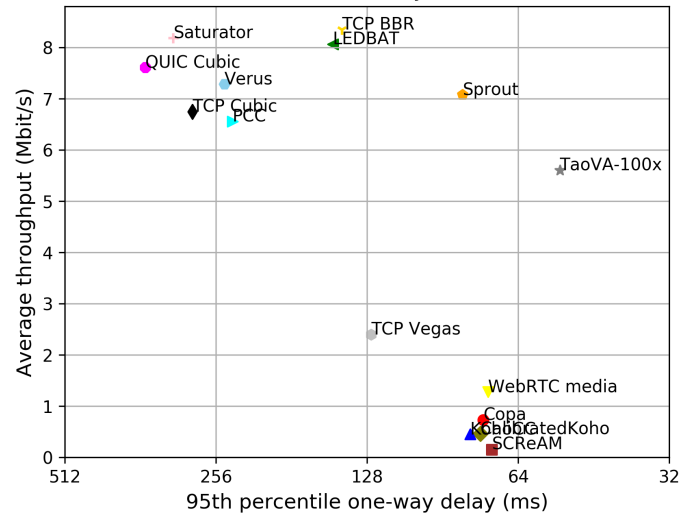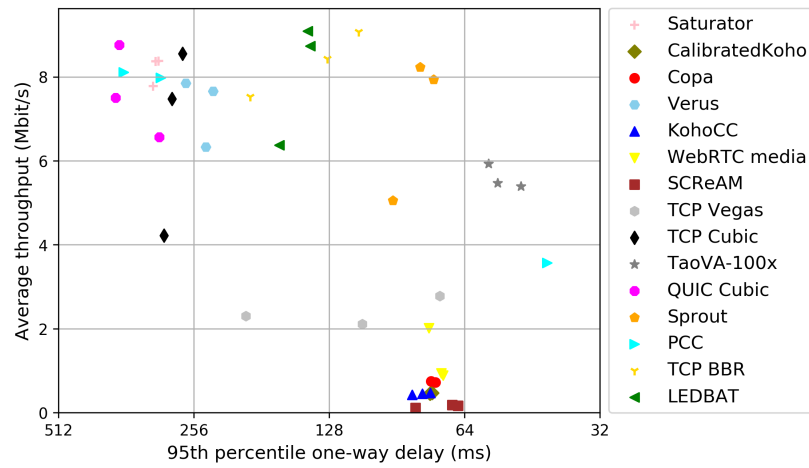**Pantheon Summary** (Generated at Mon, 07 Aug 2017 02:29:13 +0000 with pantheon version `a934ee3822380a12762347e6bc8bd1f3e836e73b`)

Repeated the test of 15 congestion control schemes 3 times.

Each test lasted for 30 seconds running 1 flow.

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

NTP offset measured against time.stanford.edu and has been applied to correct the timestamps in logs.

```
git branch: master @ a934ee3822380a12762347e6bc8bd1f3e836e73b
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ dae96123232f1bcb37725348fa2378691ce26725
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
third_party/pantheon-stimuli @ fc73a85ca16c34366d1888dc8a0d0d88d4ebf2a7
third_party/pantheon-tunnel @ baf443516dea3eeddeccaf9b916cc313273ca4f4
 M scripts/merge-tunnel-logs
third_party/pcc @ 1afc958fa0d66d18b623c091a55fec872b4981e1
 M receiver/src/buffer.h
 M receiver/src/core.cpp
 M sender/src/buffer.h
 M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143ebc978f3cff42
third_party/scream @ c3370fd7bd17265a79aeb34e4016ad23f5965885
third_party/sourdough @ f1a14bffe749737437f61b1eaeeb30b267cde681
third_party/sprout @ 6f2efe6e088d91066a9f023df375eee2665089ce
 M src/examples/cellsim.cc
 M src/examples/sproutbt2.cc
 M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
 M src/verus.hpp
 M tools/plot.py
third_party/webrtc @ a488197ddd041ace68a42849b2540ad834825f42
```

test from Stanford ppp0 to AWS California 1 Ethernet, 3 runs of 30s each per scheme
(mean of all runs by scheme)

