

Pantheon Report

Generated at 2018-09-11 10:45:20 (UTC).

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

Repeated the test of 18 congestion control schemes 5 times.

Each test lasted for 30 seconds running 1 flow.

NTP offsets were measured against **time.stanford.edu** and have been applied to correct the timestamps in logs.

System info:

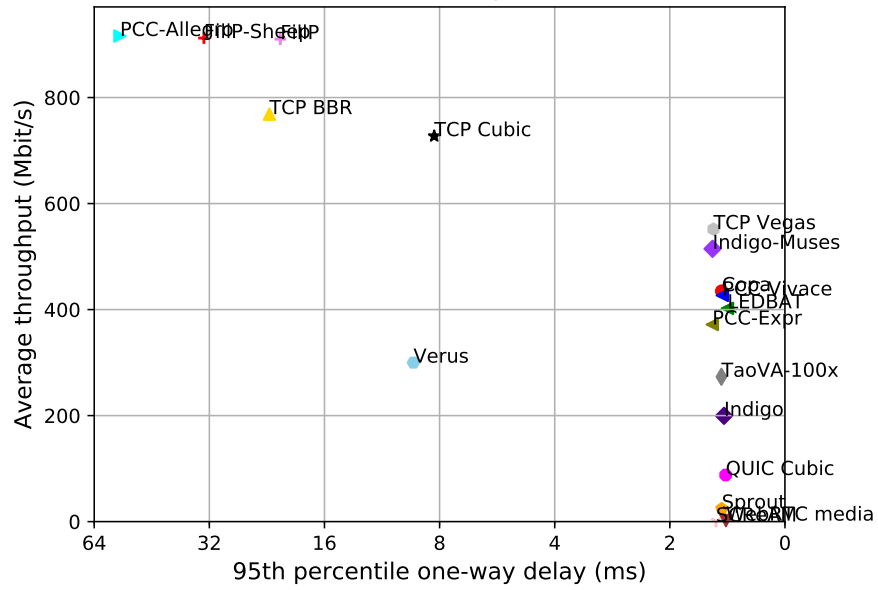
```
Linux 4.15.0-1020-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
net.ipv4.tcp_mem = 184101 245469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

Git summary:

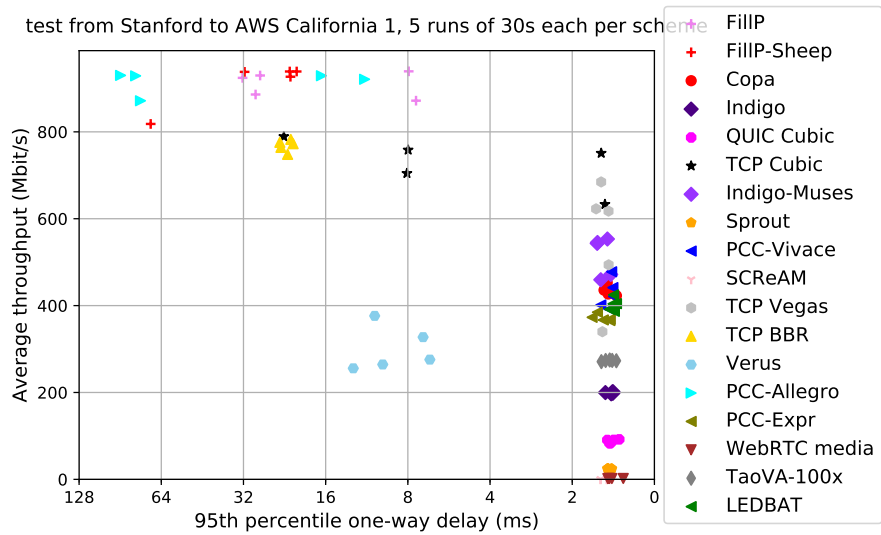
```
branch: muses @ f30bceca2aec2ef14a3cf71e25642f4a30905a03
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
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 Stanford to AWS California 1, 5 runs of 30s each per scheme
(mean of all runs by scheme)



test from Stanford to AWS California 1, 5 runs of 30s each per 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	768.71	22.29	0.10
Copa	5	434.72	1.10	0.07
TCP Cubic	5	727.20	8.26	0.07
FillP	5	910.22	20.87	0.28
FillP-Sheep	5	912.22	33.06	2.27
Indigo	5	199.57	1.06	0.06
LEDBAT	5	402.31	1.00	0.07
Indigo-Muses	5	514.61	1.26	0.06
PCC-Allegro	5	916.13	54.81	0.09
PCC-Expr	5	371.78	1.26	0.07
QUIC Cubic	5	87.99	1.03	0.07
SCReAM	5	0.22	1.20	0.10
Sprout	5	24.53	1.10	0.06
TaoVA-100x	5	273.26	1.10	0.07
TCP Vegas	5	551.75	1.24	0.06
Verus	5	299.91	9.36	0.06
PCC-Vivace	5	426.75	1.09	0.07
WebRTC media	5	1.98	1.03	0.06

Run 1: Statistics of TCP BBR

Start at: 2018-09-11 07:38:34

End at: 2018-09-11 07:39:04

Local clock offset: -2.959 ms

Remote clock offset: -4.412 ms

Below is generated by plot.py at 2018-09-11 09:48:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 775.90 Mbit/s

95th percentile per-packet one-way delay: 23.545 ms

Loss rate: 0.05%

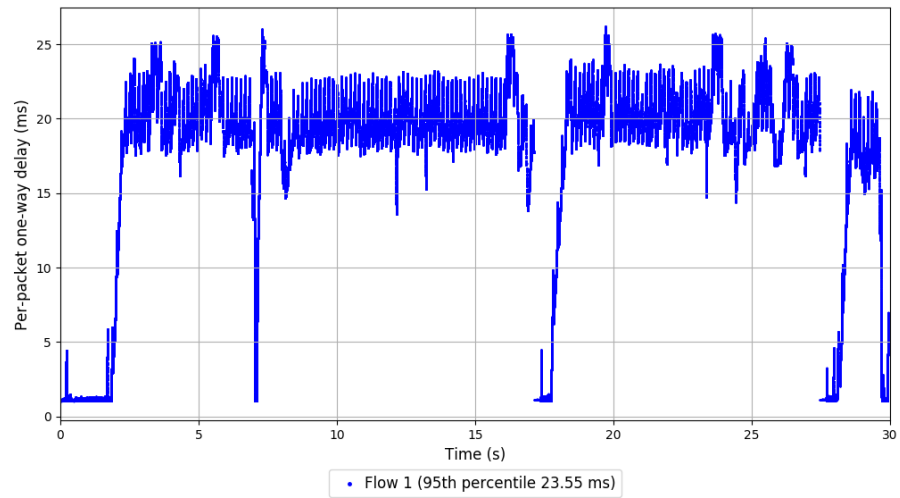
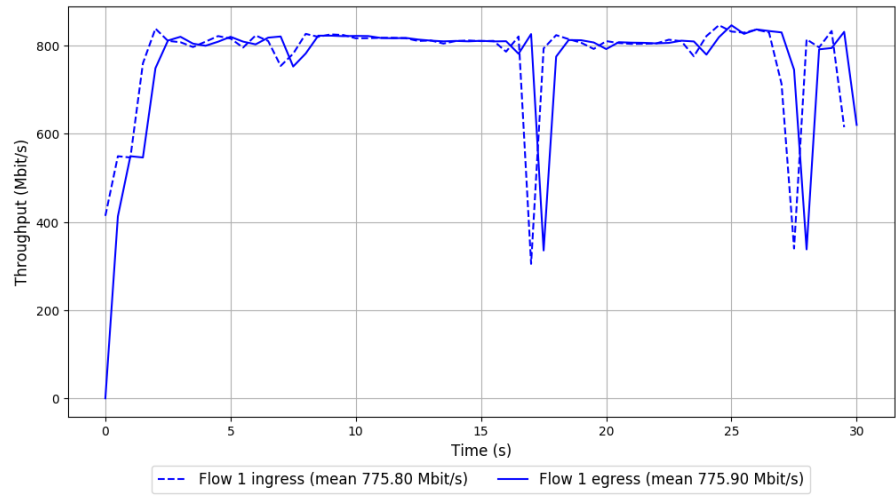
-- Flow 1:

Average throughput: 775.90 Mbit/s

95th percentile per-packet one-way delay: 23.545 ms

Loss rate: 0.05%

Run 1: Report of TCP BBR — Data Link

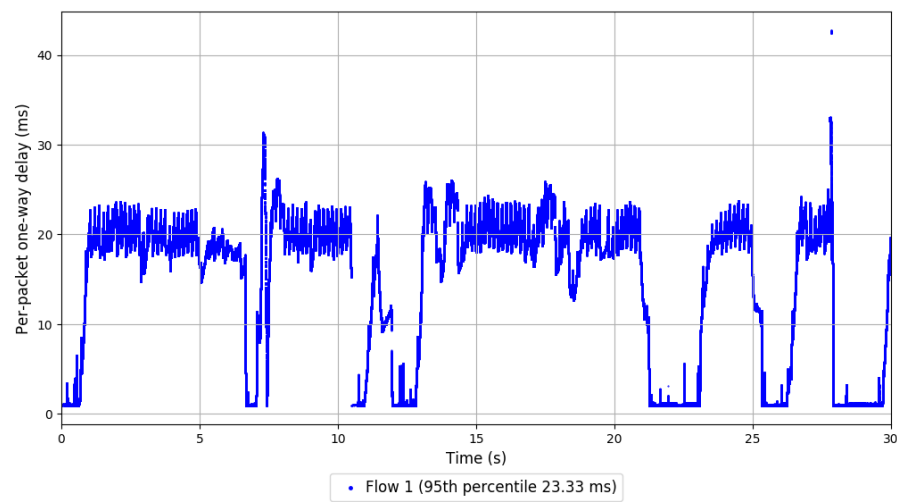
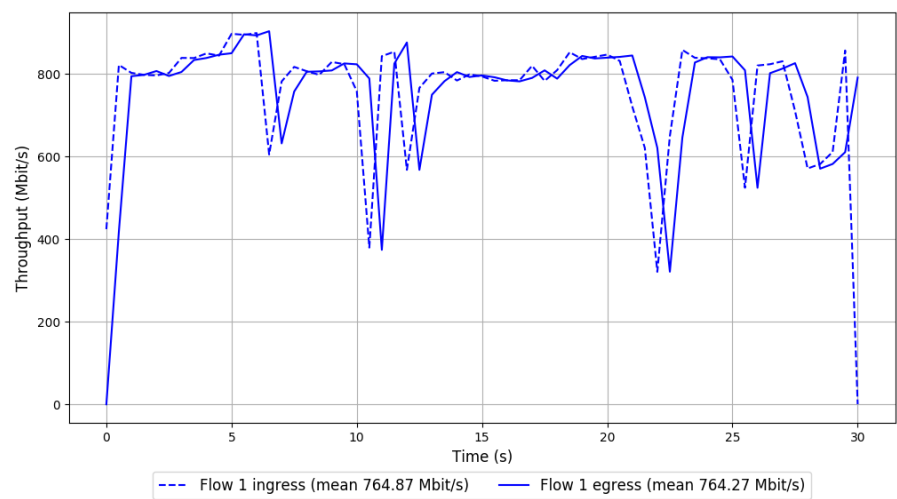


Run 2: Statistics of TCP BBR

Start at: 2018-09-11 08:06:43
End at: 2018-09-11 08:07:13
Local clock offset: -3.897 ms
Remote clock offset: -3.592 ms

Below is generated by plot.py at 2018-09-11 09:48:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 764.27 Mbit/s
95th percentile per-packet one-way delay: 23.328 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 764.27 Mbit/s
95th percentile per-packet one-way delay: 23.328 ms
Loss rate: 0.15%

Run 2: Report of TCP BBR — Data Link

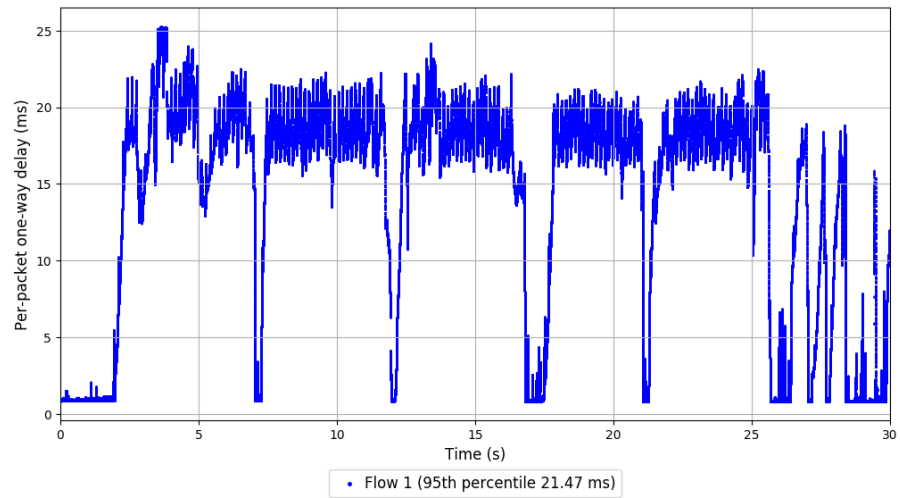
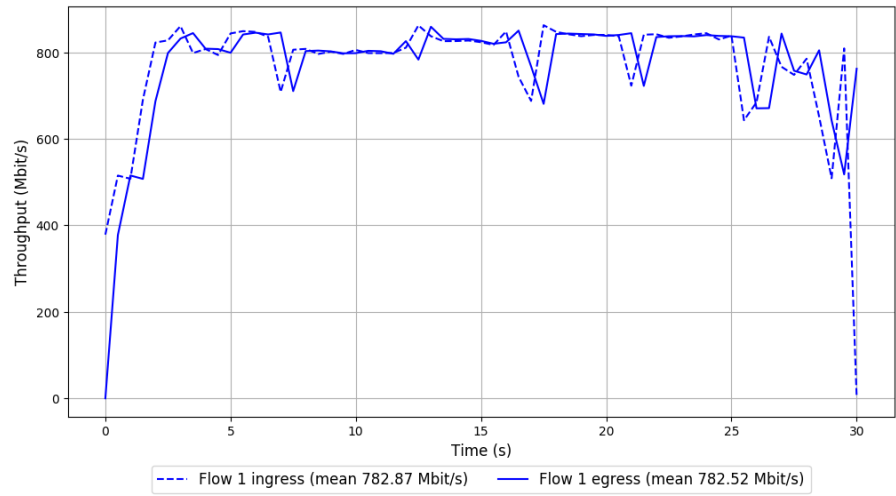


Run 3: Statistics of TCP BBR

Start at: 2018-09-11 08:34:46
End at: 2018-09-11 08:35:16
Local clock offset: -1.857 ms
Remote clock offset: -0.352 ms

Below is generated by plot.py at 2018-09-11 09:49:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 782.52 Mbit/s
95th percentile per-packet one-way delay: 21.469 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 782.52 Mbit/s
95th percentile per-packet one-way delay: 21.469 ms
Loss rate: 0.11%

Run 3: Report of TCP BBR — Data Link



Run 4: Statistics of TCP BBR

Start at: 2018-09-11 09:02:53

End at: 2018-09-11 09:03:23

Local clock offset: 0.28 ms

Remote clock offset: 0.337 ms

Below is generated by plot.py at 2018-09-11 09:49:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 772.72 Mbit/s

95th percentile per-packet one-way delay: 21.053 ms

Loss rate: 0.14%

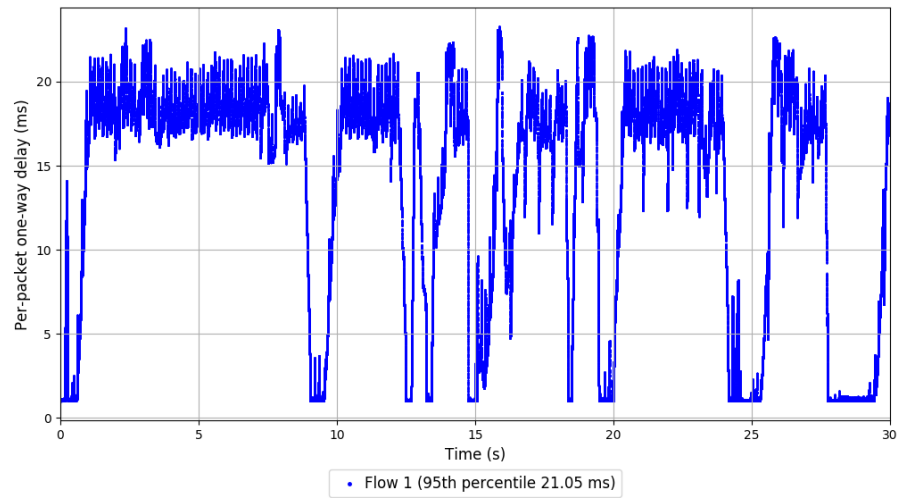
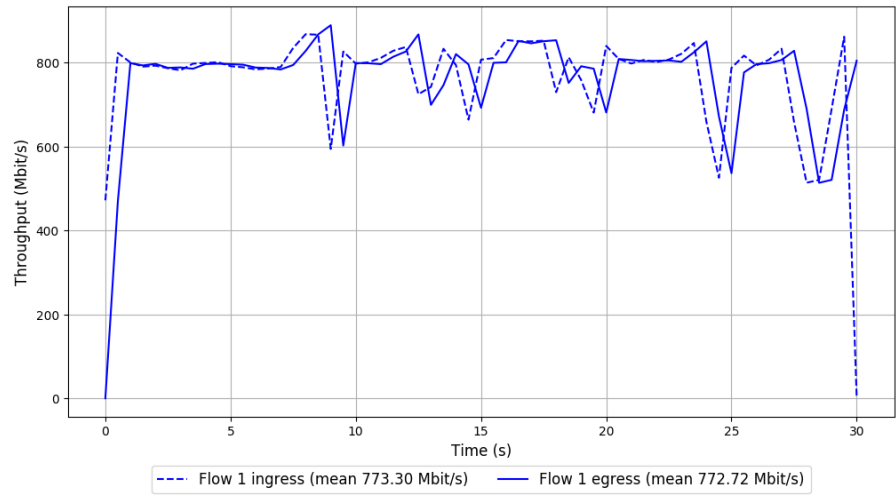
-- Flow 1:

Average throughput: 772.72 Mbit/s

95th percentile per-packet one-way delay: 21.053 ms

Loss rate: 0.14%

Run 4: Report of TCP BBR — Data Link



Run 5: Statistics of TCP BBR

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

End at: 2018-09-11 09:31:30

Local clock offset: 0.285 ms

Remote clock offset: -0.91 ms

Below is generated by plot.py at 2018-09-11 09:49:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 748.14 Mbit/s

95th percentile per-packet one-way delay: 22.055 ms

Loss rate: 0.05%

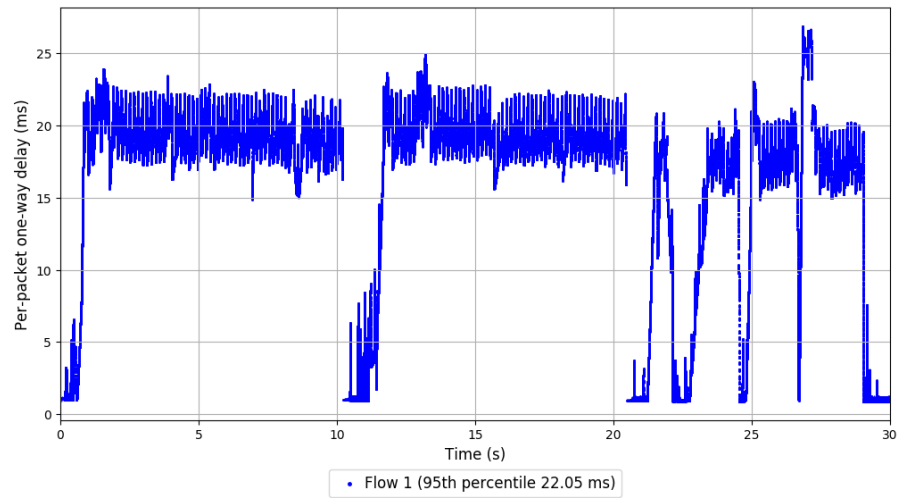
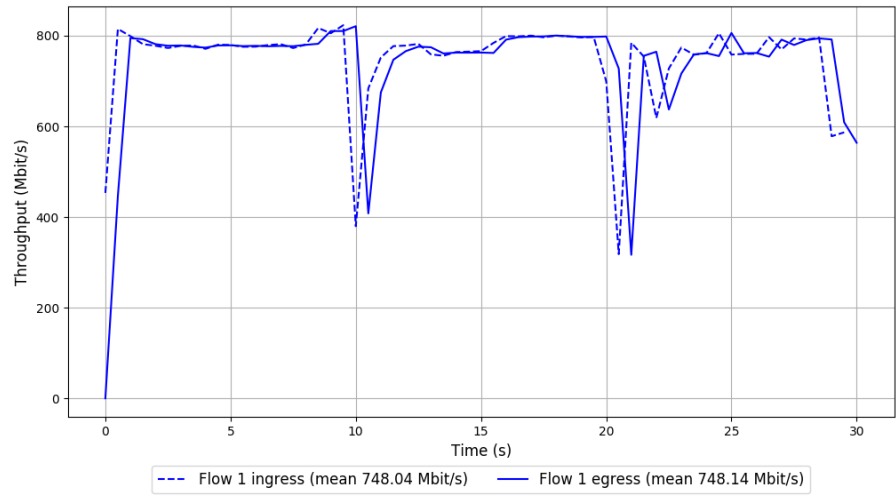
-- Flow 1:

Average throughput: 748.14 Mbit/s

95th percentile per-packet one-way delay: 22.055 ms

Loss rate: 0.05%

Run 5: Report of TCP BBR — Data Link

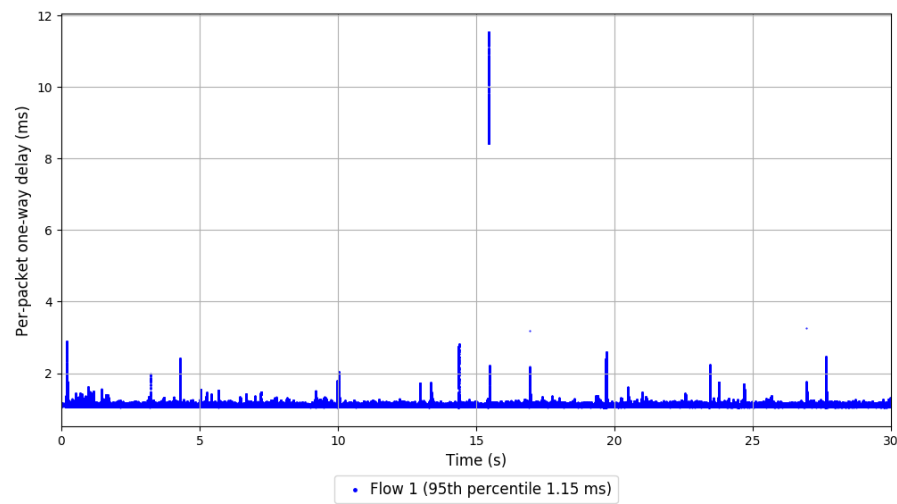
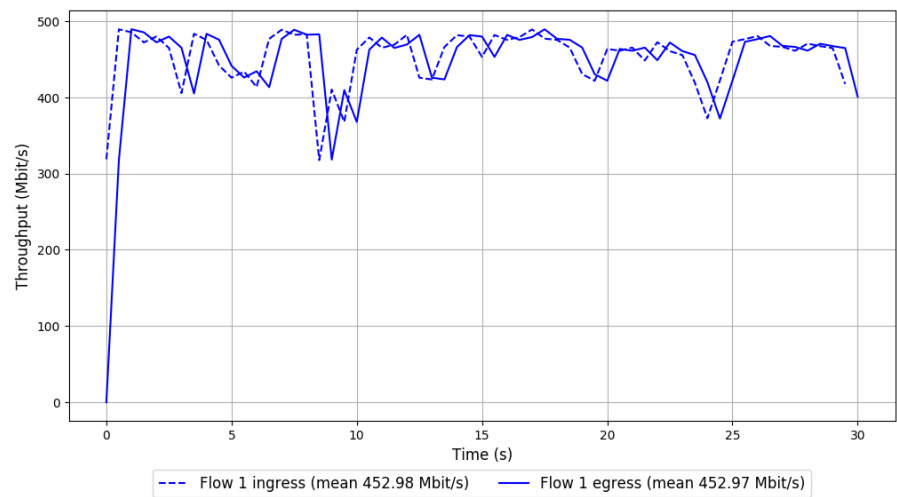


Run 1: Statistics of Copa

Start at: 2018-09-11 07:23:03
End at: 2018-09-11 07:23:33
Local clock offset: -0.646 ms
Remote clock offset: -3.552 ms

Below is generated by plot.py at 2018-09-11 09:49:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 452.97 Mbit/s
95th percentile per-packet one-way delay: 1.149 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 452.97 Mbit/s
95th percentile per-packet one-way delay: 1.149 ms
Loss rate: 0.07%

Run 1: Report of Copa — Data Link

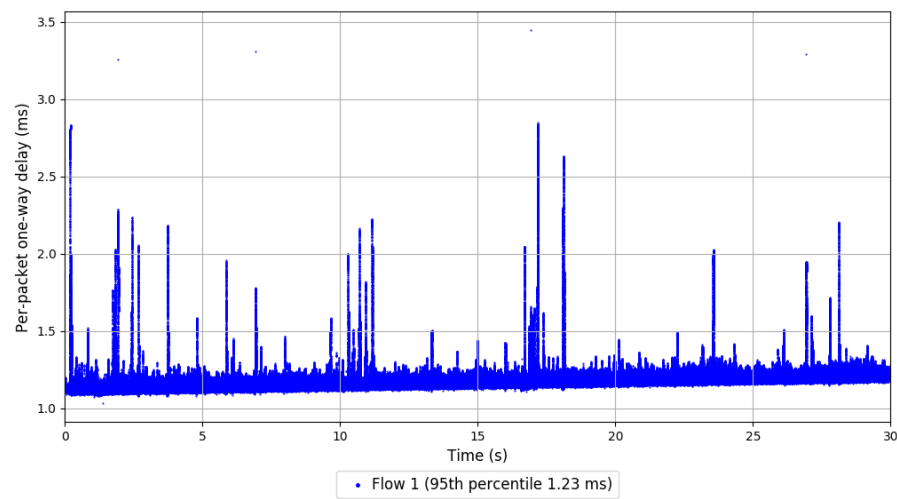
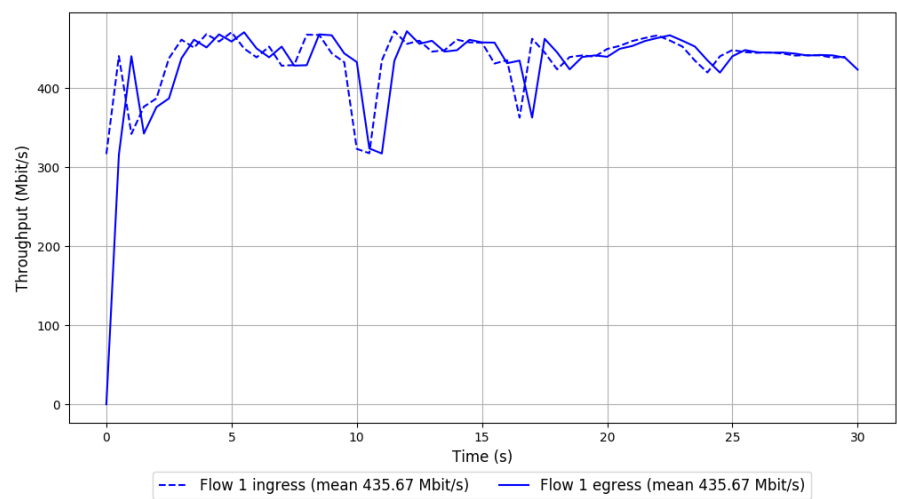


Run 2: Statistics of Copa

Start at: 2018-09-11 07:51:10
End at: 2018-09-11 07:51:40
Local clock offset: -4.201 ms
Remote clock offset: -4.052 ms

Below is generated by plot.py at 2018-09-11 09:49:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 435.67 Mbit/s
95th percentile per-packet one-way delay: 1.226 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 435.67 Mbit/s
95th percentile per-packet one-way delay: 1.226 ms
Loss rate: 0.07%

Run 2: Report of Copa — Data Link

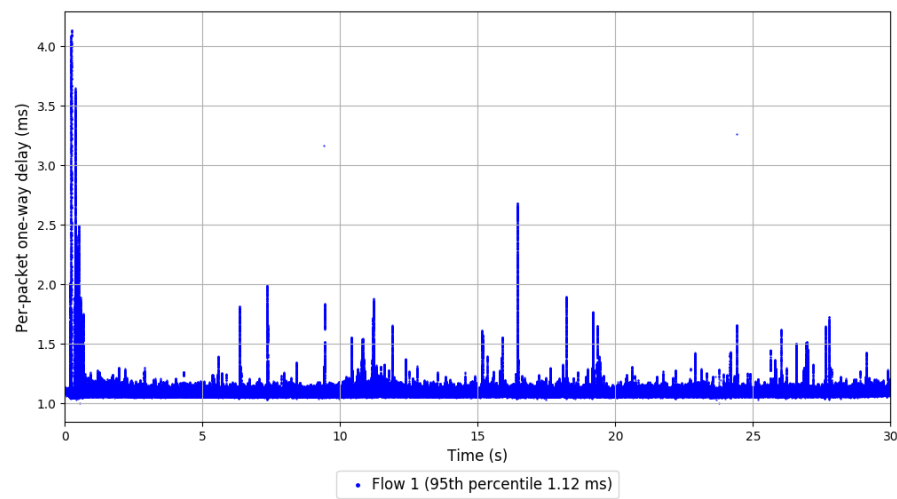
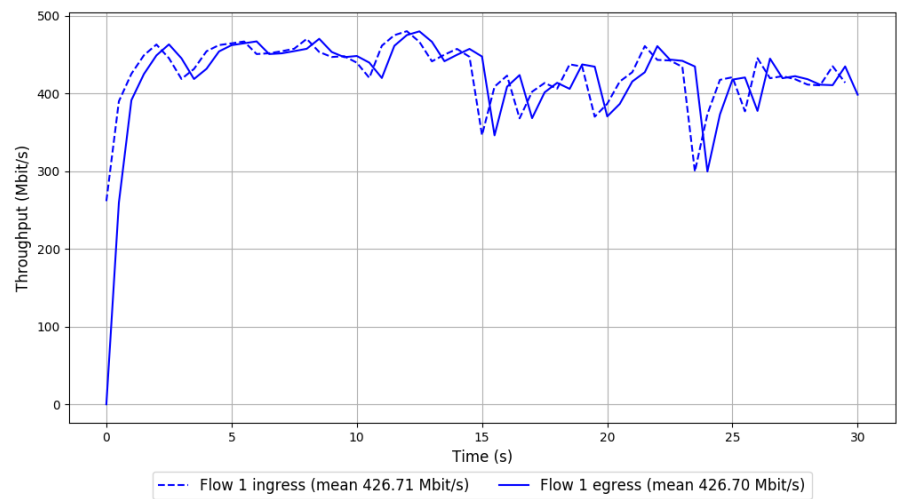


Run 3: Statistics of Copa

Start at: 2018-09-11 08:19:18
End at: 2018-09-11 08:19:48
Local clock offset: -3.713 ms
Remote clock offset: -3.775 ms

Below is generated by plot.py at 2018-09-11 09:49:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 426.70 Mbit/s
95th percentile per-packet one-way delay: 1.125 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 426.70 Mbit/s
95th percentile per-packet one-way delay: 1.125 ms
Loss rate: 0.06%

Run 3: Report of Copa — Data Link

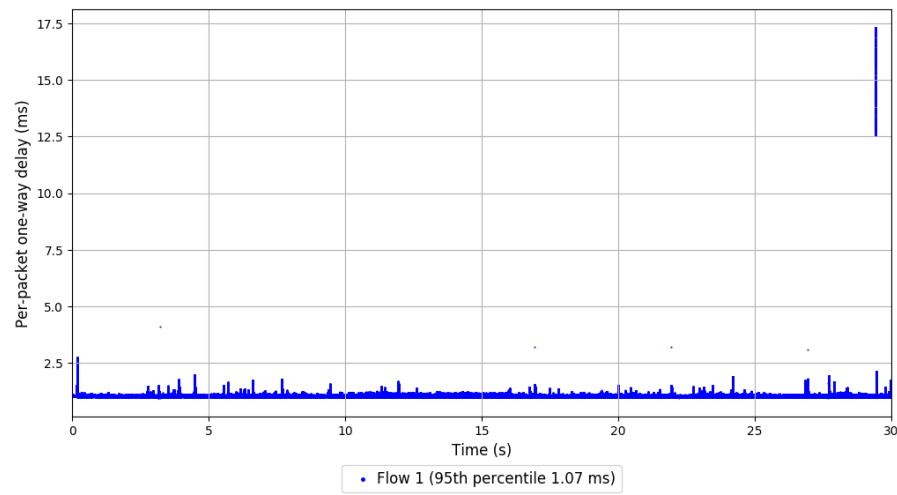
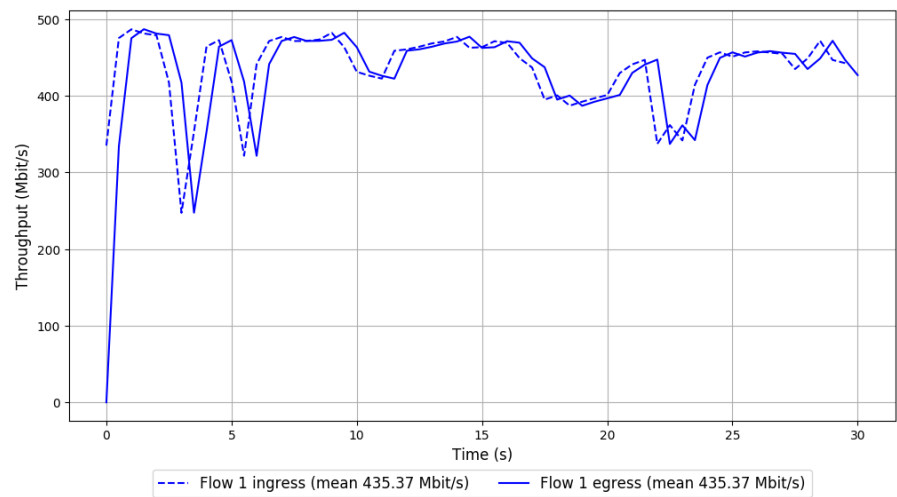


Run 4: Statistics of Copa

Start at: 2018-09-11 08:47:19
End at: 2018-09-11 08:47:49
Local clock offset: -0.222 ms
Remote clock offset: 0.476 ms

Below is generated by plot.py at 2018-09-11 09:57:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 435.37 Mbit/s
95th percentile per-packet one-way delay: 1.069 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 435.37 Mbit/s
95th percentile per-packet one-way delay: 1.069 ms
Loss rate: 0.06%

Run 4: Report of Copa — Data Link



Run 5: Statistics of Copa

Start at: 2018-09-11 09:15:25

End at: 2018-09-11 09:15:55

Local clock offset: 0.333 ms

Remote clock offset: 0.354 ms

Below is generated by plot.py at 2018-09-11 09:57:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 422.88 Mbit/s

95th percentile per-packet one-way delay: 0.925 ms

Loss rate: 0.07%

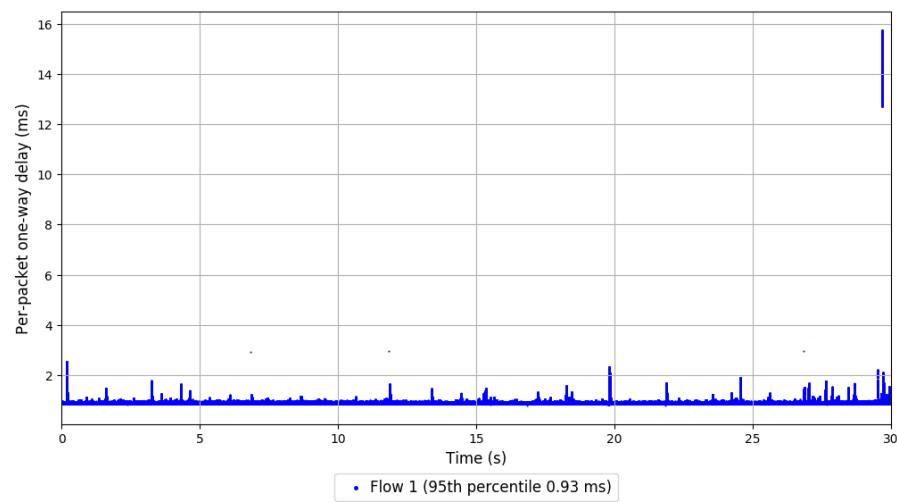
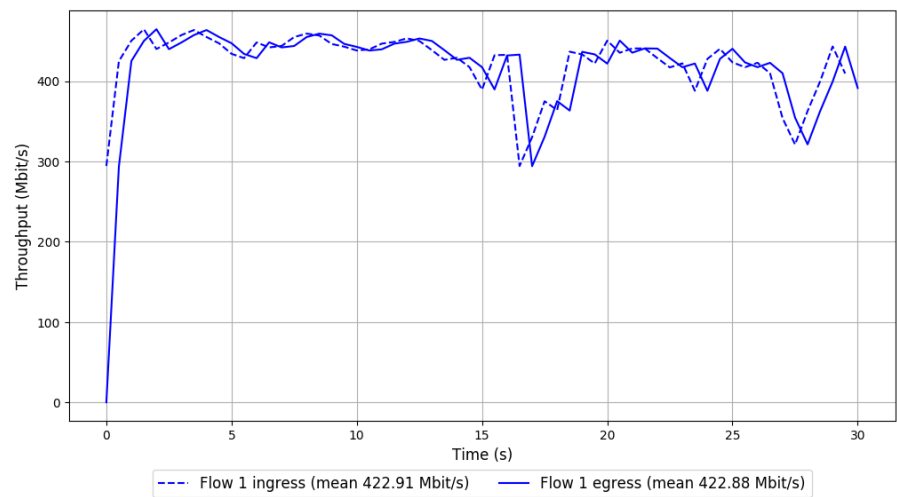
-- Flow 1:

