

## Pantheon Report

Generated at 2017-09-17 23:17:52 (UTC).

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

Repeated the test of 15 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

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

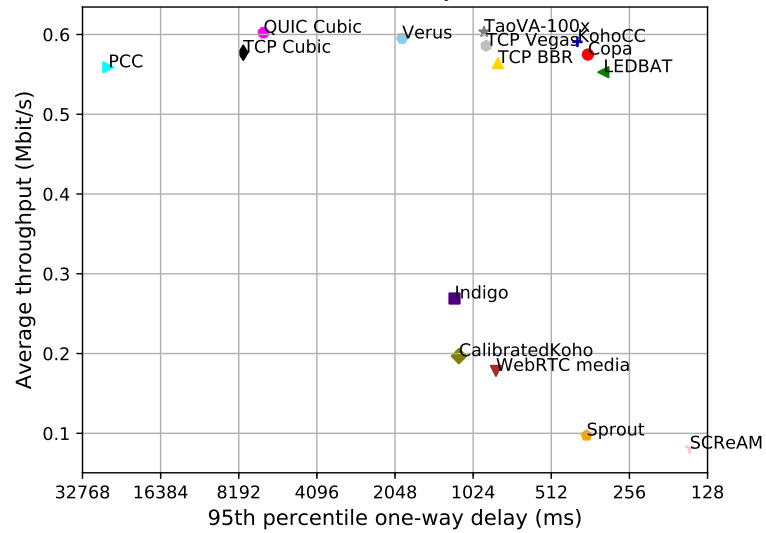
Tested BBR with qdisc of Fair Queuing (**fq**), and other schemes with the default Linux qdisc (**pfifo\_fast**).

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

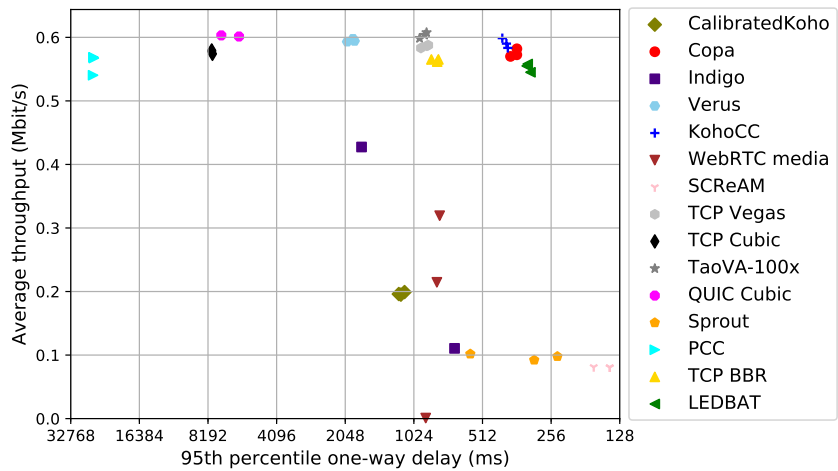
Git summary:

```
branch: master @ 57453dc11f8da93a2e03eea75289fea01b816298
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
  M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
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-quirk @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaaeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
  M src/examples/cellsim.cc
  M src/examples/sproutbt2.cc
  M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/webRTC @ a488197ddd041ace68a42849b2540ad834825f42
```

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



test from Colombia ppp0 to AWS Brazil 2 Ethernet, 3 runs of 30s each per scheme



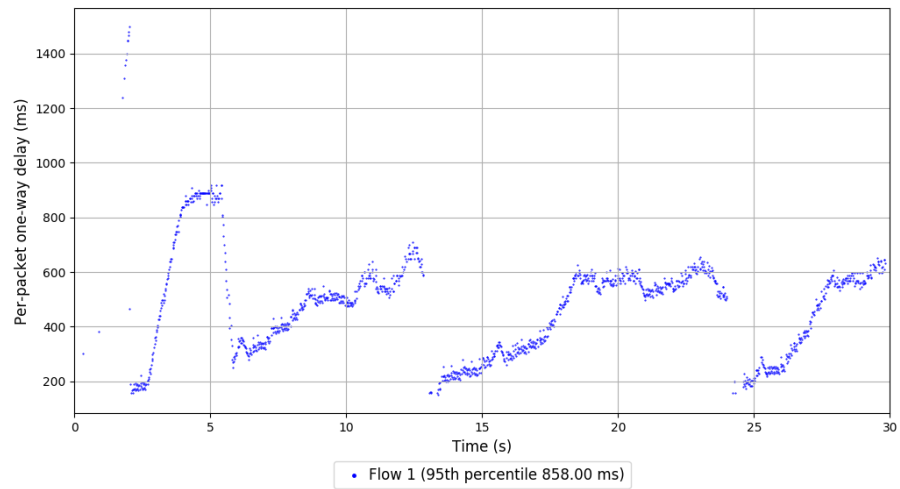
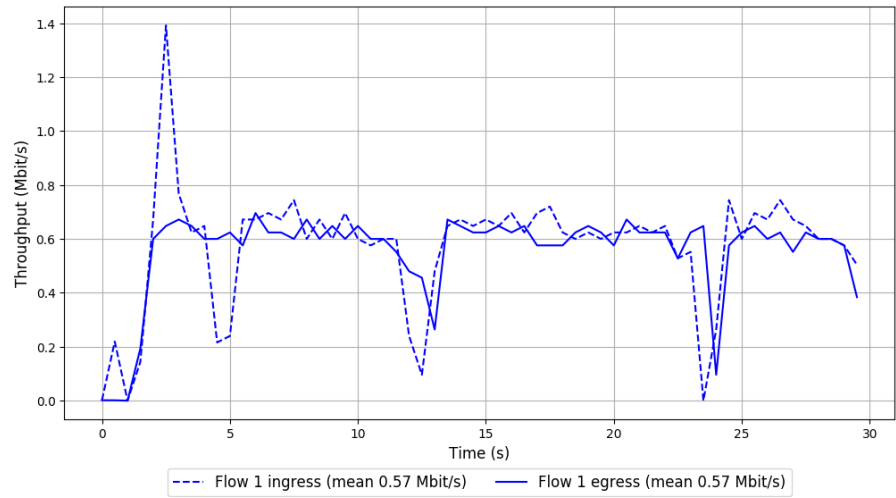
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	0.57	822.14	2.42
CalibratedKoho	3	0.20	1161.87	1.41
Copa	3	0.57	369.90	1.11
TCP Cubic	3	0.58	7872.54	31.09
Indigo	2	0.27	1208.06	12.47
KohoCC	3	0.59	405.91	1.24
LEDBAT	3	0.56	322.54	1.25
PCC	3	0.56	26049.13	98.49
QUIC Cubic	2	0.60	6575.23	26.30
SCReAM	3	0.08	149.89	0.66
Sprout	3	0.10	374.36	0.77
TaoVA-100x	3	0.60	929.04	2.75
TCP Vegas	3	0.59	912.34	1.10
Verus	3	0.59	1922.51	5.15
WebRTC media	3	0.18	836.51	2.81

Run 1: Statistics of TCP BBR

Start at: 2017-09-17 21:47:09  
End at: 2017-09-17 21:47:39  
Local clock offset: -5.636 ms  
Remote clock offset: -8.467 ms

# Below is generated by plot.py at 2017-09-17 23:17:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 858.002 ms  
Loss rate: 2.39%  
-- Flow 1:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 858.002 ms  
Loss rate: 2.39%

### Run 1: Report of TCP BBR — Data Link

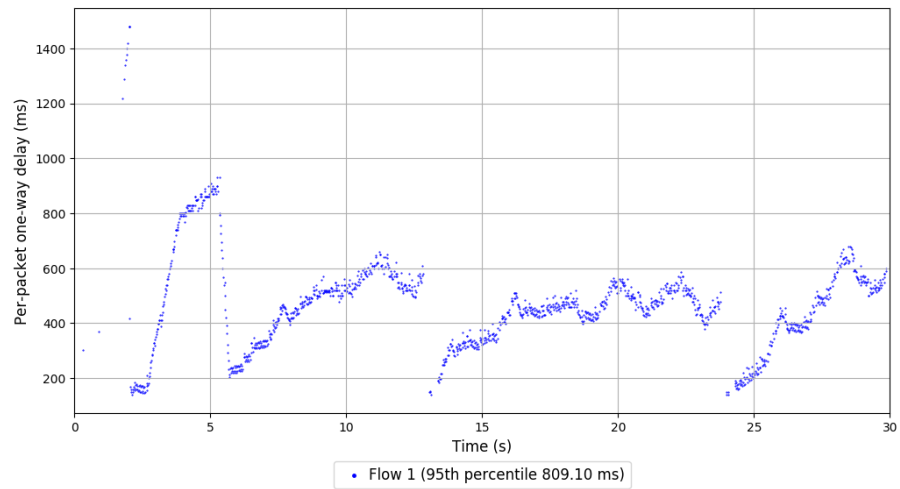
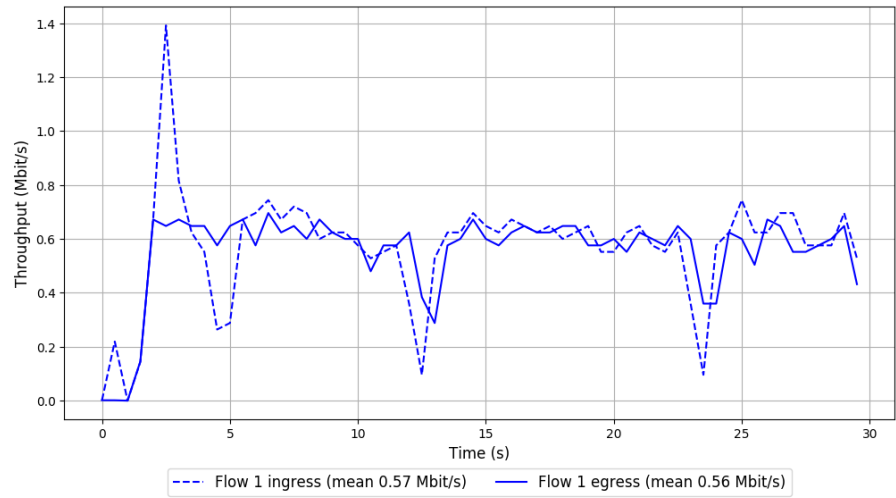


Run 2: Statistics of TCP BBR

Start at: 2017-09-17 22:04:42  
End at: 2017-09-17 22:05:12  
Local clock offset: -3.895 ms  
Remote clock offset: -3.172 ms

# Below is generated by plot.py at 2017-09-17 23:17:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.56 Mbit/s  
95th percentile per-packet one-way delay: 809.102 ms  
Loss rate: 2.40%  
-- Flow 1:  
Average throughput: 0.56 Mbit/s  
95th percentile per-packet one-way delay: 809.102 ms  
Loss rate: 2.40%

## Run 2: Report of TCP BBR — Data Link



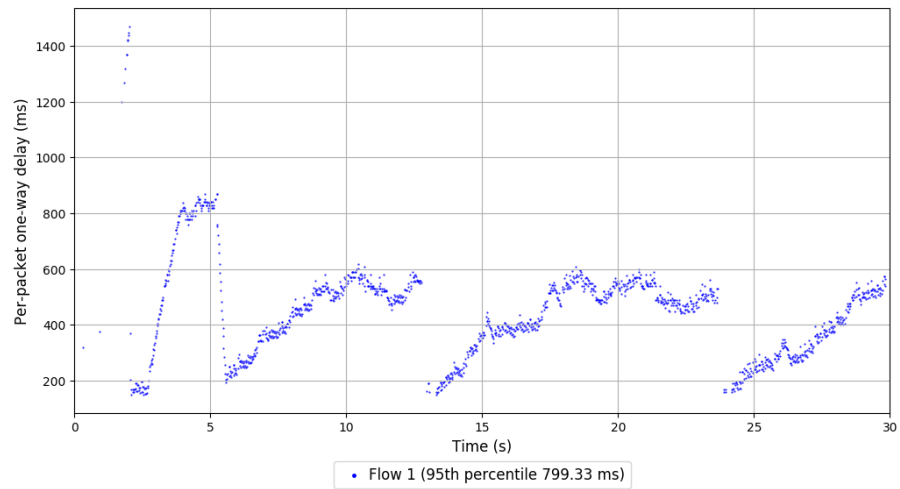
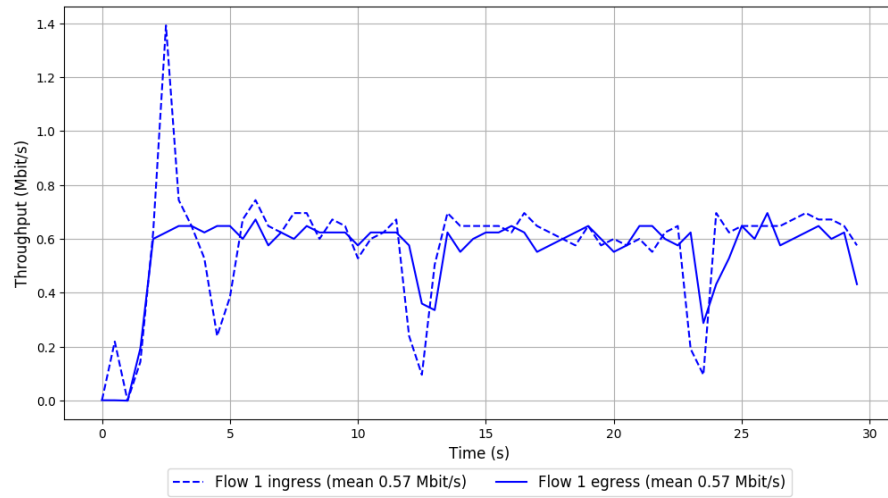
Run 3: Statistics of TCP BBR

Start at: 2017-09-17 22:22:16  
End at: 2017-09-17 22:22:46  
Local clock offset: -5.814 ms  
Remote clock offset: -8.448 ms

# Below is generated by plot.py at 2017-09-17 23:17:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 799.325 ms  
Loss rate: 2.46%  
-- Flow 1:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 799.325 ms  
Loss rate: 2.46%



### Run 3: Report of TCP BBR — Data Link

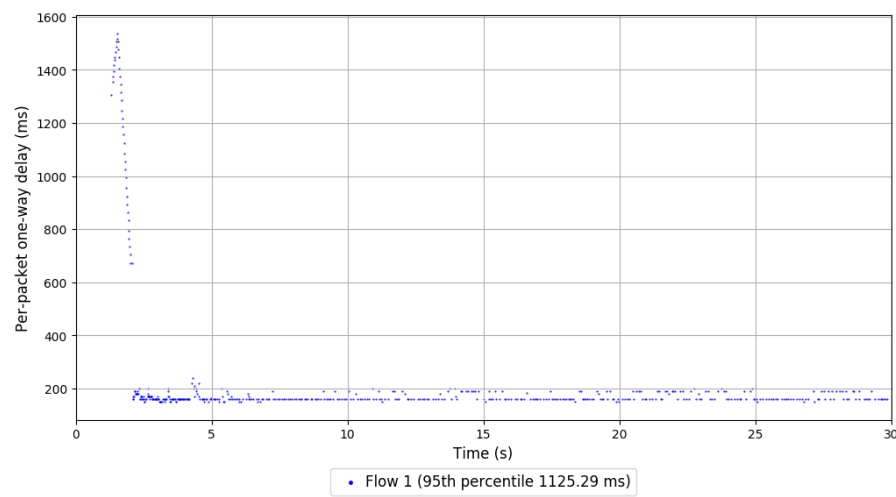
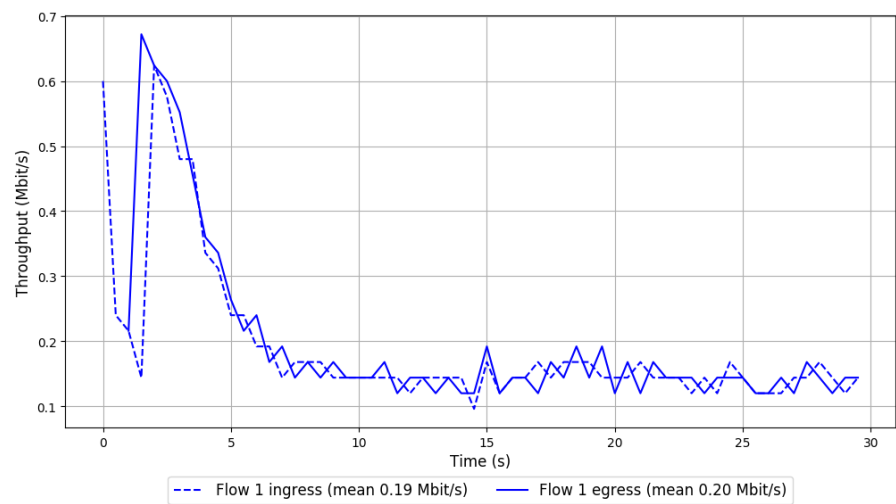


Run 1: Statistics of CalibratedKoho

Start at: 2017-09-17 21:37:46  
End at: 2017-09-17 21:38:16  
Local clock offset: -7.668 ms  
Remote clock offset: -8.118 ms

# Below is generated by plot.py at 2017-09-17 23:17:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.20 Mbit/s  
95th percentile per-packet one-way delay: 1125.290 ms  
Loss rate: 1.25%  
-- Flow 1:  
Average throughput: 0.20 Mbit/s  
95th percentile per-packet one-way delay: 1125.290 ms  
Loss rate: 1.25%

Run 1: Report of CalibratedKoho — Data Link

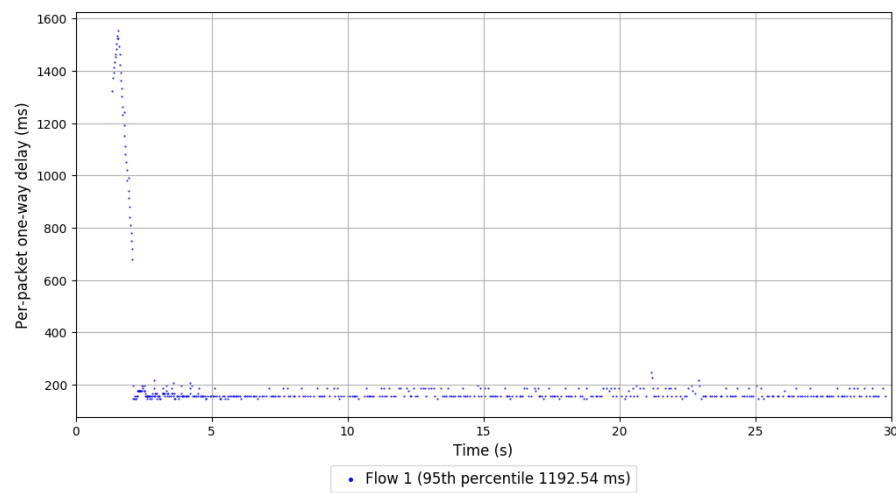
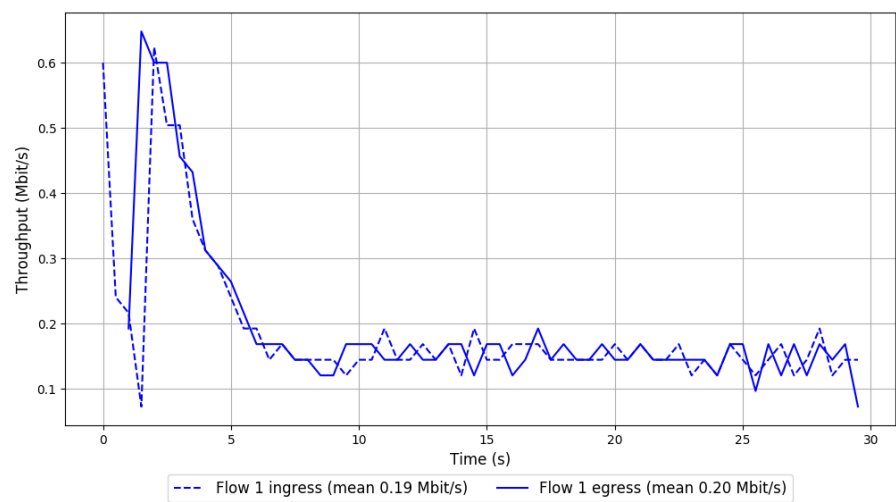