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

scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	3	8.35	143.75	0.39
CalibratedKoho	3	0.46	76.14	0.54
Copa	3	0.73	75.13	0.29
TCP Cubic	3	6.75	285.37	1.57
KohoCC	3	0.45	79.83	0.77
LEDBAT	3	8.06	149.81	0.42
PCC	3	6.55	237.33	0.90
QUIC Cubic	3	7.61	354.35	2.13
Saturator	3	8.18	311.53	4.53
SCReAM	3	0.16	72.24	0.17
Sprout	3	7.07	82.60	0.87
TaoVA-100x	3	5.60	52.90	0.30
TCP Vegas	3	2.40	125.63	0.29
Verus	3	7.28	246.46	3.16
WebRTC media	3	1.28	73.50	0.47

```
Run 1: Statistics of TCP BBR

Start at: Mon, 07 Aug 2017 00:49:49 +0000
End at: Mon, 07 Aug 2017 00:50:19 +0000
Local clock offset: 0.522 ms
Remote clock offset: -1.552 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.08 Mbit/s
95th percentile per-packet one-way delay: 110.178 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 9.08 Mbit/s
95th percentile per-packet one-way delay: 110.178 ms
Loss rate: 0.30%
```
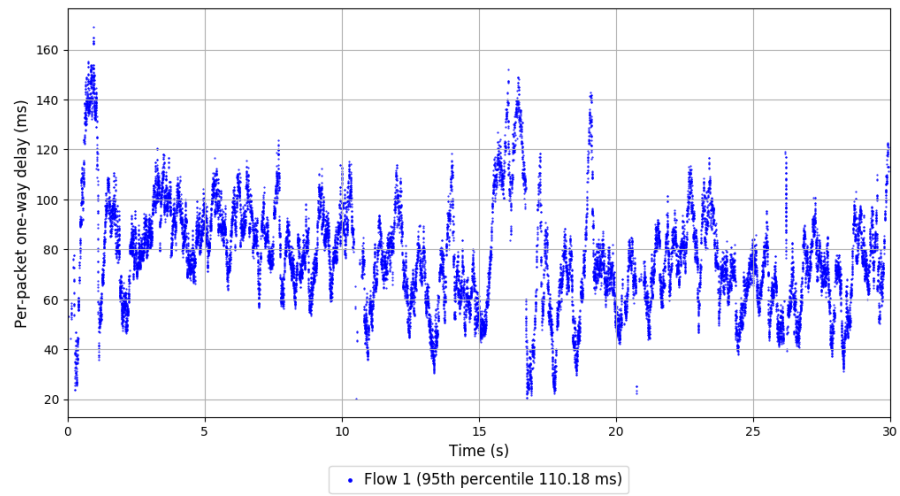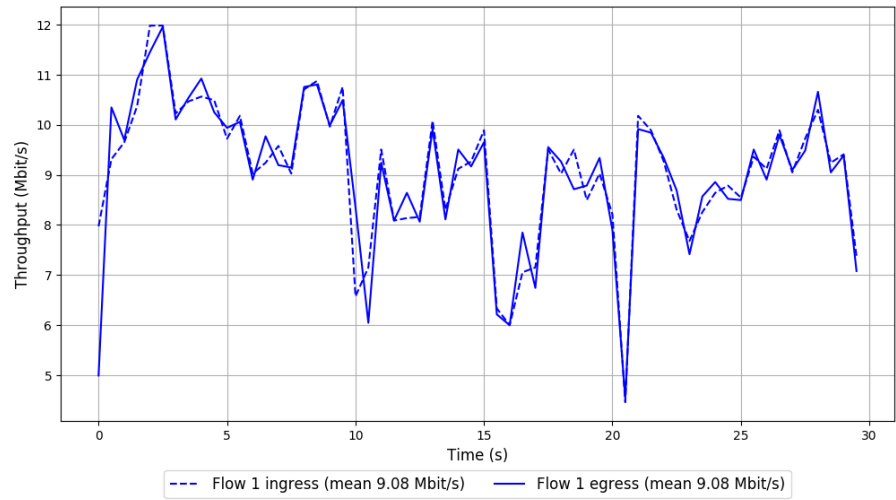
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: Mon, 07 Aug 2017 01:07:27 +0000
End at: Mon, 07 Aug 2017 01:07:57 +0000
Local clock offset: 0.354 ms
Remote clock offset: -1.527 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:35 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 191.884 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 191.884 ms
Loss rate: 0.49%
```
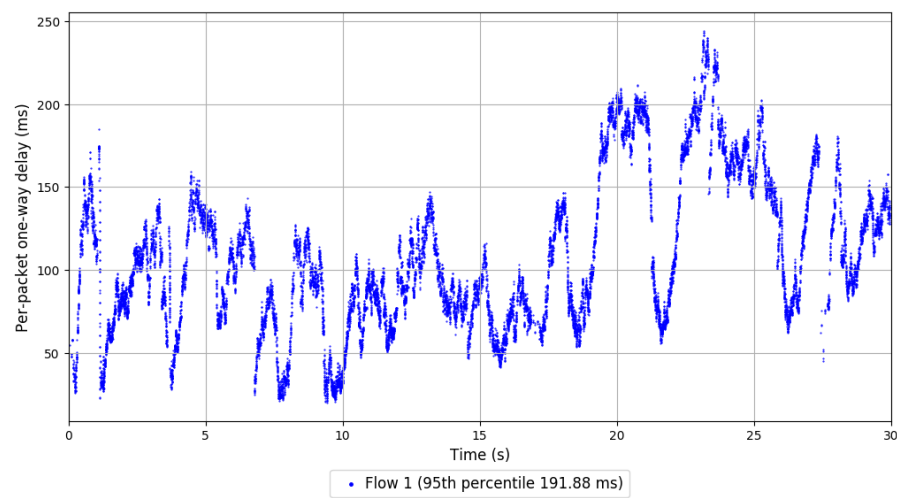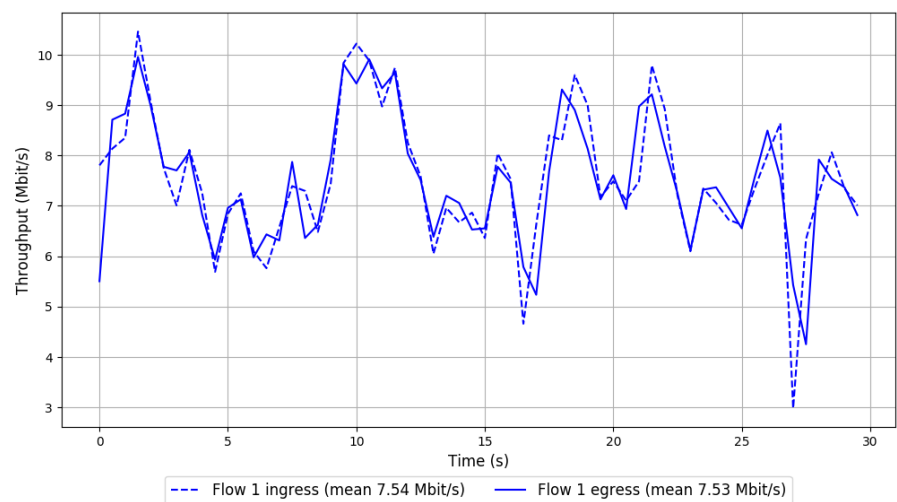
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: Mon, 07 Aug 2017 01:25:06 +0000
End at: Mon, 07 Aug 2017 01:25:36 +0000
Local clock offset: 0.274 ms
Remote clock offset: -1.346 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:37 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 129.175 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 8.43 Mbit/s
95th percentile per-packet one-way delay: 129.175 ms
Loss rate: 0.37%
```
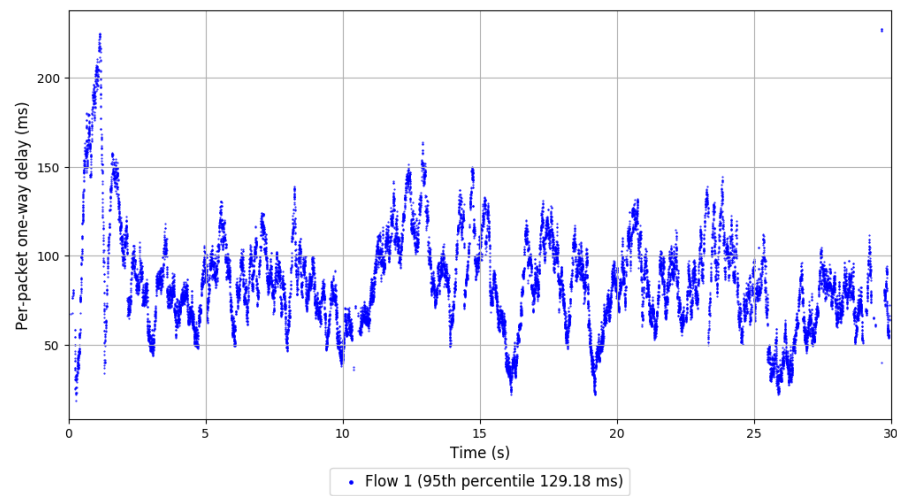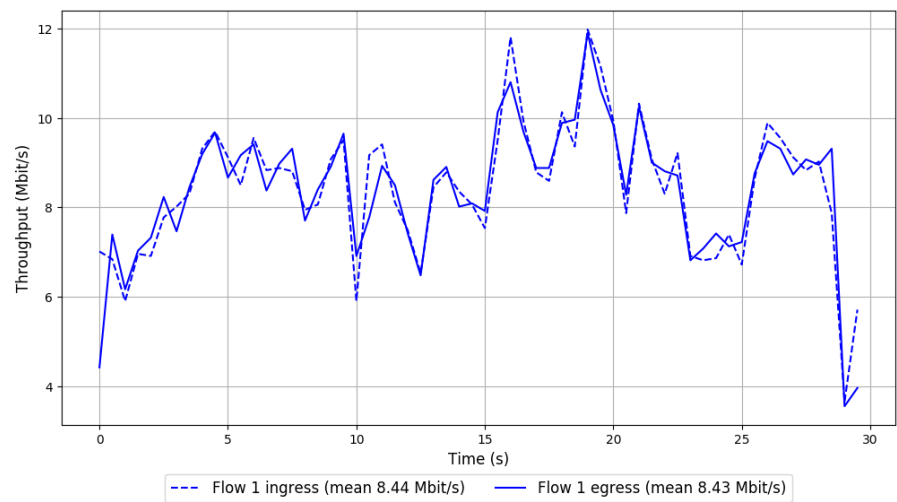
Run 3: Report of TCP BBR — Data Link

```
Run 1: Statistics of CalibratedKoho

Start at: Mon, 07 Aug 2017 00:52:11 +0000
End at: Mon, 07 Aug 2017 00:52:41 +0000
Local clock offset: 0.523 ms
Remote clock offset: -1.585 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:37 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 76.487 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 76.487 ms
Loss rate: 0.52%
```
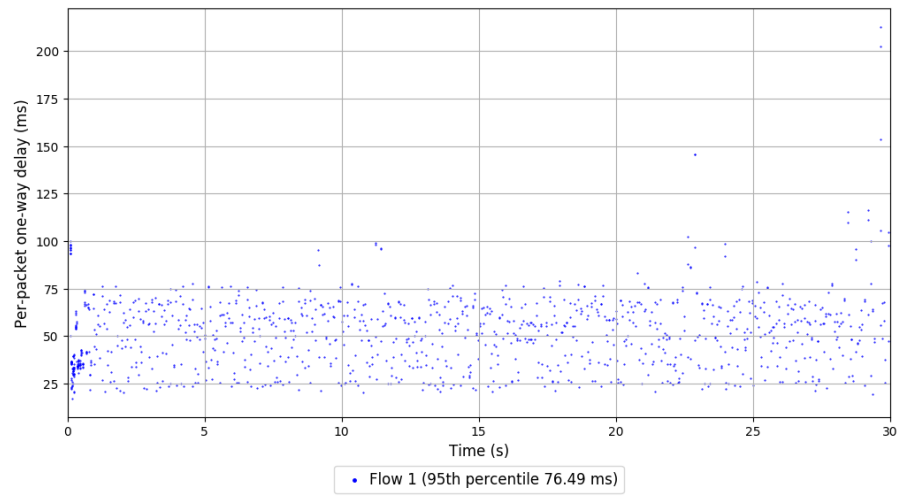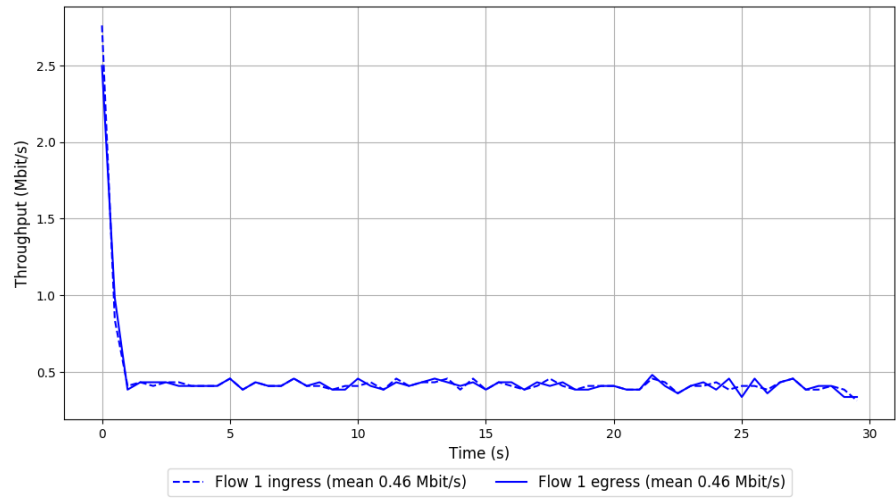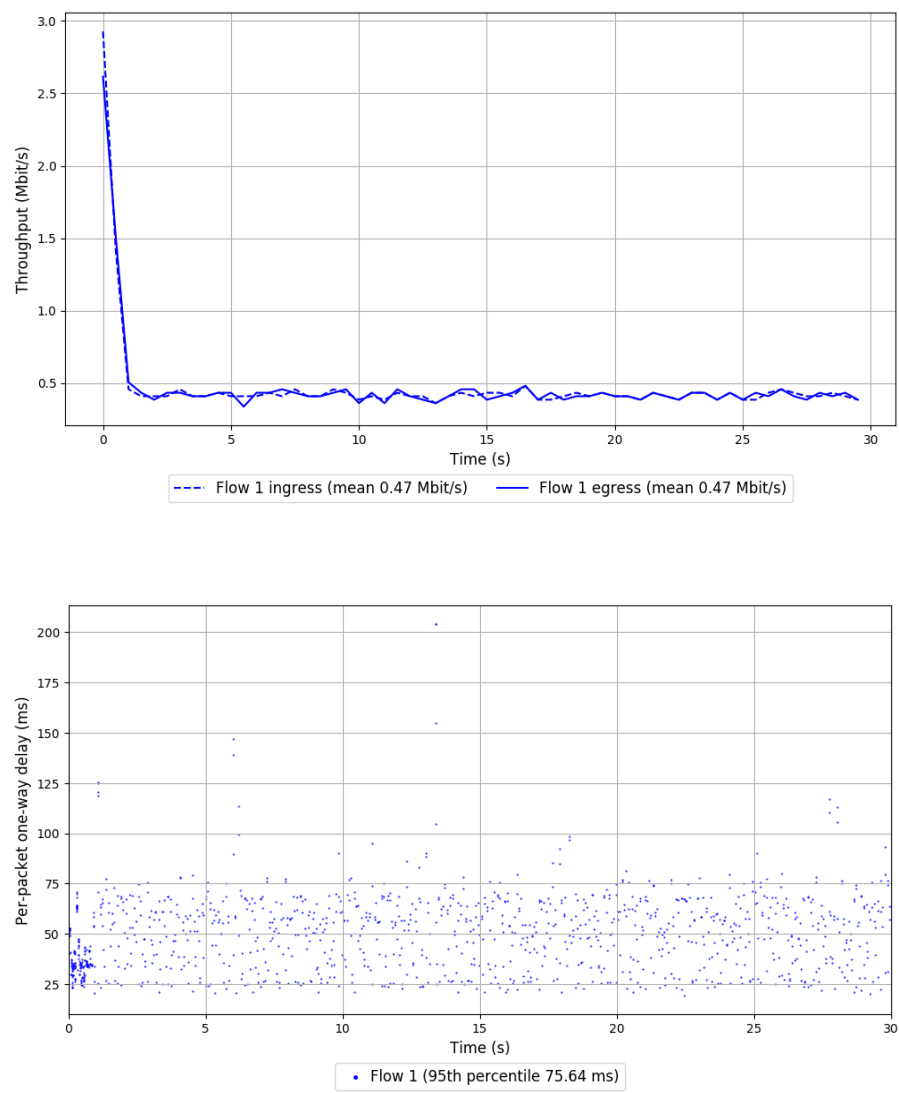
Run 1: Report of CalibratedKoho — Data Link

```
Run 2: Statistics of CalibratedKoho

Start at: Mon, 07 Aug 2017 01:09:48 +0000
End at: Mon, 07 Aug 2017 01:10:18 +0000
Local clock offset: 0.426 ms
Remote clock offset: -1.528 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:37 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 75.644 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 75.644 ms
Loss rate: 0.59%
```
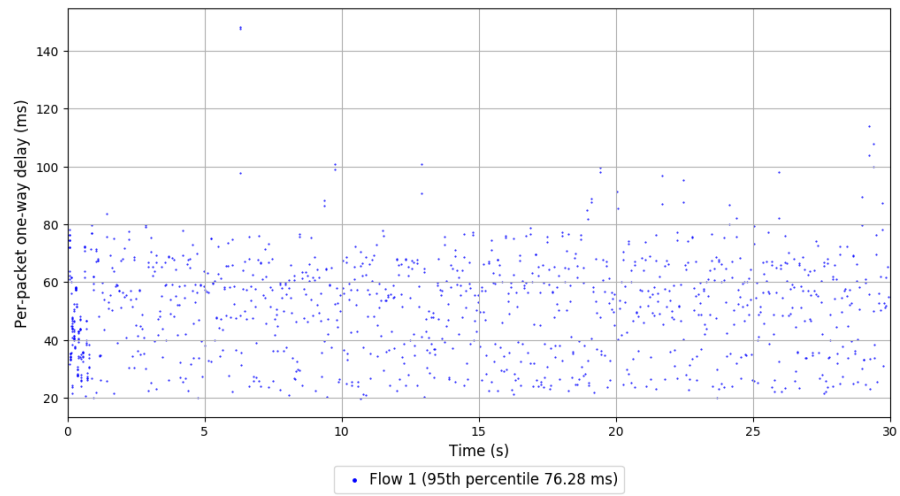
Run 2: Report of CalibratedKoho — Data Link

```
Run 3: Statistics of CalibratedKoho

Start at: Mon, 07 Aug 2017 01:27:28 +0000
End at: Mon, 07 Aug 2017 01:27:58 +0000
Local clock offset: 0.249 ms
Remote clock offset: -1.296 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:38 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 76.275 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 76.275 ms
Loss rate: 0.52%
```
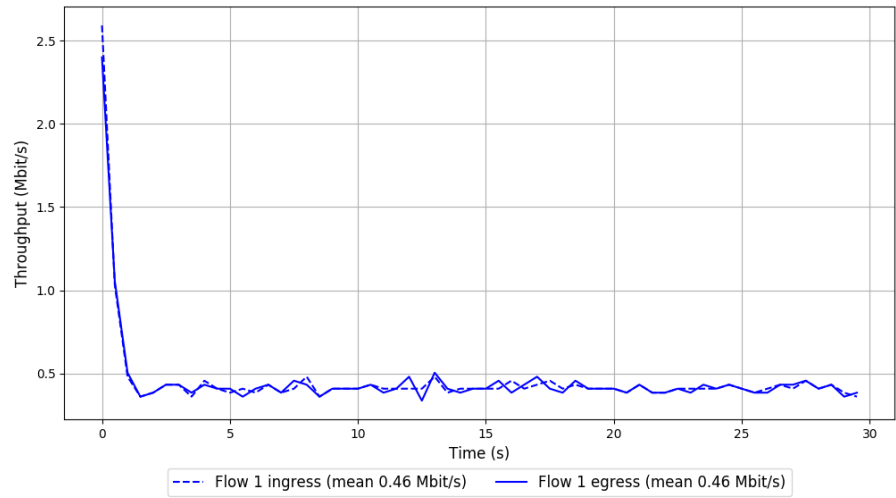
Run 3: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 0.46 Mbit/s) --- Flow 1 egress (mean 0.46 Mbit/s)

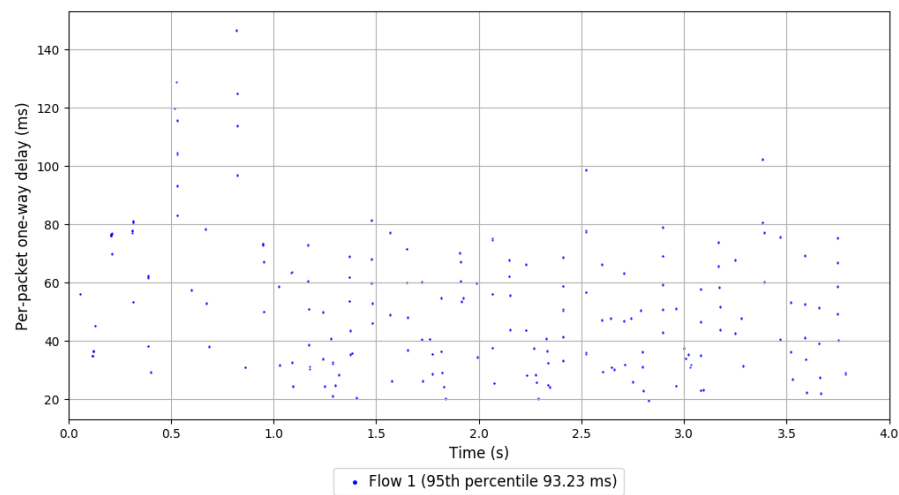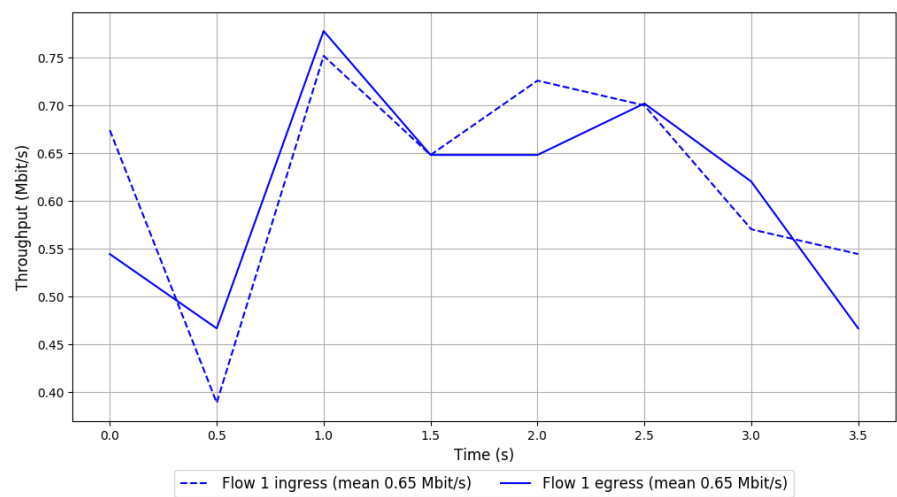Flow 1 (95th percentile 76.28 ms)

