

Pantheon Report

Generated at 2018-07-24 06:27:58 (UTC).

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

Repeated the test of 17 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

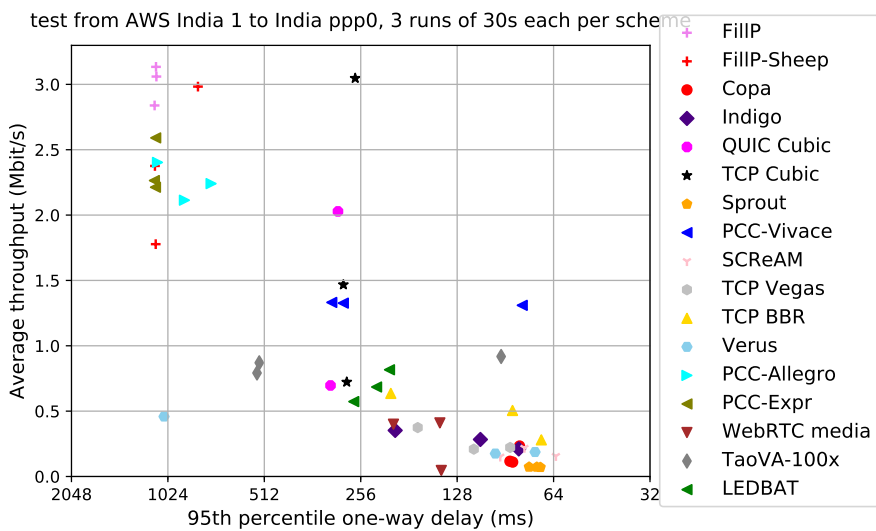
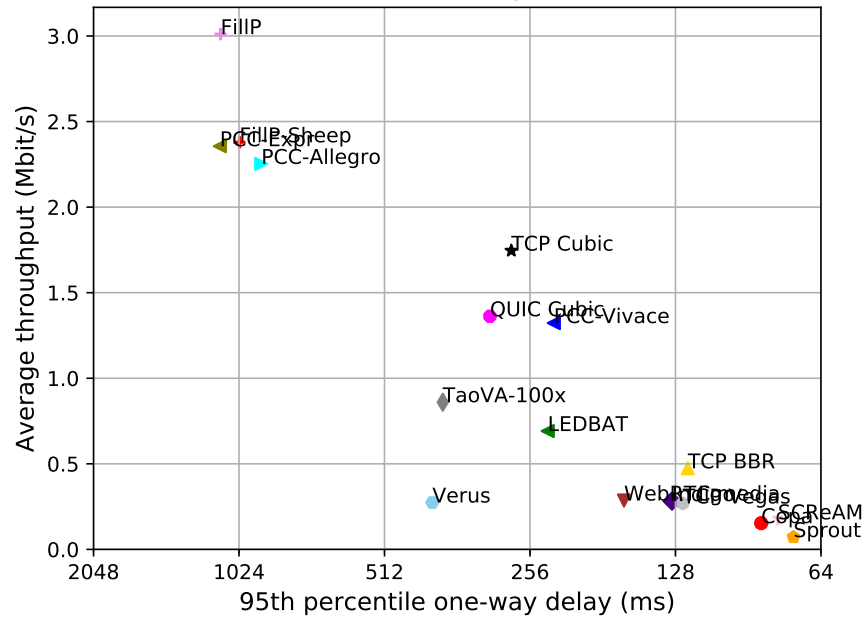
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

Git summary:

```
branch: master @ 640164b5b17c7c6561fff57729b3b5935d8596ce
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ daed0c84f98531712514b2231f43ec6901114ffe
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quirk @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
  M src/ScreamClient
  M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



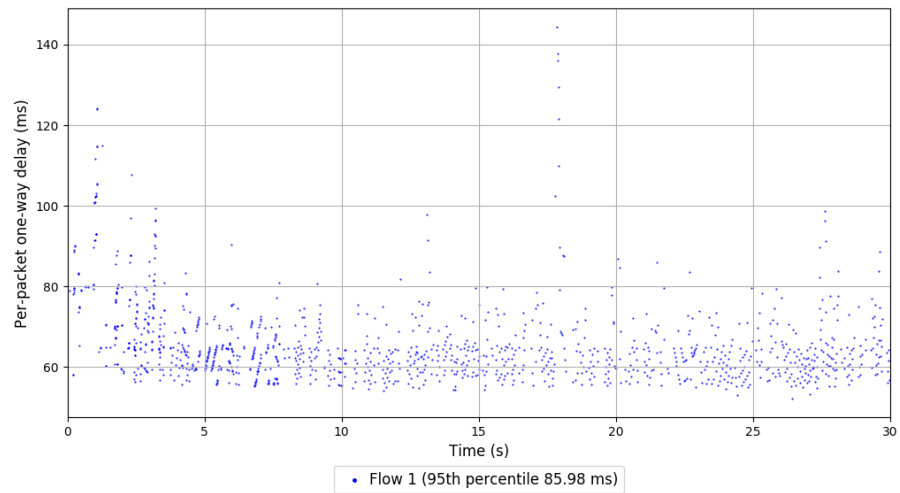
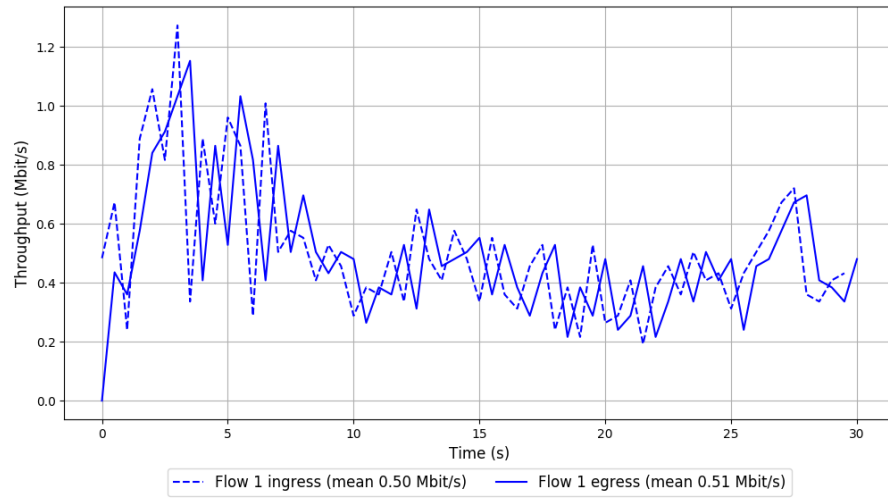
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	0.48	120.69	0.14
Copa	3	0.15	85.08	0.00
TCP Cubic	3	1.75	279.83	1.49
FillP	3	3.01	1117.98	52.29
FillP-Sheep	3	2.38	1022.10	34.20
Indigo	3	0.28	130.12	0.12
LEDBAT	3	0.69	235.29	1.00
PCC-Allegro	3	2.25	921.04	36.06
PCC-Expr	3	2.35	1122.10	58.74
QUIC Cubic	2	1.36	309.81	0.23
SCReAM	3	0.18	78.59	0.20
Sprout	3	0.07	72.96	0.06
TaoVA-100x	3	0.86	387.92	1.04
TCP Vegas	3	0.27	123.64	0.36
Verus	3	0.28	407.74	8.17
PCC-Vivace	3	1.32	228.55	0.37
WebRTC media	3	0.29	163.57	0.11

Run 1: Statistics of TCP BBR

Start at: 2018-07-24 05:42:19
End at: 2018-07-24 05:42:49
Local clock offset: -1.989 ms
Remote clock offset: -4.742 ms

Below is generated by plot.py at 2018-07-24 06:27:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 85.976 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 85.976 ms
Loss rate: 0.08%

Run 1: Report of TCP BBR — Data Link

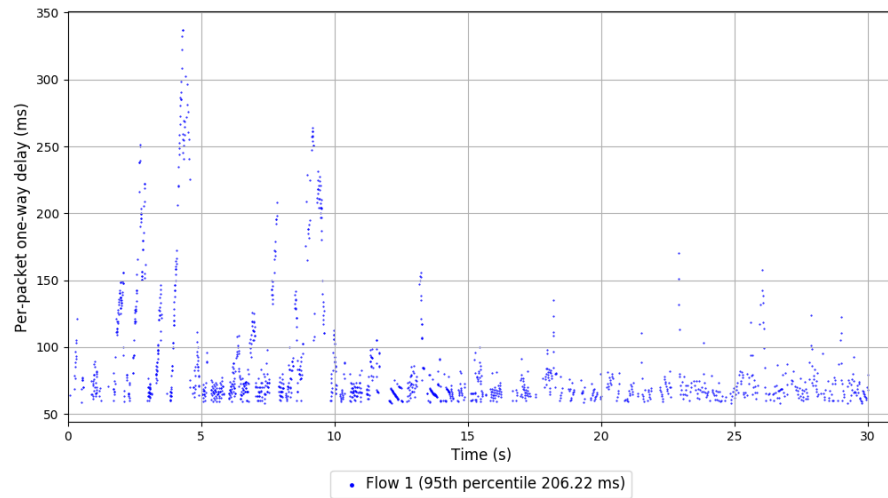
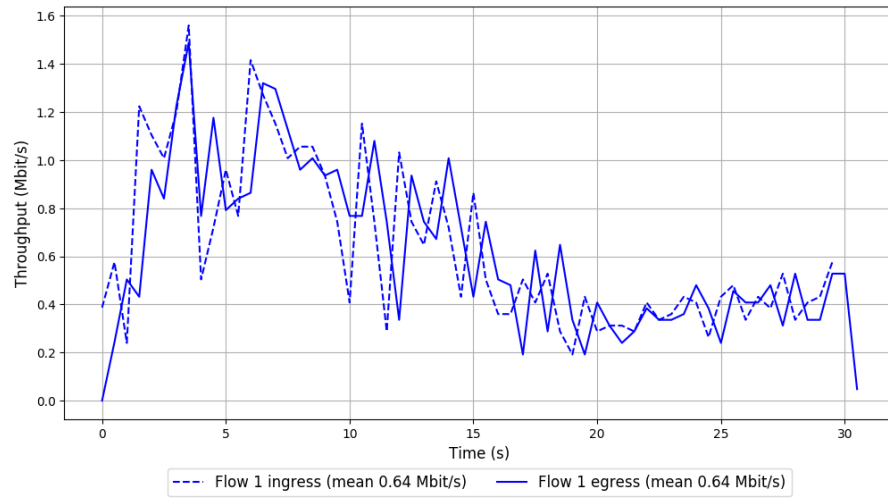


Run 2: Statistics of TCP BBR

Start at: 2018-07-24 06:00:47
End at: 2018-07-24 06:01:17
Local clock offset: -4.662 ms
Remote clock offset: -6.404 ms

Below is generated by plot.py at 2018-07-24 06:27:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 206.215 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 206.215 ms
Loss rate: 0.19%

Run 2: Report of TCP BBR — Data Link

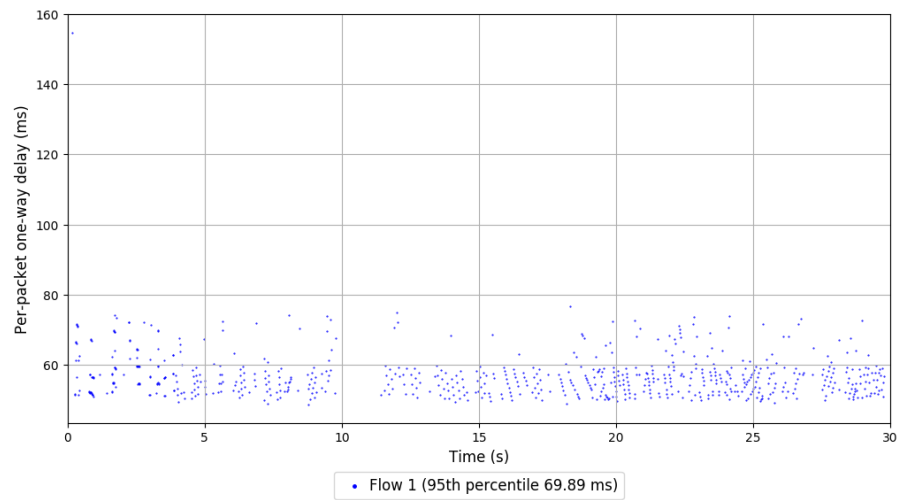
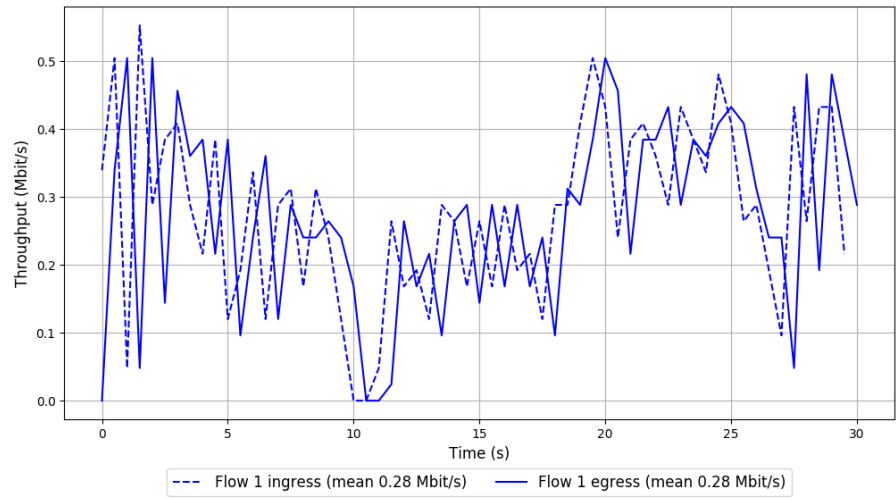


Run 3: Statistics of TCP BBR

Start at: 2018-07-24 06:19:16
End at: 2018-07-24 06:19:46
Local clock offset: -2.402 ms
Remote clock offset: -9.037 ms

Below is generated by plot.py at 2018-07-24 06:27:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 69.893 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 69.893 ms
Loss rate: 0.14%

Run 3: Report of TCP BBR — Data Link

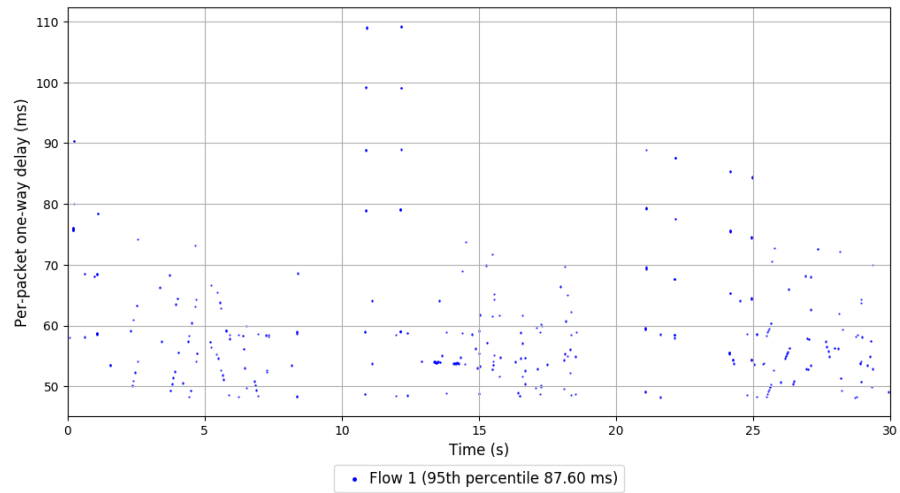
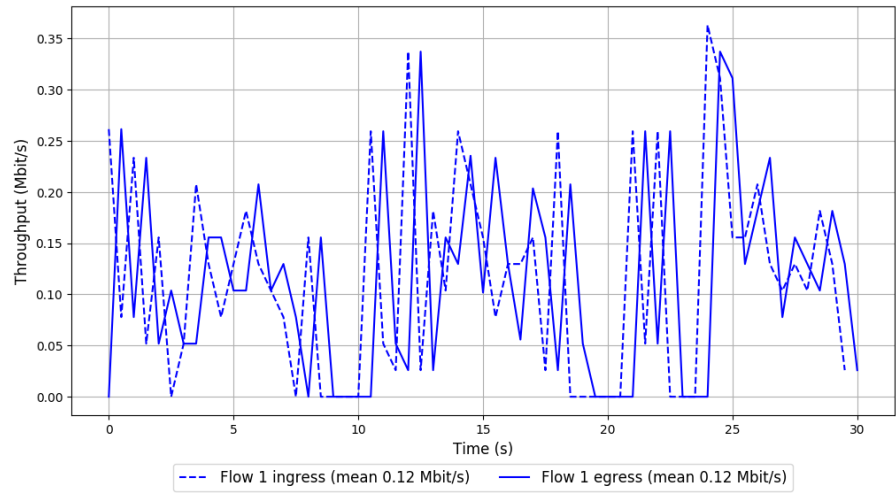


Run 1: Statistics of Copa

Start at: 2018-07-24 05:39:05
End at: 2018-07-24 05:39:35
Local clock offset: 2.891 ms
Remote clock offset: -6.178 ms

Below is generated by plot.py at 2018-07-24 06:27:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 87.597 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 87.597 ms
Loss rate: 0.00%

Run 1: Report of Copa — Data Link

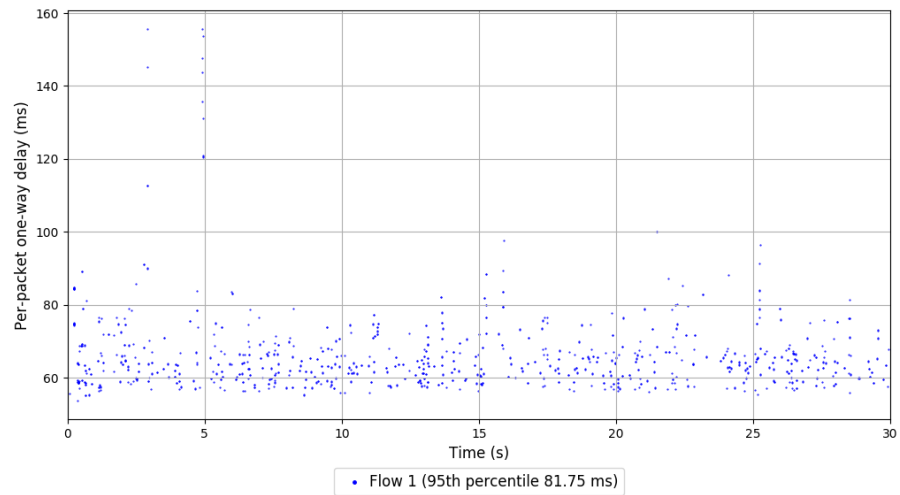
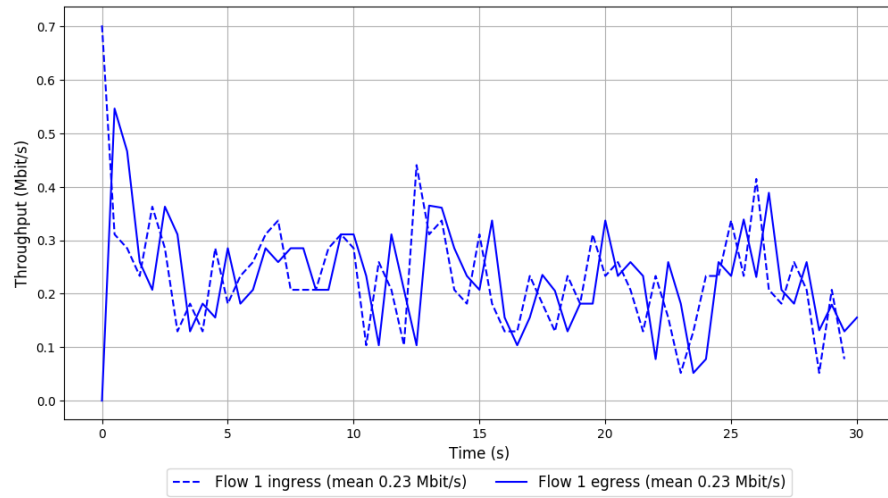


Run 2: Statistics of Copa

Start at: 2018-07-24 05:57:32
End at: 2018-07-24 05:58:02
