

Pantheon Summary (Generated at Sun, 11 Jun 2017 01:02:56 +0000 with
pantheon version e44e21ab50520045378f626dc5b5e21d0473d7b8)

Repeated the test of 14 congestion control schemes once.

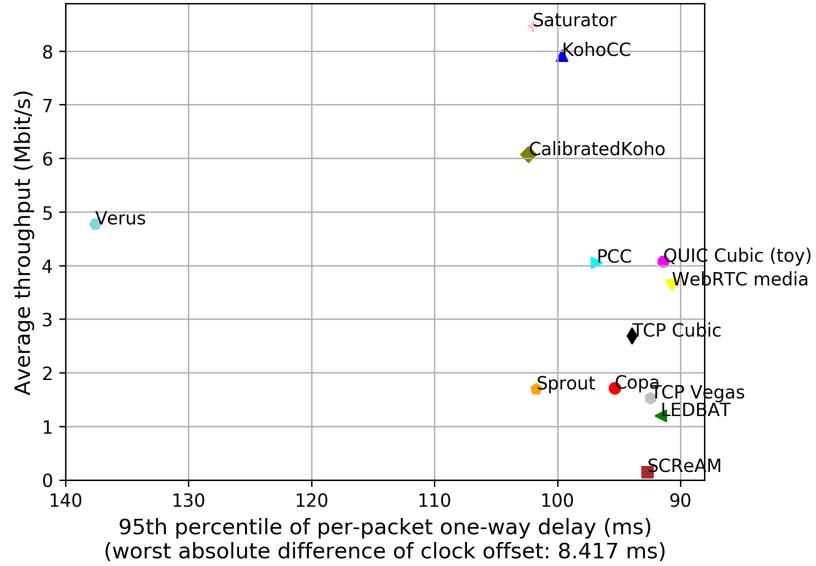
Each test lasted for 30 seconds running 1 flow.

Data path **from** Nepal Ethernet **to** AWS India 2 Ethernet.

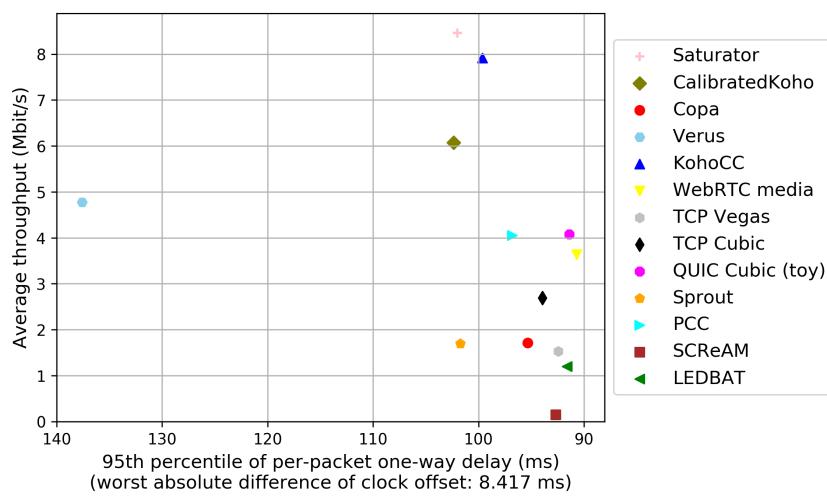
NTP offset measured against nets.org.sg.

```
git branch: master @ e44e21ab50520045378f626dc5b5e21d0473d7b8
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 @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-stimuli @ fc73a85ca16c34366d1888dc8a0d0d88d4ebf2a7
third_party/pantheon-tunnel @ 4893799ab83a43fa2d3236507d168f461e1243ed
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 @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efef6e088d91066a9f023df375eee2665089ce
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
```

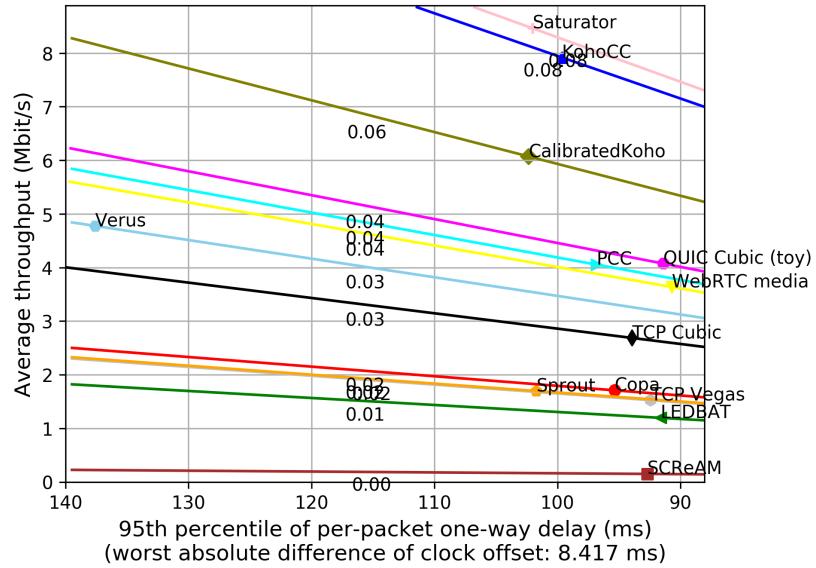
test from Nepal Ethernet to AWS India 2 Ethernet, run 1 of 30s each per scheme
mean of all runs by scheme



test from Nepal Ethernet to AWS India 2 Ethernet, run 1 of 30s each per scheme



test from Nepal Ethernet to AWS India 2 Ethernet, run 1 of 30s each per scheme
 mean power scores of all runs by scheme



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

```
Start at: Sun, 11 Jun 2017 00:58:44 +0000
```

```
End at: Sun, 11 Jun 2017 00:59:14 +0000
```

```
Local clock offset: -2.441 ms
```

```
Remote clock offset: 5.783 ms
```

```
# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:45 +0000
```

```
# Datalink statistics
```

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

```
Average throughput: 6.07 Mbit/s
```

```
95th percentile per-packet one-way delay: 102.343 ms
```

```
Loss rate: 11.26%
```