Run 1: Statistics of Copa

Start at: Mon, 07 Aug 2017 00:46:18 +0000
End at: Mon, 07 Aug 2017 00:46:48 +0000
Local clock offset: 0.539 ms
Remote clock offset: -1.578 ms

Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: Mon, 07 Aug 2017 01:03:55 +0000
End at: Mon, 07 Aug 2017 01:04:26 +0000
Local clock offset: 0.445 ms
Remote clock offset: -1.524 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:39 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 74.308 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 74.308 ms
Loss rate: 0.18%
```
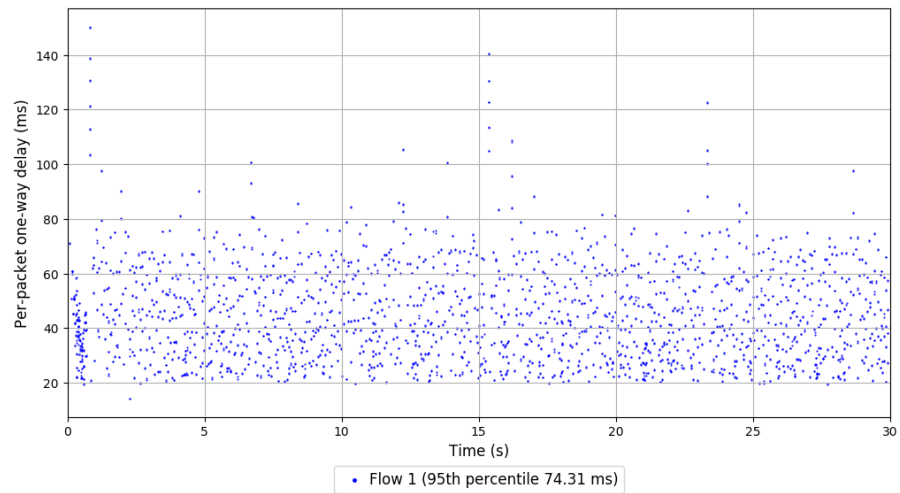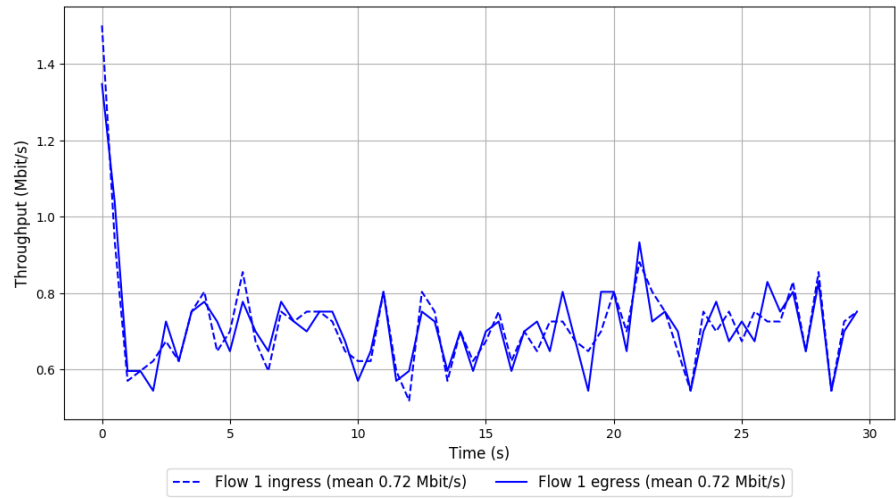
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: Mon, 07 Aug 2017 01:21:35 +0000
End at: Mon, 07 Aug 2017 01:22:05 +0000
Local clock offset: 0.39 ms
Remote clock offset: -1.347 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:39 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 75.960 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 75.960 ms
Loss rate: 0.41%
```
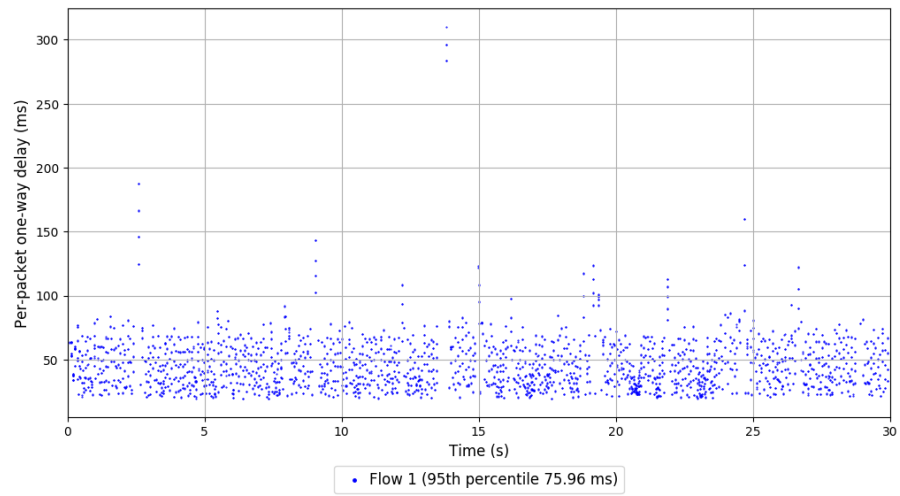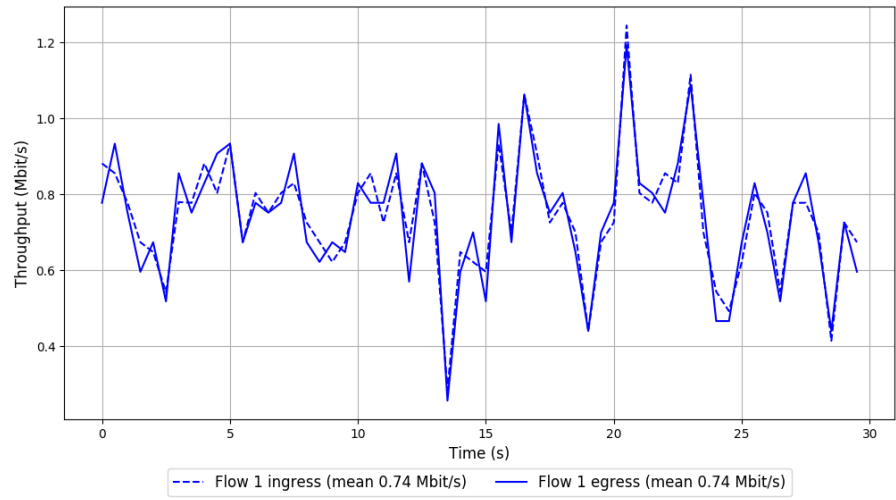
Run 3: Report of Copa — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: Mon, 07 Aug 2017 00:51:00 +0000
End at: Mon, 07 Aug 2017 00:51:30 +0000
Local clock offset: 0.437 ms
Remote clock offset: -1.529 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:40 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 298.580 ms
Loss rate: 2.28%
-- Flow 1:
Average throughput: 4.22 Mbit/s
95th percentile per-packet one-way delay: 298.580 ms
Loss rate: 2.28%
```
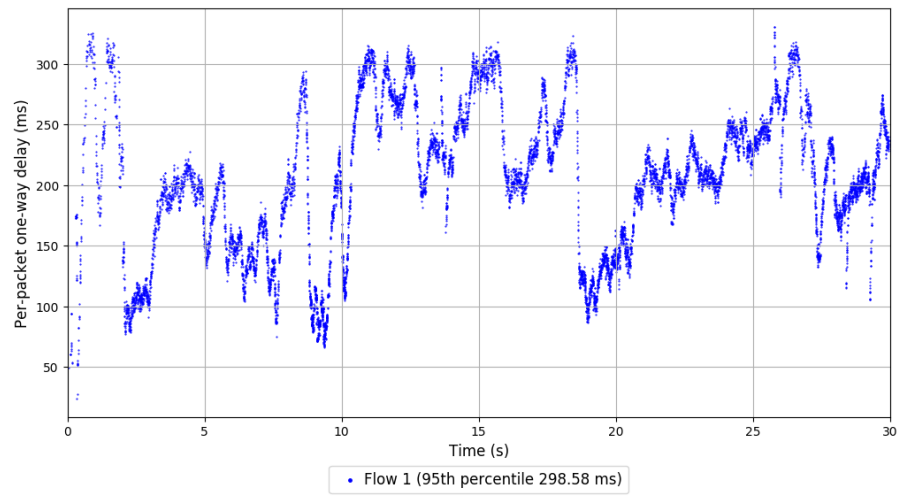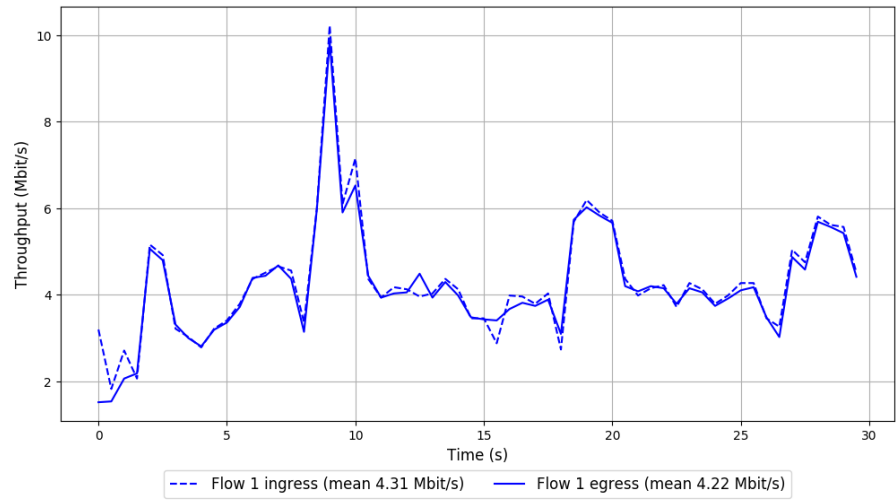
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: Mon, 07 Aug 2017 01:08:38 +0000
End at: Mon, 07 Aug 2017 01:09:08 +0000
Local clock offset: 0.333 ms
Remote clock offset: -1.442 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:42 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.47 Mbit/s
95th percentile per-packet one-way delay: 286.386 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 7.47 Mbit/s
95th percentile per-packet one-way delay: 286.386 ms
Loss rate: 1.17%
```
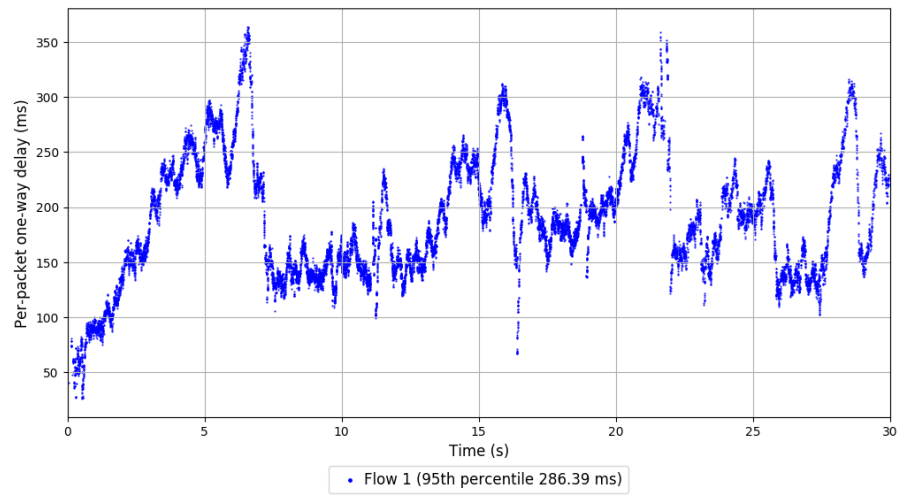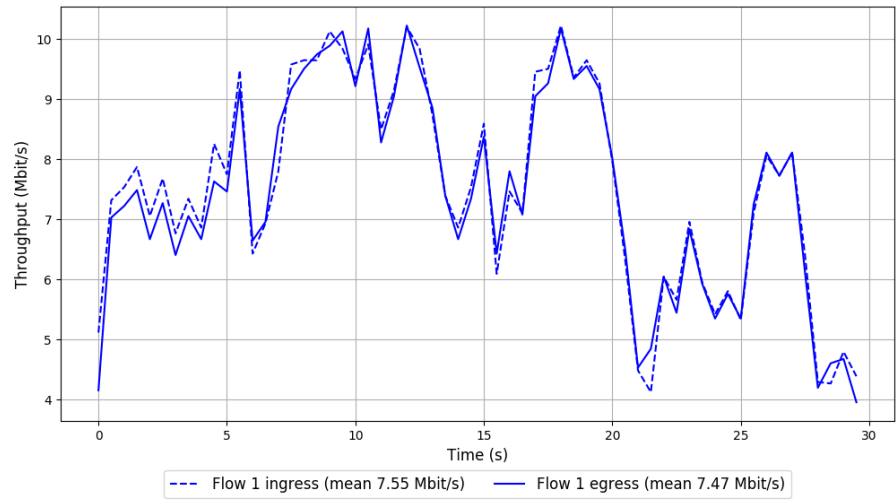
Run 2: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 7.55 Mbit/s) --- Flow 1 egress (mean 7.47 Mbit/s)

