

**Pantheon Summary** (Generated at Mon, 07 Aug 2017 01:24:58 +0000  
with pantheon version a934ee3822380a12762347e6bc8bd1f3e836e73b)

Repeated the test of 15 congestion control schemes 3 times.

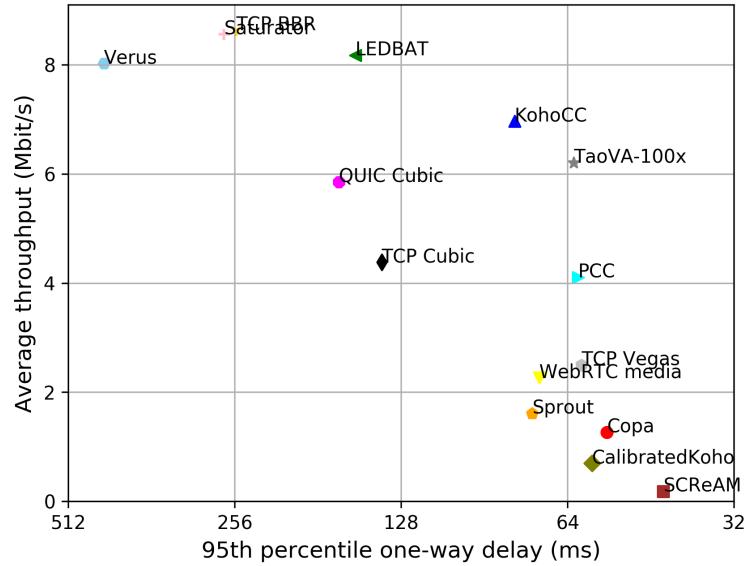
Each test lasted for 30 seconds running 1 flow.

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

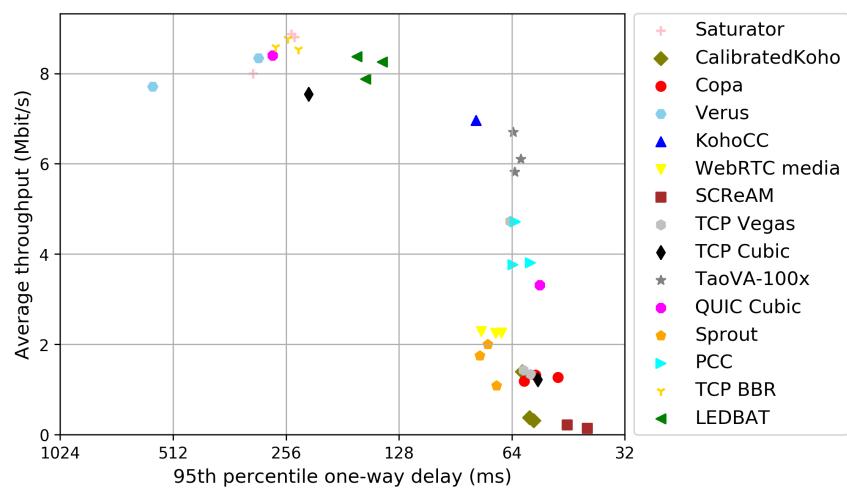
NTP offset measured against nets.org.sg and has been applied to correct the timestamps in logs.

```
git branch: master @ a934ee3822380a12762347e6bc8bd1f3e836e73b
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 @ f1a14bffe749737437f61b1eaeeb30b267cde681
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 AWS India 1 Ethernet to India ppp0, 3 runs of 30s each per scheme  
(mean of all runs by scheme)



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



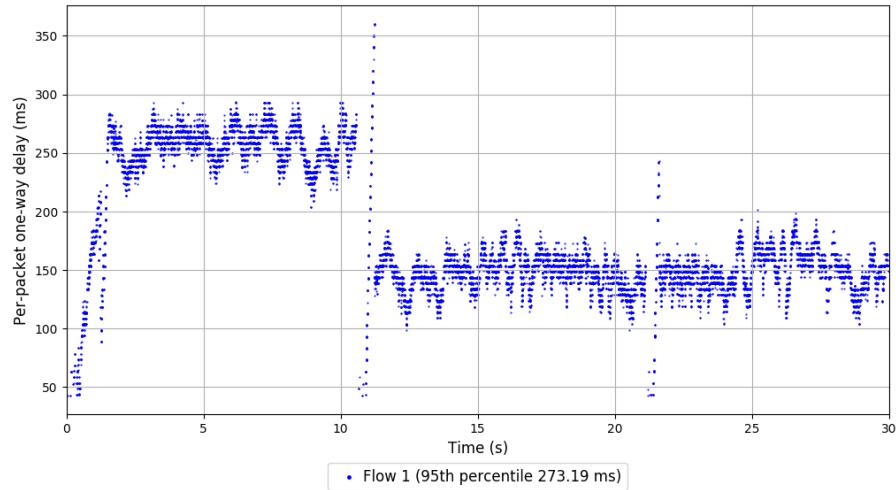
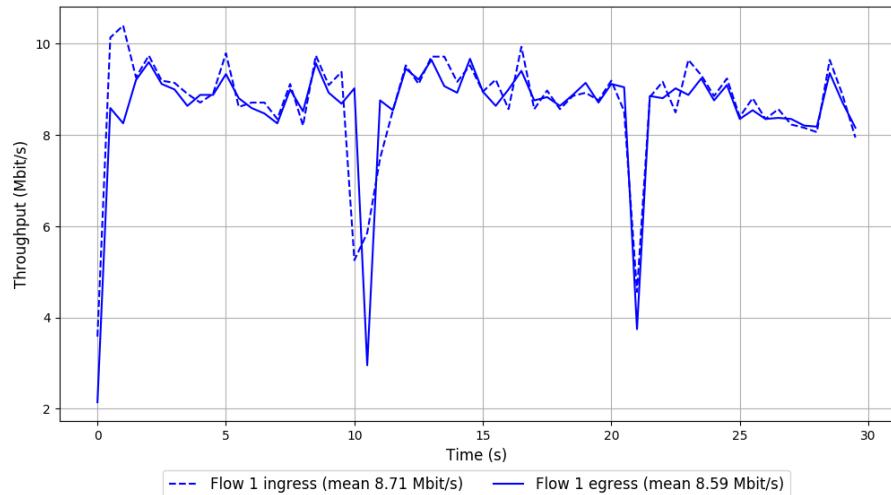
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	8.63	254.76	1.47
CalibratedKoho	3	0.69	57.87	1.01
Copa	3	1.26	54.32	0.38
TCP Cubic	3	4.38	138.91	1.03
KohoCC	3	6.96	79.87	0.18
LEDBAT	3	8.17	154.94	0.49
PCC	3	4.10	61.23	0.84
QUIC Cubic	3	5.86	166.14	0.93
Saturator	3	8.56	267.84	1.14
SCReAM	3	0.18	43.01	0.30
Sprout	3	1.61	74.24	0.30
TaoVA-100x	3	6.21	62.37	0.38
TCP Vegas	3	2.50	60.46	0.82
Verus	3	8.03	441.63	2.06
WebRTC media	3	2.27	72.07	0.17

Run 1: Statistics of TCP BBR

```
Start at: Mon, 07 Aug 2017 00:35:05 +0000
End at: Mon, 07 Aug 2017 00:35:35 +0000
Local clock offset: -0.297 ms
Remote clock offset: -5.132 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:21 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 273.194 ms
Loss rate: 1.52%
-- Flow 1:
Average throughput: 8.59 Mbit/s
95th percentile per-packet one-way delay: 273.194 ms
Loss rate: 1.52%
```

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

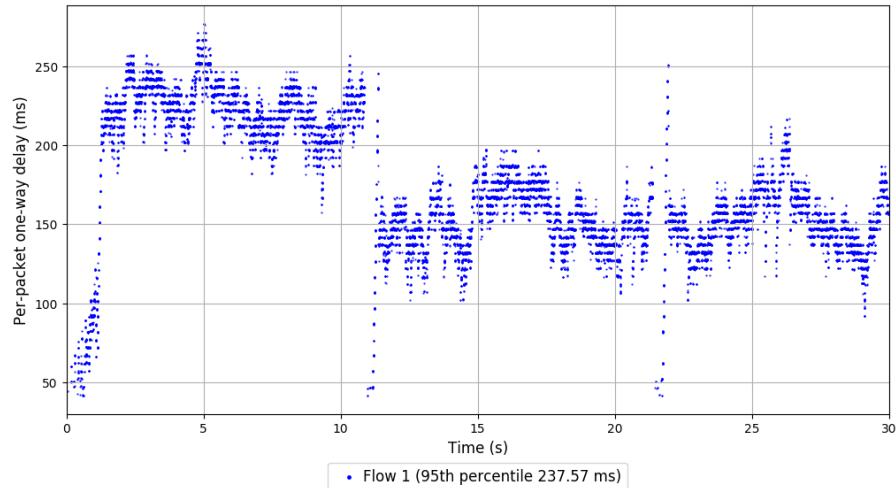
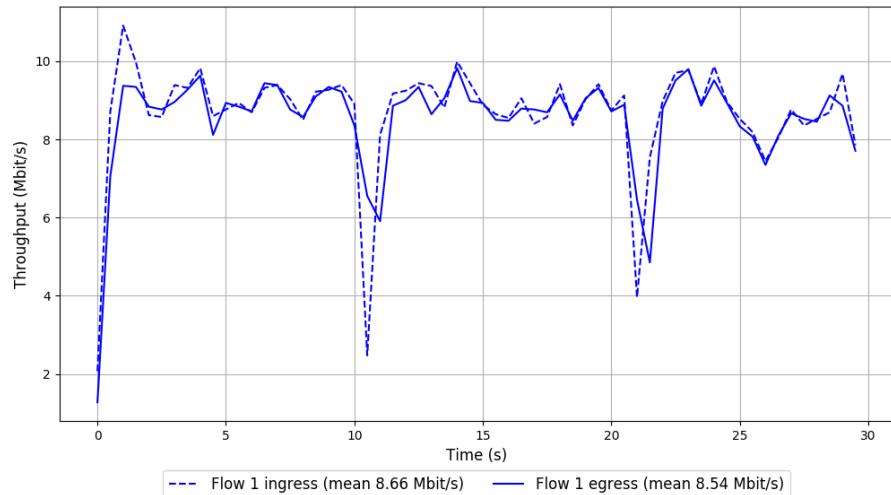


Run 2: Statistics of TCP BBR

```
Start at: Mon, 07 Aug 2017 00:56:39 +0000
End at: Mon, 07 Aug 2017 00:57:09 +0000
Local clock offset: -3.143 ms
Remote clock offset: -5.401 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:21 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.54 Mbit/s
95th percentile per-packet one-way delay: 237.569 ms
Loss rate: 1.60%
-- Flow 1:
Average throughput: 8.54 Mbit/s
95th percentile per-packet one-way delay: 237.569 ms
Loss rate: 1.60%
```

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

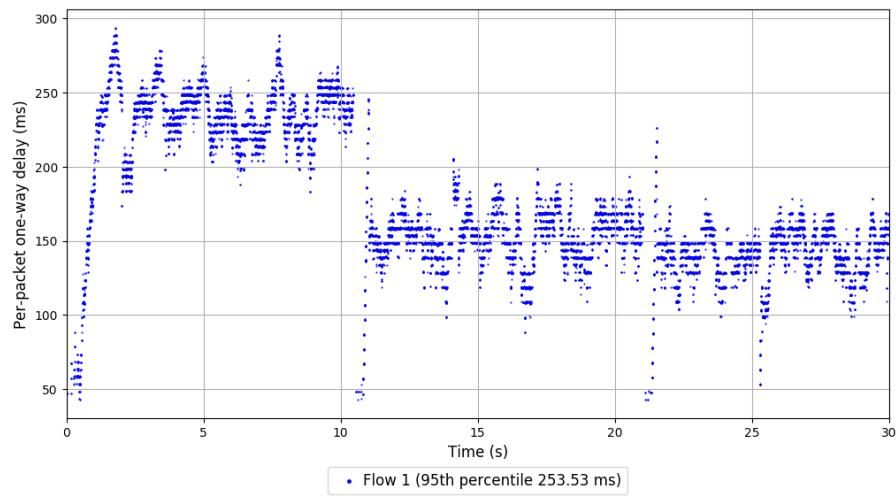
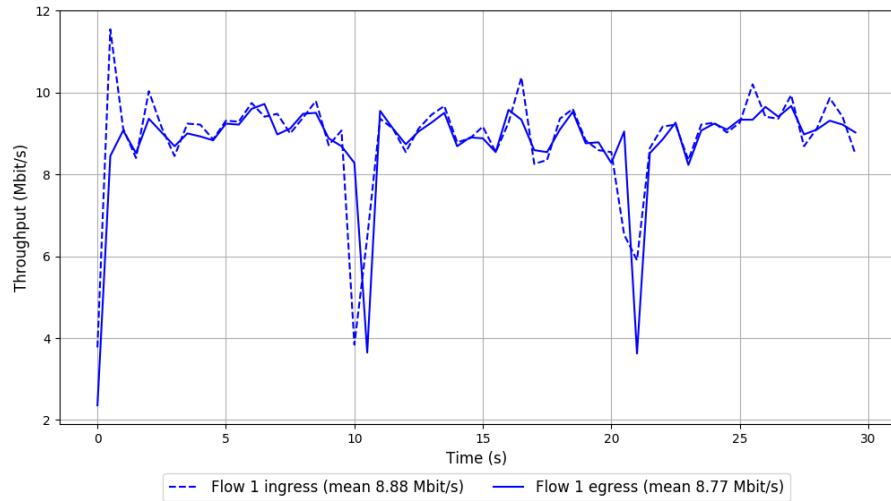


Run 3: Statistics of TCP BBR

```
Start at: Mon, 07 Aug 2017 01:13:35 +0000
End at: Mon, 07 Aug 2017 01:14:05 +0000
Local clock offset: -2.615 ms
Remote clock offset: -3.133 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:24 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.77 Mbit/s
95th percentile per-packet one-way delay: 253.528 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 8.77 Mbit/s
95th percentile per-packet one-way delay: 253.528 ms
Loss rate: 1.29%
```

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



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

```
Start at: Mon, 07 Aug 2017 00:39:31 +0000
```

```
End at: Mon, 07 Aug 2017 00:40:01 +0000
```

```
Local clock offset: -0.574 ms
```

```
Remote clock offset: -4.584 ms
```

```
# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:24 +0000
```

```
# Datalink statistics
```

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

```
Average throughput: 1.39 Mbit/s
```

```
95th percentile per-packet one-way delay: 60.143 ms
```

```
Loss rate: 0.80%
```

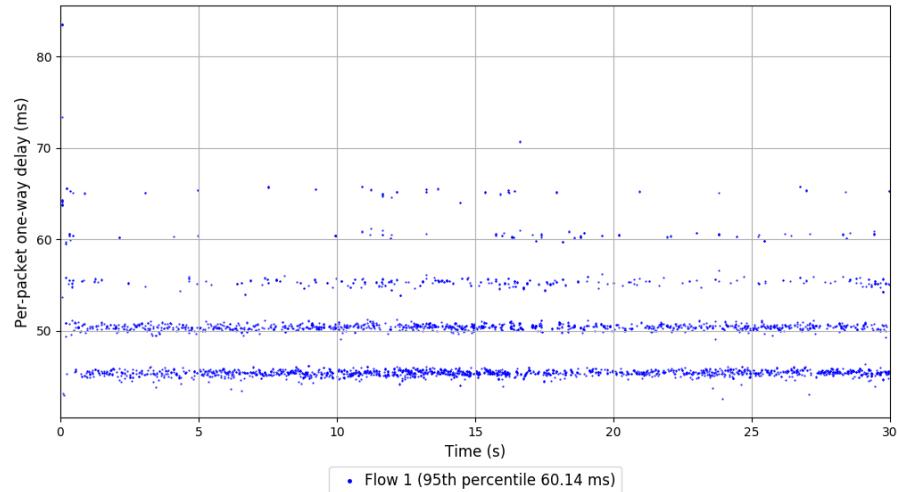
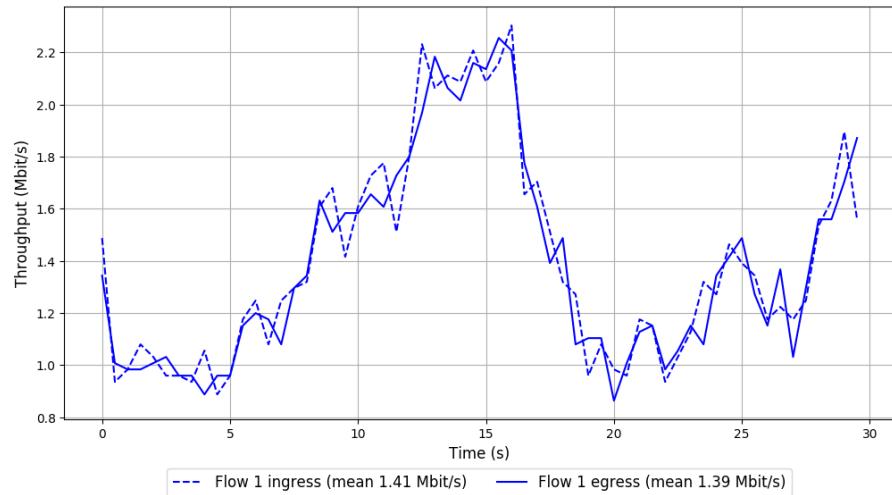
```
-- Flow 1:
```

```
Average throughput: 1.39 Mbit/s
```

```
95th percentile per-packet one-way delay: 60.143 ms
```

```
Loss rate: 0.80%
```

## Run 1: Report of CalibratedKoho — Data Link



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

```
Start at: Mon, 07 Aug 2017 01:01:35 +0000
```

```
End at: Mon, 07 Aug 2017 01:02:05 +0000
```

```
Local clock offset: 0.072 ms
```

```
Remote clock offset: -4.715 ms
```

```
# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:24 +0000
```

```
# Datalink statistics
```

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