Local clock offset: -2.497 ms
Remote clock offset: -5.311 ms

Below is generated by plot.py at 2018-07-24 06:27:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 81.753 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.23 Mbit/s
95th percentile per-packet one-way delay: 81.753 ms
Loss rate: 0.00%

Run 2: Report of Copa — Data Link

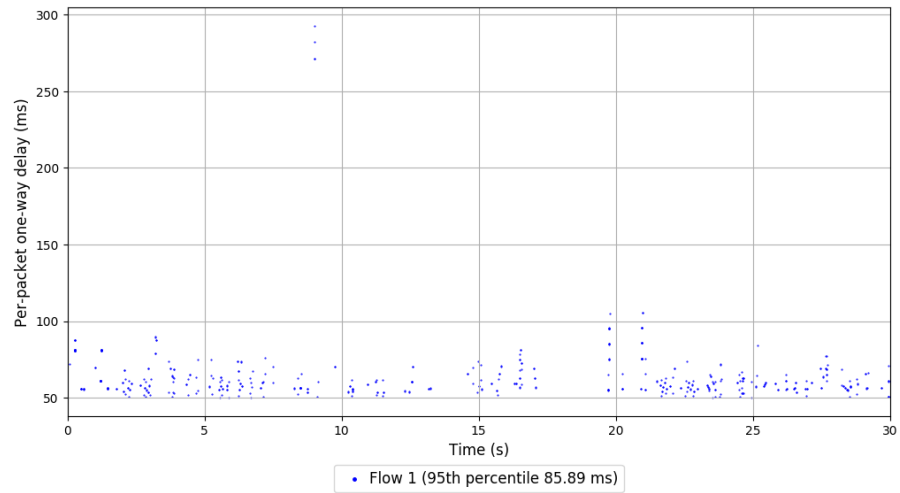
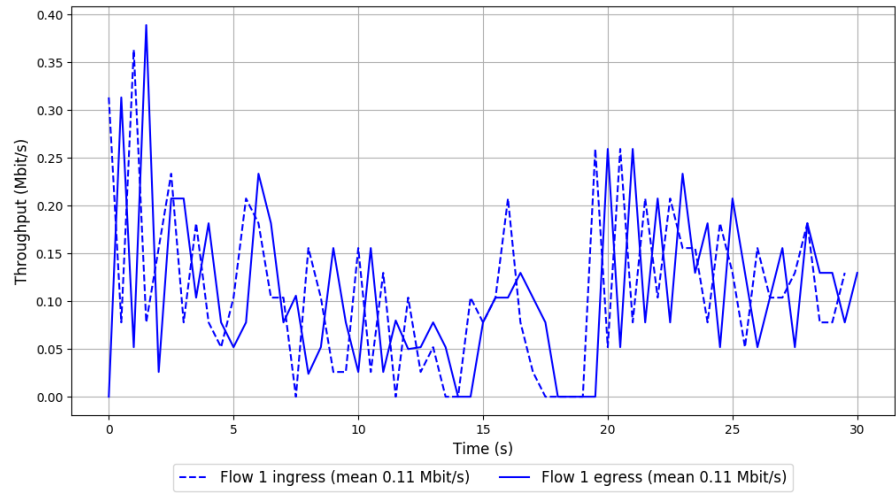


Run 3: Statistics of Copa

Start at: 2018-07-24 06:16:02
End at: 2018-07-24 06:16:32
Local clock offset: -1.619 ms
Remote clock offset: -9.114 ms

Below is generated by plot.py at 2018-07-24 06:27:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 85.886 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 85.886 ms
Loss rate: 0.00%

Run 3: Report of Copa — Data Link

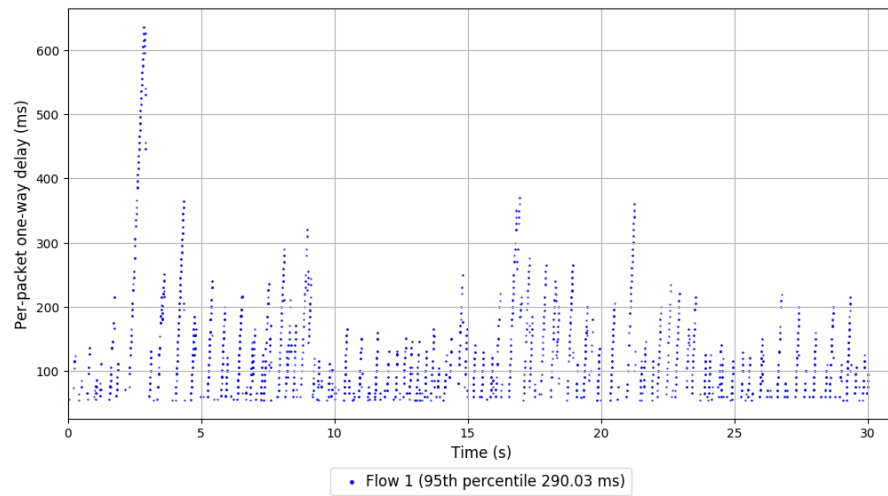
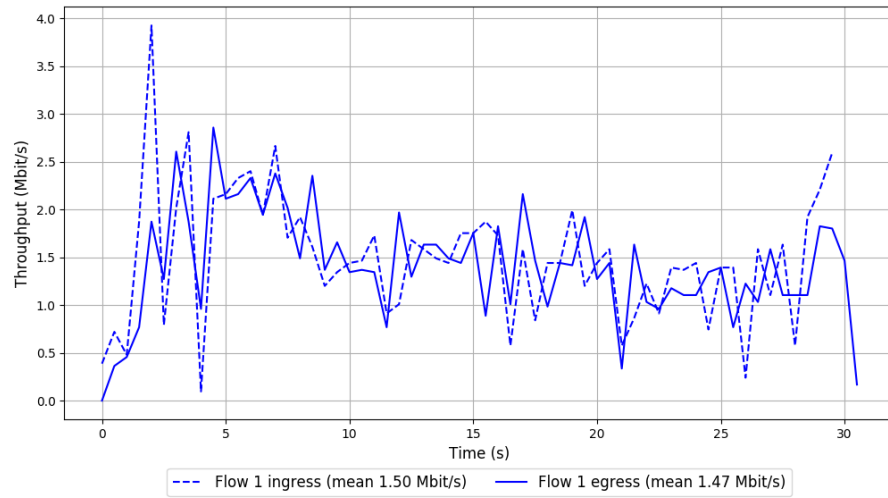


Run 1: Statistics of TCP Cubic

Start at: 2018-07-24 05:32:35
End at: 2018-07-24 05:33:05
Local clock offset: -0.942 ms
Remote clock offset: -5.572 ms

Below is generated by plot.py at 2018-07-24 06:27:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 290.028 ms
Loss rate: 1.85%
-- Flow 1:
Average throughput: 1.47 Mbit/s
95th percentile per-packet one-way delay: 290.028 ms
Loss rate: 1.85%

Run 1: Report of TCP Cubic — Data Link

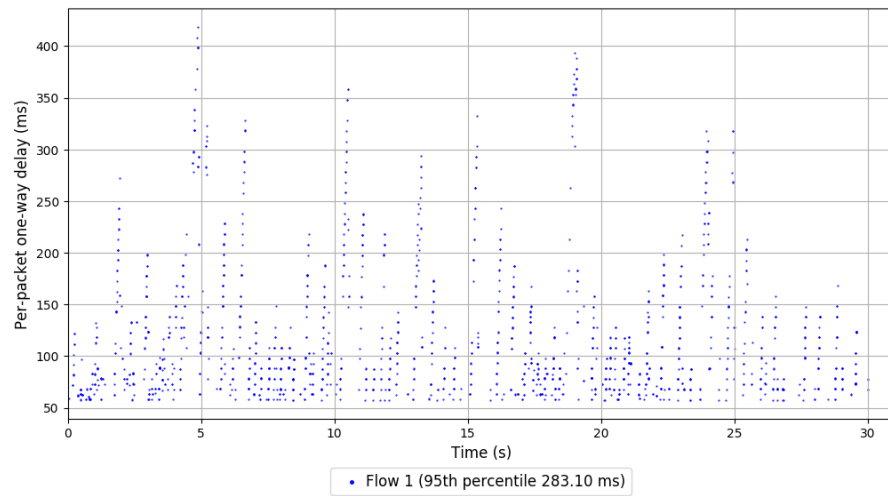
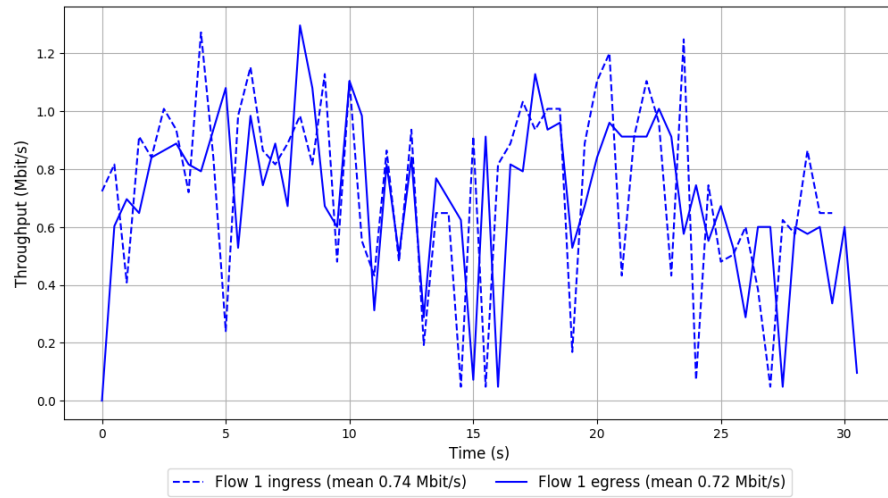


Run 2: Statistics of TCP Cubic

Start at: 2018-07-24 05:51:03
End at: 2018-07-24 05:51:33
Local clock offset: -4.898 ms
Remote clock offset: -6.536 ms

Below is generated by plot.py at 2018-07-24 06:27:28
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 283.095 ms
Loss rate: 1.64%
-- Flow 1:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 283.095 ms
Loss rate: 1.64%

Run 2: Report of TCP Cubic — Data Link

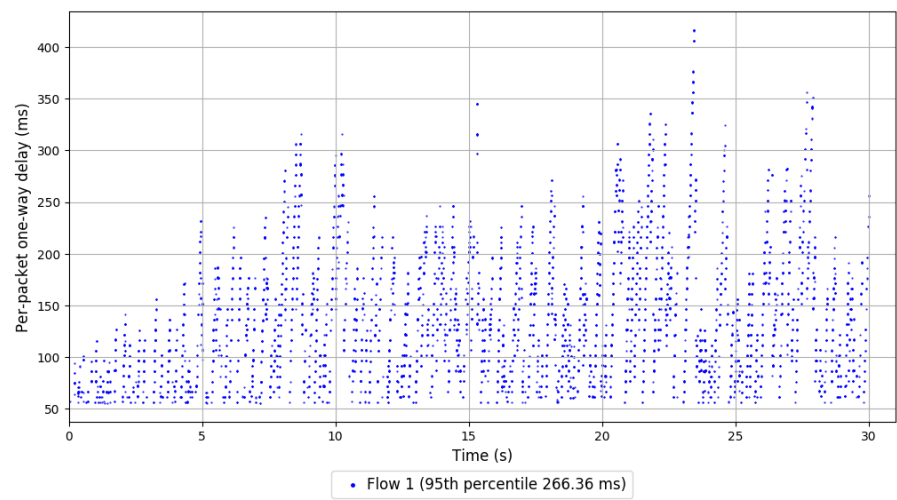
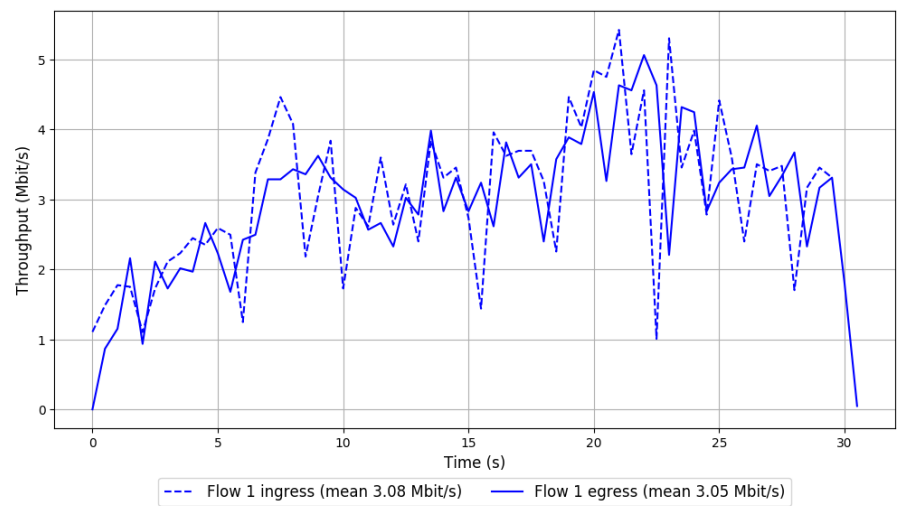


Run 3: Statistics of TCP Cubic

Start at: 2018-07-24 06:09:26
End at: 2018-07-24 06:09:56
Local clock offset: -4.157 ms
Remote clock offset: -8.848 ms

Below is generated by plot.py at 2018-07-24 06:27:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 266.364 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 3.05 Mbit/s
95th percentile per-packet one-way delay: 266.364 ms
Loss rate: 0.98%

Run 3: Report of TCP Cubic — Data Link

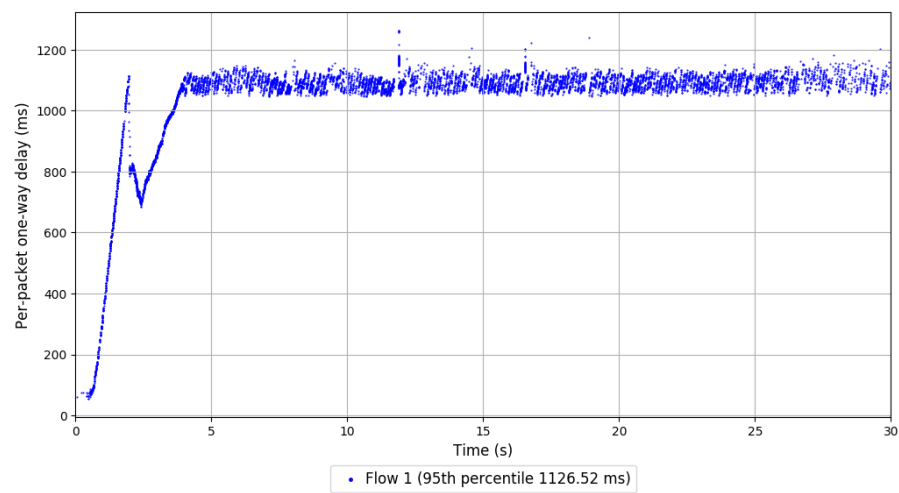
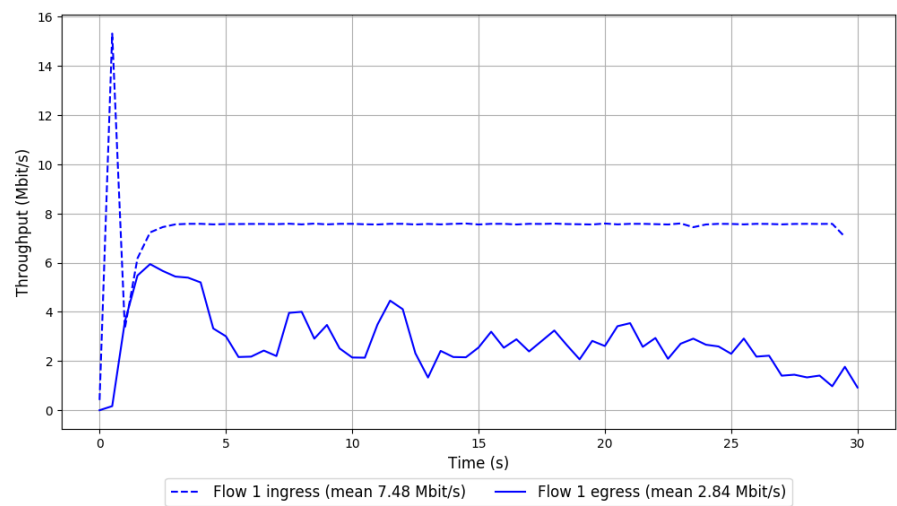


Run 1: Statistics of FillP

Start at: 2018-07-24 05:48:53
End at: 2018-07-24 05:49:23
Local clock offset: -0.714 ms
Remote clock offset: -4.212 ms

Below is generated by plot.py at 2018-07-24 06:27:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 1126.521 ms
Loss rate: 62.11%
-- Flow 1:
Average throughput: 2.84 Mbit/s
95th percentile per-packet one-way delay: 1126.521 ms
Loss rate: 62.11%

Run 1: Report of FillP — Data Link

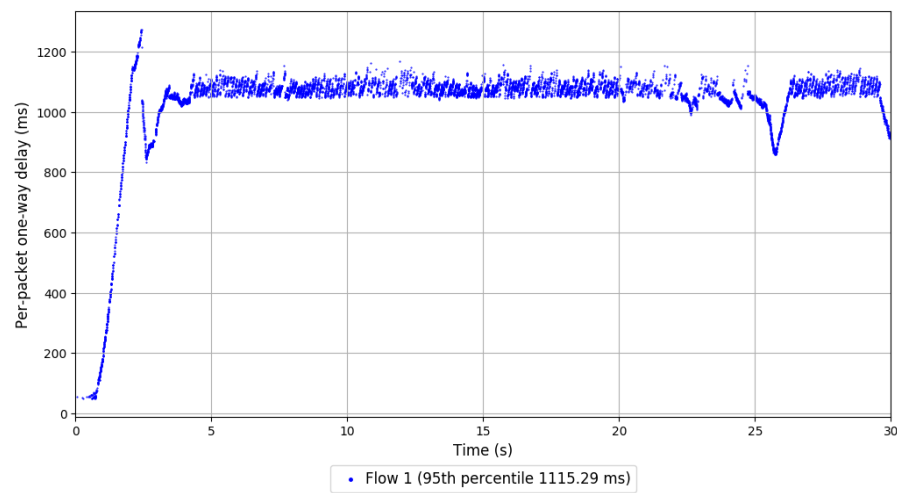
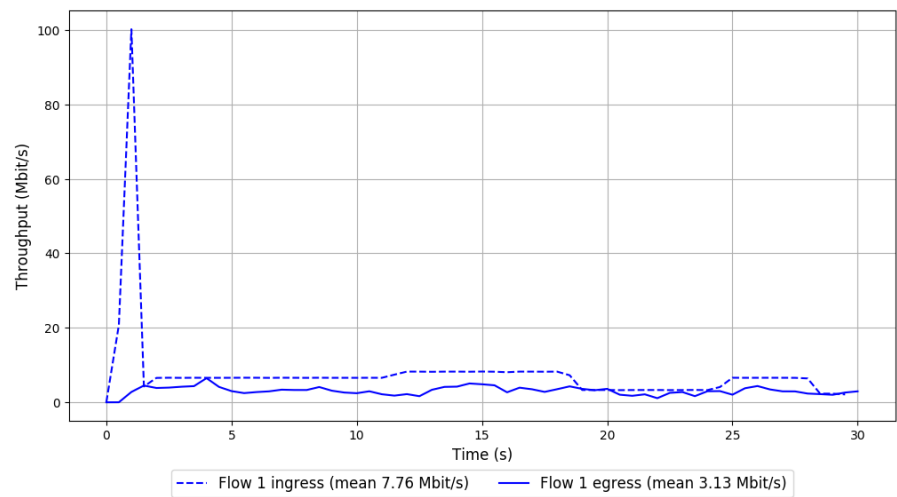


Run 2: Statistics of FillP

Start at: 2018-07-24 06:07:16
End at: 2018-07-24 06:07:46
Local clock offset: -0.389 ms
Remote clock offset: -9.385 ms

Below is generated by plot.py at 2018-07-24 06:27:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 1115.292 ms
