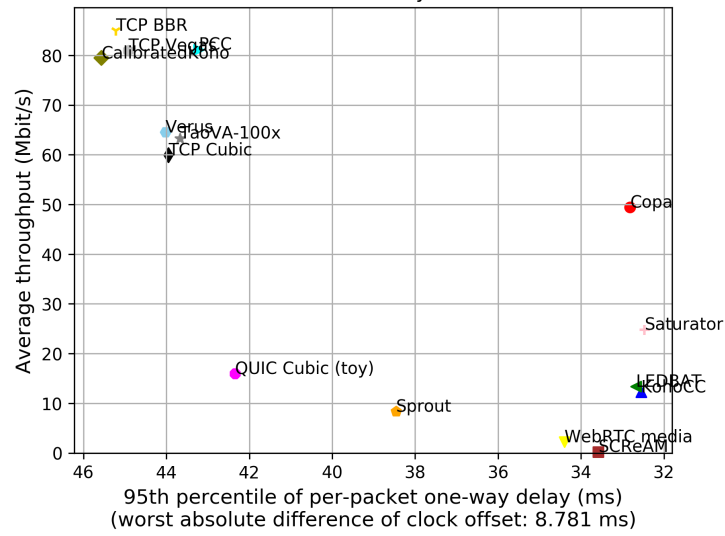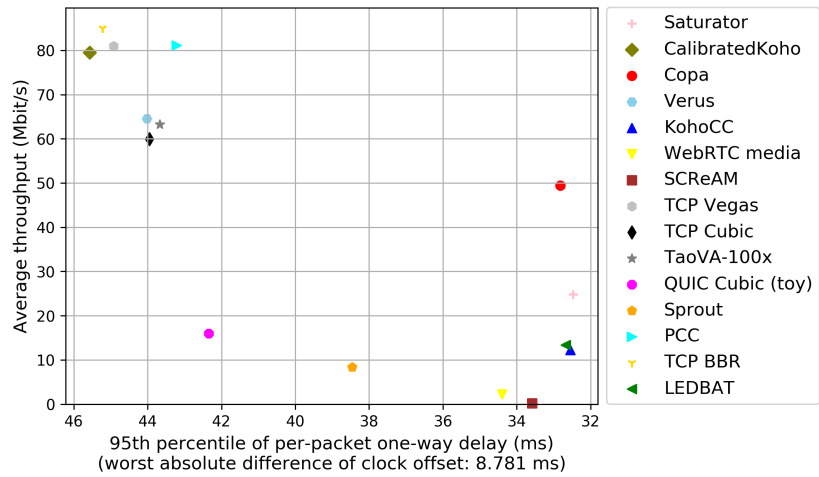**Pantheon Summary** (Generated at Sun, 11 Jun 2017 01:13:45 +0000 with pantheon version `e44e21ab50520045378f626dc5b5e21d0473d7b8`)

Repeated the test of 15 congestion control schemes once.

Each test lasted for 30 seconds running 1 flow.

Data path **from** Mexico Ethernet **to** AWS California 2 Ethernet.

NTP offset measured against time.stanford.edu.

```
git branch: master @ e44e21ab50520045378f626dc5b5e21d0473d7b8
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ dae96123232f1bcb37725348fa2378691ce26725
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-stimuli @ fc73a85ca16c34366d1888dc8a0d0d88d4ebf2a7
third_party/pantheon-tunnel @ 4893799ab83a43fa2d3236507d168f461e1243ed
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 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
```
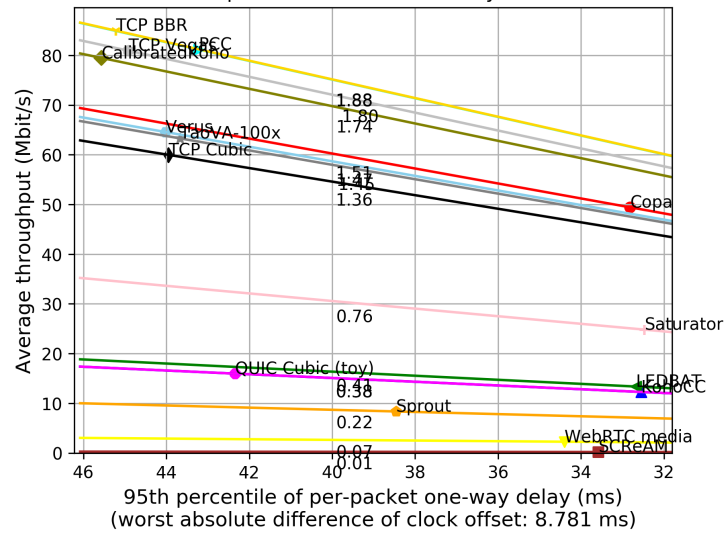
test from Mexico Ethernet to AWS California 2 Ethernet, run 1 of 30s each per scheme
mean of all runs by scheme

test from Mexico Ethernet to AWS California 2 Ethernet, run 1 of 30s each per scheme