```
Average throughput: 0.31 Mbit/s
```

```
95th percentile per-packet one-way delay: 56.017 ms
```

```
Loss rate: 0.77%
```

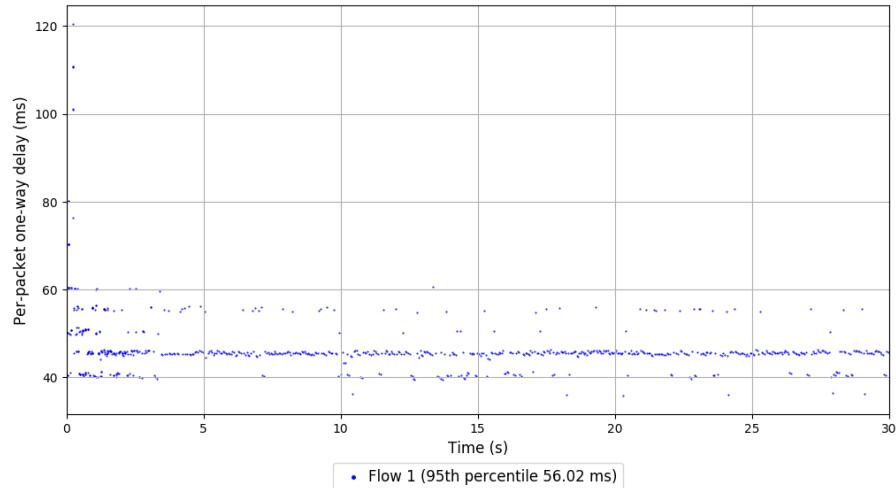
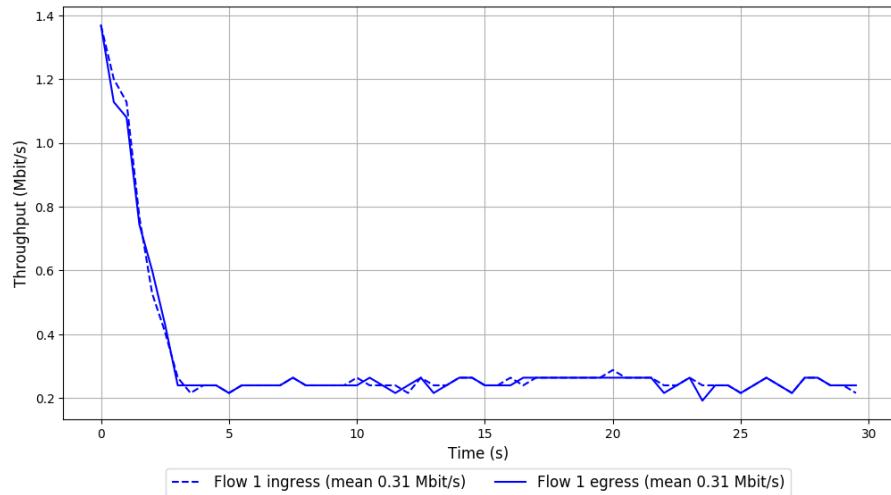
```
-- Flow 1:
```

```
Average throughput: 0.31 Mbit/s
```

```
95th percentile per-packet one-way delay: 56.017 ms
```

```
Loss rate: 0.77%
```

## Run 2: Report of CalibratedKoho — Data Link

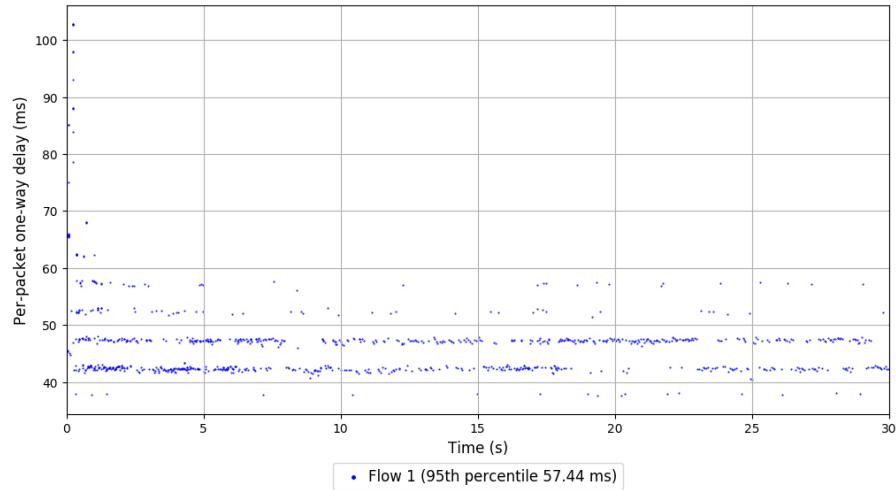
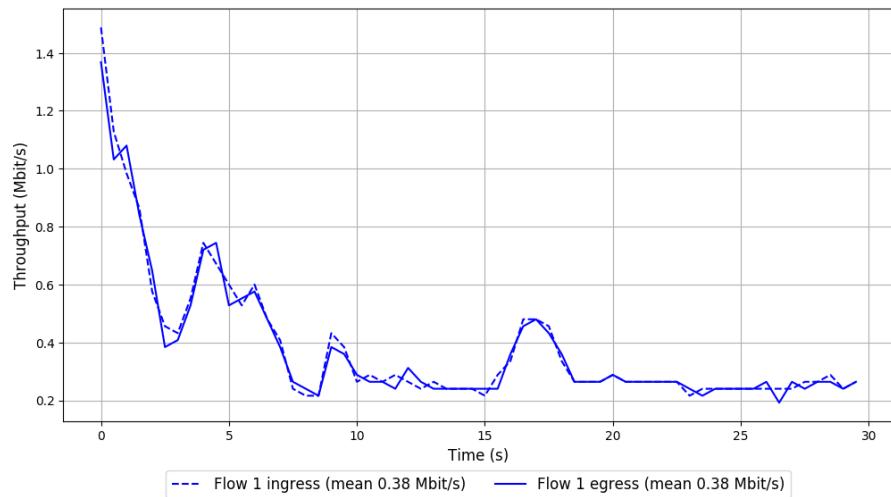


Run 3: Statistics of CalibratedKoho

```
Start at: Mon, 07 Aug 2017 01:17:59 +0000
End at: Mon, 07 Aug 2017 01:18:29 +0000
Local clock offset: -1.685 ms
Remote clock offset: -4.361 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:24 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 57.444 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 0.38 Mbit/s
95th percentile per-packet one-way delay: 57.444 ms
Loss rate: 1.46%
```

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

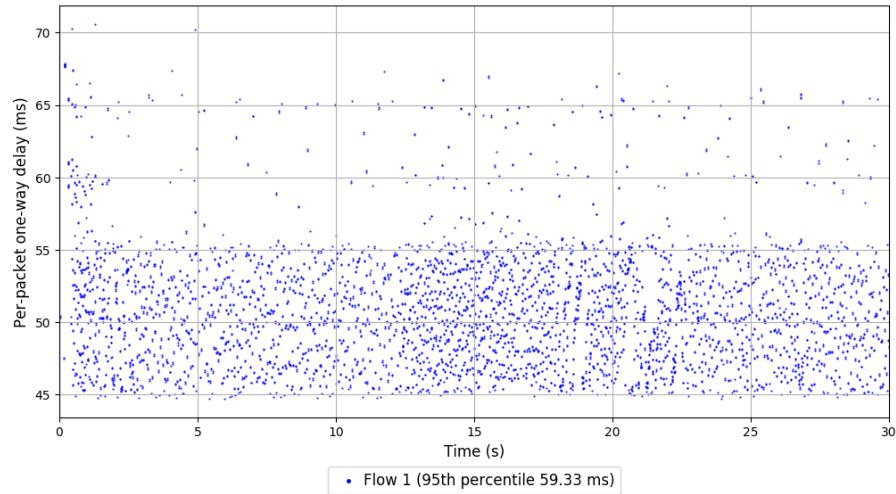
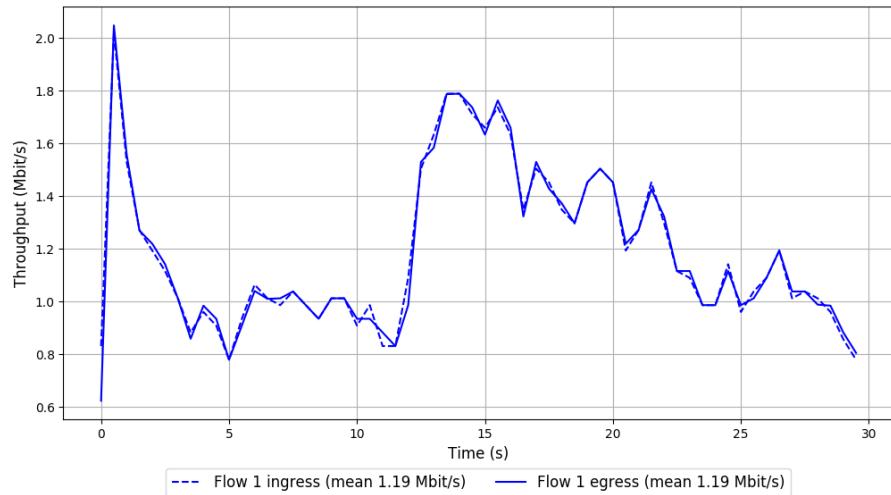


Run 1: Statistics of Copa

```
Start at: Mon, 07 Aug 2017 00:33:59 +0000
End at: Mon, 07 Aug 2017 00:34:29 +0000
Local clock offset: -2.342 ms
Remote clock offset: -4.64 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:25 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 59.330 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.19 Mbit/s
95th percentile per-packet one-way delay: 59.330 ms
Loss rate: 0.07%
```

## Run 1: Report of Copa — Data Link

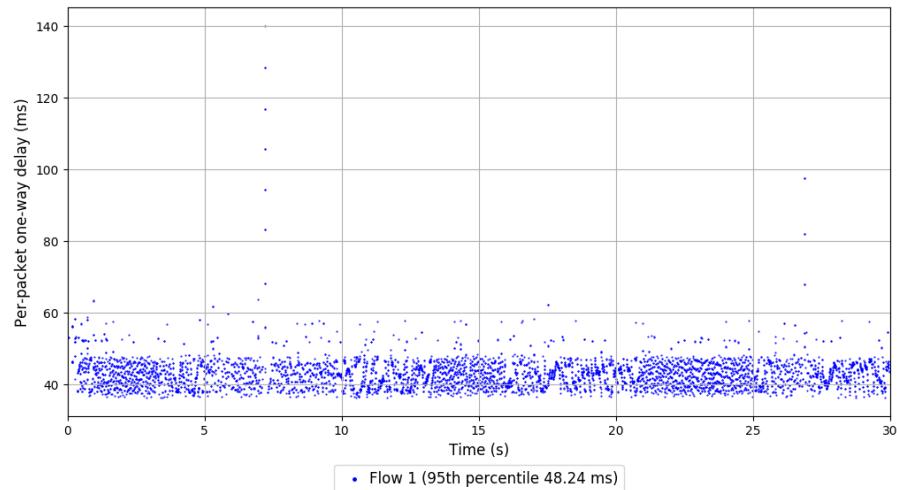
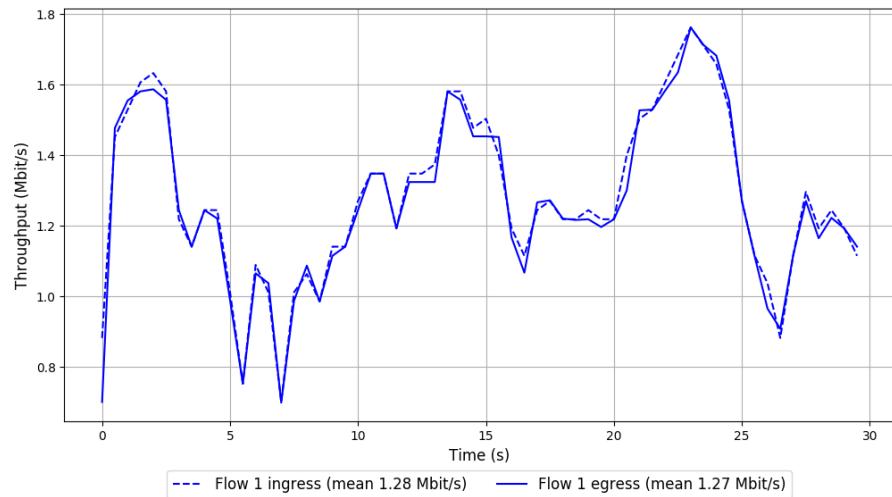


Run 2: Statistics of Copa

```
Start at: Mon, 07 Aug 2017 00:54:52 +0000
End at: Mon, 07 Aug 2017 00:55:22 +0000
Local clock offset: 0.637 ms
Remote clock offset: -4.596 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:26 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 48.241 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 48.241 ms
Loss rate: 0.95%
```

## Run 2: Report of Copa — Data Link

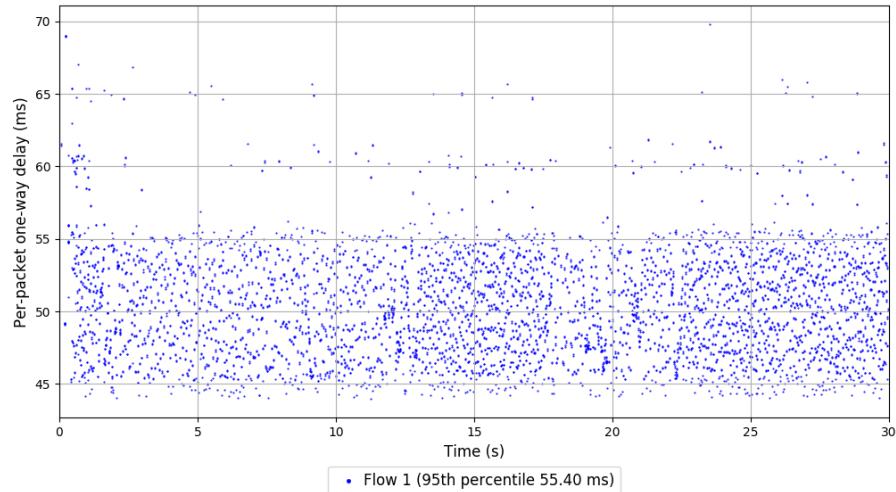
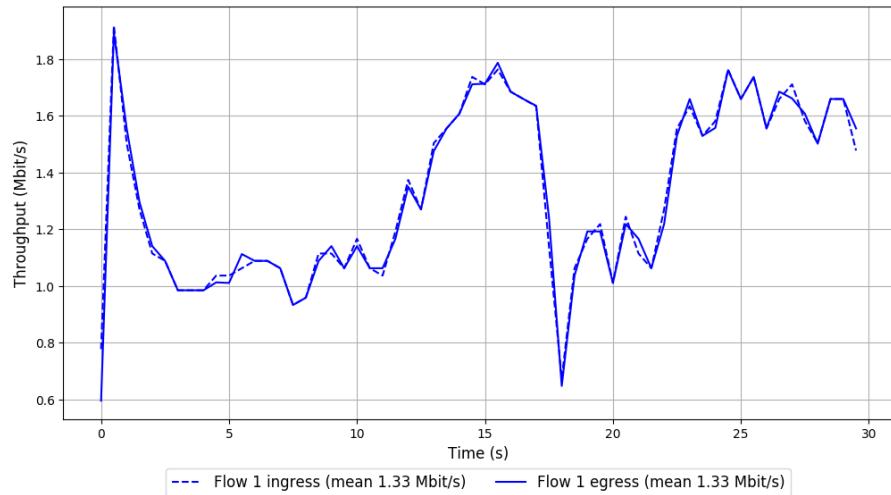


Run 3: Statistics of Copa

```
Start at: Mon, 07 Aug 2017 01:12:29 +0000
End at: Mon, 07 Aug 2017 01:12:59 +0000
Local clock offset: -1.565 ms
Remote clock offset: -4.538 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:26 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 55.395 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 55.395 ms
Loss rate: 0.13%
```

### Run 3: Report of Copa — Data Link

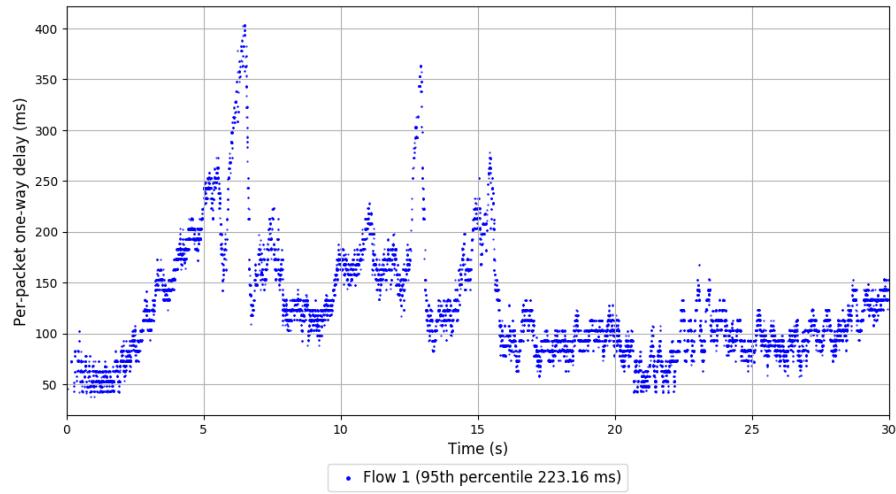
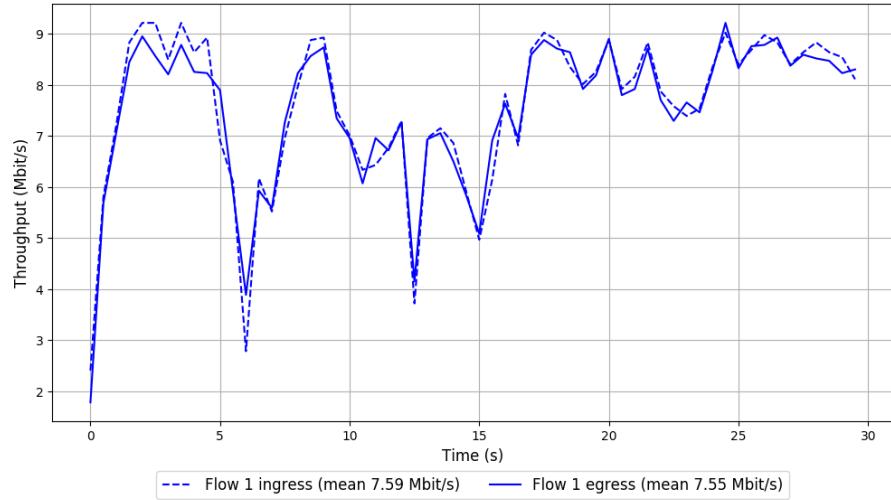


Run 1: Statistics of TCP Cubic

