

Pantheon Report

Generated at 2018-01-10 14:31:45 (UTC).

Data path: India ppp0 (*remote*) → AWS India 1 Ethernet (*local*).

Repeated the test of 14 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

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

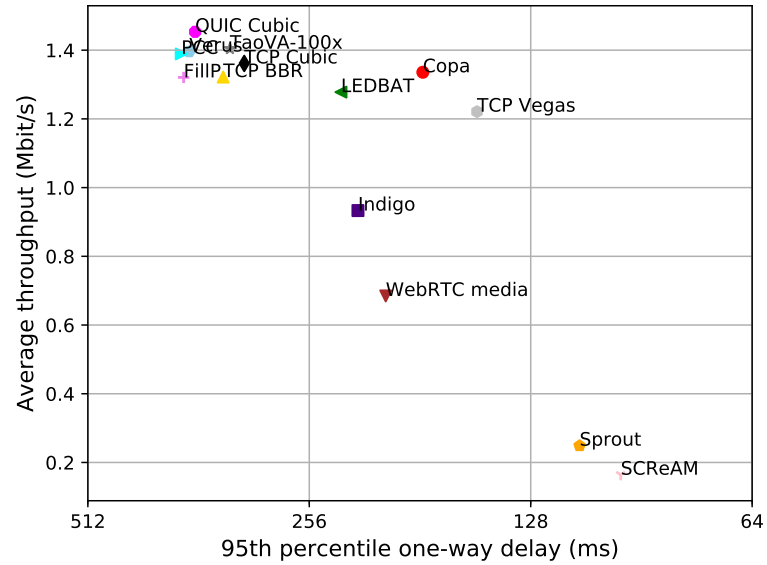
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo_fast**).

NTP offsets were measured against **nets.org.sg** and have been applied to correct the timestamps in logs.

