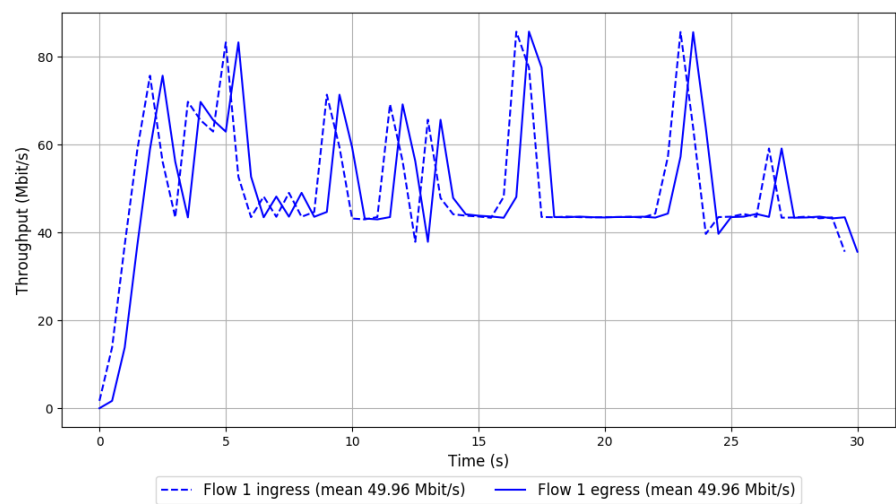


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-06 04:52:38
End at: 2018-09-06 04:53:08
Local clock offset: -0.671 ms
Remote clock offset: -0.634 ms

Below is generated by plot.py at 2018-09-06 06:29:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 49.96 Mbit/s
95th percentile per-packet one-way delay: 0.203 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.96 Mbit/s
95th percentile per-packet one-way delay: 0.203 ms
Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-09-06 05:12:40

End at: 2018-09-06 05:13:10

Local clock offset: 0.219 ms

Remote clock offset: 0.405 ms

Below is generated by plot.py at 2018-09-06 06:29:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 84.24 Mbit/s

95th percentile per-packet one-way delay: 1.812 ms

Loss rate: 0.00%

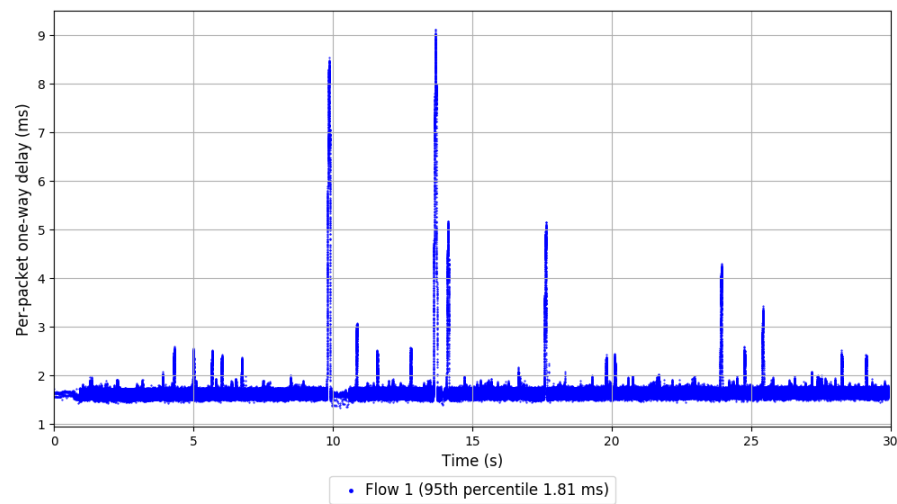
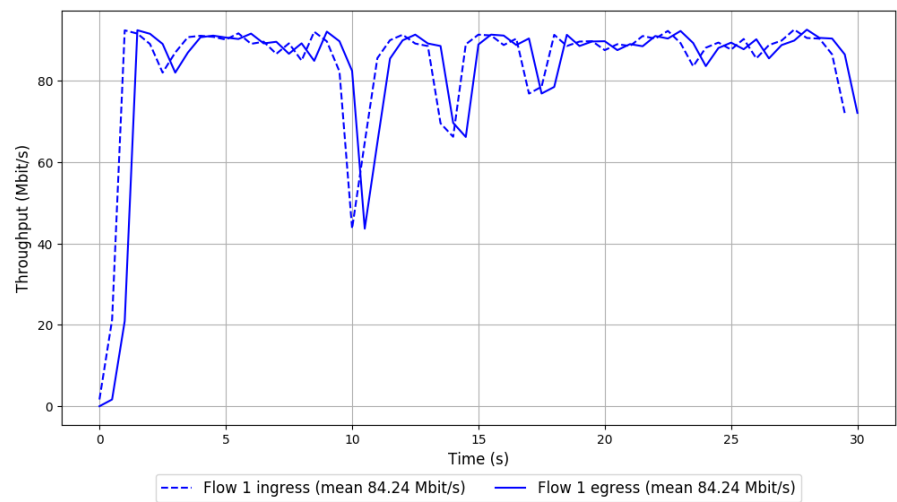
-- Flow 1:

