

Pantheon Report

Generated at 2018-07-10 11:42:59 (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.

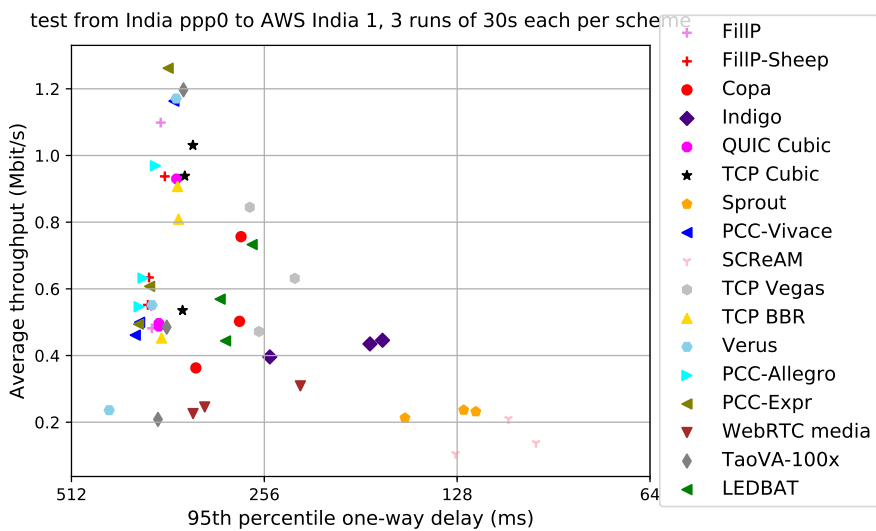
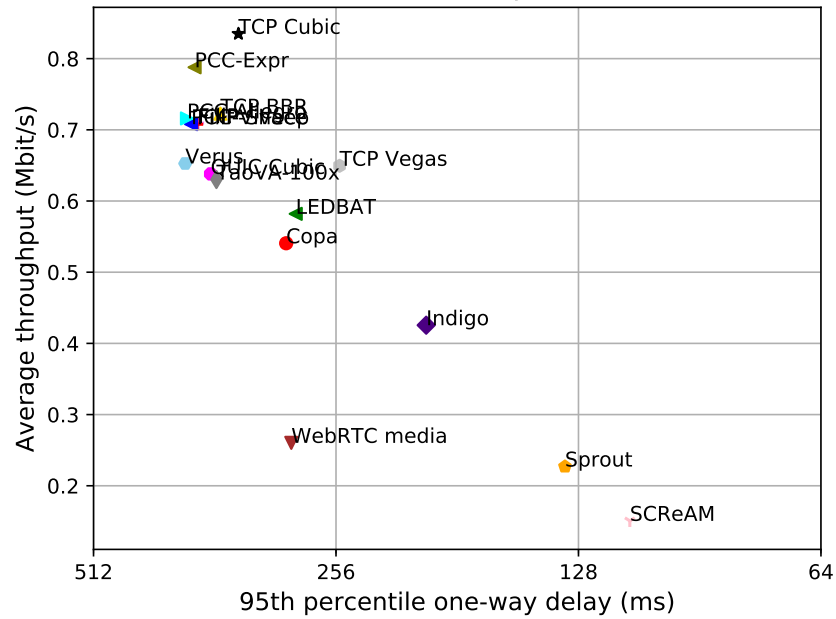
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