Average throughput: 422.88 Mbit/s

95th percentile per-packet one-way delay: 0.925 ms

Loss rate: 0.07%

Run 5: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-09-11 07:13:54

End at: 2018-09-11 07:14:24

Local clock offset: -0.518 ms

Remote clock offset: -2.78 ms

Below is generated by plot.py at 2018-09-11 09:57:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 789.24 Mbit/s

95th percentile per-packet one-way delay: 22.770 ms

Loss rate: 0.09%

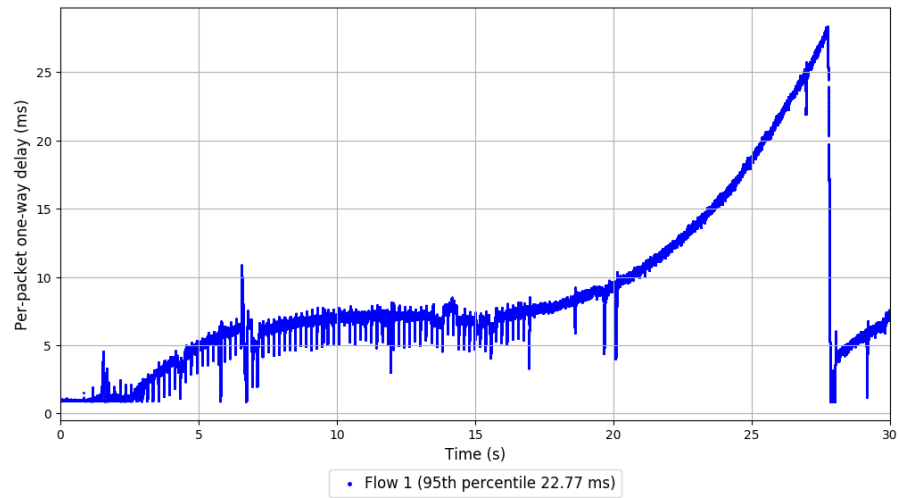
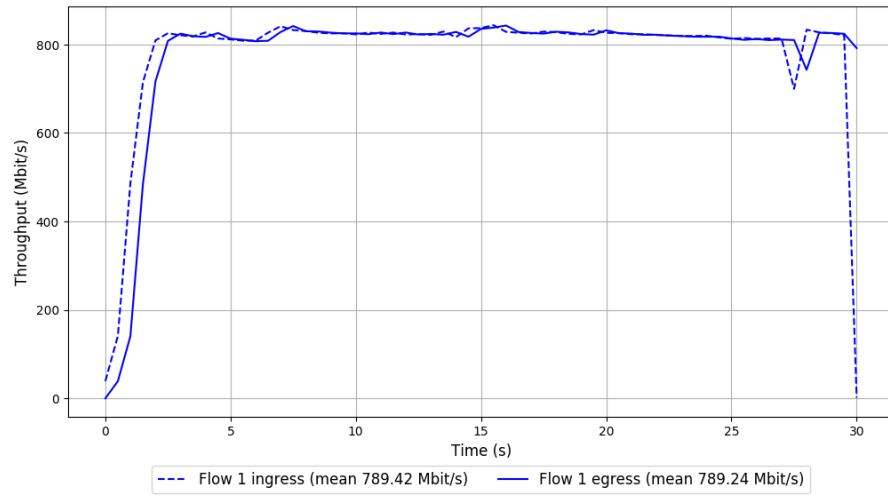
-- Flow 1:

Average throughput: 789.24 Mbit/s

95th percentile per-packet one-way delay: 22.770 ms

Loss rate: 0.09%

Run 1: Report of TCP Cubic — Data Link

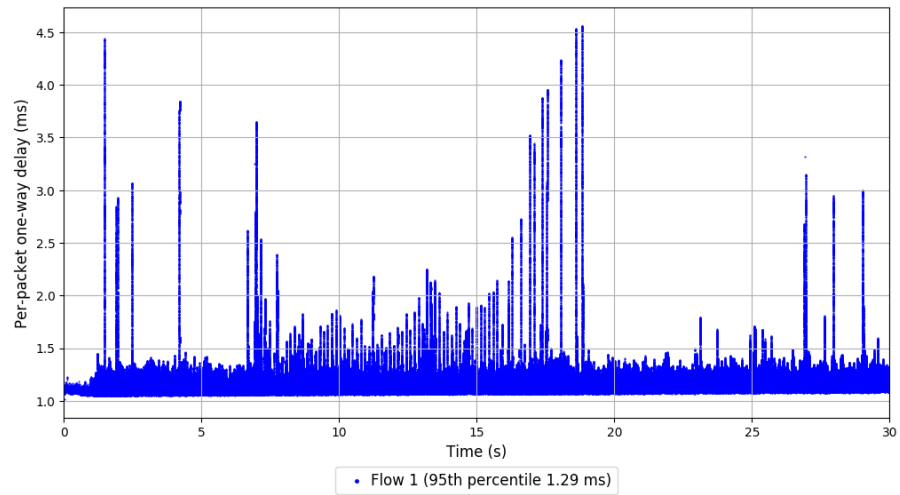
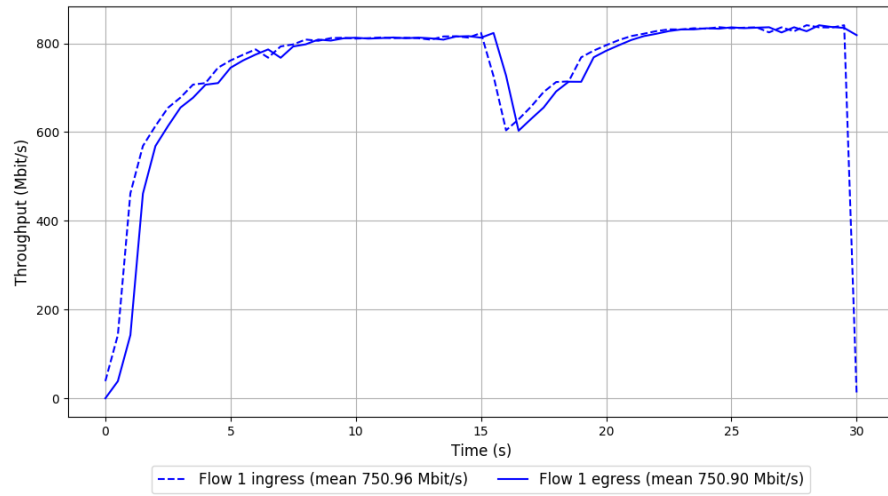


Run 2: Statistics of TCP Cubic

Start at: 2018-09-11 07:42:01
End at: 2018-09-11 07:42:31
Local clock offset: -3.306 ms
Remote clock offset: -4.524 ms

Below is generated by plot.py at 2018-09-11 09:57:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 750.90 Mbit/s
95th percentile per-packet one-way delay: 1.295 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 750.90 Mbit/s
95th percentile per-packet one-way delay: 1.295 ms
Loss rate: 0.07%

Run 2: Report of TCP Cubic — Data Link

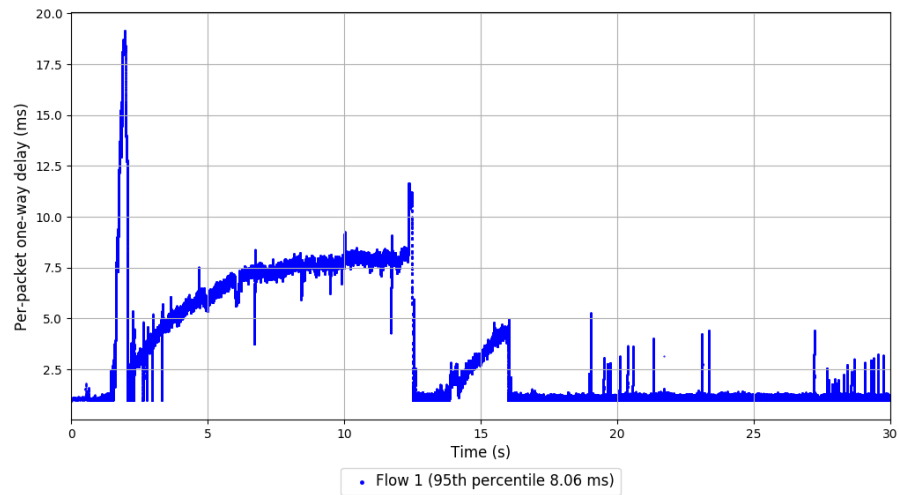
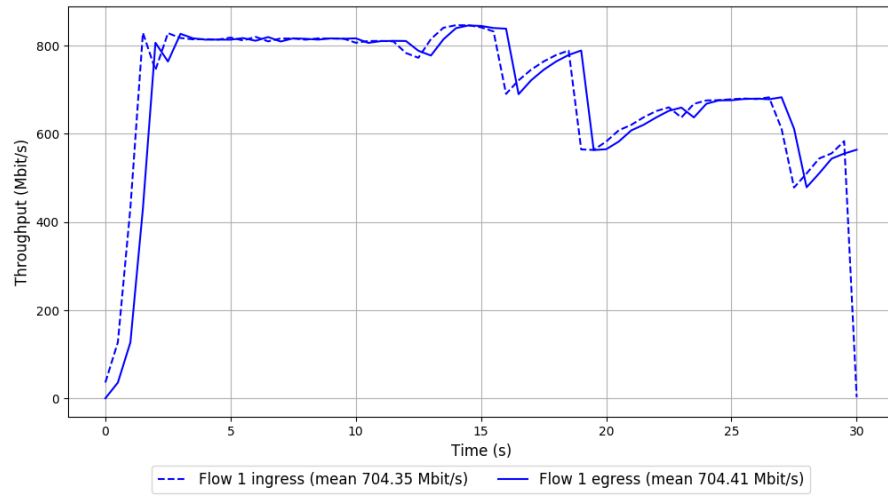


Run 3: Statistics of TCP Cubic

Start at: 2018-09-11 08:10:10
End at: 2018-09-11 08:10:40
Local clock offset: -3.696 ms
Remote clock offset: -3.569 ms

Below is generated by plot.py at 2018-09-11 09:57:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 704.41 Mbit/s
95th percentile per-packet one-way delay: 8.063 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 704.41 Mbit/s
95th percentile per-packet one-way delay: 8.063 ms
Loss rate: 0.06%

Run 3: Report of TCP Cubic — Data Link

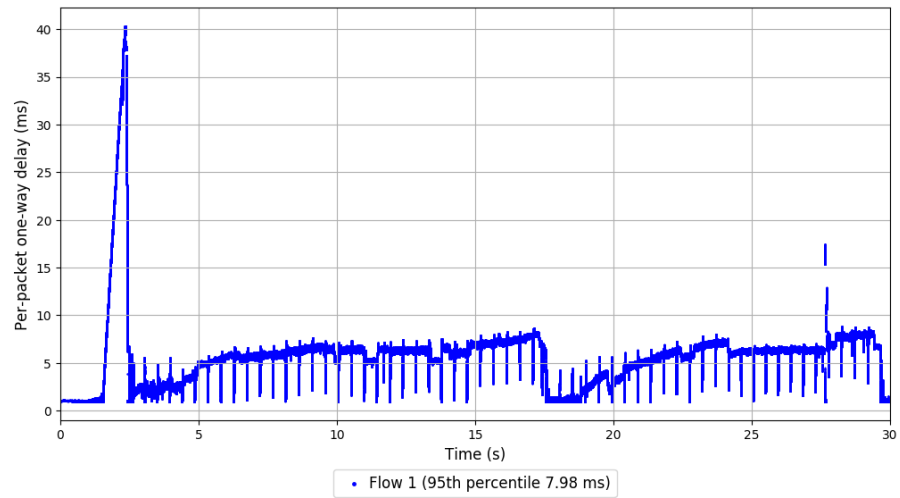
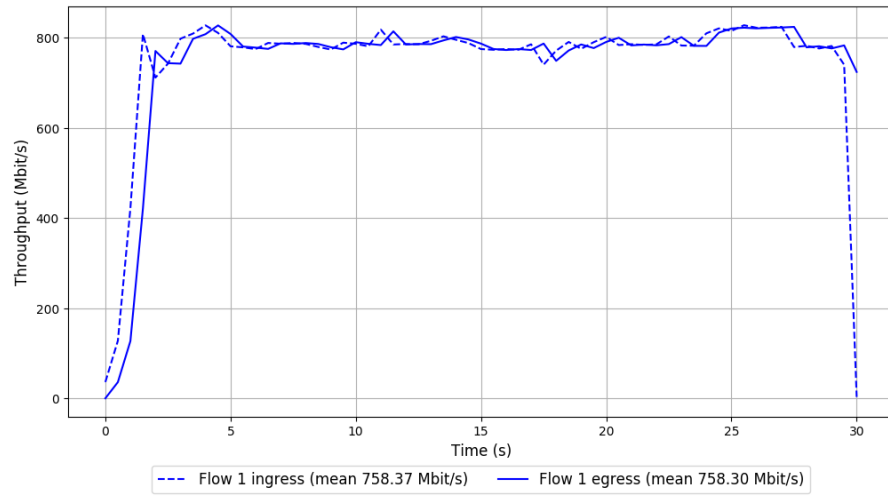


Run 4: Statistics of TCP Cubic

Start at: 2018-09-11 08:38:10
End at: 2018-09-11 08:38:40
Local clock offset: -1.163 ms
Remote clock offset: -0.071 ms

Below is generated by plot.py at 2018-09-11 09:57:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 758.30 Mbit/s
95th percentile per-packet one-way delay: 7.981 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 758.30 Mbit/s
95th percentile per-packet one-way delay: 7.981 ms
Loss rate: 0.07%

Run 4: Report of TCP Cubic — Data Link



Run 5: Statistics of TCP Cubic

Start at: 2018-09-11 09:06:19

End at: 2018-09-11 09:06:49

Local clock offset: 0.227 ms

Remote clock offset: 0.283 ms

Below is generated by plot.py at 2018-09-11 09:57:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 633.14 Mbit/s

95th percentile per-packet one-way delay: 1.204 ms

Loss rate: 0.07%

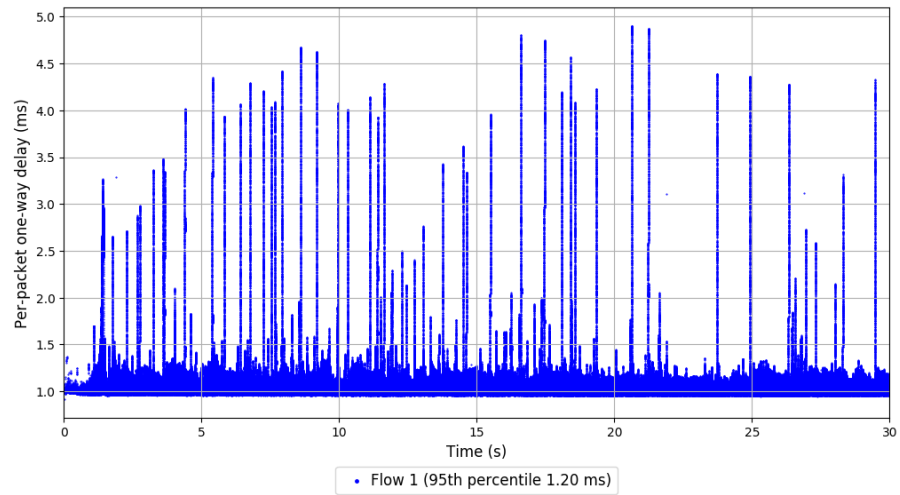
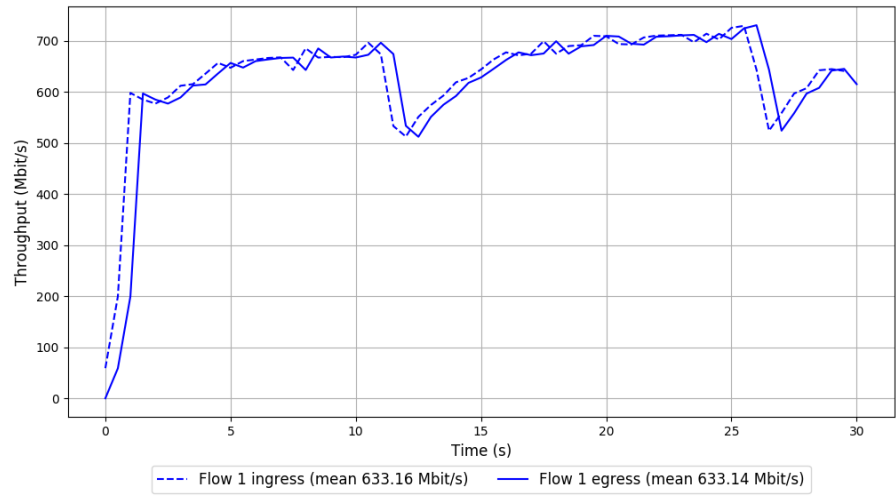
-- Flow 1:

Average throughput: 633.14 Mbit/s

95th percentile per-packet one-way delay: 1.204 ms

Loss rate: 0.07%

Run 5: Report of TCP Cubic — Data Link

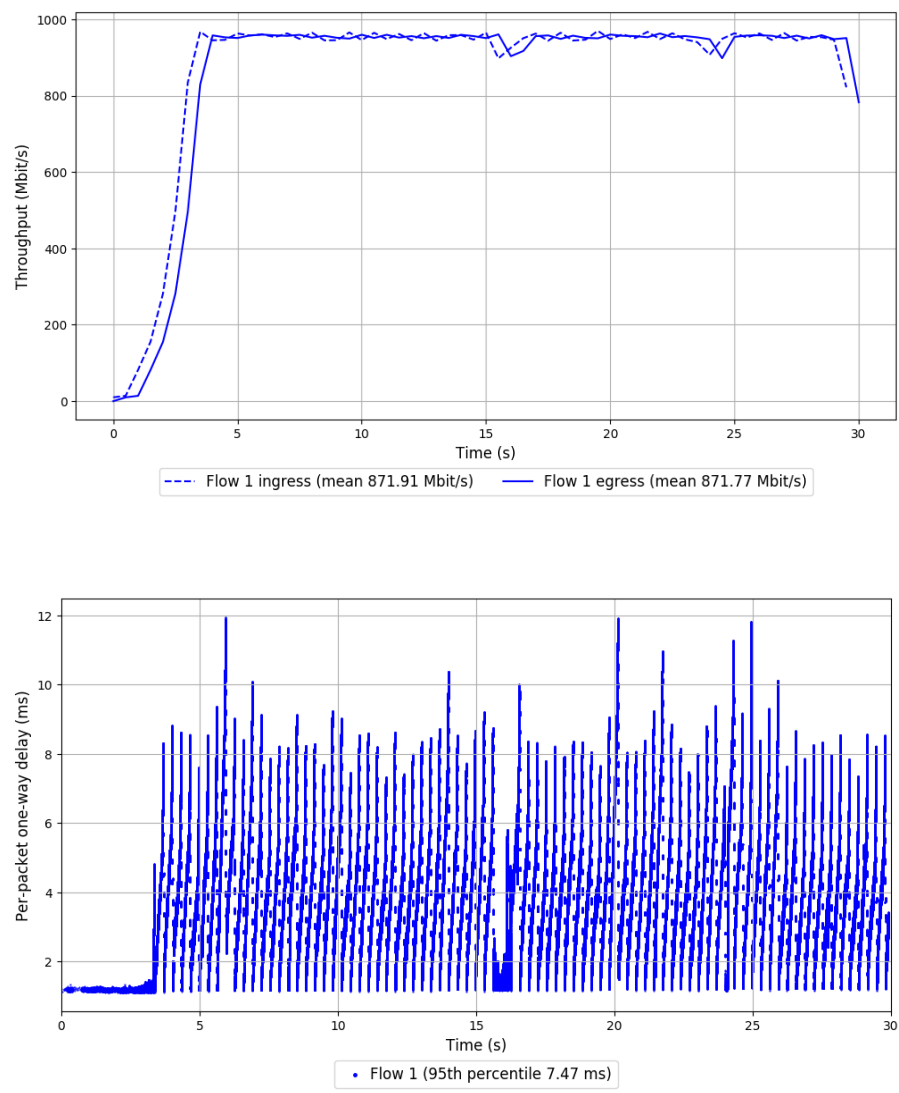


Run 1: Statistics of FillP

Start at: 2018-09-11 07:32:25
End at: 2018-09-11 07:32:55
Local clock offset: -1.85 ms
Remote clock offset: -4.101 ms

Below is generated by plot.py at 2018-09-11 10:01:12
Datalink statistics
-- Total of 1 flow:
Average throughput: 871.77 Mbit/s
95th percentile per-packet one-way delay: 7.467 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 871.77 Mbit/s
95th percentile per-packet one-way delay: 7.467 ms
Loss rate: 0.08%

Run 1: Report of FillP — Data Link

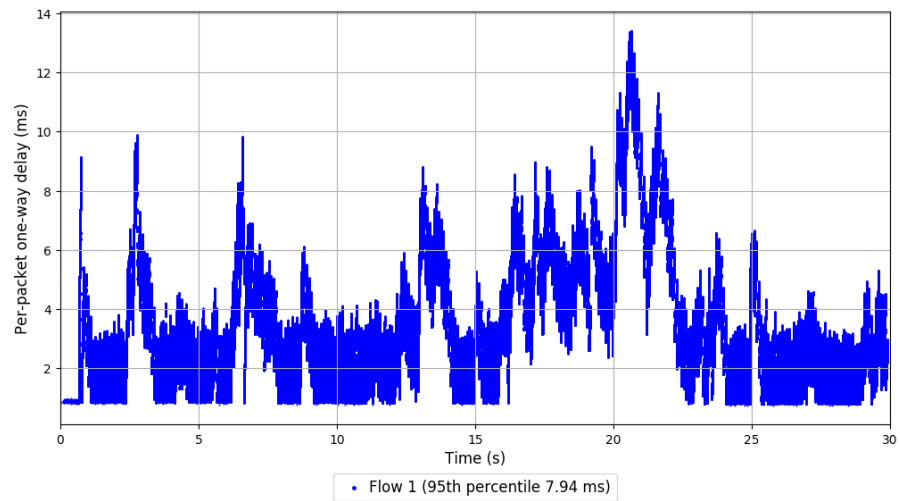
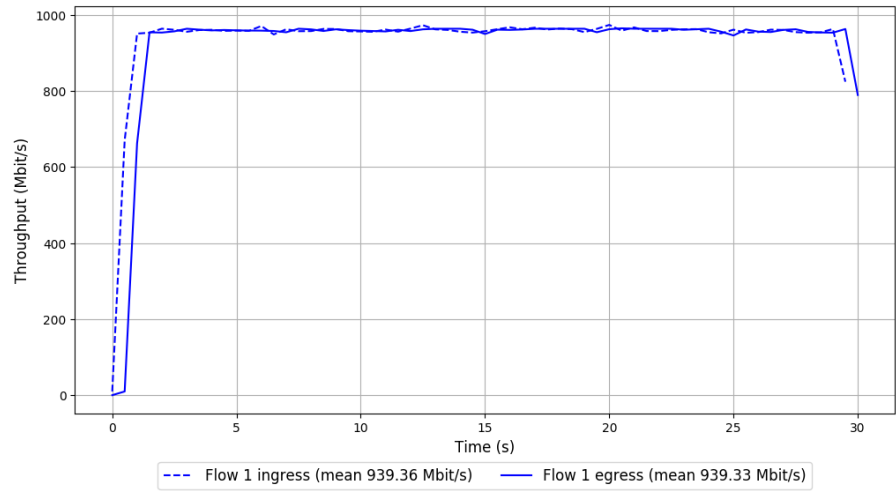


Run 2: Statistics of FillP

Start at: 2018-09-11 08:00:34
End at: 2018-09-11 08:01:04
Local clock offset: -4.413 ms
Remote clock offset: -3.541 ms

Below is generated by plot.py at 2018-09-11 10:09:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 939.33 Mbit/s
95th percentile per-packet one-way delay: 7.942 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 939.33 Mbit/s
95th percentile per-packet one-way delay: 7.942 ms
Loss rate: 0.07%

Run 2: Report of FillP — Data Link

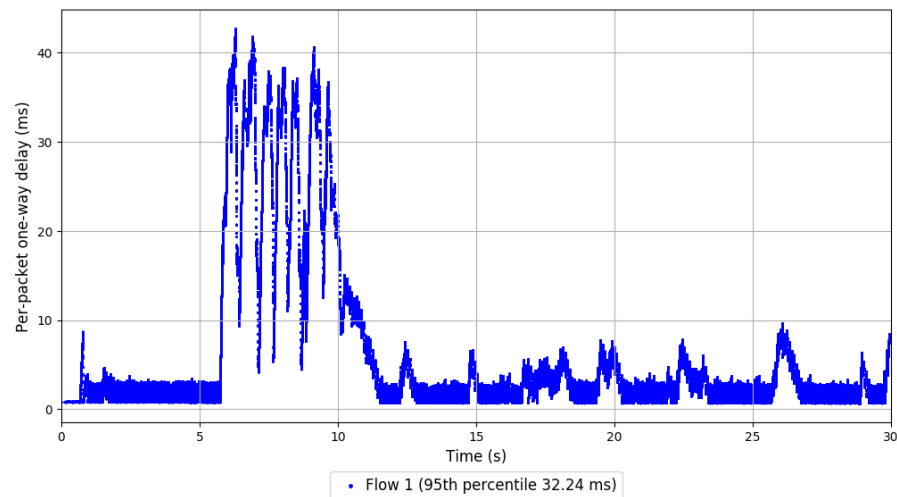
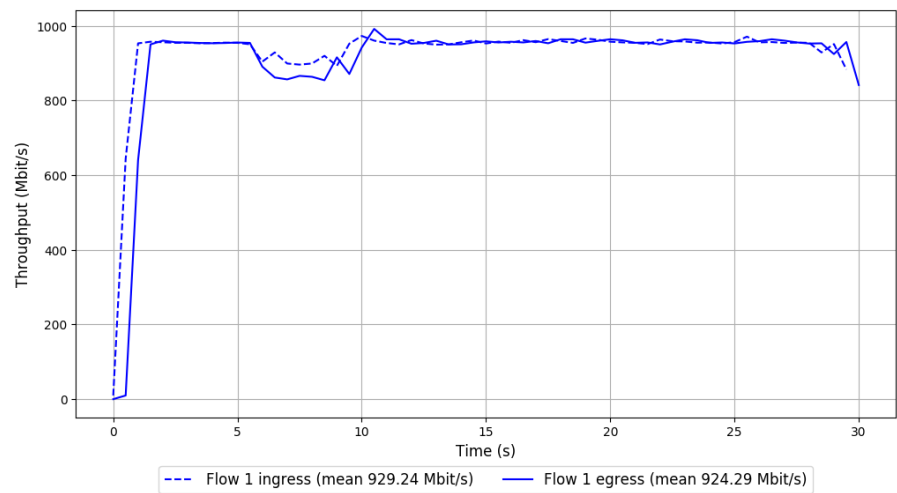


Run 3: Statistics of FillP

Start at: 2018-09-11 08:28:42
End at: 2018-09-11 08:29:12
Local clock offset: -3.854 ms
Remote clock offset: -1.244 ms

Below is generated by plot.py at 2018-09-11 10:09:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 924.29 Mbit/s
95th percentile per-packet one-way delay: 32.243 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 924.29 Mbit/s
95th percentile per-packet one-way delay: 32.243 ms
Loss rate: 0.60%

Run 3: Report of FillP — Data Link



Run 4: Statistics of FillP

Start at: 2018-09-11 08:56:48

End at: 2018-09-11 08:57:18

Local clock offset: 0.217 ms

Remote clock offset: 0.556 ms

Below is generated by plot.py at 2018-09-11 10:09:18

Datalink statistics

-- Total of 1 flow:

Average throughput: 885.99 Mbit/s

95th percentile per-packet one-way delay: 28.894 ms

Loss rate: 0.23%

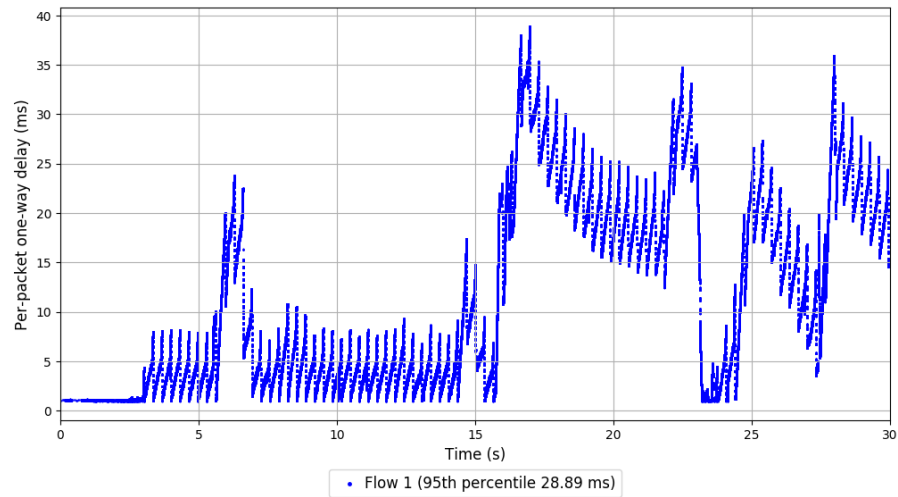
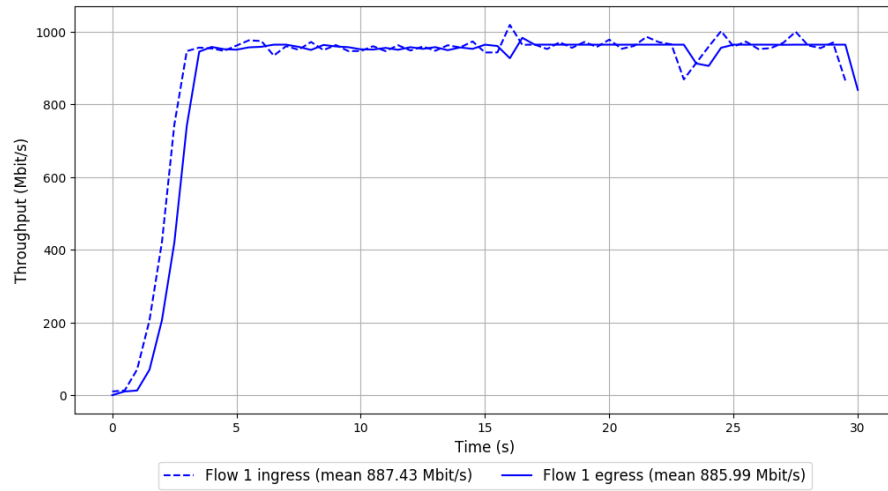
-- Flow 1:

Average throughput: 885.99 Mbit/s

95th percentile per-packet one-way delay: 28.894 ms

Loss rate: 0.23%

Run 4: Report of FillP — Data Link



Run 5: Statistics of FillP

Start at: 2018-09-11 09:24:56

End at: 2018-09-11 09:25:26

Local clock offset: 0.563 ms

Remote clock offset: 0.389 ms

Below is generated by plot.py at 2018-09-11 10:09:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 929.74 Mbit/s

95th percentile per-packet one-way delay: 27.808 ms

Loss rate: 0.43%

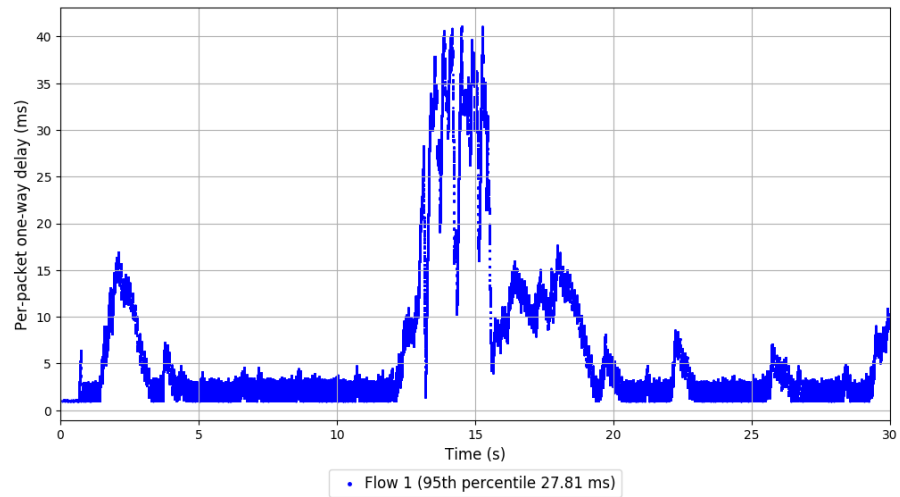
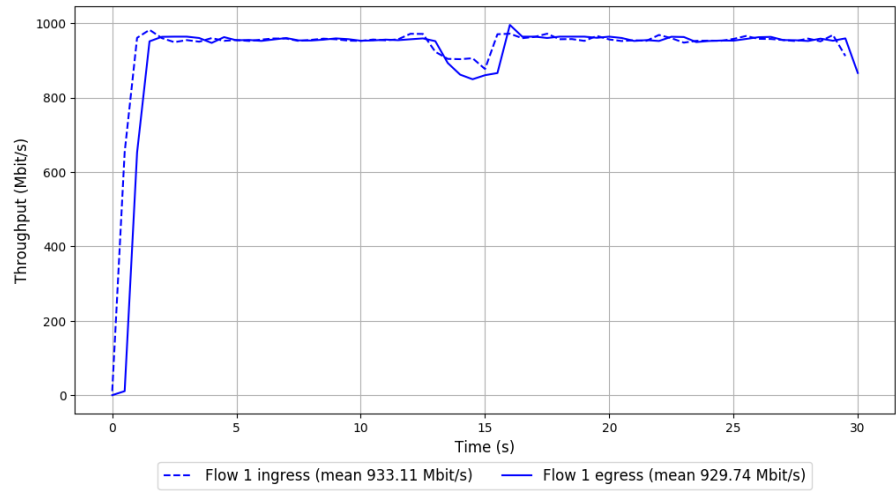
-- Flow 1:

Average throughput: 929.74 Mbit/s

95th percentile per-packet one-way delay: 27.808 ms

Loss rate: 0.43%

Run 5: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-09-11 07:12:11

End at: 2018-09-11 07:12:41

Local clock offset: -0.43 ms

Remote clock offset: -2.62 ms

Below is generated by plot.py at 2018-09-11 10:10:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 926.89 Mbit/s

95th percentile per-packet one-way delay: 21.532 ms

Loss rate: 0.41%

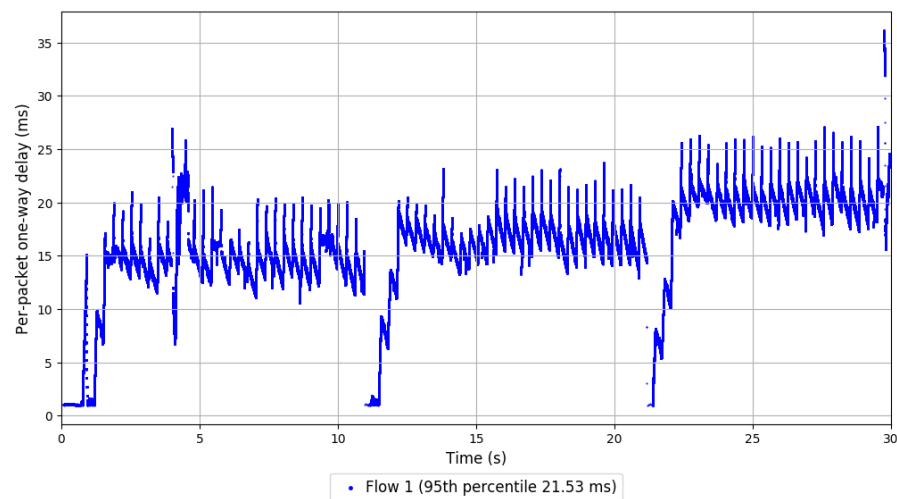
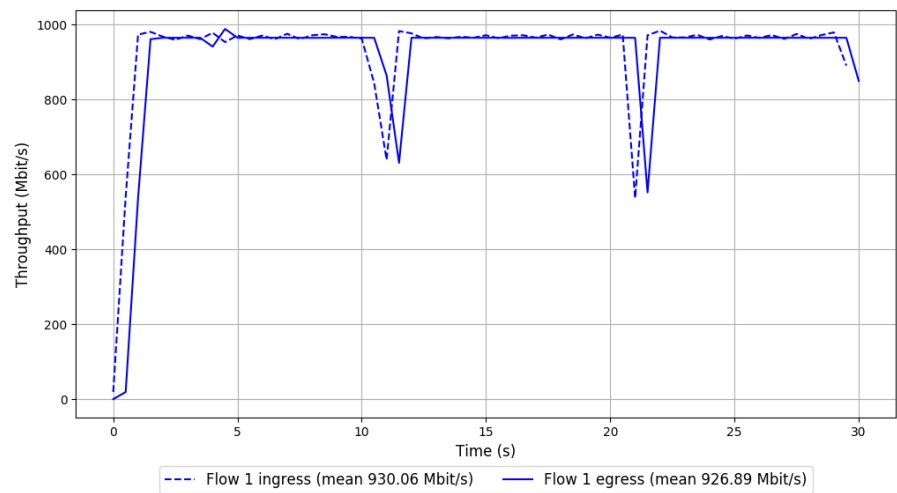
-- Flow 1:

