

**Pantheon Summary** (Generated at Mon, 31 Jul 2017 23:59:49 +0000 with pantheon version 33c7b8d34ce04c76596315aa973f0b30d6129d55)

Repeated the test of 15 congestion control schemes 3 times.

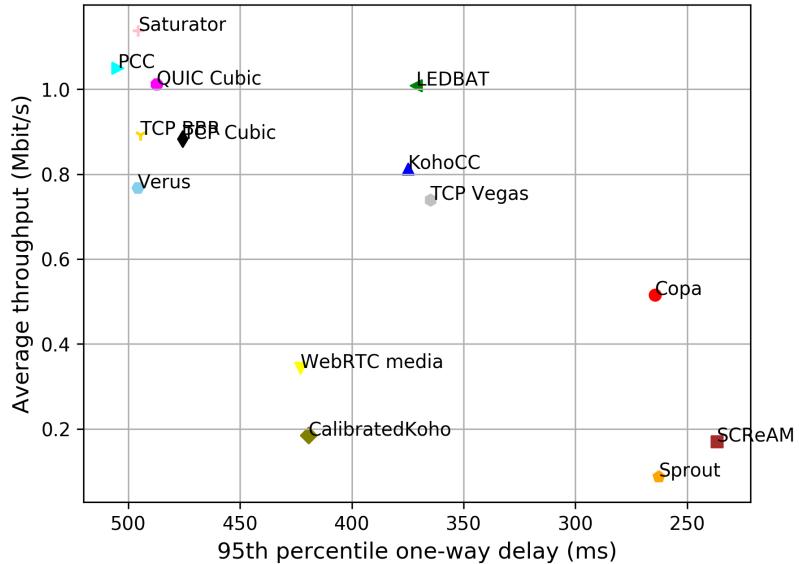
Each test lasted for 30 seconds running 1 flow.

Data path: China ppp0 (*remote*) → AWS Korea Ethernet (*local*).

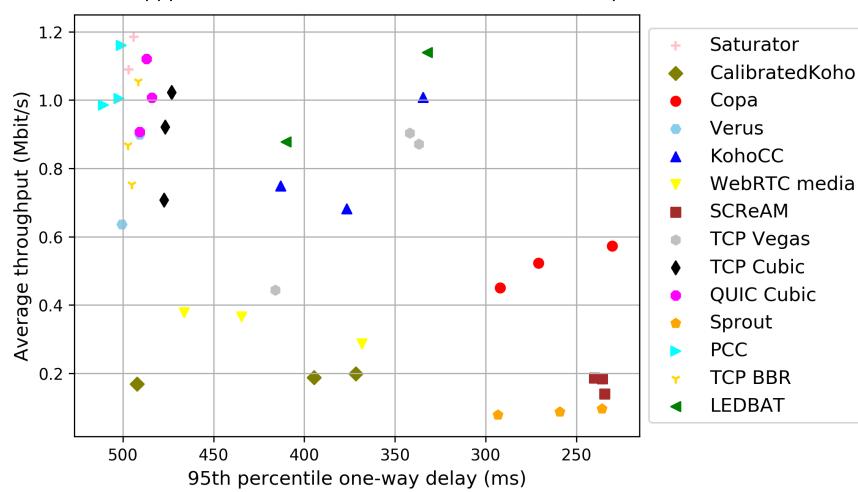
NTP offset measured against ntp.nict.jp and has been applied to correct the timestamps in logs.

```
git branch: master @ 33c7b8d34ce04c76596315aa973f0b30d6129d55
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
M datagrump/sender.cc
third_party/genericCC @ dae96123232f1bcb37725348fa2378691ce26725
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179aab4a906ce6bb7cf3cf
third_party/pantheon-stimuli @ fc73a85ca16c34366d1888dc8a0d0d88d4ebf2a7
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-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bf7e749737437f61b1eaeeb30b267cde681
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 China ppp0 to AWS Korea Ethernet, 3 runs of 30s each per scheme  
(mean of all runs by scheme)



test from China ppp0 to AWS Korea Ethernet, 3 runs of 30s each per scheme



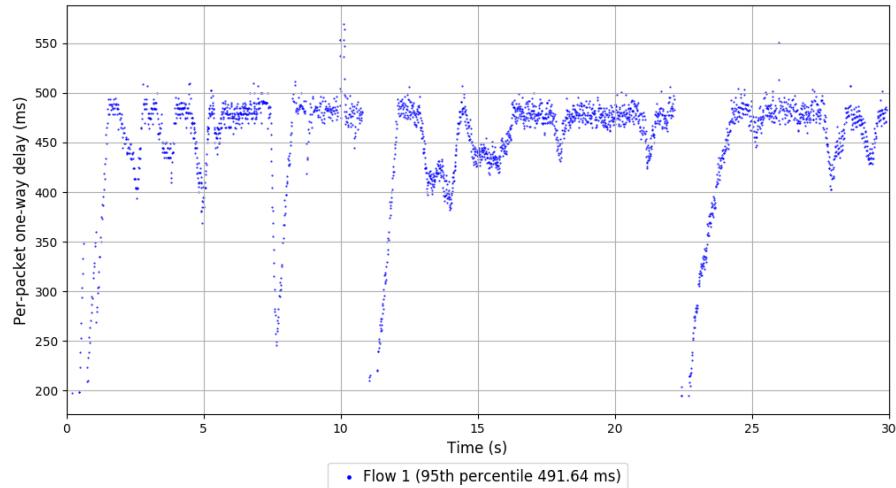
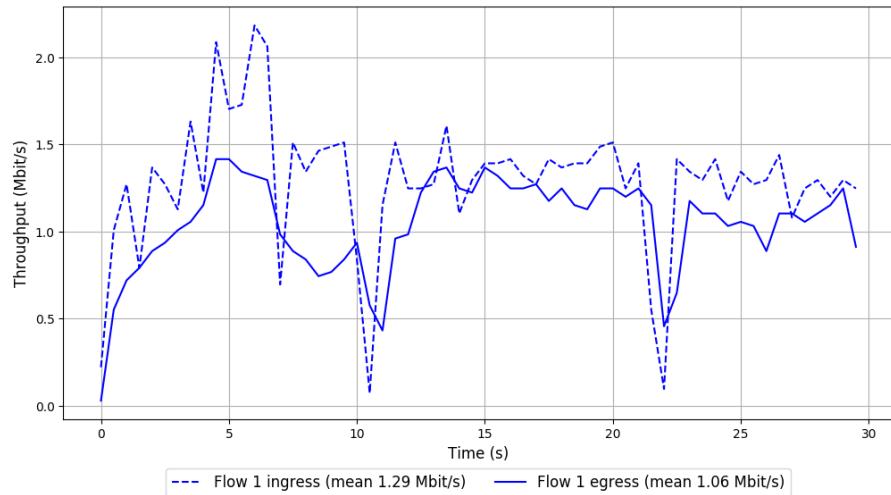
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	0.89	494.64	18.76
CalibratedKoho	3	0.19	419.44	3.74
Copa	3	0.51	264.45	0.72
TCP Cubic	3	0.88	475.74	4.22
KohoCC	3	0.81	374.80	1.91
LEDBAT	3	1.01	371.27	0.89
PCC	3	1.05	504.70	81.66
QUIC Cubic	3	1.01	487.29	7.74
Saturator	3	1.14	495.49	50.24
SCReAM	3	0.17	236.79	0.86
Sprout	3	0.09	262.79	3.73
TaoVA-100x	3	nan	nan	nan
TCP Vegas	3	0.74	364.94	2.00
Verus	3	0.77	495.76	61.62
WebRTC media	3	0.35	423.07	3.38

Run 1: Statistics of TCP BBR

```
Start at: Mon, 31 Jul 2017 23:19:40 +0000
End at: Mon, 31 Jul 2017 23:20:10 +0000
Local clock offset: -1.395 ms
Remote clock offset: 1.084 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:23 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 491.640 ms
Loss rate: 18.62%
-- Flow 1:
Average throughput: 1.06 Mbit/s
95th percentile per-packet one-way delay: 491.640 ms
Loss rate: 18.62%
```

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

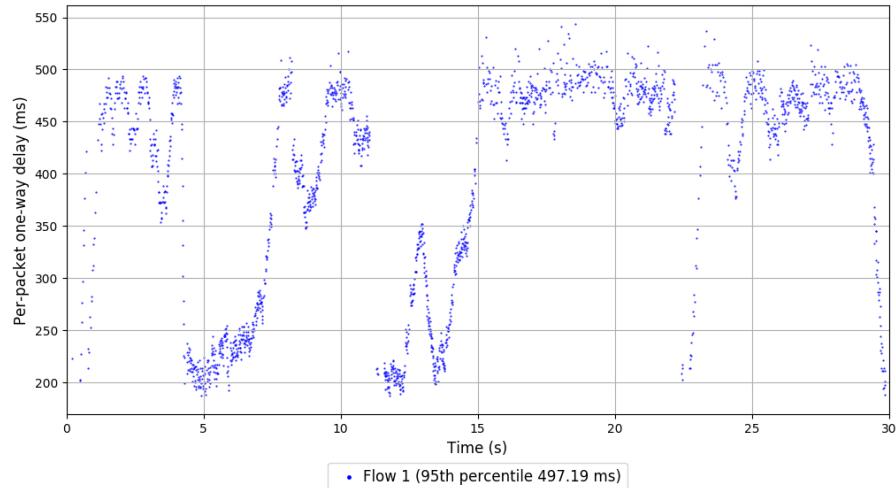
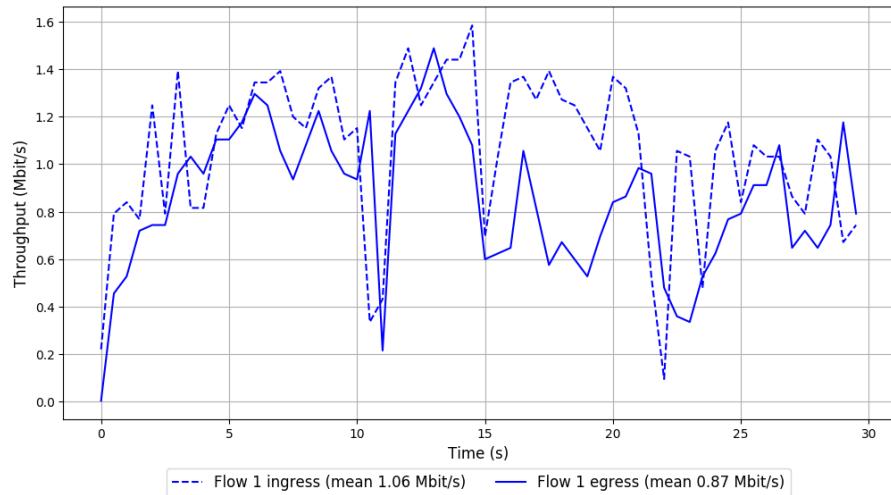


Run 2: Statistics of TCP BBR

```
Start at: Mon, 31 Jul 2017 23:37:57 +0000
End at: Mon, 31 Jul 2017 23:38:28 +0000
Local clock offset: -0.446 ms
Remote clock offset: 1.274 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:23 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 497.188 ms
Loss rate: 18.93%
-- Flow 1:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 497.188 ms
Loss rate: 18.93%
```

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

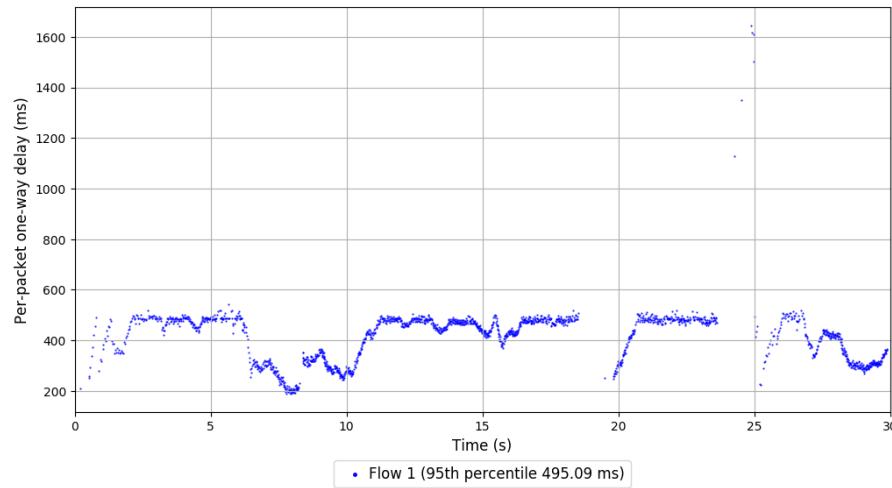
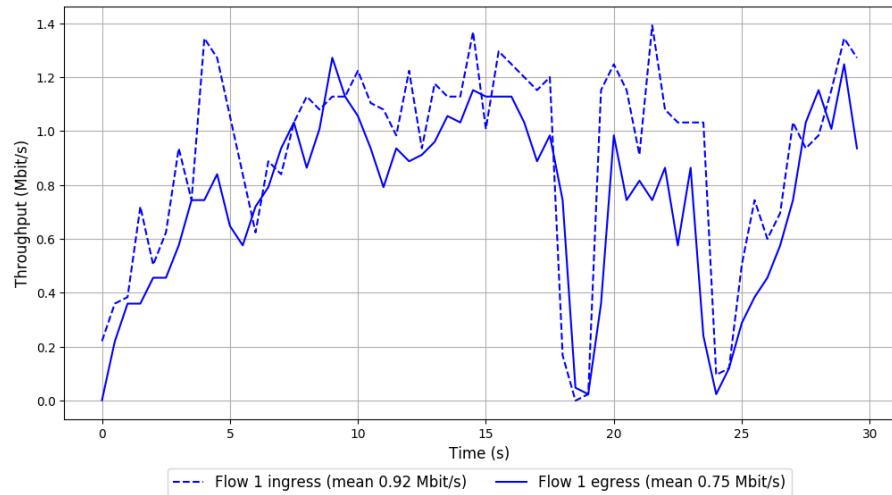


Run 3: Statistics of TCP BBR

```
Start at: Mon, 31 Jul 2017 23:56:18 +0000
End at: Mon, 31 Jul 2017 23:56:48 +0000
Local clock offset: -1.383 ms
Remote clock offset: 1.458 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:24 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 495.088 ms
Loss rate: 18.72%
-- Flow 1:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 495.088 ms
Loss rate: 18.72%
```

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



```
Run 1: Statistics of CalibratedKoho
```

```
Start at: Mon, 31 Jul 2017 23:12:20 +0000
```

```
End at: Mon, 31 Jul 2017 23:12:51 +0000
```

```
Local clock offset: -1.281 ms
```

```
Remote clock offset: 0.879 ms
```

```
# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:24 +0000
```

```
# Datalink statistics
```

```
-- Total of 1 flow:
```

```
Average throughput: 0.20 Mbit/s
```

```
95th percentile per-packet one-way delay: 371.585 ms
```

```
Loss rate: 2.82%
```

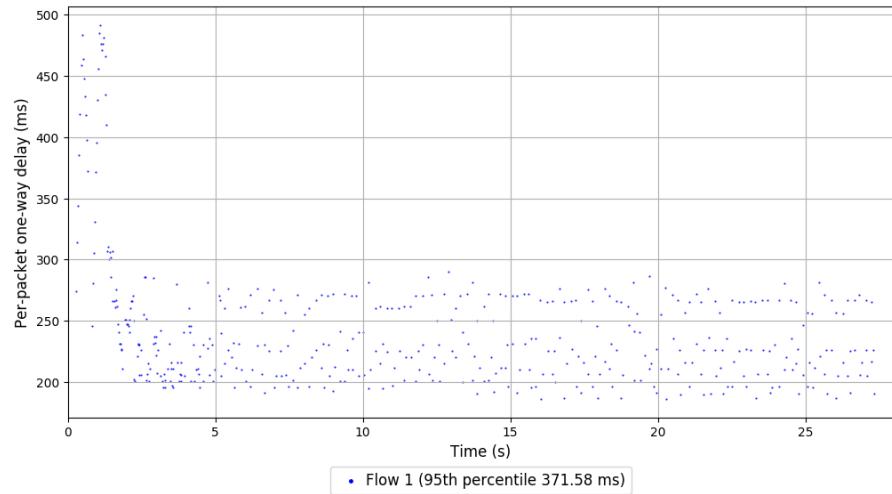
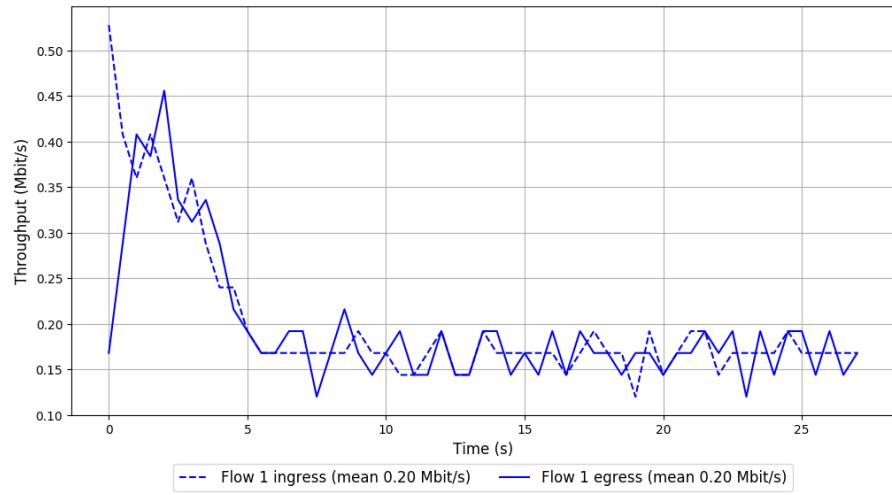
```
-- Flow 1:
```