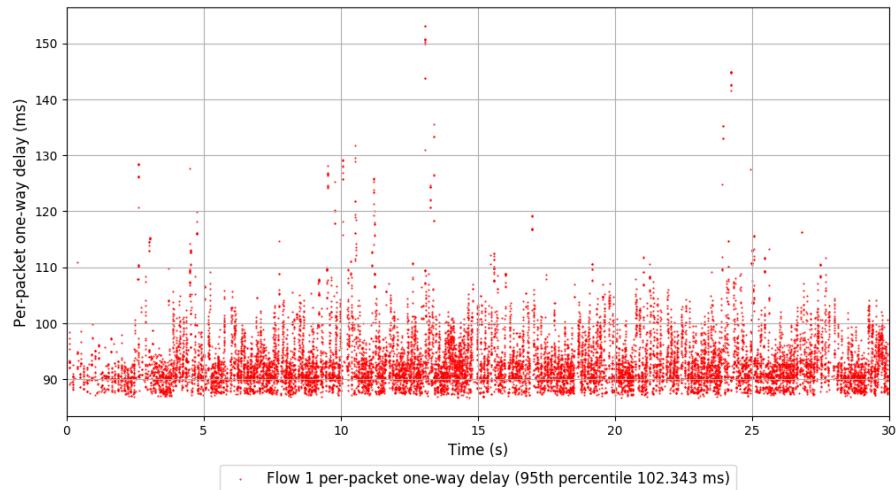
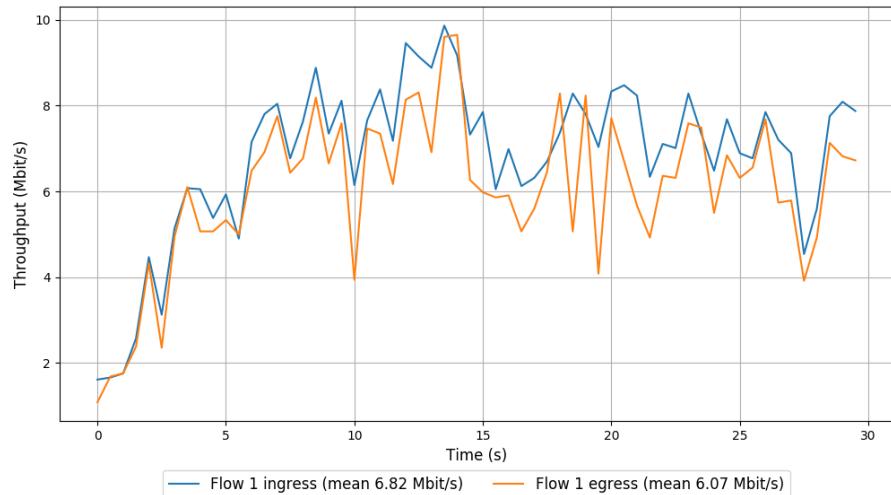
```
-- Flow 1:
```

```
Average throughput: 6.07 Mbit/s
```

```
95th percentile per-packet one-way delay: 102.343 ms
```

```
Loss rate: 11.26%
```

Run 1: Report of CalibratedKoho — Data Link

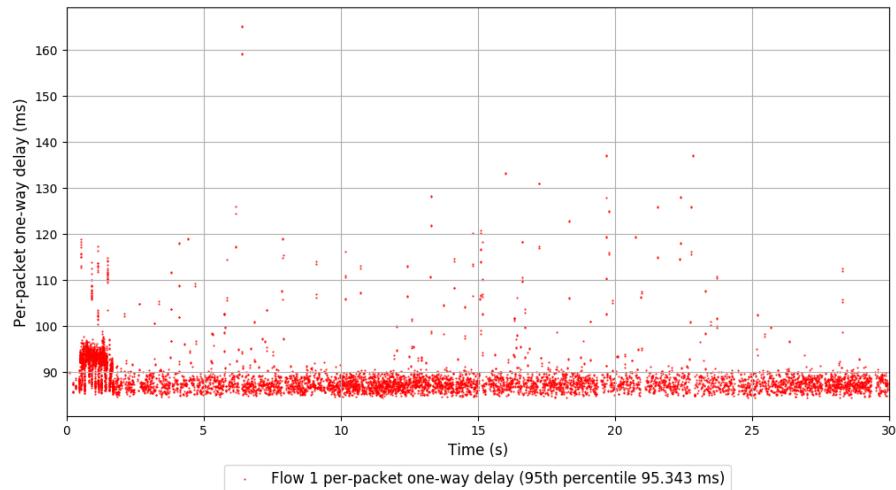
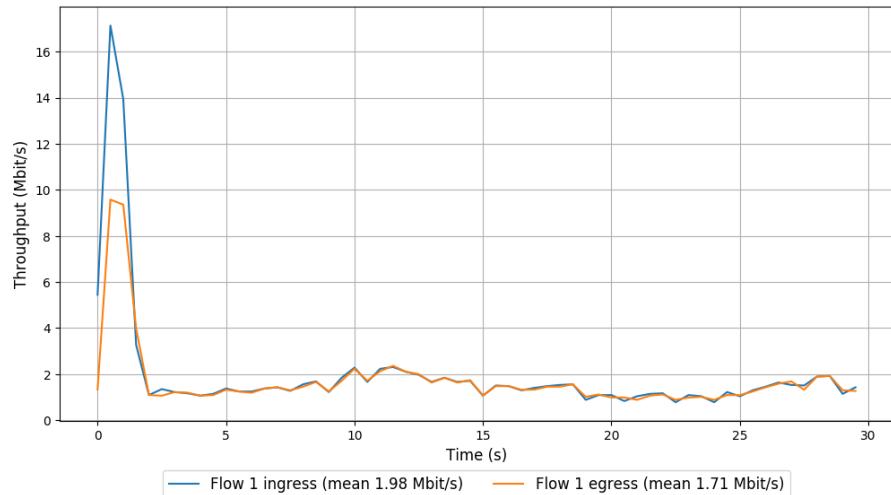


Run 1: Statistics of Copa

```
Start at: Sun, 11 Jun 2017 00:56:01 +0000
End at: Sun, 11 Jun 2017 00:56:31 +0000
Local clock offset: 1.528 ms
Remote clock offset: 5.716 ms

# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:45 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 95.343 ms
Loss rate: 14.02%
-- Flow 1:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 95.343 ms
Loss rate: 14.02%
```