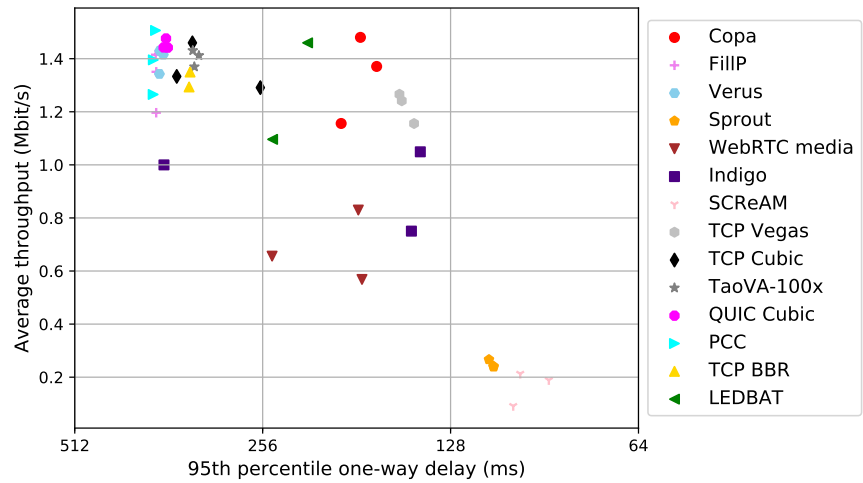
Git summary:

```
branch: master @ 56d1792c316a5efca3f2d21342905405fedffb48
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/fillp @ ec9585325218d5048c4d4152fa42240af54c6e67
third_party/genericCC @ 80b516c448f795fd6e9675f7177b69c622f07da8
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861da659ba9013db26744ccfcf993
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeab30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
  M src/examples/cellsim.cc
  M src/examples/sproutbt2.cc
  M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from India ppp0 to AWS India 1 Ethernet, 3 runs of 30s each per scheme
(mean of all runs by scheme)



test from India ppp0 to AWS India 1 Ethernet, 3 runs of 30s each per scheme



scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	2	1.32	335.21	1.84
TCP Cubic	3	1.36	313.81	1.49
LEDBAT	2	1.28	231.85	0.74
PCC	3	1.39	382.22	57.93
QUIC Cubic	3	1.45	365.96	3.72
SCReAM	3	0.16	96.56	0.24
WebRTC media	3	0.69	201.53	1.59
Sprout	3	0.25	109.85	0.52
TaoVA-100x	3	1.40	328.18	6.85
TCP Vegas	3	1.22	151.43	1.07
Verus	3	1.40	372.76	16.02
Copa	3	1.34	179.42	0.75
FillP	3	1.32	379.36	95.98
Indigo	3	0.93	219.82	6.50

Run 1: Statistics of TCP BBR

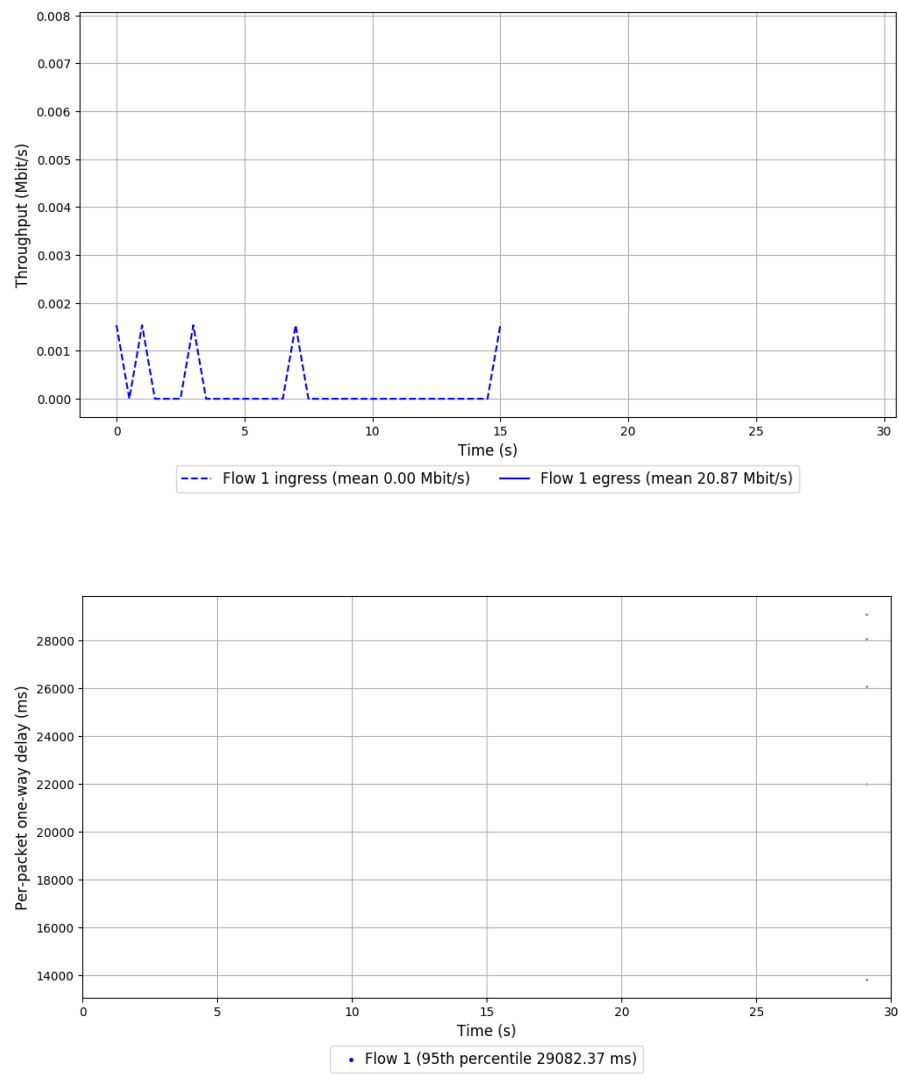
Start at: 2018-01-10 13:01:02

End at: 2018-01-10 13:01:32

Local clock offset: 1.233 ms

Remote clock offset: -16.245 ms

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: 2018-01-10 13:17:24

End at: 2018-01-10 13:17:54

Local clock offset: 2.878 ms

Remote clock offset: -16.09 ms

Below is generated by plot.py at 2018-01-10 14:31:08

Datalink statistics

-- Total of 1 flow:

Average throughput: 1.29 Mbit/s

95th percentile per-packet one-way delay: 335.803 ms

Loss rate: 2.10%

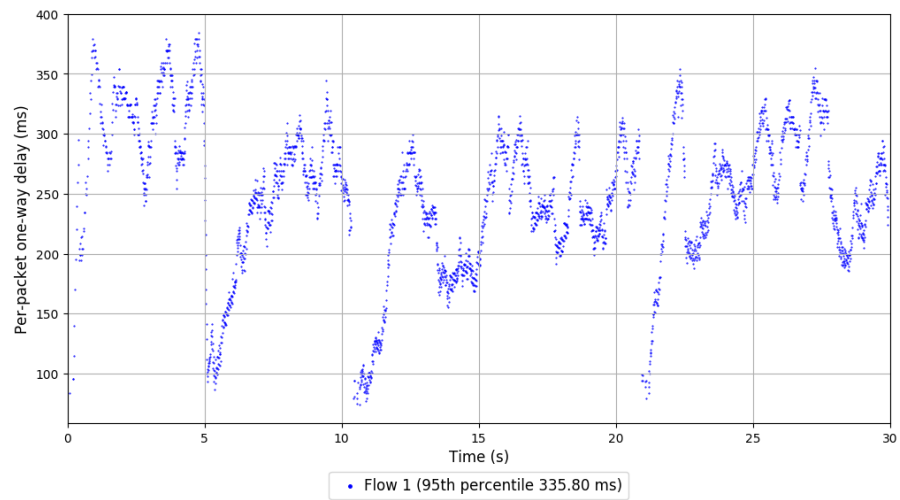
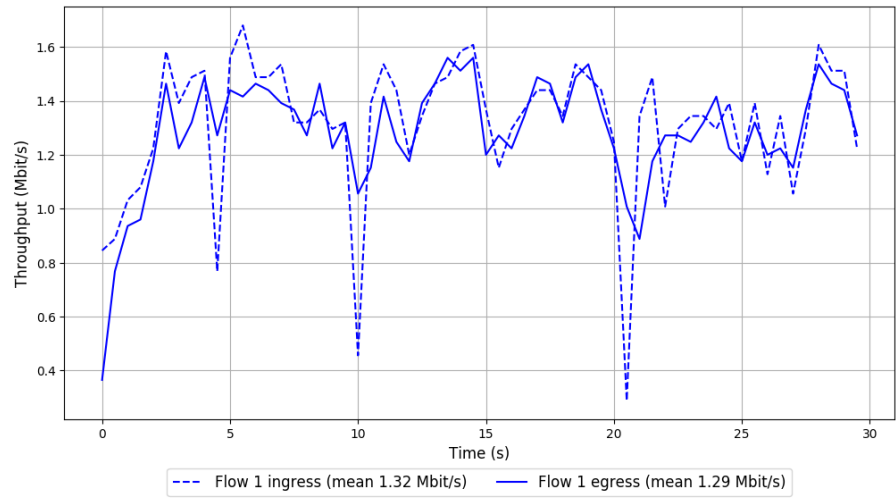
-- Flow 1:

Average throughput: 1.29 Mbit/s

95th percentile per-packet one-way delay: 335.803 ms

Loss rate: 2.10%

Run 2: Report of TCP BBR — Data Link

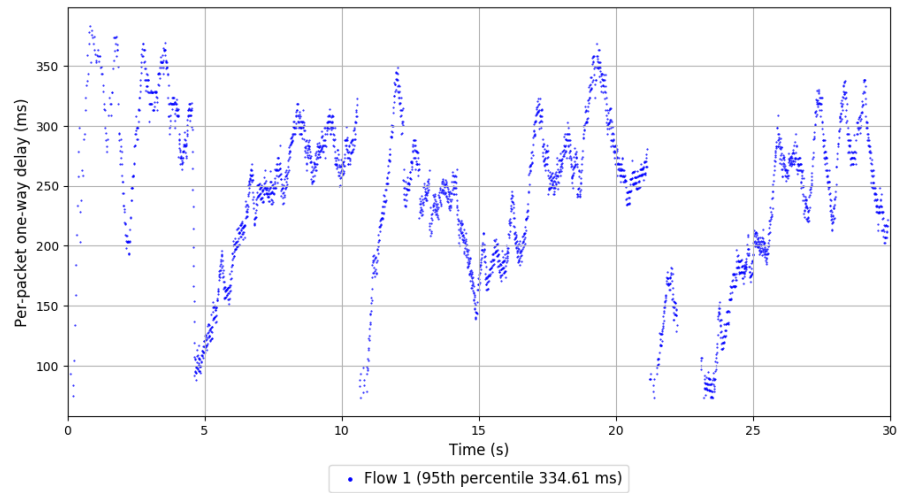
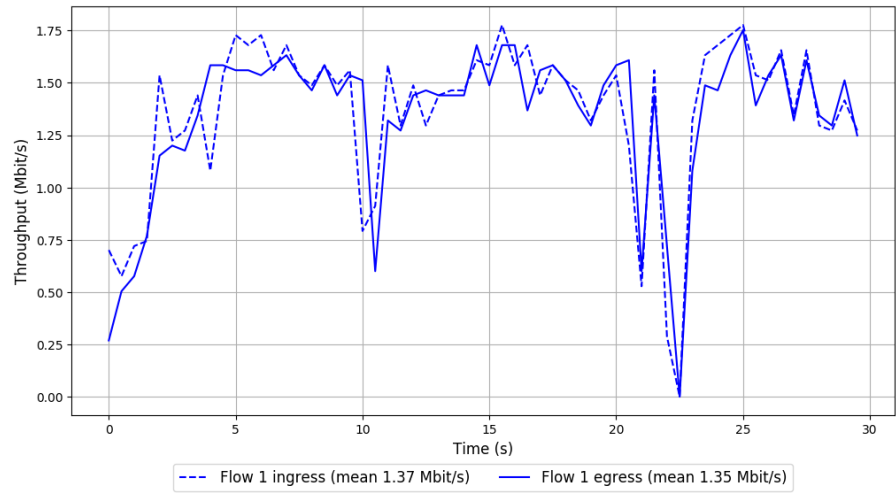


Run 3: Statistics of TCP BBR

Start at: 2018-01-10 13:33:44
End at: 2018-01-10 13:34:14
Local clock offset: 1.708 ms
Remote clock offset: -14.322 ms

Below is generated by plot.py at 2018-01-10 14:31:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 334.610 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 334.610 ms
Loss rate: 1.58%

Run 3: Report of TCP BBR — Data Link

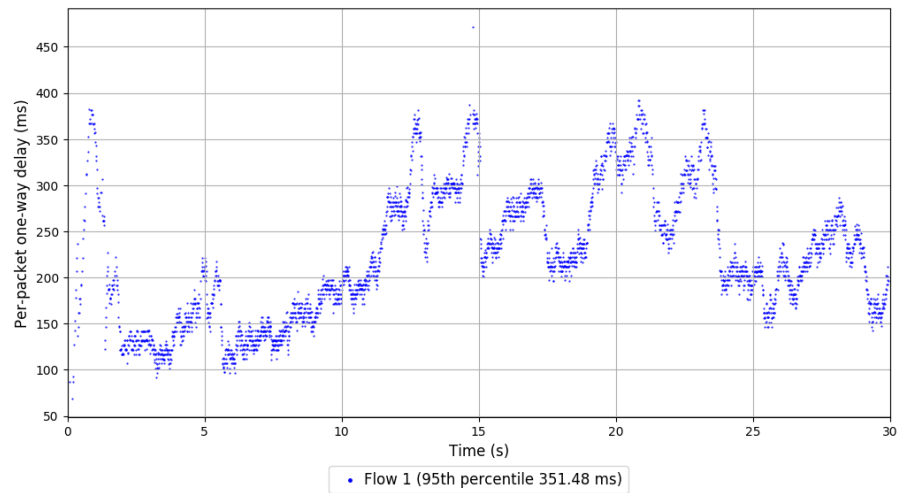
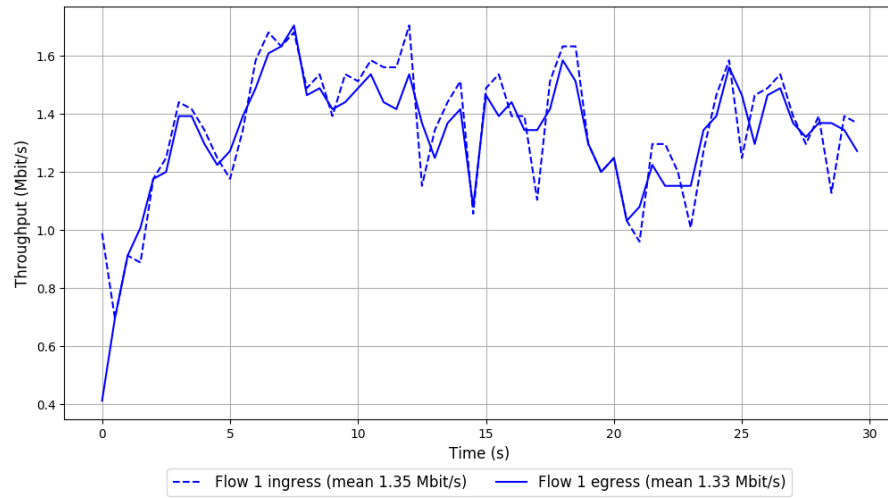


Run 1: Statistics of TCP Cubic

Start at: 2018-01-10 12:57:47
End at: 2018-01-10 12:58:17
Local clock offset: 5.285 ms
Remote clock offset: -15.909 ms

Below is generated by plot.py at 2018-01-10 14:31:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 351.479 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 351.479 ms
Loss rate: 1.84%

Run 1: Report of TCP Cubic — Data Link

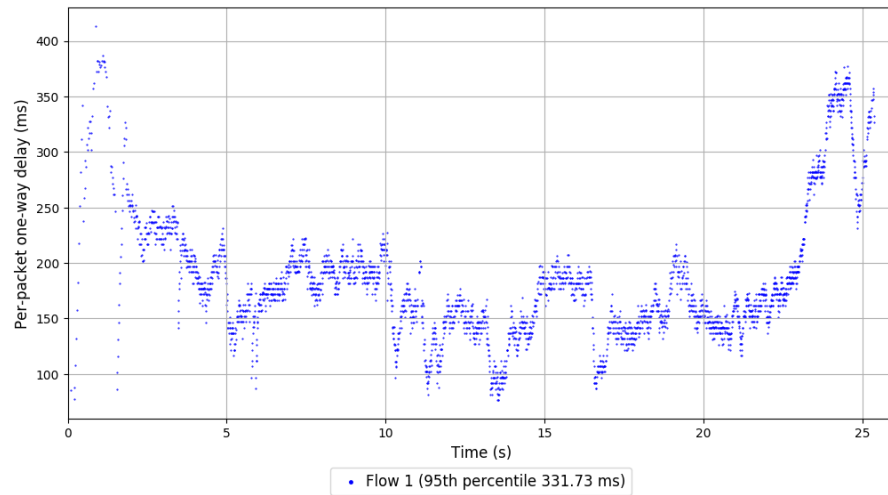
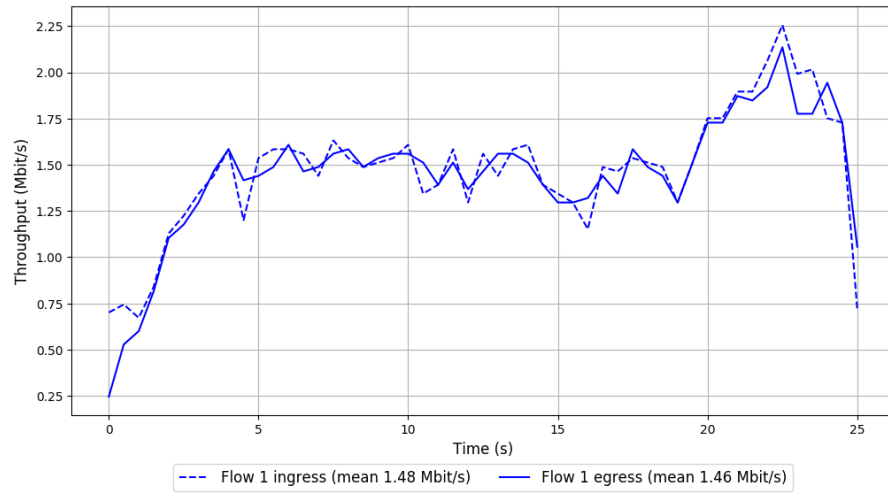


Run 2: Statistics of TCP Cubic

Start at: 2018-01-10 13:14:08
End at: 2018-01-10 13:14:38
Local clock offset: 0.554 ms
Remote clock offset: -15.168 ms

Below is generated by plot.py at 2018-01-10 14:31:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 331.733 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 331.733 ms
Loss rate: 1.60%

Run 2: Report of TCP Cubic — Data Link

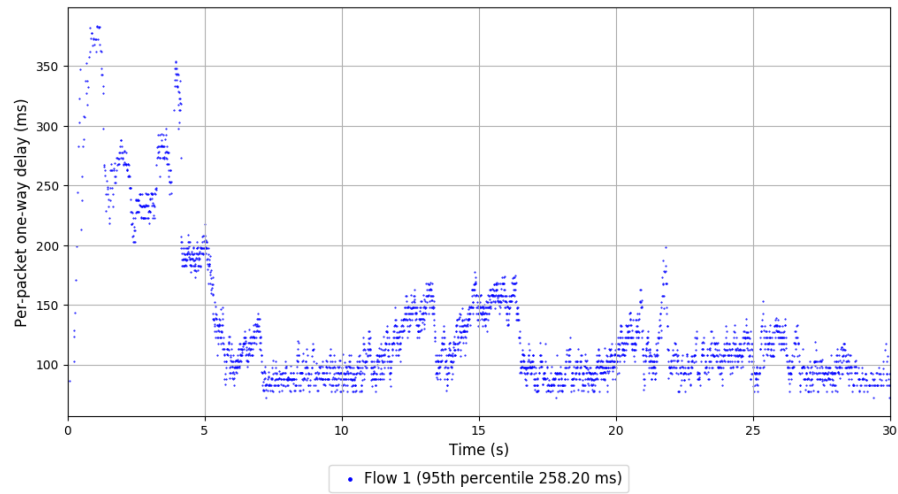
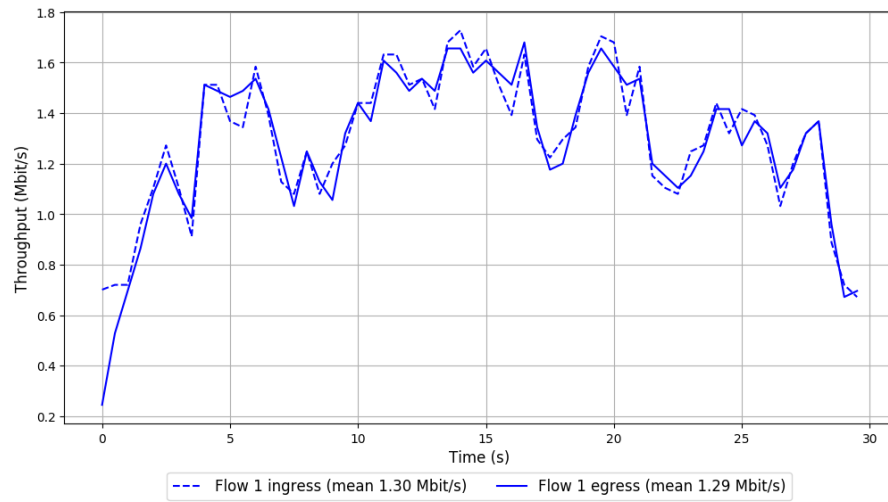


Run 3: Statistics of TCP Cubic

Start at: 2018-01-10 13:30:28
End at: 2018-01-10 13:30:58
Local clock offset: 3.01 ms
Remote clock offset: -16.486 ms

Below is generated by plot.py at 2018-01-10 14:31:10
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 258.205 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 1.29 Mbit/s
95th percentile per-packet one-way delay: 258.205 ms
Loss rate: 1.02%

Run 3: Report of TCP Cubic — Data Link

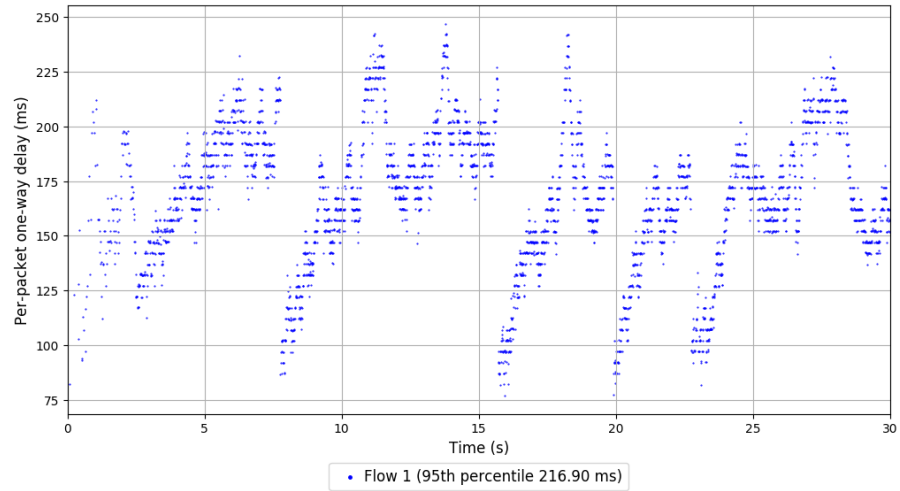
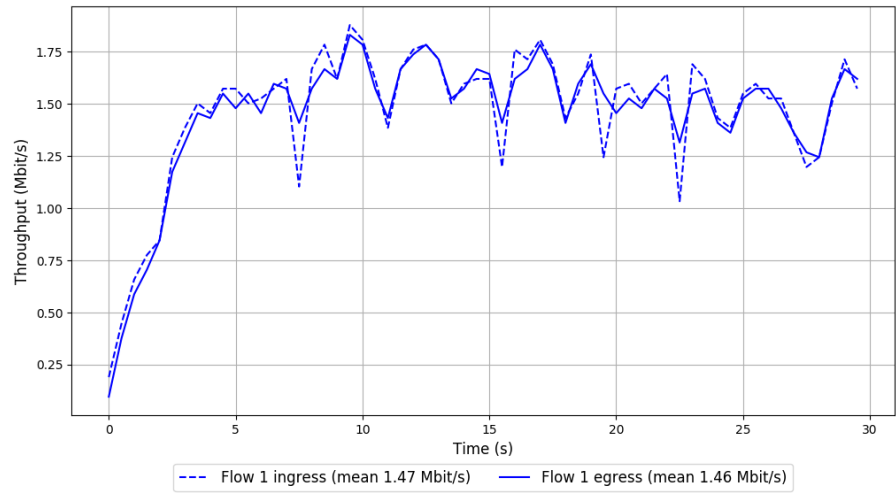


Run 1: Statistics of LEDBAT

Start at: 2018-01-10 12:55:37
End at: 2018-01-10 12:56:07
Local clock offset: 5.811 ms
Remote clock offset: -14.97 ms

Below is generated by plot.py at 2018-01-10 14:31:11
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 216.903 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 1.46 Mbit/s
95th percentile per-packet one-way delay: 216.903 ms
Loss rate: 0.67%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

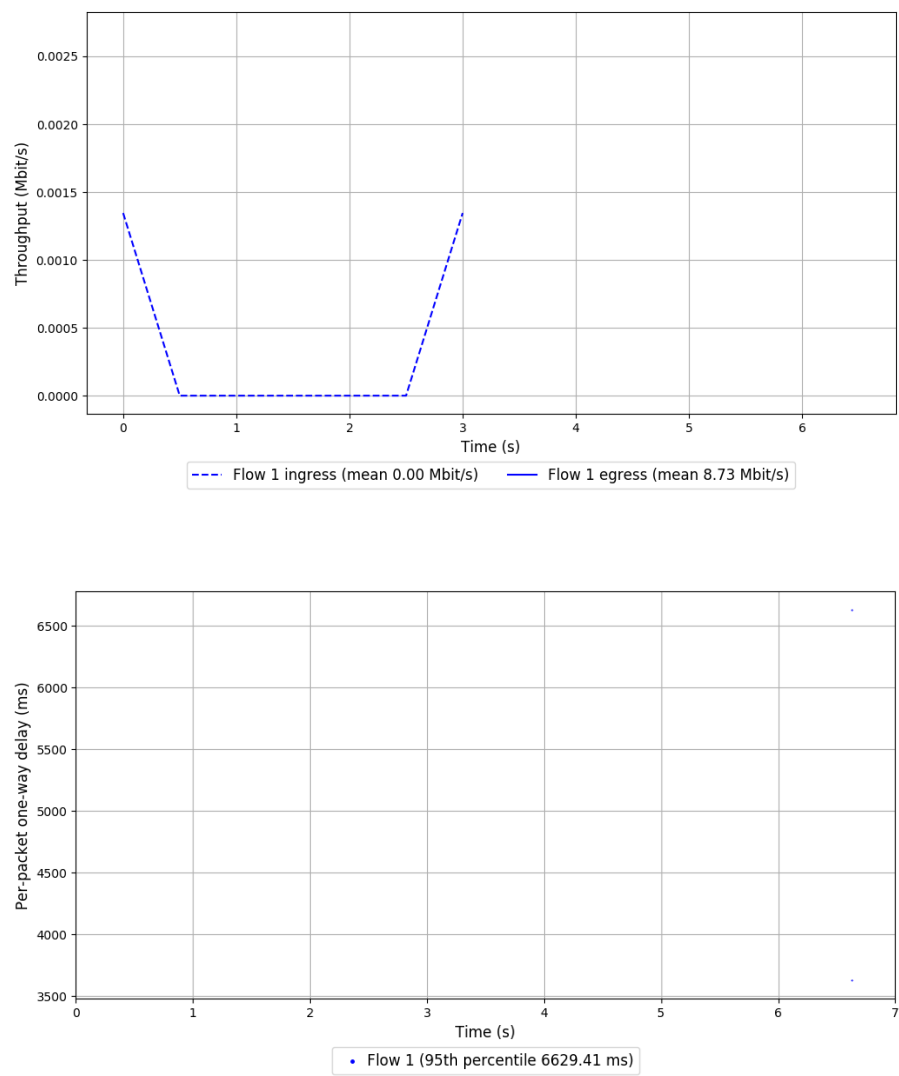
Start at: 2018-01-10 13:11:58

End at: 2018-01-10 13:12:28

Local clock offset: 2.935 ms

Remote clock offset: -16.048 ms

Run 2: Report of LEDBAT — Data Link

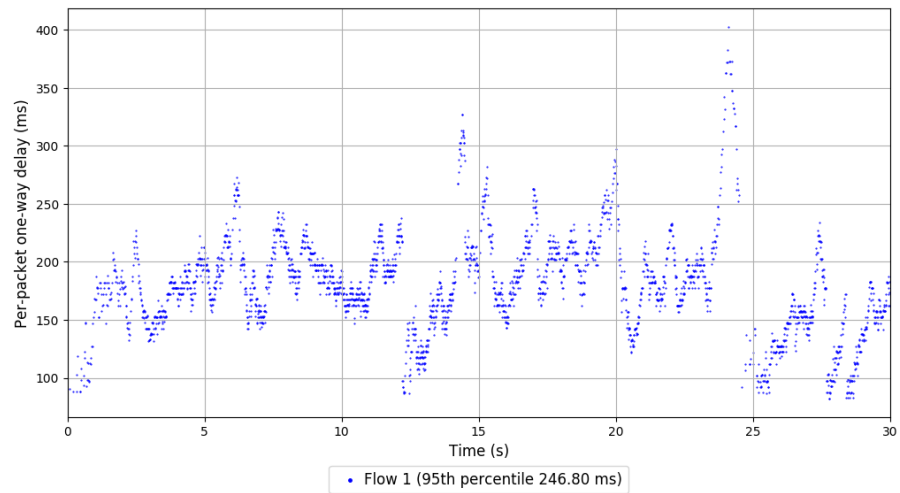
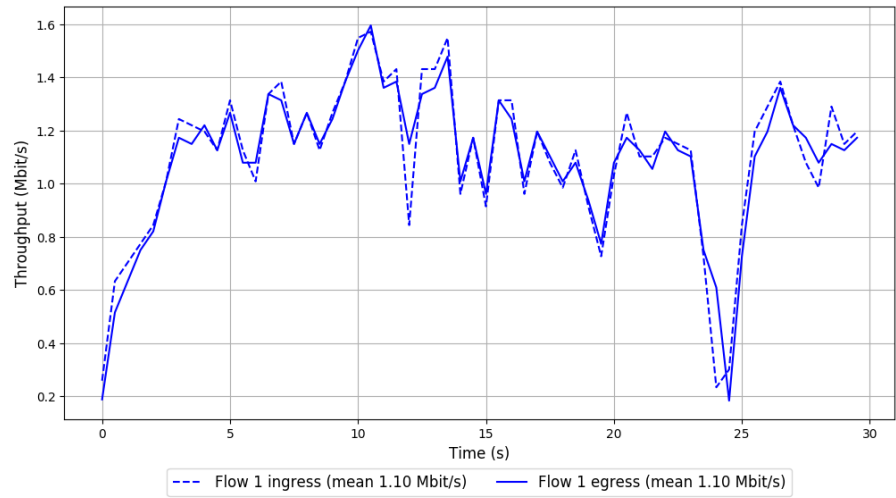


Run 3: Statistics of LEDBAT

Start at: 2018-01-10 13:28:18
End at: 2018-01-10 13:28:48
Local clock offset: 5.064 ms
Remote clock offset: -15.443 ms

Below is generated by plot.py at 2018-01-10 14:31:14
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 246.804 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 1.10 Mbit/s
95th percentile per-packet one-way delay: 246.804 ms
Loss rate: 0.82%

Run 3: Report of LEDBAT — Data Link

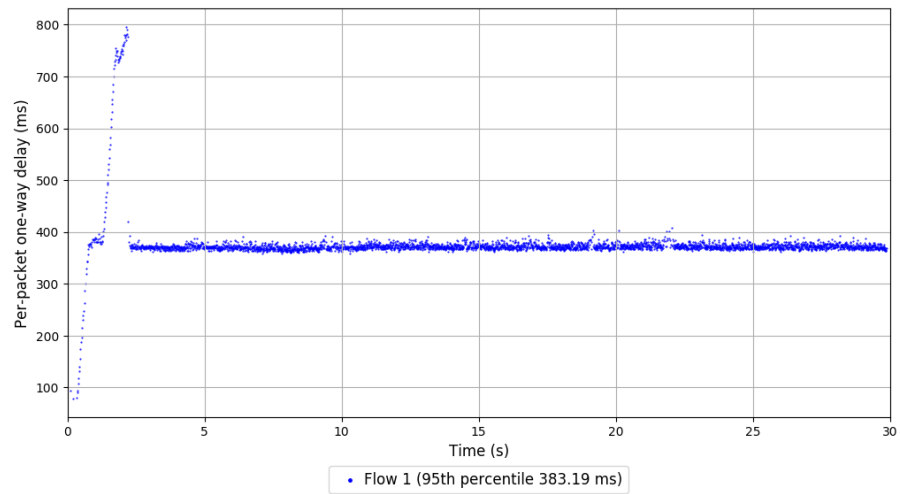
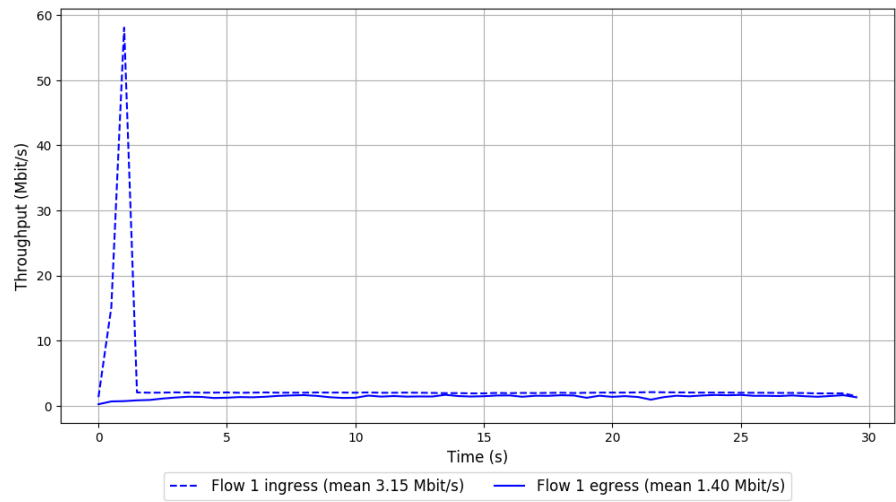