```
Average throughput: 0.20 Mbit/s
```

```
95th percentile per-packet one-way delay: 371.585 ms
```

```
Loss rate: 2.82%
```

Run 1: Report of CalibratedKoho — Data Link



```
Run 2: Statistics of CalibratedKoho
```

```
Start at: Mon, 31 Jul 2017 23:30:39 +0000
```

```
End at: Mon, 31 Jul 2017 23:31:09 +0000
```

```
Local clock offset: -1.412 ms
```

```
Remote clock offset: 1.247 ms
```

```
# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:25 +0000
```

```
# Datalink statistics
```

```
-- Total of 1 flow:
```

```
Average throughput: 0.19 Mbit/s
```

```
95th percentile per-packet one-way delay: 394.595 ms
```

```
Loss rate: 2.71%
```

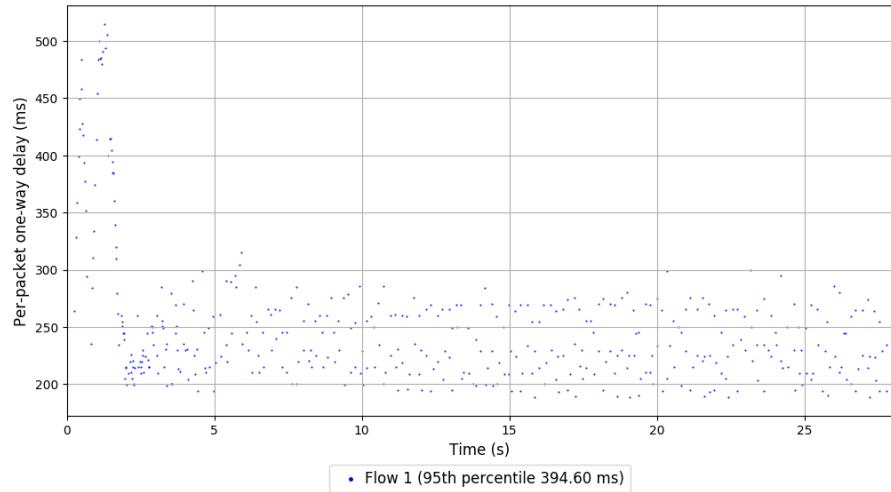
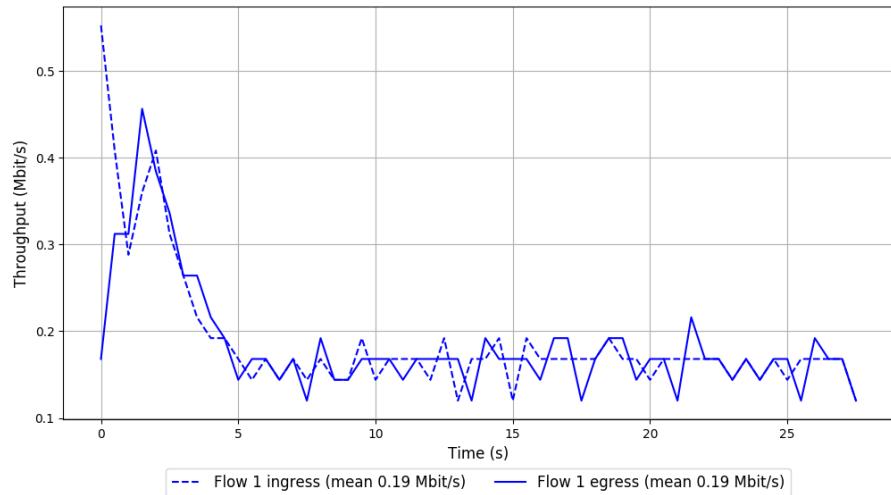
```
-- Flow 1:
```

```
Average throughput: 0.19 Mbit/s
```

```
95th percentile per-packet one-way delay: 394.595 ms
```

```
Loss rate: 2.71%
```

Run 2: Report of CalibratedKoho — Data Link

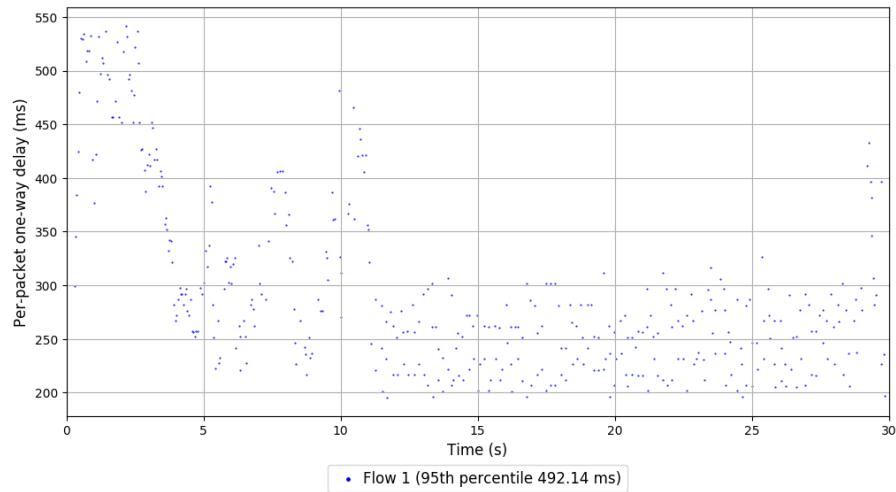
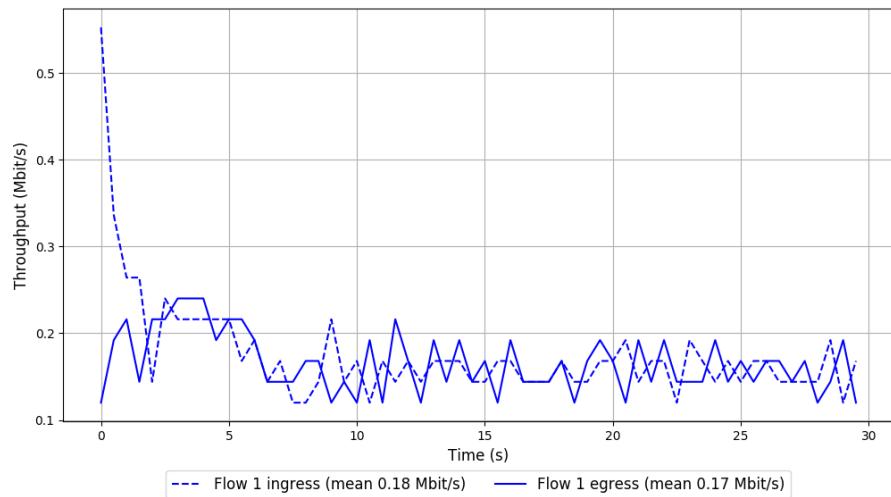


```
Run 3: Statistics of CalibratedKoho
```

```
Start at: Mon, 31 Jul 2017 23:48:55 +0000
End at: Mon, 31 Jul 2017 23:49:25 +0000
Local clock offset: -1.307 ms
Remote clock offset: 1.495 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:25 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 492.140 ms
Loss rate: 5.68%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 492.140 ms
Loss rate: 5.68%
```

Run 3: Report of CalibratedKoho — Data Link

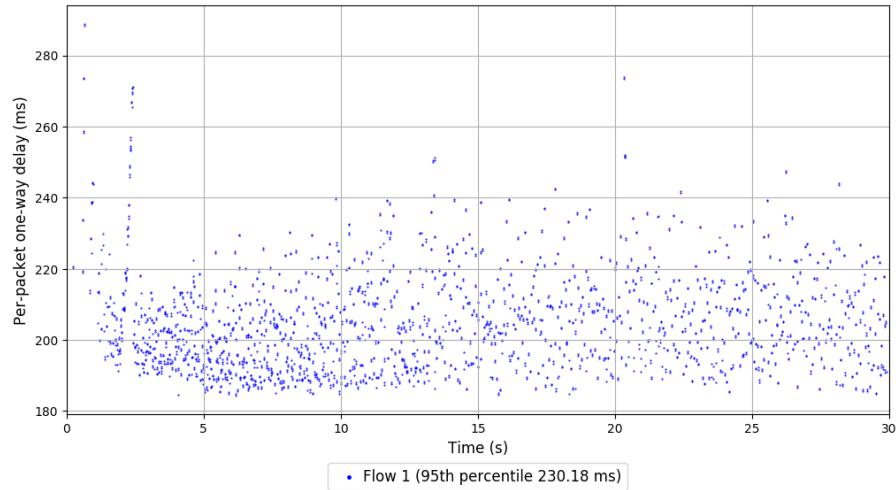
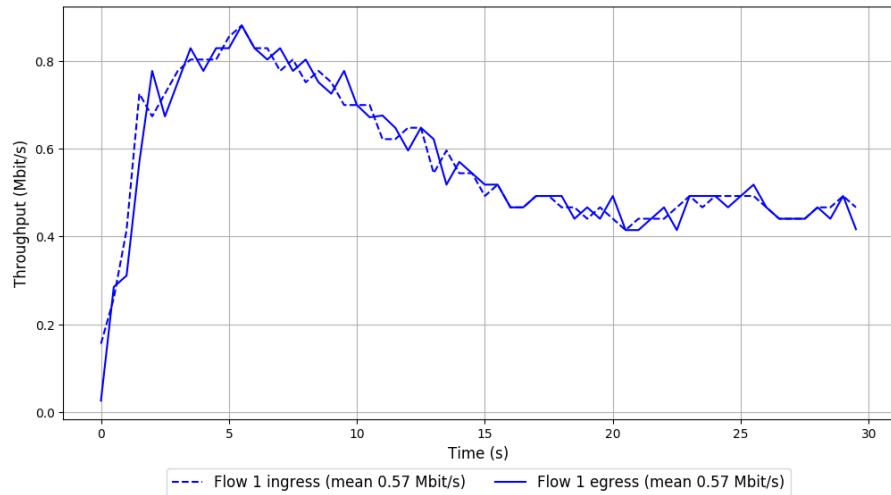


Run 1: Statistics of Copa

```
Start at: Mon, 31 Jul 2017 23:16:00 +0000
End at: Mon, 31 Jul 2017 23:16:30 +0000
Local clock offset: -1.339 ms
Remote clock offset: 0.932 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:26 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 230.182 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 0.57 Mbit/s
95th percentile per-packet one-way delay: 230.182 ms
Loss rate: 0.75%
```

## Run 1: Report of Copa — Data Link

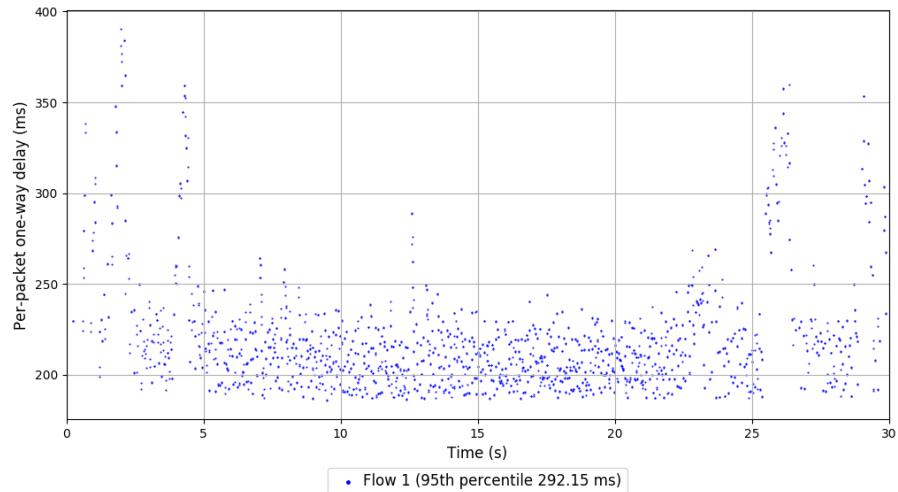
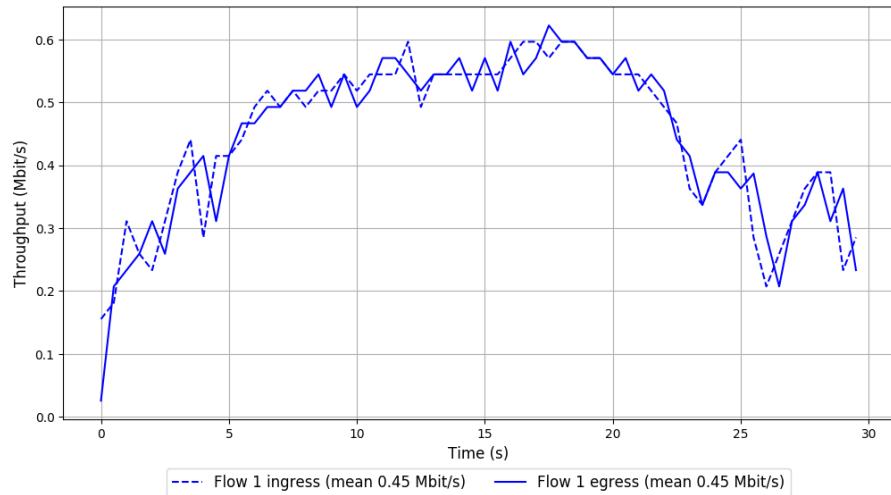


Run 2: Statistics of Copa

```
Start at: Mon, 31 Jul 2017 23:34:18 +0000
End at: Mon, 31 Jul 2017 23:34:48 +0000
Local clock offset: -0.58 ms
Remote clock offset: 1.176 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:27 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 292.155 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 292.155 ms
Loss rate: 0.58%
```

## Run 2: Report of Copa — Data Link

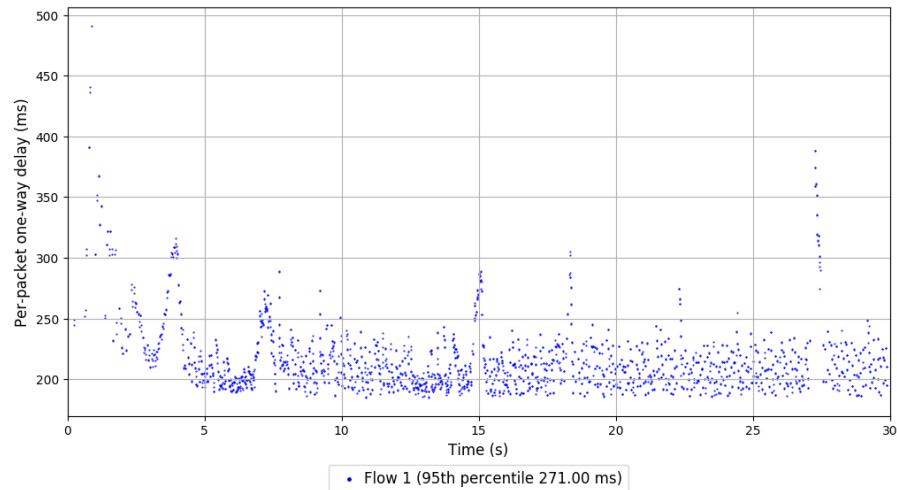
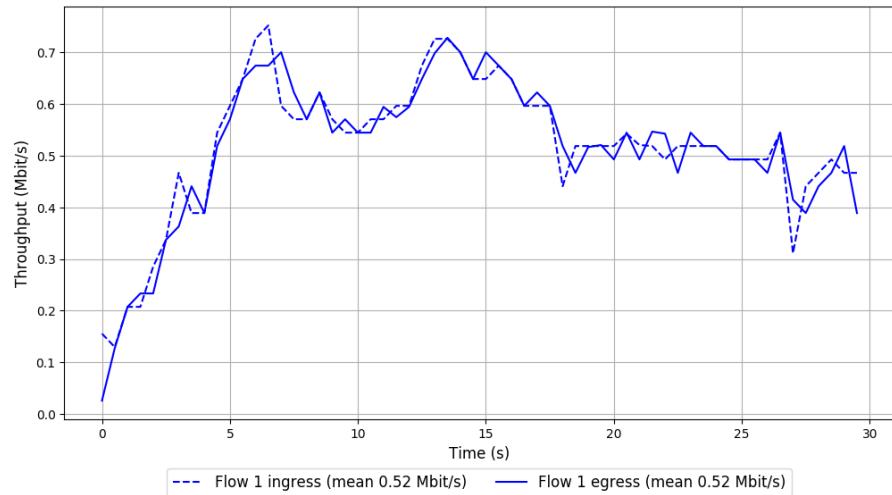


Run 3: Statistics of Copa

```
Start at: Mon, 31 Jul 2017 23:52:34 +0000
End at: Mon, 31 Jul 2017 23:53:04 +0000
Local clock offset: -1.352 ms
Remote clock offset: 1.449 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:27 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 271.004 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 271.004 ms
Loss rate: 0.84%
```

### Run 3: Report of Copa — Data Link

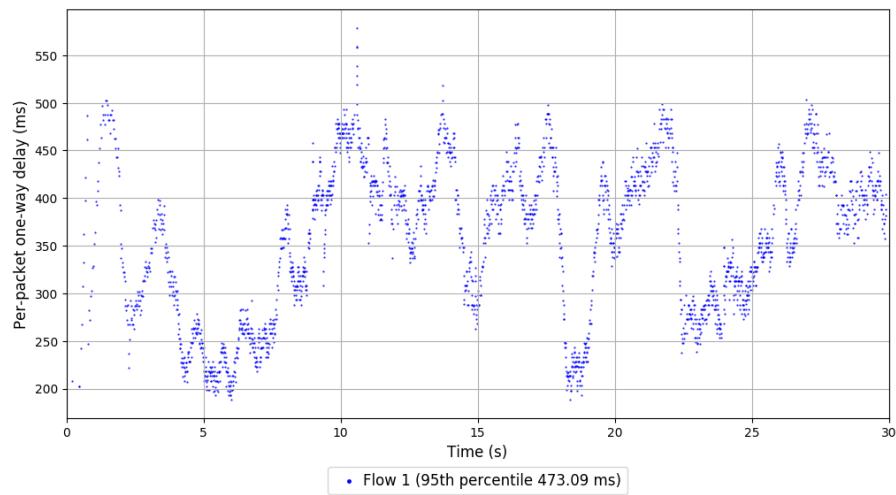
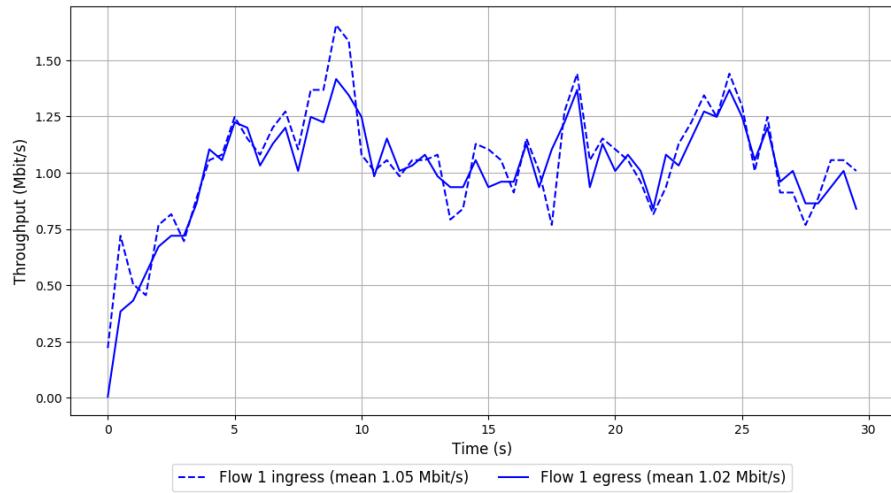


Run 1: Statistics of TCP Cubic

