

Pantheon Report

Generated at 2017-08-21 01:33:04 (UTC).

Data path: AWS Korea Ethernet (*local*) → China ppp0 (*remote*).

Repeated the test of 15 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).

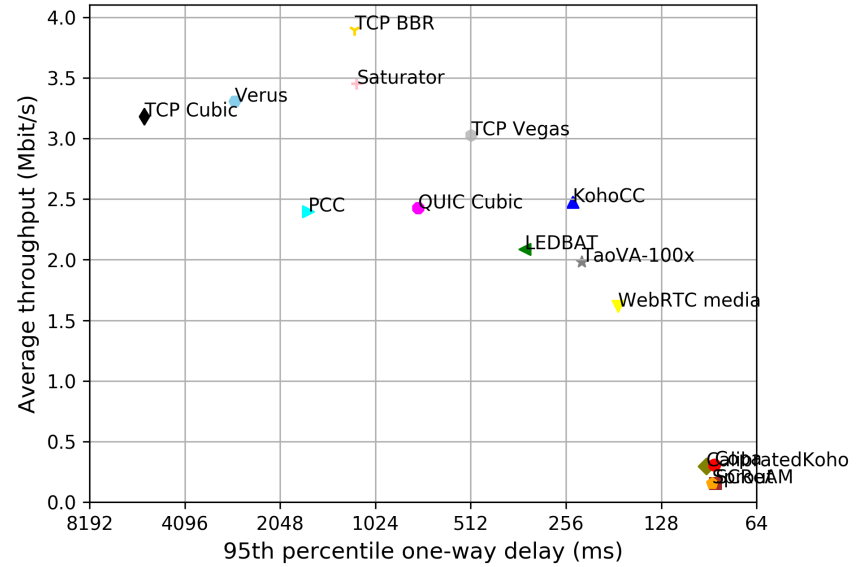
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

NTP offsets were measured against `ntp.nict.jp` and have been applied to correct the timestamps in logs.

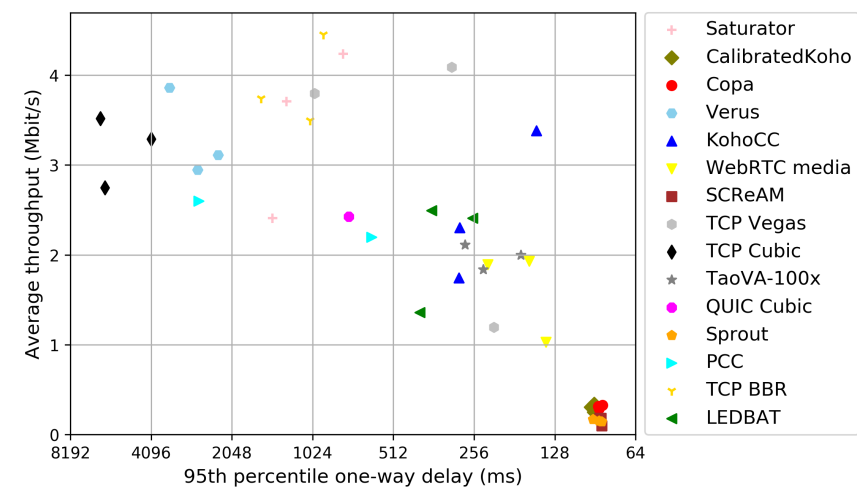
Git summary:

```
branch: master @ e43be7582298d552838afcf6382342bf187fbbd6
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/genericCC @ dae96123232f1bcb37725348fa2378691ce26725
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-stimuli @ fc73a85ca16c34366d1888dc8a0d0d88d4ebf2a7
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
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/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaaeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
  M src/examples/cellsim.cc
  M src/examples/sproutbt2.cc
  M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/webRTC @ a488197ddd041ace68a42849b2540ad834825f42
```

test from AWS Korea Ethernet to China ppp0, 3 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS Korea Ethernet to China ppp0, 3 runs of 30s each per 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	3.90	1191.97	1.74
CalibratedKoho	3	0.30	92.21	0.00
Copa	3	0.31	86.90	0.04
TCP Cubic	3	3.19	5497.90	12.81
KohoCC	3	2.47	243.69	0.31
LEDBAT	3	2.09	345.70	0.42
PCC	2	2.40	1670.93	0.24
QUIC Cubic	1	2.43	751.32	2.13
Saturator	3	3.45	1172.00	1.04
SCReAM	3	0.15	86.34	0.04
Sprout	3	0.15	88.50	0.25
TaoVA-100x	3	1.98	228.18	0.24
TCP Vegas	3	3.03	510.86	0.69
Verus	3	3.30	2851.21	3.30
WebRTC media	3	1.62	175.12	0.12

Run 1: Statistics of TCP BBR

Start at: 2017-08-21 00:51:08

End at: 2017-08-21 00:51:38

Local clock offset: 2.122 ms

Remote clock offset: -0.401 ms

Below is generated by plot.py at 2017-08-21 01:32:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 4.45 Mbit/s

95th percentile per-packet one-way delay: 932.675 ms

Loss rate: 1.74%

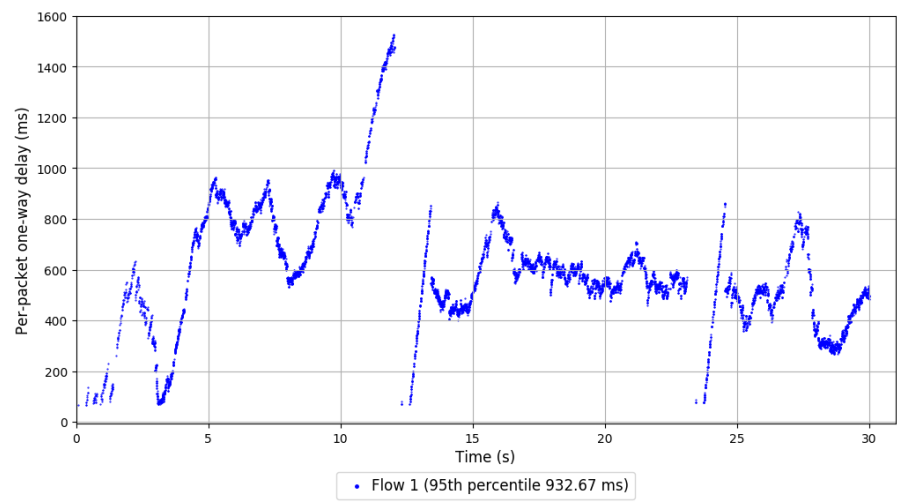
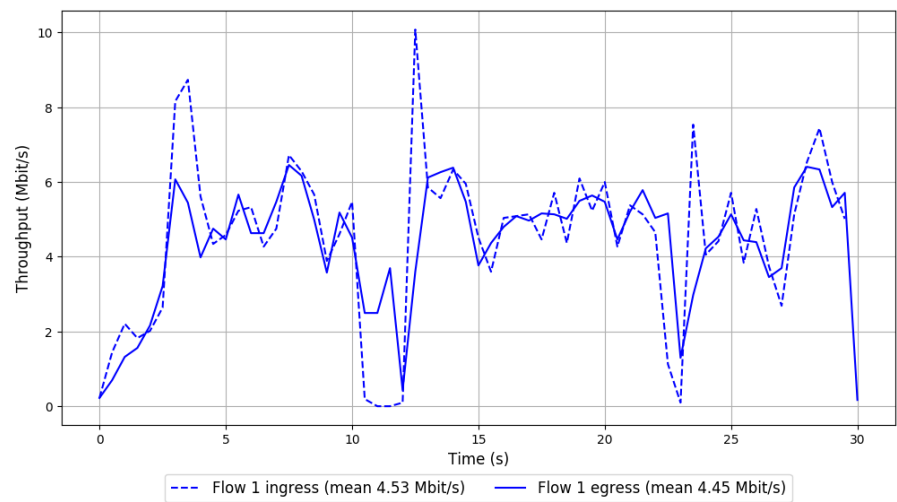
-- Flow 1:

Average throughput: 4.45 Mbit/s

95th percentile per-packet one-way delay: 932.675 ms

Loss rate: 1.74%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2017-08-21 01:09:57

End at: 2017-08-21 01:10:27

Local clock offset: 1.874 ms

Remote clock offset: -0.504 ms

Below is generated by plot.py at 2017-08-21 01:32:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.50 Mbit/s

95th percentile per-packet one-way delay: 1047.810 ms

Loss rate: 1.99%

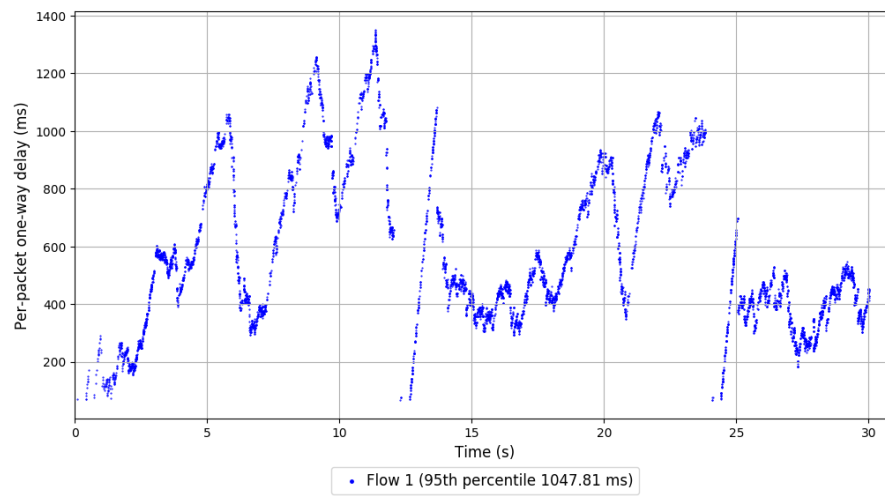
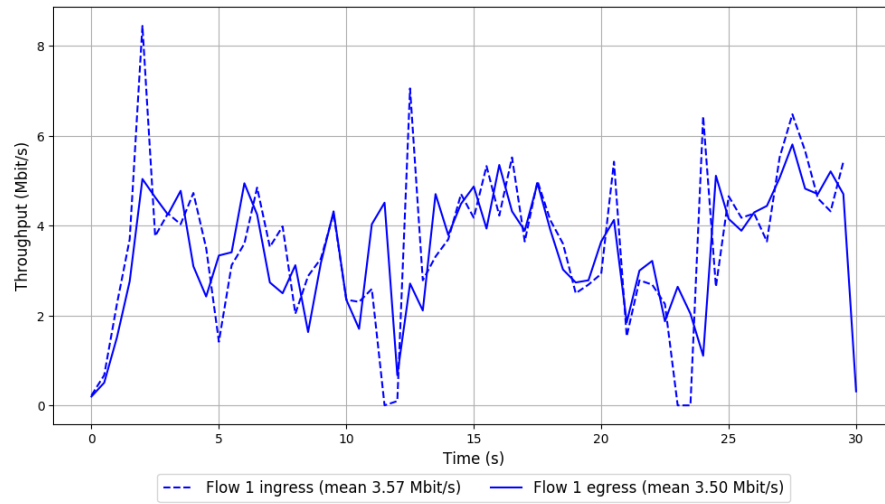
-- Flow 1:

Average throughput: 3.50 Mbit/s

95th percentile per-packet one-way delay: 1047.810 ms

Loss rate: 1.99%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2017-08-21 01:28:36

End at: 2017-08-21 01:29:06

Local clock offset: 1.945 ms

Remote clock offset: -0.565 ms

Below is generated by plot.py at 2017-08-21 01:32:35

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.74 Mbit/s

95th percentile per-packet one-way delay: 1595.417 ms

Loss rate: 1.49%

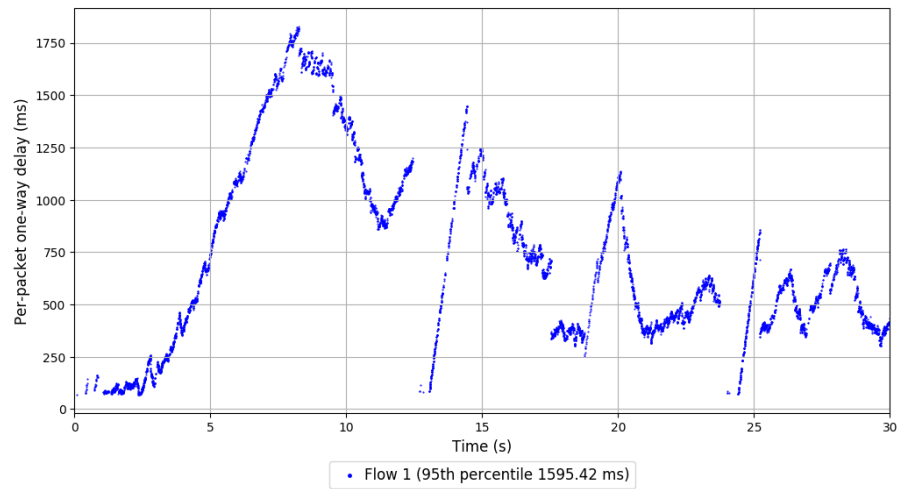
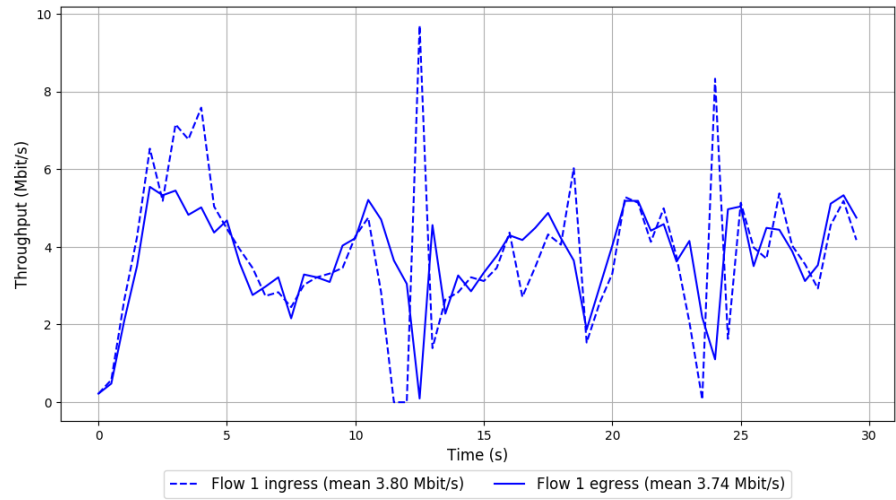
-- Flow 1:

Average throughput: 3.74 Mbit/s

95th percentile per-packet one-way delay: 1595.417 ms

Loss rate: 1.49%

Run 3: Report of TCP BBR — Data Link

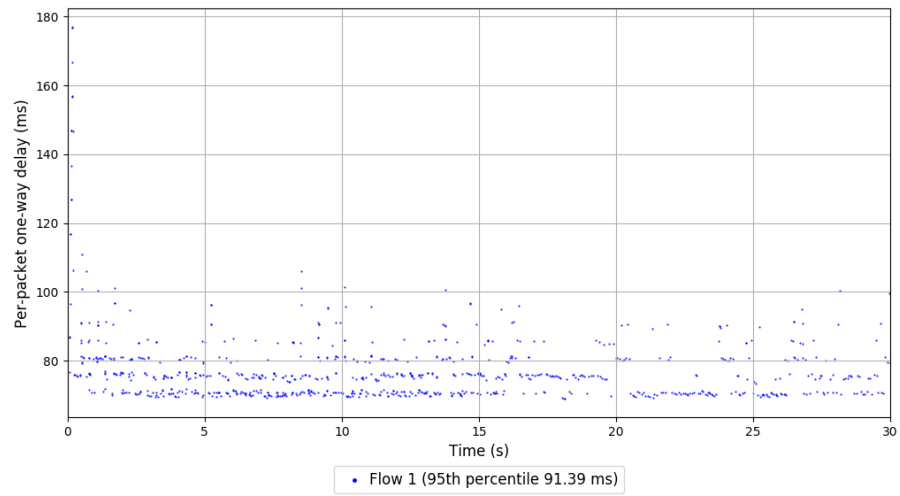
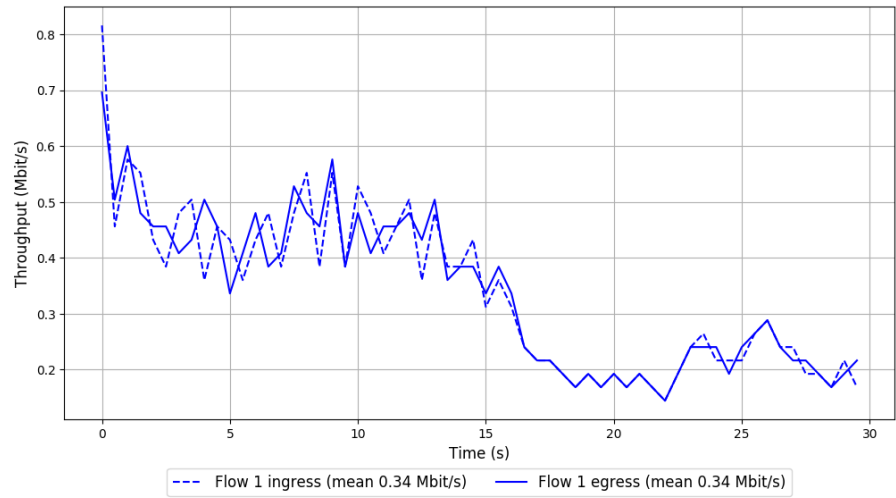


Run 1: Statistics of CalibratedKoho

Start at: 2017-08-21 00:52:21
End at: 2017-08-21 00:52:51
Local clock offset: 1.841 ms
Remote clock offset: -0.456 ms

Below is generated by plot.py at 2017-08-21 01:32:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 91.390 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 91.390 ms
Loss rate: 0.00%

