

Pantheon Report

Generated at 2018-07-24 23:03:41 (UTC).

Data path: India ppp0 ppp0 (*remote*) → AWS India 1 Ethernet (*local*).

Repeated the test of 17 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

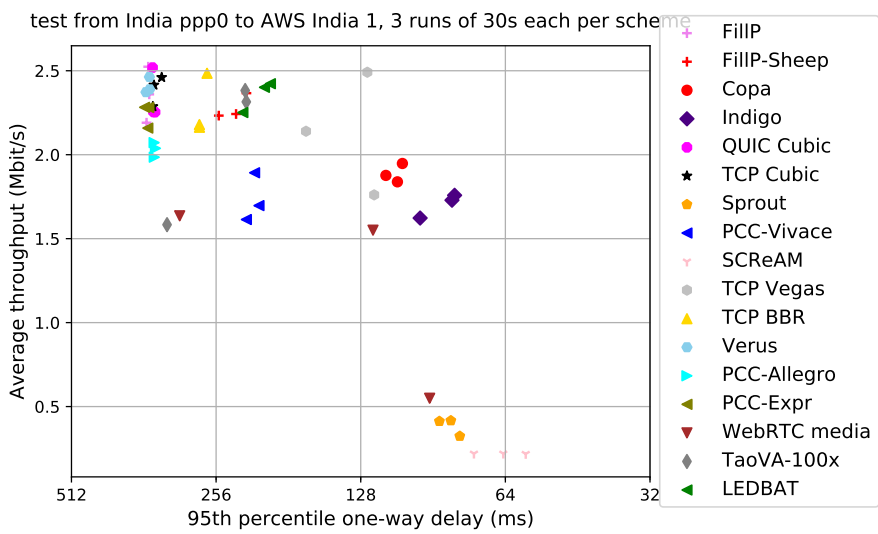
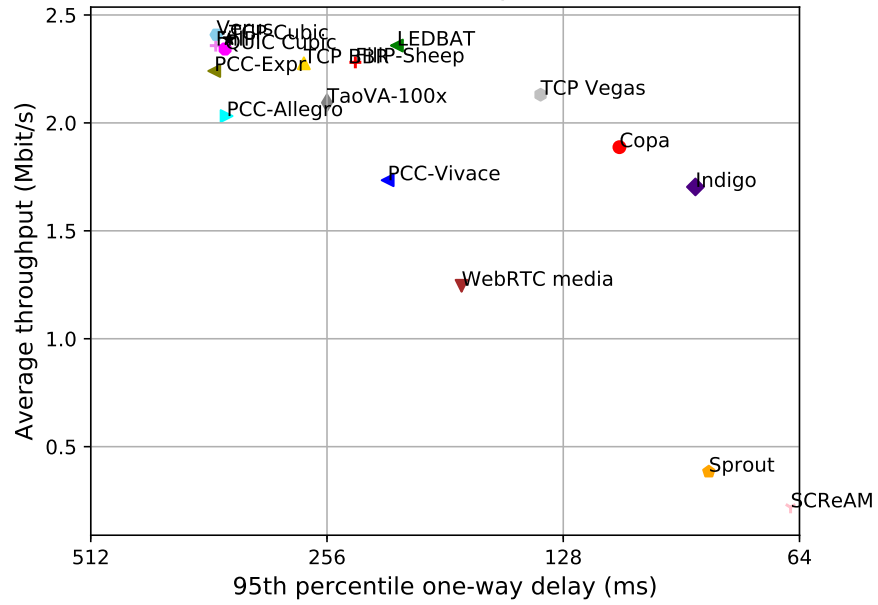
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

NTP offsets were measured against **nets.org.sg** and have been applied to correct the timestamps in logs.

Git summary:

```
branch: master @ 640164b5b17c7c6561fff57729b3b5935d8596ce
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
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-quirk @ 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
```

test from India ppp0 to AWS India 1, 3 runs of 30s each per scheme
(mean of all runs by scheme)



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	2.28	273.96	0.88
Copa	3	1.89	108.55	0.25
TCP Cubic	3	2.39	341.27	1.82
FillP	3	2.36	354.80	32.58
FillP-Sheep	3	2.28	235.57	3.32
Indigo	3	1.70	86.86	0.37
LEDBAT	3	2.36	208.55	0.60
PCC-Allegro	3	2.03	343.68	12.90
PCC-Expr	3	2.24	356.41	40.90
QUIC Cubic	3	2.34	345.23	3.29
SCReAM	3	0.22	65.70	0.26
Sprout	3	0.38	83.51	0.07
TaoVA-100x	3	2.09	256.00	1.68
TCP Vegas	3	2.13	136.81	0.36
Verus	3	2.41	354.17	23.80
PCC-Vivace	3	1.73	214.28	2.38
WebRTC media	3	1.25	172.50	1.02

Run 1: Statistics of TCP BBR

Start at: 2018-07-24 22:25:42

End at: 2018-07-24 22:26:12

Local clock offset: 0.488 ms

Remote clock offset: -4.154 ms

Below is generated by plot.py at 2018-07-24 23:03:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.16 Mbit/s

95th percentile per-packet one-way delay: 277.253 ms

Loss rate: 0.86%

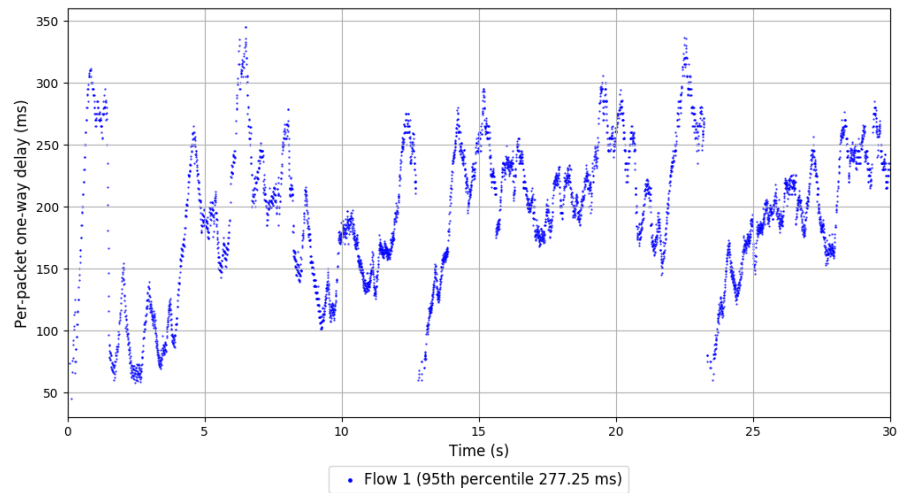
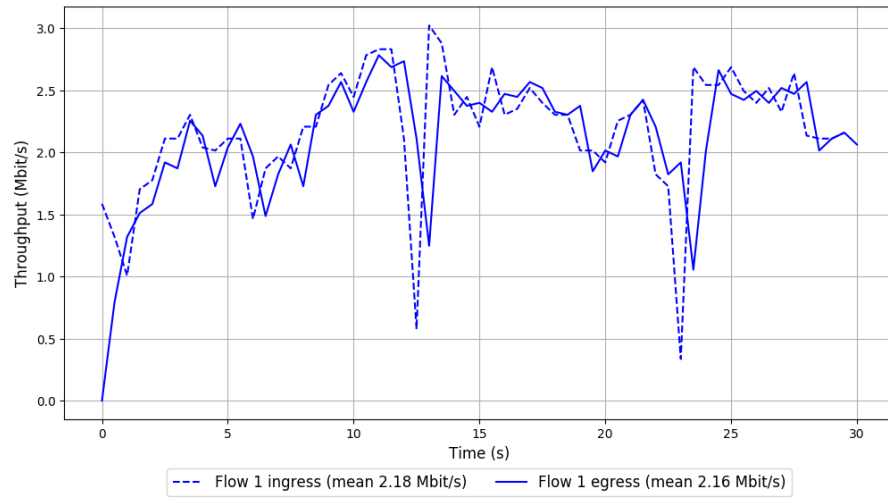
-- Flow 1:

Average throughput: 2.16 Mbit/s

95th percentile per-packet one-way delay: 277.253 ms

Loss rate: 0.86%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-07-24 22:44:08

End at: 2018-07-24 22:44:38

Local clock offset: 0.811 ms

Remote clock offset: -2.486 ms

Below is generated by plot.py at 2018-07-24 23:03:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.18 Mbit/s

95th percentile per-packet one-way delay: 277.288 ms

Loss rate: 0.93%

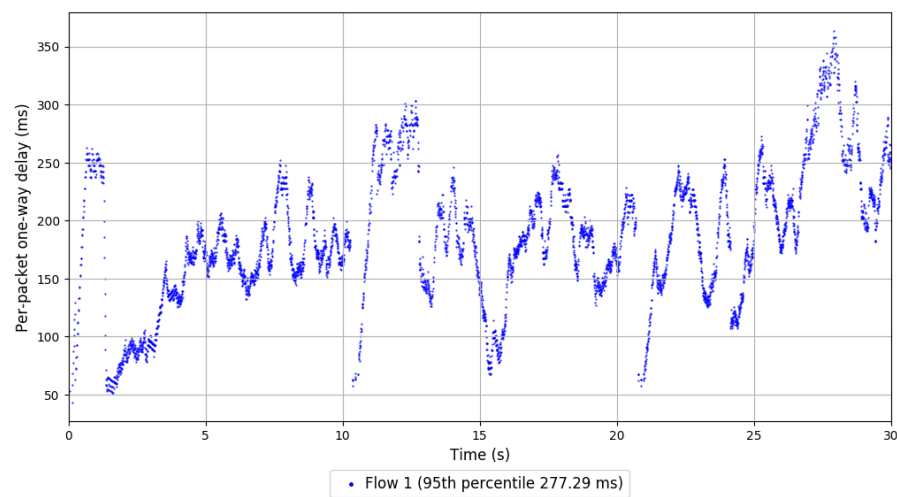
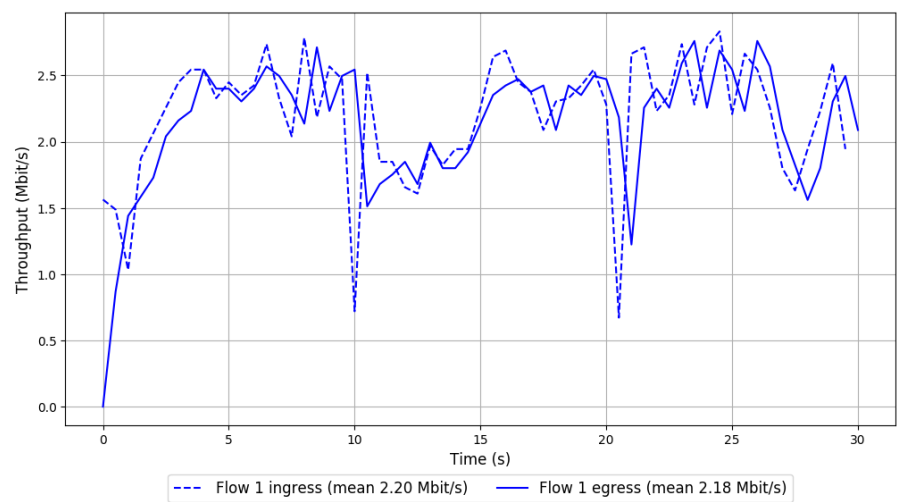
-- Flow 1:

Average throughput: 2.18 Mbit/s

95th percentile per-packet one-way delay: 277.288 ms

Loss rate: 0.93%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-07-24 23:02:26

End at: 2018-07-24 23:02:56

Local clock offset: 1.469 ms

Remote clock offset: -8.899 ms

Below is generated by plot.py at 2018-07-24 23:03:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.49 Mbit/s

95th percentile per-packet one-way delay: 267.352 ms

Loss rate: 0.86%

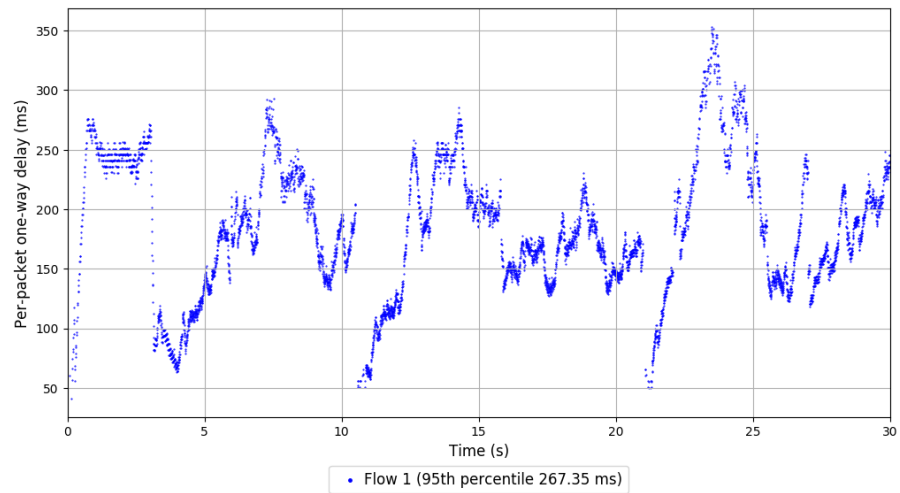
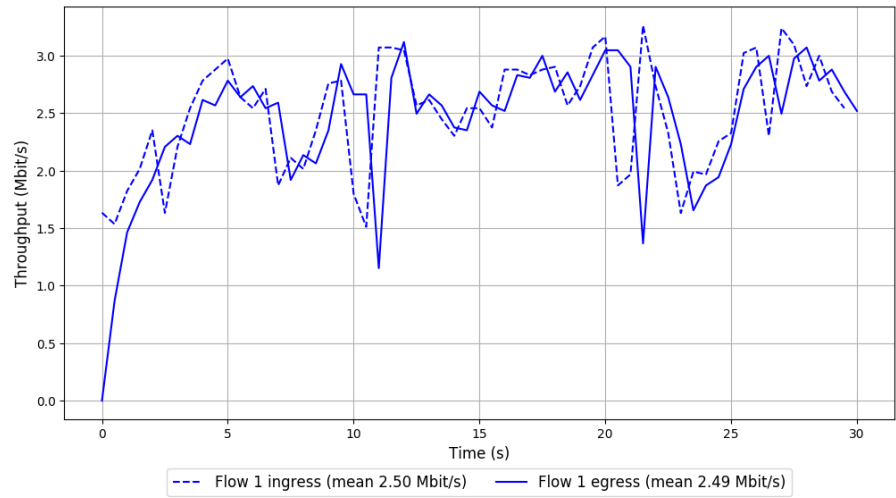
-- Flow 1:

Average throughput: 2.49 Mbit/s

95th percentile per-packet one-way delay: 267.352 ms

Loss rate: 0.86%

Run 3: Report of TCP BBR — Data Link

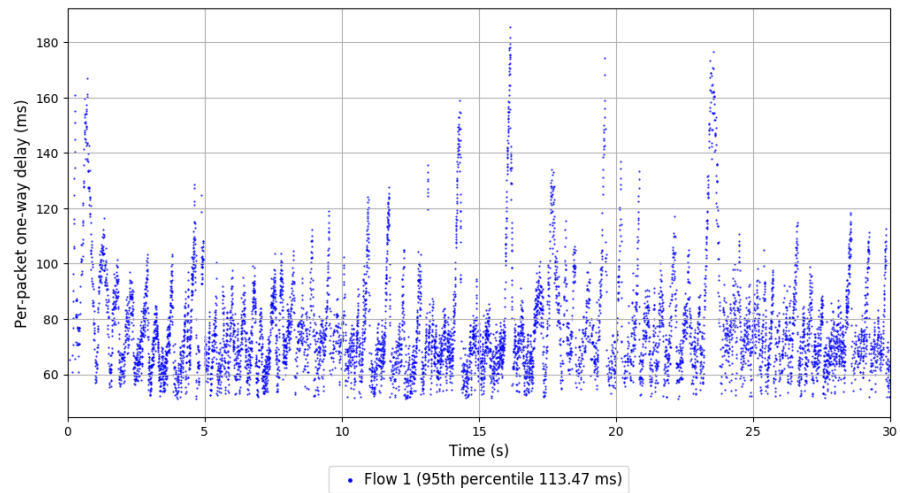
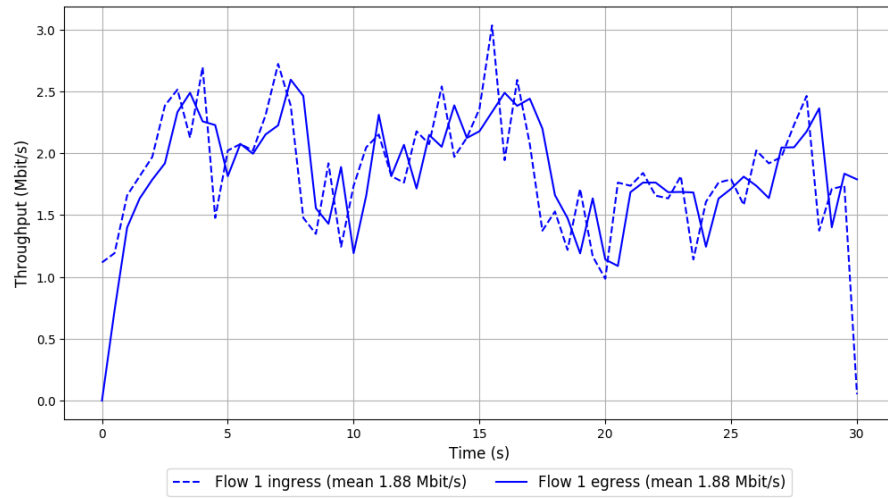


Run 1: Statistics of Copa

Start at: 2018-07-24 22:18:11
End at: 2018-07-24 22:18:41
Local clock offset: 0.137 ms
Remote clock offset: -4.509 ms

Below is generated by plot.py at 2018-07-24 23:03:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 113.468 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 1.88 Mbit/s
95th percentile per-packet one-way delay: 113.468 ms
Loss rate: 0.28%

Run 1: Report of Copa — Data Link

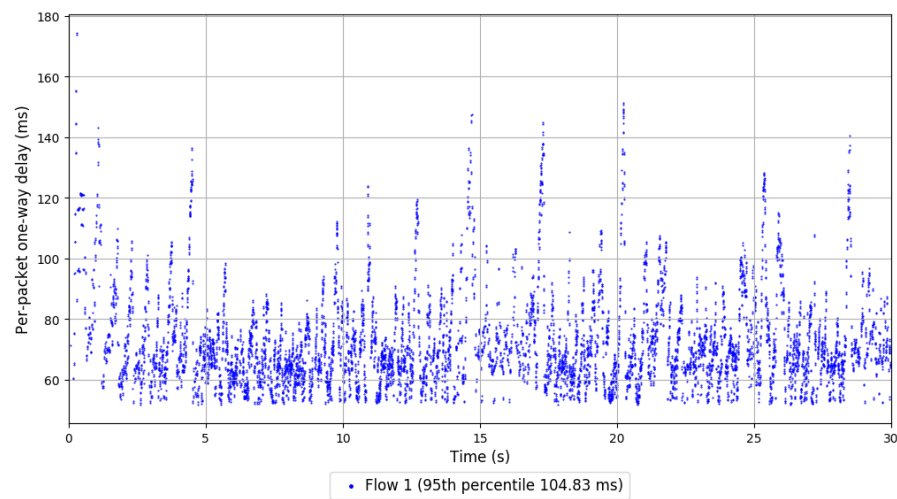
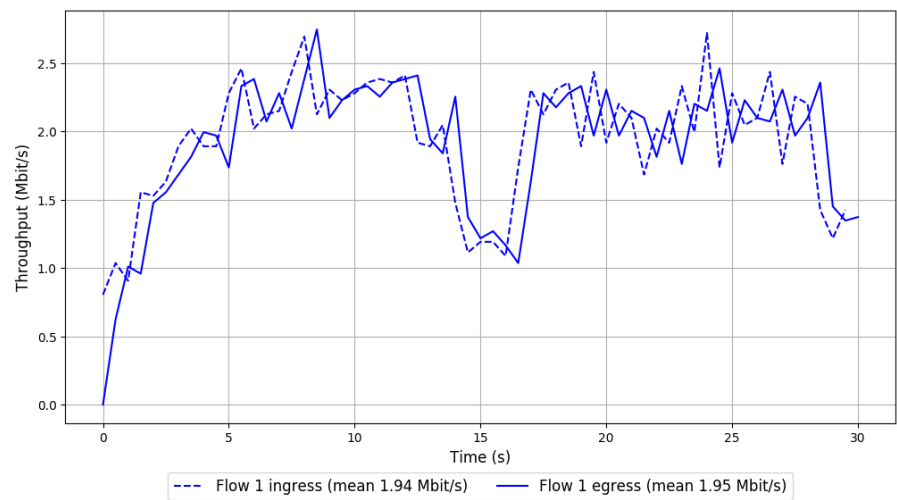


Run 2: Statistics of Copa

Start at: 2018-07-24 22:36:35
End at: 2018-07-24 22:37:05
Local clock offset: 2.002 ms
Remote clock offset: -2.215 ms

Below is generated by plot.py at 2018-07-24 23:03:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 104.830 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 1.95 Mbit/s
95th percentile per-packet one-way delay: 104.830 ms
Loss rate: 0.13%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-07-24 22:54:54