Run 1: Report of Copa — Data Link

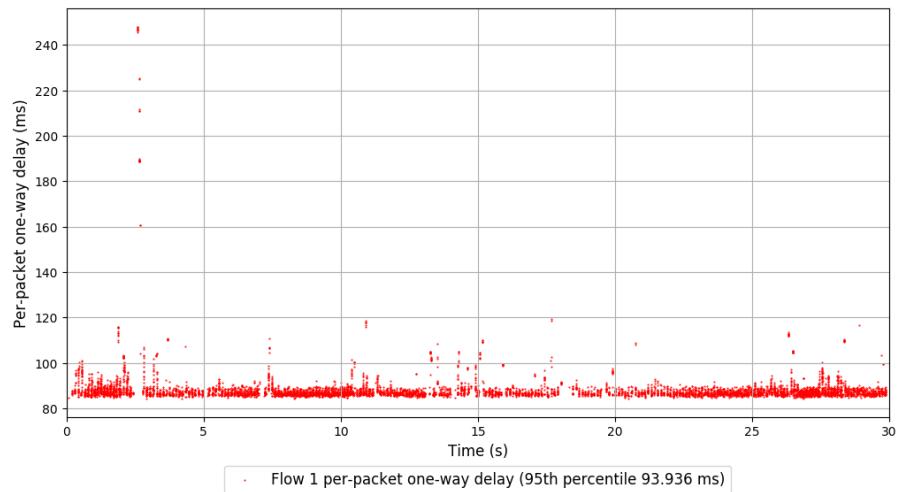
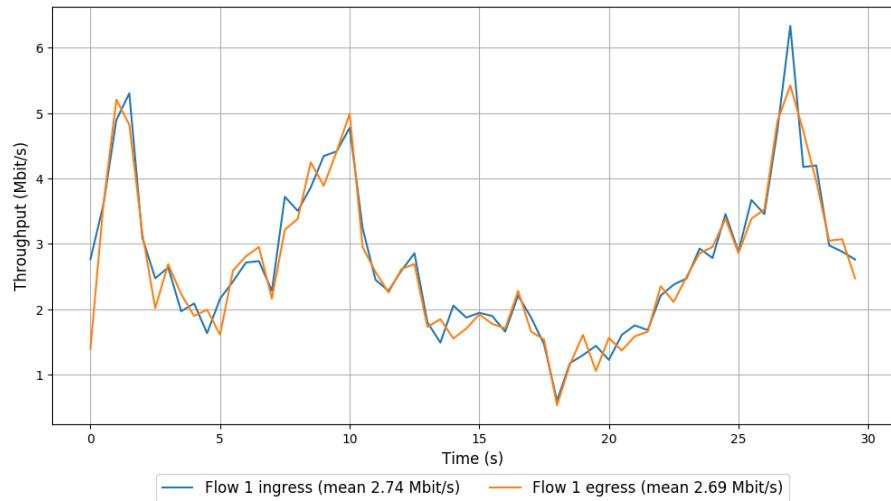


Run 1: Statistics of TCP Cubic

```
Start at: Sun, 11 Jun 2017 00:49:25 +0000
End at: Sun, 11 Jun 2017 00:49:55 +0000
Local clock offset: 0.308 ms
Remote clock offset: 0.751 ms

# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:45 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.69 Mbit/s
95th percentile per-packet one-way delay: 93.936 ms
Loss rate: 2.47%
-- Flow 1:
Average throughput: 2.69 Mbit/s
95th percentile per-packet one-way delay: 93.936 ms
Loss rate: 2.47%
```

Run 1: Report of TCP Cubic — Data Link



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

```
Start at: Sun, 11 Jun 2017 00:45:27 +0000
```

```
End at: Sun, 11 Jun 2017 00:45:57 +0000
```

```
Local clock offset: -1.775 ms
```

```
Remote clock offset: 6.642 ms
```

```
# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:47 +0000
```

```
# Datalink statistics
```

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

```
Average throughput: 7.92 Mbit/s
```

```
95th percentile per-packet one-way delay: 99.643 ms
```

```
Loss rate: 15.61%
```

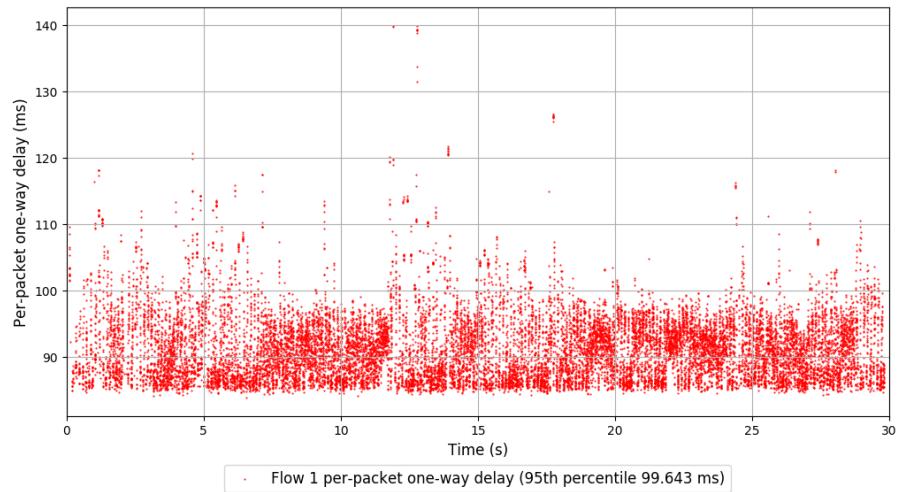
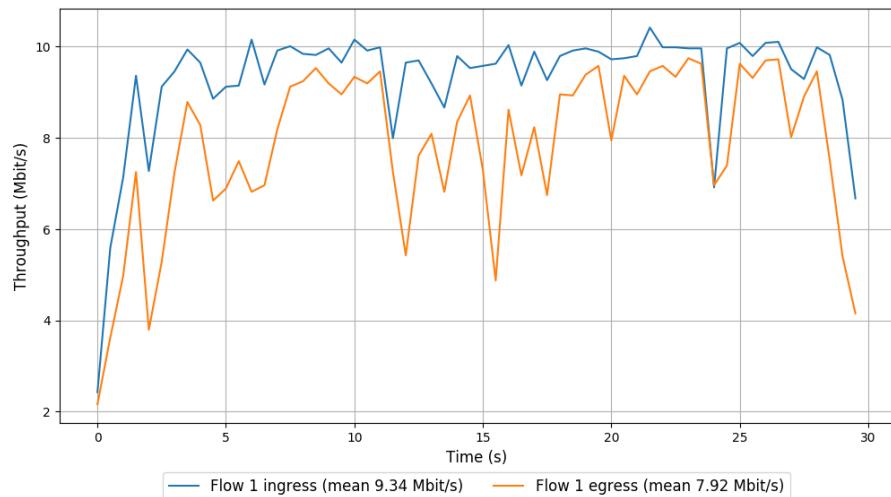
```
-- Flow 1:
```

```
Average throughput: 7.92 Mbit/s
```

```
95th percentile per-packet one-way delay: 99.643 ms
```

```
Loss rate: 15.61%
```

