

Pantheon Summary (Generated at Tue, 25 Jul 2017 08:22:50 +0000 with pantheon version 266b116f0817a07d000b4d181ce187fd27d3e654)

Repeated the test of 15 congestion control schemes 3 times.

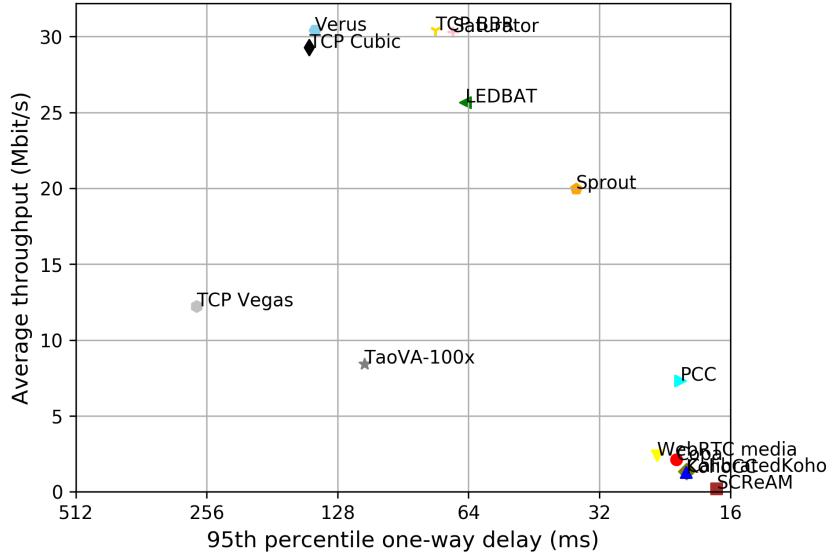
Each test lasted for 30 seconds running 1 flow.

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

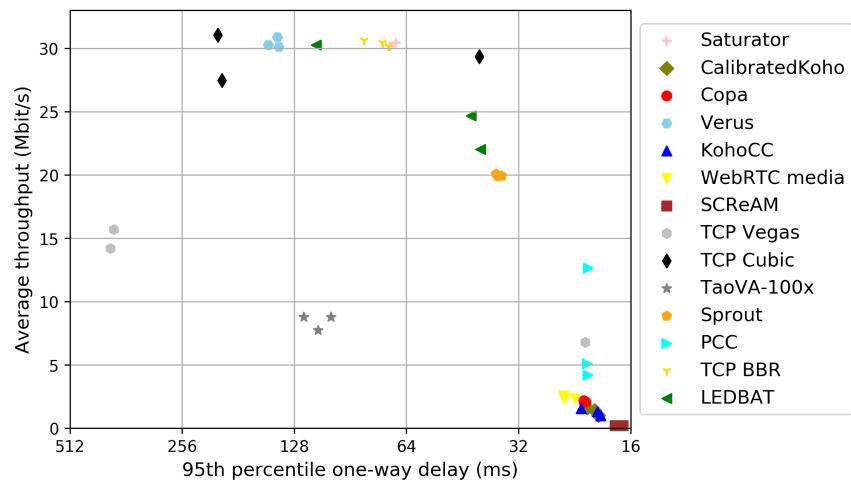
NTP offset measured against gps.ntp.br and has been applied to correct the timestamps in logs.

```
git branch: master @ 266b116f0817a07d000b4d181ce187fd27d3e654
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 Brazil 1 Ethernet to Brazil ppp0, 3 runs of 30s each per scheme
(mean of all runs by scheme)



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



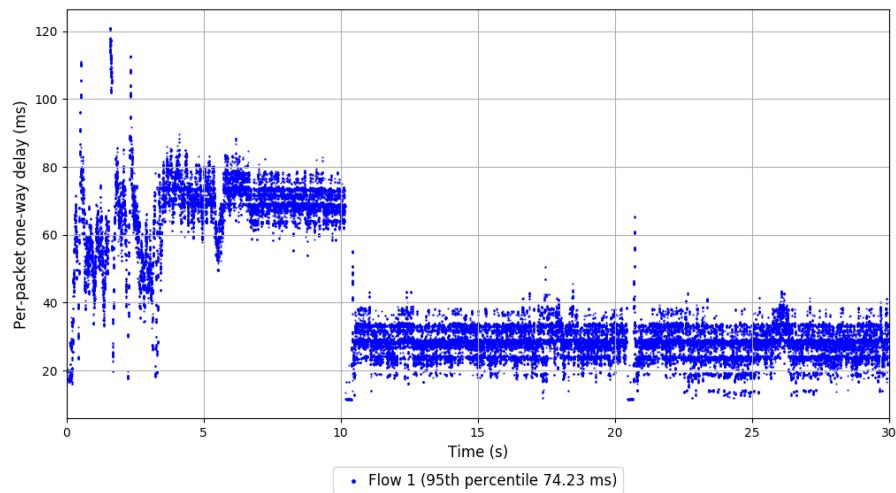
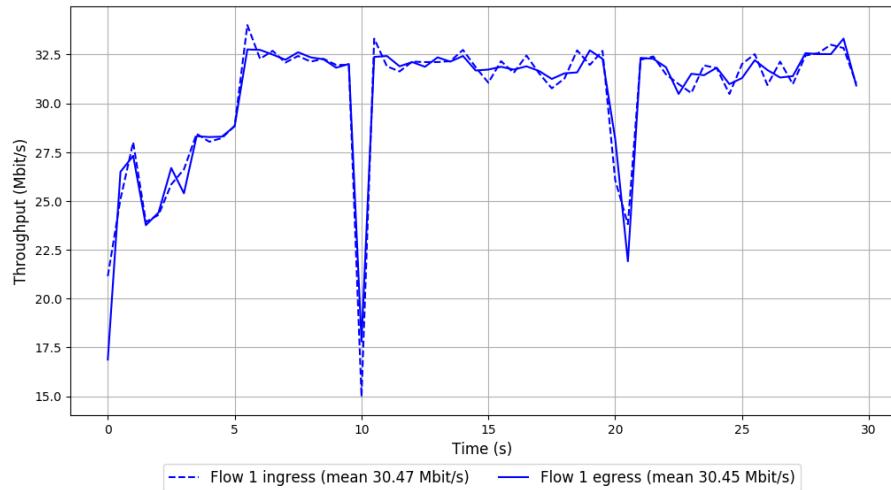
scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	30.42	76.26	0.31
CalibratedKoho	3	1.34	20.17	0.03
Copa	3	2.11	21.29	0.03
TCP Cubic	3	29.28	148.76	0.54
KohoCC	3	1.28	20.22	0.54
LEDBAT	3	25.66	65.06	0.45
PCC	3	7.31	20.86	0.06
QUIC Cubic	3	nan	nan	nan
Saturator	3	30.31	69.55	0.50
SCReAM	3	0.21	17.22	0.00
Sprout	3	19.98	36.23	0.23
TaoVA-100x	3	8.43	111.12	0.05
TCP Vegas	3	12.23	270.01	0.26
Verus	3	30.42	144.38	0.66
WebRTC media	3	2.40	23.61	0.06

```
Run 1: Statistics of TCP BBR
```

```
Start at: Tue, 25 Jul 2017 06:57:31 +0000
End at: Tue, 25 Jul 2017 06:58:01 +0000
Local clock offset: -2.095 ms
Remote clock offset: -0.271 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:21:47 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.45 Mbit/s
95th percentile per-packet one-way delay: 74.226 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 30.45 Mbit/s
95th percentile per-packet one-way delay: 74.226 ms
Loss rate: 0.10%
```

Run 1: Report of TCP BBR — Data Link

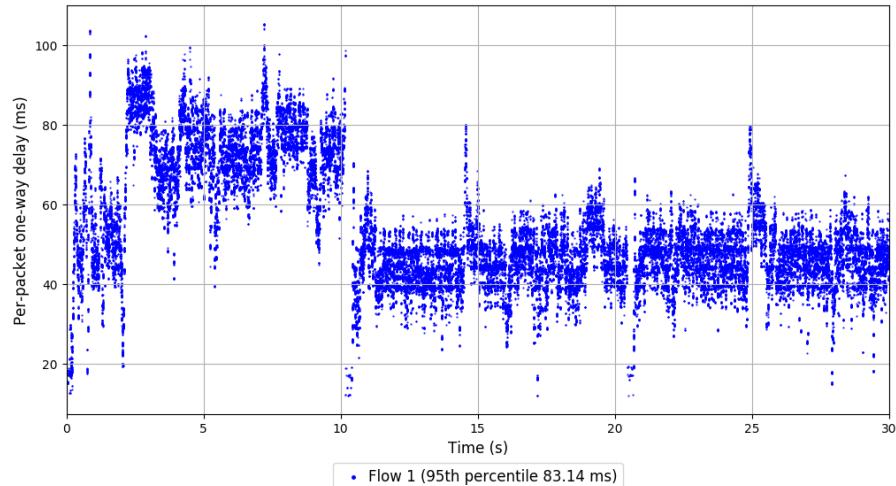
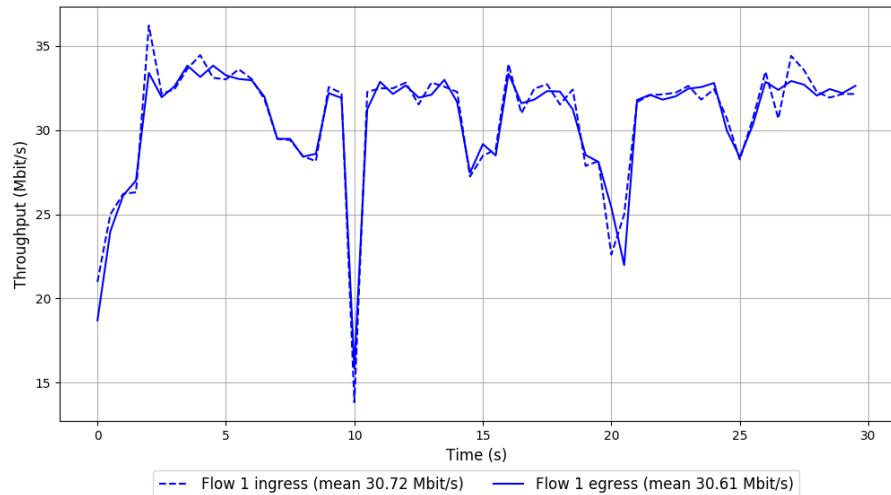


Run 2: Statistics of TCP BBR

```
Start at: Tue, 25 Jul 2017 07:13:42 +0000
End at: Tue, 25 Jul 2017 07:14:12 +0000
Local clock offset: -1.733 ms
Remote clock offset: -0.386 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:21:47 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.61 Mbit/s
95th percentile per-packet one-way delay: 83.138 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 30.61 Mbit/s
95th percentile per-packet one-way delay: 83.138 ms
Loss rate: 0.40%
```

Run 2: Report of TCP BBR — Data Link

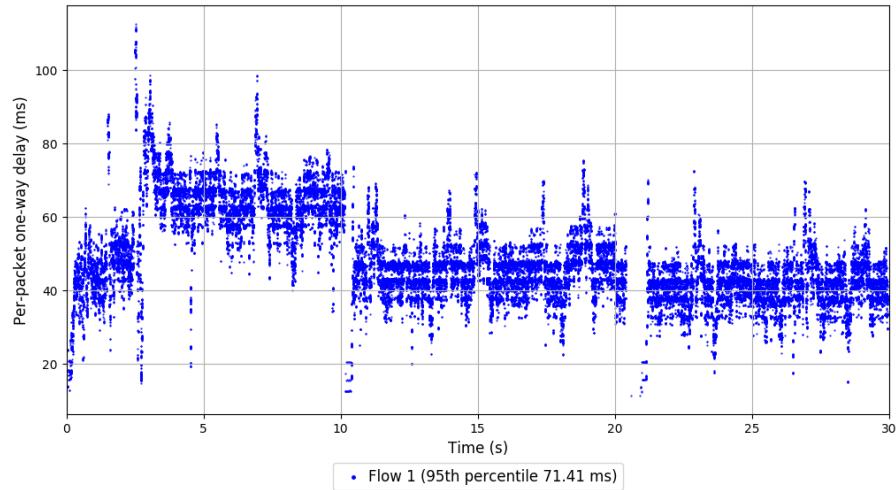
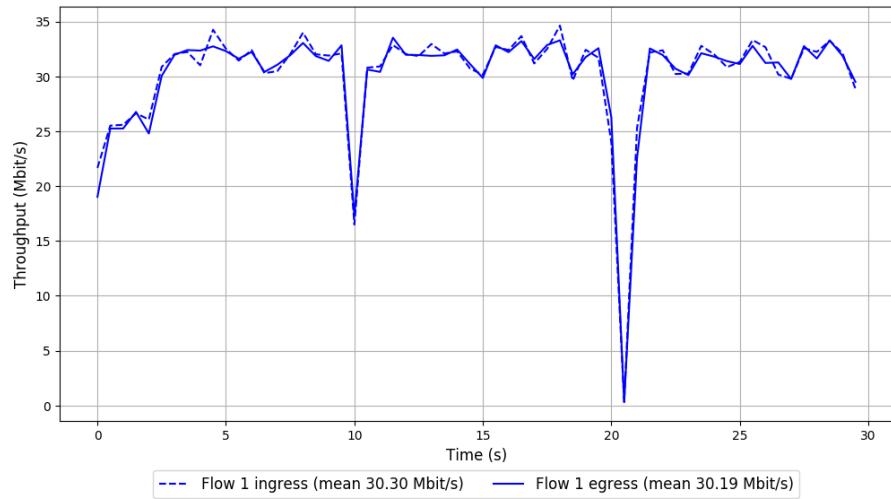


Run 3: Statistics of TCP BBR

```
Start at: Tue, 25 Jul 2017 07:29:55 +0000
End at: Tue, 25 Jul 2017 07:30:25 +0000
Local clock offset: -1.613 ms
Remote clock offset: -0.438 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:21:54 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.19 Mbit/s
95th percentile per-packet one-way delay: 71.412 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 30.19 Mbit/s
95th percentile per-packet one-way delay: 71.412 ms
Loss rate: 0.43%
```

Run 3: Report of TCP BBR — Data Link

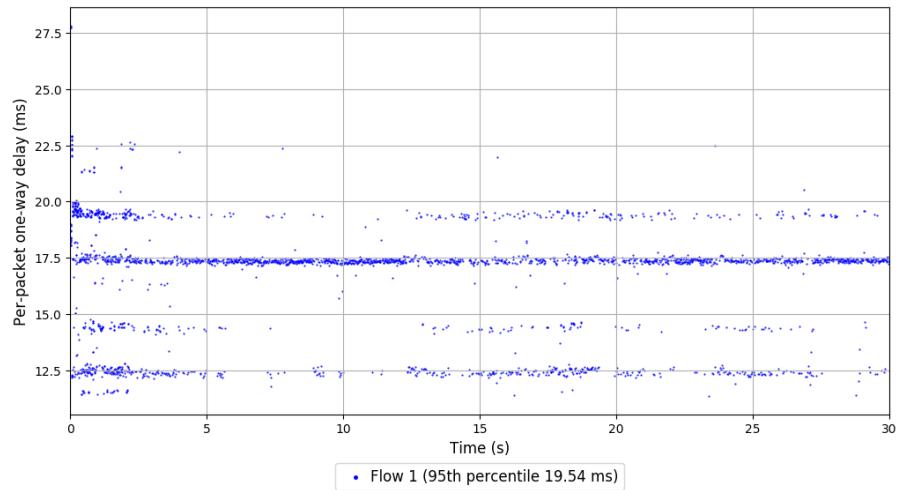
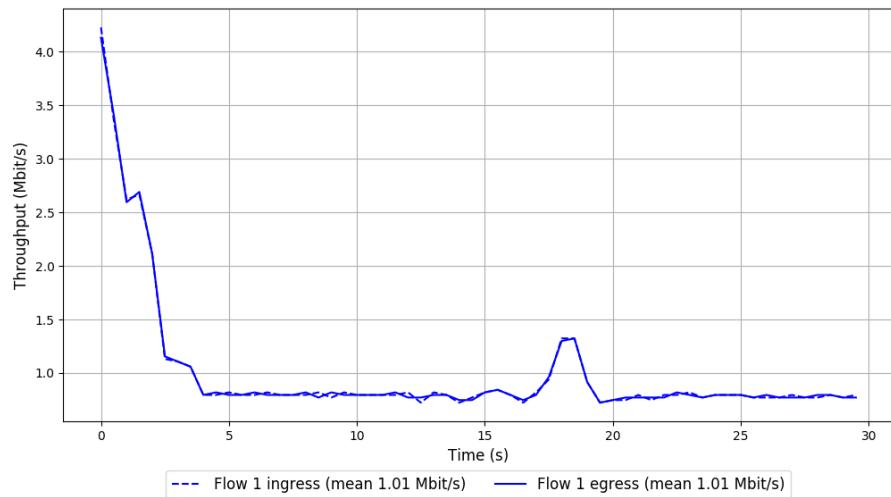


