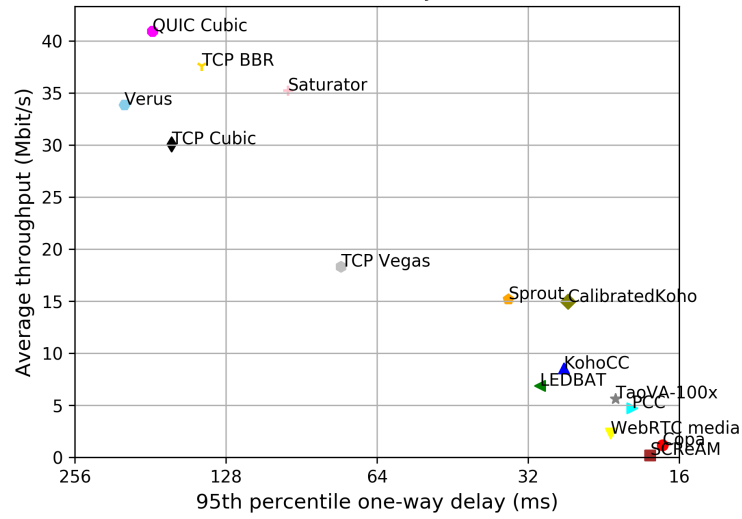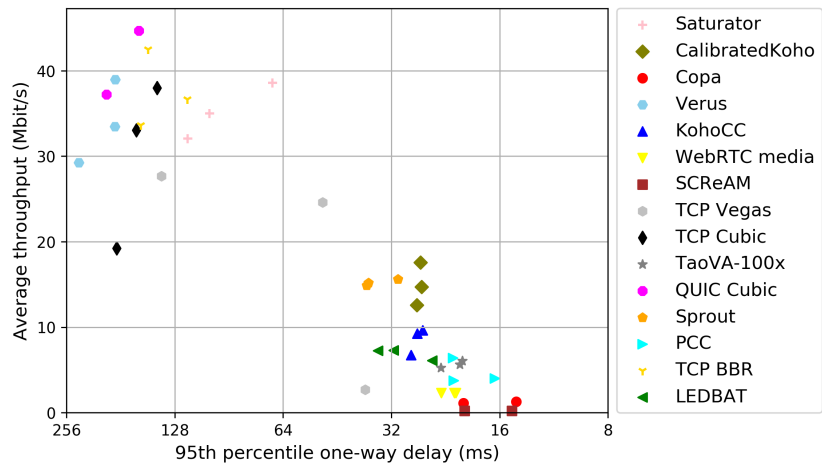**Pantheon Summary** (Generated at Mon, 07 Aug 2017 02:30:34 +0000 with pantheon version `a934ee3822380a12762347e6bc8bd1f3e836e73b`)

Repeated the test of 15 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

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

NTP offset measured against time.stanford.edu 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
 M scripts/merge-tunnel-logs
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 California 1 Ethernet to Stanford ppp0, 3 runs of 30s each per scheme
(mean of all runs by scheme)

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

2

scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	37.61	143.28	0.15
CalibratedKoho	3	14.96	26.69	0.03
Copa	3	1.18	17.29	0.00
TCP Cubic	3	30.10	164.36	0.55
KohoCC	3	8.56	27.17	0.01
LEDBAT	3	6.88	30.34	0.00
PCC	3	4.73	19.87	0.00
QUIC Cubic	3	40.95	179.57	0.16
Saturator	3	35.23	96.39	0.09
SCReAM	3	0.22	18.30	0.00
Sprout	3	15.22	35.08	0.02
TaoVA-100x	3	5.65	21.44	0.00
TCP Vegas	3	18.32	75.63	0.47
Verus	3	33.89	204.07	12.74
WebRTC media	3	2.32	21.94	0.00

```
Run 1: Statistics of TCP BBR

Start at: Mon, 07 Aug 2017 01:38:02 +0000
End at: Mon, 07 Aug 2017 01:38:32 +0000
Local clock offset: 0.205 ms
Remote clock offset: -1.278 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:28 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.64 Mbit/s
95th percentile per-packet one-way delay: 159.431 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 33.64 Mbit/s
95th percentile per-packet one-way delay: 159.431 ms
Loss rate: 0.29%
```
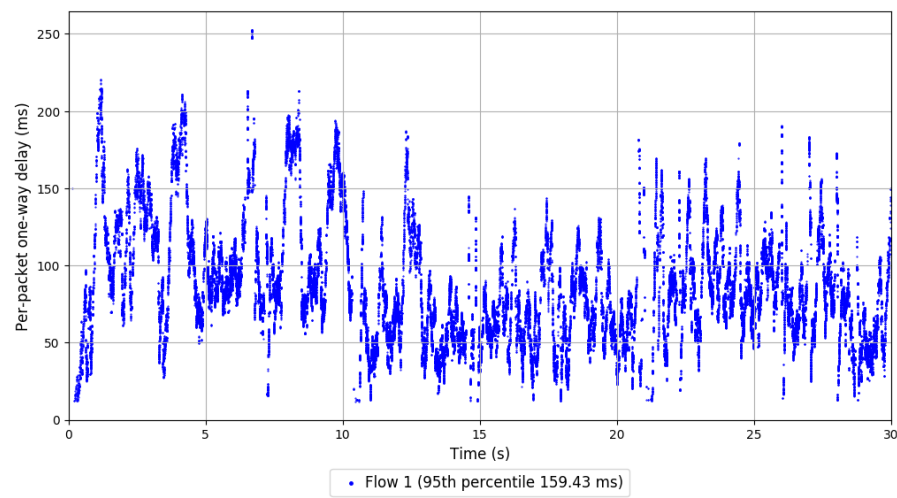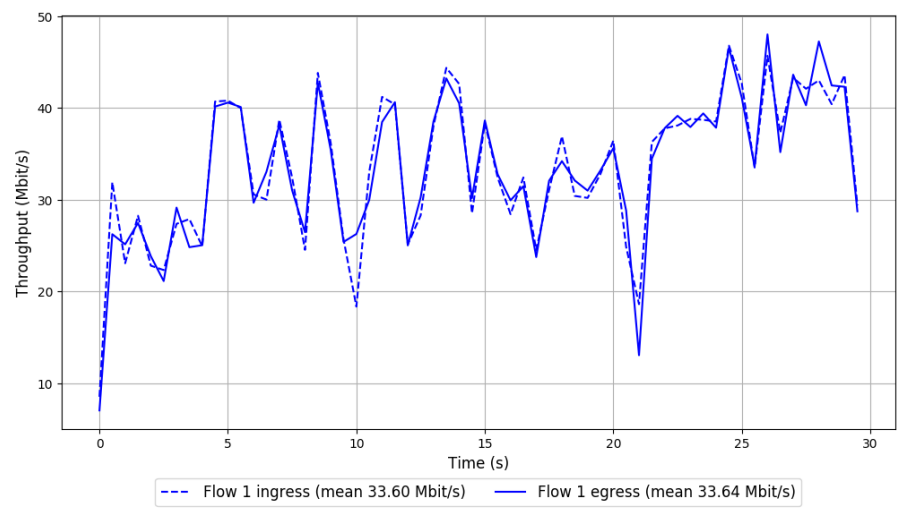
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: Mon, 07 Aug 2017 01:55:50 +0000
End at: Mon, 07 Aug 2017 01:56:20 +0000
Local clock offset: 0.259 ms
Remote clock offset: -0.992 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:30 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.51 Mbit/s
95th percentile per-packet one-way delay: 152.138 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 42.51 Mbit/s
95th percentile per-packet one-way delay: 152.138 ms
Loss rate: 0.14%
```
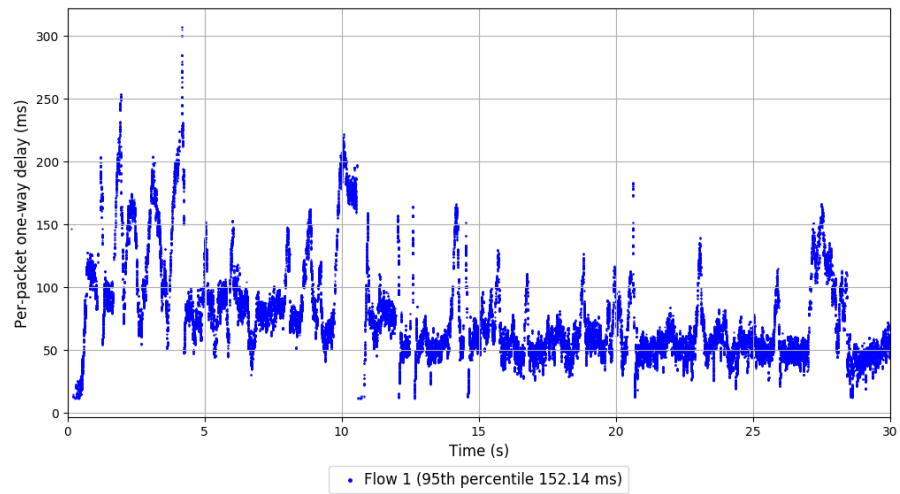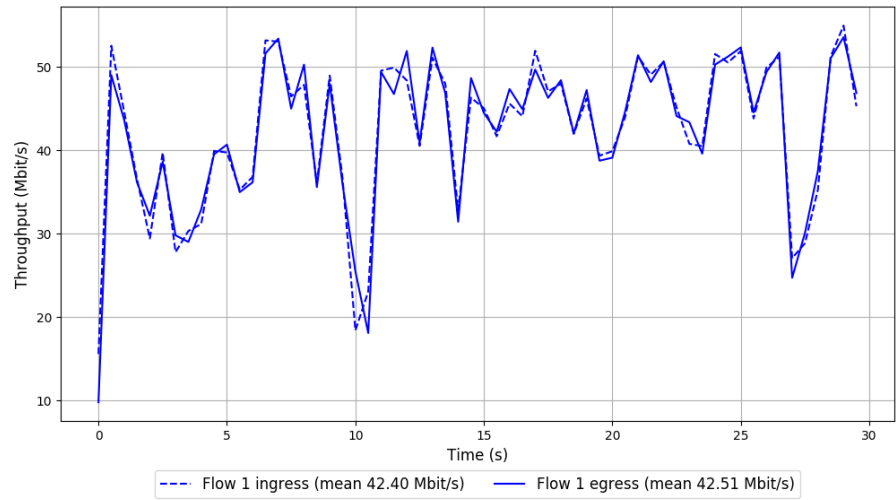
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: Mon, 07 Aug 2017 02:13:39 +0000
End at: Mon, 07 Aug 2017 02:14:09 +0000
Local clock offset: 0.163 ms
Remote clock offset: -1.171 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:33 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 36.67 Mbit/s
95th percentile per-packet one-way delay: 118.256 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 36.67 Mbit/s
95th percentile per-packet one-way delay: 118.256 ms
Loss rate: 0.01%
```
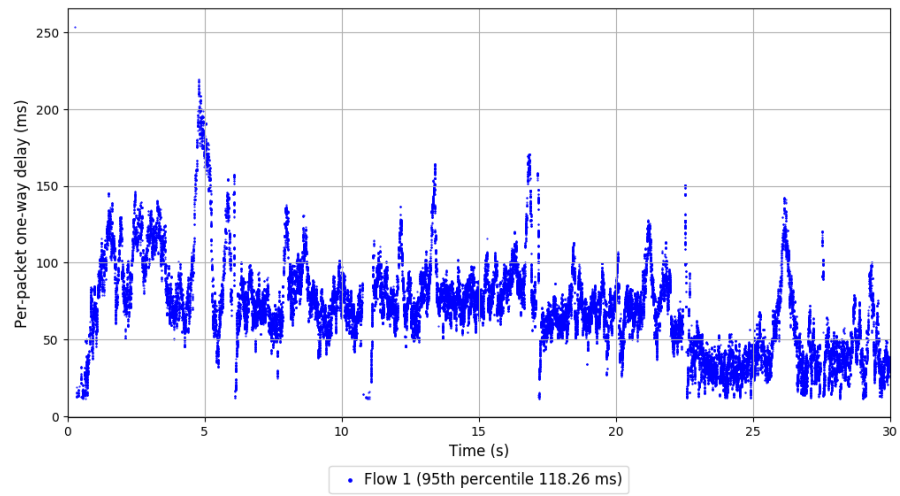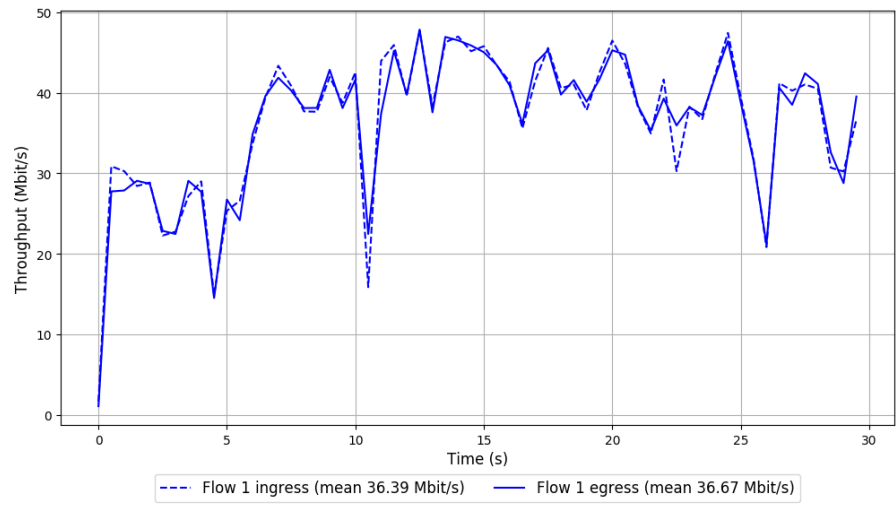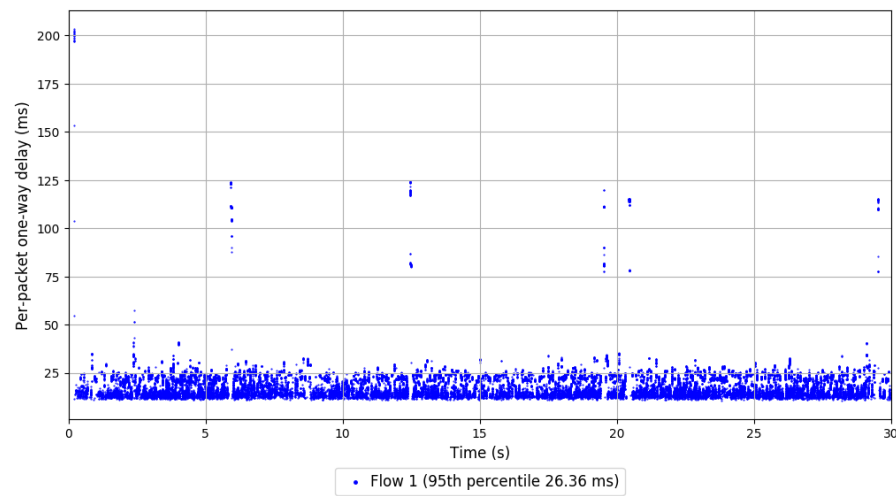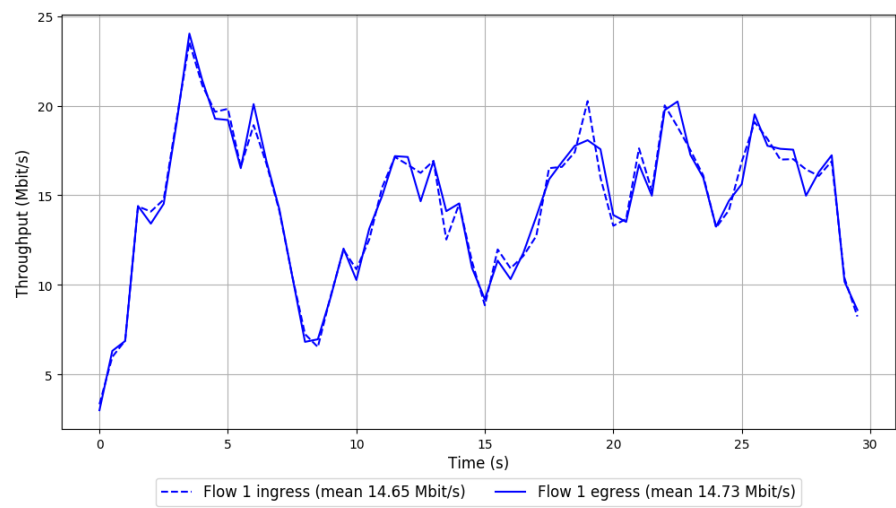
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 36.39 Mbit/s) ----- Flow 1 egress (mean 36.67 Mbit/s)

• Flow 1 (95th percentile 118.26 ms)

```
Run 1: Statistics of CalibratedKoho

Start at: Mon, 07 Aug 2017 01:46:21 +0000
End at: Mon, 07 Aug 2017 01:46:51 +0000
Local clock offset: 0.292 ms
Remote clock offset: -1.155 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:33 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 14.73 Mbit/s
95th percentile per-packet one-way delay: 26.361 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 14.73 Mbit/s
95th percentile per-packet one-way delay: 26.361 ms
Loss rate: 0.09%
```
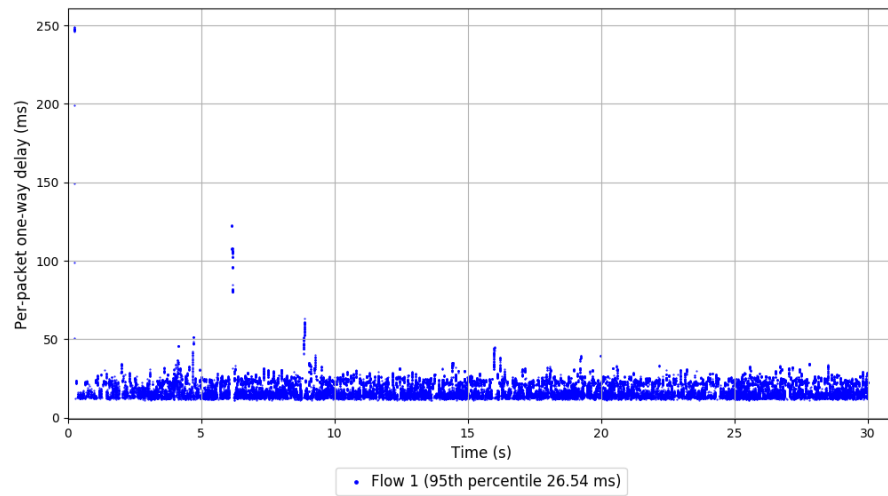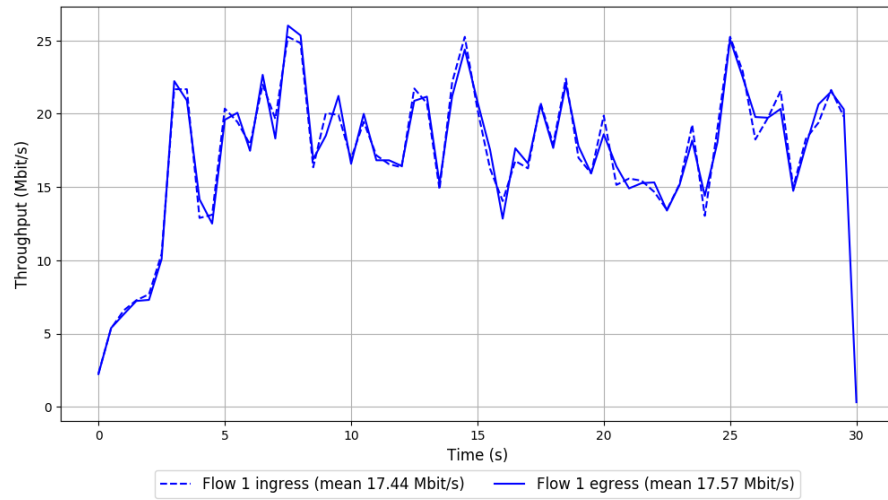
Run 1: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 14.65 Mbit/s) ----   Flow 1 egress (mean 14.73 Mbit/s) ——