```
Start at: Mon, 07 Aug 2017 00:46:03 +0000
End at: Mon, 07 Aug 2017 00:46:33 +0000
Local clock offset: -0.45 ms
Remote clock offset: -3.832 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:29 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.55 Mbit/s
95th percentile per-packet one-way delay: 223.164 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 7.55 Mbit/s
95th percentile per-packet one-way delay: 223.164 ms
Loss rate: 0.69%
```

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

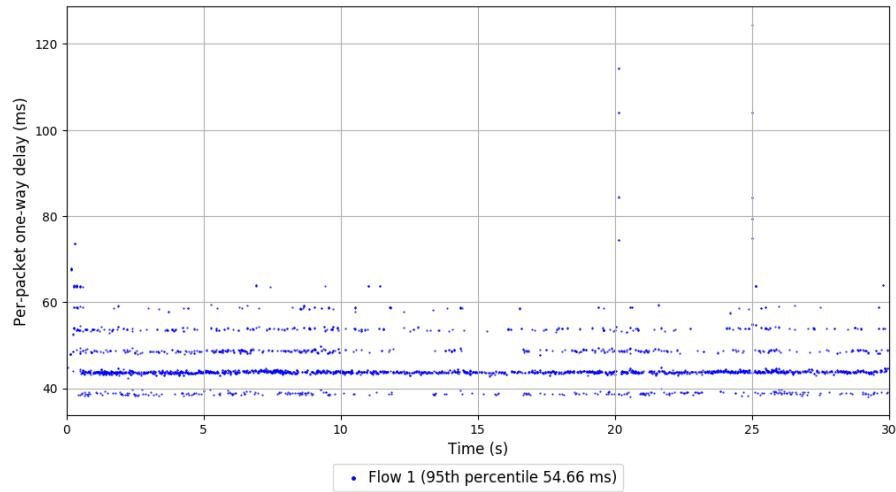
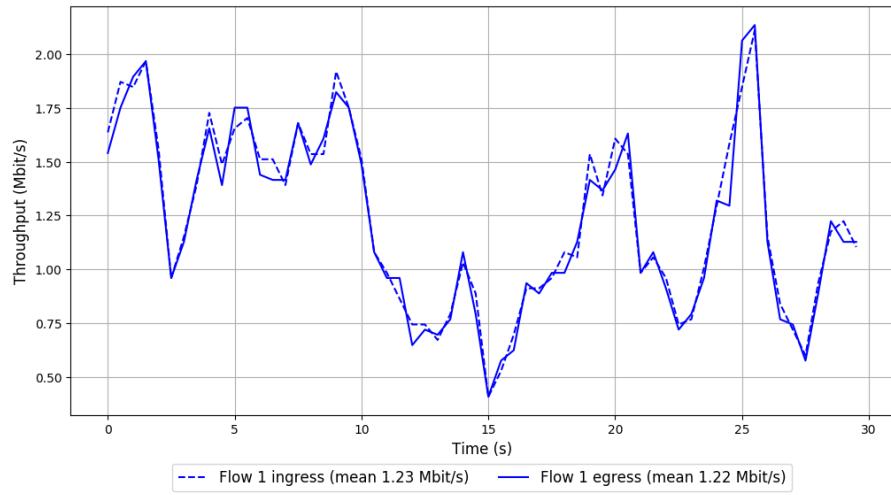


Run 2: Statistics of TCP Cubic

```
Start at: Mon, 07 Aug 2017 01:05:57 +0000
End at: Mon, 07 Aug 2017 01:06:27 +0000
Local clock offset: -2.036 ms
Remote clock offset: -5.057 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:29 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 54.664 ms
Loss rate: 1.37%
-- Flow 1:
Average throughput: 1.22 Mbit/s
95th percentile per-packet one-way delay: 54.664 ms
Loss rate: 1.37%
```

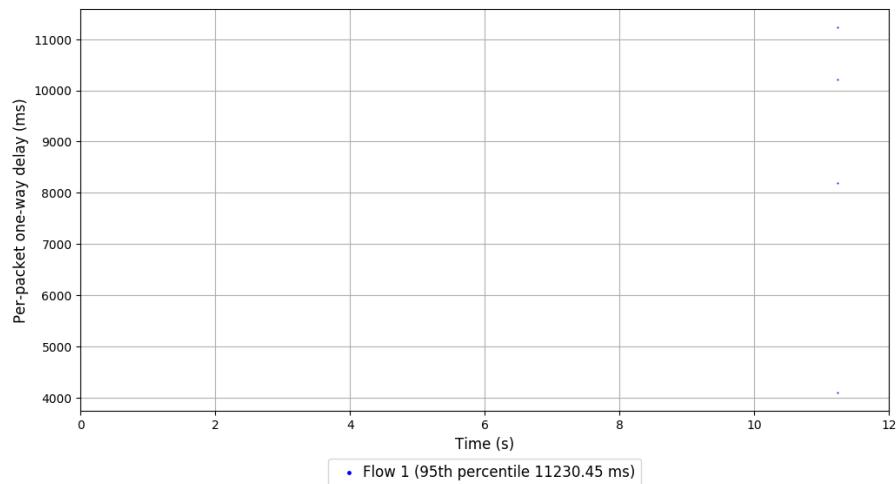
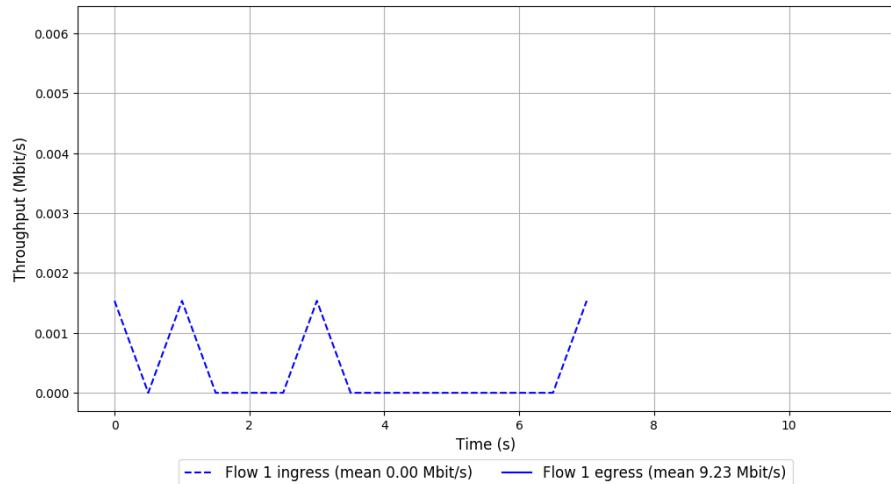
## Run 2: Report of TCP Cubic — Data Link



Run 3: Statistics of TCP Cubic

Start at: Mon, 07 Aug 2017 01:22:20 +0000  
End at: Mon, 07 Aug 2017 01:22:50 +0000  
Local clock offset: -0.587 ms  
Remote clock offset: -4.545 ms

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



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

```
Start at: Mon, 07 Aug 2017 00:42:36 +0000
```

```
End at: Mon, 07 Aug 2017 00:43:06 +0000
```

```
Local clock offset: 0.298 ms
```

```
Remote clock offset: -5.342 ms
```

```
# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:29 +0000
```

```
# Datalink statistics
```

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

```
Average throughput: 6.96 Mbit/s
```

```
95th percentile per-packet one-way delay: 79.873 ms
```

```
Loss rate: 0.18%
```

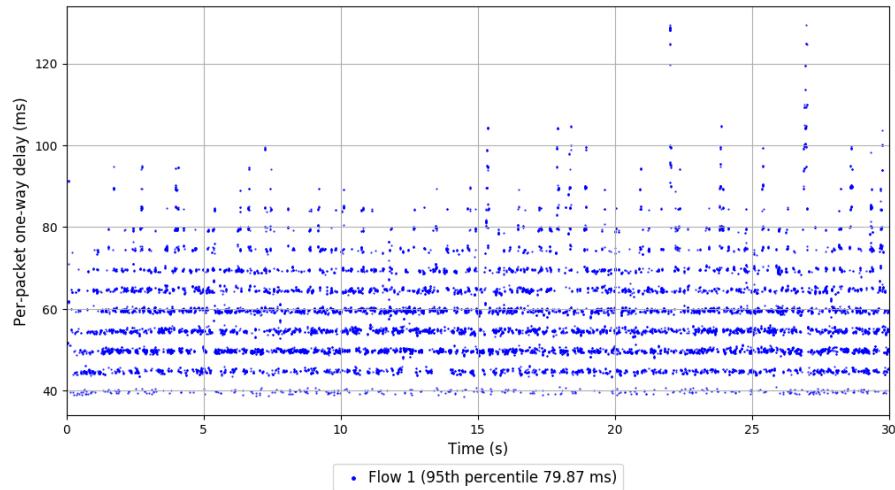
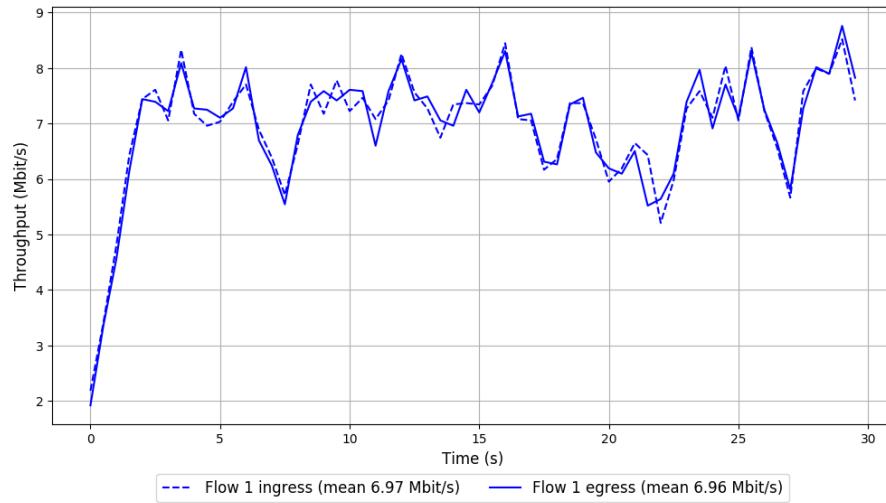
```
-- Flow 1:
```

```
Average throughput: 6.96 Mbit/s
```

```
95th percentile per-packet one-way delay: 79.873 ms
```

```
Loss rate: 0.18%
```

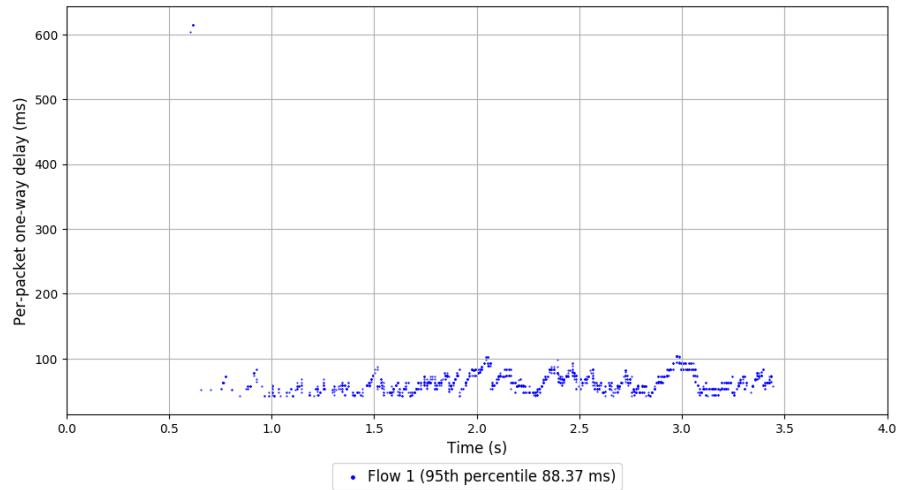
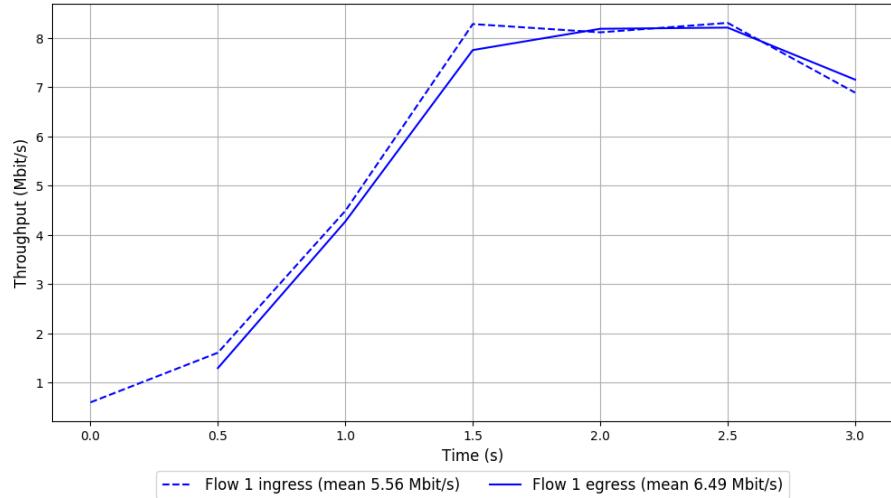
## Run 1: Report of KohoCC — Data Link



Run 2: Statistics of KohoCC

Start at: Mon, 07 Aug 2017 01:03:46 +0000  
End at: Mon, 07 Aug 2017 01:04:16 +0000  
Local clock offset: -1.028 ms  
Remote clock offset: -4.123 ms

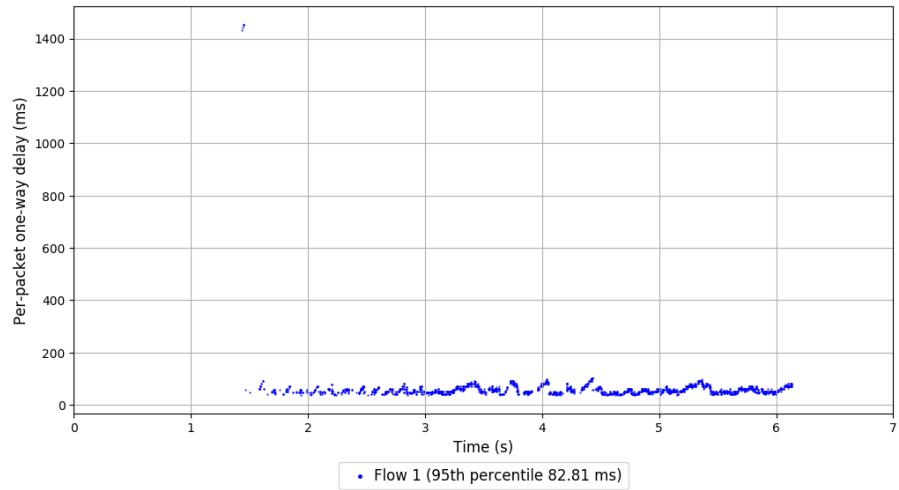
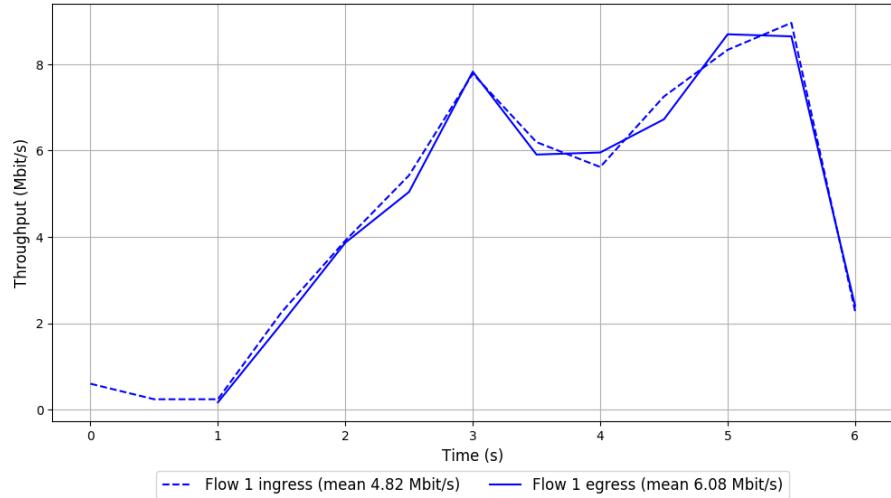
## Run 2: Report of KohoCC — Data Link



Run 3: Statistics of KohoCC

Start at: Mon, 07 Aug 2017 01:20:09 +0000  
End at: Mon, 07 Aug 2017 01:20:39 +0000  
Local clock offset: -1.927 ms  
Remote clock offset: -5.164 ms

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

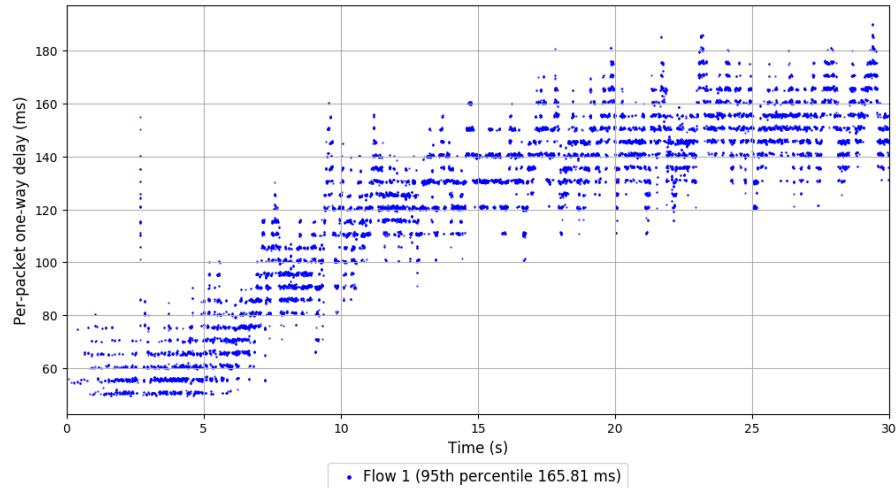
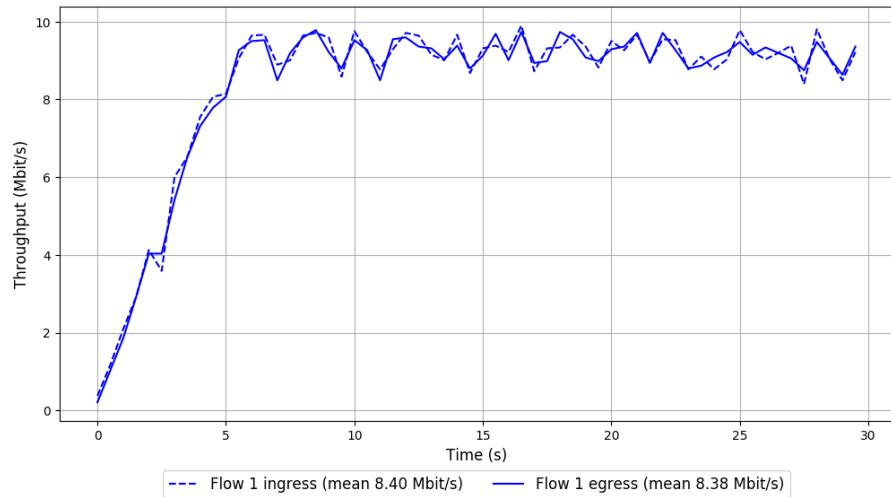


Run 1: Statistics of LEDBAT

