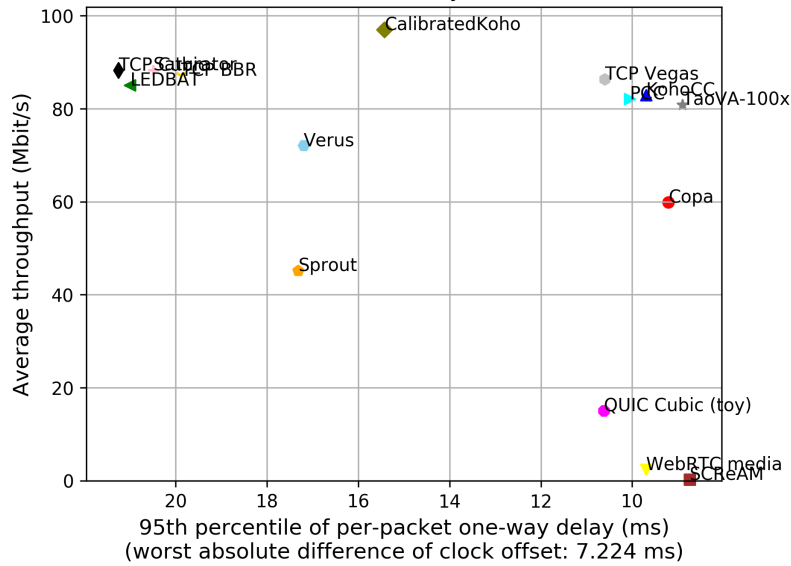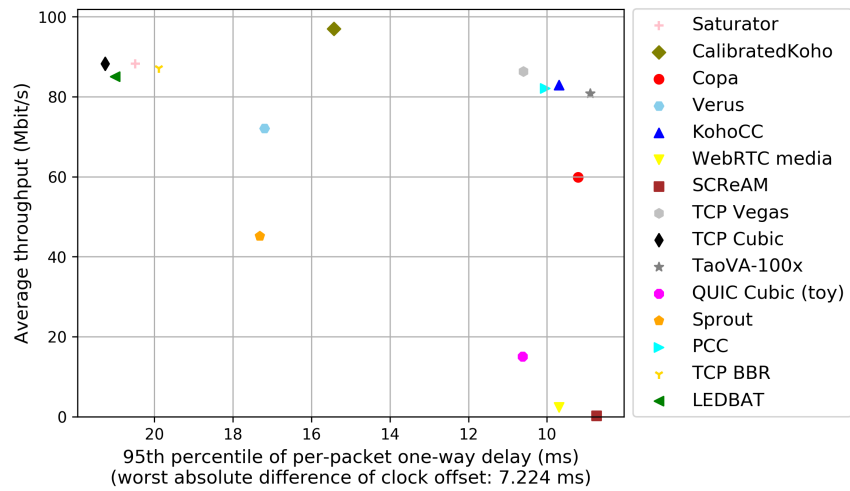**Pantheon Summary** (Generated at Sun, 11 Jun 2017 01:09:45 +0000 with pantheon version `e44e21ab50520045378f626dc5b5e21d0473d7b8`)

Repeated the test of 15 congestion control schemes once.

Each test lasted for 30 seconds running 1 flow.

Data path **from** Brazil Ethernet **to** AWS Brazil 1 Ethernet.

NTP offset measured against gps.ntp.br.

```
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
```
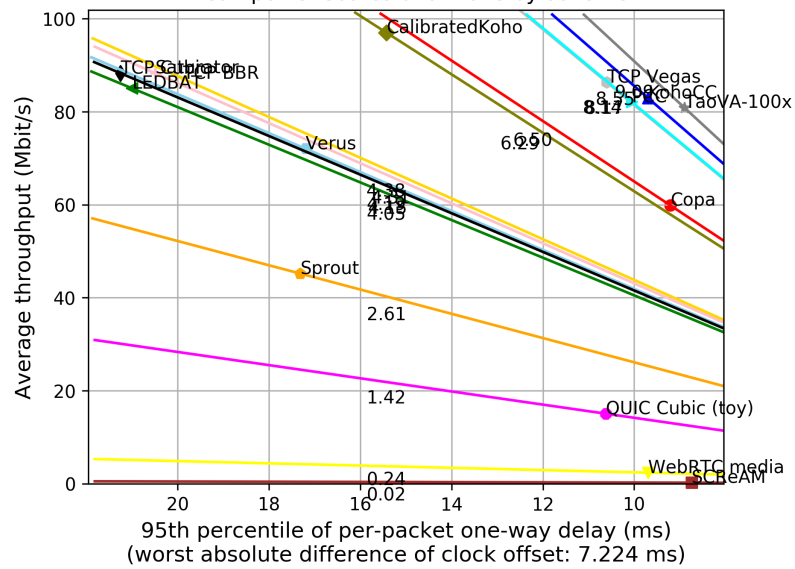
test from Brazil Ethernet to AWS Brazil 1 Ethernet, run 1 of 30s each per scheme
mean of all runs by scheme

