

Pantheon Report

Generated at 2018-06-05 19:02:13 (UTC).

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

Repeated the test of 16 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

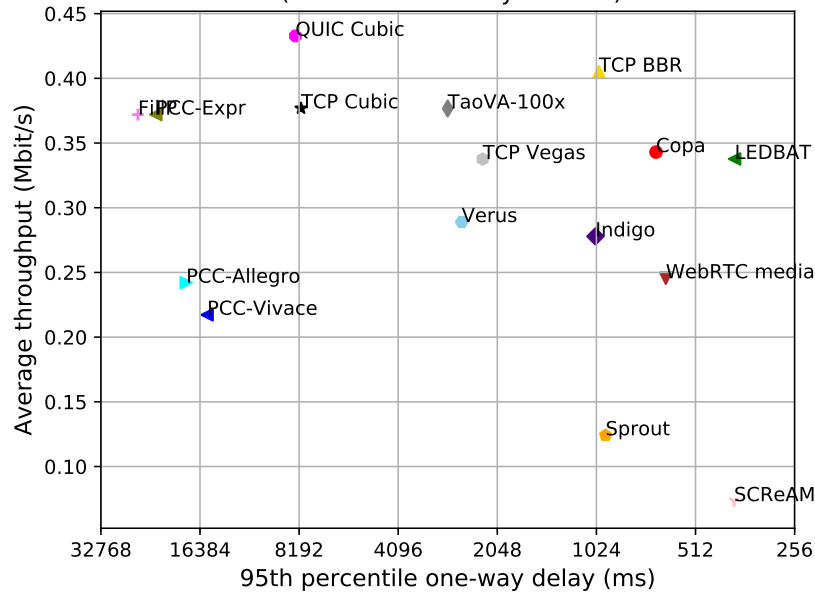
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