```
Start at: Mon, 07 Aug 2017 00:30:58 +0000
End at: Mon, 07 Aug 2017 00:31:28 +0000
Local clock offset: -2.913 ms
Remote clock offset: -4.358 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:32 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.38 Mbit/s
95th percentile per-packet one-way delay: 165.811 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 8.38 Mbit/s
95th percentile per-packet one-way delay: 165.811 ms
Loss rate: 0.51%
```

## Run 1: Report of LEDBAT — Data Link

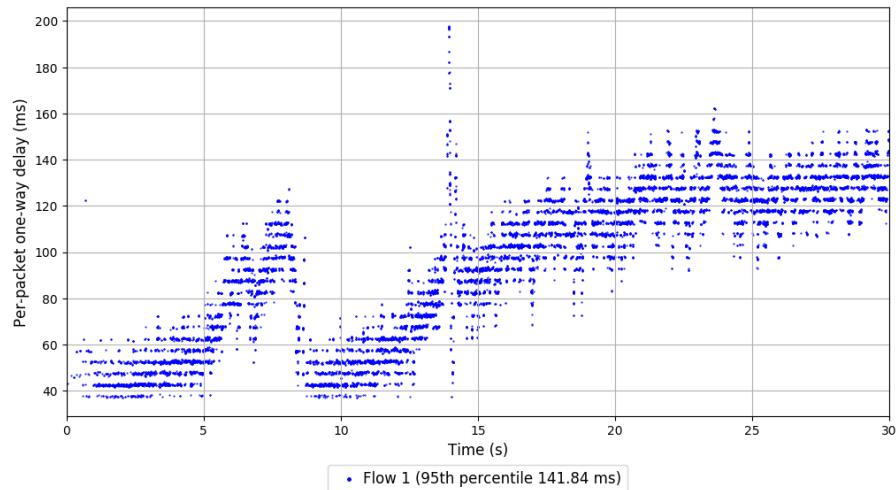
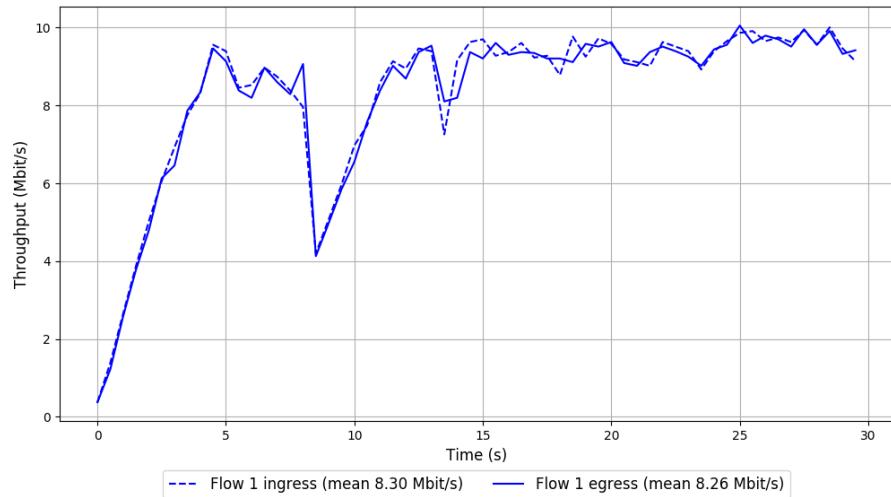


Run 2: Statistics of LEDBAT

```
Start at: Mon, 07 Aug 2017 00:52:06 +0000
End at: Mon, 07 Aug 2017 00:52:36 +0000
Local clock offset: 0.025 ms
Remote clock offset: -5.304 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:32 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.26 Mbit/s
95th percentile per-packet one-way delay: 141.837 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 8.26 Mbit/s
95th percentile per-packet one-way delay: 141.837 ms
Loss rate: 0.59%
```

## Run 2: Report of LEDBAT — Data Link

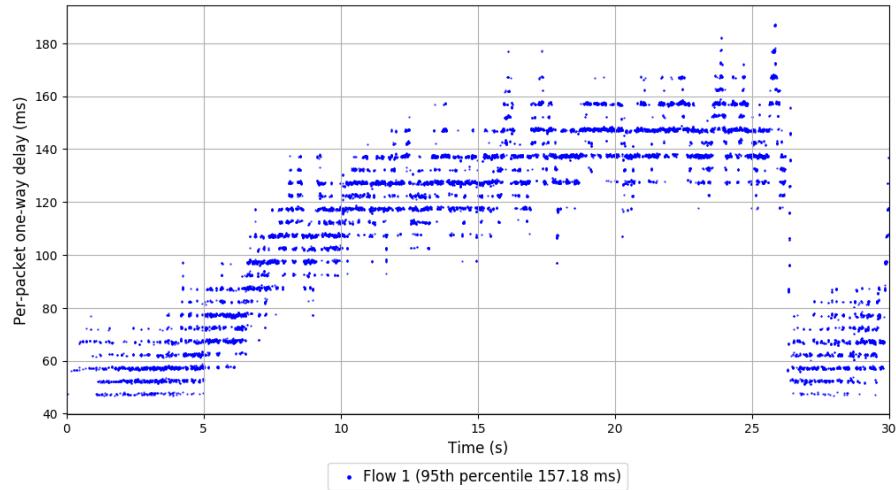
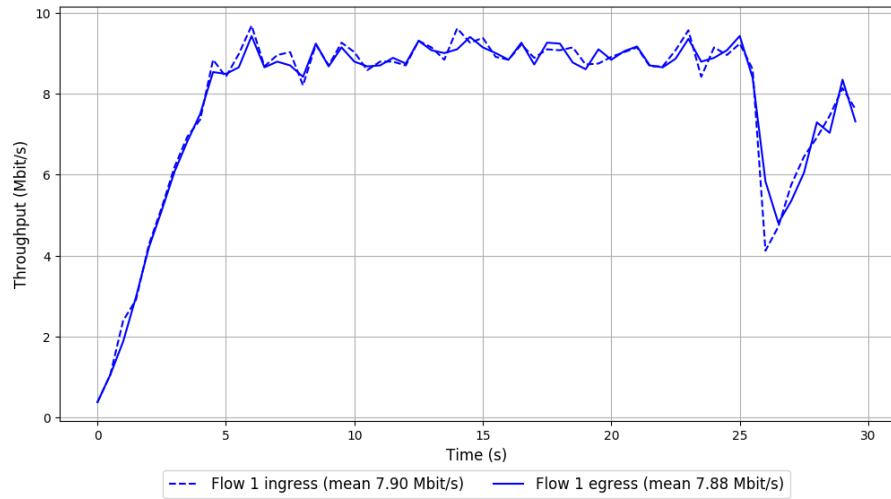


Run 3: Statistics of LEDBAT

```
Start at: Mon, 07 Aug 2017 01:10:18 +0000
End at: Mon, 07 Aug 2017 01:10:48 +0000
Local clock offset: -3.893 ms
Remote clock offset: -4.609 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 157.181 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 157.181 ms
Loss rate: 0.37%
```

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

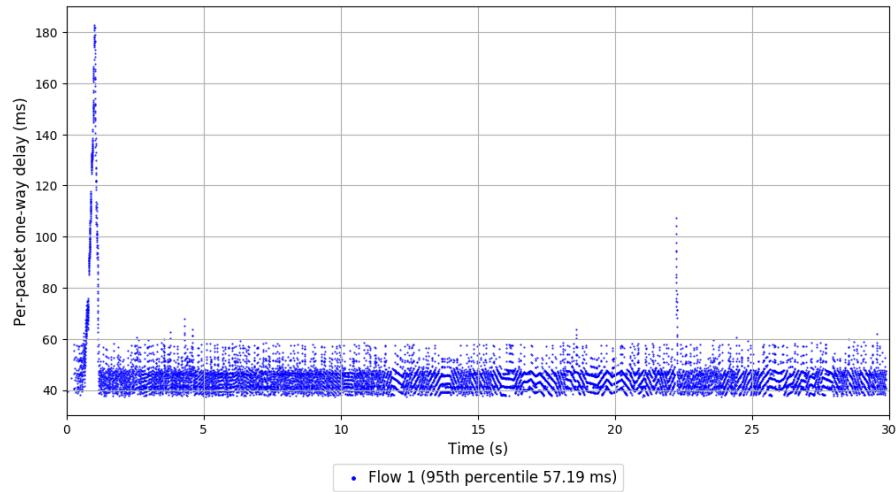
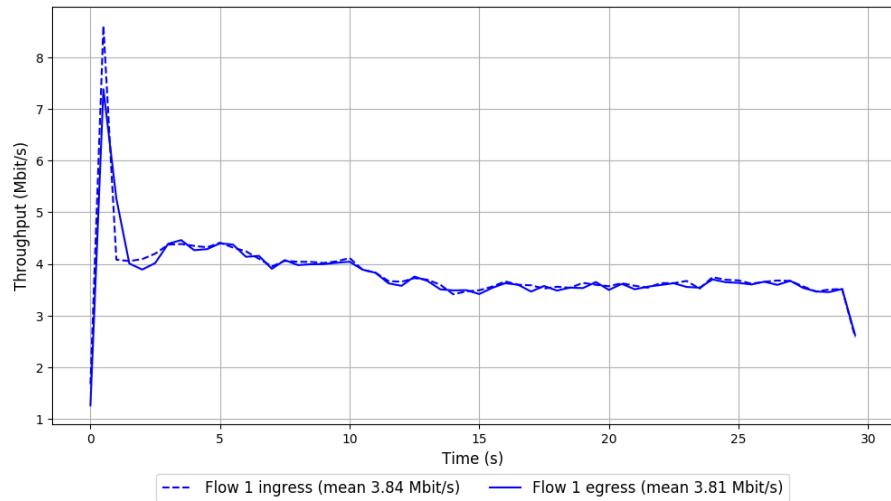


Run 1: Statistics of PCC

```
Start at: Mon, 07 Aug 2017 00:32:28 +0000
End at: Mon, 07 Aug 2017 00:32:58 +0000
Local clock offset: 0.456 ms
Remote clock offset: -5.578 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.81 Mbit/s
95th percentile per-packet one-way delay: 57.192 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 3.81 Mbit/s
95th percentile per-packet one-way delay: 57.192 ms
Loss rate: 0.94%
```

## Run 1: Report of PCC — Data Link

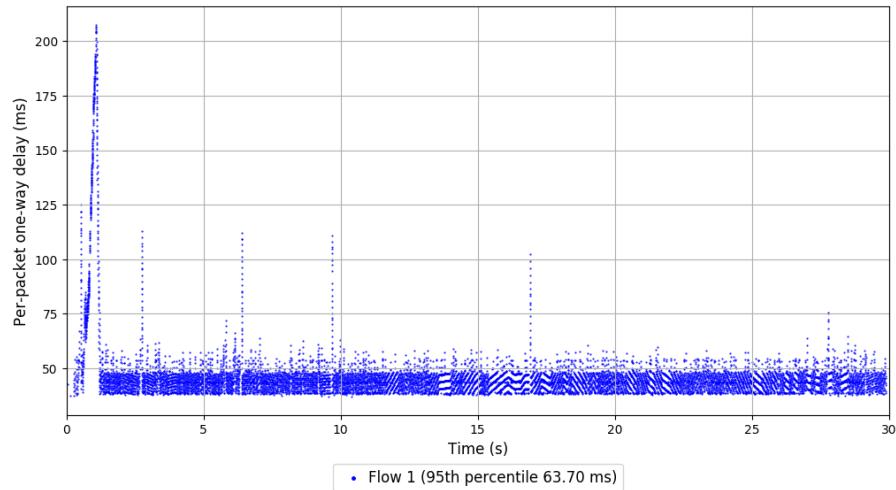
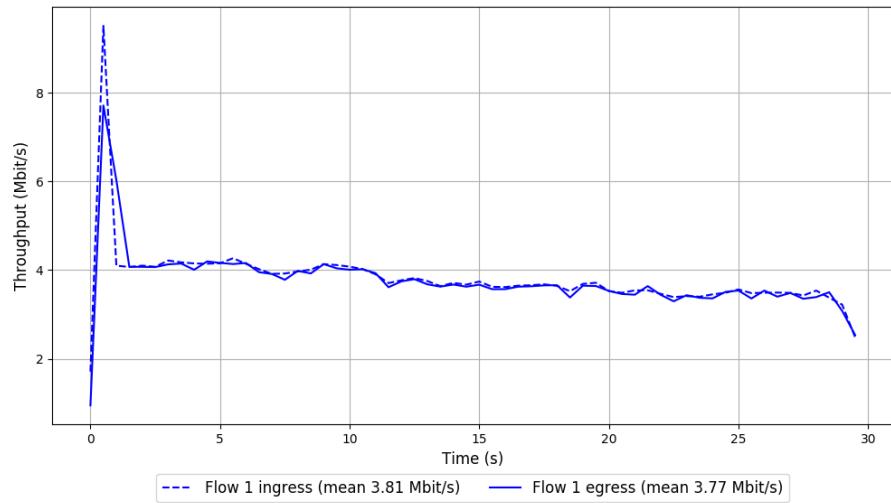


Run 2: Statistics of PCC

```
Start at: Mon, 07 Aug 2017 00:53:29 +0000
End at: Mon, 07 Aug 2017 00:53:59 +0000
Local clock offset: -0.435 ms
Remote clock offset: -5.097 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 63.703 ms
Loss rate: 1.21%
-- Flow 1:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 63.703 ms
Loss rate: 1.21%
```

## Run 2: Report of PCC — Data Link

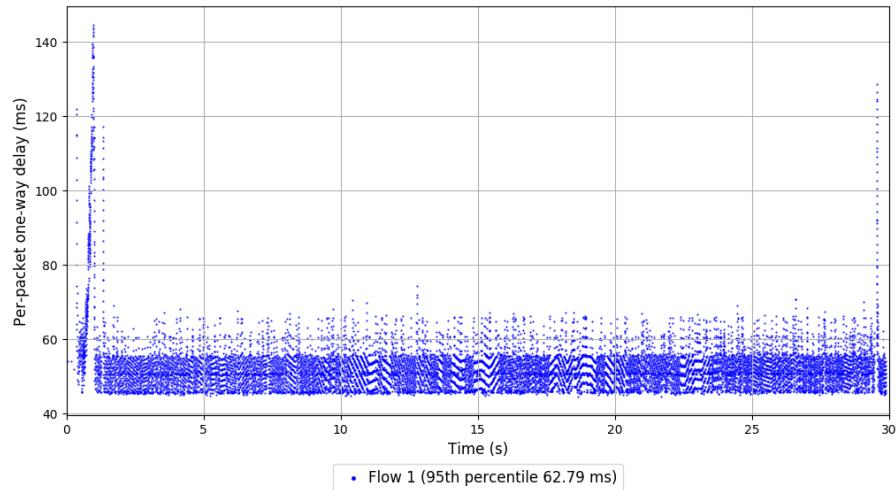
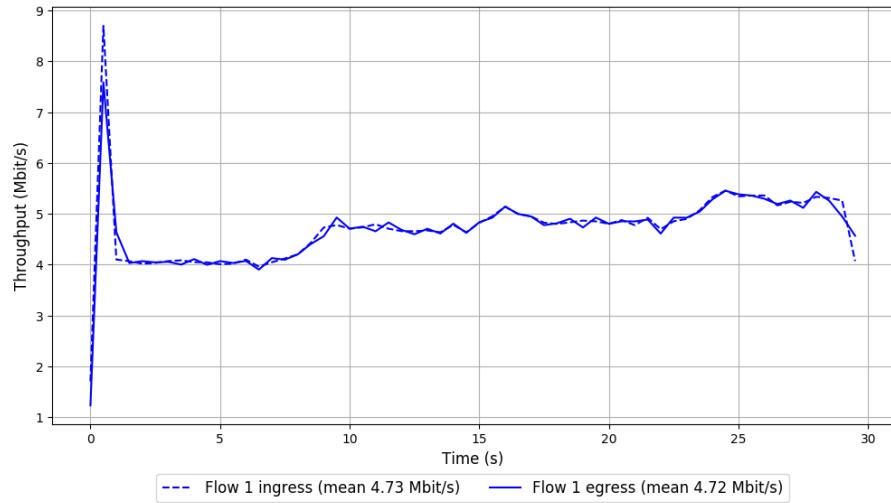


Run 3: Statistics of PCC