Run 1: Report of KohoCC — Data Link

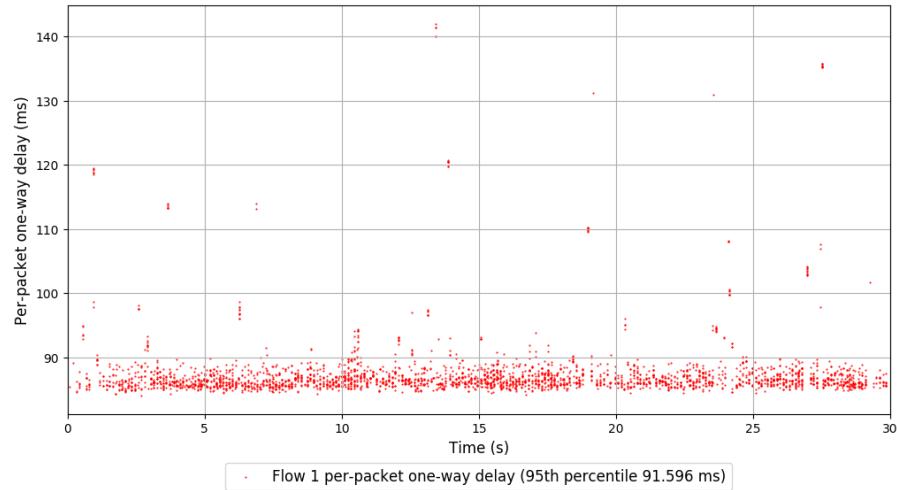
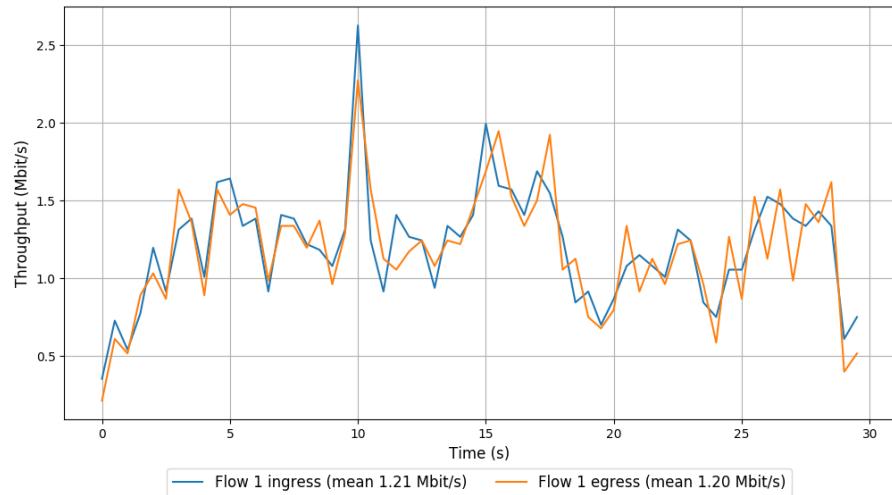


```
Run 1: Statistics of LEDBAT
```

```
Start at: Sun, 11 Jun 2017 00:46:46 +0000
End at: Sun, 11 Jun 2017 00:47:16 +0000
Local clock offset: 0.986 ms
Remote clock offset: 6.74 ms

# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:47 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 91.596 ms
Loss rate: 1.81%
-- Flow 1:
Average throughput: 1.20 Mbit/s
95th percentile per-packet one-way delay: 91.596 ms
Loss rate: 1.81%
```

Run 1: Report of LEDBAT — Data Link

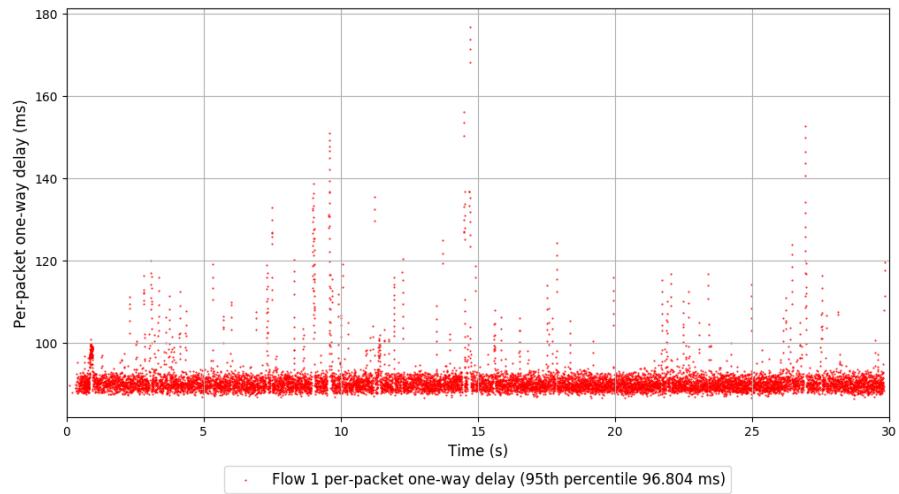
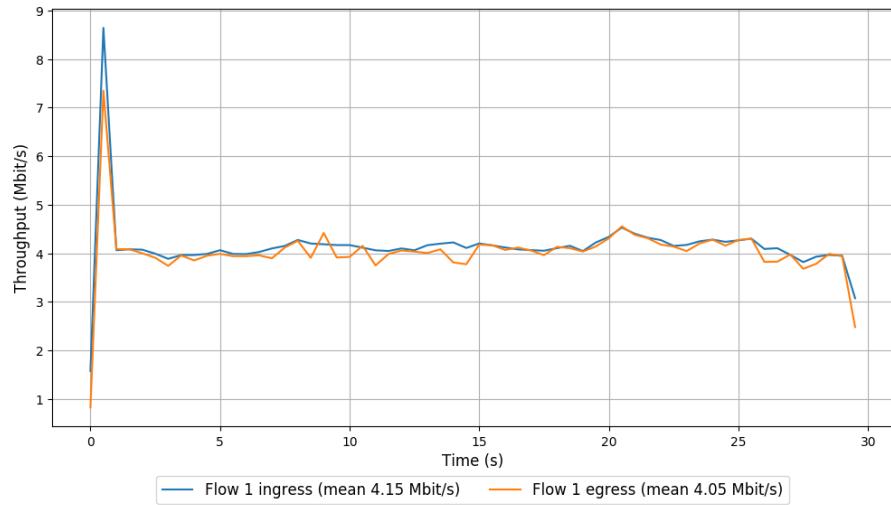


```
Run 1: Statistics of PCC
```

```
Start at: Sun, 11 Jun 2017 00:57:17 +0000
End at: Sun, 11 Jun 2017 00:57:47 +0000
Local clock offset: -0.242 ms
Remote clock offset: -0.17 ms

# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:47 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 96.804 ms
Loss rate: 2.82%
-- Flow 1:
Average throughput: 4.05 Mbit/s
95th percentile per-packet one-way delay: 96.804 ms
Loss rate: 2.82%
```

