

Pantheon Report

Generated at 2019-02-11 11:51:09 (UTC).

Data path: AWS Brazil 2 on `ens5` (*local*) → Colombia cellular on `ppp0` (*remote*).

Repeated the test of 21 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

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

System info:

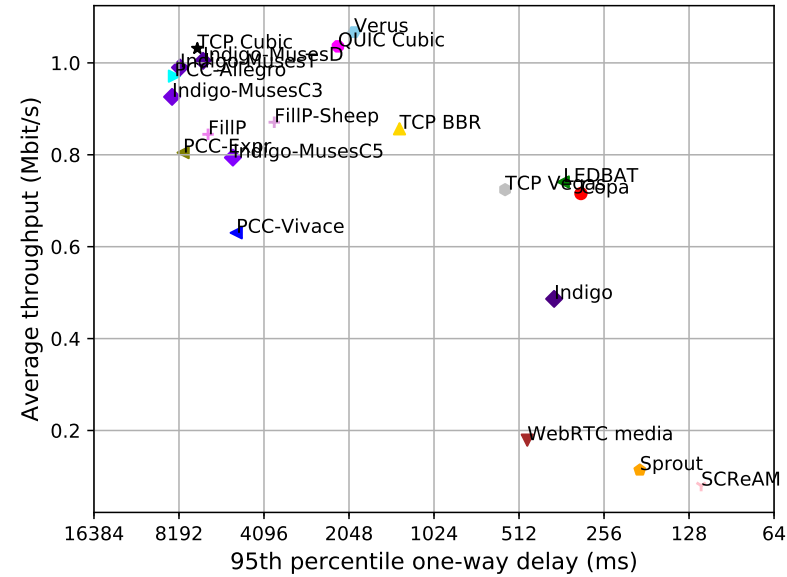
```
Linux 4.15.0-1031-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912
```

Git summary:

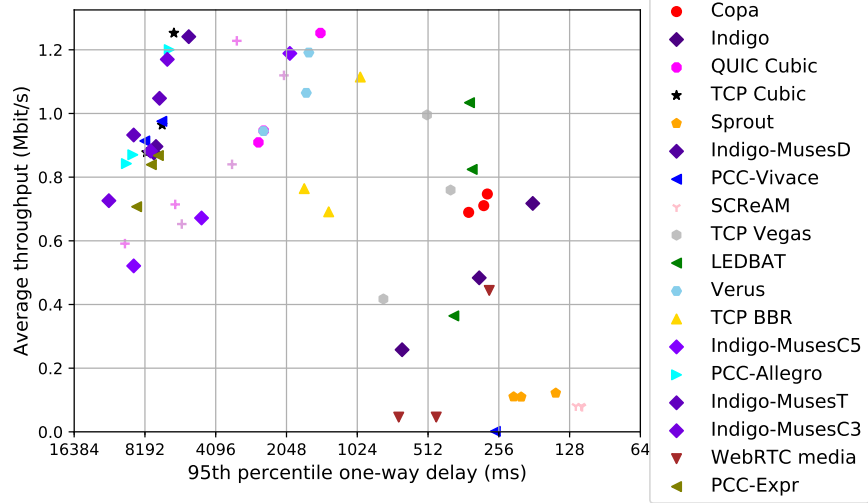
```
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b090d2c64fcd45e12e923f9
third_party/genericCC @ d0153f8e594aa89e93b032143cedbdf58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4dfe0ecd90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce721187ad823da20955337730c746486ca4966
third_party/pantheon-tunnel @ f866d3f58d27afd942717625ee3a354cc2e802bd
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
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 AWS Brazil 2 to Colombia cellular, 3 runs of 30s each per scheme
(mean of all runs by scheme)



test from AWS Brazil 2 to Colombia cellular, 3 runs of 30s each per scheme



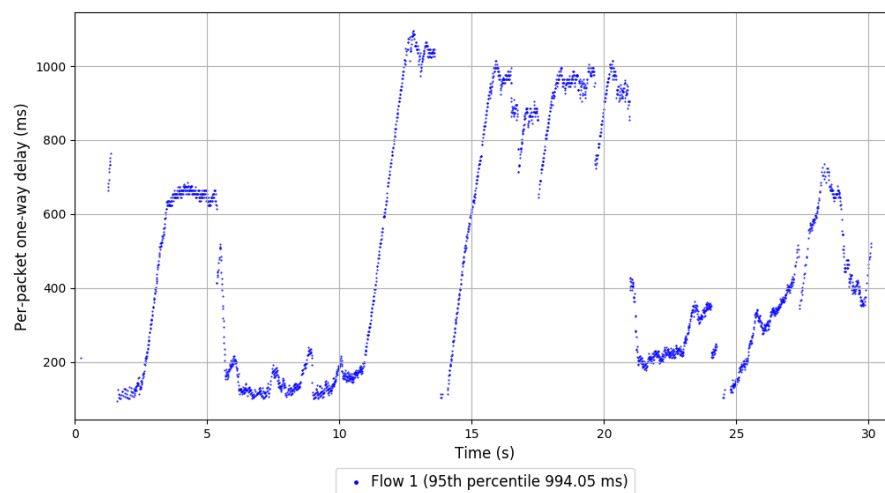
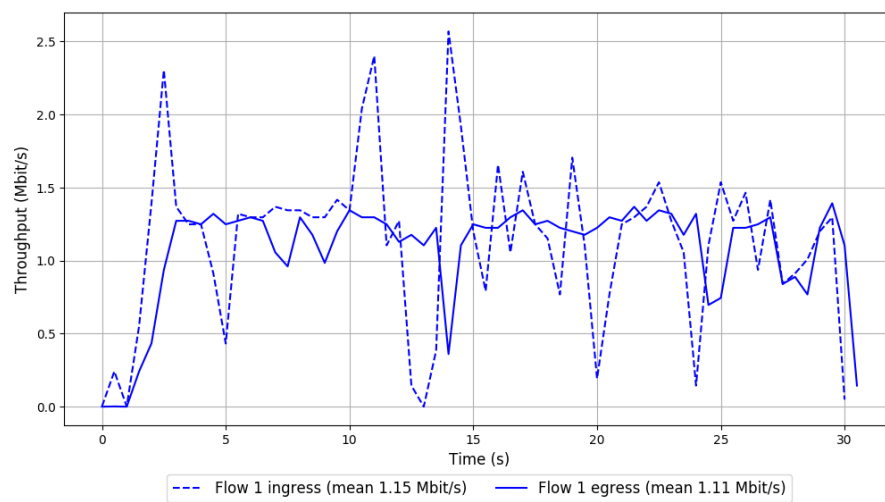
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	0.85	1356.66	2.33
Copa	3	0.72	309.06	1.68
TCP Cubic	3	1.03	7052.27	24.70
FillP	3	0.84	6461.88	16.53
FillP-Sheep	3	0.87	3766.98	5.74
Indigo	3	0.49	384.62	0.05
Indigo-MusesC3	3	0.93	8668.21	69.66
Indigo-MusesC5	3	0.79	5278.50	21.02
Indigo-MusesD	3	1.01	6729.20	62.70
Indigo-MusesT	2	0.99	8126.41	80.89
LEDBAT	3	0.74	357.13	0.45
PCC-Allegro	3	0.97	8501.36	90.11
PCC-Expr	3	0.81	7921.75	85.86
QUIC Cubic	3	1.04	2242.06	6.66
SCReAM	3	0.08	115.98	0.81
Sprout	3	0.11	191.23	0.30
TaoVA-100x	0	N/A	N/A	N/A
TCP Vegas	3	0.73	573.52	0.63
Verus	3	1.06	1966.21	4.71
PCC-Vivace	3	0.63	5137.79	19.86
WebRTC media	3	0.18	478.65	0.01

Run 1: Statistics of TCP BBR

Start at: 2019-02-11 10:44:51
End at: 2019-02-11 10:45:21
Local clock offset: -13.758 ms
Remote clock offset: 1.934 ms

Below is generated by plot.py at 2019-02-11 11:50:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 994.047 ms
Loss rate: 3.55%
-- Flow 1:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 994.047 ms
Loss rate: 3.55%

Run 1: Report of TCP BBR — Data Link

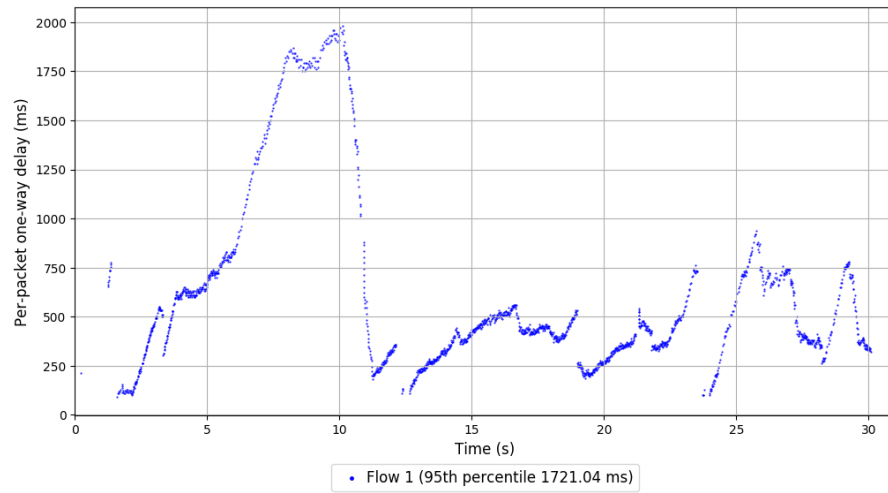
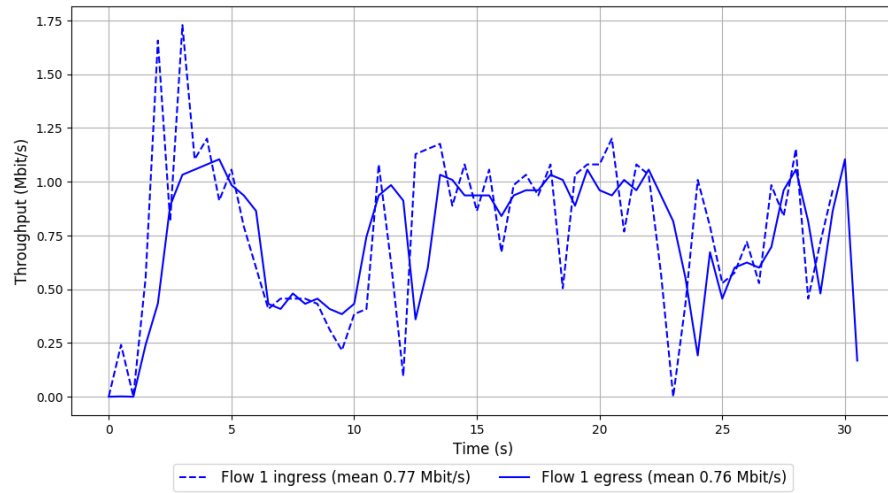


Run 2: Statistics of TCP BBR

Start at: 2019-02-11 11:08:47
End at: 2019-02-11 11:09:17
Local clock offset: -24.616 ms
Remote clock offset: 1.608 ms

Below is generated by plot.py at 2019-02-11 11:50:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 1721.044 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 1721.044 ms
Loss rate: 0.99%

Run 2: Report of TCP BBR — Data Link

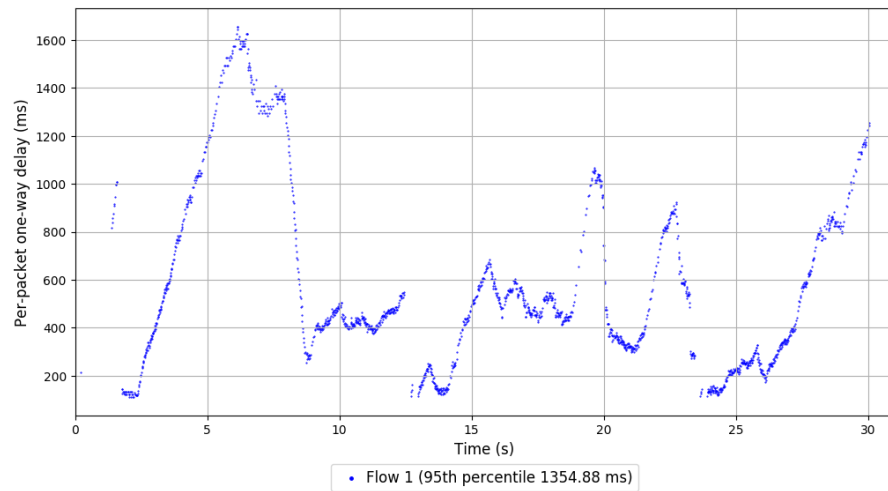
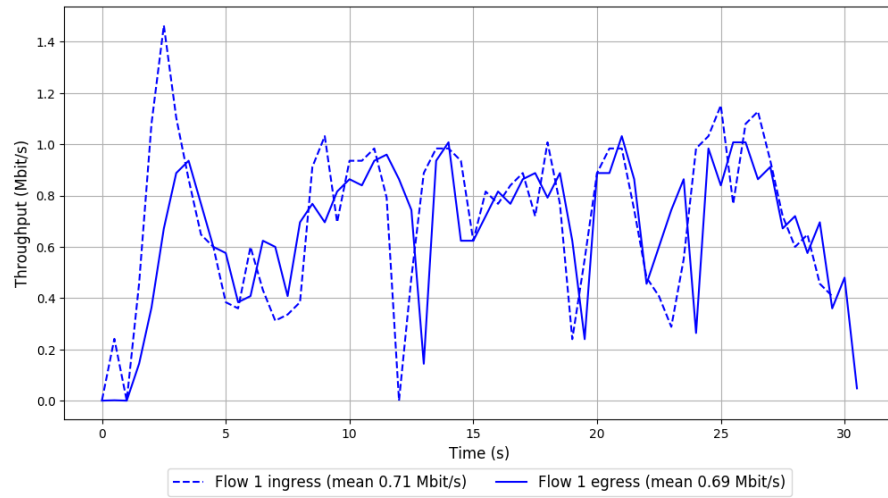


Run 3: Statistics of TCP BBR

Start at: 2019-02-11 11:32:49
End at: 2019-02-11 11:33:19
Local clock offset: -48.899 ms
Remote clock offset: 6.196 ms

Below is generated by plot.py at 2019-02-11 11:50:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 1354.880 ms
Loss rate: 2.44%
-- Flow 1:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 1354.880 ms
Loss rate: 2.44%

Run 3: Report of TCP BBR — Data Link

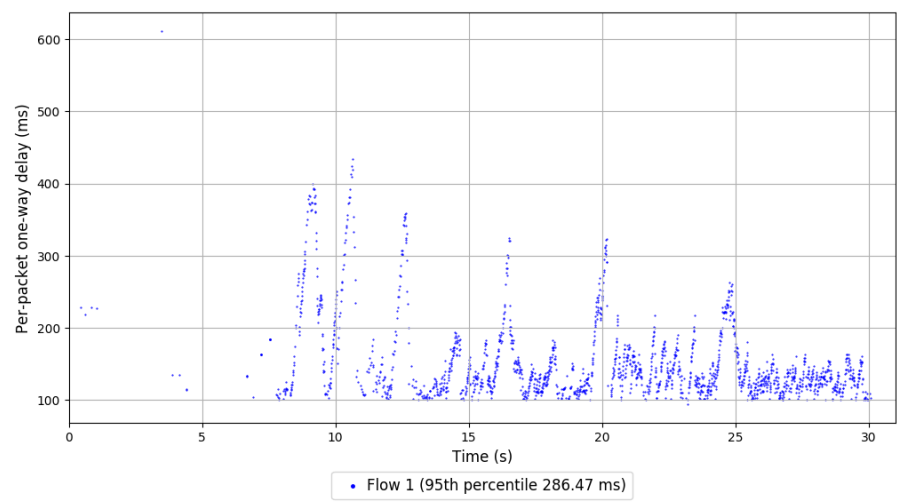
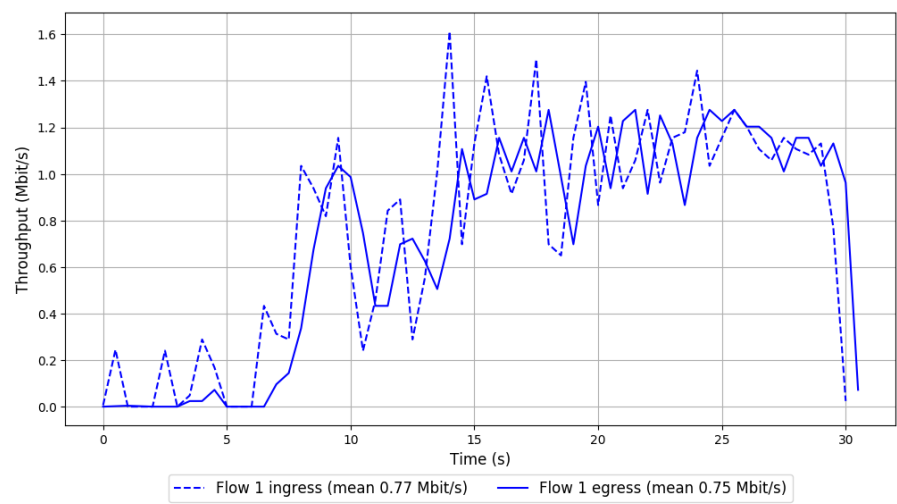


Run 1: Statistics of Copa

Start at: 2019-02-11 10:50:33
End at: 2019-02-11 10:51:03
Local clock offset: -19.552 ms
Remote clock offset: 1.696 ms

Below is generated by plot.py at 2019-02-11 11:50:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 286.466 ms
Loss rate: 4.57%
-- Flow 1:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 286.466 ms
Loss rate: 4.57%

Run 1: Report of Copa — Data Link

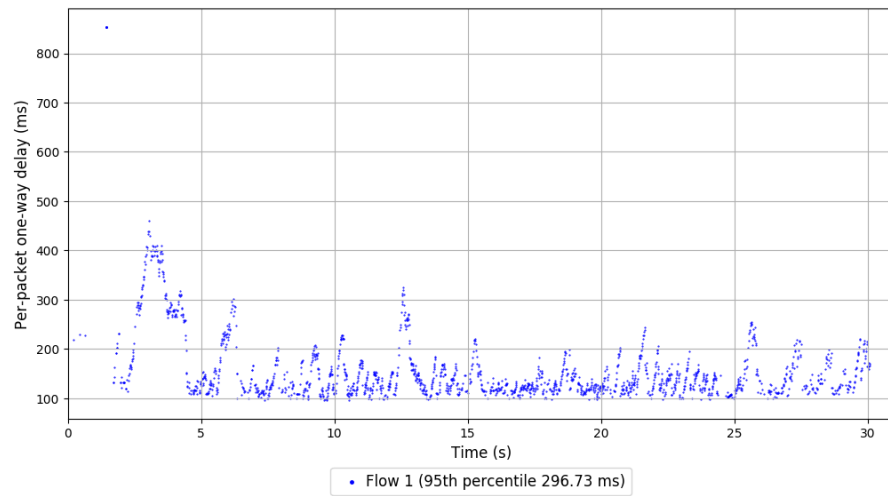
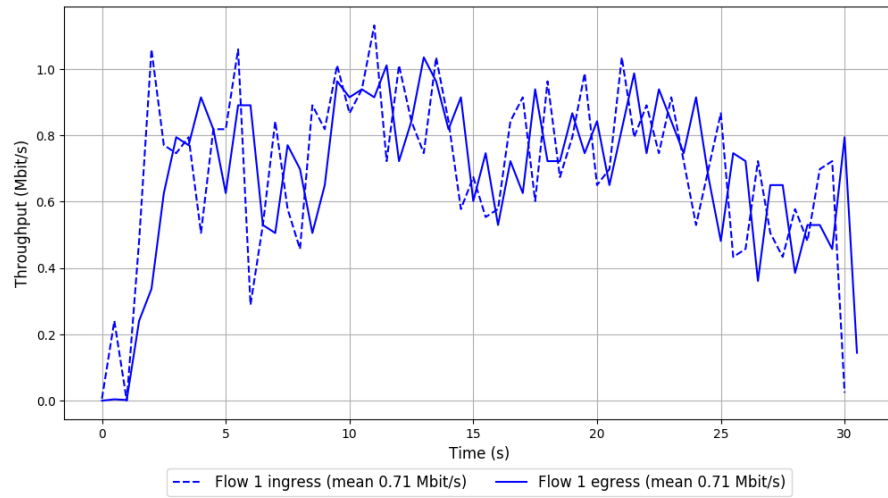


Run 2: Statistics of Copa