```
Start at: Mon, 07 Aug 2017 01:11:24 +0000
End at: Mon, 07 Aug 2017 01:11:54 +0000
Local clock offset: -1.916 ms
Remote clock offset: -4.567 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:37 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.72 Mbit/s
95th percentile per-packet one-way delay: 62.794 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 4.72 Mbit/s
95th percentile per-packet one-way delay: 62.794 ms
Loss rate: 0.37%
```

### Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

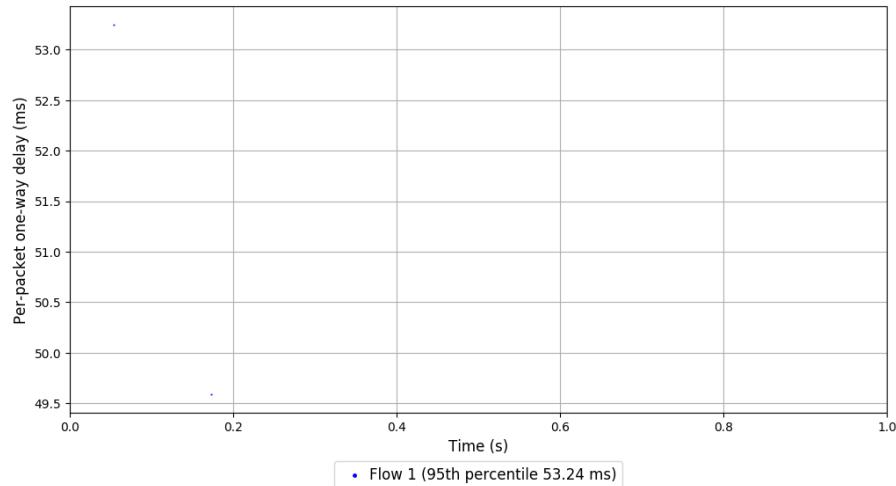
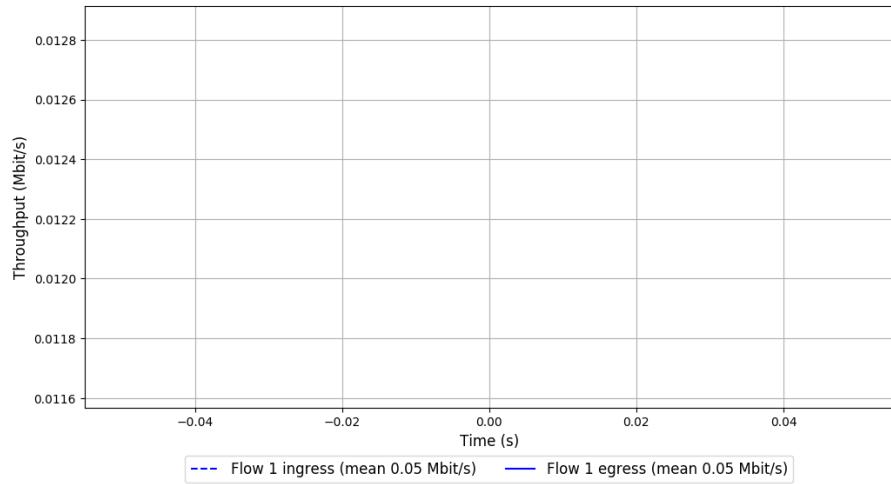
Start at: Mon, 07 Aug 2017 00:28:38 +0000

End at: Mon, 07 Aug 2017 00:29:08 +0000

Local clock offset: -3.111 ms

Remote clock offset: -4.17 ms

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

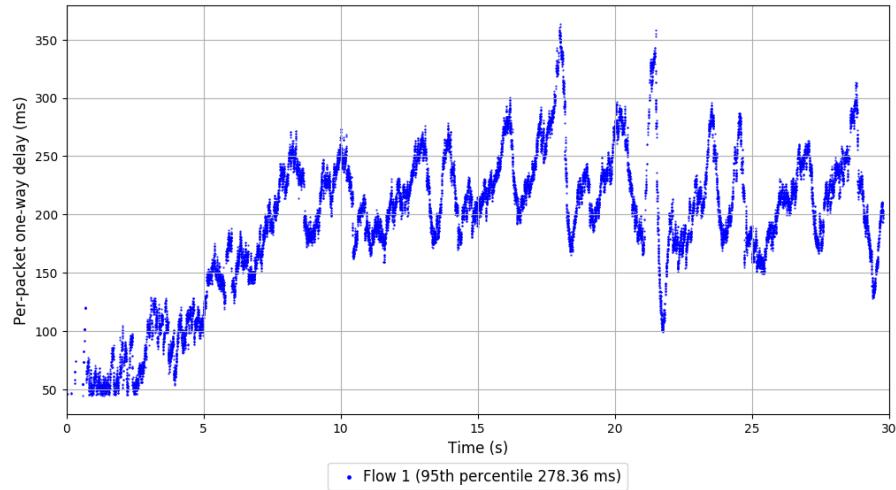
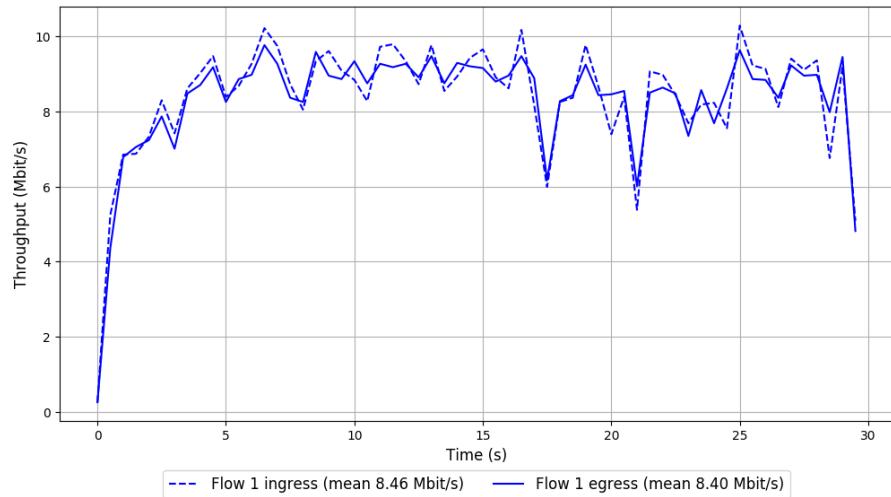


Run 2: Statistics of QUIC Cubic

```
Start at: Mon, 07 Aug 2017 00:49:21 +0000
End at: Mon, 07 Aug 2017 00:49:51 +0000
Local clock offset: -1.098 ms
Remote clock offset: -4.508 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:38 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.40 Mbit/s
95th percentile per-packet one-way delay: 278.355 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 8.40 Mbit/s
95th percentile per-packet one-way delay: 278.355 ms
Loss rate: 0.81%
```

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

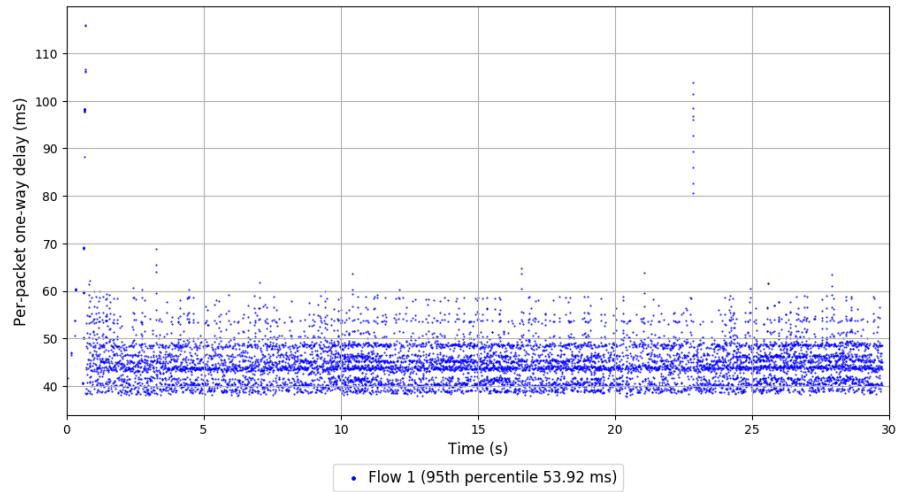
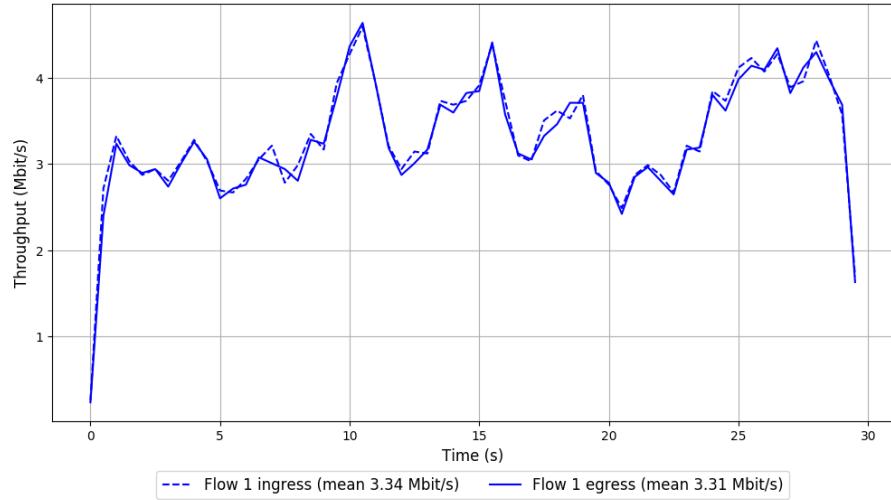


Run 3: Statistics of QUIC Cubic

```
Start at: Mon, 07 Aug 2017 01:08:08 +0000
End at: Mon, 07 Aug 2017 01:08:38 +0000
Local clock offset: -0.983 ms
Remote clock offset: -4.434 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:38 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 53.919 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 3.31 Mbit/s
95th percentile per-packet one-way delay: 53.919 ms
Loss rate: 1.04%
```

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

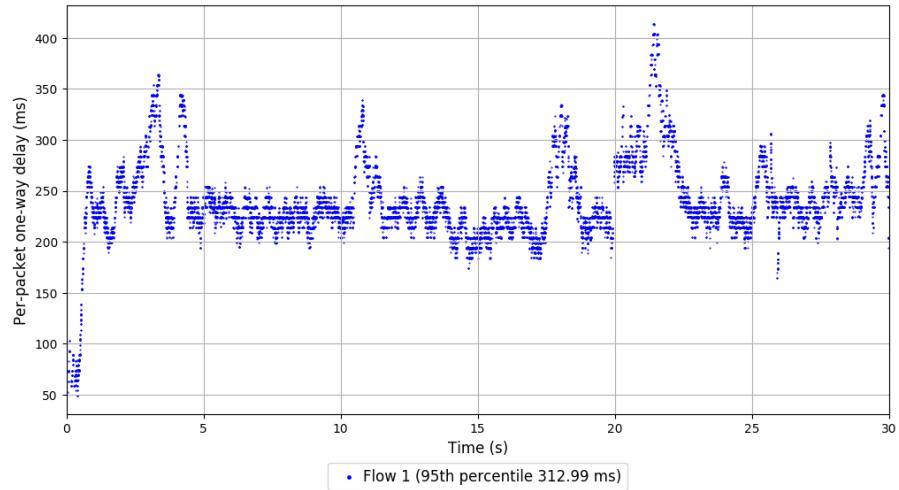
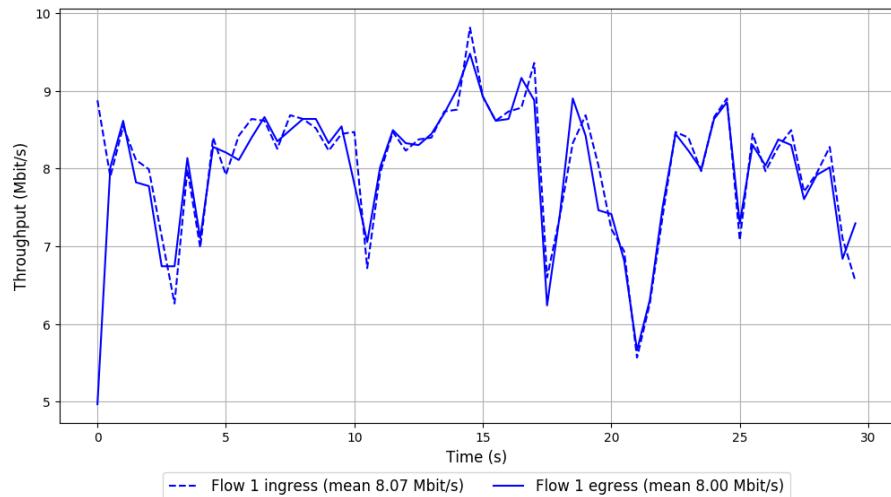


Run 1: Statistics of Saturator

```
Start at: Mon, 07 Aug 2017 00:44:49 +0000
End at: Mon, 07 Aug 2017 00:45:19 +0000
Local clock offset: -2.843 ms
Remote clock offset: -4.824 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:40 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.00 Mbit/s
95th percentile per-packet one-way delay: 312.989 ms
Loss rate: 0.99%
-- Flow 1:
Average throughput: 8.00 Mbit/s
95th percentile per-packet one-way delay: 312.989 ms
Loss rate: 0.99%
```

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

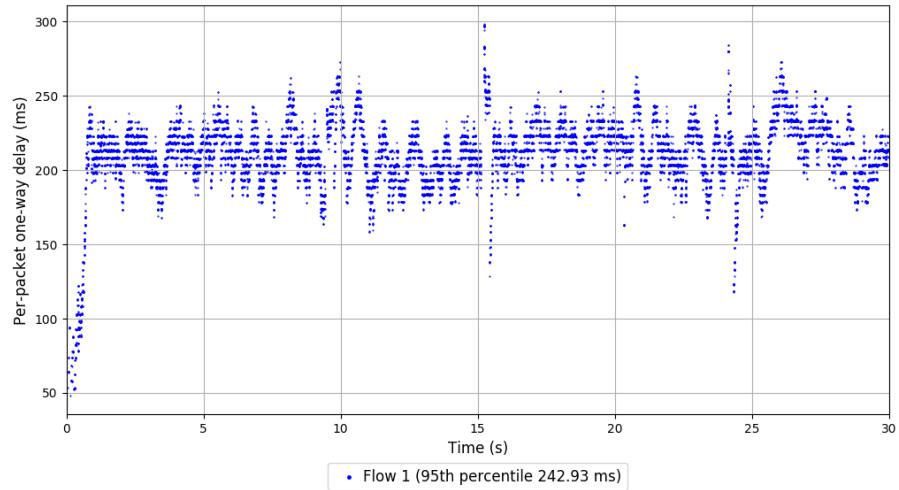
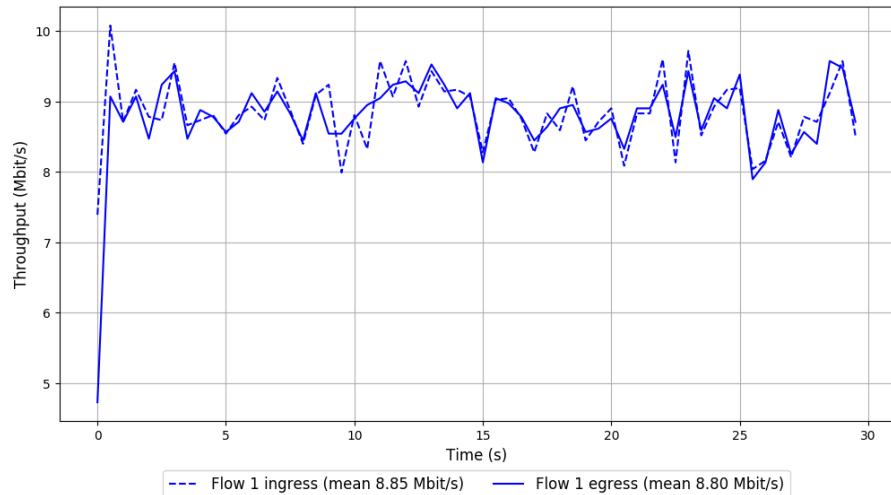


Run 2: Statistics of Saturator

```
Start at: Mon, 07 Aug 2017 01:04:51 +0000
End at: Mon, 07 Aug 2017 01:05:21 +0000
Local clock offset: -1.398 ms
Remote clock offset: -4.974 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:40 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 242.926 ms
Loss rate: 0.70%
-- Flow 1:
Average throughput: 8.80 Mbit/s
95th percentile per-packet one-way delay: 242.926 ms
Loss rate: 0.70%
```

Run 2: Report of Saturator — Data Link

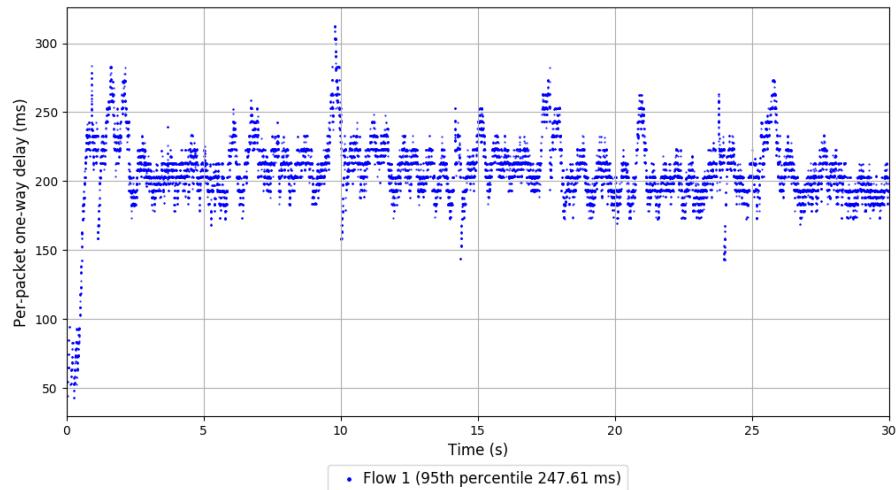
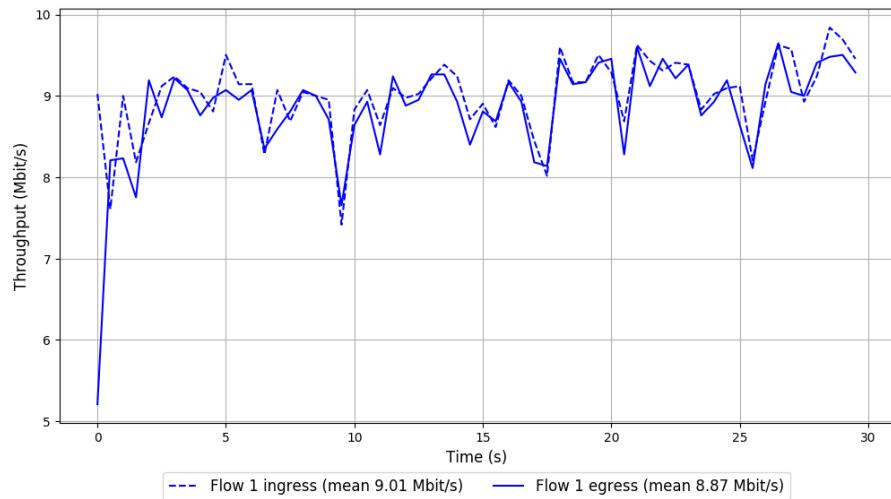


Run 3: Statistics of Saturator