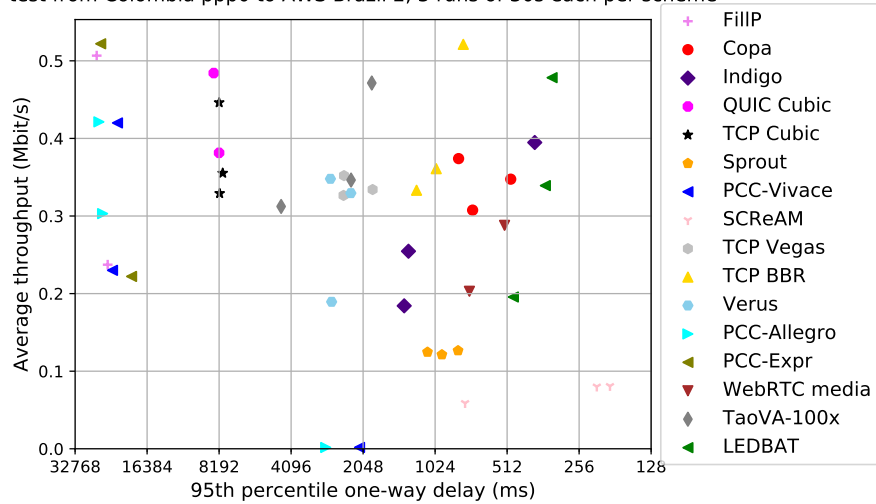
Git summary:

```
branch: master @ 227fdf9a3757f17b88537cceed5743a33037a3d2
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/genericCC @ c7966e494a929986eaa5a9c169a7f381fe1bbbe5
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-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ c838669682f0c19f6baf92afc9a596a406d48c1f
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 @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



test from Colombia ppp0 to AWS Brazil 2, 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	0.40	1005.97	2.33
Copa	3	0.34	675.03	1.15
TCP Cubic	3	0.38	8083.71	32.23
FillP	2	0.38	25279.98	75.36
Indigo	3	0.27	1031.53	0.98
LEDBAT	3	0.34	389.60	1.57
PCC-Allegro	3	0.24	18043.51	48.25
PCC-Expr	2	0.37	22323.31	93.44
QUIC Cubic	2	0.43	8408.32	31.20
SCReAM	3	0.07	391.15	0.88
Sprout	3	0.12	960.73	0.71
TaoVA-100x	3	0.38	2897.62	4.07
TCP Vegas	3	0.34	2267.88	3.21
Verus	3	0.29	2627.54	4.71
PCC-Vivace	3	0.22	15593.40	57.34
WebRTC media	2	0.24	630.36	0.55

Run 1: Statistics of TCP BBR

Start at: 2018-06-05 18:20:01

End at: 2018-06-05 18:20:31

Local clock offset: -2.495 ms

Remote clock offset: 9.059 ms

Below is generated by plot.py at 2018-06-05 19:01:48

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 1224.268 ms

Loss rate: 2.72%

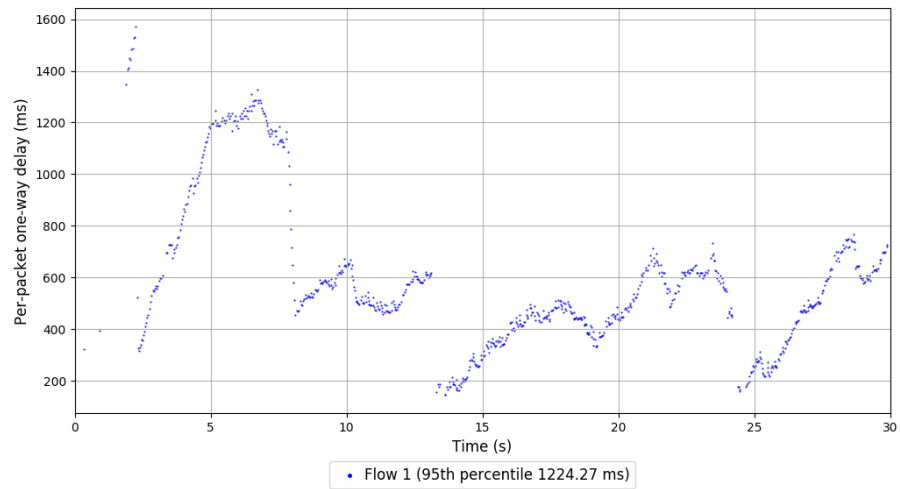
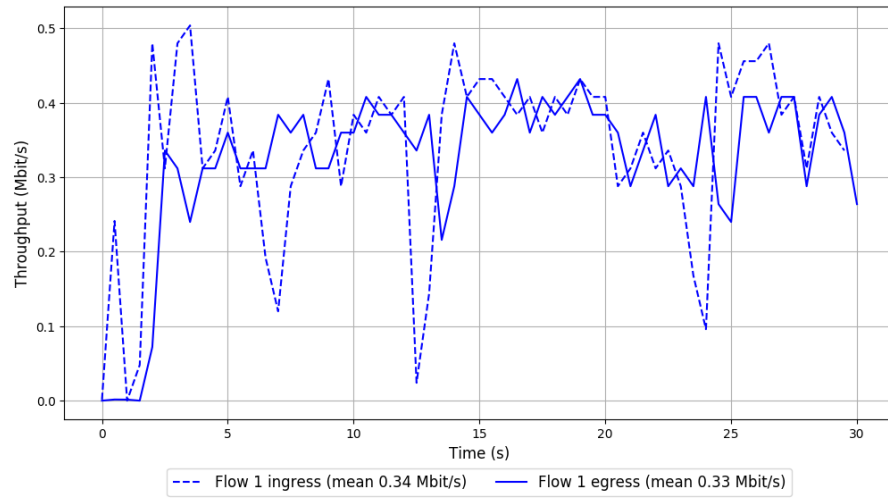
-- Flow 1:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 1224.268 ms

Loss rate: 2.72%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-06-05 18:39:23

End at: 2018-06-05 18:39:53

Local clock offset: -1.053 ms

Remote clock offset: 4.198 ms

Below is generated by plot.py at 2018-06-05 19:01:49

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 1012.976 ms

Loss rate: 1.98%

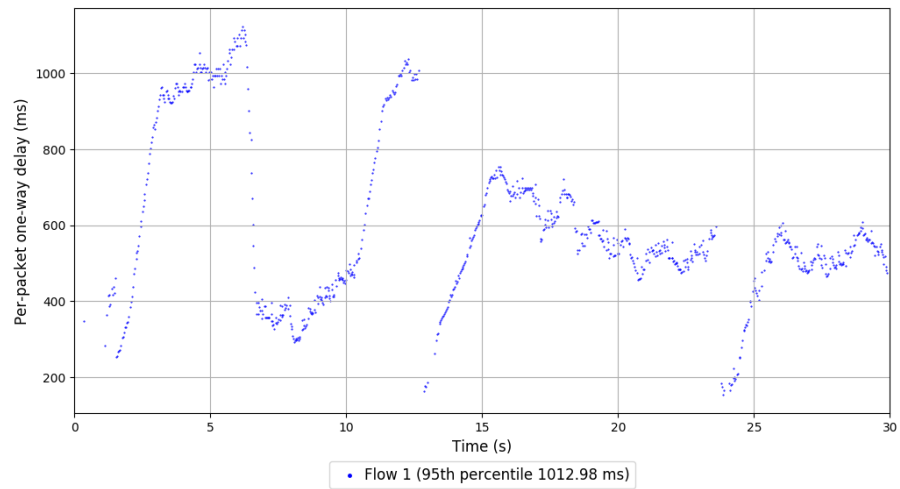
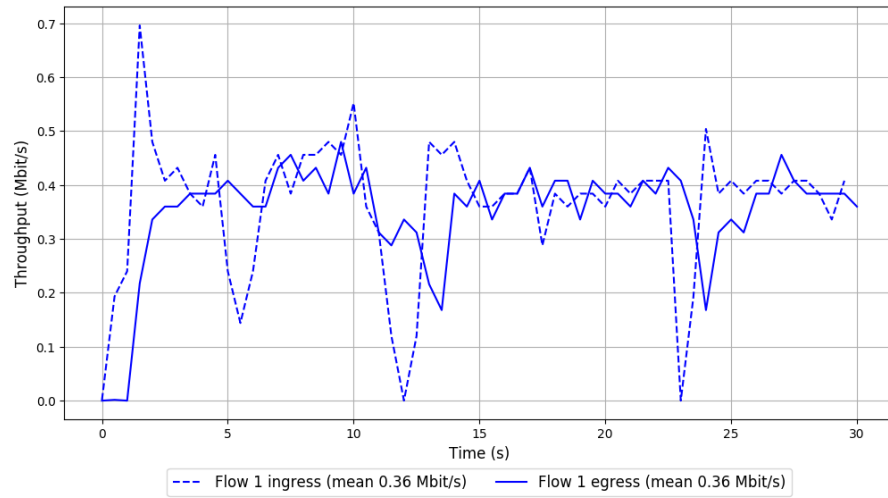
-- Flow 1:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 1012.976 ms

Loss rate: 1.98%

Run 2: Report of TCP BBR — Data Link

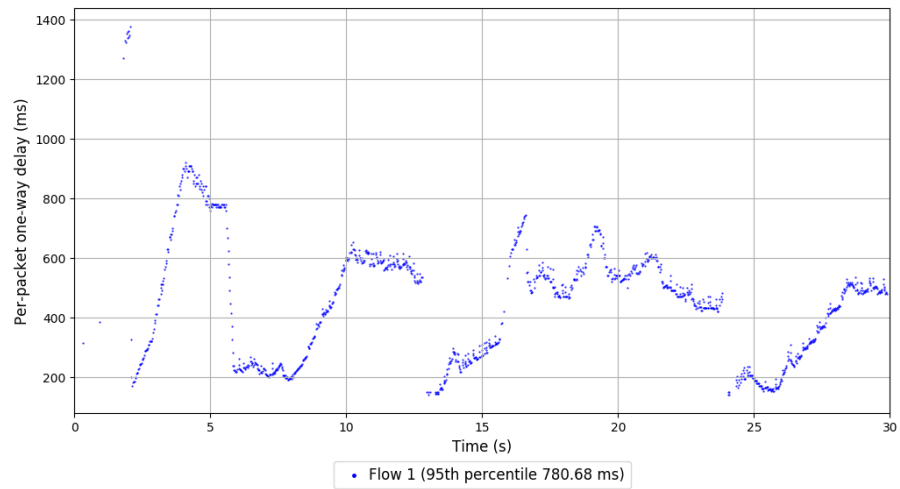
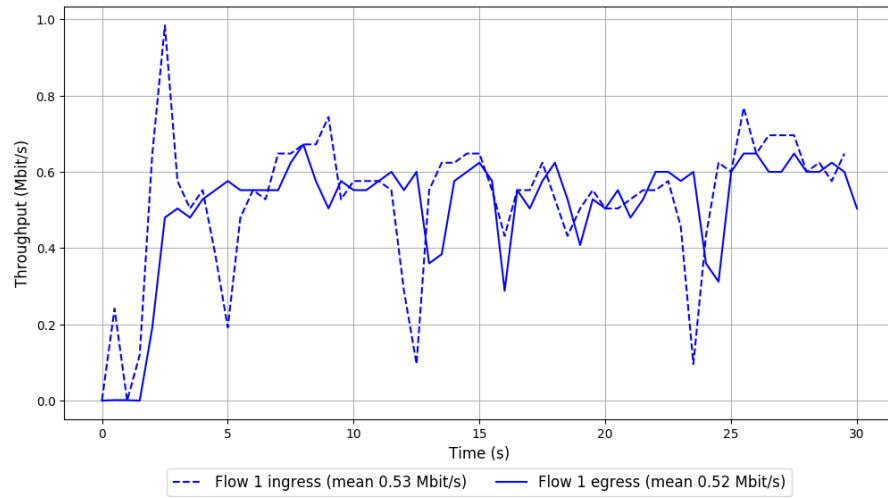


Run 3: Statistics of TCP BBR

Start at: 2018-06-05 18:57:40
End at: 2018-06-05 18:58:10
Local clock offset: -1.842 ms
Remote clock offset: 12.179 ms

Below is generated by plot.py at 2018-06-05 19:01:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 780.676 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 780.676 ms
Loss rate: 2.28%

Run 3: Report of TCP BBR — Data Link



Run 1: Statistics of Copa

Start at: 2018-06-05 18:08:22

End at: 2018-06-05 18:08:52

Local clock offset: -1.926 ms

Remote clock offset: 4.571 ms

Below is generated by plot.py at 2018-06-05 19:01:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 494.568 ms

Loss rate: 0.50%

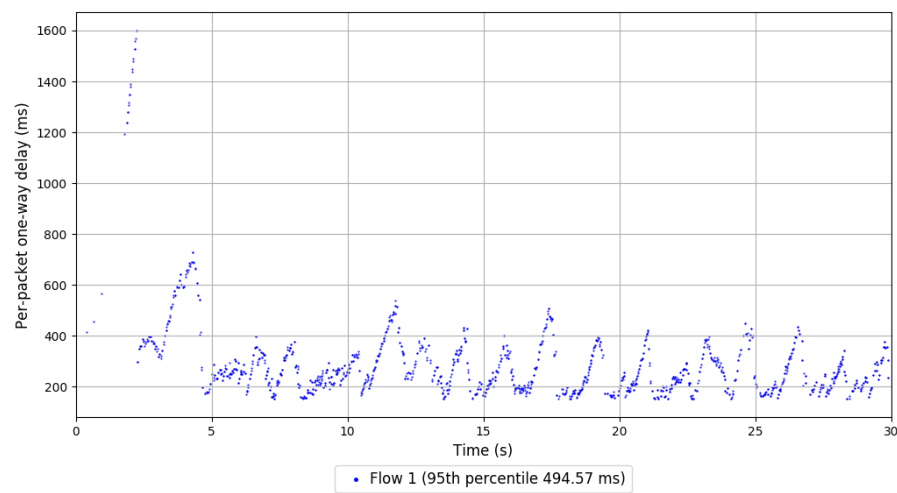
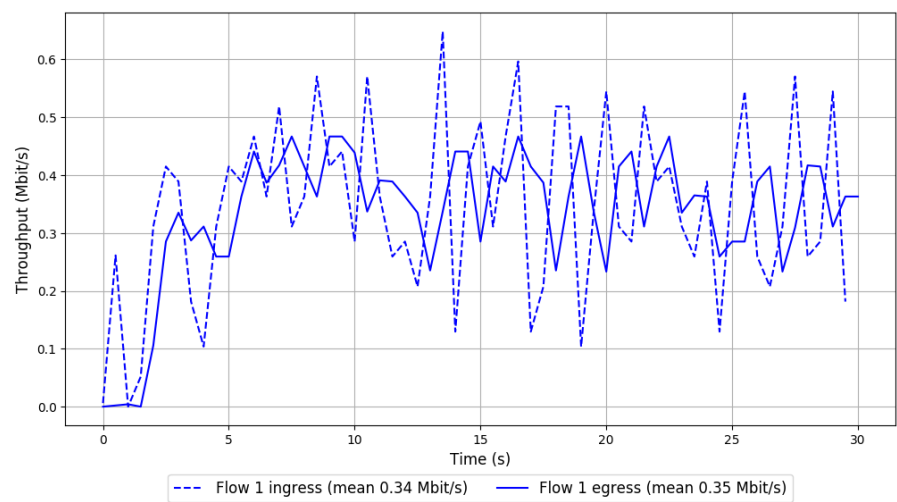
-- Flow 1:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 494.568 ms

Loss rate: 0.50%

Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

Start at: 2018-06-05 18:26:44

End at: 2018-06-05 18:27:14

Local clock offset: -0.997 ms

Remote clock offset: 4.379 ms

Below is generated by plot.py at 2018-06-05 19:01:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.31 Mbit/s

95th percentile per-packet one-way delay: 713.659 ms

Loss rate: 0.99%

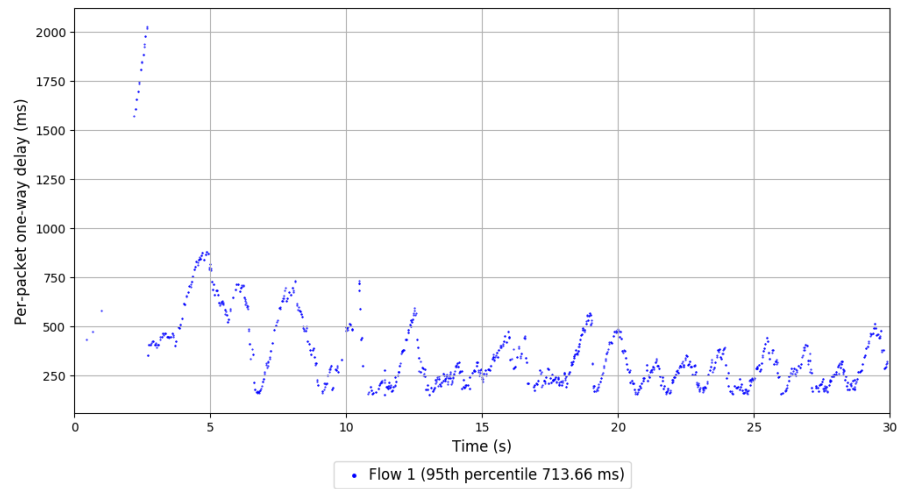
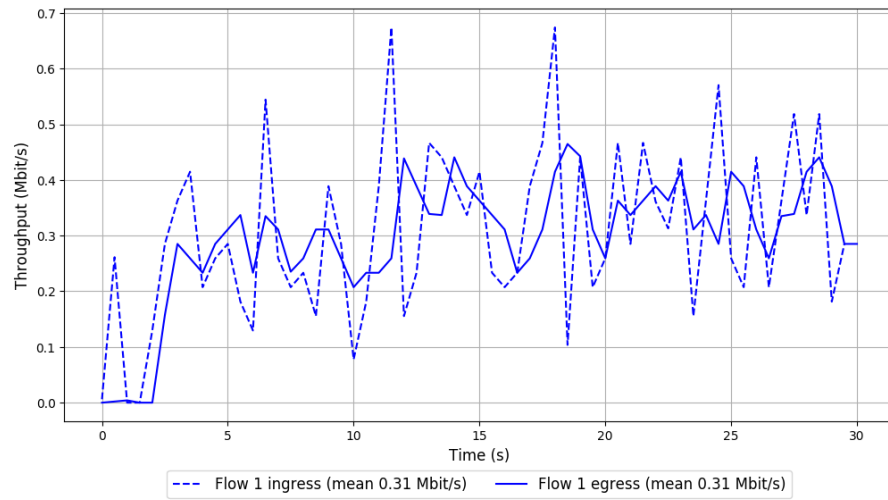
-- Flow 1:

Average throughput: 0.31 Mbit/s

95th percentile per-packet one-way delay: 713.659 ms

Loss rate: 0.99%

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: 2018-06-05 18:46:06

End at: 2018-06-05 18:46:37

Local clock offset: -2.589 ms

Remote clock offset: 4.297 ms

Below is generated by plot.py at 2018-06-05 19:01:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.37 Mbit/s

95th percentile per-packet one-way delay: 816.861 ms

Loss rate: 1.97%

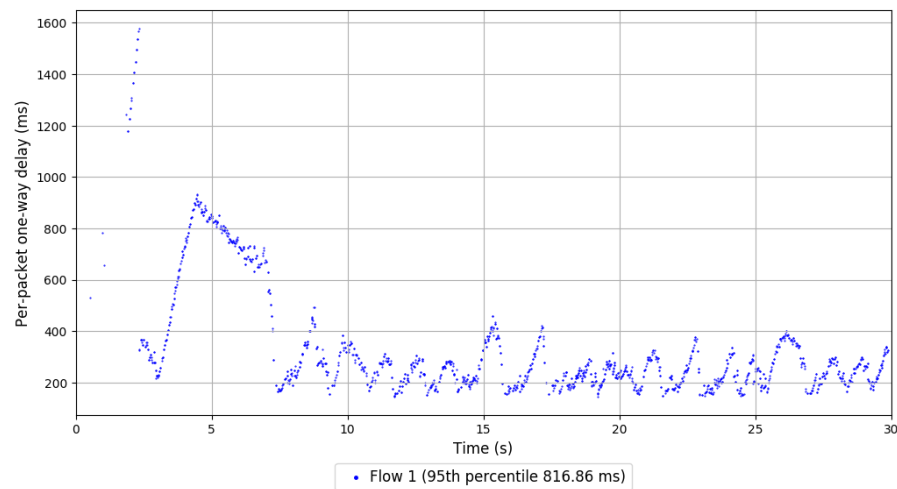
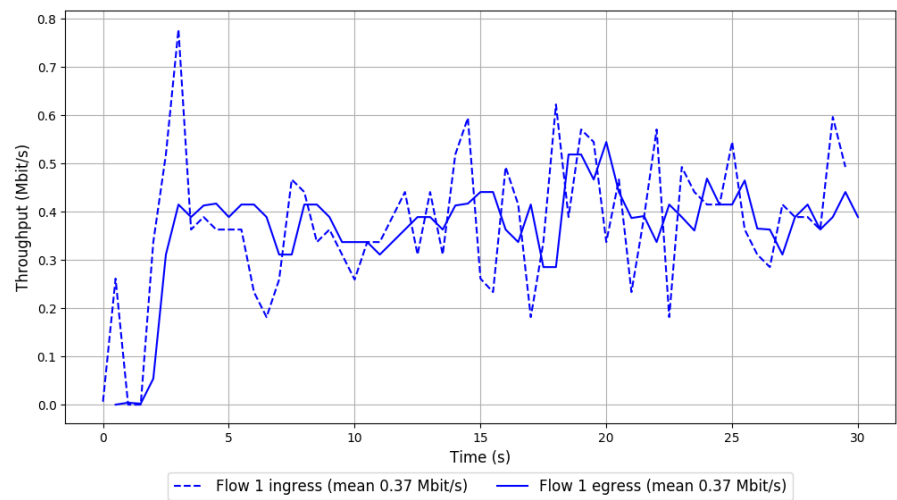
-- Flow 1:

Average throughput: 0.37 Mbit/s

95th percentile per-packet one-way delay: 816.861 ms

Loss rate: 1.97%

Run 3: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-06-05 18:14:01

End at: 2018-06-05 18:14:31

Local clock offset: -1.073 ms

Remote clock offset: 4.133 ms

Below is generated by plot.py at 2018-06-05 19:01:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 7915.160 ms