```
Start at: Mon, 31 Jul 2017 23:08:41 +0000
End at: Mon, 31 Jul 2017 23:09:11 +0000
Local clock offset: -0.487 ms
Remote clock offset: 0.897 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:28 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 473.093 ms
Loss rate: 3.10%
-- Flow 1:
Average throughput: 1.02 Mbit/s
95th percentile per-packet one-way delay: 473.093 ms
Loss rate: 3.10%
```

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

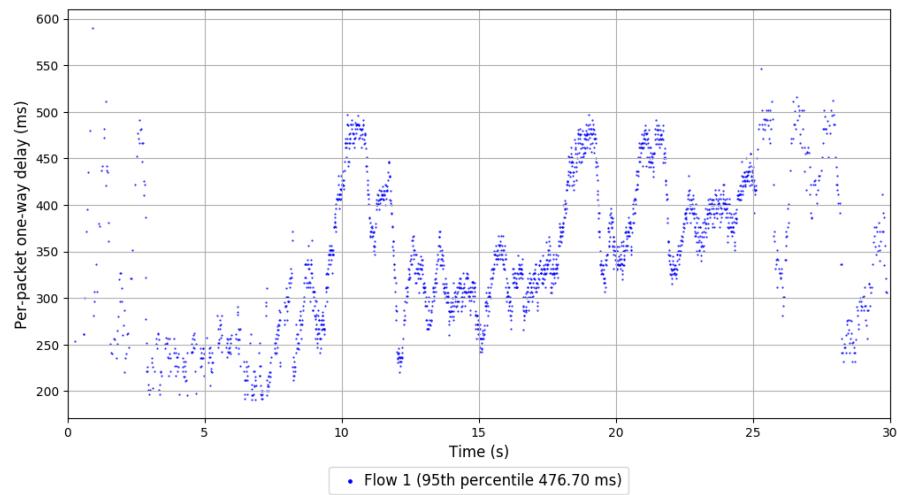
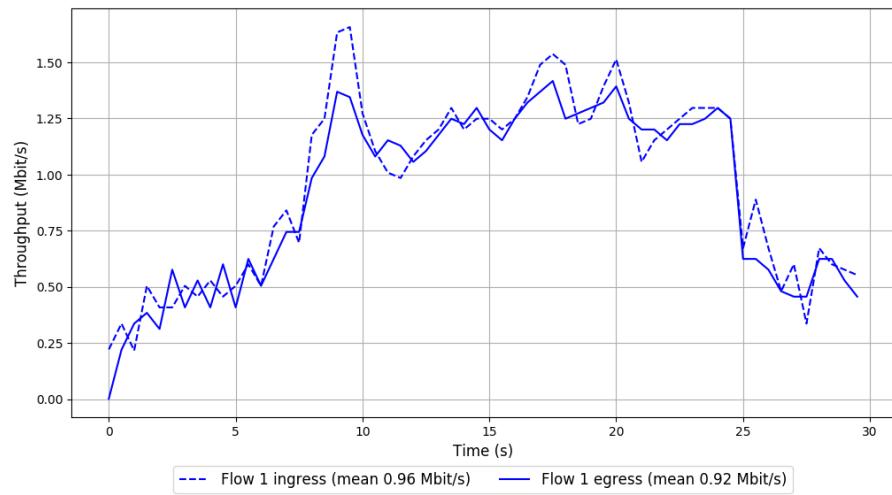


Run 2: Statistics of TCP Cubic

```
Start at: Mon, 31 Jul 2017 23:26:59 +0000
End at: Mon, 31 Jul 2017 23:27:29 +0000
Local clock offset: -0.489 ms
Remote clock offset: 1.305 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:28 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 476.705 ms
Loss rate: 4.78%
-- Flow 1:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 476.705 ms
Loss rate: 4.78%
```

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

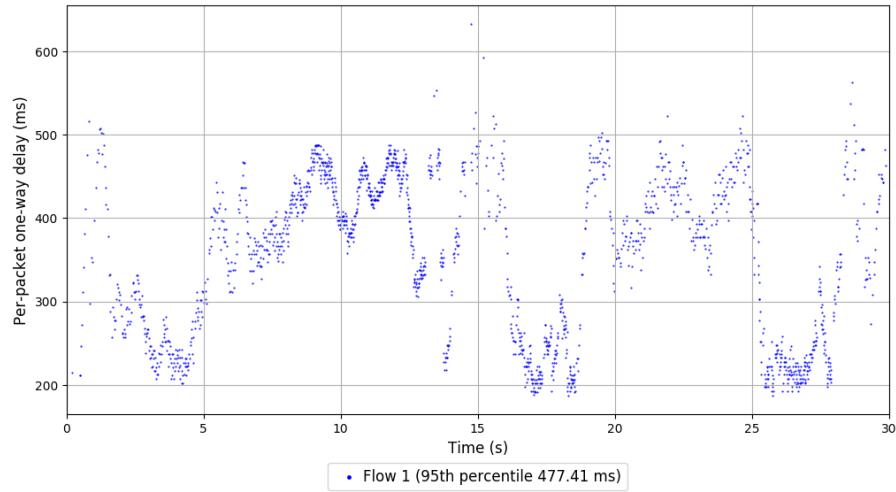
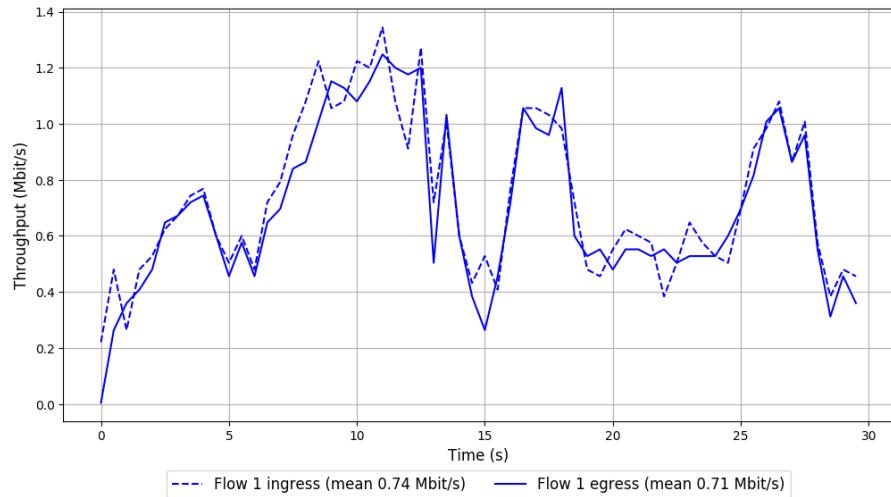


Run 3: Statistics of TCP Cubic

```
Start at: Mon, 31 Jul 2017 23:45:17 +0000
End at: Mon, 31 Jul 2017 23:45:47 +0000
Local clock offset: -0.45 ms
Remote clock offset: 1.511 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:29 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 477.414 ms
Loss rate: 4.79%
-- Flow 1:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 477.414 ms
Loss rate: 4.79%
```

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

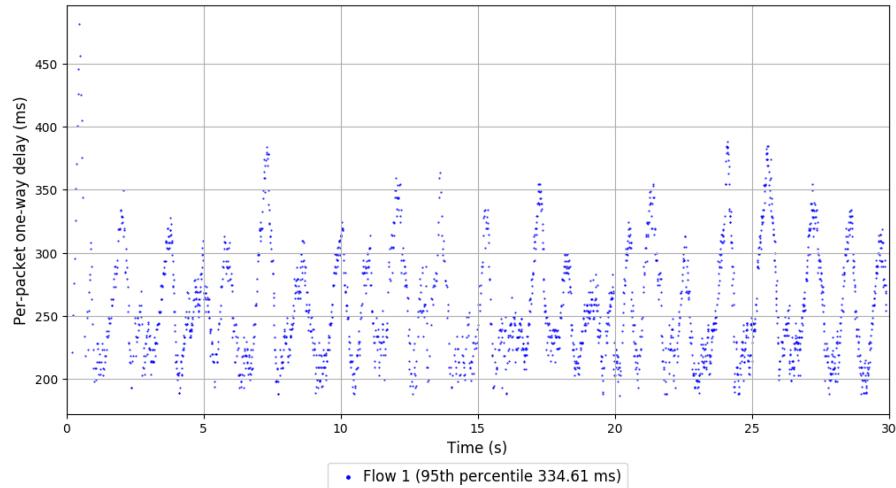
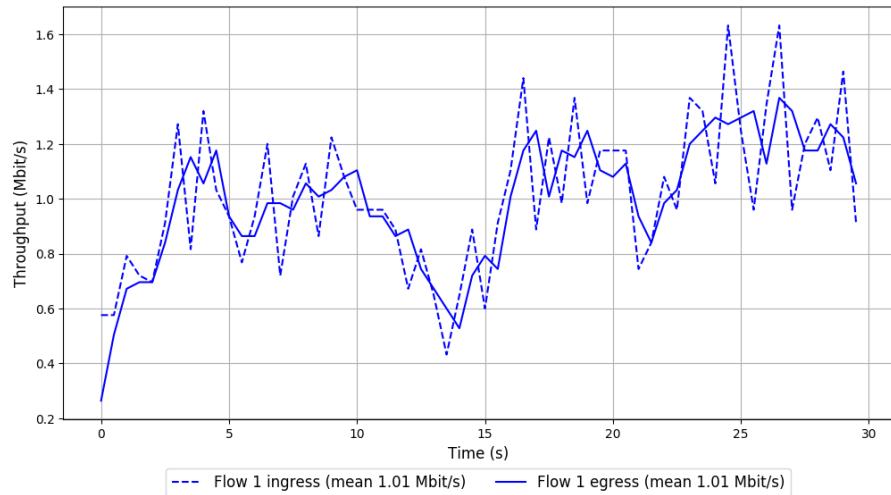


```
Run 1: Statistics of KohoCC
```

```
Start at: Mon, 31 Jul 2017 23:20:53 +0000
End at: Mon, 31 Jul 2017 23:21:23 +0000
Local clock offset: -0.544 ms
Remote clock offset: 1.212 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:29 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 334.613 ms
Loss rate: 1.23%
-- Flow 1:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 334.613 ms
Loss rate: 1.23%
```

## Run 1: Report of KohoCC — Data Link

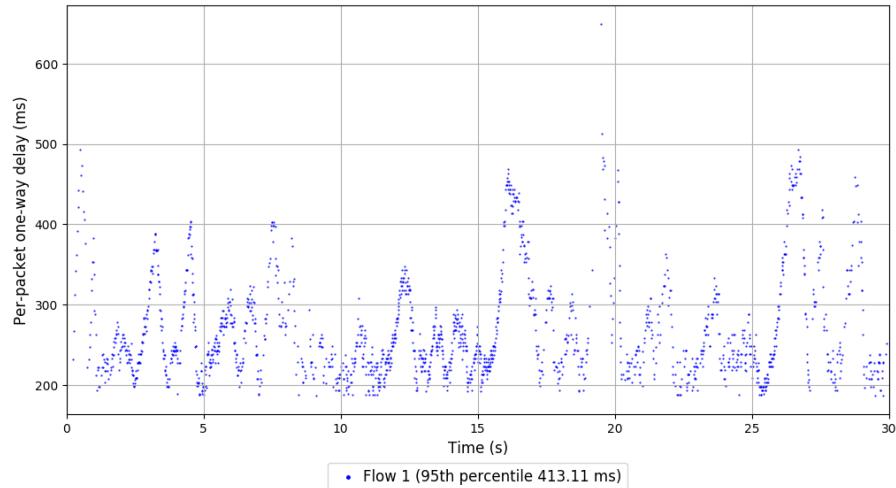
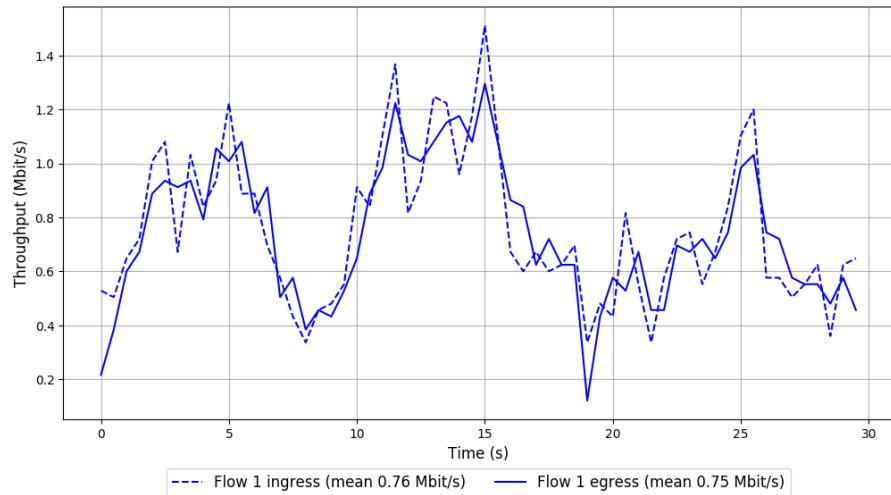


Run 2: Statistics of KohoCC

```
Start at: Mon, 31 Jul 2017 23:39:11 +0000
End at: Mon, 31 Jul 2017 23:39:41 +0000
Local clock offset: -1.326 ms
Remote clock offset: 1.348 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:30 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 413.105 ms
Loss rate: 2.12%
-- Flow 1:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 413.105 ms
Loss rate: 2.12%
```

## Run 2: Report of KohoCC — Data Link

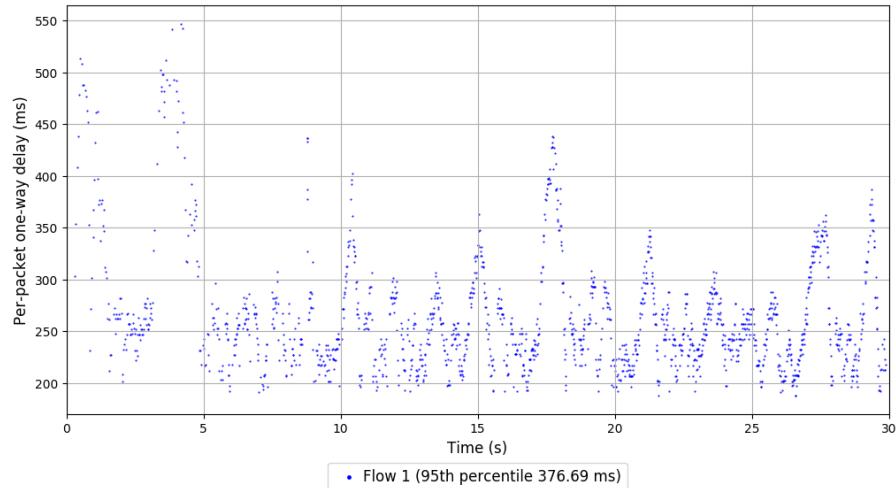
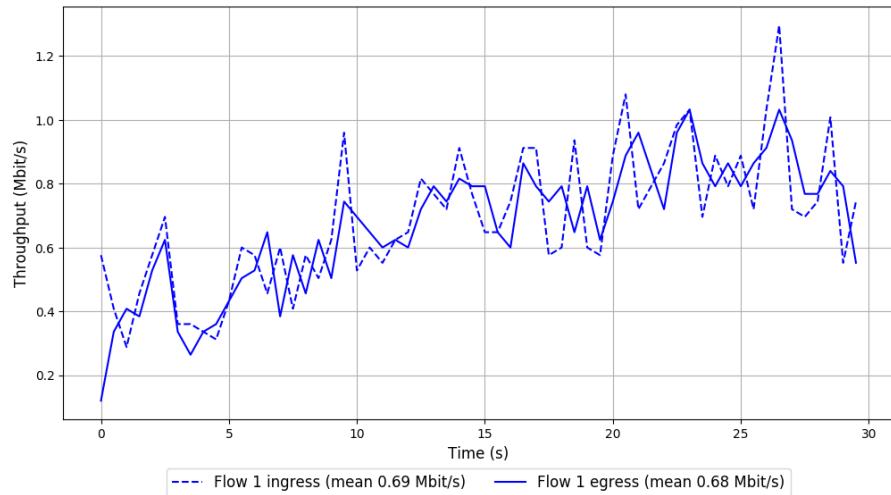


Run 3: Statistics of KohoCC

```
Start at: Mon, 31 Jul 2017 23:57:31 +0000
End at: Mon, 31 Jul 2017 23:58:01 +0000
Local clock offset: -1.382 ms
Remote clock offset: 1.501 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:31 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 376.687 ms
Loss rate: 2.38%
-- Flow 1:
Average throughput: 0.68 Mbit/s
95th percentile per-packet one-way delay: 376.687 ms
Loss rate: 2.38%
```

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

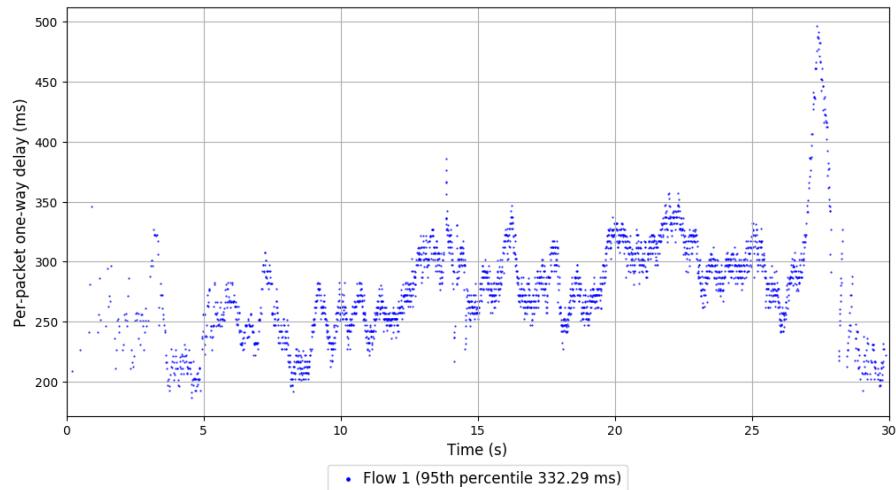
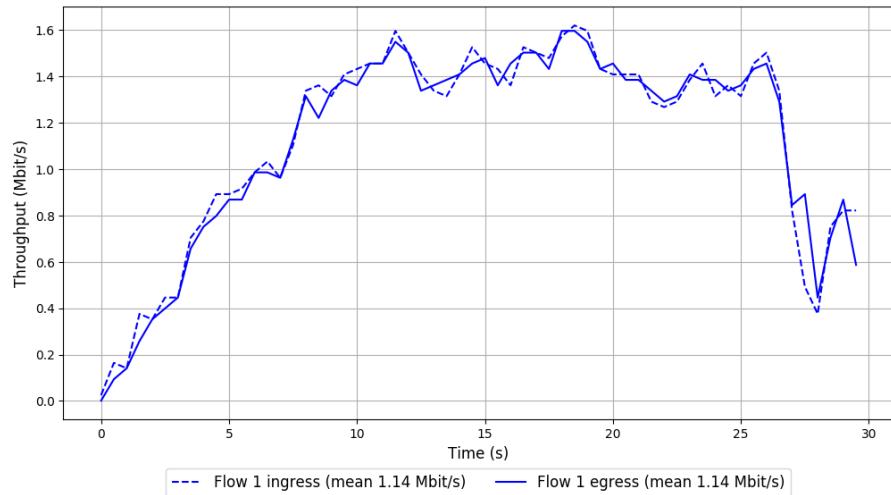