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

```
Run 1: Statistics of TCP BBR

Start at: Sun, 11 Jun 2017 00:47:53 +0000
End at: Sun, 11 Jun 2017 00:48:23 +0000
Local clock offset: 3.255 ms
Remote clock offset: -2.675 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:12:56 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.97 Mbit/s
95th percentile per-packet one-way delay: 45.223 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 84.97 Mbit/s
95th percentile per-packet one-way delay: 45.223 ms
Loss rate: 0.63%
```
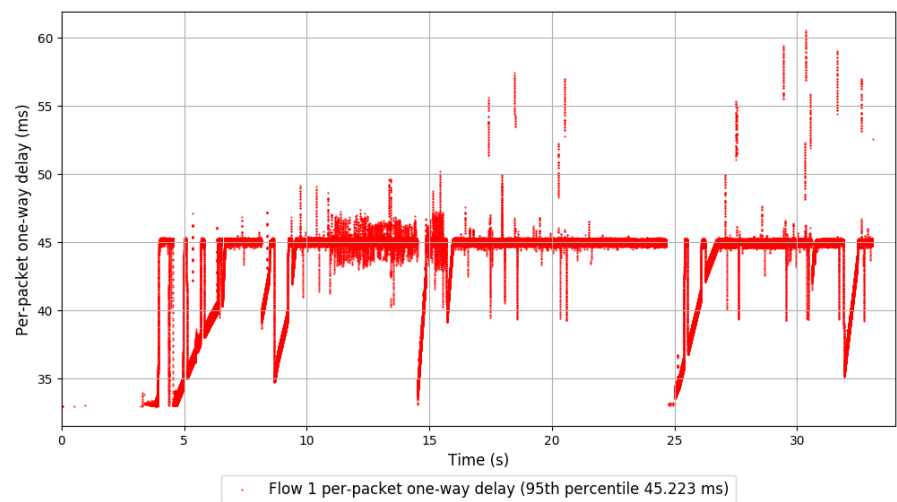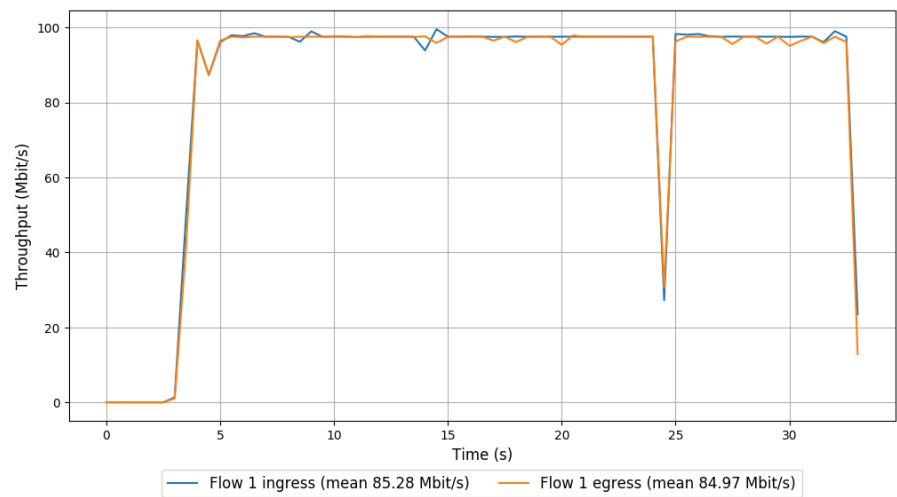
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 85.28 Mbit/s)   Flow 1 egress (mean 84.97 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 45.223 ms)

```
Run 1: Statistics of CalibratedKoho

Start at: Sun, 11 Jun 2017 00:53:42 +0000
End at: Sun, 11 Jun 2017 00:54:12 +0000
Local clock offset: 3.559 ms
Remote clock offset: -4.765 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:12:57 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.48 Mbit/s
95th percentile per-packet one-way delay: 45.567 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 79.48 Mbit/s
95th percentile per-packet one-way delay: 45.567 ms
Loss rate: 0.78%
```
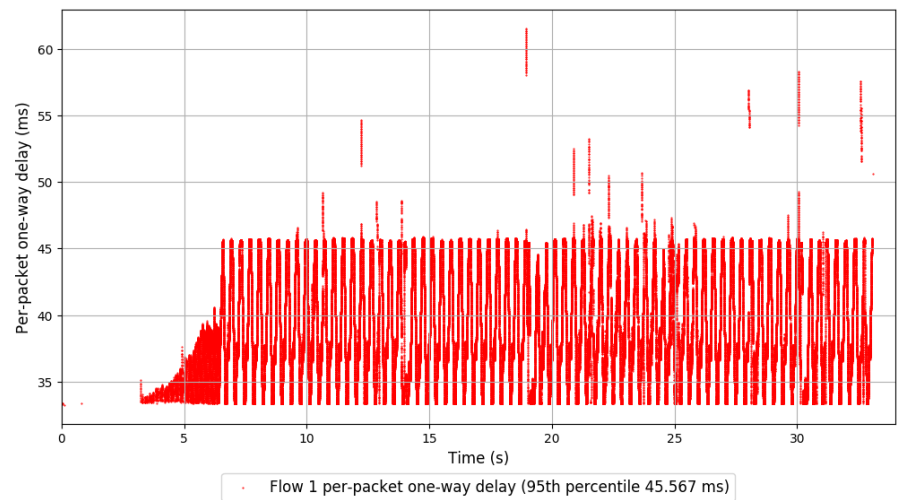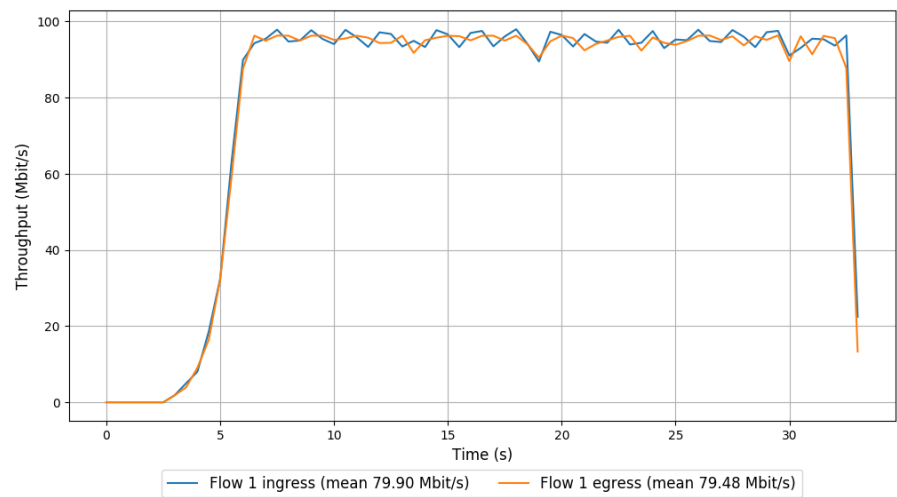
Run 1: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 79.90 Mbit/s) —— Flow 1 egress (mean 79.48 Mbit/s)