Loss rate: 32.90%

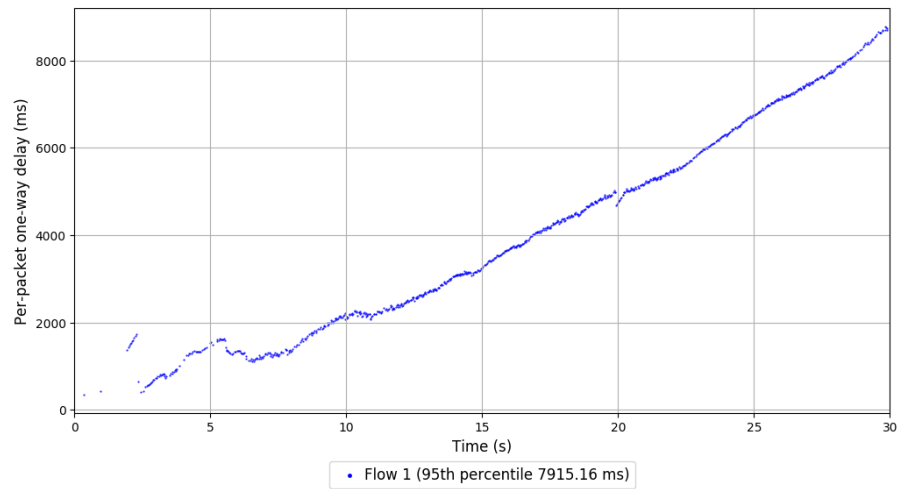
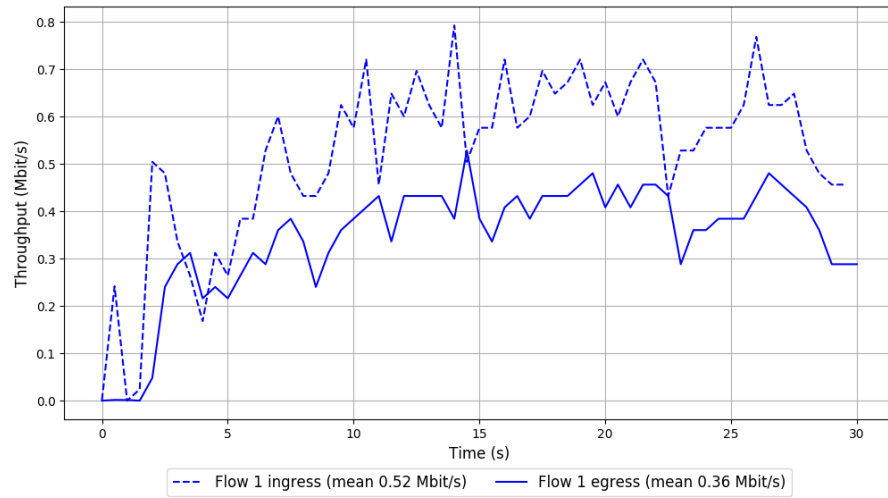
-- Flow 1:

Average throughput: 0.36 Mbit/s

95th percentile per-packet one-way delay: 7915.160 ms

Loss rate: 32.90%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

Start at: 2018-06-05 18:32:58

End at: 2018-06-05 18:33:28

Local clock offset: -1.694 ms

Remote clock offset: 4.329 ms

Below is generated by plot.py at 2018-06-05 19:01:50

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 8148.113 ms

Loss rate: 32.27%

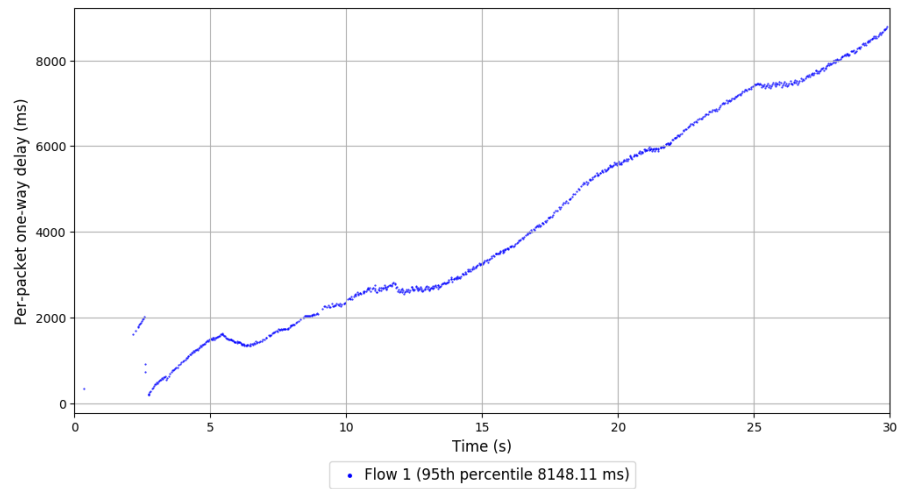
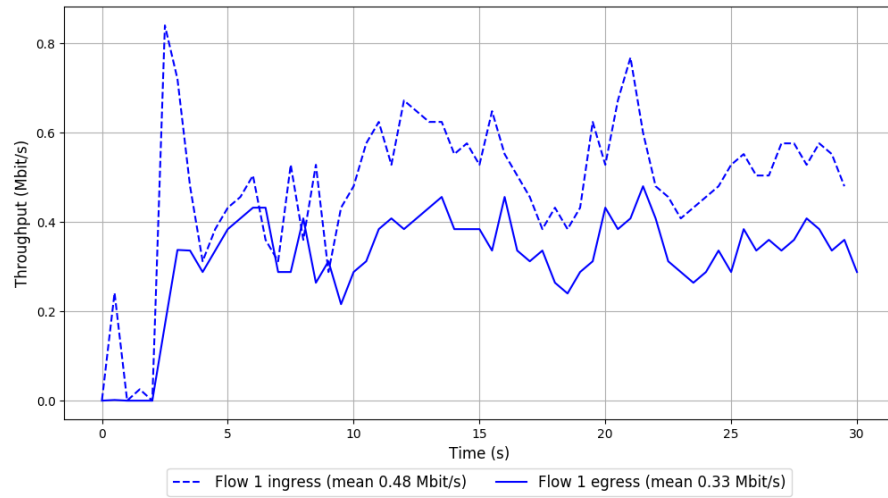
-- Flow 1:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 8148.113 ms

Loss rate: 32.27%

Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: 2018-06-05 18:51:50

End at: 2018-06-05 18:52:20

Local clock offset: -1.111 ms

Remote clock offset: 4.099 ms

Below is generated by plot.py at 2018-06-05 19:01:53

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.45 Mbit/s

95th percentile per-packet one-way delay: 8187.842 ms

Loss rate: 31.52%

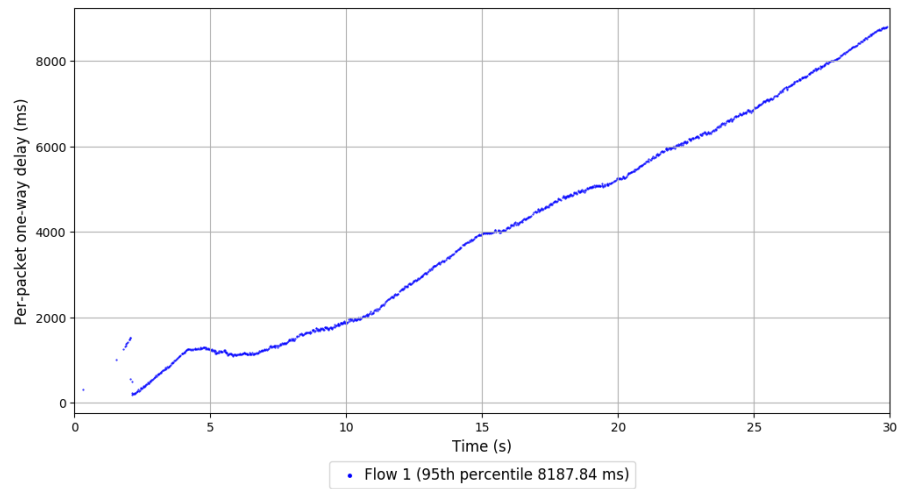
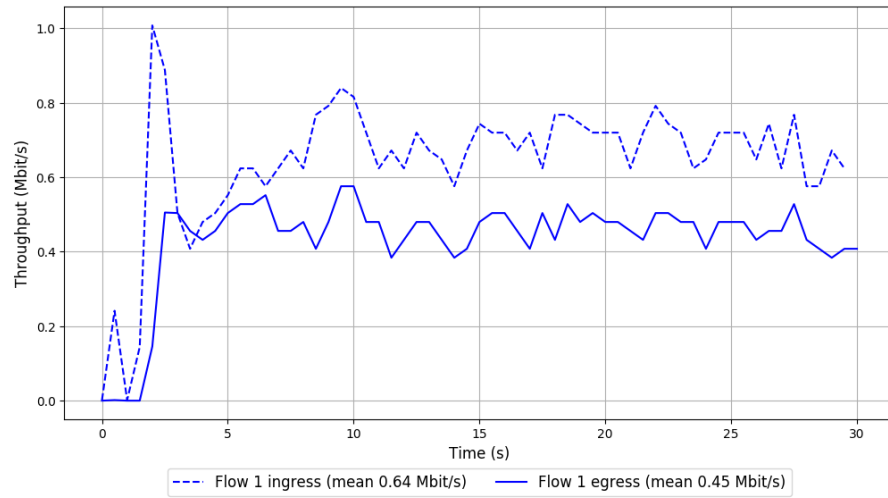
-- Flow 1:

Average throughput: 0.45 Mbit/s

95th percentile per-packet one-way delay: 8187.842 ms

Loss rate: 31.52%

Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of FillP

/home/ubuntu/pantheon/data/2018-06-05T18-05-Colombia-ppp0-to-AWS-Brazil-2-3-runs/fillp_stats

Run 1: Report of FillP — Data Link

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Run 2: Statistics of FillP

Start at: 2018-06-05 18:36:44

End at: 2018-06-05 18:37:14

Local clock offset: -1.748 ms

Remote clock offset: 4.296 ms

Below is generated by plot.py at 2018-06-05 19:01:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.24 Mbit/s

95th percentile per-packet one-way delay: 23945.400 ms

Loss rate: 90.23%

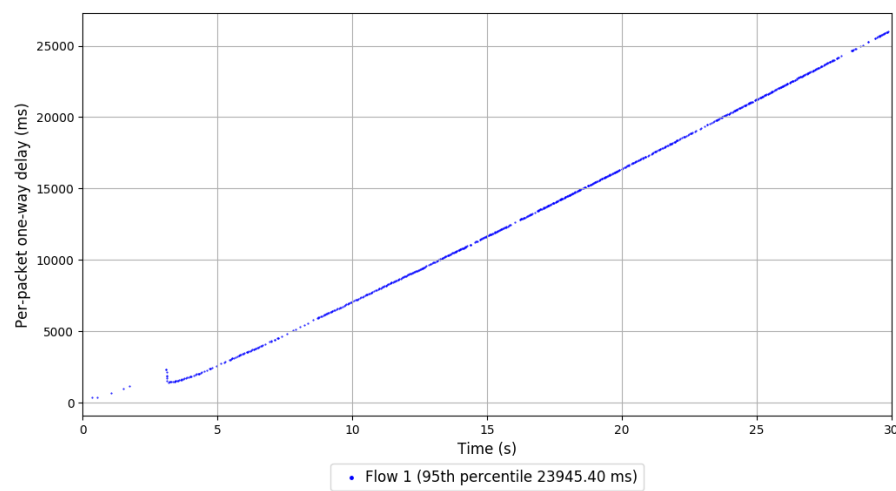
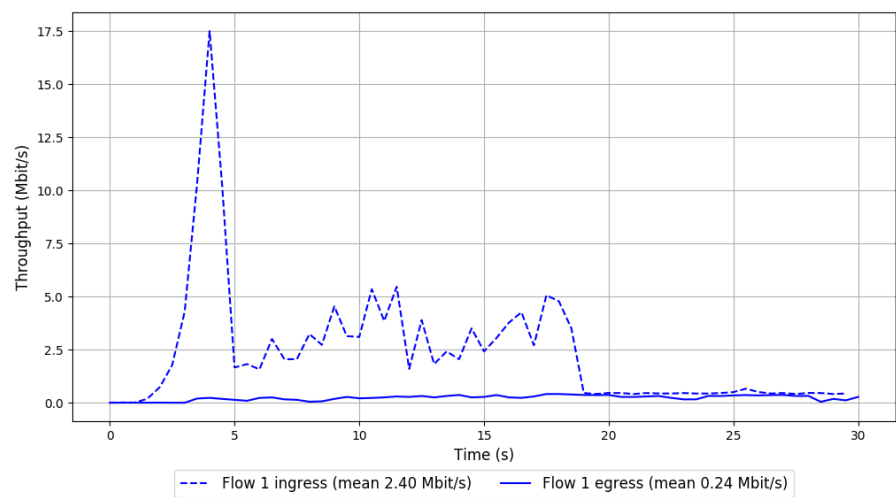
-- Flow 1:

Average throughput: 0.24 Mbit/s

95th percentile per-packet one-way delay: 23945.400 ms

Loss rate: 90.23%

Run 2: Report of FillP — Data Link

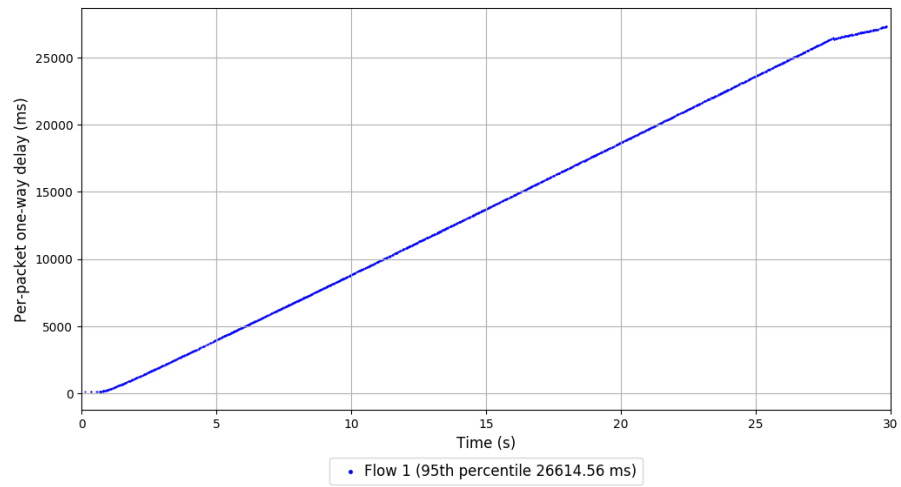
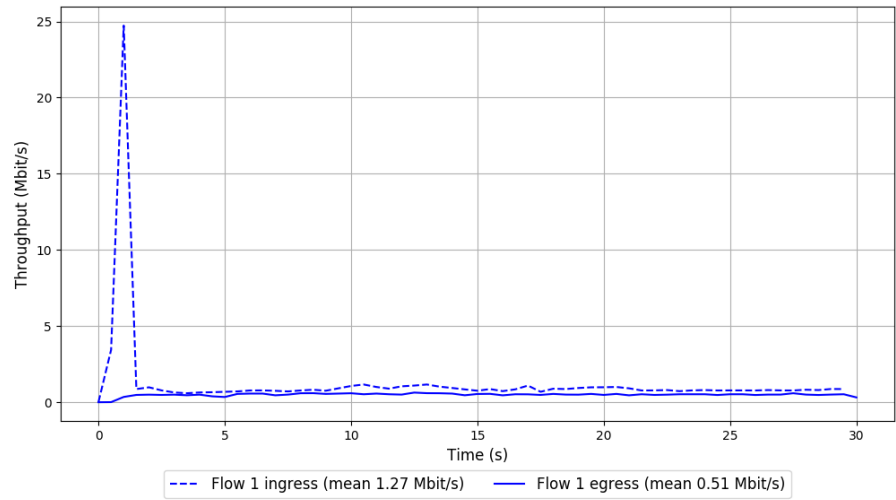


Run 3: Statistics of FillP

Start at: 2018-06-05 18:55:14
End at: 2018-06-05 18:55:44
Local clock offset: -1.11 ms
Remote clock offset: 10.786 ms

Below is generated by plot.py at 2018-06-05 19:01:55
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 26614.561 ms
Loss rate: 60.48%
-- Flow 1:
Average throughput: 0.51 Mbit/s
95th percentile per-packet one-way delay: 26614.561 ms
Loss rate: 60.48%

Run 3: Report of FillP — Data Link



Run 1: Statistics of Indigo

Start at: 2018-06-05 18:22:16

End at: 2018-06-05 18:22:46

Local clock offset: -1.746 ms

Remote clock offset: 9.226 ms

Below is generated by plot.py at 2018-06-05 19:01:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 1378.864 ms

Loss rate: 0.89%

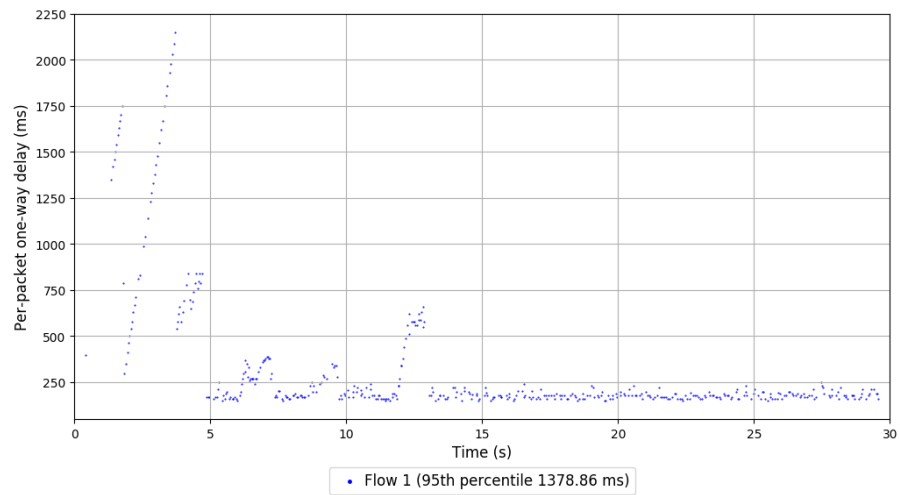
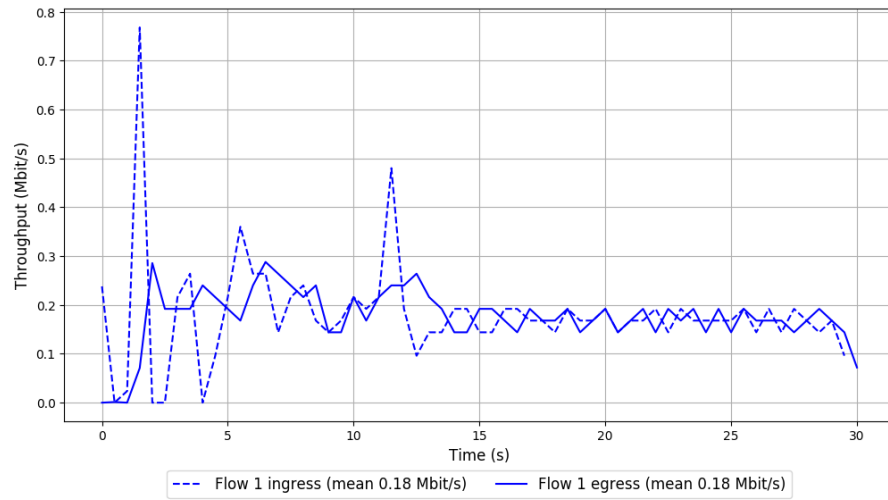
-- Flow 1:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 1378.864 ms

Loss rate: 0.89%

Run 1: Report of Indigo — Data Link



Run 2: Statistics of Indigo

Start at: 2018-06-05 18:41:38

End at: 2018-06-05 18:42:08

Local clock offset: -1.079 ms

Remote clock offset: 9.354 ms

Below is generated by plot.py at 2018-06-05 19:01:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 1323.317 ms

Loss rate: 1.12%

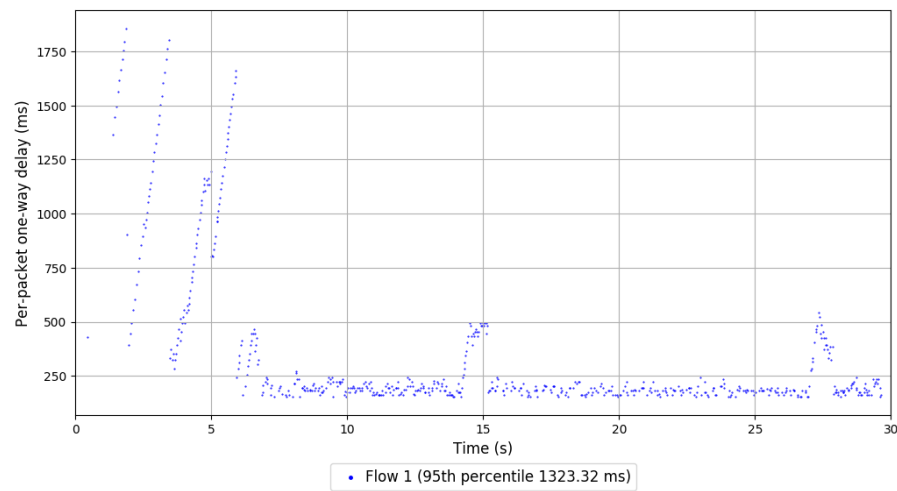
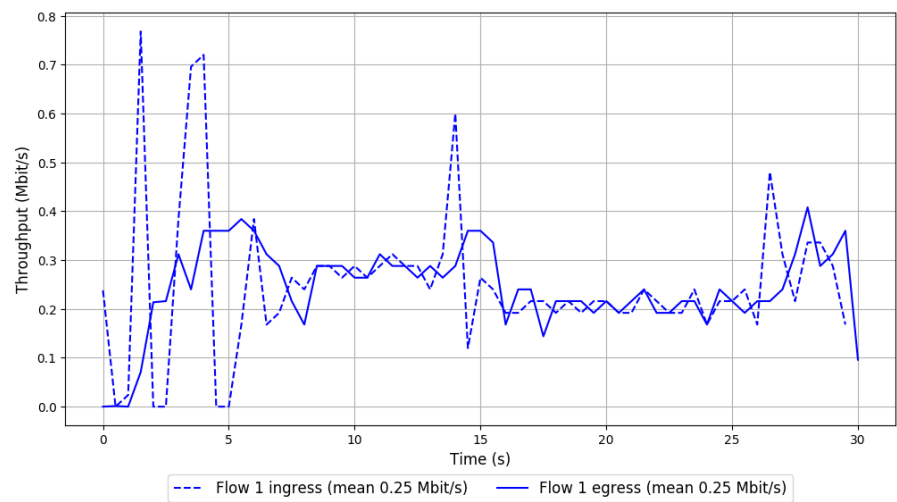
-- Flow 1:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 1323.317 ms

Loss rate: 1.12%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-06-05 18:59:57

End at: 2018-06-05 19:00:27

Local clock offset: -2.58 ms

Remote clock offset: 8.259 ms

Below is generated by plot.py at 2018-06-05 19:01:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.39 Mbit/s

95th percentile per-packet one-way delay: 392.419 ms

Loss rate: 0.93%

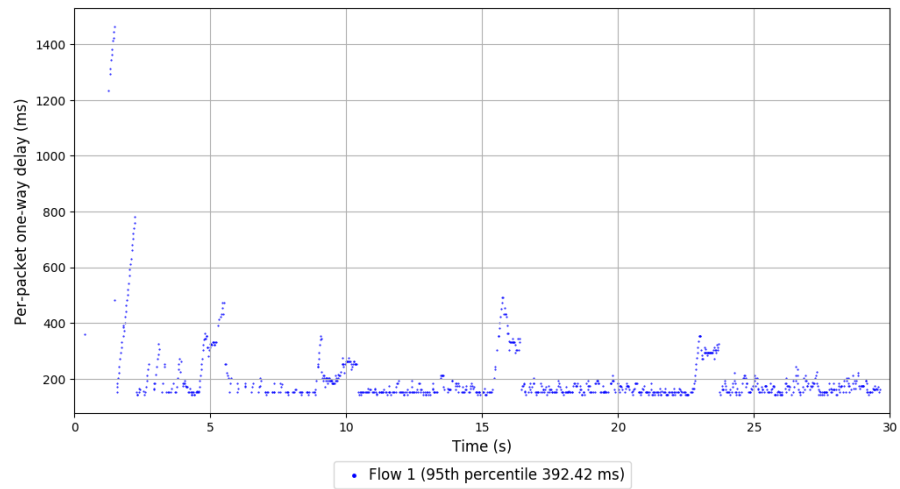
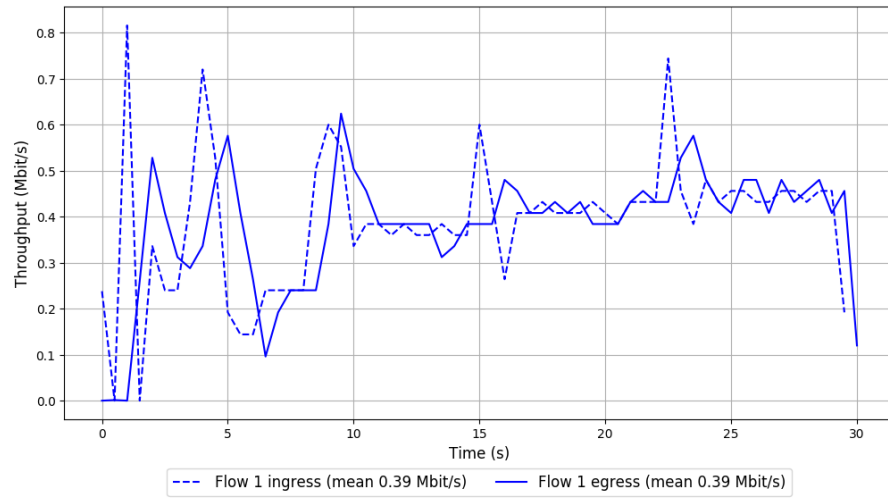
-- Flow 1:

Average throughput: 0.39 Mbit/s

95th percentile per-packet one-way delay: 392.419 ms

Loss rate: 0.93%

Run 3: Report of Indigo — Data Link

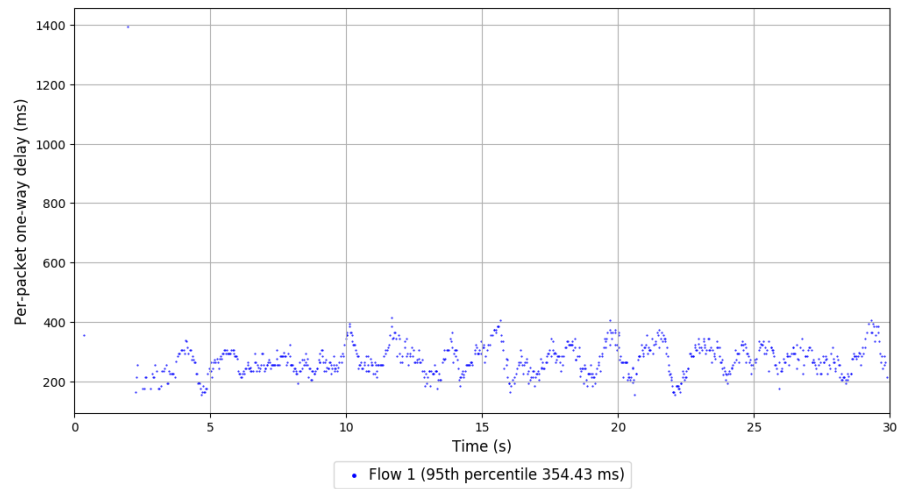
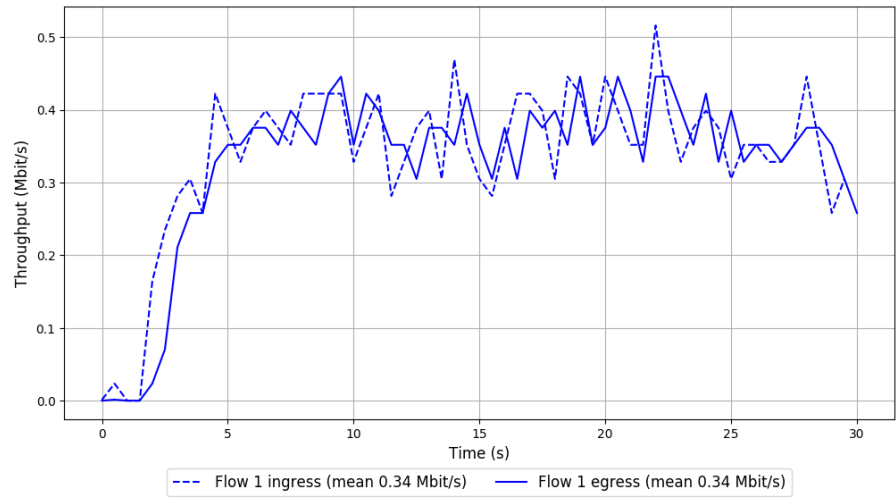