Run 1: Report of PCC — Data Link



```
Run 1: Statistics of QUIC Cubic (toy)
```

```
Start at: Sun, 11 Jun 2017 00:48:05 +0000
```

```
End at: Sun, 11 Jun 2017 00:48:35 +0000
```

```
Local clock offset: 0.111 ms
```

```
Remote clock offset: 2.751 ms
```

```
# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:48 +0000
```

```
# Datalink statistics
```

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

```
Average throughput: 4.07 Mbit/s
```

```
95th percentile per-packet one-way delay: 91.399 ms
```

```
Loss rate: 1.08%
```

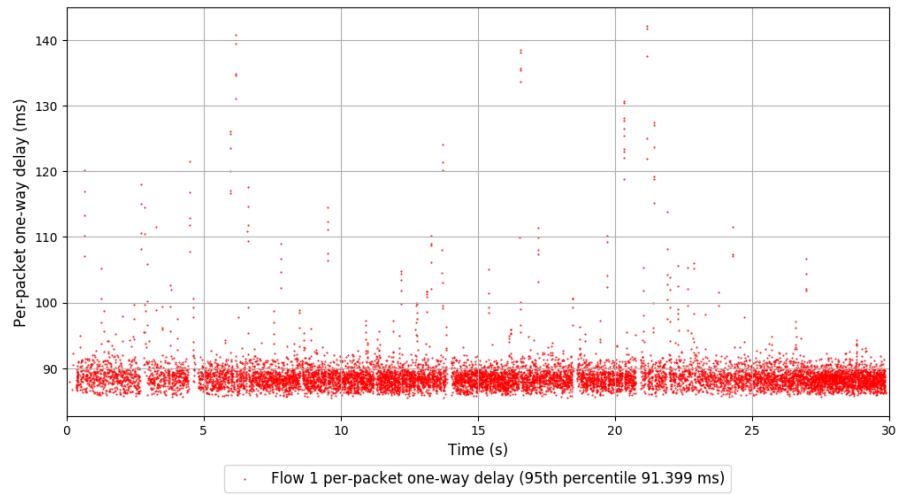
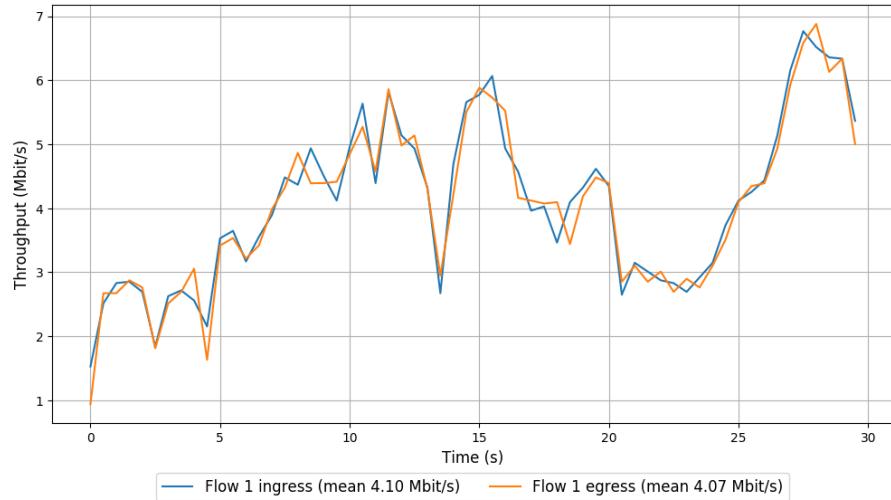
```
-- Flow 1:
```

```
Average throughput: 4.07 Mbit/s
```

```
95th percentile per-packet one-way delay: 91.399 ms
```

```
Loss rate: 1.08%
```

Run 1: Report of QUIC Cubic (toy) — Data Link



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

```
Start at: Sun, 11 Jun 2017 01:00:04 +0000
```

```
End at: Sun, 11 Jun 2017 01:00:34 +0000
```

```
Local clock offset: 2.016 ms
```

```
Remote clock offset: 6.487 ms
```

```
# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:50 +0000
```

```
# Datalink statistics
```

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

```
Average throughput: 8.46 Mbit/s
```

```
95th percentile per-packet one-way delay: 102.018 ms
```

```
Loss rate: 43.86%
```

