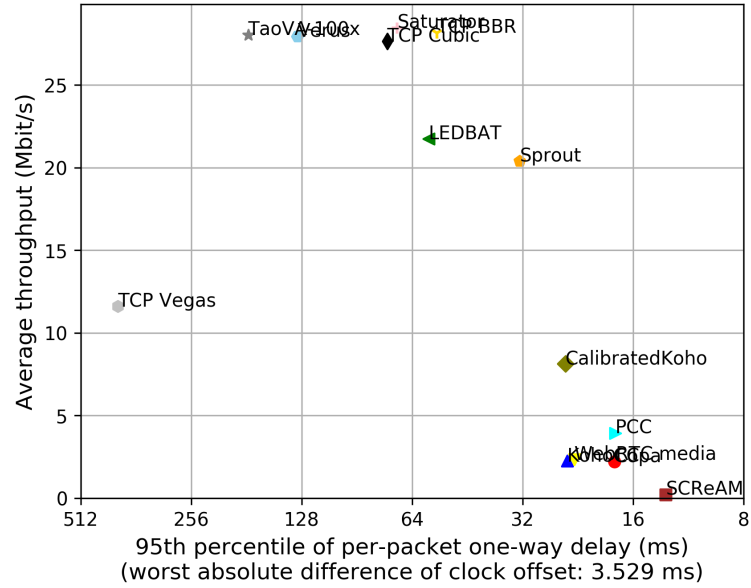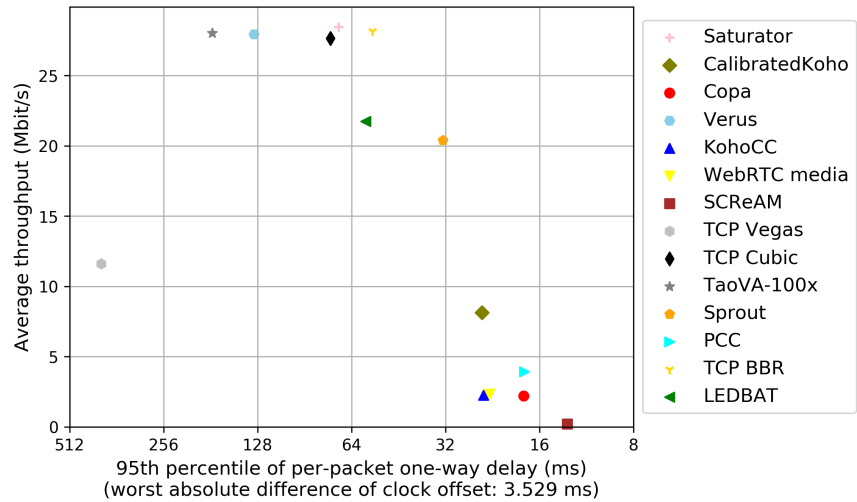**Pantheon Summary** (Generated at Wed, 05 Jul 2017 06:37:38 +0000 with pantheon version `767a95bcc95d67bd77e69c0f8bc9320c1ad3146b`)

Repeated the test of 15 congestion control schemes once.

Each test lasted for 30 seconds running 1 flow.

Data path **from** AWS Brazil 1 Ethernet **to** Brazil ppp0.

NTP offset measured against gps.ntp.br.

```
git branch: master @ 767a95bcc95d67bd77e69c0f8bc9320c1ad3146b
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 @ c792f8e8e0704b1646a0e024766675d8e9a835f1
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```
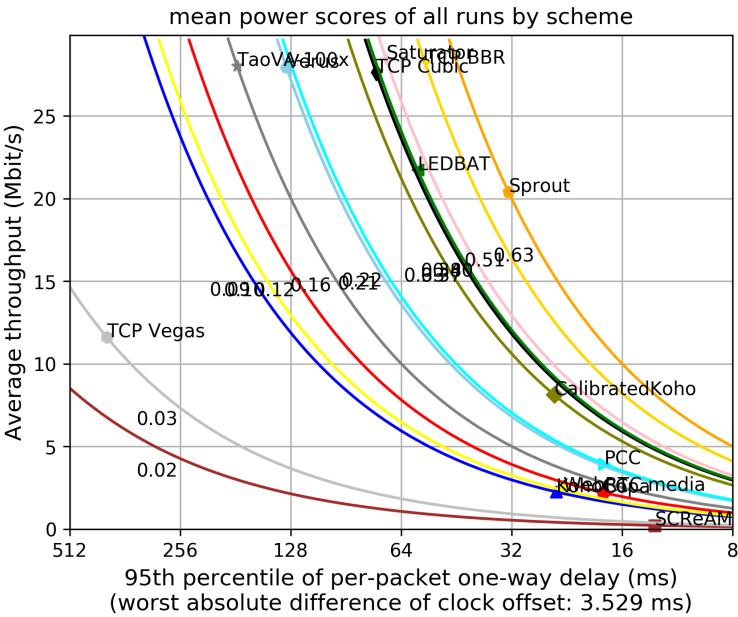
test from AWS Brazil 1 Ethernet to Brazil ppp0, 1 run of 30s each per scheme
(mean of all runs by scheme)

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

2

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

mean power scores of all runs by scheme