End at: 2018-07-24 22:55:24

Local clock offset: 2.887 ms

Remote clock offset: -7.89 ms

Below is generated by plot.py at 2018-07-24 23:03:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.84 Mbit/s

95th percentile per-packet one-way delay: 107.362 ms

Loss rate: 0.33%

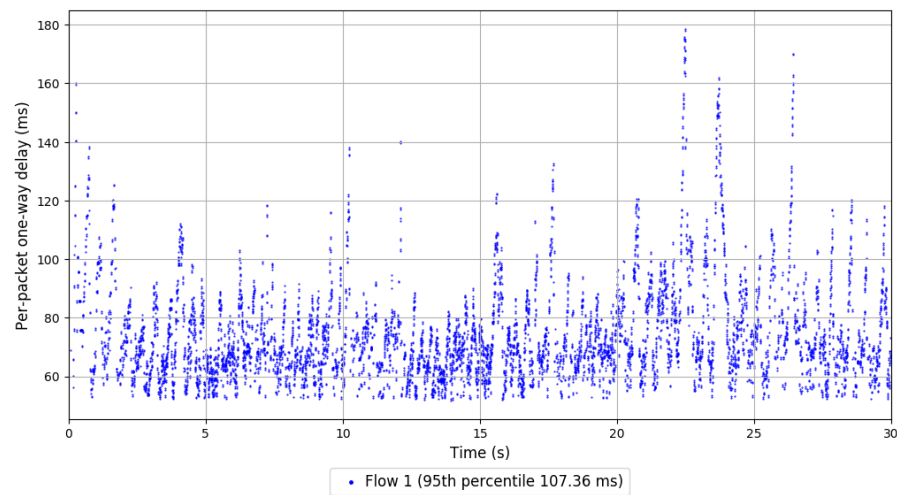
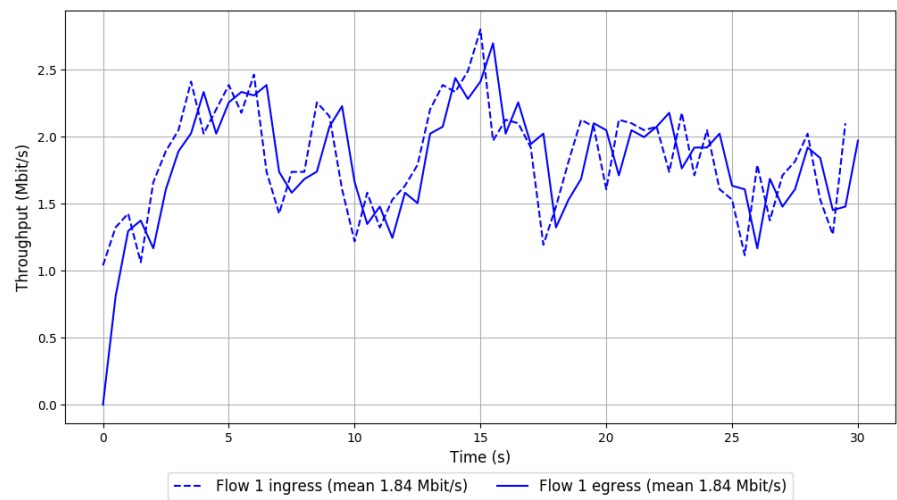
-- Flow 1:

Average throughput: 1.84 Mbit/s

95th percentile per-packet one-way delay: 107.362 ms

Loss rate: 0.33%

Run 3: Report of Copa — Data Link

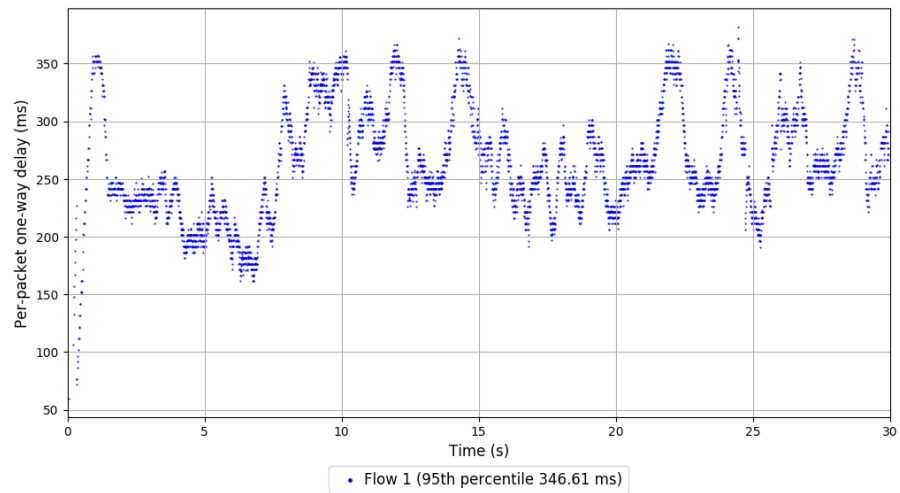
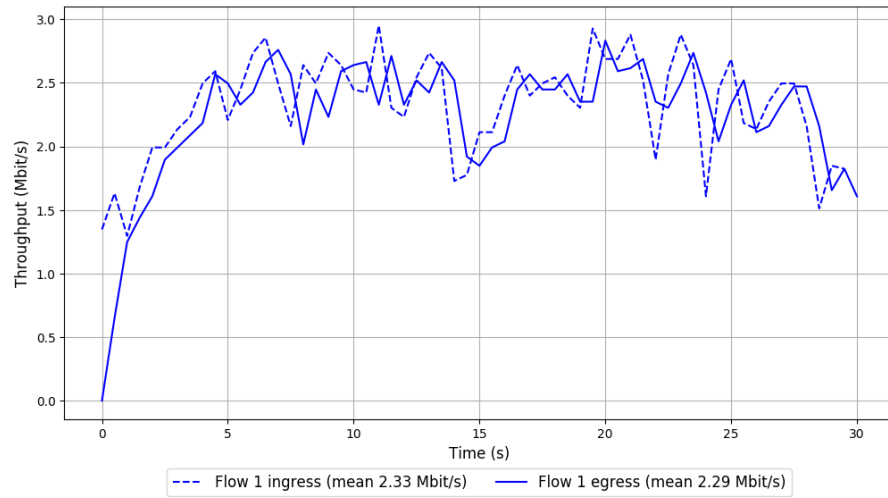


Run 1: Statistics of TCP Cubic

Start at: 2018-07-24 22:09:35
End at: 2018-07-24 22:10:05
Local clock offset: 2.266 ms
Remote clock offset: -7.003 ms

Below is generated by plot.py at 2018-07-24 23:03:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 346.605 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 346.605 ms
Loss rate: 1.95%

Run 1: Report of TCP Cubic — Data Link

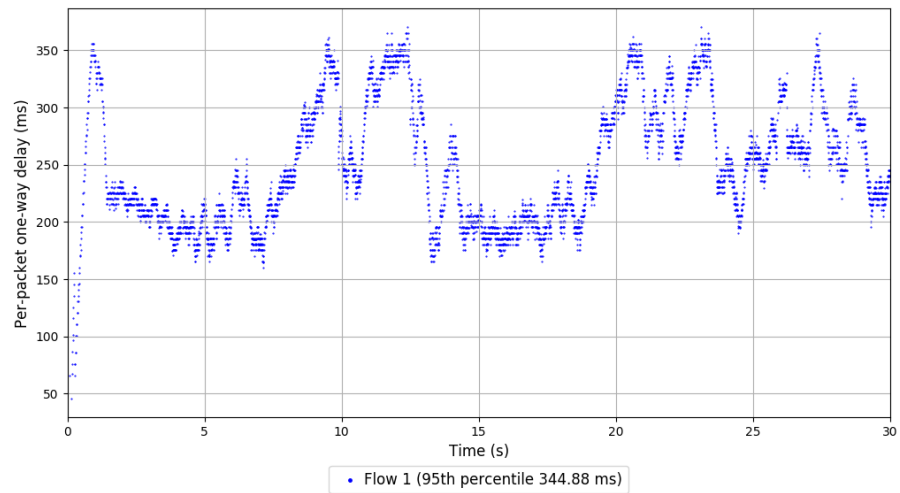
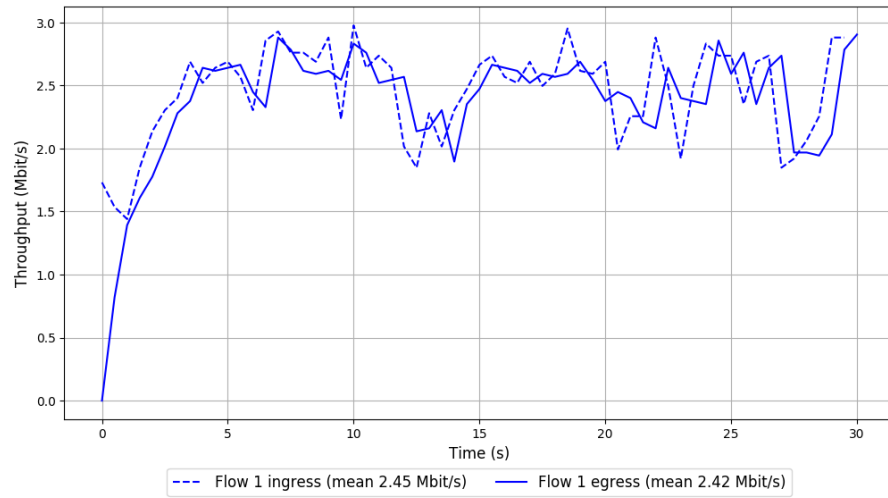


Run 2: Statistics of TCP Cubic

Start at: 2018-07-24 22:27:51
End at: 2018-07-24 22:28:21
Local clock offset: 1.183 ms
Remote clock offset: -3.776 ms

Below is generated by plot.py at 2018-07-24 23:03:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 344.884 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 344.884 ms
Loss rate: 1.76%

Run 2: Report of TCP Cubic — Data Link

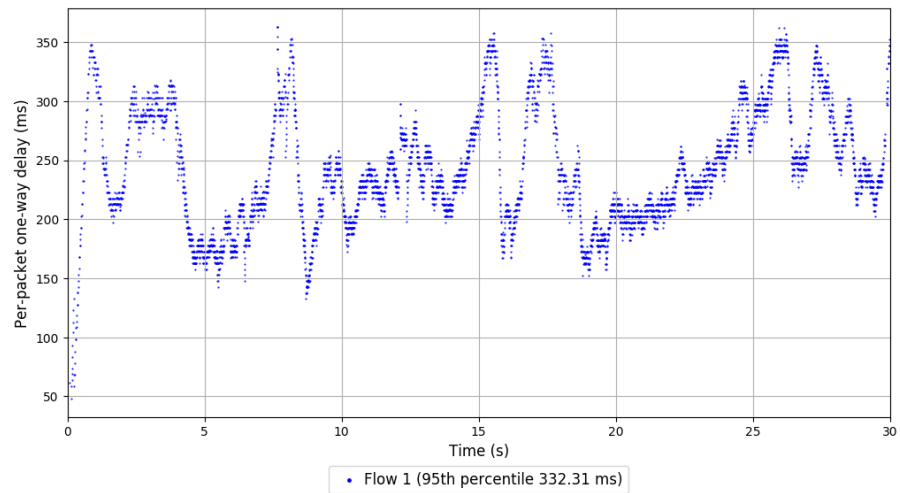
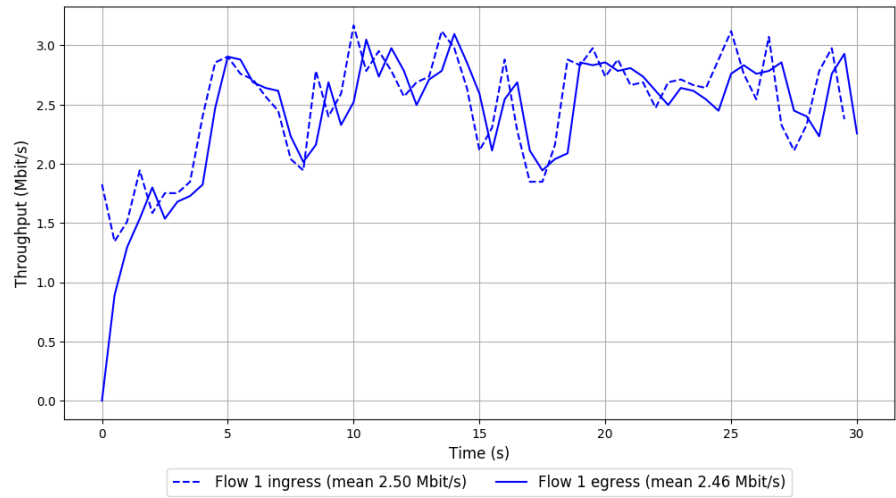


Run 3: Statistics of TCP Cubic

Start at: 2018-07-24 22:46:18
End at: 2018-07-24 22:46:48
Local clock offset: 2.781 ms
Remote clock offset: -2.842 ms

Below is generated by plot.py at 2018-07-24 23:03:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 332.307 ms
Loss rate: 1.76%
-- Flow 1:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 332.307 ms
Loss rate: 1.76%

Run 3: Report of TCP Cubic — Data Link

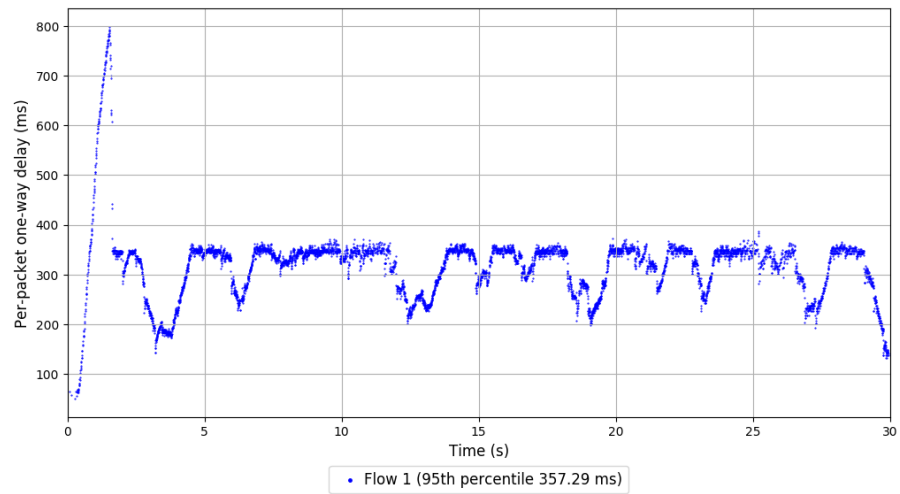
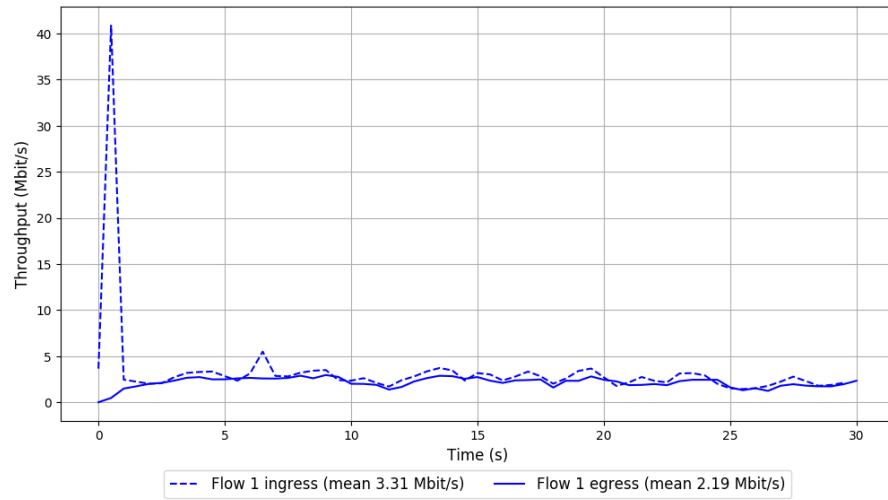


Run 1: Statistics of FillP

Start at: 2018-07-24 22:21:24
End at: 2018-07-24 22:21:54
Local clock offset: 1.732 ms
Remote clock offset: -4.755 ms

Below is generated by plot.py at 2018-07-24 23:03:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 357.287 ms
Loss rate: 33.88%
-- Flow 1:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 357.287 ms
Loss rate: 33.88%

Run 1: Report of FillP — Data Link

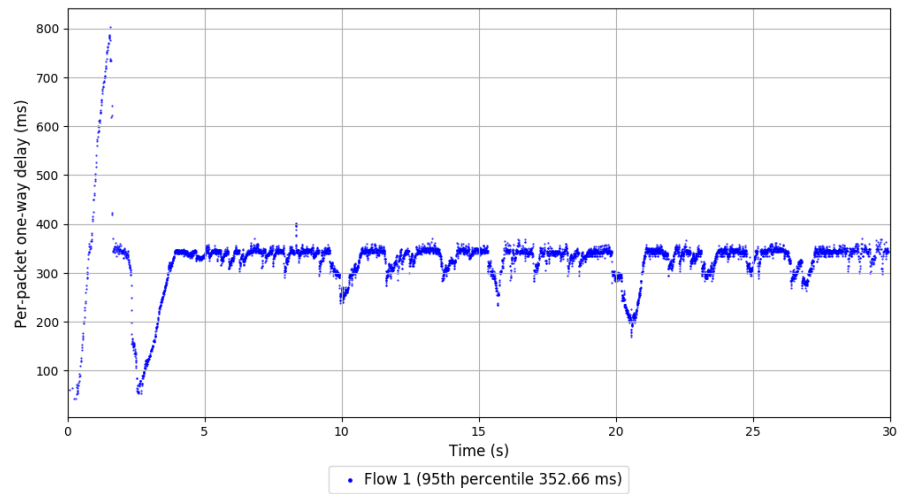
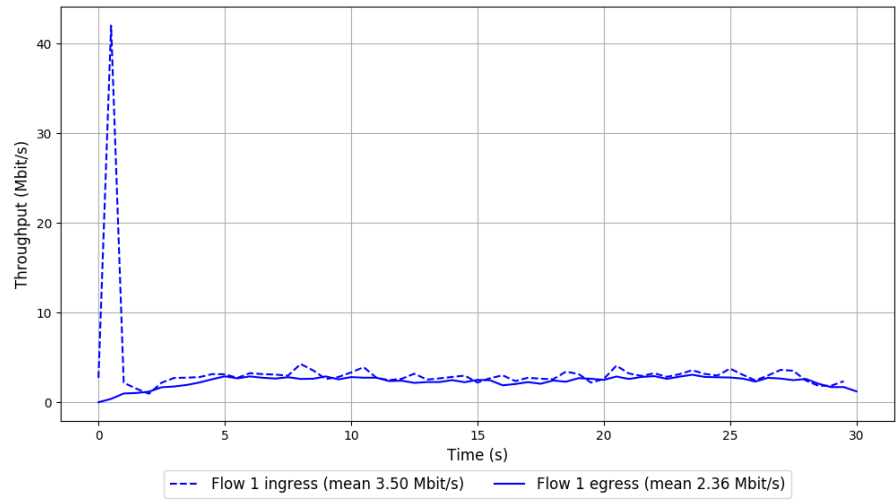


Run 2: Statistics of FillP

Start at: 2018-07-24 22:39:49
End at: 2018-07-24 22:40:19
Local clock offset: 0.508 ms
Remote clock offset: -3.209 ms

Below is generated by plot.py at 2018-07-24 23:03:13
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 352.658 ms
Loss rate: 32.82%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 352.658 ms
Loss rate: 32.82%

Run 2: Report of FillP — Data Link

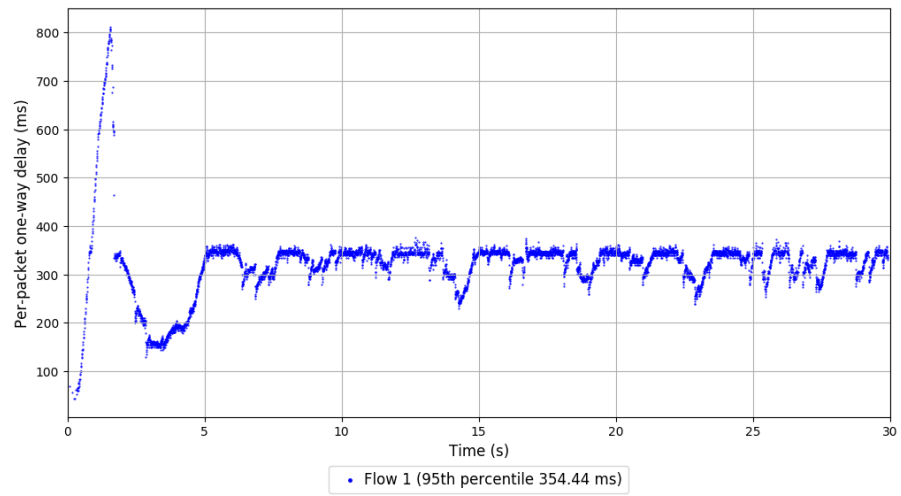
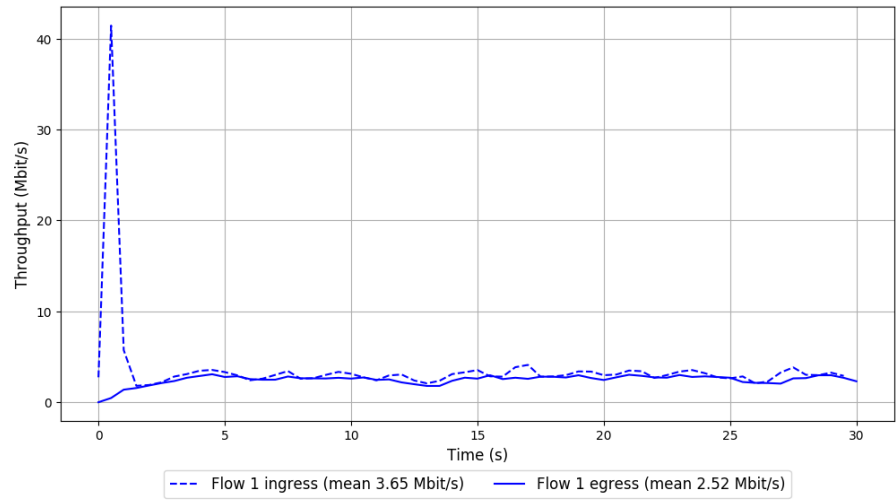