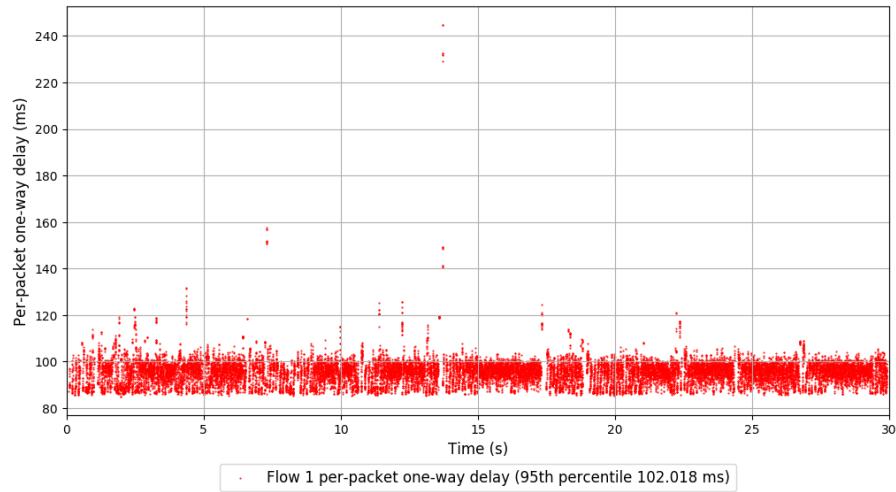
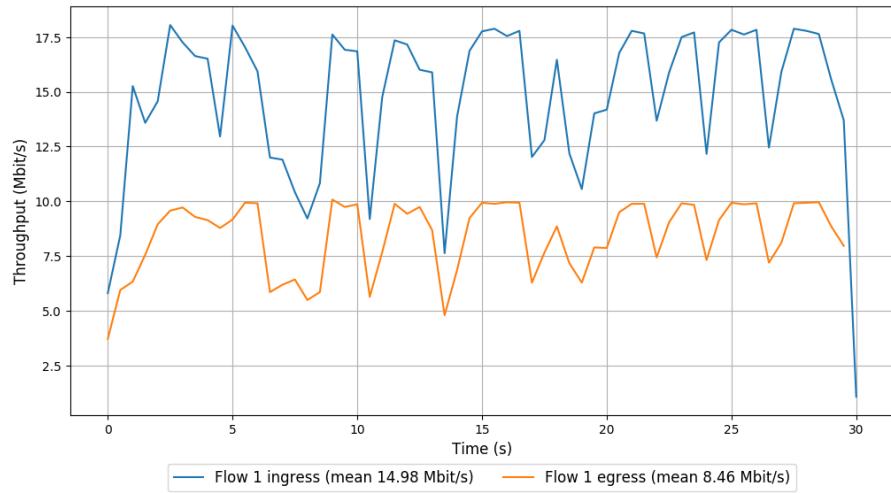
```
-- Flow 1:
```

```
Average throughput: 8.46 Mbit/s
```

```
95th percentile per-packet one-way delay: 102.018 ms
```

```
Loss rate: 43.86%
```

Run 1: Report of Saturator — Data Link

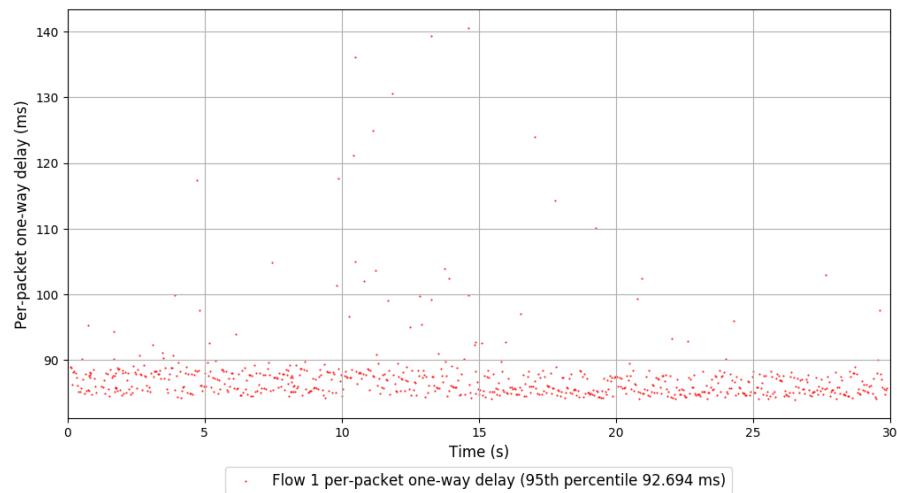
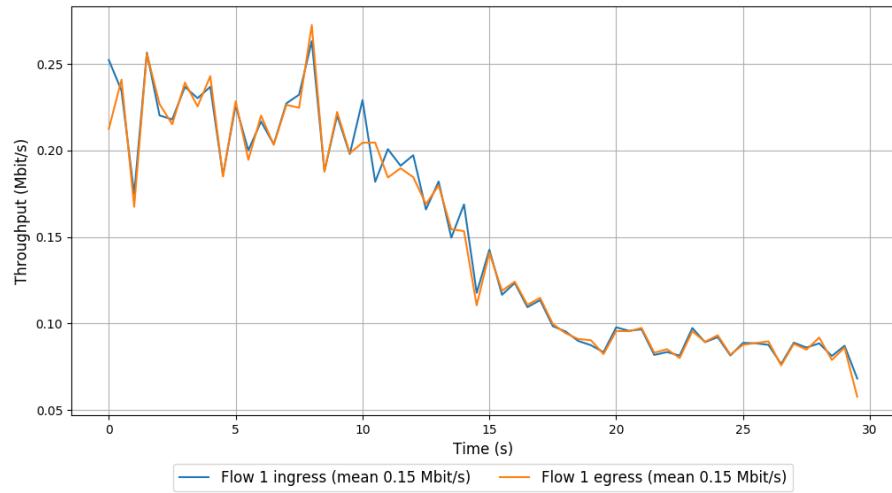


```
Run 1: Statistics of SCReAM
```

```
Start at: Sun, 11 Jun 2017 00:52:02 +0000
End at: Sun, 11 Jun 2017 00:52:32 +0000
Local clock offset: -0.471 ms
Remote clock offset: 5.051 ms

# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:50 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 92.694 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 92.694 ms
Loss rate: 0.95%
```

