

Pantheon Report

Generated at 2018-07-10 11:48:22 (UTC).

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

Repeated the test of 17 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

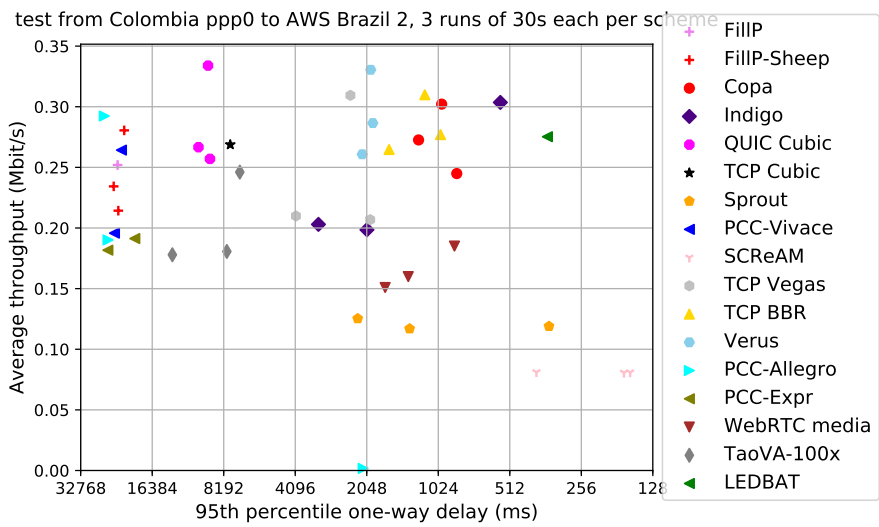
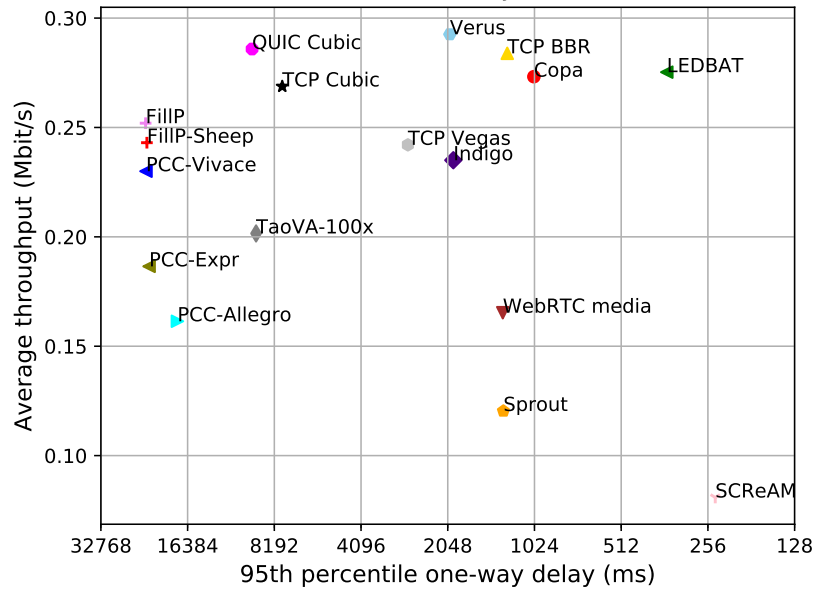
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

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

Git summary:

```
branch: master @ 9250dbeec7fb57193cdff1ba8c440b4e16ab30f0
third_party/fillp @ d47f4fa1b454a5e3c0537115c5a28436dbd4b834
third_party/fillp-sheep @ 37162fe9af85249aeccac061c93e75640ef710b5
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf5e58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecdbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ 6f038ed31259d366f9840f65b82cbe8f464b1b39
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quick @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream-reproduce @ f099118d1421aa3131bf11ff1964974e1da3bdb2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webRTC @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
```

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



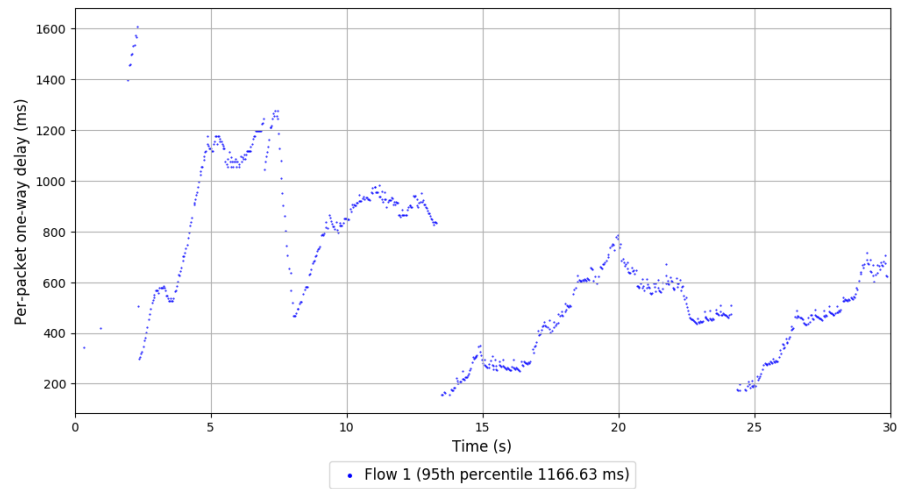
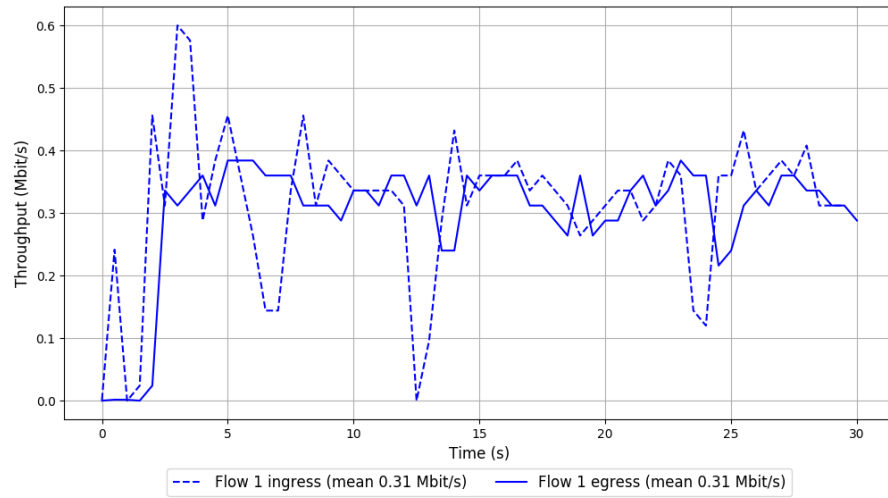
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	0.28	1272.76	2.54
Copa	3	0.27	1028.92	1.78
TCP Cubic	1	0.27	7689.18	33.08
FillP	1	0.25	22916.71	83.03
FillP-Sheep	3	0.24	22683.35	53.32
Indigo	3	0.23	1958.98	2.36
LEDBAT	1	0.28	355.63	1.28
PCC-Allegro	3	0.16	17773.14	54.11
PCC-Expr	2	0.18	22291.98	96.93
QUIC Cubic	3	0.29	9787.31	35.32
SCReAM	3	0.08	241.42	0.70
Sprout	3	0.12	1312.79	0.92
TaoVA-100x	3	0.20	9479.00	7.21
TCP Vegas	3	0.24	2816.62	4.05
Verus	3	0.29	2014.13	5.24
PCC-Vivace	2	0.23	22854.46	91.50
WebRTC media	3	0.17	1319.42	0.40

Run 1: Statistics of TCP BBR

Start at: 2018-07-10 11:02:58
End at: 2018-07-10 11:03:28
Local clock offset: -0.263 ms
Remote clock offset: 10.601 ms

Below is generated by plot.py at 2018-07-10 11:48:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 1166.635 ms
Loss rate: 2.43%
-- Flow 1:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 1166.635 ms
Loss rate: 2.43%

Run 1: Report of TCP BBR — Data Link

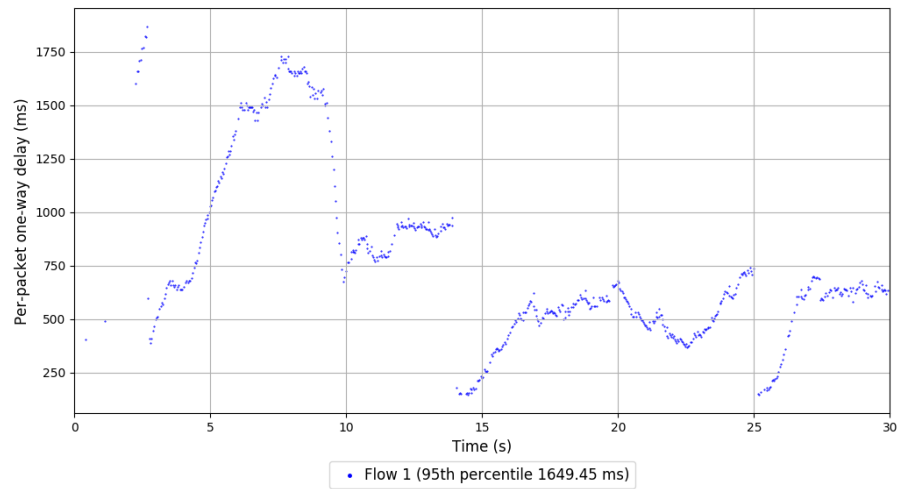
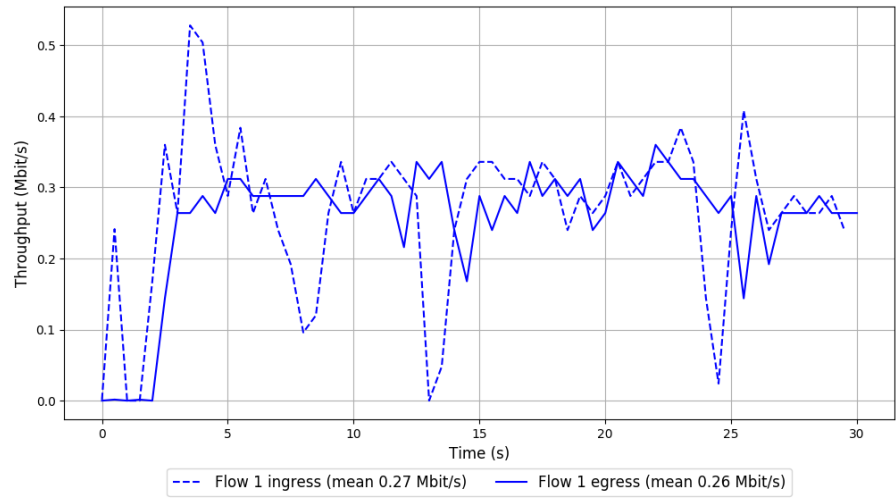


Run 2: Statistics of TCP BBR

Start at: 2018-07-10 11:22:54
End at: 2018-07-10 11:23:24
Local clock offset: -0.193 ms
Remote clock offset: 15.976 ms

Below is generated by plot.py at 2018-07-10 11:48:00
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 1649.449 ms
Loss rate: 2.10%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 1649.449 ms
Loss rate: 2.10%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: 2018-07-10 11:43:36

End at: 2018-07-10 11:44:06

Local clock offset: -0.259 ms

Remote clock offset: 3.279 ms

Below is generated by plot.py at 2018-07-10 11:48:00

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.28 Mbit/s

95th percentile per-packet one-way delay: 1002.186 ms

Loss rate: 3.09%

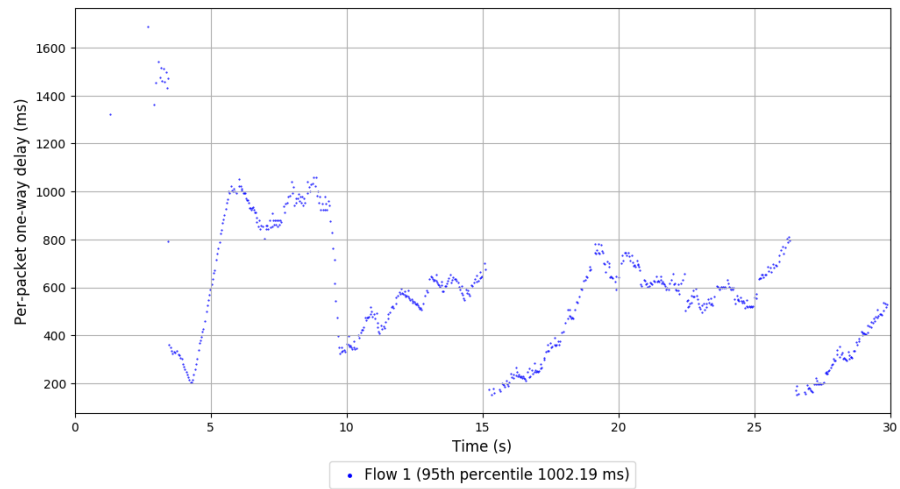
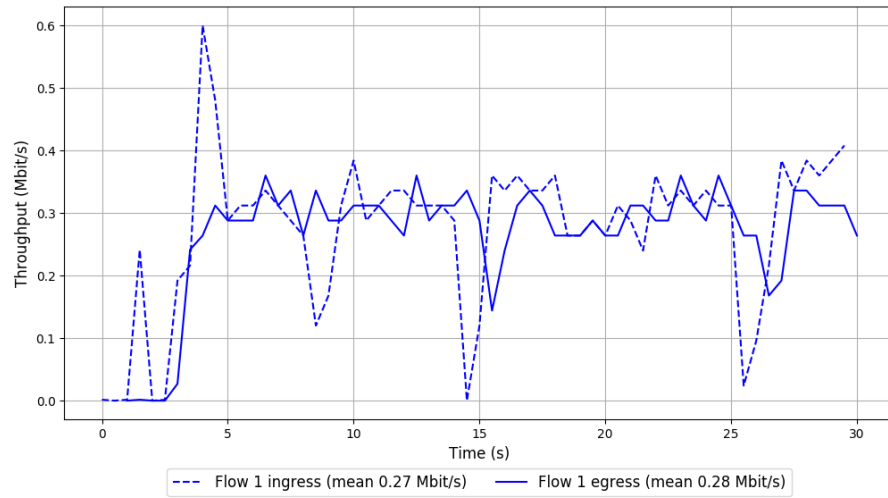
-- Flow 1:

Average throughput: 0.28 Mbit/s

95th percentile per-packet one-way delay: 1002.186 ms

Loss rate: 3.09%

Run 3: Report of TCP BBR — Data Link

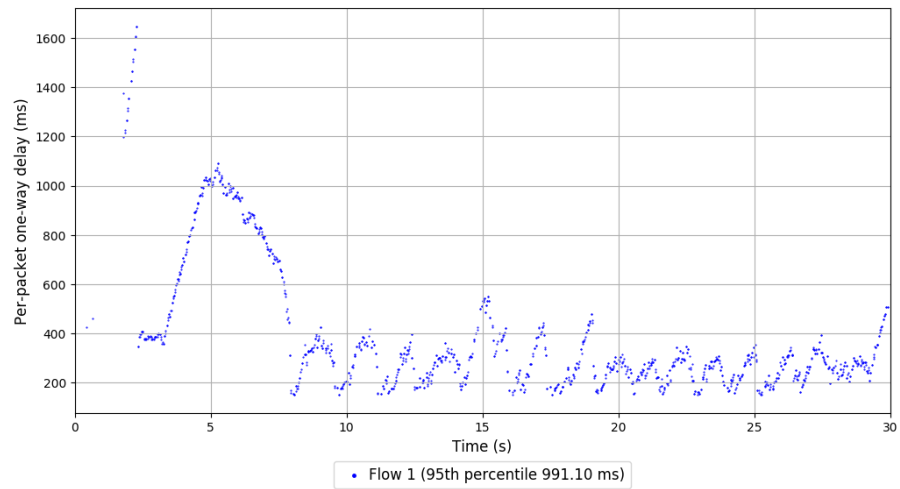
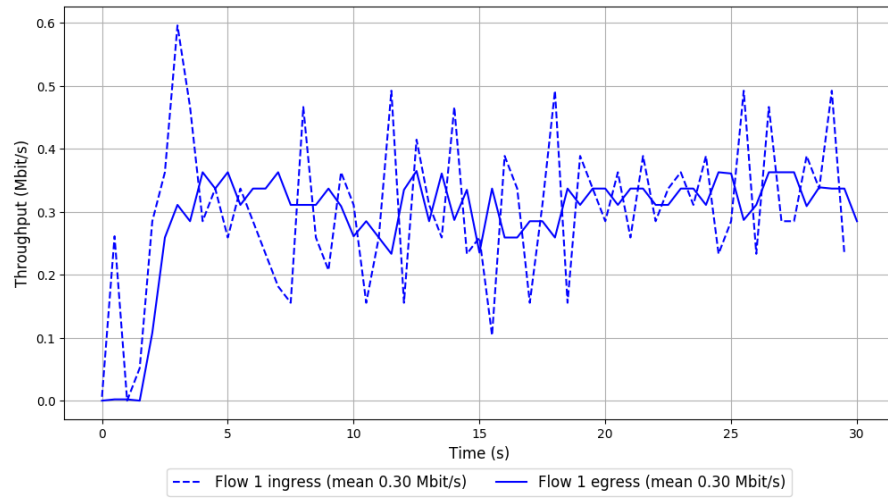


Run 1: Statistics of Copa

Start at: 2018-07-10 10:58:03
End at: 2018-07-10 10:58:33
Local clock offset: -0.284 ms
Remote clock offset: 10.545 ms

Below is generated by plot.py at 2018-07-10 11:48:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 991.099 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 991.099 ms
Loss rate: 1.58%