```
Run 1: Statistics of PCC

Start at: 2018-01-10 13:02:07
End at: 2018-01-10 13:02:37
Local clock offset: 2.309 ms
Remote clock offset: -15.861 ms

# Below is generated by plot.py at 2018-01-10 14:31:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 383.185 ms
Loss rate: 55.86%
-- Flow 1:
Average throughput: 1.40 Mbit/s
95th percentile per-packet one-way delay: 383.185 ms
Loss rate: 55.86%
```

Run 1: Report of PCC — Data Link

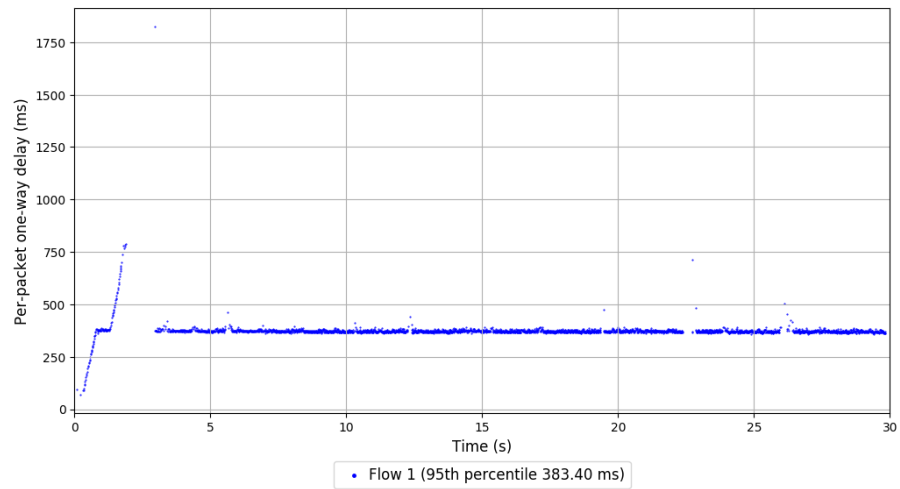
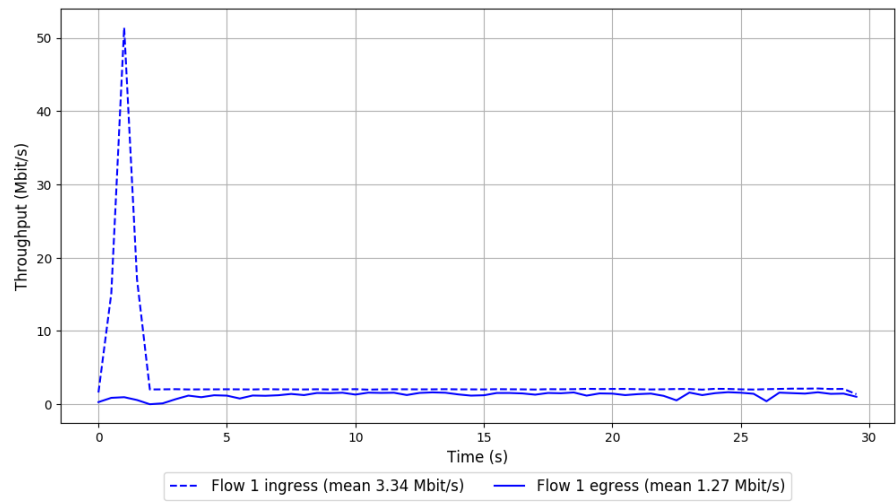


Run 2: Statistics of PCC

Start at: 2018-01-10 13:18:29
End at: 2018-01-10 13:18:59
Local clock offset: 1.995 ms
Remote clock offset: -16.028 ms

Below is generated by plot.py at 2018-01-10 14:31:15
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 383.399 ms
Loss rate: 62.22%
-- Flow 1:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 383.399 ms
Loss rate: 62.22%

Run 2: Report of PCC — Data Link

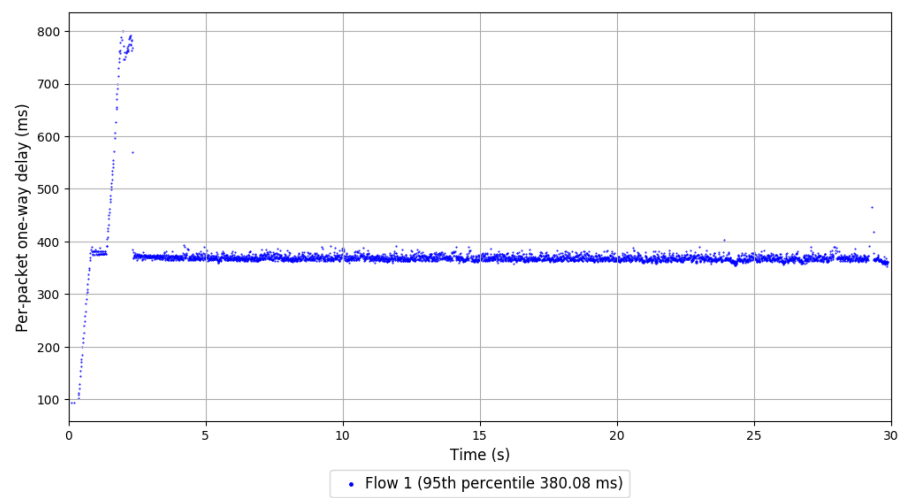
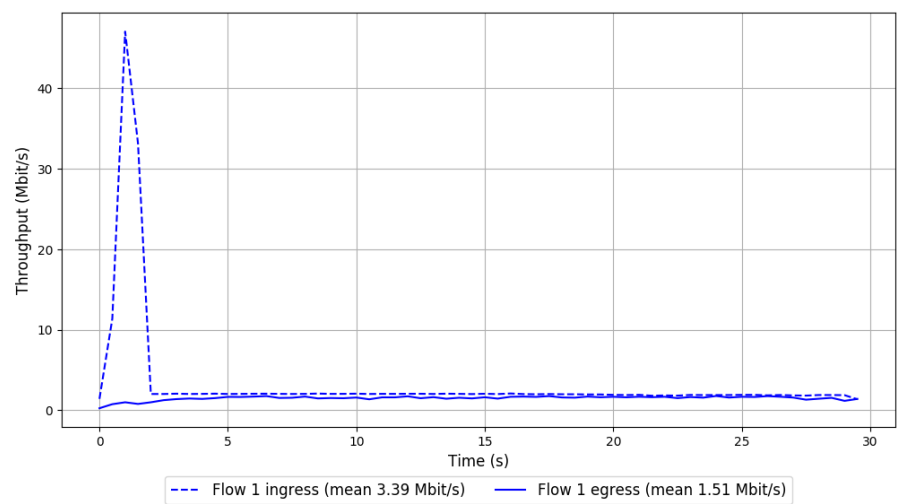


Run 3: Statistics of PCC

Start at: 2018-01-10 13:34:49
End at: 2018-01-10 13:35:19
Local clock offset: 3.322 ms
Remote clock offset: -15.411 ms

Below is generated by plot.py at 2018-01-10 14:31:16
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 380.081 ms
Loss rate: 55.71%
-- Flow 1:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 380.081 ms
Loss rate: 55.71%

Run 3: Report of PCC — Data Link

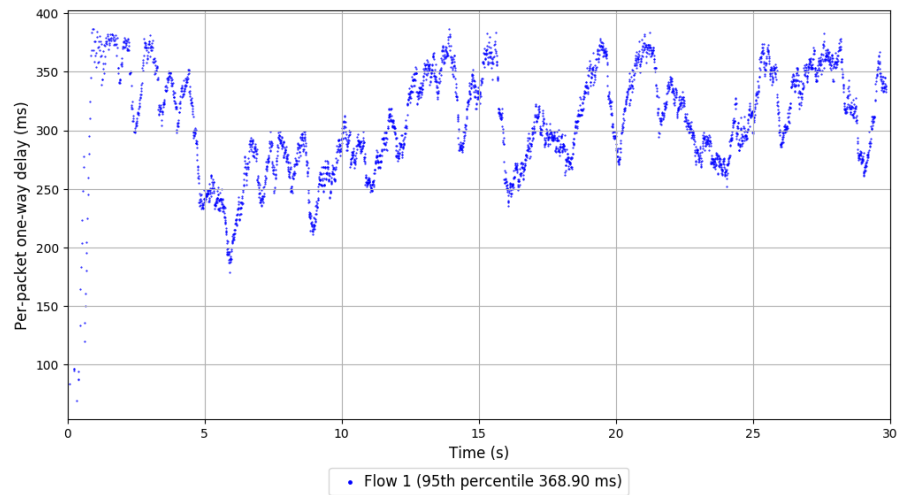
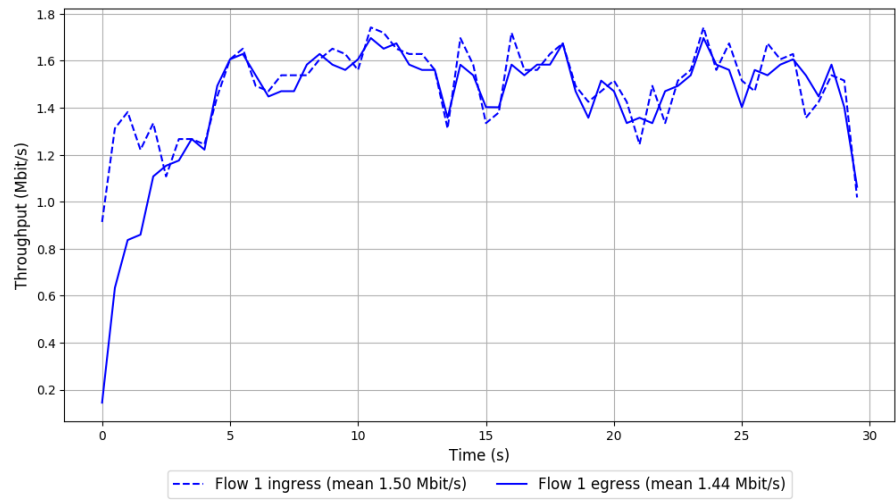


Run 1: Statistics of QUIC Cubic

Start at: 2018-01-10 13:05:23
End at: 2018-01-10 13:05:53
Local clock offset: 3.962 ms
Remote clock offset: -16.599 ms

Below is generated by plot.py at 2018-01-10 14:31:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 368.896 ms
Loss rate: 3.88%
-- Flow 1:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 368.896 ms
Loss rate: 3.88%

Run 1: Report of QUIC Cubic — Data Link

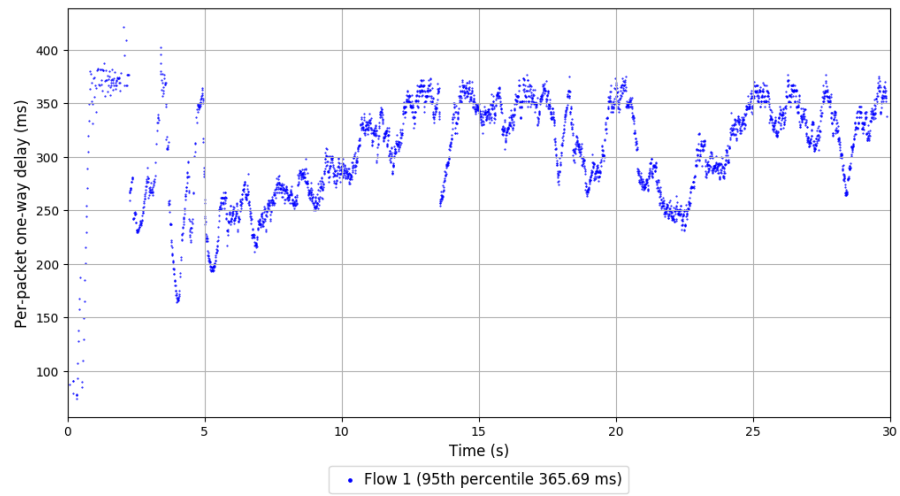
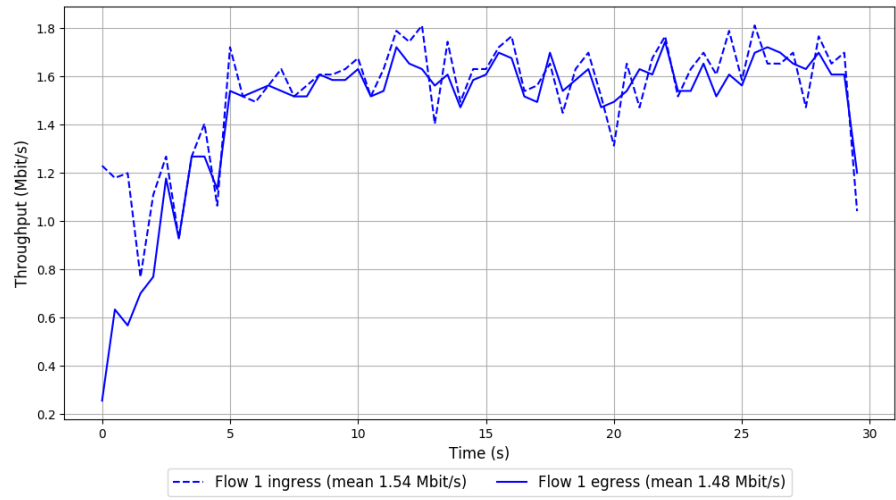


Run 2: Statistics of QUIC Cubic

Start at: 2018-01-10 13:21:44
End at: 2018-01-10 13:22:14
Local clock offset: 1.259 ms
Remote clock offset: -15.209 ms

Below is generated by plot.py at 2018-01-10 14:31:17
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 365.690 ms
Loss rate: 4.38%
-- Flow 1:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 365.690 ms
Loss rate: 4.38%

Run 2: Report of QUIC Cubic — Data Link

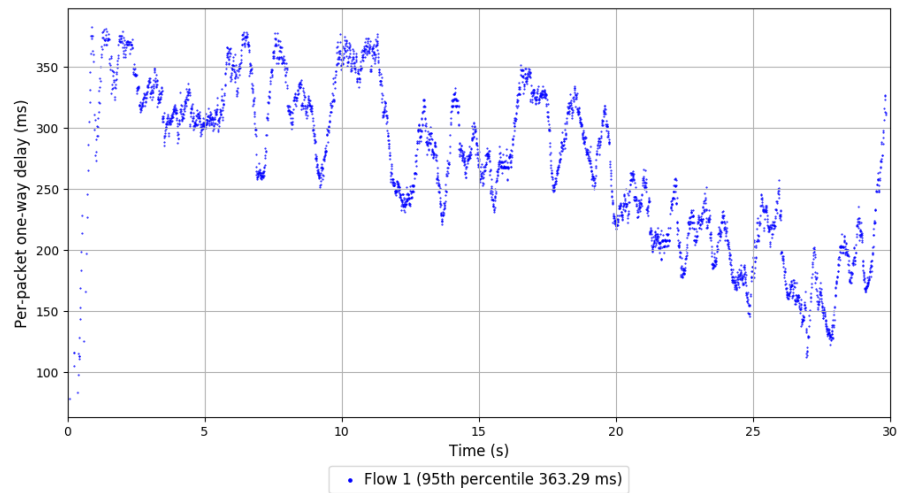
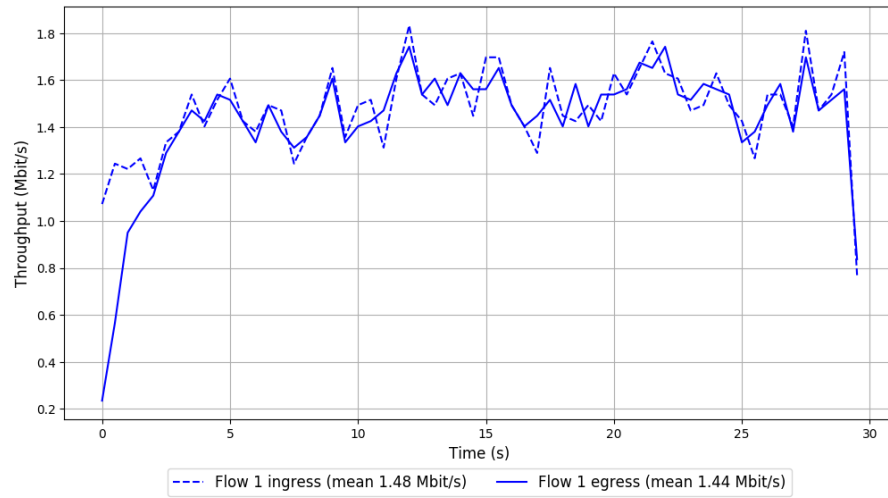


Run 3: Statistics of QUIC Cubic

Start at: 2018-01-10 13:38:04
End at: 2018-01-10 13:38:34
Local clock offset: 3.58 ms
Remote clock offset: -15.918 ms

Below is generated by plot.py at 2018-01-10 14:31:18
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 363.293 ms
Loss rate: 2.89%
-- Flow 1:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 363.293 ms
Loss rate: 2.89%

Run 3: Report of QUIC Cubic — Data Link

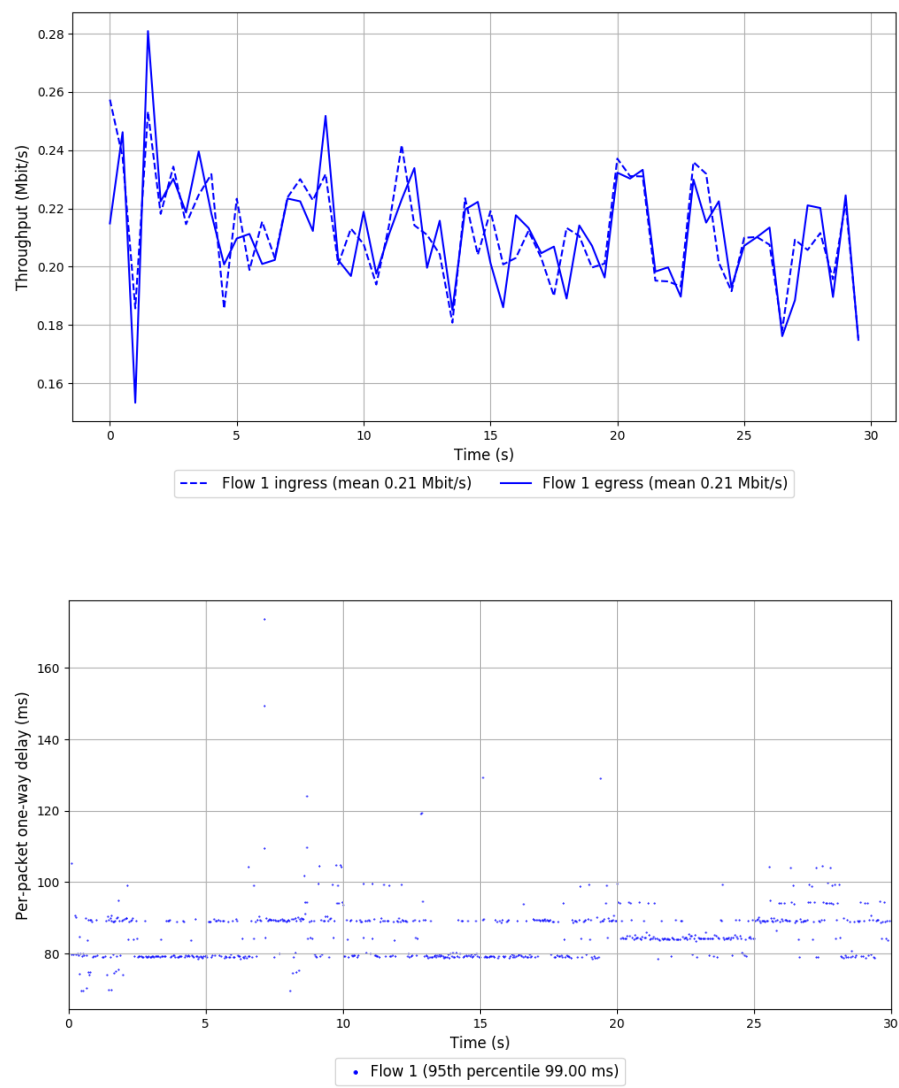


