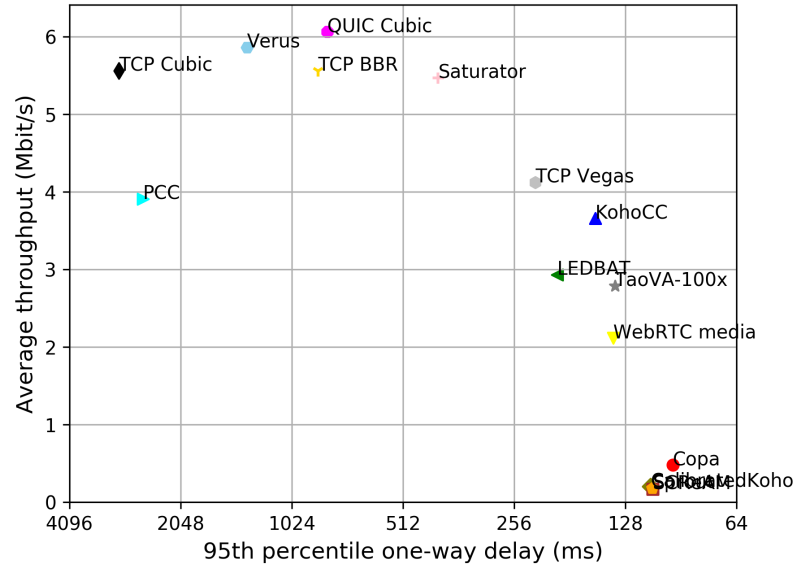


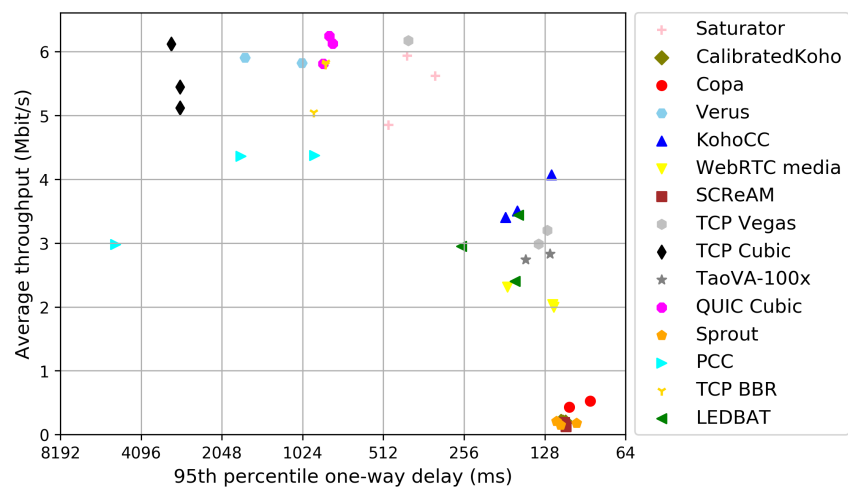
**Pantheon Summary** (Generated at Mon, 07 Aug 2017 01:08:32 +0000  
with pantheon version a934ee3822380a12762347e6bc8bd1f3e836e73b)  
Repeated the test of 15 congestion control schemes 3 times.  
Each test lasted for 30 seconds running 1 flow.  
Data path: AWS Korea Ethernet (*local*) → China ppp0 (*remote*).  
NTP offset measured against ntp.nict.jp 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 @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
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 @ f1a14bffe749737437f61b1eaeab30b267cde681
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 Korea Ethernet to China ppp0, 3 runs of 30s each per scheme  
(mean of all runs by scheme)



test from AWS Korea Ethernet to China 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	5.56	870.62	1.67
CalibratedKoho	3	0.20	109.39	0.06
Copa	3	0.48	95.23	0.08
TCP Cubic	3	5.56	3008.94	10.67
KohoCC	3	3.66	154.24	0.22
LEDBAT	3	2.93	195.90	0.47
PCC	3	3.91	2588.52	0.17
QUIC Cubic	3	6.06	821.18	3.02
Saturator	3	5.47	411.82	0.46
SCReAM	3	0.17	107.84	0.12
Sprout	3	0.18	108.28	0.10
TaoVA-100x	3	2.79	136.68	0.04
TCP Vegas	3	4.12	224.73	0.39
Verus	3	5.87	1354.70	0.40
WebRTC media	3	2.12	138.21	0.46

Run 1: Statistics of TCP BBR

Start at: Mon, 07 Aug 2017 00:26:04 +0000

End at: Mon, 07 Aug 2017 00:26:34 +0000

Local clock offset: 0.138 ms

Remote clock offset: 0.277 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:07:58 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.80 Mbit/s

95th percentile per-packet one-way delay: 840.995 ms

Loss rate: 1.71%

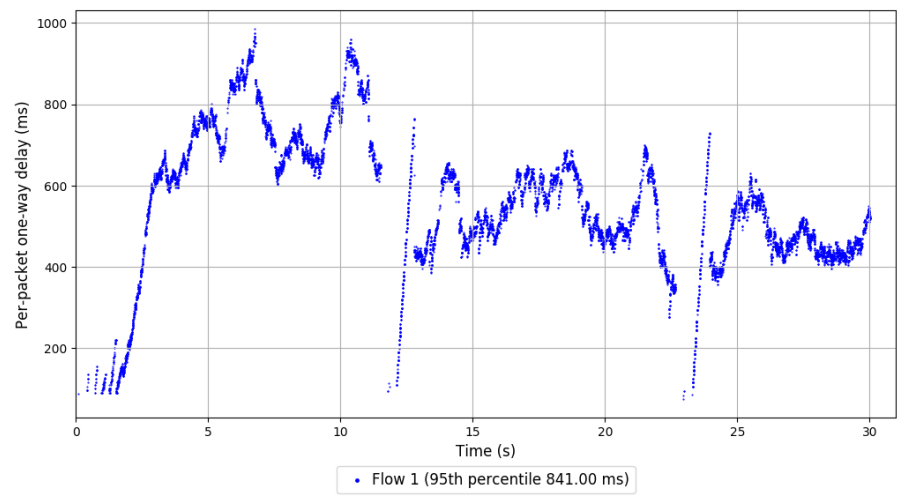
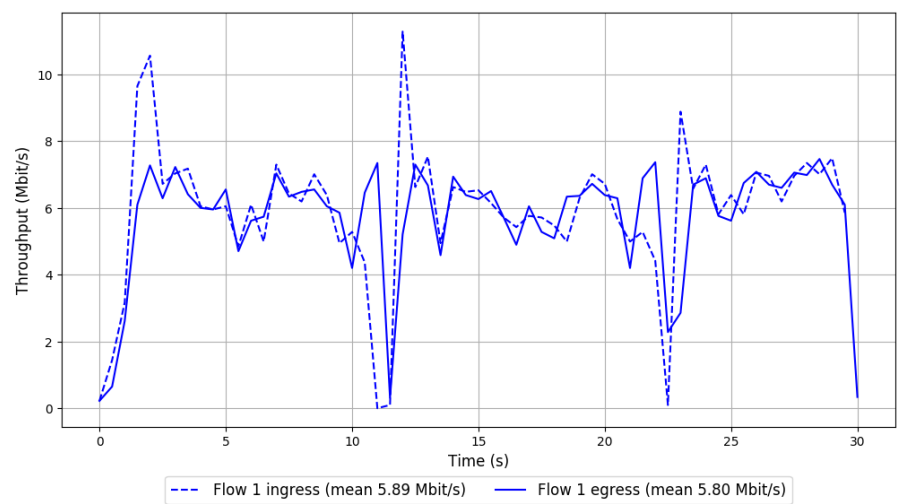
-- Flow 1:

Average throughput: 5.80 Mbit/s

95th percentile per-packet one-way delay: 840.995 ms

Loss rate: 1.71%

Run 1: Report of TCP BBR — Data Link



Run 2: Statistics of TCP BBR

Start at: Mon, 07 Aug 2017 00:44:30 +0000

End at: Mon, 07 Aug 2017 00:45:00 +0000

Local clock offset: 0.02 ms

Remote clock offset: 0.308 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:07:58 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.83 Mbit/s

95th percentile per-packet one-way delay: 839.529 ms

Loss rate: 1.64%

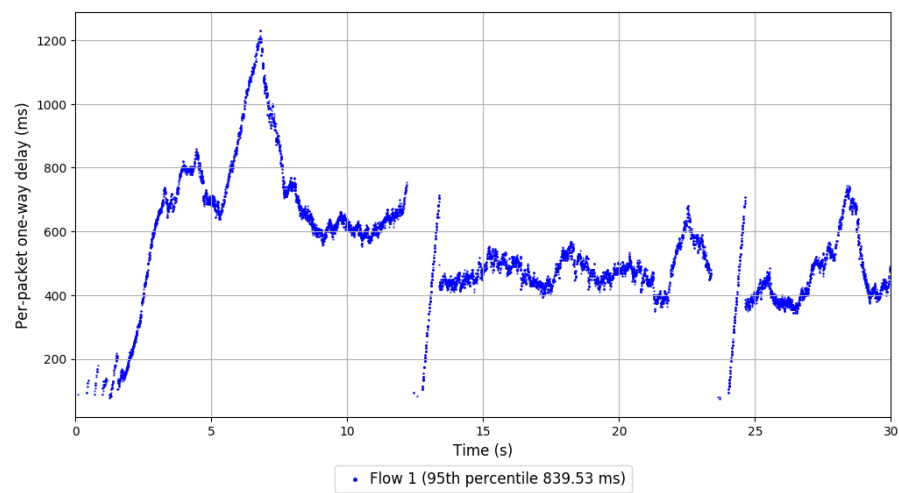
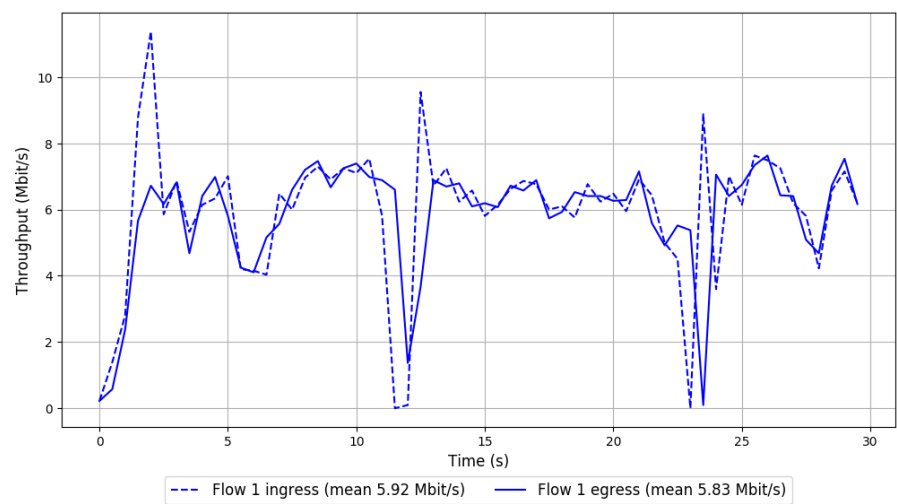
-- Flow 1:

Average throughput: 5.83 Mbit/s

95th percentile per-packet one-way delay: 839.529 ms

Loss rate: 1.64%

Run 2: Report of TCP BBR — Data Link



Run 3: Statistics of TCP BBR

Start at: Mon, 07 Aug 2017 01:02:43 +0000

End at: Mon, 07 Aug 2017 01:03:13 +0000

Local clock offset: -0.187 ms

Remote clock offset: 0.322 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:07:59 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.05 Mbit/s

95th percentile per-packet one-way delay: 931.323 ms

Loss rate: 1.65%

-- Flow 1:

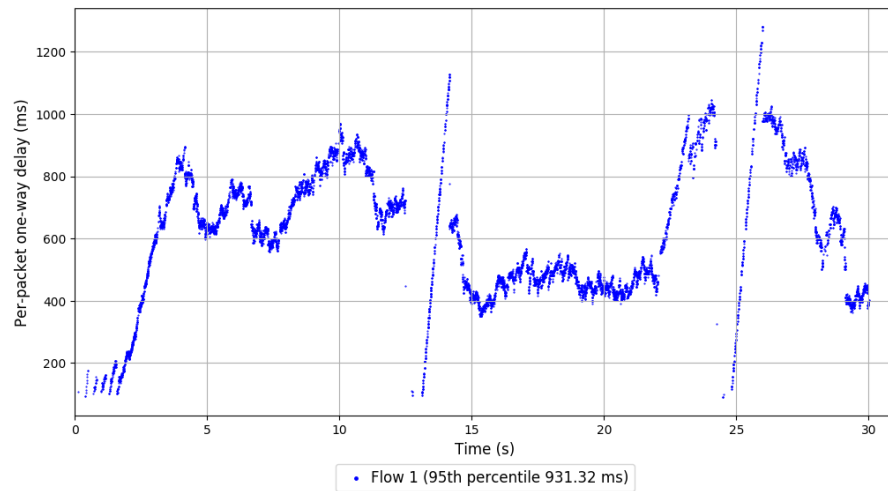
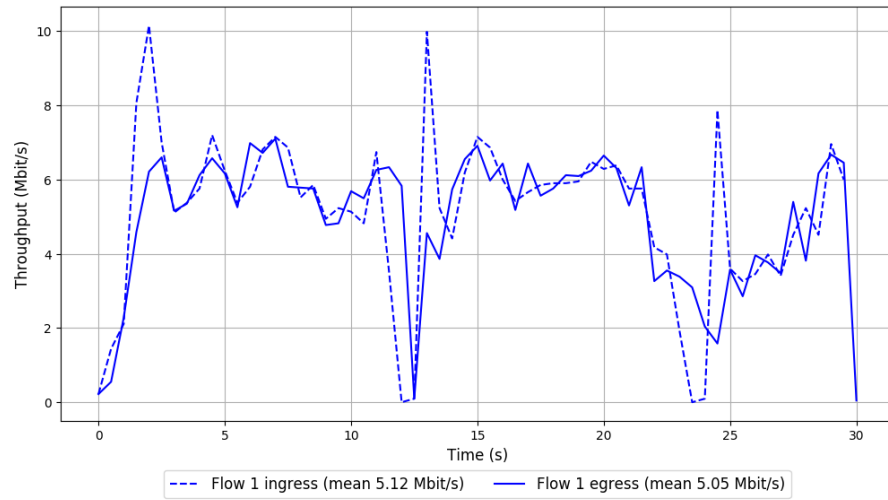
Average throughput: 5.05 Mbit/s

95th percentile per-packet one-way delay: 931.323 ms

Loss rate: 1.65%



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



Run 1: Statistics of CalibratedKoho

Start at: Mon, 07 Aug 2017 00:17:24 +0000

End at: Mon, 07 Aug 2017 00:17:54 +0000

Local clock offset: 0.447 ms

Remote clock offset: 0.137 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:07:59 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 109.508 ms

Loss rate: 0.00%

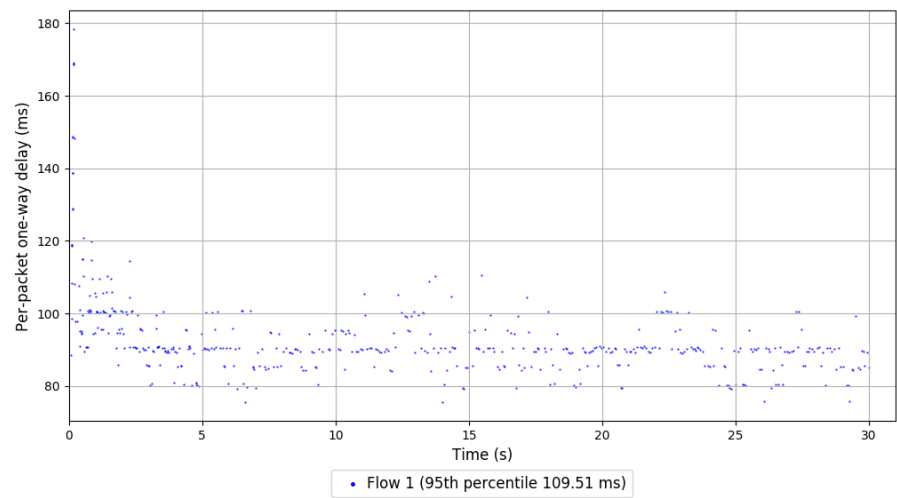
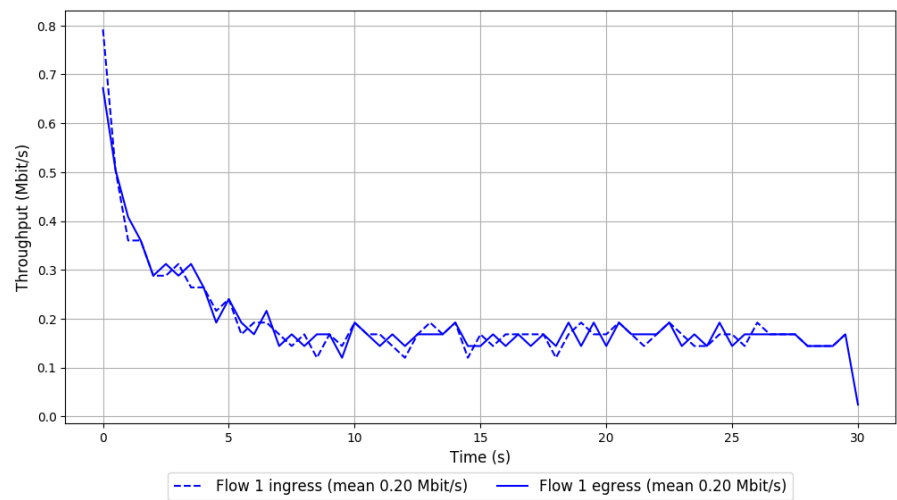
-- Flow 1:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 109.508 ms

Loss rate: 0.00%

Run 1: Report of CalibratedKoho — Data Link



Run 2: Statistics of CalibratedKoho

Start at: Mon, 07 Aug 2017 00:35:55 +0000

End at: Mon, 07 Aug 2017 00:36:25 +0000

Local clock offset: 25.134 ms

Remote clock offset: 0.262 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:00 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 111.527 ms