• Flow 1 (95th percentile 26.36 ms)

```
Run 2: Statistics of CalibratedKoho

Start at: Mon, 07 Aug 2017 02:04:10 +0000
End at: Mon, 07 Aug 2017 02:04:40 +0000
Local clock offset: 0.161 ms
Remote clock offset: -0.817 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:36 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 17.57 Mbit/s
95th percentile per-packet one-way delay: 26.538 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 17.57 Mbit/s
95th percentile per-packet one-way delay: 26.538 ms
Loss rate: 0.00%
```
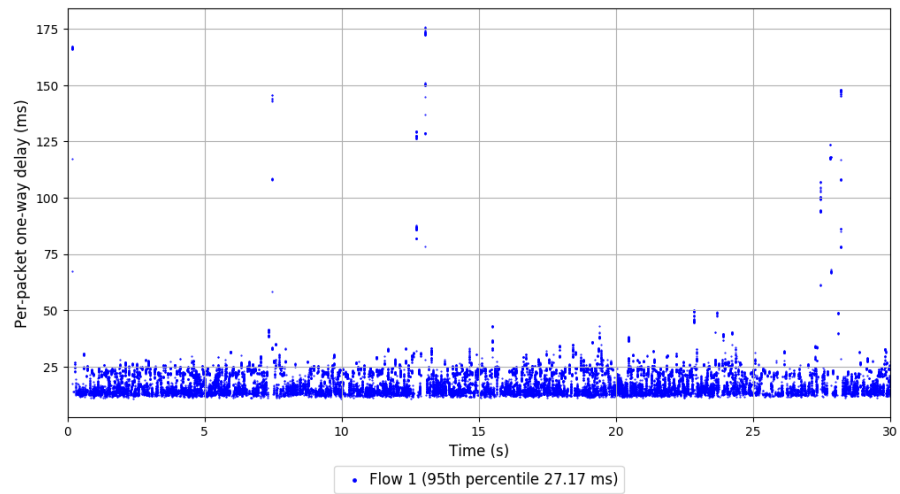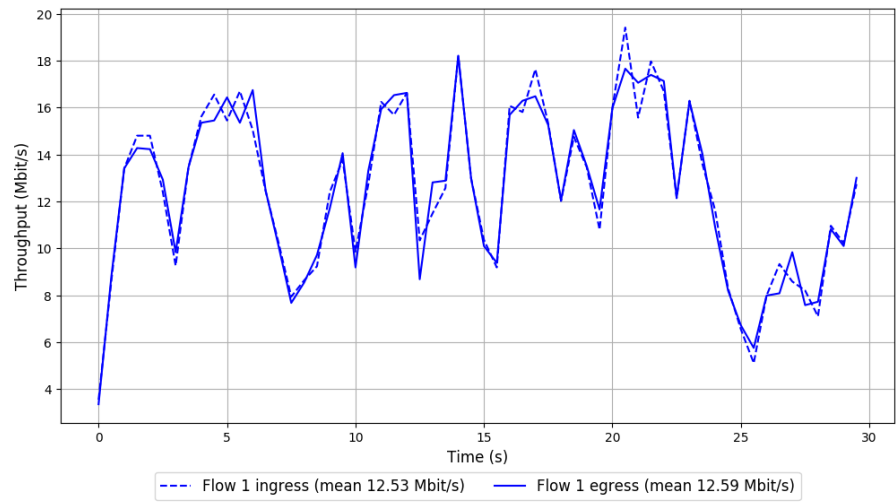
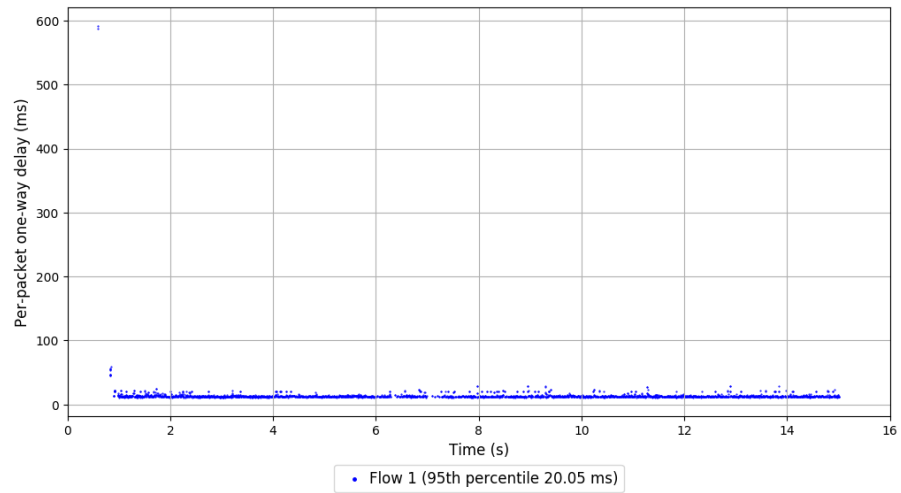Run 2: Report of CalibratedKoho — Data Link

13

```
Run 3: Statistics of CalibratedKoho

Start at: Mon, 07 Aug 2017 02:22:00 +0000
End at: Mon, 07 Aug 2017 02:22:30 +0000
Local clock offset: 0.025 ms
Remote clock offset: -1.295 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:36 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 27.172 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 12.59 Mbit/s
95th percentile per-packet one-way delay: 27.172 ms
Loss rate: 0.00%
```

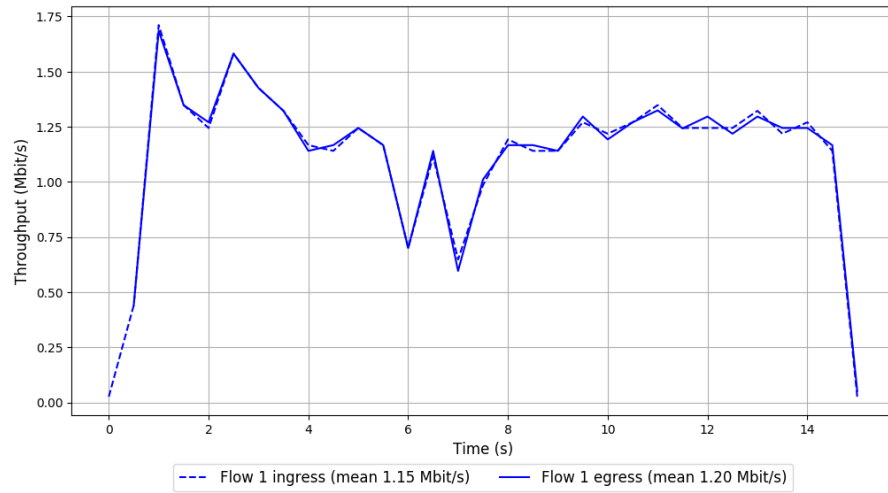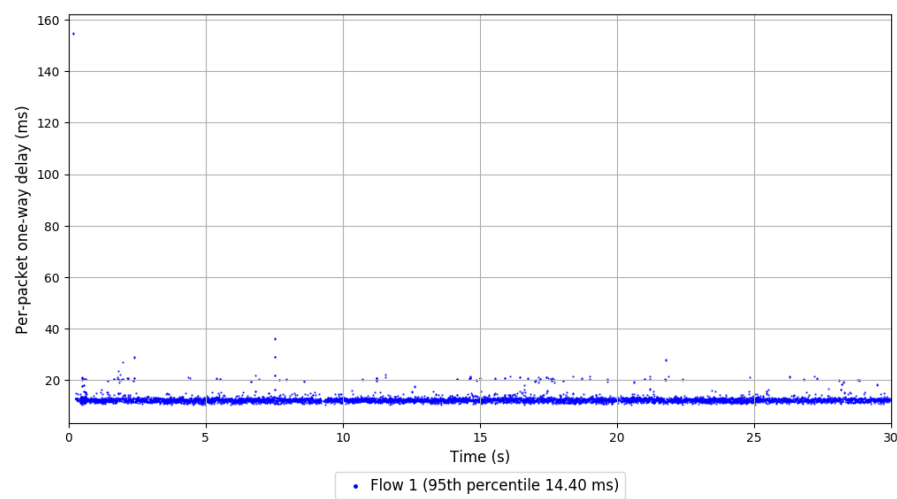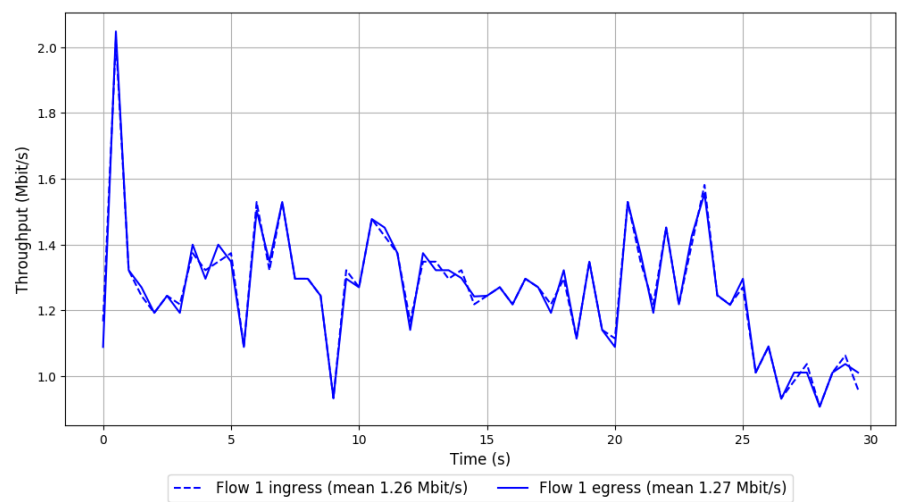Run 3: Report of CalibratedKoho — Data Link

Run 1: Statistics of Copa

Start at: Mon, 07 Aug 2017 01:48:43 +0000
End at: Mon, 07 Aug 2017 01:49:13 +0000
Local clock offset: 0.18 ms
Remote clock offset: -1.122 ms

Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 1.15 Mbit/s) --- Flow 1 egress (mean 1.20 Mbit/s)

Flow 1 (95th percentile 20.05 ms)

```
Run 2: Statistics of Copa

Start at: Mon, 07 Aug 2017 02:06:33 +0000
End at: Mon, 07 Aug 2017 02:07:03 +0000
Local clock offset: 0.249 ms
Remote clock offset: -0.924 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:38 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 14.396 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.27 Mbit/s
95th percentile per-packet one-way delay: 14.396 ms
Loss rate: 0.00%
```
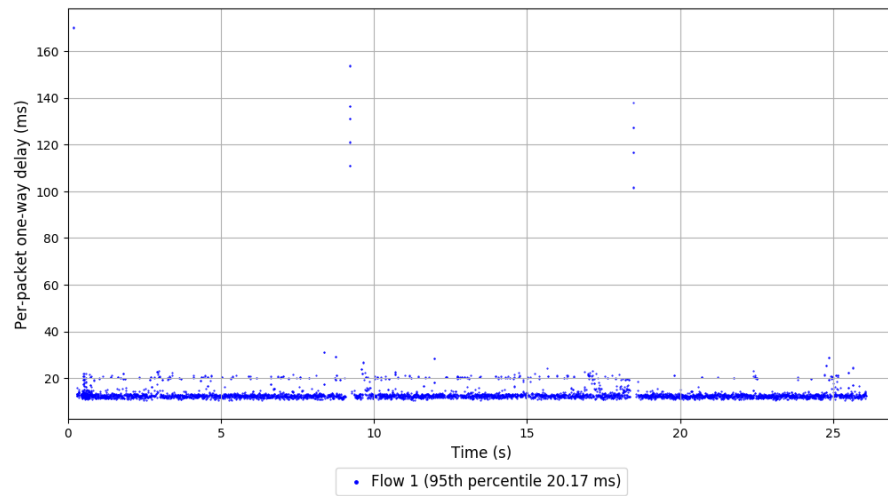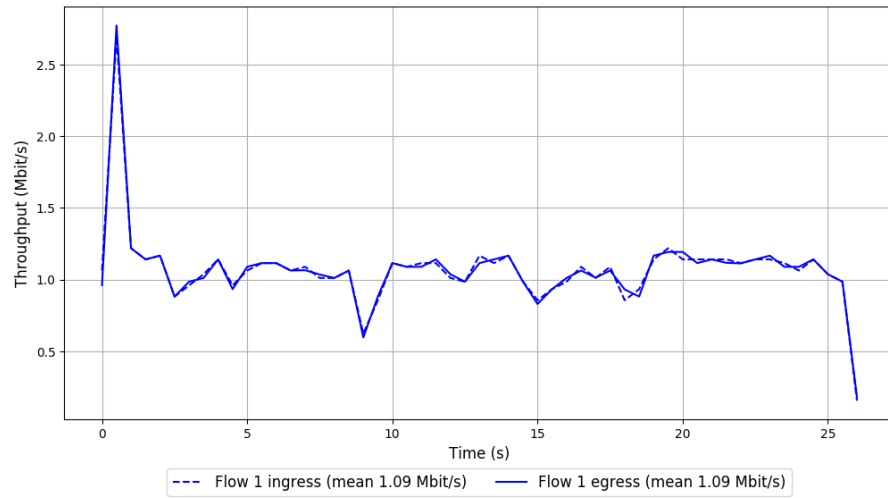
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 1.26 Mbit/s) --- Flow 1 egress (mean 1.27 Mbit/s)

Flow 1 (95th percentile 14.40 ms)

```
Run 3: Statistics of Copa

Start at: Mon, 07 Aug 2017 02:24:22 +0000
End at: Mon, 07 Aug 2017 02:24:52 +0000
Local clock offset: 0.02 ms
Remote clock offset: -1.371 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:38 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 20.174 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.09 Mbit/s
95th percentile per-packet one-way delay: 20.174 ms
Loss rate: 0.00%
```