```
Run 1: Statistics of TCP BBR

Start at: Wed, 05 Jul 2017 06:16:38 +0000
End at: Wed, 05 Jul 2017 06:17:08 +0000
Local clock offset: -0.151 ms
Remote clock offset: 3.094 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:16 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.16 Mbit/s
95th percentile per-packet one-way delay: 54.866 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 28.16 Mbit/s
95th percentile per-packet one-way delay: 54.866 ms
Loss rate: 0.44%
```
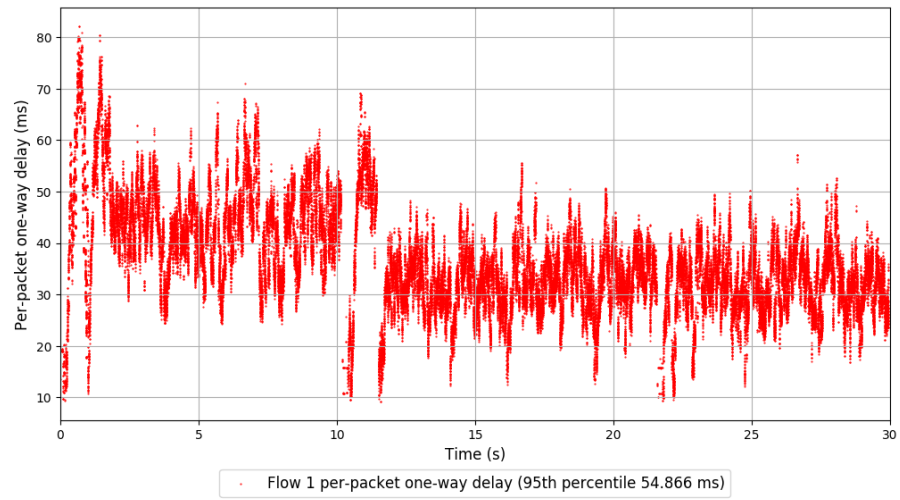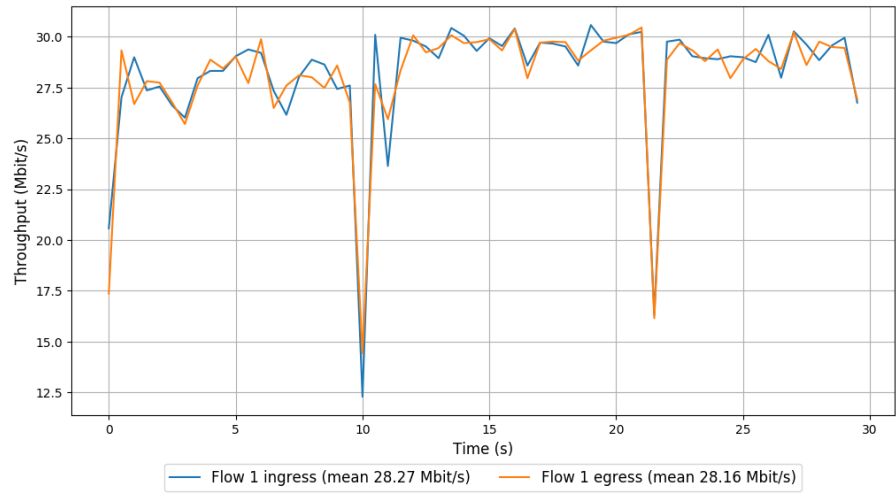
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 28.27 Mbit/s) —— Flow 1 egress (mean 28.16 Mbit/s)

· Flow 1 per-packet one-way delay (95th percentile 54.866 ms)

```
Run 1: Statistics of CalibratedKoho

Start at: Wed, 05 Jul 2017 06:09:05 +0000
End at: Wed, 05 Jul 2017 06:09:35 +0000
Local clock offset: -0.163 ms
Remote clock offset: 3.269 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:16 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 24.456 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 8.12 Mbit/s
95th percentile per-packet one-way delay: 24.456 ms
Loss rate: 0.17%
```
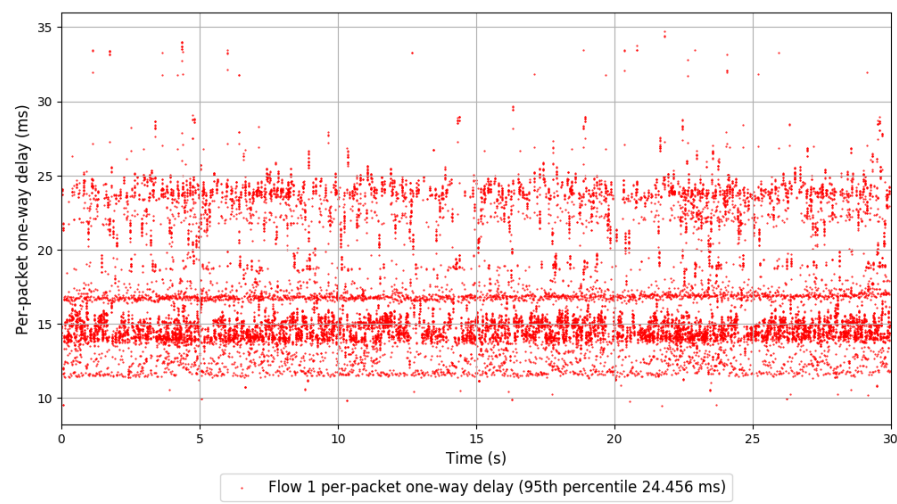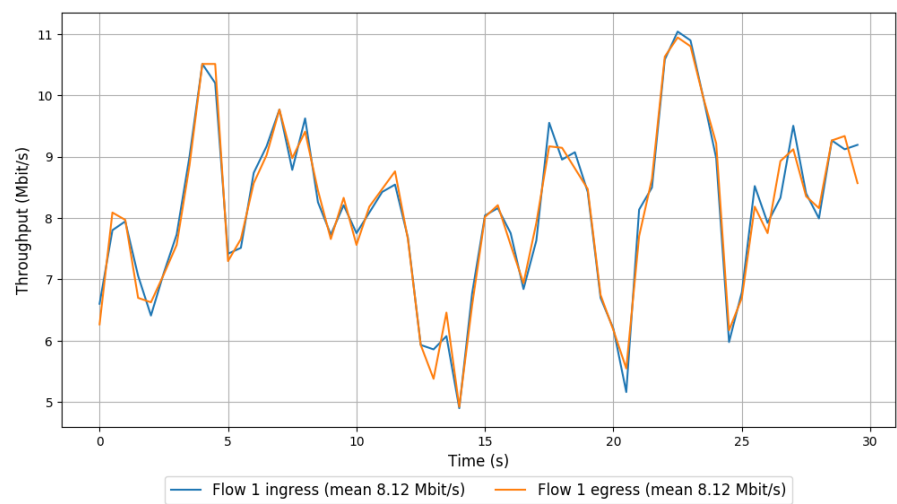
Run 1: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 8.12 Mbit/s) ——— Flow 1 egress (mean 8.12 Mbit/s)

·   Flow 1 per-packet one-way delay (95th percentile 24.456 ms)