· Flow 1 per-packet one-way delay (95th percentile 45.567 ms)

```
Run 1: Statistics of Copa

Start at: Sun, 11 Jun 2017 00:58:00 +0000
End at: Sun, 11 Jun 2017 00:58:30 +0000
Local clock offset: 3.725 ms
Remote clock offset: -5.056 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:10 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.42 Mbit/s
95th percentile per-packet one-way delay: 32.820 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 49.42 Mbit/s
95th percentile per-packet one-way delay: 32.820 ms
Loss rate: 0.51%
```
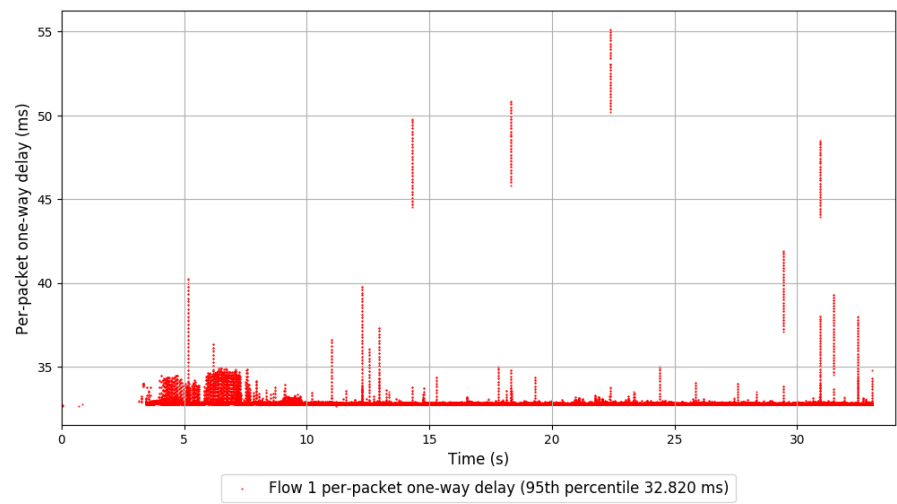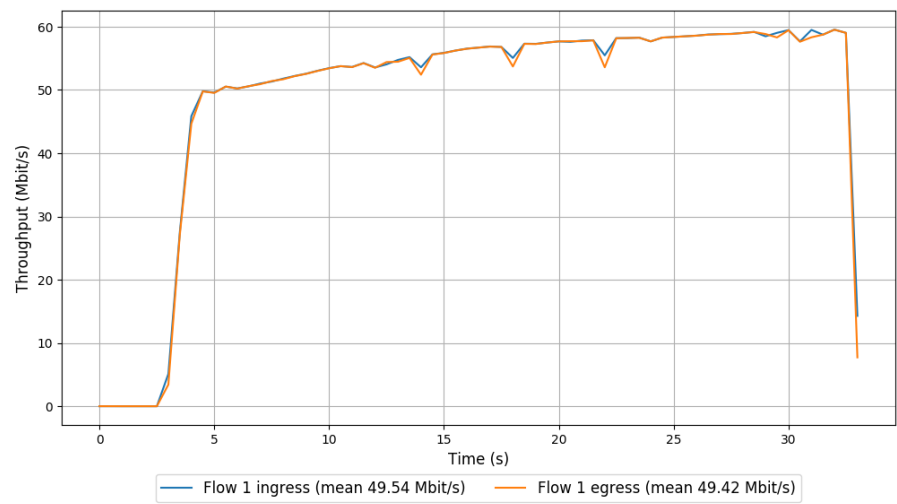
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 49.54 Mbit/s)   Flow 1 egress (mean 49.42 Mbit/s)

· Flow 1 per-packet one-way delay (95th percentile 32.820 ms)

```
Run 1: Statistics of TCP Cubic

Start at: Sun, 11 Jun 2017 00:55:11 +0000
End at: Sun, 11 Jun 2017 00:55:41 +0000
Local clock offset: 3.64 ms
Remote clock offset: -5.019 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:10 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.98 Mbit/s
95th percentile per-packet one-way delay: 43.954 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 59.98 Mbit/s
95th percentile per-packet one-way delay: 43.954 ms
Loss rate: 0.31%
```
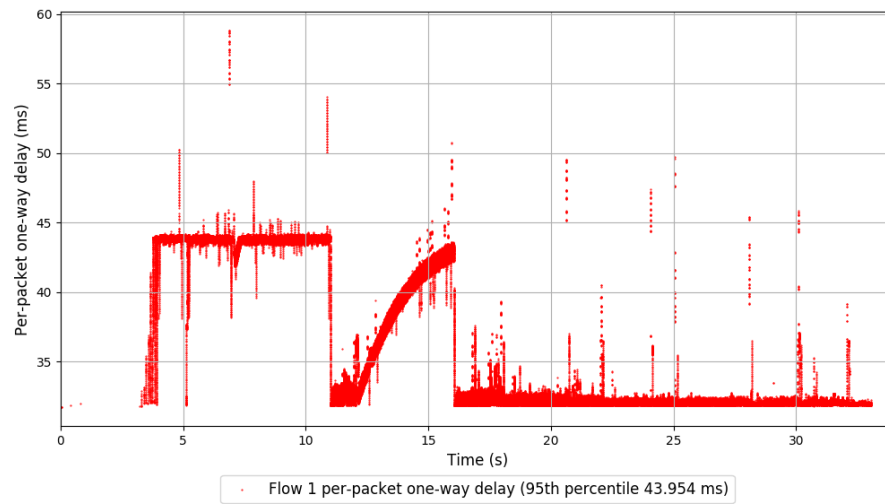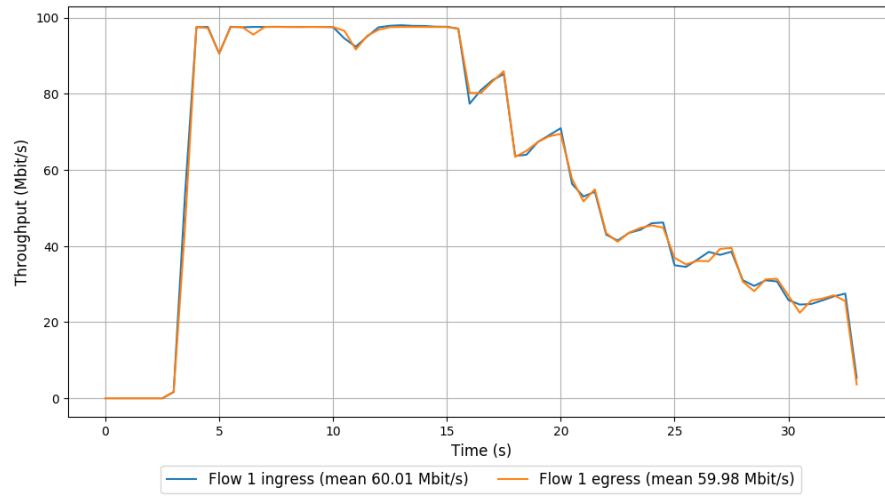
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 60.01 Mbit/s) ——— Flow 1 egress (mean 59.98 Mbit/s)