Git summary:

```
branch: master @ 9250dbeec7fb57193cdff1ba8c440b4e16ab30f0
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ 37162fe9af85249aeccac061c93e75640ef710b5
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
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	0.72	356.22	8.44
Copa	3	0.54	295.20	2.66
TCP Cubic	3	0.84	338.36	4.35
FillP	3	0.71	379.85	56.74
FillP-Sheep	3	0.71	380.82	54.27
Indigo	3	0.43	197.83	3.43
LEDBAT	3	0.58	287.27	1.50
PCC-Allegro	3	0.72	391.98	75.69
PCC-Expr	3	0.79	383.56	88.66
QUIC Cubic	3	0.64	366.35	15.56
SCReAM	3	0.15	110.53	0.22
Sprout	3	0.23	133.05	1.35
TaoVA-100x	3	0.63	360.34	41.08
TCP Vegas	3	0.65	253.39	1.25
Verus	3	0.65	393.93	47.30
PCC-Vivace	3	0.71	387.41	48.26
WebRTC media	3	0.26	290.91	5.73

Run 1: Statistics of TCP BBR

Start at: 2018-07-10 11:05:12

End at: 2018-07-10 11:05:42

Local clock offset: 1.024 ms

Remote clock offset: -1.083 ms

Below is generated by plot.py at 2018-07-10 11:42:28

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.45 Mbit/s

95th percentile per-packet one-way delay: 370.437 ms

Loss rate: 11.12%

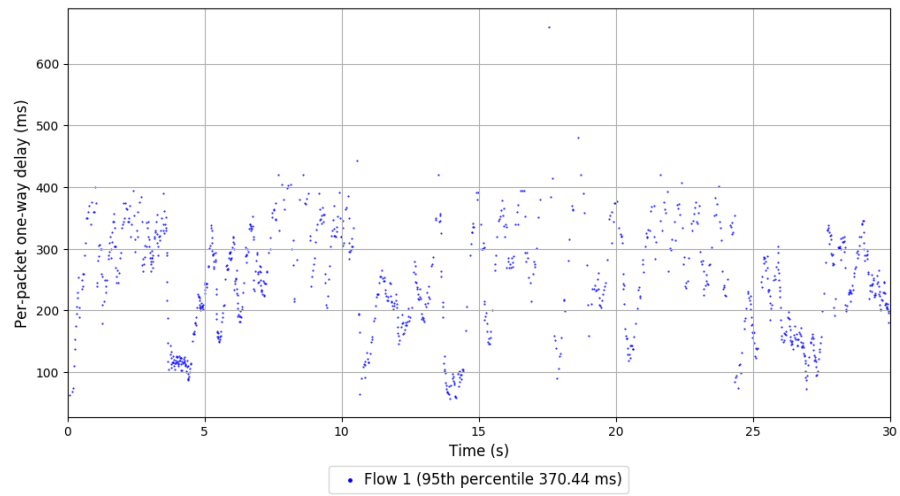
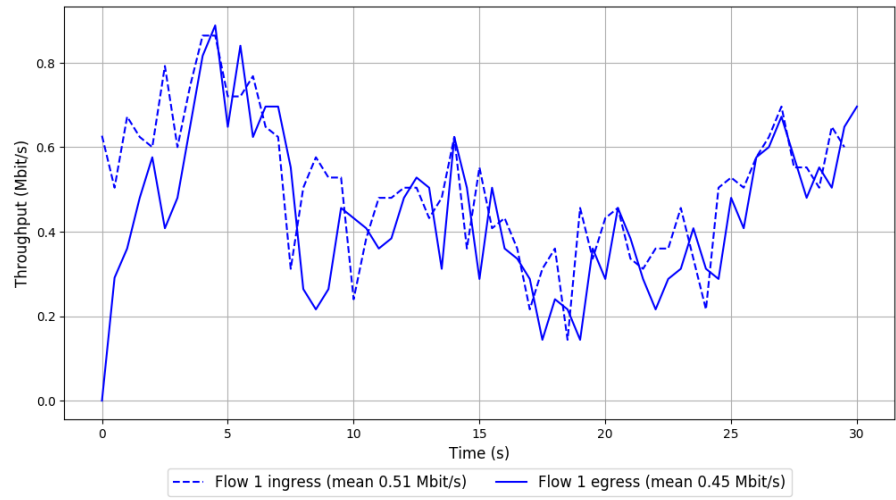
-- Flow 1:

Average throughput: 0.45 Mbit/s

95th percentile per-packet one-way delay: 370.437 ms

Loss rate: 11.12%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-07-10 11:23:34

End at: 2018-07-10 11:24:04

Local clock offset: 1.688 ms

Remote clock offset: 1.632 ms

Below is generated by plot.py at 2018-07-10 11:42:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.81 Mbit/s

95th percentile per-packet one-way delay: 348.482 ms

Loss rate: 6.45%

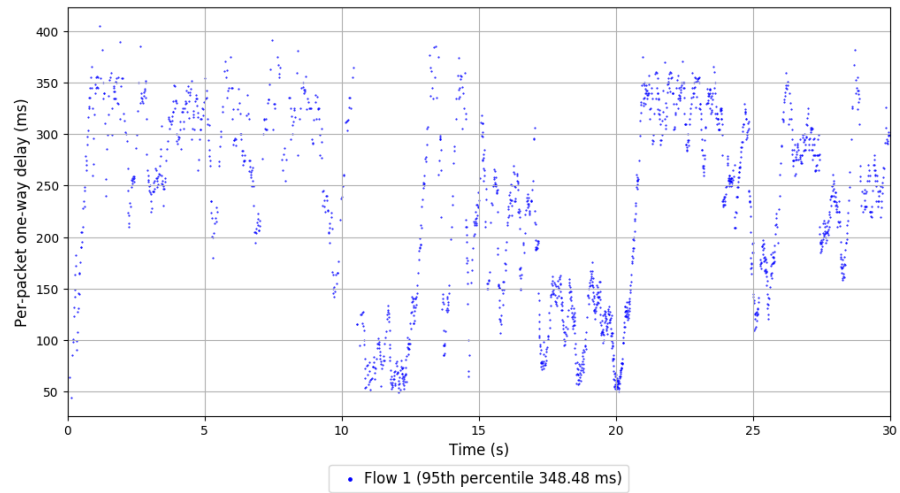
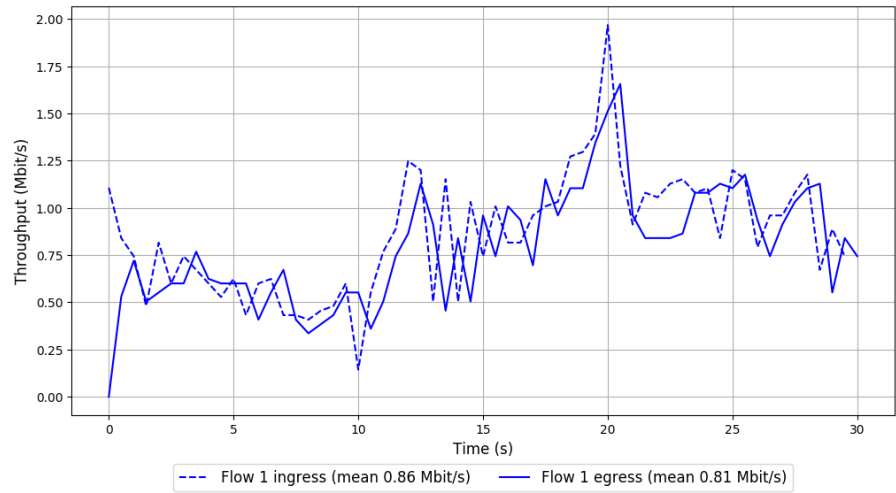
-- Flow 1:

Average throughput: 0.81 Mbit/s

95th percentile per-packet one-way delay: 348.482 ms

Loss rate: 6.45%

Run 2: Report of TCP BBR — Data Link

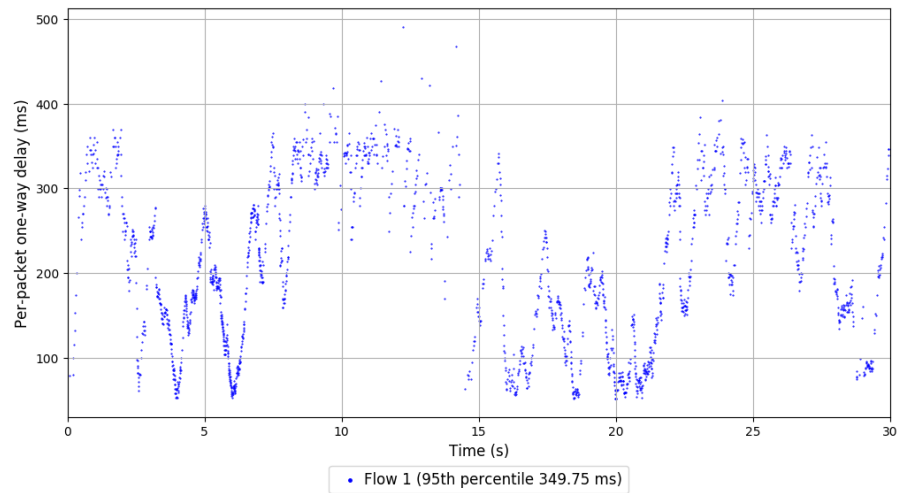
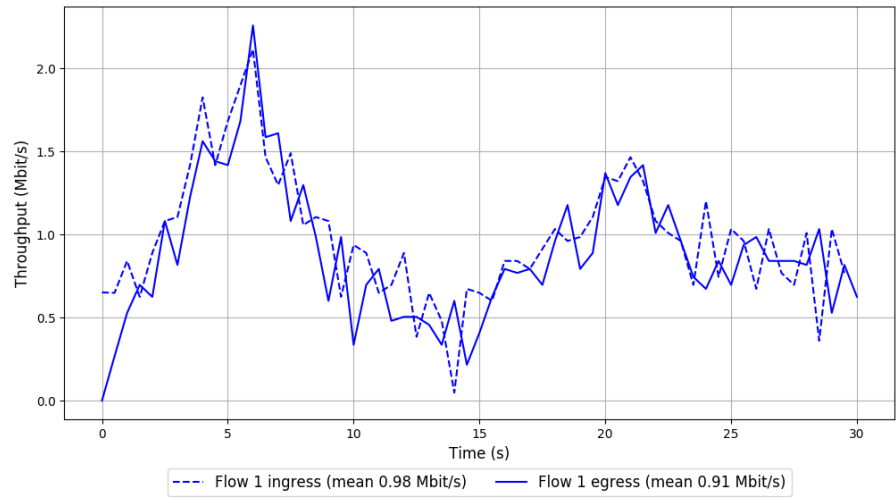


Run 3: Statistics of TCP BBR

Start at: 2018-07-10 11:41:51
End at: 2018-07-10 11:42:21
Local clock offset: 1.806 ms
Remote clock offset: -2.738 ms

Below is generated by plot.py at 2018-07-10 11:42:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 349.752 ms
Loss rate: 7.76%
-- Flow 1:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 349.752 ms
Loss rate: 7.76%

Run 3: Report of TCP BBR — Data Link

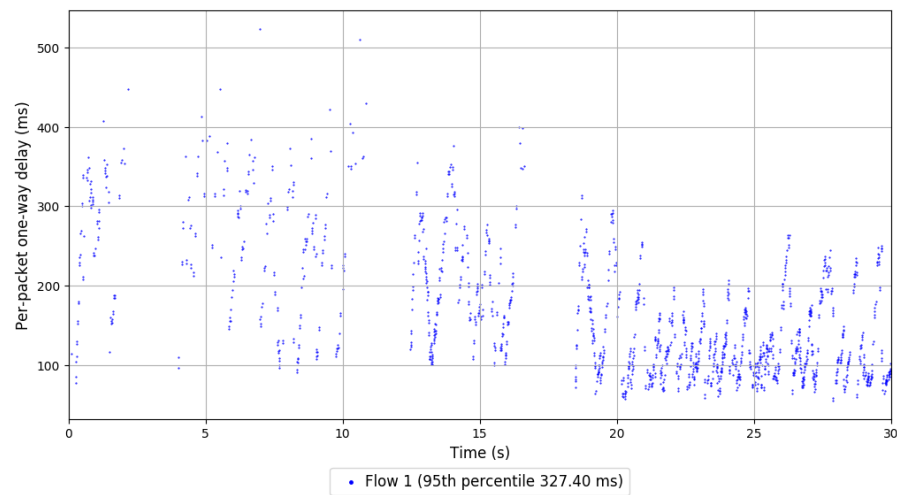
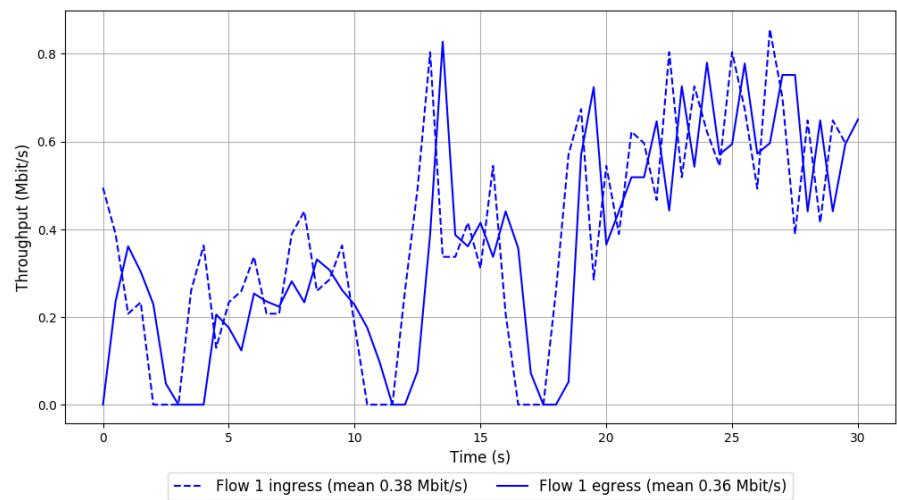


Run 1: Statistics of Copa

Start at: 2018-07-10 10:55:30
End at: 2018-07-10 10:56:00
Local clock offset: 4.123 ms
Remote clock offset: -4.861 ms

Below is generated by plot.py at 2018-07-10 11:42:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 327.398 ms
Loss rate: 4.86%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 327.398 ms
Loss rate: 4.86%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-07-10 11:13:48

End at: 2018-07-10 11:14:18

Local clock offset: 0.274 ms

Remote clock offset: 9.09 ms

Below is generated by plot.py at 2018-07-10 11:42:29

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 279.861 ms

Loss rate: 1.58%

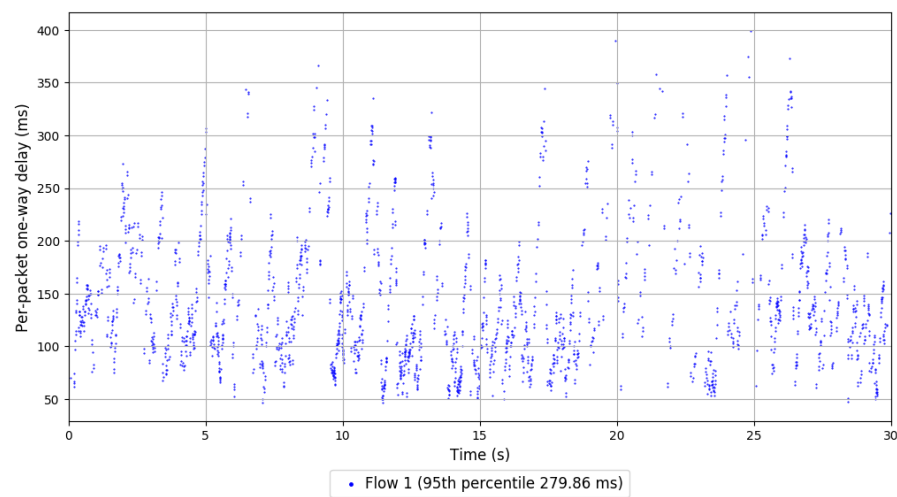
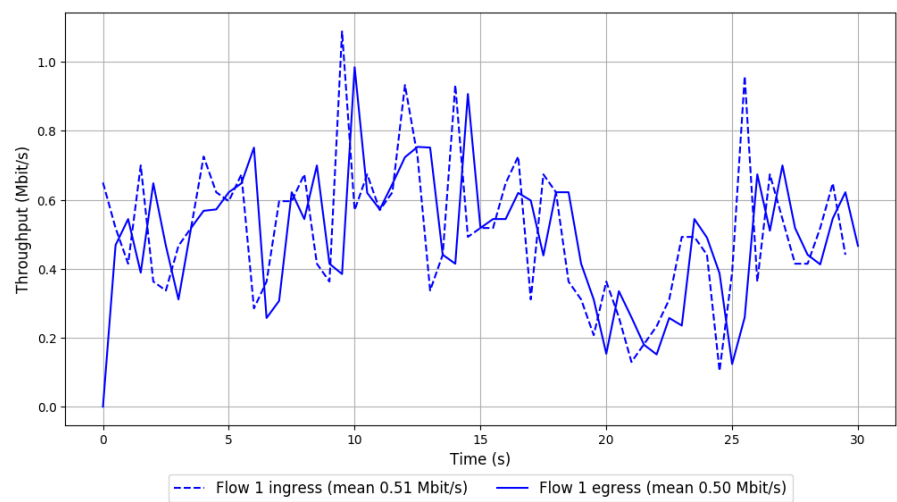
-- Flow 1:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 279.861 ms

Loss rate: 1.58%

Run 2: Report of Copa — Data Link

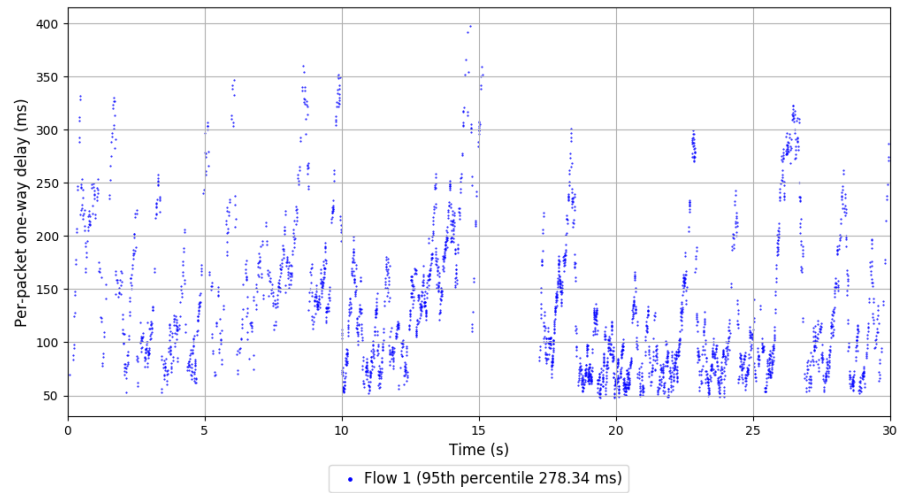
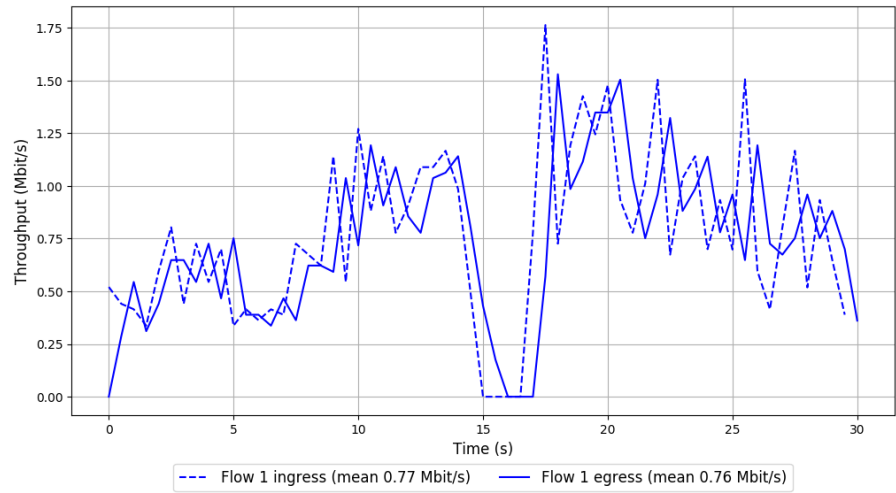


Run 3: Statistics of Copa

Start at: 2018-07-10 11:32:10
End at: 2018-07-10 11:32:40
Local clock offset: 2.784 ms
Remote clock offset: 5.163 ms

Below is generated by plot.py at 2018-07-10 11:42:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 278.336 ms
Loss rate: 1.53%
-- Flow 1:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 278.336 ms
Loss rate: 1.53%

Run 3: Report of Copa — Data Link

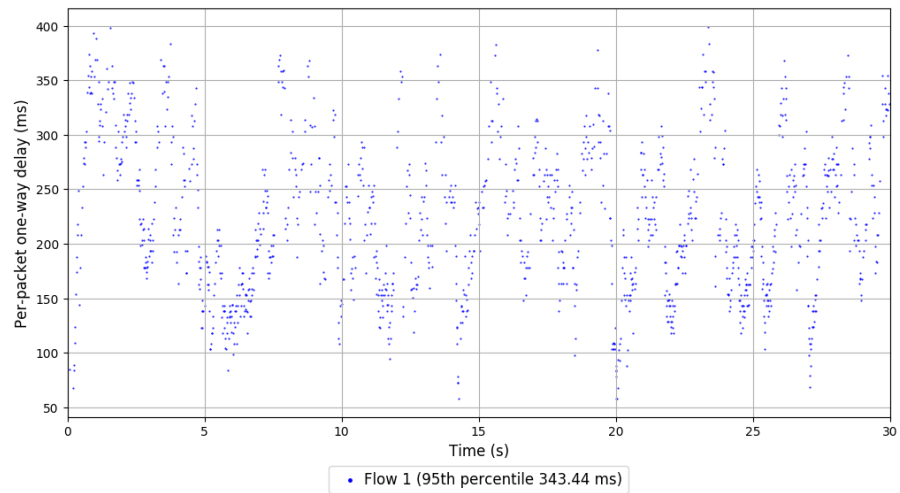
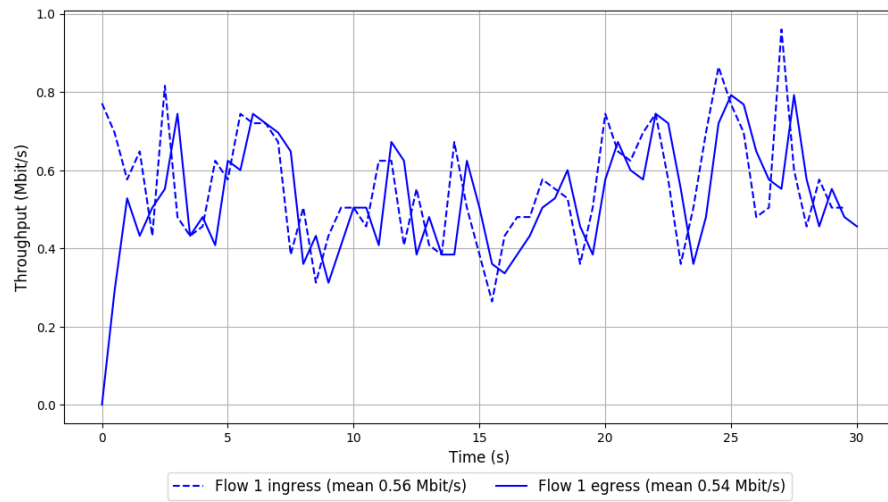


Run 1: Statistics of TCP Cubic

Start at: 2018-07-10 10:51:12
End at: 2018-07-10 10:51:42
Local clock offset: 0.243 ms
Remote clock offset: -4.611 ms

Below is generated by plot.py at 2018-07-10 11:42:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 343.437 ms
Loss rate: 4.99%
-- Flow 1:
Average throughput: 0.54 Mbit/s