```
Run 1: Statistics of Copa

Start at: Wed, 05 Jul 2017 06:15:34 +0000
End at: Wed, 05 Jul 2017 06:16:04 +0000
Local clock offset: -0.161 ms
Remote clock offset: 3.109 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:16 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 17.982 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 17.982 ms
Loss rate: 0.04%
```
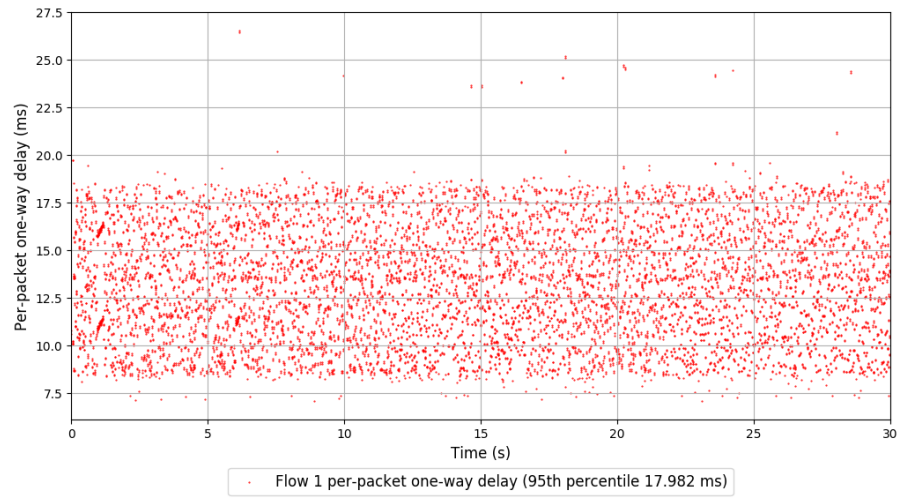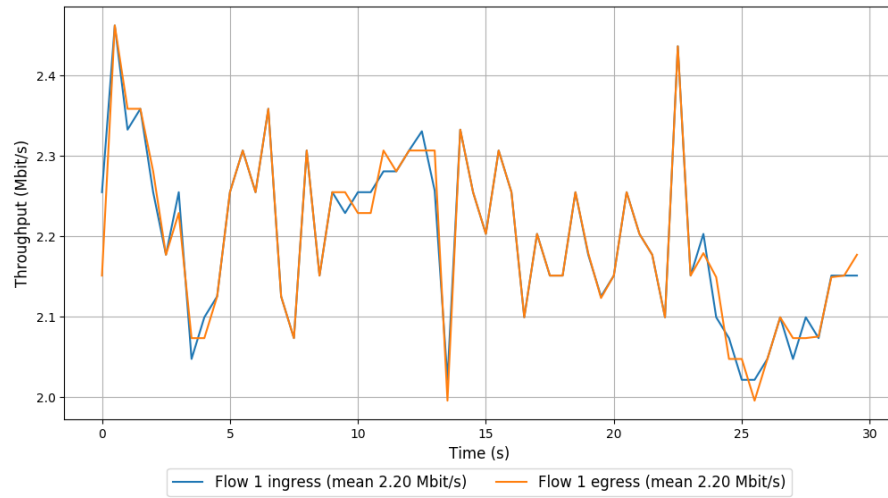
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 2.20 Mbit/s)   Flow 1 egress (mean 2.20 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 17.982 ms)

```
Run 1: Statistics of TCP Cubic

Start at: Wed, 05 Jul 2017 06:11:15 +0000
End at: Wed, 05 Jul 2017 06:11:45 +0000
Local clock offset: -0.219 ms
Remote clock offset: 3.186 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:18 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 27.65 Mbit/s
95th percentile per-packet one-way delay: 74.846 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 27.65 Mbit/s
95th percentile per-packet one-way delay: 74.846 ms
Loss rate: 0.41%
```
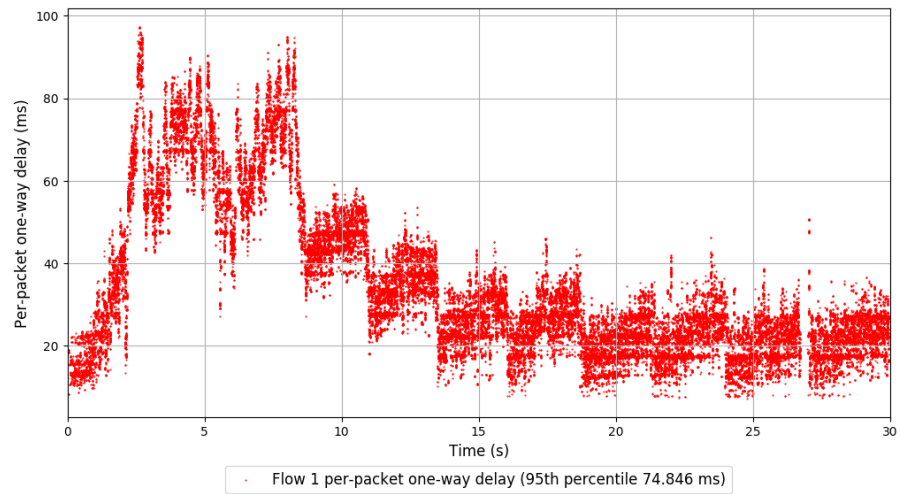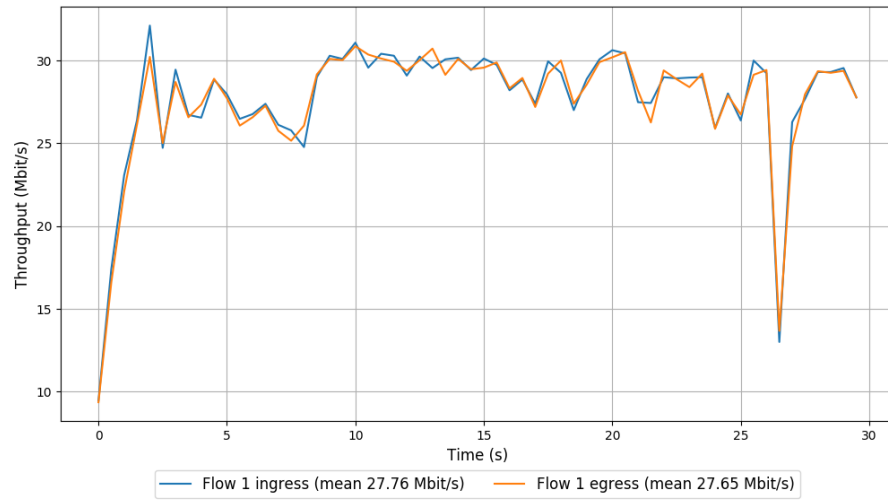
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 27.76 Mbit/s)   Flow 1 egress (mean 27.65 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 74.846 ms)

