

Pantheon Report

Generated at 2018-07-04 02:16:50 (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.

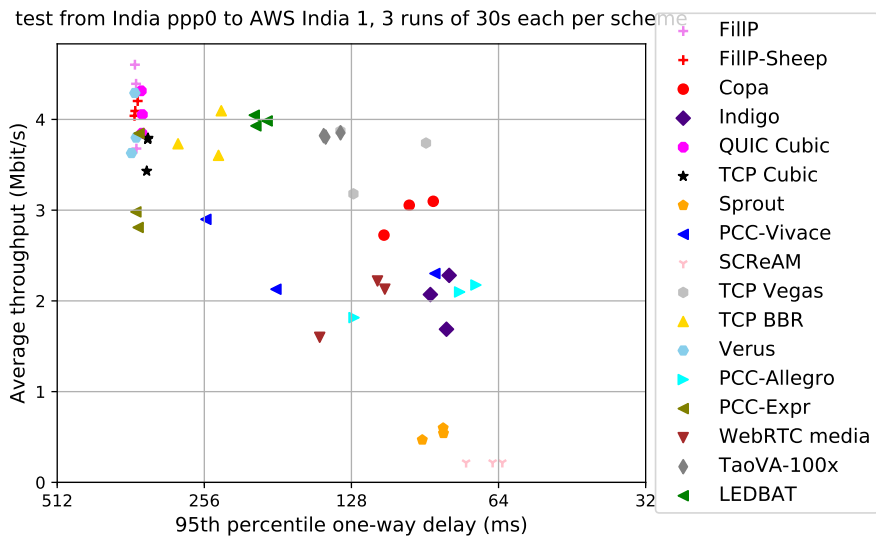
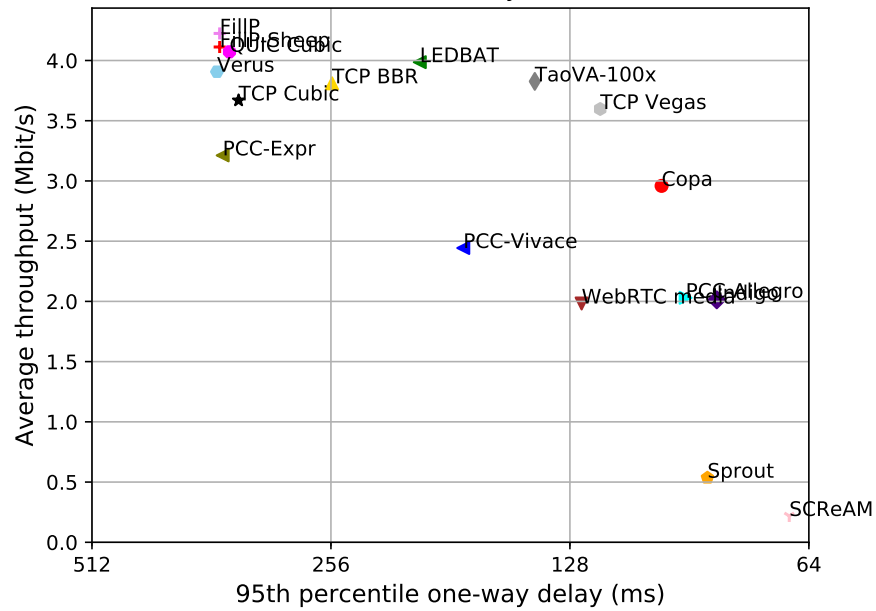
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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 @ 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	3.81	255.18	0.70
Copa	3	2.96	98.11	0.36
TCP Cubic	3	3.67	334.63	1.85
FillP	3	4.22	353.53	25.97
FillP-Sheep	3	4.11	353.51	18.57
Indigo	3	2.01	83.60	0.85
LEDBAT	3	3.99	197.86	0.56
PCC-Allegro	3	2.03	91.50	3.48
PCC-Expr	3	3.21	350.46	16.74
QUIC Cubic	3	4.07	343.61	3.41
SCReAM	3	0.22	67.75	0.26
Sprout	3	0.54	85.90	0.29
TaoVA-100x	3	3.83	141.72	0.53
TCP Vegas	3	3.60	117.23	0.52
Verus	3	3.91	356.30	33.64
PCC-Vivace	3	2.44	174.41	0.45
WebRTC media	3	1.98	123.73	0.24

Run 1: Statistics of TCP BBR

Start at: 2018-07-04 01:29:07

End at: 2018-07-04 01:29:37

Local clock offset: -0.439 ms

Remote clock offset: 1.791 ms

Below is generated by plot.py at 2018-07-04 02:16:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.60 Mbit/s

95th percentile per-packet one-way delay: 239.441 ms

Loss rate: 0.77%

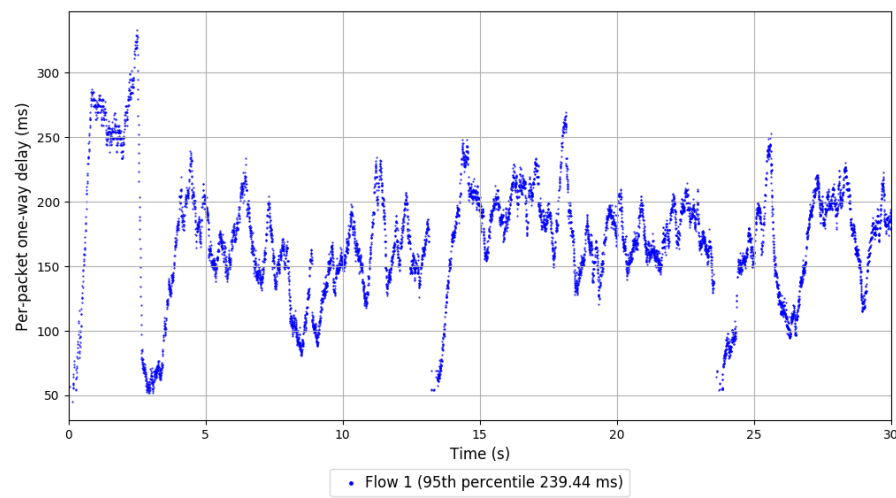
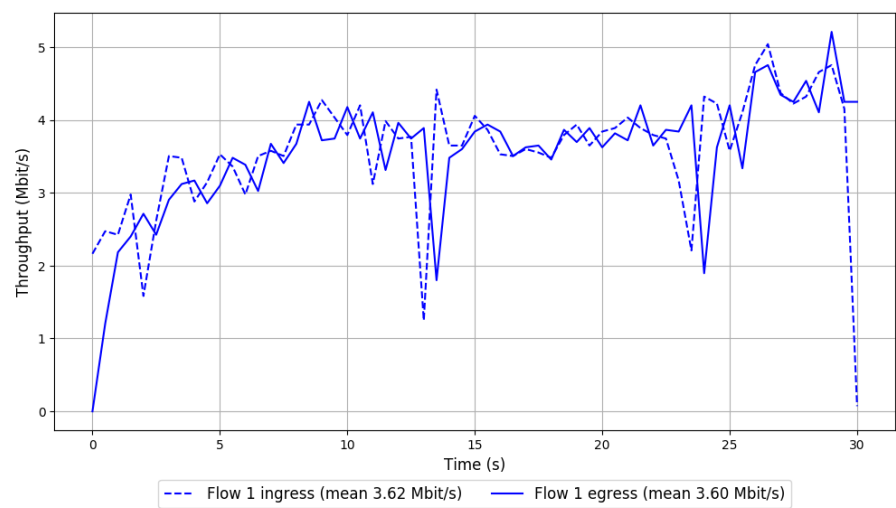
-- Flow 1:

Average throughput: 3.60 Mbit/s

95th percentile per-packet one-way delay: 239.441 ms

Loss rate: 0.77%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-07-04 01:47:25

End at: 2018-07-04 01:47:55

Local clock offset: 2.508 ms

Remote clock offset: 5.13 ms

Below is generated by plot.py at 2018-07-04 02:16:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.73 Mbit/s

95th percentile per-packet one-way delay: 289.747 ms

Loss rate: 0.69%

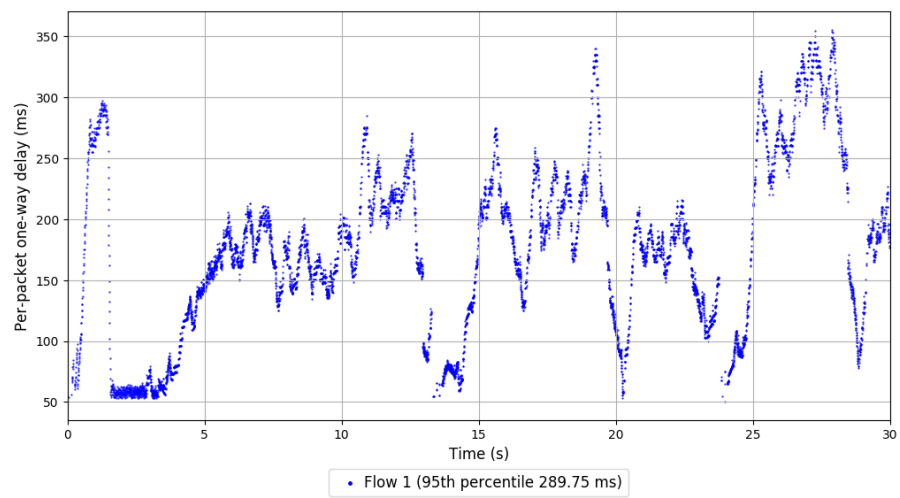
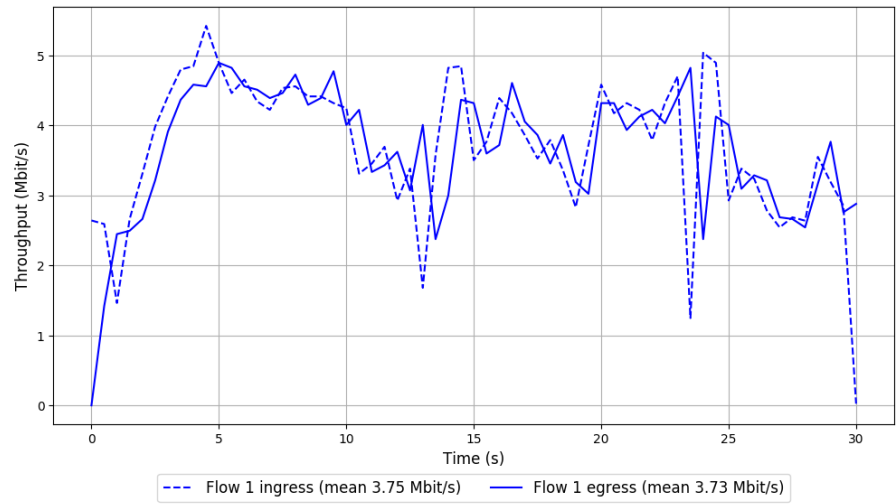
-- Flow 1:

Average throughput: 3.73 Mbit/s

95th percentile per-packet one-way delay: 289.747 ms

Loss rate: 0.69%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-07-04 02:05:43

End at: 2018-07-04 02:06:13

Local clock offset: 2.883 ms

Remote clock offset: 6.05 ms

Below is generated by plot.py at 2018-07-04 02:16:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.10 Mbit/s

95th percentile per-packet one-way delay: 236.350 ms

Loss rate: 0.63%

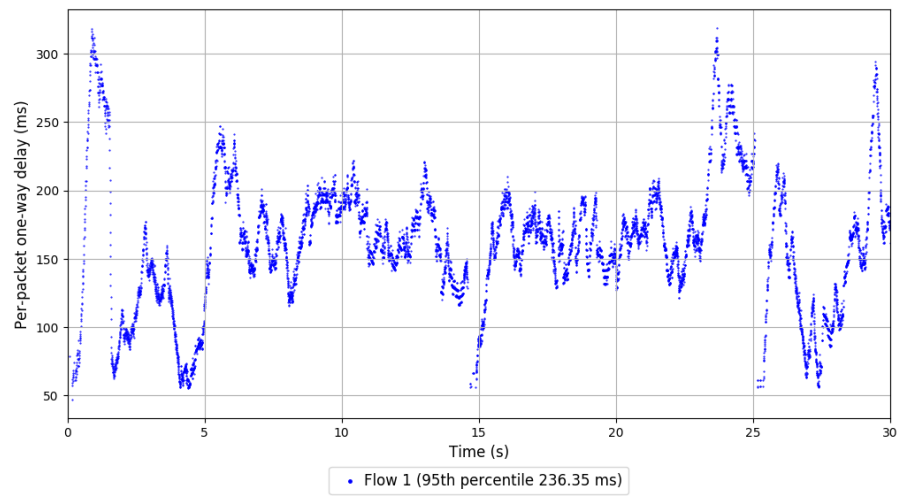
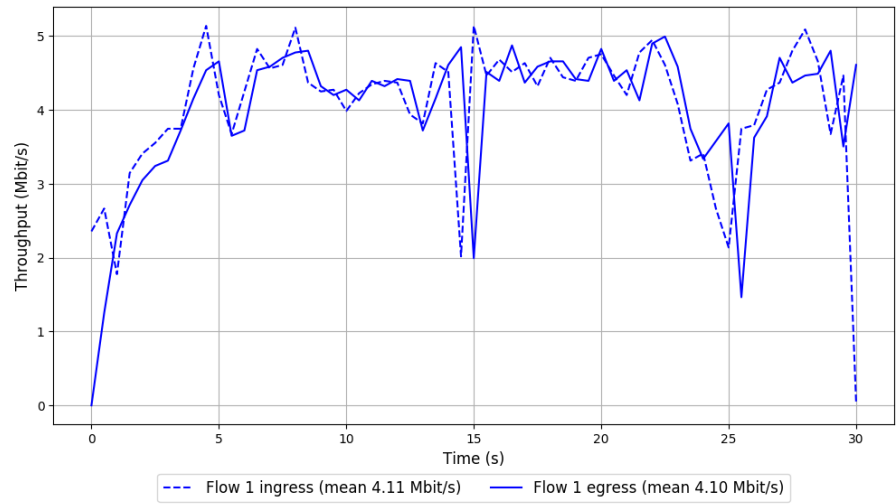
-- Flow 1:

Average throughput: 4.10 Mbit/s

95th percentile per-packet one-way delay: 236.350 ms

Loss rate: 0.63%

Run 3: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-07-04 01:32:21

End at: 2018-07-04 01:32:51

Local clock offset: 3.395 ms

Remote clock offset: 2.642 ms

Below is generated by plot.py at 2018-07-04 02:16:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.72 Mbit/s

95th percentile per-packet one-way delay: 109.802 ms

Loss rate: 0.41%

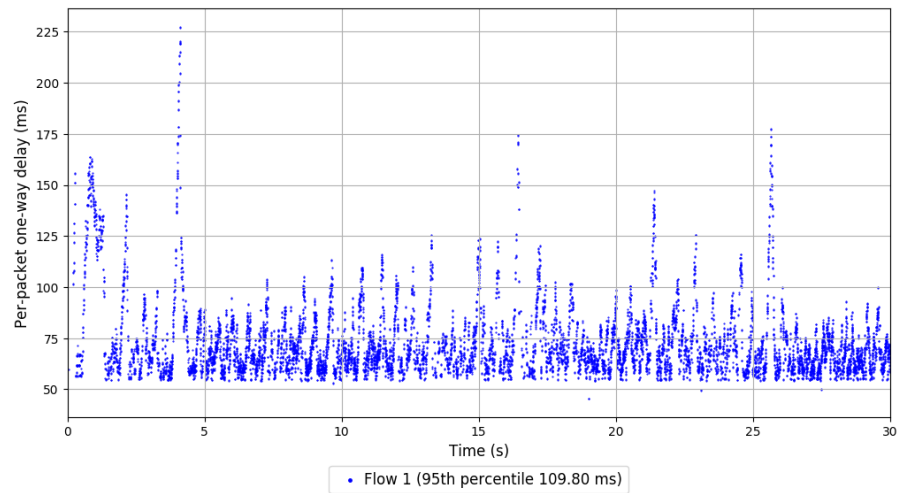
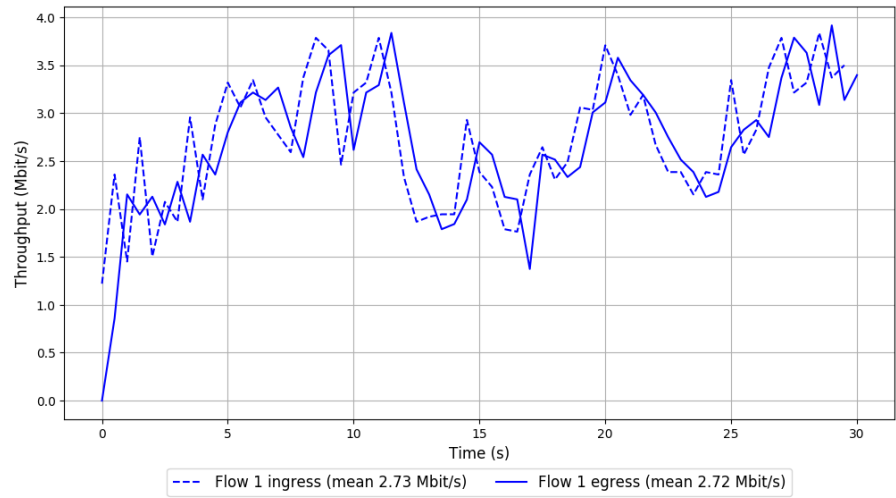
-- Flow 1:

Average throughput: 2.72 Mbit/s

95th percentile per-packet one-way delay: 109.802 ms

Loss rate: 0.41%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-07-04 01:50:39

End at: 2018-07-04 01:51:09

Local clock offset: 2.362 ms

Remote clock offset: 4.472 ms

Below is generated by plot.py at 2018-07-04 02:16:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.10 Mbit/s

95th percentile per-packet one-way delay: 87.051 ms

Loss rate: 0.43%

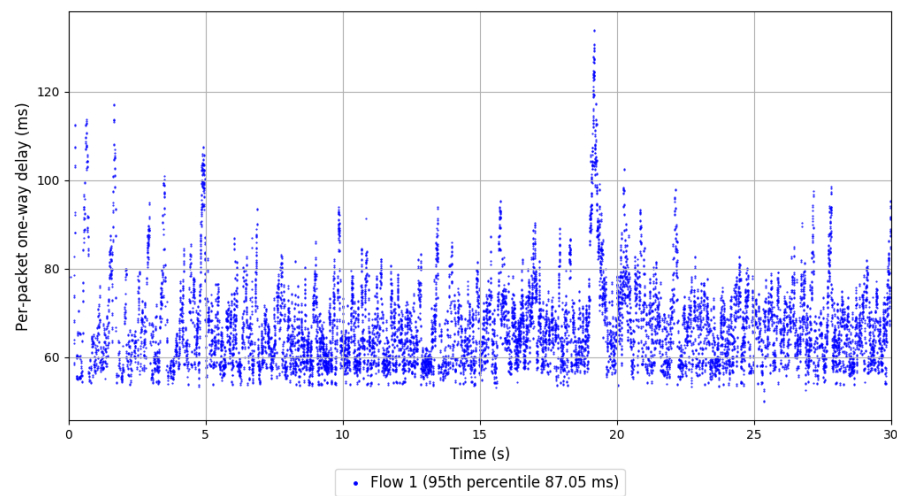
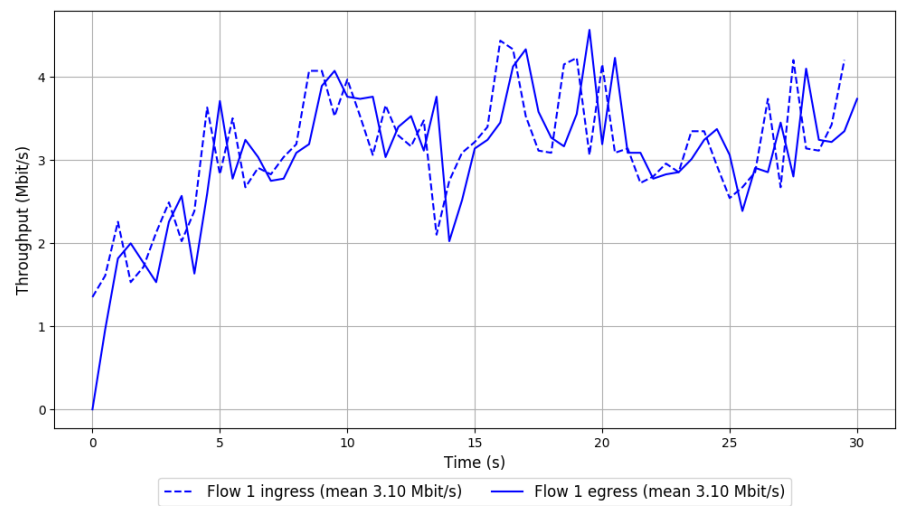
-- Flow 1:

Average throughput: 3.10 Mbit/s

95th percentile per-packet one-way delay: 87.051 ms

Loss rate: 0.43%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-07-04 02:08:59

End at: 2018-07-04 02:09:29

Local clock offset: 0.121 ms

Remote clock offset: 5.172 ms

Below is generated by plot.py at 2018-07-04 02:16:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.05 Mbit/s