Run 3: Statistics of FillP

Start at: 2018-07-24 22:58:08
End at: 2018-07-24 22:58:38
Local clock offset: 3.451 ms
Remote clock offset: -8.948 ms

Below is generated by plot.py at 2018-07-24 23:03:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.52 Mbit/s
95th percentile per-packet one-way delay: 354.442 ms
Loss rate: 31.05%
-- Flow 1:
Average throughput: 2.52 Mbit/s
95th percentile per-packet one-way delay: 354.442 ms
Loss rate: 31.05%

Run 3: Report of FillP — Data Link

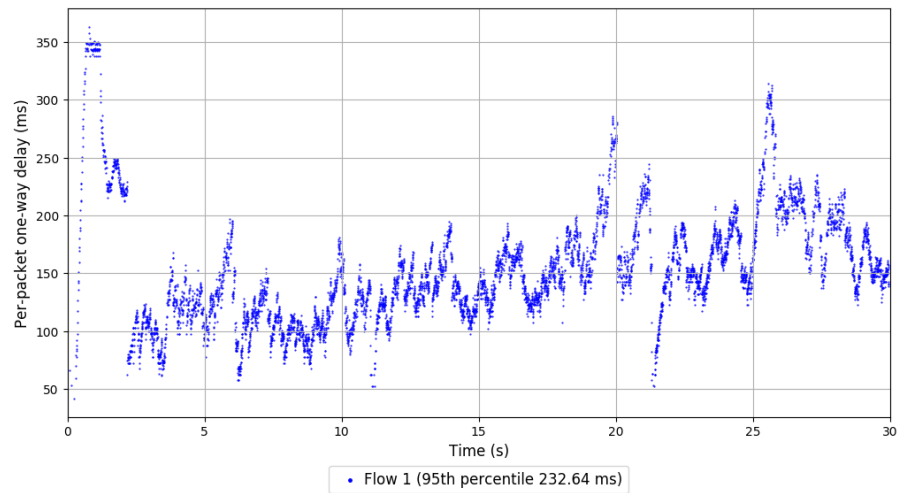
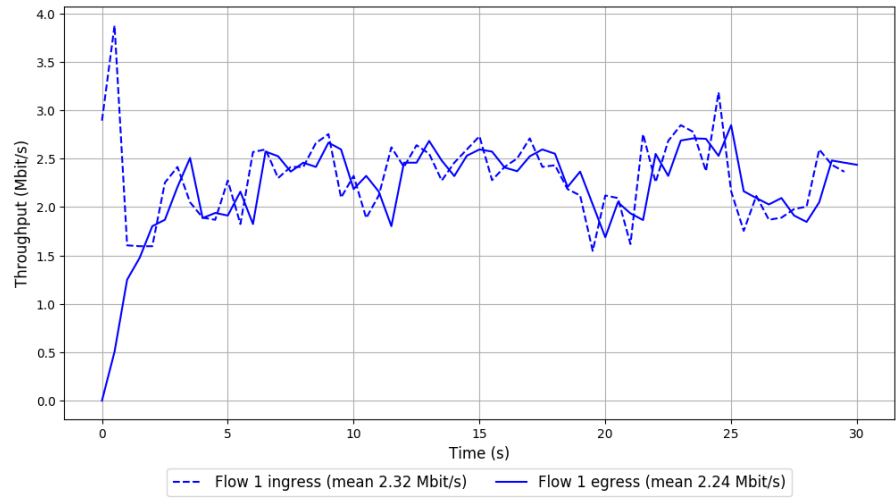


Run 1: Statistics of FillP-Sheep

Start at: 2018-07-24 22:08:30
End at: 2018-07-24 22:09:00
Local clock offset: -0.68 ms
Remote clock offset: -6.468 ms

Below is generated by plot.py at 2018-07-24 23:03:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 232.637 ms
Loss rate: 3.61%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 232.637 ms
Loss rate: 3.61%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-07-24 22:26:47

End at: 2018-07-24 22:27:17

Local clock offset: 1.166 ms

Remote clock offset: -3.852 ms

Below is generated by plot.py at 2018-07-24 23:03:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.23 Mbit/s

95th percentile per-packet one-way delay: 252.721 ms

Loss rate: 4.48%

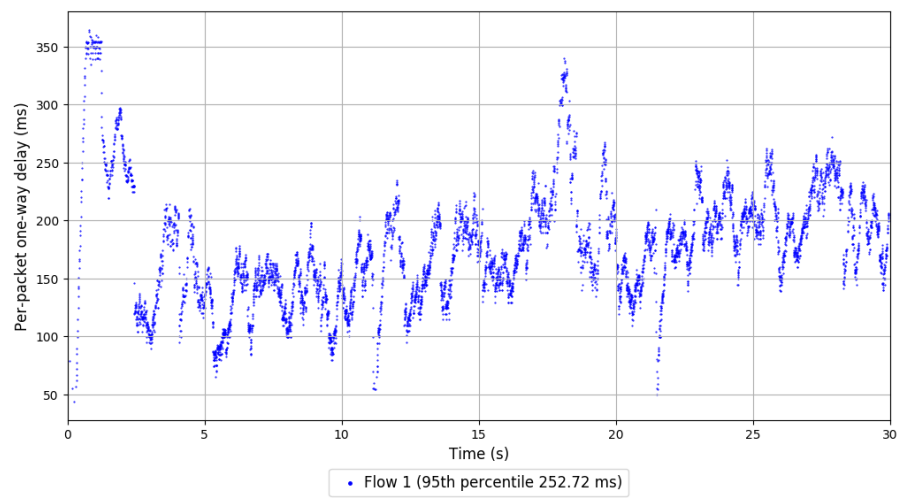
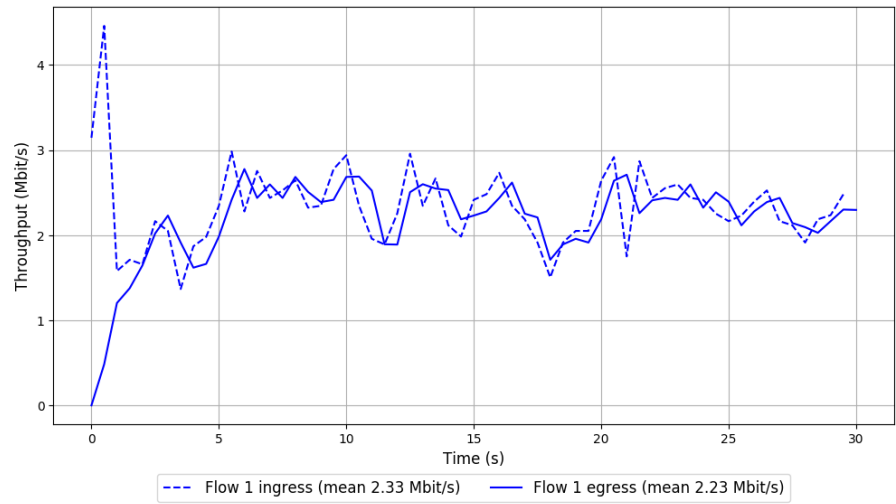
-- Flow 1:

Average throughput: 2.23 Mbit/s

95th percentile per-packet one-way delay: 252.721 ms

Loss rate: 4.48%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-07-24 22:45:13

End at: 2018-07-24 22:45:43

Local clock offset: 1.638 ms

Remote clock offset: -2.139 ms

Below is generated by plot.py at 2018-07-24 23:03:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.37 Mbit/s

95th percentile per-packet one-way delay: 221.354 ms

Loss rate: 1.88%

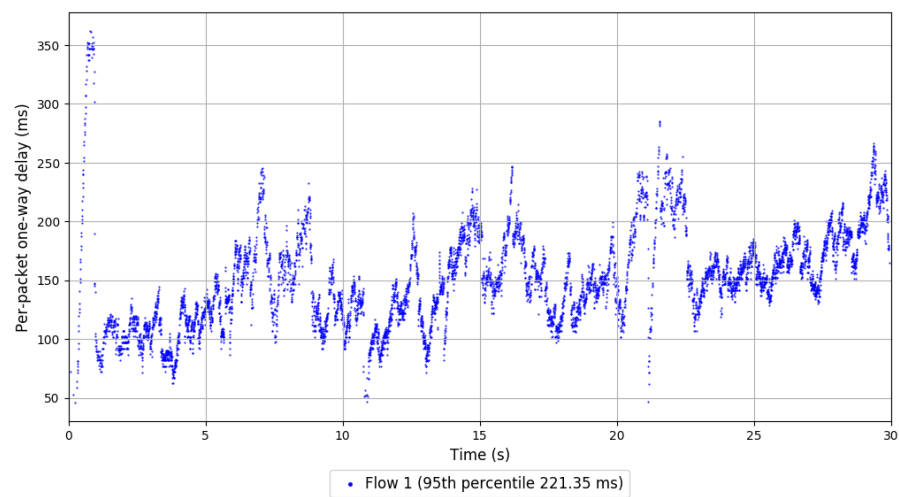
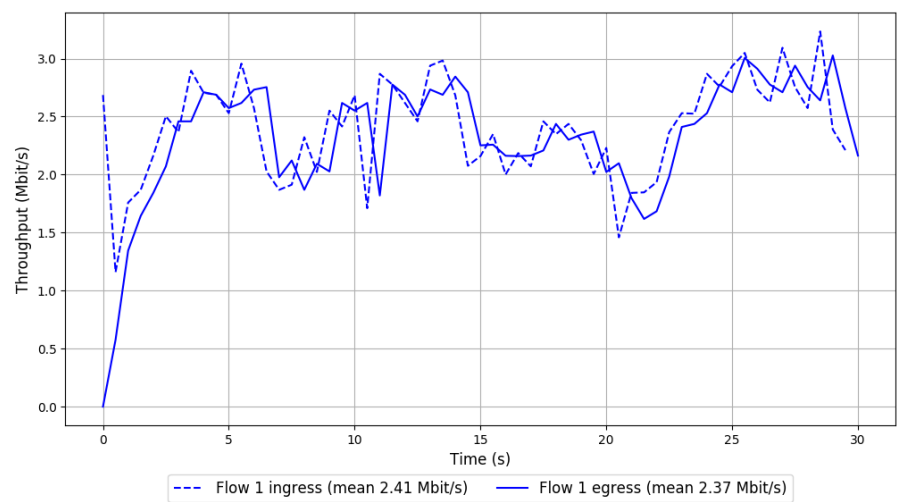
-- Flow 1:

Average throughput: 2.37 Mbit/s

95th percentile per-packet one-way delay: 221.354 ms

Loss rate: 1.88%

Run 3: Report of FillP-Sheep — Data Link



Run 1: Statistics of Indigo

Start at: 2018-07-24 22:20:19

End at: 2018-07-24 22:20:49

Local clock offset: 2.145 ms

Remote clock offset: -4.85 ms

Below is generated by plot.py at 2018-07-24 23:03:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.62 Mbit/s

95th percentile per-packet one-way delay: 96.293 ms

Loss rate: 0.52%

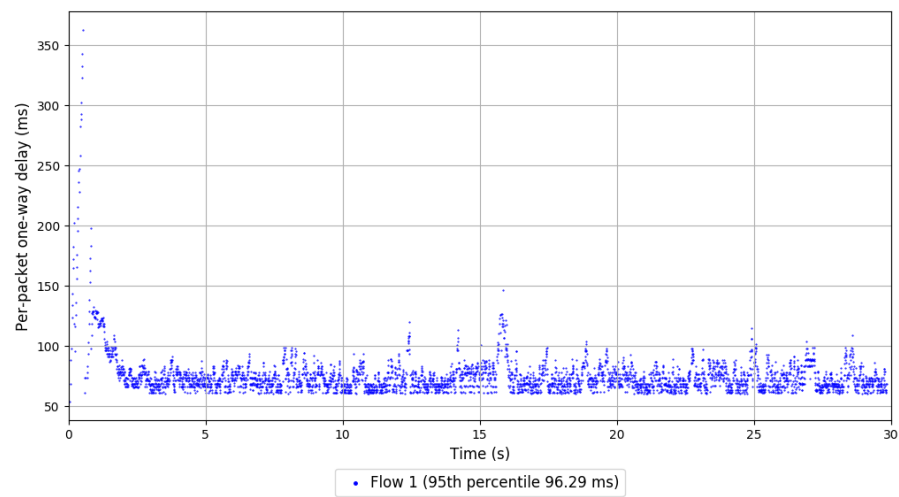
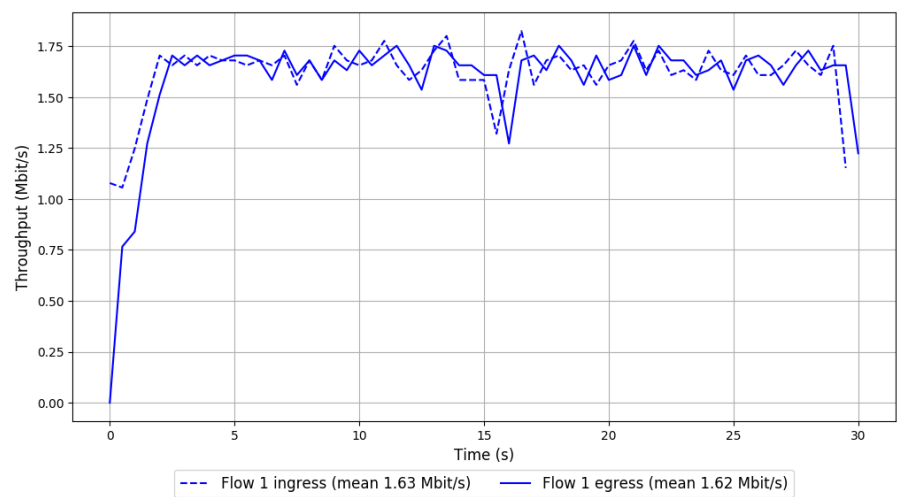
-- Flow 1:

Average throughput: 1.62 Mbit/s

95th percentile per-packet one-way delay: 96.293 ms

Loss rate: 0.52%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-07-24 22:38:44

End at: 2018-07-24 22:39:14

Local clock offset: -0.556 ms

Remote clock offset: -2.684 ms

Below is generated by plot.py at 2018-07-24 23:03:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.73 Mbit/s

95th percentile per-packet one-way delay: 82.660 ms

Loss rate: 0.30%

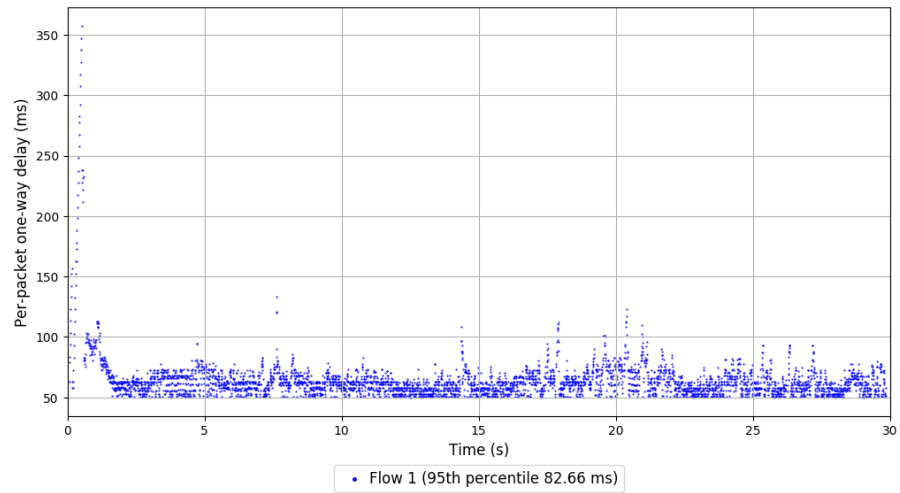
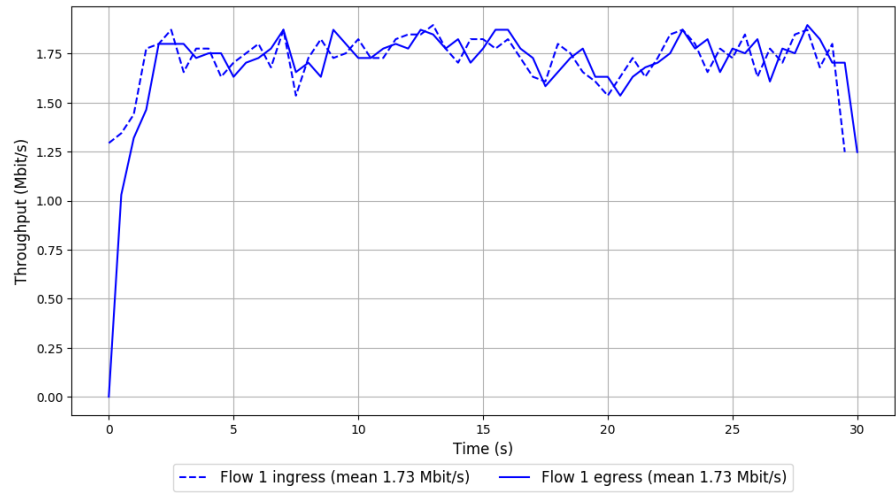
-- Flow 1:

Average throughput: 1.73 Mbit/s

95th percentile per-packet one-way delay: 82.660 ms

Loss rate: 0.30%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-07-24 22:57:03

End at: 2018-07-24 22:57:33

Local clock offset: 0.717 ms

Remote clock offset: -7.925 ms

Below is generated by plot.py at 2018-07-24 23:03:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.76 Mbit/s

95th percentile per-packet one-way delay: 81.632 ms

Loss rate: 0.30%

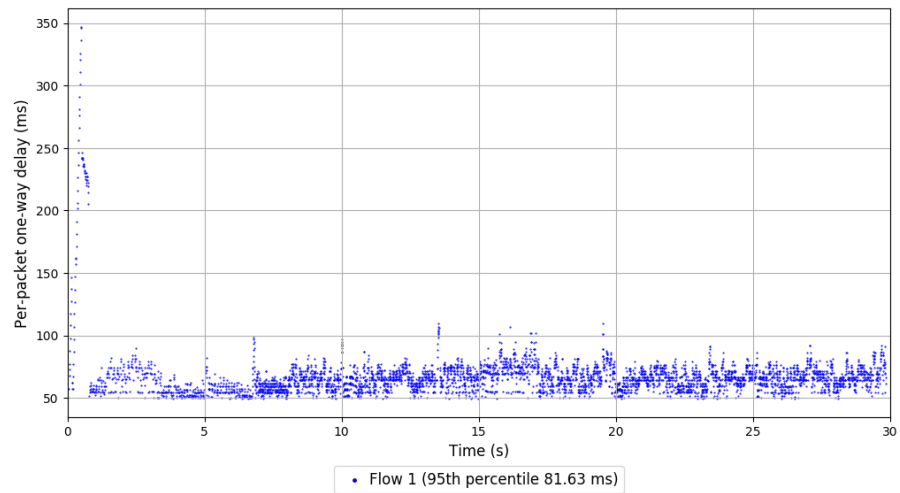
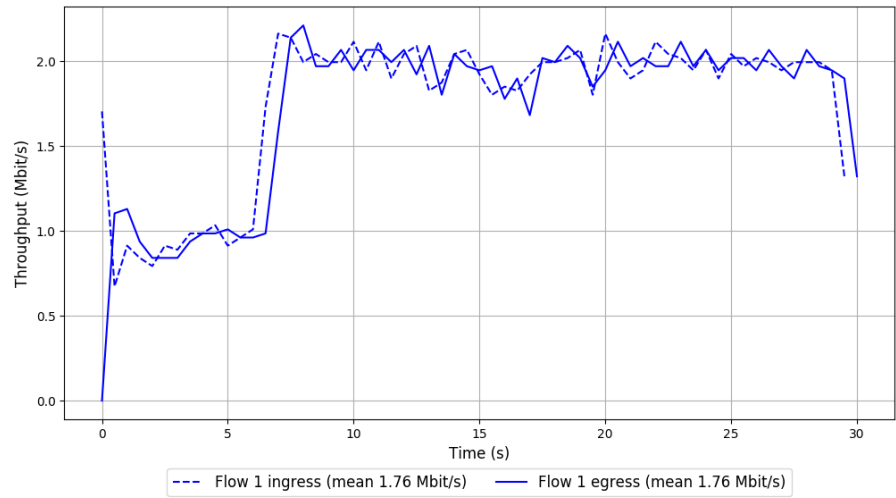
-- Flow 1:

Average throughput: 1.76 Mbit/s

95th percentile per-packet one-way delay: 81.632 ms

Loss rate: 0.30%

Run 3: Report of Indigo — Data Link

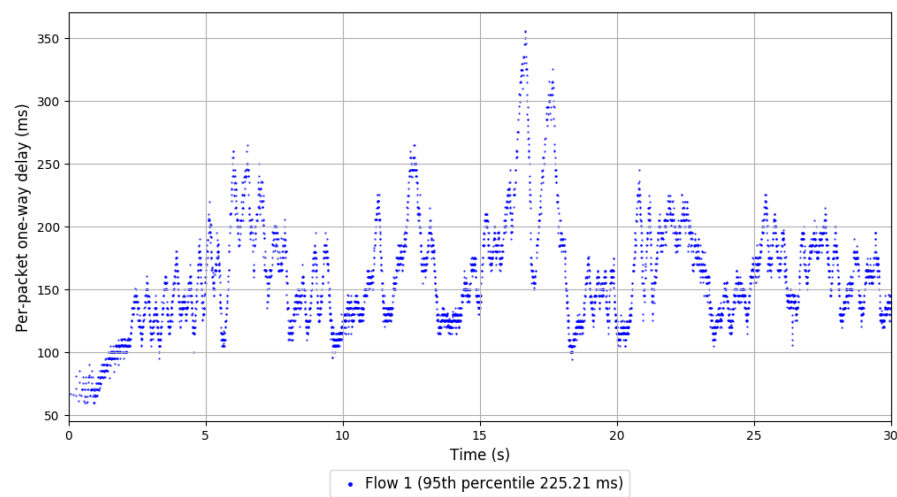
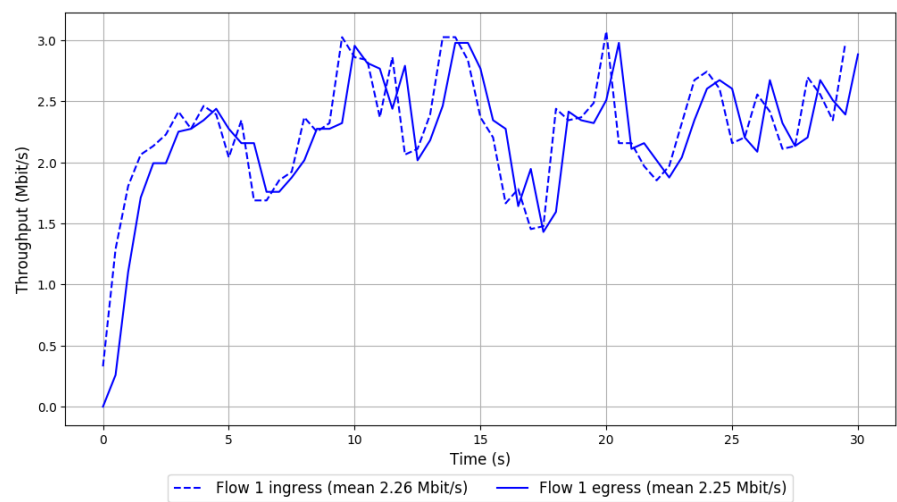


```
Run 1: Statistics of LEDBAT

Start at: 2018-07-24 22:22:29
End at: 2018-07-24 22:22:59
Local clock offset: 0.279 ms
Remote clock offset: -3.839 ms

# Below is generated by plot.py at 2018-07-24 23:03:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 225.208 ms
Loss rate: 0.62%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 225.208 ms
Loss rate: 0.62%
```

Run 1: Report of LEDBAT — Data Link

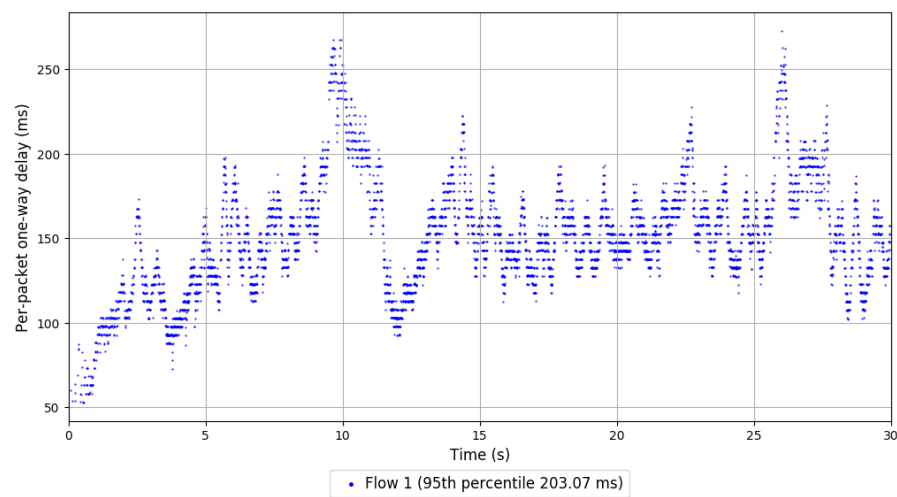
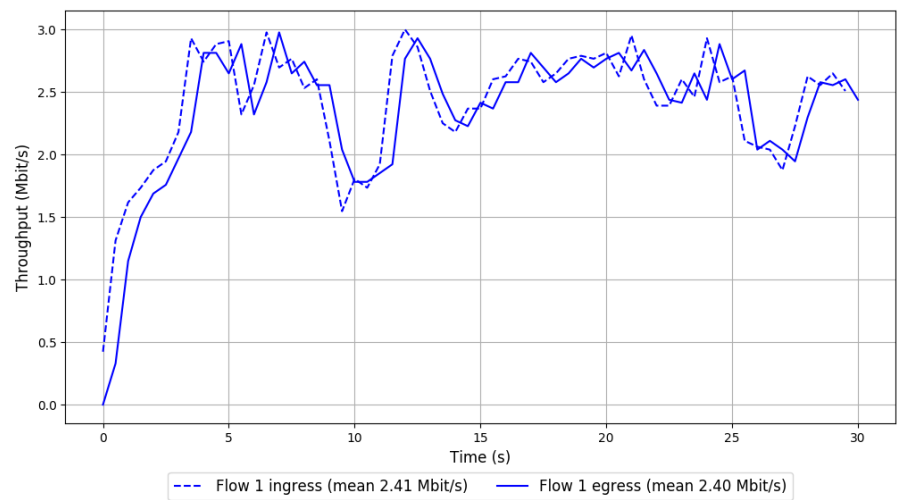


Run 2: Statistics of LEDBAT

Start at: 2018-07-24 22:40:54
End at: 2018-07-24 22:41:24
Local clock offset: -0.245 ms
Remote clock offset: -2.866 ms

Below is generated by plot.py at 2018-07-24 23:03:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 203.067 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 203.067 ms
Loss rate: 0.58%

Run 2: Report of LEDBAT — Data Link

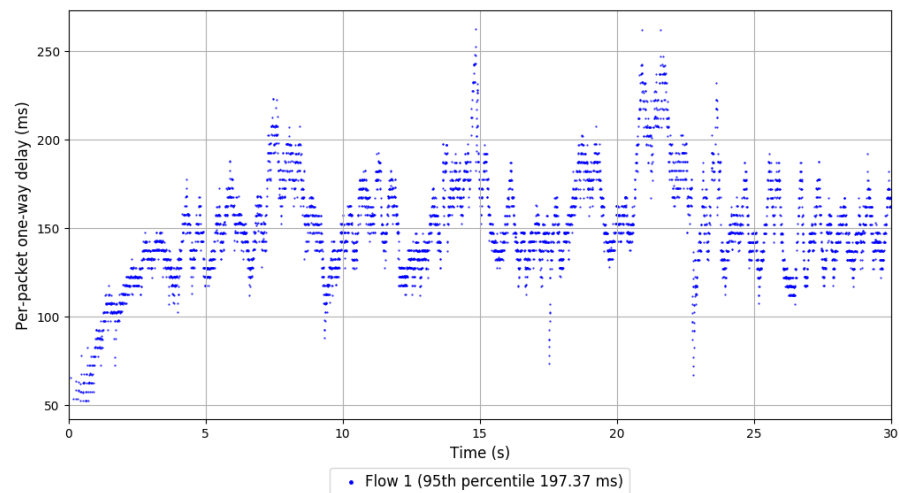
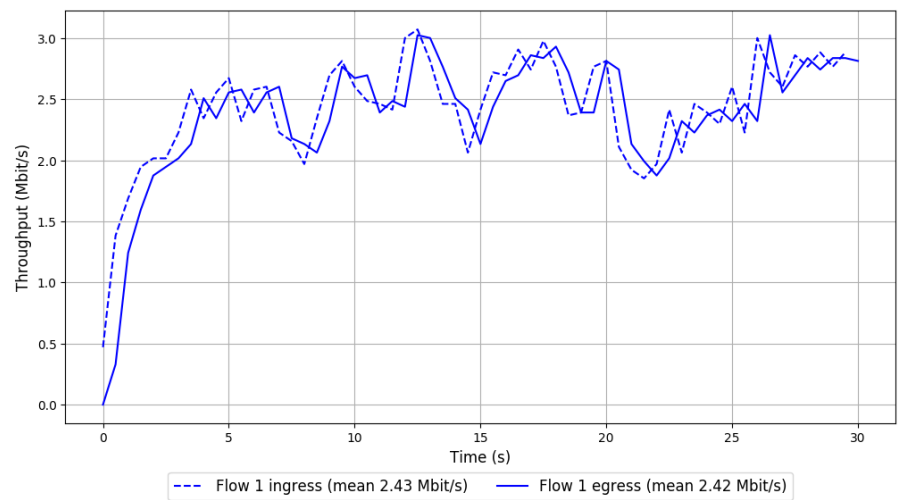


Run 3: Statistics of LEDBAT

Start at: 2018-07-24 22:59:13
End at: 2018-07-24 22:59:43
Local clock offset: 1.681 ms
Remote clock offset: -8.851 ms

Below is generated by plot.py at 2018-07-24 23:03:19
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 197.365 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 2.42 Mbit/s
95th percentile per-packet one-way delay: 197.365 ms
Loss rate: 0.59%

Run 3: Report of LEDBAT — Data Link

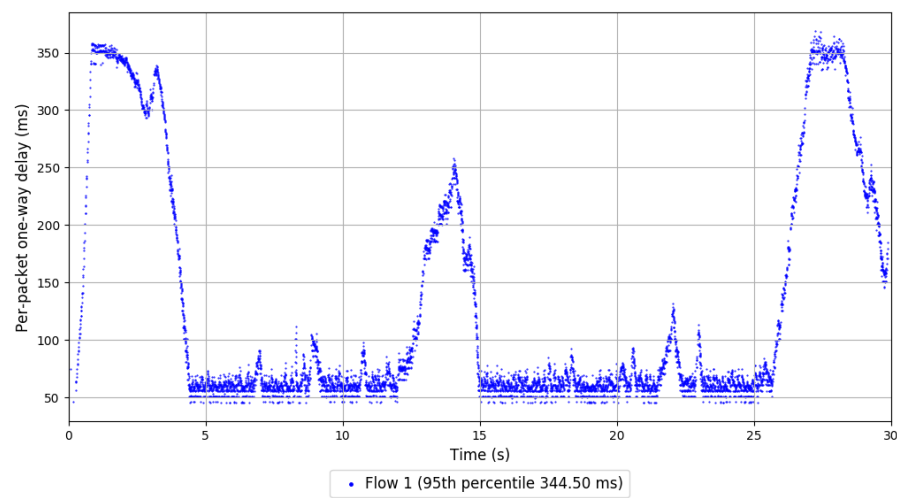
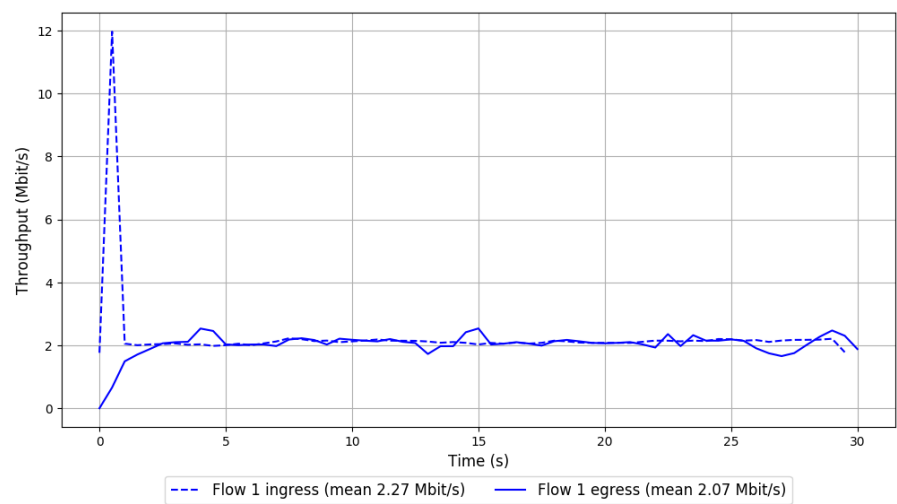


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-24 22:13:53
End at: 2018-07-24 22:14:23
Local clock offset: -1.191 ms
Remote clock offset: -5.247 ms

# Below is generated by plot.py at 2018-07-24 23:03:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 344.503 ms
Loss rate: 8.91%
-- Flow 1:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 344.503 ms
Loss rate: 8.91%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-07-24 22:32:16

End at: 2018-07-24 22:32:46

Local clock offset: 0.544 ms

Remote clock offset: -3.037 ms

Below is generated by plot.py at 2018-07-24 23:03:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.04 Mbit/s

95th percentile per-packet one-way delay: 342.286 ms

Loss rate: 14.17%

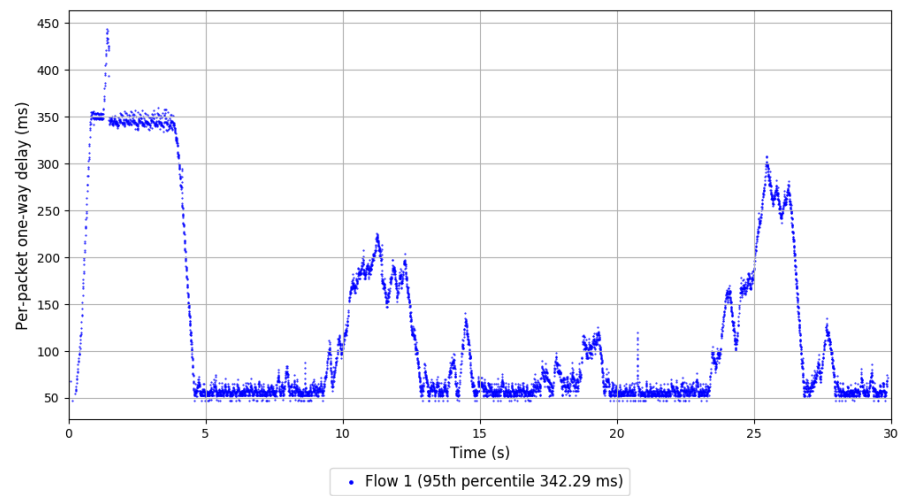
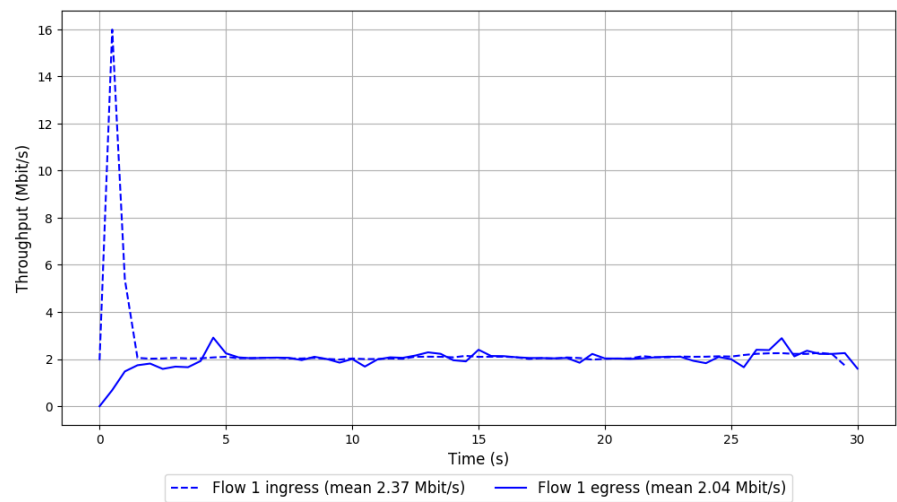
-- Flow 1:

Average throughput: 2.04 Mbit/s

95th percentile per-packet one-way delay: 342.286 ms

Loss rate: 14.17%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-07-24 22:50:36

End at: 2018-07-24 22:51:06

Local clock offset: 1.747 ms

Remote clock offset: -6.151 ms

Below is generated by plot.py at 2018-07-24 23:03:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.99 Mbit/s

95th percentile per-packet one-way delay: 344.258 ms

Loss rate: 15.61%

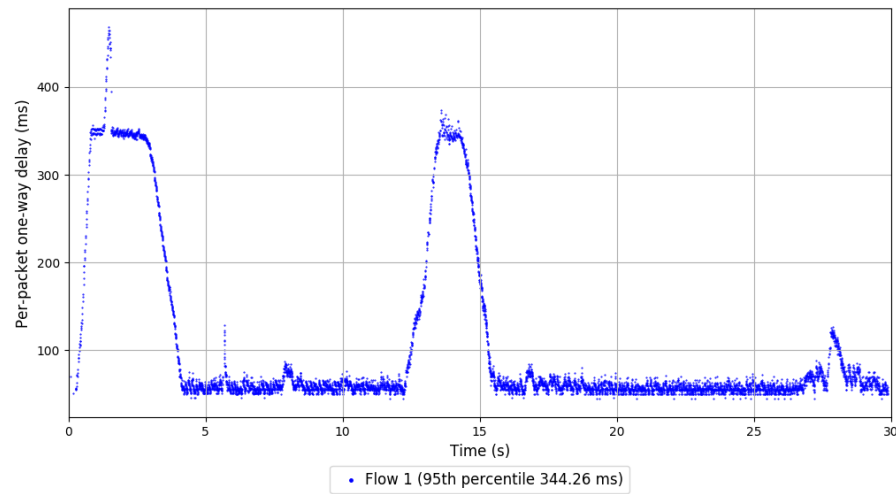
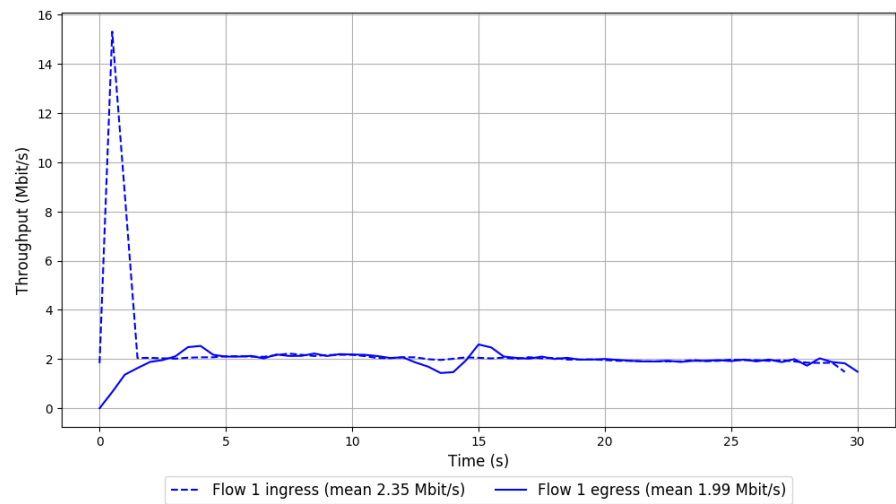
-- Flow 1:

Average throughput: 1.99 Mbit/s

95th percentile per-packet one-way delay: 344.258 ms

Loss rate: 15.61%

Run 3: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-07-24 22:10:39

End at: 2018-07-24 22:11:09

Local clock offset: 1.376 ms

Remote clock offset: -6.072 ms

Below is generated by plot.py at 2018-07-24 23:03:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.16 Mbit/s