```
Start at: Mon, 07 Aug 2017 01:21:14 +0000
End at: Mon, 07 Aug 2017 01:21:44 +0000
Local clock offset: -1.435 ms
Remote clock offset: -4.675 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:43 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.87 Mbit/s
95th percentile per-packet one-way delay: 247.608 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 8.87 Mbit/s
95th percentile per-packet one-way delay: 247.608 ms
Loss rate: 1.74%
```

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

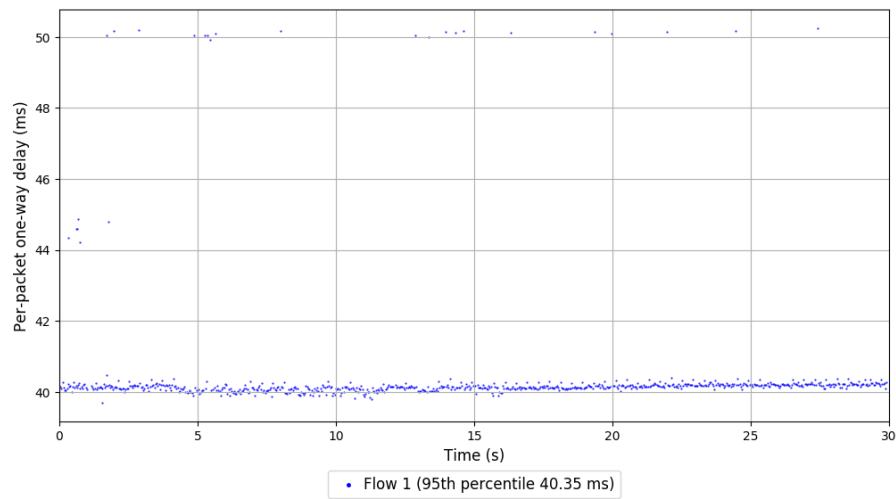
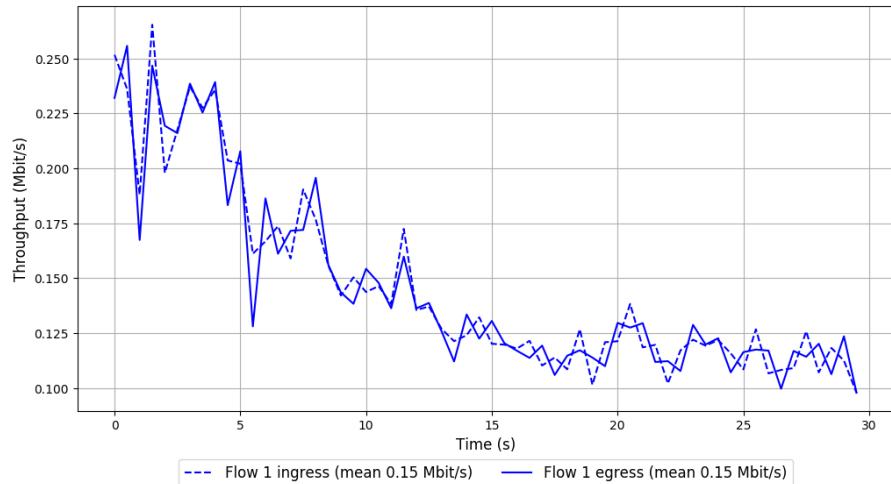


Run 1: Statistics of SCReAM

```
Start at: Mon, 07 Aug 2017 00:29:45 +0000
End at: Mon, 07 Aug 2017 00:30:15 +0000
Local clock offset: 0.626 ms
Remote clock offset: -5.807 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:43 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 40.349 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 0.15 Mbit/s
95th percentile per-packet one-way delay: 40.349 ms
Loss rate: 0.61%
```

## Run 1: Report of SCReAM — Data Link

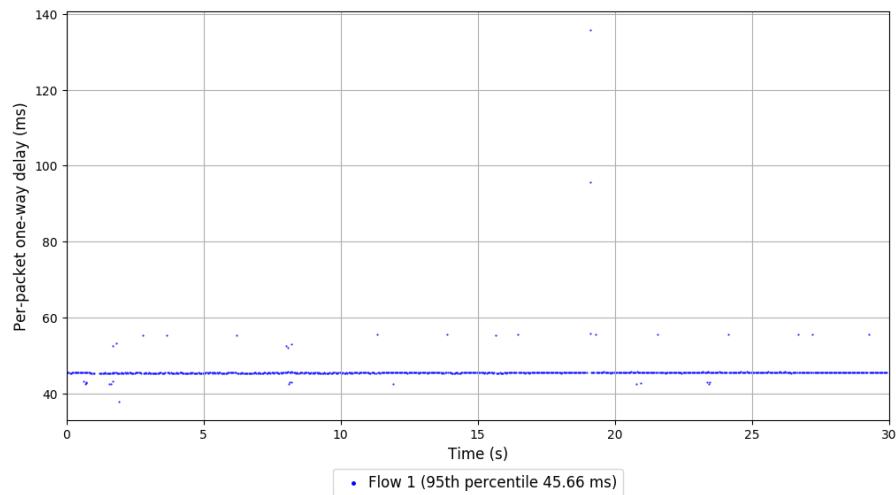
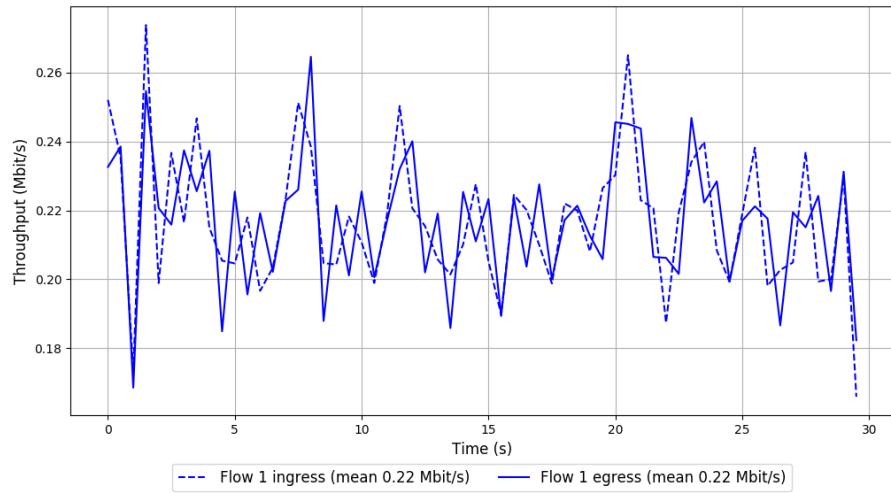


Run 2: Statistics of SCReAM

```
Start at: Mon, 07 Aug 2017 00:50:56 +0000
End at: Mon, 07 Aug 2017 00:51:26 +0000
Local clock offset: -0.535 ms
Remote clock offset: -5.001 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:43 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 45.663 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 45.663 ms
Loss rate: 0.00%
```

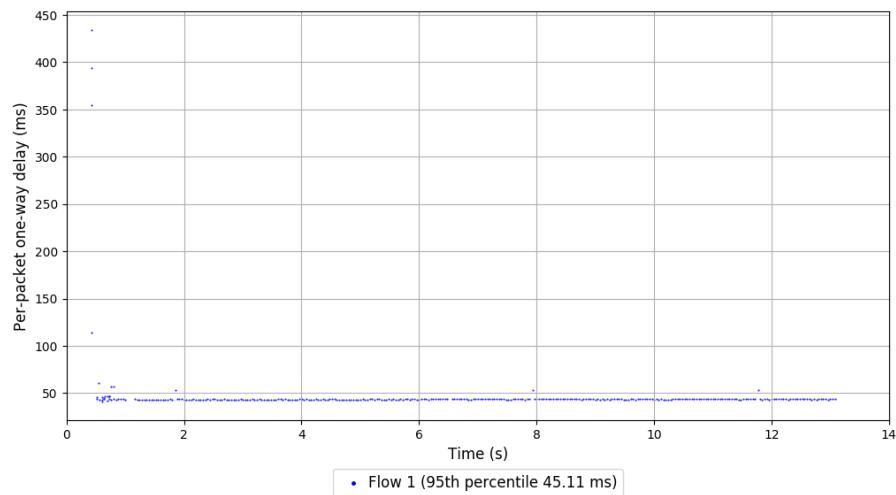
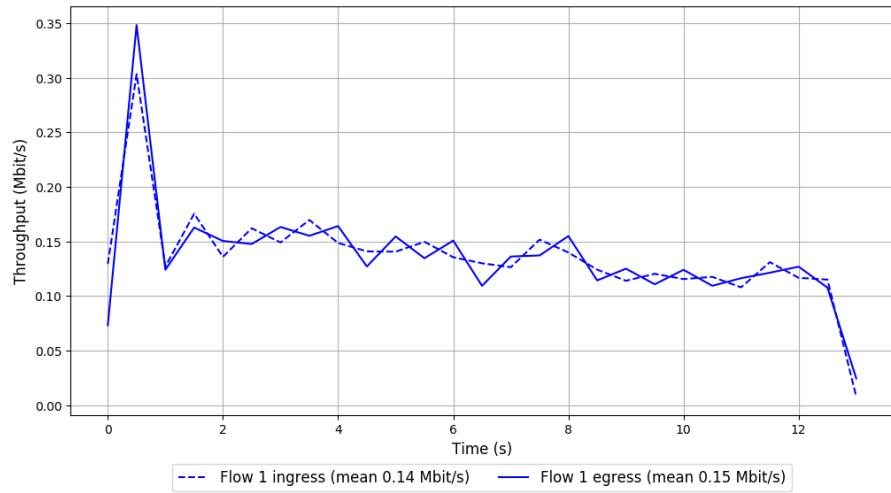
## Run 2: Report of SCReAM — Data Link



Run 3: Statistics of SCReAM

Start at: Mon, 07 Aug 2017 01:09:13 +0000  
End at: Mon, 07 Aug 2017 01:09:43 +0000  
Local clock offset: -3.895 ms  
Remote clock offset: -4.658 ms

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

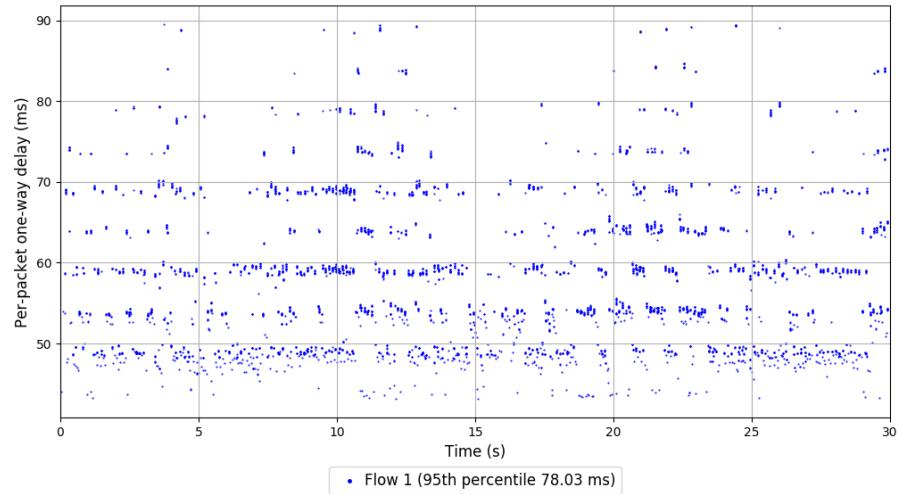
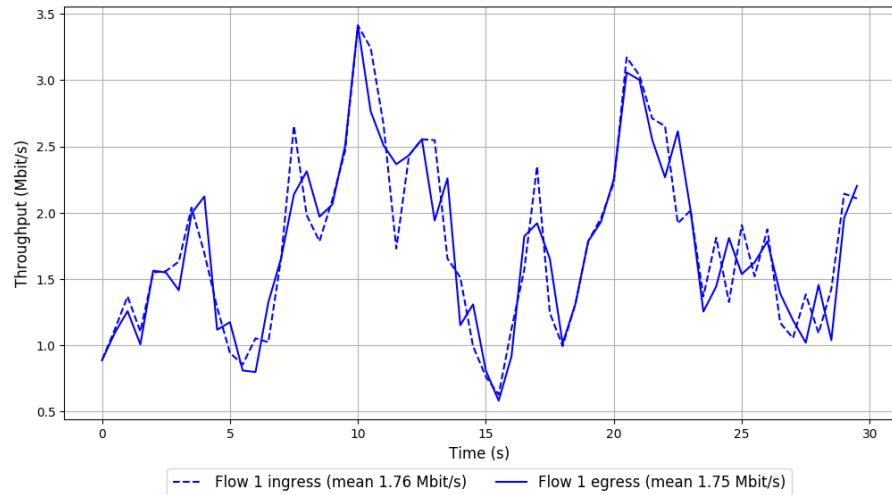


Run 1: Statistics of Sprout

```
Start at: Mon, 07 Aug 2017 00:36:13 +0000
End at: Mon, 07 Aug 2017 00:36:43 +0000
Local clock offset: -0.769 ms
Remote clock offset: -4.63 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:44 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 78.027 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 1.75 Mbit/s
95th percentile per-packet one-way delay: 78.027 ms
Loss rate: 0.45%
```

## Run 1: Report of Sprout — Data Link

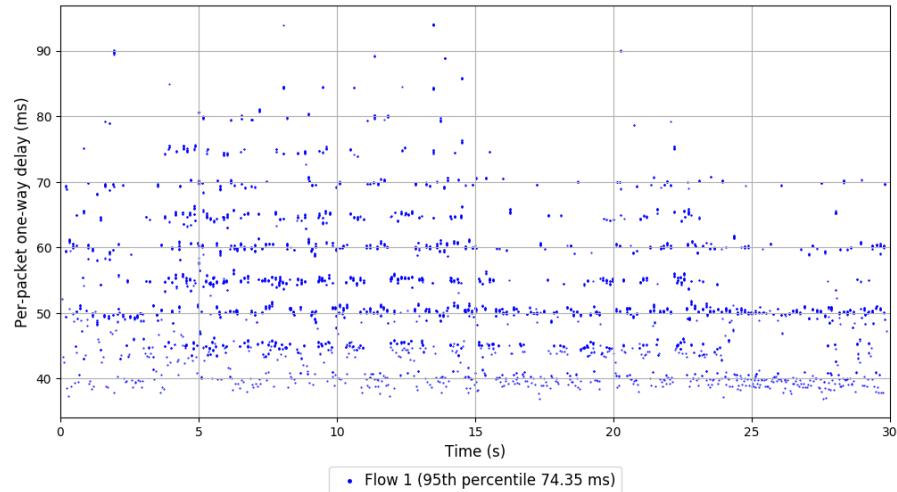
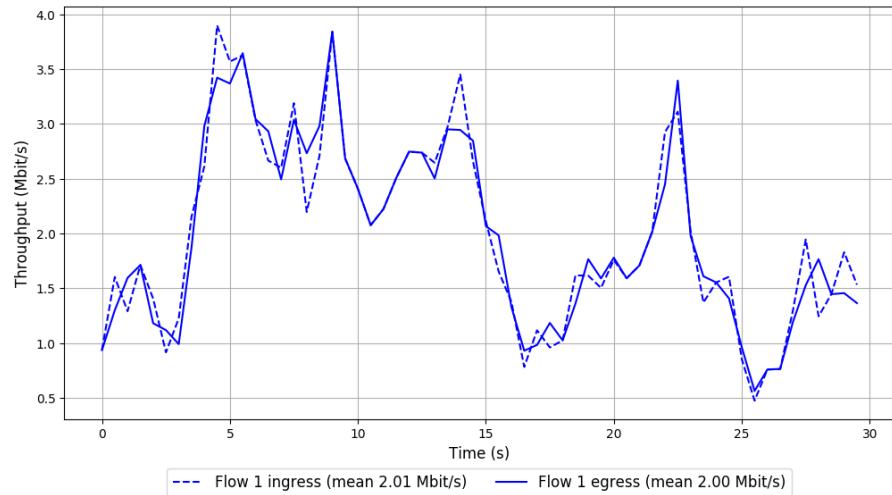


Run 2: Statistics of Sprout

```
Start at: Mon, 07 Aug 2017 00:58:19 +0000
End at: Mon, 07 Aug 2017 00:58:49 +0000
Local clock offset: -0.956 ms
Remote clock offset: -4.843 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:44 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 74.351 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 2.00 Mbit/s
95th percentile per-packet one-way delay: 74.351 ms
Loss rate: 0.45%
```

## Run 2: Report of Sprout — Data Link

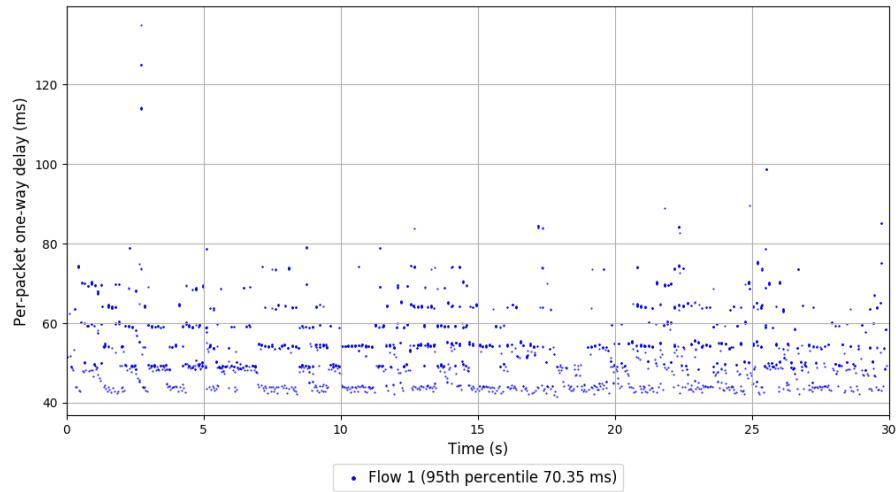
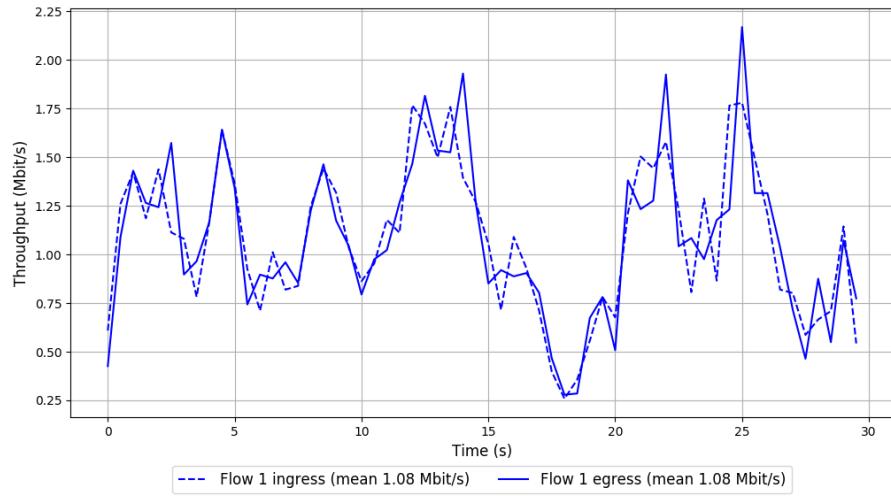


Run 3: Statistics of Sprout