Run 1: Report of Copa — Data Link

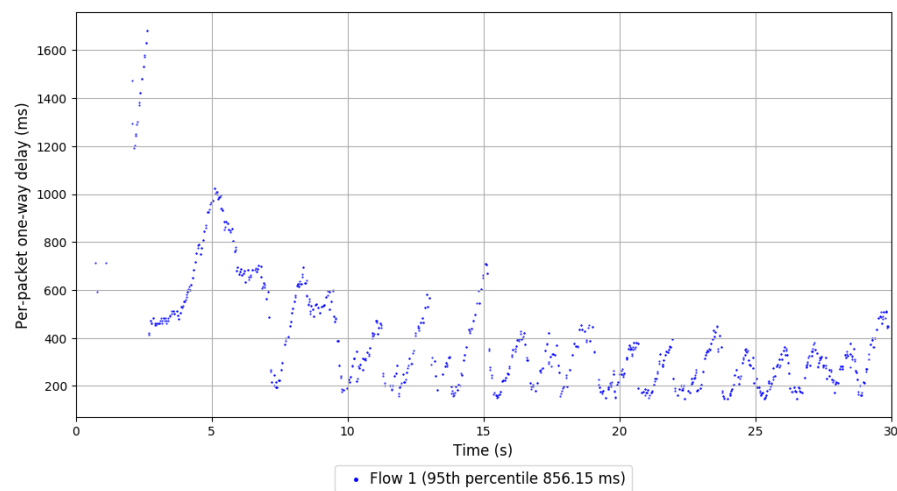
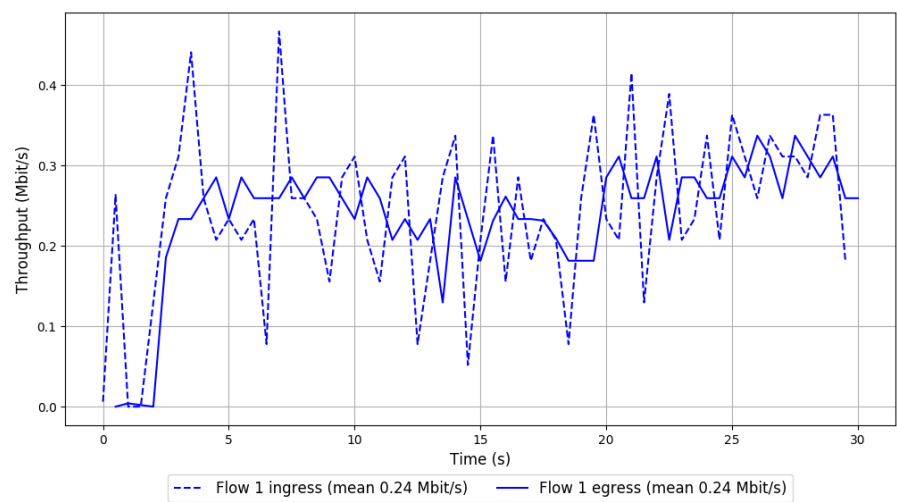


Run 2: Statistics of Copa

Start at: 2018-07-10 11:18:21
End at: 2018-07-10 11:18:51
Local clock offset: -0.231 ms
Remote clock offset: 17.926 ms

Below is generated by plot.py at 2018-07-10 11:48:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 856.146 ms
Loss rate: 1.61%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 856.146 ms
Loss rate: 1.61%

Run 2: Report of Copa — Data Link

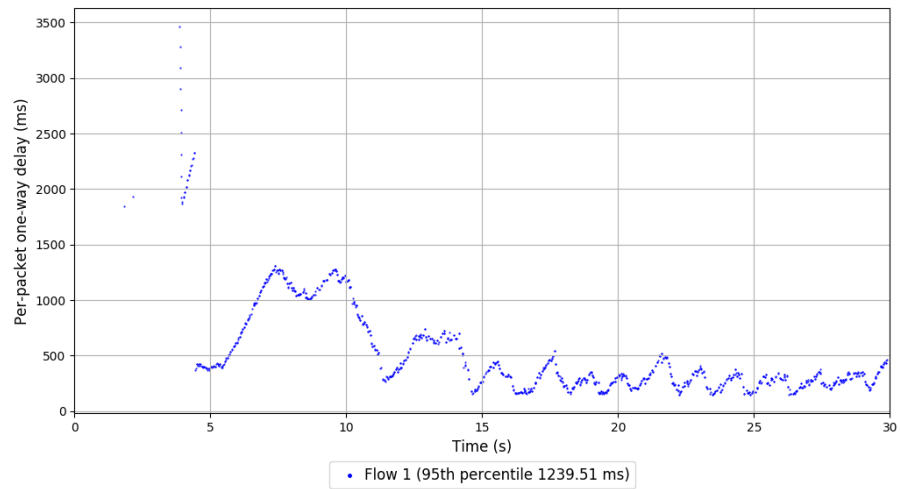
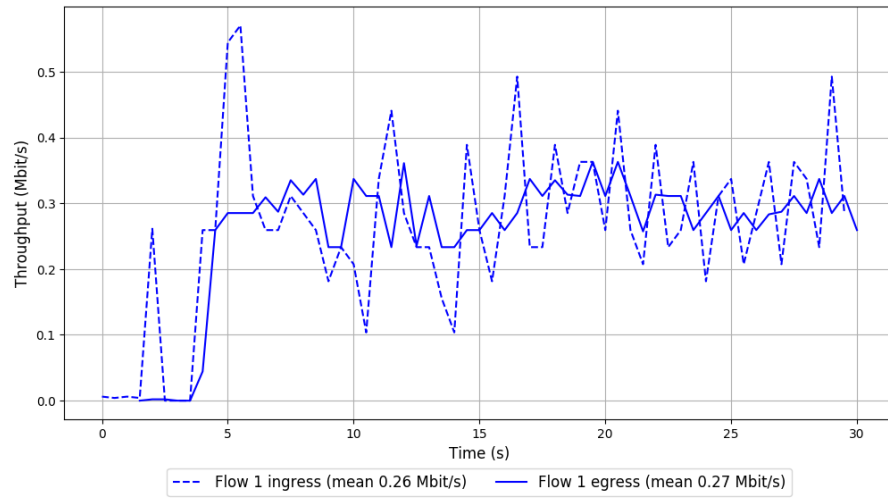


Run 3: Statistics of Copa

Start at: 2018-07-10 11:38:43
End at: 2018-07-10 11:39:13
Local clock offset: -0.158 ms
Remote clock offset: 8.012 ms

Below is generated by plot.py at 2018-07-10 11:48:01
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 1239.508 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 1239.508 ms
Loss rate: 2.16%

Run 3: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: 2018-07-10 10:47:56

End at: 2018-07-10 10:48:26

Local clock offset: -0.335 ms

Remote clock offset: 4.588 ms

Below is generated by plot.py at 2018-07-10 11:48:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.27 Mbit/s

95th percentile per-packet one-way delay: 7689.179 ms

Loss rate: 33.08%

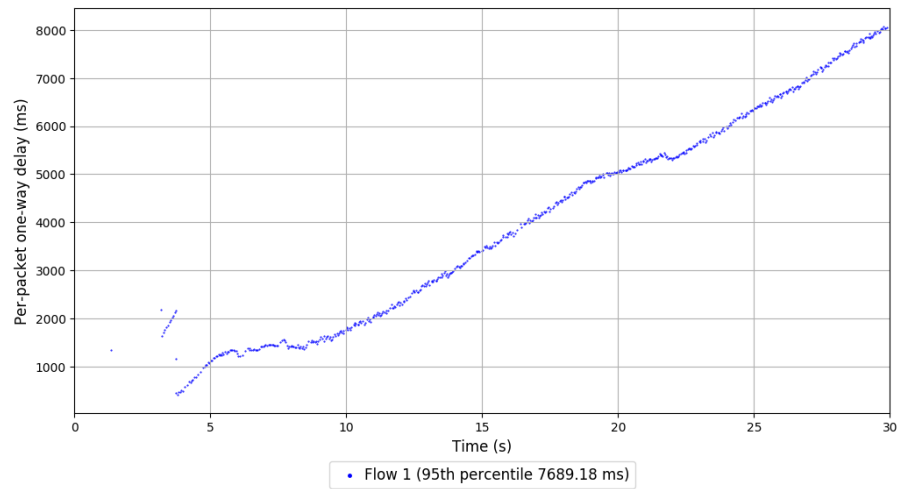
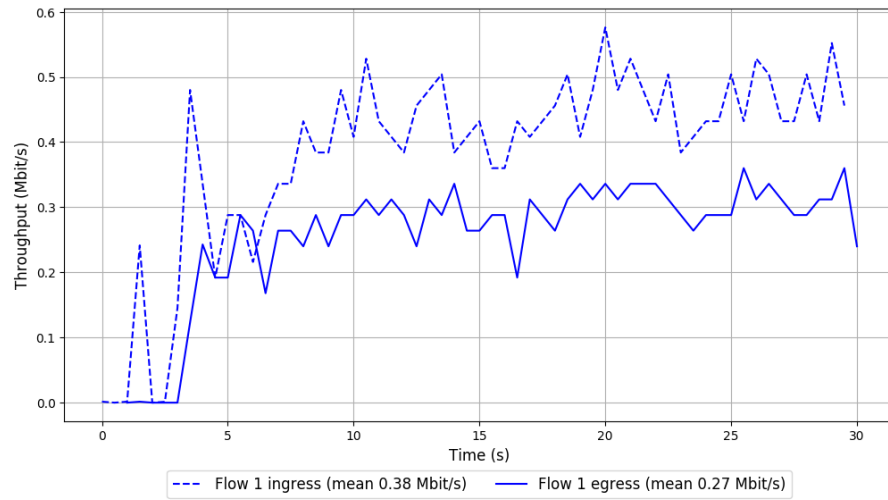
-- Flow 1:

Average throughput: 0.27 Mbit/s

95th percentile per-packet one-way delay: 7689.179 ms

Loss rate: 33.08%

Run 1: Report of TCP Cubic — Data Link



Run 2: Statistics of TCP Cubic

/home/ubuntu/pantheon/data/2018-07-10T10-47-Colombia-ppp0-to-AWS-Brazil-2-3-runs/cubic_stats

Run 2: Report of TCP Cubic — Data Link

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Run 3: Statistics of TCP Cubic

/home/ubuntu/pantheon/data/2018-07-10T10-47-Colombia-ppp0-to-AWS-Brazil-2-3-runs/cubic_stats

Run 3: Report of TCP Cubic — Data Link

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Run 1: Statistics of FillP

/home/ubuntu/pantheon/data/2018-07-10T10-47-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

/home/ubuntu/pantheon/data/2018-07-10T10-47-Colombia-ppp0-to-AWS-Brazil-2-3-runs/fillp_stats

Run 2: Report of FillP — Data Link

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Run 3: Statistics of FillP

Start at: 2018-07-10 11:45:51

End at: 2018-07-10 11:46:21

Local clock offset: -0.162 ms

Remote clock offset: 6.959 ms

Below is generated by plot.py at 2018-07-10 11:48:01

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 22916.710 ms

Loss rate: 83.03%

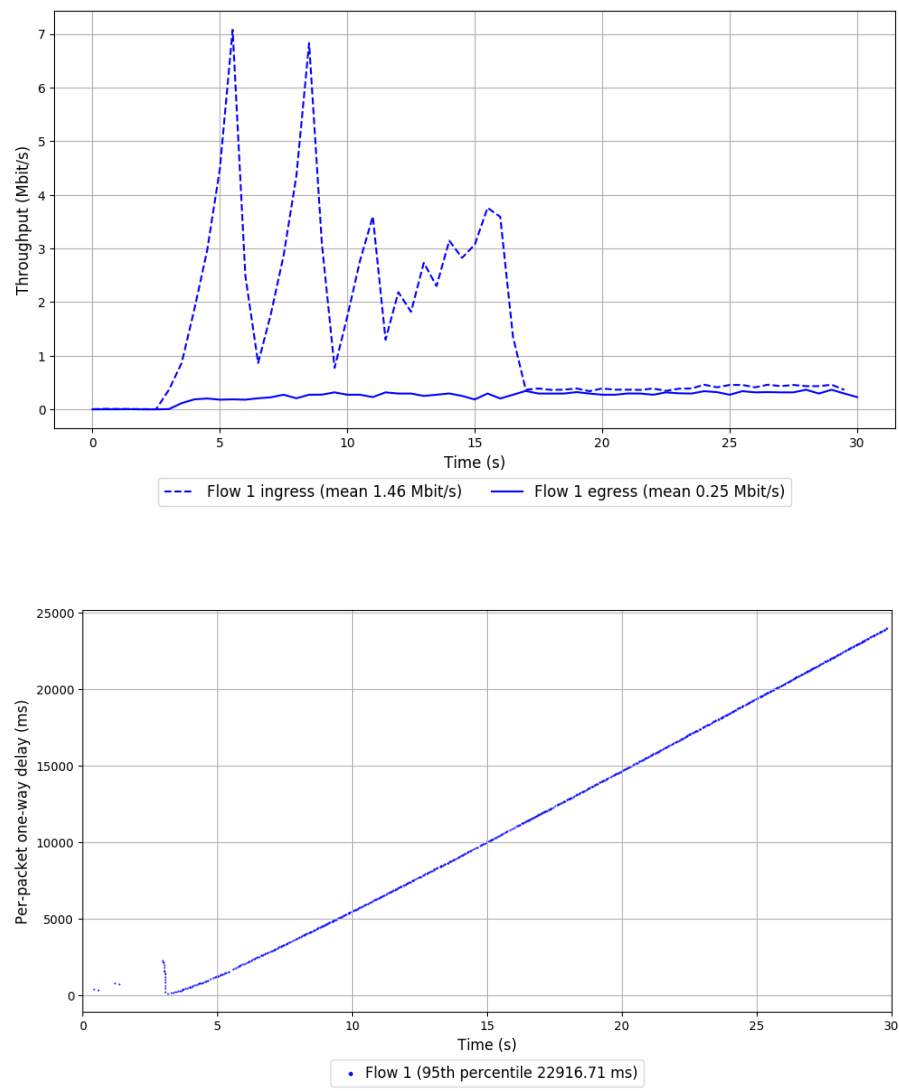
-- Flow 1:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 22916.710 ms

Loss rate: 83.03%

Run 3: Report of FillP — Data Link



Run 1: Statistics of FillP-Sheep

Start at: 2018-07-10 10:49:04

End at: 2018-07-10 10:49:34

Local clock offset: -0.333 ms

Remote clock offset: 5.454 ms

Below is generated by plot.py at 2018-07-10 11:48:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 22760.527 ms

Loss rate: 47.89%

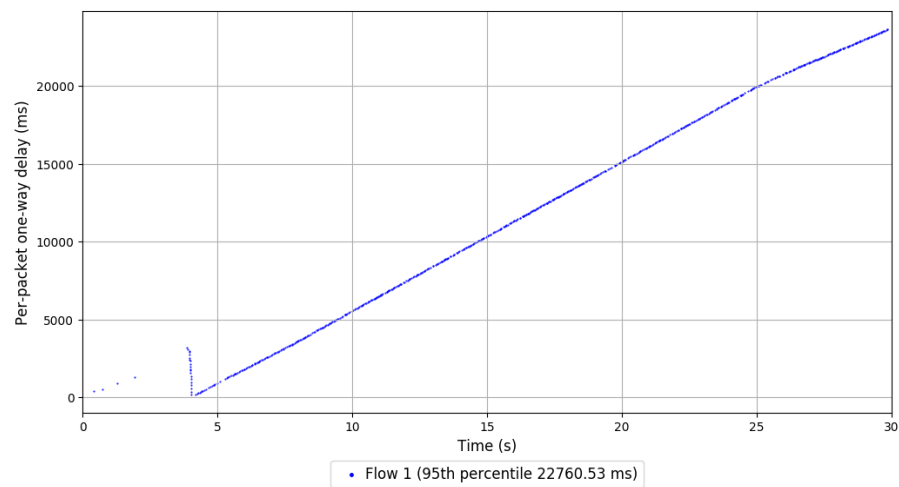
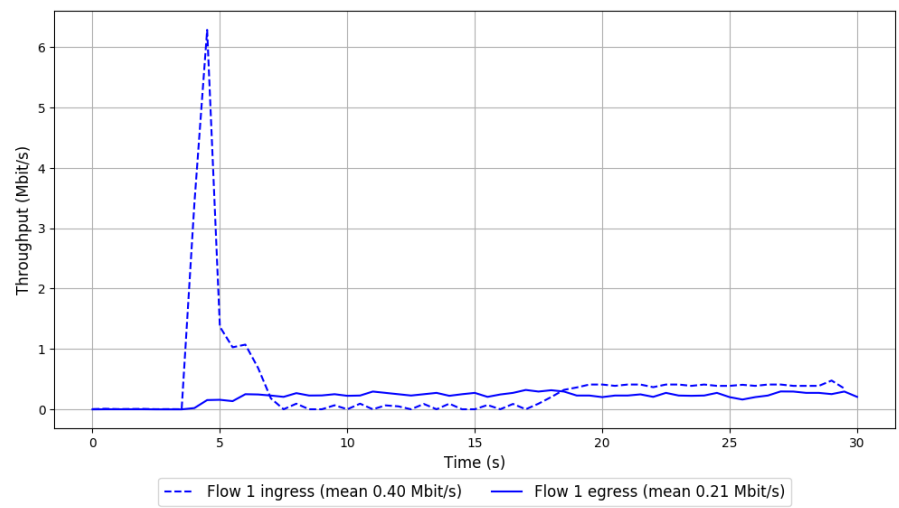
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 22760.527 ms

Loss rate: 47.89%

Run 1: Report of FillP-Sheep — Data Link

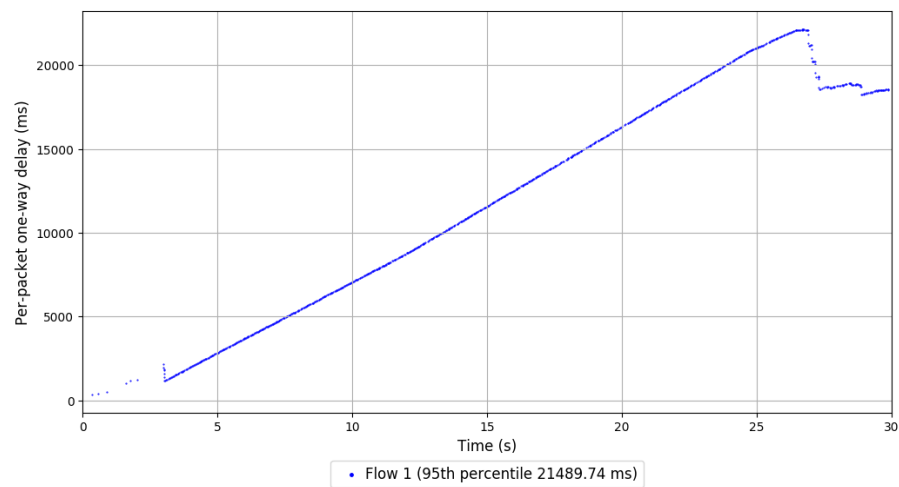
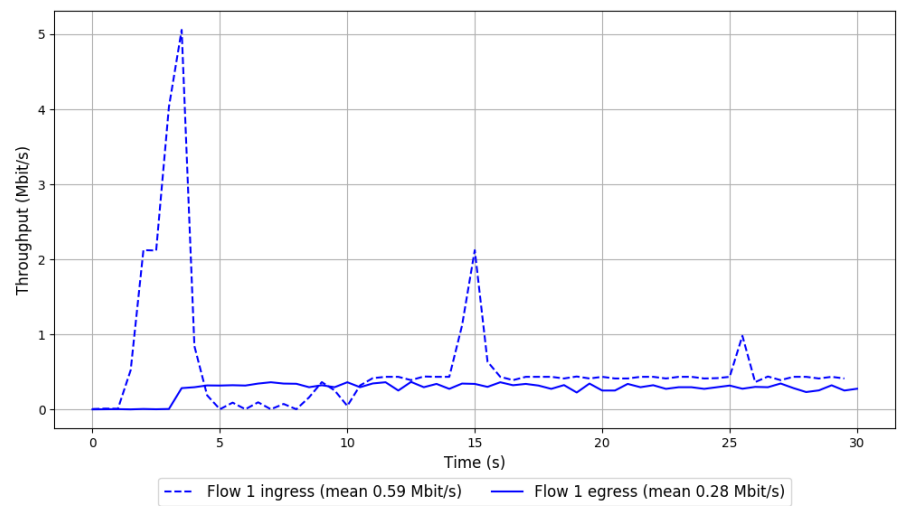