```
Run 1: Statistics of LEDBAT

Start at: 2018-06-05 18:23:23
End at: 2018-06-05 18:23:53
Local clock offset: -1.744 ms
Remote clock offset: 9.218 ms

# Below is generated by plot.py at 2018-06-05 19:01:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 354.425 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 354.425 ms
Loss rate: 1.04%
```

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: 2018-06-05 18:42:45

End at: 2018-06-05 18:43:15

Local clock offset: -1.078 ms

Remote clock offset: 4.301 ms

Below is generated by plot.py at 2018-06-05 19:01:55

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 482.185 ms

Loss rate: 2.19%

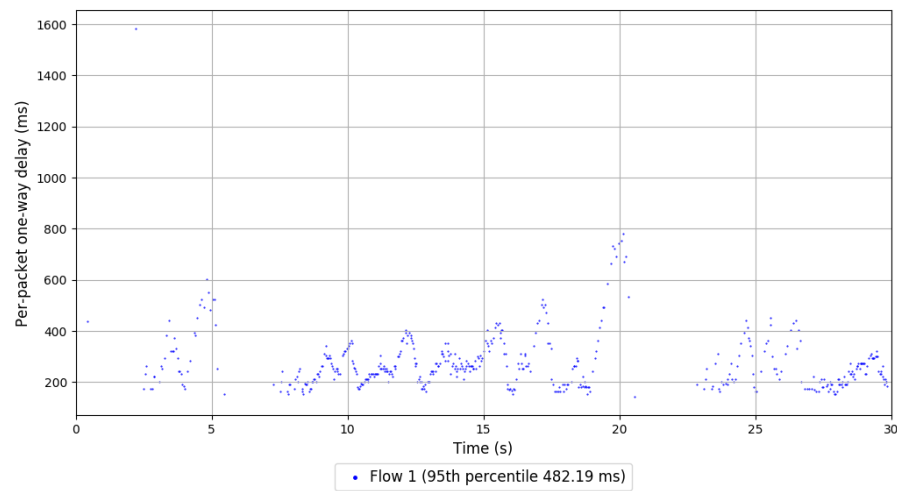
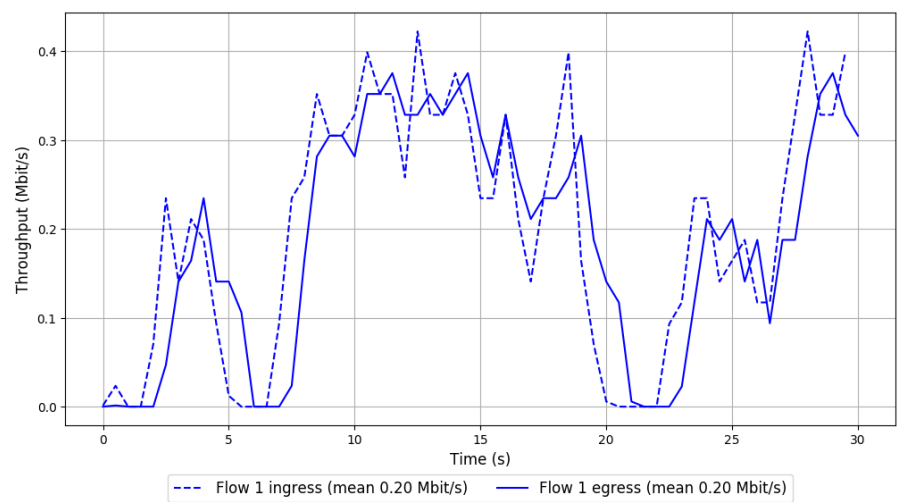
-- Flow 1:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 482.185 ms

Loss rate: 2.19%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: 2018-06-05 19:01:04

End at: 2018-06-05 19:01:34

Local clock offset: -1.815 ms

Remote clock offset: 8.632 ms

Below is generated by plot.py at 2018-06-05 19:01:57

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 332.184 ms

Loss rate: 1.47%

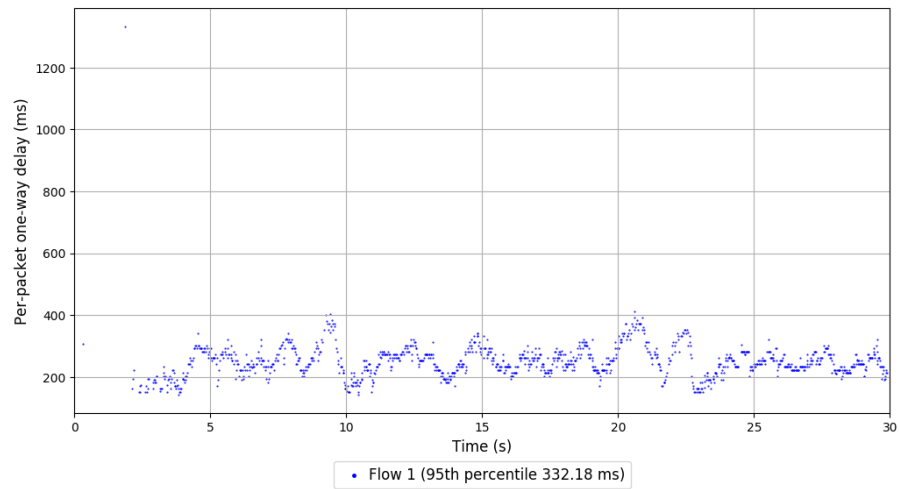
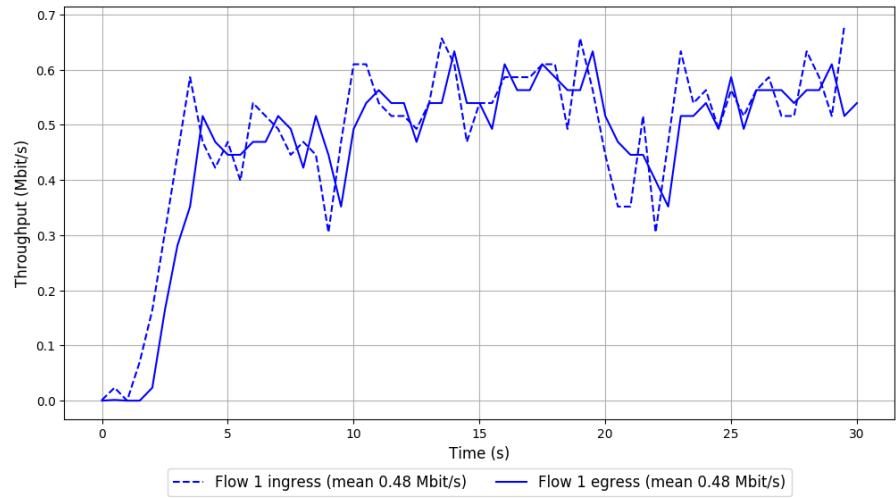
-- Flow 1:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 332.184 ms

Loss rate: 1.47%

Run 3: Report of LEDBAT — Data Link

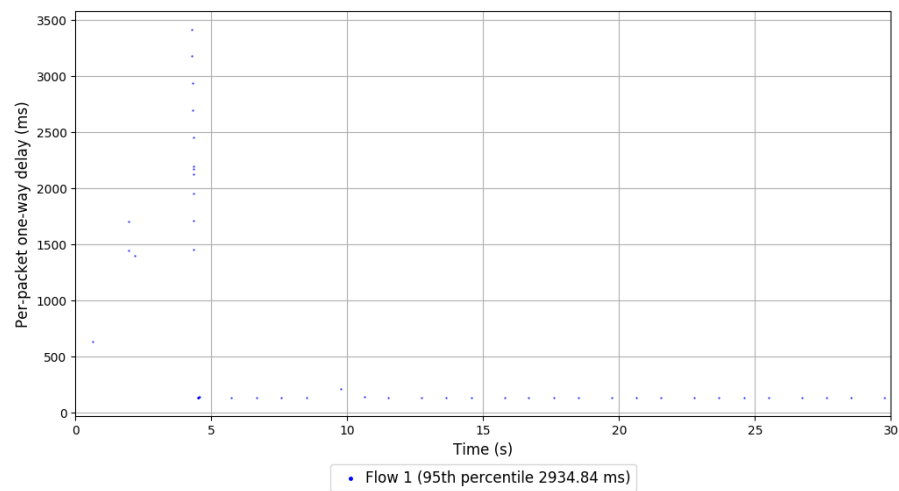
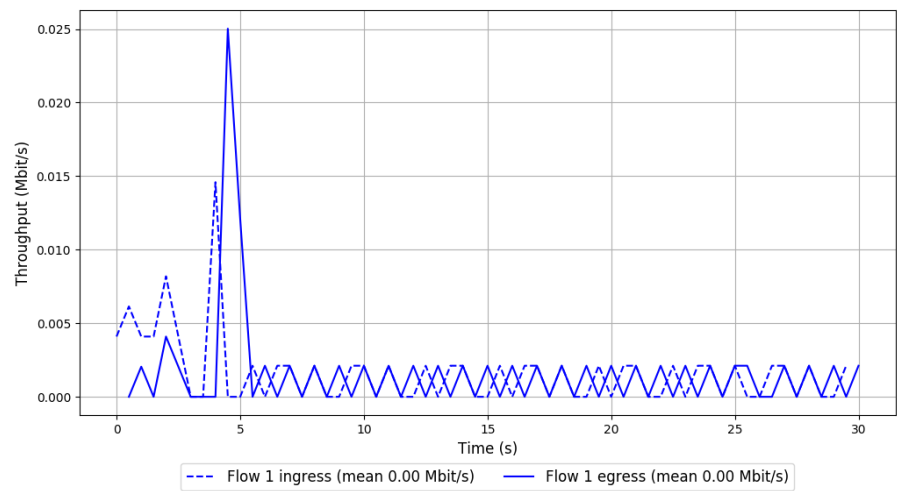


```
Run 1: Statistics of PCC-Allegro

Start at: 2018-06-05 18:15:08
End at: 2018-06-05 18:15:38
Local clock offset: -1.818 ms
Remote clock offset: 4.133 ms

# Below is generated by plot.py at 2018-06-05 19:01:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2934.844 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 2934.844 ms
Loss rate: 0.00%
```

Run 1: Report of PCC-Allegro — Data Link



Run 2: Statistics of PCC-Allegro

Start at: 2018-06-05 18:34:06

End at: 2018-06-05 18:34:36

Local clock offset: -1.775 ms

Remote clock offset: 9.425 ms

Below is generated by plot.py at 2018-06-05 19:01:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.30 Mbit/s

95th percentile per-packet one-way delay: 25142.834 ms

Loss rate: 76.69%

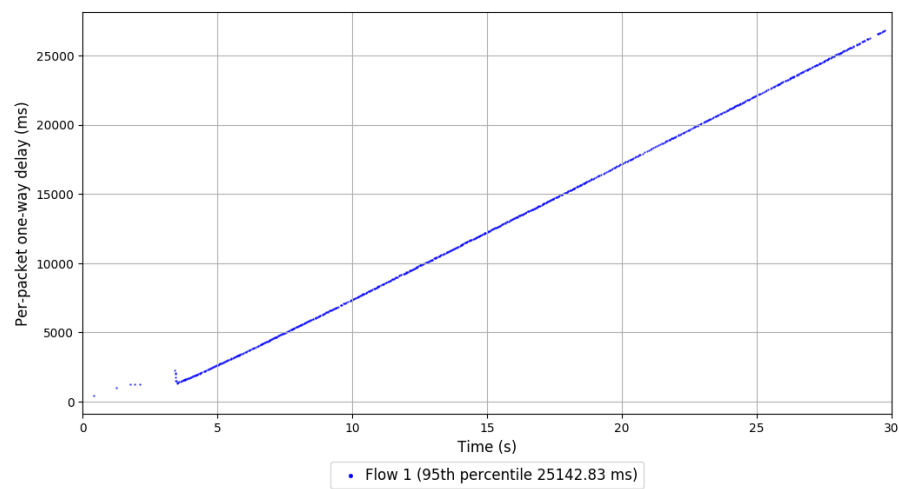
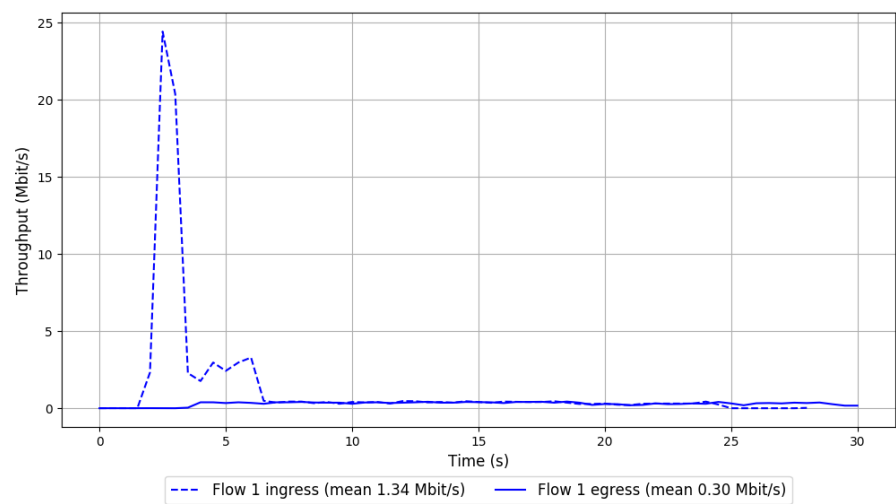
-- Flow 1:

Average throughput: 0.30 Mbit/s

95th percentile per-packet one-way delay: 25142.834 ms

Loss rate: 76.69%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-06-05 18:52:57

End at: 2018-06-05 18:53:27

Local clock offset: -1.84 ms

Remote clock offset: 9.174 ms

Below is generated by plot.py at 2018-06-05 19:01:58

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 26052.852 ms

Loss rate: 68.06%

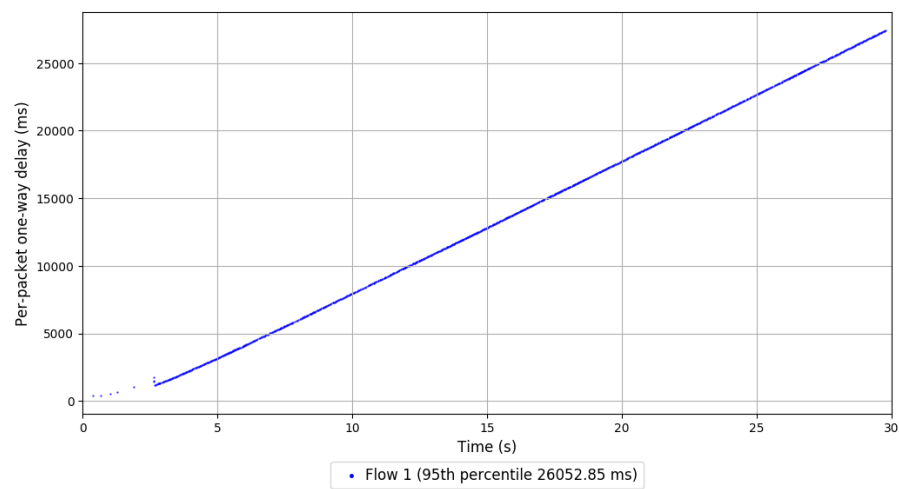
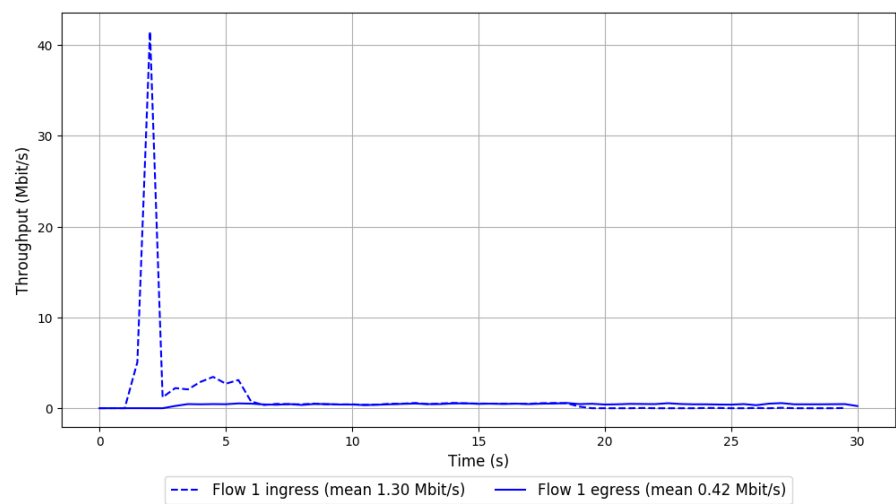
-- Flow 1:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 26052.852 ms

Loss rate: 68.06%

Run 3: Report of PCC-Allegro — Data Link

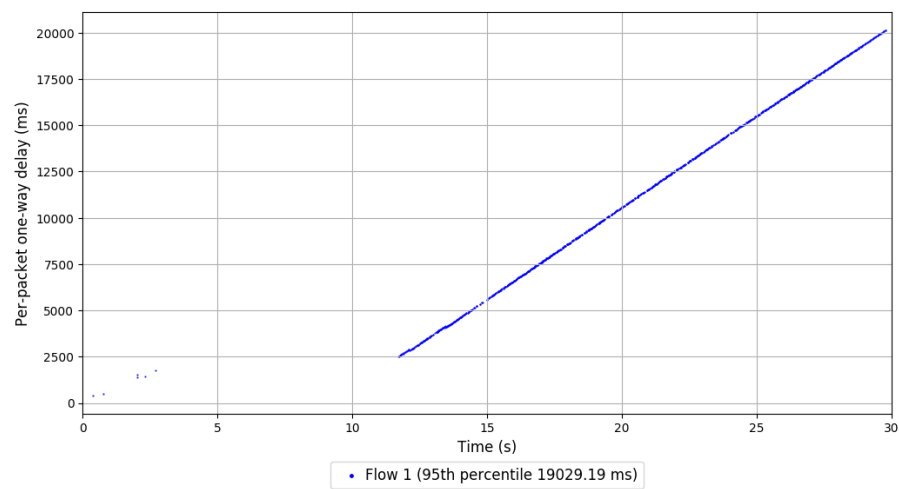
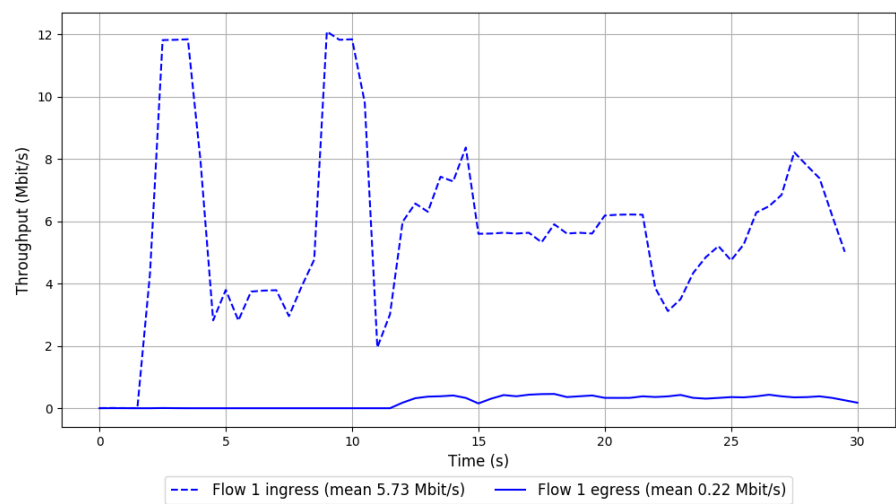


```
Run 1: Statistics of PCC-Expr

Start at: 2018-06-05 18:16:15
End at: 2018-06-05 18:16:45
Local clock offset: -1.051 ms
Remote clock offset: 9.097 ms