```
Run 1: Statistics of CalibratedKoho

Start at: Tue, 25 Jul 2017 06:52:05 +0000
End at: Tue, 25 Jul 2017 06:52:35 +0000
Local clock offset: -2.151 ms
Remote clock offset: -0.344 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:21:54 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 19.536 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 1.01 Mbit/s
95th percentile per-packet one-way delay: 19.536 ms
Loss rate: 0.04%
```

Run 1: Report of CalibratedKoho — Data Link

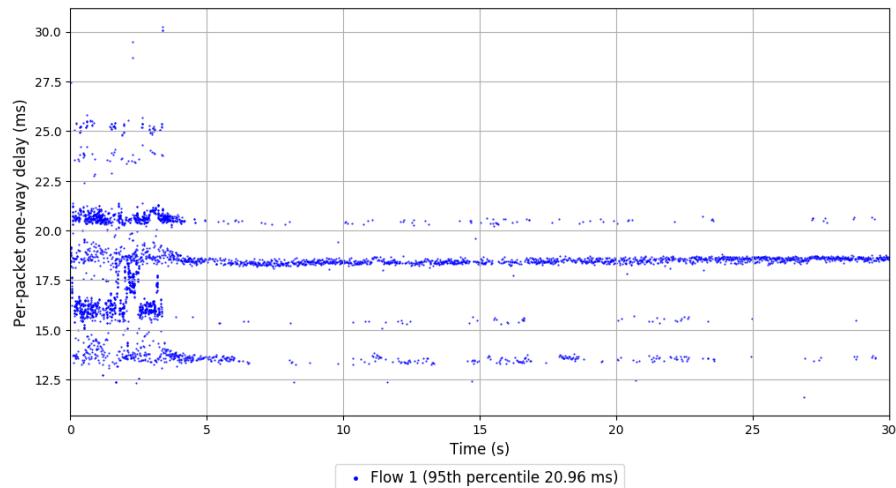
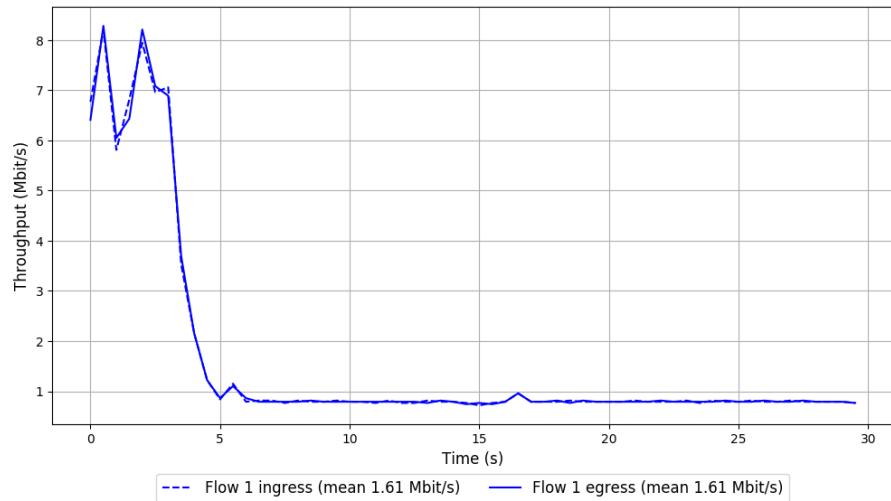


```
Run 2: Statistics of CalibratedKoho
```

```
Start at: Tue, 25 Jul 2017 07:08:16 +0000
End at: Tue, 25 Jul 2017 07:08:46 +0000
Local clock offset: -1.883 ms
Remote clock offset: -0.43 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:21:54 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.61 Mbit/s
95th percentile per-packet one-way delay: 20.964 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 1.61 Mbit/s
95th percentile per-packet one-way delay: 20.964 ms
Loss rate: 0.02%
```

Run 2: Report of CalibratedKoho — Data Link

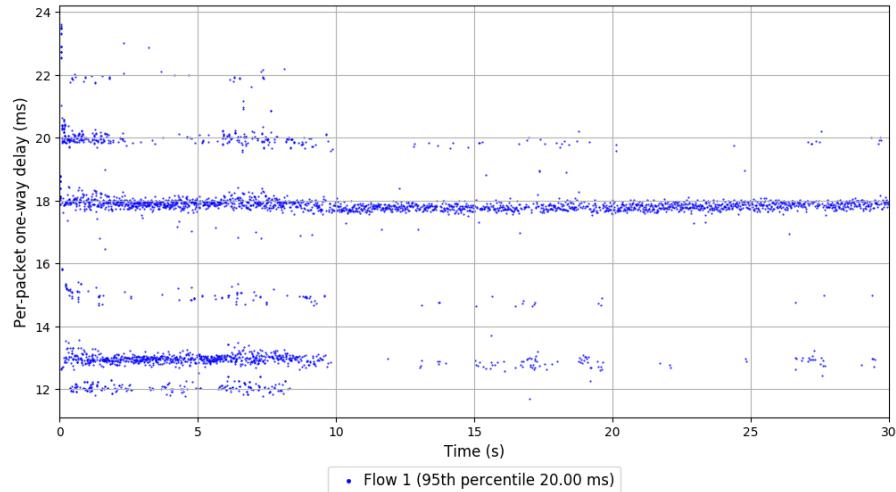
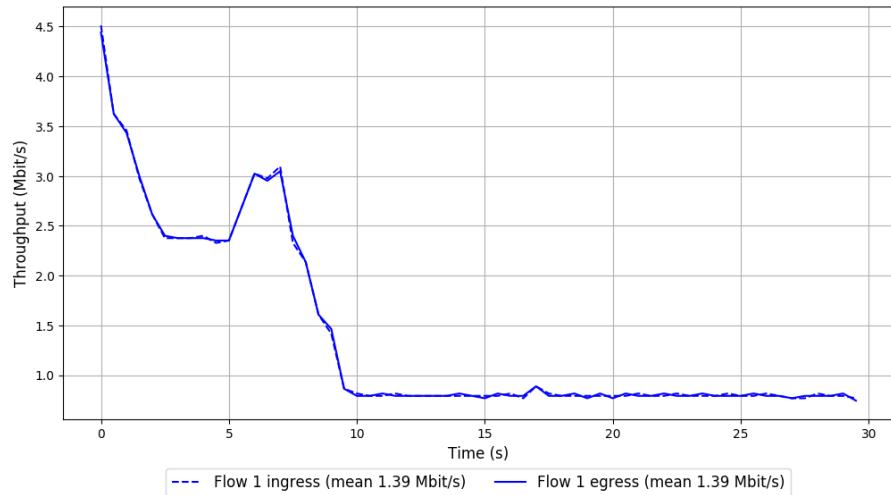


```
Run 3: Statistics of CalibratedKoho
```

```
Start at: Tue, 25 Jul 2017 07:24:29 +0000
End at: Tue, 25 Jul 2017 07:24:59 +0000
Local clock offset: -1.673 ms
Remote clock offset: -0.401 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:21:54 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 19.999 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 19.999 ms
Loss rate: 0.03%
```

Run 3: Report of CalibratedKoho — Data Link

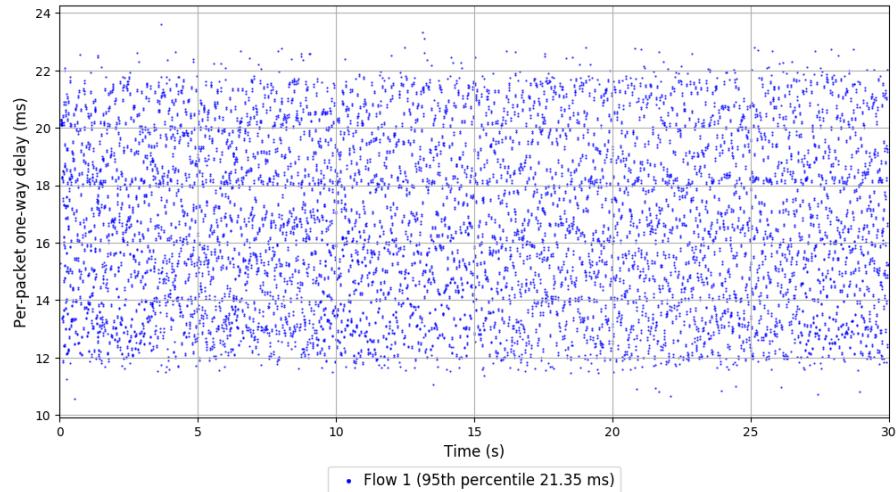
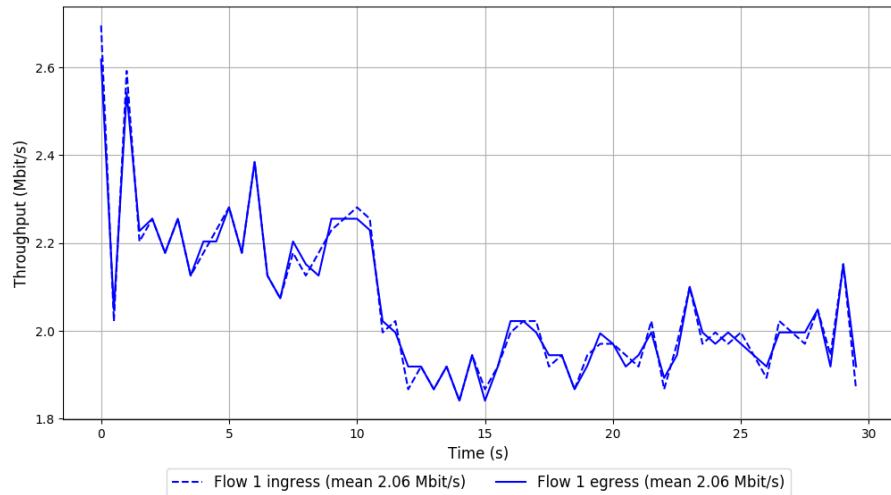


Run 1: Statistics of Copa

```
Start at: Tue, 25 Jul 2017 06:47:47 +0000
End at: Tue, 25 Jul 2017 06:48:17 +0000
Local clock offset: -2.146 ms
Remote clock offset: -0.311 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:21:54 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 21.350 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 2.06 Mbit/s
95th percentile per-packet one-way delay: 21.350 ms
Loss rate: 0.02%
```

Run 1: Report of Copa — Data Link

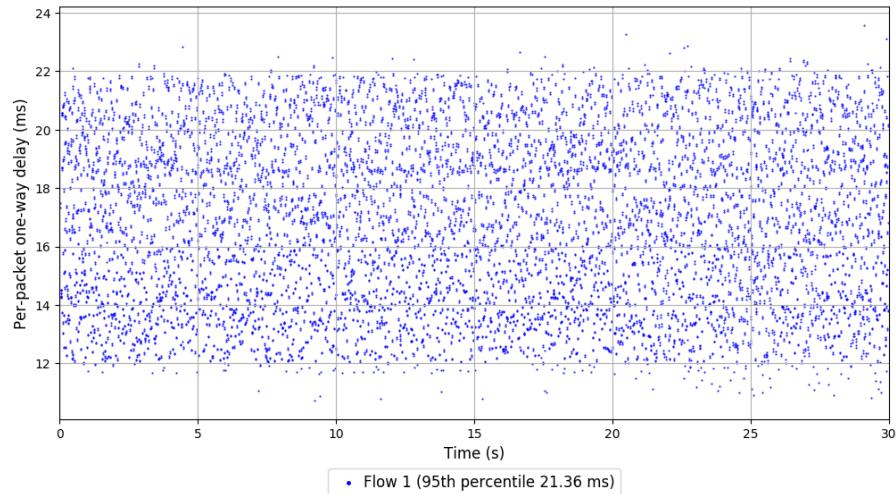
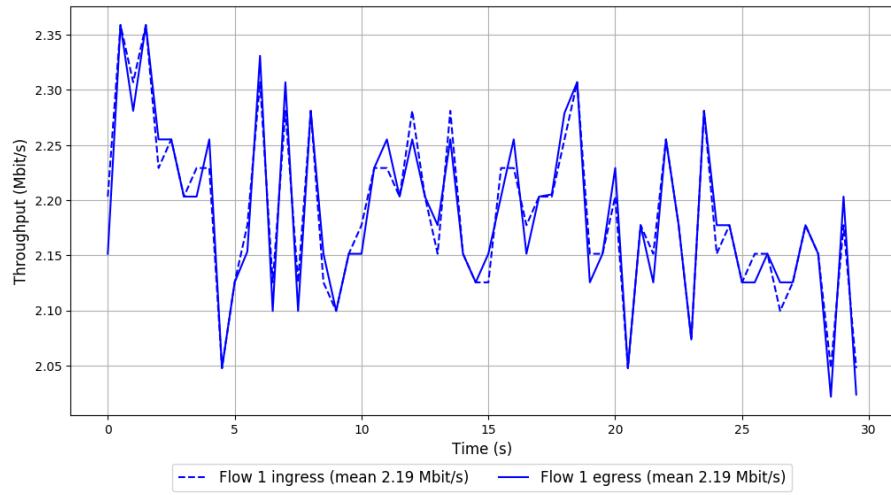


Run 2: Statistics of Copa

```
Start at: Tue, 25 Jul 2017 07:04:00 +0000
End at: Tue, 25 Jul 2017 07:04:30 +0000
Local clock offset: -1.891 ms
Remote clock offset: -0.336 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:21:54 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 21.363 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 21.363 ms
Loss rate: 0.06%
```

Run 2: Report of Copa — Data Link

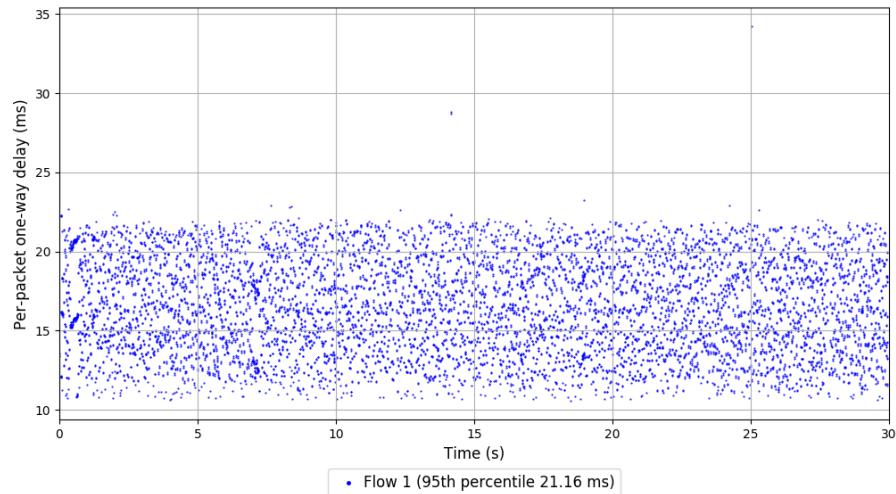
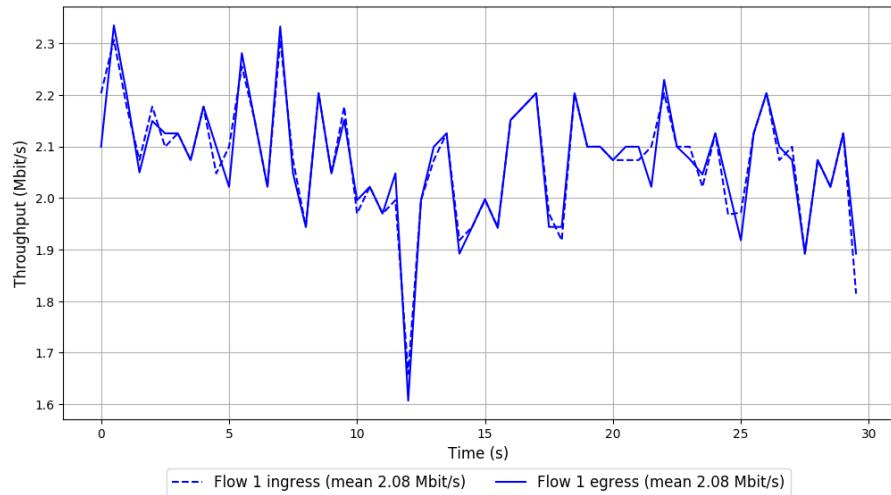


Run 3: Statistics of Copa

```
Start at: Tue, 25 Jul 2017 07:20:11 +0000
End at: Tue, 25 Jul 2017 07:20:41 +0000
Local clock offset: -1.637 ms
Remote clock offset: -0.485 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:21:54 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 21.164 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 21.164 ms
Loss rate: 0.00%
```

Run 3: Report of Copa — Data Link



```
Run 1: Statistics of TCP Cubic
```

```
Start at: Tue, 25 Jul 2017 06:54:14 +0000
```

```
End at: Tue, 25 Jul 2017 06:54:44 +0000
```

```
Local clock offset: -2.159 ms
```

```
Remote clock offset: -0.297 ms
```

```
# Below is generated by plot.py at Tue, 25 Jul 2017 08:21:57 +0000
```

```
# Datalink statistics
```

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

```
Average throughput: 27.48 Mbit/s
```

```
95th percentile per-packet one-way delay: 199.990 ms
```

```
Loss rate: 0.65%
```

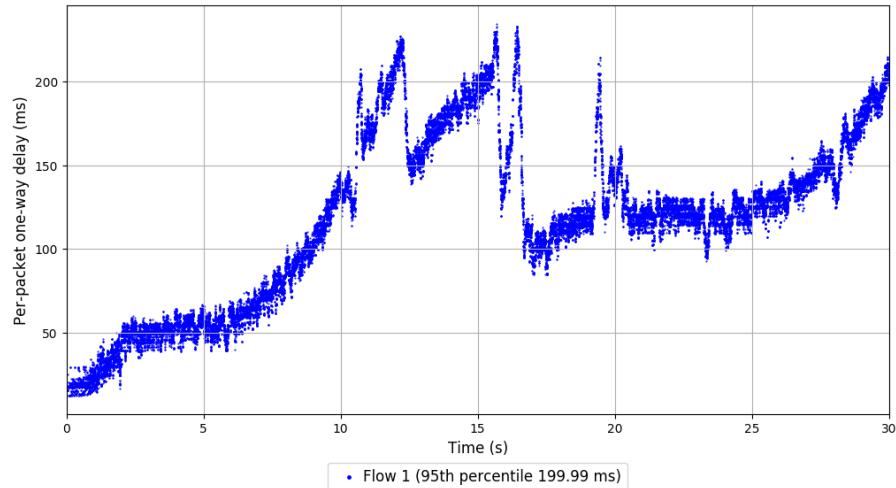
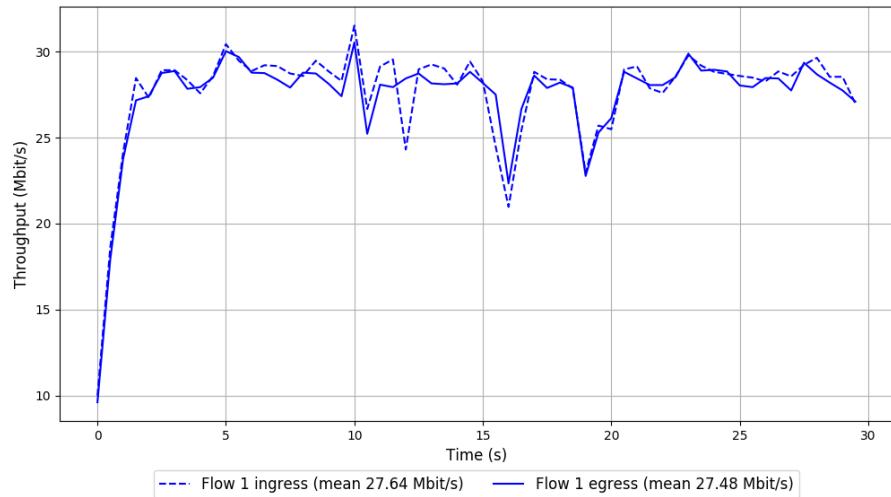
```
-- Flow 1:
```