```
Run 1: Statistics of LEDBAT
```

```
Start at: Mon, 31 Jul 2017 23:13:33 +0000
End at: Mon, 31 Jul 2017 23:14:03 +0000
Local clock offset: -0.497 ms
Remote clock offset: 0.844 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:31 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 332.287 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 1.14 Mbit/s
95th percentile per-packet one-way delay: 332.287 ms
Loss rate: 0.93%
```

Run 1: Report of LEDBAT — Data Link

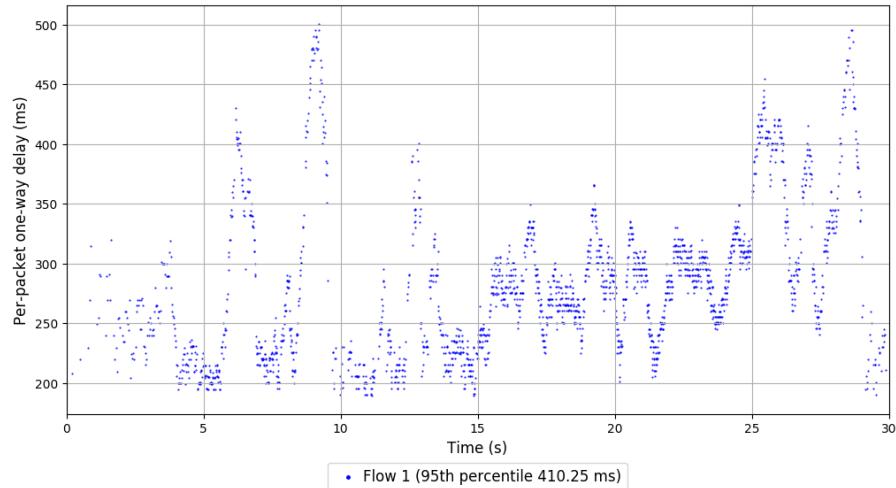
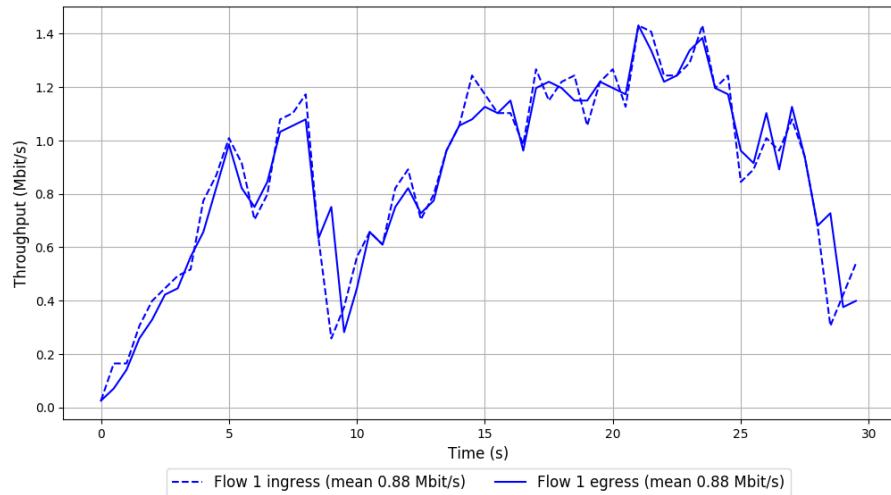


Run 2: Statistics of LEDBAT

```
Start at: Mon, 31 Jul 2017 23:31:51 +0000
End at: Mon, 31 Jul 2017 23:32:21 +0000
Local clock offset: -1.4 ms
Remote clock offset: 1.202 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:32 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 410.250 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 410.250 ms
Loss rate: 0.85%
```

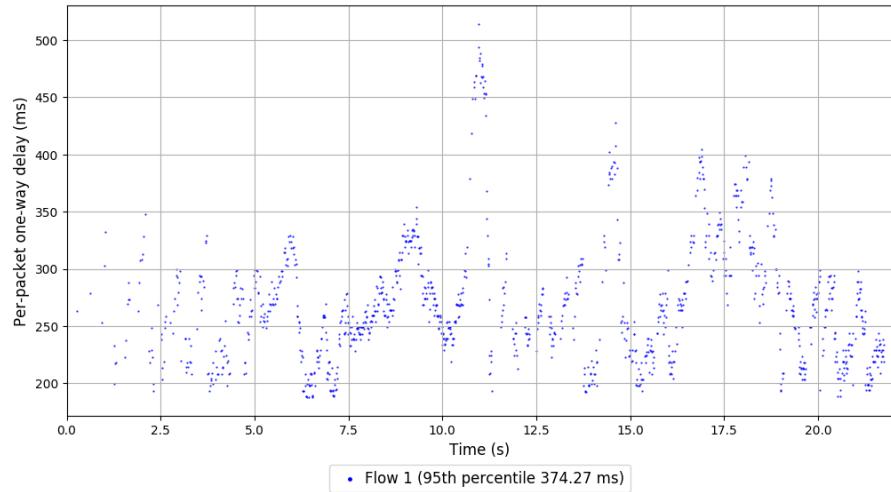
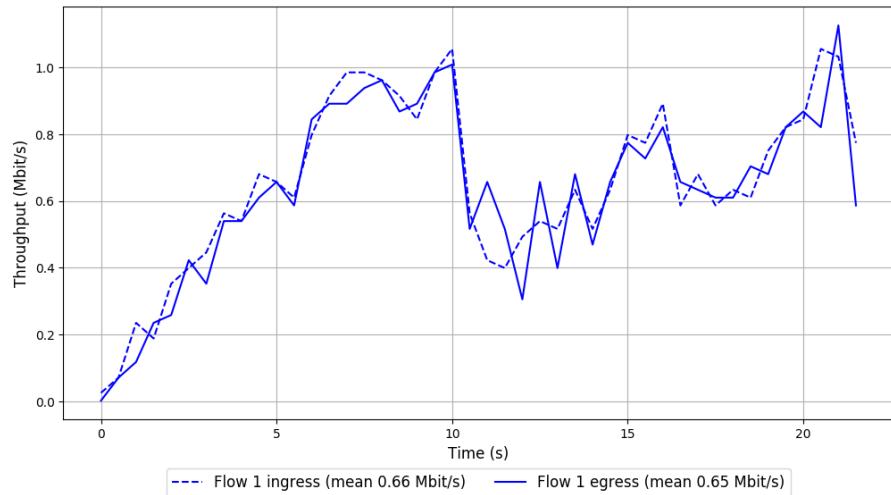
## Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: Mon, 31 Jul 2017 23:50:08 +0000  
End at: Mon, 31 Jul 2017 23:50:38 +0000  
Local clock offset: -1.332 ms  
Remote clock offset: 1.439 ms

Run 3: Report of LEDBAT — Data Link

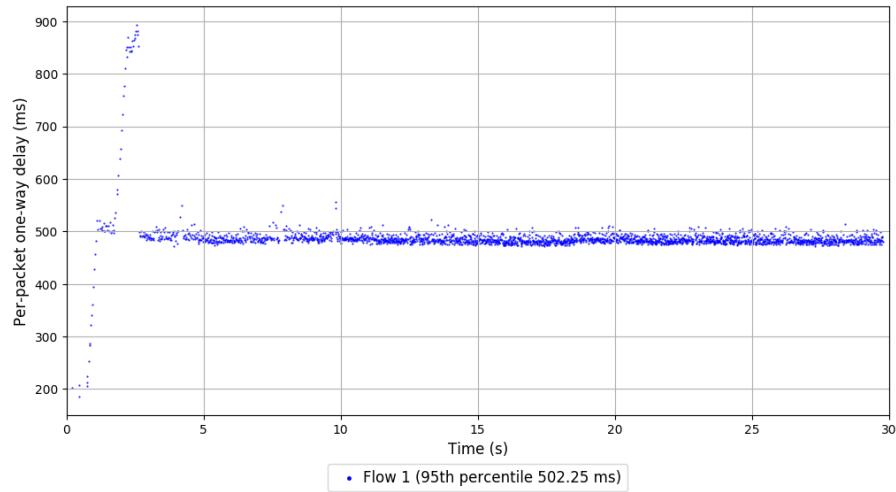
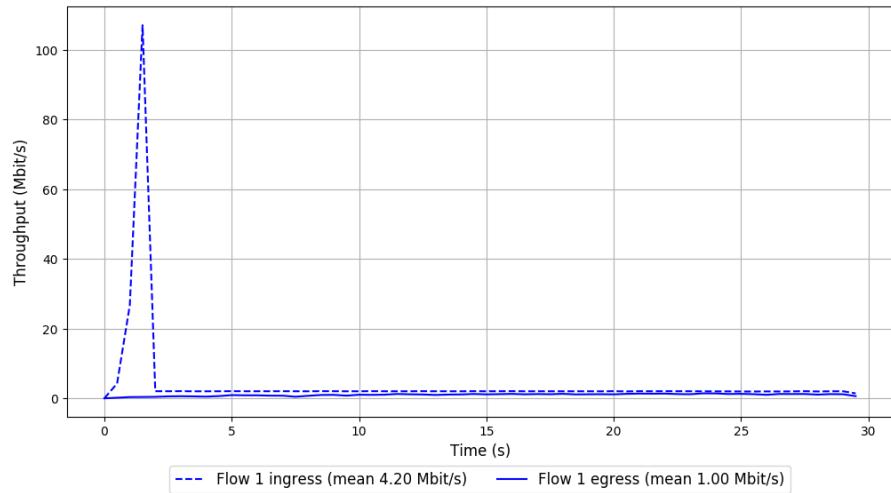


Run 1: Statistics of PCC

```
Start at: Mon, 31 Jul 2017 23:07:28 +0000
End at: Mon, 31 Jul 2017 23:07:58 +0000
Local clock offset: -1.375 ms
Remote clock offset: 0.877 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:33 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 502.249 ms
Loss rate: 76.31%
-- Flow 1:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 502.249 ms
Loss rate: 76.31%
```

### Run 1: Report of PCC — Data Link

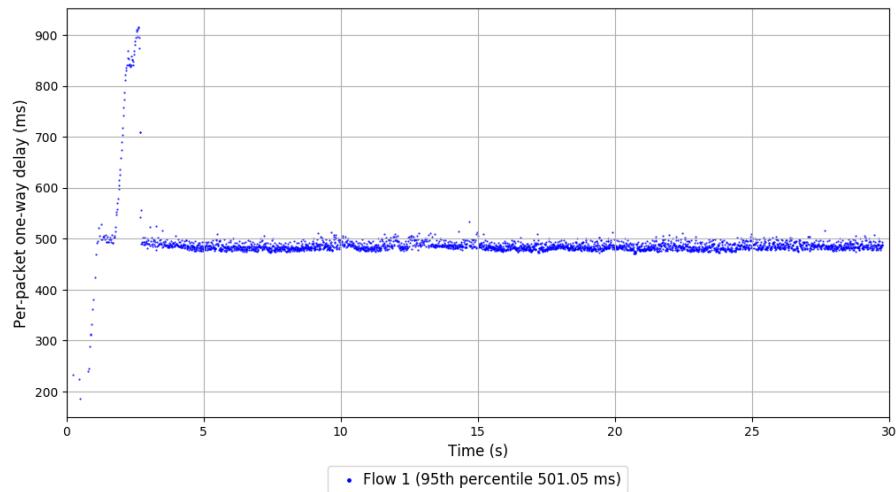
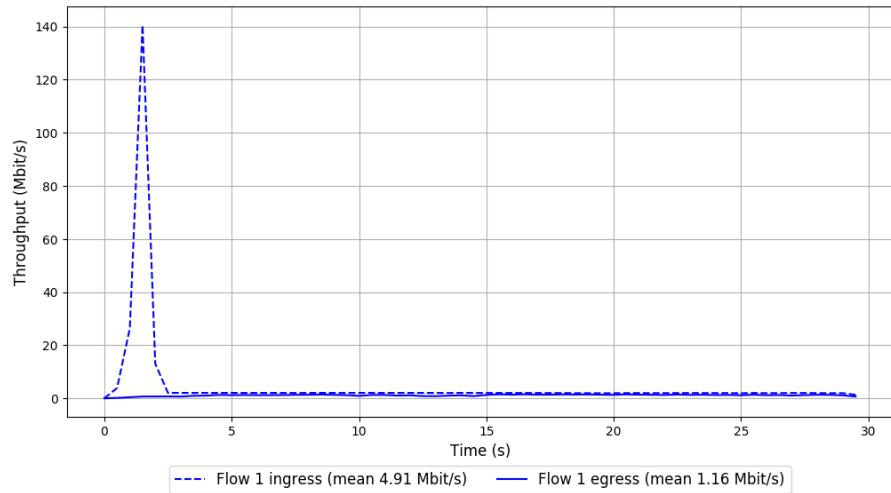


Run 2: Statistics of PCC

```
Start at: Mon, 31 Jul 2017 23:25:46 +0000
End at: Mon, 31 Jul 2017 23:26:16 +0000
Local clock offset: -1.399 ms
Remote clock offset: 1.412 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:34 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 501.050 ms
Loss rate: 76.60%
-- Flow 1:
Average throughput: 1.16 Mbit/s
95th percentile per-packet one-way delay: 501.050 ms
Loss rate: 76.60%
```

## Run 2: Report of PCC — Data Link

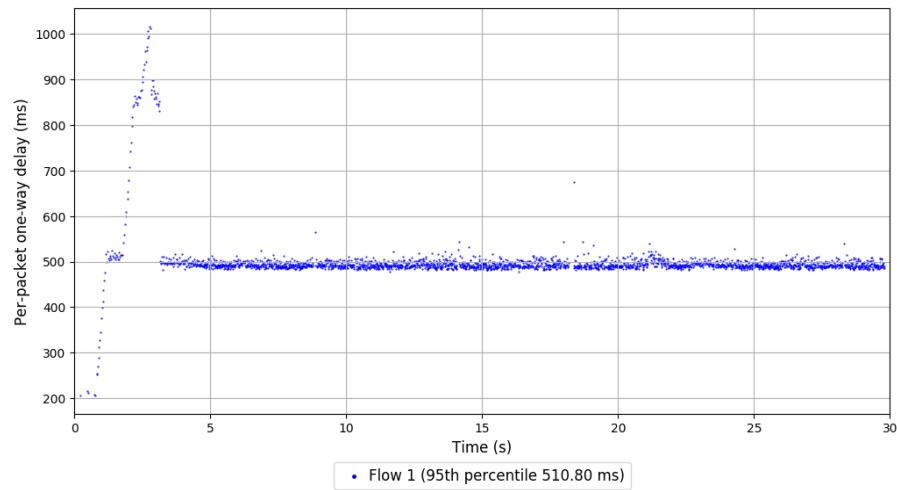
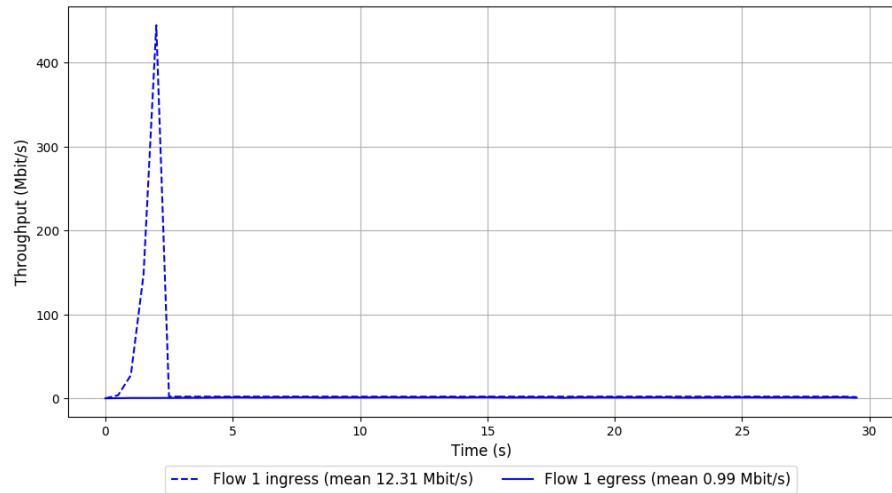


Run 3: Statistics of PCC

```
Start at: Mon, 31 Jul 2017 23:44:03 +0000
End at: Mon, 31 Jul 2017 23:44:33 +0000
Local clock offset: -0.488 ms
Remote clock offset: 1.514 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:34 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 510.797 ms
Loss rate: 92.06%
-- Flow 1:
Average throughput: 0.99 Mbit/s
95th percentile per-packet one-way delay: 510.797 ms
Loss rate: 92.06%
```

### Run 3: Report of PCC — Data Link