Run 1: Report of CalibratedKoho — Data Link

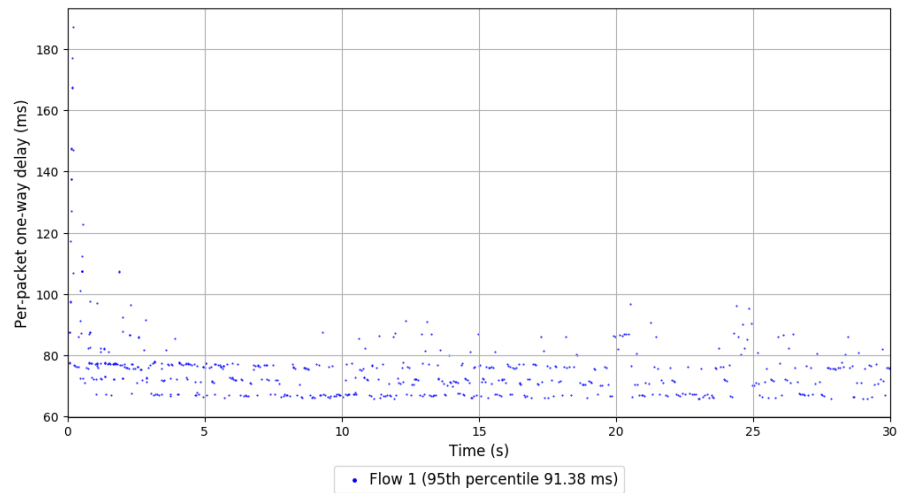
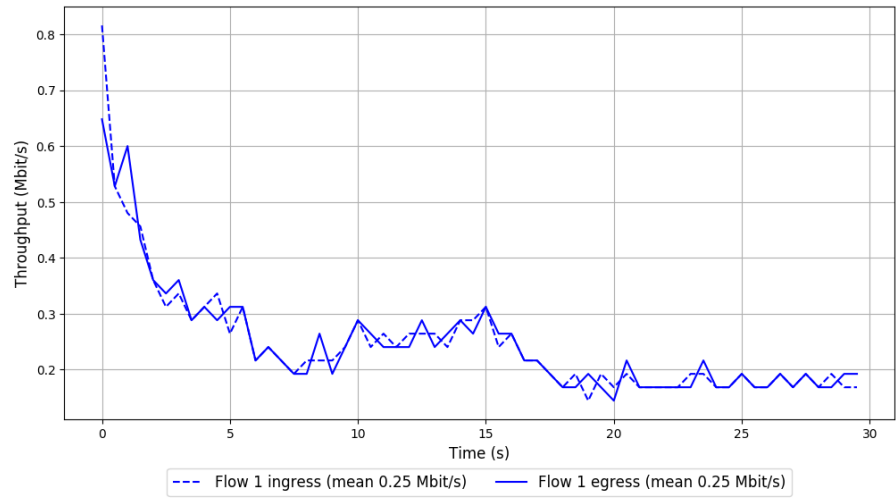


Run 2: Statistics of CalibratedKoho

Start at: 2017-08-21 01:11:10
End at: 2017-08-21 01:11:40
Local clock offset: 1.984 ms
Remote clock offset: -0.475 ms

Below is generated by plot.py at 2017-08-21 01:32:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 91.379 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.25 Mbit/s
95th percentile per-packet one-way delay: 91.379 ms
Loss rate: 0.00%

Run 2: Report of CalibratedKoho — Data Link

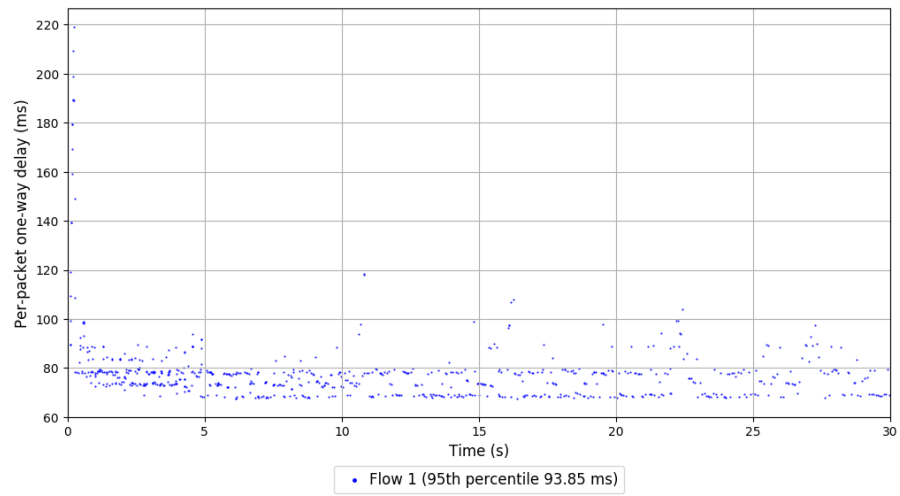
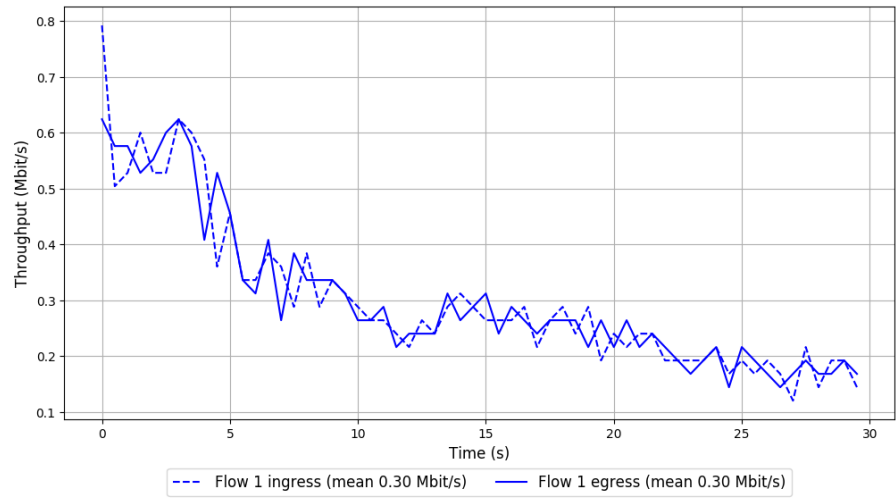


Run 3: Statistics of CalibratedKoho

Start at: 2017-08-21 01:29:50
End at: 2017-08-21 01:30:20
Local clock offset: 1.525 ms
Remote clock offset: -0.538 ms

Below is generated by plot.py at 2017-08-21 01:32:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 93.854 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 93.854 ms
Loss rate: 0.00%

Run 3: Report of CalibratedKoho — Data Link

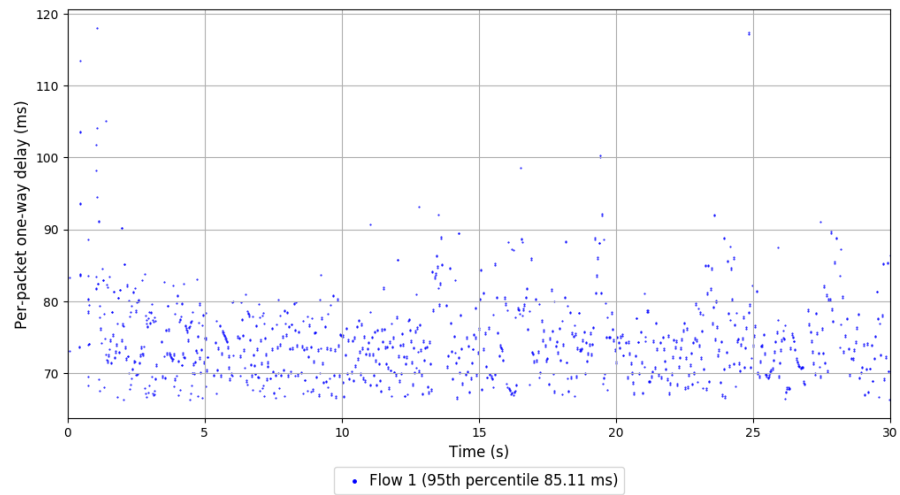
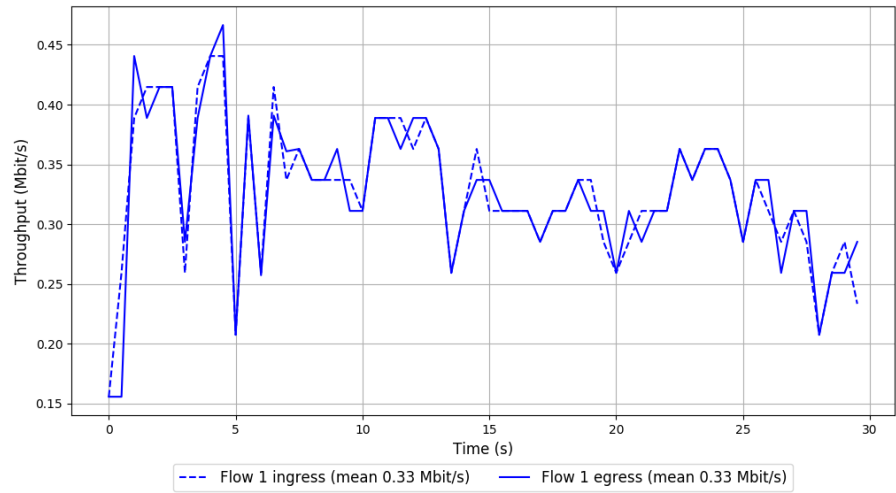


Run 1: Statistics of Copa

Start at: 2017-08-21 00:36:09
End at: 2017-08-21 00:36:39
Local clock offset: 1.859 ms
Remote clock offset: -0.457 ms

Below is generated by plot.py at 2017-08-21 01:32:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 85.111 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 85.111 ms
Loss rate: 0.00%

Run 1: Report of Copa — Data Link

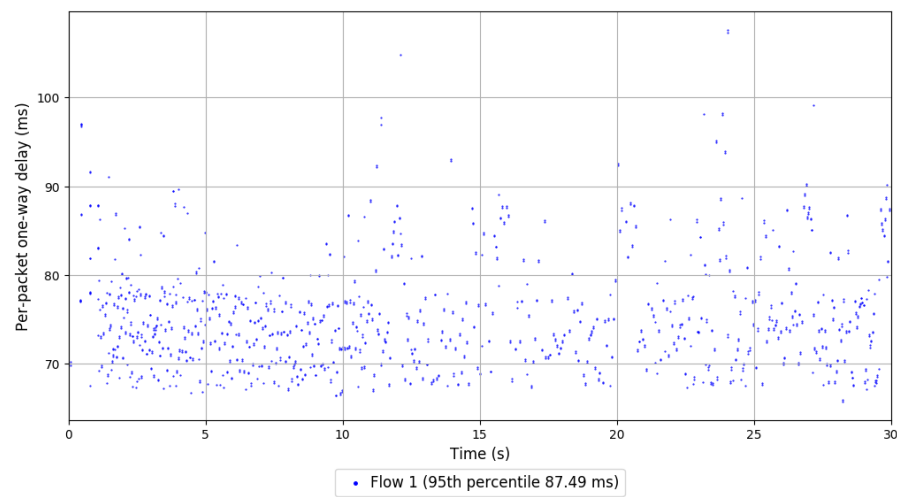
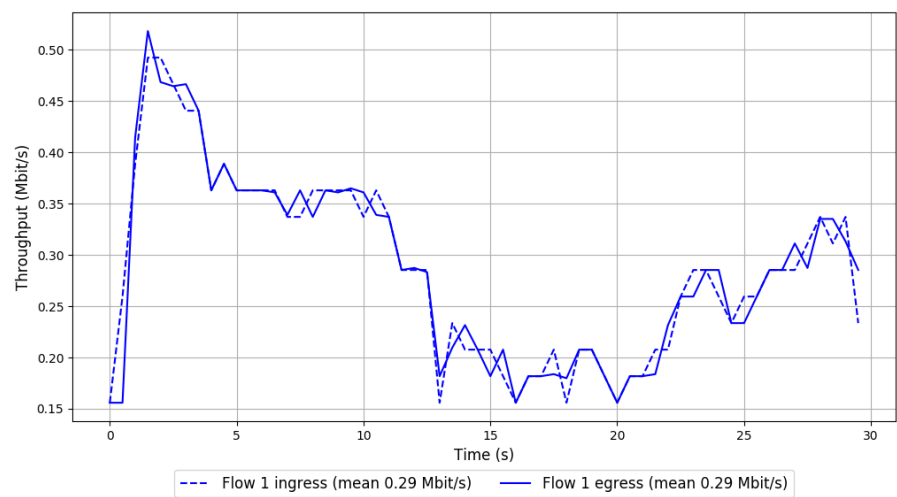


Run 2: Statistics of Copa

Start at: 2017-08-21 00:54:52
End at: 2017-08-21 00:55:22
Local clock offset: 1.763 ms
Remote clock offset: -0.507 ms

Below is generated by plot.py at 2017-08-21 01:32:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 87.487 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 87.487 ms
Loss rate: 0.00%

Run 2: Report of Copa — Data Link

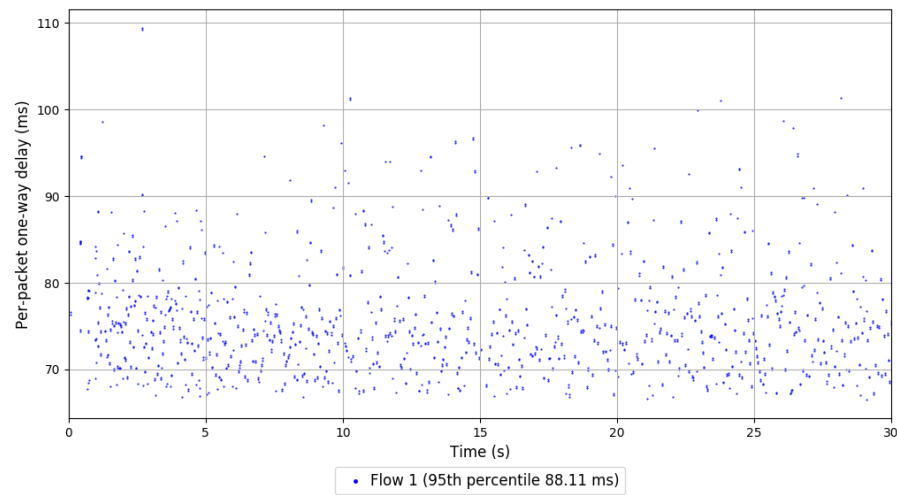
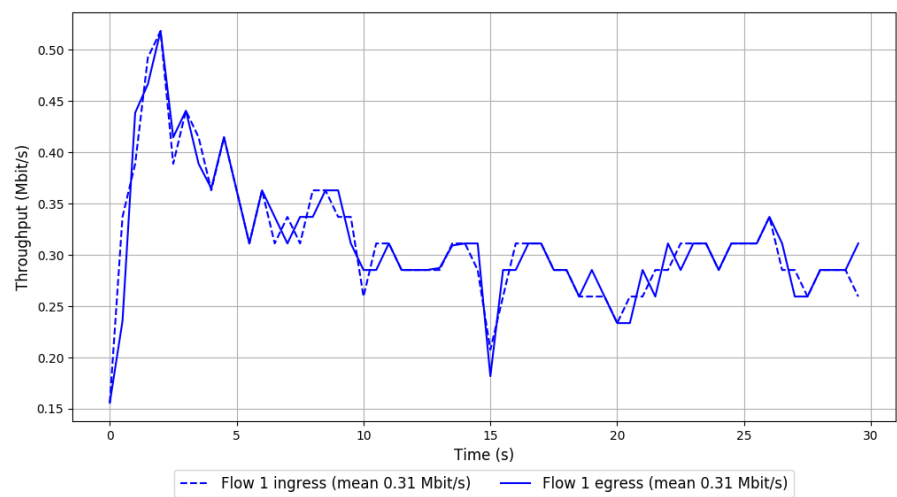


Run 3: Statistics of Copa

Start at: 2017-08-21 01:13:40
End at: 2017-08-21 01:14:10
Local clock offset: 2.04 ms
Remote clock offset: -0.588 ms

Below is generated by plot.py at 2017-08-21 01:32:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 88.109 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 88.109 ms
Loss rate: 0.13%

Run 3: Report of Copa — Data Link

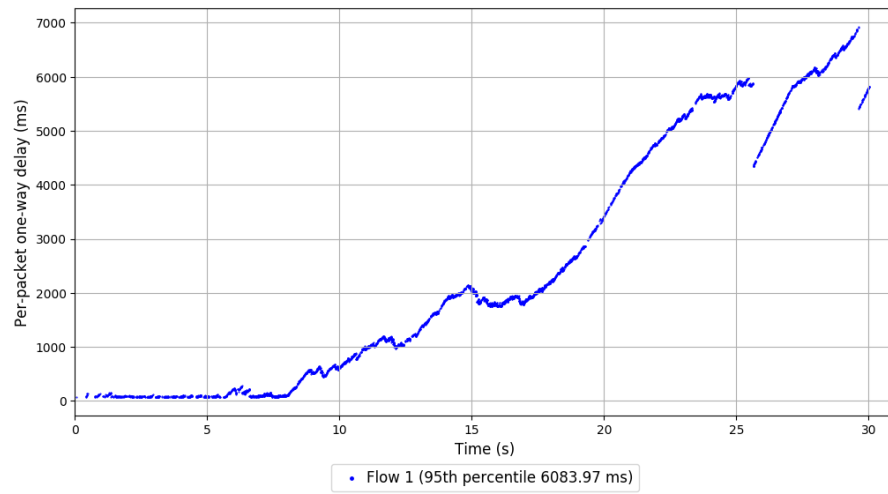
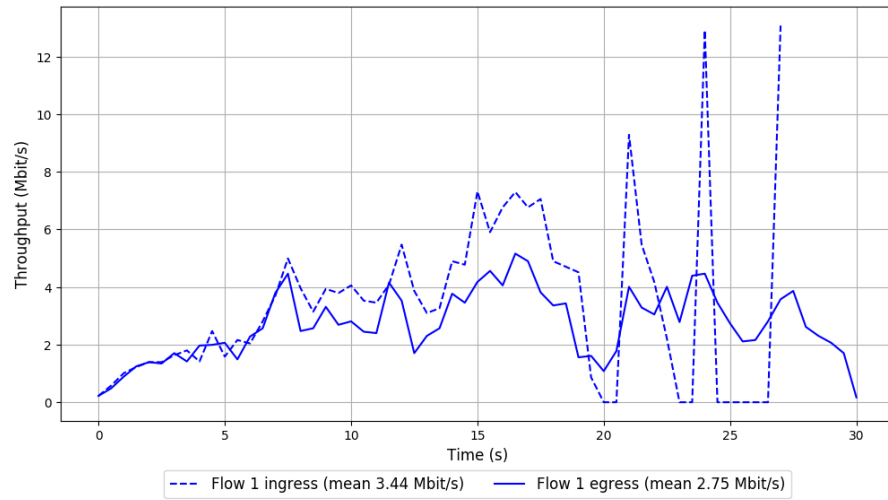


Run 1: Statistics of TCP Cubic

Start at: 2017-08-21 00:48:42
End at: 2017-08-21 00:49:12
Local clock offset: 2.125 ms
Remote clock offset: -0.441 ms

Below is generated by plot.py at 2017-08-21 01:32:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 6083.965 ms
Loss rate: 12.93%
-- Flow 1:
Average throughput: 2.75 Mbit/s
95th percentile per-packet one-way delay: 6083.965 ms
Loss rate: 12.93%

