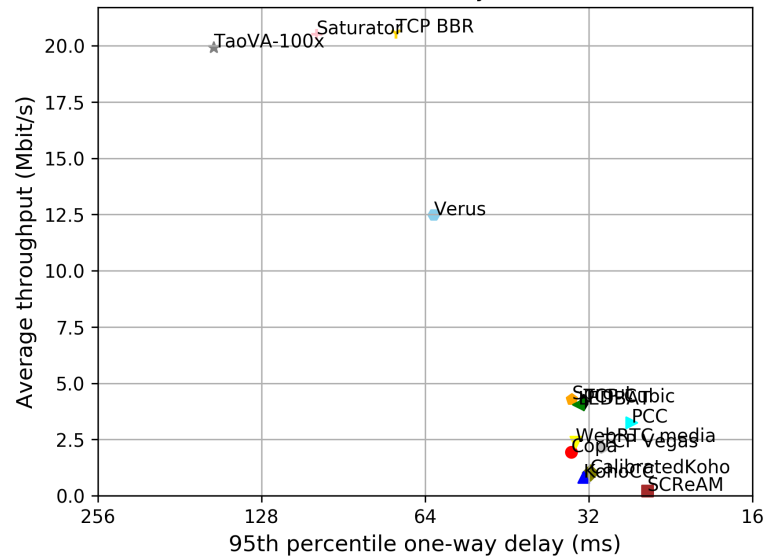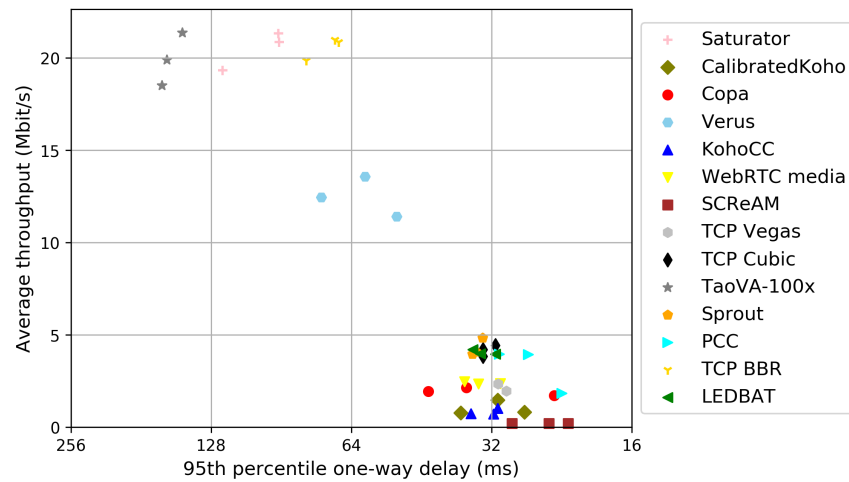**Pantheon Summary** (Generated at Tue, 25 Jul 2017 08:23:55 +0000 with pantheon version `266b116f0817a07d000b4d181ce187fd27d3e654`)

Repeated the test of 15 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

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

NTP offset measured against gps.ntp.br and has been applied to correct the timestamps in logs.

```
git branch: master @ 266b116f0817a07d000b4d181ce187fd27d3e654
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ dae96123232f1bcb37725348fa2378691ce26725
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-stimuli @ fc73a85ca16c34366d1888dc8a0d0d88d4ebf2a7
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ 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 ppp0 to AWS Brazil 1 Ethernet, 3 runs of 30s each per scheme
(mean of all runs by scheme)

test from Brazil ppp0 to AWS Brazil 1 Ethernet, 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	20.57	72.51	0.56
CalibratedKoho	3	1.02	31.82	0.42
Copa	3	1.94	34.46	0.06
TCP Cubic	3	4.16	32.73	1.15
KohoCC	3	0.83	32.70	0.60
LEDBAT	3	4.05	33.42	2.38
PCC	3	3.24	26.68	0.09
QUIC Cubic	3	nan	nan	nan
Saturator	3	20.51	101.38	23.51
SCReAM	3	0.22	24.97	0.00
Sprout	3	4.29	34.37	26.58
TaoVA-100x	3	19.93	156.79	1.21
TCP Vegas	3	2.16	30.34	0.20
Verus	3	12.48	61.70	68.08
WebRTC media	3	2.39	33.79	0.33

```
Run 1: Statistics of TCP BBR

Start at: Tue, 25 Jul 2017 07:33:11 +0000
End at: Tue, 25 Jul 2017 07:33:41 +0000
Local clock offset: -1.682 ms
Remote clock offset: -0.425 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:06 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 20.87 Mbit/s
95th percentile per-packet one-way delay: 68.194 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 20.87 Mbit/s
95th percentile per-packet one-way delay: 68.194 ms
Loss rate: 0.54%
```
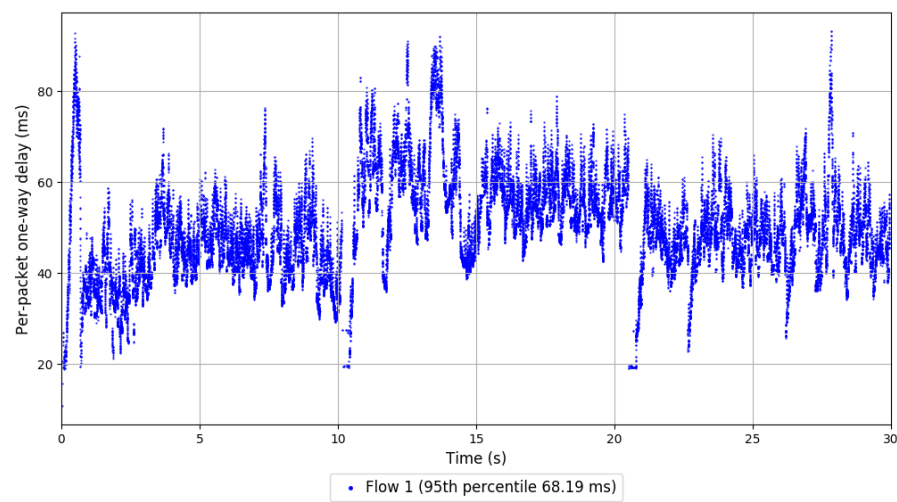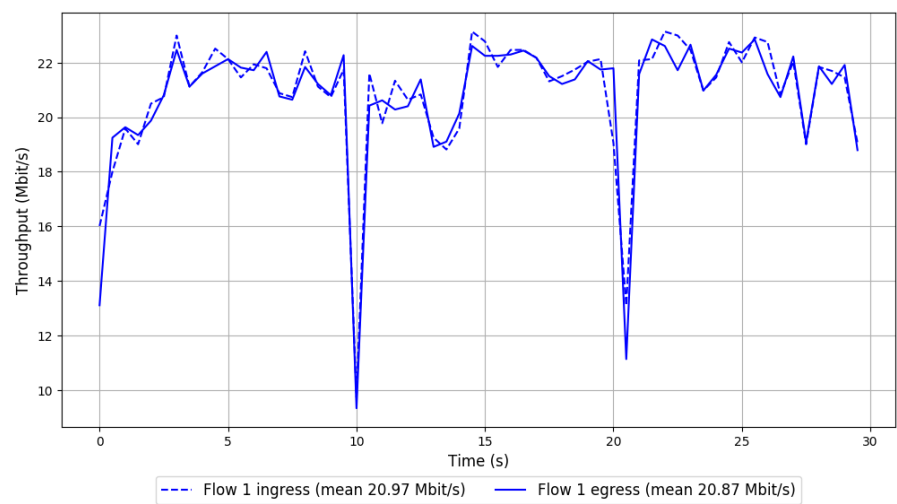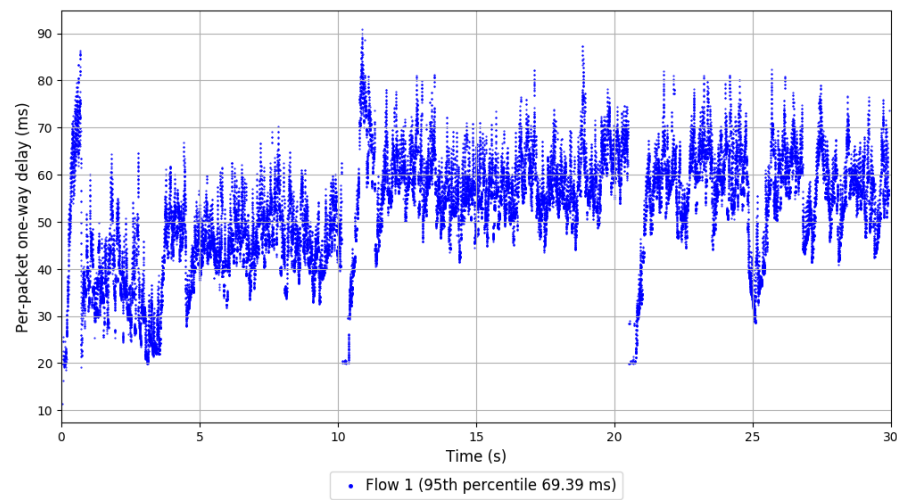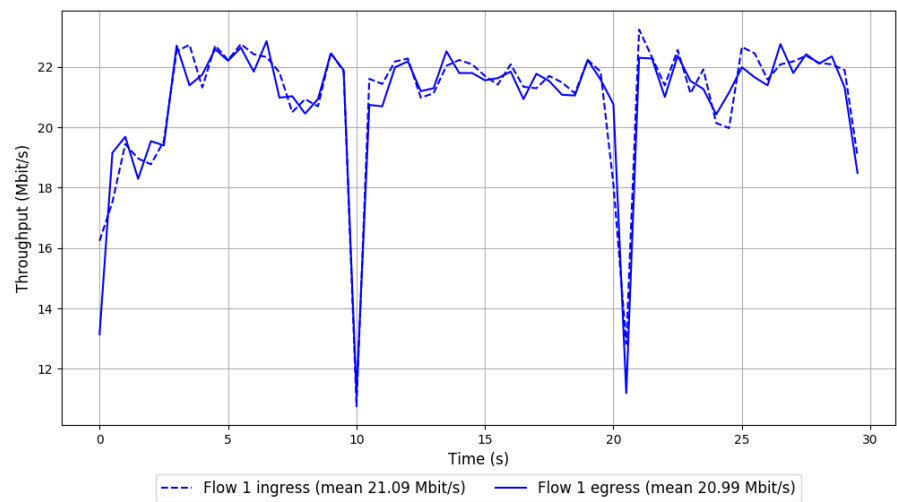
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 20.97 Mbit/s) ----- Flow 1 egress (mean 20.87 Mbit/s) ——

• Flow 1 (95th percentile 68.19 ms)

```
Run 2: Statistics of TCP BBR

Start at: Tue, 25 Jul 2017 07:49:19 +0000
End at: Tue, 25 Jul 2017 07:49:49 +0000
Local clock offset: -1.628 ms
Remote clock offset: -0.472 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:06 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 20.99 Mbit/s
95th percentile per-packet one-way delay: 69.395 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 20.99 Mbit/s
95th percentile per-packet one-way delay: 69.395 ms
Loss rate: 0.53%
```

Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: Tue, 25 Jul 2017 08:05:27 +0000
End at: Tue, 25 Jul 2017 08:05:57 +0000
Local clock offset: -1.65 ms
Remote clock offset: -0.38 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:10 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.86 Mbit/s
95th percentile per-packet one-way delay: 79.947 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 19.86 Mbit/s
95th percentile per-packet one-way delay: 79.947 ms
Loss rate: 0.61%
```
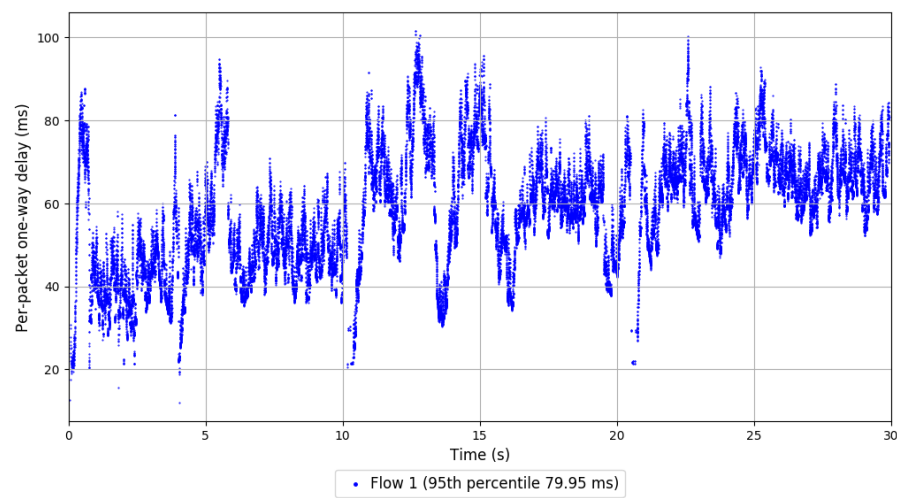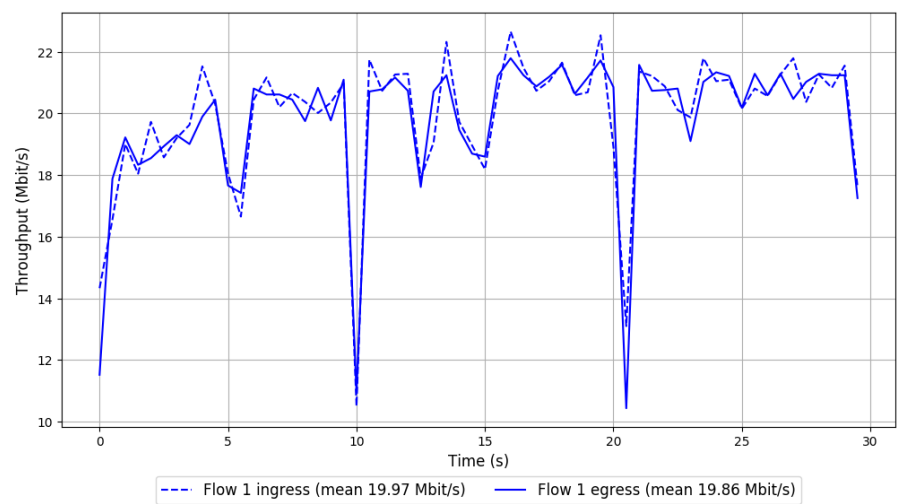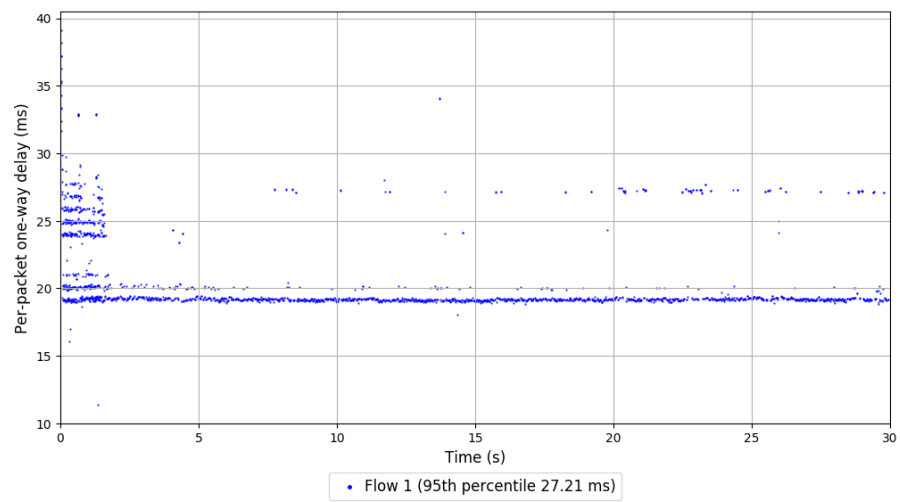
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 19.97 Mbit/s) --- Flow 1 egress (mean 19.86 Mbit/s)

· Flow 1 (95th percentile 79.95 ms)

```
Run 1: Statistics of CalibratedKoho

Start at: Tue, 25 Jul 2017 07:46:06 +0000
End at: Tue, 25 Jul 2017 07:46:36 +0000
Local clock offset: -1.611 ms
Remote clock offset: -0.433 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:10 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 27.206 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 0.82 Mbit/s
95th percentile per-packet one-way delay: 27.206 ms
Loss rate: 0.29%
```
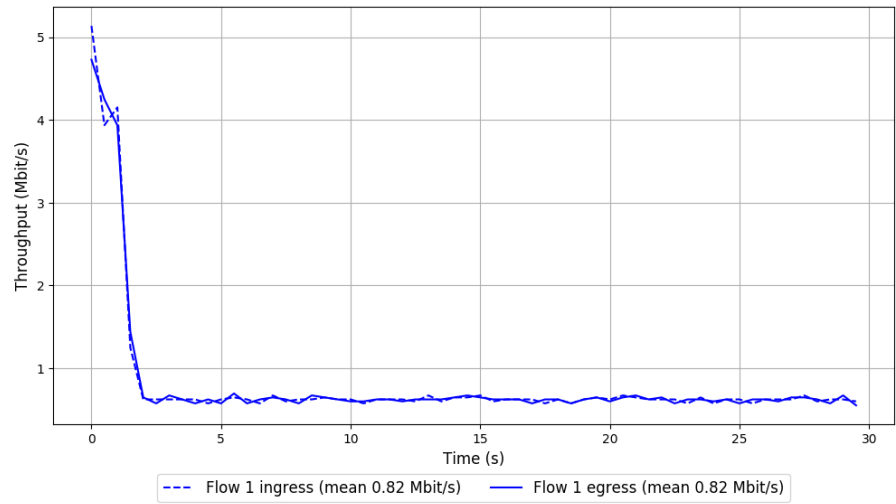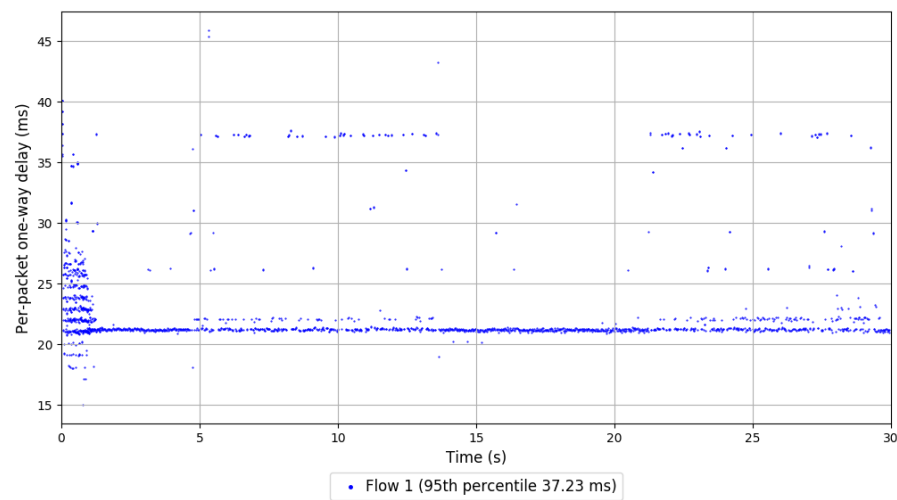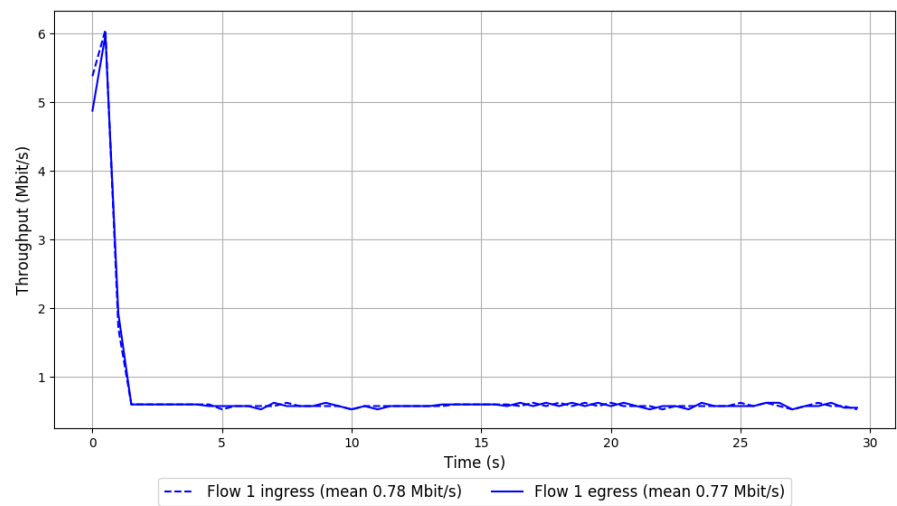
Run 1: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 0.82 Mbit/s) --- Flow 1 egress (mean 0.82 Mbit/s)

