

Pantheon Report

Generated at 2018-07-09 19:47:17 (UTC).

Data path: AWS Brazil 2 Ethernet (*local*) → Colombia ppp0 ppp0 (*remote*).

Repeated the test of 17 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

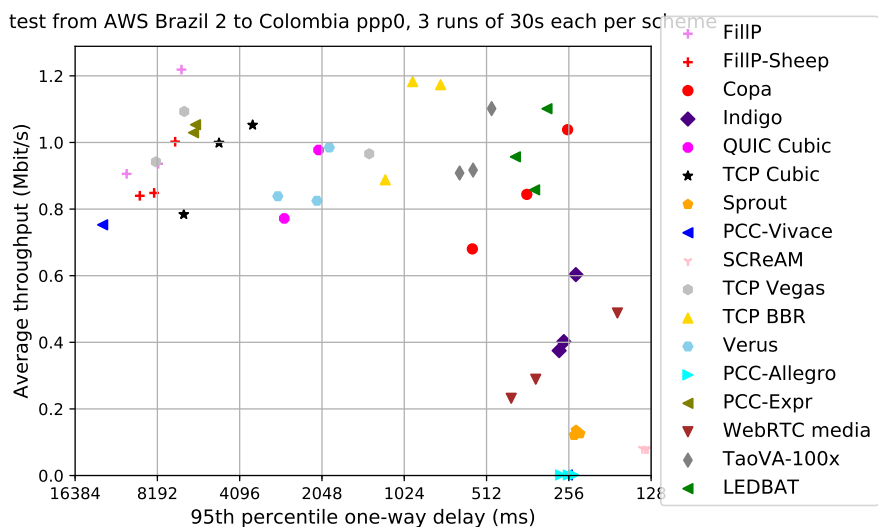
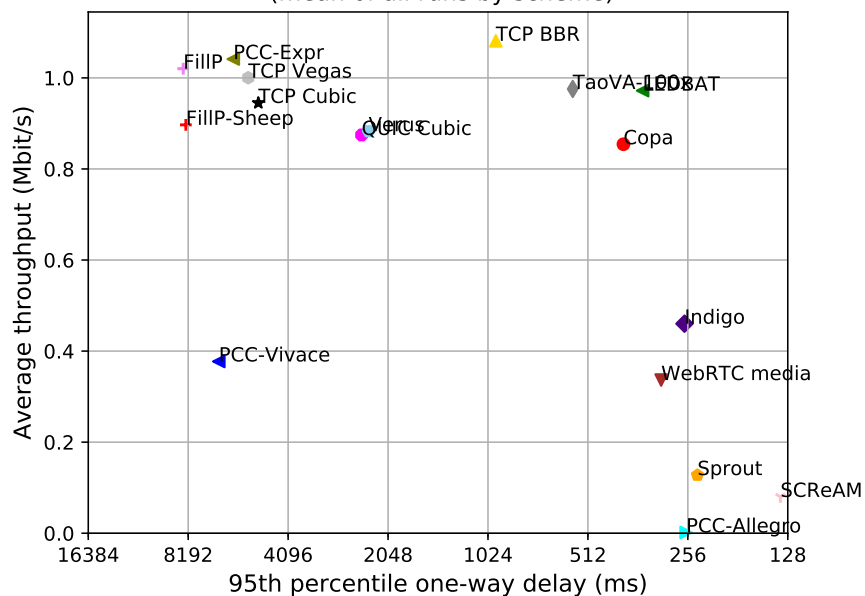
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

NTP offsets were measured against `gps.ntp.br` 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-quick @ 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 Brazil 2 to Colombia 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	1.08	969.86	1.36
Copa	3	0.85	400.17	0.41
TCP Cubic	3	0.94	5035.66	23.55
FillP	3	1.02	8478.43	75.12
FillP-Sheep	3	0.90	8324.66	39.43
Indigo	3	0.46	262.02	0.18
LEDBAT	3	0.97	350.36	0.52
PCC-Allegro	3	0.00	259.02	0.00
PCC-Expr	2	1.04	5992.45	81.40
QUIC Cubic	2	0.88	2460.37	7.35
SCReAM	3	0.08	134.72	0.17
Sprout	3	0.13	239.58	0.16
TaoVA-100x	3	0.98	568.82	0.94
TCP Vegas	3	1.00	5401.56	22.83
Verus	3	0.88	2343.76	6.26
PCC-Vivace	2	0.38	6626.09	25.92
WebRTC media	3	0.34	308.07	0.09

Run 1: Statistics of TCP BBR

Start at: 2018-07-09 19:02:06

End at: 2018-07-09 19:02:36

Local clock offset: -0.15 ms

Remote clock offset: 3.775 ms

Below is generated by plot.py at 2018-07-09 19:46:46

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.89 Mbit/s

95th percentile per-packet one-way delay: 1201.417 ms

Loss rate: 0.58%

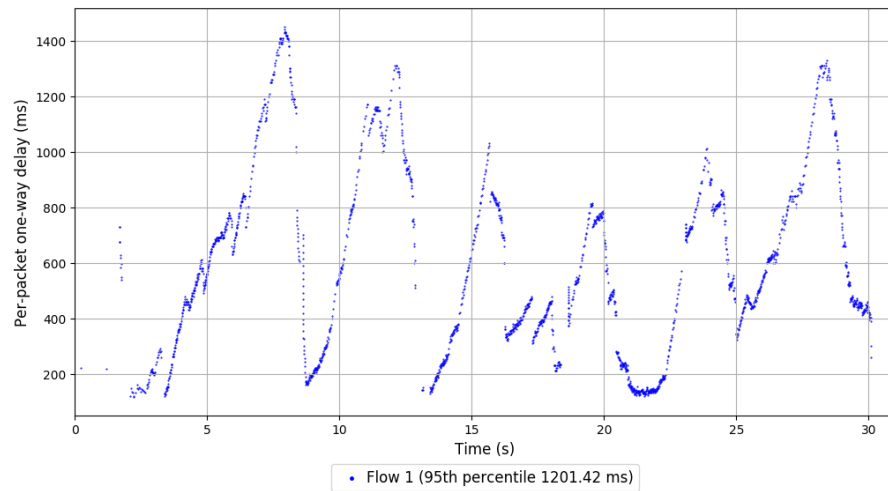
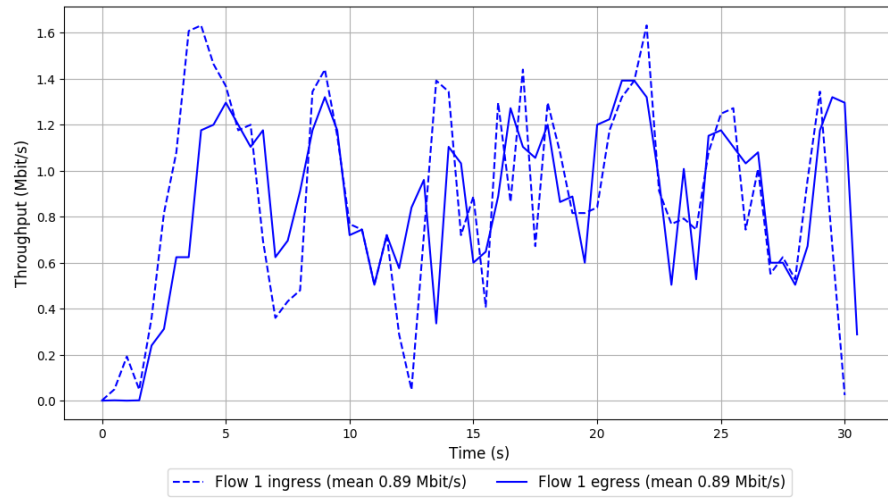
-- Flow 1:

Average throughput: 0.89 Mbit/s

95th percentile per-packet one-way delay: 1201.417 ms

Loss rate: 0.58%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-07-09 19:21:17

End at: 2018-07-09 19:21:47

Local clock offset: -0.498 ms

Remote clock offset: 9.385 ms

Below is generated by plot.py at 2018-07-09 19:46:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.17 Mbit/s

95th percentile per-packet one-way delay: 754.092 ms

Loss rate: 2.15%

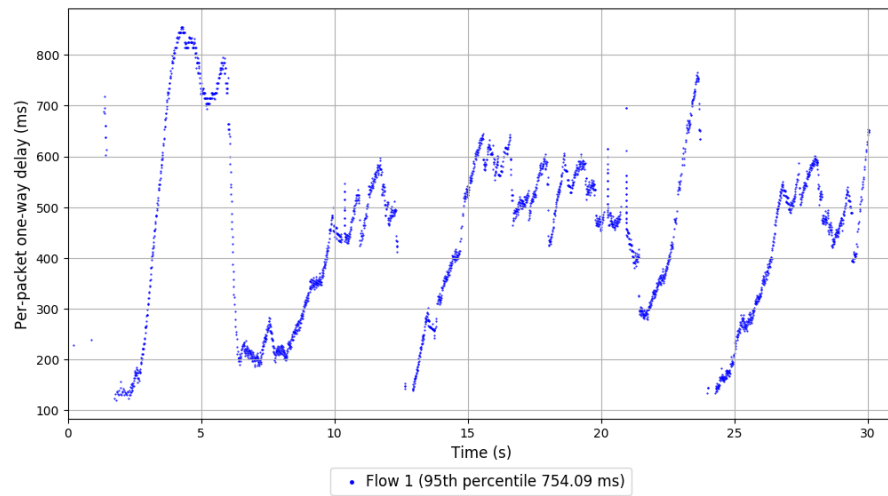
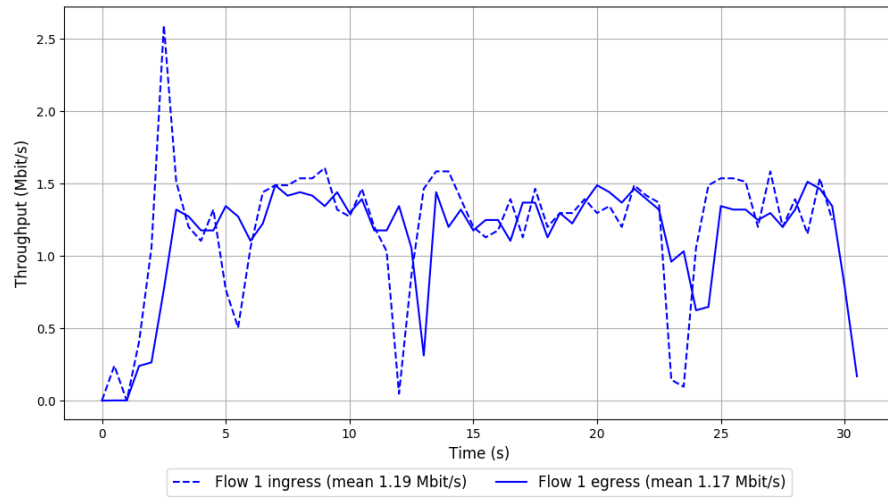
-- Flow 1:

Average throughput: 1.17 Mbit/s

95th percentile per-packet one-way delay: 754.092 ms

Loss rate: 2.15%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-07-09 19:40:29

End at: 2018-07-09 19:40:59

Local clock offset: -0.534 ms

Remote clock offset: 3.136 ms

Below is generated by plot.py at 2018-07-09 19:46:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.18 Mbit/s

95th percentile per-packet one-way delay: 954.074 ms

Loss rate: 1.34%

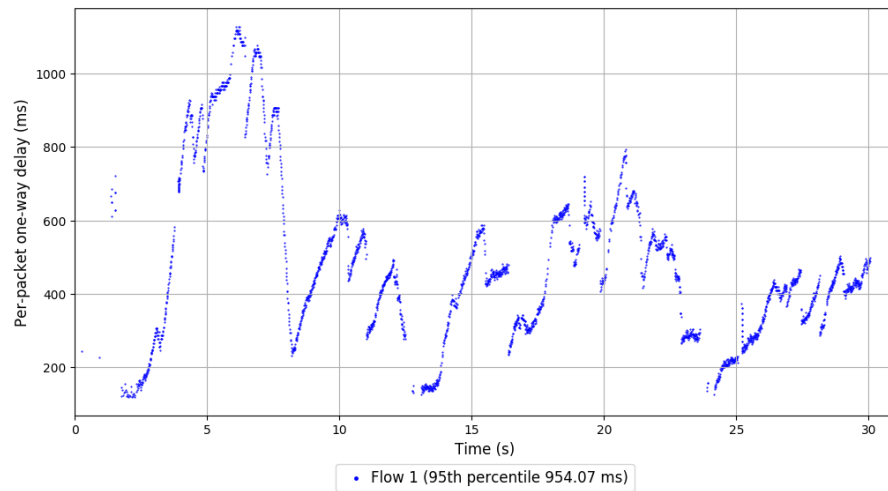
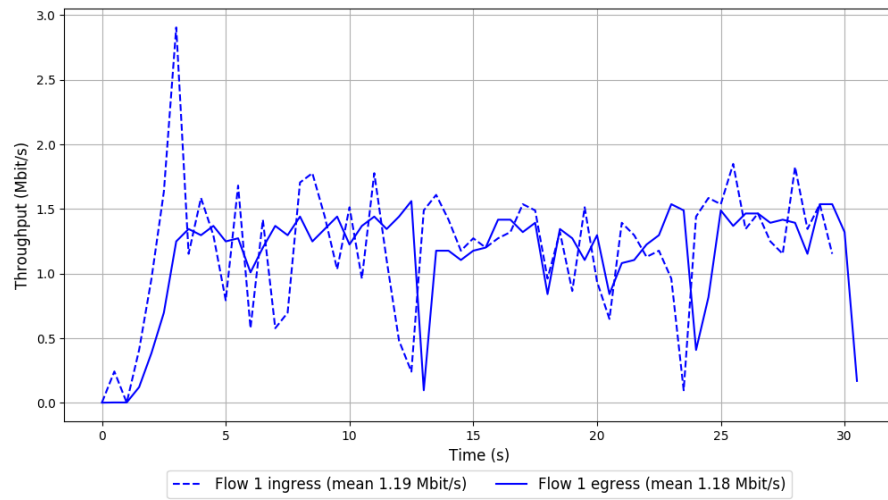
-- Flow 1:

Average throughput: 1.18 Mbit/s

95th percentile per-packet one-way delay: 954.074 ms

Loss rate: 1.34%

Run 3: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-07-09 18:59:51

End at: 2018-07-09 19:00:21

Local clock offset: -0.345 ms

Remote clock offset: 3.595 ms

Below is generated by plot.py at 2018-07-09 19:46:47

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.68 Mbit/s

95th percentile per-packet one-way delay: 577.036 ms

Loss rate: 0.44%

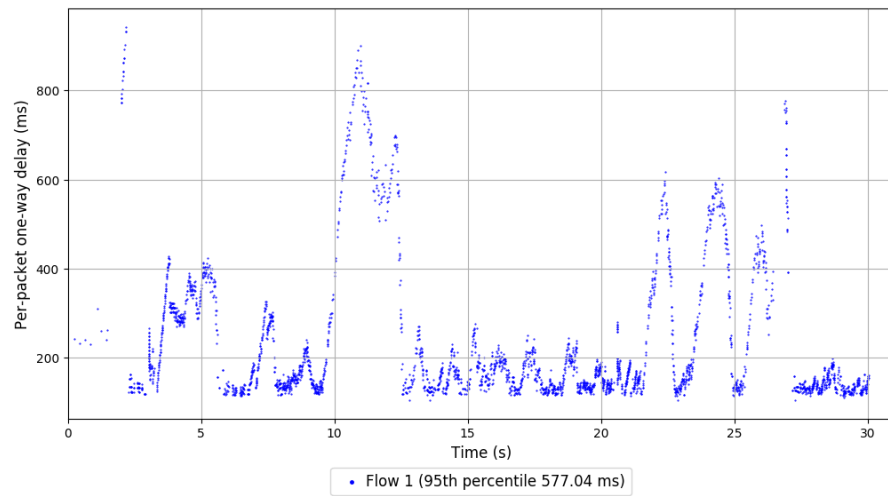
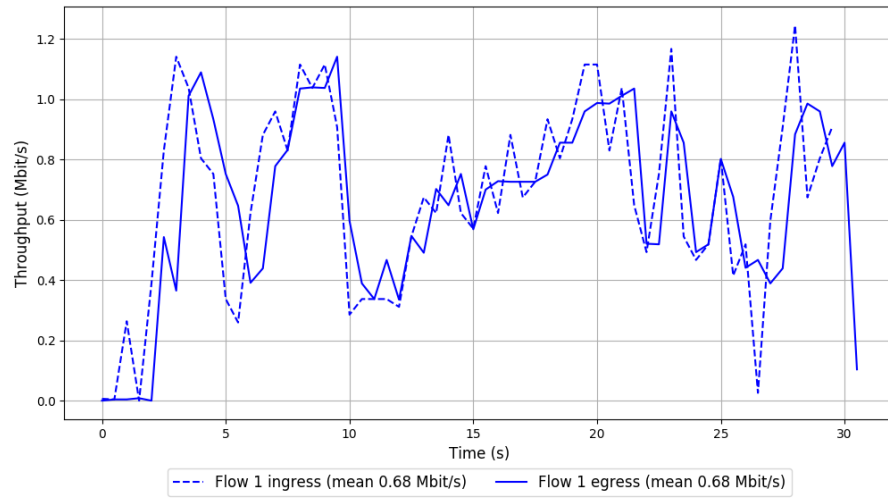
-- Flow 1:

Average throughput: 0.68 Mbit/s

95th percentile per-packet one-way delay: 577.036 ms

Loss rate: 0.44%

Run 1: Report of Copa — Data Link

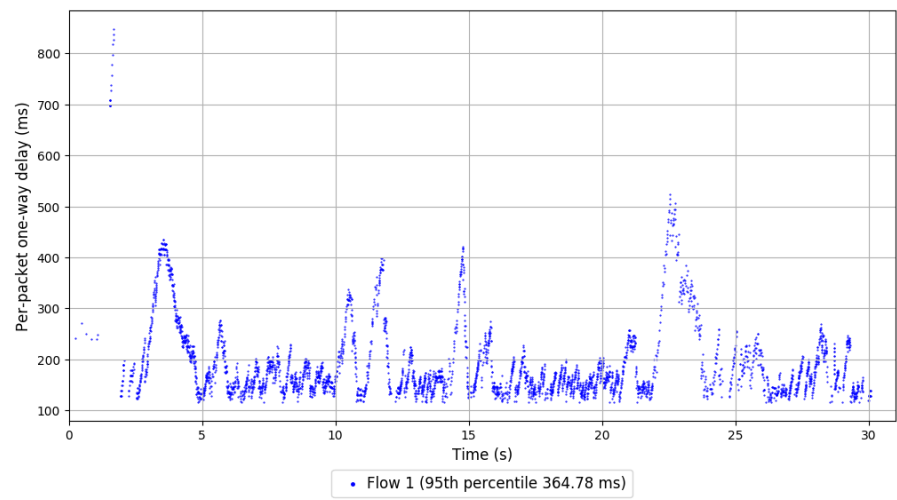
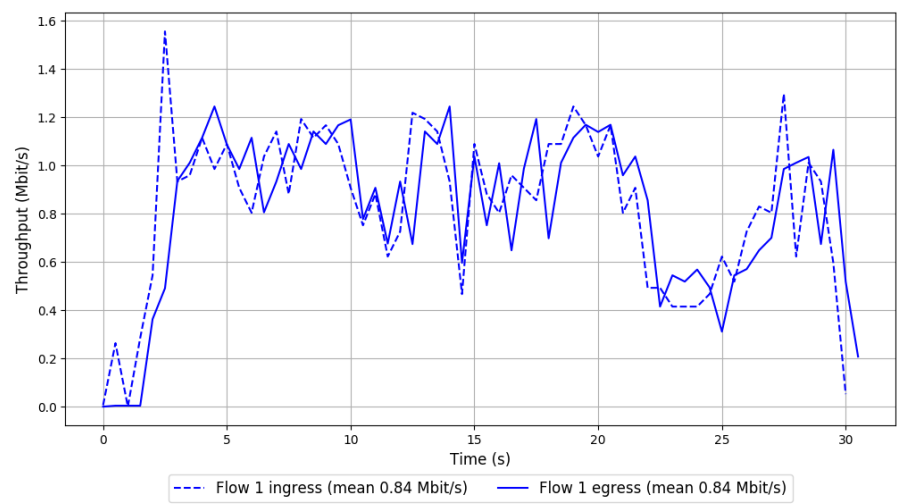


Run 2: Statistics of Copa

Start at: 2018-07-09 19:19:01
End at: 2018-07-09 19:19:31
Local clock offset: -0.497 ms
Remote clock offset: 4.328 ms

Below is generated by plot.py at 2018-07-09 19:46:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 364.778 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 364.778 ms
Loss rate: 0.46%