Average throughput: 926.89 Mbit/s

95th percentile per-packet one-way delay: 21.532 ms

Loss rate: 0.41%

Run 1: Report of FillP-Sheep — Data Link

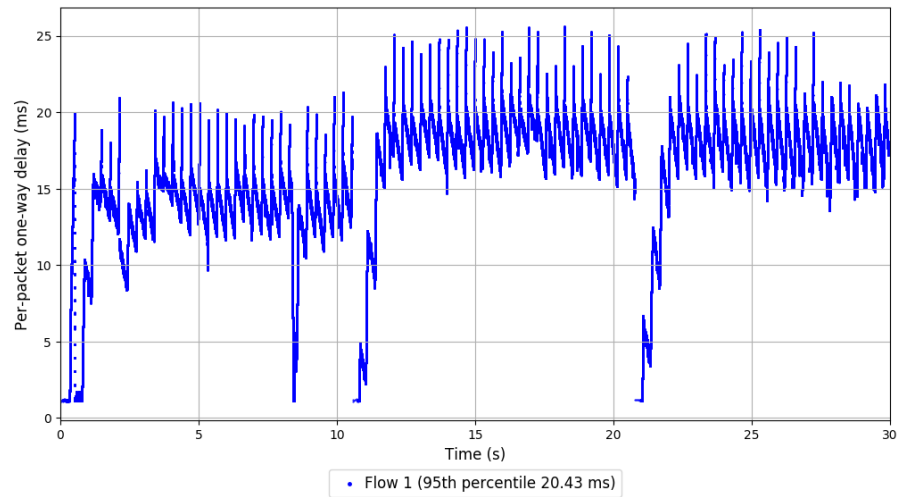
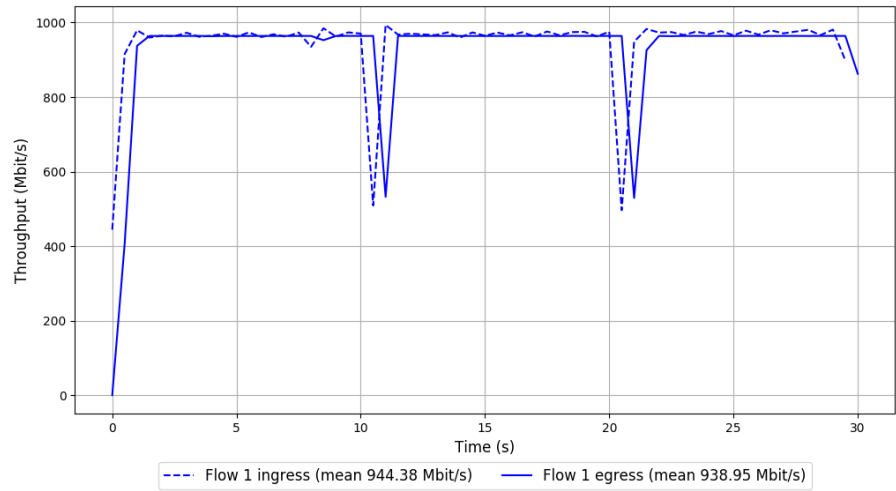


Run 2: Statistics of FillP-Sheep

Start at: 2018-09-11 07:40:17
End at: 2018-09-11 07:40:47
Local clock offset: -3.092 ms
Remote clock offset: -4.489 ms

Below is generated by plot.py at 2018-09-11 10:10:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 938.95 Mbit/s
95th percentile per-packet one-way delay: 20.430 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 938.95 Mbit/s
95th percentile per-packet one-way delay: 20.430 ms
Loss rate: 0.64%

Run 2: Report of FillP-Sheep — Data Link

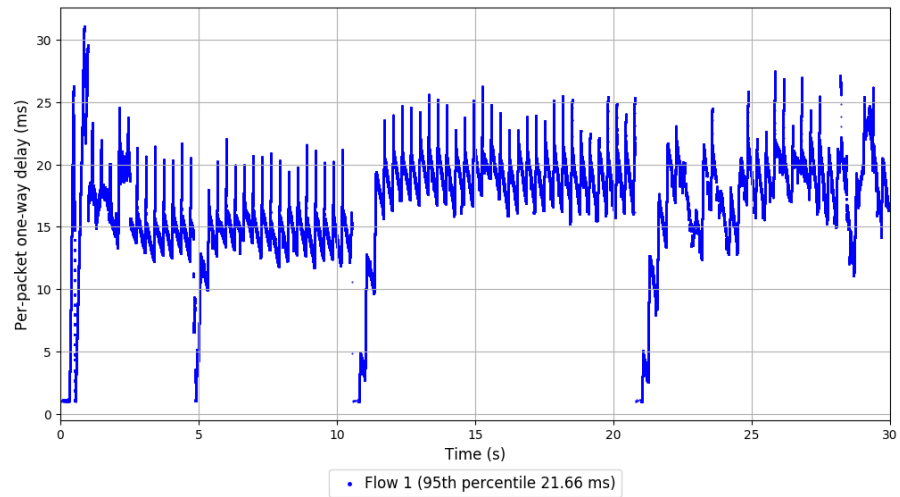
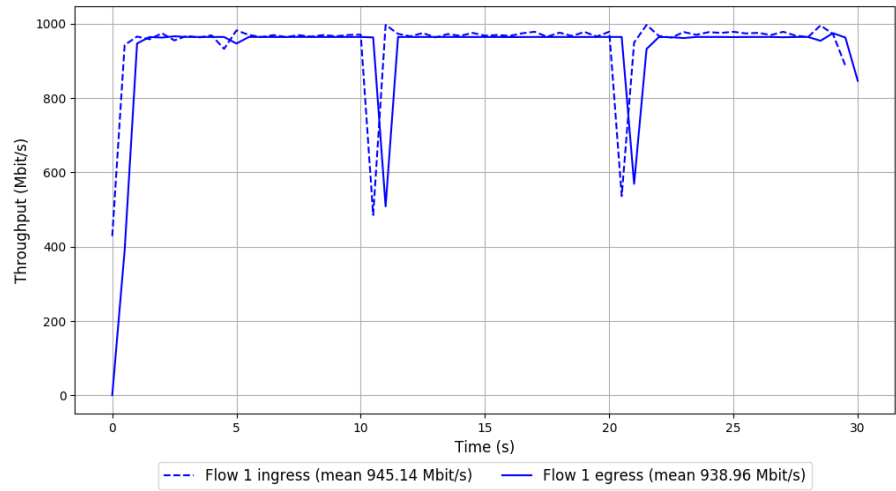


Run 3: Statistics of FillP-Sheep

Start at: 2018-09-11 08:08:26
End at: 2018-09-11 08:08:56
Local clock offset: -3.75 ms
Remote clock offset: -3.623 ms

Below is generated by plot.py at 2018-09-11 10:10:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 938.96 Mbit/s
95th percentile per-packet one-way delay: 21.664 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 938.96 Mbit/s
95th percentile per-packet one-way delay: 21.664 ms
Loss rate: 0.72%

Run 3: Report of FillP-Sheep — Data Link



Run 4: Statistics of FillP-Sheep

Start at: 2018-09-11 08:36:29

End at: 2018-09-11 08:37:00

Local clock offset: -1.45 ms

Remote clock offset: -0.21 ms

Below is generated by plot.py at 2018-09-11 10:13:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 818.19 Mbit/s

95th percentile per-packet one-way delay: 69.982 ms

Loss rate: 9.02%

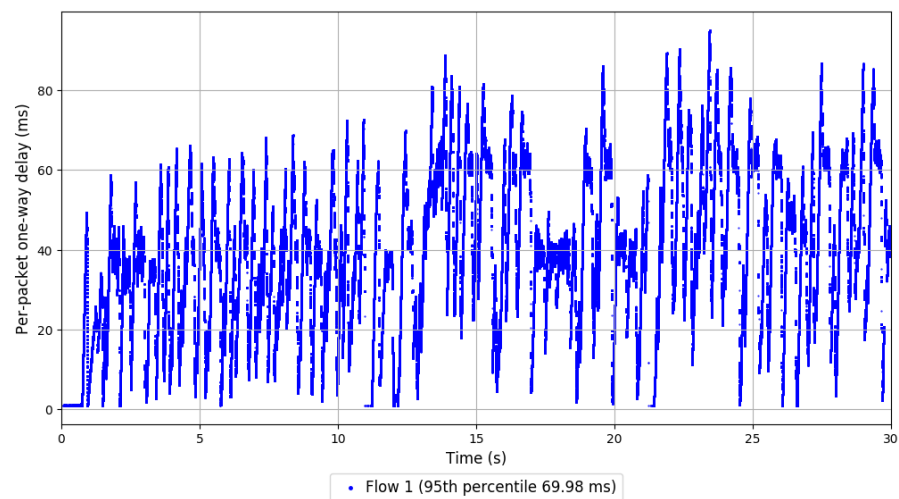
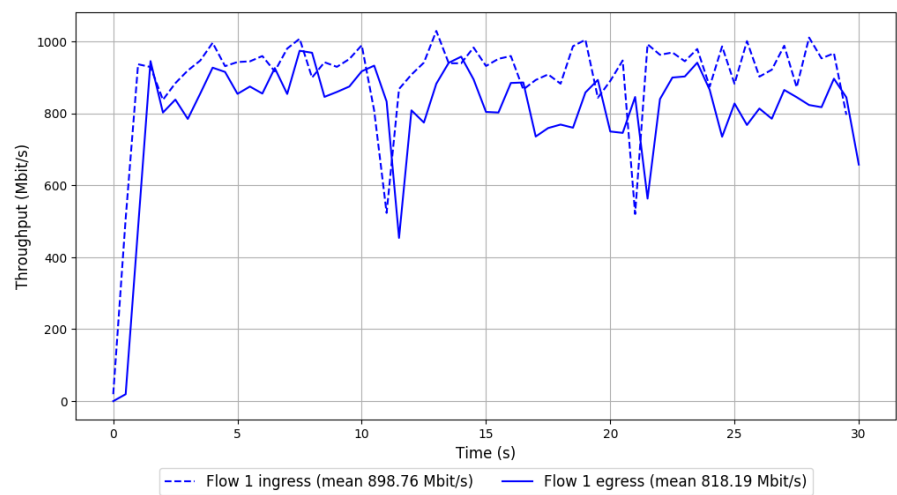
-- Flow 1:

Average throughput: 818.19 Mbit/s

95th percentile per-packet one-way delay: 69.982 ms

Loss rate: 9.02%

Run 4: Report of FillP-Sheep — Data Link



Run 5: Statistics of FillP-Sheep

Start at: 2018-09-11 09:04:36

End at: 2018-09-11 09:05:06

Local clock offset: 0.289 ms

Remote clock offset: 0.306 ms

Below is generated by plot.py at 2018-09-11 10:21:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 938.10 Mbit/s

95th percentile per-packet one-way delay: 31.696 ms

Loss rate: 0.57%

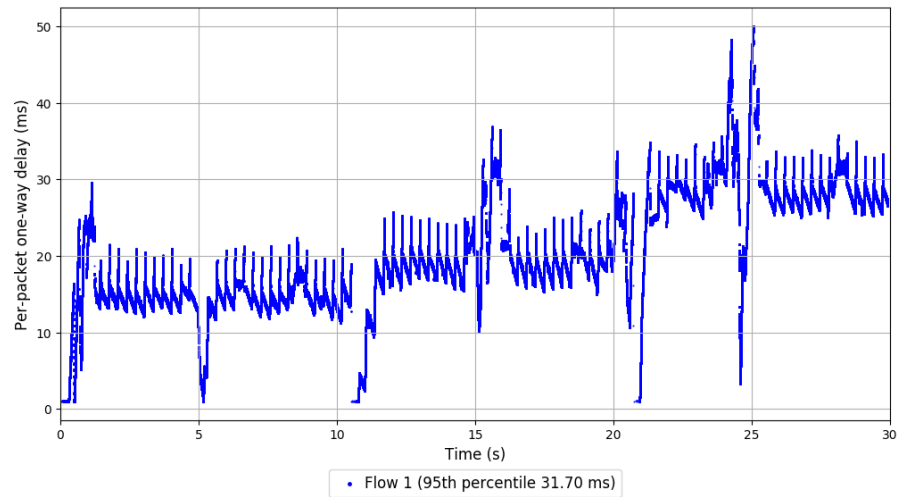
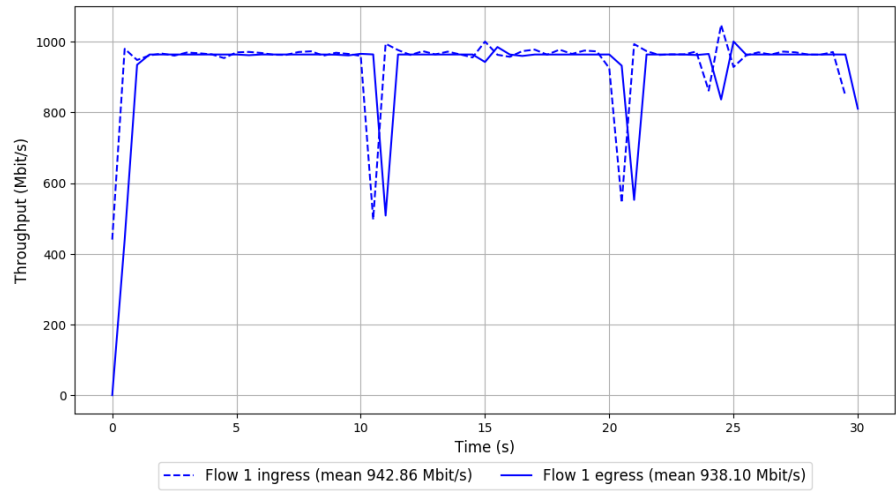
-- Flow 1:

Average throughput: 938.10 Mbit/s

95th percentile per-packet one-way delay: 31.696 ms

Loss rate: 0.57%

Run 5: Report of FillP-Sheep — Data Link

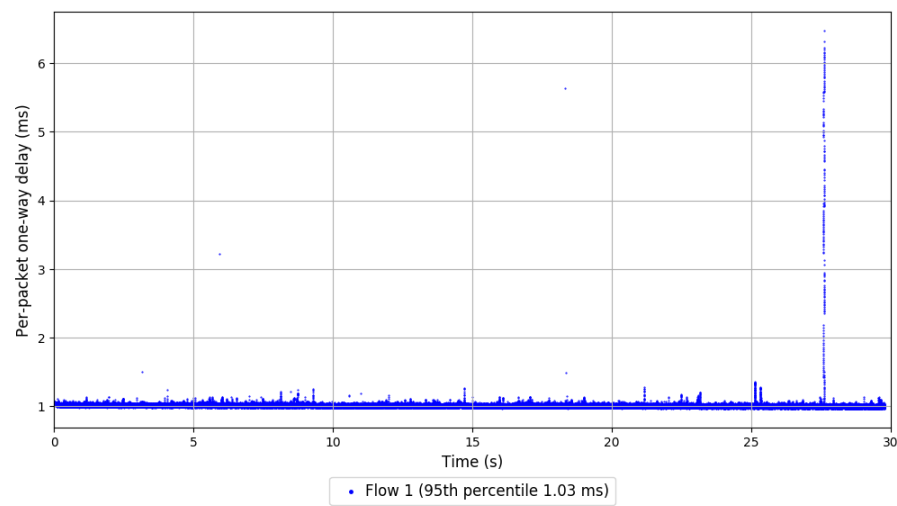
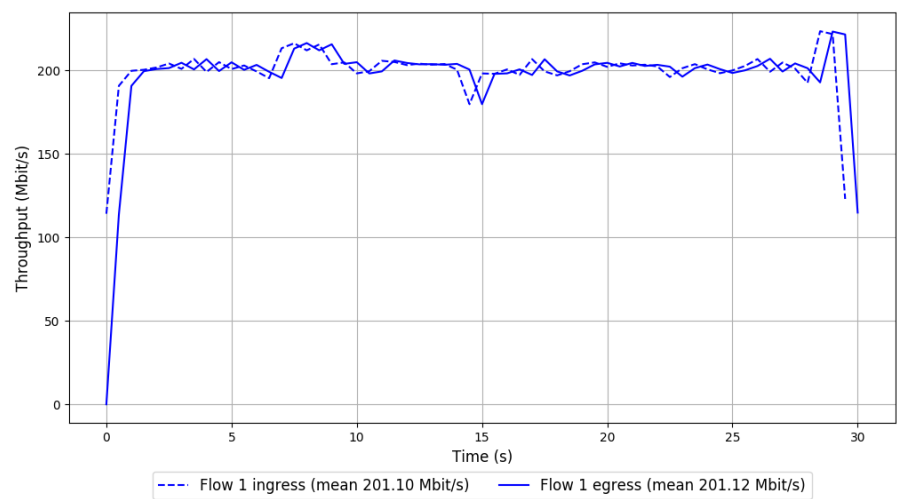


Run 1: Statistics of Indigo

Start at: 2018-09-11 07:19:56
End at: 2018-09-11 07:20:26
Local clock offset: -0.567 ms
Remote clock offset: -3.272 ms

Below is generated by plot.py at 2018-09-11 10:21:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 201.12 Mbit/s
95th percentile per-packet one-way delay: 1.026 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 201.12 Mbit/s
95th percentile per-packet one-way delay: 1.026 ms
Loss rate: 0.07%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-09-11 07:48:03

End at: 2018-09-11 07:48:33

Local clock offset: -3.99 ms

Remote clock offset: -4.42 ms

Below is generated by plot.py at 2018-09-11 10:21:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 199.76 Mbit/s

95th percentile per-packet one-way delay: 1.193 ms

Loss rate: 0.03%

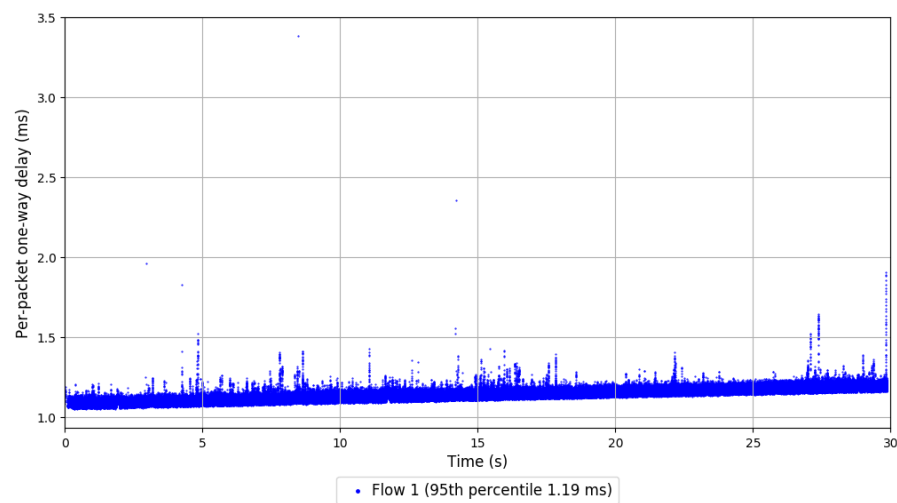
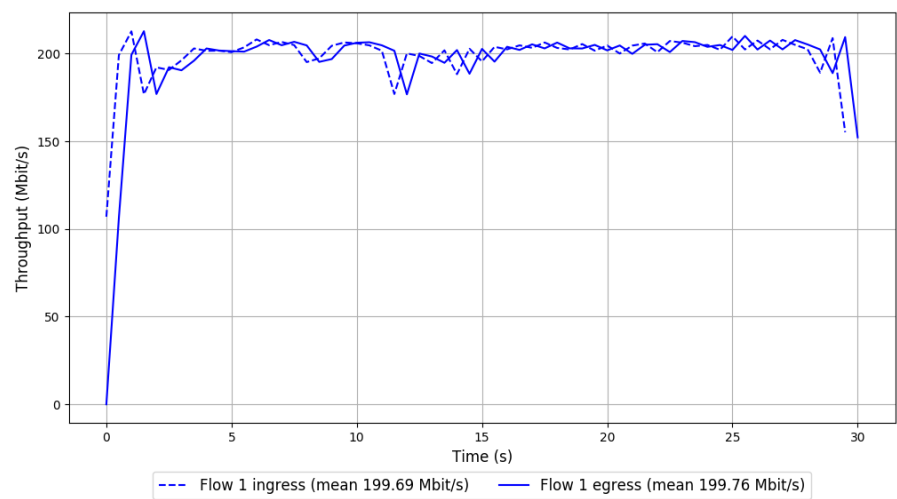
-- Flow 1:

Average throughput: 199.76 Mbit/s

95th percentile per-packet one-way delay: 1.193 ms

Loss rate: 0.03%

Run 2: Report of Indigo — Data Link

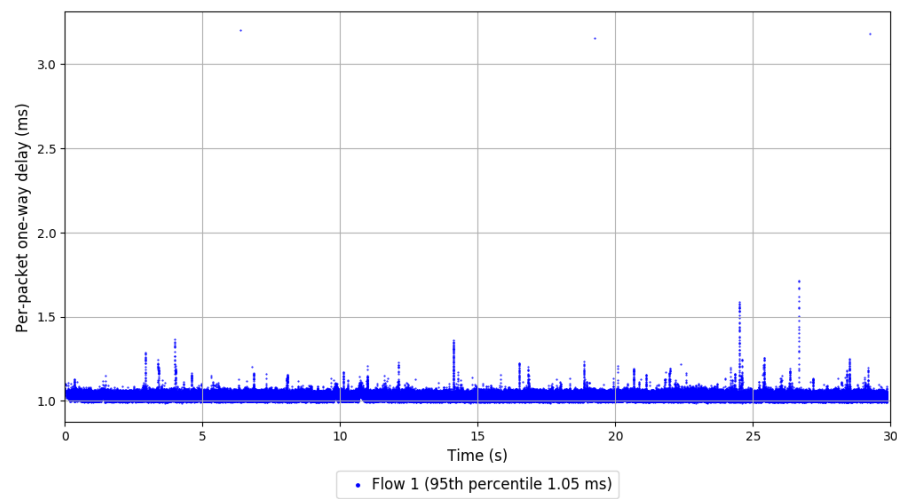
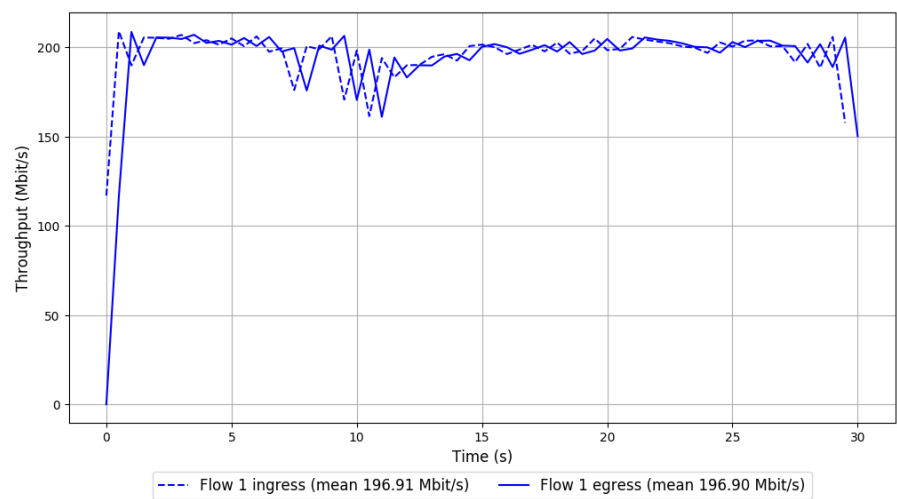


Run 3: Statistics of Indigo

Start at: 2018-09-11 08:16:11
End at: 2018-09-11 08:16:41
Local clock offset: -3.67 ms
Remote clock offset: -3.659 ms

Below is generated by plot.py at 2018-09-11 10:21:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 196.90 Mbit/s
95th percentile per-packet one-way delay: 1.052 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 196.90 Mbit/s
95th percentile per-packet one-way delay: 1.052 ms
Loss rate: 0.07%

Run 3: Report of Indigo — Data Link



Run 4: Statistics of Indigo

Start at: 2018-09-11 08:44:12

End at: 2018-09-11 08:44:42

Local clock offset: -0.536 ms

Remote clock offset: 0.273 ms

Below is generated by plot.py at 2018-09-11 10:21:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 198.15 Mbit/s

95th percentile per-packet one-way delay: 1.012 ms

Loss rate: 0.06%

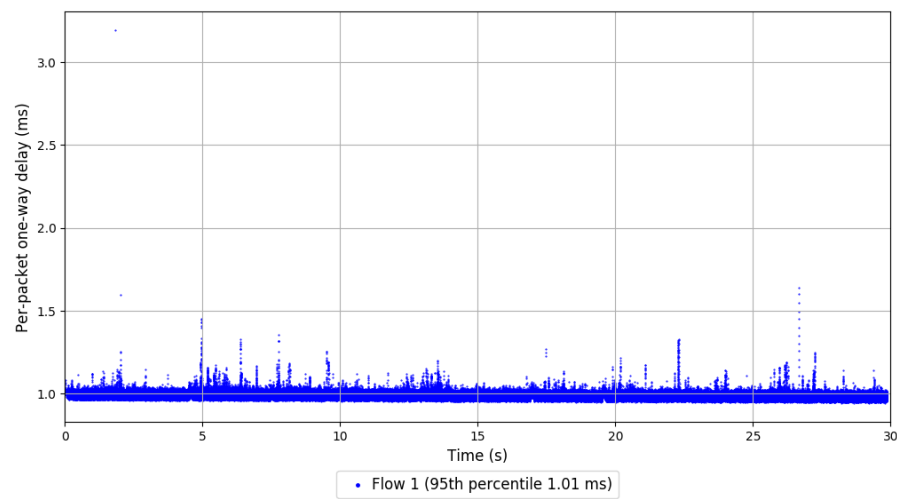
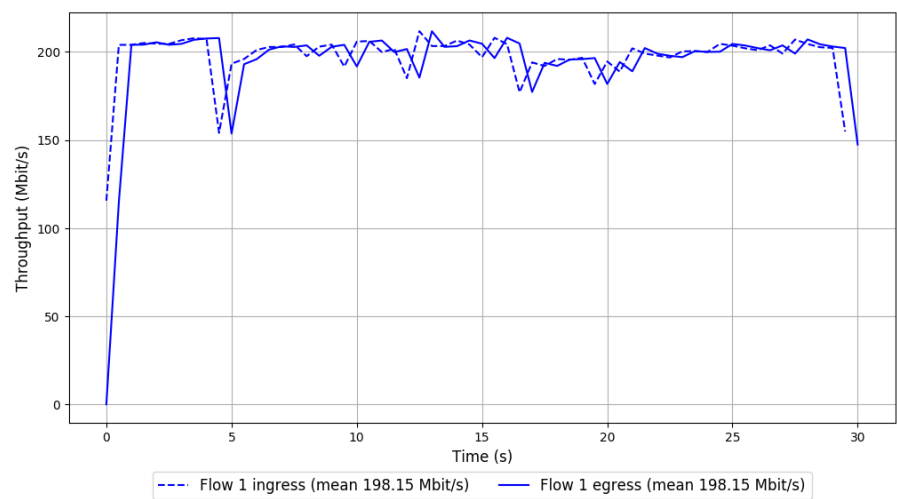
-- Flow 1:

Average throughput: 198.15 Mbit/s

95th percentile per-packet one-way delay: 1.012 ms

Loss rate: 0.06%

Run 4: Report of Indigo — Data Link



Run 5: Statistics of Indigo

Start at: 2018-09-11 09:12:17

End at: 2018-09-11 09:12:47

Local clock offset: 0.38 ms

Remote clock offset: 0.319 ms

Below is generated by plot.py at 2018-09-11 10:21:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 201.91 Mbit/s

95th percentile per-packet one-way delay: 1.009 ms

Loss rate: 0.07%

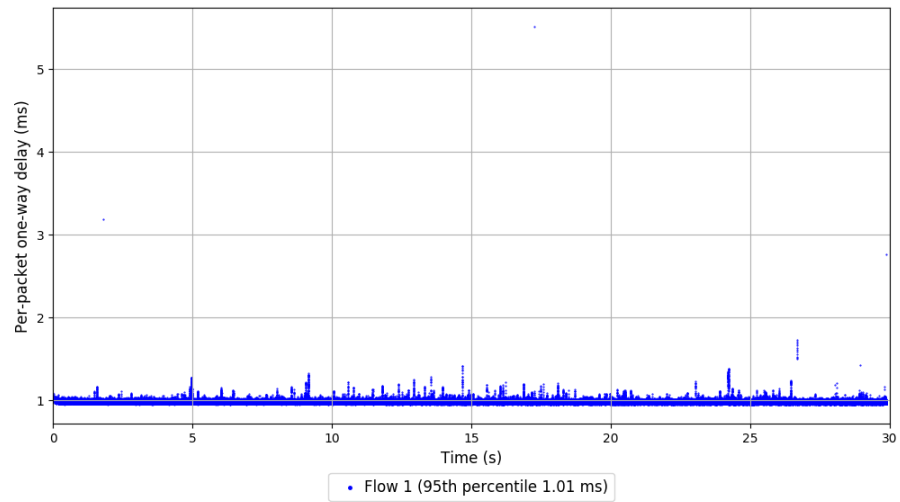
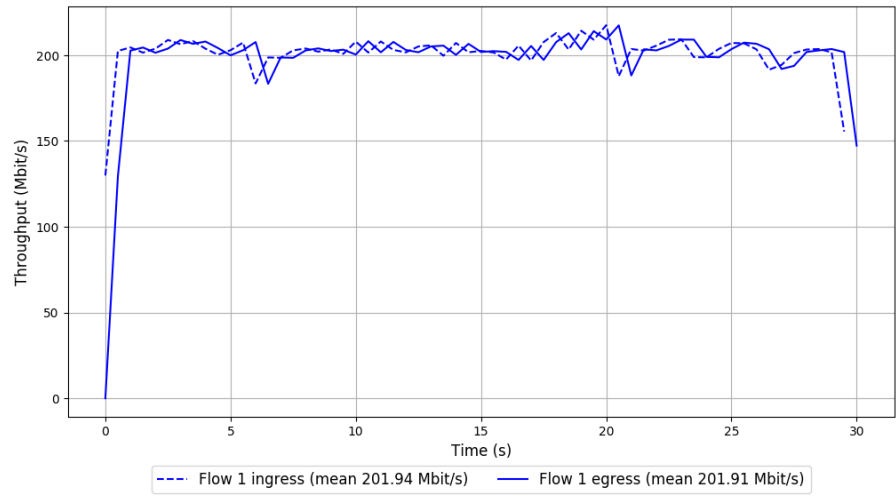
-- Flow 1:

Average throughput: 201.91 Mbit/s

95th percentile per-packet one-way delay: 1.009 ms

Loss rate: 0.07%

Run 5: Report of Indigo — Data Link

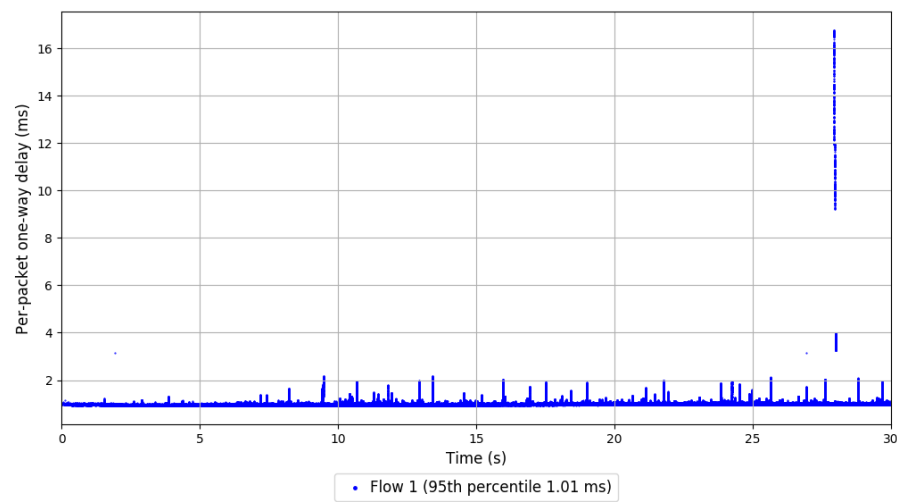
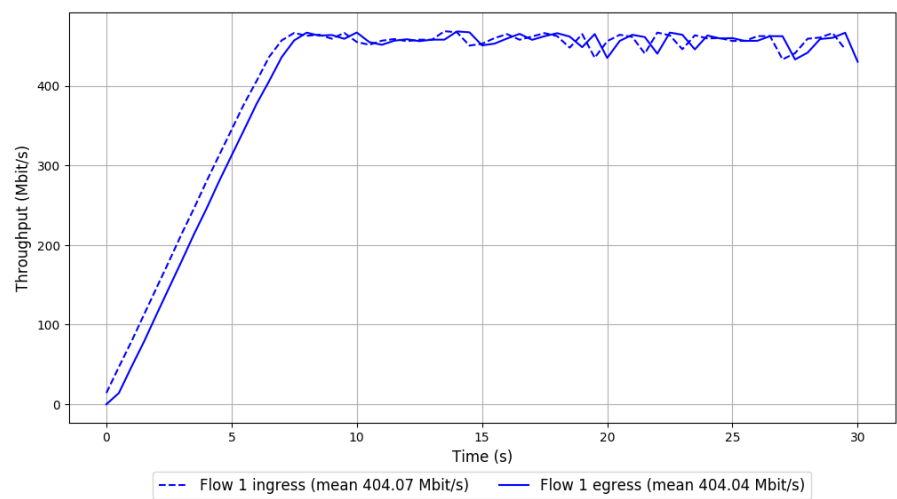


Run 1: Statistics of LEDBAT

Start at: 2018-09-11 07:37:00
End at: 2018-09-11 07:37:30
Local clock offset: -2.745 ms
Remote clock offset: -4.219 ms

Below is generated by plot.py at 2018-09-11 10:21:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 404.04 Mbit/s
95th percentile per-packet one-way delay: 1.009 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 404.04 Mbit/s
95th percentile per-packet one-way delay: 1.009 ms
Loss rate: 0.07%

Run 1: Report of LEDBAT — Data Link

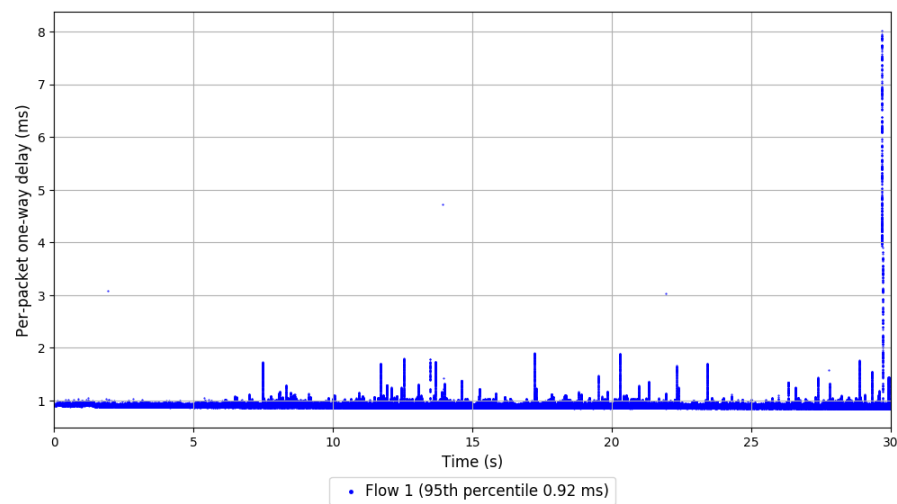
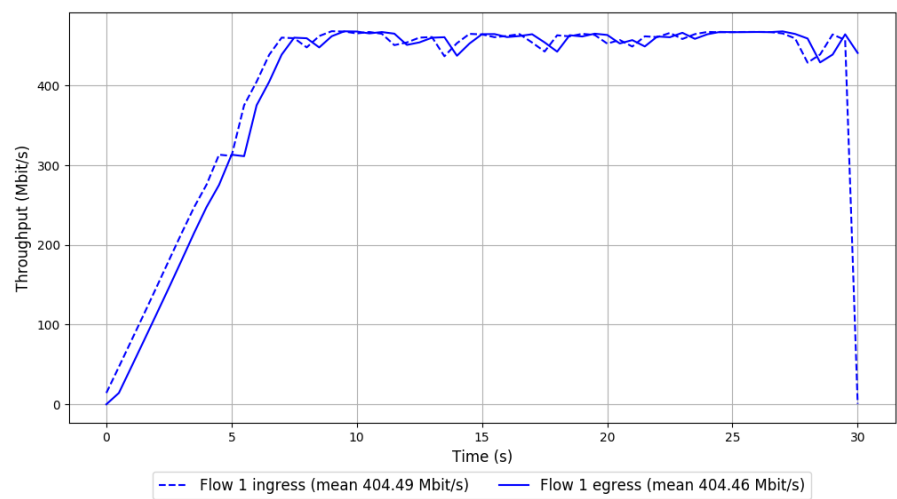


Run 2: Statistics of LEDBAT

Start at: 2018-09-11 08:05:08
End at: 2018-09-11 08:05:39
Local clock offset: -4.011 ms
Remote clock offset: -3.566 ms

Below is generated by plot.py at 2018-09-11 10:21:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 404.46 Mbit/s
95th percentile per-packet one-way delay: 0.924 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 404.46 Mbit/s
95th percentile per-packet one-way delay: 0.924 ms
Loss rate: 0.07%