• Flow 1 (95th percentile 27.21 ms)

```
Run 2: Statistics of CalibratedKoho

Start at: Tue, 25 Jul 2017 08:02:13 +0000
End at: Tue, 25 Jul 2017 08:02:43 +0000
Local clock offset: -1.654 ms
Remote clock offset: -0.436 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:10 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 37.226 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 37.226 ms
Loss rate: 0.72%
```

Run 2: Report of CalibratedKoho — Data Link

```
Run 3: Statistics of CalibratedKoho

Start at: Tue, 25 Jul 2017 08:18:22 +0000
End at: Tue, 25 Jul 2017 08:18:52 +0000
Local clock offset: -1.676 ms
Remote clock offset: -0.328 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:10 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 31.016 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 31.016 ms
Loss rate: 0.24%
```
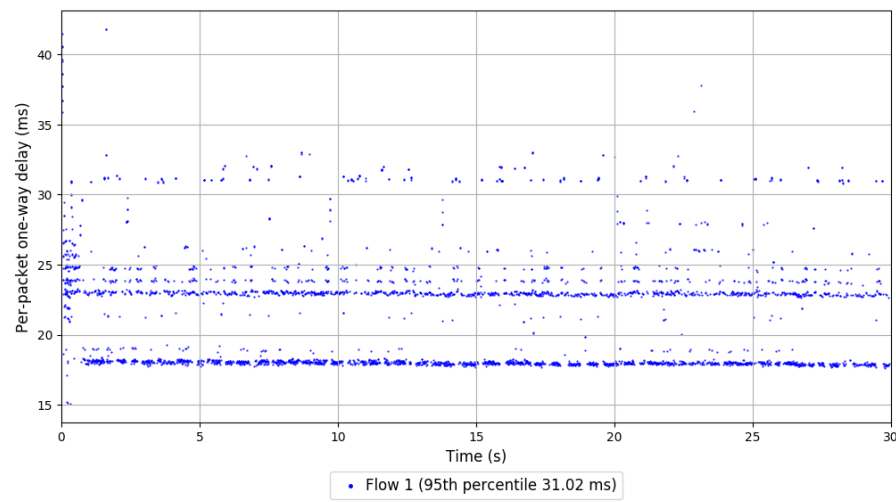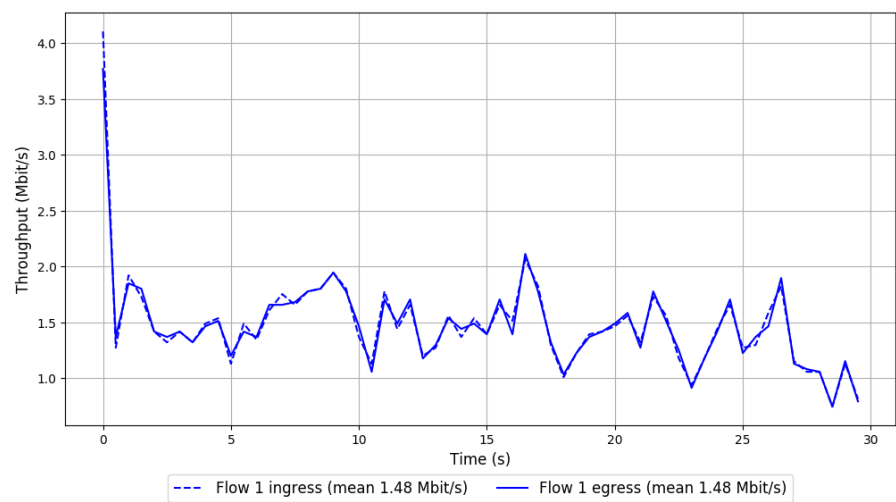
Run 3: Report of CalibratedKoho — Data Link

```
Run 1: Statistics of Copa

Start at: Tue, 25 Jul 2017 07:40:44 +0000
End at: Tue, 25 Jul 2017 07:41:14 +0000
Local clock offset: -1.62 ms
Remote clock offset: -0.457 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:10 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 36.207 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 36.207 ms
Loss rate: 0.06%
```
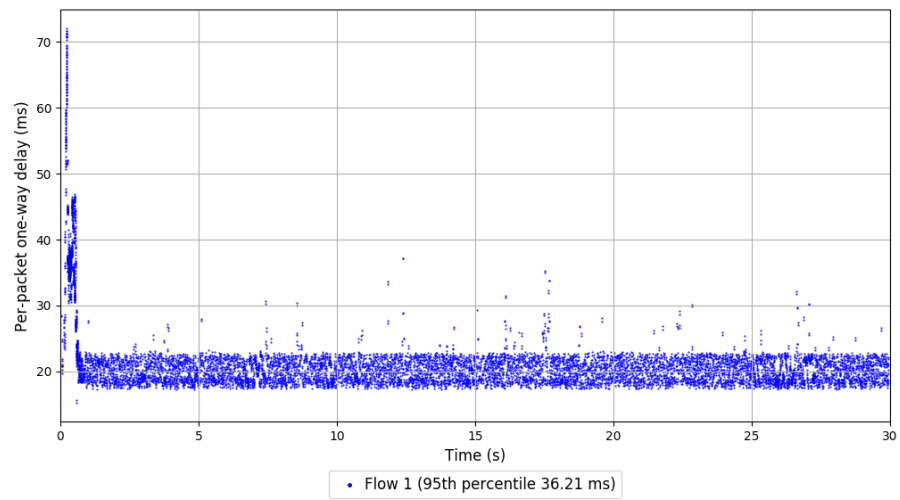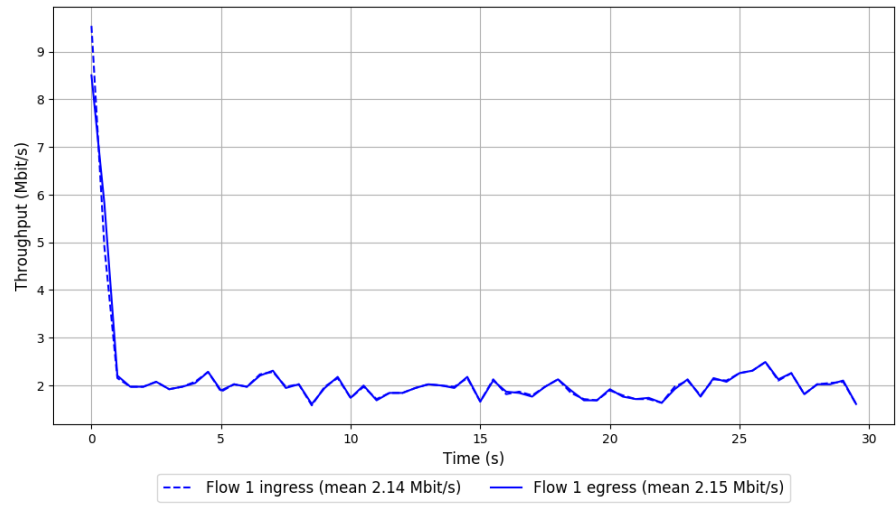
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 2.14 Mbit/s)   Flow 1 egress (mean 2.15 Mbit/s)

• Flow 1 (95th percentile 36.21 ms)

```
Run 2: Statistics of Copa

Start at: Tue, 25 Jul 2017 07:56:52 +0000
End at: Tue, 25 Jul 2017 07:57:22 +0000
Local clock offset: -1.628 ms
Remote clock offset: -0.496 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:11 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 23.449 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 23.449 ms
Loss rate: 0.05%
```
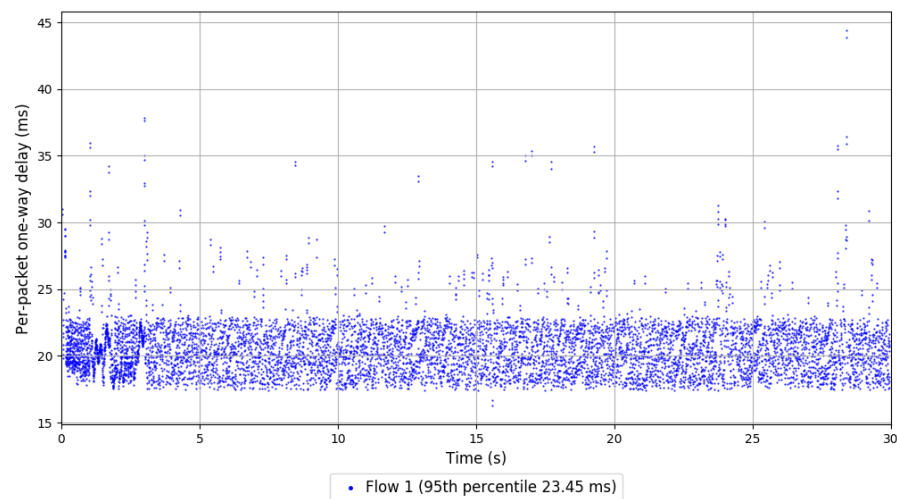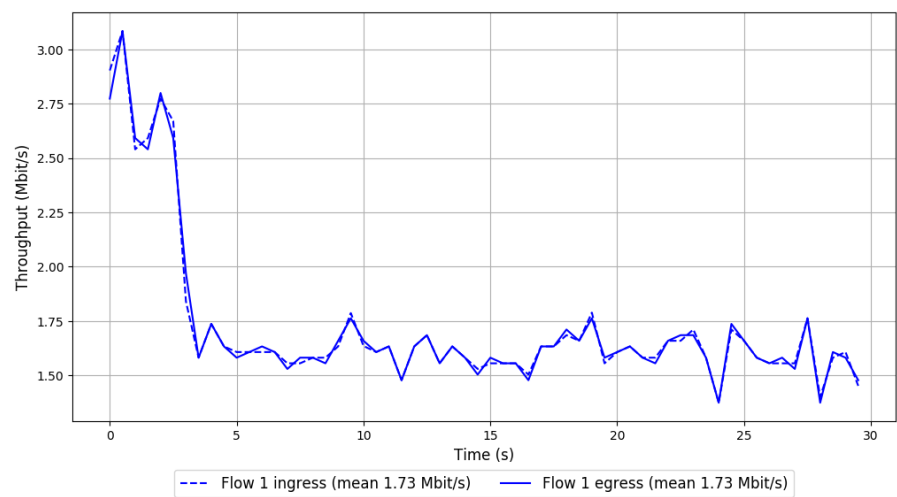
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 1.73 Mbit/s) —— Flow 1 egress (mean 1.73 Mbit/s)

• Flow 1 (95th percentile 23.45 ms)

```
Run 3: Statistics of Copa

Start at: Tue, 25 Jul 2017 08:13:00 +0000
End at: Tue, 25 Jul 2017 08:13:31 +0000
Local clock offset: -1.673 ms
Remote clock offset: -0.392 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:12 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 43.729 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 43.729 ms
Loss rate: 0.07%
```
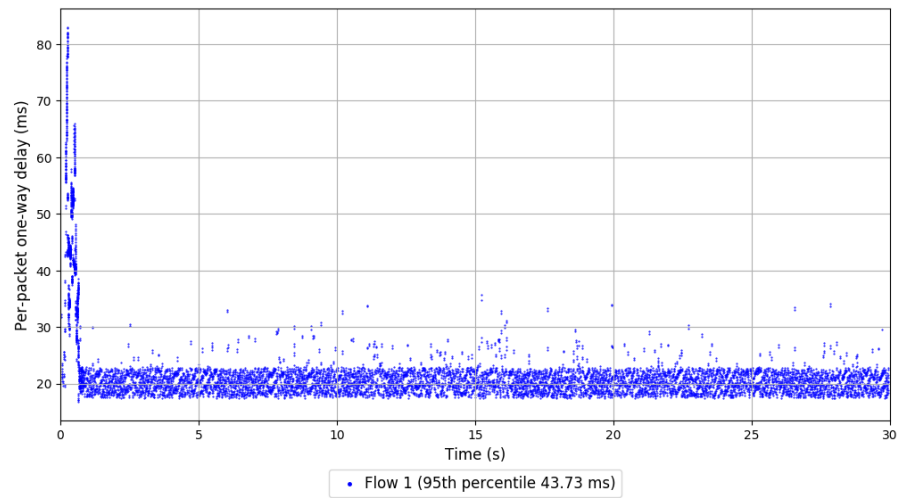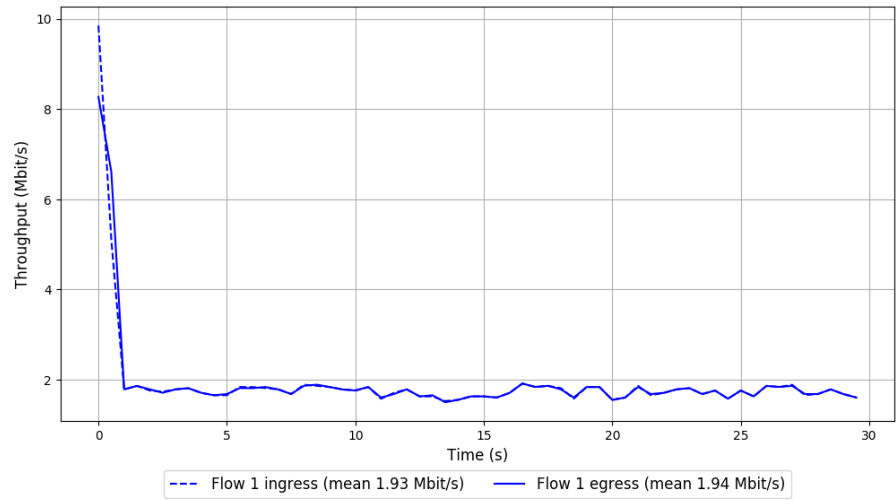
Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 1.93 Mbit/s) --- Flow 1 egress (mean 1.94 Mbit/s)

Flow 1 (95th percentile 43.73 ms)

```
Run 1: Statistics of TCP Cubic

Start at: Tue, 25 Jul 2017 07:35:20 +0000
End at: Tue, 25 Jul 2017 07:35:50 +0000
Local clock offset: -1.577 ms
Remote clock offset: -0.465 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:12 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.84 Mbit/s
95th percentile per-packet one-way delay: 33.397 ms
Loss rate: 1.25%
-- Flow 1:
Average throughput: 3.84 Mbit/s
95th percentile per-packet one-way delay: 33.397 ms
Loss rate: 1.25%
```
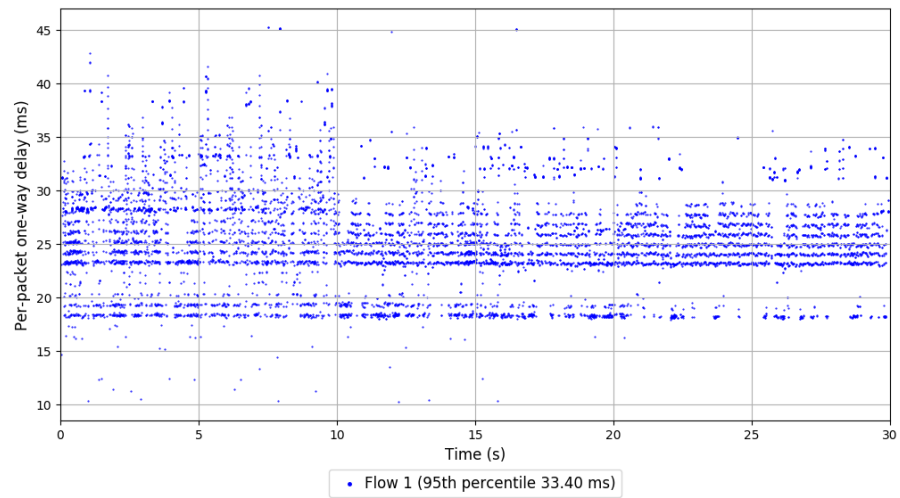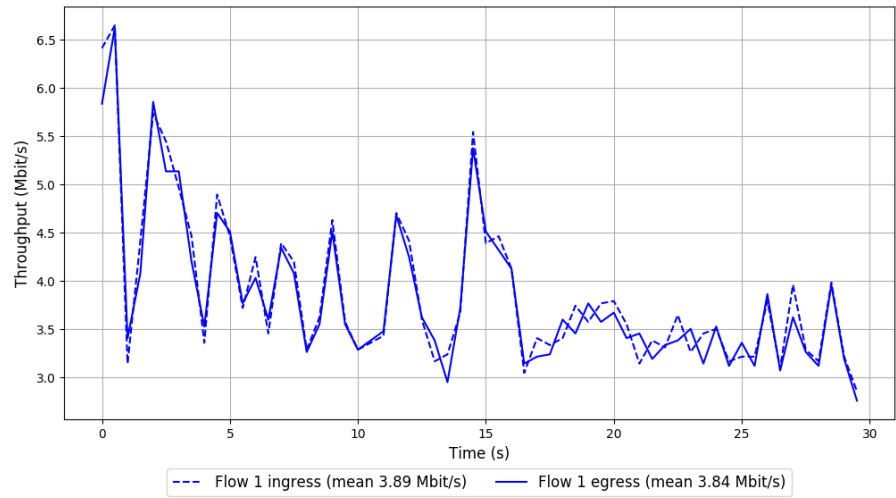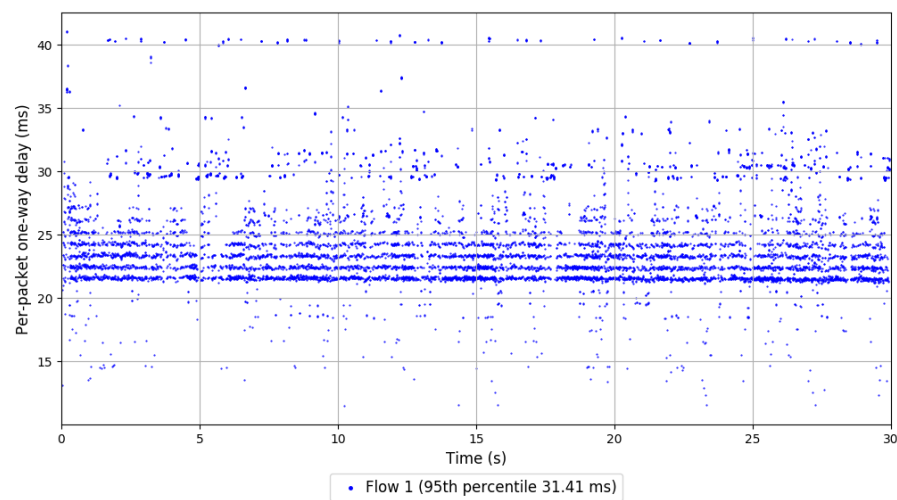
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 3.89 Mbit/s)   Flow 1 egress (mean 3.84 Mbit/s)