Run 1: Report of TCP Cubic — Data Link

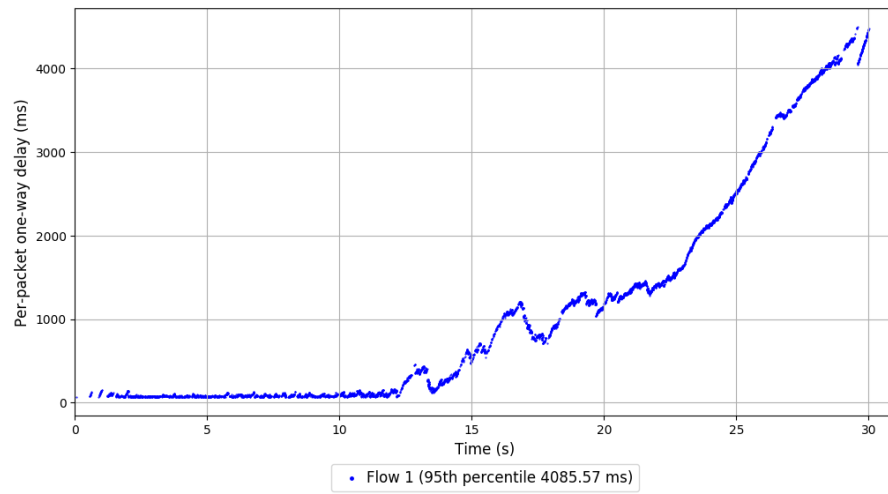
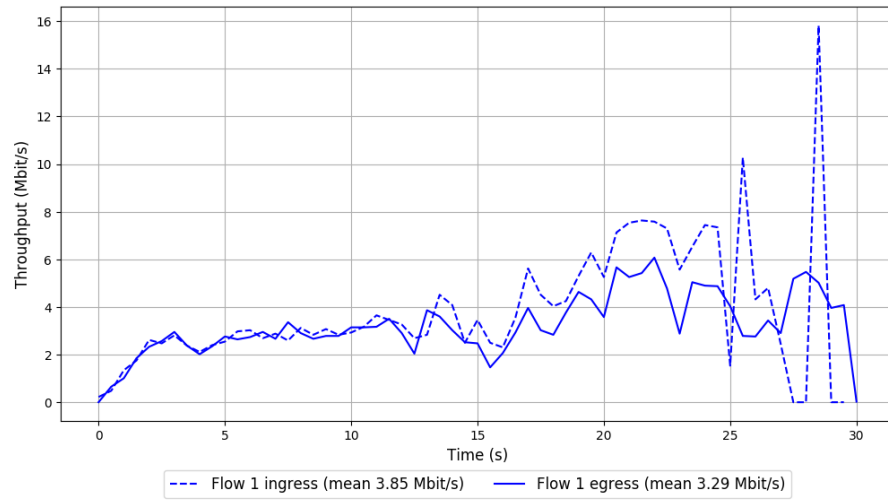


Run 2: Statistics of TCP Cubic

Start at: 2017-08-21 01:07:22
End at: 2017-08-21 01:07:52
Local clock offset: 2.06 ms
Remote clock offset: -0.535 ms

Below is generated by plot.py at 2017-08-21 01:32:40
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 4085.567 ms
Loss rate: 14.62%
-- Flow 1:
Average throughput: 3.29 Mbit/s
95th percentile per-packet one-way delay: 4085.567 ms
Loss rate: 14.62%

Run 2: Report of TCP Cubic — Data Link

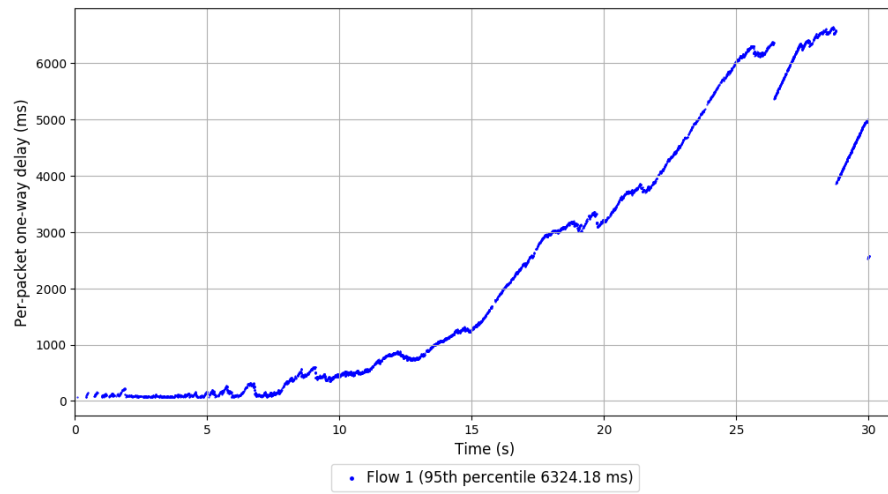
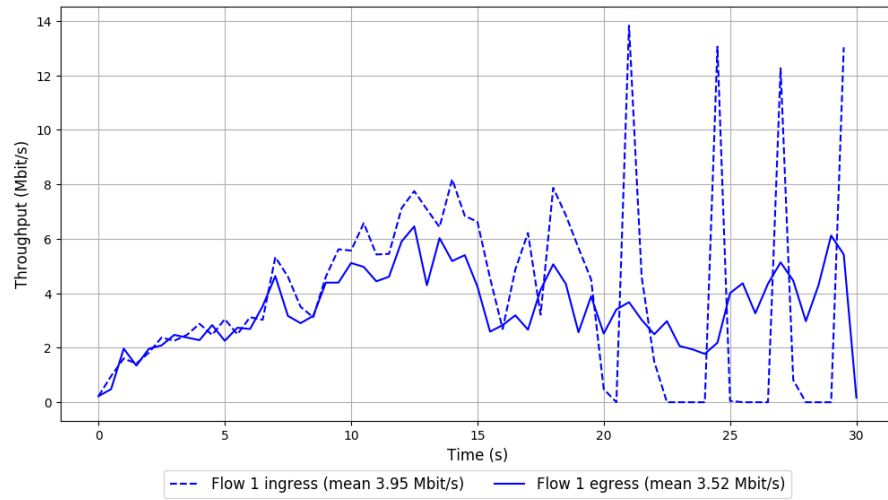


Run 3: Statistics of TCP Cubic

Start at: 2017-08-21 01:26:06
End at: 2017-08-21 01:26:36
Local clock offset: 1.493 ms
Remote clock offset: -0.577 ms

Below is generated by plot.py at 2017-08-21 01:32:41
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 6324.181 ms
Loss rate: 10.87%
-- Flow 1:
Average throughput: 3.52 Mbit/s
95th percentile per-packet one-way delay: 6324.181 ms
Loss rate: 10.87%

Run 3: Report of TCP Cubic — Data Link

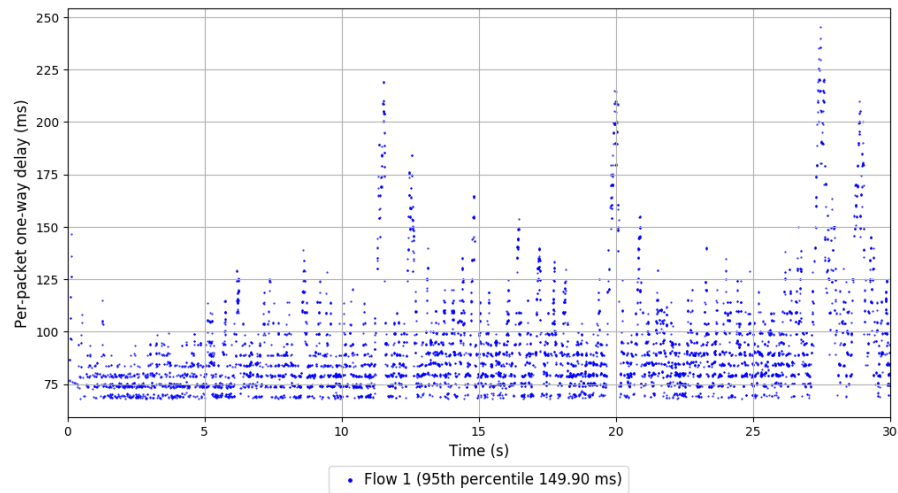
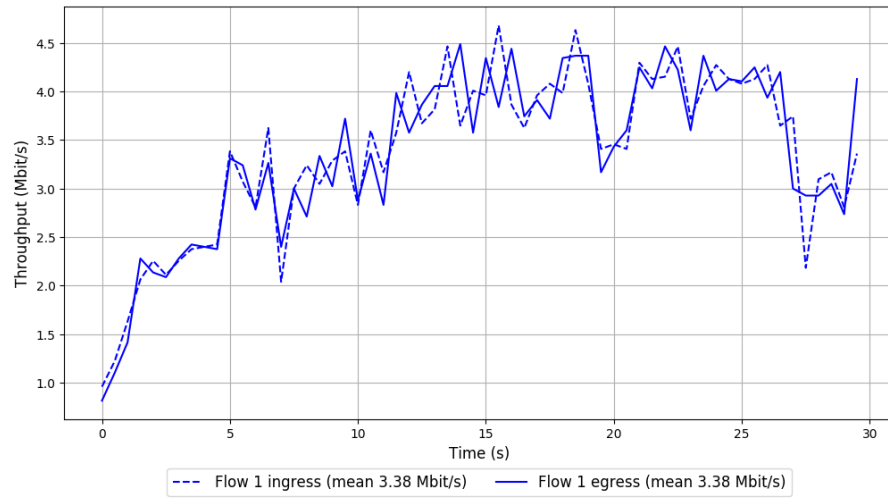


Run 1: Statistics of KohoCC

Start at: 2017-08-21 00:43:40
End at: 2017-08-21 00:44:10
Local clock offset: 1.761 ms
Remote clock offset: -0.408 ms

Below is generated by plot.py at 2017-08-21 01:32:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 149.901 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 149.901 ms
Loss rate: 0.01%

Run 1: Report of KohoCC — Data Link

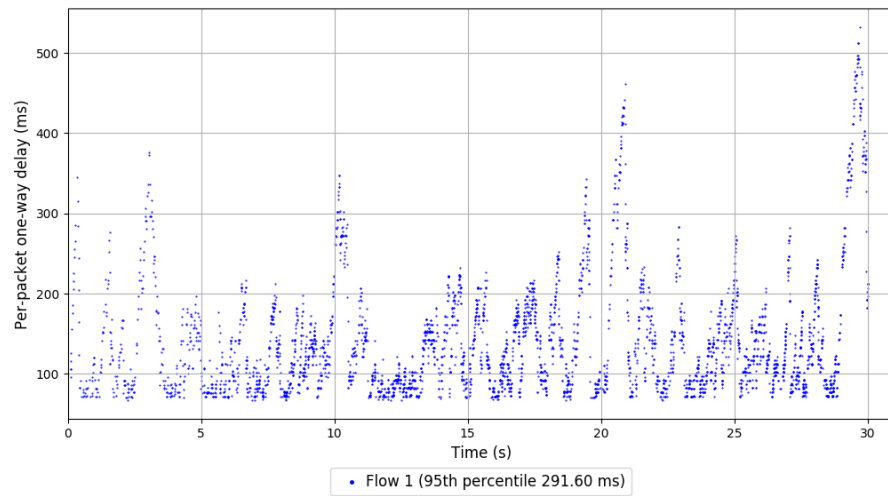
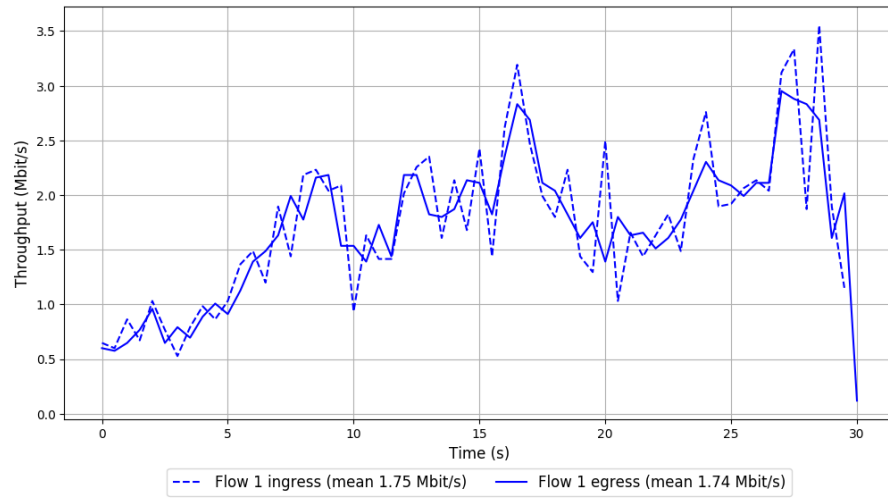


Run 2: Statistics of KohoCC

Start at: 2017-08-21 01:02:20
End at: 2017-08-21 01:02:51
Local clock offset: 2.123 ms
Remote clock offset: -0.538 ms

Below is generated by plot.py at 2017-08-21 01:32:42
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 291.598 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 291.598 ms
Loss rate: 0.41%

Run 2: Report of KohoCC — Data Link

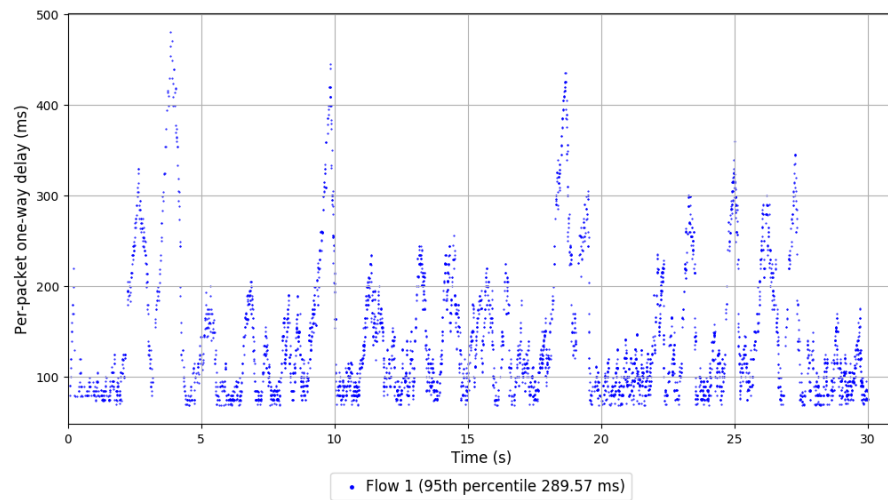
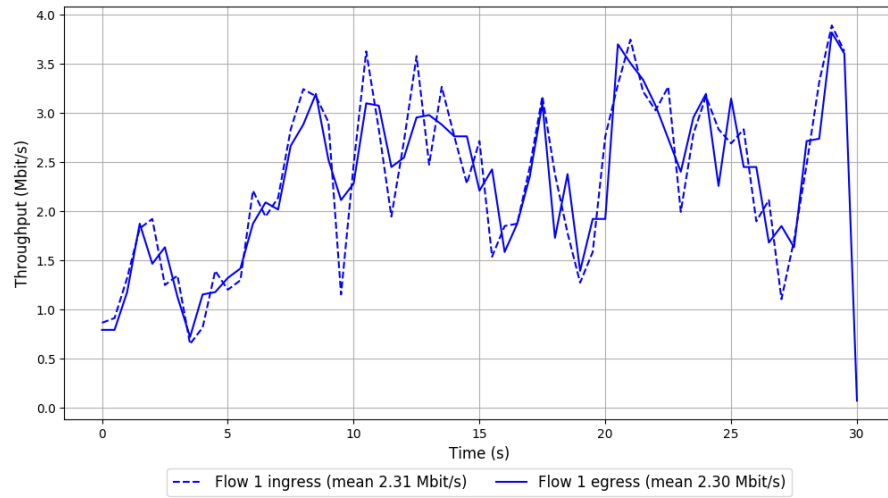


Run 3: Statistics of KohoCC

Start at: 2017-08-21 01:21:00
End at: 2017-08-21 01:21:30
Local clock offset: 1.959 ms
Remote clock offset: -0.562 ms

Below is generated by plot.py at 2017-08-21 01:32:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 289.568 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 289.568 ms
Loss rate: 0.50%

Run 3: Report of KohoCC — Data Link

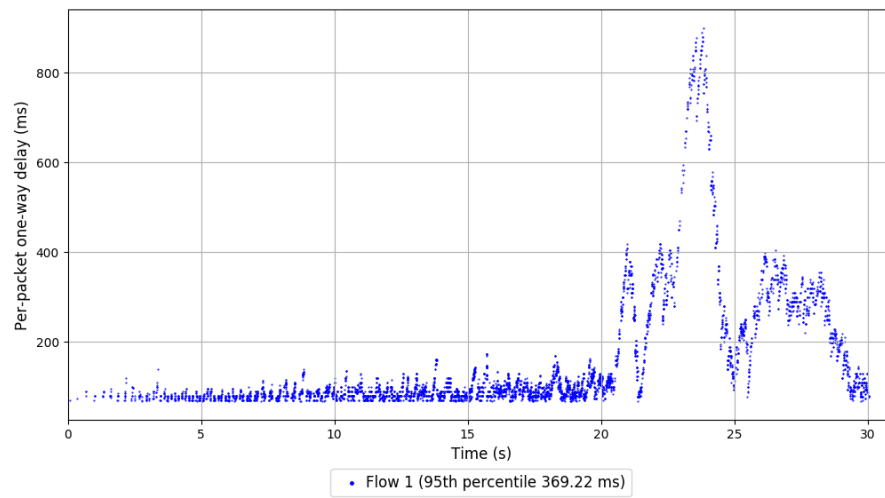
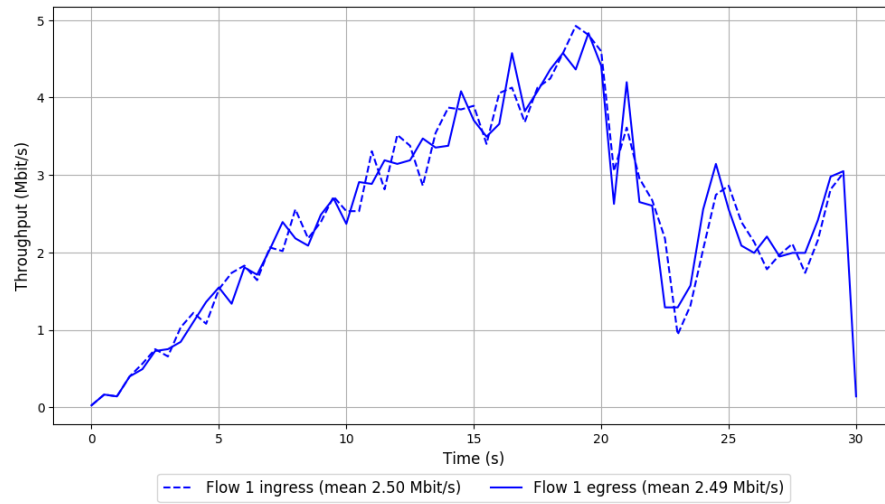