95th percentile per-packet one-way delay: 343.437 ms
Loss rate: 4.99%

Run 1: Report of TCP Cubic — Data Link

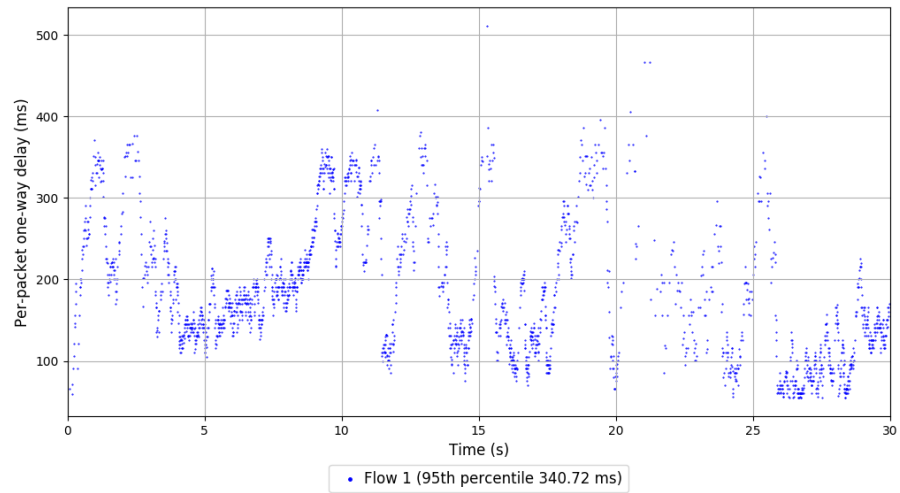
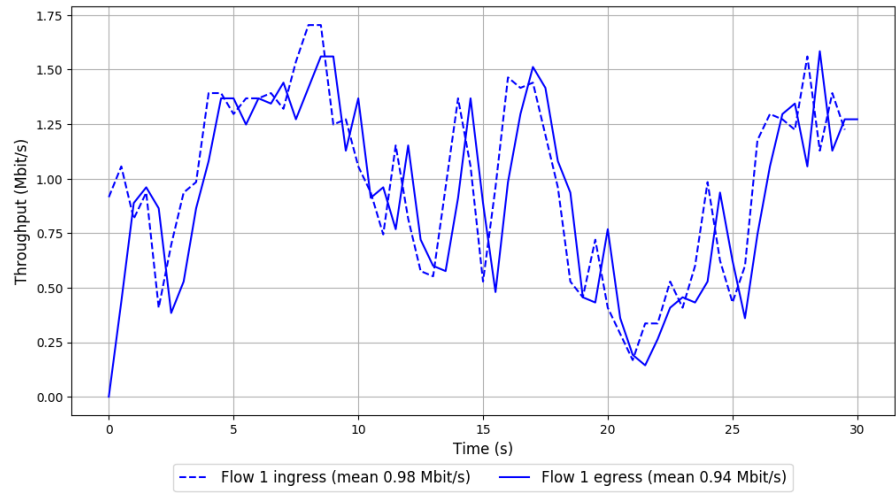


Run 2: Statistics of TCP Cubic

Start at: 2018-07-10 11:09:31
End at: 2018-07-10 11:10:01
Local clock offset: 1.892 ms
Remote clock offset: -0.233 ms

Below is generated by plot.py at 2018-07-10 11:42:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 340.717 ms
Loss rate: 4.26%
-- Flow 1:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 340.717 ms
Loss rate: 4.26%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-07-10 11:27:52

End at: 2018-07-10 11:28:22

Local clock offset: 0.075 ms

Remote clock offset: 3.031 ms

Below is generated by plot.py at 2018-07-10 11:42:32

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.03 Mbit/s

95th percentile per-packet one-way delay: 330.925 ms

Loss rate: 3.79%

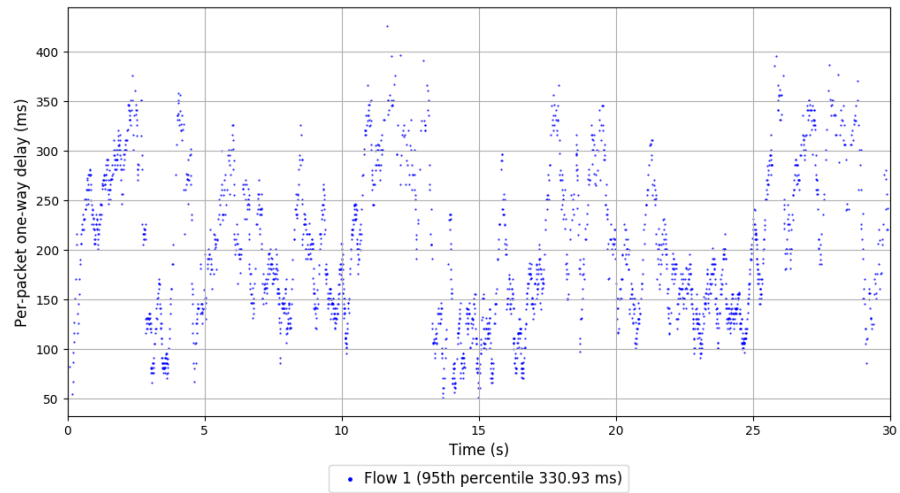
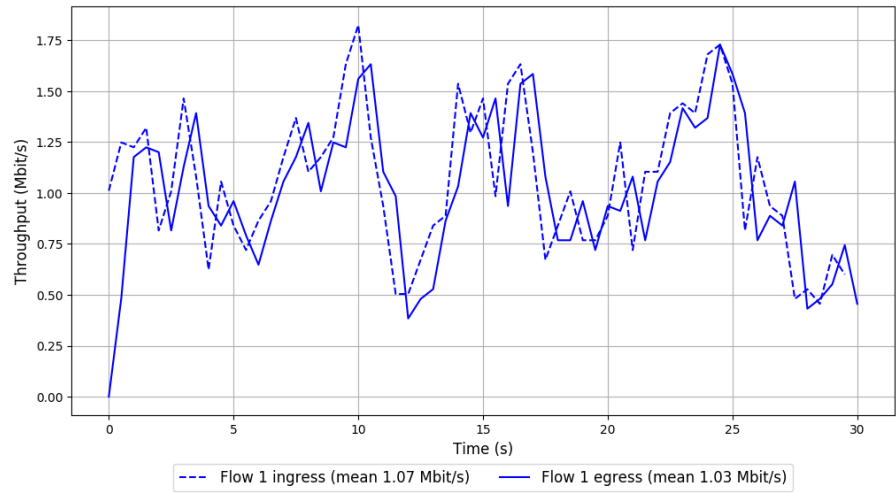
-- Flow 1:

Average throughput: 1.03 Mbit/s

95th percentile per-packet one-way delay: 330.925 ms

Loss rate: 3.79%

Run 3: Report of TCP Cubic — Data Link

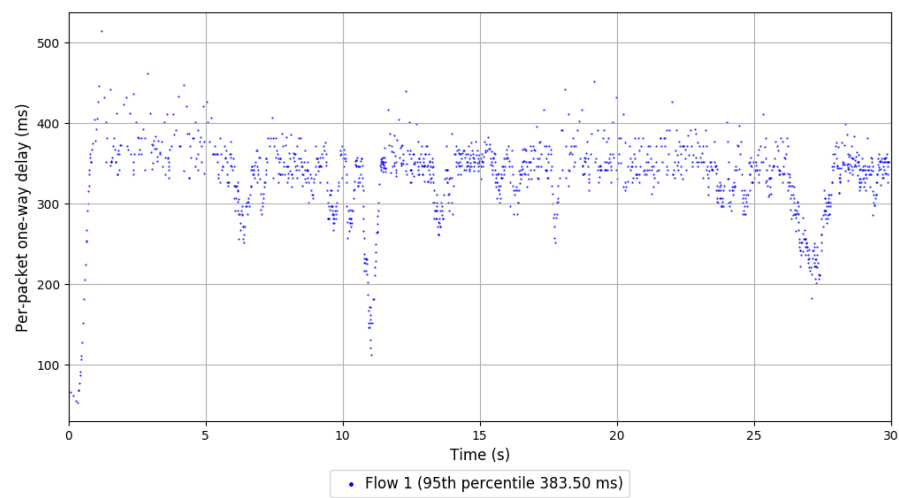
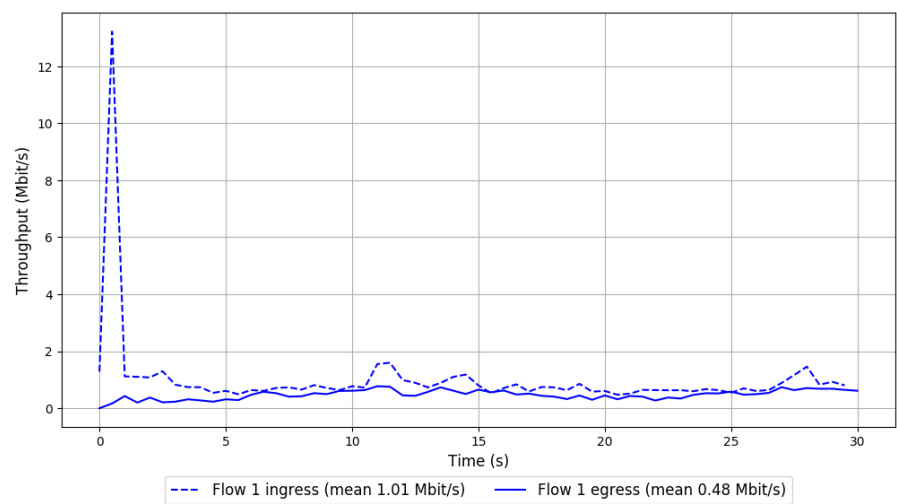


Run 1: Statistics of FillP

Start at: 2018-07-10 10:53:21
End at: 2018-07-10 10:53:51
Local clock offset: 0.34 ms
Remote clock offset: -3.051 ms

Below is generated by plot.py at 2018-07-10 11:42:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 383.498 ms
Loss rate: 52.49%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 383.498 ms
Loss rate: 52.49%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-07-10 11:11:39

End at: 2018-07-10 11:12:09

Local clock offset: 2.221 ms

Remote clock offset: 1.378 ms

Below is generated by plot.py at 2018-07-10 11:42:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.10 Mbit/s

95th percentile per-packet one-way delay: 371.522 ms

Loss rate: 53.62%

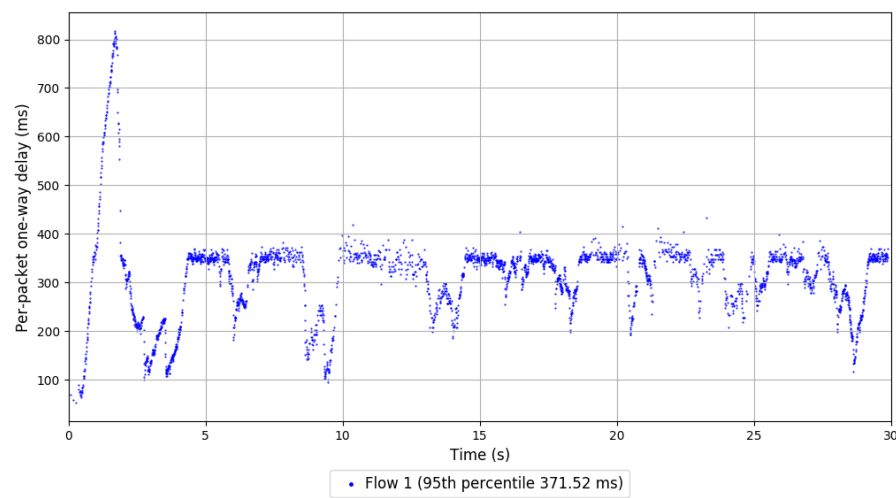
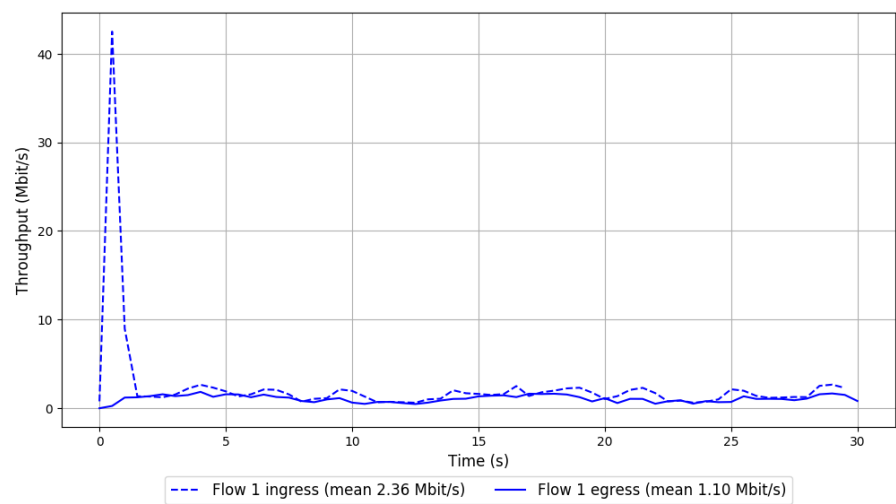
-- Flow 1:

Average throughput: 1.10 Mbit/s

95th percentile per-packet one-way delay: 371.522 ms

Loss rate: 53.62%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-07-10 11:30:01

End at: 2018-07-10 11:30:31

Local clock offset: 1.051 ms

Remote clock offset: 3.226 ms

Below is generated by plot.py at 2018-07-10 11:42:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 384.522 ms

Loss rate: 64.10%

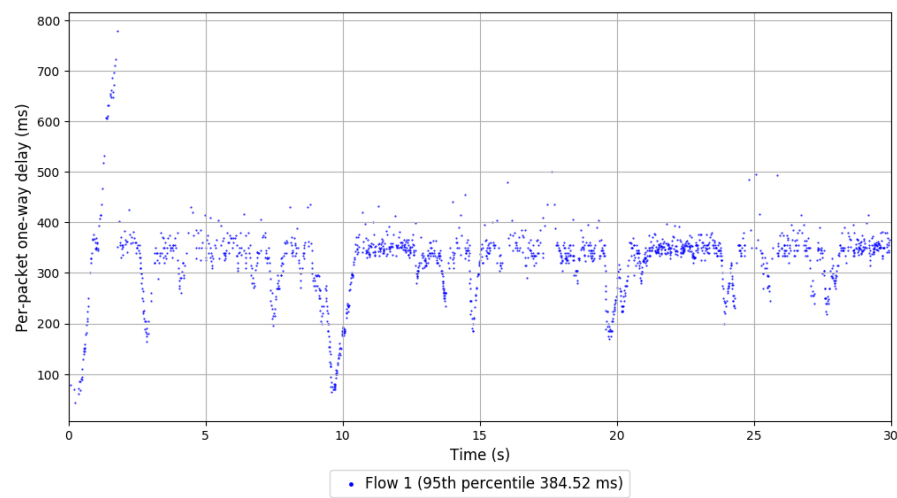
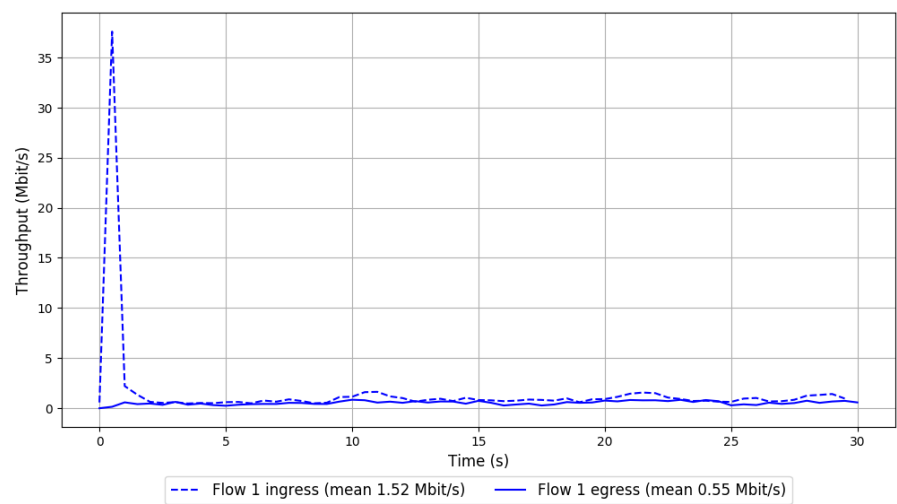
-- Flow 1:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 384.522 ms

Loss rate: 64.10%

Run 3: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-07-10 10:58:43

End at: 2018-07-10 10:59:13

Local clock offset: 3.254 ms

Remote clock offset: -3.98 ms

Below is generated by plot.py at 2018-07-10 11:42:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.63 Mbit/s

95th percentile per-packet one-way delay: 387.457 ms

Loss rate: 57.02%

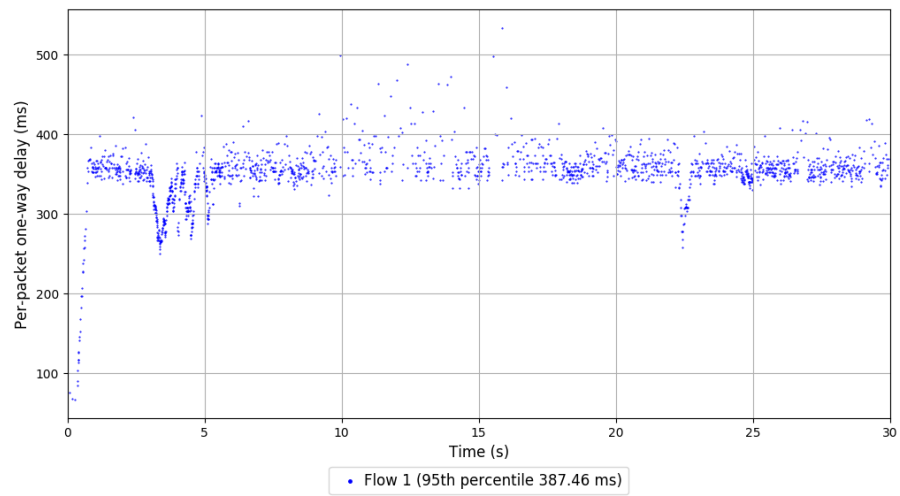
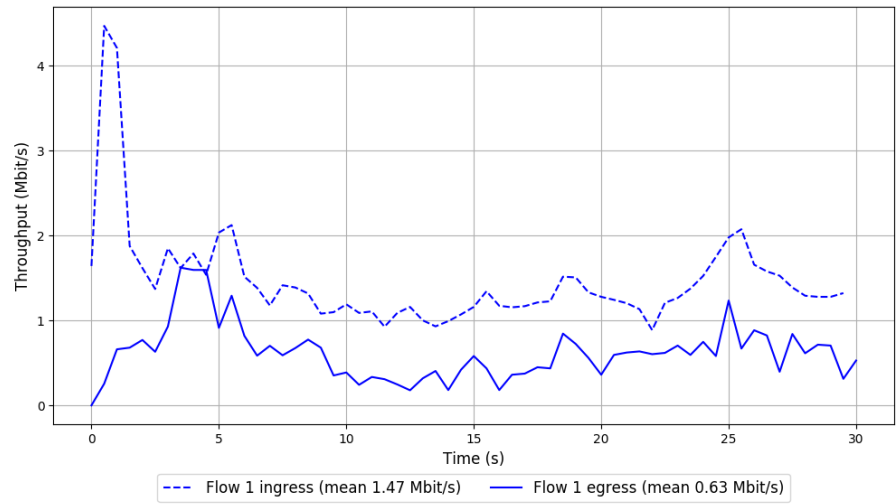
-- Flow 1:

Average throughput: 0.63 Mbit/s

95th percentile per-packet one-way delay: 387.457 ms

Loss rate: 57.02%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-07-10 11:17:07

End at: 2018-07-10 11:17:37

Local clock offset: 1.487 ms

Remote clock offset: 2.148 ms

Below is generated by plot.py at 2018-07-10 11:42:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 389.002 ms

Loss rate: 57.98%

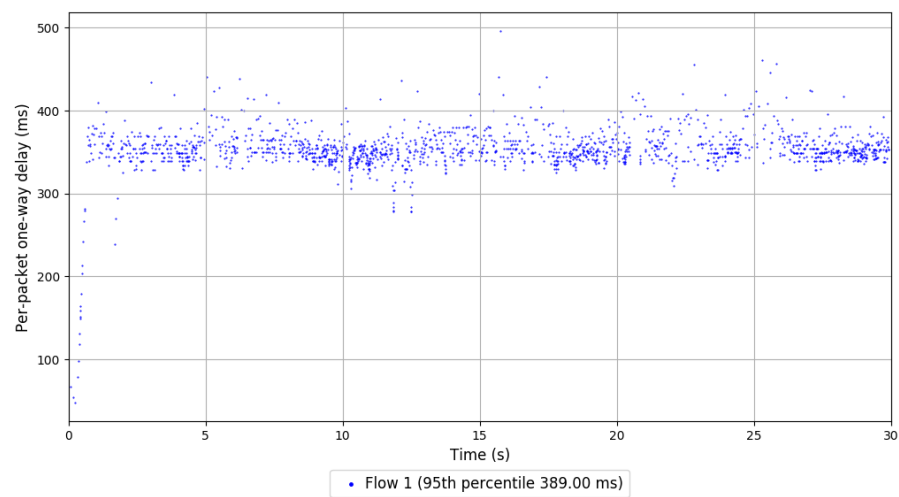
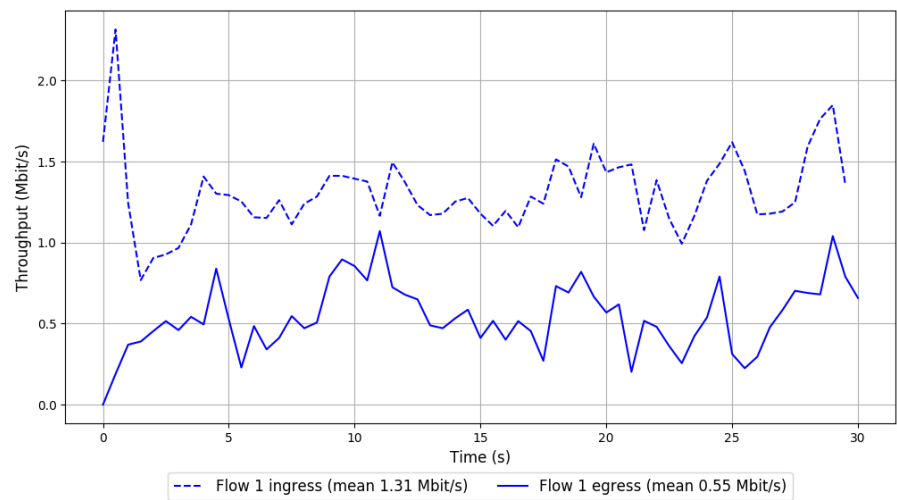
-- Flow 1:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 389.002 ms

Loss rate: 57.98%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-07-10 11:35:24

End at: 2018-07-10 11:35:54

Local clock offset: 0.61 ms

Remote clock offset: 3.852 ms

Below is generated by plot.py at 2018-07-10 11:42:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 366.010 ms

Loss rate: 47.80%

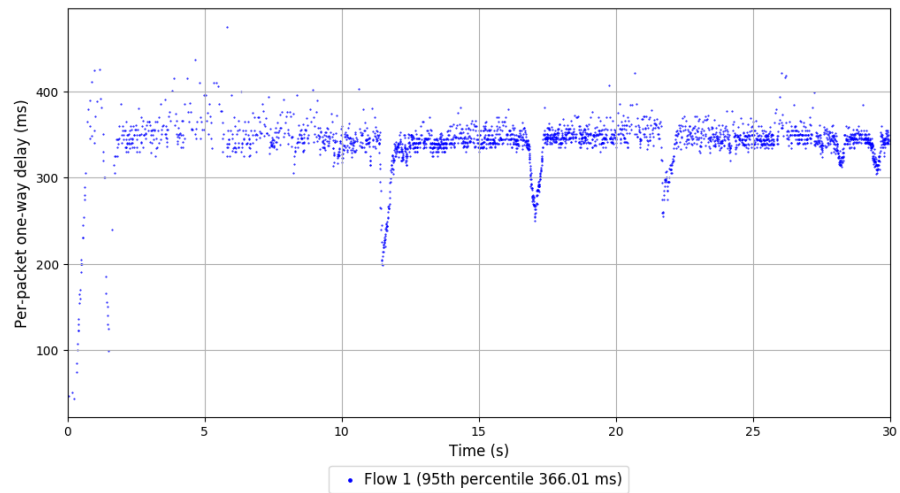
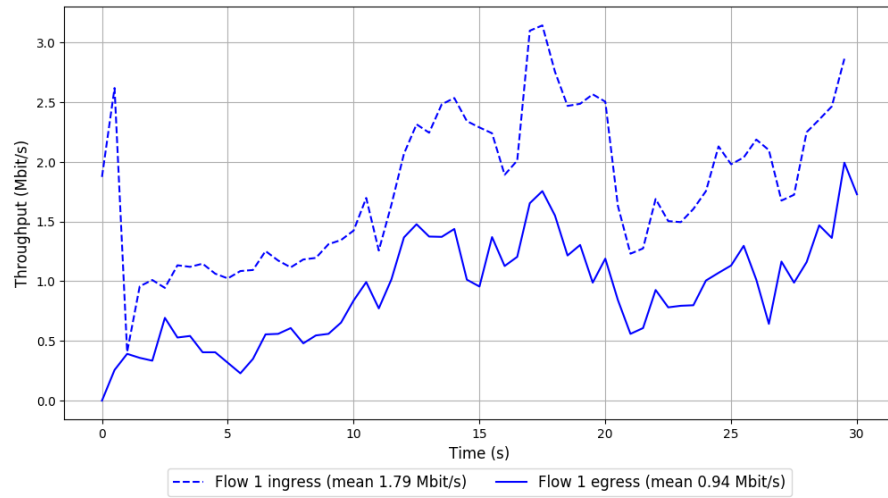
-- Flow 1:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 366.010 ms

Loss rate: 47.80%

Run 3: Report of FillP-Sheep — Data Link

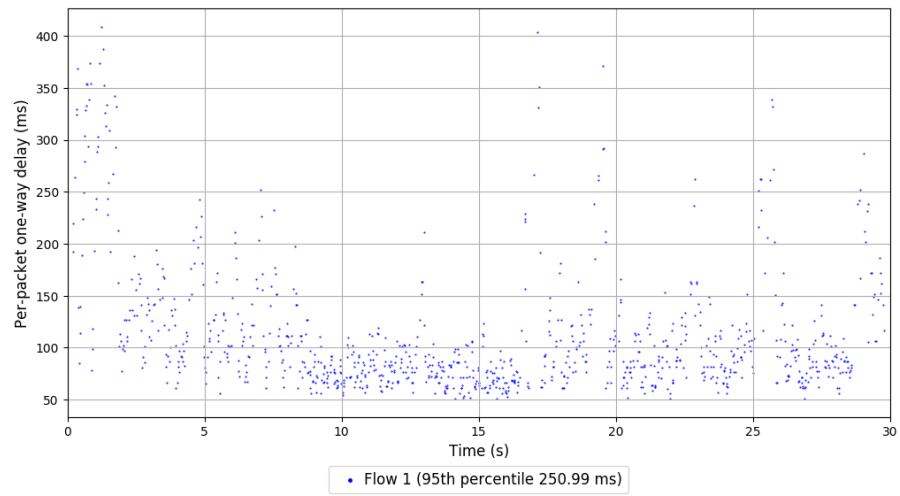
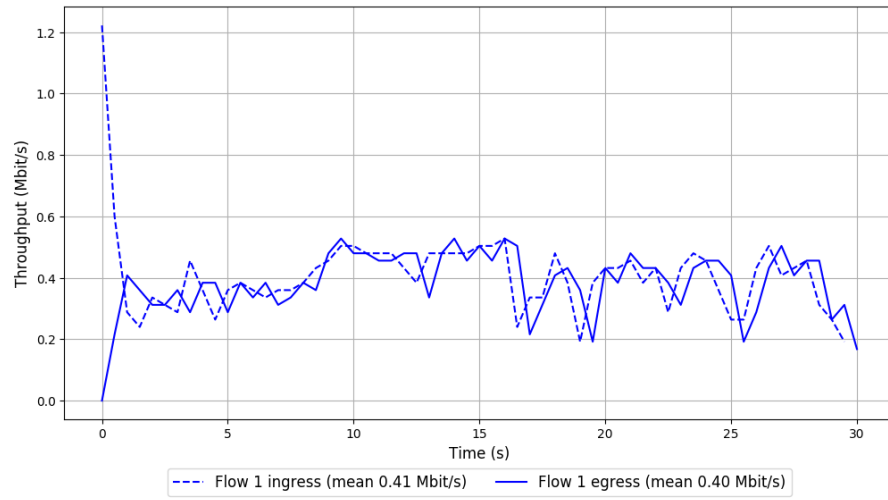