Run 2: Report of Copa — Data Link

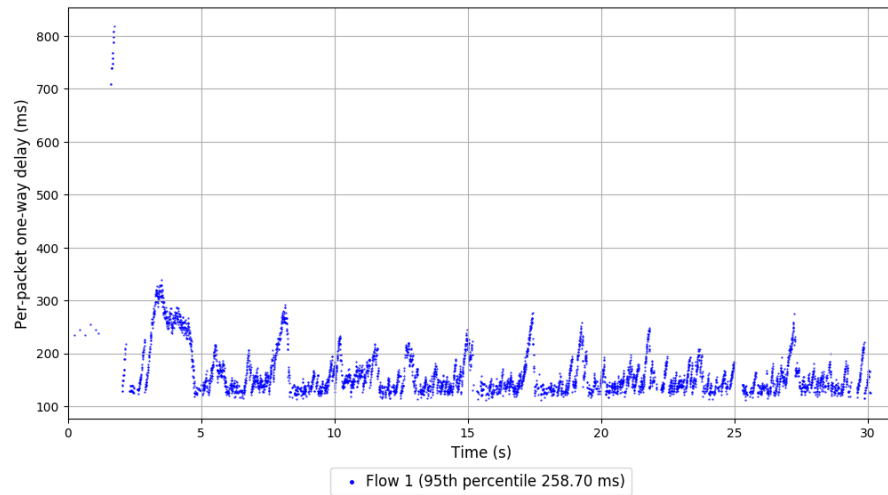
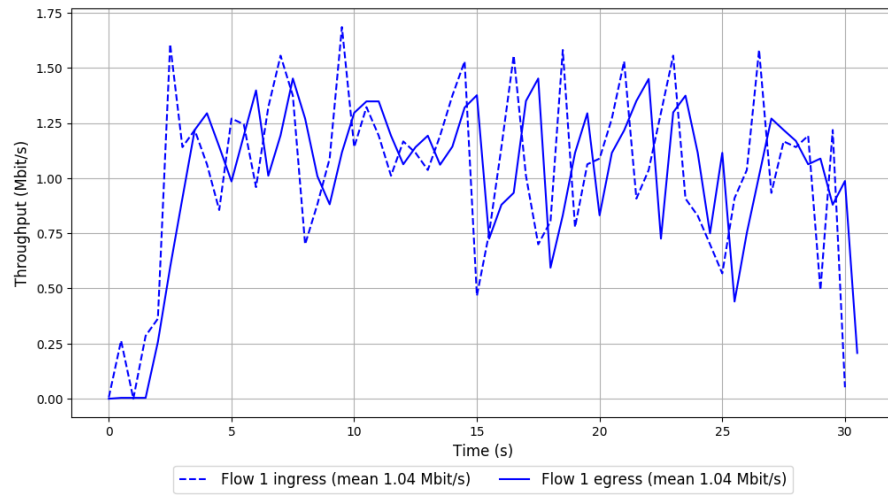


Run 3: Statistics of Copa

Start at: 2018-07-09 19:38:14
End at: 2018-07-09 19:38:44
Local clock offset: -0.532 ms
Remote clock offset: 7.086 ms

Below is generated by plot.py at 2018-07-09 19:46:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 258.696 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 1.04 Mbit/s
95th percentile per-packet one-way delay: 258.696 ms
Loss rate: 0.33%

Run 3: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-07-09 18:54:12

End at: 2018-07-09 18:54:42

Local clock offset: -4.404 ms

Remote clock offset: 4.226 ms

Below is generated by plot.py at 2018-07-09 19:46:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.78 Mbit/s

95th percentile per-packet one-way delay: 6559.053 ms

Loss rate: 28.26%

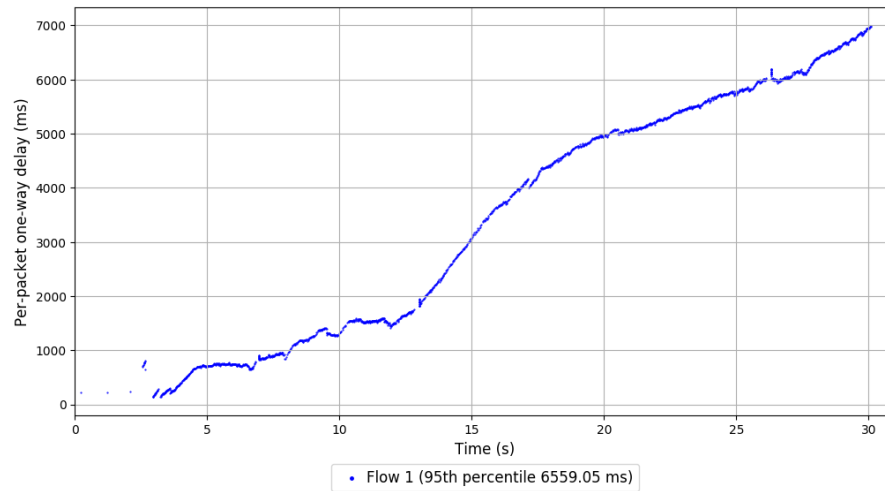
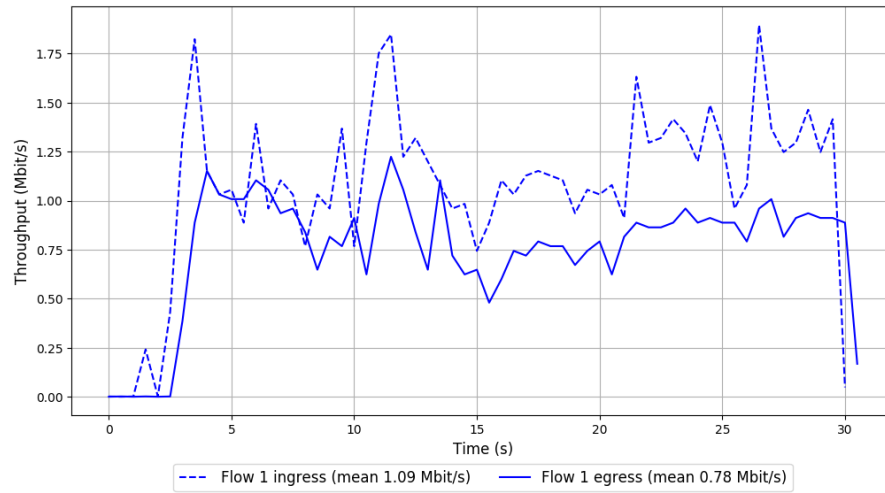
-- Flow 1:

Average throughput: 0.78 Mbit/s

95th percentile per-packet one-way delay: 6559.053 ms

Loss rate: 28.26%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-07-09 19:13:22

End at: 2018-07-09 19:13:52

Local clock offset: -0.251 ms

Remote clock offset: 4.168 ms

Below is generated by plot.py at 2018-07-09 19:46:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.05 Mbit/s

95th percentile per-packet one-way delay: 3673.032 ms

Loss rate: 19.80%

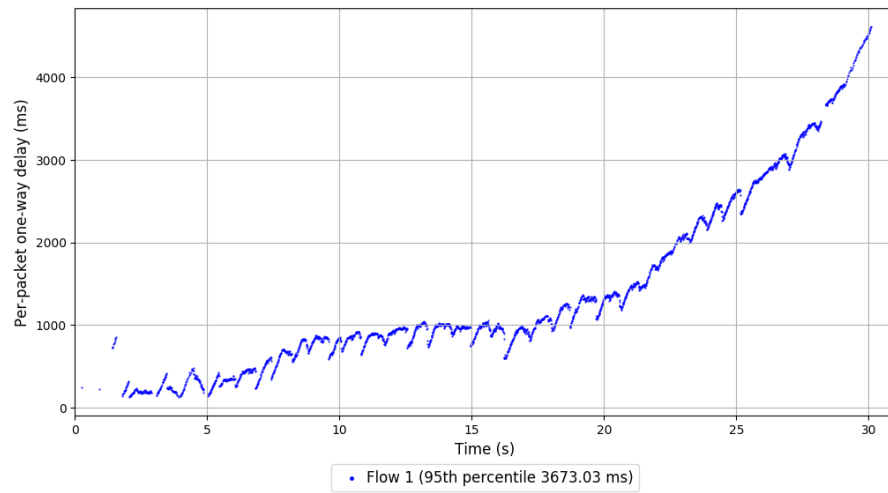
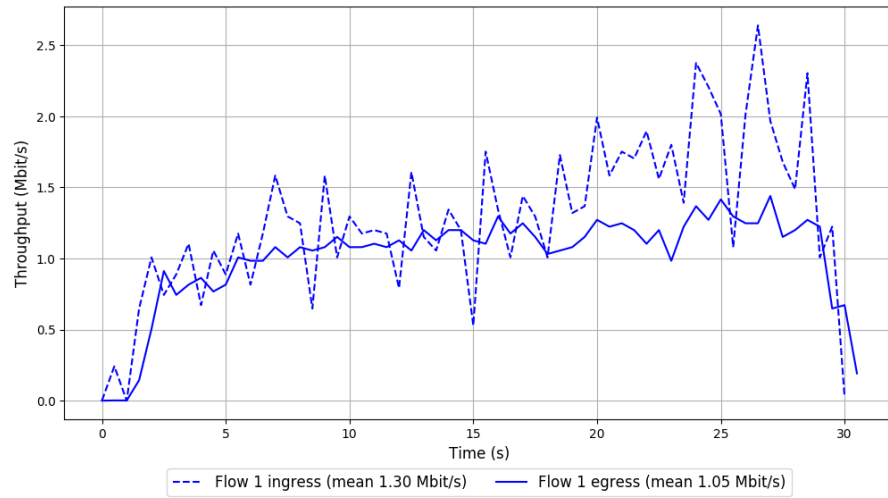
-- Flow 1:

Average throughput: 1.05 Mbit/s

95th percentile per-packet one-way delay: 3673.032 ms

Loss rate: 19.80%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-07-09 19:32:37

End at: 2018-07-09 19:33:07

Local clock offset: -0.625 ms

Remote clock offset: 3.488 ms

Below is generated by plot.py at 2018-07-09 19:46:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.00 Mbit/s

95th percentile per-packet one-way delay: 4874.884 ms

Loss rate: 22.58%

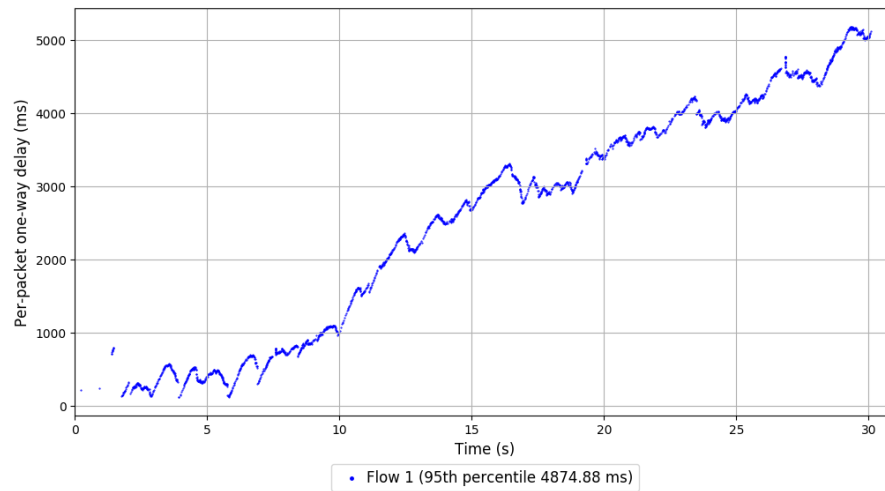
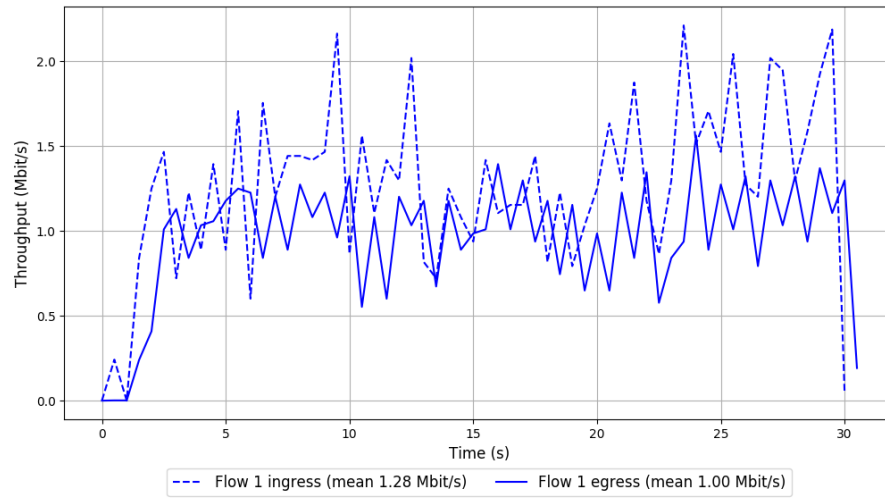
-- Flow 1:

Average throughput: 1.00 Mbit/s

95th percentile per-packet one-way delay: 4874.884 ms

Loss rate: 22.58%

Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

Start at: 2018-07-09 18:58:44

End at: 2018-07-09 18:59:14

Local clock offset: -0.246 ms

Remote clock offset: 8.616 ms

Below is generated by plot.py at 2018-07-09 19:46:51

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 10611.633 ms

Loss rate: 51.07%

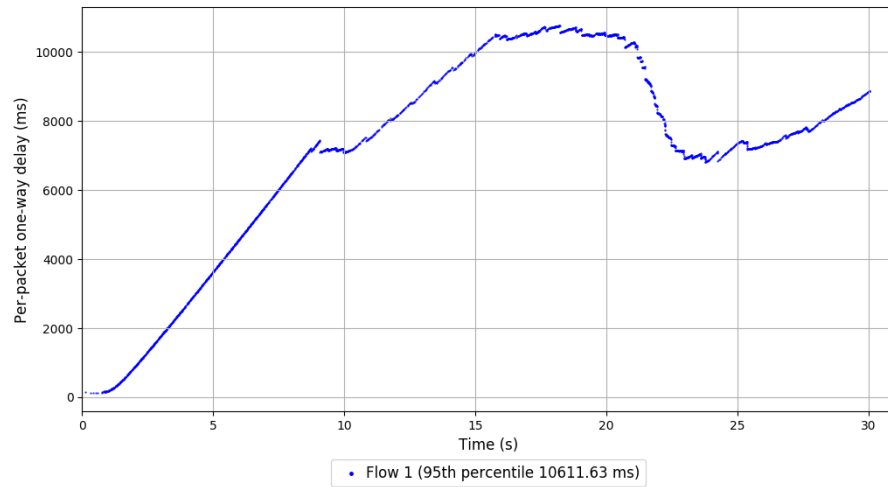
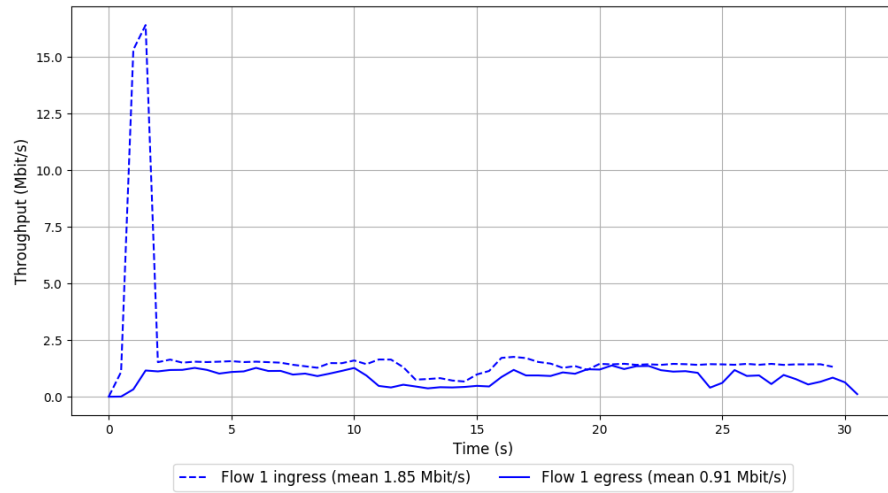
-- Flow 1:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 10611.633 ms

Loss rate: 51.07%

Run 1: Report of FillP — Data Link



Run 2: Statistics of FillP

Start at: 2018-07-09 19:17:53

End at: 2018-07-09 19:18:23

Local clock offset: -0.447 ms

Remote clock offset: 5.339 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 8134.410 ms

Loss rate: 96.03%

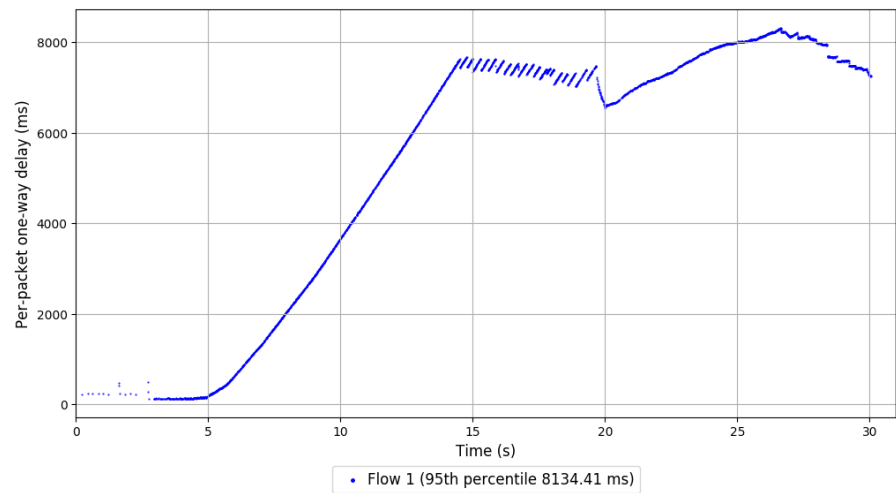
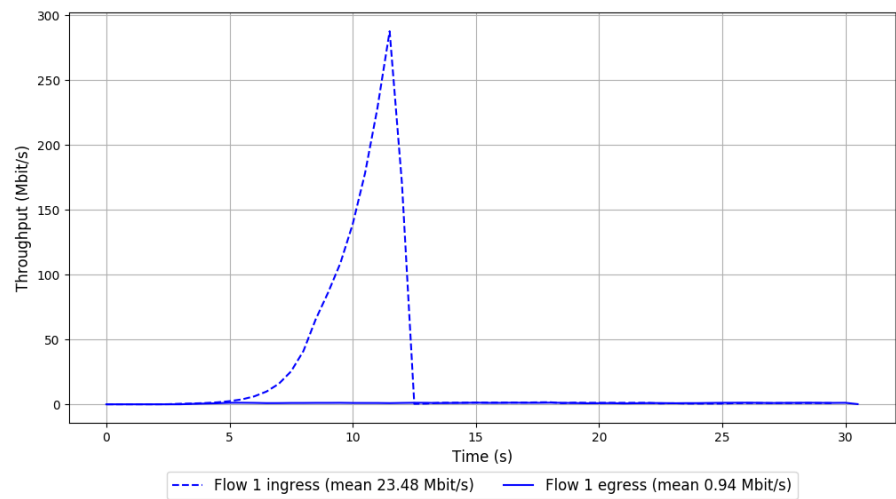
-- Flow 1:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 8134.410 ms

Loss rate: 96.03%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-07-09 19:37:06

End at: 2018-07-09 19:37:36

Local clock offset: -0.543 ms

Remote clock offset: 3.172 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.22 Mbit/s

95th percentile per-packet one-way delay: 6689.254 ms

Loss rate: 78.26%

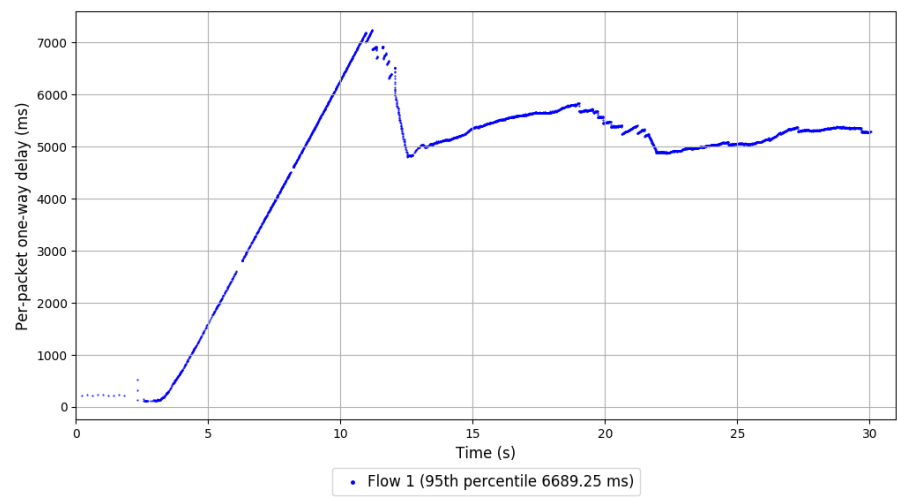
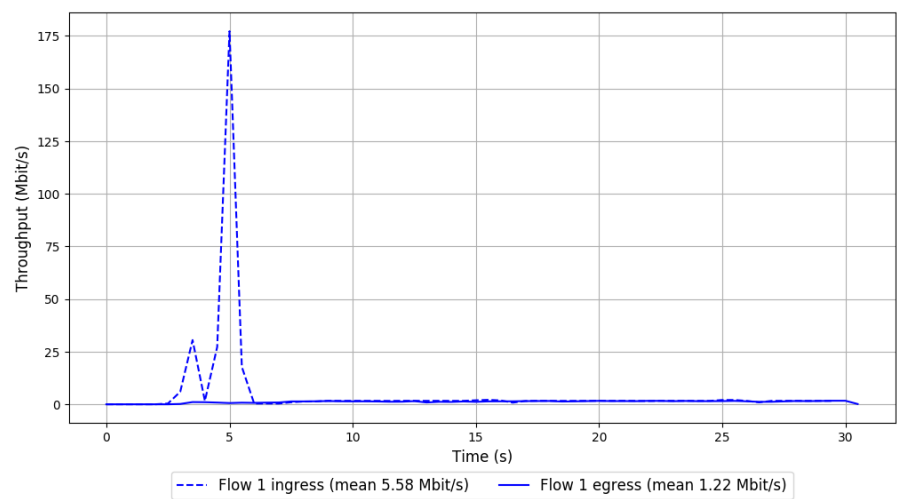
-- Flow 1:

Average throughput: 1.22 Mbit/s

95th percentile per-packet one-way delay: 6689.254 ms

Loss rate: 78.26%

Run 3: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-07-09 18:50:45

End at: 2018-07-09 18:51:15

Local clock offset: -2.134 ms

Remote clock offset: 7.74 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.00 Mbit/s

95th percentile per-packet one-way delay: 7052.367 ms

Loss rate: 23.19%

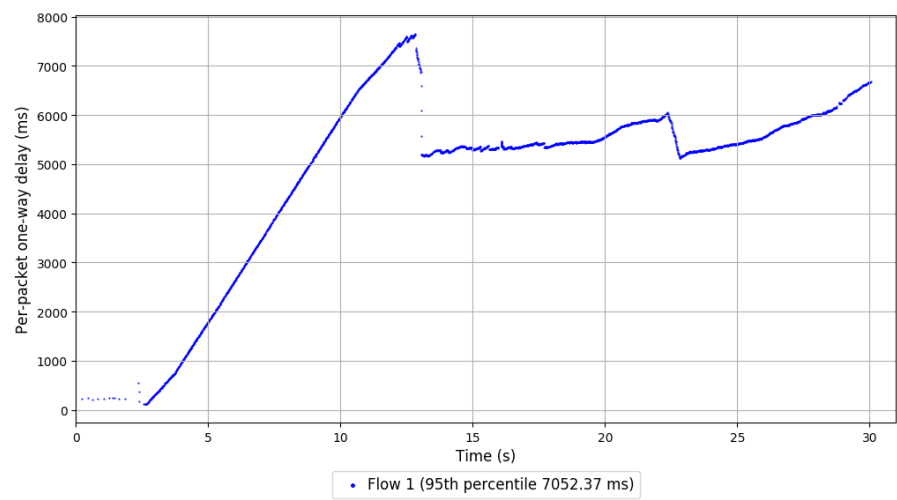
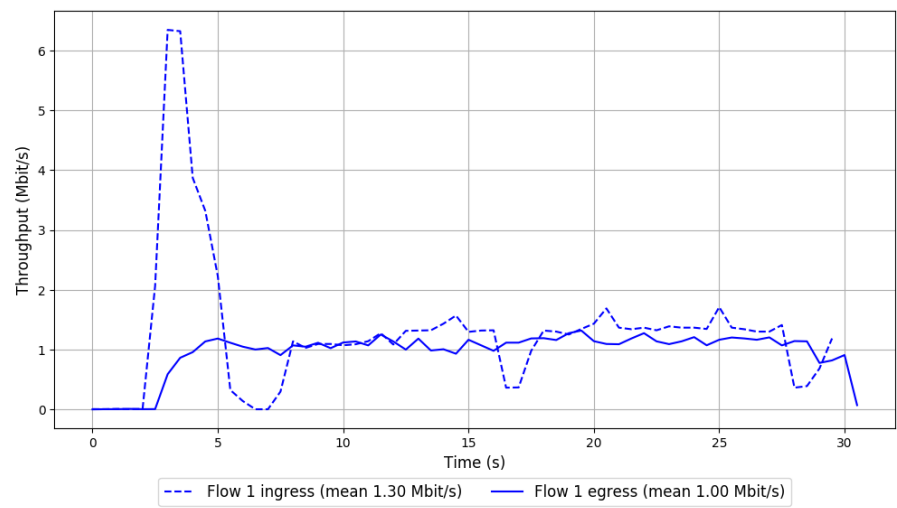
-- Flow 1:

Average throughput: 1.00 Mbit/s

95th percentile per-packet one-way delay: 7052.367 ms

Loss rate: 23.19%

Run 1: Report of FillP-Sheep — Data Link



Run 2: Statistics of FillP-Sheep

Start at: 2018-07-09 19:09:59

End at: 2018-07-09 19:10:29

Local clock offset: -0.192 ms

Remote clock offset: 4.19 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.85 Mbit/s

95th percentile per-packet one-way delay: 8421.480 ms

Loss rate: 30.81%

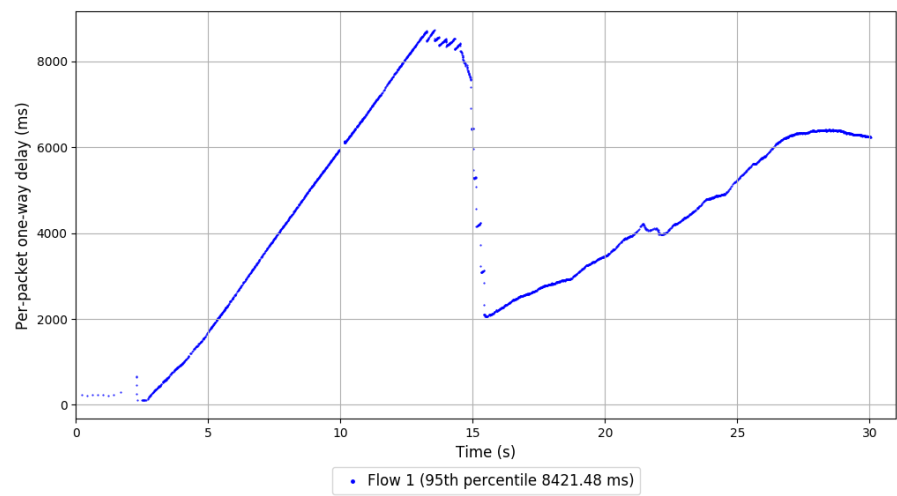
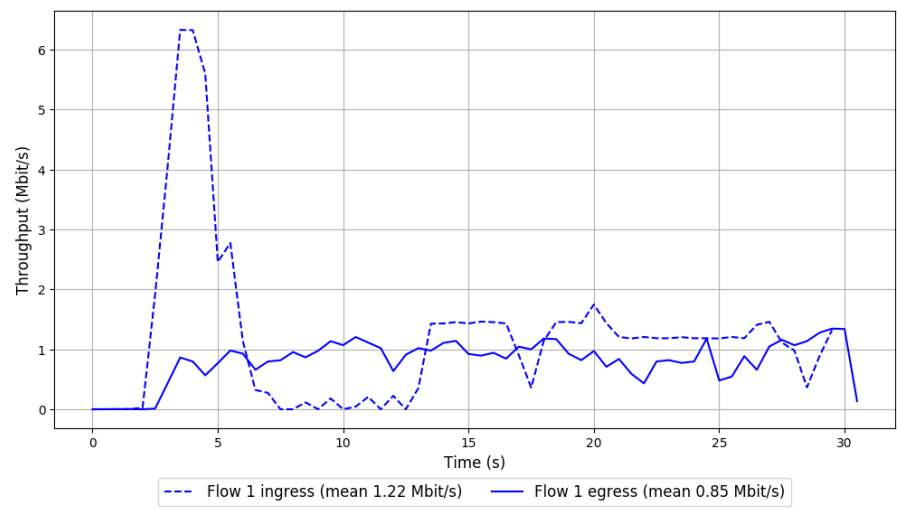
-- Flow 1:

Average throughput: 0.85 Mbit/s

95th percentile per-packet one-way delay: 8421.480 ms

Loss rate: 30.81%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-07-09 19:29:14

End at: 2018-07-09 19:29:44

Local clock offset: -0.579 ms

Remote clock offset: 3.769 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.84 Mbit/s

95th percentile per-packet one-way delay: 9500.134 ms

Loss rate: 64.29%

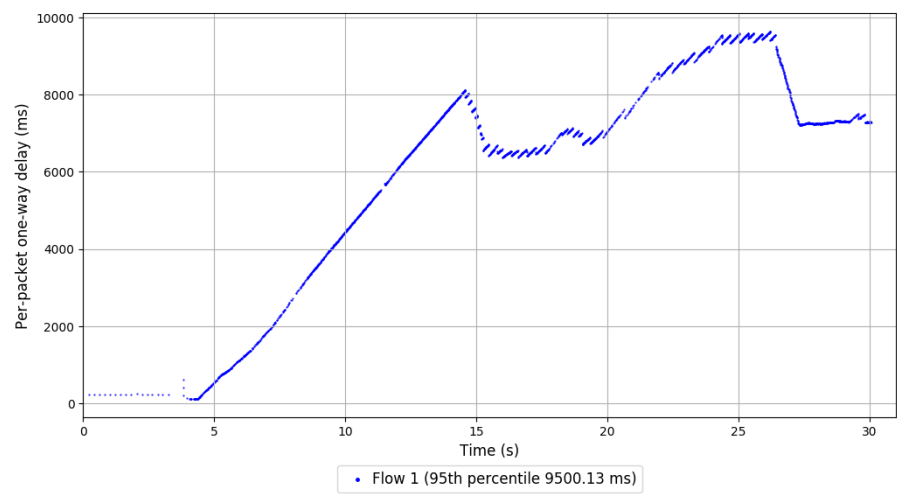
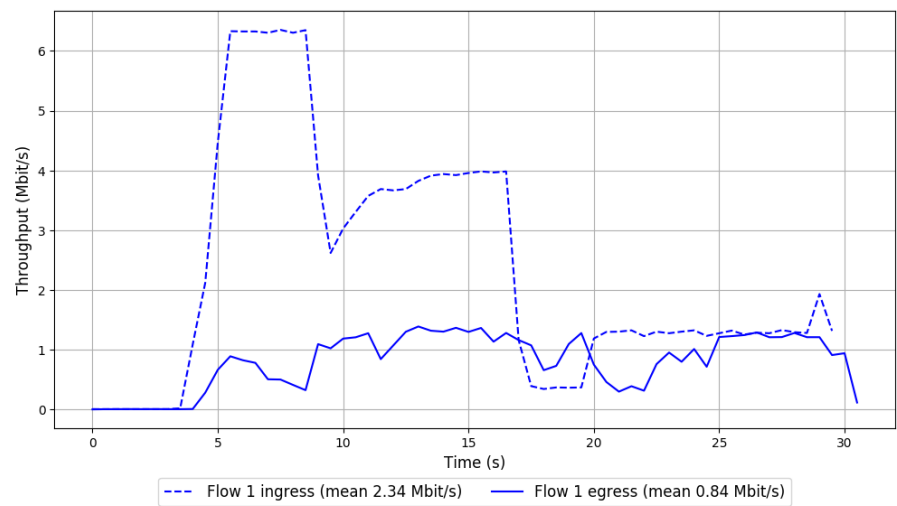
-- Flow 1:

Average throughput: 0.84 Mbit/s

95th percentile per-packet one-way delay: 9500.134 ms

Loss rate: 64.29%

Run 3: Report of FillP-Sheep — Data Link

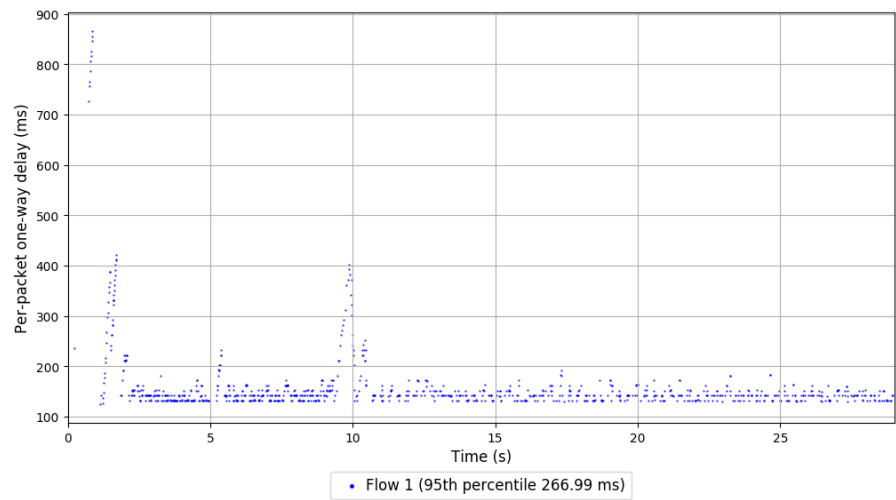
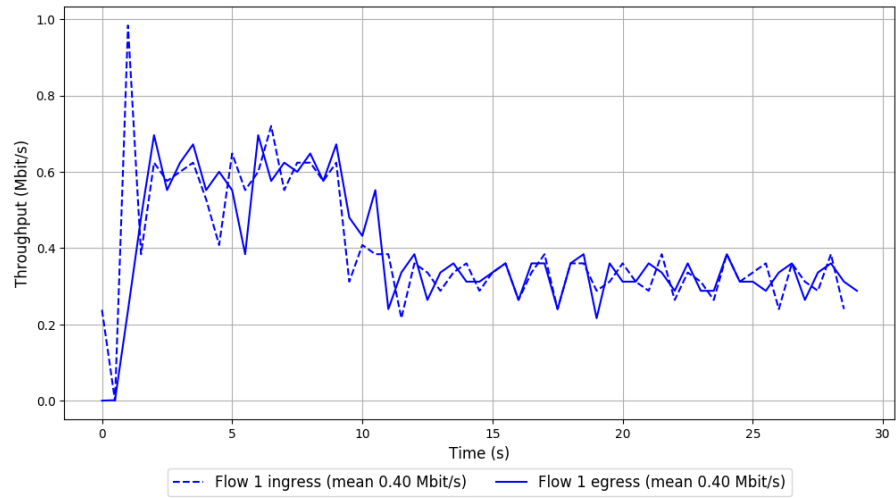


```
Run 1: Statistics of Indigo

Start at: 2018-07-09 19:04:20
End at: 2018-07-09 19:04:50
Local clock offset: -0.002 ms
Remote clock offset: 8.832 ms

# Below is generated by plot.py at 2018-07-09 19:47:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 266.992 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 0.40 Mbit/s
95th percentile per-packet one-way delay: 266.992 ms
Loss rate: 0.21%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-07-09 19:23:34

End at: 2018-07-09 19:24:04

Local clock offset: -0.55 ms

Remote clock offset: 9.379 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 277.753 ms

Loss rate: 0.33%

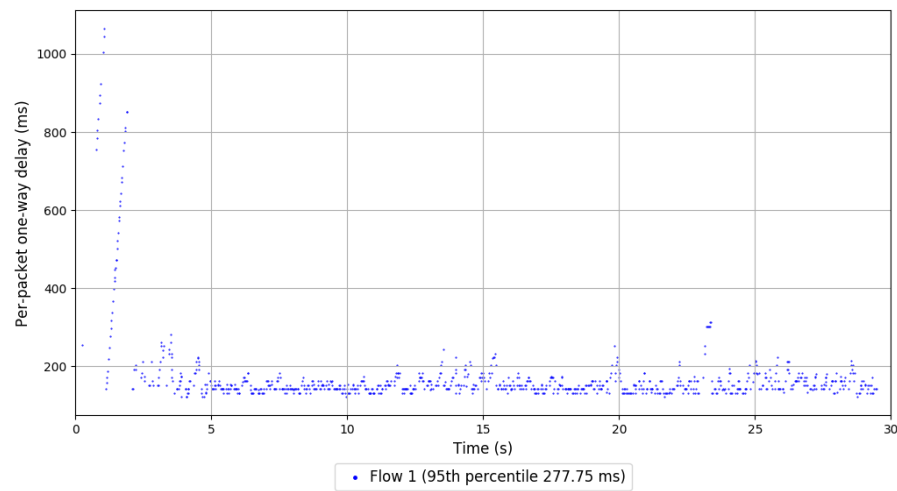
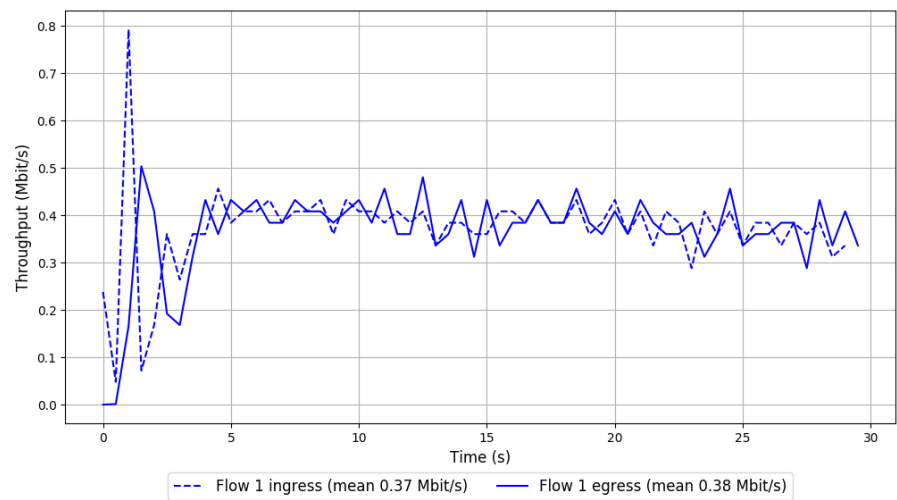
-- Flow 1:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 277.753 ms

Loss rate: 0.33%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-07-09 19:42:44

End at: 2018-07-09 19:43:14

Local clock offset: -0.548 ms

Remote clock offset: 8.206 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 241.319 ms

Loss rate: 0.00%

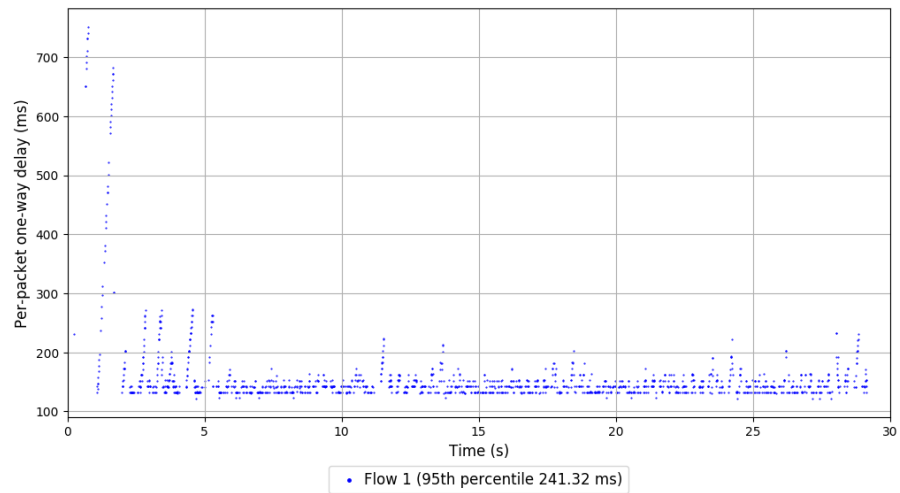
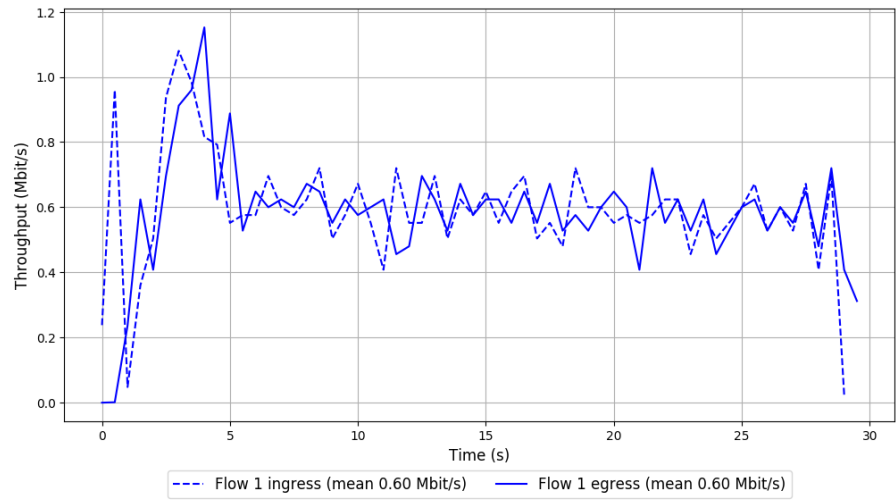
-- Flow 1:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 241.319 ms

Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

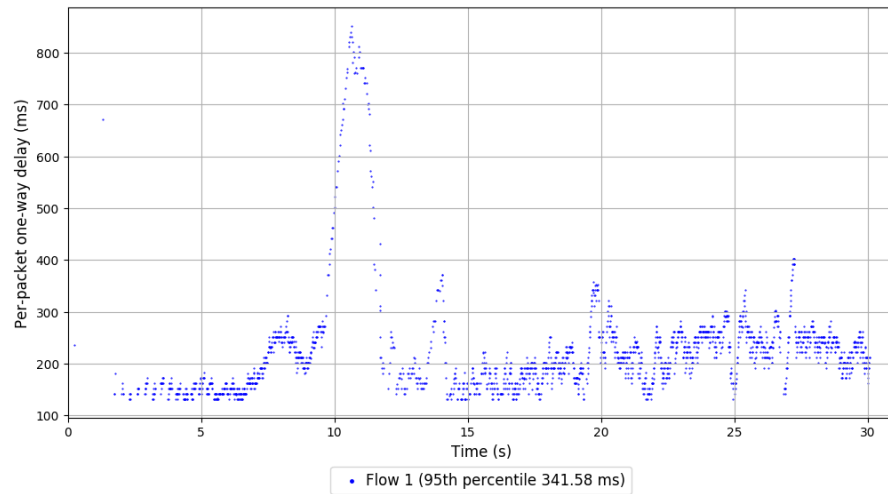
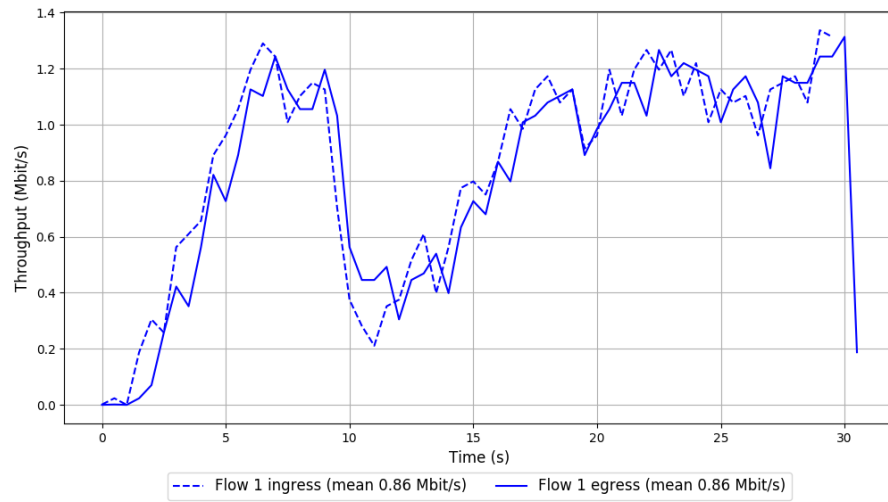