Run 1: Statistics of LEDBAT

Start at: 2017-08-21 00:41:05
End at: 2017-08-21 00:41:35
Local clock offset: 1.829 ms
Remote clock offset: -0.488 ms

Below is generated by plot.py at 2017-08-21 01:32:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 369.222 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 2.49 Mbit/s
95th percentile per-packet one-way delay: 369.222 ms
Loss rate: 0.27%

Run 1: Report of LEDBAT — Data Link

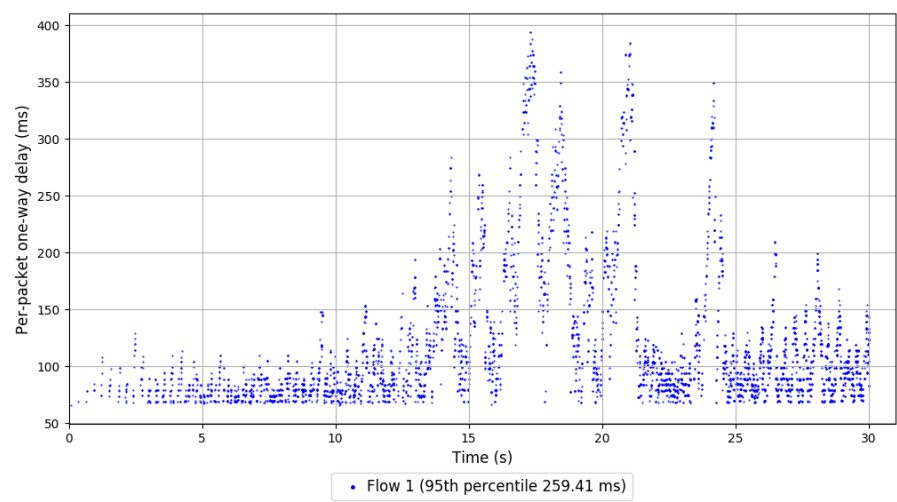
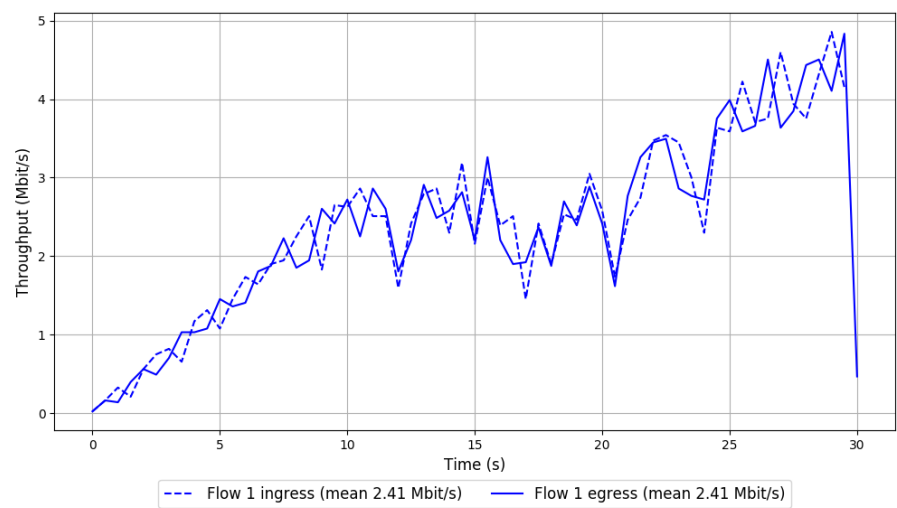


Run 2: Statistics of LEDBAT

Start at: 2017-08-21 00:59:50
End at: 2017-08-21 01:00:20
Local clock offset: 1.728 ms
Remote clock offset: -0.559 ms

Below is generated by plot.py at 2017-08-21 01:32:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 259.407 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 259.407 ms
Loss rate: 0.10%

Run 2: Report of LEDBAT — Data Link

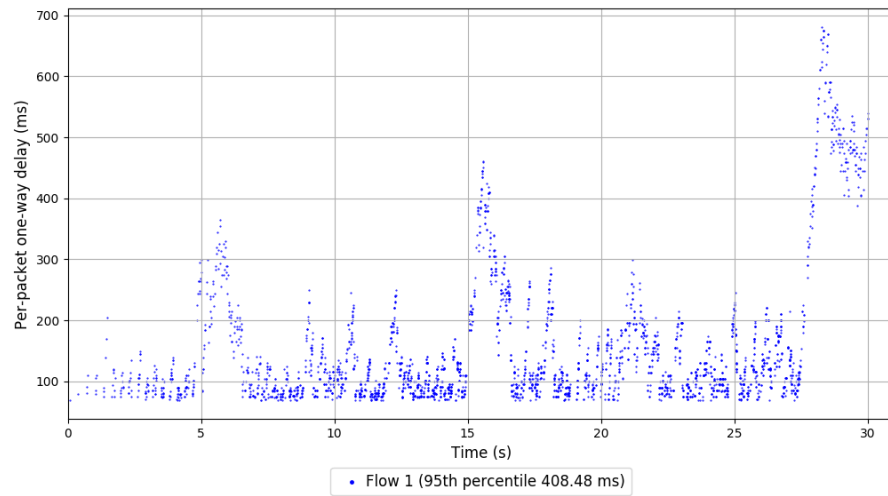
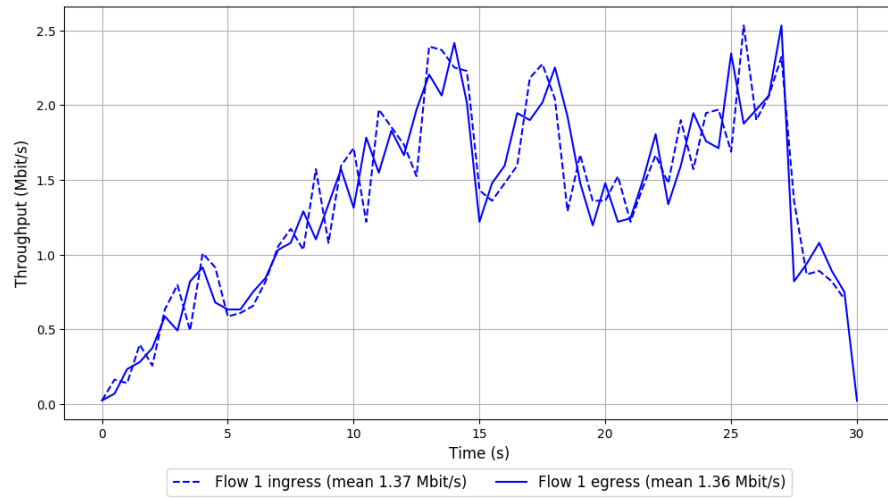


Run 3: Statistics of LEDBAT

Start at: 2017-08-21 01:18:34
End at: 2017-08-21 01:19:04
Local clock offset: 1.773 ms
Remote clock offset: -0.575 ms

Below is generated by plot.py at 2017-08-21 01:32:45
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 408.478 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 408.478 ms
Loss rate: 0.88%

Run 3: Report of LEDBAT — Data Link

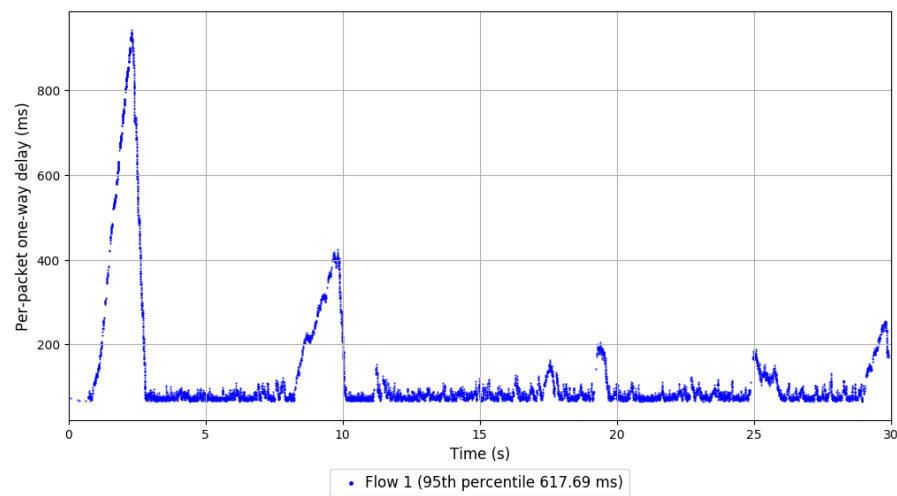
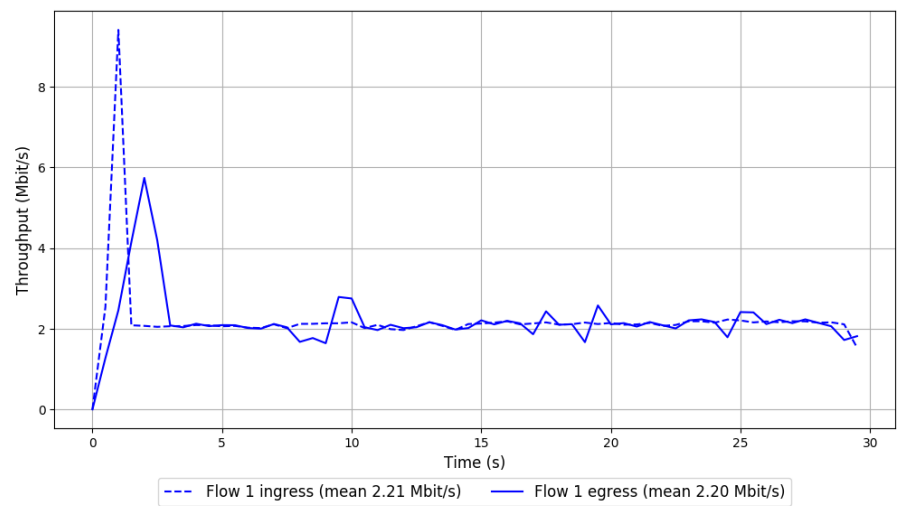


Run 1: Statistics of PCC

Start at: 2017-08-21 00:53:38
End at: 2017-08-21 00:54:08
Local clock offset: 1.698 ms
Remote clock offset: -0.481 ms

Below is generated by plot.py at 2017-08-21 01:32:46
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 617.689 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 617.689 ms
Loss rate: 0.41%

Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

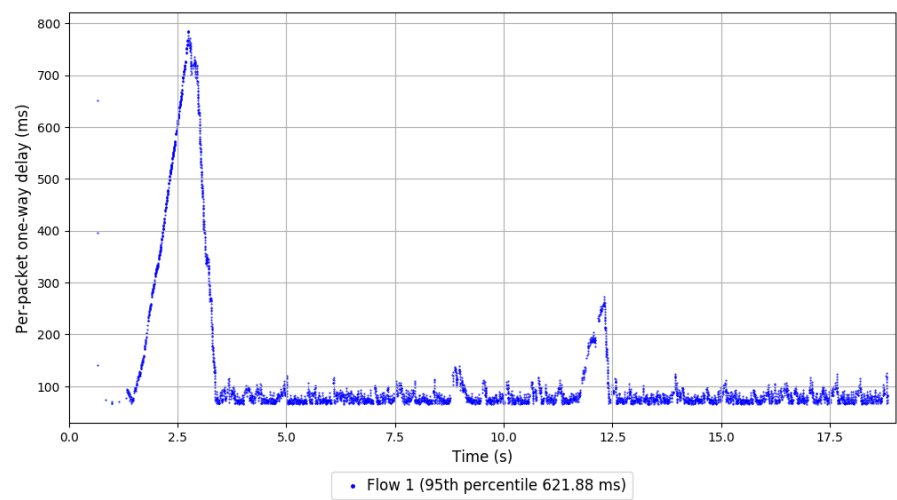
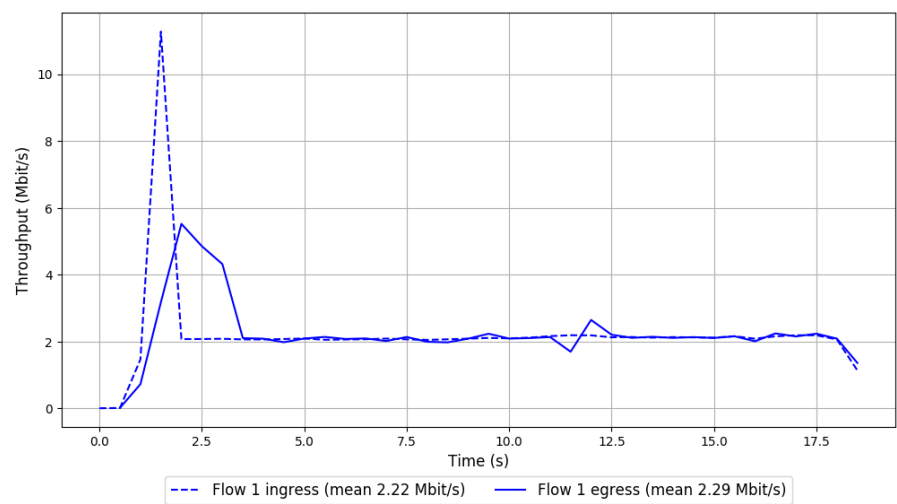
Start at: 2017-08-21 01:12:23

End at: 2017-08-21 01:12:53

Local clock offset: 2.056 ms

Remote clock offset: -0.542 ms

Run 2: Report of PCC — Data Link

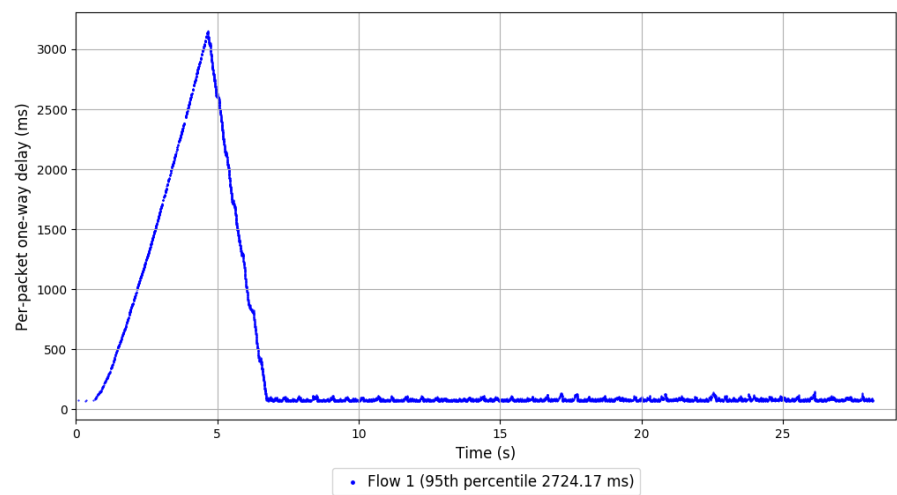
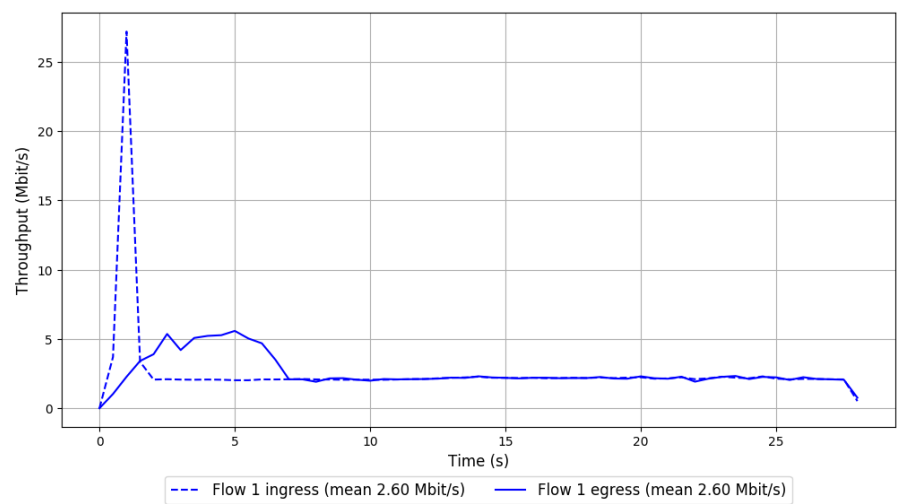


Run 3: Statistics of PCC

Start at: 2017-08-21 01:31:02
End at: 2017-08-21 01:31:32
Local clock offset: 1.634 ms
Remote clock offset: -0.534 ms

Below is generated by plot.py at 2017-08-21 01:32:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 2724.173 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 2.60 Mbit/s
95th percentile per-packet one-way delay: 2724.173 ms
Loss rate: 0.08%

Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

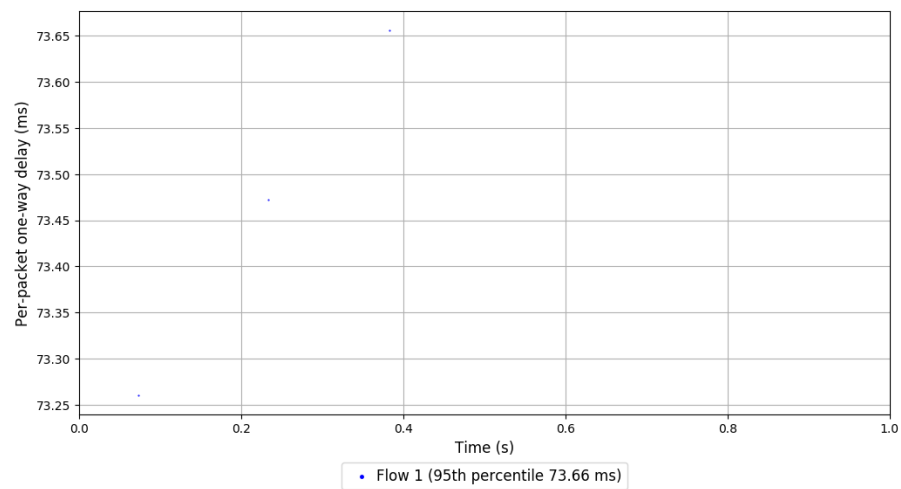
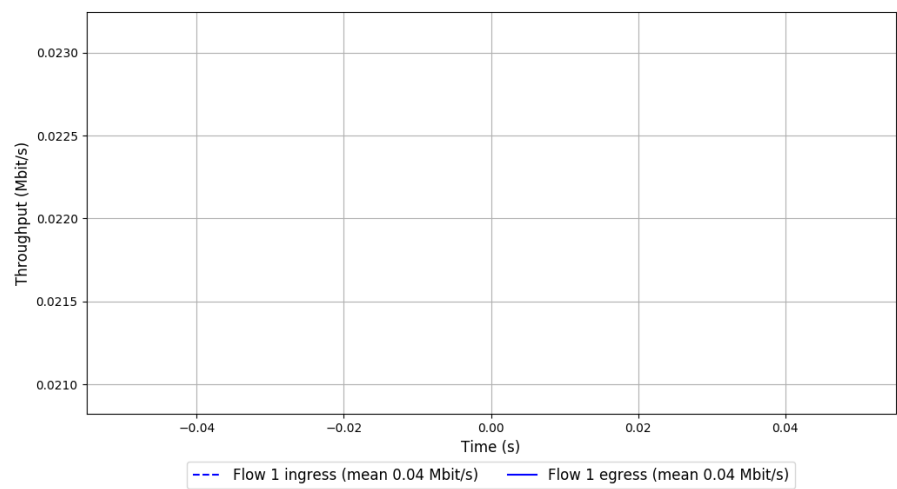
Start at: 2017-08-21 00:42:23