```
Run 1: Statistics of KohoCC

Start at: Wed, 05 Jul 2017 06:14:30 +0000
End at: Wed, 05 Jul 2017 06:15:00 +0000
Local clock offset: -0.187 ms
Remote clock offset: 3.145 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:18 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 24.172 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 2.25 Mbit/s
95th percentile per-packet one-way delay: 24.172 ms
Loss rate: 0.04%
```
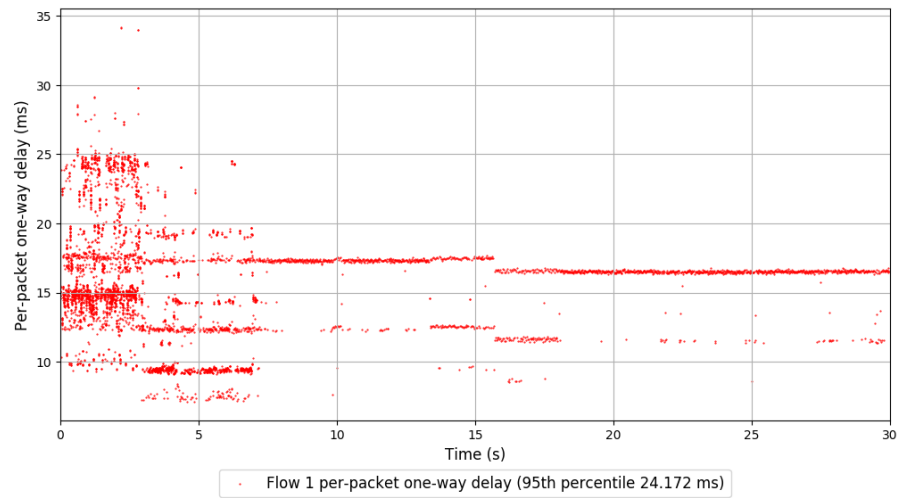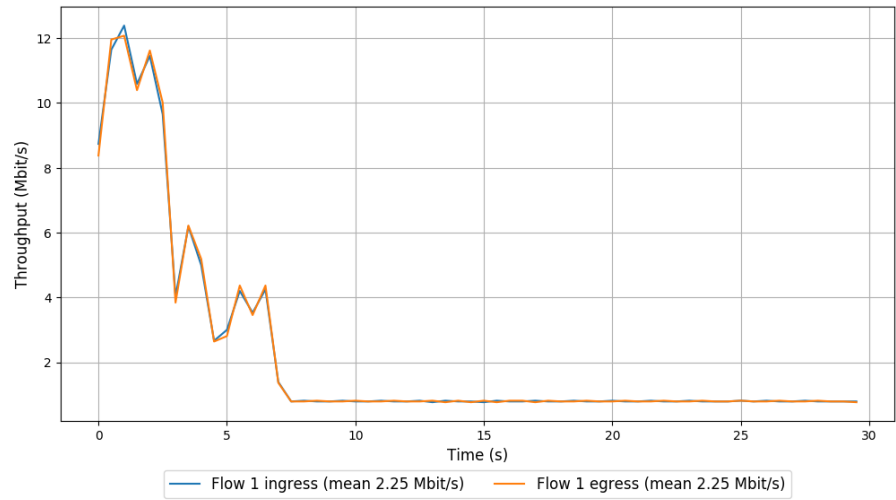
Run 1: Report of KohoCC — Data Link

Flow 1 ingress (mean 2.25 Mbit/s) —— Flow 1 egress (mean 2.25 Mbit/s)

· Flow 1 per-packet one-way delay (95th percentile 24.172 ms)

```
Run 1: Statistics of LEDBAT

Start at: Wed, 05 Jul 2017 06:10:10 +0000
End at: Wed, 05 Jul 2017 06:10:40 +0000
Local clock offset: -0.148 ms
Remote clock offset: 3.189 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:22 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 21.74 Mbit/s
95th percentile per-packet one-way delay: 57.701 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 21.74 Mbit/s
95th percentile per-packet one-way delay: 57.701 ms
Loss rate: 0.41%
```
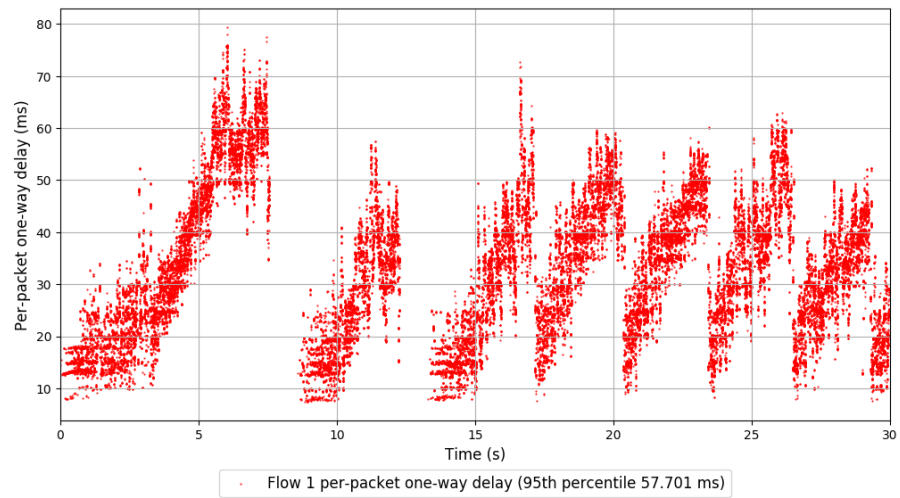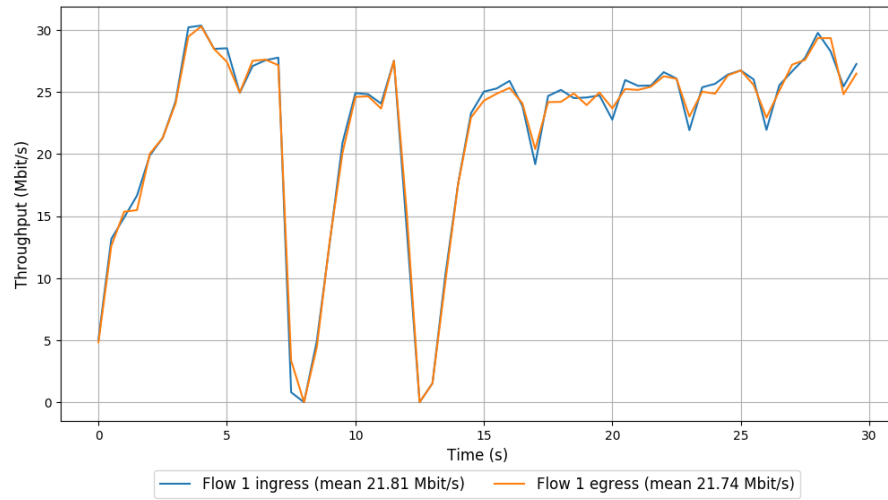
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 21.81 Mbit/s) —— Flow 1 egress (mean 21.74 Mbit/s)

· Flow 1 per-packet one-way delay (95th percentile 57.701 ms)