```
Run 1: Statistics of LEDBAT

Start at: 2018-07-09 19:05:28
End at: 2018-07-09 19:05:58
Local clock offset: -0.036 ms
Remote clock offset: 7.812 ms

# Below is generated by plot.py at 2018-07-09 19:47:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 341.584 ms
Loss rate: 0.68%
-- Flow 1:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 341.584 ms
Loss rate: 0.68%
```


Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-07-09 19:24:41

End at: 2018-07-09 19:25:11

Local clock offset: -0.503 ms

Remote clock offset: 5.454 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.96 Mbit/s

95th percentile per-packet one-way delay: 401.664 ms

Loss rate: 0.69%

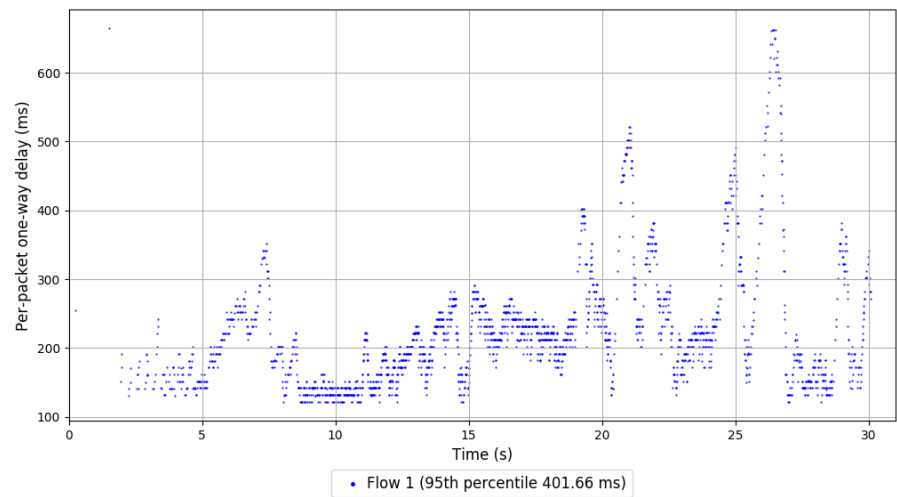
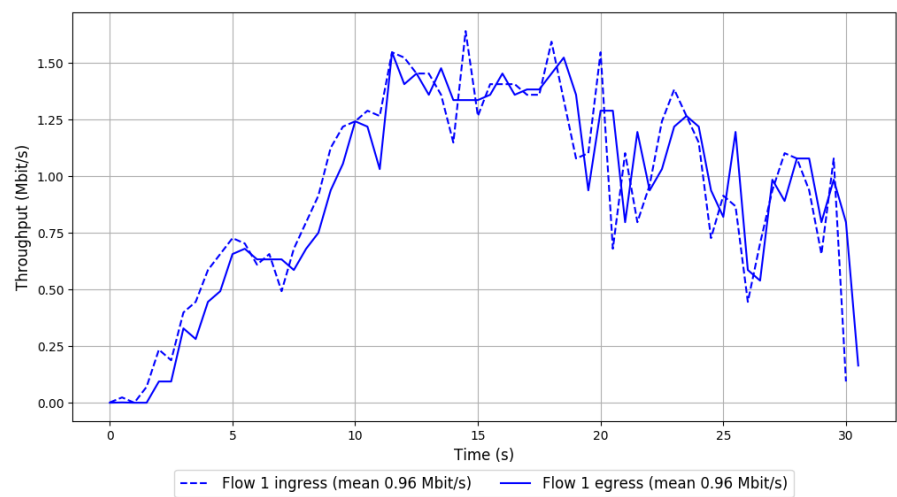
-- Flow 1:

Average throughput: 0.96 Mbit/s

95th percentile per-packet one-way delay: 401.664 ms

Loss rate: 0.69%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-07-09 19:43:52

End at: 2018-07-09 19:44:22

Local clock offset: -0.547 ms

Remote clock offset: 3.103 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.10 Mbit/s

95th percentile per-packet one-way delay: 307.834 ms

Loss rate: 0.18%

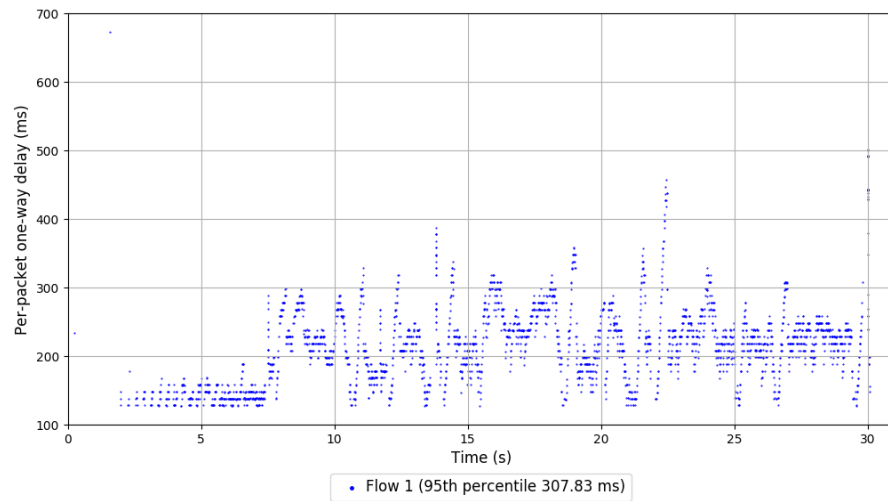
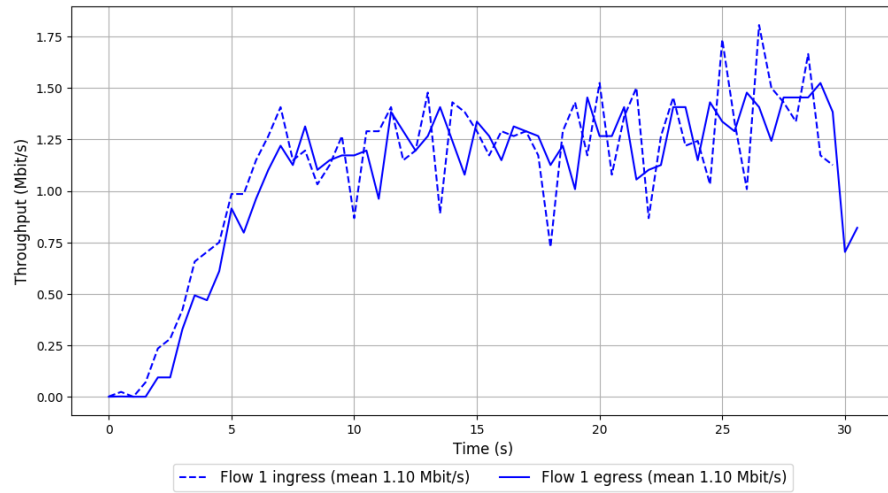
-- Flow 1:

Average throughput: 1.10 Mbit/s

95th percentile per-packet one-way delay: 307.834 ms

Loss rate: 0.18%

Run 3: Report of LEDBAT — Data Link



Run 1: Statistics of PCC-Allegro

Start at: 2018-07-09 19:03:13

End at: 2018-07-09 19:03:43

Local clock offset: -0.023 ms

Remote clock offset: 3.831 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 245.575 ms

Loss rate: 0.00%

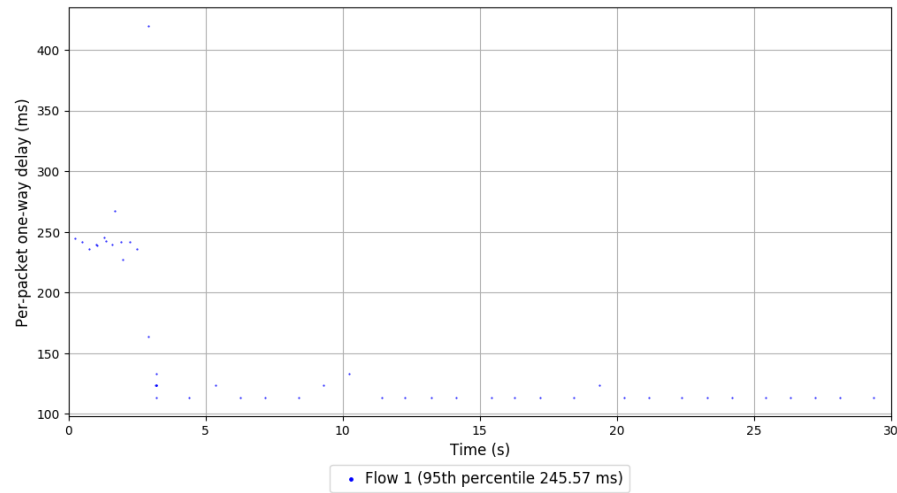
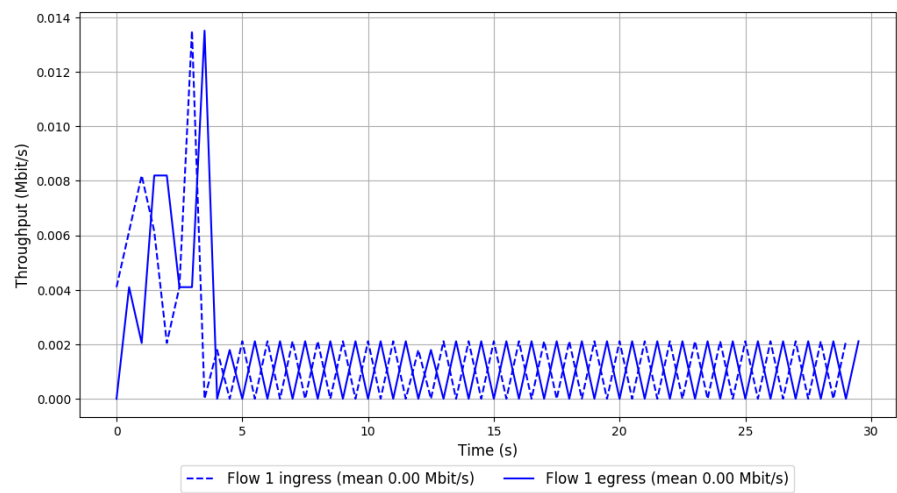
-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 245.575 ms

Loss rate: 0.00%

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-07-09 19:22:24

End at: 2018-07-09 19:22:54

Local clock offset: -0.505 ms

Remote clock offset: 4.409 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 274.474 ms

Loss rate: 0.00%

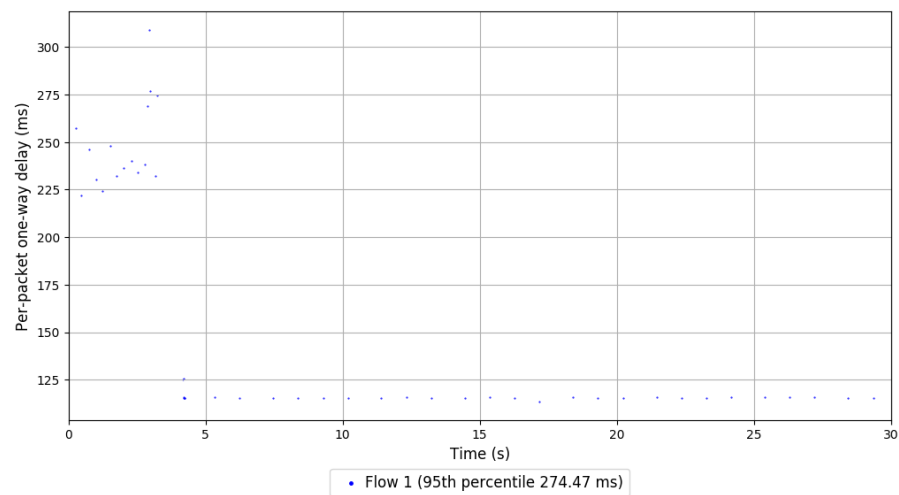
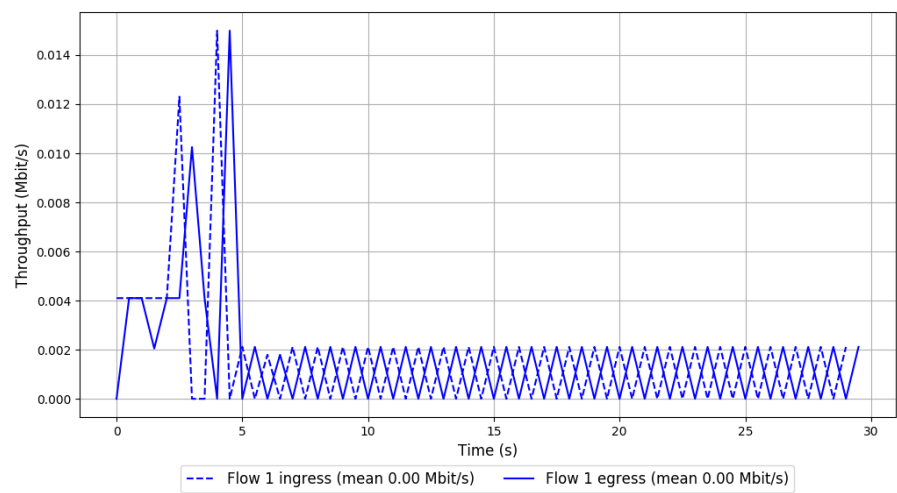
-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 274.474 ms

Loss rate: 0.00%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-07-09 19:41:37

End at: 2018-07-09 19:42:07

Local clock offset: -0.538 ms

Remote clock offset: 3.267 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 257.014 ms

Loss rate: 0.00%

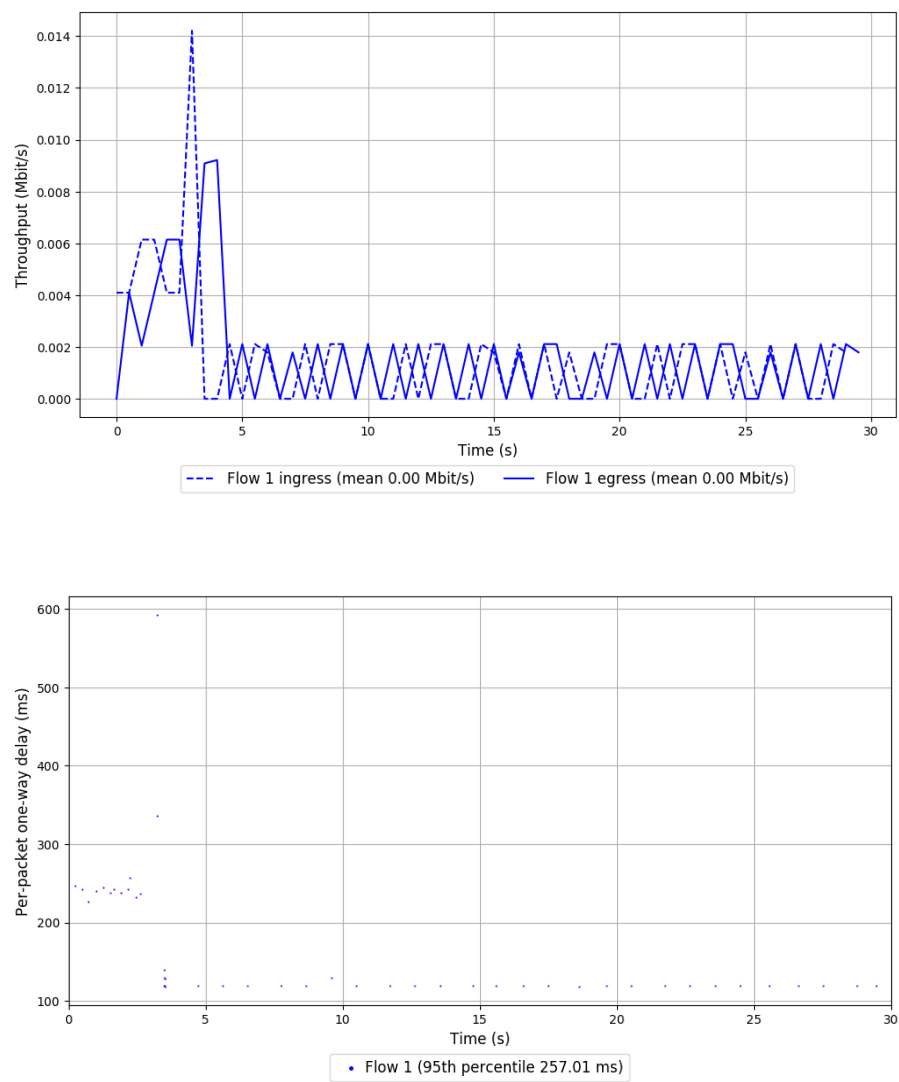
-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 257.014 ms

Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link



Run 1: Statistics of PCC-Expr

Start at: 2018-07-09 18:55:20

End at: 2018-07-09 18:55:50