Start at: 2019-02-11 11:14:29
End at: 2019-02-11 11:14:59
Local clock offset: -26.651 ms
Remote clock offset: 1.987 ms

Below is generated by plot.py at 2019-02-11 11:50:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 296.725 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 296.725 ms
Loss rate: 0.40%

Run 2: Report of Copa — Data Link

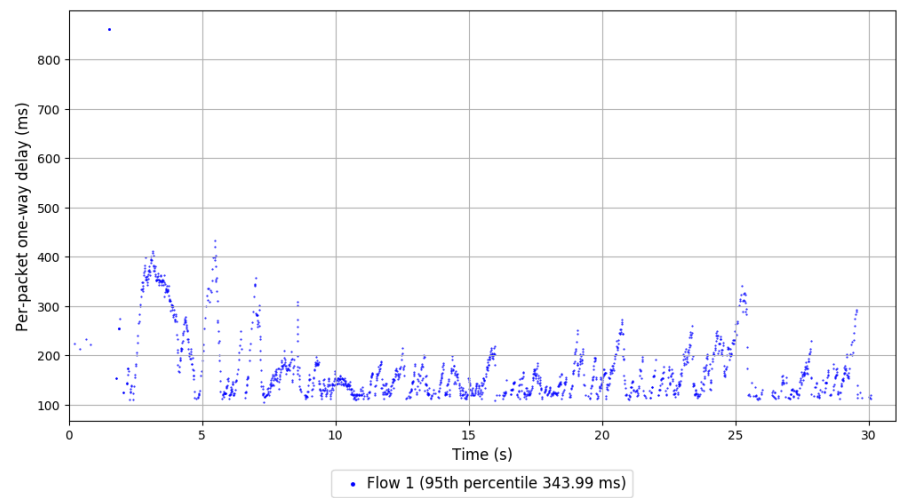
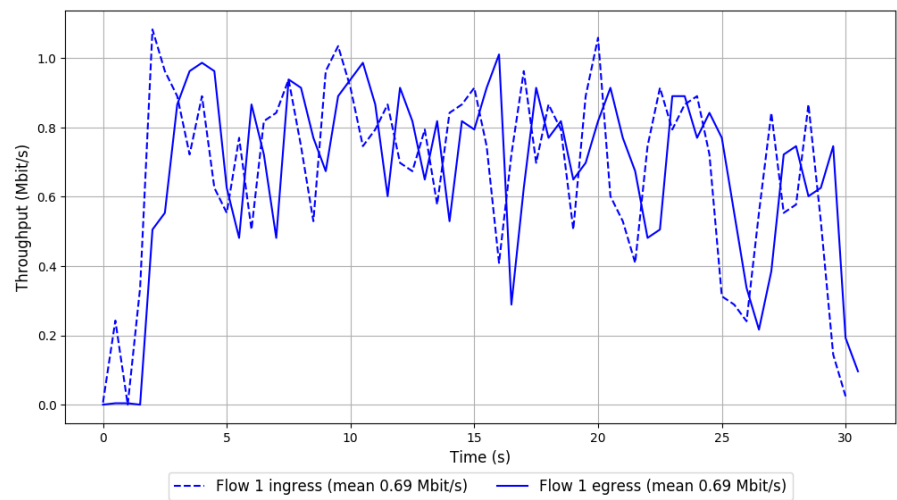


Run 3: Statistics of Copa

Start at: 2019-02-11 11:38:30
End at: 2019-02-11 11:39:00
Local clock offset: -35.437 ms
Remote clock offset: 6.01 ms

Below is generated by plot.py at 2019-02-11 11:50:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 343.987 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 343.987 ms
Loss rate: 0.06%

Run 3: Report of Copa — Data Link

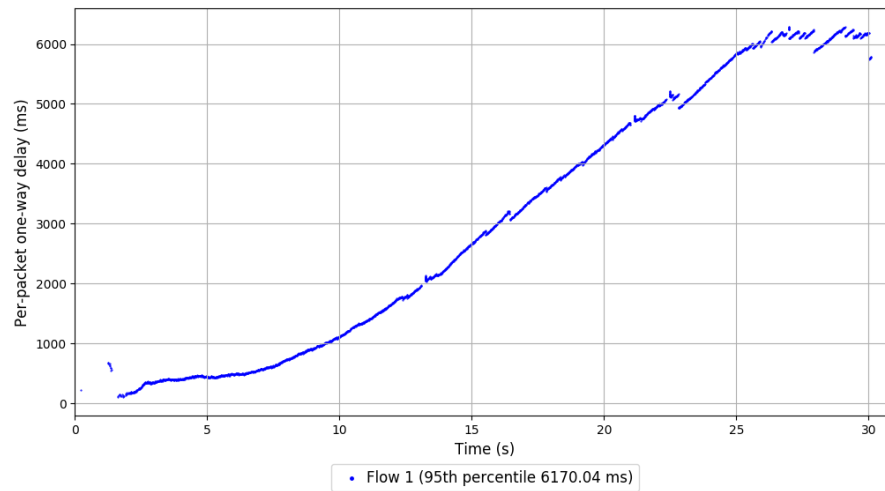
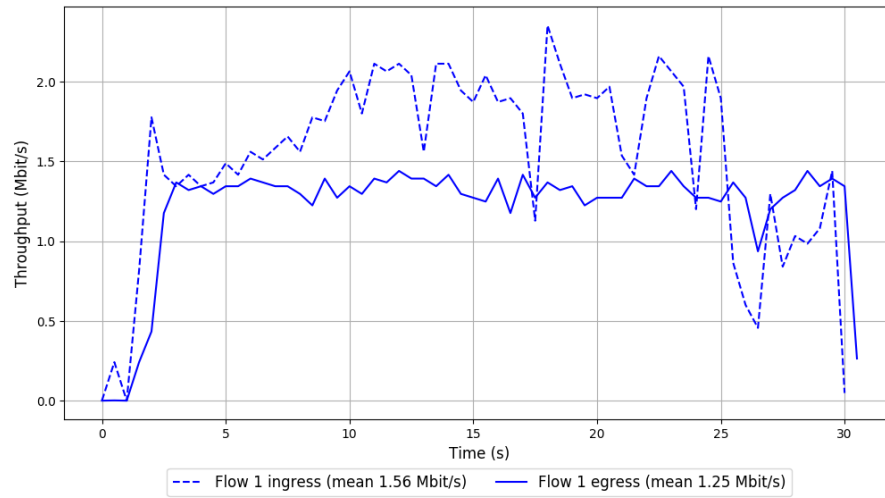


Run 1: Statistics of TCP Cubic

Start at: 2019-02-11 10:41:26
End at: 2019-02-11 10:41:56
Local clock offset: -15.826 ms
Remote clock offset: 6.027 ms

Below is generated by plot.py at 2019-02-11 11:50:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 6170.037 ms
Loss rate: 20.03%
-- Flow 1:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 6170.037 ms
Loss rate: 20.03%

Run 1: Report of TCP Cubic — Data Link

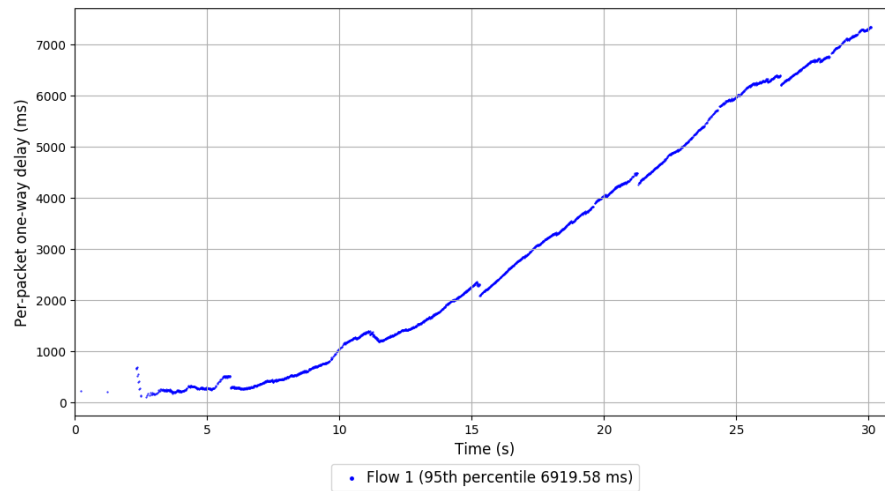
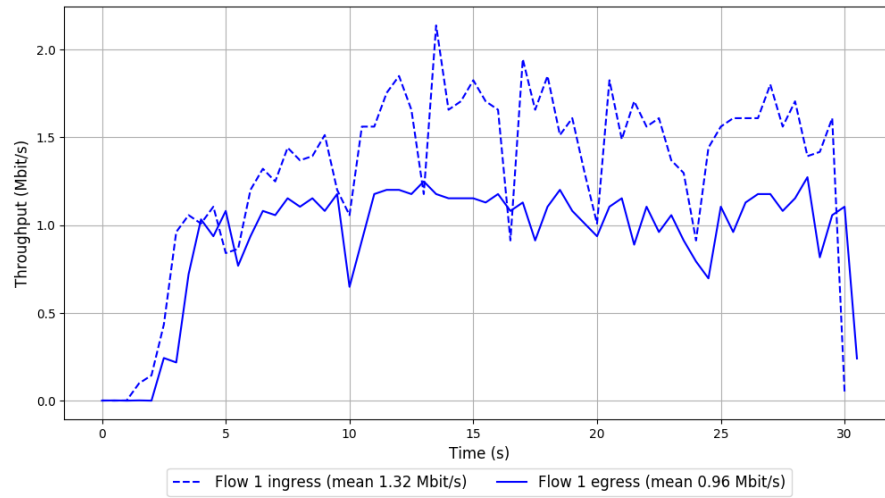


Run 2: Statistics of TCP Cubic

Start at: 2019-02-11 11:05:22
End at: 2019-02-11 11:05:52
Local clock offset: -25.142 ms
Remote clock offset: 0.713 ms

Below is generated by plot.py at 2019-02-11 11:50:33
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 6919.577 ms
Loss rate: 27.42%
-- Flow 1:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 6919.577 ms
Loss rate: 27.42%

Run 2: Report of TCP Cubic — Data Link

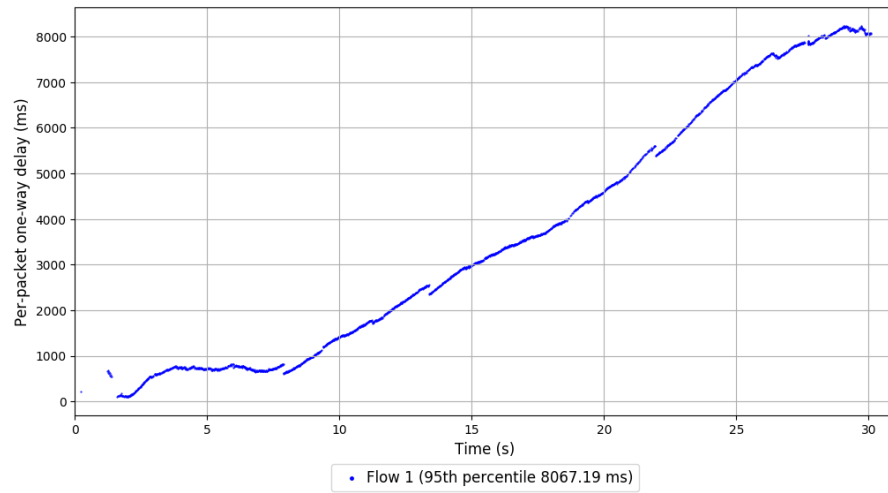
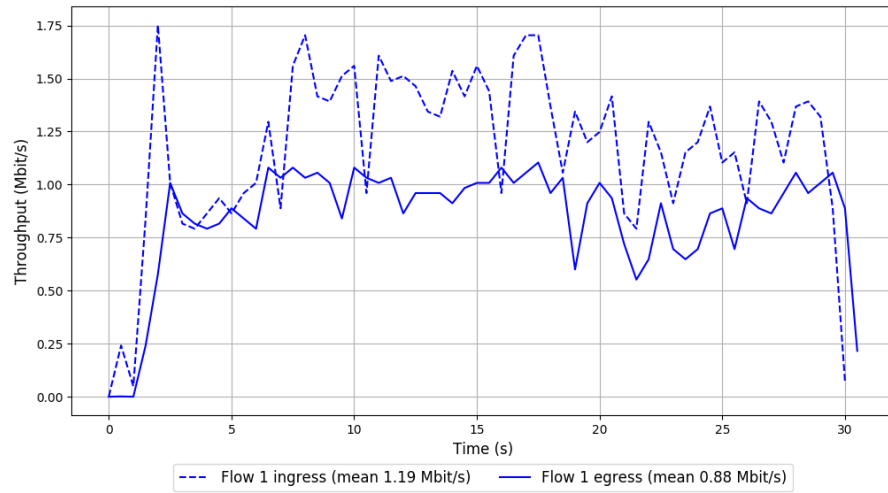


Run 3: Statistics of TCP Cubic

Start at: 2019-02-11 11:29:22
End at: 2019-02-11 11:29:52
Local clock offset: -44.076 ms
Remote clock offset: 1.789 ms

Below is generated by plot.py at 2019-02-11 11:50:35
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 8067.185 ms
Loss rate: 26.64%
-- Flow 1:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 8067.185 ms
Loss rate: 26.64%

Run 3: Report of TCP Cubic — Data Link

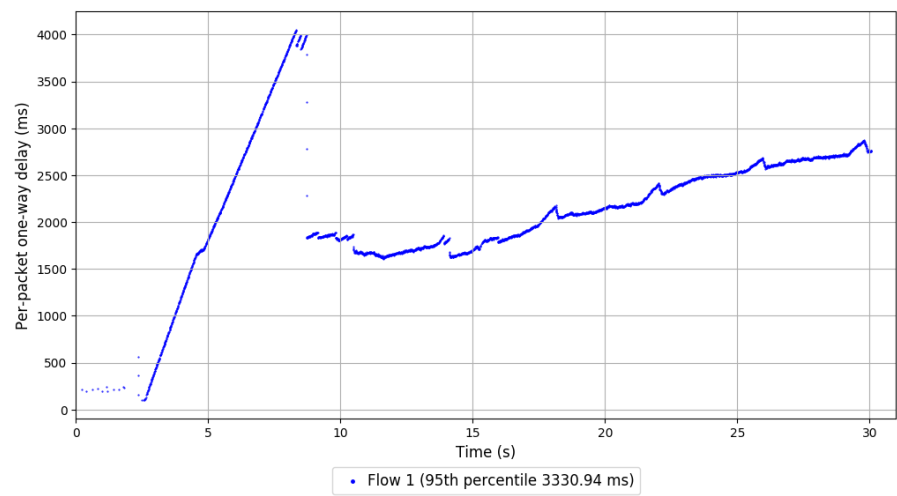
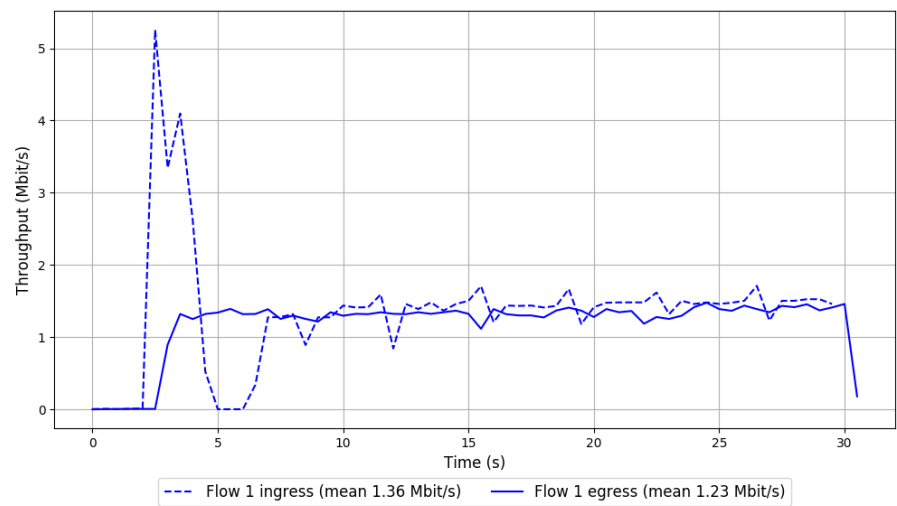


Run 1: Statistics of FillP

Start at: 2019-02-11 10:58:31
End at: 2019-02-11 10:59:01
Local clock offset: -18.532 ms
Remote clock offset: 5.683 ms

Below is generated by plot.py at 2019-02-11 11:50:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 3330.943 ms
Loss rate: 9.93%
-- Flow 1:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 3330.943 ms
Loss rate: 9.93%

Run 1: Report of FillP — Data Link

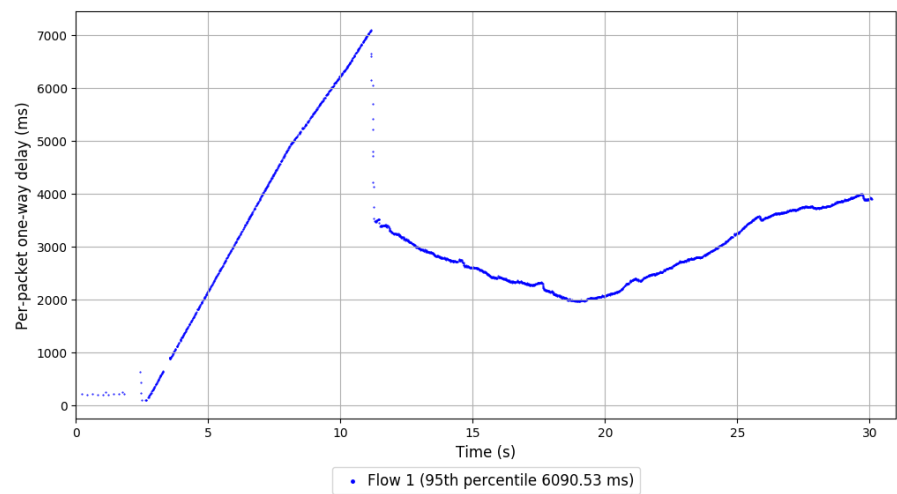
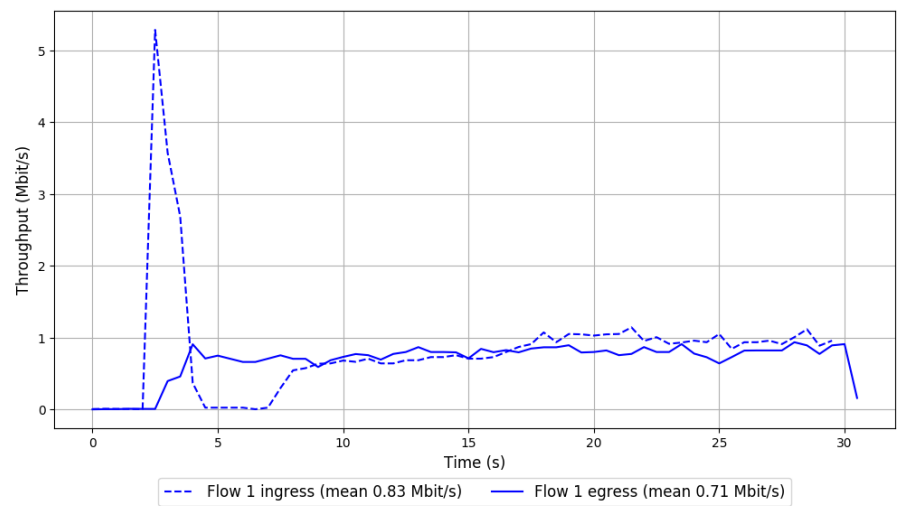


Run 2: Statistics of FillP

Start at: 2019-02-11 11:22:26
End at: 2019-02-11 11:22:56
Local clock offset: -35.616 ms
Remote clock offset: 7.342 ms

Below is generated by plot.py at 2019-02-11 11:50:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 6090.528 ms
Loss rate: 14.76%
-- Flow 1:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 6090.528 ms
Loss rate: 14.76%

Run 2: Report of FillP — Data Link

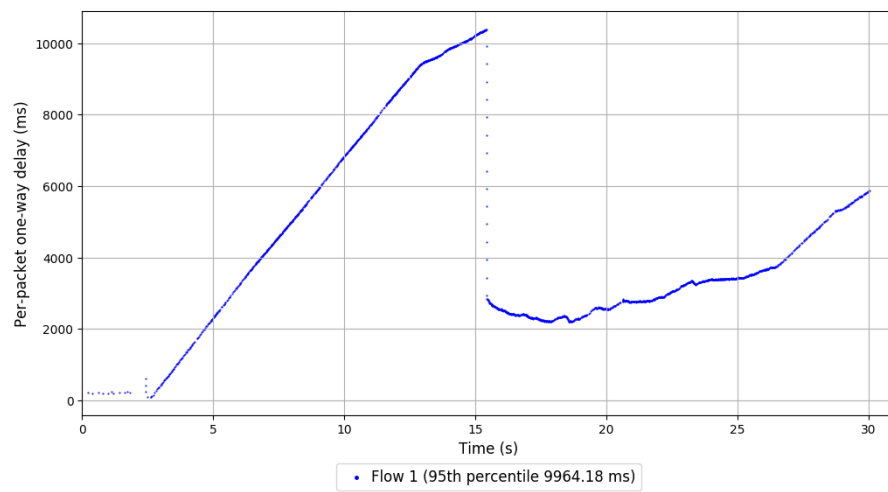
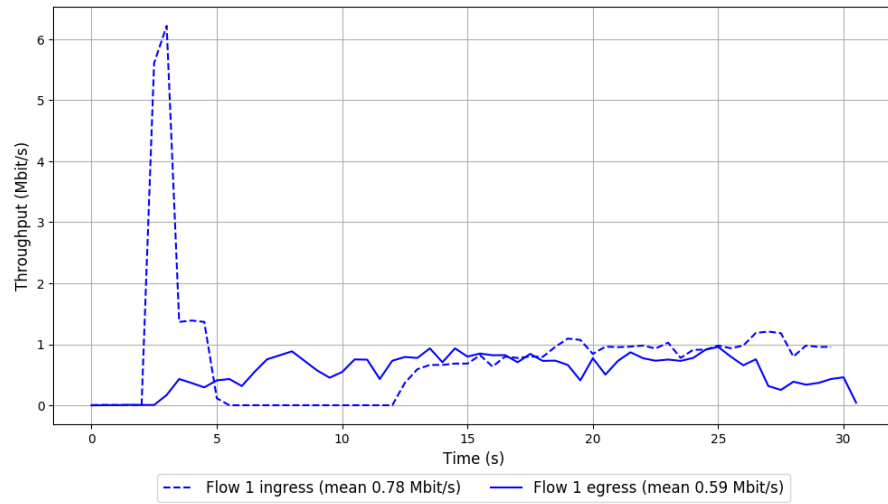


Run 3: Statistics of FillP

Start at: 2019-02-11 11:46:28
End at: 2019-02-11 11:46:58
Local clock offset: -24.556 ms
Remote clock offset: 2.373 ms

Below is generated by plot.py at 2019-02-11 11:50:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 9964.179 ms
Loss rate: 24.91%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 9964.179 ms
Loss rate: 24.91%

Run 3: Report of FillP — Data Link

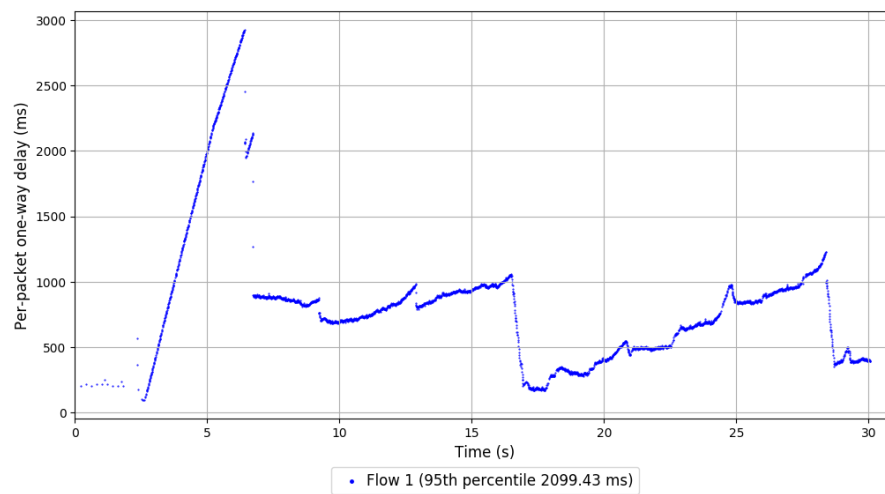