Loss rate: 0.19%

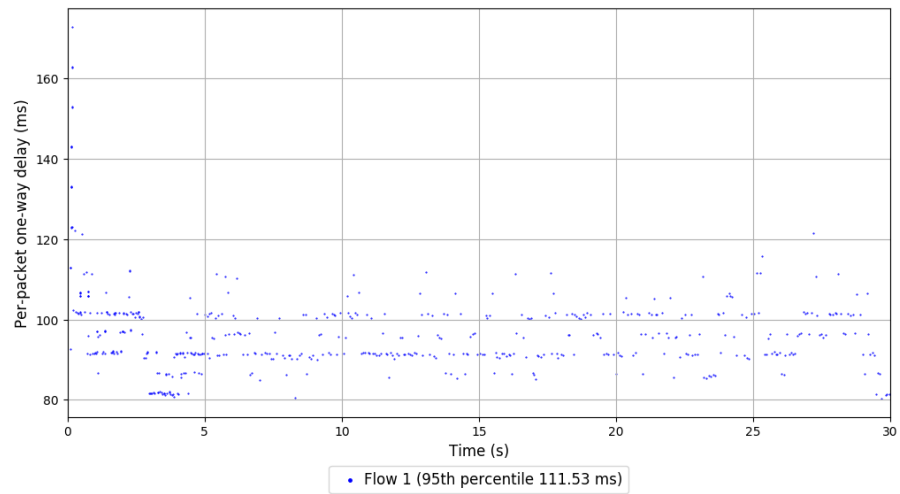
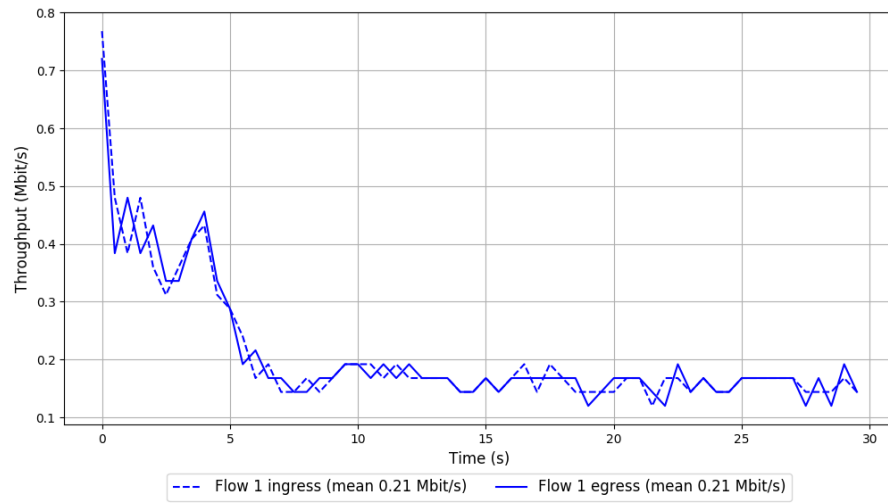
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 111.527 ms

Loss rate: 0.19%

## Run 2: Report of CalibratedKoho — Data Link



Run 3: Statistics of CalibratedKoho

Start at: Mon, 07 Aug 2017 00:54:13 +0000

End at: Mon, 07 Aug 2017 00:54:43 +0000

Local clock offset: -0.109 ms

Remote clock offset: 0.268 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:01 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 107.135 ms

Loss rate: 0.00%

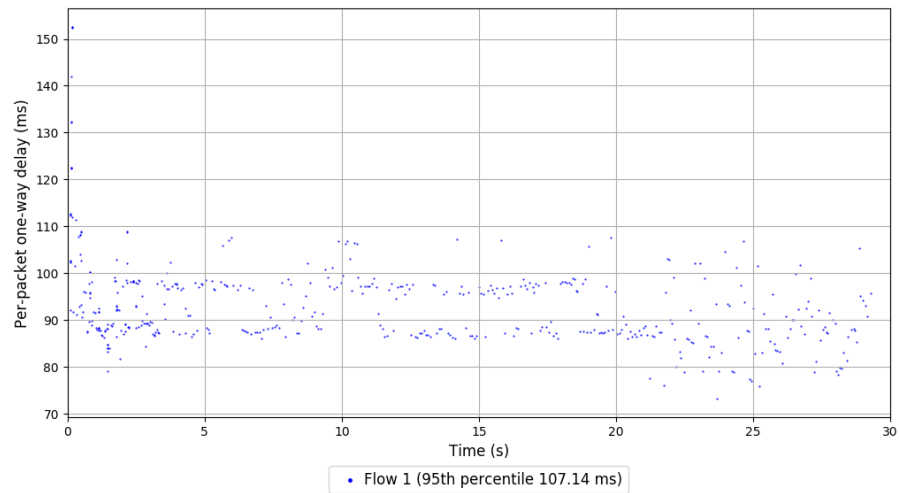
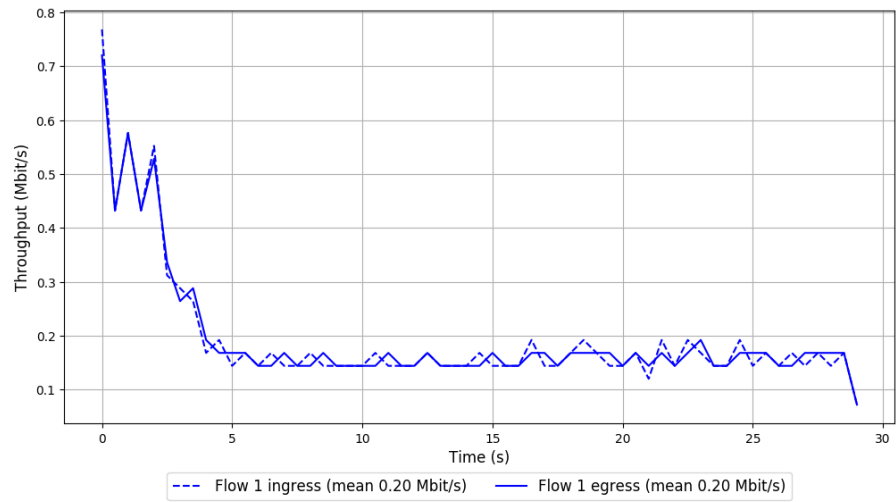
-- Flow 1:

Average throughput: 0.20 Mbit/s

95th percentile per-packet one-way delay: 107.135 ms

Loss rate: 0.00%

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



Run 1: Statistics of Copa

Start at: Mon, 07 Aug 2017 00:19:54 +0000

End at: Mon, 07 Aug 2017 00:20:24 +0000

Local clock offset: 0.029 ms

Remote clock offset: 0.144 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:02 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 86.619 ms

Loss rate: 0.08%

-- Flow 1:

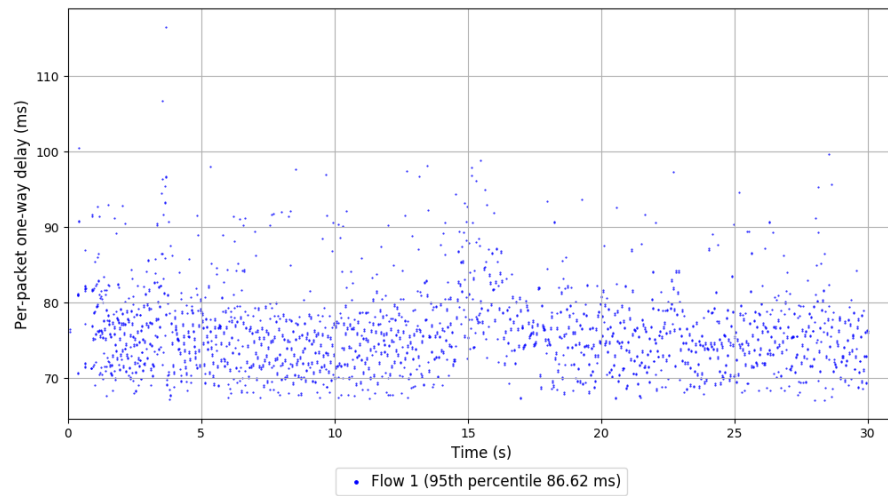
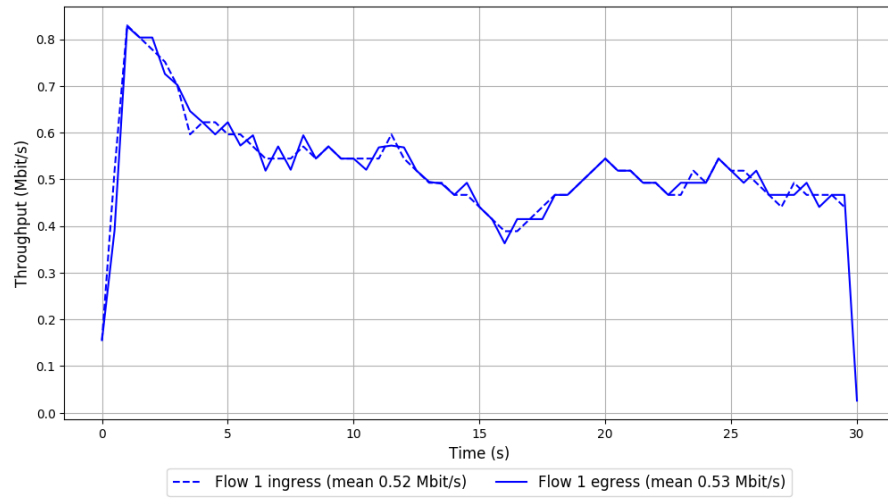
Average throughput: 0.53 Mbit/s

95th percentile per-packet one-way delay: 86.619 ms

Loss rate: 0.08%



### Run 1: Report of Copa — Data Link



Run 2: Statistics of Copa

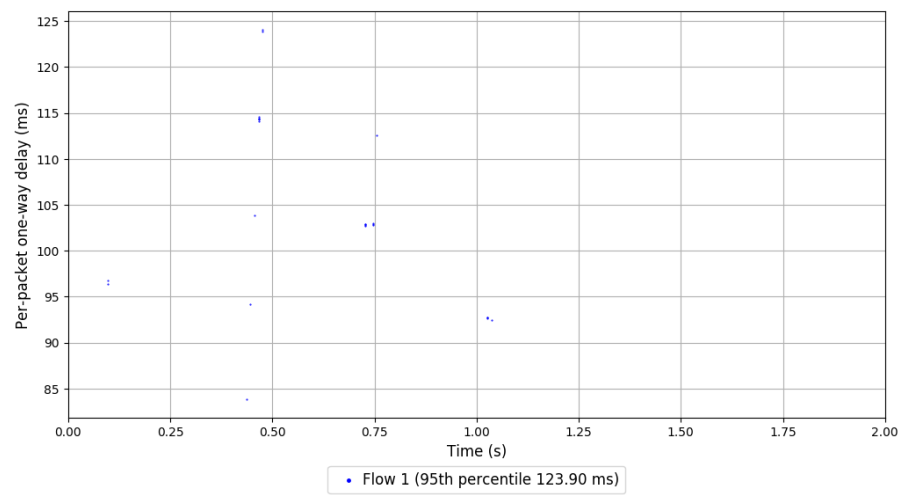
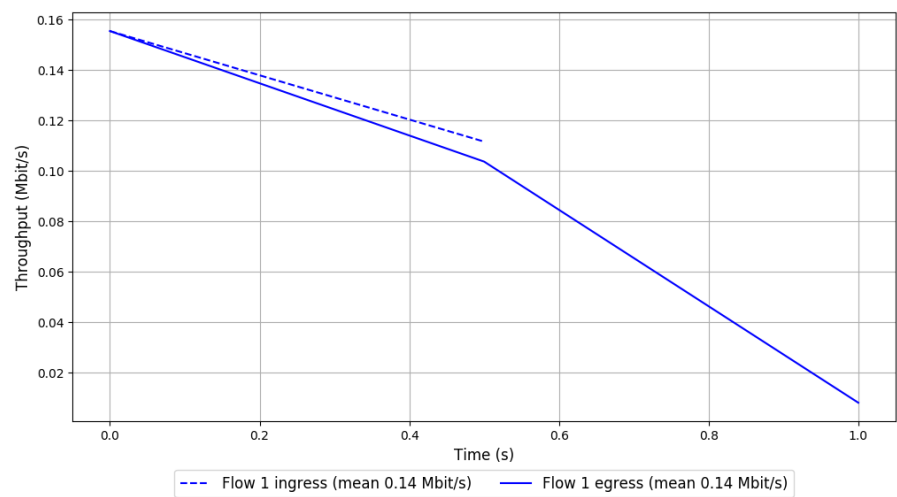
Start at: Mon, 07 Aug 2017 00:38:21 +0000

End at: Mon, 07 Aug 2017 00:38:51 +0000

Local clock offset: -0.006 ms

Remote clock offset: 0.284 ms

Run 2: Report of Copa — Data Link



Run 3: Statistics of Copa

Start at: Mon, 07 Aug 2017 00:56:38 +0000

End at: Mon, 07 Aug 2017 00:57:08 +0000

Local clock offset: -0.168 ms

Remote clock offset: 0.269 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:02 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 103.847 ms

Loss rate: 0.09%

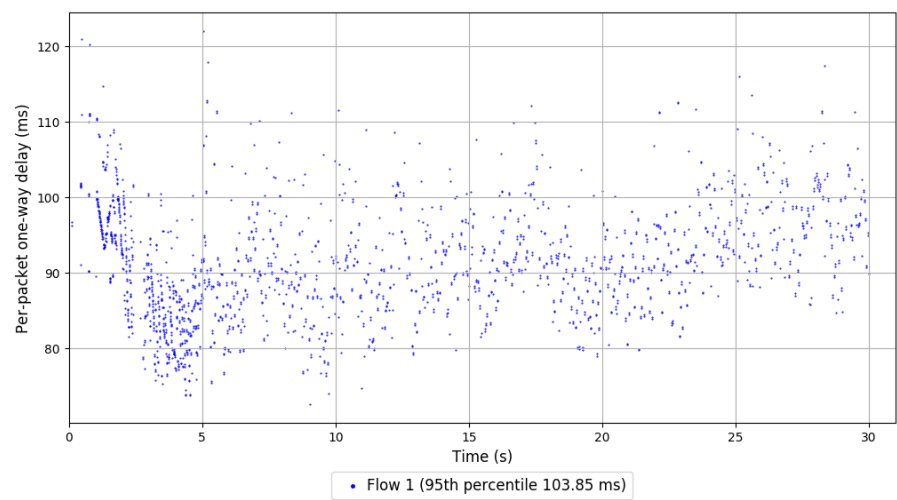
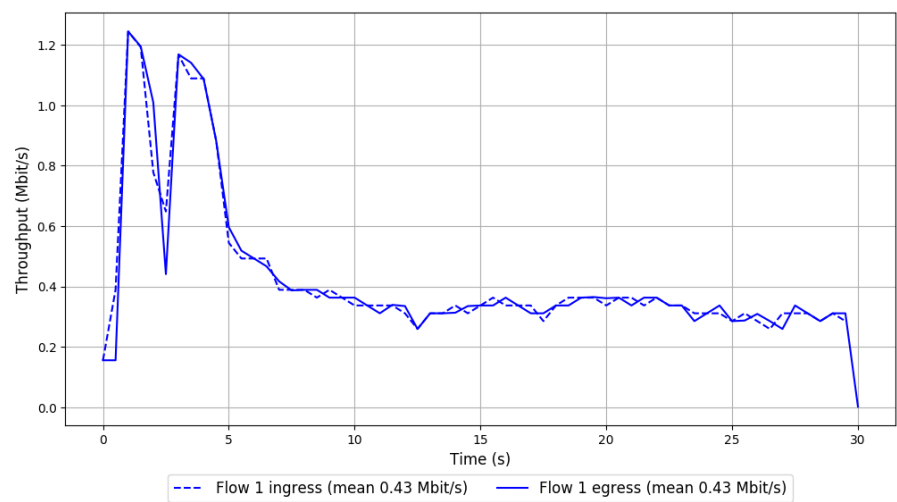
-- Flow 1:

Average throughput: 0.43 Mbit/s

95th percentile per-packet one-way delay: 103.847 ms

Loss rate: 0.09%

Run 3: Report of Copa — Data Link



Run 1: Statistics of TCP Cubic

Start at: Mon, 07 Aug 2017 00:14:53 +0000

End at: Mon, 07 Aug 2017 00:15:23 +0000

Local clock offset: 0.105 ms

Remote clock offset: 0.145 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:03 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.12 Mbit/s

95th percentile per-packet one-way delay: 2935.537 ms

Loss rate: 11.26%

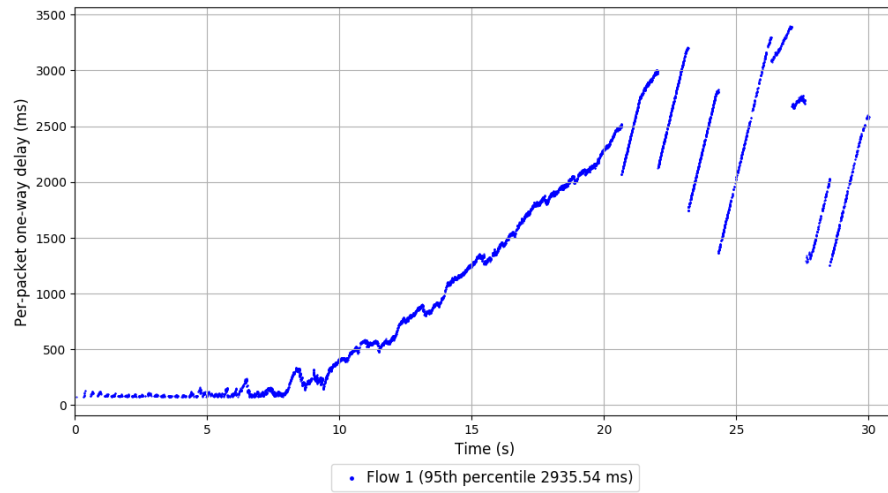
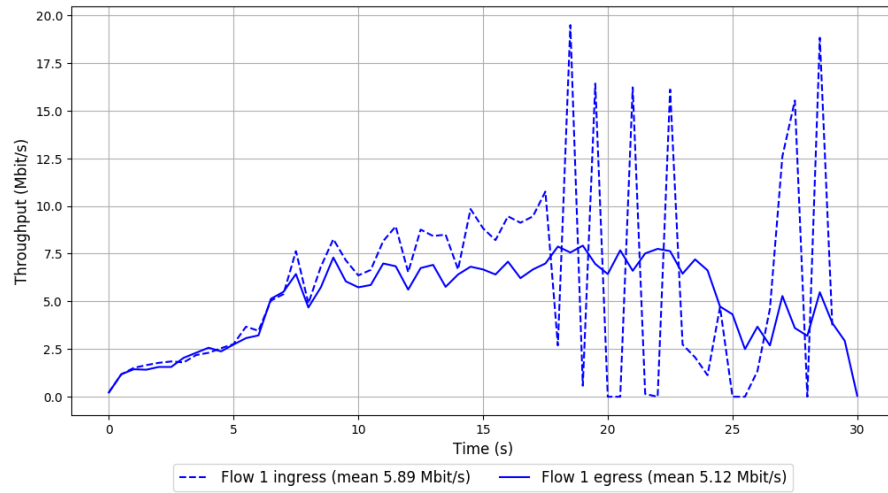
-- Flow 1:

Average throughput: 5.12 Mbit/s

95th percentile per-packet one-way delay: 2935.537 ms

Loss rate: 11.26%

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



Run 2: Statistics of TCP Cubic

Start at: Mon, 07 Aug 2017 00:33:23 +0000

End at: Mon, 07 Aug 2017 00:33:53 +0000

Local clock offset: 0.257 ms

Remote clock offset: 0.254 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:04 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 6.12 Mbit/s

95th percentile per-packet one-way delay: 3158.328 ms

Loss rate: 10.22%

-- Flow 1:

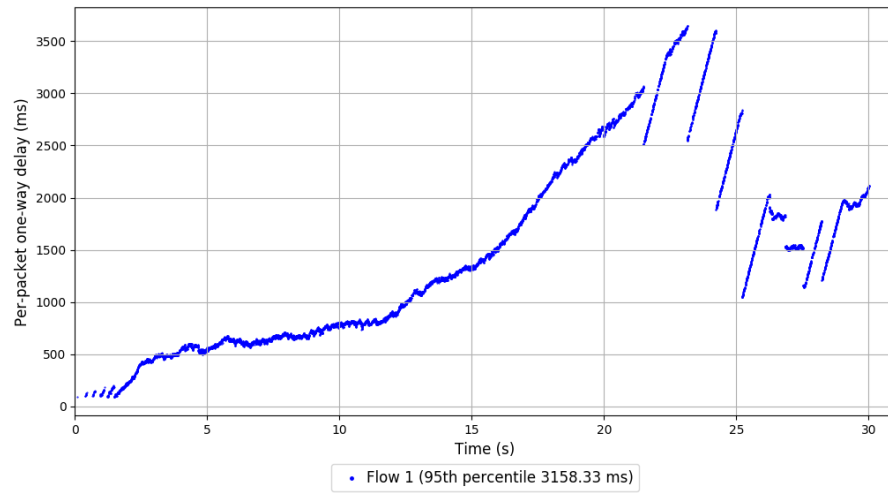
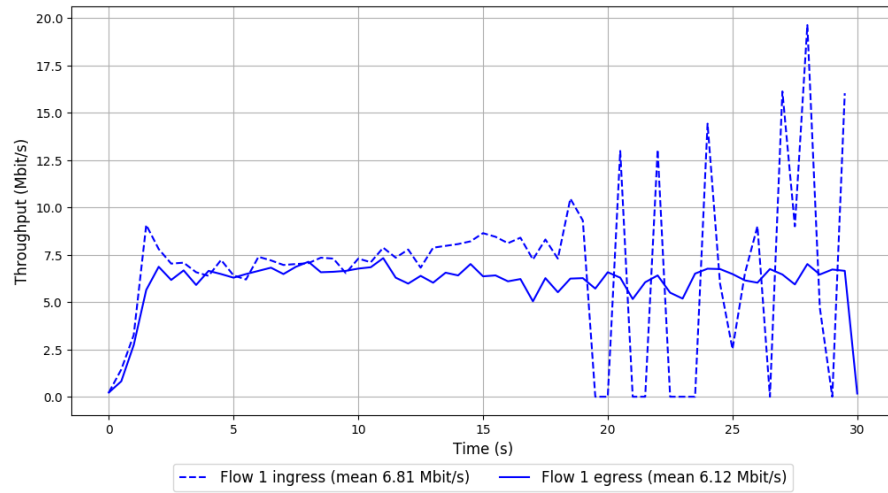
Average throughput: 6.12 Mbit/s

95th percentile per-packet one-way delay: 3158.328 ms

Loss rate: 10.22%



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



Run 3: Statistics of TCP Cubic

Start at: Mon, 07 Aug 2017 00:51:47 +0000

End at: Mon, 07 Aug 2017 00:52:17 +0000

Local clock offset: 0.212 ms

Remote clock offset: 0.318 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:05 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.45 Mbit/s

95th percentile per-packet one-way delay: 2932.951 ms

Loss rate: 10.52%

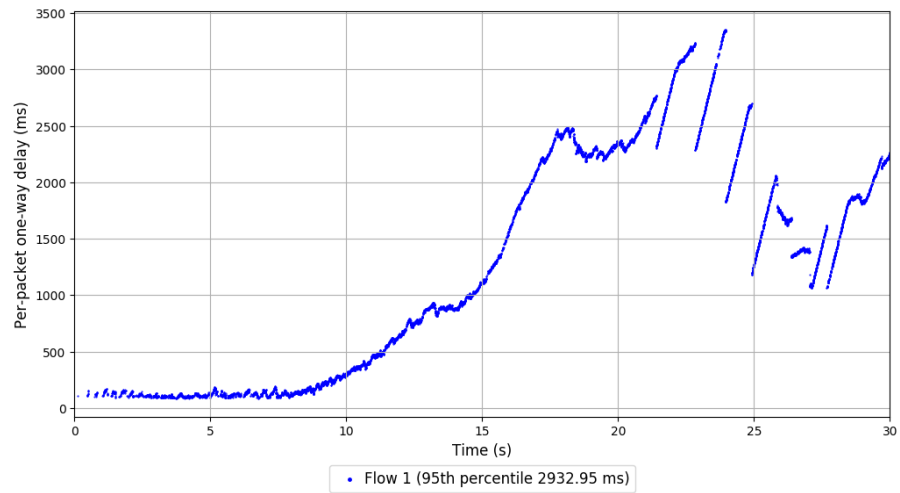
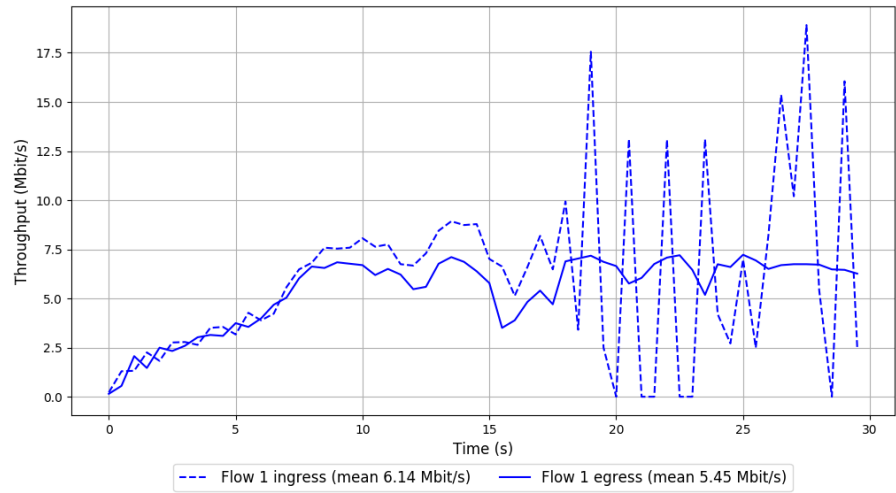
-- Flow 1:

Average throughput: 5.45 Mbit/s

95th percentile per-packet one-way delay: 2932.951 ms

Loss rate: 10.52%

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



Run 1: Statistics of KohoCC

Start at: Mon, 07 Aug 2017 00:12:27 +0000

End at: Mon, 07 Aug 2017 00:12:57 +0000

Local clock offset: 0.399 ms

Remote clock offset: 0.166 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:06 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 4.07 Mbit/s

95th percentile per-packet one-way delay: 121.080 ms

Loss rate: 0.17%

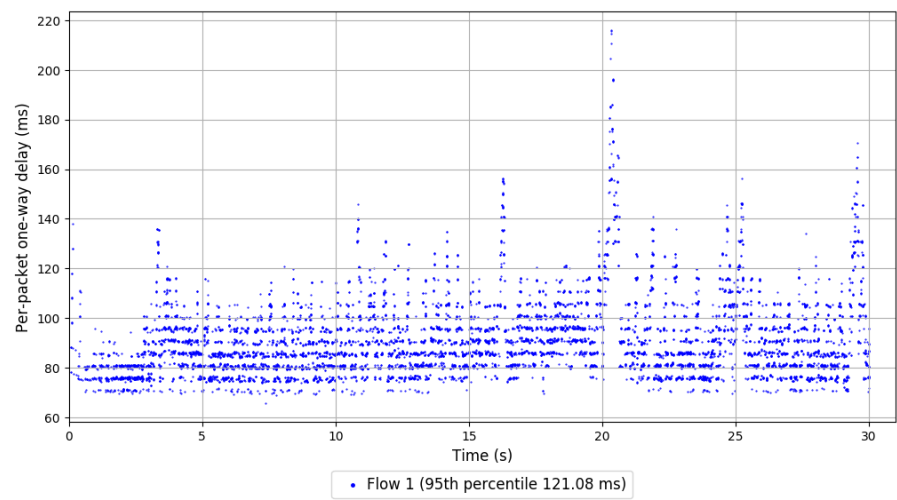
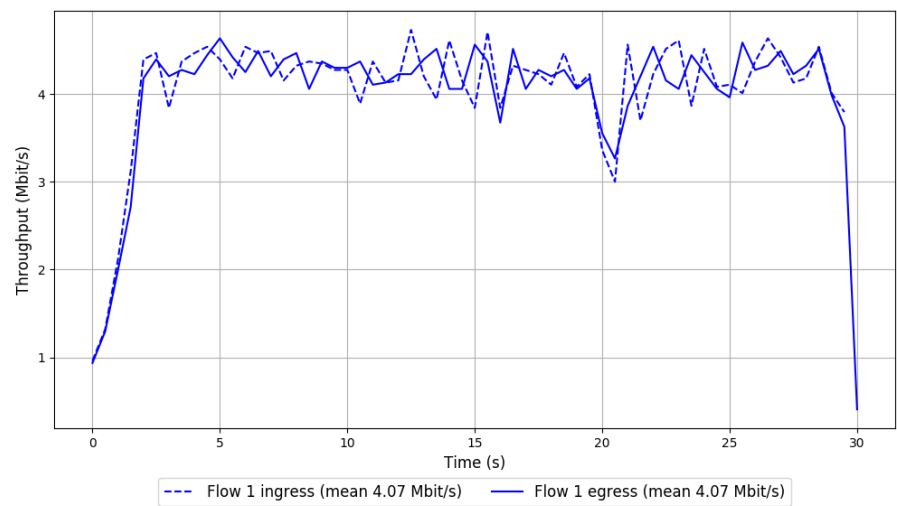
-- Flow 1:

Average throughput: 4.07 Mbit/s

95th percentile per-packet one-way delay: 121.080 ms

Loss rate: 0.17%

Run 1: Report of KohoCC — Data Link



Run 2: Statistics of KohoCC

Start at: Mon, 07 Aug 2017 00:30:57 +0000

End at: Mon, 07 Aug 2017 00:31:27 +0000

Local clock offset: 0.004 ms

Remote clock offset: 0.24 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:07 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 3.40 Mbit/s

95th percentile per-packet one-way delay: 179.485 ms

Loss rate: 0.25%

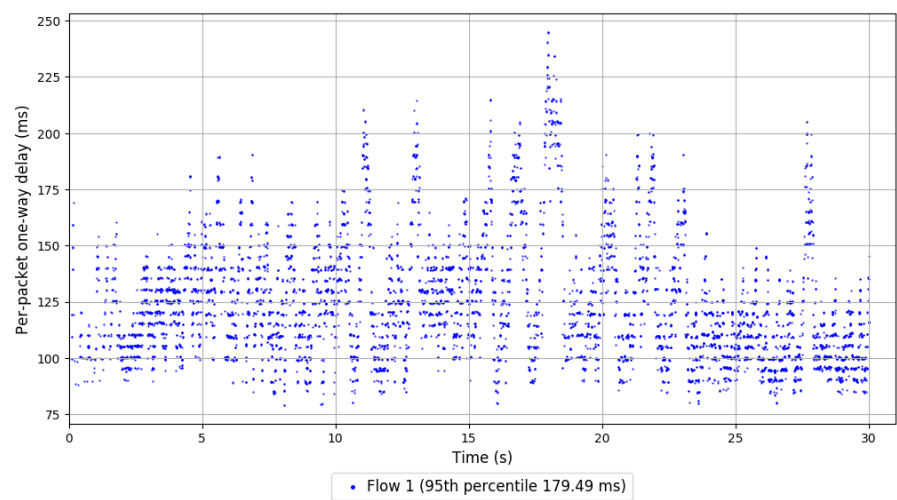
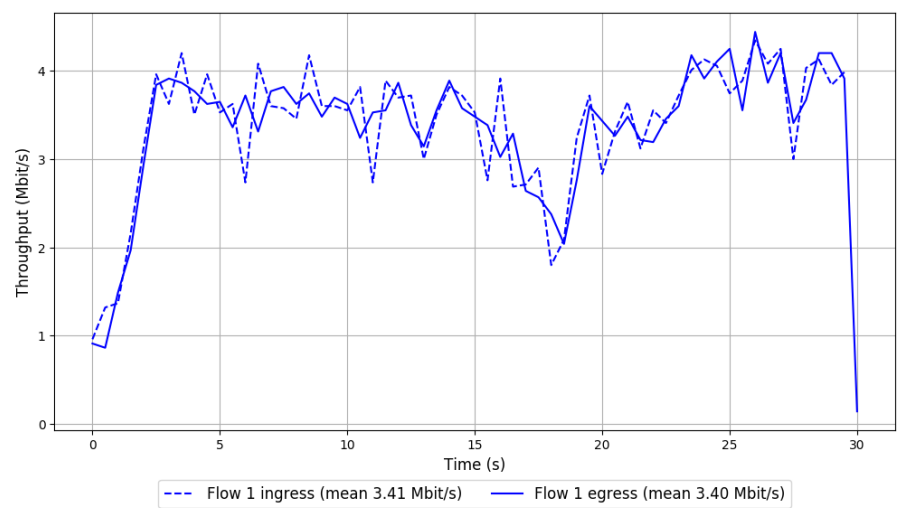
-- Flow 1:

Average throughput: 3.40 Mbit/s

95th percentile per-packet one-way delay: 179.485 ms

Loss rate: 0.25%

Run 2: Report of KohoCC — Data Link



Run 3: Statistics of KohoCC

Start at: Mon, 07 Aug 2017 00:49:21 +0000

End at: Mon, 07 Aug 2017 00:49:51 +0000

Local clock offset: -0.137 ms

Remote clock offset: 0.304 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:07 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 3.51 Mbit/s

95th percentile per-packet one-way delay: 162.168 ms

Loss rate: 0.24%

-- Flow 1:

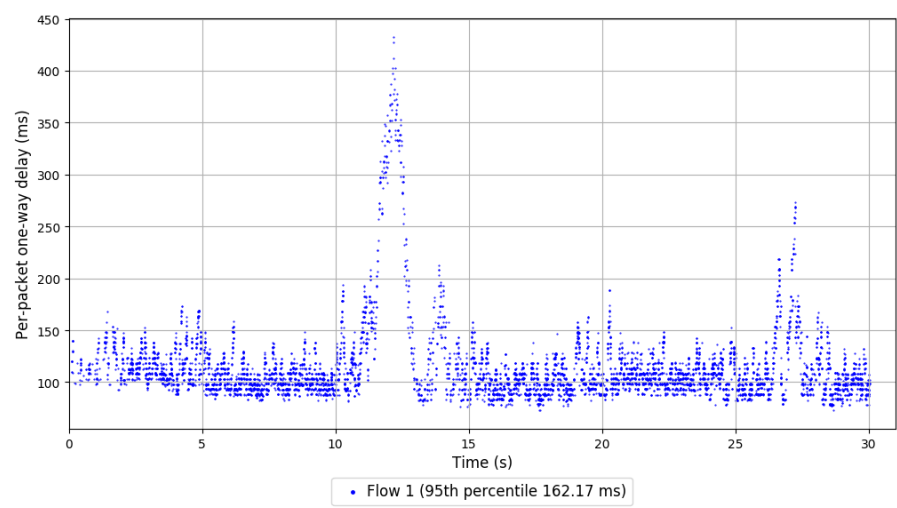
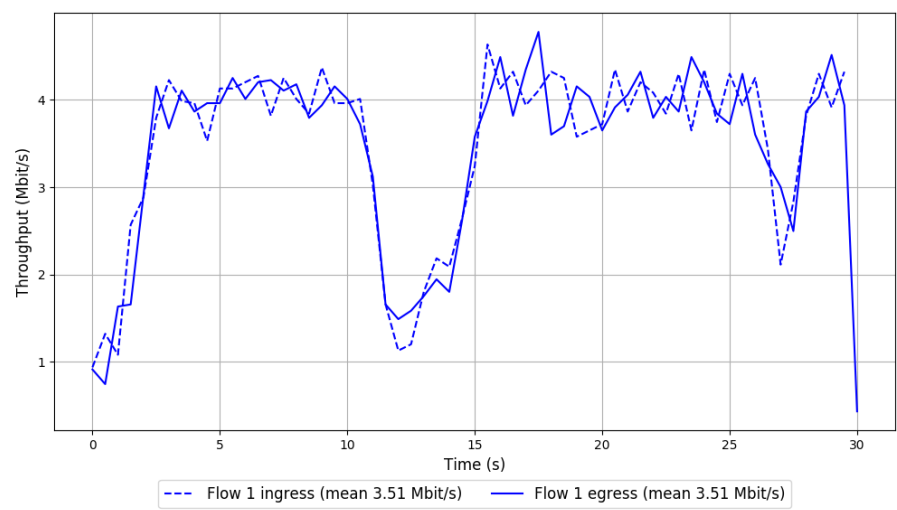
Average throughput: 3.51 Mbit/s

95th percentile per-packet one-way delay: 162.168 ms

Loss rate: 0.24%



Run 3: Report of KohoCC — Data Link



Run 1: Statistics of LEDBAT

Start at: Mon, 07 Aug 2017 00:16:06 +0000

End at: Mon, 07 Aug 2017 00:16:36 +0000

Local clock offset: 0.403 ms

Remote clock offset: 0.16 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:08 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.40 Mbit/s

95th percentile per-packet one-way delay: 165.126 ms

Loss rate: 0.71%

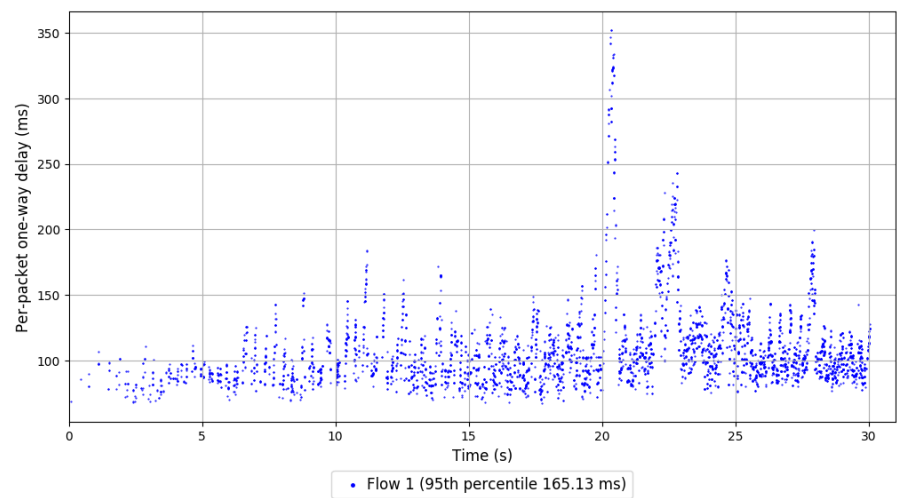
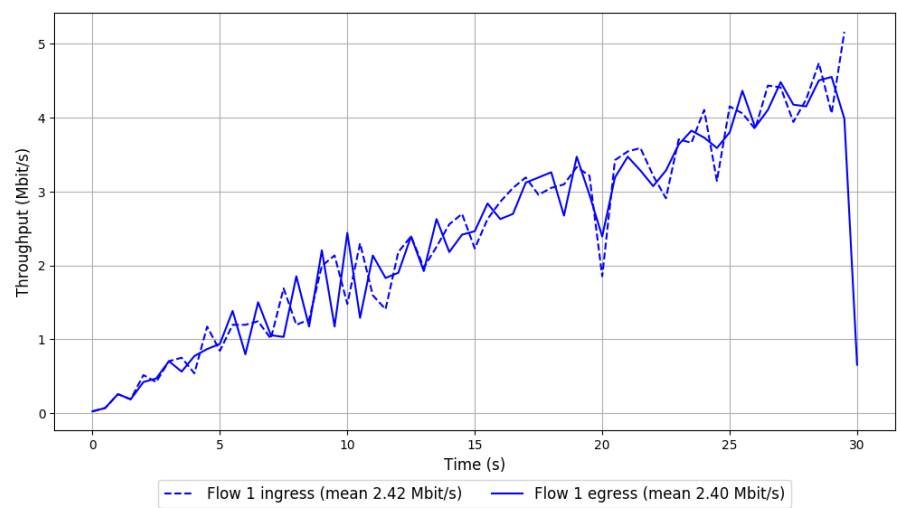
-- Flow 1:

Average throughput: 2.40 Mbit/s

95th percentile per-packet one-way delay: 165.126 ms

Loss rate: 0.71%

Run 1: Report of LEDBAT — Data Link



Run 2: Statistics of LEDBAT

Start at: Mon, 07 Aug 2017 00:34:42 +0000

End at: Mon, 07 Aug 2017 00:35:12 +0000

Local clock offset: -0.027 ms

Remote clock offset: 0.26 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:09 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 3.44 Mbit/s

95th percentile per-packet one-way delay: 160.728 ms

Loss rate: 0.18%

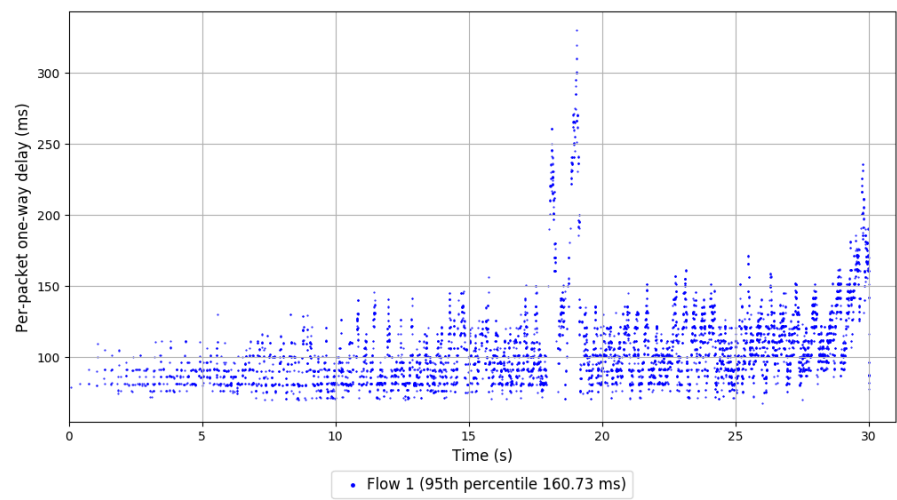
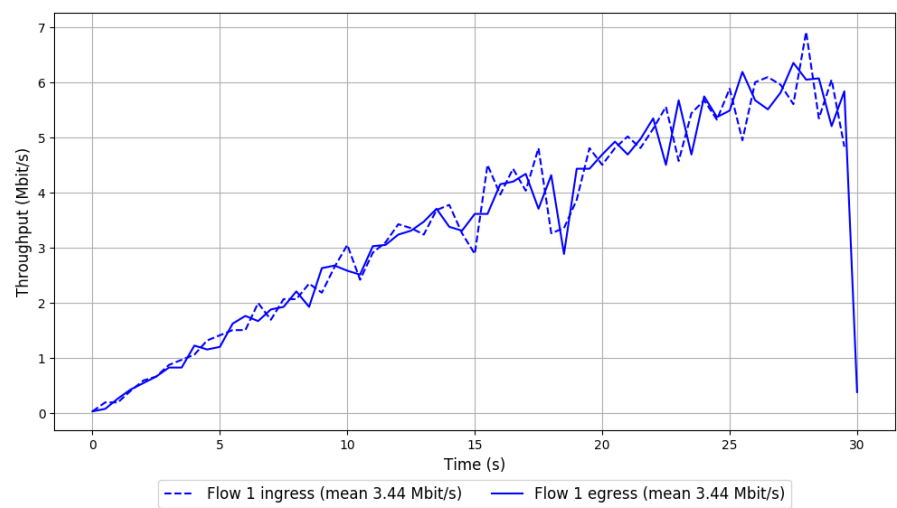
-- Flow 1:

Average throughput: 3.44 Mbit/s

95th percentile per-packet one-way delay: 160.728 ms

Loss rate: 0.18%

Run 2: Report of LEDBAT — Data Link



Run 3: Statistics of LEDBAT

Start at: Mon, 07 Aug 2017 00:53:00 +0000

End at: Mon, 07 Aug 2017 00:53:30 +0000

Local clock offset: -0.092 ms

Remote clock offset: 0.296 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:10 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.95 Mbit/s

95th percentile per-packet one-way delay: 261.854 ms

Loss rate: 0.53%

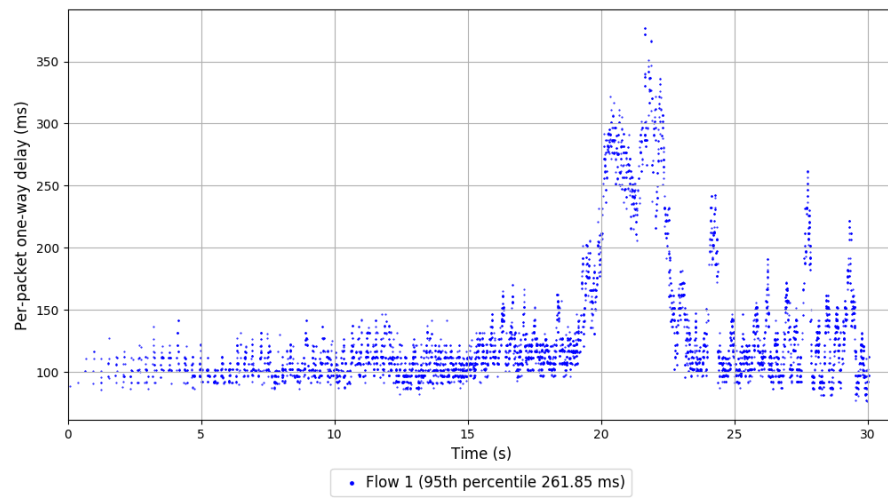
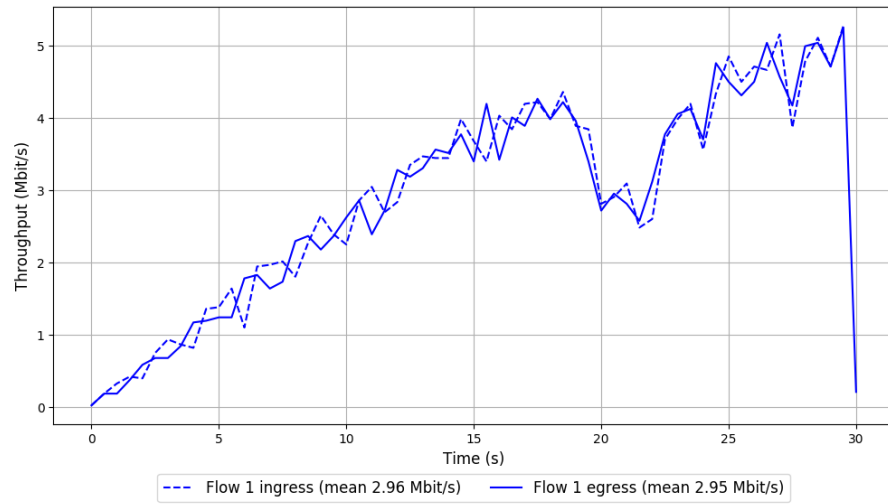
-- Flow 1:

Average throughput: 2.95 Mbit/s

95th percentile per-packet one-way delay: 261.854 ms

Loss rate: 0.53%

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



Run 1: Statistics of PCC

Start at: Mon, 07 Aug 2017 00:28:32 +0000

End at: Mon, 07 Aug 2017 00:29:02 +0000

Local clock offset: 0.066 ms

Remote clock offset: 0.247 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:10 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.98 Mbit/s

95th percentile per-packet one-way delay: 5101.316 ms

Loss rate: 0.08%

-- Flow 1:

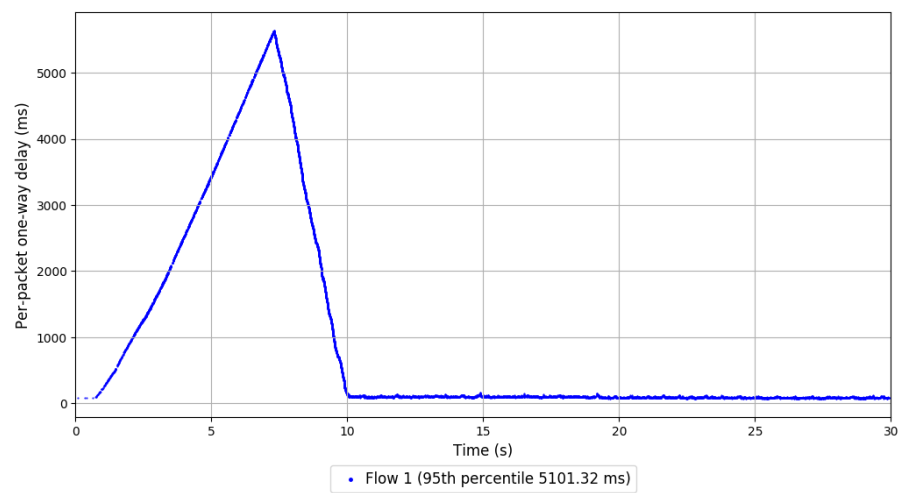
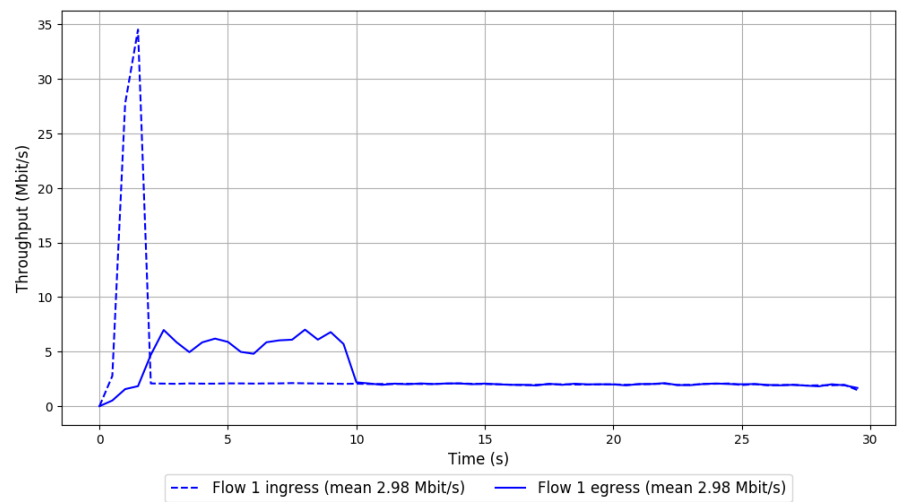
Average throughput: 2.98 Mbit/s

95th percentile per-packet one-way delay: 5101.316 ms

Loss rate: 0.08%



Run 1: Report of PCC — Data Link



Run 2: Statistics of PCC

Start at: Mon, 07 Aug 2017 00:46:56 +0000

End at: Mon, 07 Aug 2017 00:47:26 +0000

Local clock offset: 0.269 ms

Remote clock offset: 0.307 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:11 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 4.38 Mbit/s

95th percentile per-packet one-way delay: 923.616 ms

Loss rate: 0.24%

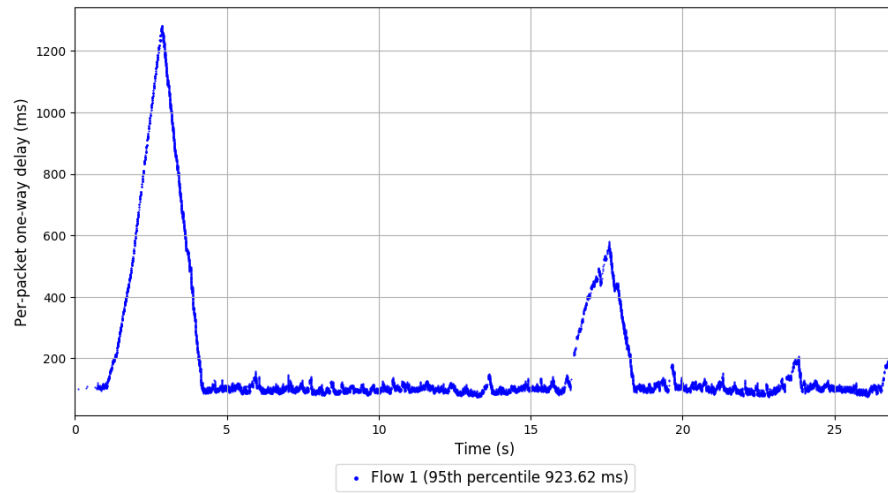
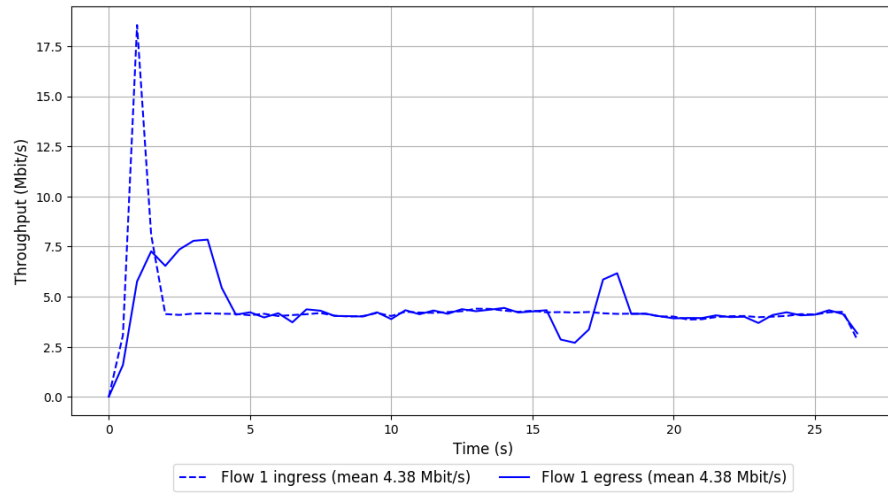
-- Flow 1:

Average throughput: 4.38 Mbit/s

95th percentile per-packet one-way delay: 923.616 ms

Loss rate: 0.24%

## Run 2: Report of PCC — Data Link



Run 3: Statistics of PCC

Start at: Mon, 07 Aug 2017 01:05:09 +0000

End at: Mon, 07 Aug 2017 01:05:39 +0000

Local clock offset: -0.253 ms

Remote clock offset: 0.333 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:12 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 4.37 Mbit/s

95th percentile per-packet one-way delay: 1740.628 ms

Loss rate: 0.18%

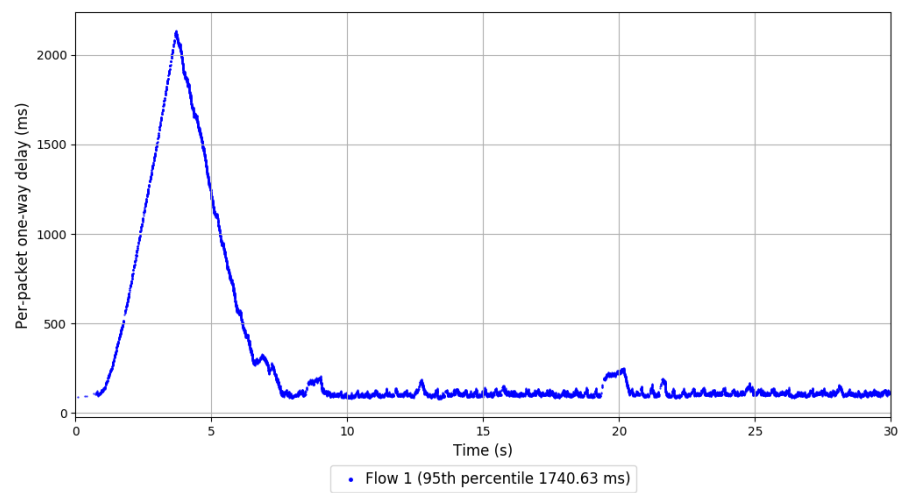
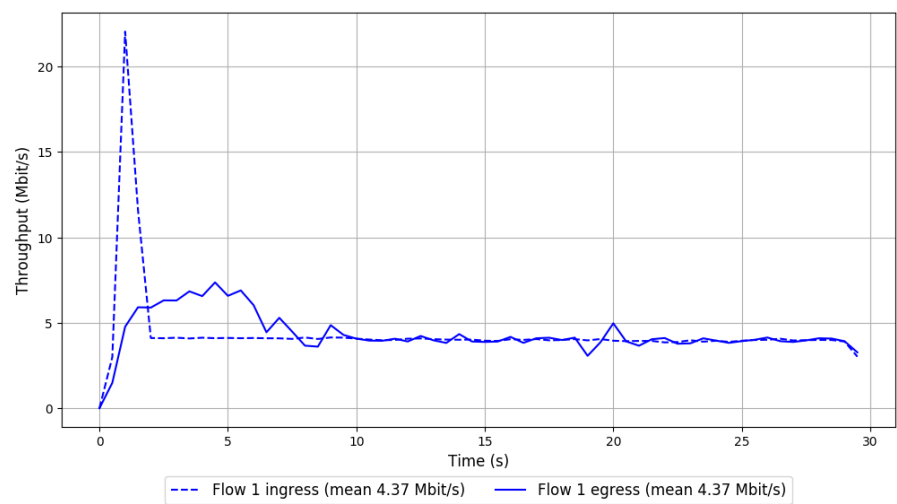
-- Flow 1:

Average throughput: 4.37 Mbit/s

95th percentile per-packet one-way delay: 1740.628 ms

Loss rate: 0.18%

Run 3: Report of PCC — Data Link



Run 1: Statistics of QUIC Cubic

Start at: Mon, 07 Aug 2017 00:21:12 +0000

End at: Mon, 07 Aug 2017 00:21:42 +0000

Local clock offset: 0.105 ms

Remote clock offset: 0.174 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:13 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 6.25 Mbit/s