Run 2: Statistics of FillP-Sheep

Start at: 2018-07-10 11:09:23
End at: 2018-07-10 11:09:53
Local clock offset: -0.247 ms
Remote clock offset: 11.809 ms

Below is generated by plot.py at 2018-07-10 11:48:04
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 21489.739 ms
Loss rate: 53.28%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 21489.739 ms
Loss rate: 53.28%

Run 2: Report of FillP-Sheep — Data Link



Run 3: Statistics of FillP-Sheep

Start at: 2018-07-10 11:29:22

End at: 2018-07-10 11:29:52

Local clock offset: -0.257 ms

Remote clock offset: 6.877 ms

Below is generated by plot.py at 2018-07-10 11:48:04

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.23 Mbit/s

95th percentile per-packet one-way delay: 23799.780 ms

Loss rate: 58.79%

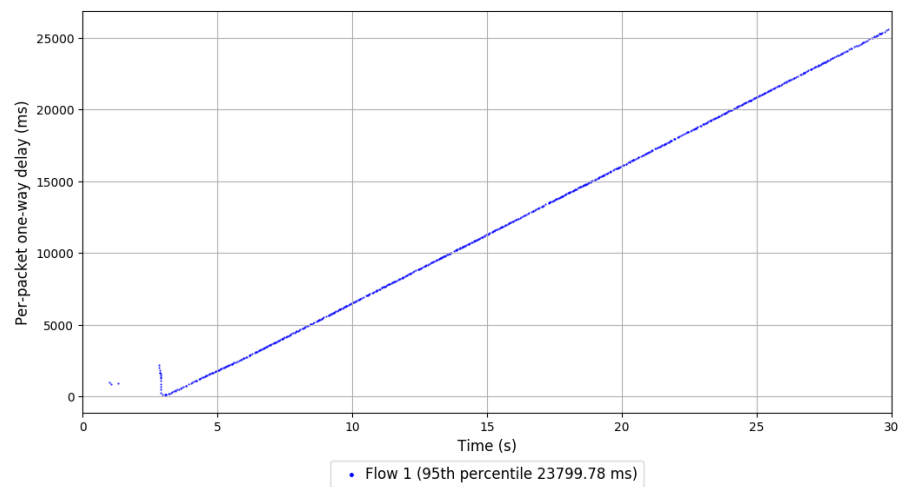
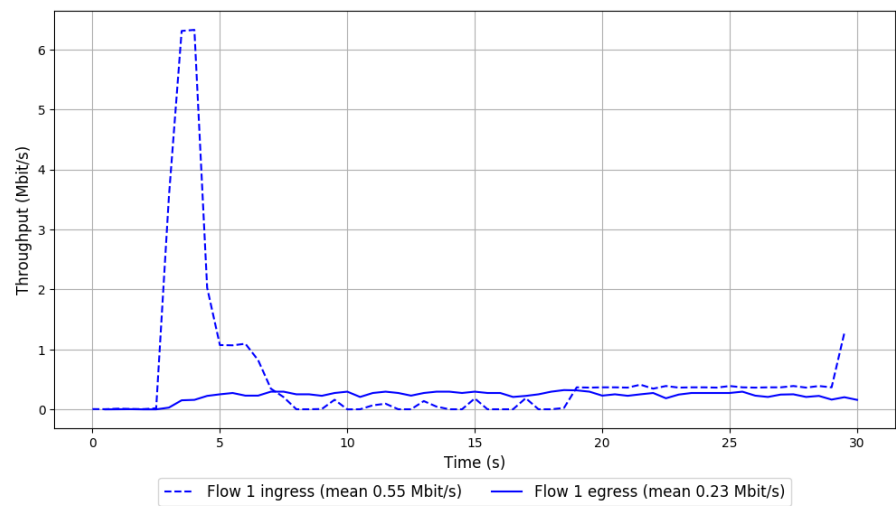
-- Flow 1:

Average throughput: 0.23 Mbit/s

95th percentile per-packet one-way delay: 23799.780 ms

Loss rate: 58.79%

Run 3: Report of FillP-Sheep — Data Link

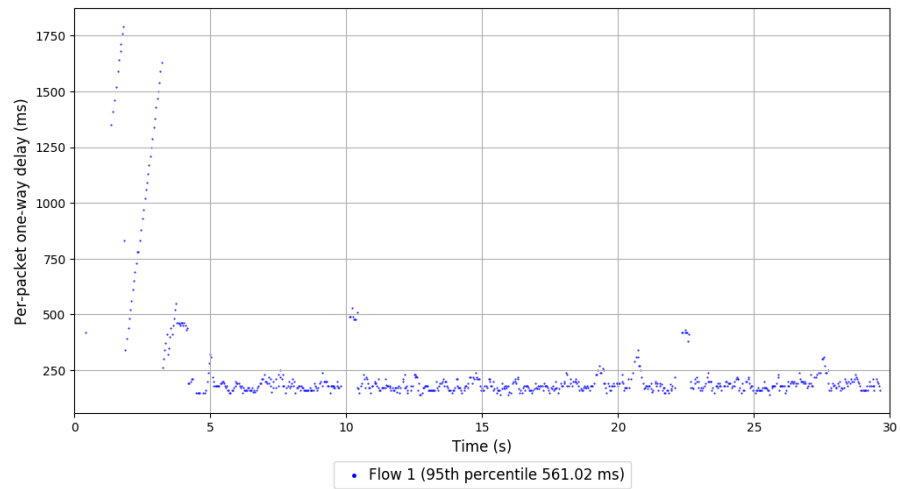
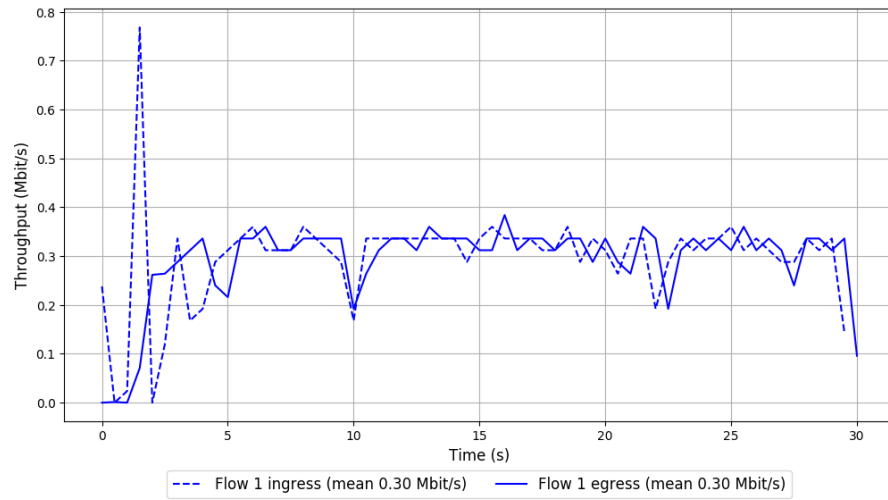


Run 1: Statistics of Indigo

Start at: 2018-07-10 11:01:51
End at: 2018-07-10 11:02:21
Local clock offset: -0.311 ms
Remote clock offset: 10.315 ms

Below is generated by plot.py at 2018-07-10 11:48:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 561.017 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 561.017 ms
Loss rate: 0.94%

Run 1: Report of Indigo — Data Link

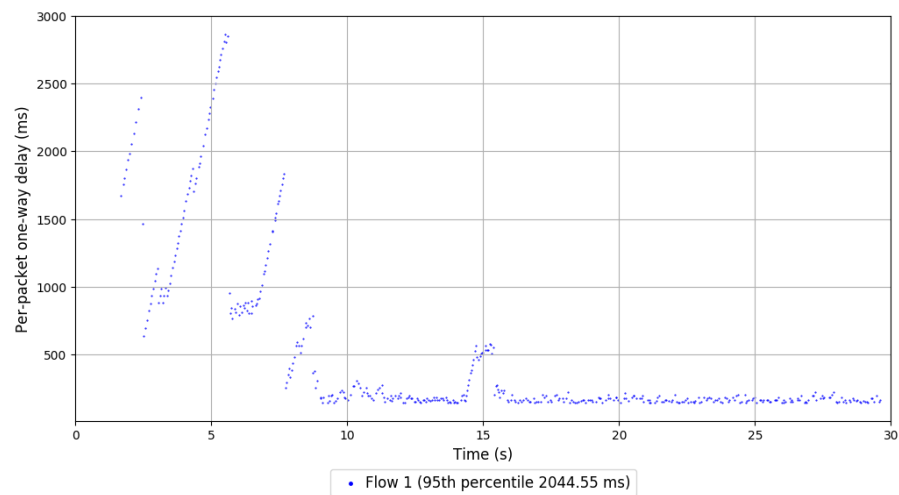
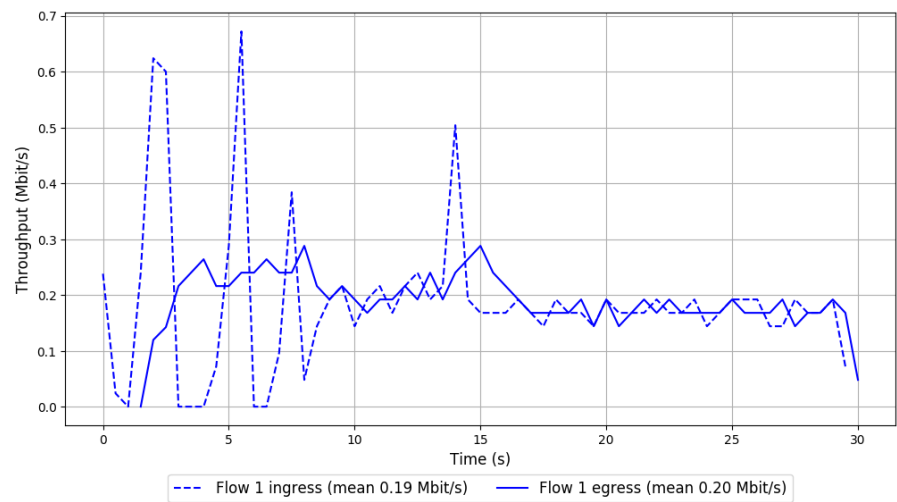


Run 2: Statistics of Indigo

Start at: 2018-07-10 11:21:45
End at: 2018-07-10 11:22:15
Local clock offset: -0.211 ms
Remote clock offset: 15.011 ms

Below is generated by plot.py at 2018-07-10 11:48:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 2044.548 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 2044.548 ms
Loss rate: 0.86%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-07-10 11:42:29

End at: 2018-07-10 11:42:59

Local clock offset: -0.246 ms

Remote clock offset: 7.324 ms

Below is generated by plot.py at 2018-07-10 11:48:05

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 3271.382 ms

Loss rate: 5.28%

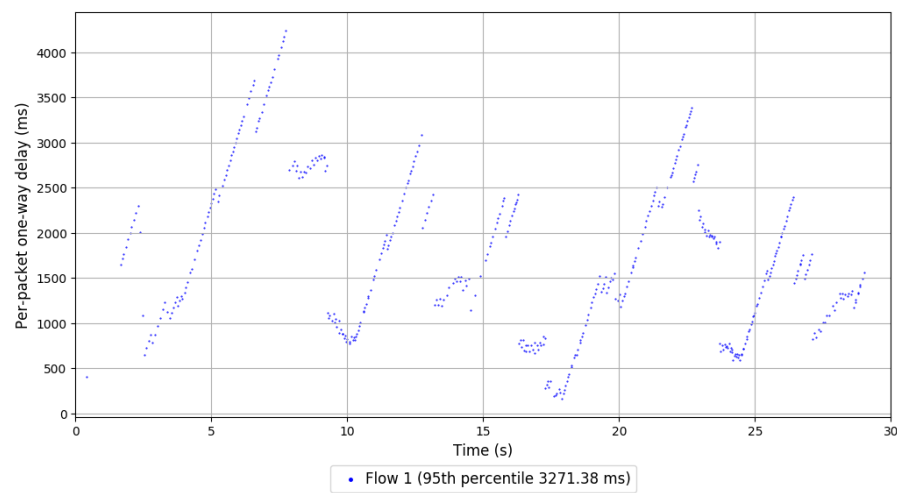
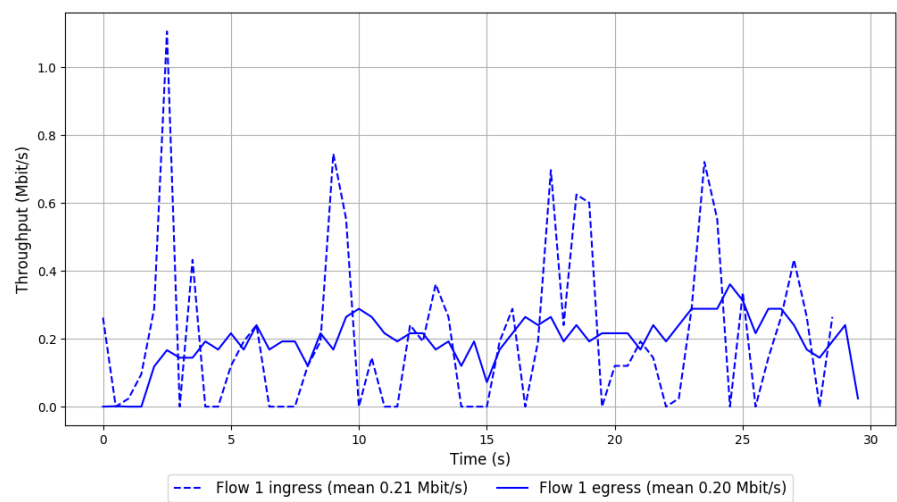
-- Flow 1:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 3271.382 ms

Loss rate: 5.28%

Run 3: Report of Indigo — Data Link



Run 1: Statistics of LEDBAT

/home/ubuntu/pantheon/data/2018-07-10T10-47-Colombia-ppp0-to-AWS-Brazil-2-3-runs/ledbat_stat

Run 1: Report of LEDBAT — Data Link

Figure is missing

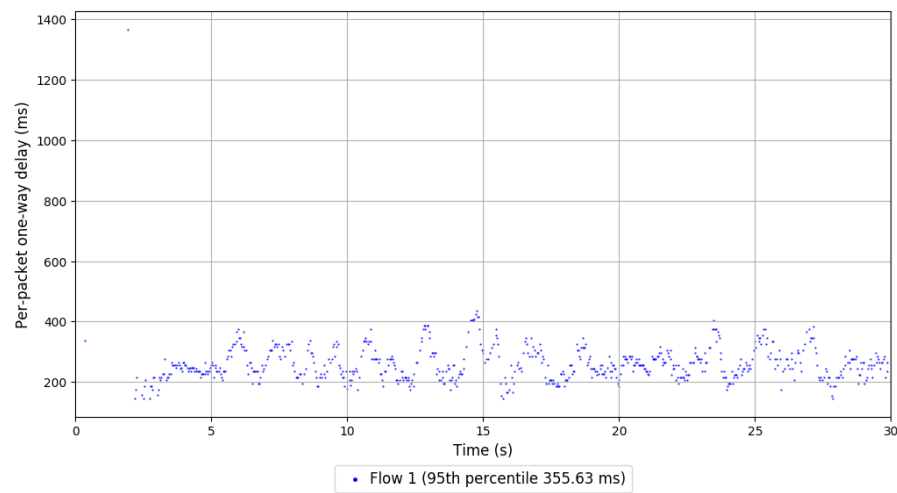
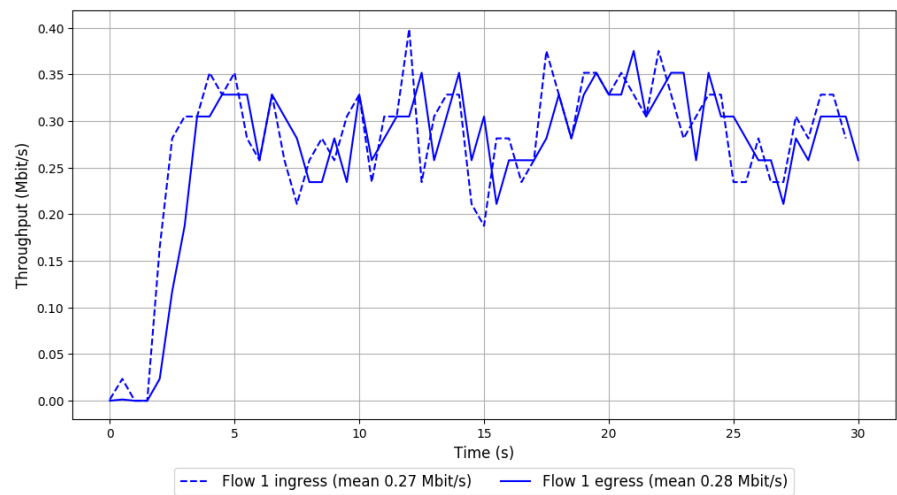
Figure is missing

Run 2: Statistics of LEDBAT

Start at: 2018-07-10 11:20:38
End at: 2018-07-10 11:21:08
Local clock offset: -0.216 ms
Remote clock offset: 18.503 ms

Below is generated by plot.py at 2018-07-10 11:48:05
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 355.632 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 0.28 Mbit/s
95th percentile per-packet one-way delay: 355.632 ms
Loss rate: 1.28%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

/home/ubuntu/pantheon/data/2018-07-10T10-47-Colombia-ppp0-to-AWS-Brazil-2-3-runs/ledbat_stat