Local clock offset: -0.383 ms

Remote clock offset: 8.345 ms

Below is generated by plot.py at 2018-07-09 19:47:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.03 Mbit/s

95th percentile per-packet one-way delay: 6042.299 ms

Loss rate: 81.42%

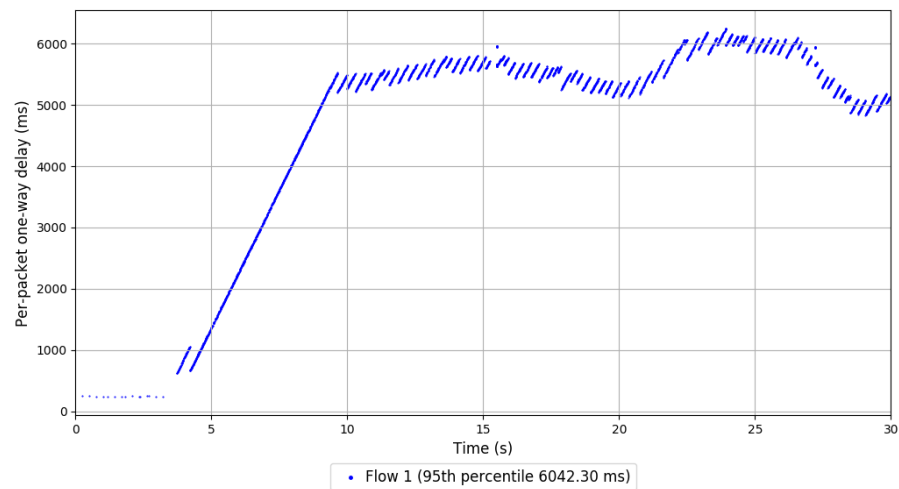
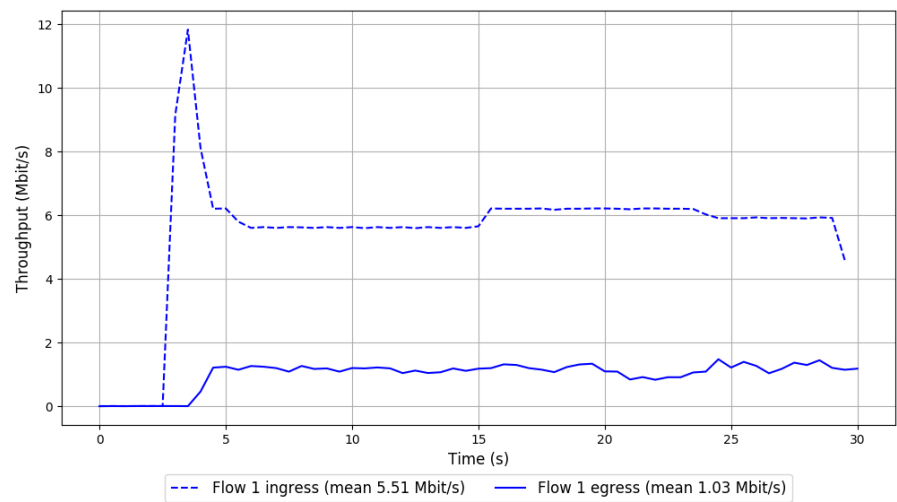
-- Flow 1:

Average throughput: 1.03 Mbit/s

95th percentile per-packet one-way delay: 6042.299 ms

Loss rate: 81.42%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

Start at: 2018-07-09 19:14:29

End at: 2018-07-09 19:14:59

Local clock offset: -0.31 ms

Remote clock offset: 5.169 ms

Below is generated by plot.py at 2018-07-09 19:47:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.05 Mbit/s

95th percentile per-packet one-way delay: 5942.602 ms

Loss rate: 81.37%

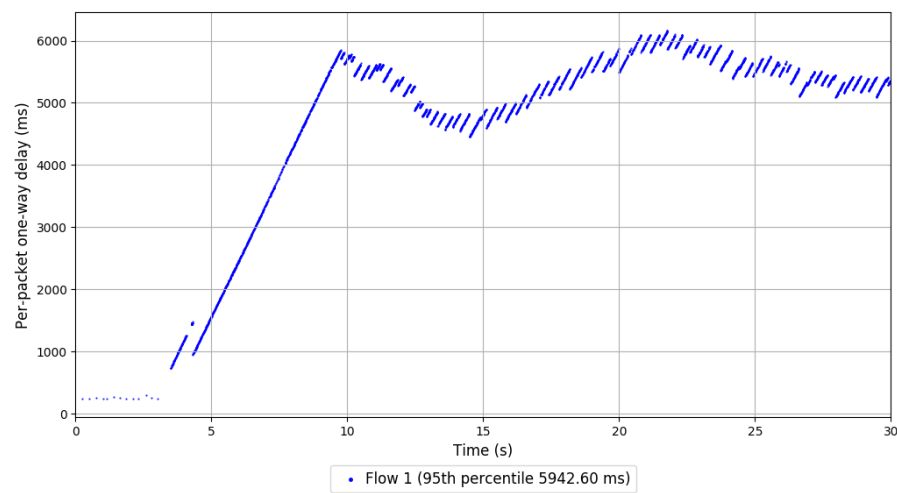
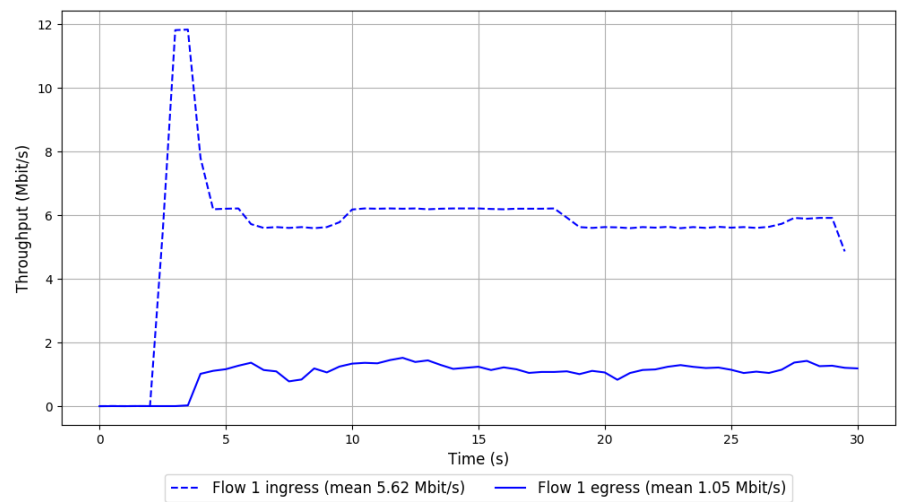
-- Flow 1:

Average throughput: 1.05 Mbit/s

95th percentile per-packet one-way delay: 5942.602 ms

Loss rate: 81.37%

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

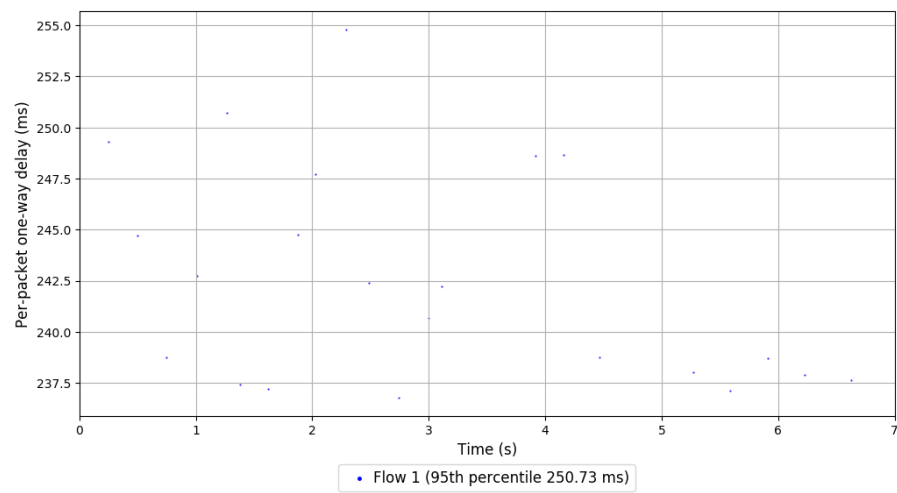
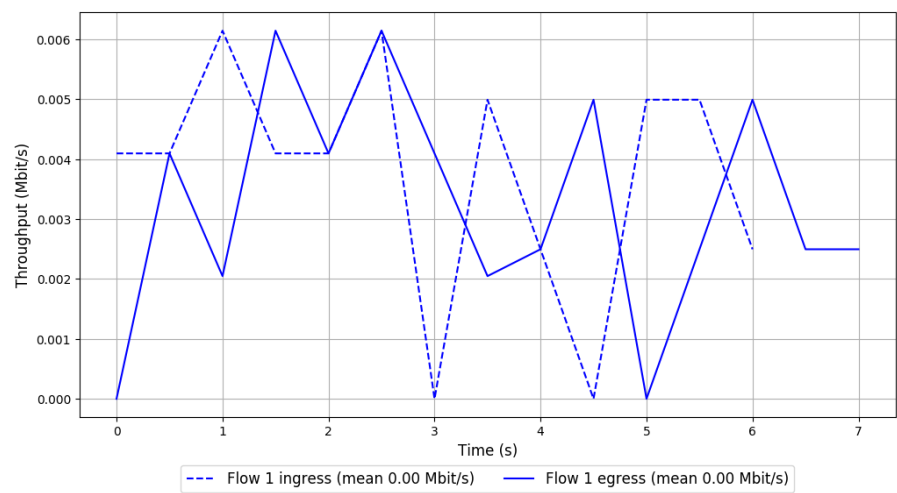
Start at: 2018-07-09 19:33:44

End at: 2018-07-09 19:34:14

Local clock offset: -0.649 ms

Remote clock offset: 8.373 ms

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

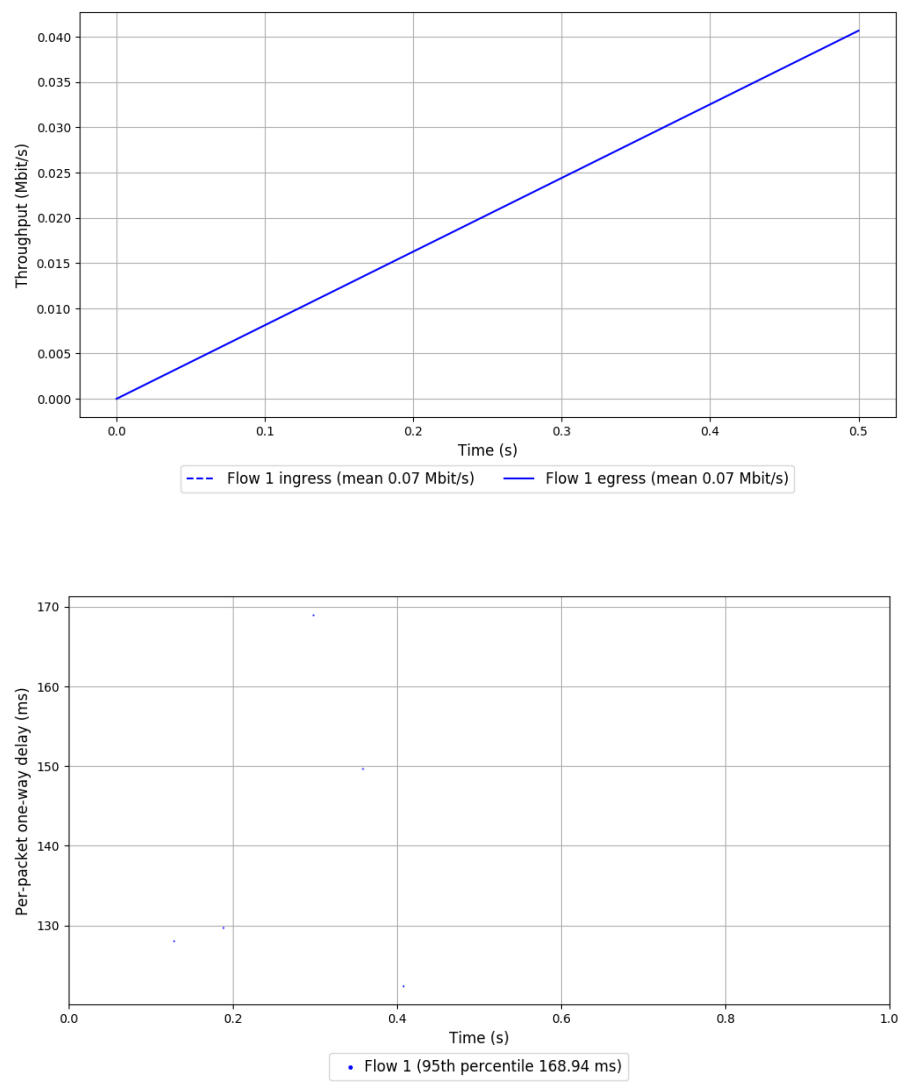
Start at: 2018-07-09 18:51:58

End at: 2018-07-09 18:52:28

Local clock offset: -2.859 ms

Remote clock offset: 9.001 ms

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-07-09 19:11:07

End at: 2018-07-09 19:11:37

Local clock offset: -0.211 ms

Remote clock offset: 4.055 ms

Below is generated by plot.py at 2018-07-09 19:47:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.98 Mbit/s

95th percentile per-packet one-way delay: 2108.129 ms

Loss rate: 6.55%

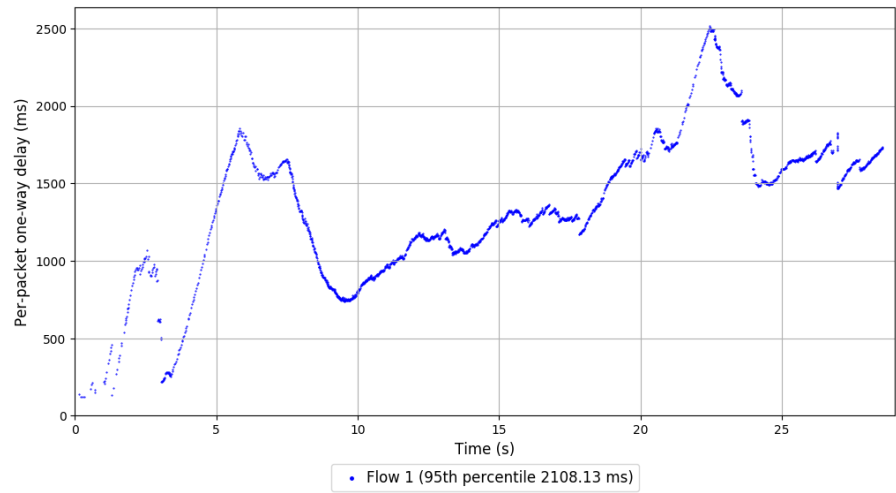
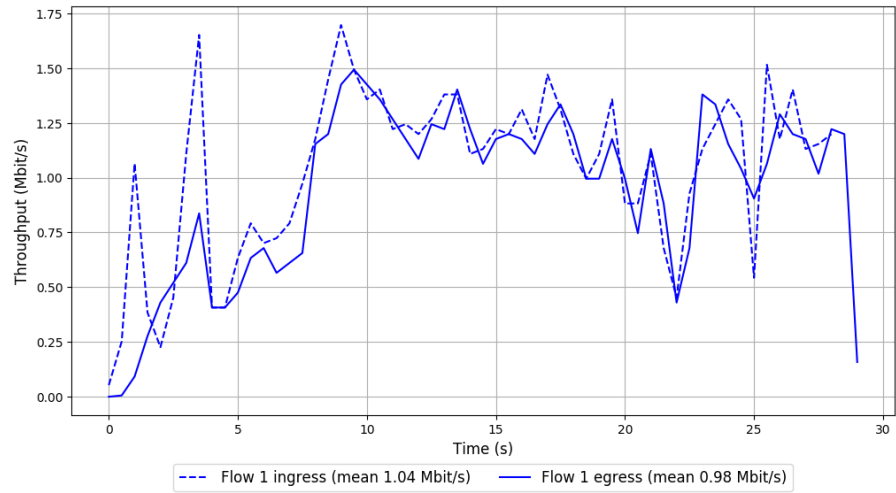
-- Flow 1:

Average throughput: 0.98 Mbit/s

95th percentile per-packet one-way delay: 2108.129 ms

Loss rate: 6.55%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-07-09 19:30:21

End at: 2018-07-09 19:30:51

Local clock offset: -0.587 ms

Remote clock offset: 8.624 ms

Below is generated by plot.py at 2018-07-09 19:47:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.77 Mbit/s

95th percentile per-packet one-way delay: 2812.611 ms

Loss rate: 8.15%

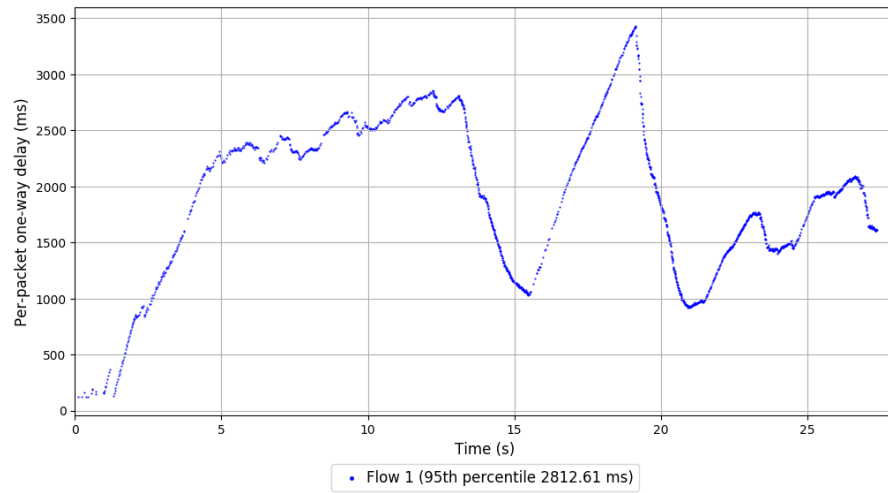
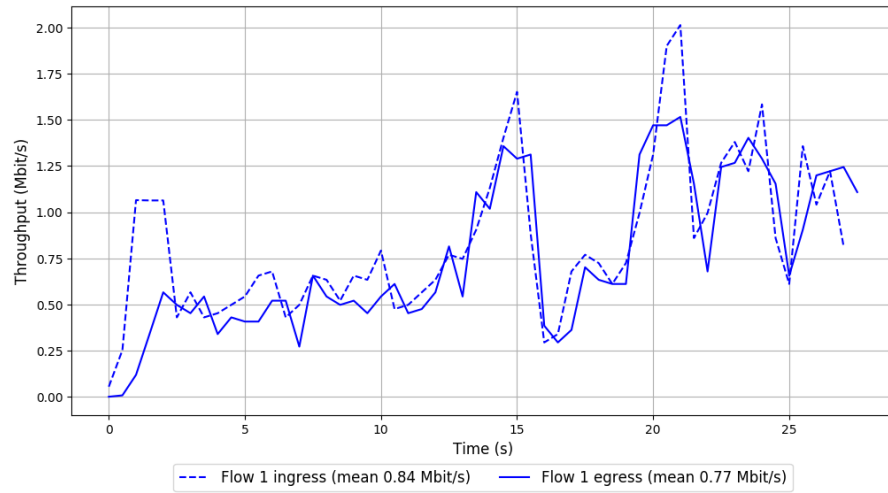
-- Flow 1:

Average throughput: 0.77 Mbit/s

95th percentile per-packet one-way delay: 2812.611 ms

Loss rate: 8.15%

Run 3: Report of QUIC Cubic — Data Link

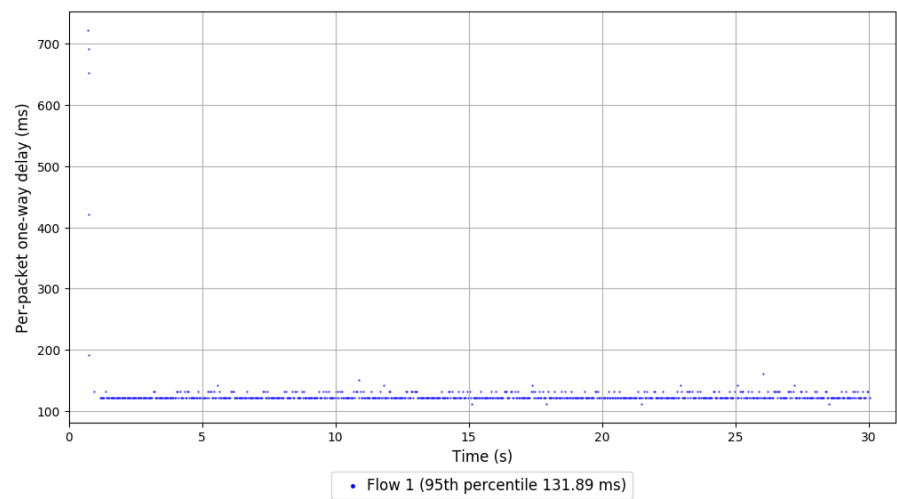
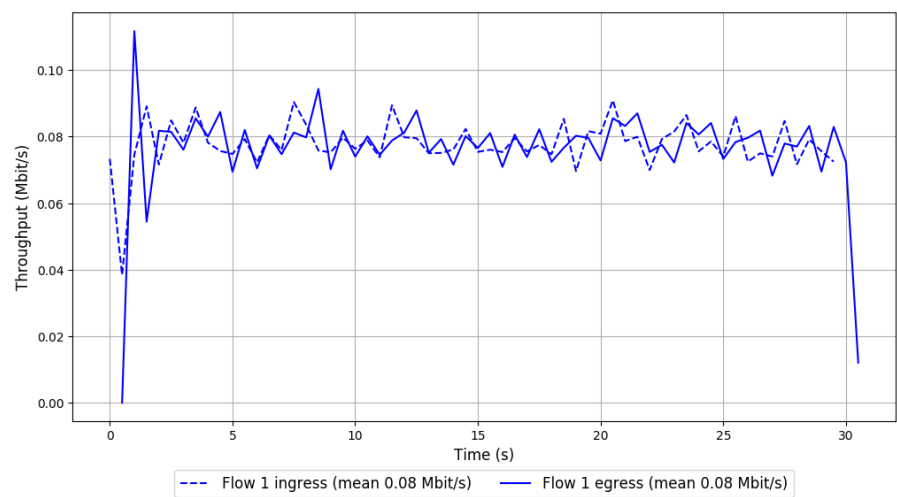