End at: 2017-08-21 00:42:53

Local clock offset: 2.034 ms

Remote clock offset: -0.436 ms

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

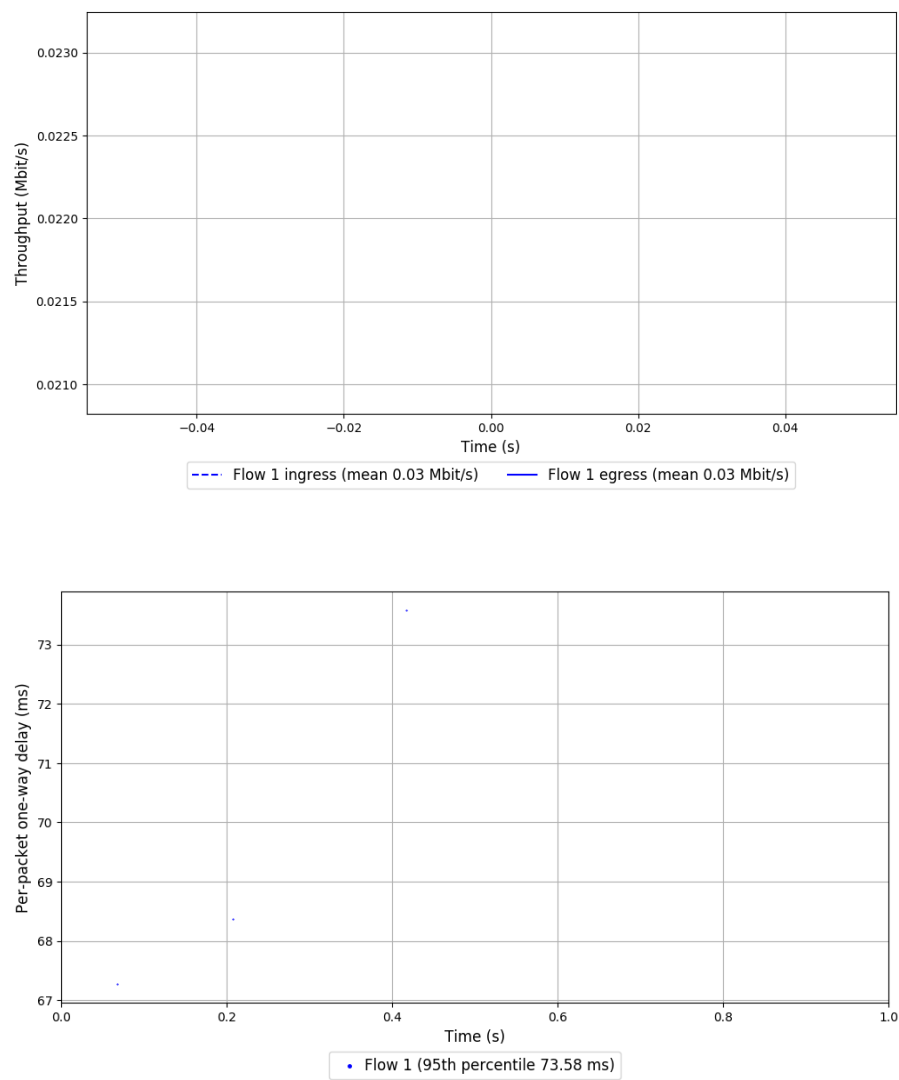
Start at: 2017-08-21 01:01:03

End at: 2017-08-21 01:01:33

Local clock offset: 1.9 ms

Remote clock offset: -0.561 ms

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2017-08-21 01:19:47

End at: 2017-08-21 01:20:17

Local clock offset: 1.744 ms

Remote clock offset: -0.622 ms

Below is generated by plot.py at 2017-08-21 01:32:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.43 Mbit/s

95th percentile per-packet one-way delay: 751.322 ms

Loss rate: 2.13%

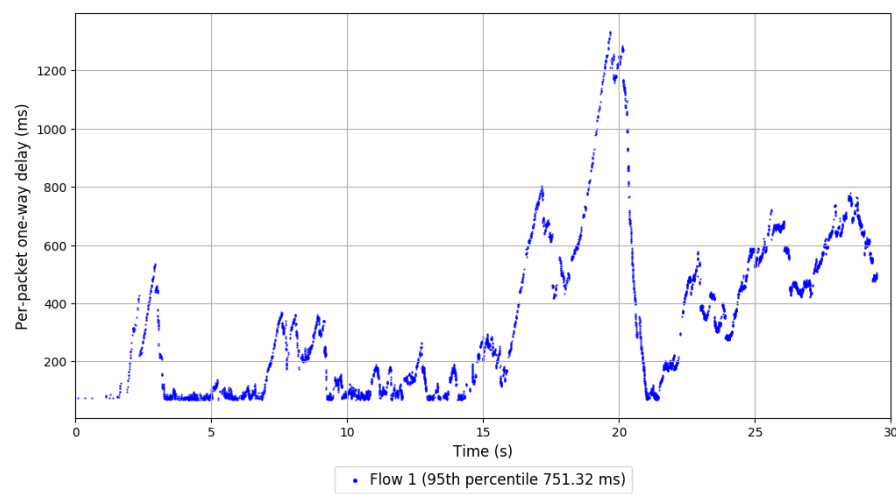
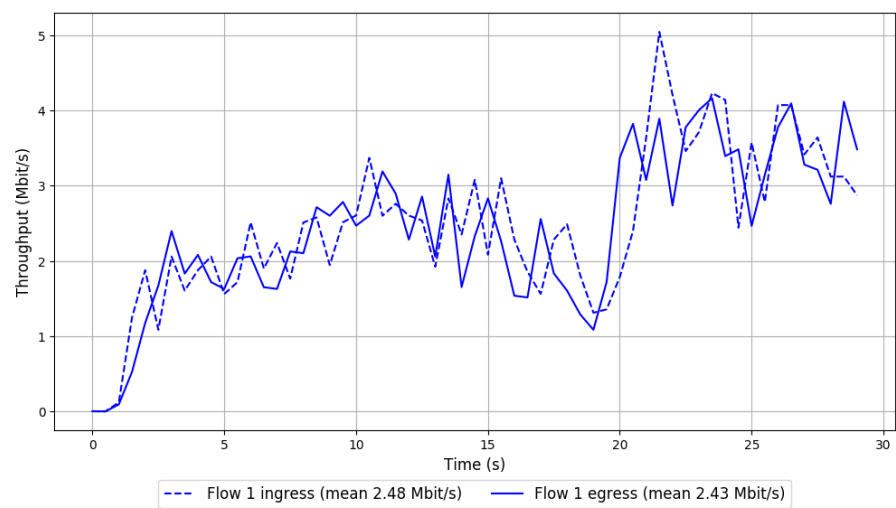
-- Flow 1:

Average throughput: 2.43 Mbit/s

95th percentile per-packet one-way delay: 751.322 ms

Loss rate: 2.13%

Run 3: Report of QUIC Cubic — Data Link

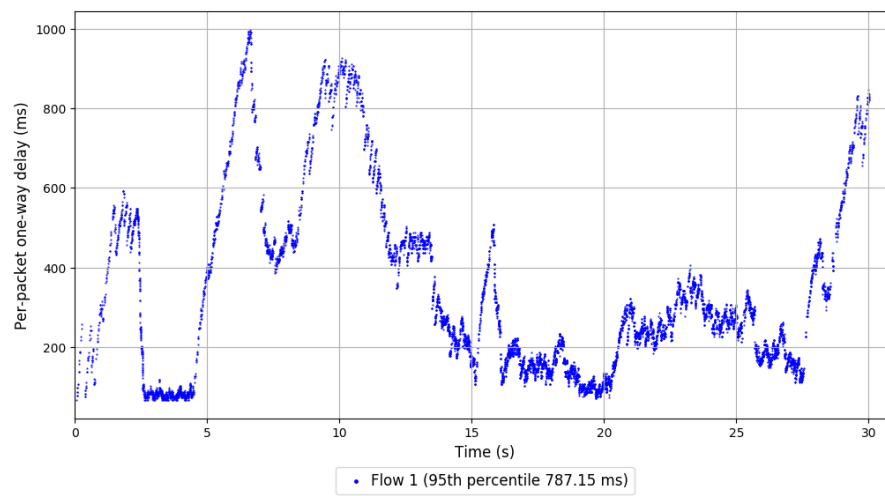
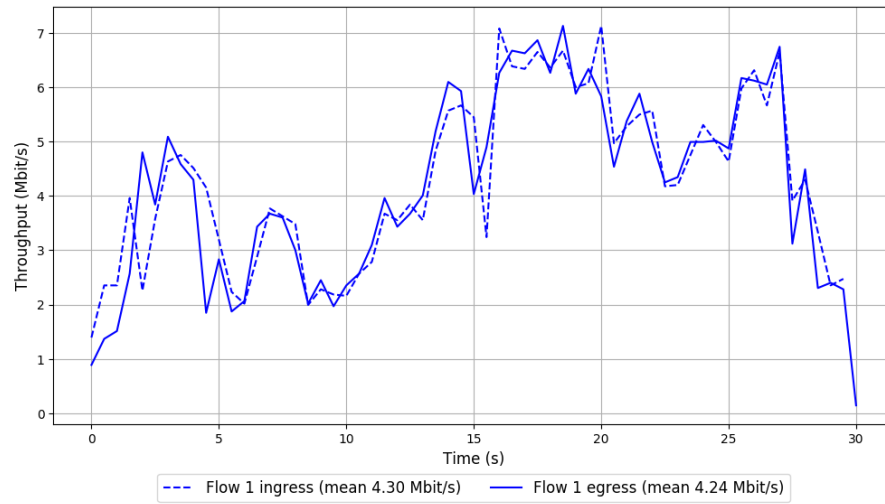


Run 1: Statistics of Saturator

Start at: 2017-08-21 00:37:21
End at: 2017-08-21 00:37:51
Local clock offset: 1.833 ms
Remote clock offset: -0.502 ms

Below is generated by plot.py at 2017-08-21 01:32:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.24 Mbit/s
95th percentile per-packet one-way delay: 787.146 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 4.24 Mbit/s
95th percentile per-packet one-way delay: 787.146 ms
Loss rate: 1.41%

Run 1: Report of Saturator — Data Link



Run 2: Statistics of Saturator

Start at: 2017-08-21 00:56:04

End at: 2017-08-21 00:56:34

Local clock offset: 1.743 ms

Remote clock offset: -0.56 ms

Below is generated by plot.py at 2017-08-21 01:32:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 3.71 Mbit/s

95th percentile per-packet one-way delay: 1282.949 ms

Loss rate: 0.39%

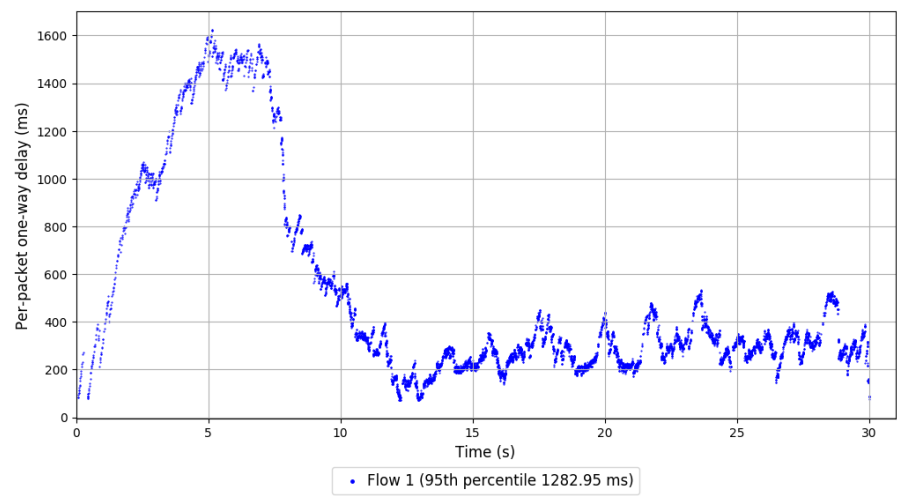
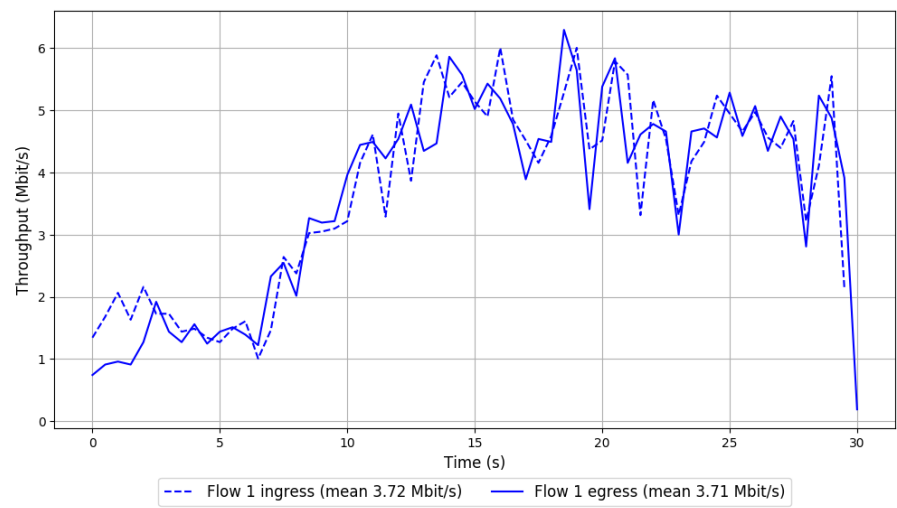
-- Flow 1:

Average throughput: 3.71 Mbit/s

95th percentile per-packet one-way delay: 1282.949 ms

Loss rate: 0.39%

Run 2: Report of Saturator — Data Link

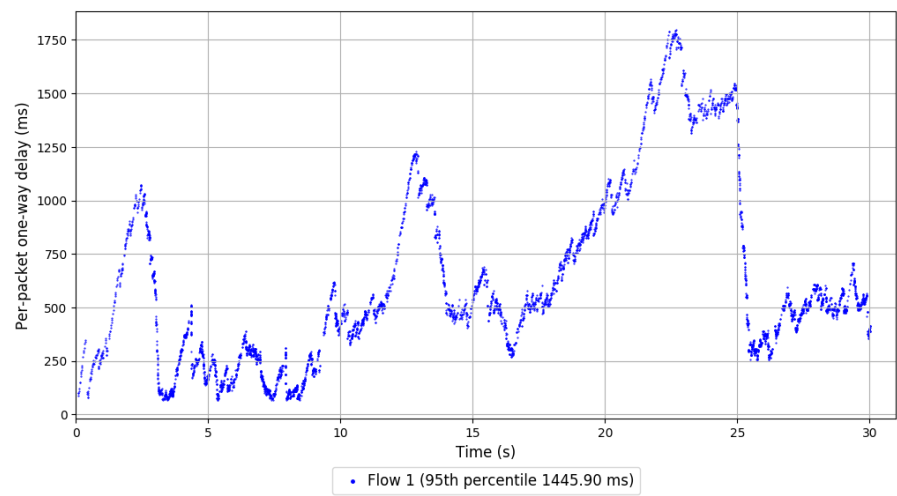
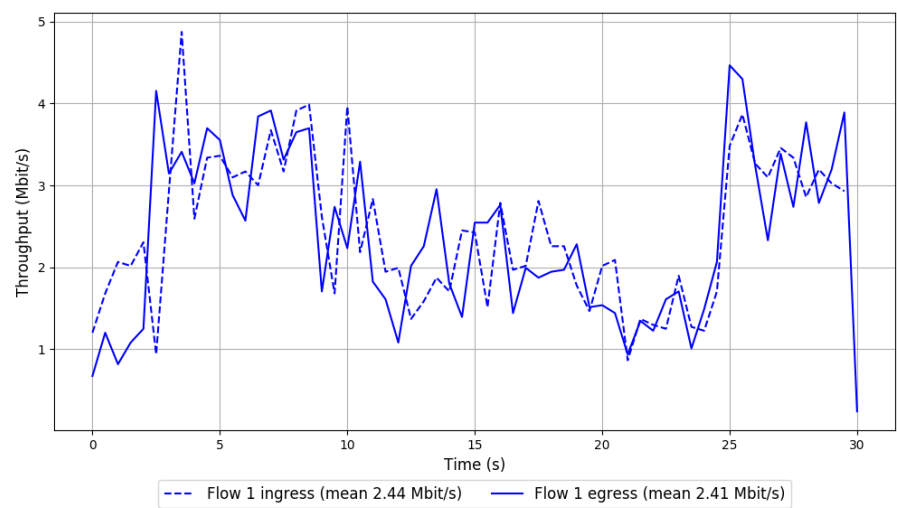


Run 3: Statistics of Saturator

Start at: 2017-08-21 01:14:52
End at: 2017-08-21 01:15:22
Local clock offset: 1.884 ms
Remote clock offset: -0.601 ms

Below is generated by plot.py at 2017-08-21 01:32:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 1445.901 ms
Loss rate: 1.33%
-- Flow 1:
Average throughput: 2.41 Mbit/s
95th percentile per-packet one-way delay: 1445.901 ms
Loss rate: 1.33%