# Below is generated by plot.py at 2018-06-05 19:02:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19029.195 ms
Loss rate: 96.19%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 19029.195 ms
Loss rate: 96.19%
```

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

/home/ubuntu/pantheon/data/2018-06-05T18-05-Colombia-ppp0-to-AWS-Brazil-2-3-runs/pcc_experim

Run 2: Report of PCC-Expr — Data Link

Figure is missing

Figure is missing

Run 3: Statistics of PCC-Expr

Start at: 2018-06-05 18:54:04

End at: 2018-06-05 18:54:34

Local clock offset: -2.561 ms

Remote clock offset: 4.915 ms

Below is generated by plot.py at 2018-06-05 19:02:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.52 Mbit/s

95th percentile per-packet one-way delay: 25617.415 ms

Loss rate: 90.70%

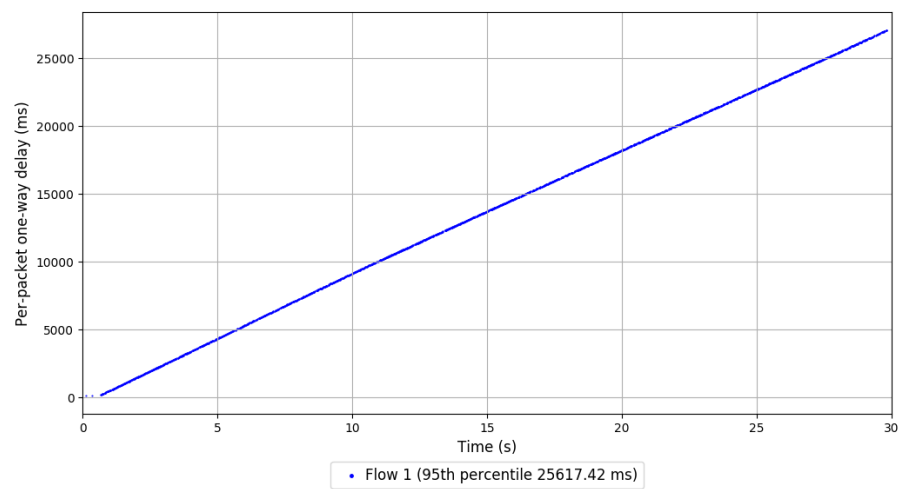
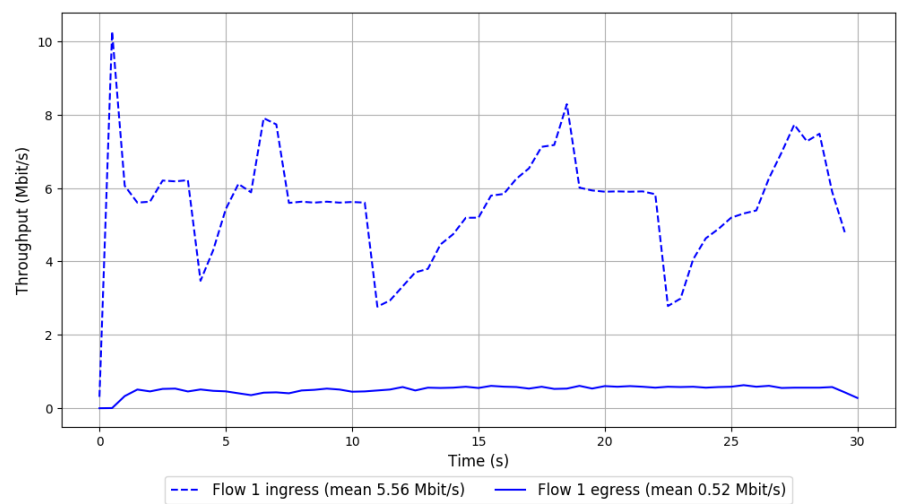
-- Flow 1:

Average throughput: 0.52 Mbit/s

95th percentile per-packet one-way delay: 25617.415 ms

Loss rate: 90.70%

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-06-05 18:12:52

End at: 2018-06-05 18:13:22

Local clock offset: -1.087 ms

Remote clock offset: 9.361 ms

Below is generated by plot.py at 2018-06-05 19:02:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 8193.274 ms

Loss rate: 32.82%

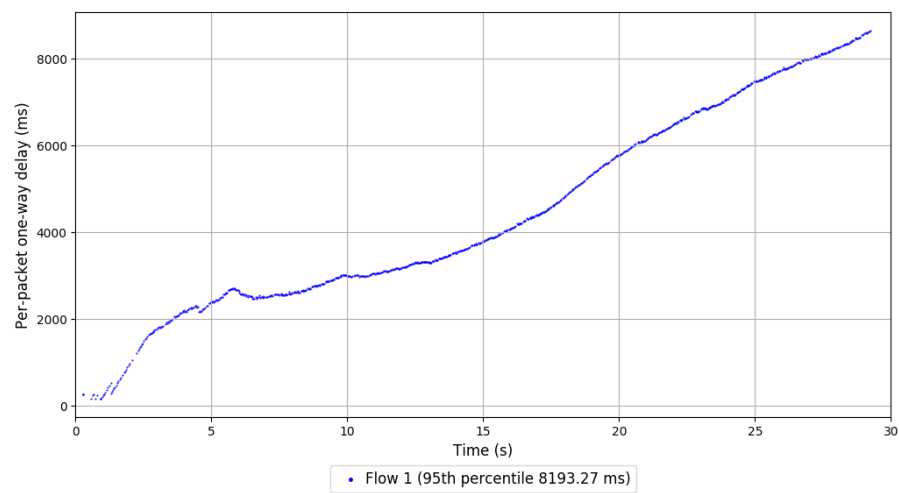
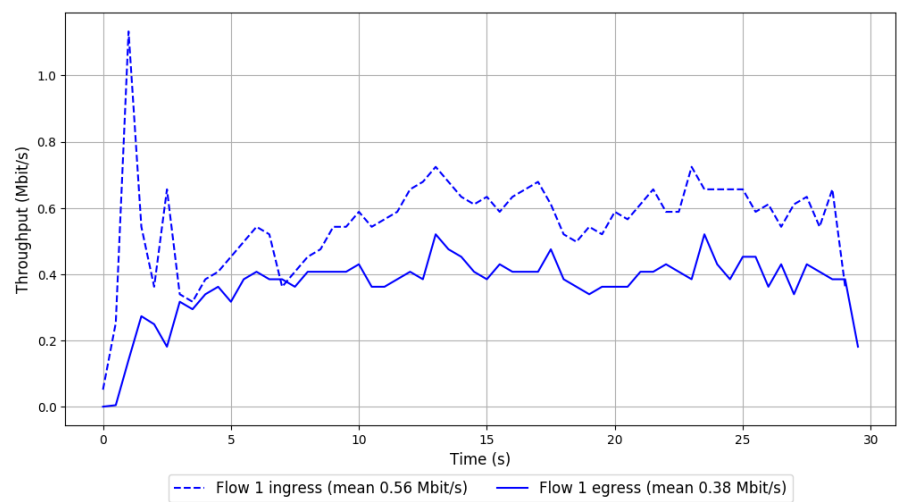
-- Flow 1:

Average throughput: 0.38 Mbit/s

95th percentile per-packet one-way delay: 8193.274 ms

Loss rate: 32.82%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

/home/ubuntu/pantheon/data/2018-06-05T18-05-Colombia-ppp0-to-AWS-Brazil-2-3-runs/quic_stats.

Run 2: Report of QUIC Cubic — Data Link

Figure is missing

Figure is missing

Run 3: Statistics of QUIC Cubic

Start at: 2018-06-05 18:50:43

End at: 2018-06-05 18:51:13

Local clock offset: -1.841 ms

Remote clock offset: 9.178 ms

Below is generated by plot.py at 2018-06-05 19:02:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 8623.373 ms

Loss rate: 29.59%

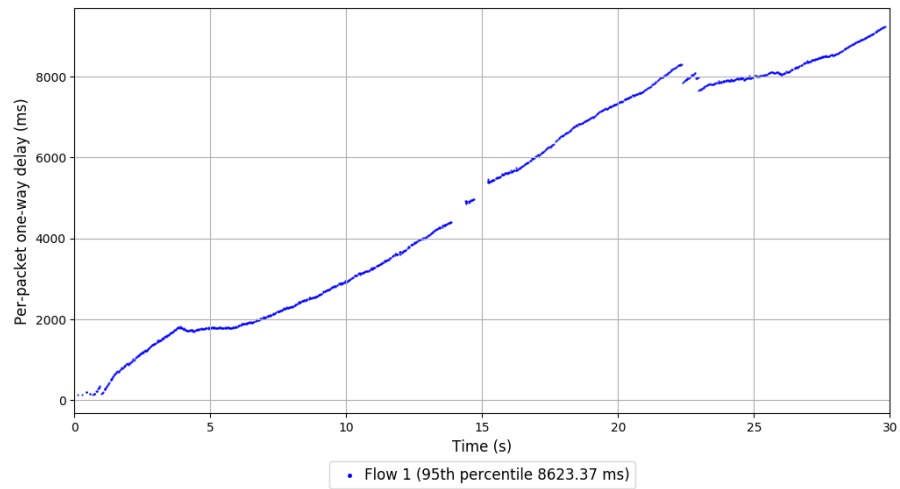
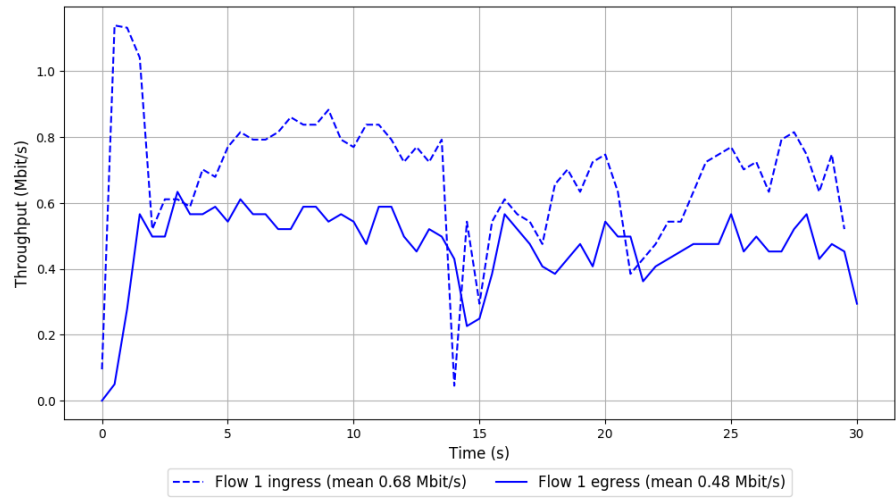
-- Flow 1:

Average throughput: 0.48 Mbit/s

95th percentile per-packet one-way delay: 8623.373 ms

Loss rate: 29.59%

Run 3: Report of QUIC Cubic — Data Link

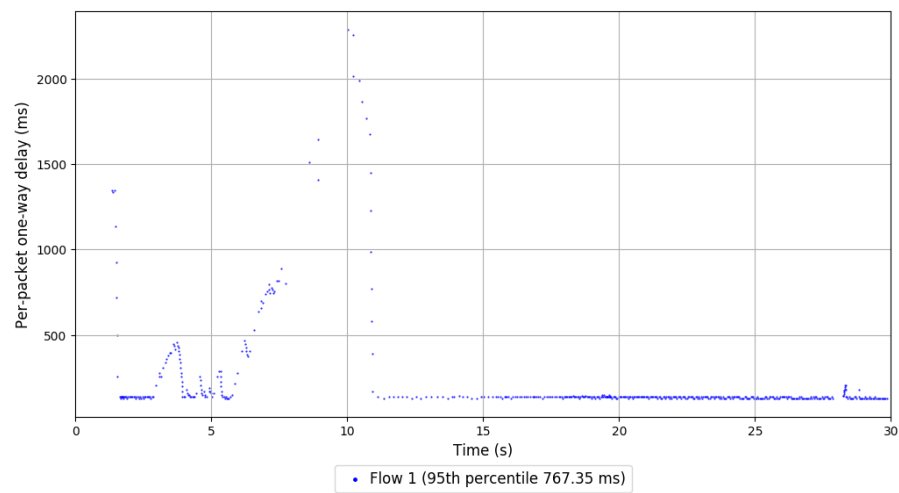
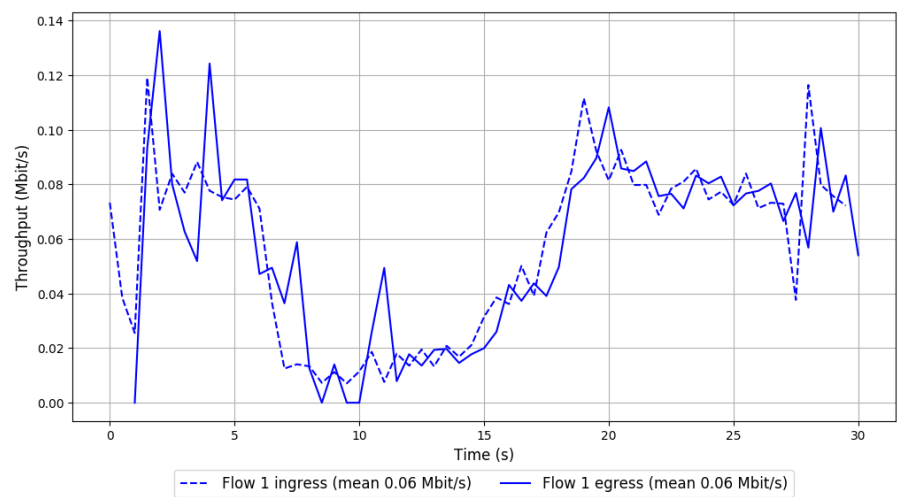


```
Run 1: Statistics of SCReAM

Start at: 2018-06-05 18:06:05
End at: 2018-06-05 18:06:35
Local clock offset: -1.862 ms
Remote clock offset: 9.846 ms