Flow 1 (95th percentile 33.40 ms)

```
Run 2: Statistics of TCP Cubic

Start at: Tue, 25 Jul 2017 07:51:28 +0000
End at: Tue, 25 Jul 2017 07:51:58 +0000
Local clock offset: -1.659 ms
Remote clock offset: -0.457 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:14 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.43 Mbit/s
95th percentile per-packet one-way delay: 31.412 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 4.43 Mbit/s
95th percentile per-packet one-way delay: 31.412 ms
Loss rate: 1.00%
```
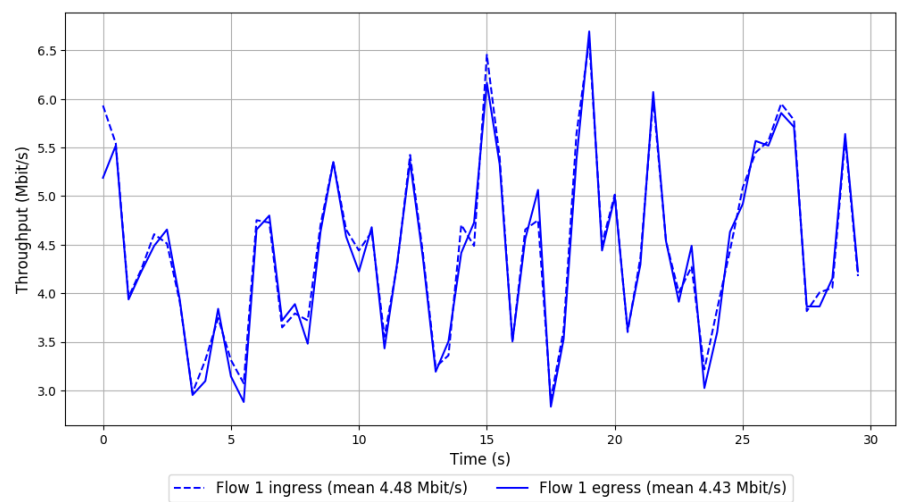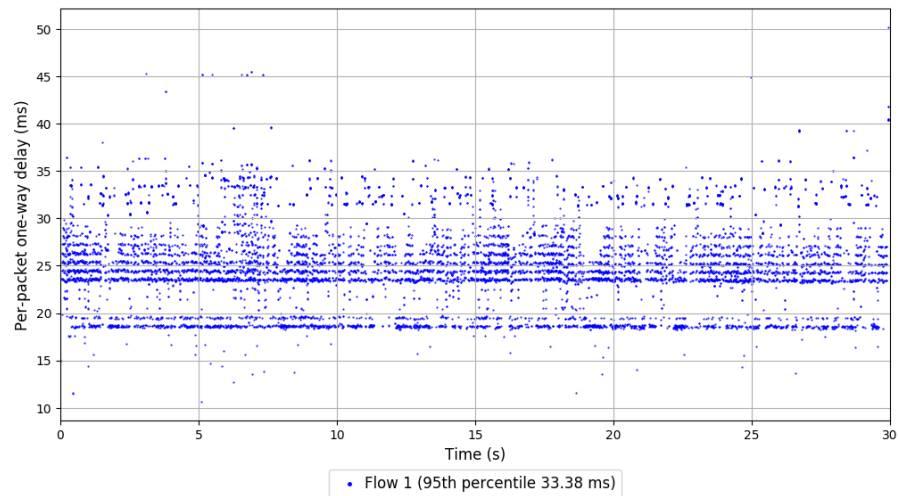
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 4.48 Mbit/s) ----- Flow 1 egress (mean 4.43 Mbit/s)

Flow 1 (95th percentile 31.41 ms)

```
Run 3: Statistics of TCP Cubic

Start at: Tue, 25 Jul 2017 08:07:36 +0000
End at: Tue, 25 Jul 2017 08:08:06 +0000
Local clock offset: -1.657 ms
Remote clock offset: -0.377 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:14 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.20 Mbit/s
95th percentile per-packet one-way delay: 33.379 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 4.20 Mbit/s
95th percentile per-packet one-way delay: 33.379 ms
Loss rate: 1.19%
```
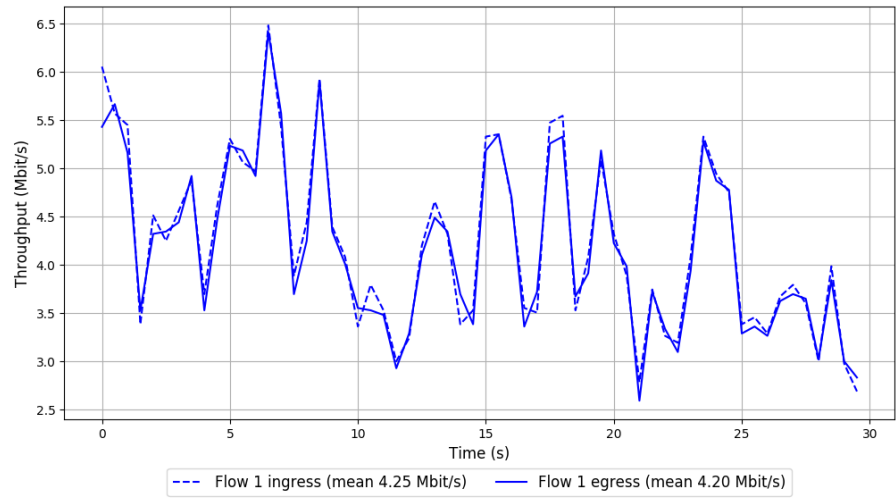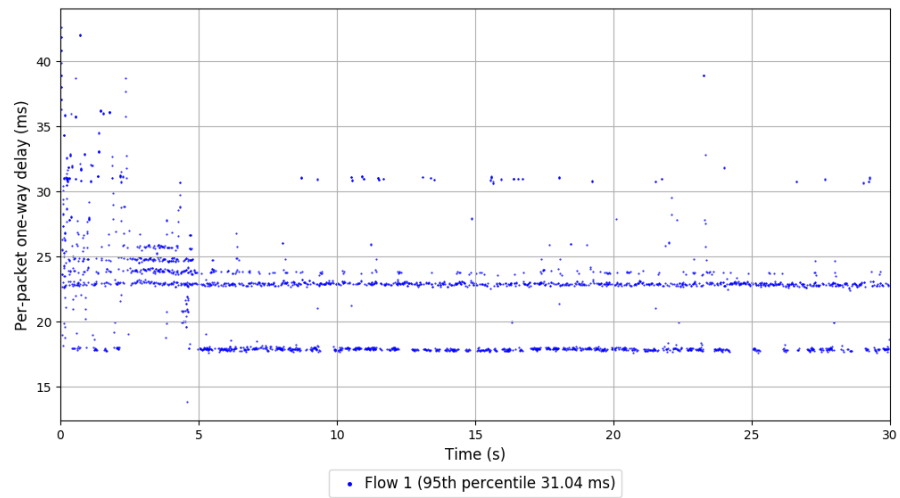
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 4.25 Mbit/s) --- Flow 1 egress (mean 4.20 Mbit/s)

Flow 1 (95th percentile 33.38 ms)

```
Run 1: Statistics of KohoCC

Start at: Tue, 25 Jul 2017 07:47:09 +0000
End at: Tue, 25 Jul 2017 07:47:40 +0000
Local clock offset: -1.631 ms
Remote clock offset: -0.527 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:15 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 31.037 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 31.037 ms
Loss rate: 0.31%
```
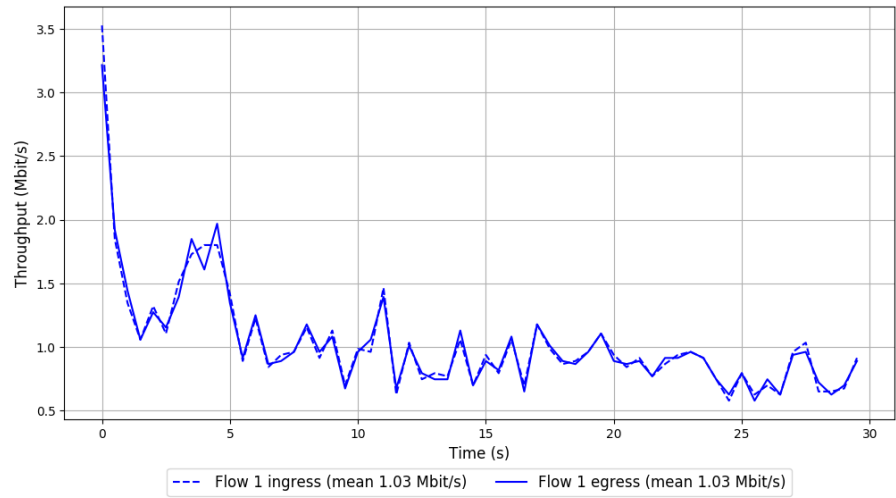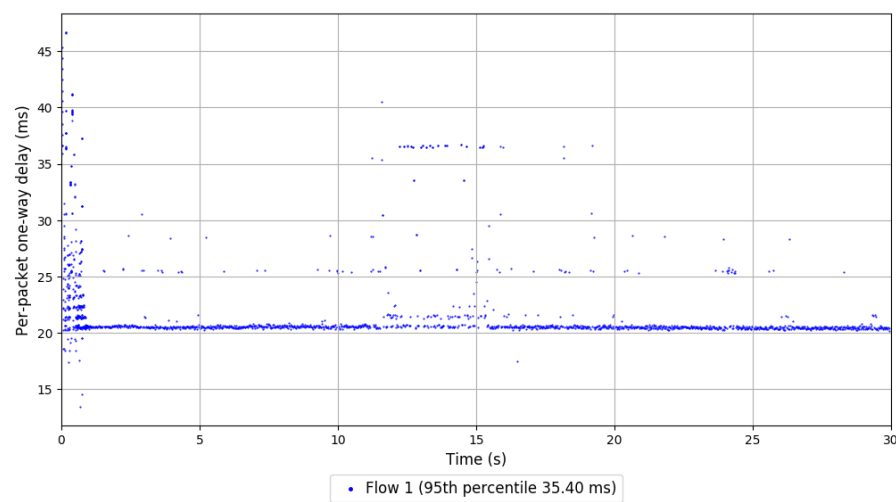
Run 1: Report of KohoCC — Data Link

Flow 1 ingress (mean 1.03 Mbit/s) --- Flow 1 egress (mean 1.03 Mbit/s)

Flow 1 (95th percentile 31.04 ms)

```
Run 2: Statistics of KohoCC

Start at: Tue, 25 Jul 2017 08:03:17 +0000
End at: Tue, 25 Jul 2017 08:03:47 +0000
Local clock offset: -1.648 ms
Remote clock offset: -0.348 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:15 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 35.400 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.73 Mbit/s
95th percentile per-packet one-way delay: 35.400 ms
Loss rate: 0.38%
```
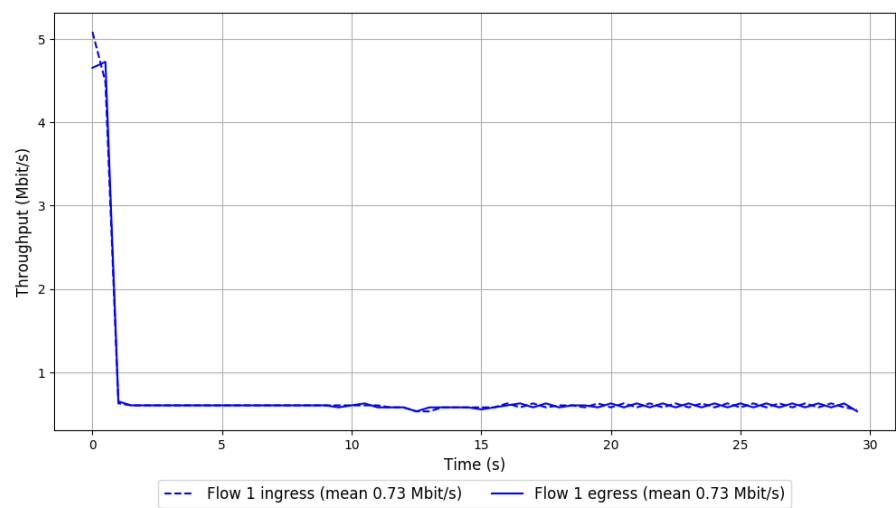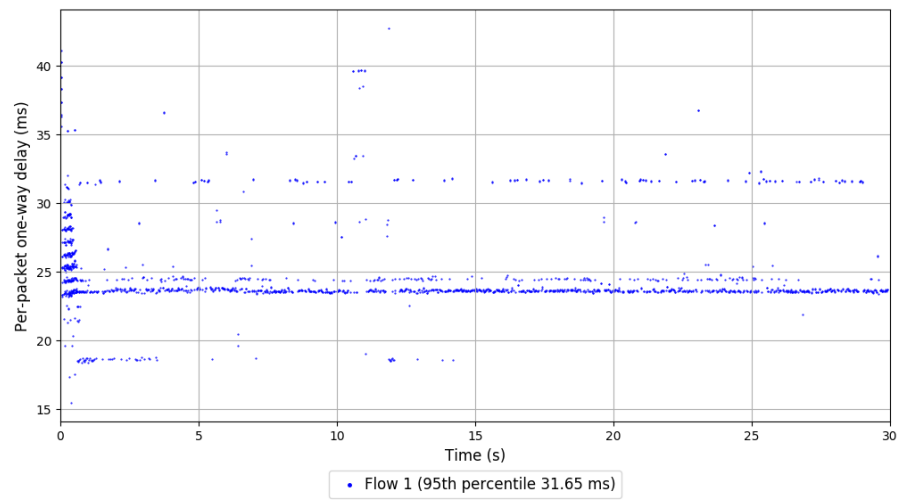
Run 2: Report of KohoCC — Data Link

Flow 1 ingress (mean 0.73 Mbit/s) ——— Flow 1 egress (mean 0.73 Mbit/s)

Flow 1 (95th percentile 35.40 ms)

```
Run 3: Statistics of KohoCC

Start at: Tue, 25 Jul 2017 08:19:26 +0000
End at: Tue, 25 Jul 2017 08:19:56 +0000
Local clock offset: -1.573 ms
Remote clock offset: -0.351 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:16 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 31.653 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 31.653 ms
Loss rate: 1.11%
```
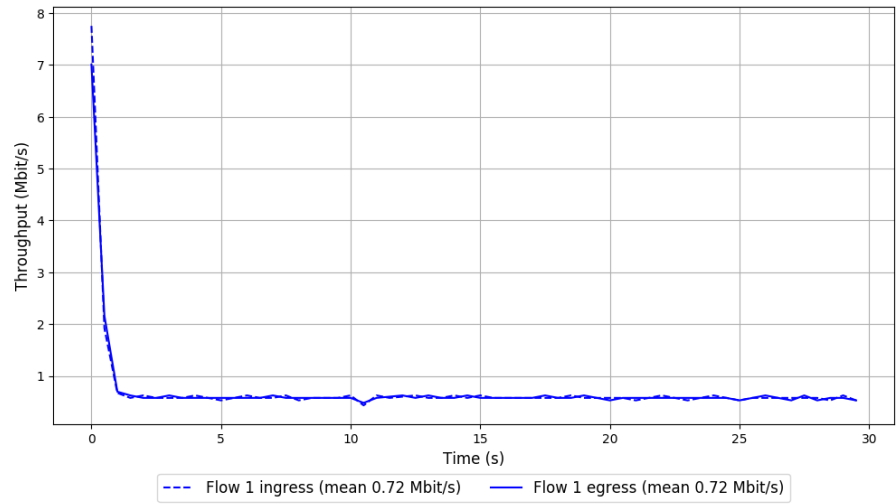
Run 3: Report of KohoCC — Data Link

```
Run 1: Statistics of LEDBAT

Start at: Tue, 25 Jul 2017 07:41:49 +0000
End at: Tue, 25 Jul 2017 07:42:19 +0000
Local clock offset: -1.596 ms
Remote clock offset: -0.539 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:17 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.96 Mbit/s
95th percentile per-packet one-way delay: 31.370 ms
Loss rate: 2.31%
-- Flow 1:
Average throughput: 3.96 Mbit/s
95th percentile per-packet one-way delay: 31.370 ms
Loss rate: 2.31%
```
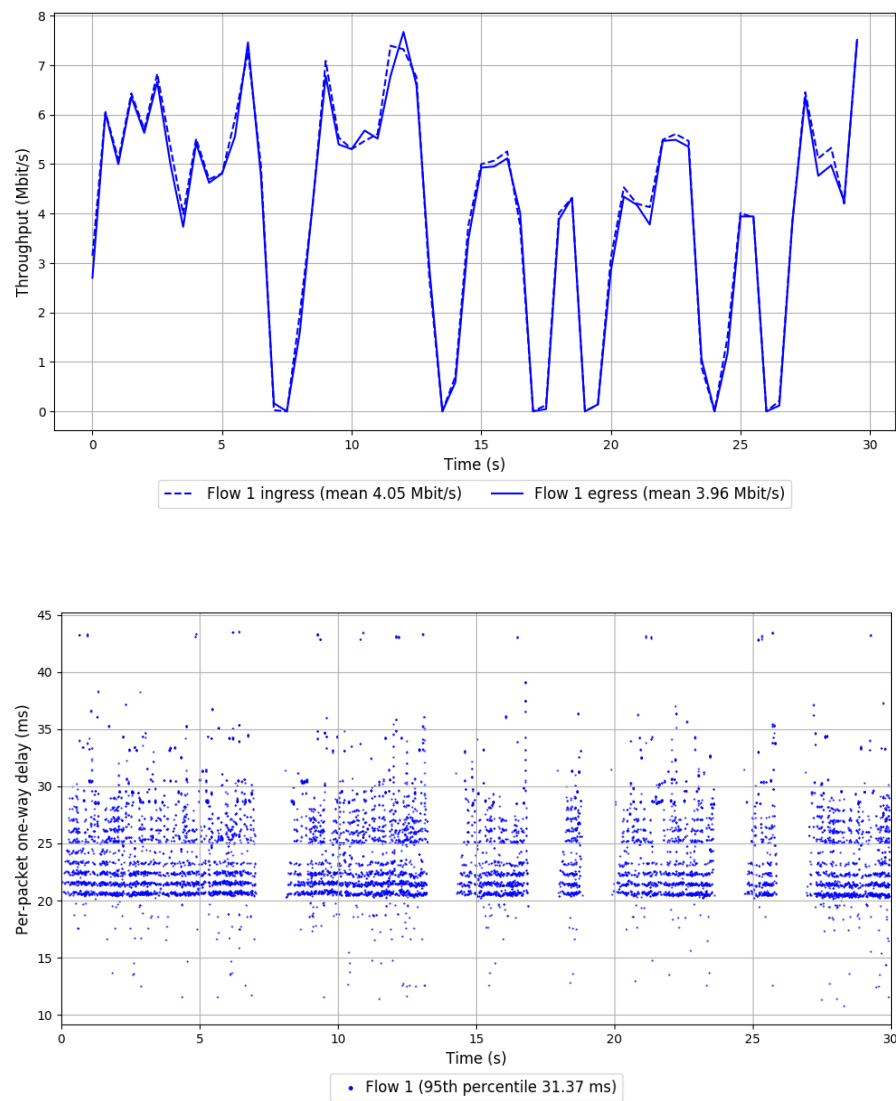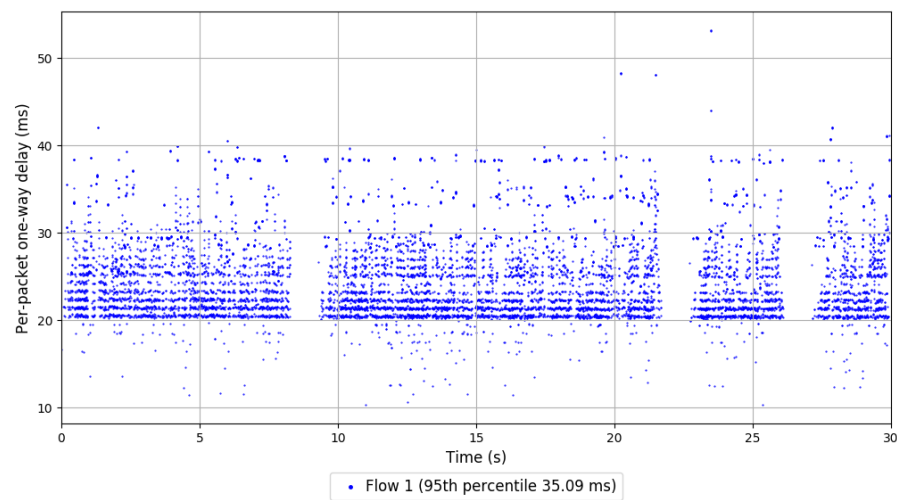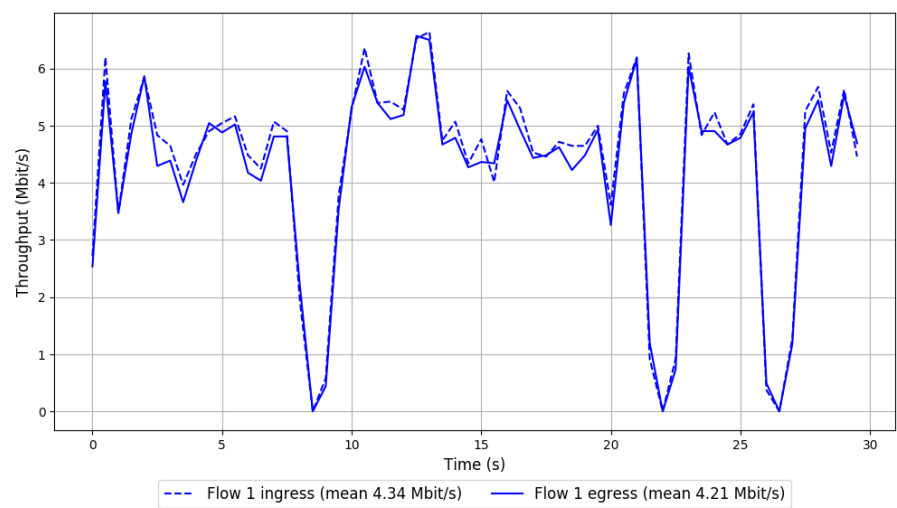
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 4.05 Mbit/s)   Flow 1 egress (mean 3.96 Mbit/s)