```
Average throughput: 27.48 Mbit/s
```

```
95th percentile per-packet one-way delay: 199.990 ms
```

```
Loss rate: 0.65%
```

Run 1: Report of TCP Cubic — Data Link

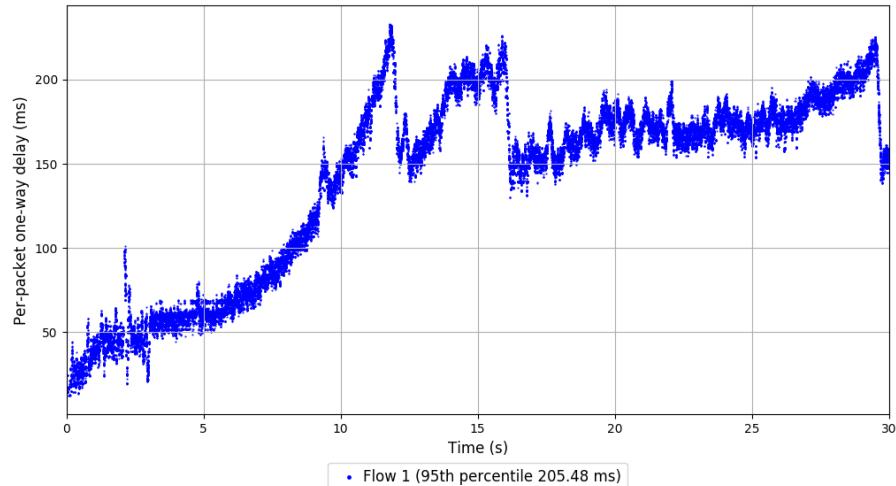
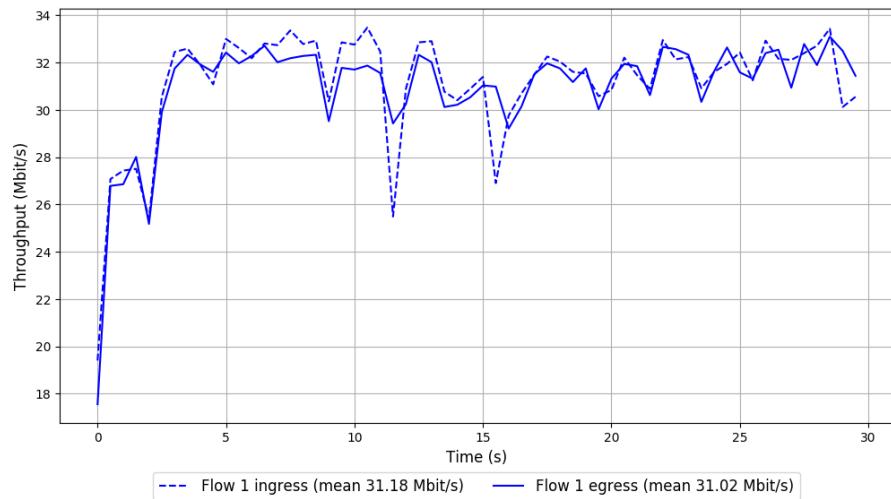


Run 2: Statistics of TCP Cubic

```
Start at: Tue, 25 Jul 2017 07:10:25 +0000
End at: Tue, 25 Jul 2017 07:10:55 +0000
Local clock offset: -1.787 ms
Remote clock offset: -0.407 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:21:59 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 31.02 Mbit/s
95th percentile per-packet one-way delay: 205.476 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 31.02 Mbit/s
95th percentile per-packet one-way delay: 205.476 ms
Loss rate: 0.54%
```

Run 2: Report of TCP Cubic — Data Link

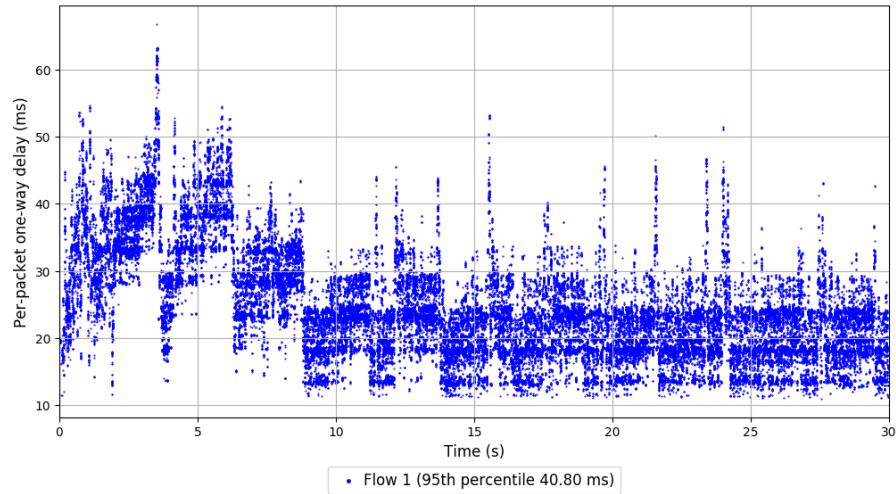
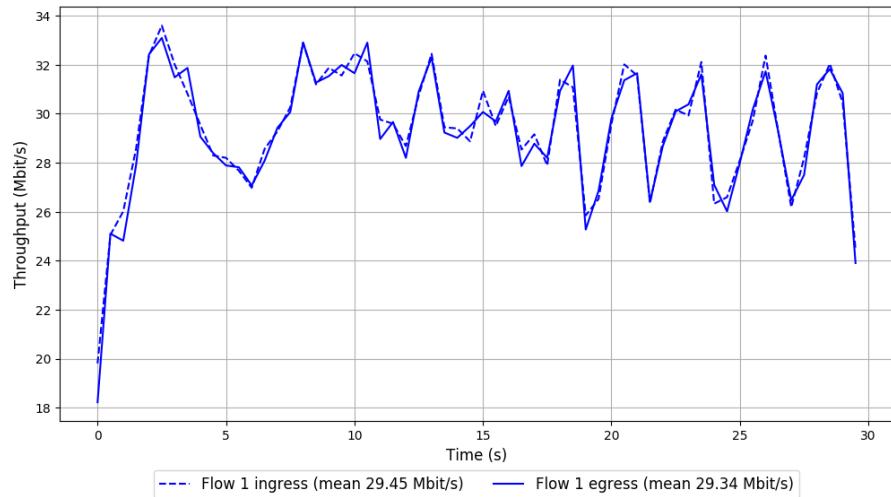


Run 3: Statistics of TCP Cubic

```
Start at: Tue, 25 Jul 2017 07:26:38 +0000
End at: Tue, 25 Jul 2017 07:27:08 +0000
Local clock offset: -1.644 ms
Remote clock offset: -0.427 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:03 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 29.34 Mbit/s
95th percentile per-packet one-way delay: 40.802 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 29.34 Mbit/s
95th percentile per-packet one-way delay: 40.802 ms
Loss rate: 0.42%
```

Run 3: Report of TCP Cubic — Data Link

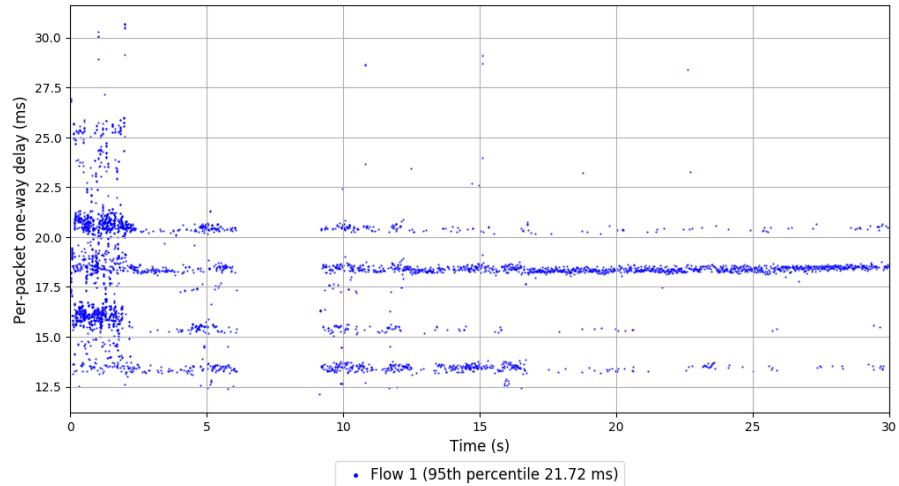
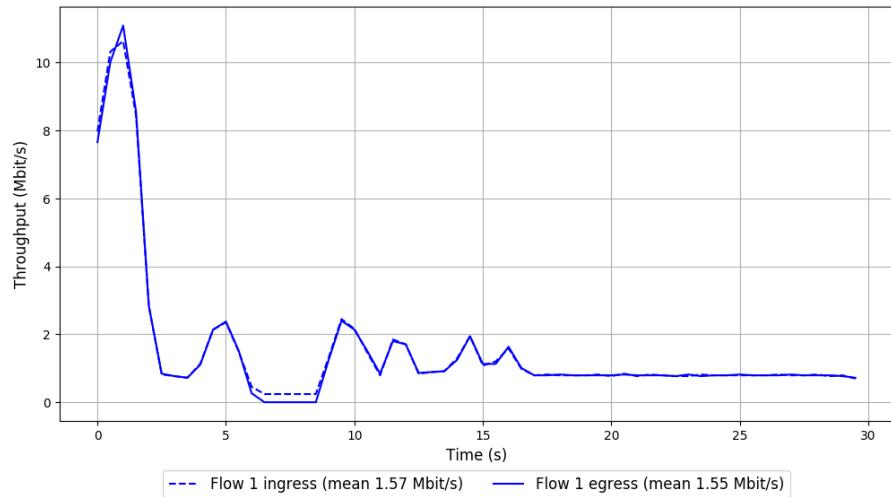


```
Run 1: Statistics of KohoCC
```

```
Start at: Tue, 25 Jul 2017 06:51:01 +0000
End at: Tue, 25 Jul 2017 06:51:31 +0000
Local clock offset: -2.157 ms
Remote clock offset: -0.288 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:03 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 21.724 ms
Loss rate: 1.55%
-- Flow 1:
Average throughput: 1.55 Mbit/s
95th percentile per-packet one-way delay: 21.724 ms
Loss rate: 1.55%
```

Run 1: Report of KohoCC — Data Link

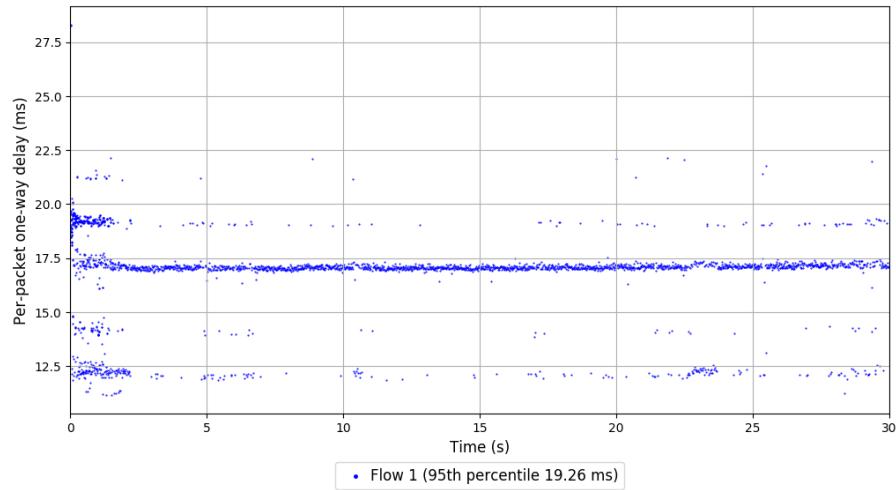
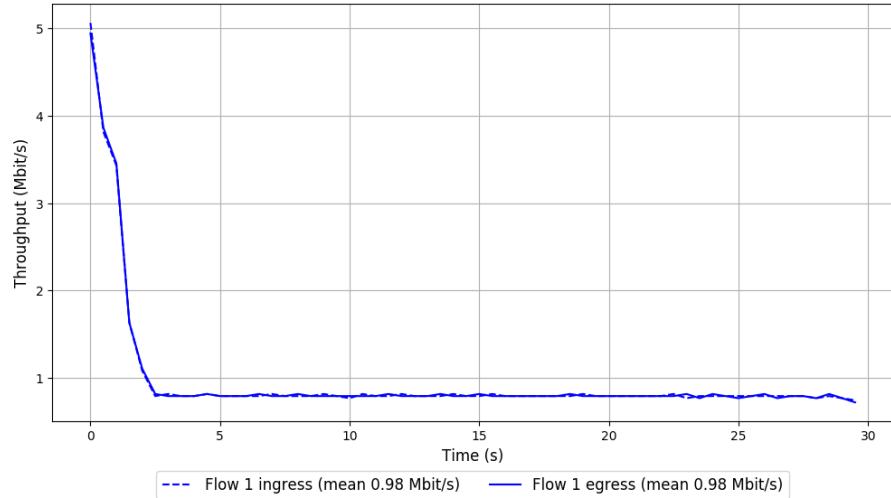


Run 2: Statistics of KohoCC

```
Start at: Tue, 25 Jul 2017 07:07:12 +0000
End at: Tue, 25 Jul 2017 07:07:42 +0000
Local clock offset: -1.847 ms
Remote clock offset: -0.437 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:03 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 19.262 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 19.262 ms
Loss rate: 0.04%
```

Run 2: Report of KohoCC — Data Link

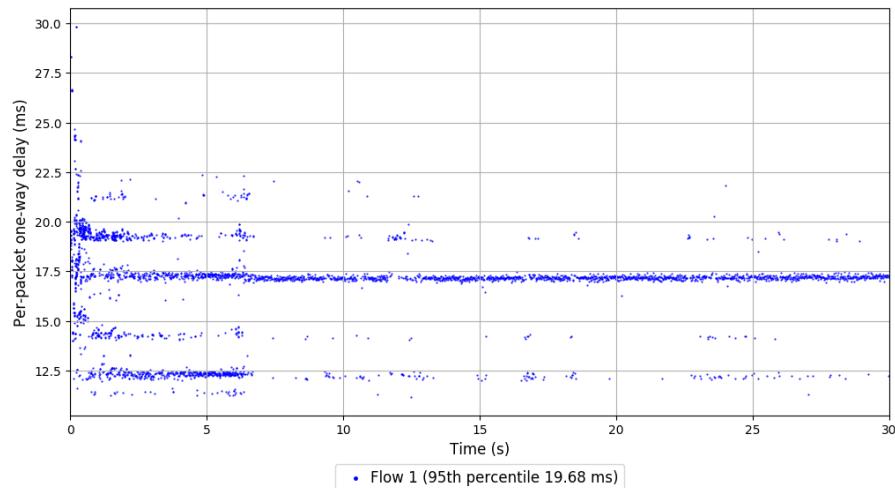
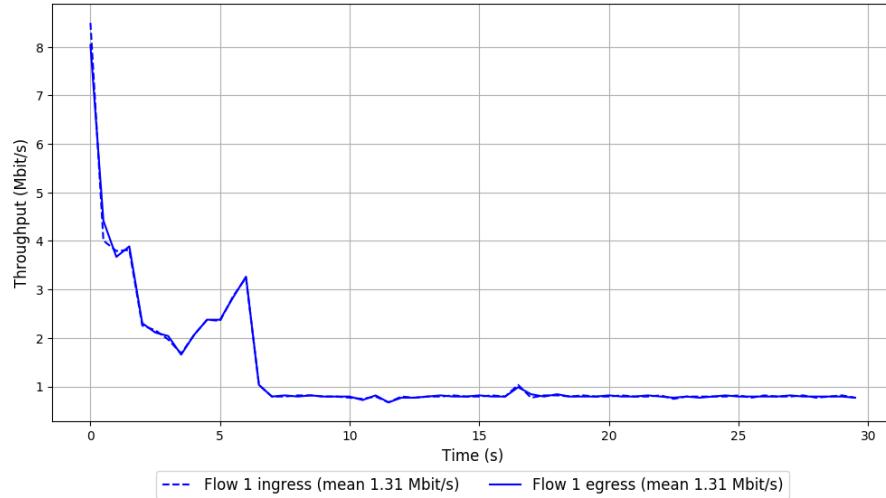


Run 3: Statistics of KohoCC

```
Start at: Tue, 25 Jul 2017 07:23:25 +0000
End at: Tue, 25 Jul 2017 07:23:55 +0000
Local clock offset: -1.663 ms
Remote clock offset: -0.401 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:03 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 19.684 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 1.31 Mbit/s
95th percentile per-packet one-way delay: 19.684 ms
Loss rate: 0.03%
```

Run 3: Report of KohoCC — Data Link

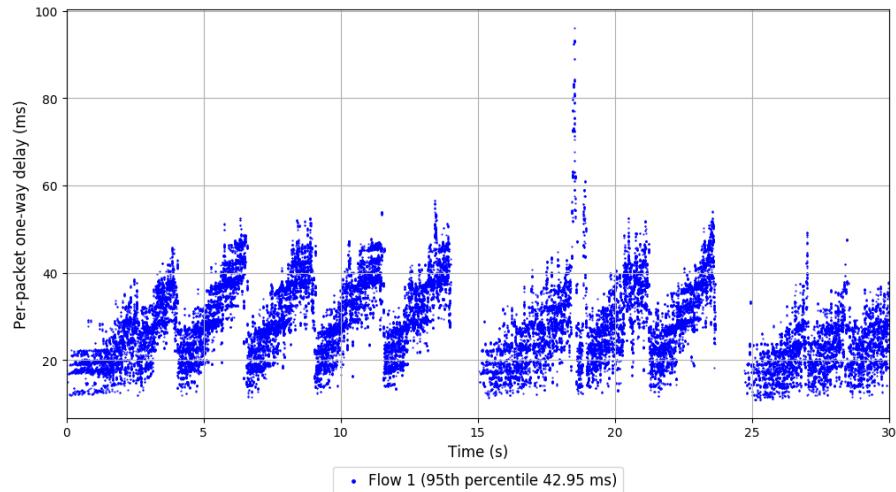
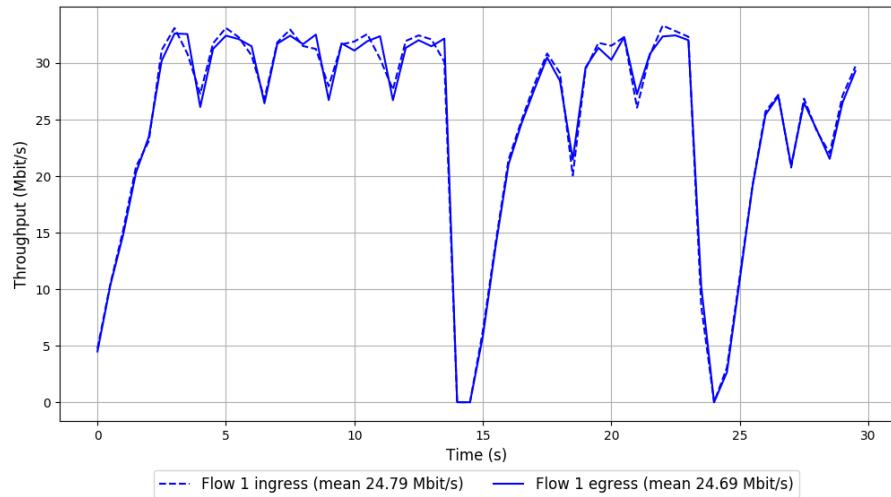