```
Run 1: Statistics of SCReAM

Start at: 2018-07-09 18:56:28
End at: 2018-07-09 18:56:58
Local clock offset: 0.692 ms
Remote clock offset: 4.448 ms

# Below is generated by plot.py at 2018-07-09 19:47:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 131.889 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 131.889 ms
Loss rate: 0.13%
```


Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-07-09 19:15:37

End at: 2018-07-09 19:16:07

Local clock offset: -0.378 ms

Remote clock offset: 9.243 ms

Below is generated by plot.py at 2018-07-09 19:47:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 137.841 ms

Loss rate: 0.13%

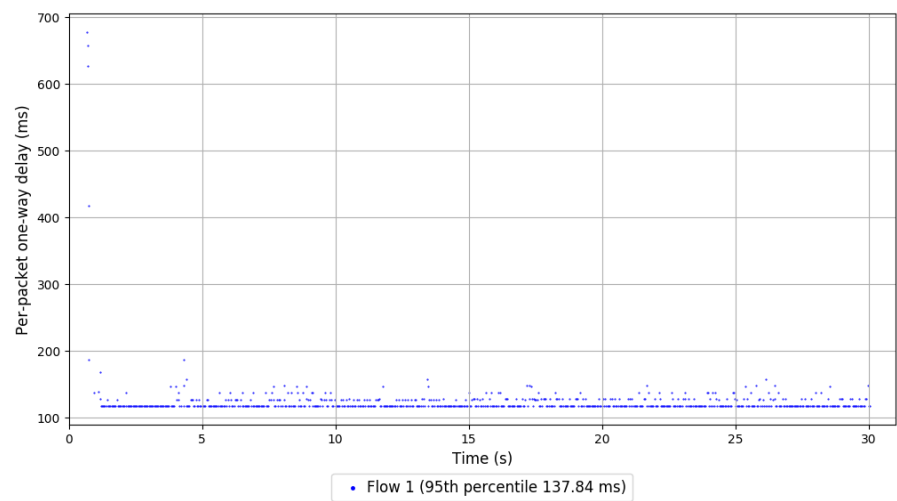
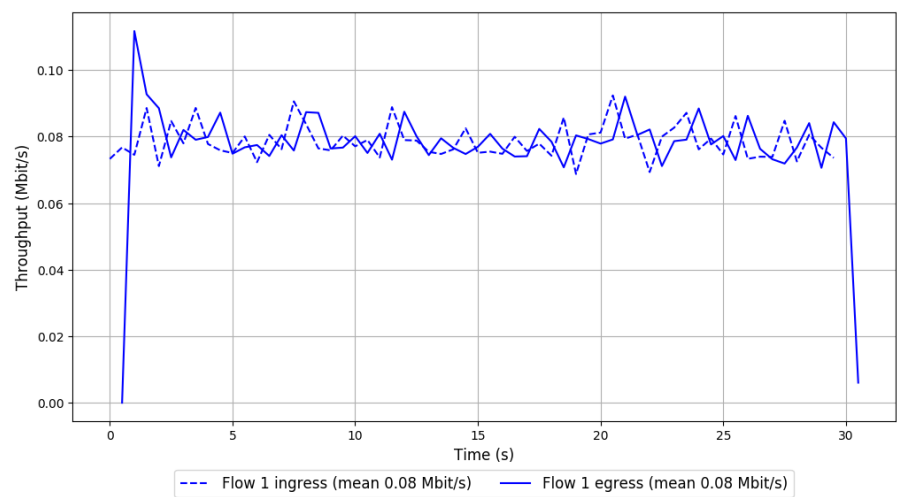
-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 137.841 ms

Loss rate: 0.13%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-07-09 19:34:52

End at: 2018-07-09 19:35:22

Local clock offset: -0.541 ms

Remote clock offset: 4.416 ms

Below is generated by plot.py at 2018-07-09 19:47:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 134.419 ms

Loss rate: 0.26%

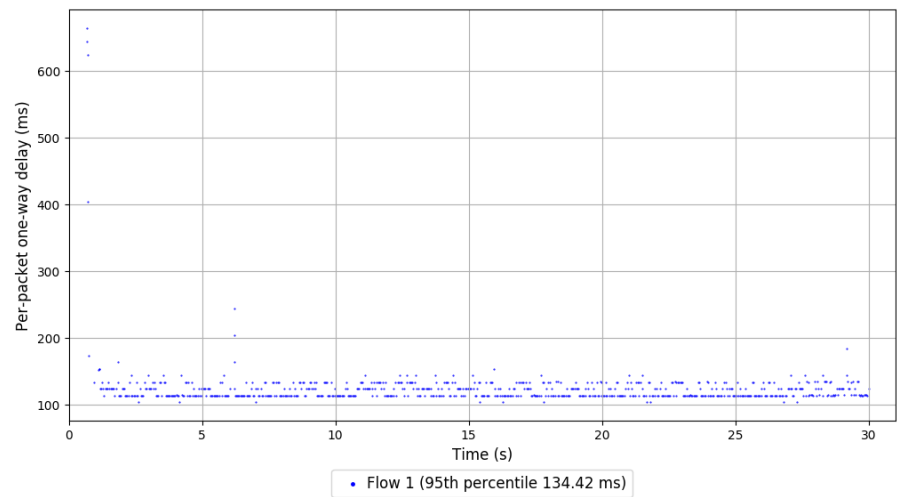
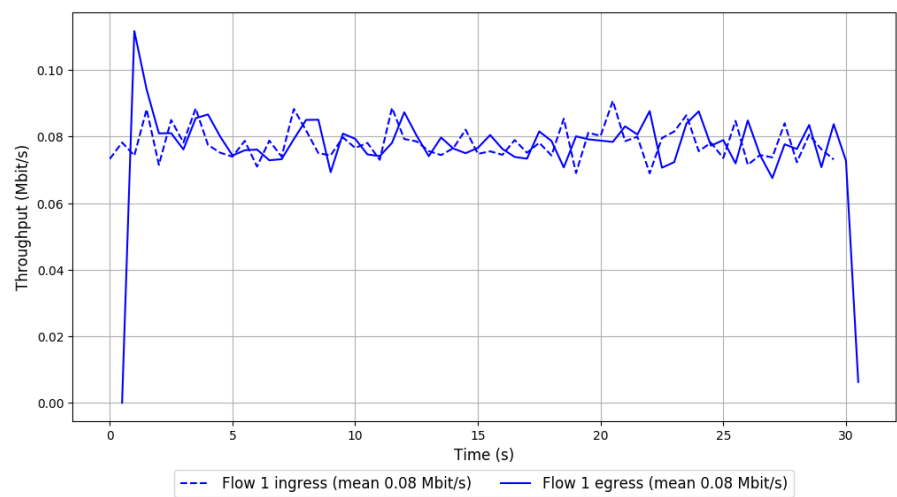
-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 134.419 ms

Loss rate: 0.26%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-07-09 19:07:43

End at: 2018-07-09 19:08:13

Local clock offset: -0.113 ms

Remote clock offset: 4.987 ms

Below is generated by plot.py at 2018-07-09 19:47:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 244.776 ms

Loss rate: 0.00%

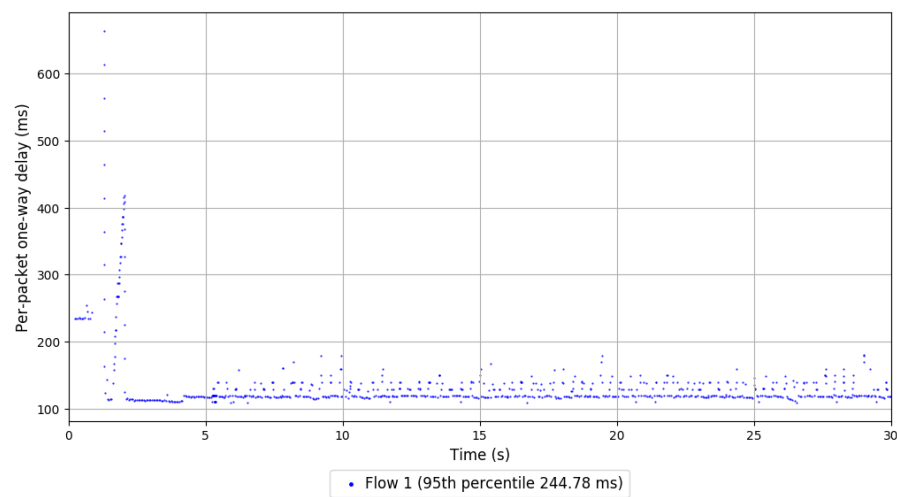
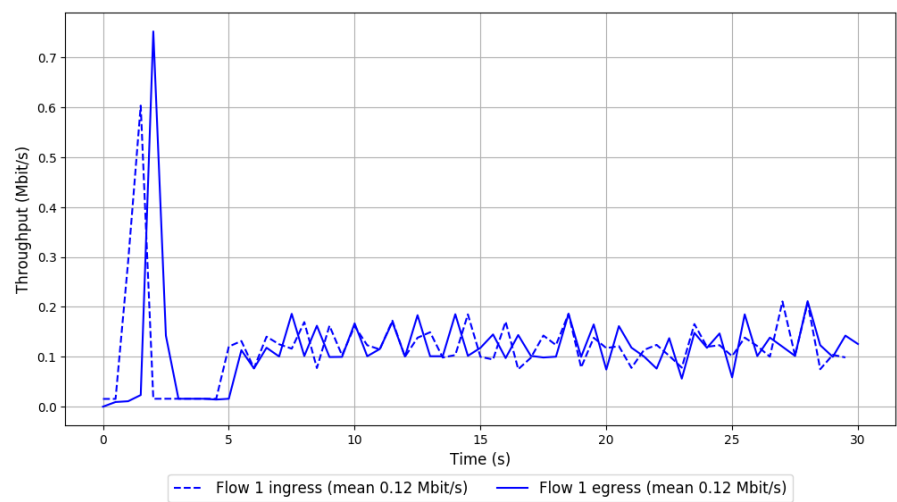
-- Flow 1:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 244.776 ms

Loss rate: 0.00%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-07-09 19:26:56

End at: 2018-07-09 19:27:26

Local clock offset: -0.543 ms

Remote clock offset: 4.113 ms

Below is generated by plot.py at 2018-07-09 19:47:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 241.013 ms

Loss rate: 0.47%

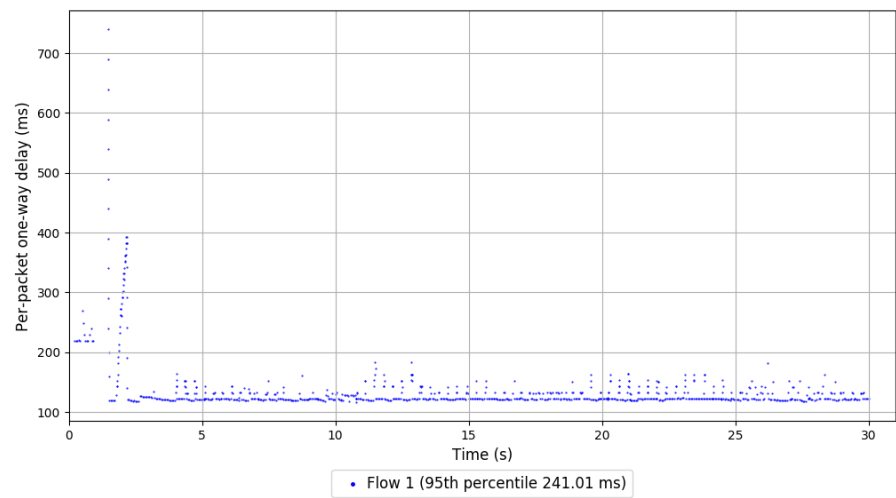
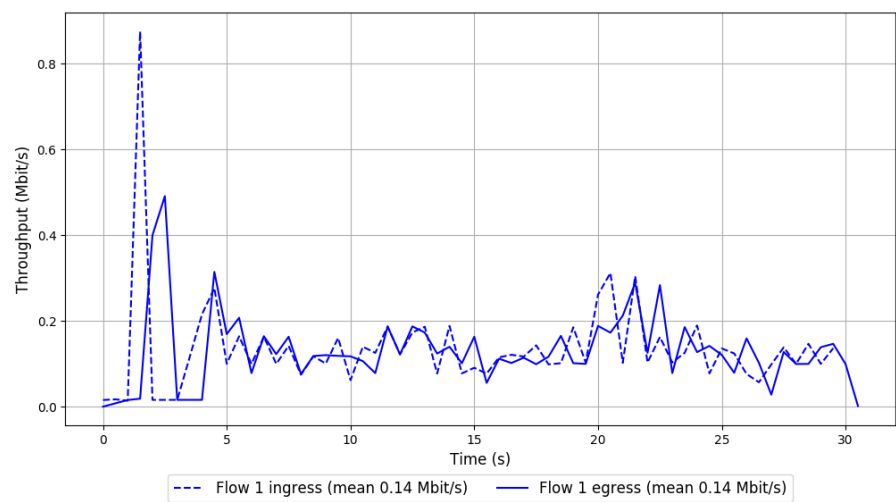
-- Flow 1:

Average throughput: 0.14 Mbit/s

95th percentile per-packet one-way delay: 241.013 ms

Loss rate: 0.47%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-07-09 19:46:08

End at: 2018-07-09 19:46:38

Local clock offset: -0.56 ms

Remote clock offset: 6.906 ms

Below is generated by plot.py at 2018-07-09 19:47:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 232.965 ms

Loss rate: 0.02%

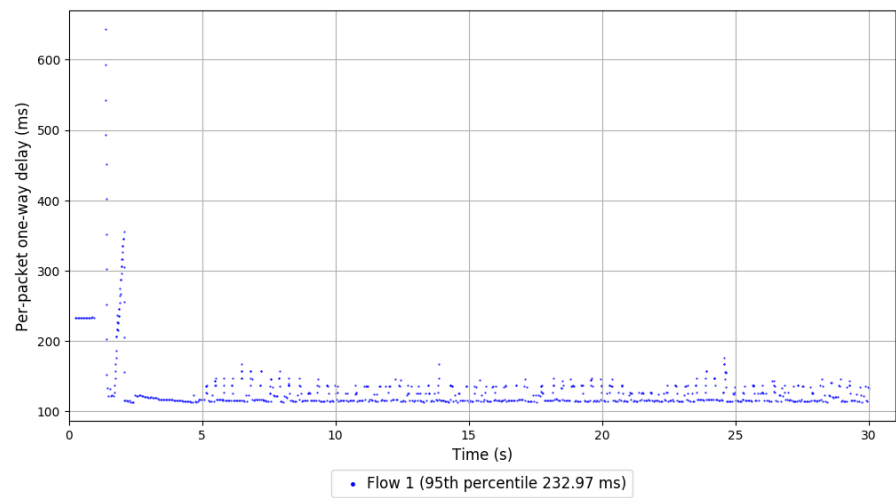
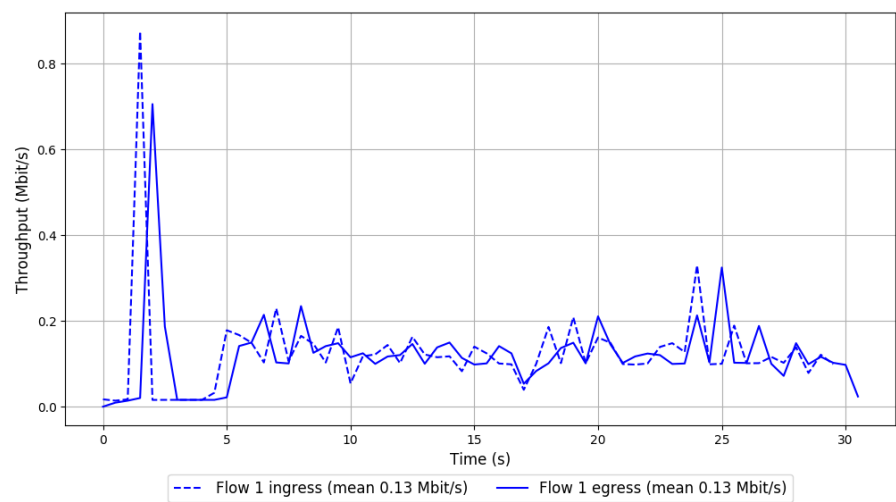
-- Flow 1:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 232.965 ms

Loss rate: 0.02%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-07-09 19:06:35

End at: 2018-07-09 19:07:05

Local clock offset: -0.101 ms

Remote clock offset: 8.887 ms

Below is generated by plot.py at 2018-07-09 19:47:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 573.440 ms

Loss rate: 1.03%

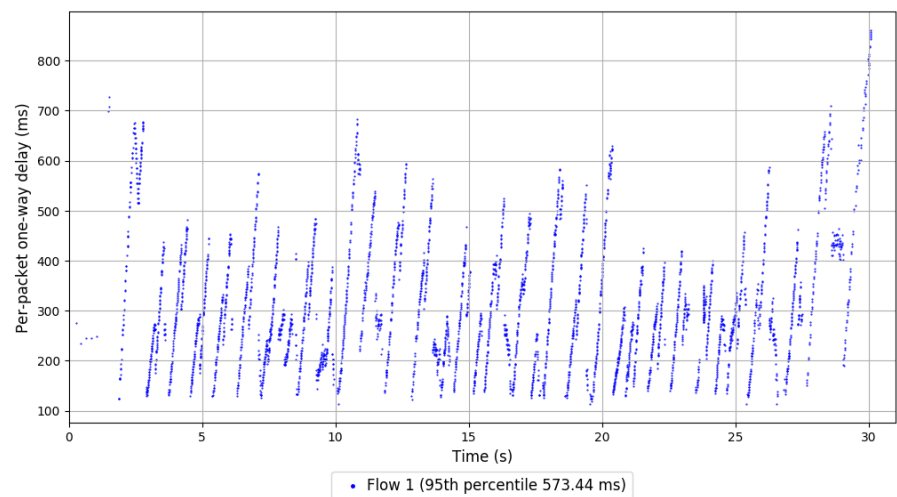
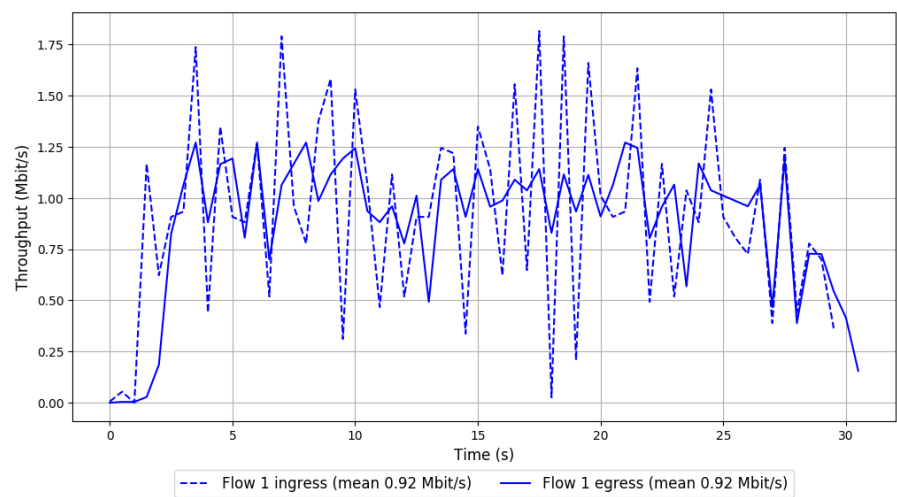
-- Flow 1:

Average throughput: 0.92 Mbit/s

95th percentile per-packet one-way delay: 573.440 ms

Loss rate: 1.03%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-07-09 19:25:48

End at: 2018-07-09 19:26:18

Local clock offset: -0.518 ms

Remote clock offset: 9.058 ms

