

Pantheon Report

Generated at 2018-01-16 00:20:32 (UTC).

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

Repeated the test of 14 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).

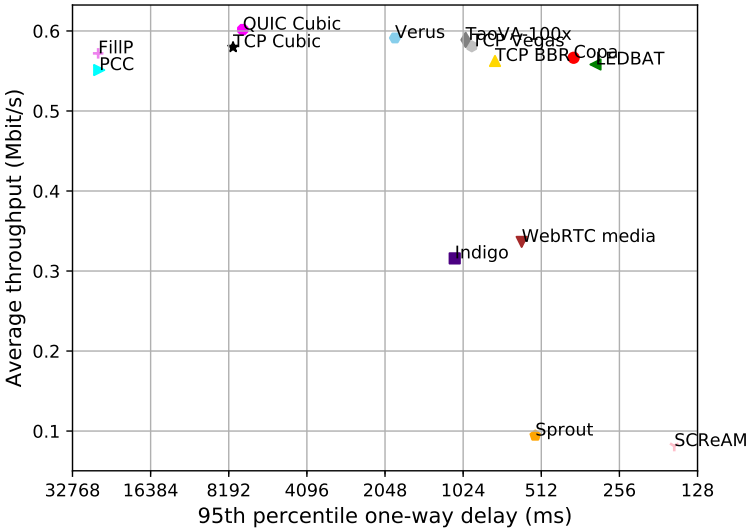
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

NTP offsets were measured against **gps.ntp.br** and have been applied to correct the timestamps in logs.

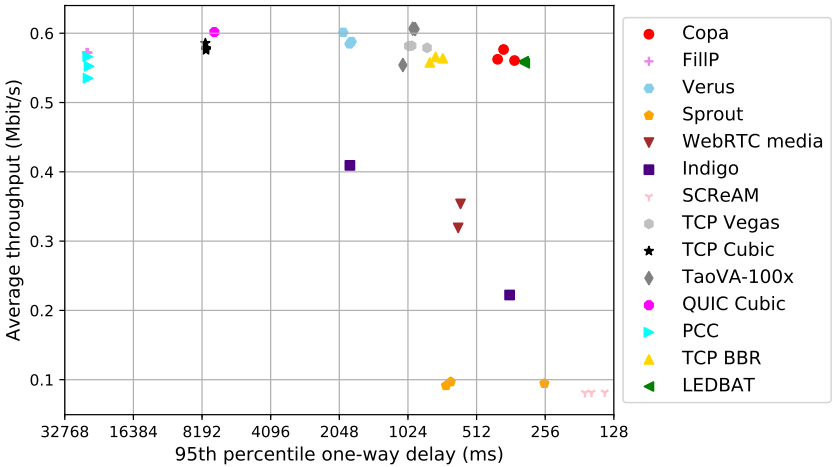
Git summary:

```
branch: master @ af8abdfba95588b0c5f2aeca9e856a1656b0c598
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fixp @ ec9585325218d5048c4d4152fa42240af54c6e67
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcf993
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/vivace @ 423cbca3e8ea1d599e7b5cf725835e8a2b6bfac6
third_party/webRTC @ a488197ddd041ace68a42849b2540ad834825f42
```

test from Colombia ppp0 to AWS Brazil 2 Ethernet, 3 runs of 30s each per scheme
(mean of all runs by scheme)



test from Colombia ppp0 to AWS Brazil 2 Ethernet, 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	0.56	771.90	2.38
TCP Cubic	3	0.58	7885.26	30.98
LEDBAT	2	0.56	316.58	1.30
PCC	3	0.55	25846.19	98.63
QUIC Cubic	1	0.60	7233.85	29.38
SCReAM	3	0.08	157.38	0.66
WebRTC media	2	0.33	609.37	0.77
Sprout	3	0.09	540.02	1.28
TaoVA-100x	3	0.59	1001.92	2.72
TCP Vegas	3	0.58	948.58	1.49
Verus	3	0.59	1874.77	5.85
Copa	3	0.57	384.29	1.40
FillP	3	0.57	26095.50	98.20
Indigo	2	0.32	1103.50	11.51

Run 1: Statistics of TCP BBR

Start at: 2018-01-15 22:43:52

End at: 2018-01-15 22:44:22

Local clock offset: 1.48 ms

Remote clock offset: 0.466 ms

Below is generated by plot.py at 2018-01-16 00:20:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.56 Mbit/s

95th percentile per-packet one-way delay: 719.899 ms

Loss rate: 1.98%

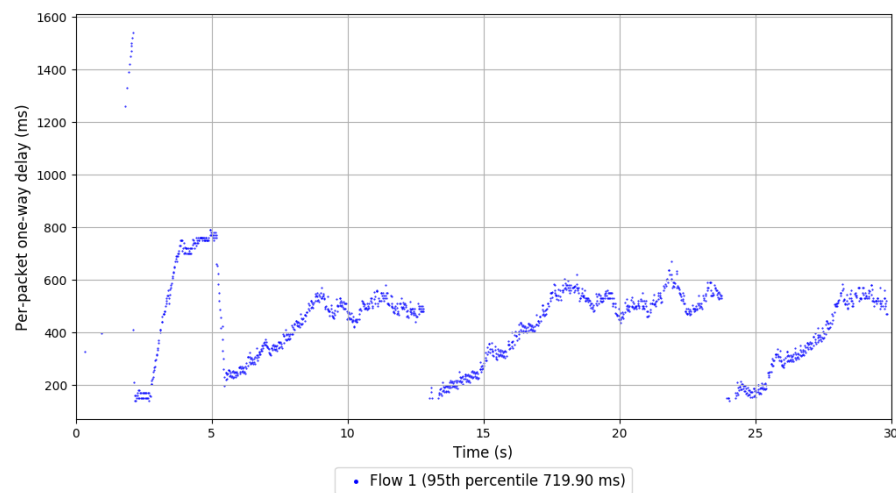
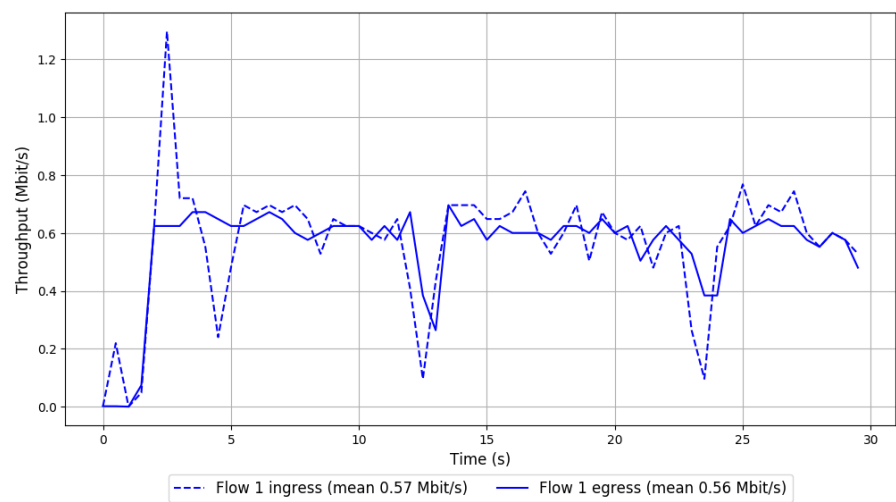
-- Flow 1:

Average throughput: 0.56 Mbit/s

95th percentile per-packet one-way delay: 719.899 ms

Loss rate: 1.98%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-01-15 23:01:34

End at: 2018-01-15 23:02:04

Local clock offset: 1.946 ms

Remote clock offset: -3.839 ms

Below is generated by plot.py at 2018-01-16 00:20:02

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.56 Mbit/s

95th percentile per-packet one-way delay: 820.928 ms

Loss rate: 2.63%

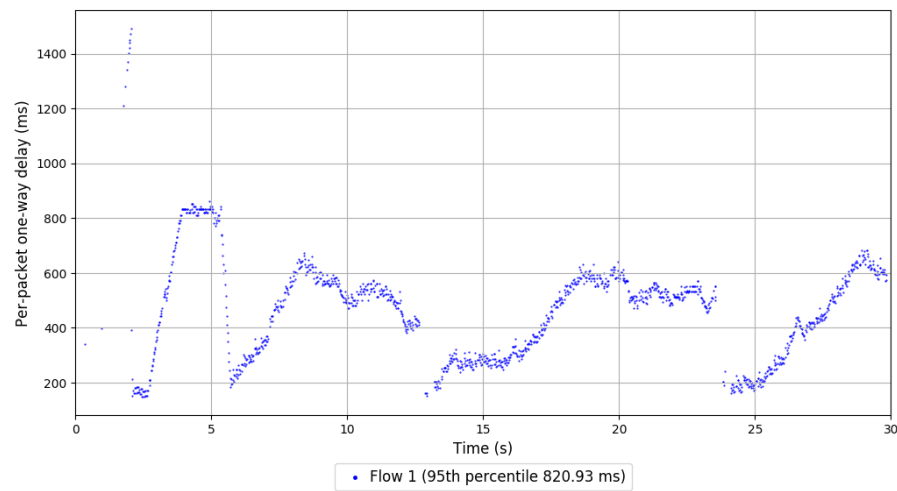
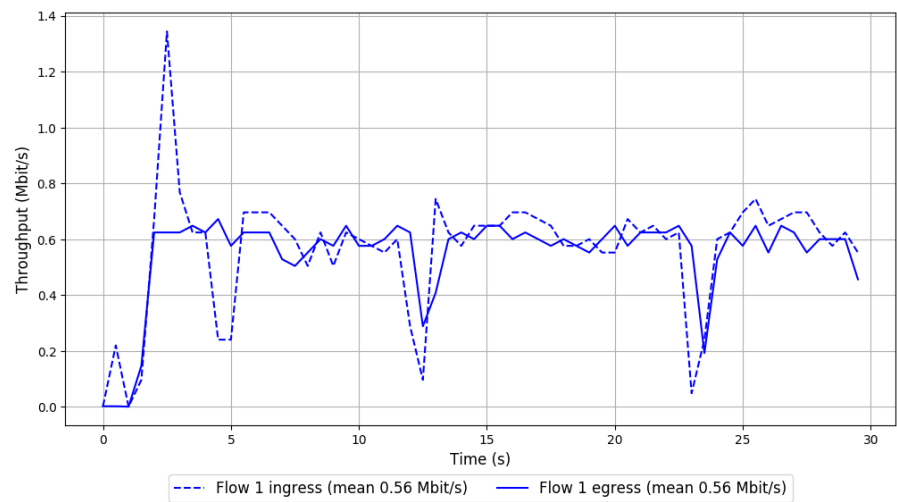
-- Flow 1:

Average throughput: 0.56 Mbit/s

95th percentile per-packet one-way delay: 820.928 ms

Loss rate: 2.63%

Run 2: Report of TCP BBR — Data Link

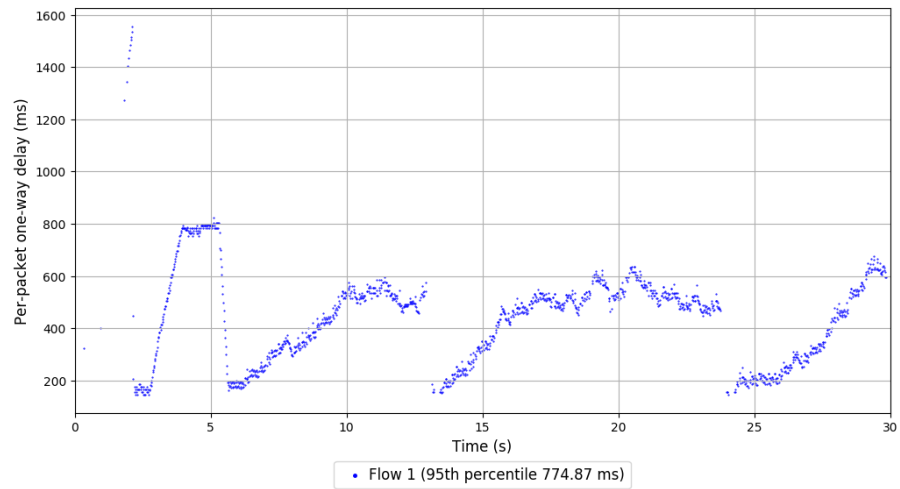
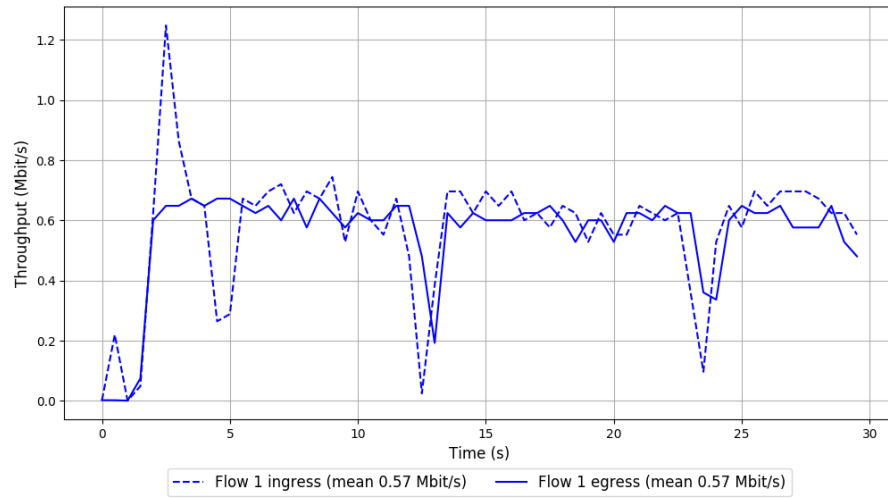


Run 3: Statistics of TCP BBR

Start at: 2018-01-15 23:19:11
End at: 2018-01-15 23:19:41
Local clock offset: 1.998 ms
Remote clock offset: -4.226 ms

Below is generated by plot.py at 2018-01-16 00:20:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 774.868 ms
Loss rate: 2.52%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 774.868 ms
Loss rate: 2.52%

Run 3: Report of TCP BBR — Data Link

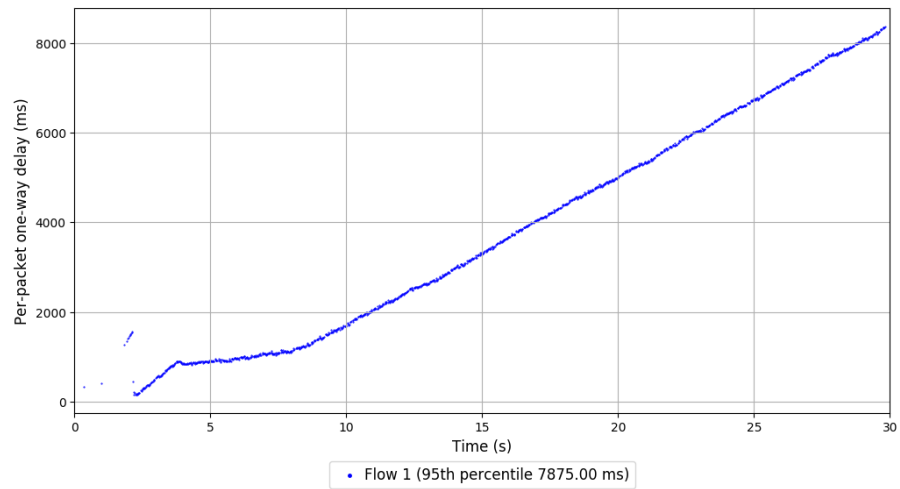
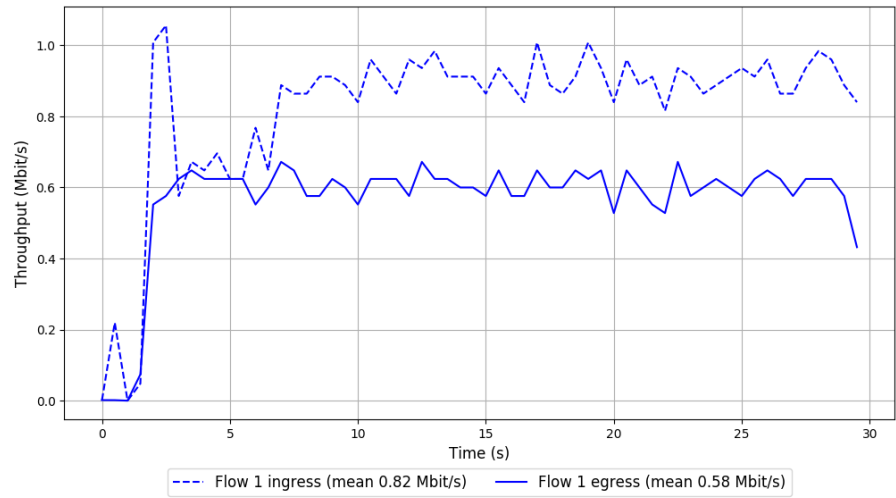