95th percentile per-packet one-way delay: 355.131 ms

Loss rate: 44.35%

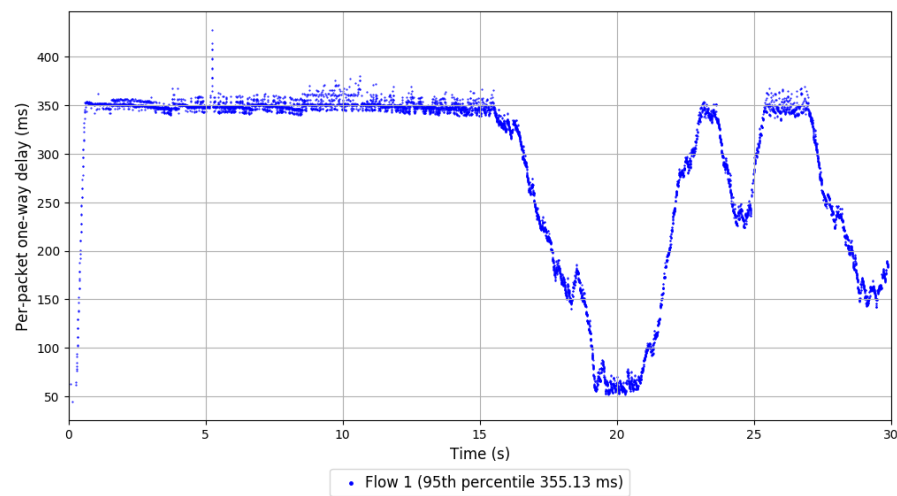
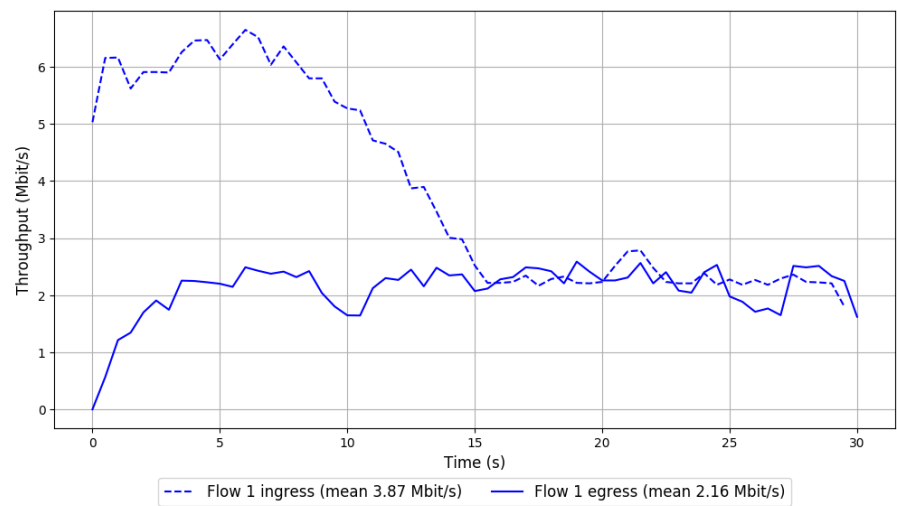
-- Flow 1:

Average throughput: 2.16 Mbit/s

95th percentile per-packet one-way delay: 355.131 ms

Loss rate: 44.35%

Run 1: Report of PCC-Expr — Data Link

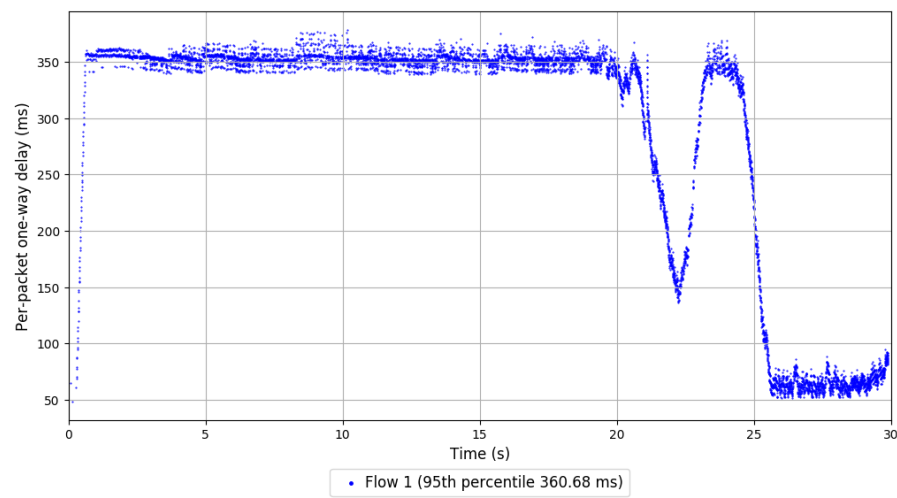
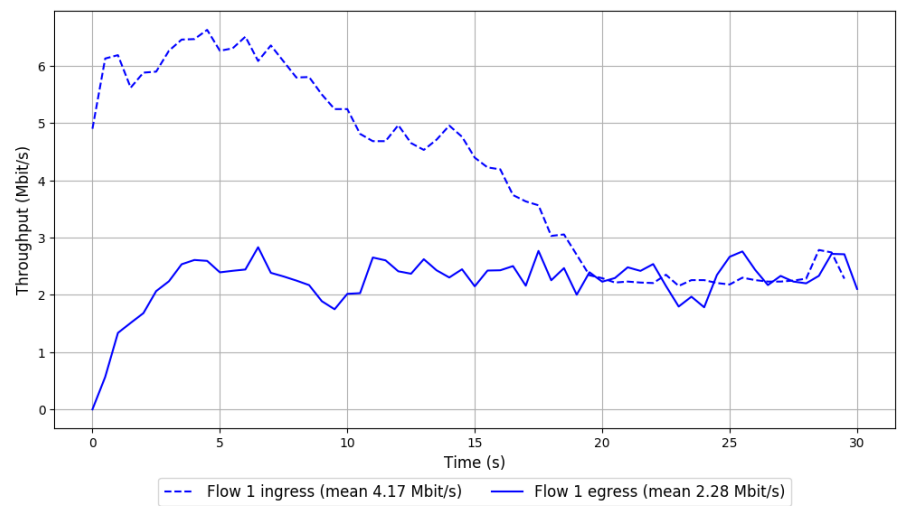


Run 2: Statistics of PCC-Expr

Start at: 2018-07-24 22:28:56
End at: 2018-07-24 22:29:26
Local clock offset: -0.618 ms
Remote clock offset: -4.136 ms

Below is generated by plot.py at 2018-07-24 23:03:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 360.676 ms
Loss rate: 45.39%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 360.676 ms
Loss rate: 45.39%

Run 2: Report of PCC-Expr — Data Link

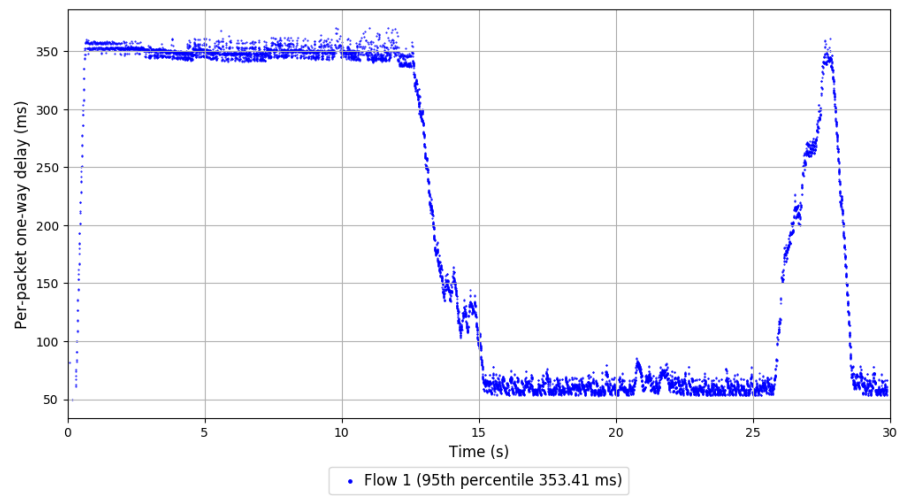
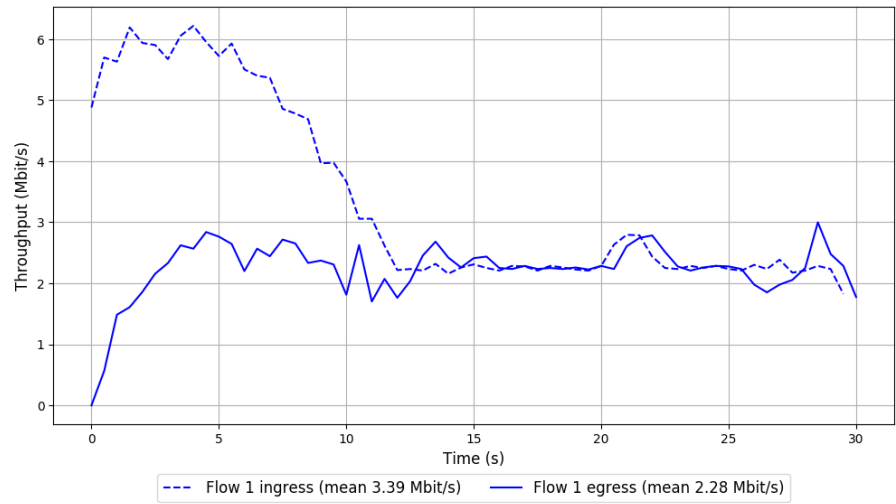


Run 3: Statistics of PCC-Expr

Start at: 2018-07-24 22:47:22
End at: 2018-07-24 22:47:52
Local clock offset: 4.009 ms
Remote clock offset: -4.275 ms

Below is generated by plot.py at 2018-07-24 23:03:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 353.412 ms
Loss rate: 32.97%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 353.412 ms
Loss rate: 32.97%

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-07-24 22:23:33

End at: 2018-07-24 22:24:03

Local clock offset: 1.997 ms

Remote clock offset: -4.378 ms

Below is generated by plot.py at 2018-07-24 23:03:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.25 Mbit/s

95th percentile per-packet one-way delay: 345.707 ms

Loss rate: 3.36%

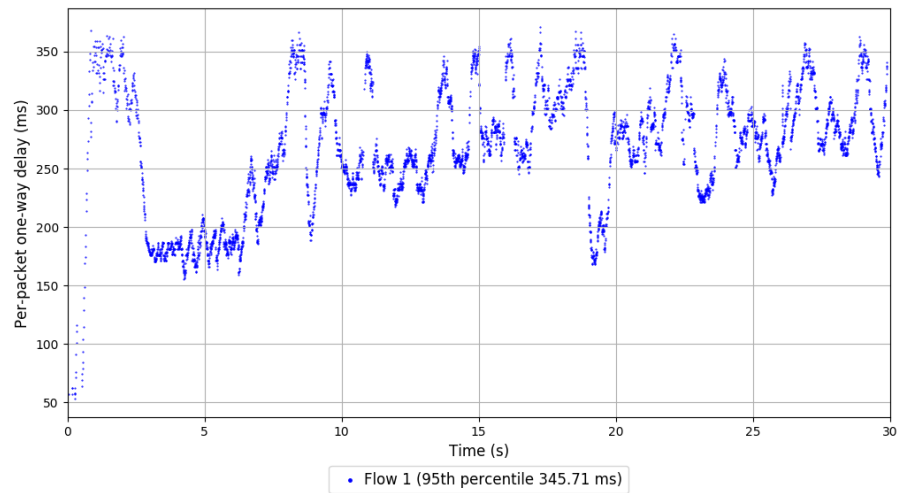
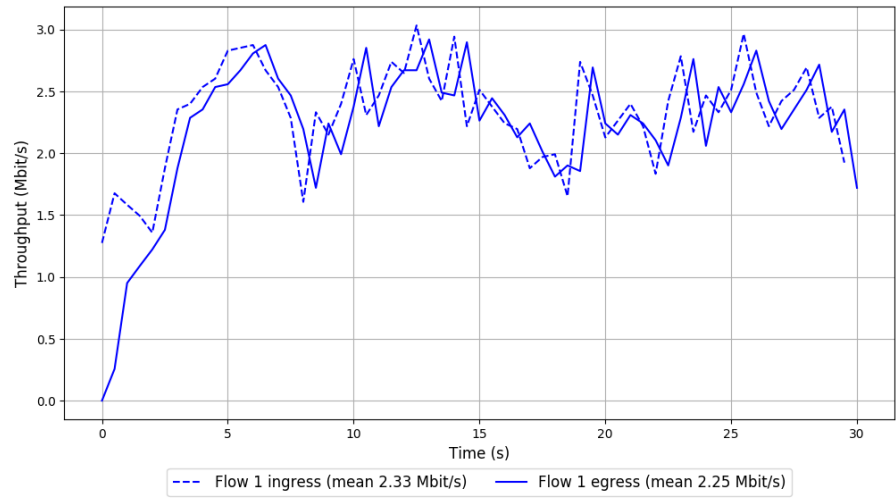
-- Flow 1:

Average throughput: 2.25 Mbit/s

95th percentile per-packet one-way delay: 345.707 ms

Loss rate: 3.36%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-07-24 22:41:58

End at: 2018-07-24 22:42:28

Local clock offset: 3.569 ms

Remote clock offset: -2.704 ms

Below is generated by plot.py at 2018-07-24 23:03:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.52 Mbit/s

95th percentile per-packet one-way delay: 347.067 ms

Loss rate: 3.12%

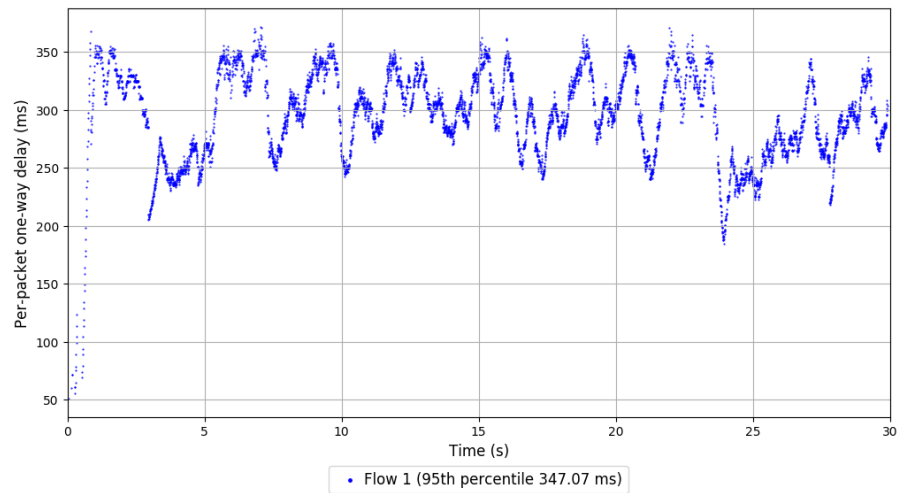
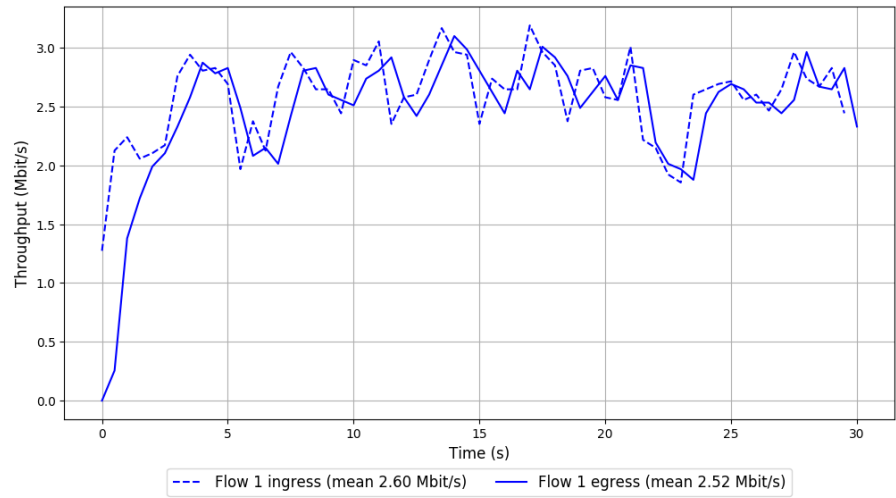
-- Flow 1:

Average throughput: 2.52 Mbit/s

95th percentile per-packet one-way delay: 347.067 ms

Loss rate: 3.12%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-07-24 23:00:17

End at: 2018-07-24 23:00:47

Local clock offset: 0.389 ms

Remote clock offset: -9.532 ms

Below is generated by plot.py at 2018-07-24 23:03:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.25 Mbit/s

95th percentile per-packet one-way delay: 342.924 ms

Loss rate: 3.40%

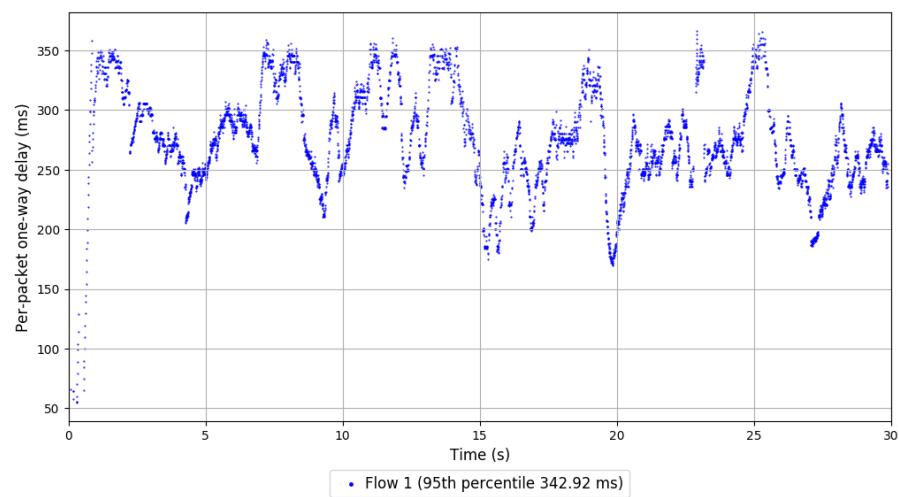
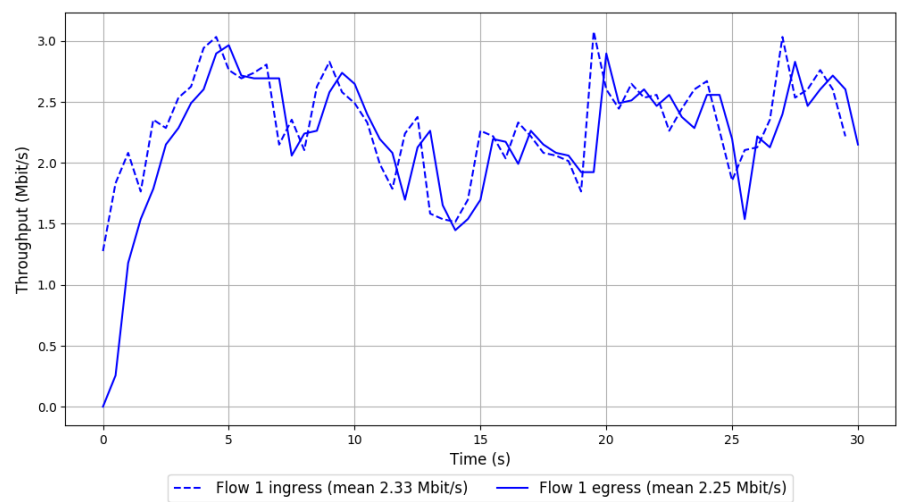
-- Flow 1:

Average throughput: 2.25 Mbit/s

95th percentile per-packet one-way delay: 342.924 ms

Loss rate: 3.40%

Run 3: Report of QUIC Cubic — Data Link

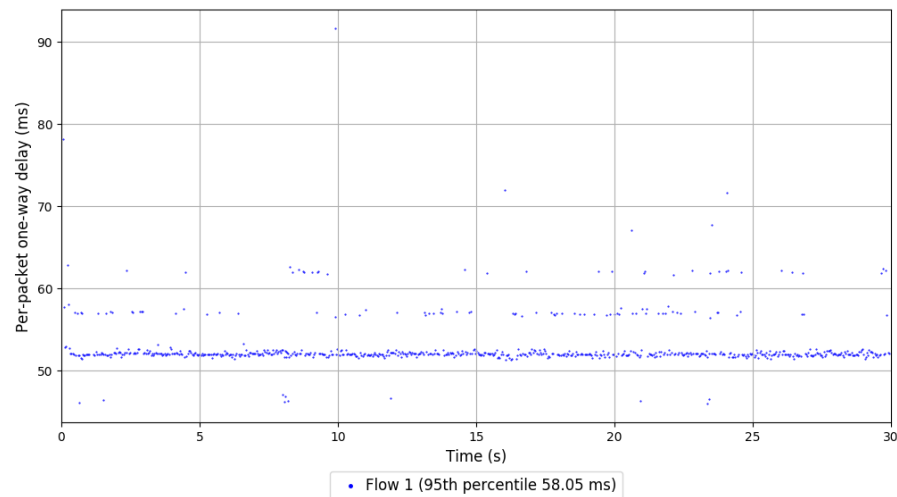
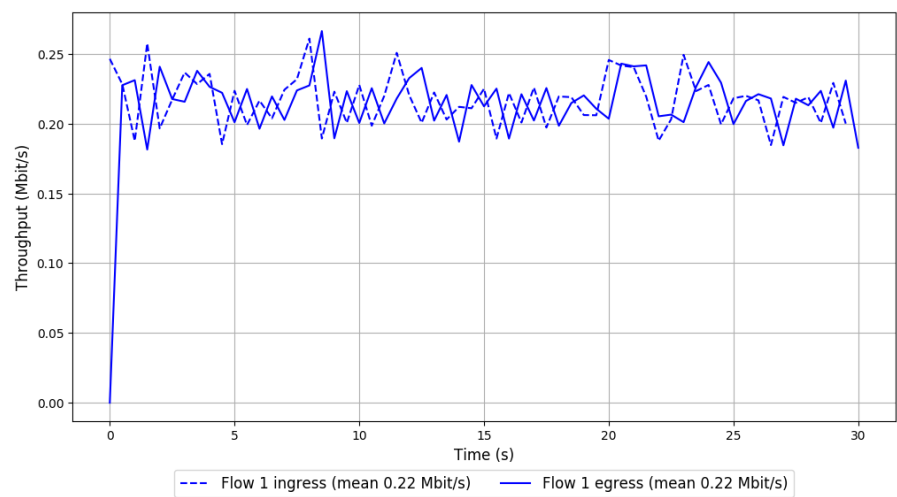