```
Run 1: Statistics of Indigo

Start at: 2018-07-10 10:57:39
End at: 2018-07-10 10:58:09
Local clock offset: 3.004 ms
Remote clock offset: -4.021 ms

# Below is generated by plot.py at 2018-07-10 11:42:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 250.989 ms
Loss rate: 4.49%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 250.989 ms
Loss rate: 4.49%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-07-10 11:16:02

End at: 2018-07-10 11:16:32

Local clock offset: 2.249 ms

Remote clock offset: 0.417 ms

Below is generated by plot.py at 2018-07-10 11:42:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.45 Mbit/s

95th percentile per-packet one-way delay: 167.387 ms

Loss rate: 2.65%

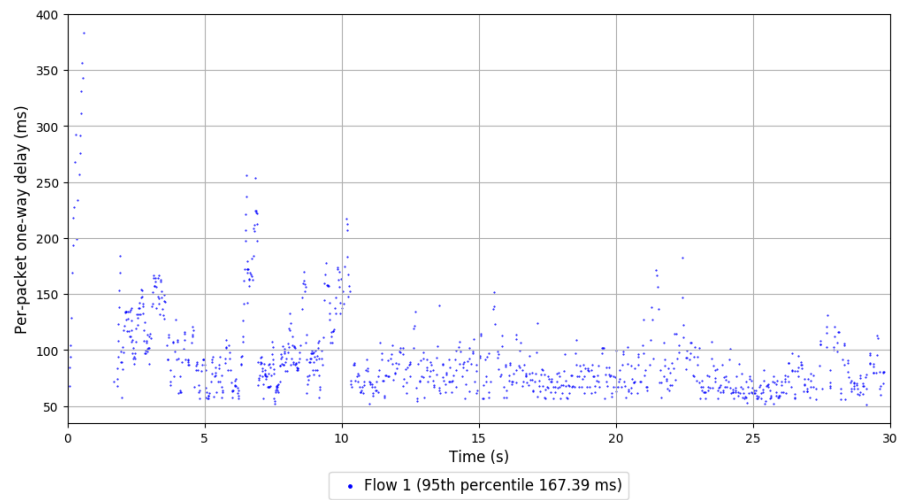
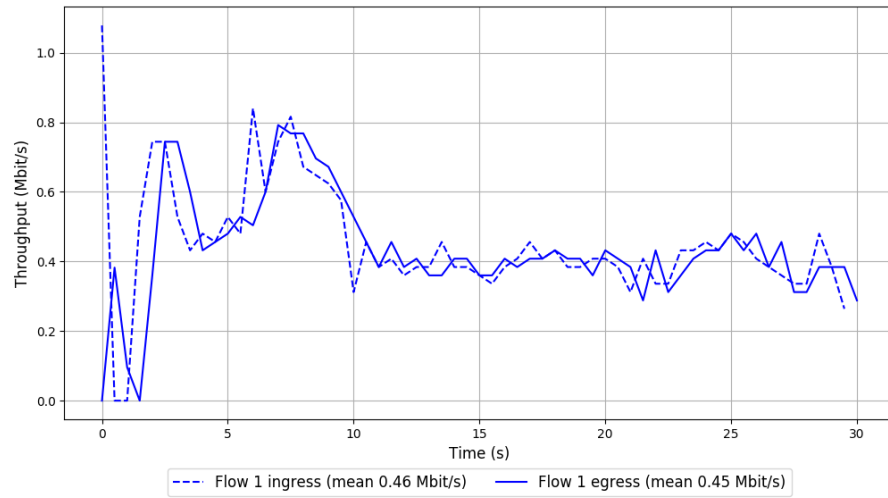
-- Flow 1:

Average throughput: 0.45 Mbit/s

95th percentile per-packet one-way delay: 167.387 ms

Loss rate: 2.65%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-07-10 11:34:19

End at: 2018-07-10 11:34:49

Local clock offset: 3.512 ms

Remote clock offset: 1.048 ms

Below is generated by plot.py at 2018-07-10 11:42:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 175.100 ms

Loss rate: 3.14%

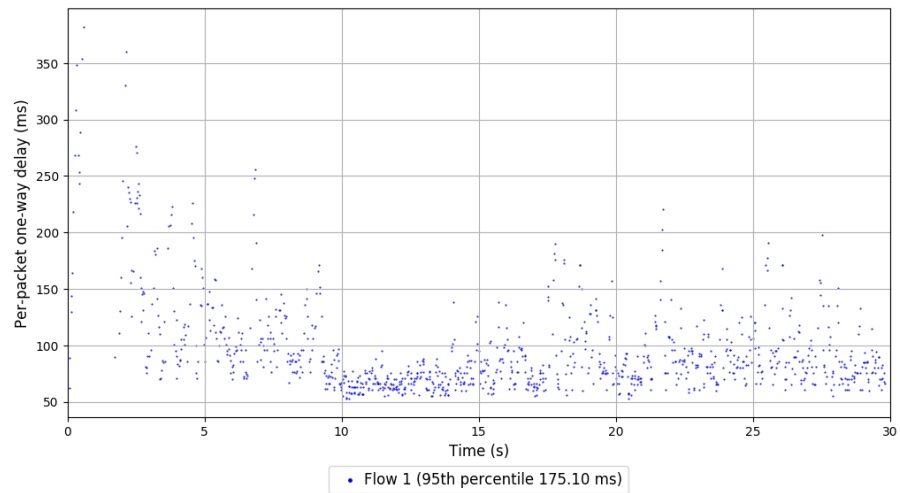
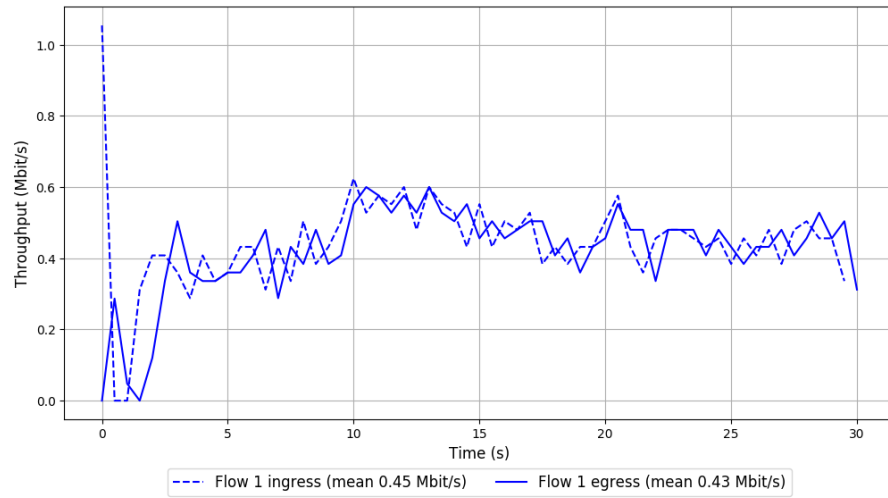
-- Flow 1:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 175.100 ms