```
Run 1: Statistics of PCC

Start at: Wed, 05 Jul 2017 06:05:53 +0000
End at: Wed, 05 Jul 2017 06:06:23 +0000
Local clock offset: -0.151 ms
Remote clock offset: 3.344 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:22 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 17.851 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 17.851 ms
Loss rate: 0.05%
```
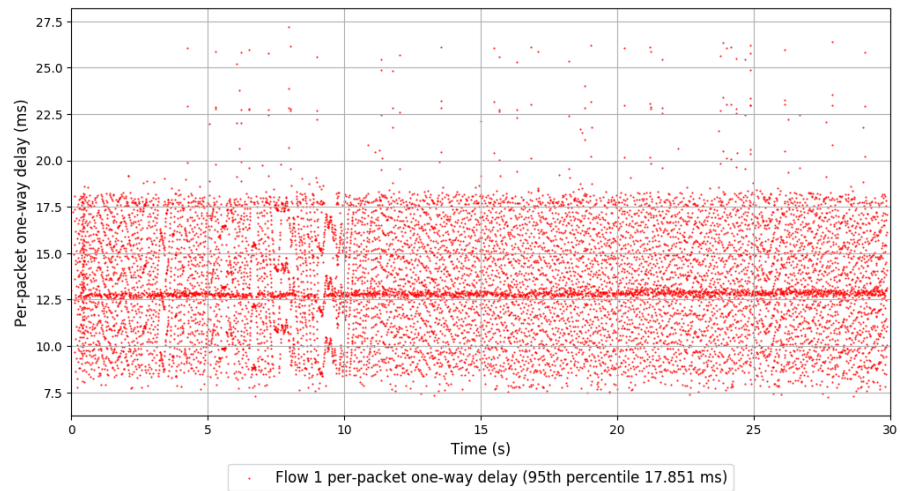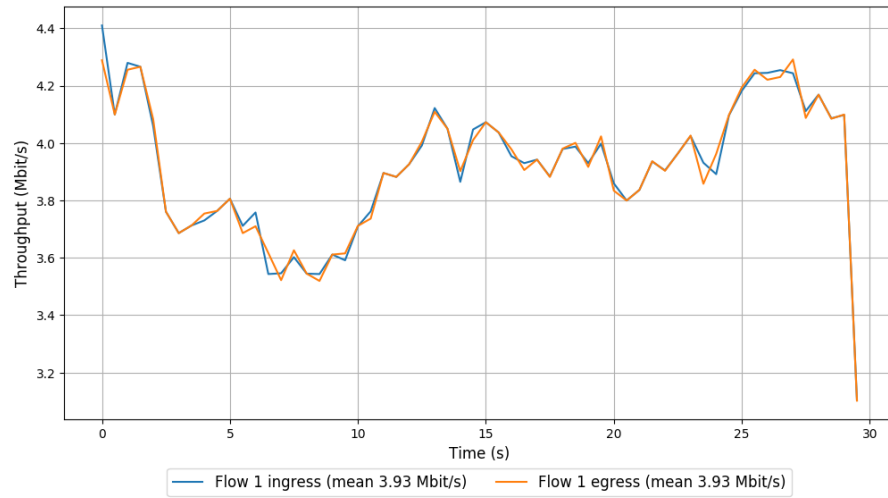
Run 1: Report of PCC — Data Link

Flow 1 ingress (mean 3.93 Mbit/s) — Flow 1 egress (mean 3.93 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 17.851 ms)
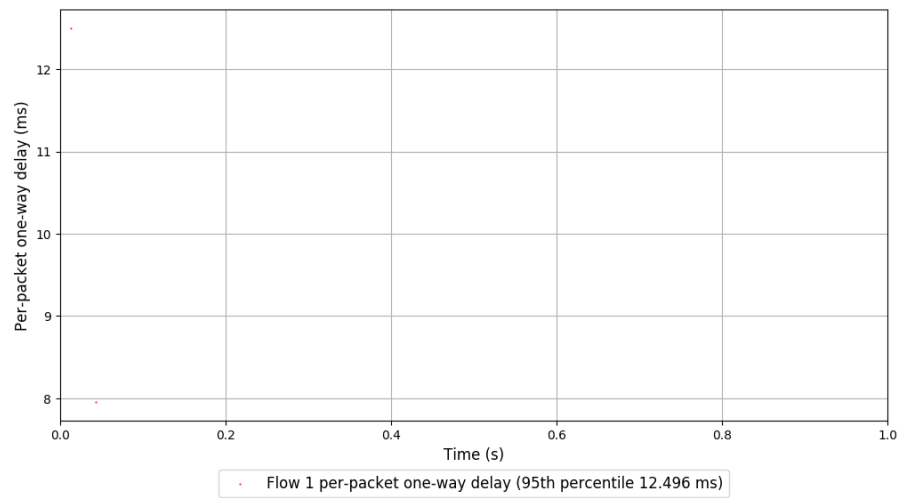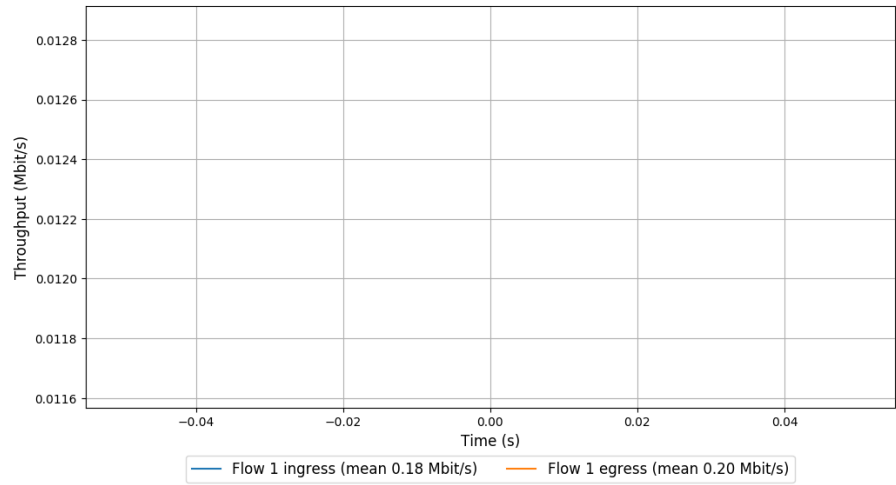
```
Run 1: Statistics of QUIC Cubic

Start at: Wed, 05 Jul 2017 06:19:55 +0000
End at: Wed, 05 Jul 2017 06:20:25 +0000
Local clock offset: -0.167 ms
Remote clock offset: 3.02 ms
```

Run 1: Report of QUIC Cubic — Data Link