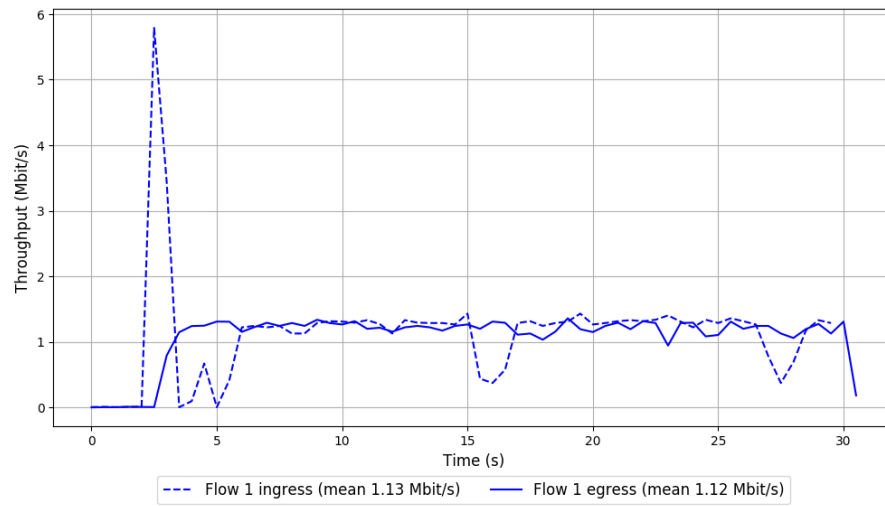


Run 1: Statistics of FillP-Sheep

Start at: 2019-02-11 10:53:58
End at: 2019-02-11 10:54:28
Local clock offset: -17.973 ms
Remote clock offset: 0.54 ms

Below is generated by plot.py at 2019-02-11 11:50:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 2099.432 ms
Loss rate: 1.22%
-- Flow 1:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 2099.432 ms
Loss rate: 1.22%

Run 1: Report of FillP-Sheep — Data Link

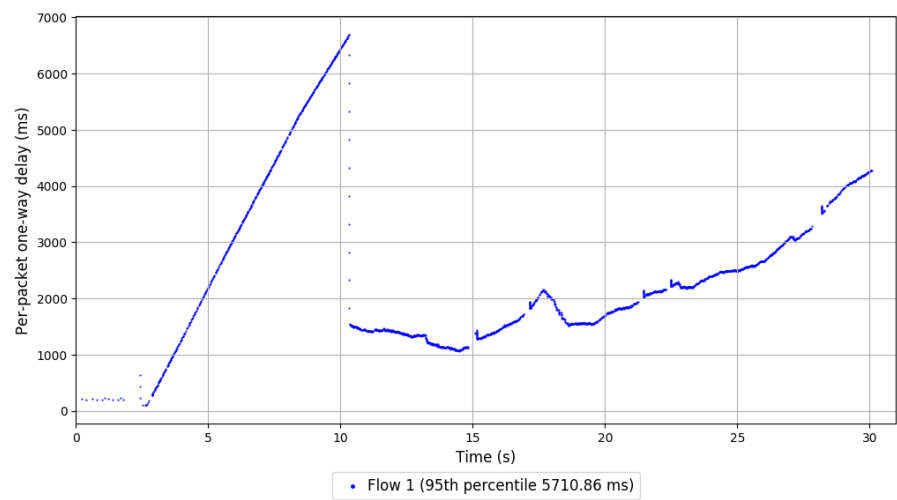
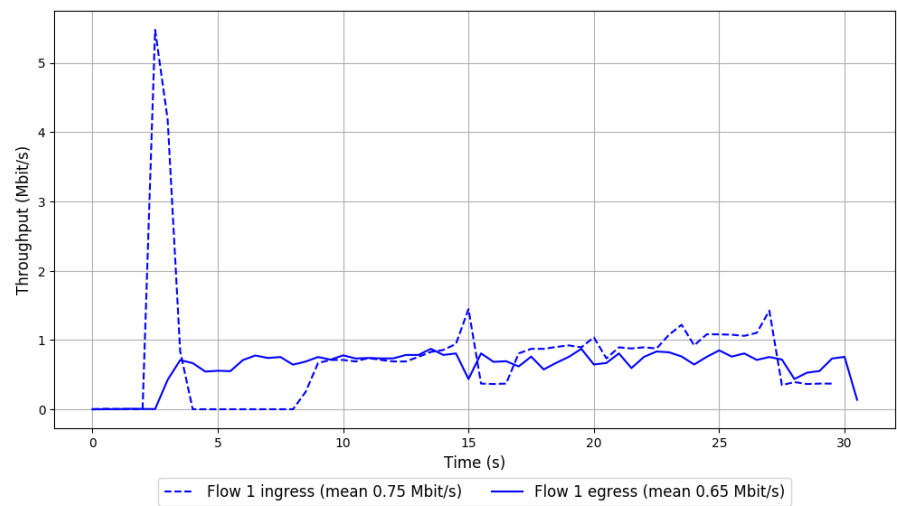


Run 2: Statistics of FillP-Sheep

Start at: 2019-02-11 11:17:54
End at: 2019-02-11 11:18:24
Local clock offset: -29.858 ms
Remote clock offset: 0.904 ms

Below is generated by plot.py at 2019-02-11 11:50:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 5710.859 ms
Loss rate: 13.10%
-- Flow 1:
Average throughput: 0.65 Mbit/s
95th percentile per-packet one-way delay: 5710.859 ms
Loss rate: 13.10%

Run 2: Report of FillP-Sheep — Data Link

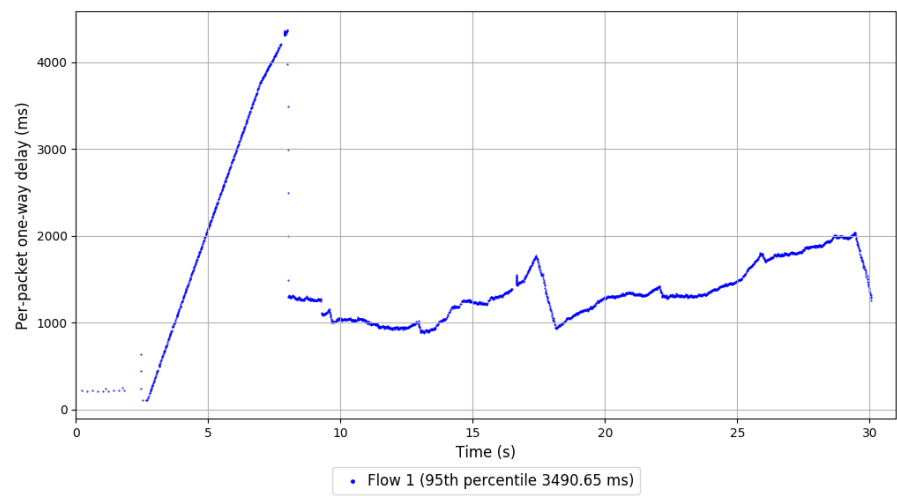
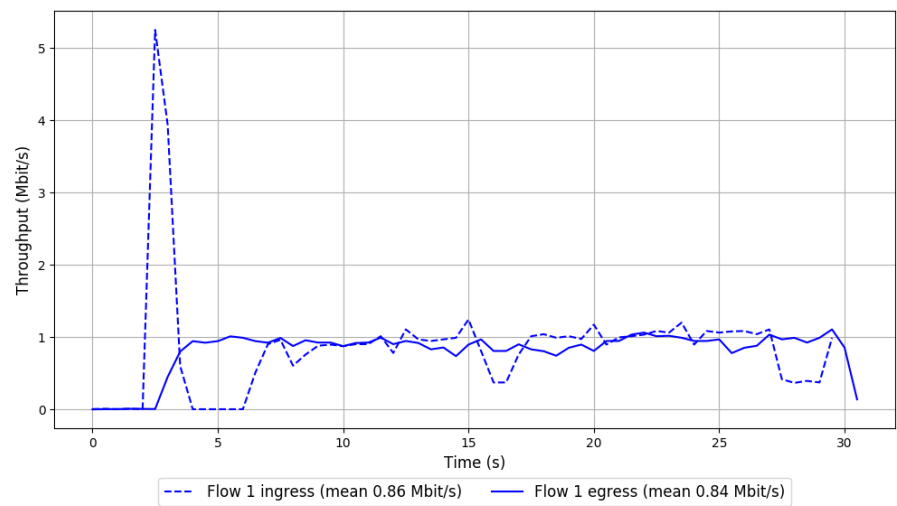


Run 3: Statistics of FillP-Sheep

Start at: 2019-02-11 11:41:55
End at: 2019-02-11 11:42:25
Local clock offset: -28.44 ms
Remote clock offset: 6.186 ms

Below is generated by plot.py at 2019-02-11 11:50:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 3490.648 ms
Loss rate: 2.90%
-- Flow 1:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 3490.648 ms
Loss rate: 2.90%

Run 3: Report of FillP-Sheep — Data Link

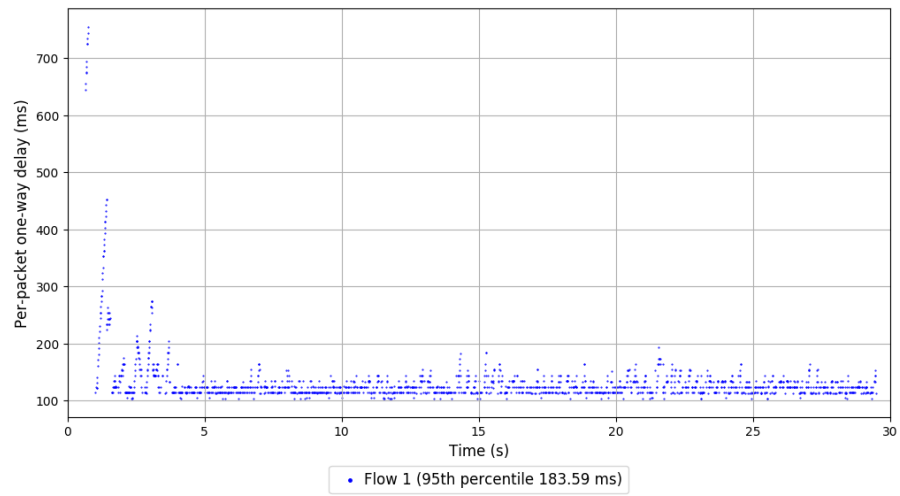
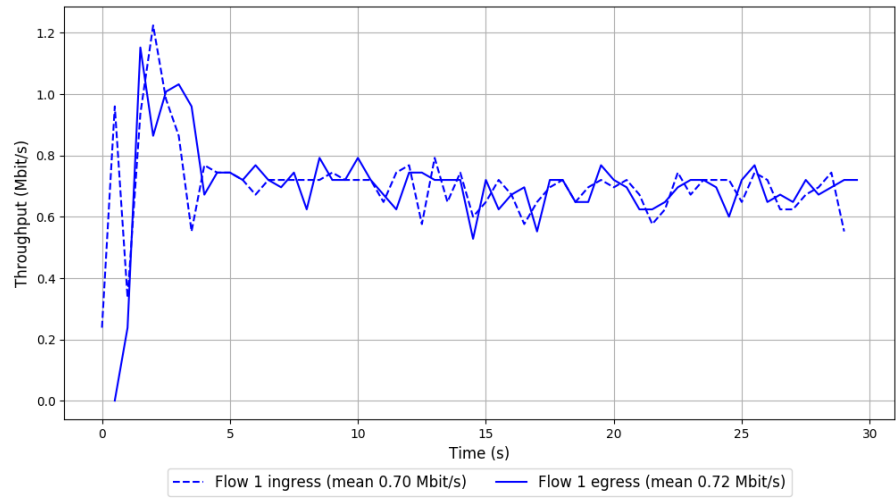


Run 1: Statistics of Indigo

Start at: 2019-02-11 10:57:23
End at: 2019-02-11 10:57:53
Local clock offset: -17.821 ms
Remote clock offset: 5.778 ms

Below is generated by plot.py at 2019-02-11 11:50:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 183.591 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 183.591 ms
Loss rate: 0.00%

Run 1: Report of Indigo — Data Link

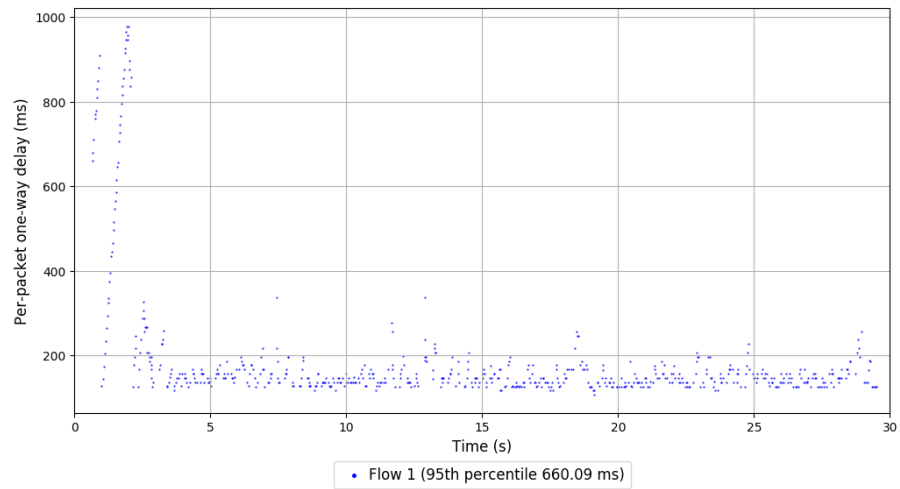
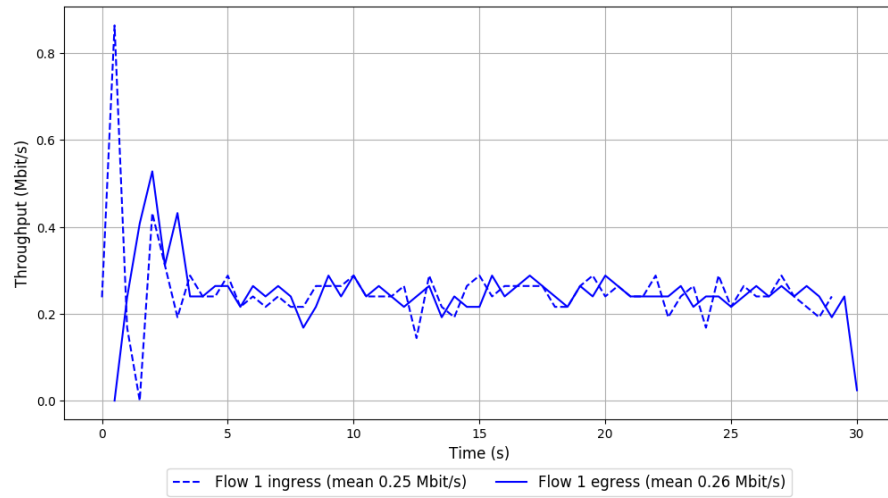


Run 2: Statistics of Indigo

Start at: 2019-02-11 11:21:18
End at: 2019-02-11 11:21:48
Local clock offset: -34.105 ms
Remote clock offset: 7.037 ms

Below is generated by plot.py at 2019-02-11 11:50:38
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 660.092 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 660.092 ms
Loss rate: 0.16%

Run 2: Report of Indigo — Data Link

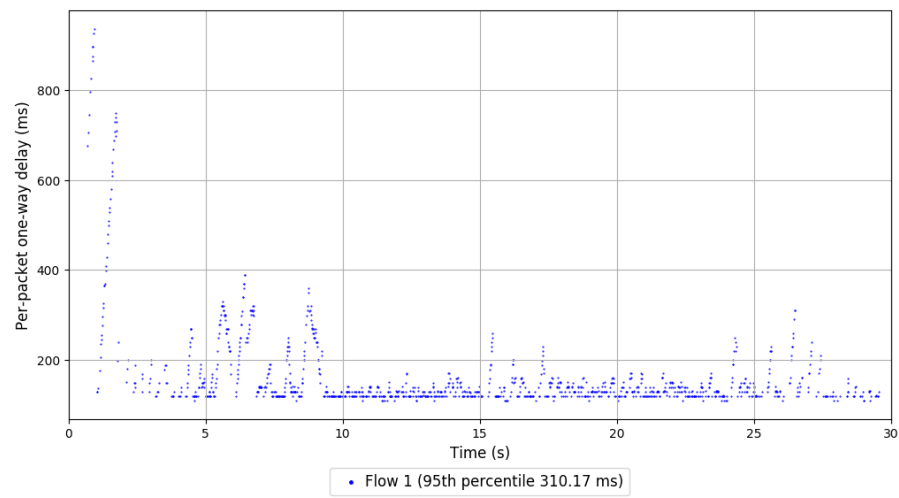
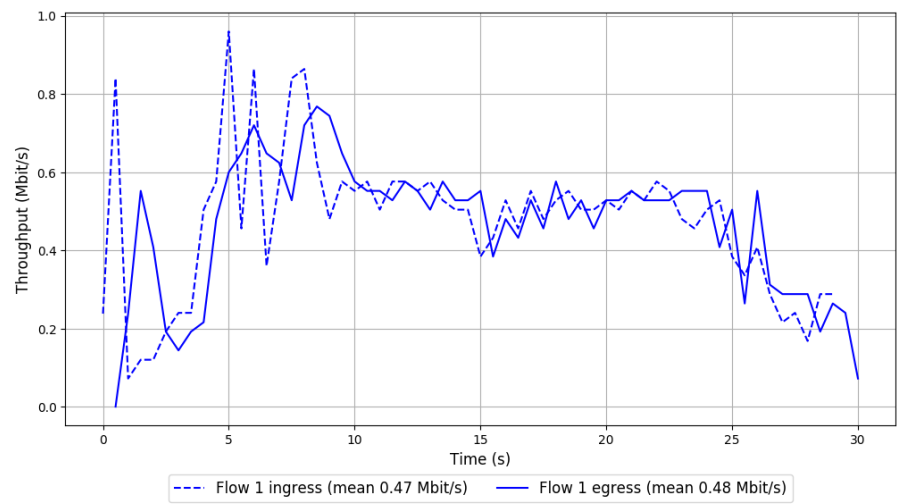


Run 3: Statistics of Indigo

Start at: 2019-02-11 11:45:19
End at: 2019-02-11 11:45:49
Local clock offset: -24.549 ms
Remote clock offset: 5.293 ms

Below is generated by plot.py at 2019-02-11 11:50:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 310.168 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.48 Mbit/s
95th percentile per-packet one-way delay: 310.168 ms
Loss rate: 0.00%

Run 3: Report of Indigo — Data Link

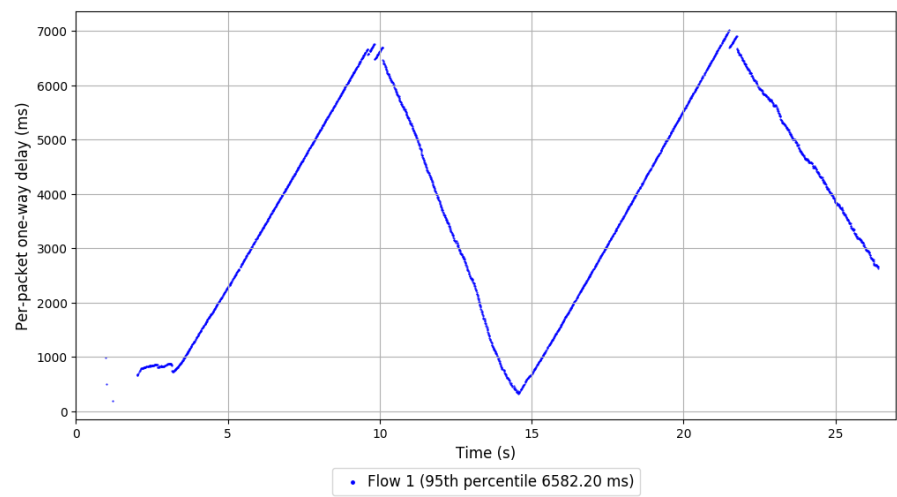
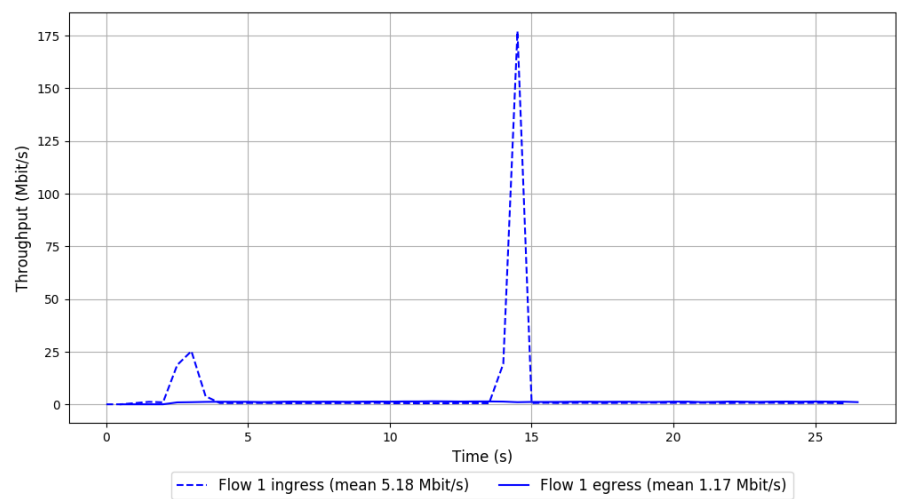


Run 1: Statistics of Indigo-MusesC3

Start at: 2019-02-11 10:39:09
End at: 2019-02-11 10:39:39
Local clock offset: -13.941 ms
Remote clock offset: 5.572 ms

Below is generated by plot.py at 2019-02-11 11:50:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 6582.199 ms
Loss rate: 78.19%
-- Flow 1:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 6582.199 ms
Loss rate: 78.19%

Run 1: Report of Indigo-MusesC3 — Data Link



Run 2: Statistics of Indigo-MusesC3

Start at: 2019-02-11 11:03:05

End at: 2019-02-11 11:03:35

Local clock offset: -23.7 ms

Remote clock offset: 5.77 ms

Below is generated by plot.py at 2019-02-11 11:50:43

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.88 Mbit/s

95th percentile per-packet one-way delay: 7759.372 ms

Loss rate: 70.79%

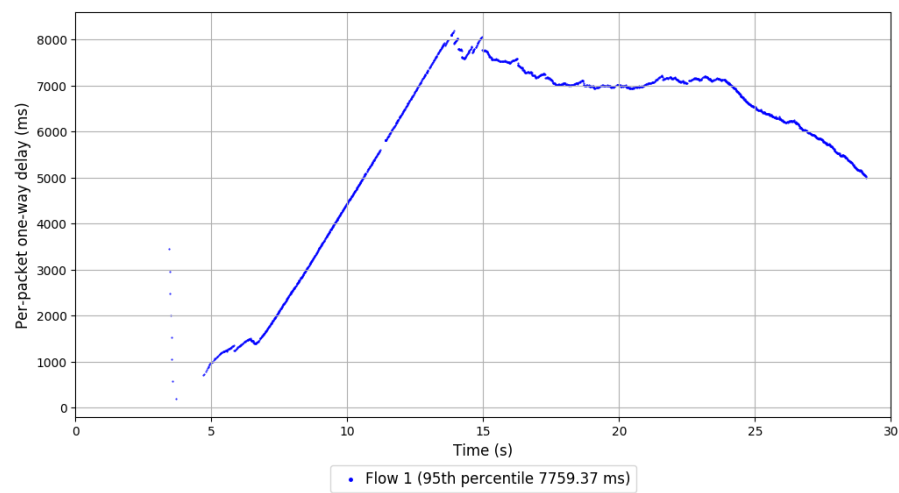