Run 3: Report of LEDBAT — Data Link

Figure is missing

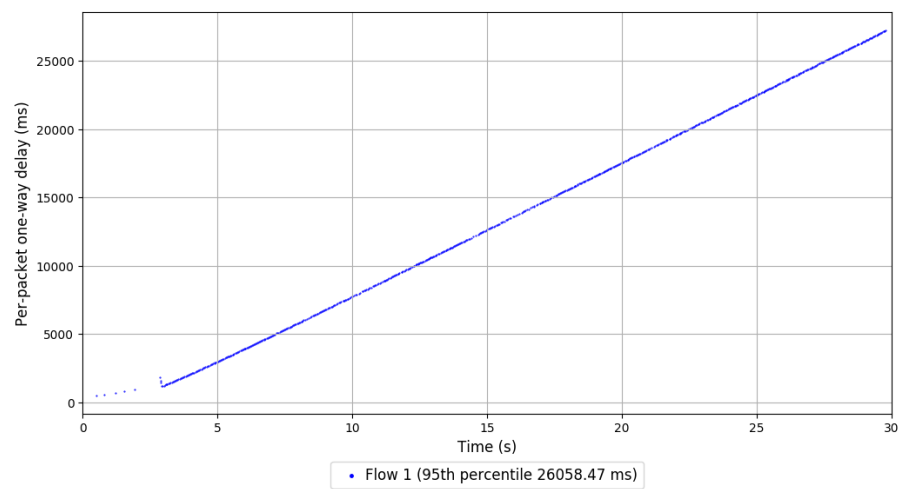
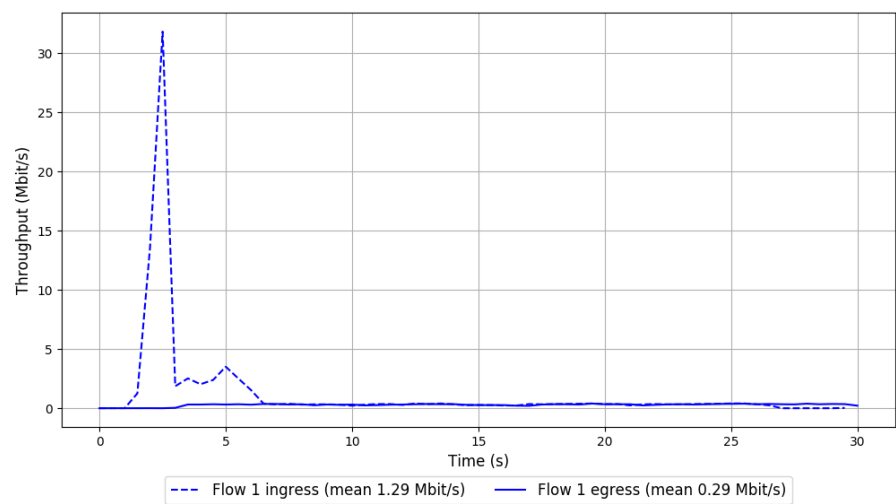
Figure is missing

```
Run 1: Statistics of PCC-Allegro

Start at: 2018-07-10 11:04:05
End at: 2018-07-10 11:04:35
Local clock offset: -0.355 ms
Remote clock offset: 16.926 ms

# Below is generated by plot.py at 2018-07-10 11:48:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 26058.465 ms
Loss rate: 77.61%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 26058.465 ms
Loss rate: 77.61%
```

Run 1: Report of PCC-Allegro — Data Link

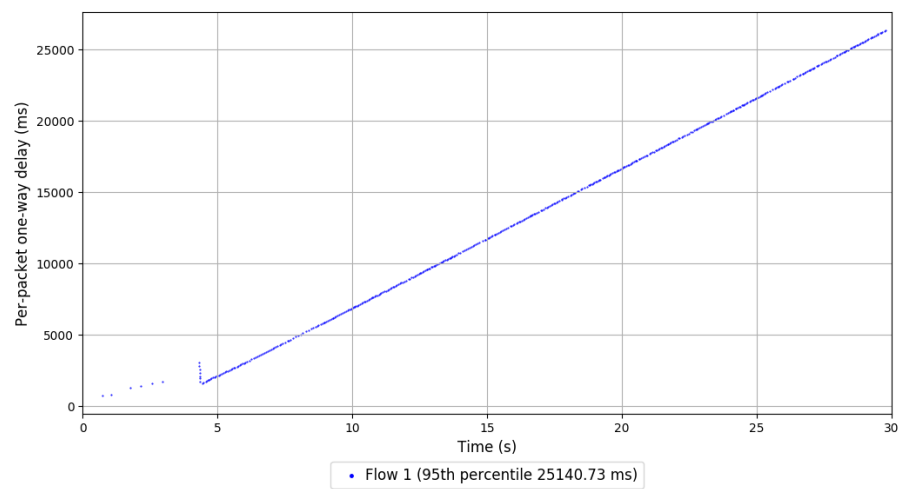
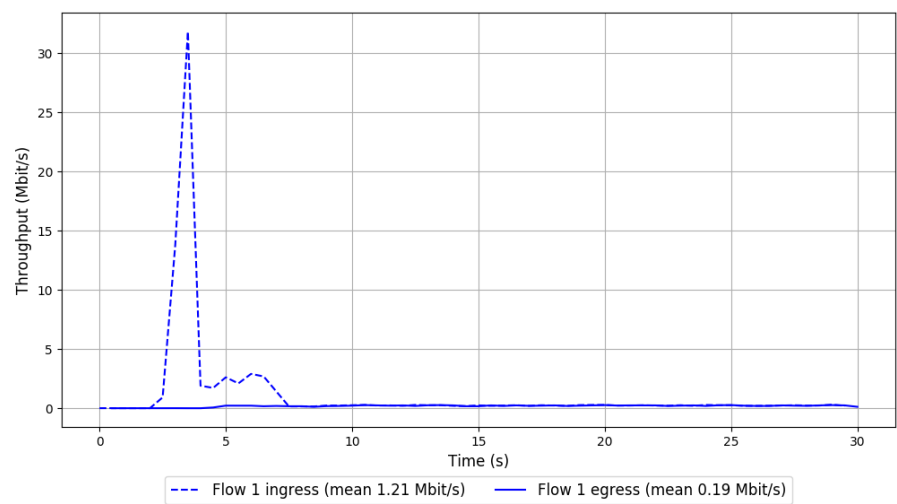


Run 2: Statistics of PCC-Allegro

Start at: 2018-07-10 11:24:01
End at: 2018-07-10 11:24:31
Local clock offset: -0.277 ms
Remote clock offset: 13.925 ms

Below is generated by plot.py at 2018-07-10 11:48:08
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 25140.728 ms
Loss rate: 84.73%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 25140.728 ms
Loss rate: 84.73%

Run 2: Report of PCC-Allegro — Data Link



Run 3: Statistics of PCC-Allegro

Start at: 2018-07-10 11:44:43

End at: 2018-07-10 11:45:13

Local clock offset: -0.187 ms

Remote clock offset: 3.16 ms

Below is generated by plot.py at 2018-07-10 11:48:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2120.228 ms

Loss rate: 0.00%

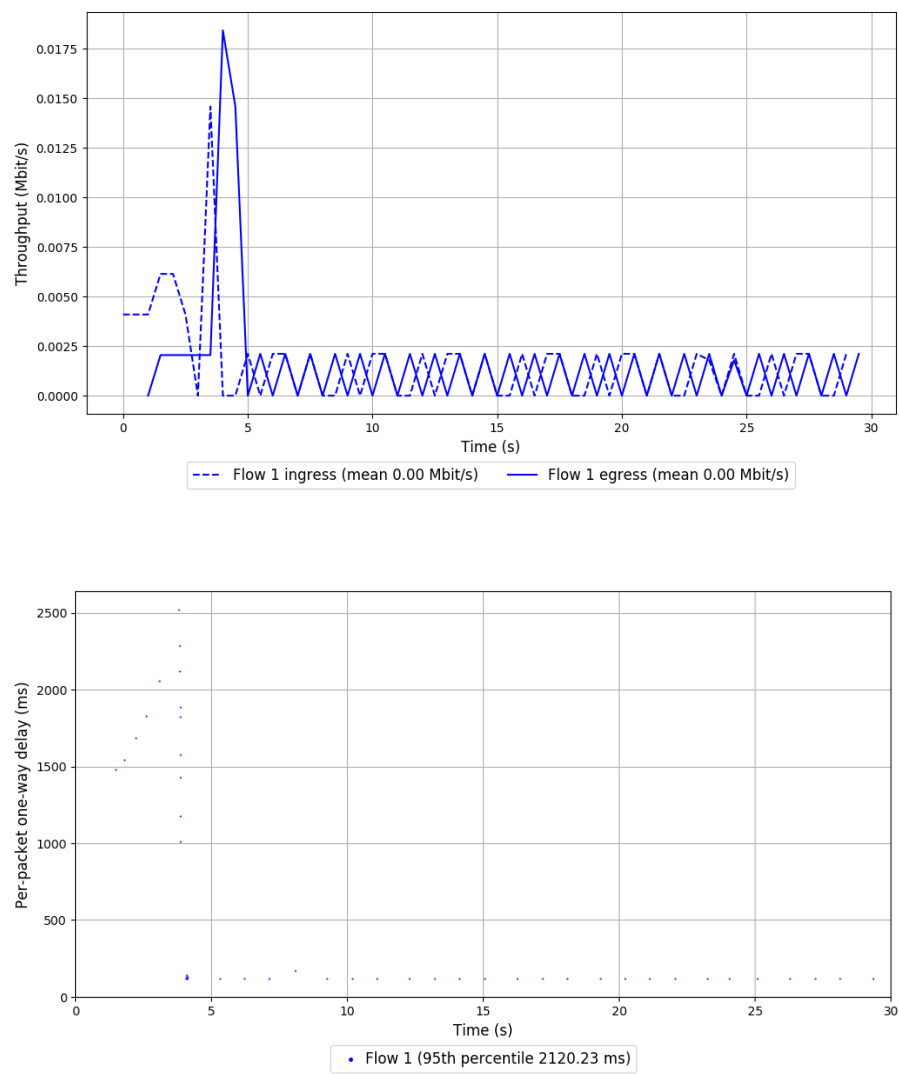
-- Flow 1:

Average throughput: 0.00 Mbit/s

95th percentile per-packet one-way delay: 2120.228 ms

Loss rate: 0.00%

Run 3: Report of PCC-Allegro — Data Link

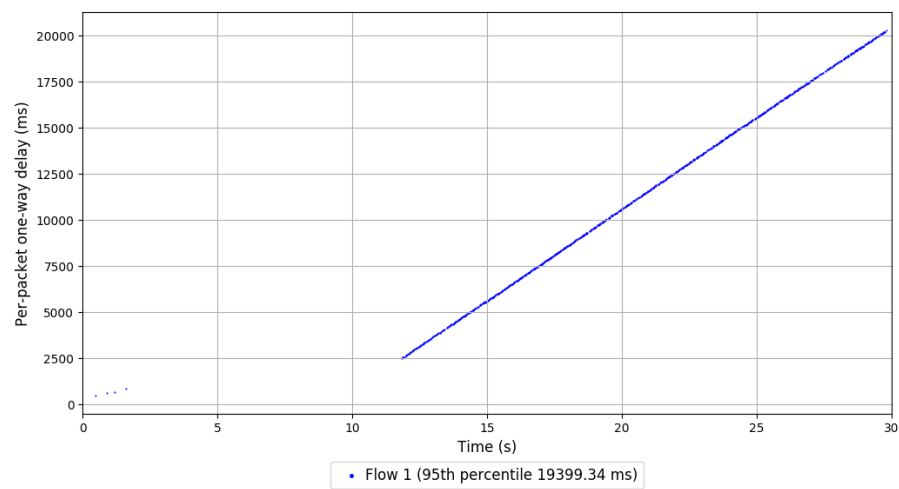
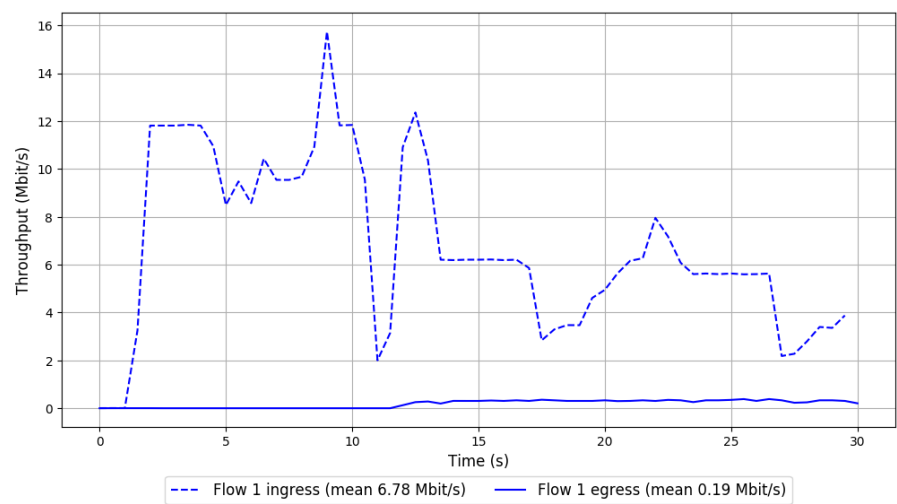


Run 1: Statistics of PCC-Expr

Start at: 2018-07-10 10:59:11
End at: 2018-07-10 10:59:41
Local clock offset: -0.3 ms
Remote clock offset: 14.644 ms

Below is generated by plot.py at 2018-07-10 11:48:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 19399.336 ms
Loss rate: 97.24%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 19399.336 ms
Loss rate: 97.24%

Run 1: Report of PCC-Expr — Data Link



Run 2: Statistics of PCC-Expr

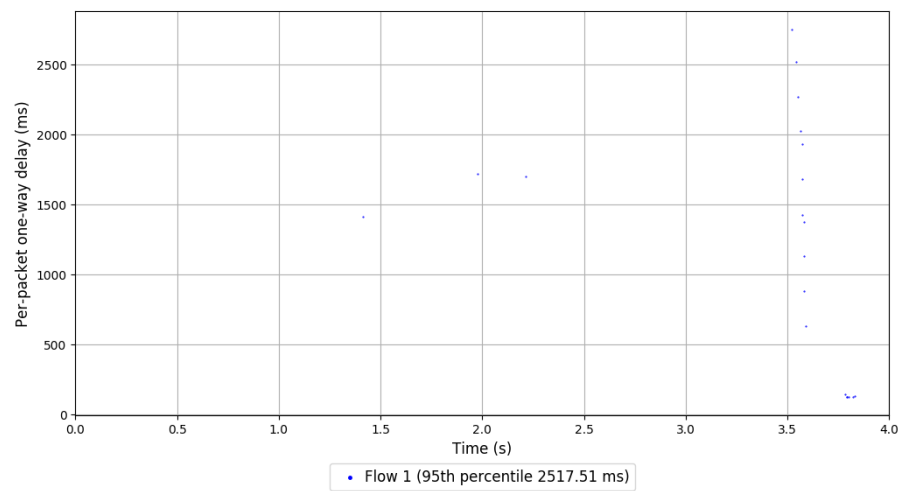
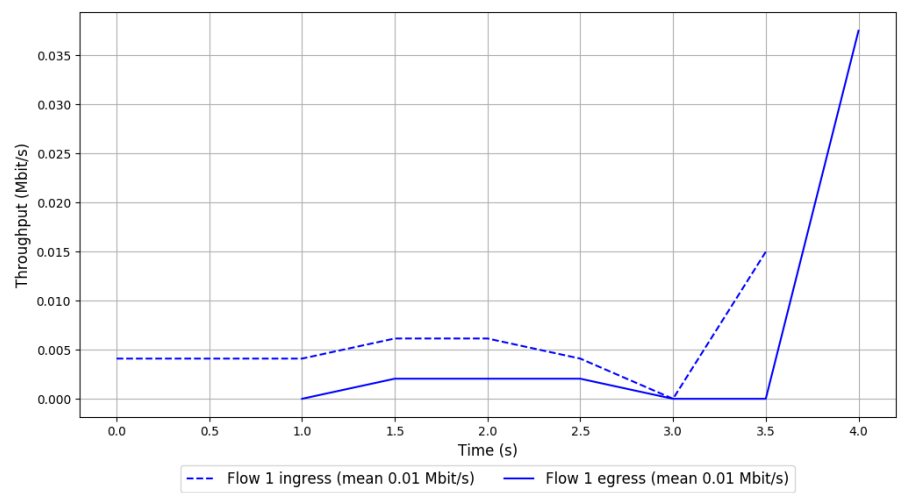
Start at: 2018-07-10 11:19:31

End at: 2018-07-10 11:20:01

Local clock offset: -0.209 ms

Remote clock offset: 14.145 ms

Run 2: Report of PCC-Expr — Data Link



Run 3: Statistics of PCC-Expr

Start at: 2018-07-10 11:39:50

End at: 2018-07-10 11:40:20

Local clock offset: -0.195 ms

Remote clock offset: 3.907 ms

Below is generated by plot.py at 2018-07-10 11:48:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 25184.617 ms

Loss rate: 96.62%

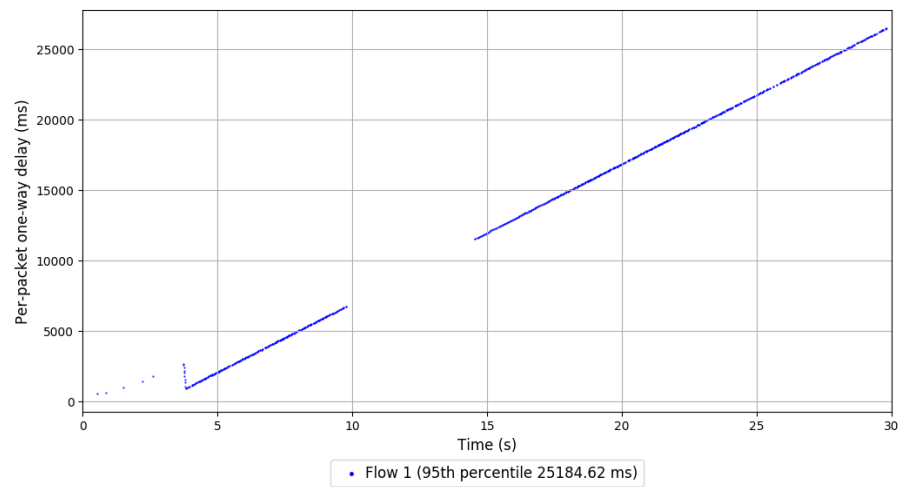
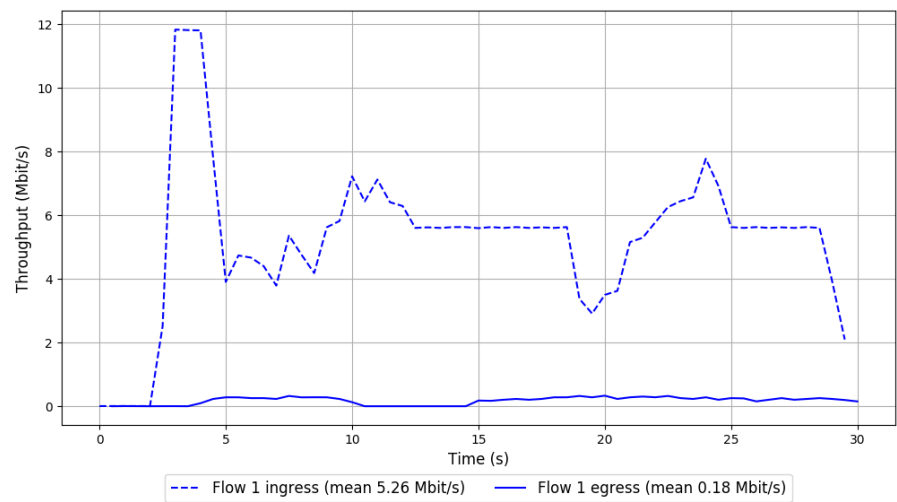
-- Flow 1:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 25184.617 ms