• Flow 1 (95th percentile 31.37 ms)

```
Run 2: Statistics of LEDBAT

Start at: Tue, 25 Jul 2017 07:57:56 +0000
End at: Tue, 25 Jul 2017 07:58:27 +0000
Local clock offset: -1.637 ms
Remote clock offset: -0.395 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:17 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 35.088 ms
Loss rate: 2.93%
-- Flow 1:
Average throughput: 4.21 Mbit/s
95th percentile per-packet one-way delay: 35.088 ms
Loss rate: 2.93%
```
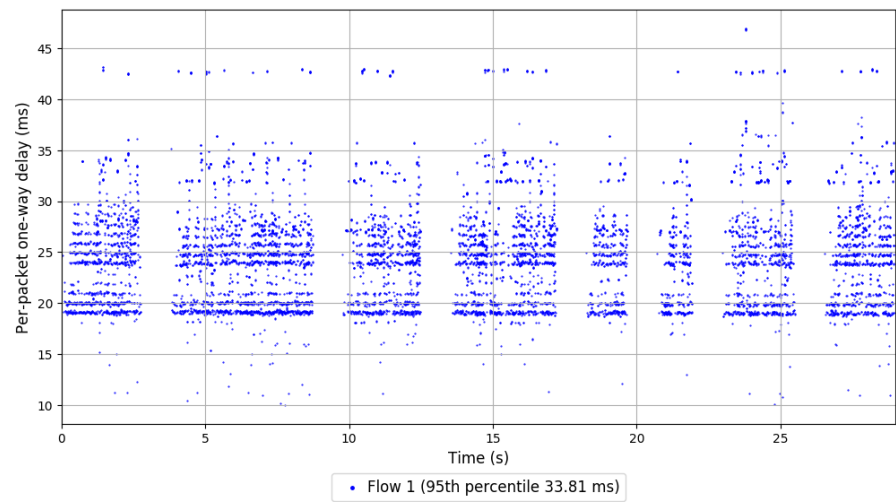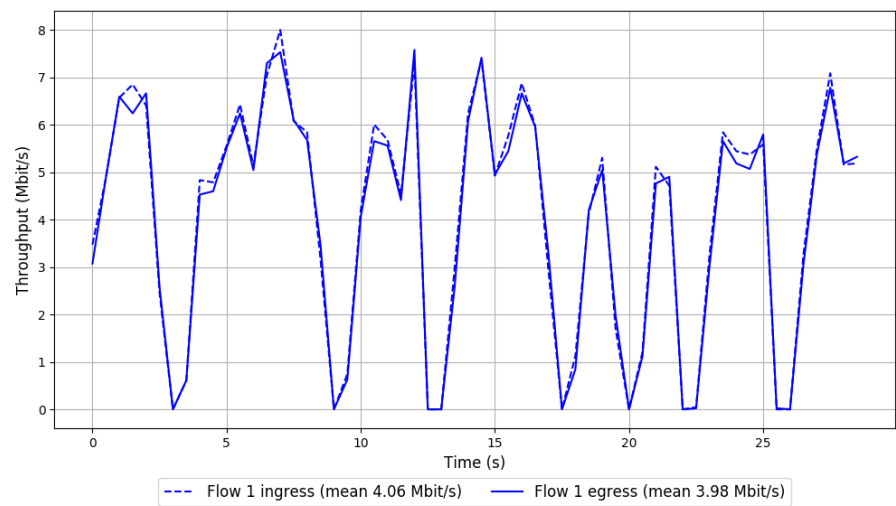
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 4.34 Mbit/s) — Flow 1 egress (mean 4.21 Mbit/s)

• Flow 1 (95th percentile 35.09 ms)

```
Run 3: Statistics of LEDBAT

Start at: Tue, 25 Jul 2017 08:14:05 +0000
End at: Tue, 25 Jul 2017 08:14:35 +0000
Local clock offset: -1.671 ms
Remote clock offset: -0.357 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:19 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 33.812 ms
Loss rate: 1.90%
-- Flow 1:
Average throughput: 3.98 Mbit/s
95th percentile per-packet one-way delay: 33.812 ms
Loss rate: 1.90%
```
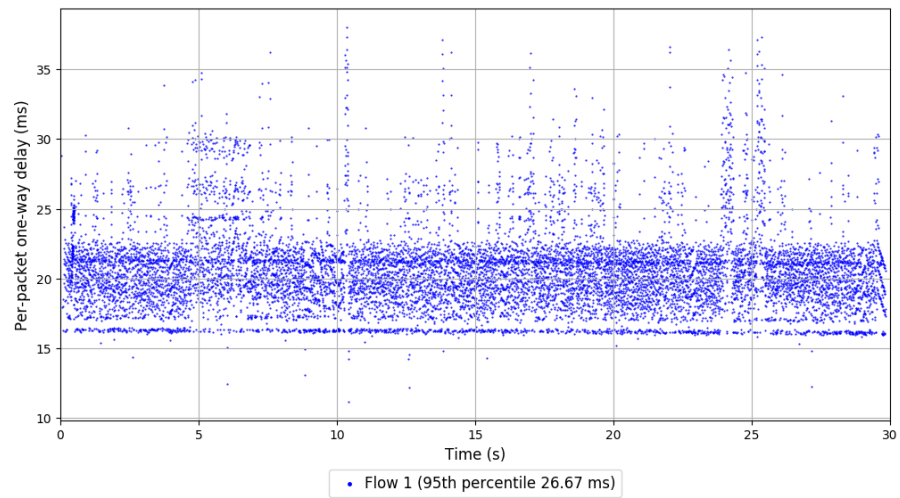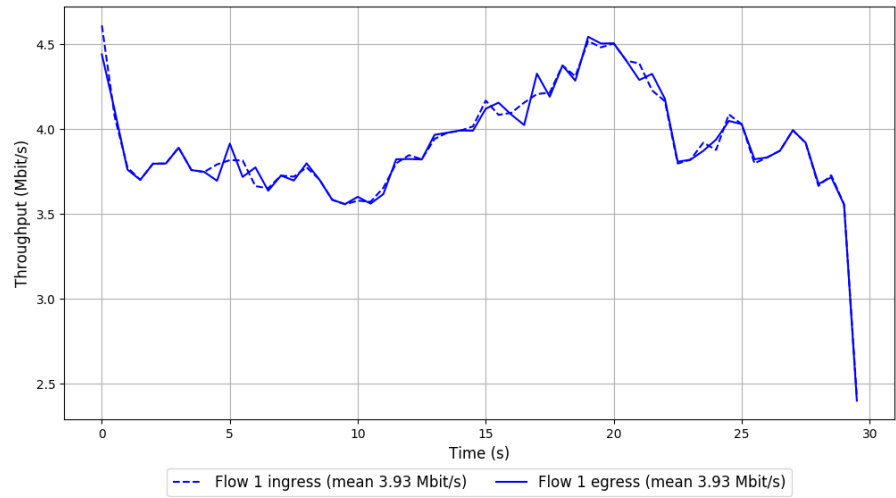
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 4.06 Mbit/s) --- Flow 1 egress (mean 3.98 Mbit/s)

• Flow 1 (95th percentile 33.81 ms)

```
Run 1: Statistics of PCC

Start at: Tue, 25 Jul 2017 07:37:29 +0000
End at: Tue, 25 Jul 2017 07:37:59 +0000
Local clock offset: -1.676 ms
Remote clock offset: -0.462 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:19 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 26.668 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 26.668 ms
Loss rate: 0.07%
```

Run 1: Report of PCC — Data Link

```
Run 2: Statistics of PCC

Start at: Tue, 25 Jul 2017 07:53:37 +0000
End at: Tue, 25 Jul 2017 07:54:07 +0000
Local clock offset: -1.645 ms
Remote clock offset: -0.508 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:20 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 22.599 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.84 Mbit/s
95th percentile per-packet one-way delay: 22.599 ms
Loss rate: 0.07%
```
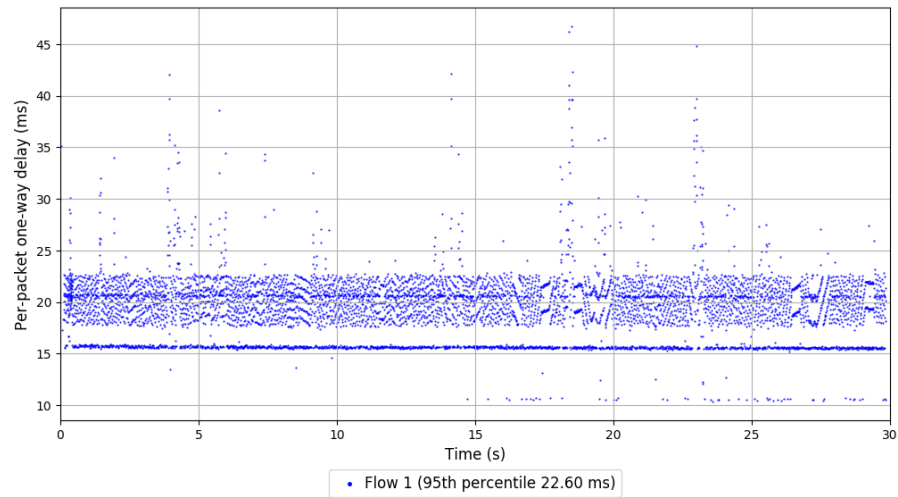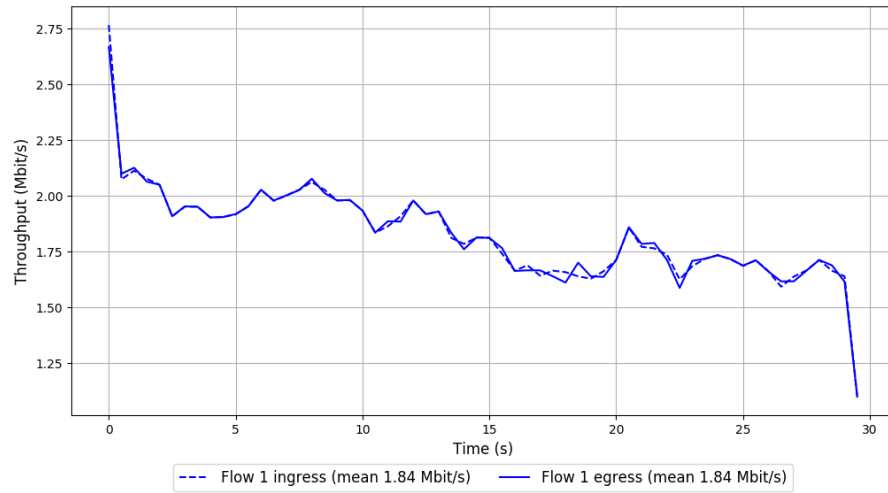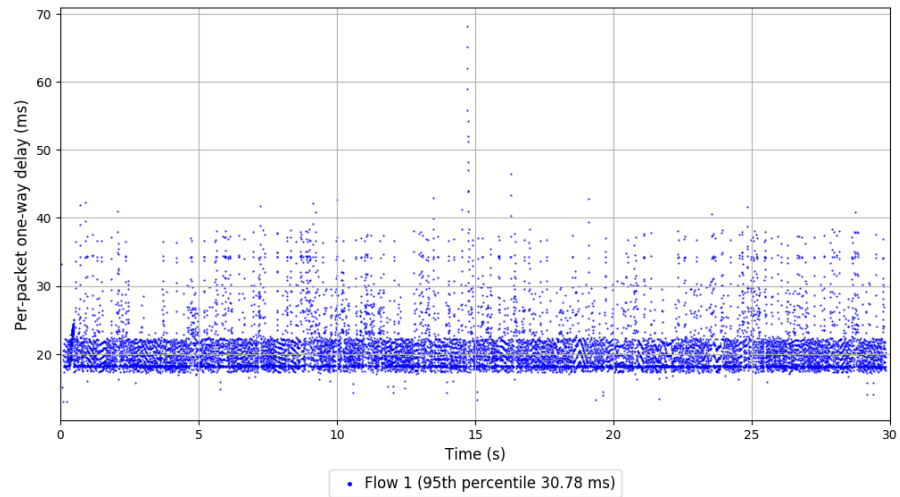
Run 2: Report of PCC — Data Link

Flow 1 ingress (mean 1.84 Mbit/s)   Flow 1 egress (mean 1.84 Mbit/s)

Flow 1 (95th percentile 22.60 ms)

```
Run 3: Statistics of PCC

Start at: Tue, 25 Jul 2017 08:09:44 +0000
End at: Tue, 25 Jul 2017 08:10:14 +0000
Local clock offset: -1.691 ms
Remote clock offset: -0.37 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:21 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.95 Mbit/s
95th percentile per-packet one-way delay: 30.784 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 3.95 Mbit/s
95th percentile per-packet one-way delay: 30.784 ms
Loss rate: 0.13%
```
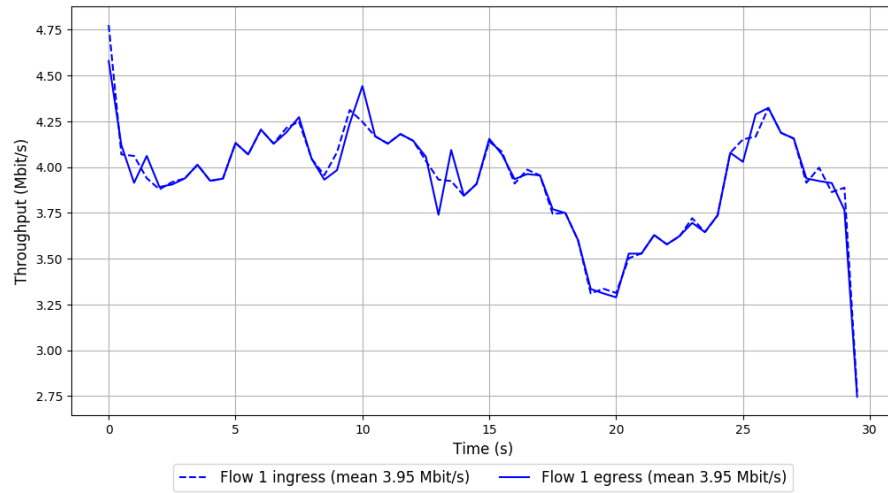
Run 3: Report of PCC — Data Link

Flow 1 ingress (mean 3.95 Mbit/s) — Flow 1 egress (mean 3.95 Mbit/s)