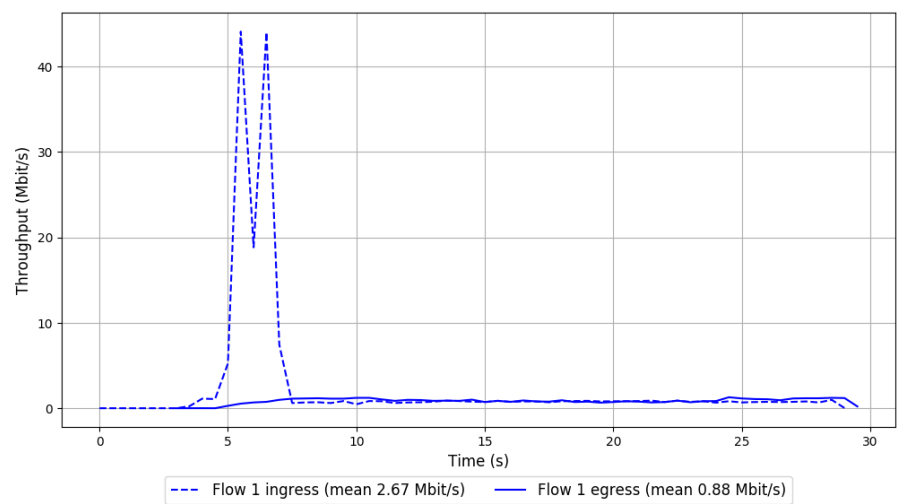
-- Flow 1:

Average throughput: 0.88 Mbit/s

95th percentile per-packet one-way delay: 7759.372 ms

Loss rate: 70.79%

Run 2: Report of Indigo-MusesC3 — Data Link

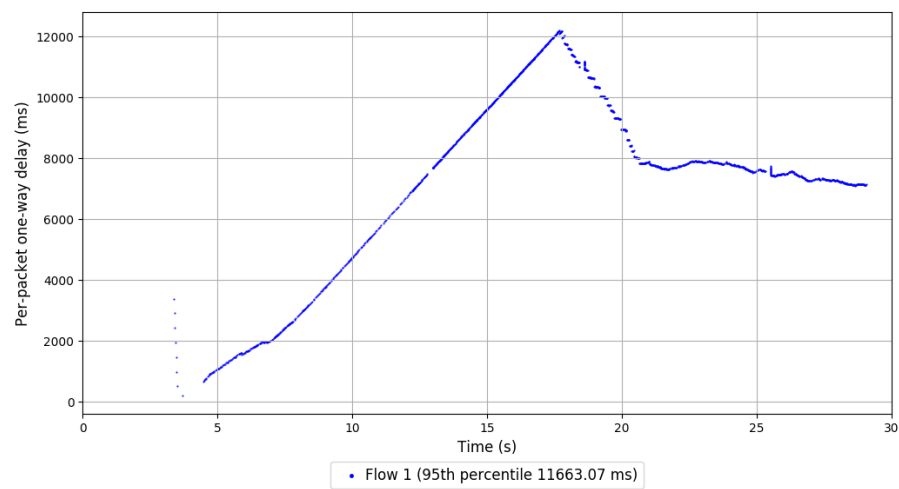
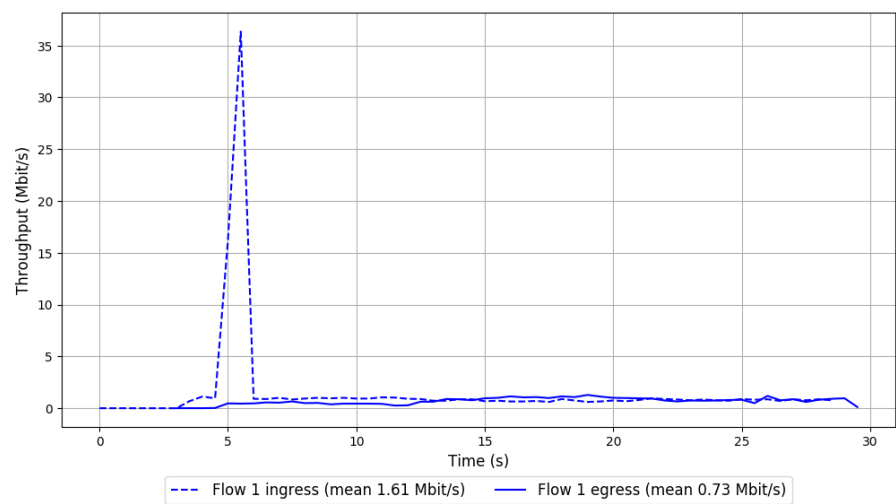


Run 3: Statistics of Indigo-MusesC3

Start at: 2019-02-11 11:27:00
End at: 2019-02-11 11:27:30
Local clock offset: -41.193 ms
Remote clock offset: 5.899 ms

Below is generated by plot.py at 2019-02-11 11:50:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 11663.066 ms
Loss rate: 60.00%
-- Flow 1:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 11663.066 ms
Loss rate: 60.00%

Run 3: Report of Indigo-MusesC3 — Data Link

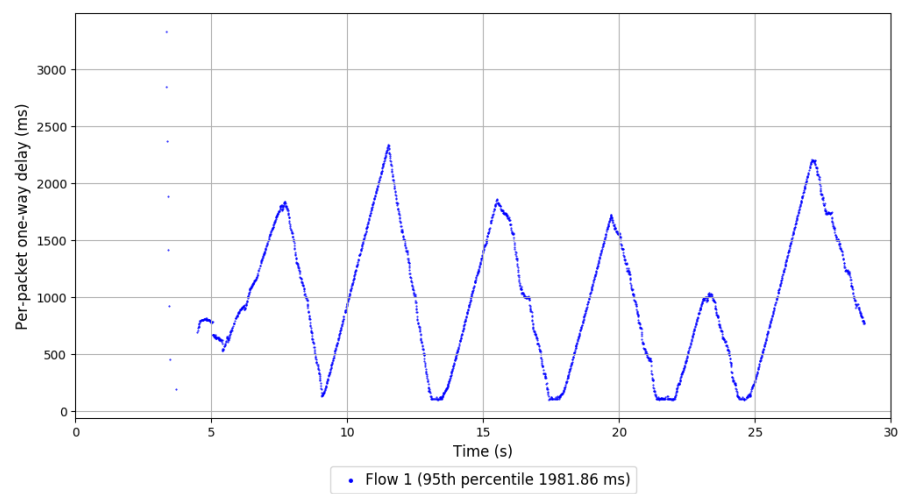
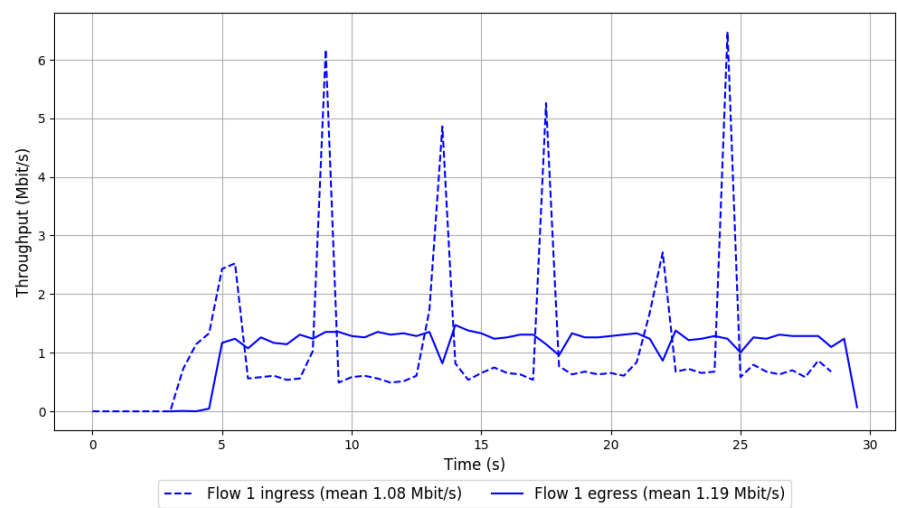


Run 1: Statistics of Indigo-MusesC5

Start at: 2019-02-11 10:55:06
End at: 2019-02-11 10:55:36
Local clock offset: -17.312 ms
Remote clock offset: 4.858 ms

Below is generated by plot.py at 2019-02-11 11:50:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 1981.864 ms
Loss rate: 2.13%
-- Flow 1:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 1981.864 ms
Loss rate: 2.13%

Run 1: Report of Indigo-MusesC5 — Data Link

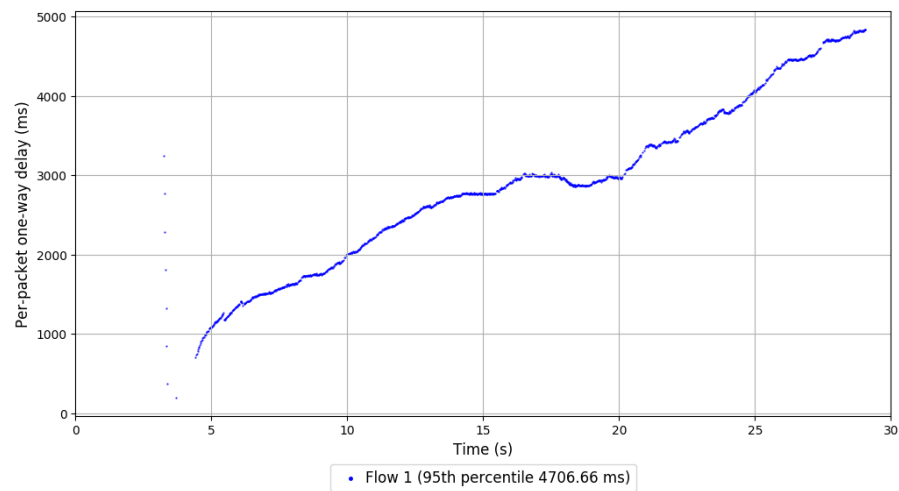
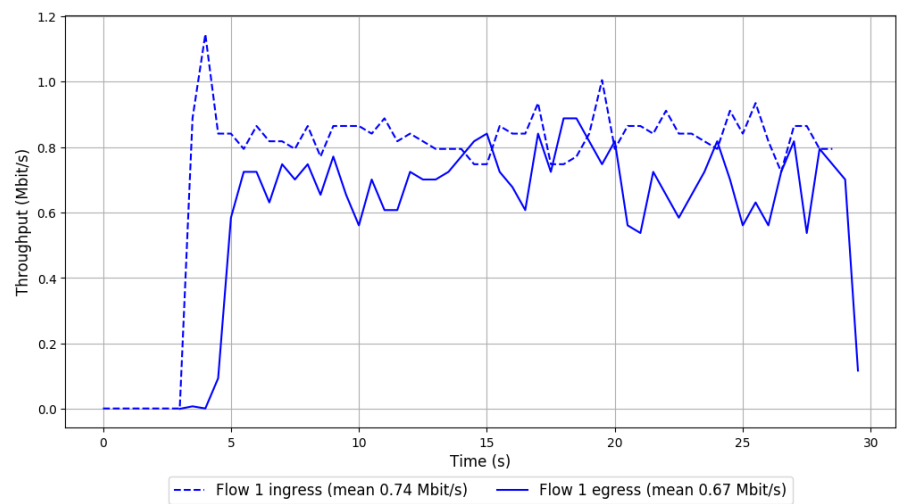


Run 2: Statistics of Indigo-MusesC5

Start at: 2019-02-11 11:19:02
End at: 2019-02-11 11:19:32
Local clock offset: -31.792 ms
Remote clock offset: 0.931 ms

Below is generated by plot.py at 2019-02-11 11:50:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 4706.664 ms
Loss rate: 19.04%
-- Flow 1:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 4706.664 ms
Loss rate: 19.04%

Run 2: Report of Indigo-MusesC5 — Data Link

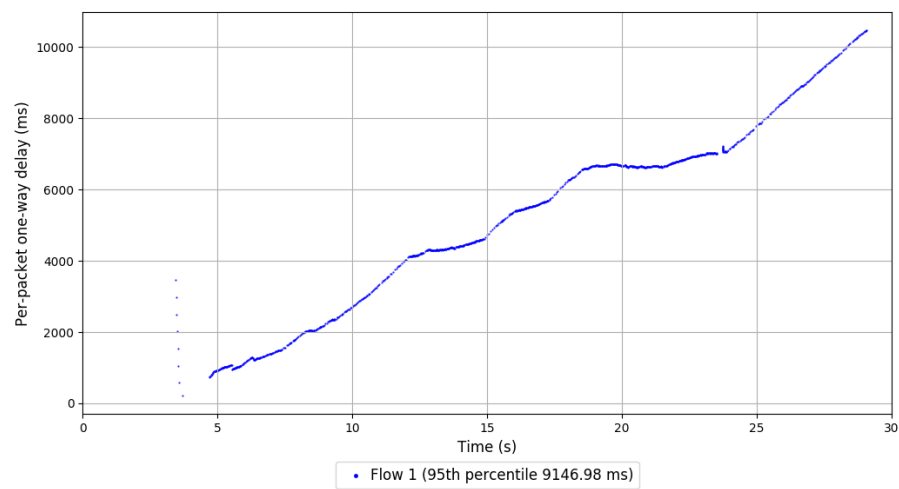
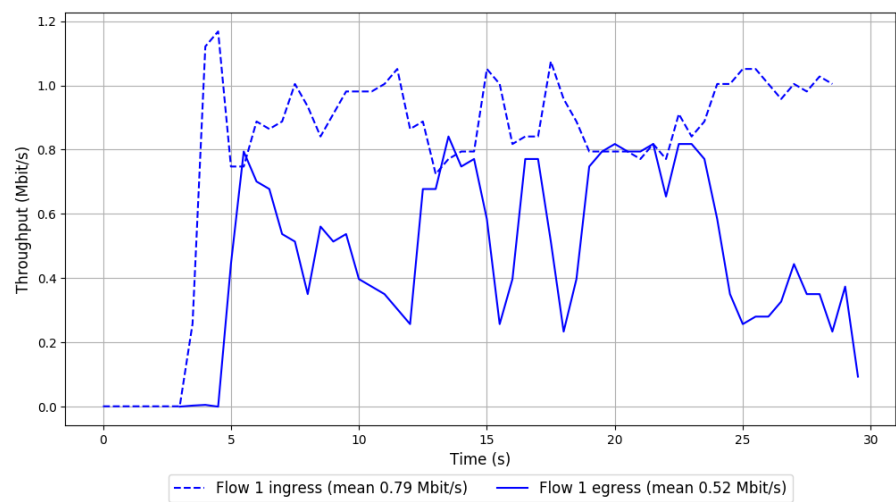


Run 3: Statistics of Indigo-MusesC5

Start at: 2019-02-11 11:43:03
End at: 2019-02-11 11:43:33
Local clock offset: -27.816 ms
Remote clock offset: 5.166 ms

Below is generated by plot.py at 2019-02-11 11:50:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 9146.983 ms
Loss rate: 41.88%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 9146.983 ms
Loss rate: 41.88%

Run 3: Report of Indigo-MusesC5 — Data Link

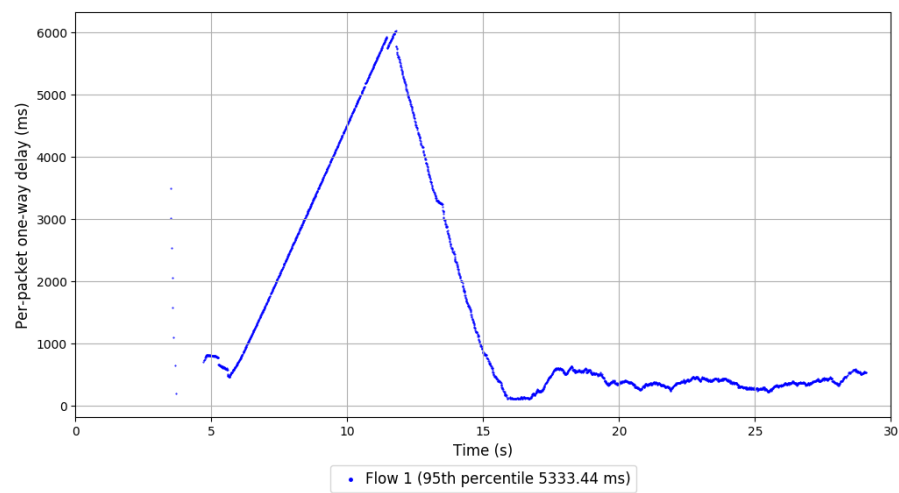
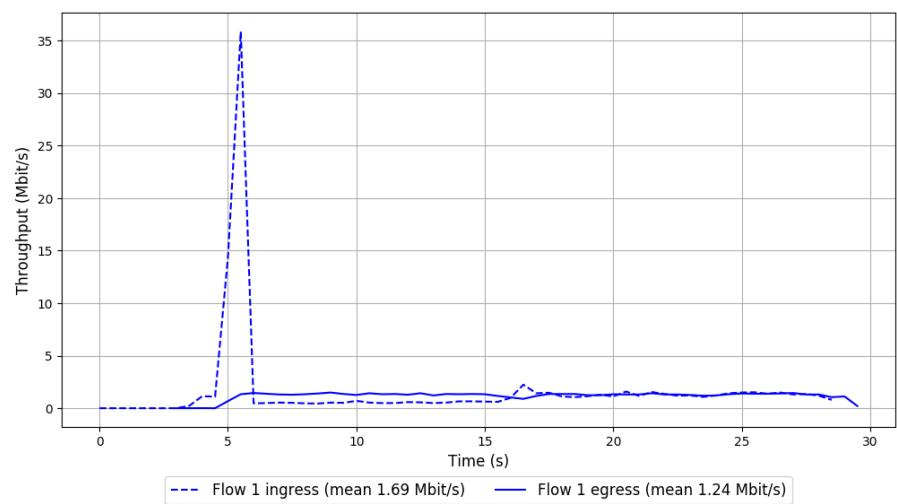


Run 1: Statistics of Indigo-MusesD

Start at: 2019-02-11 10:48:16
End at: 2019-02-11 10:48:46
Local clock offset: -14.873 ms
Remote clock offset: 4.643 ms

Below is generated by plot.py at 2019-02-11 11:50:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 5333.436 ms
Loss rate: 35.04%
-- Flow 1:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 5333.436 ms
Loss rate: 35.04%

Run 1: Report of Indigo-MusesD — Data Link

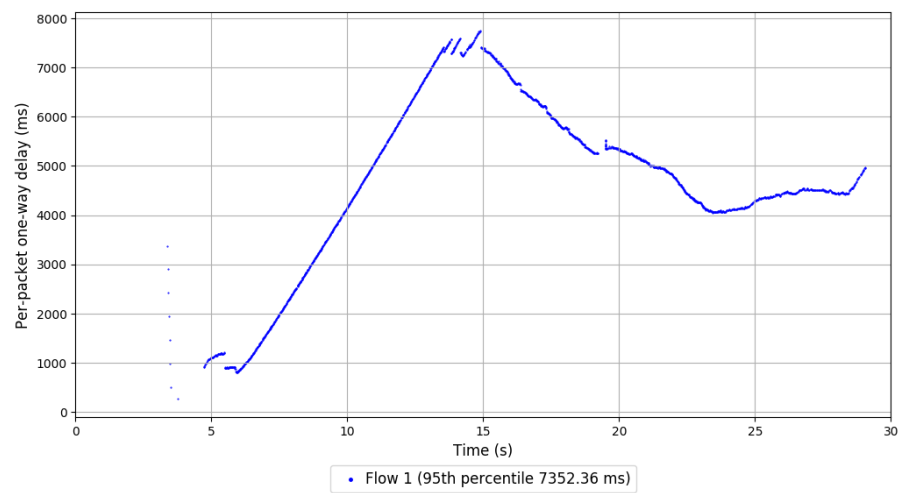
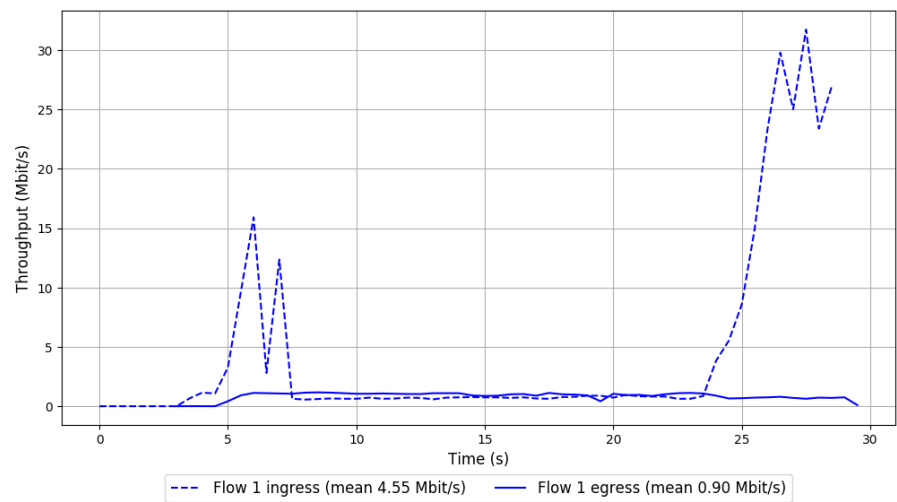


Run 2: Statistics of Indigo-MusesD

Start at: 2019-02-11 11:12:12
End at: 2019-02-11 11:12:42
Local clock offset: -25.212 ms
Remote clock offset: 0.72 ms

Below is generated by plot.py at 2019-02-11 11:50:44
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 7352.359 ms
Loss rate: 82.54%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 7352.359 ms
Loss rate: 82.54%

Run 2: Report of Indigo-MusesD — Data Link

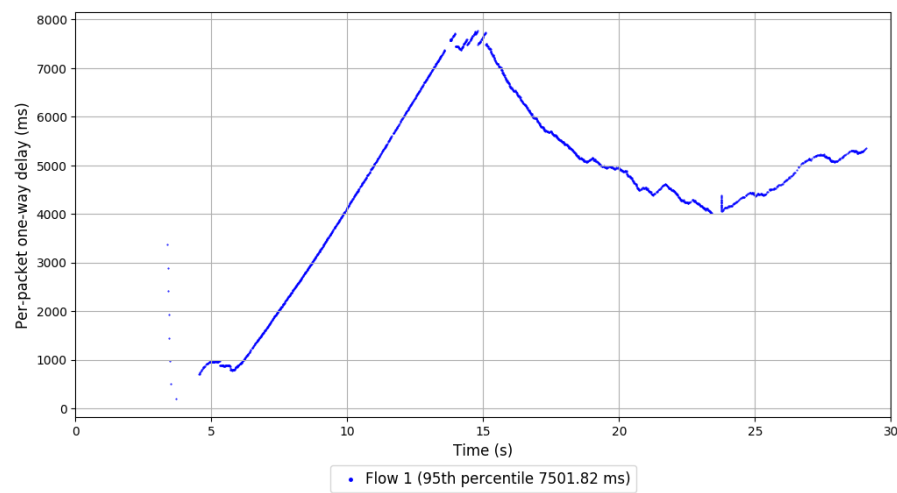
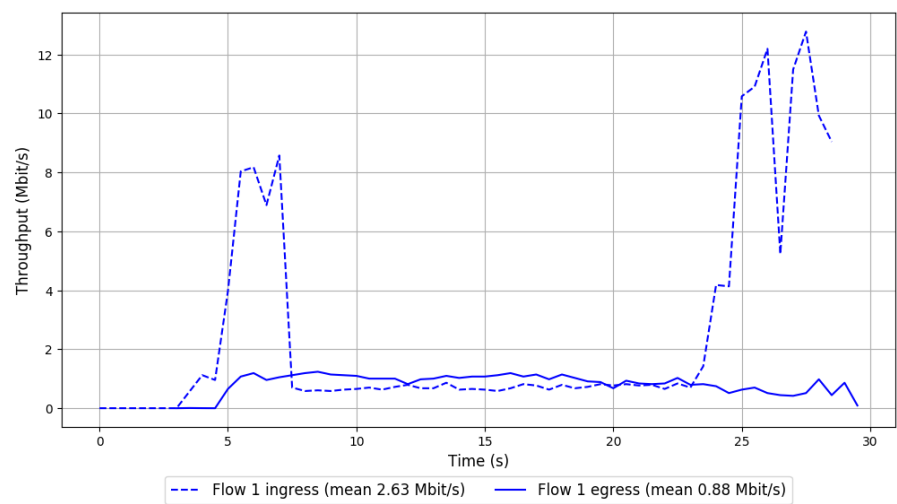


Run 3: Statistics of Indigo-MusesD

Start at: 2019-02-11 11:36:13
End at: 2019-02-11 11:36:44
Local clock offset: -43.458 ms
Remote clock offset: 0.554 ms

Below is generated by plot.py at 2019-02-11 11:50:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 7501.816 ms
Loss rate: 70.52%
-- Flow 1:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 7501.816 ms
Loss rate: 70.52%

Run 3: Report of Indigo-MusesD — Data Link

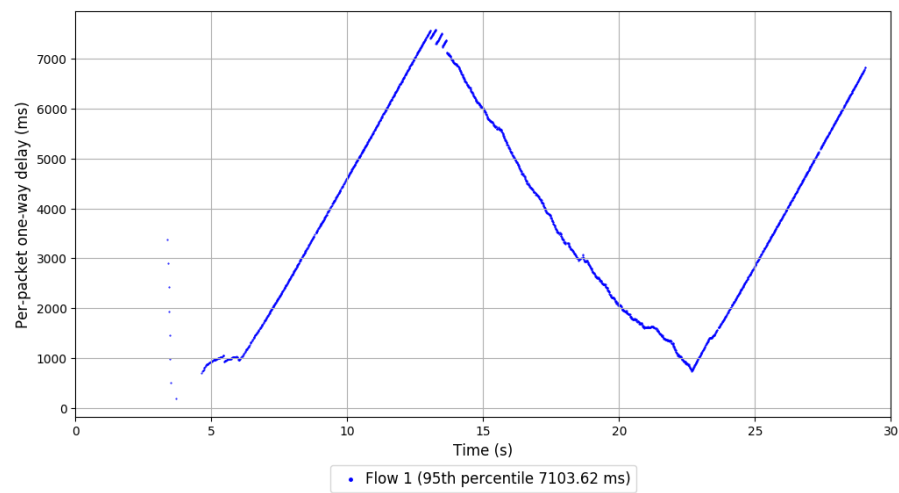
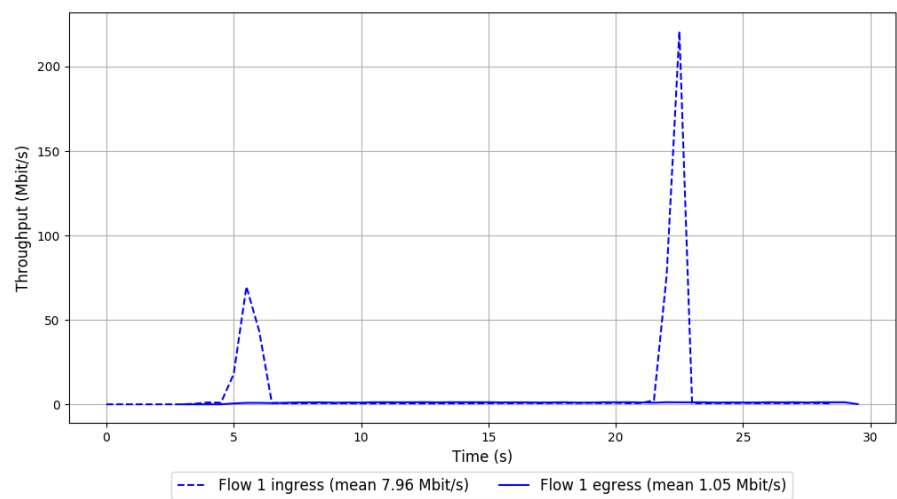