Loss rate: 3.14%

Run 3: Report of Indigo — Data Link

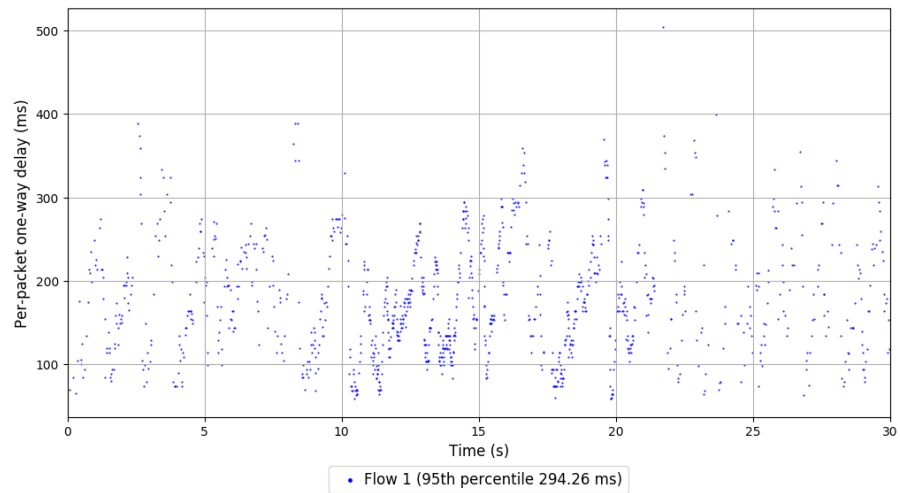
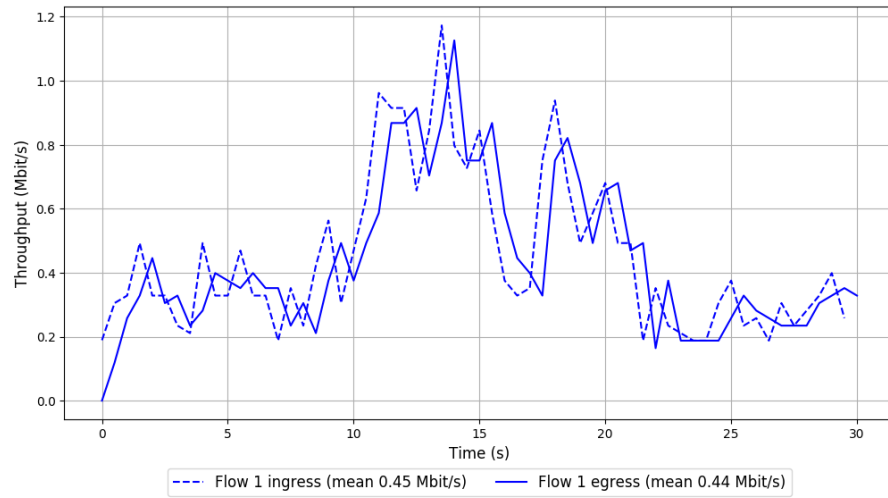


```
Run 1: Statistics of LEDBAT

Start at: 2018-07-10 10:52:17
End at: 2018-07-10 10:52:47
Local clock offset: 1.895 ms
Remote clock offset: -4.127 ms

# Below is generated by plot.py at 2018-07-10 11:42:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 294.257 ms
Loss rate: 1.57%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 294.257 ms
Loss rate: 1.57%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-07-10 11:10:35

End at: 2018-07-10 11:11:05

Local clock offset: 1.033 ms

Remote clock offset: 5.348 ms

Below is generated by plot.py at 2018-07-10 11:42:38

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.73 Mbit/s

95th percentile per-packet one-way delay: 267.476 ms

Loss rate: 1.37%

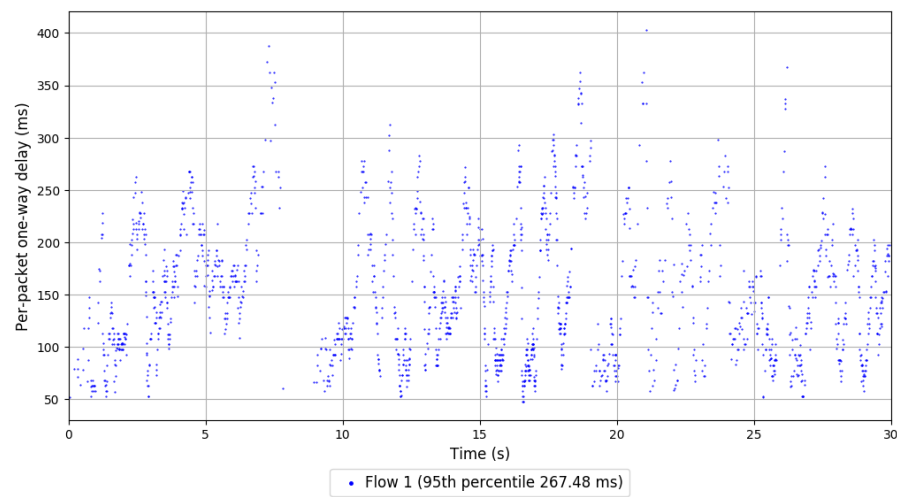
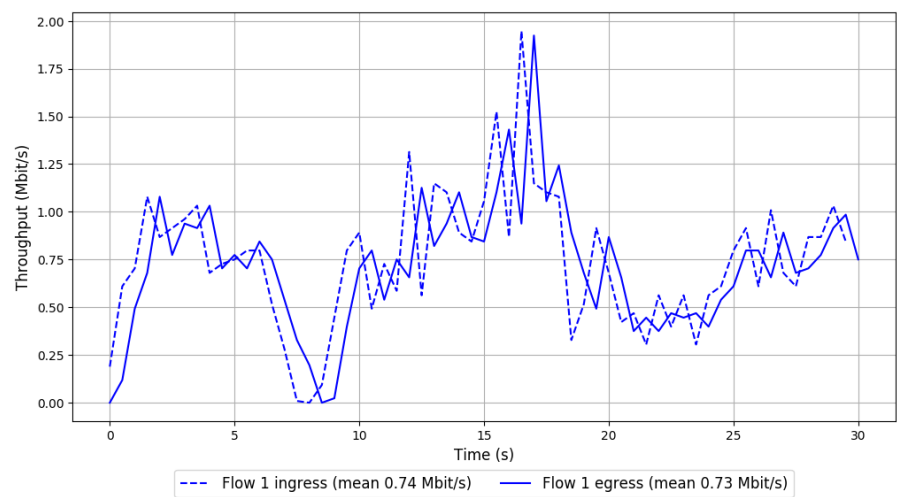
-- Flow 1:

Average throughput: 0.73 Mbit/s

95th percentile per-packet one-way delay: 267.476 ms

Loss rate: 1.37%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-07-10 11:28:57

End at: 2018-07-10 11:29:27

Local clock offset: 1.842 ms

Remote clock offset: 0.509 ms

Below is generated by plot.py at 2018-07-10 11:42:39

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 300.074 ms

Loss rate: 1.56%

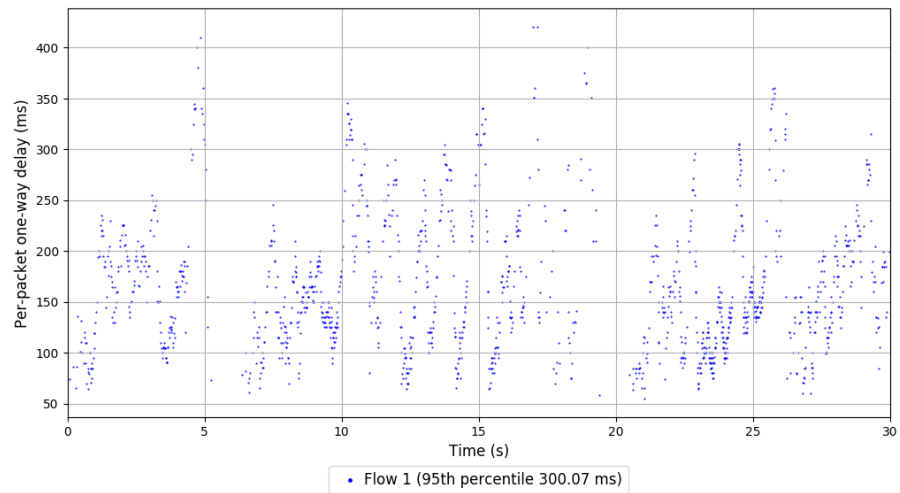
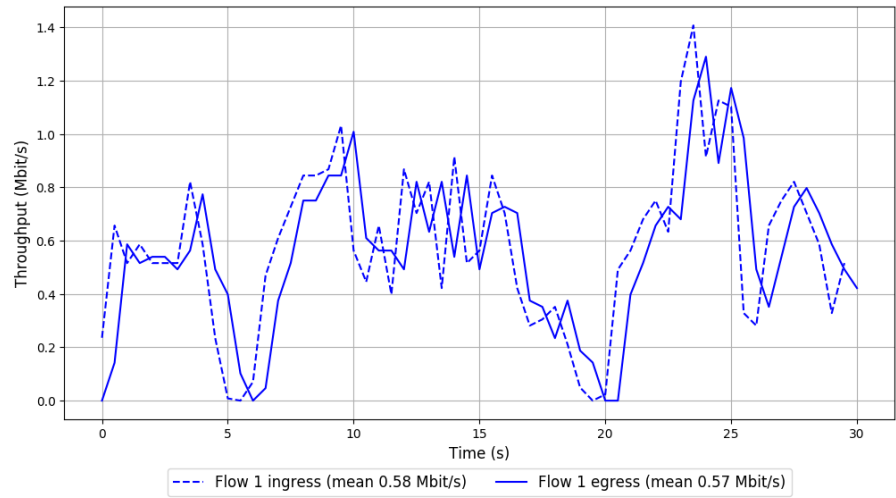
-- Flow 1:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 300.074 ms

Loss rate: 1.56%

Run 3: Report of LEDBAT — Data Link

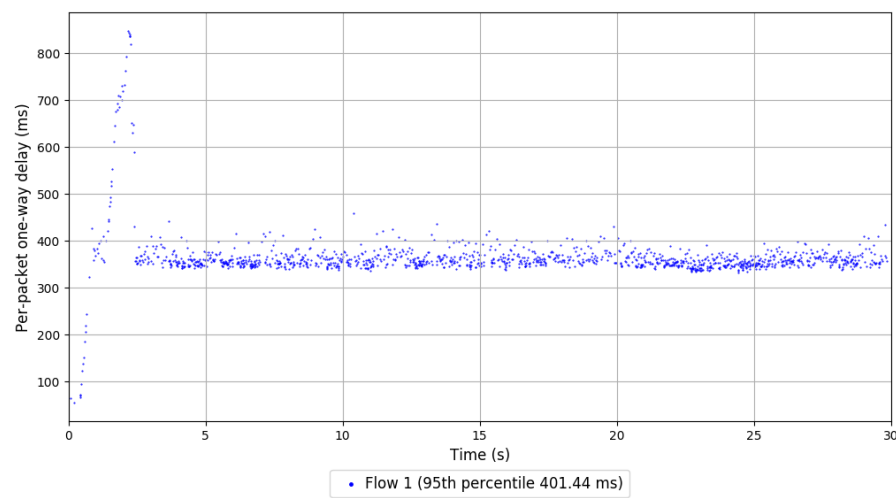
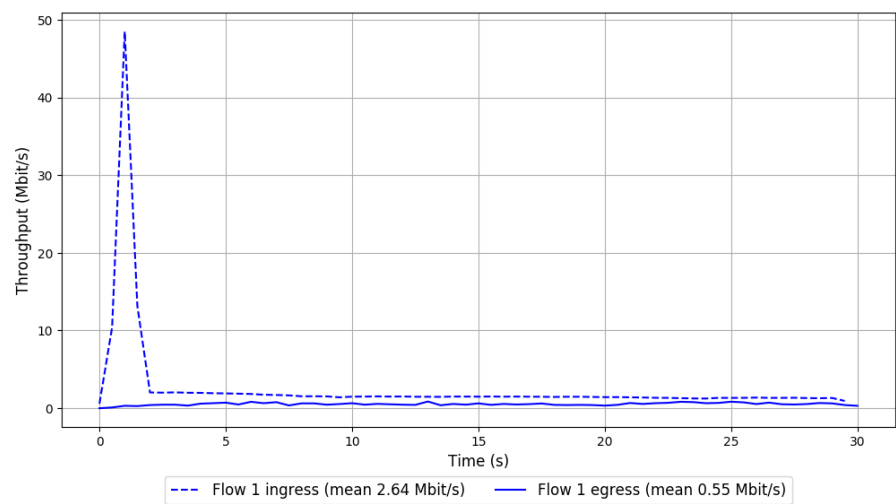


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-10 10:47:58
End at: 2018-07-10 10:48:28
Local clock offset: 0.586 ms
Remote clock offset: -3.763 ms

# Below is generated by plot.py at 2018-07-10 11:42:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 401.436 ms
Loss rate: 79.32%
-- Flow 1:
Average throughput: 0.55 Mbit/s
95th percentile per-packet one-way delay: 401.436 ms
Loss rate: 79.32%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-07-10 11:06:16

End at: 2018-07-10 11:06:46

Local clock offset: 3.584 ms

Remote clock offset: -0.295 ms

Below is generated by plot.py at 2018-07-10 11:42:40

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.63 Mbit/s

95th percentile per-packet one-way delay: 395.894 ms

Loss rate: 79.58%

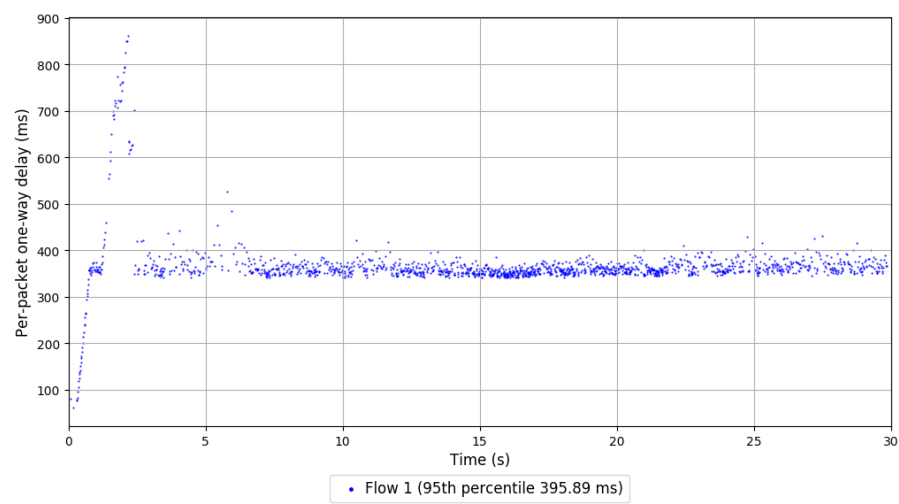
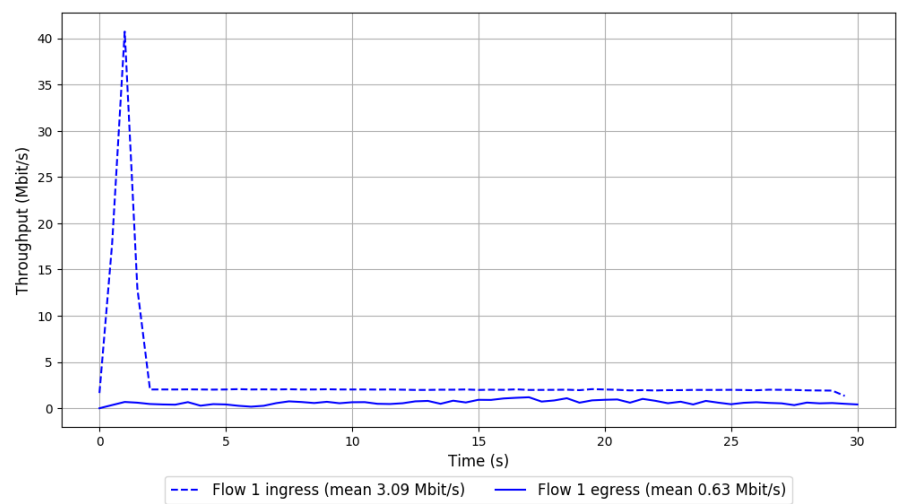
-- Flow 1:

Average throughput: 0.63 Mbit/s

95th percentile per-packet one-way delay: 395.894 ms

Loss rate: 79.58%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-07-10 11:24:38

End at: 2018-07-10 11:25:08

Local clock offset: 3.278 ms

Remote clock offset: 1.75 ms

Below is generated by plot.py at 2018-07-10 11:42:41

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 378.606 ms

Loss rate: 68.17%

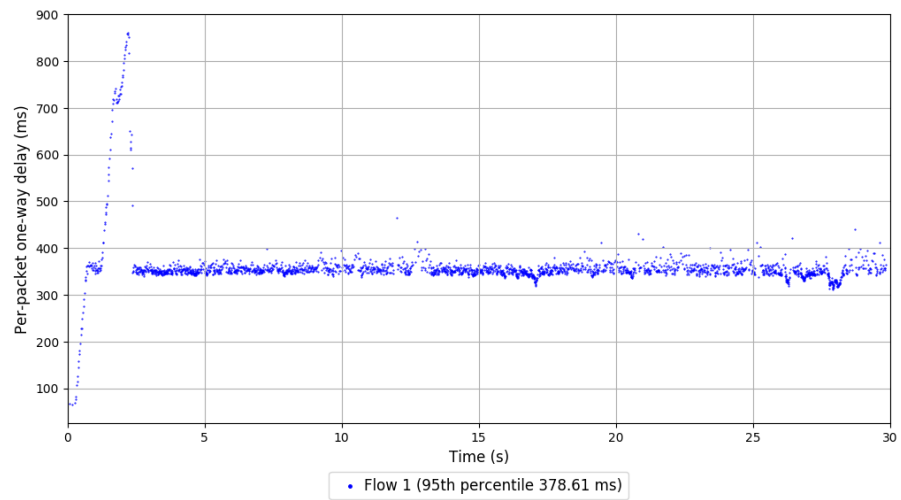
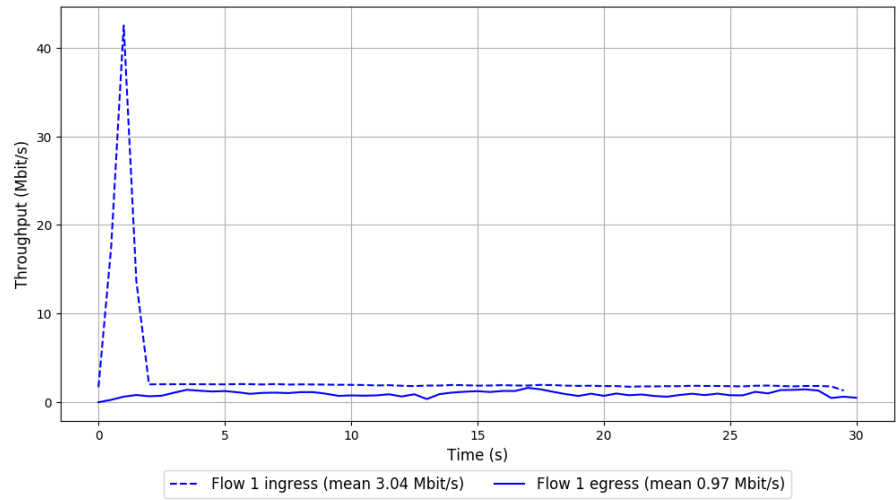
-- Flow 1:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 378.606 ms

Loss rate: 68.17%

Run 3: Report of PCC-Allegro — Data Link

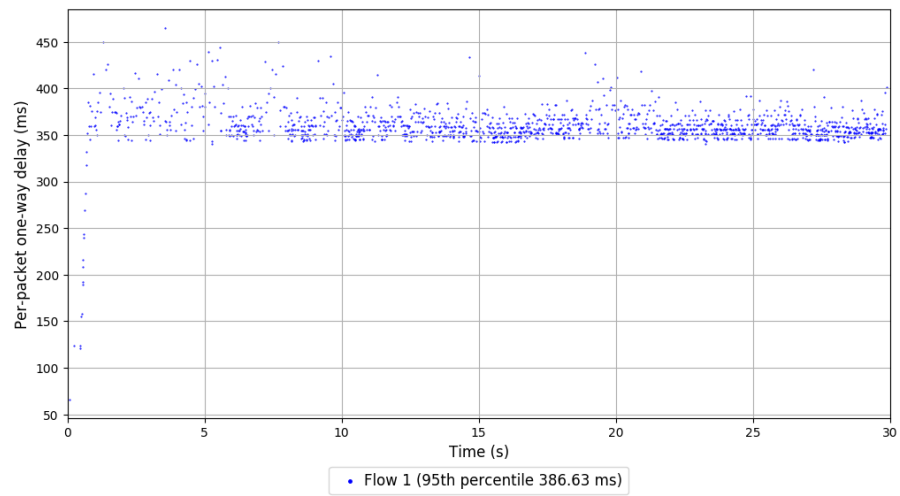
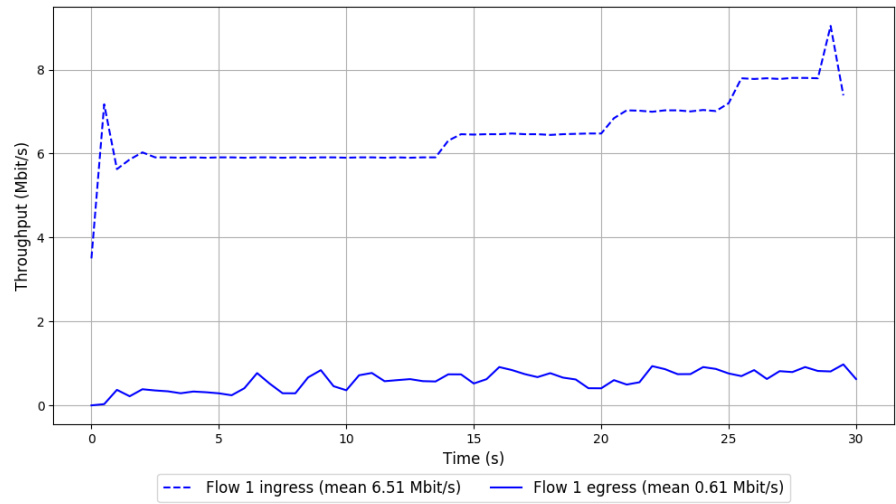


Run 1: Statistics of PCC-Expr

Start at: 2018-07-10 10:49:03
End at: 2018-07-10 10:49:33
Local clock offset: -0.128 ms
Remote clock offset: -5.755 ms

Below is generated by plot.py at 2018-07-10 11:42:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 386.635 ms
Loss rate: 90.69%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 386.635 ms
Loss rate: 90.69%

Run 1: Report of PCC-Expr — Data Link

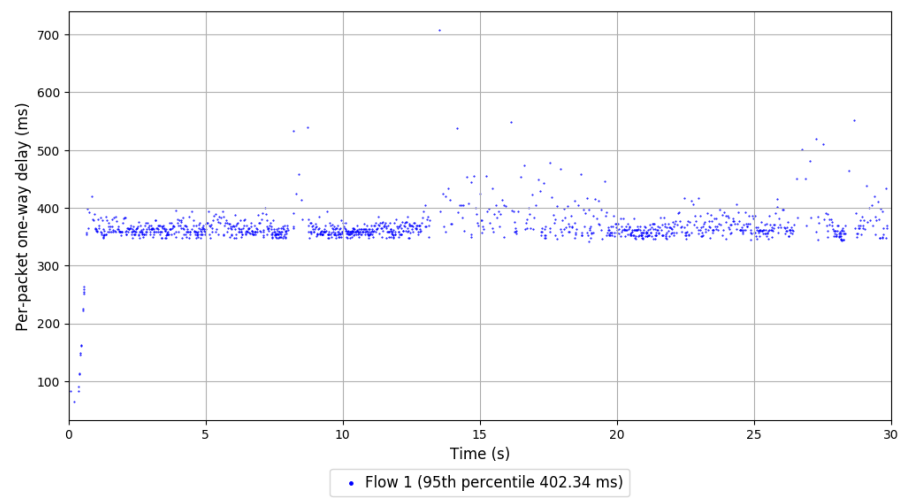
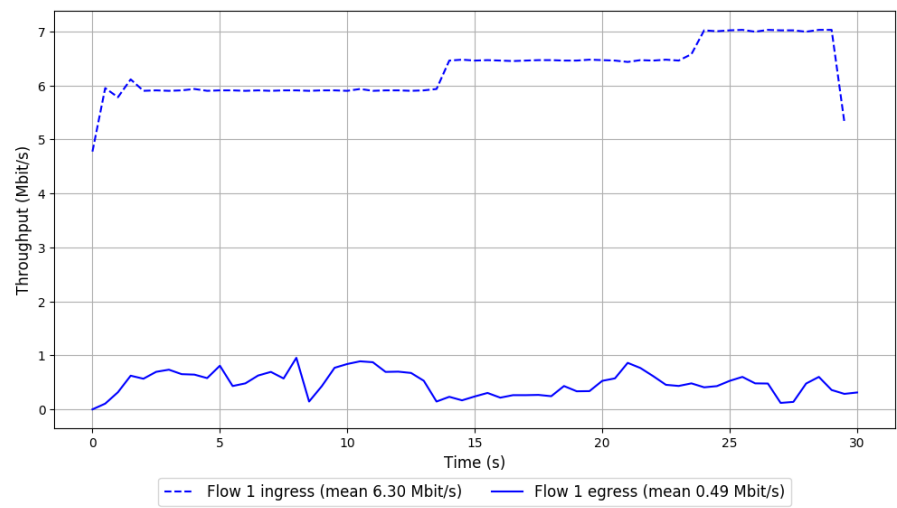


Run 2: Statistics of PCC-Expr

Start at: 2018-07-10 11:07:21
End at: 2018-07-10 11:07:51
Local clock offset: 2.679 ms
Remote clock offset: -0.631 ms

Below is generated by plot.py at 2018-07-10 11:42:49
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 402.337 ms
Loss rate: 92.18%
-- Flow 1:
Average throughput: 0.49 Mbit/s
95th percentile per-packet one-way delay: 402.337 ms
Loss rate: 92.18%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-07-10 11:25:43

End at: 2018-07-10 11:26:13

Local clock offset: 3.366 ms

Remote clock offset: 7.342 ms

Below is generated by plot.py at 2018-07-10 11:42:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.26 Mbit/s

95th percentile per-packet one-way delay: 361.716 ms

Loss rate: 83.10%

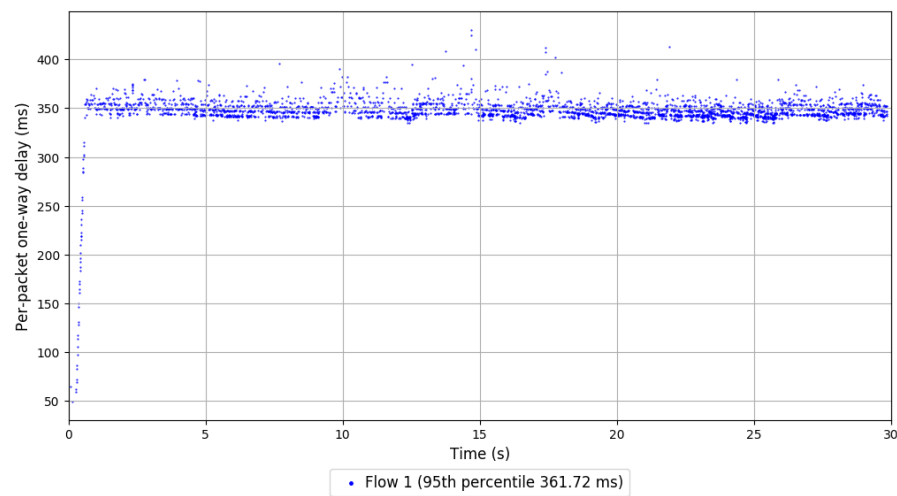
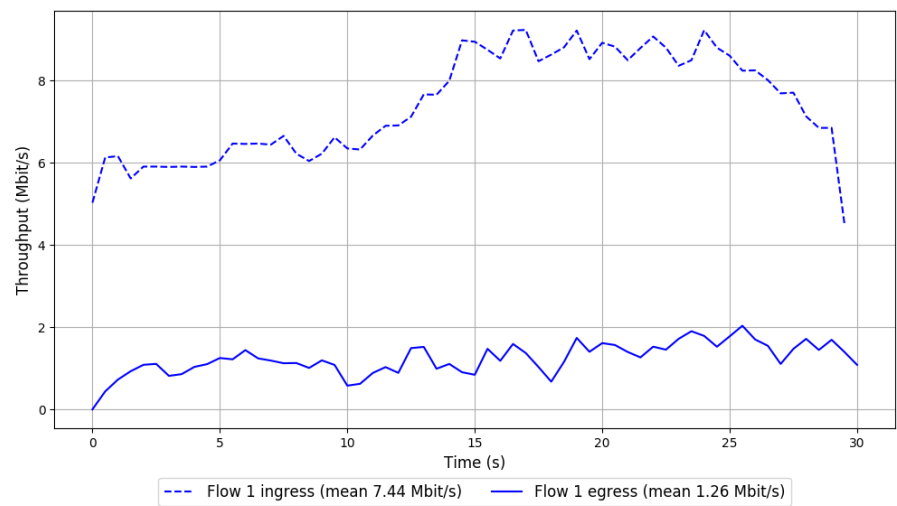
-- Flow 1:

Average throughput: 1.26 Mbit/s

95th percentile per-packet one-way delay: 361.716 ms

Loss rate: 83.10%

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-07-10 10:54:26

End at: 2018-07-10 10:54:56

Local clock offset: 1.053 ms

Remote clock offset: -4.131 ms

Below is generated by plot.py at 2018-07-10 11:42:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 374.021 ms

Loss rate: 15.90%

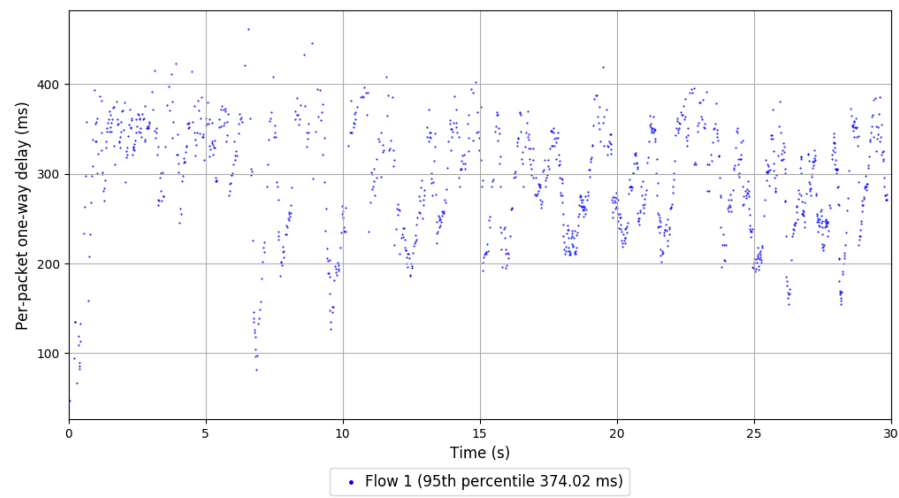
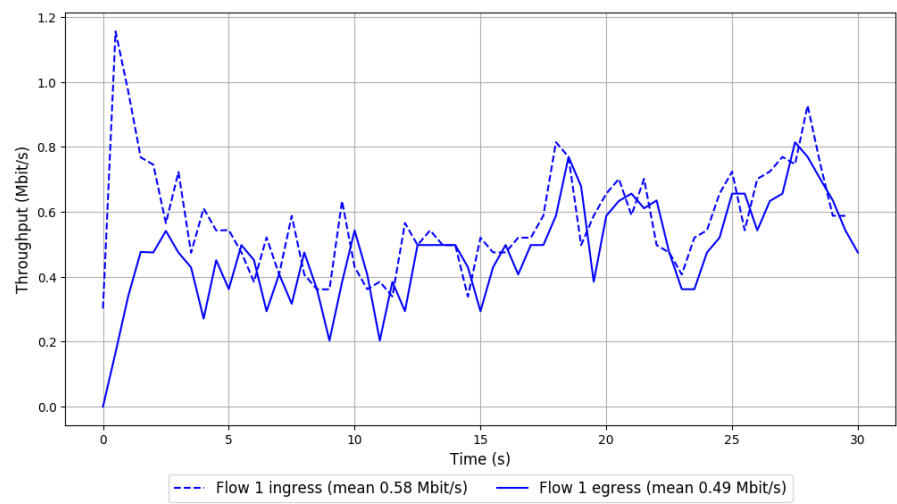
-- Flow 1:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 374.021 ms

Loss rate: 15.90%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-07-10 11:12:44

End at: 2018-07-10 11:13:14

Local clock offset: 1.383 ms

Remote clock offset: 5.292 ms

Below is generated by plot.py at 2018-07-10 11:42:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 351.046 ms

Loss rate: 11.94%

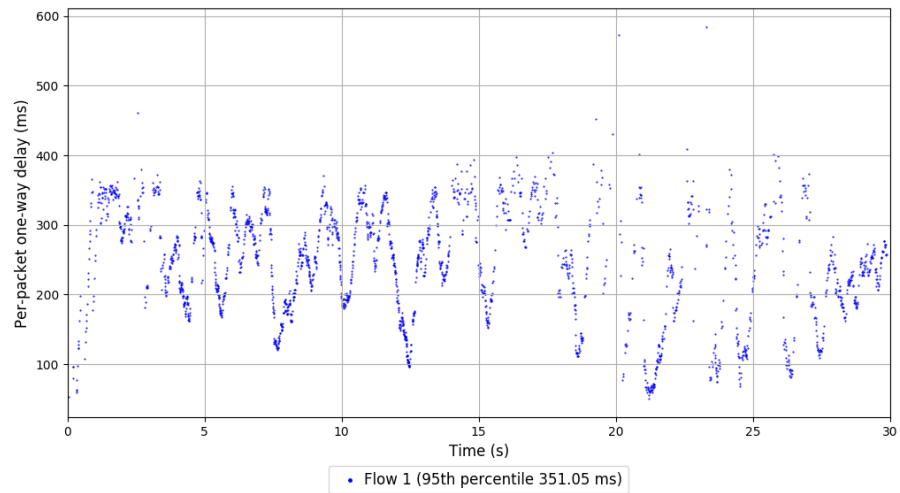
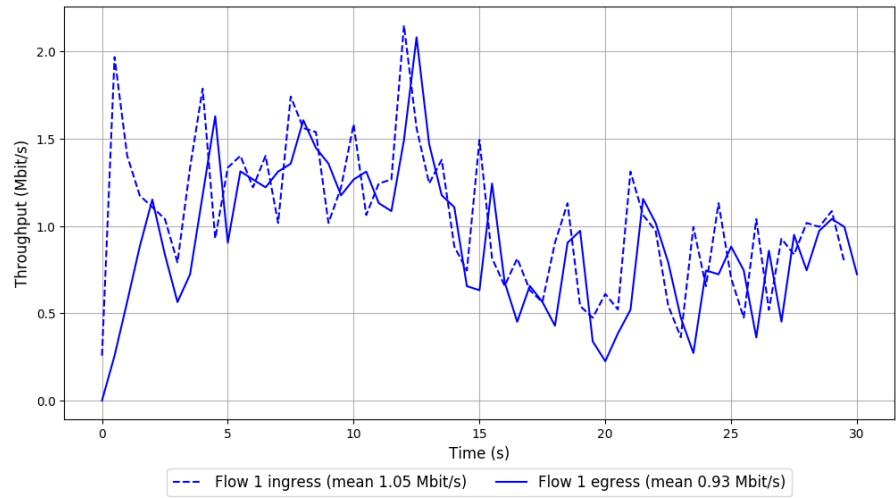
-- Flow 1:

Average throughput: 0.93 Mbit/s

95th percentile per-packet one-way delay: 351.046 ms

Loss rate: 11.94%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-07-10 11:31:06

End at: 2018-07-10 11:31:36

Local clock offset: 1.285 ms

Remote clock offset: 7.243 ms

Below is generated by plot.py at 2018-07-10 11:42:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 373.989 ms

Loss rate: 18.84%

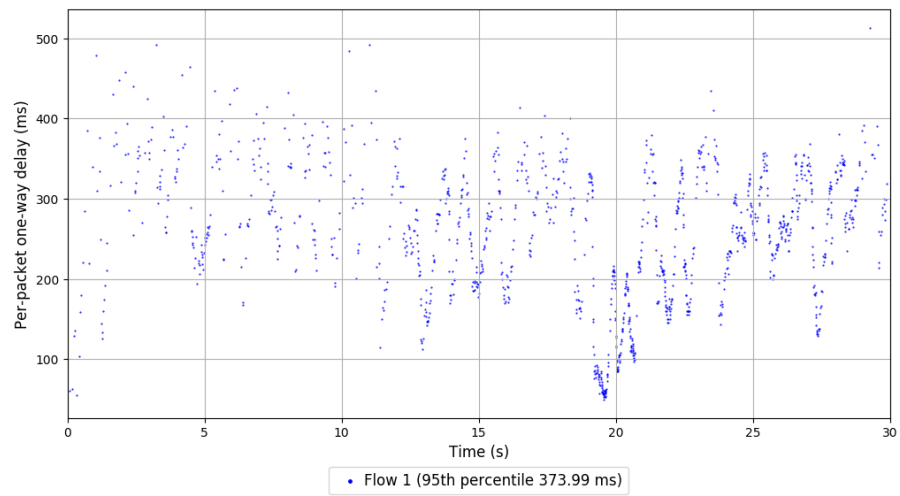
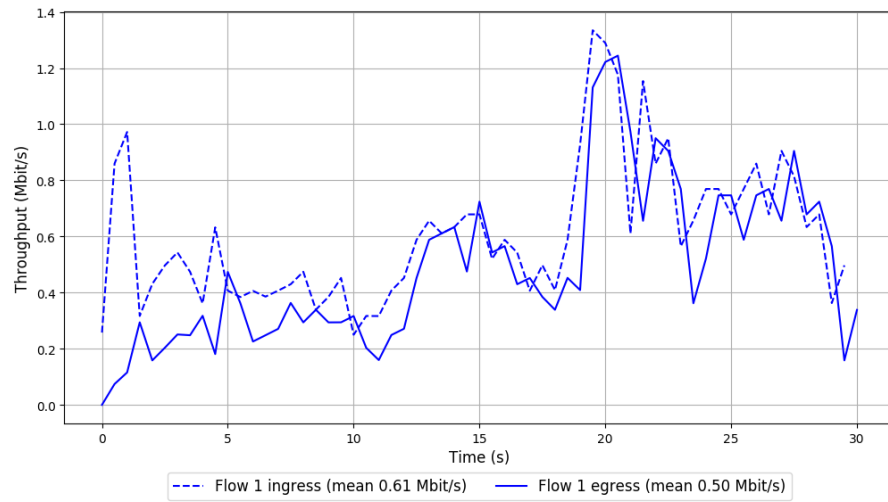
-- Flow 1:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 373.989 ms

Loss rate: 18.84%

Run 3: Report of QUIC Cubic — Data Link

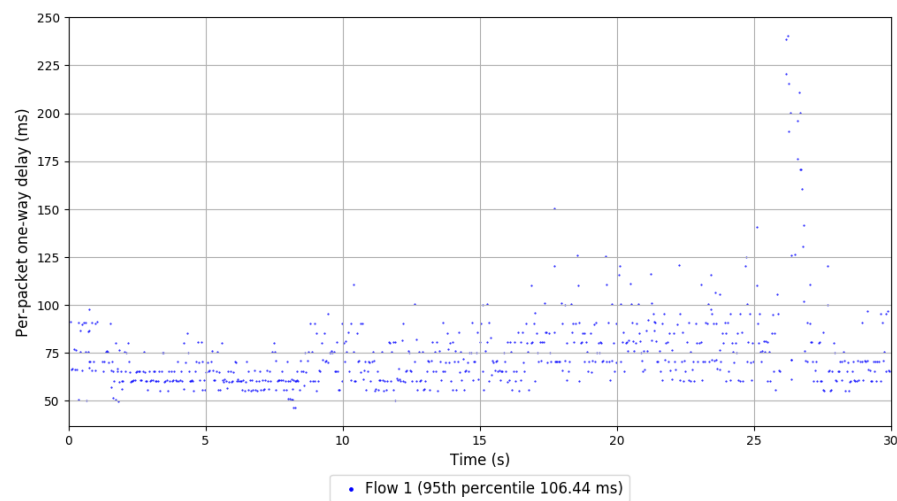
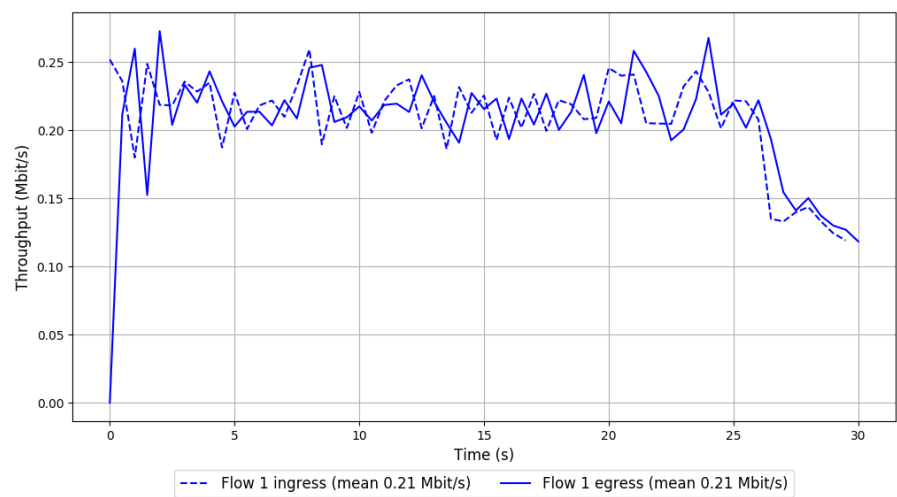