Run 3: Report of Saturator — Data Link

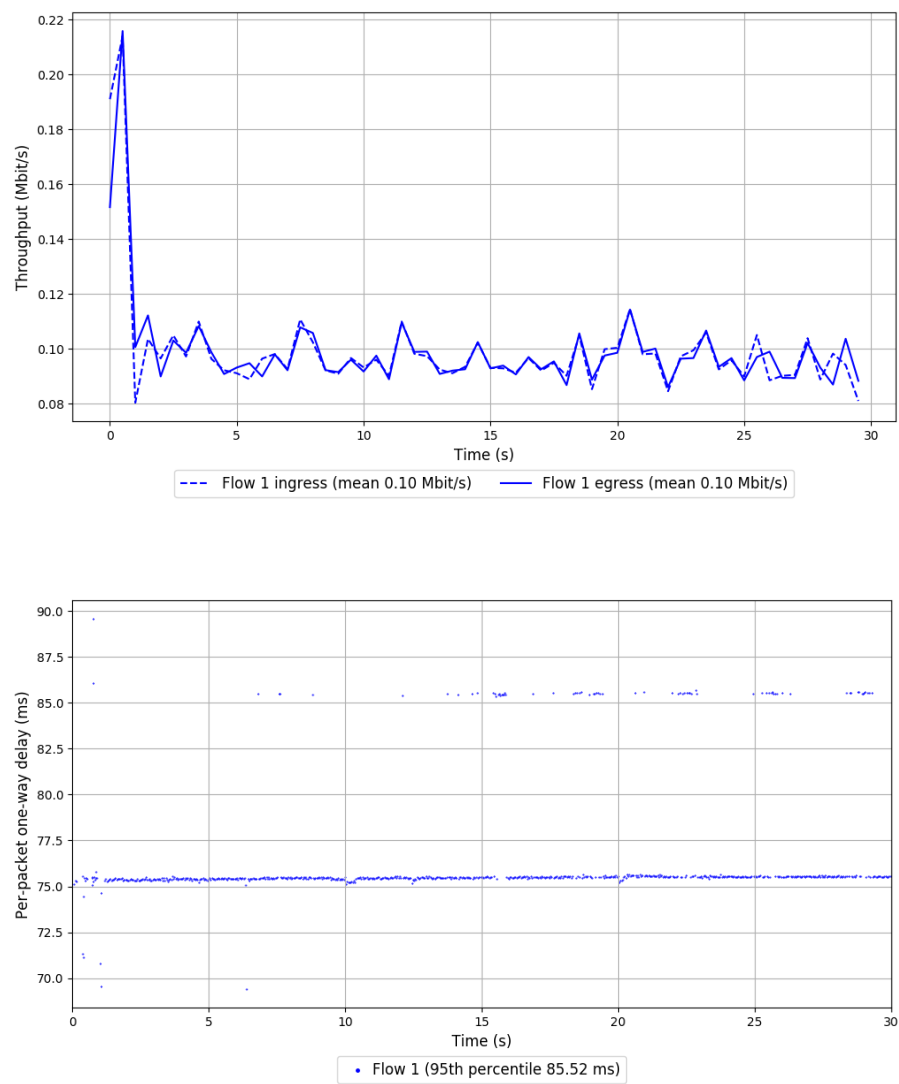


Run 1: Statistics of SCReAM

Start at: 2017-08-21 00:49:55
End at: 2017-08-21 00:50:25
Local clock offset: 1.725 ms
Remote clock offset: -0.423 ms

Below is generated by plot.py at 2017-08-21 01:32:51
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 85.523 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 85.523 ms
Loss rate: 0.12%

Run 1: Report of SReAM — Data Link

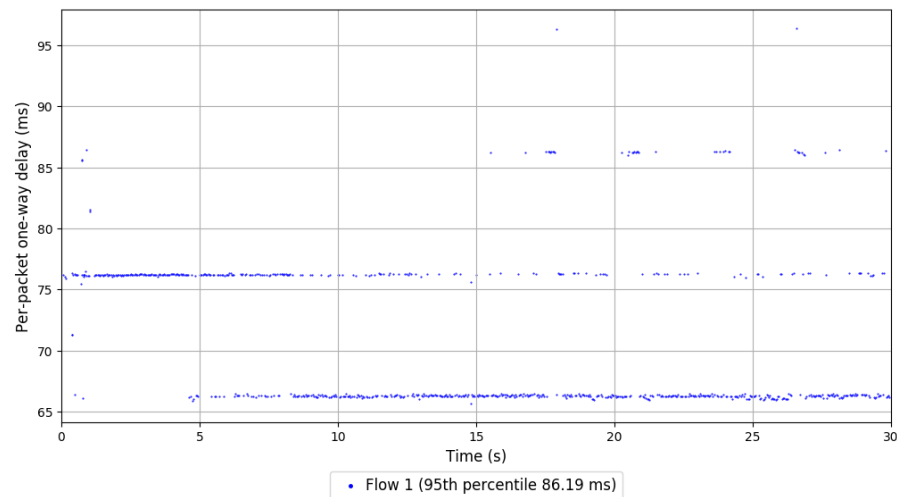
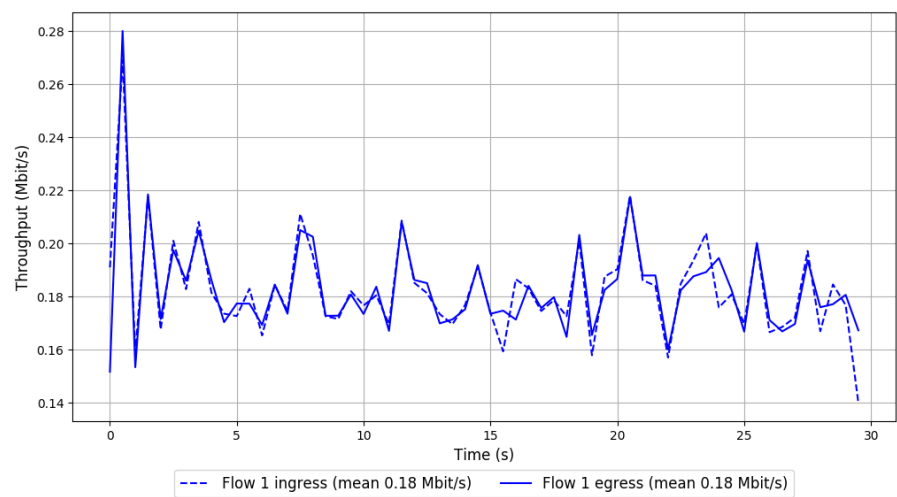


Run 2: Statistics of SCReAM

Start at: 2017-08-21 01:08:40
End at: 2017-08-21 01:09:10
Local clock offset: 2.115 ms
Remote clock offset: -0.483 ms

Below is generated by plot.py at 2017-08-21 01:32:52
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 86.188 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 86.188 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2017-08-21 01:27:19

End at: 2017-08-21 01:27:49

Local clock offset: 2.337 ms

Remote clock offset: -0.54 ms

Below is generated by plot.py at 2017-08-21 01:32:52

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 87.297 ms

Loss rate: 0.00%

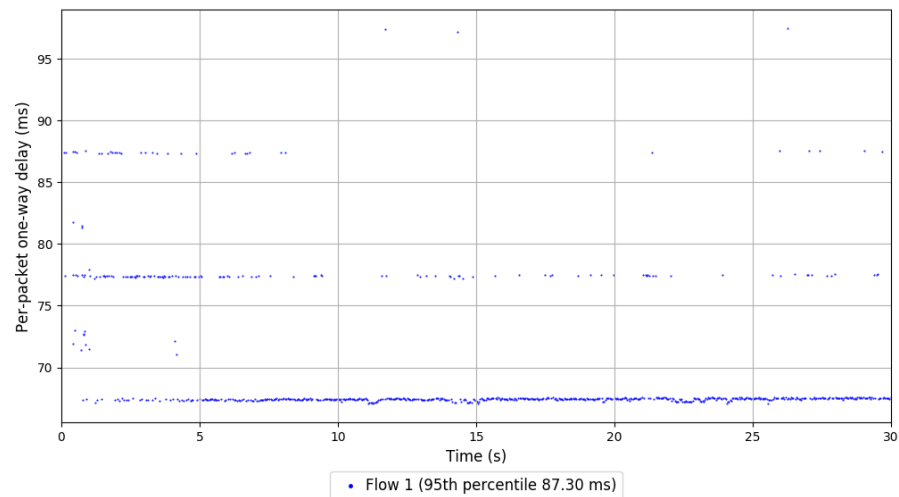
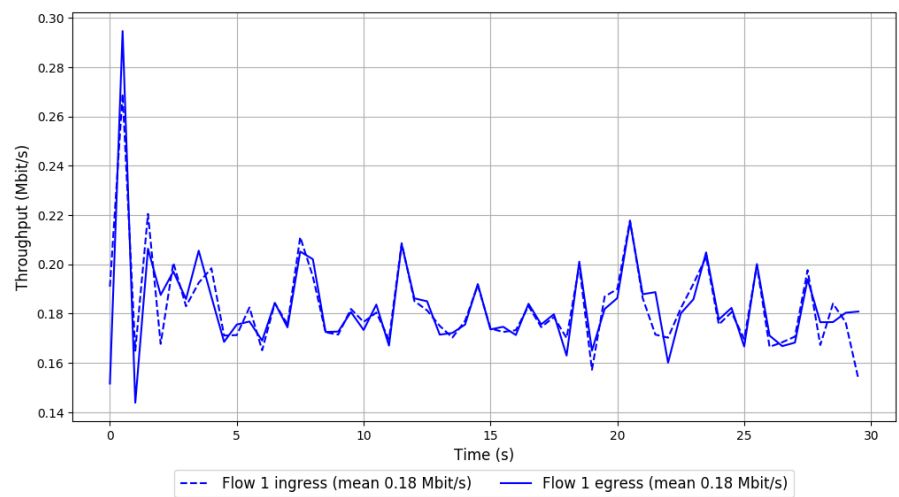
-- Flow 1:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 87.297 ms

Loss rate: 0.00%

Run 3: Report of SReAM — Data Link

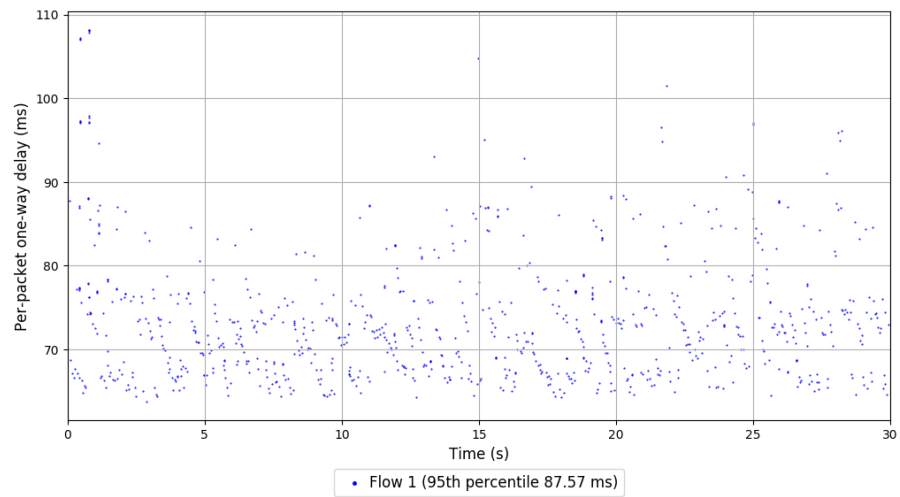
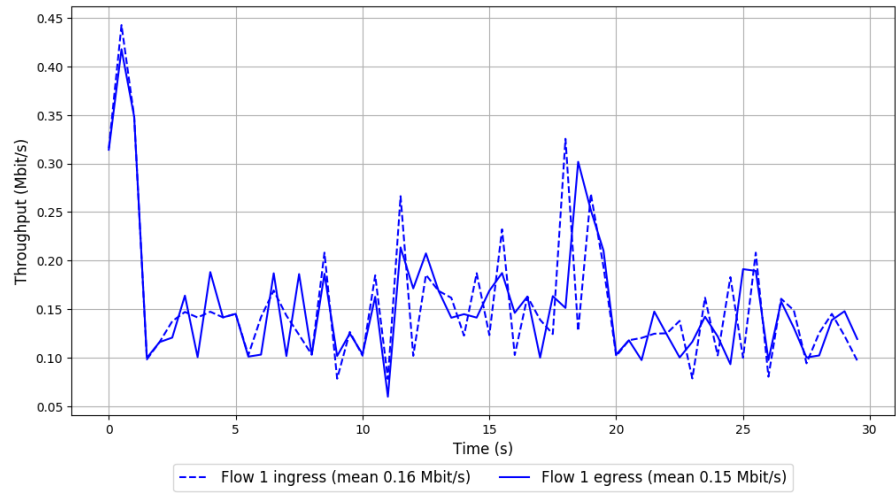


Run 1: Statistics of Sprout

Start at: 2017-08-21 00:39:53
End at: 2017-08-21 00:40:23
Local clock offset: 1.755 ms
Remote clock offset: -0.441 ms

Below is generated by plot.py at 2017-08-21 01:32:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 87.573 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 87.573 ms
Loss rate: 0.25%

Run 1: Report of Sprout — Data Link

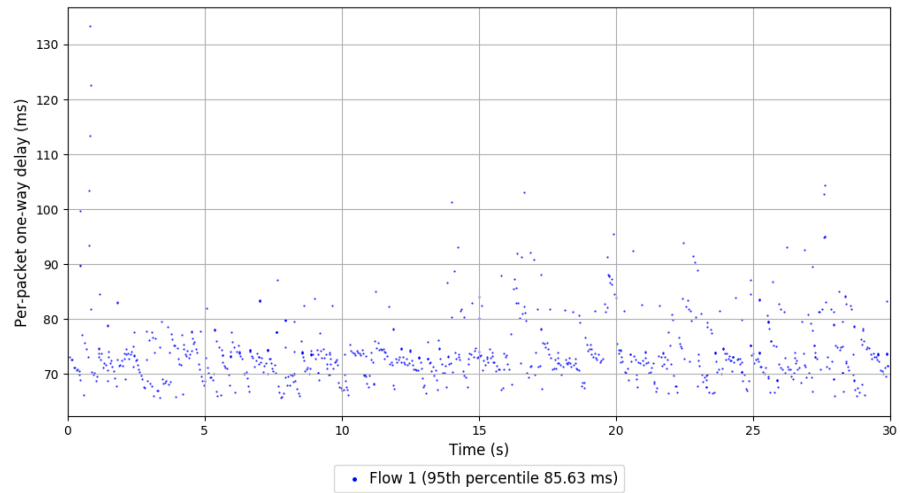
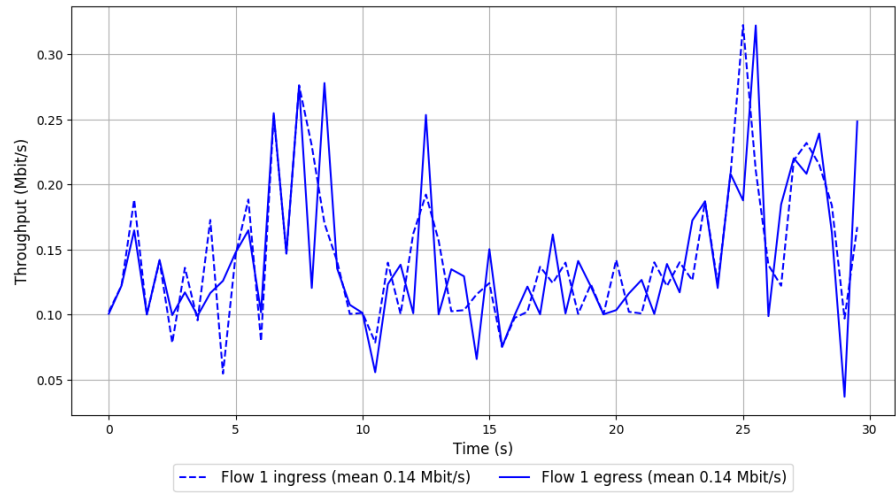


Run 2: Statistics of Sprout

Start at: 2017-08-21 00:58:33
End at: 2017-08-21 00:59:03
Local clock offset: 1.725 ms
Remote clock offset: -0.477 ms

Below is generated by plot.py at 2017-08-21 01:32:53
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 85.634 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 85.634 ms
Loss rate: 0.02%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2017-08-21 01:17:22

End at: 2017-08-21 01:17:52

Local clock offset: 1.638 ms

Remote clock offset: -0.53 ms

Below is generated by plot.py at 2017-08-21 01:32:54

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 92.301 ms

Loss rate: 0.47%

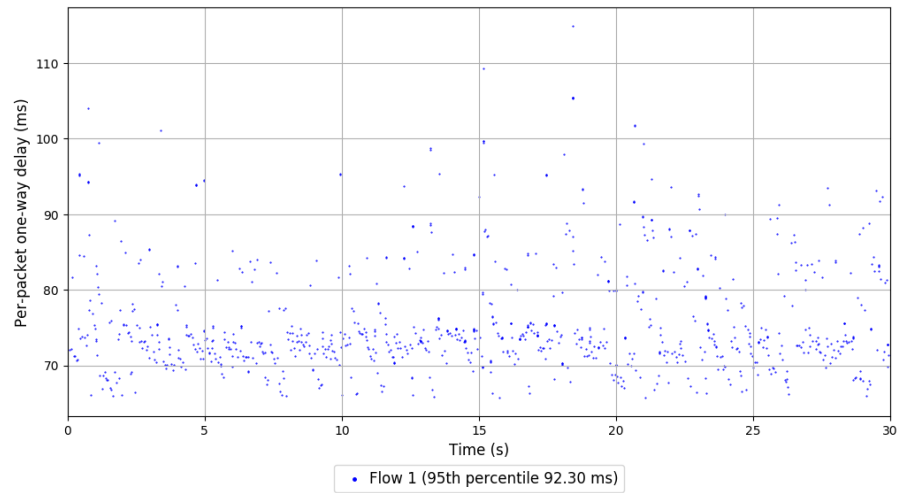
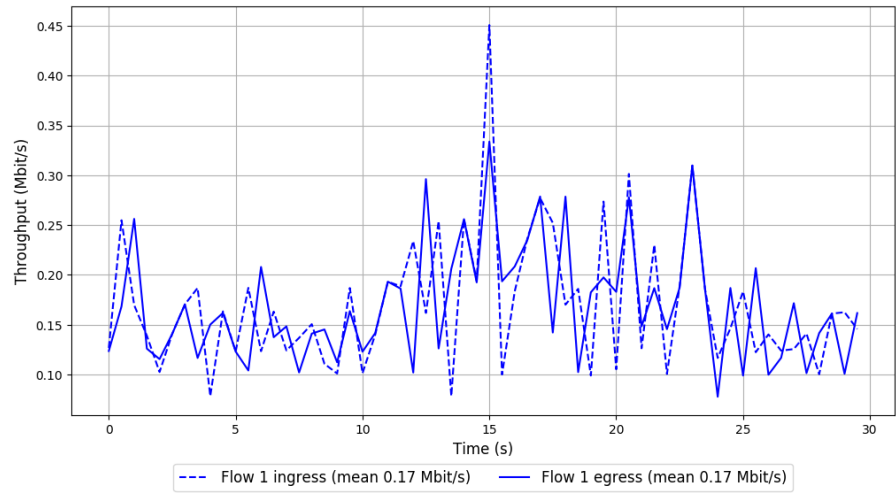
-- Flow 1:

Average throughput: 0.17 Mbit/s

95th percentile per-packet one-way delay: 92.301 ms

Loss rate: 0.47%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2017-08-21 00:47:24

End at: 2017-08-21 00:47:54

Local clock offset: 2.093 ms

Remote clock offset: -0.476 ms

Below is generated by plot.py at 2017-08-21 01:32:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 276.387 ms

Loss rate: 0.04%

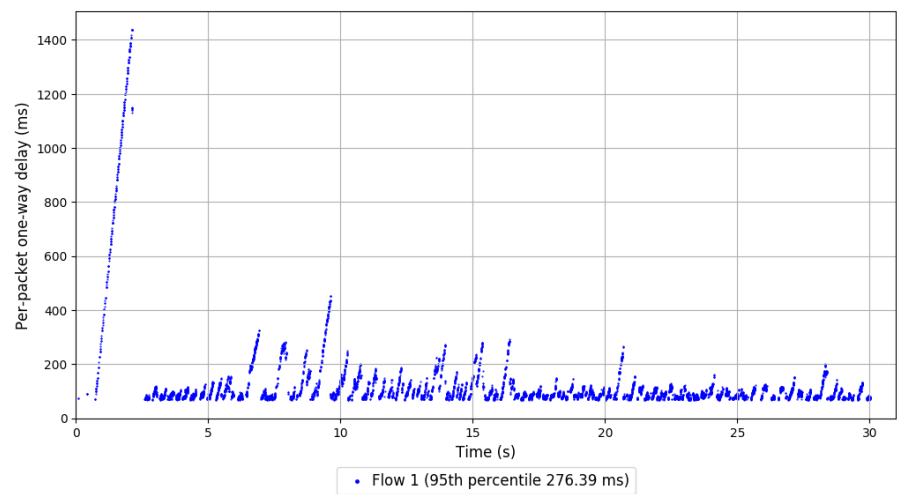
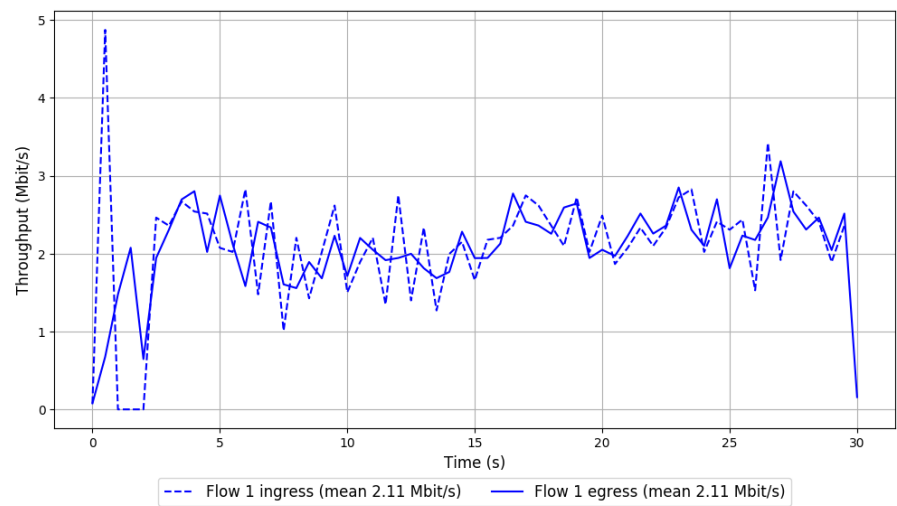
-- Flow 1:

Average throughput: 2.11 Mbit/s

95th percentile per-packet one-way delay: 276.387 ms

Loss rate: 0.04%

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



Run 2: Statistics of TaoVA-100x

Start at: 2017-08-21 01:06:08

End at: 2017-08-21 01:06:38

Local clock offset: 1.659 ms

Remote clock offset: -0.557 ms

Below is generated by plot.py at 2017-08-21 01:32:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 171.421 ms

Loss rate: 0.36%

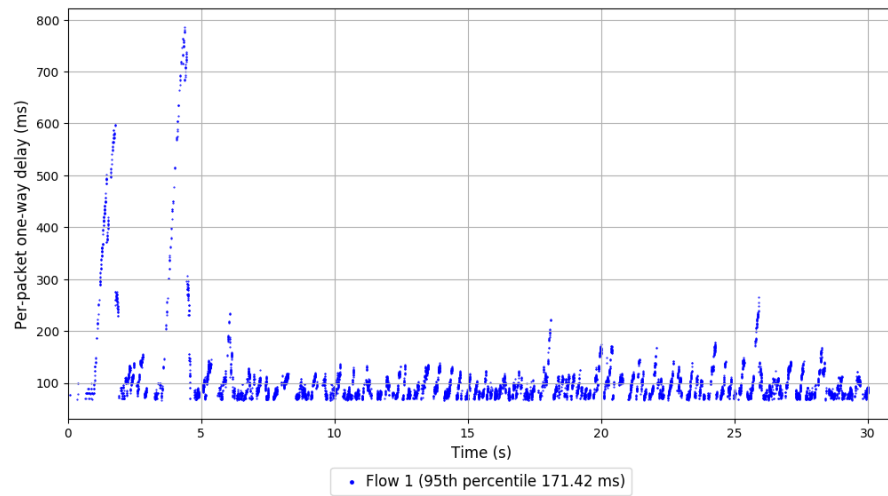
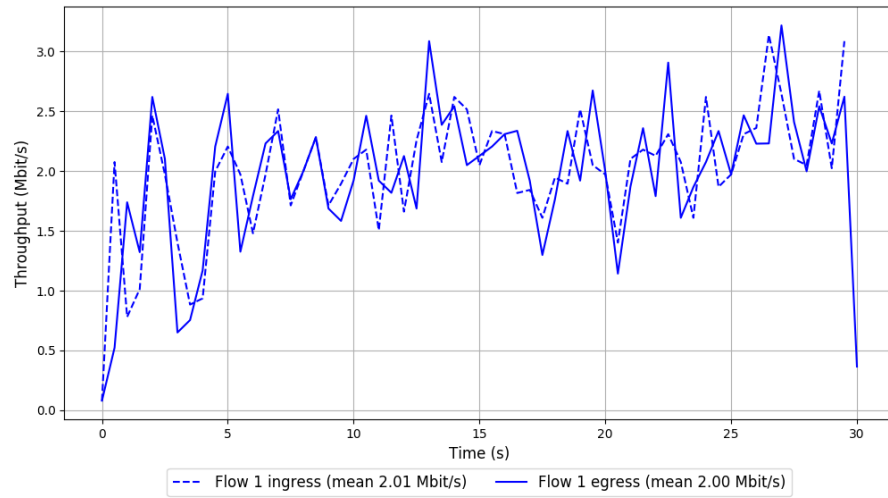
-- Flow 1:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 171.421 ms

Loss rate: 0.36%

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



Run 3: Statistics of TaoVA-100x

Start at: 2017-08-21 01:24:48

End at: 2017-08-21 01:25:18

Local clock offset: 1.837 ms

Remote clock offset: -0.531 ms

Below is generated by plot.py at 2017-08-21 01:32:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.84 Mbit/s

95th percentile per-packet one-way delay: 236.739 ms

Loss rate: 0.33%

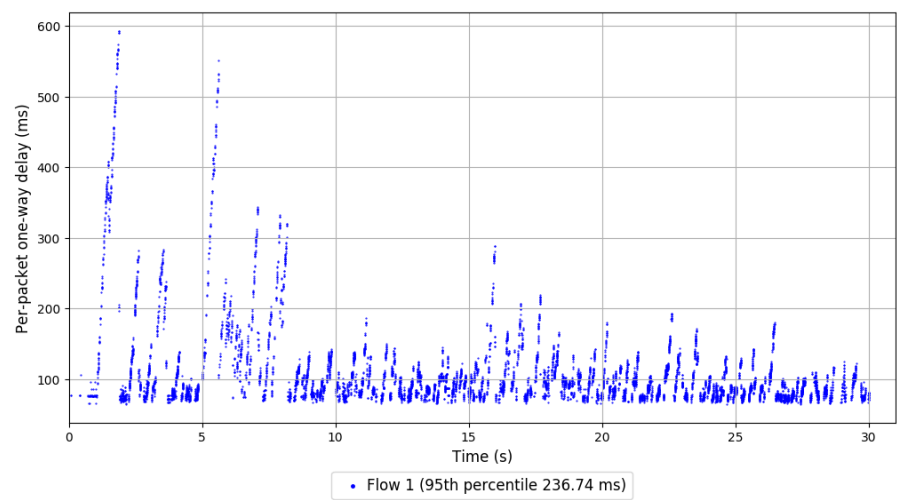
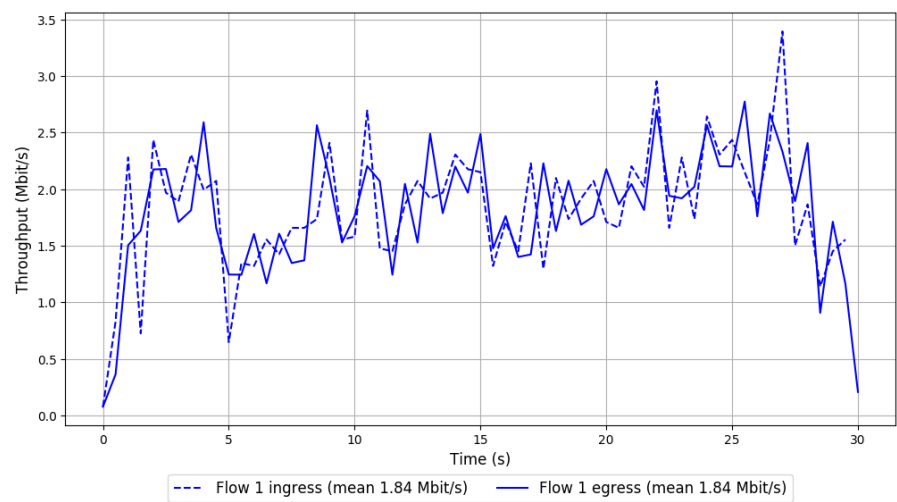
-- Flow 1:

Average throughput: 1.84 Mbit/s

95th percentile per-packet one-way delay: 236.739 ms

Loss rate: 0.33%

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

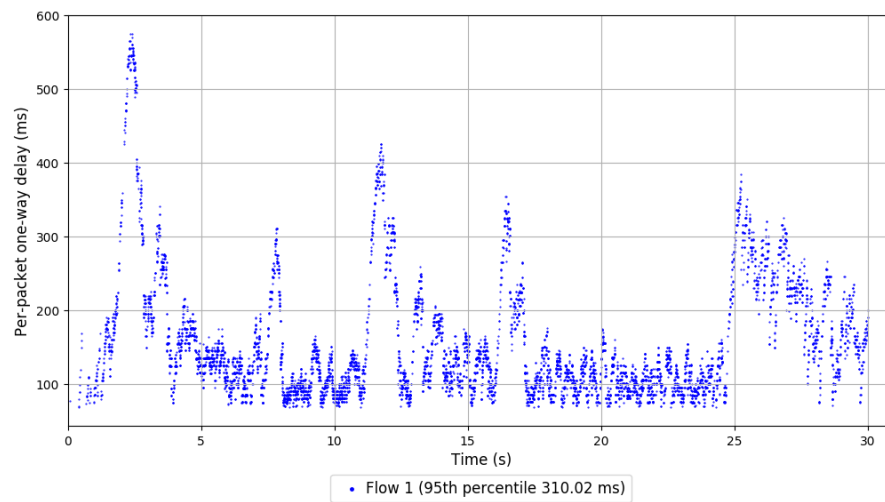
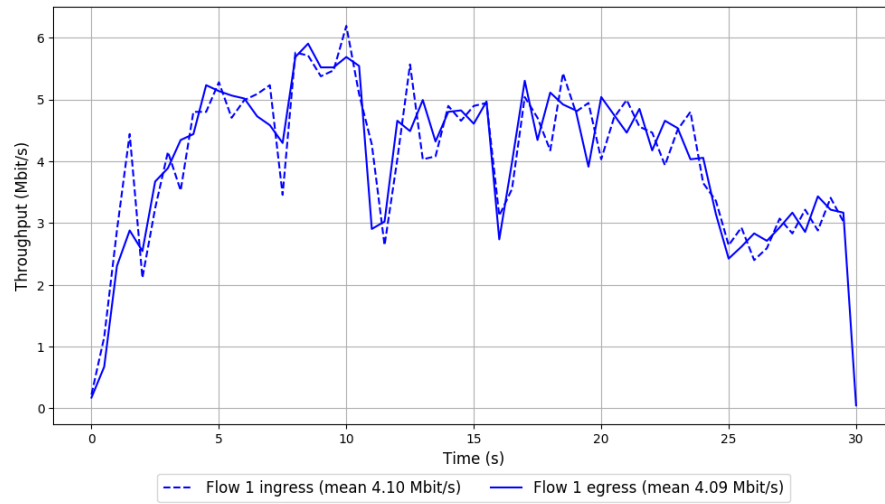


Run 1: Statistics of TCP Vegas

Start at: 2017-08-21 00:46:10
End at: 2017-08-21 00:46:40
Local clock offset: 2.034 ms
Remote clock offset: -0.405 ms

Below is generated by plot.py at 2017-08-21 01:32:57
Datalink statistics
-- Total of 1 flow:
Average throughput: 4.09 Mbit/s
95th percentile per-packet one-way delay: 310.016 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 4.09 Mbit/s
95th percentile per-packet one-way delay: 310.016 ms
Loss rate: 0.32%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2017-08-21 01:04:51

End at: 2017-08-21 01:05:21

Local clock offset: 1.973 ms

Remote clock offset: -0.51 ms

Below is generated by plot.py at 2017-08-21 01:32:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.19 Mbit/s

95th percentile per-packet one-way delay: 215.887 ms

Loss rate: 0.13%

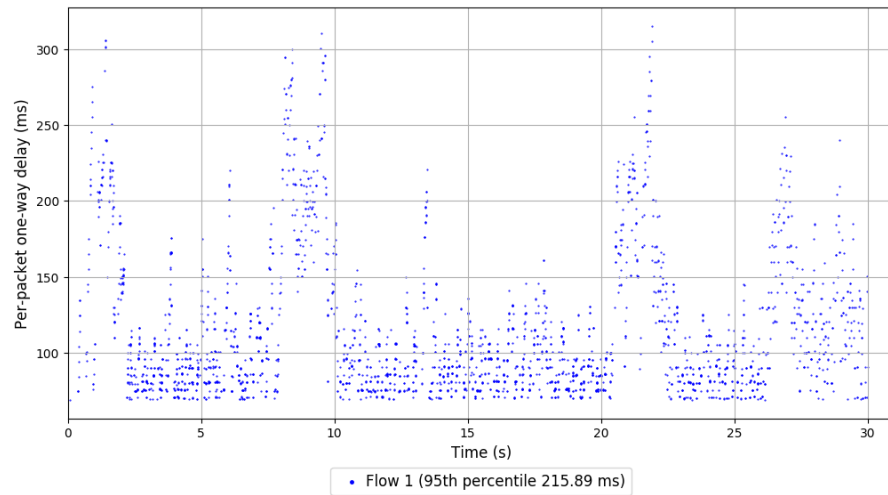
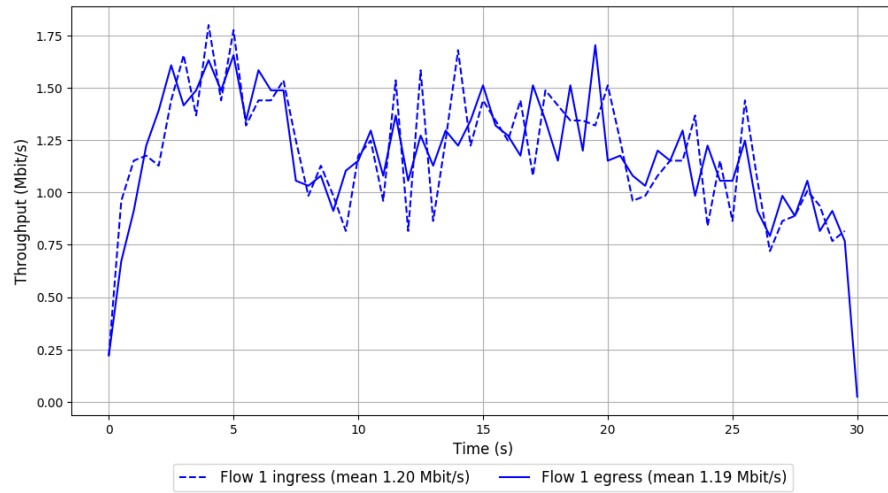
-- Flow 1:

Average throughput: 1.19 Mbit/s

95th percentile per-packet one-way delay: 215.887 ms

Loss rate: 0.13%

Run 2: Report of TCP Vegas — Data Link

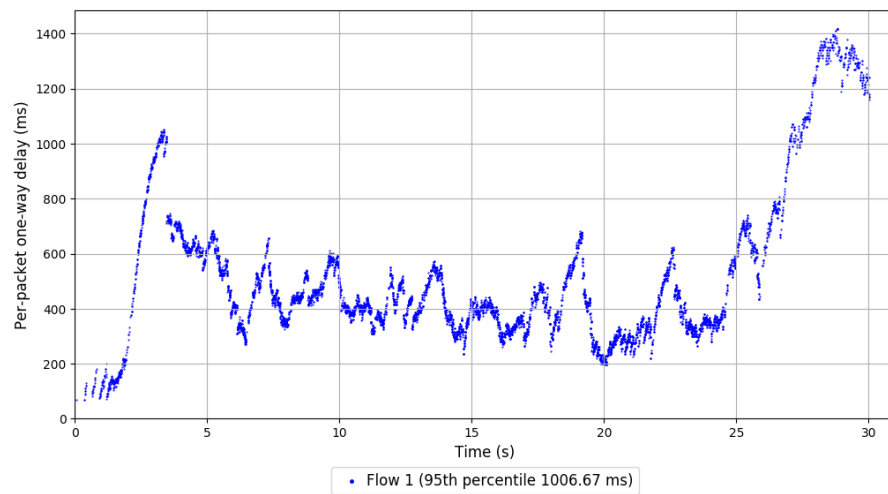
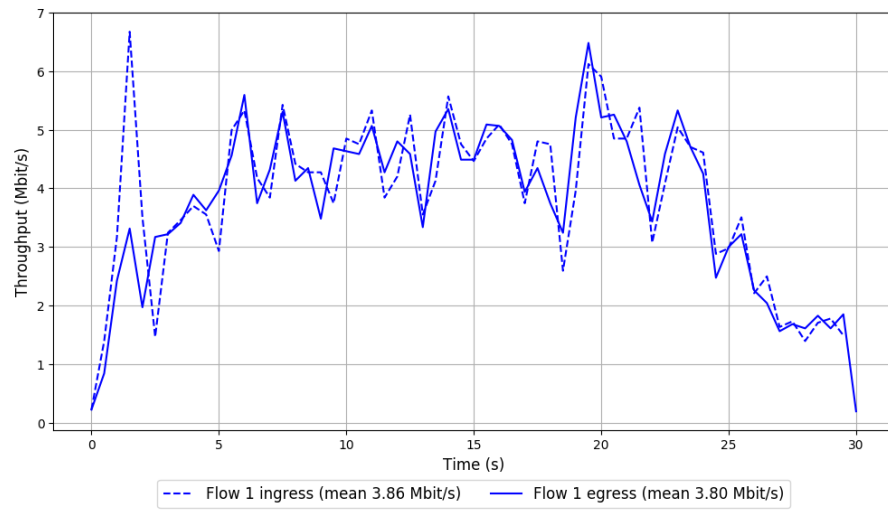