• Flow 1 (95th percentile 30.78 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: Tue, 25 Jul 2017 07:43:57 +0000
End at: Tue, 25 Jul 2017 07:44:27 +0000
Local clock offset: -1.627 ms
Remote clock offset: -0.457 ms
```
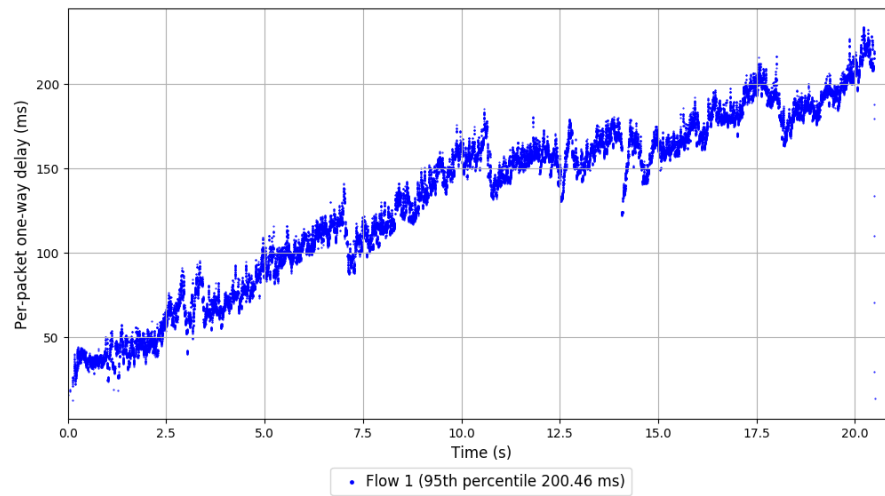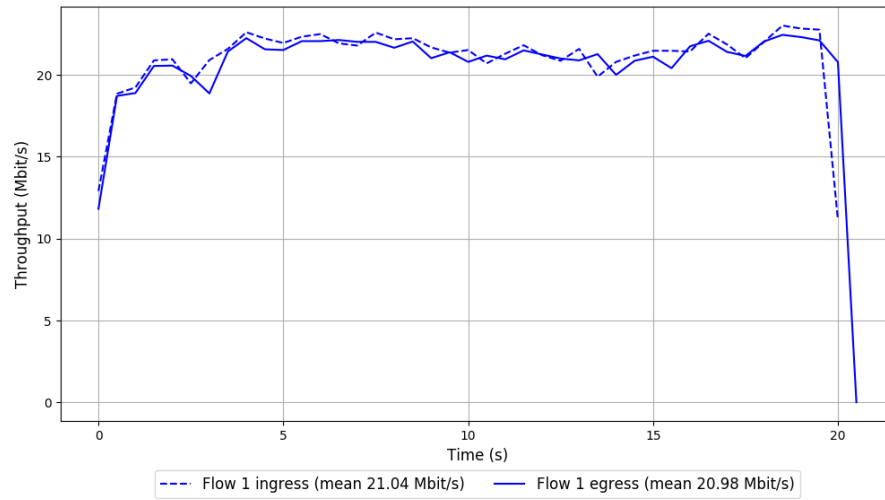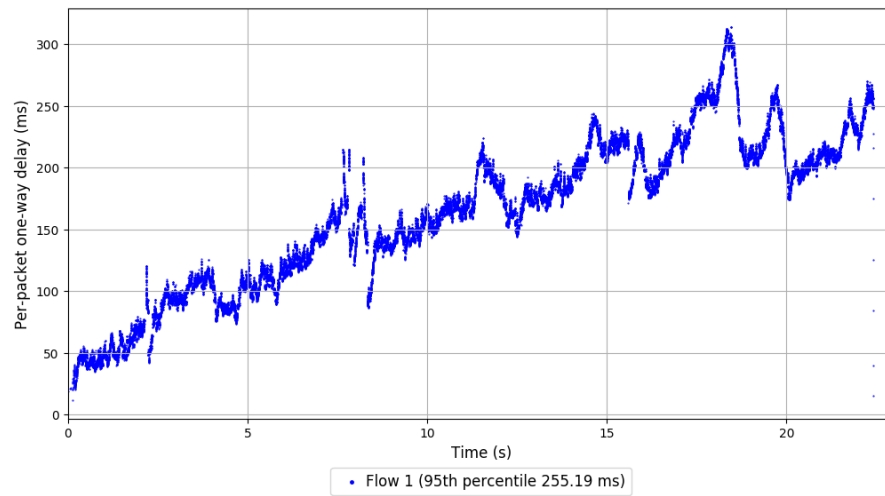
Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 21.04 Mbit/s) --- Flow 1 egress (mean 20.98 Mbit/s)

• Flow 1 (95th percentile 200.46 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: Tue, 25 Jul 2017 08:00:05 +0000
End at: Tue, 25 Jul 2017 08:00:35 +0000
Local clock offset: -1.626 ms
Remote clock offset: -0.39 ms
```
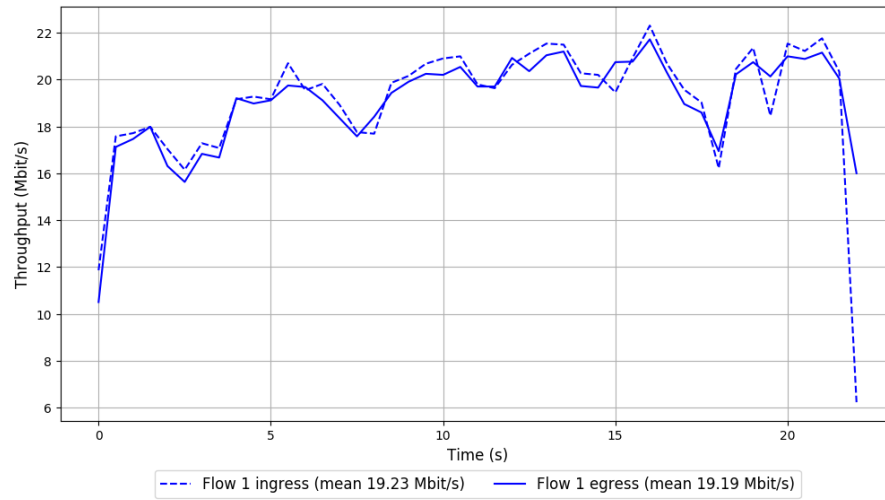
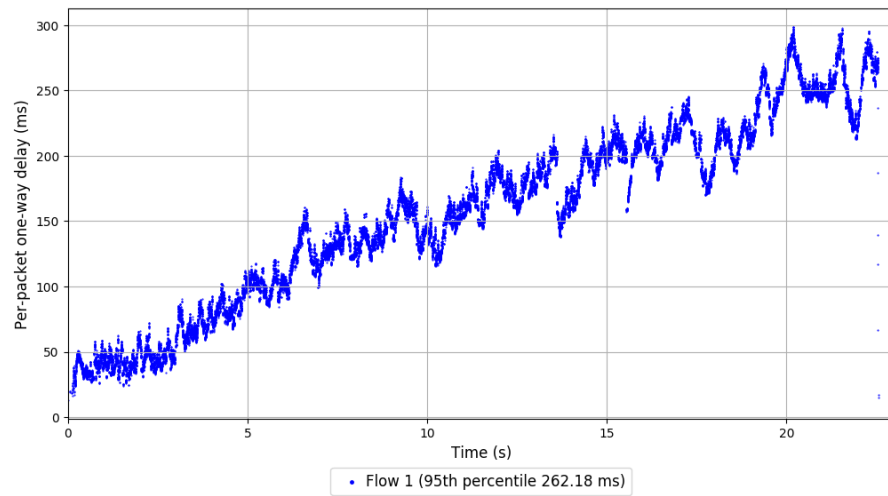Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: Tue, 25 Jul 2017 08:16:13 +0000
End at: Tue, 25 Jul 2017 08:16:43 +0000
Local clock offset: -1.638 ms
Remote clock offset: -0.338 ms
```
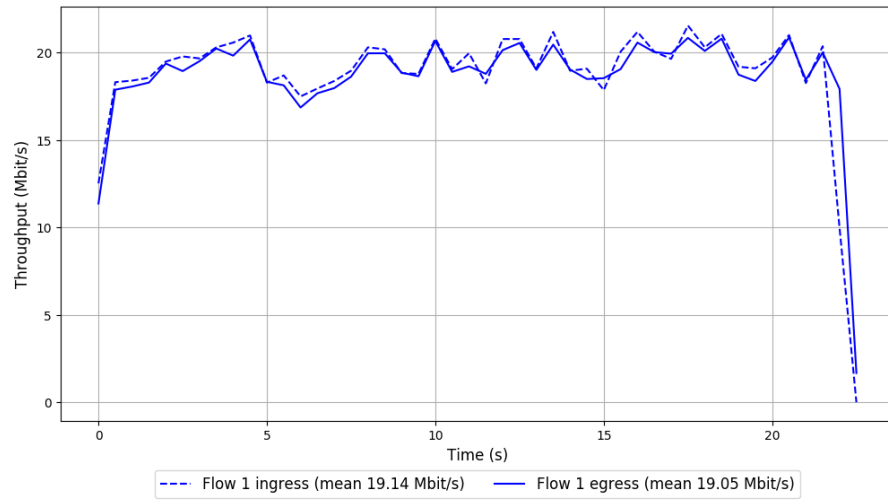
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 19.14 Mbit/s) ----- Flow 1 egress (mean 19.05 Mbit/s) ———

Flow 1 (95th percentile 262.18 ms)

```
Run 1: Statistics of Saturator

Start at: Tue, 25 Jul 2017 07:32:06 +0000
End at: Tue, 25 Jul 2017 07:32:36 +0000
Local clock offset: -1.574 ms
Remote clock offset: -0.454 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:29 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 20.87 Mbit/s
95th percentile per-packet one-way delay: 91.390 ms
Loss rate: 26.78%
-- Flow 1:
Average throughput: 20.87 Mbit/s
95th percentile per-packet one-way delay: 91.390 ms
Loss rate: 26.78%
```
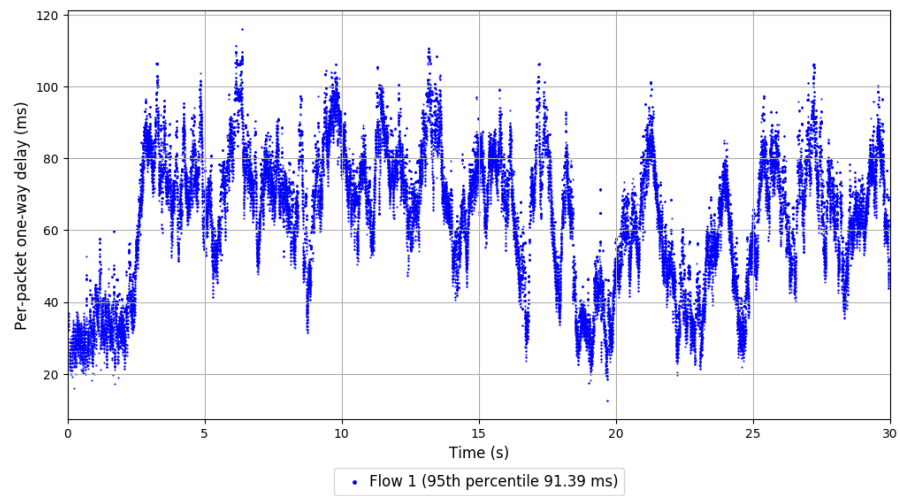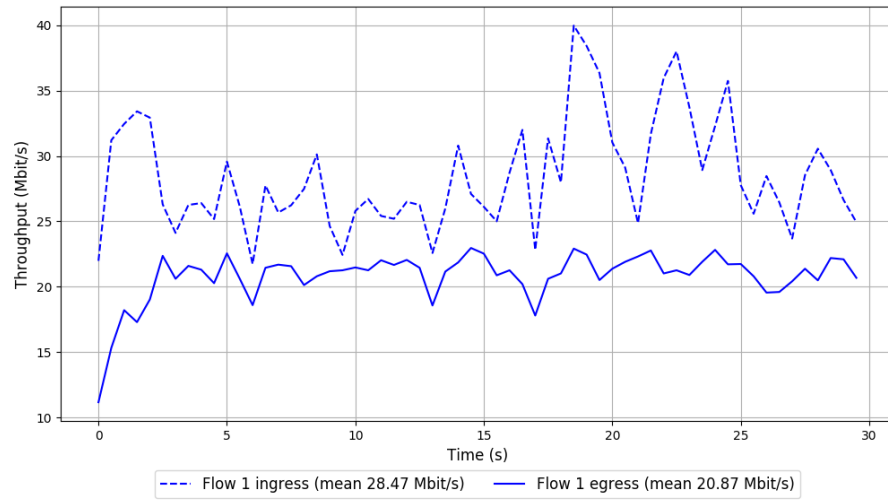
Run 1: Report of Saturator — Data Link

Flow 1 ingress (mean 28.47 Mbit/s)   Flow 1 egress (mean 20.87 Mbit/s)

Flow 1 (95th percentile 91.39 ms)

```
Run 2: Statistics of Saturator

Start at: Tue, 25 Jul 2017 07:48:14 +0000
End at: Tue, 25 Jul 2017 07:48:44 +0000
Local clock offset: -1.641 ms
Remote clock offset: -0.469 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:29 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 21.33 Mbit/s
95th percentile per-packet one-way delay: 91.821 ms
Loss rate: 24.61%
-- Flow 1:
Average throughput: 21.33 Mbit/s
95th percentile per-packet one-way delay: 91.821 ms
Loss rate: 24.61%
```
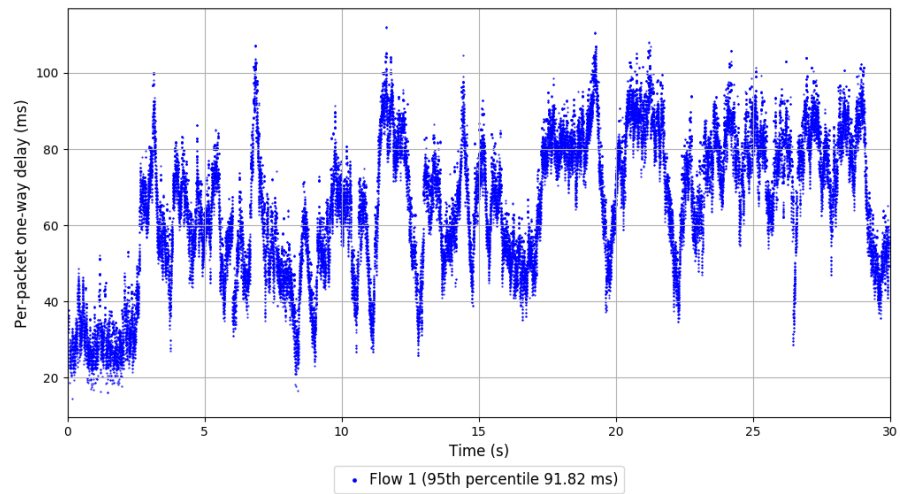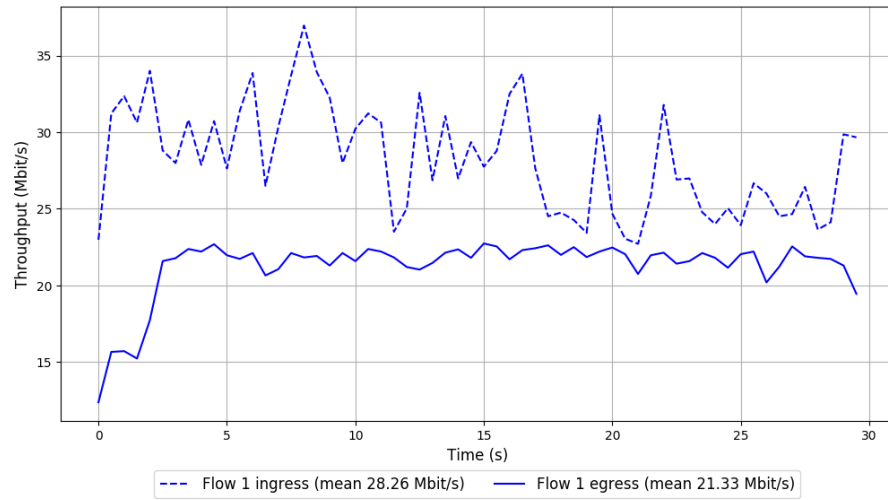
Run 2: Report of Saturator — Data Link

Flow 1 ingress (mean 28.26 Mbit/s) --- Flow 1 egress (mean 21.33 Mbit/s)

• Flow 1 (95th percentile 91.82 ms)

```
Run 3: Statistics of Saturator

Start at: Tue, 25 Jul 2017 08:04:21 +0000
End at: Tue, 25 Jul 2017 08:04:51 +0000
Local clock offset: -1.644 ms
Remote clock offset: -0.434 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:33 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.33 Mbit/s
95th percentile per-packet one-way delay: 120.930 ms
Loss rate: 19.14%
-- Flow 1:
Average throughput: 19.33 Mbit/s
95th percentile per-packet one-way delay: 120.930 ms
Loss rate: 19.14%
```
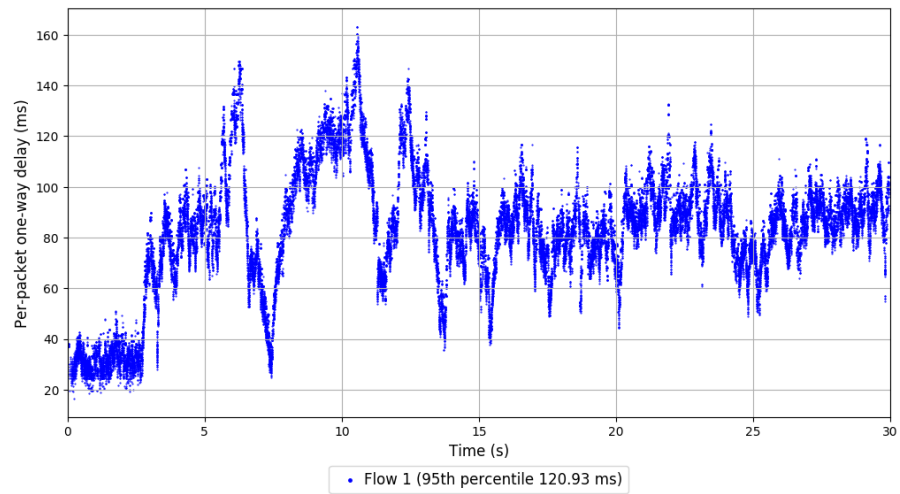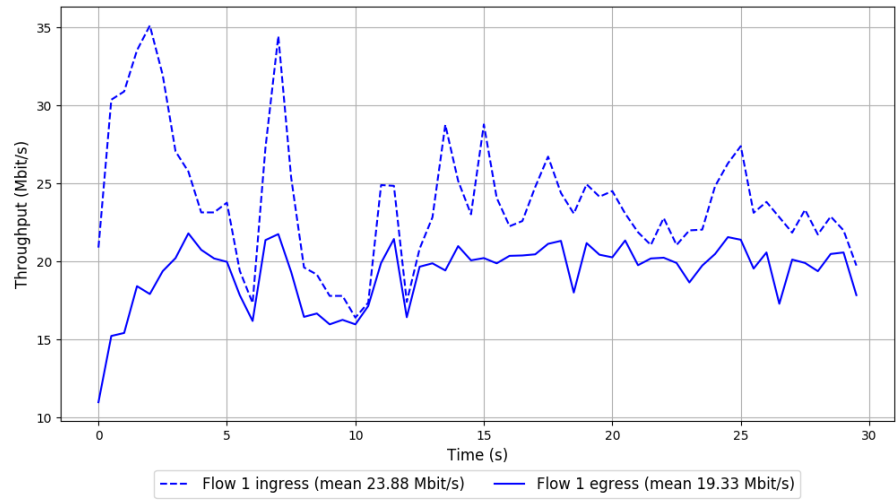
Run 3: Report of Saturator — Data Link

Flow 1 ingress (mean 23.88 Mbit/s) --- Flow 1 egress (mean 19.33 Mbit/s)

Flow 1 (95th percentile 120.93 ms)