Run 3: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: Mon, 07 Aug 2017 01:45:08 +0000
End at: Mon, 07 Aug 2017 01:45:38 +0000
Local clock offset: 0.193 ms
Remote clock offset: -1.176 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:43 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.07 Mbit/s
95th percentile per-packet one-way delay: 163.721 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 33.07 Mbit/s
95th percentile per-packet one-way delay: 163.721 ms
Loss rate: 0.31%
```
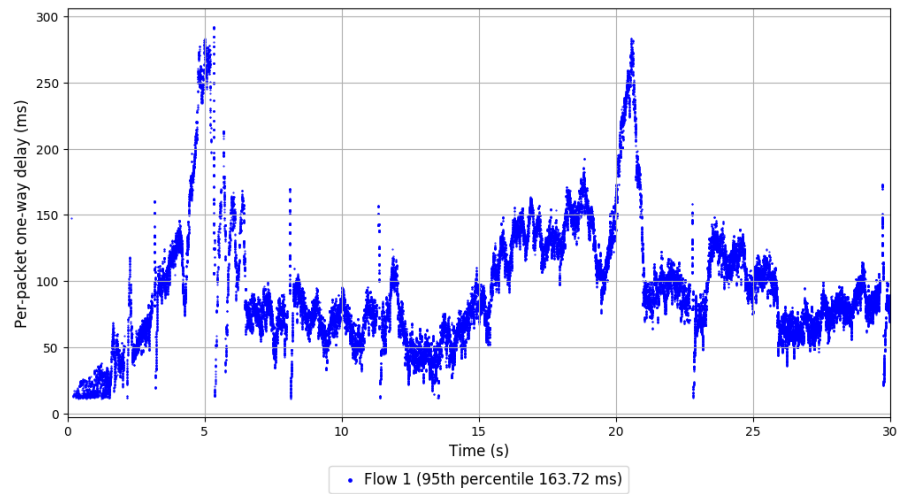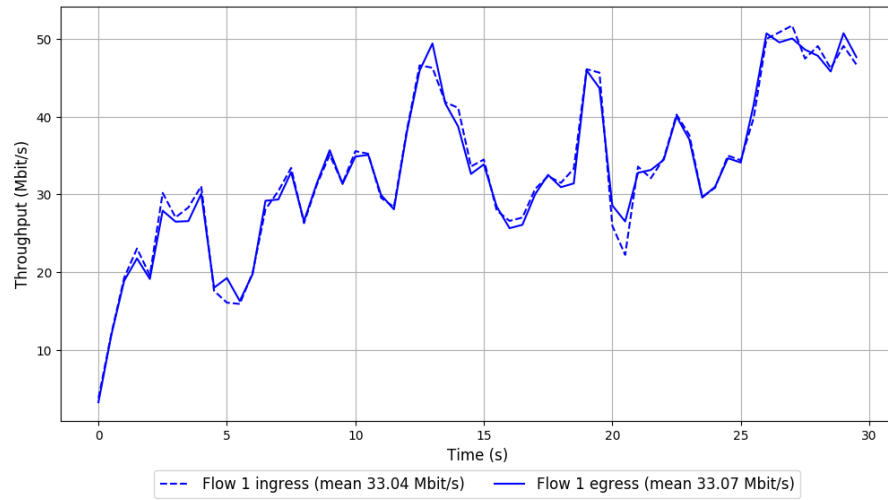
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: Mon, 07 Aug 2017 02:02:59 +0000
End at: Mon, 07 Aug 2017 02:03:29 +0000
Local clock offset: 0.185 ms
Remote clock offset: -0.894 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:43 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.23 Mbit/s
95th percentile per-packet one-way delay: 185.932 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 19.23 Mbit/s
95th percentile per-packet one-way delay: 185.932 ms
Loss rate: 1.05%
```
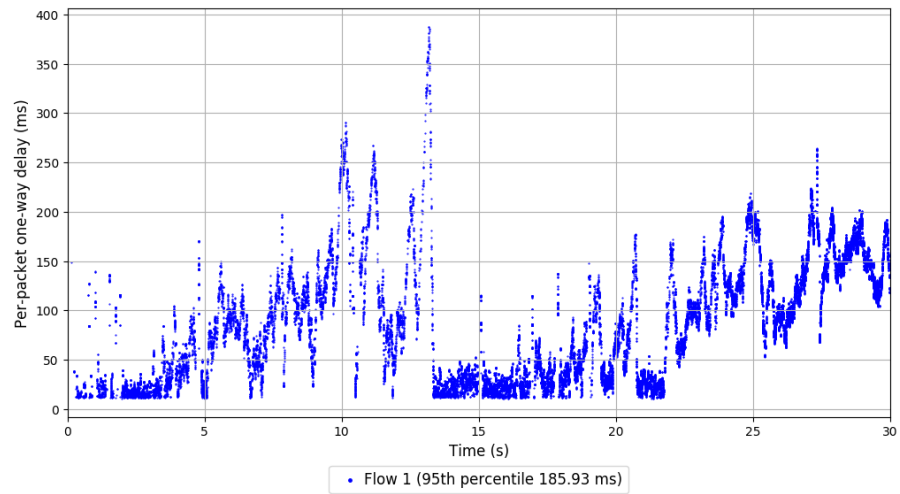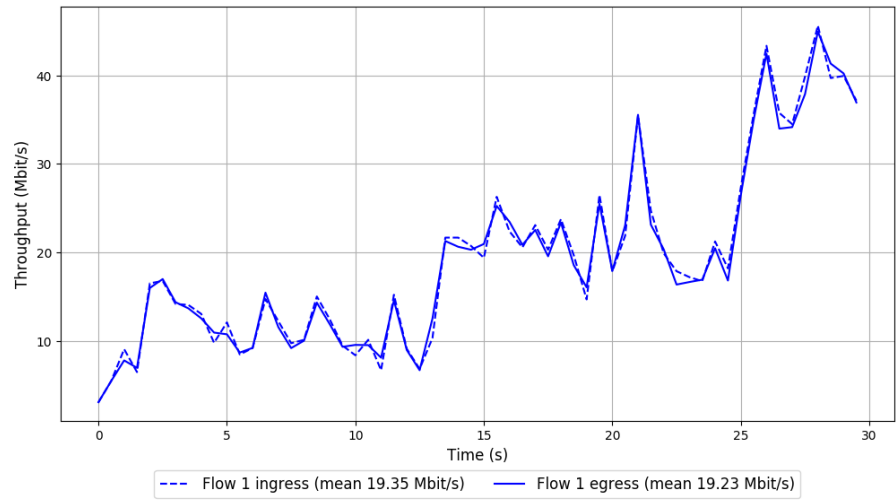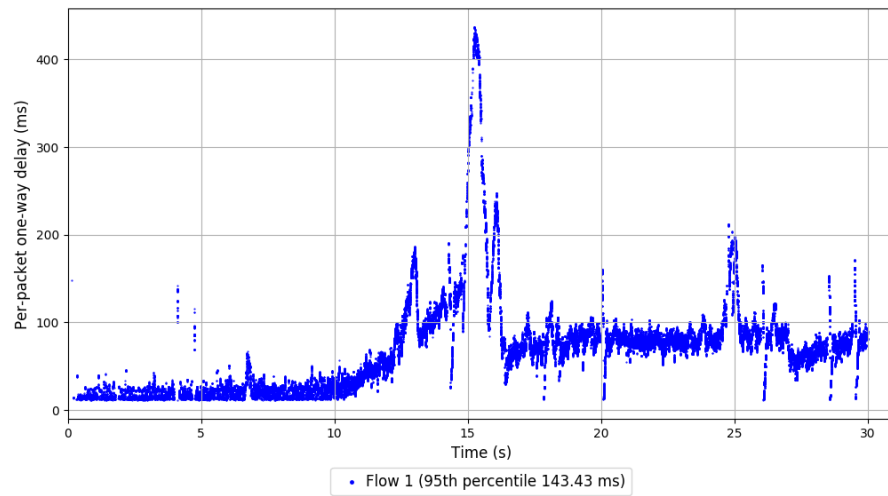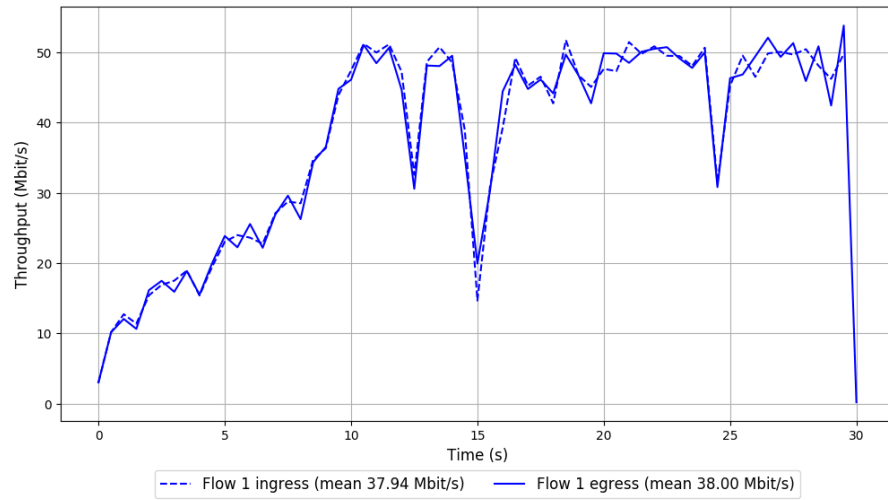
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 19.35 Mbit/s) --- Flow 1 egress (mean 19.23 Mbit/s)

Flow 1 (95th percentile 185.93 ms)

```
Run 3: Statistics of TCP Cubic

Start at: Mon, 07 Aug 2017 02:20:48 +0000
End at: Mon, 07 Aug 2017 02:21:18 +0000
Local clock offset: 0.017 ms
Remote clock offset: -1.319 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 38.00 Mbit/s
95th percentile per-packet one-way delay: 143.434 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 38.00 Mbit/s
95th percentile per-packet one-way delay: 143.434 ms
Loss rate: 0.29%
```
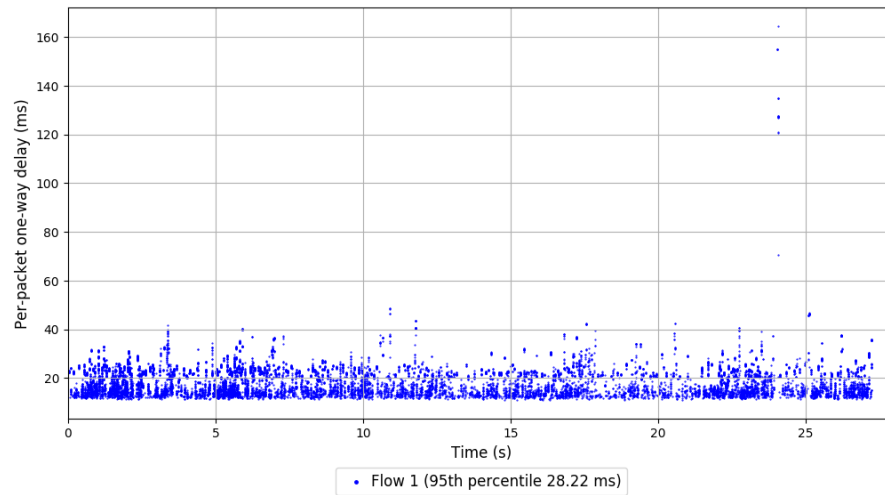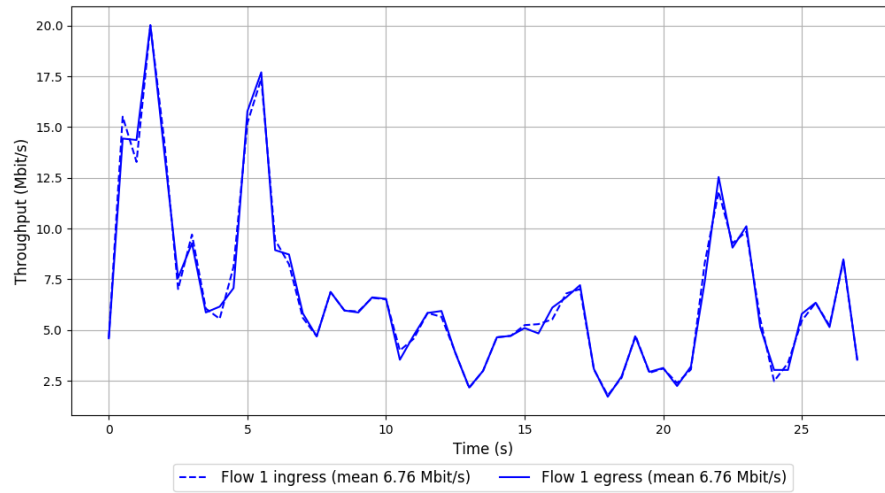
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 37.94 Mbit/s)   Flow 1 egress (mean 38.00 Mbit/s)

• Flow 1 (95th percentile 143.43 ms)

```
Run 1: Statistics of KohoCC

Start at: Mon, 07 Aug 2017 01:41:37 +0000
End at: Mon, 07 Aug 2017 01:42:07 +0000
Local clock offset: 0.281 ms
Remote clock offset: -1.223 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.76 Mbit/s
95th percentile per-packet one-way delay: 28.218 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.76 Mbit/s
95th percentile per-packet one-way delay: 28.218 ms
Loss rate: 0.00%
```
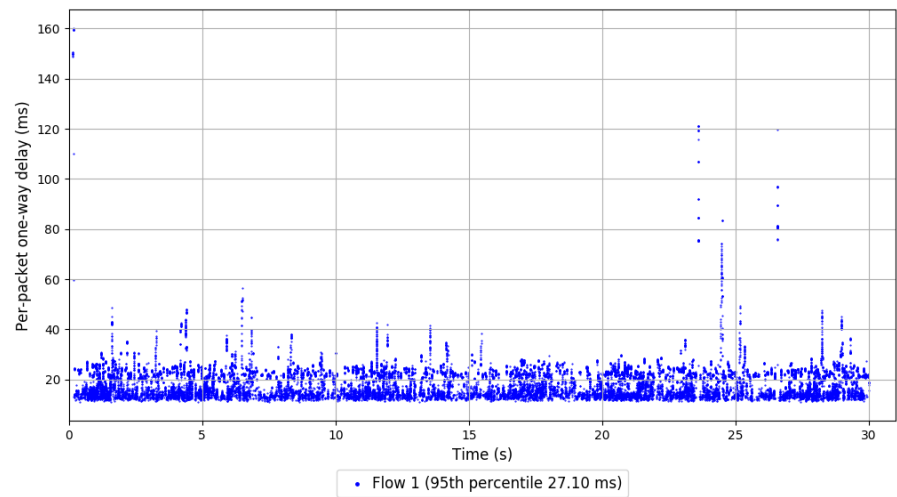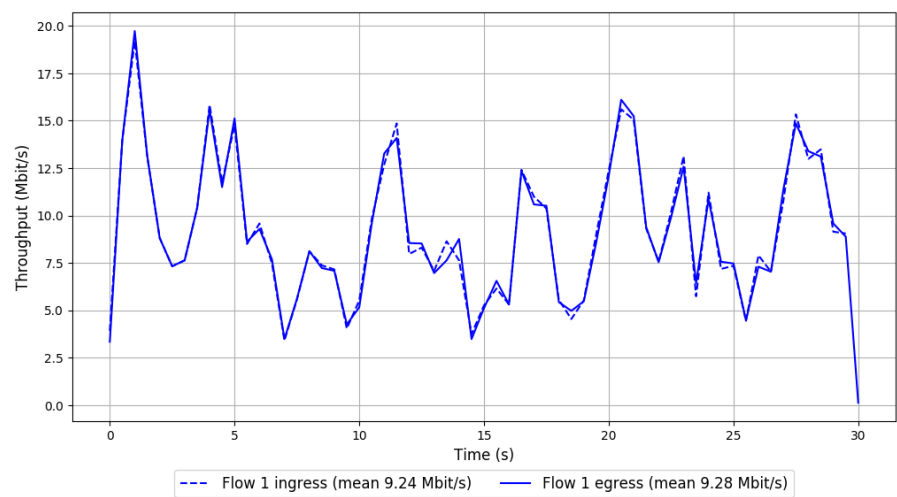
Run 1: Report of KohoCC — Data Link

```
Run 2: Statistics of KohoCC

Start at: Mon, 07 Aug 2017 01:59:26 +0000
End at: Mon, 07 Aug 2017 01:59:56 +0000
Local clock offset: 0.157 ms
Remote clock offset: -0.949 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.28 Mbit/s
95th percentile per-packet one-way delay: 27.102 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 9.28 Mbit/s
95th percentile per-packet one-way delay: 27.102 ms
Loss rate: 0.01%
```
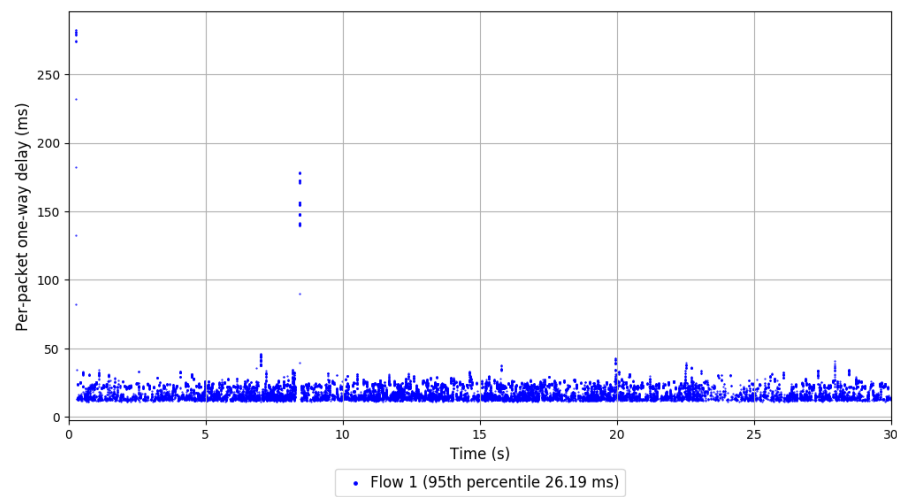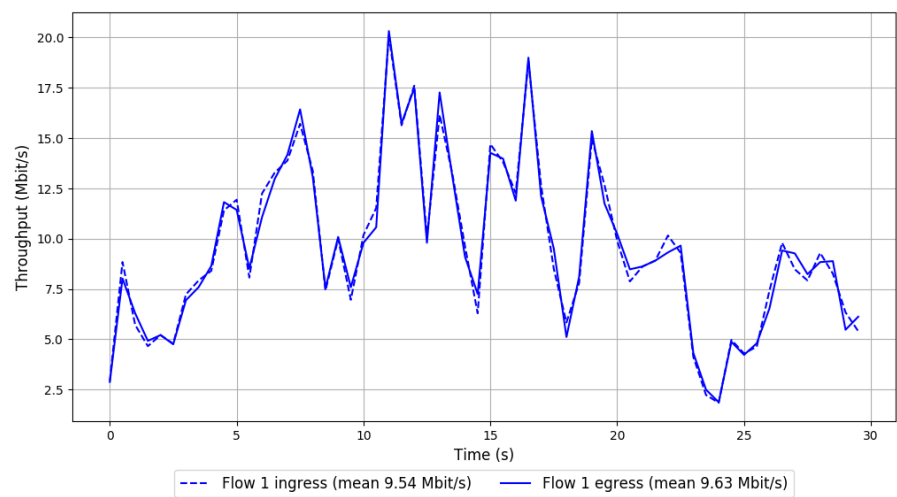
Run 2: Report of KohoCC — Data Link

Flow 1 ingress (mean 9.24 Mbit/s) — Flow 1 egress (mean 9.28 Mbit/s)

• Flow 1 (95th percentile 27.10 ms)

```
Run 3: Statistics of KohoCC

Start at: Mon, 07 Aug 2017 02:17:15 +0000
End at: Mon, 07 Aug 2017 02:17:45 +0000
Local clock offset: 0.164 ms
Remote clock offset: -1.193 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.63 Mbit/s
95th percentile per-packet one-way delay: 26.194 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 9.63 Mbit/s
95th percentile per-packet one-way delay: 26.194 ms
Loss rate: 0.03%
```
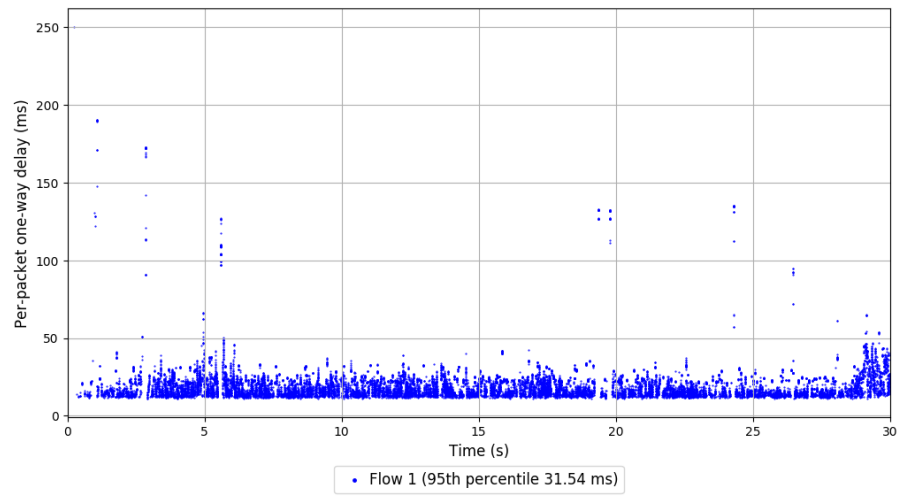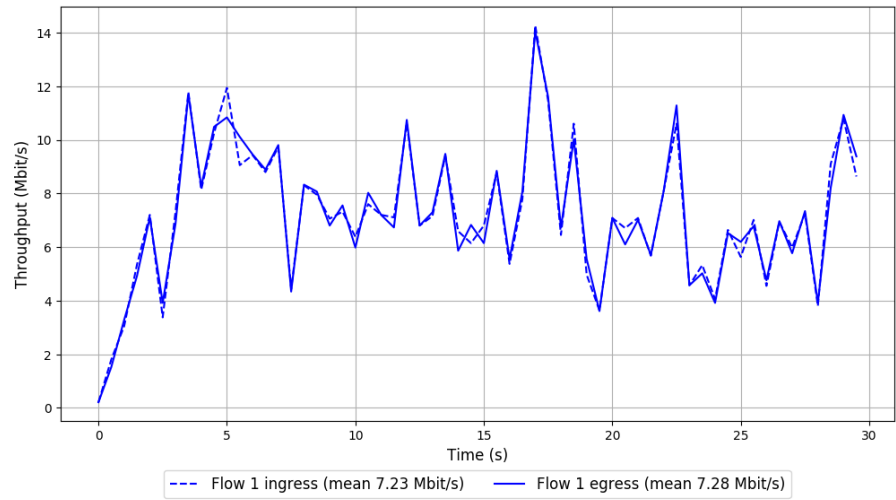
Run 3: Report of KohoCC — Data Link