```
Run 1: Statistics of SCReAM

Start at: 2018-07-10 11:00:52
End at: 2018-07-10 11:01:22
Local clock offset: 3.762 ms
Remote clock offset: -1.958 ms

# Below is generated by plot.py at 2018-07-10 11:42:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 106.442 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 106.442 ms
Loss rate: 0.16%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-07-10 11:19:16

End at: 2018-07-10 11:19:46

Local clock offset: 2.134 ms

Remote clock offset: 1.373 ms

Below is generated by plot.py at 2018-07-10 11:42:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 128.740 ms

Loss rate: 0.28%

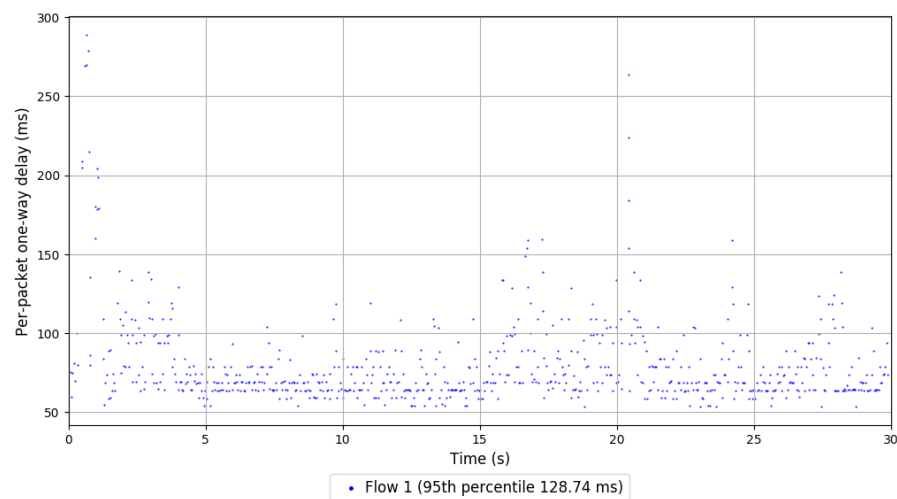
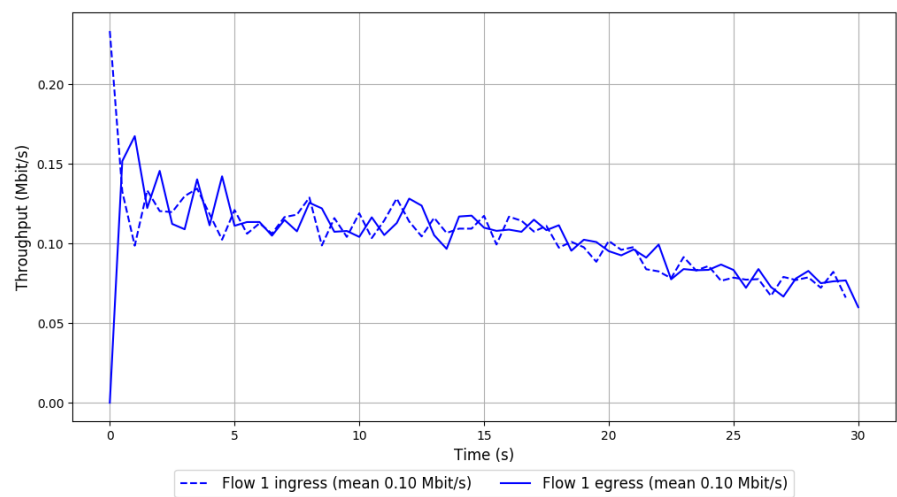
-- Flow 1:

Average throughput: 0.10 Mbit/s

95th percentile per-packet one-way delay: 128.740 ms

Loss rate: 0.28%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-07-10 11:37:33

End at: 2018-07-10 11:38:03

Local clock offset: 1.919 ms

Remote clock offset: 1.171 ms

Below is generated by plot.py at 2018-07-10 11:42:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 96.401 ms

Loss rate: 0.21%

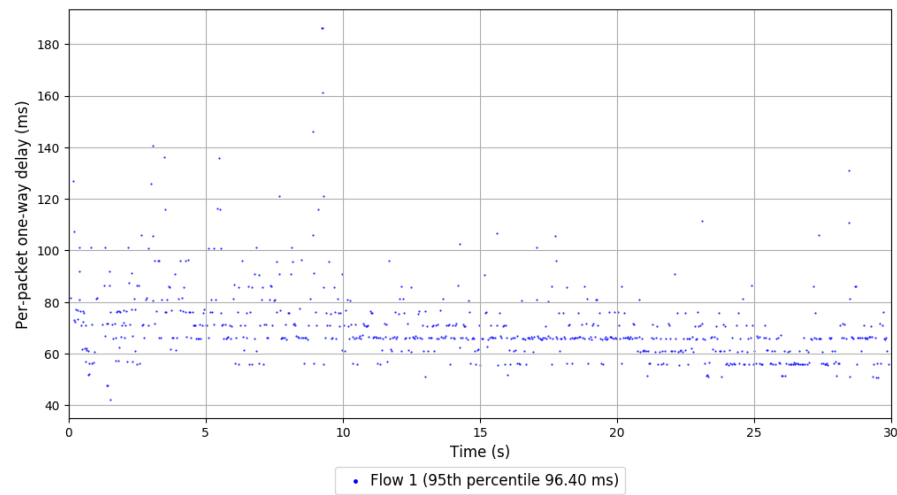
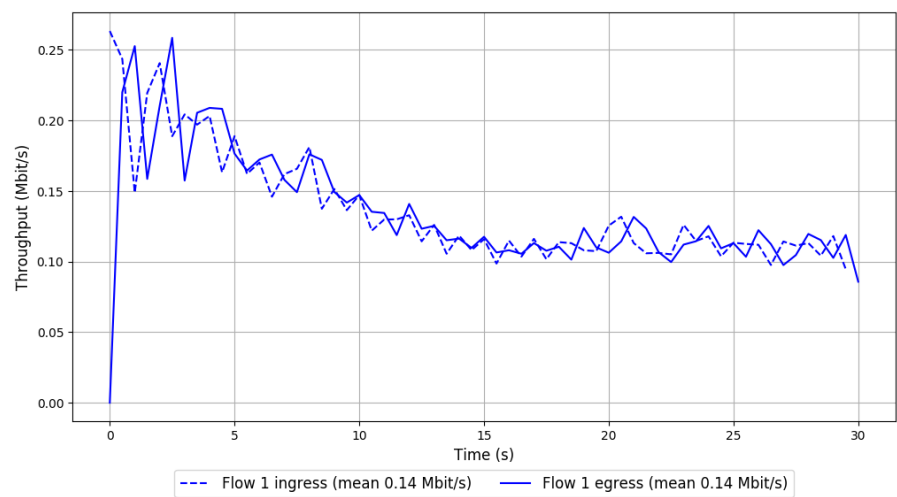
-- Flow 1:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 96.401 ms

Loss rate: 0.21%

Run 3: Report of SReAM — Data Link

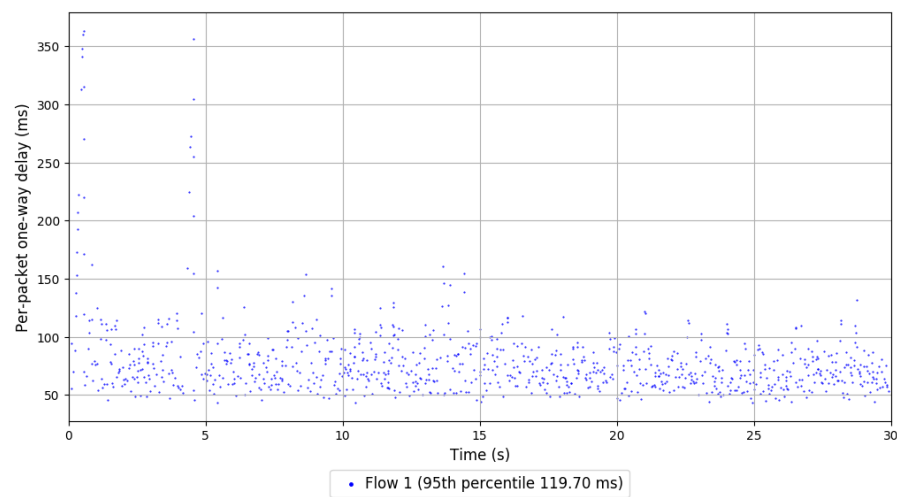
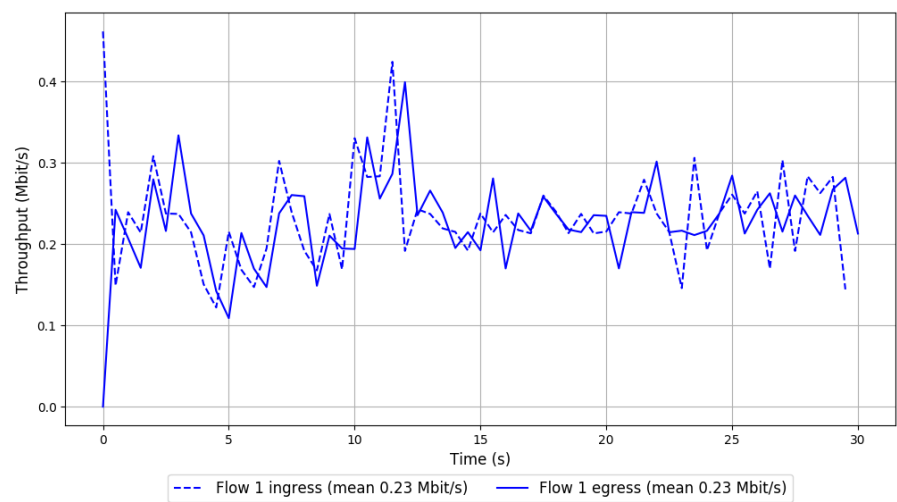


Run 1: Statistics of Sprout

Start at: 2018-07-10 10:56:34
End at: 2018-07-10 10:57:04
Local clock offset: 1.91 ms
Remote clock offset: -4.185 ms

Below is generated by plot.py at 2018-07-10 11:42:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 119.700 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 119.700 ms
Loss rate: 1.01%

Run 1: Report of Sprout — Data Link

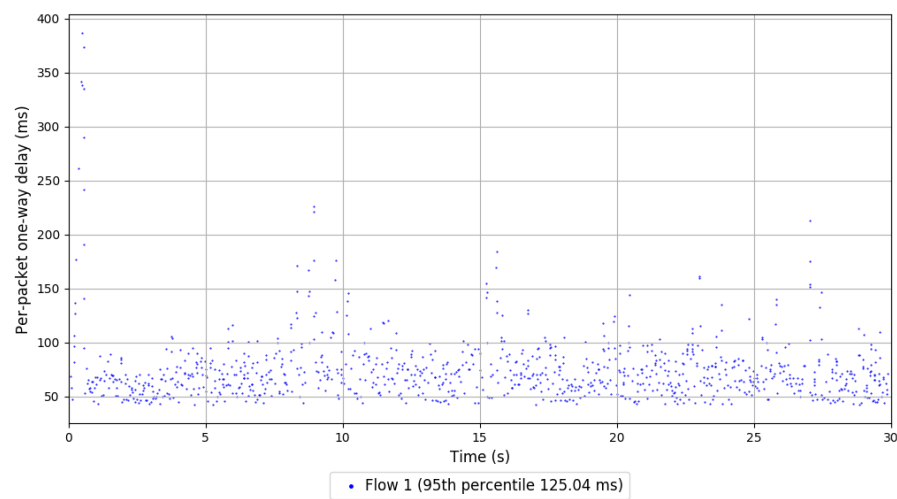
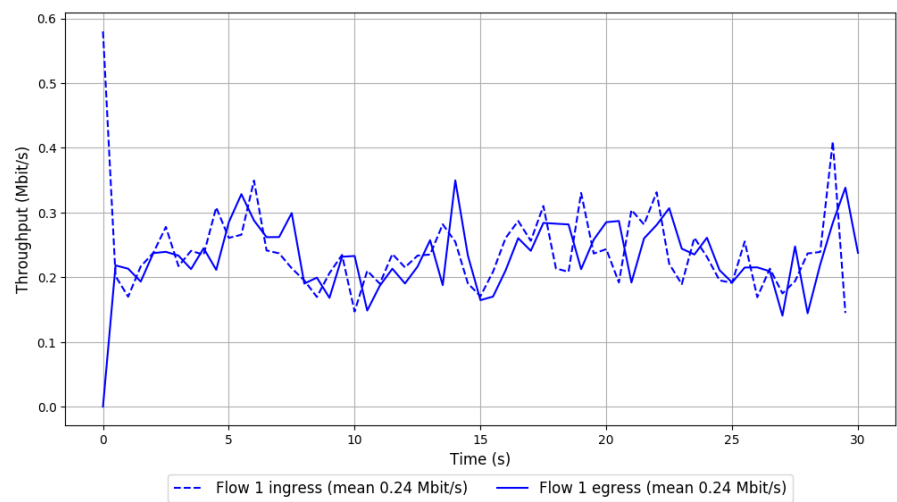


Run 2: Statistics of Sprout

Start at: 2018-07-10 11:14:53
End at: 2018-07-10 11:15:23
Local clock offset: 2.395 ms
Remote clock offset: 2.102 ms

Below is generated by plot.py at 2018-07-10 11:42:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 125.039 ms
Loss rate: 2.12%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 125.039 ms
Loss rate: 2.12%

Run 2: Report of Sprout — Data Link

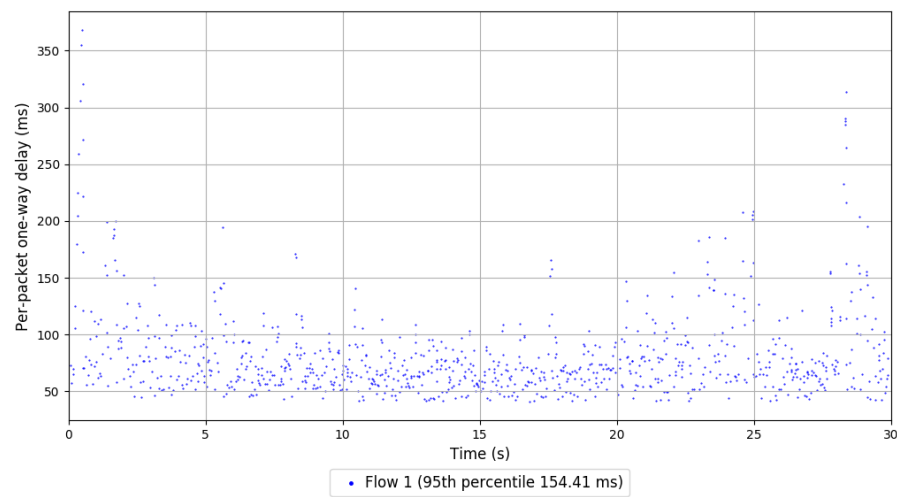
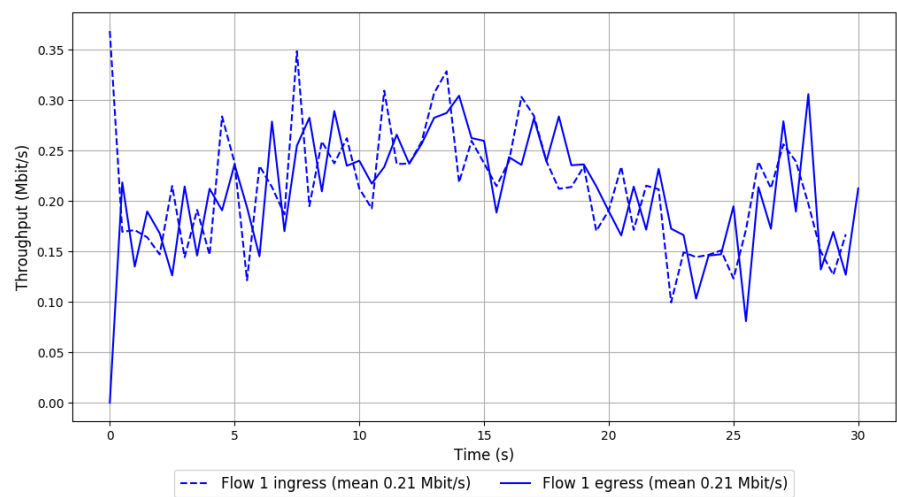


Run 3: Statistics of Sprout

Start at: 2018-07-10 11:33:15
End at: 2018-07-10 11:33:45
Local clock offset: -0.219 ms
Remote clock offset: 1.462 ms

Below is generated by plot.py at 2018-07-10 11:42:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 154.411 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 154.411 ms
Loss rate: 0.91%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-07-10 11:01:57

End at: 2018-07-10 11:02:27

Local clock offset: 3.578 ms

Remote clock offset: -2.52 ms

Below is generated by plot.py at 2018-07-10 11:42:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 363.541 ms

Loss rate: 42.51%

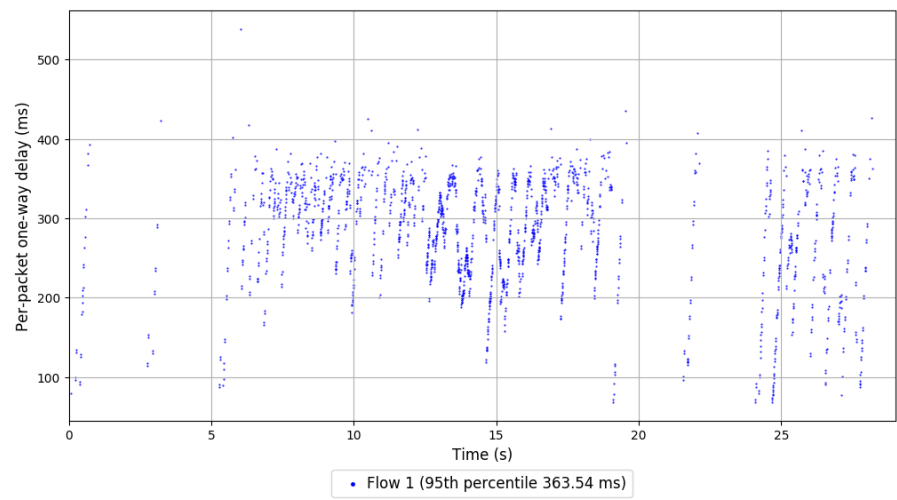
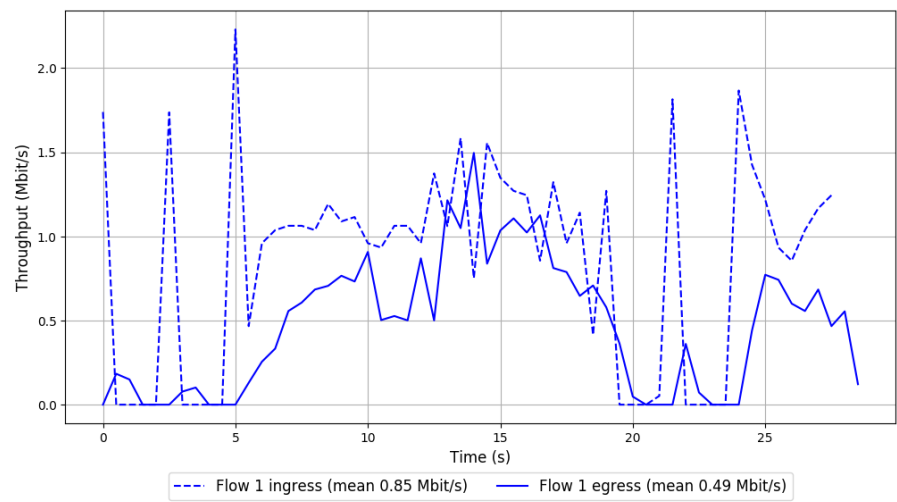
-- Flow 1:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 363.541 ms

Loss rate: 42.51%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-07-10 11:20:20

End at: 2018-07-10 11:20:50

Local clock offset: 2.963 ms

Remote clock offset: 3.24 ms

Below is generated by plot.py at 2018-07-10 11:42:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 375.164 ms