Loss rate: 59.69%
-- Flow 1:
Average throughput: 3.13 Mbit/s
95th percentile per-packet one-way delay: 1115.292 ms
Loss rate: 59.69%

Run 2: Report of FillP — Data Link

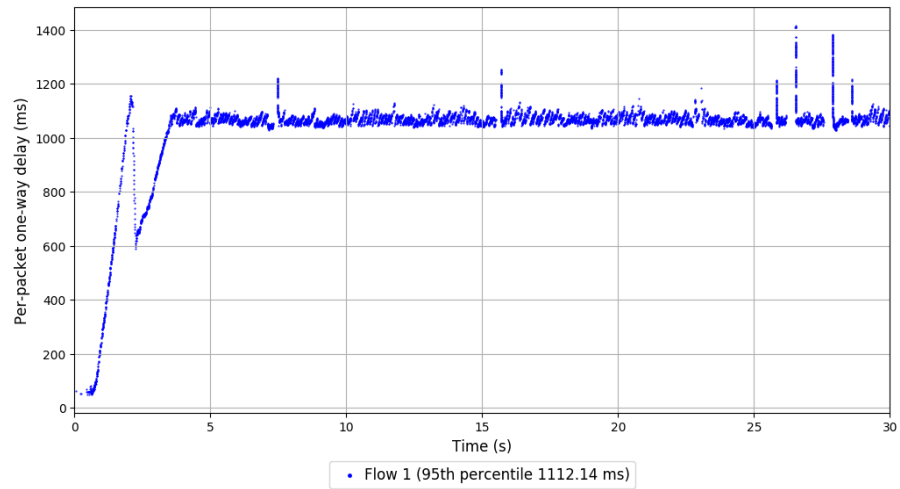
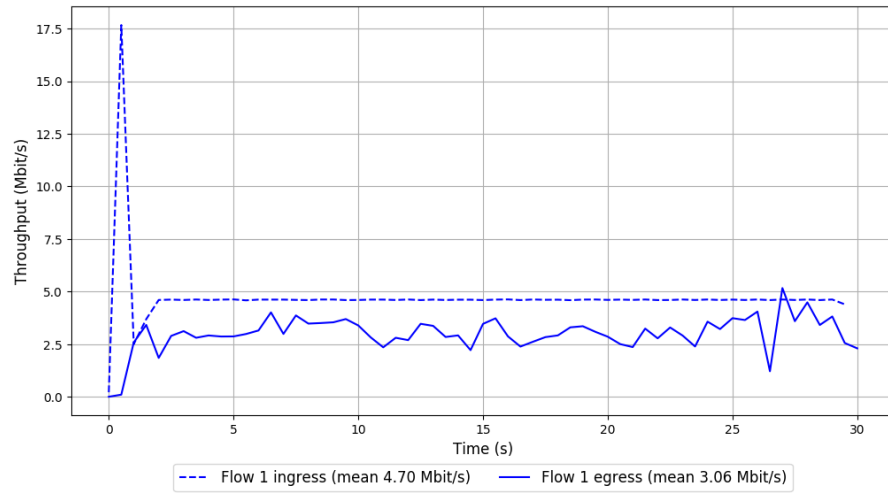


Run 3: Statistics of FillP

Start at: 2018-07-24 06:25:44
End at: 2018-07-24 06:26:14
Local clock offset: 1.419 ms
Remote clock offset: -8.809 ms

Below is generated by plot.py at 2018-07-24 06:27:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 1112.142 ms
Loss rate: 35.08%
-- Flow 1:
Average throughput: 3.06 Mbit/s
95th percentile per-packet one-way delay: 1112.142 ms
Loss rate: 35.08%

Run 3: Report of FillP — Data Link

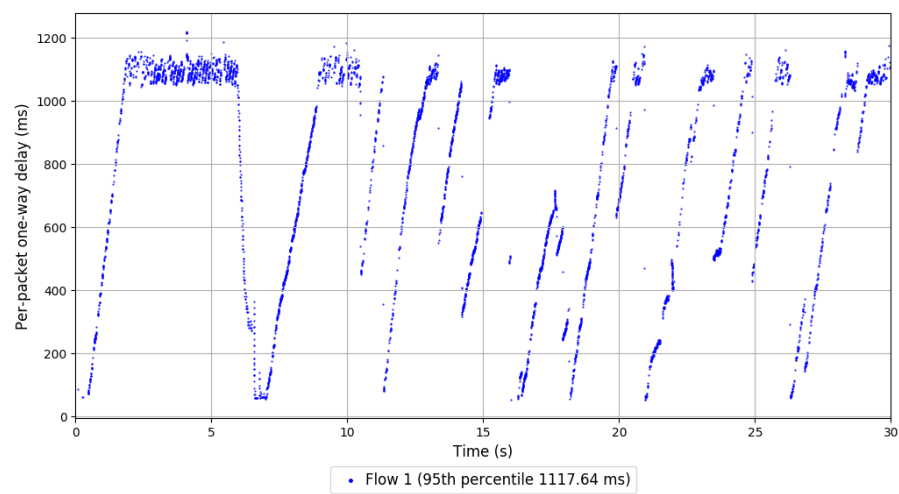
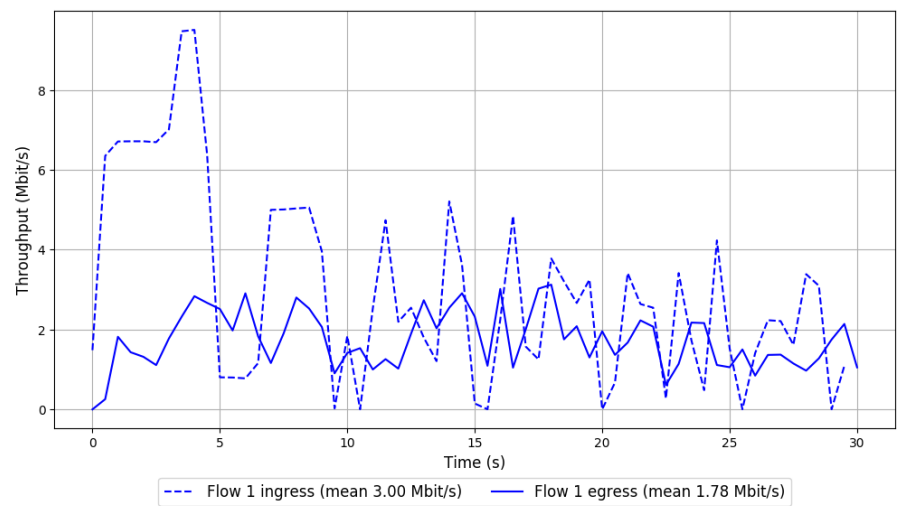


Run 1: Statistics of FillP-Sheep

Start at: 2018-07-24 05:33:40
End at: 2018-07-24 05:34:10
Local clock offset: -2.604 ms
Remote clock offset: -4.714 ms

Below is generated by plot.py at 2018-07-24 06:27:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 1117.645 ms
Loss rate: 40.77%
-- Flow 1:
Average throughput: 1.78 Mbit/s
95th percentile per-packet one-way delay: 1117.645 ms
Loss rate: 40.77%

Run 1: Report of FillP-Sheep — Data Link

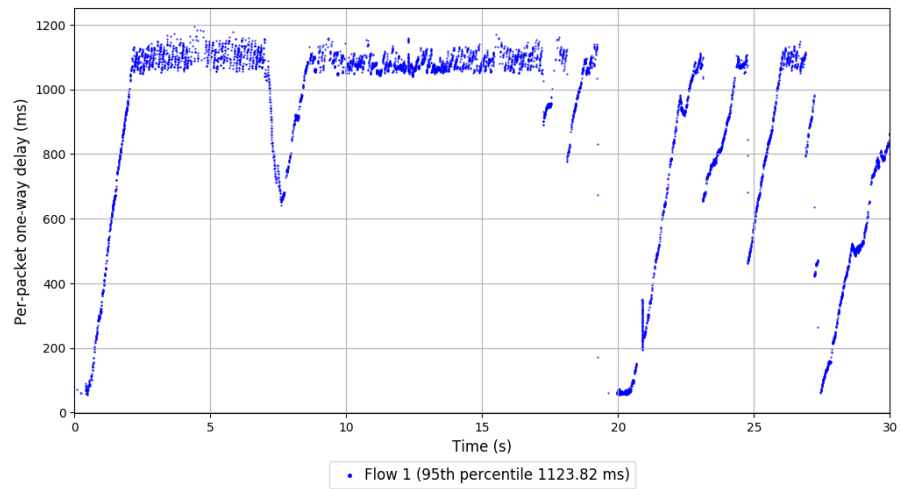
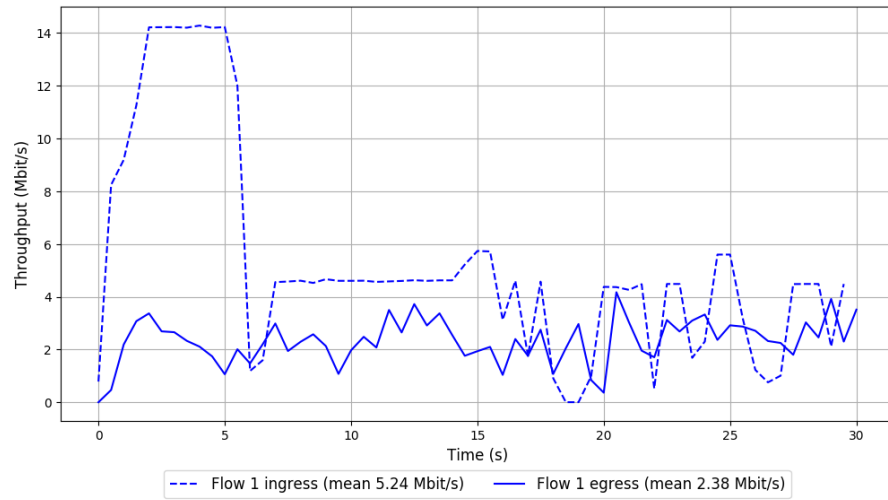


Run 2: Statistics of FillP-Sheep

Start at: 2018-07-24 05:52:07
End at: 2018-07-24 05:52:37
Local clock offset: -3.702 ms
Remote clock offset: -6.019 ms

Below is generated by plot.py at 2018-07-24 06:27:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 1123.818 ms
Loss rate: 54.70%
-- Flow 1:
Average throughput: 2.38 Mbit/s
95th percentile per-packet one-way delay: 1123.818 ms
Loss rate: 54.70%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-07-24 06:10:31

End at: 2018-07-24 06:11:01

Local clock offset: -0.681 ms

Remote clock offset: -8.41 ms

Below is generated by plot.py at 2018-07-24 06:27:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.98 Mbit/s

95th percentile per-packet one-way delay: 824.851 ms

Loss rate: 7.13%

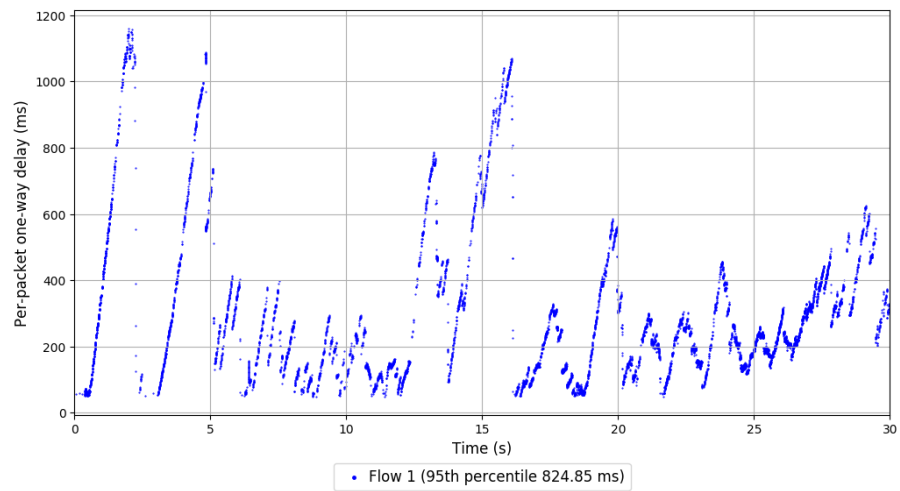
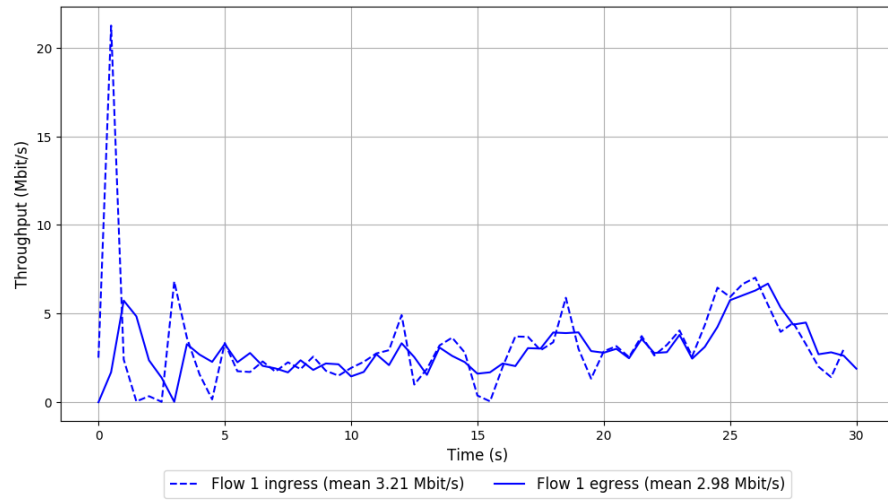
-- Flow 1:

Average throughput: 2.98 Mbit/s

95th percentile per-packet one-way delay: 824.851 ms

Loss rate: 7.13%

Run 3: Report of FillP-Sheep — Data Link

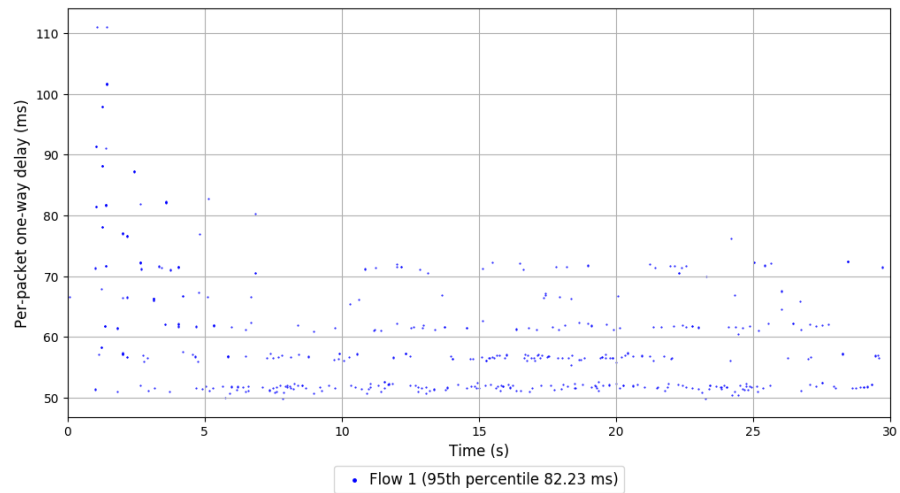
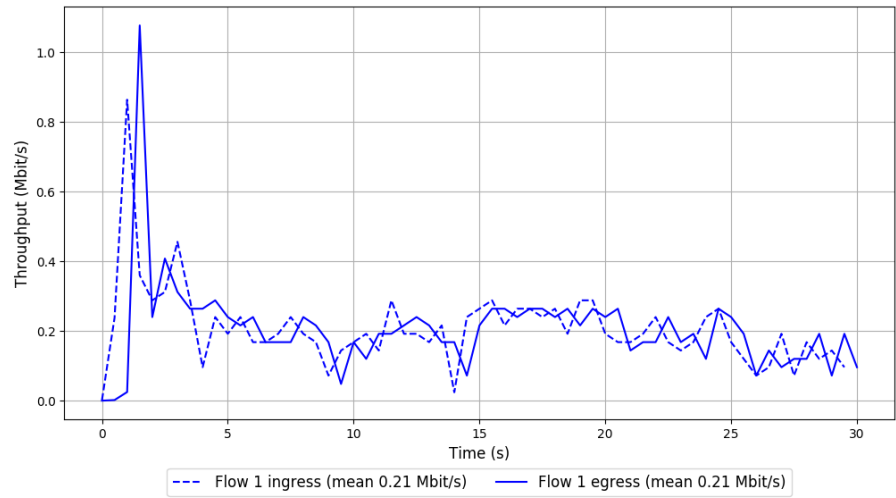


Run 1: Statistics of Indigo

Start at: 2018-07-24 05:47:49
End at: 2018-07-24 05:48:19
Local clock offset: -0.601 ms
Remote clock offset: -6.774 ms

Below is generated by plot.py at 2018-07-24 06:27:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 82.227 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 82.227 ms
Loss rate: 0.00%

Run 1: Report of Indigo — Data Link

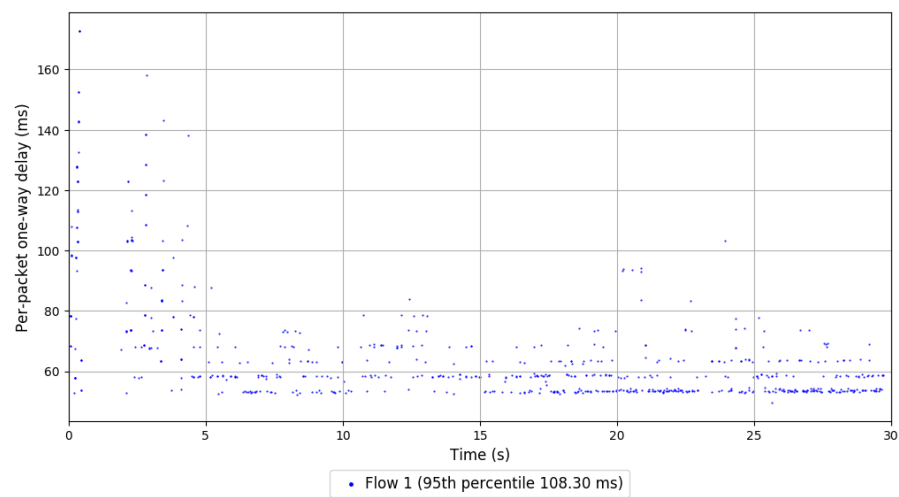
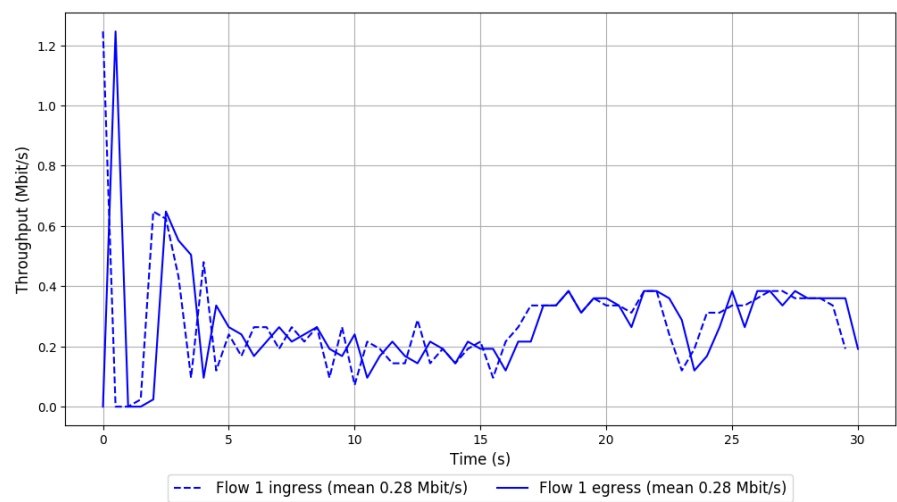


Run 2: Statistics of Indigo

Start at: 2018-07-24 06:06:11
End at: 2018-07-24 06:06:41
Local clock offset: -1.861 ms
Remote clock offset: -8.246 ms

Below is generated by plot.py at 2018-07-24 06:27:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 108.297 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 108.297 ms
Loss rate: 0.14%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-07-24 06:24:39