Run 2: Report of LEDBAT — Data Link

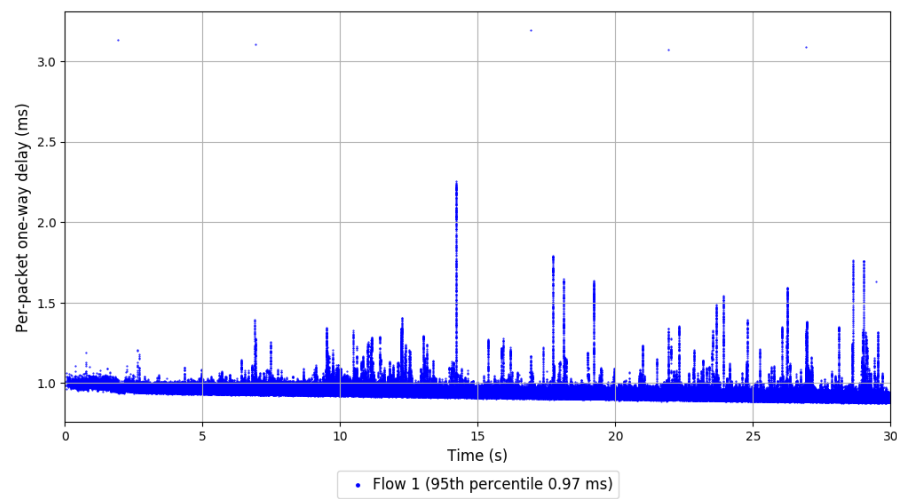
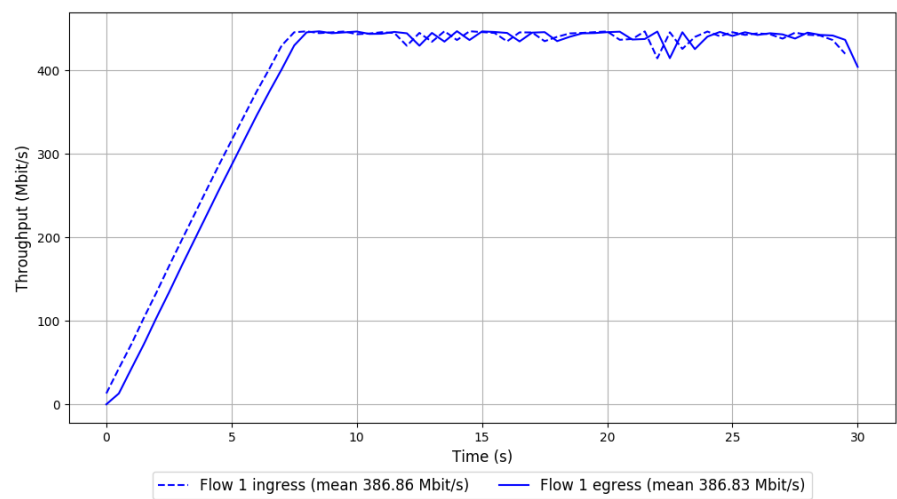


Run 3: Statistics of LEDBAT

Start at: 2018-09-11 08:33:13
End at: 2018-09-11 08:33:43
Local clock offset: -2.2 ms
Remote clock offset: -0.581 ms

Below is generated by plot.py at 2018-09-11 10:21:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 386.83 Mbit/s
95th percentile per-packet one-way delay: 0.975 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 386.83 Mbit/s
95th percentile per-packet one-way delay: 0.975 ms
Loss rate: 0.07%

Run 3: Report of LEDBAT — Data Link



Run 4: Statistics of LEDBAT

Start at: 2018-09-11 09:01:17

End at: 2018-09-11 09:01:47

Local clock offset: 0.178 ms

Remote clock offset: 0.359 ms

Below is generated by plot.py at 2018-09-11 10:21:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 424.73 Mbit/s

95th percentile per-packet one-way delay: 0.995 ms

Loss rate: 0.07%

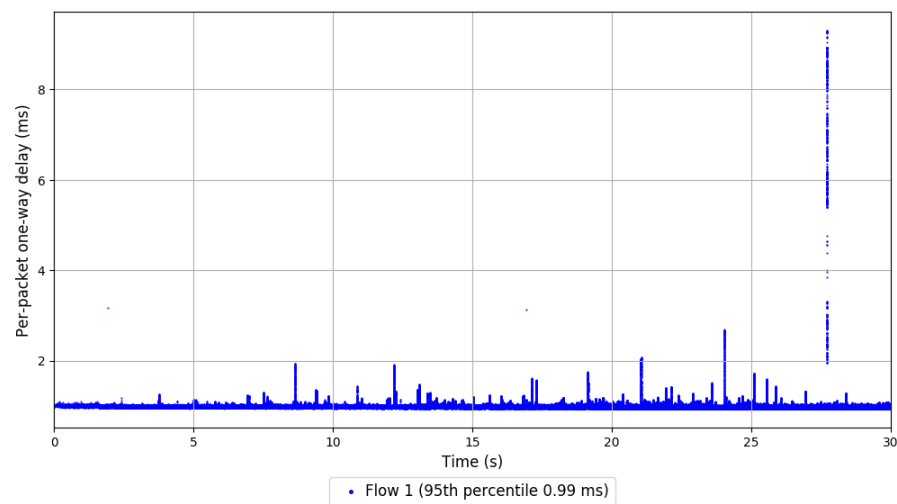
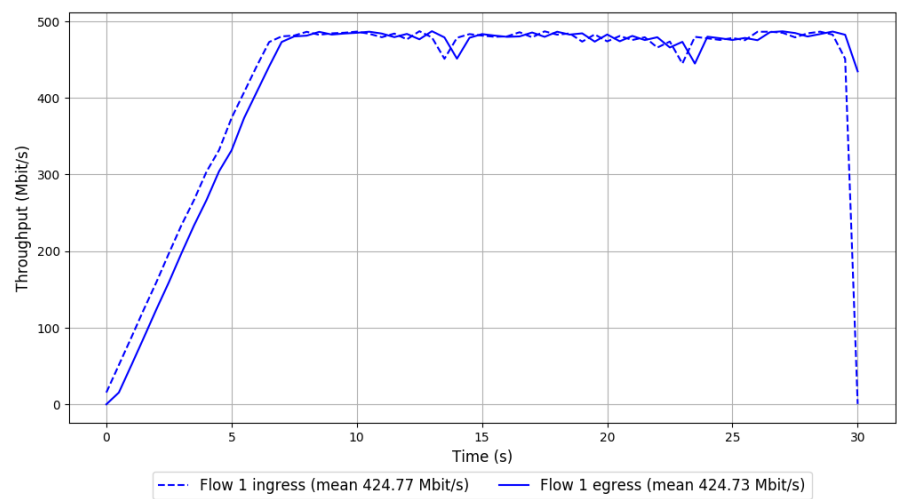
-- Flow 1:

Average throughput: 424.73 Mbit/s

95th percentile per-packet one-way delay: 0.995 ms

Loss rate: 0.07%

Run 4: Report of LEDBAT — Data Link



Run 5: Statistics of LEDBAT

Start at: 2018-09-11 09:29:27

End at: 2018-09-11 09:29:57

Local clock offset: 0.498 ms

Remote clock offset: -0.25 ms

Below is generated by plot.py at 2018-09-11 10:21:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 391.47 Mbit/s

95th percentile per-packet one-way delay: 1.094 ms

Loss rate: 0.08%

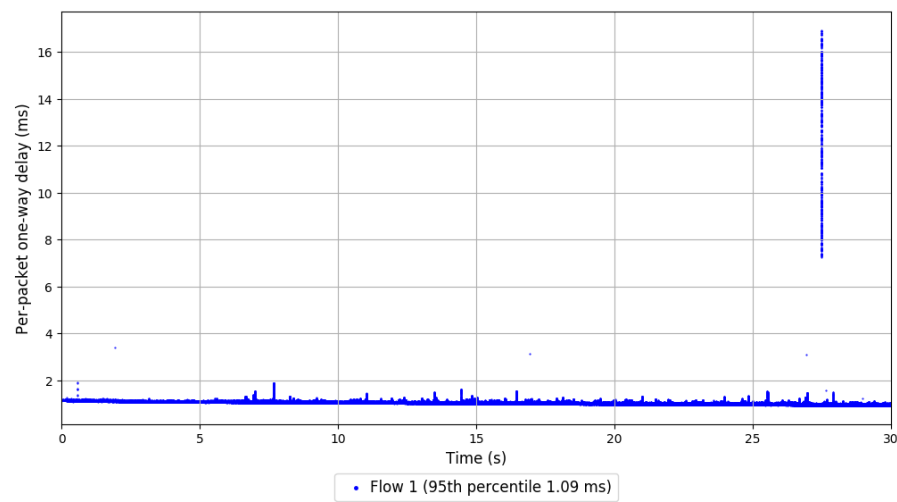
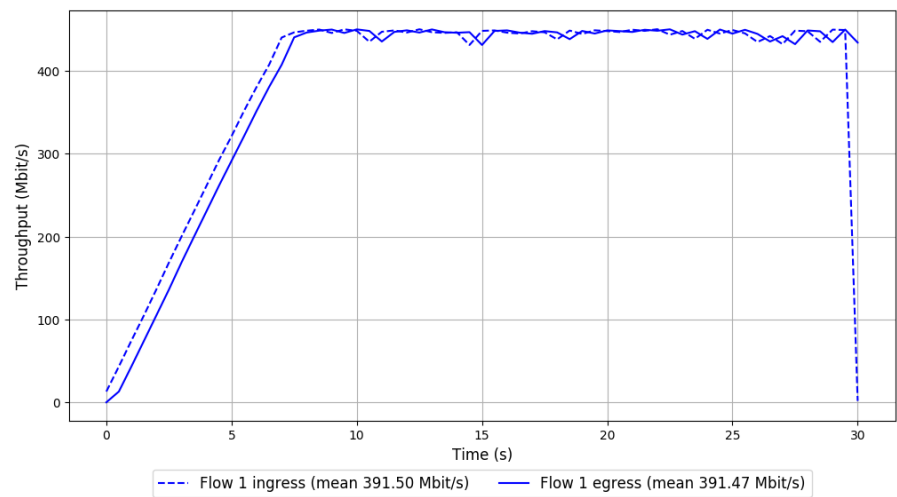
-- Flow 1:

Average throughput: 391.47 Mbit/s

95th percentile per-packet one-way delay: 1.094 ms

Loss rate: 0.08%

Run 5: Report of LEDBAT — Data Link



Run 1: Statistics of Indigo-Muses

Start at: 2018-09-11 07:27:45

End at: 2018-09-11 07:28:15

Local clock offset: -0.9 ms

Remote clock offset: -3.84 ms

Below is generated by plot.py at 2018-09-11 10:21:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 543.28 Mbit/s

95th percentile per-packet one-way delay: 1.393 ms

Loss rate: 0.06%

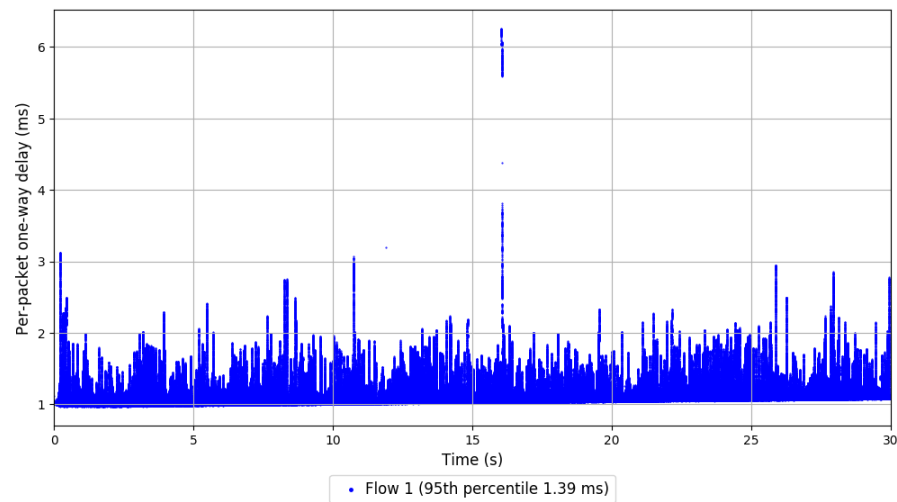
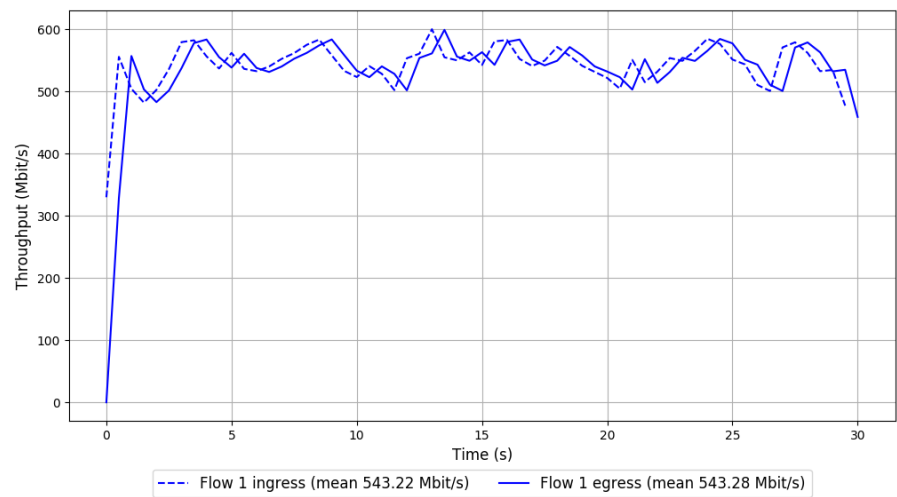
-- Flow 1:

Average throughput: 543.28 Mbit/s

95th percentile per-packet one-way delay: 1.393 ms

Loss rate: 0.06%

Run 1: Report of Indigo-Muses — Data Link

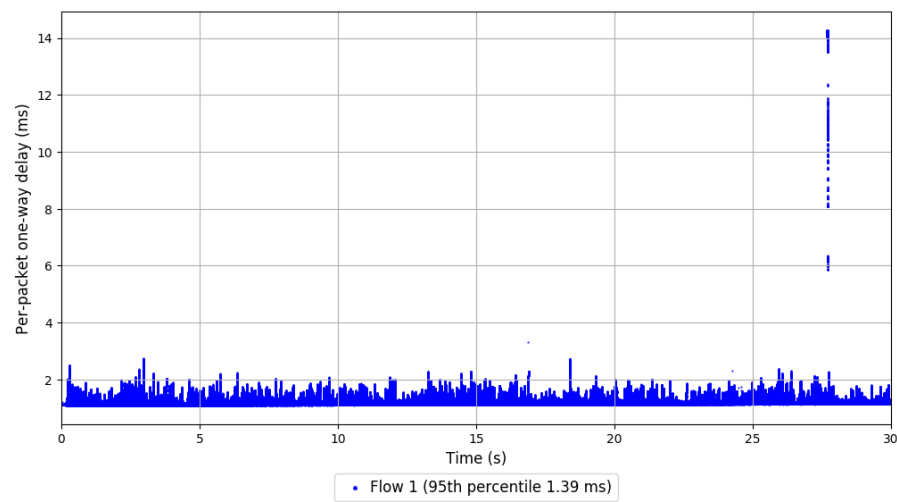
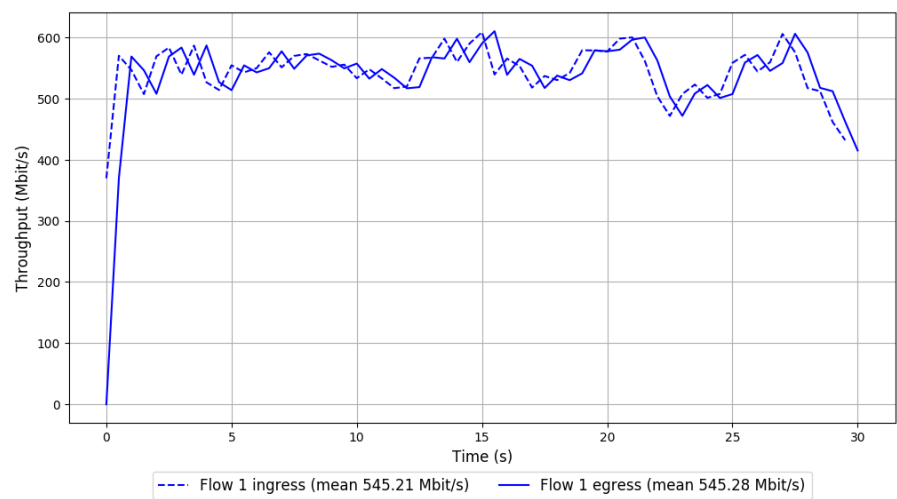


Run 2: Statistics of Indigo-Muses

Start at: 2018-09-11 07:55:49
End at: 2018-09-11 07:56:19
Local clock offset: -4.576 ms
Remote clock offset: -3.753 ms

Below is generated by plot.py at 2018-09-11 10:21:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 545.28 Mbit/s
95th percentile per-packet one-way delay: 1.385 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 545.28 Mbit/s
95th percentile per-packet one-way delay: 1.385 ms
Loss rate: 0.05%

Run 2: Report of Indigo-Muses — Data Link

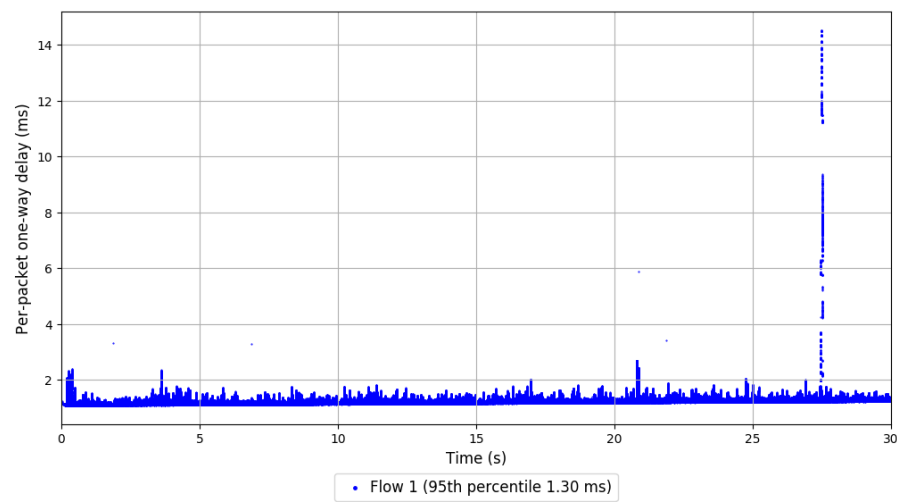
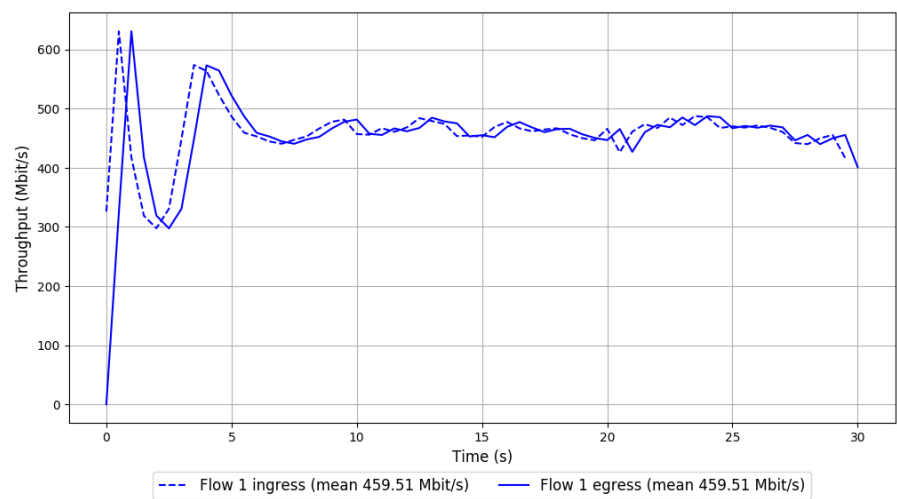


Run 3: Statistics of Indigo-Muses

Start at: 2018-09-11 08:23:56
End at: 2018-09-11 08:24:26
Local clock offset: -3.838 ms
Remote clock offset: -2.286 ms

Below is generated by plot.py at 2018-09-11 10:21:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 459.51 Mbit/s
95th percentile per-packet one-way delay: 1.305 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 459.51 Mbit/s
95th percentile per-packet one-way delay: 1.305 ms
Loss rate: 0.06%

Run 3: Report of Indigo-Muses — Data Link



Run 4: Statistics of Indigo-Muses

Start at: 2018-09-11 08:51:59

End at: 2018-09-11 08:52:29

Local clock offset: -0.065 ms

Remote clock offset: 0.703 ms

Below is generated by plot.py at 2018-09-11 10:21:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 553.31 Mbit/s

95th percentile per-packet one-way delay: 1.144 ms

Loss rate: 0.06%

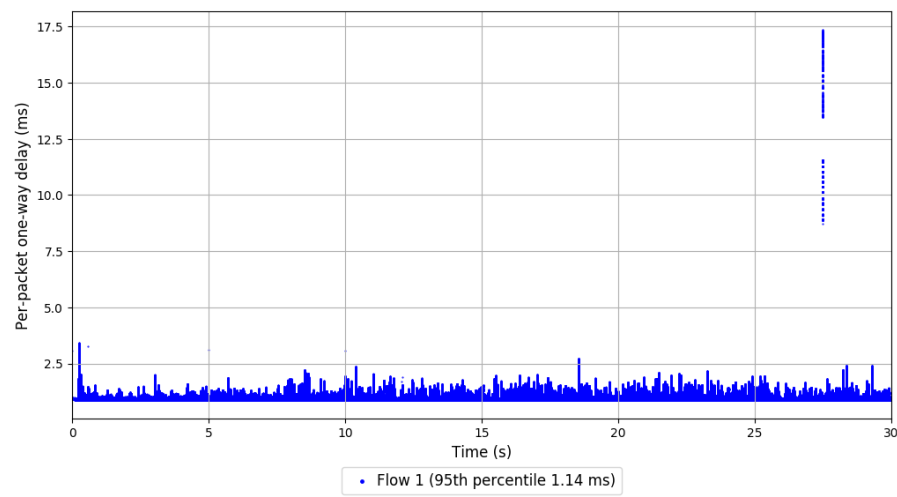
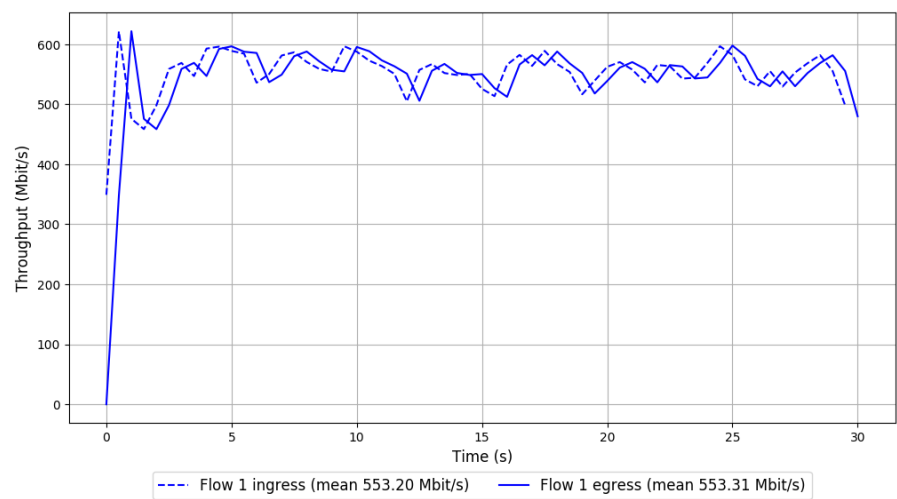
-- Flow 1:

Average throughput: 553.31 Mbit/s

95th percentile per-packet one-way delay: 1.144 ms

Loss rate: 0.06%

Run 4: Report of Indigo-Muses — Data Link



Run 5: Statistics of Indigo-Muses

Start at: 2018-09-11 09:20:07

End at: 2018-09-11 09:20:37

Local clock offset: 0.416 ms

Remote clock offset: 0.338 ms

Below is generated by plot.py at 2018-09-11 10:21:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 471.65 Mbit/s

95th percentile per-packet one-way delay: 1.063 ms

Loss rate: 0.07%

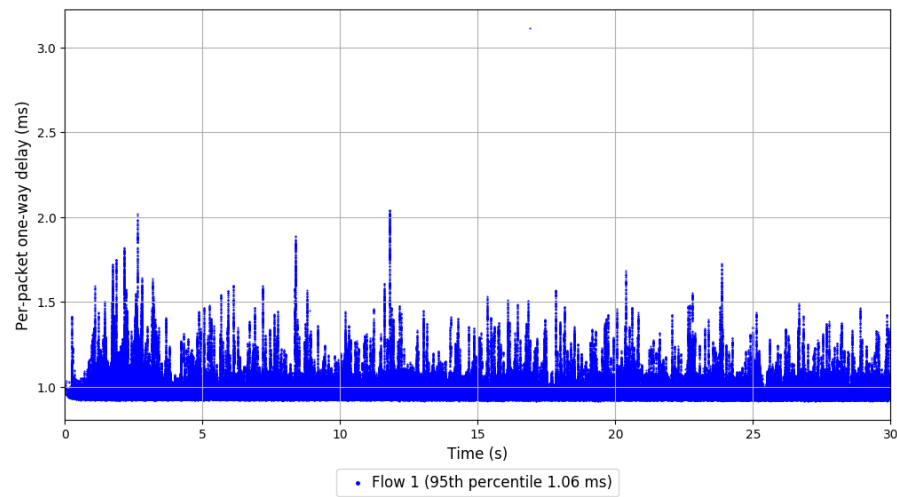
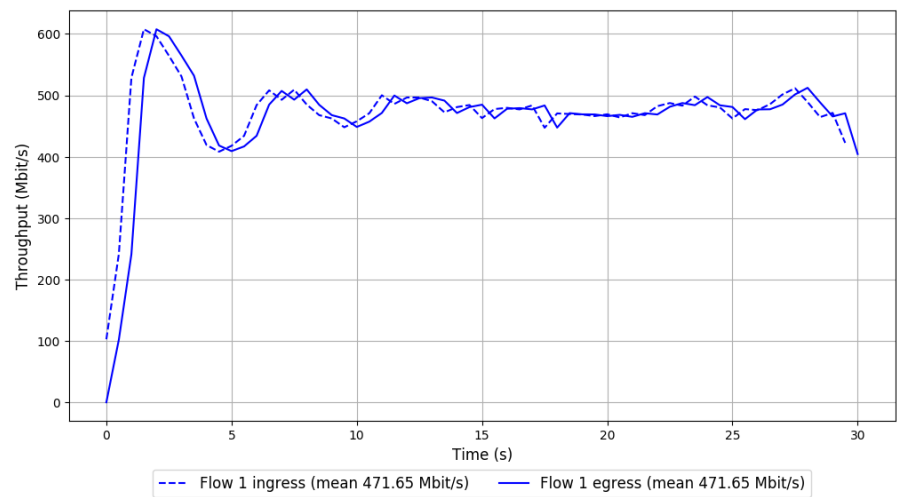
-- Flow 1:

Average throughput: 471.65 Mbit/s

95th percentile per-packet one-way delay: 1.063 ms

Loss rate: 0.07%

Run 5: Report of Indigo-Muses — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-09-11 07:18:17

End at: 2018-09-11 07:18:47

Local clock offset: -0.585 ms

Remote clock offset: -3.215 ms

Below is generated by plot.py at 2018-09-11 10:26:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 871.56 Mbit/s

95th percentile per-packet one-way delay: 76.268 ms

Loss rate: 0.10%

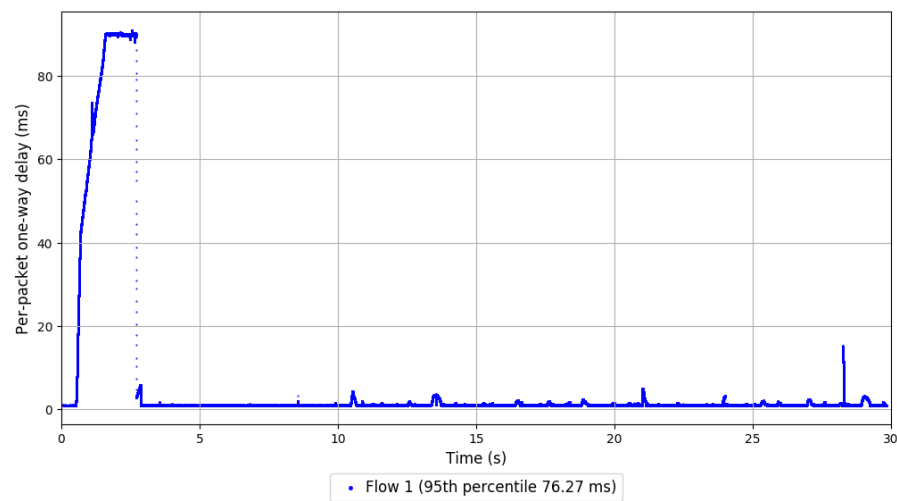
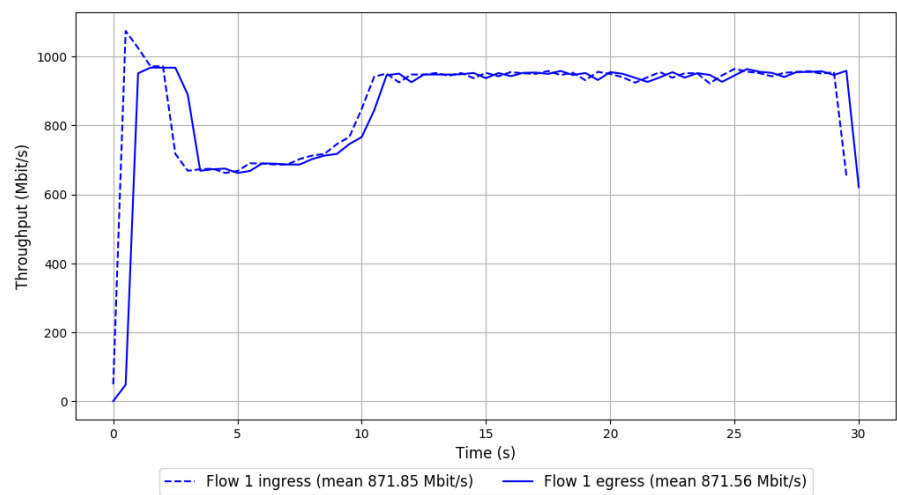
-- Flow 1:

Average throughput: 871.56 Mbit/s

95th percentile per-packet one-way delay: 76.268 ms

Loss rate: 0.10%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-09-11 07:46:23

End at: 2018-09-11 07:46:53

Local clock offset: -3.74 ms

Remote clock offset: -4.7 ms

Below is generated by plot.py at 2018-09-11 10:27:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 928.90 Mbit/s

95th percentile per-packet one-way delay: 79.443 ms

Loss rate: 0.09%

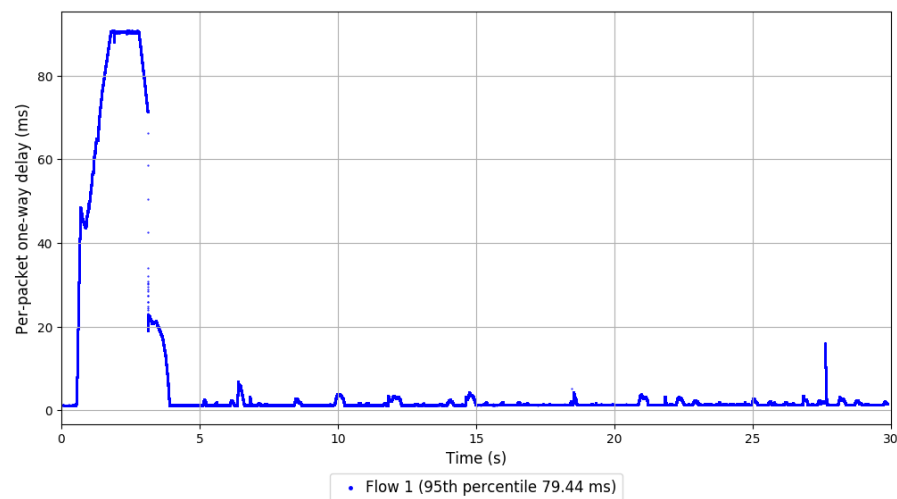
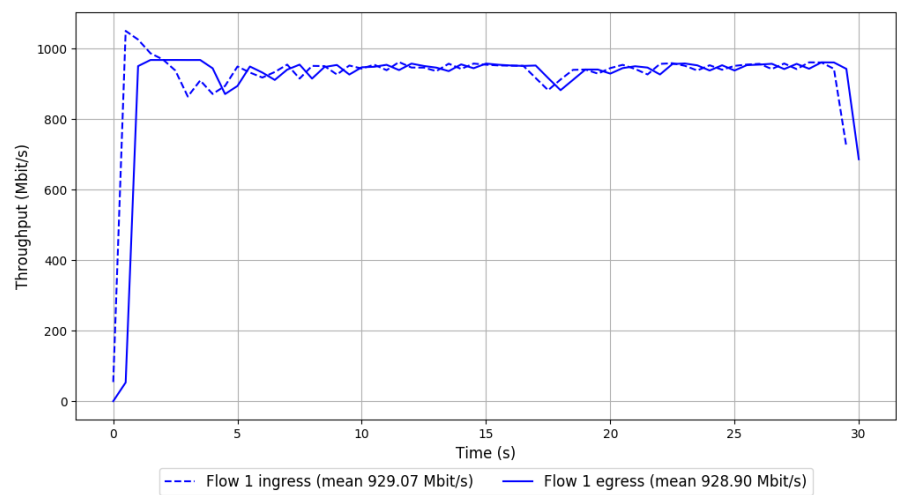
-- Flow 1:

Average throughput: 928.90 Mbit/s

95th percentile per-packet one-way delay: 79.443 ms

Loss rate: 0.09%

Run 2: Report of PCC-Allegro — Data Link

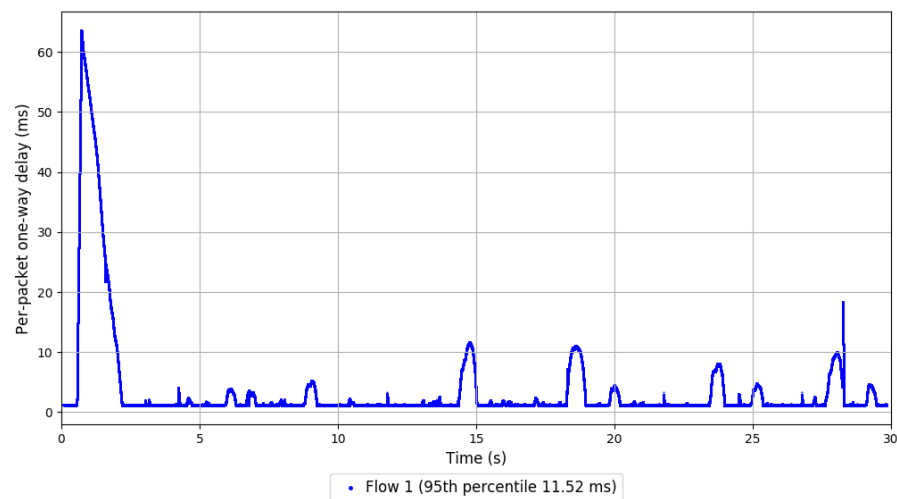
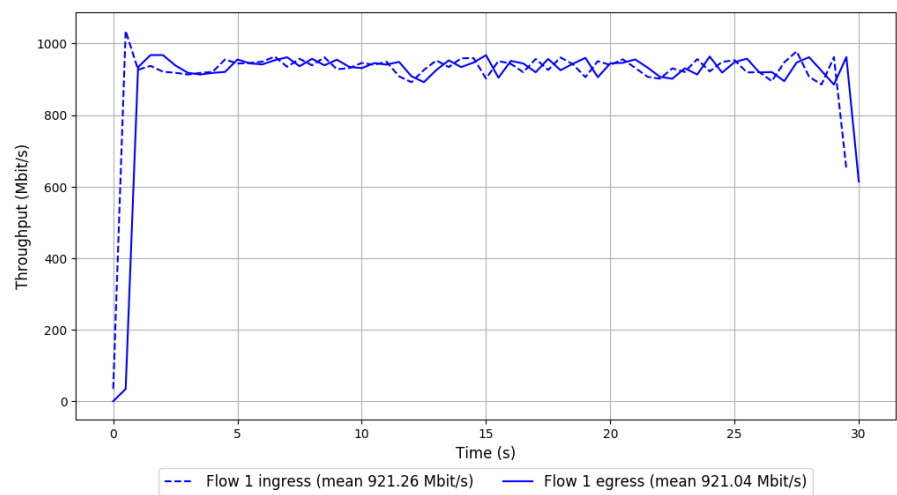


Run 3: Statistics of PCC-Allegro

Start at: 2018-09-11 08:14:31
End at: 2018-09-11 08:15:01
Local clock offset: -3.668 ms
Remote clock offset: -3.698 ms

Below is generated by plot.py at 2018-09-11 10:29:35
Datalink statistics
-- Total of 1 flow:
Average throughput: 921.04 Mbit/s
95th percentile per-packet one-way delay: 11.521 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 921.04 Mbit/s
95th percentile per-packet one-way delay: 11.521 ms
Loss rate: 0.09%

Run 3: Report of PCC-Allegro — Data Link



Run 4: Statistics of PCC-Allegro

Start at: 2018-09-11 08:42:32

End at: 2018-09-11 08:43:03

Local clock offset: -0.599 ms

Remote clock offset: 0.207 ms

Below is generated by plot.py at 2018-09-11 10:30:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 929.96 Mbit/s