test from Brazil Ethernet to AWS Brazil 1 Ethernet, run 1 of 30s each per scheme

test from Brazil Ethernet to AWS Brazil 1 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 00:49:01 +0000
End at: Sun, 11 Jun 2017 00:49:31 +0000
Local clock offset: -6.898 ms
Remote clock offset: 0.096 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:08:32 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.15 Mbit/s
95th percentile per-packet one-way delay: 19.892 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 87.15 Mbit/s
95th percentile per-packet one-way delay: 19.892 ms
Loss rate: 0.12%
```
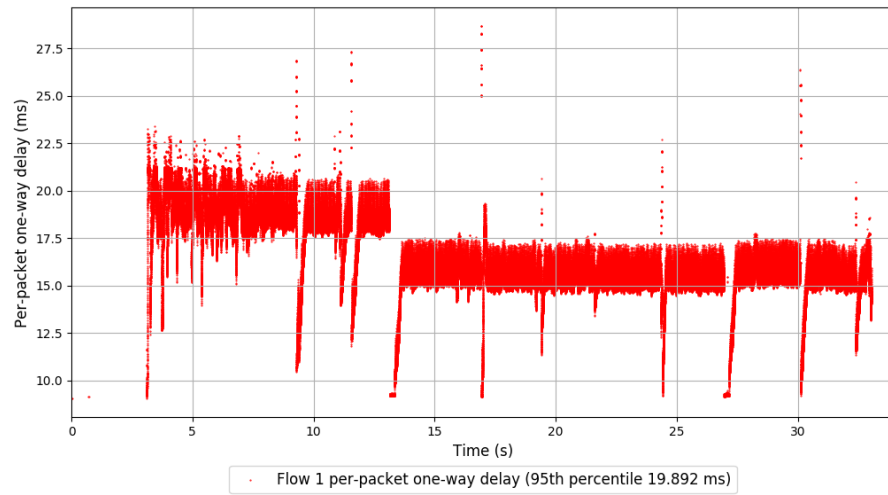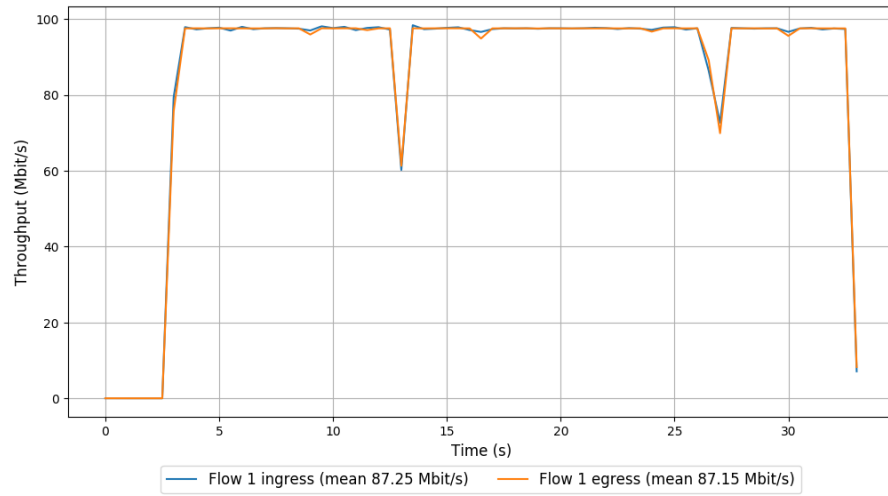
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 87.25 Mbit/s)   Flow 1 egress (mean 87.15 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 19.892 ms)

```
Run 1: Statistics of CalibratedKoho

Start at: Sun, 11 Jun 2017 00:51:29 +0000
End at: Sun, 11 Jun 2017 00:51:59 +0000
Local clock offset: -6.944 ms
Remote clock offset: 0.199 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:08:32 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 97.01 Mbit/s
95th percentile per-packet one-way delay: 15.427 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 97.01 Mbit/s
95th percentile per-packet one-way delay: 15.427 ms
Loss rate: 0.09%
```
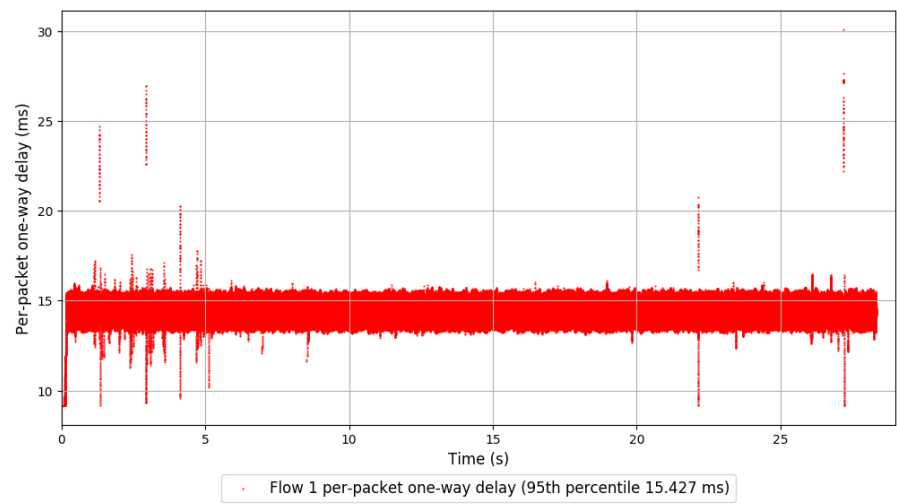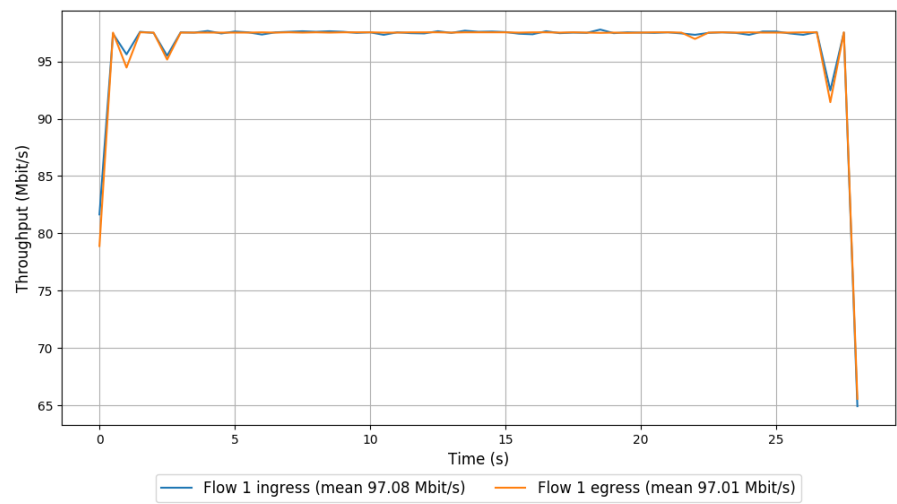
Run 1: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 97.08 Mbit/s) — Flow 1 egress (mean 97.01 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 15.427 ms)