Run 1: Report of SCReAM — Data Link

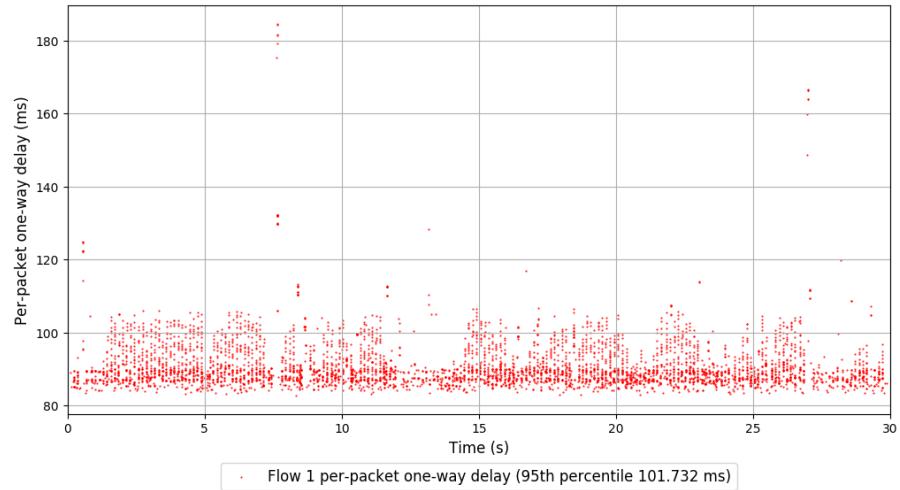
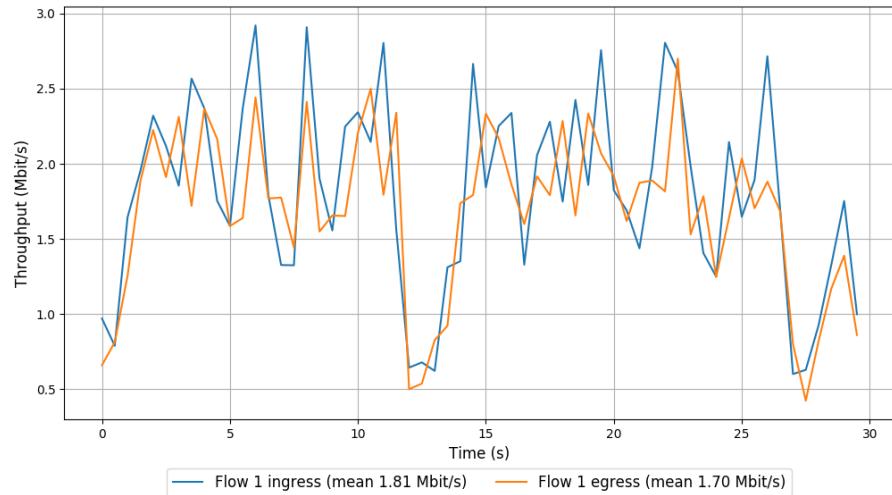


Run 1: Statistics of Sprout

```
Start at: Sun, 11 Jun 2017 00:50:49 +0000
End at: Sun, 11 Jun 2017 00:51:19 +0000
Local clock offset: 2.728 ms
Remote clock offset: 3.717 ms

# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:51 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 101.732 ms
Loss rate: 6.84%
-- Flow 1:
Average throughput: 1.70 Mbit/s
95th percentile per-packet one-way delay: 101.732 ms
Loss rate: 6.84%
```

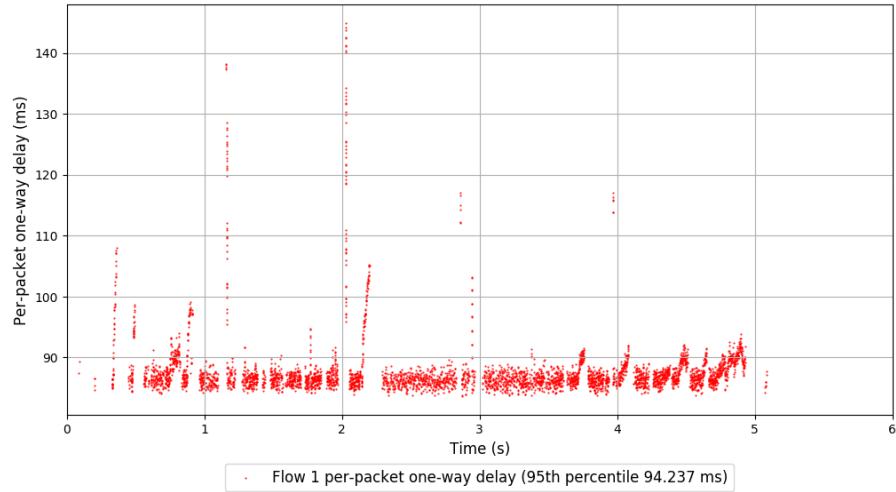
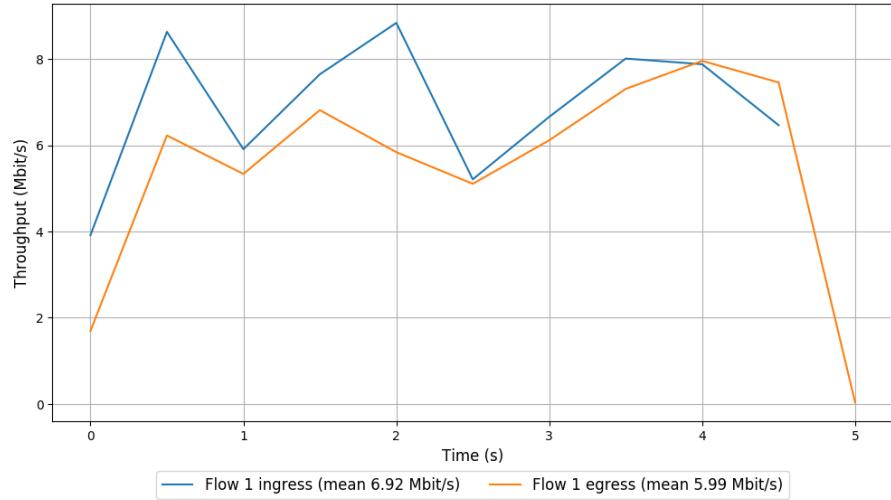
Run 1: Report of Sprout — Data Link



Run 1: Statistics of TaoVA-100x

Start at: Sun, 11 Jun 2017 00:44:07 +0000
End at: Sun, 11 Jun 2017 00:44:37 +0000
Local clock offset: -0.151 ms
Remote clock offset: -4.81 ms