End at: 2018-07-24 06:25:09

Local clock offset: 1.065 ms

Remote clock offset: -8.175 ms

Below is generated by plot.py at 2018-07-24 06:27:37

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 199.840 ms

Loss rate: 0.23%

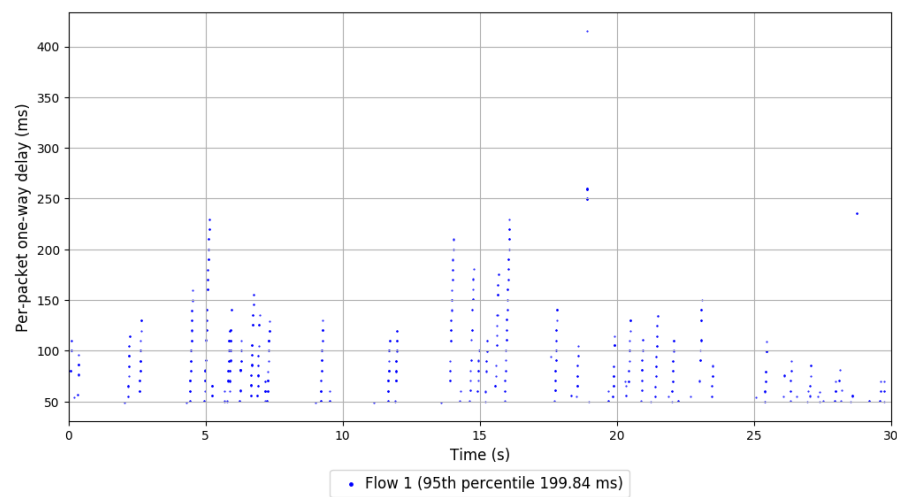
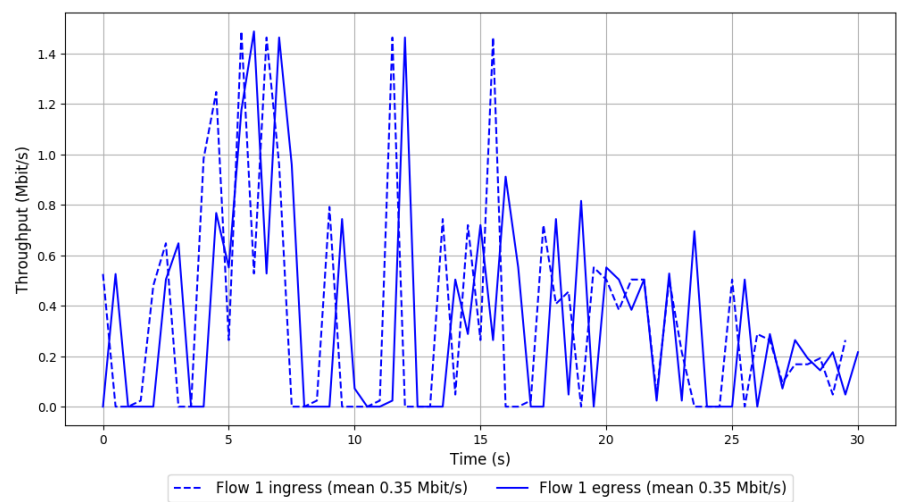
-- Flow 1:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 199.840 ms

Loss rate: 0.23%

Run 3: Report of Indigo — Data Link

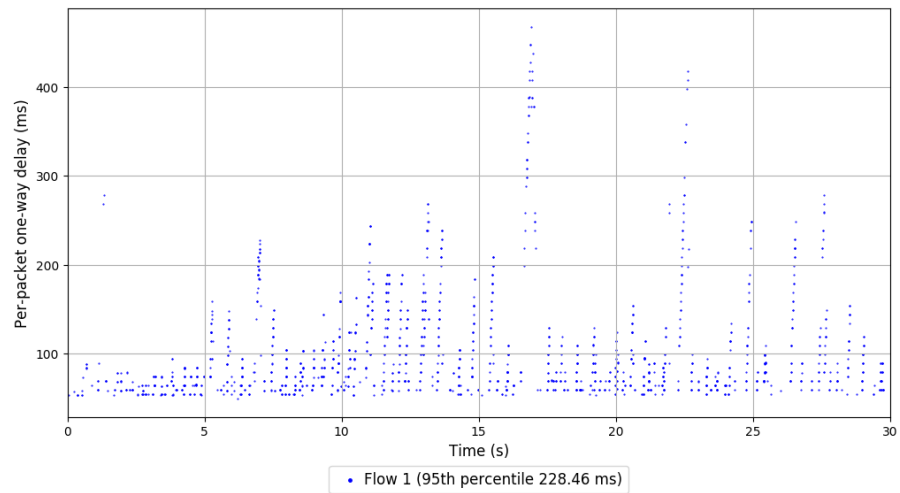
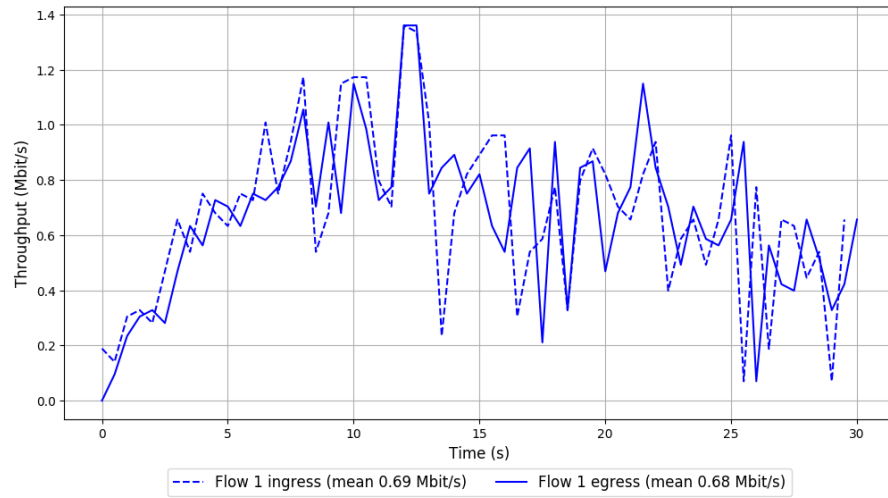


Run 1: Statistics of LEDBAT

Start at: 2018-07-24 05:36:54
End at: 2018-07-24 05:37:24
Local clock offset: 2.452 ms
Remote clock offset: -5.687 ms

Below is generated by plot.py at 2018-07-24 06:27:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 228.455 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 228.455 ms
Loss rate: 0.23%

Run 1: Report of LEDBAT — Data Link

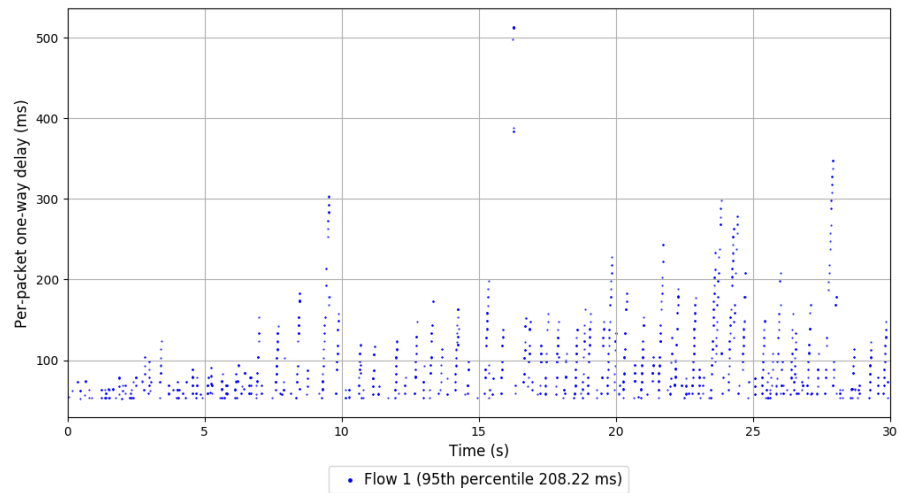
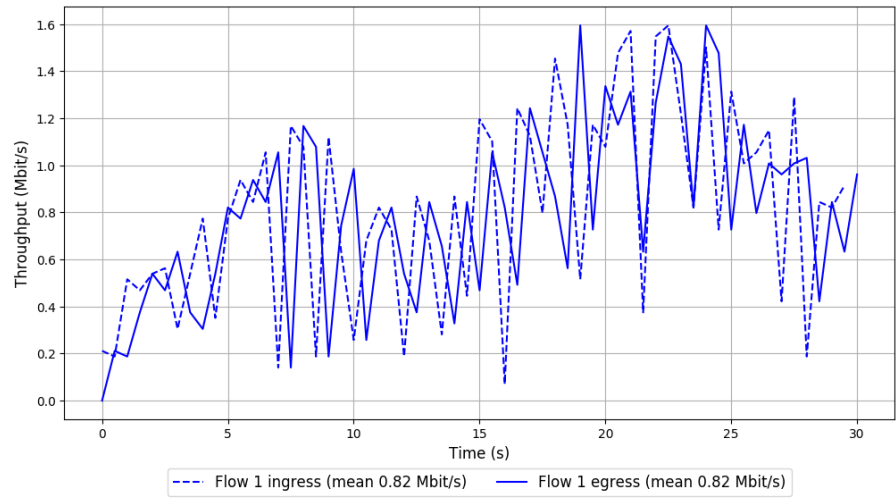


Run 2: Statistics of LEDBAT

Start at: 2018-07-24 05:55:21
End at: 2018-07-24 05:55:51
Local clock offset: 0.017 ms
Remote clock offset: -6.763 ms

Below is generated by plot.py at 2018-07-24 06:27:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 208.219 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 208.219 ms
Loss rate: 0.43%

Run 2: Report of LEDBAT — Data Link

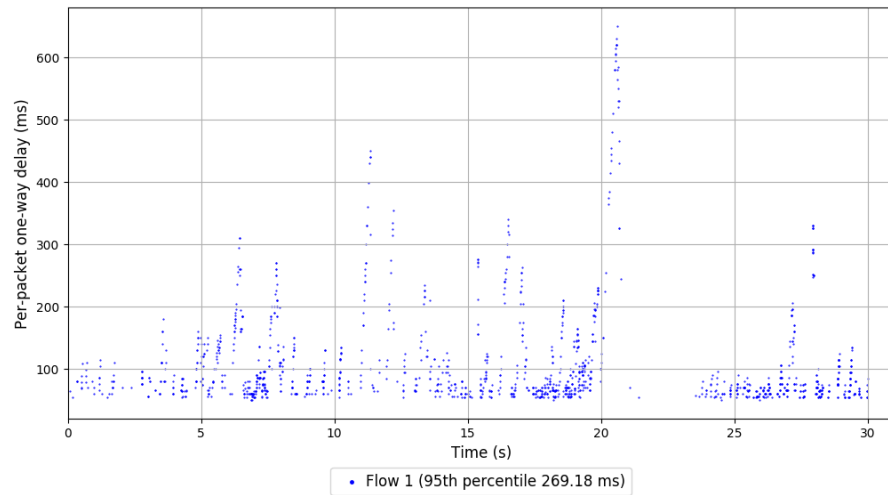
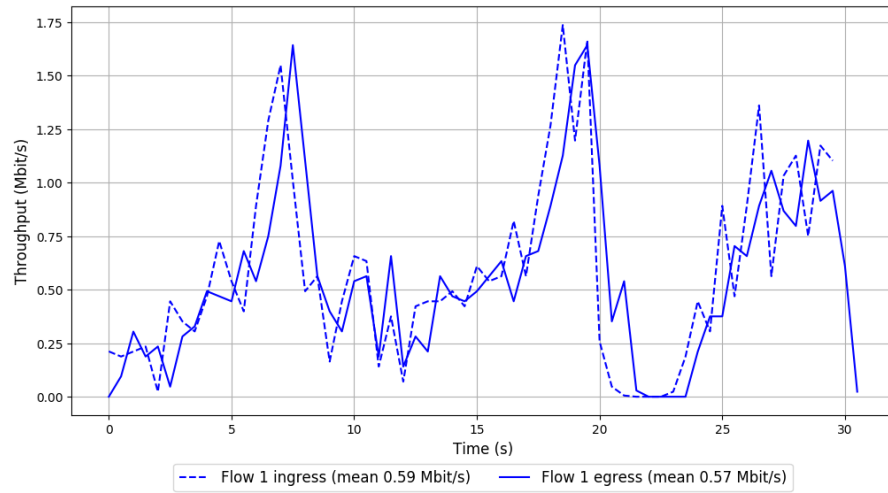


Run 3: Statistics of LEDBAT

Start at: 2018-07-24 06:13:51
End at: 2018-07-24 06:14:21
Local clock offset: -0.781 ms
Remote clock offset: -9.829 ms

Below is generated by plot.py at 2018-07-24 06:27:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 269.184 ms
Loss rate: 2.34%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 269.184 ms
Loss rate: 2.34%

Run 3: Report of LEDBAT — Data Link

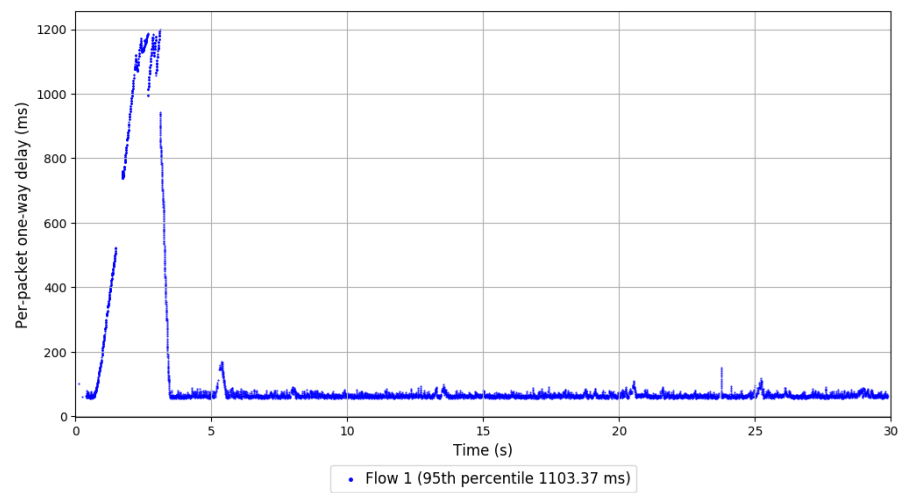
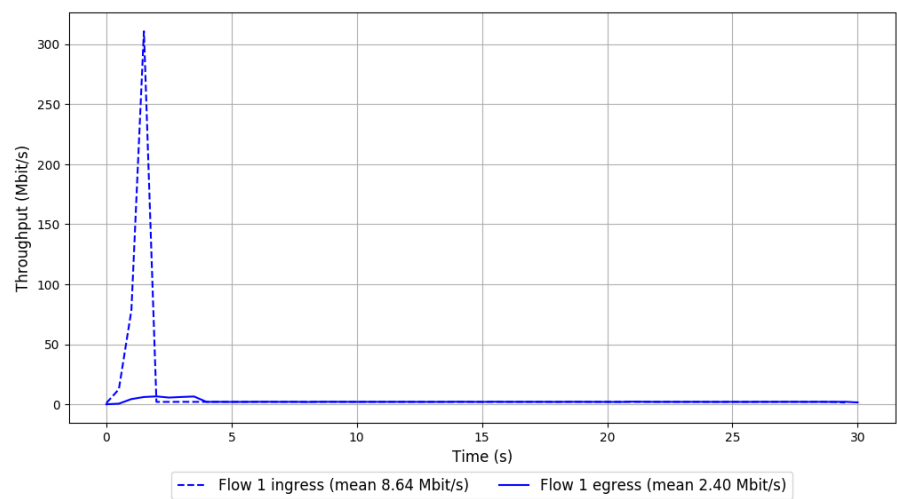


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-24 05:44:29
End at: 2018-07-24 05:44:59
Local clock offset: -2.642 ms
Remote clock offset: -3.122 ms

# Below is generated by plot.py at 2018-07-24 06:27:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 1103.371 ms
Loss rate: 72.25%
-- Flow 1:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 1103.371 ms
Loss rate: 72.25%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-07-24 06:02:57

End at: 2018-07-24 06:03:27

Local clock offset: -2.035 ms

Remote clock offset: -9.077 ms

Below is generated by plot.py at 2018-07-24 06:27:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 750.525 ms

Loss rate: 4.10%

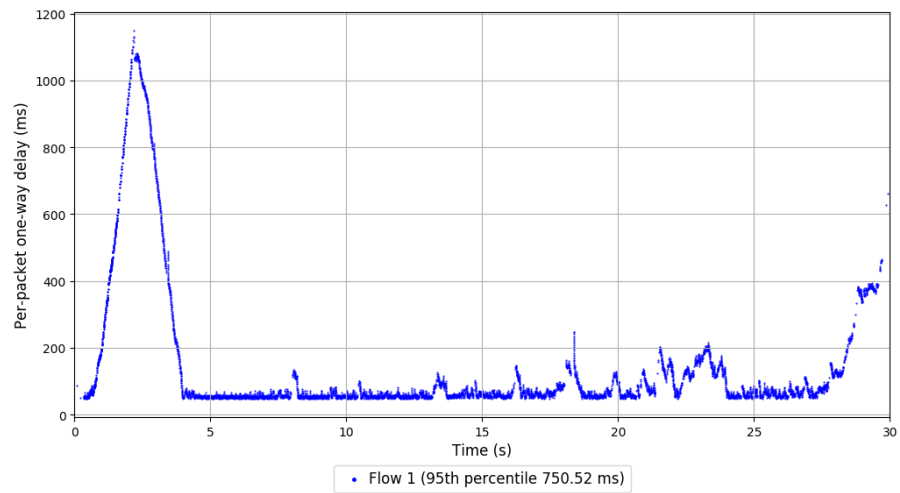
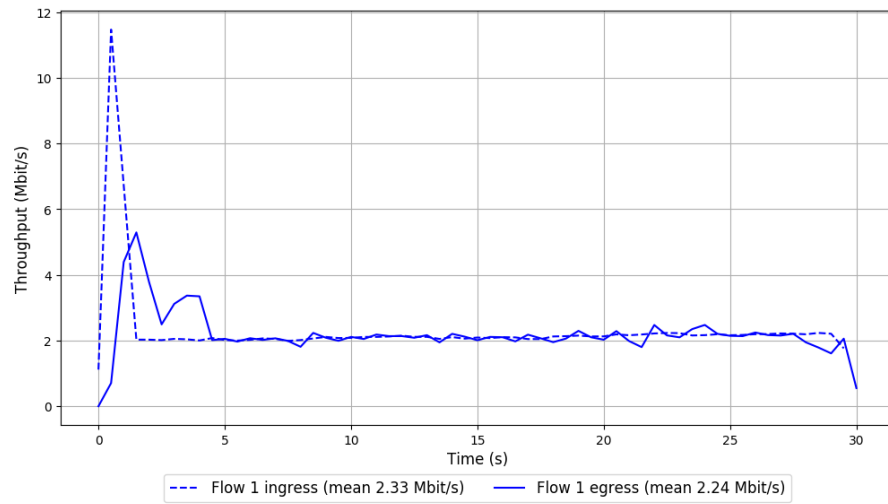
-- Flow 1:

Average throughput: 2.24 Mbit/s

95th percentile per-packet one-way delay: 750.525 ms

Loss rate: 4.10%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-07-24 06:21:25

End at: 2018-07-24 06:21:55

Local clock offset: -0.351 ms

Remote clock offset: -8.93 ms

Below is generated by plot.py at 2018-07-24 06:27:45

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 909.238 ms

Loss rate: 31.82%

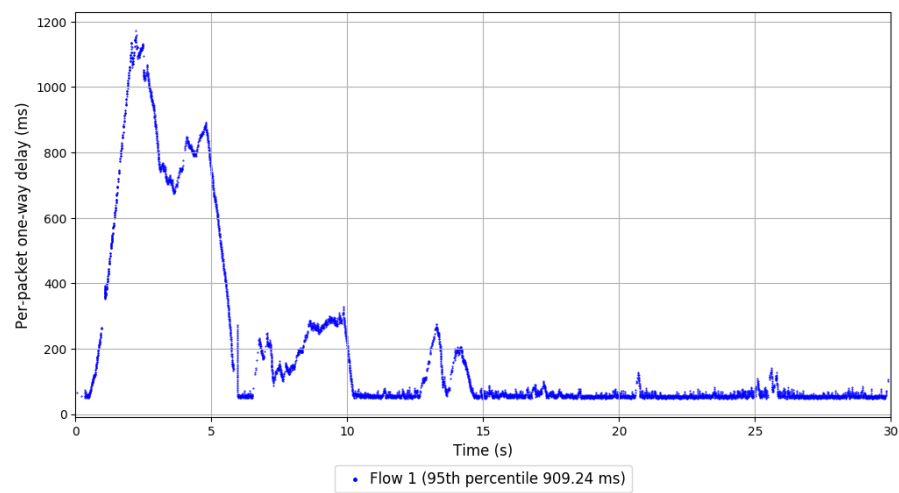
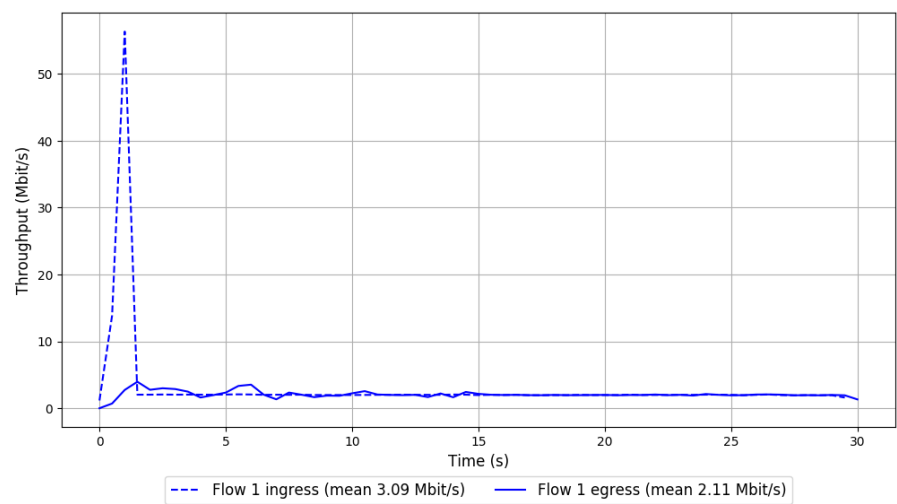