95th percentile per-packet one-way delay: 97.480 ms

Loss rate: 0.24%

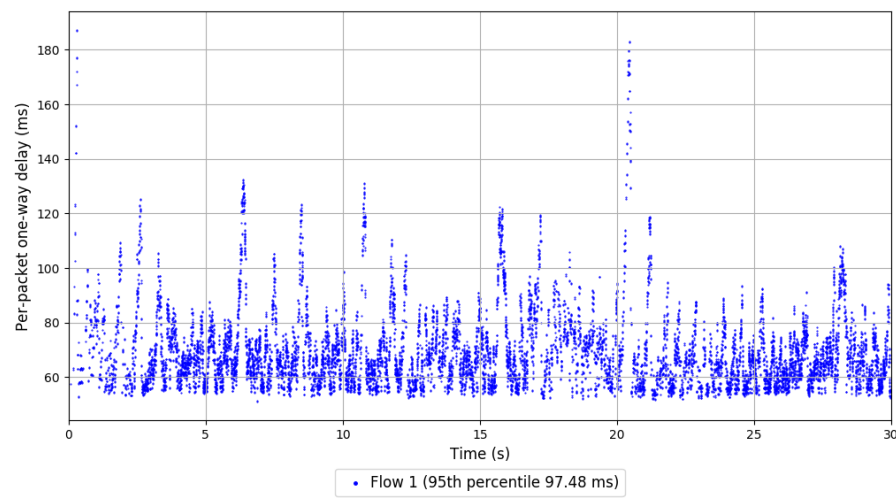
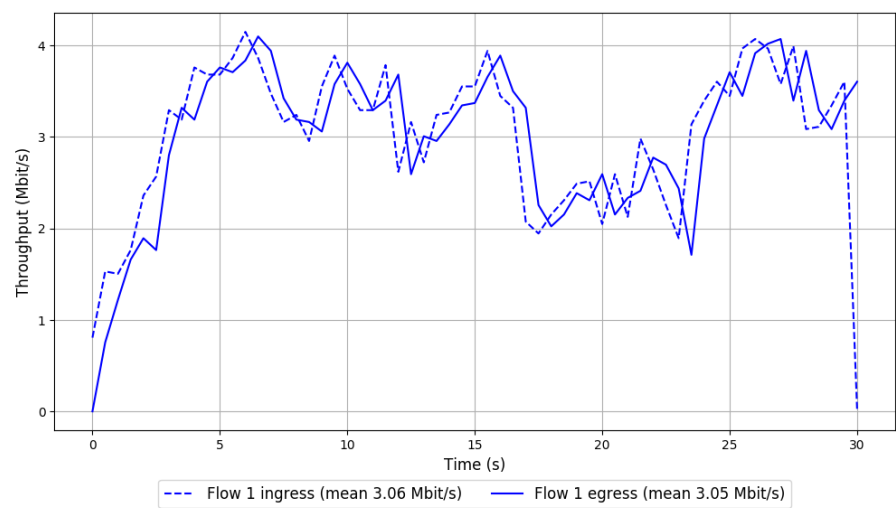
-- Flow 1:

Average throughput: 3.05 Mbit/s

95th percentile per-packet one-way delay: 97.480 ms

Loss rate: 0.24%

Run 3: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-07-04 01:26:58

End at: 2018-07-04 01:27:28

Local clock offset: -0.118 ms

Remote clock offset: 0.88 ms

Below is generated by plot.py at 2018-07-04 02:16:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.43 Mbit/s

95th percentile per-packet one-way delay: 335.829 ms

Loss rate: 1.98%

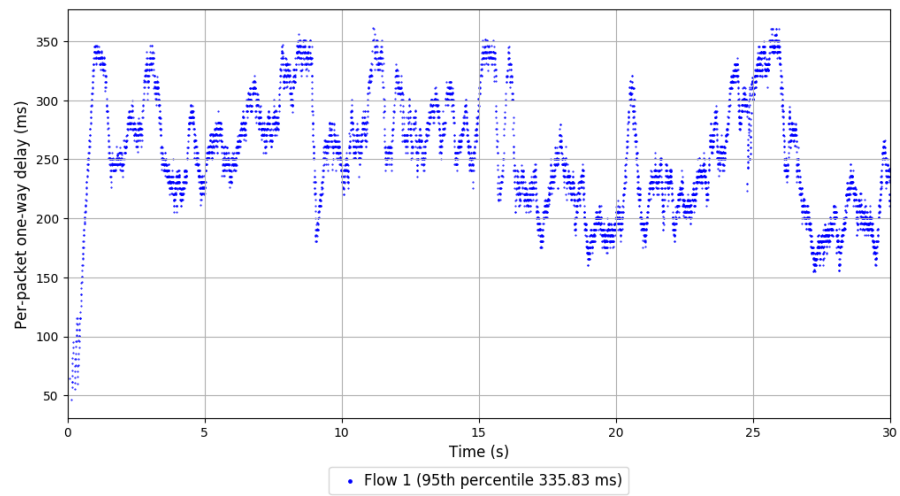
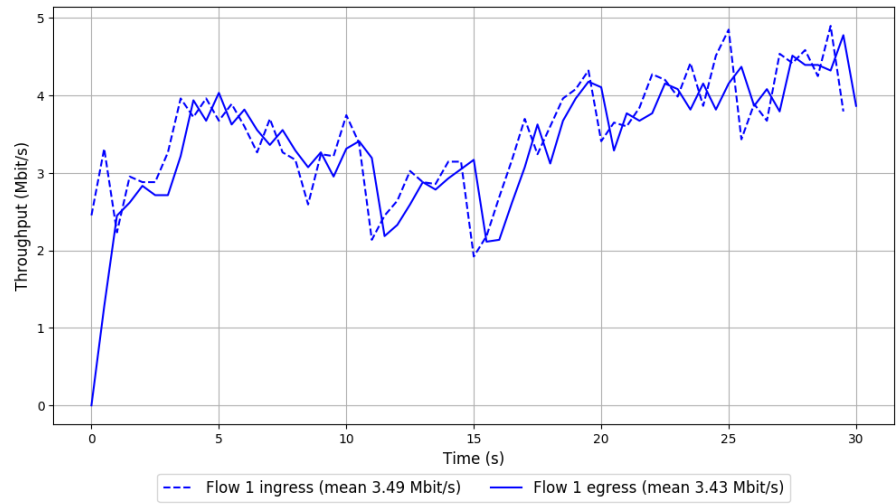
-- Flow 1:

Average throughput: 3.43 Mbit/s

95th percentile per-packet one-way delay: 335.829 ms

Loss rate: 1.98%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-07-04 01:45:16

End at: 2018-07-04 01:45:46

Local clock offset: 0.34 ms

Remote clock offset: 4.384 ms

Below is generated by plot.py at 2018-07-04 02:16:12

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.79 Mbit/s

95th percentile per-packet one-way delay: 333.758 ms

Loss rate: 1.62%

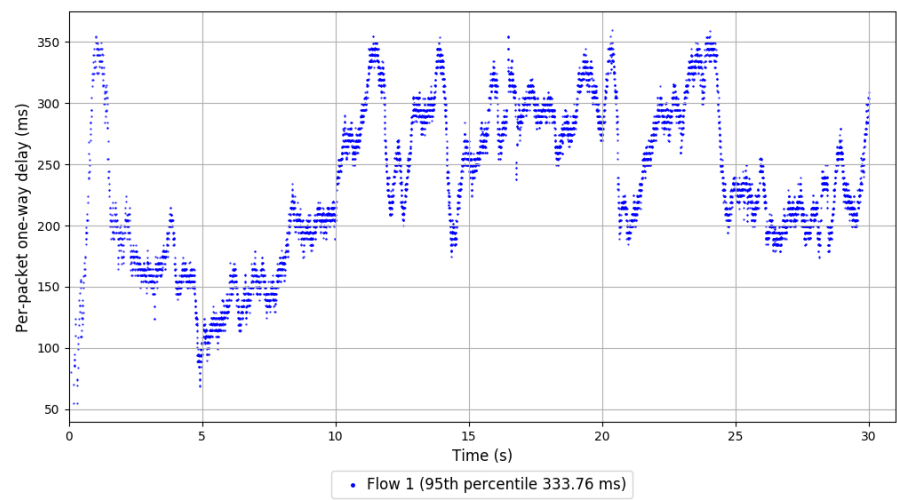
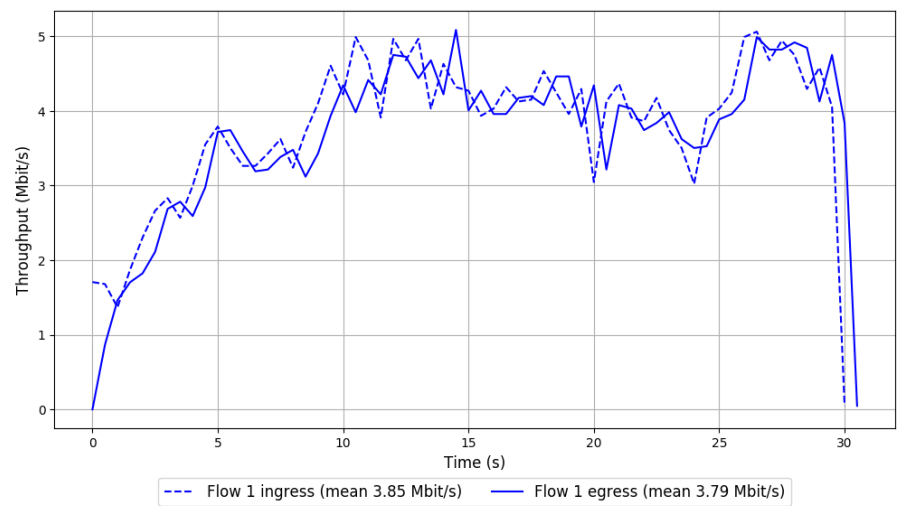
-- Flow 1:

Average throughput: 3.79 Mbit/s

95th percentile per-packet one-way delay: 333.758 ms

Loss rate: 1.62%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-07-04 02:03:34

End at: 2018-07-04 02:04:04

Local clock offset: 0.04 ms

Remote clock offset: 5.577 ms

Below is generated by plot.py at 2018-07-04 02:16:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.78 Mbit/s

95th percentile per-packet one-way delay: 334.314 ms

Loss rate: 1.95%

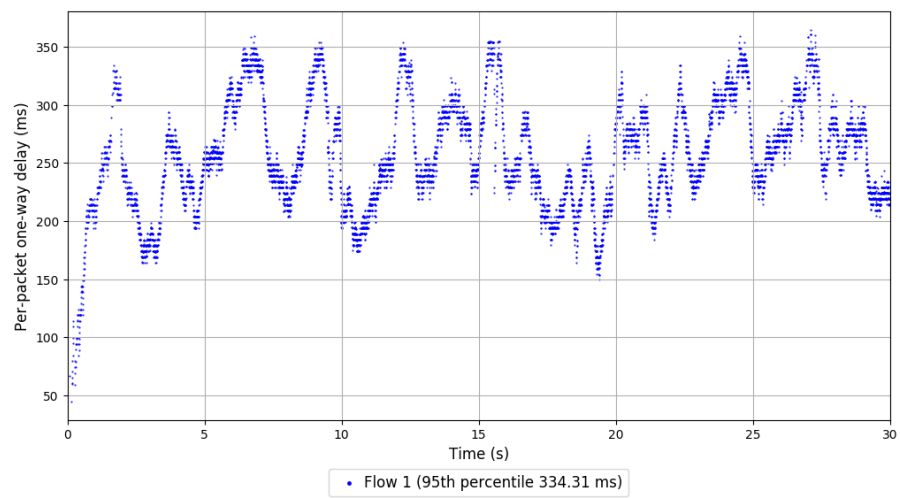
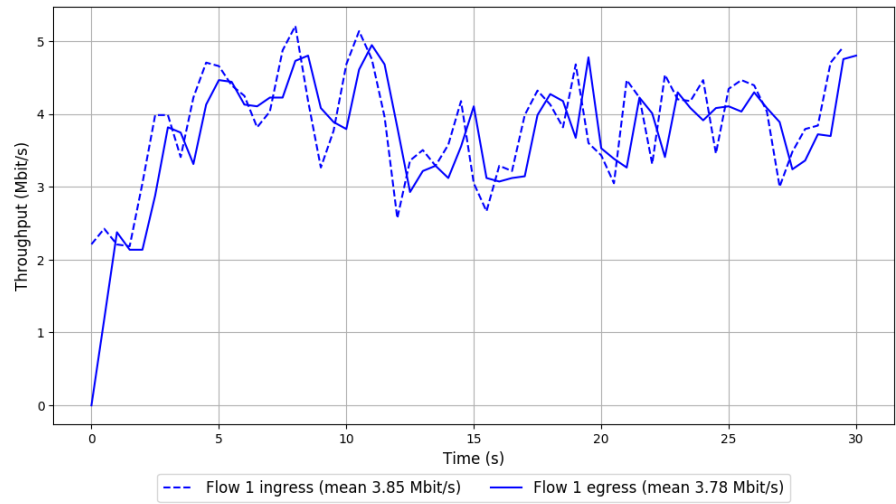
-- Flow 1:

Average throughput: 3.78 Mbit/s

95th percentile per-packet one-way delay: 334.314 ms

Loss rate: 1.95%

Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-07-04 01:33:26

End at: 2018-07-04 01:33:56

Local clock offset: 2.74 ms

Remote clock offset: 2.191 ms

Below is generated by plot.py at 2018-07-04 02:16:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.60 Mbit/s

95th percentile per-packet one-way delay: 355.001 ms

Loss rate: 23.45%

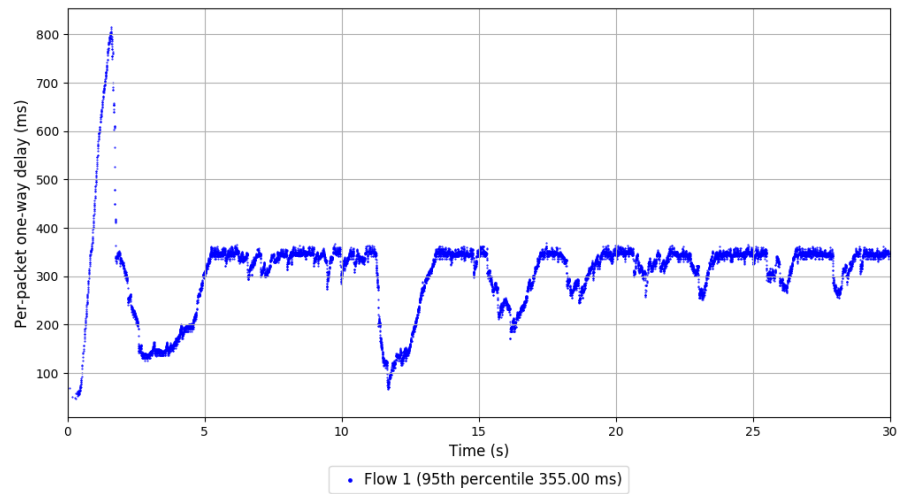
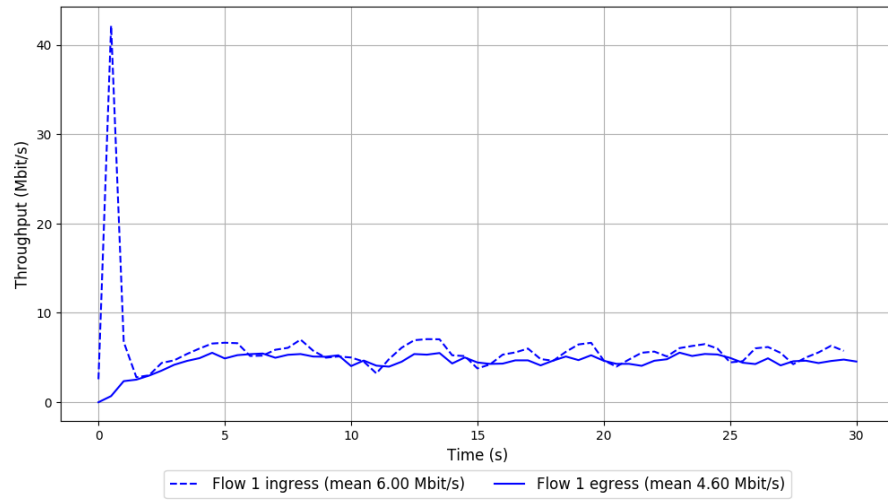
-- Flow 1:

Average throughput: 4.60 Mbit/s

95th percentile per-packet one-way delay: 355.001 ms

Loss rate: 23.45%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-07-04 01:51:44

End at: 2018-07-04 01:52:14

Local clock offset: 0.81 ms

Remote clock offset: 4.657 ms

Below is generated by plot.py at 2018-07-04 02:16:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.39 Mbit/s

95th percentile per-packet one-way delay: 353.069 ms

Loss rate: 27.01%

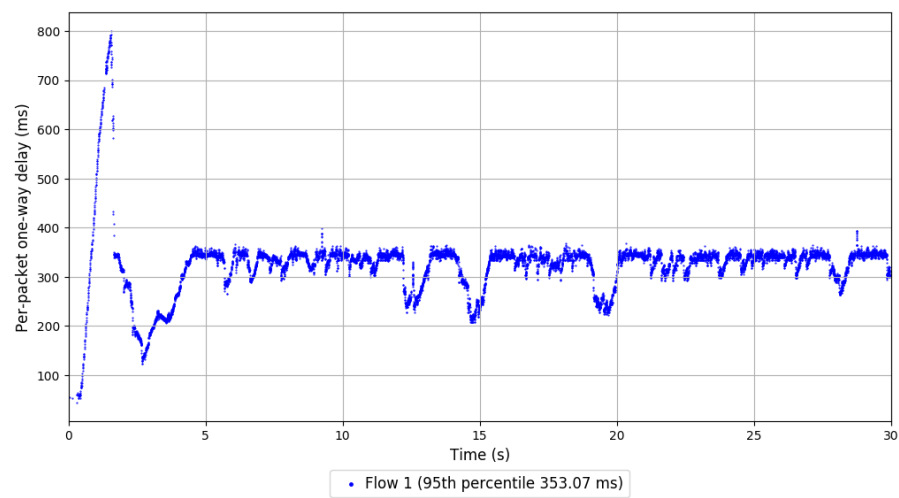
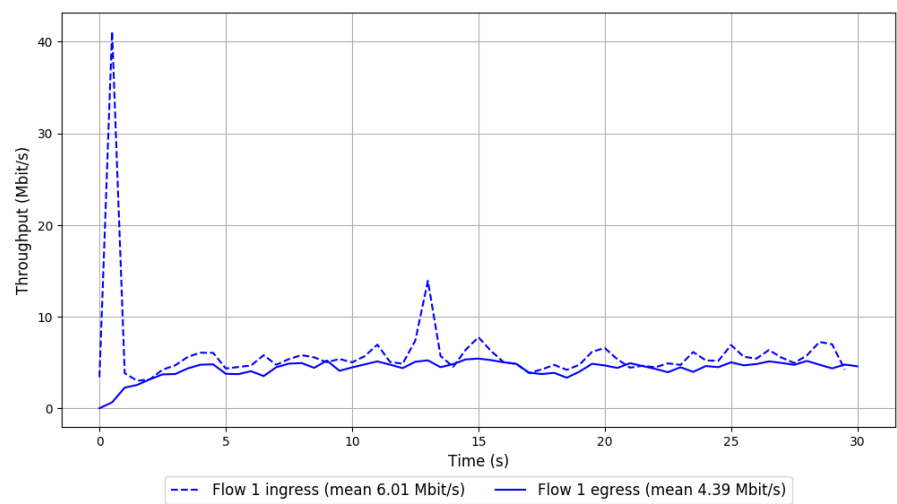
-- Flow 1:

Average throughput: 4.39 Mbit/s

95th percentile per-packet one-way delay: 353.069 ms

Loss rate: 27.01%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-07-04 02:10:04

End at: 2018-07-04 02:10:34

Local clock offset: -0.337 ms

Remote clock offset: 3.882 ms

Below is generated by plot.py at 2018-07-04 02:16:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.68 Mbit/s

95th percentile per-packet one-way delay: 352.522 ms

Loss rate: 27.44%

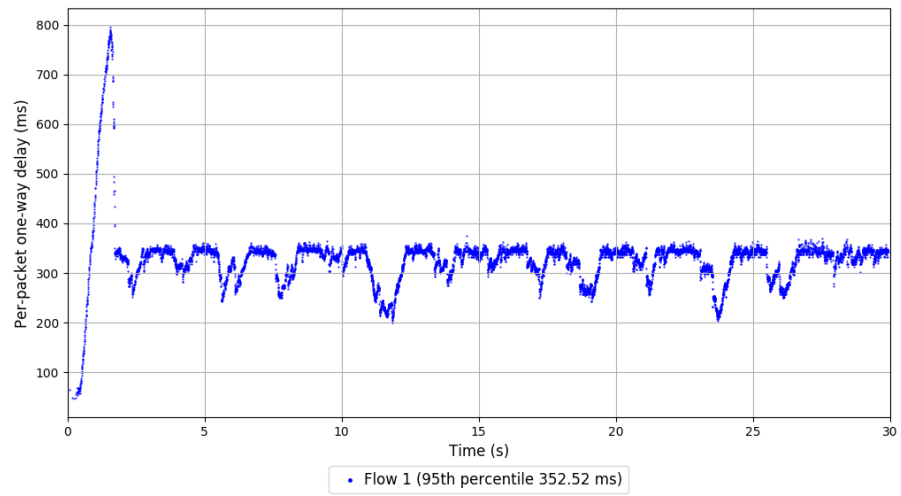
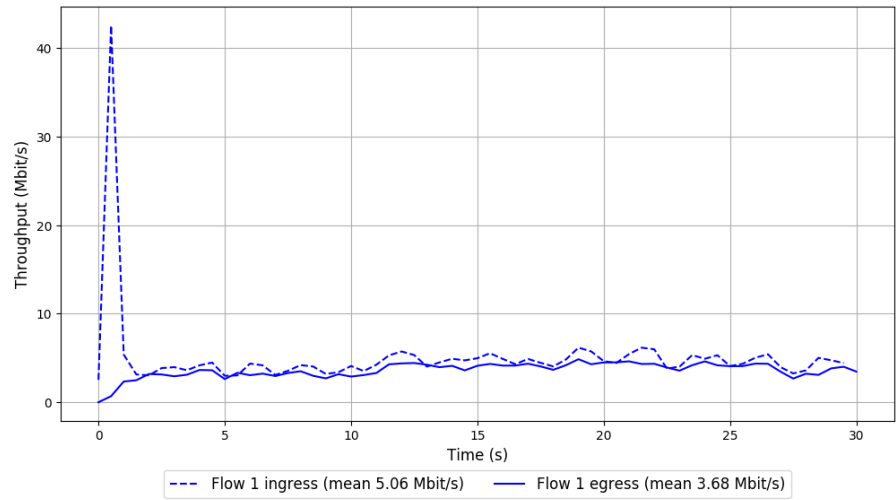
-- Flow 1:

Average throughput: 3.68 Mbit/s

95th percentile per-packet one-way delay: 352.522 ms

Loss rate: 27.44%

Run 3: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-07-04 01:30:12

End at: 2018-07-04 01:30:42

Local clock offset: 3.197 ms

Remote clock offset: 1.186 ms

Below is generated by plot.py at 2018-07-04 02:16:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.04 Mbit/s

95th percentile per-packet one-way delay: 355.714 ms

Loss rate: 17.44%

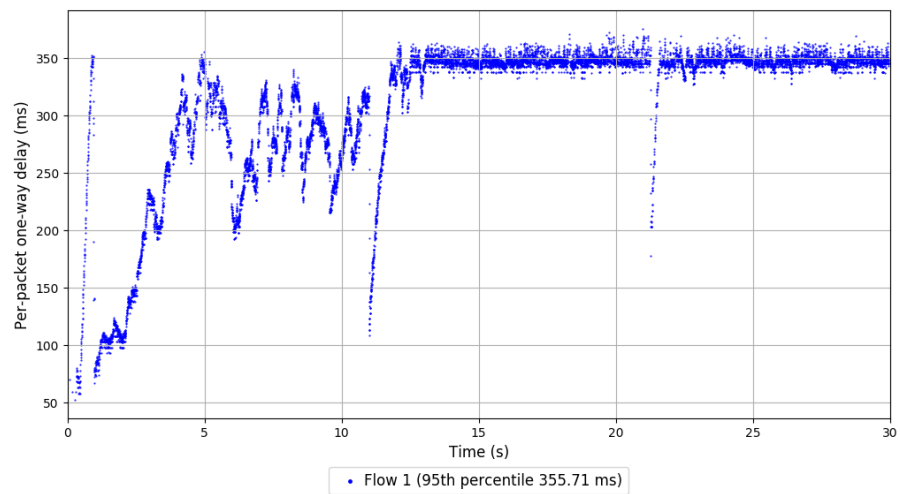
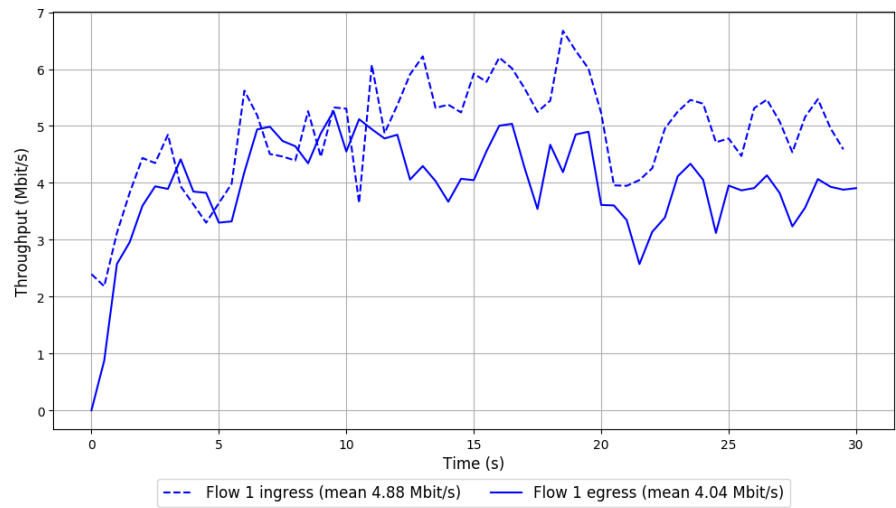
-- Flow 1:

Average throughput: 4.04 Mbit/s

95th percentile per-packet one-way delay: 355.714 ms

Loss rate: 17.44%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-07-04 01:48:30

End at: 2018-07-04 01:49:00

Local clock offset: 2.827 ms

Remote clock offset: 3.806 ms

Below is generated by plot.py at 2018-07-04 02:16:20

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.09 Mbit/s

95th percentile per-packet one-way delay: 354.410 ms

Loss rate: 19.50%

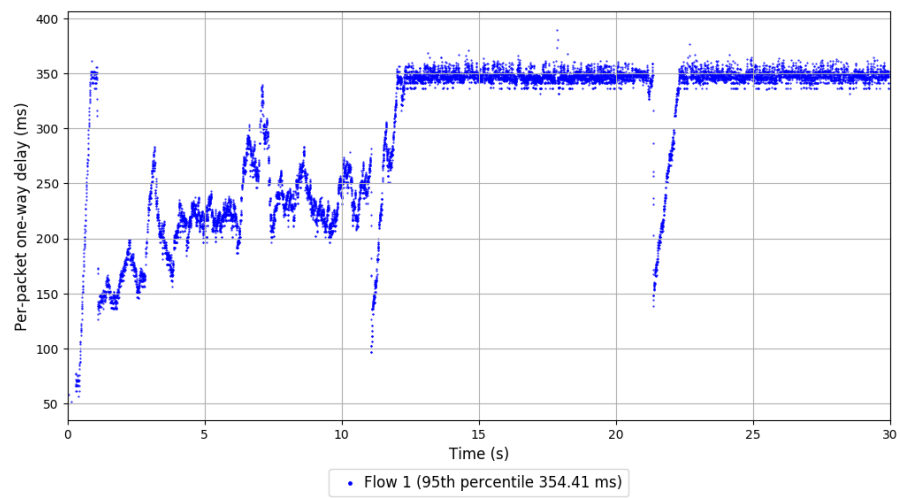
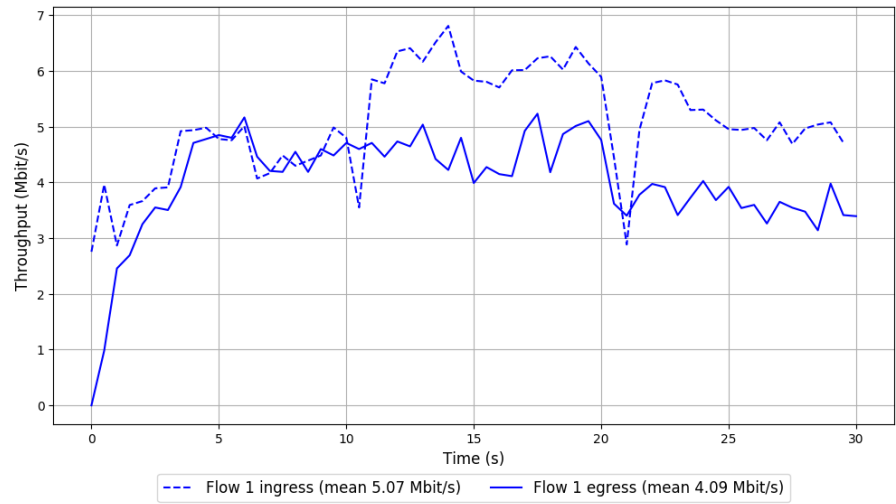
-- Flow 1:

Average throughput: 4.09 Mbit/s

95th percentile per-packet one-way delay: 354.410 ms

Loss rate: 19.50%

Run 2: Report of FillP-Sheep — Data Link

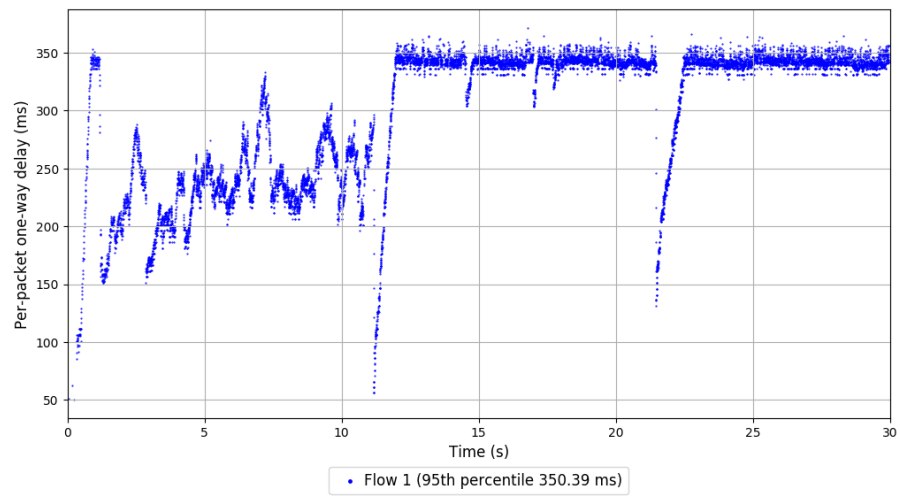
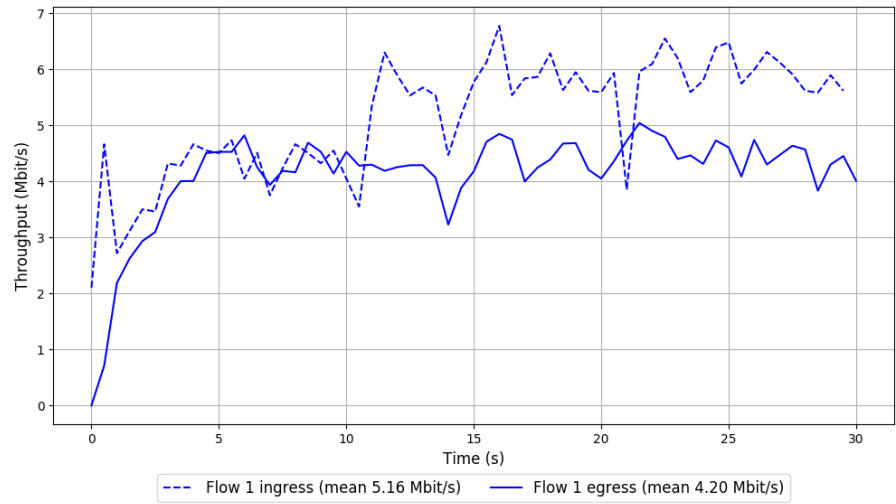


Run 3: Statistics of FillP-Sheep

Start at: 2018-07-04 02:06:48
End at: 2018-07-04 02:07:18
Local clock offset: -0.968 ms
Remote clock offset: 7.235 ms

Below is generated by plot.py at 2018-07-04 02:16:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.20 Mbit/s
95th percentile per-packet one-way delay: 350.395 ms
Loss rate: 18.78%
-- Flow 1:
Average throughput: 4.20 Mbit/s
95th percentile per-packet one-way delay: 350.395 ms
Loss rate: 18.78%

Run 3: Report of FillP-Sheep — Data Link

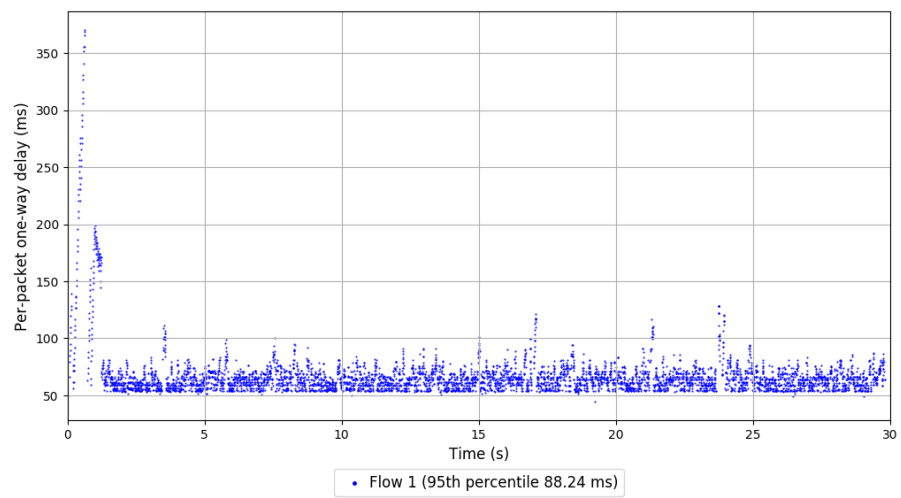
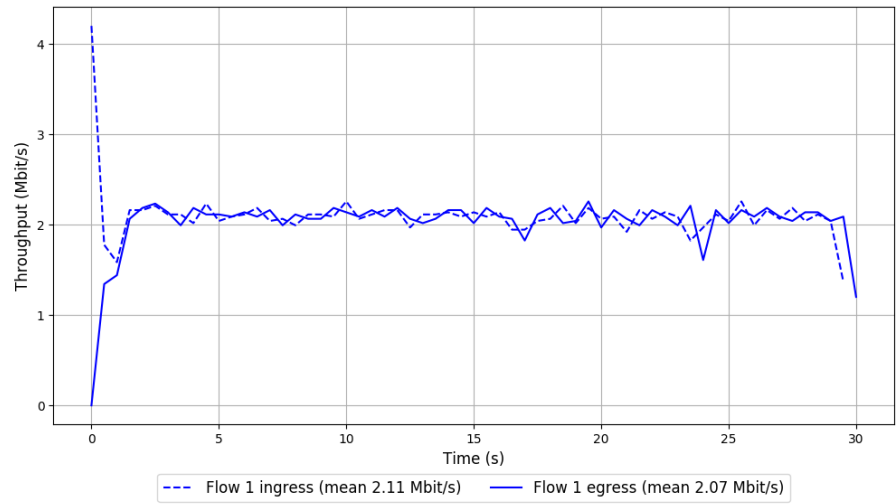


```
Run 1: Statistics of Indigo

Start at: 2018-07-04 01:22:39
End at: 2018-07-04 01:23:09
Local clock offset: -0.197 ms
Remote clock offset: 0.837 ms

# Below is generated by plot.py at 2018-07-04 02:16:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 88.238 ms
Loss rate: 2.25%
-- Flow 1:
Average throughput: 2.07 Mbit/s
95th percentile per-packet one-way delay: 88.238 ms
Loss rate: 2.25%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-07-04 01:40:58

End at: 2018-07-04 01:41:28

Local clock offset: 1.734 ms

Remote clock offset: 3.165 ms

Below is generated by plot.py at 2018-07-04 02:16:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.28 Mbit/s

95th percentile per-packet one-way delay: 80.764 ms

Loss rate: 0.11%

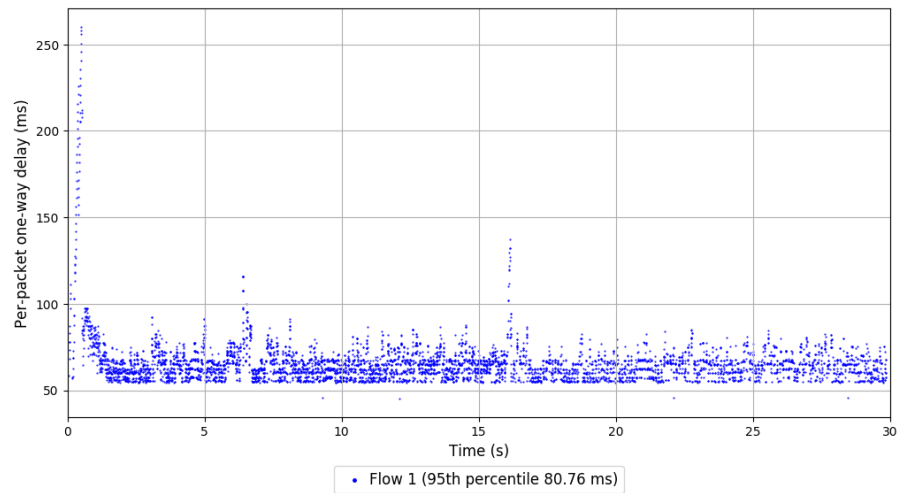
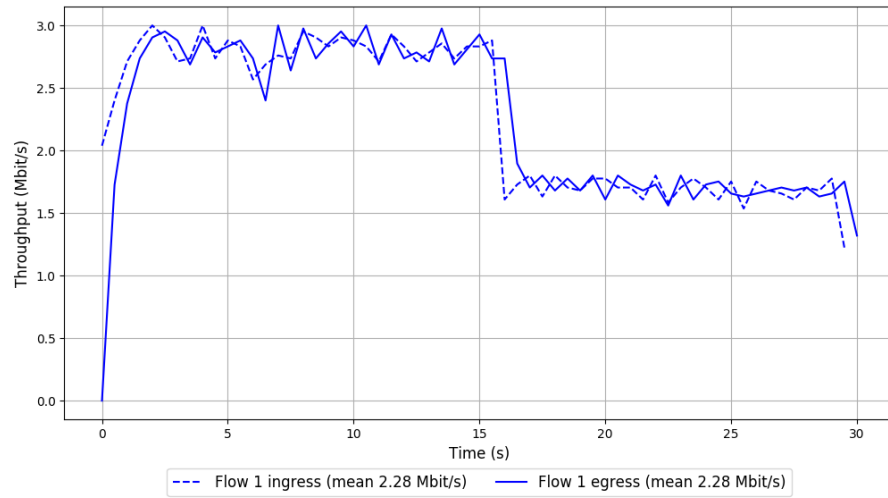
-- Flow 1:

Average throughput: 2.28 Mbit/s

95th percentile per-packet one-way delay: 80.764 ms

Loss rate: 0.11%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-07-04 01:59:16

End at: 2018-07-04 01:59:46

Local clock offset: 1.874 ms

Remote clock offset: 5.555 ms

Below is generated by plot.py at 2018-07-04 02:16:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.69 Mbit/s

95th percentile per-packet one-way delay: 81.793 ms

Loss rate: 0.19%

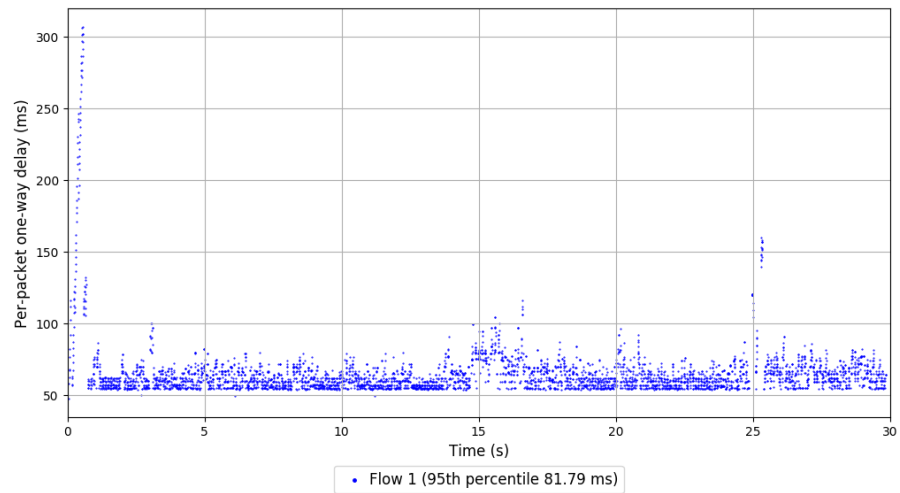
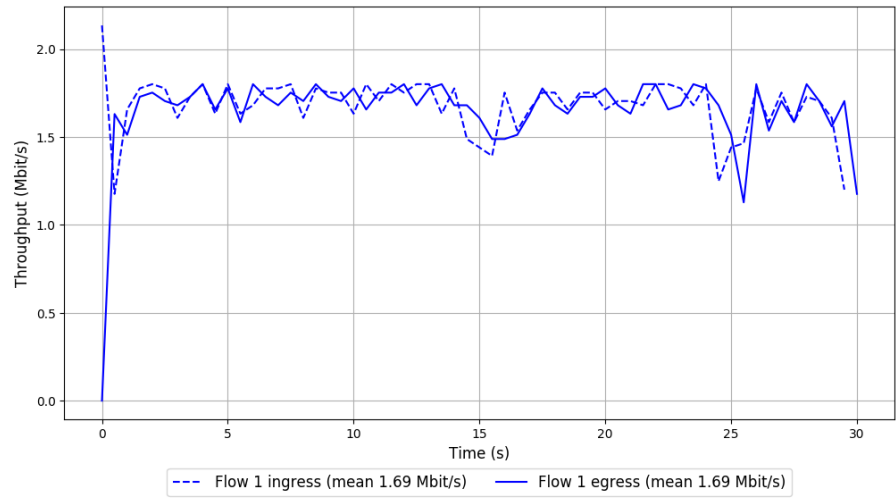
-- Flow 1:

Average throughput: 1.69 Mbit/s

95th percentile per-packet one-way delay: 81.793 ms

Loss rate: 0.19%

Run 3: Report of Indigo — Data Link

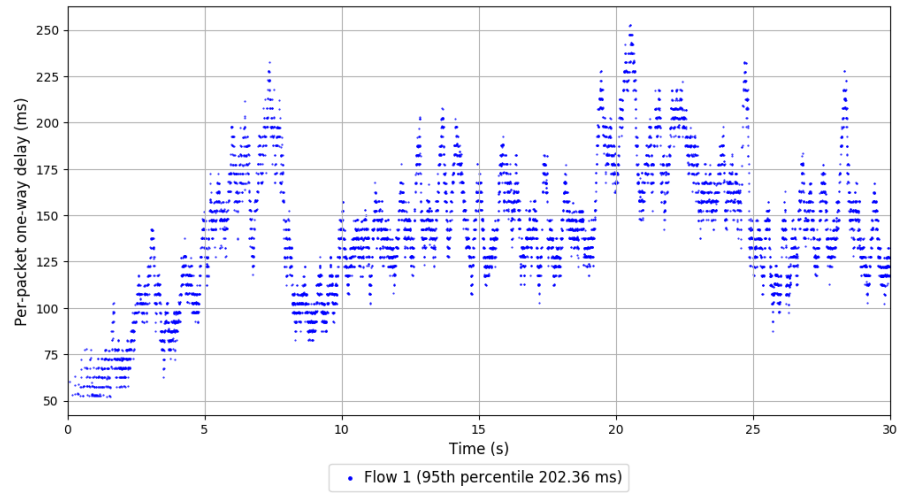
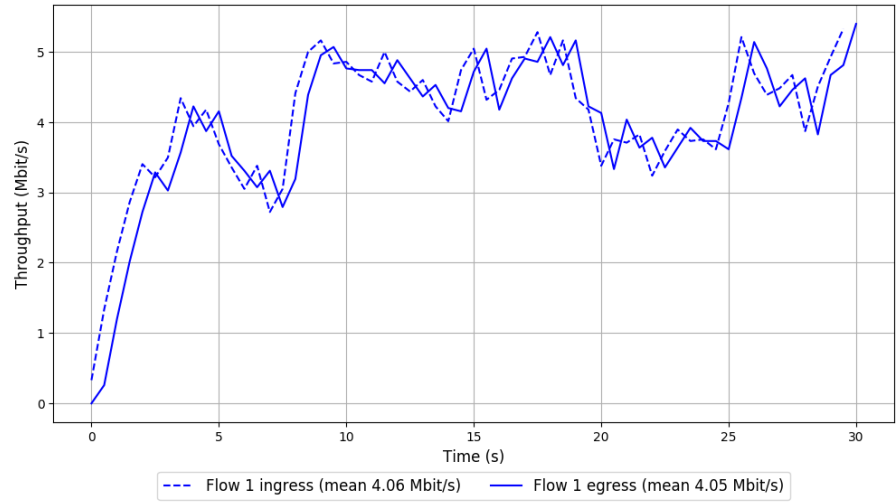