Loss rate: 96.62%

Run 3: Report of PCC-Expr — Data Link



Run 1: Statistics of QUIC Cubic

Start at: 2018-07-10 10:55:48

End at: 2018-07-10 10:56:18

Local clock offset: -0.329 ms

Remote clock offset: 13.642 ms

Below is generated by plot.py at 2018-07-10 11:48:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 9537.250 ms

Loss rate: 34.72%

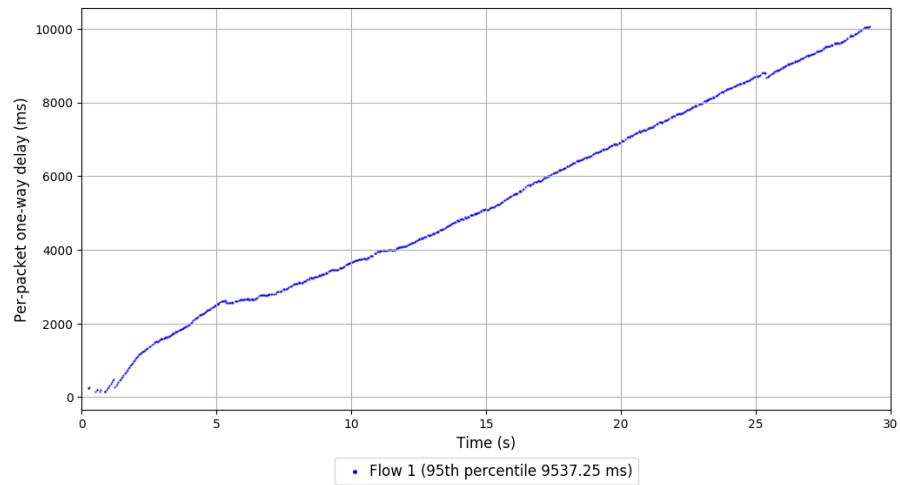
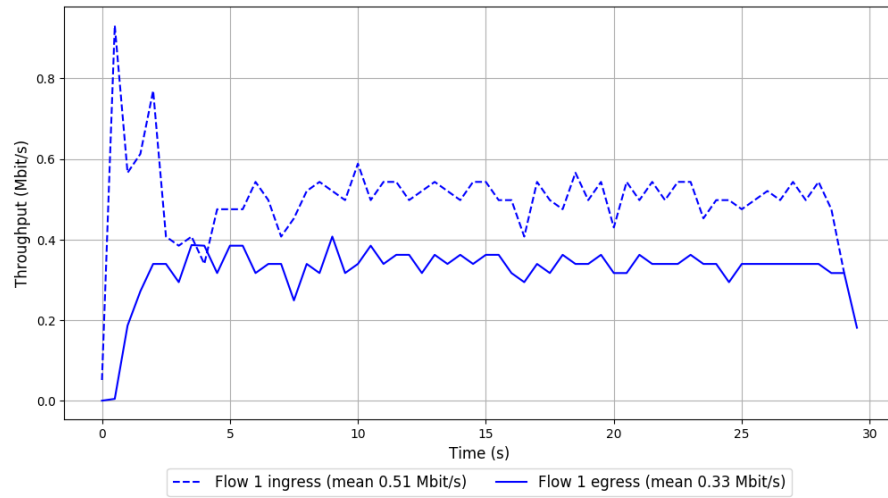
-- Flow 1:

Average throughput: 0.33 Mbit/s

95th percentile per-packet one-way delay: 9537.250 ms

Loss rate: 34.72%

Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: 2018-07-10 11:16:06

End at: 2018-07-10 11:16:36

Local clock offset: -0.24 ms

Remote clock offset: 13.694 ms

Below is generated by plot.py at 2018-07-10 11:48:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 9360.754 ms

Loss rate: 35.57%

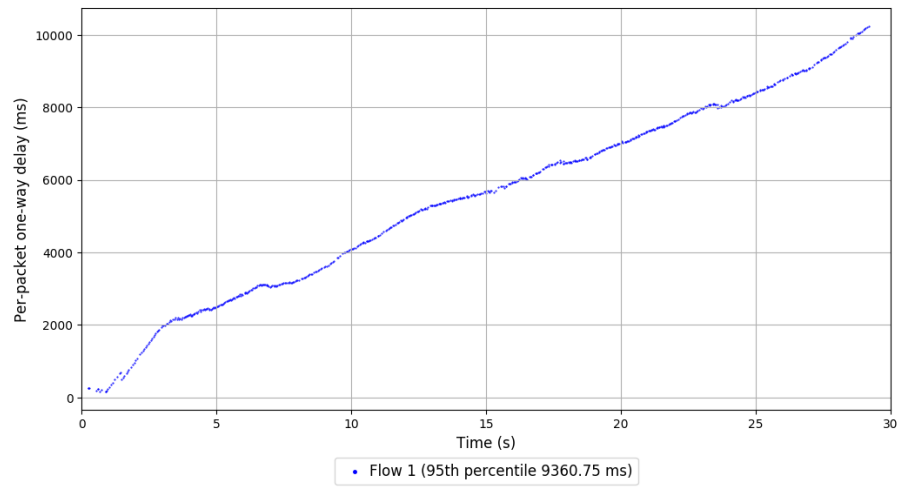
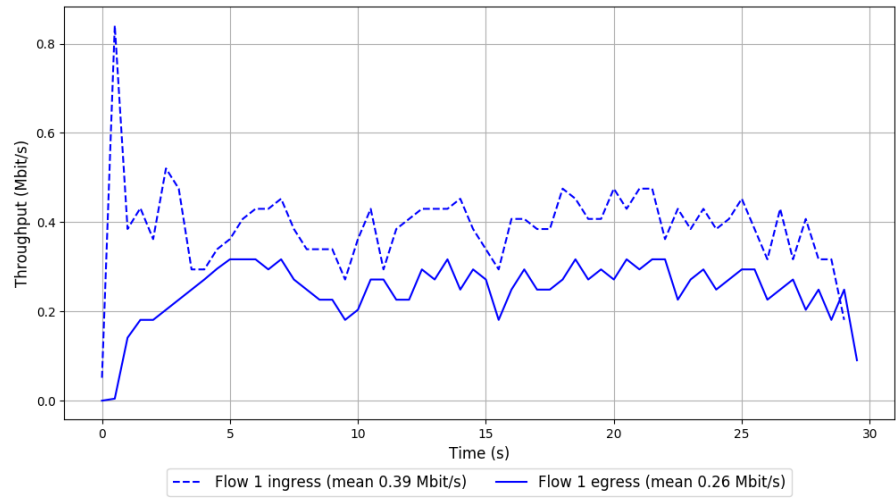
-- Flow 1:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 9360.754 ms

Loss rate: 35.57%

Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2018-07-10 11:36:28

End at: 2018-07-10 11:36:58

Local clock offset: -0.243 ms

Remote clock offset: 4.544 ms

Below is generated by plot.py at 2018-07-10 11:48:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.27 Mbit/s

95th percentile per-packet one-way delay: 10463.922 ms

Loss rate: 35.67%

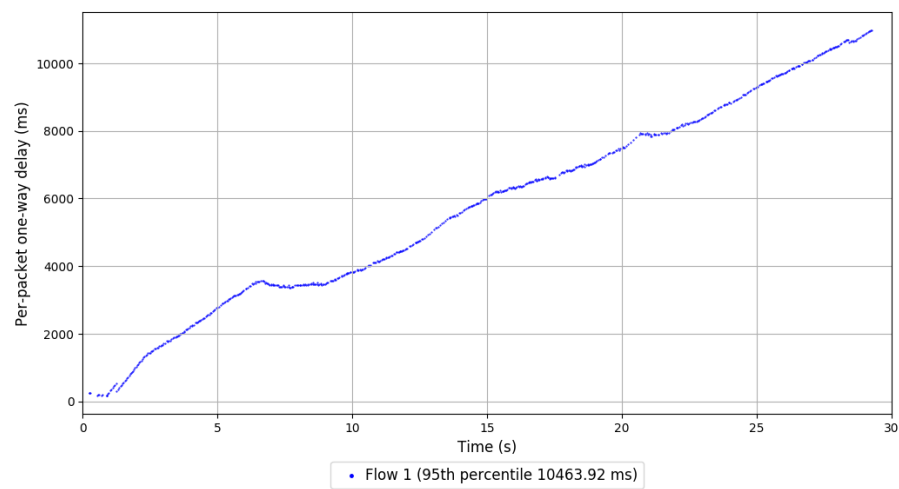
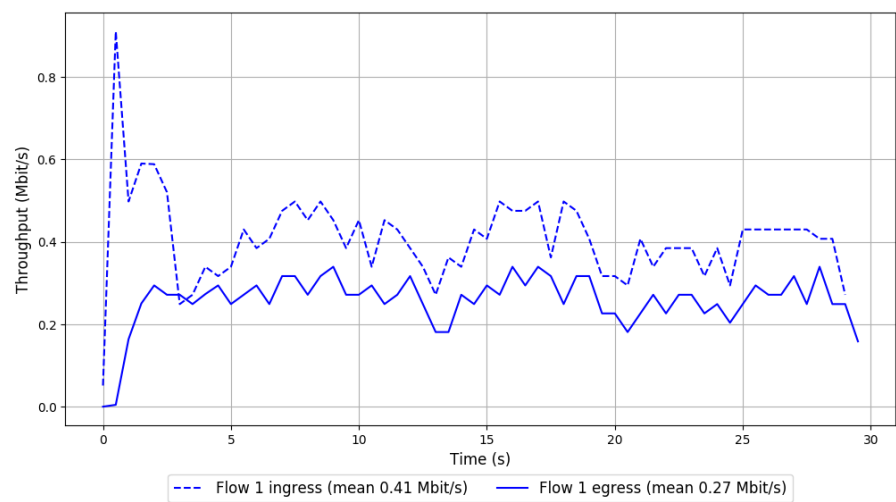
-- Flow 1:

Average throughput: 0.27 Mbit/s

95th percentile per-packet one-way delay: 10463.922 ms

Loss rate: 35.67%

Run 3: Report of QUIC Cubic — Data Link

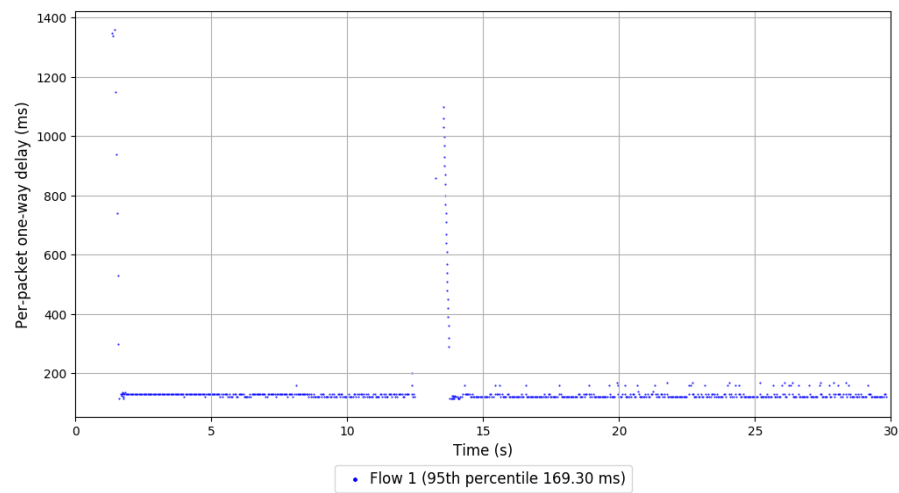
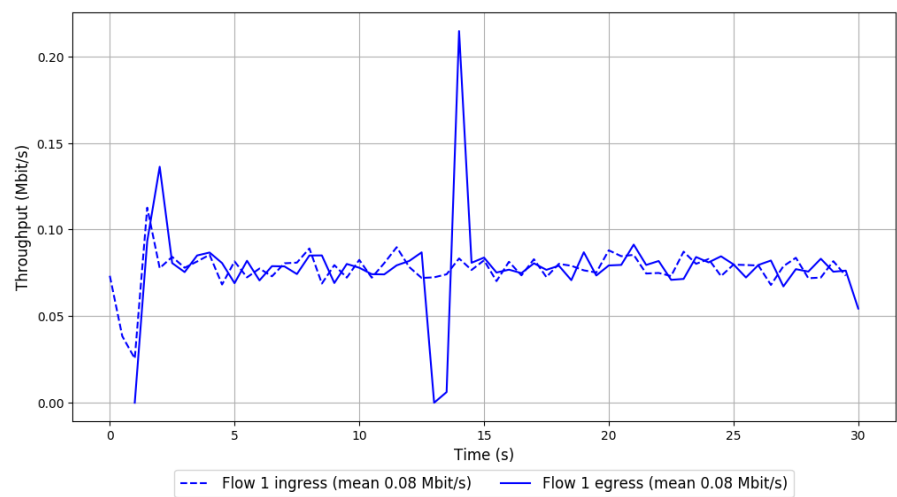


```
Run 1: Statistics of SCReAM

Start at: 2018-07-10 10:53:33
End at: 2018-07-10 10:54:03
Local clock offset: -0.327 ms
Remote clock offset: 12.83 ms

# Below is generated by plot.py at 2018-07-10 11:48:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 169.296 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 169.296 ms
Loss rate: 0.80%
```

Run 1: Report of SReAM — Data Link

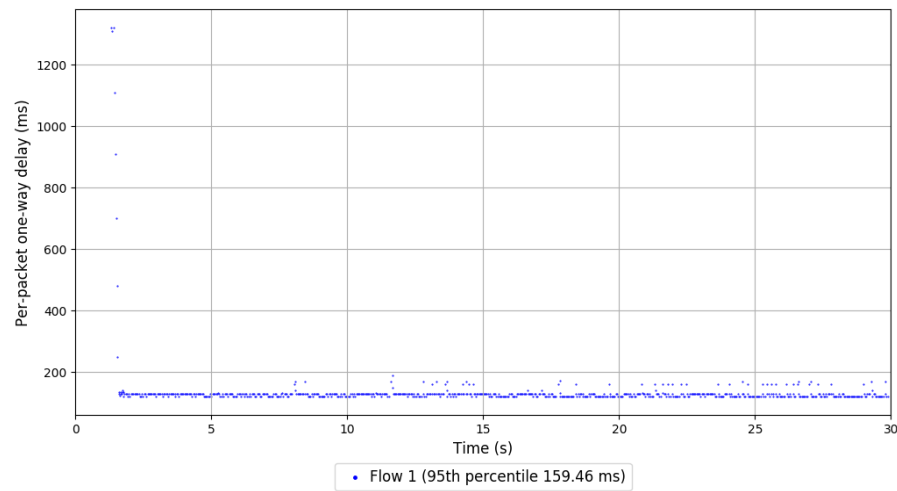
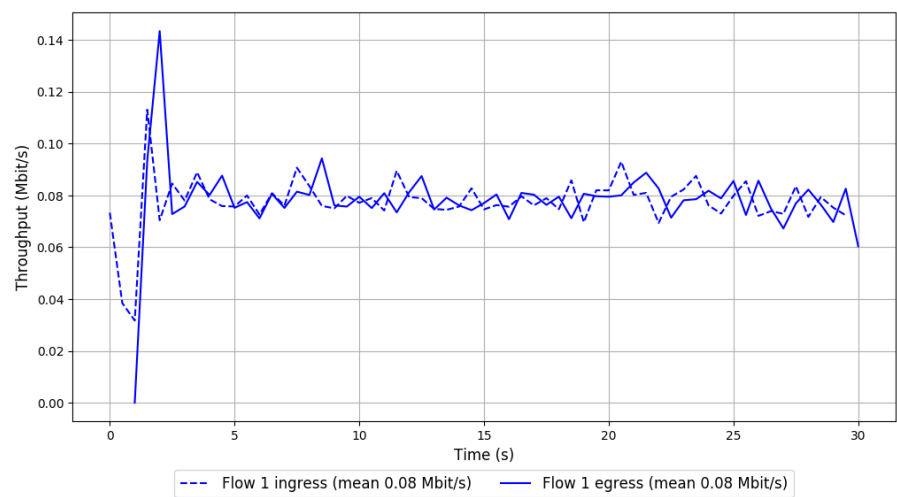


Run 2: Statistics of SCReAM

Start at: 2018-07-10 11:13:50
End at: 2018-07-10 11:14:20
Local clock offset: -0.246 ms
Remote clock offset: 13.402 ms

Below is generated by plot.py at 2018-07-10 11:48:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 159.455 ms
Loss rate: 0.64%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 159.455 ms
Loss rate: 0.64%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2018-07-10 11:34:08

End at: 2018-07-10 11:34:38

Local clock offset: -0.272 ms

Remote clock offset: 7.967 ms

Below is generated by plot.py at 2018-07-10 11:48:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 395.505 ms