· Flow 1 per-packet one-way delay (95th percentile 43.954 ms)

```
Run 1: Statistics of KohoCC

Start at: Sun, 11 Jun 2017 01:06:32 +0000
End at: Sun, 11 Jun 2017 01:07:02 +0000
Local clock offset: 3.576 ms
Remote clock offset: -2.478 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:10 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.27 Mbit/s
95th percentile per-packet one-way delay: 32.550 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 12.27 Mbit/s
95th percentile per-packet one-way delay: 32.550 ms
Loss rate: 0.49%
```
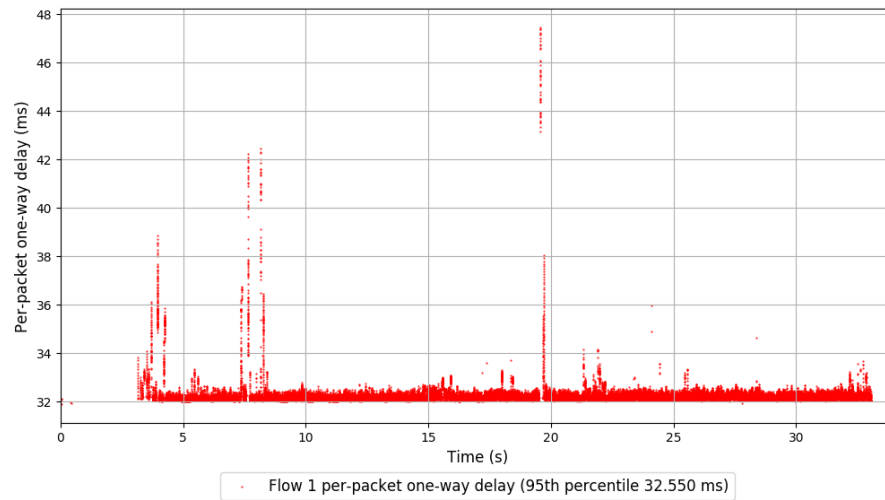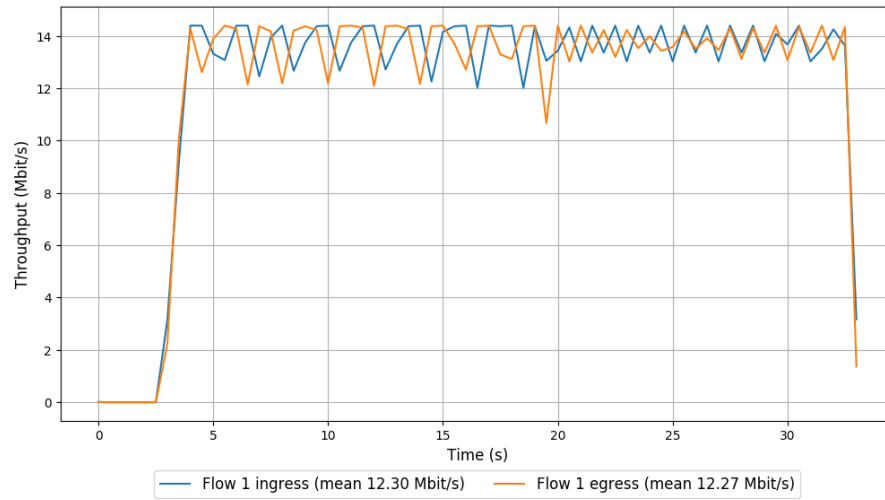
Run 1: Report of KohoCC — Data Link

Flow 1 ingress (mean 12.30 Mbit/s)   Flow 1 egress (mean 12.27 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 32.550 ms)

```
Run 1: Statistics of LEDBAT

Start at: Sun, 11 Jun 2017 00:50:50 +0000
End at: Sun, 11 Jun 2017 00:51:20 +0000
Local clock offset: 3.379 ms
Remote clock offset: -4.691 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:11 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.36 Mbit/s
95th percentile per-packet one-way delay: 32.676 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 13.36 Mbit/s
95th percentile per-packet one-way delay: 32.676 ms
Loss rate: 0.69%
```
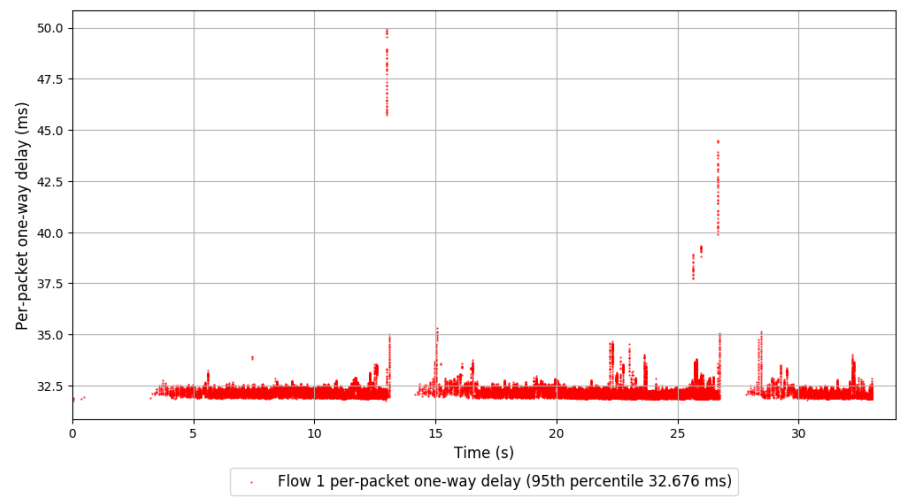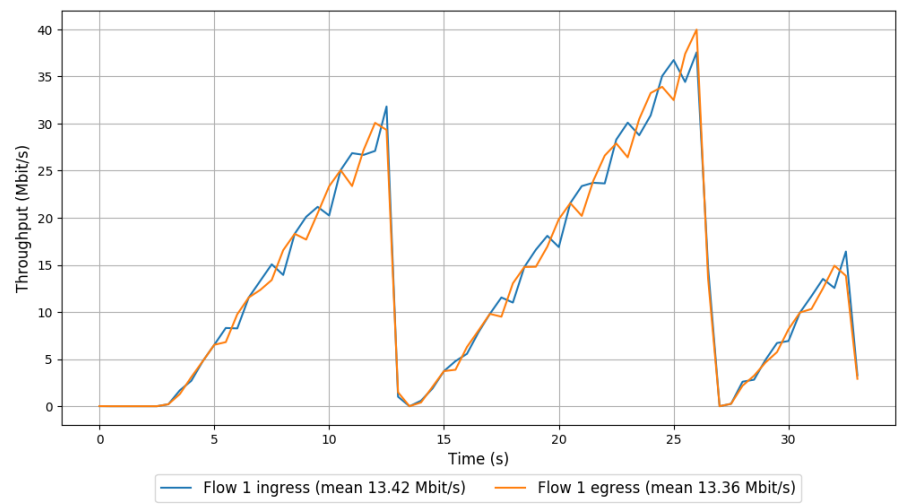
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 13.42 Mbit/s) ——— Flow 1 egress (mean 13.36 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 32.676 ms)

```
Run 1: Statistics of PCC

Start at: Sun, 11 Jun 2017 01:00:50 +0000
End at: Sun, 11 Jun 2017 01:01:20 +0000
Local clock offset: 3.679 ms
Remote clock offset: -4.954 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:24 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.16 Mbit/s
95th percentile per-packet one-way delay: 43.220 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 81.16 Mbit/s
95th percentile per-packet one-way delay: 43.220 ms
Loss rate: 0.53%
```
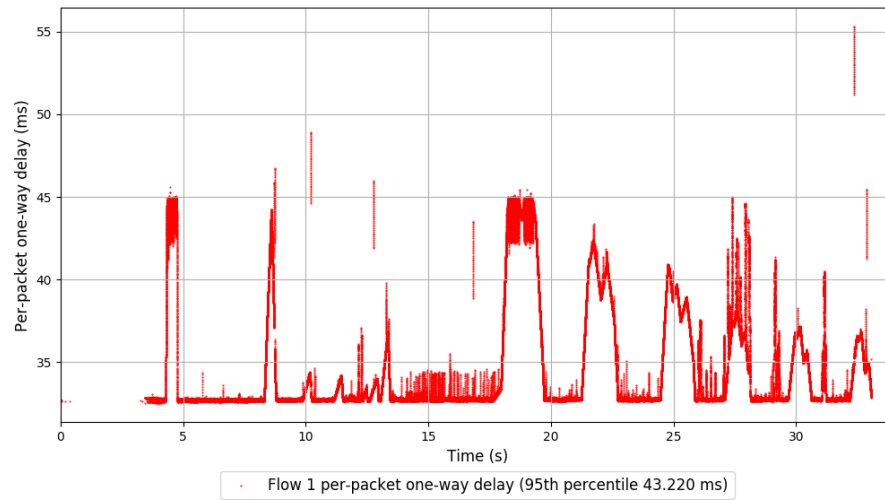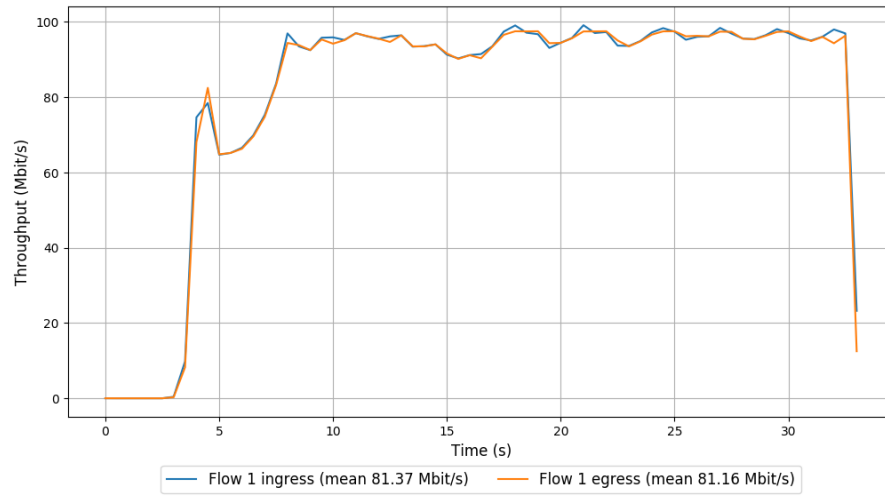
Run 1: Report of PCC — Data Link