95th percentile per-packet one-way delay: 813.822 ms

Loss rate: 2.90%

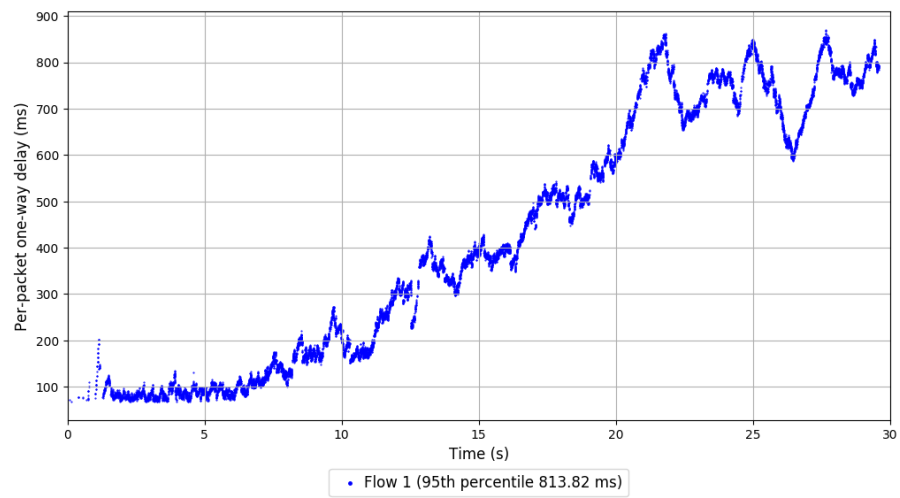
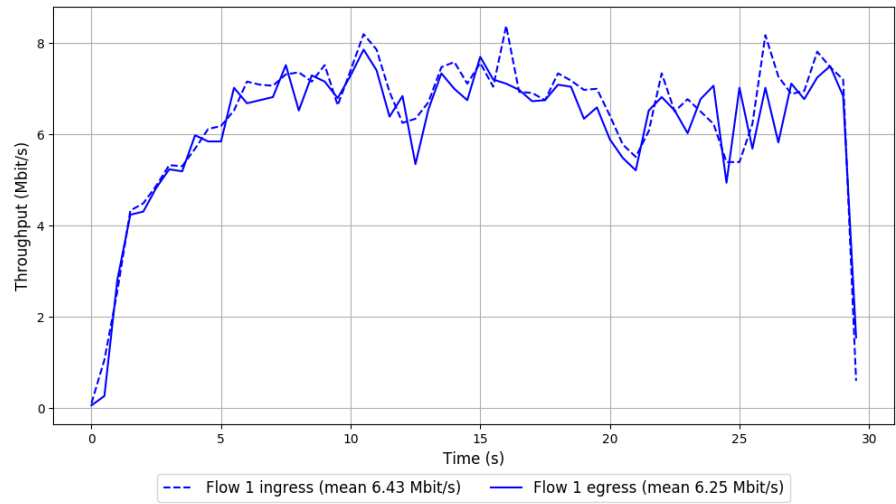
-- Flow 1:

Average throughput: 6.25 Mbit/s

95th percentile per-packet one-way delay: 813.822 ms

Loss rate: 2.90%

# Run 1: Report of QUIC Cubic — Data Link



Run 2: Statistics of QUIC Cubic

Start at: Mon, 07 Aug 2017 00:39:37 +0000

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

Local clock offset: 0.0 ms

Remote clock offset: 0.292 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:13 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 6.13 Mbit/s

95th percentile per-packet one-way delay: 791.692 ms

Loss rate: 2.98%

-- Flow 1:

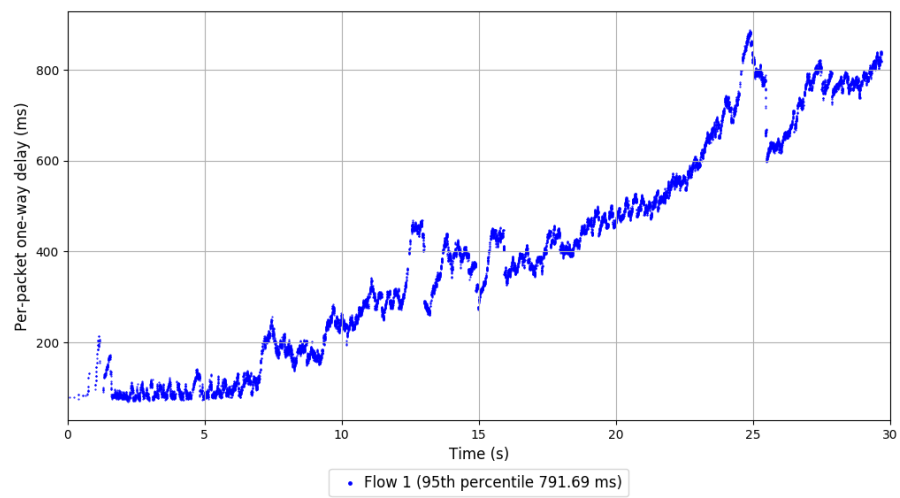
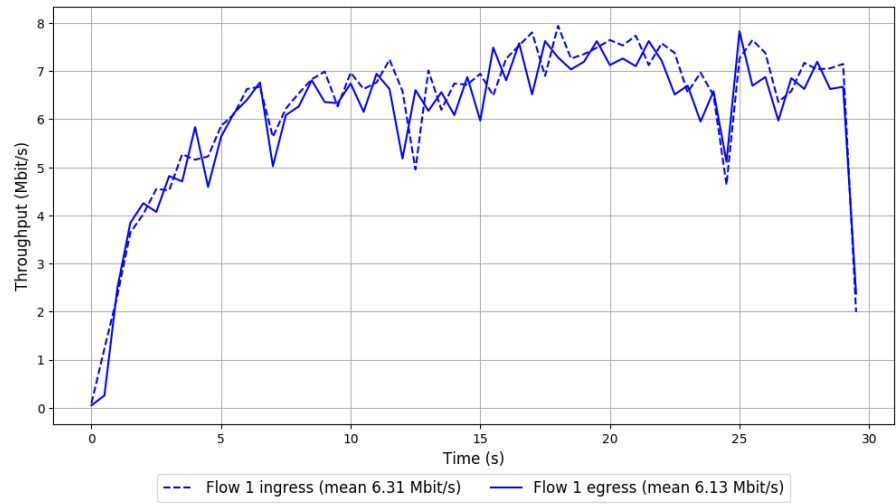
Average throughput: 6.13 Mbit/s

95th percentile per-packet one-way delay: 791.692 ms

Loss rate: 2.98%



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



Run 3: Statistics of QUIC Cubic

Start at: Mon, 07 Aug 2017 00:57:51 +0000

End at: Mon, 07 Aug 2017 00:58:21 +0000

Local clock offset: -0.173 ms

Remote clock offset: 0.27 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:15 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.81 Mbit/s

95th percentile per-packet one-way delay: 858.012 ms

Loss rate: 3.19%

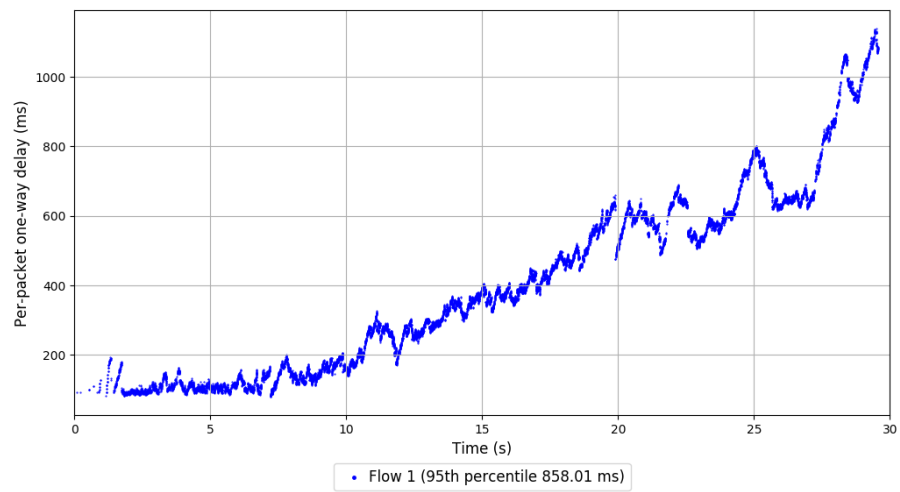
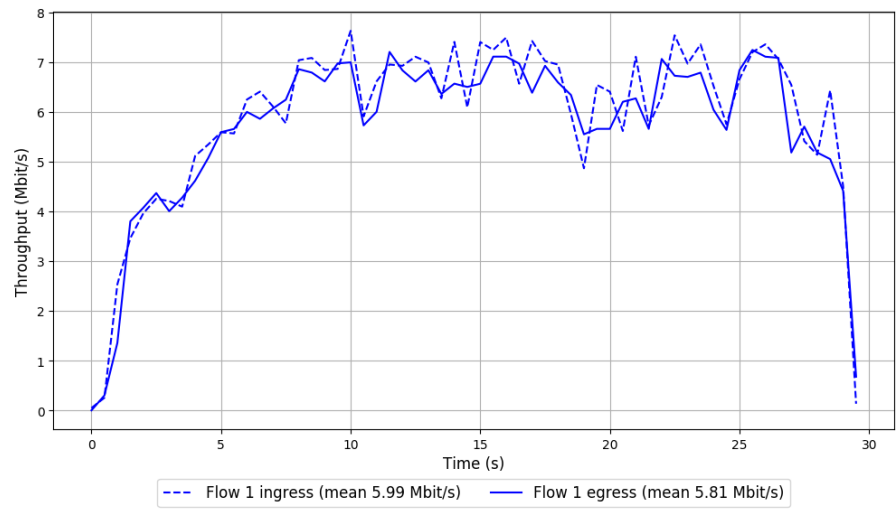
-- Flow 1:

Average throughput: 5.81 Mbit/s

95th percentile per-packet one-way delay: 858.012 ms

Loss rate: 3.19%

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



Run 1: Statistics of Saturator

Start at: Mon, 07 Aug 2017 00:23:37 +0000

End at: Mon, 07 Aug 2017 00:24:07 +0000

Local clock offset: 0.109 ms

Remote clock offset: 0.21 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:15 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.62 Mbit/s

95th percentile per-packet one-way delay: 328.159 ms

Loss rate: 0.50%

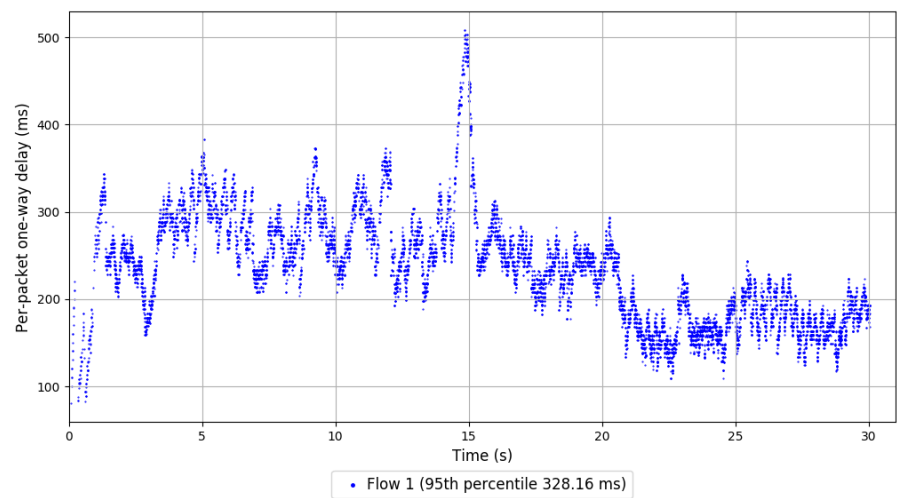
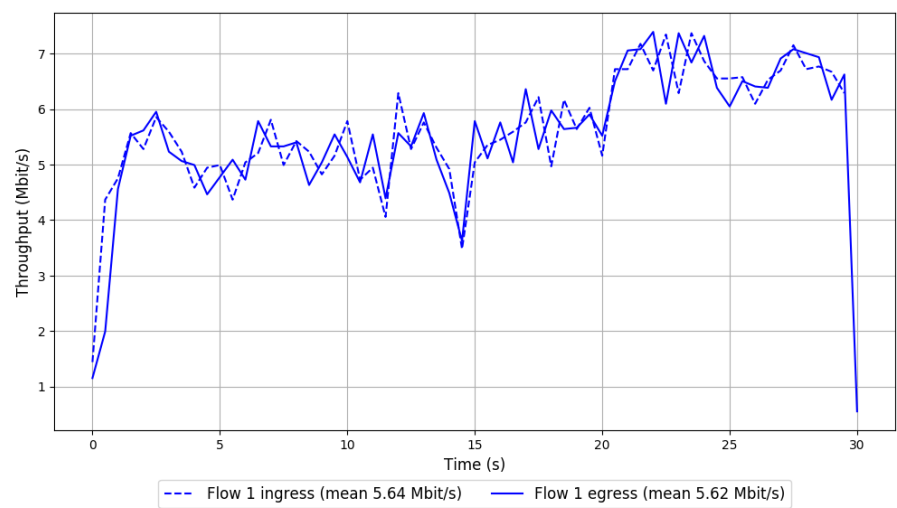
-- Flow 1:

Average throughput: 5.62 Mbit/s

95th percentile per-packet one-way delay: 328.159 ms

Loss rate: 0.50%

Run 1: Report of Saturator — Data Link



Run 2: Statistics of Saturator

Start at: Mon, 07 Aug 2017 00:42:03 +0000

End at: Mon, 07 Aug 2017 00:42:33 +0000

Local clock offset: -0.04 ms

Remote clock offset: 0.277 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:17 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 4.85 Mbit/s

95th percentile per-packet one-way delay: 489.419 ms

Loss rate: 0.42%

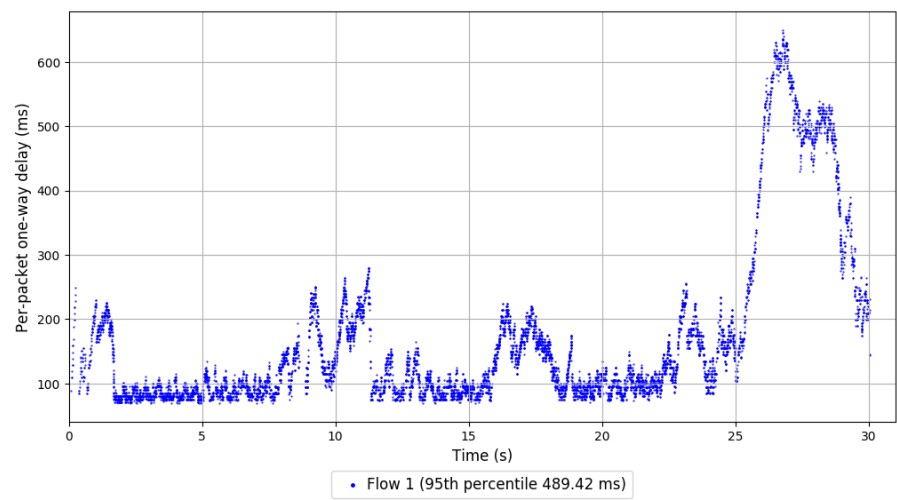
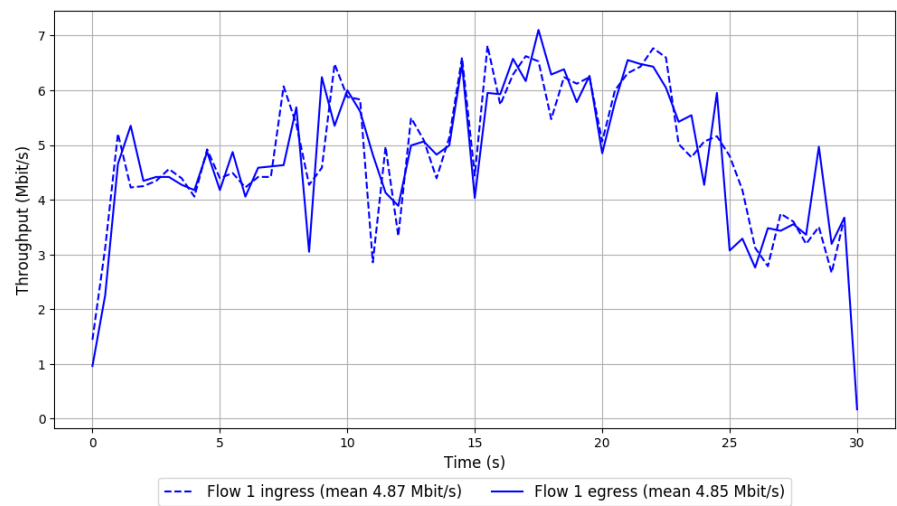
-- Flow 1:

Average throughput: 4.85 Mbit/s

95th percentile per-packet one-way delay: 489.419 ms

Loss rate: 0.42%

Run 2: Report of Saturator — Data Link



Run 3: Statistics of Saturator

Start at: Mon, 07 Aug 2017 01:00:17 +0000

End at: Mon, 07 Aug 2017 01:00:47 +0000

Local clock offset: 0.046 ms

Remote clock offset: 0.262 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:17 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.93 Mbit/s

95th percentile per-packet one-way delay: 417.870 ms

Loss rate: 0.46%

-- Flow 1:

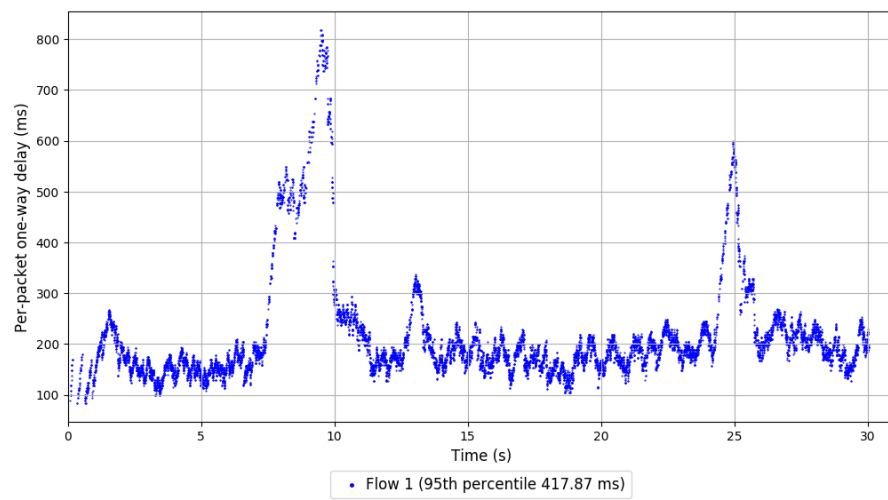
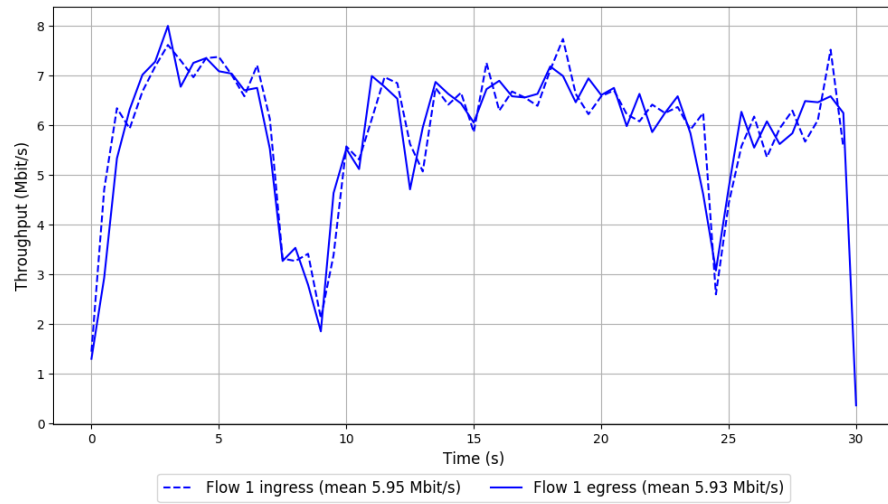
Average throughput: 5.93 Mbit/s