Flow 1 ingress (mean 9.54 Mbit/s) --- Flow 1 egress (mean 9.63 Mbit/s)

Flow 1 (95th percentile 26.19 ms)

```
Run 1: Statistics of LEDBAT

Start at: Mon, 07 Aug 2017 01:34:31 +0000
End at: Mon, 07 Aug 2017 01:35:01 +0000
Local clock offset: 0.236 ms
Remote clock offset: -1.335 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:50 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 31.535 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.28 Mbit/s
95th percentile per-packet one-way delay: 31.535 ms
Loss rate: 0.00%
```
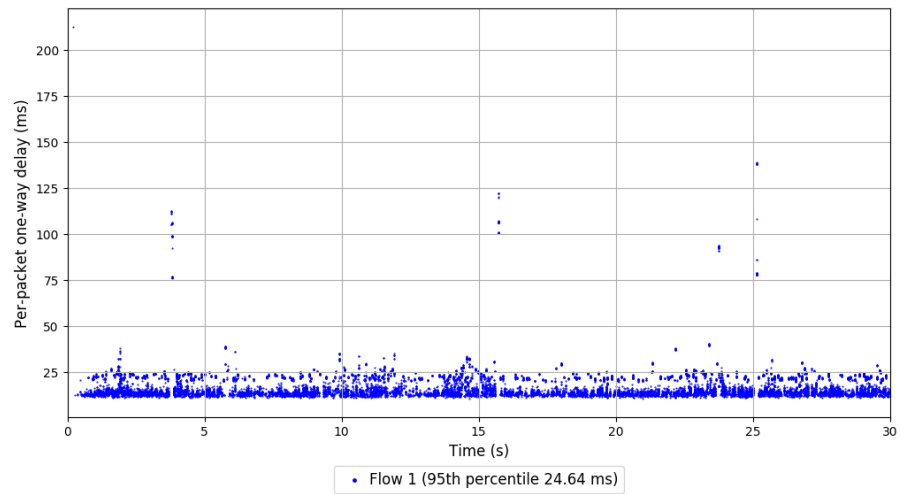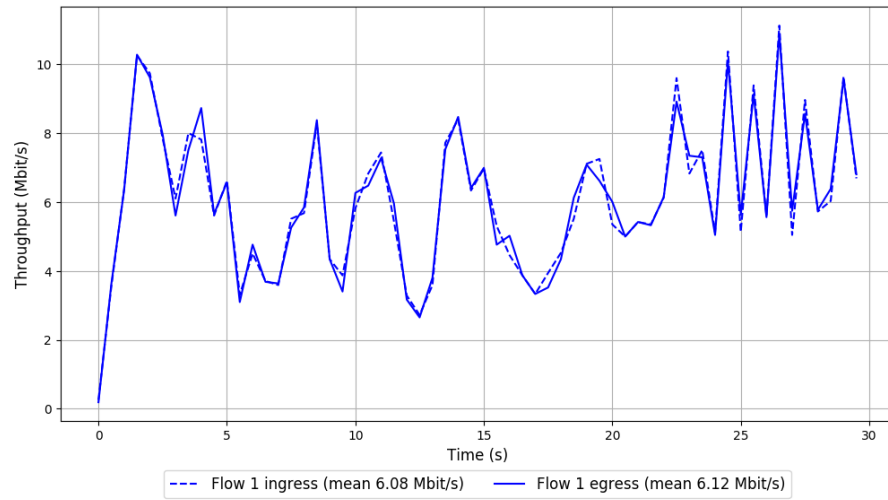
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: Mon, 07 Aug 2017 01:52:17 +0000
End at: Mon, 07 Aug 2017 01:52:47 +0000
Local clock offset: 0.266 ms
Remote clock offset: -1.076 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:50 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 24.645 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.12 Mbit/s
95th percentile per-packet one-way delay: 24.645 ms
Loss rate: 0.00%
```
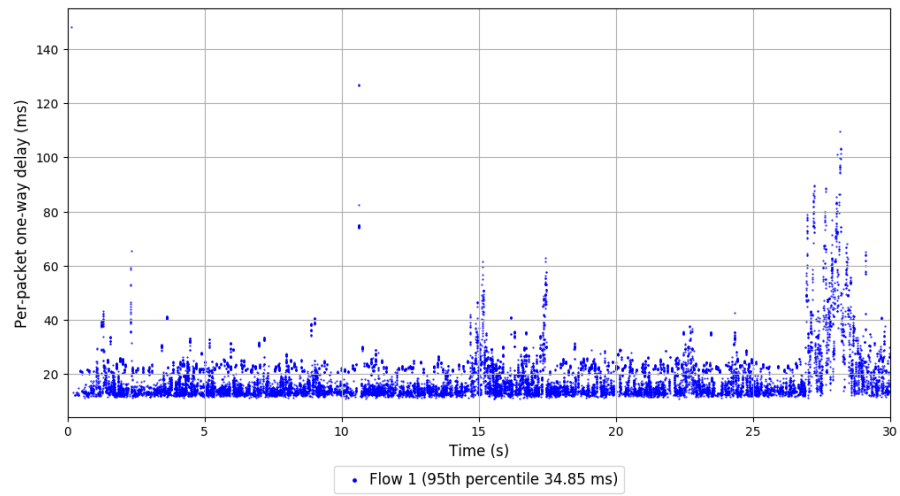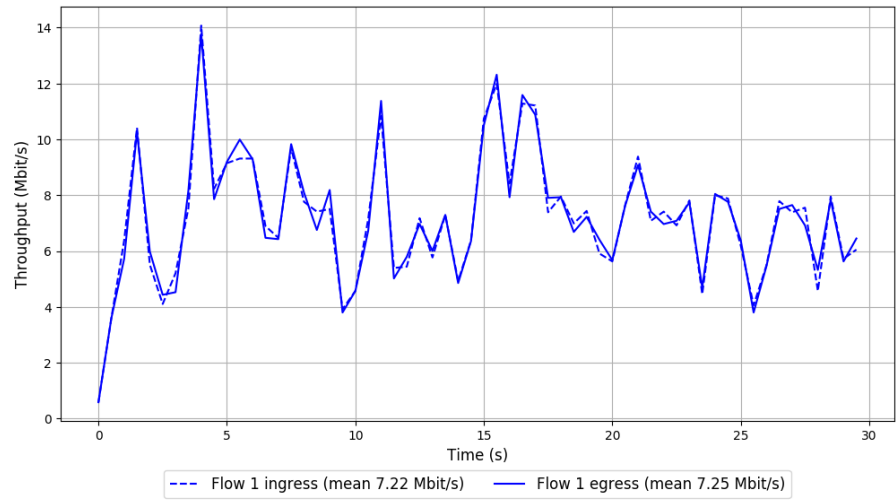
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 6.08 Mbit/s) --- Flow 1 egress (mean 6.12 Mbit/s)

Flow 1 (95th percentile 24.64 ms)

```
Run 3: Statistics of LEDBAT

Start at: Mon, 07 Aug 2017 02:10:07 +0000
End at: Mon, 07 Aug 2017 02:10:37 +0000
Local clock offset: 0.144 ms
Remote clock offset: -1.048 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:51 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.25 Mbit/s
95th percentile per-packet one-way delay: 34.850 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 7.25 Mbit/s
95th percentile per-packet one-way delay: 34.850 ms
Loss rate: 0.00%
```

Run 3: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC

Start at: Mon, 07 Aug 2017 01:35:42 +0000
End at: Mon, 07 Aug 2017 01:36:12 +0000
Local clock offset: 0.303 ms
Remote clock offset: -1.315 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:52 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 21.491 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 3.77 Mbit/s
95th percentile per-packet one-way delay: 21.491 ms
Loss rate: 0.00%
```
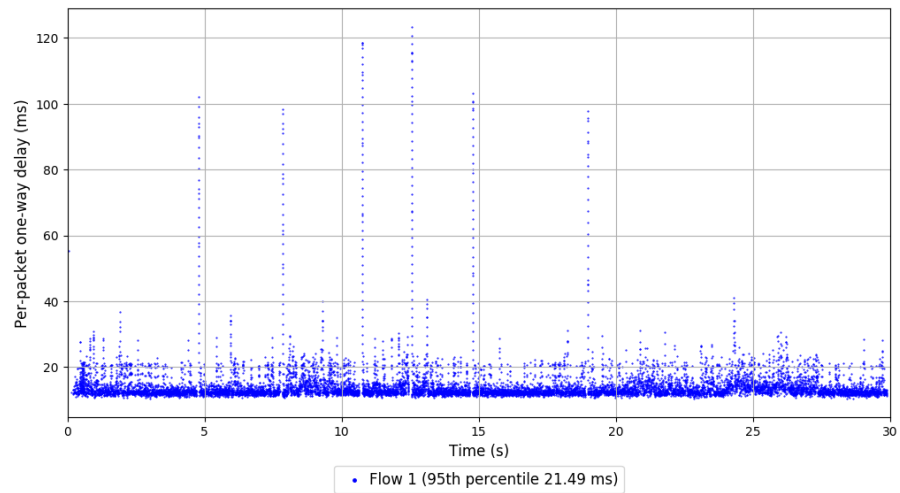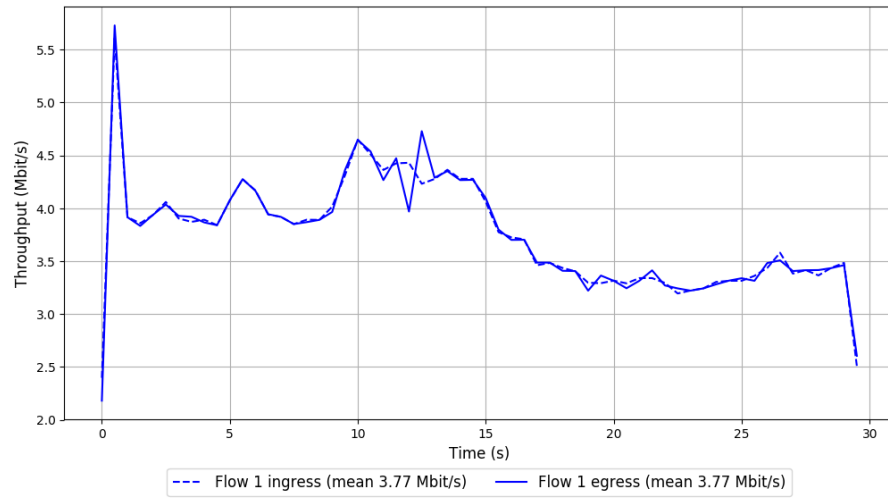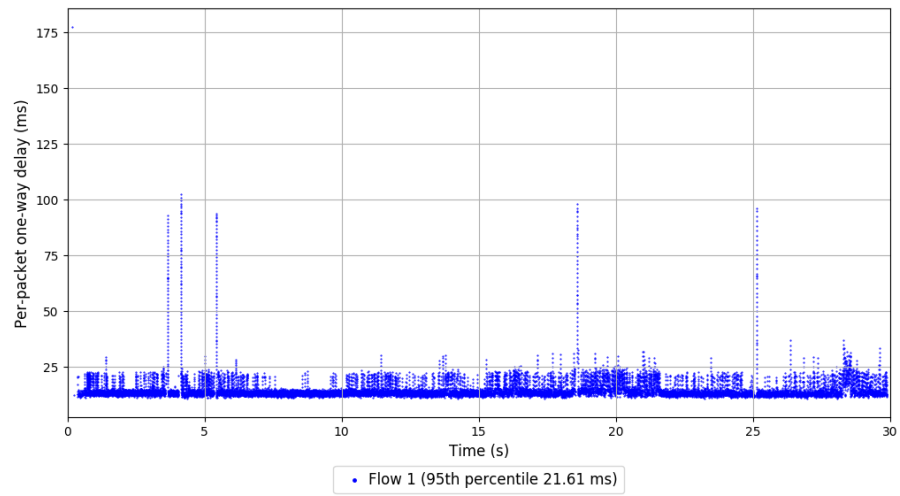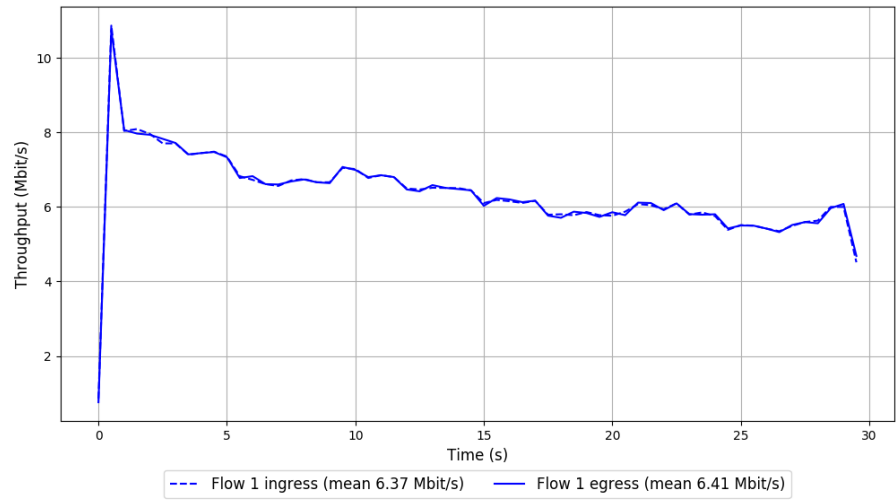
Run 1: Report of PCC — Data Link

Flow 1 ingress (mean 3.77 Mbit/s)   Flow 1 egress (mean 3.77 Mbit/s)

Flow 1 (95th percentile 21.49 ms)

```
Run 2: Statistics of PCC

Start at: Mon, 07 Aug 2017 01:53:28 +0000
End at: Mon, 07 Aug 2017 01:53:58 +0000
Local clock offset: 0.182 ms
Remote clock offset: -1.046 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:53 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.41 Mbit/s
95th percentile per-packet one-way delay: 21.611 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.41 Mbit/s
95th percentile per-packet one-way delay: 21.611 ms
Loss rate: 0.00%
```
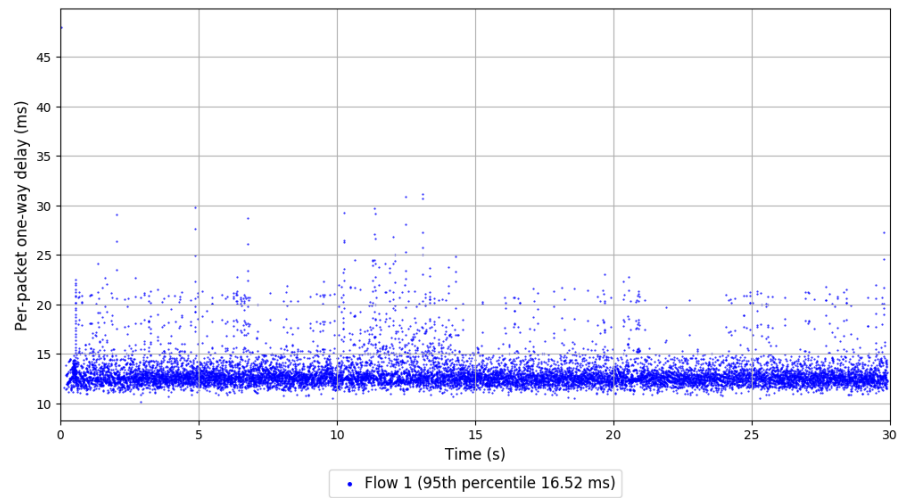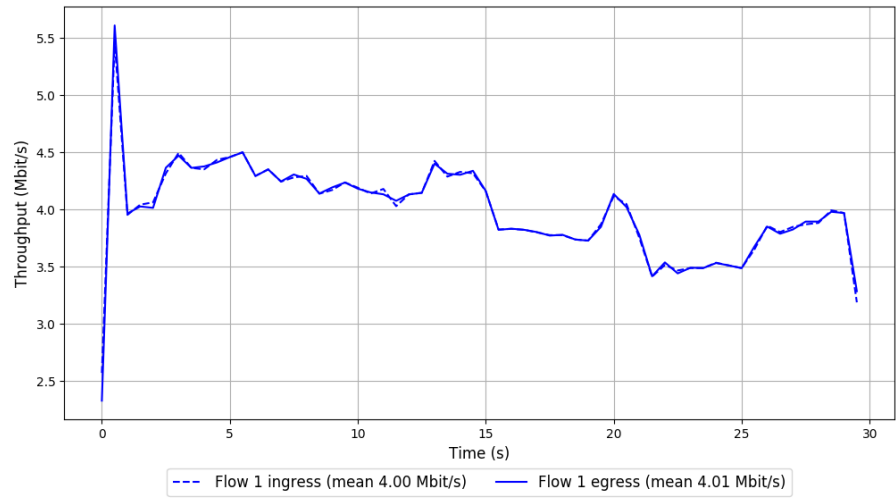
Run 2: Report of PCC — Data Link

```
Run 3: Statistics of PCC

Start at: Mon, 07 Aug 2017 02:11:17 +0000
End at: Mon, 07 Aug 2017 02:11:47 +0000
Local clock offset: 0.126 ms
Remote clock offset: -0.999 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:53 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 16.515 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.01 Mbit/s
95th percentile per-packet one-way delay: 16.515 ms
Loss rate: 0.00%
```

Run 3: Report of PCC — Data Link

Flow 1 ingress (mean 4.00 Mbit/s)   Flow 1 egress (mean 4.01 Mbit/s)