Run 3: Statistics of TCP Vegas

Start at: 2017-08-21 01:23:31
End at: 2017-08-21 01:24:01
Local clock offset: 1.607 ms
Remote clock offset: -0.537 ms

Below is generated by plot.py at 2017-08-21 01:32:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 1006.674 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 3.80 Mbit/s
95th percentile per-packet one-way delay: 1006.674 ms
Loss rate: 1.63%

Run 3: Report of TCP Vegas — Data Link

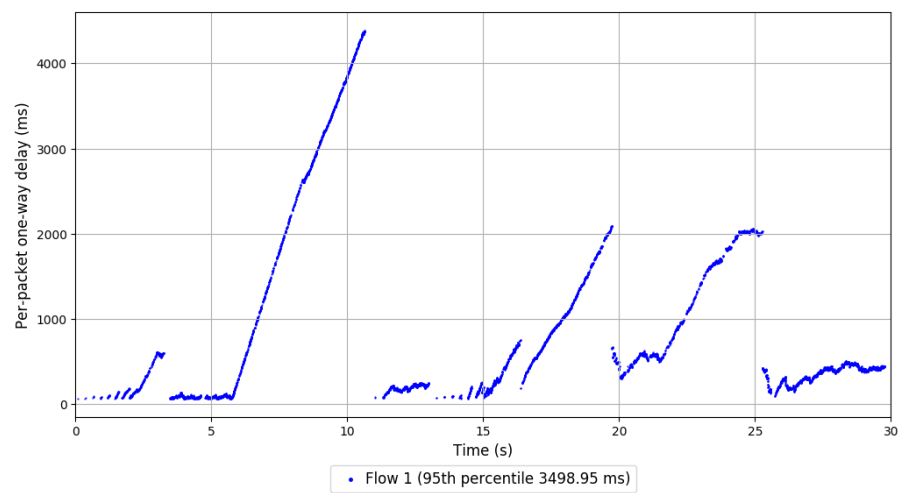
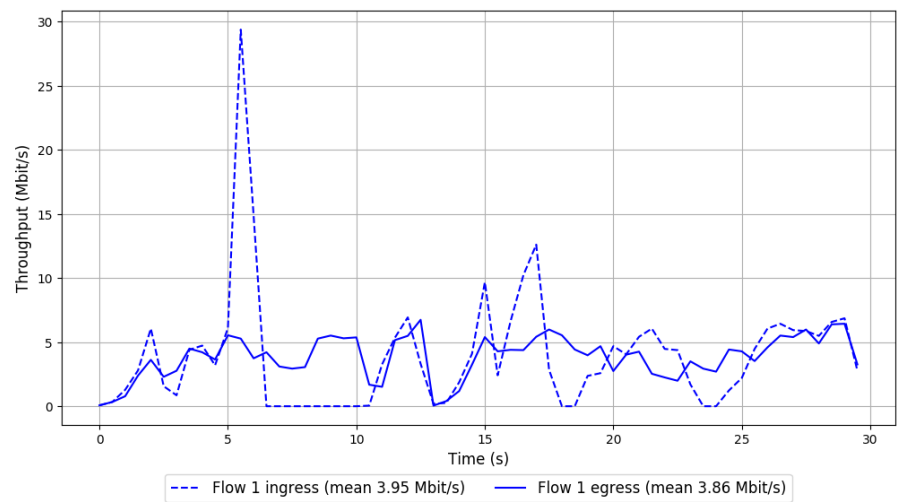


Run 1: Statistics of Verus

Start at: 2017-08-21 00:38:40
End at: 2017-08-21 00:39:10
Local clock offset: 1.827 ms
Remote clock offset: -0.458 ms

Below is generated by plot.py at 2017-08-21 01:32:59
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 3498.951 ms
Loss rate: 2.32%
-- Flow 1:
Average throughput: 3.86 Mbit/s
95th percentile per-packet one-way delay: 3498.951 ms
Loss rate: 2.32%

Run 1: Report of Verus — Data Link

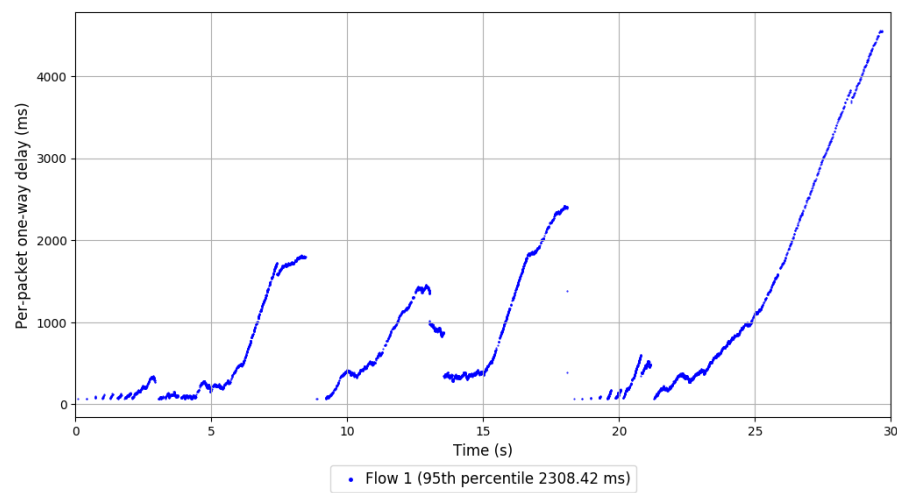
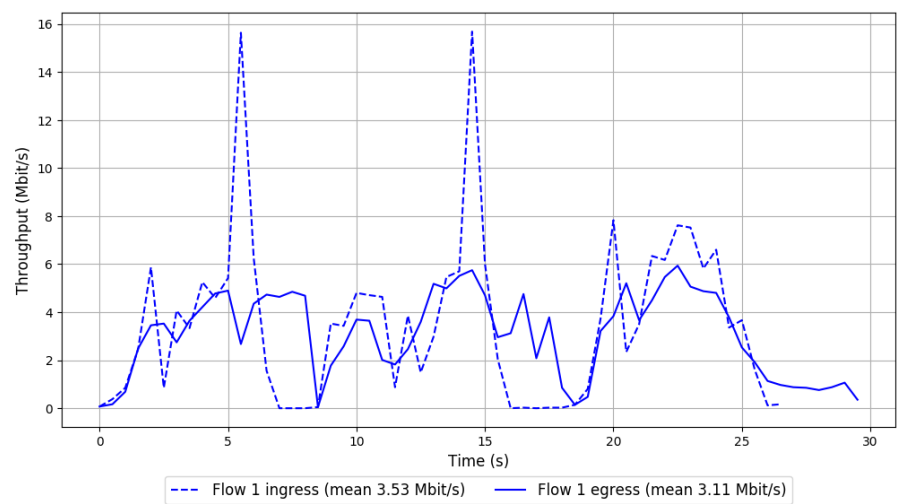


Run 2: Statistics of Verus

Start at: 2017-08-21 00:57:19
End at: 2017-08-21 00:57:49
Local clock offset: 1.704 ms
Remote clock offset: -0.504 ms

Below is generated by plot.py at 2017-08-21 01:33:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 2308.416 ms
Loss rate: 2.68%
-- Flow 1:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 2308.416 ms
Loss rate: 2.68%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2017-08-21 01:16:06

End at: 2017-08-21 01:16:36

Local clock offset: 2.037 ms

Remote clock offset: -0.55 ms

Below is generated by plot.py at 2017-08-21 01:33:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 2.94 Mbit/s

95th percentile per-packet one-way delay: 2746.252 ms

Loss rate: 4.91%

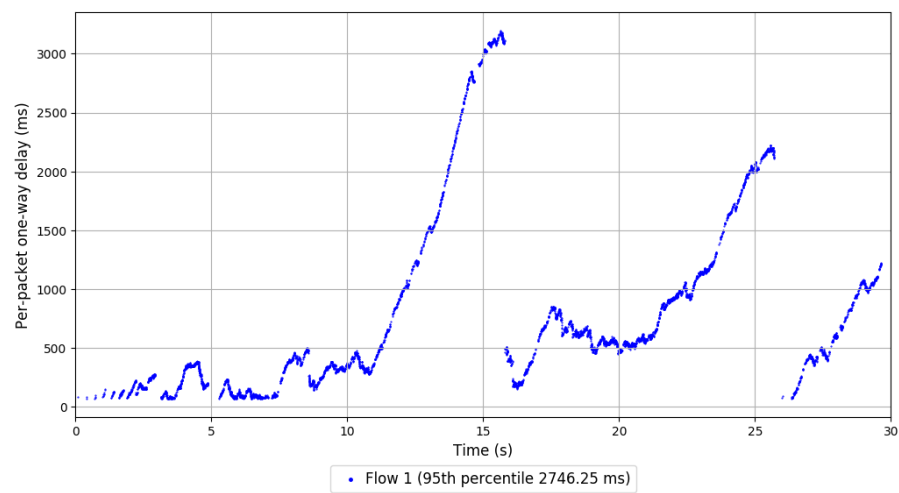
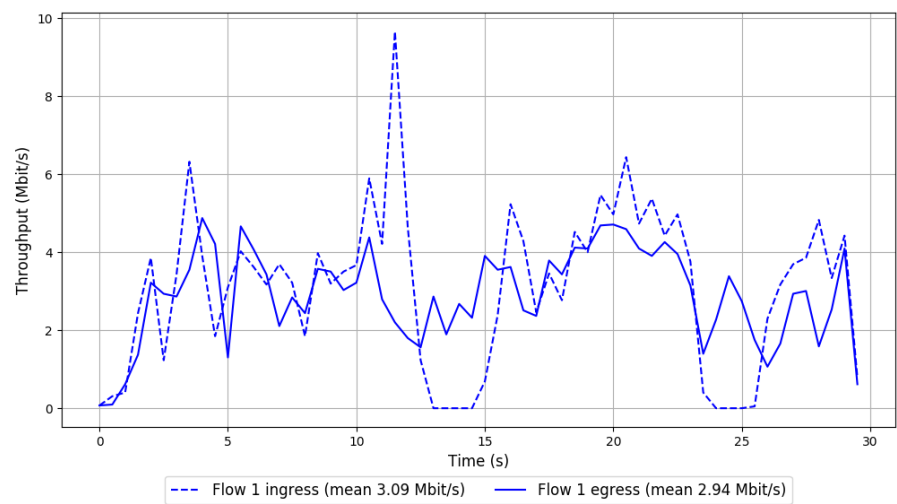
-- Flow 1:

Average throughput: 2.94 Mbit/s

95th percentile per-packet one-way delay: 2746.252 ms

Loss rate: 4.91%

Run 3: Report of Verus — Data Link



Run 1: Statistics of WebRTC media

Start at: 2017-08-21 00:44:53

End at: 2017-08-21 00:45:23

Local clock offset: 1.748 ms

Remote clock offset: -0.403 ms

Below is generated by plot.py at 2017-08-21 01:33:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 159.468 ms

Loss rate: 0.16%

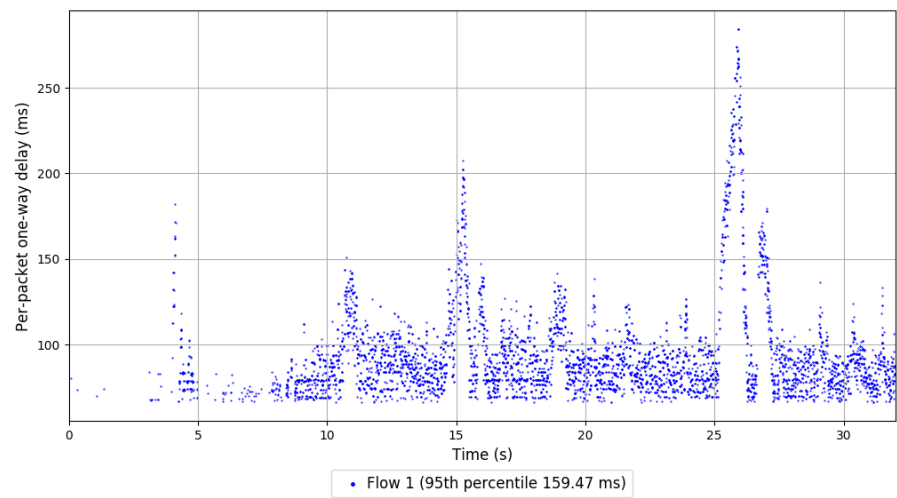
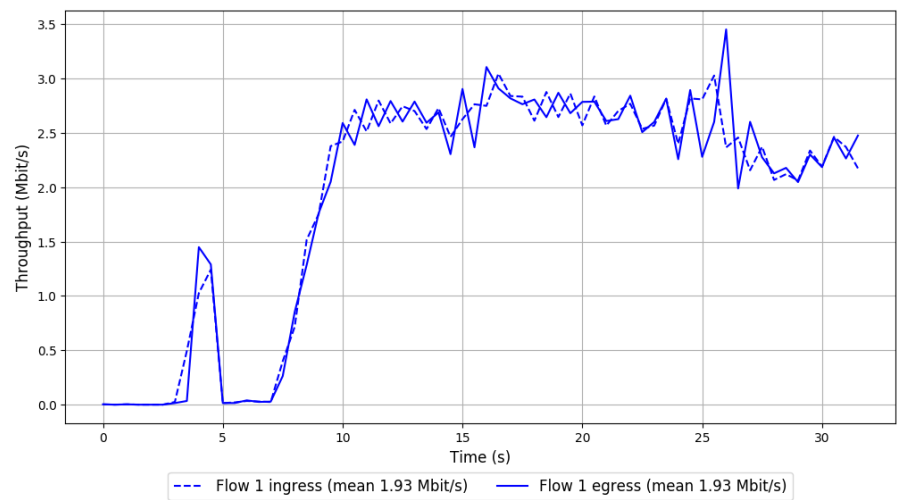
-- Flow 1:

Average throughput: 1.93 Mbit/s

95th percentile per-packet one-way delay: 159.468 ms

Loss rate: 0.16%

Run 1: Report of WebRTC media — Data Link

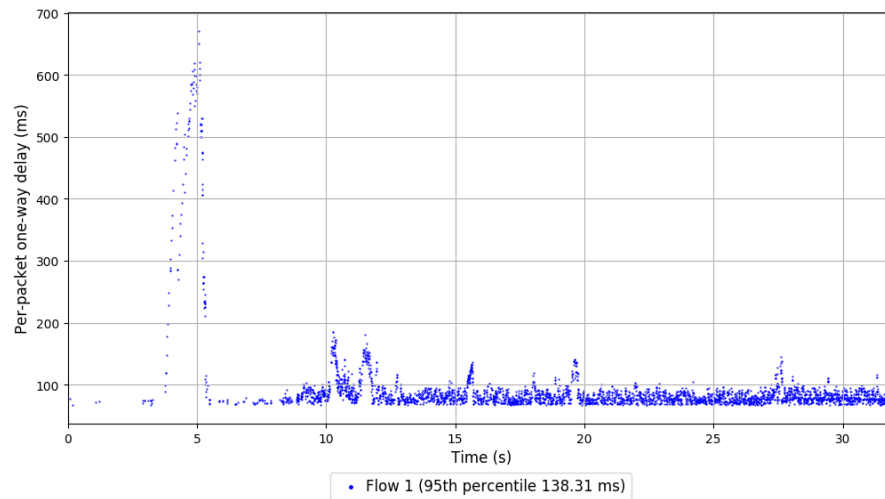
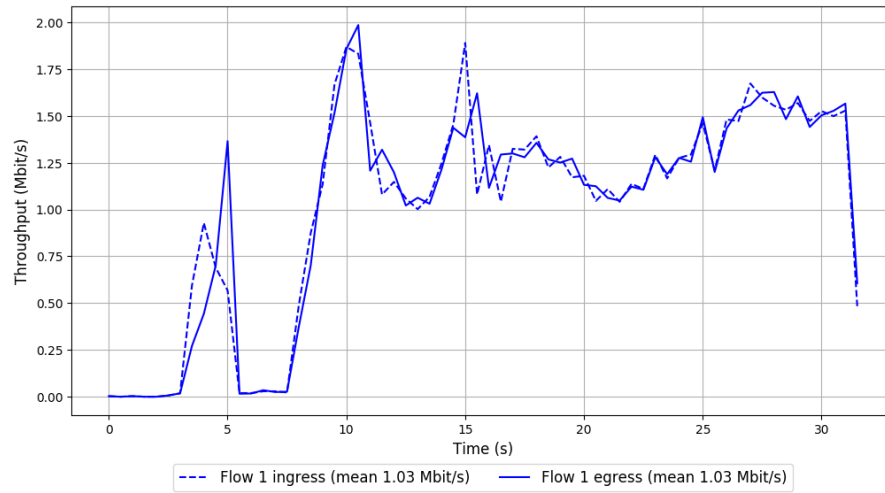


Run 2: Statistics of WebRTC media

Start at: 2017-08-21 01:03:34
End at: 2017-08-21 01:04:04
Local clock offset: 1.661 ms
Remote clock offset: -0.555 ms

Below is generated by plot.py at 2017-08-21 01:33:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 138.308 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 138.308 ms
Loss rate: 0.12%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2017-08-21 01:22:18
End at: 2017-08-21 01:22:48
Local clock offset: 1.551 ms
Remote clock offset: -0.535 ms

Below is generated by plot.py at 2017-08-21 01:33:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 227.579 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.89 Mbit/s
95th percentile per-packet one-way delay: 227.579 ms
Loss rate: 0.07%

Run 3: Report of WebRTC media — Data Link