Run 1: Statistics of TCP Cubic

Start at: 2018-01-15 22:42:41
End at: 2018-01-15 22:43:11
Local clock offset: 1.599 ms
Remote clock offset: -0.462 ms

Below is generated by plot.py at 2018-01-16 00:20:02
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 7874.996 ms
Loss rate: 31.19%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 7874.996 ms
Loss rate: 31.19%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-01-15 23:00:21

End at: 2018-01-15 23:00:51

Local clock offset: 1.878 ms

Remote clock offset: 0.937 ms

Below is generated by plot.py at 2018-01-16 00:20:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.59 Mbit/s

95th percentile per-packet one-way delay: 7918.387 ms

Loss rate: 30.85%

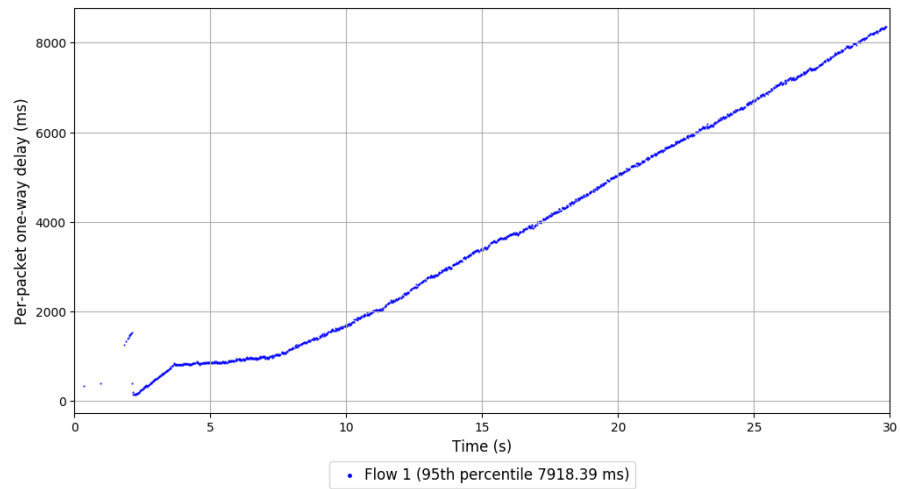
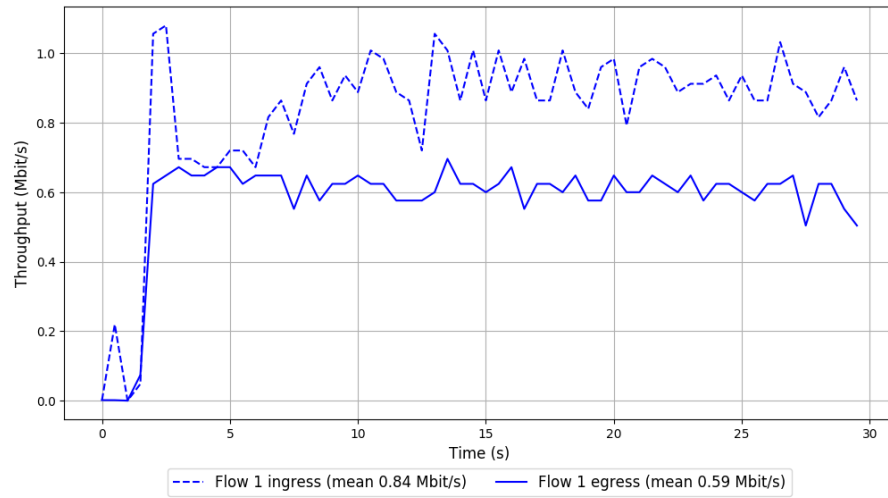
-- Flow 1:

Average throughput: 0.59 Mbit/s

95th percentile per-packet one-way delay: 7918.387 ms

Loss rate: 30.85%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-01-15 23:18:01

End at: 2018-01-15 23:18:31

Local clock offset: 2.048 ms

Remote clock offset: 0.517 ms

Below is generated by plot.py at 2018-01-16 00:20:03

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 7862.406 ms

Loss rate: 30.90%

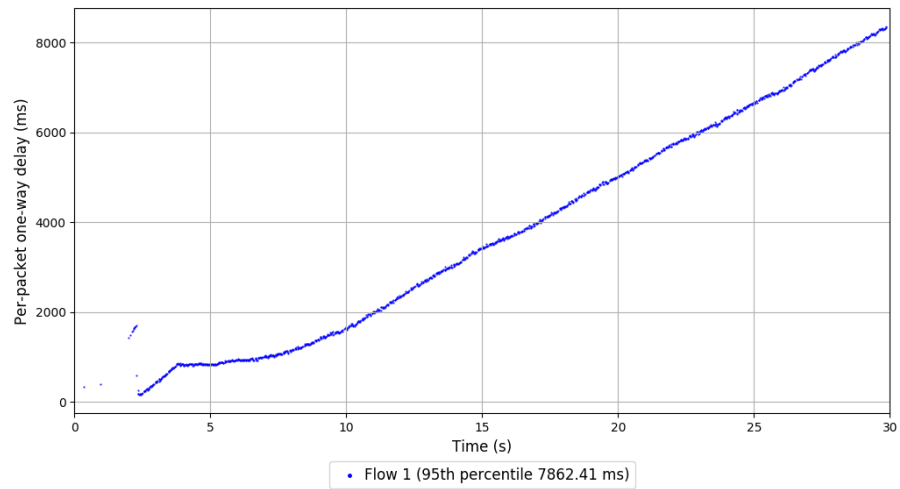
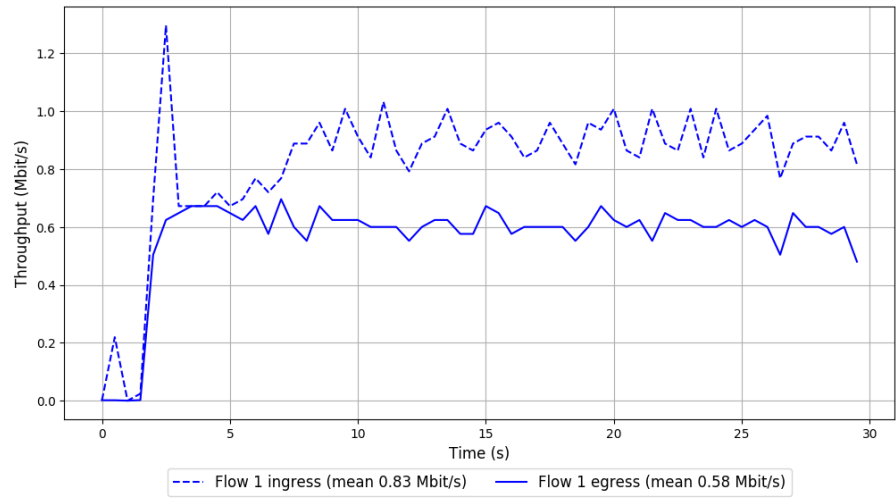
-- Flow 1:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 7862.406 ms

Loss rate: 30.90%

Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of LEDBAT

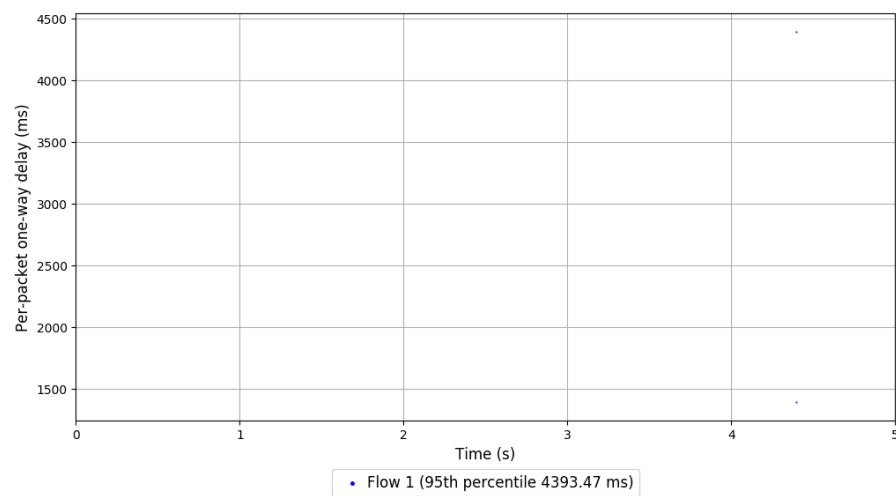
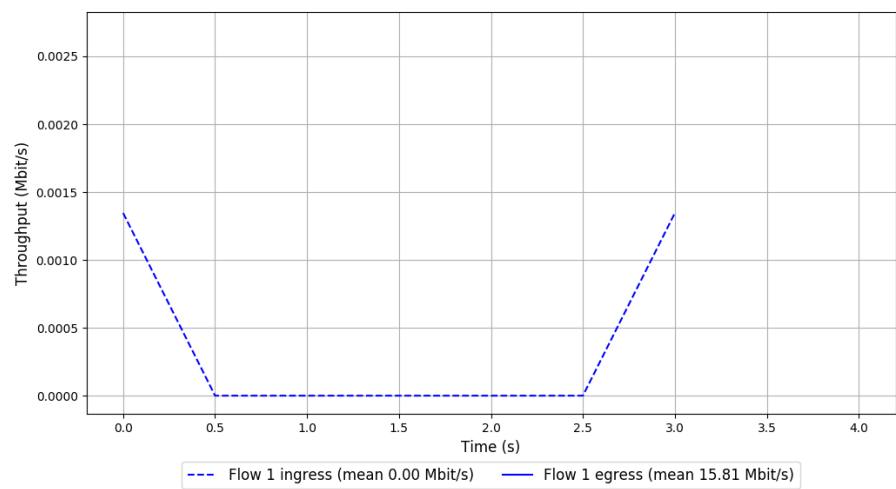
Start at: 2018-01-15 22:47:23

End at: 2018-01-15 22:47:53

Local clock offset: 1.384 ms

Remote clock offset: -5.072 ms

Run 1: Report of LEDBAT — Data Link

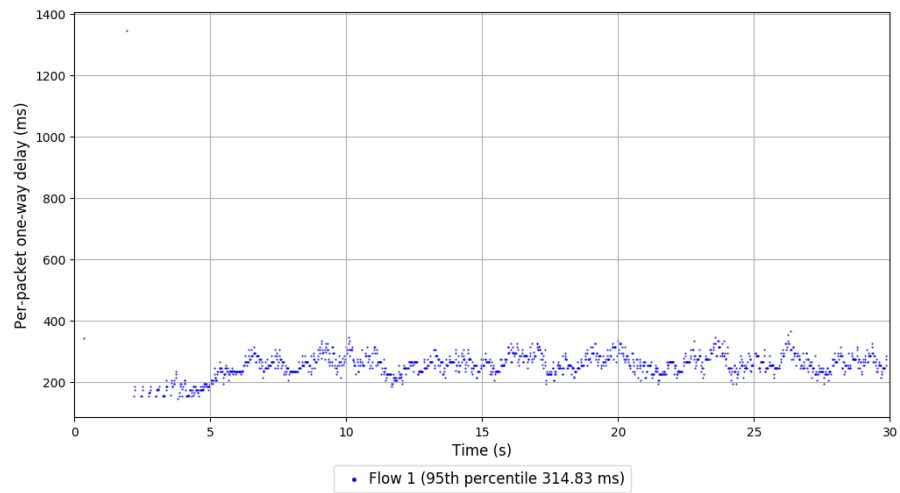
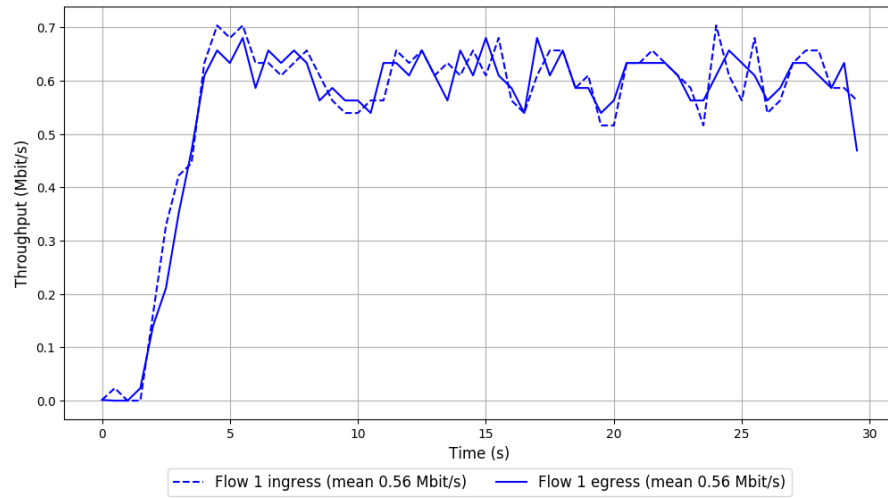


```
Run 2: Statistics of LEDBAT

Start at: 2018-01-15 23:05:05
End at: 2018-01-15 23:05:35
Local clock offset: 1.831 ms
Remote clock offset: -4.6 ms

# Below is generated by plot.py at 2018-01-16 00:20:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 314.829 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 314.829 ms
Loss rate: 1.20%
```

Run 2: Report of LEDBAT — Data Link

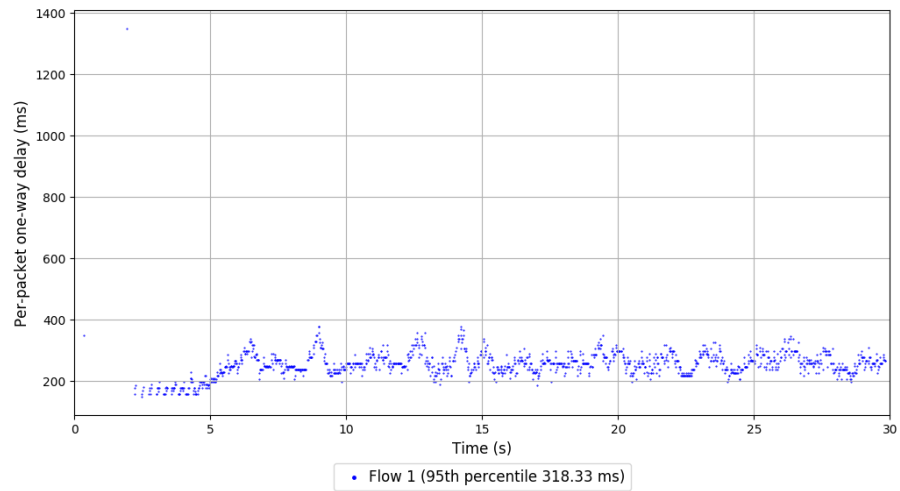
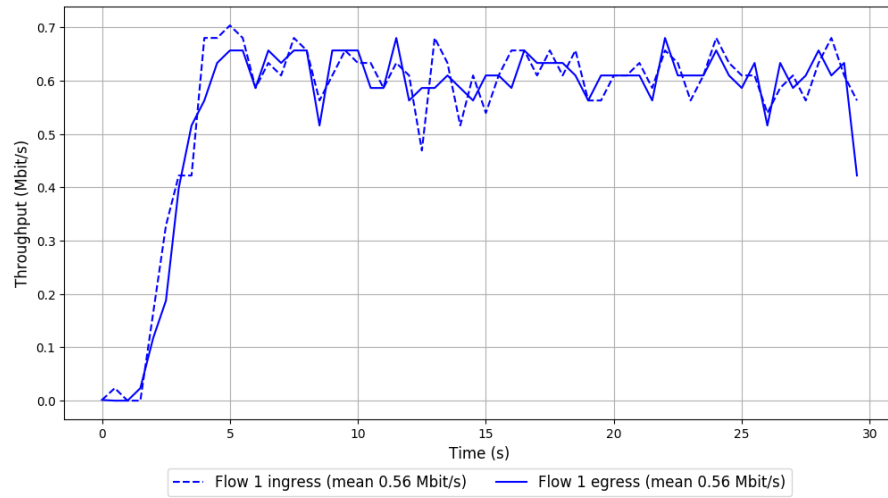


Run 3: Statistics of LEDBAT

Start at: 2018-01-15 23:22:42
End at: 2018-01-15 23:23:12
Local clock offset: 1.669 ms
Remote clock offset: -3.553 ms

Below is generated by plot.py at 2018-01-16 00:20:03
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 318.335 ms
Loss rate: 1.40%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 318.335 ms
Loss rate: 1.40%

Run 3: Report of LEDBAT — Data Link



Run 1: Statistics of PCC

Start at: 2018-01-15 22:36:49

End at: 2018-01-15 22:37:19

Local clock offset: 1.693 ms

Remote clock offset: 0.186 ms

Below is generated by plot.py at 2018-01-16 00:20:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 25904.740 ms