```
Run 1: Statistics of LEDBAT
```

```
Start at: Tue, 25 Jul 2017 06:46:41 +0000
End at: Tue, 25 Jul 2017 06:47:11 +0000
Local clock offset: -2.161 ms
Remote clock offset: -0.26 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:05 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.69 Mbit/s
95th percentile per-packet one-way delay: 42.947 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 24.69 Mbit/s
95th percentile per-packet one-way delay: 42.947 ms
Loss rate: 0.51%
```

Run 1: Report of LEDBAT — Data Link

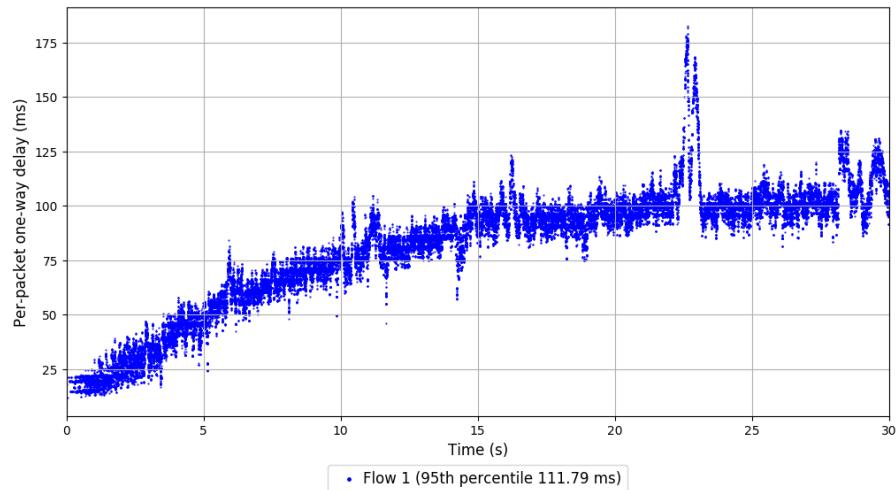
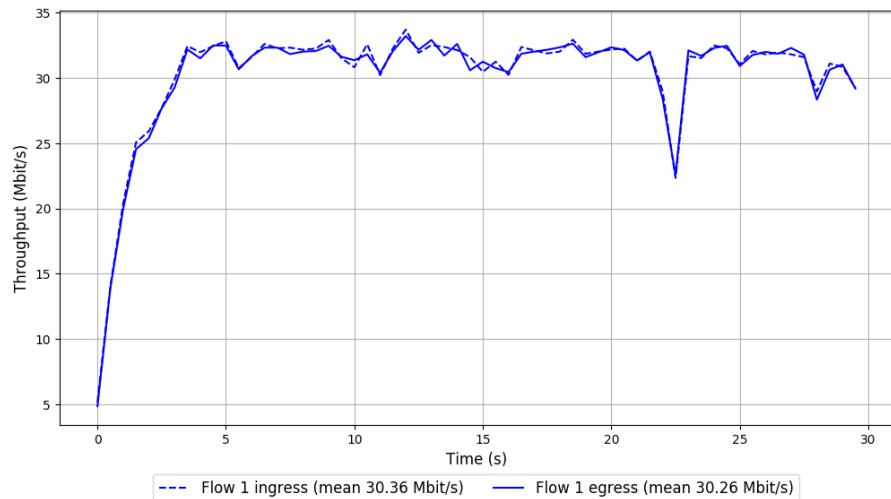


Run 2: Statistics of LEDBAT

```
Start at: Tue, 25 Jul 2017 07:02:54 +0000
End at: Tue, 25 Jul 2017 07:03:24 +0000
Local clock offset: -2.001 ms
Remote clock offset: -0.304 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:08 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.26 Mbit/s
95th percentile per-packet one-way delay: 111.792 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 30.26 Mbit/s
95th percentile per-packet one-way delay: 111.792 ms
Loss rate: 0.37%
```

Run 2: Report of LEDBAT — Data Link

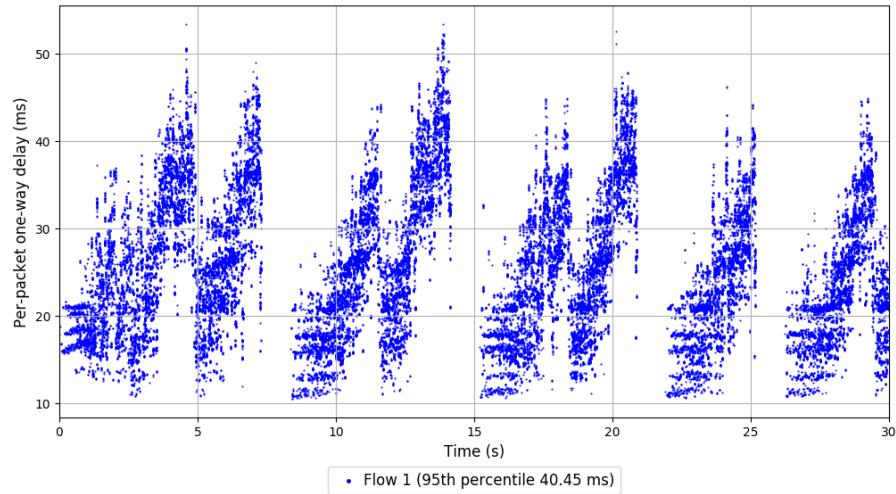
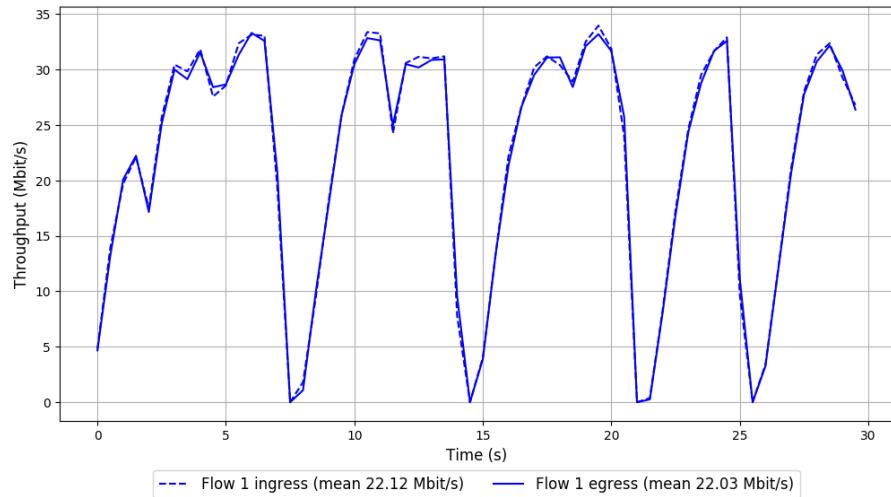


Run 3: Statistics of LEDBAT

```
Start at: Tue, 25 Jul 2017 07:19:05 +0000
End at: Tue, 25 Jul 2017 07:19:35 +0000
Local clock offset: -1.702 ms
Remote clock offset: -0.431 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:10 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 22.03 Mbit/s
95th percentile per-packet one-way delay: 40.447 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 22.03 Mbit/s
95th percentile per-packet one-way delay: 40.447 ms
Loss rate: 0.48%
```

Run 3: Report of LEDBAT — Data Link

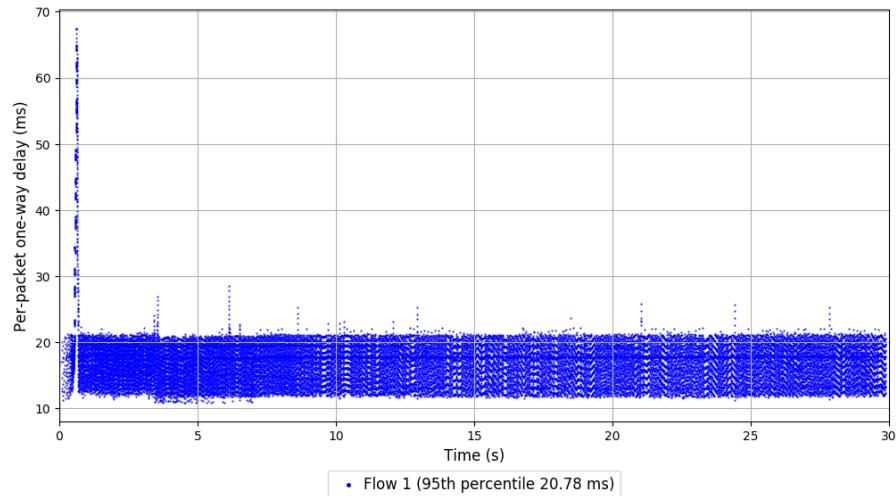
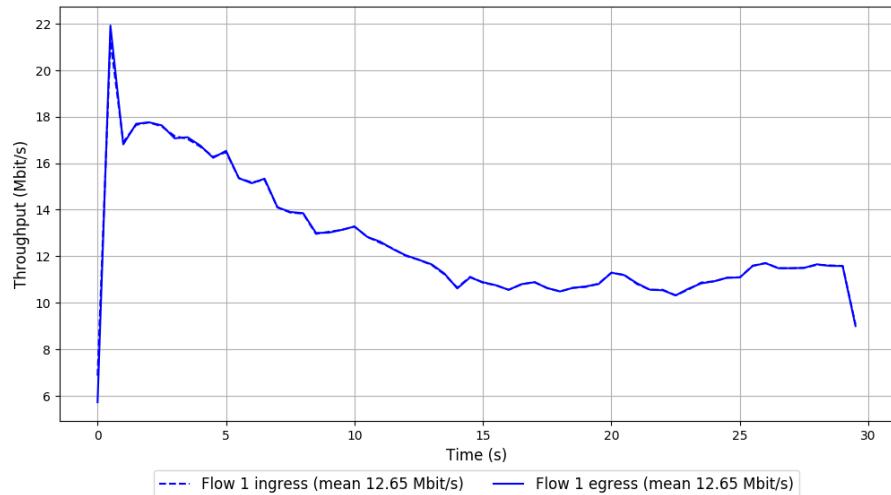


```
Run 1: Statistics of PCC
```

```
Start at: Tue, 25 Jul 2017 06:58:36 +0000
End at: Tue, 25 Jul 2017 06:59:07 +0000
Local clock offset: -2.011 ms
Remote clock offset: -0.339 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:11 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.65 Mbit/s
95th percentile per-packet one-way delay: 20.781 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 12.65 Mbit/s
95th percentile per-packet one-way delay: 20.781 ms
Loss rate: 0.05%
```

Run 1: Report of PCC — Data Link

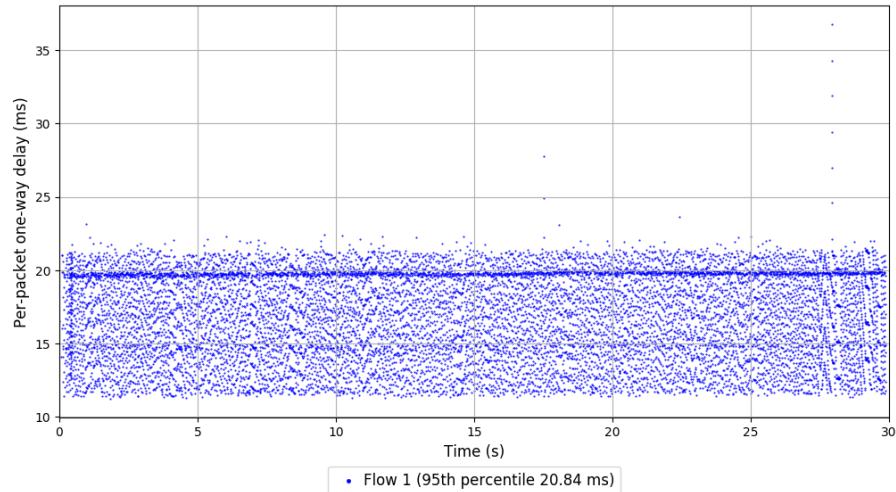
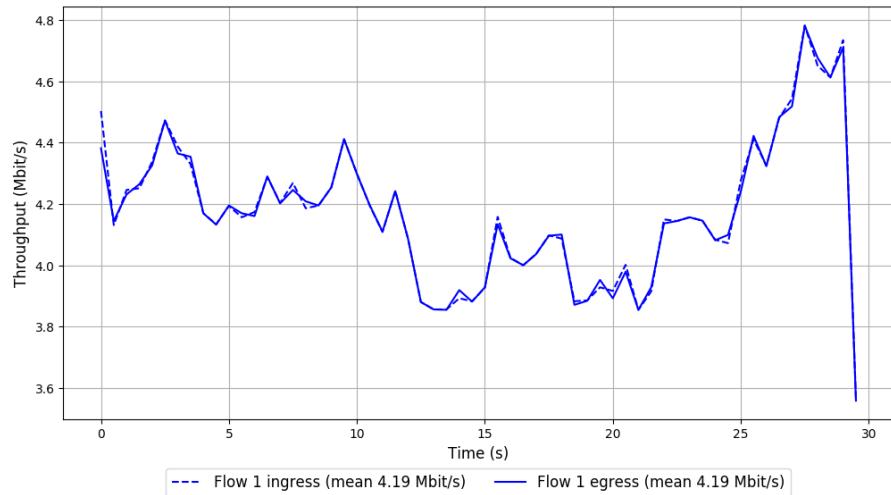


Run 2: Statistics of PCC

```
Start at: Tue, 25 Jul 2017 07:14:48 +0000
End at: Tue, 25 Jul 2017 07:15:18 +0000
Local clock offset: -1.715 ms
Remote clock offset: -0.402 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:12 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 20.842 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 4.19 Mbit/s
95th percentile per-packet one-way delay: 20.842 ms
Loss rate: 0.07%
```

Run 2: Report of PCC — Data Link

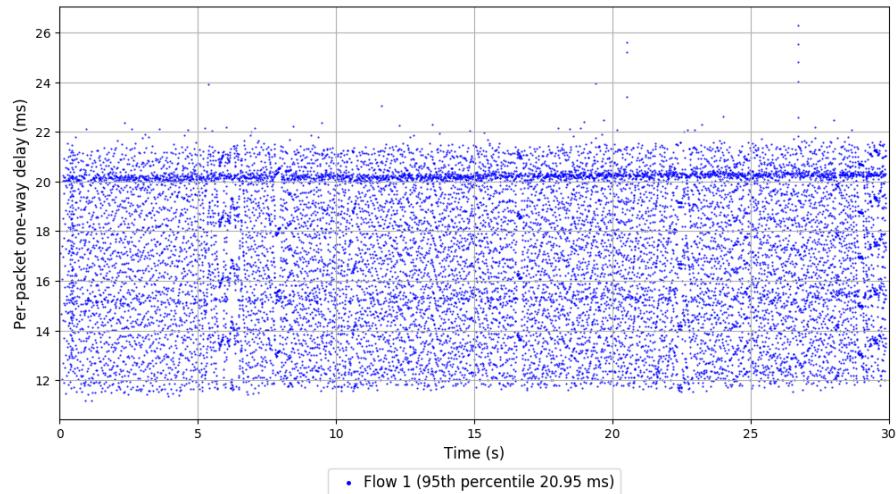
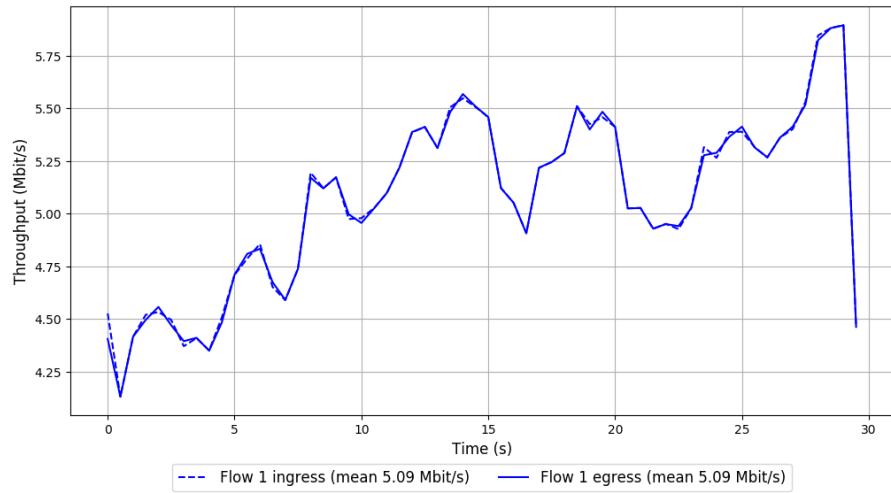


Run 3: Statistics of PCC