-- Flow 1:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 909.238 ms

Loss rate: 31.82%

Run 3: Report of PCC-Allegro — Data Link

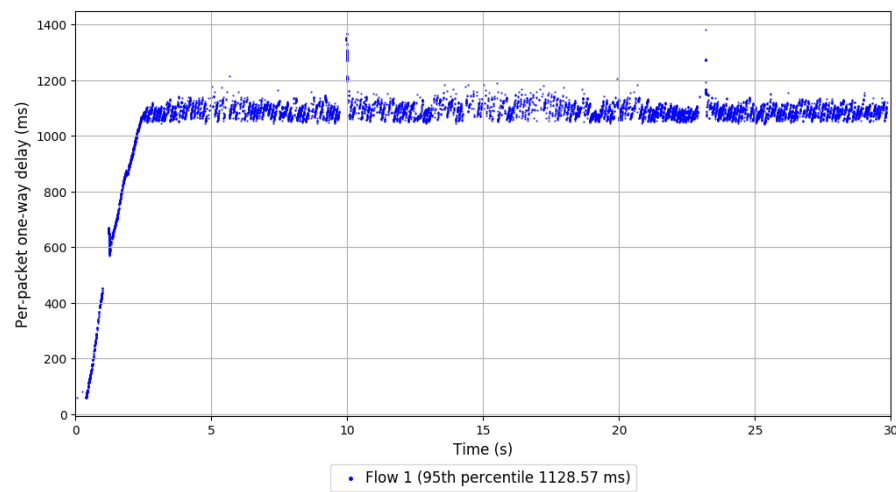
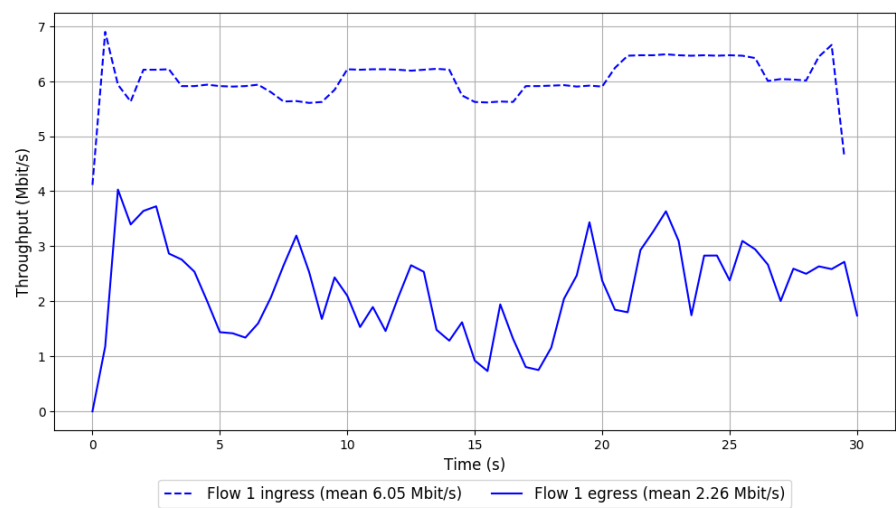


Run 1: Statistics of PCC-Expr

Start at: 2018-07-24 05:37:59
End at: 2018-07-24 05:38:29
Local clock offset: -0.291 ms
Remote clock offset: -5.293 ms

Below is generated by plot.py at 2018-07-24 06:27:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 1128.569 ms
Loss rate: 62.66%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 1128.569 ms
Loss rate: 62.66%

Run 1: Report of PCC-Expr — Data Link

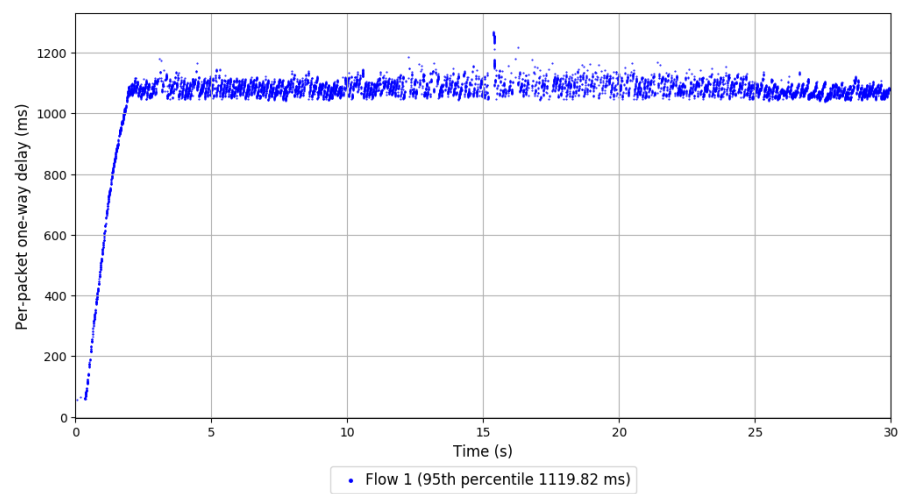
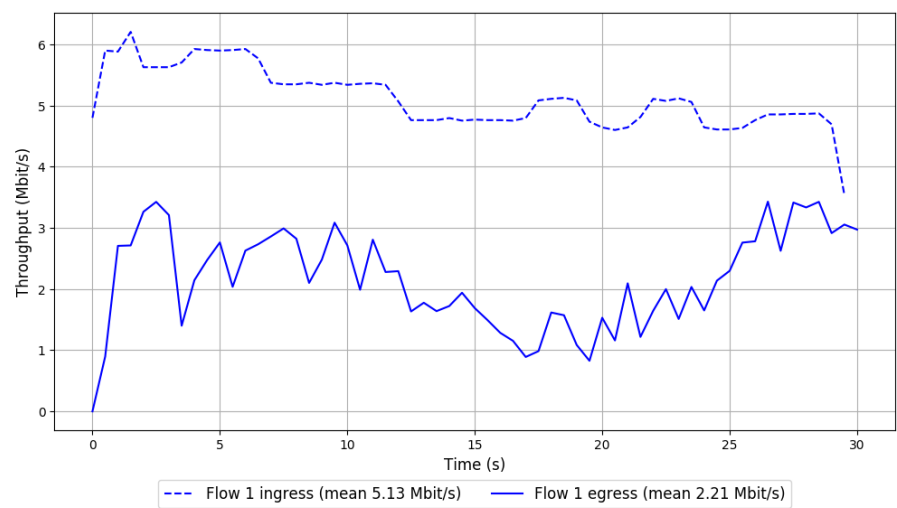


Run 2: Statistics of PCC-Expr

Start at: 2018-07-24 05:56:26
End at: 2018-07-24 05:56:56
Local clock offset: -2.408 ms
Remote clock offset: -7.111 ms

Below is generated by plot.py at 2018-07-24 06:27:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 1119.816 ms
Loss rate: 56.97%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 1119.816 ms
Loss rate: 56.97%

Run 2: Report of PCC-Expr — Data Link

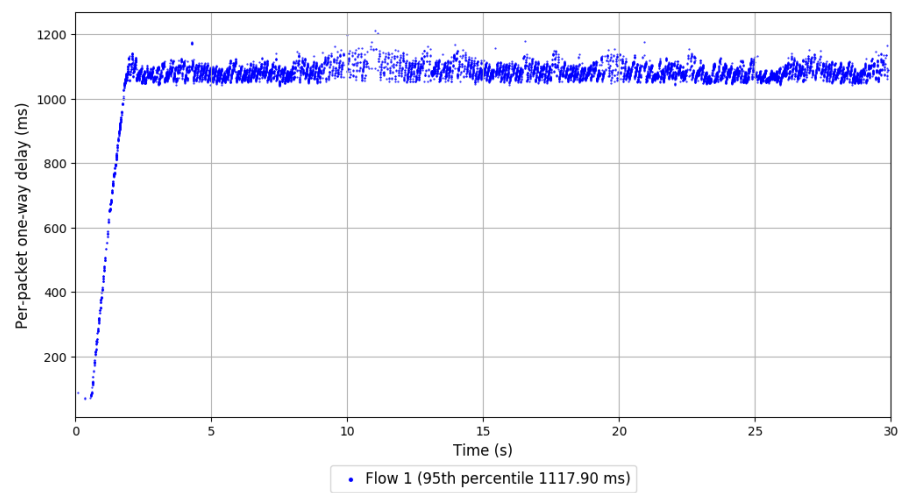
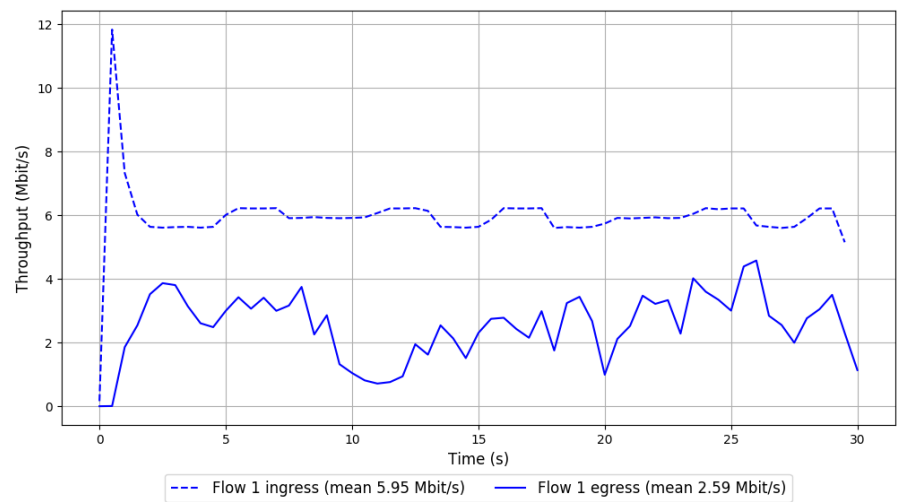


Run 3: Statistics of PCC-Expr

Start at: 2018-07-24 06:14:56
End at: 2018-07-24 06:15:26
Local clock offset: -1.037 ms
Remote clock offset: -7.357 ms

Below is generated by plot.py at 2018-07-24 06:27:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.59 Mbit/s
95th percentile per-packet one-way delay: 1117.903 ms
Loss rate: 56.60%
-- Flow 1:
Average throughput: 2.59 Mbit/s
95th percentile per-packet one-way delay: 1117.903 ms
Loss rate: 56.60%

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-07-24 05:41:15

End at: 2018-07-24 05:41:45

Local clock offset: 2.112 ms

Remote clock offset: -5.542 ms

Below is generated by plot.py at 2018-07-24 06:27:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.70 Mbit/s

95th percentile per-packet one-way delay: 318.117 ms

Loss rate: 0.23%

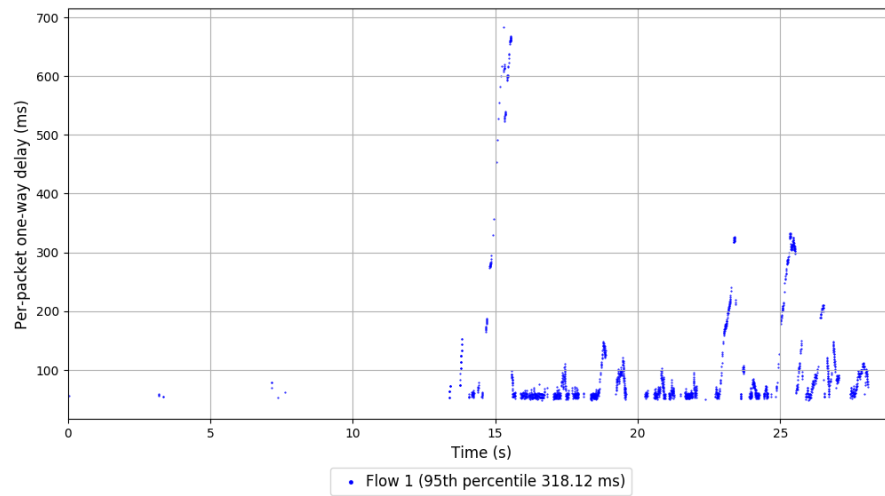
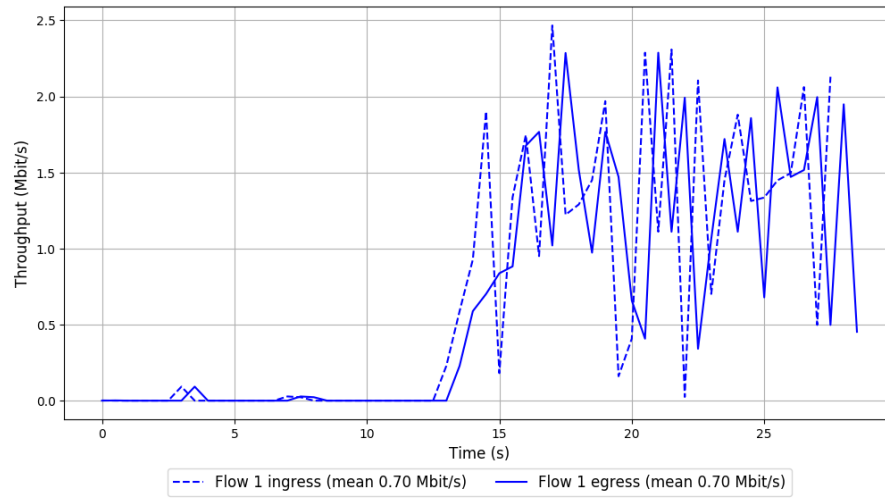
-- Flow 1:

Average throughput: 0.70 Mbit/s

95th percentile per-packet one-way delay: 318.117 ms

Loss rate: 0.23%

Run 1: Report of QUIC Cubic — Data Link

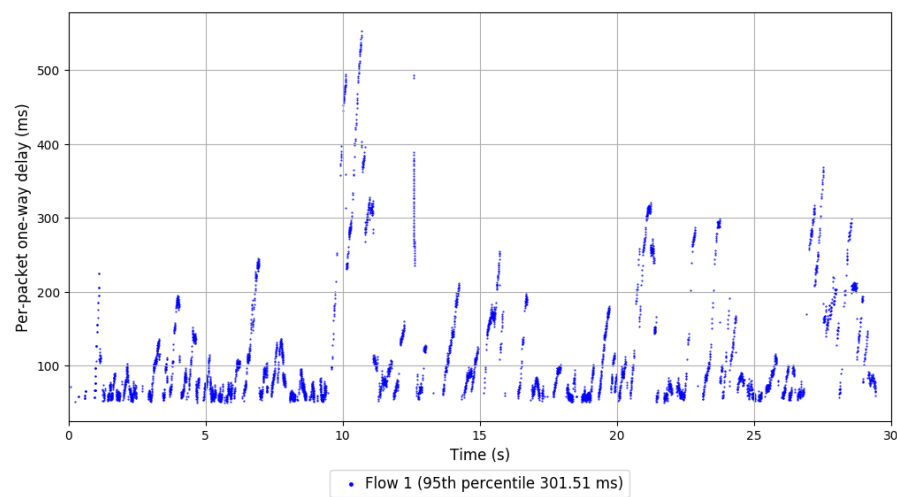
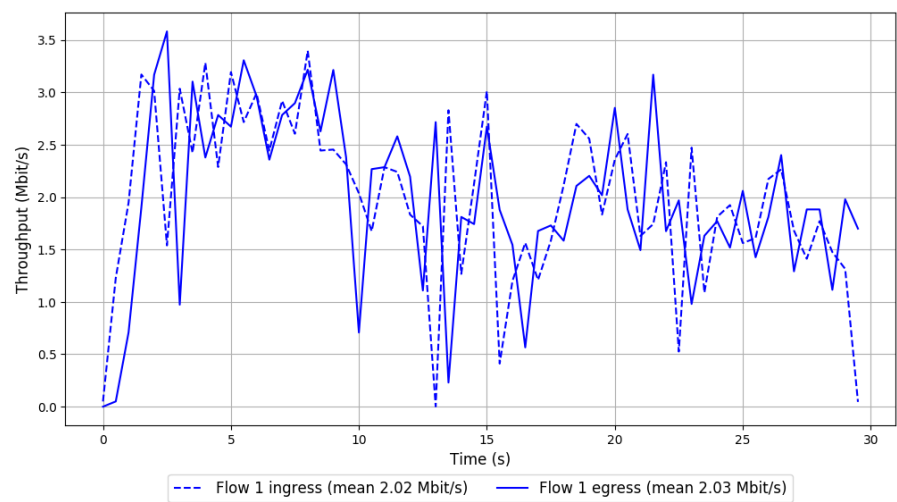


Run 2: Statistics of QUIC Cubic

Start at: 2018-07-24 05:59:41
End at: 2018-07-24 06:00:11
Local clock offset: -3.178 ms
Remote clock offset: -6.622 ms

Below is generated by plot.py at 2018-07-24 06:27:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 301.506 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 2.03 Mbit/s
95th percentile per-packet one-way delay: 301.506 ms
Loss rate: 0.23%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

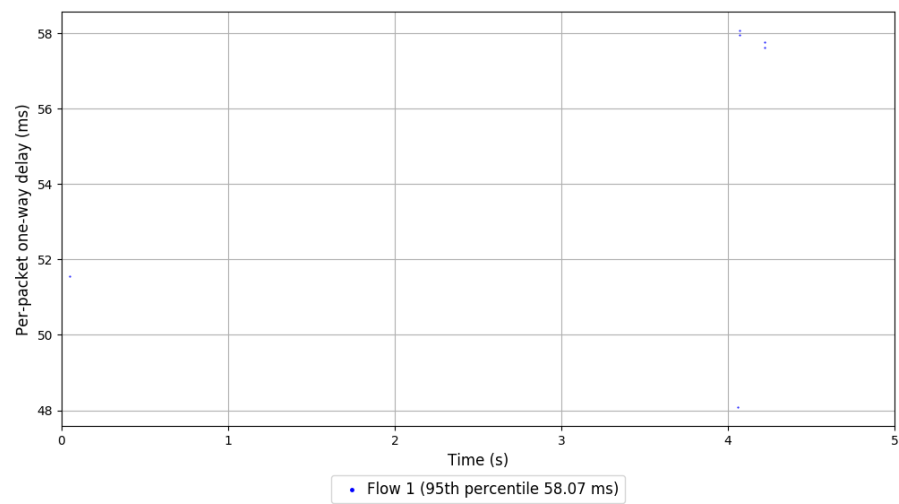
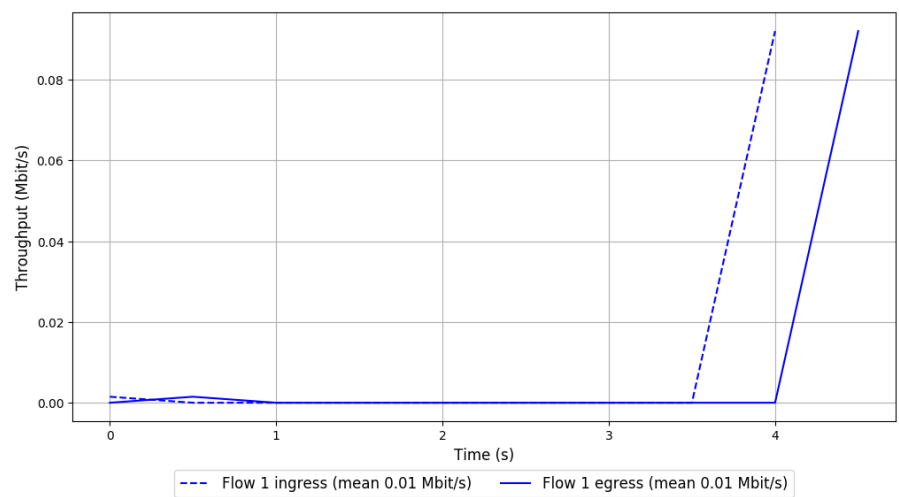
Start at: 2018-07-24 06:18:12

End at: 2018-07-24 06:18:42

Local clock offset: 2.061 ms

Remote clock offset: -8.307 ms

Run 3: Report of QUIC Cubic — Data Link



Run 1: Statistics of SCReAM

Start at: 2018-07-24 05:35:49

End at: 2018-07-24 05:36:19

Local clock offset: 1.197 ms

Remote clock offset: -5.7 ms

Below is generated by plot.py at 2018-07-24 06:27:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 62.936 ms