```
Run 1: Statistics of SCReAM

Start at: 2018-01-10 13:03:13
End at: 2018-01-10 13:03:43
Local clock offset: 3.622 ms
Remote clock offset: -17.609 ms

# Below is generated by plot.py at 2018-01-10 14:31:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 99.002 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 99.002 ms
Loss rate: 0.25%
```

Run 1: Report of SReAM — Data Link

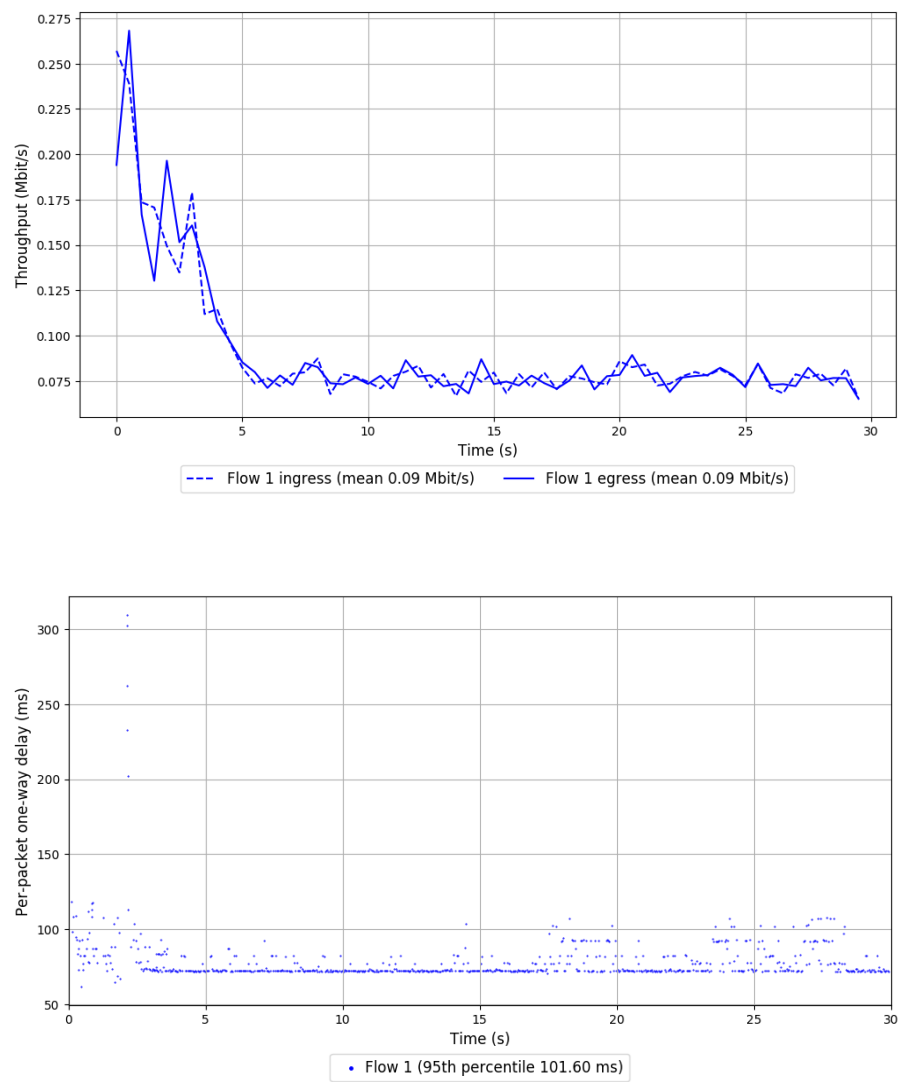


Run 2: Statistics of SCReAM

Start at: 2018-01-10 13:19:34
End at: 2018-01-10 13:20:04
Local clock offset: 2.567 ms
Remote clock offset: -14.592 ms

Below is generated by plot.py at 2018-01-10 14:31:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 101.597 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 101.597 ms
Loss rate: 0.22%

Run 2: Report of SReAM — Data Link

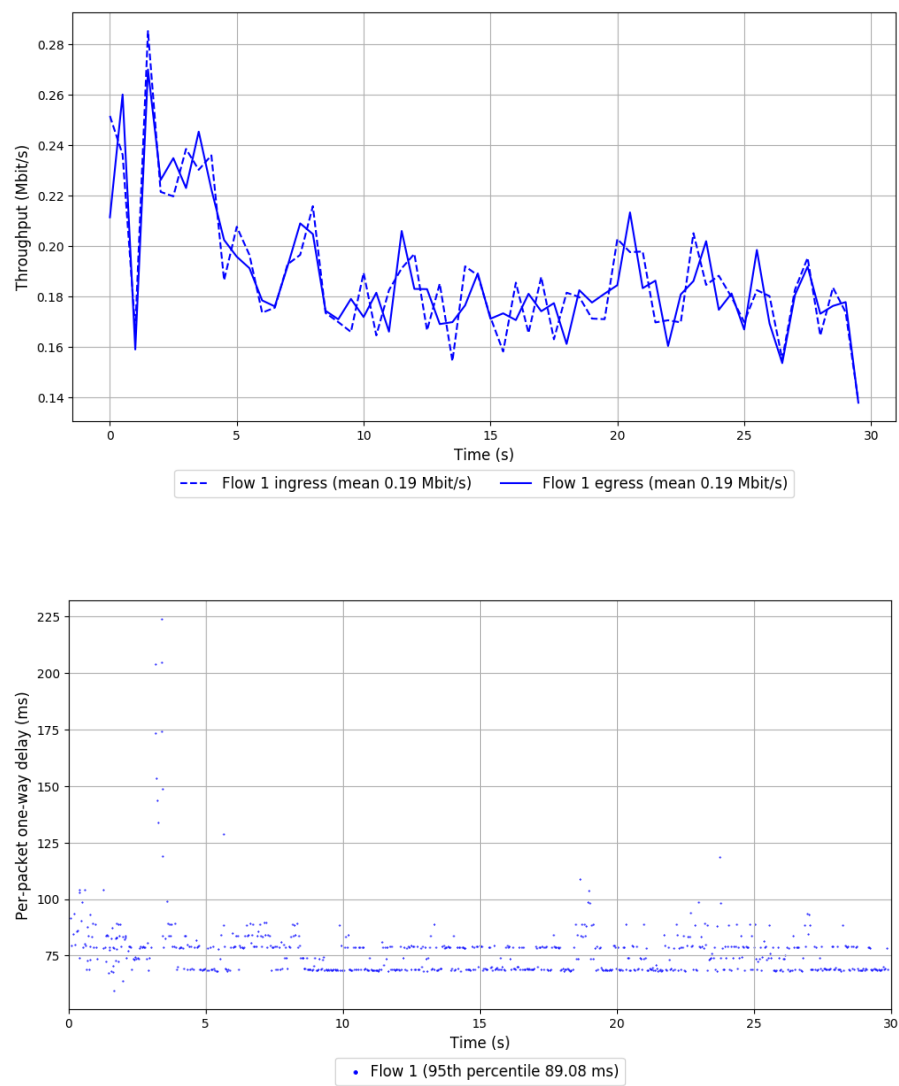


Run 3: Statistics of SCReAM

Start at: 2018-01-10 13:35:54
End at: 2018-01-10 13:36:24
Local clock offset: 1.641 ms
Remote clock offset: -14.684 ms

Below is generated by plot.py at 2018-01-10 14:31:21
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 89.081 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 89.081 ms
Loss rate: 0.24%

Run 3: Report of SReAM — Data Link

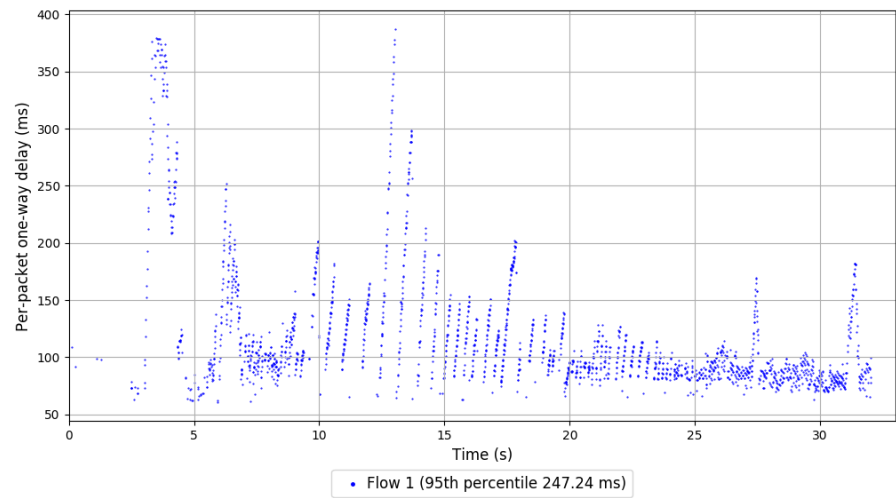
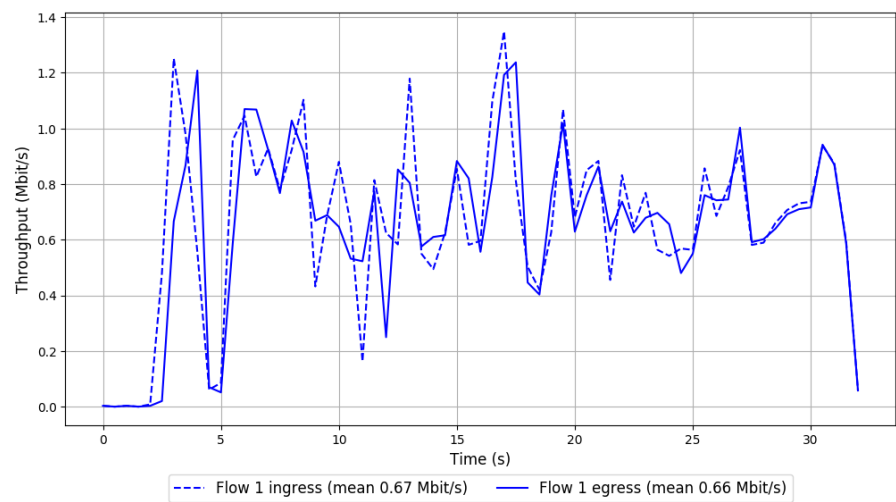


```
Run 1: Statistics of WebRTC media

Start at: 2018-01-10 13:07:34
End at: 2018-01-10 13:08:04
Local clock offset: 1.221 ms
Remote clock offset: -14.624 ms