```
Run 1: Statistics of LEDBAT

Start at: 2018-07-04 01:36:40
End at: 2018-07-04 01:37:10
Local clock offset: 0.333 ms
Remote clock offset: 2.44 ms

# Below is generated by plot.py at 2018-07-04 02:16:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 202.358 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 202.358 ms
Loss rate: 0.56%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-07-04 01:54:58

End at: 2018-07-04 01:55:28

Local clock offset: 0.554 ms

Remote clock offset: 5.945 ms

Below is generated by plot.py at 2018-07-04 02:16:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.98 Mbit/s

95th percentile per-packet one-way delay: 190.430 ms

Loss rate: 0.52%

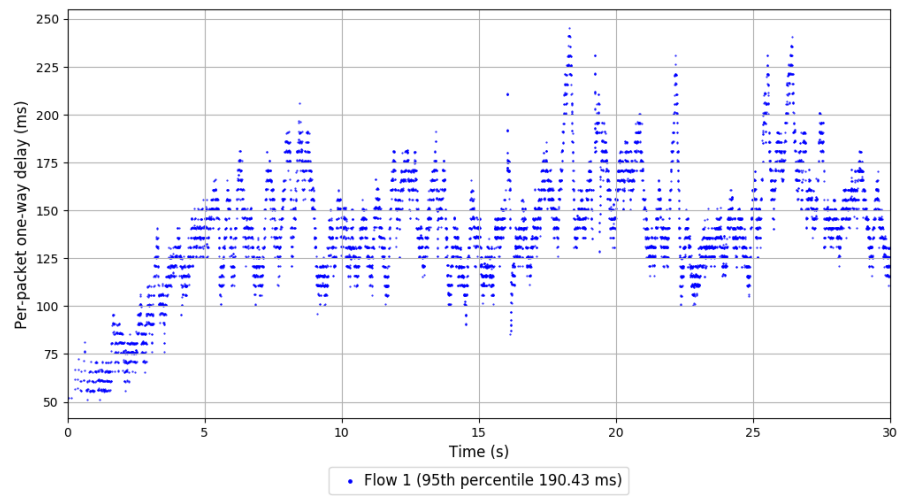
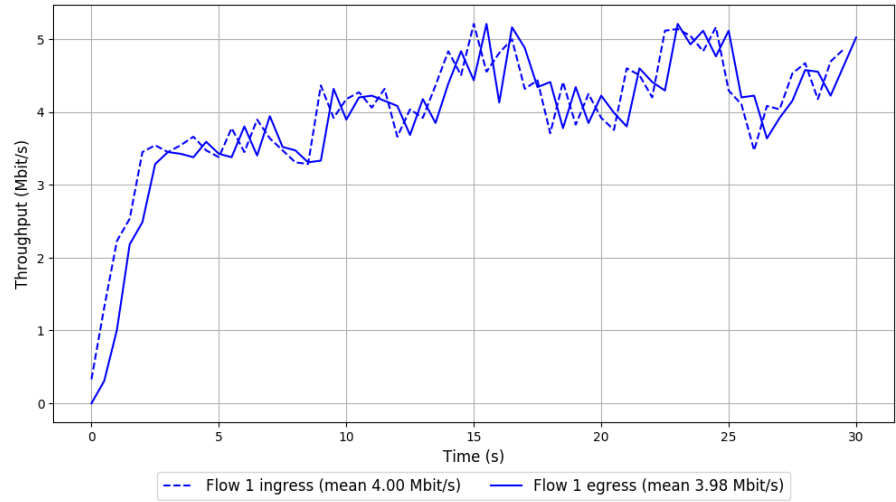
-- Flow 1:

Average throughput: 3.98 Mbit/s

95th percentile per-packet one-way delay: 190.430 ms

Loss rate: 0.52%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-07-04 02:13:18

End at: 2018-07-04 02:13:48

Local clock offset: 0.075 ms

Remote clock offset: 1.807 ms

Below is generated by plot.py at 2018-07-04 02:16:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.93 Mbit/s

95th percentile per-packet one-way delay: 200.786 ms

Loss rate: 0.59%

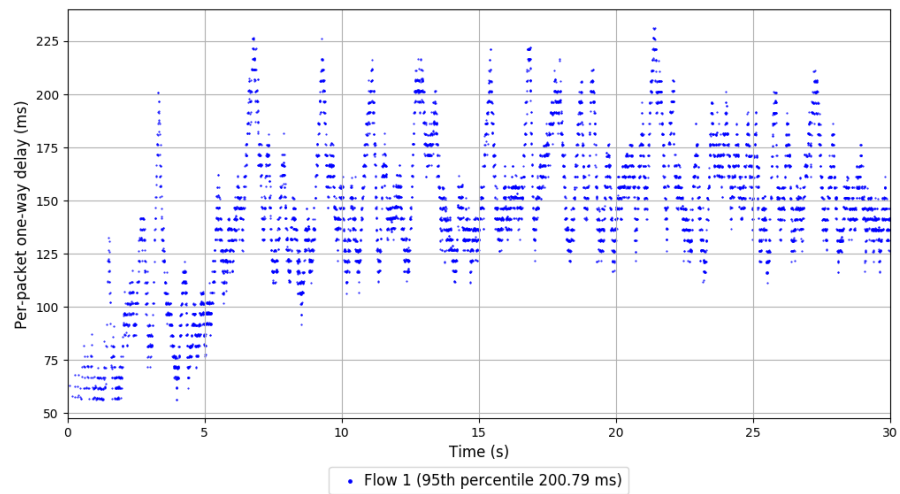
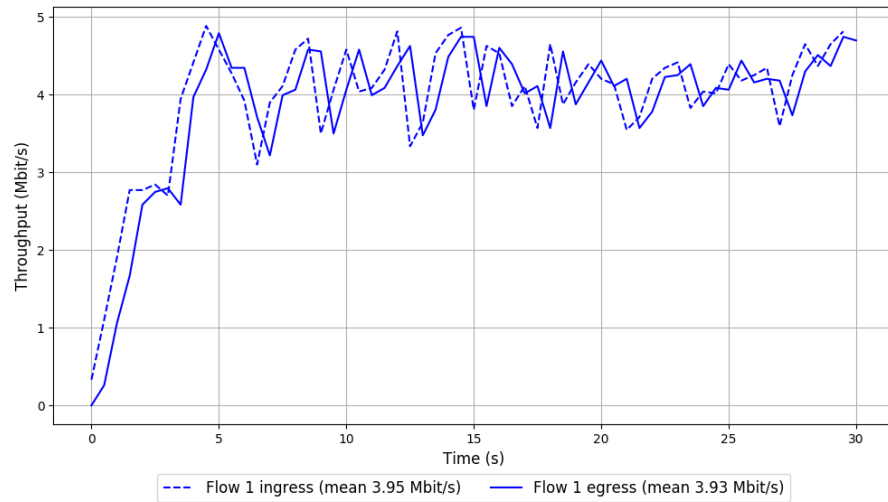
-- Flow 1:

Average throughput: 3.93 Mbit/s

95th percentile per-packet one-way delay: 200.786 ms

Loss rate: 0.59%

Run 3: Report of LEDBAT — Data Link

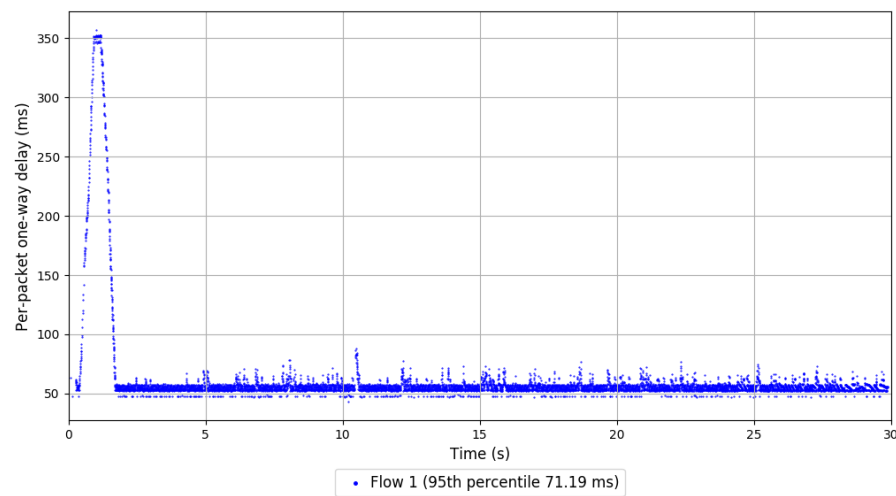
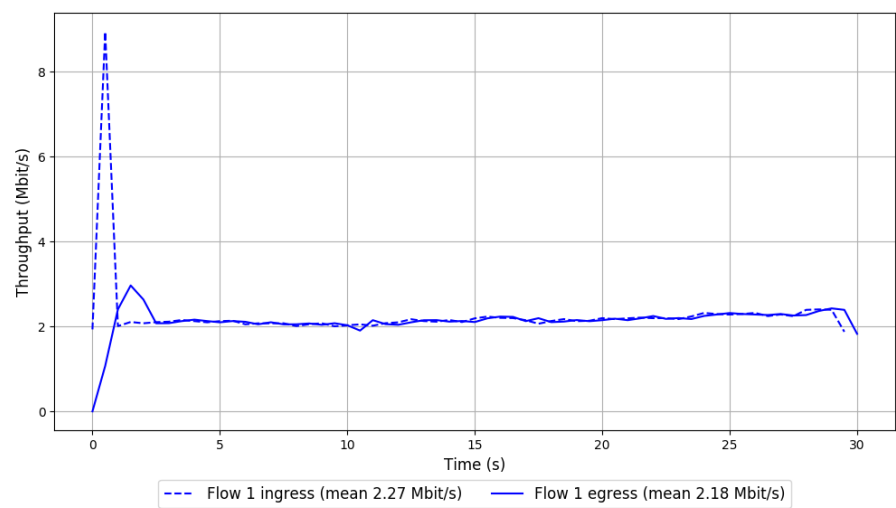


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-04 01:38:49
End at: 2018-07-04 01:39:19
Local clock offset: 0.196 ms
Remote clock offset: 2.3 ms

# Below is generated by plot.py at 2018-07-04 02:16:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 71.191 ms
Loss rate: 4.41%
-- Flow 1:
Average throughput: 2.18 Mbit/s
95th percentile per-packet one-way delay: 71.191 ms
Loss rate: 4.41%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-07-04 01:57:07

End at: 2018-07-04 01:57:37

Local clock offset: 0.625 ms

Remote clock offset: 5.248 ms

Below is generated by plot.py at 2018-07-04 02:16:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.10 Mbit/s

95th percentile per-packet one-way delay: 76.876 ms

Loss rate: 2.89%

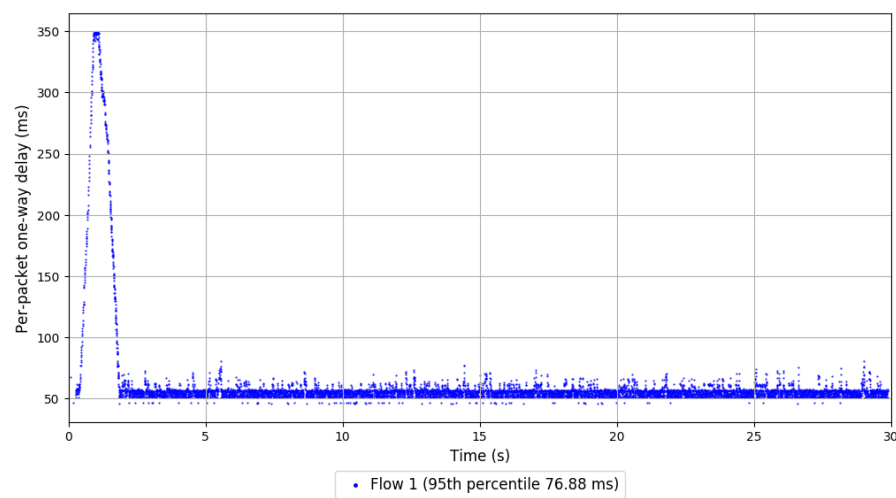
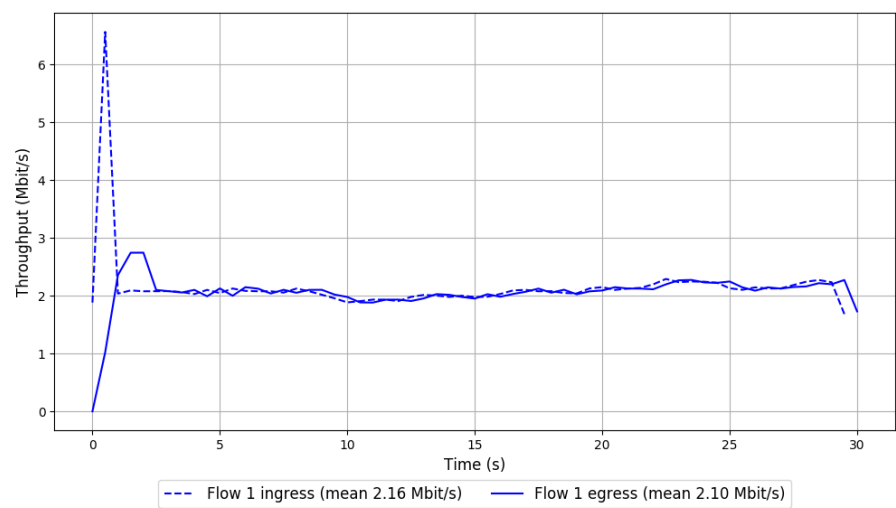
-- Flow 1:

Average throughput: 2.10 Mbit/s

95th percentile per-packet one-way delay: 76.876 ms

Loss rate: 2.89%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-07-04 02:15:28

End at: 2018-07-04 02:15:58

Local clock offset: 3.148 ms

Remote clock offset: 1.676 ms

Below is generated by plot.py at 2018-07-04 02:16:26

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.82 Mbit/s

95th percentile per-packet one-way delay: 126.437 ms

Loss rate: 3.15%

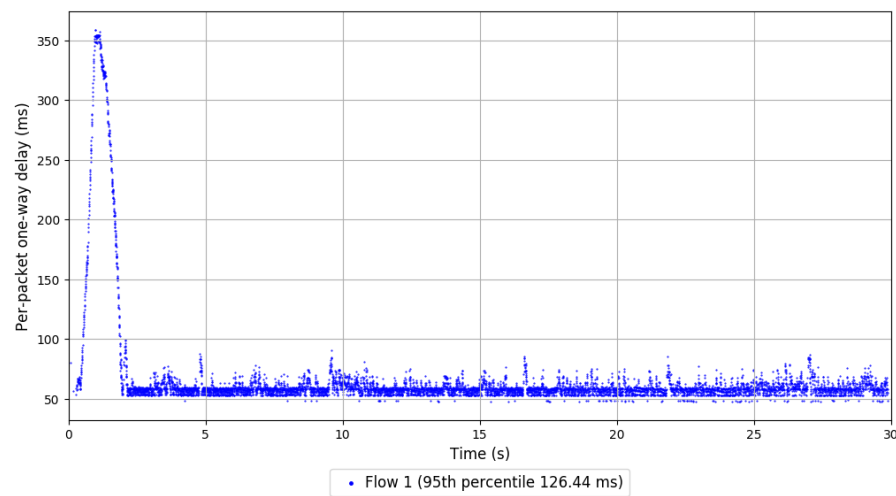
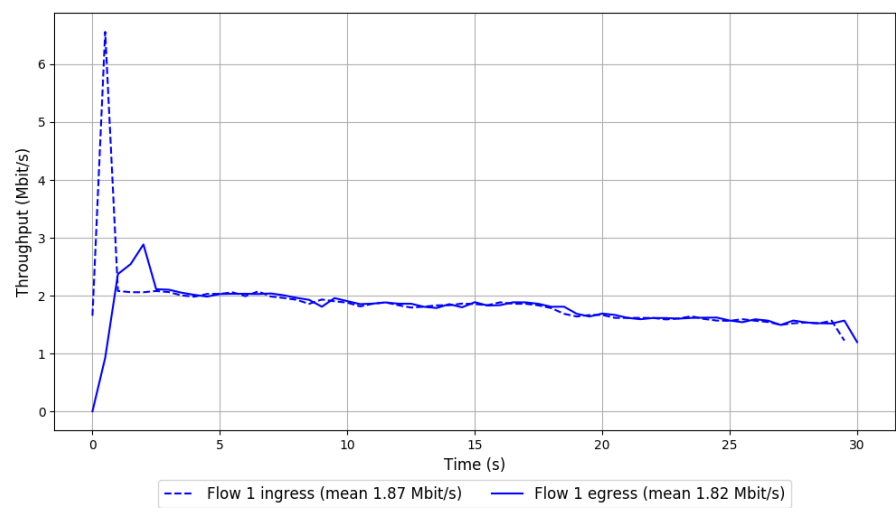
-- Flow 1:

Average throughput: 1.82 Mbit/s

95th percentile per-packet one-way delay: 126.437 ms

Loss rate: 3.15%

Run 3: Report of PCC-Allegro — Data Link

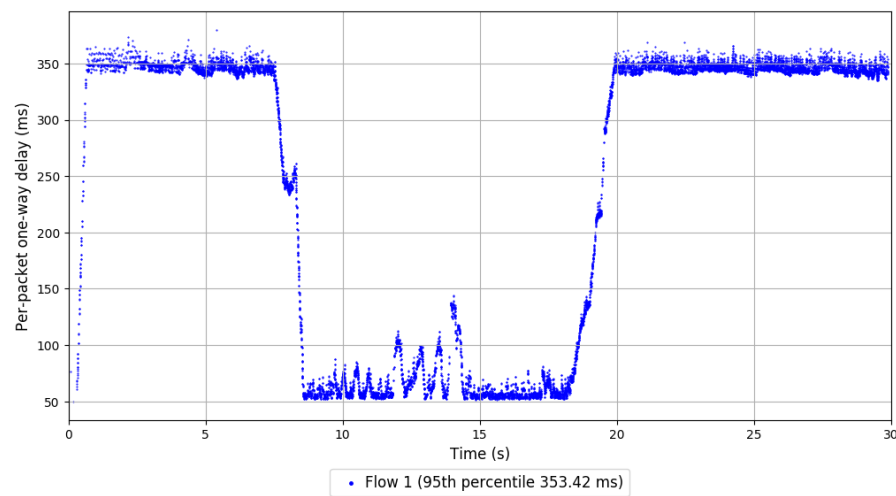
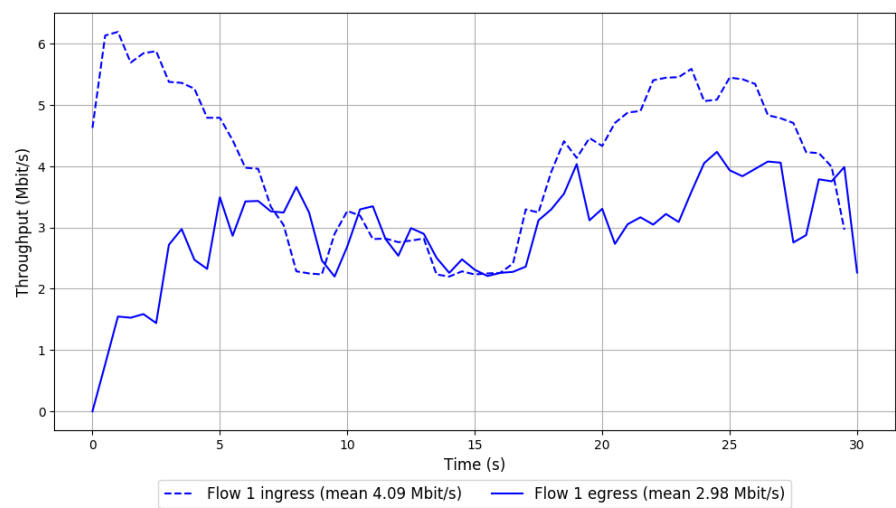


```
Run 1: Statistics of PCC-Expr

Start at: 2018-07-04 01:31:16
End at: 2018-07-04 01:31:46
Local clock offset: 0.307 ms
Remote clock offset: 1.606 ms

# Below is generated by plot.py at 2018-07-04 02:16:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 353.424 ms
Loss rate: 27.41%
-- Flow 1:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 353.424 ms
Loss rate: 27.41%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-07-04 01:49:34

End at: 2018-07-04 01:50:04

Local clock offset: 1.862 ms

Remote clock offset: 4.216 ms

Below is generated by plot.py at 2018-07-04 02:16:34

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.85 Mbit/s

95th percentile per-packet one-way delay: 348.252 ms

Loss rate: 8.57%

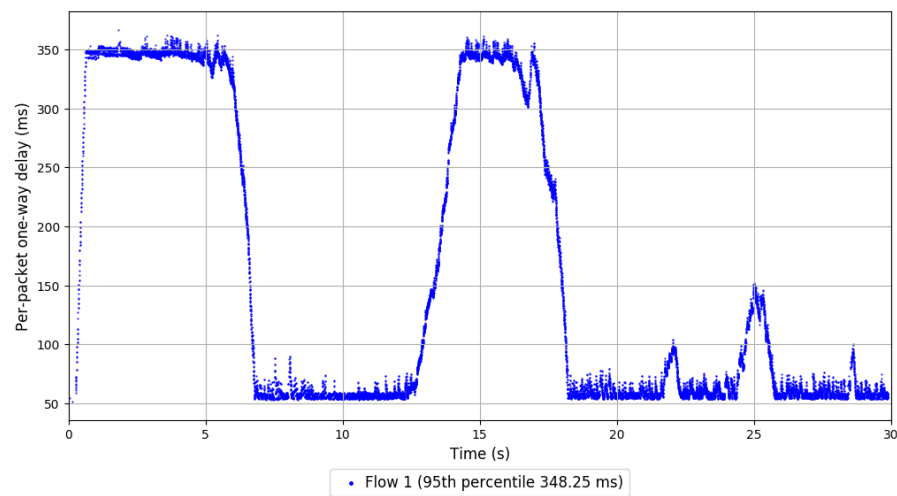
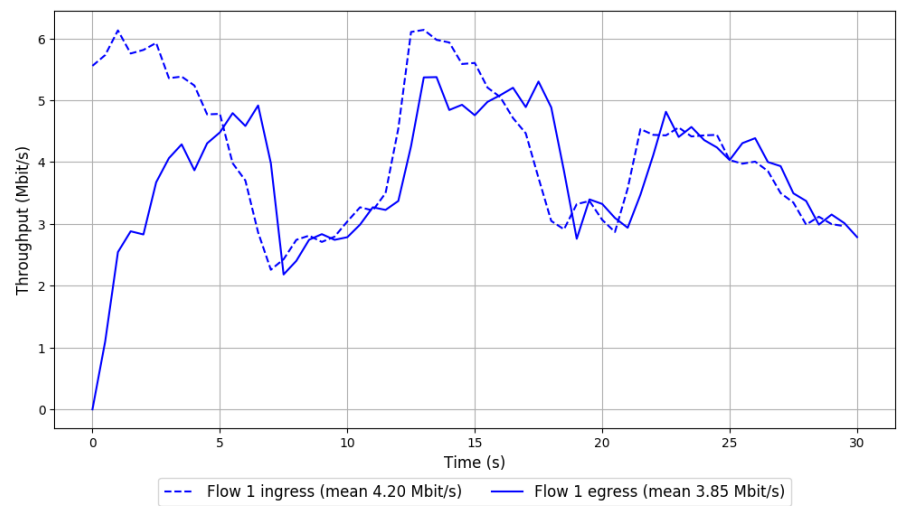
-- Flow 1:

Average throughput: 3.85 Mbit/s

95th percentile per-packet one-way delay: 348.252 ms

Loss rate: 8.57%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-07-04 02:07:52

End at: 2018-07-04 02:08:23

Local clock offset: 2.779 ms

Remote clock offset: 6.717 ms

Below is generated by plot.py at 2018-07-04 02:16:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.81 Mbit/s

95th percentile per-packet one-way delay: 349.710 ms

Loss rate: 14.24%

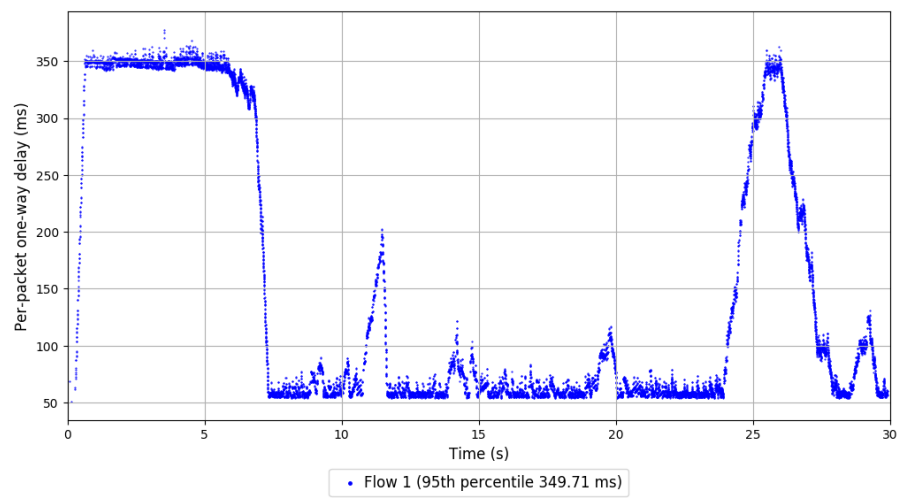
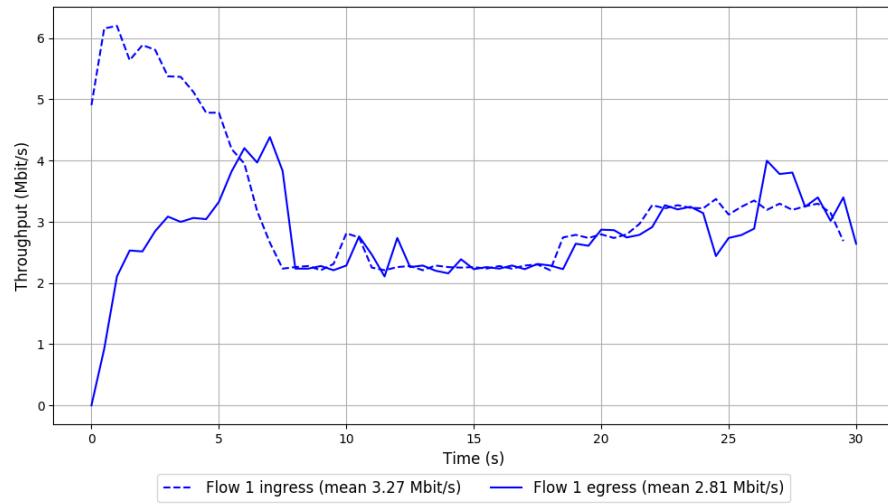
-- Flow 1:

Average throughput: 2.81 Mbit/s

95th percentile per-packet one-way delay: 349.710 ms

Loss rate: 14.24%

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-07-04 01:35:35

End at: 2018-07-04 01:36:05

Local clock offset: -0.493 ms

Remote clock offset: 2.74 ms

Below is generated by plot.py at 2018-07-04 02:16:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.05 Mbit/s

95th percentile per-packet one-way delay: 342.782 ms

Loss rate: 3.25%

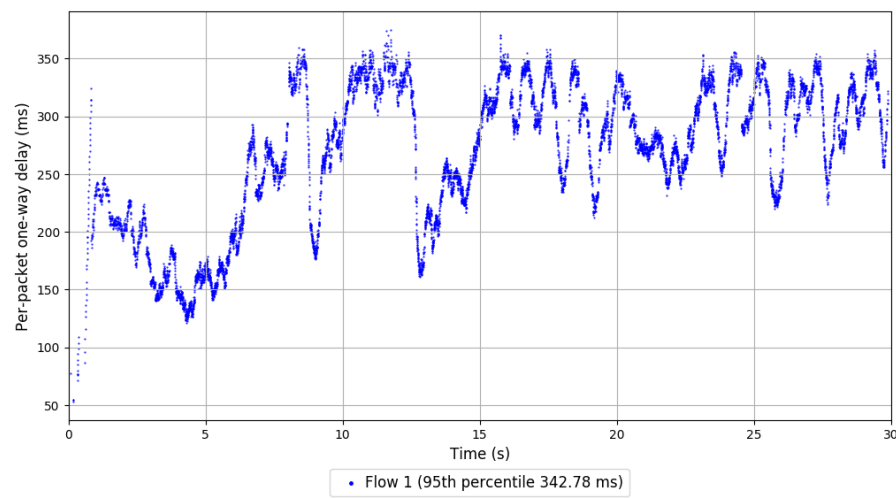
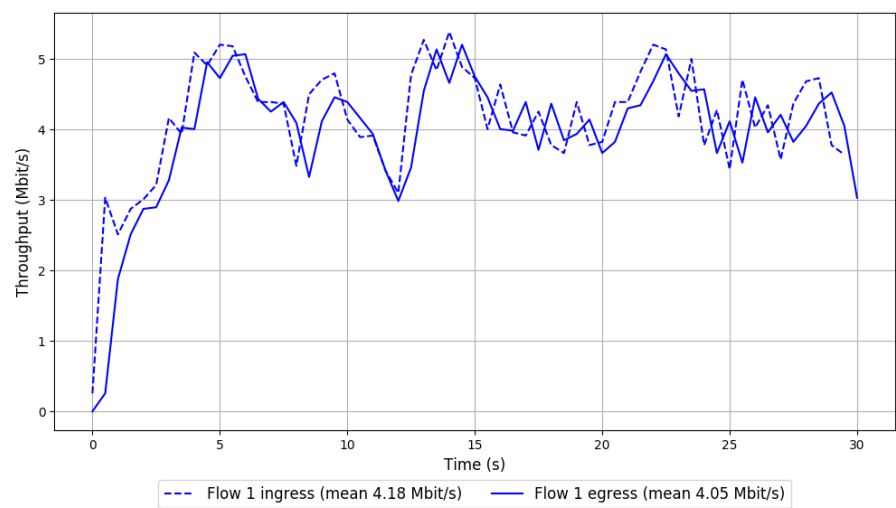
-- Flow 1:

Average throughput: 4.05 Mbit/s

95th percentile per-packet one-way delay: 342.782 ms

Loss rate: 3.25%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-07-04 01:53:53

End at: 2018-07-04 01:54:23

Local clock offset: 0.486 ms

Remote clock offset: 3.951 ms

Below is generated by plot.py at 2018-07-04 02:16:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.32 Mbit/s

95th percentile per-packet one-way delay: 344.547 ms

Loss rate: 3.59%

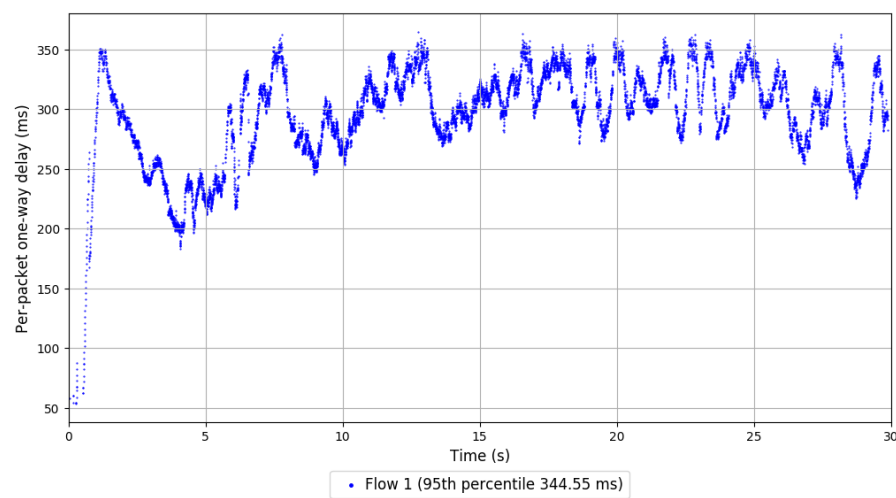
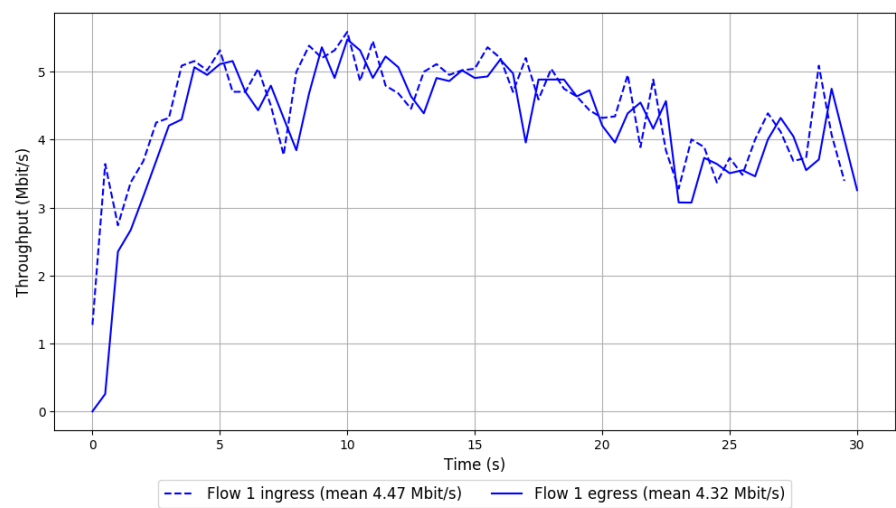
-- Flow 1:

Average throughput: 4.32 Mbit/s

95th percentile per-packet one-way delay: 344.547 ms

Loss rate: 3.59%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-07-04 02:12:14

End at: 2018-07-04 02:12:44

Local clock offset: -1.327 ms

Remote clock offset: 2.164 ms

Below is generated by plot.py at 2018-07-04 02:16:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.85 Mbit/s

95th percentile per-packet one-way delay: 343.497 ms

Loss rate: 3.39%

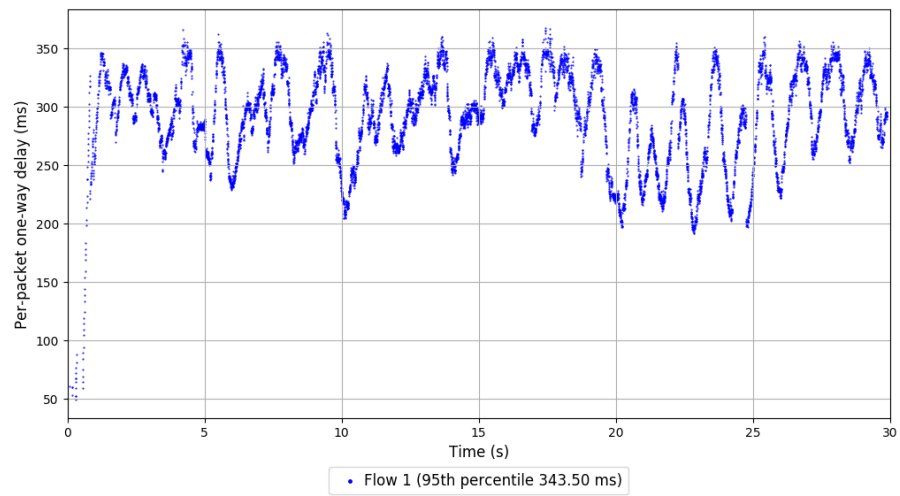
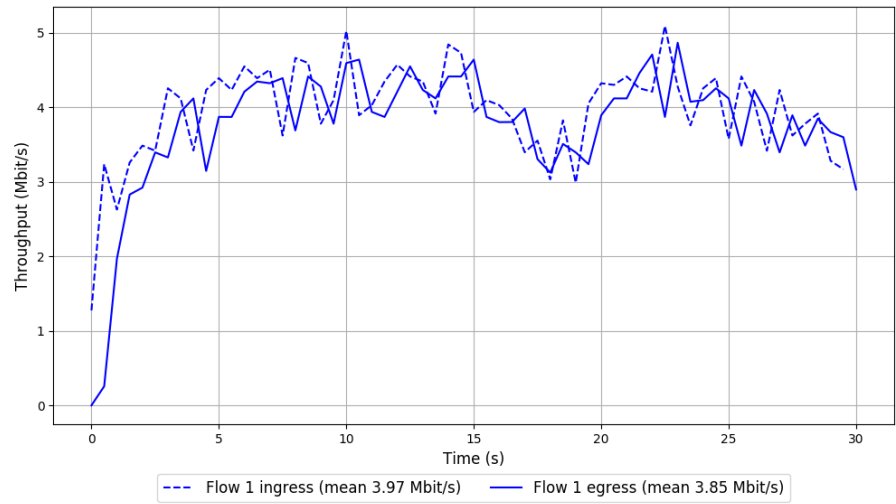
-- Flow 1:

Average throughput: 3.85 Mbit/s

95th percentile per-packet one-way delay: 343.497 ms

Loss rate: 3.39%

Run 3: Report of QUIC Cubic — Data Link

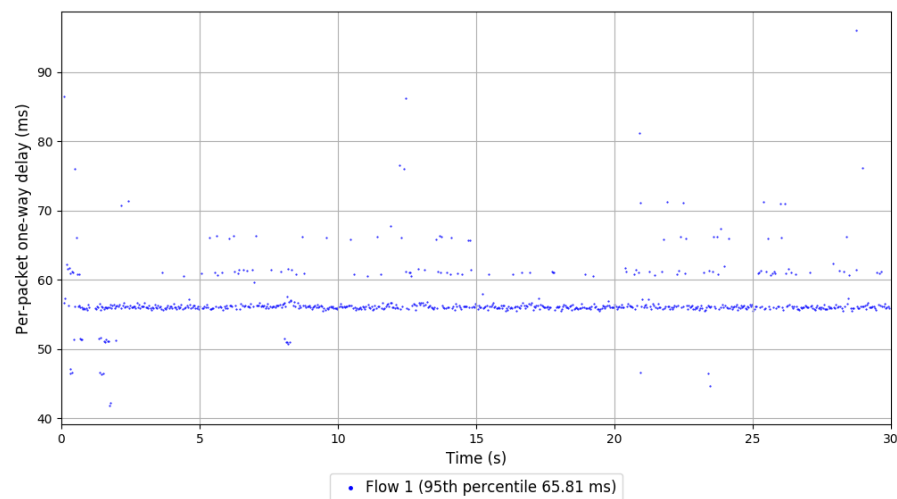
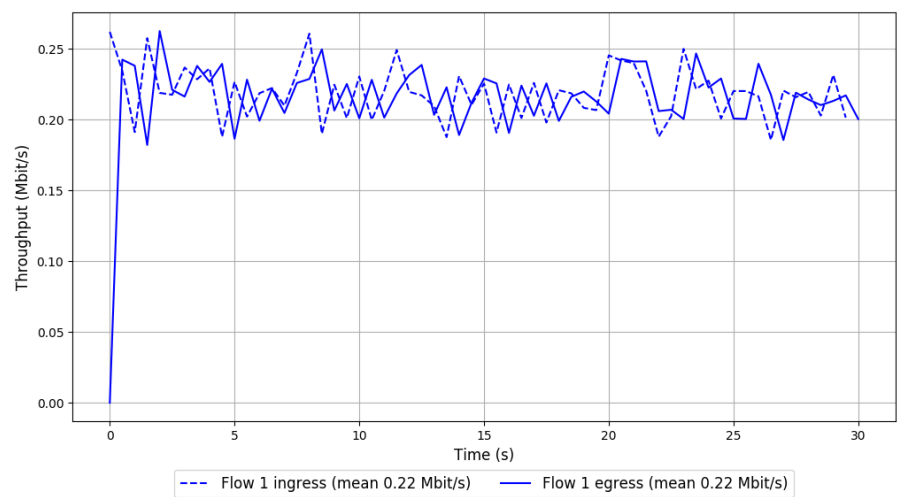