Loss rate: 0.65%

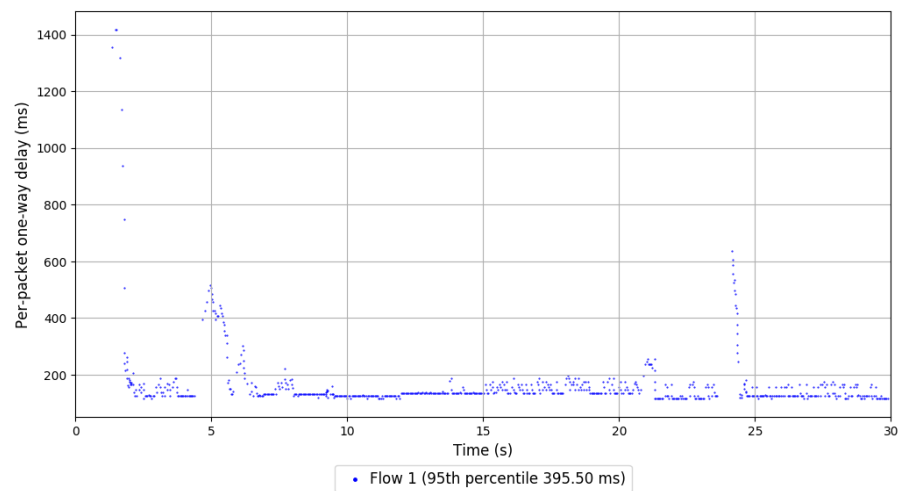
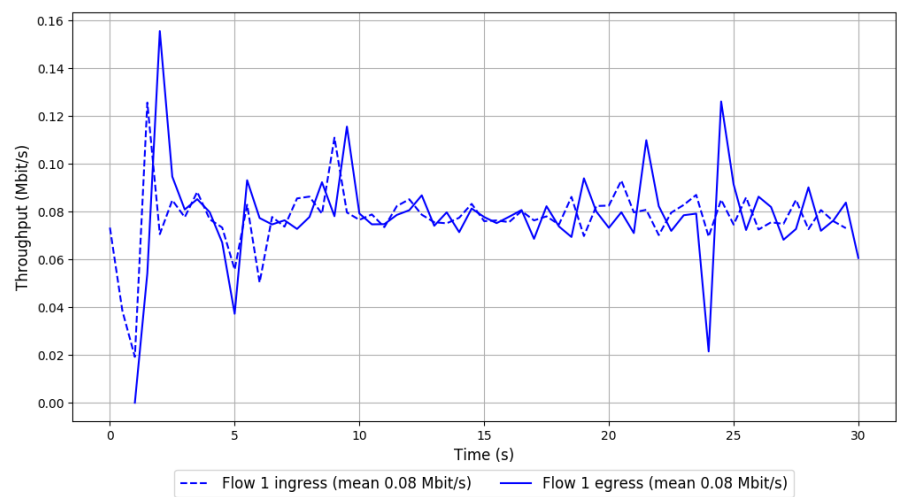
-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 395.505 ms

Loss rate: 0.65%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2018-07-10 10:50:11

End at: 2018-07-10 10:50:41

Local clock offset: -0.329 ms

Remote clock offset: 6.152 ms

Below is generated by plot.py at 2018-07-10 11:48:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 1352.008 ms

Loss rate: 1.01%

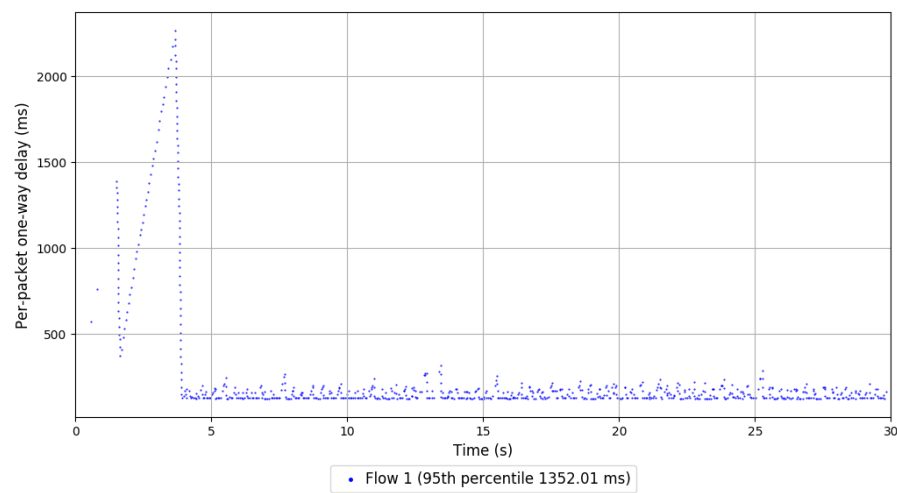
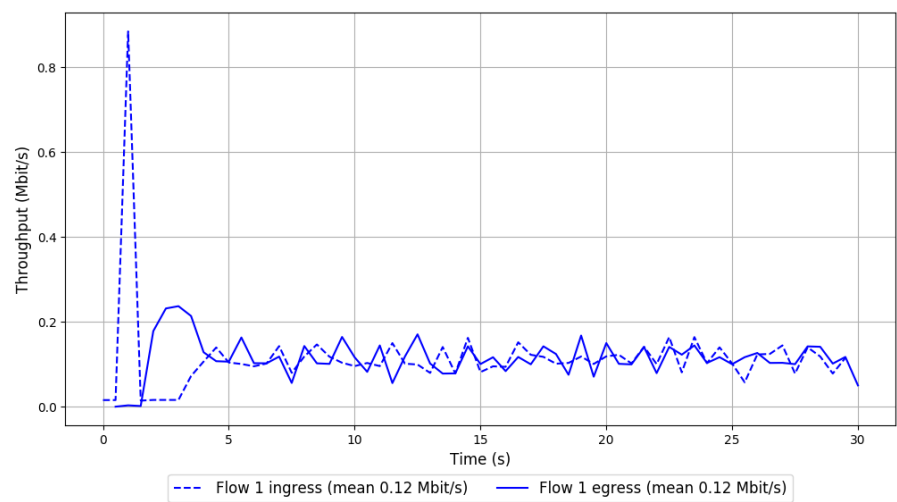
-- Flow 1:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 1352.008 ms

Loss rate: 1.01%

Run 1: Report of Sprout — Data Link

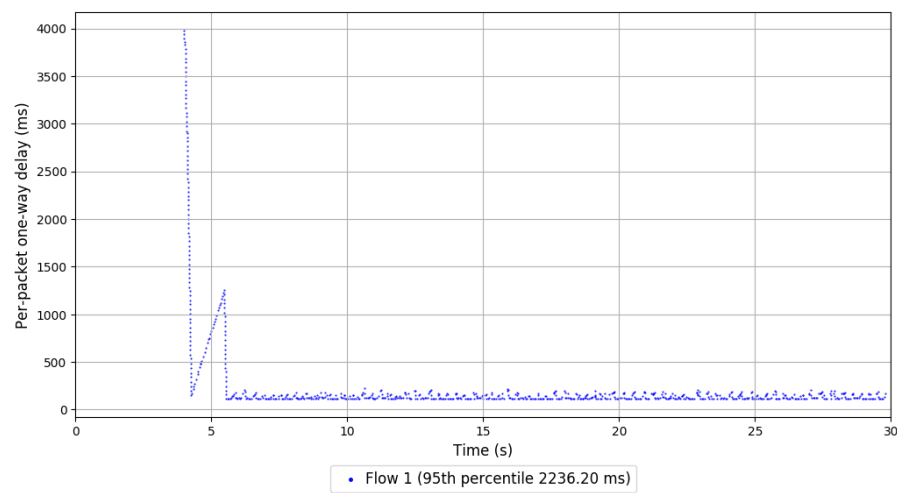
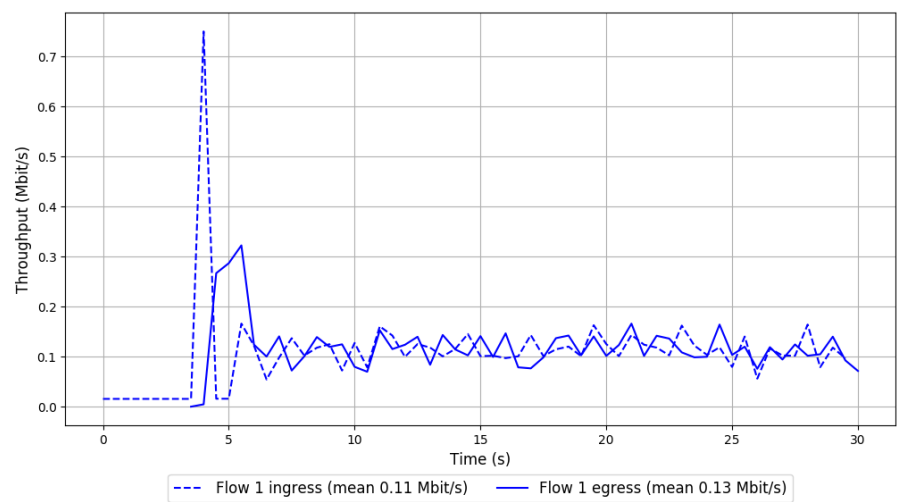


Run 2: Statistics of Sprout

Start at: 2018-07-10 11:10:29
End at: 2018-07-10 11:10:59
Local clock offset: -0.244 ms
Remote clock offset: 17.011 ms

Below is generated by plot.py at 2018-07-10 11:48:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 2236.200 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 2236.200 ms
Loss rate: 0.83%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: 2018-07-10 11:30:40

End at: 2018-07-10 11:31:10

Local clock offset: -0.208 ms

Remote clock offset: 9.322 ms

Below is generated by plot.py at 2018-07-10 11:48:14

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 350.168 ms

Loss rate: 0.93%

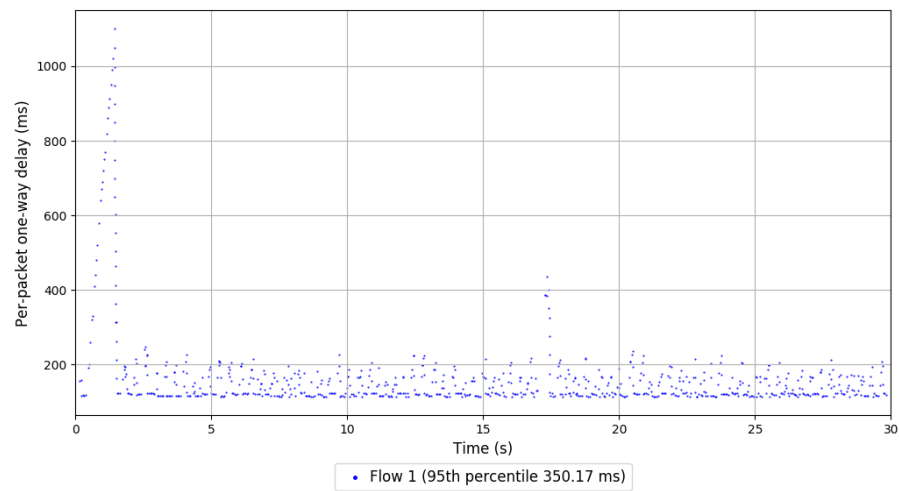
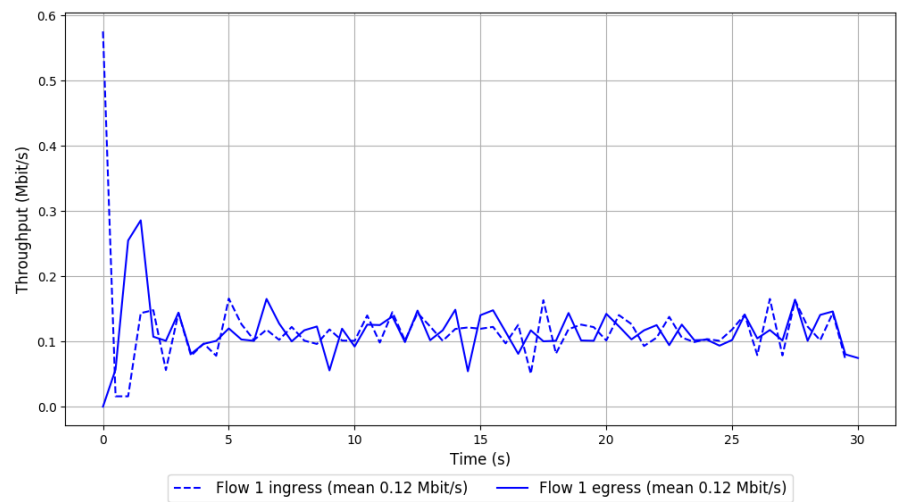
-- Flow 1:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 350.168 ms

Loss rate: 0.93%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2018-07-10 10:51:18

End at: 2018-07-10 10:51:48

Local clock offset: -0.337 ms

Remote clock offset: 7.773 ms

Below is generated by plot.py at 2018-07-10 11:48:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 7011.396 ms

Loss rate: 5.74%

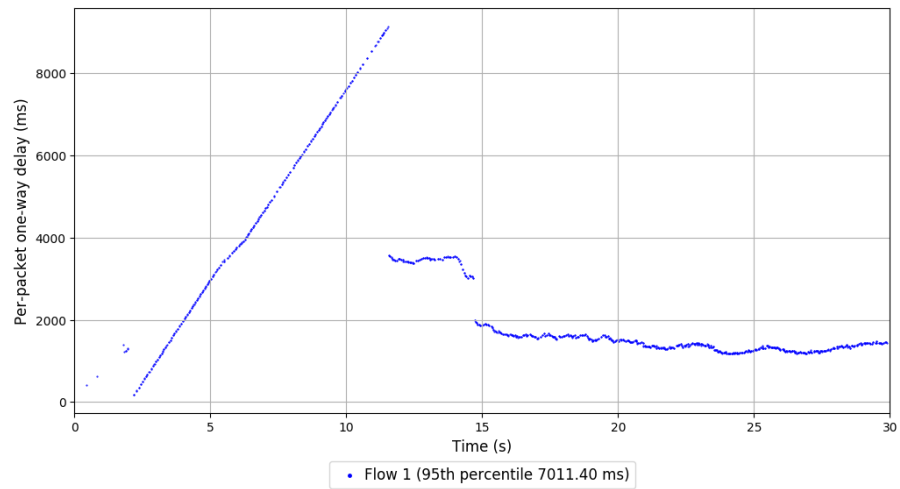
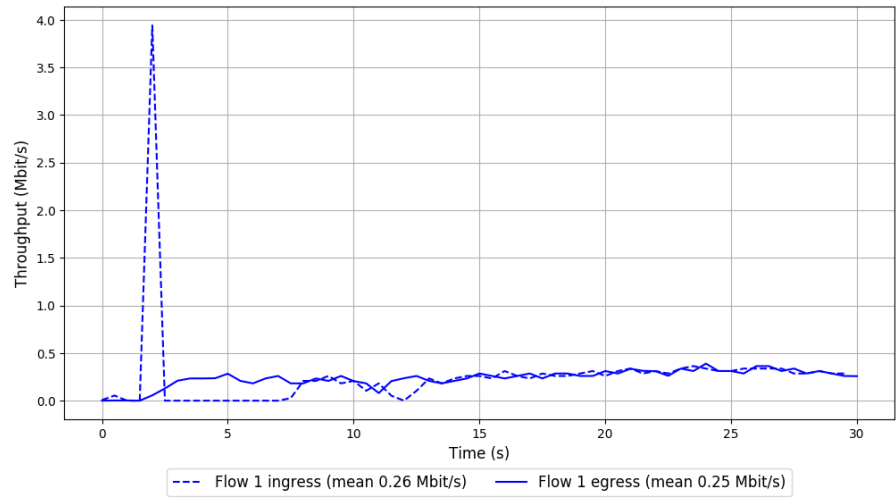
-- Flow 1:

Average throughput: 0.25 Mbit/s

95th percentile per-packet one-way delay: 7011.396 ms

Loss rate: 5.74%

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



Run 2: Statistics of TaoVA-100x

Start at: 2018-07-10 11:11:36

End at: 2018-07-10 11:12:06

Local clock offset: -0.25 ms

Remote clock offset: 13.348 ms

Below is generated by plot.py at 2018-07-10 11:48:16

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 13476.849 ms

Loss rate: 7.99%

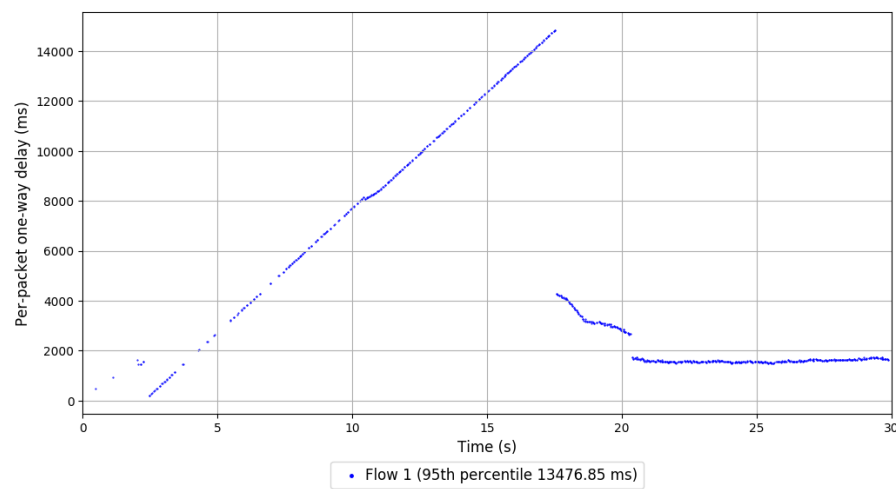
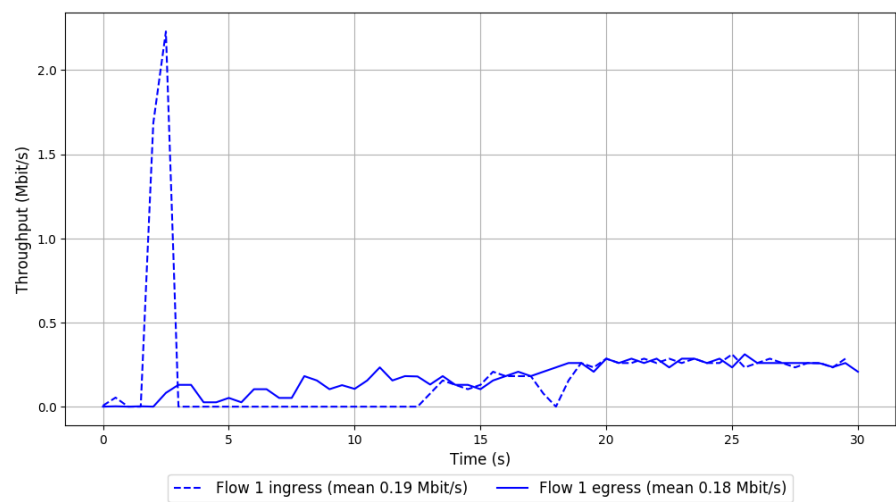
-- Flow 1:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 13476.849 ms