# Below is generated by plot.py at 2018-01-10 14:31:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 247.235 ms
Loss rate: 1.81%
-- Flow 1:
Average throughput: 0.66 Mbit/s
95th percentile per-packet one-way delay: 247.235 ms
Loss rate: 1.81%
```


Run 1: Report of WebRTC media — Data Link

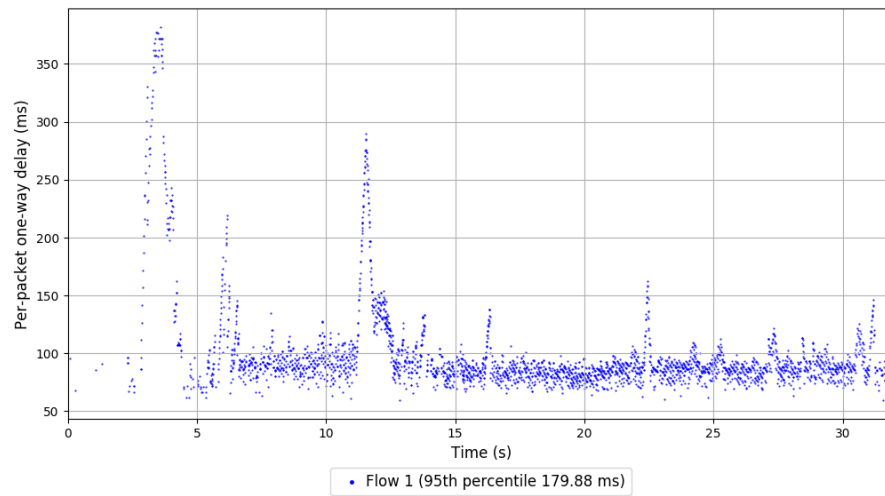
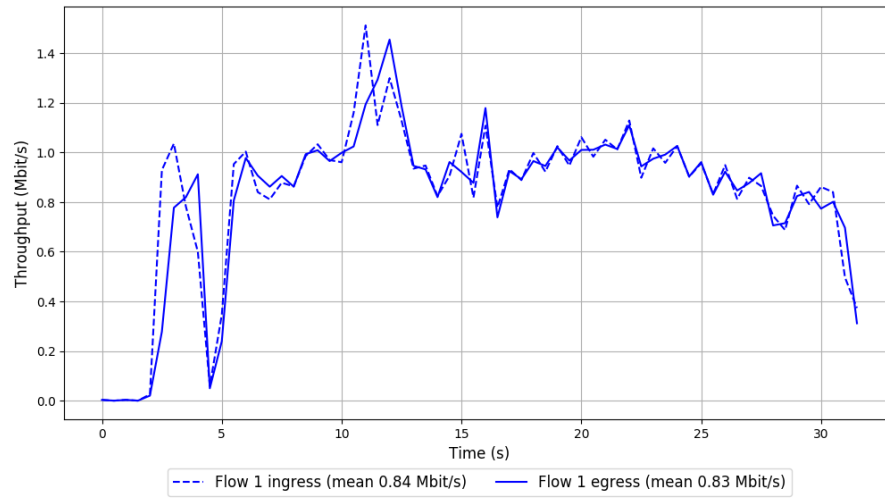


Run 2: Statistics of WebRTC media

Start at: 2018-01-10 13:23:54
End at: 2018-01-10 13:24:24
Local clock offset: 1.3 ms
Remote clock offset: -15.305 ms

Below is generated by plot.py at 2018-01-10 14:31:22
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 179.876 ms
Loss rate: 1.38%
-- Flow 1:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 179.876 ms
Loss rate: 1.38%

Run 2: Report of WebRTC media — Data Link

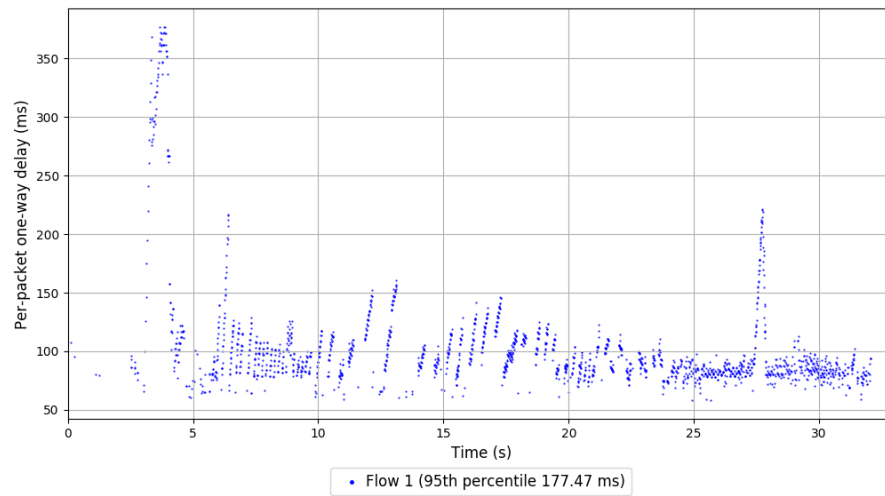
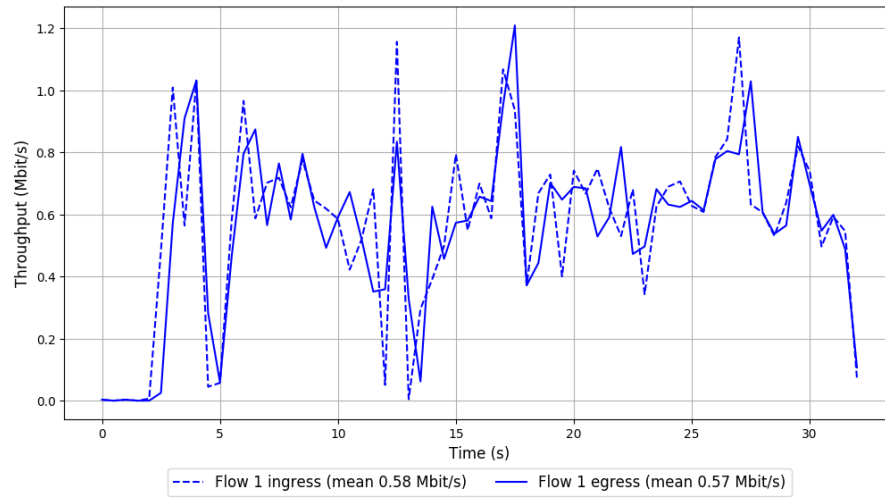


Run 3: Statistics of WebRTC media

Start at: 2018-01-10 13:40:14
End at: 2018-01-10 13:40:44
Local clock offset: 2.059 ms
Remote clock offset: -14.102 ms

Below is generated by plot.py at 2018-01-10 14:31:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 177.472 ms
Loss rate: 1.58%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 177.472 ms
Loss rate: 1.58%

Run 3: Report of WebRTC media — Data Link

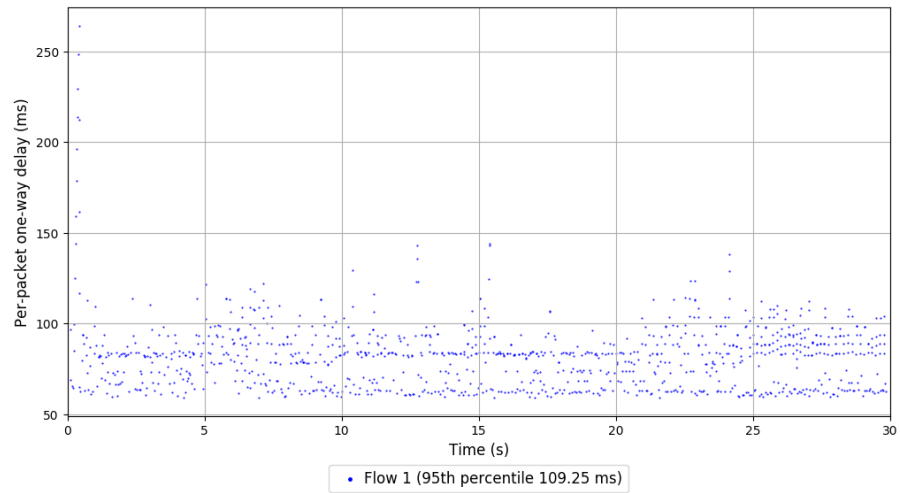
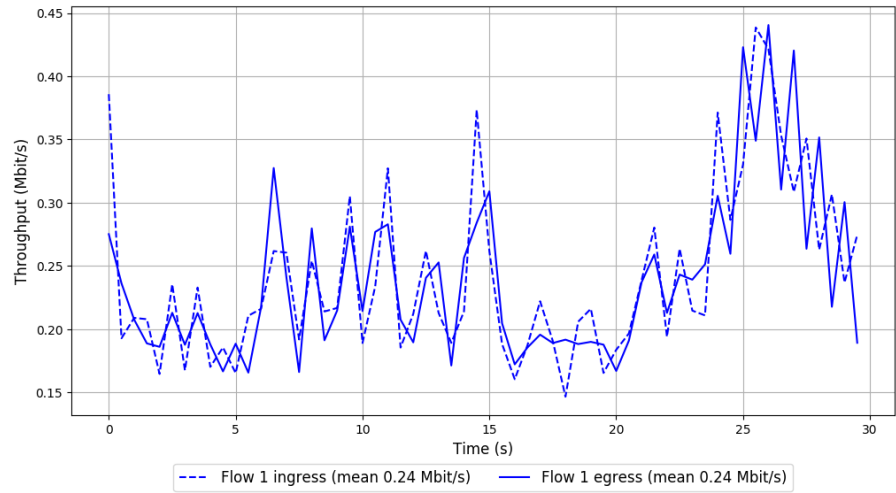


Run 1: Statistics of Sprout

Start at: 2018-01-10 13:04:18
End at: 2018-01-10 13:04:48
Local clock offset: 0.926 ms
Remote clock offset: -17.617 ms

Below is generated by plot.py at 2018-01-10 14:31:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 109.255 ms
Loss rate: 1.10%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 109.255 ms
Loss rate: 1.10%

Run 1: Report of Sprout — Data Link

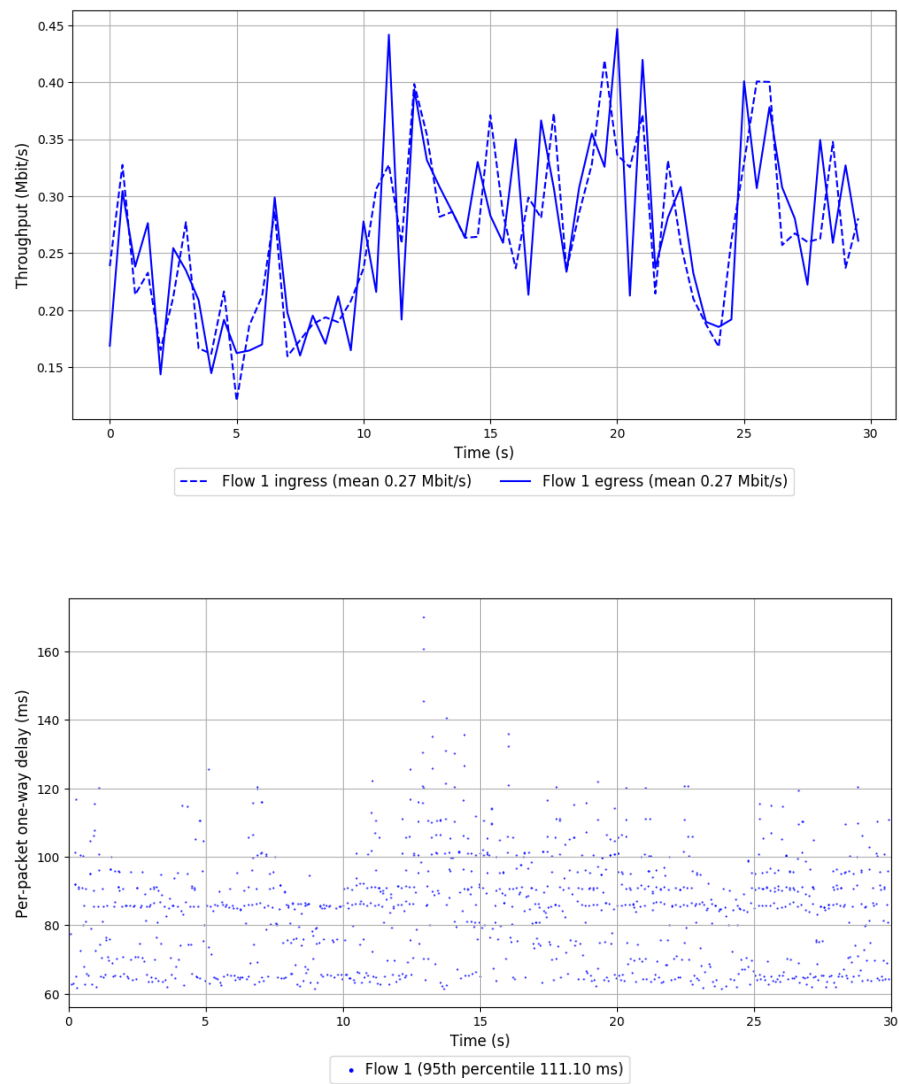


Run 2: Statistics of Sprout

Start at: 2018-01-10 13:20:39
End at: 2018-01-10 13:21:09
Local clock offset: 2.339 ms
Remote clock offset: -14.799 ms

Below is generated by plot.py at 2018-01-10 14:31:23
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 111.096 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 111.096 ms
Loss rate: 0.14%

Run 2: Report of Sprout — Data Link

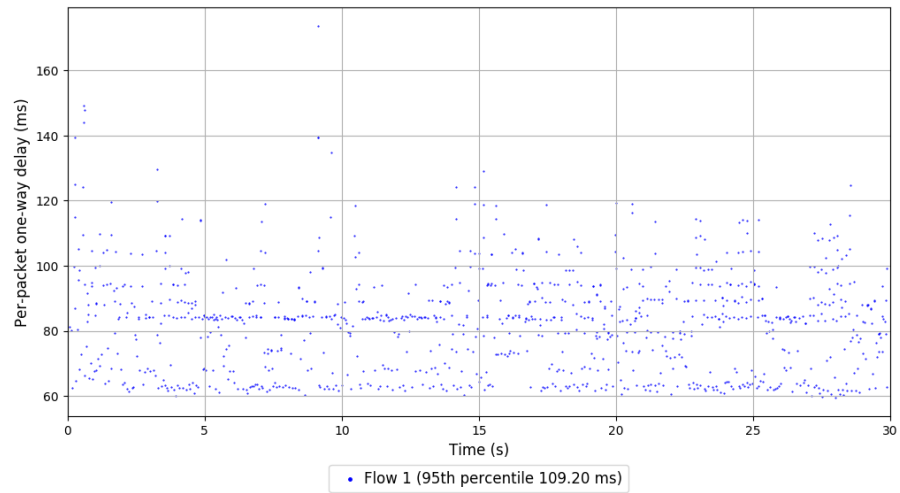
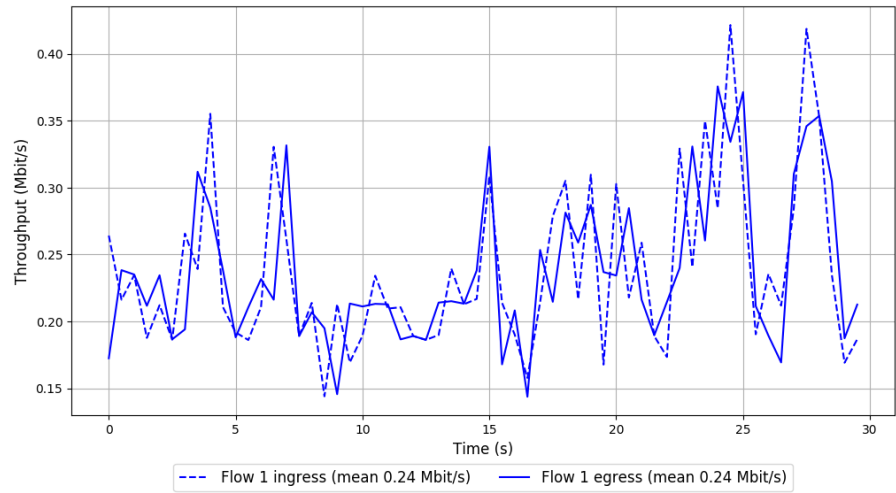


Run 3: Statistics of Sprout

Start at: 2018-01-10 13:36:59
End at: 2018-01-10 13:37:29
Local clock offset: 3.157 ms
Remote clock offset: -15.271 ms

Below is generated by plot.py at 2018-01-10 14:31:25
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 109.204 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 0.24 Mbit/s
95th percentile per-packet one-way delay: 109.204 ms
Loss rate: 0.31%

Run 3: Report of Sprout — Data Link

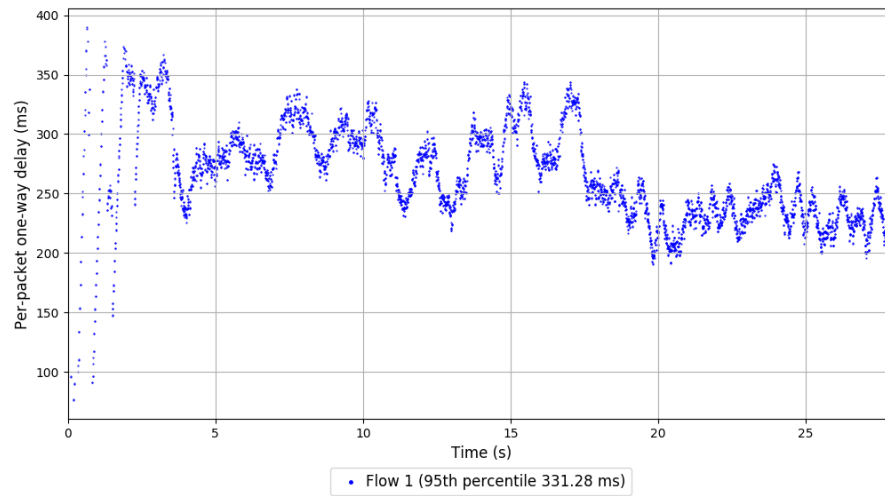
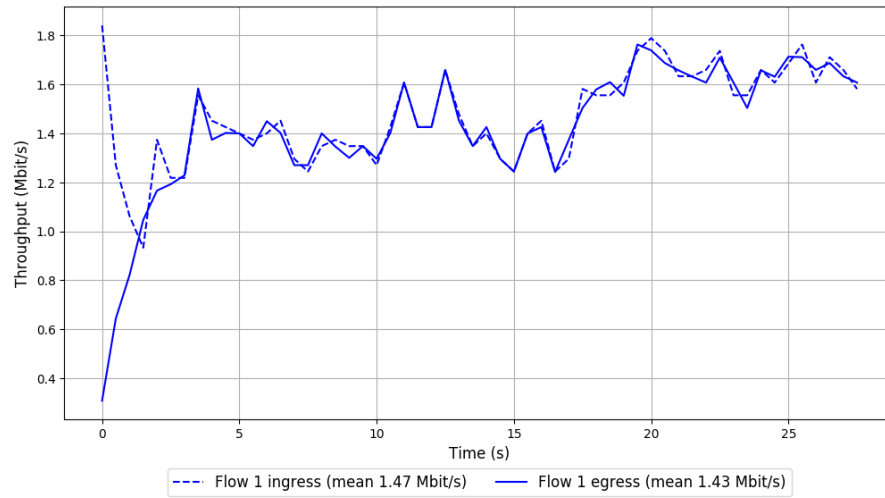


```
Run 1: Statistics of TaoVA-100x

Start at: 2018-01-10 12:59:57
End at: 2018-01-10 13:00:27
Local clock offset: 2.502 ms
Remote clock offset: -15.123 ms