Flow 1 ingress (mean 81.37 Mbit/s) ——— Flow 1 egress (mean 81.16 Mbit/s)

. Flow 1 per-packet one-way delay (95th percentile 43.220 ms)

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

Start at: Sun, 11 Jun 2017 01:05:08 +0000
End at: Sun, 11 Jun 2017 01:05:39 +0000
Local clock offset: 3.623 ms
Remote clock offset: -2.434 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:24 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 15.97 Mbit/s
95th percentile per-packet one-way delay: 42.345 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 15.97 Mbit/s
95th percentile per-packet one-way delay: 42.345 ms
Loss rate: 0.23%
```
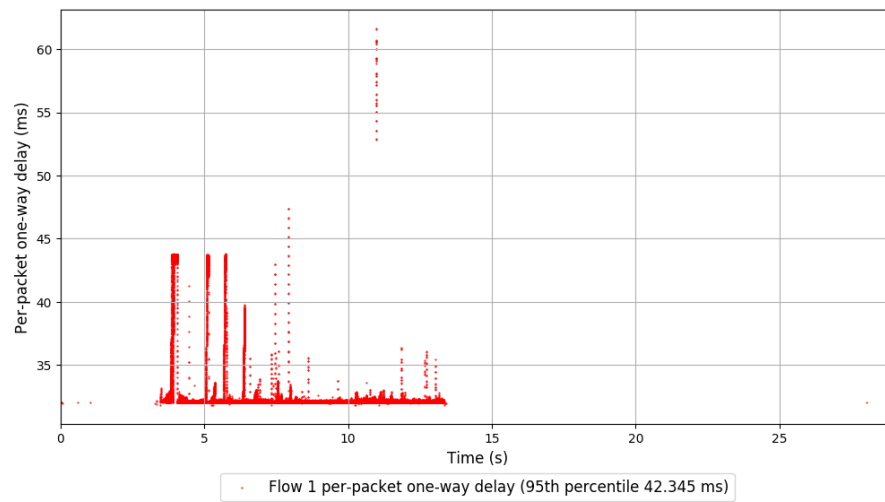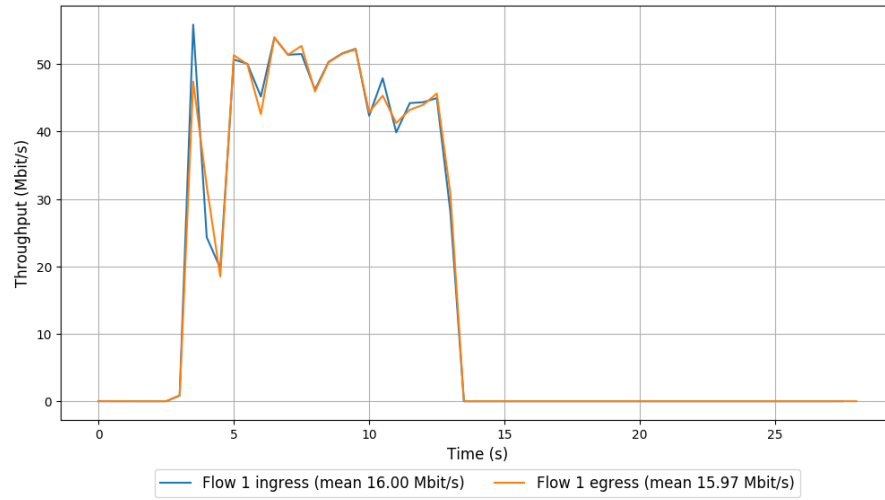
Run 1: Report of QUIC Cubic (toy) — Data Link

Flow 1 ingress (mean 16.00 Mbit/s)   Flow 1 egress (mean 15.97 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 42.345 ms)

```
Run 1: Statistics of Saturator

Start at: Sun, 11 Jun 2017 01:03:44 +0000
End at: Sun, 11 Jun 2017 01:04:14 +0000
Local clock offset: 3.674 ms
Remote clock offset: -4.598 ms

# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:24 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.81 Mbit/s
95th percentile per-packet one-way delay: 32.469 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 24.81 Mbit/s
95th percentile per-packet one-way delay: 32.469 ms
Loss rate: 0.30%
```
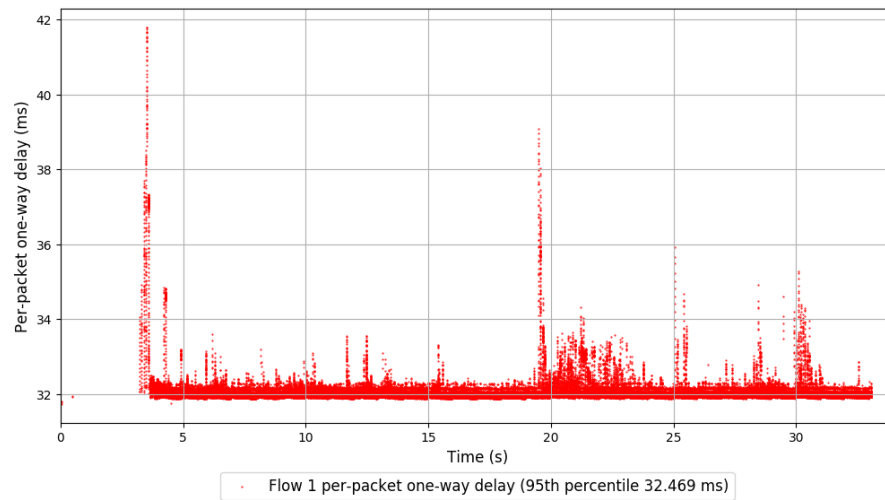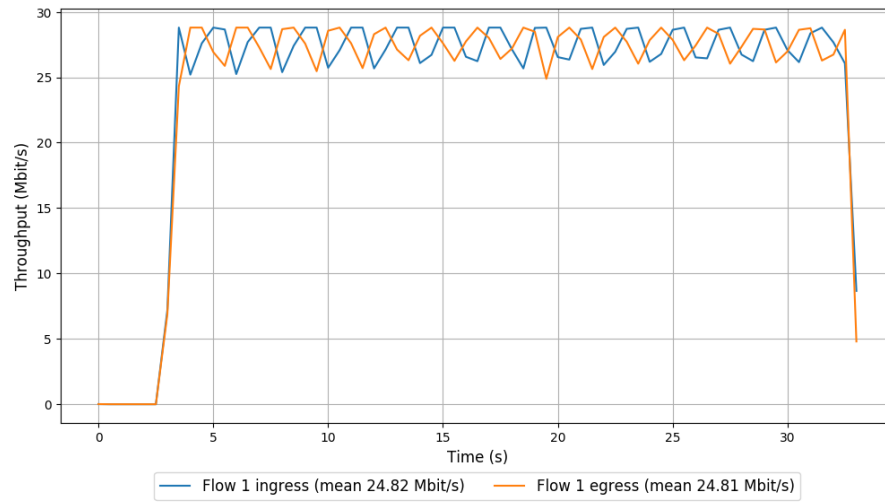
Run 1: Report of Saturator — Data Link

Flow 1 ingress (mean 24.82 Mbit/s) —— Flow 1 egress (mean 24.81 Mbit/s)

· Flow 1 per-packet one-way delay (95th percentile 32.469 ms)

```
Run 1: Statistics of SCReAM

Start at: Sun, 11 Jun 2017 00:59:28 +0000
End at: Sun, 11 Jun 2017 00:59:58 +0000
Local clock offset: 3.673 ms
Remote clock offset: -2.614 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:24 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 33.587 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 33.587 ms
Loss rate: 0.26%
```
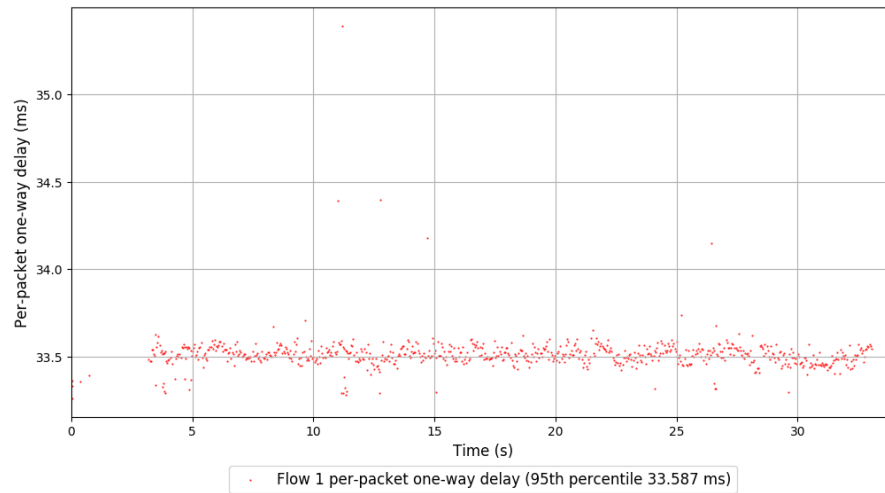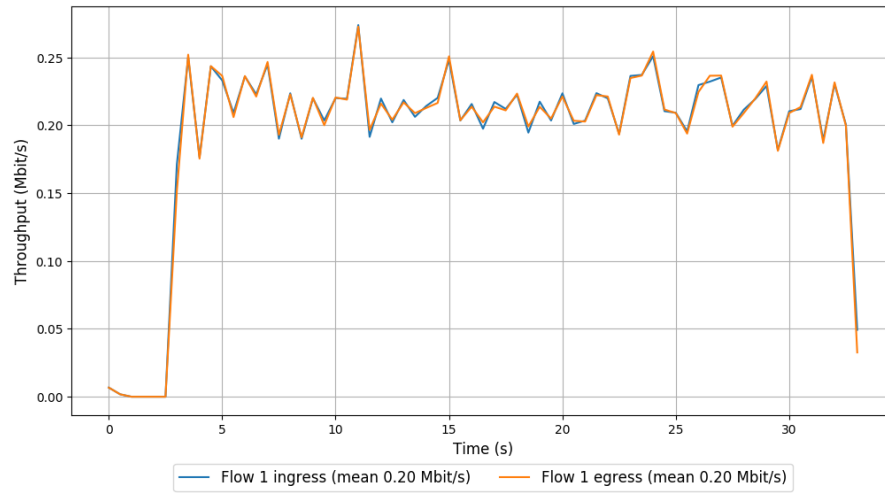
Run 1: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.20 Mbit/s) ——— Flow 1 egress (mean 0.20 Mbit/s)

· Flow 1 per-packet one-way delay (95th percentile 33.587 ms)