Run 1: Statistics of Indigo-MusesT

Start at: 2019-02-11 11:01:57
End at: 2019-02-11 11:02:27
Local clock offset: -22.189 ms
Remote clock offset: 1.728 ms

Below is generated by plot.py at 2019-02-11 11:50:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 7103.622 ms
Loss rate: 88.33%
-- Flow 1:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 7103.622 ms
Loss rate: 88.33%

Run 1: Report of Indigo-MusesT — Data Link

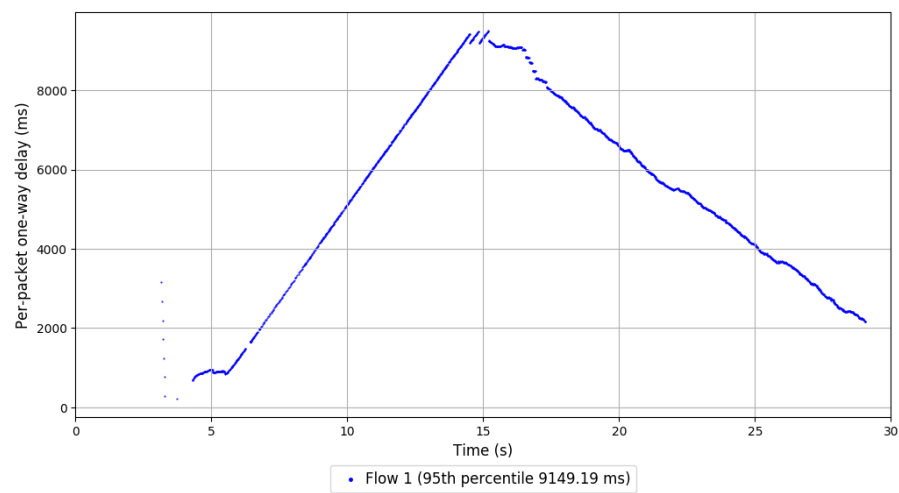
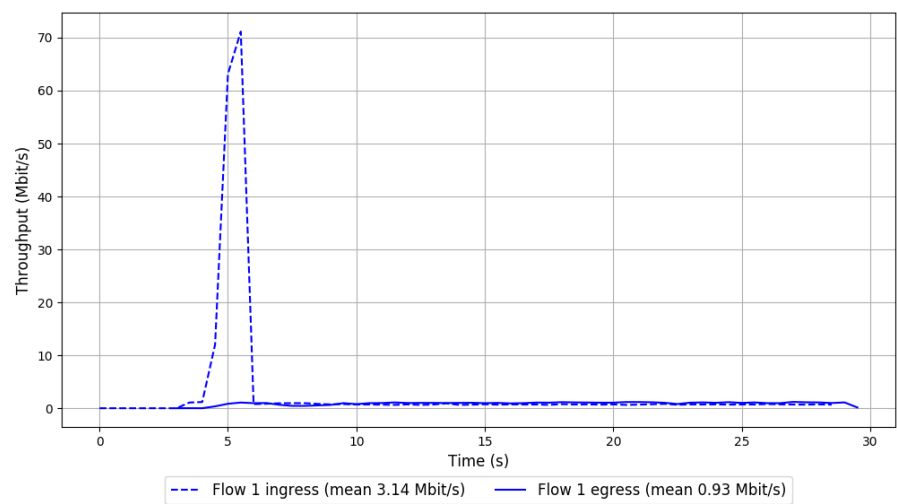


Run 2: Statistics of Indigo-MusesT

Start at: 2019-02-11 11:25:52
End at: 2019-02-11 11:26:22
Local clock offset: -38.865 ms
Remote clock offset: 6.225 ms

Below is generated by plot.py at 2019-02-11 11:50:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 9149.194 ms
Loss rate: 73.45%
-- Flow 1:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 9149.194 ms
Loss rate: 73.45%

Run 2: Report of Indigo-MusesT — Data Link



Run 3: Statistics of Indigo-MusesT

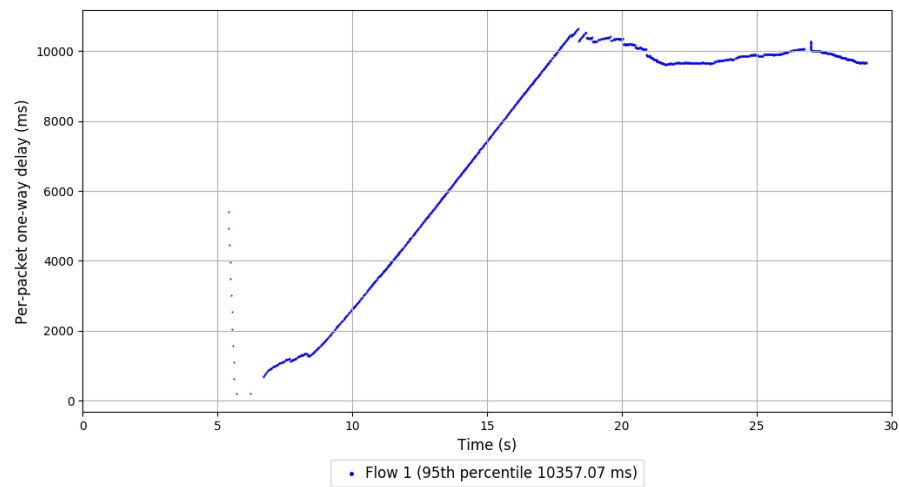
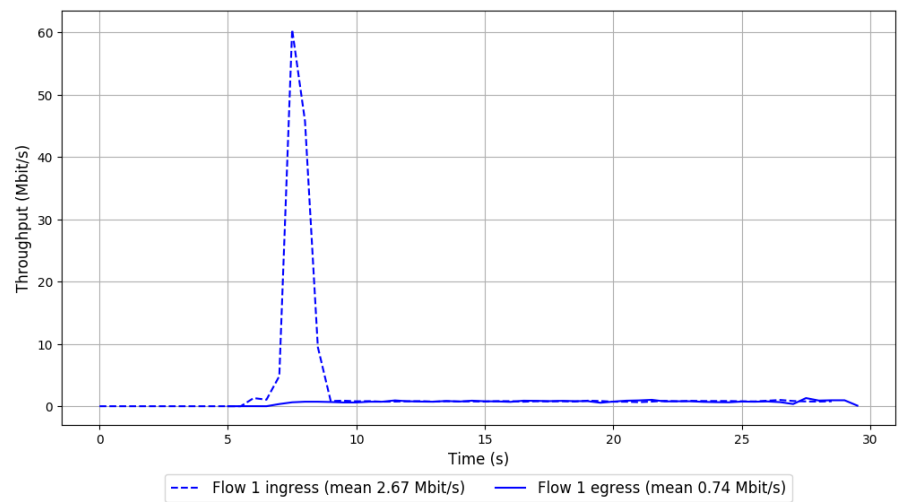
Start at: 2019-02-11 11:49:52

End at: 2019-02-11 11:50:22

Local clock offset: -22.59 ms

Remote clock offset: 1.609 ms

Run 3: Report of Indigo-MusesT — Data Link

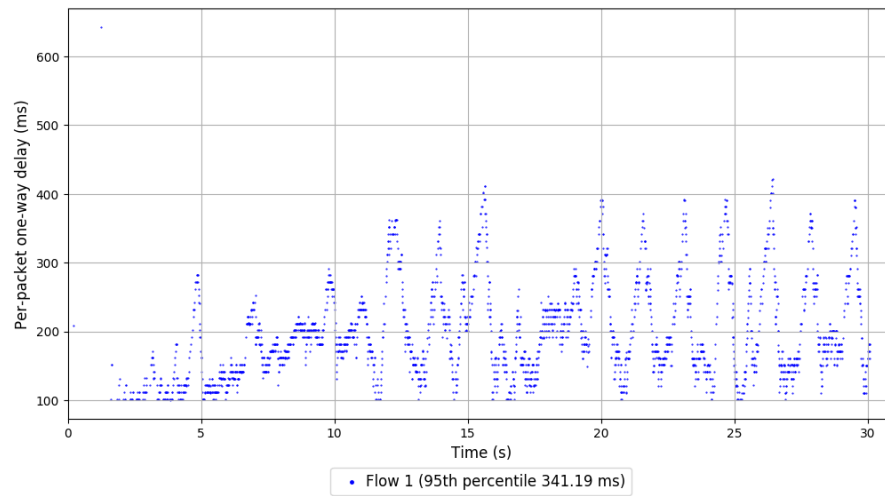
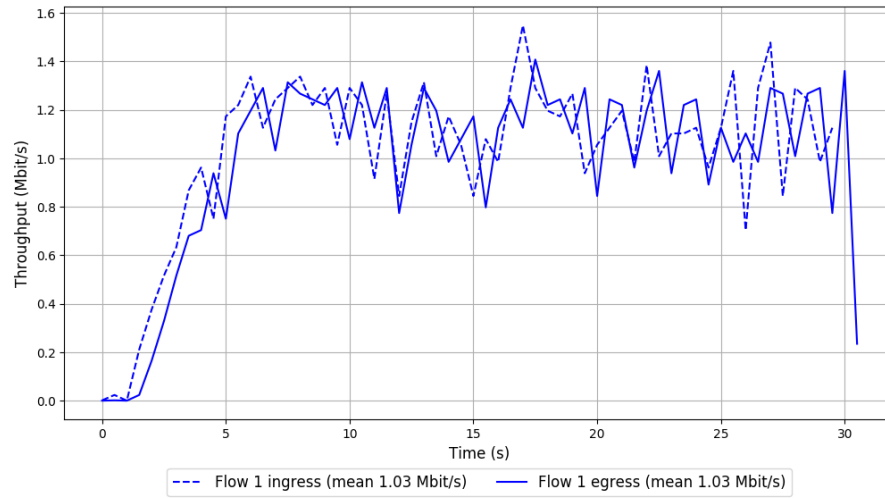


Run 1: Statistics of LEDBAT

Start at: 2019-02-11 10:49:25
End at: 2019-02-11 10:49:55
Local clock offset: -16.846 ms
Remote clock offset: 1.777 ms

Below is generated by plot.py at 2019-02-11 11:50:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 341.186 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 341.186 ms
Loss rate: 0.30%

Run 1: Report of LEDBAT — Data Link

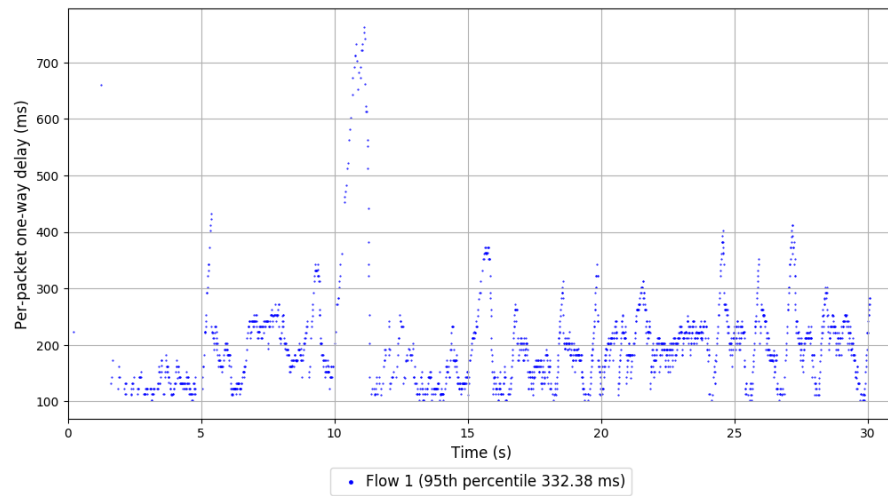
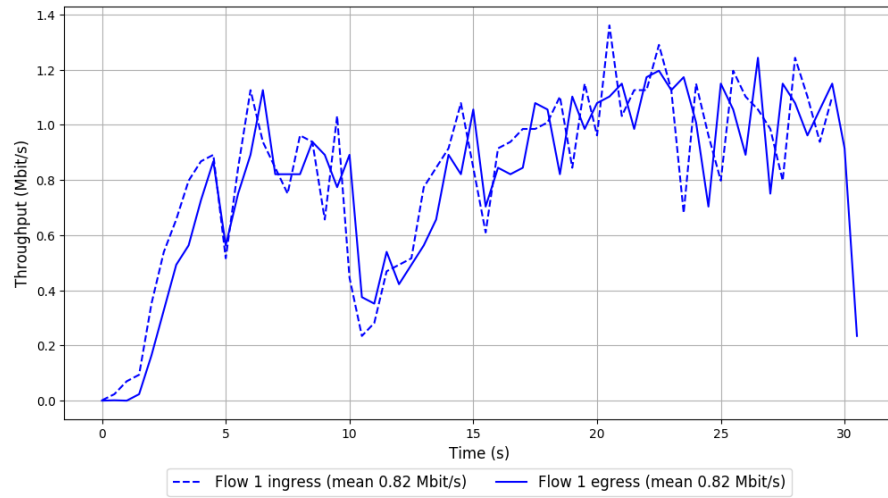


Run 2: Statistics of LEDBAT

Start at: 2019-02-11 11:13:21
End at: 2019-02-11 11:13:51
Local clock offset: -25.824 ms
Remote clock offset: 4.883 ms

Below is generated by plot.py at 2019-02-11 11:50:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 332.385 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 332.385 ms
Loss rate: 0.52%

Run 2: Report of LEDBAT — Data Link

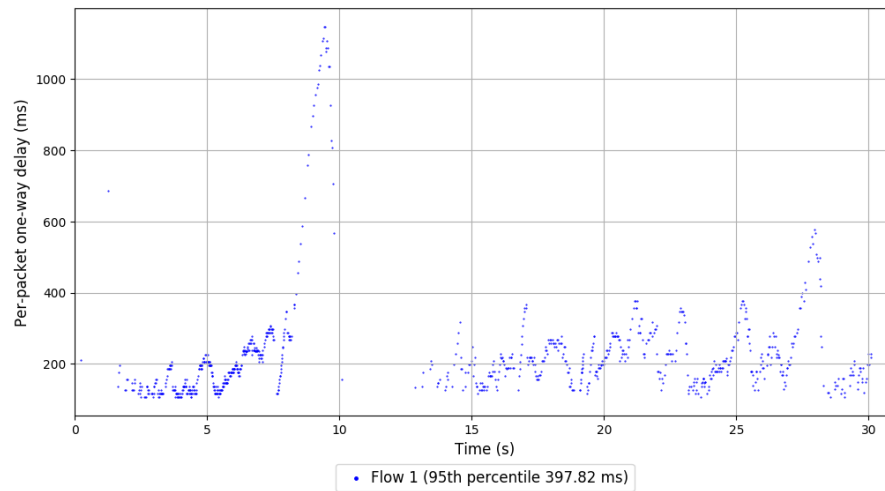
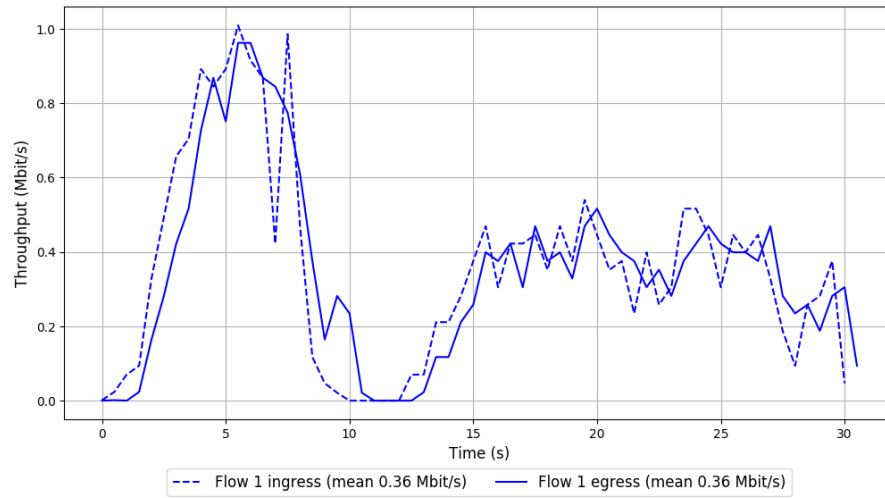


Run 3: Statistics of LEDBAT

Start at: 2019-02-11 11:37:22
End at: 2019-02-11 11:37:52
Local clock offset: -38.725 ms
Remote clock offset: 0.935 ms

Below is generated by plot.py at 2019-02-11 11:50:48
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 397.820 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 397.820 ms
Loss rate: 0.54%

Run 3: Report of LEDBAT — Data Link

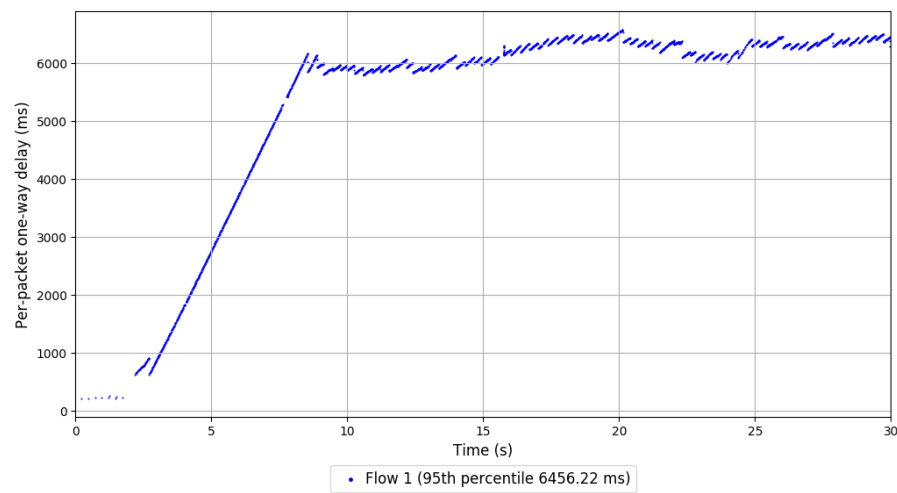
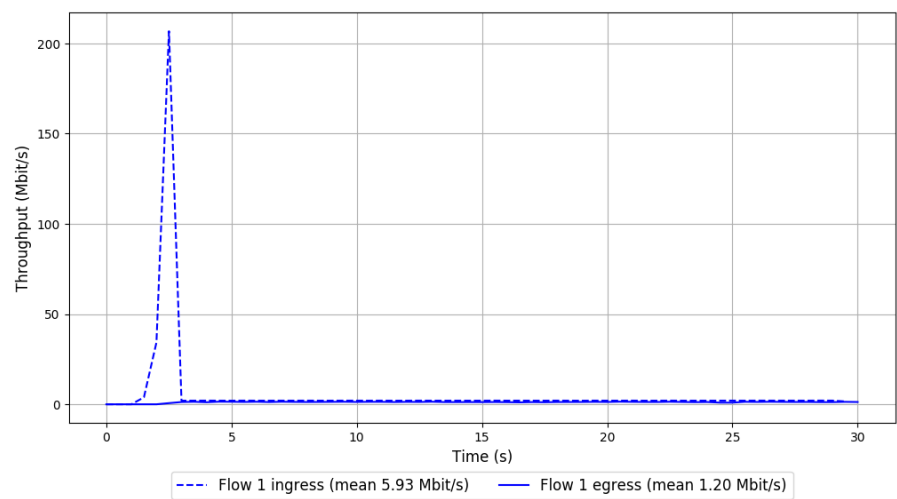


Run 1: Statistics of PCC-Allegro

Start at: 2019-02-11 10:43:43
End at: 2019-02-11 10:44:13
Local clock offset: -17.541 ms
Remote clock offset: 0.503 ms

Below is generated by plot.py at 2019-02-11 11:50:50
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 6456.219 ms
Loss rate: 79.84%
-- Flow 1:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 6456.219 ms
Loss rate: 79.84%

Run 1: Report of PCC-Allegro — Data Link

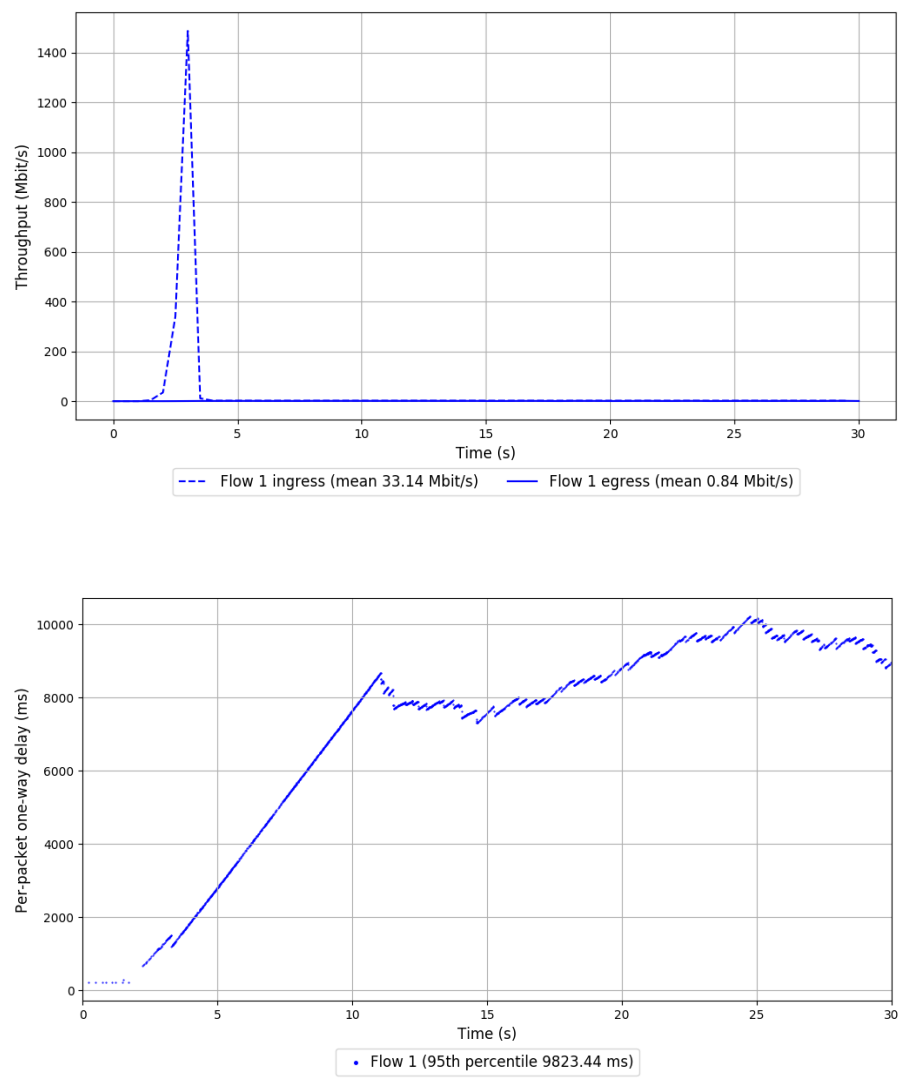


Run 2: Statistics of PCC-Allegro

Start at: 2019-02-11 11:07:38
End at: 2019-02-11 11:08:08
Local clock offset: -24.561 ms
Remote clock offset: 1.942 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 9823.436 ms
Loss rate: 97.47%
-- Flow 1:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 9823.436 ms
Loss rate: 97.47%

Run 2: Report of PCC-Allegro — Data Link

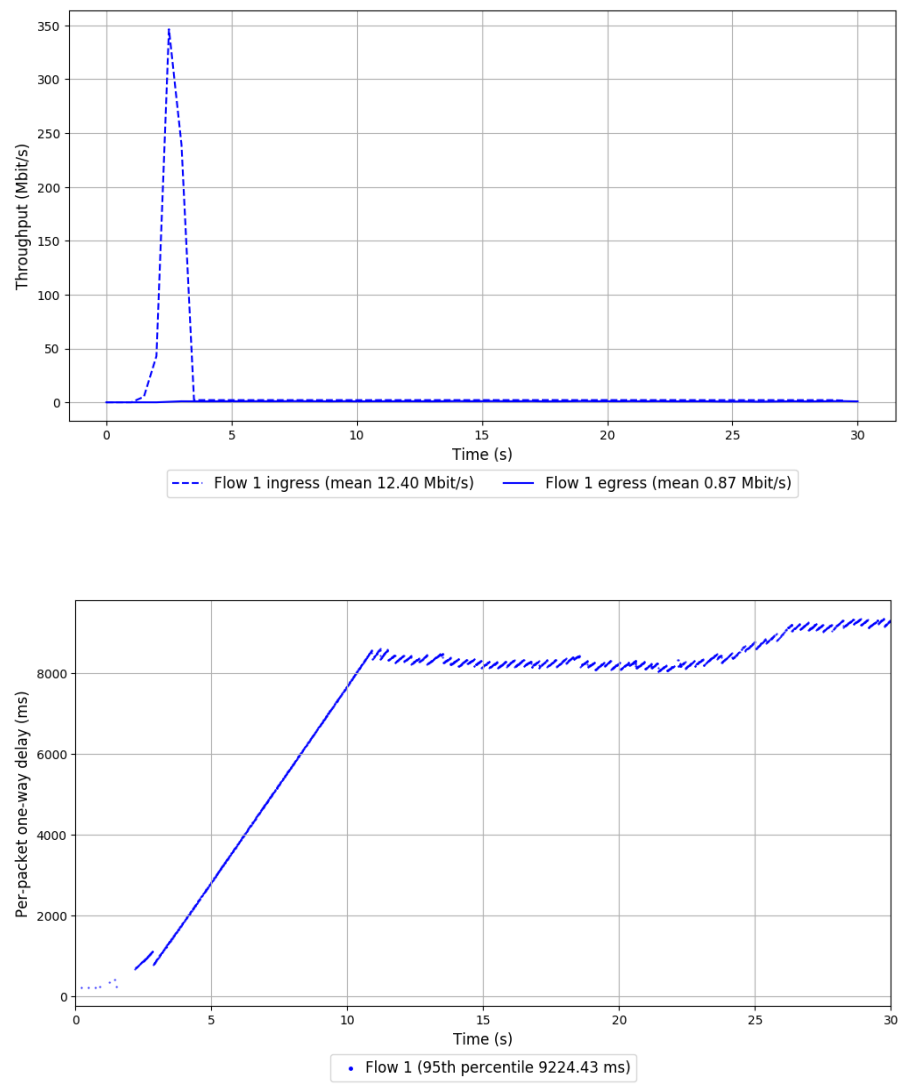


Run 3: Statistics of PCC-Allegro

Start at: 2019-02-11 11:31:40
End at: 2019-02-11 11:32:10
Local clock offset: -46.616 ms
Remote clock offset: 5.711 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 9224.432 ms
Loss rate: 93.02%