```
Run 1: Statistics of Copa

Start at: Sun, 11 Jun 2017 00:50:15 +0000
End at: Sun, 11 Jun 2017 00:50:45 +0000
Local clock offset: -6.886 ms
Remote clock offset: 0.215 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:08:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.84 Mbit/s
95th percentile per-packet one-way delay: 9.206 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 59.84 Mbit/s
95th percentile per-packet one-way delay: 9.206 ms
Loss rate: 0.01%
```
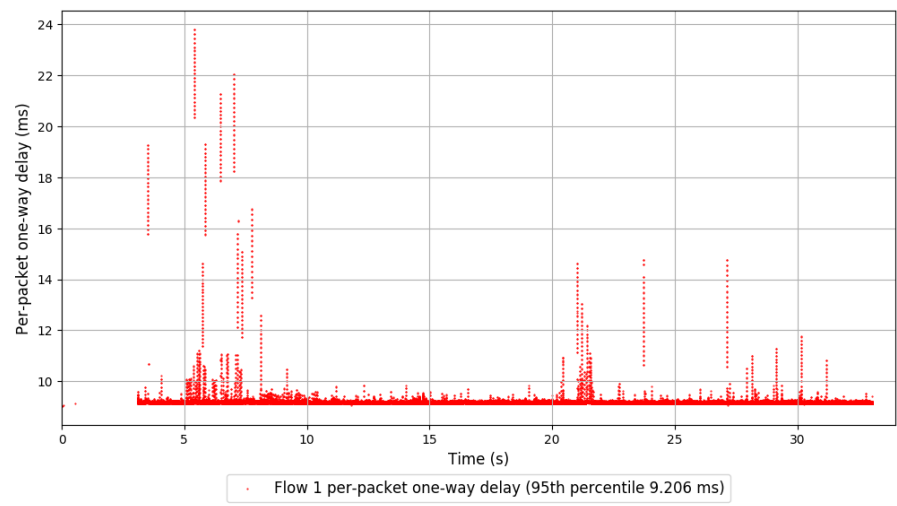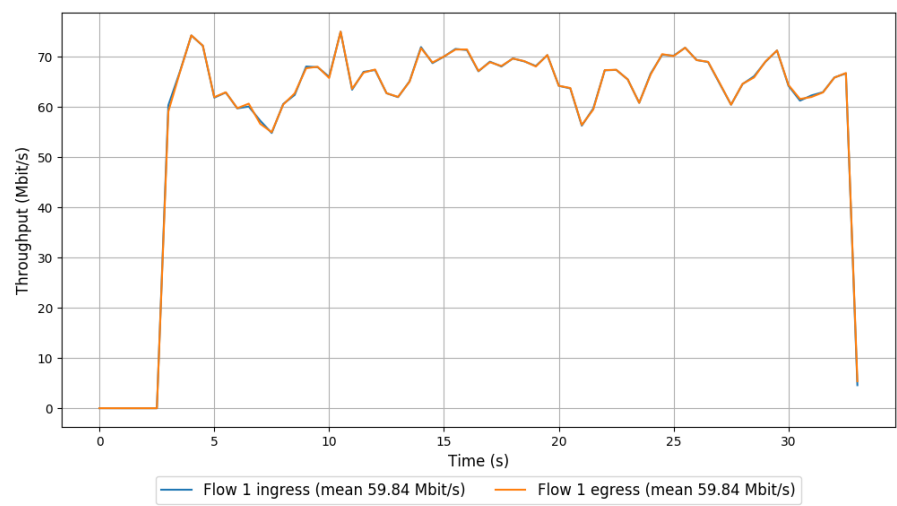
Run 1: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: Sun, 11 Jun 2017 00:45:27 +0000
End at: Sun, 11 Jun 2017 00:45:57 +0000
Local clock offset: -7.007 ms
Remote clock offset: 0.148 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:08:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.29 Mbit/s
95th percentile per-packet one-way delay: 21.255 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 88.29 Mbit/s
95th percentile per-packet one-way delay: 21.255 ms
Loss rate: 0.12%
```
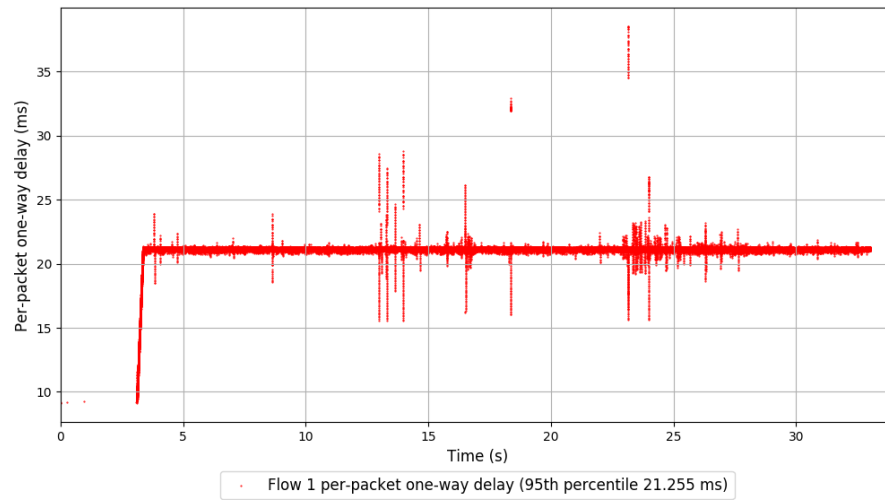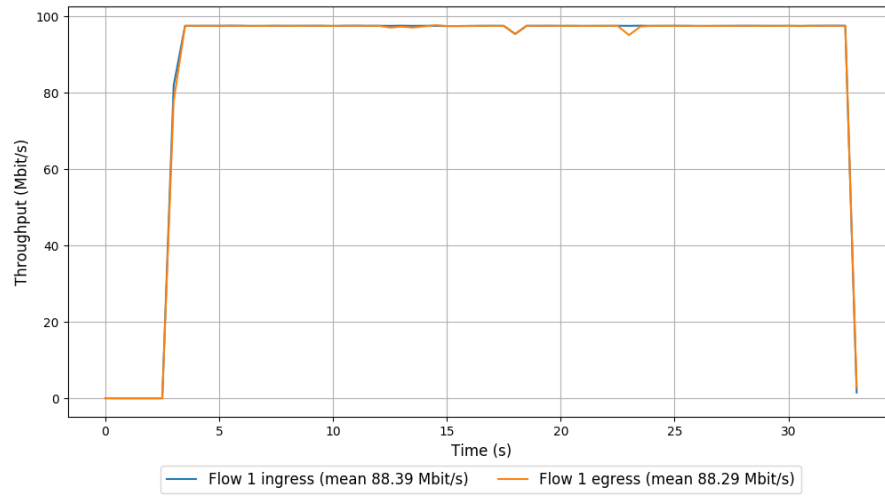
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 88.39 Mbit/s)   Flow 1 egress (mean 88.29 Mbit/s)