Flow 1 (95th percentile 16.52 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: Mon, 07 Aug 2017 01:43:58 +0000
End at: Mon, 07 Aug 2017 01:44:28 +0000
Local clock offset: 0.286 ms
Remote clock offset: -1.205 ms
```
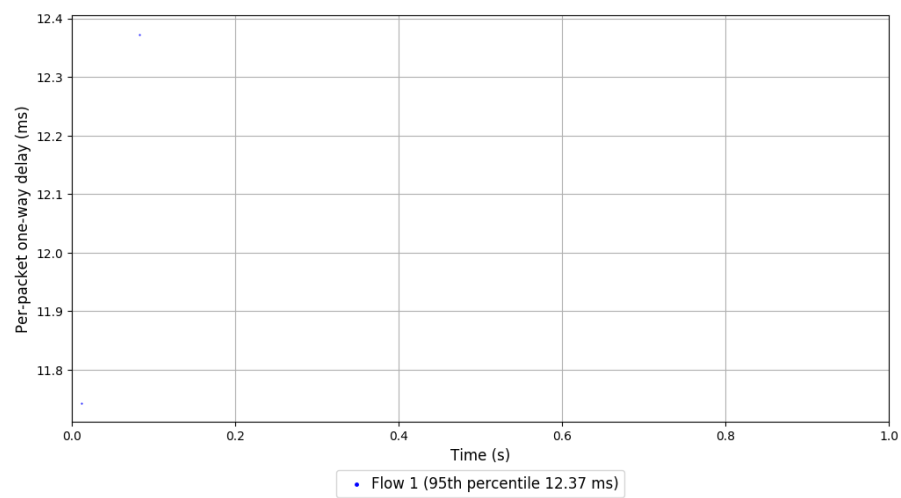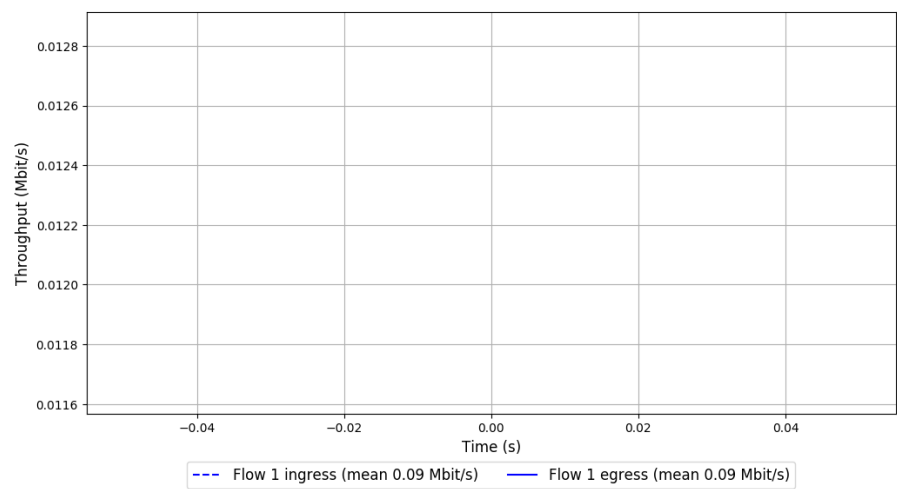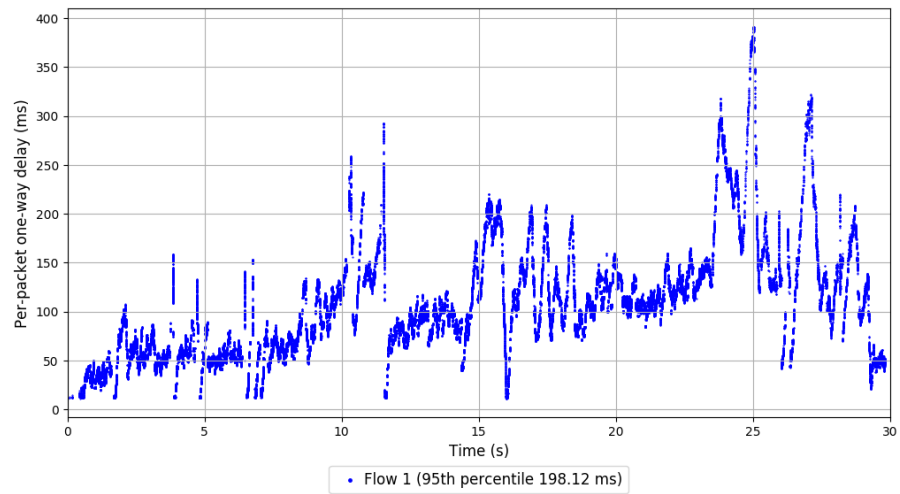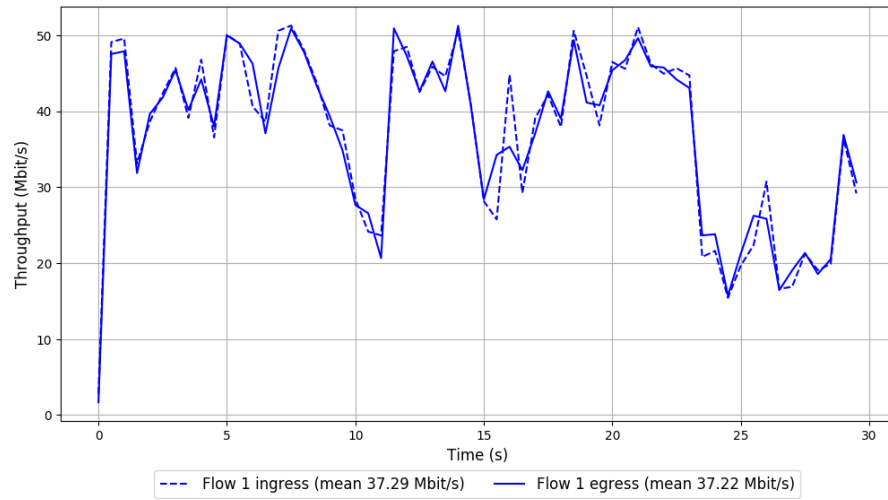
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.09 Mbit/s) --- Flow 1 egress (mean 0.09 Mbit/s)

Flow 1 (95th percentile 12.37 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: Mon, 07 Aug 2017 02:01:47 +0000
End at: Mon, 07 Aug 2017 02:02:17 +0000
Local clock offset: 0.172 ms
Remote clock offset: -0.889 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:58 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.22 Mbit/s
95th percentile per-packet one-way delay: 198.125 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 37.22 Mbit/s
95th percentile per-packet one-way delay: 198.125 ms
Loss rate: 0.15%
```

Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: Mon, 07 Aug 2017 02:19:36 +0000
End at: Mon, 07 Aug 2017 02:20:06 +0000
Local clock offset: 0.129 ms
Remote clock offset: -1.209 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:00 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.69 Mbit/s
95th percentile per-packet one-way delay: 161.022 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 44.69 Mbit/s
95th percentile per-packet one-way delay: 161.022 ms
Loss rate: 0.17%
```
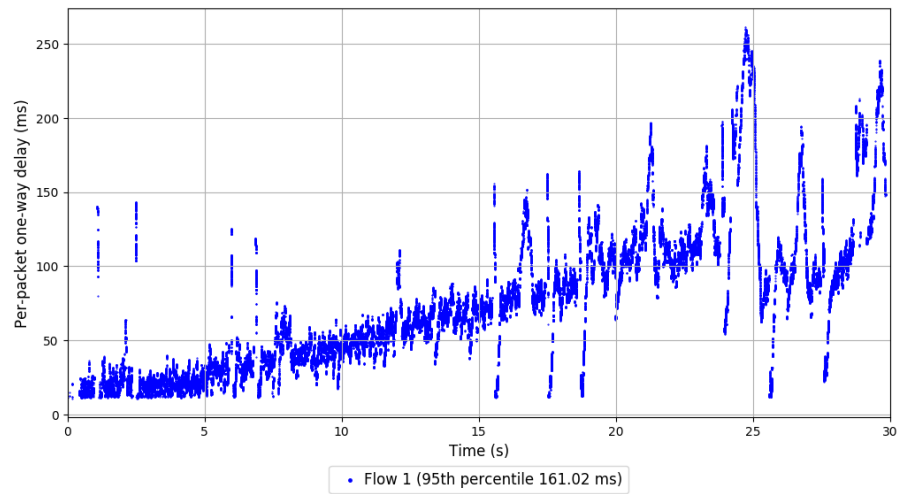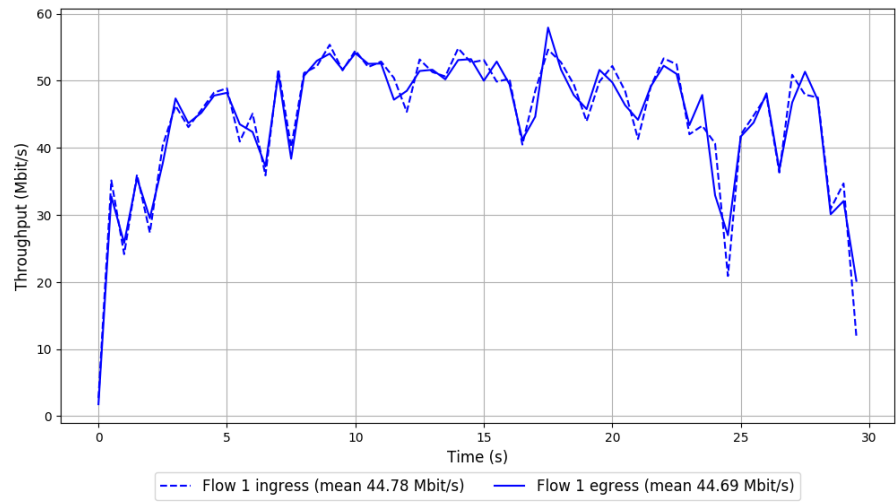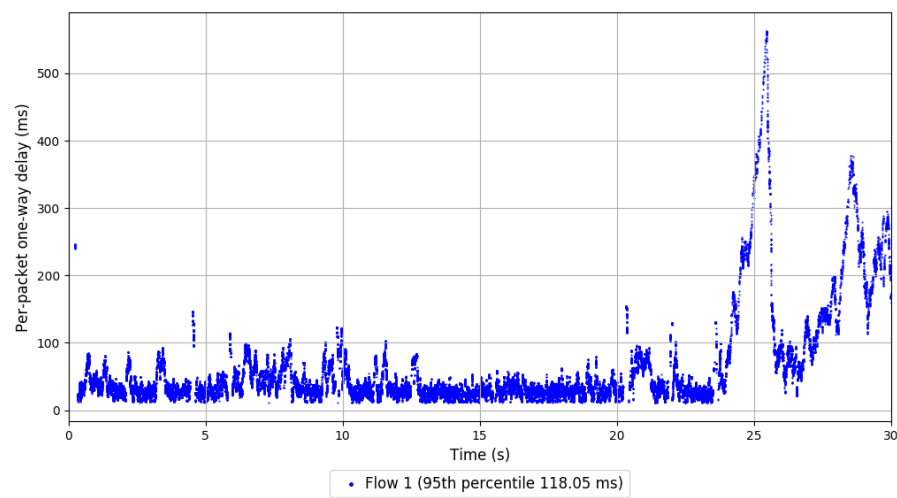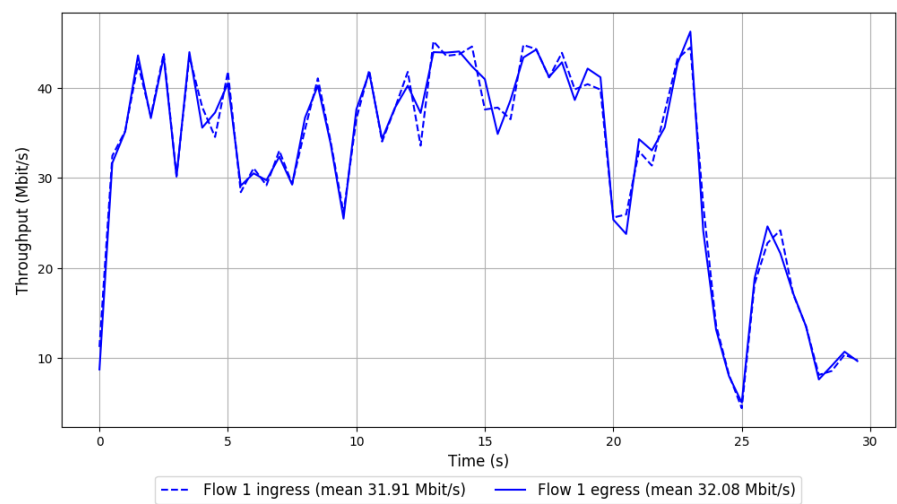
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 44.78 Mbit/s)   —— Flow 1 egress (mean 44.69 Mbit/s)

• Flow 1 (95th percentile 161.02 ms)

```
Run 1: Statistics of Saturator

Start at: Mon, 07 Aug 2017 01:40:25 +0000
End at: Mon, 07 Aug 2017 01:40:55 +0000
Local clock offset: 0.303 ms
Remote clock offset: -1.158 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:03 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 32.08 Mbit/s
95th percentile per-packet one-way delay: 118.048 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 32.08 Mbit/s
95th percentile per-packet one-way delay: 118.048 ms
Loss rate: 0.20%
```

Run 1: Report of Saturator — Data Link

```
Run 2: Statistics of Saturator

Start at: Mon, 07 Aug 2017 01:58:13 +0000
End at: Mon, 07 Aug 2017 01:58:43 +0000
Local clock offset: 0.206 ms
Remote clock offset: -0.945 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:05 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 35.01 Mbit/s
95th percentile per-packet one-way delay: 102.529 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 35.01 Mbit/s
95th percentile per-packet one-way delay: 102.529 ms
Loss rate: 0.01%
```
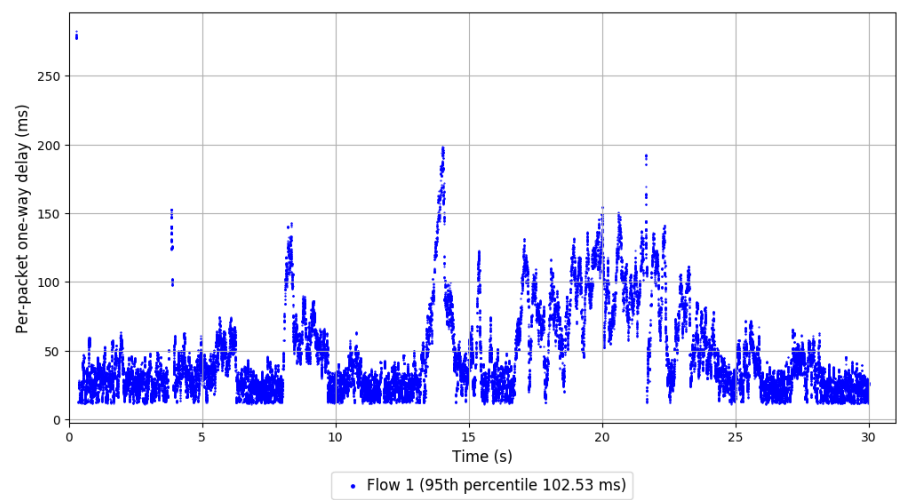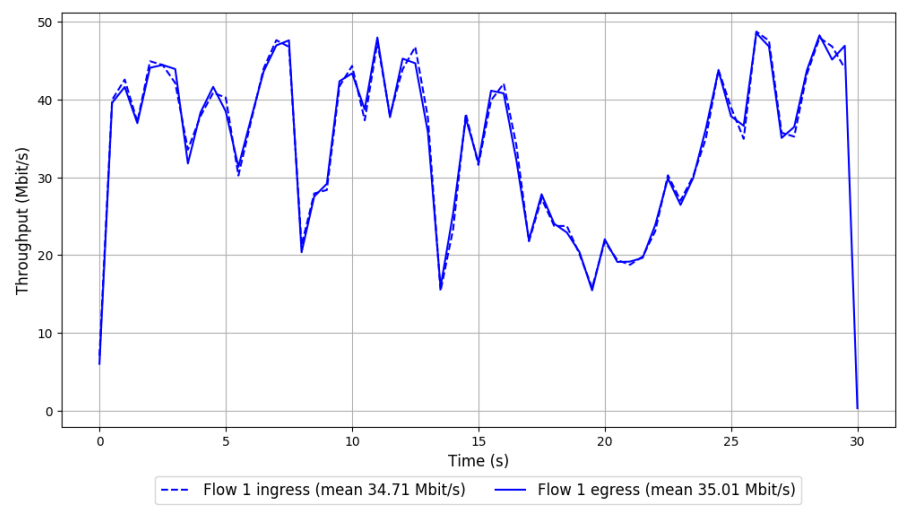
Run 2: Report of Saturator — Data Link

```
Run 3: Statistics of Saturator

Start at: Mon, 07 Aug 2017 02:16:02 +0000
End at: Mon, 07 Aug 2017 02:16:32 +0000
Local clock offset: 0.059 ms
Remote clock offset: -1.217 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:11 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 38.59 Mbit/s
95th percentile per-packet one-way delay: 68.593 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 38.59 Mbit/s
95th percentile per-packet one-way delay: 68.593 ms
Loss rate: 0.06%
```
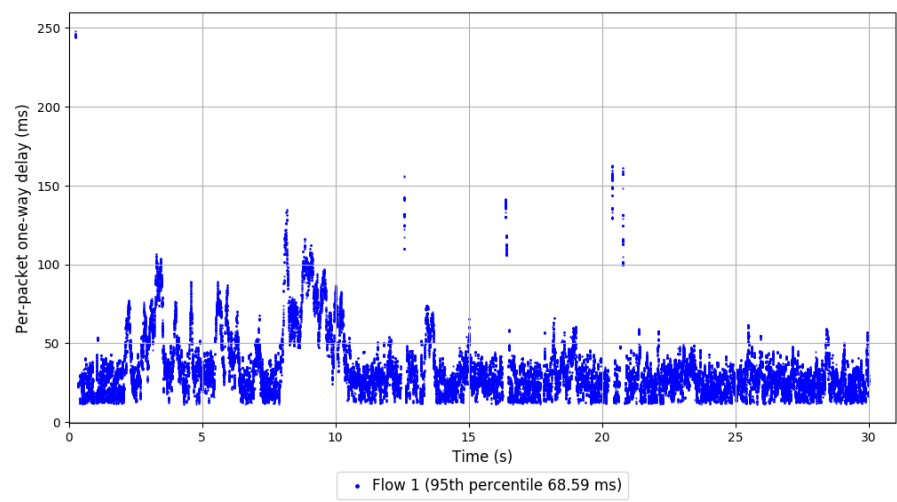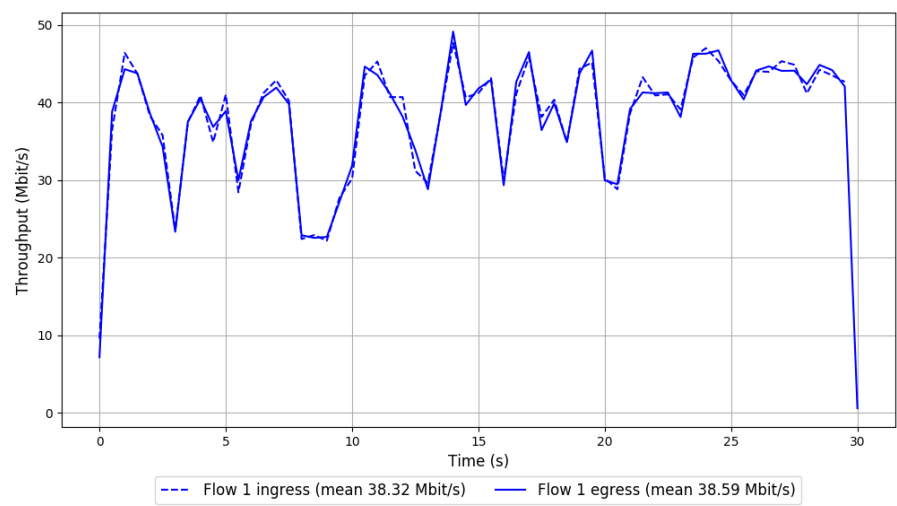
Run 3: Report of Saturator — Data Link