```
Run 1: Statistics of QUIC Cubic
```

```
Start at: Mon, 31 Jul 2017 23:05:02 +0000
```

```
End at: Mon, 31 Jul 2017 23:05:32 +0000
```

```
Local clock offset: -1.307 ms
```

```
Remote clock offset: 0.79 ms
```

```
# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:35 +0000
```

```
# Datalink statistics
```

```
-- Total of 1 flow:
```

```
Average throughput: 1.12 Mbit/s
```

```
95th percentile per-packet one-way delay: 486.991 ms
```

```
Loss rate: 8.65%
```

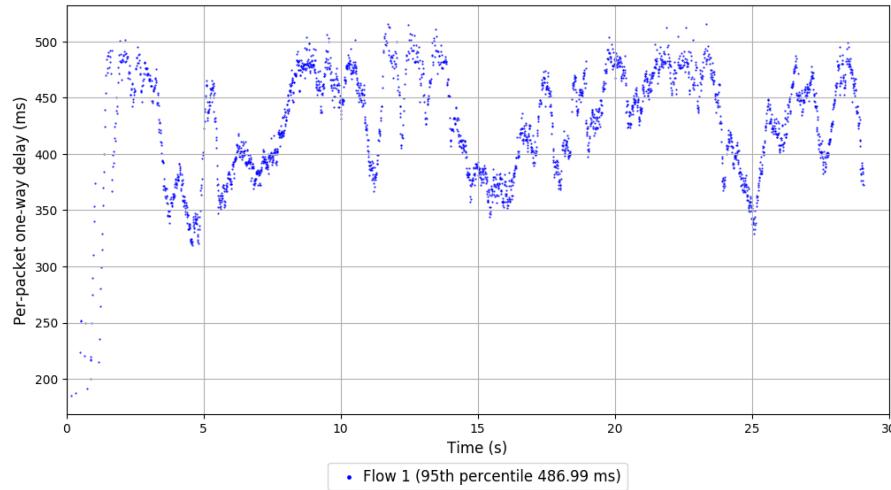
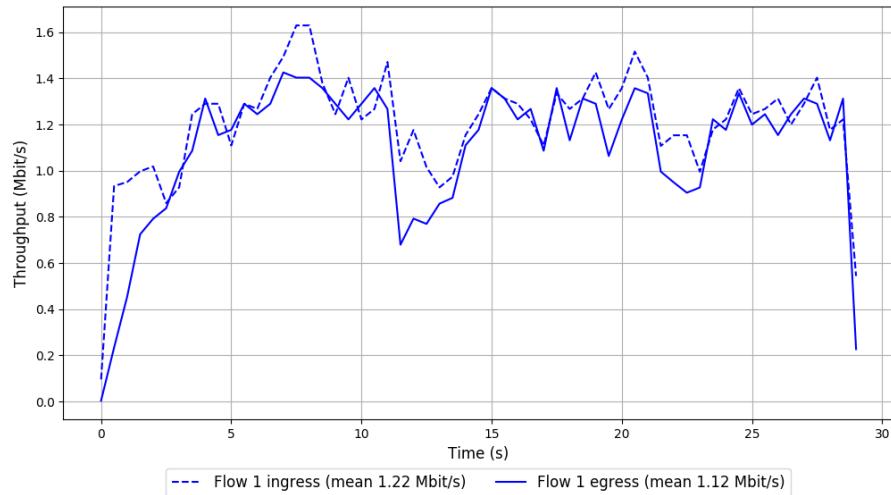
```
-- Flow 1:
```

```
Average throughput: 1.12 Mbit/s
```

```
95th percentile per-packet one-way delay: 486.991 ms
```

```
Loss rate: 8.65%
```

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

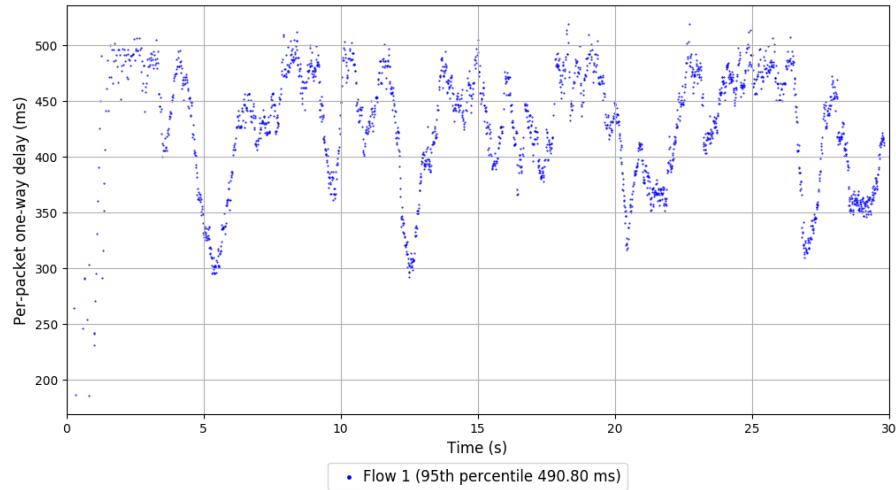
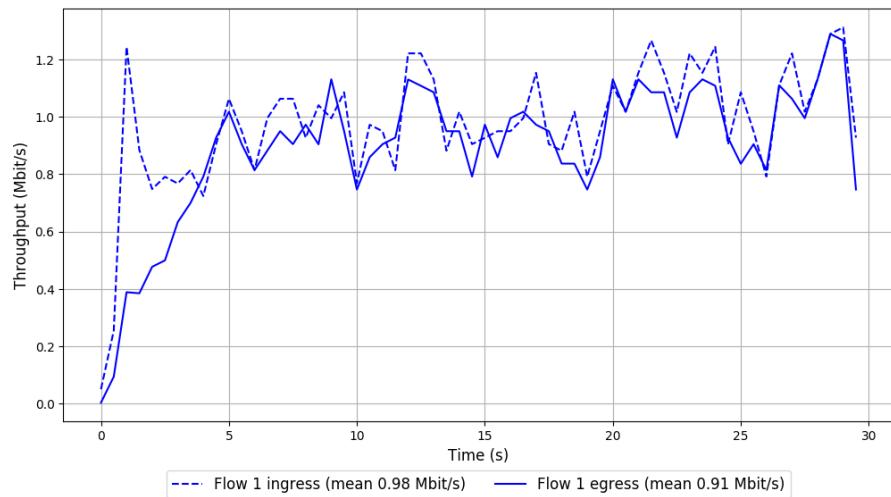


Run 2: Statistics of QUIC Cubic

```
Start at: Mon, 31 Jul 2017 23:23:20 +0000
End at: Mon, 31 Jul 2017 23:23:50 +0000
Local clock offset: -0.437 ms
Remote clock offset: 1.263 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 490.802 ms
Loss rate: 8.60%
-- Flow 1:
Average throughput: 0.91 Mbit/s
95th percentile per-packet one-way delay: 490.802 ms
Loss rate: 8.60%
```

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

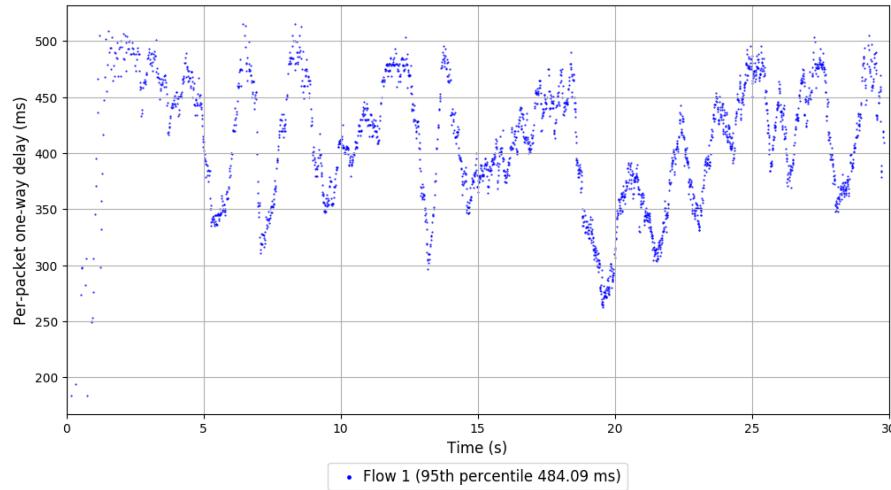
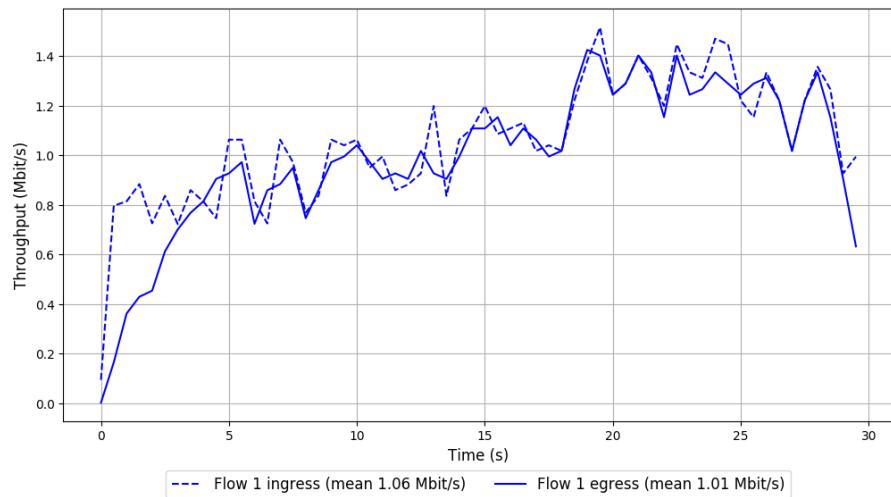


Run 3: Statistics of QUIC Cubic

```
Start at: Mon, 31 Jul 2017 23:41:37 +0000
End at: Mon, 31 Jul 2017 23:42:07 +0000
Local clock offset: -1.298 ms
Remote clock offset: 1.409 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:36 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 484.088 ms
Loss rate: 5.98%
-- Flow 1:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 484.088 ms
Loss rate: 5.98%
```

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

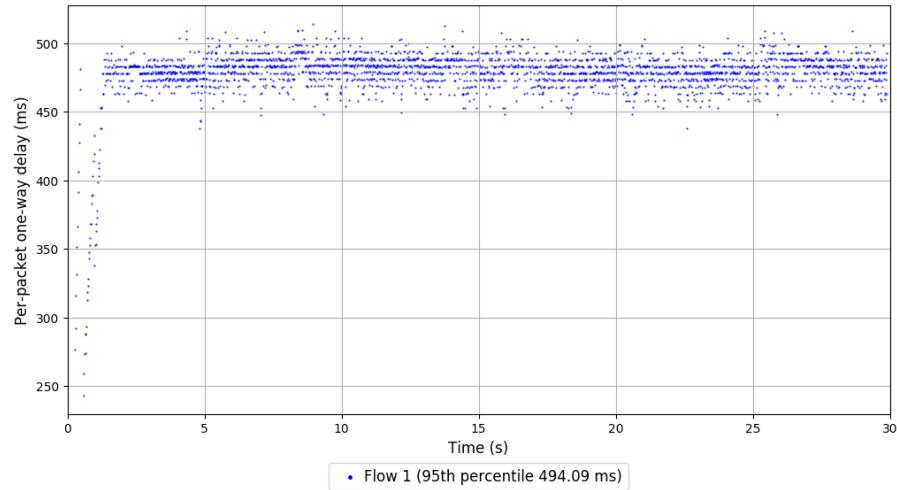
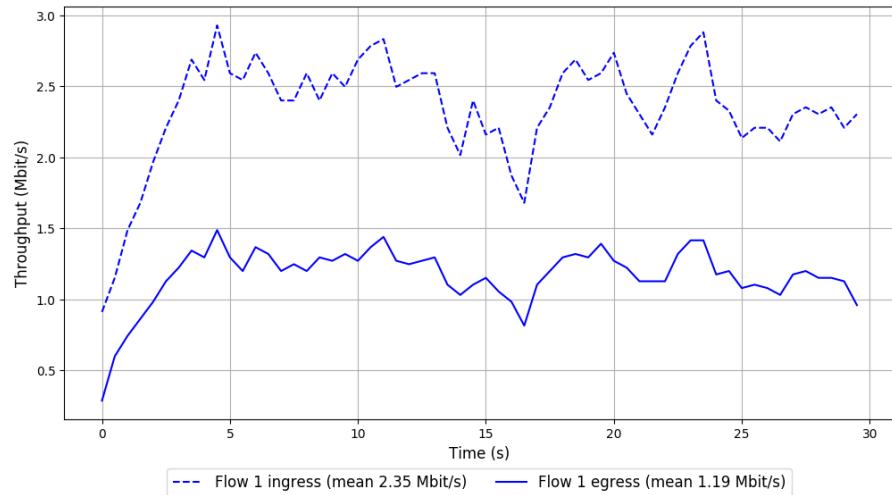


```
Run 1: Statistics of Saturator
```

```
Start at: Mon, 31 Jul 2017 23:03:48 +0000
End at: Mon, 31 Jul 2017 23:04:18 +0000
Local clock offset: -1.283 ms
Remote clock offset: 0.748 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:37 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 494.086 ms
Loss rate: 50.17%
-- Flow 1:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 494.086 ms
Loss rate: 50.17%
```

### Run 1: Report of Saturator — Data Link

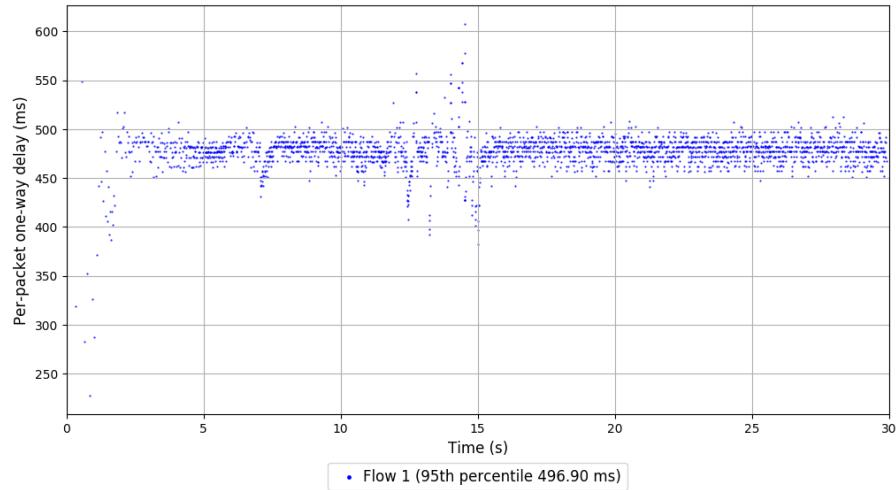
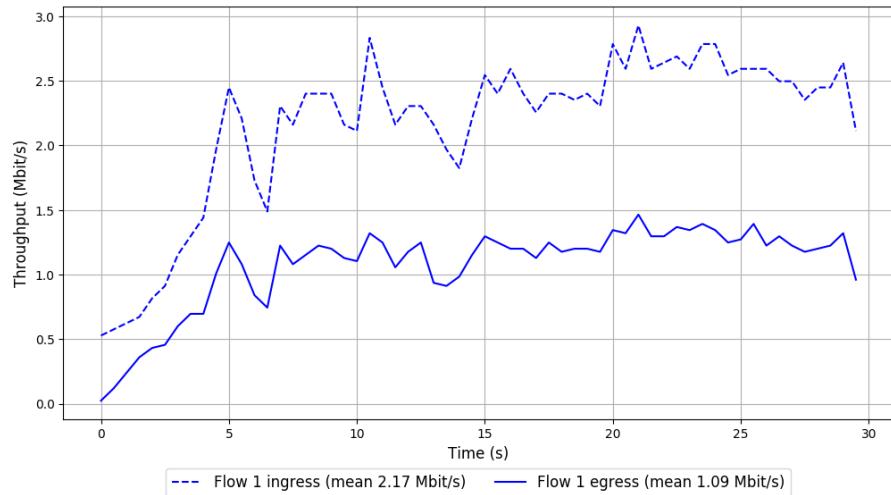


Run 2: Statistics of Saturator