Loss rate: 70.03%

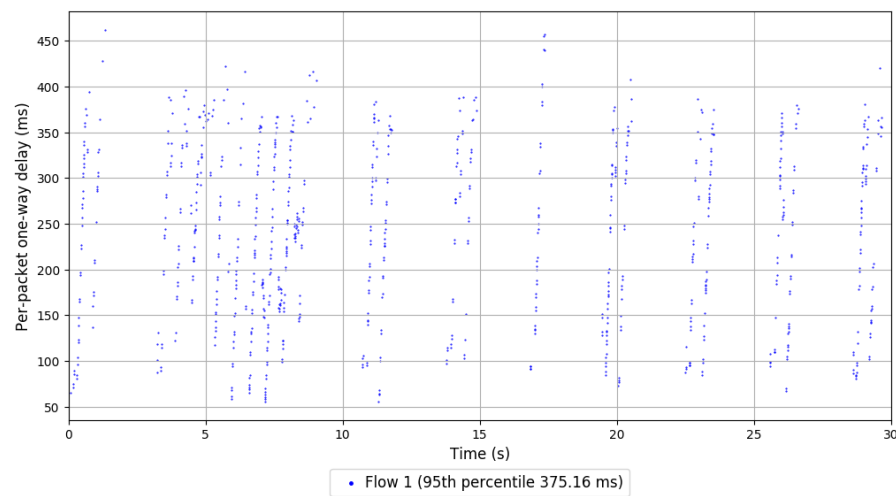
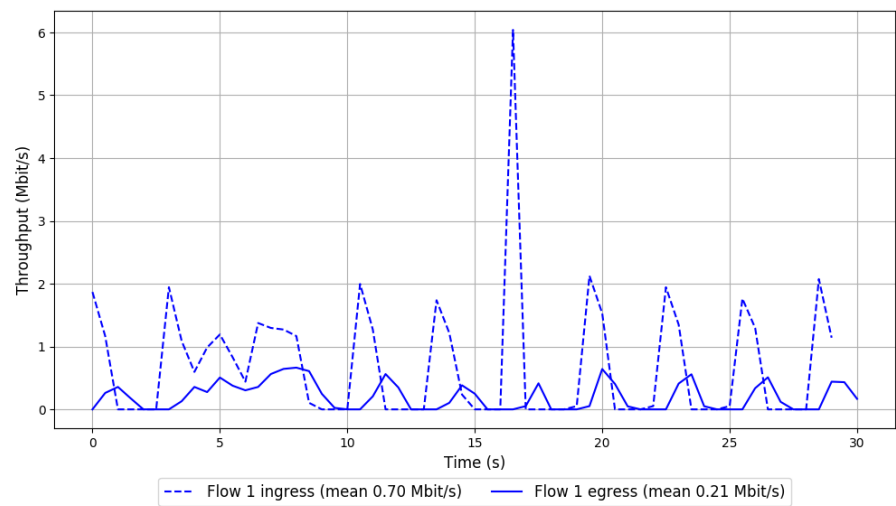
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 375.164 ms

Loss rate: 70.03%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-07-10 11:38:37

End at: 2018-07-10 11:39:07

Local clock offset: 1.131 ms

Remote clock offset: -0.246 ms

Below is generated by plot.py at 2018-07-10 11:42:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.20 Mbit/s

95th percentile per-packet one-way delay: 342.321 ms

Loss rate: 10.69%

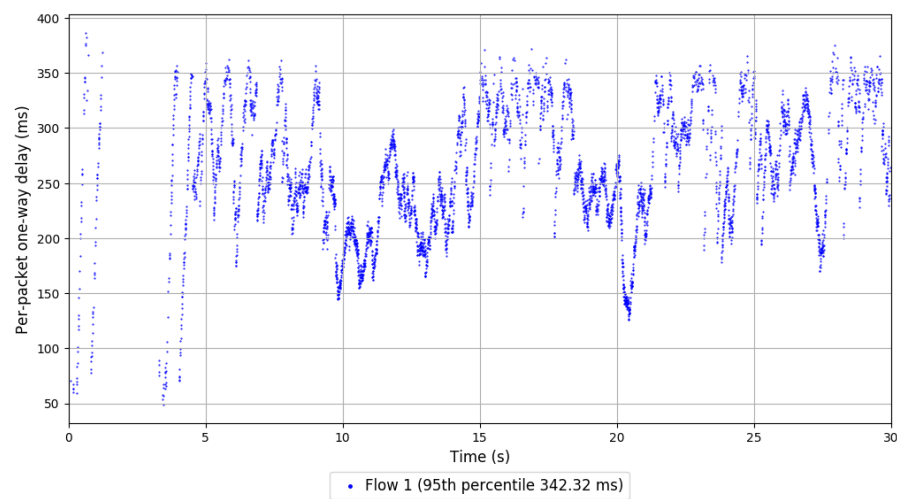
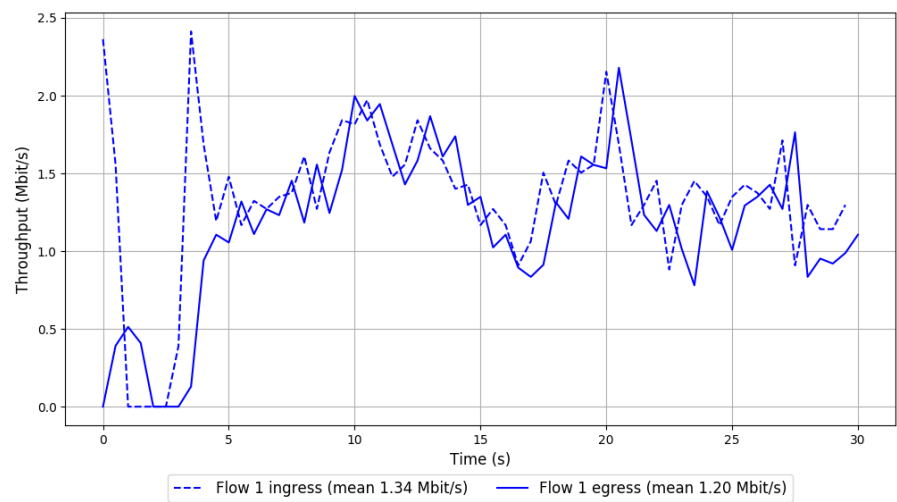
-- Flow 1:

Average throughput: 1.20 Mbit/s

95th percentile per-packet one-way delay: 342.321 ms

Loss rate: 10.69%

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

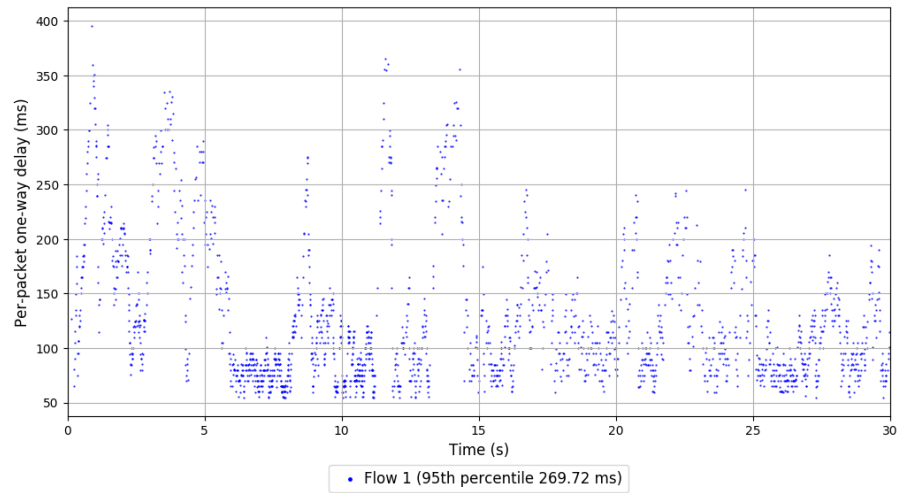
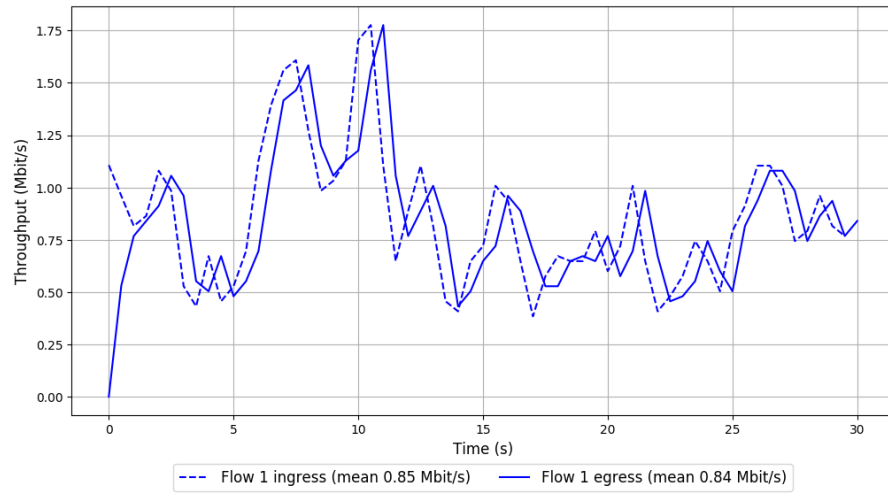


Run 1: Statistics of TCP Vegas

Start at: 2018-07-10 10:59:48
End at: 2018-07-10 11:00:18
Local clock offset: 3.912 ms
Remote clock offset: -3.923 ms

Below is generated by plot.py at 2018-07-10 11:42:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 269.719 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 269.719 ms
Loss rate: 1.36%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-07-10 11:18:11

End at: 2018-07-10 11:18:41

Local clock offset: 1.626 ms

Remote clock offset: 1.301 ms

Below is generated by plot.py at 2018-07-10 11:42:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 261.012 ms

Loss rate: 1.75%

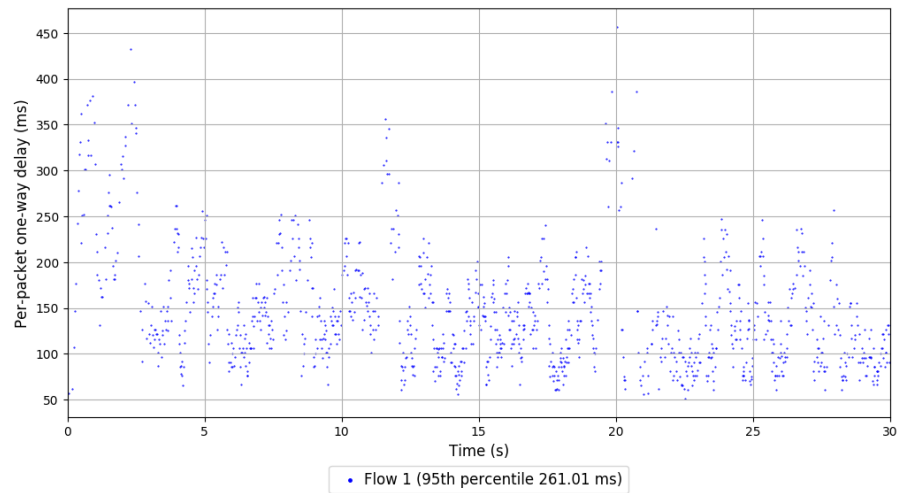
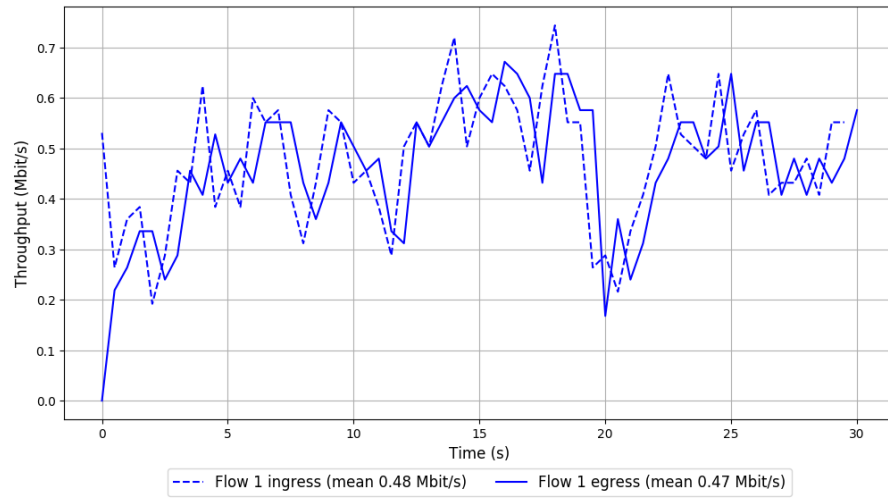
-- Flow 1:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 261.012 ms

Loss rate: 1.75%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-07-10 11:36:28

End at: 2018-07-10 11:36:58

Local clock offset: 0.392 ms

Remote clock offset: 4.723 ms

Below is generated by plot.py at 2018-07-10 11:42:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.63 Mbit/s

95th percentile per-packet one-way delay: 229.451 ms

Loss rate: 0.63%

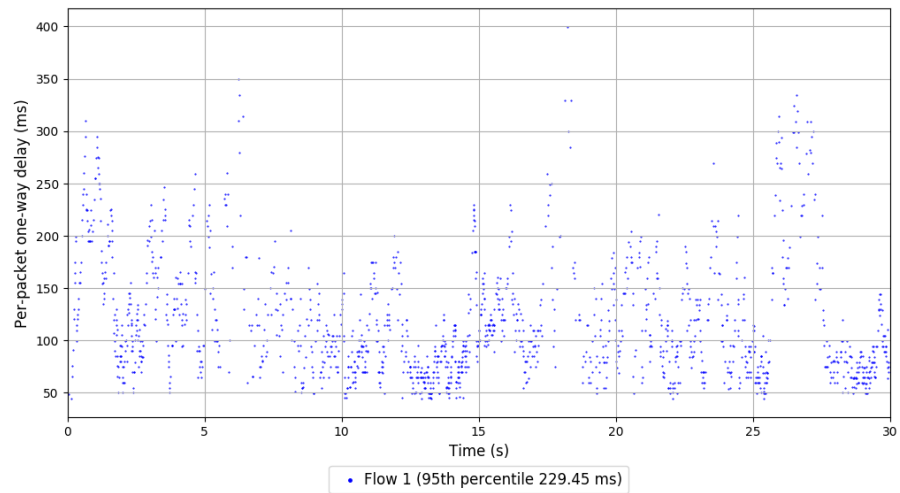
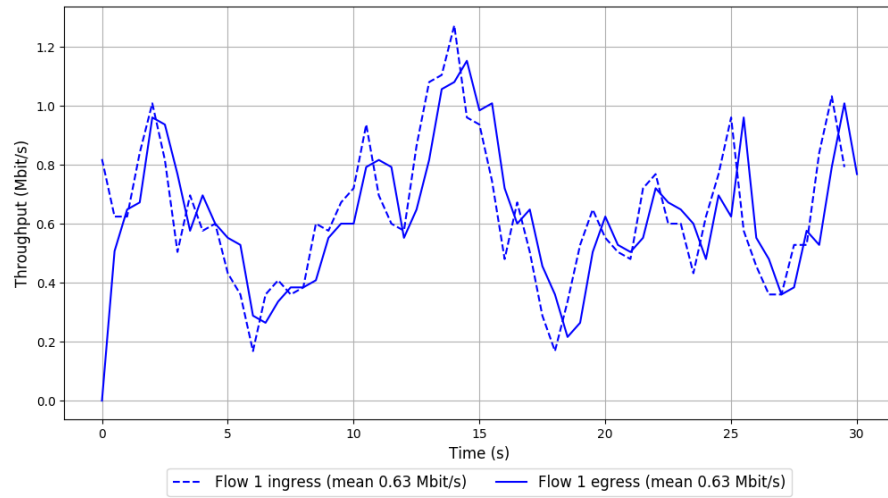
-- Flow 1:

Average throughput: 0.63 Mbit/s

95th percentile per-packet one-way delay: 229.451 ms

Loss rate: 0.63%

Run 3: Report of TCP Vegas — Data Link

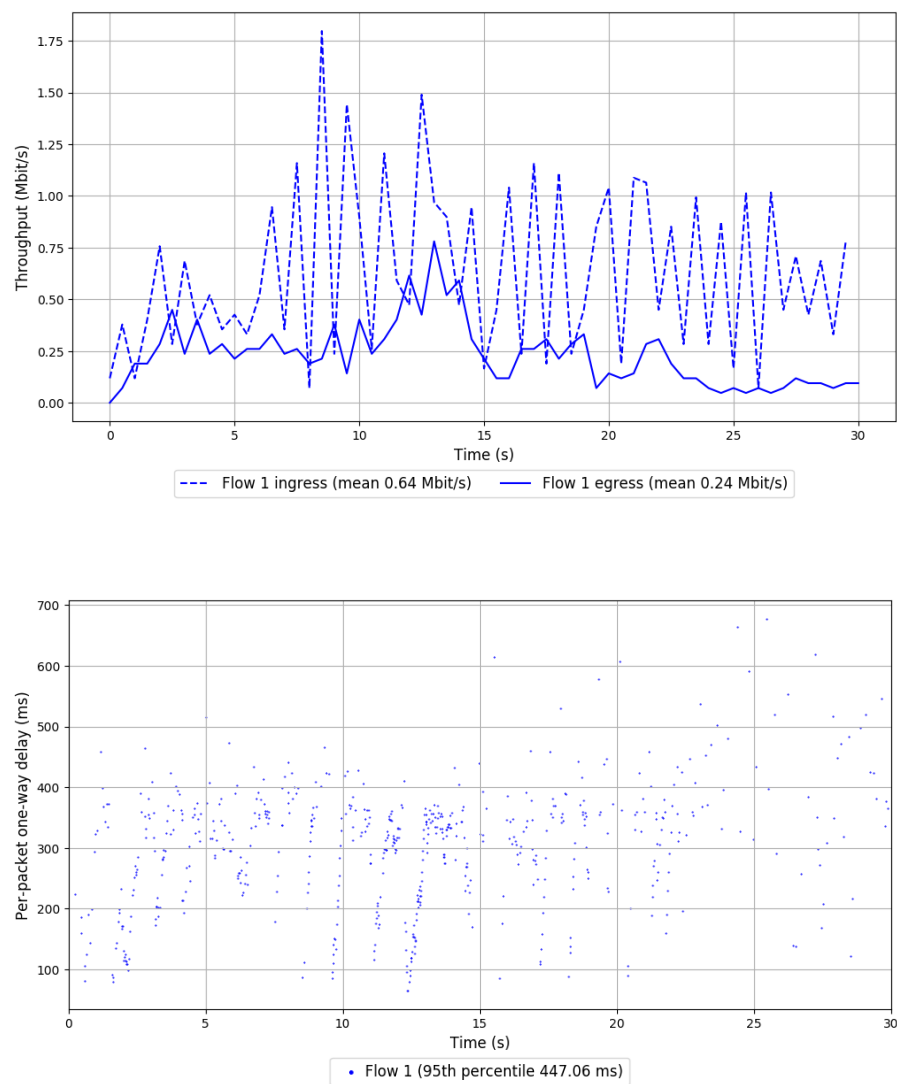


Run 1: Statistics of Verus

Start at: 2018-07-10 11:03:02
End at: 2018-07-10 11:03:32
Local clock offset: -0.09 ms
Remote clock offset: -0.751 ms

Below is generated by plot.py at 2018-07-10 11:42:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 447.063 ms
Loss rate: 63.30%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 447.063 ms
Loss rate: 63.30%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-07-10 11:21:25

End at: 2018-07-10 11:21:55

Local clock offset: 4.707 ms

Remote clock offset: 1.902 ms

Below is generated by plot.py at 2018-07-10 11:42:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 383.265 ms

Loss rate: 51.33%

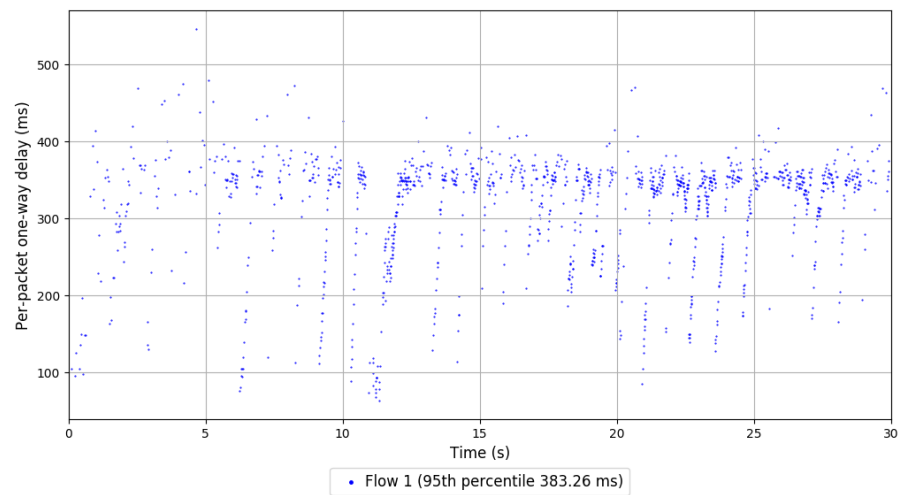
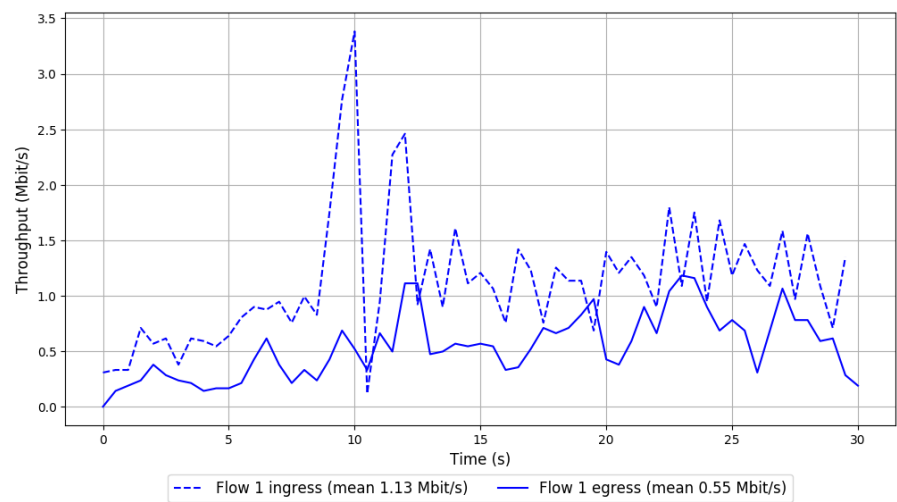
-- Flow 1:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 383.265 ms