Run 2: Statistics of CalibratedKoho

Start at: 2017-09-17 21:55:20  
End at: 2017-09-17 21:55:50  
Local clock offset: -2.307 ms  
Remote clock offset: -3.104 ms

# Below is generated by plot.py at 2017-09-17 23:17:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.20 Mbit/s  
95th percentile per-packet one-way delay: 1192.536 ms  
Loss rate: 1.69%  
-- Flow 1:  
Average throughput: 0.20 Mbit/s  
95th percentile per-packet one-way delay: 1192.536 ms  
Loss rate: 1.69%

Run 2: Report of CalibratedKoho — Data Link

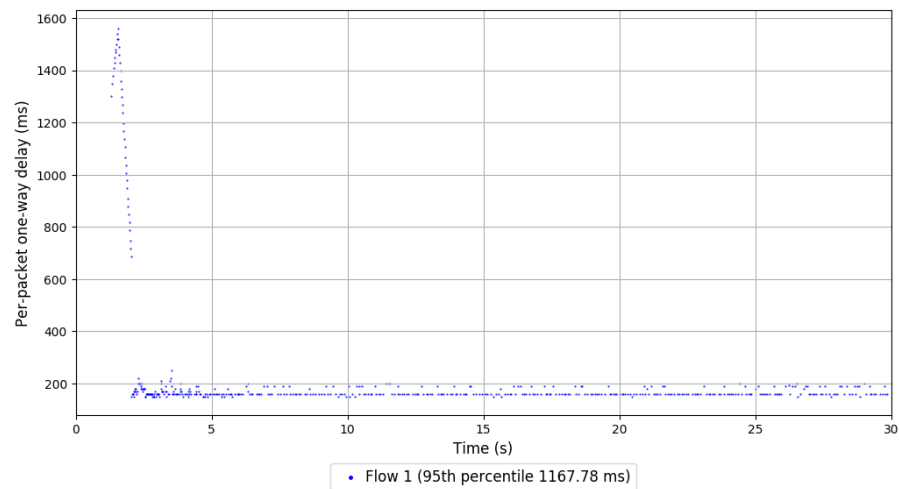
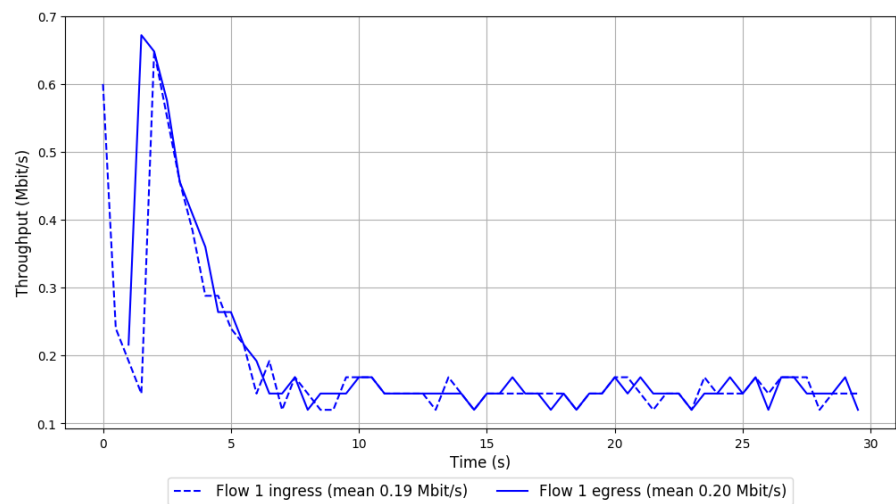


Run 3: Statistics of CalibratedKoho

Start at: 2017-09-17 22:12:54  
End at: 2017-09-17 22:13:24  
Local clock offset: -4.01 ms  
Remote clock offset: -8.227 ms

# Below is generated by plot.py at 2017-09-17 23:17:23  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.20 Mbit/s  
95th percentile per-packet one-way delay: 1167.775 ms  
Loss rate: 1.28%  
-- Flow 1:  
Average throughput: 0.20 Mbit/s  
95th percentile per-packet one-way delay: 1167.775 ms  
Loss rate: 1.28%

Run 3: Report of CalibratedKoho — Data Link



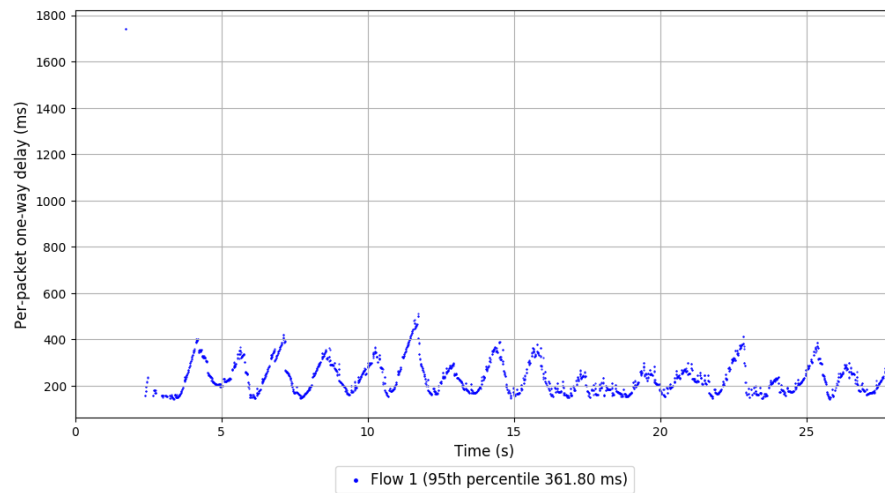
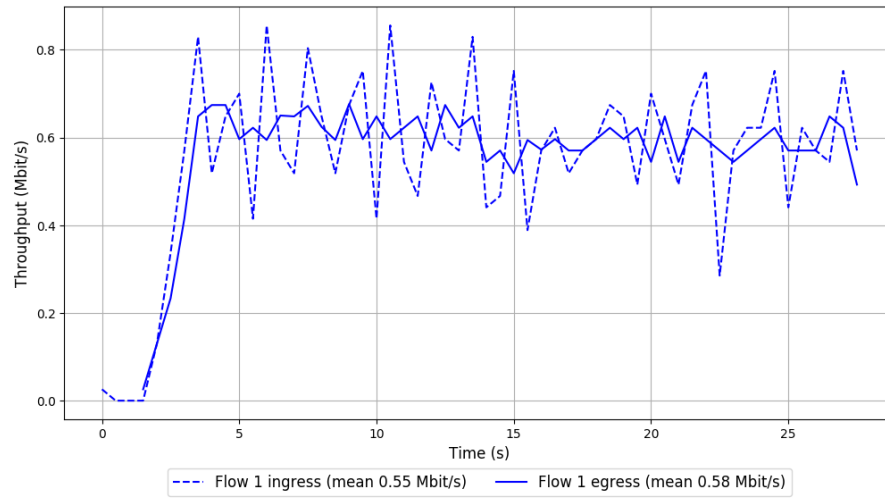
Run 1: Statistics of Copa

Start at: 2017-09-17 21:34:16  
End at: 2017-09-17 21:34:46  
Local clock offset: -8.436 ms  
Remote clock offset: -8.312 ms

# Below is generated by plot.py at 2017-09-17 23:17:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.58 Mbit/s  
95th percentile per-packet one-way delay: 361.795 ms  
Loss rate: 1.35%  
-- Flow 1:  
Average throughput: 0.58 Mbit/s  
95th percentile per-packet one-way delay: 361.795 ms  
Loss rate: 1.35%



### Run 1: Report of Copa — Data Link

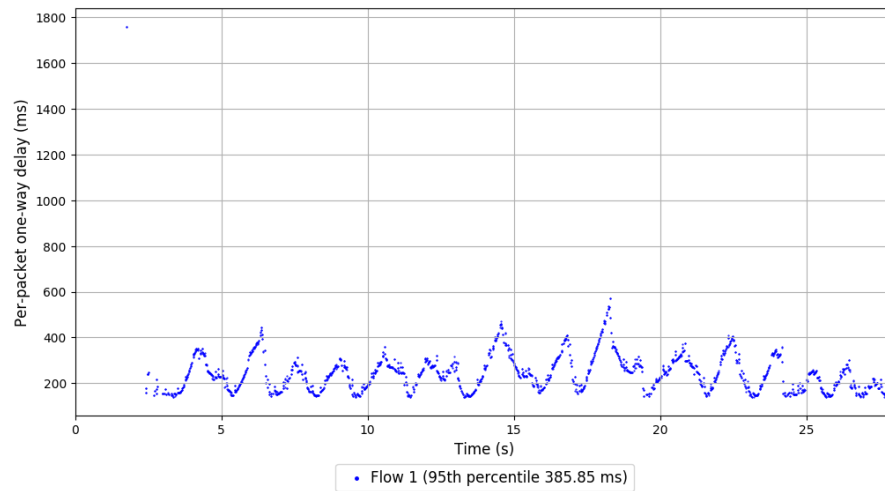
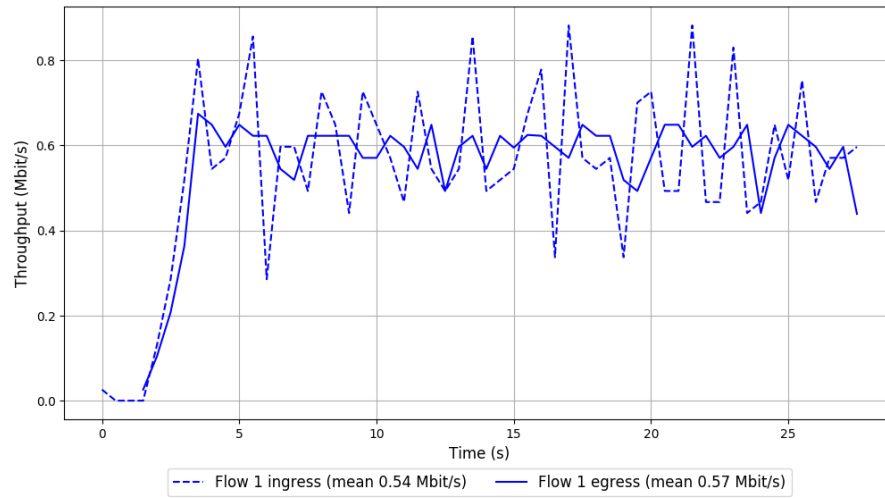


Run 2: Statistics of Copa

Start at: 2017-09-17 21:51:49  
End at: 2017-09-17 21:52:19  
Local clock offset: -1.95 ms  
Remote clock offset: -3.525 ms

# Below is generated by plot.py at 2017-09-17 23:17:24  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 385.848 ms  
Loss rate: 1.13%  
-- Flow 1:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 385.848 ms  
Loss rate: 1.13%

## Run 2: Report of Copa — Data Link

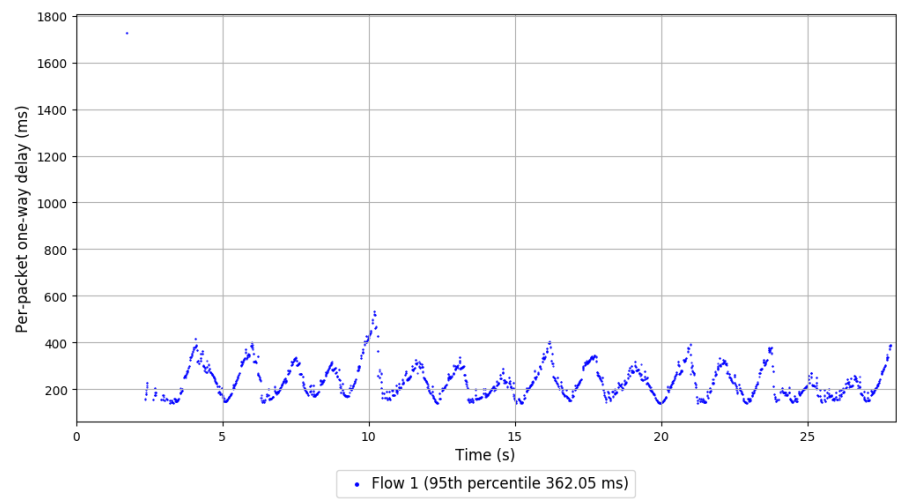
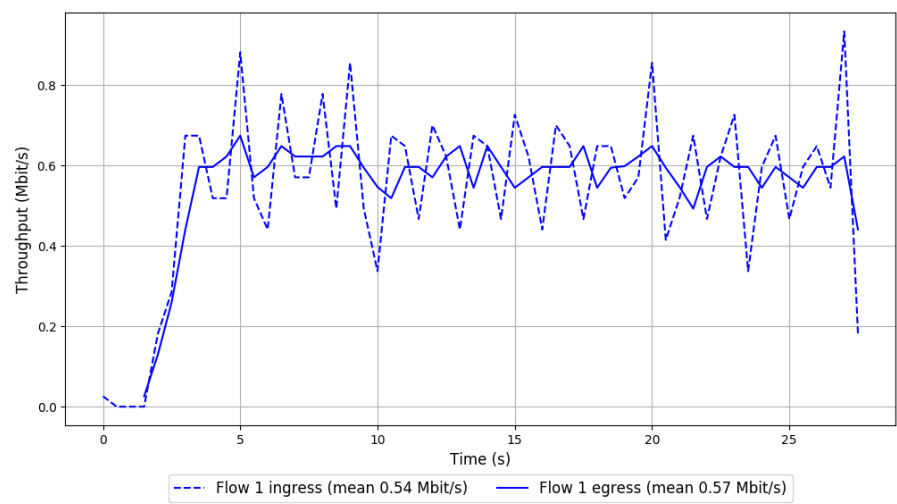


Run 3: Statistics of Copa

Start at: 2017-09-17 22:09:23  
End at: 2017-09-17 22:09:53  
Local clock offset: -3.378 ms  
Remote clock offset: -3.755 ms

# Below is generated by plot.py at 2017-09-17 23:17:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 362.046 ms  
Loss rate: 0.86%  
-- Flow 1:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 362.046 ms  
Loss rate: 0.86%

Run 3: Report of Copa — Data Link

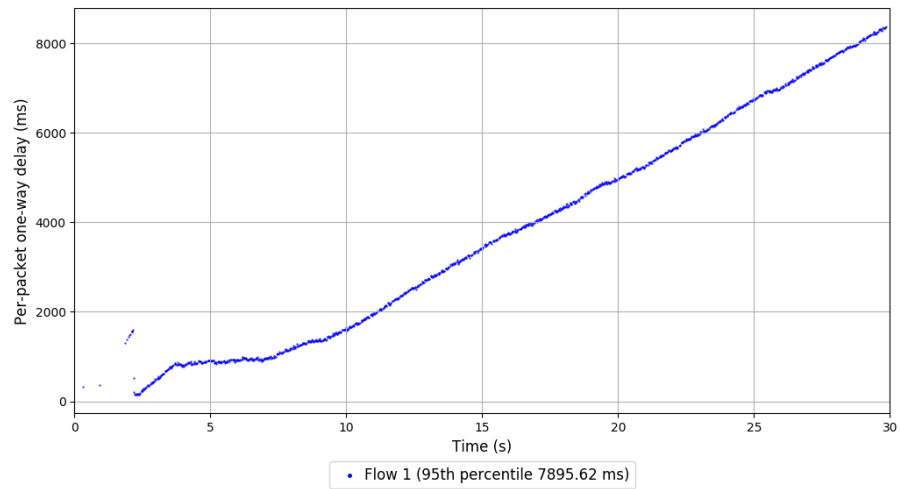
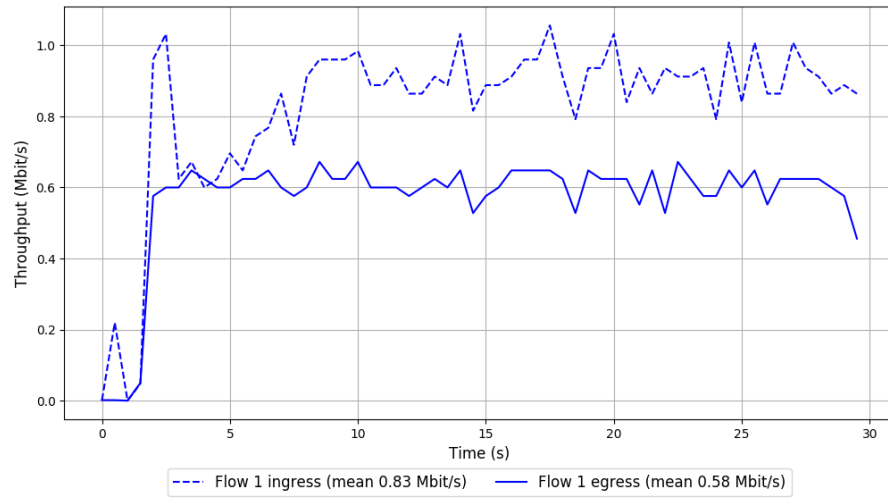


Run 1: Statistics of TCP Cubic

Start at: 2017-09-17 21:35:26  
End at: 2017-09-17 21:35:56  
Local clock offset: -7.744 ms  
Remote clock offset: -2.981 ms

# Below is generated by plot.py at 2017-09-17 23:17:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.58 Mbit/s  
95th percentile per-packet one-way delay: 7895.618 ms  
Loss rate: 31.10%  
-- Flow 1:  
Average throughput: 0.58 Mbit/s  
95th percentile per-packet one-way delay: 7895.618 ms  
Loss rate: 31.10%