```
Run 1: Statistics of SCReAM

Start at: Mon, 07 Aug 2017 01:39:14 +0000
End at: Mon, 07 Aug 2017 01:39:45 +0000
Local clock offset: 0.309 ms
Remote clock offset: -1.279 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:11 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.037 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.037 ms
Loss rate: 0.00%
```
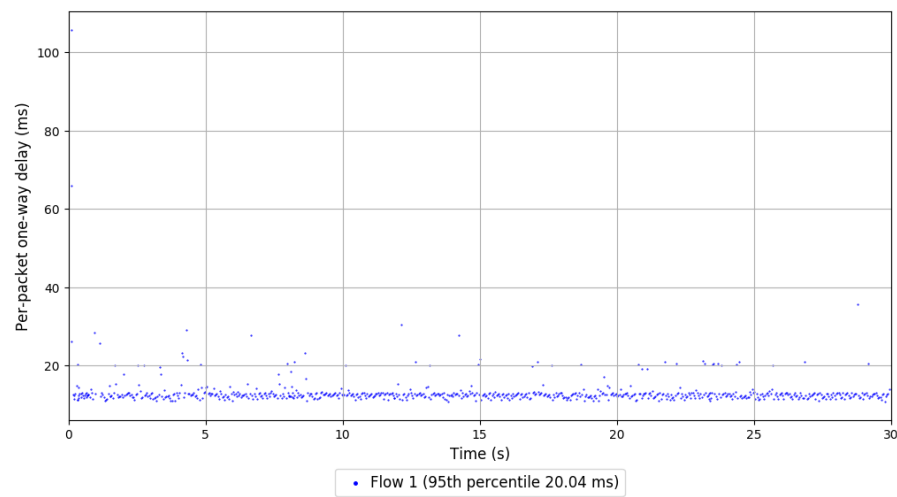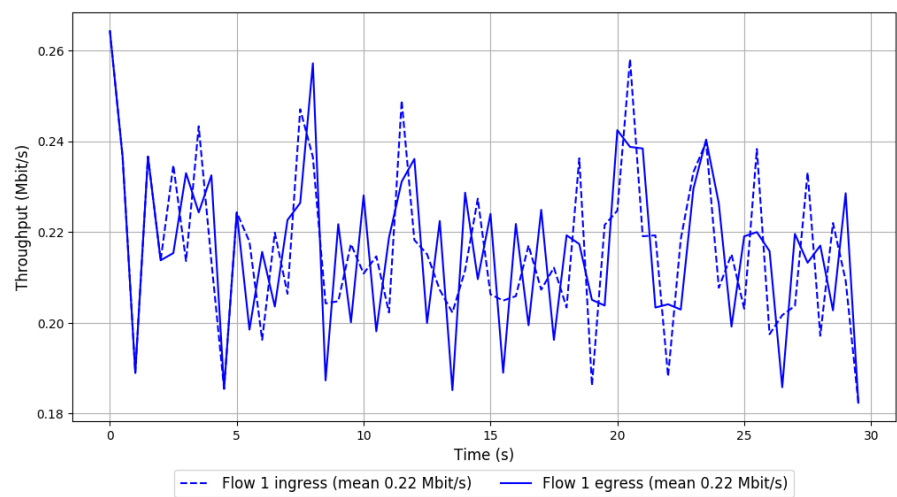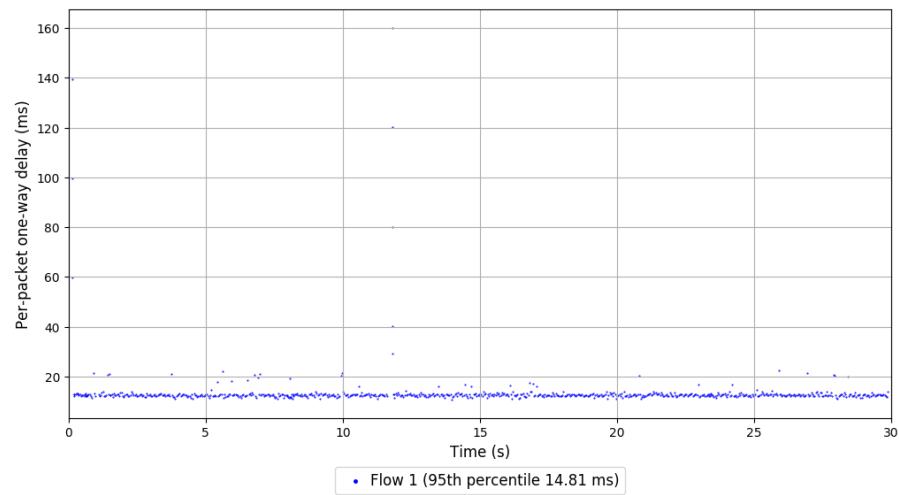
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: Mon, 07 Aug 2017 01:57:03 +0000
End at: Mon, 07 Aug 2017 01:57:33 +0000
Local clock offset: 0.183 ms
Remote clock offset: -0.996 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:11 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 14.809 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 14.809 ms
Loss rate: 0.00%
```
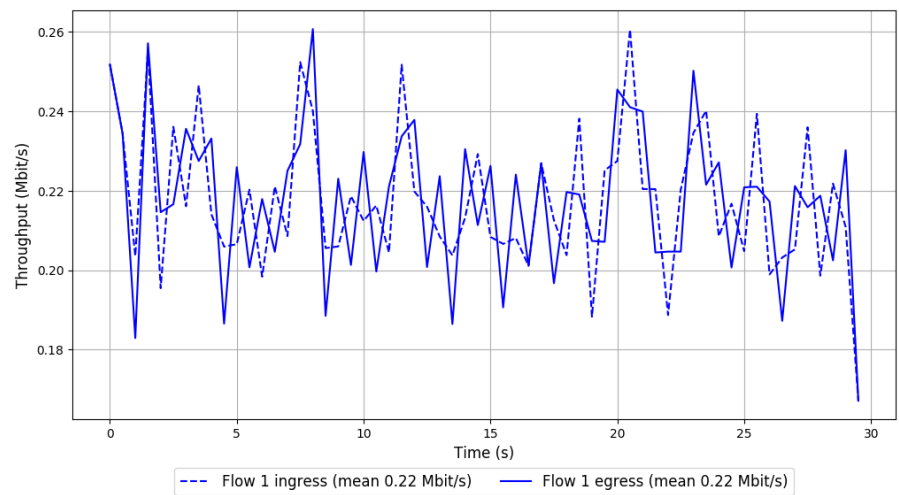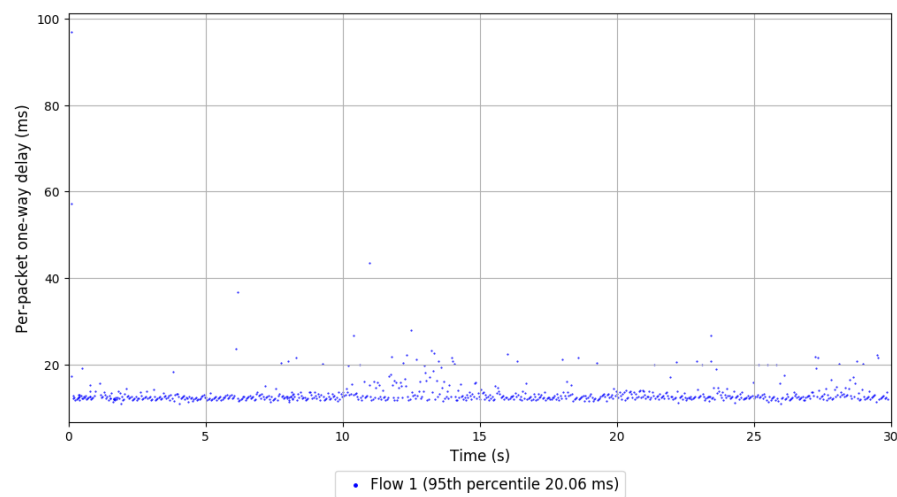
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: Mon, 07 Aug 2017 02:14:51 +0000
End at: Mon, 07 Aug 2017 02:15:21 +0000
Local clock offset: 0.144 ms
Remote clock offset: -1.104 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:11 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.064 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 20.064 ms
Loss rate: 0.00%
```
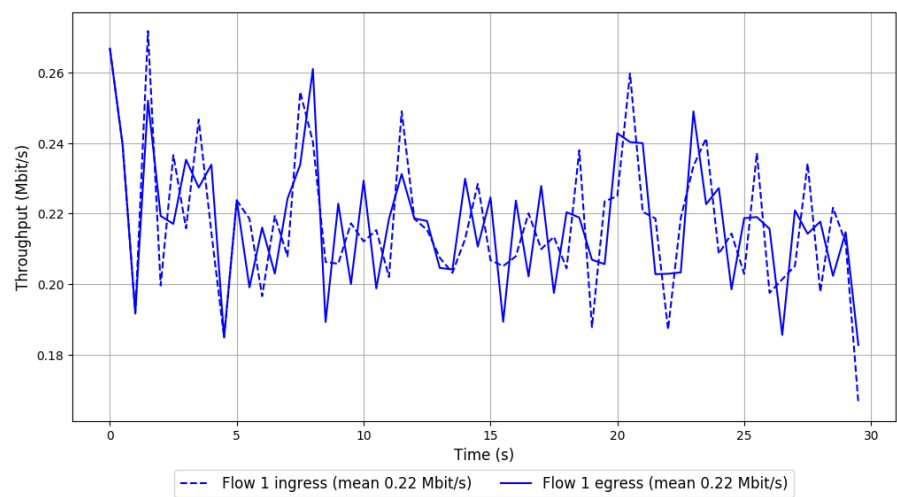
Run 3: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: Mon, 07 Aug 2017 01:47:32 +0000
End at: Mon, 07 Aug 2017 01:48:02 +0000
Local clock offset: 0.278 ms
Remote clock offset: -1.033 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:11 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 15.60 Mbit/s
95th percentile per-packet one-way delay: 30.703 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 15.60 Mbit/s
95th percentile per-packet one-way delay: 30.703 ms
Loss rate: 0.05%
```
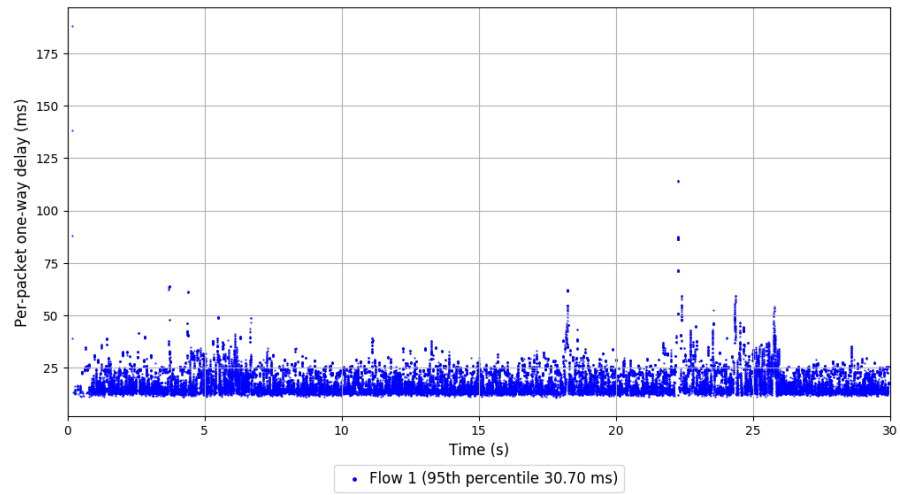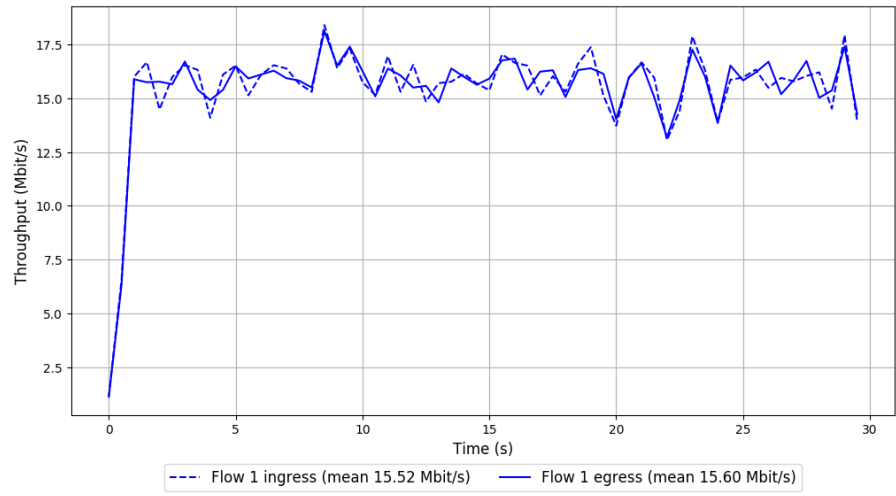
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: Mon, 07 Aug 2017 02:05:22 +0000
End at: Mon, 07 Aug 2017 02:05:52 +0000
Local clock offset: 0.135 ms
Remote clock offset: -0.898 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:14 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 15.19 Mbit/s
95th percentile per-packet one-way delay: 37.047 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 15.19 Mbit/s
95th percentile per-packet one-way delay: 37.047 ms
Loss rate: 0.00%
```
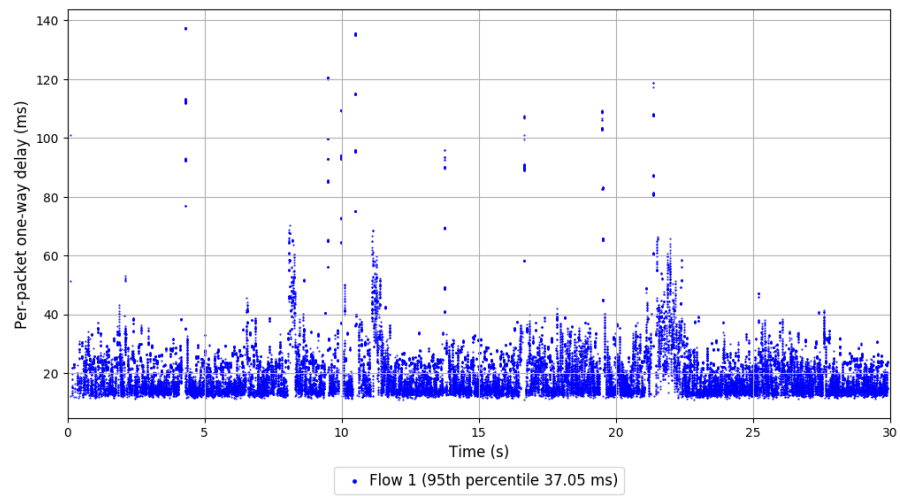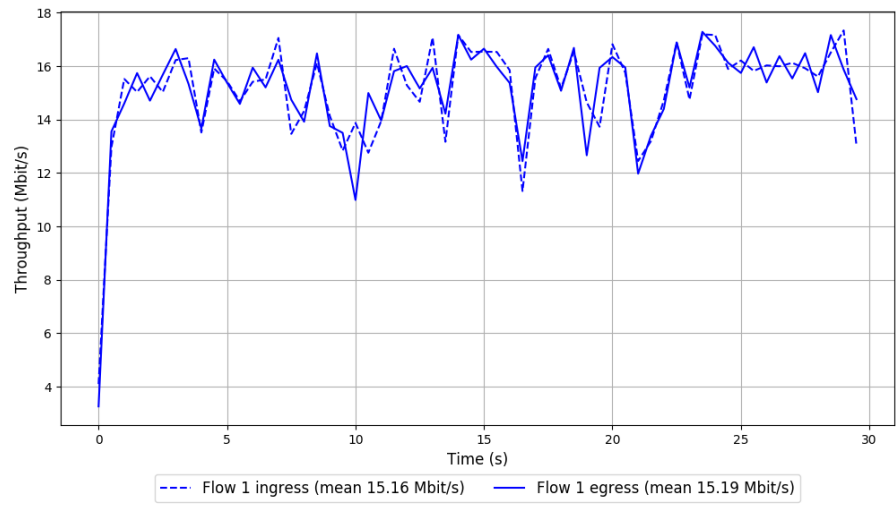
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: Mon, 07 Aug 2017 02:23:11 +0000
End at: Mon, 07 Aug 2017 02:23:41 +0000
Local clock offset: 0.105 ms
Remote clock offset: -1.284 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:14 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 14.87 Mbit/s
95th percentile per-packet one-way delay: 37.498 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 14.87 Mbit/s
95th percentile per-packet one-way delay: 37.498 ms
Loss rate: 0.00%
```
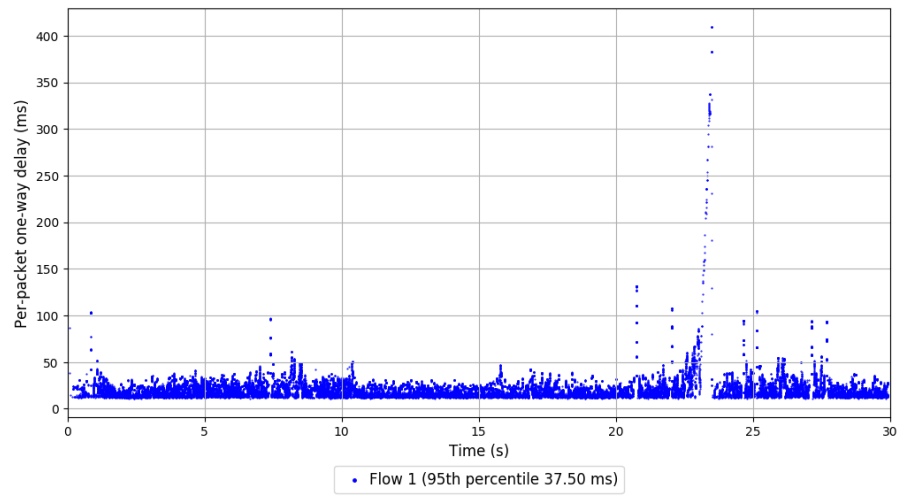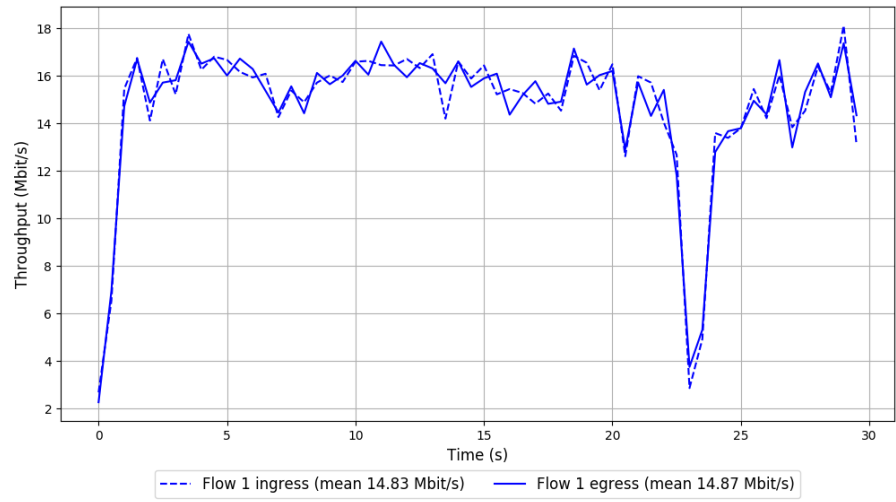
Run 3: Report of Sprout — Data Link

```
Run 1: Statistics of TaoVA-100x

Start at: Mon, 07 Aug 2017 01:49:53 +0000
End at: Mon, 07 Aug 2017 01:50:23 +0000
Local clock offset: 0.196 ms
Remote clock offset: -1.09 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:16 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.05 Mbit/s
95th percentile per-packet one-way delay: 20.330 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.05 Mbit/s
95th percentile per-packet one-way delay: 20.330 ms
Loss rate: 0.00%
```
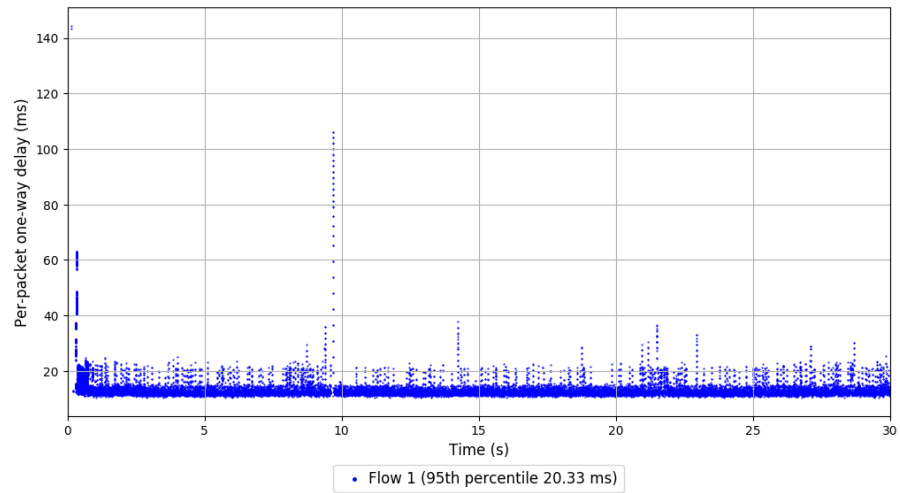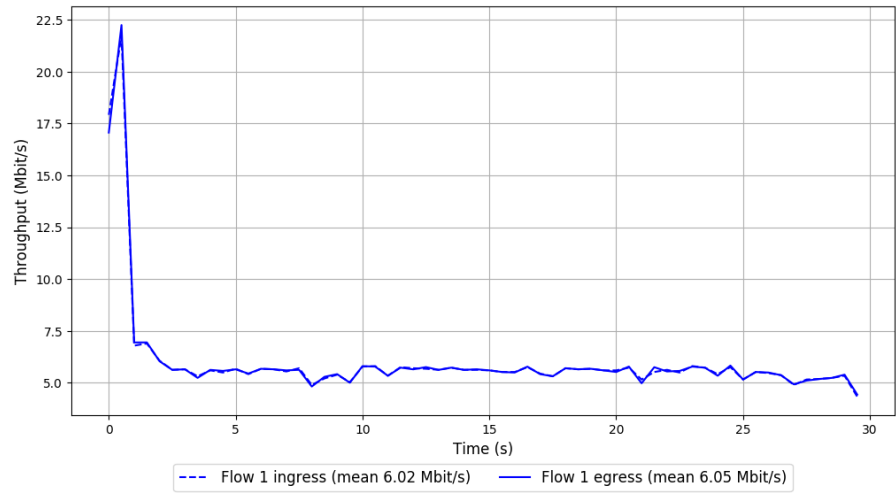
Run 1: Report of TaoVA-100x — Data Link

```
Run 2: Statistics of TaoVA-100x

Start at: Mon, 07 Aug 2017 02:07:43 +0000
End at: Mon, 07 Aug 2017 02:08:13 +0000
Local clock offset: 0.136 ms
Remote clock offset: -1.005 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:16 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.63 Mbit/s
95th percentile per-packet one-way delay: 20.643 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.63 Mbit/s
95th percentile per-packet one-way delay: 20.643 ms
Loss rate: 0.00%
```
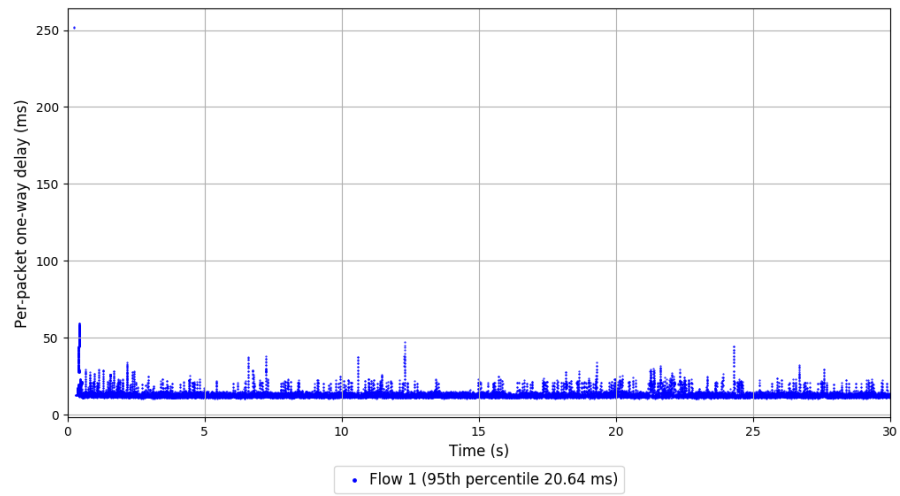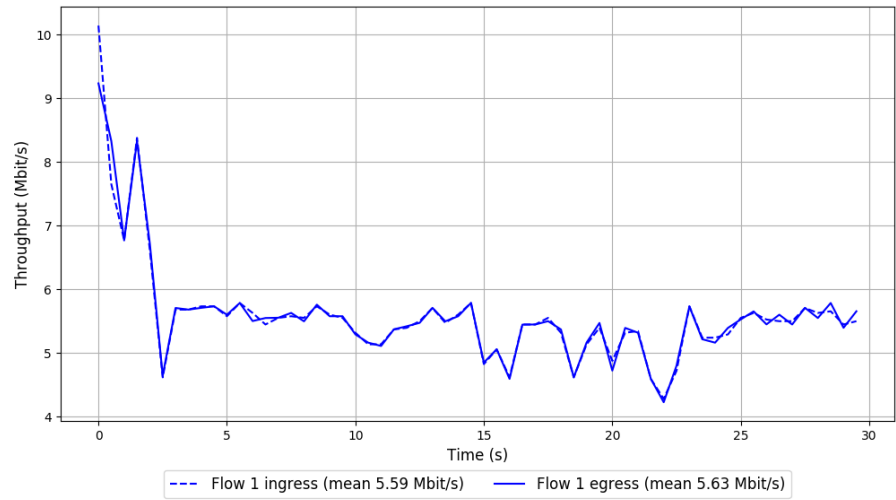
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 5.59 Mbit/s)   Flow 1 egress (mean 5.63 Mbit/s)