```
Run 1: Statistics of Sprout

Start at: Sun, 11 Jun 2017 00:56:37 +0000
End at: Sun, 11 Jun 2017 00:57:07 +0000
Local clock offset: 3.596 ms
Remote clock offset: -2.933 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:24 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.35 Mbit/s
95th percentile per-packet one-way delay: 38.463 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 8.35 Mbit/s
95th percentile per-packet one-way delay: 38.463 ms
Loss rate: 0.39%
```
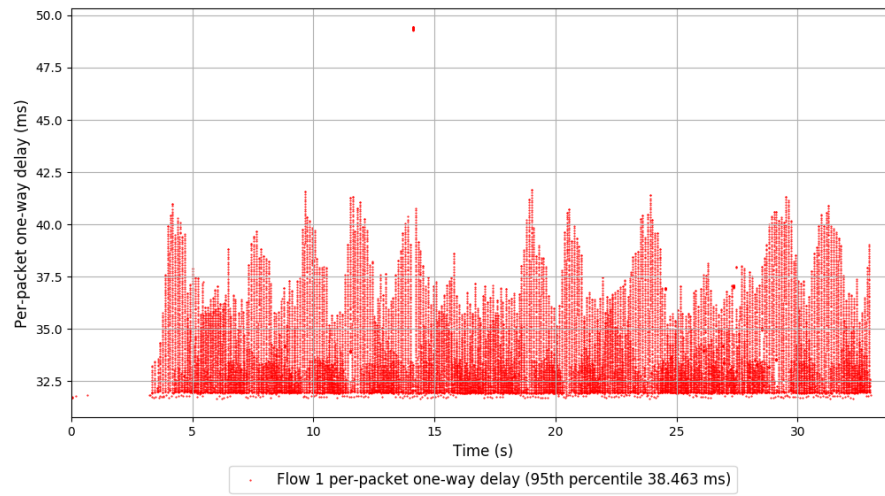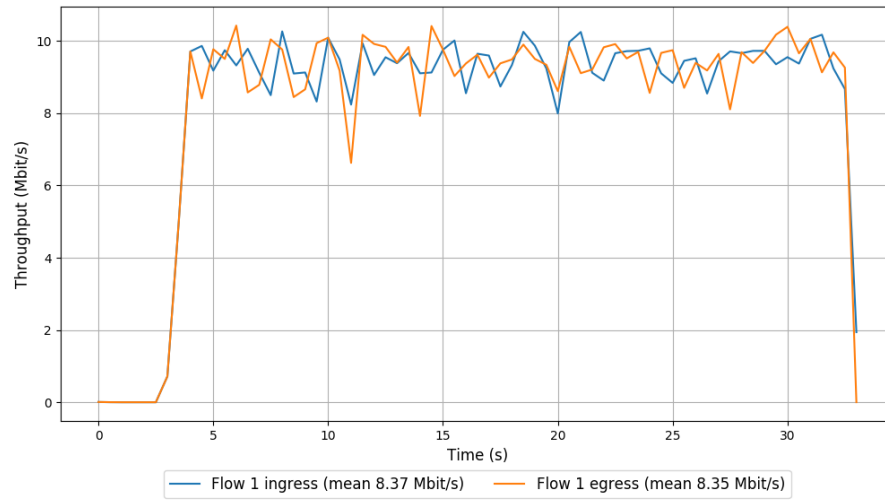
Run 1: Report of Sprout — Data Link

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

Start at: Sun, 11 Jun 2017 00:52:13 +0000
End at: Sun, 11 Jun 2017 00:52:43 +0000
Local clock offset: 3.51 ms
Remote clock offset: -2.59 ms

# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:38 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.29 Mbit/s
95th percentile per-packet one-way delay: 43.676 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 63.29 Mbit/s
95th percentile per-packet one-way delay: 43.676 ms
Loss rate: 0.77%
```
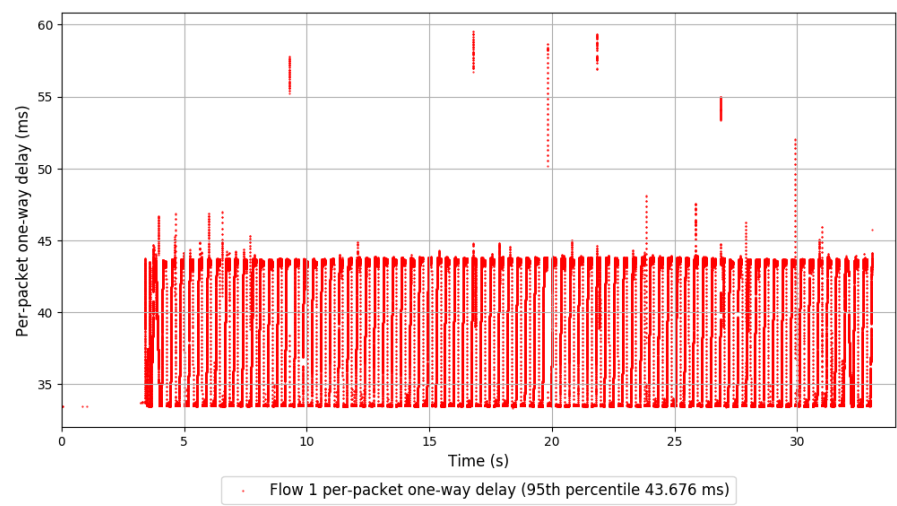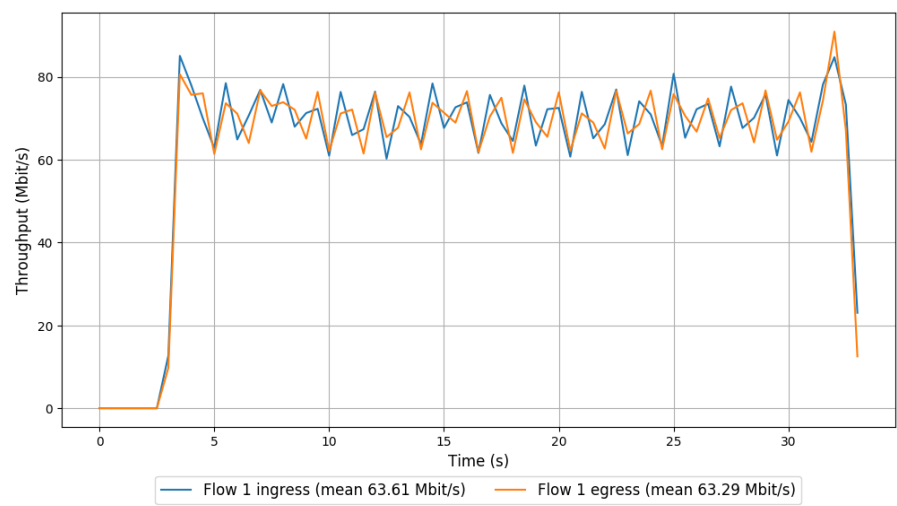
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 63.61 Mbit/s) —— Flow 1 egress (mean 63.29 Mbit/s)