```
Run 1: Statistics of Saturator

Start at: Wed, 05 Jul 2017 06:04:47 +0000
End at: Wed, 05 Jul 2017 06:05:17 +0000
Local clock offset: -0.142 ms
Remote clock offset: 3.379 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:26 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.46 Mbit/s
95th percentile per-packet one-way delay: 70.310 ms
Loss rate: 0.39%
-- Flow 1:
Average throughput: 28.46 Mbit/s
95th percentile per-packet one-way delay: 70.310 ms
Loss rate: 0.39%
```
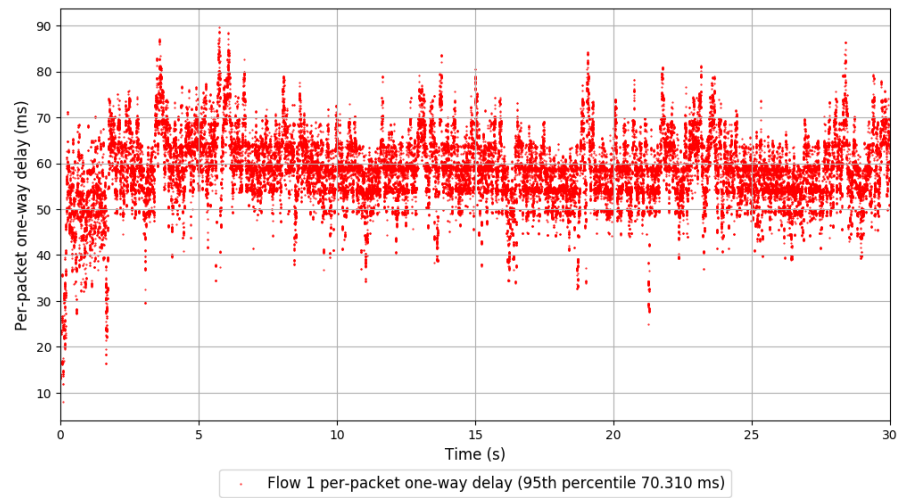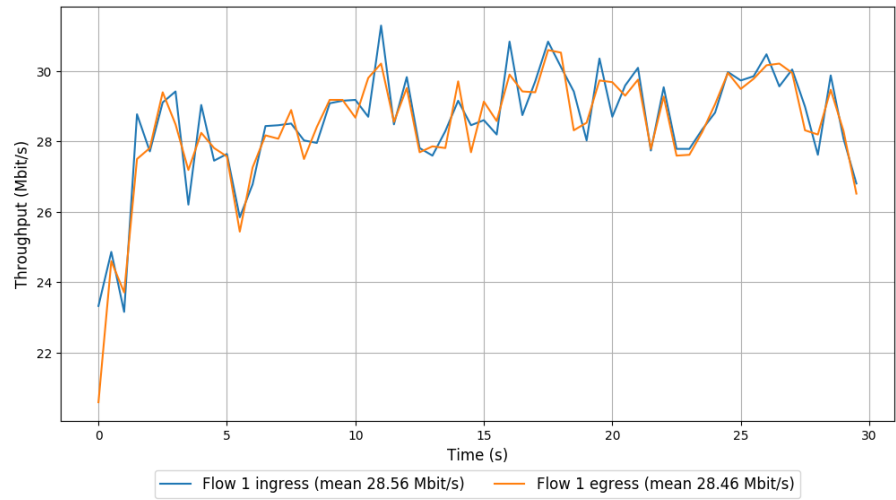
Run 1: Report of Saturator — Data Link

Flow 1 ingress (mean 28.56 Mbit/s) — Flow 1 egress (mean 28.46 Mbit/s)

· Flow 1 per-packet one-way delay (95th percentile 70.310 ms)

```
Run 1: Statistics of SCReAM

Start at: Wed, 05 Jul 2017 06:06:57 +0000
End at: Wed, 05 Jul 2017 06:07:27 +0000
Local clock offset: -0.22 ms
Remote clock offset: 3.309 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:26 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 13.027 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 13.027 ms
Loss rate: 0.00%
```
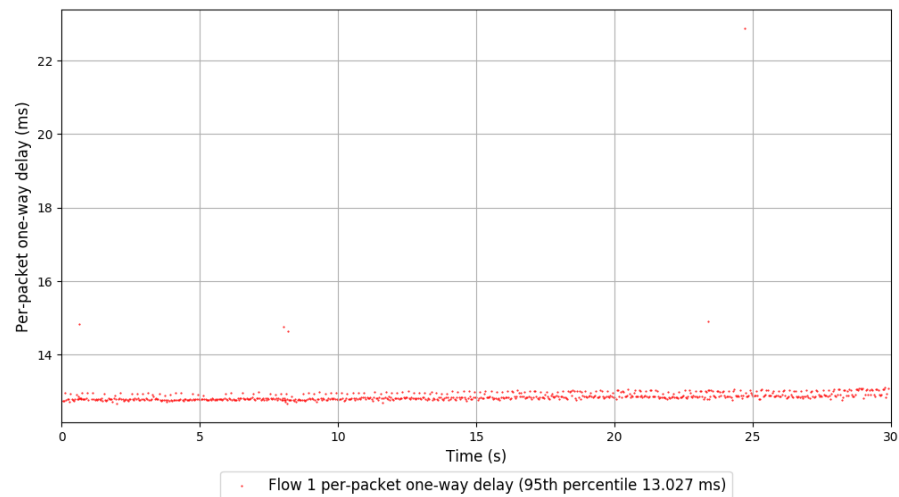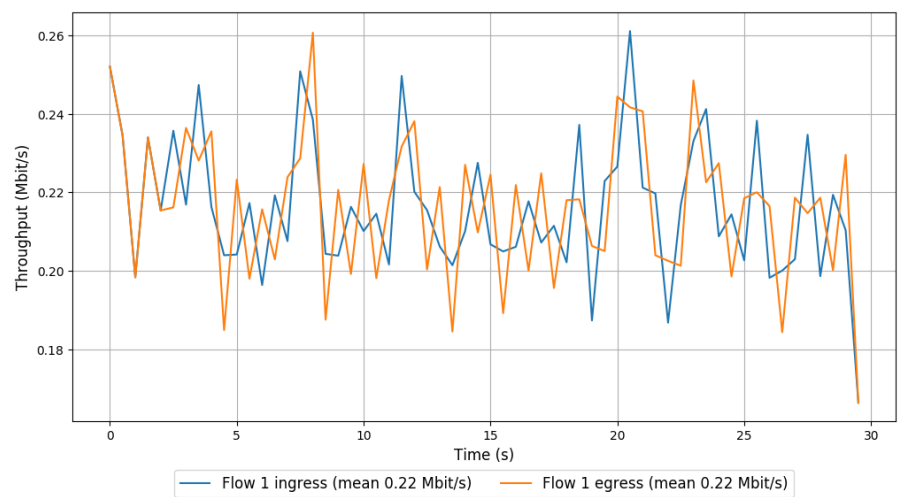
Run 1: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.22 Mbit/s) —— Flow 1 egress (mean 0.22 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 13.027 ms)