Loss rate: 0.13%

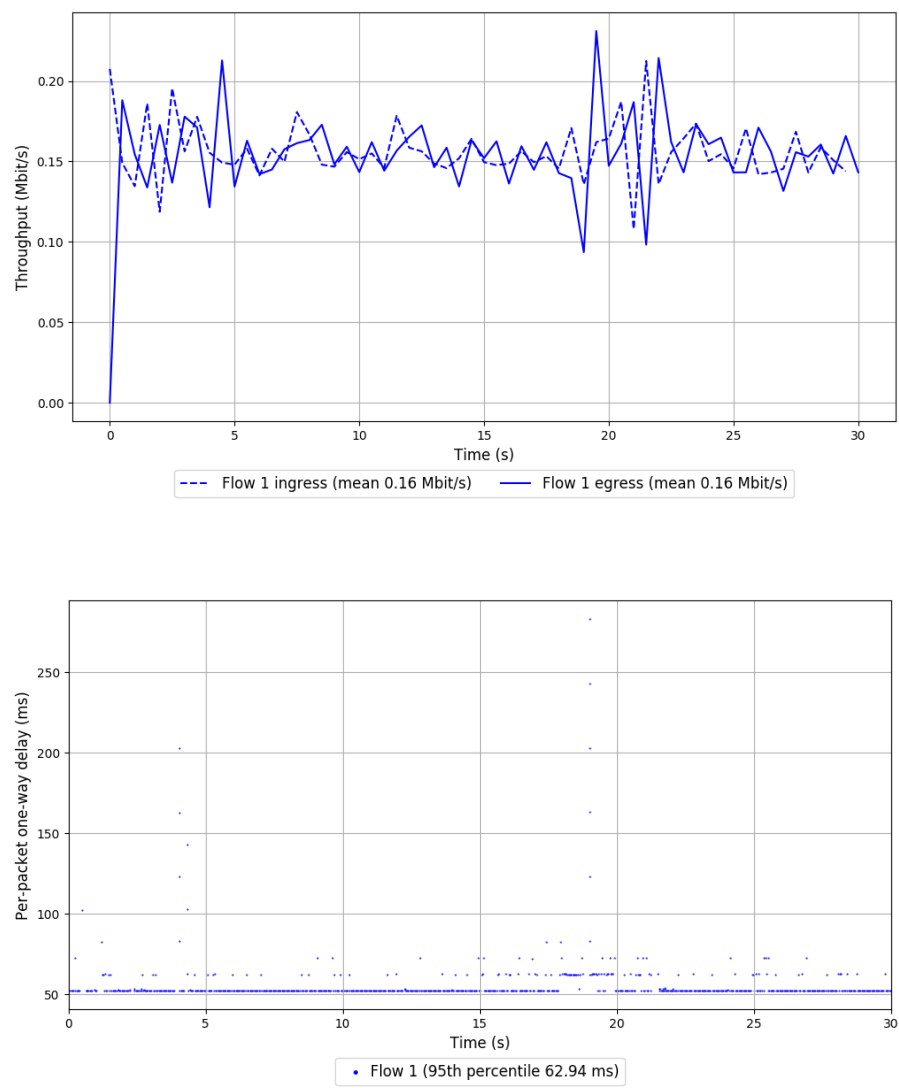
-- Flow 1:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 62.936 ms

Loss rate: 0.13%

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-07-24 05:54:17

End at: 2018-07-24 05:54:47

Local clock offset: -4.137 ms

Remote clock offset: -5.8 ms

Below is generated by plot.py at 2018-07-24 06:27:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 78.915 ms

Loss rate: 0.26%

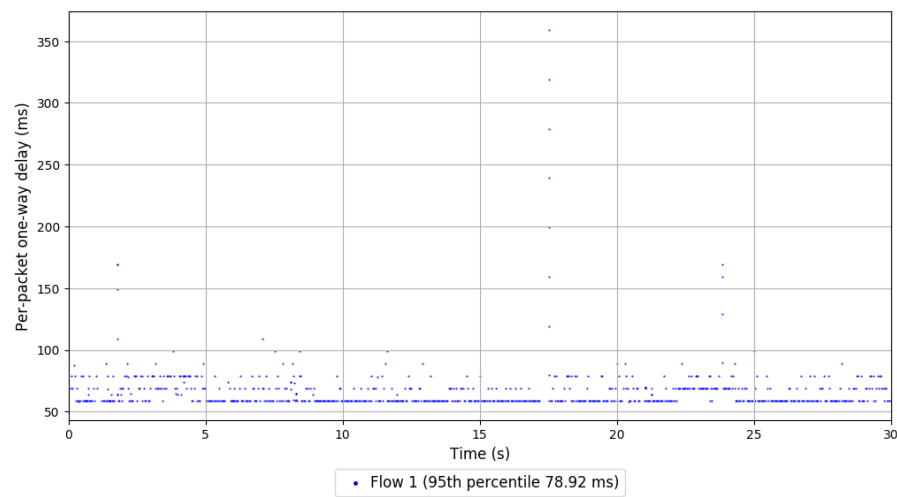
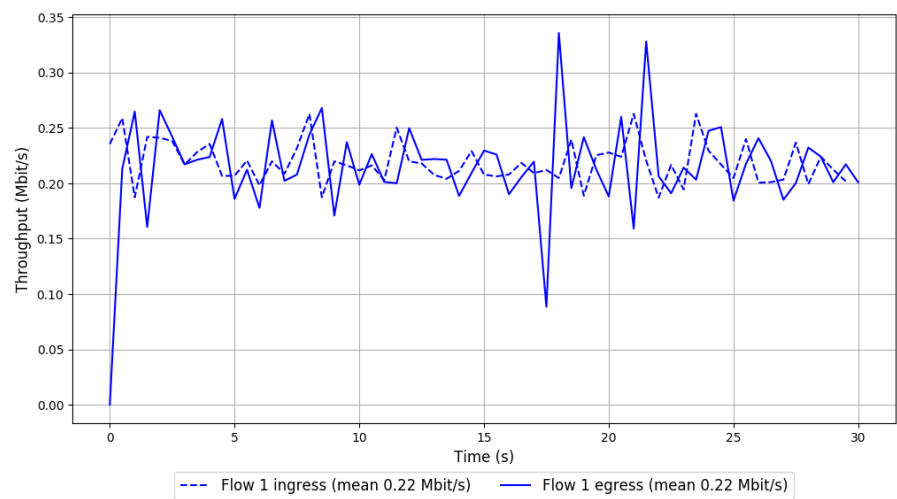
-- Flow 1:

Average throughput: 0.22 Mbit/s

95th percentile per-packet one-way delay: 78.915 ms

Loss rate: 0.26%

Run 2: Report of SReAM — Data Link

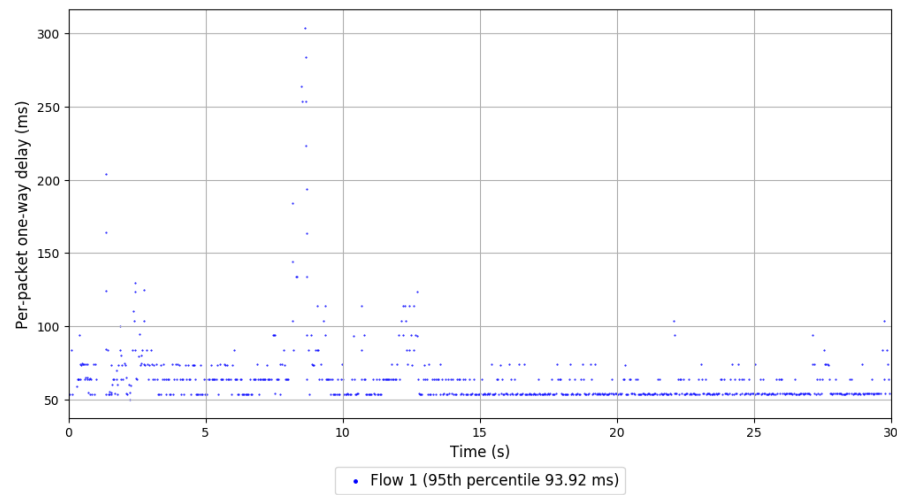
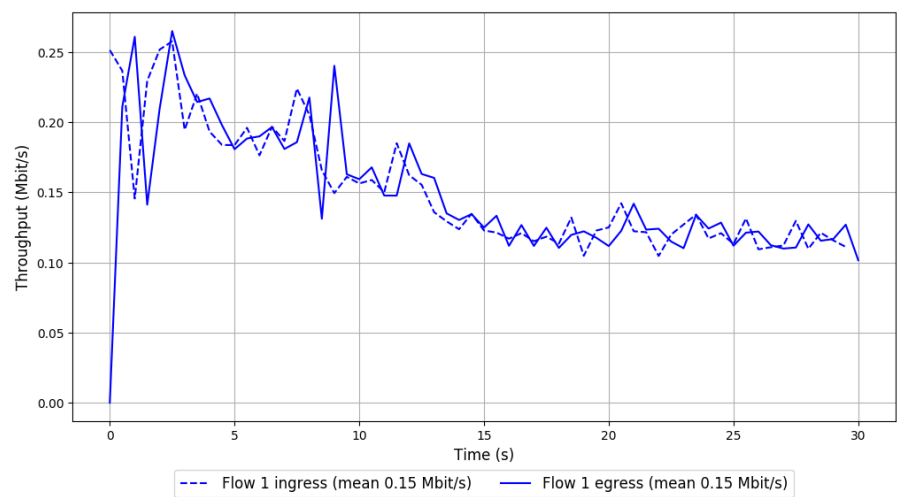


Run 3: Statistics of SCReAM

Start at: 2018-07-24 06:12:46
End at: 2018-07-24 06:13:16
Local clock offset: -0.702 ms
Remote clock offset: -8.849 ms

Below is generated by plot.py at 2018-07-24 06:27:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 93.918 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 93.918 ms
Loss rate: 0.20%

Run 3: Report of SReAM — Data Link

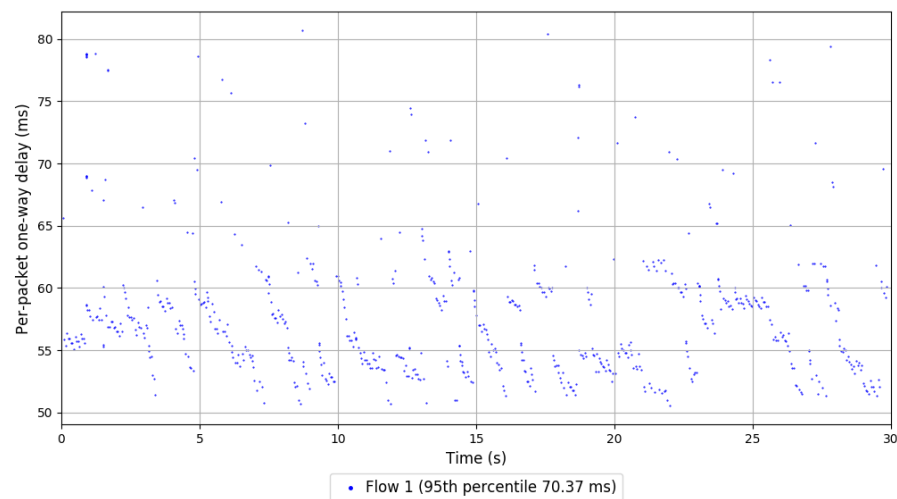
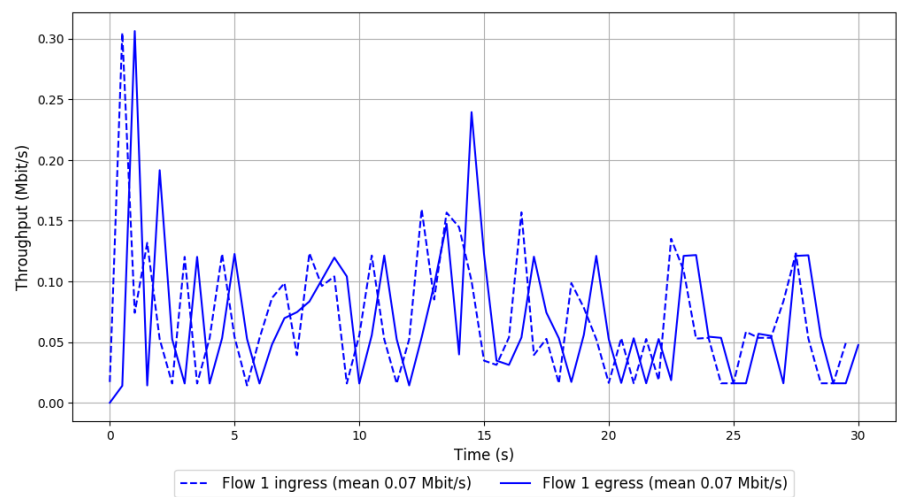


Run 1: Statistics of Sprout

Start at: 2018-07-24 05:34:45
End at: 2018-07-24 05:35:15
Local clock offset: -1.459 ms
Remote clock offset: -5.257 ms

Below is generated by plot.py at 2018-07-24 06:27:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 70.371 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 70.371 ms
Loss rate: 0.08%

Run 1: Report of Sprout — Data Link

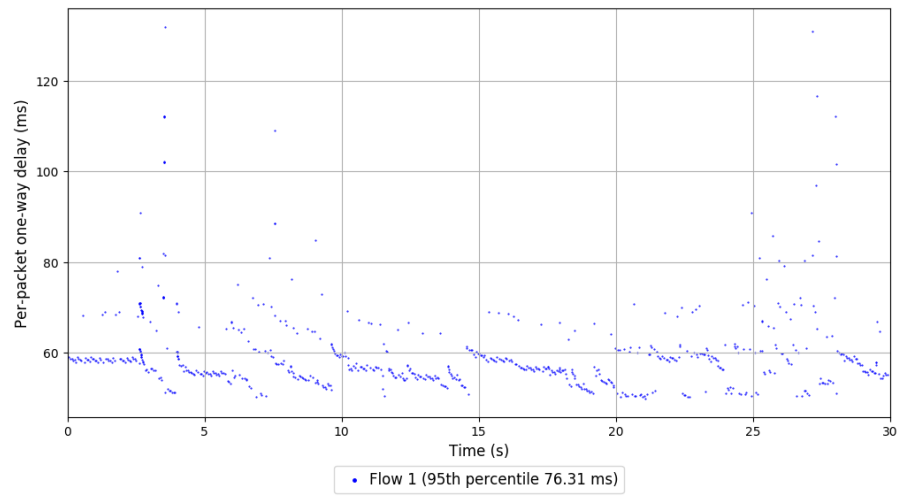
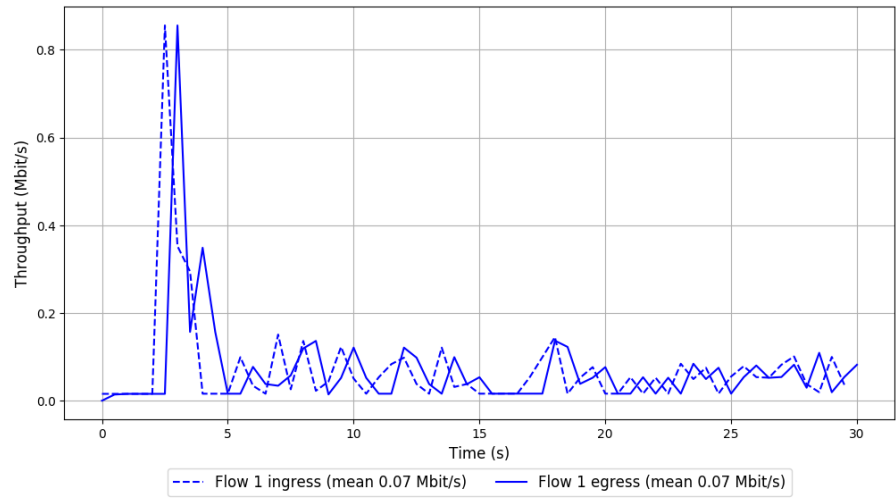


Run 2: Statistics of Sprout

Start at: 2018-07-24 05:53:12
End at: 2018-07-24 05:53:42
Local clock offset: -1.501 ms
Remote clock offset: -8.377 ms

Below is generated by plot.py at 2018-07-24 06:27:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 76.308 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 76.308 ms
Loss rate: 0.04%

Run 2: Report of Sprout — Data Link

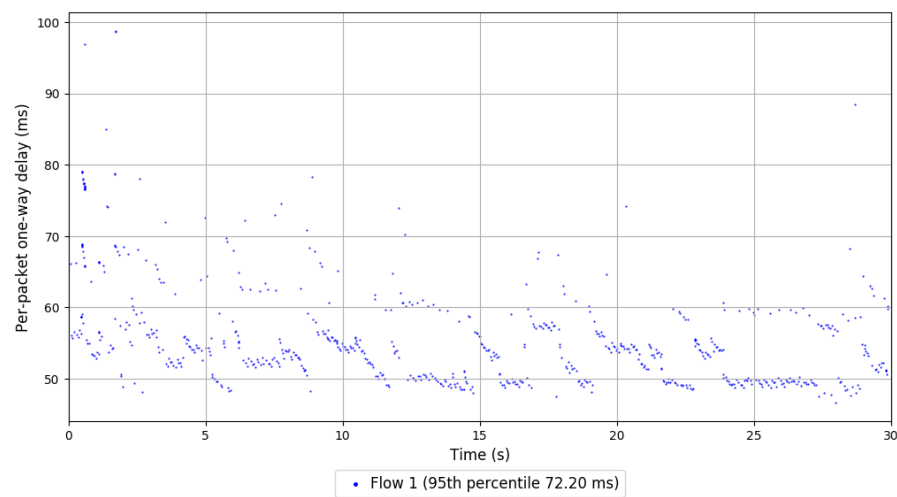
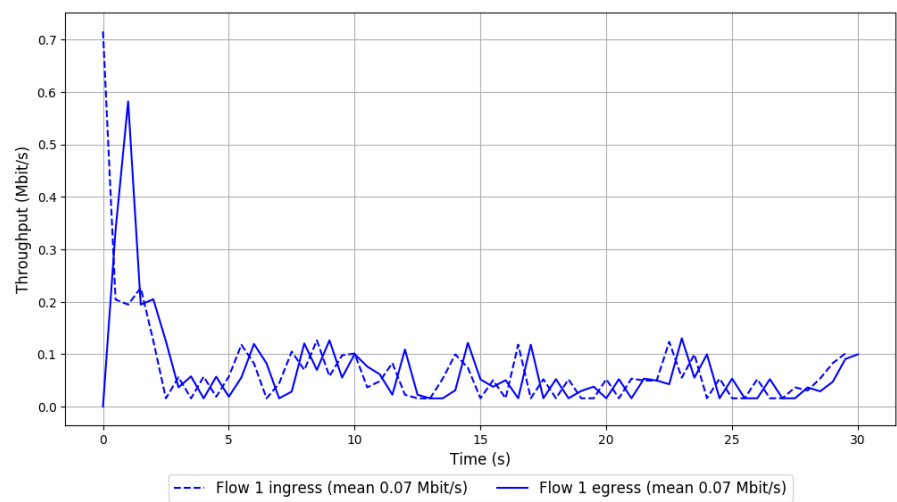


Run 3: Statistics of Sprout

Start at: 2018-07-24 06:11:41
End at: 2018-07-24 06:12:11
Local clock offset: -3.183 ms
Remote clock offset: -14.543 ms

Below is generated by plot.py at 2018-07-24 06:27:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 72.203 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 0.07 Mbit/s
95th percentile per-packet one-way delay: 72.203 ms
Loss rate: 0.07%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-07-24 05:49:58

End at: 2018-07-24 05:50:28

Local clock offset: -1.967 ms

Remote clock offset: 0.722 ms

Below is generated by plot.py at 2018-07-24 06:27:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.79 Mbit/s

95th percentile per-packet one-way delay: 539.578 ms

Loss rate: 3.07%

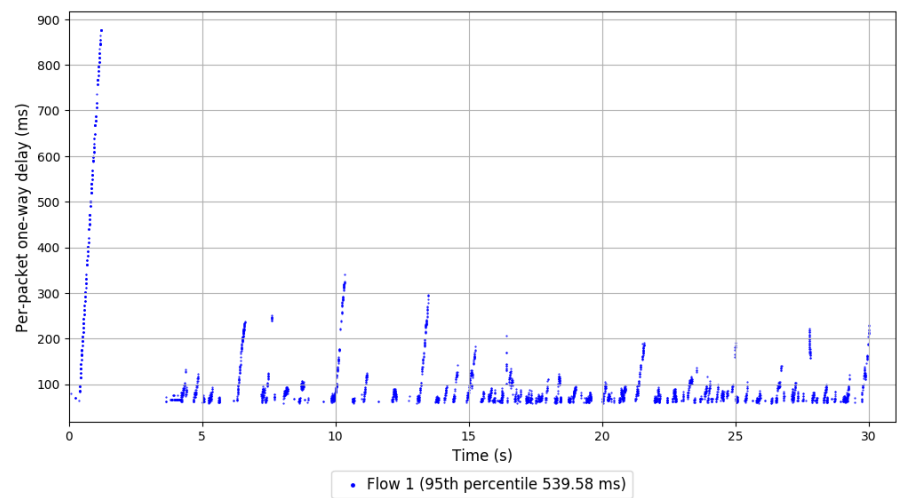
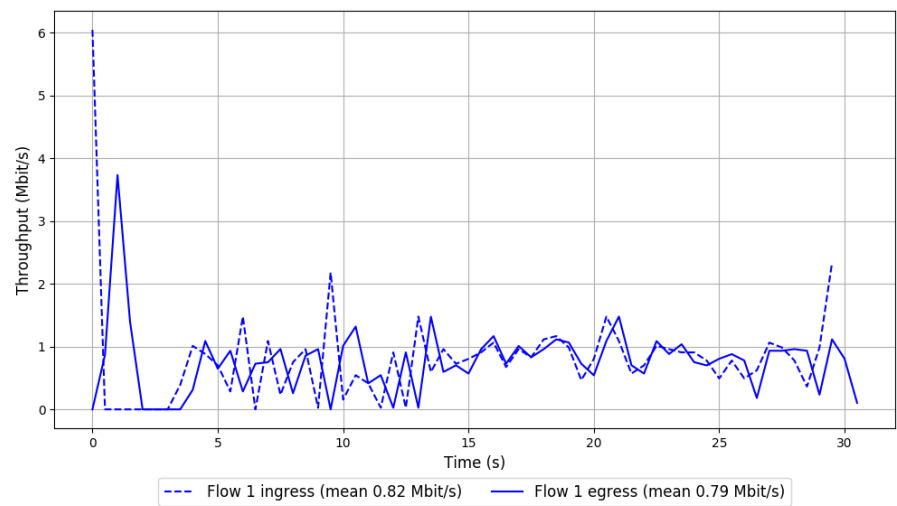
-- Flow 1:

Average throughput: 0.79 Mbit/s

95th percentile per-packet one-way delay: 539.578 ms

Loss rate: 3.07%

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

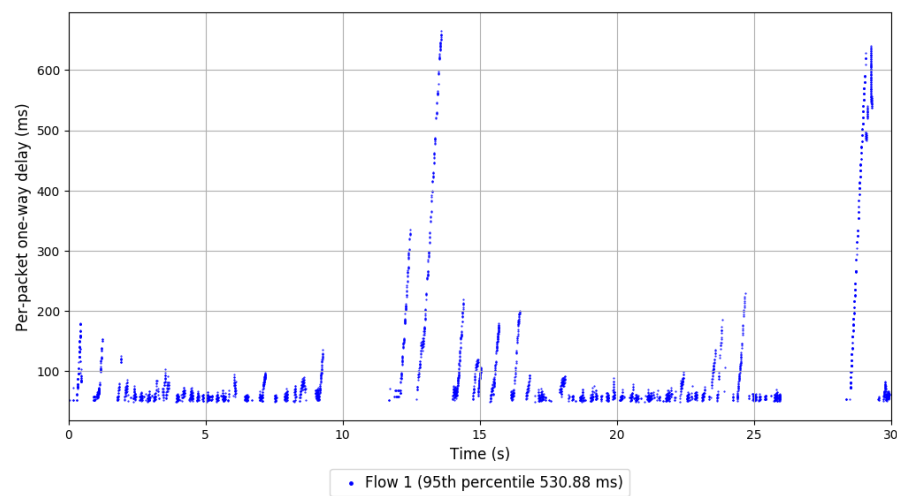