·   Flow 1 per-packet one-way delay (95th percentile 21.255 ms)

```
Run 1: Statistics of KohoCC

Start at: Sun, 11 Jun 2017 00:44:13 +0000
End at: Sun, 11 Jun 2017 00:44:43 +0000
Local clock offset: -7.096 ms
Remote clock offset: 0.128 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:08:55 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.94 Mbit/s
95th percentile per-packet one-way delay: 9.695 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 82.94 Mbit/s
95th percentile per-packet one-way delay: 9.695 ms
Loss rate: 0.01%
```
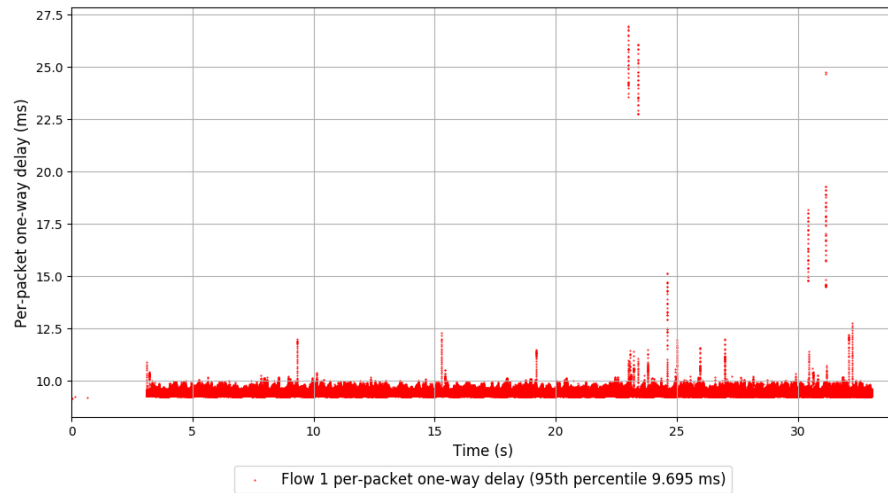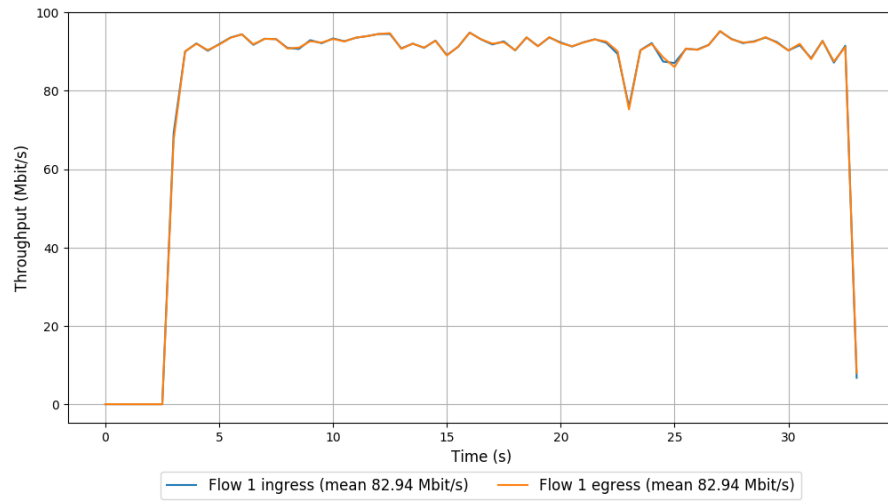
Run 1: Report of KohoCC — Data Link

Flow 1 ingress (mean 82.94 Mbit/s)   Flow 1 egress (mean 82.94 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 9.695 ms)

```
Run 1: Statistics of LEDBAT

Start at: Sun, 11 Jun 2017 00:42:59 +0000
End at: Sun, 11 Jun 2017 00:43:29 +0000
Local clock offset: -7.051 ms
Remote clock offset: 0.055 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:09:01 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 85.04 Mbit/s
95th percentile per-packet one-way delay: 20.999 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 85.04 Mbit/s
95th percentile per-packet one-way delay: 20.999 ms
Loss rate: 0.09%
```
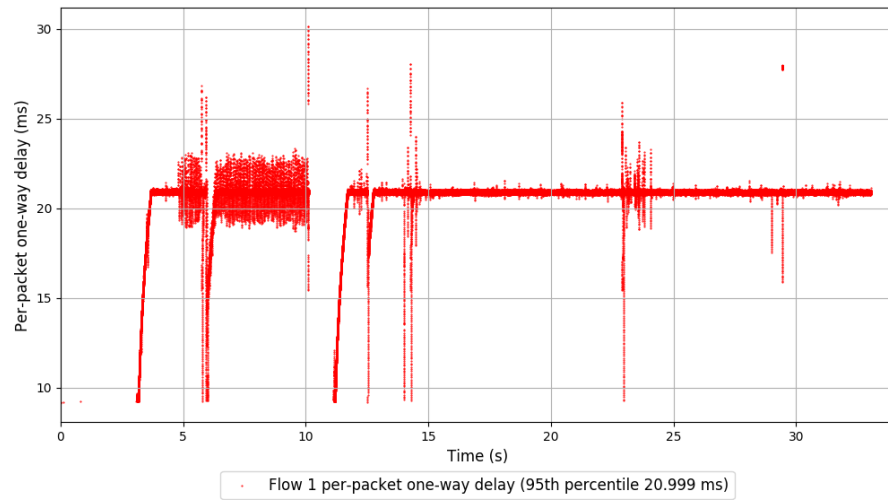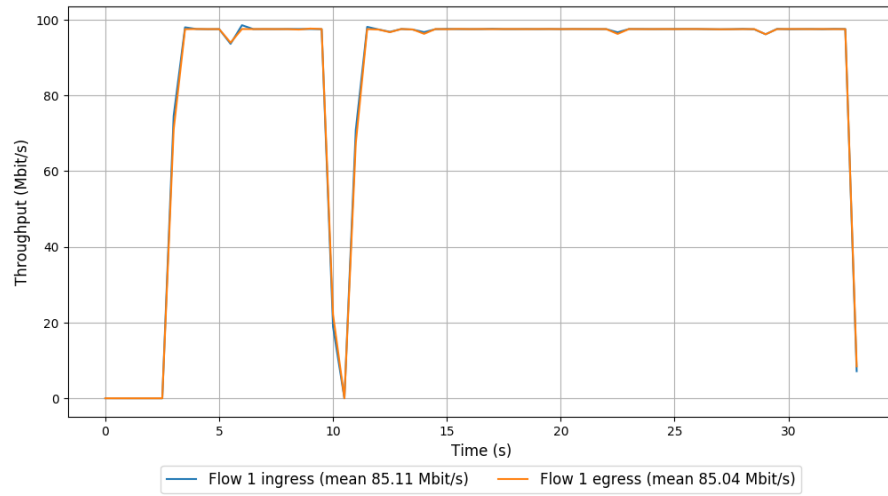
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 85.11 Mbit/s) — Flow 1 egress (mean 85.04 Mbit/s)