-- Flow 1:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 9224.432 ms
Loss rate: 93.02%

Run 3: Report of PCC-Allegro — Data Link

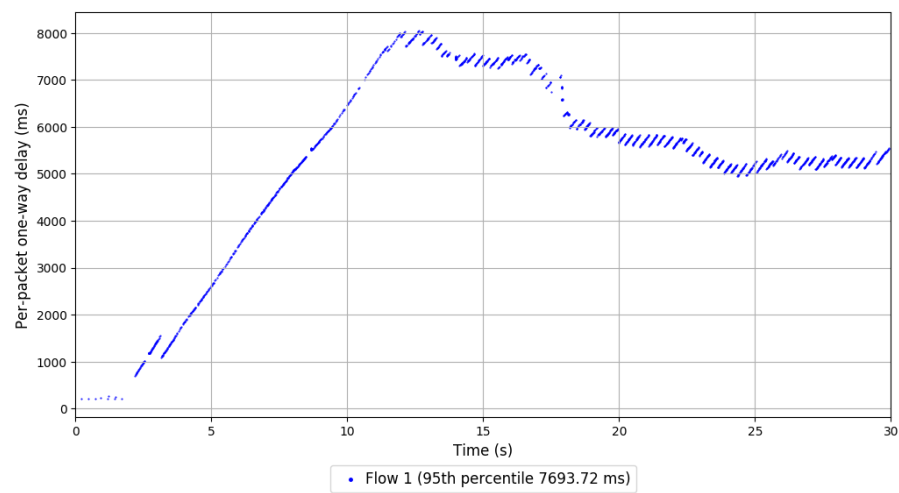
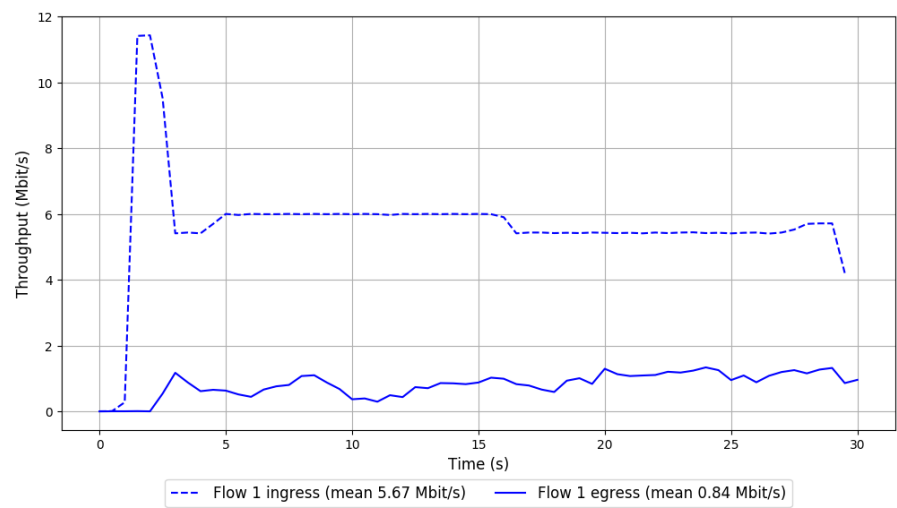


Run 1: Statistics of PCC-Expr

Start at: 2019-02-11 10:45:59
End at: 2019-02-11 10:46:29
Local clock offset: -12.991 ms
Remote clock offset: 0.676 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 7693.719 ms
Loss rate: 85.27%
-- Flow 1:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 7693.719 ms
Loss rate: 85.27%

Run 1: Report of PCC-Expr — Data Link

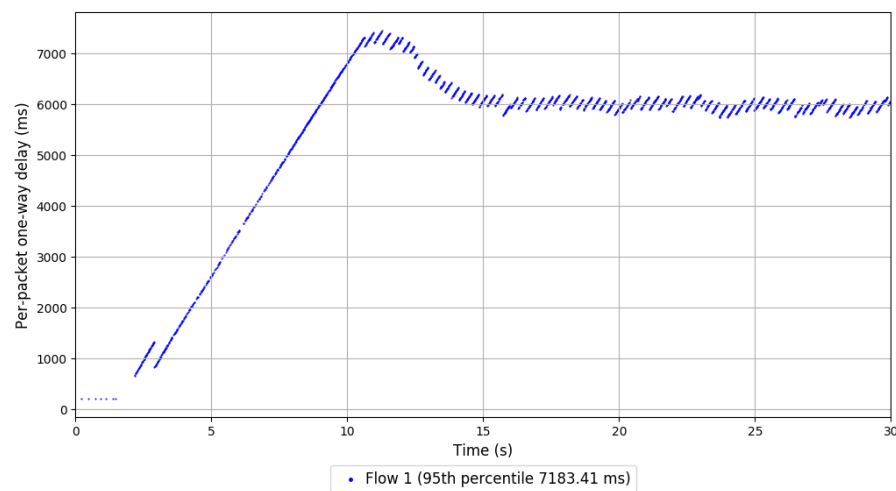
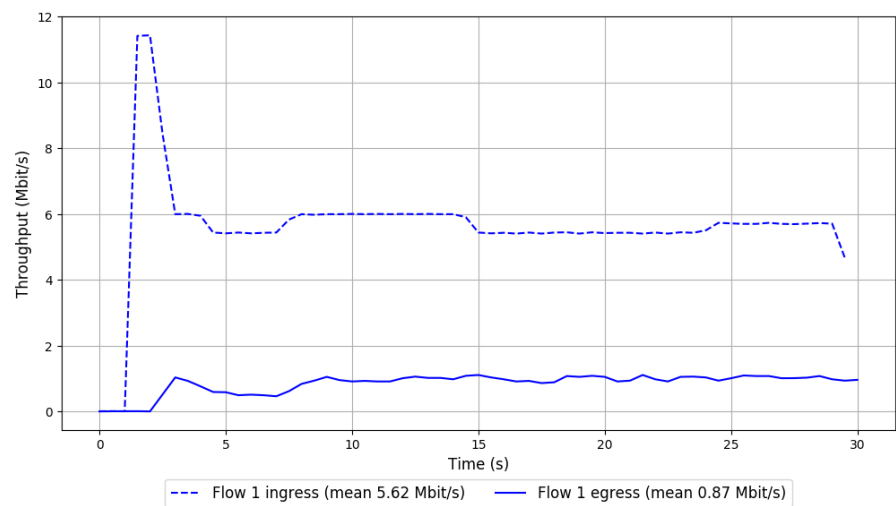


Run 2: Statistics of PCC-Expr

Start at: 2019-02-11 11:09:55
End at: 2019-02-11 11:10:25
Local clock offset: -24.158 ms
Remote clock offset: 0.788 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 7183.406 ms
Loss rate: 84.64%
-- Flow 1:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 7183.406 ms
Loss rate: 84.64%

Run 2: Report of PCC-Expr — Data Link

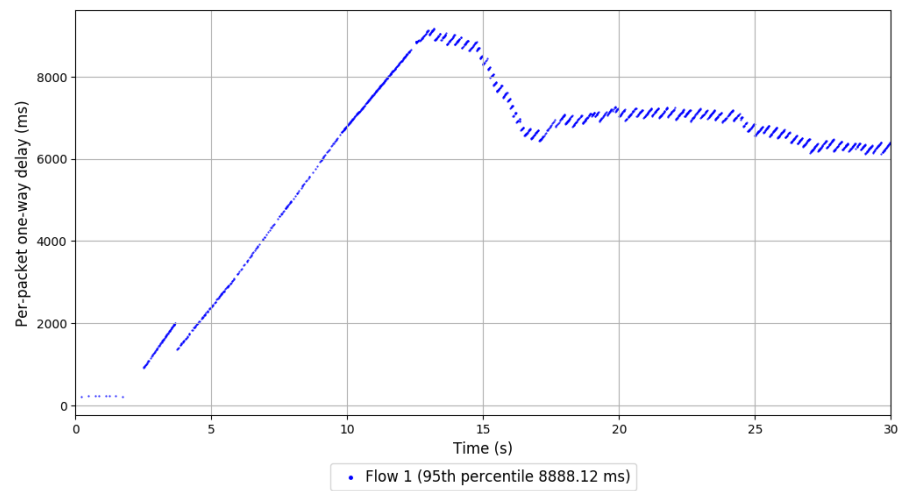
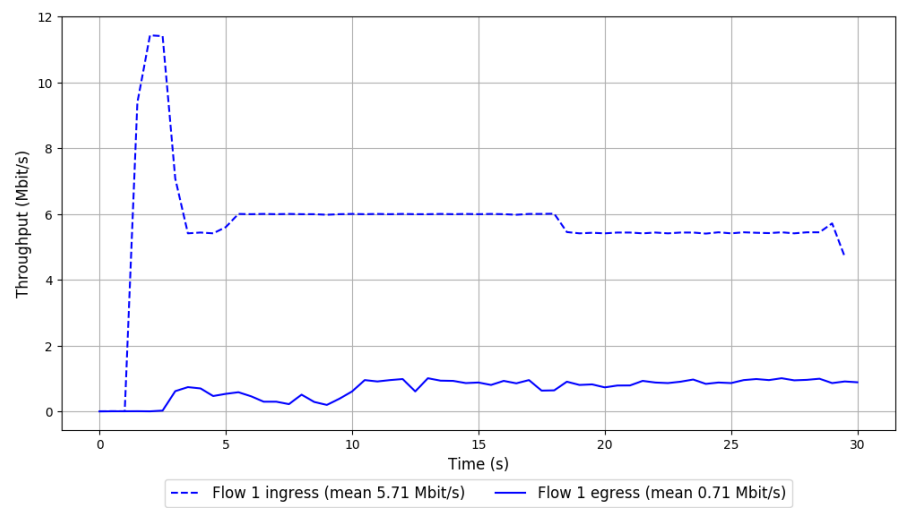


Run 3: Statistics of PCC-Expr

Start at: 2019-02-11 11:33:57
End at: 2019-02-11 11:34:27
Local clock offset: -50.503 ms
Remote clock offset: 5.761 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 8888.121 ms
Loss rate: 87.66%
-- Flow 1:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 8888.121 ms
Loss rate: 87.66%

Run 3: Report of PCC-Expr — Data Link

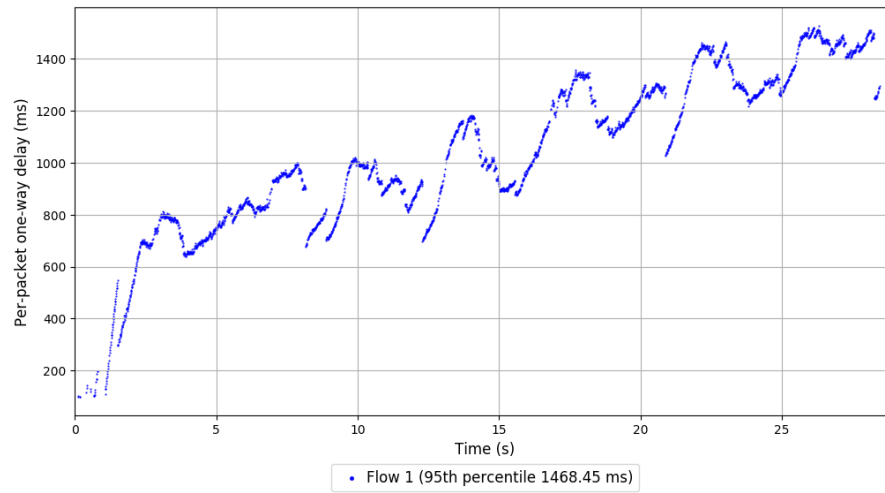
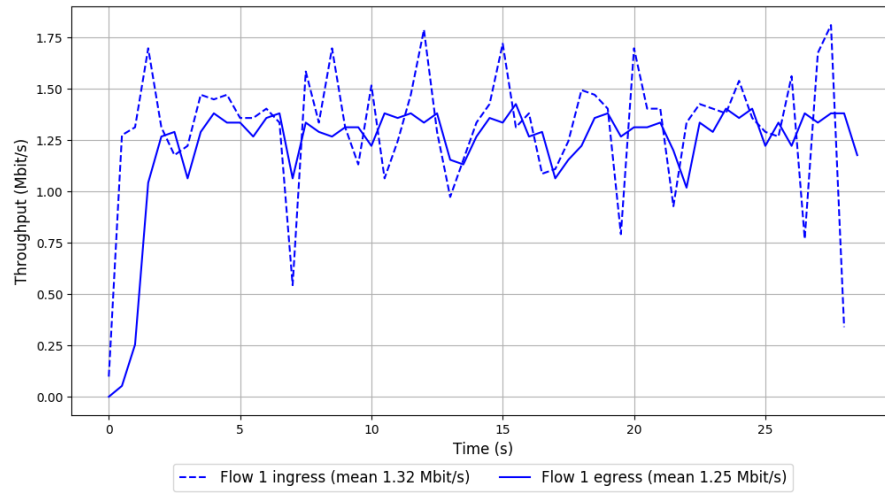


Run 1: Statistics of QUIC Cubic

Start at: 2019-02-11 10:47:08
End at: 2019-02-11 10:47:38
Local clock offset: -13.663 ms
Remote clock offset: 6.08 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 1468.448 ms
Loss rate: 4.53%
-- Flow 1:
Average throughput: 1.25 Mbit/s
95th percentile per-packet one-way delay: 1468.448 ms
Loss rate: 4.53%

Run 1: Report of QUIC Cubic — Data Link

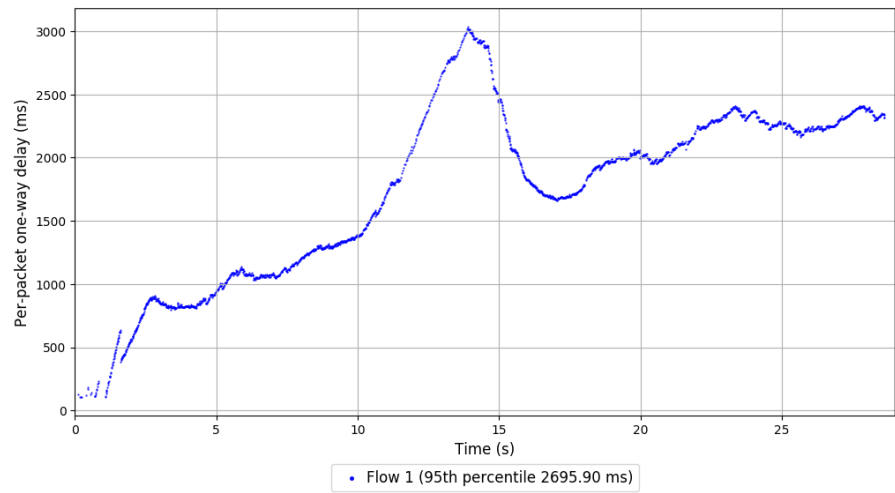
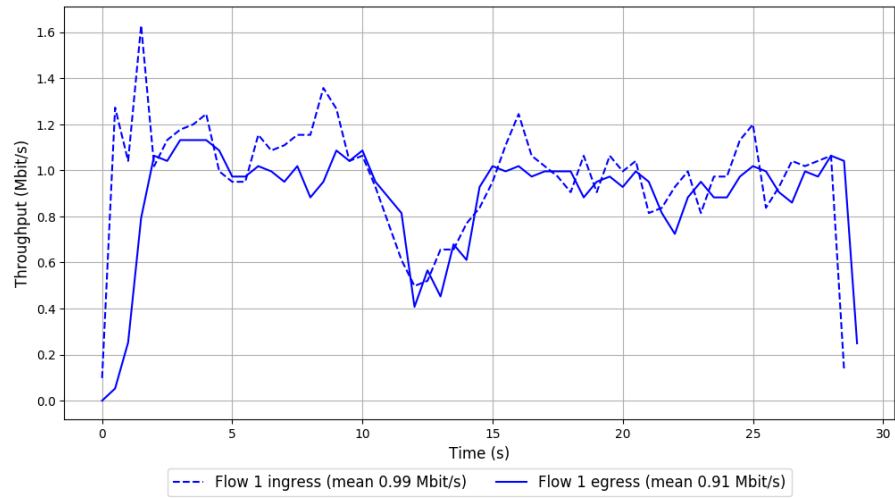


Run 2: Statistics of QUIC Cubic

Start at: 2019-02-11 11:11:04
End at: 2019-02-11 11:11:34
Local clock offset: -24.669 ms
Remote clock offset: 5.952 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 2695.901 ms
Loss rate: 8.10%
-- Flow 1:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 2695.901 ms
Loss rate: 8.10%

Run 2: Report of QUIC Cubic — Data Link

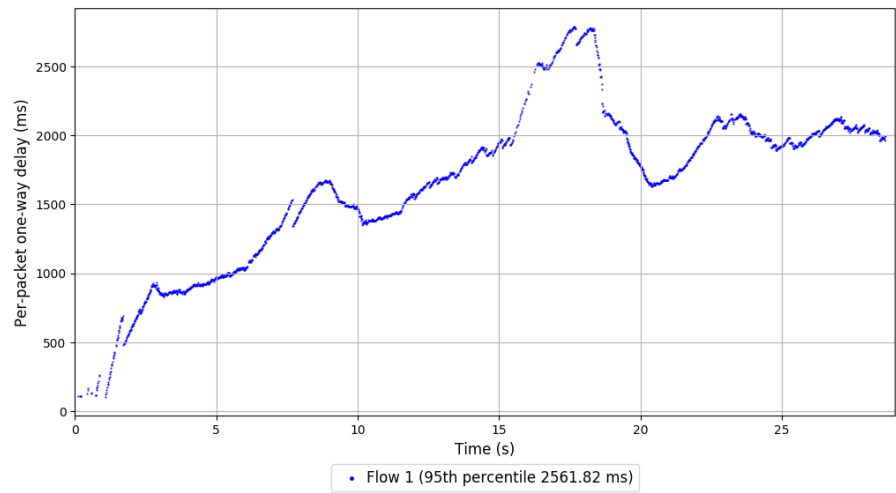
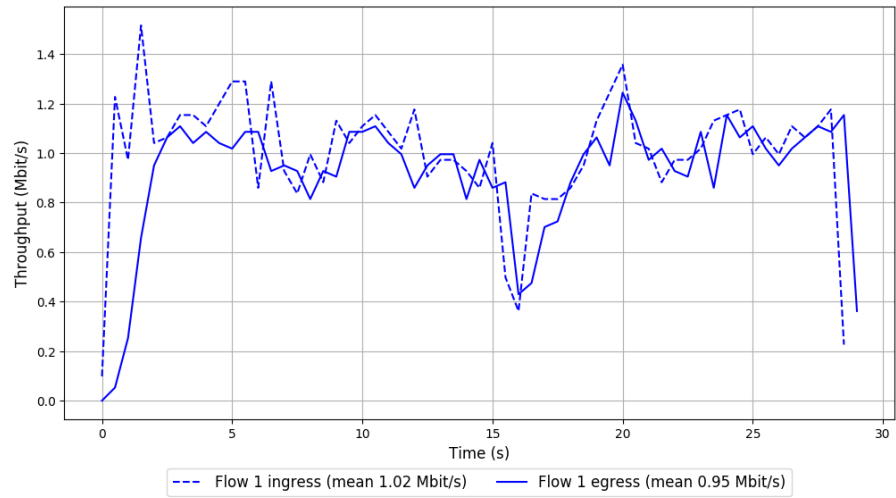


Run 3: Statistics of QUIC Cubic

Start at: 2019-02-11 11:35:05
End at: 2019-02-11 11:35:35
Local clock offset: -47.971 ms
Remote clock offset: 5.856 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 2561.825 ms
Loss rate: 7.34%
-- Flow 1:
Average throughput: 0.95 Mbit/s
95th percentile per-packet one-way delay: 2561.825 ms
Loss rate: 7.34%

Run 3: Report of QUIC Cubic — Data Link

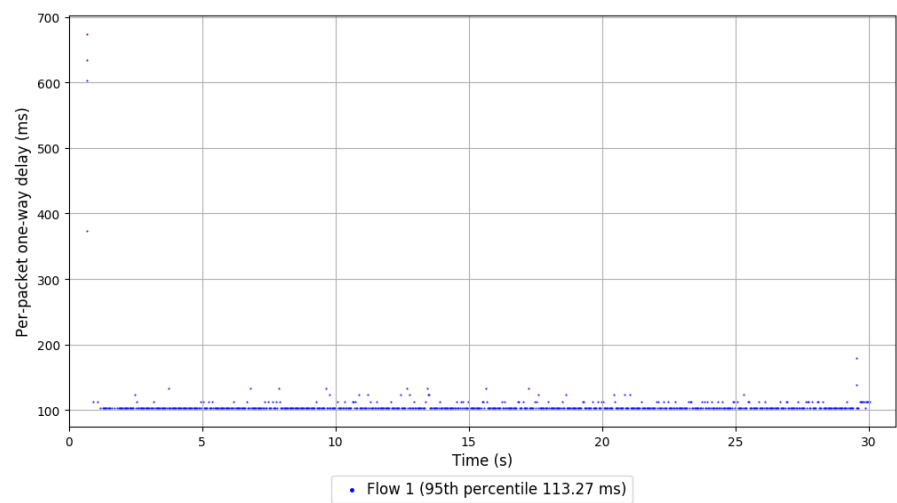
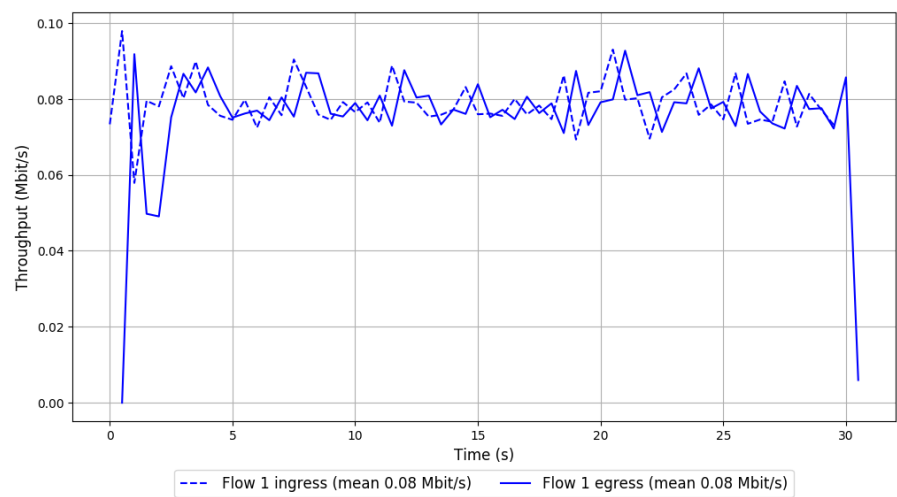


Run 1: Statistics of SCReAM

Start at: 2019-02-11 10:51:41
End at: 2019-02-11 10:52:11
Local clock offset: -20.852 ms
Remote clock offset: 4.8 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 113.270 ms
Loss rate: 2.29%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 113.270 ms
Loss rate: 2.29%

Run 1: Report of SReAM — Data Link

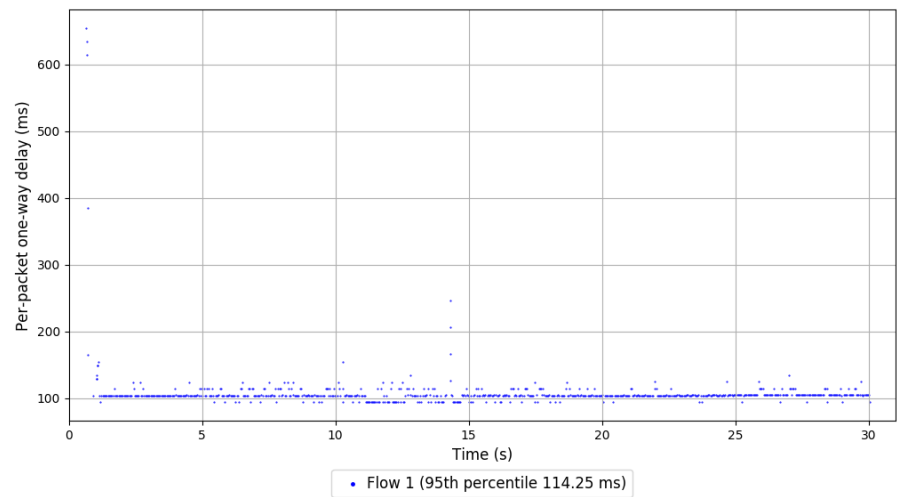
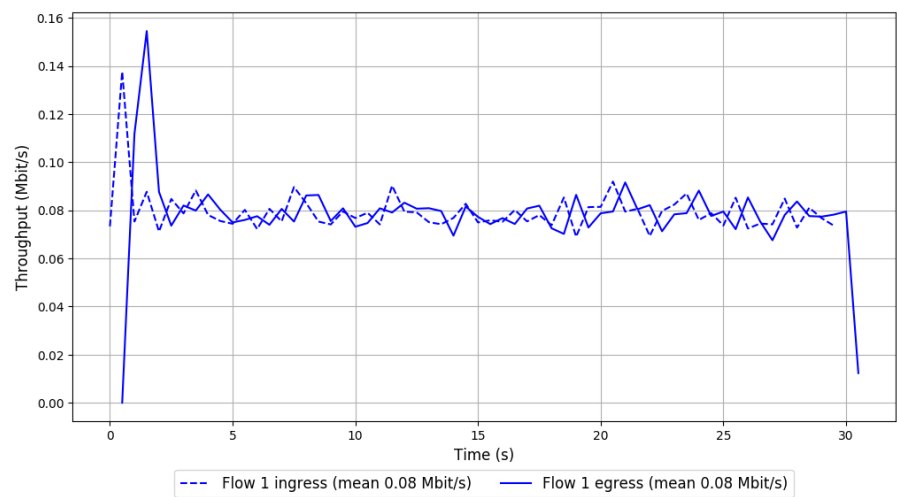


Run 2: Statistics of SCReAM

Start at: 2019-02-11 11:15:37
End at: 2019-02-11 11:16:07
Local clock offset: -27.511 ms
Remote clock offset: 5.921 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 114.247 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 114.247 ms
Loss rate: 0.00%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: 2019-02-11 11:39:38

End at: 2019-02-11 11:40:08

Local clock offset: -33.01 ms

Remote clock offset: 0.832 ms