95th percentile per-packet one-way delay: 90.218 ms

Loss rate: 0.10%

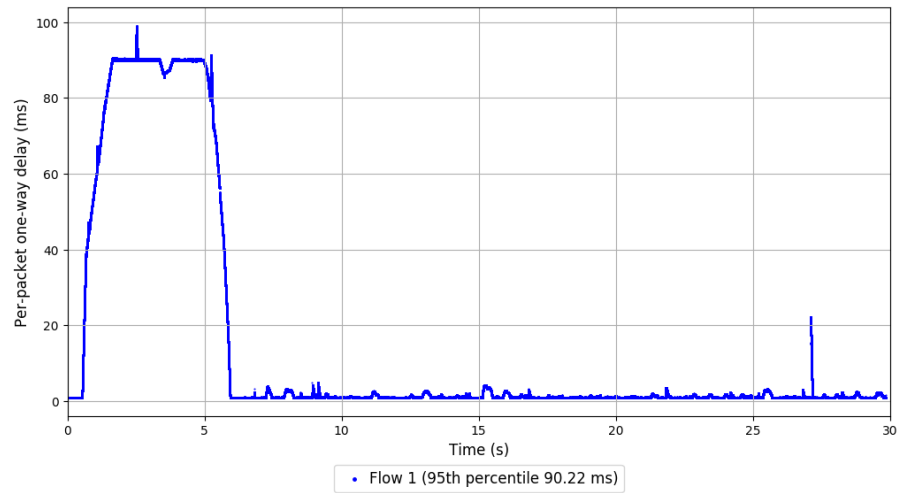
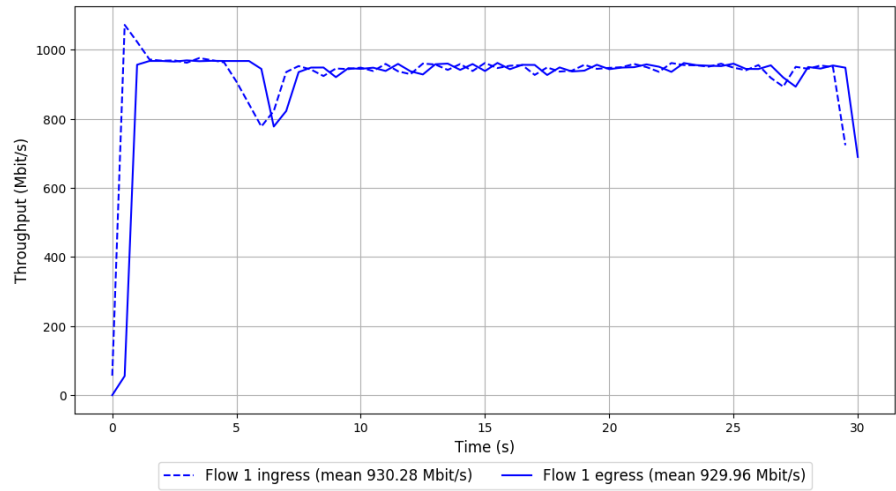
-- Flow 1:

Average throughput: 929.96 Mbit/s

95th percentile per-packet one-way delay: 90.218 ms

Loss rate: 0.10%

Run 4: Report of PCC-Allegro — Data Link



Run 5: Statistics of PCC-Allegro

Start at: 2018-09-11 09:10:37

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

Local clock offset: 0.344 ms

Remote clock offset: 0.319 ms

Below is generated by plot.py at 2018-09-11 10:31:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 929.18 Mbit/s

95th percentile per-packet one-way delay: 16.580 ms

Loss rate: 0.07%

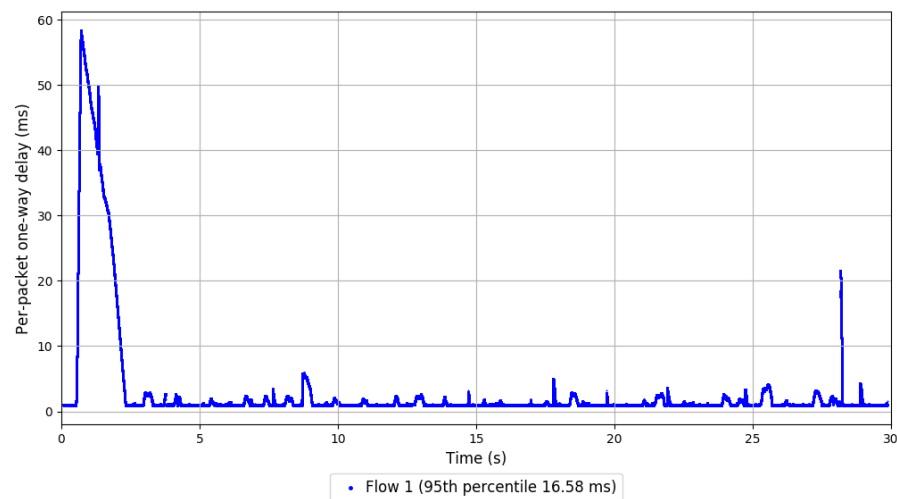
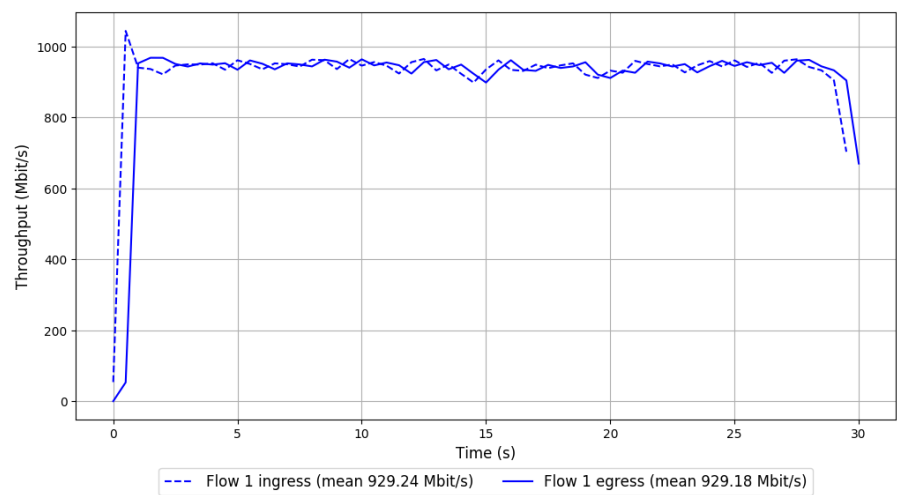
-- Flow 1:

Average throughput: 929.18 Mbit/s

95th percentile per-packet one-way delay: 16.580 ms

Loss rate: 0.07%

Run 5: Report of PCC-Allegro — Data Link

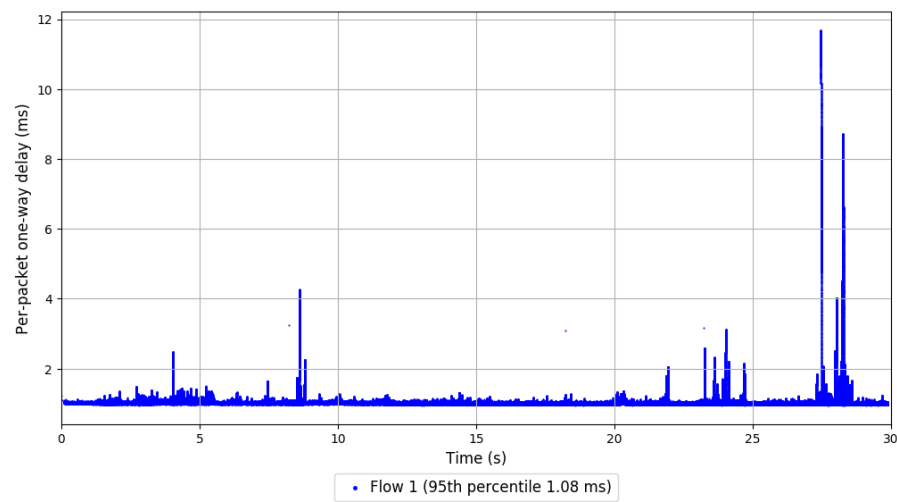
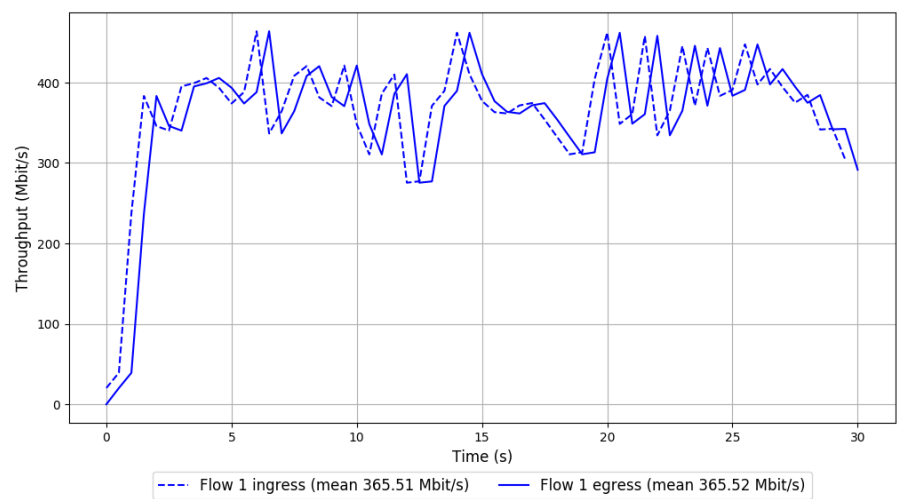


```
Run 1: Statistics of PCC-Expr

Start at: 2018-09-11 07:21:23
End at: 2018-09-11 07:21:53
Local clock offset: -0.59 ms
Remote clock offset: -3.37 ms

# Below is generated by plot.py at 2018-09-11 10:31:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 365.52 Mbit/s
95th percentile per-packet one-way delay: 1.084 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 365.52 Mbit/s
95th percentile per-packet one-way delay: 1.084 ms
Loss rate: 0.06%
```

Run 1: Report of PCC-Expr — Data Link

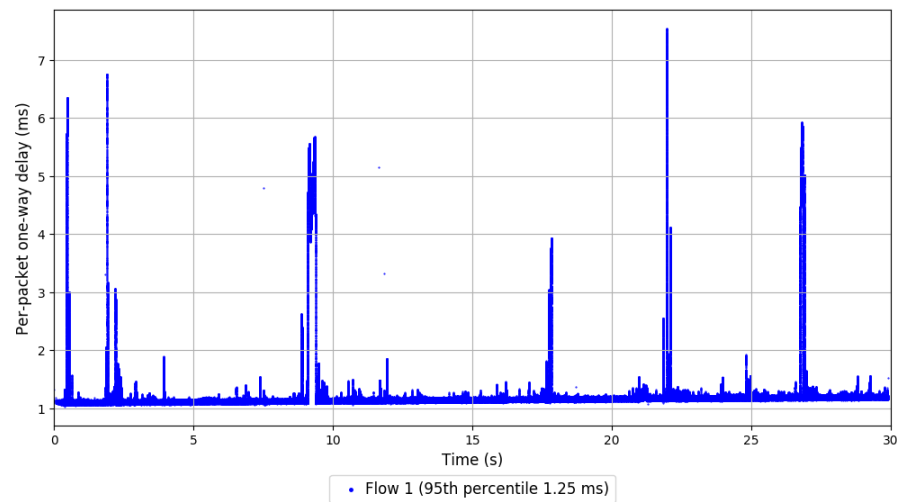
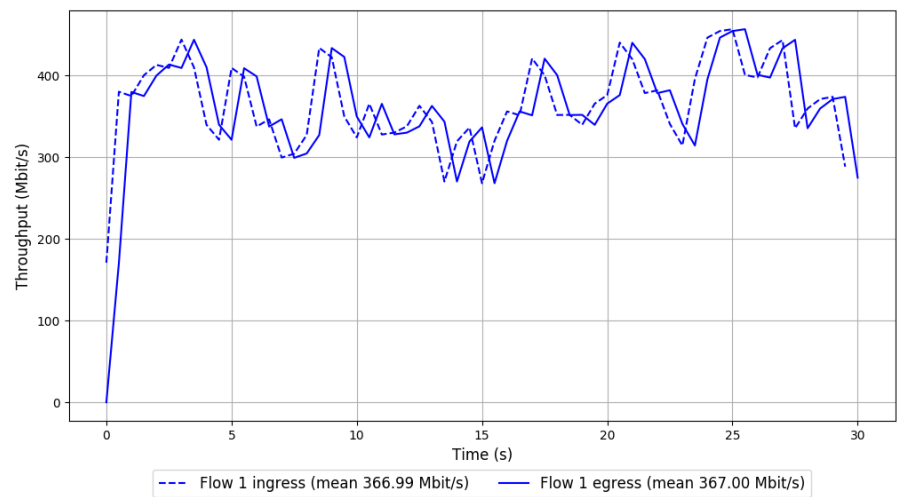


Run 2: Statistics of PCC-Expr

Start at: 2018-09-11 07:49:30
End at: 2018-09-11 07:50:00
Local clock offset: -4.038 ms
Remote clock offset: -4.162 ms

Below is generated by plot.py at 2018-09-11 10:31:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 367.00 Mbit/s
95th percentile per-packet one-way delay: 1.245 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 367.00 Mbit/s
95th percentile per-packet one-way delay: 1.245 ms
Loss rate: 0.07%

Run 2: Report of PCC-Expr — Data Link

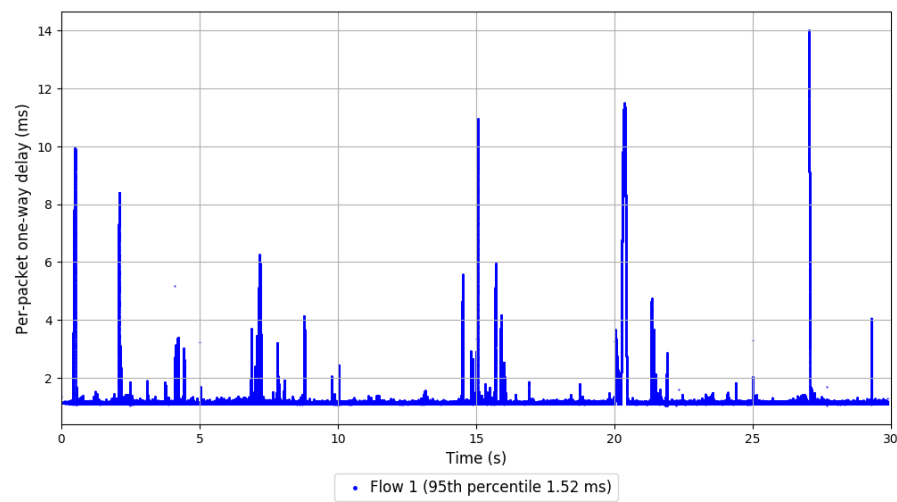
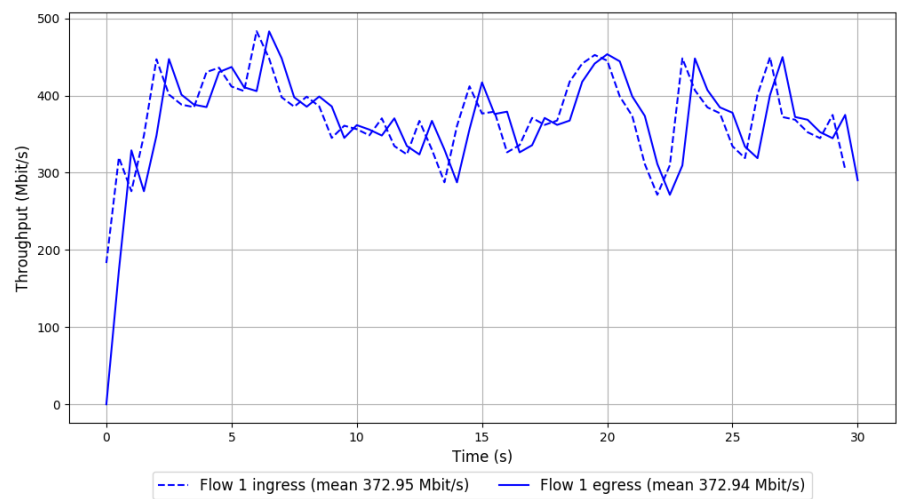


Run 3: Statistics of PCC-Expr

Start at: 2018-09-11 08:17:38
End at: 2018-09-11 08:18:08
Local clock offset: -3.676 ms
Remote clock offset: -3.777 ms

Below is generated by plot.py at 2018-09-11 10:31:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 372.94 Mbit/s
95th percentile per-packet one-way delay: 1.517 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 372.94 Mbit/s
95th percentile per-packet one-way delay: 1.517 ms
Loss rate: 0.07%

Run 3: Report of PCC-Expr — Data Link



Run 4: Statistics of PCC-Expr

Start at: 2018-09-11 08:45:39

End at: 2018-09-11 08:46:09

Local clock offset: -0.434 ms

Remote clock offset: 0.371 ms

Below is generated by plot.py at 2018-09-11 10:34:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 368.71 Mbit/s

95th percentile per-packet one-way delay: 1.077 ms

Loss rate: 0.06%

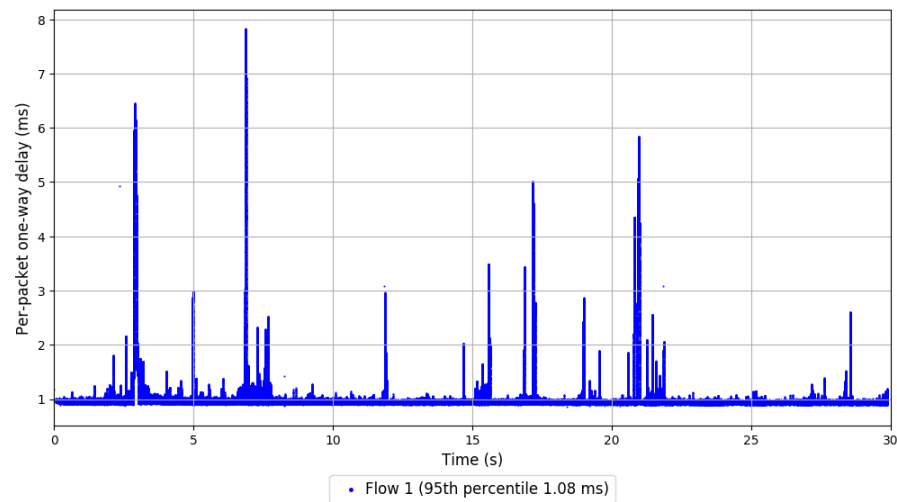
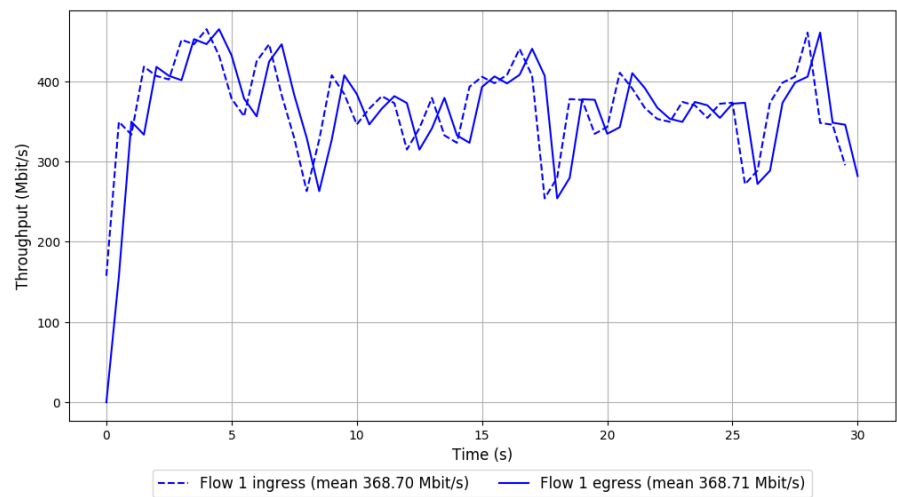
-- Flow 1:

Average throughput: 368.71 Mbit/s

95th percentile per-packet one-way delay: 1.077 ms

Loss rate: 0.06%

Run 4: Report of PCC-Expr — Data Link



Run 5: Statistics of PCC-Expr

Start at: 2018-09-11 09:13:44

End at: 2018-09-11 09:14:14

Local clock offset: 0.388 ms

Remote clock offset: 0.247 ms

Below is generated by plot.py at 2018-09-11 10:36:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 384.73 Mbit/s

95th percentile per-packet one-way delay: 1.388 ms

Loss rate: 0.07%

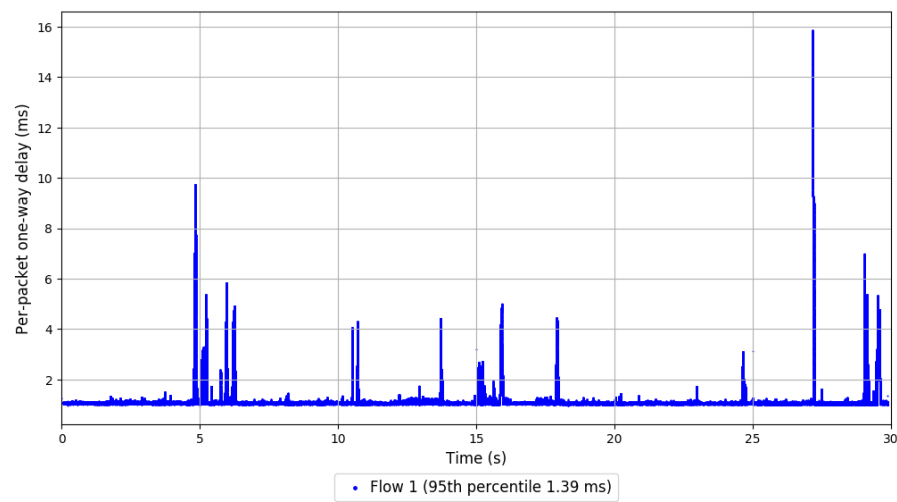
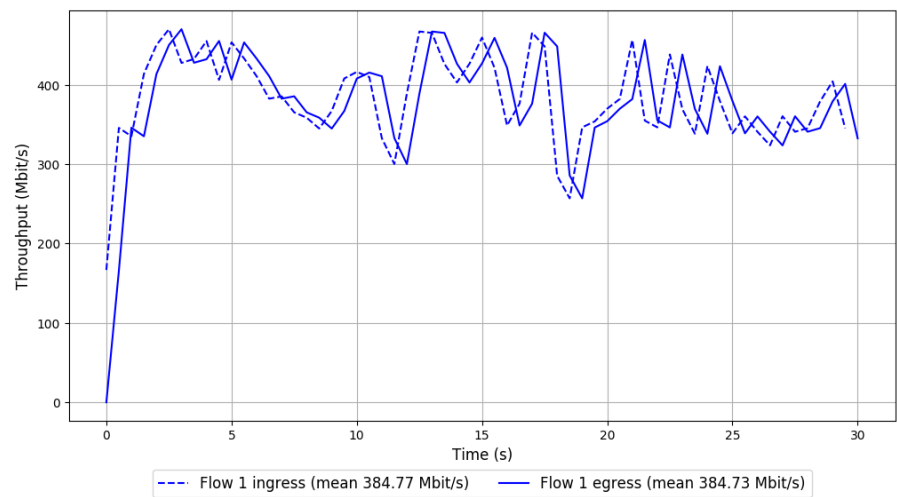
-- Flow 1:

Average throughput: 384.73 Mbit/s

95th percentile per-packet one-way delay: 1.388 ms

Loss rate: 0.07%

Run 5: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-09-11 07:16:56

End at: 2018-09-11 07:17:26

Local clock offset: -0.469 ms

Remote clock offset: -3.082 ms

Below is generated by plot.py at 2018-09-11 10:36:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.07 Mbit/s

95th percentile per-packet one-way delay: 1.092 ms

Loss rate: 0.07%

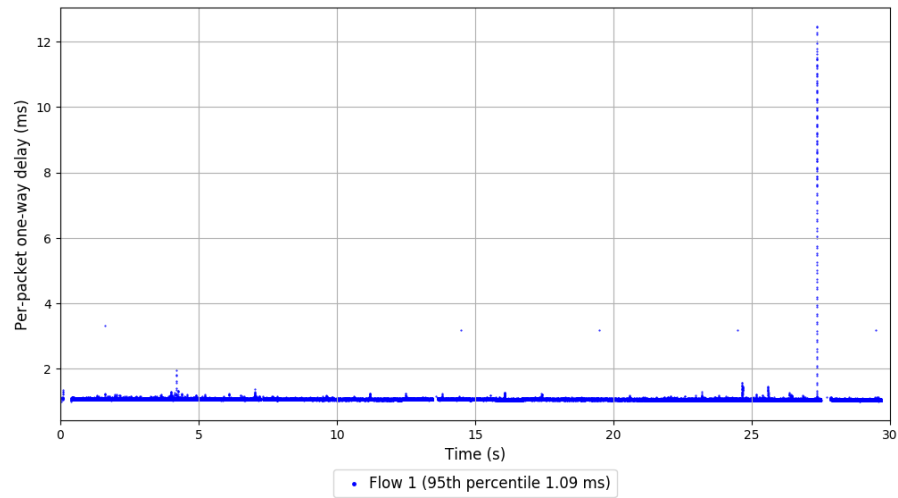
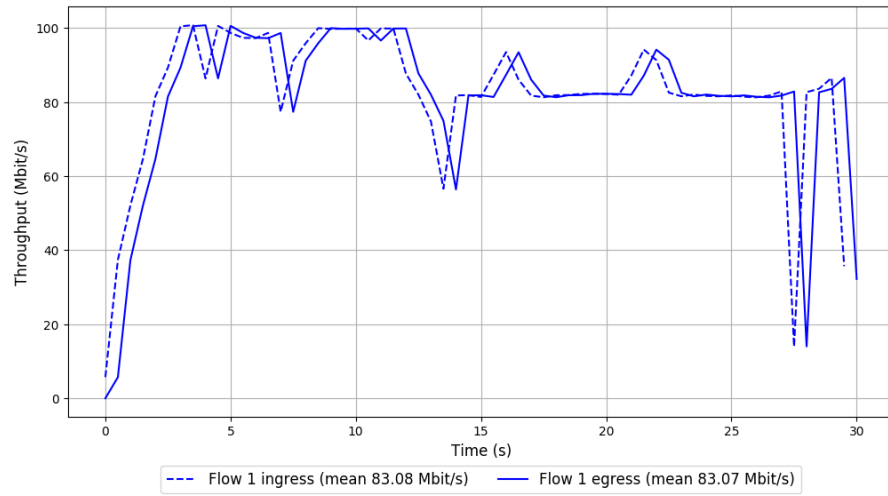
-- Flow 1:

Average throughput: 83.07 Mbit/s

95th percentile per-packet one-way delay: 1.092 ms

Loss rate: 0.07%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-09-11 07:45:02

End at: 2018-09-11 07:45:32

Local clock offset: -3.633 ms

Remote clock offset: -4.735 ms

Below is generated by plot.py at 2018-09-11 10:36:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.58 Mbit/s

95th percentile per-packet one-way delay: 1.146 ms

Loss rate: 0.07%

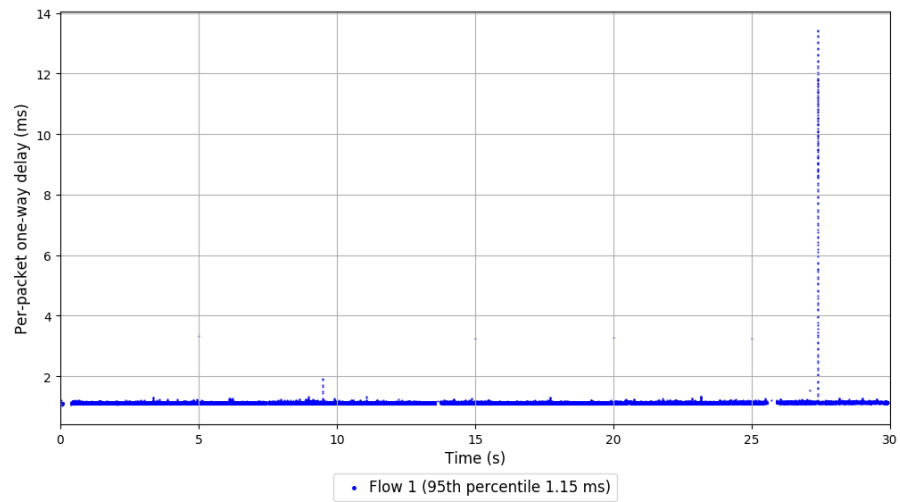
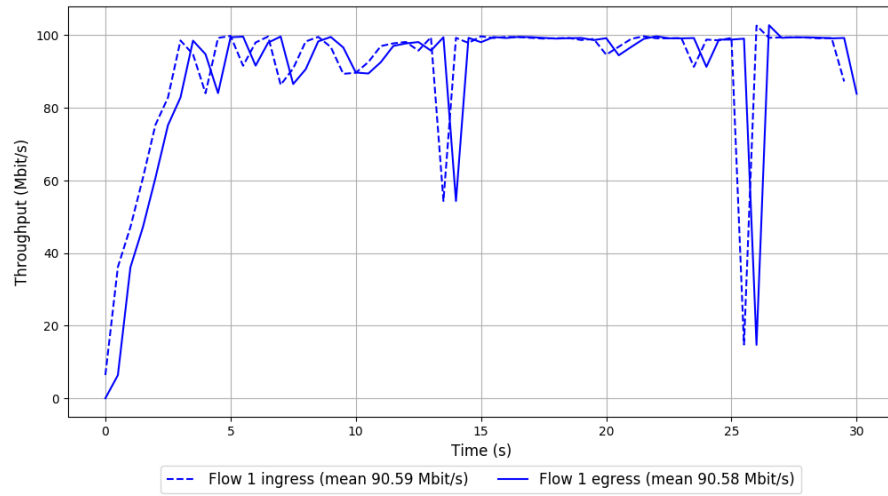
-- Flow 1:

Average throughput: 90.58 Mbit/s

95th percentile per-packet one-way delay: 1.146 ms

Loss rate: 0.07%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-09-11 08:13:10

End at: 2018-09-11 08:13:40

Local clock offset: -3.657 ms

Remote clock offset: -3.647 ms

Below is generated by plot.py at 2018-09-11 10:36:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 83.40 Mbit/s

95th percentile per-packet one-way delay: 1.067 ms

Loss rate: 0.06%

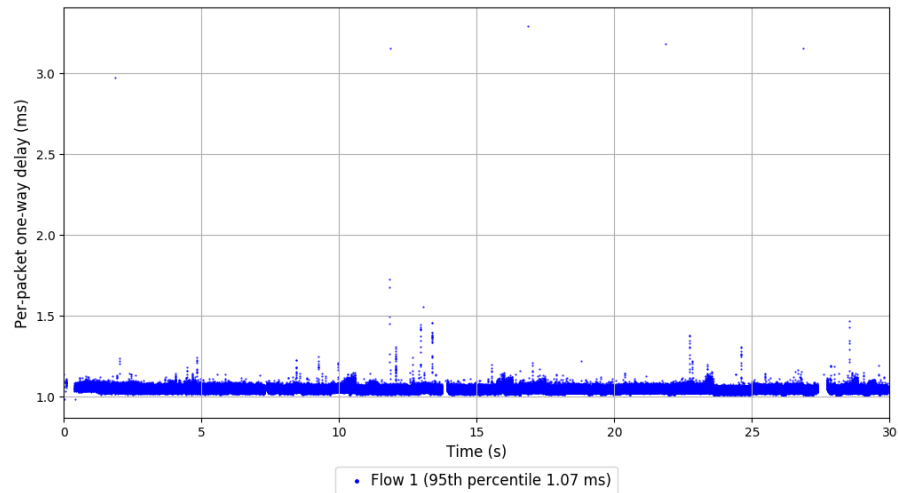
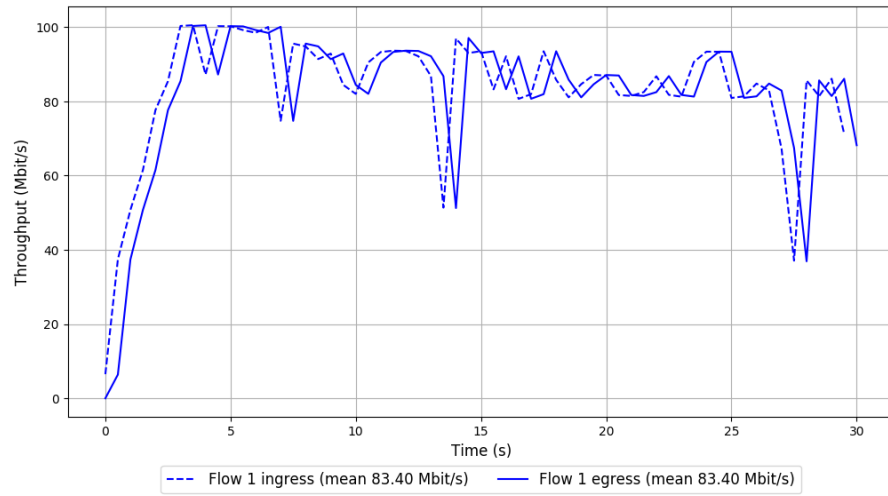
-- Flow 1:

Average throughput: 83.40 Mbit/s

95th percentile per-packet one-way delay: 1.067 ms

Loss rate: 0.06%

Run 3: Report of QUIC Cubic — Data Link



Run 4: Statistics of QUIC Cubic

Start at: 2018-09-11 08:41:11

End at: 2018-09-11 08:41:41

Local clock offset: -0.838 ms

Remote clock offset: 0.223 ms

Below is generated by plot.py at 2018-09-11 10:36:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 92.07 Mbit/s

95th percentile per-packet one-way delay: 0.856 ms

Loss rate: 0.07%

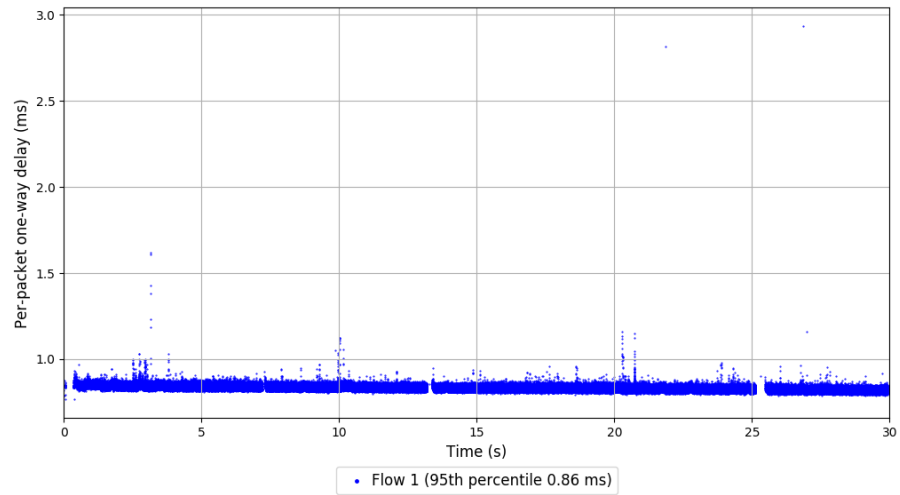
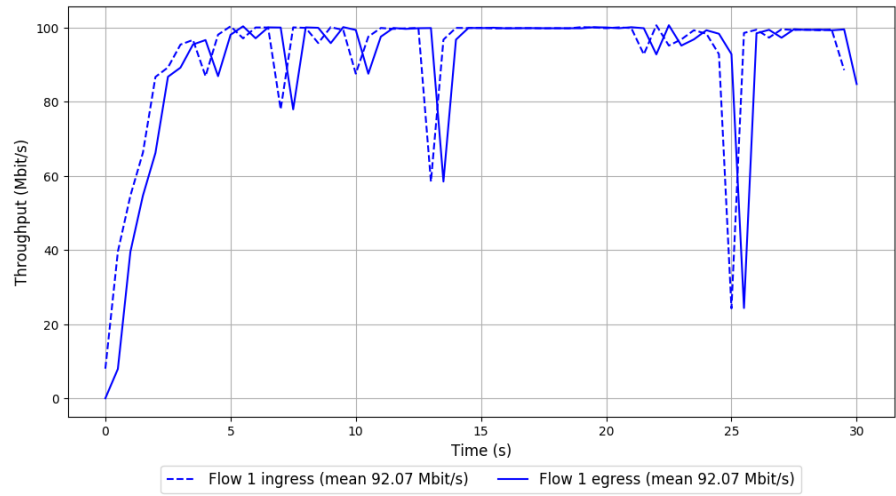
-- Flow 1:

Average throughput: 92.07 Mbit/s

95th percentile per-packet one-way delay: 0.856 ms

Loss rate: 0.07%

Run 4: Report of QUIC Cubic — Data Link



Run 5: Statistics of QUIC Cubic

Start at: 2018-09-11 09:09:16

End at: 2018-09-11 09:09:46

Local clock offset: 0.264 ms

Remote clock offset: 0.278 ms

Below is generated by plot.py at 2018-09-11 10:36:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 90.83 Mbit/s

95th percentile per-packet one-way delay: 0.989 ms

Loss rate: 0.07%

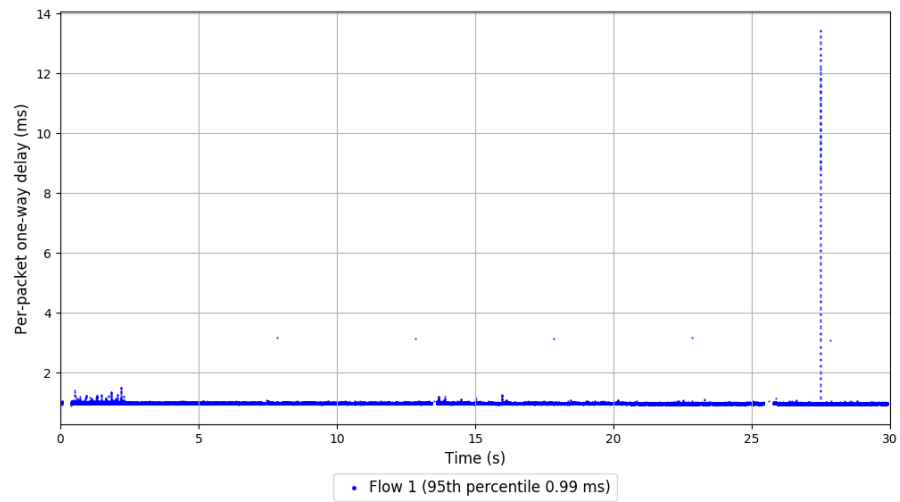
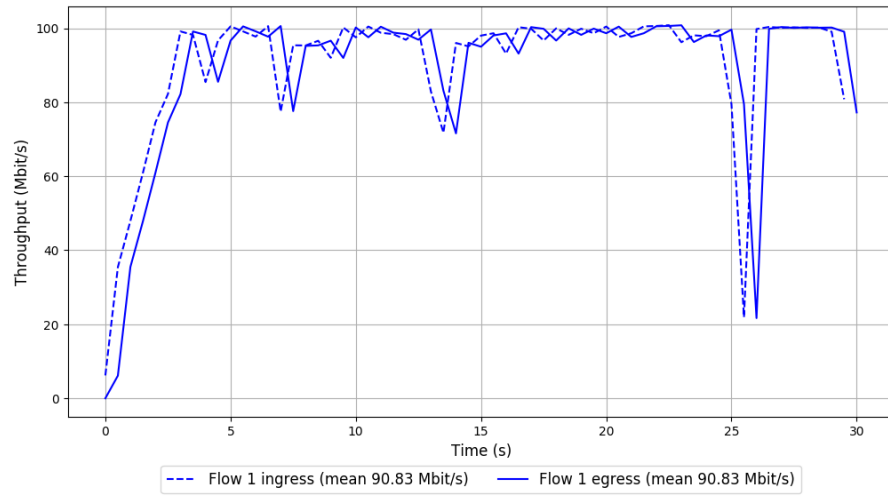
-- Flow 1:

Average throughput: 90.83 Mbit/s

95th percentile per-packet one-way delay: 0.989 ms

Loss rate: 0.07%

Run 5: Report of QUIC Cubic — Data Link

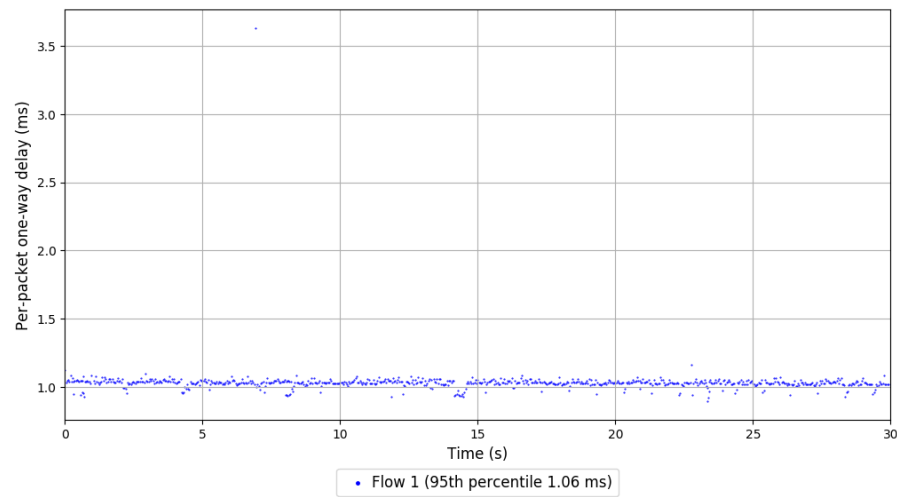
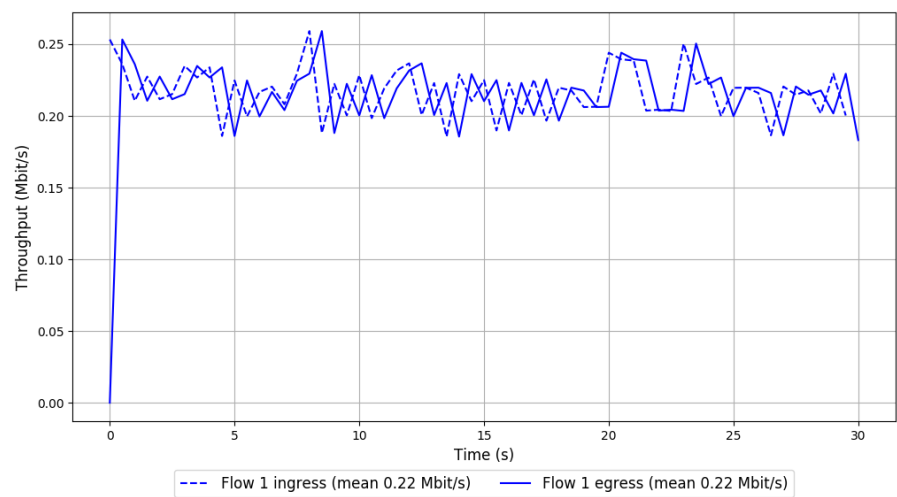


Run 1: Statistics of SCReAM

Start at: 2018-09-11 07:26:27
End at: 2018-09-11 07:26:57
Local clock offset: -0.853 ms
Remote clock offset: -3.694 ms

Below is generated by plot.py at 2018-09-11 10:36:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.062 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.062 ms
Loss rate: 0.13%

Run 1: Report of SReAM — Data Link

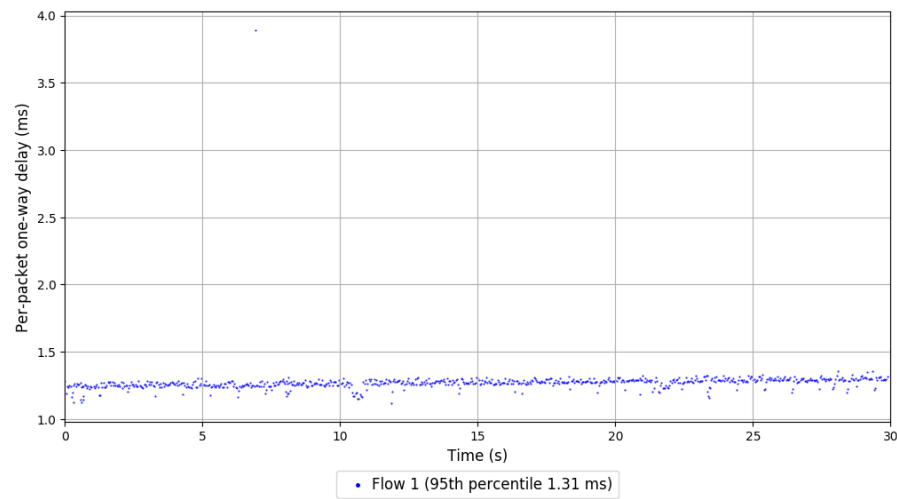
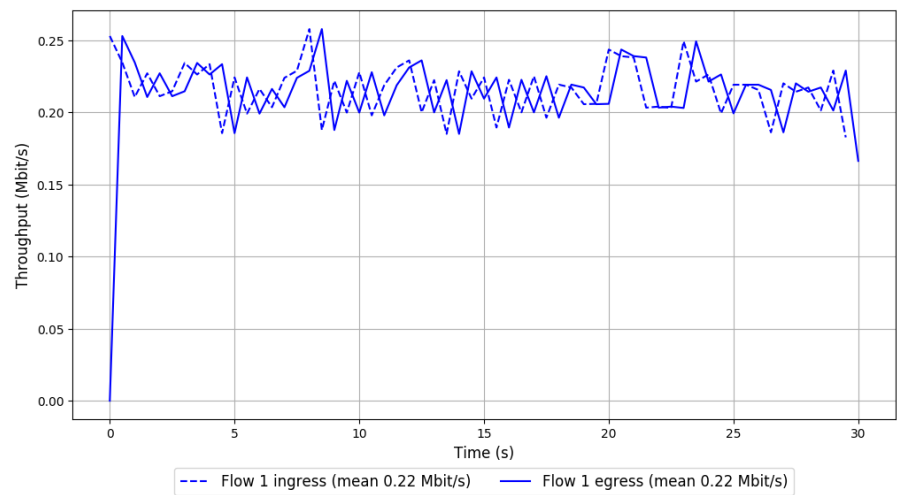


Run 2: Statistics of SCReAM

Start at: 2018-09-11 07:54:31
End at: 2018-09-11 07:55:01
Local clock offset: -4.449 ms
Remote clock offset: -3.818 ms

Below is generated by plot.py at 2018-09-11 10:36:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.310 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.310 ms
Loss rate: 0.13%

Run 2: Report of SReAM — Data Link

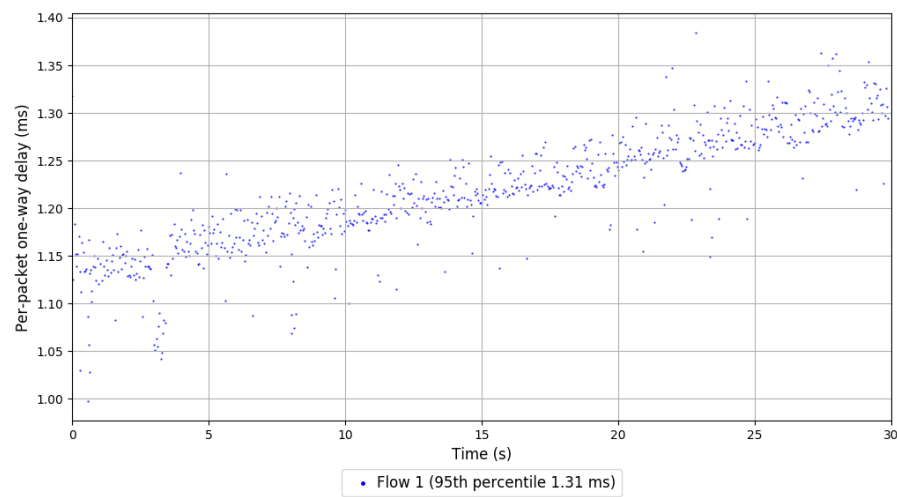
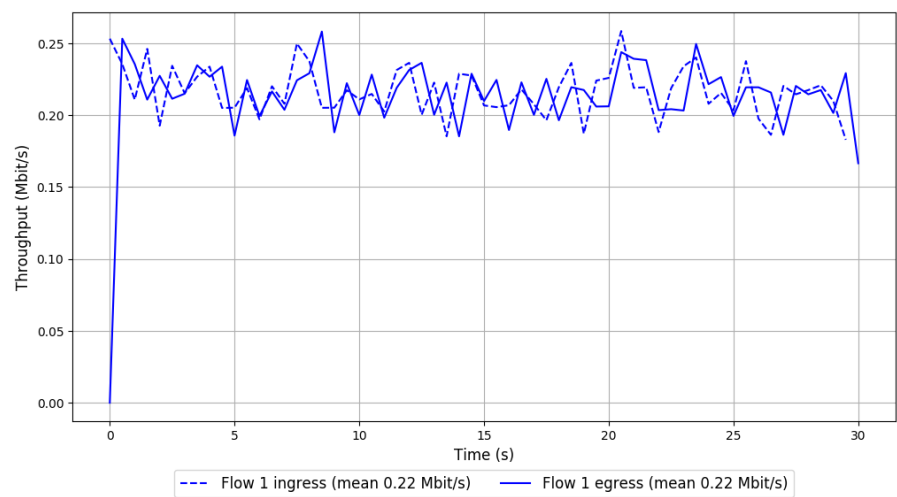


Run 3: Statistics of SCReAM

Start at: 2018-09-11 08:22:38
End at: 2018-09-11 08:23:08
Local clock offset: -3.803 ms
Remote clock offset: -2.622 ms

Below is generated by plot.py at 2018-09-11 10:36:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.309 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 1.309 ms
Loss rate: 0.13%

Run 3: Report of SReAM — Data Link



Run 4: Statistics of SCReAM

Start at: 2018-09-11 08:50:41

End at: 2018-09-11 08:51:11

Local clock offset: -0.012 ms

Remote clock offset: 0.635 ms

Below is generated by plot.py at 2018-09-11 10:36:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.152 ms

Loss rate: 0.13%

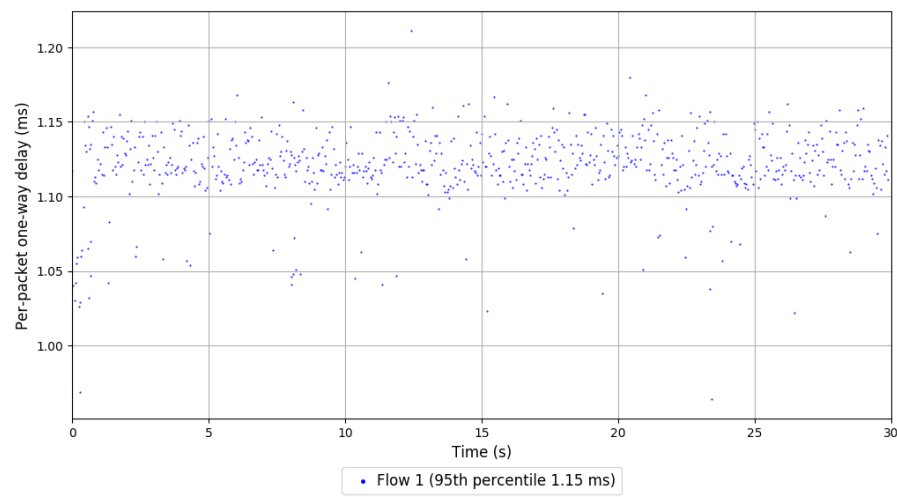
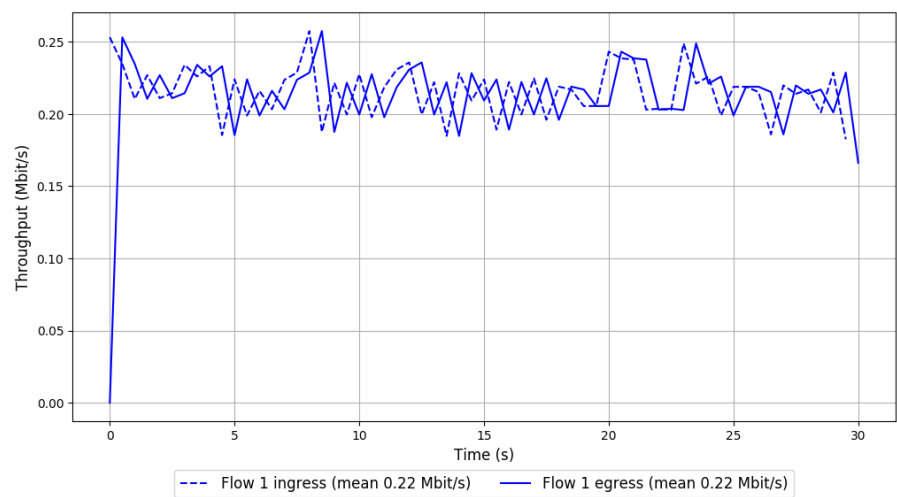
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.152 ms

Loss rate: 0.13%

Run 4: Report of SReAM — Data Link



Run 5: Statistics of SCReAM

Start at: 2018-09-11 09:18:49

End at: 2018-09-11 09:19:19

Local clock offset: 0.474 ms

Remote clock offset: 0.311 ms

Below is generated by plot.py at 2018-09-11 10:36:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.158 ms

Loss rate: 0.00%

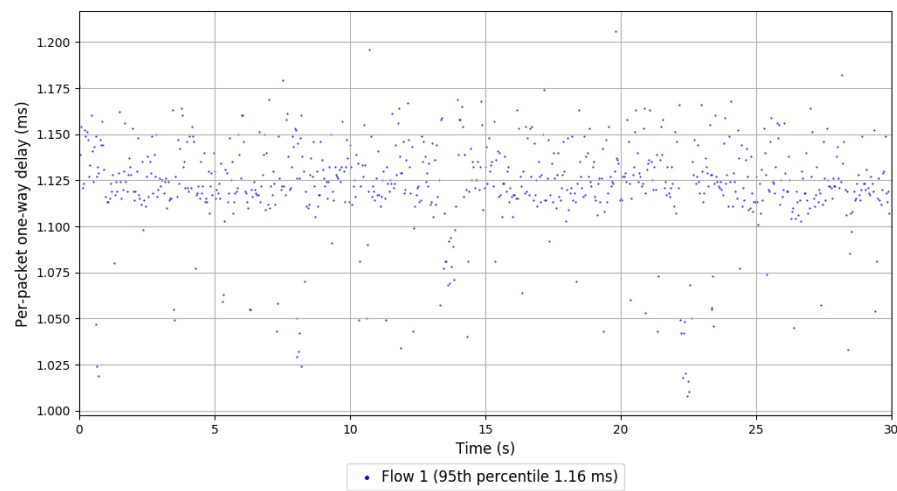
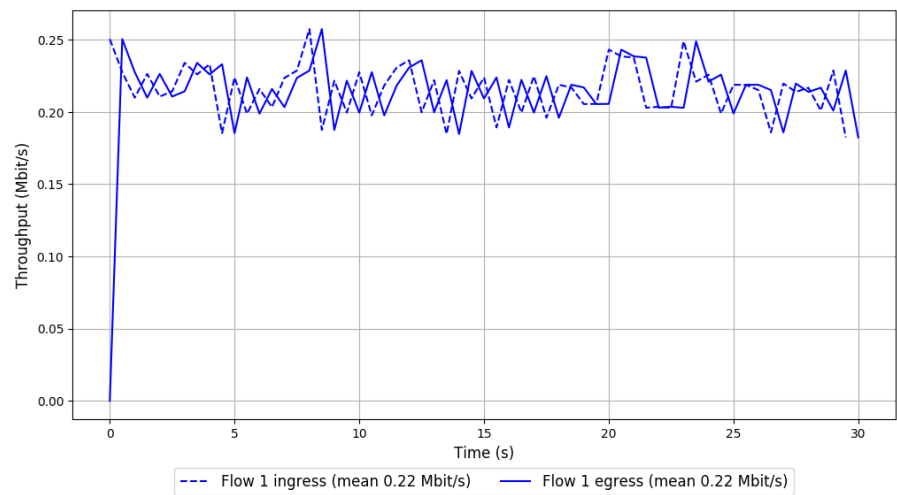
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 1.158 ms

Loss rate: 0.00%

Run 5: Report of SReAM — Data Link

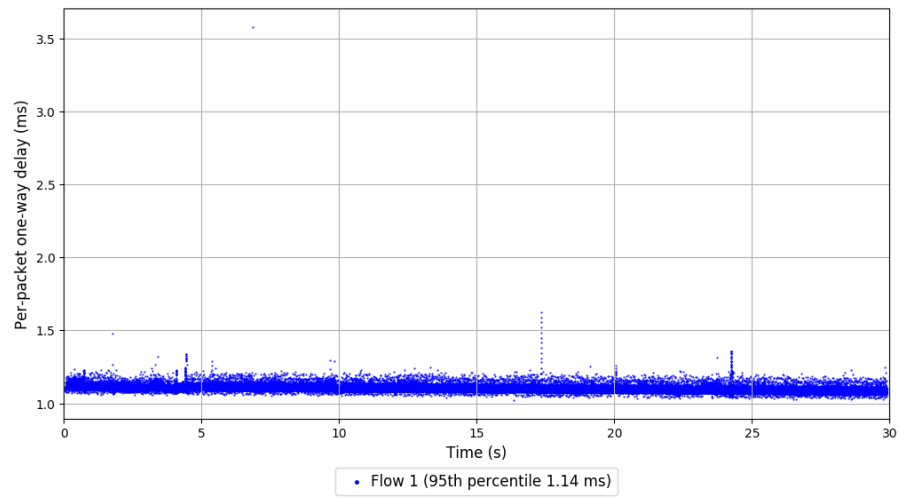
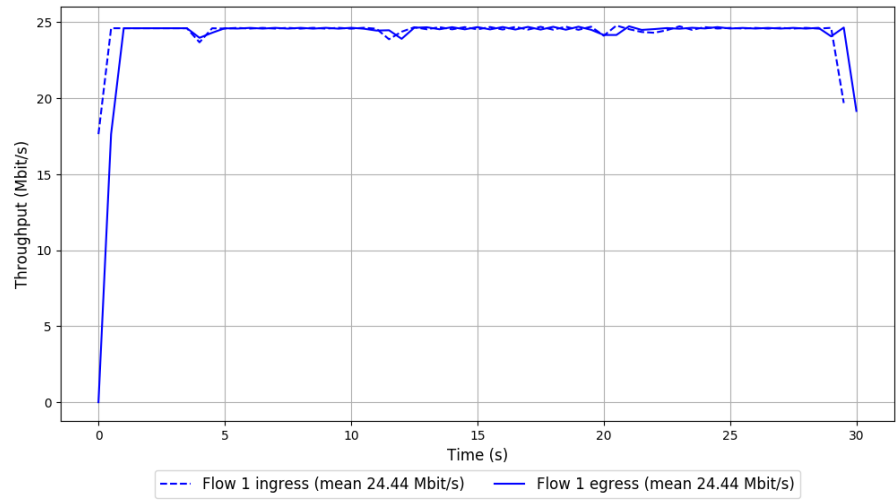


Run 1: Statistics of Sprout

Start at: 2018-09-11 07:15:37
End at: 2018-09-11 07:16:07
Local clock offset: -0.434 ms
Remote clock offset: -2.971 ms

Below is generated by plot.py at 2018-09-11 10:36:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.44 Mbit/s
95th percentile per-packet one-way delay: 1.143 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 24.44 Mbit/s
95th percentile per-packet one-way delay: 1.143 ms
Loss rate: 0.07%

Run 1: Report of Sprout — Data Link

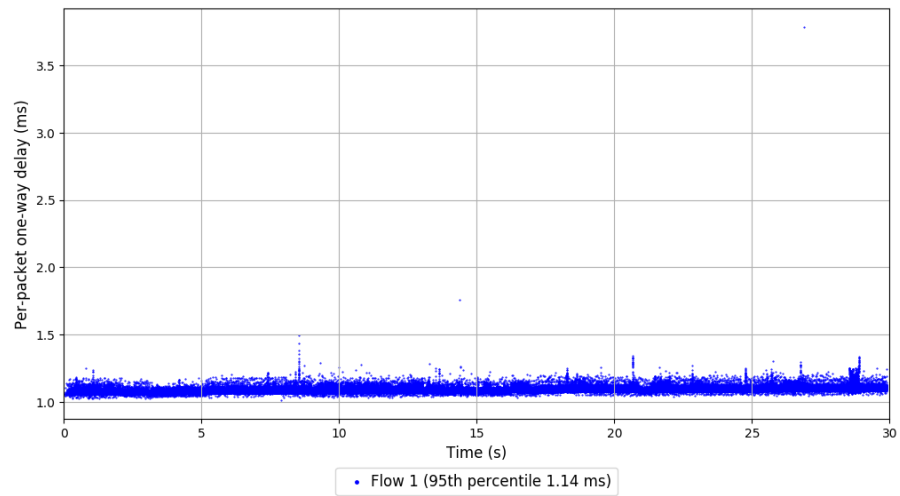
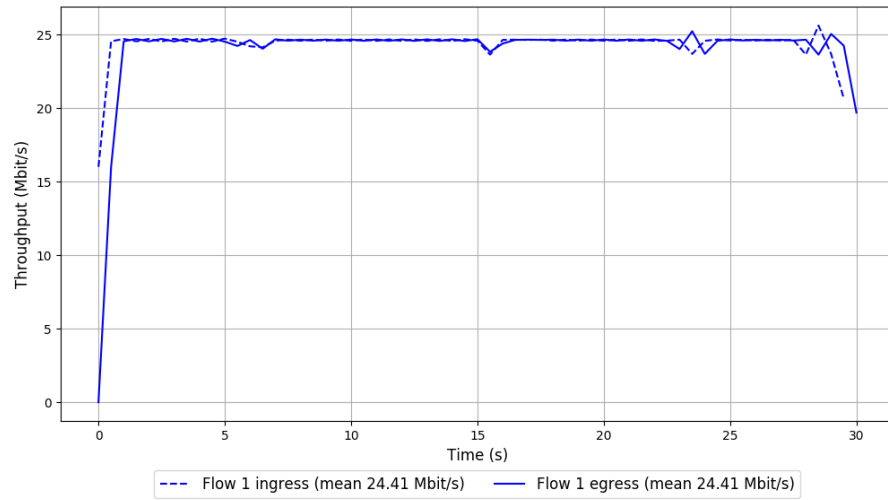


Run 2: Statistics of Sprout

Start at: 2018-09-11 07:43:43
End at: 2018-09-11 07:44:13
Local clock offset: -3.566 ms
Remote clock offset: -4.674 ms

Below is generated by plot.py at 2018-09-11 10:36:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.41 Mbit/s
95th percentile per-packet one-way delay: 1.136 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 24.41 Mbit/s
95th percentile per-packet one-way delay: 1.136 ms
Loss rate: 0.07%

Run 2: Report of Sprout — Data Link

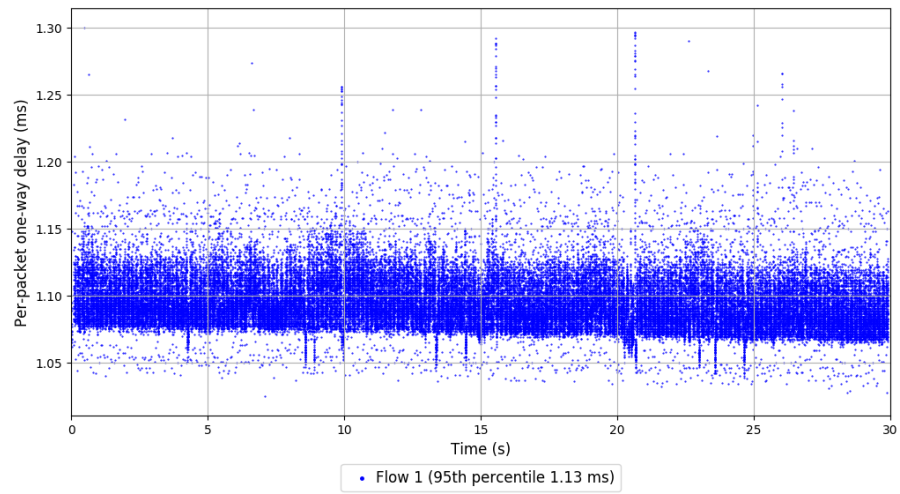
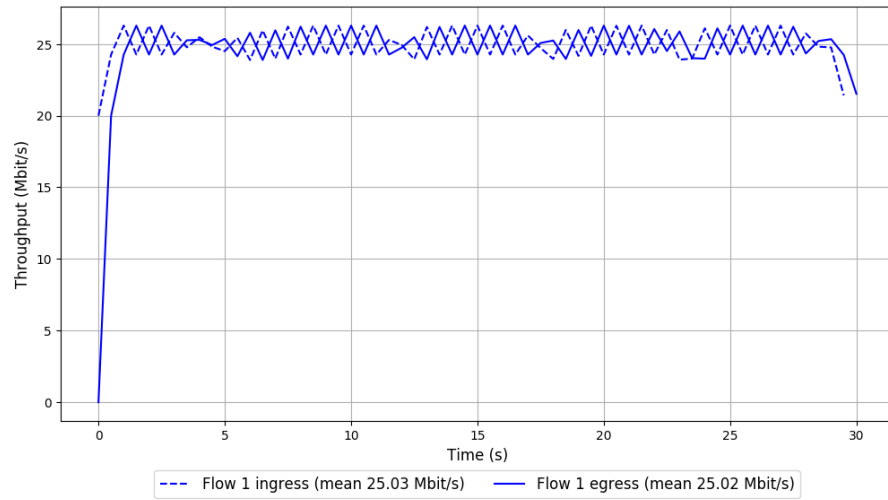


Run 3: Statistics of Sprout

Start at: 2018-09-11 08:11:51
End at: 2018-09-11 08:12:21
Local clock offset: -3.669 ms
Remote clock offset: -3.642 ms

Below is generated by plot.py at 2018-09-11 10:36:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 25.02 Mbit/s
95th percentile per-packet one-way delay: 1.129 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 25.02 Mbit/s
95th percentile per-packet one-way delay: 1.129 ms
Loss rate: 0.03%

Run 3: Report of Sprout — Data Link

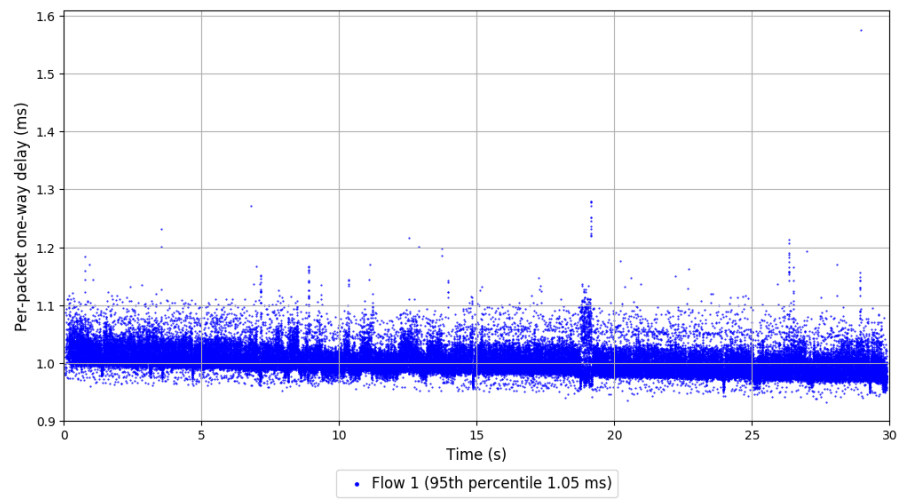
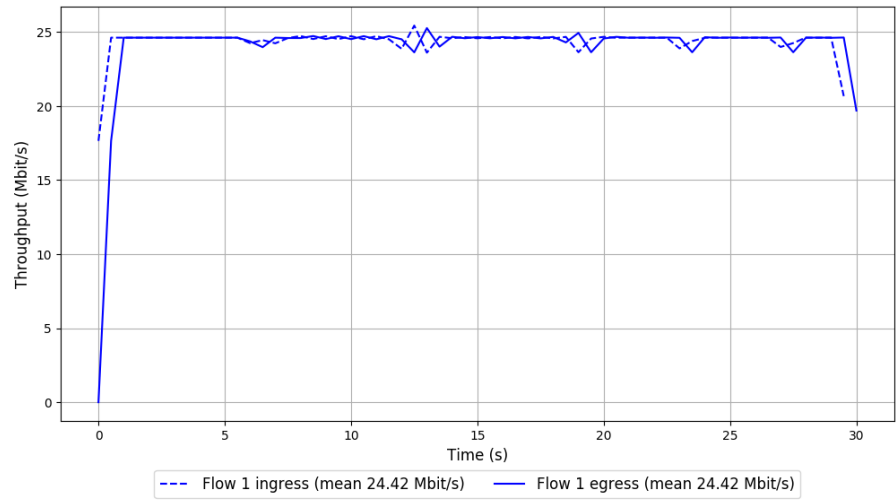


Run 4: Statistics of Sprout

Start at: 2018-09-11 08:39:52
End at: 2018-09-11 08:40:22
Local clock offset: -0.927 ms
Remote clock offset: 0.056 ms

Below is generated by plot.py at 2018-09-11 10:36:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 24.42 Mbit/s
95th percentile per-packet one-way delay: 1.048 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 24.42 Mbit/s
95th percentile per-packet one-way delay: 1.048 ms
Loss rate: 0.07%

Run 4: Report of Sprout — Data Link



Run 5: Statistics of Sprout

Start at: 2018-09-11 09:07:57

End at: 2018-09-11 09:08:27

Local clock offset: 0.233 ms

Remote clock offset: 0.25 ms

Below is generated by plot.py at 2018-09-11 10:36:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 24.37 Mbit/s

95th percentile per-packet one-way delay: 1.036 ms

Loss rate: 0.06%

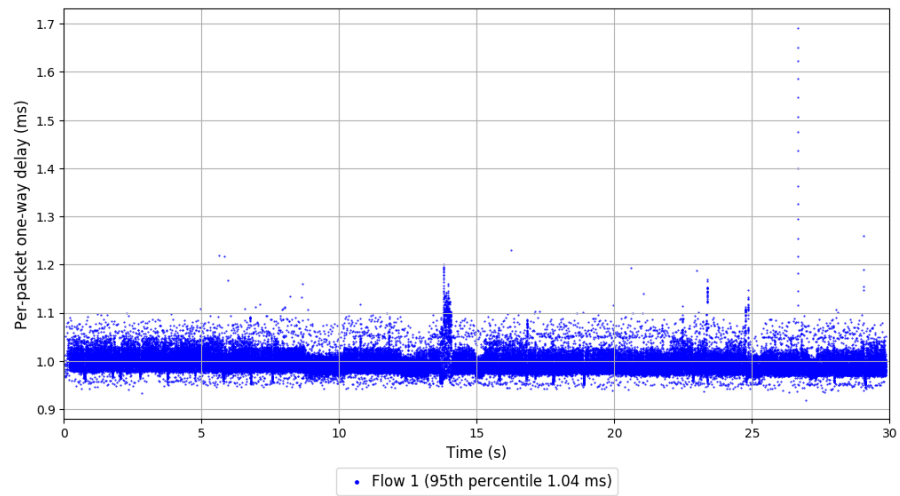
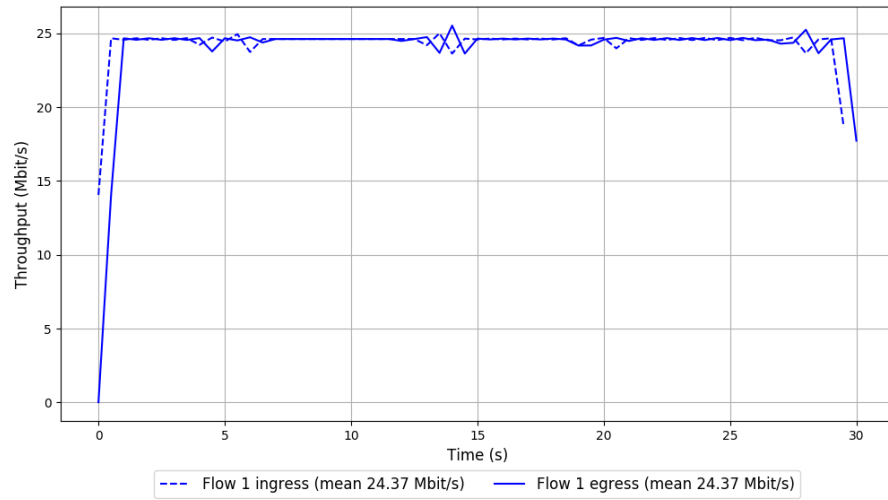
-- Flow 1:

Average throughput: 24.37 Mbit/s

95th percentile per-packet one-way delay: 1.036 ms

Loss rate: 0.06%

Run 5: Report of Sprout — Data Link

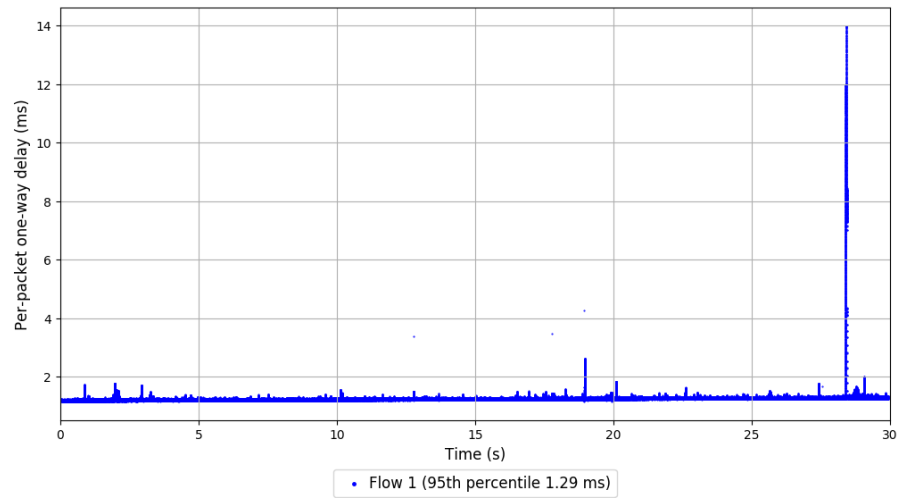
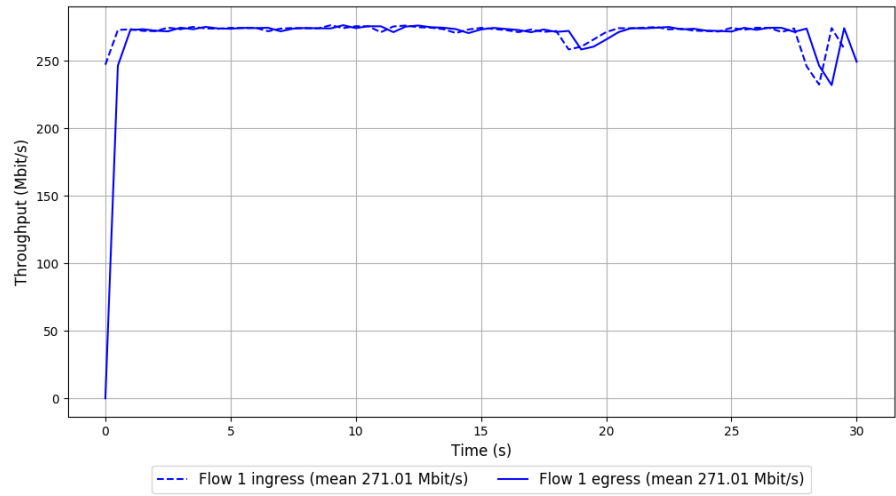


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-09-11 07:29:21
End at: 2018-09-11 07:29:51
Local clock offset: -1.129 ms
Remote clock offset: -3.93 ms

# Below is generated by plot.py at 2018-09-11 10:36:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 271.01 Mbit/s
95th percentile per-packet one-way delay: 1.291 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 271.01 Mbit/s
95th percentile per-packet one-way delay: 1.291 ms
Loss rate: 0.07%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-09-11 07:57:25

End at: 2018-09-11 07:57:55

Local clock offset: -4.683 ms

Remote clock offset: -3.704 ms

Below is generated by plot.py at 2018-09-11 10:37:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 273.66 Mbit/s