Run 1: Statistics of SCReAM

Start at: 2018-07-24 22:14:57
End at: 2018-07-24 22:15:27
Local clock offset: 0.308 ms
Remote clock offset: -5.101 ms

Below is generated by plot.py at 2018-07-24 23:03:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.049 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 58.049 ms
Loss rate: 0.26%

Run 1: Report of SReAM — Data Link

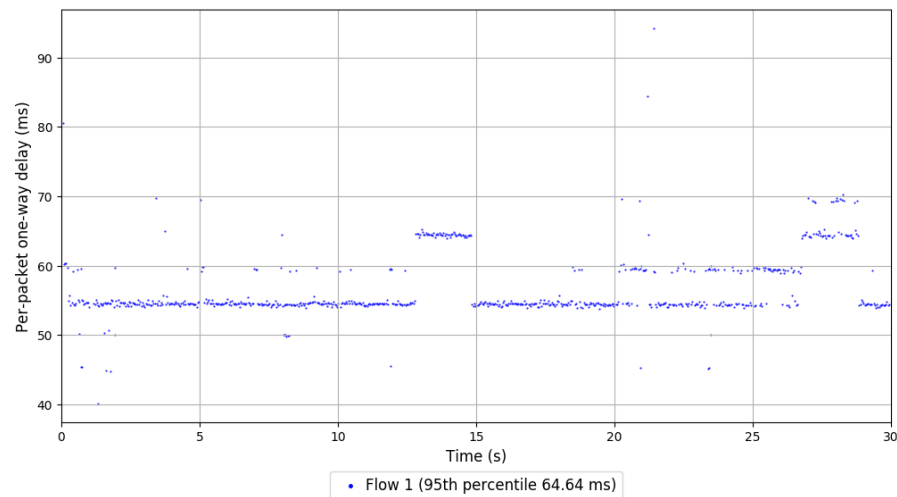
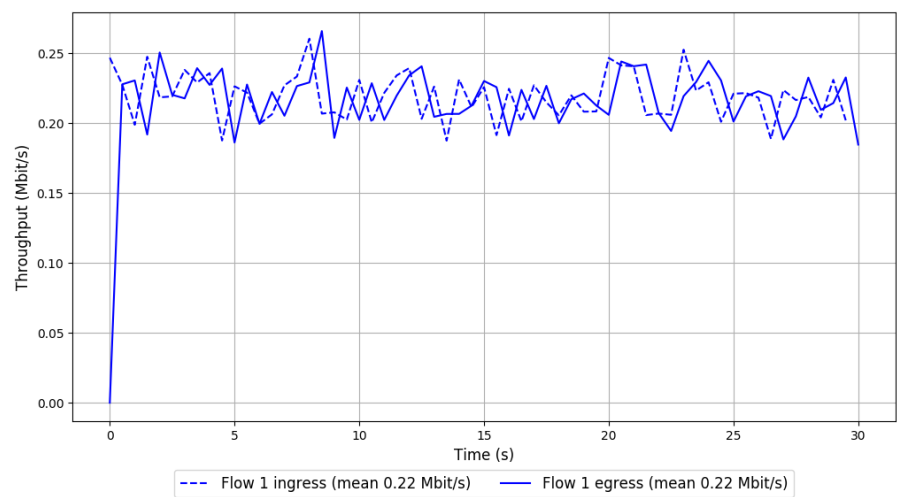


Run 2: Statistics of SCReAM

Start at: 2018-07-24 22:33:21
End at: 2018-07-24 22:33:51
Local clock offset: -0.224 ms
Remote clock offset: -2.968 ms

Below is generated by plot.py at 2018-07-24 23:03:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.644 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 64.644 ms
Loss rate: 0.26%

Run 2: Report of SReAM — Data Link

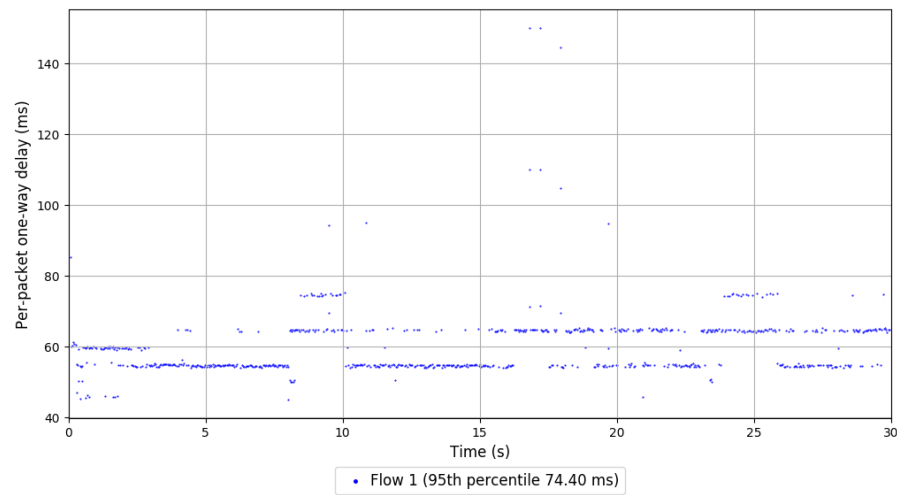
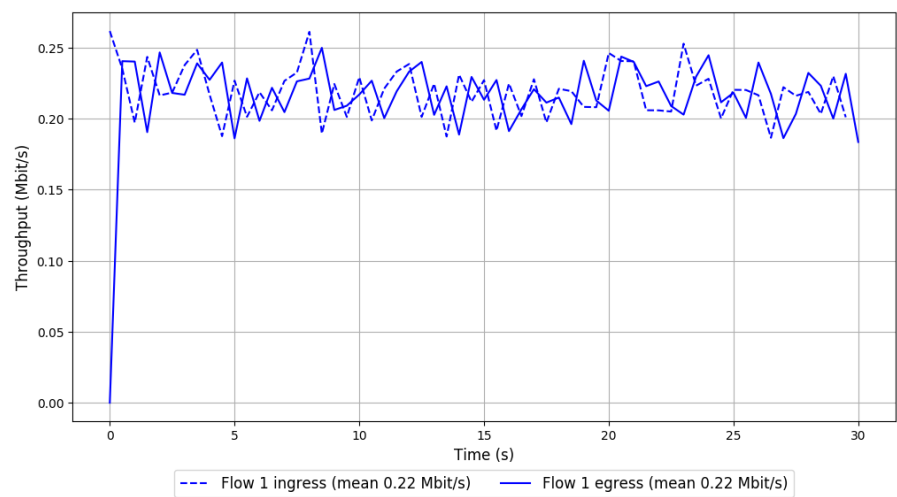


Run 3: Statistics of SCReAM

Start at: 2018-07-24 22:51:41
End at: 2018-07-24 22:52:11
Local clock offset: 2.713 ms
Remote clock offset: -6.589 ms

Below is generated by plot.py at 2018-07-24 23:03:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 74.402 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 74.402 ms
Loss rate: 0.26%

Run 3: Report of SReAM — Data Link

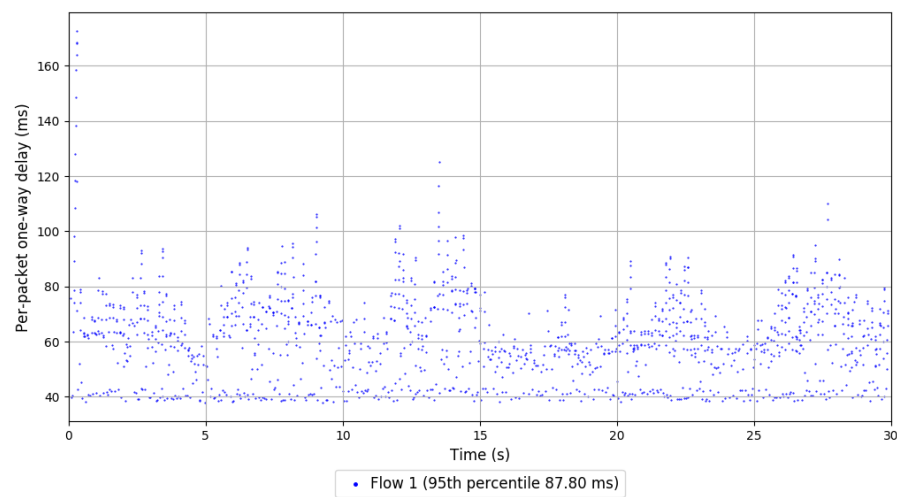
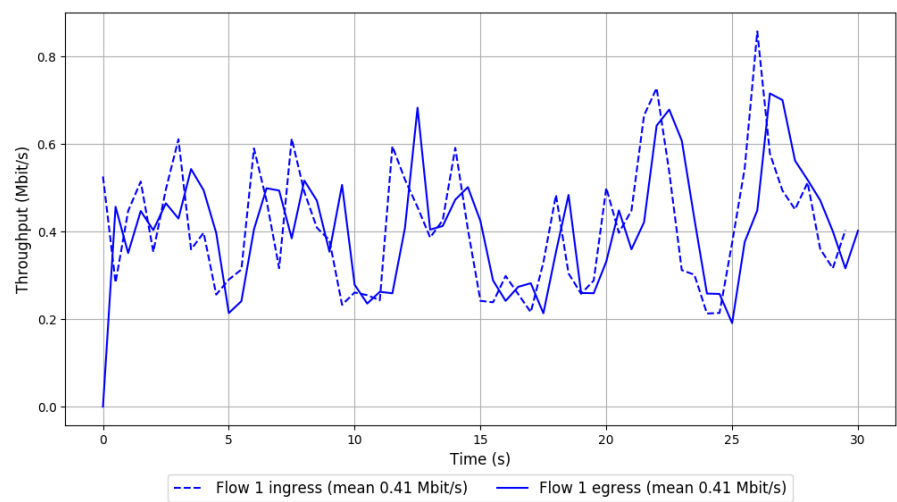


Run 1: Statistics of Sprout

Start at: 2018-07-24 22:17:06
End at: 2018-07-24 22:17:36
Local clock offset: -2.946 ms
Remote clock offset: -4.986 ms

Below is generated by plot.py at 2018-07-24 23:03:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 87.798 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 87.798 ms
Loss rate: 0.01%

Run 1: Report of Sprout — Data Link

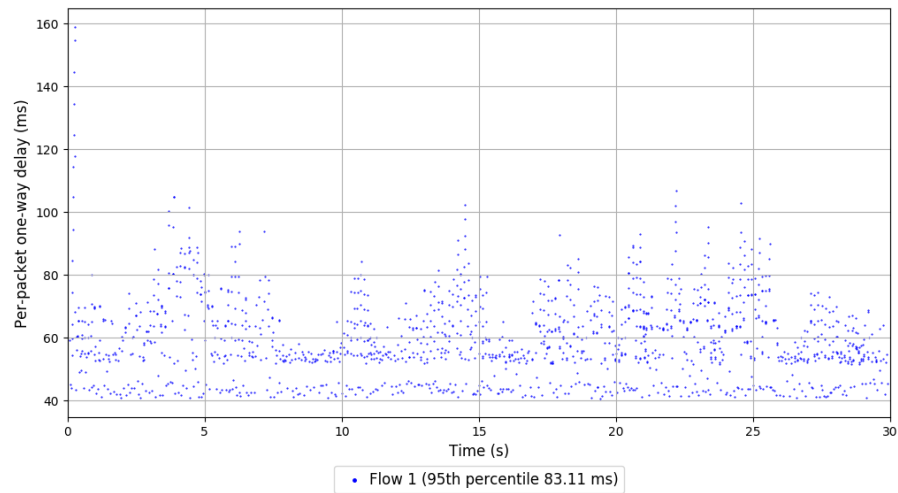
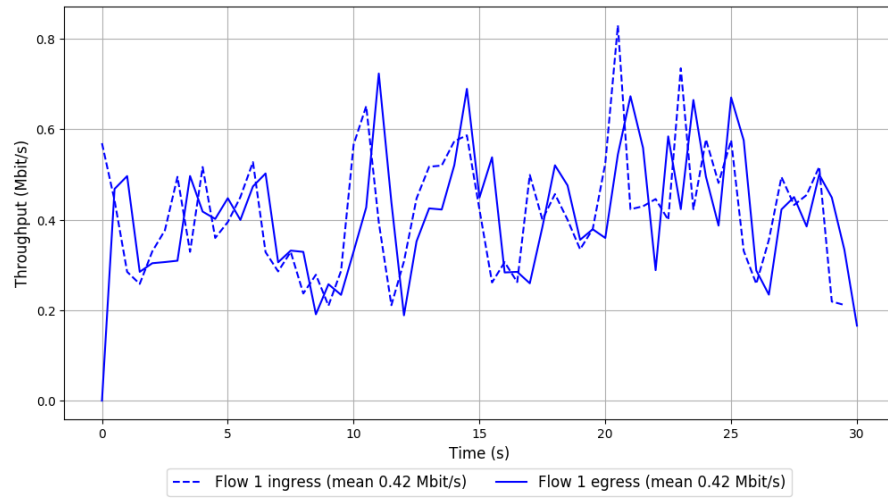


Run 2: Statistics of Sprout

Start at: 2018-07-24 22:35:30
End at: 2018-07-24 22:36:00
Local clock offset: 0.727 ms
Remote clock offset: -2.807 ms

Below is generated by plot.py at 2018-07-24 23:03:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 83.110 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 83.110 ms
Loss rate: 0.19%

Run 2: Report of Sprout — Data Link

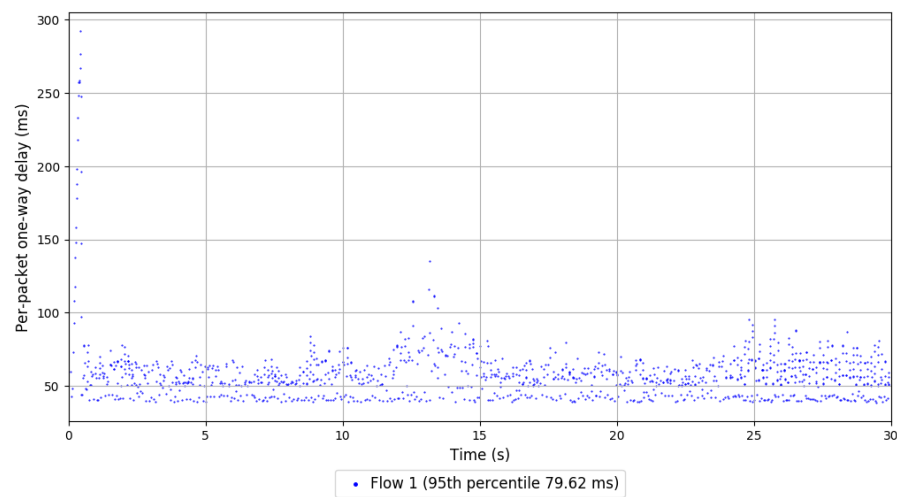
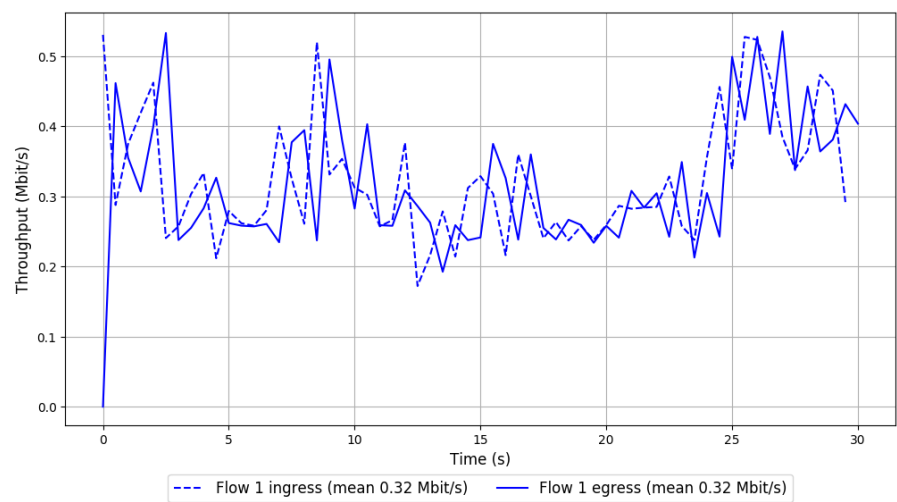


Run 3: Statistics of Sprout

Start at: 2018-07-24 22:53:50
End at: 2018-07-24 22:54:20
Local clock offset: 0.145 ms
Remote clock offset: -7.779 ms

Below is generated by plot.py at 2018-07-24 23:03:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 79.624 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 79.624 ms
Loss rate: 0.01%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-07-24 22:16:02

End at: 2018-07-24 22:16:32

Local clock offset: -0.444 ms

Remote clock offset: -6.629 ms

Below is generated by plot.py at 2018-07-24 23:03:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 222.682 ms

Loss rate: 1.08%

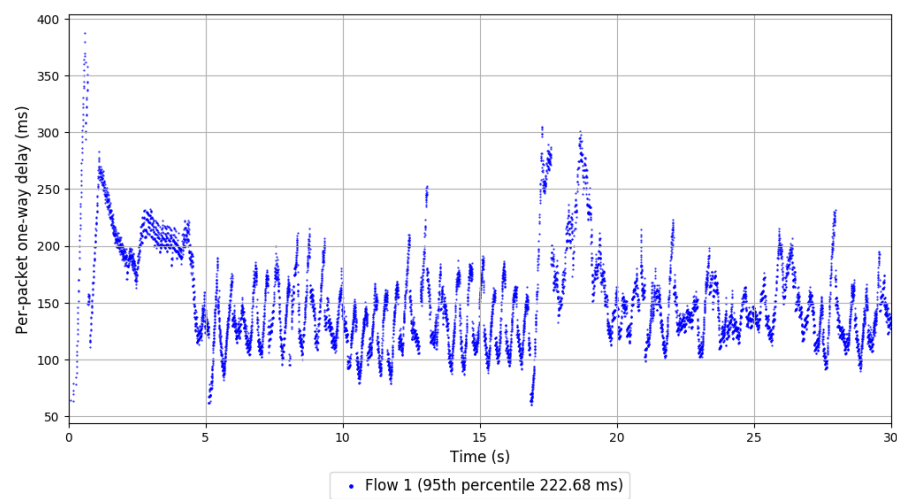
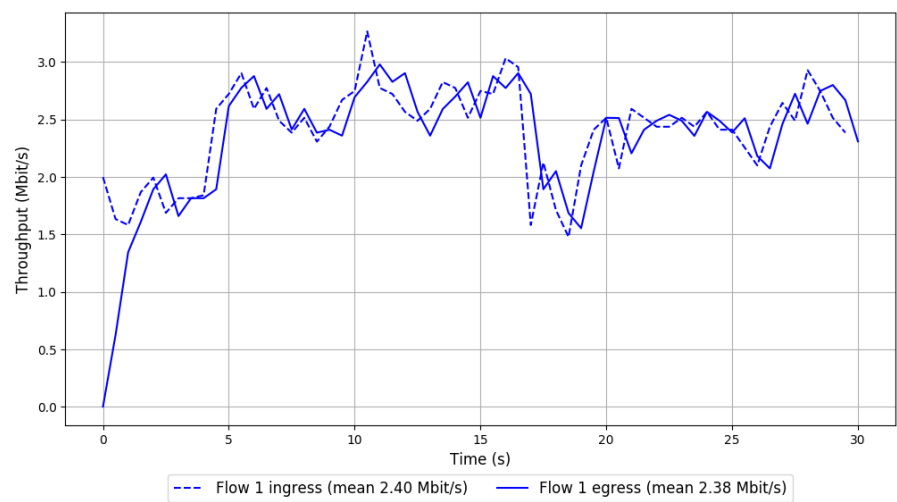
-- Flow 1:

Average throughput: 2.38 Mbit/s

95th percentile per-packet one-way delay: 222.682 ms

Loss rate: 1.08%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-07-24 22:34:26

End at: 2018-07-24 22:34:56

Local clock offset: 2.169 ms

Remote clock offset: -2.77 ms

Below is generated by plot.py at 2018-07-24 23:03:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.58 Mbit/s