. Flow 1 per-packet one-way delay (95th percentile 20.999 ms)

```
Run 1: Statistics of PCC

Start at: Sun, 11 Jun 2017 00:59:52 +0000
End at: Sun, 11 Jun 2017 01:00:22 +0000
Local clock offset: -5.951 ms
Remote clock offset: 0.184 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:09:09 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.10 Mbit/s
95th percentile per-packet one-way delay: 10.053 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 82.10 Mbit/s
95th percentile per-packet one-way delay: 10.053 ms
Loss rate: 0.16%
```
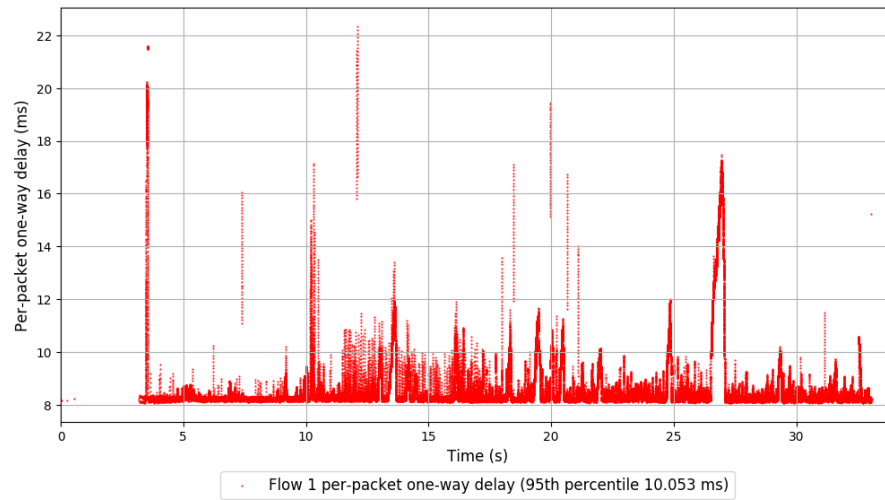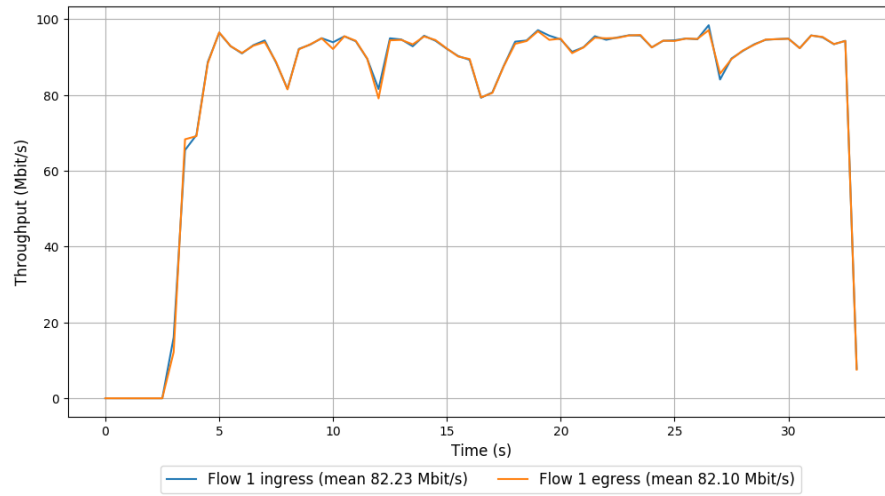
Run 1: Report of PCC — Data Link

Flow 1 ingress (mean 82.23 Mbit/s)   Flow 1 egress (mean 82.10 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 10.053 ms)

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

Start at: Sun, 11 Jun 2017 00:53:56 +0000
End at: Sun, 11 Jun 2017 00:54:26 +0000
Local clock offset: -6.75 ms
Remote clock offset: 0.213 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:09:09 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 15.03 Mbit/s
95th percentile per-packet one-way delay: 10.617 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 15.03 Mbit/s
95th percentile per-packet one-way delay: 10.617 ms
Loss rate: 0.02%
```
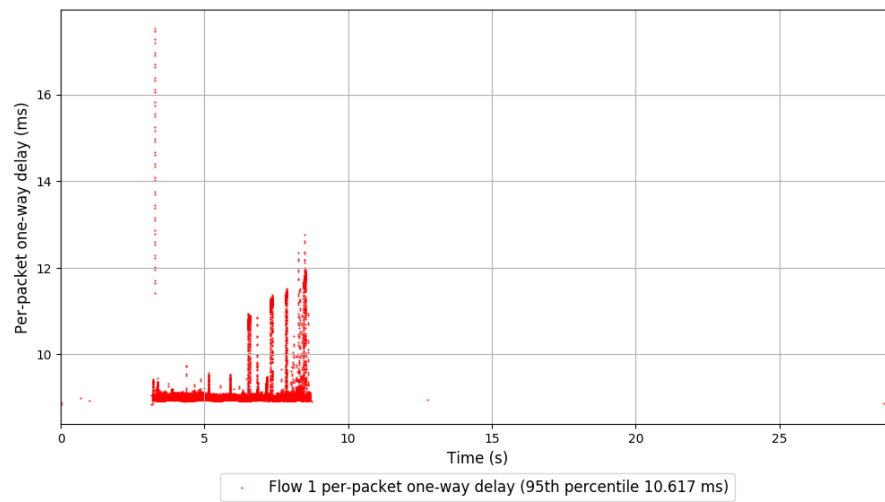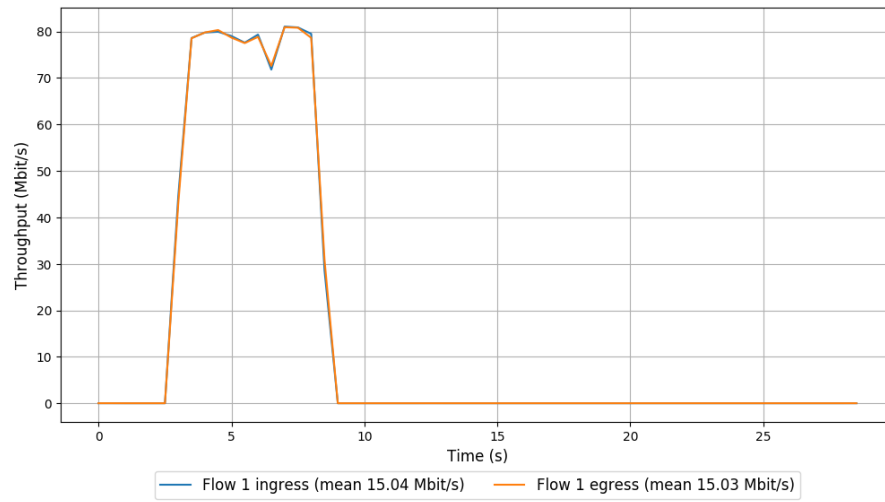
Run 1: Report of QUIC Cubic (toy) — Data Link

Flow 1 ingress (mean 15.04 Mbit/s)   Flow 1 egress (mean 15.03 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 10.617 ms)