• Flow 1 (95th percentile 286.39 ms)

```
Run 3: Statistics of TCP Cubic

Start at: Mon, 07 Aug 2017 01:26:17 +0000
End at: Mon, 07 Aug 2017 01:26:47 +0000
Local clock offset: 0.262 ms
Remote clock offset: -1.291 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:43 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 271.132 ms
Loss rate: 1.27%
-- Flow 1:
Average throughput: 8.55 Mbit/s
95th percentile per-packet one-way delay: 271.132 ms
Loss rate: 1.27%
```
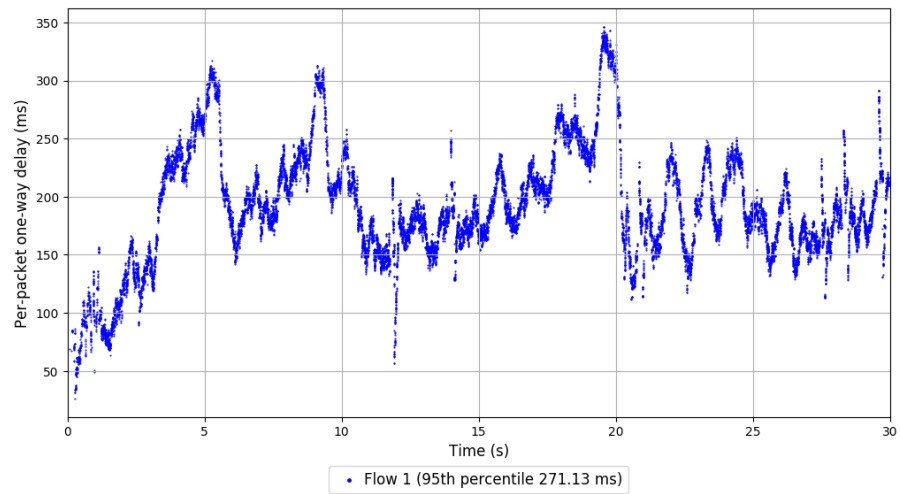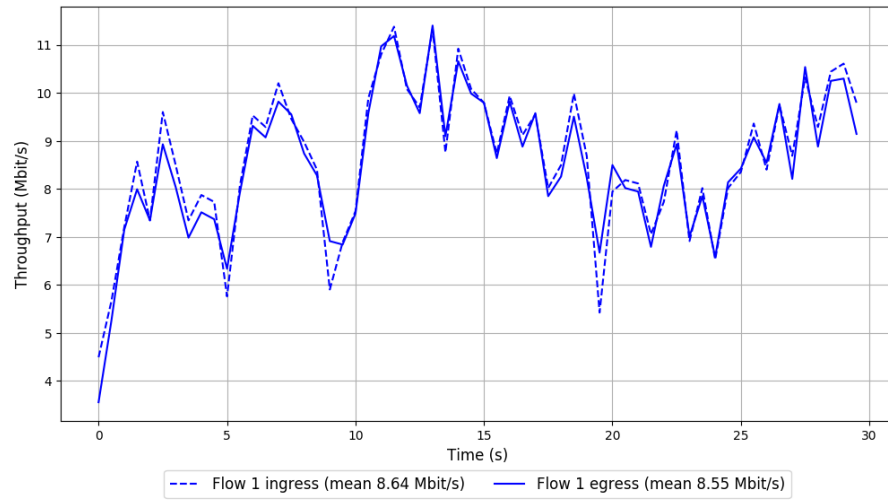
Run 3: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 8.64 Mbit/s) --- Flow 1 egress (mean 8.55 Mbit/s)

• Flow 1 (95th percentile 271.13 ms)

```
Run 1: Statistics of KohoCC

Start at: Mon, 07 Aug 2017 00:55:42 +0000
End at: Mon, 07 Aug 2017 00:56:12 +0000
Local clock offset: 0.408 ms
Remote clock offset: -1.495 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:43 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 79.478 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 79.478 ms
Loss rate: 0.79%
```
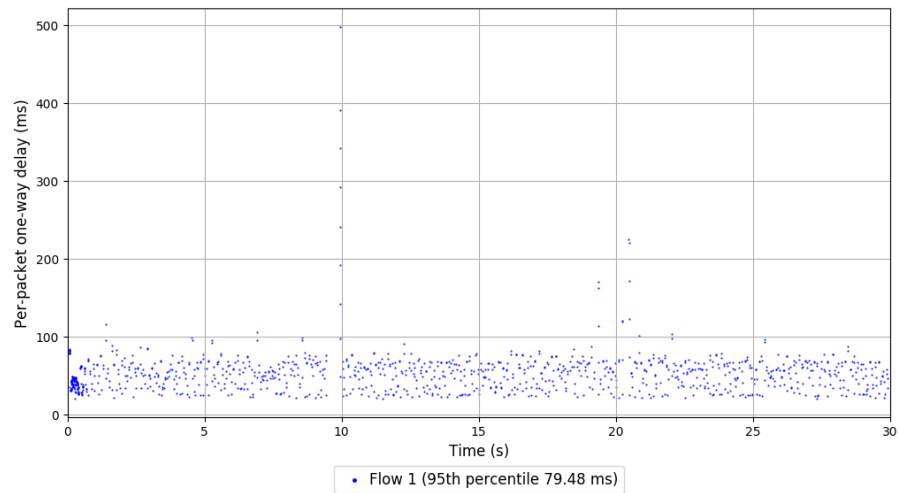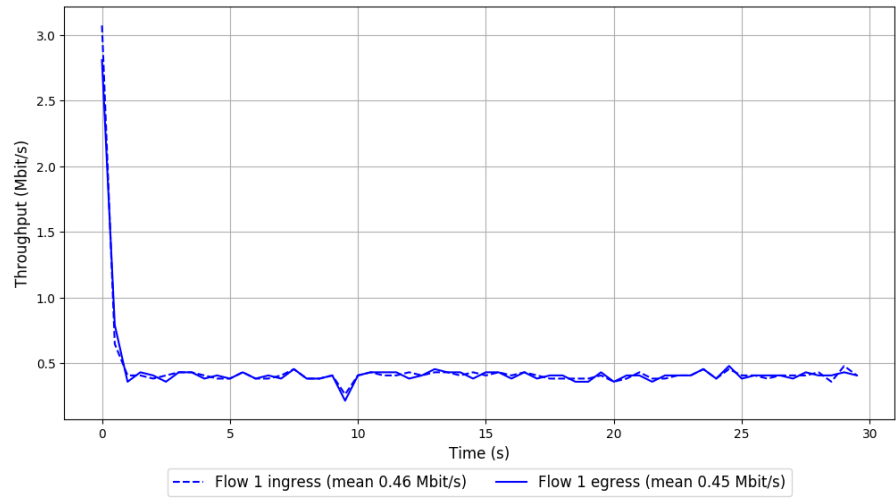
Run 1: Report of KohoCC — Data Link

Flow 1 ingress (mean 0.46 Mbit/s) ----   Flow 1 egress (mean 0.45 Mbit/s) ——

Flow 1 (95th percentile 79.48 ms) •

```
Run 2: Statistics of KohoCC

Start at: Mon, 07 Aug 2017 01:13:20 +0000
End at: Mon, 07 Aug 2017 01:13:50 +0000
Local clock offset: 0.405 ms
Remote clock offset: -1.444 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:43 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 83.753 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 83.753 ms
Loss rate: 0.93%
```
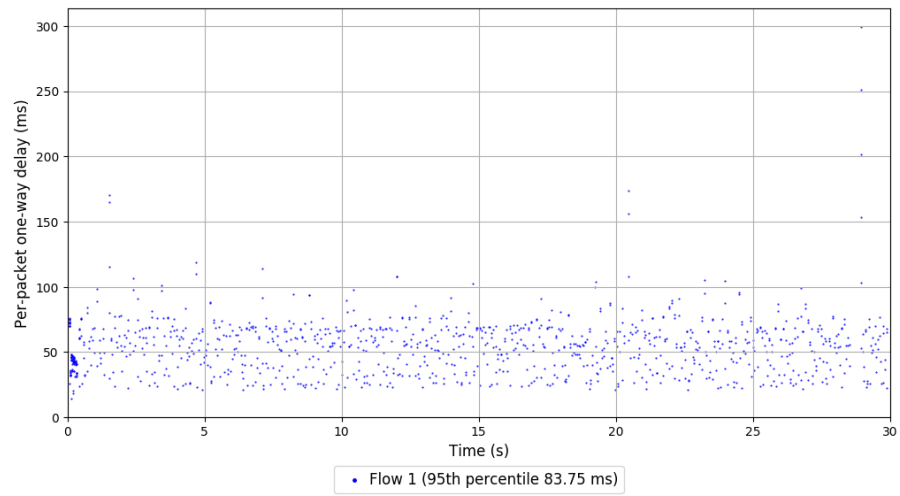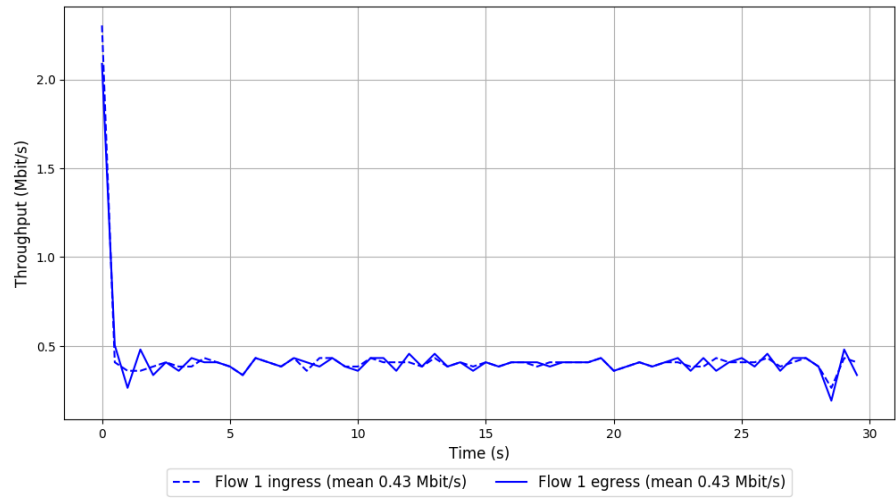
Run 2: Report of KohoCC — Data Link

Flow 1 ingress (mean 0.43 Mbit/s) --- Flow 1 egress (mean 0.43 Mbit/s)

Flow 1 (95th percentile 83.75 ms)

```
Run 3: Statistics of KohoCC

Start at: Mon, 07 Aug 2017 01:30:59 +0000
End at: Mon, 07 Aug 2017 01:31:29 +0000
Local clock offset: 0.257 ms
Remote clock offset: -1.319 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:44 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 76.248 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 0.47 Mbit/s
95th percentile per-packet one-way delay: 76.248 ms
Loss rate: 0.59%
```
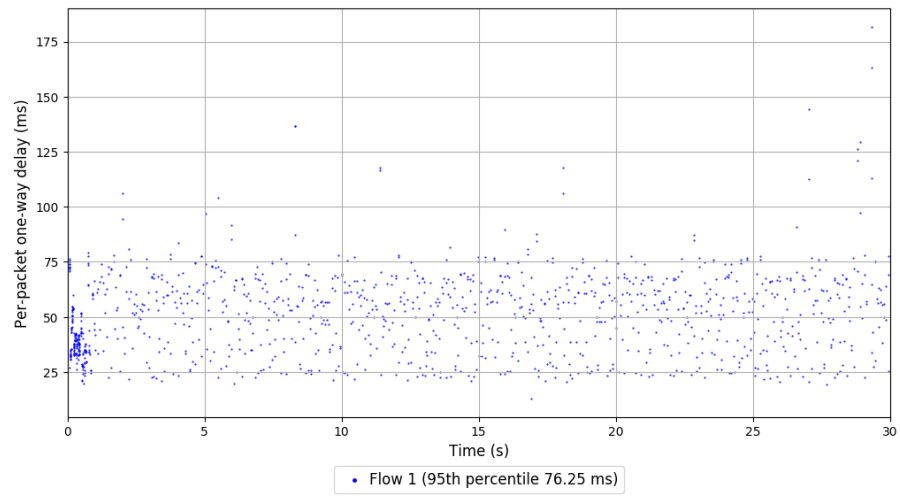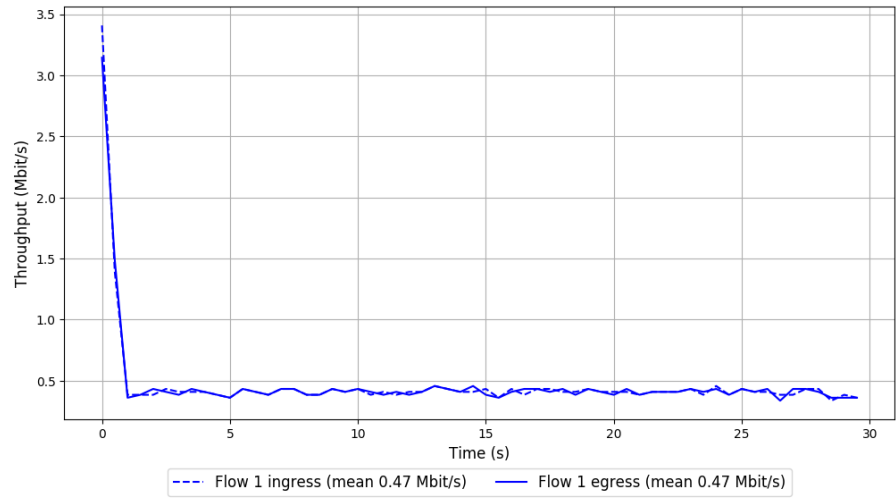
Run 3: Report of KohoCC — Data Link