Below is generated by plot.py at 2018-07-09 19:47:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.10 Mbit/s

95th percentile per-packet one-way delay: 490.595 ms

Loss rate: 0.62%

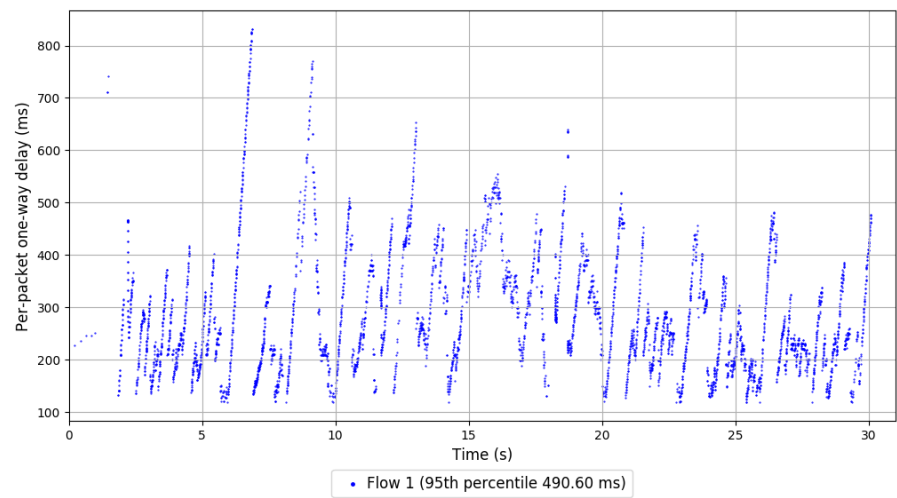
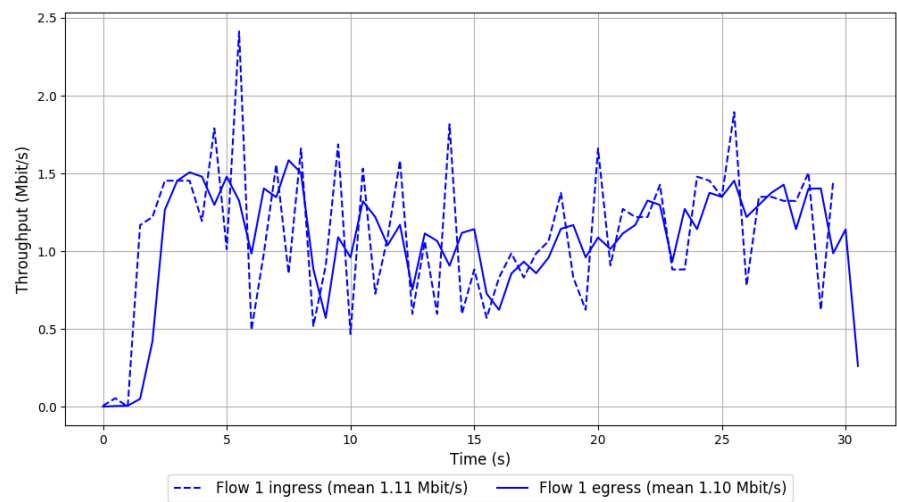
-- Flow 1:

Average throughput: 1.10 Mbit/s

95th percentile per-packet one-way delay: 490.595 ms

Loss rate: 0.62%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-07-09 19:44:59

End at: 2018-07-09 19:45:29

Local clock offset: -0.56 ms

Remote clock offset: 4.155 ms

Below is generated by plot.py at 2018-07-09 19:47:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 642.426 ms

Loss rate: 1.18%

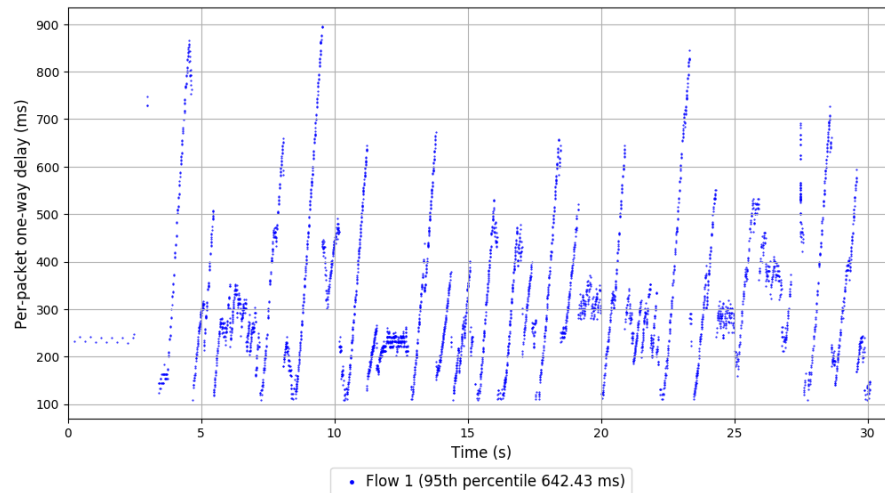
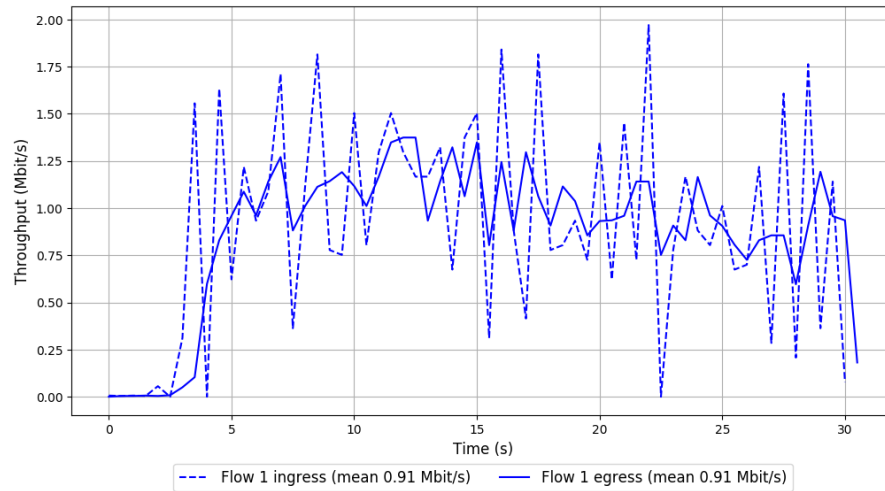
-- Flow 1:

Average throughput: 0.91 Mbit/s

95th percentile per-packet one-way delay: 642.426 ms

Loss rate: 1.18%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-07-09 18:57:35

End at: 2018-07-09 18:58:05

Local clock offset: -0.195 ms

Remote clock offset: 3.451 ms

Below is generated by plot.py at 2018-07-09 19:47:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 1375.630 ms

Loss rate: 1.44%

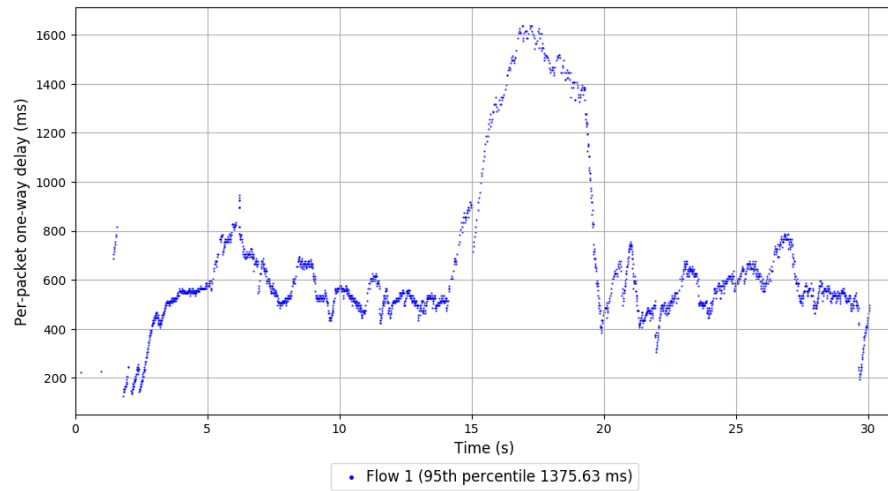
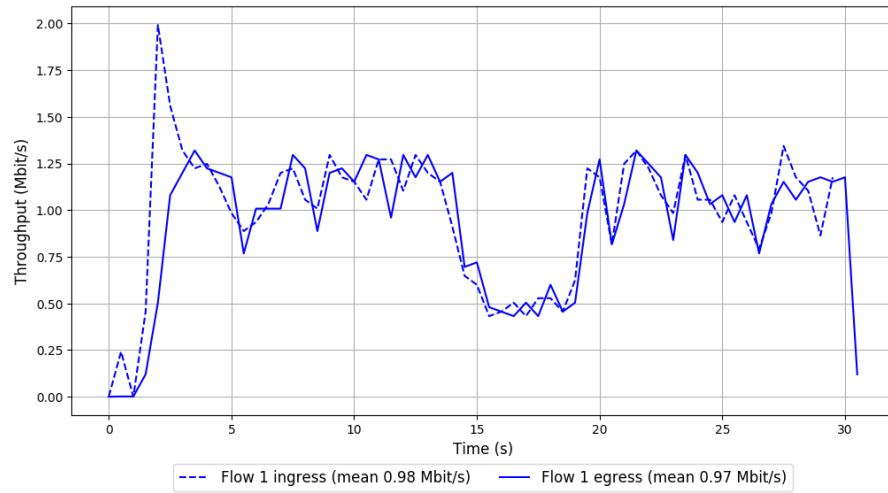
-- Flow 1:

Average throughput: 0.97 Mbit/s

95th percentile per-packet one-way delay: 1375.630 ms

Loss rate: 1.44%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-07-09 19:16:45

End at: 2018-07-09 19:17:15

Local clock offset: -0.427 ms

Remote clock offset: 10.53 ms

Below is generated by plot.py at 2018-07-09 19:47:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 8293.543 ms

Loss rate: 35.47%

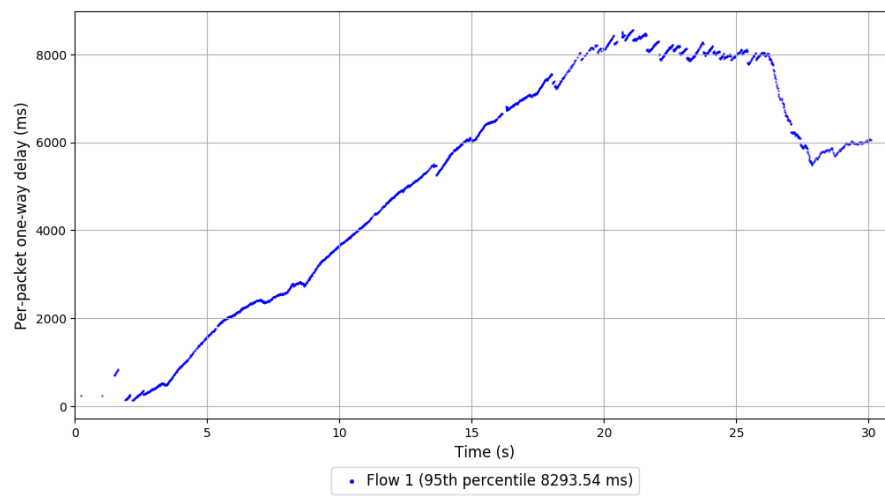
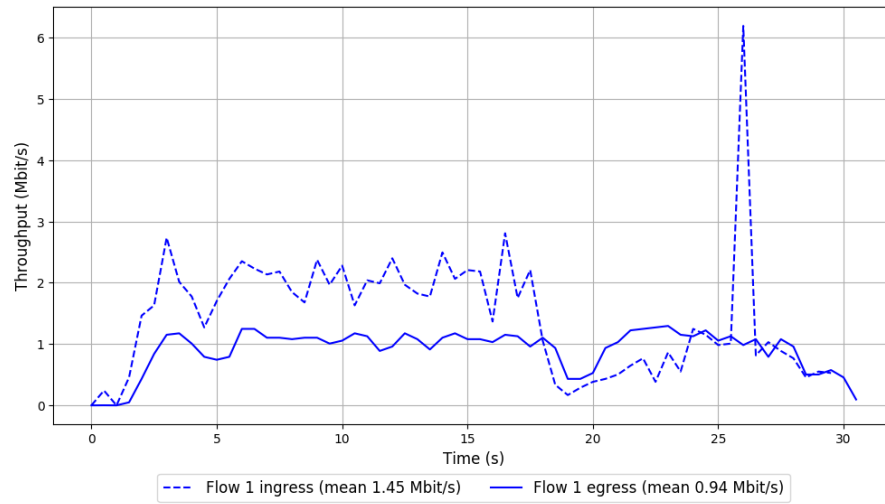
-- Flow 1:

Average throughput: 0.94 Mbit/s

95th percentile per-packet one-way delay: 8293.543 ms

Loss rate: 35.47%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-07-09 19:35:59

End at: 2018-07-09 19:36:29

Local clock offset: -0.6 ms

Remote clock offset: 8.28 ms

Below is generated by plot.py at 2018-07-09 19:47:13

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.09 Mbit/s

95th percentile per-packet one-way delay: 6535.500 ms

Loss rate: 31.59%

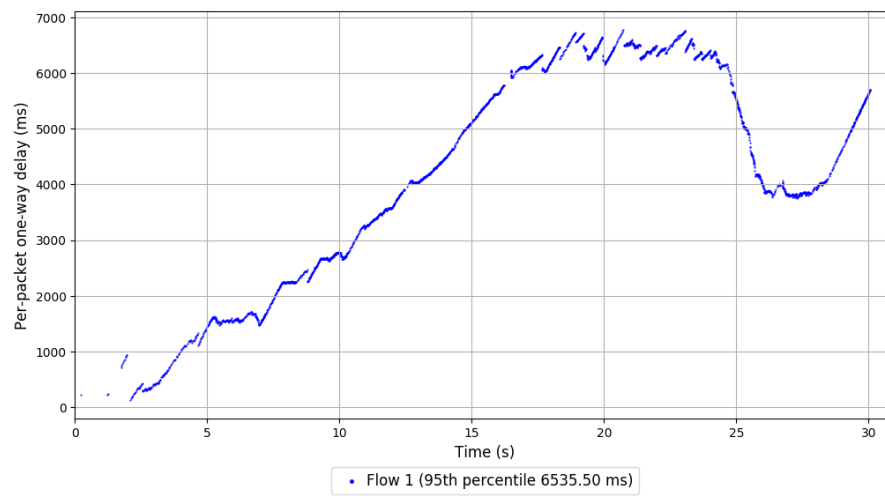
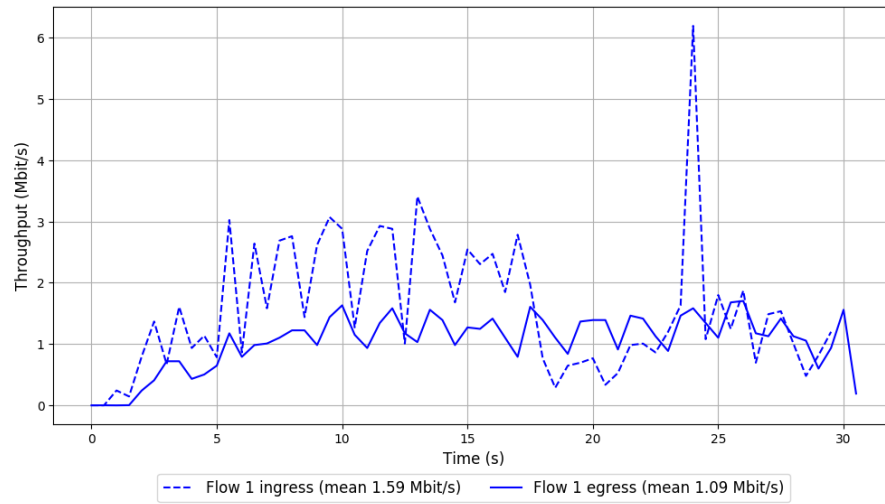
-- Flow 1:

Average throughput: 1.09 Mbit/s

95th percentile per-packet one-way delay: 6535.500 ms

Loss rate: 31.59%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-07-09 18:53:05

End at: 2018-07-09 18:53:35

Local clock offset: -3.804 ms

Remote clock offset: 8.041 ms

Below is generated by plot.py at 2018-07-09 19:47:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.98 Mbit/s

95th percentile per-packet one-way delay: 1924.600 ms

Loss rate: 8.20%

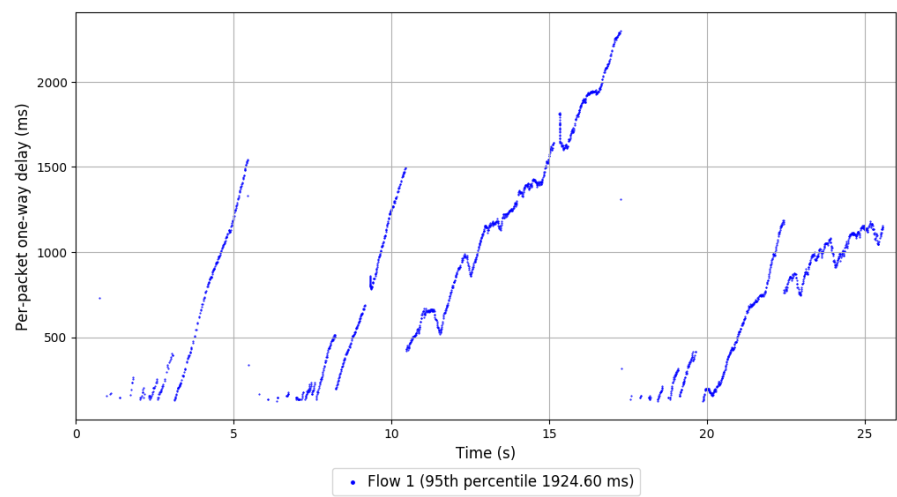
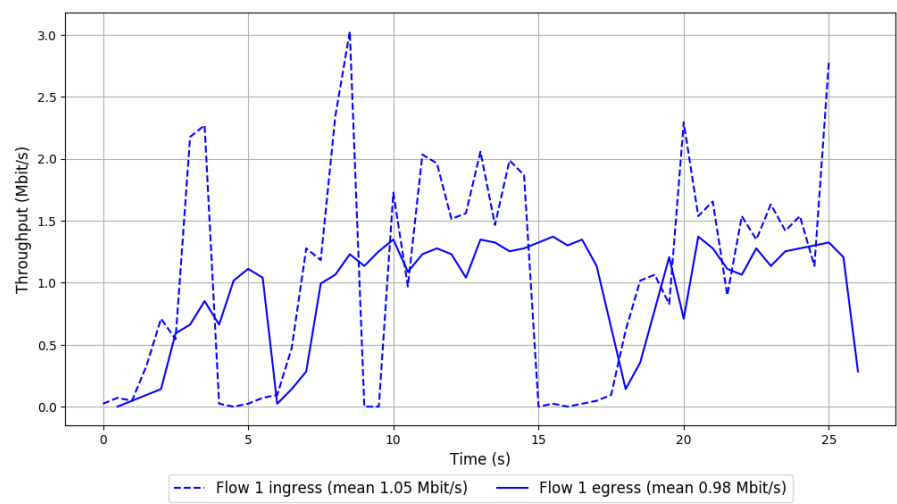
-- Flow 1:

Average throughput: 0.98 Mbit/s

95th percentile per-packet one-way delay: 1924.600 ms

Loss rate: 8.20%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-07-09 19:12:14

End at: 2018-07-09 19:12:44

Local clock offset: -0.286 ms

Remote clock offset: 4.103 ms

Below is generated by plot.py at 2018-07-09 19:47:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.84 Mbit/s

95th percentile per-packet one-way delay: 2969.606 ms

Loss rate: 4.86%

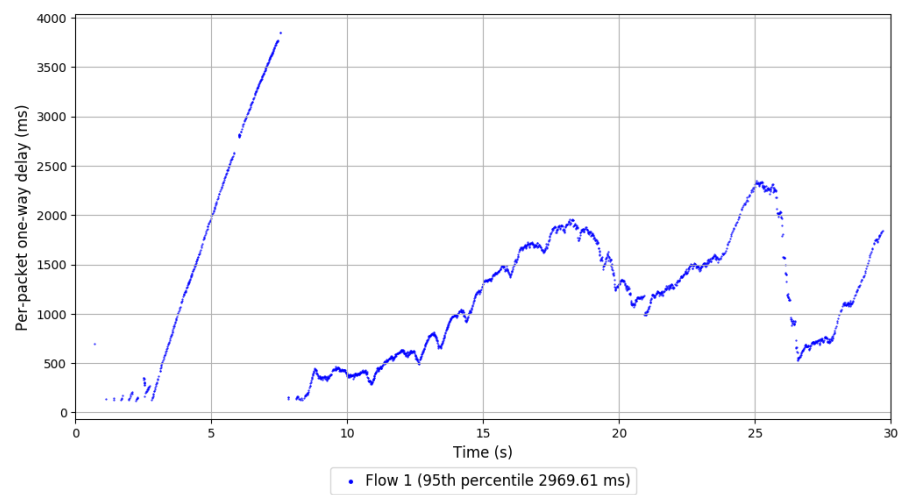
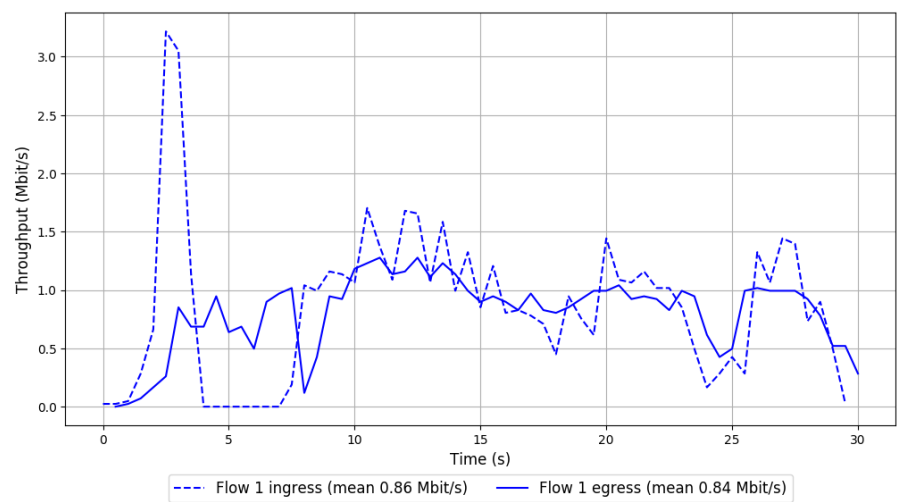
-- Flow 1:

Average throughput: 0.84 Mbit/s