```
Run 1: Statistics of Saturator

Start at: Sun, 11 Jun 2017 00:57:28 +0000
End at: Sun, 11 Jun 2017 00:57:58 +0000
Local clock offset: -6.214 ms
Remote clock offset: 0.268 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:09:20 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.28 Mbit/s
95th percentile per-packet one-way delay: 20.493 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 88.28 Mbit/s
95th percentile per-packet one-way delay: 20.493 ms
Loss rate: 0.20%
```
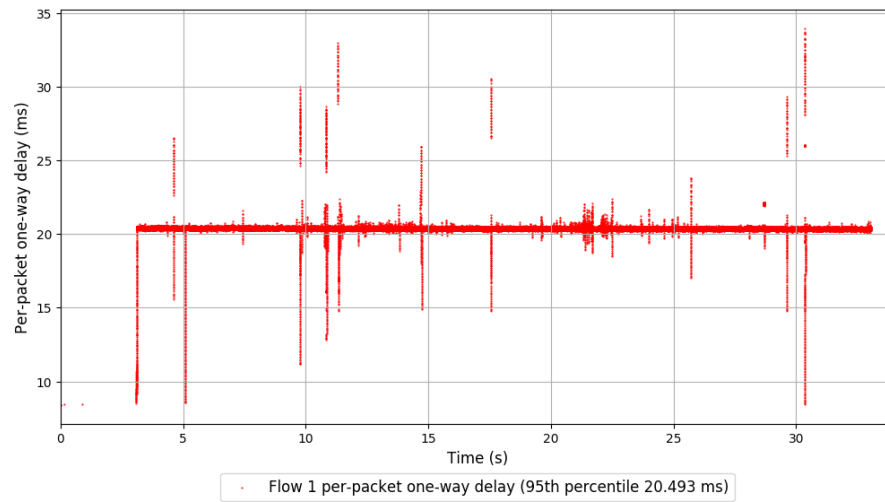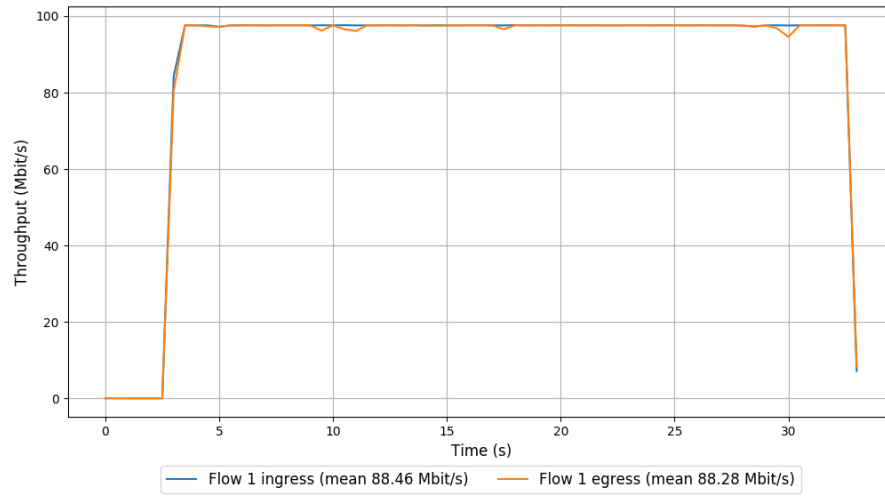
Run 1: Report of Saturator — Data Link

Flow 1 ingress (mean 88.46 Mbit/s)   Flow 1 egress (mean 88.28 Mbit/s)

·   Flow 1 per-packet one-way delay (95th percentile 20.493 ms)

```
Run 1: Statistics of SCReAM

Start at: Sun, 11 Jun 2017 00:56:21 +0000
End at: Sun, 11 Jun 2017 00:56:51 +0000
Local clock offset: -6.446 ms
Remote clock offset: 0.223 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:09:20 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 8.745 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.20 Mbit/s
95th percentile per-packet one-way delay: 8.745 ms
Loss rate: 0.00%
```
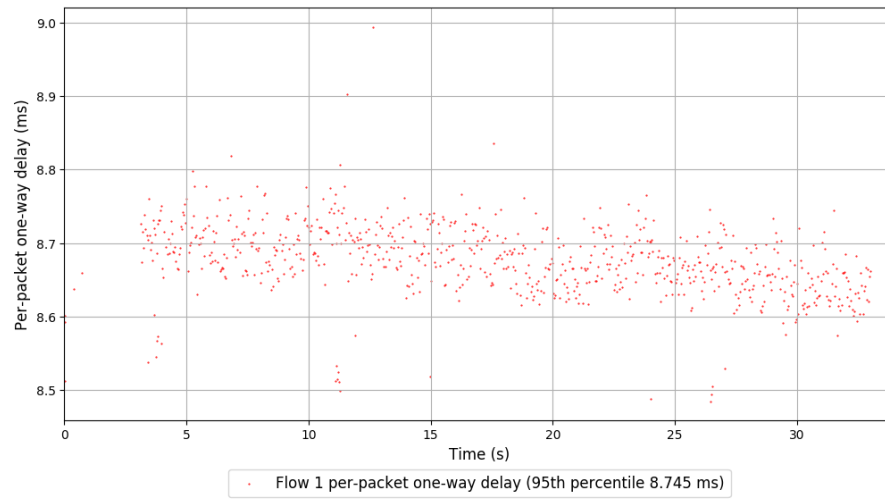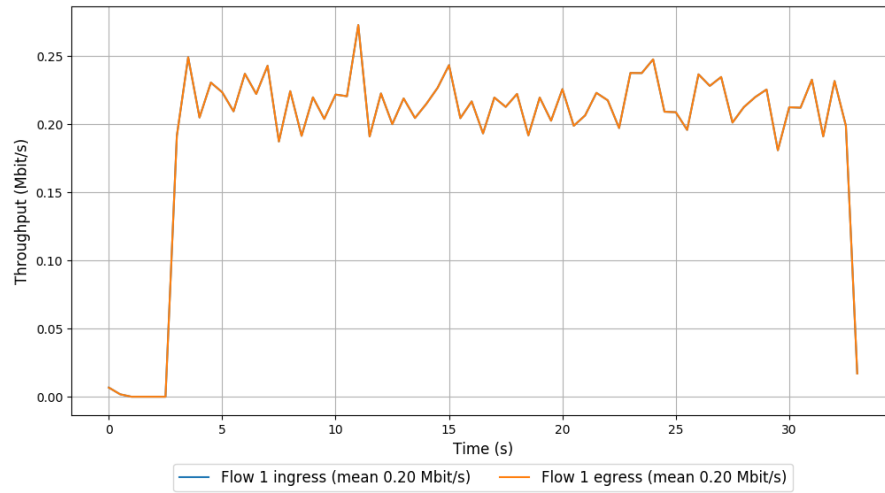
Run 1: Report of SCReAM — Data Link

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 8.745 ms)