Loss rate: 98.68%

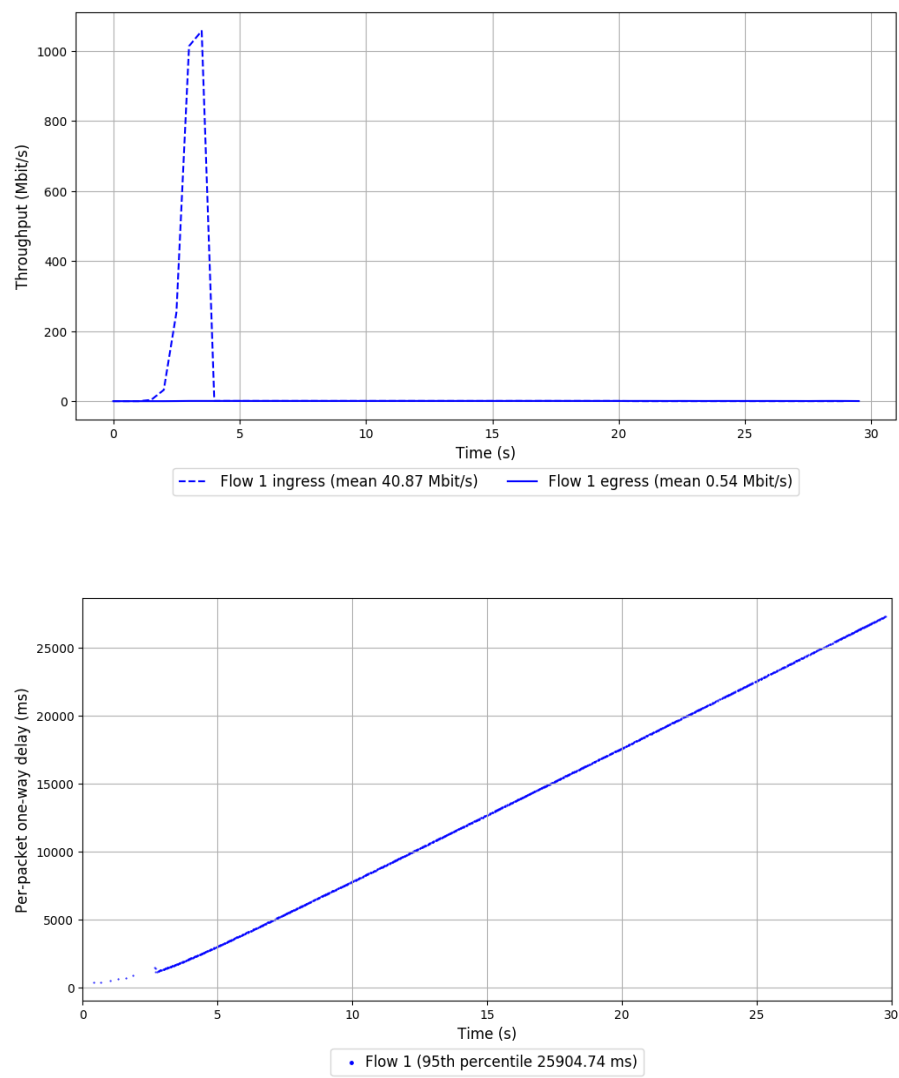
-- Flow 1:

Average throughput: 0.54 Mbit/s

95th percentile per-packet one-way delay: 25904.740 ms

Loss rate: 98.68%

Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

Start at: 2018-01-15 22:54:26

End at: 2018-01-15 22:54:56

Local clock offset: 1.635 ms

Remote clock offset: 1.511 ms

Below is generated by plot.py at 2018-01-16 00:20:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 25652.071 ms

Loss rate: 98.63%

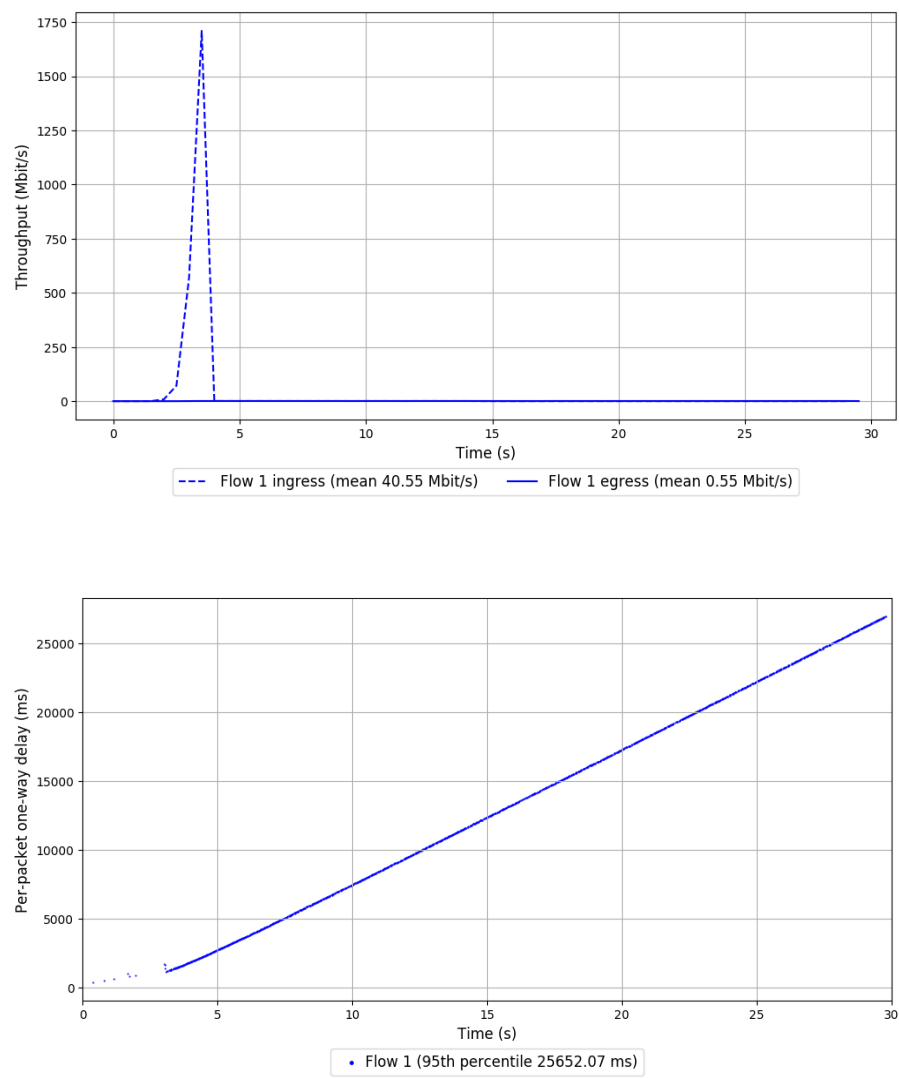
-- Flow 1:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 25652.071 ms

Loss rate: 98.63%

Run 2: Report of PCC — Data Link

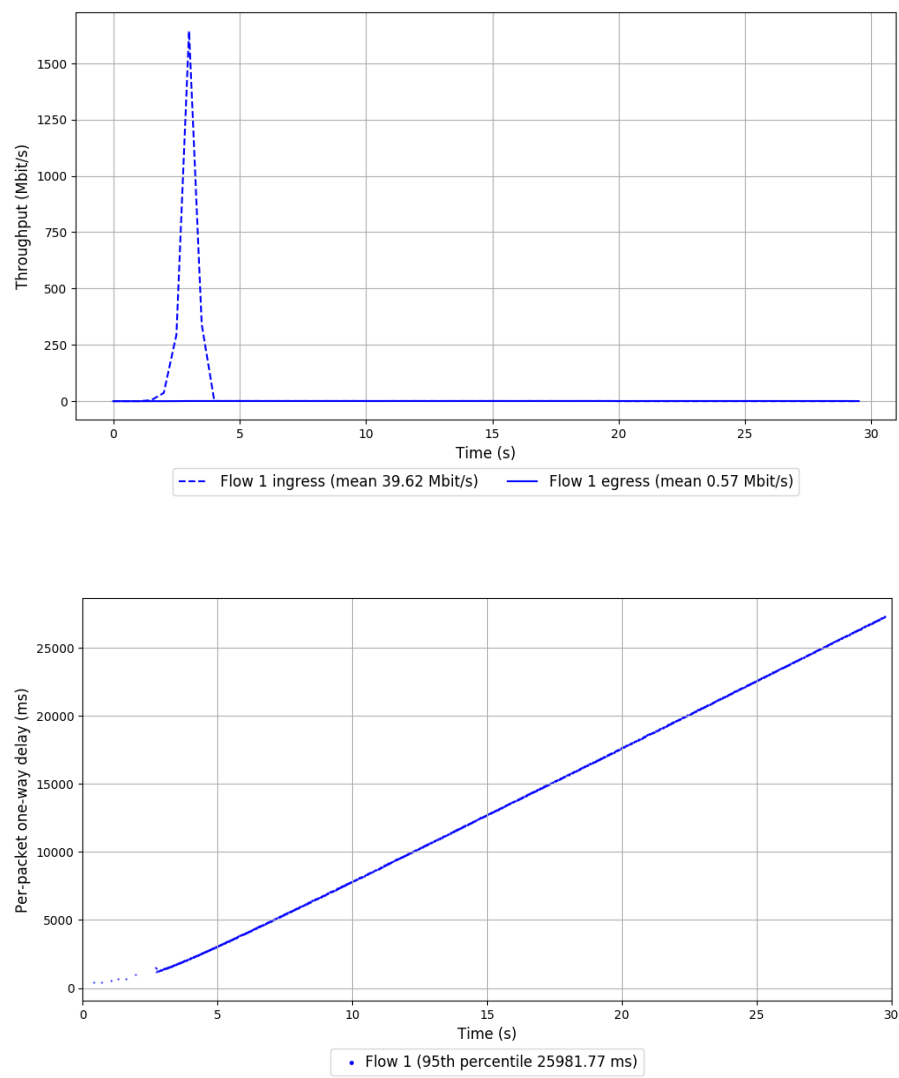


Run 3: Statistics of PCC

Start at: 2018-01-15 23:12:08
End at: 2018-01-15 23:12:38
Local clock offset: 1.854 ms
Remote clock offset: -3.472 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 25981.768 ms
Loss rate: 98.58%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 25981.768 ms
Loss rate: 98.58%

Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-01-15 22:41:31

End at: 2018-01-15 22:42:01

Local clock offset: 1.84 ms

Remote clock offset: -5.373 ms

Run 1: Report of QUIC Cubic — Data Link

Figure is missing

Figure is missing

Run 2: Statistics of QUIC Cubic

Start at: 2018-01-15 22:59:11

End at: 2018-01-15 22:59:41

Local clock offset: 1.803 ms

Remote clock offset: -4.835 ms

Run 2: Report of QUIC Cubic — Data Link

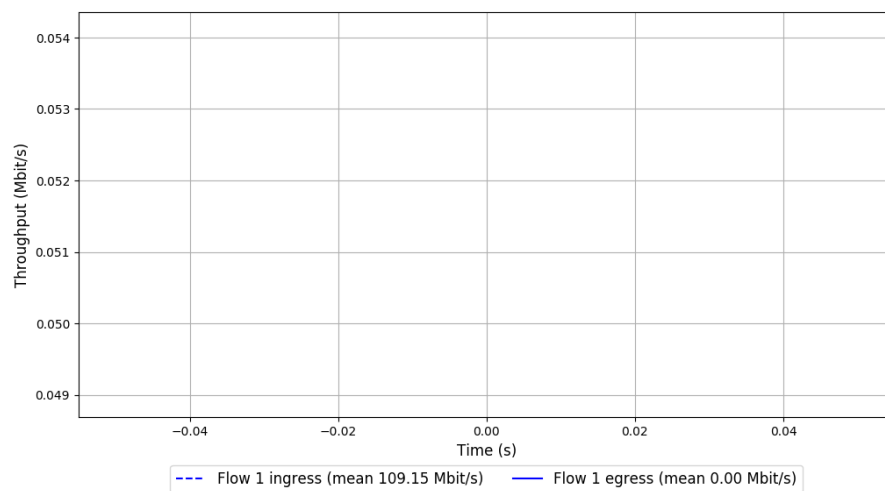


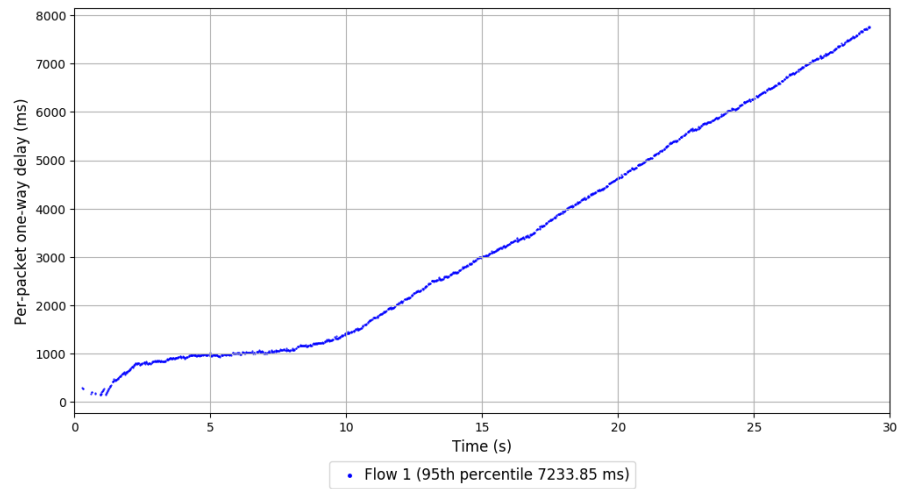
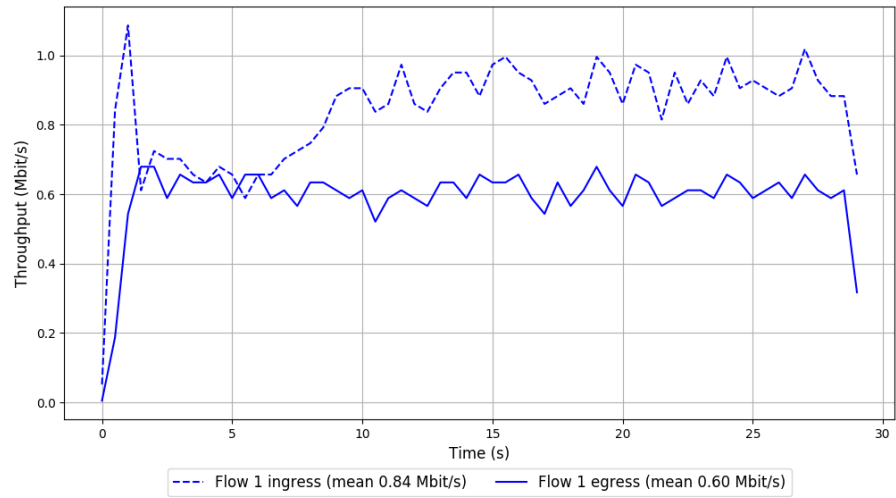
Figure is missing

Run 3: Statistics of QUIC Cubic

Start at: 2018-01-15 23:16:50
End at: 2018-01-15 23:17:20
Local clock offset: 2.082 ms
Remote clock offset: -3.487 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 7233.854 ms
Loss rate: 29.38%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 7233.854 ms
Loss rate: 29.38%