```
Start at: Mon, 31 Jul 2017 23:22:06 +0000
End at: Mon, 31 Jul 2017 23:22:36 +0000
Local clock offset: -1.351 ms
Remote clock offset: 1.217 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:38 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 496.896 ms
Loss rate: 50.31%
-- Flow 1:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 496.896 ms
Loss rate: 50.31%
```

## Run 2: Report of Saturator — Data Link



Run 3: Statistics of Saturator

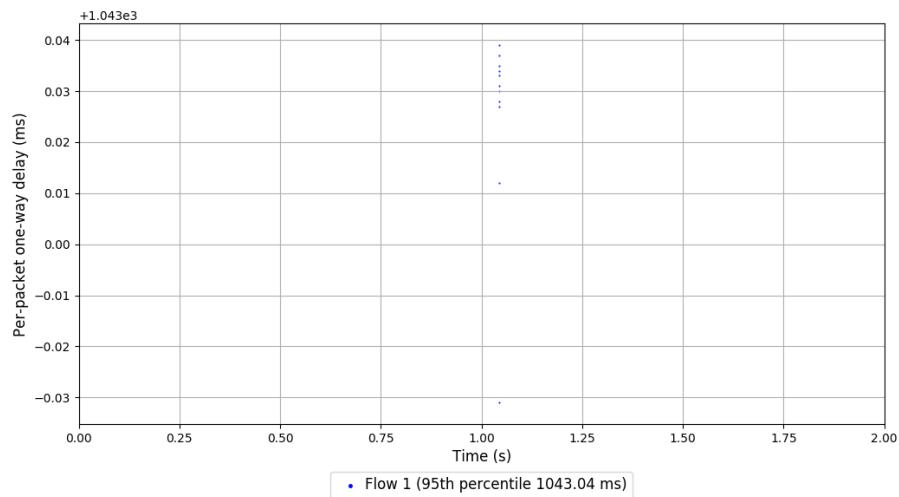
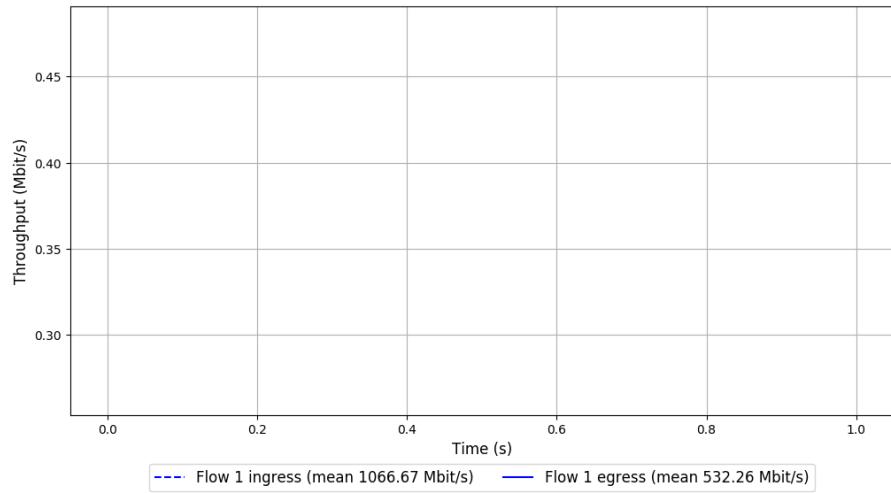
Start at: Mon, 31 Jul 2017 23:40:24 +0000

End at: Mon, 31 Jul 2017 23:40:54 +0000

Local clock offset: -1.39 ms

Remote clock offset: 1.383 ms

Run 3: Report of Saturator — Data Link

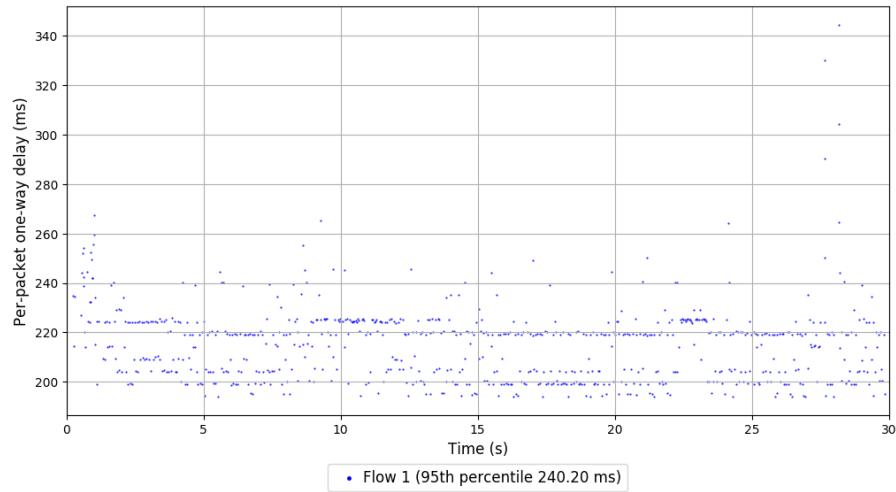
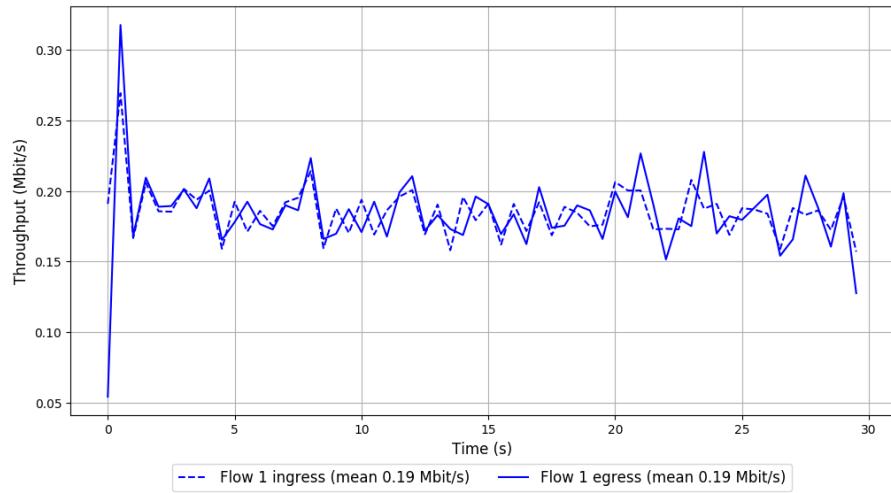


Run 1: Statistics of SCReAM

```
Start at: Mon, 31 Jul 2017 23:06:15 +0000
End at: Mon, 31 Jul 2017 23:06:45 +0000
Local clock offset: -1.348 ms
Remote clock offset: 0.833 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:39 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 240.204 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 0.19 Mbit/s
95th percentile per-packet one-way delay: 240.204 ms
Loss rate: 0.90%
```

Run 1: Report of SCReAM — Data Link

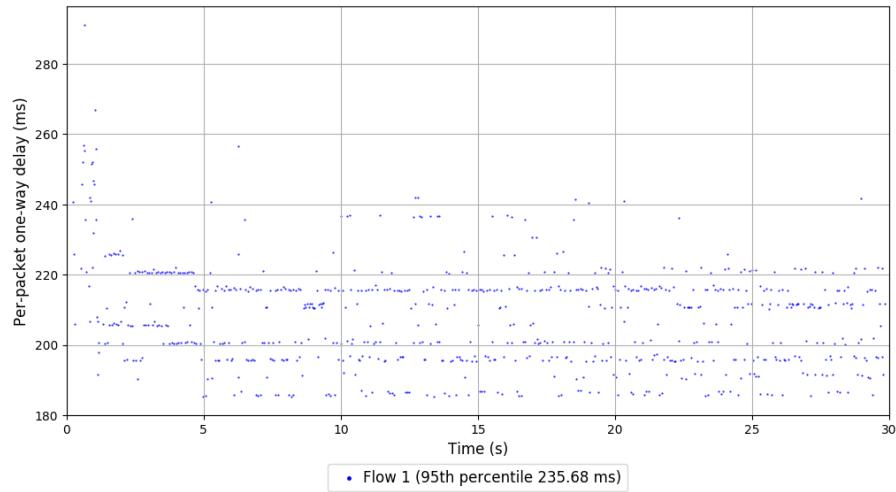
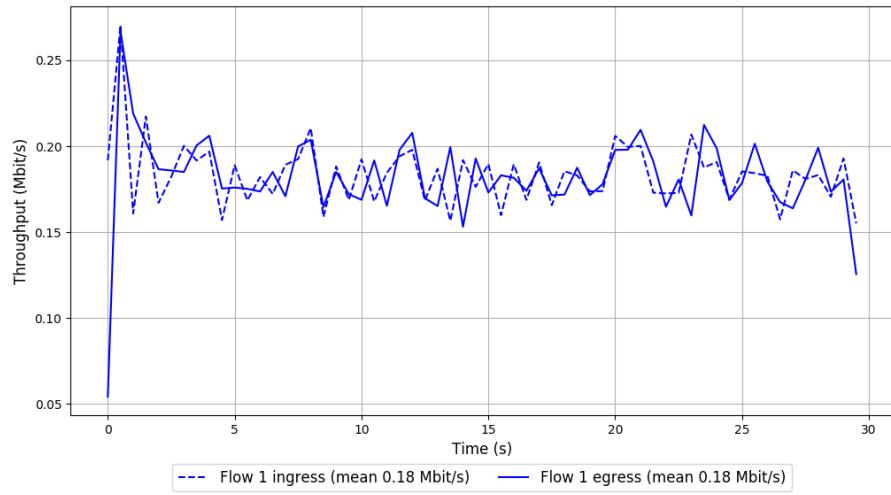


Run 2: Statistics of SCReAM

```
Start at: Mon, 31 Jul 2017 23:24:33 +0000
End at: Mon, 31 Jul 2017 23:25:03 +0000
Local clock offset: -1.369 ms
Remote clock offset: 1.387 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:39 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 235.676 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 235.676 ms
Loss rate: 0.90%
```

## Run 2: Report of SCReAM — Data Link

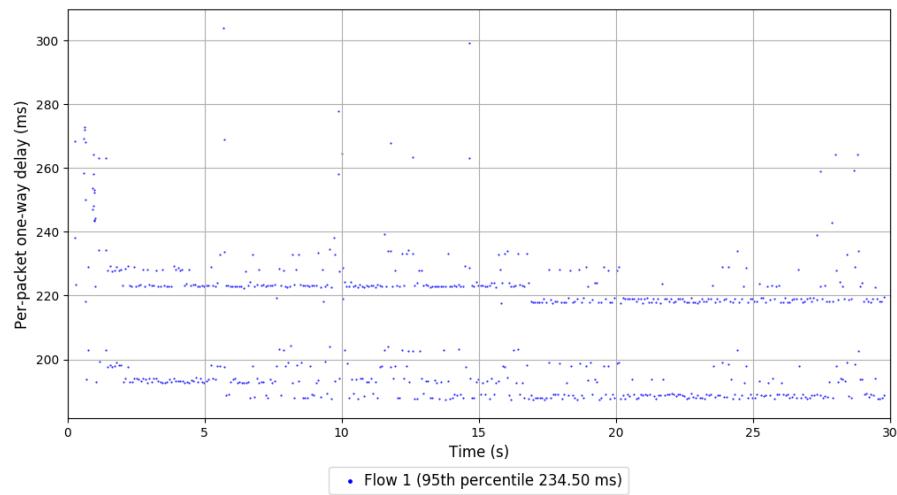
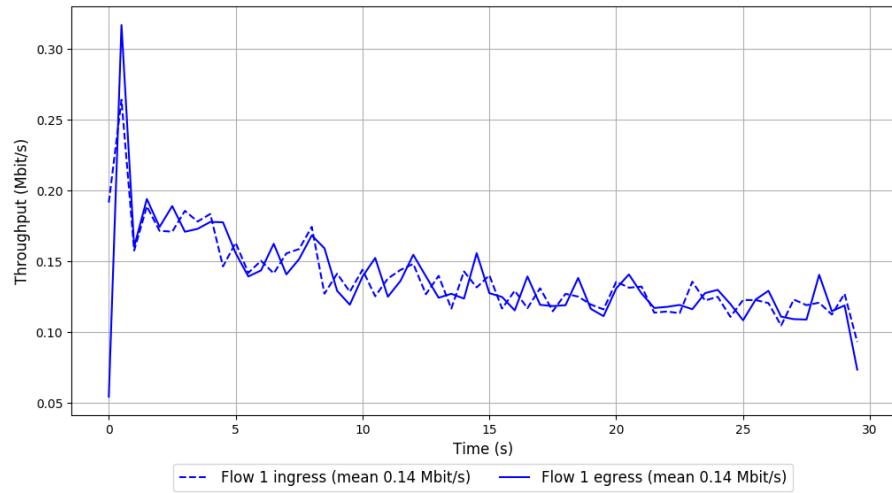


Run 3: Statistics of SCReAM

```
Start at: Mon, 31 Jul 2017 23:42:50 +0000
End at: Mon, 31 Jul 2017 23:43:20 +0000
Local clock offset: -1.371 ms
Remote clock offset: 1.489 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:40 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 234.501 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 234.501 ms
Loss rate: 0.79%
```

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

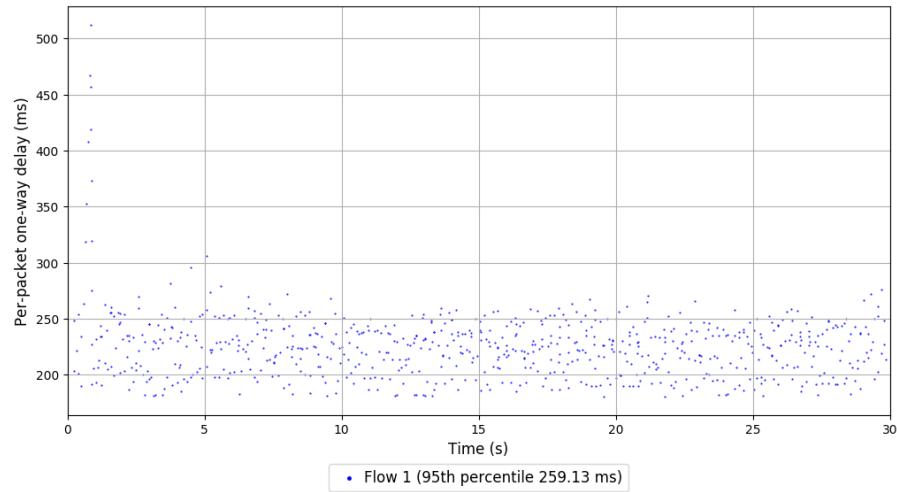
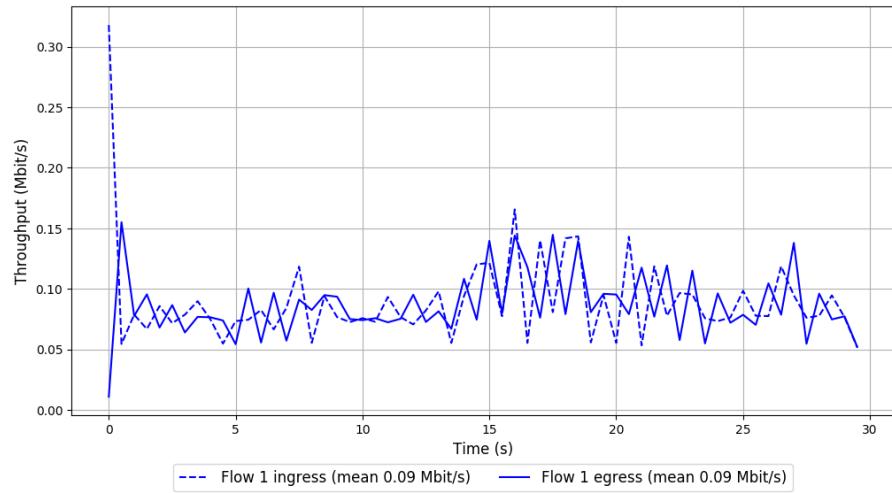


Run 1: Statistics of Sprout

```
Start at: Mon, 31 Jul 2017 23:17:13 +0000
End at: Mon, 31 Jul 2017 23:17:43 +0000
Local clock offset: -1.333 ms
Remote clock offset: 1.016 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:40 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 259.135 ms
Loss rate: 3.83%
-- Flow 1:
Average throughput: 0.09 Mbit/s
95th percentile per-packet one-way delay: 259.135 ms
Loss rate: 3.83%
```

## Run 1: Report of Sprout — Data Link

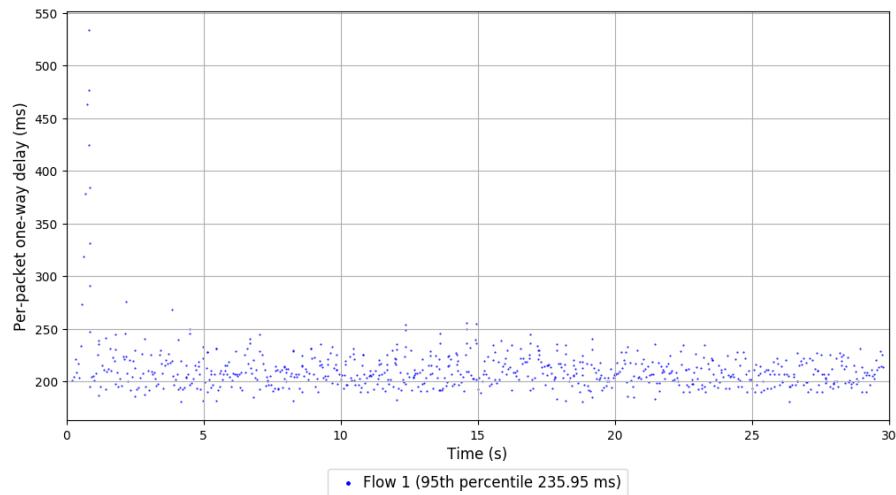
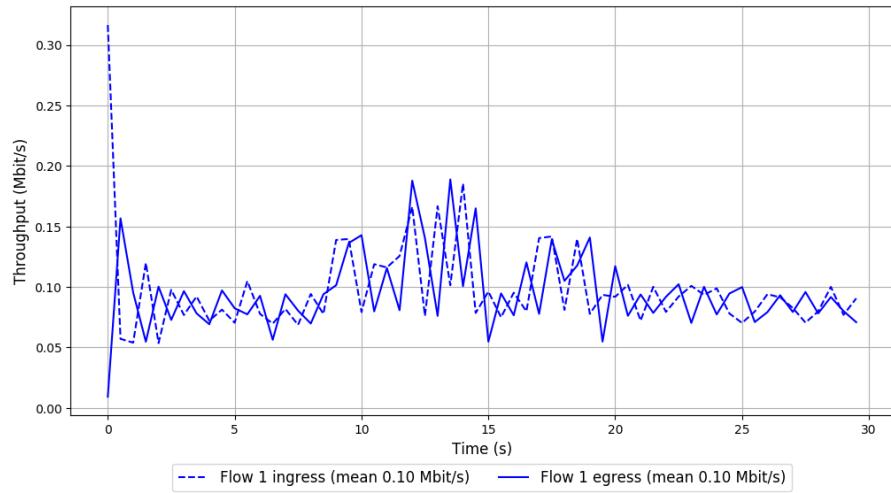


Run 2: Statistics of Sprout

```
Start at: Mon, 31 Jul 2017 23:35:31 +0000
End at: Mon, 31 Jul 2017 23:36:01 +0000
Local clock offset: -1.394 ms
Remote clock offset: 1.23 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:41 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 235.954 ms
Loss rate: 3.52%
-- Flow 1:
Average throughput: 0.10 Mbit/s
95th percentile per-packet one-way delay: 235.954 ms
Loss rate: 3.52%
```

## Run 2: Report of Sprout — Data Link

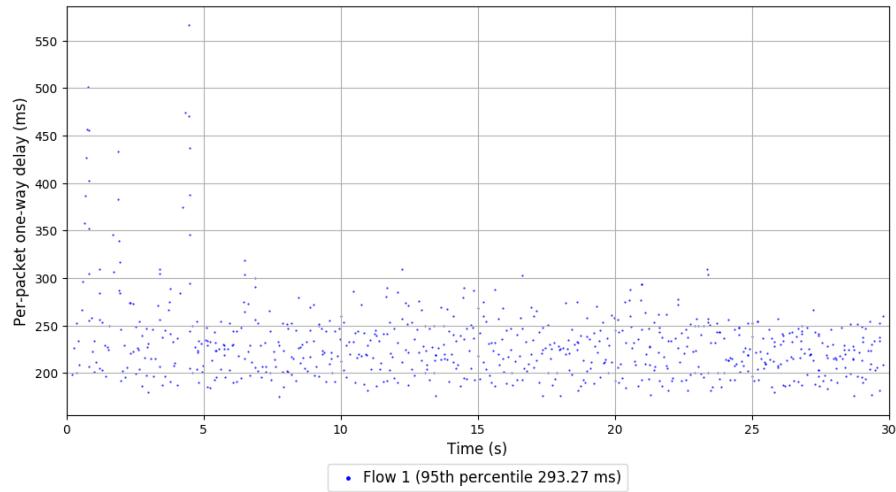
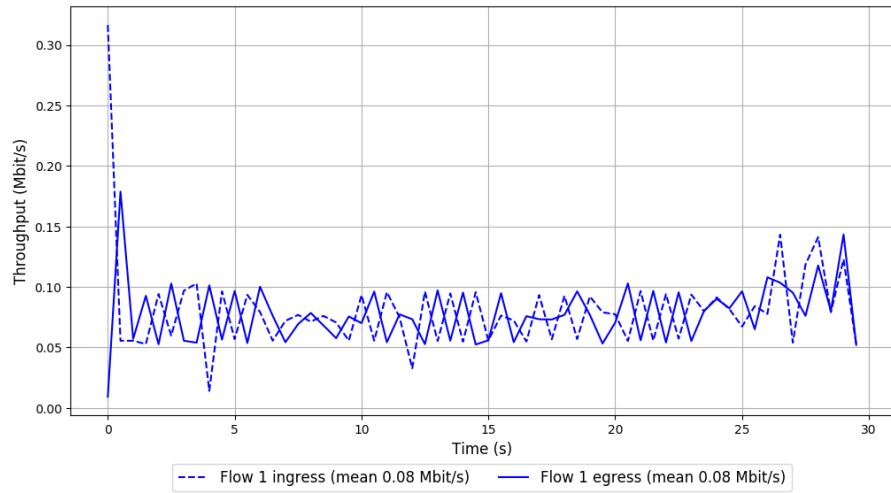


Run 3: Statistics of Sprout