```
Run 1: Statistics of Sprout

Start at: Sun, 11 Jun 2017 00:58:43 +0000
End at: Sun, 11 Jun 2017 00:59:13 +0000
Local clock offset: -6.068 ms
Remote clock offset: 0.187 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:09:20 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 45.19 Mbit/s
95th percentile per-packet one-way delay: 17.319 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 45.19 Mbit/s
95th percentile per-packet one-way delay: 17.319 ms
Loss rate: 0.03%
```
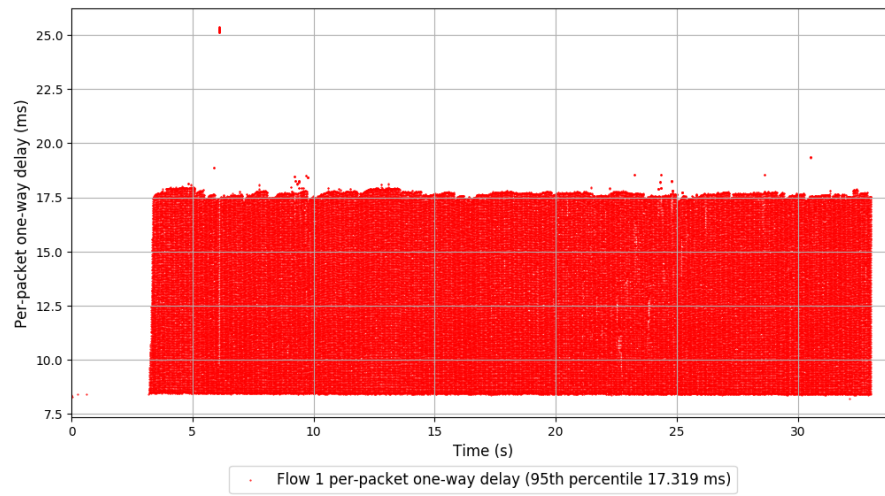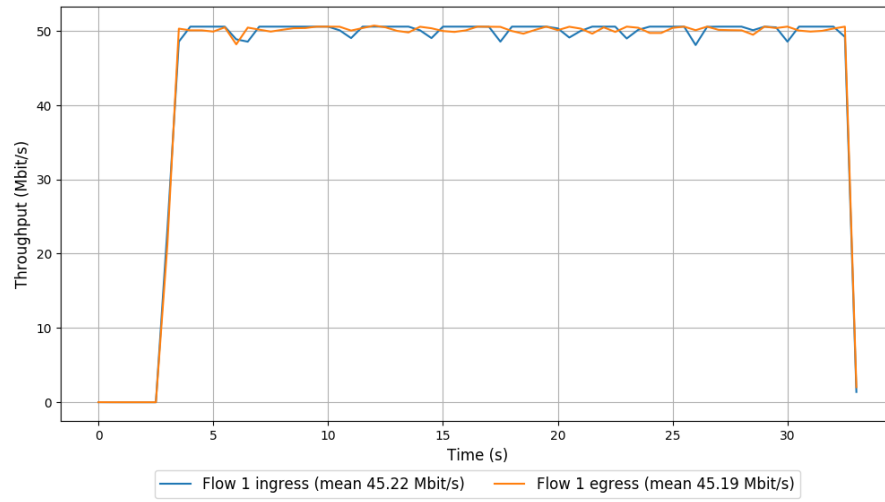
Run 1: Report of Sprout — Data Link

Flow 1 ingress (mean 45.22 Mbit/s) —— Flow 1 egress (mean 45.19 Mbit/s)

· Flow 1 per-packet one-way delay (95th percentile 17.319 ms)

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

Start at: Sun, 11 Jun 2017 00:55:04 +0000
End at: Sun, 11 Jun 2017 00:55:34 +0000
Local clock offset: -6.574 ms
Remote clock offset: 0.145 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:09:39 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 80.85 Mbit/s
95th percentile per-packet one-way delay: 8.897 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 80.85 Mbit/s
95th percentile per-packet one-way delay: 8.897 ms
Loss rate: 0.31%
```
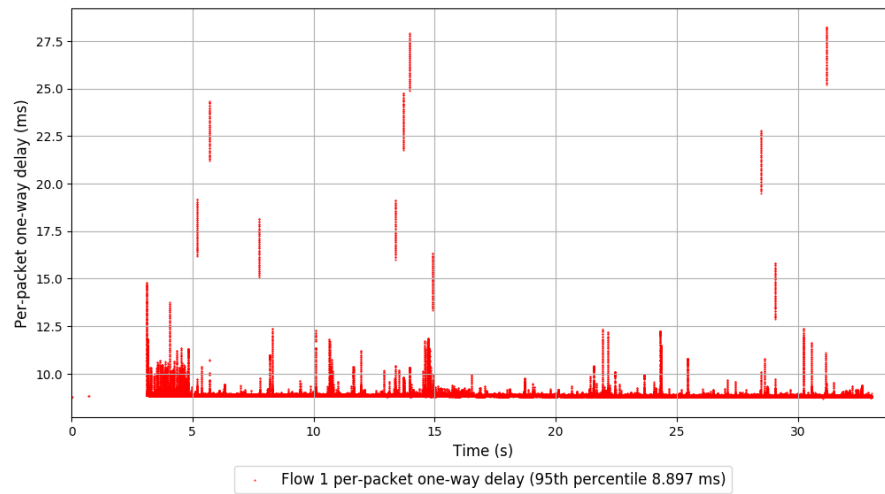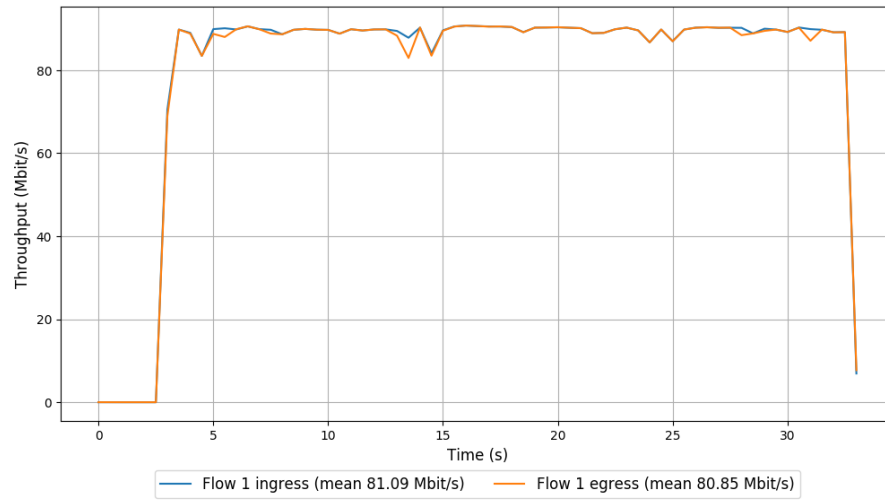
Run 1: Report of TaoVA-100x — Data Link

```
Run 1: Statistics of TCP Vegas

Start at: Sun, 11 Jun 2017 00:52:43 +0000
End at: Sun, 11 Jun 2017 00:53:13 +0000
Local clock offset: -6.845 ms
Remote clock offset: 0.205 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:09:39 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 86.33 Mbit/s