Run 3: Report of QUIC Cubic — Data Link

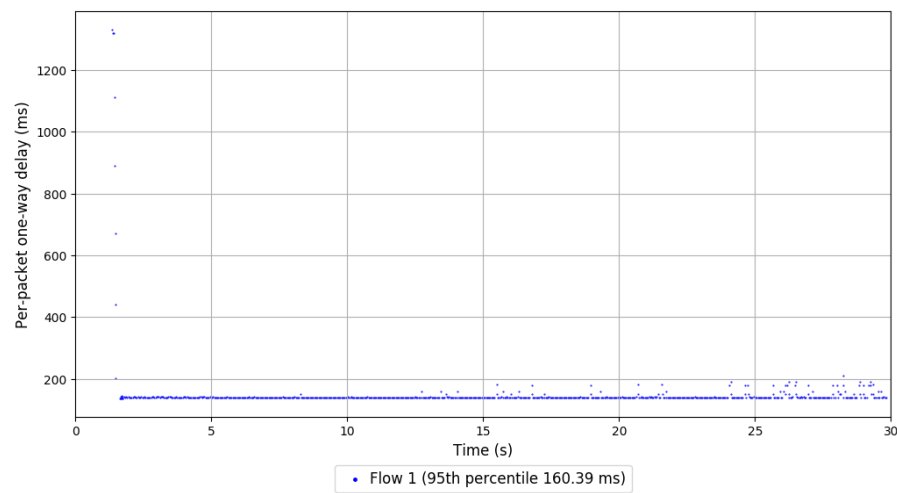
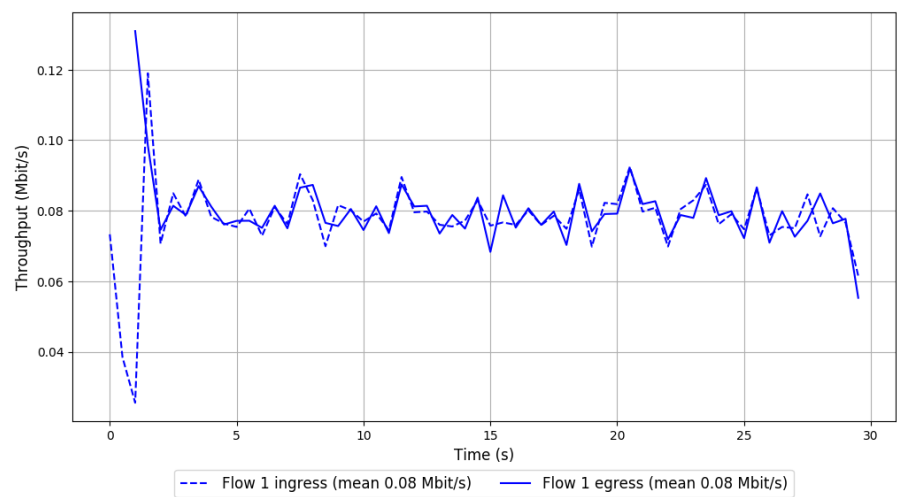


Run 1: Statistics of SCReAM

Start at: 2018-01-15 22:34:28
End at: 2018-01-15 22:34:58
Local clock offset: 1.889 ms
Remote clock offset: -5.543 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 160.392 ms
Loss rate: 0.66%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 160.392 ms
Loss rate: 0.66%

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-01-15 22:52:05

End at: 2018-01-15 22:52:35

Local clock offset: 1.655 ms

Remote clock offset: 1.453 ms

Below is generated by plot.py at 2018-01-16 00:20:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 171.398 ms

Loss rate: 0.66%

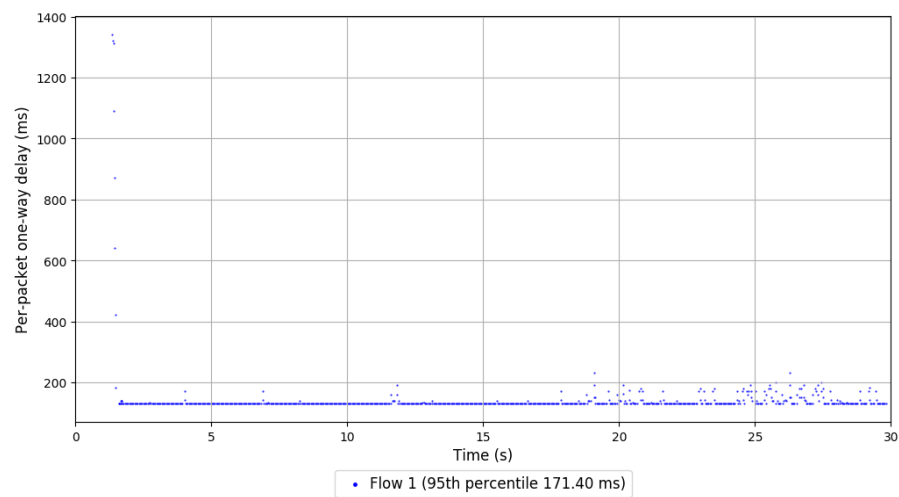
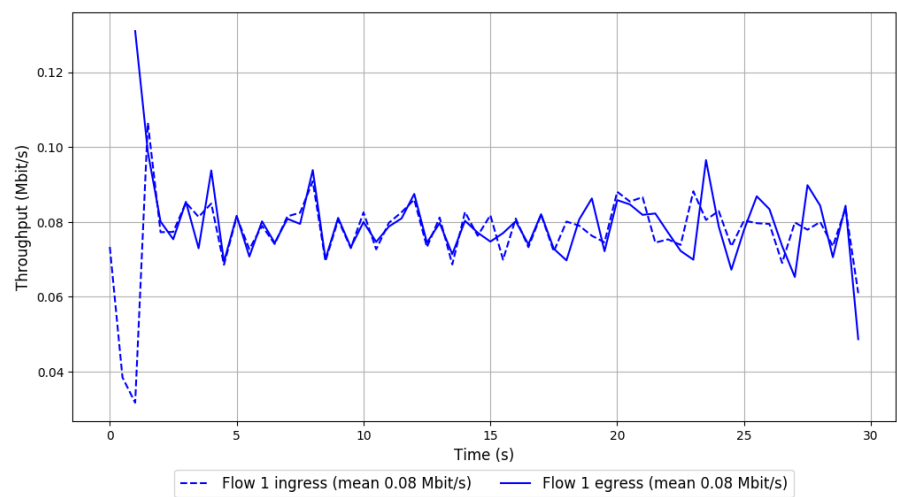
-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 171.398 ms

Loss rate: 0.66%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-01-15 23:09:47

End at: 2018-01-15 23:10:18

Local clock offset: 1.836 ms

Remote clock offset: 2.104 ms

Below is generated by plot.py at 2018-01-16 00:20:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 140.336 ms

Loss rate: 0.66%

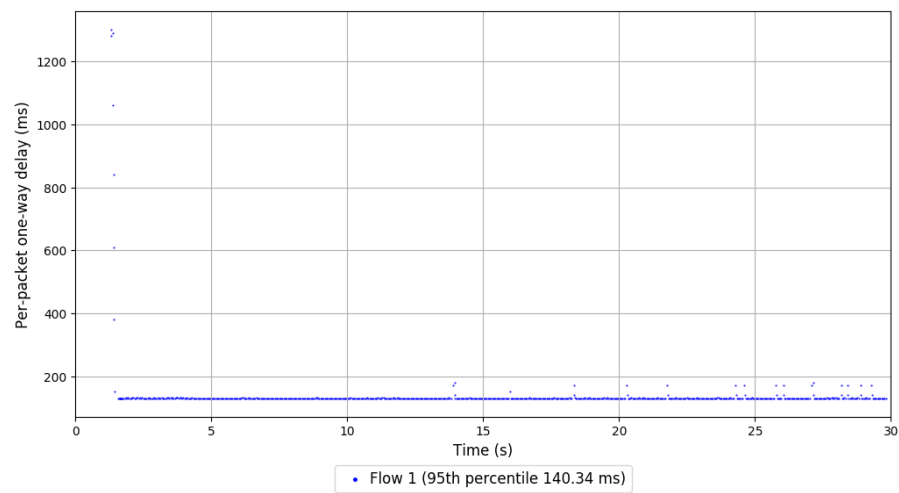
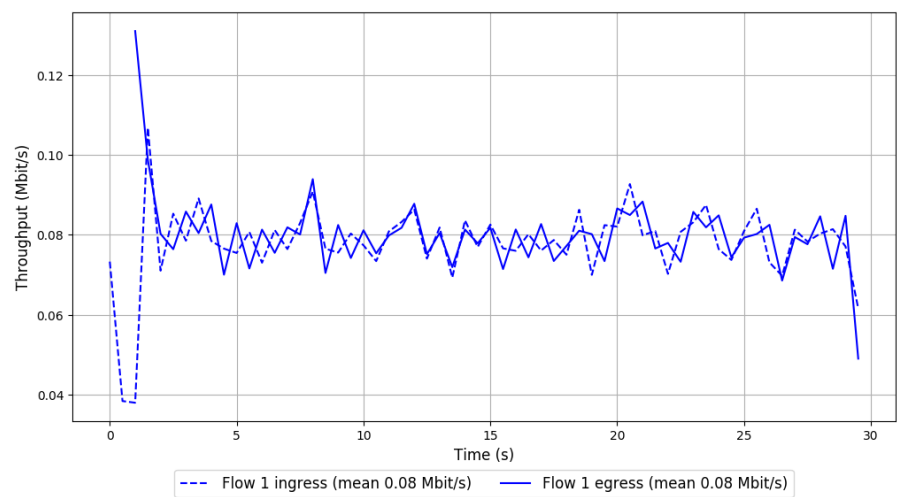
-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 140.336 ms

Loss rate: 0.66%

Run 3: Report of SReAM — Data Link

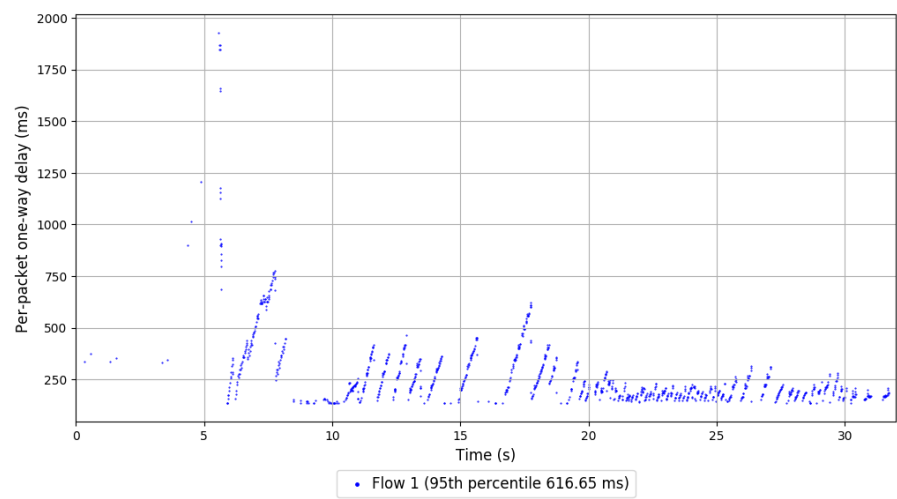
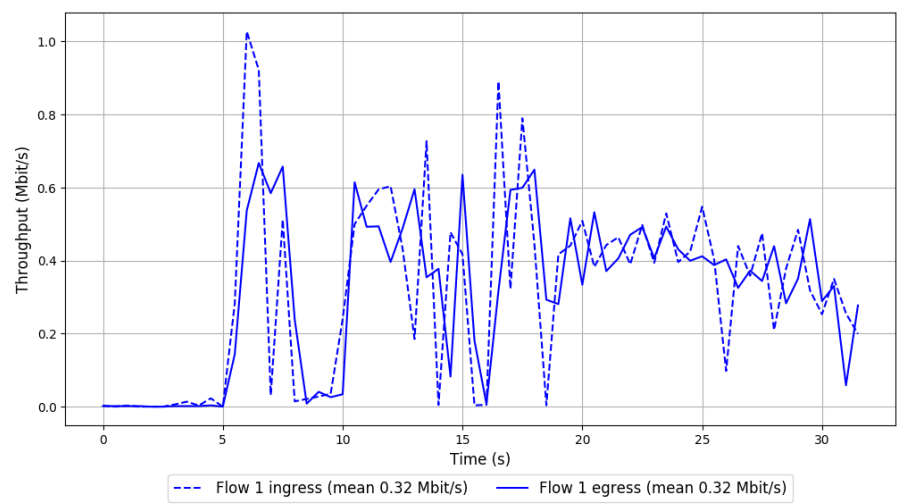


Run 1: Statistics of WebRTC media

Start at: 2018-01-15 22:35:39
End at: 2018-01-15 22:36:09
Local clock offset: 1.724 ms
Remote clock offset: -4.758 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 616.653 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 0.32 Mbit/s
95th percentile per-packet one-way delay: 616.653 ms
Loss rate: 0.69%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

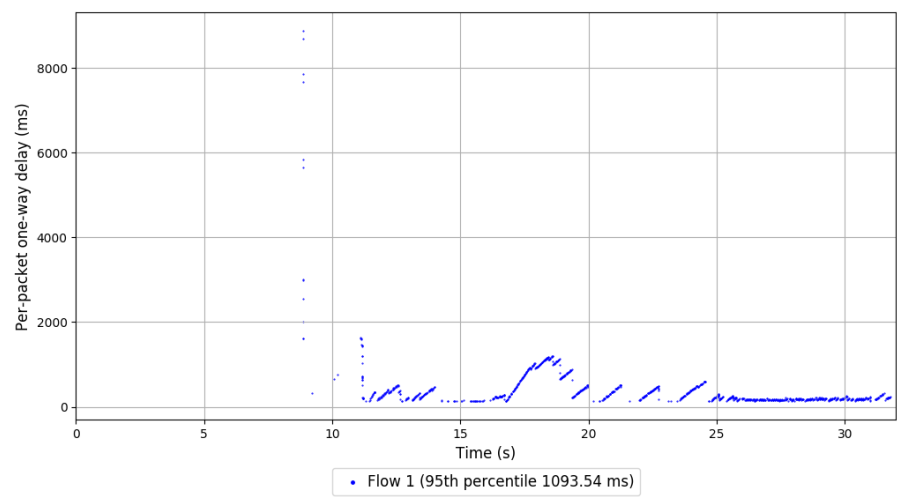
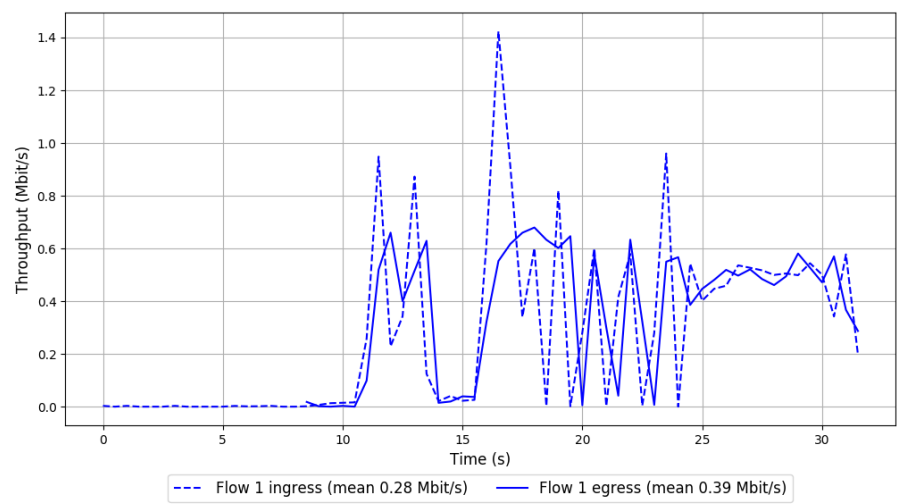
Start at: 2018-01-15 22:53:15

End at: 2018-01-15 22:53:46

Local clock offset: 1.662 ms

Remote clock offset: -4.979 ms

Run 2: Report of WebRTC media — Data Link

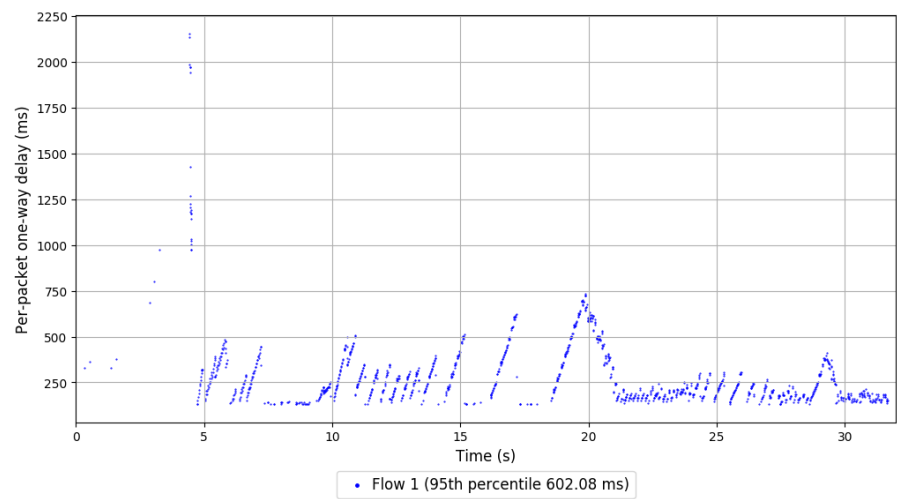
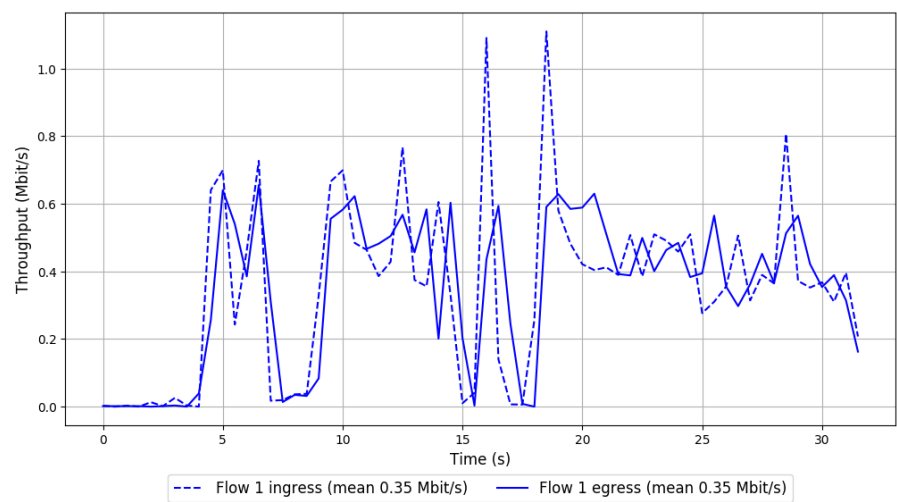