# Below is generated by plot.py at 2018-06-05 19:02:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 767.353 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 767.353 ms
Loss rate: 1.07%
```

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: 2018-06-05 18:24:30

End at: 2018-06-05 18:25:00

Local clock offset: -1.745 ms

Remote clock offset: 4.149 ms

Below is generated by plot.py at 2018-06-05 19:02:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 215.889 ms

Loss rate: 0.79%

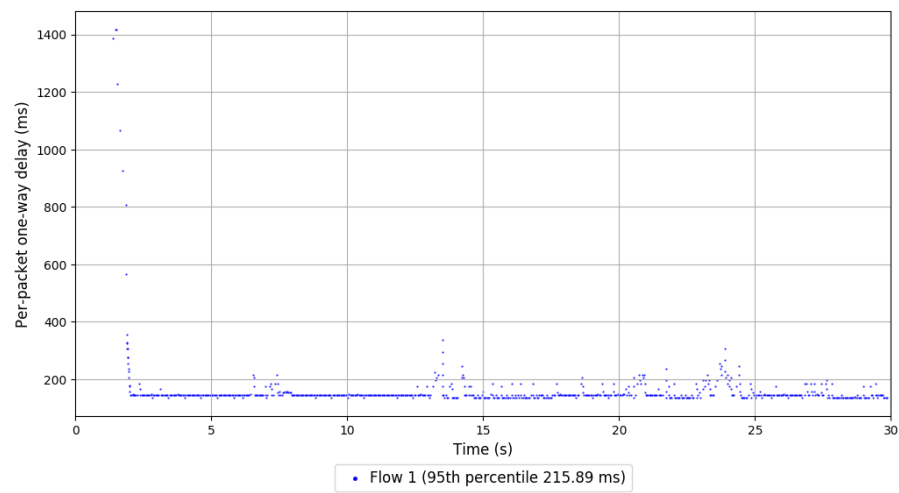
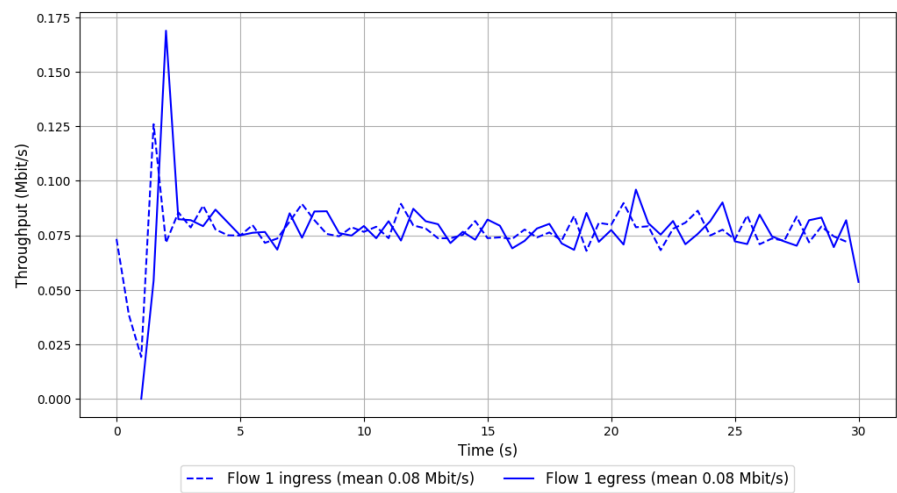
-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 215.889 ms

Loss rate: 0.79%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-06-05 18:43:52

End at: 2018-06-05 18:44:22

Local clock offset: -1.094 ms

Remote clock offset: 4.31 ms

Below is generated by plot.py at 2018-06-05 19:02:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 190.196 ms

Loss rate: 0.79%

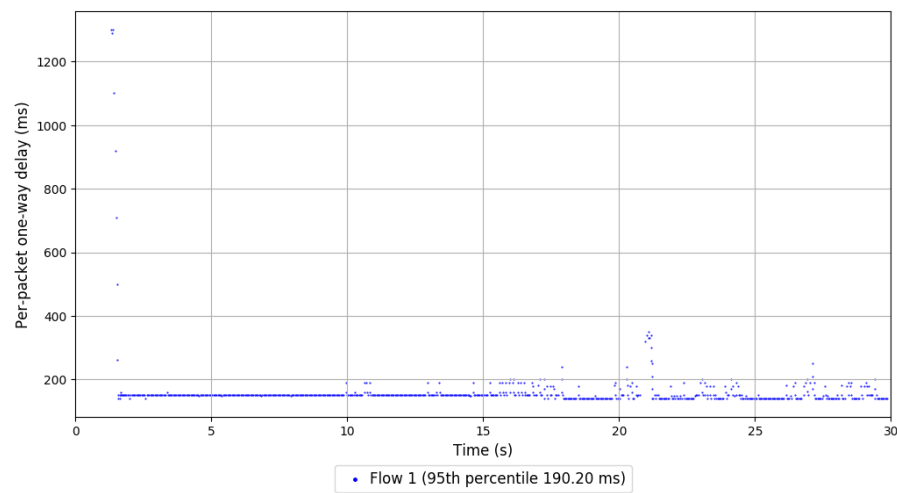
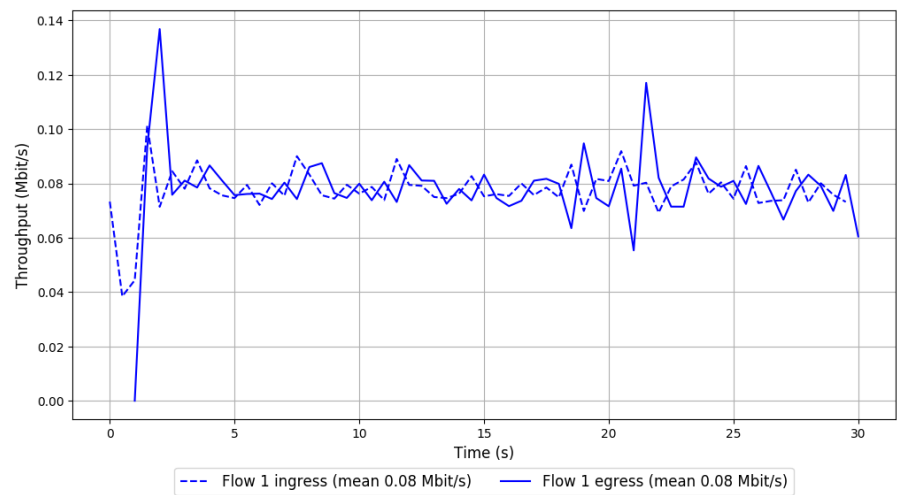
-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 190.196 ms

Loss rate: 0.79%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-06-05 18:10:36

End at: 2018-06-05 18:11:06

Local clock offset: -1.837 ms

Remote clock offset: 4.435 ms

Below is generated by plot.py at 2018-06-05 19:02:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 959.259 ms

Loss rate: 0.75%

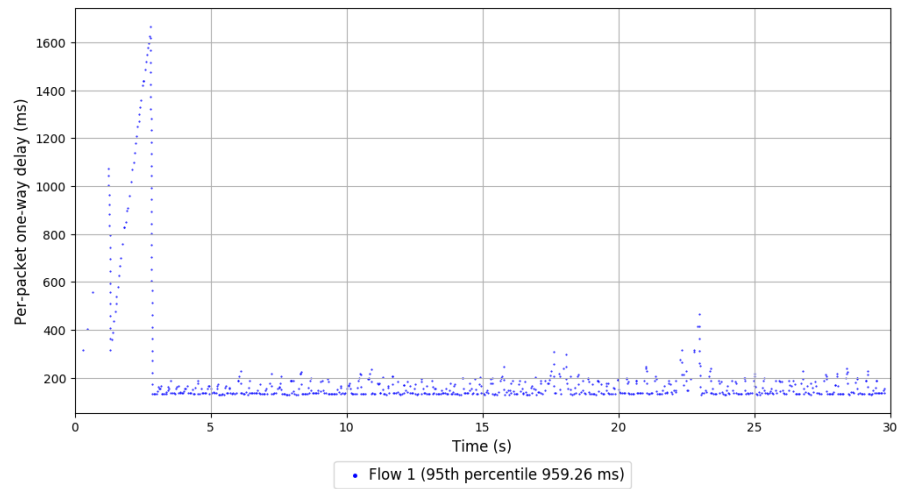
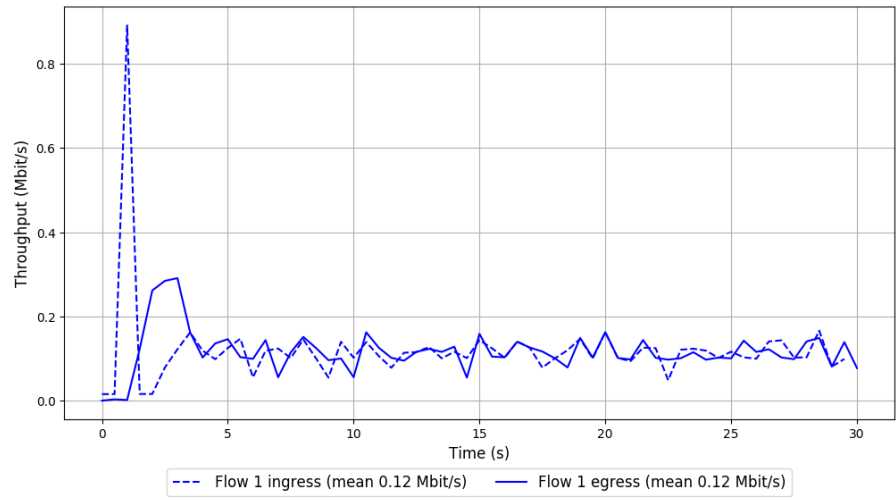
-- Flow 1:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 959.259 ms

Loss rate: 0.75%

Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: 2018-06-05 18:29:11

End at: 2018-06-05 18:29:41

Local clock offset: -2.526 ms

Remote clock offset: 4.293 ms

Below is generated by plot.py at 2018-06-05 19:02:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 1101.879 ms

Loss rate: 1.26%

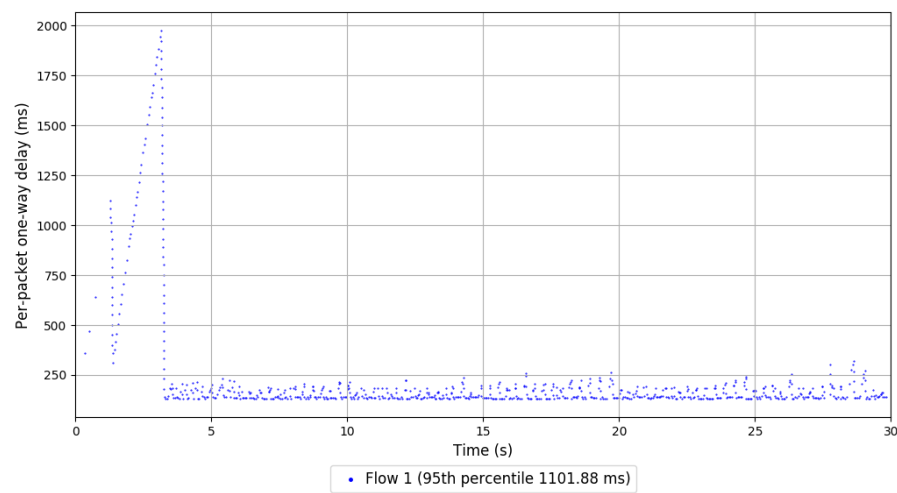
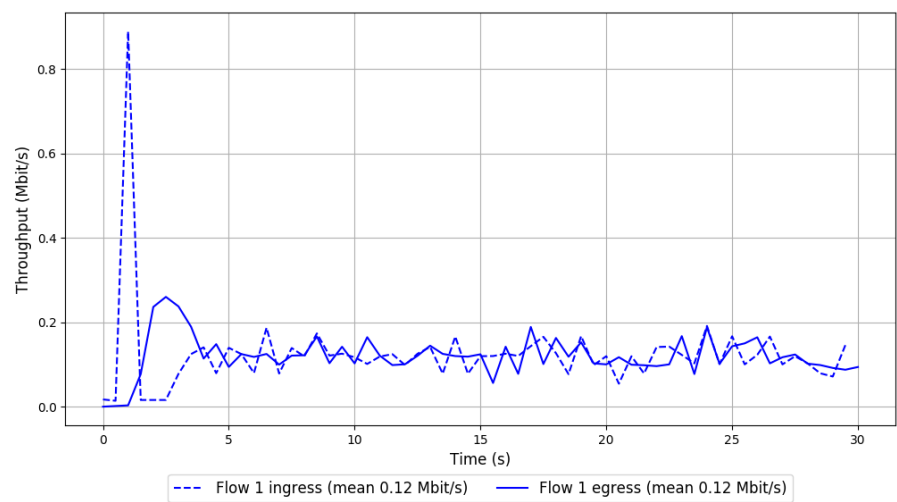
-- Flow 1:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 1101.879 ms

Loss rate: 1.26%

Run 2: Report of Sprout — Data Link

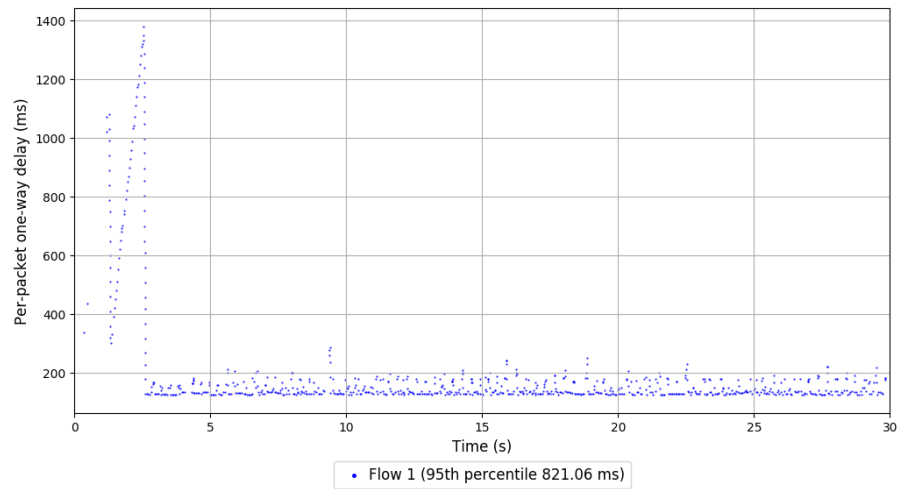
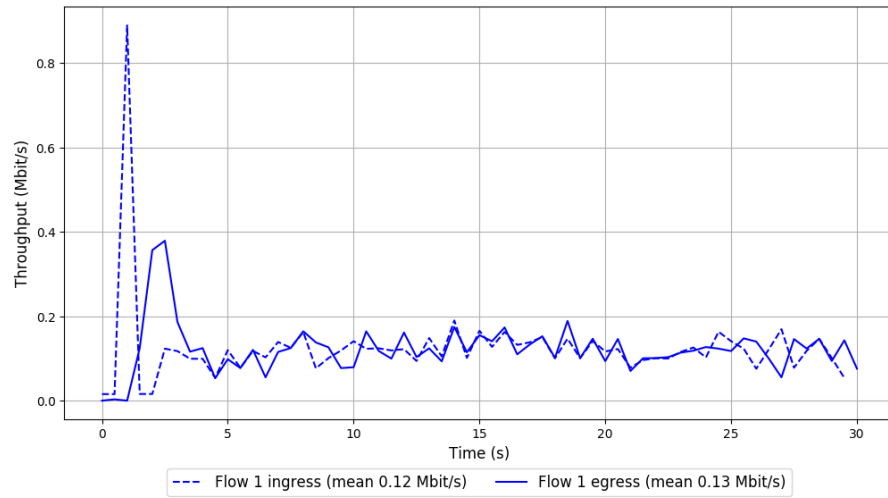


Run 3: Statistics of Sprout

Start at: 2018-06-05 18:48:21
End at: 2018-06-05 18:48:51
Local clock offset: -1.164 ms
Remote clock offset: 9.227 ms

Below is generated by plot.py at 2018-06-05 19:02:06
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 821.063 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 821.063 ms
Loss rate: 0.11%

Run 3: Report of Sprout — Data Link

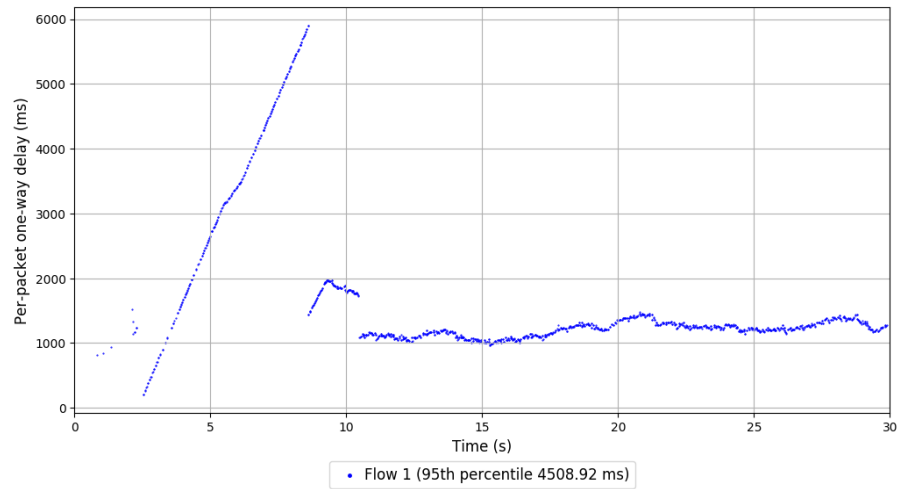
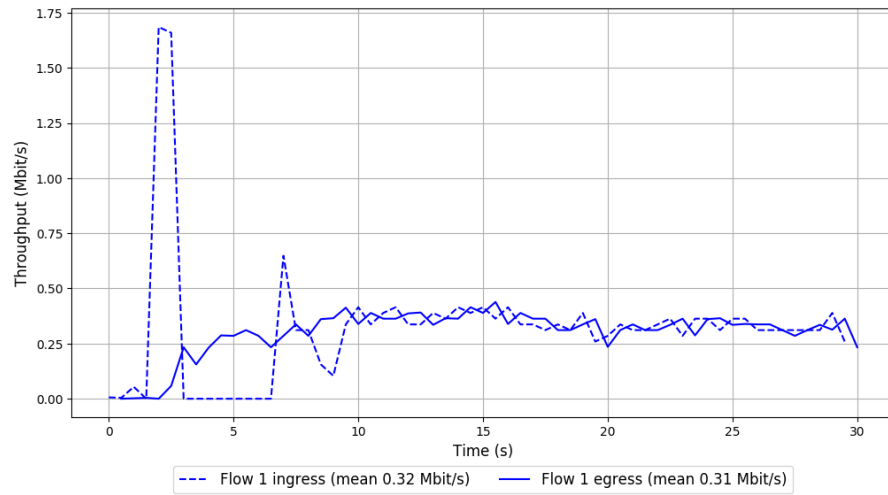


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-06-05 18:21:09
End at: 2018-06-05 18:21:39
Local clock offset: -1.749 ms
Remote clock offset: 9.064 ms

# Below is generated by plot.py at 2018-06-05 19:02:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 4508.921 ms
Loss rate: 4.63%
-- Flow 1:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 4508.921 ms
Loss rate: 4.63%
```

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-06-05 18:40:31

End at: 2018-06-05 18:41:01

Local clock offset: -1.052 ms

Remote clock offset: 9.371 ms

Below is generated by plot.py at 2018-06-05 19:02:06

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 2299.735 ms

Loss rate: 4.49%

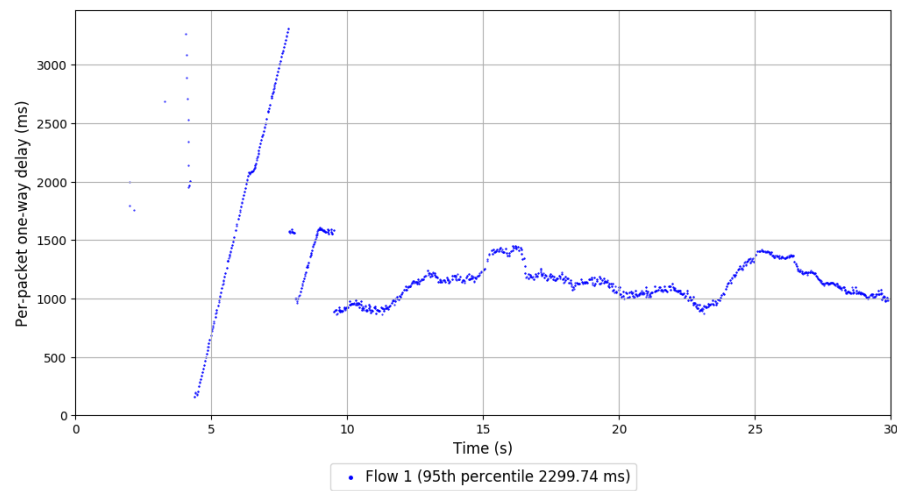
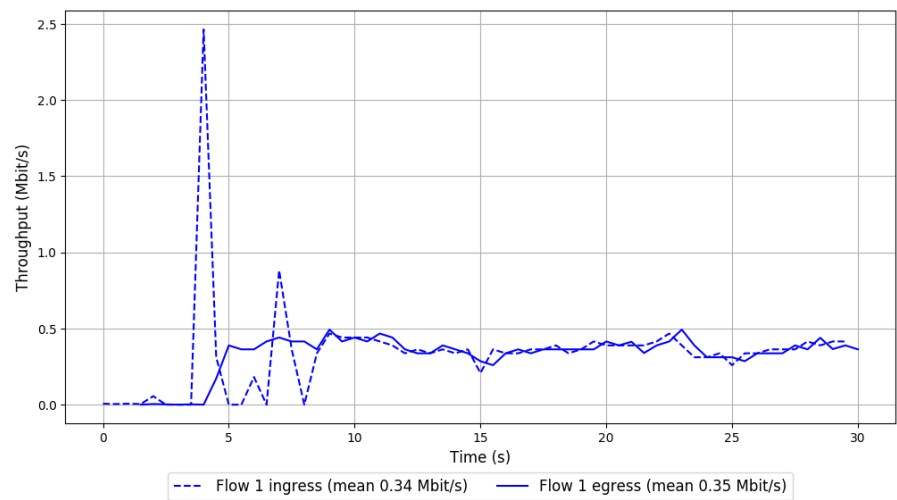
-- Flow 1:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 2299.735 ms

Loss rate: 4.49%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-06-05 18:58:50