```
Start at: Mon, 31 Jul 2017 23:53:51 +0000
End at: Mon, 31 Jul 2017 23:54:21 +0000
Local clock offset: -1.374 ms
Remote clock offset: 1.472 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:41 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 293.268 ms
Loss rate: 3.85%
-- Flow 1:
Average throughput: 0.08 Mbit/s
95th percentile per-packet one-way delay: 293.268 ms
Loss rate: 3.85%
```

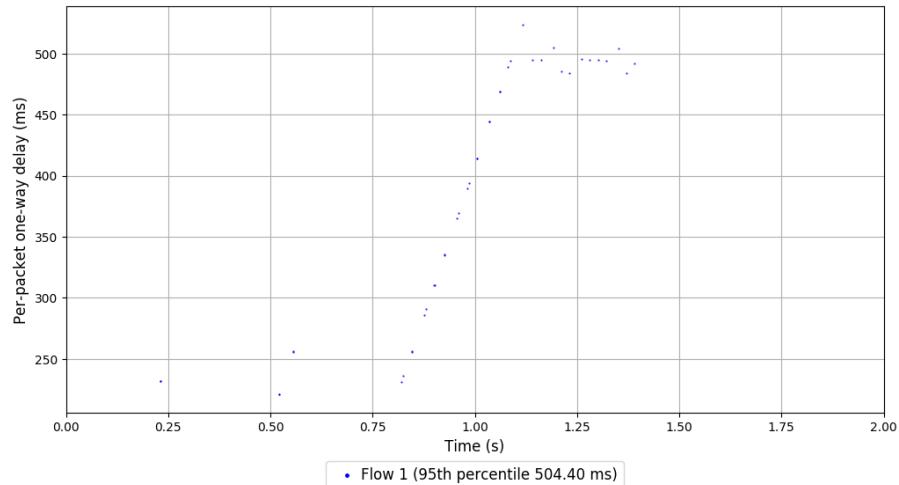
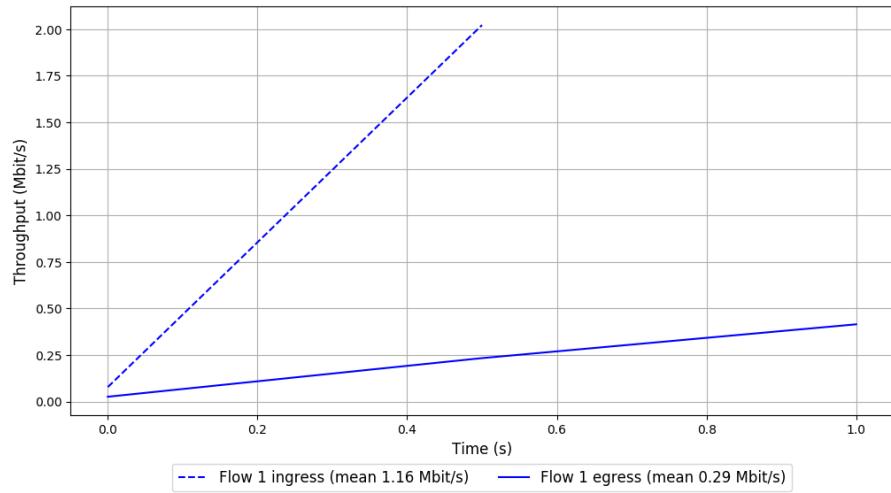
### Run 3: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: Mon, 31 Jul 2017 23:11:08 +0000  
End at: Mon, 31 Jul 2017 23:11:38 +0000  
Local clock offset: -0.471 ms  
Remote clock offset: 0.864 ms

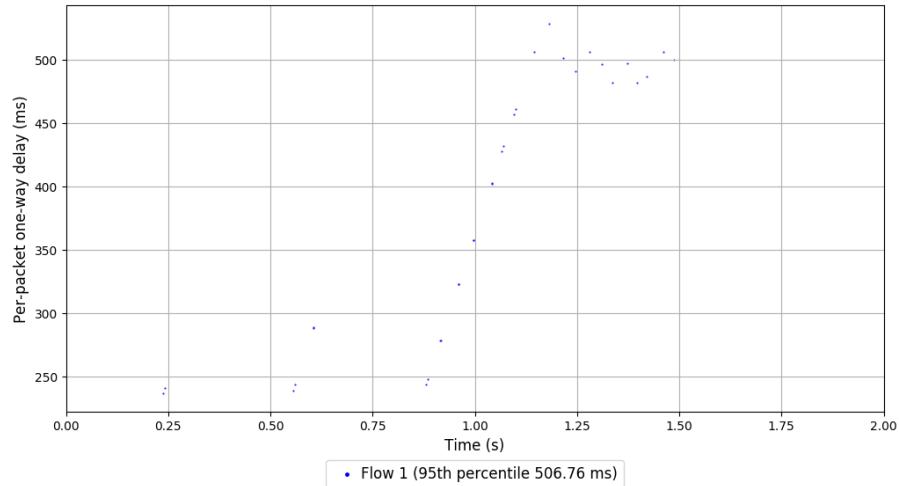
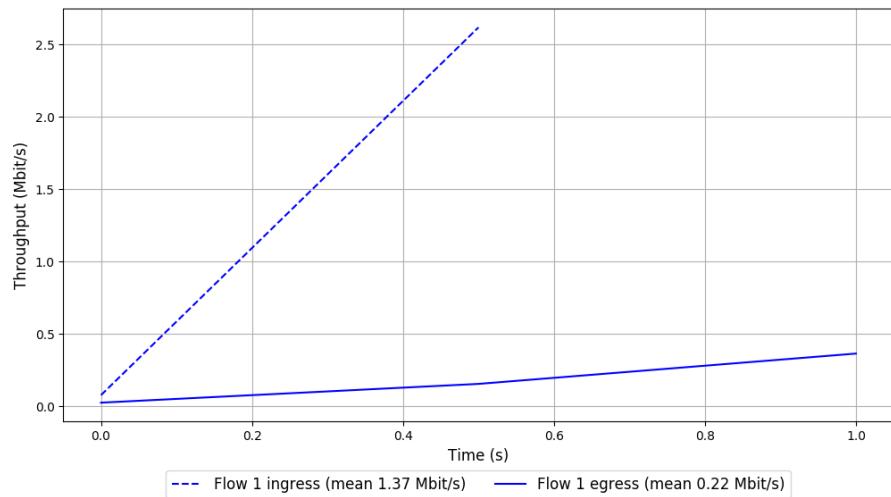
## Run 1: Report of TaoVA-100x — Data Link



Run 2: Statistics of TaoVA-100x

Start at: Mon, 31 Jul 2017 23:29:26 +0000  
End at: Mon, 31 Jul 2017 23:29:56 +0000  
Local clock offset: -1.38 ms  
Remote clock offset: 1.198 ms

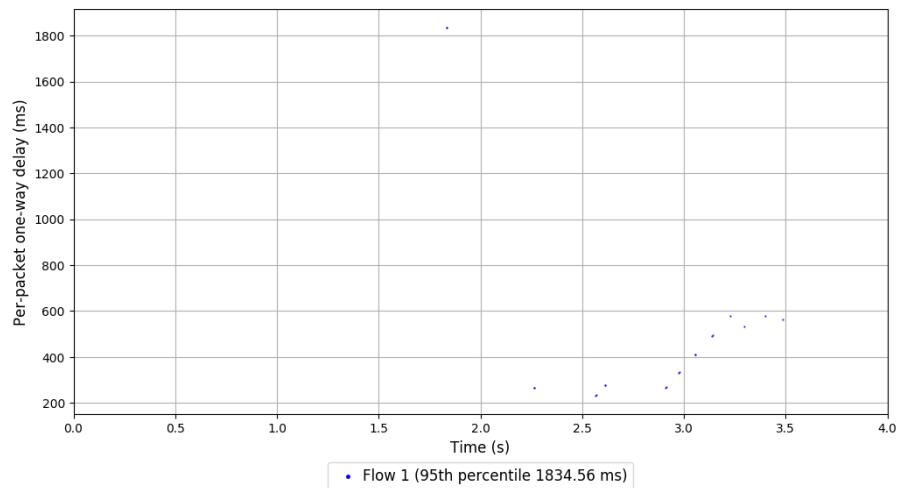
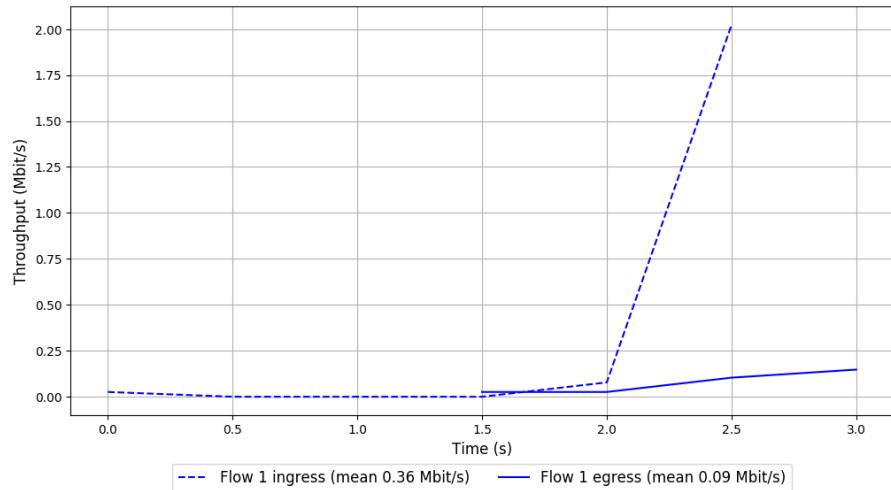
## Run 2: Report of TaoVA-100x — Data Link



Run 3: Statistics of TaoVA-100x

Start at: Mon, 31 Jul 2017 23:47:43 +0000  
End at: Mon, 31 Jul 2017 23:48:13 +0000  
Local clock offset: -1.365 ms  
Remote clock offset: 1.536 ms

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

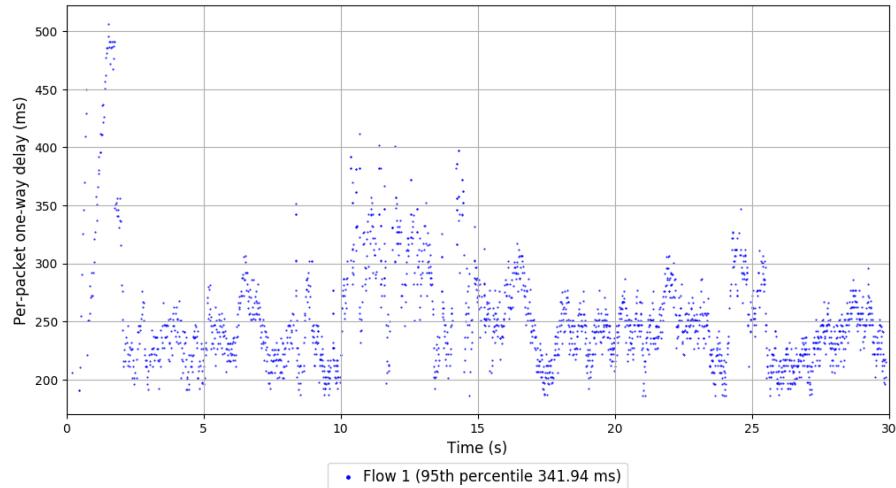
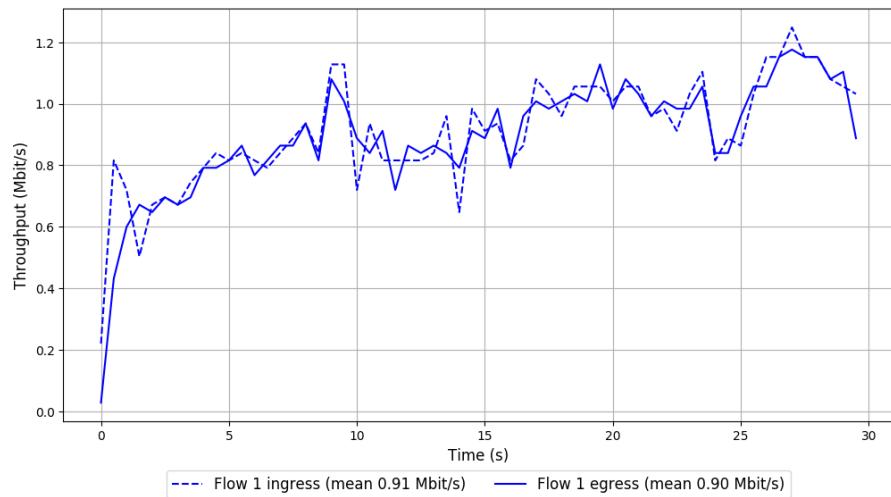


Run 1: Statistics of TCP Vegas

```
Start at: Mon, 31 Jul 2017 23:09:55 +0000
End at: Mon, 31 Jul 2017 23:10:25 +0000
Local clock offset: -1.356 ms
Remote clock offset: 0.822 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:44 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 341.945 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 341.945 ms
Loss rate: 1.63%
```

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

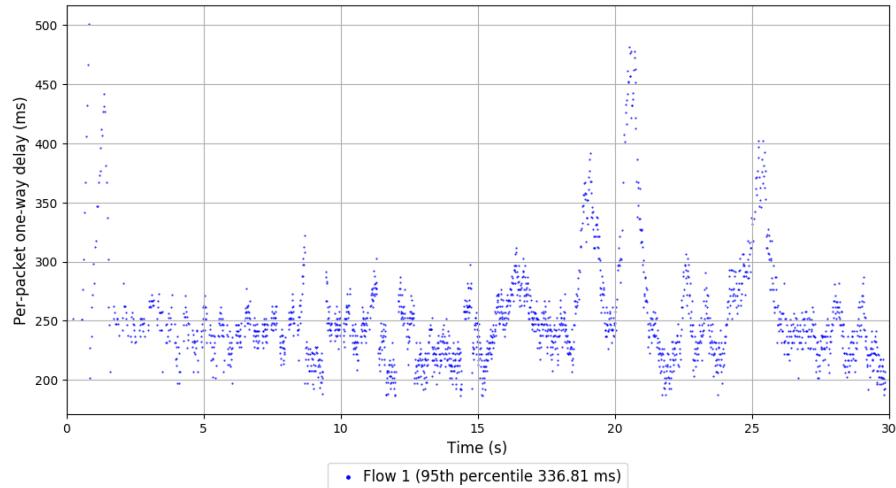
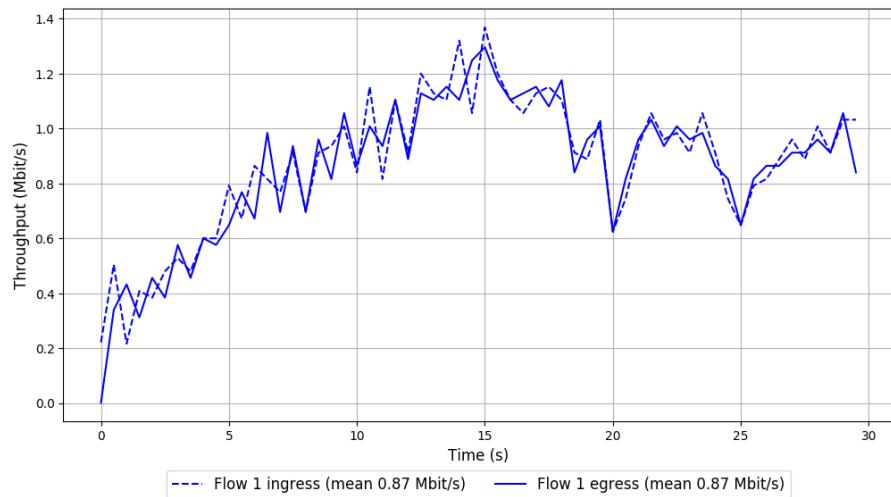


Run 2: Statistics of TCP Vegas

```
Start at: Mon, 31 Jul 2017 23:28:13 +0000
End at: Mon, 31 Jul 2017 23:28:43 +0000
Local clock offset: -0.451 ms
Remote clock offset: 1.306 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:44 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 336.813 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 0.87 Mbit/s
95th percentile per-packet one-way delay: 336.813 ms
Loss rate: 1.29%
```

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

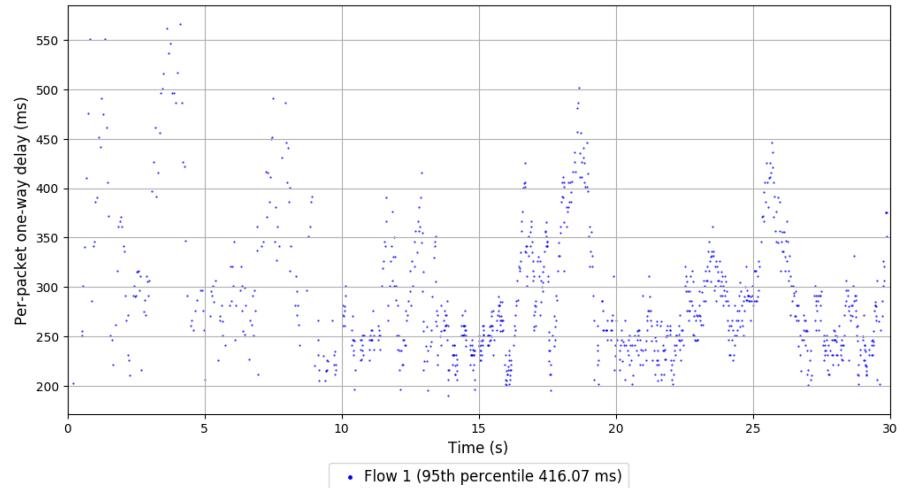
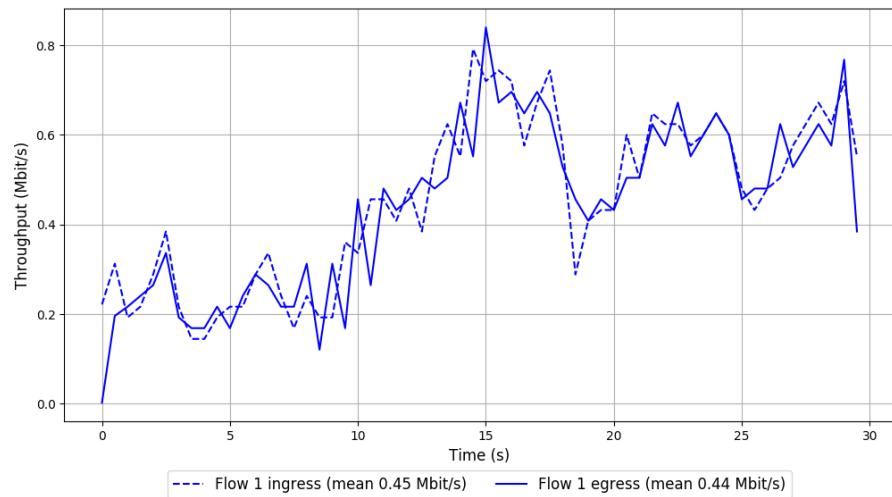


Run 3: Statistics of TCP Vegas