Loss rate: 7.99%

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



Run 3: Statistics of TaoVA-100x

Start at: 2018-07-10 11:31:50

End at: 2018-07-10 11:32:20

Local clock offset: -0.203 ms

Remote clock offset: 9.745 ms

Below is generated by plot.py at 2018-07-10 11:48:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 7948.770 ms

Loss rate: 7.89%

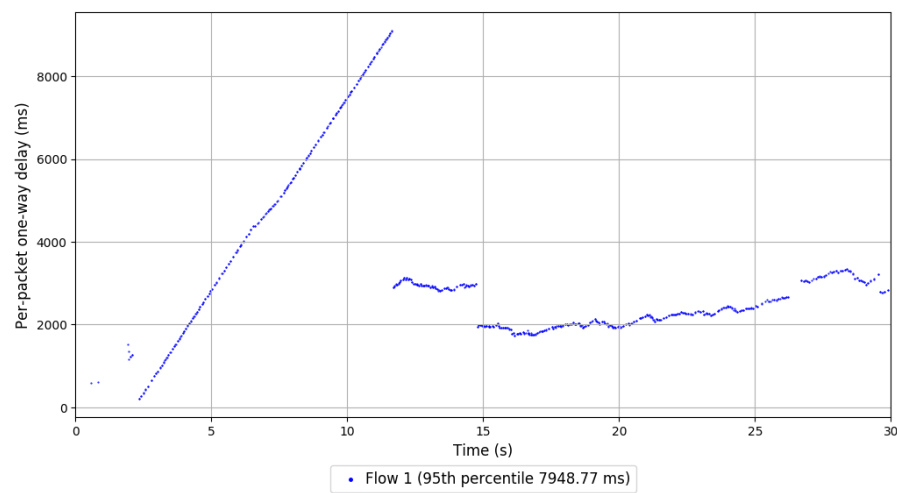
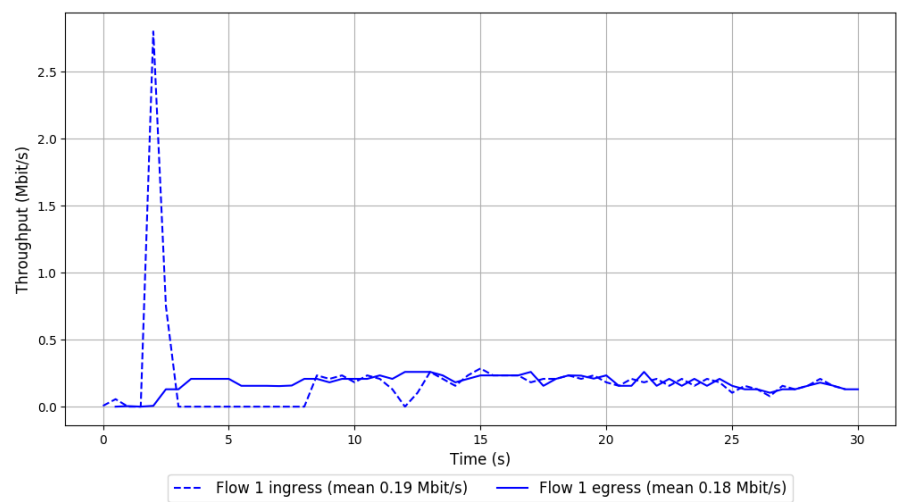
-- Flow 1:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 7948.770 ms

Loss rate: 7.89%

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



Run 1: Statistics of TCP Vegas

Start at: 2018-07-10 10:52:26

End at: 2018-07-10 10:52:56

Local clock offset: -0.309 ms

Remote clock offset: 7.377 ms

Below is generated by plot.py at 2018-07-10 11:48:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.31 Mbit/s

95th percentile per-packet one-way delay: 2399.649 ms

Loss rate: 2.44%

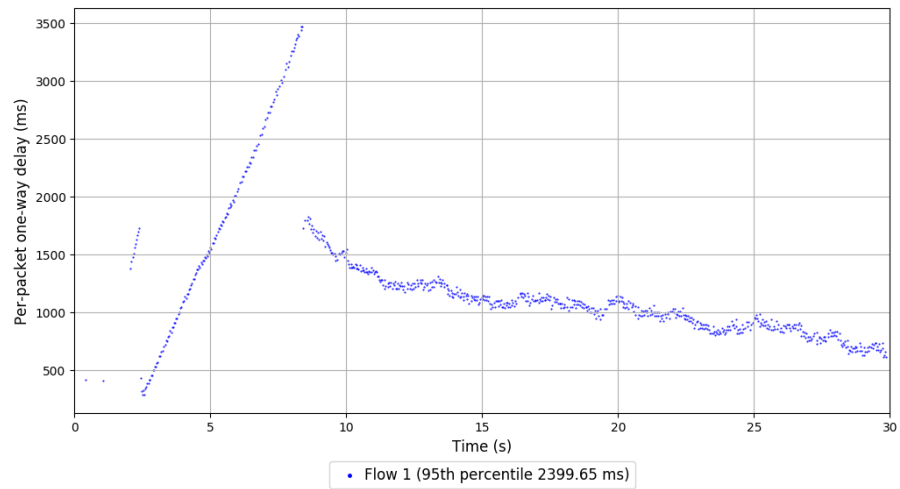
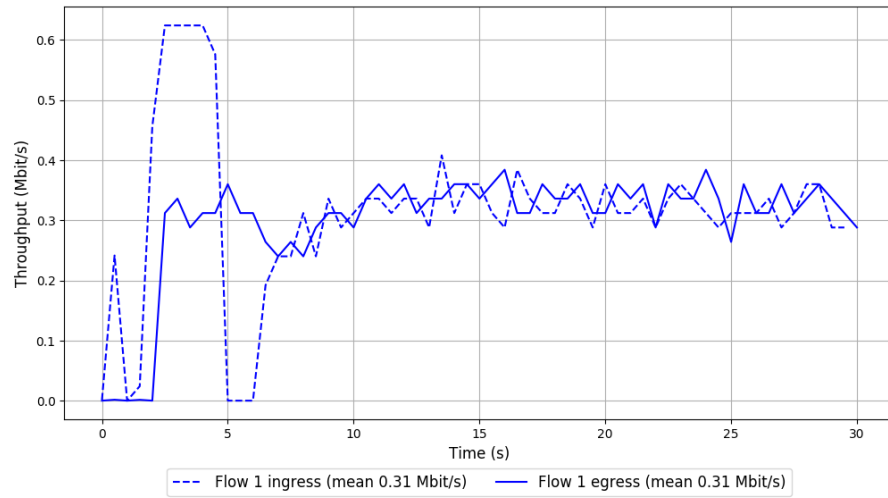
-- Flow 1:

Average throughput: 0.31 Mbit/s

95th percentile per-packet one-way delay: 2399.649 ms

Loss rate: 2.44%

Run 1: Report of TCP Vegas — Data Link



Run 2: Statistics of TCP Vegas

Start at: 2018-07-10 11:12:43

End at: 2018-07-10 11:13:13

Local clock offset: -0.243 ms

Remote clock offset: 13.39 ms

Below is generated by plot.py at 2018-07-10 11:48:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 4068.936 ms

Loss rate: 5.34%

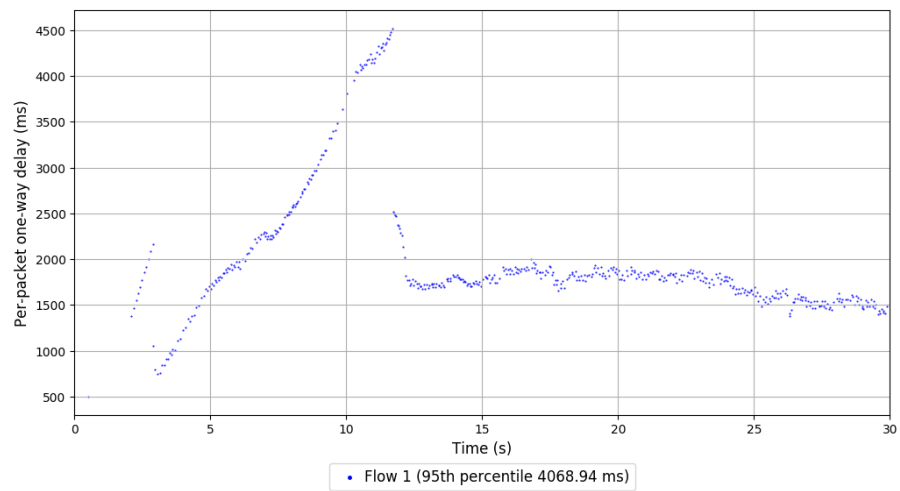
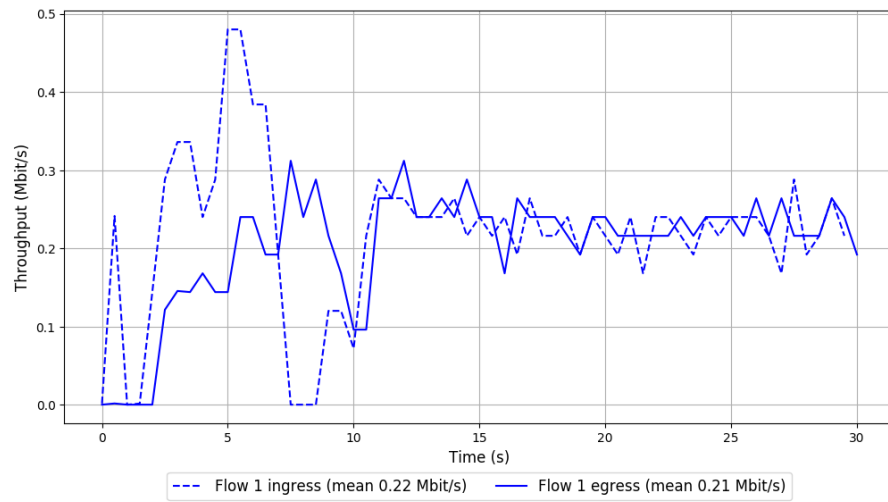
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 4068.936 ms

Loss rate: 5.34%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: 2018-07-10 11:32:59

End at: 2018-07-10 11:33:29

Local clock offset: -0.26 ms

Remote clock offset: 4.352 ms

Below is generated by plot.py at 2018-07-10 11:48:17

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 1981.268 ms

Loss rate: 4.36%

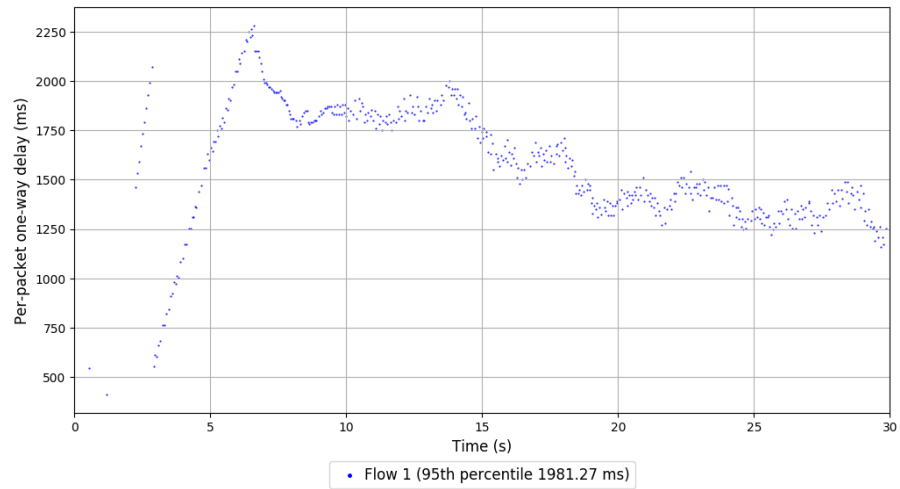
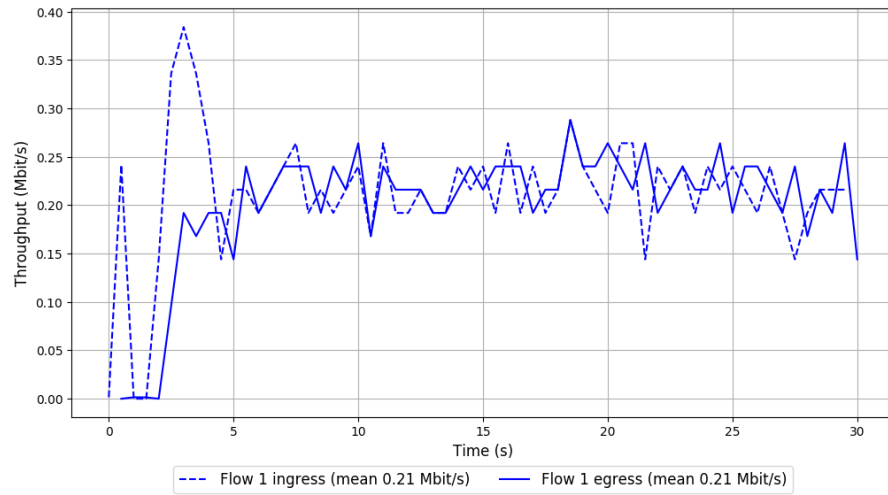
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 1981.268 ms

Loss rate: 4.36%

Run 3: Report of TCP Vegas — Data Link

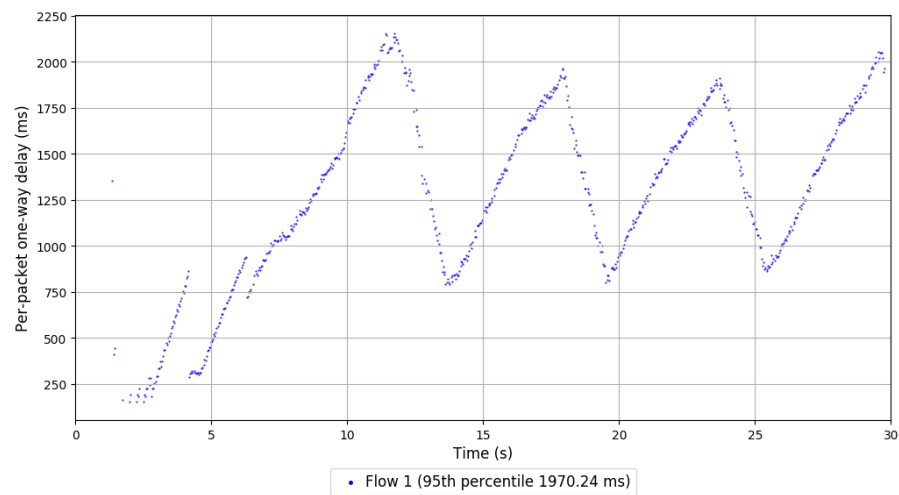
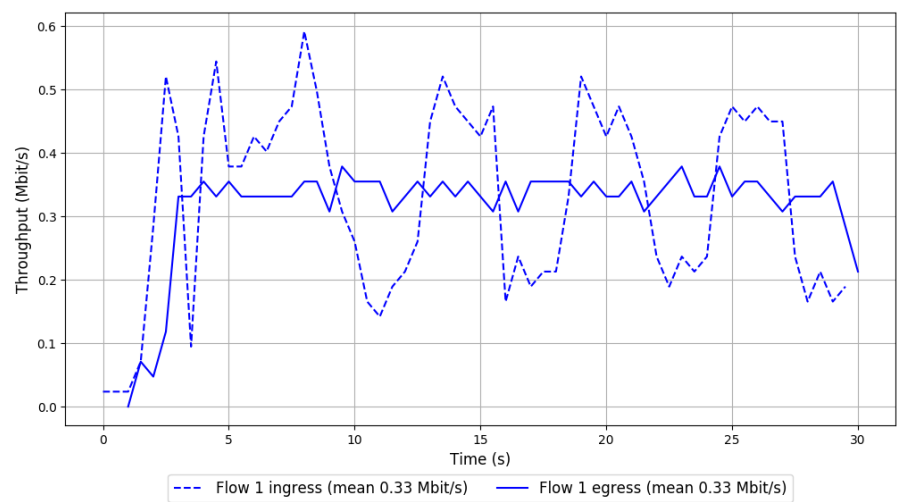


Run 1: Statistics of Verus

Start at: 2018-07-10 10:56:55
End at: 2018-07-10 10:57:25
Local clock offset: -0.321 ms
Remote clock offset: 10.069 ms

Below is generated by plot.py at 2018-07-10 11:48:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 1970.238 ms
Loss rate: 3.99%
-- Flow 1:
Average throughput: 0.33 Mbit/s
95th percentile per-packet one-way delay: 1970.238 ms
Loss rate: 3.99%

Run 1: Report of Verus — Data Link

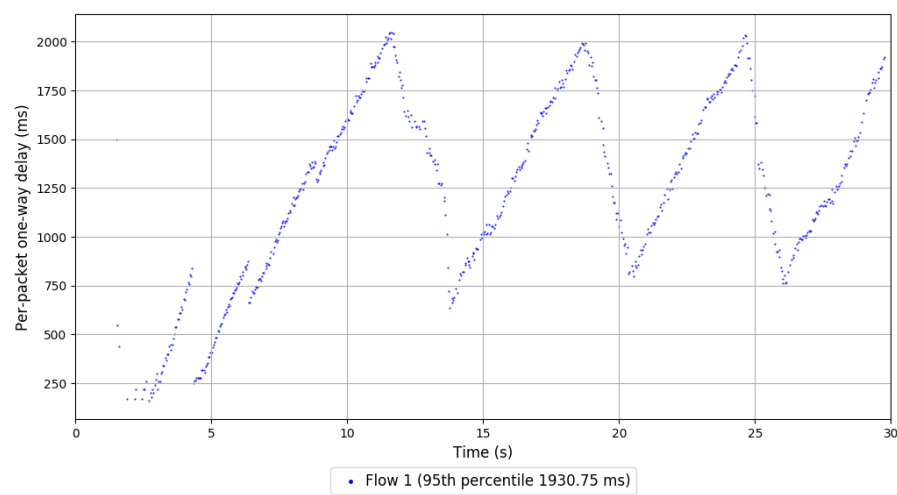
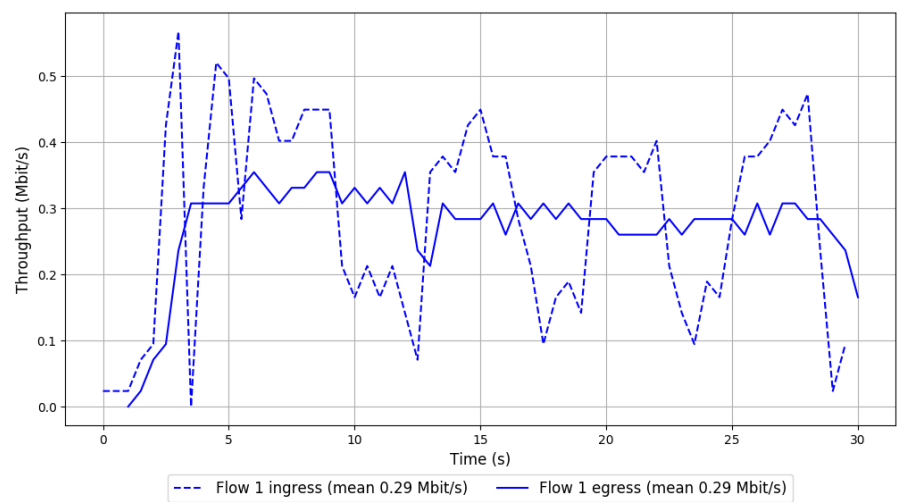