### Run 1: Report of TCP Cubic — Data Link



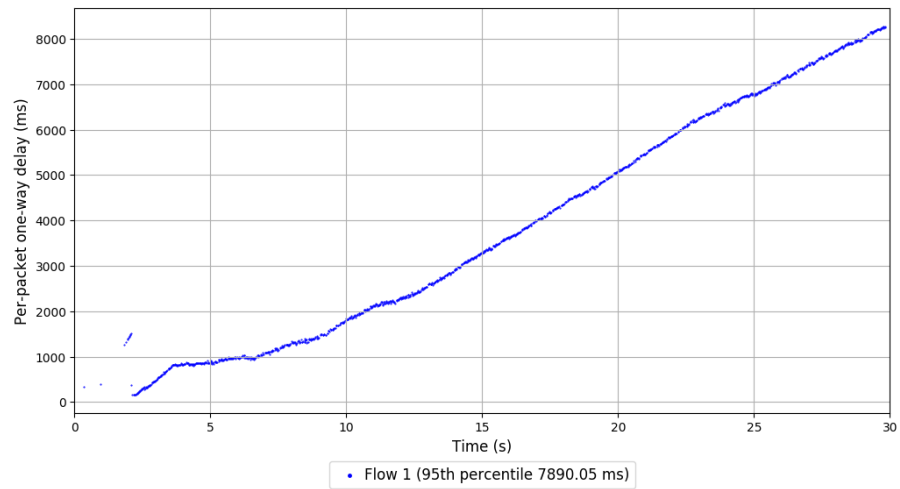
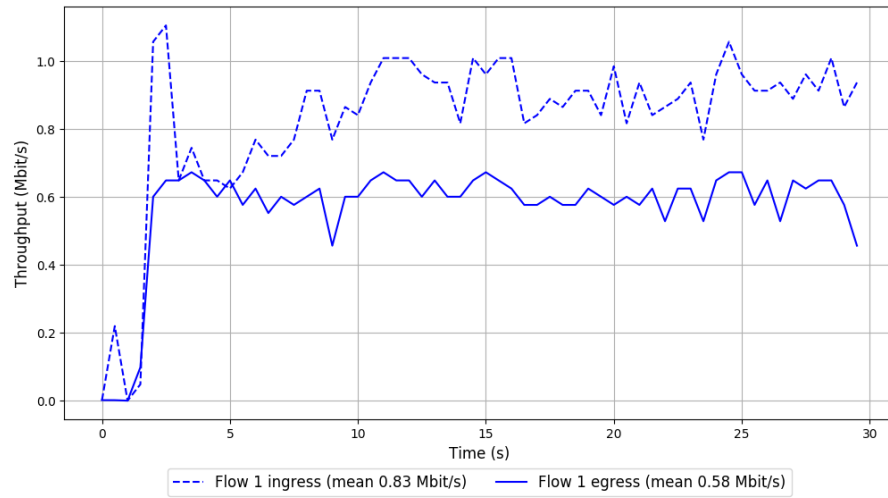
Run 2: Statistics of TCP Cubic

Start at: 2017-09-17 21:53:00  
End at: 2017-09-17 21:53:30  
Local clock offset: -1.899 ms  
Remote clock offset: -8.185 ms

# Below is generated by plot.py at 2017-09-17 23:17:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.58 Mbit/s  
95th percentile per-packet one-way delay: 7890.051 ms  
Loss rate: 31.20%  
-- Flow 1:  
Average throughput: 0.58 Mbit/s  
95th percentile per-packet one-way delay: 7890.051 ms  
Loss rate: 31.20%



## Run 2: Report of TCP Cubic — Data Link

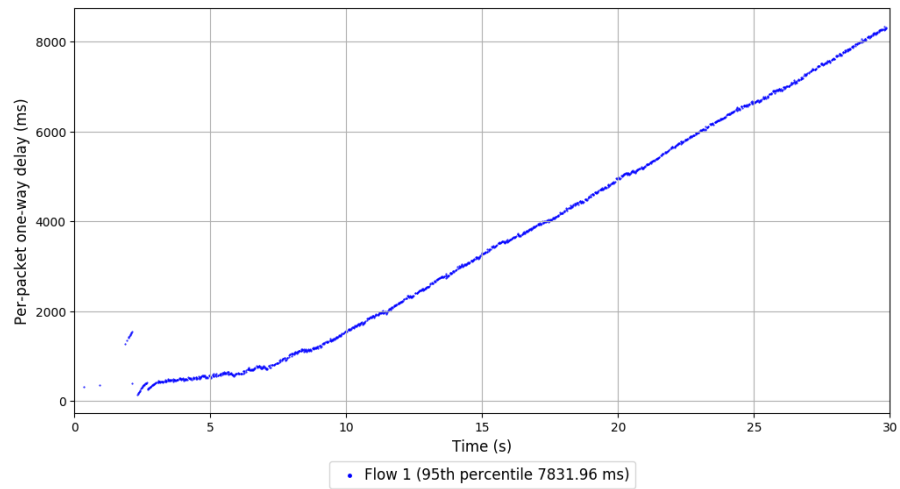
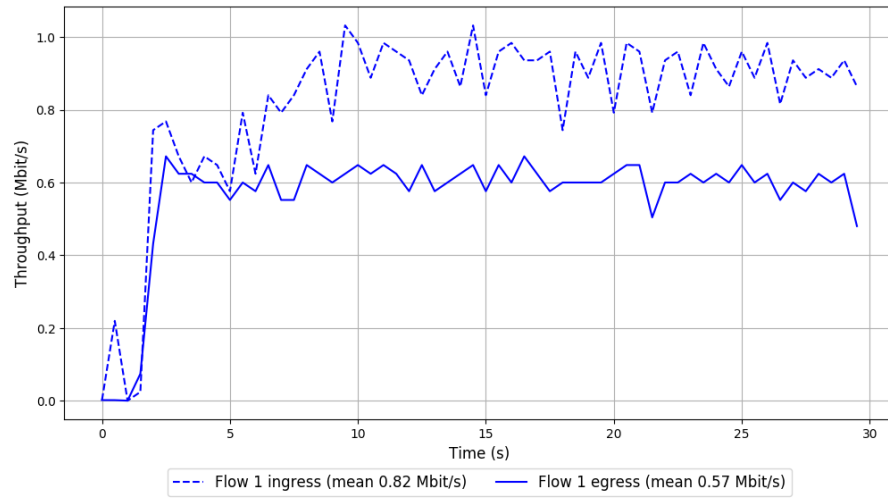


Run 3: Statistics of TCP Cubic

Start at: 2017-09-17 22:10:33  
End at: 2017-09-17 22:11:03  
Local clock offset: -3.558 ms  
Remote clock offset: -3.581 ms

# Below is generated by plot.py at 2017-09-17 23:17:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 7831.957 ms  
Loss rate: 30.97%  
-- Flow 1:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 7831.957 ms  
Loss rate: 30.97%

### Run 3: Report of TCP Cubic — Data Link



Run 1: Statistics of Indigo

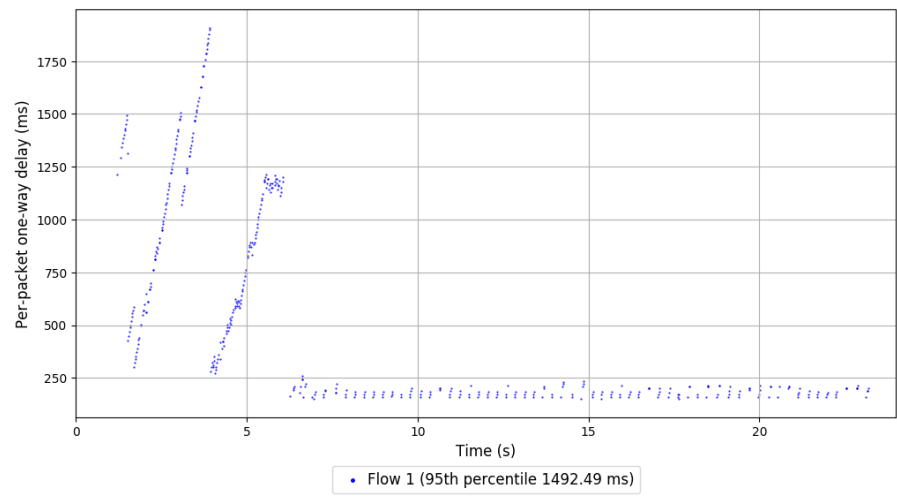
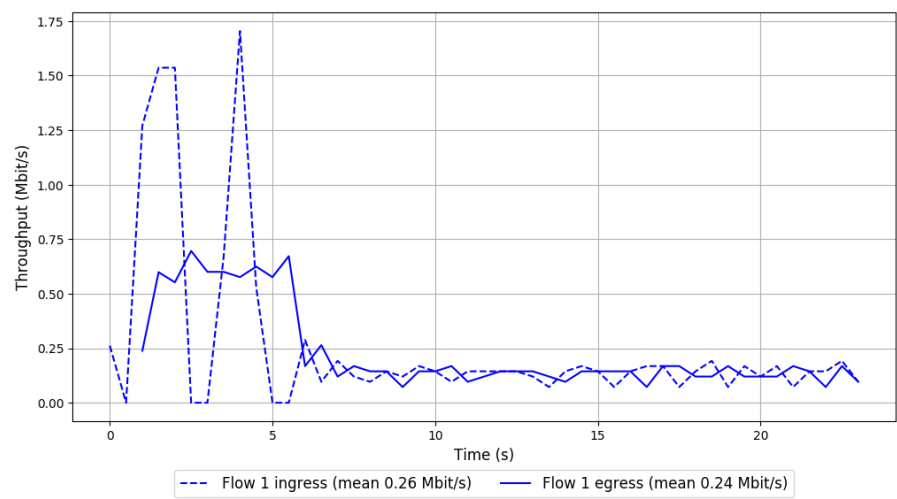
Start at: 2017-09-17 21:45:58

End at: 2017-09-17 21:46:28

Local clock offset: -7.085 ms

Remote clock offset: -7.721 ms

Run 1: Report of Indigo — Data Link

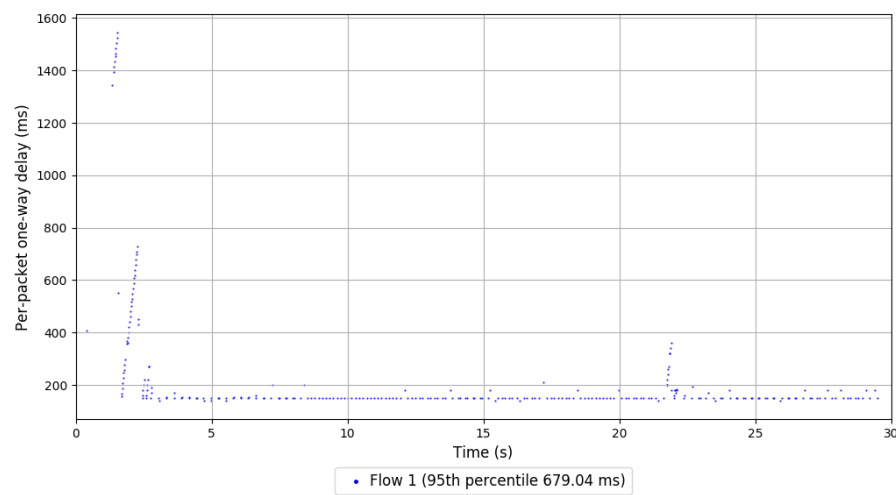
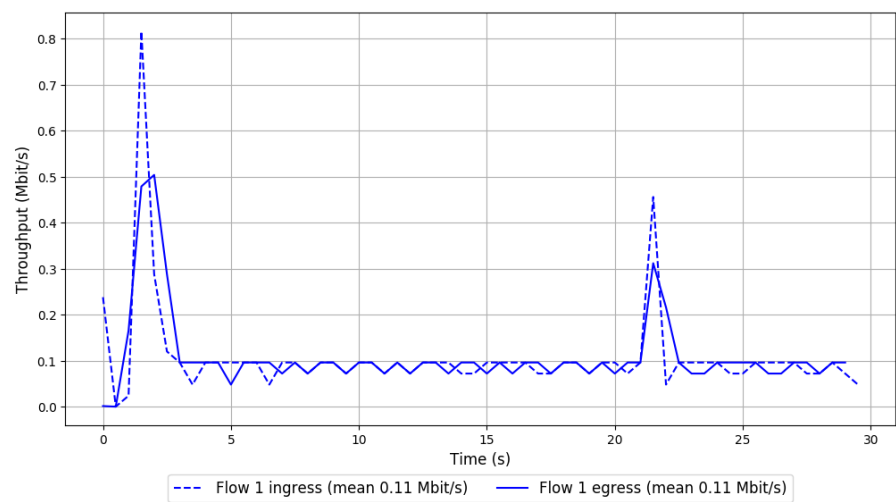


Run 2: Statistics of Indigo

Start at: 2017-09-17 22:03:32  
End at: 2017-09-17 22:04:02  
Local clock offset: -3.819 ms  
Remote clock offset: -3.174 ms

# Below is generated by plot.py at 2017-09-17 23:17:28  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.11 Mbit/s  
95th percentile per-packet one-way delay: 679.043 ms  
Loss rate: 0.74%  
-- Flow 1:  
Average throughput: 0.11 Mbit/s  
95th percentile per-packet one-way delay: 679.043 ms  
Loss rate: 0.74%

Run 2: Report of Indigo — Data Link



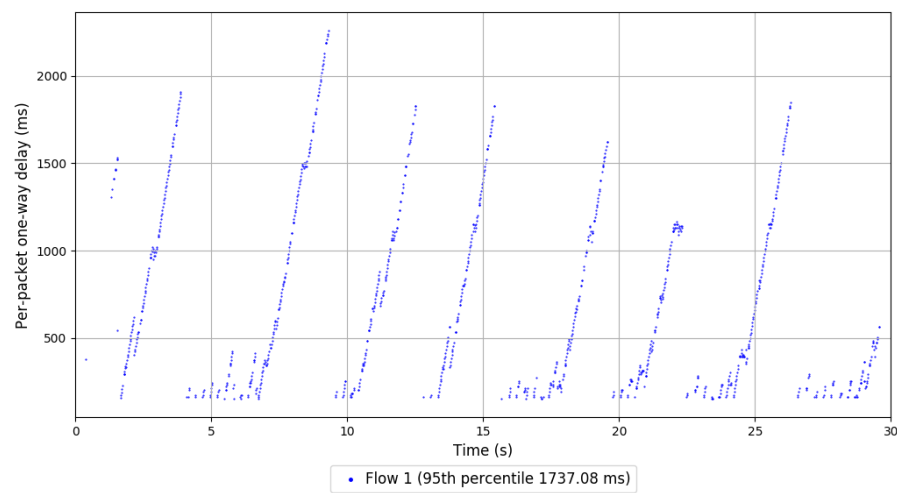
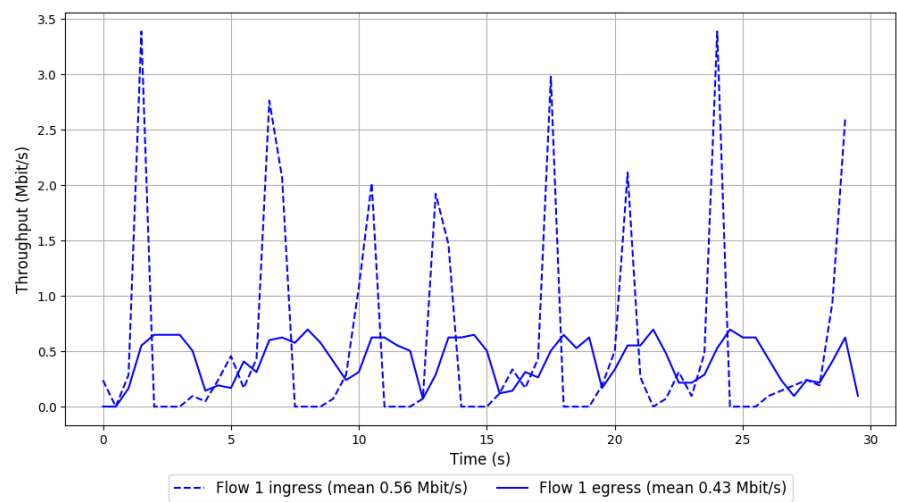
Run 3: Statistics of Indigo

Start at: 2017-09-17 22:21:06  
End at: 2017-09-17 22:21:36  
Local clock offset: -5.478 ms  
Remote clock offset: -8.153 ms

# Below is generated by plot.py at 2017-09-17 23:17:29  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 1737.082 ms  
Loss rate: 24.20%  
-- Flow 1:  
Average throughput: 0.43 Mbit/s  
95th percentile per-packet one-way delay: 1737.082 ms  
Loss rate: 24.20%



Run 3: Report of Indigo — Data Link

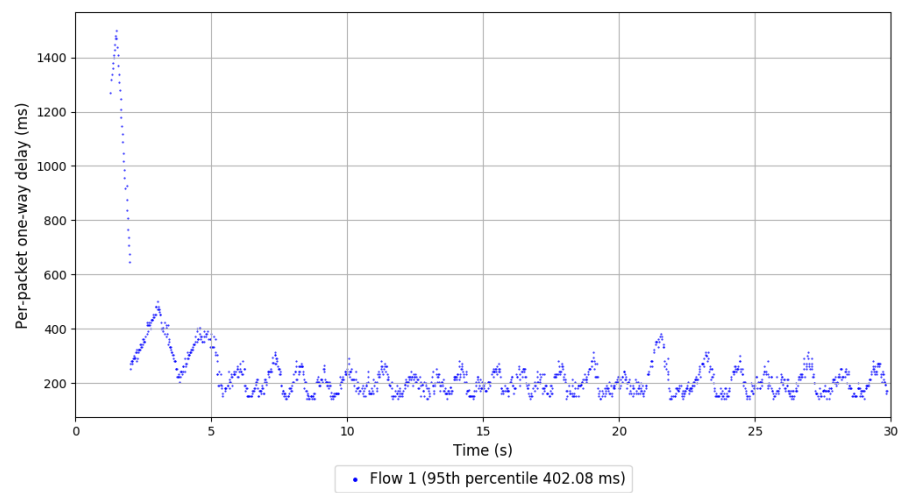
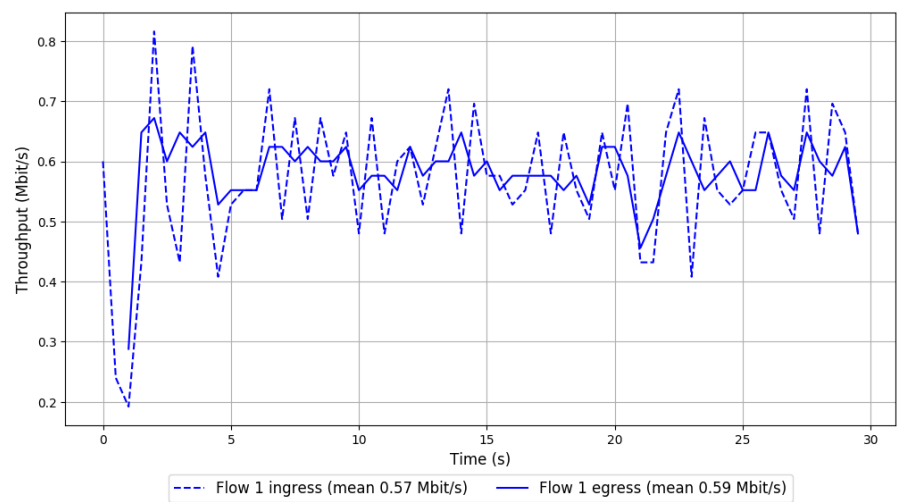


```
Run 1: Statistics of KohoCC

Start at: 2017-09-17 21:43:38
End at: 2017-09-17 21:44:08
Local clock offset: -8.389 ms
Remote clock offset: -3.025 ms

# Below is generated by plot.py at 2017-09-17 23:17:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 402.085 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 0.59 Mbit/s
95th percentile per-packet one-way delay: 402.085 ms
Loss rate: 1.13%
```