# Below is generated by plot.py at 2018-01-10 14:31:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 331.281 ms
Loss rate: 3.32%
-- Flow 1:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 331.281 ms
Loss rate: 3.32%
```

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

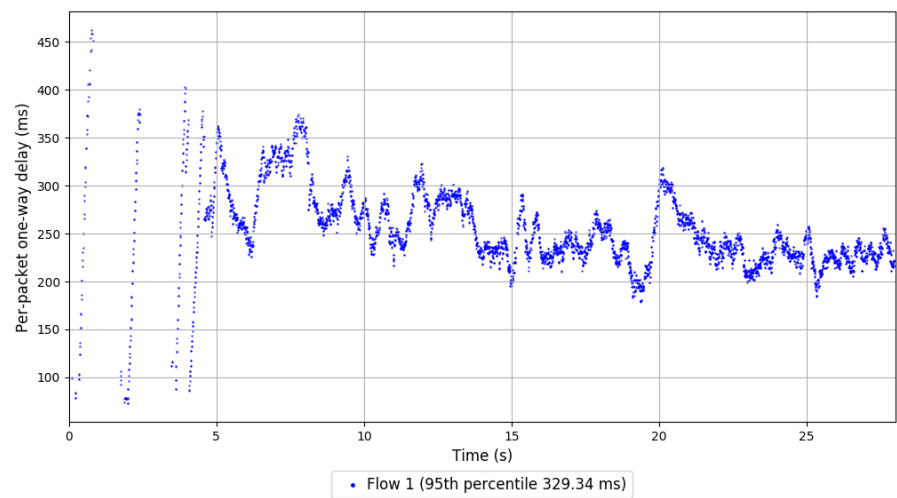
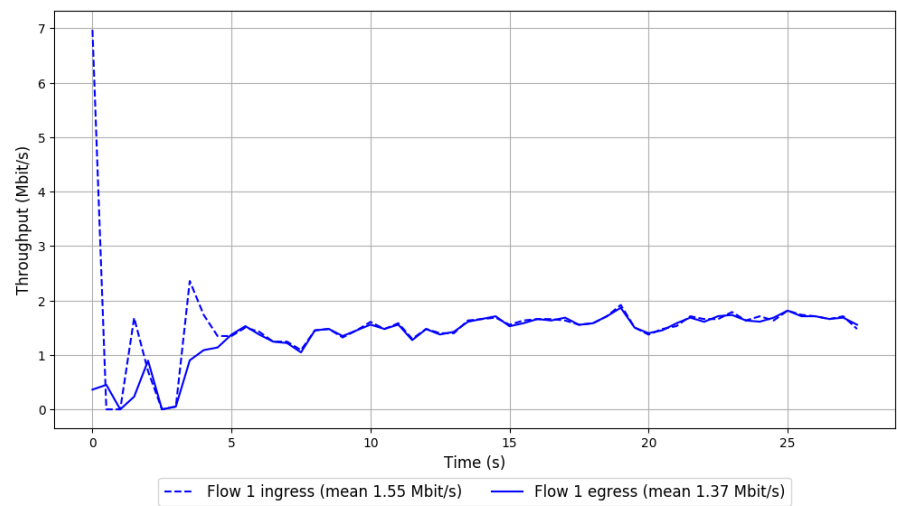


Run 2: Statistics of TaoVA-100x

Start at: 2018-01-10 13:16:18
End at: 2018-01-10 13:16:48
Local clock offset: 2.034 ms
Remote clock offset: -15.176 ms

Below is generated by plot.py at 2018-01-10 14:31:29
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 329.344 ms
Loss rate: 11.60%
-- Flow 1:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 329.344 ms
Loss rate: 11.60%

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

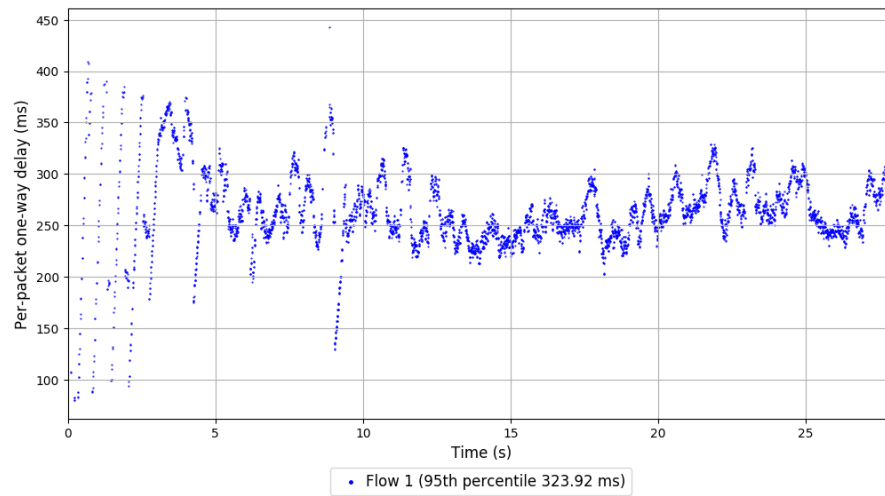
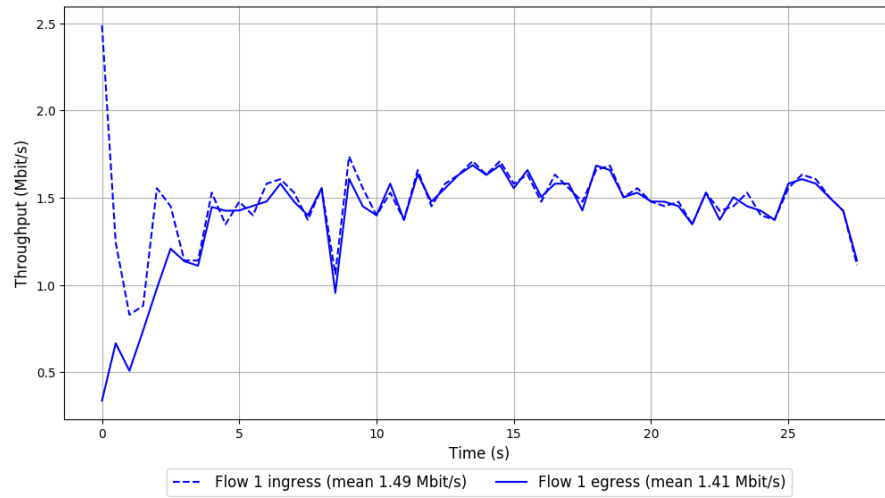


Run 3: Statistics of TaoVA-100x

Start at: 2018-01-10 13:32:38
End at: 2018-01-10 13:33:08
Local clock offset: 4.098 ms
Remote clock offset: -15.242 ms

Below is generated by plot.py at 2018-01-10 14:31:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 323.918 ms
Loss rate: 5.63%
-- Flow 1:
Average throughput: 1.41 Mbit/s
95th percentile per-packet one-way delay: 323.918 ms
Loss rate: 5.63%

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

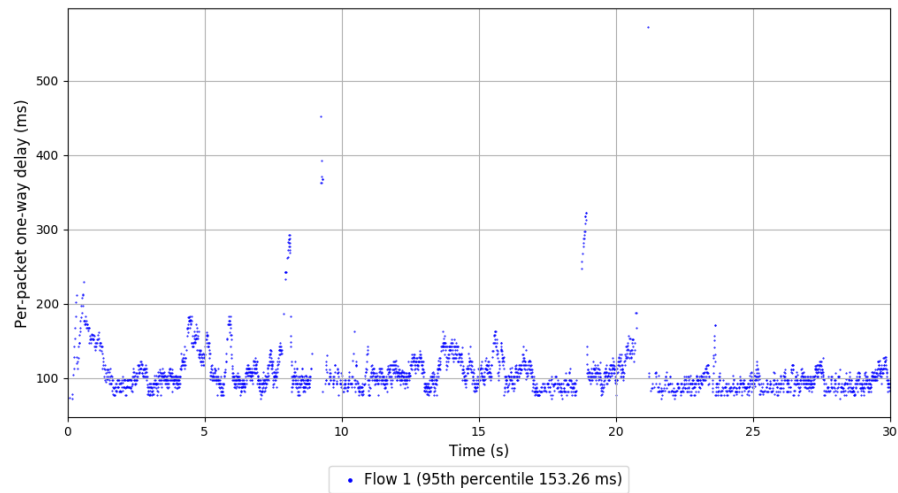
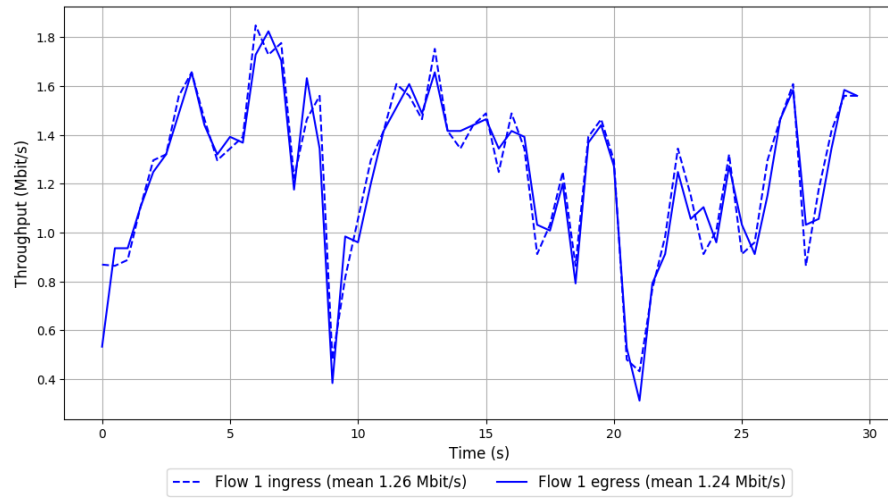


Run 1: Statistics of TCP Vegas

Start at: 2018-01-10 13:06:28
End at: 2018-01-10 13:06:58
Local clock offset: 0.074 ms
Remote clock offset: -16.903 ms

Below is generated by plot.py at 2018-01-10 14:31:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 153.256 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 1.24 Mbit/s
95th percentile per-packet one-way delay: 153.256 ms
Loss rate: 1.37%

Run 1: Report of TCP Vegas — Data Link

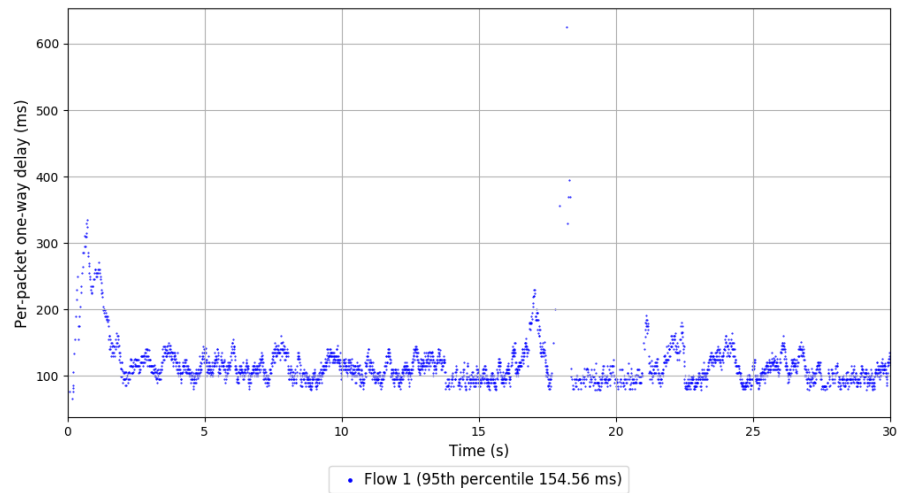
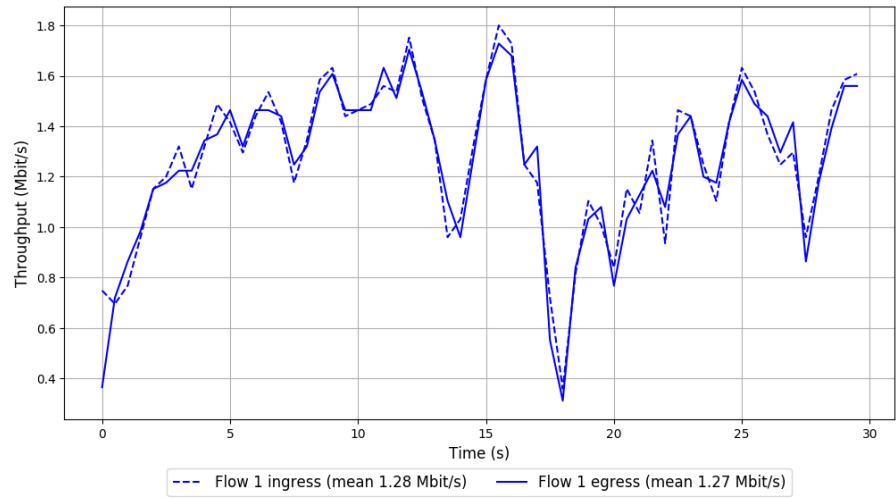


Run 2: Statistics of TCP Vegas

Start at: 2018-01-10 13:22:49
End at: 2018-01-10 13:23:19
Local clock offset: 3.357 ms
Remote clock offset: -15.093 ms

Below is generated by plot.py at 2018-01-10 14:31:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 154.565 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 154.565 ms
Loss rate: 1.00%

Run 2: Report of TCP Vegas — Data Link

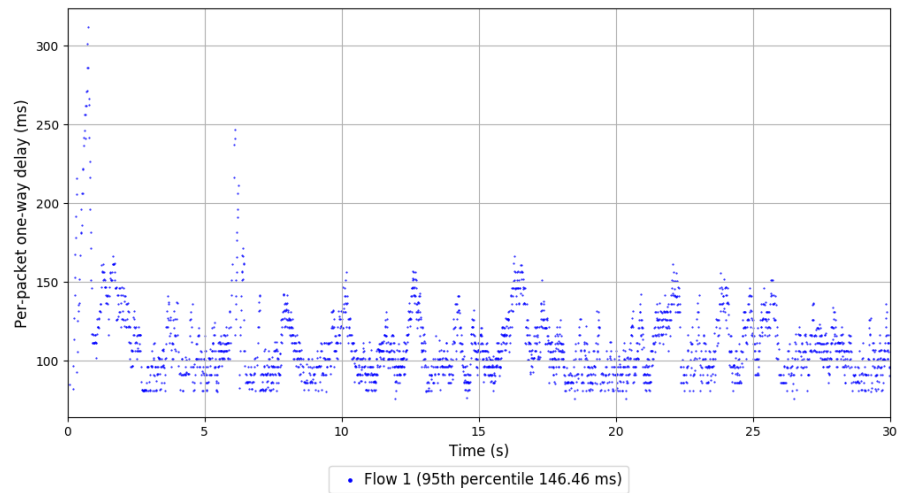
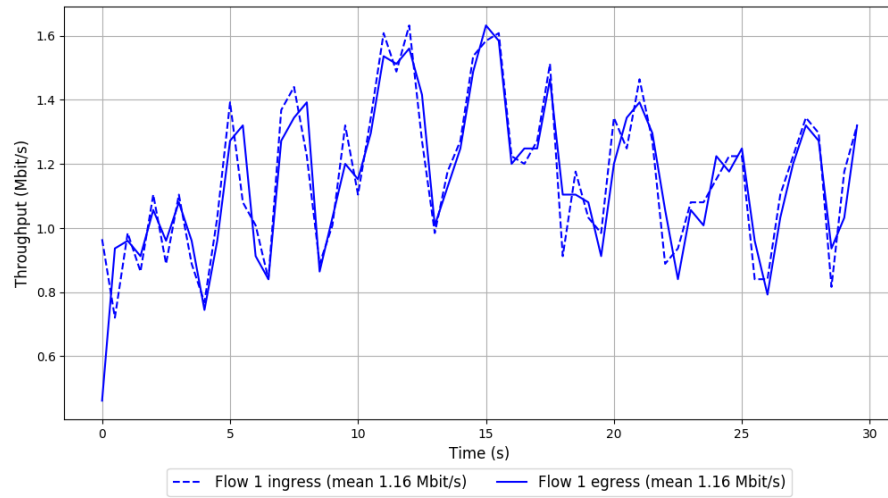


Run 3: Statistics of TCP Vegas

Start at: 2018-01-10 13:39:09
End at: 2018-01-10 13:39:39
Local clock offset: 3.175 ms
Remote clock offset: -14.713 ms

Below is generated by plot.py at 2018-01-10 14:31:30
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 146.462 ms
Loss rate: 0.83%
-- Flow 1:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 146.462 ms
Loss rate: 0.83%

Run 3: Report of TCP Vegas — Data Link

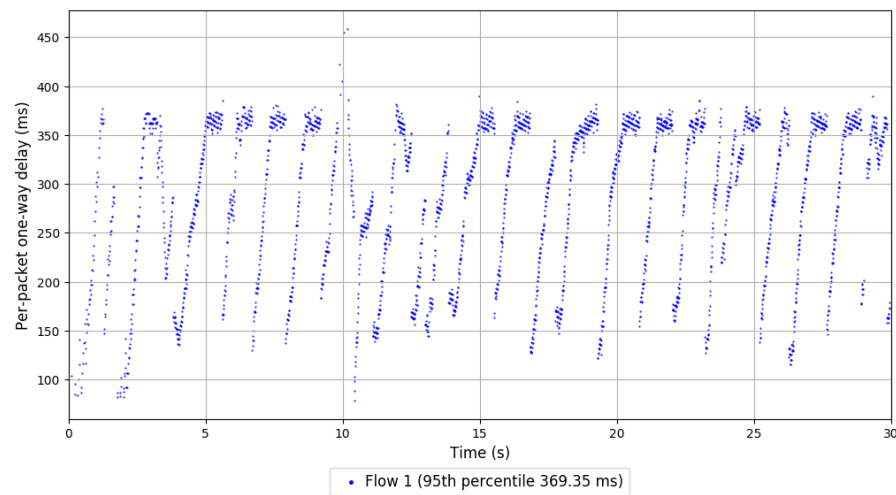
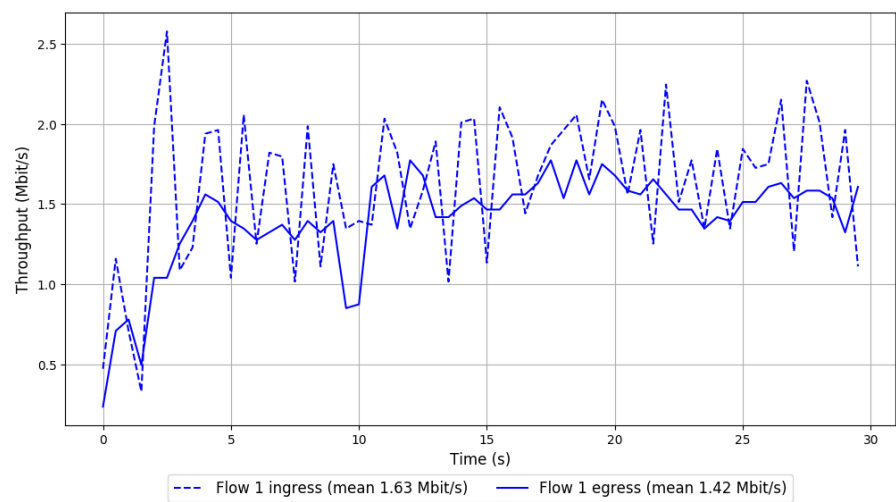


Run 1: Statistics of Verus

Start at: 2018-01-10 13:08:39
End at: 2018-01-10 13:09:09
Local clock offset: 2.341 ms
Remote clock offset: -14.796 ms

Below is generated by plot.py at 2018-01-10 14:31:31
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 369.347 ms
Loss rate: 13.28%
-- Flow 1:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 369.347 ms
Loss rate: 13.28%

Run 1: Report of Verus — Data Link

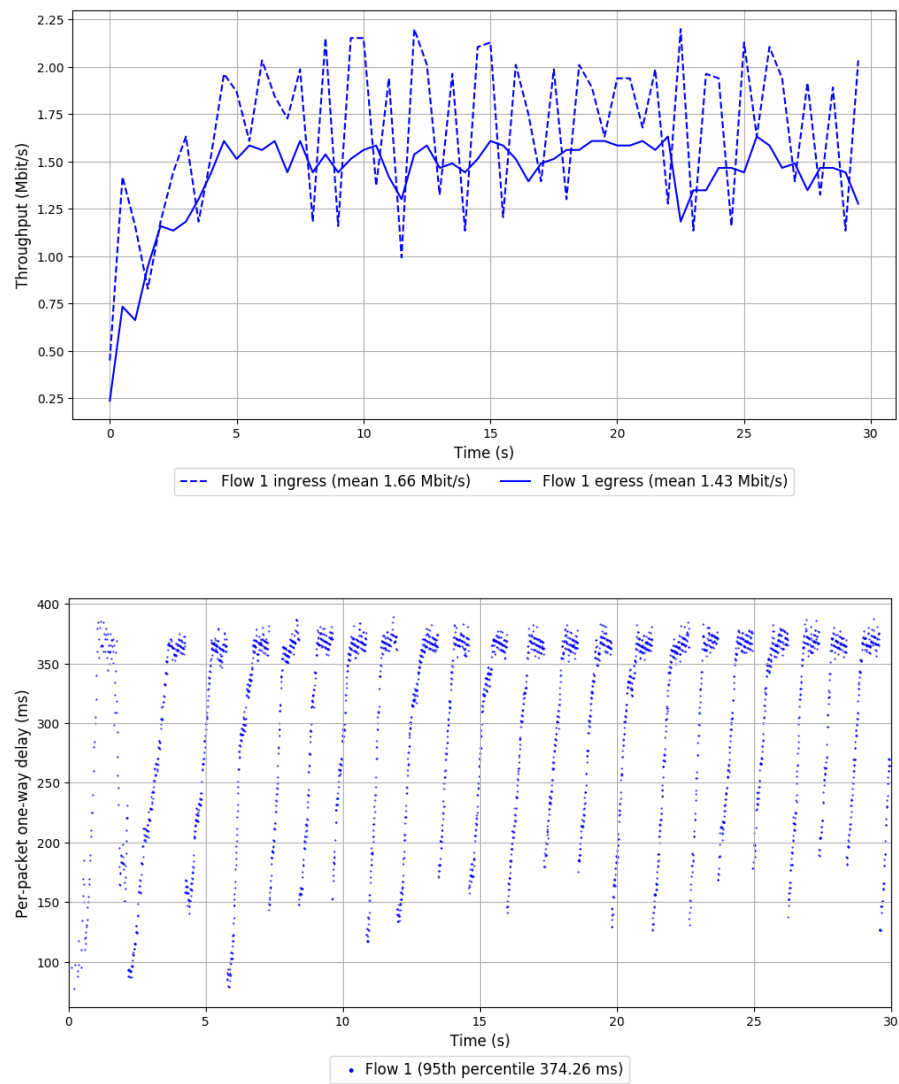


Run 2: Statistics of Verus

Start at: 2018-01-10 13:24:59
End at: 2018-01-10 13:25:29
Local clock offset: 3.082 ms
Remote clock offset: -16.527 ms

Below is generated by plot.py at 2018-01-10 14:31:32
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 374.259 ms