Flow 1 (95th percentile 20.64 ms)

```
Run 3: Statistics of TaoVA-100x

Start at: Mon, 07 Aug 2017 02:25:33 +0000
End at: Mon, 07 Aug 2017 02:26:03 +0000
Local clock offset: 0.111 ms
Remote clock offset: -1.385 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:18 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.27 Mbit/s
95th percentile per-packet one-way delay: 23.334 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 5.27 Mbit/s
95th percentile per-packet one-way delay: 23.334 ms
Loss rate: 0.00%
```
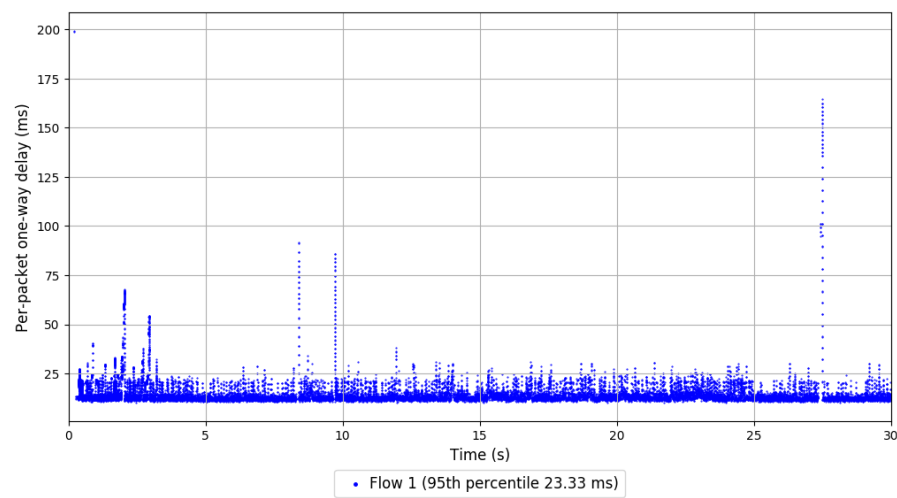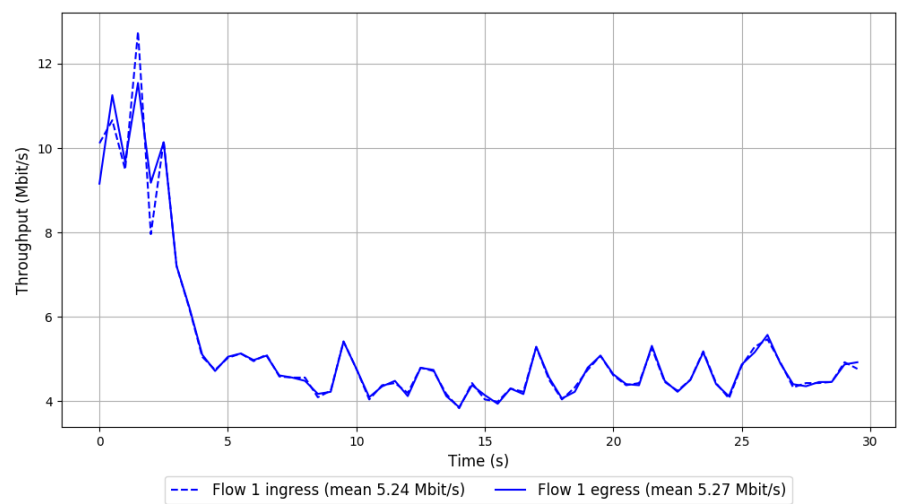
Run 3: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: Mon, 07 Aug 2017 01:36:52 +0000
End at: Mon, 07 Aug 2017 01:37:22 +0000
Local clock offset: 0.322 ms
Remote clock offset: -1.248 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:18 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.71 Mbit/s
95th percentile per-packet one-way delay: 37.829 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.71 Mbit/s
95th percentile per-packet one-way delay: 37.829 ms
Loss rate: 0.00%
```
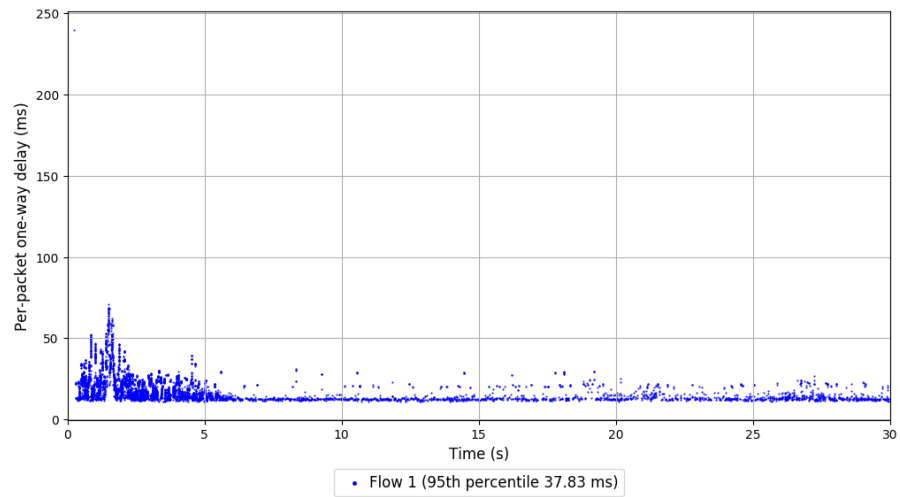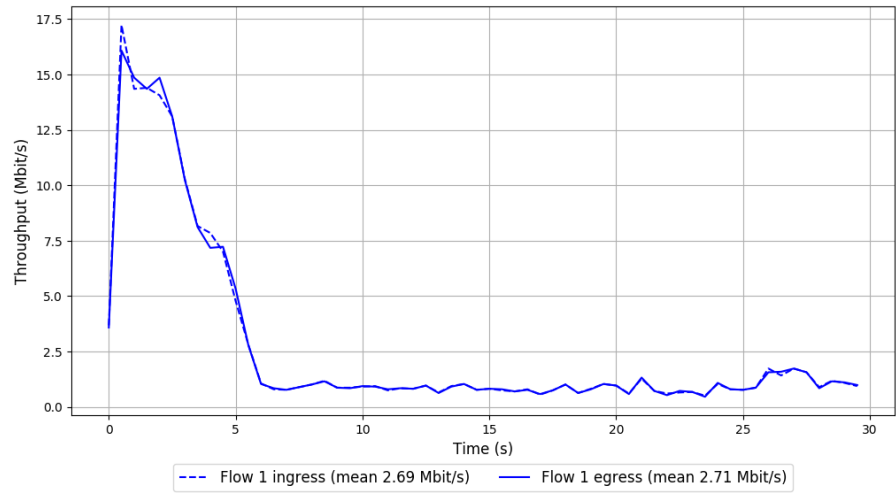
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: Mon, 07 Aug 2017 01:54:38 +0000
End at: Mon, 07 Aug 2017 01:55:08 +0000
Local clock offset: 0.17 ms
Remote clock offset: -1.033 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:21 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.59 Mbit/s
95th percentile per-packet one-way delay: 49.723 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 24.59 Mbit/s
95th percentile per-packet one-way delay: 49.723 ms
Loss rate: 0.00%
```
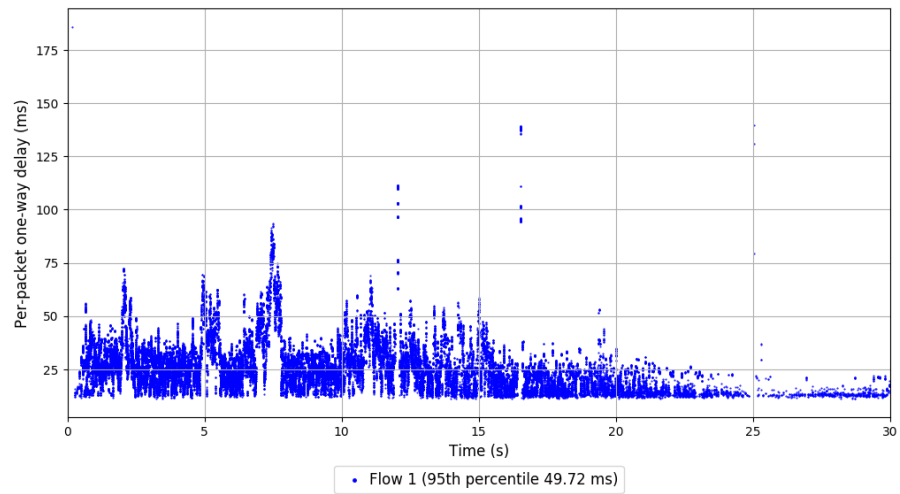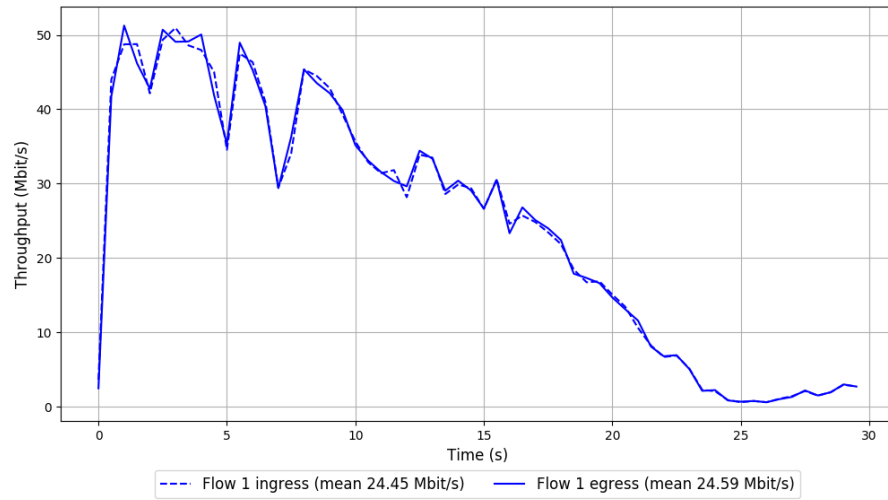
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: Mon, 07 Aug 2017 02:12:27 +0000
End at: Mon, 07 Aug 2017 02:12:57 +0000
Local clock offset: 0.182 ms
Remote clock offset: -1.129 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:22 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 27.67 Mbit/s
95th percentile per-packet one-way delay: 139.343 ms
Loss rate: 1.41%
-- Flow 1:
Average throughput: 27.67 Mbit/s
95th percentile per-packet one-way delay: 139.343 ms
Loss rate: 1.41%
```
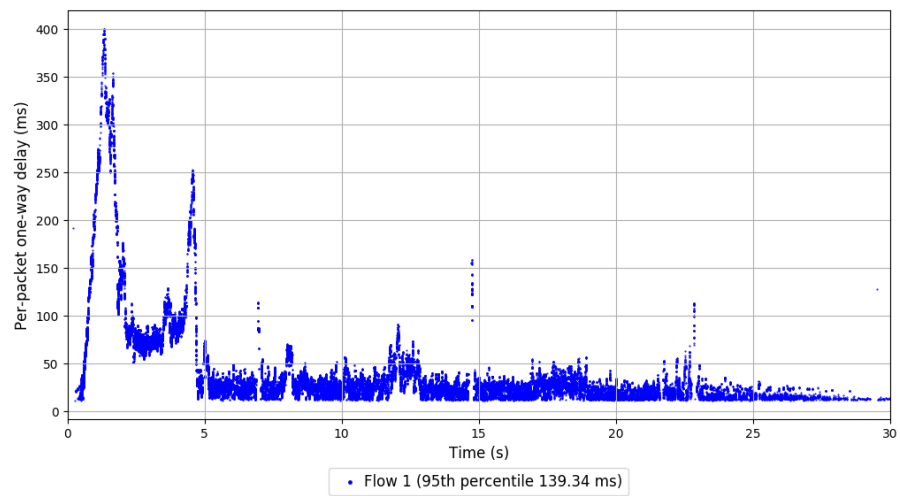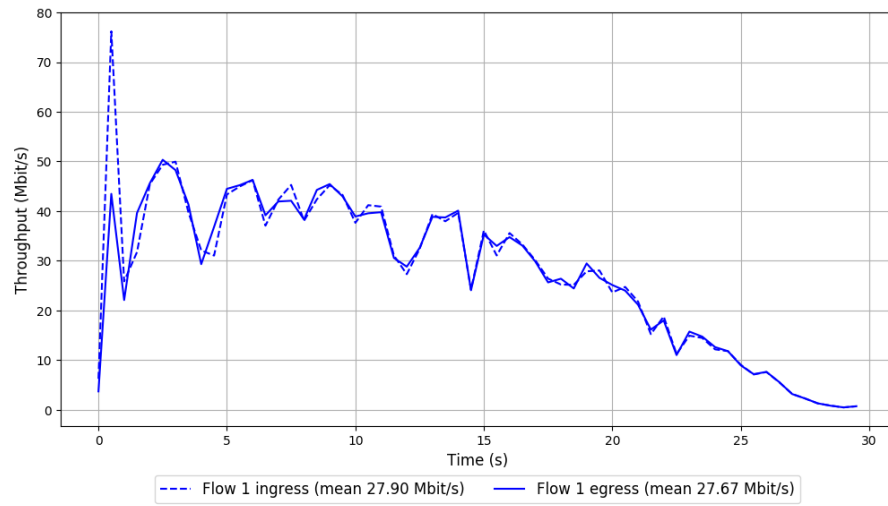
Run 3: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: Mon, 07 Aug 2017 01:51:04 +0000
End at: Mon, 07 Aug 2017 01:51:34 +0000
Local clock offset: 0.176 ms
Remote clock offset: -1.09 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:27 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 38.96 Mbit/s
95th percentile per-packet one-way delay: 187.480 ms
Loss rate: 15.27%
-- Flow 1:
Average throughput: 38.96 Mbit/s
95th percentile per-packet one-way delay: 187.480 ms
Loss rate: 15.27%
```
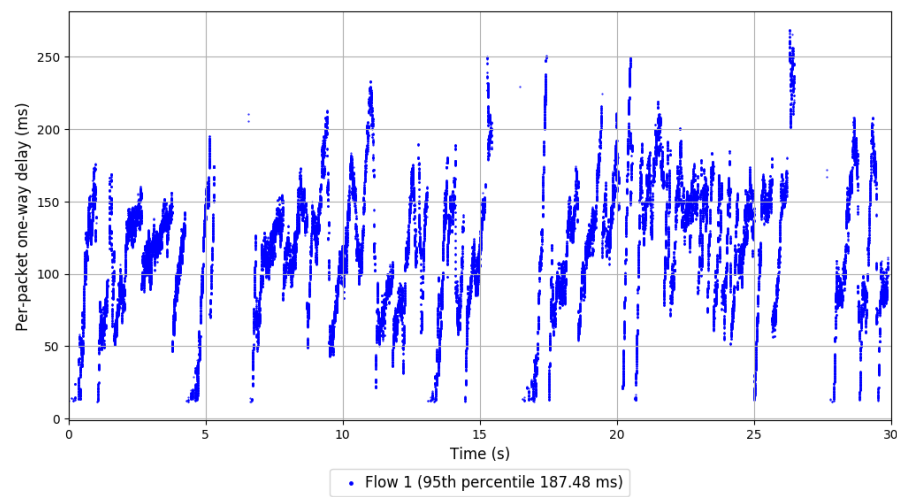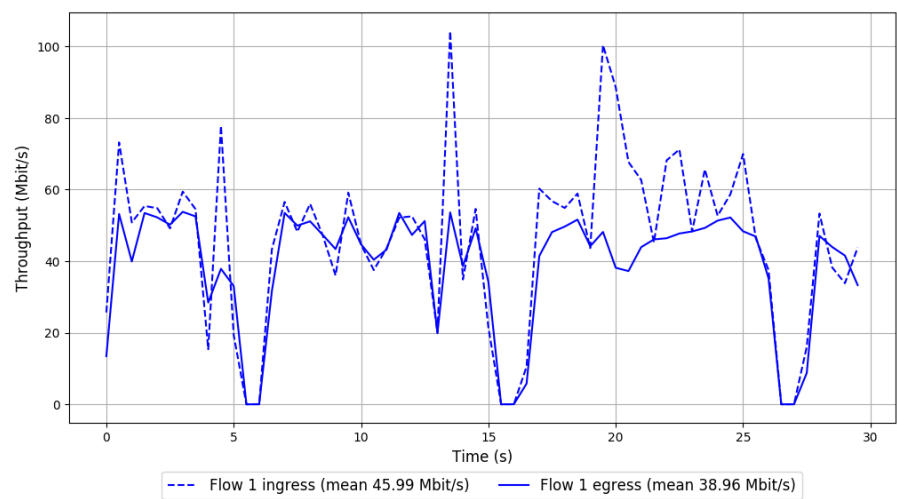
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: Mon, 07 Aug 2017 02:08:54 +0000
End at: Mon, 07 Aug 2017 02:09:24 +0000
Local clock offset: 0.246 ms
Remote clock offset: -1.029 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:28 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.46 Mbit/s
95th percentile per-packet one-way delay: 187.801 ms
Loss rate: 13.48%
-- Flow 1:
Average throughput: 33.46 Mbit/s
95th percentile per-packet one-way delay: 187.801 ms
Loss rate: 13.48%
```
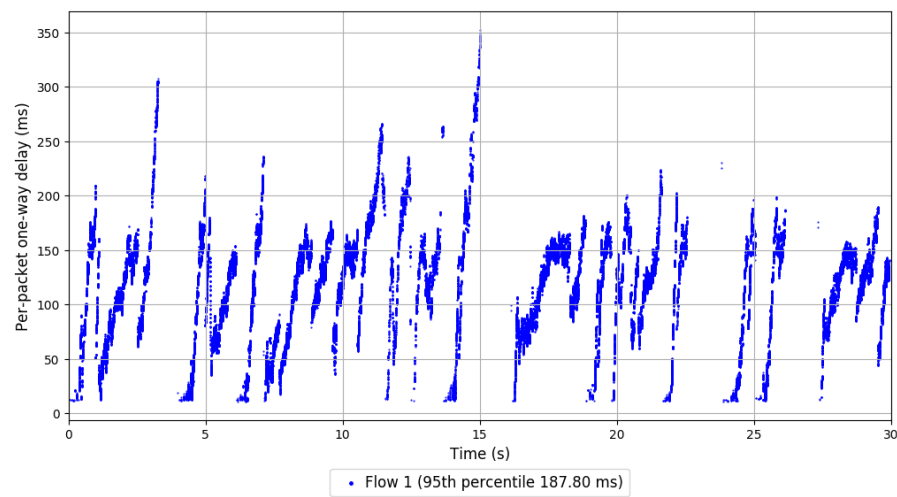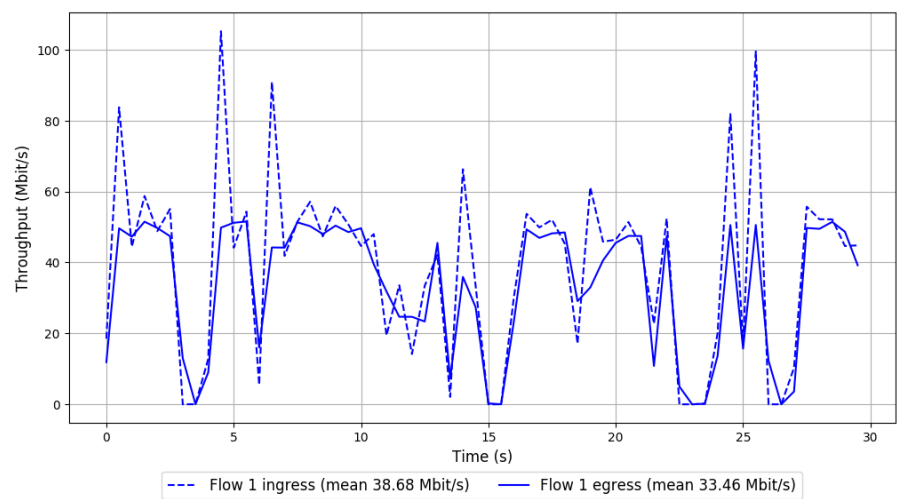
Run 2: Report of Verus — Data Link

Flow 1 ingress (mean 38.68 Mbit/s) — — — Flow 1 egress (mean 33.46 Mbit/s)

• Flow 1 (95th percentile 187.80 ms)