Average throughput: 84.24 Mbit/s

95th percentile per-packet one-way delay: 1.812 ms

Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-09-06 05:32:42

End at: 2018-09-06 05:33:12

Local clock offset: -5.957 ms

Remote clock offset: 1.464 ms

Below is generated by plot.py at 2018-09-06 06:29:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 49.99 Mbit/s

95th percentile per-packet one-way delay: 0.339 ms

Loss rate: 0.00%

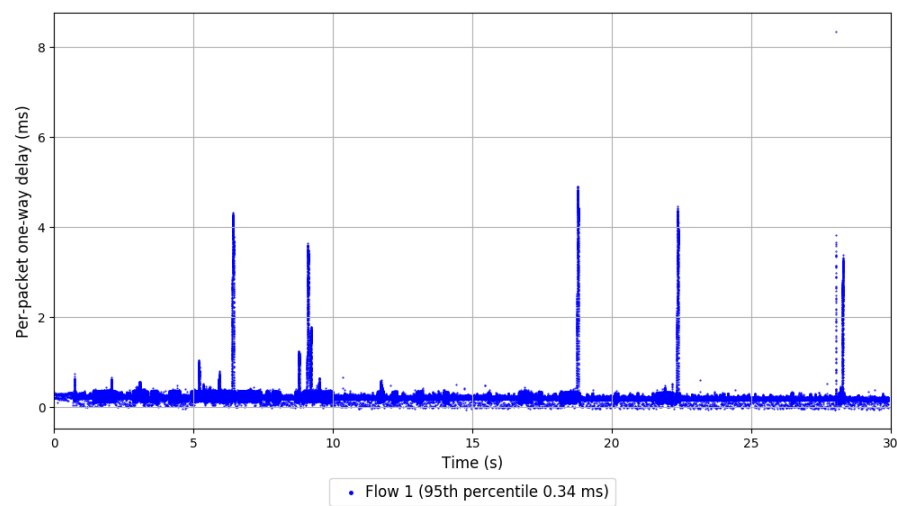
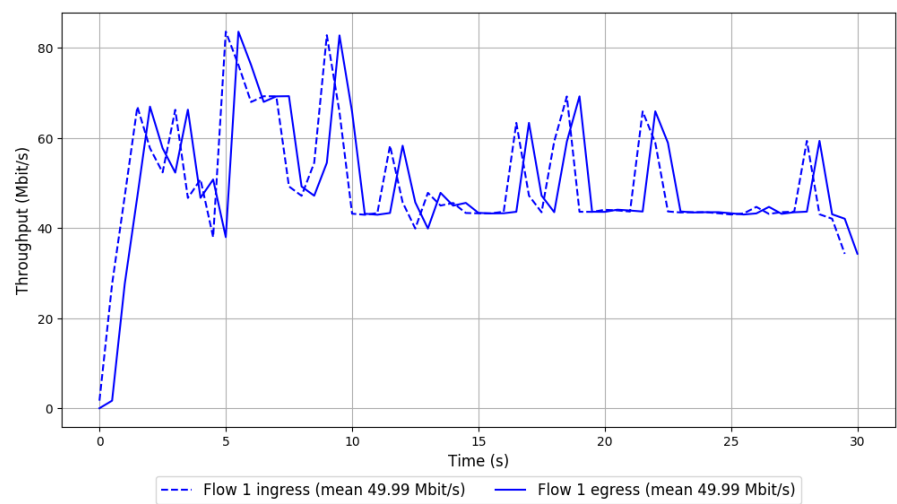
-- Flow 1:

Average throughput: 49.99 Mbit/s

95th percentile per-packet one-way delay: 0.339 ms

Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-06 05:52:42

End at: 2018-09-06 05:53:12

Local clock offset: -5.351 ms

Remote clock offset: 2.048 ms

Below is generated by plot.py at 2018-09-06 06:29:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 56.50 Mbit/s

95th percentile per-packet one-way delay: 1.126 ms

Loss rate: 0.00%

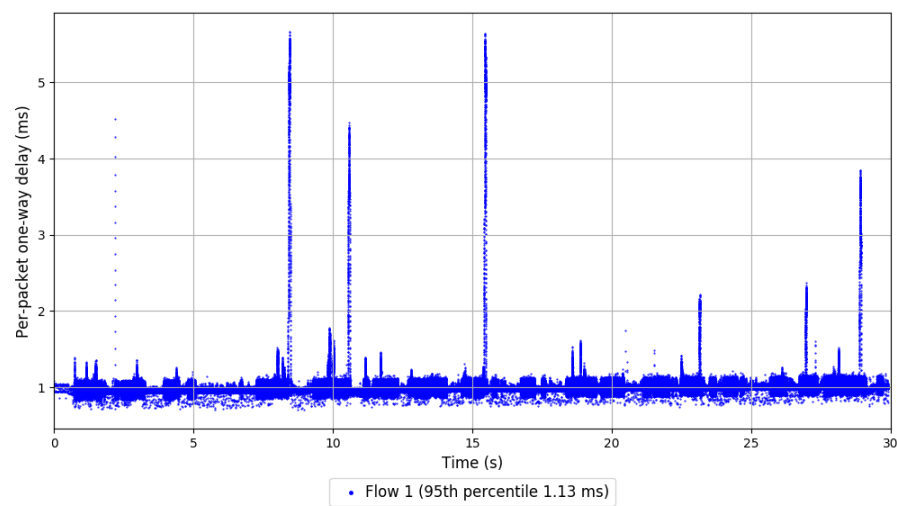
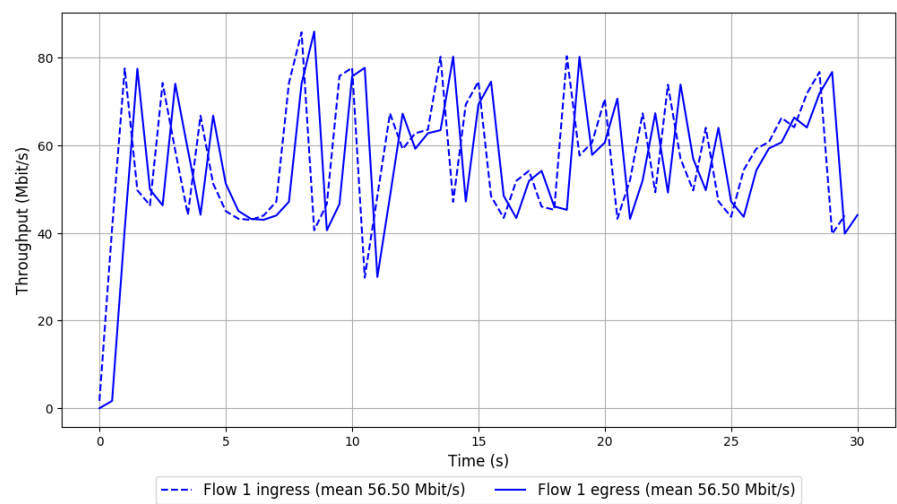
-- Flow 1:

Average throughput: 56.50 Mbit/s

95th percentile per-packet one-way delay: 1.126 ms

Loss rate: 0.00%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

Start at: 2018-09-06 06:12:41

End at: 2018-09-06 06:13:11

Local clock offset: -2.451 ms

Remote clock offset: 2.586 ms

Below is generated by plot.py at 2018-09-06 06:29:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 57.15 Mbit/s