```
Start at: Tue, 25 Jul 2017 07:31:01 +0000
End at: Tue, 25 Jul 2017 07:31:31 +0000
Local clock offset: -1.683 ms
Remote clock offset: -0.529 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:13 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 20.949 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 5.09 Mbit/s
95th percentile per-packet one-way delay: 20.949 ms
Loss rate: 0.06%
```

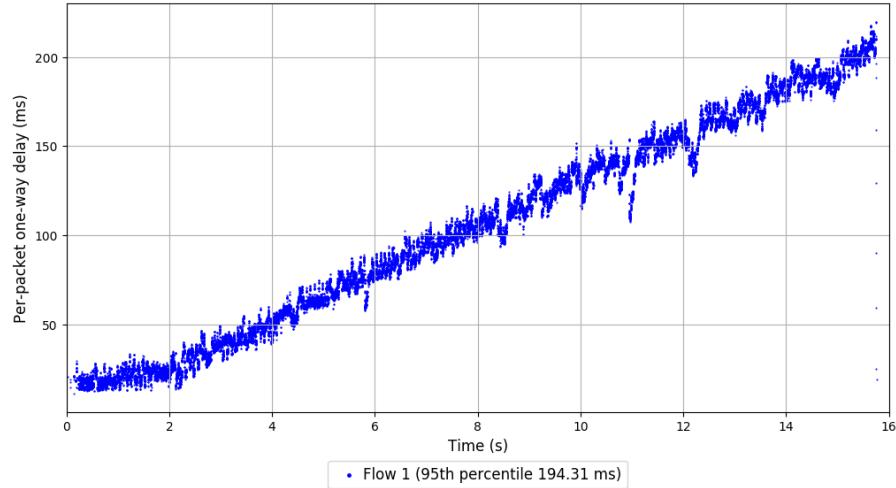
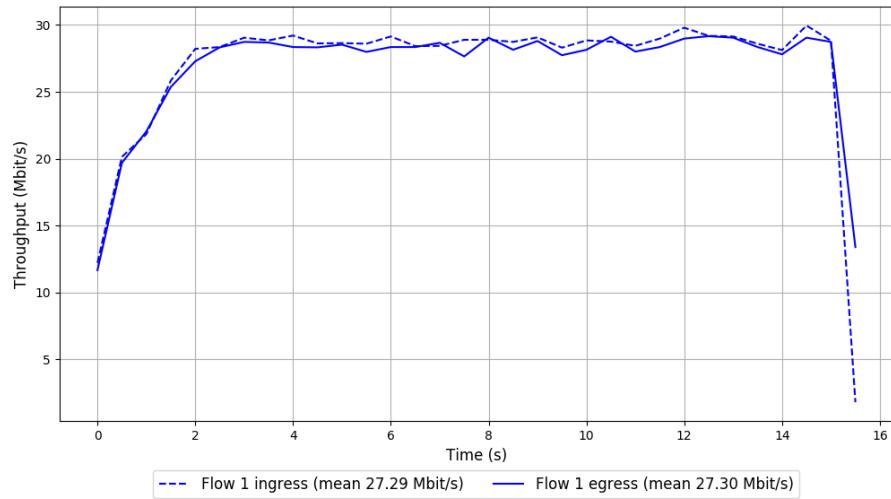
Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

Start at: Tue, 25 Jul 2017 06:55:20 +0000
End at: Tue, 25 Jul 2017 06:55:50 +0000
Local clock offset: -2.07 ms
Remote clock offset: -0.27 ms

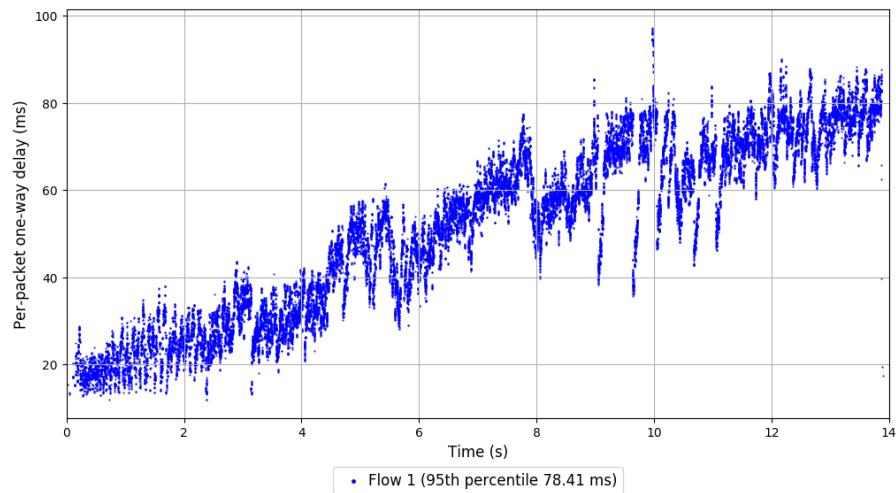
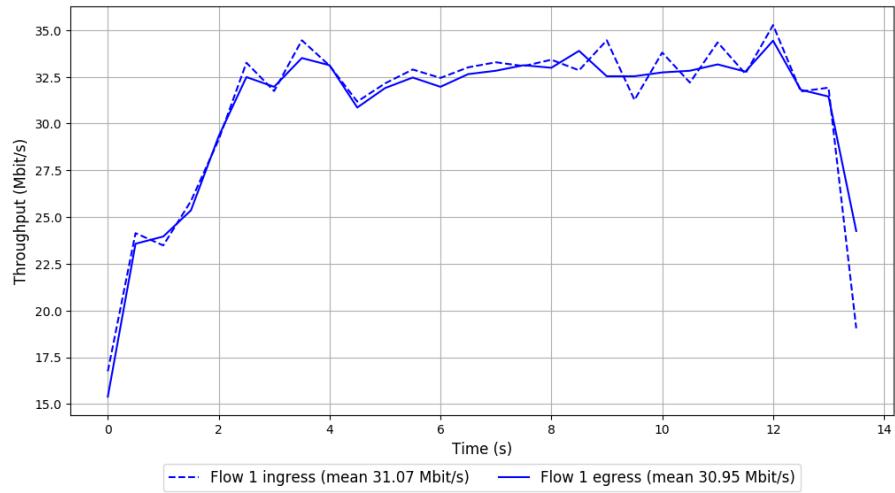
Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: Tue, 25 Jul 2017 07:11:31 +0000
End at: Tue, 25 Jul 2017 07:12:01 +0000
Local clock offset: -1.78 ms
Remote clock offset: -0.383 ms

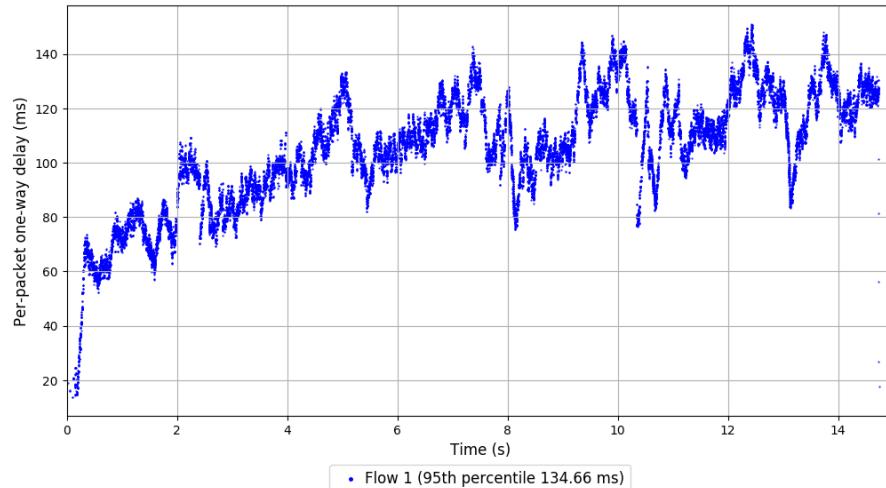
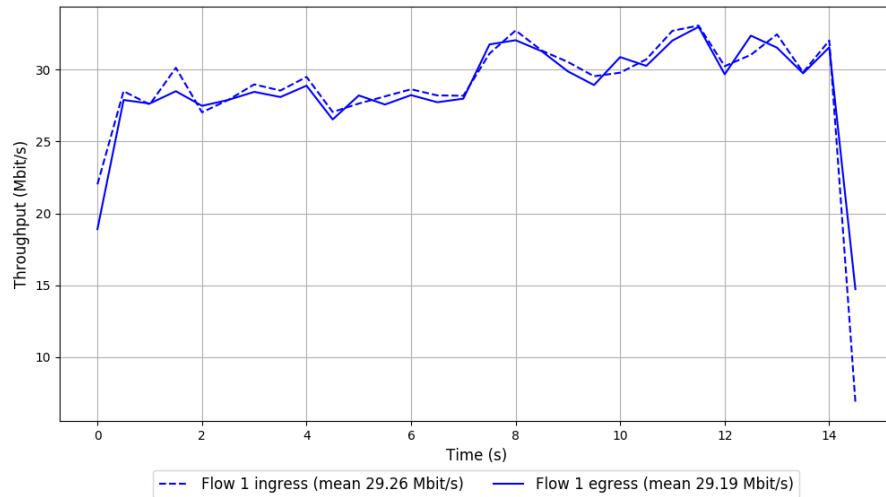
Run 2: Report of QUIC Cubic — Data Link



Run 3: Statistics of QUIC Cubic

Start at: Tue, 25 Jul 2017 07:27:44 +0000
End at: Tue, 25 Jul 2017 07:28:14 +0000
Local clock offset: -1.618 ms
Remote clock offset: -0.427 ms

Run 3: Report of QUIC Cubic — Data Link



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

```
Start at: Tue, 25 Jul 2017 06:48:51 +0000
```

```
End at: Tue, 25 Jul 2017 06:49:21 +0000
```

```
Local clock offset: -2.175 ms
```

```
Remote clock offset: -0.245 ms
```

```
# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:21 +0000
```

```
# Datalink statistics
```

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

```
Average throughput: 30.45 Mbit/s
```

```
95th percentile per-packet one-way delay: 68.337 ms
```

```
Loss rate: 0.49%
```

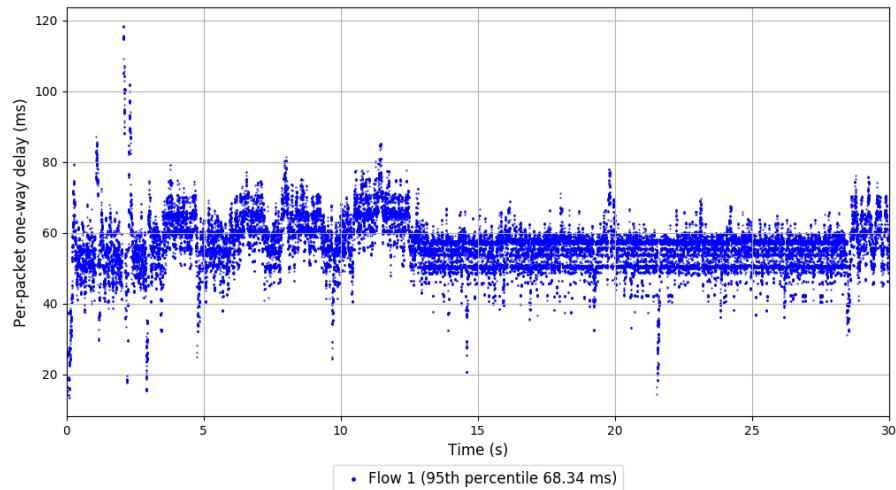
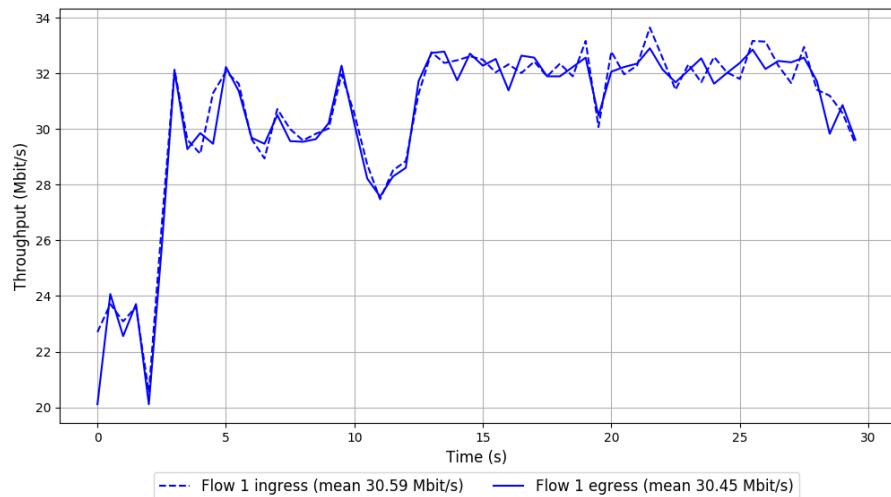
```
-- Flow 1:
```

```
Average throughput: 30.45 Mbit/s
```

```
95th percentile per-packet one-way delay: 68.337 ms
```

```
Loss rate: 0.49%
```

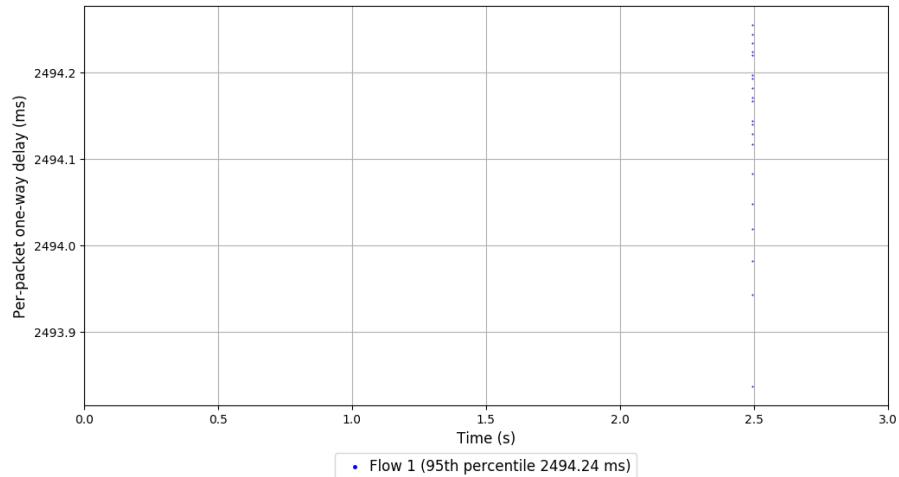
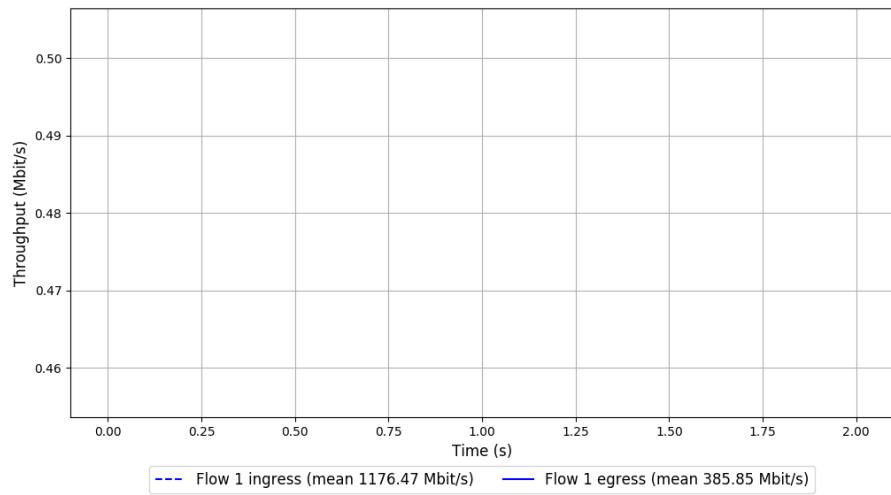
Run 1: Report of Saturator — Data Link



Run 2: Statistics of Saturator

Start at: Tue, 25 Jul 2017 07:05:04 +0000
End at: Tue, 25 Jul 2017 07:05:34 +0000
Local clock offset: -1.879 ms
Remote clock offset: -0.413 ms

Run 2: Report of Saturator — Data Link

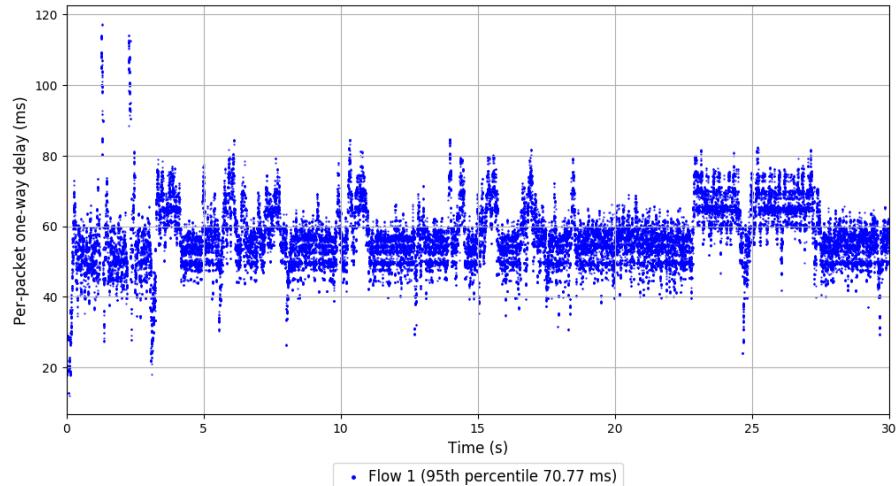
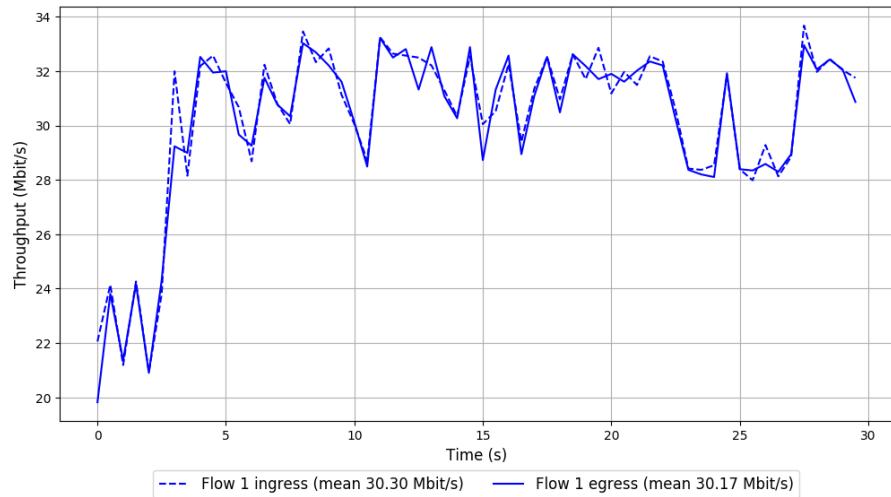


Run 3: Statistics of Saturator