95th percentile per-packet one-way delay: 417.870 ms

Loss rate: 0.46%



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



Run 1: Statistics of SCReAM

Start at: Mon, 07 Aug 2017 00:22:25 +0000

End at: Mon, 07 Aug 2017 00:22:55 +0000

Local clock offset: -0.008 ms

Remote clock offset: 0.201 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:18 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 106.679 ms

Loss rate: 0.11%

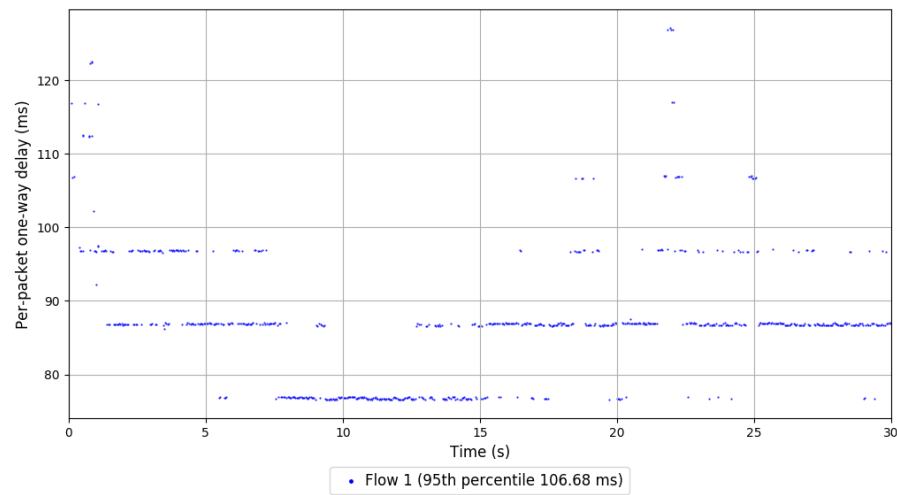
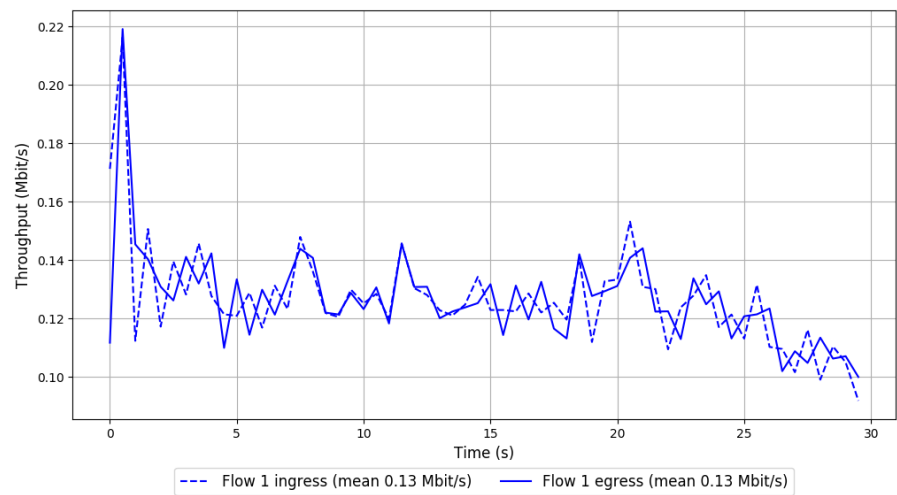
-- Flow 1:

Average throughput: 0.13 Mbit/s

95th percentile per-packet one-way delay: 106.679 ms

Loss rate: 0.11%

Run 1: Report of SReAM — Data Link



Run 2: Statistics of SCReAM

Start at: Mon, 07 Aug 2017 00:40:51 +0000

End at: Mon, 07 Aug 2017 00:41:21 +0000

Local clock offset: 0.003 ms

Remote clock offset: 0.415 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:18 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 108.164 ms

Loss rate: 0.13%

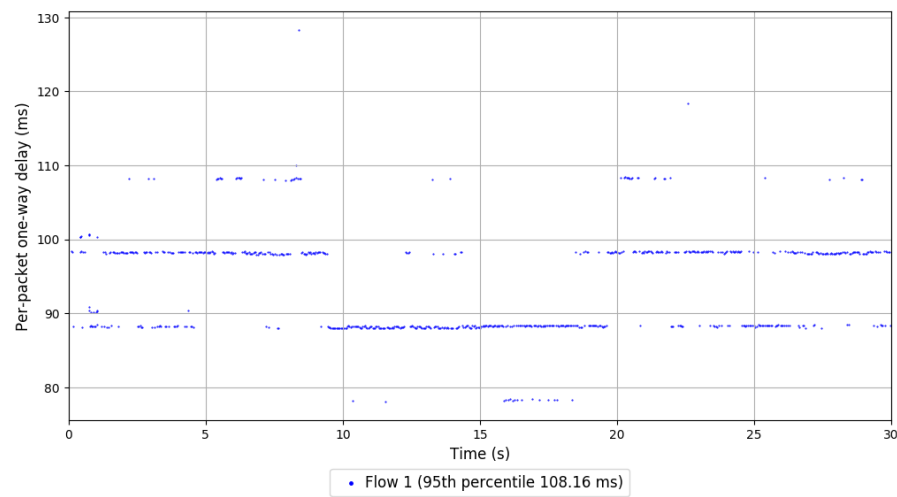
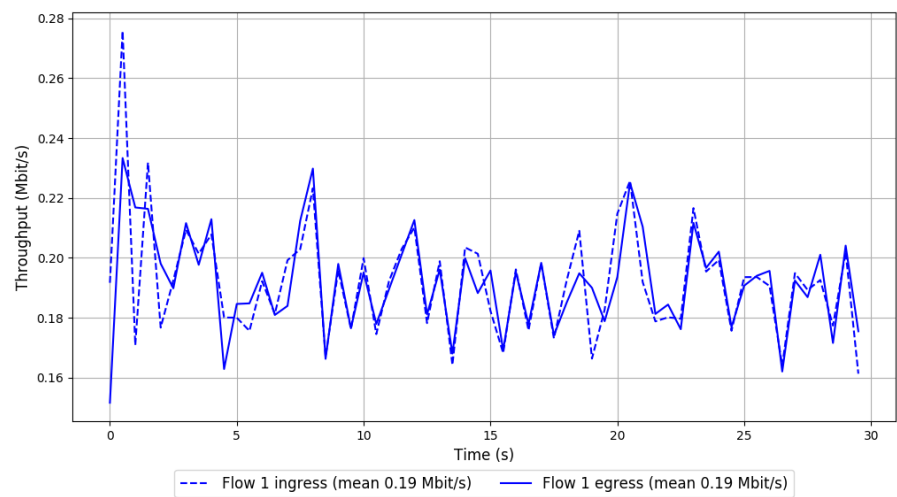
-- Flow 1:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 108.164 ms

Loss rate: 0.13%

Run 2: Report of SReAM — Data Link



Run 3: Statistics of SCReAM

Start at: Mon, 07 Aug 2017 00:59:04 +0000

End at: Mon, 07 Aug 2017 00:59:34 +0000

Local clock offset: -0.21 ms

Remote clock offset: 0.33 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:19 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 108.682 ms

Loss rate: 0.13%

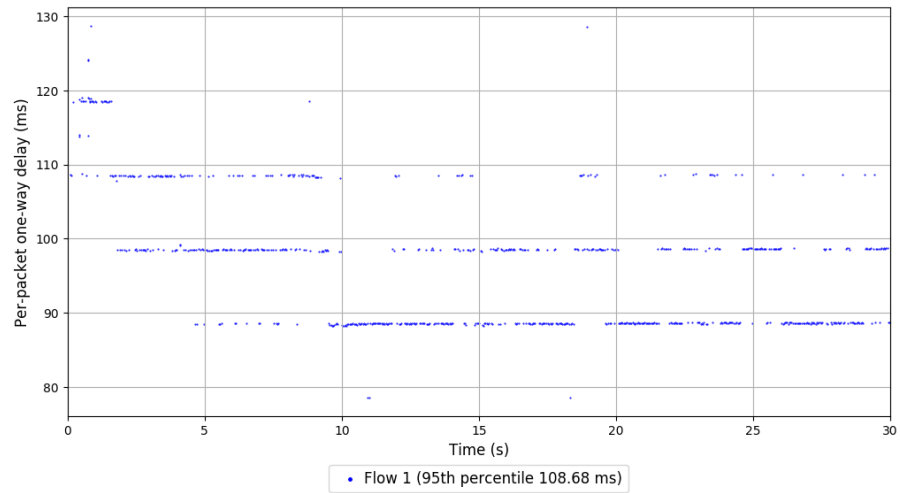
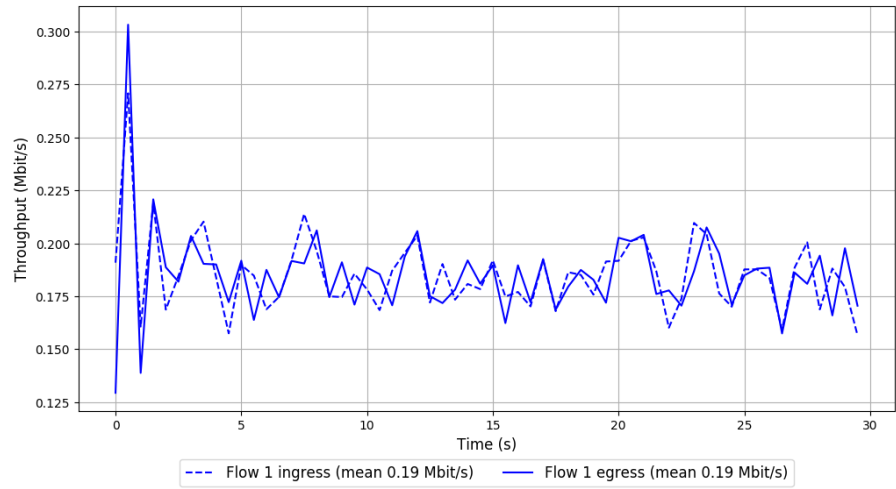
-- Flow 1:

Average throughput: 0.19 Mbit/s

95th percentile per-packet one-way delay: 108.682 ms

Loss rate: 0.13%

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



Run 1: Statistics of Sprout

Start at: Mon, 07 Aug 2017 00:29:45 +0000

End at: Mon, 07 Aug 2017 00:30:15 +0000

Local clock offset: -0.025 ms

Remote clock offset: 0.281 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:19 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 97.386 ms

Loss rate: 0.00%

-- Flow 1:

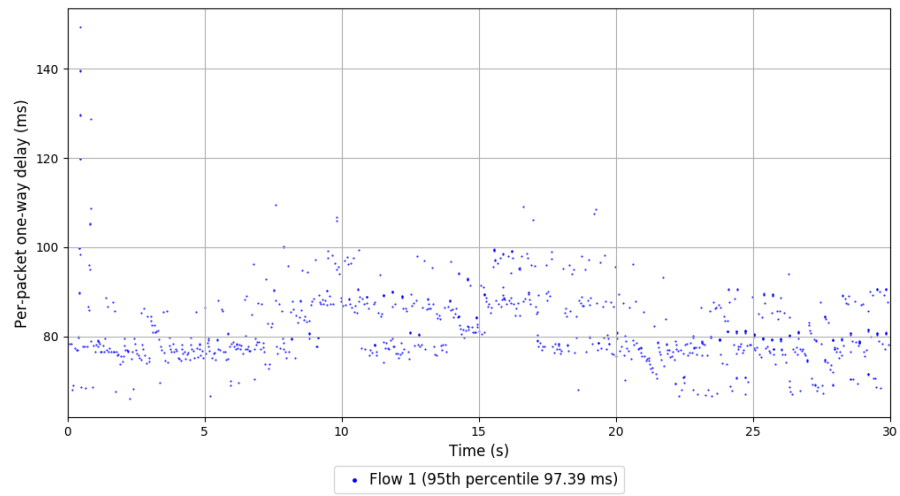
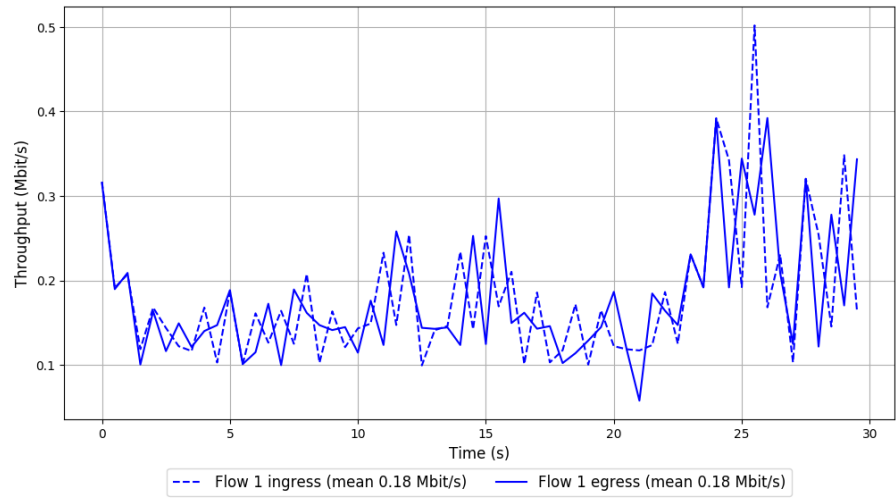
Average throughput: 0.18 Mbit/s

95th percentile per-packet one-way delay: 97.386 ms

Loss rate: 0.00%



## Run 1: Report of Sprout — Data Link



Run 2: Statistics of Sprout

Start at: Mon, 07 Aug 2017 00:48:09 +0000

End at: Mon, 07 Aug 2017 00:48:39 +0000

Local clock offset: -0.48 ms

Remote clock offset: 0.296 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:20 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 111.722 ms

Loss rate: 0.29%

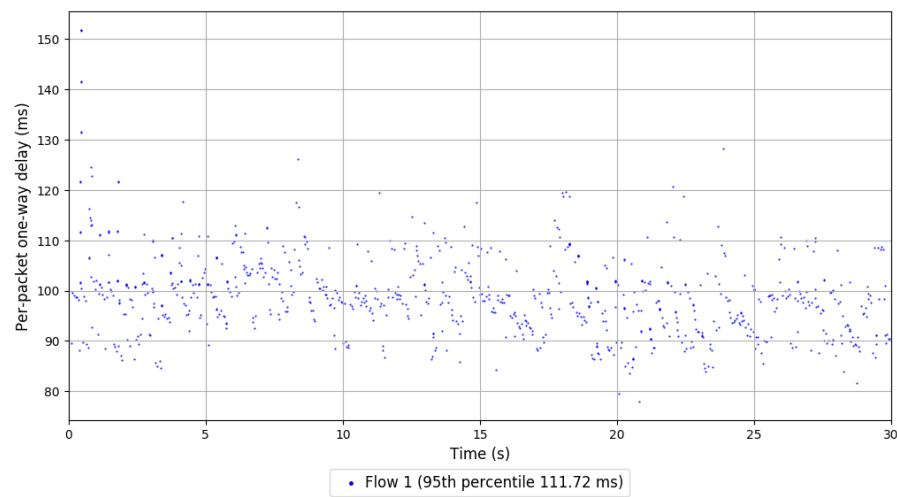
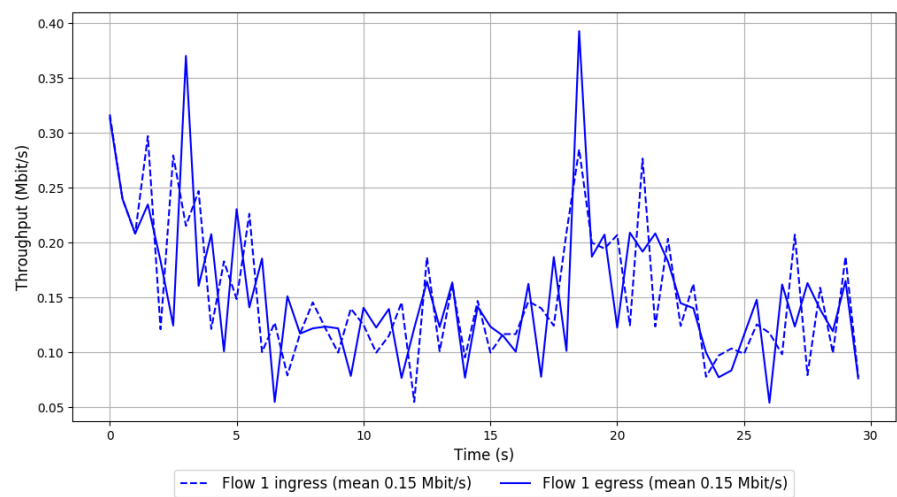
-- Flow 1:

Average throughput: 0.15 Mbit/s

95th percentile per-packet one-way delay: 111.722 ms

Loss rate: 0.29%

Run 2: Report of Sprout — Data Link



Run 3: Statistics of Sprout

Start at: Mon, 07 Aug 2017 01:06:22 +0000

End at: Mon, 07 Aug 2017 01:06:52 +0000

Local clock offset: 0.015 ms

Remote clock offset: 0.304 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:20 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 115.739 ms

Loss rate: 0.01%

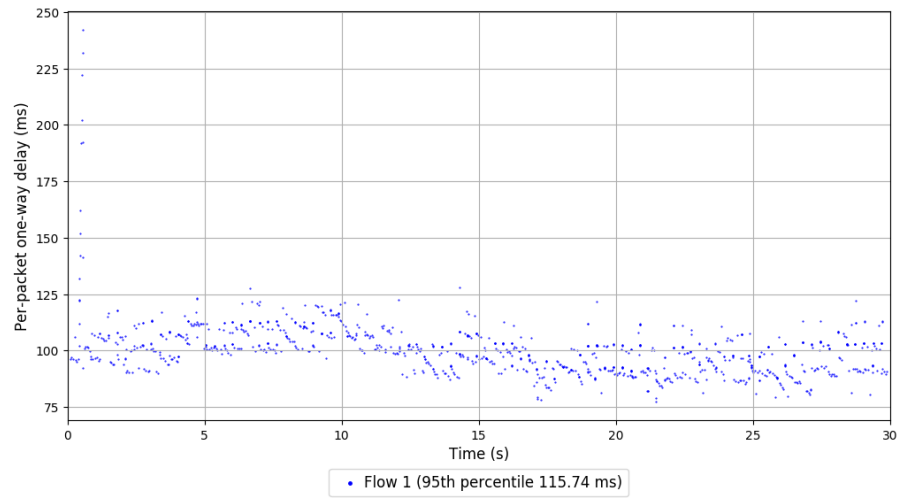
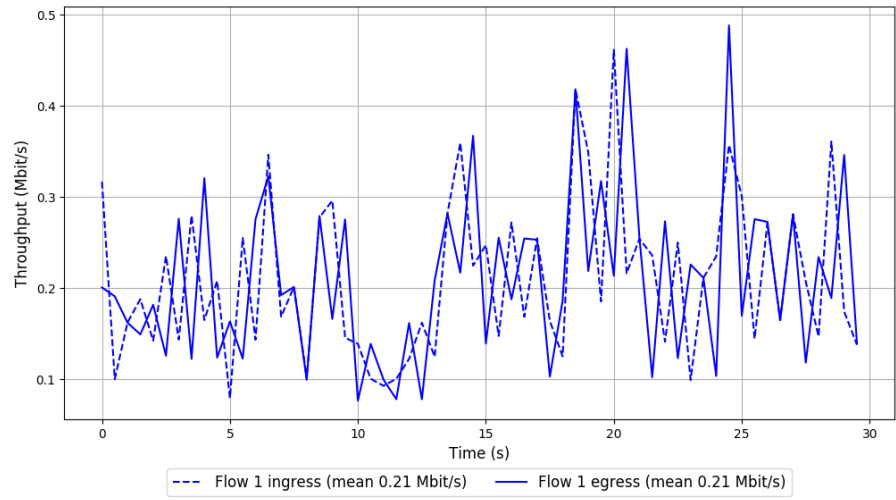
-- Flow 1:

Average throughput: 0.21 Mbit/s

95th percentile per-packet one-way delay: 115.739 ms

Loss rate: 0.01%

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



Run 1: Statistics of TaoVA-100x

Start at: Mon, 07 Aug 2017 00:24:50 +0000

End at: Mon, 07 Aug 2017 00:25:20 +0000

Local clock offset: 0.028 ms

Remote clock offset: 0.225 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:22 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.83 Mbit/s

95th percentile per-packet one-way delay: 122.586 ms

Loss rate: 0.09%

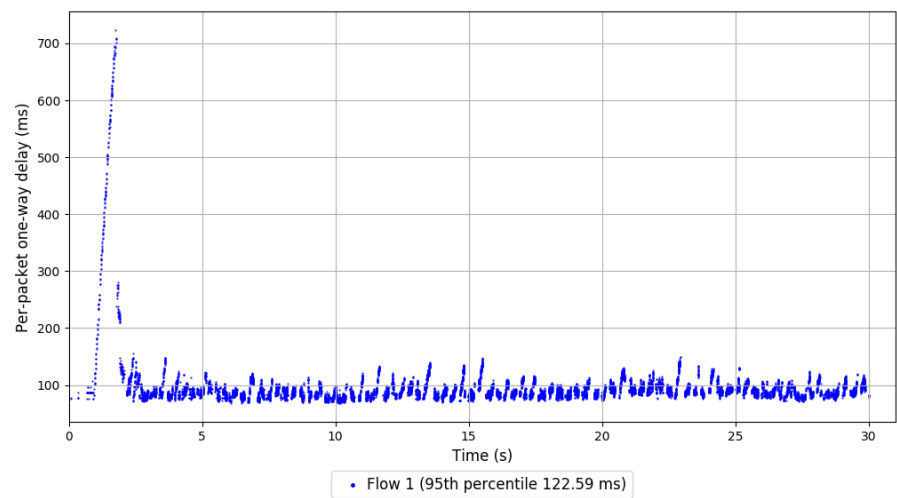
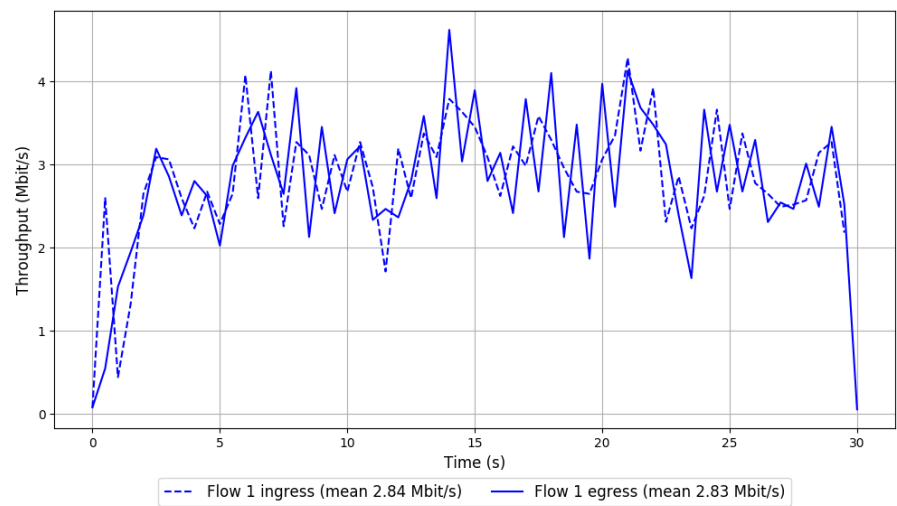
-- Flow 1:

Average throughput: 2.83 Mbit/s

95th percentile per-packet one-way delay: 122.586 ms

Loss rate: 0.09%

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



Run 2: Statistics of TaoVA-100x

Start at: Mon, 07 Aug 2017 00:43:16 +0000

End at: Mon, 07 Aug 2017 00:43:46 +0000

Local clock offset: 0.287 ms

Remote clock offset: 0.261 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:22 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.74 Mbit/s

95th percentile per-packet one-way delay: 150.768 ms

Loss rate: 0.00%

-- Flow 1:

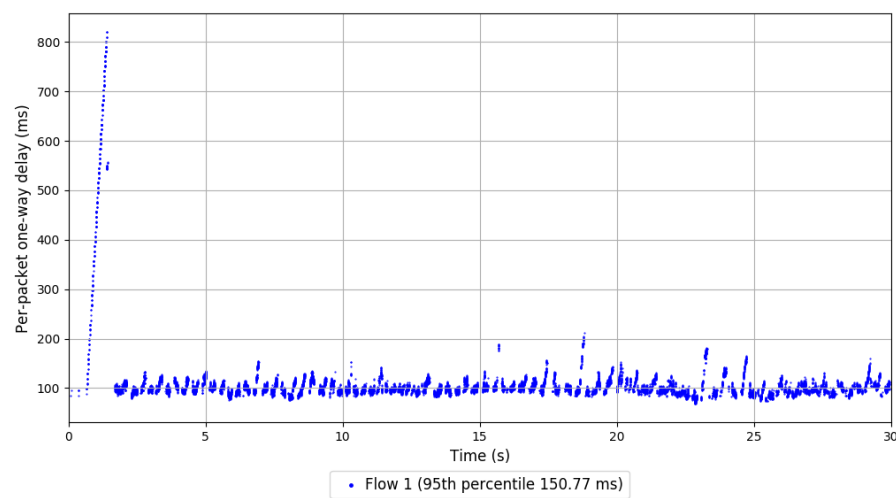
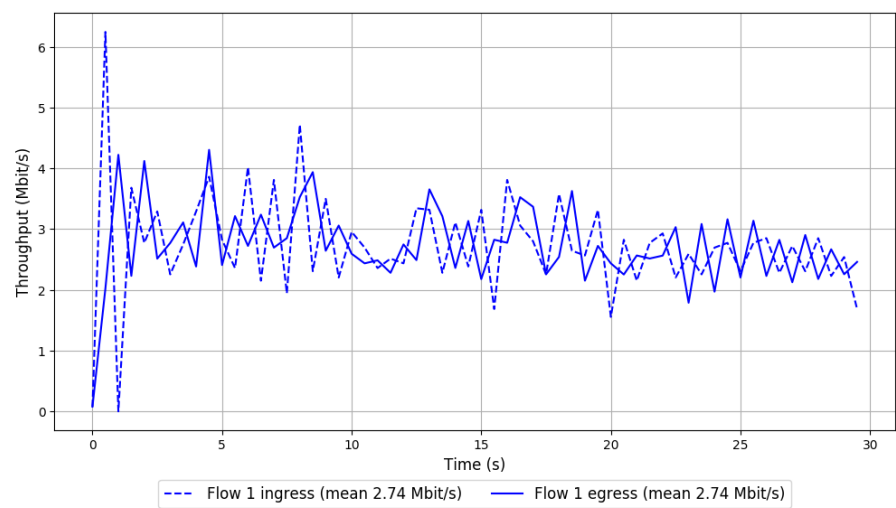
Average throughput: 2.74 Mbit/s

95th percentile per-packet one-way delay: 150.768 ms

Loss rate: 0.00%



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



Run 3: Statistics of TaoVA-100x

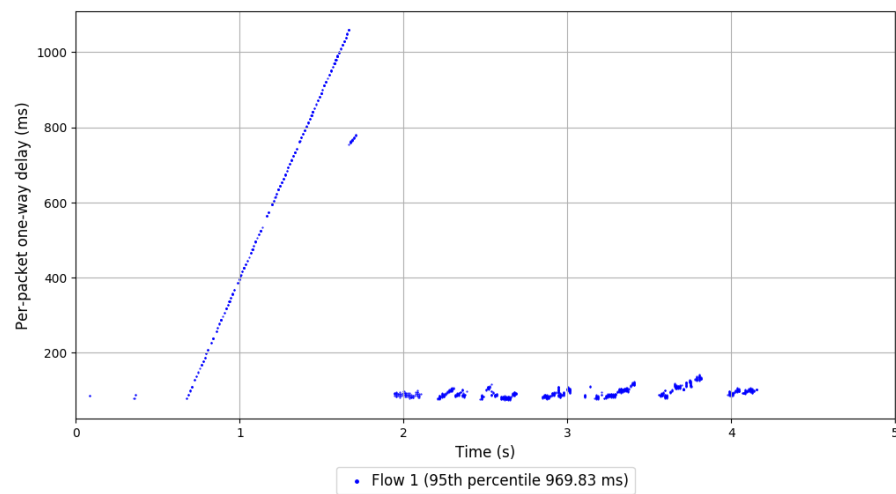
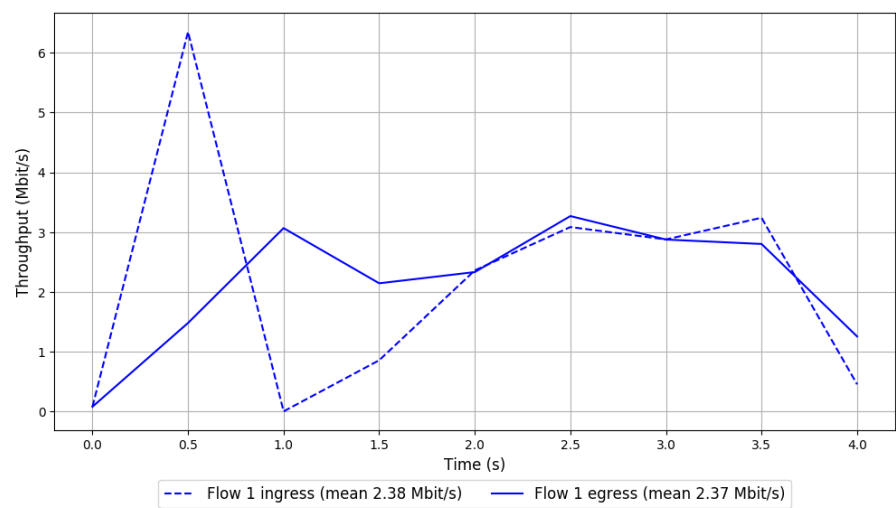
Start at: Mon, 07 Aug 2017 01:01:30 +0000

End at: Mon, 07 Aug 2017 01:02:00 +0000

Local clock offset: 0.63 ms

Remote clock offset: 0.293 ms

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



Run 1: Statistics of TCP Vegas

Start at: Mon, 07 Aug 2017 00:13:40 +0000

End at: Mon, 07 Aug 2017 00:14:10 +0000

Local clock offset: 0.342 ms

Remote clock offset: 0.163 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:24 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 3.20 Mbit/s

95th percentile per-packet one-way delay: 125.380 ms

Loss rate: 0.27%

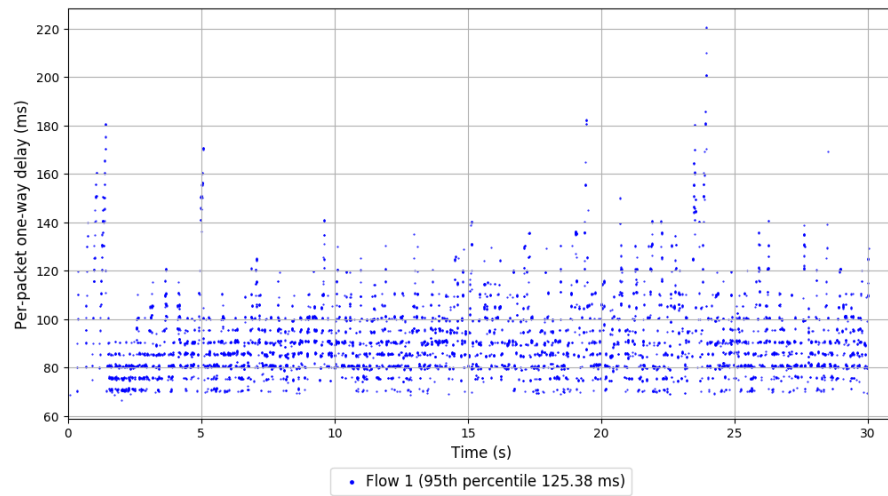
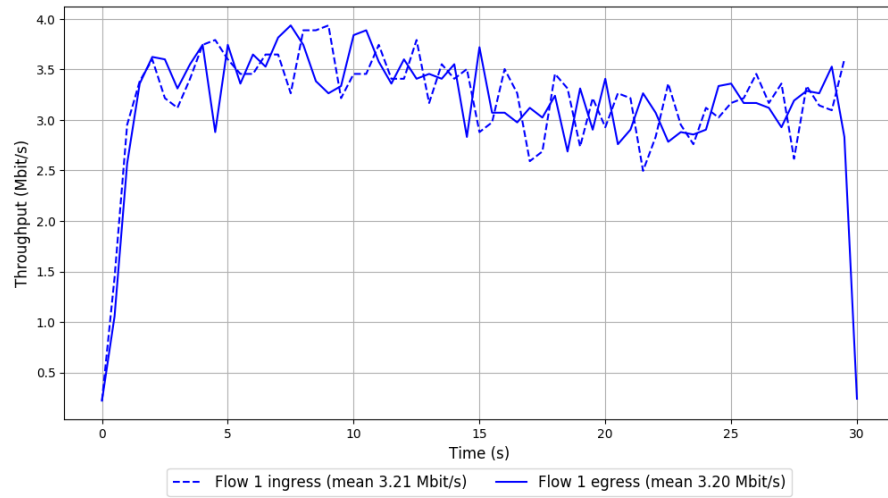
-- Flow 1:

Average throughput: 3.20 Mbit/s

95th percentile per-packet one-way delay: 125.380 ms

Loss rate: 0.27%

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



Run 2: Statistics of TCP Vegas

Start at: Mon, 07 Aug 2017 00:32:11 +0000

End at: Mon, 07 Aug 2017 00:32:41 +0000

Local clock offset: 0.055 ms

Remote clock offset: 0.259 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:24 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.99 Mbit/s

95th percentile per-packet one-way delay: 135.274 ms

Loss rate: 0.11%

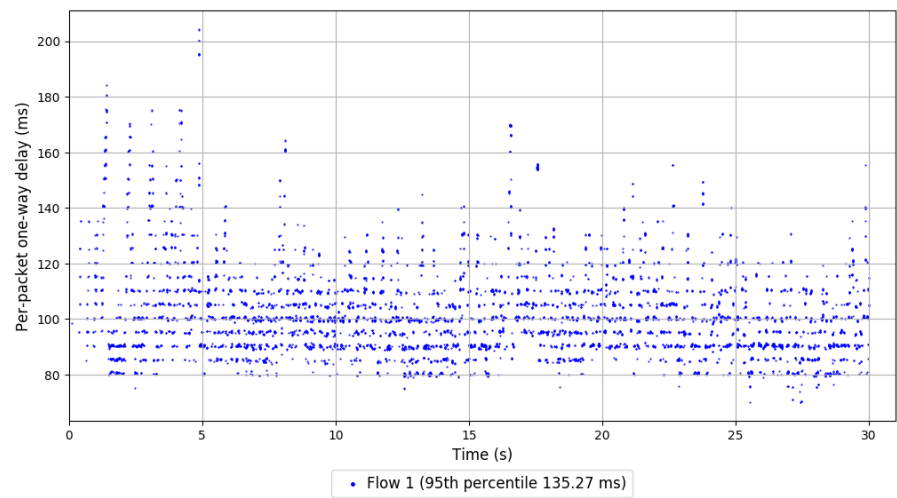
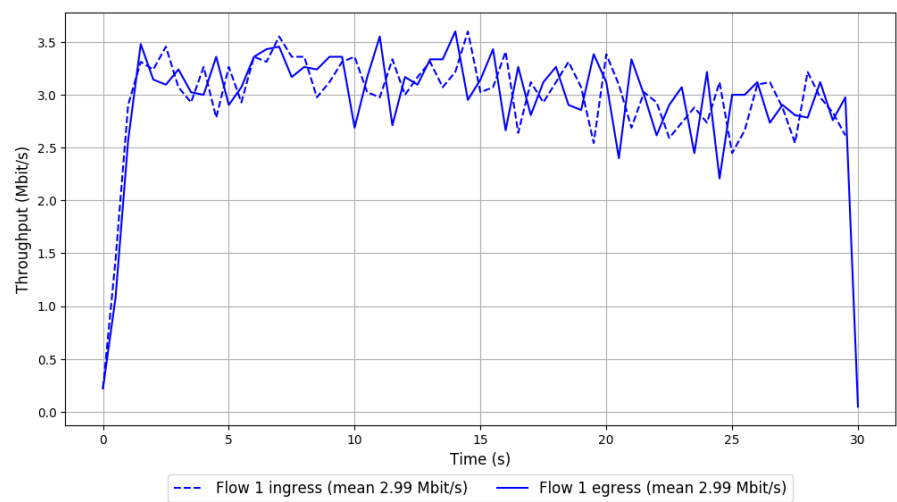
-- Flow 1:

Average throughput: 2.99 Mbit/s

95th percentile per-packet one-way delay: 135.274 ms

Loss rate: 0.11%

Run 2: Report of TCP Vegas — Data Link



Run 3: Statistics of TCP Vegas

Start at: Mon, 07 Aug 2017 00:50:34 +0000

End at: Mon, 07 Aug 2017 00:51:04 +0000

Local clock offset: -0.035 ms

Remote clock offset: 0.288 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:25 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 6.17 Mbit/s

95th percentile per-packet one-way delay: 413.530 ms

Loss rate: 0.79%

-- Flow 1:

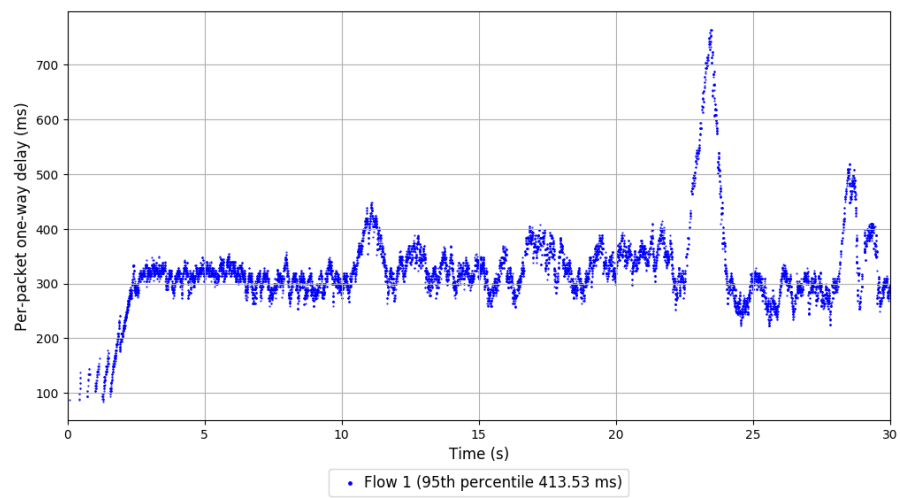
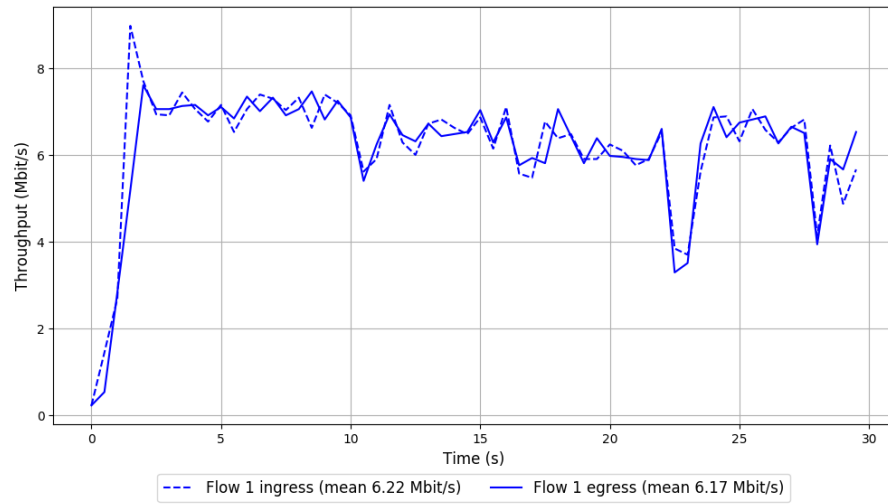
Average throughput: 6.17 Mbit/s

95th percentile per-packet one-way delay: 413.530 ms

Loss rate: 0.79%



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



Run 1: Statistics of Verus

Start at: Mon, 07 Aug 2017 00:18:41 +0000

End at: Mon, 07 Aug 2017 00:19:11 +0000

Local clock offset: 0.423 ms

Remote clock offset: 0.186 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:26 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.91 Mbit/s

95th percentile per-packet one-way delay: 1680.155 ms

Loss rate: 0.74%

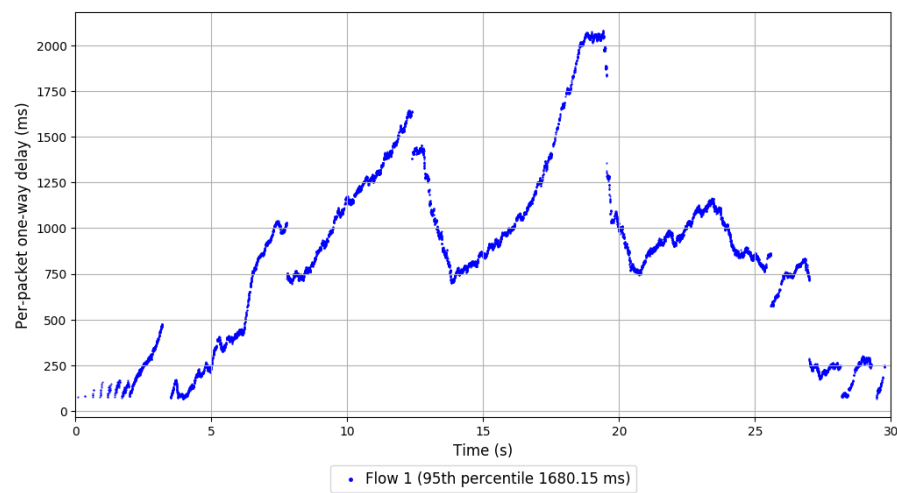
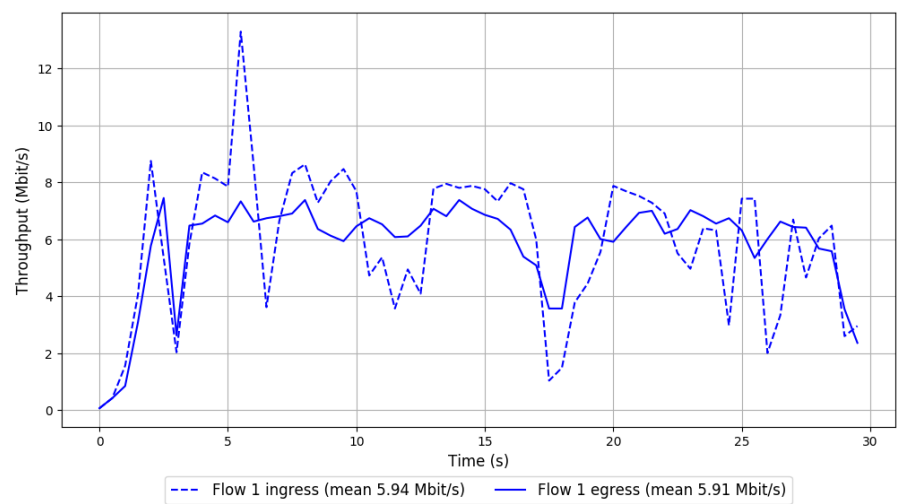
-- Flow 1:

Average throughput: 5.91 Mbit/s

95th percentile per-packet one-way delay: 1680.155 ms

Loss rate: 0.74%

Run 1: Report of Verus — Data Link



Run 2: Statistics of Verus

Start at: Mon, 07 Aug 2017 00:37:07 +0000

End at: Mon, 07 Aug 2017 00:37:37 +0000

Local clock offset: -0.052 ms

Remote clock offset: 0.281 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:27 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 5.82 Mbit/s

95th percentile per-packet one-way delay: 1029.250 ms

Loss rate: 0.05%

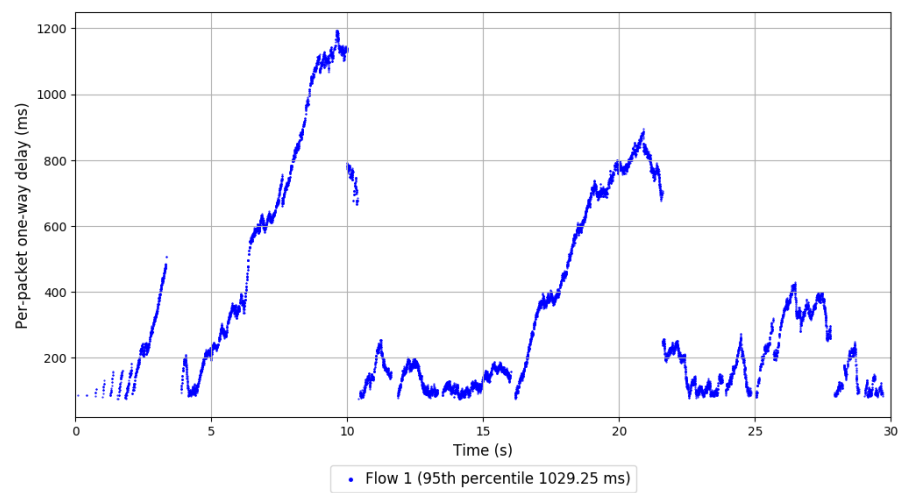
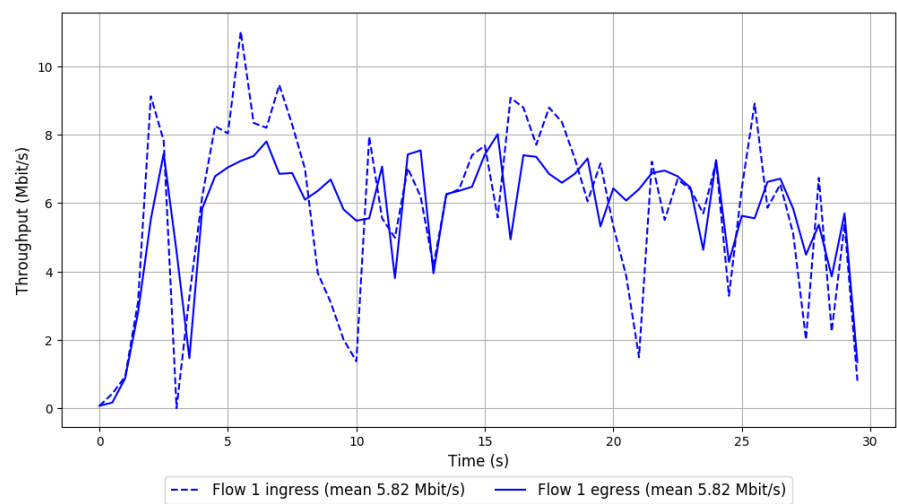
-- Flow 1:

Average throughput: 5.82 Mbit/s

95th percentile per-packet one-way delay: 1029.250 ms

Loss rate: 0.05%

Run 2: Report of Verus — Data Link



Run 3: Statistics of Verus

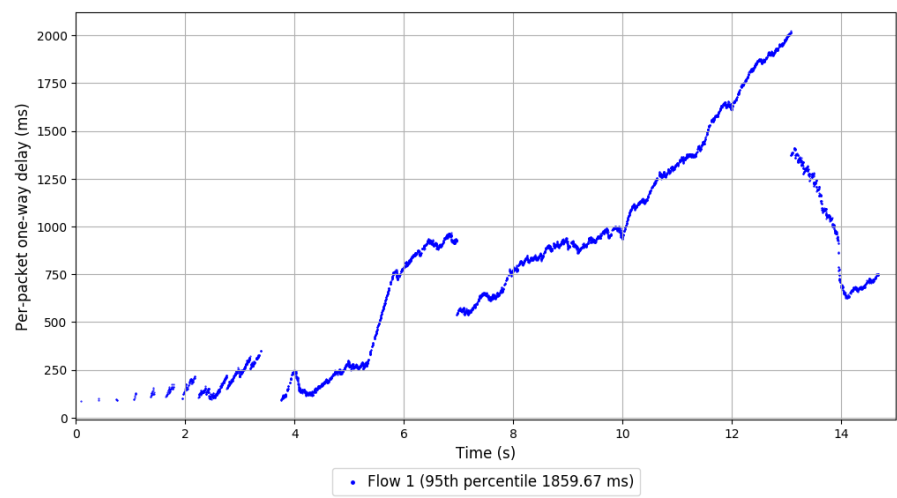
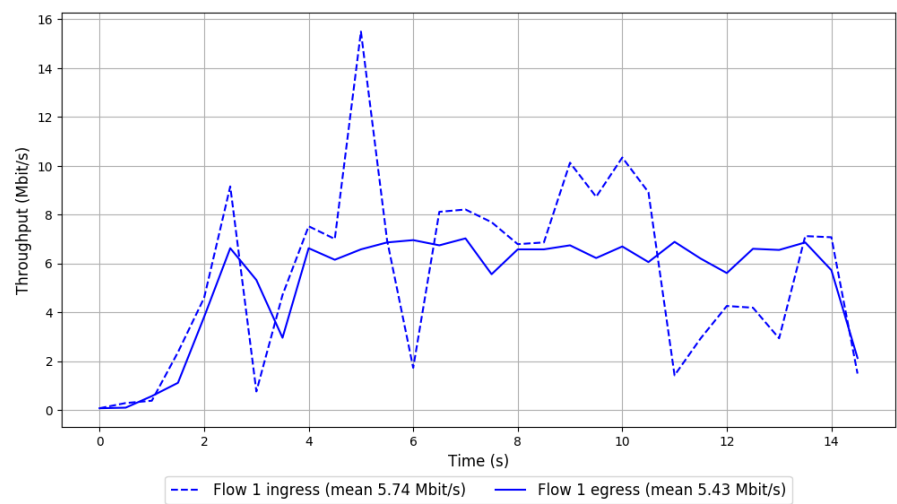
Start at: Mon, 07 Aug 2017 00:55:25 +0000

End at: Mon, 07 Aug 2017 00:55:56 +0000

Local clock offset: -0.165 ms

Remote clock offset: 0.351 ms

Run 3: Report of Verus — Data Link



Run 1: Statistics of WebRTC media

Start at: Mon, 07 Aug 2017 00:27:19 +0000

End at: Mon, 07 Aug 2017 00:27:49 +0000

Local clock offset: 0.295 ms

Remote clock offset: 0.209 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:28 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.04 Mbit/s

95th percentile per-packet one-way delay: 119.648 ms

Loss rate: 0.72%

-- Flow 1:

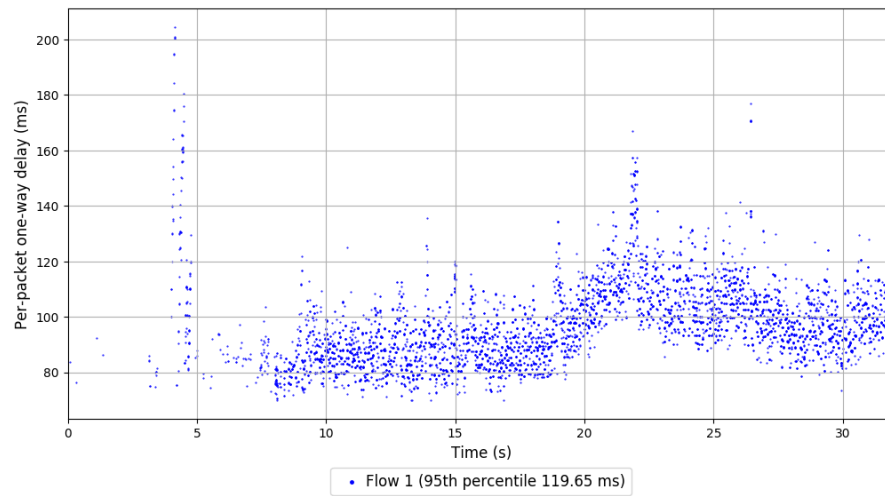
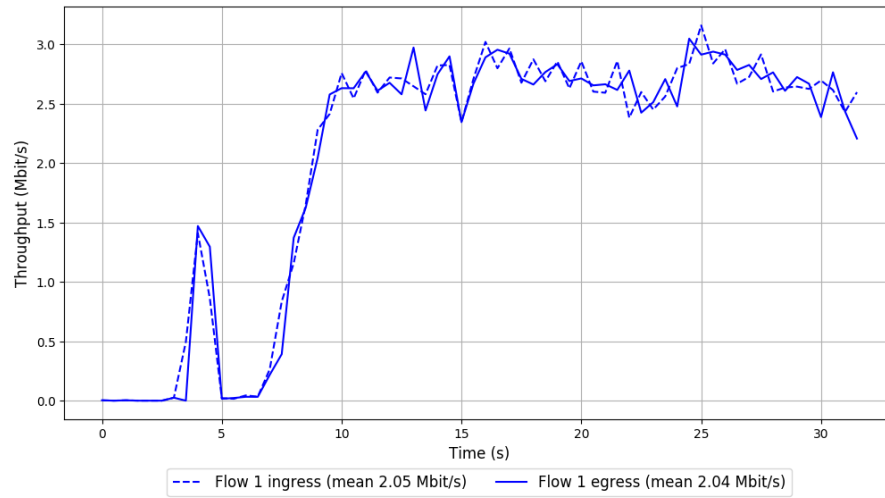
Average throughput: 2.04 Mbit/s

95th percentile per-packet one-way delay: 119.648 ms

Loss rate: 0.72%



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



Run 2: Statistics of WebRTC media

Start at: Mon, 07 Aug 2017 00:45:43 +0000

End at: Mon, 07 Aug 2017 00:46:13 +0000

Local clock offset: -0.083 ms

Remote clock offset: 0.264 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:29 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 118.610 ms

Loss rate: 0.14%

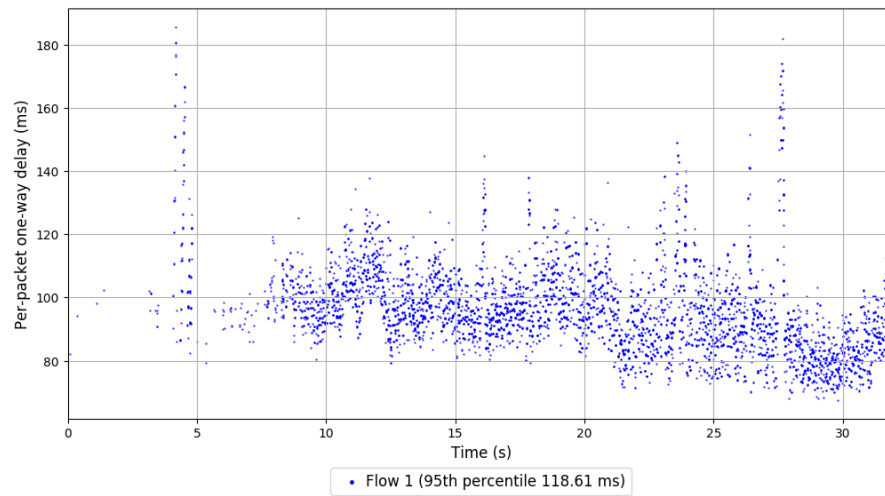
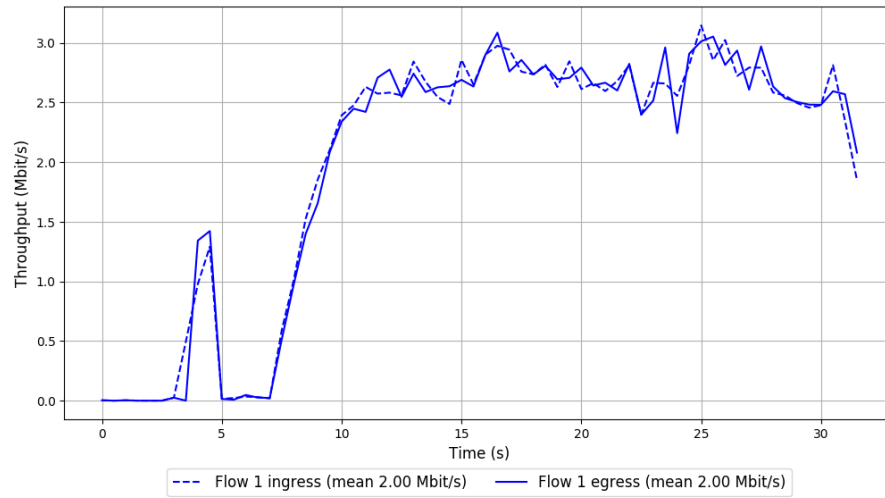
-- Flow 1:

Average throughput: 2.00 Mbit/s

95th percentile per-packet one-way delay: 118.610 ms

Loss rate: 0.14%

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



Run 3: Statistics of WebRTC media

Start at: Mon, 07 Aug 2017 01:03:56 +0000

End at: Mon, 07 Aug 2017 01:04:26 +0000

Local clock offset: 0.056 ms

Remote clock offset: 0.294 ms

# Below is generated by plot.py at Mon, 07 Aug 2017 01:08:29 +0000

# Datalink statistics

-- Total of 1 flow:

Average throughput: 2.31 Mbit/s

95th percentile per-packet one-way delay: 176.376 ms

Loss rate: 0.52%

-- Flow 1:

Average throughput: 2.31 Mbit/s

95th percentile per-packet one-way delay: 176.376 ms

Loss rate: 0.52%

Run 3: Report of WebRTC media — Data Link