Run 3: Statistics of WebRTC media

Start at: 2018-01-15 23:10:58
End at: 2018-01-15 23:11:28
Local clock offset: 1.871 ms
Remote clock offset: -3.516 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 602.077 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 602.077 ms
Loss rate: 0.85%

Run 3: Report of WebRTC media — Data Link

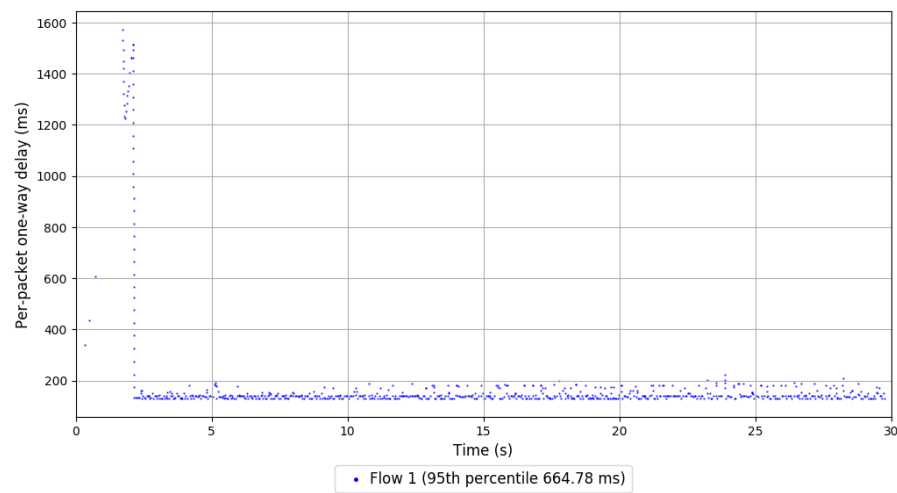
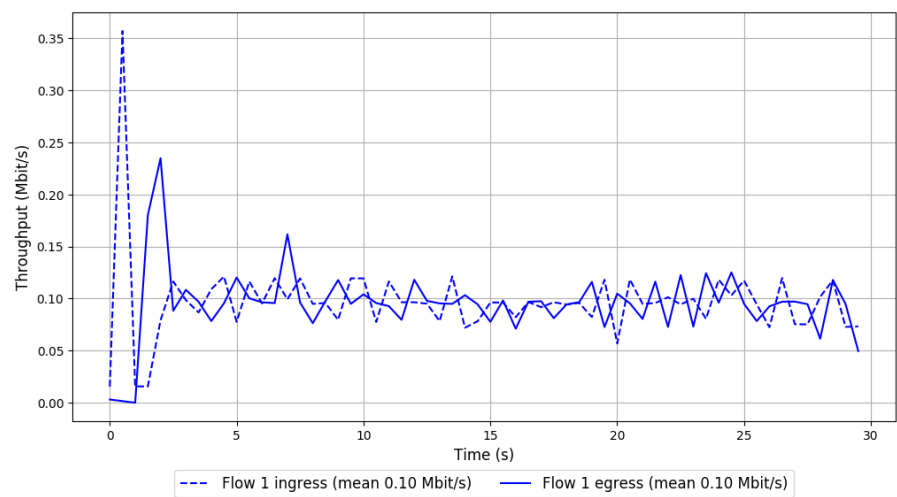


```
Run 1: Statistics of Sprout

Start at: 2018-01-15 22:45:02
End at: 2018-01-15 22:45:32
Local clock offset: 1.388 ms
Remote clock offset: 0.356 ms

# Below is generated by plot.py at 2018-01-16 00:20:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 664.783 ms
Loss rate: 1.80%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 664.783 ms
Loss rate: 1.80%
```

Run 1: Report of Sprout — Data Link

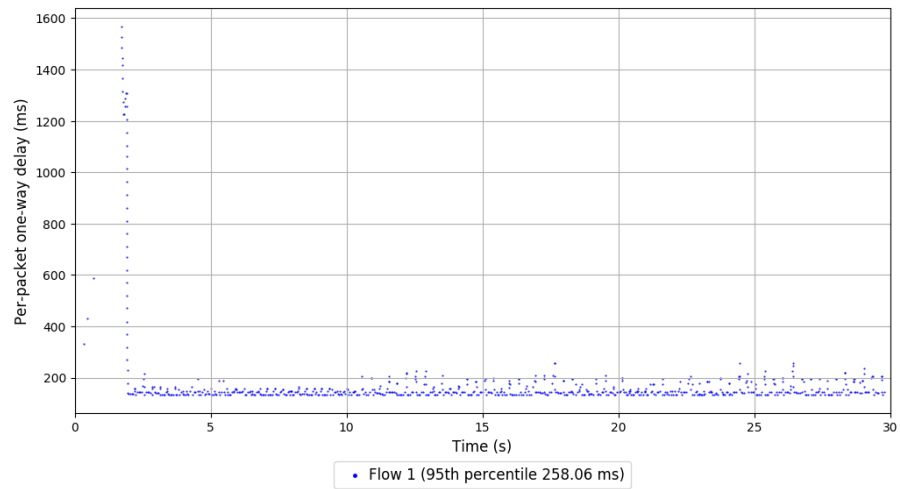
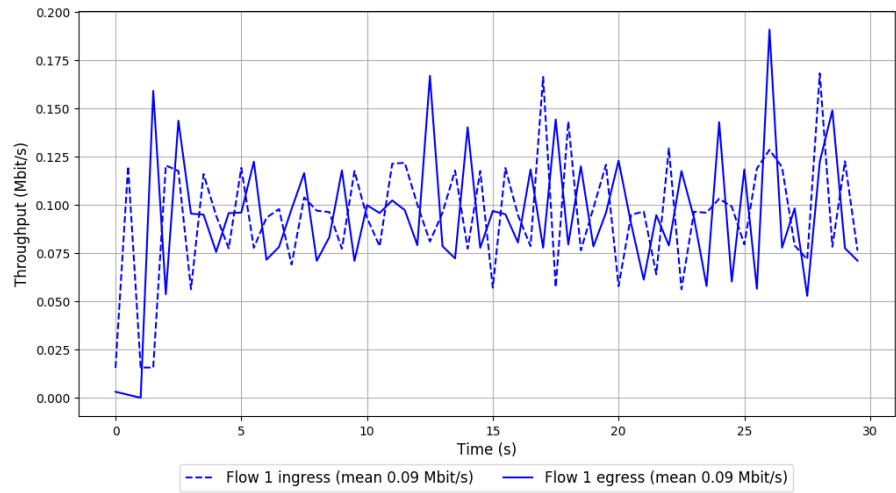


Run 2: Statistics of Sprout

Start at: 2018-01-15 23:02:44
End at: 2018-01-15 23:03:14
Local clock offset: 1.865 ms
Remote clock offset: -4.687 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 258.065 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 258.065 ms
Loss rate: 1.26%

Run 2: Report of Sprout — Data Link

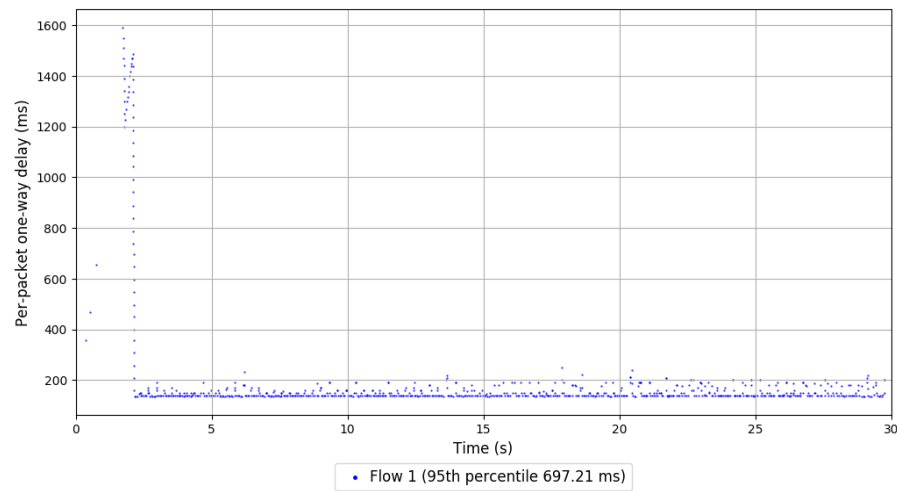
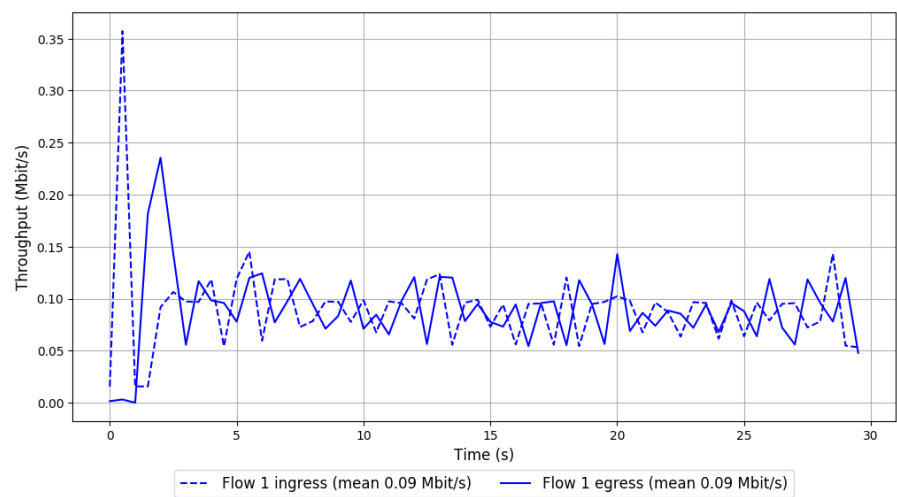


Run 3: Statistics of Sprout

Start at: 2018-01-15 23:20:22
End at: 2018-01-15 23:20:52
Local clock offset: 1.861 ms
Remote clock offset: -3.365 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 697.207 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 697.207 ms
Loss rate: 0.78%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-01-15 22:40:21

End at: 2018-01-15 22:40:51

Local clock offset: 1.903 ms

Remote clock offset: 1.165 ms

Below is generated by plot.py at 2018-01-16 00:20:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.61 Mbit/s

95th percentile per-packet one-way delay: 952.342 ms

Loss rate: 2.64%

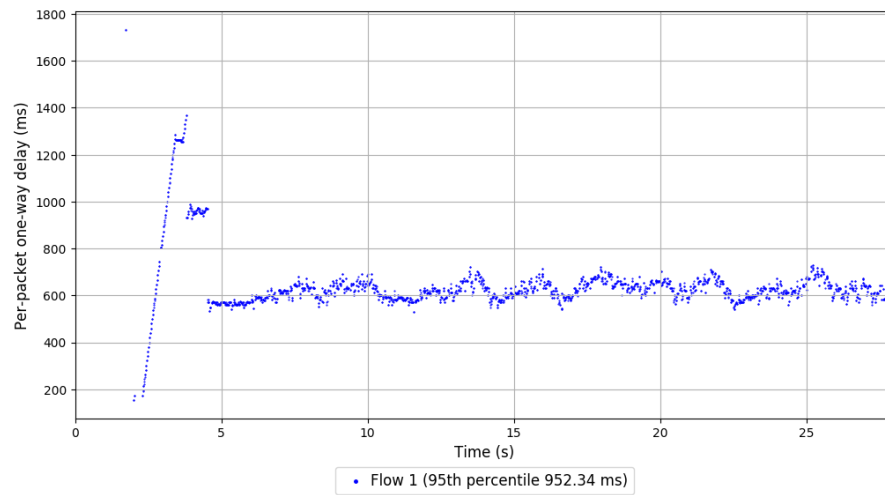
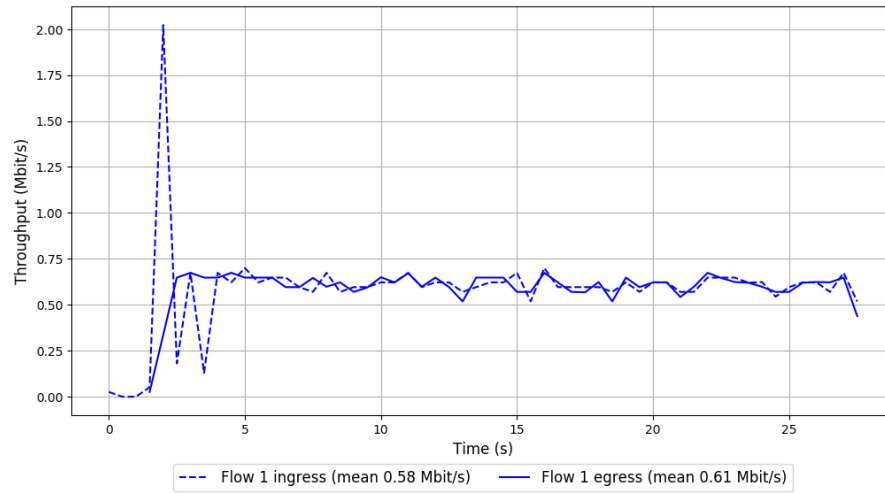
-- Flow 1:

Average throughput: 0.61 Mbit/s

95th percentile per-packet one-way delay: 952.342 ms

Loss rate: 2.64%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-01-15 22:58:01

End at: 2018-01-15 22:58:31

Local clock offset: 1.746 ms

Remote clock offset: 0.062 ms

Below is generated by plot.py at 2018-01-16 00:20:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 1077.672 ms

Loss rate: 2.88%

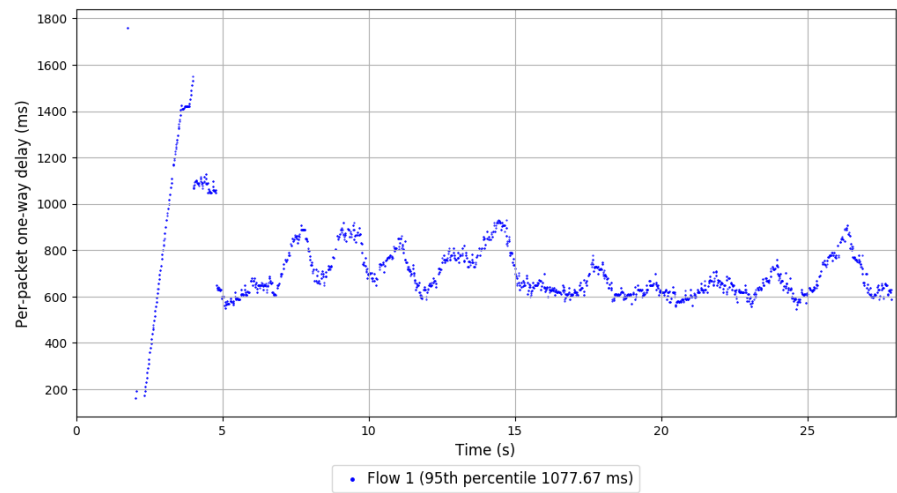
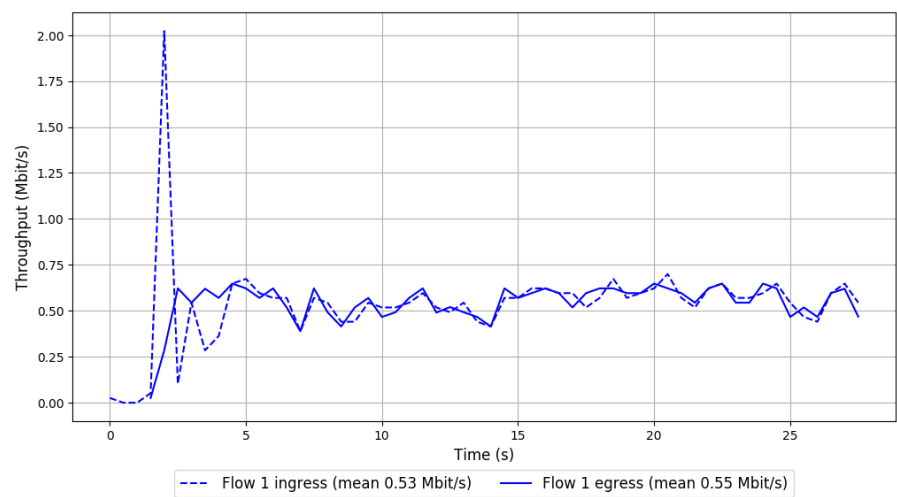
-- Flow 1:

Average throughput: 0.55 Mbit/s

95th percentile per-packet one-way delay: 1077.672 ms

Loss rate: 2.88%

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

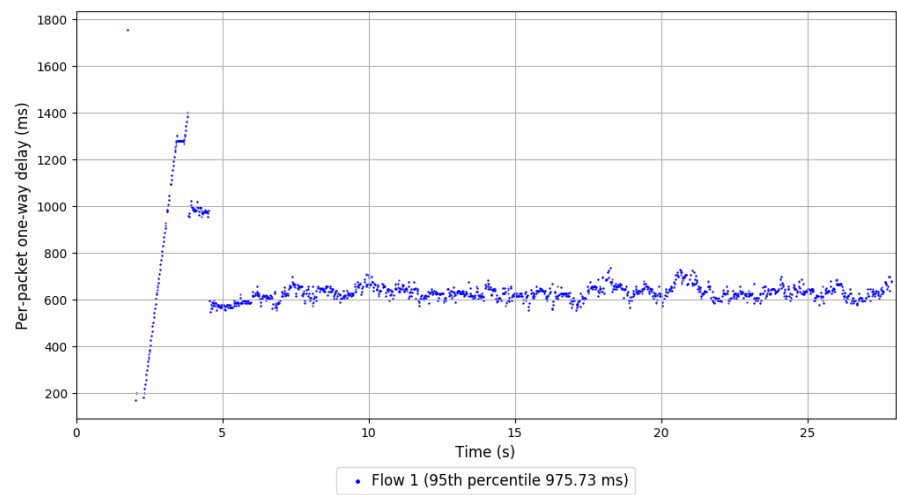
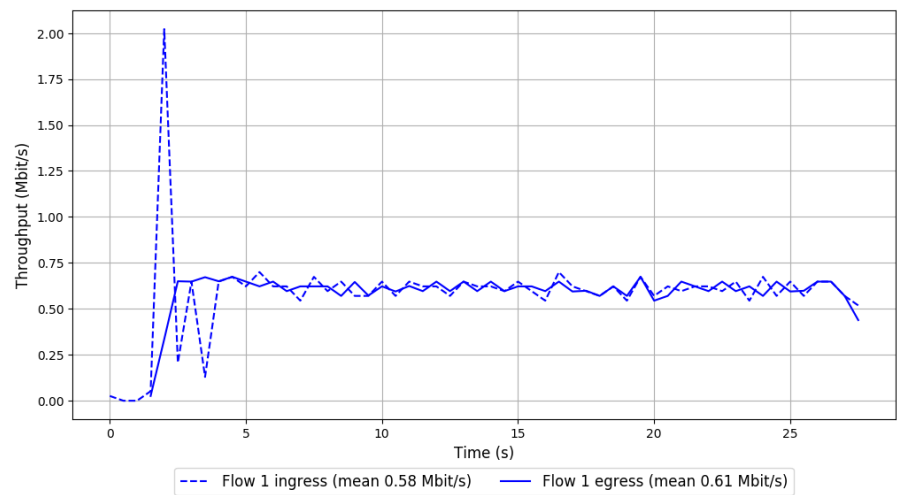


Run 3: Statistics of TaoVA-100x

Start at: 2018-01-15 23:15:40
End at: 2018-01-15 23:16:10
Local clock offset: 2.101 ms
Remote clock offset: -4.221 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 975.734 ms
Loss rate: 2.64%
-- Flow 1:
Average throughput: 0.61 Mbit/s
95th percentile per-packet one-way delay: 975.734 ms
Loss rate: 2.64%

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

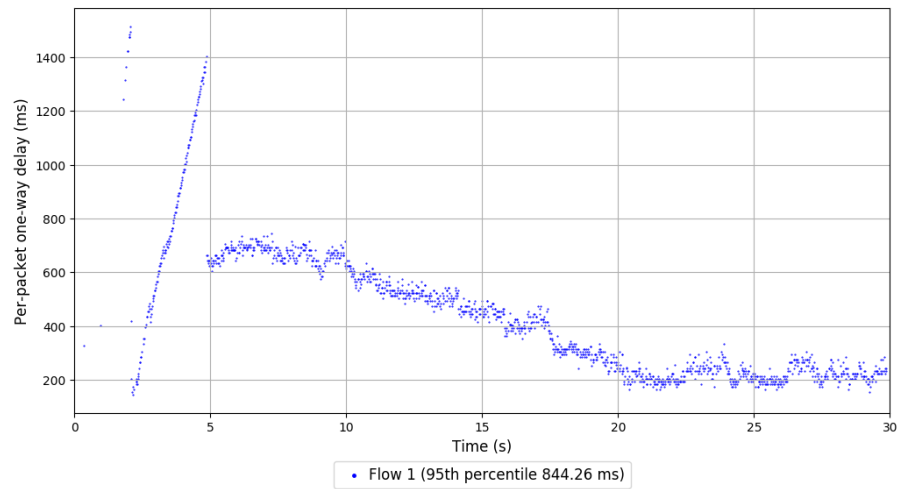
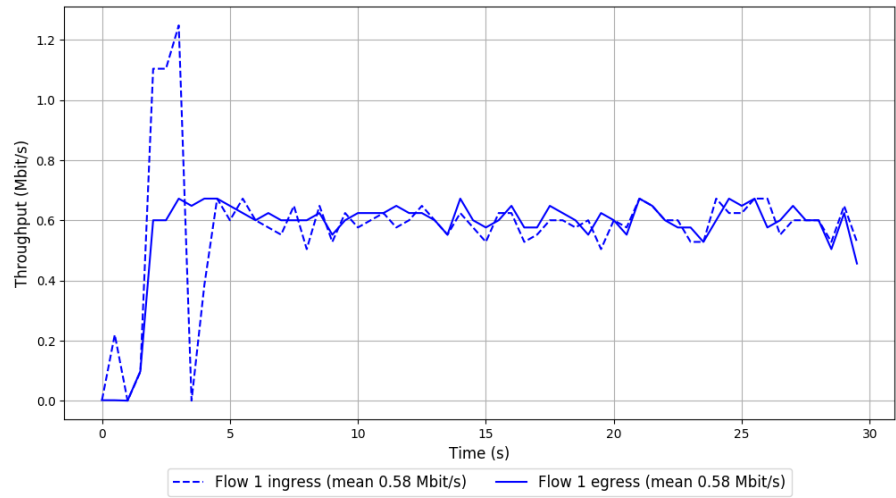


Run 1: Statistics of TCP Vegas

Start at: 2018-01-15 22:46:13
End at: 2018-01-15 22:46:43
Local clock offset: 1.364 ms
Remote clock offset: -4.378 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 844.257 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 844.257 ms
Loss rate: 1.04%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-01-15 23:03:54

End at: 2018-01-15 23:04:24

Local clock offset: 1.859 ms

Remote clock offset: 1.059 ms

Below is generated by plot.py at 2018-01-16 00:20:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 1015.338 ms

Loss rate: 1.85%

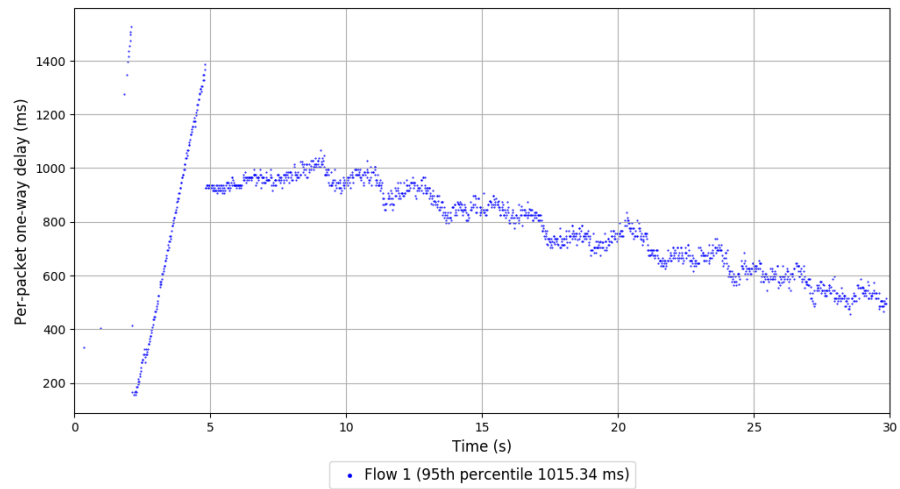
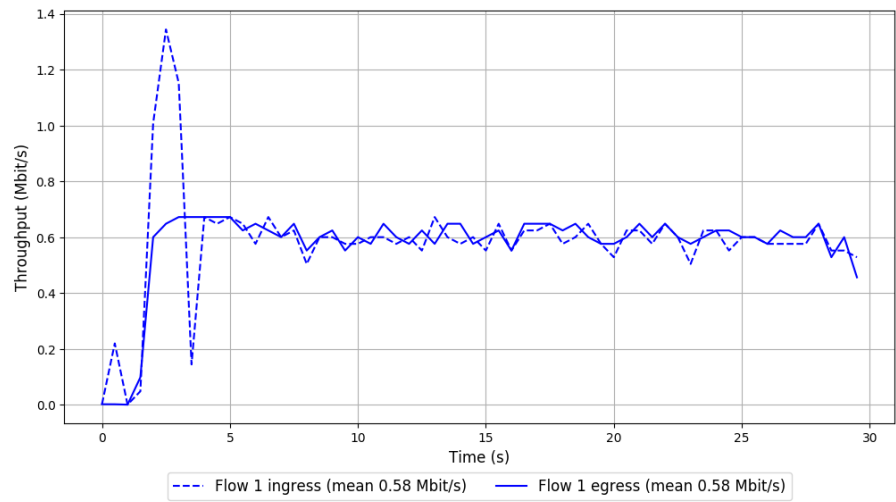
-- Flow 1:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 1015.338 ms

Loss rate: 1.85%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-01-15 23:21:32

End at: 2018-01-15 23:22:02

Local clock offset: 1.78 ms

Remote clock offset: 1.369 ms

Below is generated by plot.py at 2018-01-16 00:20:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 986.153 ms

Loss rate: 1.58%

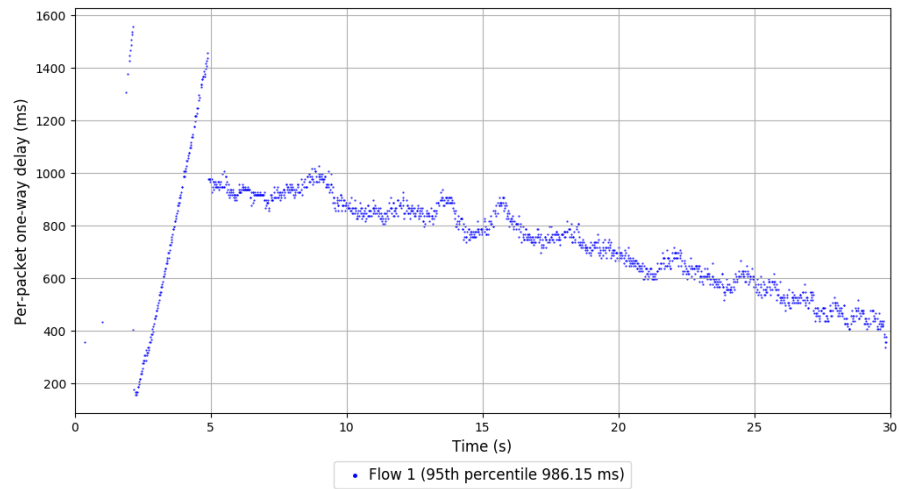
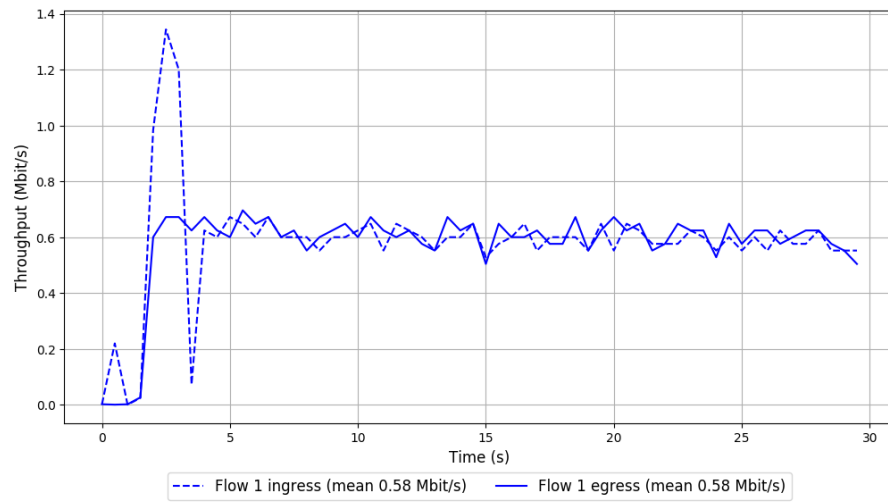
-- Flow 1:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 986.153 ms

Loss rate: 1.58%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-01-15 22:39:11

End at: 2018-01-15 22:39:41

Local clock offset: 1.856 ms

Remote clock offset: 0.152 ms

Below is generated by plot.py at 2018-01-16 00:20:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 1967.878 ms

Loss rate: 5.68%

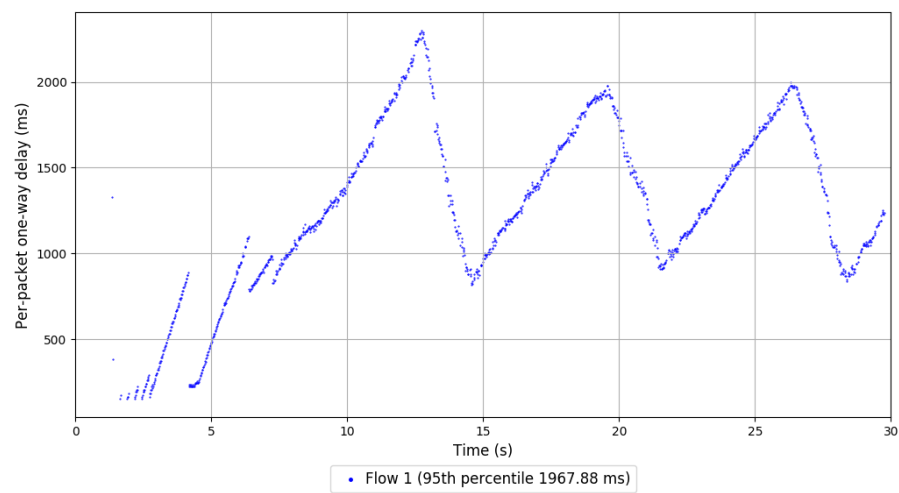
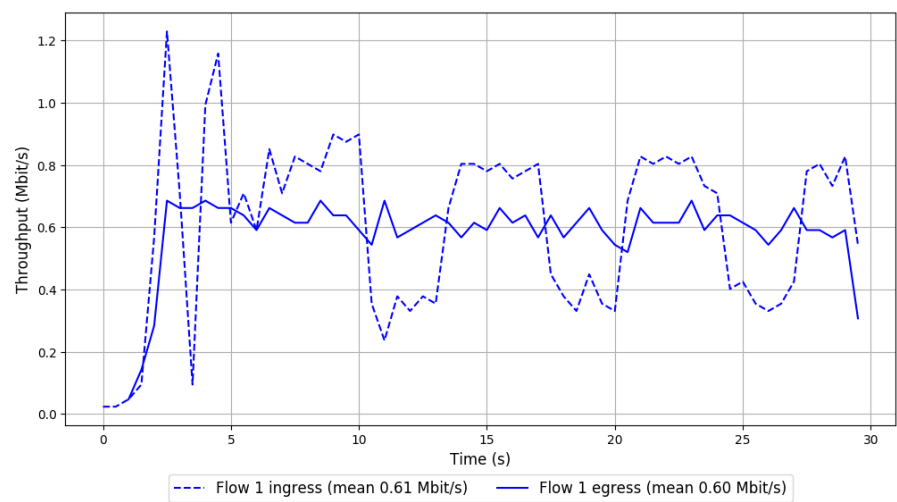
-- Flow 1:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 1967.878 ms