```
Run 1: Statistics of Sprout

Start at: Wed, 05 Jul 2017 06:17:44 +0000
End at: Wed, 05 Jul 2017 06:18:14 +0000
Local clock offset: -0.186 ms
Remote clock offset: 3.079 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:27 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 20.40 Mbit/s
95th percentile per-packet one-way delay: 32.600 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 20.40 Mbit/s
95th percentile per-packet one-way delay: 32.600 ms
Loss rate: 0.31%
```
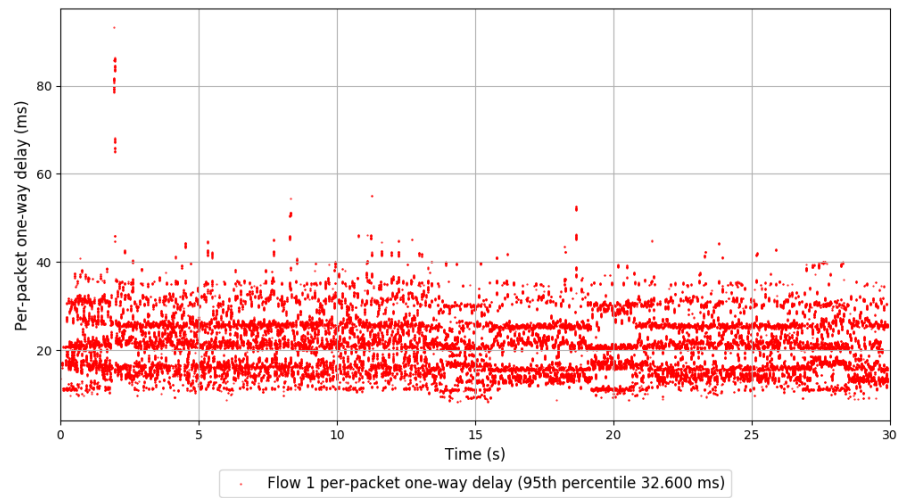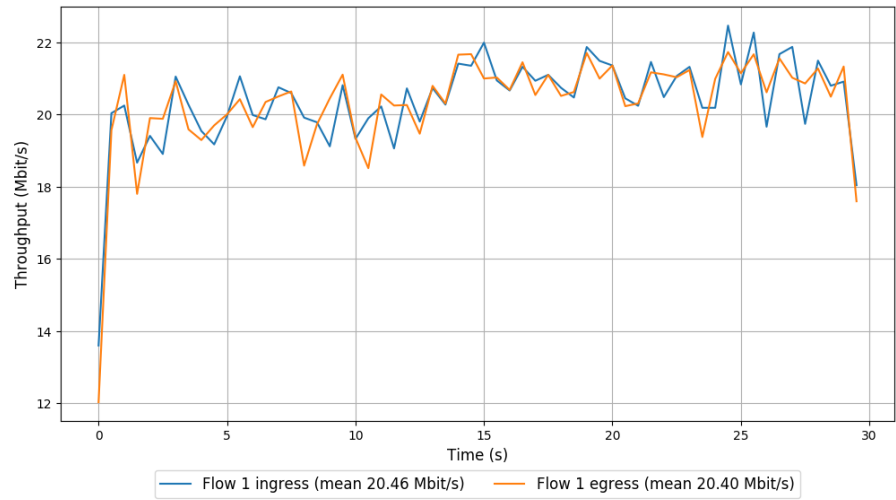
Run 1: Report of Sprout — Data Link

Flow 1 ingress (mean 20.46 Mbit/s) ——— Flow 1 egress (mean 20.40 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 32.600 ms)

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

Start at: Wed, 05 Jul 2017 06:18:48 +0000
End at: Wed, 05 Jul 2017 06:19:18 +0000
Local clock offset: -0.178 ms
Remote clock offset: 2.975 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 28.03 Mbit/s
95th percentile per-packet one-way delay: 178.999 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 28.03 Mbit/s
95th percentile per-packet one-way delay: 178.999 ms
Loss rate: 0.84%
```
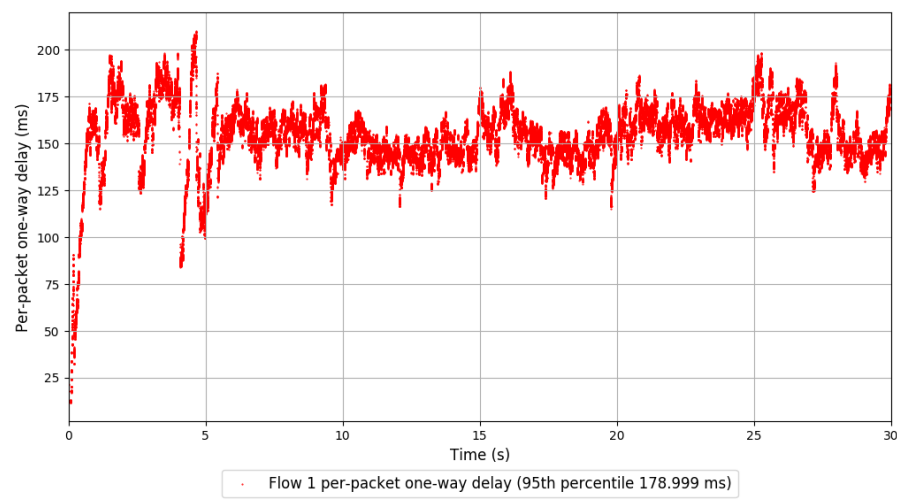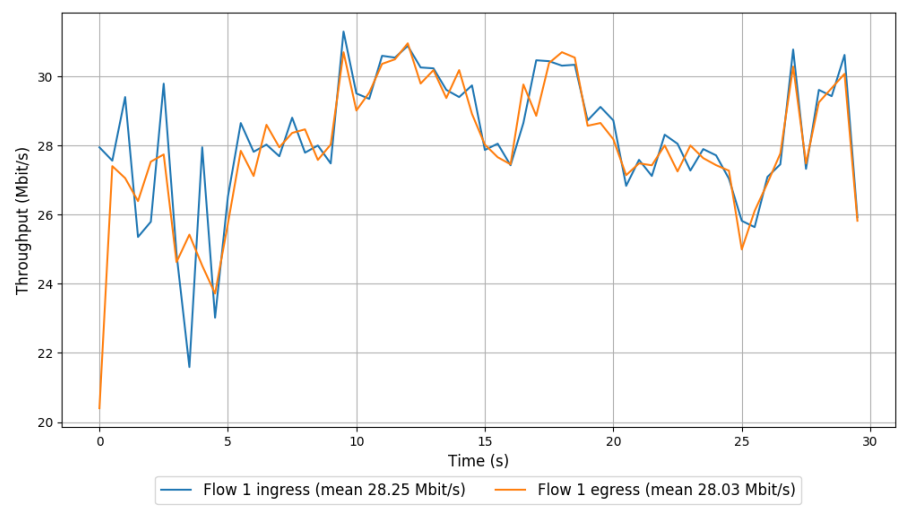
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 28.25 Mbit/s)   Flow 1 egress (mean 28.03 Mbit/s)