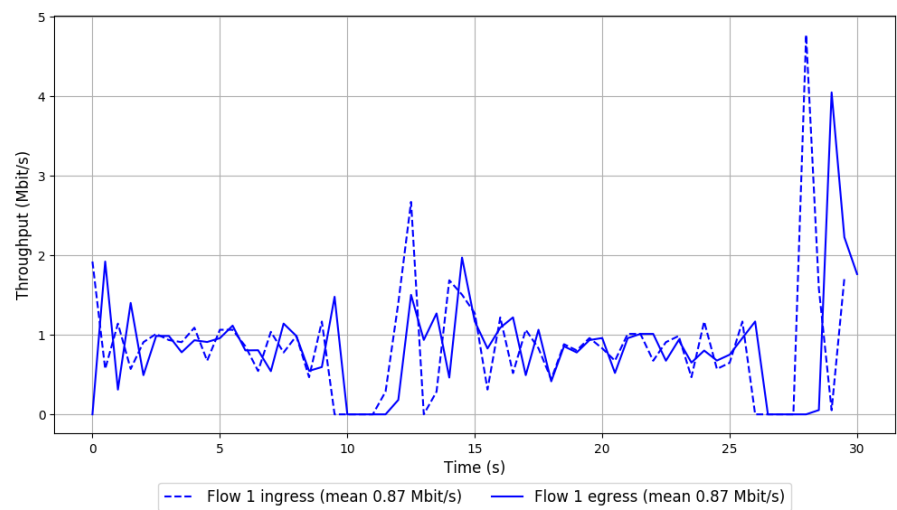


Run 2: Statistics of TaoVA-100x

Start at: 2018-07-24 06:08:21
End at: 2018-07-24 06:08:51
Local clock offset: -1.115 ms
Remote clock offset: -7.968 ms

Below is generated by plot.py at 2018-07-24 06:27:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 530.880 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 530.880 ms
Loss rate: 0.06%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-07-24 06:26:49

End at: 2018-07-24 06:27:19

Local clock offset: -0.593 ms

Remote clock offset: -8.953 ms

Below is generated by plot.py at 2018-07-24 06:27:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 93.306 ms

Loss rate: 0.00%

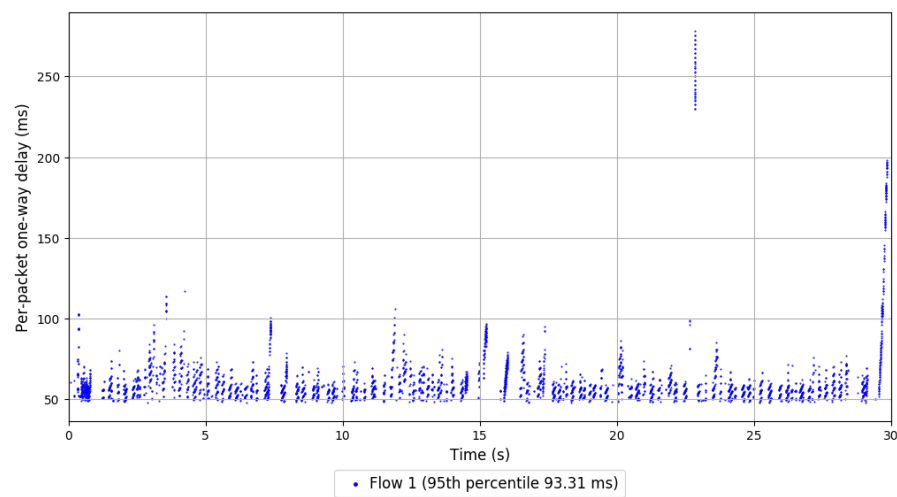
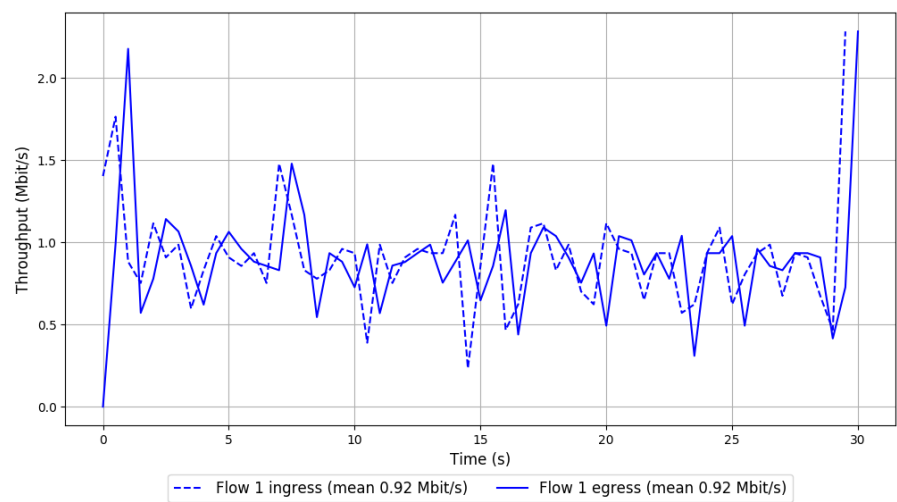
-- Flow 1:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 93.306 ms

Loss rate: 0.00%

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

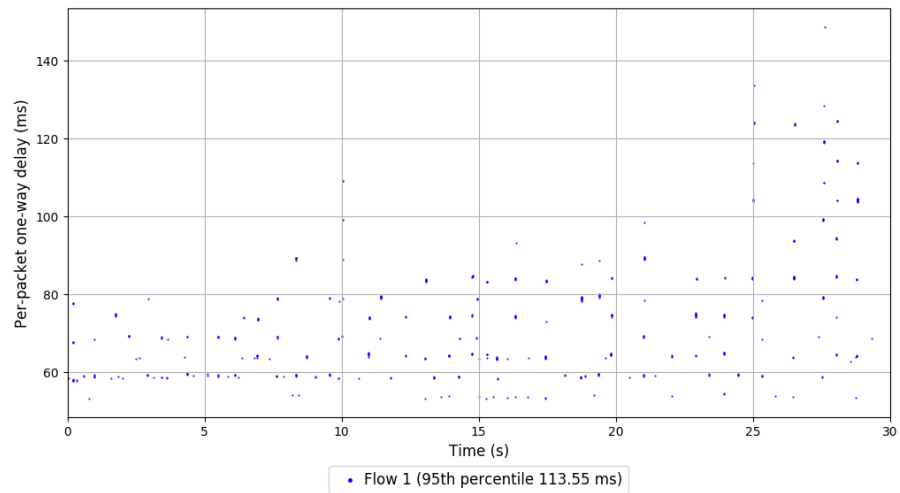
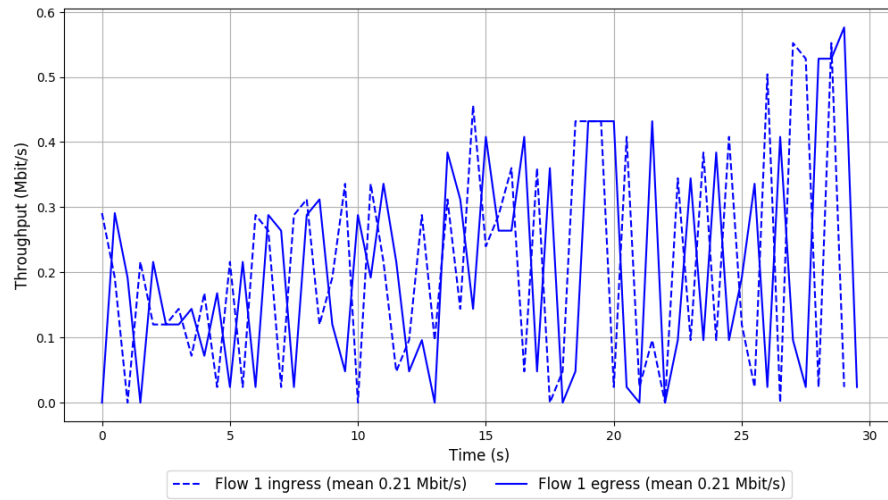


Run 1: Statistics of TCP Vegas

Start at: 2018-07-24 05:43:25
End at: 2018-07-24 05:43:55
Local clock offset: -2.221 ms
Remote clock offset: -5.044 ms

Below is generated by plot.py at 2018-07-24 06:27:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 113.550 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 113.550 ms
Loss rate: 0.00%

Run 1: Report of TCP Vegas — Data Link

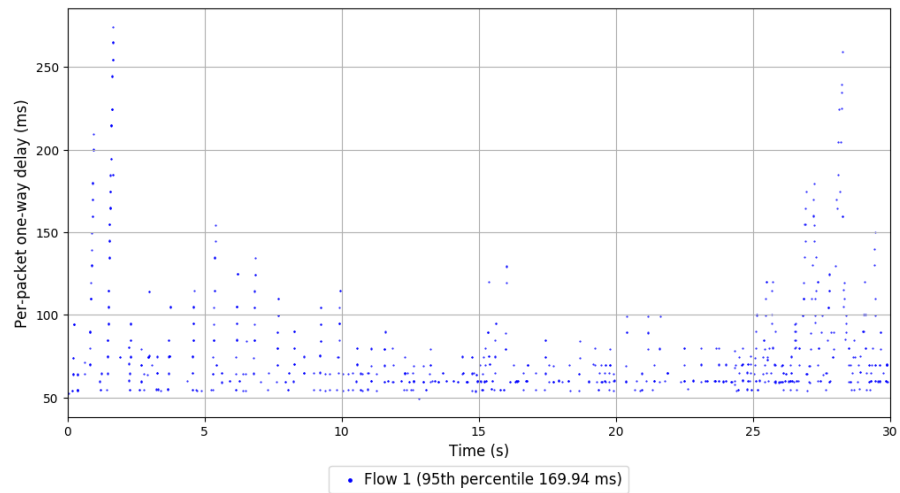
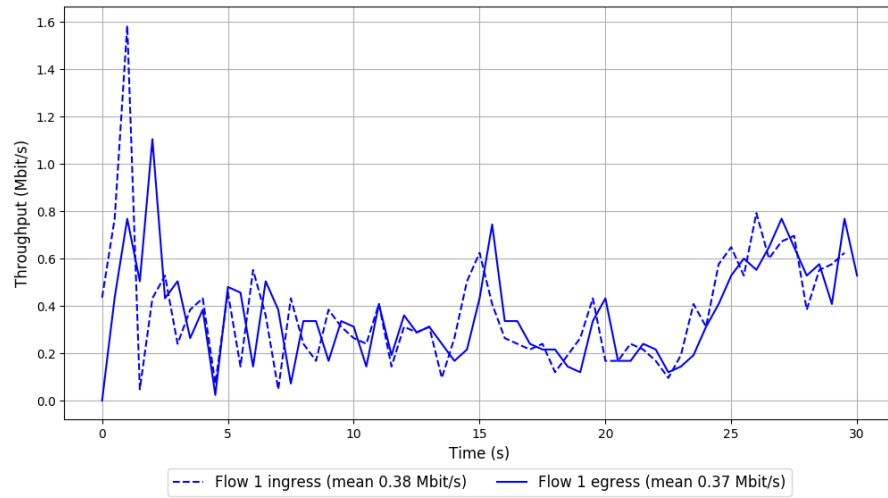


Run 2: Statistics of TCP Vegas

Start at: 2018-07-24 06:01:52
End at: 2018-07-24 06:02:22
Local clock offset: -1.382 ms
Remote clock offset: -9.041 ms

Below is generated by plot.py at 2018-07-24 06:27:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 169.940 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 169.940 ms
Loss rate: 0.53%

Run 2: Report of TCP Vegas — Data Link

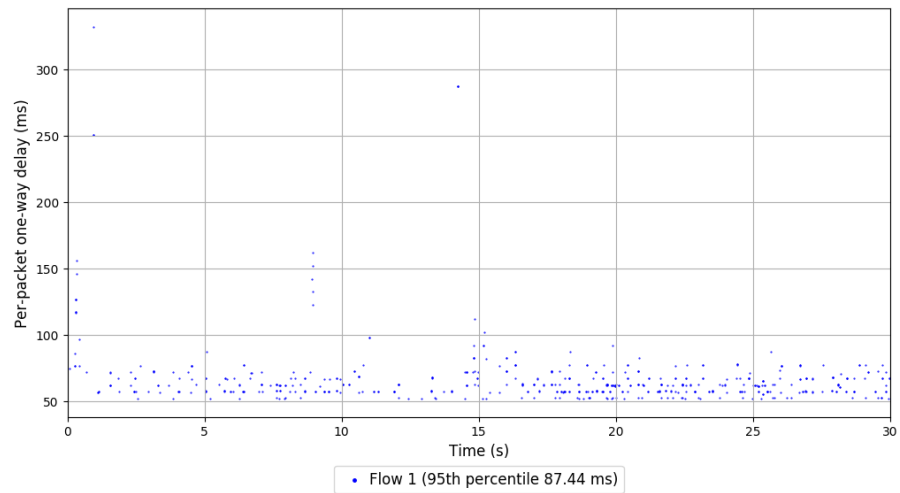
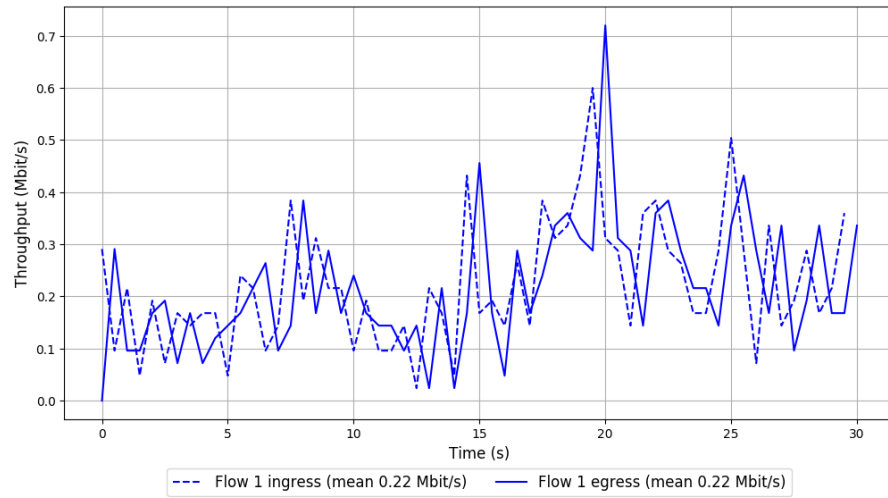


Run 3: Statistics of TCP Vegas

Start at: 2018-07-24 06:20:21
End at: 2018-07-24 06:20:51
Local clock offset: -2.253 ms
Remote clock offset: -9.083 ms

Below is generated by plot.py at 2018-07-24 06:27:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.441 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 87.441 ms
Loss rate: 0.54%

Run 3: Report of TCP Vegas — Data Link

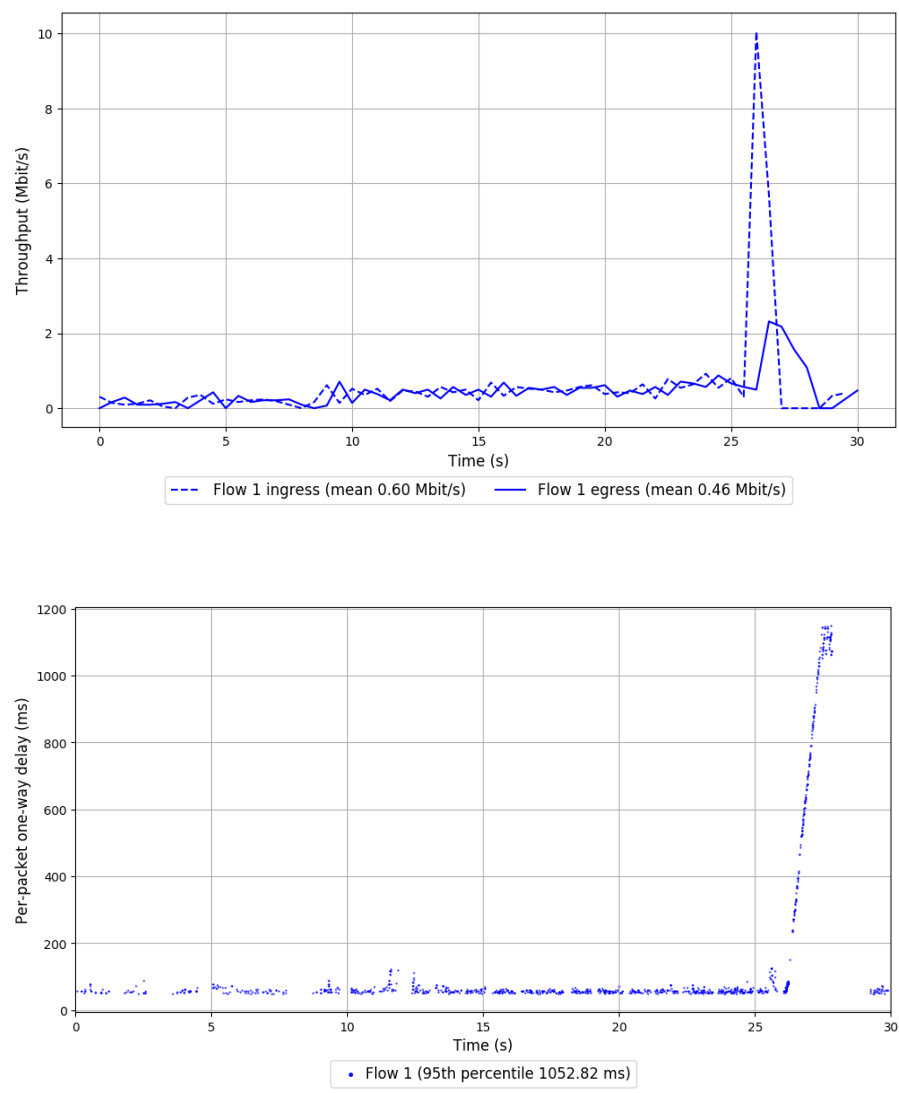


Run 1: Statistics of Verus

Start at: 2018-07-24 05:46:39
End at: 2018-07-24 05:47:09
Local clock offset: -0.14 ms
Remote clock offset: -4.683 ms

Below is generated by plot.py at 2018-07-24 06:27:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 1052.817 ms
Loss rate: 24.08%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 1052.817 ms
Loss rate: 24.08%

Run 1: Report of Verus — Data Link

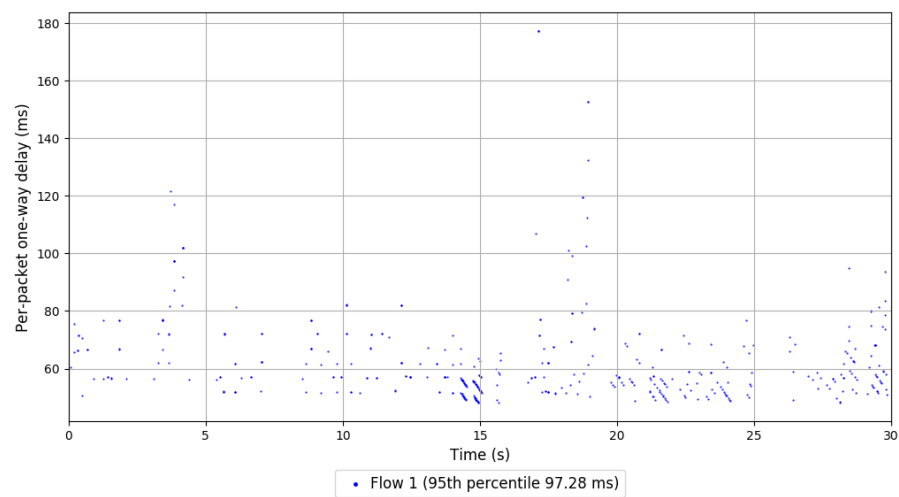
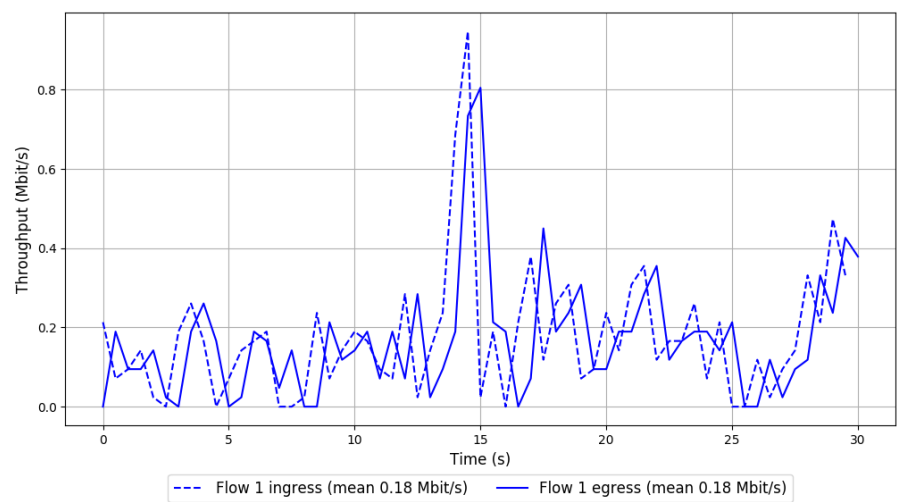


Run 2: Statistics of Verus

Start at: 2018-07-24 06:05:07
End at: 2018-07-24 06:05:37
Local clock offset: 1.541 ms
Remote clock offset: -6.225 ms

Below is generated by plot.py at 2018-07-24 06:27:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 97.277 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 97.277 ms
Loss rate: 0.00%

Run 2: Report of Verus — Data Link

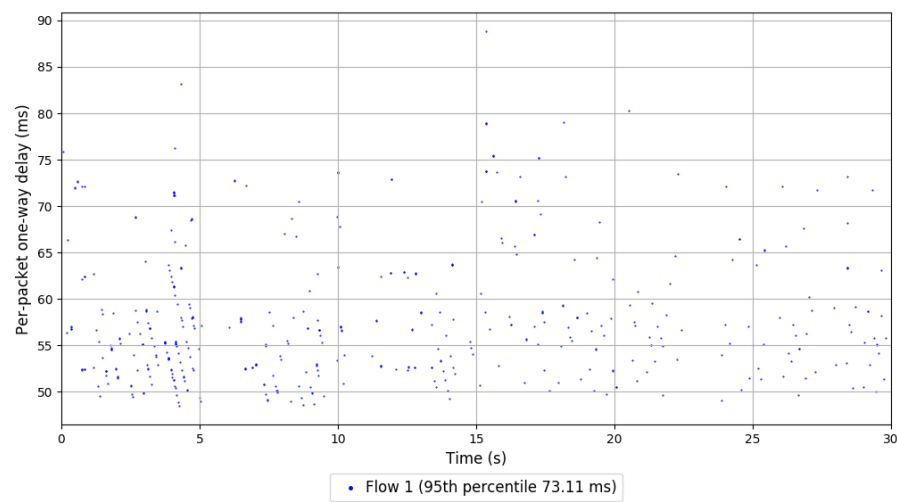