Loss rate: 51.33%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-07-10 11:39:42

End at: 2018-07-10 11:40:12

Local clock offset: 1.51 ms

Remote clock offset: 2.396 ms

Below is generated by plot.py at 2018-07-10 11:42:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.17 Mbit/s

95th percentile per-packet one-way delay: 351.463 ms

Loss rate: 27.27%

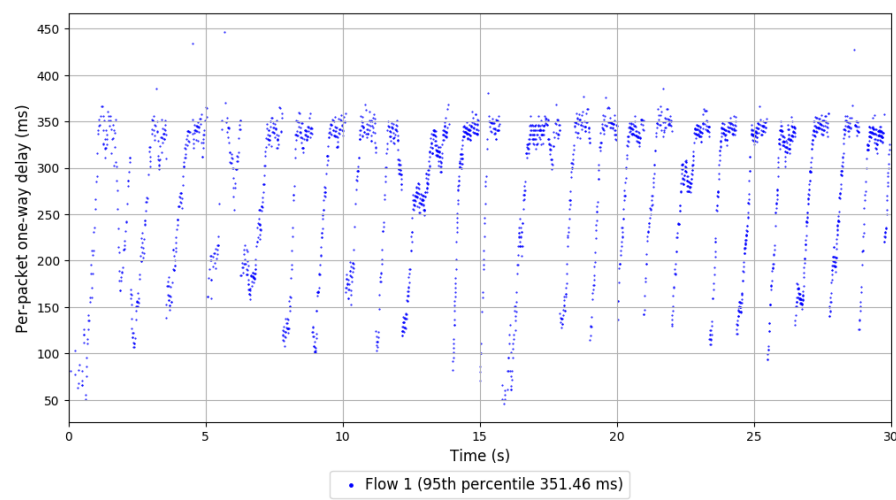
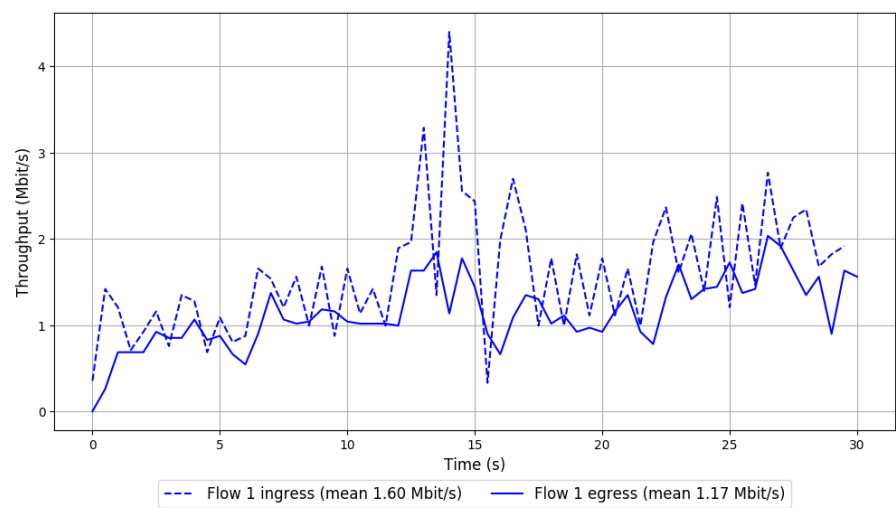
-- Flow 1:

Average throughput: 1.17 Mbit/s

95th percentile per-packet one-way delay: 351.463 ms

Loss rate: 27.27%

Run 3: Report of Verus — Data Link

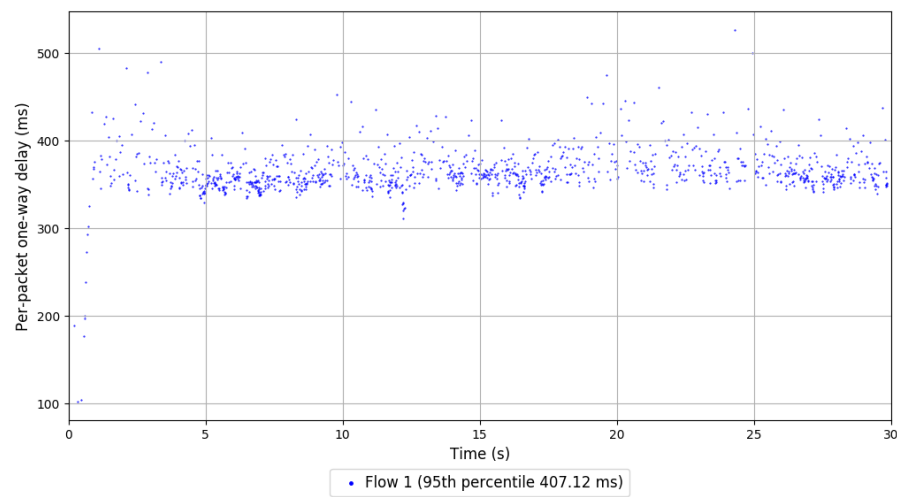
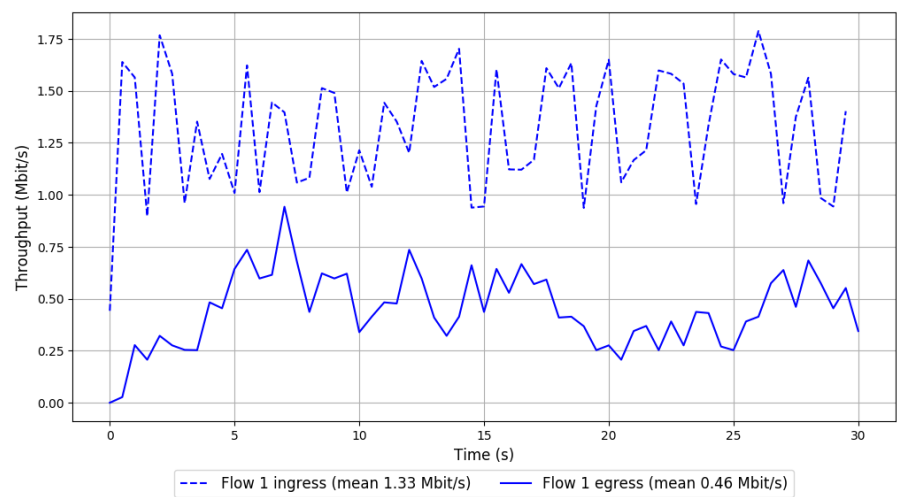


Run 1: Statistics of PCC-Vivace

Start at: 2018-07-10 11:04:07
End at: 2018-07-10 11:04:37
Local clock offset: 2.924 ms
Remote clock offset: -1.582 ms

Below is generated by plot.py at 2018-07-10 11:42:56
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 407.122 ms
Loss rate: 65.48%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 407.122 ms
Loss rate: 65.48%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-07-10 11:22:29

End at: 2018-07-10 11:22:59

Local clock offset: 2.543 ms

Remote clock offset: 1.566 ms

Below is generated by plot.py at 2018-07-10 11:42:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 400.785 ms

Loss rate: 64.33%

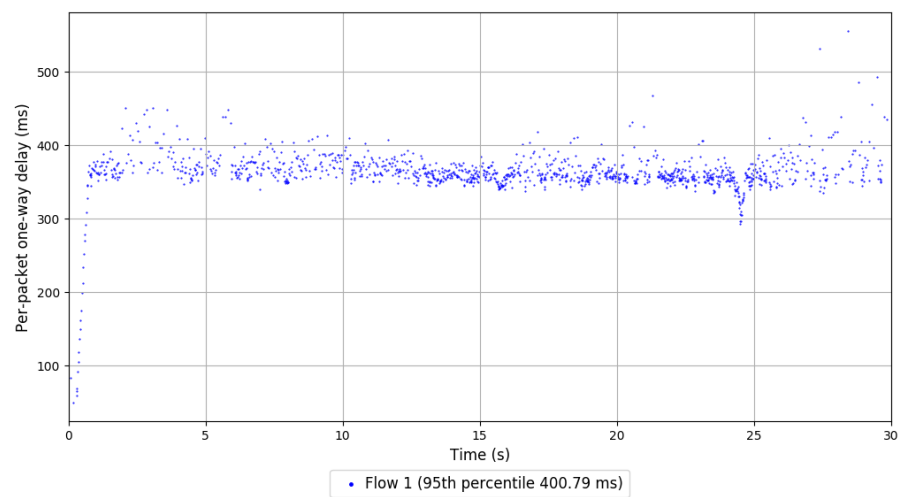
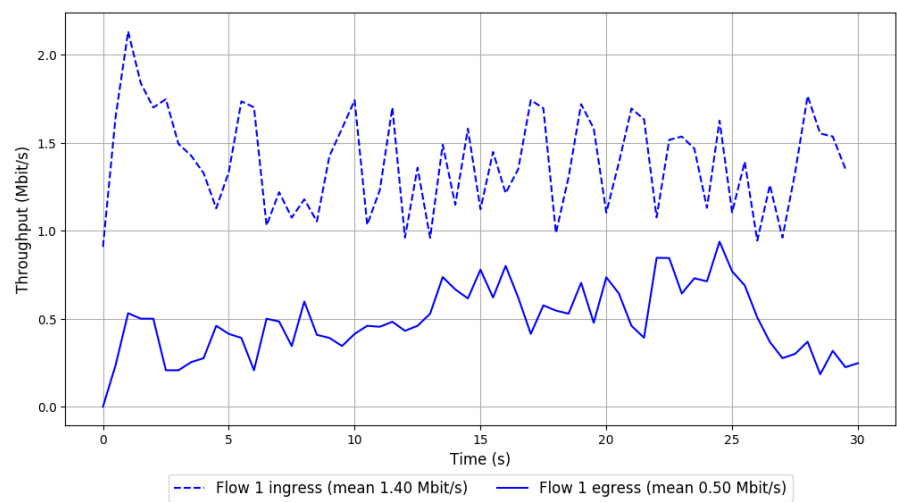
-- Flow 1:

Average throughput: 0.50 Mbit/s

95th percentile per-packet one-way delay: 400.785 ms

Loss rate: 64.33%

Run 2: Report of PCC-Vivace — Data Link

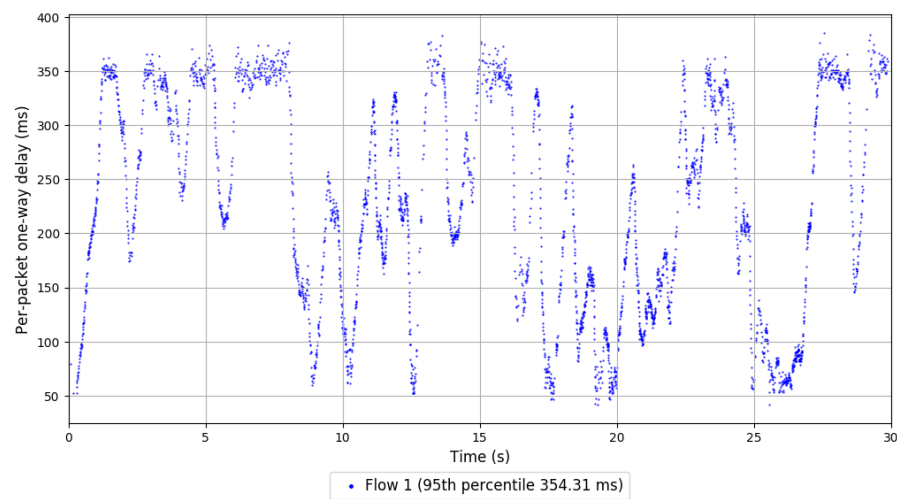
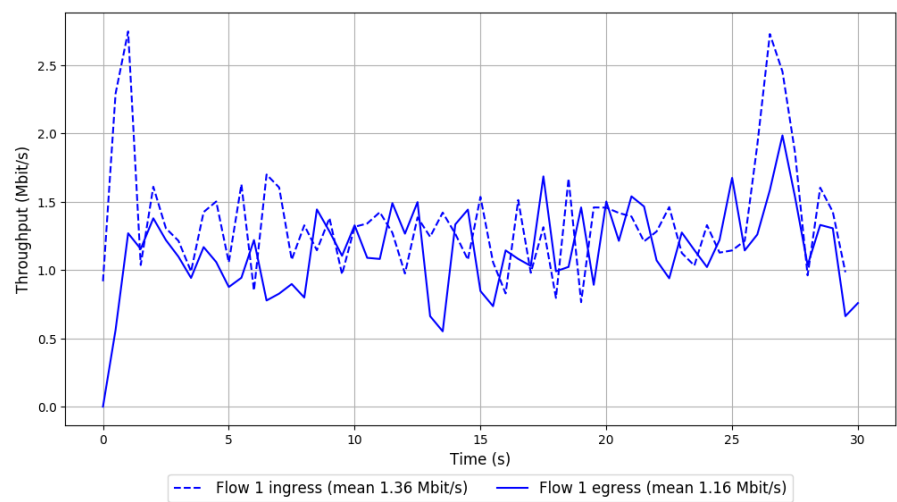


Run 3: Statistics of PCC-Vivace

Start at: 2018-07-10 11:40:46
End at: 2018-07-10 11:41:16
Local clock offset: 1.817 ms
Remote clock offset: -0.469 ms

Below is generated by plot.py at 2018-07-10 11:42:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 354.310 ms
Loss rate: 14.98%
-- Flow 1:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 354.310 ms
Loss rate: 14.98%

Run 3: Report of PCC-Vivace — Data Link

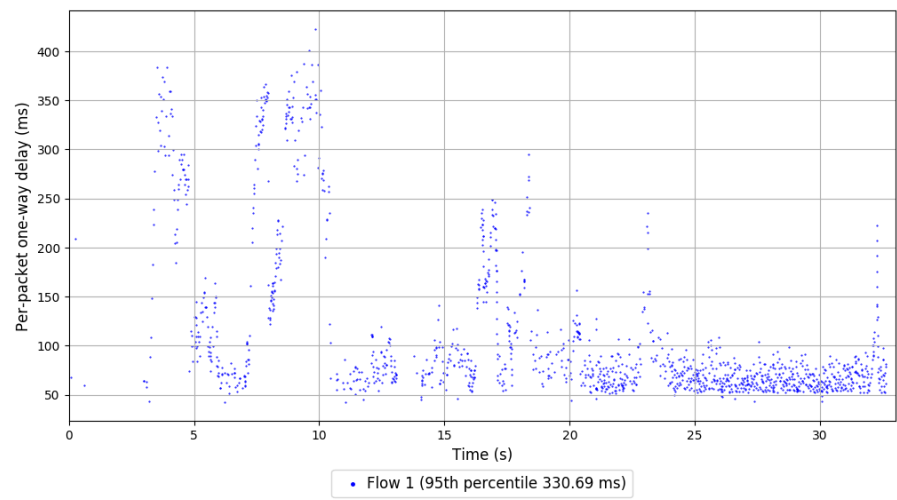
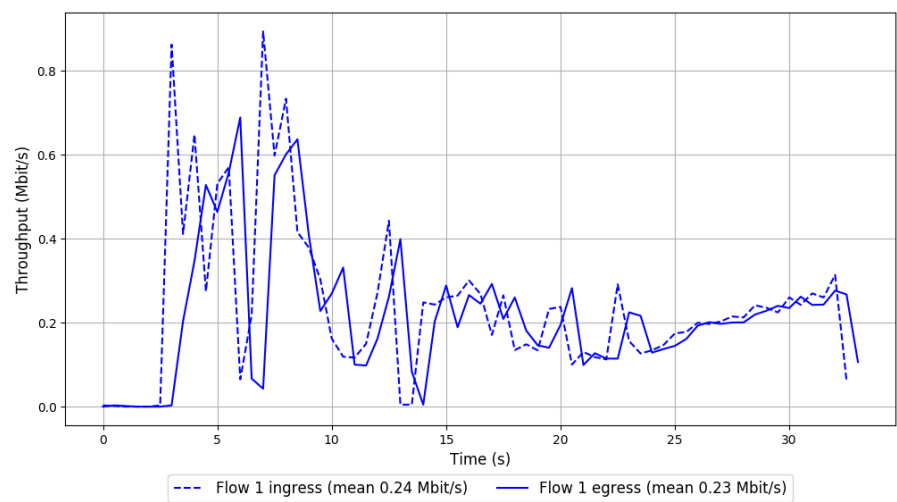


Run 1: Statistics of WebRTC media

Start at: 2018-07-10 10:50:08
End at: 2018-07-10 10:50:38
Local clock offset: 3.487 ms
Remote clock offset: -1.887 ms

Below is generated by plot.py at 2018-07-10 11:42:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 330.695 ms
Loss rate: 7.42%
-- Flow 1:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 330.695 ms
Loss rate: 7.42%

Run 1: Report of WebRTC media — Data Link

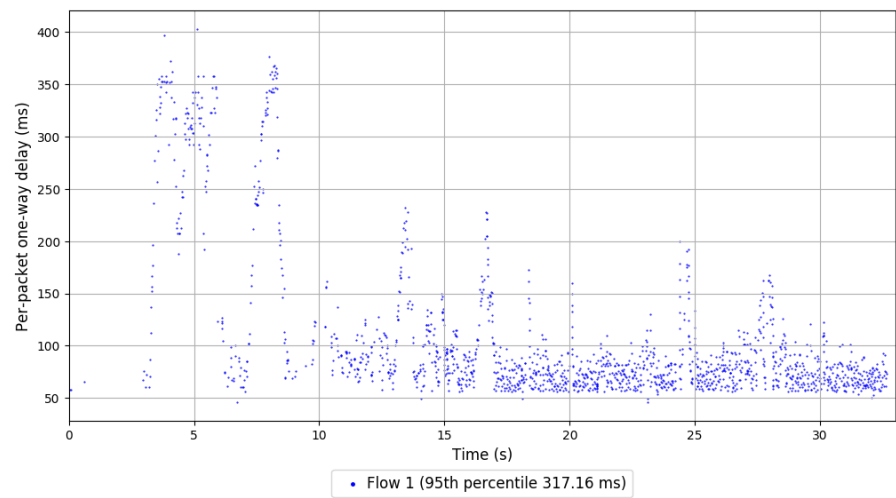
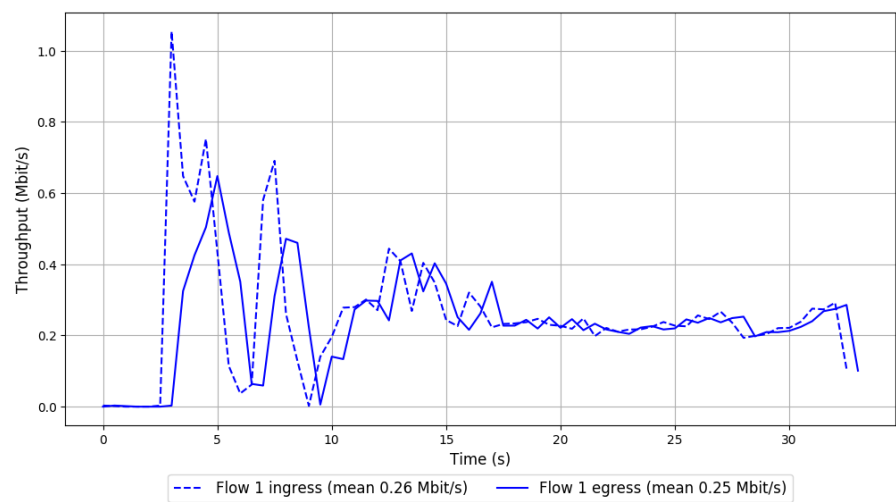


Run 2: Statistics of WebRTC media

Start at: 2018-07-10 11:08:26
End at: 2018-07-10 11:08:56
Local clock offset: 3.331 ms
Remote clock offset: -0.645 ms

Below is generated by plot.py at 2018-07-10 11:42:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 317.158 ms
Loss rate: 6.15%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 317.158 ms
Loss rate: 6.15%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-07-10 11:26:48
End at: 2018-07-10 11:27:18
Local clock offset: 2.696 ms
Remote clock offset: 12.791 ms

Below is generated by plot.py at 2018-07-10 11:42:58
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 224.876 ms
Loss rate: 3.63%
-- Flow 1:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 224.876 ms
Loss rate: 3.63%

Run 3: Report of WebRTC media — Data Link