95th percentile per-packet one-way delay: 323.829 ms

Loss rate: 2.57%

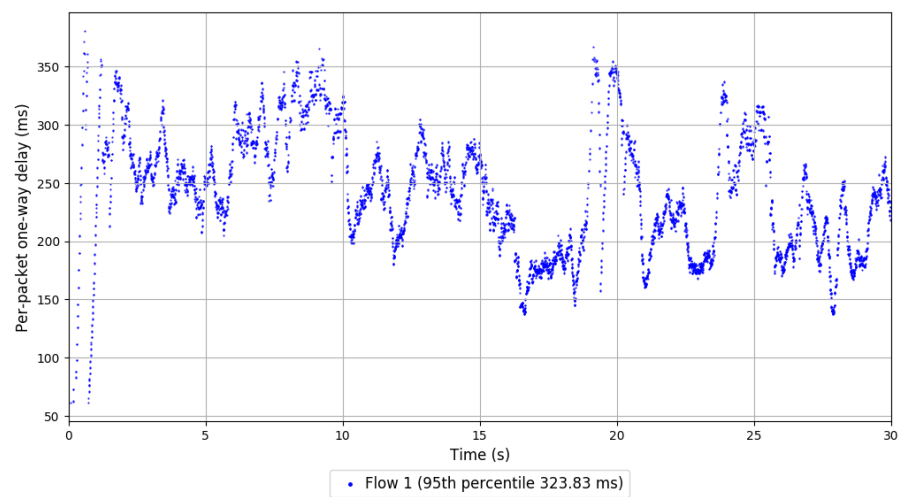
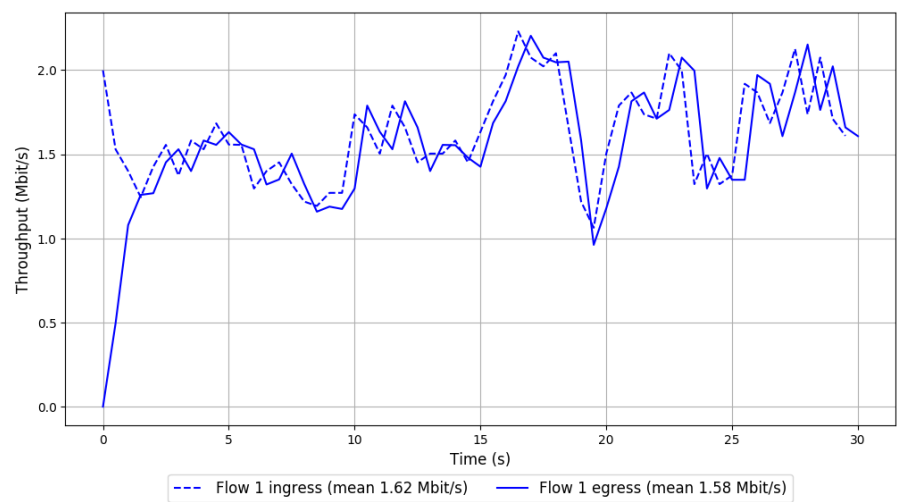
-- Flow 1:

Average throughput: 1.58 Mbit/s

95th percentile per-packet one-way delay: 323.829 ms

Loss rate: 2.57%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-07-24 22:52:45

End at: 2018-07-24 22:53:15

Local clock offset: 1.485 ms

Remote clock offset: -6.663 ms

Below is generated by plot.py at 2018-07-24 23:03:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.31 Mbit/s

95th percentile per-packet one-way delay: 221.500 ms

Loss rate: 1.39%

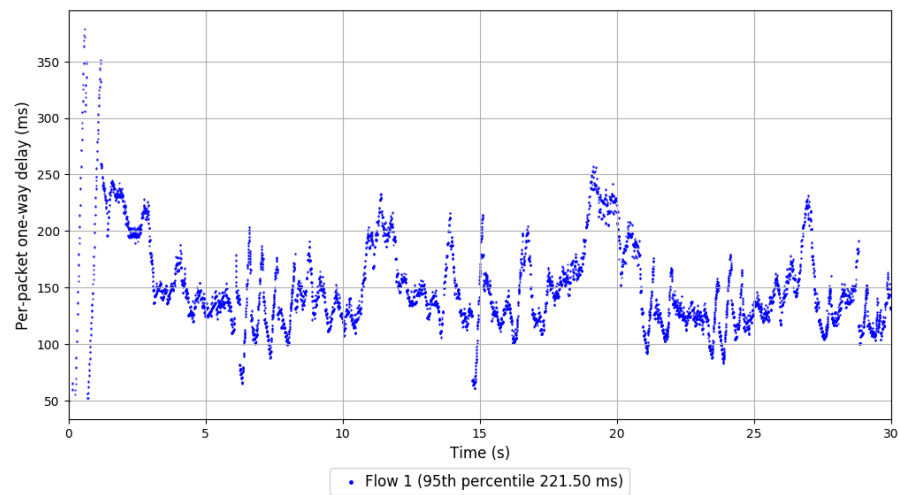
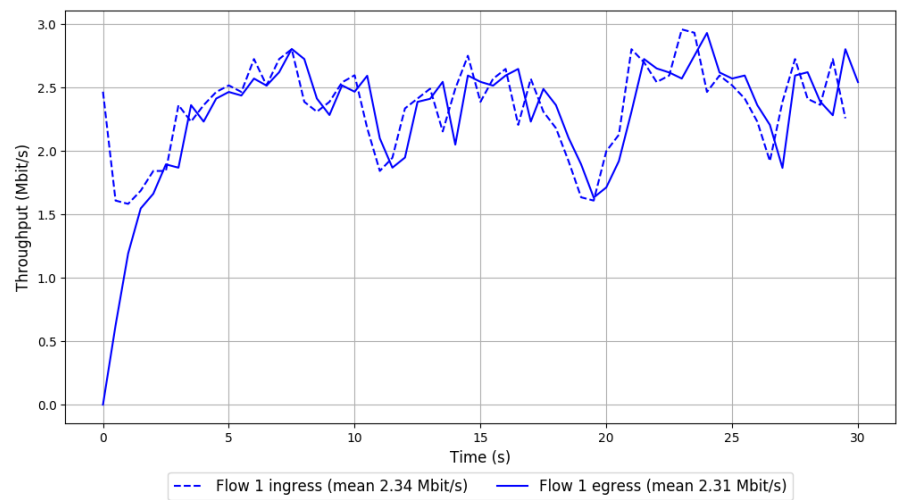
-- Flow 1:

Average throughput: 2.31 Mbit/s

95th percentile per-packet one-way delay: 221.500 ms

Loss rate: 1.39%

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

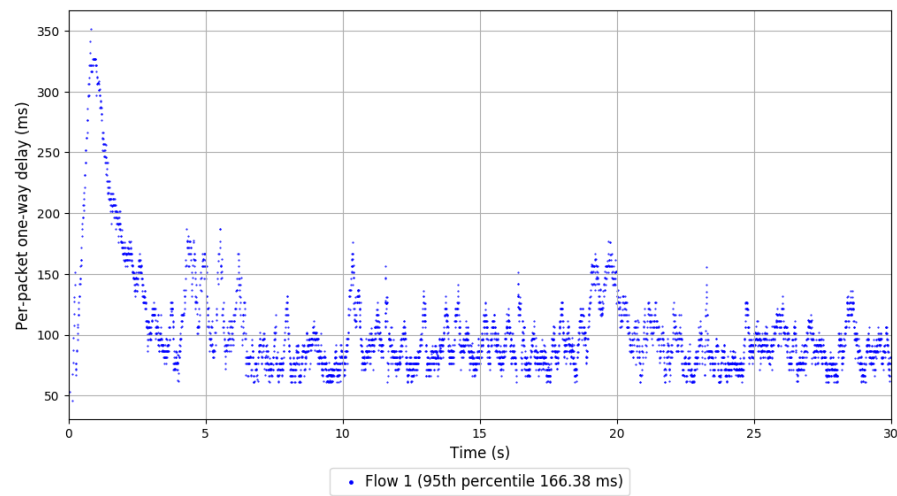
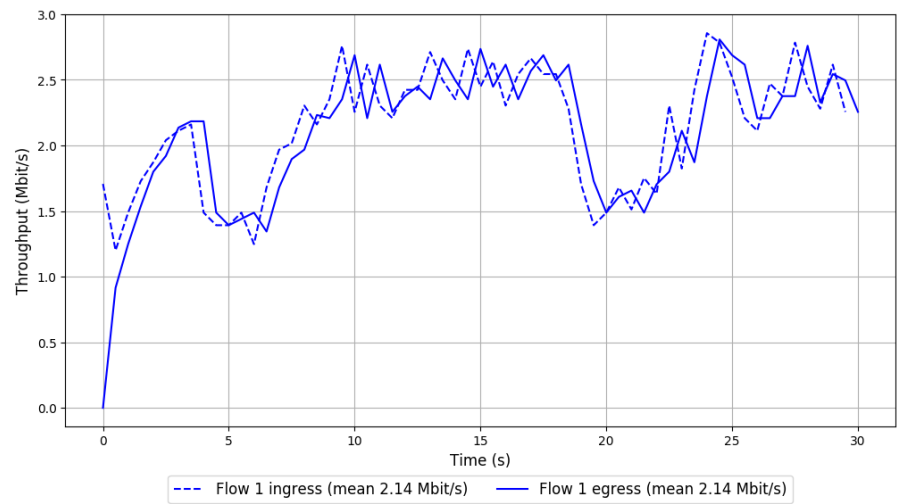


Run 1: Statistics of TCP Vegas

Start at: 2018-07-24 22:19:15
End at: 2018-07-24 22:19:45
Local clock offset: 0.117 ms
Remote clock offset: -4.618 ms

Below is generated by plot.py at 2018-07-24 23:03:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 166.384 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 166.384 ms
Loss rate: 0.34%

Run 1: Report of TCP Vegas — Data Link

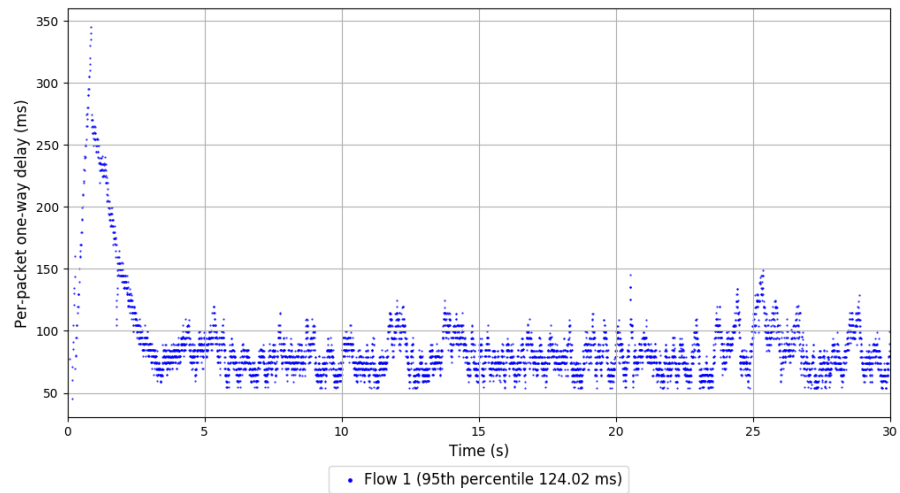
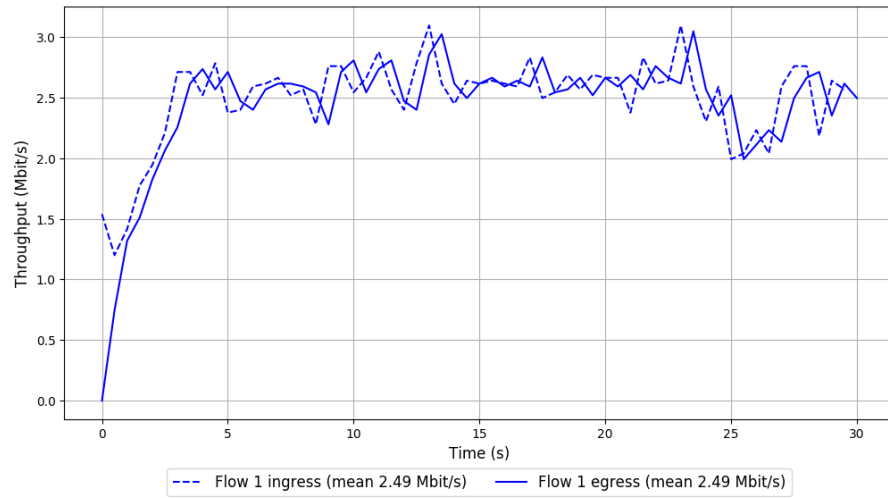


Run 2: Statistics of TCP Vegas

Start at: 2018-07-24 22:37:40
End at: 2018-07-24 22:38:10
Local clock offset: 0.464 ms
Remote clock offset: -2.667 ms

Below is generated by plot.py at 2018-07-24 23:03:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 124.024 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 124.024 ms
Loss rate: 0.31%

Run 2: Report of TCP Vegas — Data Link

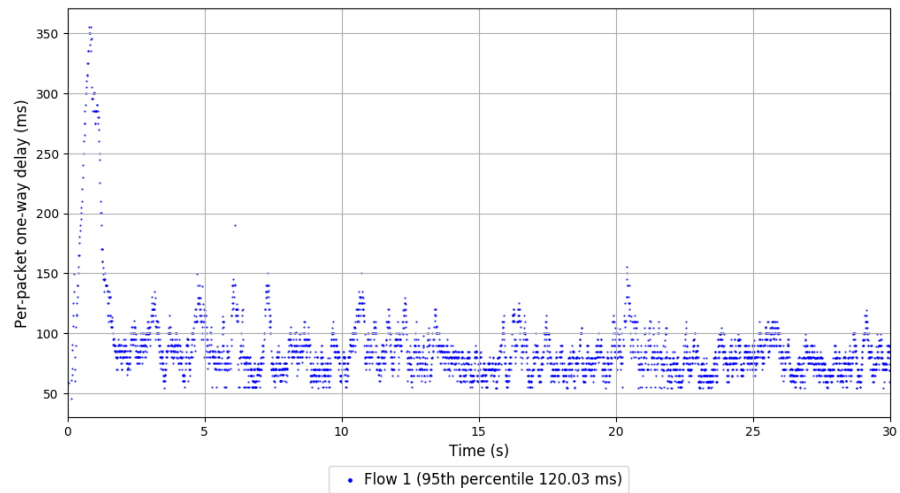
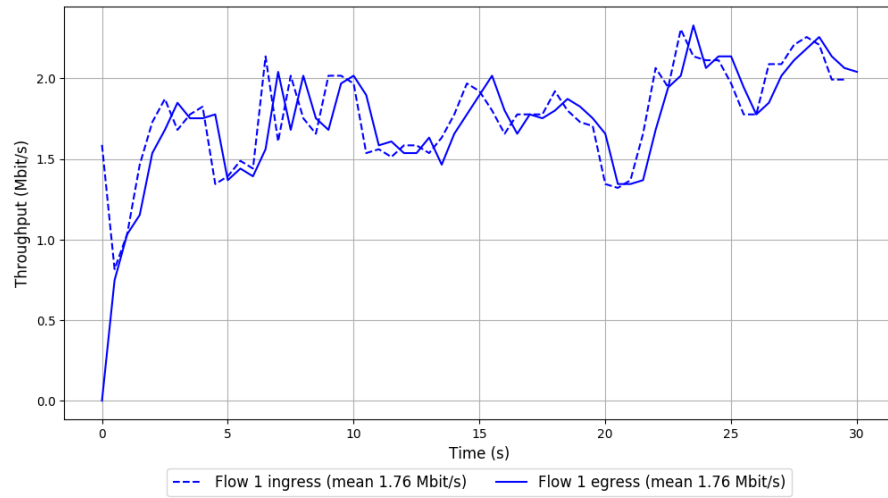


Run 3: Statistics of TCP Vegas

Start at: 2018-07-24 22:55:59
End at: 2018-07-24 22:56:29
Local clock offset: 2.726 ms
Remote clock offset: -8.275 ms

Below is generated by plot.py at 2018-07-24 23:03:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 120.025 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 1.76 Mbit/s
95th percentile per-packet one-way delay: 120.025 ms
Loss rate: 0.43%

Run 3: Report of TCP Vegas — Data Link

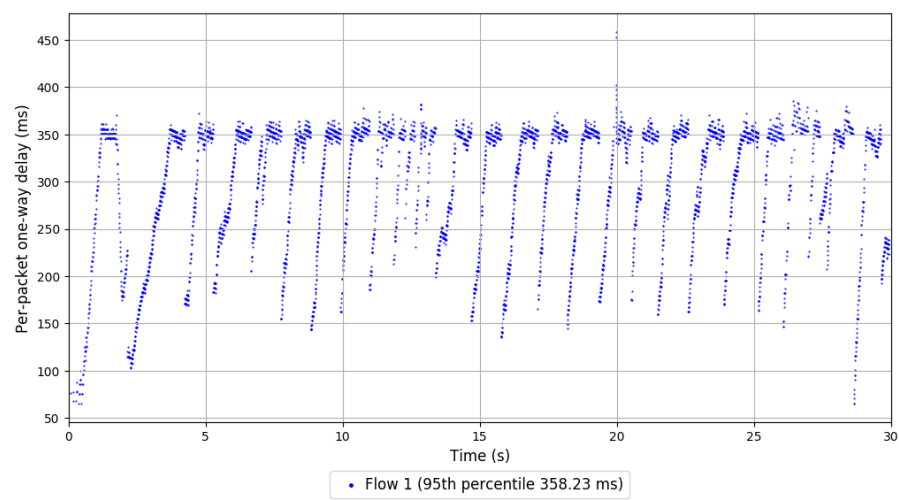
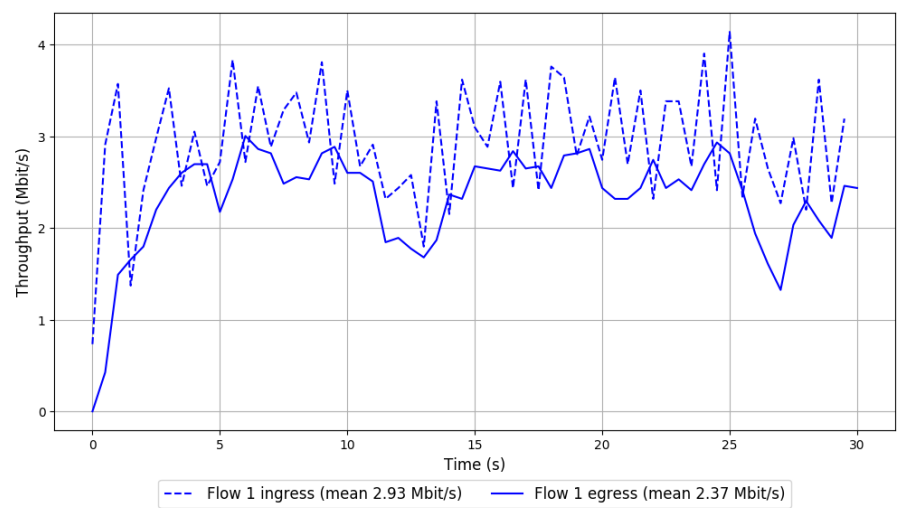


Run 1: Statistics of Verus

Start at: 2018-07-24 22:24:38
End at: 2018-07-24 22:25:08
Local clock offset: 0.517 ms
Remote clock offset: -3.752 ms

Below is generated by plot.py at 2018-07-24 23:03:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 358.228 ms
Loss rate: 19.27%
-- Flow 1:
Average throughput: 2.37 Mbit/s
95th percentile per-packet one-way delay: 358.228 ms
Loss rate: 19.27%

Run 1: Report of Verus — Data Link

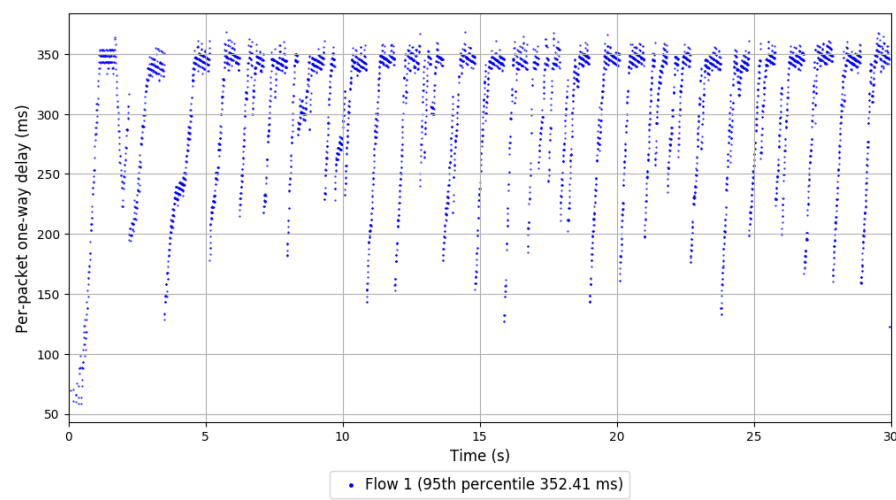
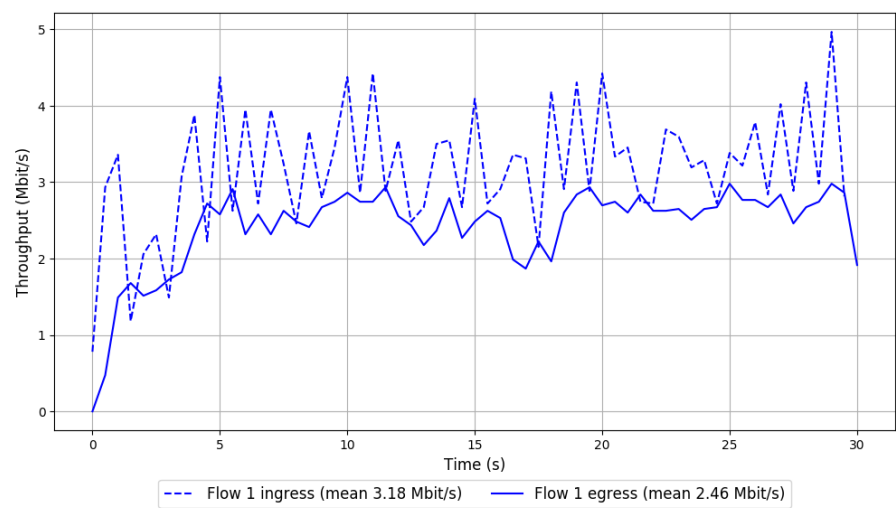