95th percentile per-packet one-way delay: 10.601 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 86.33 Mbit/s
95th percentile per-packet one-way delay: 10.601 ms
Loss rate: 0.01%
```
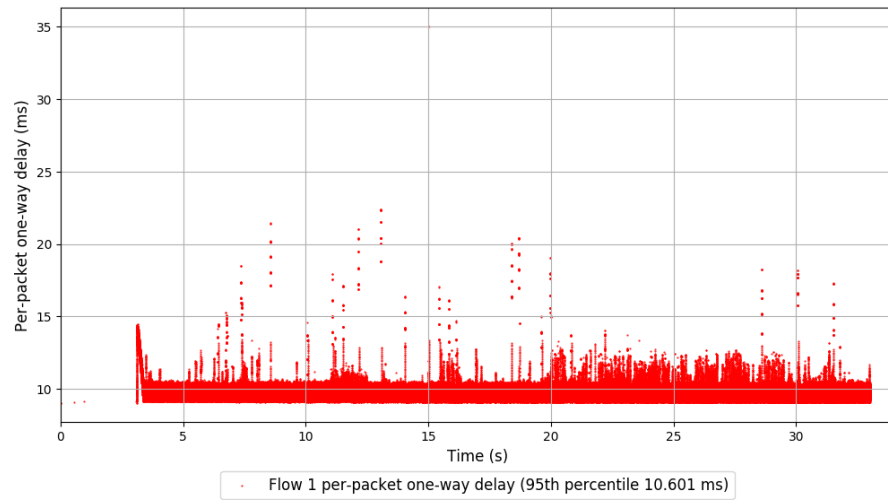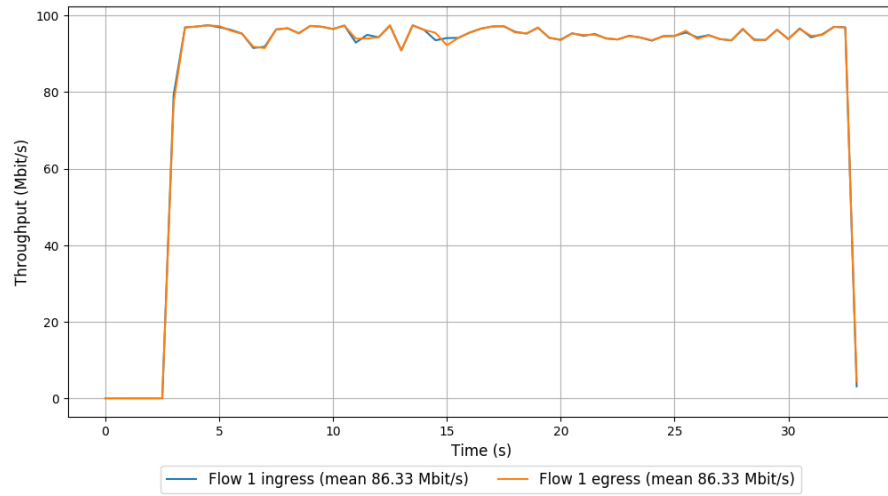
Run 1: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: Sun, 11 Jun 2017 00:47:48 +0000
End at: Sun, 11 Jun 2017 00:48:18 +0000
Local clock offset: -6.897 ms
Remote clock offset: 0.195 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:09:42 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 72.05 Mbit/s
95th percentile per-packet one-way delay: 17.200 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 72.05 Mbit/s
95th percentile per-packet one-way delay: 17.200 ms
Loss rate: 0.24%
```
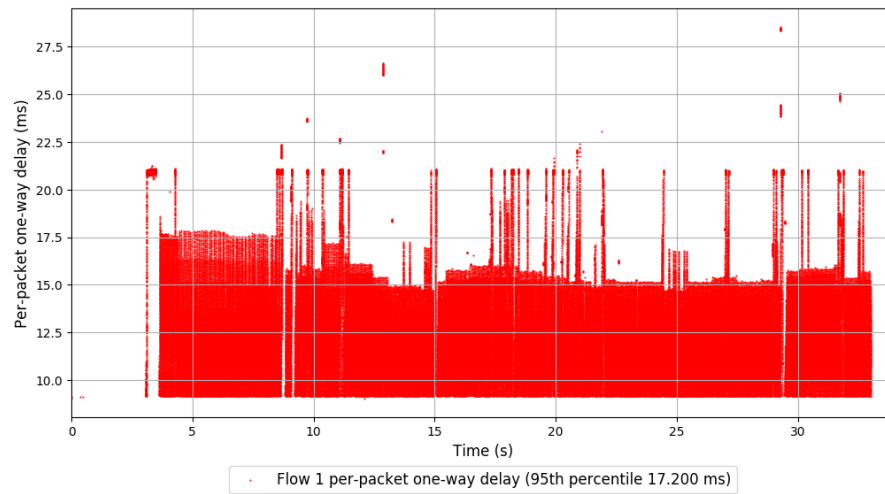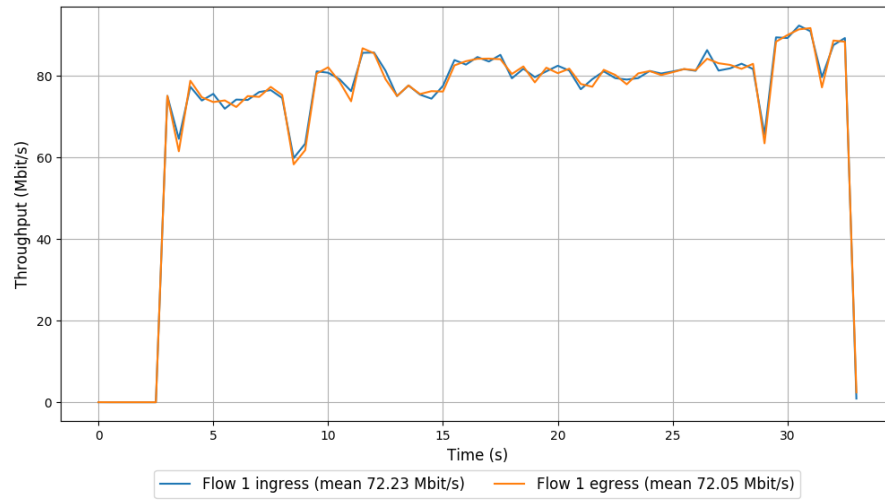
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 72.23 Mbit/s)　　Flow 1 egress (mean 72.05 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 17.200 ms)

```
Run 1: Statistics of WebRTC media

Start at: Sun, 11 Jun 2017 00:46:40 +0000
End at: Sun, 11 Jun 2017 00:47:10 +0000
Local clock offset: -6.954 ms
Remote clock offset: 0.165 ms


# Below is generated by plot.py at Sun, 11 Jun 2017 01:09:42 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 9.692 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 9.692 ms
Loss rate: 0.13%
```

Run 1: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.35 Mbit/s)　　Flow 1 egress (mean 2.35 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 9.692 ms)