Below is generated by plot.py at 2019-02-11 11:51:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 120.434 ms

Loss rate: 0.13%

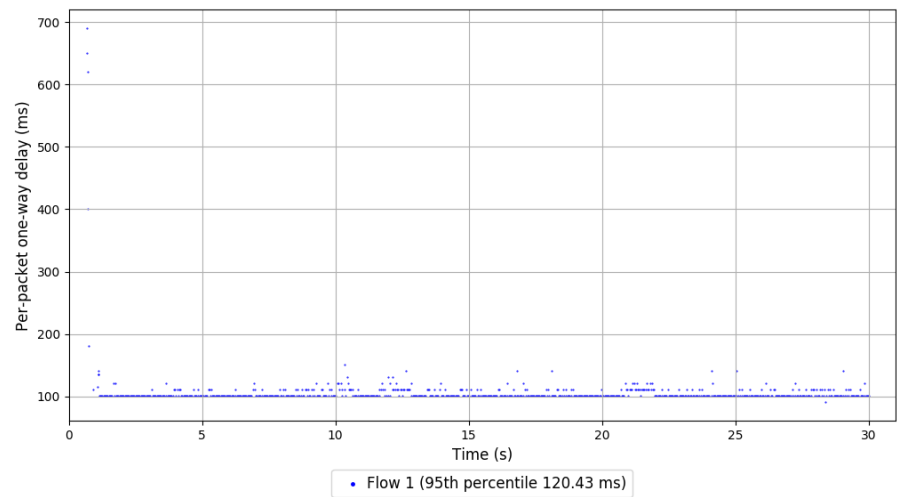
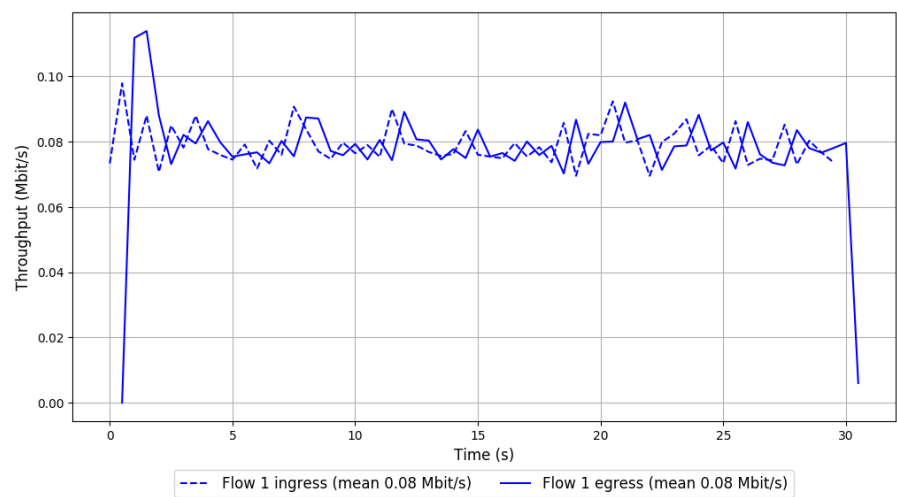
-- Flow 1:

Average throughput: 0.08 Mbit/s

95th percentile per-packet one-way delay: 120.434 ms

Loss rate: 0.13%

Run 3: Report of SReAM — Data Link



Run 1: Statistics of Sprout

Start at: 2019-02-11 10:52:50

End at: 2019-02-11 10:53:20

Local clock offset: -18.49 ms

Remote clock offset: 0.495 ms

Below is generated by plot.py at 2019-02-11 11:51:07

Datalink statistics

-- Total of 1 flow:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 146.596 ms

Loss rate: 0.33%

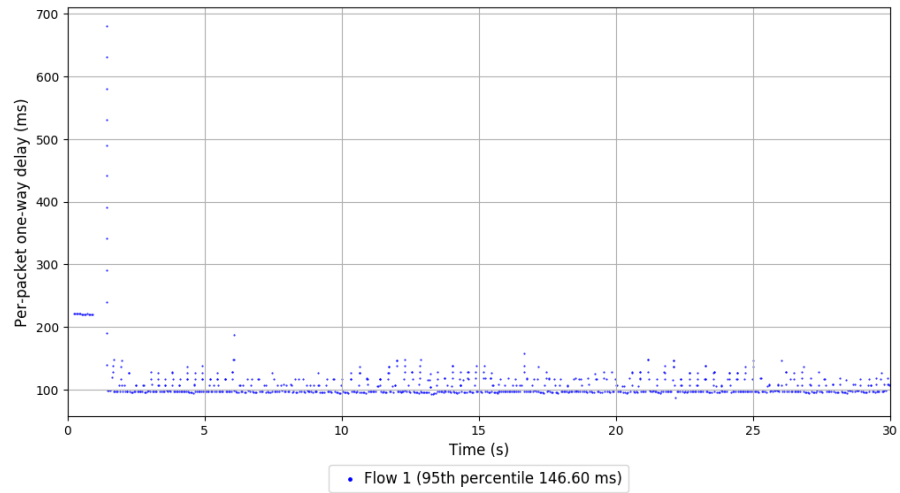
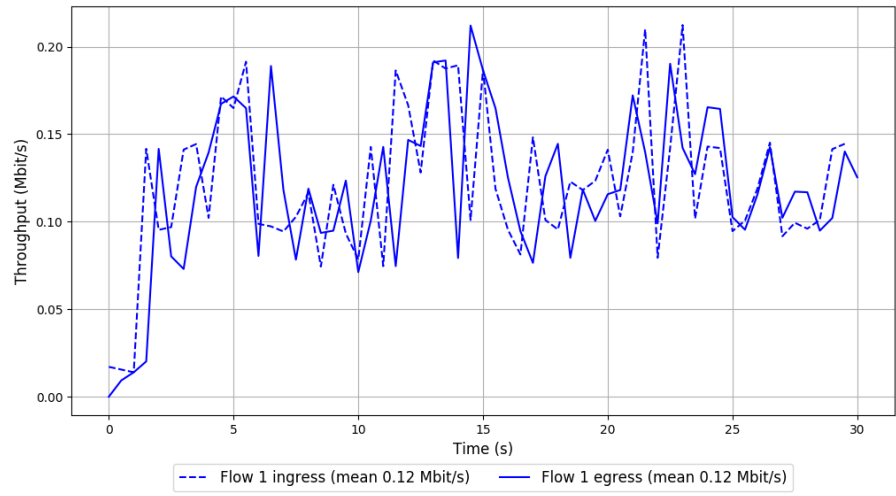
-- Flow 1:

Average throughput: 0.12 Mbit/s

95th percentile per-packet one-way delay: 146.596 ms

Loss rate: 0.33%

Run 1: Report of Sprout — Data Link

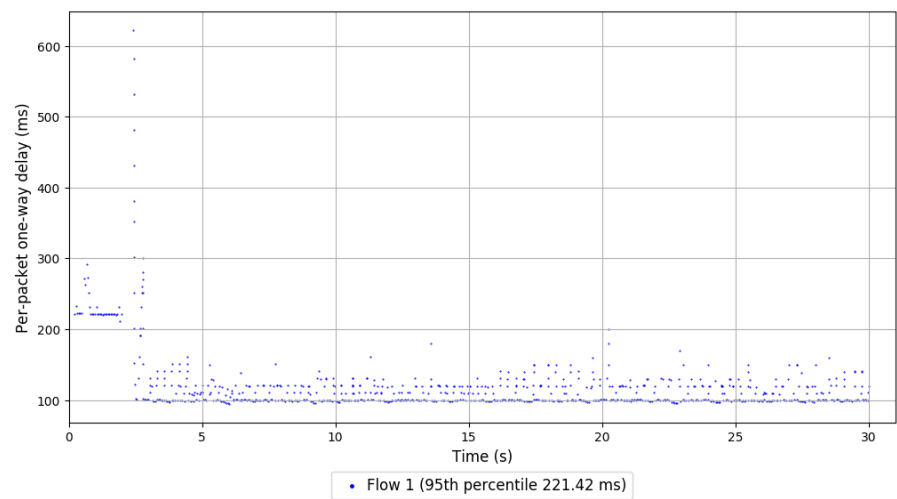
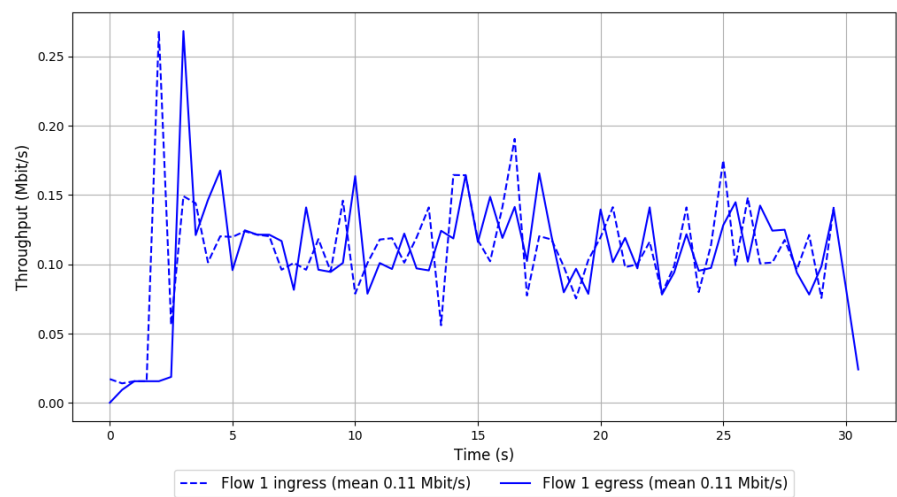


Run 2: Statistics of Sprout

Start at: 2019-02-11 11:16:45
End at: 2019-02-11 11:17:15
Local clock offset: -29.35 ms
Remote clock offset: 7.121 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 221.424 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 221.424 ms
Loss rate: 0.57%

Run 2: Report of Sprout — Data Link

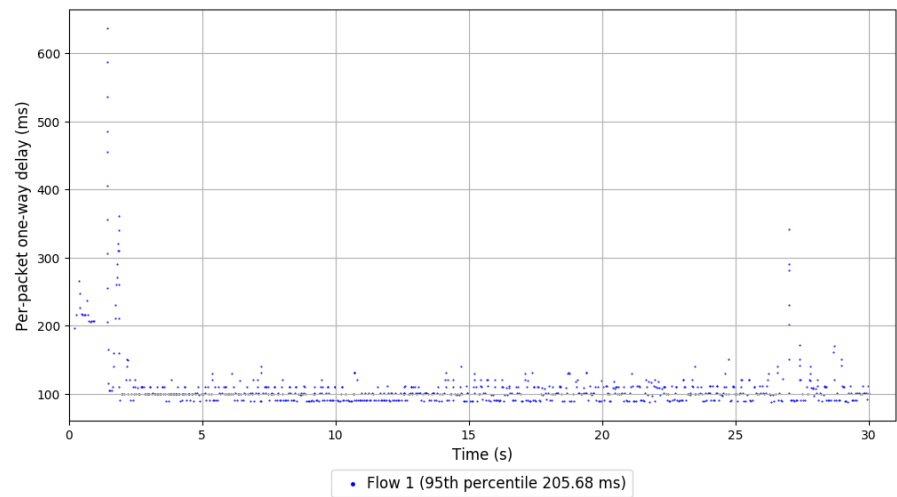
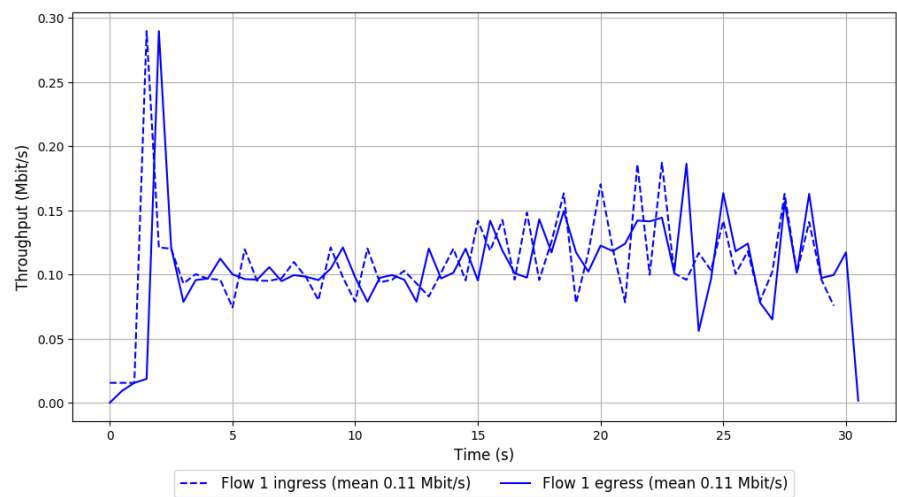


Run 3: Statistics of Sprout

Start at: 2019-02-11 11:40:46
End at: 2019-02-11 11:41:16
Local clock offset: -30.461 ms
Remote clock offset: 2.112 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 205.681 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 205.681 ms
Loss rate: 0.00%

Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

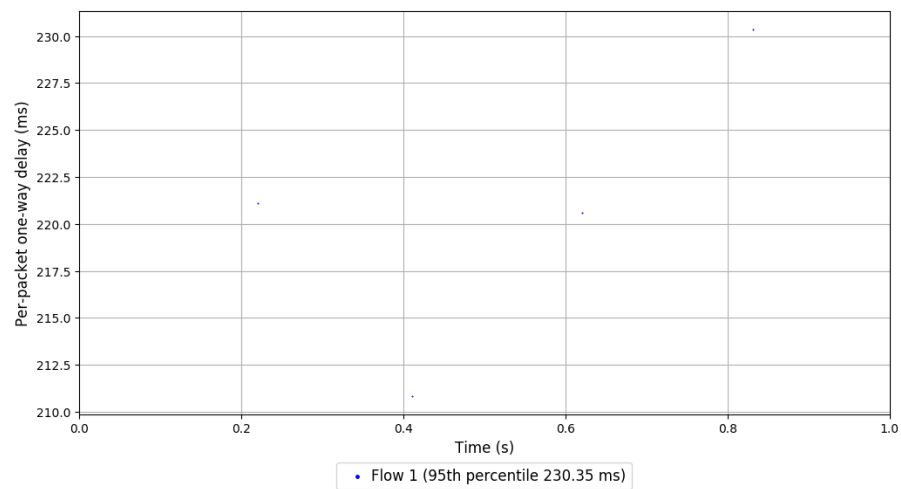
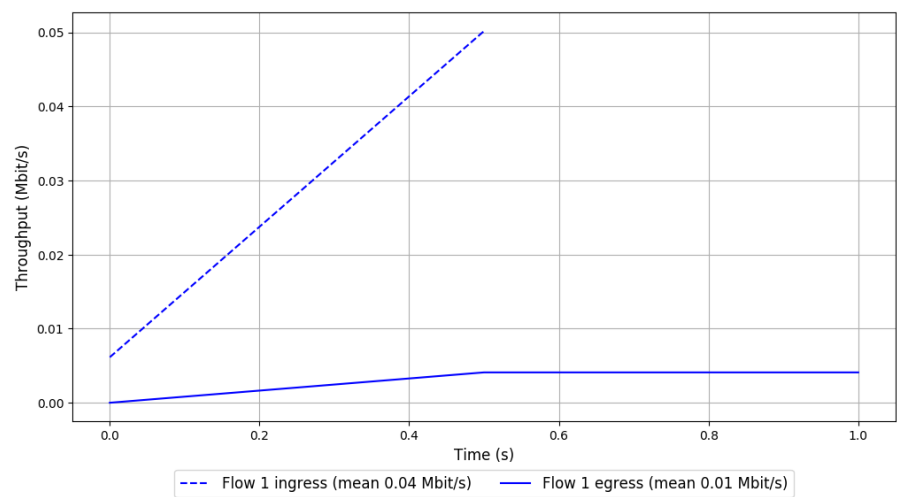
Start at: 2019-02-11 10:42:35

End at: 2019-02-11 10:43:05

Local clock offset: -18.736 ms

Remote clock offset: 4.916 ms

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



Run 2: Statistics of TaoVA-100x

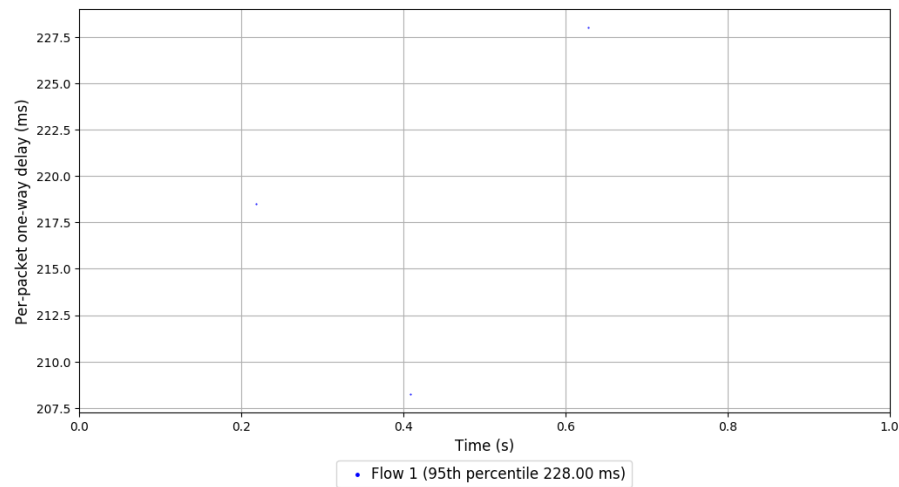
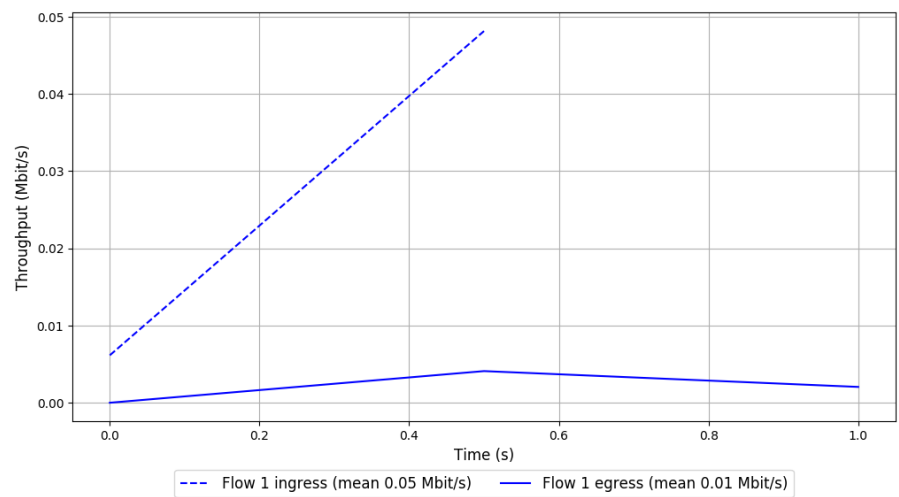
Start at: 2019-02-11 11:06:30

End at: 2019-02-11 11:07:00

Local clock offset: -23.98 ms

Remote clock offset: 1.72 ms

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



Run 3: Statistics of TaoVA-100x

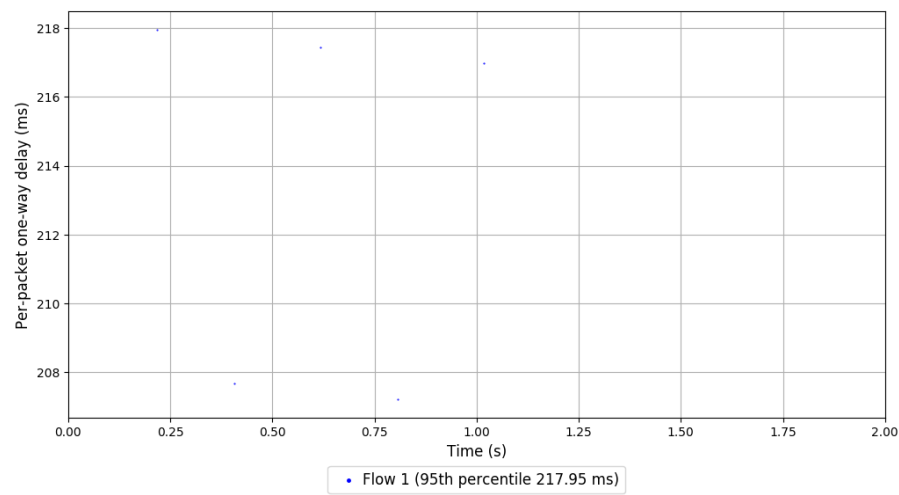
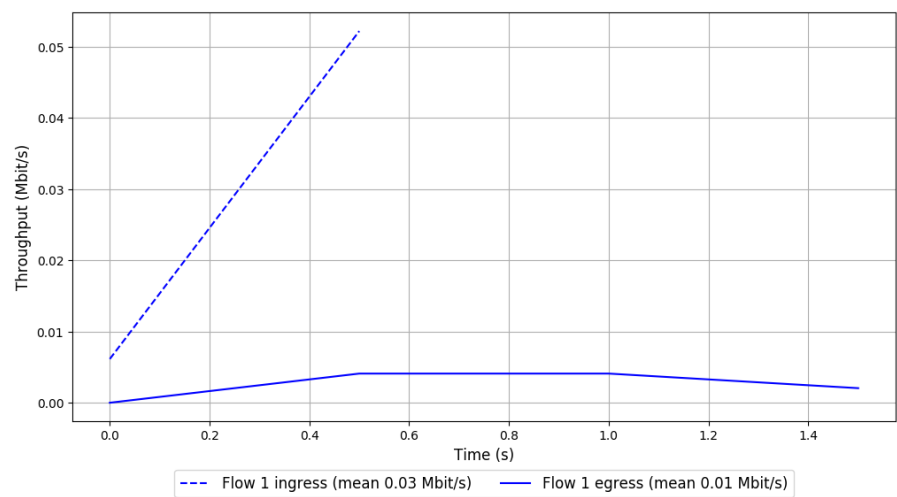
Start at: 2019-02-11 11:30:32

End at: 2019-02-11 11:31:02

Local clock offset: -44.933 ms

Remote clock offset: 2.135 ms

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

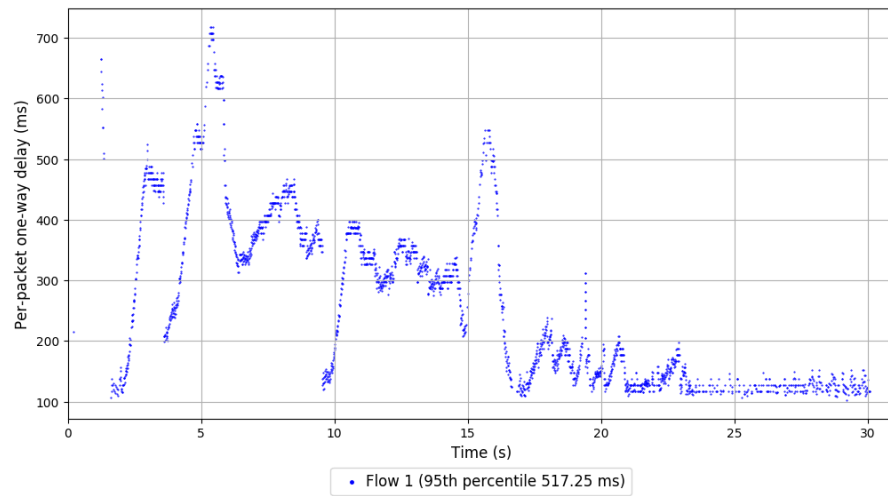
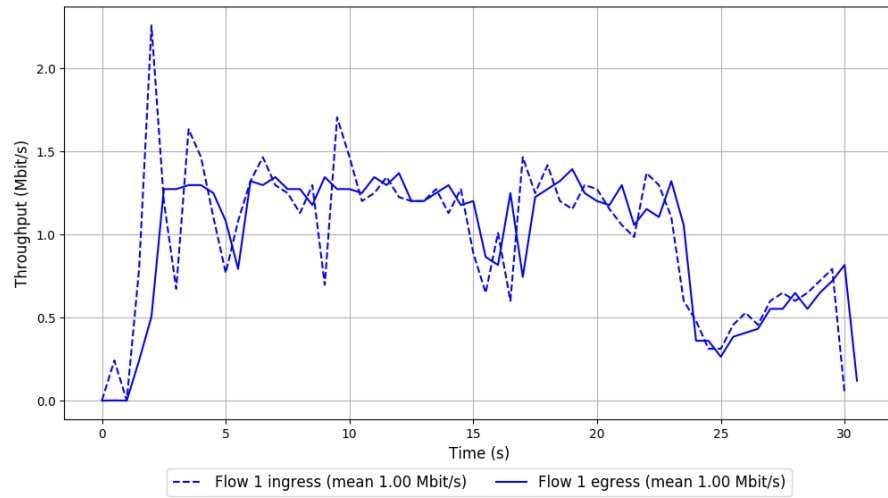


Run 1: Statistics of TCP Vegas

Start at: 2019-02-11 10:56:15
End at: 2019-02-11 10:56:45
Local clock offset: -17.318 ms
Remote clock offset: 4.781 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 517.250 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 517.250 ms
Loss rate: 1.35%

Run 1: Report of TCP Vegas — Data Link

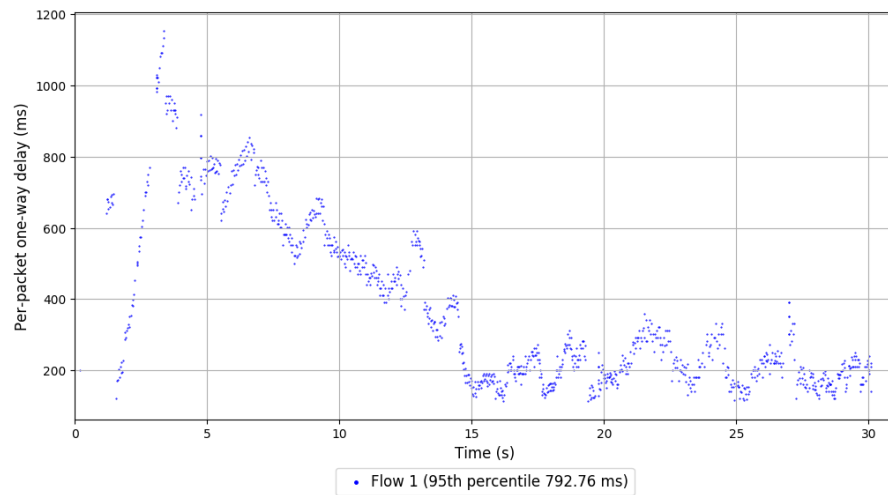
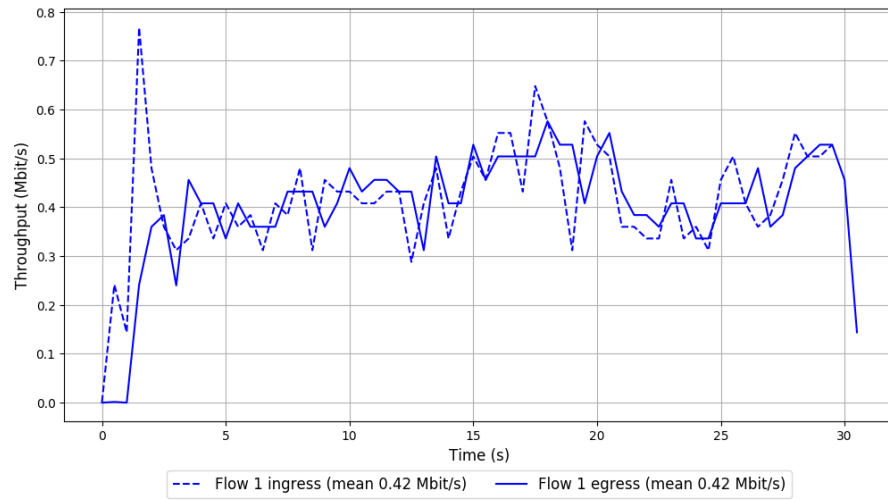


Run 2: Statistics of TCP Vegas

Start at: 2019-02-11 11:20:10
End at: 2019-02-11 11:20:40
Local clock offset: -32.748 ms
Remote clock offset: 0.854 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 792.765 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 792.765 ms
Loss rate: 0.29%

Run 2: Report of TCP Vegas — Data Link

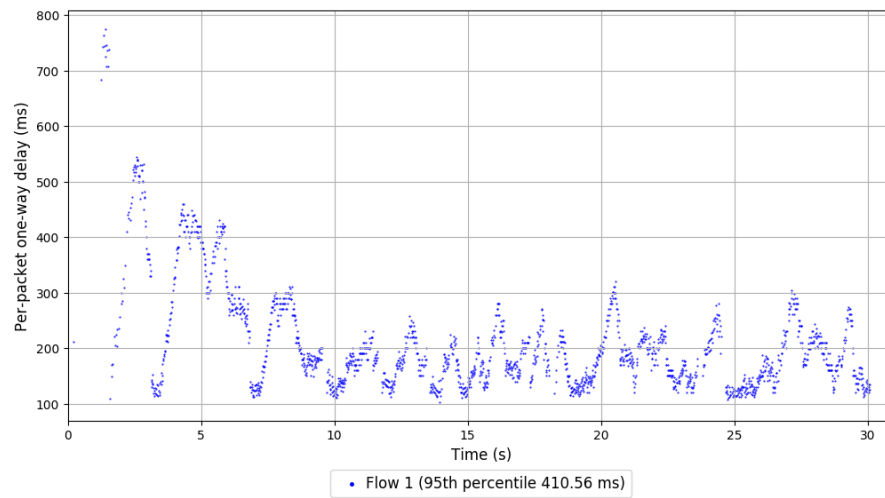
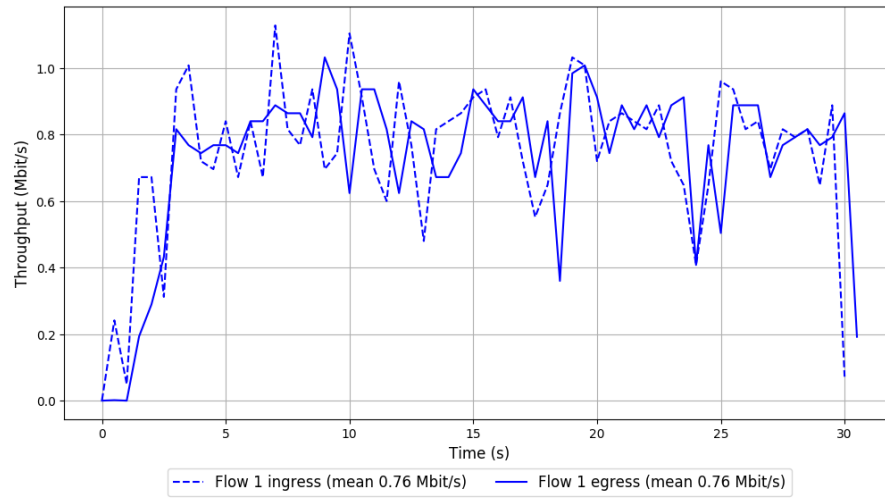


Run 3: Statistics of TCP Vegas

Start at: 2019-02-11 11:44:11
End at: 2019-02-11 11:44:41
Local clock offset: -25.598 ms
Remote clock offset: 2.441 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 410.559 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.76 Mbit/s
95th percentile per-packet one-way delay: 410.559 ms
Loss rate: 0.26%

Run 3: Report of TCP Vegas — Data Link