Run 2: Statistics of Verus

Start at: 2018-07-24 22:43:03
End at: 2018-07-24 22:43:33
Local clock offset: 0.982 ms
Remote clock offset: -2.397 ms

Below is generated by plot.py at 2018-07-24 23:03:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 352.407 ms
Loss rate: 22.82%
-- Flow 1:
Average throughput: 2.46 Mbit/s
95th percentile per-packet one-way delay: 352.407 ms
Loss rate: 22.82%

Run 2: Report of Verus — Data Link

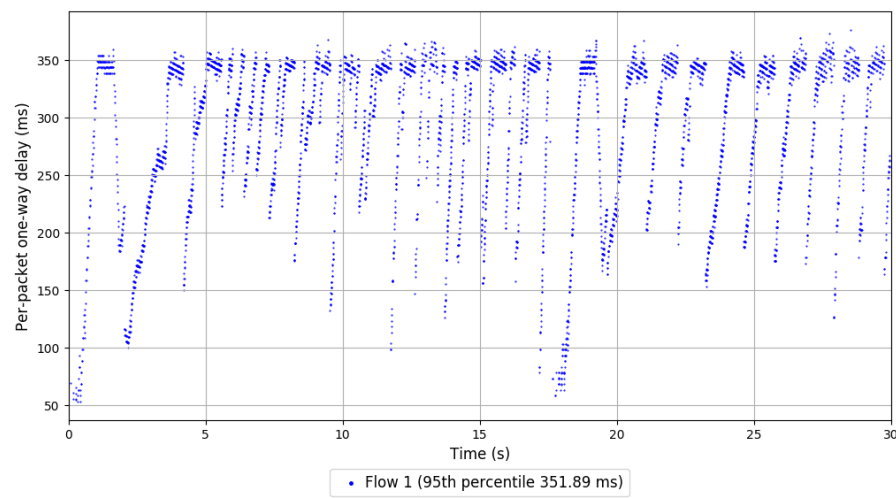
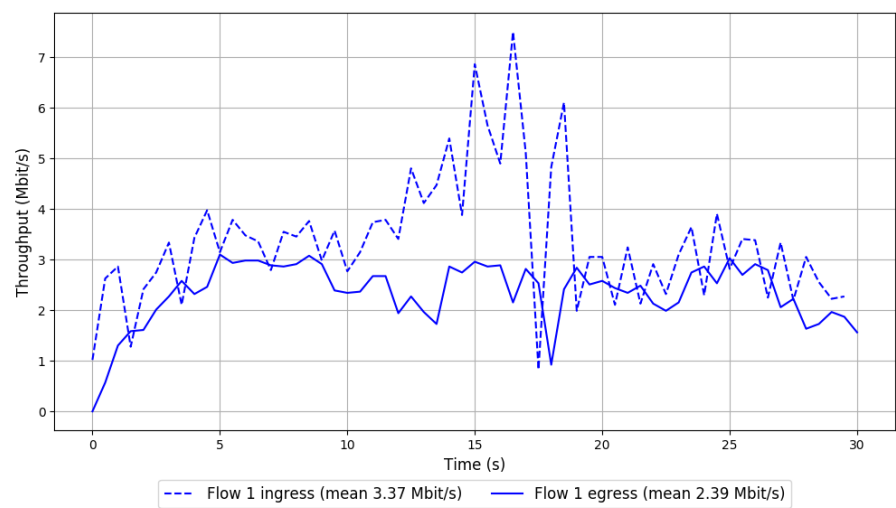


Run 3: Statistics of Verus

Start at: 2018-07-24 23:01:22
End at: 2018-07-24 23:01:52
Local clock offset: 2.277 ms
Remote clock offset: -9.668 ms

Below is generated by plot.py at 2018-07-24 23:03:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 351.886 ms
Loss rate: 29.32%
-- Flow 1:
Average throughput: 2.39 Mbit/s
95th percentile per-packet one-way delay: 351.886 ms
Loss rate: 29.32%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-07-24 22:11:44

End at: 2018-07-24 22:12:14

Local clock offset: -0.412 ms

Remote clock offset: -6.3 ms

Below is generated by plot.py at 2018-07-24 23:03:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.61 Mbit/s

95th percentile per-packet one-way delay: 221.458 ms

Loss rate: 3.24%

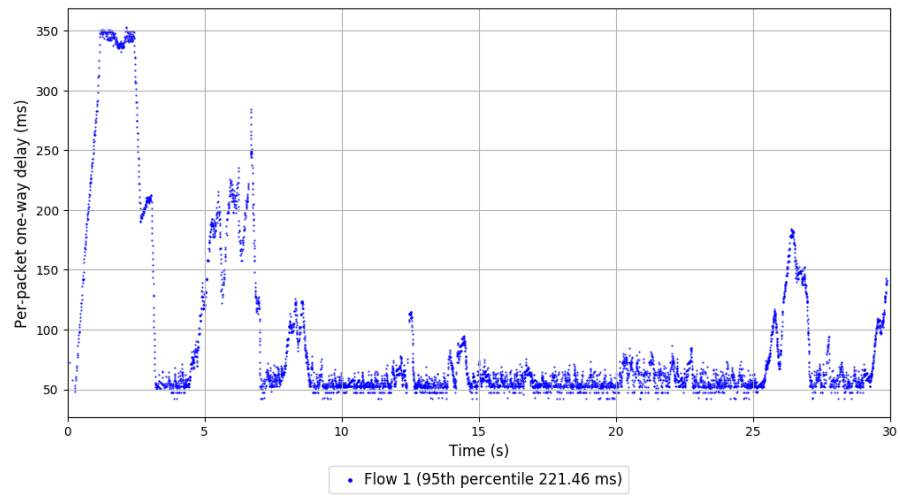
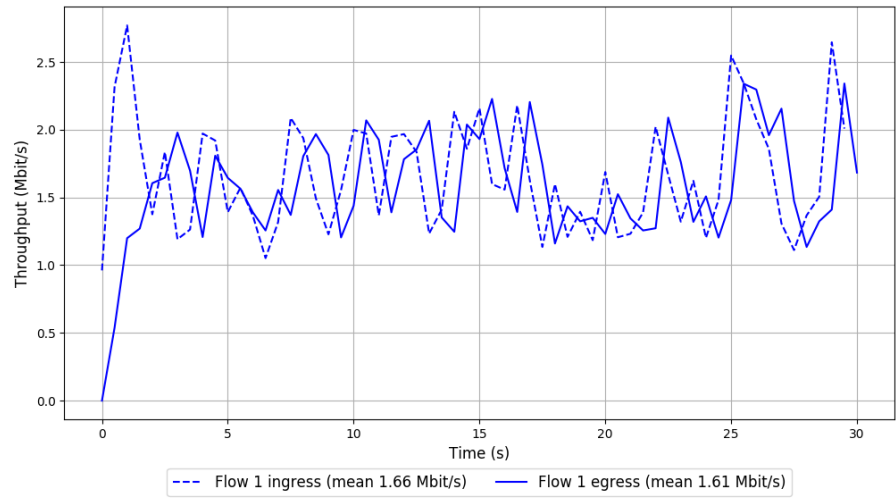
-- Flow 1:

Average throughput: 1.61 Mbit/s

95th percentile per-packet one-way delay: 221.458 ms

Loss rate: 3.24%

Run 1: Report of PCC-Vivace — Data Link

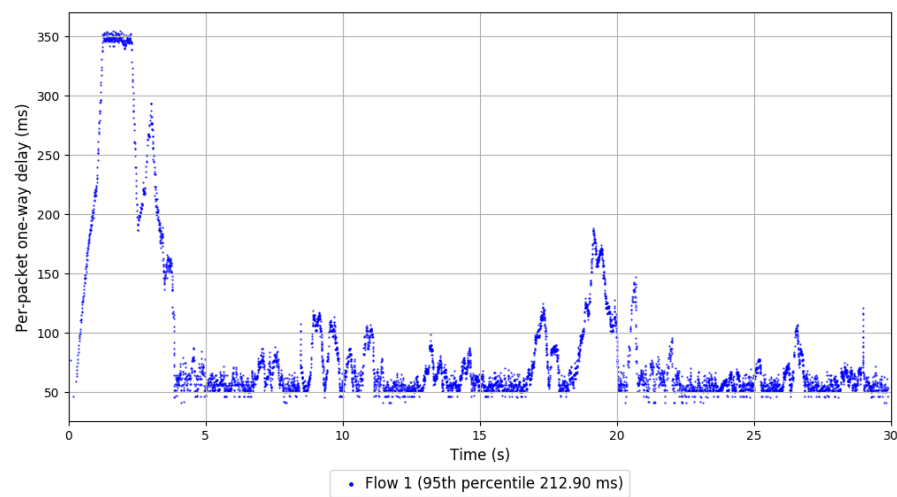
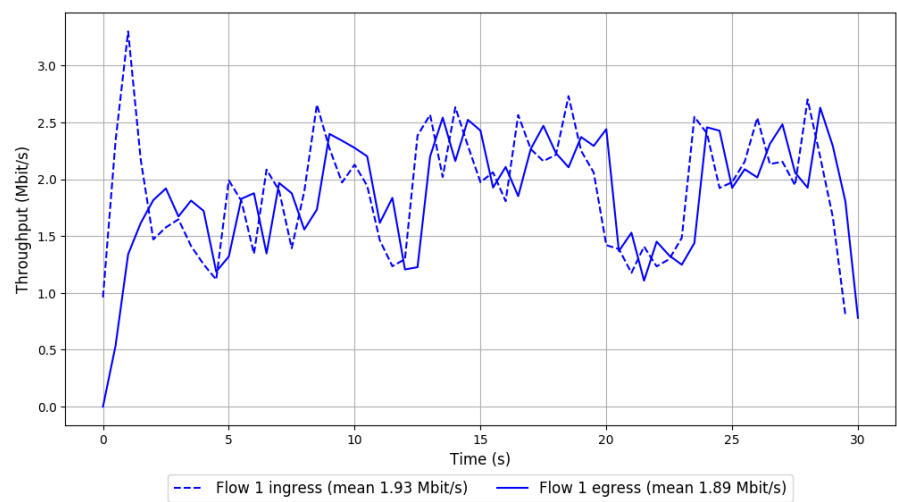


Run 2: Statistics of PCC-Vivace

Start at: 2018-07-24 22:30:00
End at: 2018-07-24 22:30:30
Local clock offset: -1.472 ms
Remote clock offset: -3.562 ms

Below is generated by plot.py at 2018-07-24 23:03:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 212.901 ms
Loss rate: 2.04%
-- Flow 1:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 212.901 ms
Loss rate: 2.04%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-07-24 22:48:27

End at: 2018-07-24 22:48:57

Local clock offset: 3.487 ms

Remote clock offset: -5.276 ms

Below is generated by plot.py at 2018-07-24 23:03:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 208.487 ms

Loss rate: 1.86%

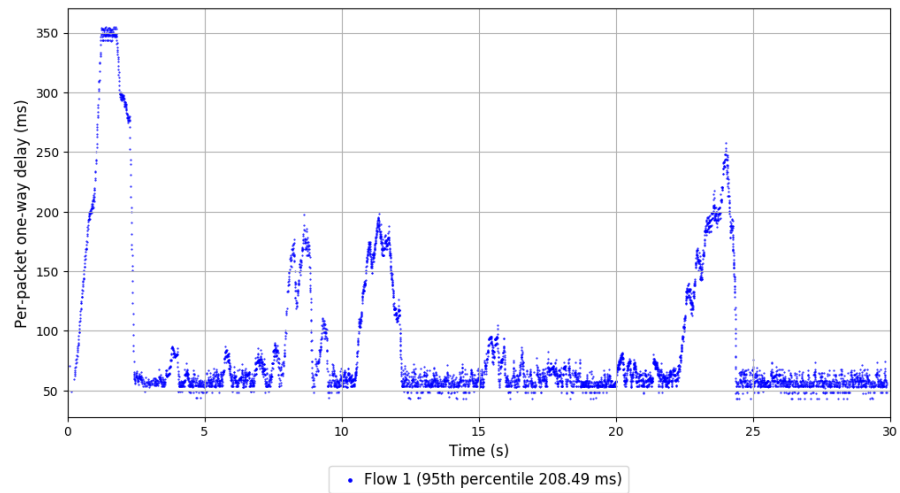
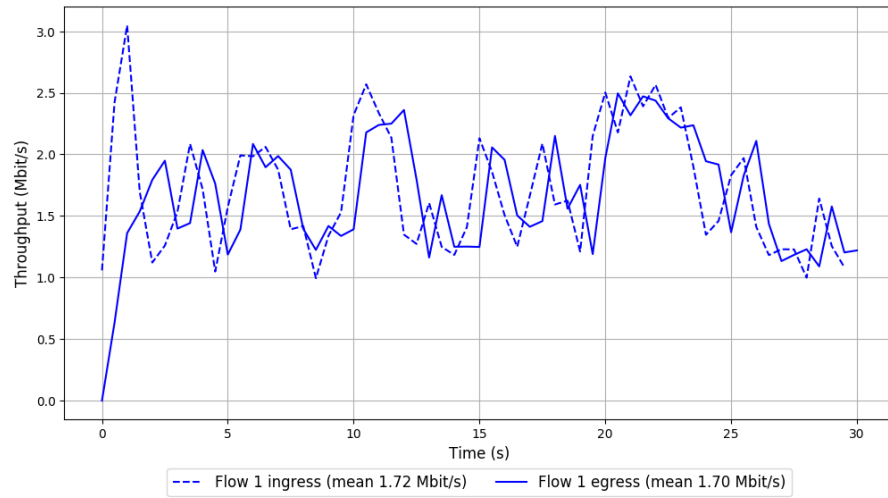
-- Flow 1:

Average throughput: 1.70 Mbit/s

95th percentile per-packet one-way delay: 208.487 ms

Loss rate: 1.86%

Run 3: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-07-24 22:12:48

End at: 2018-07-24 22:13:18

Local clock offset: 1.524 ms

Remote clock offset: -5.869 ms

Below is generated by plot.py at 2018-07-24 23:03:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 91.999 ms

Loss rate: 0.90%

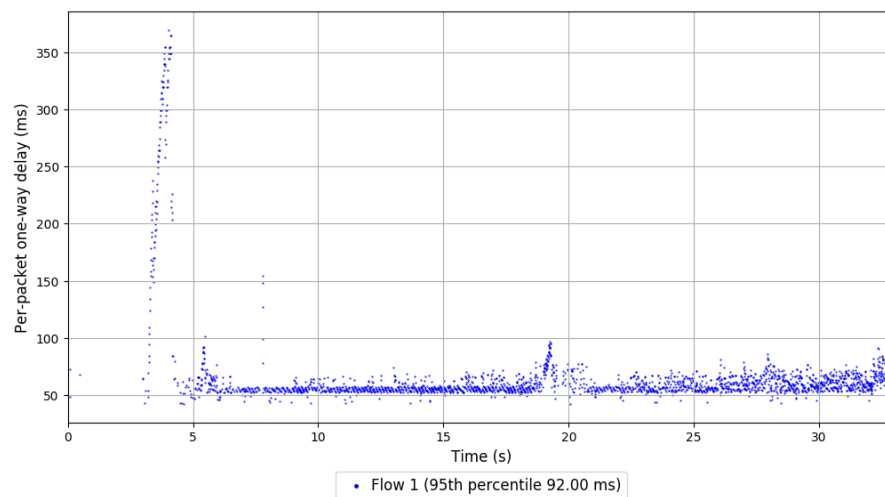
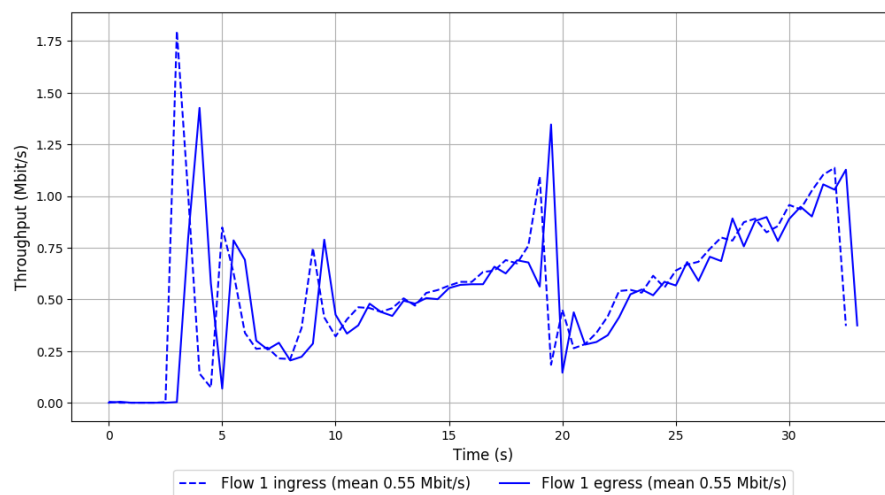
-- Flow 1:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 91.999 ms

Loss rate: 0.90%

Run 1: Report of WebRTC media — Data Link

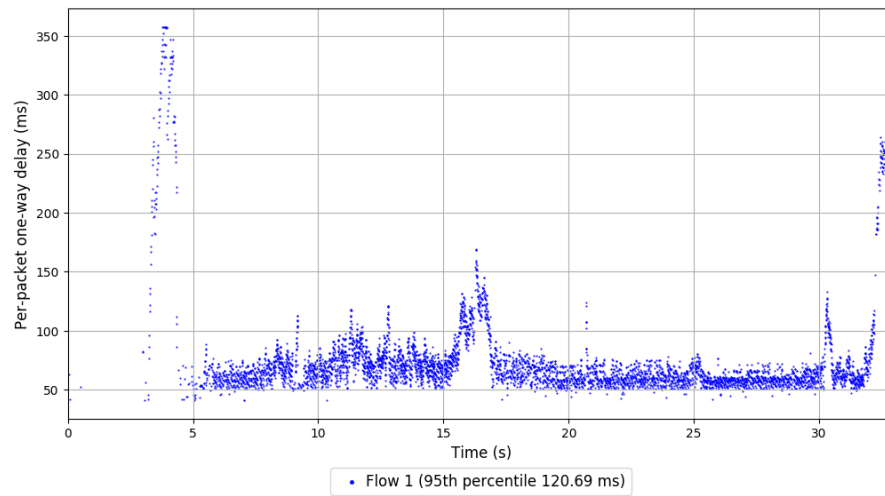
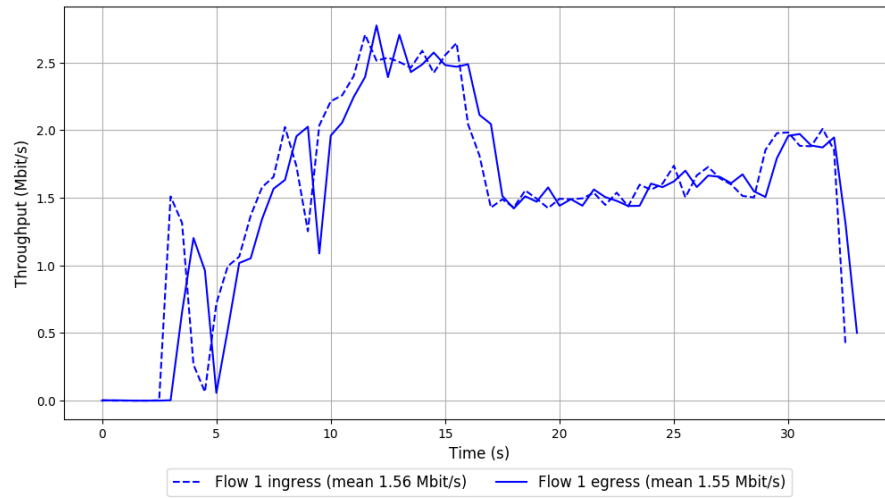


Run 2: Statistics of WebRTC media

Start at: 2018-07-24 22:31:05
End at: 2018-07-24 22:31:35
Local clock offset: -0.86 ms
Remote clock offset: -3.376 ms

Below is generated by plot.py at 2018-07-24 23:03:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 120.685 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 120.685 ms
Loss rate: 1.01%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-07-24 22:49:32
End at: 2018-07-24 22:50:02
Local clock offset: 3.708 ms
Remote clock offset: -5.656 ms

Below is generated by plot.py at 2018-07-24 23:03:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 304.808 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 1.64 Mbit/s
95th percentile per-packet one-way delay: 304.808 ms
Loss rate: 1.14%

Run 3: Report of WebRTC media — Data Link