```
Start at: Tue, 25 Jul 2017 07:21:15 +0000
End at: Tue, 25 Jul 2017 07:21:45 +0000
Local clock offset: -1.72 ms
Remote clock offset: -0.443 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:25 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.17 Mbit/s
95th percentile per-packet one-way delay: 70.767 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 30.17 Mbit/s
95th percentile per-packet one-way delay: 70.767 ms
Loss rate: 0.51%
```

Run 3: Report of Saturator — Data Link

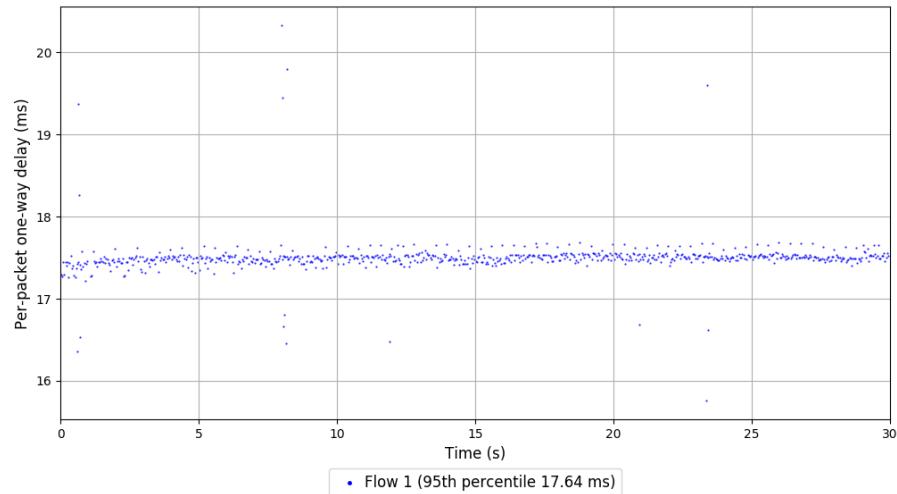
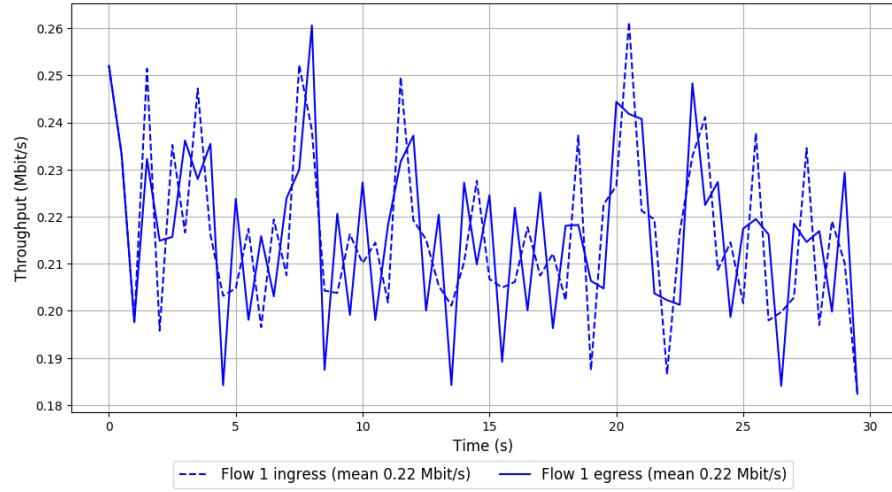


```
Run 1: Statistics of SCReAM
```

```
Start at: Tue, 25 Jul 2017 06:45:37 +0000
End at: Tue, 25 Jul 2017 06:46:07 +0000
Local clock offset: -2.127 ms
Remote clock offset: -0.247 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:25 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 17.641 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 17.641 ms
Loss rate: 0.00%
```

Run 1: Report of SCReAM — Data Link

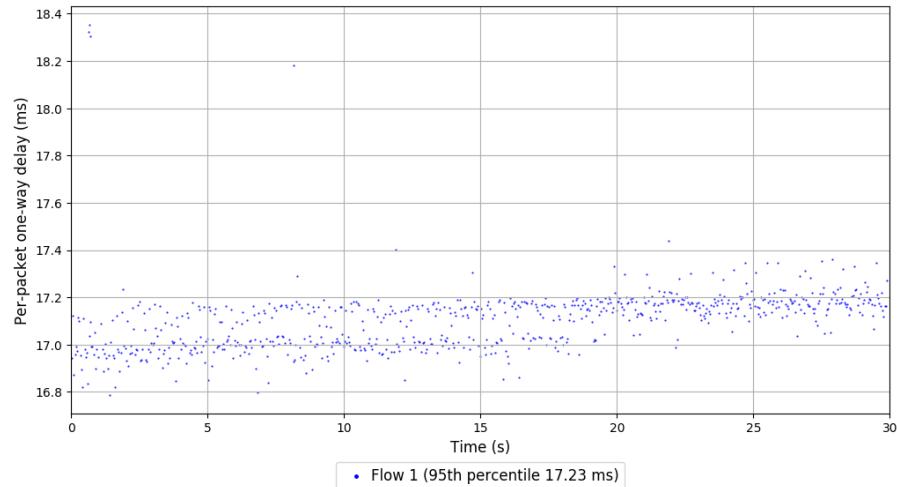
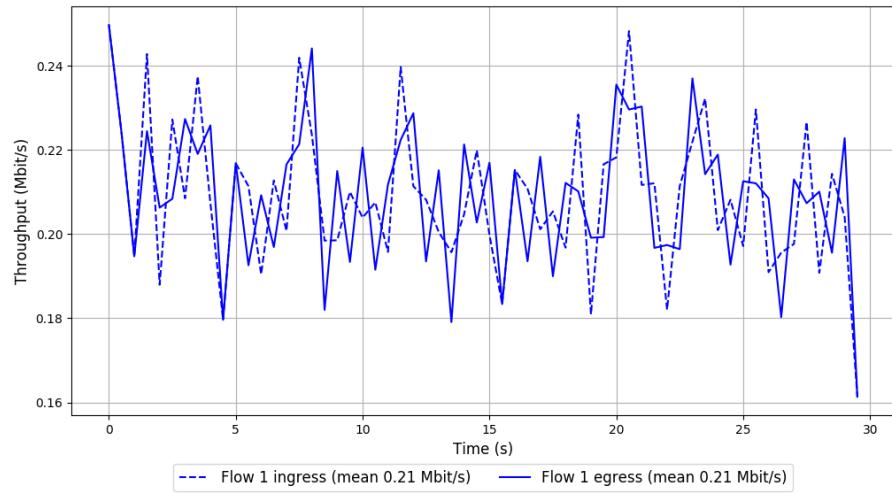


Run 2: Statistics of SCReAM

```
Start at: Tue, 25 Jul 2017 07:01:50 +0000
End at: Tue, 25 Jul 2017 07:02:20 +0000
Local clock offset: -2.023 ms
Remote clock offset: -0.35 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:25 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 17.234 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 17.234 ms
Loss rate: 0.00%
```

Run 2: Report of SCReAM — Data Link

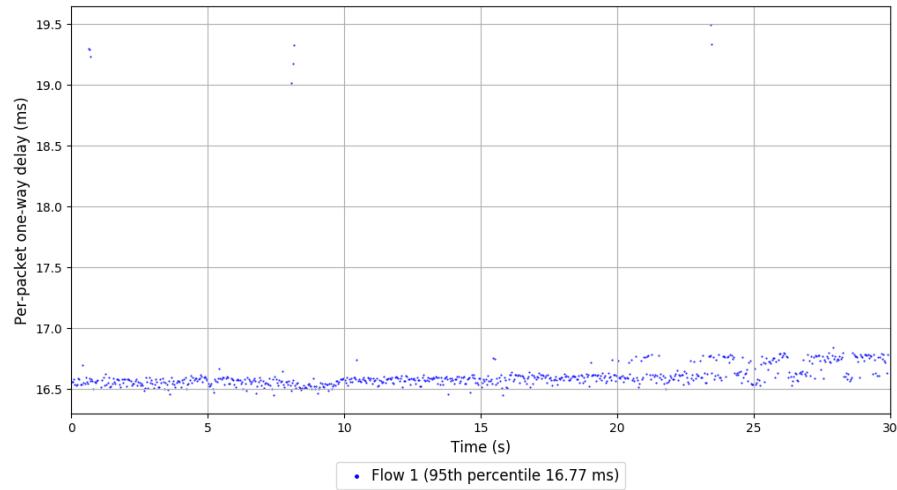
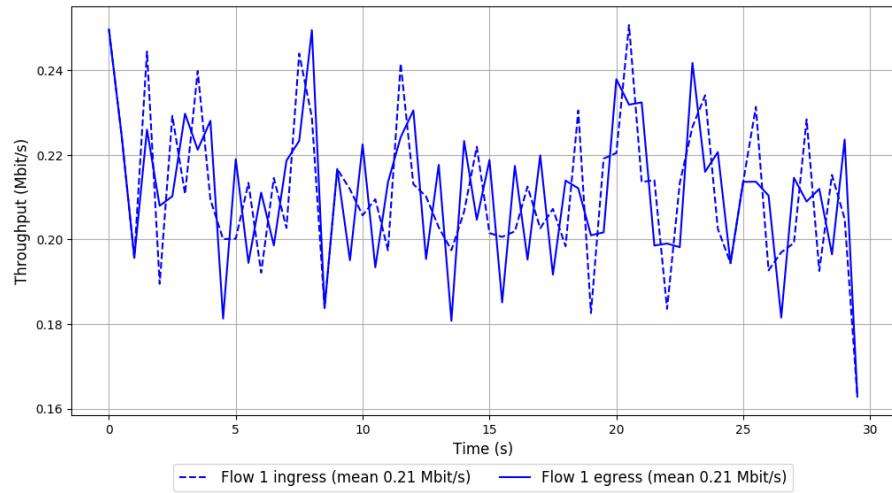


Run 3: Statistics of SCReAM

```
Start at: Tue, 25 Jul 2017 07:18:02 +0000
End at: Tue, 25 Jul 2017 07:18:32 +0000
Local clock offset: -1.684 ms
Remote clock offset: -0.489 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:25 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 16.773 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 16.773 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

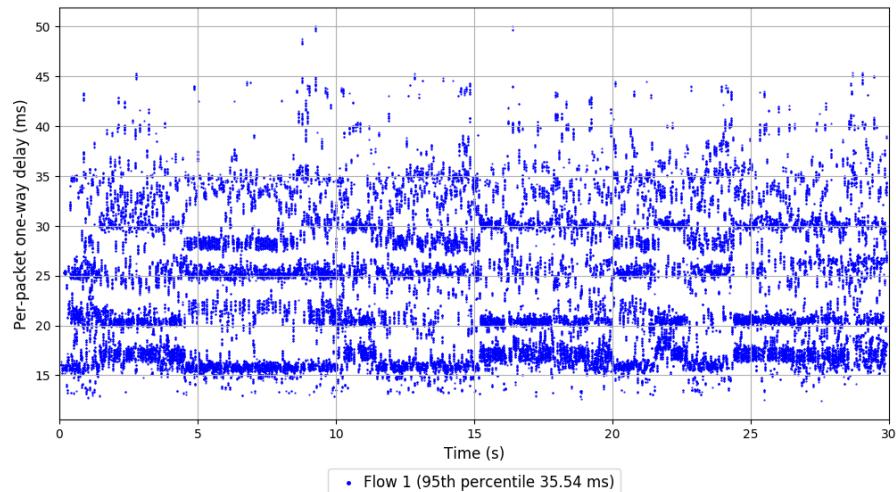
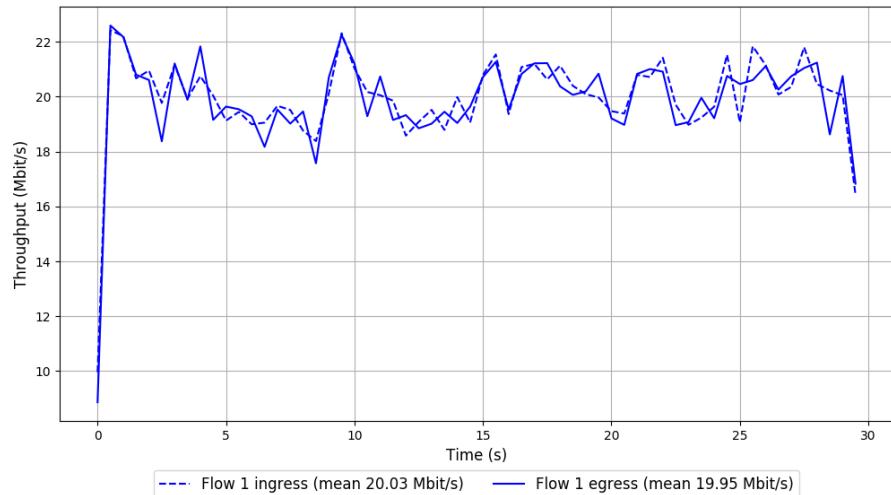


Run 1: Statistics of Sprout

```
Start at: Tue, 25 Jul 2017 06:44:33 +0000
End at: Tue, 25 Jul 2017 06:45:03 +0000
Local clock offset: -2.182 ms
Remote clock offset: -0.249 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:27 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.95 Mbit/s
95th percentile per-packet one-way delay: 35.539 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 19.95 Mbit/s
95th percentile per-packet one-way delay: 35.539 ms
Loss rate: 0.39%
```

Run 1: Report of Sprout — Data Link

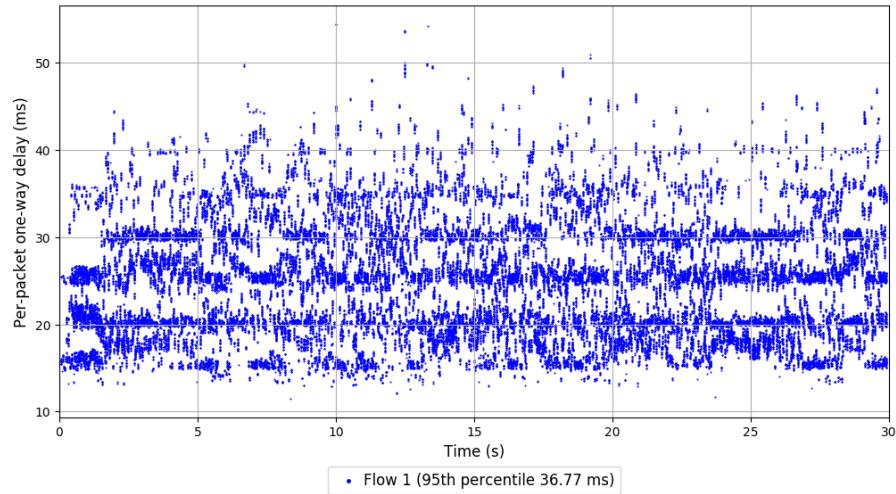
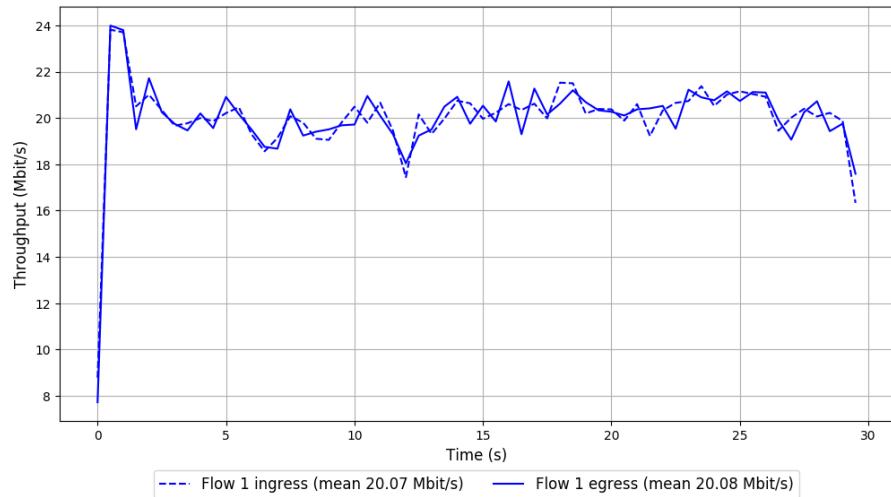


Run 2: Statistics of Sprout

```
Start at: Tue, 25 Jul 2017 07:00:45 +0000
End at: Tue, 25 Jul 2017 07:01:15 +0000
Local clock offset: -2.029 ms
Remote clock offset: -0.313 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:28 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 20.08 Mbit/s
95th percentile per-packet one-way delay: 36.775 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 20.08 Mbit/s
95th percentile per-packet one-way delay: 36.775 ms
Loss rate: 0.04%
```

Run 2: Report of Sprout — Data Link

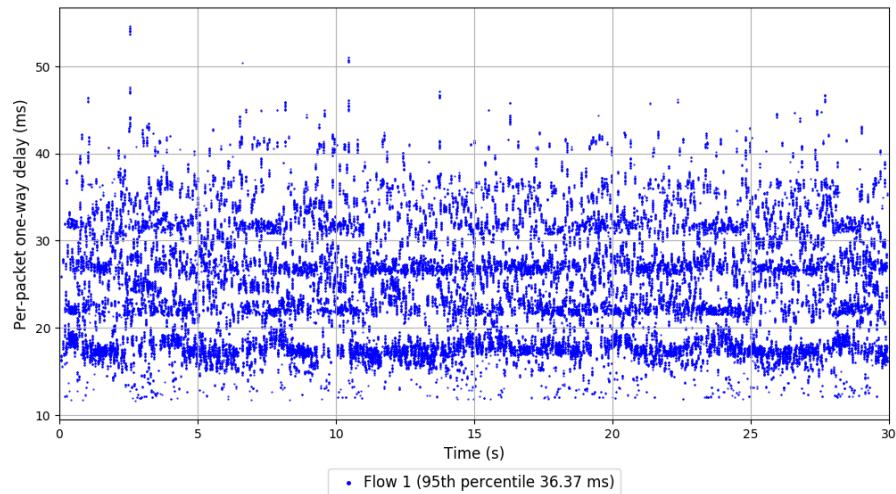
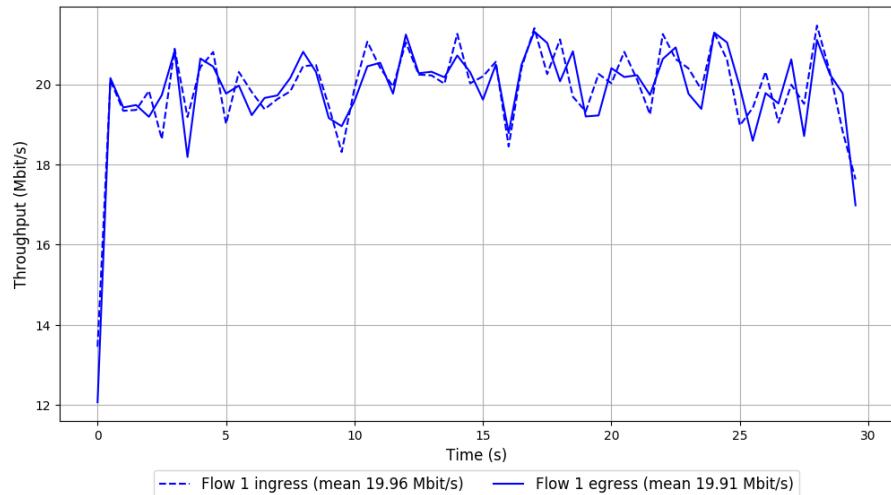