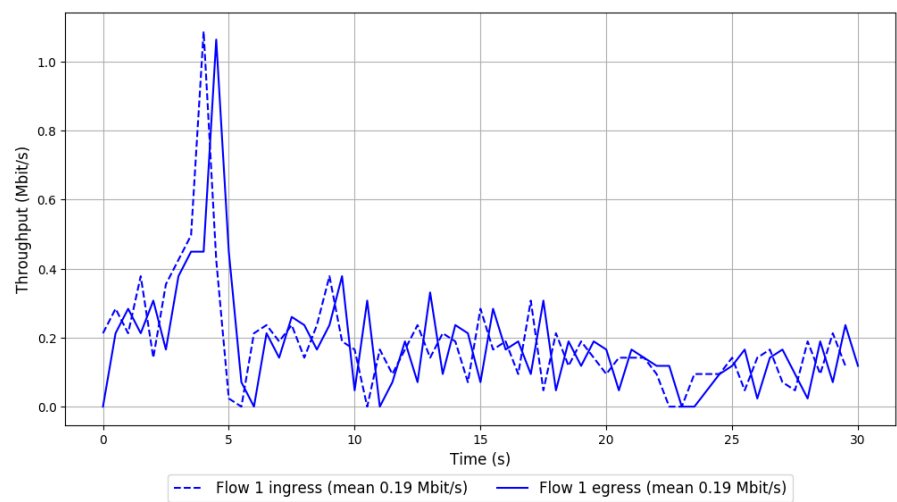


Run 3: Statistics of Verus

Start at: 2018-07-24 06:23:35
End at: 2018-07-24 06:24:05
Local clock offset: -1.095 ms
Remote clock offset: -8.437 ms

Below is generated by plot.py at 2018-07-24 06:27:54
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 73.111 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 73.111 ms
Loss rate: 0.42%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-07-24 05:45:34

End at: 2018-07-24 05:46:04

Local clock offset: -4.425 ms

Remote clock offset: -5.611 ms

Below is generated by plot.py at 2018-07-24 06:27:56

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.31 Mbit/s

95th percentile per-packet one-way delay: 80.198 ms

Loss rate: 0.12%

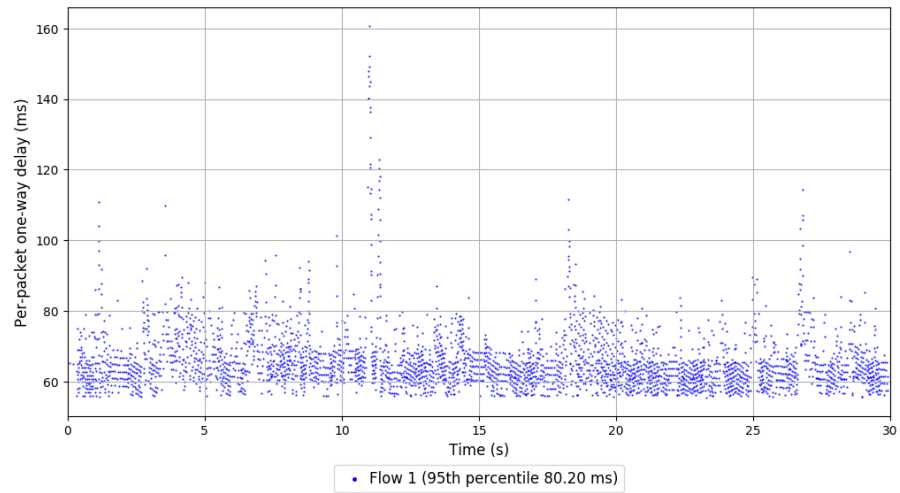
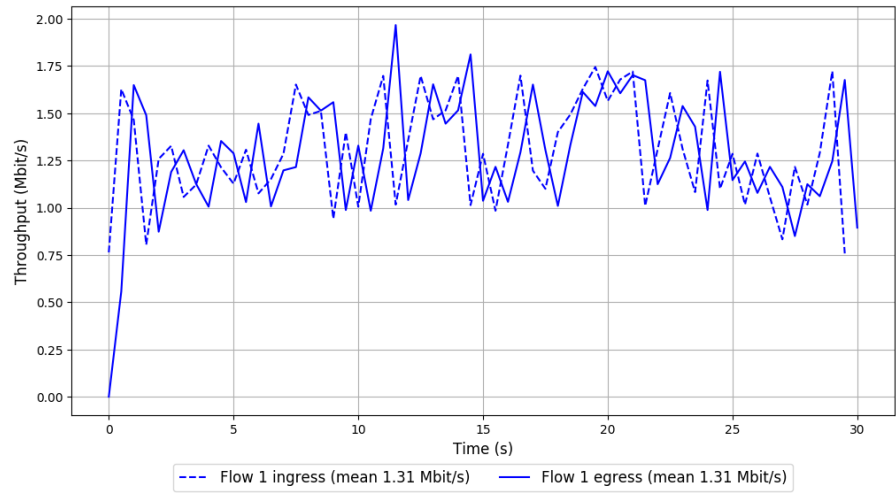
-- Flow 1:

Average throughput: 1.31 Mbit/s

95th percentile per-packet one-way delay: 80.198 ms

Loss rate: 0.12%

Run 1: Report of PCC-Vivace — Data Link

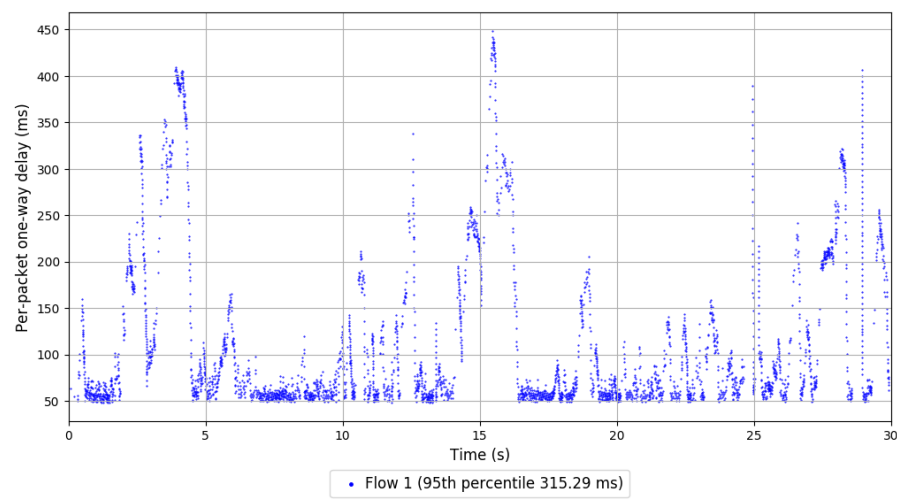
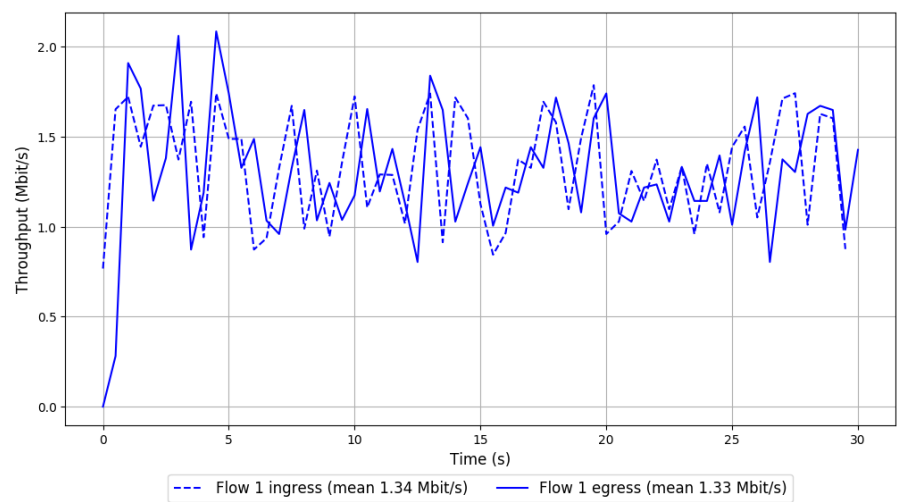


Run 2: Statistics of PCC-Vivace

Start at: 2018-07-24 06:04:02
End at: 2018-07-24 06:04:32
Local clock offset: -0.949 ms
Remote clock offset: -8.514 ms

Below is generated by plot.py at 2018-07-24 06:27:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 315.289 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 315.289 ms
Loss rate: 0.52%

Run 2: Report of PCC-Vivace — Data Link

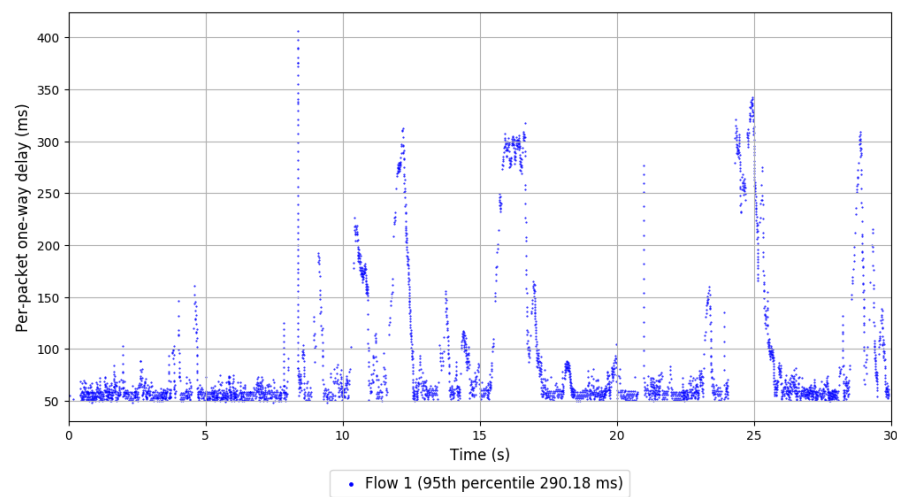
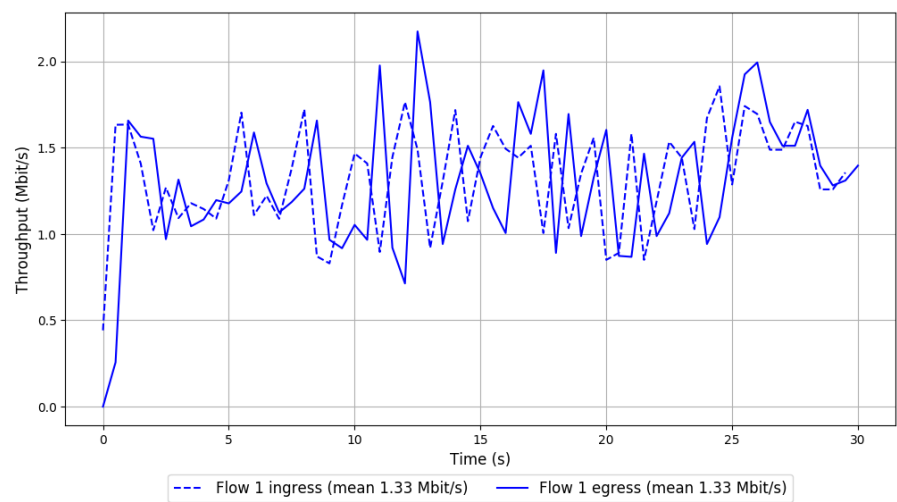


Run 3: Statistics of PCC-Vivace

Start at: 2018-07-24 06:22:30
End at: 2018-07-24 06:23:00
Local clock offset: -2.538 ms
Remote clock offset: -9.106 ms

Below is generated by plot.py at 2018-07-24 06:27:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 290.178 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 290.178 ms
Loss rate: 0.46%

Run 3: Report of PCC-Vivace — Data Link

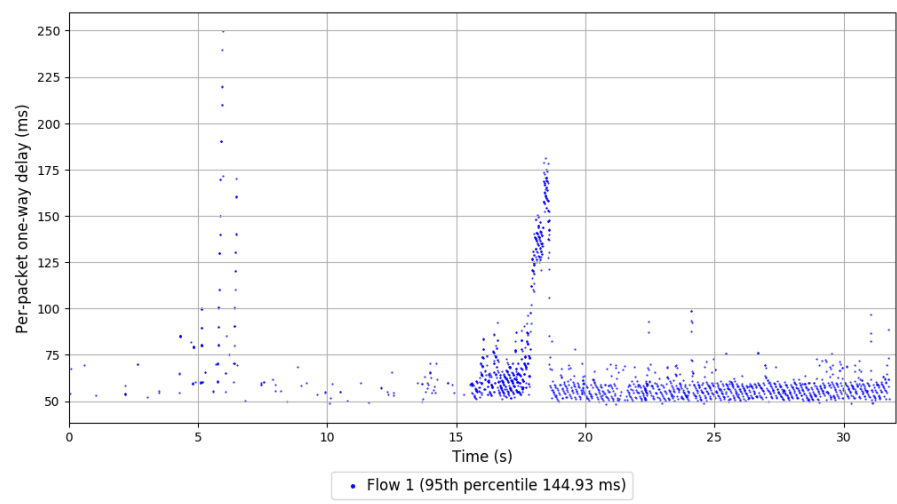
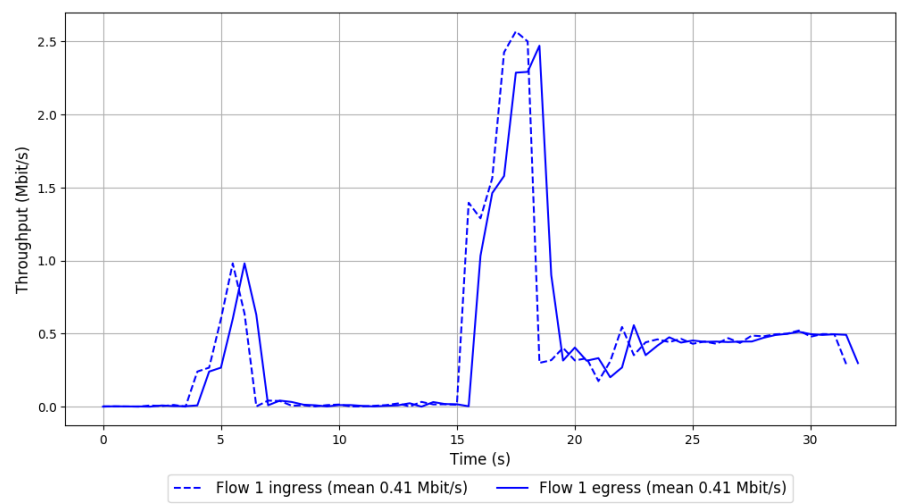


Run 1: Statistics of WebRTC media

Start at: 2018-07-24 05:40:10
End at: 2018-07-24 05:40:40
Local clock offset: 0.859 ms
Remote clock offset: -5.943 ms

Below is generated by plot.py at 2018-07-24 06:27:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 144.929 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 144.929 ms
Loss rate: 0.19%

Run 1: Report of WebRTC media — Data Link

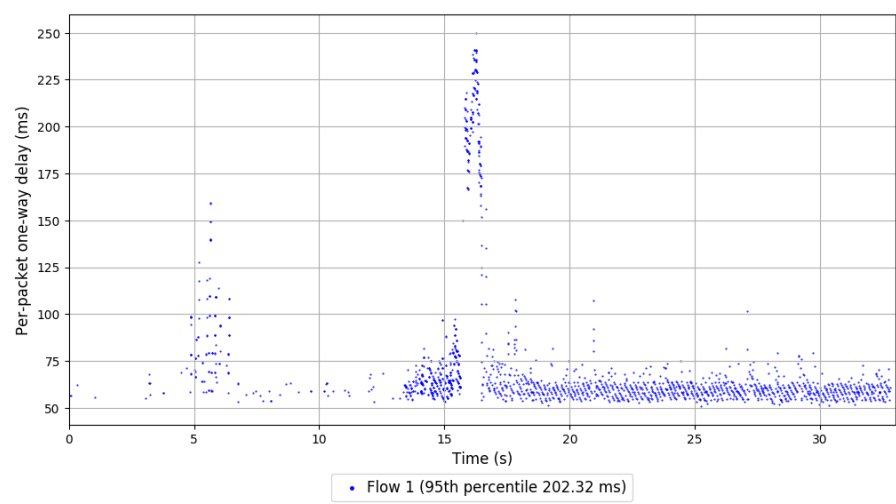
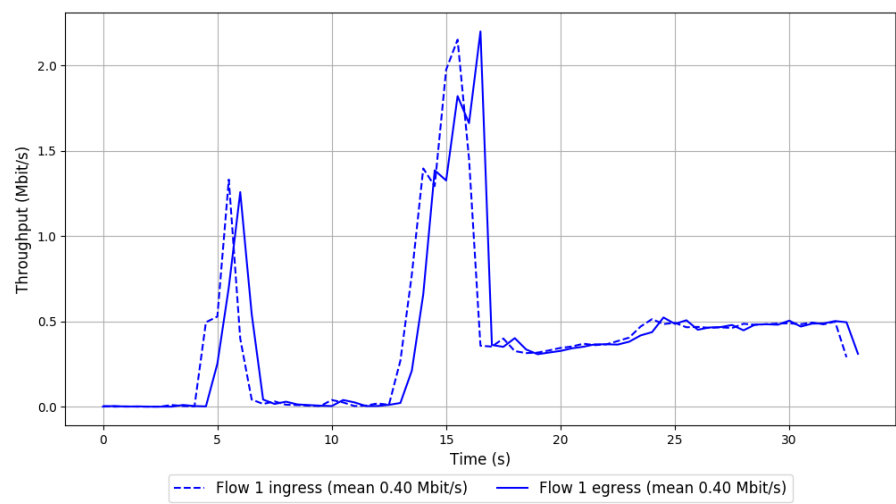


Run 2: Statistics of WebRTC media

Start at: 2018-07-24 05:58:36
End at: 2018-07-24 05:59:06
Local clock offset: -2.72 ms
Remote clock offset: -5.817 ms

Below is generated by plot.py at 2018-07-24 06:27:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 202.324 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 202.324 ms
Loss rate: 0.13%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-07-24 06:17:07
End at: 2018-07-24 06:17:37
Local clock offset: 0.168 ms
Remote clock offset: -9.527 ms

Below is generated by plot.py at 2018-07-24 06:27:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 143.446 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 143.446 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