Loss rate: 5.68%

Run 1: Report of Verus — Data Link

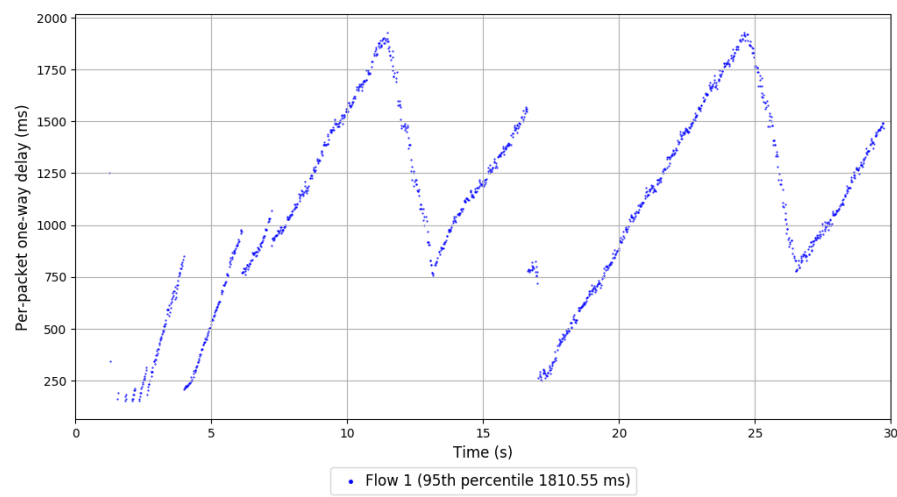
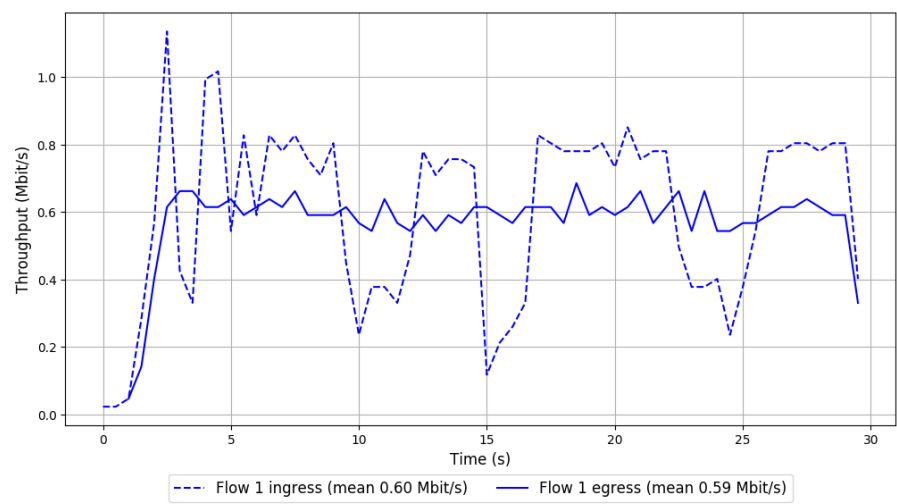


Run 2: Statistics of Verus

Start at: 2018-01-15 22:56:50
End at: 2018-01-15 22:57:20
Local clock offset: 1.71 ms
Remote clock offset: -0.139 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1810.551 ms
Loss rate: 6.66%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 1810.551 ms
Loss rate: 6.66%

Run 2: Report of Verus — Data Link

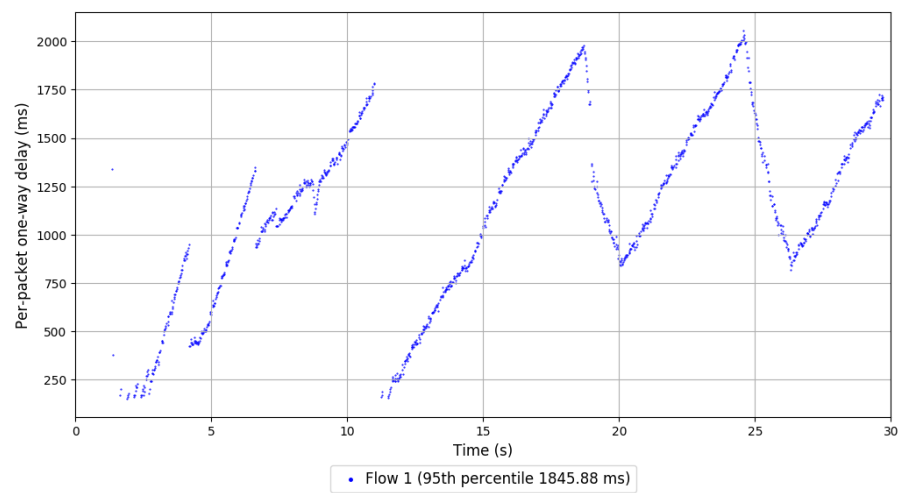
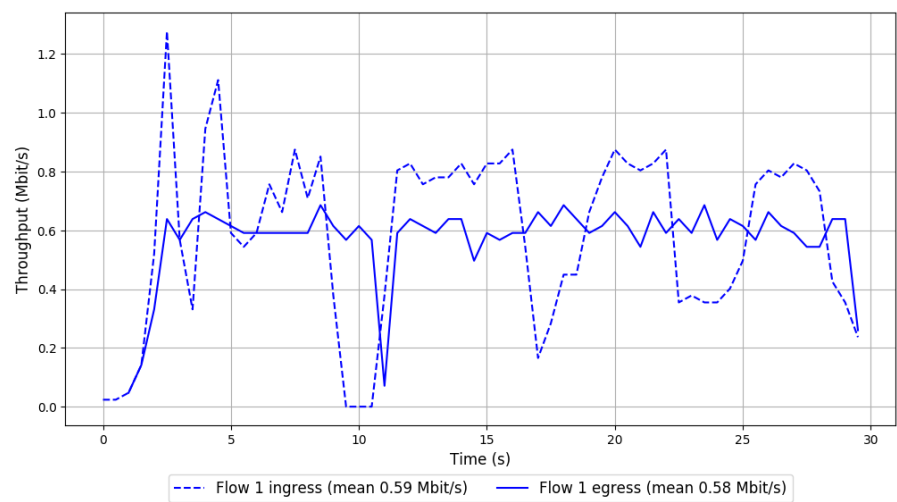


Run 3: Statistics of Verus

Start at: 2018-01-15 23:14:30
End at: 2018-01-15 23:15:00
Local clock offset: 1.97 ms
Remote clock offset: -4.201 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1845.882 ms
Loss rate: 5.20%
-- Flow 1:
Average throughput: 0.58 Mbit/s
95th percentile per-packet one-way delay: 1845.882 ms
Loss rate: 5.20%

Run 3: Report of Verus — Data Link

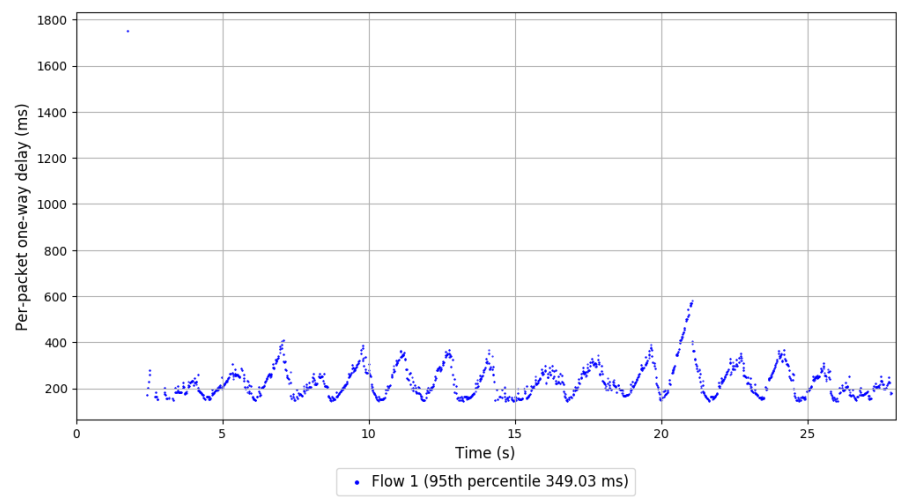
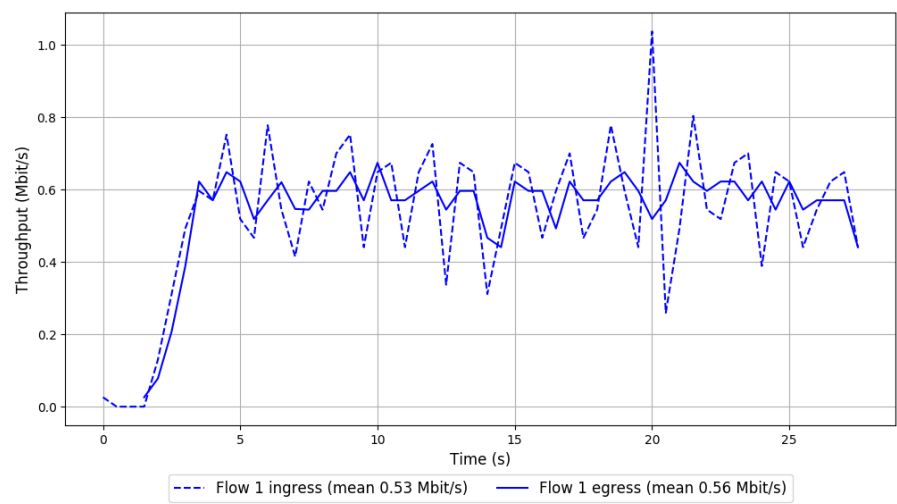


Run 1: Statistics of Copa

Start at: 2018-01-15 22:38:01
End at: 2018-01-15 22:38:31
Local clock offset: 1.71 ms
Remote clock offset: -5.498 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 349.028 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 349.028 ms
Loss rate: 0.96%

Run 1: Report of Copa — Data Link

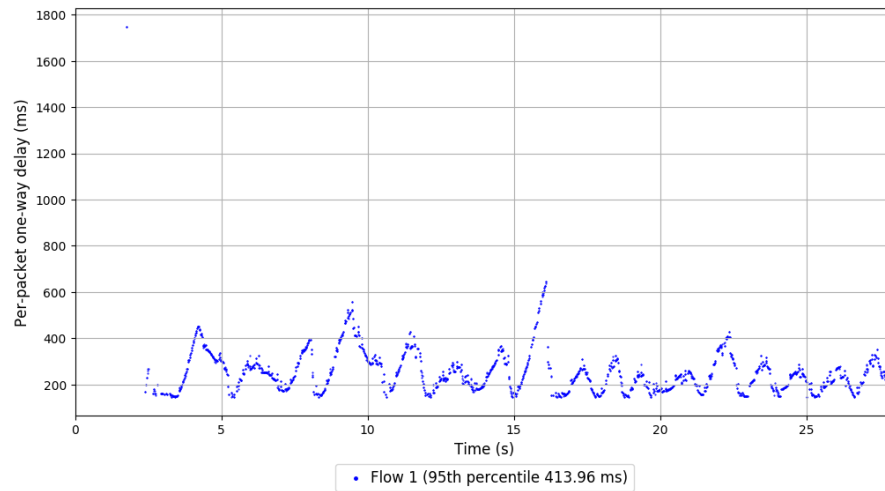
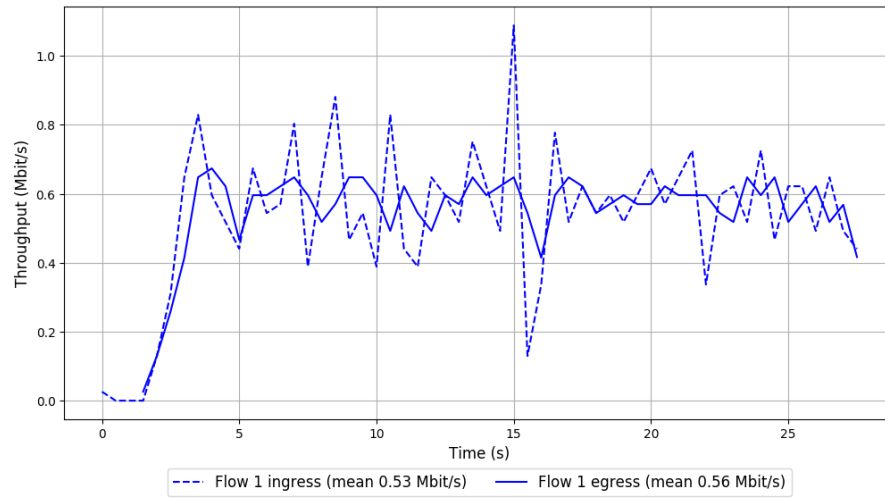


Run 2: Statistics of Copa

Start at: 2018-01-15 22:55:38
End at: 2018-01-15 22:56:08
Local clock offset: 1.657 ms
Remote clock offset: -4.834 ms

Below is generated by plot.py at 2018-01-16 00:20:27
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 413.956 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 413.956 ms
Loss rate: 0.87%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-01-15 23:13:20

End at: 2018-01-15 23:13:50

Local clock offset: 1.975 ms

Remote clock offset: 2.266 ms

Below is generated by plot.py at 2018-01-16 00:20:27

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 389.873 ms

Loss rate: 2.36%

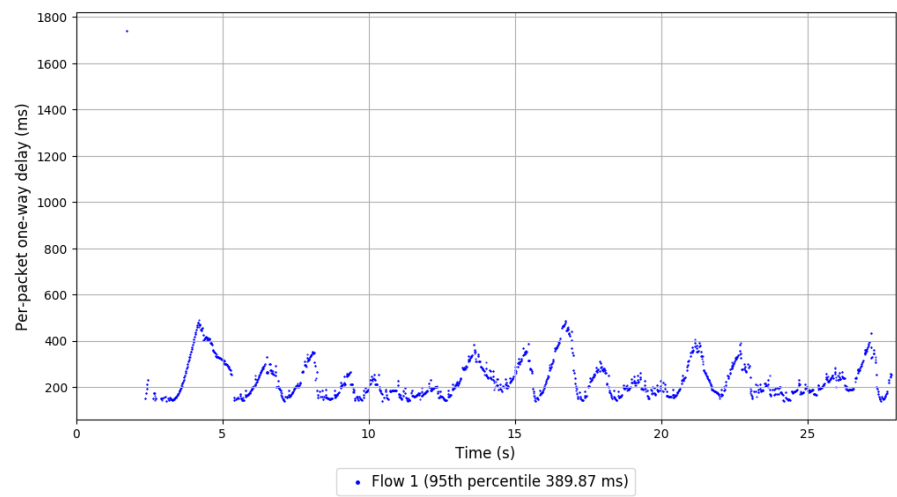
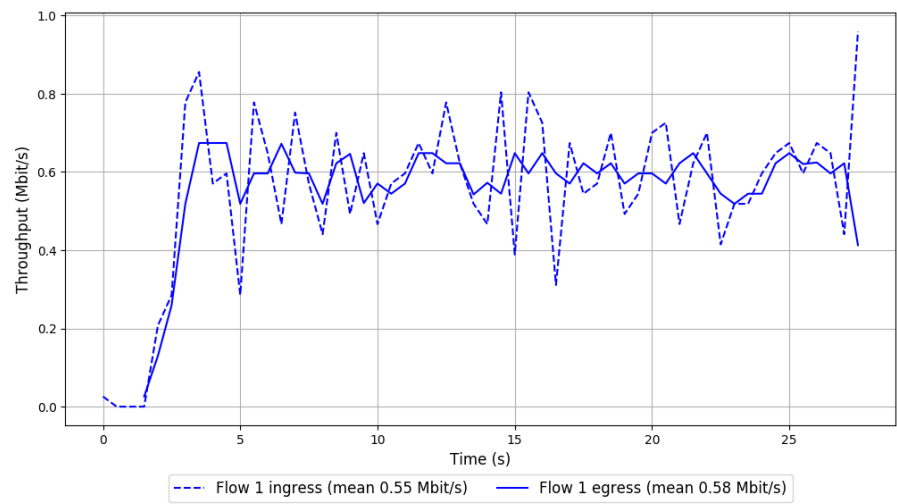
-- Flow 1:

Average throughput: 0.58 Mbit/s

95th percentile per-packet one-way delay: 389.873 ms

Loss rate: 2.36%

Run 3: Report of Copa — Data Link

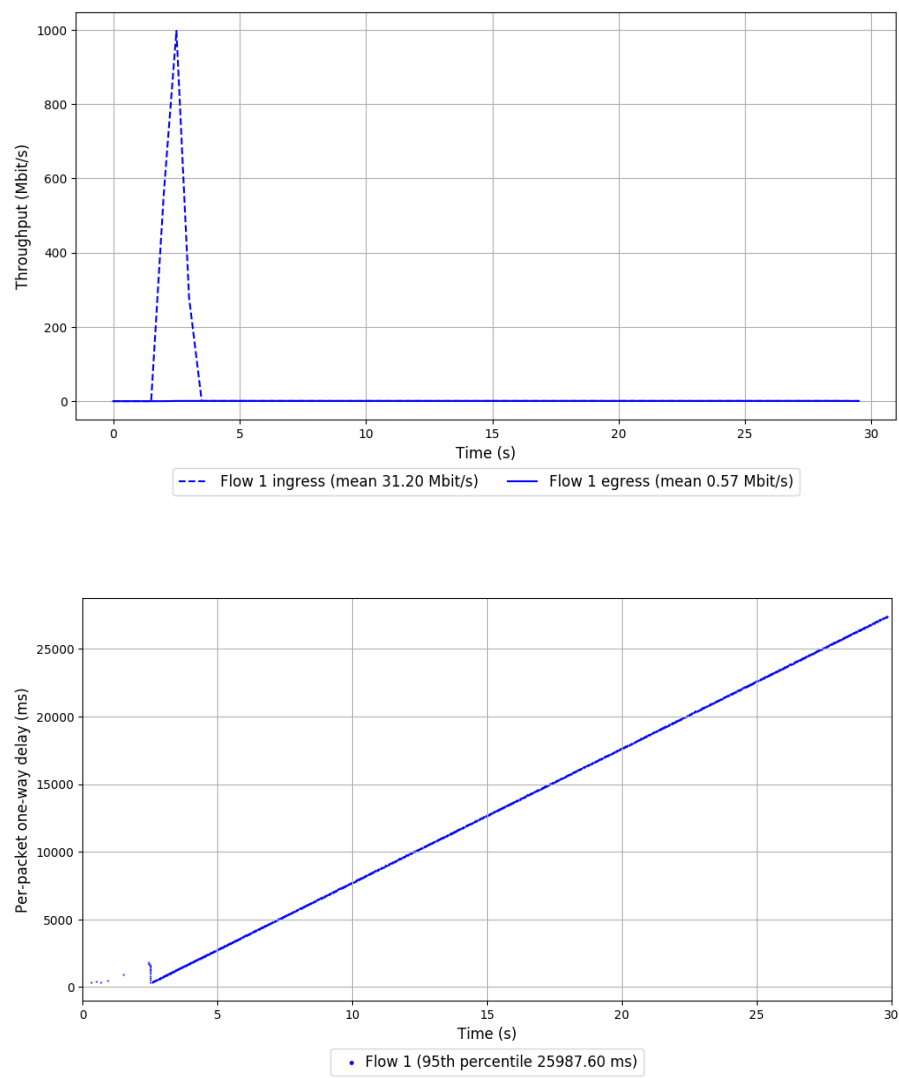


Run 1: Statistics of FillP

Start at: 2018-01-15 22:50:53
End at: 2018-01-15 22:51:23
Local clock offset: 1.518 ms
Remote clock offset: -0.208 ms

Below is generated by plot.py at 2018-01-16 00:20:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 25987.595 ms
Loss rate: 98.19%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 25987.595 ms
Loss rate: 98.19%

Run 1: Report of FillP — Data Link

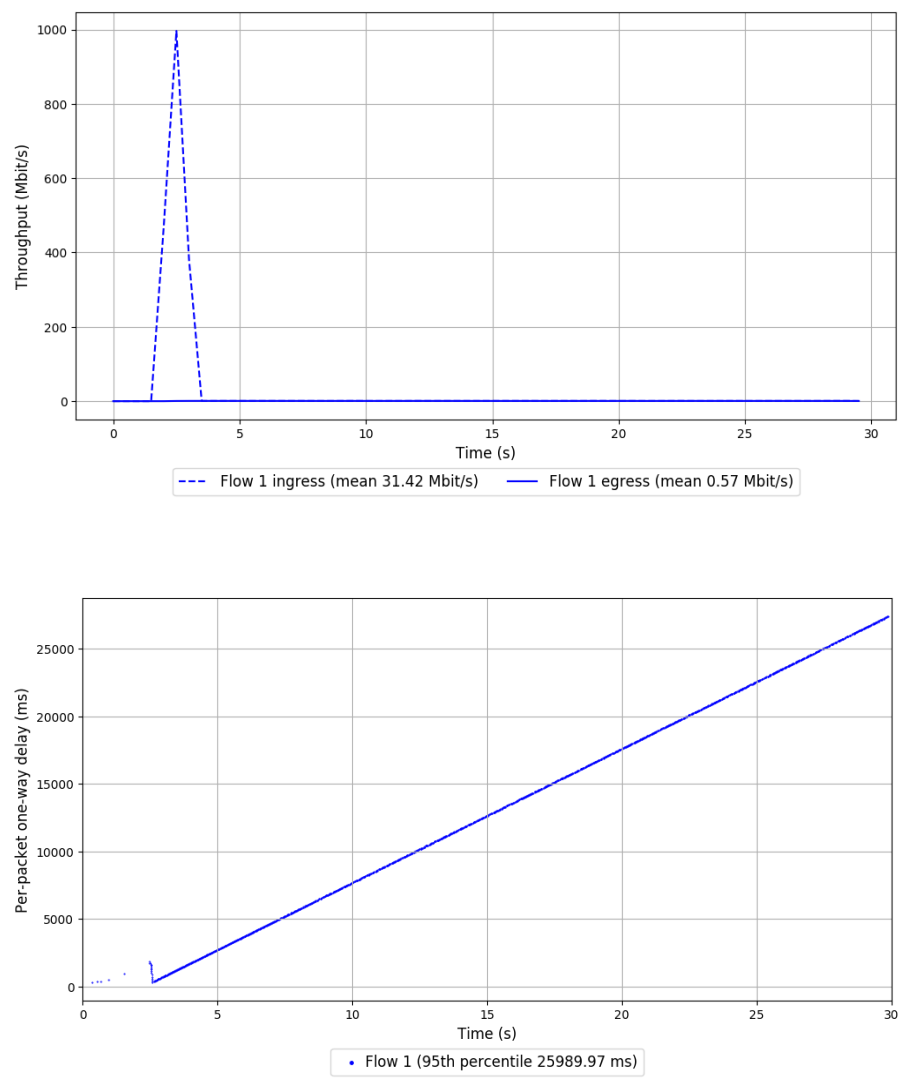


Run 2: Statistics of FillP

Start at: 2018-01-15 23:08:35
End at: 2018-01-15 23:09:05
Local clock offset: 1.805 ms
Remote clock offset: -3.606 ms

Below is generated by plot.py at 2018-01-16 00:20:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 25989.974 ms
Loss rate: 98.21%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 25989.974 ms
Loss rate: 98.21%

Run 2: Report of FillP — Data Link



Run 3: Statistics of FillP

Start at: 2018-01-15 23:26:13

End at: 2018-01-15 23:26:43

Local clock offset: 1.414 ms

Remote clock offset: 1.389 ms

Below is generated by plot.py at 2018-01-16 00:20:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 26308.935 ms

Loss rate: 98.20%

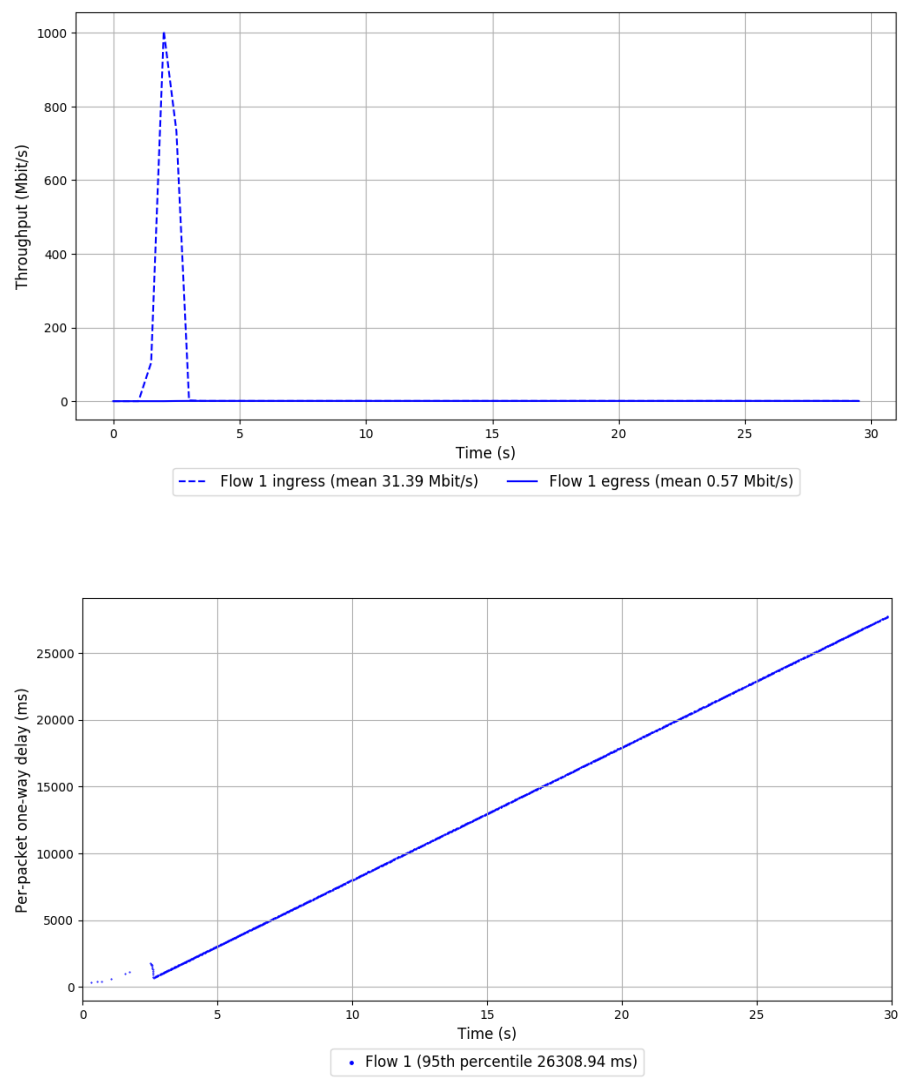
-- Flow 1:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 26308.935 ms

Loss rate: 98.20%

Run 3: Report of FillP — Data Link

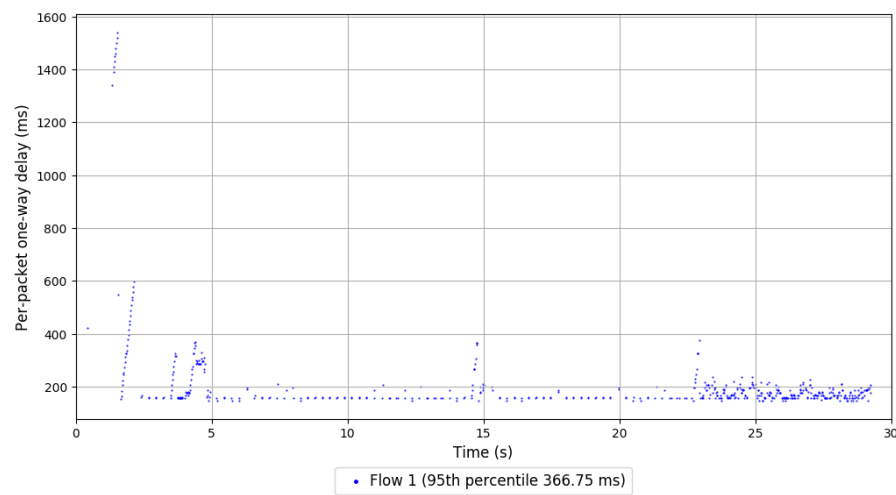
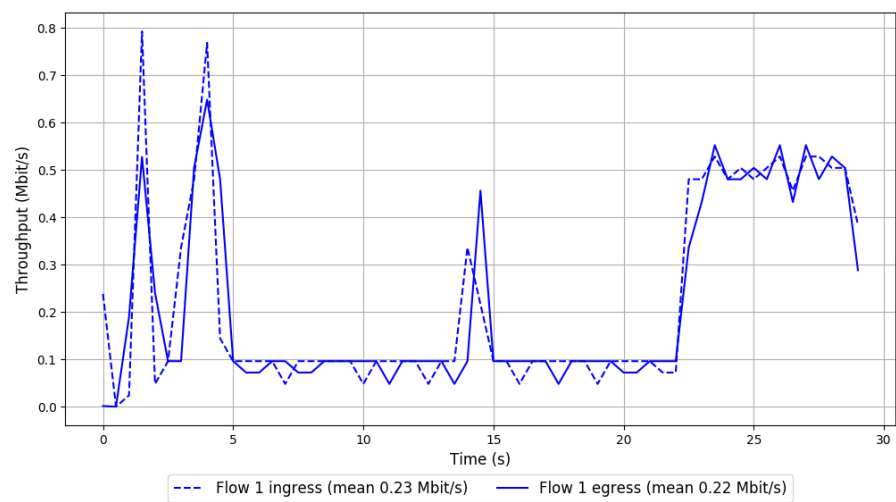


```
Run 1: Statistics of Indigo

Start at: 2018-01-15 22:48:33
End at: 2018-01-15 22:49:03
Local clock offset: 1.354 ms
Remote clock offset: -4.25 ms

# Below is generated by plot.py at 2018-01-16 00:20:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 366.752 ms
Loss rate: 3.26%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 366.752 ms
Loss rate: 3.26%
```

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-01-15 23:06:15

End at: 2018-01-15 23:06:45

Local clock offset: 1.721 ms

Remote clock offset: 1.262 ms

Below is generated by plot.py at 2018-01-16 00:20:30

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.41 Mbit/s

95th percentile per-packet one-way delay: 1840.255 ms

Loss rate: 19.76%

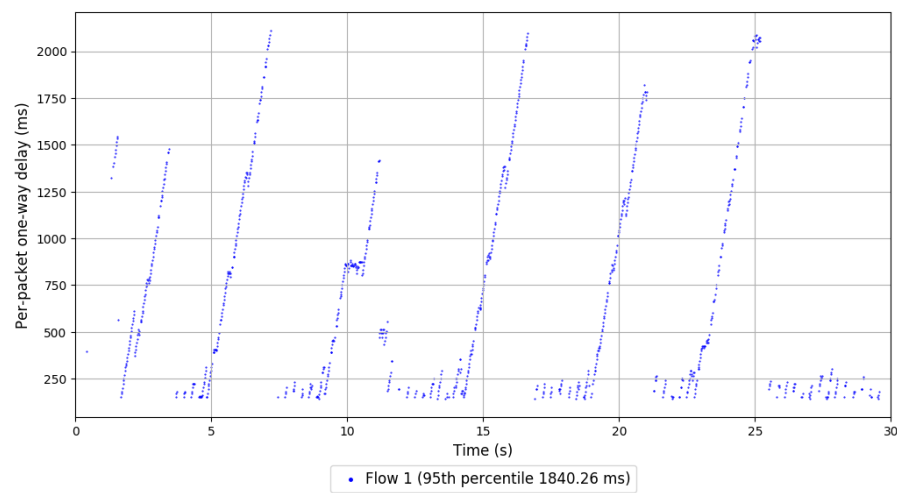
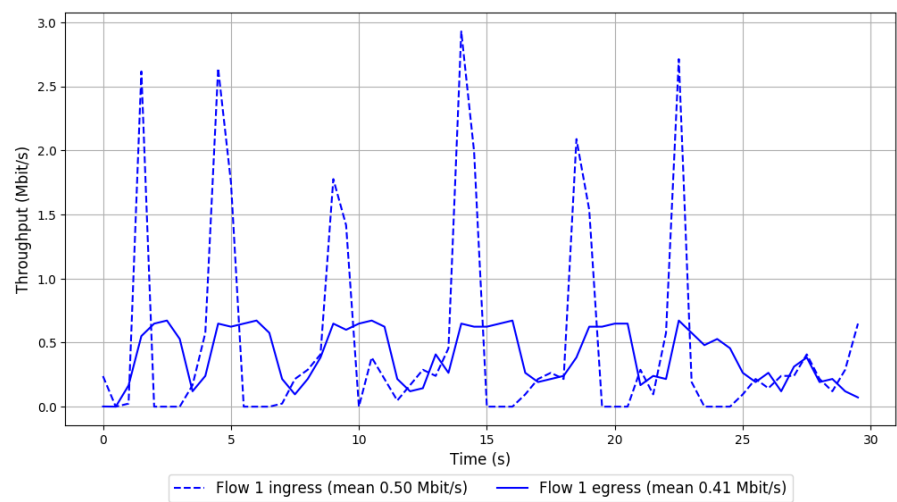
-- Flow 1:

Average throughput: 0.41 Mbit/s

95th percentile per-packet one-way delay: 1840.255 ms

Loss rate: 19.76%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-01-15 23:23:52

End at: 2018-01-15 23:24:22

Local clock offset: 1.579 ms

Remote clock offset: -3.483 ms

Run 3: Report of Indigo — Data Link