95th percentile per-packet one-way delay: 1.187 ms

Loss rate: 0.07%

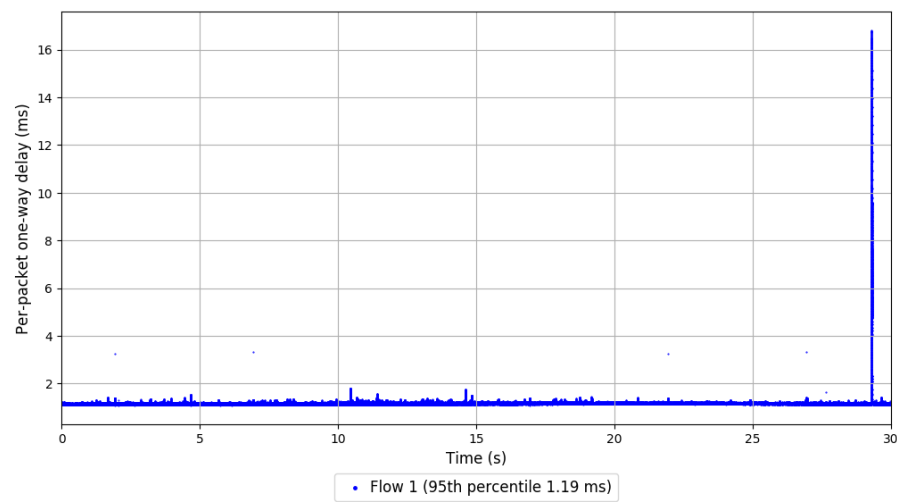
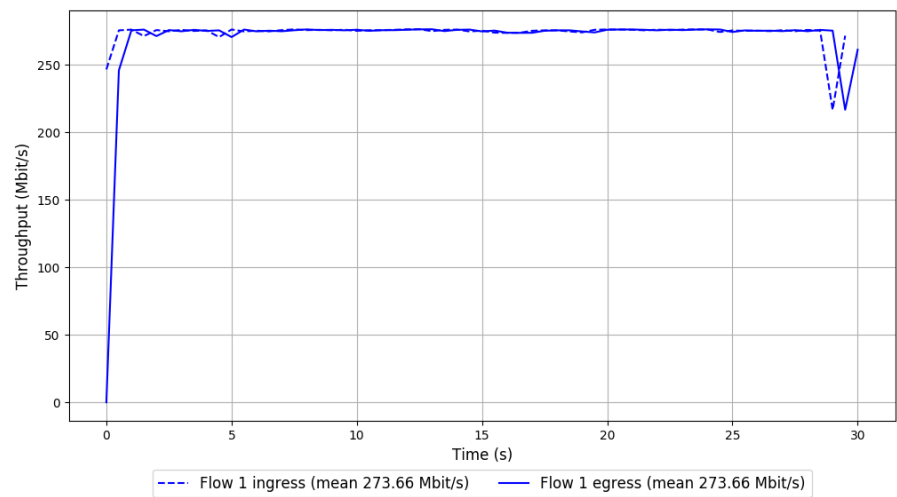
-- Flow 1:

Average throughput: 273.66 Mbit/s

95th percentile per-packet one-way delay: 1.187 ms

Loss rate: 0.07%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-09-11 08:25:29

End at: 2018-09-11 08:25:59

Local clock offset: -3.961 ms

Remote clock offset: -1.808 ms

Below is generated by plot.py at 2018-09-11 10:37:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 274.80 Mbit/s

95th percentile per-packet one-way delay: 1.089 ms

Loss rate: 0.06%

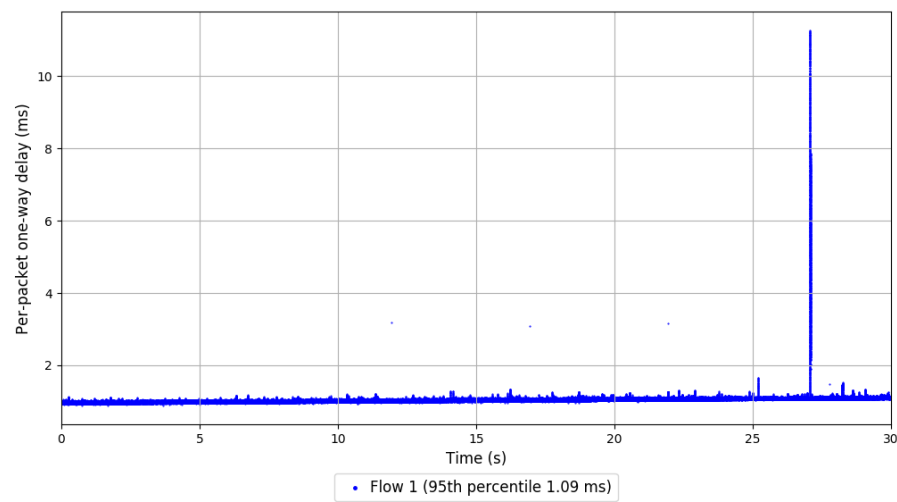
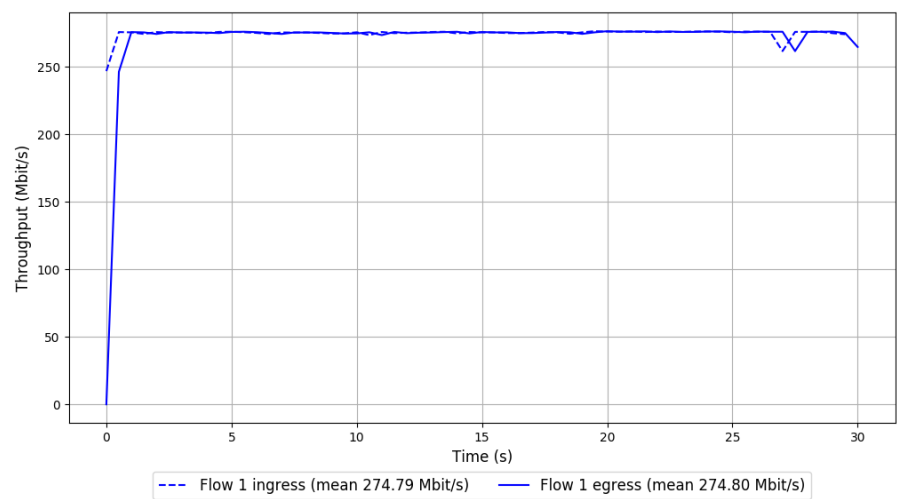
-- Flow 1:

Average throughput: 274.80 Mbit/s

95th percentile per-packet one-way delay: 1.089 ms

Loss rate: 0.06%

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



Run 4: Statistics of TaoVA-100x

Start at: 2018-09-11 08:53:36

End at: 2018-09-11 08:54:06

Local clock offset: 0.117 ms

Remote clock offset: 0.796 ms

Below is generated by plot.py at 2018-09-11 10:37:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 273.84 Mbit/s

95th percentile per-packet one-way delay: 1.027 ms

Loss rate: 0.07%

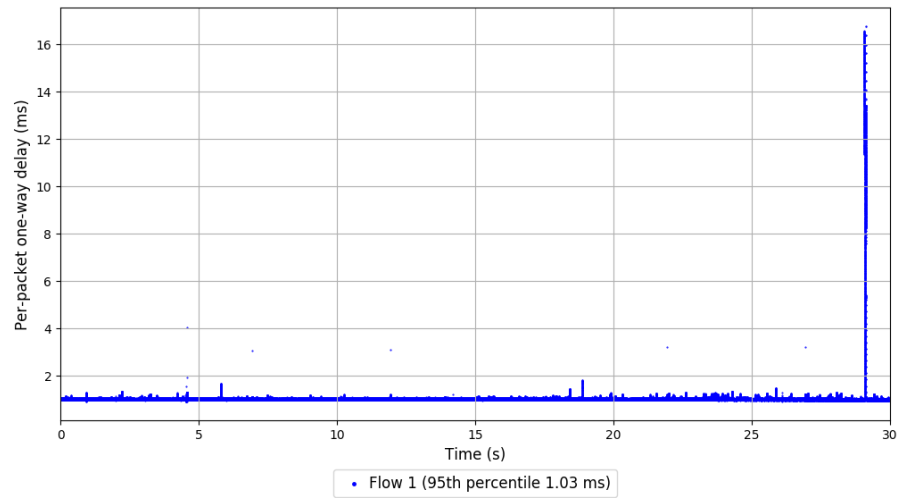
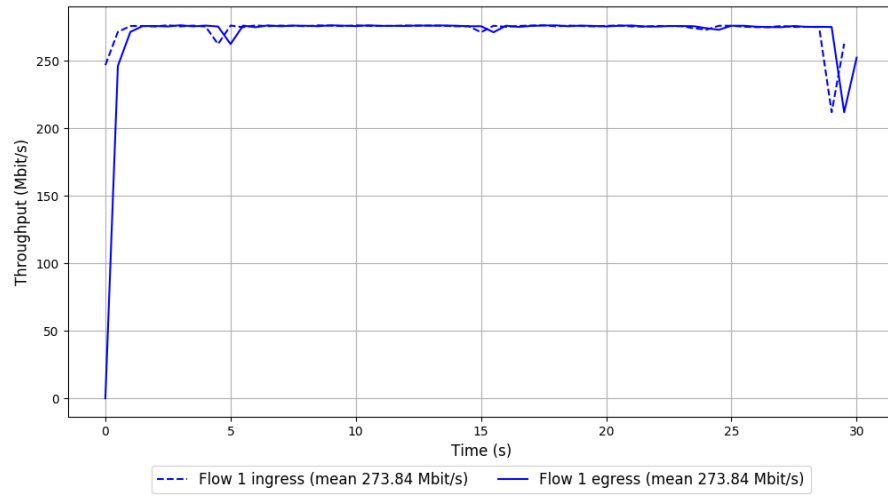
-- Flow 1:

Average throughput: 273.84 Mbit/s

95th percentile per-packet one-way delay: 1.027 ms

Loss rate: 0.07%

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



Run 5: Statistics of TaoVA-100x

Start at: 2018-09-11 09:21:41

End at: 2018-09-11 09:22:11

Local clock offset: 0.433 ms

Remote clock offset: 0.383 ms

Below is generated by plot.py at 2018-09-11 10:37:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 273.01 Mbit/s

95th percentile per-packet one-way delay: 0.926 ms

Loss rate: 0.06%

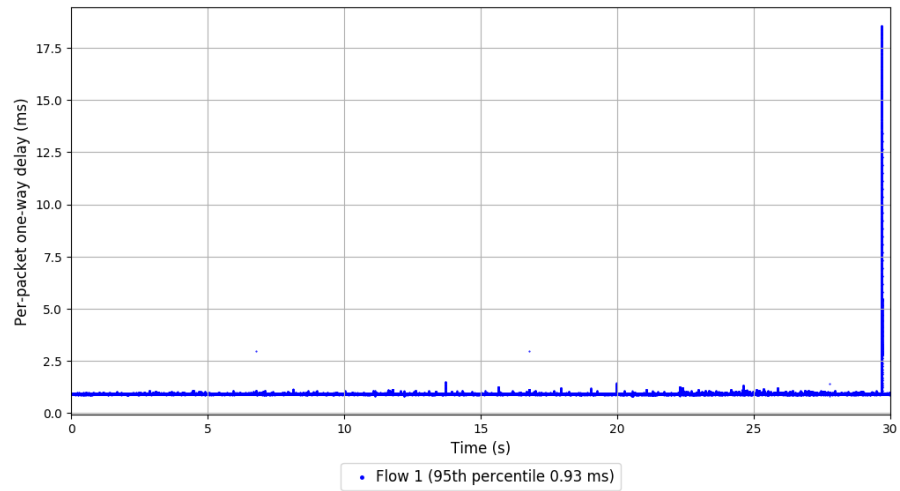
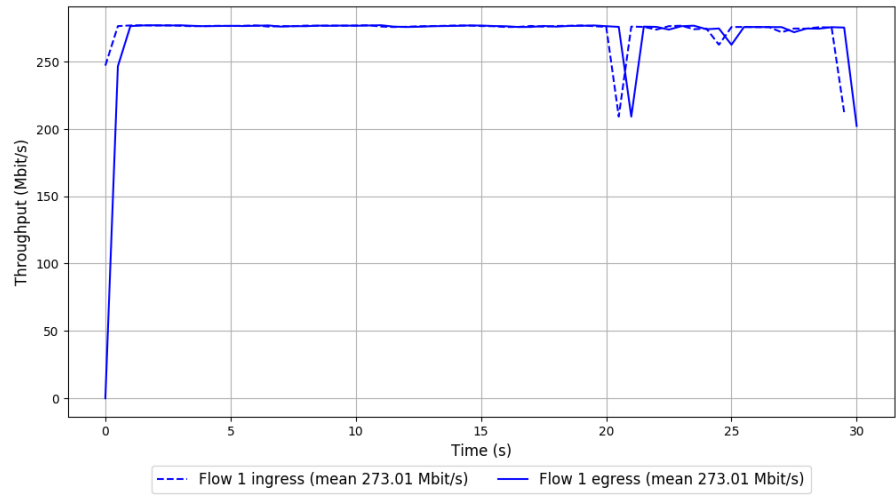
-- Flow 1:

Average throughput: 273.01 Mbit/s

95th percentile per-packet one-way delay: 0.926 ms

Loss rate: 0.06%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-09-11 07:30:56

End at: 2018-09-11 07:31:26

Local clock offset: -1.61 ms

Remote clock offset: -3.998 ms

Below is generated by plot.py at 2018-09-11 10:37:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 339.90 Mbit/s

95th percentile per-packet one-way delay: 1.266 ms

Loss rate: 0.06%

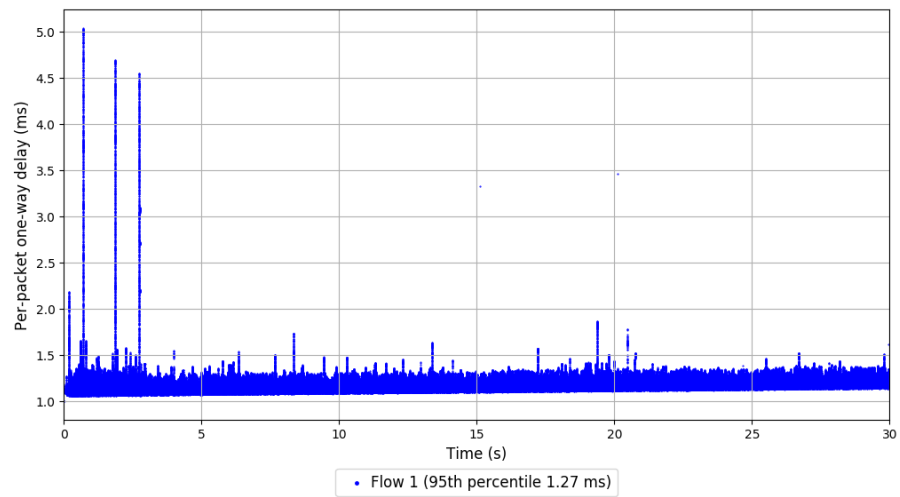
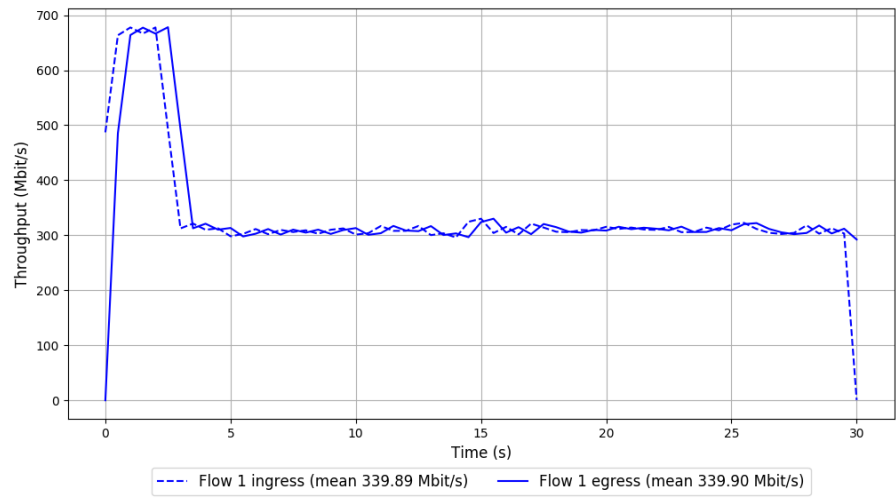
-- Flow 1:

Average throughput: 339.90 Mbit/s

95th percentile per-packet one-way delay: 1.266 ms

Loss rate: 0.06%

Run 1: Report of TCP Vegas — Data Link

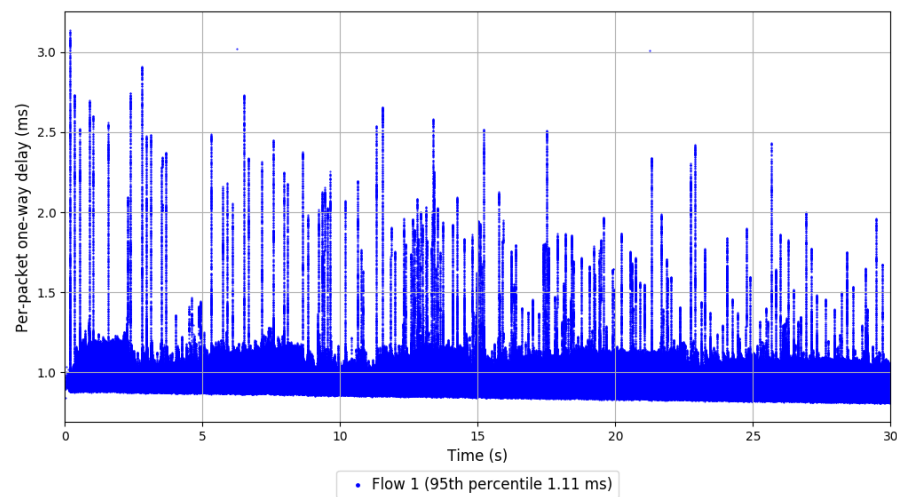
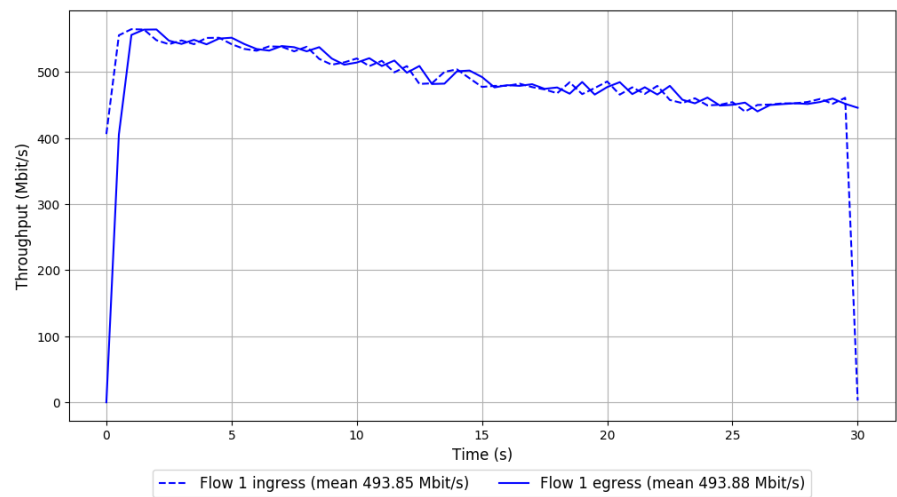


Run 2: Statistics of TCP Vegas

Start at: 2018-09-11 07:59:00
End at: 2018-09-11 07:59:30
Local clock offset: -4.737 ms
Remote clock offset: -3.669 ms

Below is generated by plot.py at 2018-09-11 10:40:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 493.88 Mbit/s
95th percentile per-packet one-way delay: 1.114 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 493.88 Mbit/s
95th percentile per-packet one-way delay: 1.114 ms
Loss rate: 0.06%

Run 2: Report of TCP Vegas — Data Link

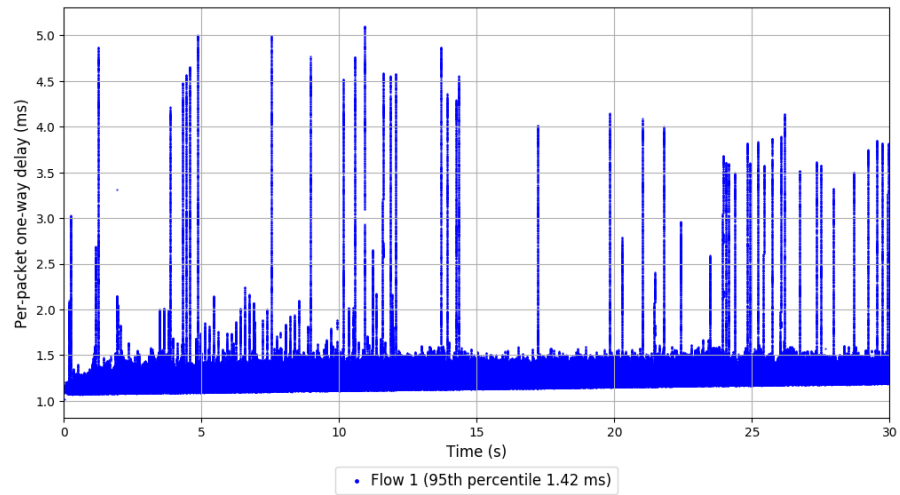
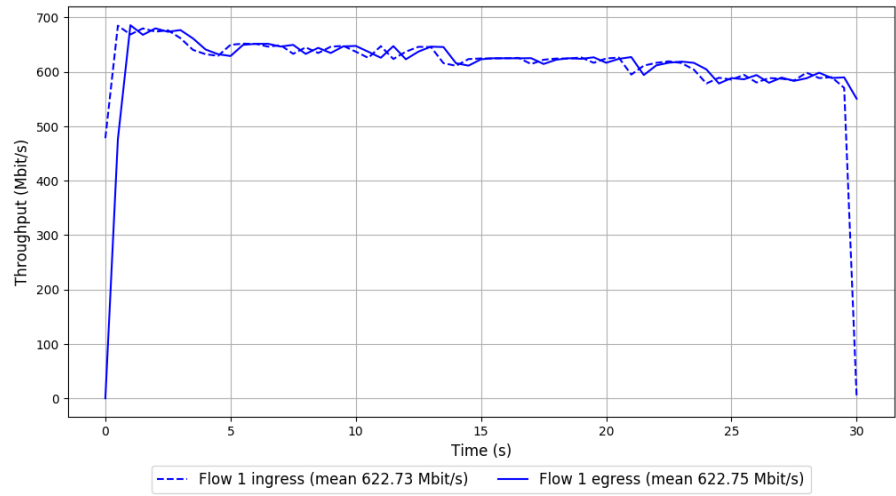


Run 3: Statistics of TCP Vegas

Start at: 2018-09-11 08:27:04
End at: 2018-09-11 08:27:34
Local clock offset: -3.915 ms
Remote clock offset: -1.507 ms

Below is generated by plot.py at 2018-09-11 10:42:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 622.75 Mbit/s
95th percentile per-packet one-way delay: 1.419 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 622.75 Mbit/s
95th percentile per-packet one-way delay: 1.419 ms
Loss rate: 0.06%

Run 3: Report of TCP Vegas — Data Link



Run 4: Statistics of TCP Vegas

Start at: 2018-09-11 08:55:10

End at: 2018-09-11 08:55:40

Local clock offset: 0.073 ms

Remote clock offset: 0.72 ms

Below is generated by plot.py at 2018-09-11 10:43:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 617.55 Mbit/s

95th percentile per-packet one-way delay: 1.117 ms

Loss rate: 0.07%

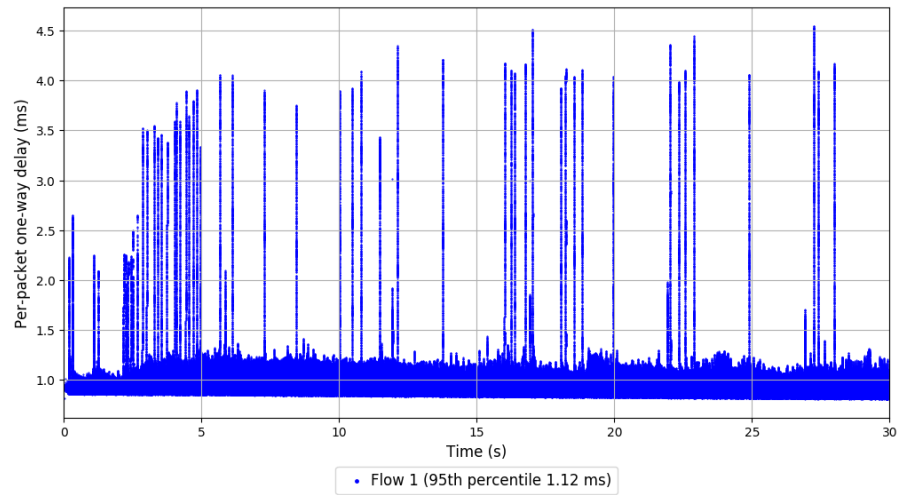
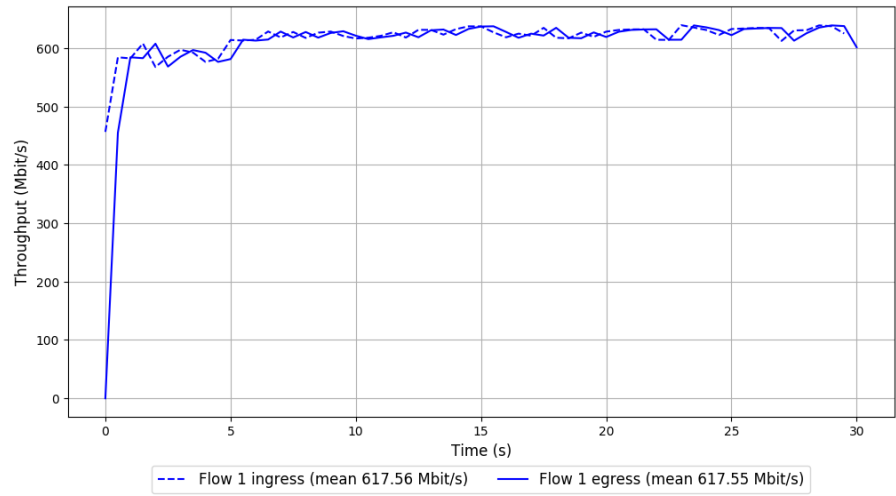
-- Flow 1:

Average throughput: 617.55 Mbit/s

95th percentile per-packet one-way delay: 1.117 ms

Loss rate: 0.07%

Run 4: Report of TCP Vegas — Data Link



Run 5: Statistics of TCP Vegas

Start at: 2018-09-11 09:23:16

End at: 2018-09-11 09:23:46

Local clock offset: 0.554 ms

Remote clock offset: 0.321 ms

Below is generated by plot.py at 2018-09-11 10:44:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 684.68 Mbit/s

95th percentile per-packet one-way delay: 1.296 ms

Loss rate: 0.06%

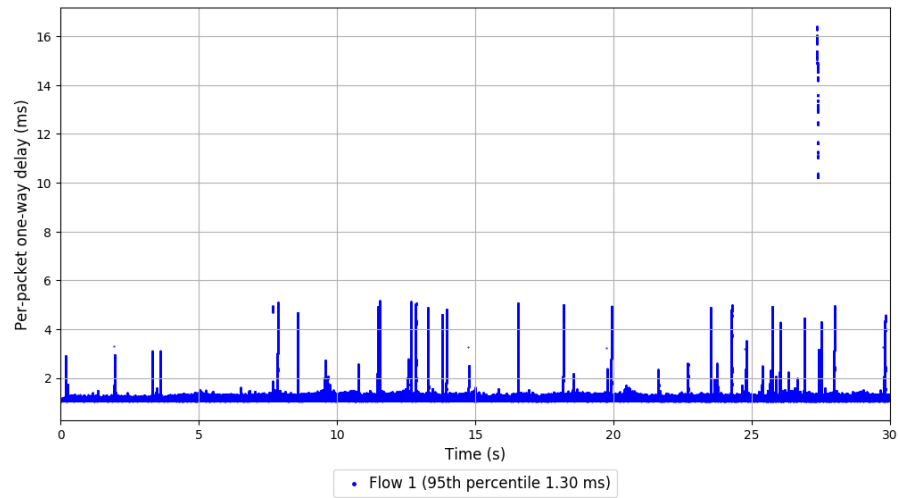
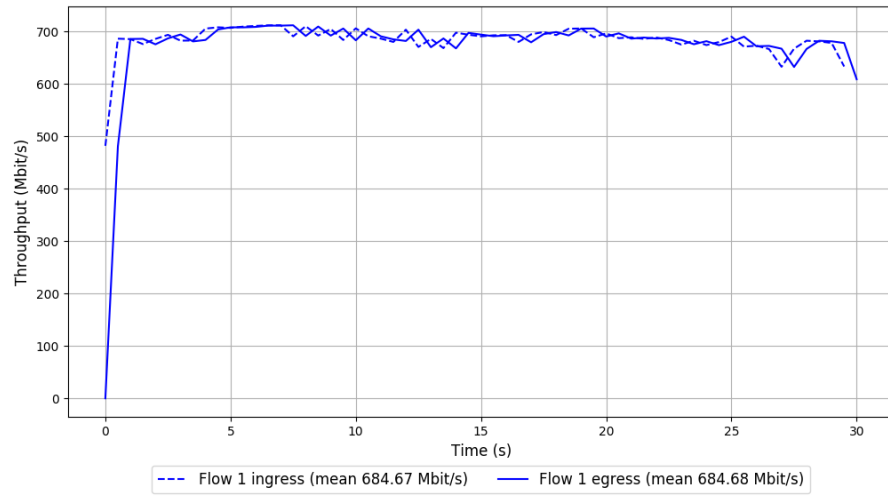
-- Flow 1:

Average throughput: 684.68 Mbit/s

95th percentile per-packet one-way delay: 1.296 ms

Loss rate: 0.06%

Run 5: Report of TCP Vegas — Data Link

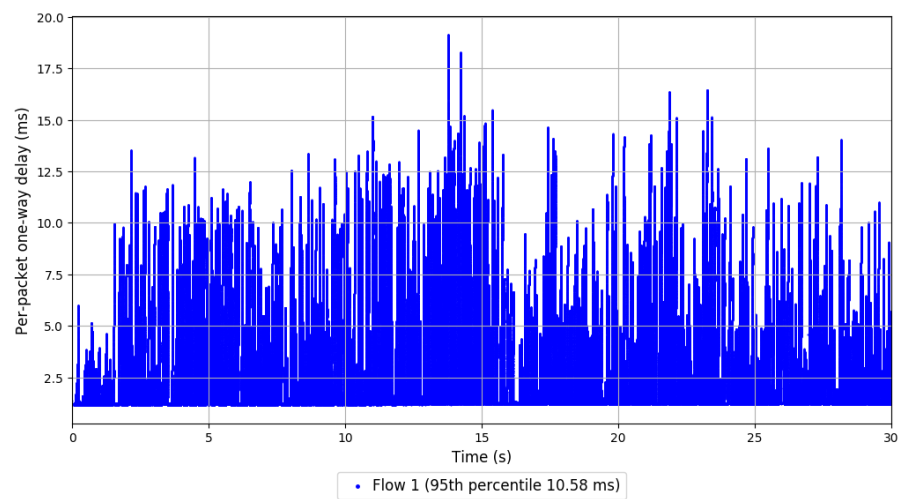
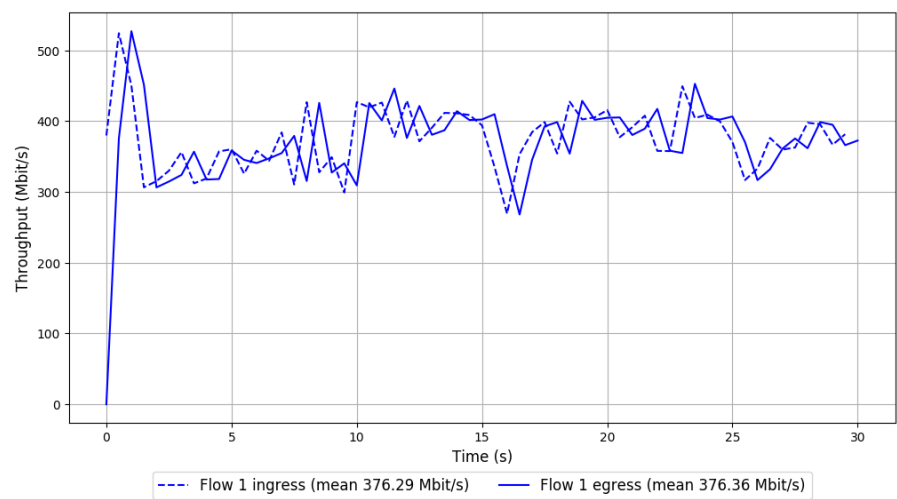


Run 1: Statistics of Verus

Start at: 2018-09-11 07:35:25
End at: 2018-09-11 07:35:55
Local clock offset: -2.381 ms
Remote clock offset: -4.268 ms

Below is generated by plot.py at 2018-09-11 10:44:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 376.36 Mbit/s
95th percentile per-packet one-way delay: 10.582 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 376.36 Mbit/s
95th percentile per-packet one-way delay: 10.582 ms
Loss rate: 0.05%

Run 1: Report of Verus — Data Link

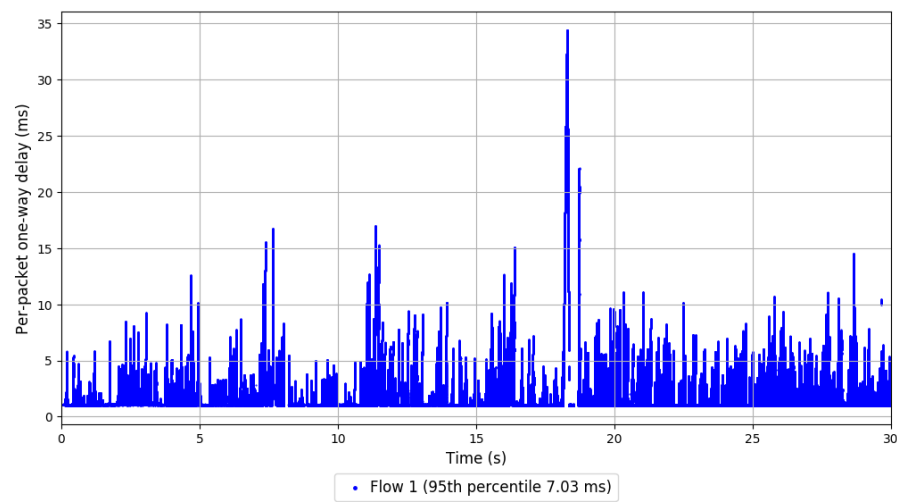
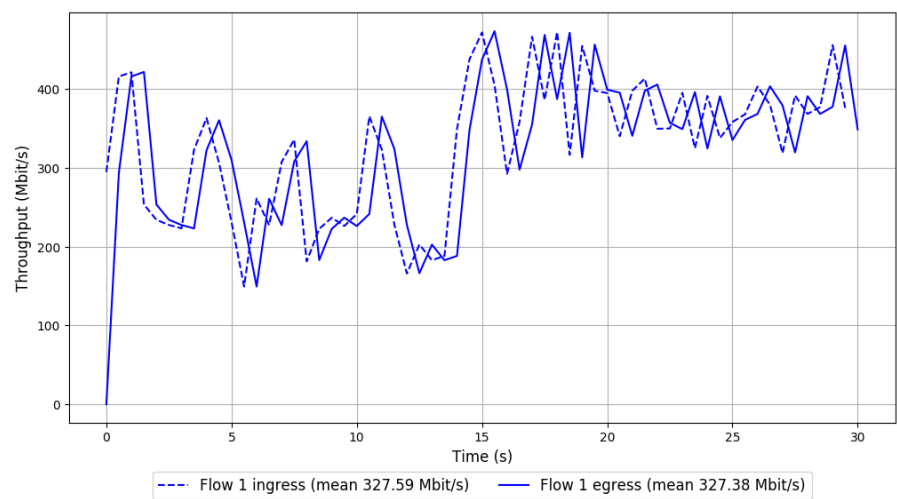


Run 2: Statistics of Verus

Start at: 2018-09-11 08:03:36
End at: 2018-09-11 08:04:06
Local clock offset: -4.028 ms
Remote clock offset: -3.618 ms

Below is generated by plot.py at 2018-09-11 10:44:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 327.38 Mbit/s
95th percentile per-packet one-way delay: 7.034 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 327.38 Mbit/s
95th percentile per-packet one-way delay: 7.034 ms
Loss rate: 0.14%

Run 2: Report of Verus — Data Link

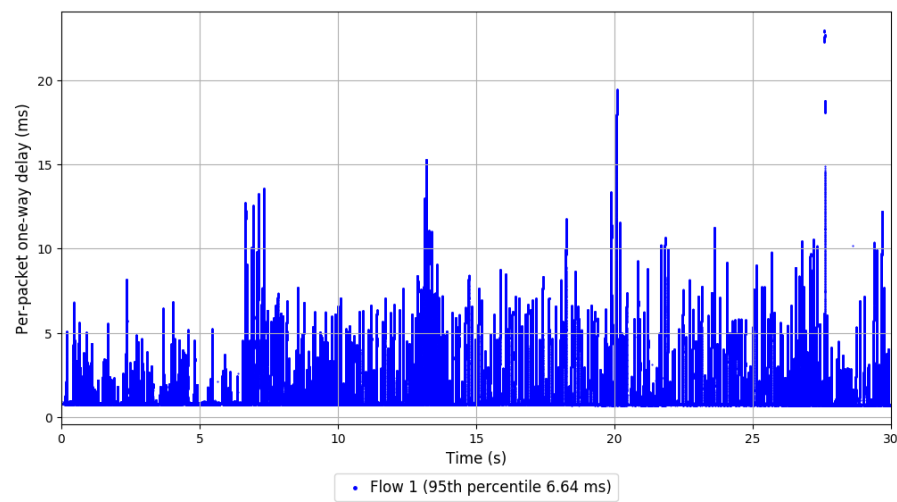
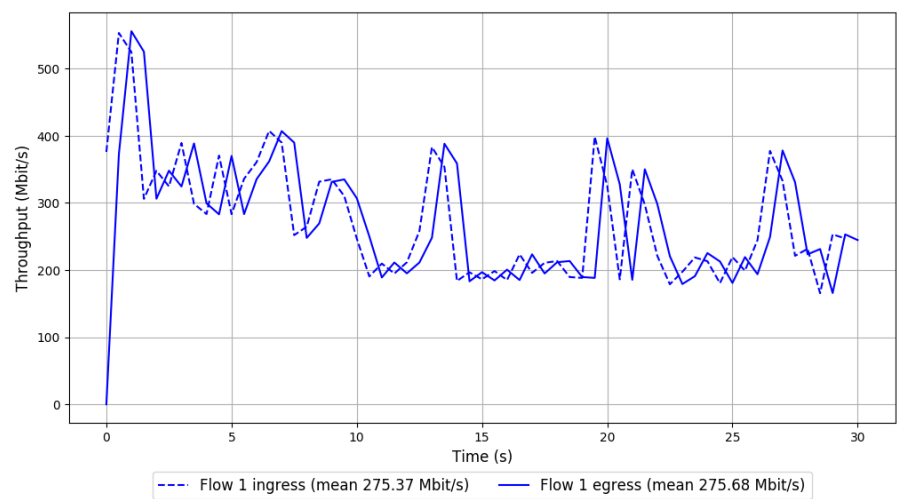