```
Run 1: Statistics of SCReAM

Start at: Tue, 25 Jul 2017 07:42:53 +0000
End at: Tue, 25 Jul 2017 07:43:23 +0000
Local clock offset: -1.701 ms
Remote clock offset: -0.496 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:33 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.080 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 24.080 ms
Loss rate: 0.00%
```
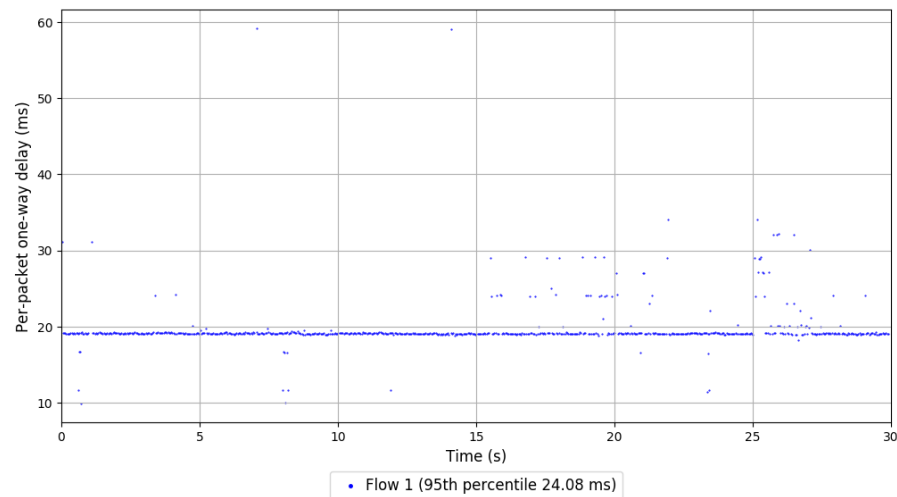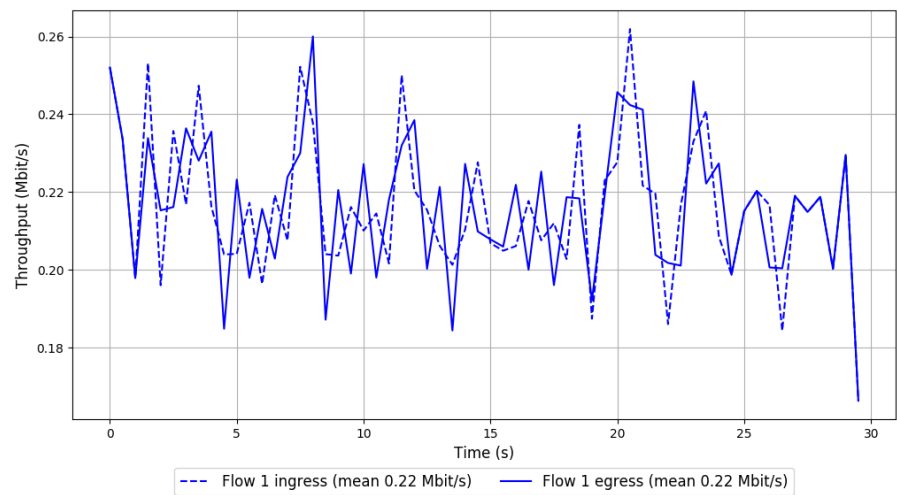
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: Tue, 25 Jul 2017 07:59:01 +0000
End at: Tue, 25 Jul 2017 07:59:31 +0000
Local clock offset: -1.704 ms
Remote clock offset: -0.406 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:33 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 28.937 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 28.937 ms
Loss rate: 0.00%
```
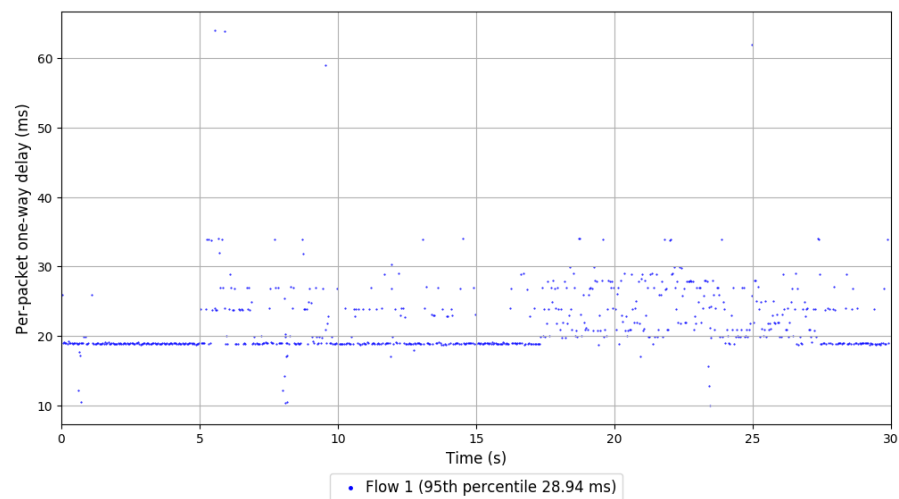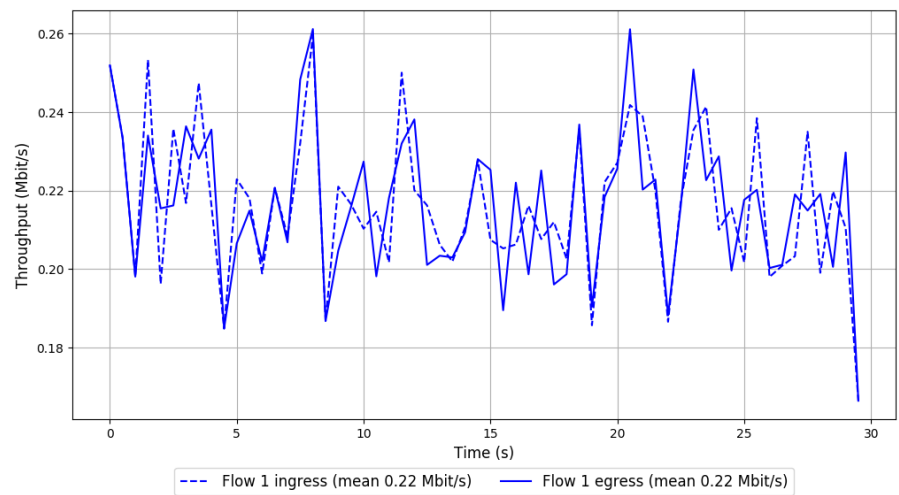
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: Tue, 25 Jul 2017 08:15:09 +0000
End at: Tue, 25 Jul 2017 08:15:39 +0000
Local clock offset: -1.64 ms
Remote clock offset: -0.344 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:33 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 21.898 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 21.898 ms
Loss rate: 0.00%
```
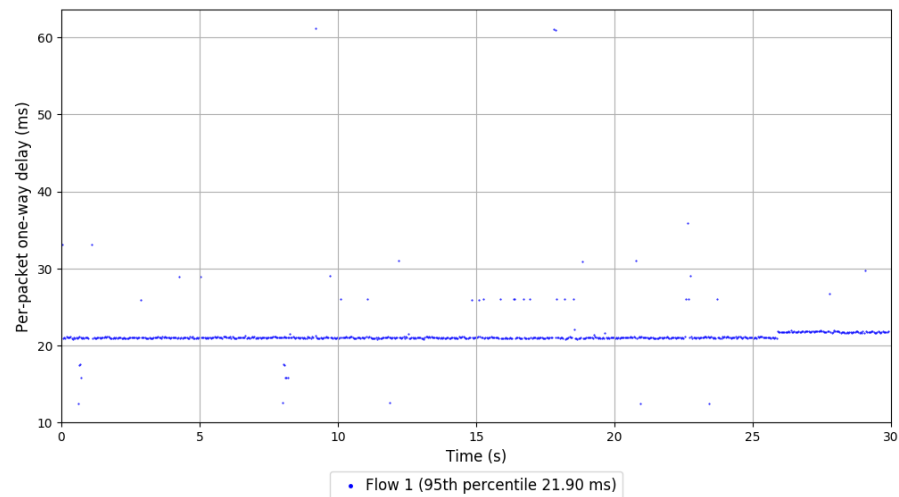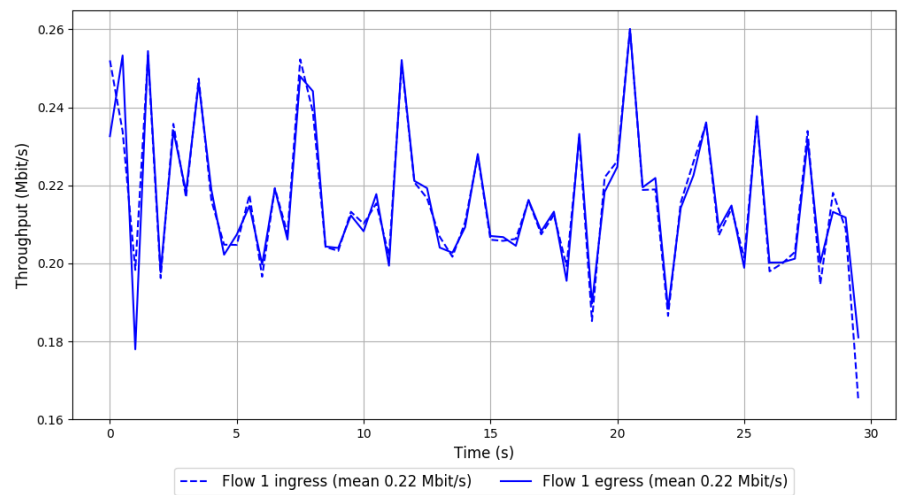
Run 3: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 21.90 ms)

```
Run 1: Statistics of Sprout

Start at: Tue, 25 Jul 2017 07:36:25 +0000
End at: Tue, 25 Jul 2017 07:36:55 +0000
Local clock offset: -1.571 ms
Remote clock offset: -0.463 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:33 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.83 Mbit/s
95th percentile per-packet one-way delay: 33.418 ms
Loss rate: 27.07%
-- Flow 1:
Average throughput: 4.83 Mbit/s
95th percentile per-packet one-way delay: 33.418 ms
Loss rate: 27.07%
```
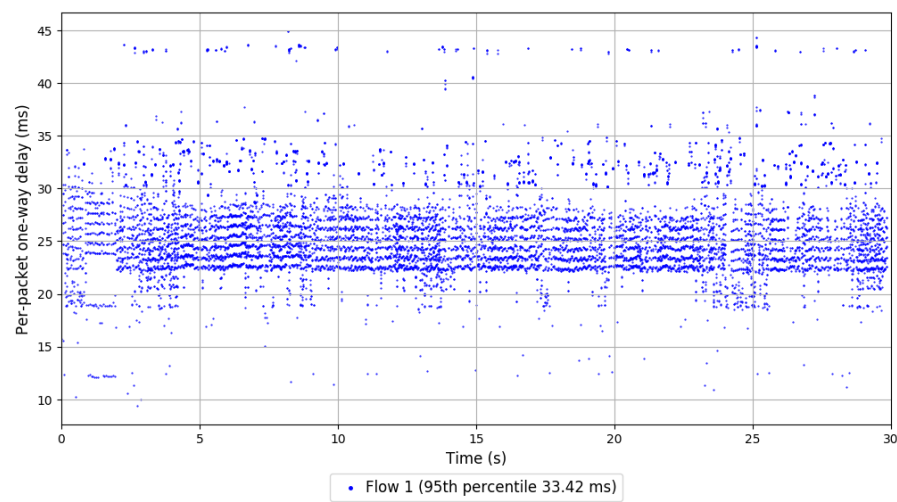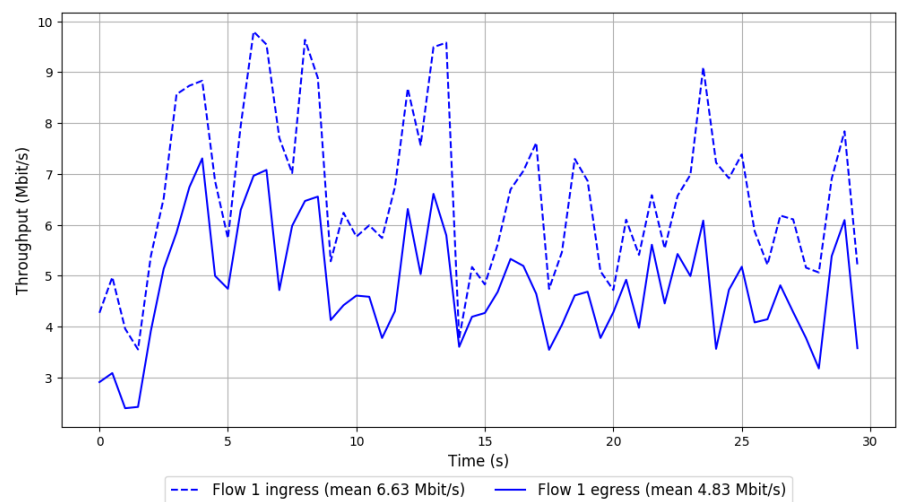
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: Tue, 25 Jul 2017 07:52:33 +0000
End at: Tue, 25 Jul 2017 07:53:03 +0000
Local clock offset: -1.609 ms
Remote clock offset: -0.461 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 35.141 ms
Loss rate: 27.74%
-- Flow 1:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 35.141 ms
Loss rate: 27.74%
```
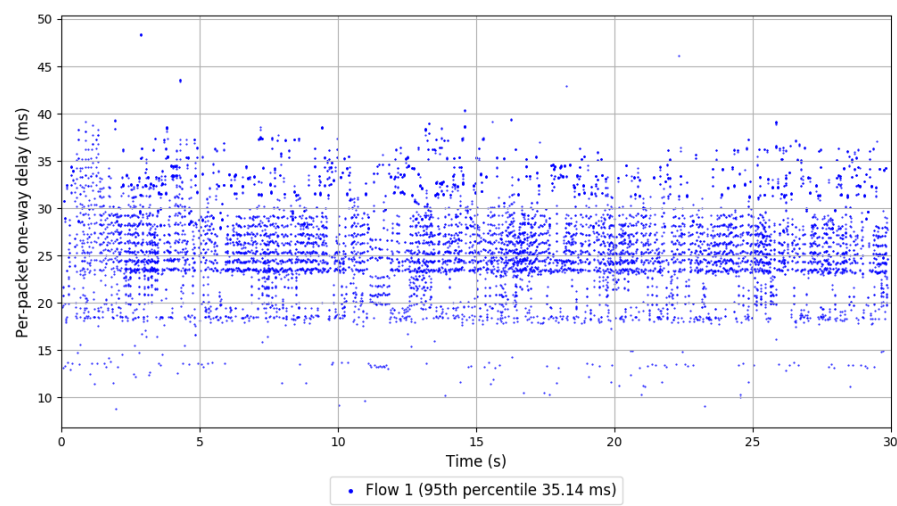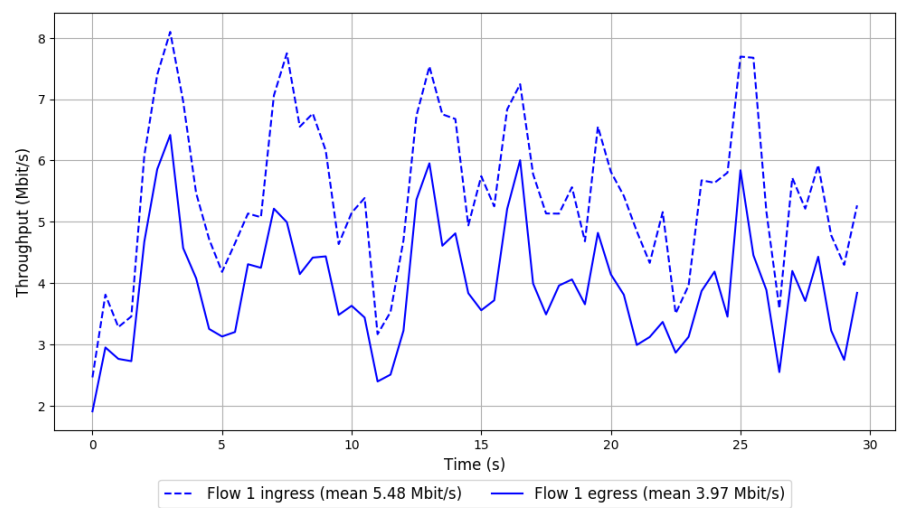
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: Tue, 25 Jul 2017 08:08:40 +0000
End at: Tue, 25 Jul 2017 08:09:10 +0000
Local clock offset: -1.64 ms
Remote clock offset: -0.35 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.08 Mbit/s
95th percentile per-packet one-way delay: 34.544 ms
Loss rate: 24.92%
-- Flow 1:
Average throughput: 4.08 Mbit/s
95th percentile per-packet one-way delay: 34.544 ms
Loss rate: 24.92%
```
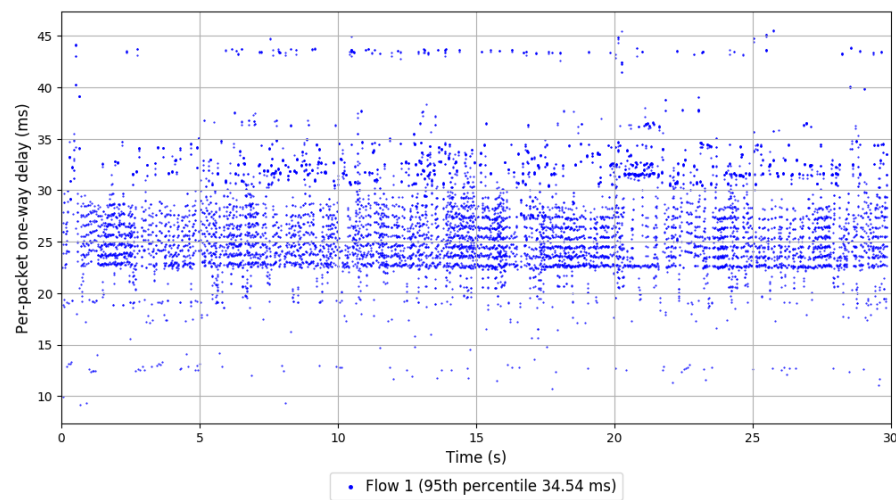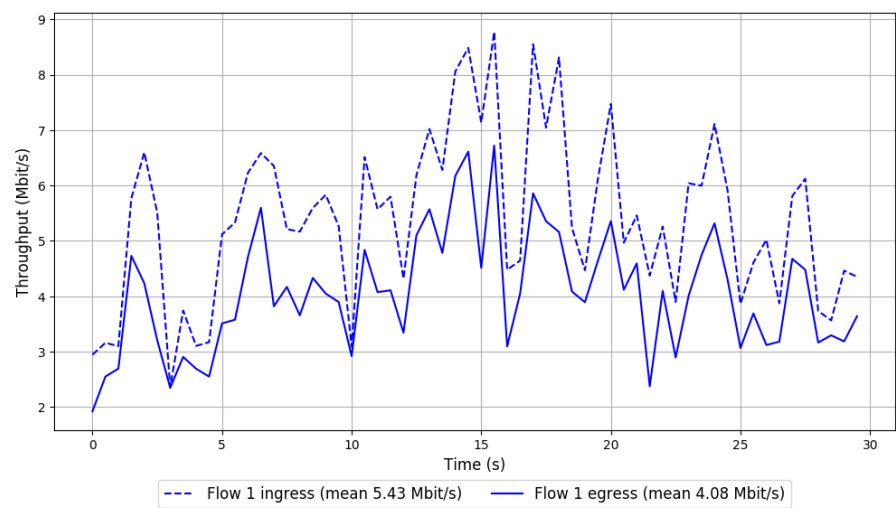
Run 3: Report of Sprout — Data Link

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

Start at: Tue, 25 Jul 2017 07:39:38 +0000
End at: Tue, 25 Jul 2017 07:40:08 +0000
Local clock offset: -1.606 ms
Remote clock offset: -0.532 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:41 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 21.36 Mbit/s
95th percentile per-packet one-way delay: 147.749 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 21.36 Mbit/s
95th percentile per-packet one-way delay: 147.749 ms
Loss rate: 0.96%
```
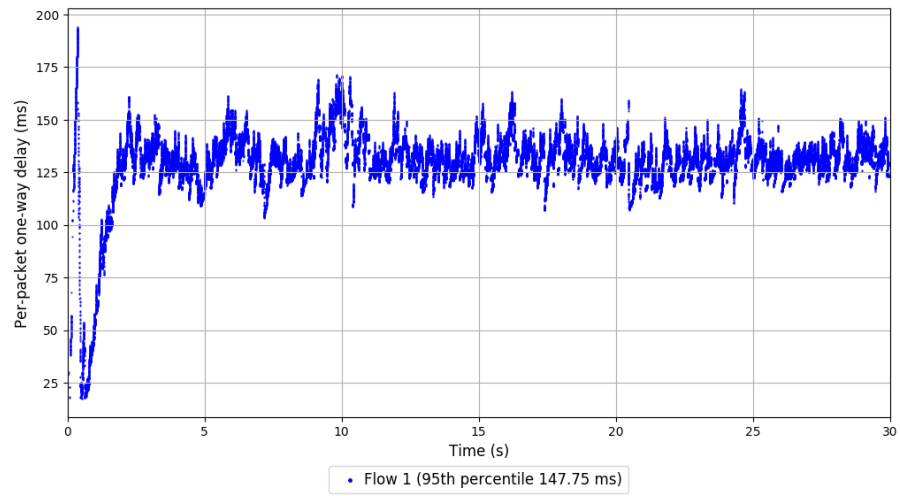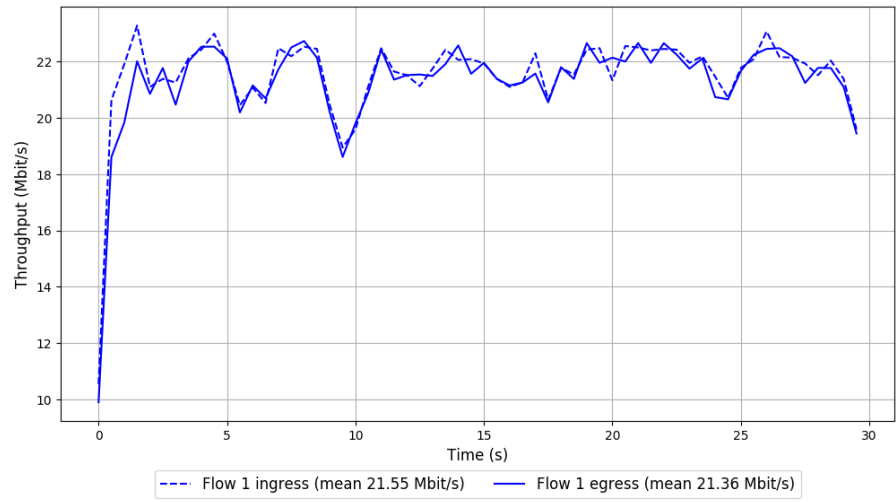
Run 1: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 21.55 Mbit/s) ----   Flow 1 egress (mean 21.36 Mbit/s) ——