Run 1: Report of KohoCC — Data Link

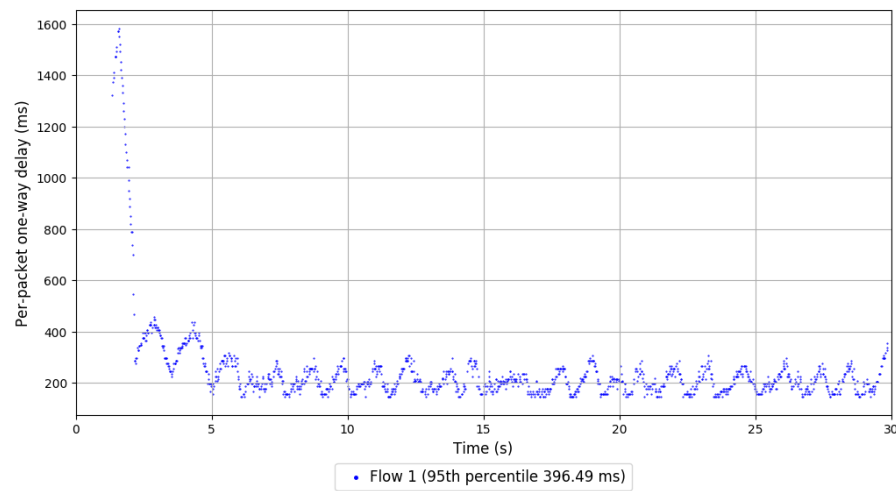
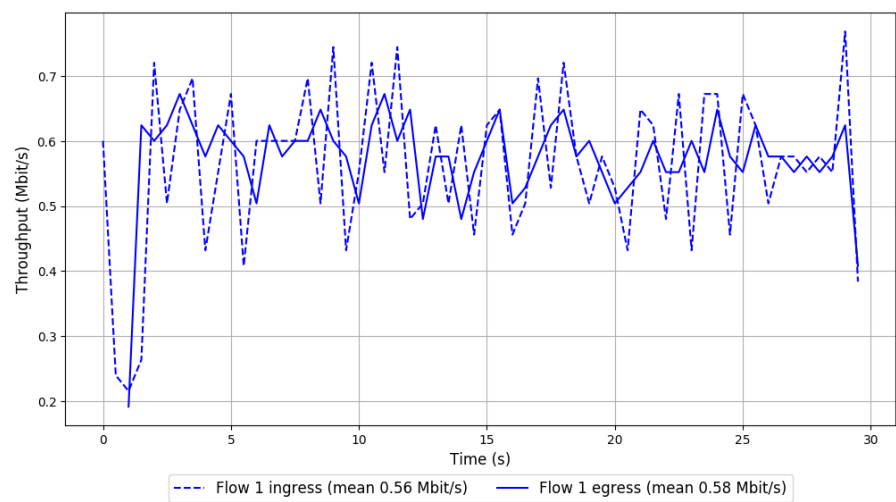


Run 2: Statistics of KohoCC

Start at: 2017-09-17 22:01:12  
End at: 2017-09-17 22:01:42  
Local clock offset: -3.834 ms  
Remote clock offset: -2.822 ms

# Below is generated by plot.py at 2017-09-17 23:17:31  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.58 Mbit/s  
95th percentile per-packet one-way delay: 396.486 ms  
Loss rate: 1.28%  
-- Flow 1:  
Average throughput: 0.58 Mbit/s  
95th percentile per-packet one-way delay: 396.486 ms  
Loss rate: 1.28%

Run 2: Report of KohoCC — Data Link

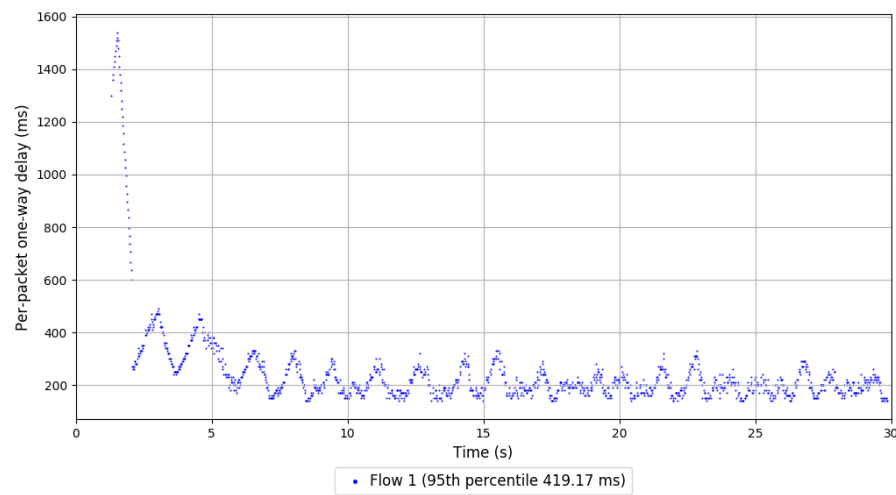
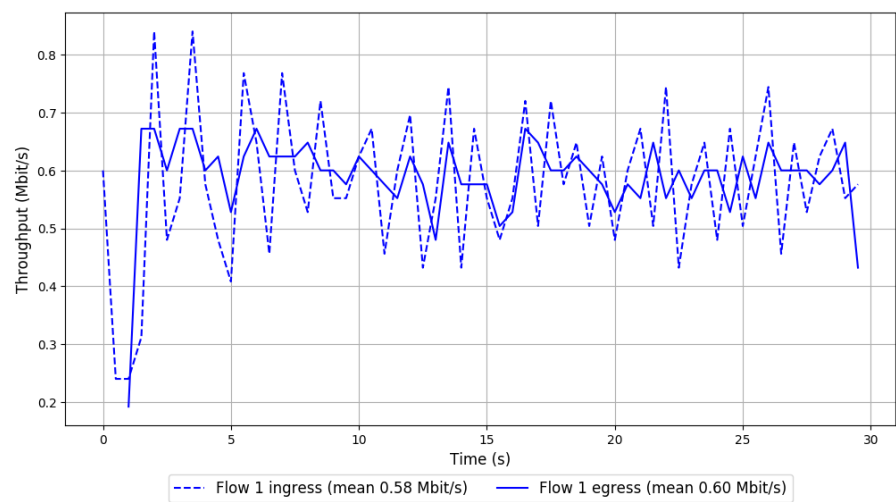


Run 3: Statistics of KohoCC

Start at: 2017-09-17 22:18:46  
End at: 2017-09-17 22:19:16  
Local clock offset: -4.966 ms  
Remote clock offset: -2.818 ms

# Below is generated by plot.py at 2017-09-17 23:17:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.60 Mbit/s  
95th percentile per-packet one-way delay: 419.173 ms  
Loss rate: 1.32%  
-- Flow 1:  
Average throughput: 0.60 Mbit/s  
95th percentile per-packet one-way delay: 419.173 ms  
Loss rate: 1.32%

Run 3: Report of KohoCC — Data Link



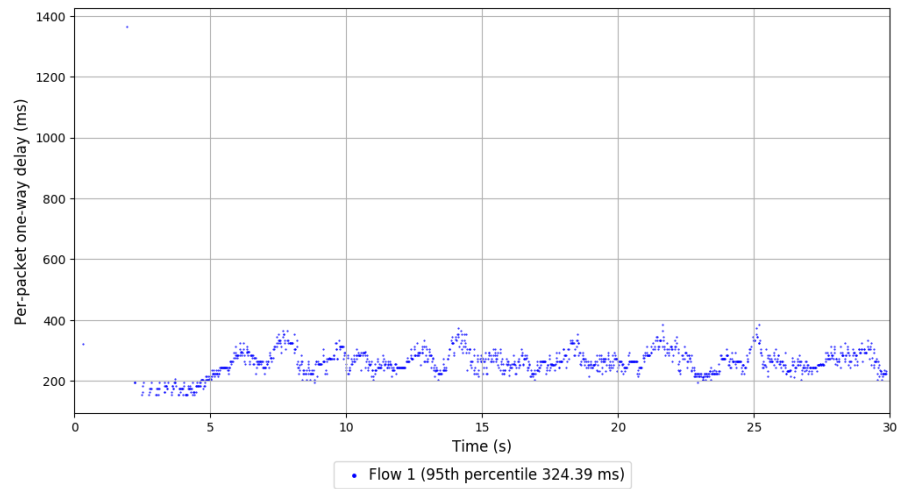
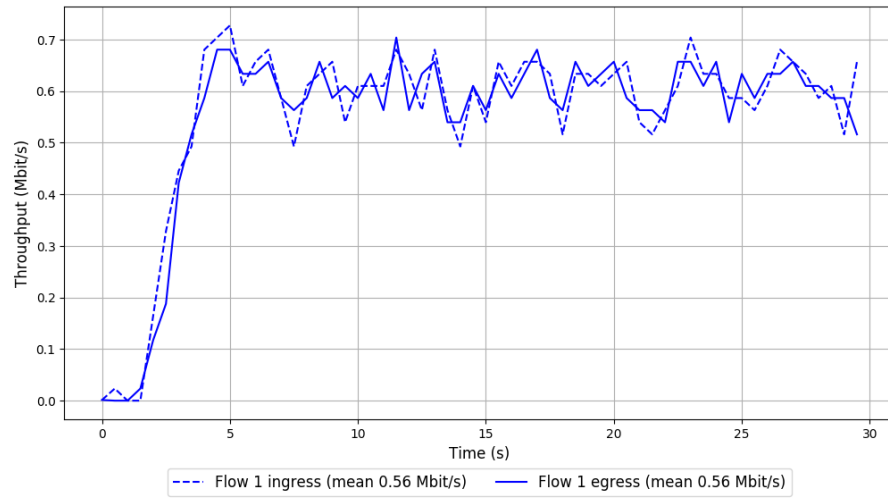
```
Run 1: Statistics of LEDBAT

Start at: 2017-09-17 21:44:48
End at: 2017-09-17 21:45:18
Local clock offset: -7.834 ms
Remote clock offset: -7.986 ms

# Below is generated by plot.py at 2017-09-17 23:17:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 324.393 ms
Loss rate: 1.26%
-- Flow 1:
Average throughput: 0.56 Mbit/s
95th percentile per-packet one-way delay: 324.393 ms
Loss rate: 1.26%
```



# Run 1: Report of LEDBAT — Data Link

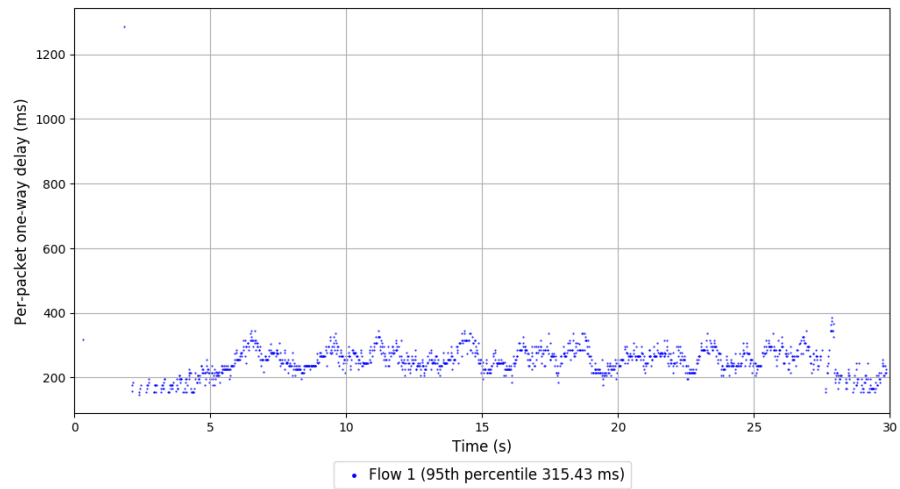
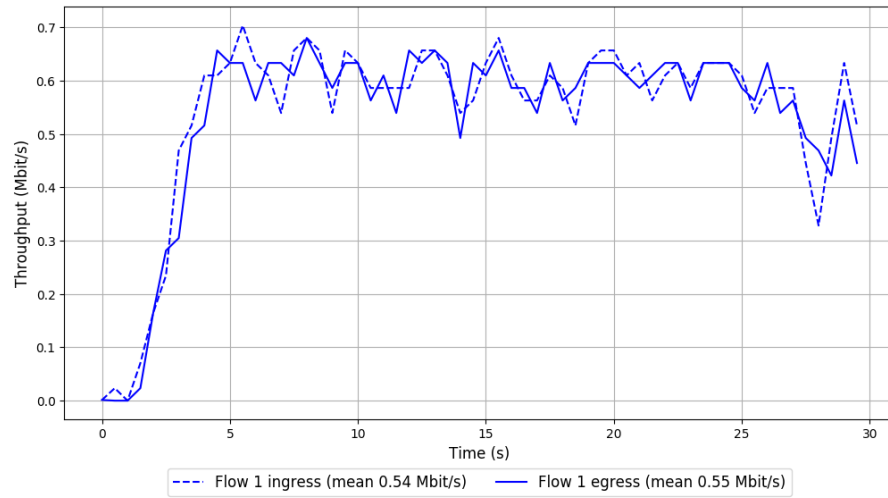


Run 2: Statistics of LEDBAT

Start at: 2017-09-17 22:02:22  
End at: 2017-09-17 22:02:52  
Local clock offset: -3.786 ms  
Remote clock offset: -8.338 ms

# Below is generated by plot.py at 2017-09-17 23:17:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.55 Mbit/s  
95th percentile per-packet one-way delay: 315.433 ms  
Loss rate: 1.15%  
-- Flow 1:  
Average throughput: 0.55 Mbit/s  
95th percentile per-packet one-way delay: 315.433 ms  
Loss rate: 1.15%

## Run 2: Report of LEDBAT — Data Link

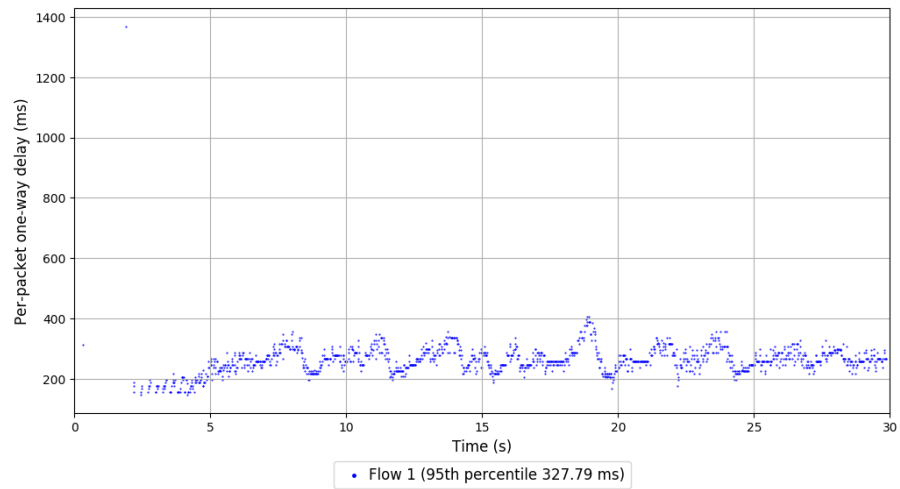
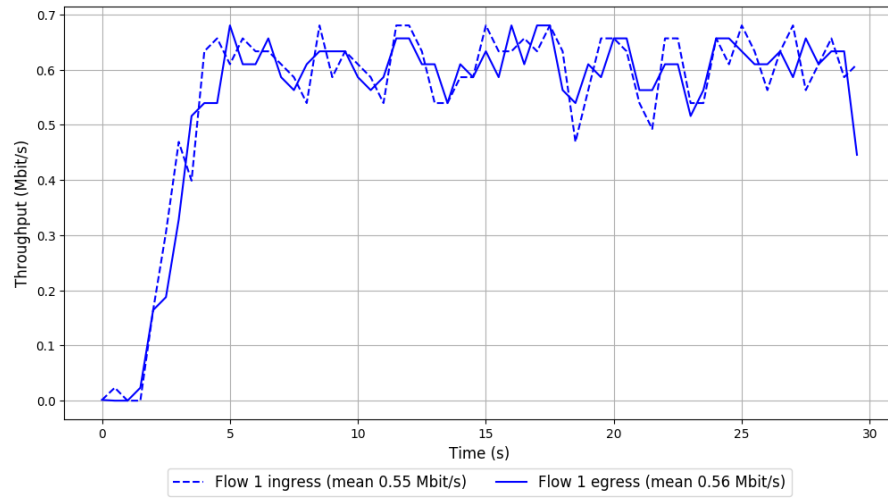


Run 3: Statistics of LEDBAT

Start at: 2017-09-17 22:19:56  
End at: 2017-09-17 22:20:26  
Local clock offset: -5.213 ms  
Remote clock offset: -8.124 ms

# Below is generated by plot.py at 2017-09-17 23:17:32  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.56 Mbit/s  
95th percentile per-packet one-way delay: 327.792 ms  
Loss rate: 1.34%  
-- Flow 1:  
Average throughput: 0.56 Mbit/s  
95th percentile per-packet one-way delay: 327.792 ms  
Loss rate: 1.34%