Flow 1 ingress (mean 0.47 Mbit/s) ----- Flow 1 egress (mean 0.47 Mbit/s)

Flow 1 (95th percentile 76.25 ms)

```
Run 1: Statistics of LEDBAT

Start at: Mon, 07 Aug 2017 00:48:38 +0000
End at: Mon, 07 Aug 2017 00:49:08 +0000
Local clock offset: 0.431 ms
Remote clock offset: -1.563 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:46 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.09 Mbit/s
95th percentile per-packet one-way delay: 142.979 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 9.09 Mbit/s
95th percentile per-packet one-way delay: 142.979 ms
Loss rate: 0.49%
```
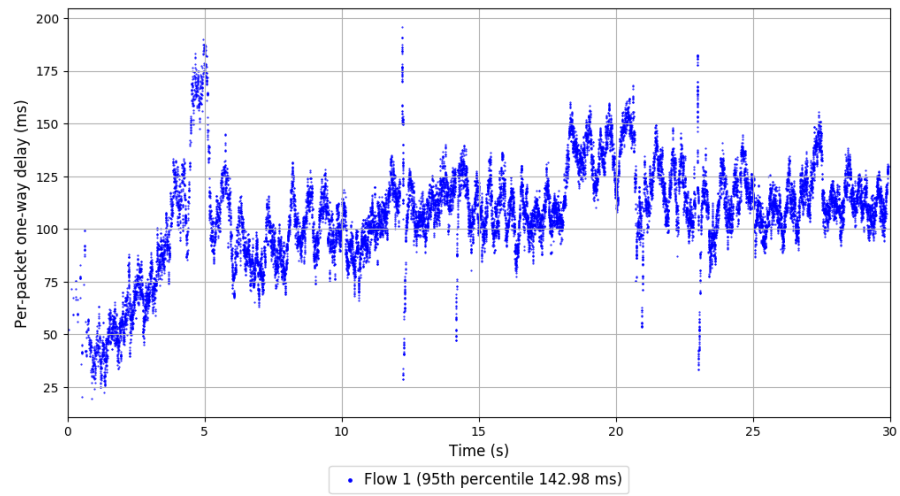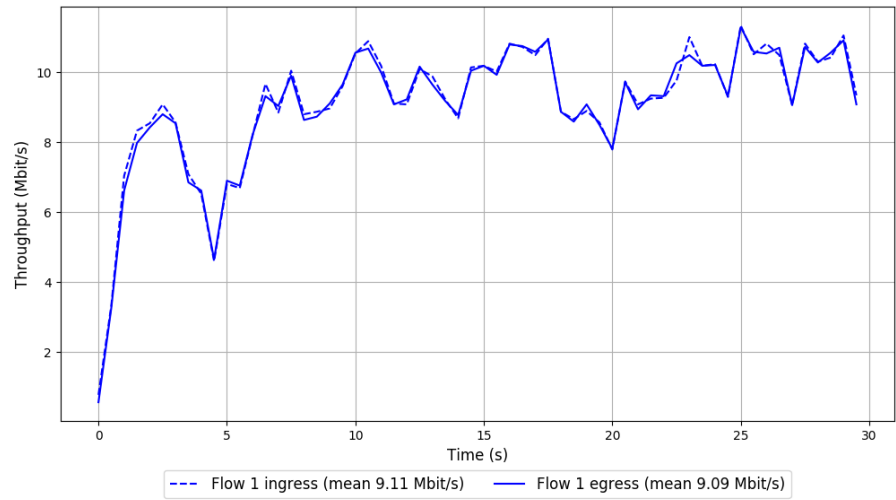
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 9.11 Mbit/s)   Flow 1 egress (mean 9.09 Mbit/s)

Flow 1 (95th percentile 142.98 ms)

```
Run 2: Statistics of LEDBAT

Start at: Mon, 07 Aug 2017 01:06:16 +0000
End at: Mon, 07 Aug 2017 01:06:46 +0000
Local clock offset: 0.445 ms
Remote clock offset: -1.537 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:46 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.37 Mbit/s
95th percentile per-packet one-way delay: 165.372 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 6.37 Mbit/s
95th percentile per-packet one-way delay: 165.372 ms
Loss rate: 0.31%
```
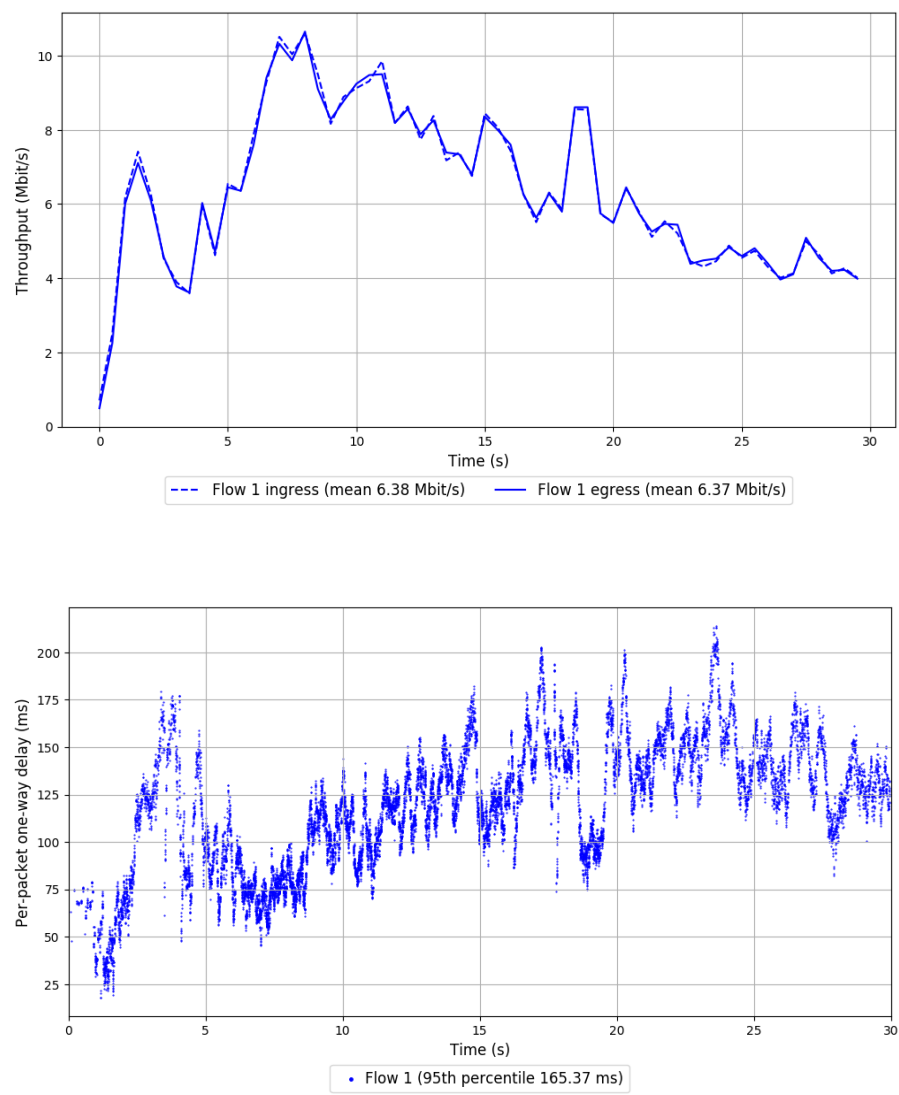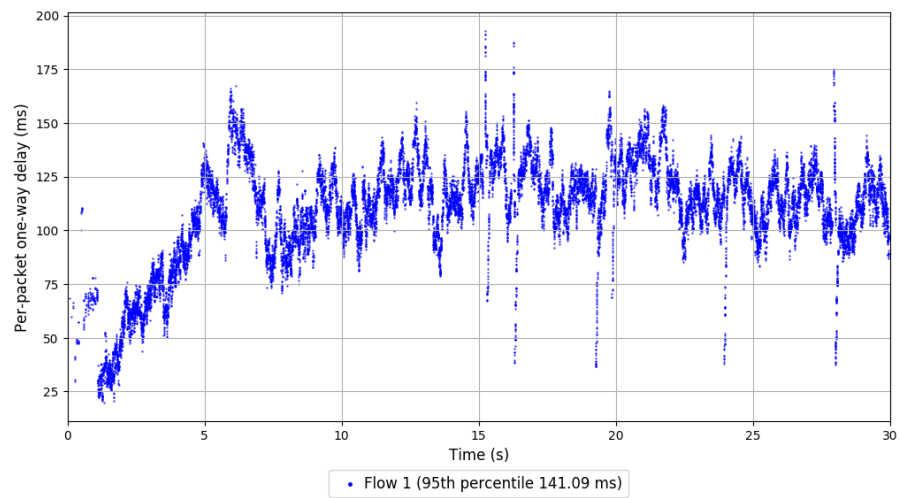
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 6.38 Mbit/s) --- Flow 1 egress (mean 6.37 Mbit/s)

• Flow 1 (95th percentile 165.37 ms)

```
Run 3: Statistics of LEDBAT

Start at: Mon, 07 Aug 2017 01:23:55 +0000
End at: Mon, 07 Aug 2017 01:24:25 +0000
Local clock offset: 0.295 ms
Remote clock offset: -1.426 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.73 Mbit/s
95th percentile per-packet one-way delay: 141.092 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 8.73 Mbit/s
95th percentile per-packet one-way delay: 141.092 ms
Loss rate: 0.47%
```
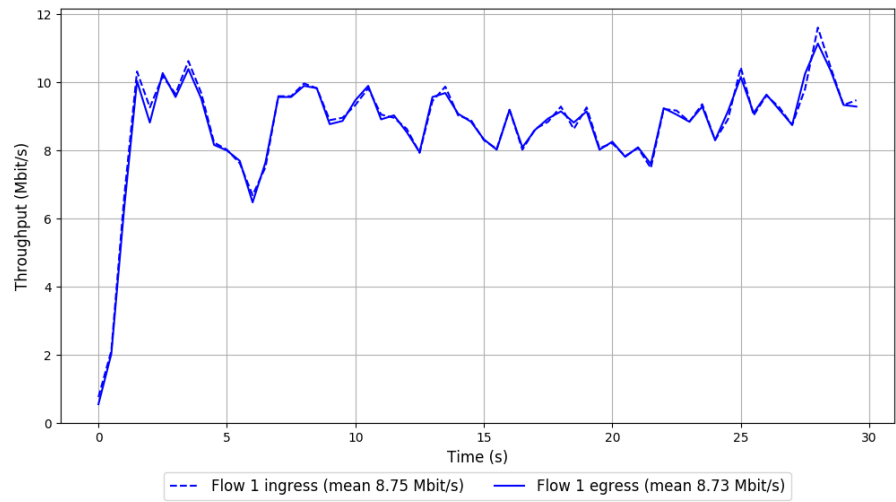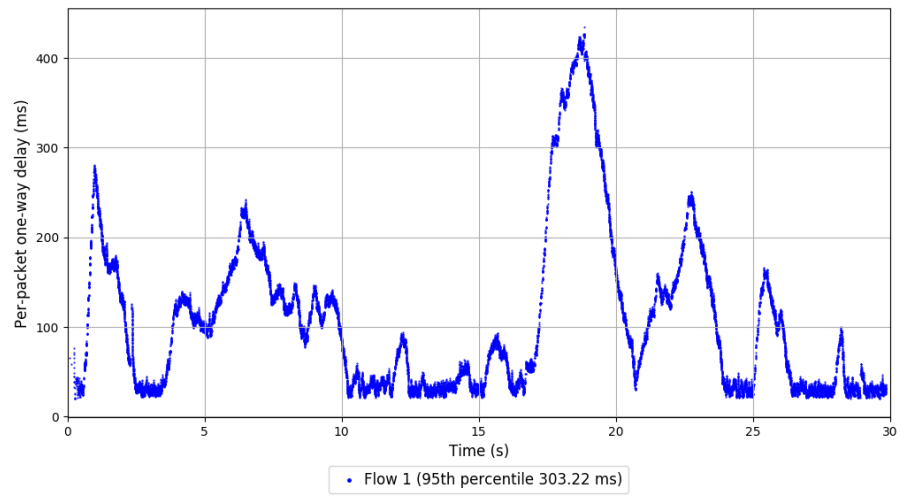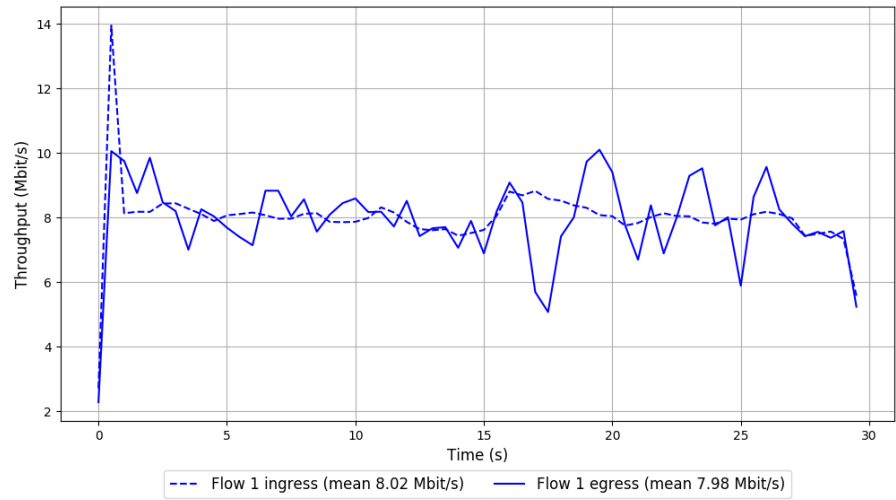
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 8.75 Mbit/s) — — — Flow 1 egress (mean 8.73 Mbit/s)