```
Start at: Mon, 07 Aug 2017 01:14:41 +0000
End at: Mon, 07 Aug 2017 01:15:11 +0000
Local clock offset: -1.328 ms
Remote clock offset: -5.606 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:45 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 70.353 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.08 Mbit/s
95th percentile per-packet one-way delay: 70.353 ms
Loss rate: 0.00%
```

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

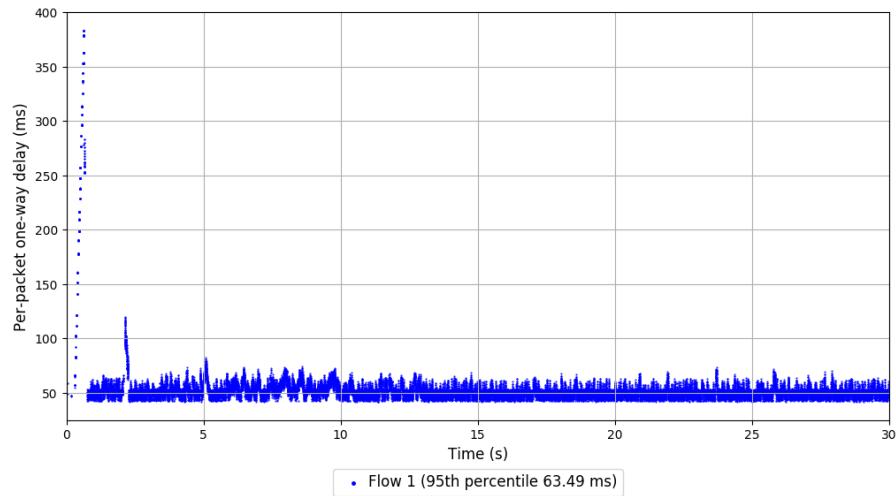
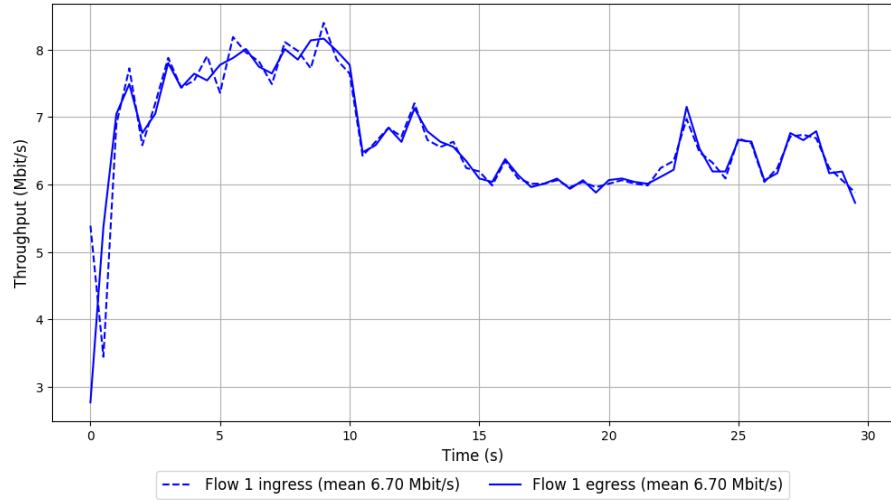


Run 1: Statistics of TaoVA-100x

```
Start at: Mon, 07 Aug 2017 00:37:19 +0000
End at: Mon, 07 Aug 2017 00:37:49 +0000
Local clock offset: 0.71 ms
Remote clock offset: -5.14 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:47 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.70 Mbit/s
95th percentile per-packet one-way delay: 63.488 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 6.70 Mbit/s
95th percentile per-packet one-way delay: 63.488 ms
Loss rate: 0.16%
```

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

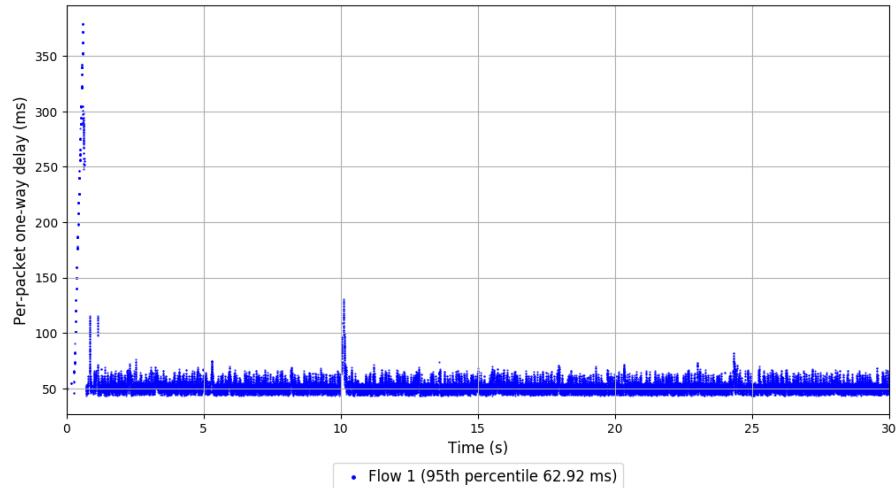
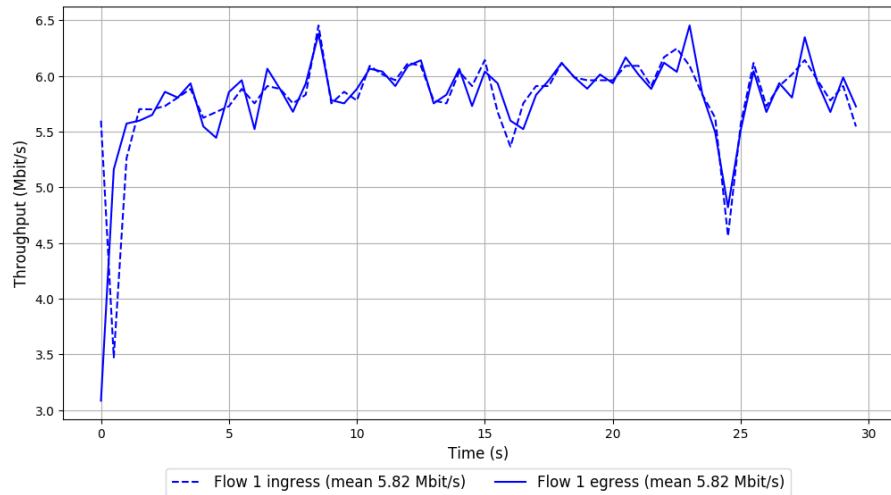


Run 2: Statistics of TaoVA-100x

```
Start at: Mon, 07 Aug 2017 00:59:24 +0000
End at: Mon, 07 Aug 2017 00:59:54 +0000
Local clock offset: -1.226 ms
Remote clock offset: -4.5 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.82 Mbit/s
95th percentile per-packet one-way delay: 62.919 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 5.82 Mbit/s
95th percentile per-packet one-way delay: 62.919 ms
Loss rate: 0.16%
```

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

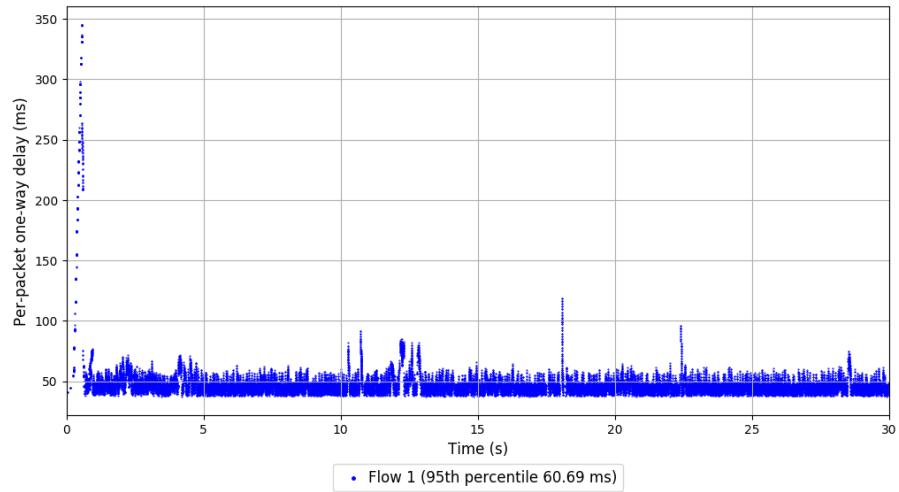
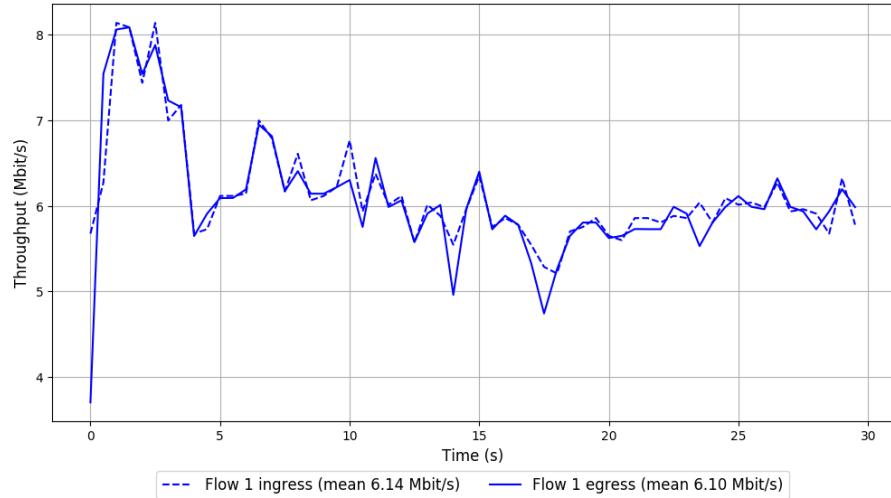


Run 3: Statistics of TaoVA-100x

```
Start at: Mon, 07 Aug 2017 01:15:46 +0000
End at: Mon, 07 Aug 2017 01:16:16 +0000
Local clock offset: -0.234 ms
Remote clock offset: -3.6 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:50 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 60.694 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 6.10 Mbit/s
95th percentile per-packet one-way delay: 60.694 ms
Loss rate: 0.81%
```

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

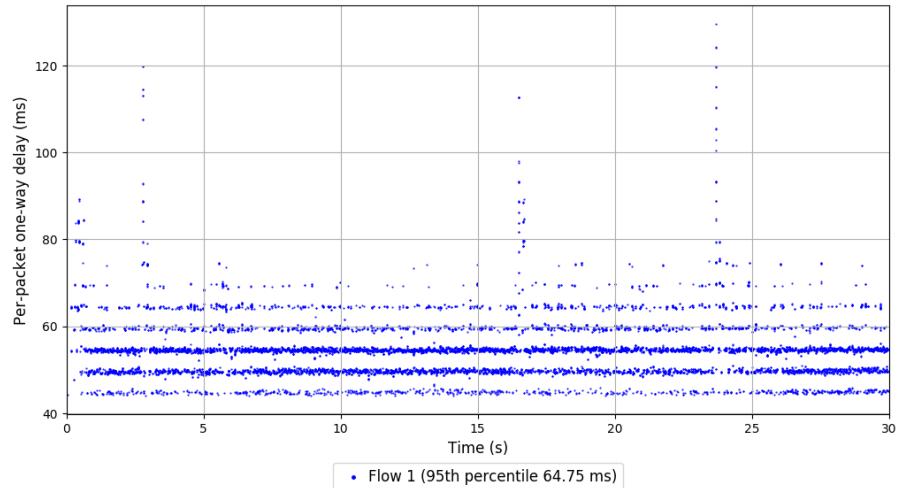
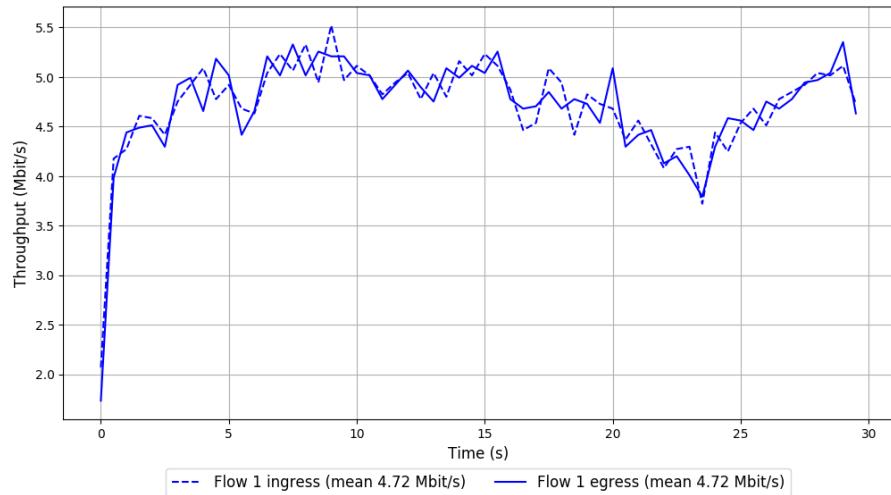


Run 1: Statistics of TCP Vegas

```
Start at: Mon, 07 Aug 2017 00:38:25 +0000
End at: Mon, 07 Aug 2017 00:38:55 +0000
Local clock offset: -0.293 ms
Remote clock offset: -4.842 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:50 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.72 Mbit/s
95th percentile per-packet one-way delay: 64.754 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 4.72 Mbit/s
95th percentile per-packet one-way delay: 64.754 ms
Loss rate: 0.15%
```

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

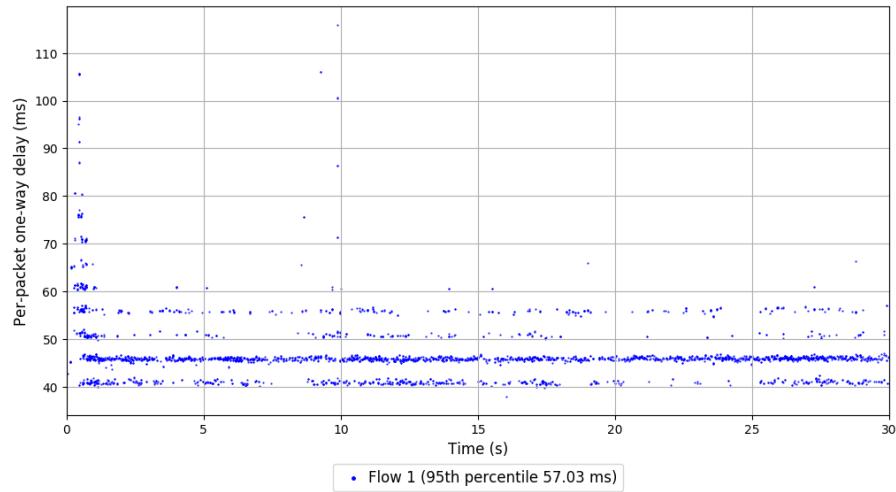
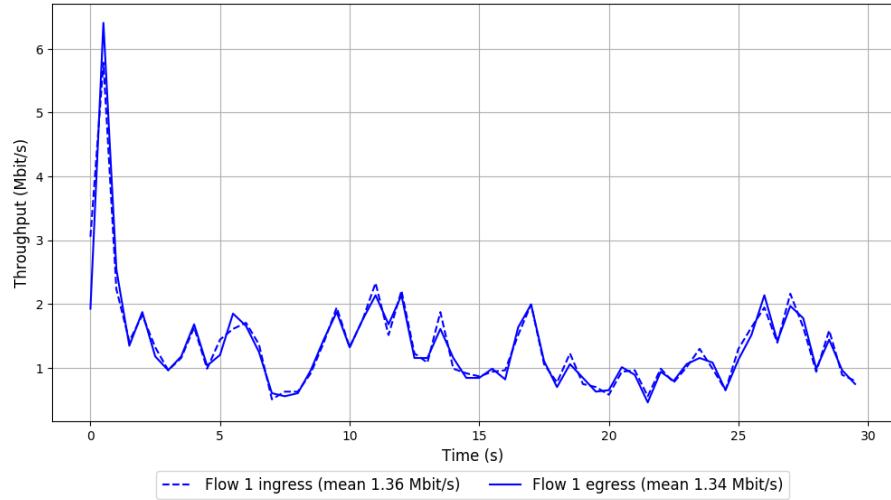


Run 2: Statistics of TCP Vegas