### Run 3: Report of LEDBAT — Data Link

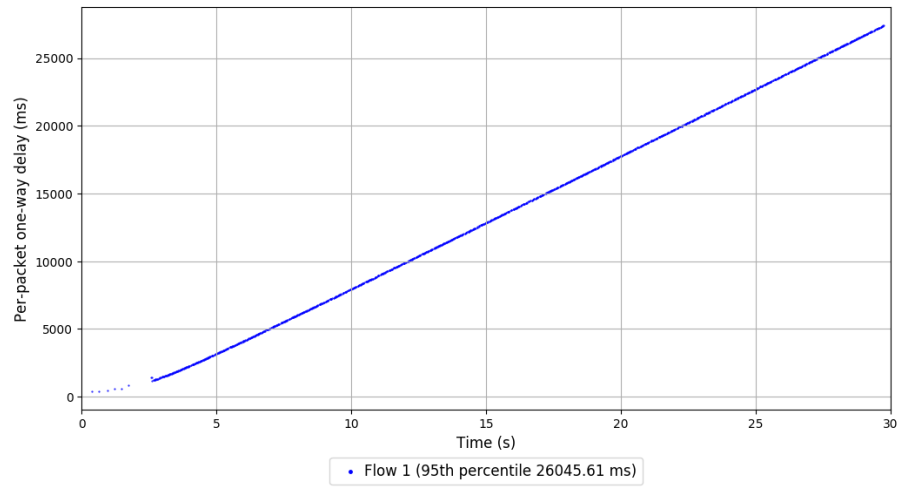
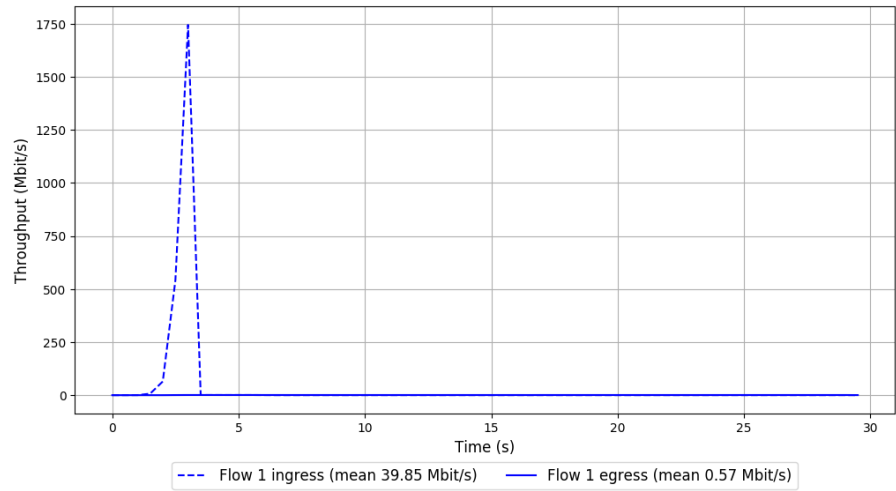


Run 1: Statistics of PCC

Start at: 2017-09-17 21:40:06  
End at: 2017-09-17 21:40:36  
Local clock offset: -8.612 ms  
Remote clock offset: -8.113 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 26045.608 ms  
Loss rate: 98.59%  
-- Flow 1:  
Average throughput: 0.57 Mbit/s  
95th percentile per-packet one-way delay: 26045.608 ms  
Loss rate: 98.59%

## Run 1: Report of PCC — Data Link



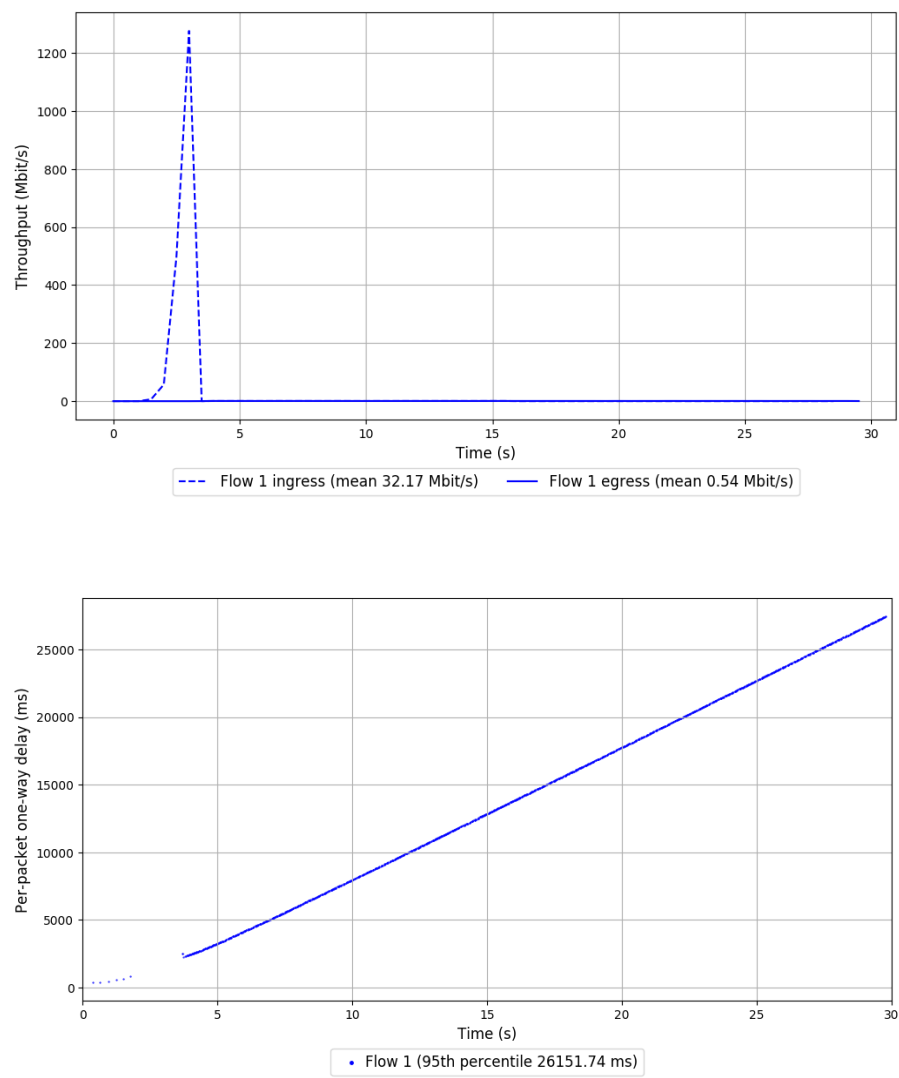
Run 2: Statistics of PCC

Start at: 2017-09-17 21:57:40  
End at: 2017-09-17 21:58:10  
Local clock offset: -3.004 ms  
Remote clock offset: -7.821 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.54 Mbit/s  
95th percentile per-packet one-way delay: 26151.741 ms  
Loss rate: 98.29%  
-- Flow 1:  
Average throughput: 0.54 Mbit/s  
95th percentile per-packet one-way delay: 26151.741 ms  
Loss rate: 98.29%



Run 2: Report of PCC — Data Link



Run 3: Statistics of PCC

Start at: 2017-09-17 22:15:14

End at: 2017-09-17 22:15:44

Local clock offset: -4.416 ms

Remote clock offset: -8.62 ms

# Below is generated by plot.py at 2017-09-17 23:17:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 25950.030 ms

Loss rate: 98.60%

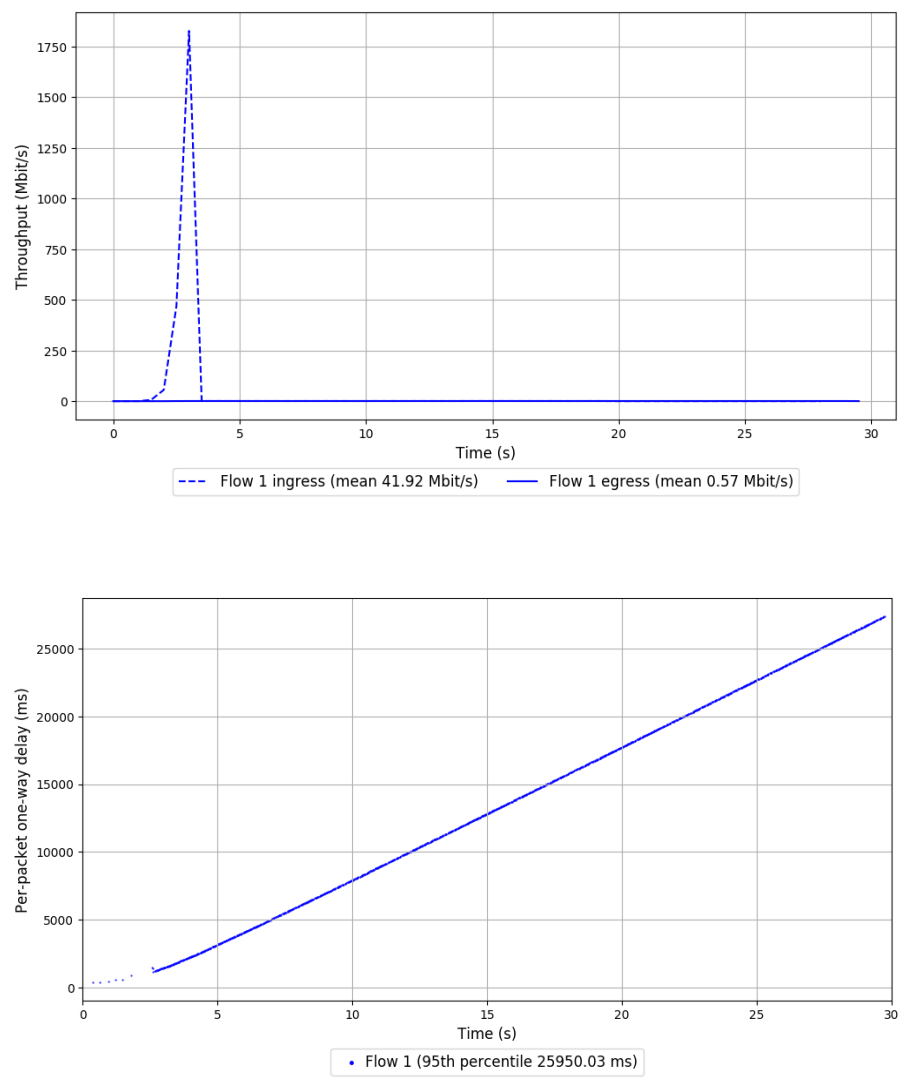
-- Flow 1:

Average throughput: 0.57 Mbit/s

95th percentile per-packet one-way delay: 25950.030 ms

Loss rate: 98.60%

Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

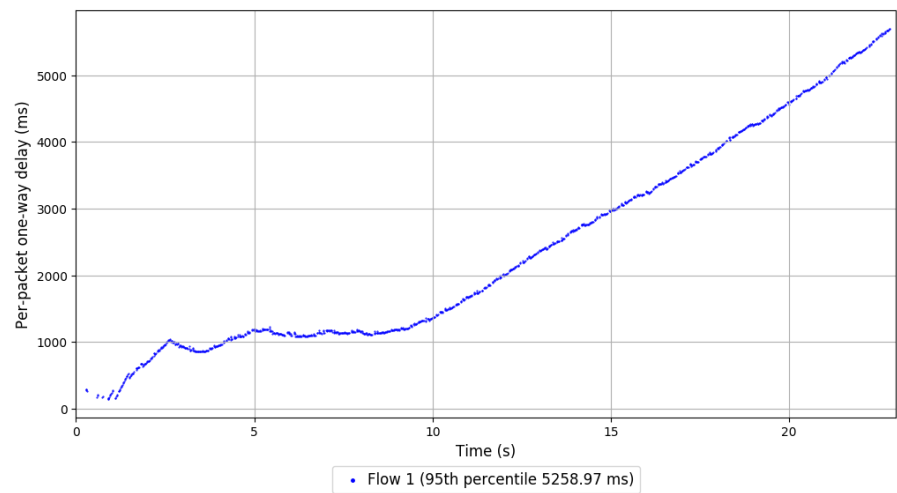
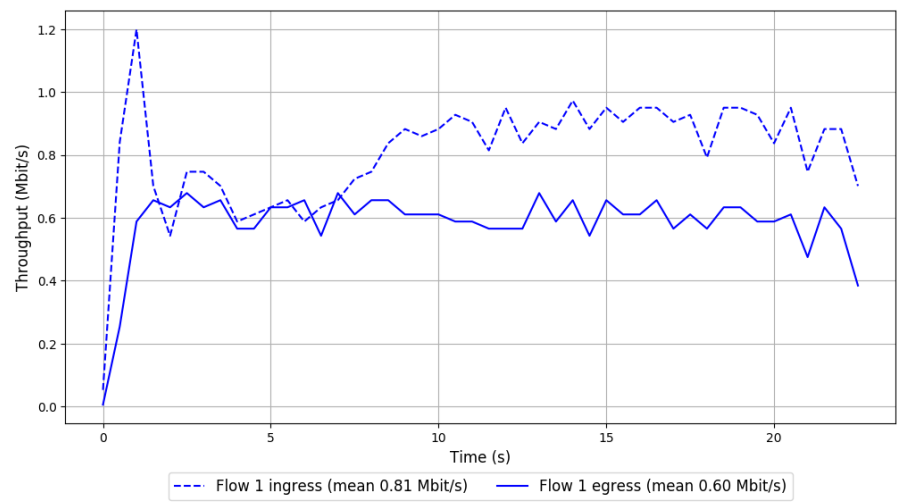
Start at: 2017-09-17 21:36:36

End at: 2017-09-17 21:37:06

Local clock offset: -7.569 ms

Remote clock offset: -3.453 ms

Run 1: Report of QUIC Cubic — Data Link

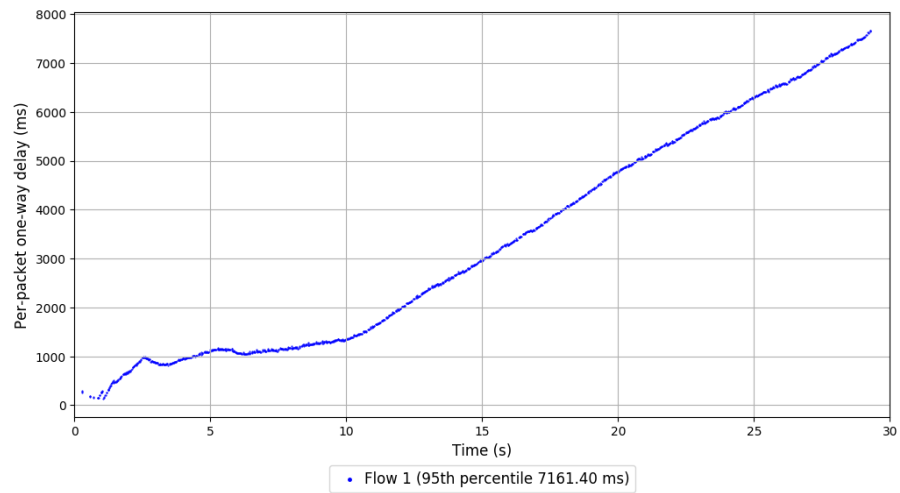
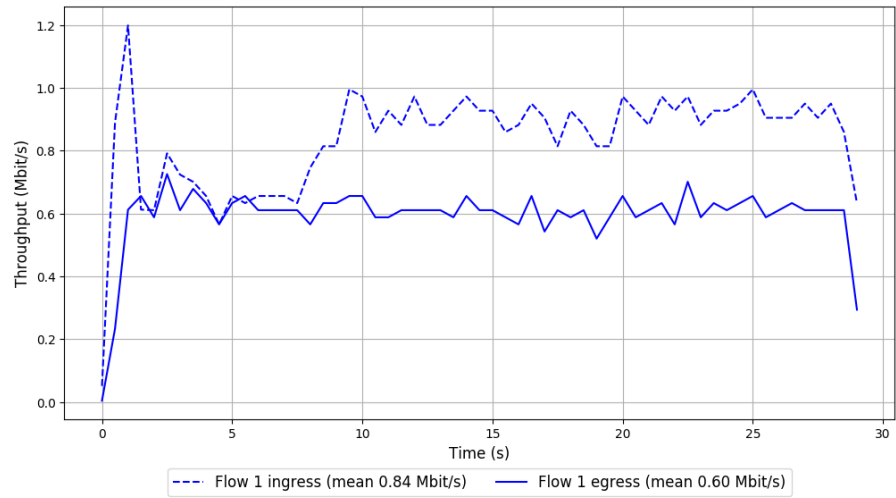


Run 2: Statistics of QUIC Cubic

Start at: 2017-09-17 21:54:10  
End at: 2017-09-17 21:54:40  
Local clock offset: -1.998 ms  
Remote clock offset: -3.419 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.60 Mbit/s  
95th percentile per-packet one-way delay: 7161.402 ms  
Loss rate: 29.17%  
-- Flow 1:  
Average throughput: 0.60 Mbit/s  
95th percentile per-packet one-way delay: 7161.402 ms  
Loss rate: 29.17%

## Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: 2017-09-17 22:11:44

End at: 2017-09-17 22:12:14

Local clock offset: -3.77 ms

Remote clock offset: -8.556 ms

# Below is generated by plot.py at 2017-09-17 23:17:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 5989.050 ms

Loss rate: 23.44%

-- Flow 1:

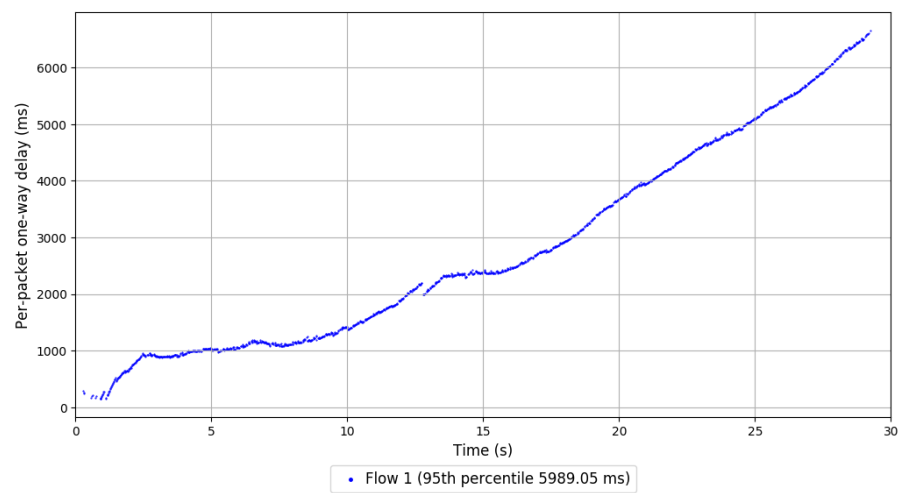
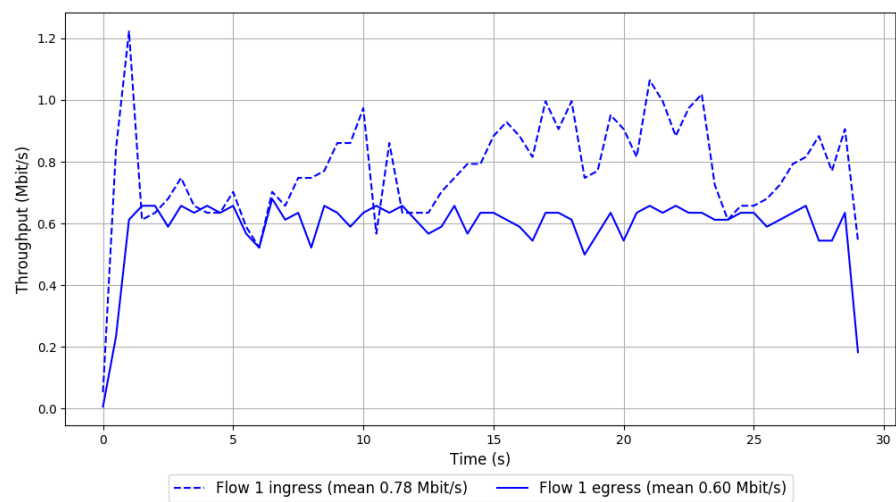
Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 5989.050 ms