• Flow 1 (95th percentile 147.75 ms)

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

Start at: Tue, 25 Jul 2017 07:55:46 +0000
End at: Tue, 25 Jul 2017 07:56:16 +0000
Local clock offset: -1.646 ms
Remote clock offset: -0.409 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:41 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 19.90 Mbit/s
95th percentile per-packet one-way delay: 159.372 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 19.90 Mbit/s
95th percentile per-packet one-way delay: 159.372 ms
Loss rate: 1.29%
```
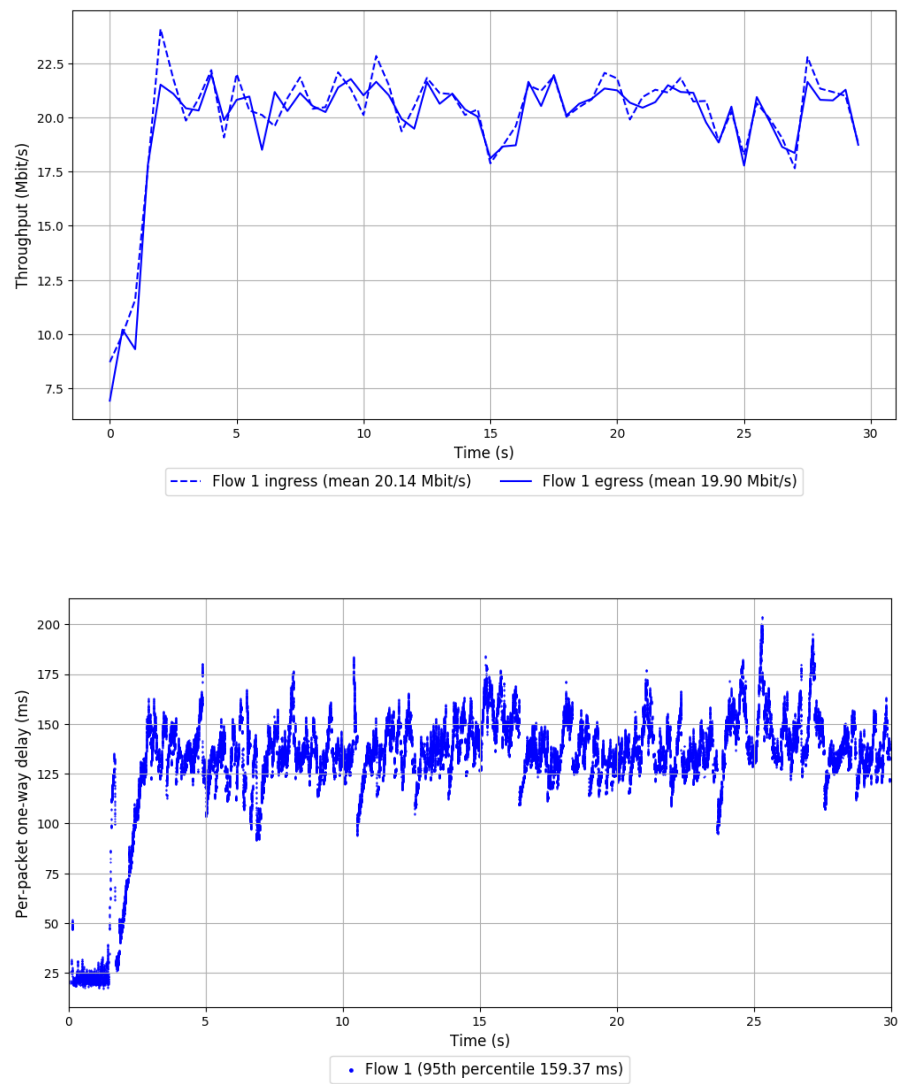
Run 2: Report of TaoVA-100x — Data Link

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

Start at: Tue, 25 Jul 2017 08:11:55 +0000
End at: Tue, 25 Jul 2017 08:12:25 +0000
Local clock offset: -1.746 ms
Remote clock offset: -0.363 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:46 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 18.52 Mbit/s
95th percentile per-packet one-way delay: 163.262 ms
Loss rate: 1.39%
-- Flow 1:
Average throughput: 18.52 Mbit/s
95th percentile per-packet one-way delay: 163.262 ms
Loss rate: 1.39%
```
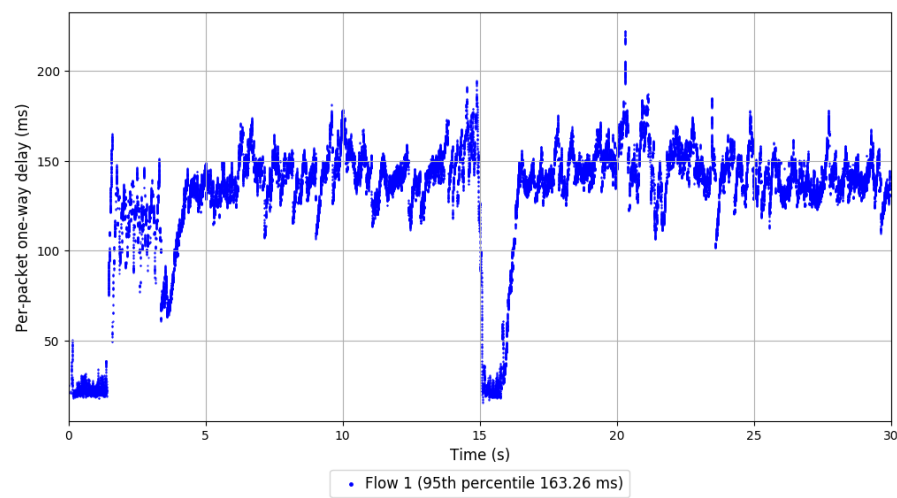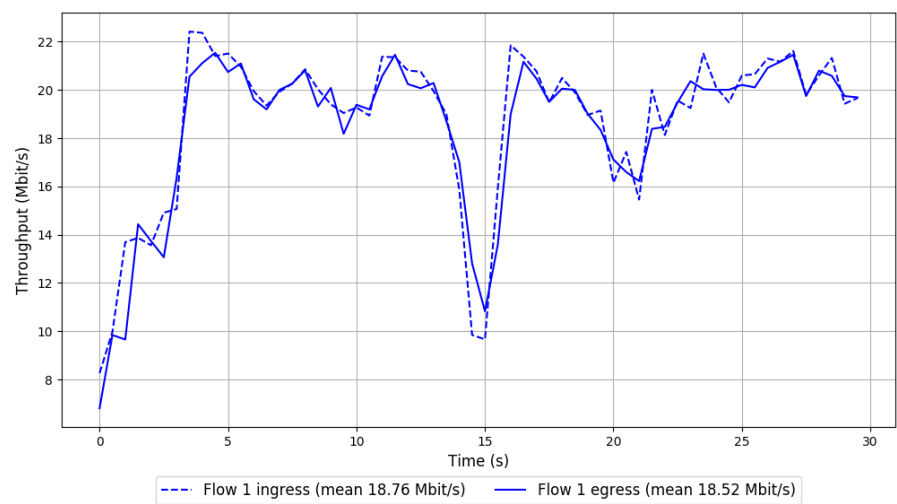
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 18.76 Mbit/s)   Flow 1 egress (mean 18.52 Mbit/s)

• Flow 1 (95th percentile 163.26 ms)

```
Run 1: Statistics of TCP Vegas

Start at: Tue, 25 Jul 2017 07:34:16 +0000
End at: Tue, 25 Jul 2017 07:34:46 +0000
Local clock offset: -1.552 ms
Remote clock offset: -0.452 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:46 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 30.954 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 2.35 Mbit/s
95th percentile per-packet one-way delay: 30.954 ms
Loss rate: 0.12%
```
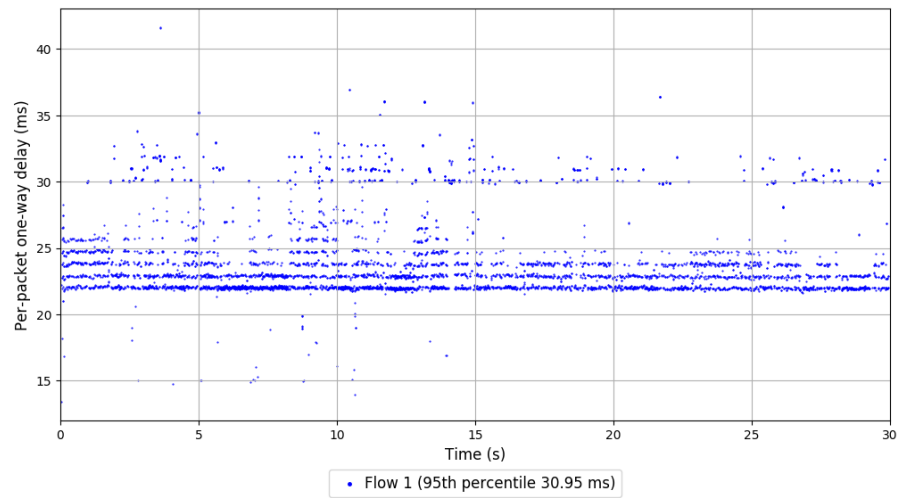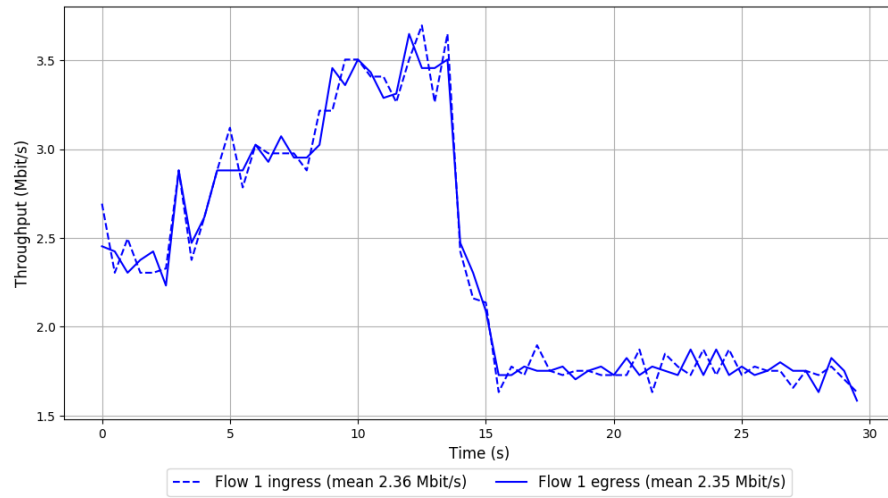
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: Tue, 25 Jul 2017 07:50:24 +0000
End at: Tue, 25 Jul 2017 07:50:54 +0000
Local clock offset: -1.626 ms
Remote clock offset: -0.49 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:46 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 29.735 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 29.735 ms
Loss rate: 0.28%
```
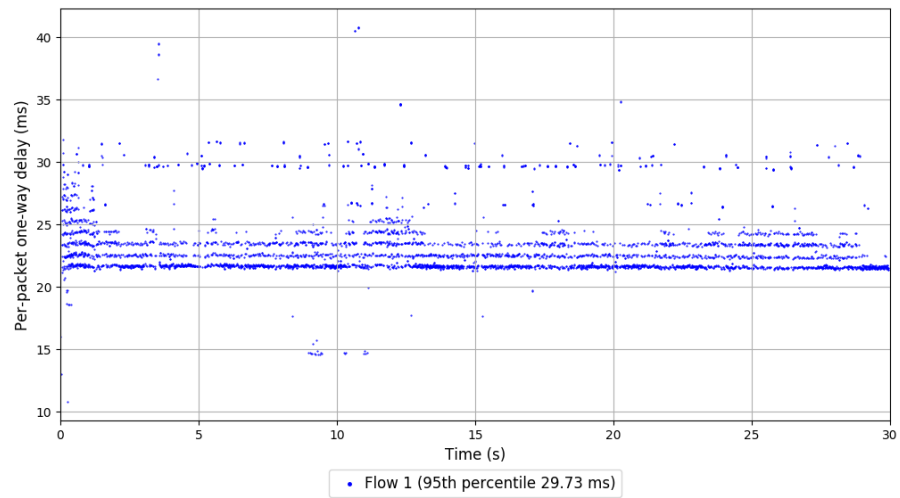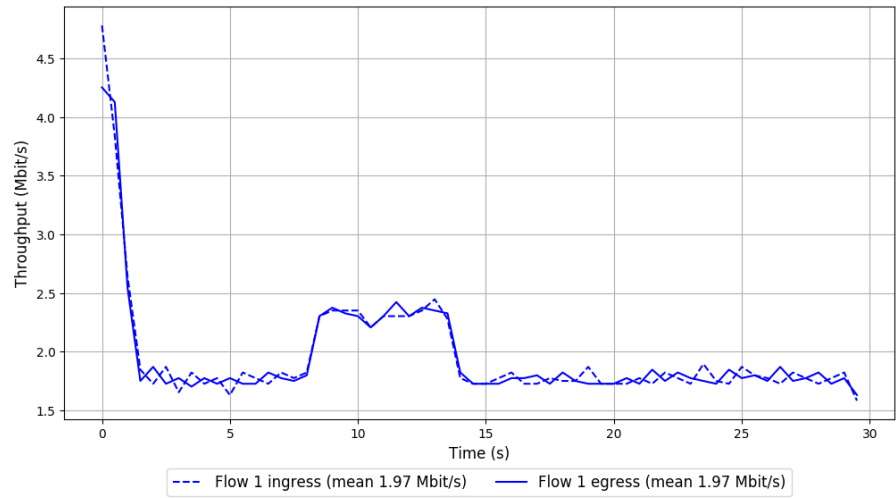
Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 1.97 Mbit/s) ----   Flow 1 egress (mean 1.97 Mbit/s) ——

• Flow 1 (95th percentile 29.73 ms)
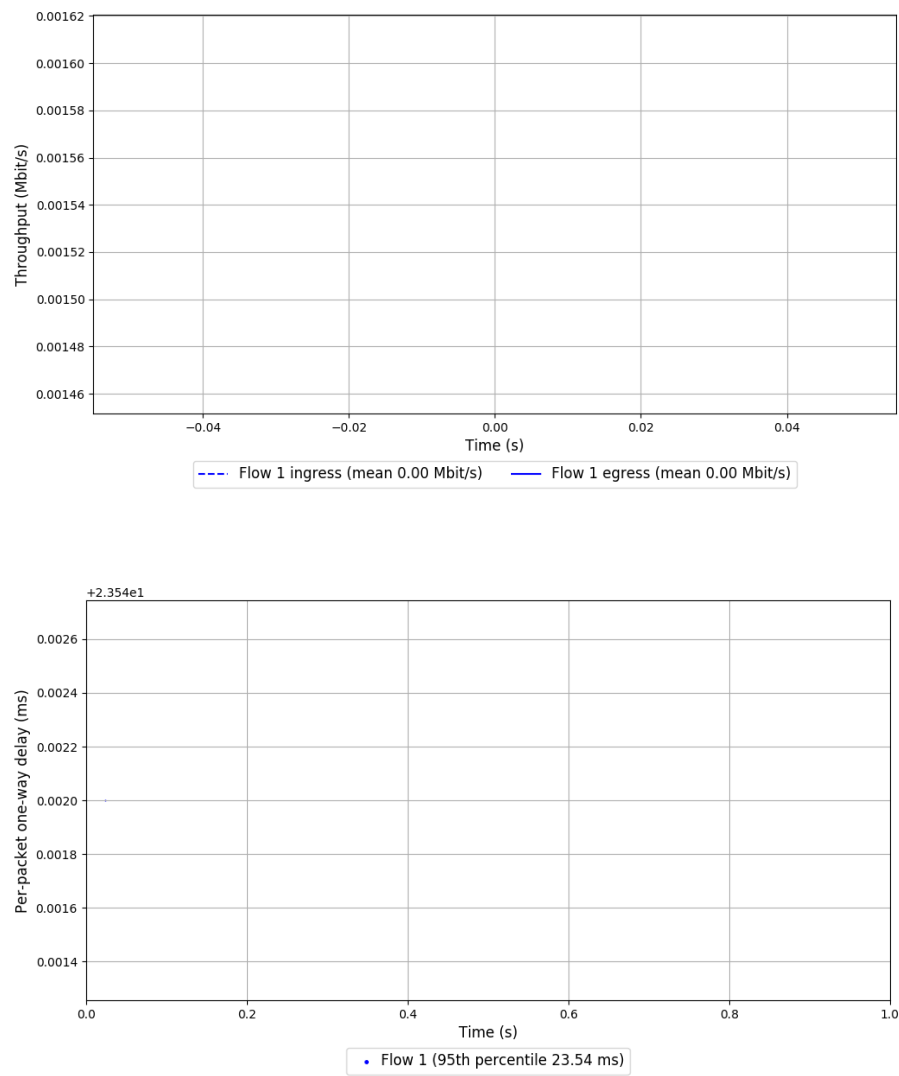
Run 3: Statistics of TCP Vegas

Start at: Tue, 25 Jul 2017 08:06:32 +0000
End at: Tue, 25 Jul 2017 08:07:02 +0000
Local clock offset: -1.673 ms
Remote clock offset: -0.425 ms

Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 0.00 Mbit/s)   Flow 1 egress (mean 0.00 Mbit/s)

Flow 1 (95th percentile 23.54 ms)