. Flow 1 per-packet one-way delay (95th percentile 43.676 ms)

```
Run 1: Statistics of TCP Vegas

Start at: Sun, 11 Jun 2017 01:02:16 +0000
End at: Sun, 11 Jun 2017 01:02:46 +0000
Local clock offset: 3.649 ms
Remote clock offset: -2.483 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:38 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.93 Mbit/s
95th percentile per-packet one-way delay: 44.922 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 80.93 Mbit/s
95th percentile per-packet one-way delay: 44.922 ms
Loss rate: 0.26%
```
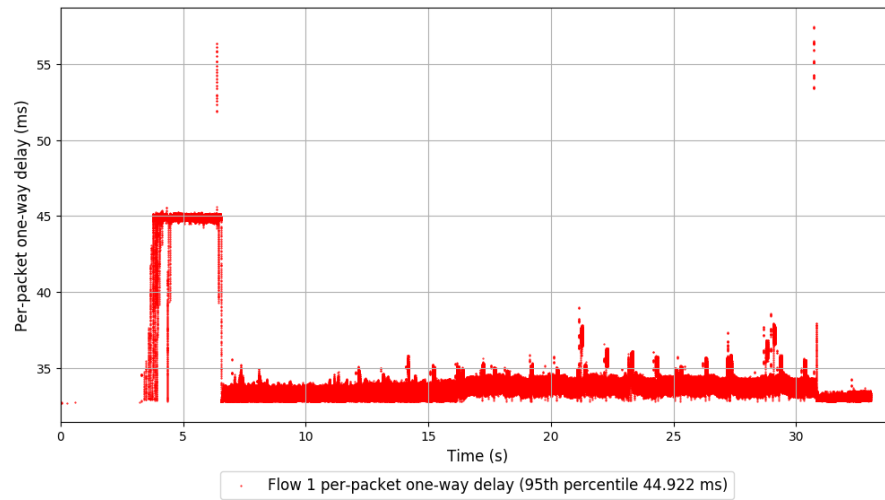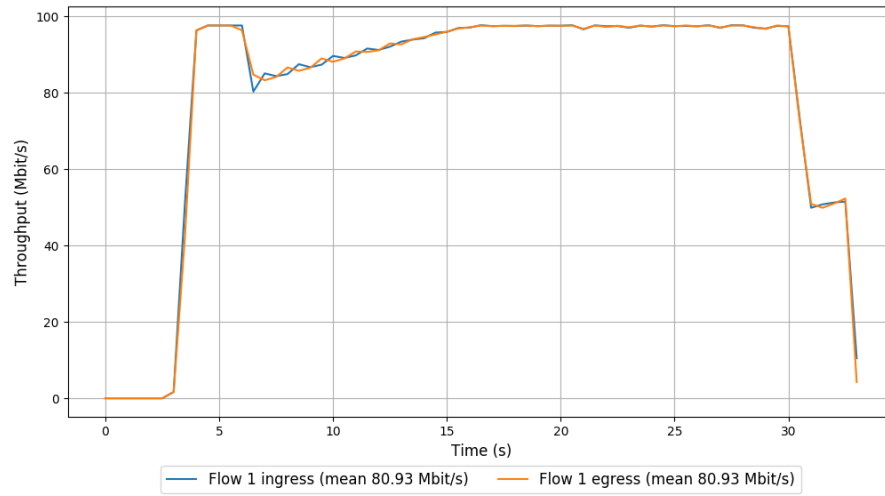
Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 80.93 Mbit/s) —— Flow 1 egress (mean 80.93 Mbit/s)

· Flow 1 per-packet one-way delay (95th percentile 44.922 ms)

```
Run 1: Statistics of Verus

Start at: Sun, 11 Jun 2017 00:49:22 +0000
End at: Sun, 11 Jun 2017 00:49:52 +0000
Local clock offset: 3.324 ms
Remote clock offset: -2.763 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:42 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.57 Mbit/s
95th percentile per-packet one-way delay: 44.020 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 64.57 Mbit/s
95th percentile per-packet one-way delay: 44.020 ms
Loss rate: 0.80%
```
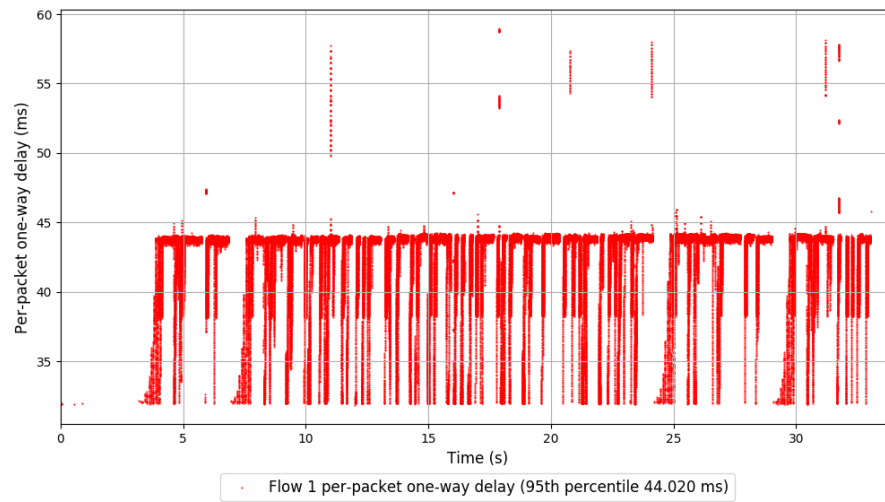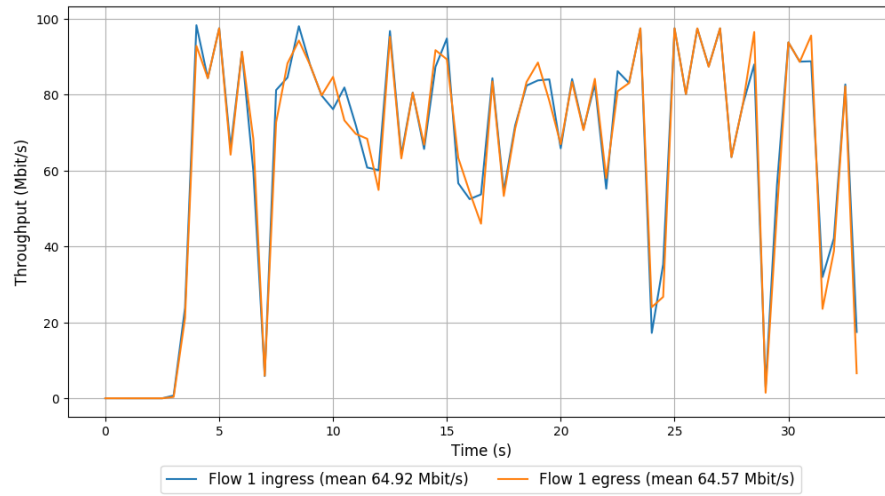
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 64.92 Mbit/s) ——— Flow 1 egress (mean 64.57 Mbit/s)

. Flow 1 per-packet one-way delay (95th percentile 44.020 ms)

```
Run 1: Statistics of WebRTC media

Start at: Sun, 11 Jun 2017 00:46:31 +0000
End at: Sun, 11 Jun 2017 00:47:01 +0000
Local clock offset: 3.244 ms
Remote clock offset: -3.174 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:13:42 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 34.396 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 34.396 ms
Loss rate: 0.30%
```

Run 1: Report of WebRTC media — Data Link