End at: 2018-06-05 18:59:20

Local clock offset: -2.563 ms

Remote clock offset: 7.747 ms

Below is generated by plot.py at 2018-06-05 19:02:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 1884.216 ms

Loss rate: 3.10%

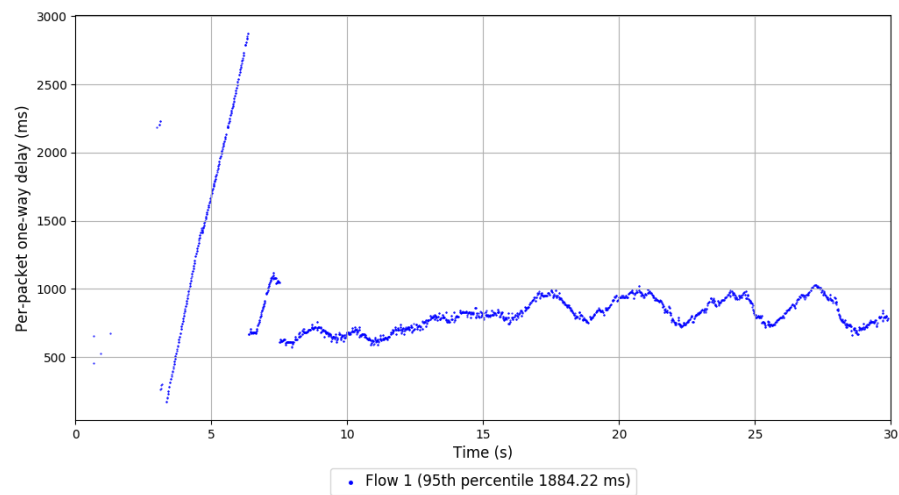
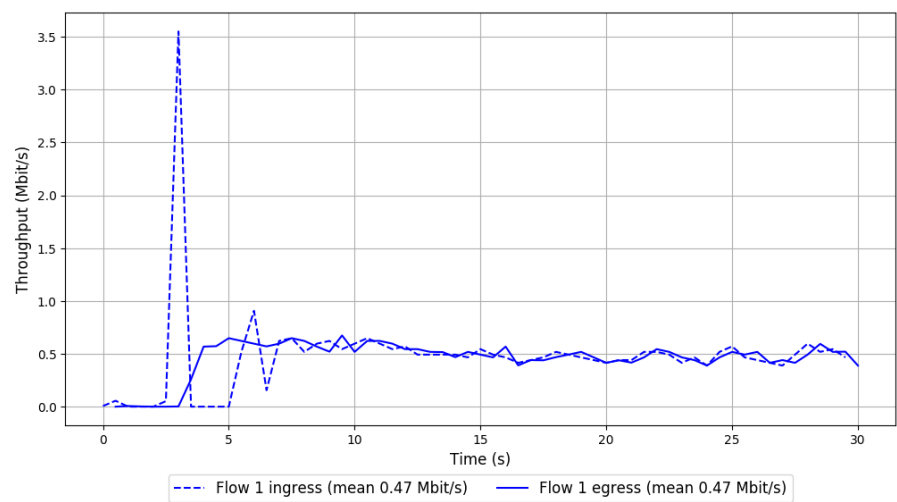
-- Flow 1:

Average throughput: 0.47 Mbit/s

95th percentile per-packet one-way delay: 1884.216 ms

Loss rate: 3.10%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-06-05 18:09:29

End at: 2018-06-05 18:09:59

Local clock offset: -1.855 ms

Remote clock offset: 9.472 ms

Below is generated by plot.py at 2018-06-05 19:02:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 1868.945 ms

Loss rate: 3.58%

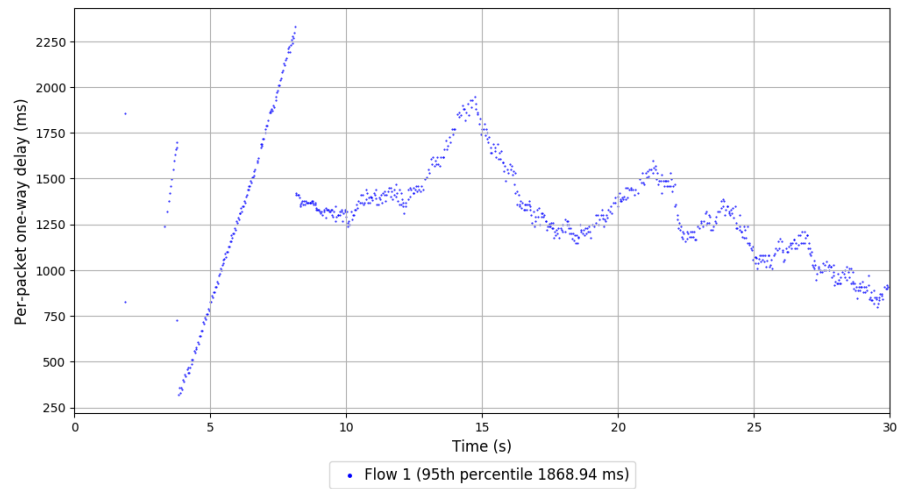
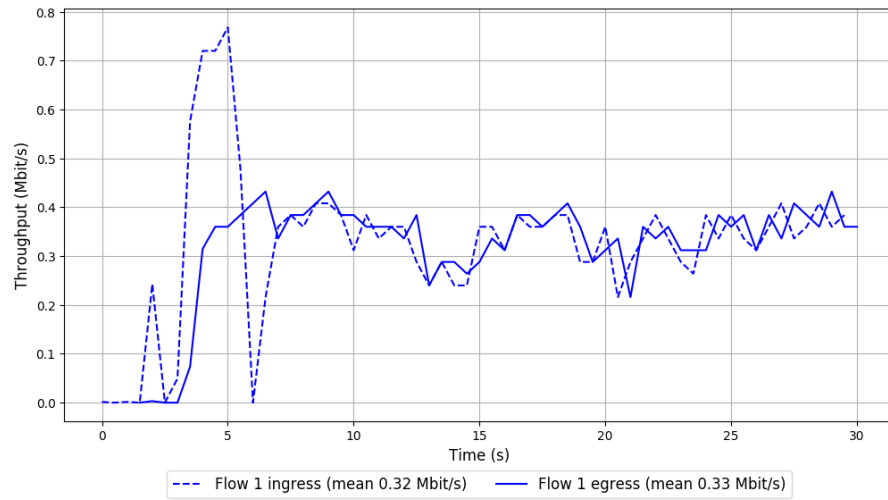
-- Flow 1:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 1868.945 ms

Loss rate: 3.58%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-06-05 18:28:04

End at: 2018-06-05 18:28:34

Local clock offset: -1.072 ms

Remote clock offset: 4.359 ms

Below is generated by plot.py at 2018-06-05 19:02:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 2472.821 ms

Loss rate: 3.37%

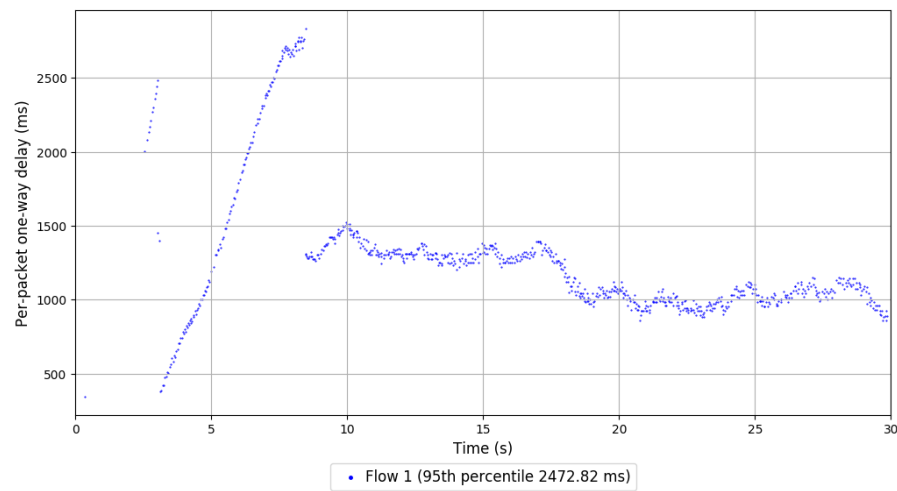
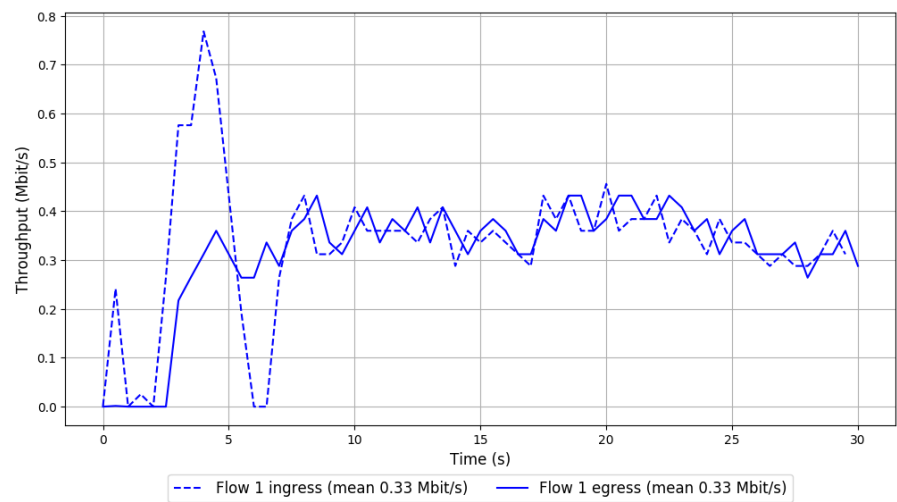
-- Flow 1:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 2472.821 ms

Loss rate: 3.37%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-06-05 18:47:14

End at: 2018-06-05 18:47:44

Local clock offset: -1.835 ms

Remote clock offset: 4.206 ms

Below is generated by plot.py at 2018-06-05 19:02:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 2461.873 ms

Loss rate: 2.69%

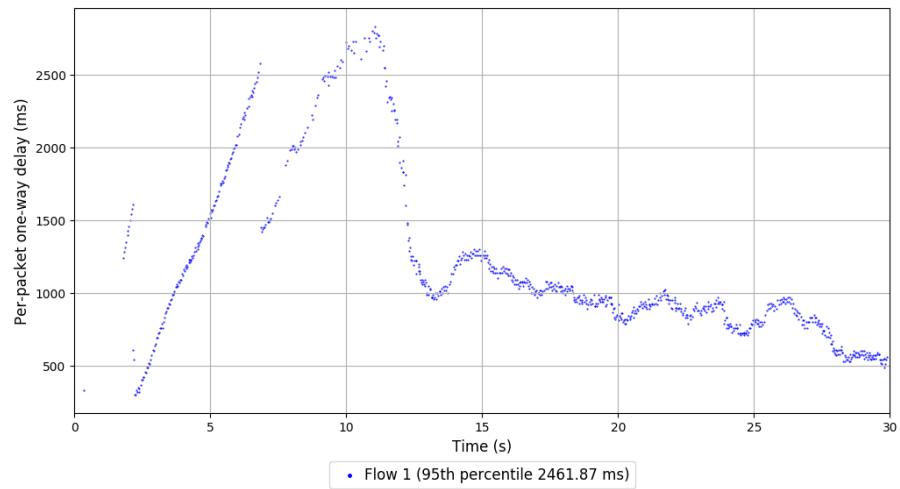
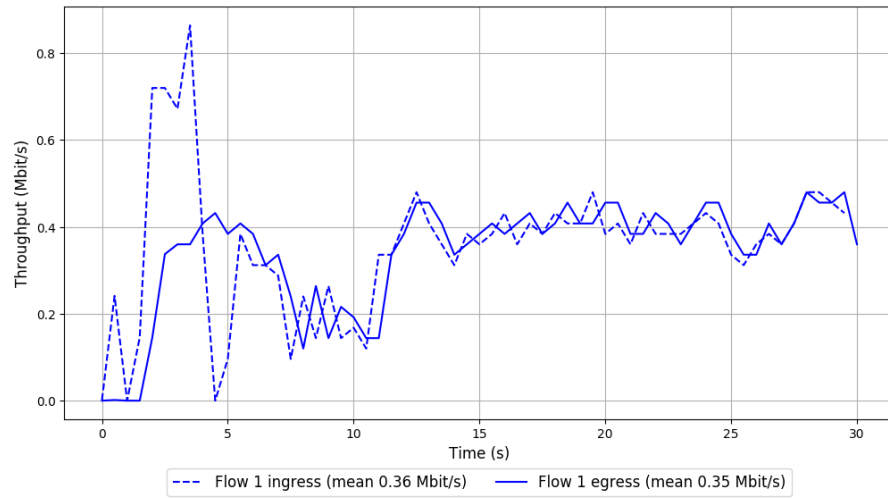
-- Flow 1:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 2461.873 ms

Loss rate: 2.69%

Run 3: Report of TCP Vegas — Data Link



Run 1: Statistics of Verus

Start at: 2018-06-05 18:07:12

End at: 2018-06-05 18:07:42

Local clock offset: -1.192 ms

Remote clock offset: 9.683 ms

Below is generated by plot.py at 2018-06-05 19:02:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 2304.356 ms

Loss rate: 5.28%

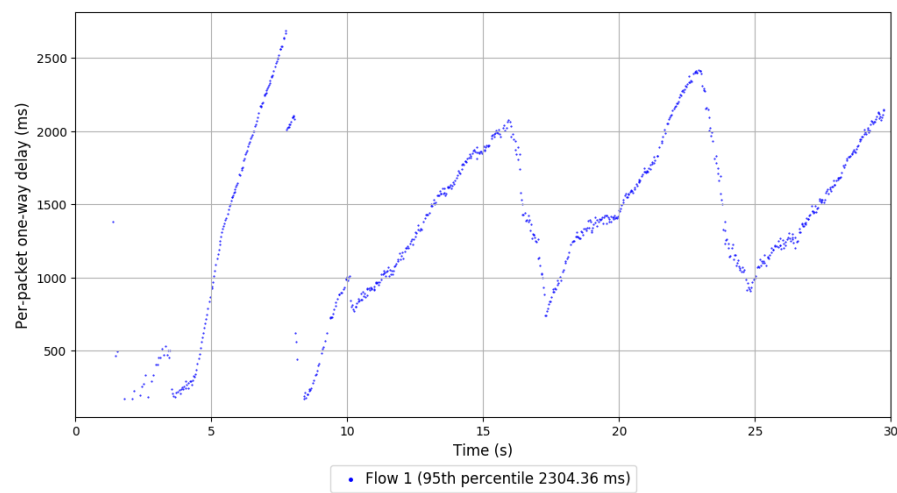
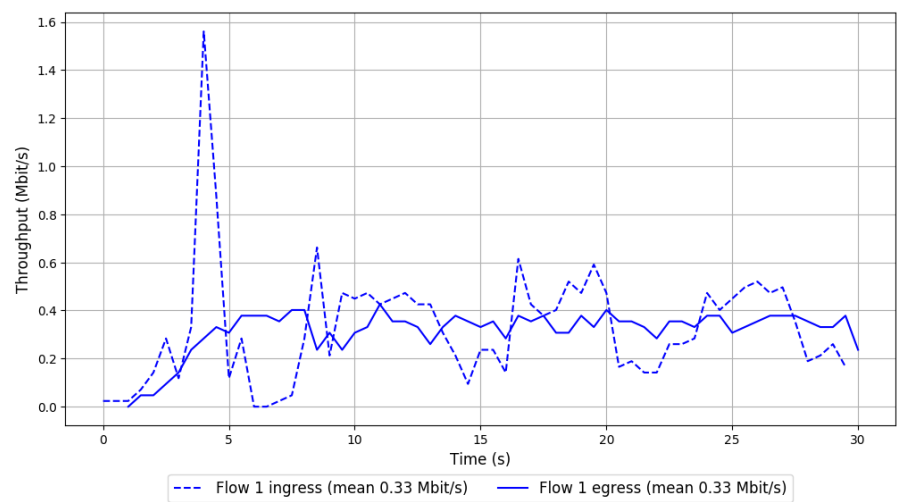
-- Flow 1:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 2304.356 ms

Loss rate: 5.28%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: 2018-06-05 18:25:37

End at: 2018-06-05 18:26:07

Local clock offset: -1.013 ms

Remote clock offset: 9.28 ms

Below is generated by plot.py at 2018-06-05 19:02:09

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 2772.957 ms

Loss rate: 3.02%

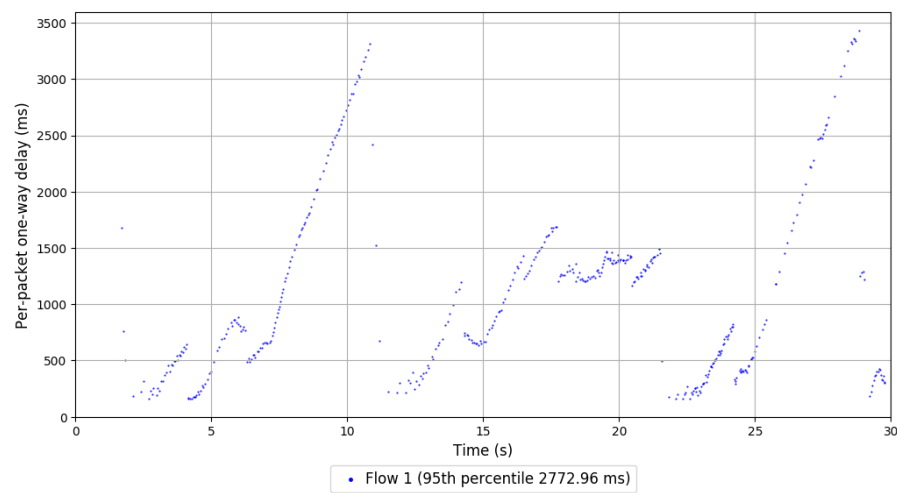
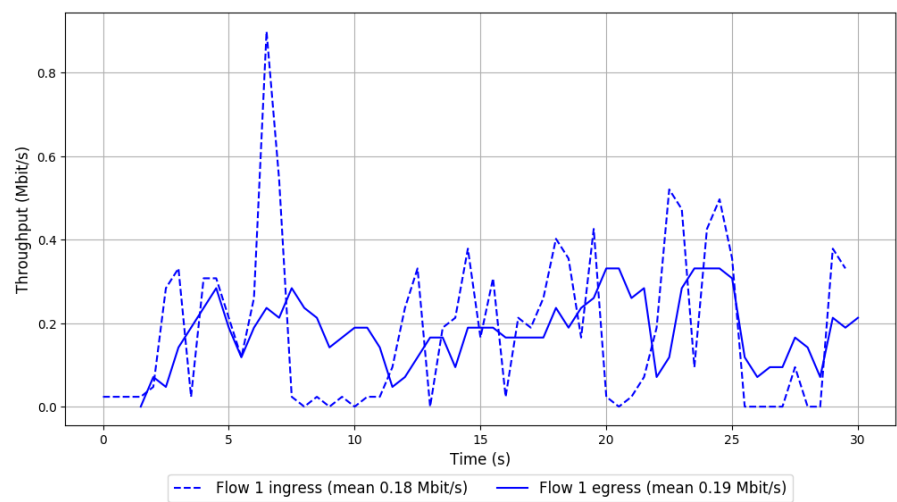
-- Flow 1:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 2772.957 ms