```
Run 1: Statistics of Verus

Start at: Tue, 25 Jul 2017 07:38:33 +0000
End at: Tue, 25 Jul 2017 07:39:03 +0000
Local clock offset: -1.652 ms
Remote clock offset: -0.454 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:47 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.58 Mbit/s
95th percentile per-packet one-way delay: 59.777 ms
Loss rate: 62.87%
-- Flow 1:
Average throughput: 13.58 Mbit/s
95th percentile per-packet one-way delay: 59.777 ms
Loss rate: 62.87%
```
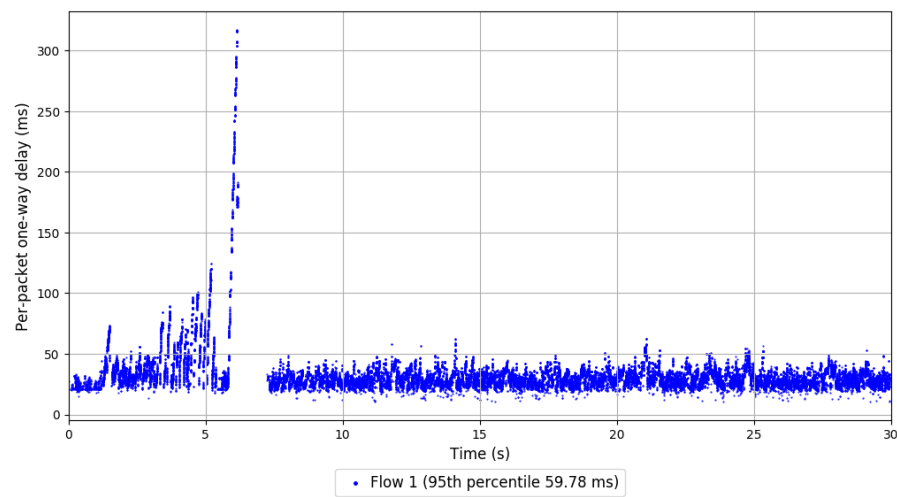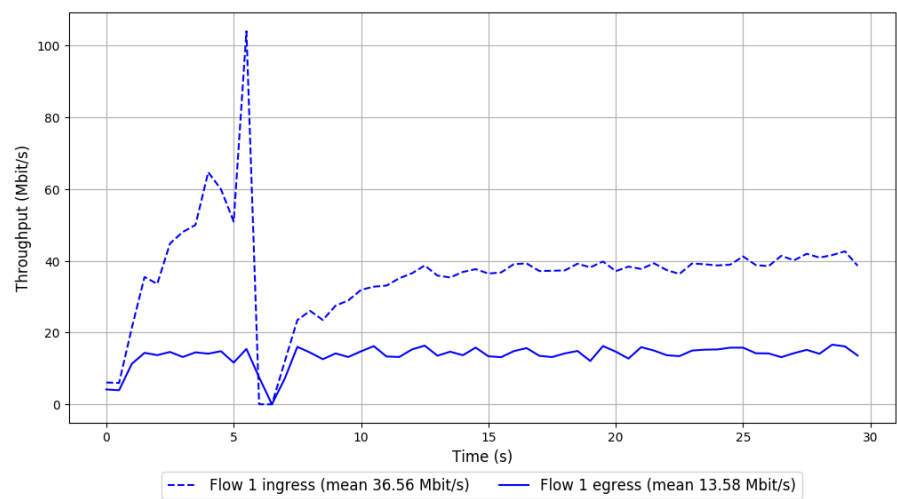
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 36.56 Mbit/s)   Flow 1 egress (mean 13.58 Mbit/s)

Flow 1 (95th percentile 59.78 ms)

```
Run 2: Statistics of Verus

Start at: Tue, 25 Jul 2017 07:54:41 +0000
End at: Tue, 25 Jul 2017 07:55:11 +0000
Local clock offset: -1.639 ms
Remote clock offset: -0.439 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:49 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 74.196 ms
Loss rate: 72.66%
-- Flow 1:
Average throughput: 12.46 Mbit/s
95th percentile per-packet one-way delay: 74.196 ms
Loss rate: 72.66%
```
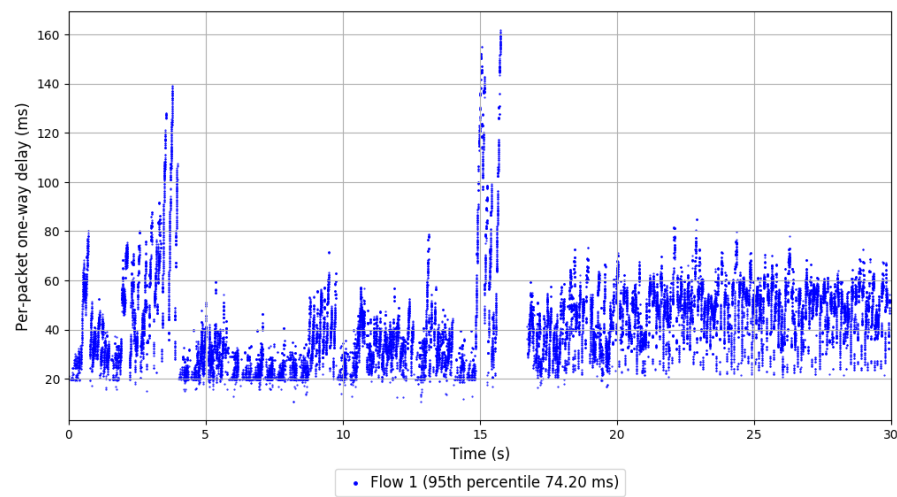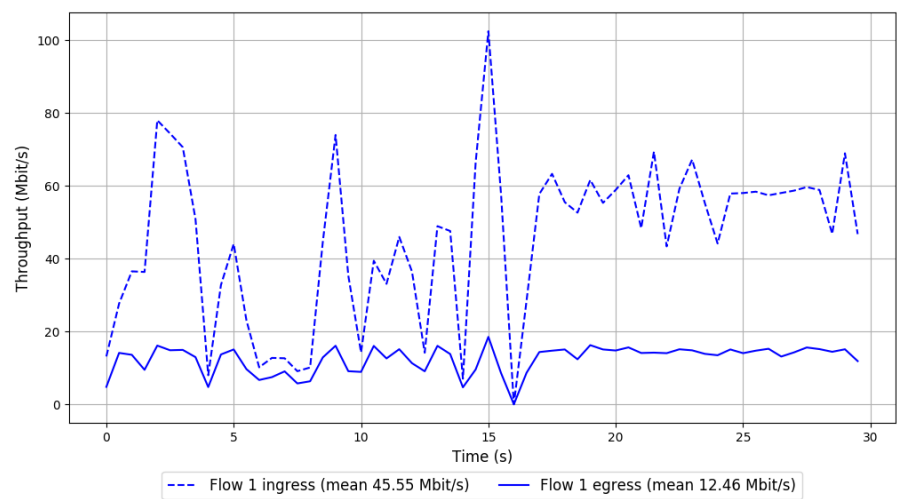
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: Tue, 25 Jul 2017 08:10:48 +0000
End at: Tue, 25 Jul 2017 08:11:18 +0000
Local clock offset: -1.649 ms
Remote clock offset: -0.354 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:52 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.41 Mbit/s
95th percentile per-packet one-way delay: 51.124 ms
Loss rate: 68.71%
-- Flow 1:
Average throughput: 11.41 Mbit/s
95th percentile per-packet one-way delay: 51.124 ms
Loss rate: 68.71%
```
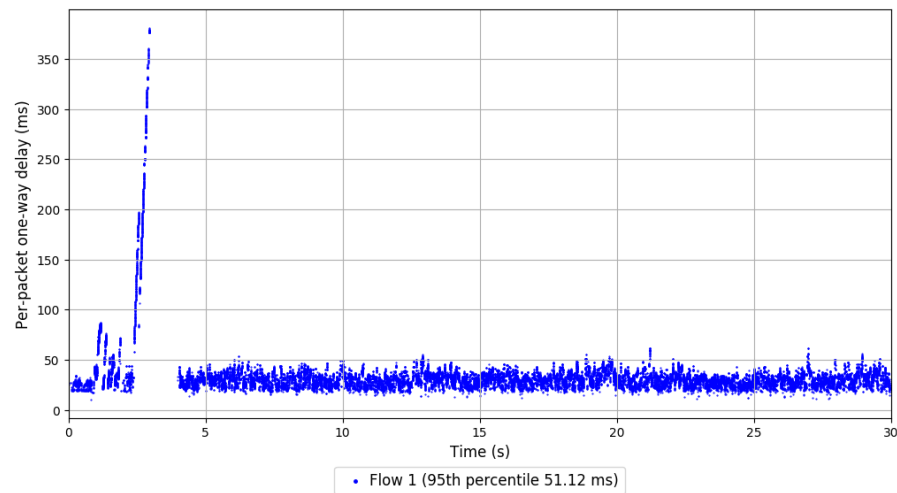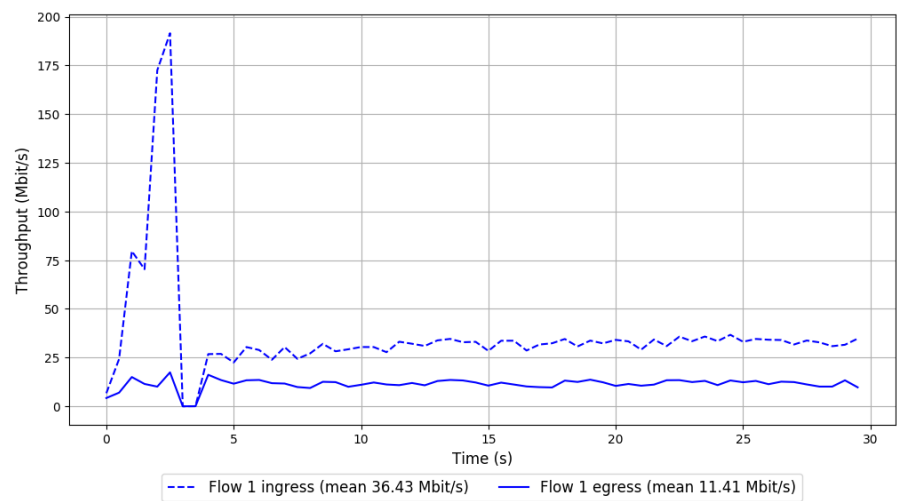
Run 3: Report of Verus — Data Link

Flow 1 ingress (mean 36.43 Mbit/s)   Flow 1 egress (mean 11.41 Mbit/s)

Flow 1 (95th percentile 51.12 ms)

```
Run 1: Statistics of WebRTC media

Start at: Tue, 25 Jul 2017 07:45:02 +0000
End at: Tue, 25 Jul 2017 07:45:32 +0000
Local clock offset: -1.728 ms
Remote clock offset: -0.443 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:52 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 30.640 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 30.640 ms
Loss rate: 0.36%
```
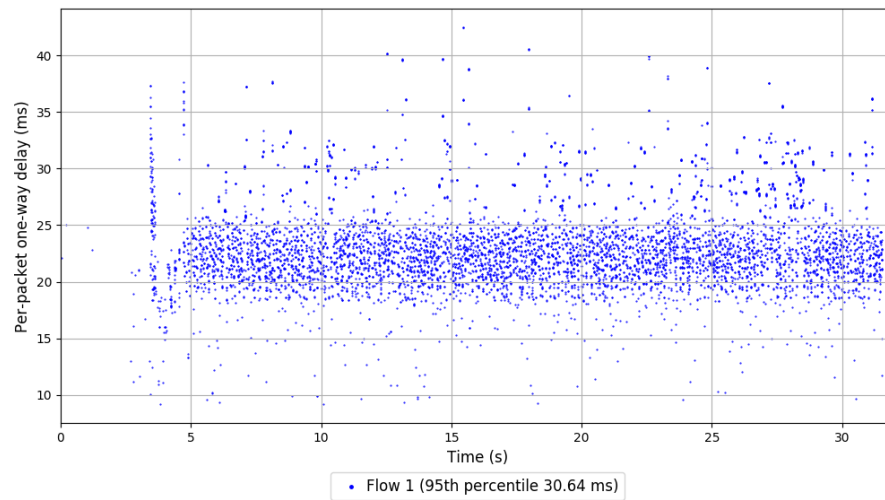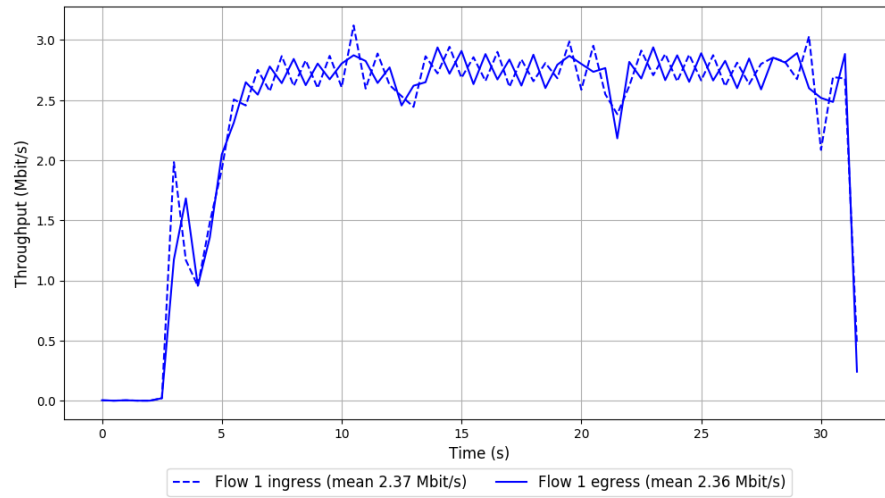
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: Tue, 25 Jul 2017 08:01:09 +0000
End at: Tue, 25 Jul 2017 08:01:39 +0000
Local clock offset: -1.653 ms
Remote clock offset: -0.392 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:52 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 34.137 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 2.34 Mbit/s
95th percentile per-packet one-way delay: 34.137 ms
Loss rate: 0.34%
```
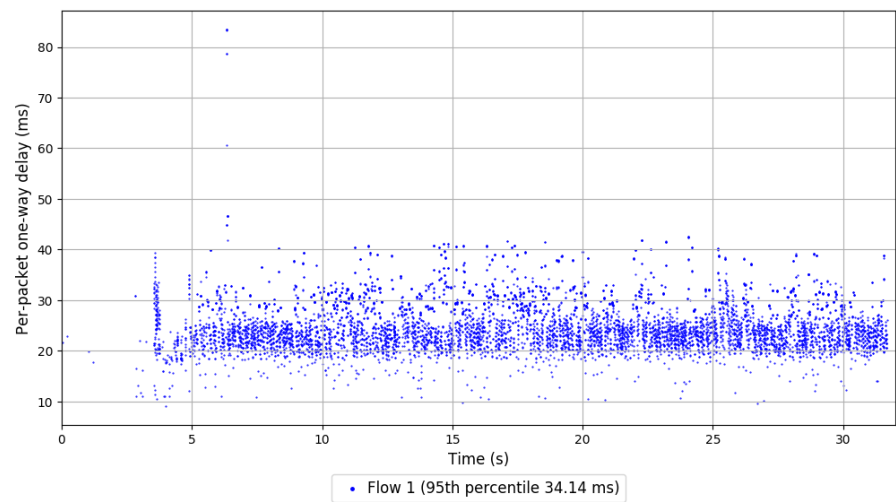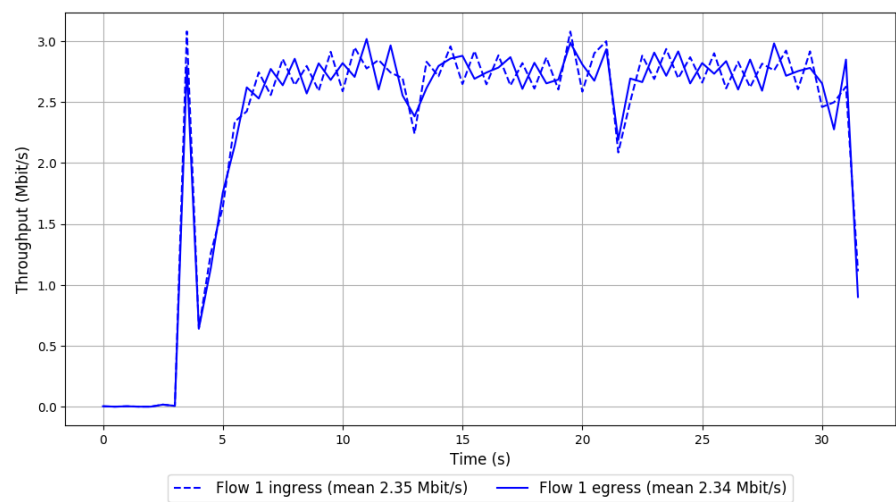
Run 2: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.35 Mbit/s)   Flow 1 egress (mean 2.34 Mbit/s)

Flow 1 (95th percentile 34.14 ms)

```
Run 3: Statistics of WebRTC media

Start at: Tue, 25 Jul 2017 08:17:18 +0000
End at: Tue, 25 Jul 2017 08:17:48 +0000
Local clock offset: -1.646 ms
Remote clock offset: -0.351 ms


# Below is generated by plot.py at Tue, 25 Jul 2017 08:23:52 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 36.578 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 2.48 Mbit/s
95th percentile per-packet one-way delay: 36.578 ms
Loss rate: 0.30%
```

Run 3: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.49 Mbit/s)   Flow 1 egress (mean 2.48 Mbit/s)

Flow 1 (95th percentile 36.58 ms)