```
Start at: Mon, 07 Aug 2017 01:00:30 +0000
End at: Mon, 07 Aug 2017 01:01:00 +0000
Local clock offset: -0.428 ms
Remote clock offset: -4.659 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:51 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 57.026 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 1.34 Mbit/s
95th percentile per-packet one-way delay: 57.026 ms
Loss rate: 1.30%
```

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

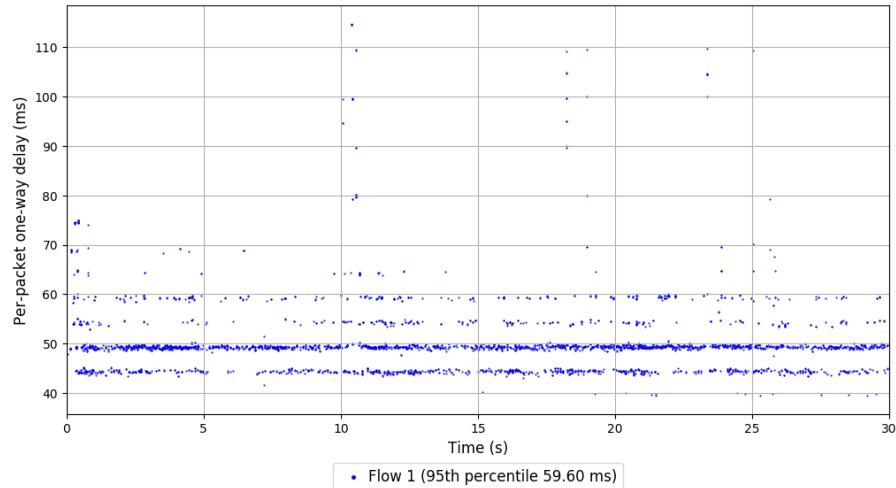
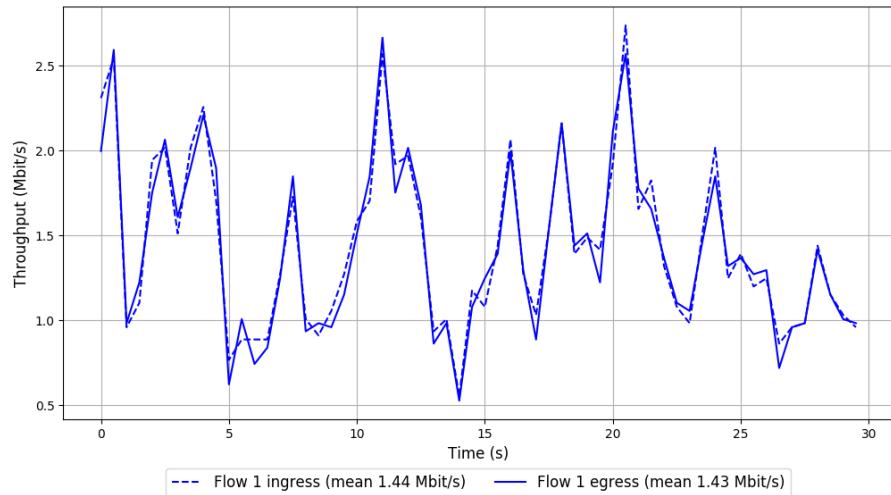


Run 3: Statistics of TCP Vegas

```
Start at: Mon, 07 Aug 2017 01:16:53 +0000
End at: Mon, 07 Aug 2017 01:17:23 +0000
Local clock offset: -3.076 ms
Remote clock offset: -3.642 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:51 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 59.605 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 59.605 ms
Loss rate: 1.00%
```

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

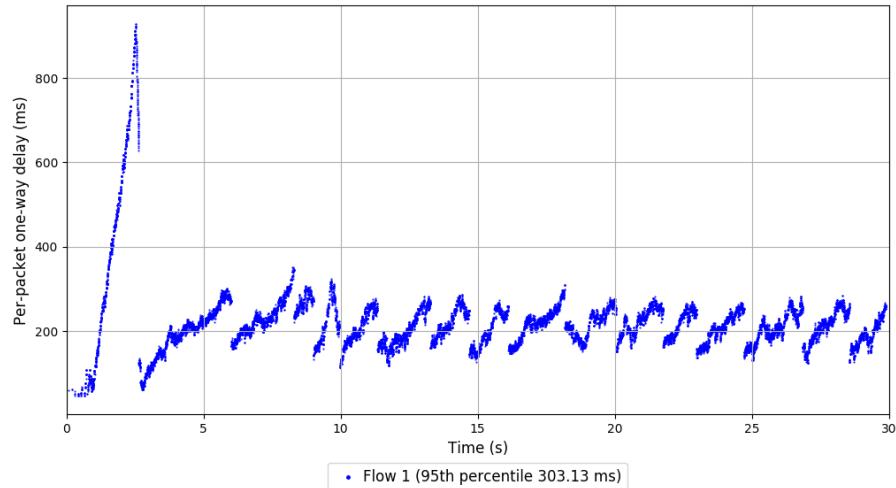
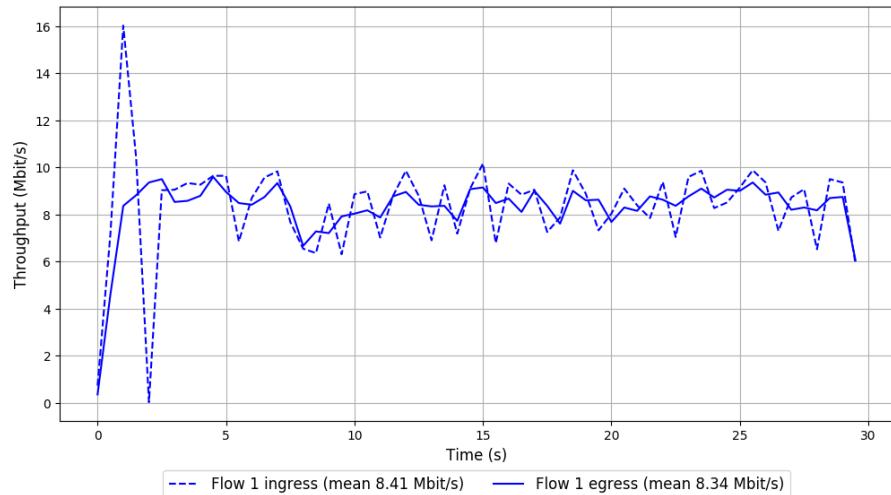


Run 1: Statistics of Verus

```
Start at: Mon, 07 Aug 2017 00:40:54 +0000
End at: Mon, 07 Aug 2017 00:41:24 +0000
Local clock offset: -2.512 ms
Remote clock offset: -4.898 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:52 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.34 Mbit/s
95th percentile per-packet one-way delay: 303.128 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 8.34 Mbit/s
95th percentile per-packet one-way delay: 303.128 ms
Loss rate: 0.90%
```

## Run 1: Report of Verus — Data Link

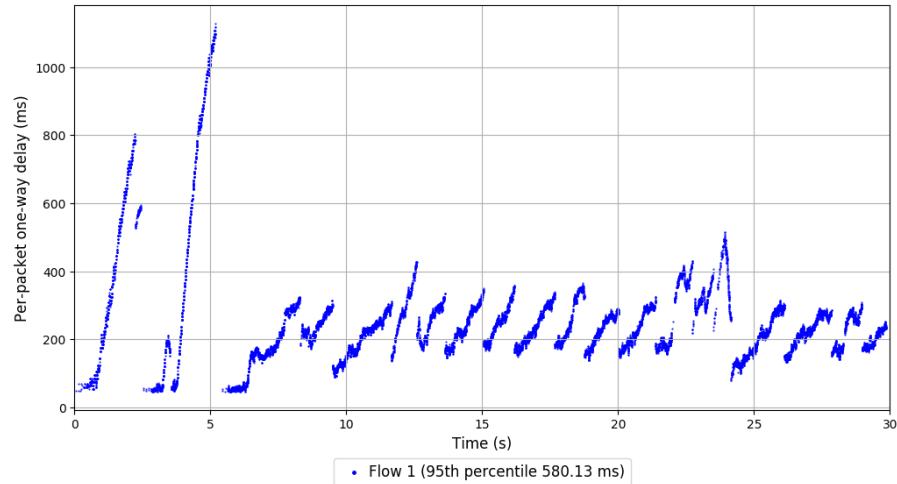
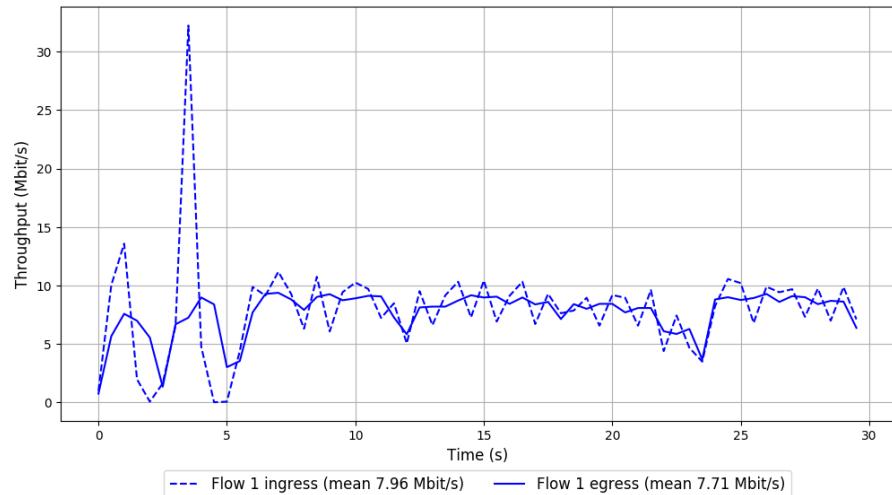


Run 2: Statistics of Verus

```
Start at: Mon, 07 Aug 2017 01:02:39 +0000
End at: Mon, 07 Aug 2017 01:03:09 +0000
Local clock offset: -3.314 ms
Remote clock offset: -3.732 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:53 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.71 Mbit/s
95th percentile per-packet one-way delay: 580.127 ms
Loss rate: 3.22%
-- Flow 1:
Average throughput: 7.71 Mbit/s
95th percentile per-packet one-way delay: 580.127 ms
Loss rate: 3.22%
```

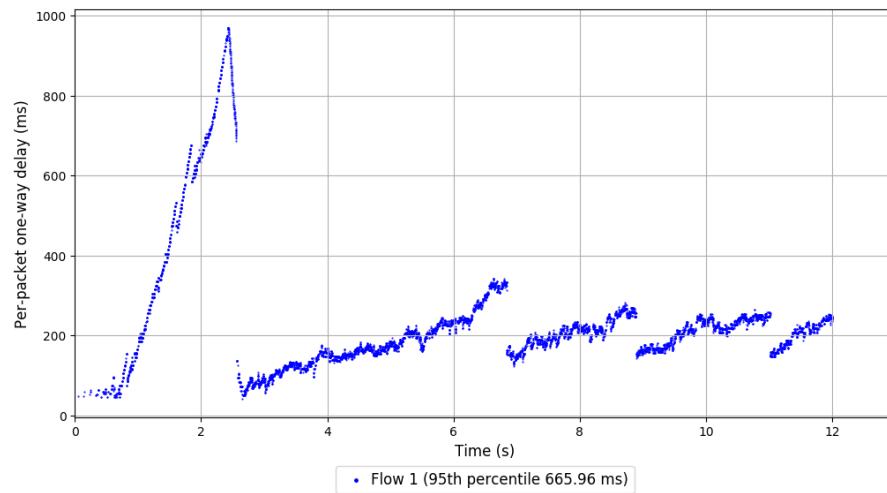
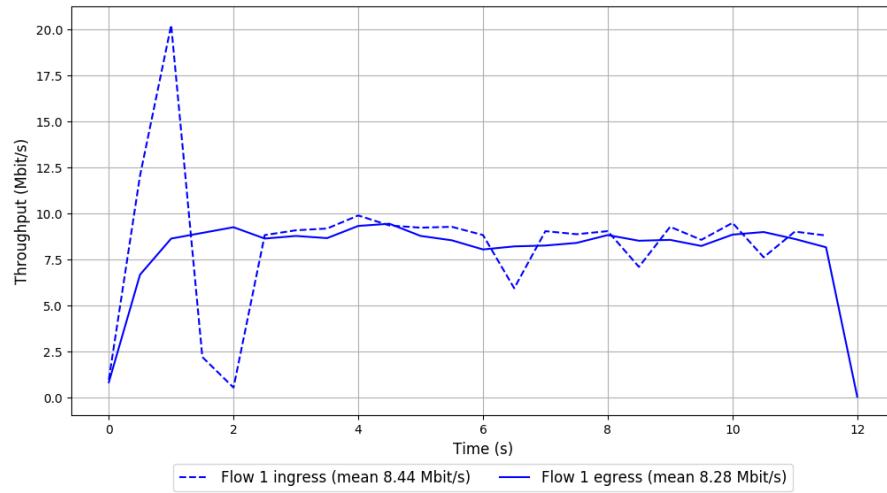
## Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

Start at: Mon, 07 Aug 2017 01:19:04 +0000  
End at: Mon, 07 Aug 2017 01:19:34 +0000  
Local clock offset: -2.951 ms  
Remote clock offset: -3.439 ms

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

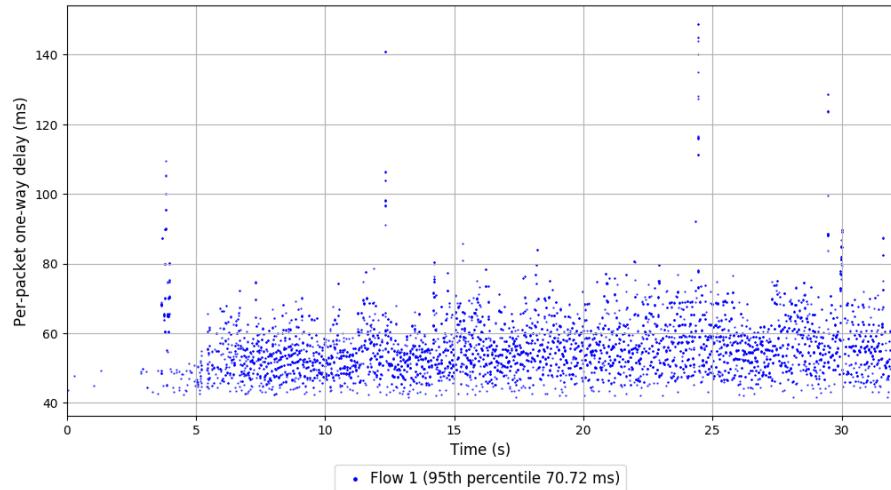
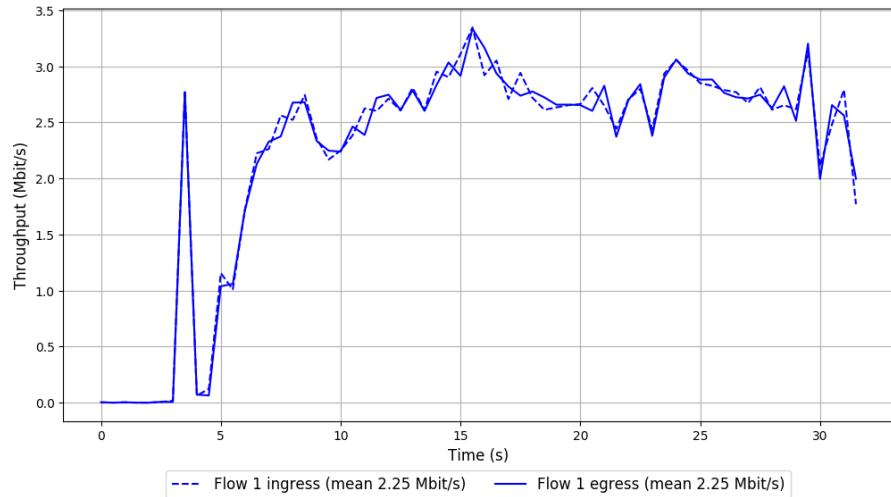


```
Run 1: Statistics of WebRTC media

Start at: Mon, 07 Aug 2017 00:27:23 +0000
End at: Mon, 07 Aug 2017 00:27:53 +0000
Local clock offset: 0.914 ms
Remote clock offset: -5.051 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:55 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 70.718 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 70.718 ms
Loss rate: 0.15%
```

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

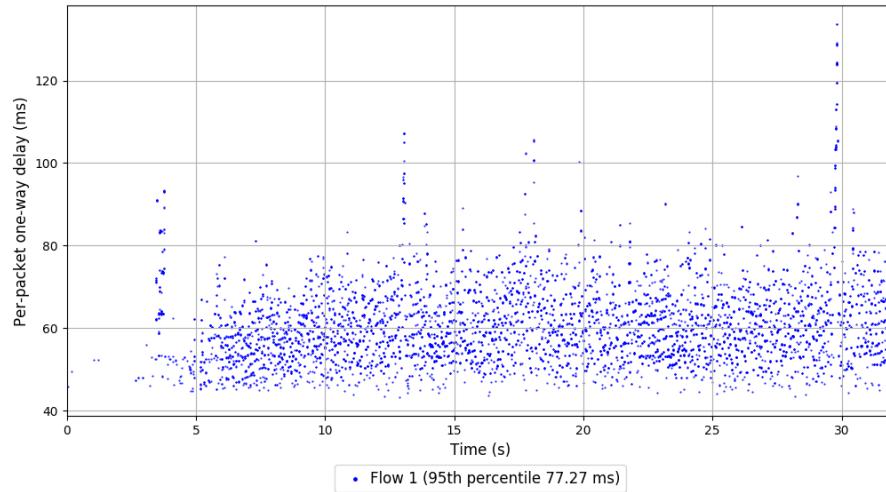
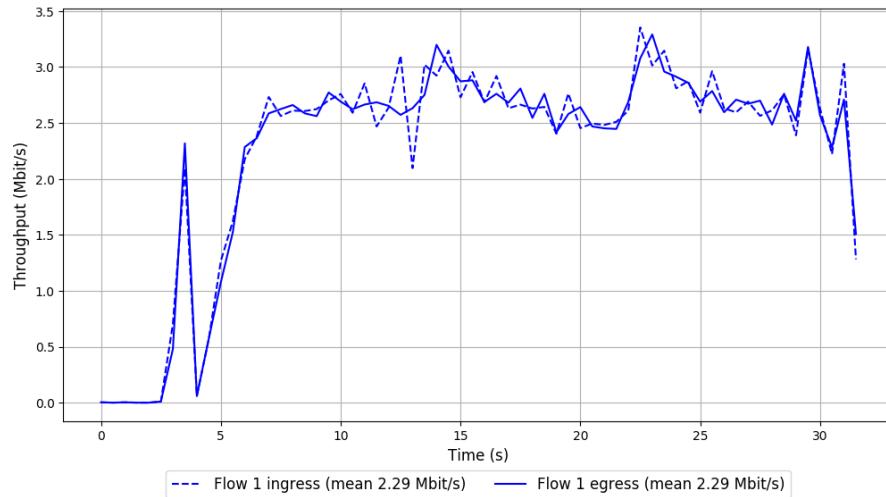


Run 2: Statistics of WebRTC media

```
Start at: Mon, 07 Aug 2017 00:48:07 +0000
End at: Mon, 07 Aug 2017 00:48:37 +0000
Local clock offset: -1.383 ms
Remote clock offset: -4.599 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:56 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 77.268 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 77.268 ms
Loss rate: 0.21%
```

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



Run 3: Statistics of WebRTC media

```
Start at: Mon, 07 Aug 2017 01:07:02 +0000
End at: Mon, 07 Aug 2017 01:07:32 +0000
Local clock offset: -2.008 ms
Remote clock offset: -5.203 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:24:56 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 68.235 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 68.235 ms
Loss rate: 0.16%
```

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