Loss rate: 3.02%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-06-05 18:44:59

End at: 2018-06-05 18:45:29

Local clock offset: -1.831 ms

Remote clock offset: 4.276 ms

Below is generated by plot.py at 2018-06-05 19:02:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 2805.320 ms

Loss rate: 5.82%

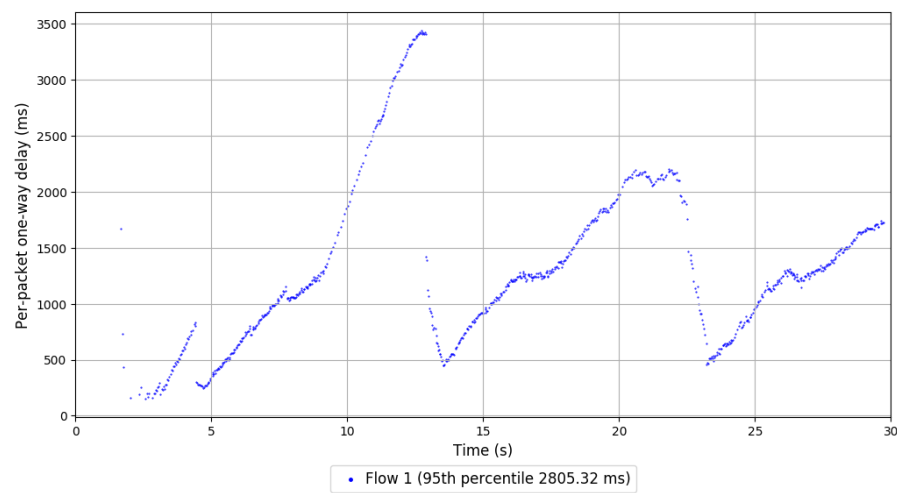
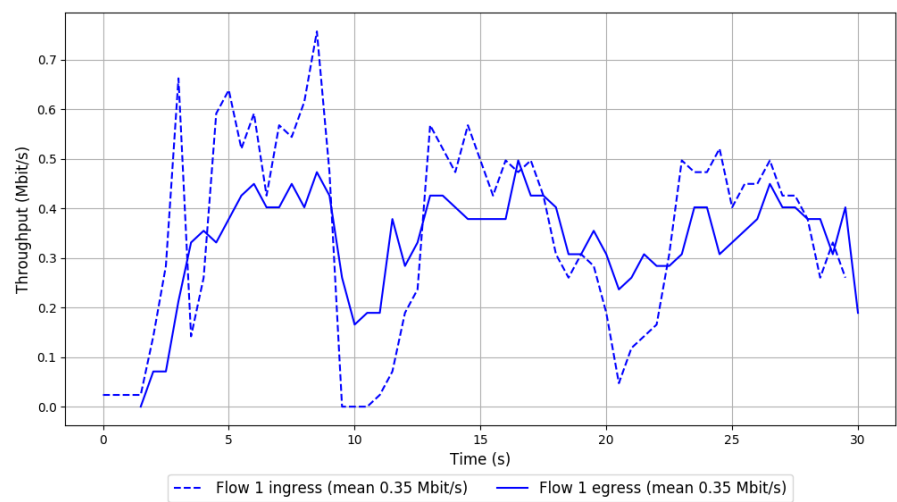
-- Flow 1:

Average throughput: 0.35 Mbit/s

95th percentile per-packet one-way delay: 2805.320 ms

Loss rate: 5.82%

Run 3: Report of Verus — Data Link



Run 1: Statistics of PCC-Vivace

Start at: 2018-06-05 18:11:44

End at: 2018-06-05 18:12:14

Local clock offset: -1.825 ms

Remote clock offset: 9.336 ms

Below is generated by plot.py at 2018-06-05 19:02:10

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2120.162 ms

Loss rate: 0.00%

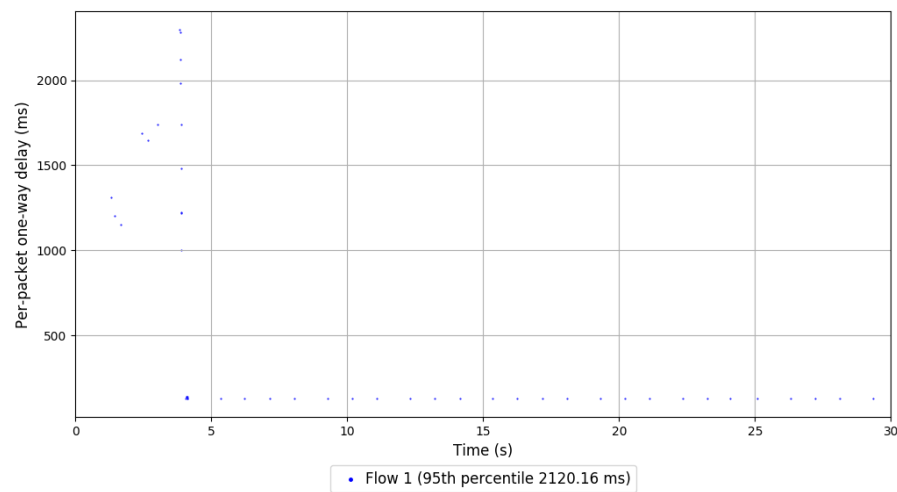
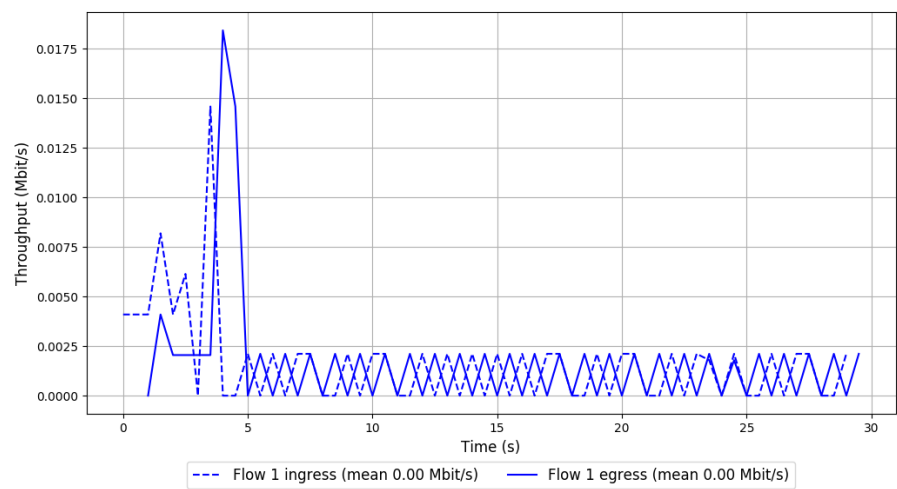
-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2120.162 ms

Loss rate: 0.00%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-06-05 18:30:18

End at: 2018-06-05 18:30:48

Local clock offset: -0.982 ms

Remote clock offset: 9.329 ms

Below is generated by plot.py at 2018-06-05 19:02:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.23 Mbit/s

95th percentile per-packet one-way delay: 22865.357 ms

Loss rate: 91.60%

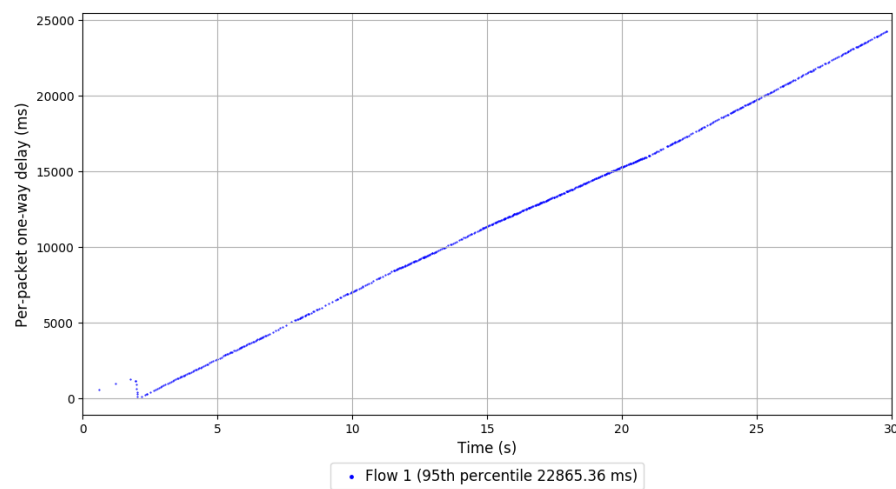
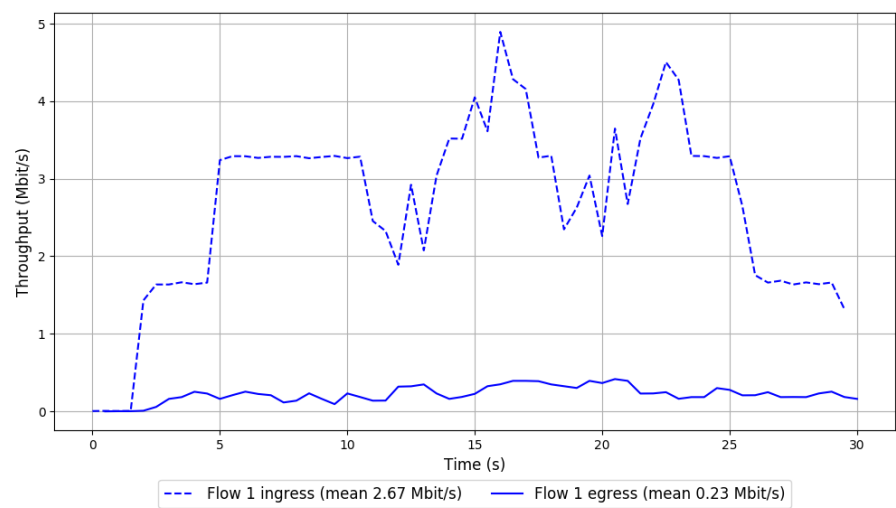
-- Flow 1:

Average throughput: 0.23 Mbit/s

95th percentile per-packet one-way delay: 22865.357 ms

Loss rate: 91.60%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

Start at: 2018-06-05 18:49:29

End at: 2018-06-05 18:49:59

Local clock offset: -1.112 ms

Remote clock offset: 4.122 ms

Below is generated by plot.py at 2018-06-05 19:02:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 21794.695 ms

Loss rate: 80.42%

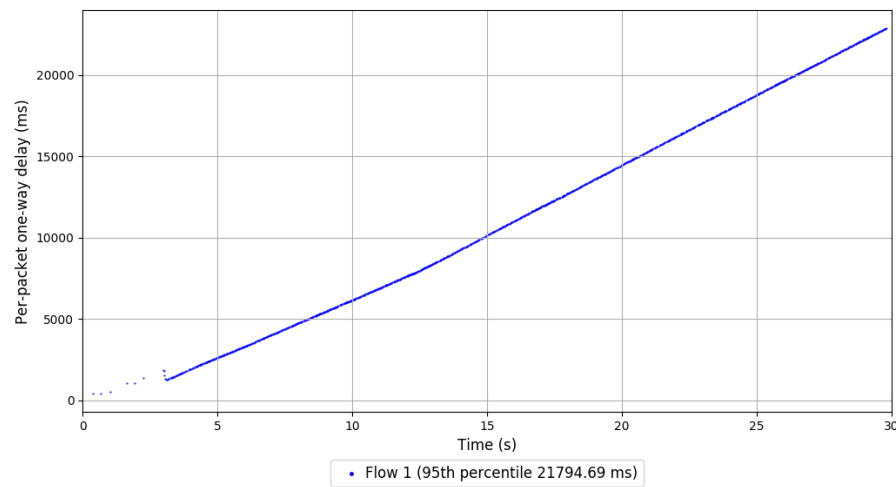
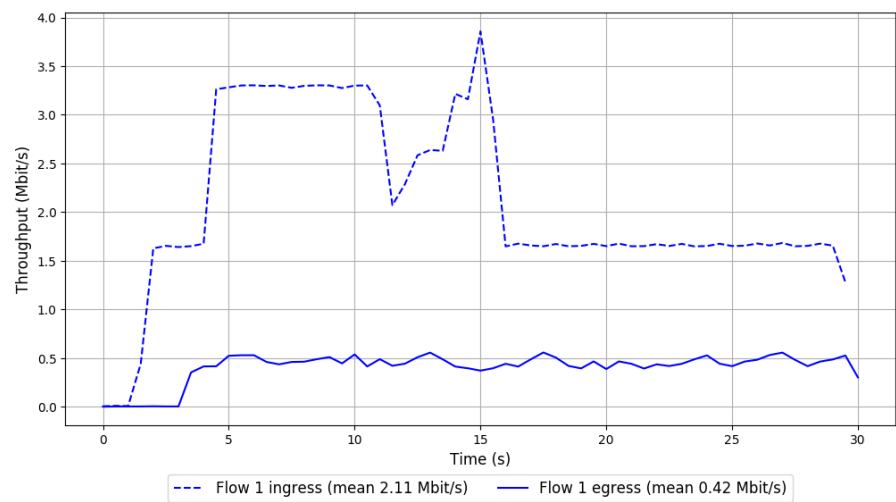
-- Flow 1:

Average throughput: 0.42 Mbit/s

95th percentile per-packet one-way delay: 21794.695 ms

Loss rate: 80.42%

Run 3: Report of PCC-Vivace — Data Link



Run 1: Statistics of WebRTC media

Start at: 2018-06-05 18:18:54

End at: 2018-06-05 18:19:24

Local clock offset: -1.792 ms

Remote clock offset: 9.018 ms

Below is generated by plot.py at 2018-06-05 19:02:11

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 735.946 ms

Loss rate: 0.64%

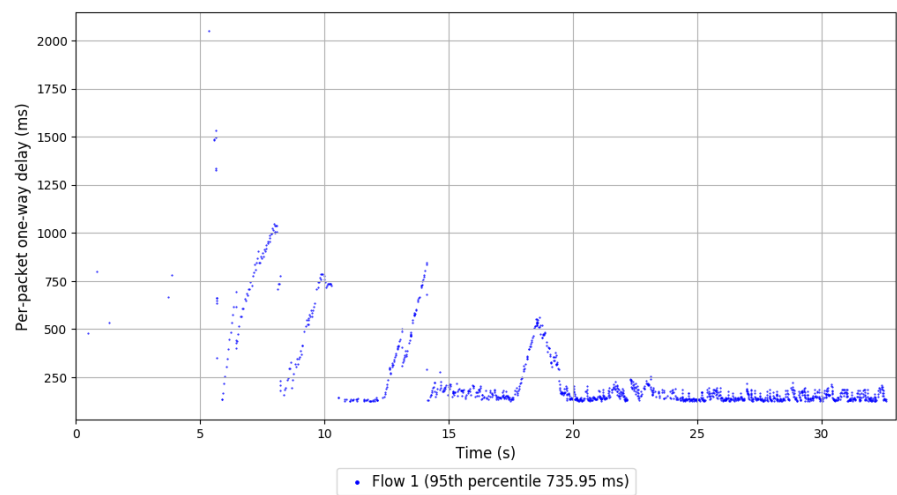
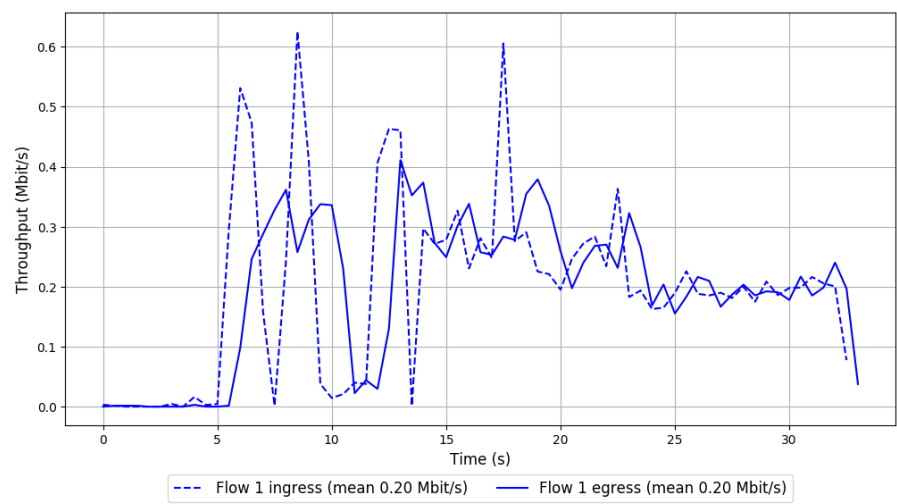
-- Flow 1:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 735.946 ms

Loss rate: 0.64%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

/home/ubuntu/pantheon/data/2018-06-05T18-05-Colombia-ppp0-to-AWS-Brazil-2-3-runs/webrtc_stat

Run 2: Report of WebRTC media — Data Link

Figure is missing

Figure is missing

Run 3: Statistics of WebRTC media

Start at: 2018-06-05 18:56:33
End at: 2018-06-05 18:57:03
Local clock offset: -1.843 ms
Remote clock offset: 11.492 ms

Below is generated by plot.py at 2018-06-05 19:02:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 524.774 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 524.774 ms
Loss rate: 0.47%

Run 3: Report of WebRTC media — Data Link