```
Run 1: Statistics of SCReAM

Start at: 2018-07-04 01:23:44
End at: 2018-07-04 01:24:14
Local clock offset: 0.046 ms
Remote clock offset: 0.195 ms

# Below is generated by plot.py at 2018-07-04 02:16:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.808 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 65.808 ms
Loss rate: 0.26%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-07-04 01:42:03

End at: 2018-07-04 01:42:33

Local clock offset: 3.299 ms

Remote clock offset: 2.78 ms

Below is generated by plot.py at 2018-07-04 02:16:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 74.570 ms

Loss rate: 0.26%

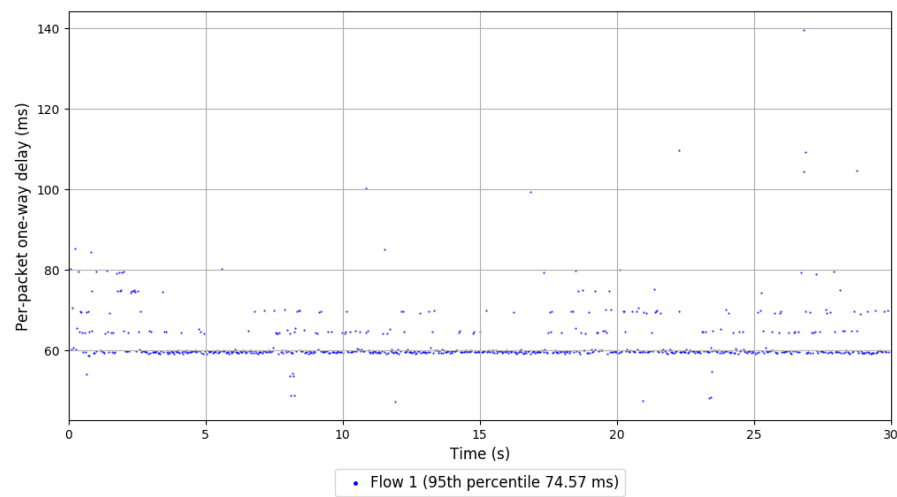
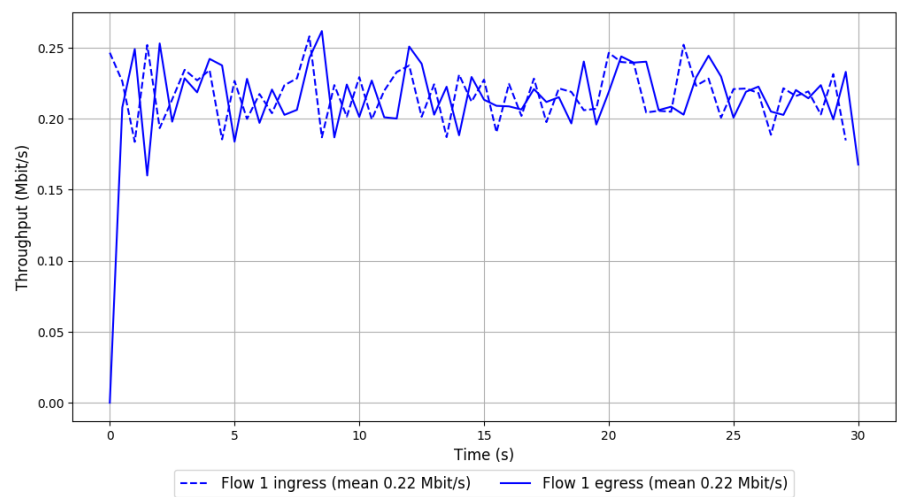
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 74.570 ms

Loss rate: 0.26%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-07-04 02:00:20

End at: 2018-07-04 02:00:50

Local clock offset: 0.214 ms

Remote clock offset: 5.112 ms

Below is generated by plot.py at 2018-07-04 02:16:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 62.870 ms

Loss rate: 0.26%

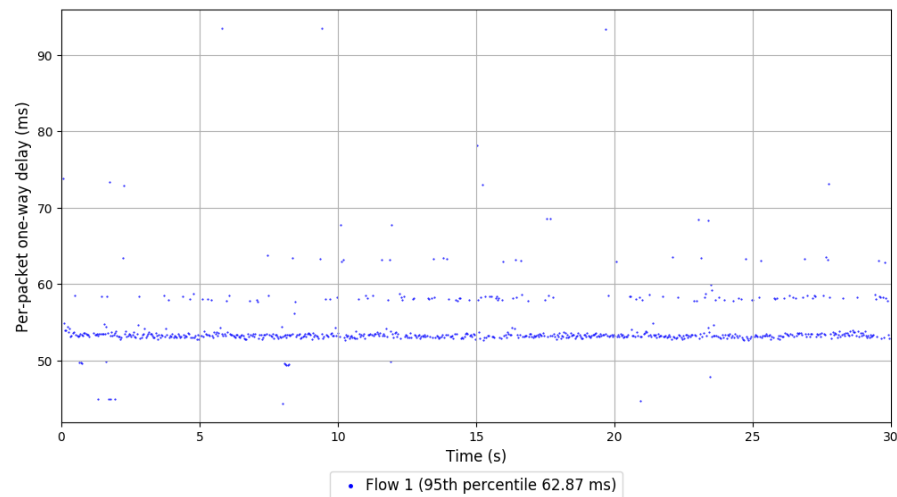
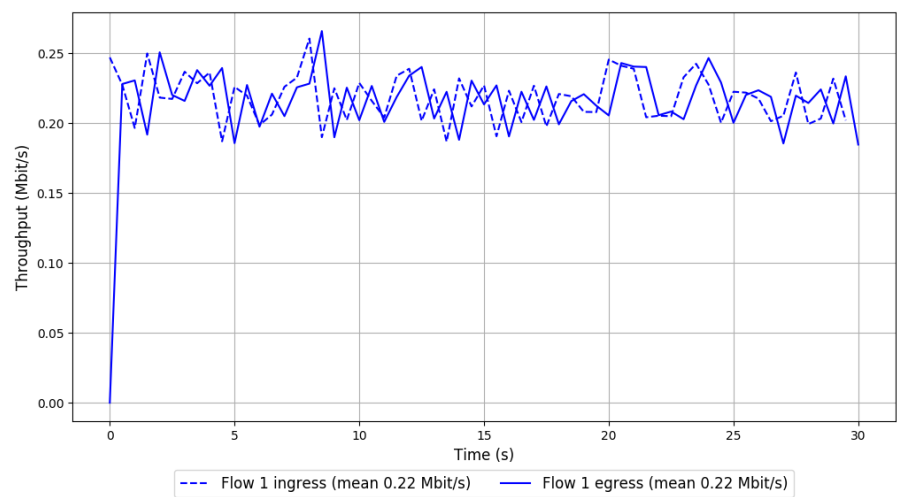
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 62.870 ms

Loss rate: 0.26%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-07-04 01:24:49

End at: 2018-07-04 01:25:19

Local clock offset: 3.137 ms

Remote clock offset: 1.115 ms

Below is generated by plot.py at 2018-07-04 02:16:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 82.953 ms

Loss rate: 0.28%

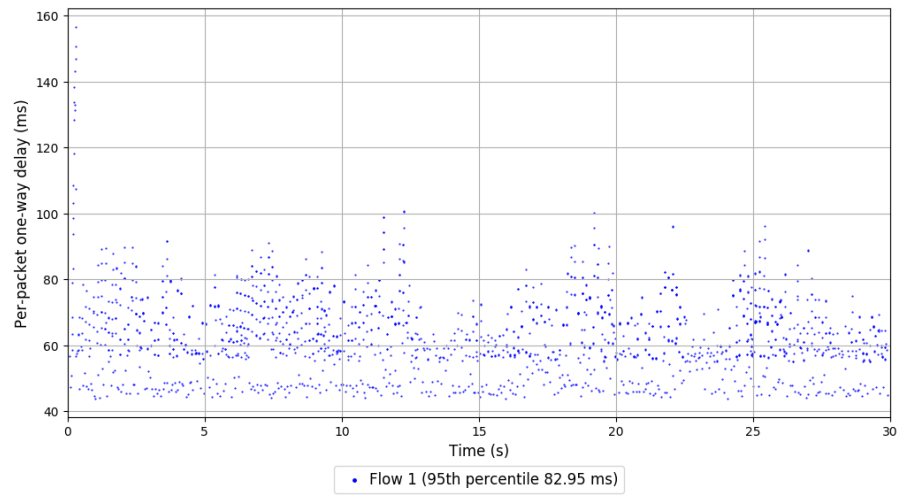
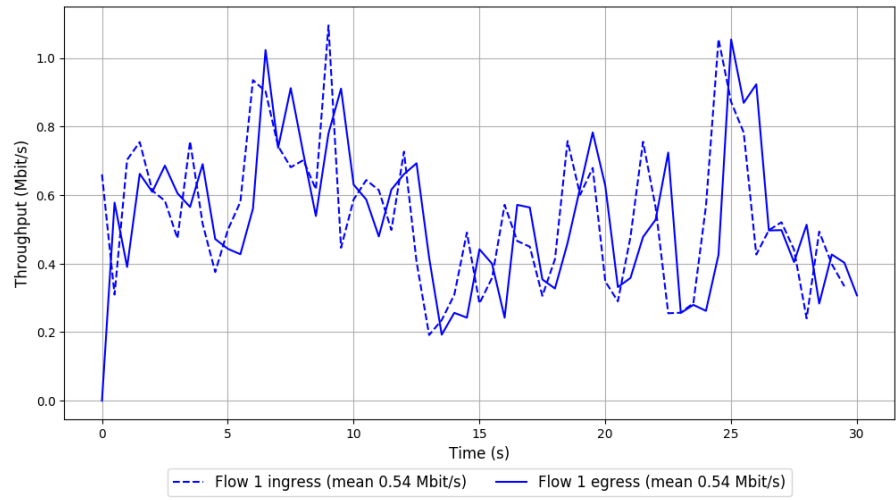
-- Flow 1:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 82.953 ms

Loss rate: 0.28%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-07-04 01:43:07

End at: 2018-07-04 01:43:37

Local clock offset: 2.532 ms

Remote clock offset: 2.764 ms

Below is generated by plot.py at 2018-07-04 02:16:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 91.664 ms

Loss rate: 0.59%

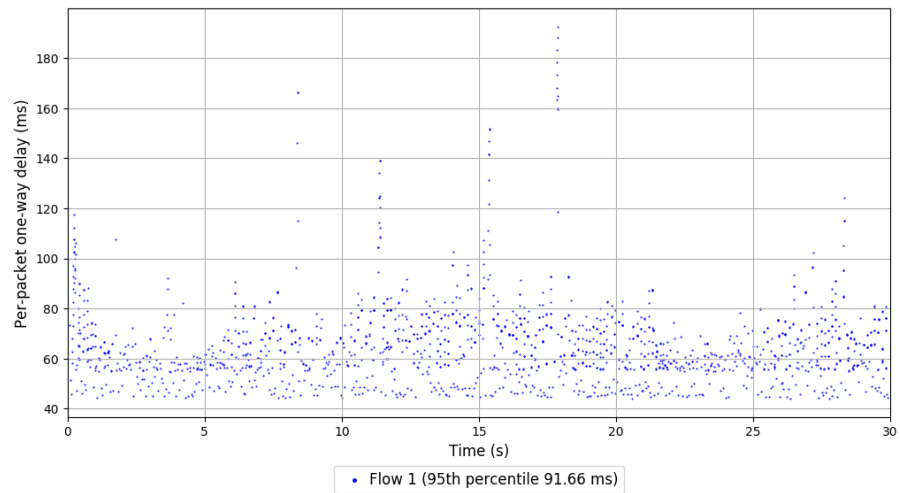
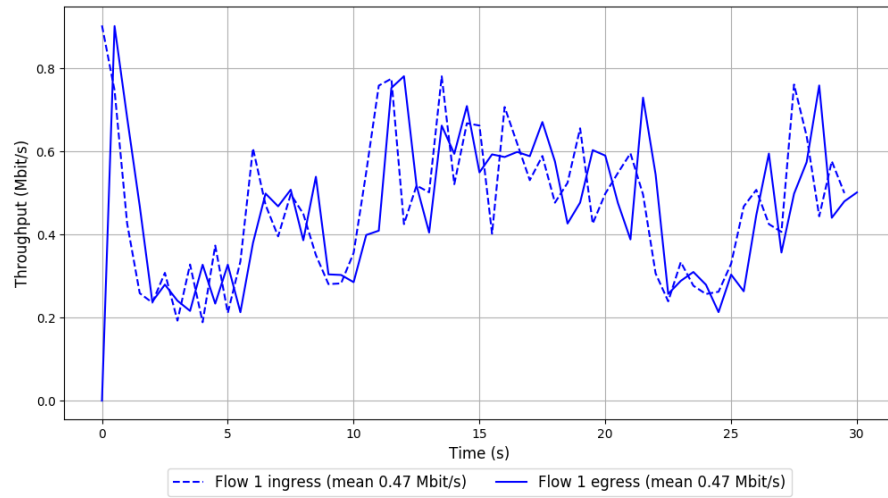
-- Flow 1:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 91.664 ms

Loss rate: 0.59%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-07-04 02:01:25

End at: 2018-07-04 02:01:55

Local clock offset: 0.901 ms

Remote clock offset: 5.414 ms

Below is generated by plot.py at 2018-07-04 02:16:36

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 83.077 ms

Loss rate: 0.00%

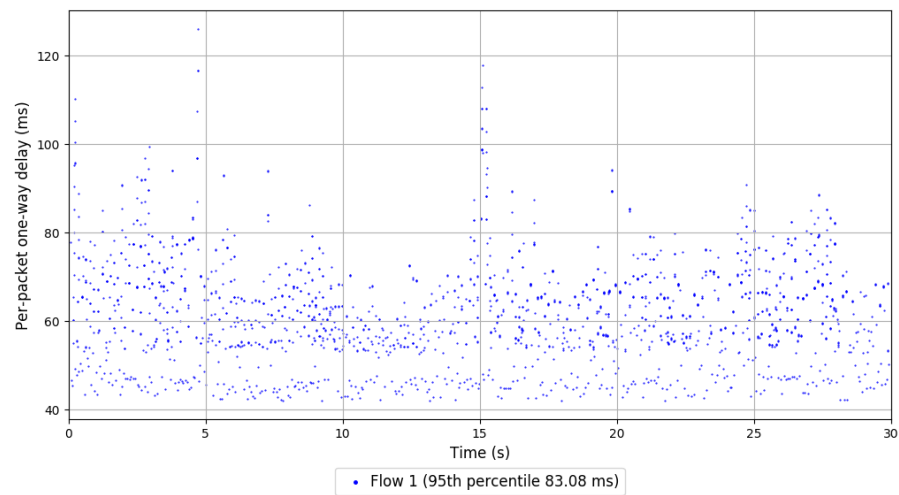
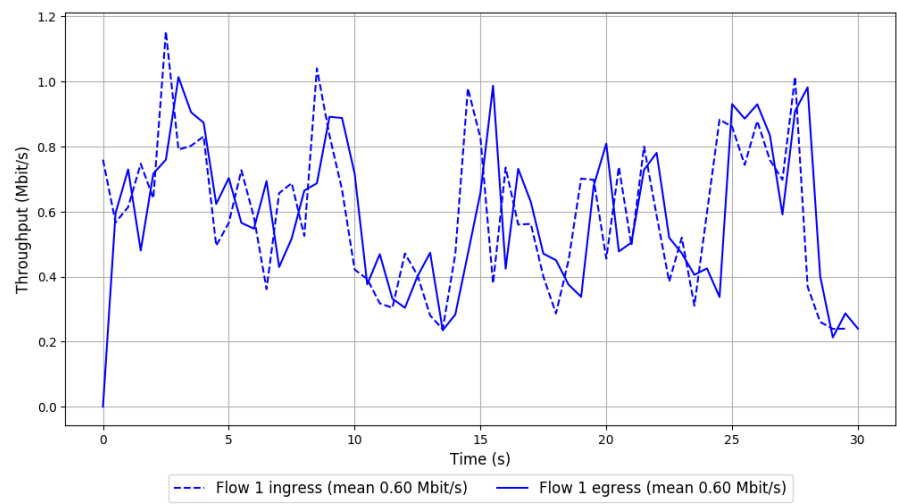
-- Flow 1:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 83.077 ms

Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-07-04 01:25:53

End at: 2018-07-04 01:26:23

Local clock offset: 1.531 ms

Remote clock offset: 1.549 ms

Below is generated by plot.py at 2018-07-04 02:16:42

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.81 Mbit/s

95th percentile per-packet one-way delay: 144.537 ms

Loss rate: 0.68%

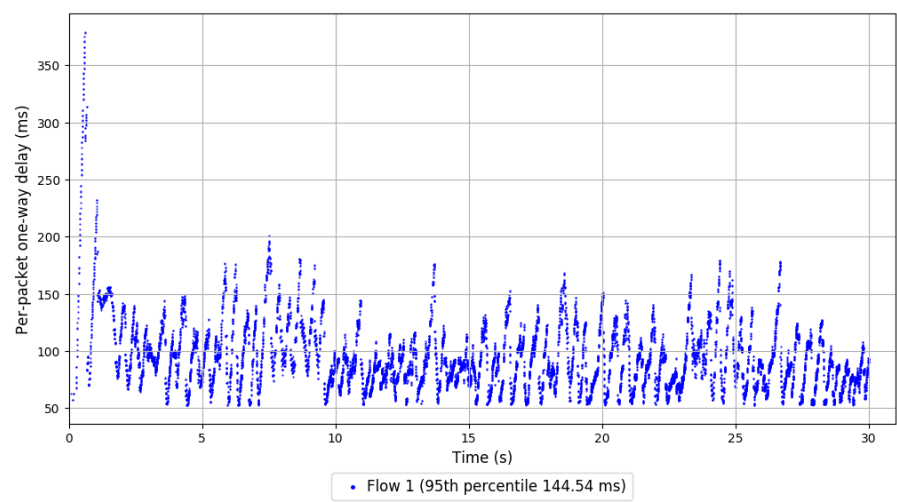
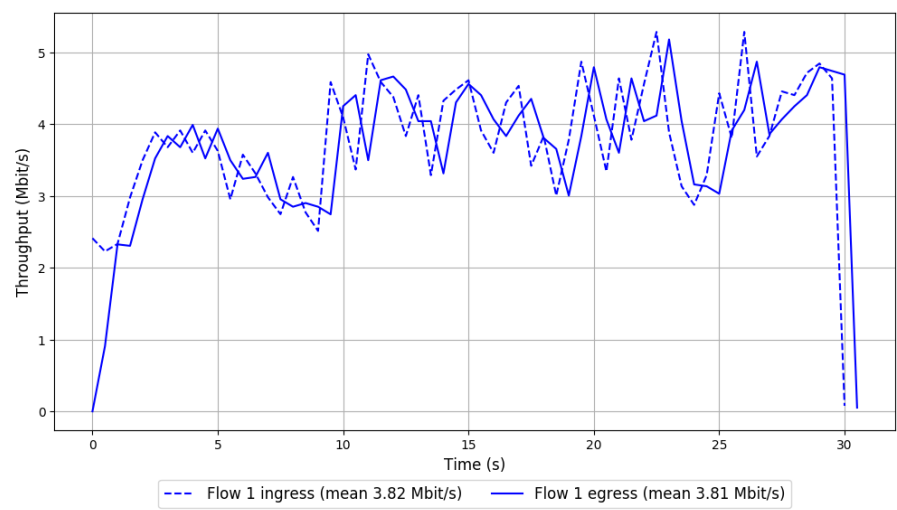
-- Flow 1:

Average throughput: 3.81 Mbit/s

95th percentile per-packet one-way delay: 144.537 ms

Loss rate: 0.68%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-07-04 01:44:11

End at: 2018-07-04 01:44:41

Local clock offset: 2.988 ms

Remote clock offset: 3.355 ms

Below is generated by plot.py at 2018-07-04 02:16:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.85 Mbit/s