• Flow 1 (95th percentile 141.09 ms)

```
Run 1: Statistics of PCC

Start at: Mon, 07 Aug 2017 00:45:07 +0000
End at: Mon, 07 Aug 2017 00:45:37 +0000
Local clock offset: 0.551 ms
Remote clock offset: -1.615 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:48 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 303.218 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 303.218 ms
Loss rate: 0.80%
```

Run 1: Report of PCC — Data Link

```
Run 2: Statistics of PCC

Start at: Mon, 07 Aug 2017 01:02:45 +0000
End at: Mon, 07 Aug 2017 01:03:15 +0000
Local clock offset: 0.361 ms
Remote clock offset: -1.487 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:49 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 41.987 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 3.57 Mbit/s
95th percentile per-packet one-way delay: 41.987 ms
Loss rate: 0.16%
```
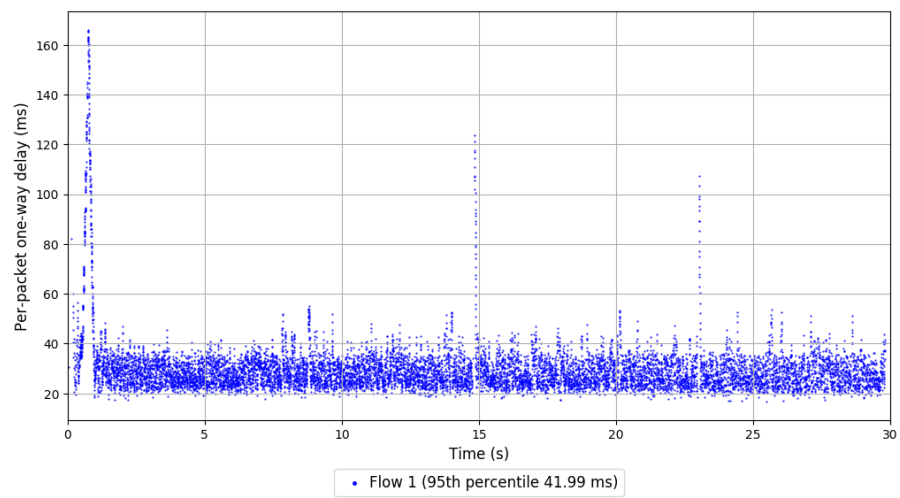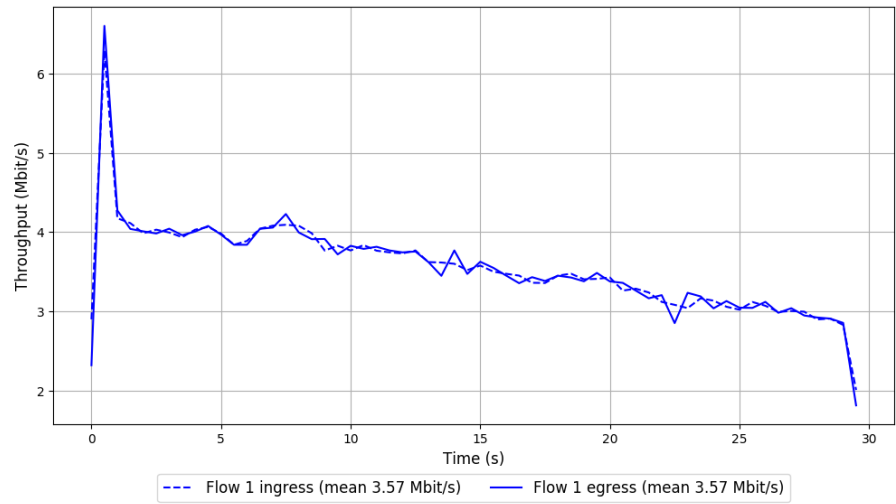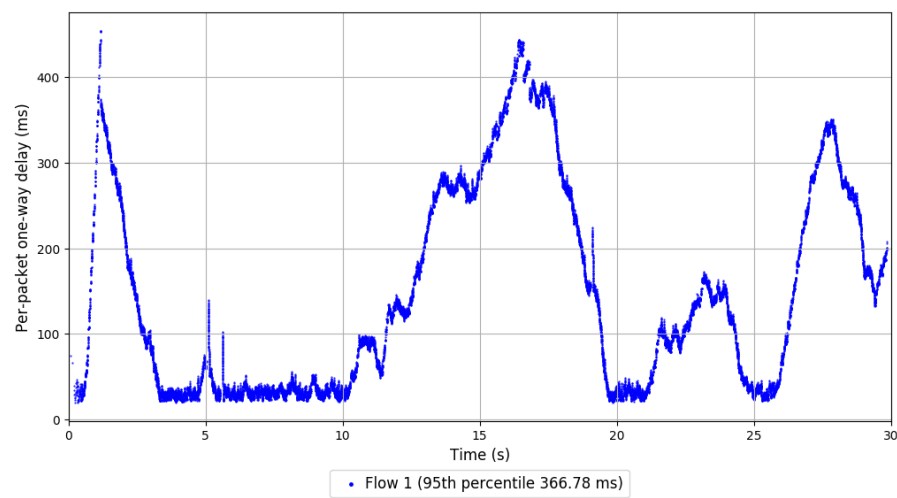
Run 2: Report of PCC — Data Link

Flow 1 ingress (mean 3.57 Mbit/s)   Flow 1 egress (mean 3.57 Mbit/s)

• Flow 1 (95th percentile 41.99 ms)

```
Run 3: Statistics of PCC

Start at: Mon, 07 Aug 2017 01:20:24 +0000
End at: Mon, 07 Aug 2017 01:20:54 +0000
Local clock offset: 0.373 ms
Remote clock offset: -1.475 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:50 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.11 Mbit/s
95th percentile per-packet one-way delay: 366.784 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 8.11 Mbit/s
95th percentile per-packet one-way delay: 366.784 ms
Loss rate: 1.75%
```
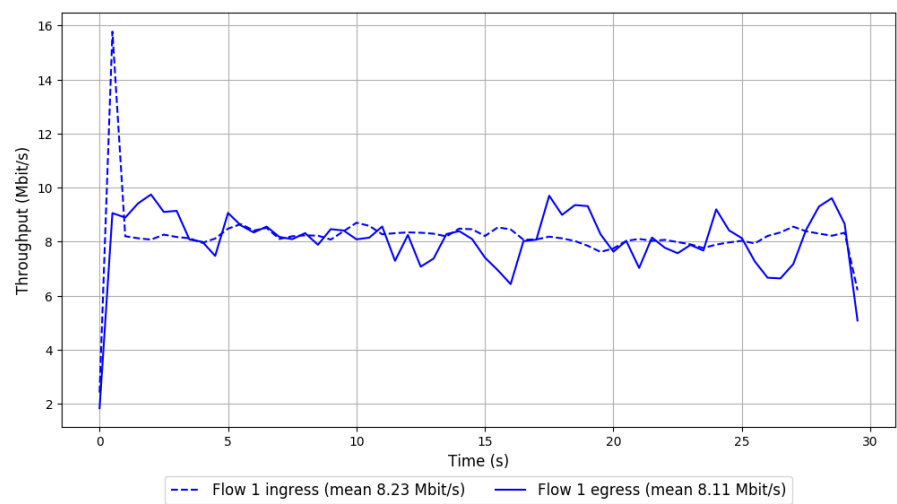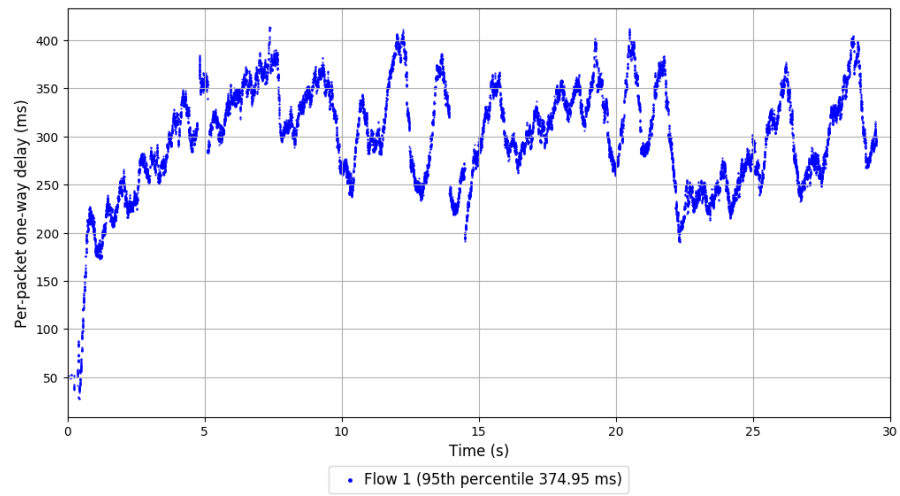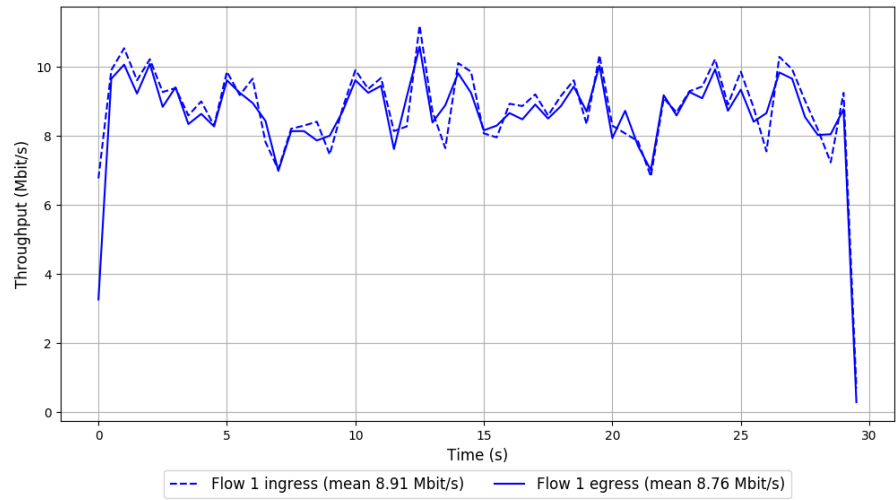
Run 3: Report of PCC — Data Link

Flow 1 ingress (mean 8.23 Mbit/s)   Flow 1 egress (mean 8.11 Mbit/s)

Flow 1 (95th percentile 366.78 ms)

```
Run 1: Statistics of QUIC Cubic

Start at: Mon, 07 Aug 2017 00:47:28 +0000
End at: Mon, 07 Aug 2017 00:47:58 +0000
Local clock offset: 0.543 ms
Remote clock offset: -1.573 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:51 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.76 Mbit/s
95th percentile per-packet one-way delay: 374.950 ms
Loss rate: 1.91%
-- Flow 1:
Average throughput: 8.76 Mbit/s
95th percentile per-packet one-way delay: 374.950 ms
Loss rate: 1.91%
```

Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: Mon, 07 Aug 2017 01:05:06 +0000
End at: Mon, 07 Aug 2017 01:05:36 +0000
Local clock offset: 0.353 ms
Remote clock offset: -1.483 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:52 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.56 Mbit/s
95th percentile per-packet one-way delay: 305.765 ms
Loss rate: 2.31%
-- Flow 1:
Average throughput: 6.56 Mbit/s
95th percentile per-packet one-way delay: 305.765 ms
Loss rate: 2.31%
```
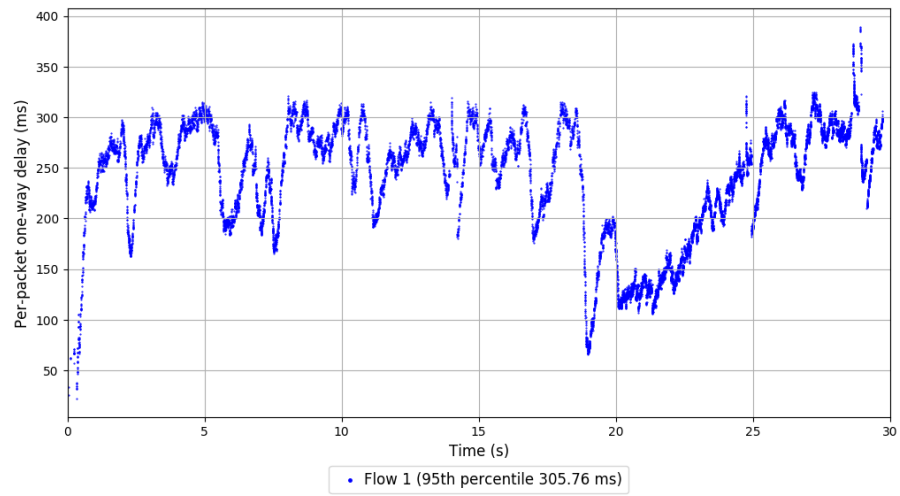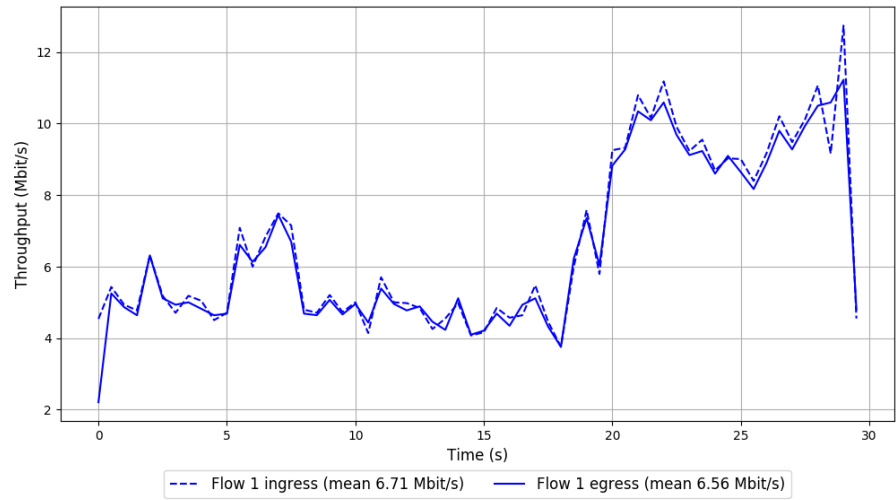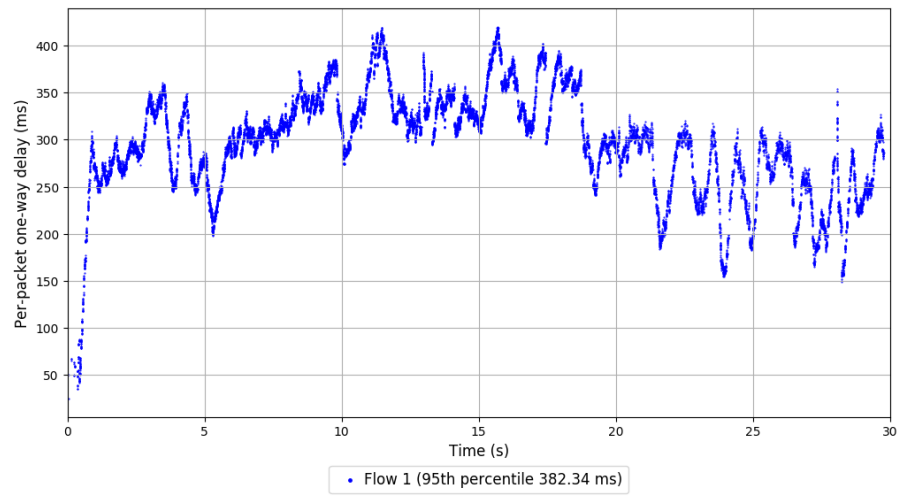
Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 6.71 Mbit/s) --- Flow 1 egress (mean 6.56 Mbit/s)

• Flow 1 (95th percentile 305.76 ms)

49

```
Run 3: Statistics of QUIC Cubic

Start at: Mon, 07 Aug 2017 01:22:45 +0000
End at: Mon, 07 Aug 2017 01:23:15 +0000
Local clock offset: 0.287 ms
Remote clock offset: -1.335 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:54 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.51 Mbit/s
95th percentile per-packet one-way delay: 382.336 ms
Loss rate: 2.17%
-- Flow 1:
Average throughput: 7.51 Mbit/s
95th percentile per-packet one-way delay: 382.336 ms
Loss rate: 2.17%
```
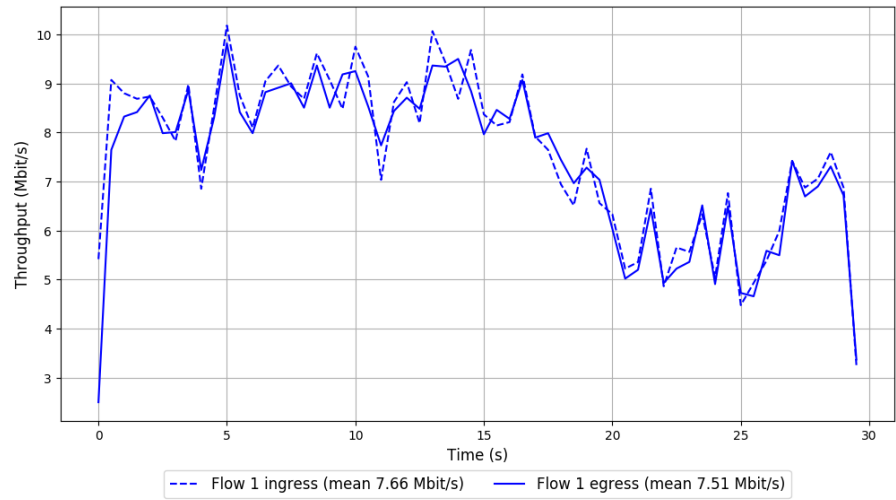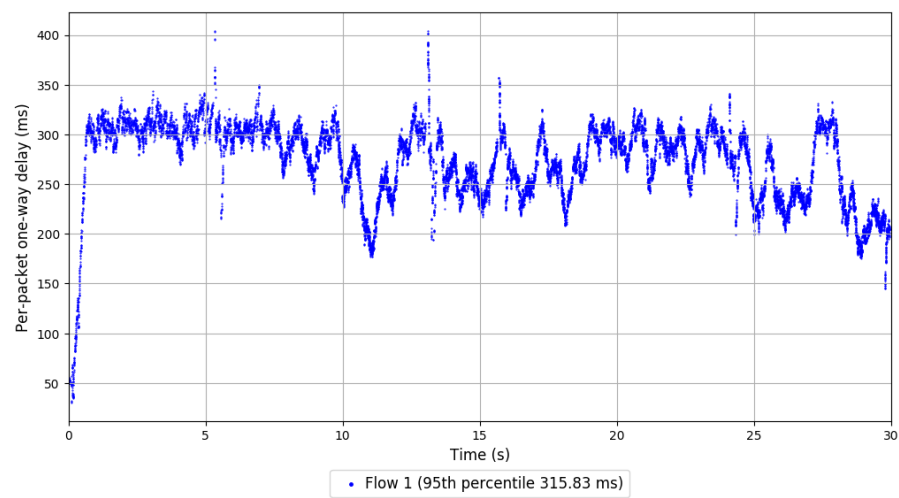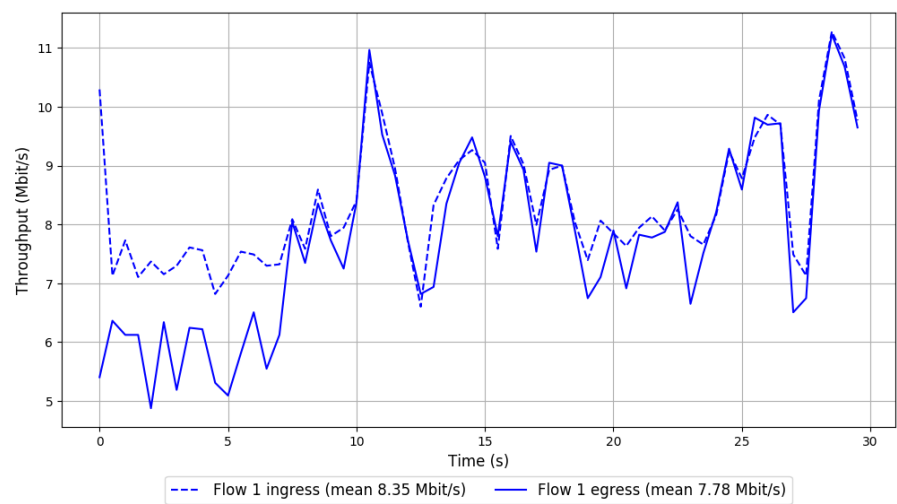
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 7.66 Mbit/s) --- Flow 1 egress (mean 7.51 Mbit/s)

• Flow 1 (95th percentile 382.34 ms)

```
Run 1: Statistics of Saturator

Start at: Mon, 07 Aug 2017 00:42:46 +0000
End at: Mon, 07 Aug 2017 00:43:16 +0000
Local clock offset: 0.513 ms
Remote clock offset: -1.652 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:54 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 315.828 ms
Loss rate: 7.00%
-- Flow 1:
Average throughput: 7.78 Mbit/s
95th percentile per-packet one-way delay: 315.828 ms
Loss rate: 7.00%
```
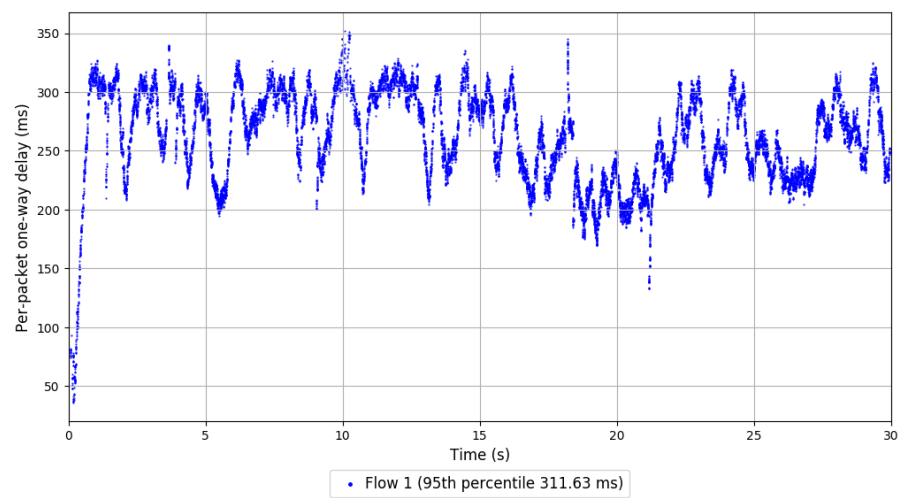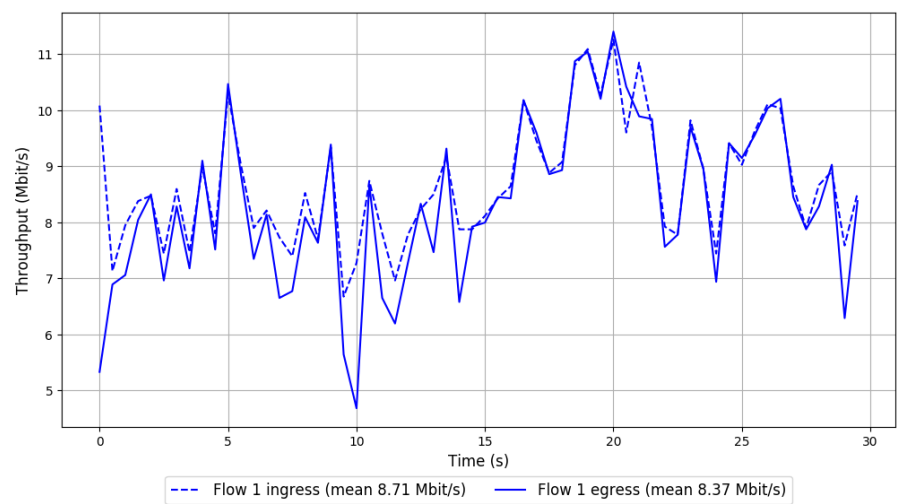
Run 1: Report of Saturator — Data Link

Flow 1 ingress (mean 8.35 Mbit/s)   Flow 1 egress (mean 7.78 Mbit/s)

Flow 1 (95th percentile 315.83 ms)

```
Run 2: Statistics of Saturator

Start at: Mon, 07 Aug 2017 01:00:23 +0000
End at: Mon, 07 Aug 2017 01:00:53 +0000
Local clock offset: 0.402 ms
Remote clock offset: -1.481 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:56 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.37 Mbit/s
95th percentile per-packet one-way delay: 311.629 ms
Loss rate: 4.10%
-- Flow 1:
Average throughput: 8.37 Mbit/s
95th percentile per-packet one-way delay: 311.629 ms
Loss rate: 4.10%
```

Run 2: Report of Saturator — Data Link