Run 3: Statistics of Sprout

```
Start at: Tue, 25 Jul 2017 07:16:57 +0000
End at: Tue, 25 Jul 2017 07:17:27 +0000
Local clock offset: -1.694 ms
Remote clock offset: -0.448 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:30 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.91 Mbit/s
95th percentile per-packet one-way delay: 36.365 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 19.91 Mbit/s
95th percentile per-packet one-way delay: 36.365 ms
Loss rate: 0.26%
```

Run 3: Report of Sprout — Data Link

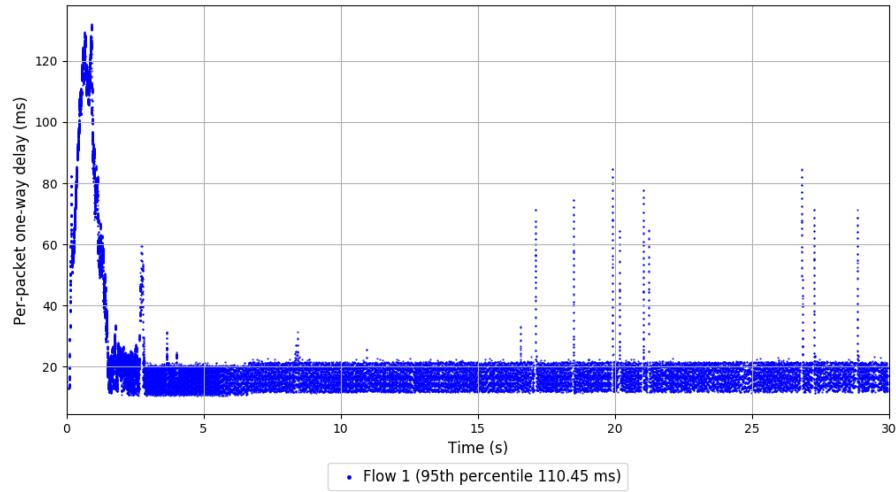
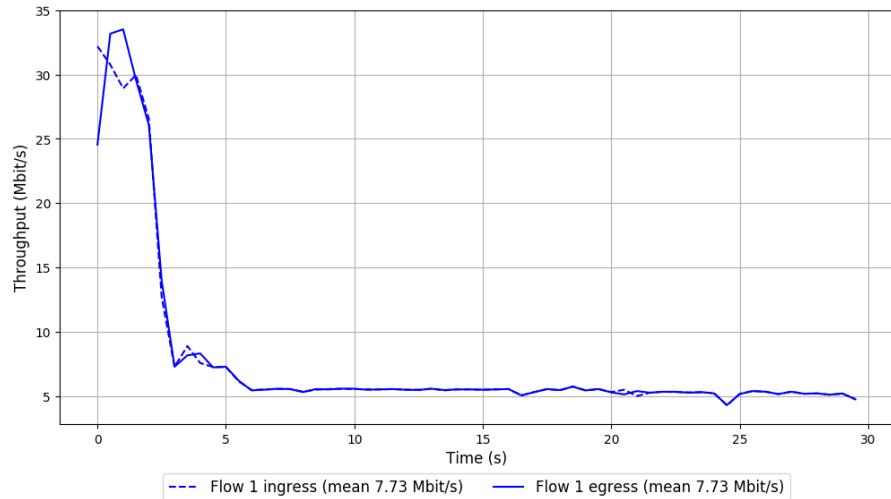


Run 1: Statistics of TaoVA-100x

```
Start at: Tue, 25 Jul 2017 06:53:09 +0000
End at: Tue, 25 Jul 2017 06:53:39 +0000
Local clock offset: -2.097 ms
Remote clock offset: -0.282 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:31 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 110.455 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 7.73 Mbit/s
95th percentile per-packet one-way delay: 110.455 ms
Loss rate: 0.04%
```

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

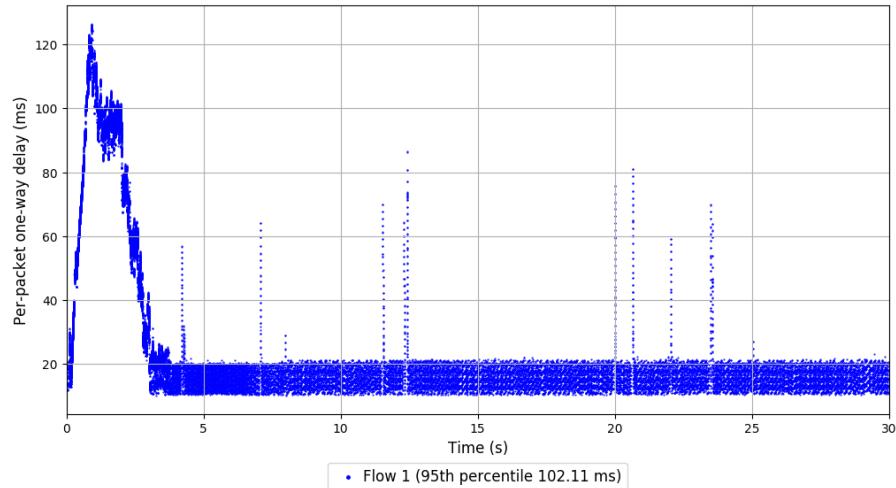
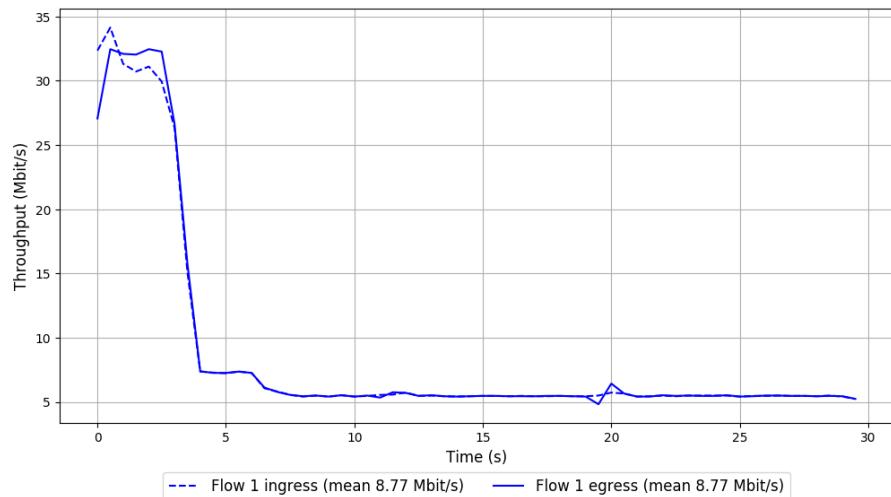


Run 2: Statistics of TaoVA-100x

```
Start at: Tue, 25 Jul 2017 07:09:20 +0000
End at: Tue, 25 Jul 2017 07:09:50 +0000
Local clock offset: -1.8 ms
Remote clock offset: -0.464 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:33 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.77 Mbit/s
95th percentile per-packet one-way delay: 102.111 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 8.77 Mbit/s
95th percentile per-packet one-way delay: 102.111 ms
Loss rate: 0.03%
```

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

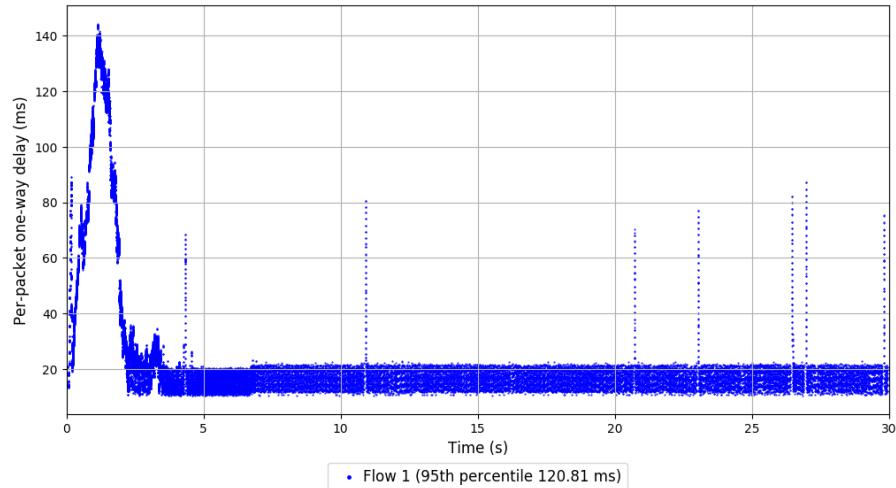
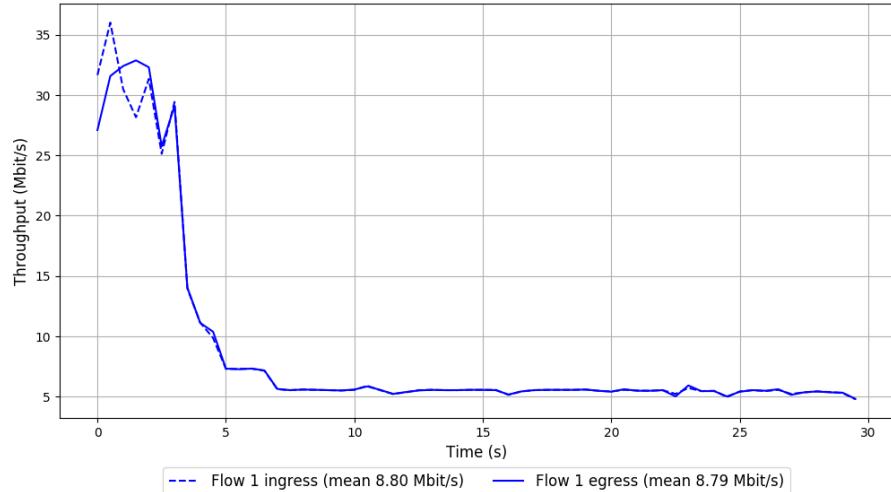


Run 3: Statistics of TaoVA-100x

```
Start at: Tue, 25 Jul 2017 07:25:33 +0000
End at: Tue, 25 Jul 2017 07:26:03 +0000
Local clock offset: -1.683 ms
Remote clock offset: -0.399 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.79 Mbit/s
95th percentile per-packet one-way delay: 120.805 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 8.79 Mbit/s
95th percentile per-packet one-way delay: 120.805 ms
Loss rate: 0.08%
```

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

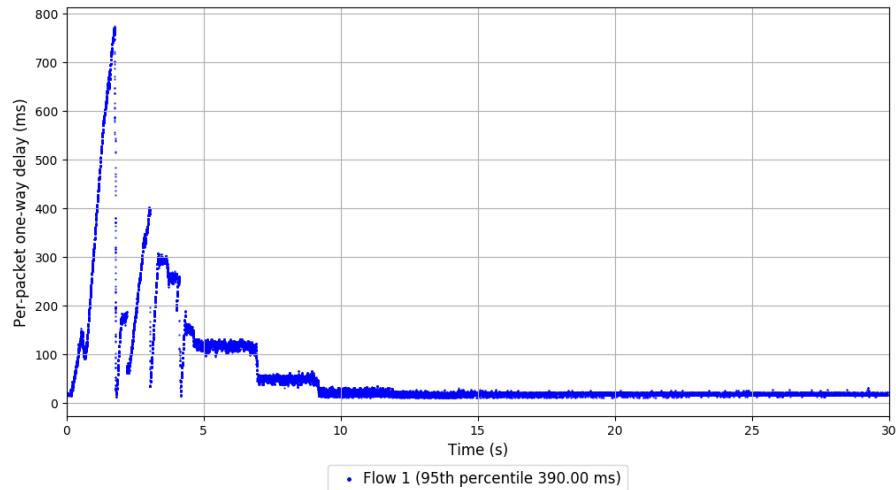
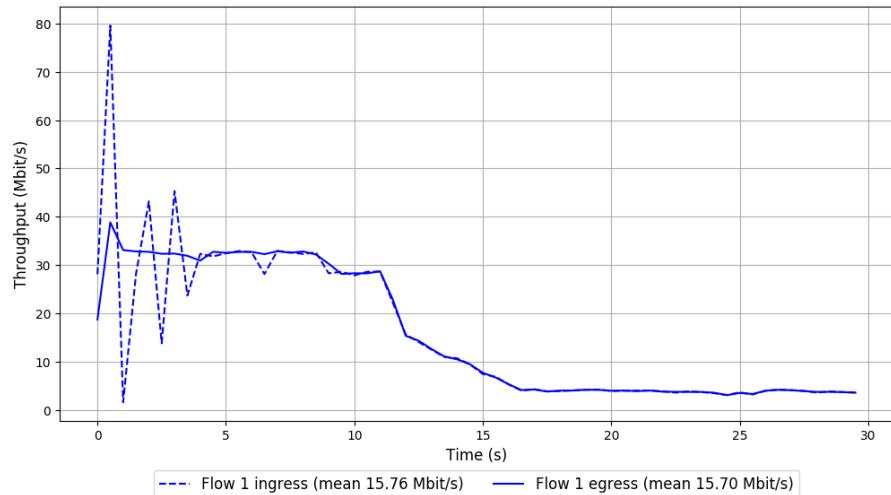


Run 1: Statistics of TCP Vegas

```
Start at: Tue, 25 Jul 2017 06:43:28 +0000
End at: Tue, 25 Jul 2017 06:43:58 +0000
Local clock offset: -2.144 ms
Remote clock offset: -0.251 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:36 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 15.70 Mbit/s
95th percentile per-packet one-way delay: 389.999 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 15.70 Mbit/s
95th percentile per-packet one-way delay: 389.999 ms
Loss rate: 0.48%
```

Run 1: Report of TCP Vegas — Data Link

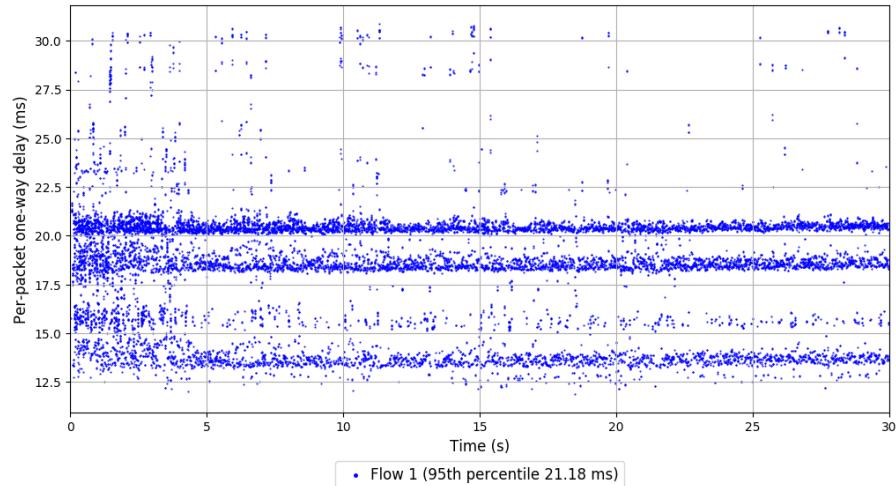
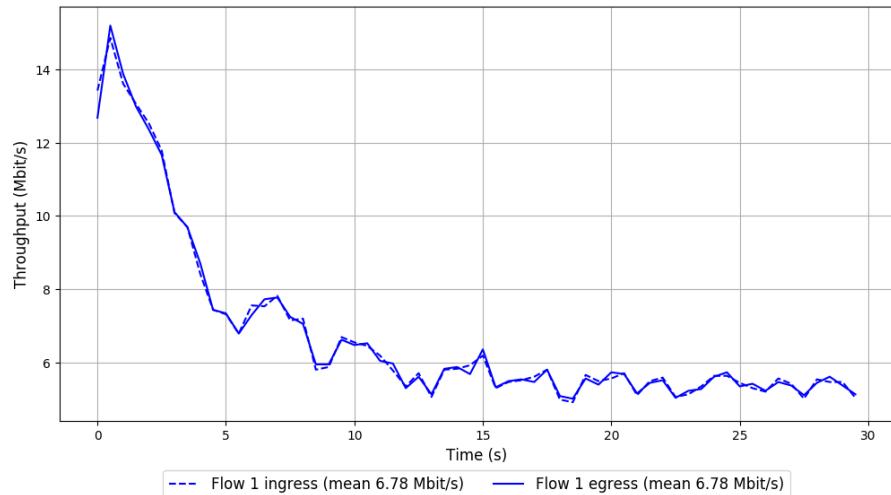


Run 2: Statistics of TCP Vegas

```
Start at: Tue, 25 Jul 2017 06:59:41 +0000
End at: Tue, 25 Jul 2017 07:00:11 +0000
Local clock offset: -1.999 ms
Remote clock offset: -0.308 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:37 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 21.183 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 6.78 Mbit/s
95th percentile per-packet one-way delay: 21.183 ms
Loss rate: 0.02%
```