·   Flow 1 per-packet one-way delay (95th percentile 178.999 ms)

```
Run 1: Statistics of TCP Vegas

Start at: Wed, 05 Jul 2017 06:08:01 +0000
End at: Wed, 05 Jul 2017 06:08:31 +0000
Local clock offset: -0.149 ms
Remote clock offset: 3.285 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.61 Mbit/s
95th percentile per-packet one-way delay: 405.433 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 11.61 Mbit/s
95th percentile per-packet one-way delay: 405.433 ms
Loss rate: 0.15%
```
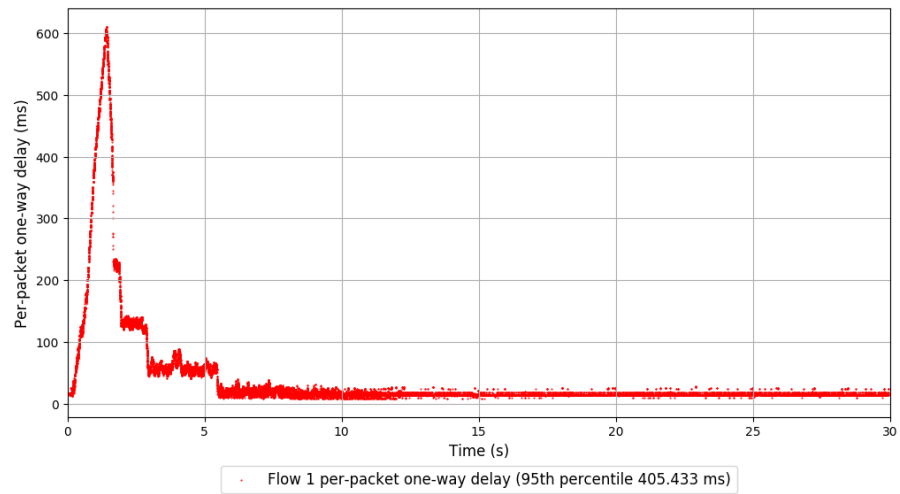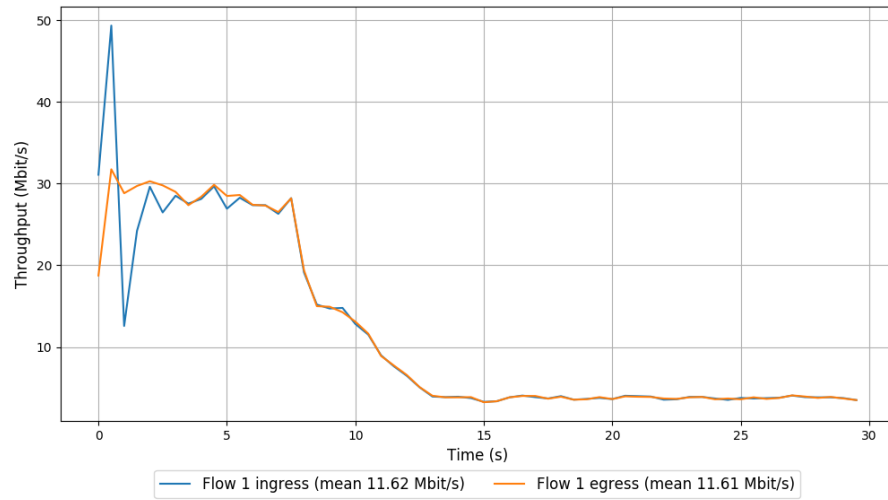
Run 1: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: Wed, 05 Jul 2017 06:13:24 +0000
End at: Wed, 05 Jul 2017 06:13:54 +0000
Local clock offset: -0.255 ms
Remote clock offset: 3.145 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 27.94 Mbit/s
95th percentile per-packet one-way delay: 131.290 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 27.94 Mbit/s
95th percentile per-packet one-way delay: 131.290 ms
Loss rate: 0.54%
```
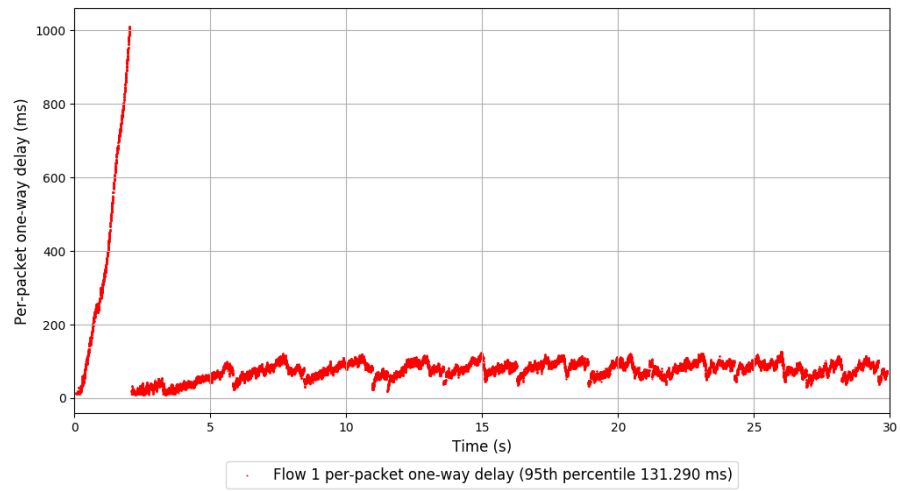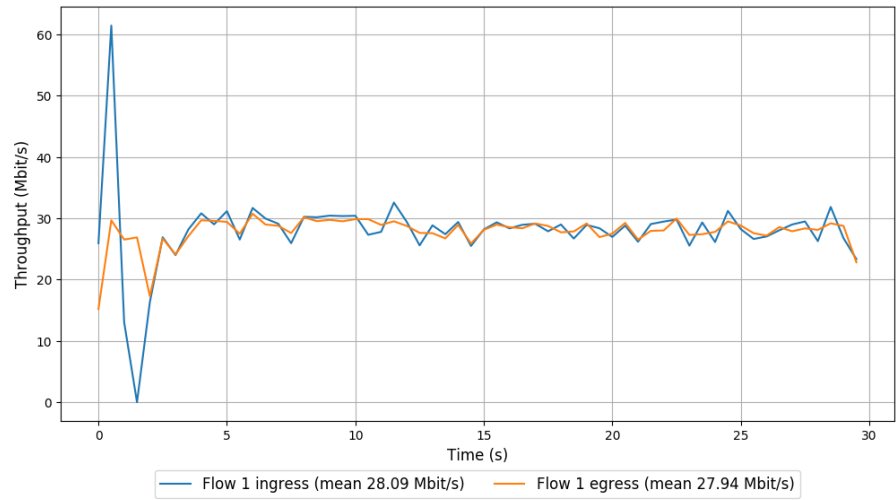
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 28.09 Mbit/s)   Flow 1 egress (mean 27.94 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 131.290 ms)

```
Run 1: Statistics of WebRTC media

Start at: Wed, 05 Jul 2017 06:12:20 +0000
End at: Wed, 05 Jul 2017 06:12:50 +0000
Local clock offset: -0.239 ms
Remote clock offset: 3.19 ms


# Below is generated by plot.py at Wed, 05 Jul 2017 06:37:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 23.087 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 23.087 ms
Loss rate: 0.16%
```

Run 1: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.34 Mbit/s)   Flow 1 egress (mean 2.34 Mbit/s)

Flow 1 per-packet one-way delay (95th percentile 23.087 ms)