Loss rate: 14.37%
-- Flow 1:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 374.259 ms
Loss rate: 14.37%

Run 2: Report of Verus — Data Link

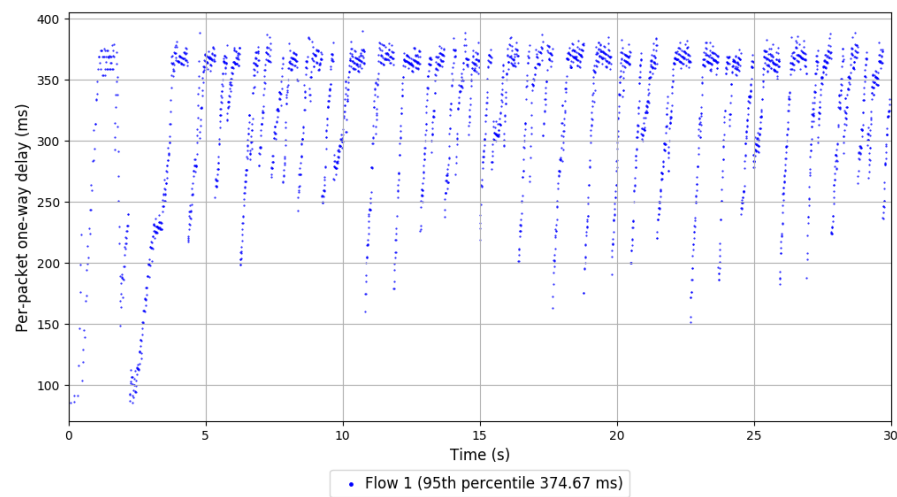
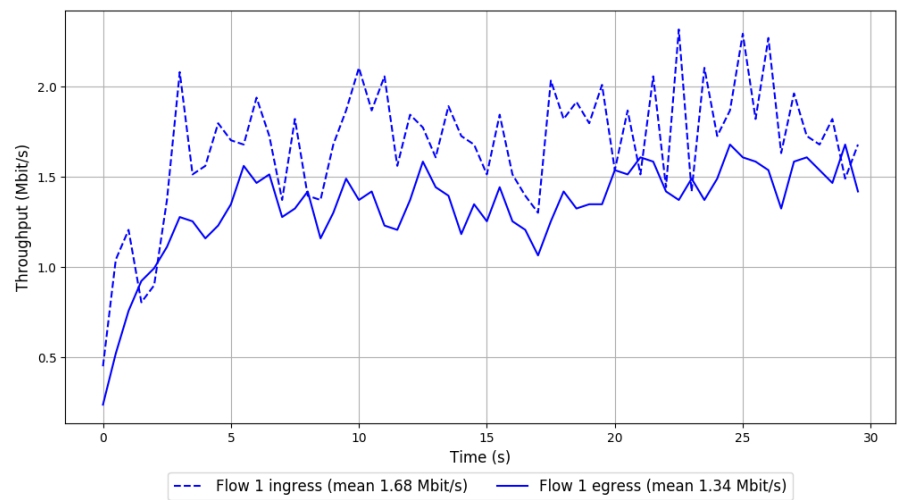


Run 3: Statistics of Verus

Start at: 2018-01-10 13:41:19
End at: 2018-01-10 13:41:49
Local clock offset: 3.669 ms
Remote clock offset: -15.154 ms

Below is generated by plot.py at 2018-01-10 14:31:34
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 374.669 ms
Loss rate: 20.42%
-- Flow 1:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 374.669 ms
Loss rate: 20.42%

Run 3: Report of Verus — Data Link

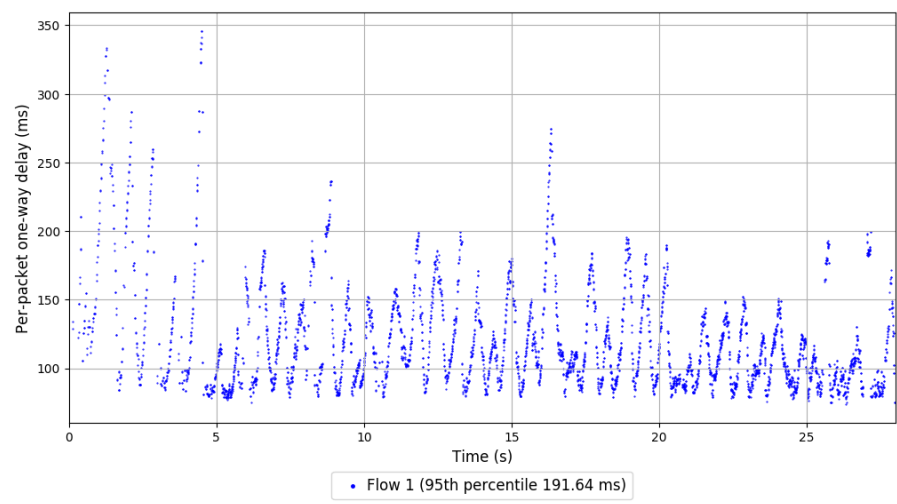
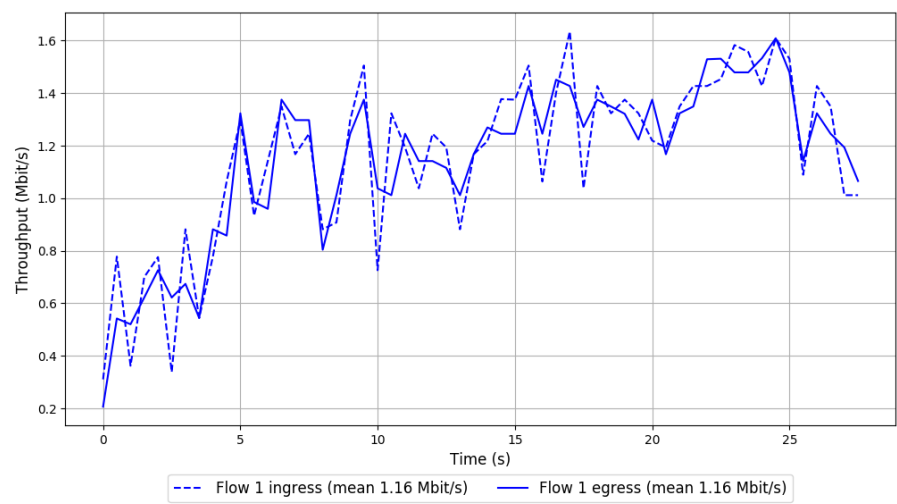


Run 1: Statistics of Copa

Start at: 2018-01-10 12:58:52
End at: 2018-01-10 12:59:22
Local clock offset: 3.426 ms
Remote clock offset: -16.027 ms

Below is generated by plot.py at 2018-01-10 14:31:36
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 191.643 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 191.643 ms
Loss rate: 0.52%

Run 1: Report of Copa — Data Link

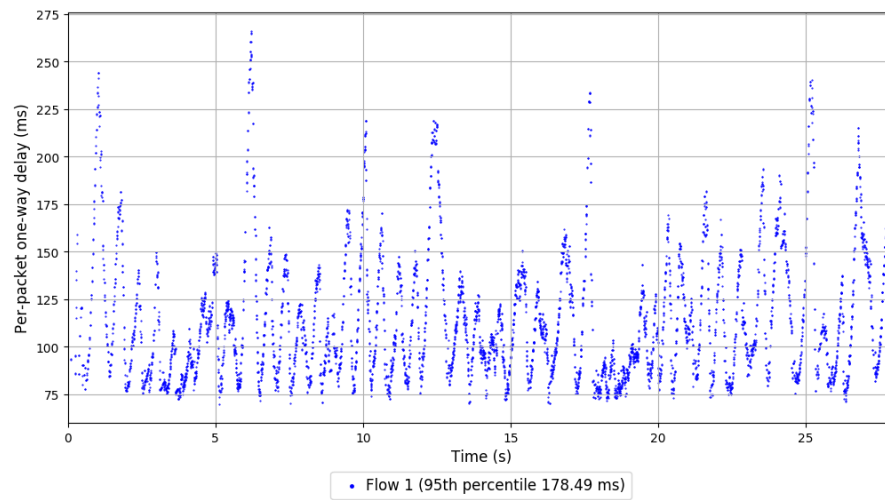
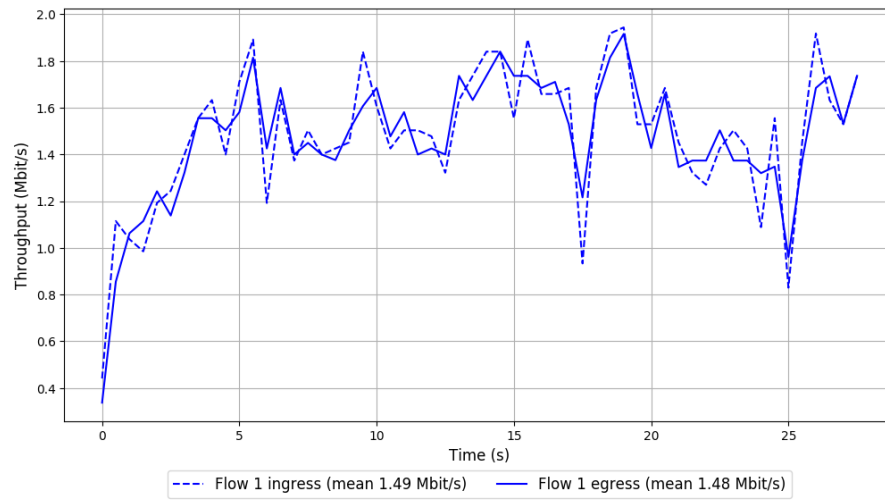


Run 2: Statistics of Copa

Start at: 2018-01-10 13:15:13
End at: 2018-01-10 13:15:43
Local clock offset: 0.642 ms
Remote clock offset: -16.703 ms

Below is generated by plot.py at 2018-01-10 14:31:37
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 178.489 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 178.489 ms
Loss rate: 0.63%

Run 2: Report of Copa — Data Link

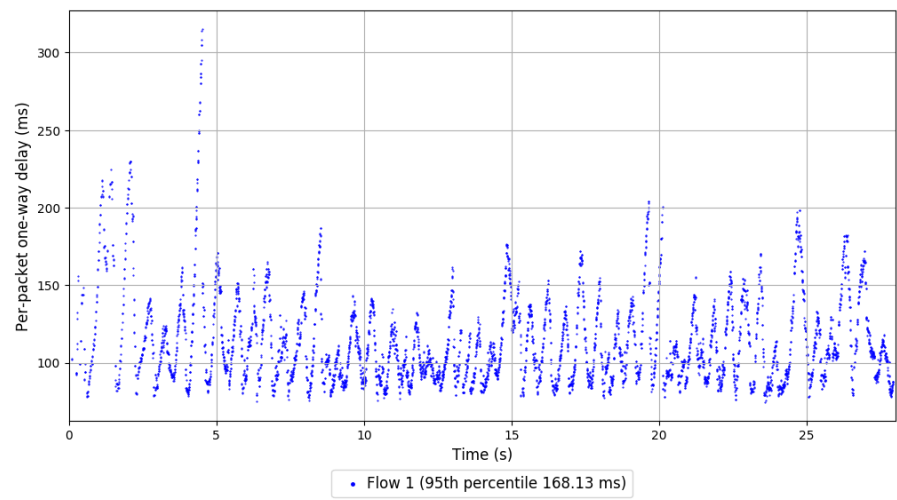
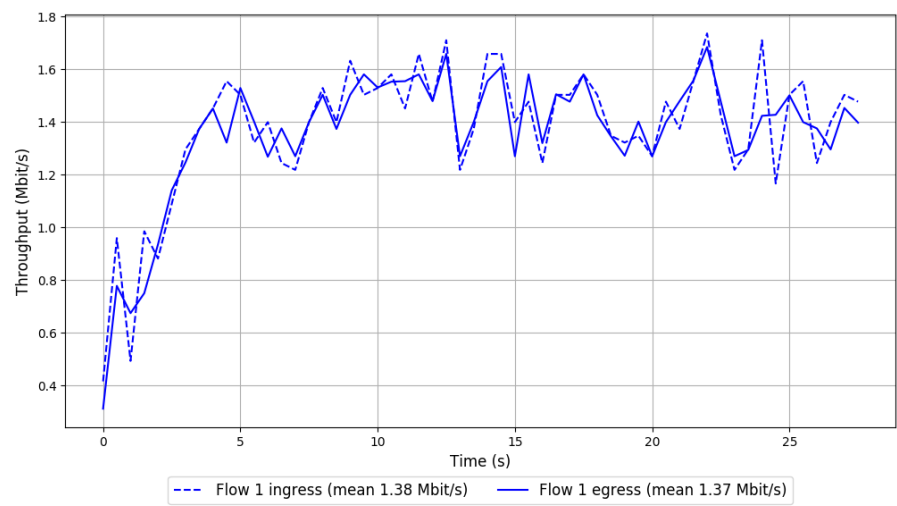


Run 3: Statistics of Copa

Start at: 2018-01-10 13:31:33
End at: 2018-01-10 13:32:03
Local clock offset: 1.72 ms
Remote clock offset: -16.118 ms

Below is generated by plot.py at 2018-01-10 14:31:39
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 168.130 ms
Loss rate: 1.09%
-- Flow 1:
Average throughput: 1.37 Mbit/s
95th percentile per-packet one-way delay: 168.130 ms
Loss rate: 1.09%

Run 3: Report of Copa — Data Link

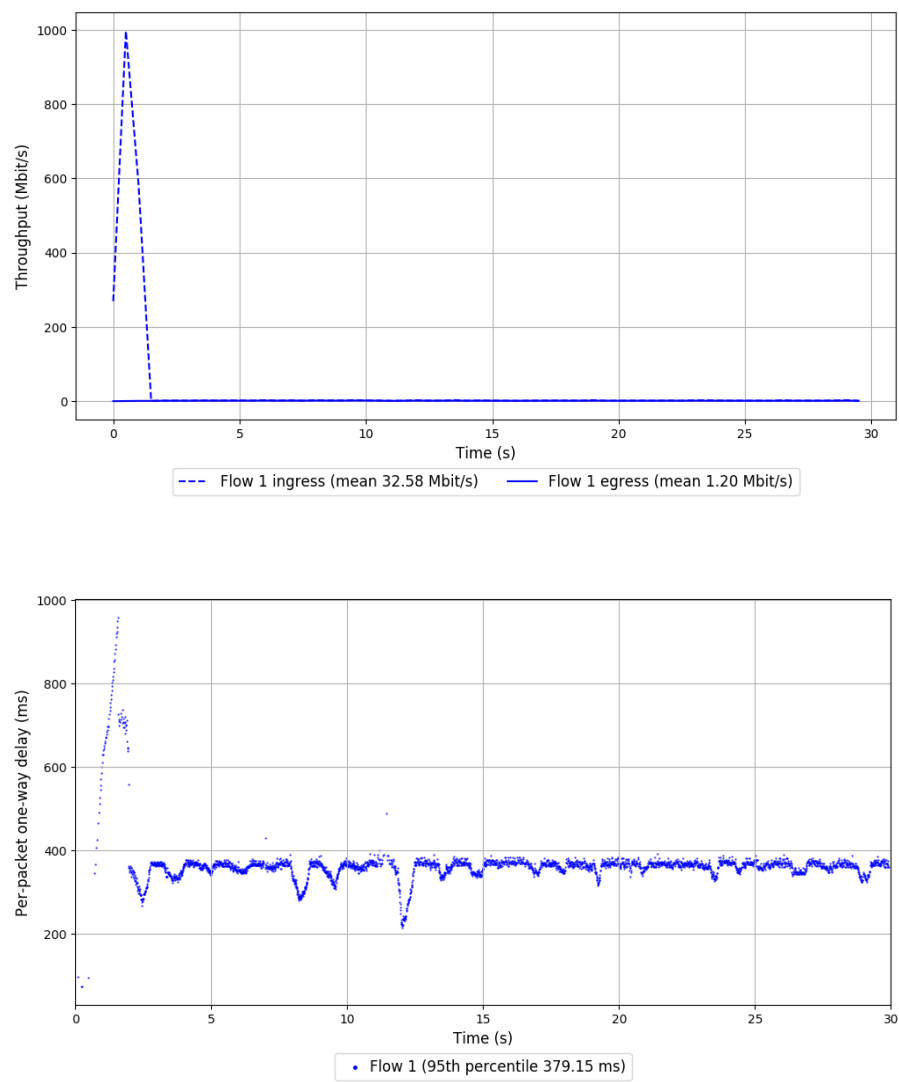


Run 1: Statistics of FillP

Start at: 2018-01-10 12:53:26
End at: 2018-01-10 12:53:56
Local clock offset: 0.817 ms
Remote clock offset: -14.918 ms

Below is generated by plot.py at 2018-01-10 14:31:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 379.148 ms
Loss rate: 96.34%
-- Flow 1:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 379.148 ms
Loss rate: 96.34%

Run 1: Report of FillP — Data Link

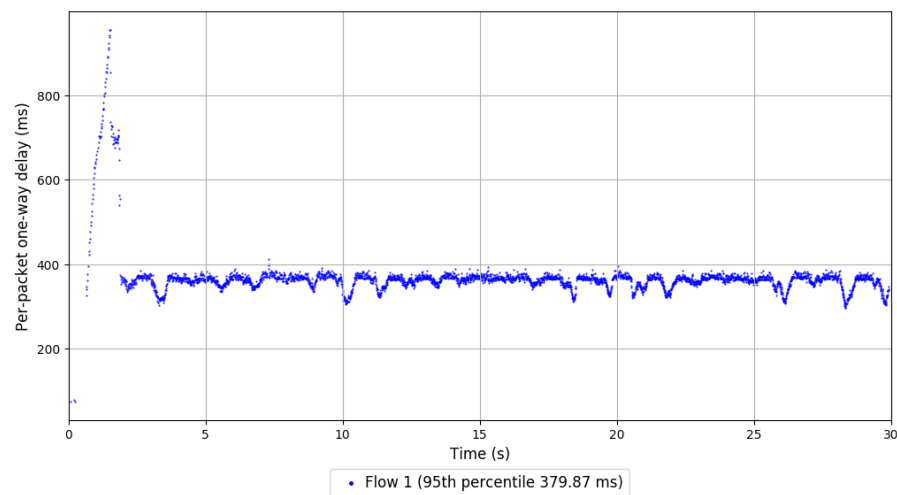
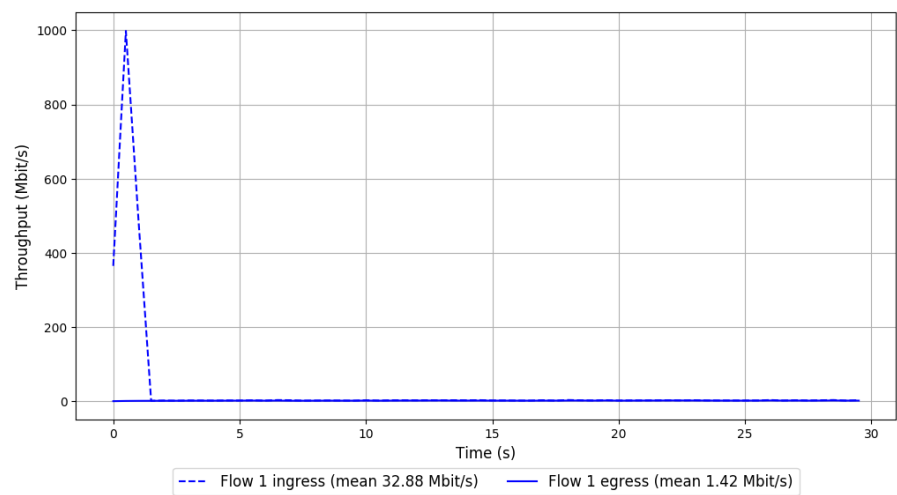


Run 2: Statistics of FillP

Start at: 2018-01-10 13:09:44
End at: 2018-01-10 13:10:14
Local clock offset: 2.107 ms
Remote clock offset: -15.509 ms

Below is generated by plot.py at 2018-01-10 14:31:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 379.874 ms
Loss rate: 95.71%
-- Flow 1:
Average throughput: 1.42 Mbit/s
95th percentile per-packet one-way delay: 379.874 ms
Loss rate: 95.71%

Run 2: Report of FillP — Data Link

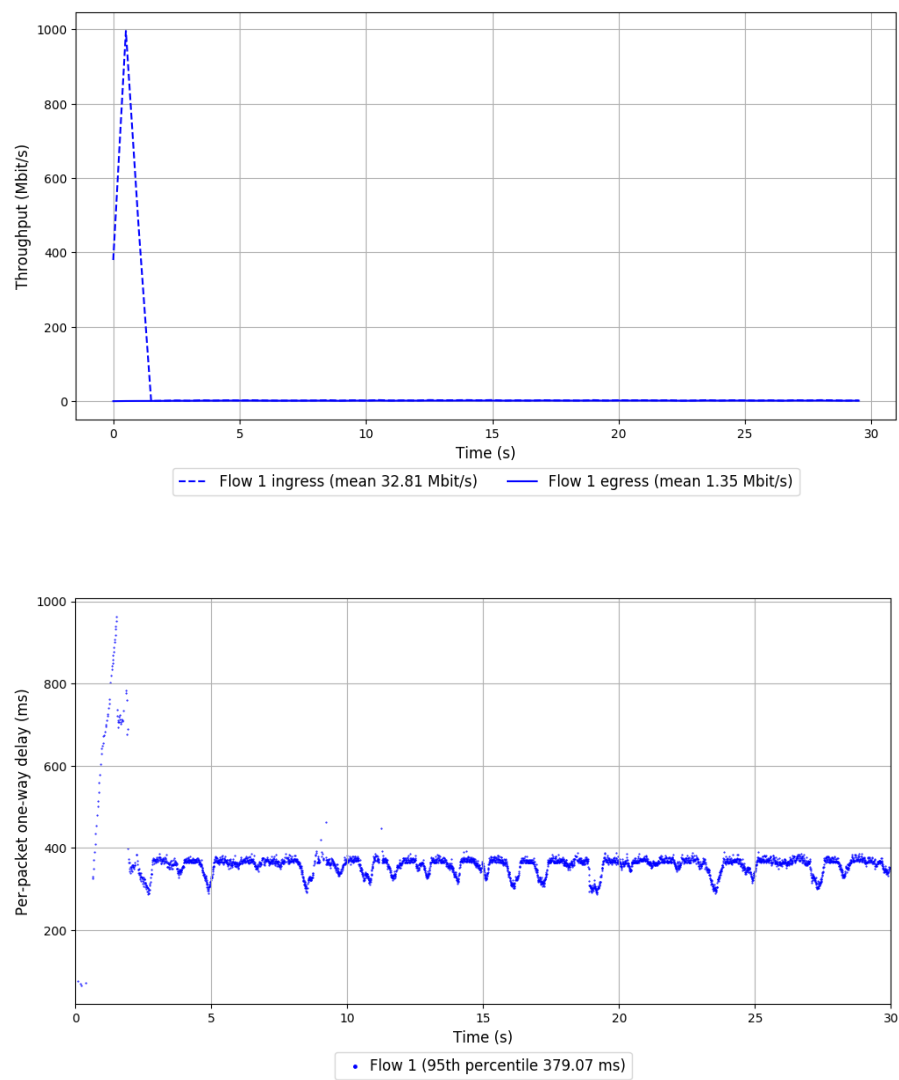


Run 3: Statistics of FillP

Start at: 2018-01-10 13:26:04
End at: 2018-01-10 13:26:34
Local clock offset: 4.333 ms
Remote clock offset: -15.359 ms

Below is generated by plot.py at 2018-01-10 14:31:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 379.066 ms
Loss rate: 95.89%
-- Flow 1:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 379.066 ms
Loss rate: 95.89%

Run 3: Report of FillP — Data Link

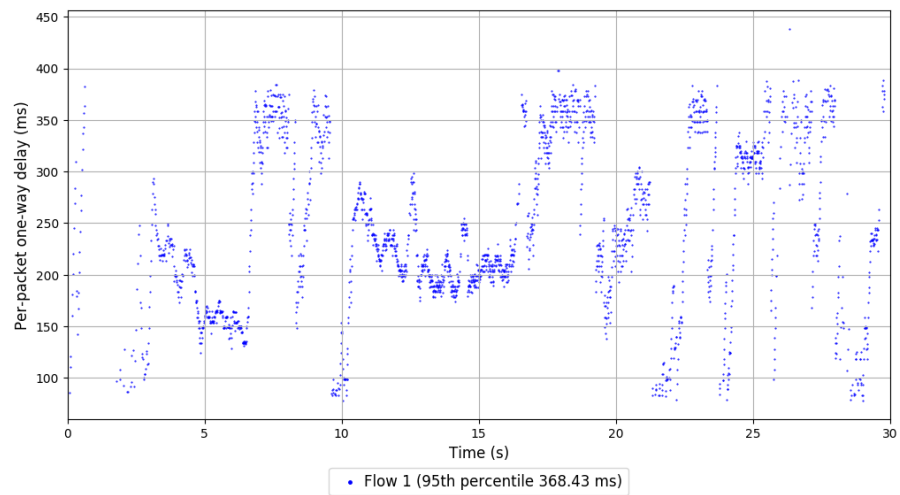
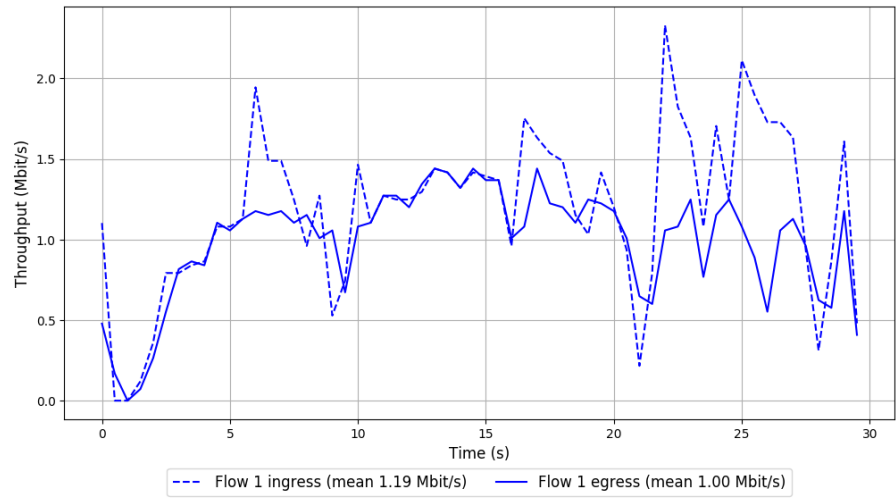