Run 2: Report of TCP Vegas — Data Link

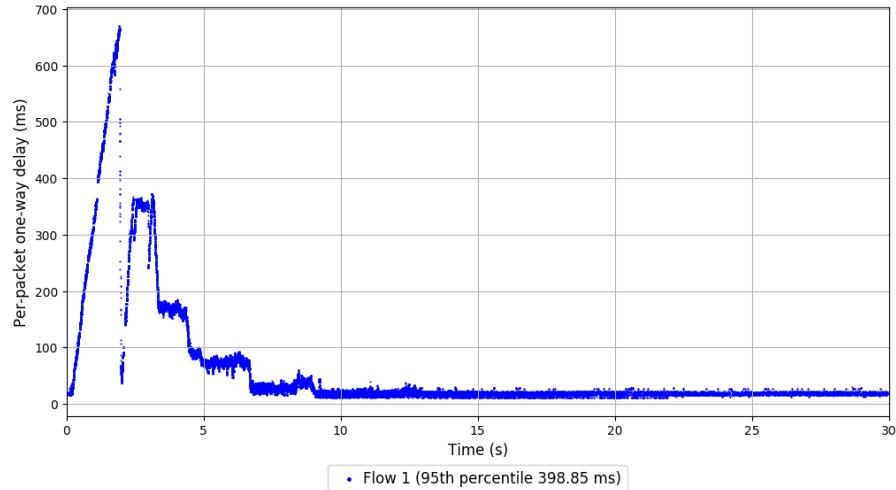
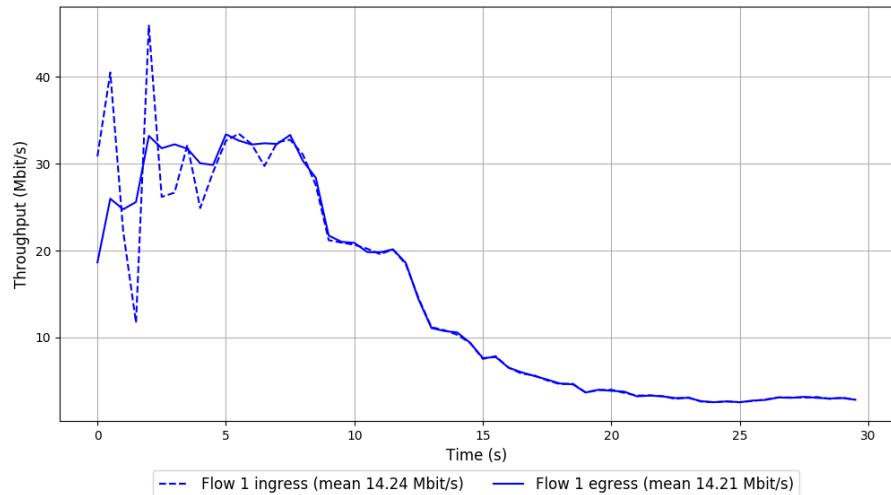


Run 3: Statistics of TCP Vegas

```
Start at: Tue, 25 Jul 2017 07:15:52 +0000
End at: Tue, 25 Jul 2017 07:16:22 +0000
Local clock offset: -1.722 ms
Remote clock offset: -0.502 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:39 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 14.21 Mbit/s
95th percentile per-packet one-way delay: 398.846 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 14.21 Mbit/s
95th percentile per-packet one-way delay: 398.846 ms
Loss rate: 0.29%
```

Run 3: Report of TCP Vegas — Data Link

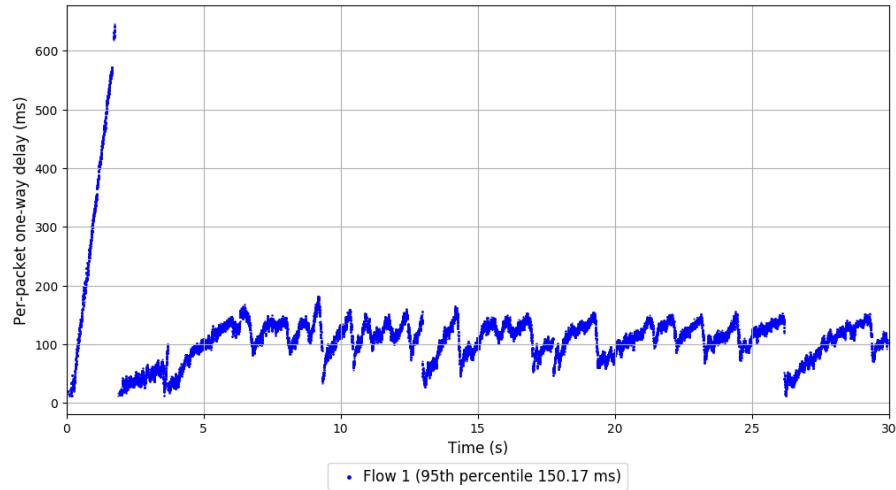
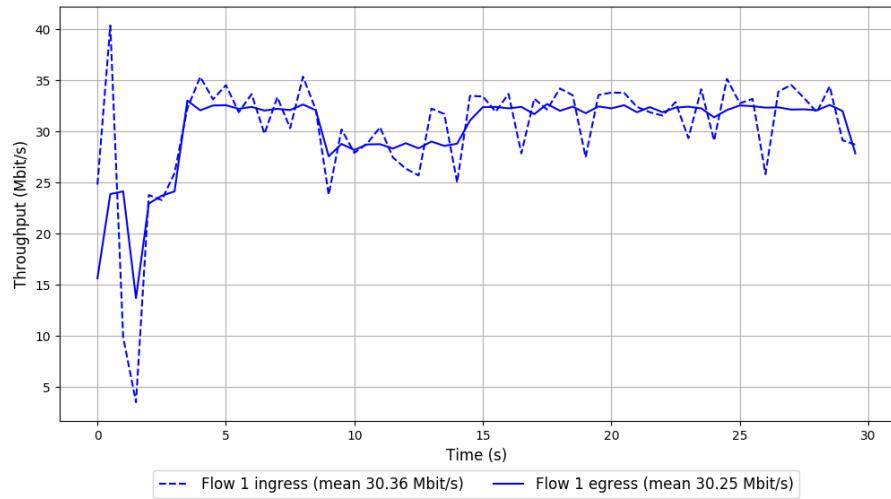


Run 1: Statistics of Verus

```
Start at: Tue, 25 Jul 2017 06:56:24 +0000
End at: Tue, 25 Jul 2017 06:56:54 +0000
Local clock offset: -2.109 ms
Remote clock offset: -0.358 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:41 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.25 Mbit/s
95th percentile per-packet one-way delay: 150.174 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 30.25 Mbit/s
95th percentile per-packet one-way delay: 150.174 ms
Loss rate: 0.41%
```

Run 1: Report of Verus — Data Link

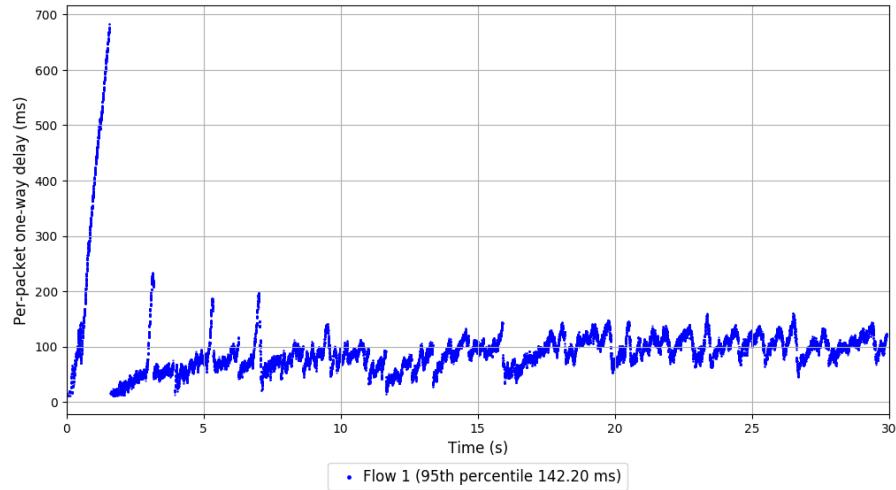
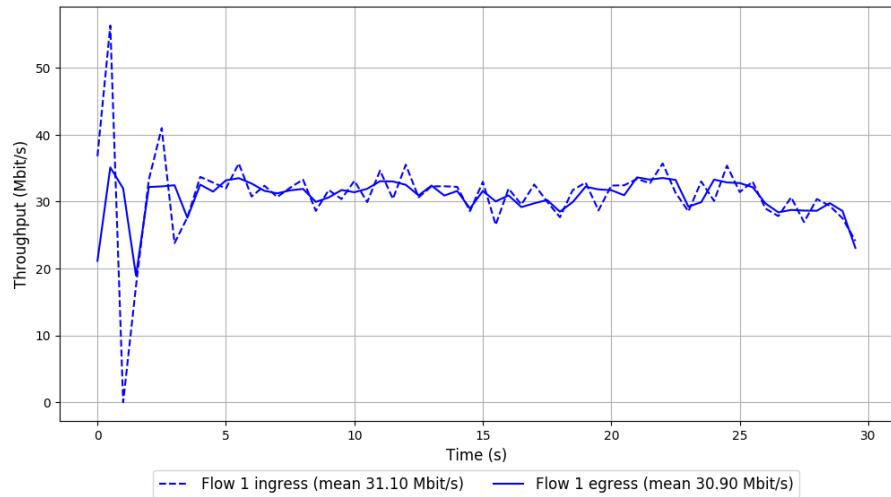


Run 2: Statistics of Verus

```
Start at: Tue, 25 Jul 2017 07:12:36 +0000
End at: Tue, 25 Jul 2017 07:13:06 +0000
Local clock offset: -1.75 ms
Remote clock offset: -0.445 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:43 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.90 Mbit/s
95th percentile per-packet one-way delay: 142.204 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 30.90 Mbit/s
95th percentile per-packet one-way delay: 142.204 ms
Loss rate: 0.69%
```

Run 2: Report of Verus — Data Link

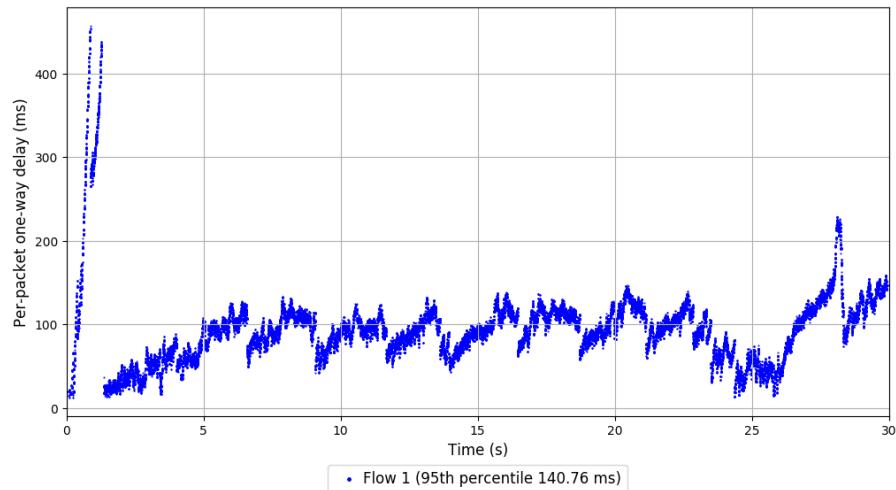
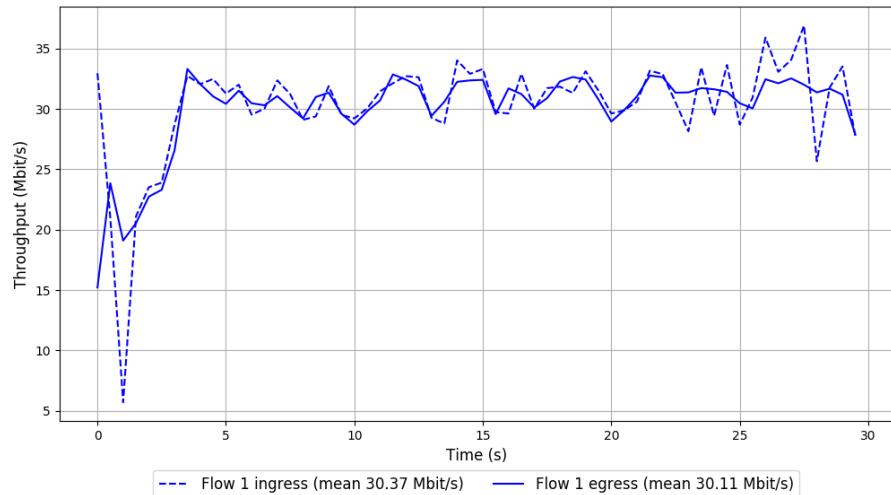


Run 3: Statistics of Verus

```
Start at: Tue, 25 Jul 2017 07:28:49 +0000
End at: Tue, 25 Jul 2017 07:29:19 +0000
Local clock offset: -1.7 ms
Remote clock offset: -0.467 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 30.11 Mbit/s
95th percentile per-packet one-way delay: 140.763 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 30.11 Mbit/s
95th percentile per-packet one-way delay: 140.763 ms
Loss rate: 0.88%
```

Run 3: Report of Verus — Data Link

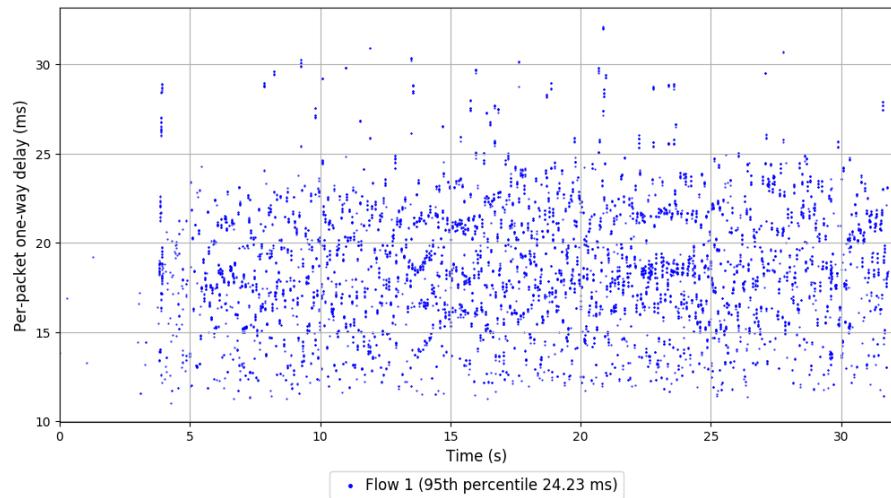
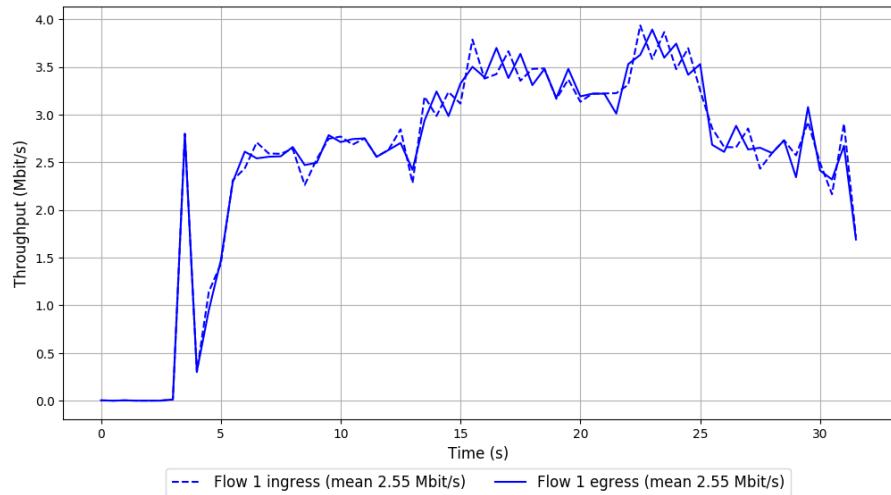


```
Run 1: Statistics of WebRTC media

Start at: Tue, 25 Jul 2017 06:49:57 +0000
End at: Tue, 25 Jul 2017 06:50:27 +0000
Local clock offset: -2.229 ms
Remote clock offset: -0.33 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 24.228 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 24.228 ms
Loss rate: 0.18%
```

Run 1: Report of WebRTC media — Data Link

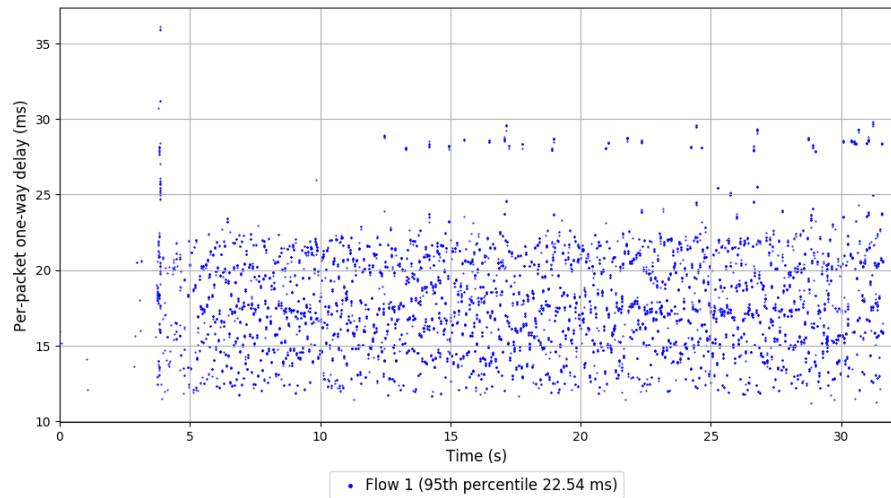
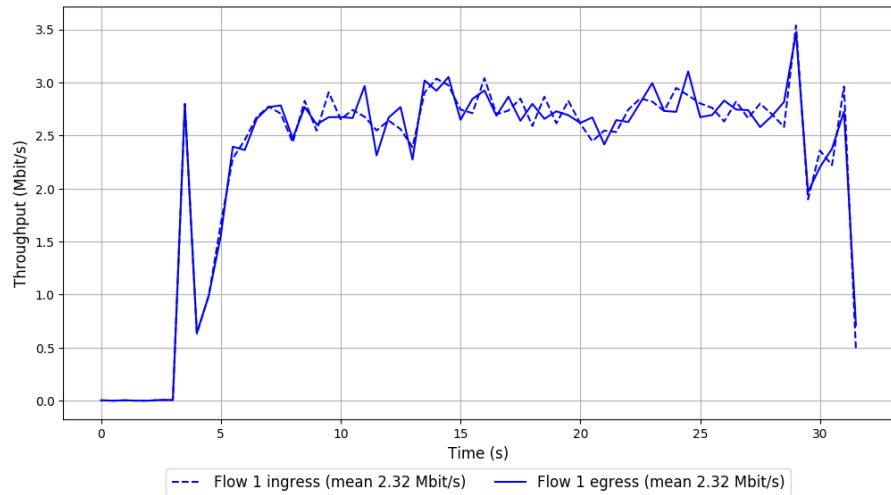


Run 2: Statistics of WebRTC media

```
Start at: Tue, 25 Jul 2017 07:06:08 +0000
End at: Tue, 25 Jul 2017 07:06:38 +0000
Local clock offset: -1.854 ms
Remote clock offset: -0.342 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 22.541 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 22.541 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link



Run 3: Statistics of WebRTC media

```
Start at: Tue, 25 Jul 2017 07:22:21 +0000
End at: Tue, 25 Jul 2017 07:22:51 +0000
Local clock offset: -1.678 ms
Remote clock offset: -0.416 ms

# Below is generated by plot.py at Tue, 25 Jul 2017 08:22:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 24.067 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 24.067 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