```
Run 3: Statistics of Verus

Start at: Mon, 07 Aug 2017 02:26:44 +0000
End at: Mon, 07 Aug 2017 02:27:14 +0000
Local clock offset: -0.013 ms
Remote clock offset: -1.391 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:32 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 29.26 Mbit/s
95th percentile per-packet one-way delay: 236.941 ms
Loss rate: 9.47%
-- Flow 1:
Average throughput: 29.26 Mbit/s
95th percentile per-packet one-way delay: 236.941 ms
Loss rate: 9.47%
```
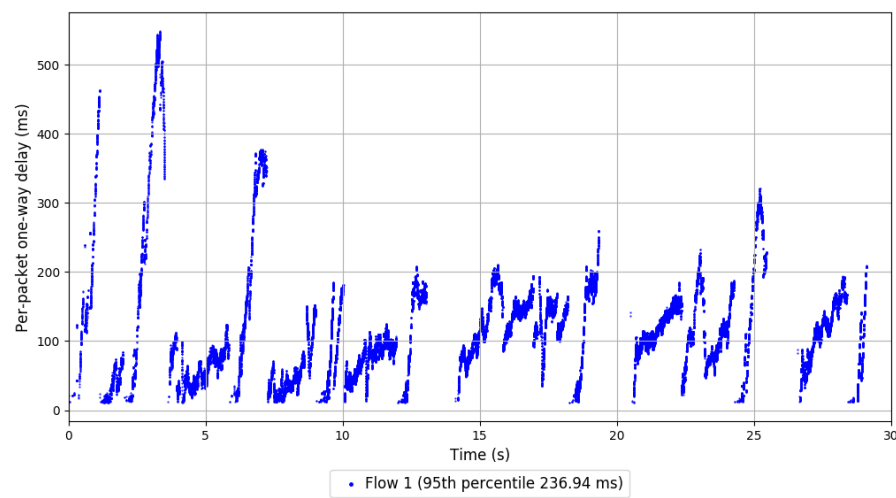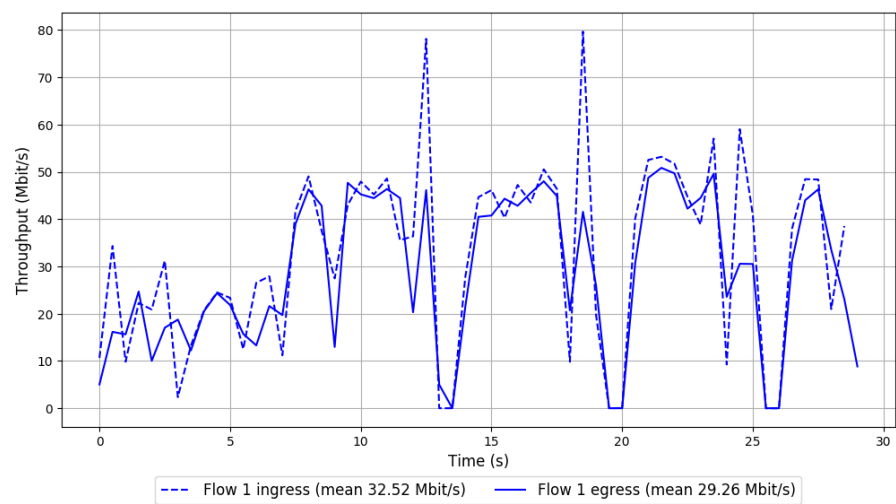
Run 3: Report of Verus — Data Link

```
Run 1: Statistics of WebRTC media

Start at: Mon, 07 Aug 2017 01:42:48 +0000
End at: Mon, 07 Aug 2017 01:43:18 +0000
Local clock offset: 0.27 ms
Remote clock offset: -1.159 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:32 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 21.180 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 21.180 ms
Loss rate: 0.00%
```
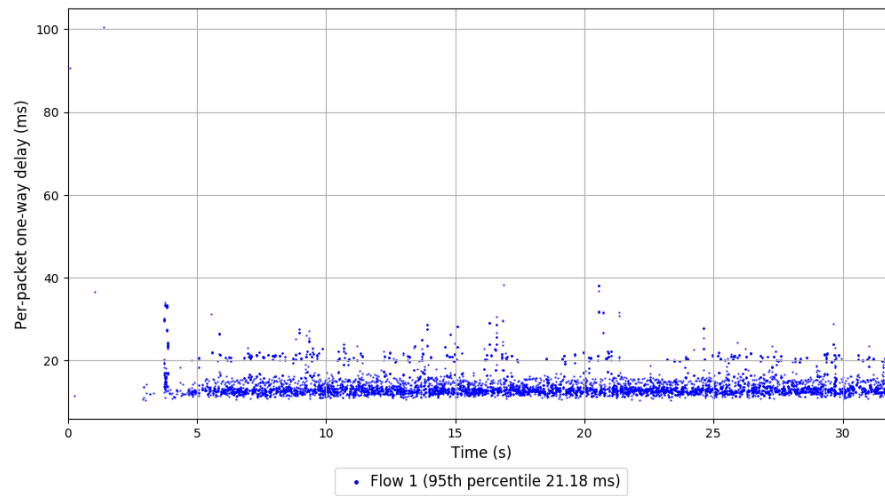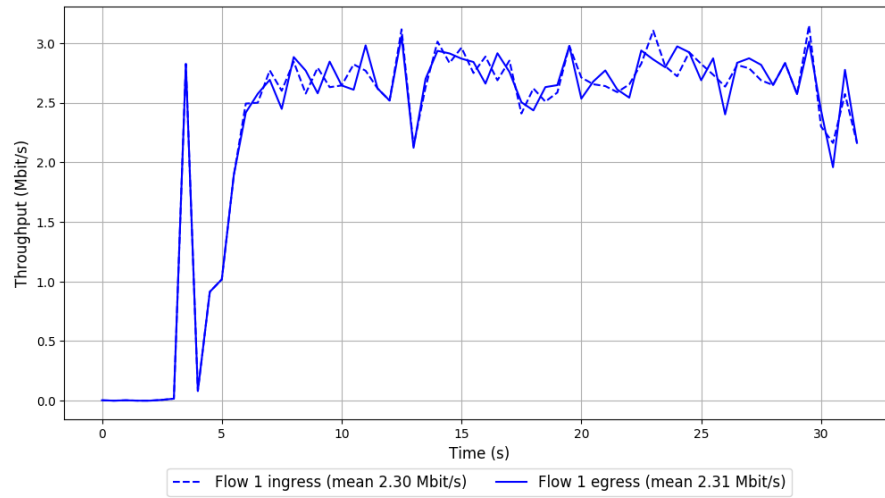
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: Mon, 07 Aug 2017 02:00:37 +0000
End at: Mon, 07 Aug 2017 02:01:07 +0000
Local clock offset: 0.177 ms
Remote clock offset: -0.838 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:32 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 21.380 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 21.380 ms
Loss rate: 0.00%
```
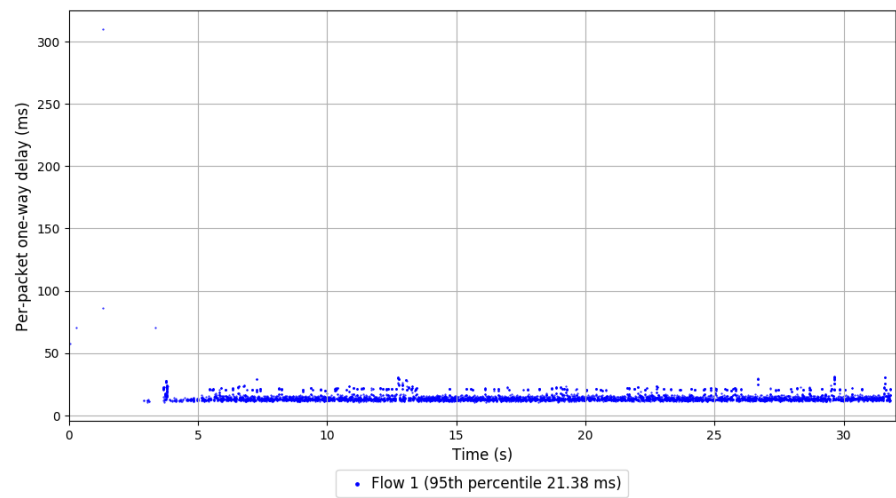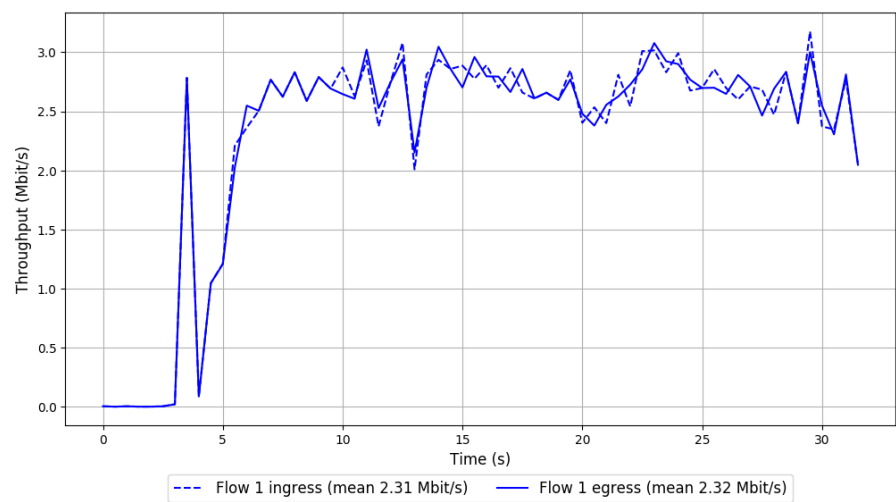
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: Mon, 07 Aug 2017 02:18:25 +0000
End at: Mon, 07 Aug 2017 02:18:55 +0000
Local clock offset: 0.031 ms
Remote clock offset: -1.261 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:30:32 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 23.259 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.32 Mbit/s
95th percentile per-packet one-way delay: 23.259 ms
Loss rate: 0.00%
```

Run 3: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.31 Mbit/s)   Flow 1 egress (mean 2.32 Mbit/s)

Flow 1 (95th percentile 23.26 ms)