Loss rate: 23.44%



Run 3: Report of QUIC Cubic — Data Link

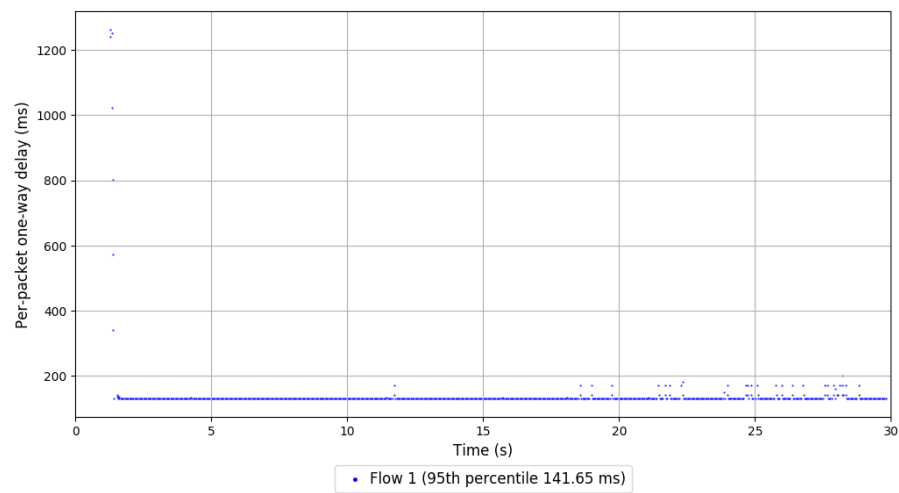
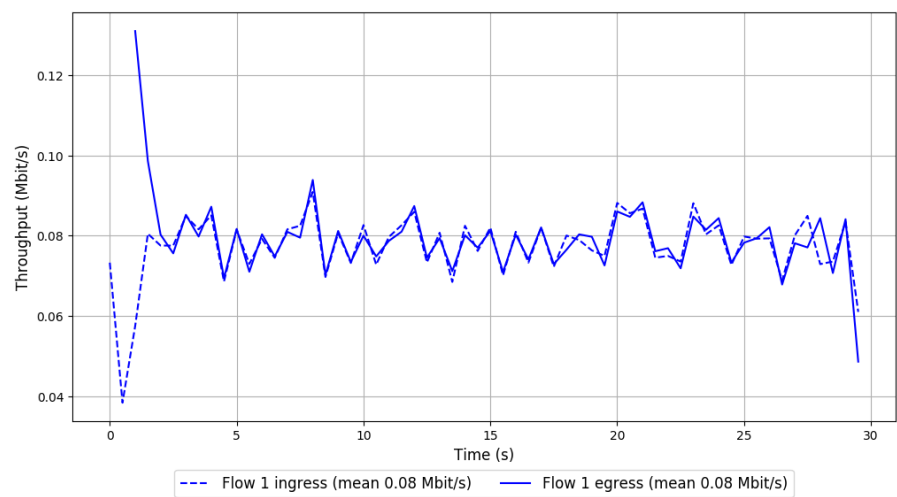


Run 1: Statistics of SCReAM

Start at: 2017-09-17 21:33:06  
End at: 2017-09-17 21:33:36  
Local clock offset: -9.459 ms  
Remote clock offset: -2.701 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 141.654 ms  
Loss rate: 0.66%  
-- Flow 1:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 141.654 ms  
Loss rate: 0.66%

Run 1: Report of SReAM — Data Link

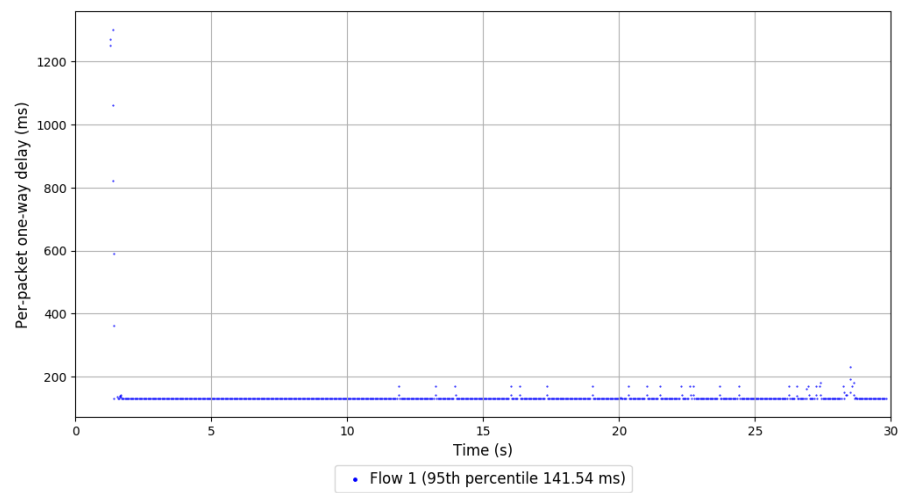
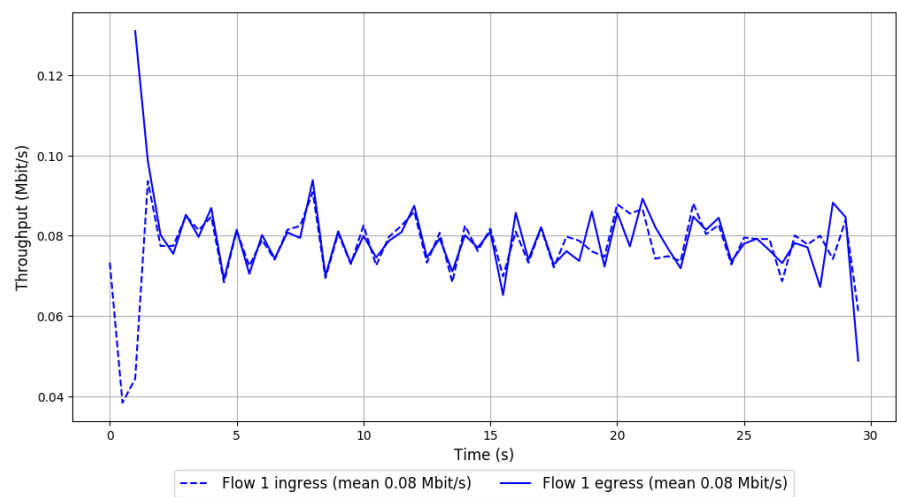


Run 2: Statistics of SCReAM

Start at: 2017-09-17 21:50:39  
End at: 2017-09-17 21:51:09  
Local clock offset: -2.476 ms  
Remote clock offset: -7.998 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 141.543 ms  
Loss rate: 0.66%  
-- Flow 1:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 141.543 ms  
Loss rate: 0.66%

Run 2: Report of SReAM — Data Link

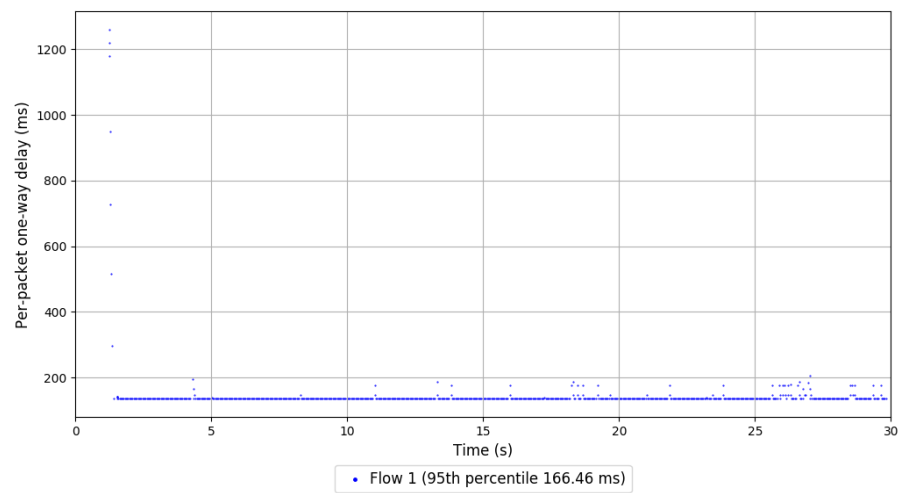
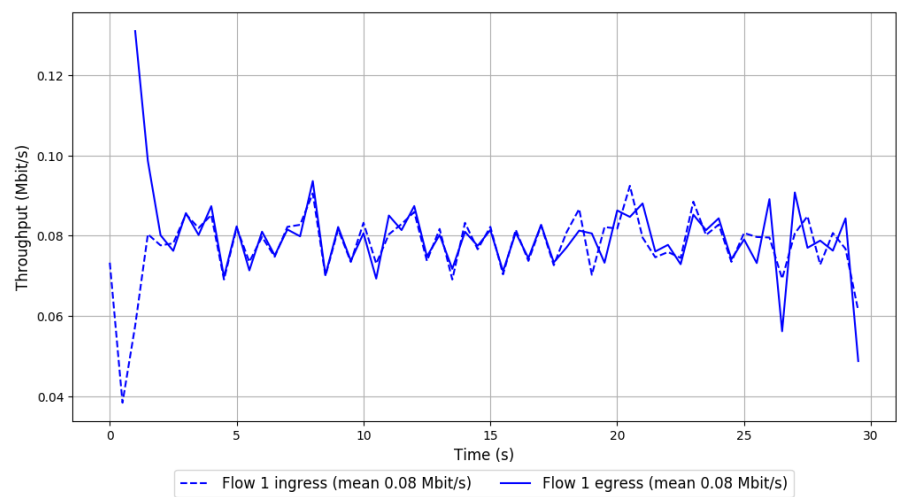


Run 3: Statistics of SCReAM

Start at: 2017-09-17 22:08:13  
End at: 2017-09-17 22:08:43  
Local clock offset: -3.294 ms  
Remote clock offset: -8.209 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 166.464 ms  
Loss rate: 0.66%  
-- Flow 1:  
Average throughput: 0.08 Mbit/s  
95th percentile per-packet one-way delay: 166.464 ms  
Loss rate: 0.66%

Run 3: Report of SReAM — Data Link



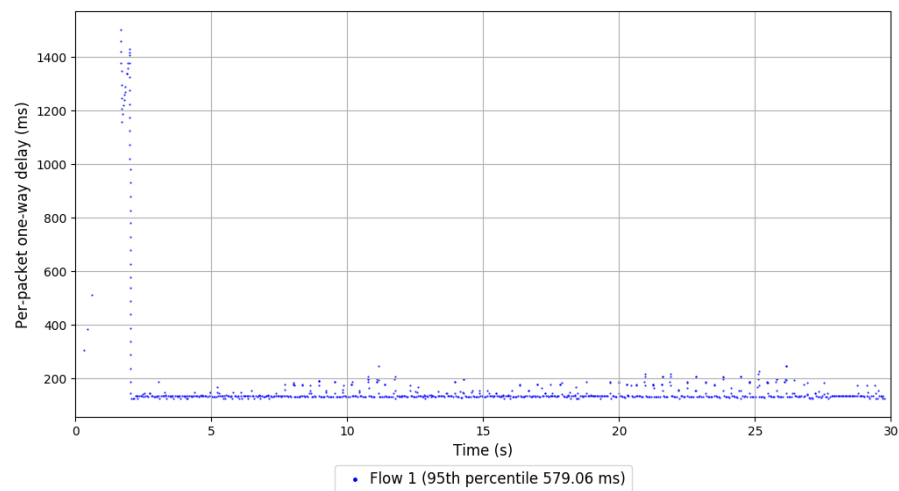
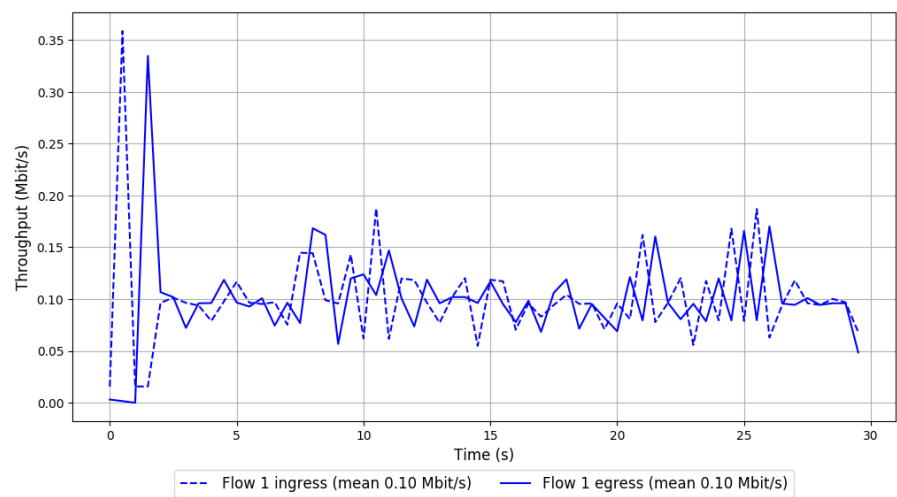
Run 1: Statistics of Sprout

Start at: 2017-09-17 21:42:28  
End at: 2017-09-17 21:42:58  
Local clock offset: -9.264 ms  
Remote clock offset: -2.812 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 579.064 ms  
Loss rate: 1.34%  
-- Flow 1:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 579.064 ms  
Loss rate: 1.34%



Run 1: Report of Sprout — Data Link

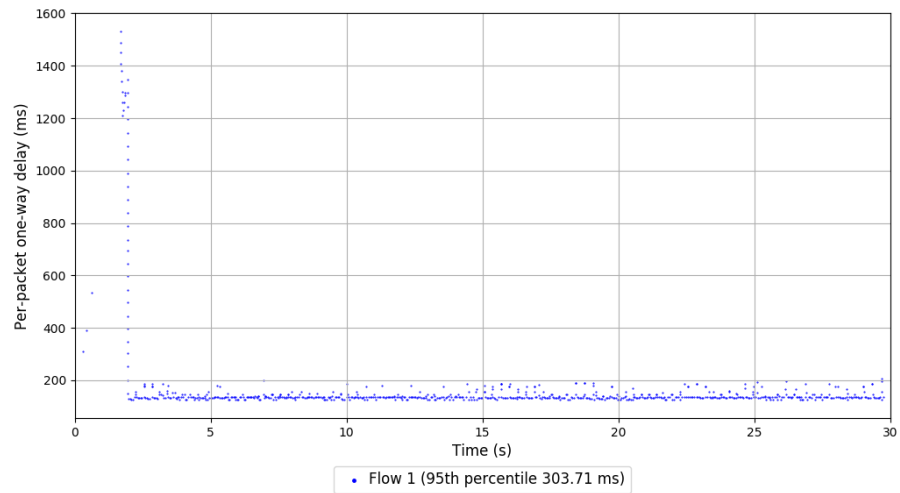
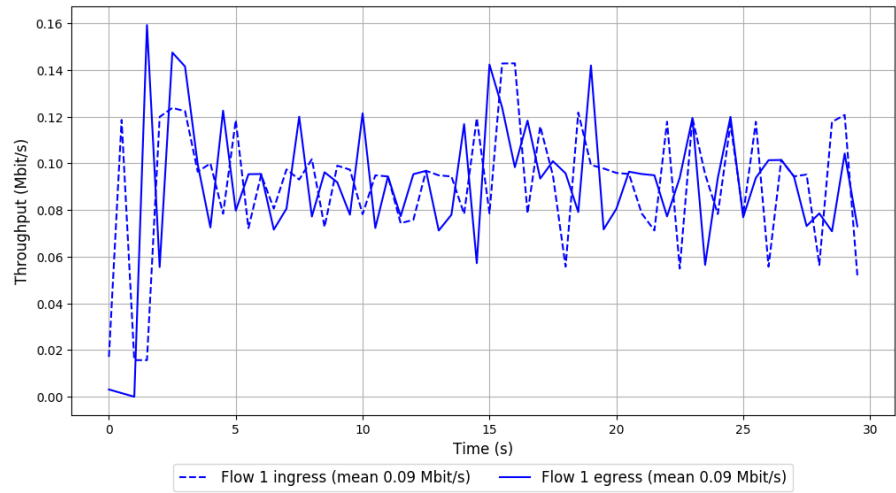


Run 2: Statistics of Sprout

Start at: 2017-09-17 22:00:02  
End at: 2017-09-17 22:00:32  
Local clock offset: -3.866 ms  
Remote clock offset: -2.831 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 303.712 ms  
Loss rate: 0.86%  
-- Flow 1:  
Average throughput: 0.09 Mbit/s  
95th percentile per-packet one-way delay: 303.712 ms  
Loss rate: 0.86%

## Run 2: Report of Sprout — Data Link

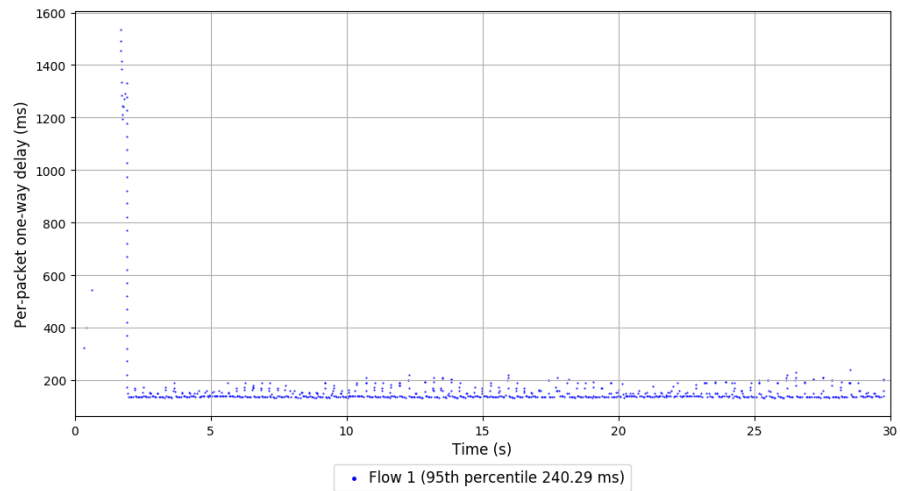
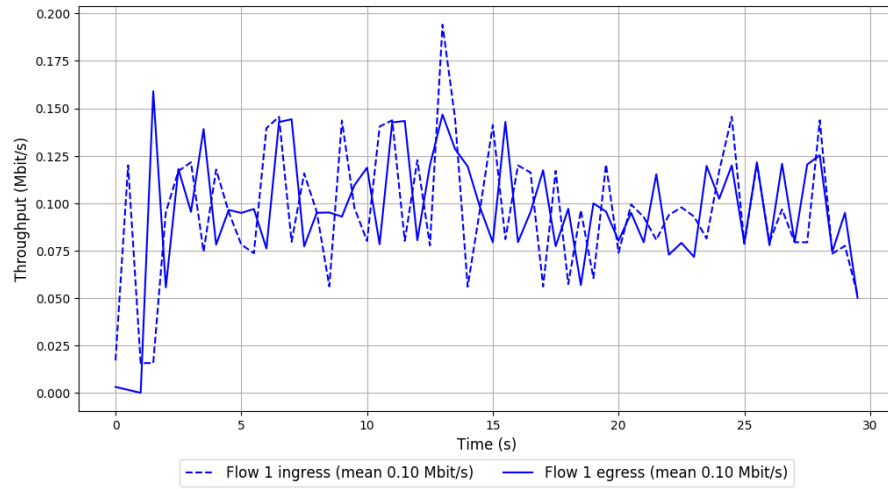