```
Start at: Mon, 31 Jul 2017 23:46:30 +0000
End at: Mon, 31 Jul 2017 23:47:00 +0000
Local clock offset: -1.329 ms
Remote clock offset: 1.508 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:45 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 416.067 ms
Loss rate: 3.09%
-- Flow 1:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 416.067 ms
Loss rate: 3.09%
```

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

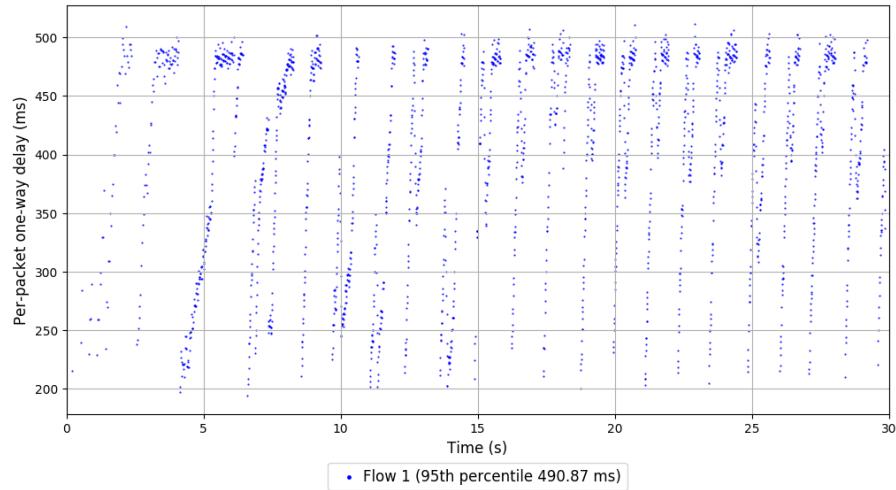
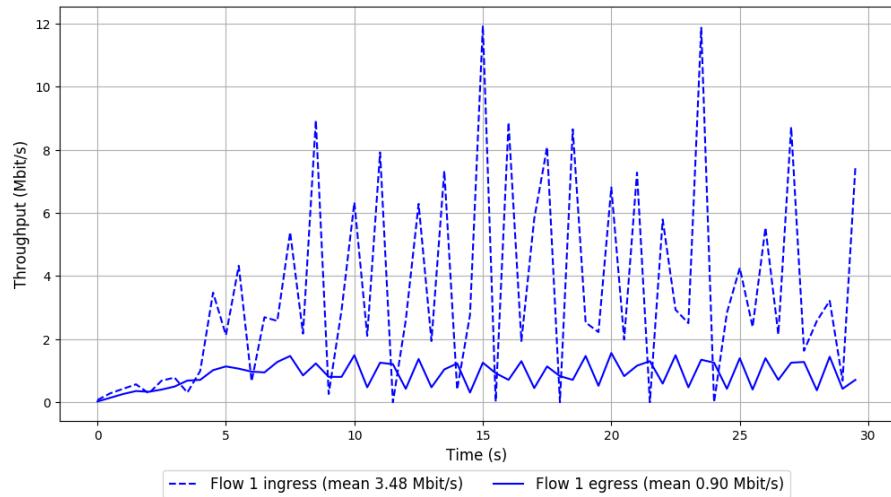


Run 1: Statistics of Verus

```
Start at: Mon, 31 Jul 2017 23:14:46 +0000
End at: Mon, 31 Jul 2017 23:15:16 +0000
Local clock offset: -1.327 ms
Remote clock offset: 0.897 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:46 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 490.869 ms
Loss rate: 74.40%
-- Flow 1:
Average throughput: 0.90 Mbit/s
95th percentile per-packet one-way delay: 490.869 ms
Loss rate: 74.40%
```

## Run 1: Report of Verus — Data Link

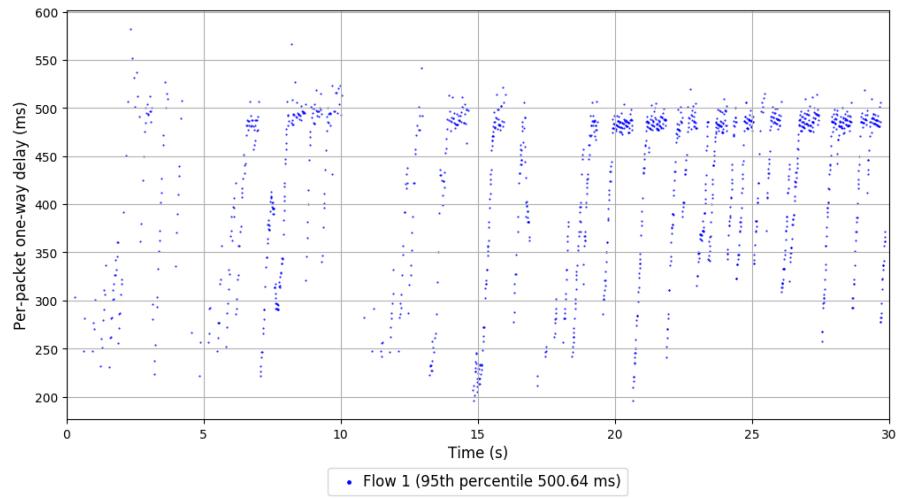
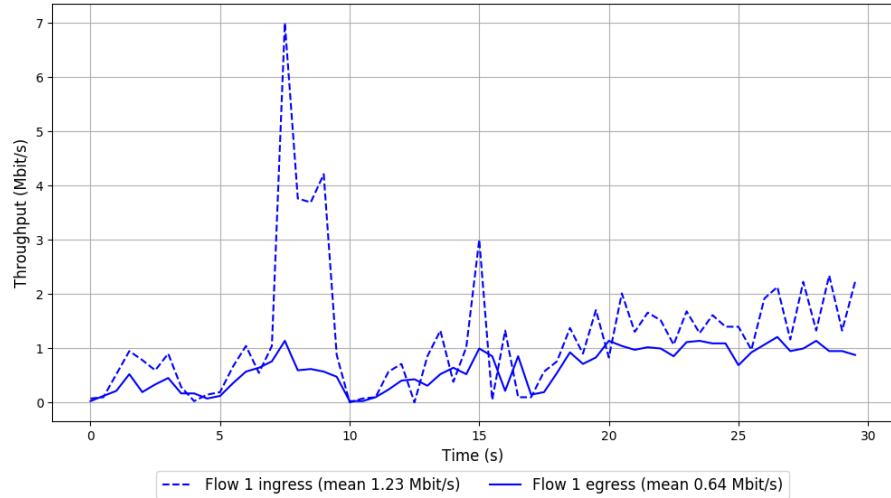


Run 2: Statistics of Verus

```
Start at: Mon, 31 Jul 2017 23:33:05 +0000
End at: Mon, 31 Jul 2017 23:33:35 +0000
Local clock offset: -0.501 ms
Remote clock offset: 1.197 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:46 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 500.643 ms
Loss rate: 48.83%
-- Flow 1:
Average throughput: 0.64 Mbit/s
95th percentile per-packet one-way delay: 500.643 ms
Loss rate: 48.83%
```

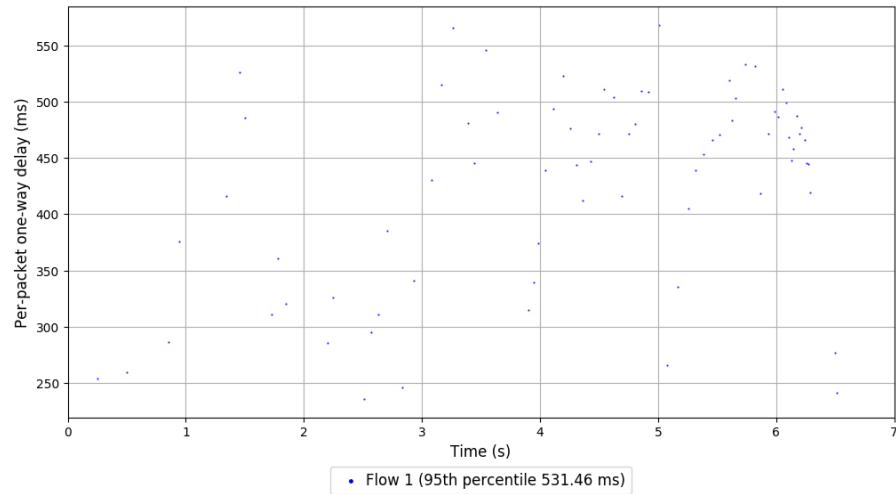
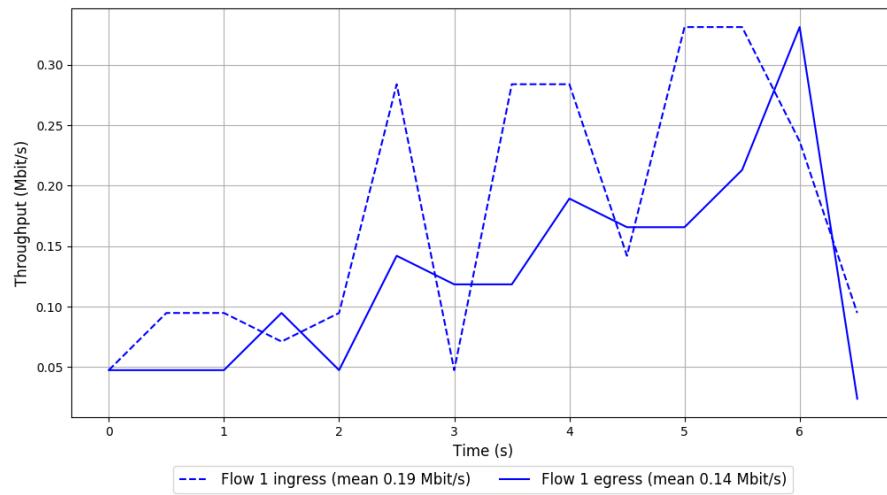
## Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: Mon, 31 Jul 2017 23:51:21 +0000  
End at: Mon, 31 Jul 2017 23:51:51 +0000  
Local clock offset: -0.462 ms  
Remote clock offset: 1.437 ms

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

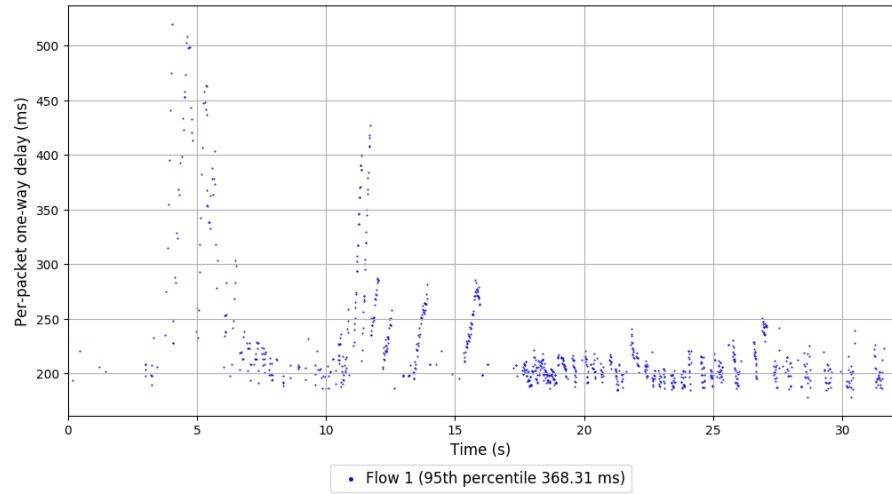
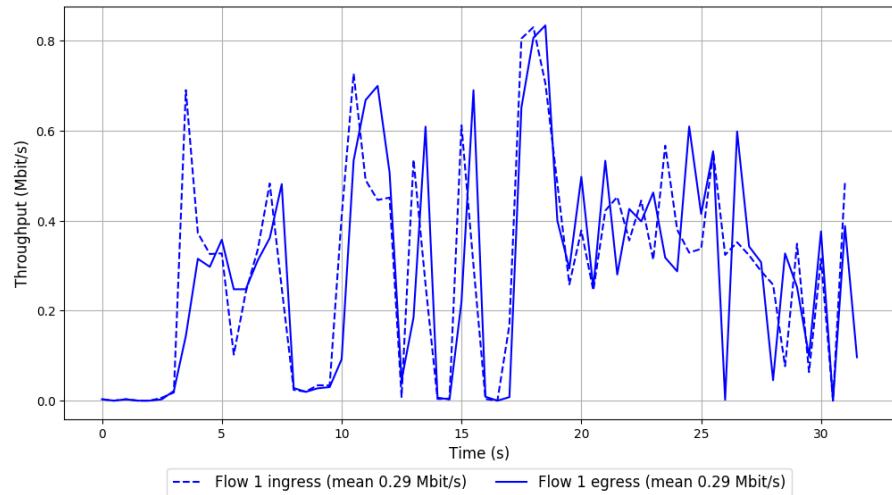


```
Run 1: Statistics of WebRTC media

Start at: Mon, 31 Jul 2017 23:18:26 +0000
End at: Mon, 31 Jul 2017 23:18:56 +0000
Local clock offset: -1.411 ms
Remote clock offset: 1.105 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:47 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 368.315 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 0.29 Mbit/s
95th percentile per-packet one-way delay: 368.315 ms
Loss rate: 1.93%
```

### Run 1: Report of WebRTC media — Data Link

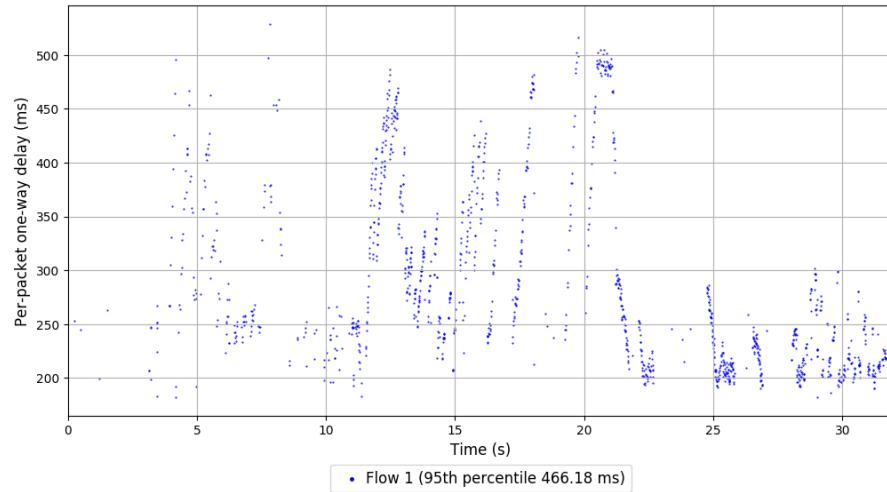
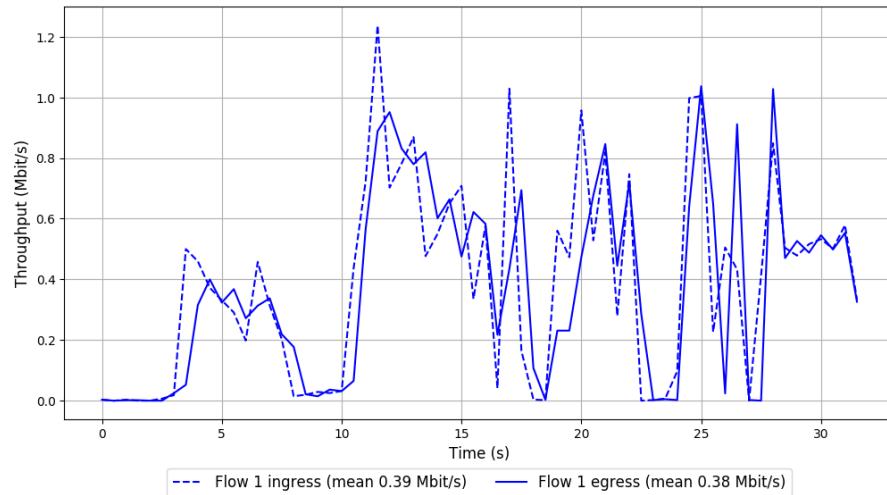


```
Run 2: Statistics of WebRTC media

Start at: Mon, 31 Jul 2017 23:36:44 +0000
End at: Mon, 31 Jul 2017 23:37:14 +0000
Local clock offset: -1.337 ms
Remote clock offset: 1.257 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 466.175 ms
Loss rate: 4.32%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 466.175 ms
Loss rate: 4.32%
```

## Run 2: Report of WebRTC media — Data Link



```
Run 3: Statistics of WebRTC media

Start at: Mon, 31 Jul 2017 23:55:05 +0000
End at: Mon, 31 Jul 2017 23:55:35 +0000
Local clock offset: -0.466 ms
Remote clock offset: 1.436 ms

# Below is generated by plot.py at Mon, 31 Jul 2017 23:59:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 434.718 ms
Loss rate: 3.90%
-- Flow 1:
Average throughput: 0.37 Mbit/s
95th percentile per-packet one-way delay: 434.718 ms
Loss rate: 3.90%
```

### Run 3: Report of WebRTC media — Data Link