Run 2: Statistics of Verus

Start at: 2018-07-10 11:17:13
End at: 2018-07-10 11:17:43
Local clock offset: -0.248 ms
Remote clock offset: 12.828 ms

Below is generated by plot.py at 2018-07-10 11:48:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 1930.752 ms
Loss rate: 5.65%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 1930.752 ms
Loss rate: 5.65%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: 2018-07-10 11:37:36

End at: 2018-07-10 11:38:06

Local clock offset: -0.197 ms

Remote clock offset: 7.106 ms

Below is generated by plot.py at 2018-07-10 11:48:19

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 2141.411 ms

Loss rate: 6.07%

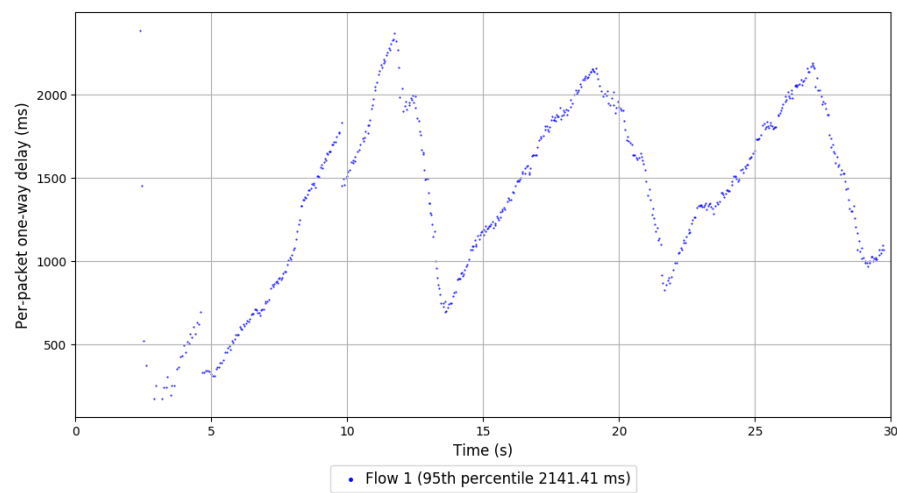
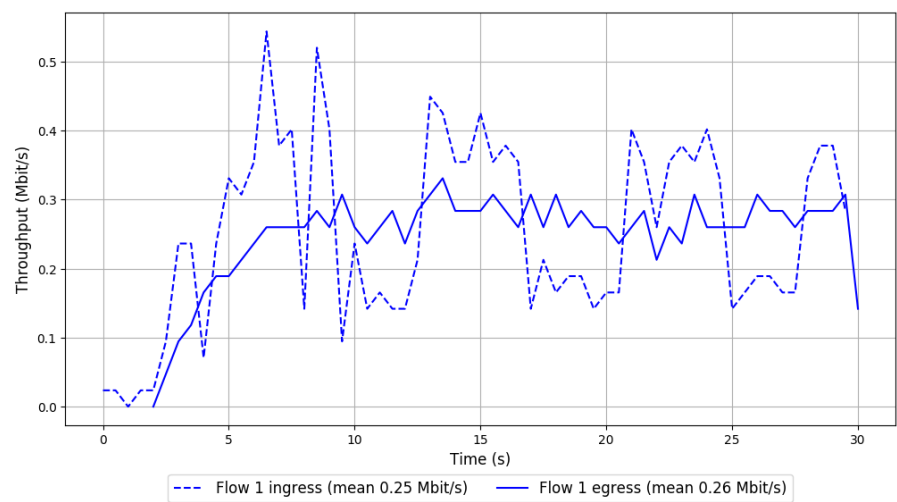
-- Flow 1:

Average throughput: 0.26 Mbit/s

95th percentile per-packet one-way delay: 2141.411 ms

Loss rate: 6.07%

Run 3: Report of Verus — Data Link

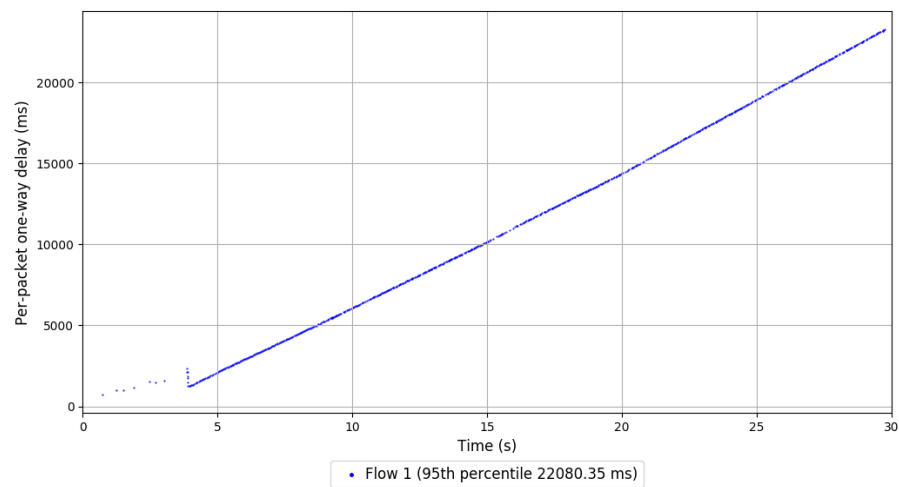
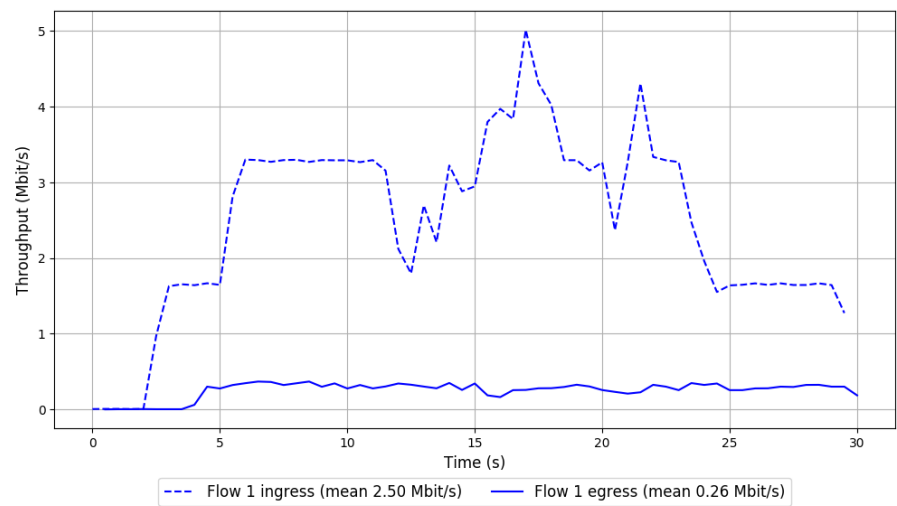


Run 1: Statistics of PCC-Vivace

Start at: 2018-07-10 11:06:44
End at: 2018-07-10 11:07:14
Local clock offset: -0.333 ms
Remote clock offset: 15.296 ms

Below is generated by plot.py at 2018-07-10 11:48:20
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 22080.353 ms
Loss rate: 89.71%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 22080.353 ms
Loss rate: 89.71%

Run 1: Report of PCC-Vivace — Data Link



Run 2: Statistics of PCC-Vivace

Start at: 2018-07-10 11:26:40

End at: 2018-07-10 11:27:10

Local clock offset: -0.196 ms

Remote clock offset: 7.176 ms

Below is generated by plot.py at 2018-07-10 11:48:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 23628.571 ms

Loss rate: 93.30%

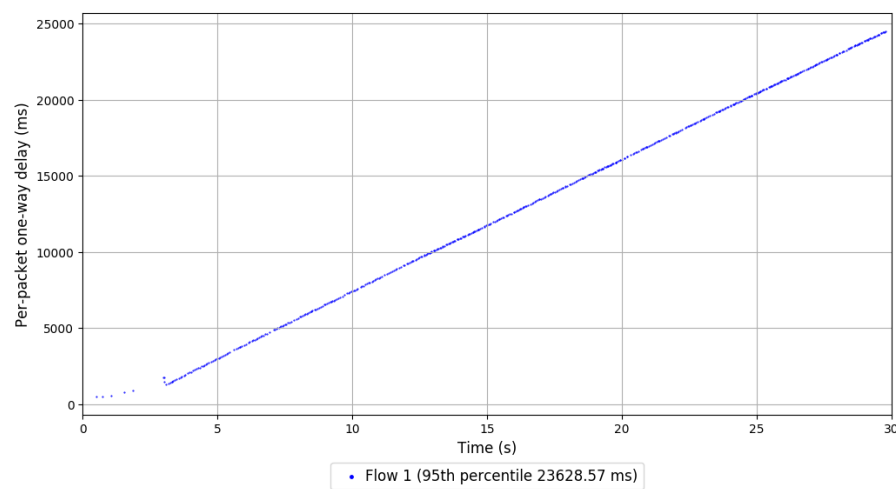
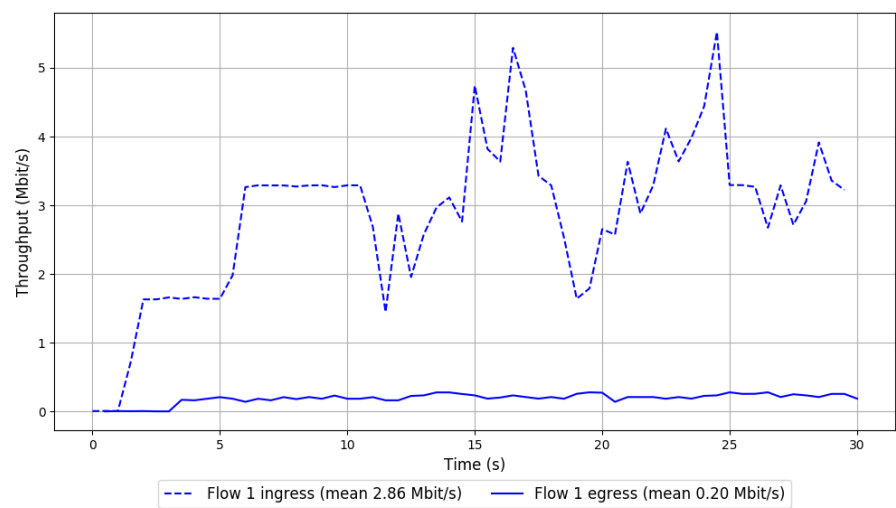
-- Flow 1:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 23628.571 ms

Loss rate: 93.30%

Run 2: Report of PCC-Vivace — Data Link



Run 3: Statistics of PCC-Vivace

/home/ubuntu/pantheon/data/2018-07-10T10-47-Colombia-ppp0-to-AWS-Brazil-2-3-runs/vivace_stat

Run 3: Report of PCC-Vivace — Data Link

Figure is missing

Figure is missing

Run 1: Statistics of WebRTC media

Start at: 2018-07-10 10:54:40

End at: 2018-07-10 10:55:10

Local clock offset: -0.323 ms

Remote clock offset: 9.441 ms

Below is generated by plot.py at 2018-07-10 11:48:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 875.254 ms

Loss rate: 0.21%

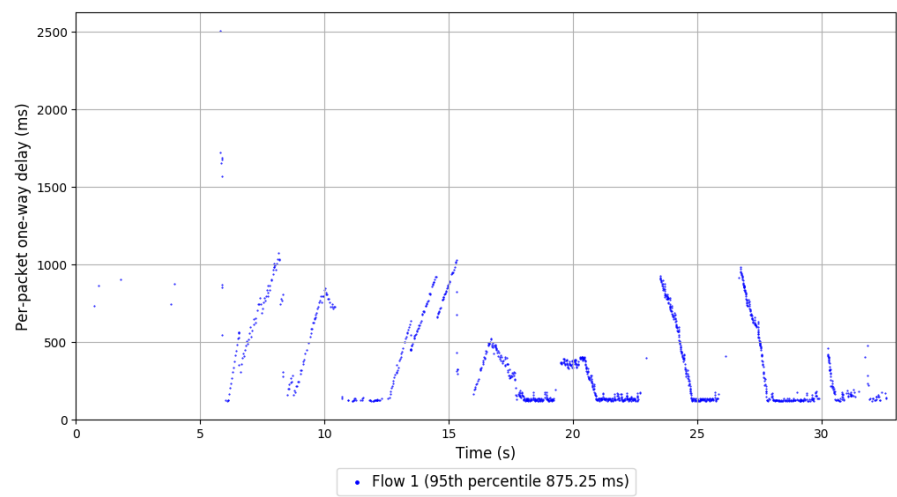
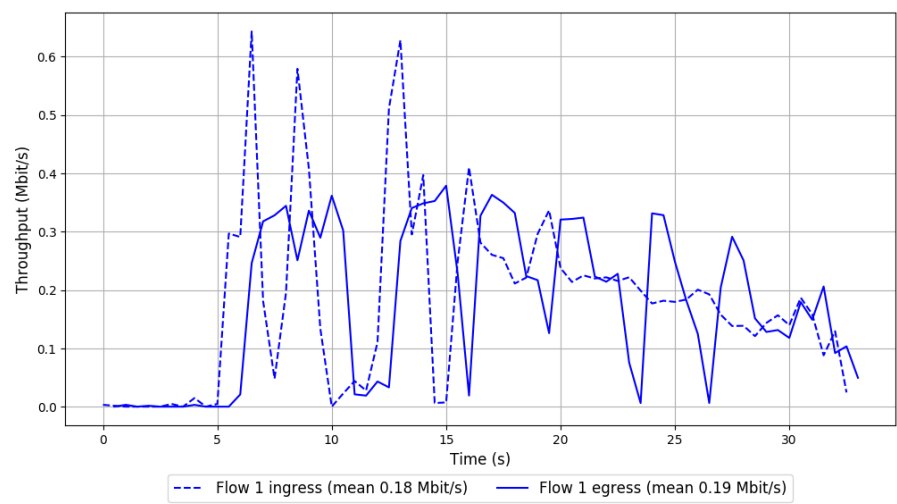
-- Flow 1:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 875.254 ms

Loss rate: 0.21%

Run 1: Report of WebRTC media — Data Link



Run 2: Statistics of WebRTC media

Start at: 2018-07-10 11:14:58

End at: 2018-07-10 11:15:28

Local clock offset: -0.243 ms

Remote clock offset: 13.51 ms

Below is generated by plot.py at 2018-07-10 11:48:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 1369.547 ms

Loss rate: 0.54%

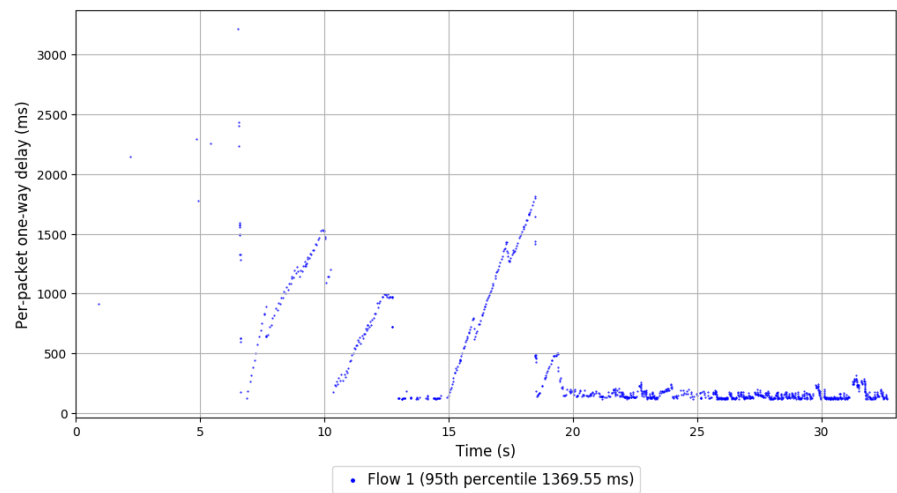
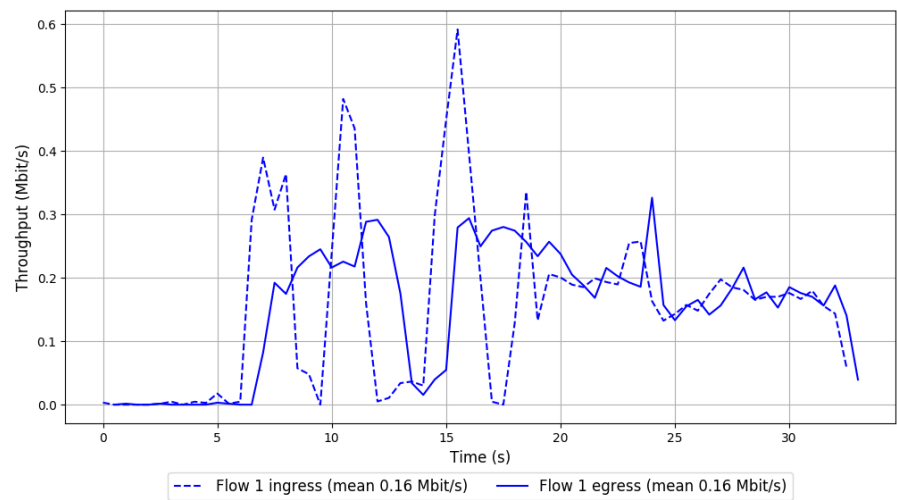
-- Flow 1:

Average throughput: 0.16 Mbit/s

95th percentile per-packet one-way delay: 1369.547 ms

Loss rate: 0.54%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2018-07-10 11:35:21

End at: 2018-07-10 11:35:51

Local clock offset: -0.204 ms

Remote clock offset: 4.783 ms

Below is generated by plot.py at 2018-07-10 11:48:21

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 1713.453 ms

Loss rate: 0.45%

-- Flow 1:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 1713.453 ms

Loss rate: 0.45%

Run 3: Report of WebRTC media — Data Link