Run 3: Statistics of Sprout

Start at: 2017-09-17 22:17:36  
End at: 2017-09-17 22:18:06  
Local clock offset: -4.75 ms  
Remote clock offset: -8.128 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 240.289 ms  
Loss rate: 0.11%  
-- Flow 1:  
Average throughput: 0.10 Mbit/s  
95th percentile per-packet one-way delay: 240.289 ms  
Loss rate: 0.11%

### Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: 2017-09-17 21:31:53

End at: 2017-09-17 21:32:23

Local clock offset: -9.772 ms

Remote clock offset: -3.144 ms

# Below is generated by plot.py at 2017-09-17 23:17:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 966.700 ms

Loss rate: 2.68%

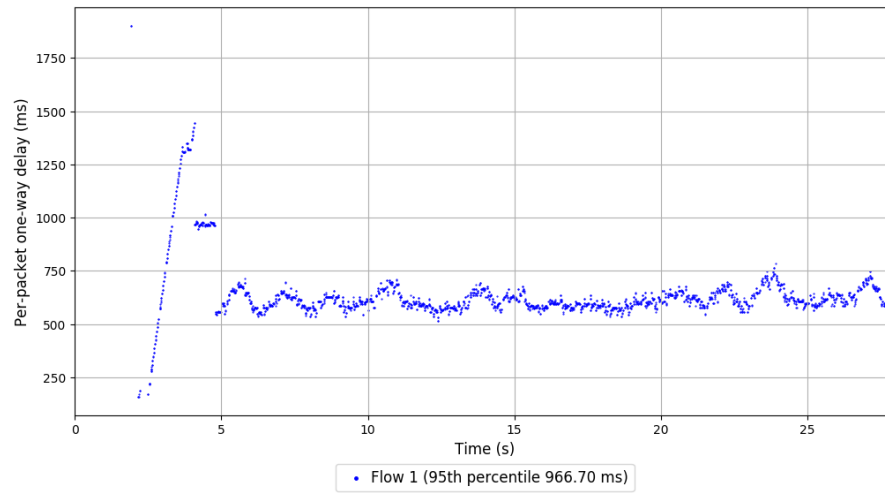
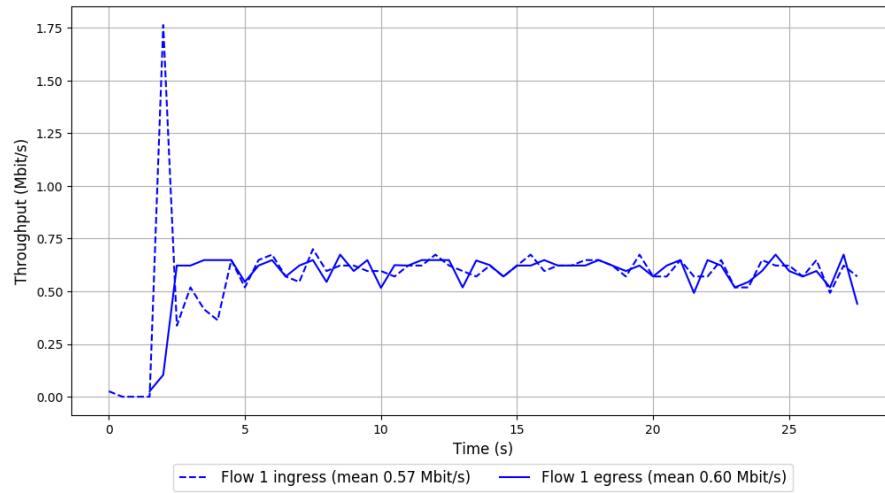
-- Flow 1:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 966.700 ms

Loss rate: 2.68%

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



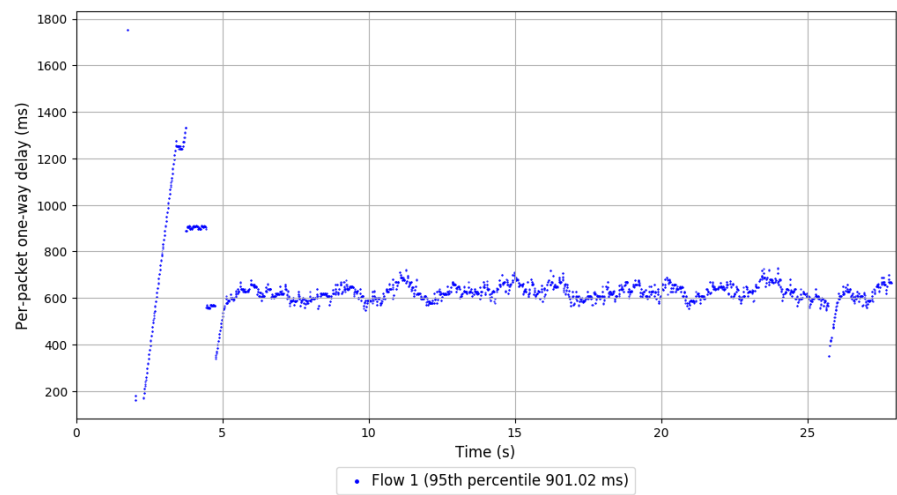
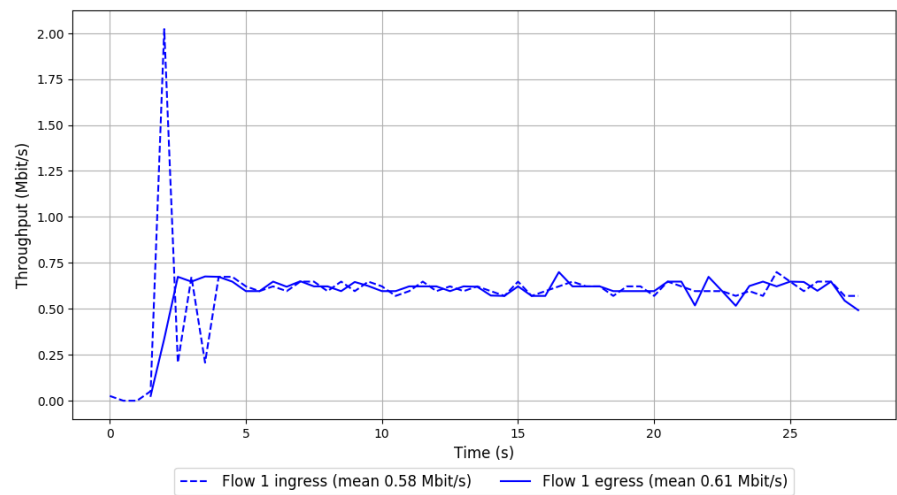
Run 2: Statistics of TaoVA-100x

Start at: 2017-09-17 21:49:29  
End at: 2017-09-17 21:49:59  
Local clock offset: -3.364 ms  
Remote clock offset: -8.154 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.61 Mbit/s  
95th percentile per-packet one-way delay: 901.022 ms  
Loss rate: 2.93%  
-- Flow 1:  
Average throughput: 0.61 Mbit/s  
95th percentile per-packet one-way delay: 901.022 ms  
Loss rate: 2.93%



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



Run 3: Statistics of TaoVA-100x

Start at: 2017-09-17 22:07:03

End at: 2017-09-17 22:07:33

Local clock offset: -3.255 ms

Remote clock offset: -8.193 ms

# Below is generated by plot.py at 2017-09-17 23:17:49

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 919.398 ms

Loss rate: 2.63%

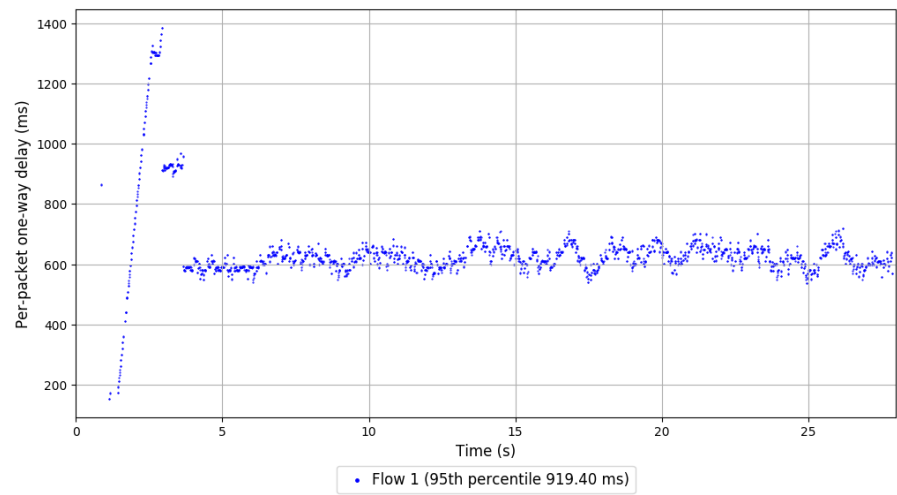
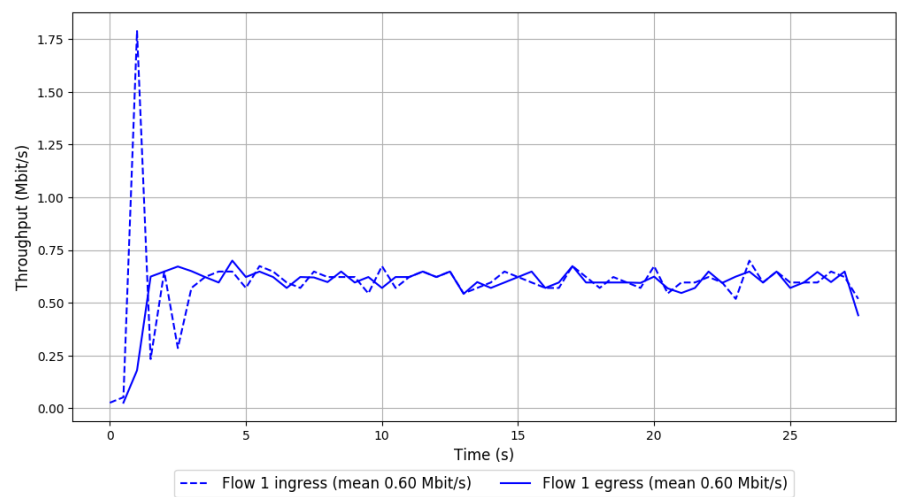
-- Flow 1:

Average throughput: 0.60 Mbit/s

95th percentile per-packet one-way delay: 919.398 ms

Loss rate: 2.63%

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

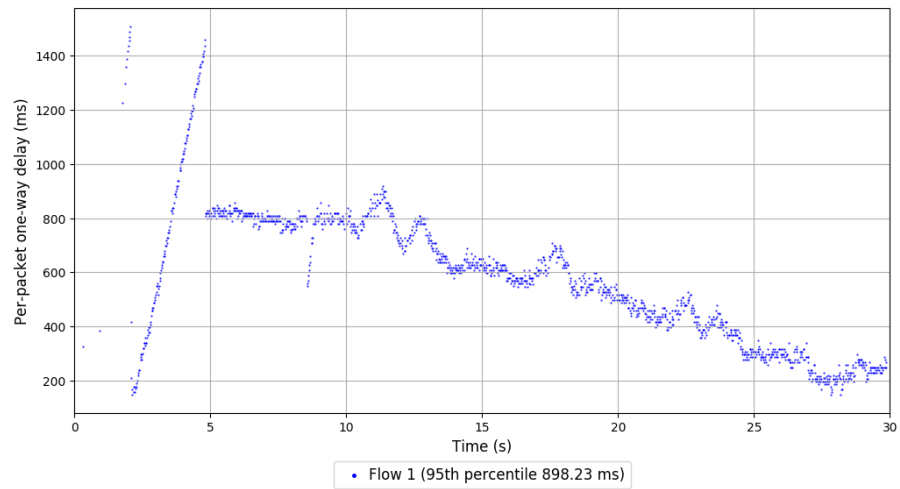
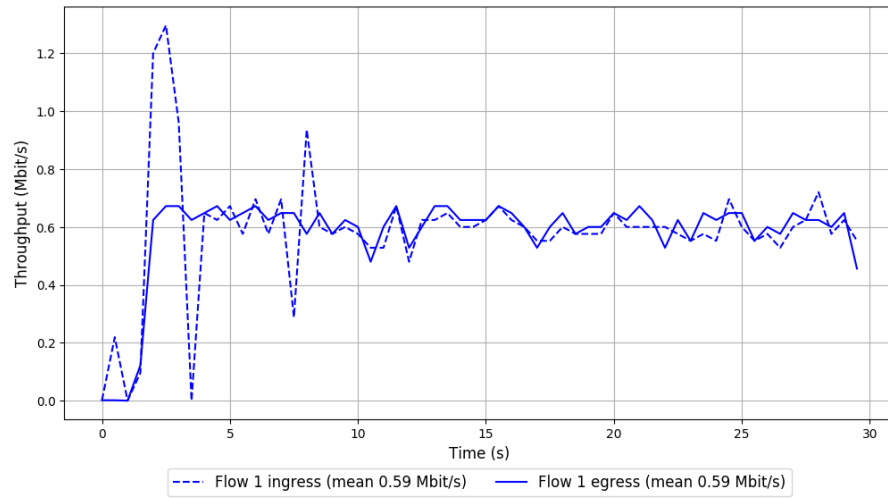


Run 1: Statistics of TCP Vegas

Start at: 2017-09-17 21:41:18  
End at: 2017-09-17 21:41:48  
Local clock offset: -9.239 ms  
Remote clock offset: -3.528 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.59 Mbit/s  
95th percentile per-packet one-way delay: 898.231 ms  
Loss rate: 1.10%  
-- Flow 1:  
Average throughput: 0.59 Mbit/s  
95th percentile per-packet one-way delay: 898.231 ms  
Loss rate: 1.10%

### Run 1: Report of TCP Vegas — Data Link

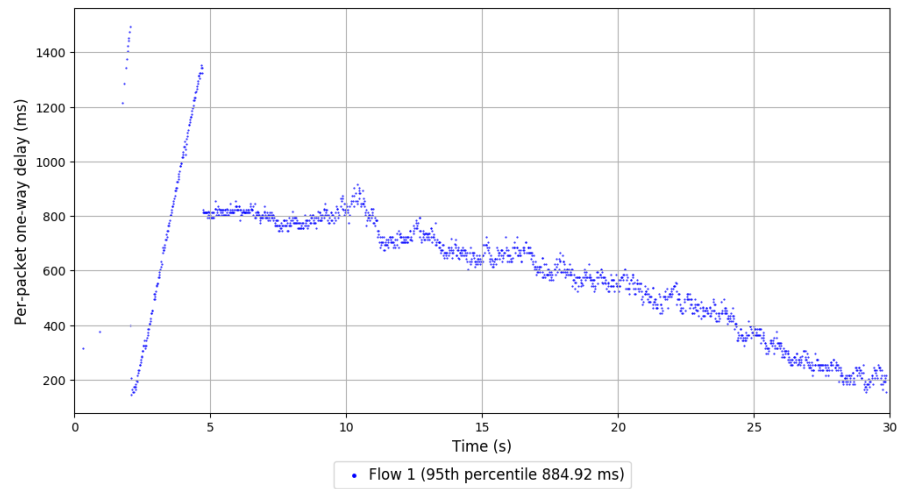
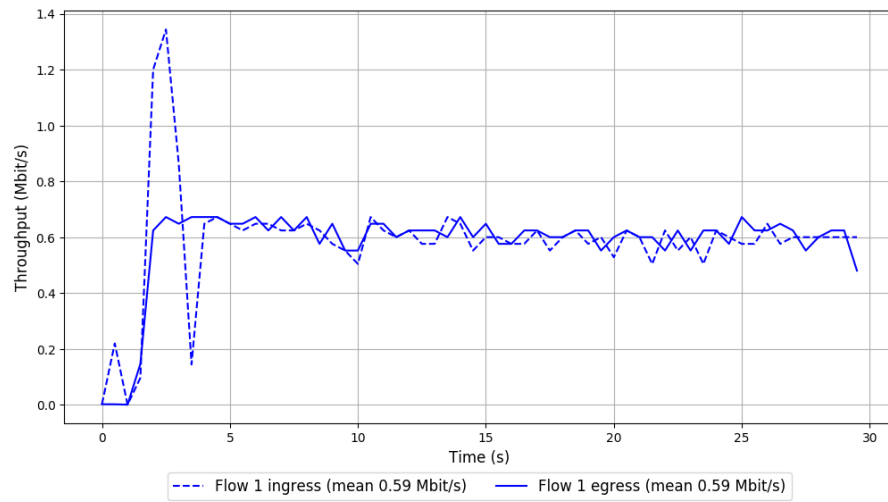


Run 2: Statistics of TCP Vegas

Start at: 2017-09-17 21:58:52  
End at: 2017-09-17 21:59:22  
Local clock offset: -3.453 ms  
Remote clock offset: -8.203 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.59 Mbit/s  
95th percentile per-packet one-way delay: 884.919 ms  
Loss rate: 1.09%  
-- Flow 1:  
Average throughput: 0.59 Mbit/s  
95th percentile per-packet one-way delay: 884.919 ms  
Loss rate: 1.09%

## Run 2: Report of TCP Vegas — Data Link



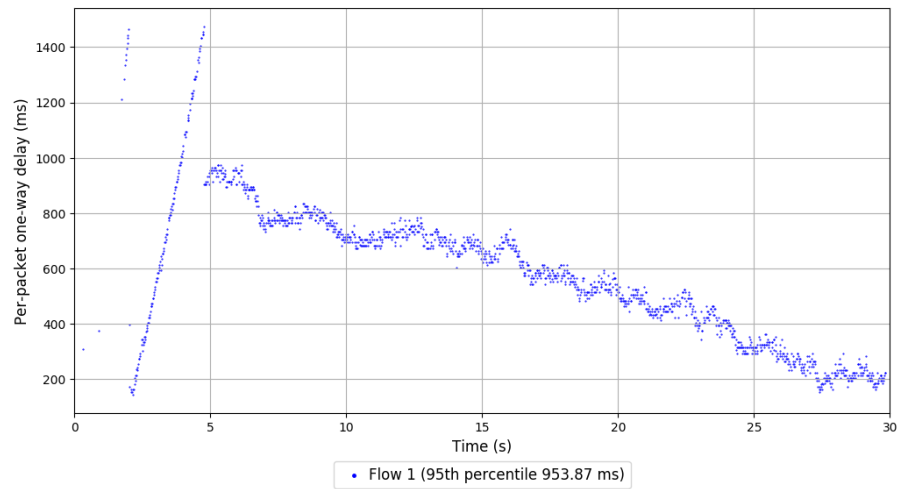
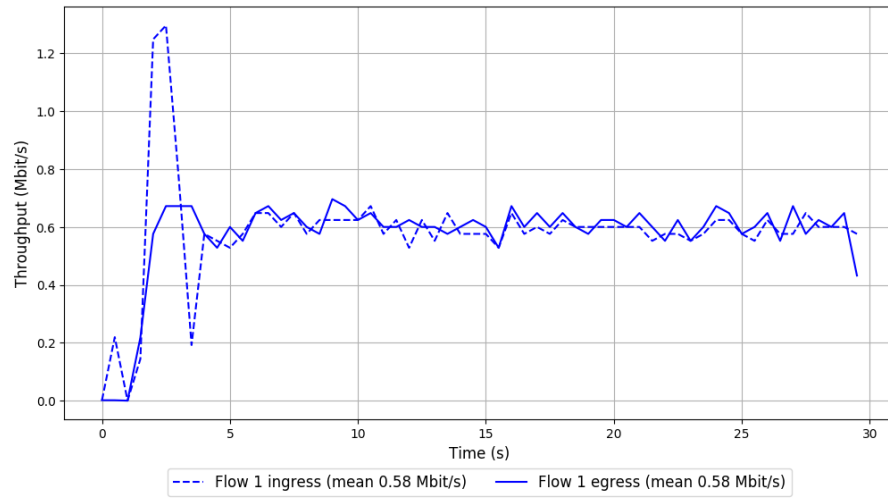
Run 3: Statistics of TCP Vegas