95th percentile per-packet one-way delay: 134.742 ms

Loss rate: 0.52%

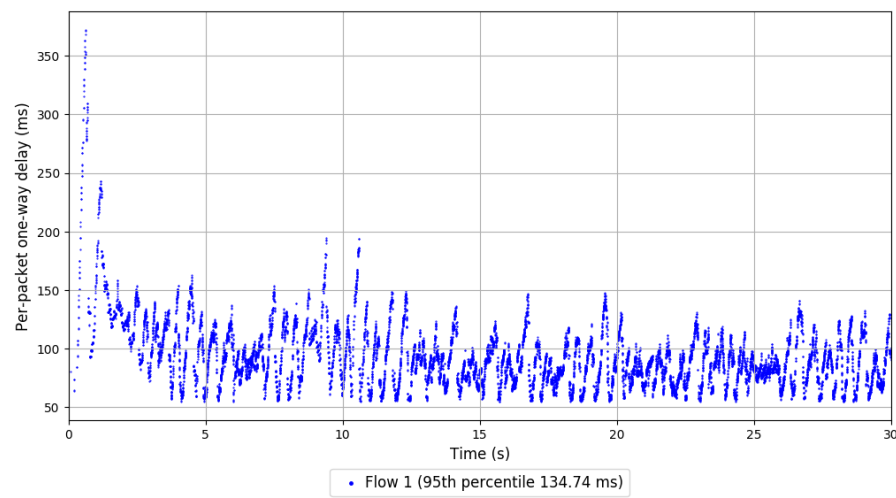
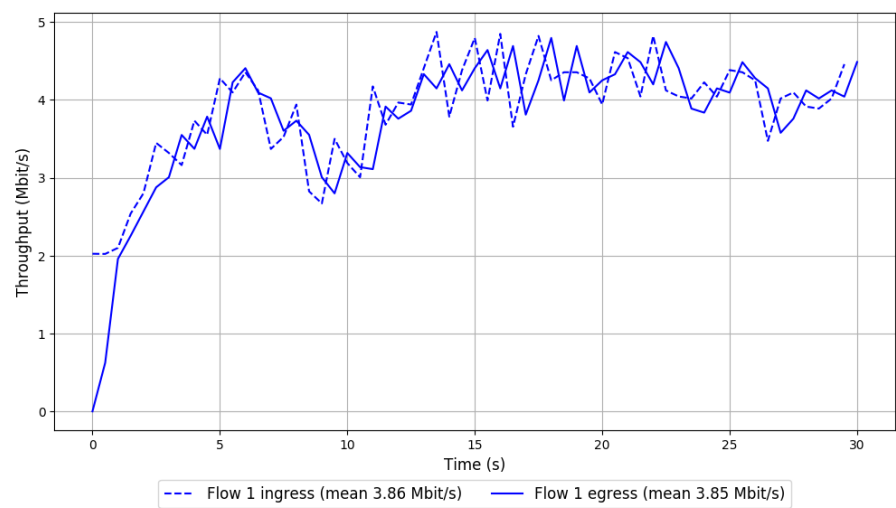
-- Flow 1:

Average throughput: 3.85 Mbit/s

95th percentile per-packet one-way delay: 134.742 ms

Loss rate: 0.52%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-07-04 02:02:29

End at: 2018-07-04 02:02:59

Local clock offset: 1.175 ms

Remote clock offset: 6.042 ms

Below is generated by plot.py at 2018-07-04 02:16:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.82 Mbit/s

95th percentile per-packet one-way delay: 145.877 ms

Loss rate: 0.39%

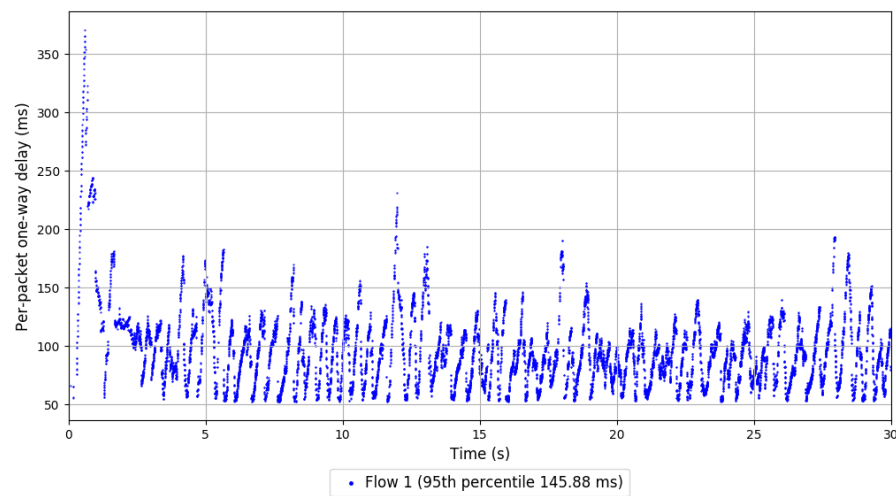
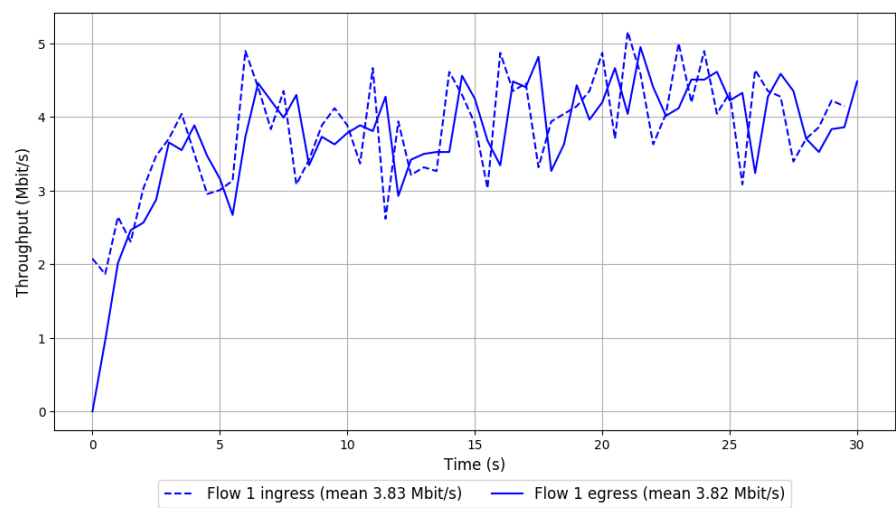
-- Flow 1:

Average throughput: 3.82 Mbit/s

95th percentile per-packet one-way delay: 145.877 ms

Loss rate: 0.39%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-07-04 01:37:44

End at: 2018-07-04 01:38:14

Local clock offset: -0.93 ms

Remote clock offset: 3.493 ms

Below is generated by plot.py at 2018-07-04 02:16:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.87 Mbit/s

95th percentile per-packet one-way delay: 134.810 ms

Loss rate: 0.21%

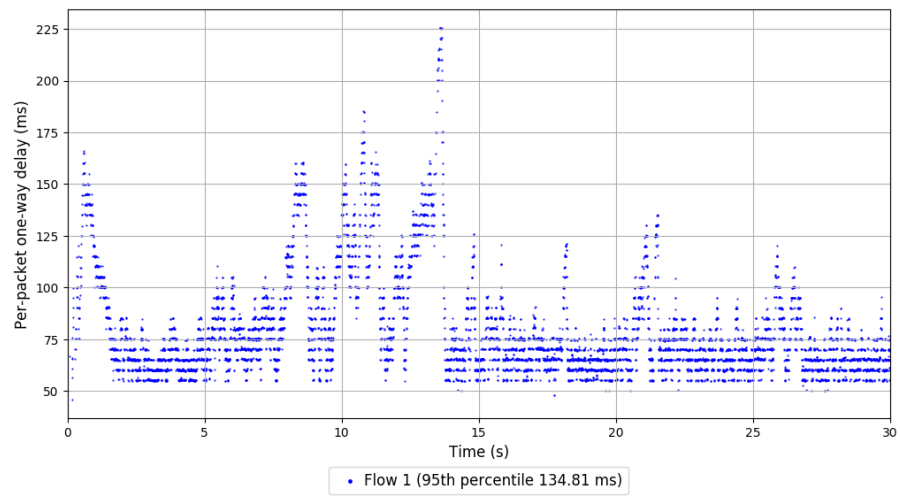
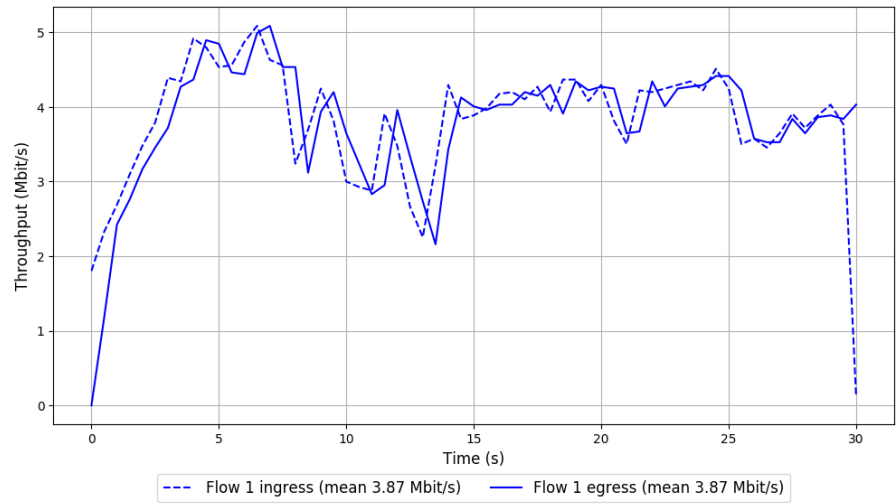
-- Flow 1:

Average throughput: 3.87 Mbit/s

95th percentile per-packet one-way delay: 134.810 ms

Loss rate: 0.21%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-07-04 01:56:02

End at: 2018-07-04 01:56:32

Local clock offset: 0.23 ms

Remote clock offset: 5.915 ms

Below is generated by plot.py at 2018-07-04 02:16:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.74 Mbit/s

95th percentile per-packet one-way delay: 90.072 ms

Loss rate: 0.36%

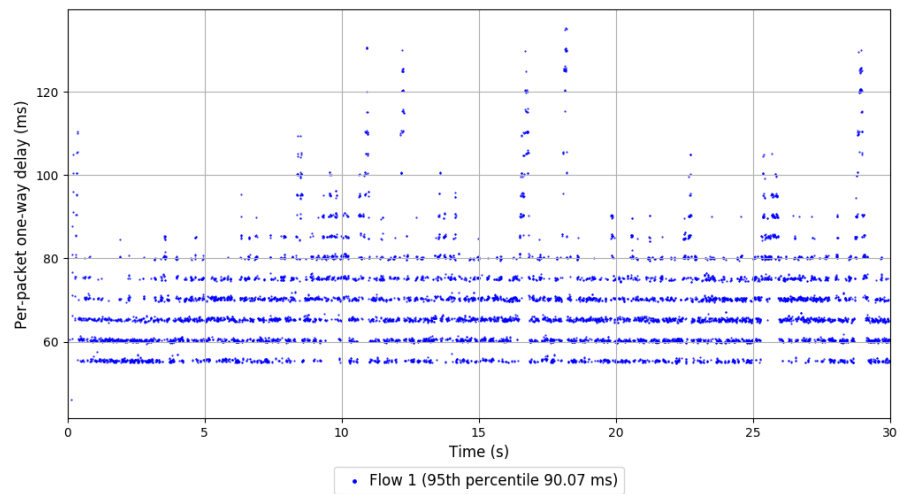
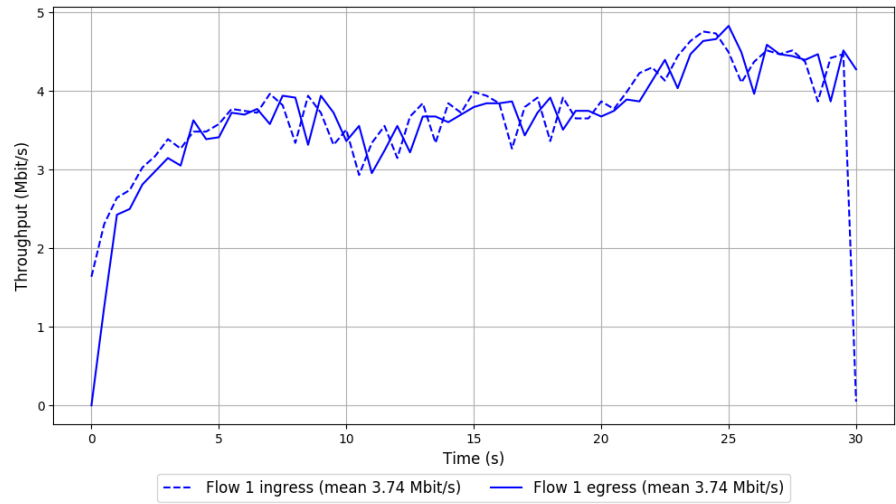
-- Flow 1:

Average throughput: 3.74 Mbit/s

95th percentile per-packet one-way delay: 90.072 ms

Loss rate: 0.36%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-07-04 02:14:23

End at: 2018-07-04 02:14:53

Local clock offset: 1.506 ms

Remote clock offset: 1.27 ms

Below is generated by plot.py at 2018-07-04 02:16:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.18 Mbit/s

95th percentile per-packet one-way delay: 126.804 ms

Loss rate: 0.99%

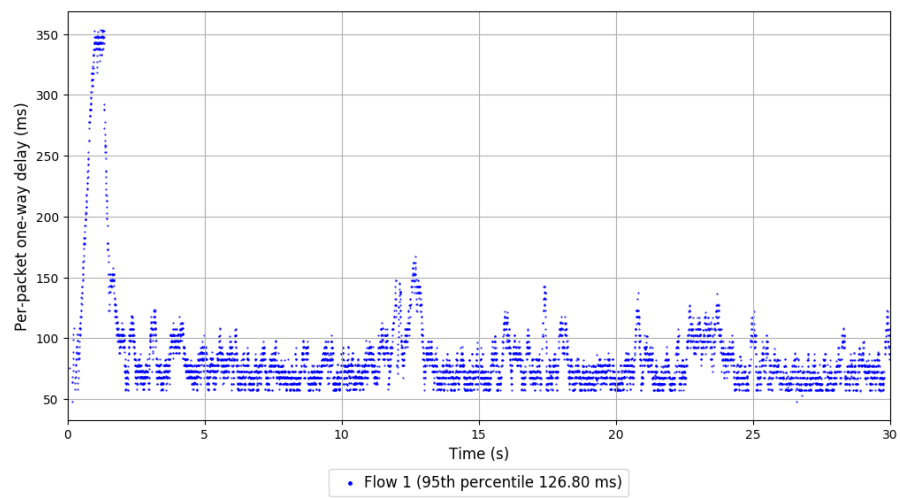
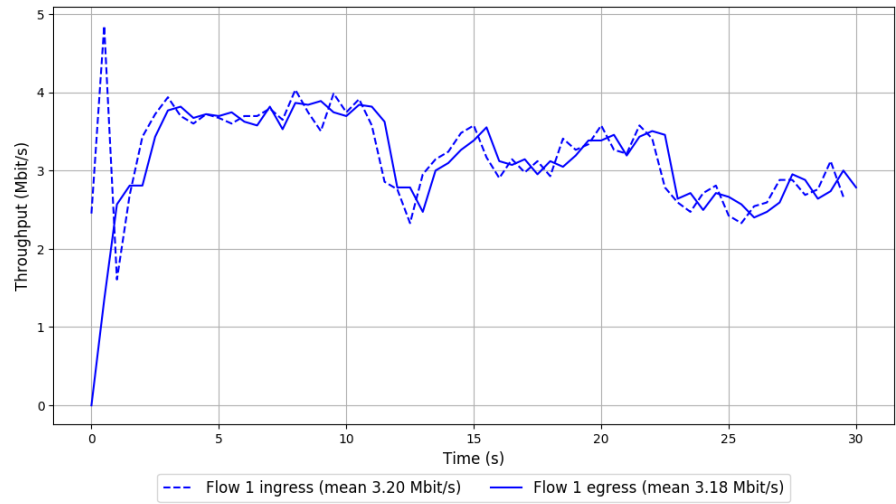
-- Flow 1:

Average throughput: 3.18 Mbit/s

95th percentile per-packet one-way delay: 126.804 ms

Loss rate: 0.99%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-07-04 01:21:34

End at: 2018-07-04 01:22:04

Local clock offset: 2.153 ms

Remote clock offset: 1.691 ms

Below is generated by plot.py at 2018-07-04 02:16:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.80 Mbit/s

95th percentile per-packet one-way delay: 352.980 ms

Loss rate: 29.88%

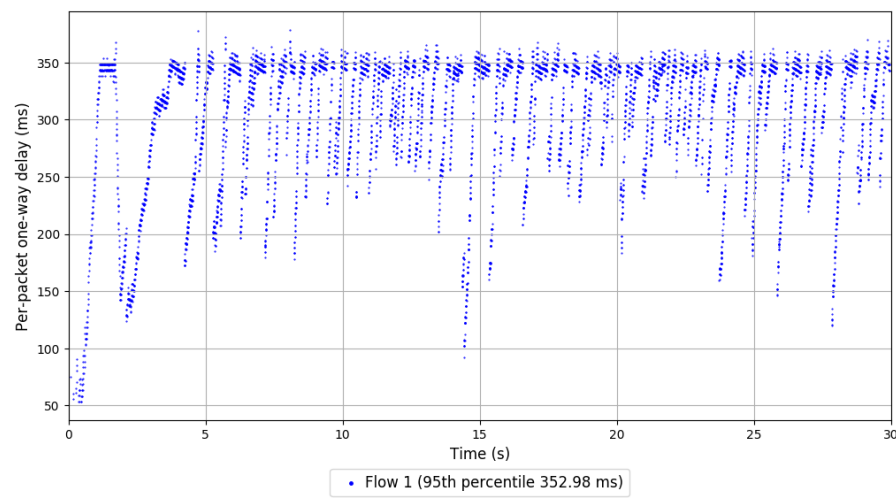
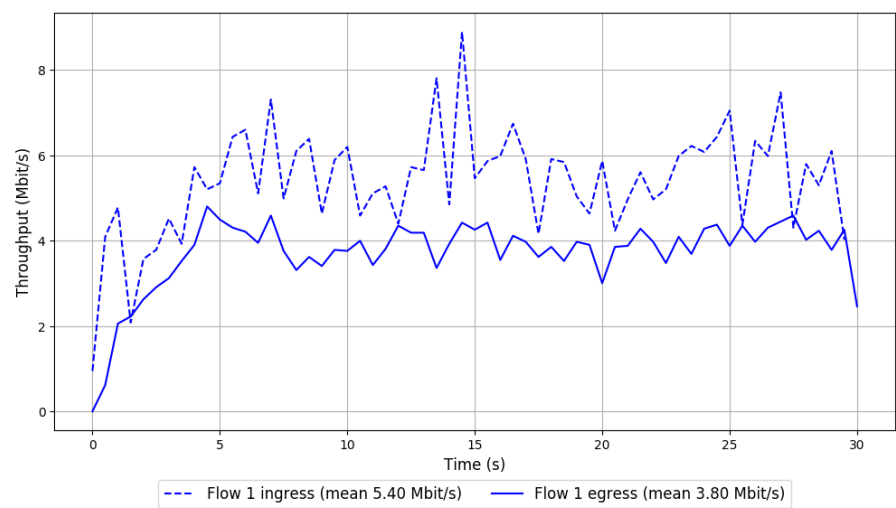
-- Flow 1:

Average throughput: 3.80 Mbit/s

95th percentile per-packet one-way delay: 352.980 ms

Loss rate: 29.88%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-07-04 01:39:53

End at: 2018-07-04 01:40:23

Local clock offset: 1.649 ms

Remote clock offset: 3.013 ms

Below is generated by plot.py at 2018-07-04 02:16:44

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.63 Mbit/s

95th percentile per-packet one-way delay: 360.776 ms

Loss rate: 45.42%

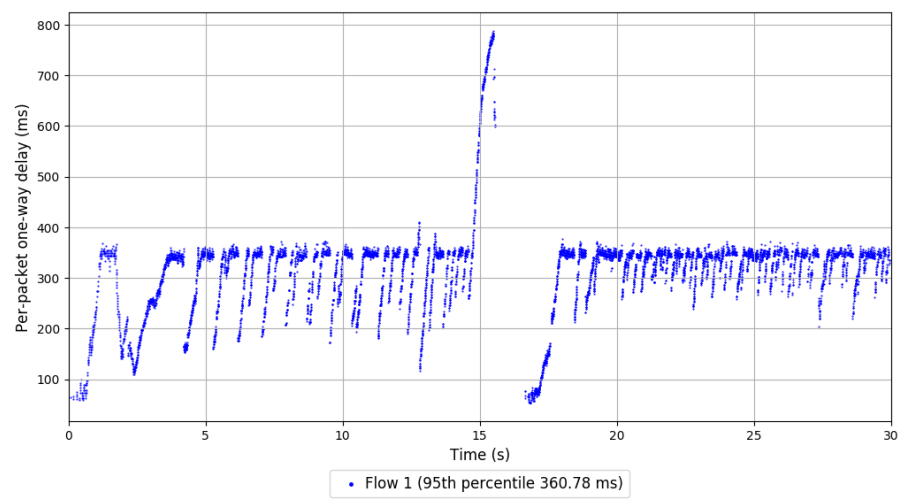
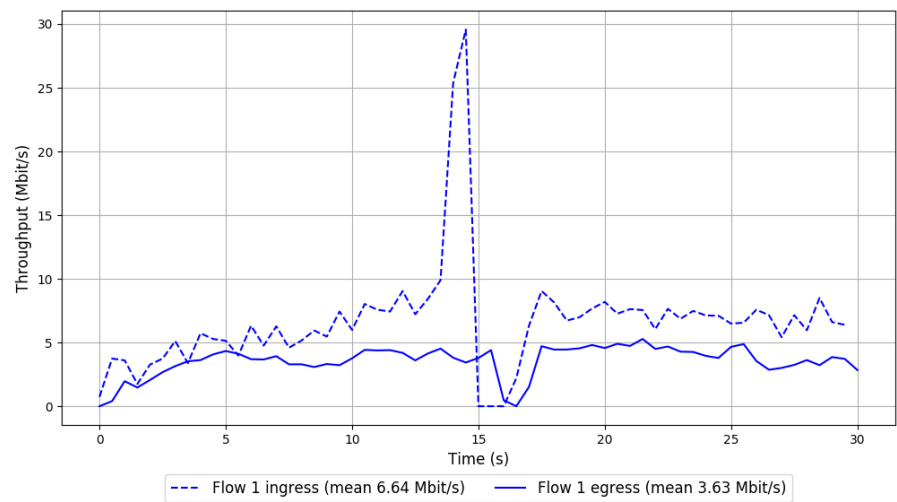
-- Flow 1:

Average throughput: 3.63 Mbit/s

95th percentile per-packet one-way delay: 360.776 ms

Loss rate: 45.42%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-07-04 01:58:11

End at: 2018-07-04 01:58:41

Local clock offset: 1.603 ms

Remote clock offset: 5.214 ms

Below is generated by plot.py at 2018-07-04 02:16:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.29 Mbit/s

95th percentile per-packet one-way delay: 355.132 ms

Loss rate: 25.61%

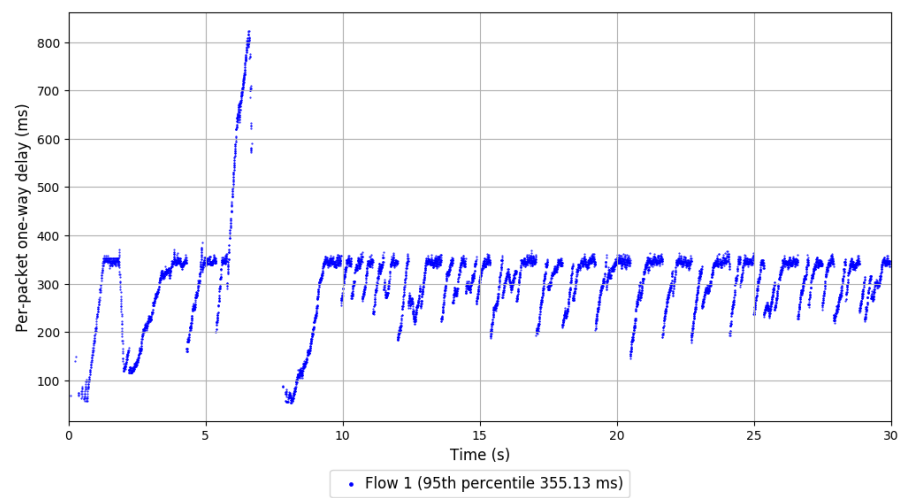
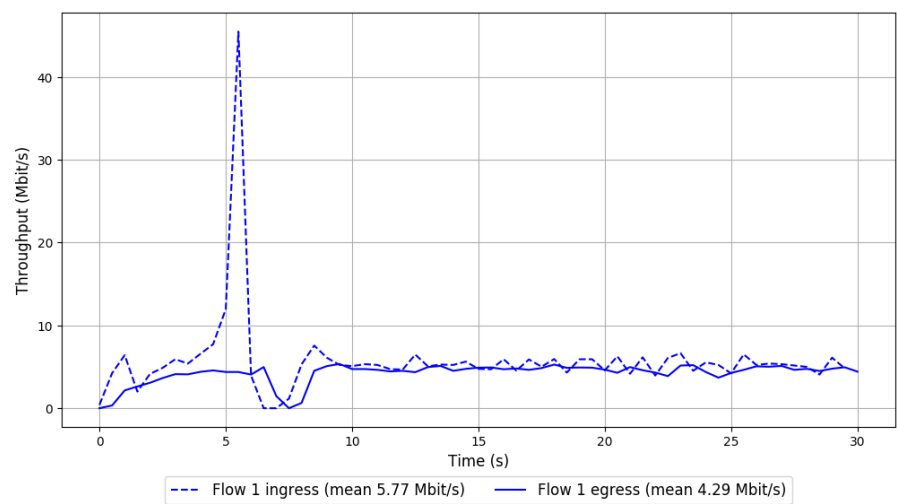
-- Flow 1:

Average throughput: 4.29 Mbit/s

95th percentile per-packet one-way delay: 355.132 ms

Loss rate: 25.61%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-07-04 01:34:30

End at: 2018-07-04 01:35:01

Local clock offset: 2.923 ms

Remote clock offset: 2.674 ms

Below is generated by plot.py at 2018-07-04 02:16:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.90 Mbit/s

95th percentile per-packet one-way delay: 254.120 ms

Loss rate: 0.22%

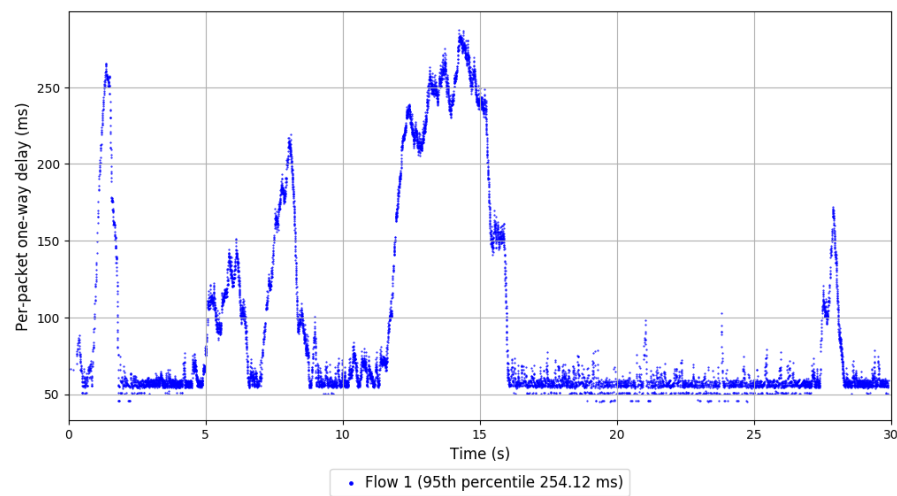
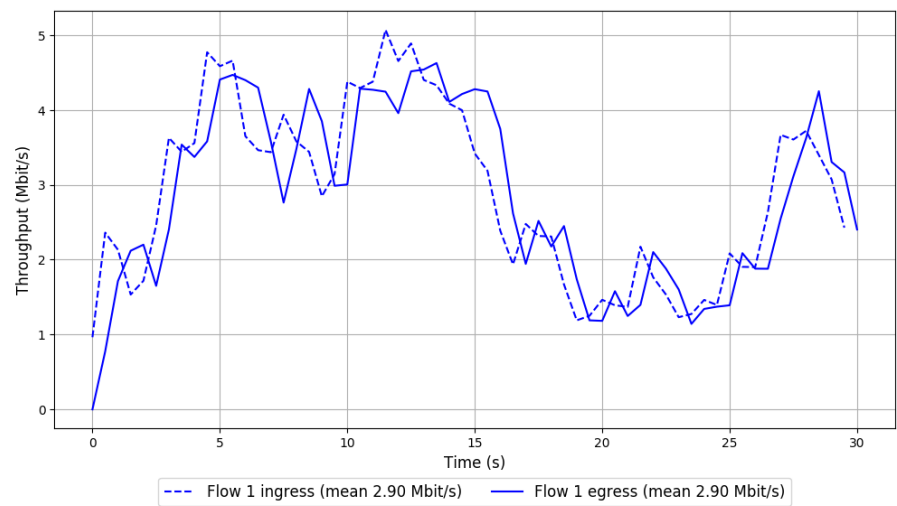
-- Flow 1:

Average throughput: 2.90 Mbit/s

95th percentile per-packet one-way delay: 254.120 ms

Loss rate: 0.22%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-07-04 01:52:49

End at: 2018-07-04 01:53:19

Local clock offset: 1.632 ms

Remote clock offset: 4.469 ms

Below is generated by plot.py at 2018-07-04 02:16:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.30 Mbit/s

95th percentile per-packet one-way delay: 86.393 ms

Loss rate: 0.95%

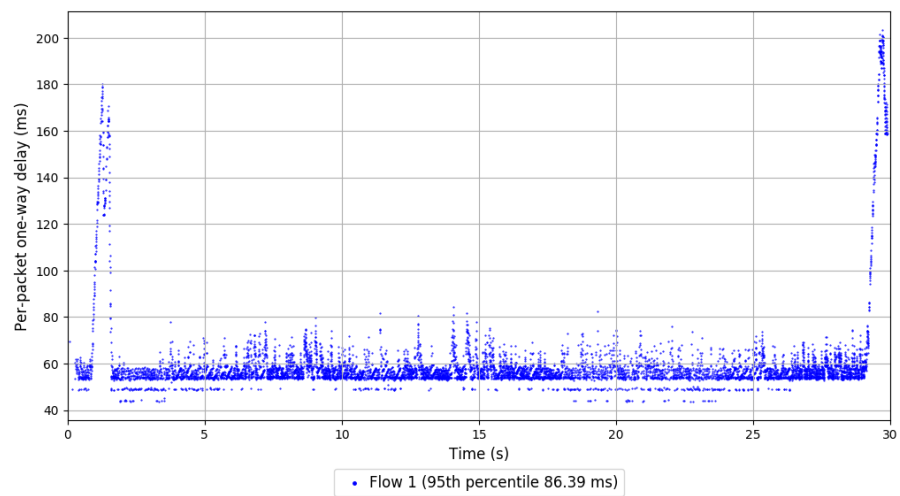
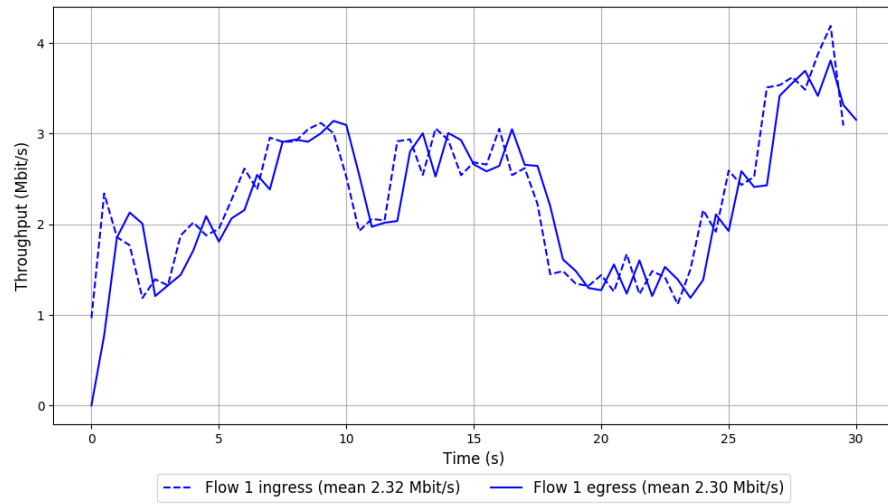
-- Flow 1:

Average throughput: 2.30 Mbit/s

95th percentile per-packet one-way delay: 86.393 ms

Loss rate: 0.95%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-07-04 02:11:09

End at: 2018-07-04 02:11:39

Local clock offset: -0.932 ms

Remote clock offset: 2.903 ms

Below is generated by plot.py at 2018-07-04 02:16:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.13 Mbit/s

95th percentile per-packet one-way delay: 182.702 ms

Loss rate: 0.17%

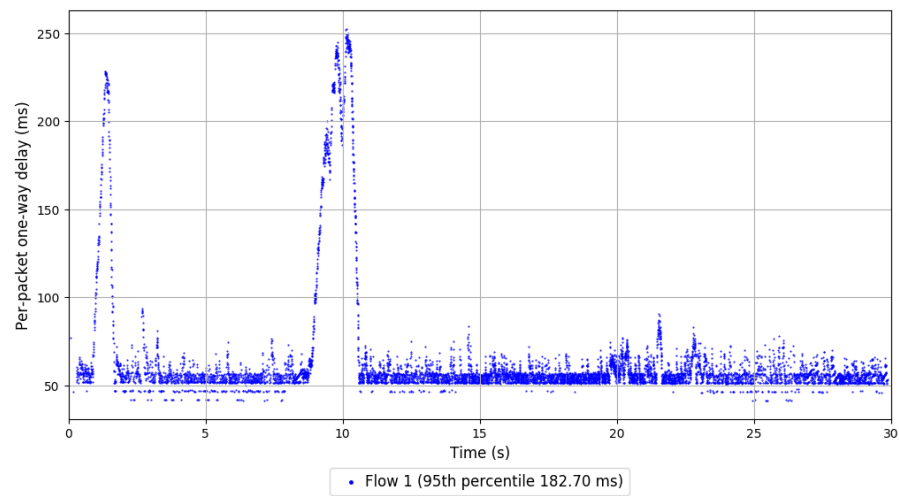
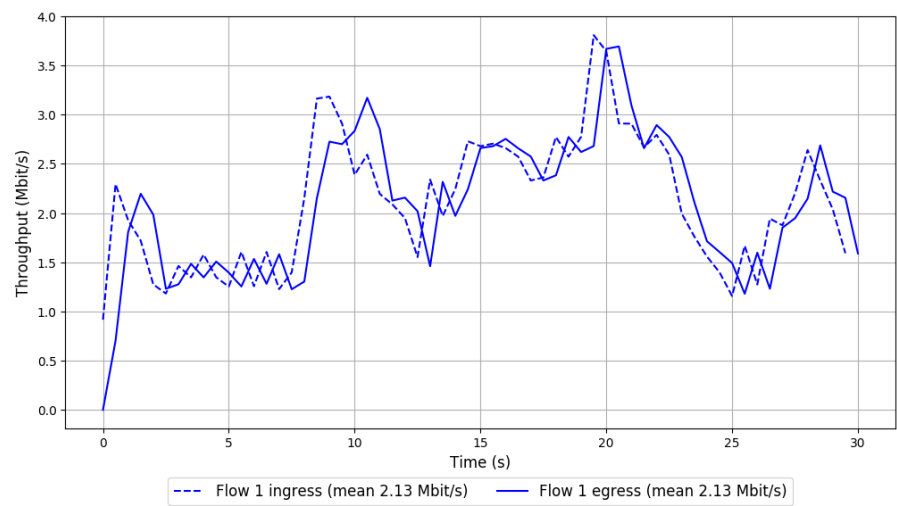
-- Flow 1:

Average throughput: 2.13 Mbit/s

95th percentile per-packet one-way delay: 182.702 ms

Loss rate: 0.17%

Run 3: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-07-04 01:28:03

End at: 2018-07-04 01:28:33

Local clock offset: 3.947 ms

Remote clock offset: 1.46 ms

Below is generated by plot.py at 2018-07-04 02:16:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.60 Mbit/s

95th percentile per-packet one-way delay: 148.631 ms

Loss rate: 0.30%

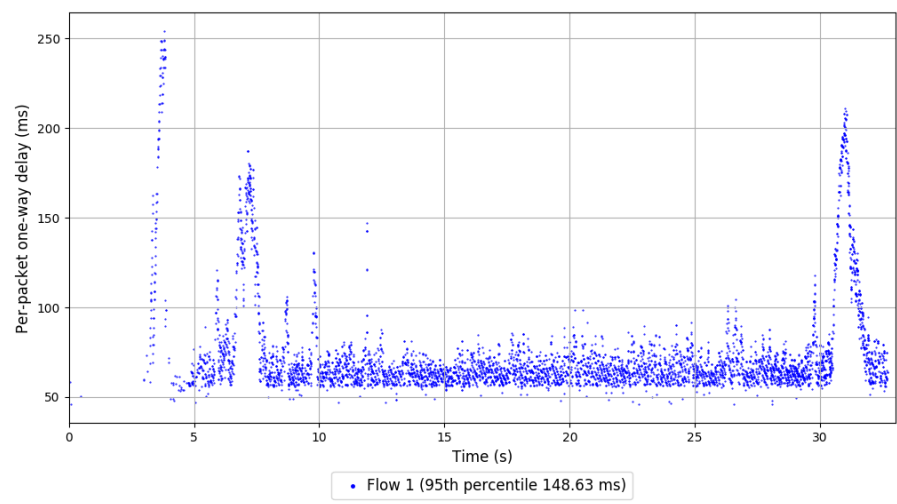
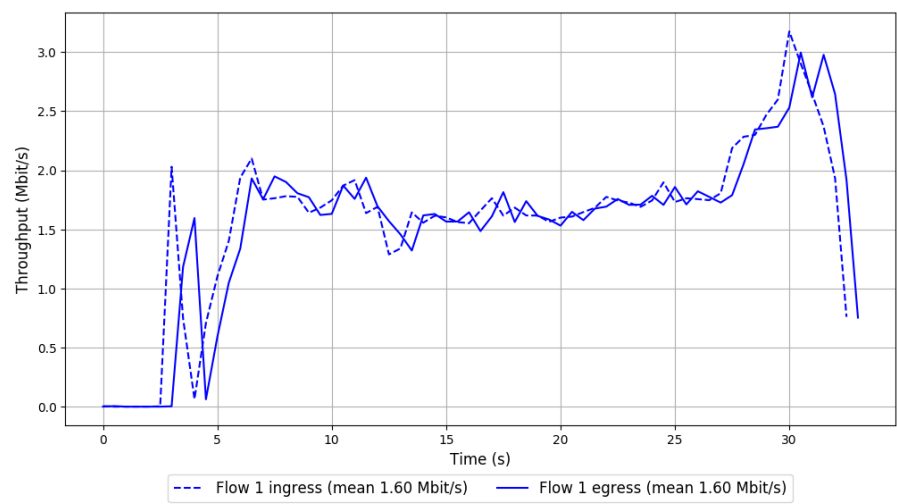
-- Flow 1:

Average throughput: 1.60 Mbit/s

95th percentile per-packet one-way delay: 148.631 ms

Loss rate: 0.30%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-07-04 01:46:20

End at: 2018-07-04 01:46:50

Local clock offset: 0.253 ms

Remote clock offset: 3.687 ms

Below is generated by plot.py at 2018-07-04 02:16:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.22 Mbit/s

95th percentile per-packet one-way delay: 113.204 ms

Loss rate: 0.20%

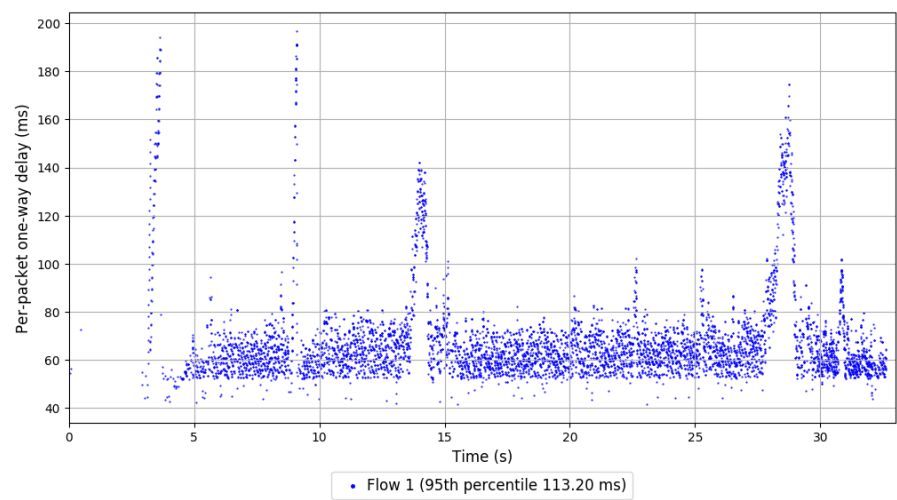
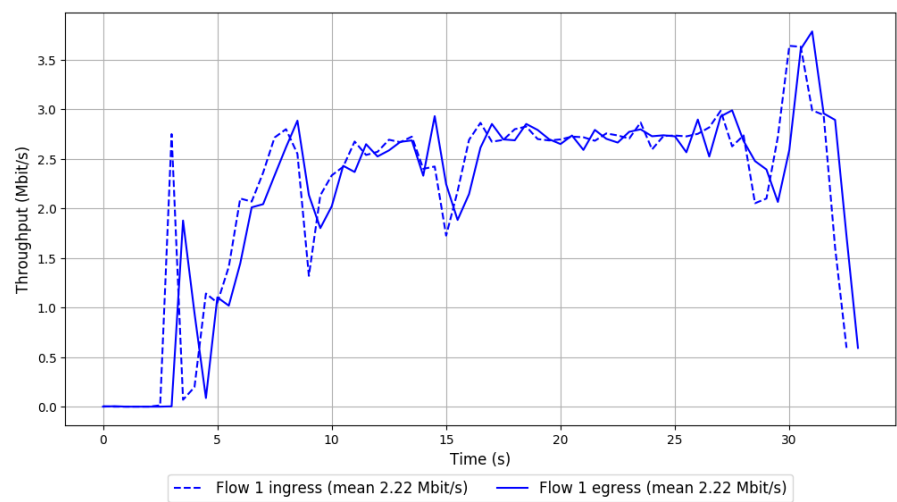
-- Flow 1:

Average throughput: 2.22 Mbit/s

95th percentile per-packet one-way delay: 113.204 ms

Loss rate: 0.20%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-07-04 02:04:38

End at: 2018-07-04 02:05:09

Local clock offset: 3.282 ms

Remote clock offset: 5.72 ms

Below is generated by plot.py at 2018-07-04 02:16:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.13 Mbit/s

95th percentile per-packet one-way delay: 109.354 ms

Loss rate: 0.22%

-- Flow 1:

Average throughput: 2.13 Mbit/s

95th percentile per-packet one-way delay: 109.354 ms

Loss rate: 0.22%

Run 3: Report of WebRTC media — Data Link