```
Run 1: Statistics of Indigo

Start at: 2018-01-10 12:54:31
End at: 2018-01-10 12:55:02
Local clock offset: 2.636 ms
Remote clock offset: -15.596 ms

# Below is generated by plot.py at 2018-01-10 14:31:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 368.428 ms
Loss rate: 16.35%
-- Flow 1:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 368.428 ms
Loss rate: 16.35%
```

Run 1: Report of Indigo — Data Link

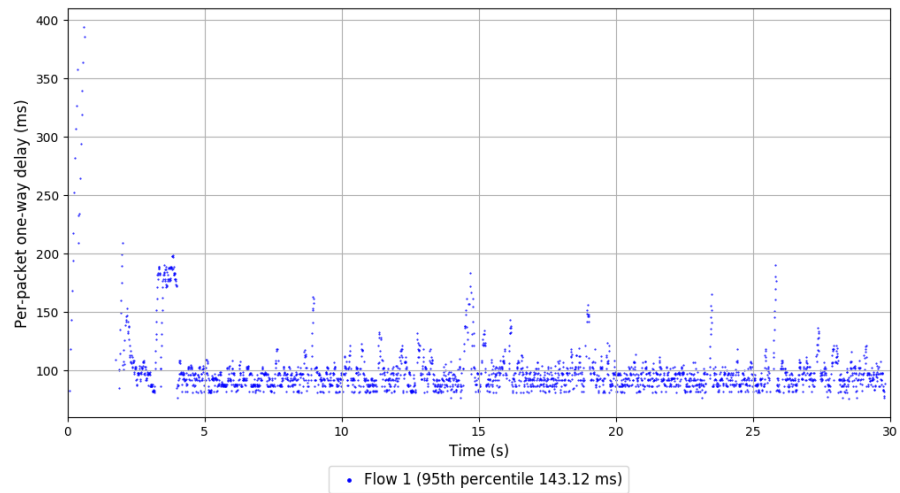
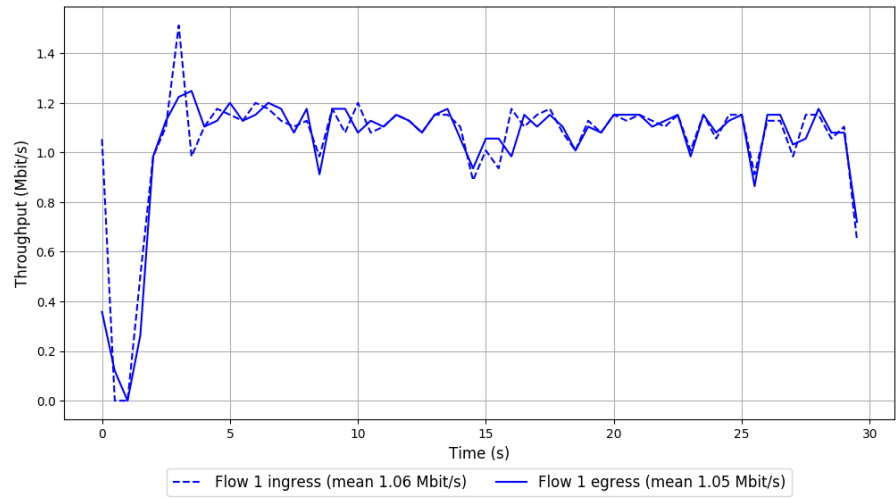


Run 2: Statistics of Indigo

Start at: 2018-01-10 13:10:52
End at: 2018-01-10 13:11:22
Local clock offset: 5.261 ms
Remote clock offset: -15.709 ms

Below is generated by plot.py at 2018-01-10 14:31:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 143.120 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 1.05 Mbit/s
95th percentile per-packet one-way delay: 143.120 ms
Loss rate: 1.25%

Run 2: Report of Indigo — Data Link



Run 3: Statistics of Indigo

Start at: 2018-01-10 13:27:12
End at: 2018-01-10 13:27:43
Local clock offset: 4.899 ms
Remote clock offset: -14.651 ms

Below is generated by plot.py at 2018-01-10 14:31:43
Datalink statistics
-- Total of 1 flow:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 147.899 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 147.899 ms
Loss rate: 1.90%

Run 3: Report of Indigo — Data Link