95th percentile per-packet one-way delay: 0.384 ms

Loss rate: 0.00%

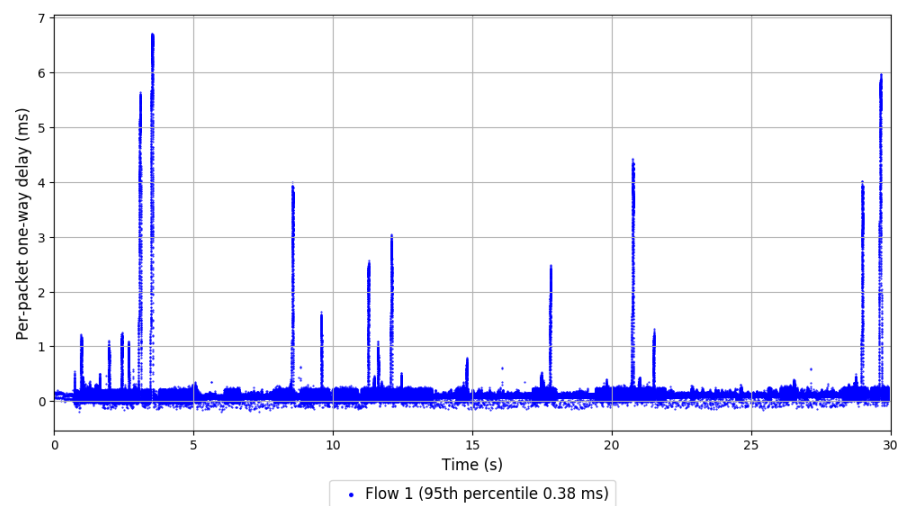
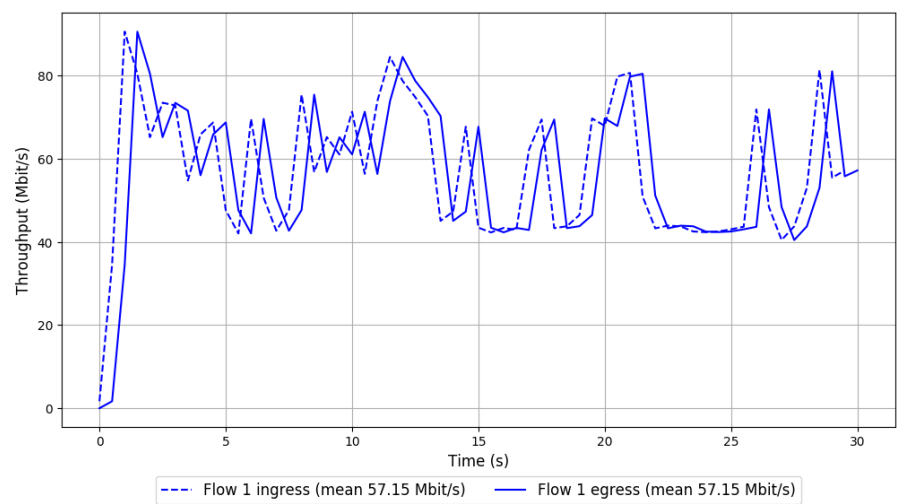
-- Flow 1:

Average throughput: 57.15 Mbit/s

95th percentile per-packet one-way delay: 0.384 ms

Loss rate: 0.00%

Run 5: Report of PCC-Vivace — Data Link

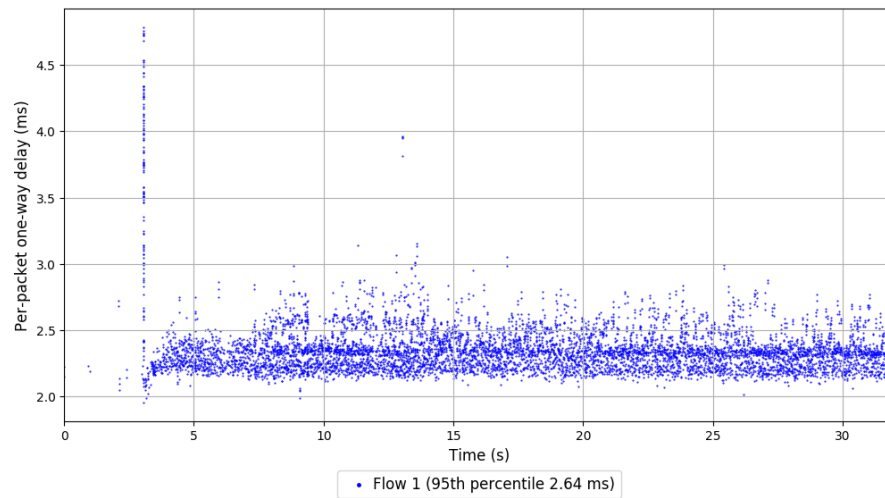
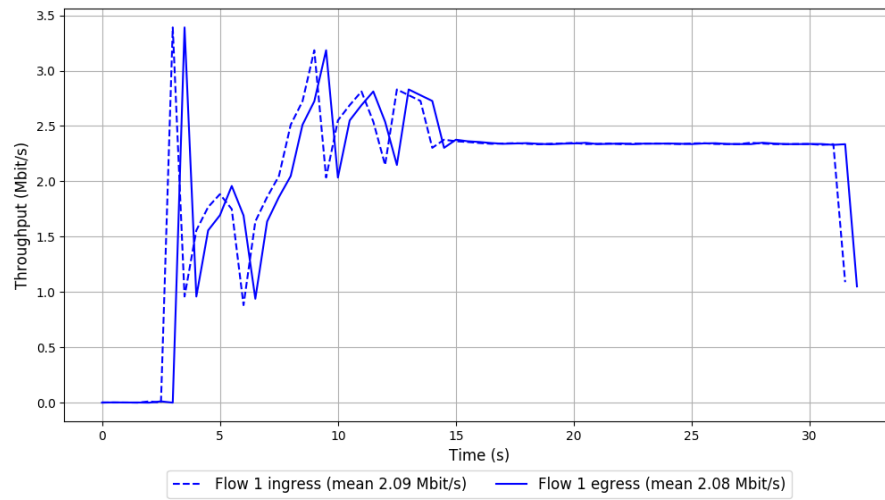


```
Run 1: Statistics of WebRTC media

Start at: 2018-09-06 04:54:53
End at: 2018-09-06 04:55:23
Local clock offset: -1.662 ms
Remote clock offset: -0.714 ms

# Below is generated by plot.py at 2018-09-06 06:29:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 2.636 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 2.636 ms
Loss rate: 0.03%
```

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-09-06 05:14:57

End at: 2018-09-06 05:15:27

Local clock offset: -0.246 ms

Remote clock offset: 0.611 ms

Below is generated by plot.py at 2018-09-06 06:29:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.95 Mbit/s

95th percentile per-packet one-way delay: 1.449 ms

Loss rate: 0.00%

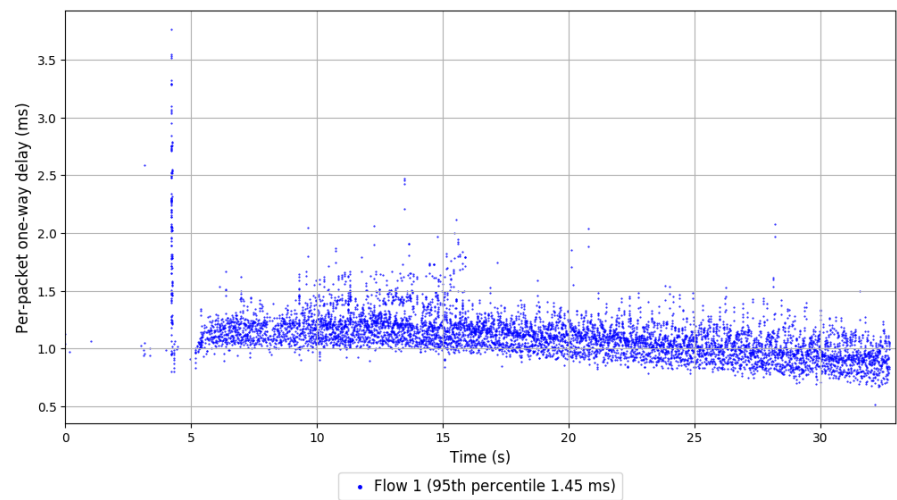
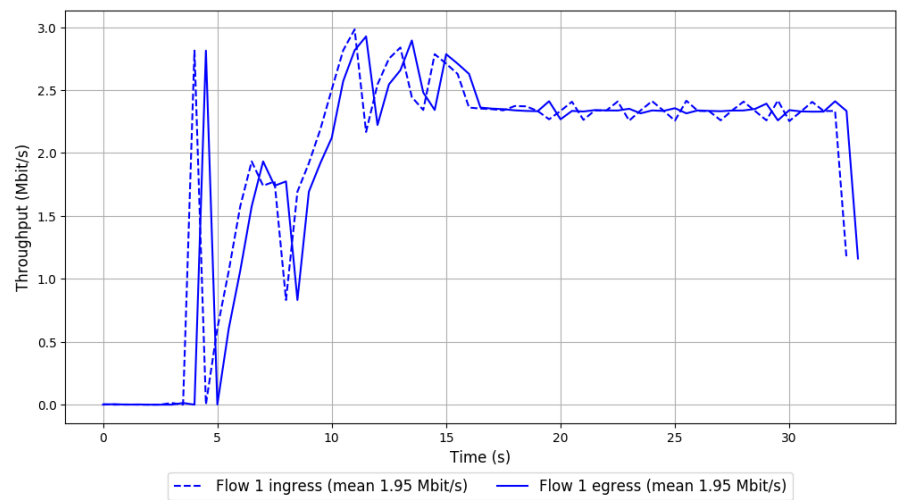
-- Flow 1:

Average throughput: 1.95 Mbit/s

95th percentile per-packet one-way delay: 1.449 ms

Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-09-06 05:34:55

End at: 2018-09-06 05:35:25

Local clock offset: -6.068 ms

Remote clock offset: 1.456 ms

Below is generated by plot.py at 2018-09-06 06:29:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 2.153 ms

Loss rate: 0.00%

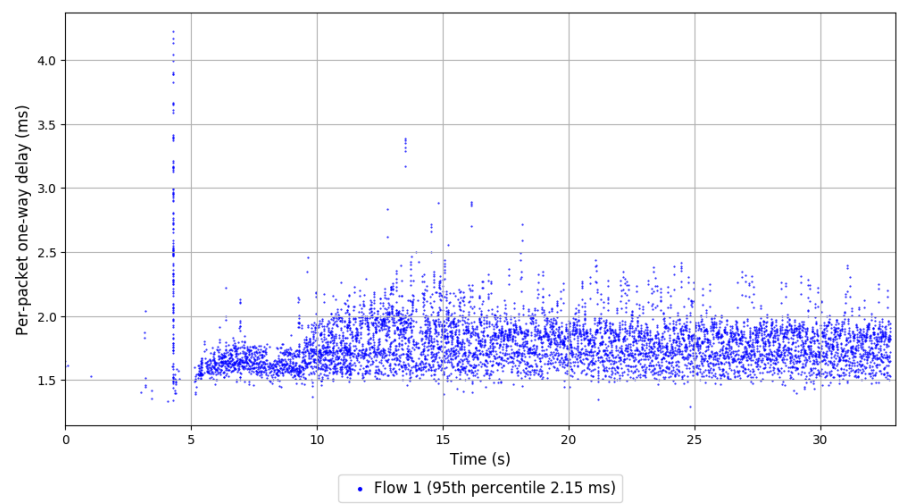
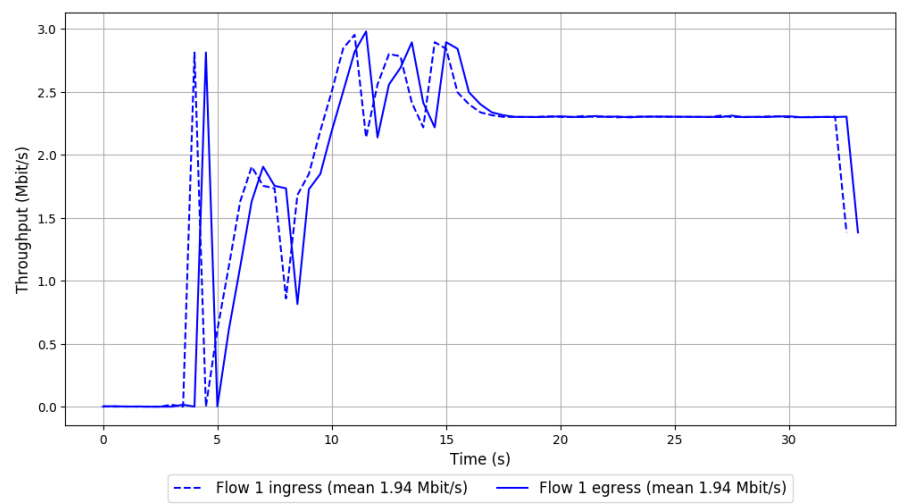
-- Flow 1:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 2.153 ms

Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-09-06 05:54:56

End at: 2018-09-06 05:55:26

Local clock offset: -4.324 ms

Remote clock offset: 2.101 ms

Below is generated by plot.py at 2018-09-06 06:29:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 2.163 ms

Loss rate: 0.00%

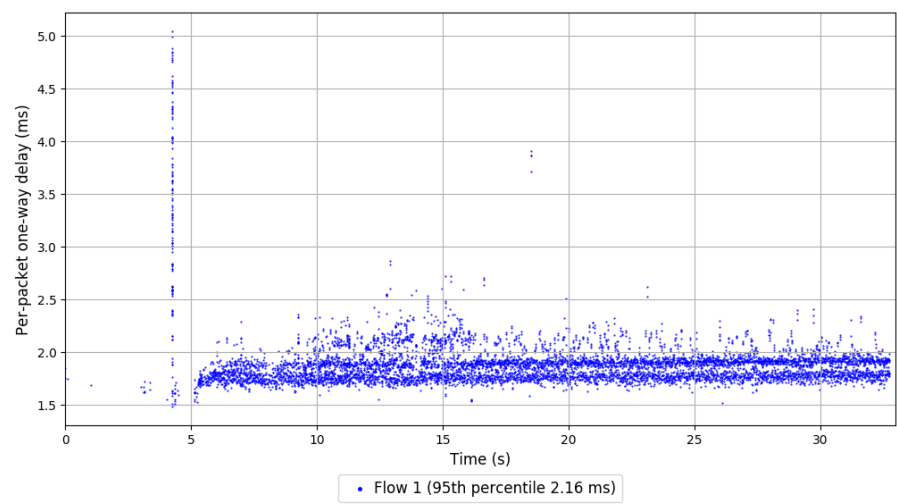
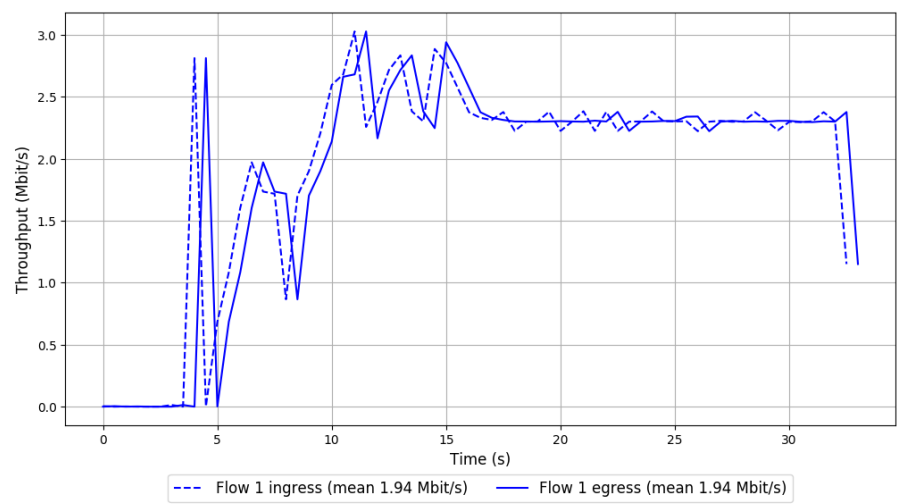
-- Flow 1:

Average throughput: 1.94 Mbit/s

95th percentile per-packet one-way delay: 2.163 ms

Loss rate: 0.00%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-06 06:14:57

End at: 2018-09-06 06:15:27

Local clock offset: -2.271 ms

Remote clock offset: 2.662 ms

Below is generated by plot.py at 2018-09-06 06:29:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 0.638 ms

Loss rate: 0.00%

-- Flow 1:

Average throughput: 1.92 Mbit/s

95th percentile per-packet one-way delay: 0.638 ms

Loss rate: 0.00%

Run 5: Report of WebRTC media — Data Link