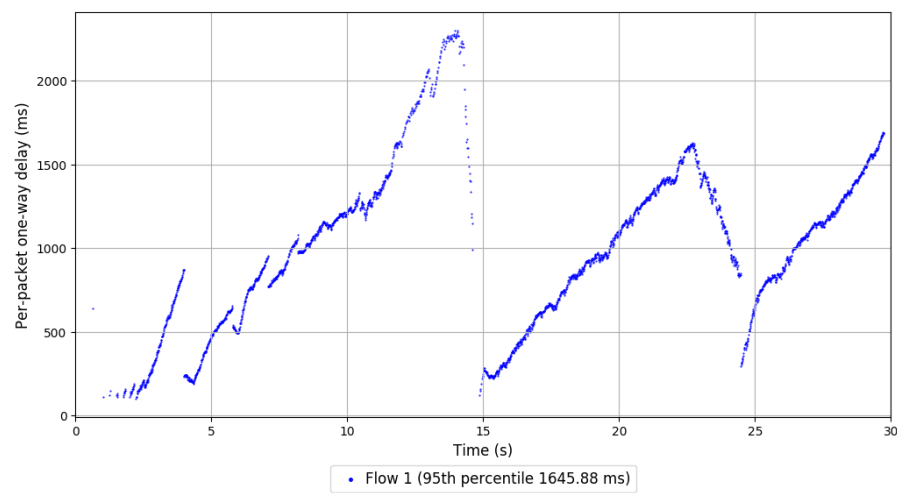
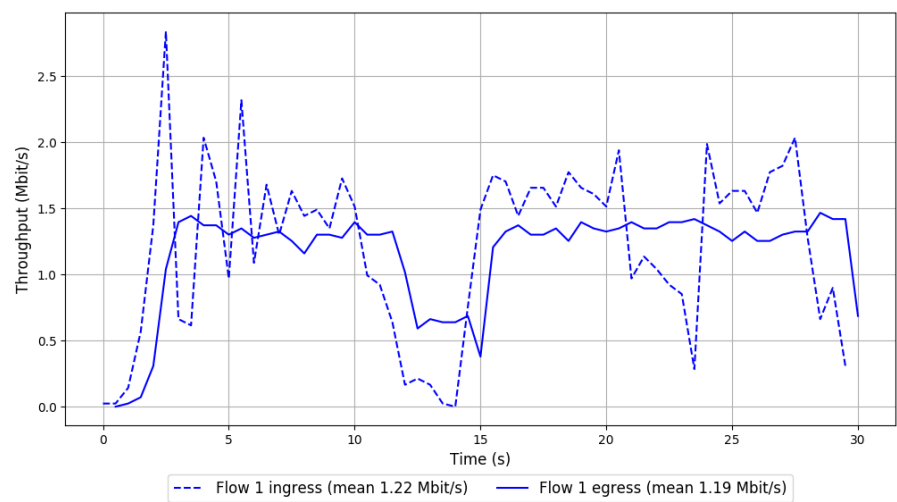


Run 1: Statistics of Verus

Start at: 2019-02-11 10:40:18
End at: 2019-02-11 10:40:48
Local clock offset: -13.802 ms
Remote clock offset: 0.449 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 1645.883 ms
Loss rate: 4.09%
-- Flow 1:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 1645.883 ms
Loss rate: 4.09%

Run 1: Report of Verus — Data Link

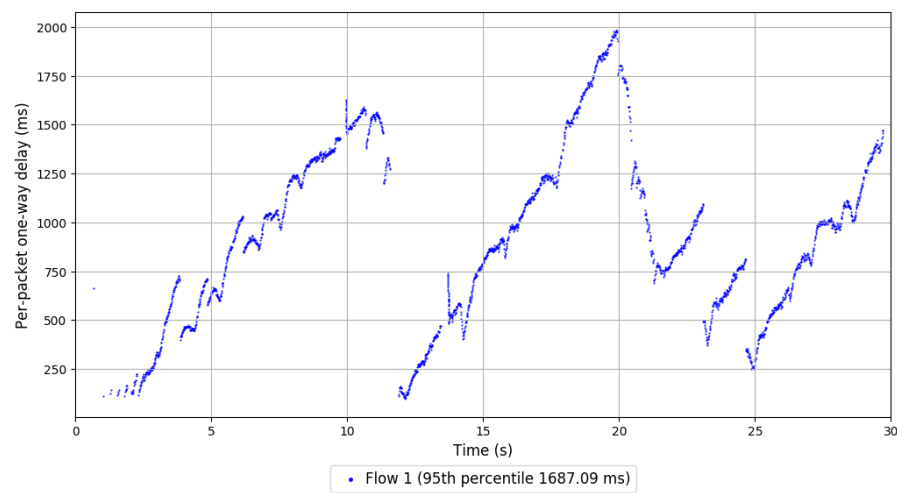
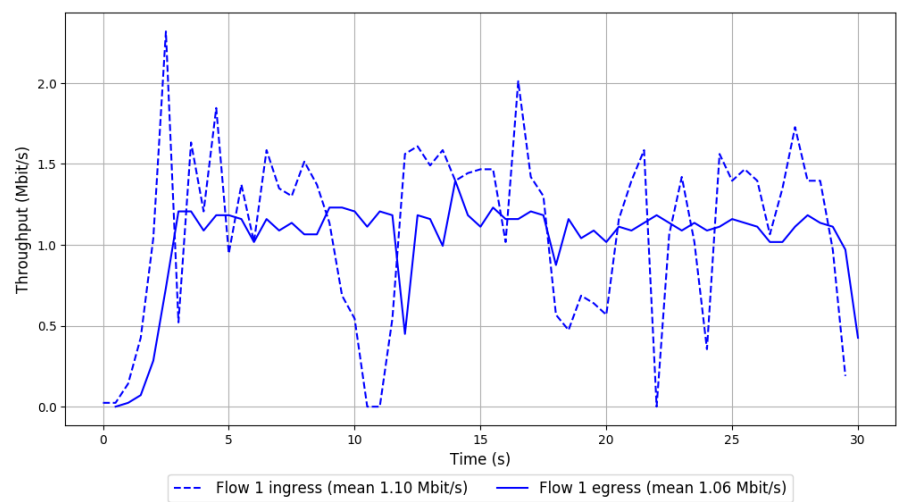


Run 2: Statistics of Verus

Start at: 2019-02-11 11:04:14
End at: 2019-02-11 11:04:44
Local clock offset: -25.167 ms
Remote clock offset: 0.649 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 1687.092 ms
Loss rate: 5.01%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 1687.092 ms
Loss rate: 5.01%

Run 2: Report of Verus — Data Link

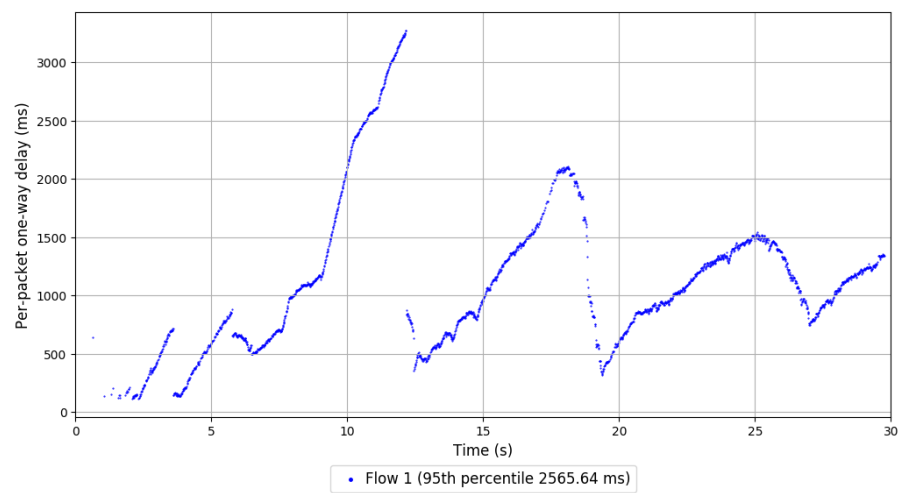
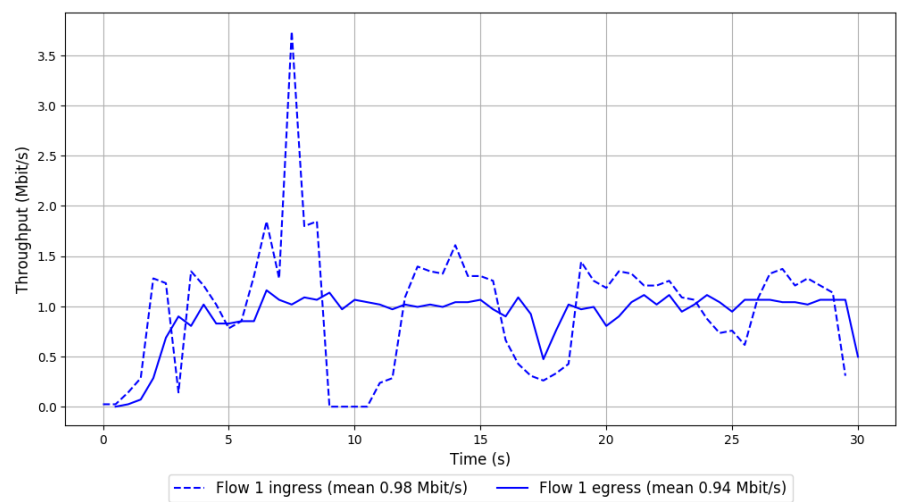


Run 3: Statistics of Verus

Start at: 2019-02-11 11:28:08
End at: 2019-02-11 11:28:38
Local clock offset: -42.759 ms
Remote clock offset: 7.054 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 2565.642 ms
Loss rate: 5.02%
-- Flow 1:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 2565.642 ms
Loss rate: 5.02%

Run 3: Report of Verus — Data Link

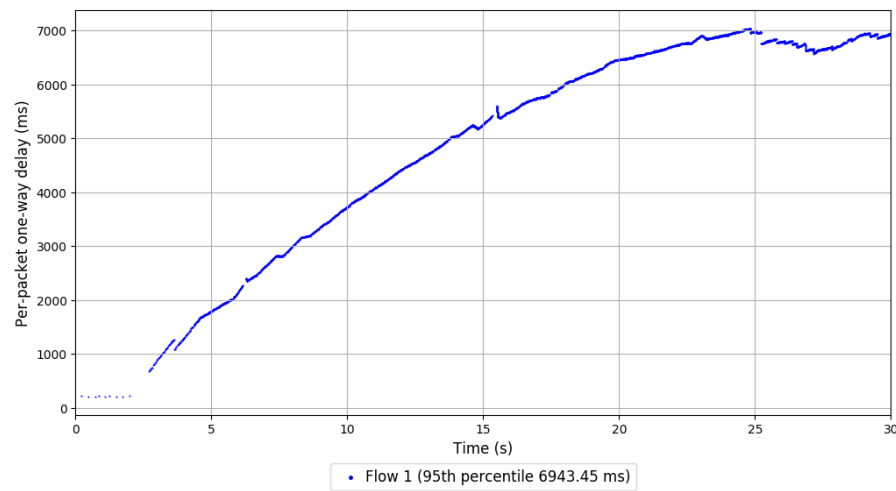
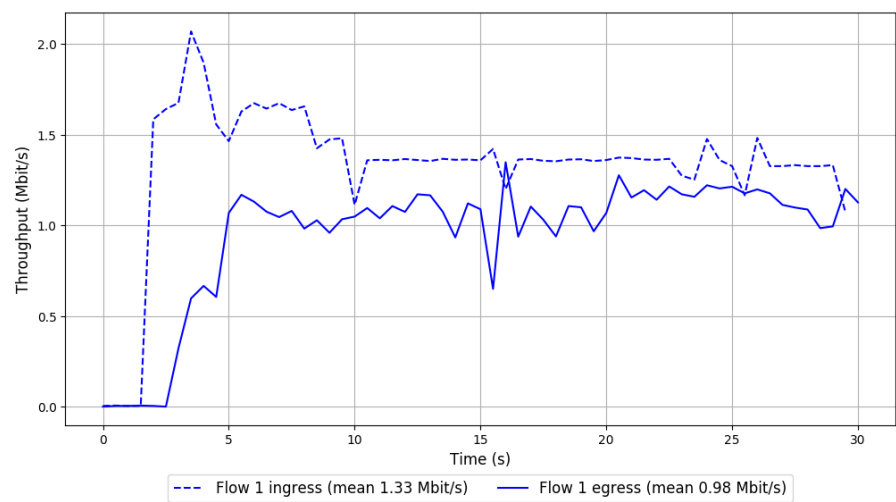


Run 1: Statistics of PCC-Vivace

Start at: 2019-02-11 11:00:48
End at: 2019-02-11 11:01:18
Local clock offset: -19.952 ms
Remote clock offset: 5.607 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 6943.452 ms
Loss rate: 27.11%
-- Flow 1:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 6943.452 ms
Loss rate: 27.11%

Run 1: Report of PCC-Vivace — Data Link

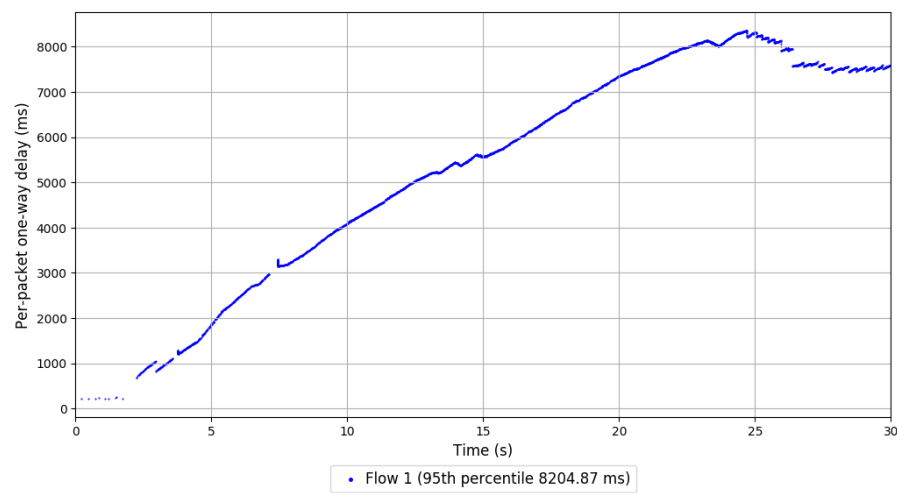
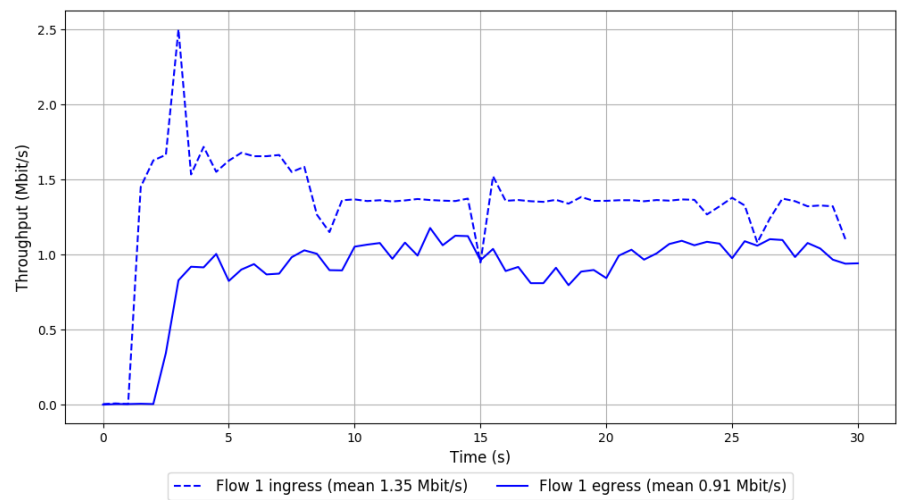


Run 2: Statistics of PCC-Vivace

Start at: 2019-02-11 11:24:43
End at: 2019-02-11 11:25:13
Local clock offset: -38.198 ms
Remote clock offset: 0.708 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 8204.870 ms
Loss rate: 32.47%
-- Flow 1:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 8204.870 ms
Loss rate: 32.47%

Run 2: Report of PCC-Vivace — Data Link

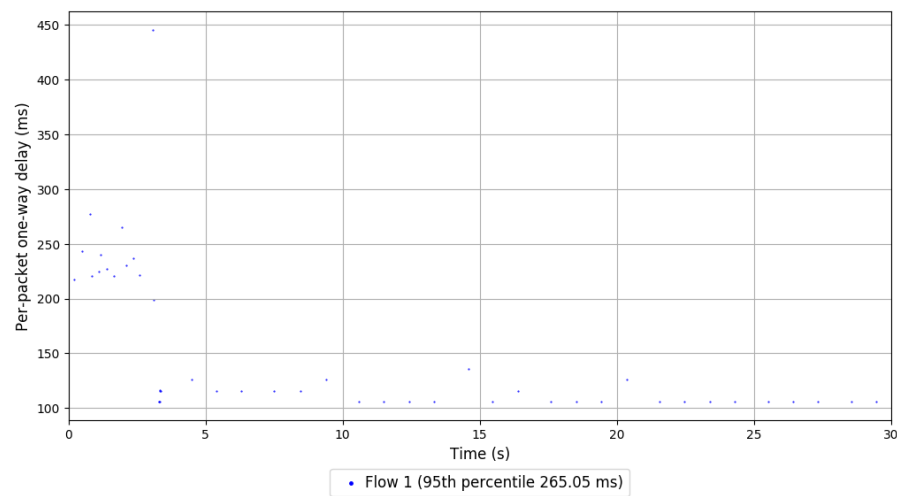
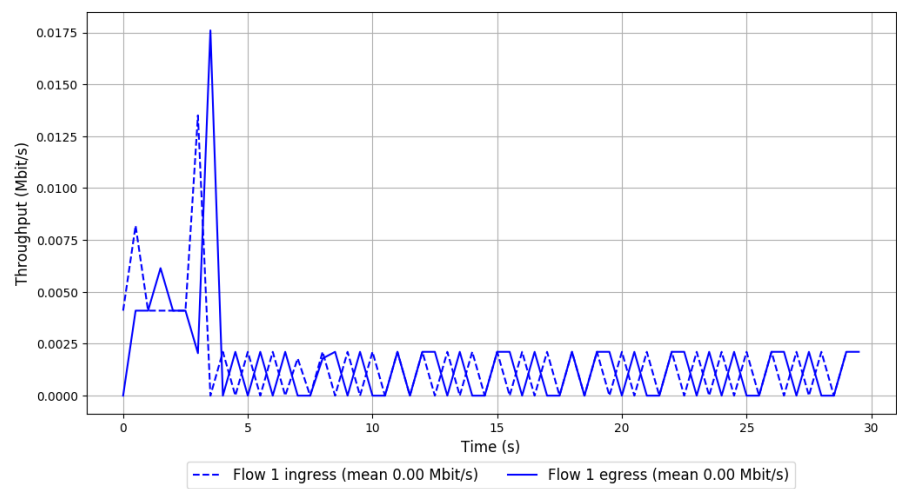


Run 3: Statistics of PCC-Vivace

Start at: 2019-02-11 11:48:44
End at: 2019-02-11 11:49:14
Local clock offset: -23.517 ms
Remote clock offset: 7.729 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 265.049 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 265.049 ms
Loss rate: 0.00%

Run 3: Report of PCC-Vivace — Data Link

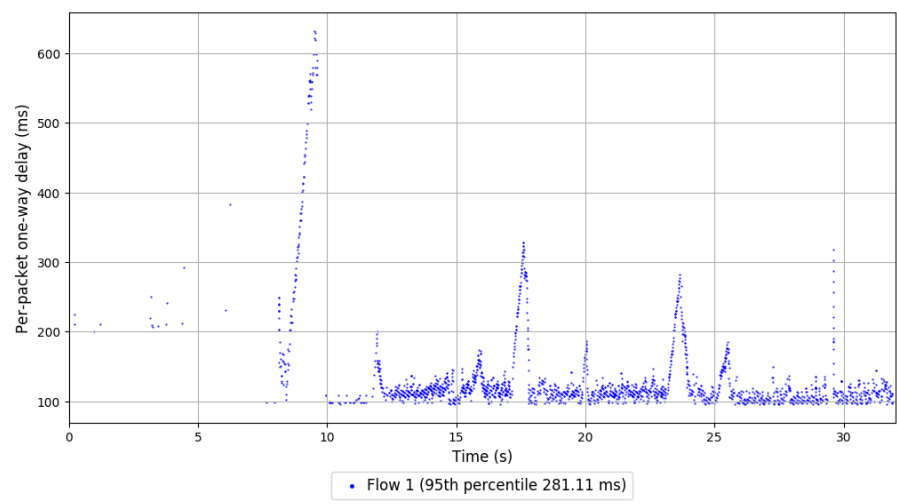
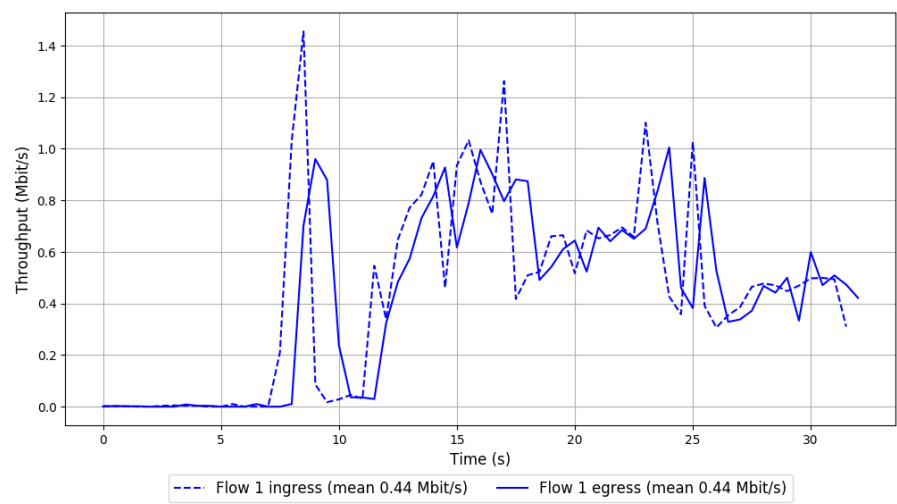


Run 1: Statistics of WebRTC media

Start at: 2019-02-11 10:59:40
End at: 2019-02-11 11:00:10
Local clock offset: -19.551 ms
Remote clock offset: 1.759 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 281.105 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 281.105 ms
Loss rate: 0.04%

Run 1: Report of WebRTC media — Data Link

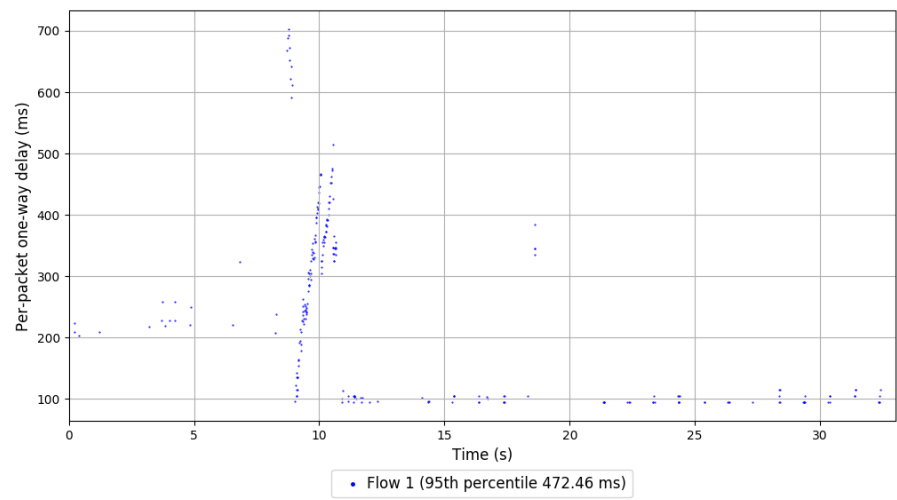
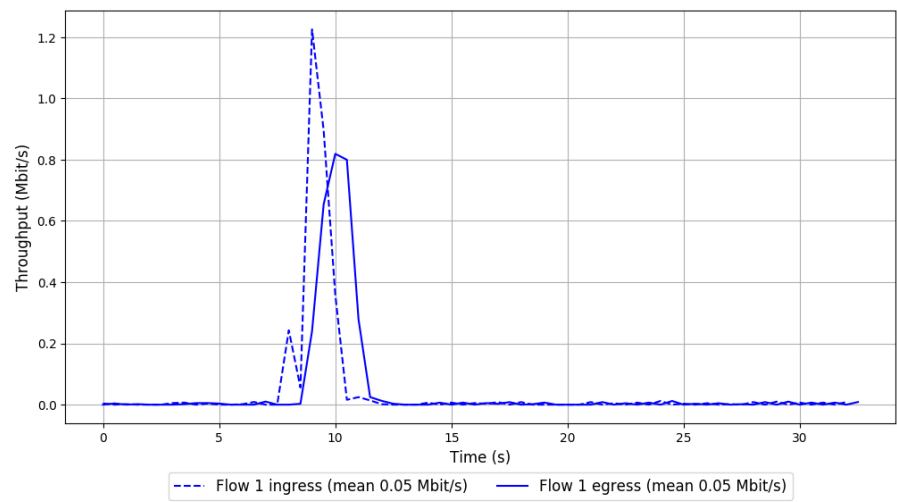


Run 2: Statistics of WebRTC media

Start at: 2019-02-11 11:23:35
End at: 2019-02-11 11:24:05
Local clock offset: -36.192 ms
Remote clock offset: 6.072 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 472.465 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 472.465 ms
Loss rate: 0.00%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2019-02-11 11:47:36
End at: 2019-02-11 11:48:06
Local clock offset: -23.973 ms
Remote clock offset: 6.642 ms

Below is generated by plot.py at 2019-02-11 11:51:07
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 682.387 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 682.387 ms
Loss rate: 0.00%

Run 3: Report of WebRTC media — Data Link