95th percentile per-packet one-way delay: 2969.606 ms

Loss rate: 4.86%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-07-09 19:31:29

End at: 2018-07-09 19:31:59

Local clock offset: -0.592 ms

Remote clock offset: 3.408 ms

Below is generated by plot.py at 2018-07-09 19:47:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.82 Mbit/s

95th percentile per-packet one-way delay: 2137.073 ms

Loss rate: 5.72%

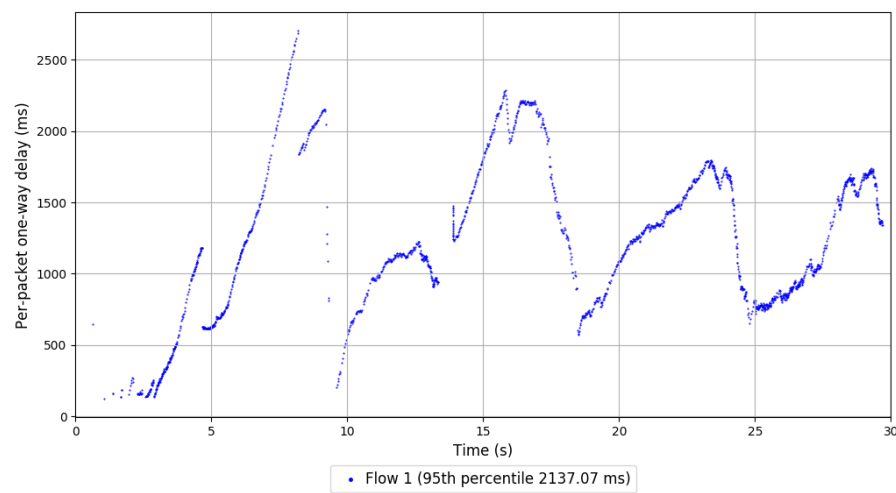
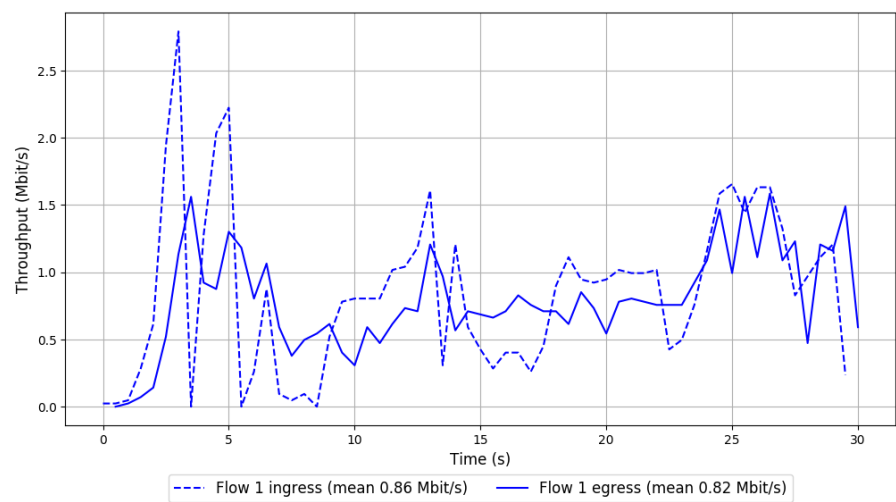
-- Flow 1:

Average throughput: 0.82 Mbit/s

95th percentile per-packet one-way delay: 2137.073 ms

Loss rate: 5.72%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

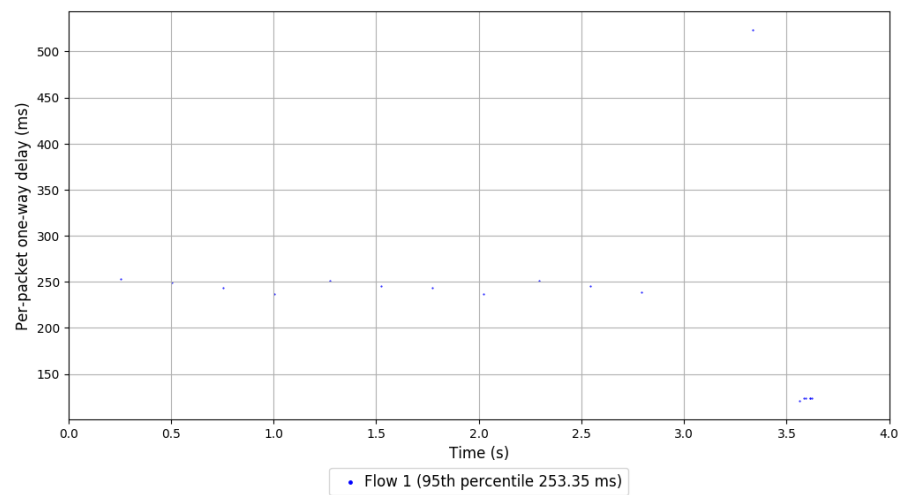
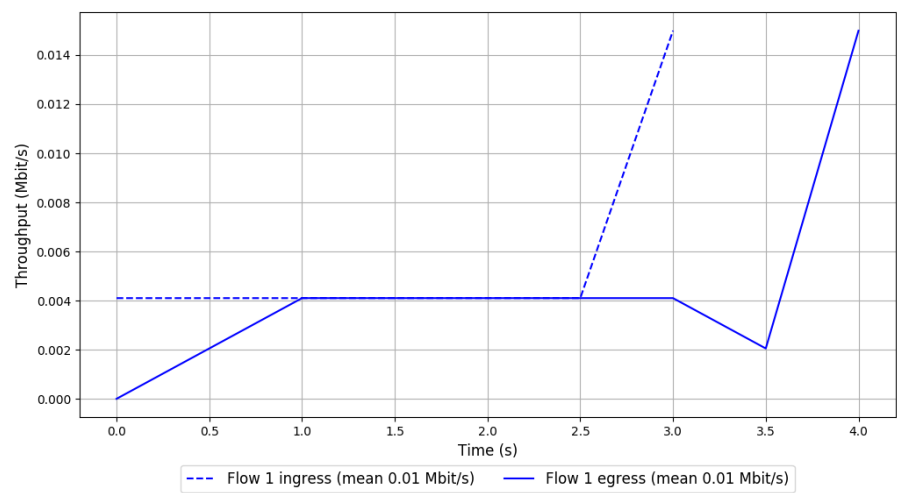
Start at: 2018-07-09 18:49:38

End at: 2018-07-09 18:50:08

Local clock offset: -1.046 ms

Remote clock offset: 7.432 ms

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-07-09 19:08:51

End at: 2018-07-09 19:09:21

Local clock offset: -0.152 ms

Remote clock offset: 4.013 ms

Below is generated by plot.py at 2018-07-09 19:47:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 259.204 ms

Loss rate: 0.00%

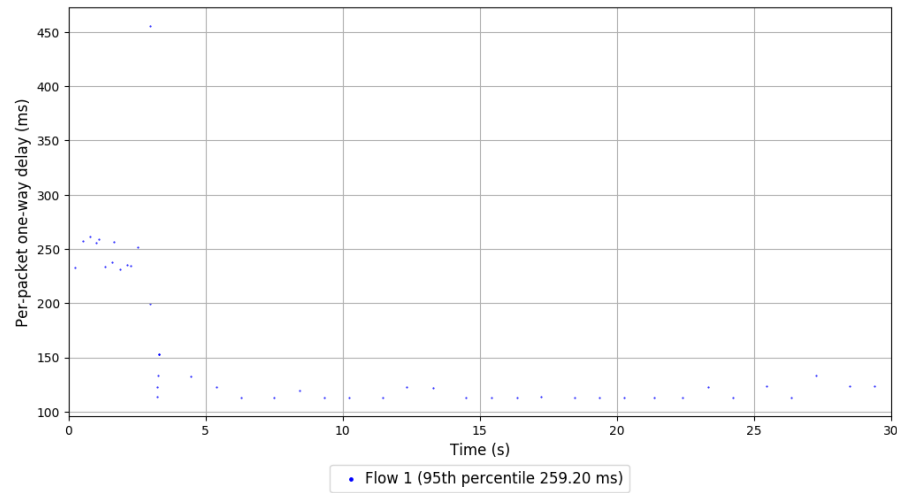
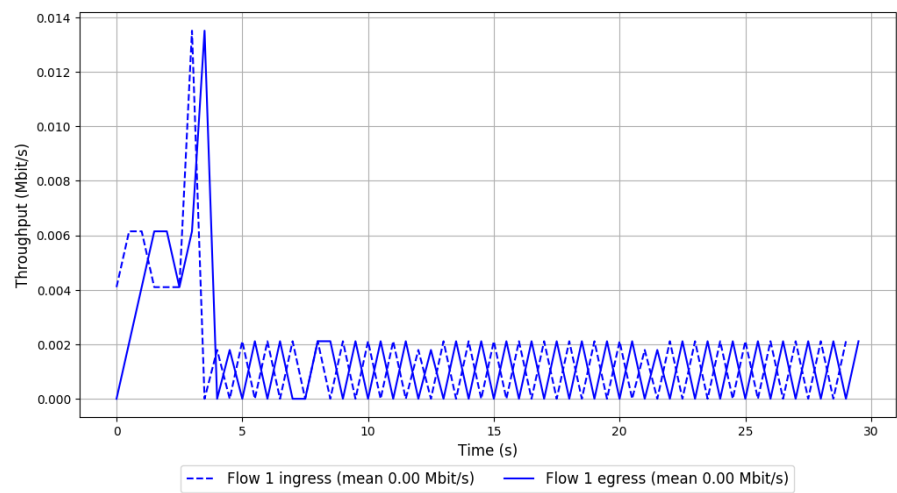
-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 259.204 ms

Loss rate: 0.00%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-07-09 19:28:05

End at: 2018-07-09 19:28:35

Local clock offset: -0.551 ms

Remote clock offset: 9.011 ms

Below is generated by plot.py at 2018-07-09 19:47:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.75 Mbit/s

95th percentile per-packet one-way delay: 12992.978 ms

Loss rate: 51.84%

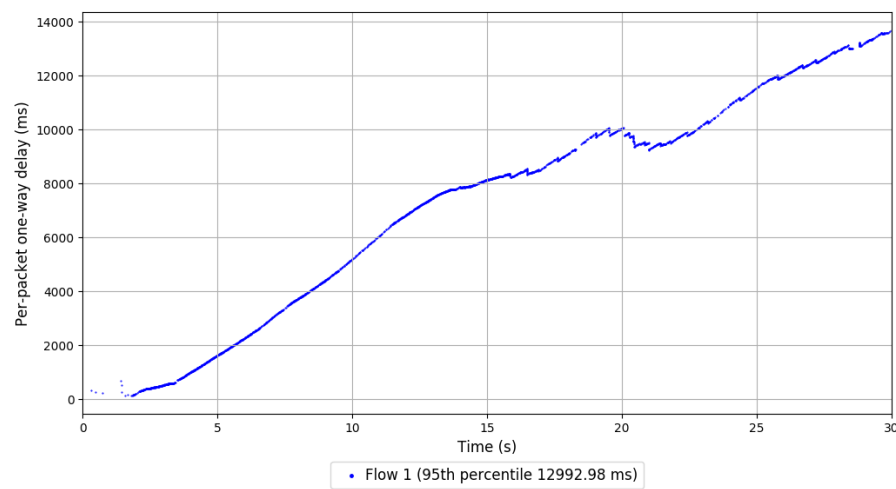
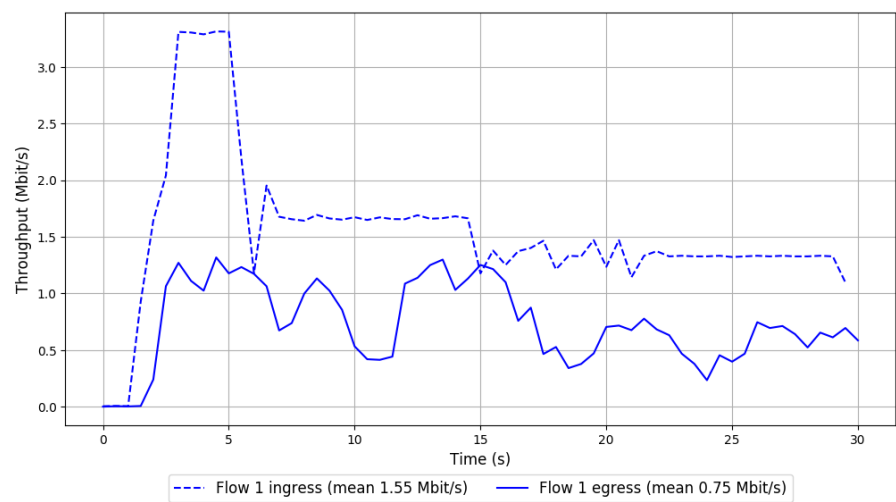
-- Flow 1:

Average throughput: 0.75 Mbit/s

95th percentile per-packet one-way delay: 12992.978 ms

Loss rate: 51.84%

Run 3: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-07-09 19:00:58

End at: 2018-07-09 19:01:28

Local clock offset: -0.32 ms

Remote clock offset: 8.574 ms

Below is generated by plot.py at 2018-07-09 19:47:15

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.23 Mbit/s

95th percentile per-packet one-way delay: 415.866 ms

Loss rate: 0.03%

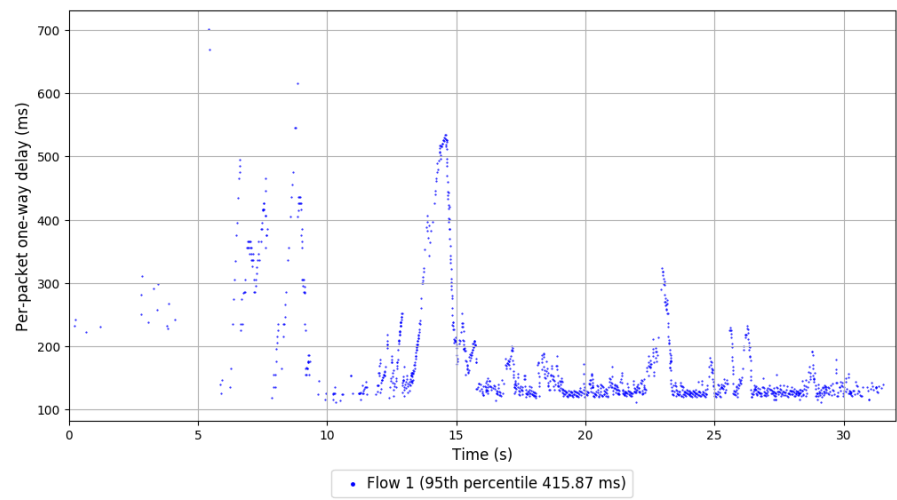
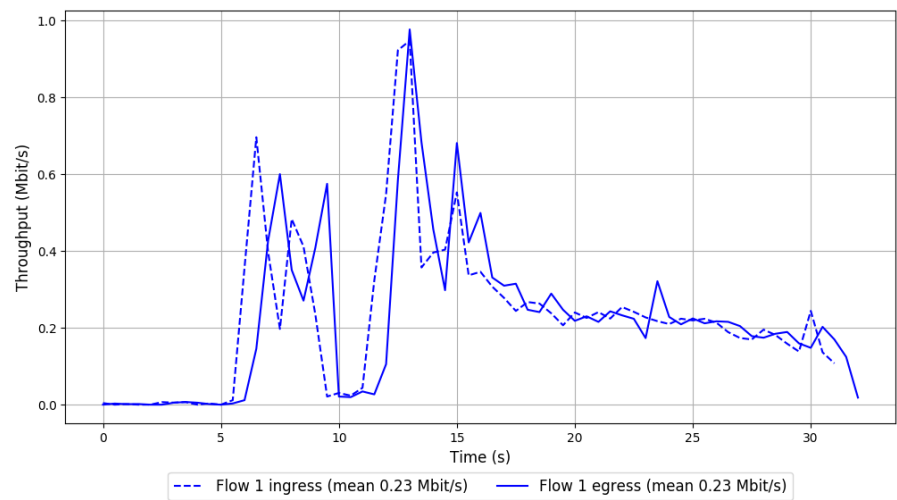
-- Flow 1:

Average throughput: 0.23 Mbit/s

95th percentile per-packet one-way delay: 415.866 ms

Loss rate: 0.03%

Run 1: Report of WebRTC media — Data Link

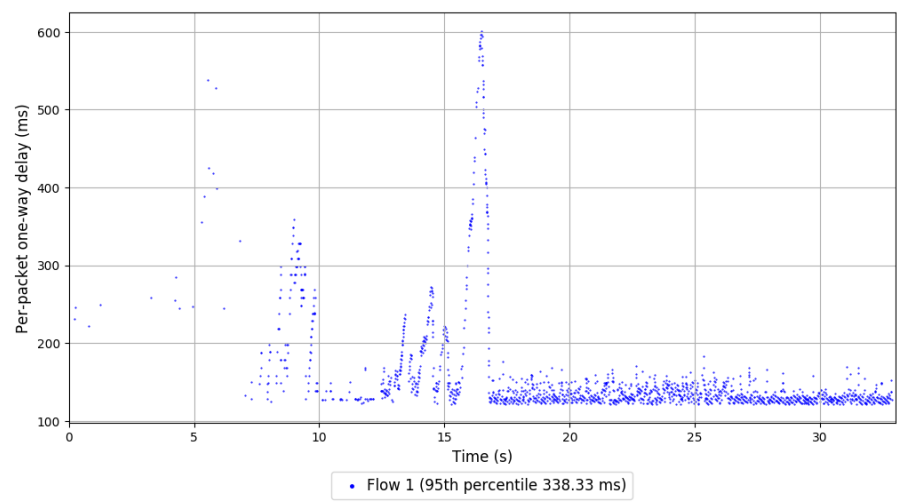
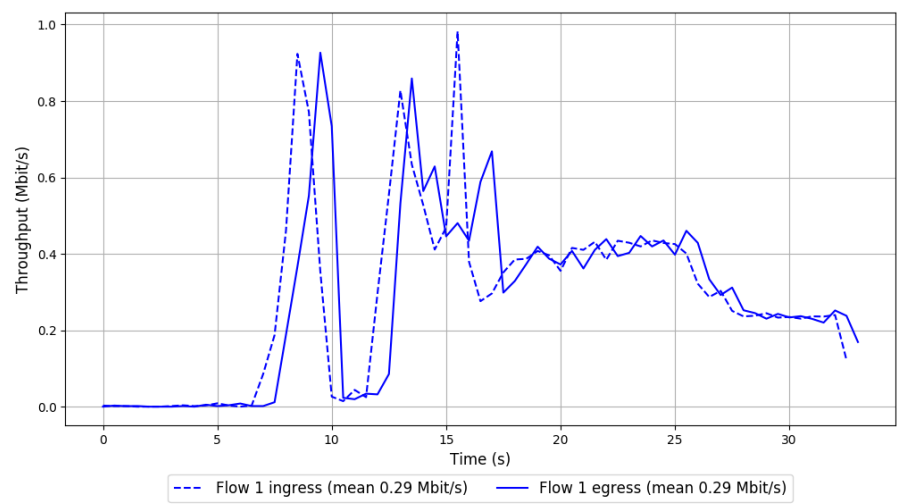


Run 2: Statistics of WebRTC media

Start at: 2018-07-09 19:20:09
End at: 2018-07-09 19:20:39
Local clock offset: -0.509 ms
Remote clock offset: 10.349 ms

Below is generated by plot.py at 2018-07-09 19:47:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 338.327 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 338.327 ms
Loss rate: 0.08%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-07-09 19:39:22

End at: 2018-07-09 19:39:52

Local clock offset: -0.539 ms

Remote clock offset: 8.241 ms

Below is generated by plot.py at 2018-07-09 19:47:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 170.009 ms

Loss rate: 0.15%

-- Flow 1:

Average throughput: 0.49 Mbit/s

95th percentile per-packet one-way delay: 170.009 ms

Loss rate: 0.15%

Run 3: Report of WebRTC media — Data Link