Run 3: Statistics of Verus

Start at: 2018-09-11 08:31:43
End at: 2018-09-11 08:32:13
Local clock offset: -2.777 ms
Remote clock offset: -0.746 ms

Below is generated by plot.py at 2018-09-11 10:44:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 275.68 Mbit/s
95th percentile per-packet one-way delay: 6.645 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 275.68 Mbit/s
95th percentile per-packet one-way delay: 6.645 ms
Loss rate: 0.01%

Run 3: Report of Verus — Data Link



Run 4: Statistics of Verus

Start at: 2018-09-11 08:59:48

End at: 2018-09-11 09:00:18

Local clock offset: 0.276 ms

Remote clock offset: 0.413 ms

Below is generated by plot.py at 2018-09-11 10:44:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 264.46 Mbit/s

95th percentile per-packet one-way delay: 9.886 ms

Loss rate: 0.03%

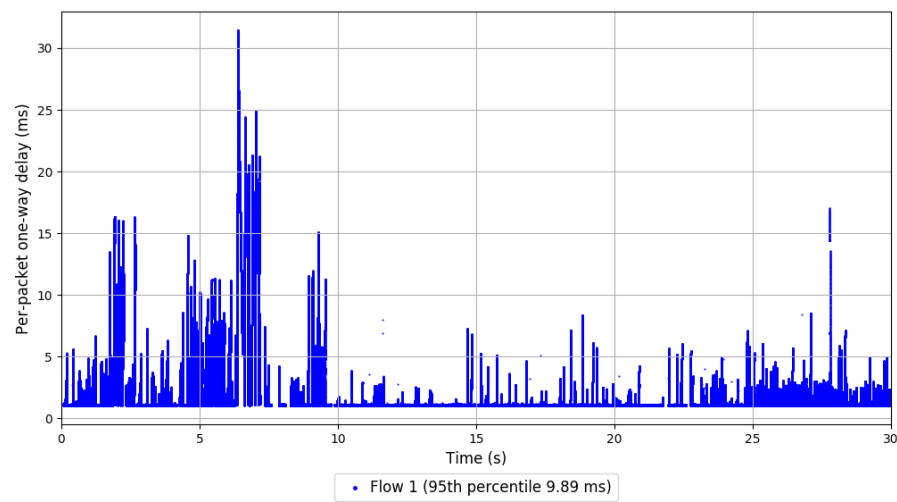
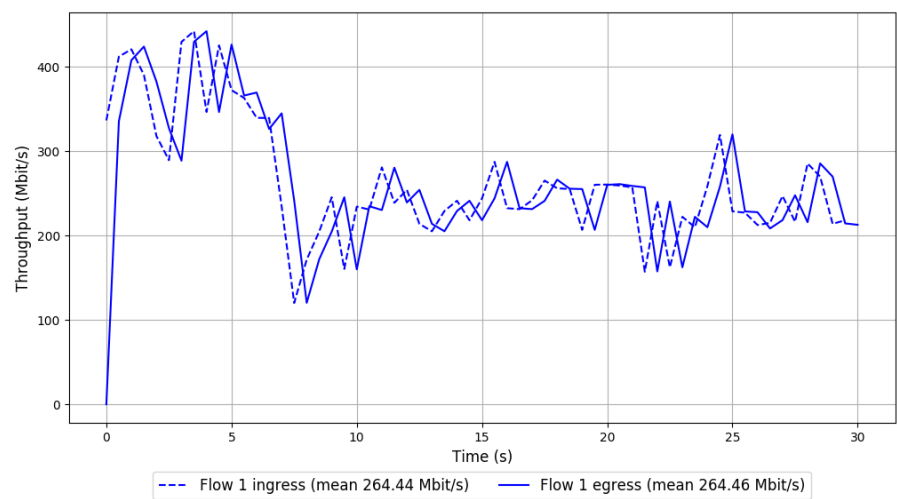
-- Flow 1:

Average throughput: 264.46 Mbit/s

95th percentile per-packet one-way delay: 9.886 ms

Loss rate: 0.03%

Run 4: Report of Verus — Data Link



Run 5: Statistics of Verus

Start at: 2018-09-11 09:27:57

End at: 2018-09-11 09:28:27

Local clock offset: 0.624 ms

Remote clock offset: 0.361 ms

Below is generated by plot.py at 2018-09-11 10:44:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 255.65 Mbit/s

95th percentile per-packet one-way delay: 12.675 ms

Loss rate: 0.07%

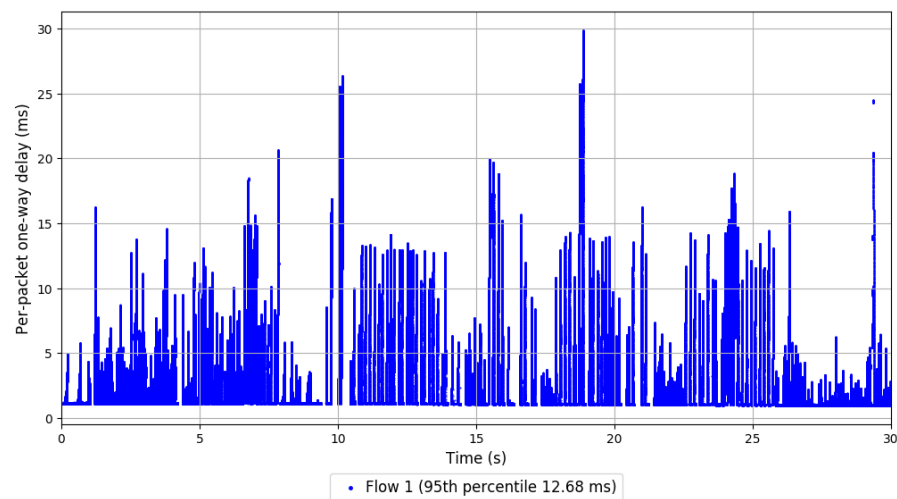
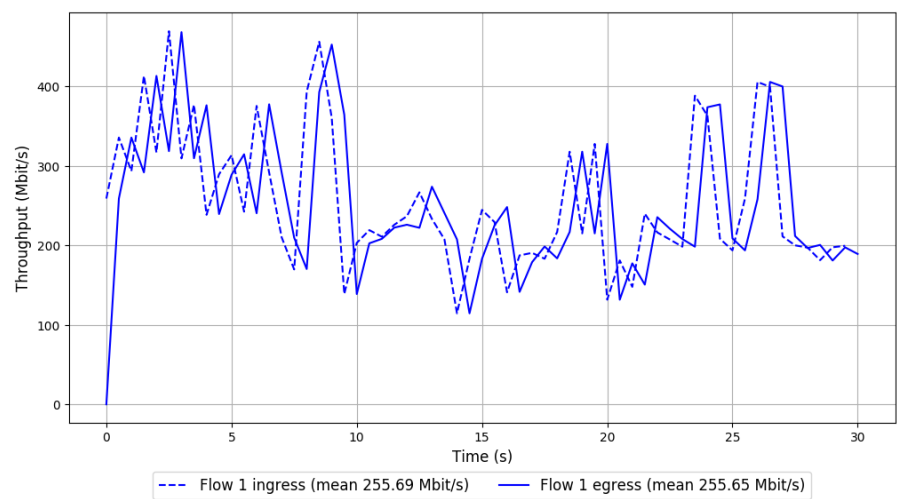
-- Flow 1:

Average throughput: 255.65 Mbit/s

95th percentile per-packet one-way delay: 12.675 ms

Loss rate: 0.07%

Run 5: Report of Verus — Data Link

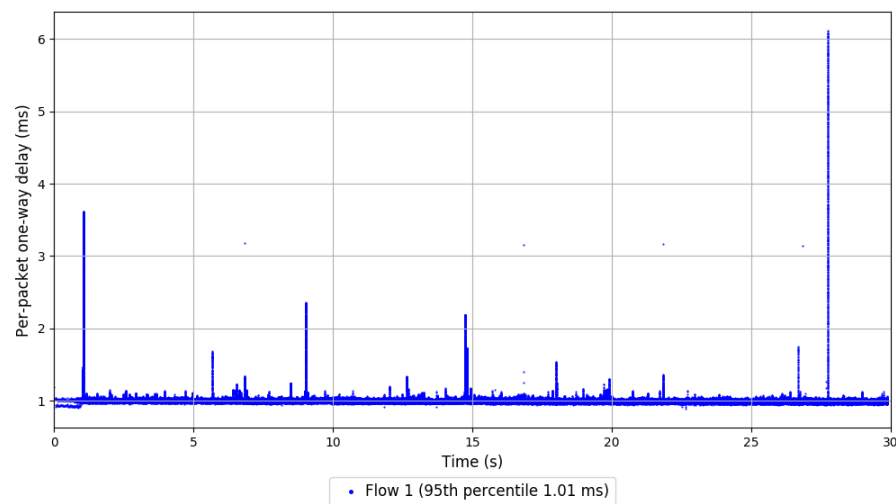
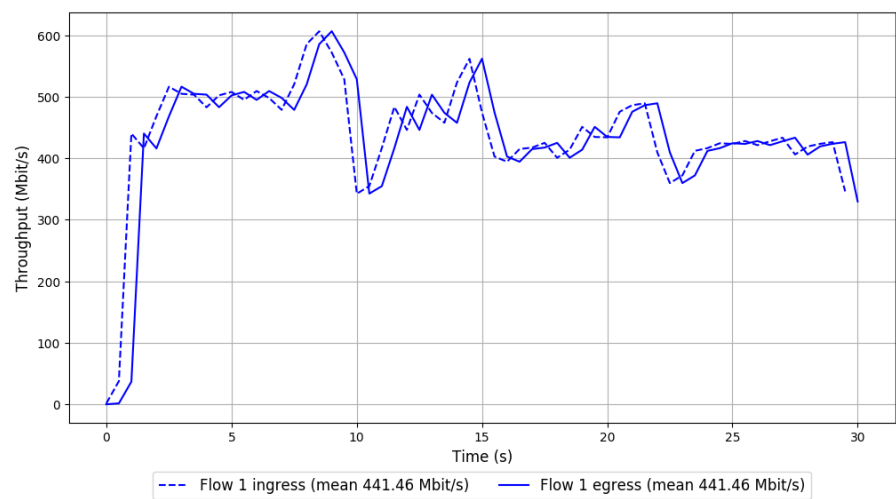


Run 1: Statistics of PCC-Vivace

Start at: 2018-09-11 07:24:49
End at: 2018-09-11 07:25:19
Local clock offset: -0.791 ms
Remote clock offset: -3.658 ms

Below is generated by plot.py at 2018-09-11 10:45:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 441.46 Mbit/s
95th percentile per-packet one-way delay: 1.011 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 441.46 Mbit/s
95th percentile per-packet one-way delay: 1.011 ms
Loss rate: 0.07%

Run 1: Report of PCC-Vivace — Data Link

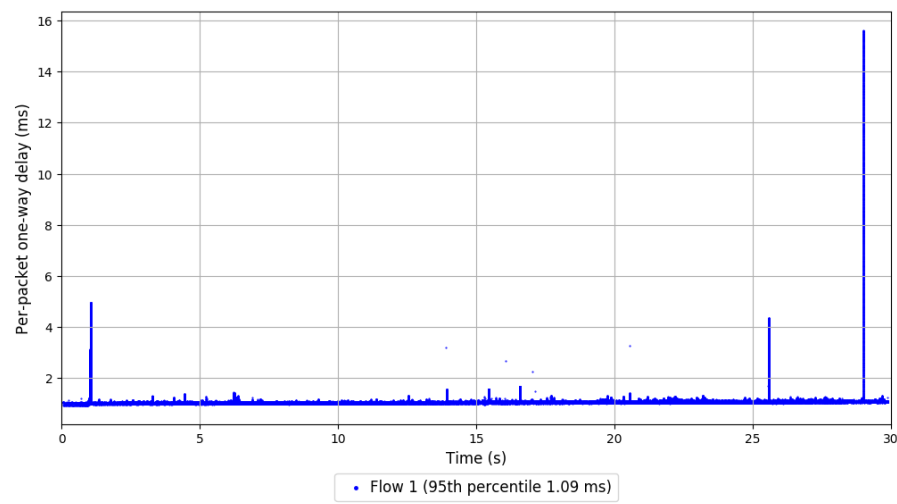
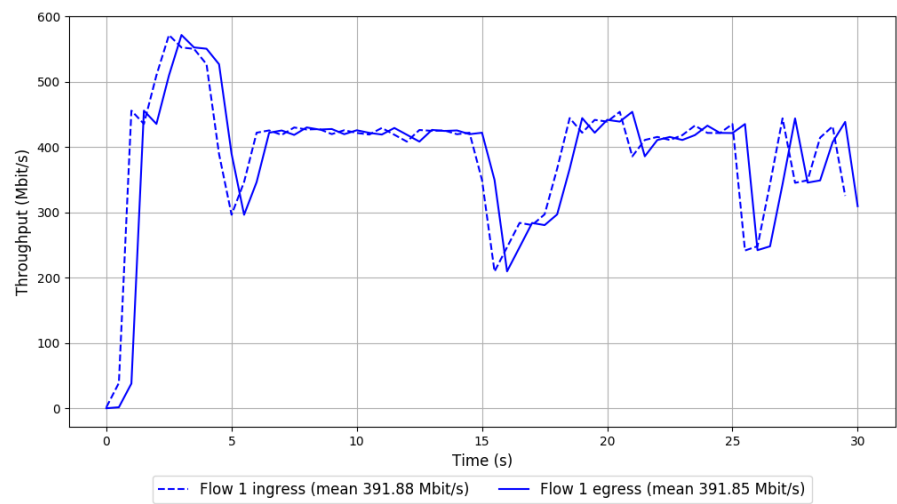


Run 2: Statistics of PCC-Vivace

Start at: 2018-09-11 07:52:55
End at: 2018-09-11 07:53:25
Local clock offset: -4.351 ms
Remote clock offset: -3.805 ms

Below is generated by plot.py at 2018-09-11 10:45:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 391.85 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 391.85 Mbit/s
95th percentile per-packet one-way delay: 1.092 ms
Loss rate: 0.07%

Run 2: Report of PCC-Vivace — Data Link

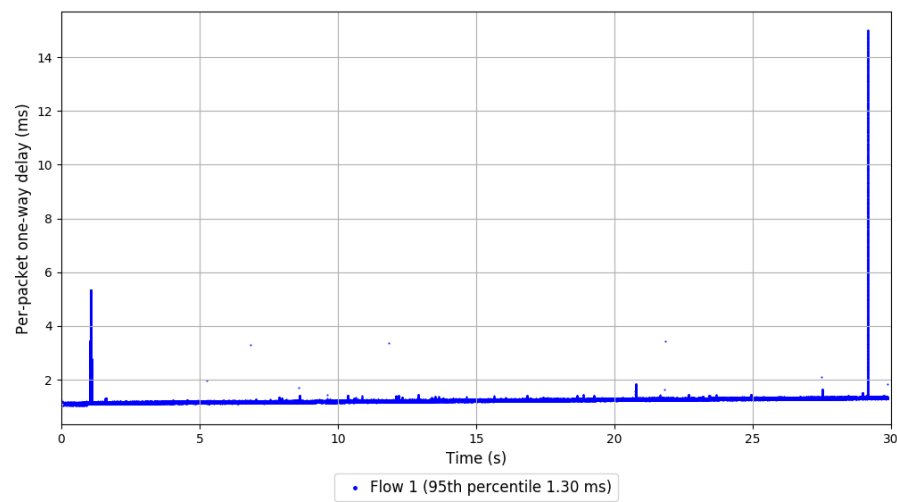
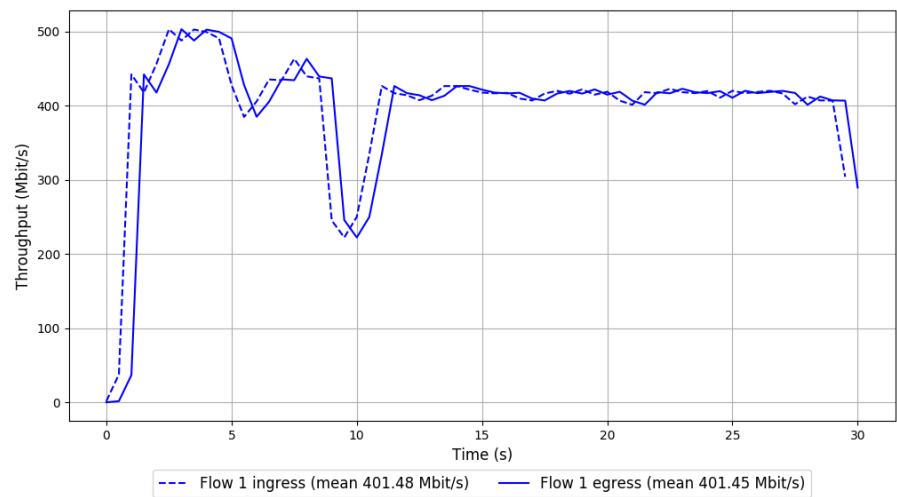


Run 3: Statistics of PCC-Vivace

Start at: 2018-09-11 08:21:02
End at: 2018-09-11 08:21:32
Local clock offset: -3.759 ms
Remote clock offset: -3.273 ms

Below is generated by plot.py at 2018-09-11 10:45:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 401.45 Mbit/s
95th percentile per-packet one-way delay: 1.304 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 401.45 Mbit/s
95th percentile per-packet one-way delay: 1.304 ms
Loss rate: 0.07%

Run 3: Report of PCC-Vivace — Data Link



Run 4: Statistics of PCC-Vivace

Start at: 2018-09-11 08:49:04

End at: 2018-09-11 08:49:34

Local clock offset: -0.2 ms

Remote clock offset: 0.533 ms

Below is generated by plot.py at 2018-09-11 10:45:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 421.08 Mbit/s

95th percentile per-packet one-way delay: 0.995 ms

Loss rate: 0.08%

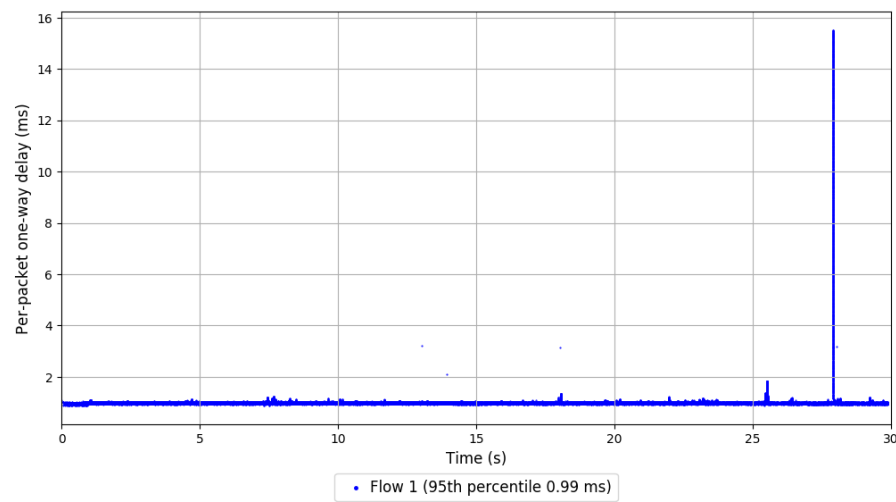
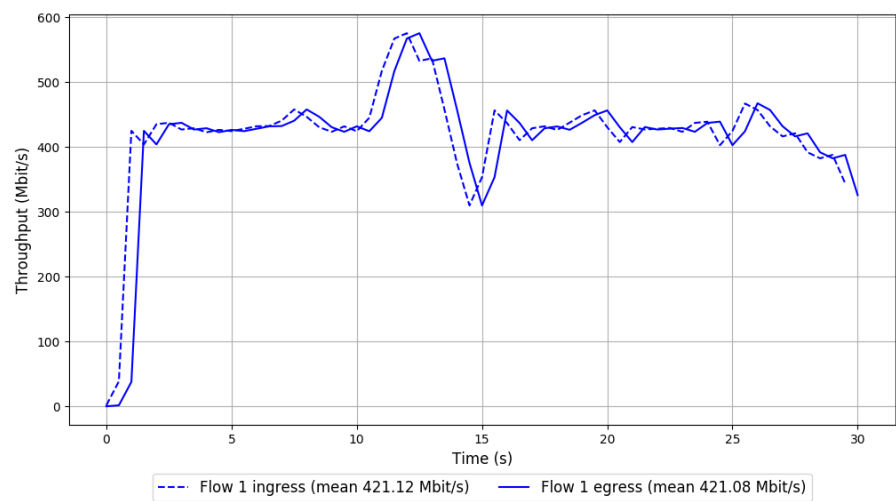
-- Flow 1:

Average throughput: 421.08 Mbit/s

95th percentile per-packet one-way delay: 0.995 ms

Loss rate: 0.08%

Run 4: Report of PCC-Vivace — Data Link



Run 5: Statistics of PCC-Vivace

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

End at: 2018-09-11 09:17:39

Local clock offset: 0.441 ms

Remote clock offset: 0.311 ms

Below is generated by plot.py at 2018-09-11 10:45:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 477.90 Mbit/s

95th percentile per-packet one-way delay: 1.041 ms

Loss rate: 0.07%

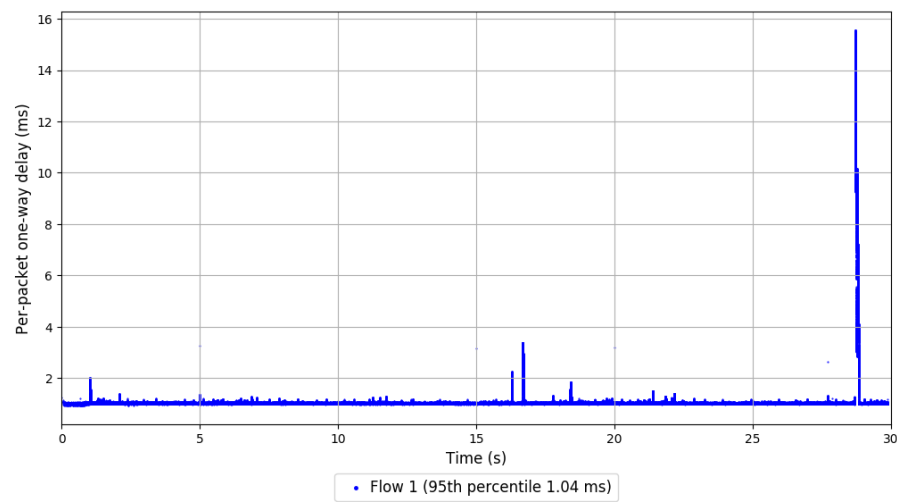
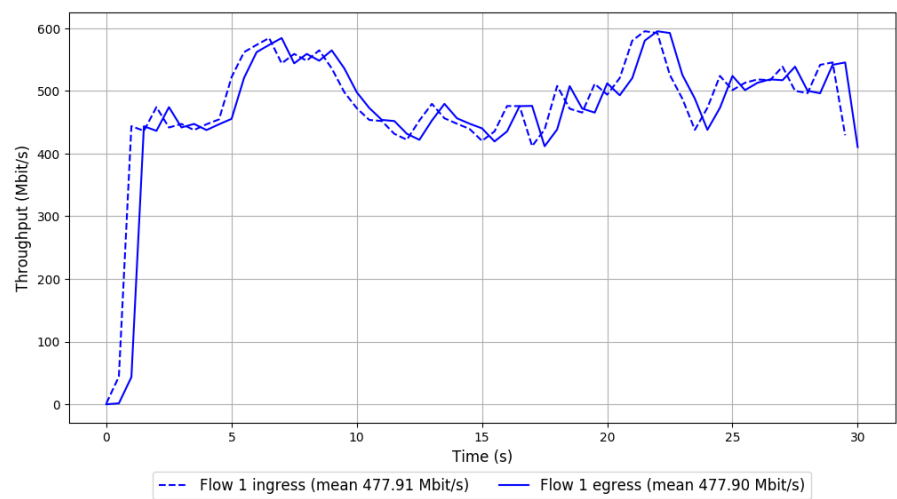
-- Flow 1:

Average throughput: 477.90 Mbit/s

95th percentile per-packet one-way delay: 1.041 ms

Loss rate: 0.07%

Run 5: Report of PCC-Vivace — Data Link

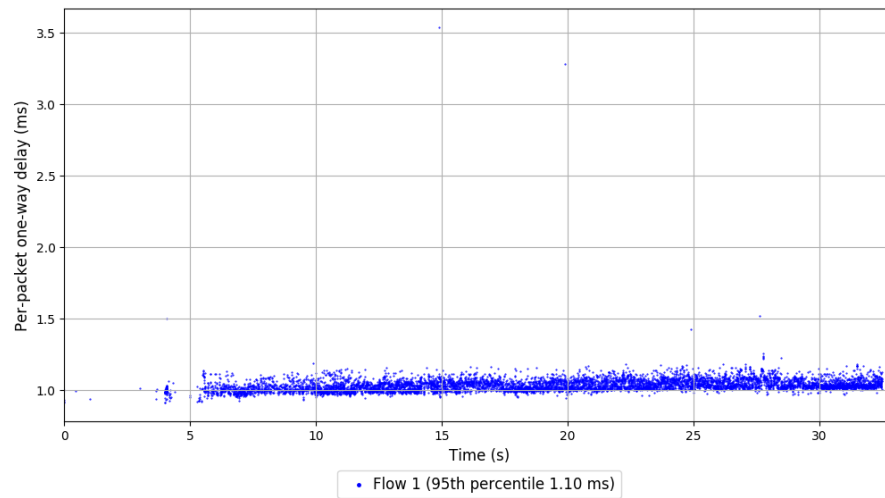
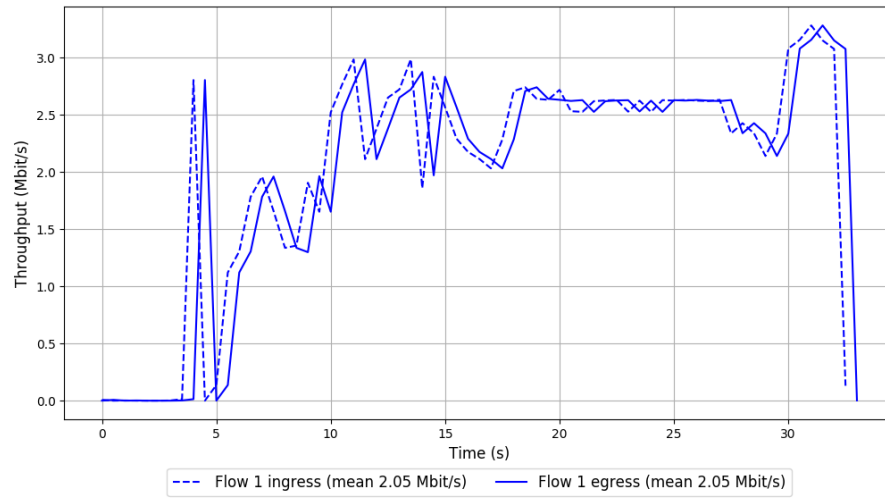


Run 1: Statistics of WebRTC media

Start at: 2018-09-11 07:34:07
End at: 2018-09-11 07:34:37
Local clock offset: -2.229 ms
Remote clock offset: -4.079 ms

Below is generated by plot.py at 2018-09-11 10:45:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 1.104 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 2.05 Mbit/s
95th percentile per-packet one-way delay: 1.104 ms
Loss rate: 0.10%

Run 1: Report of WebRTC media — Data Link

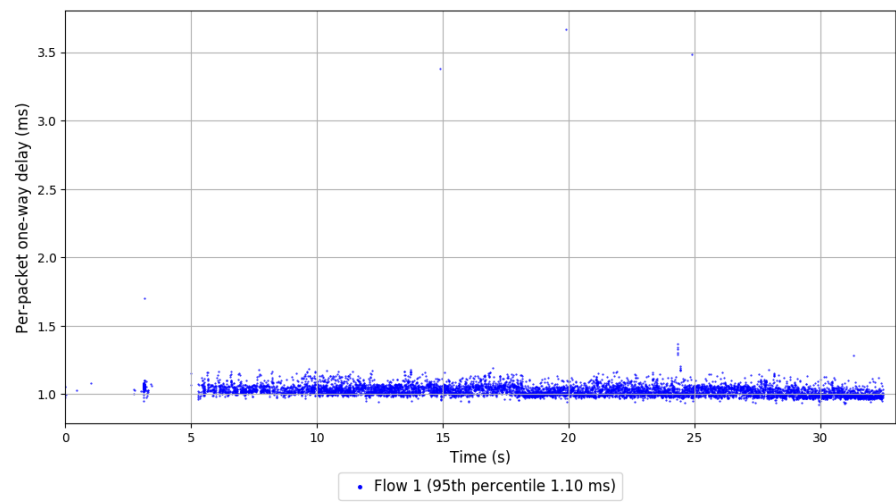
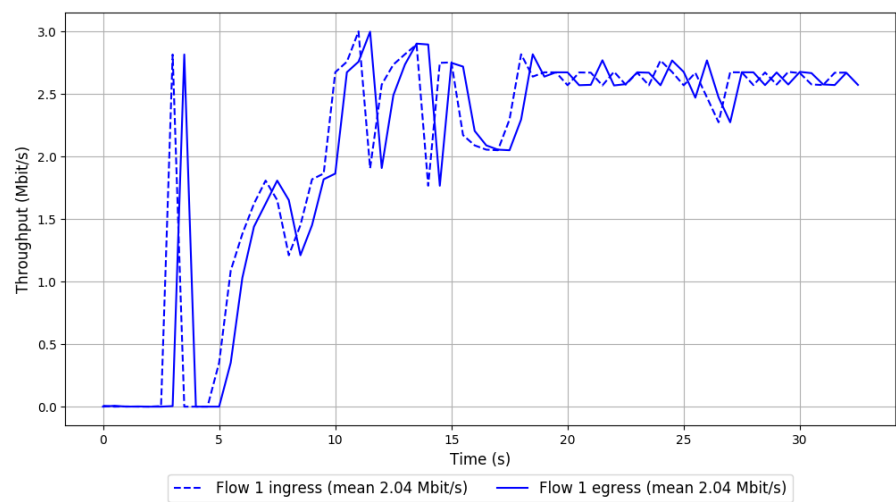


Run 2: Statistics of WebRTC media

Start at: 2018-09-11 08:02:17
End at: 2018-09-11 08:02:47
Local clock offset: -4.171 ms
Remote clock offset: -3.655 ms

Below is generated by plot.py at 2018-09-11 10:45:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 1.097 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 1.097 ms
Loss rate: 0.07%

Run 2: Report of WebRTC media — Data Link

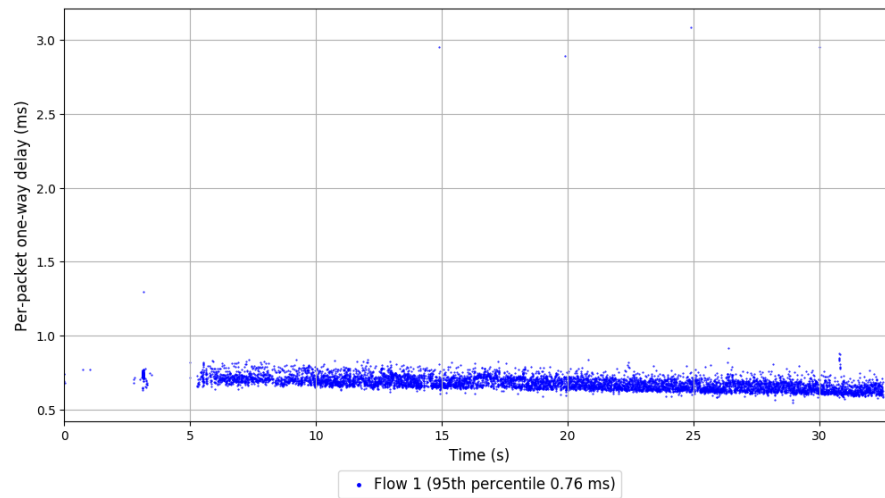
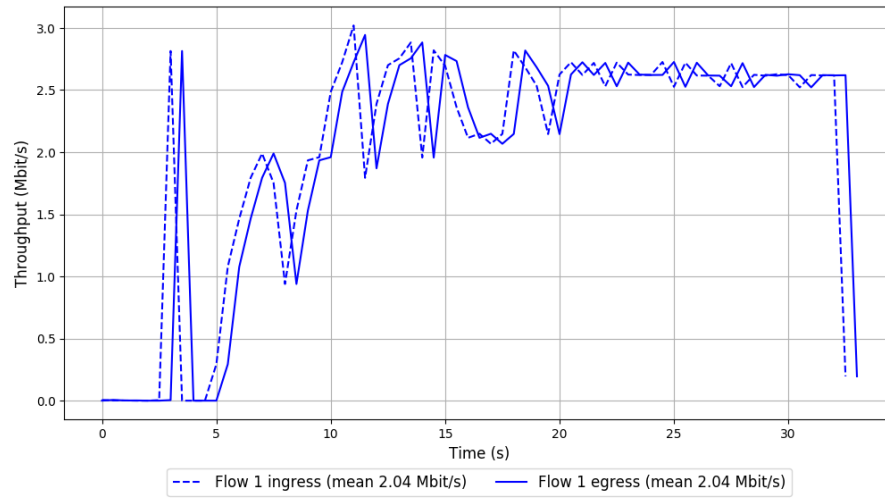


Run 3: Statistics of WebRTC media

Start at: 2018-09-11 08:30:24
End at: 2018-09-11 08:30:54
Local clock offset: -3.205 ms
Remote clock offset: -0.865 ms

Below is generated by plot.py at 2018-09-11 10:45:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 0.758 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.04 Mbit/s
95th percentile per-packet one-way delay: 0.758 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link



Run 4: Statistics of WebRTC media

Start at: 2018-09-11 08:58:30

End at: 2018-09-11 08:59:00

Local clock offset: 0.245 ms

Remote clock offset: 0.541 ms

Below is generated by plot.py at 2018-09-11 10:45:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.96 Mbit/s

95th percentile per-packet one-way delay: 1.035 ms

Loss rate: 0.08%

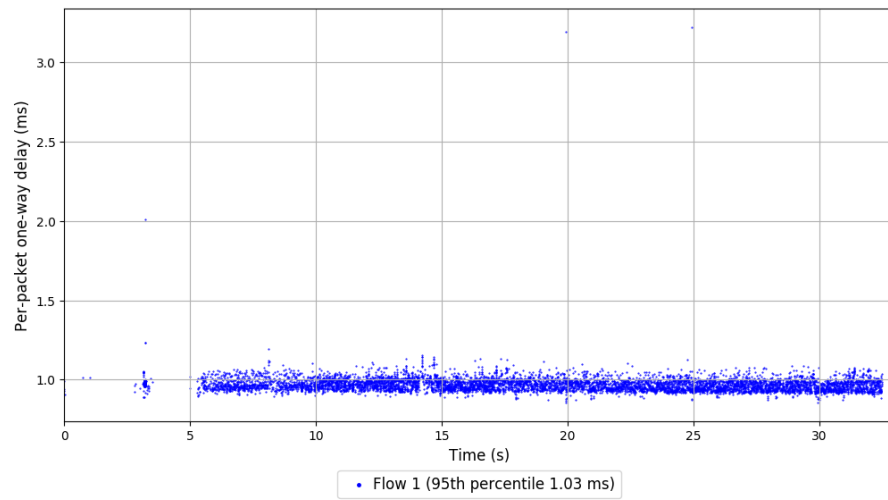
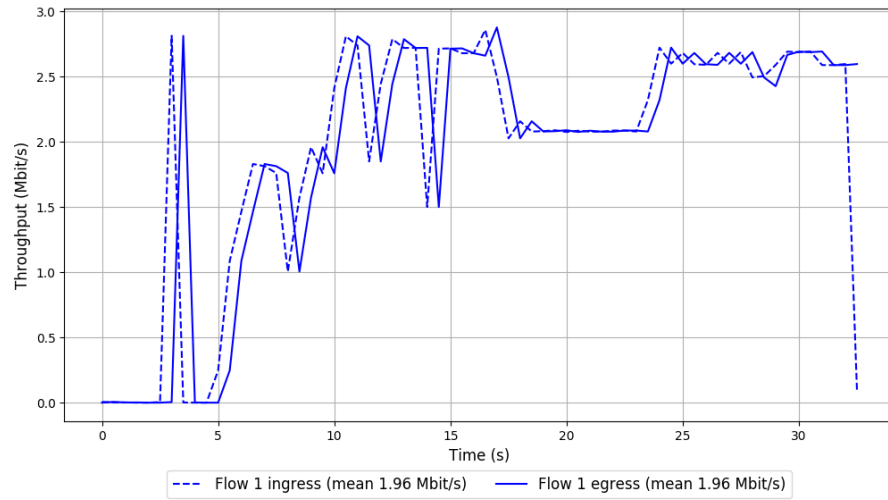
-- Flow 1:

Average throughput: 1.96 Mbit/s

95th percentile per-packet one-way delay: 1.035 ms

Loss rate: 0.08%

Run 4: Report of WebRTC media — Data Link



Run 5: Statistics of WebRTC media

Start at: 2018-09-11 09:26:39

End at: 2018-09-11 09:27:09

Local clock offset: 0.589 ms

Remote clock offset: 0.376 ms

Below is generated by plot.py at 2018-09-11 10:45:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.83 Mbit/s

95th percentile per-packet one-way delay: 1.133 ms

Loss rate: 0.06%

-- Flow 1:

Average throughput: 1.83 Mbit/s

95th percentile per-packet one-way delay: 1.133 ms

Loss rate: 0.06%

Run 5: Report of WebRTC media — Data Link