Start at: 2017-09-17 22:16:25  
End at: 2017-09-17 22:16:55  
Local clock offset: -4.545 ms  
Remote clock offset: -3.241 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.58 Mbit/s  
95th percentile per-packet one-way delay: 953.866 ms  
Loss rate: 1.10%  
-- Flow 1:  
Average throughput: 0.58 Mbit/s  
95th percentile per-packet one-way delay: 953.866 ms  
Loss rate: 1.10%



### Run 3: Report of TCP Vegas — Data Link

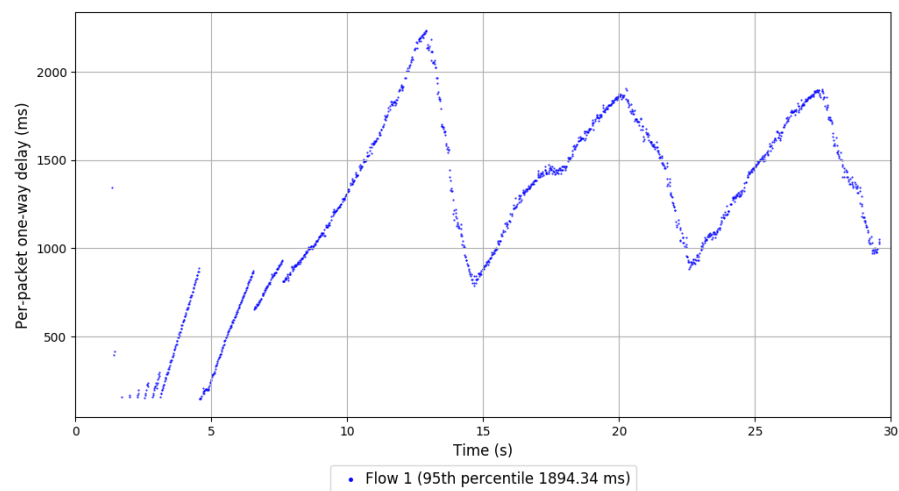
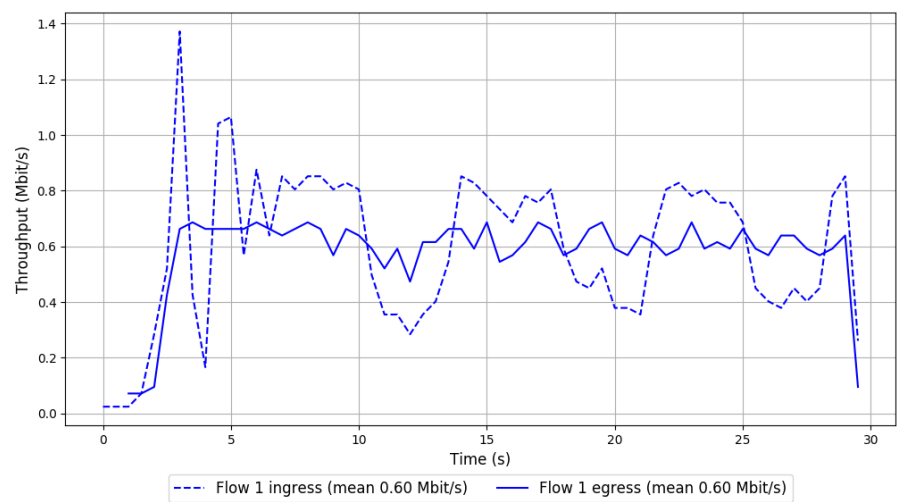


Run 1: Statistics of Verus

Start at: 2017-09-17 21:38:56  
End at: 2017-09-17 21:39:26  
Local clock offset: -8.102 ms  
Remote clock offset: -2.962 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.60 Mbit/s  
95th percentile per-packet one-way delay: 1894.337 ms  
Loss rate: 4.99%  
-- Flow 1:  
Average throughput: 0.60 Mbit/s  
95th percentile per-packet one-way delay: 1894.337 ms  
Loss rate: 4.99%

Run 1: Report of Verus — Data Link

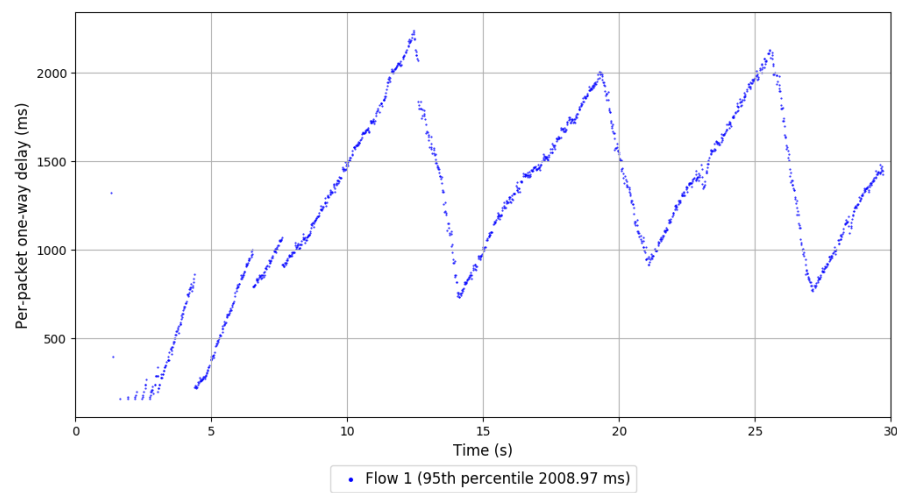
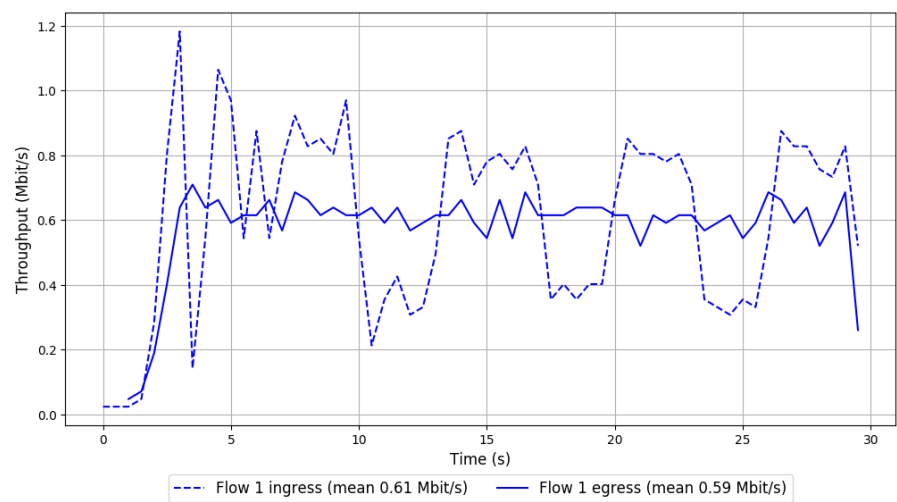


Run 2: Statistics of Verus

Start at: 2017-09-17 21:56:30  
End at: 2017-09-17 21:57:00  
Local clock offset: -2.611 ms  
Remote clock offset: -8.434 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.59 Mbit/s  
95th percentile per-packet one-way delay: 2008.975 ms  
Loss rate: 6.81%  
-- Flow 1:  
Average throughput: 0.59 Mbit/s  
95th percentile per-packet one-way delay: 2008.975 ms  
Loss rate: 6.81%

Run 2: Report of Verus — Data Link

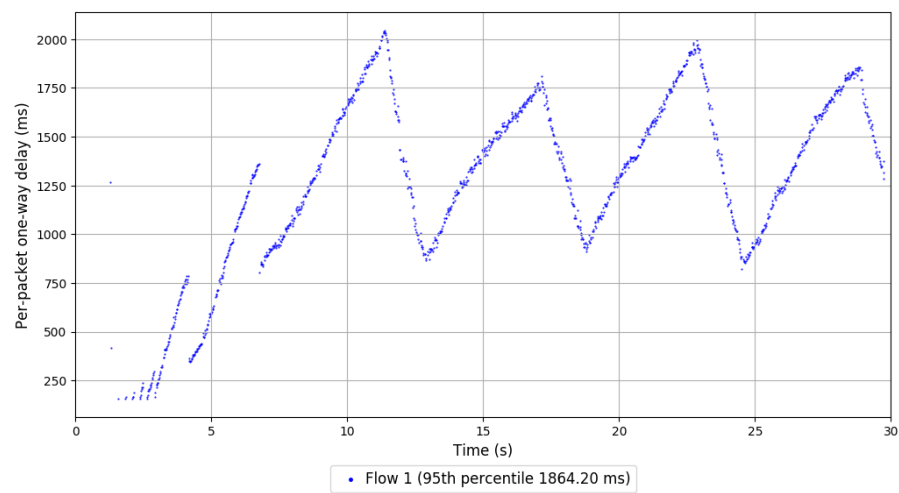
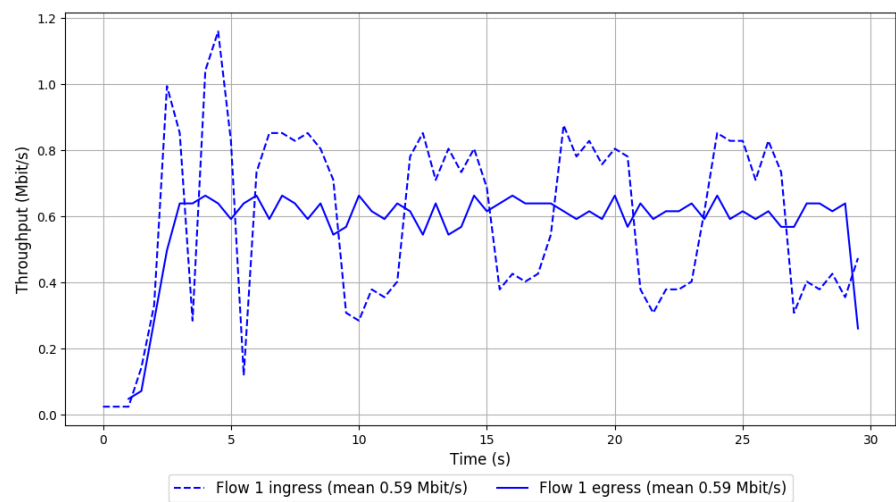


Run 3: Statistics of Verus

Start at: 2017-09-17 22:14:04  
End at: 2017-09-17 22:14:34  
Local clock offset: -4.193 ms  
Remote clock offset: -8.571 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.59 Mbit/s  
95th percentile per-packet one-way delay: 1864.204 ms  
Loss rate: 3.64%  
-- Flow 1:  
Average throughput: 0.59 Mbit/s  
95th percentile per-packet one-way delay: 1864.204 ms  
Loss rate: 3.64%

Run 3: Report of Verus — Data Link



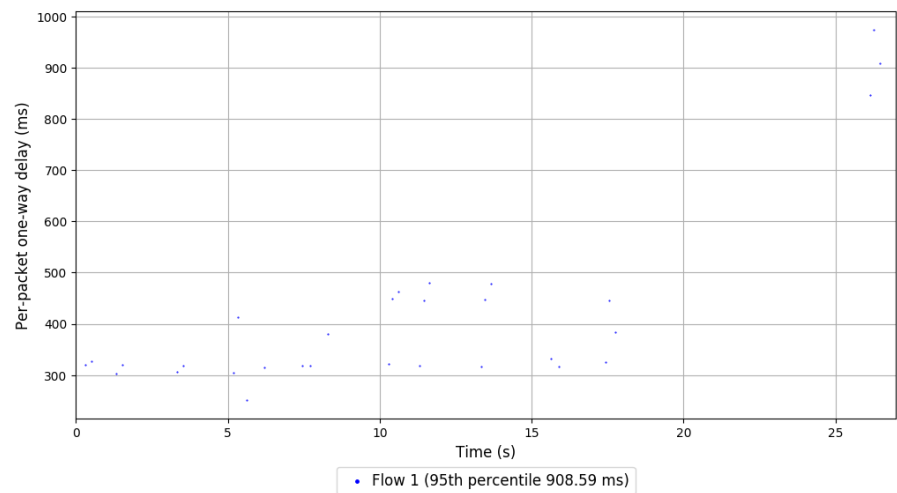
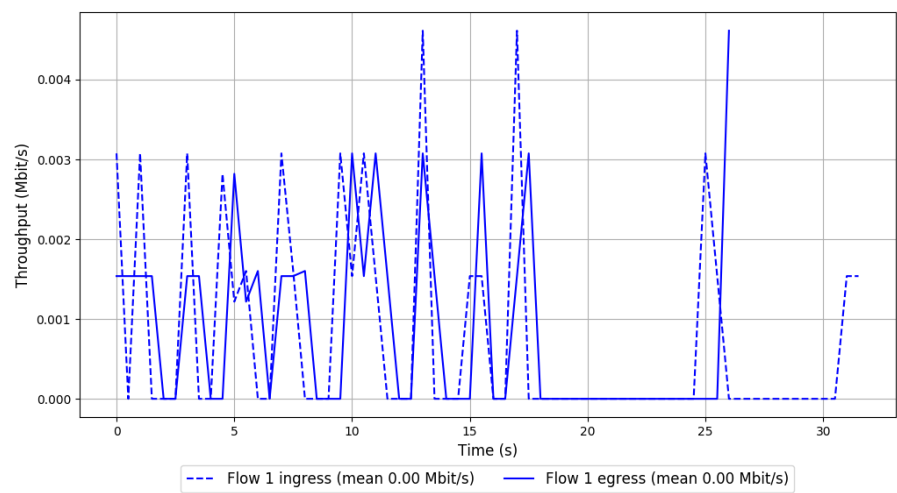
Run 1: Statistics of WebRTC media

Start at: 2017-09-17 21:48:19  
End at: 2017-09-17 21:48:49  
Local clock offset: -4.557 ms  
Remote clock offset: -7.662 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 908.588 ms  
Loss rate: 6.31%  
-- Flow 1:  
Average throughput: 0.00 Mbit/s  
95th percentile per-packet one-way delay: 908.588 ms  
Loss rate: 6.31%



Run 1: Report of WebRTC media — Data Link

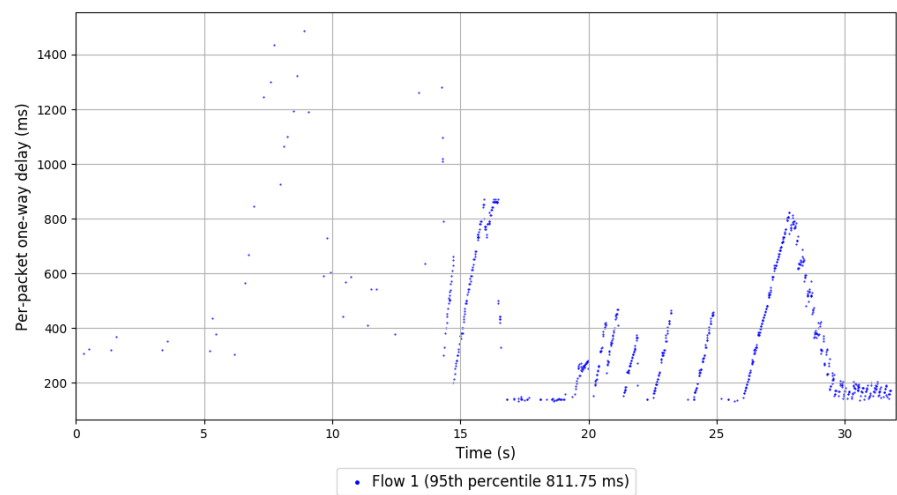
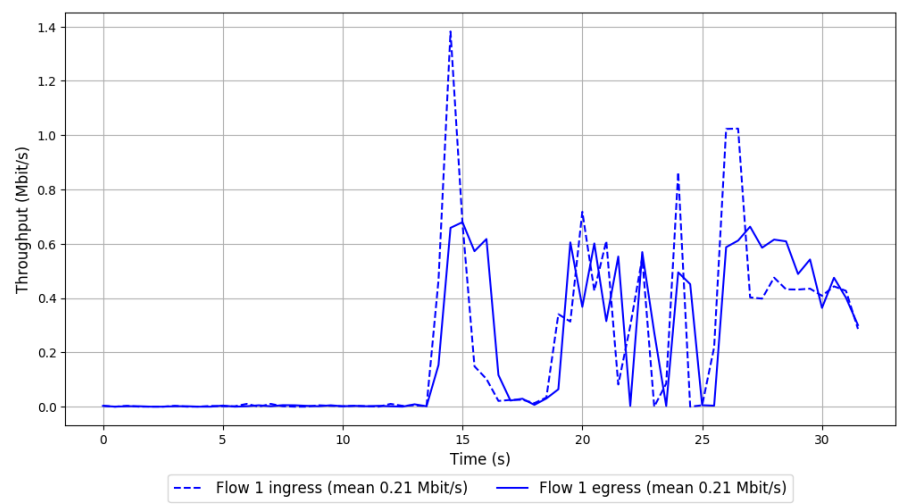


Run 2: Statistics of WebRTC media

Start at: 2017-09-17 22:05:52  
End at: 2017-09-17 22:06:22  
Local clock offset: -3.401 ms  
Remote clock offset: -7.749 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 811.748 ms  
Loss rate: 1.16%  
-- Flow 1:  
Average throughput: 0.21 Mbit/s  
95th percentile per-packet one-way delay: 811.748 ms  
Loss rate: 1.16%

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

Start at: 2017-09-17 22:23:27  
End at: 2017-09-17 22:23:57  
Local clock offset: -6.07 ms  
Remote clock offset: -8.478 ms

# Below is generated by plot.py at 2017-09-17 23:17:49  
# Datalink statistics  
-- Total of 1 flow:  
Average throughput: 0.32 Mbit/s  
95th percentile per-packet one-way delay: 789.187 ms  
Loss rate: 0.97%  
-- Flow 1:  
Average throughput: 0.32 Mbit/s  
95th percentile per-packet one-way delay: 789.187 ms  
Loss rate: 0.97%

Run 3: Report of WebRTC media — Data Link