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

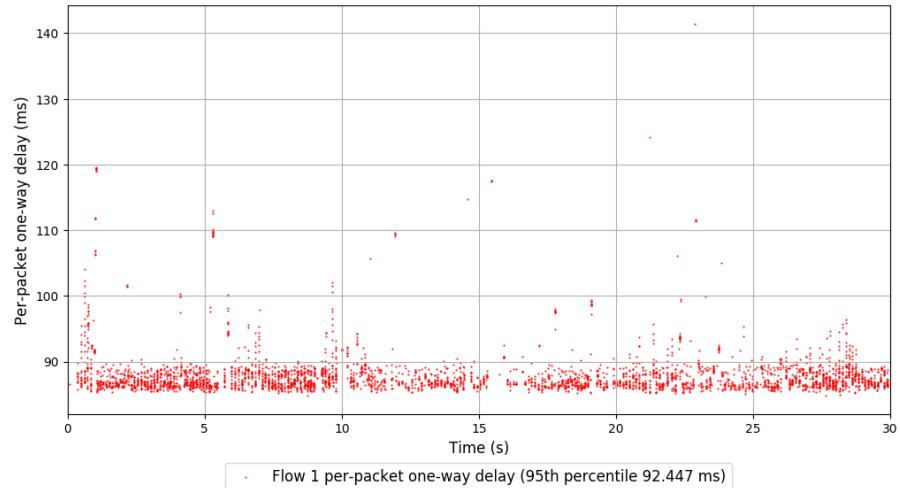
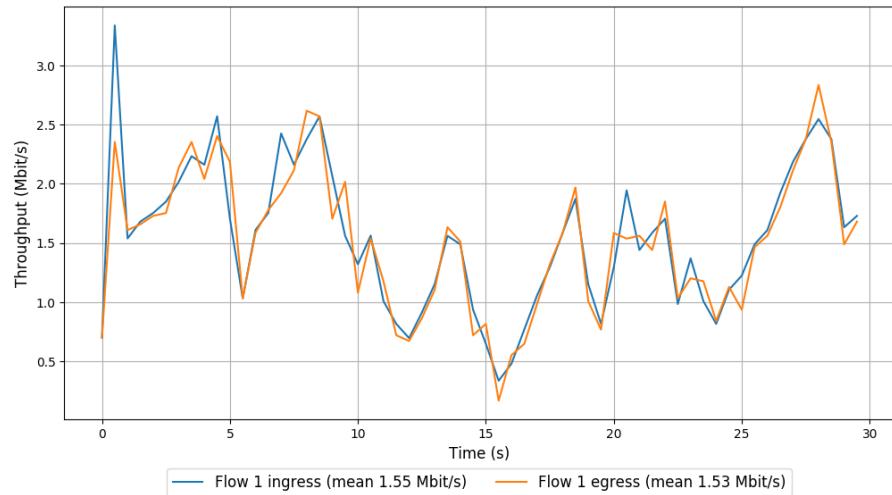


Run 1: Statistics of TCP Vegas

```
Start at: Sun, 11 Jun 2017 00:53:20 +0000
End at: Sun, 11 Jun 2017 00:53:50 +0000
Local clock offset: -2.187 ms
Remote clock offset: 3.408 ms

# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:52 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 92.447 ms
Loss rate: 1.99%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 92.447 ms
Loss rate: 1.99%
```

Run 1: Report of TCP Vegas — Data Link

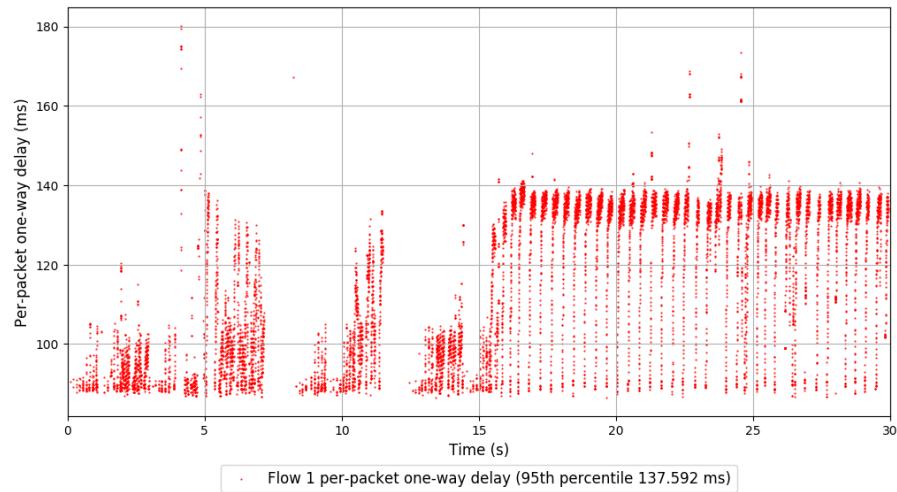
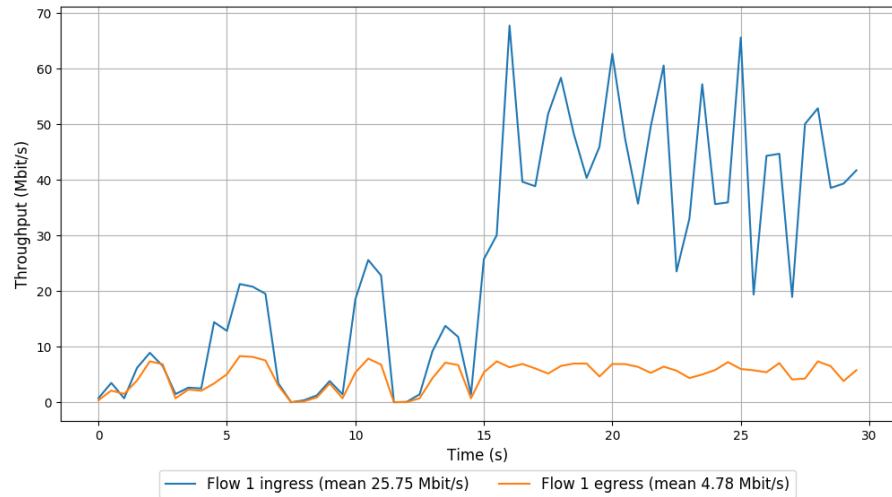


```
Run 1: Statistics of Verus
```

```
Start at: Sun, 11 Jun 2017 00:54:33 +0000
End at: Sun, 11 Jun 2017 00:55:03 +0000
Local clock offset: -0.896 ms
Remote clock offset: 4.561 ms

# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:53 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.78 Mbit/s
95th percentile per-packet one-way delay: 137.592 ms
Loss rate: 81.49%
-- Flow 1:
Average throughput: 4.78 Mbit/s
95th percentile per-packet one-way delay: 137.592 ms
Loss rate: 81.49%
```

Run 1: Report of Verus — Data Link



```
Run 1: Statistics of WebRTC media

Start at: Sun, 11 Jun 2017 01:01:25 +0000
End at: Sun, 11 Jun 2017 01:01:55 +0000
Local clock offset: 2.273 ms
Remote clock offset: 5.339 ms

# Below is generated by plot.py at Sun, 11 Jun 2017 01:02:53 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.64 Mbit/s
95th percentile per-packet one-way delay: 90.680 ms
Loss rate: 2.15%
-- Flow 1:
Average throughput: 3.64 Mbit/s
95th percentile per-packet one-way delay: 90.680 ms
Loss rate: 2.15%
```

Run 1: Report of WebRTC media — Data Link