```
Run 3: Statistics of Saturator

Start at: Mon, 07 Aug 2017 01:18:02 +0000
End at: Mon, 07 Aug 2017 01:18:32 +0000
Local clock offset: 0.319 ms
Remote clock offset: -1.481 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:56 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.38 Mbit/s
95th percentile per-packet one-way delay: 307.124 ms
Loss rate: 2.50%
-- Flow 1:
Average throughput: 8.38 Mbit/s
95th percentile per-packet one-way delay: 307.124 ms
Loss rate: 2.50%
```
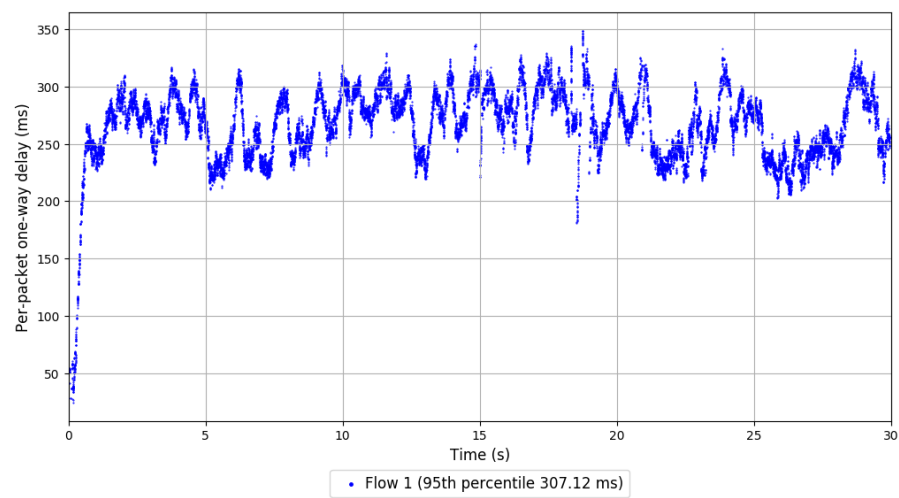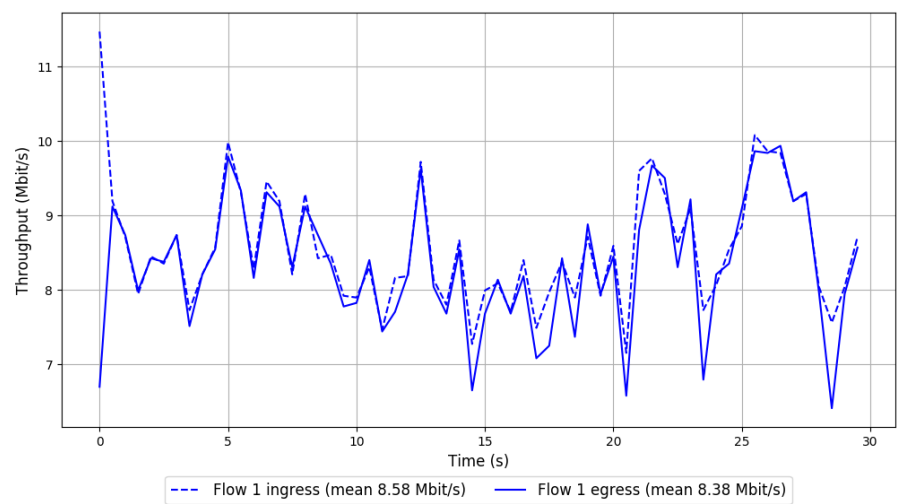
Run 3: Report of Saturator — Data Link

```
Run 1: Statistics of SCReAM

Start at: Mon, 07 Aug 2017 00:54:32 +0000
End at: Mon, 07 Aug 2017 00:55:02 +0000
Local clock offset: 0.497 ms
Remote clock offset: -1.554 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:57 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 82.290 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 82.290 ms
Loss rate: 0.30%
```
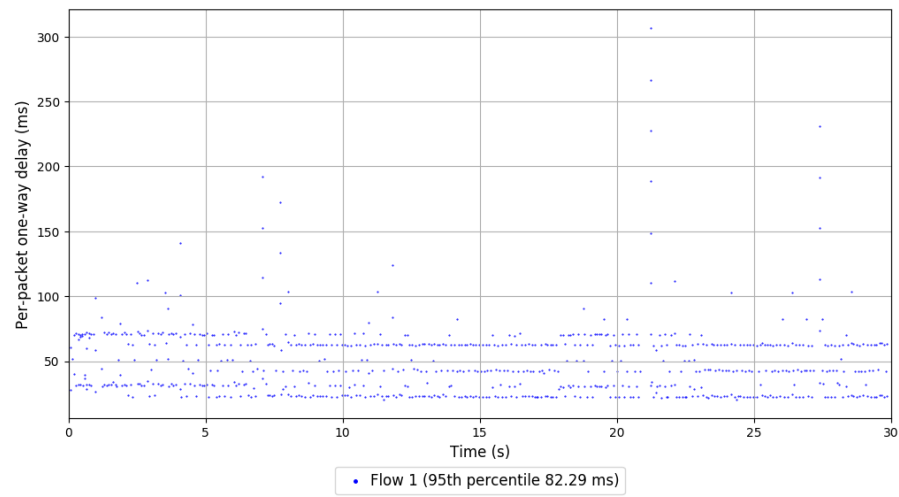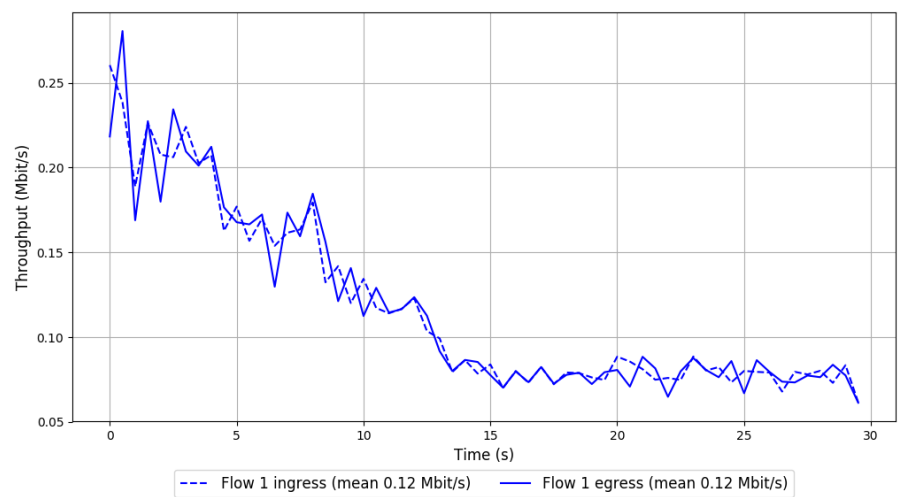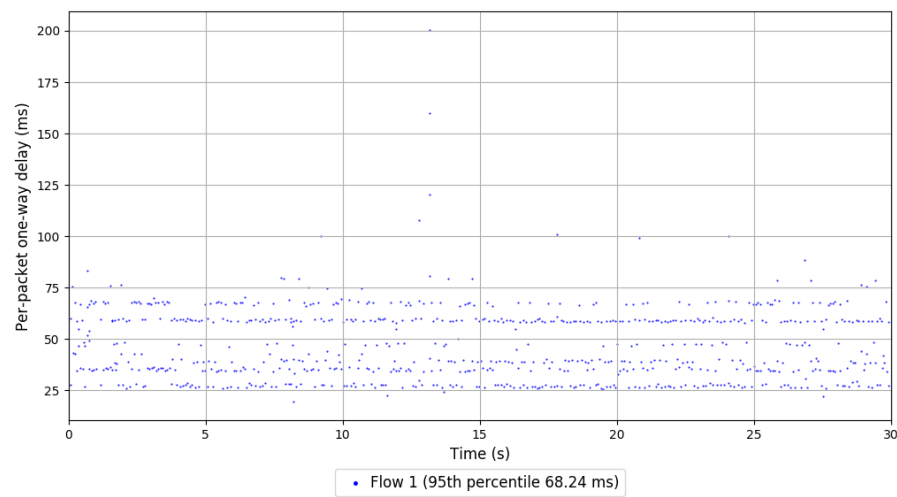
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: Mon, 07 Aug 2017 01:12:10 +0000
End at: Mon, 07 Aug 2017 01:12:40 +0000
Local clock offset: 0.312 ms
Remote clock offset: -1.489 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:57 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 68.244 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 0.18 Mbit/s
95th percentile per-packet one-way delay: 68.244 ms
Loss rate: 0.10%
```
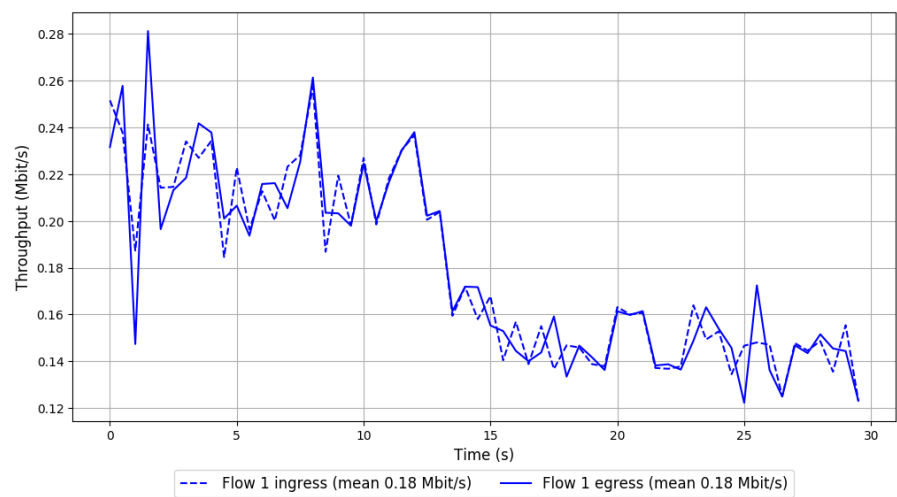
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: Mon, 07 Aug 2017 01:29:49 +0000
End at: Mon, 07 Aug 2017 01:30:19 +0000
Local clock offset: 0.263 ms
Remote clock offset: -1.365 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:28:58 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 66.194 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 66.194 ms
Loss rate: 0.12%
```
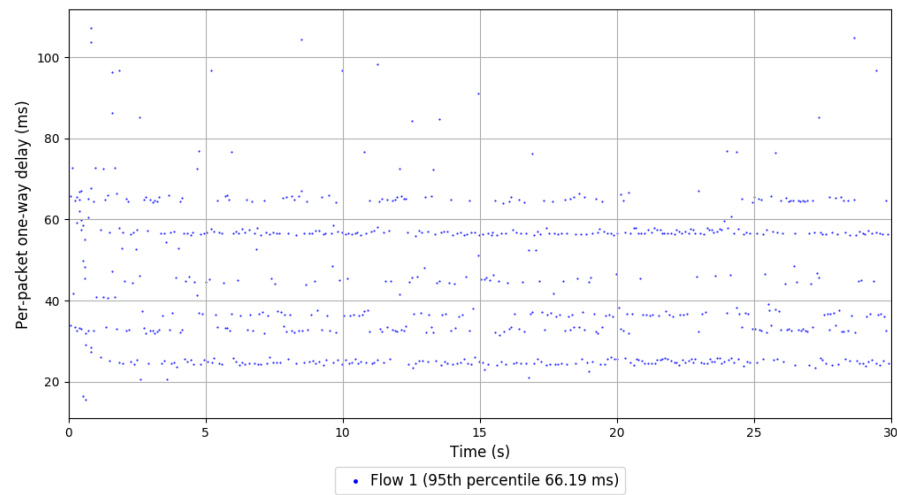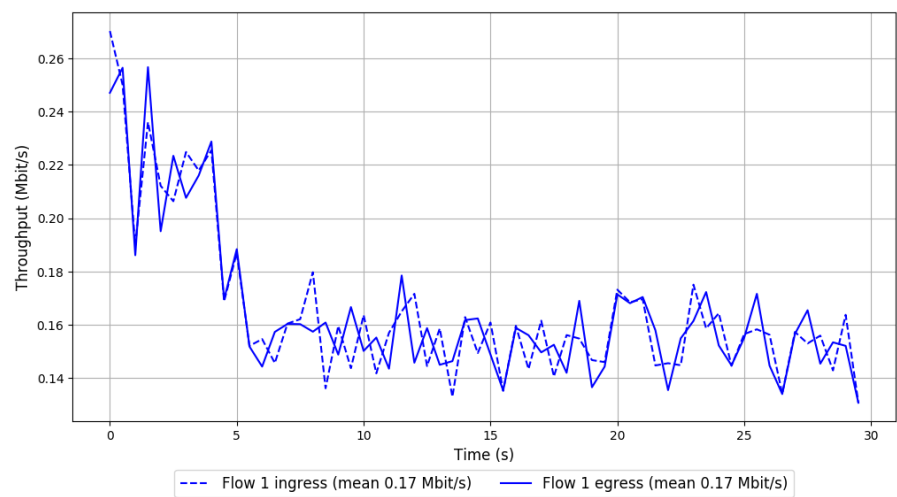
Run 3: Report of SCReAM — Data Link

```
Run 1: Statistics of Sprout

Start at: Mon, 07 Aug 2017 00:53:21 +0000
End at: Mon, 07 Aug 2017 00:53:51 +0000
Local clock offset: 0.512 ms
Remote clock offset: -1.517 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:00 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 74.990 ms
Loss rate: 0.69%
-- Flow 1:
Average throughput: 7.94 Mbit/s
95th percentile per-packet one-way delay: 74.990 ms
Loss rate: 0.69%
```
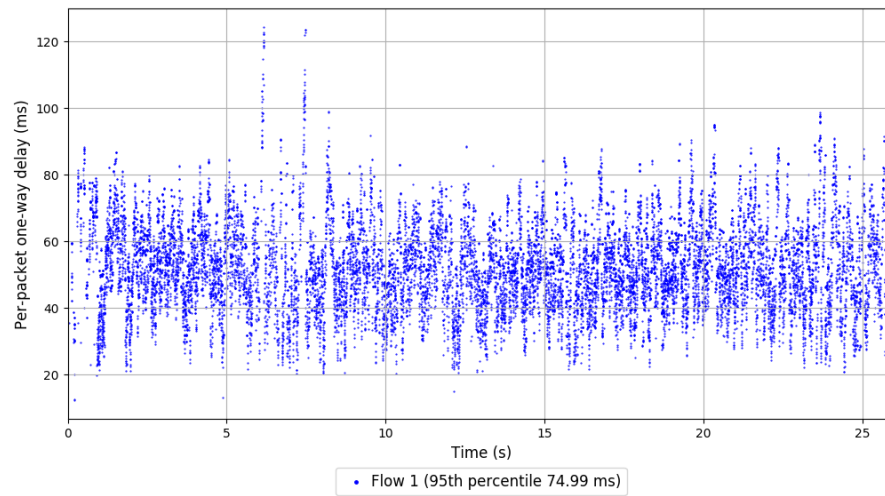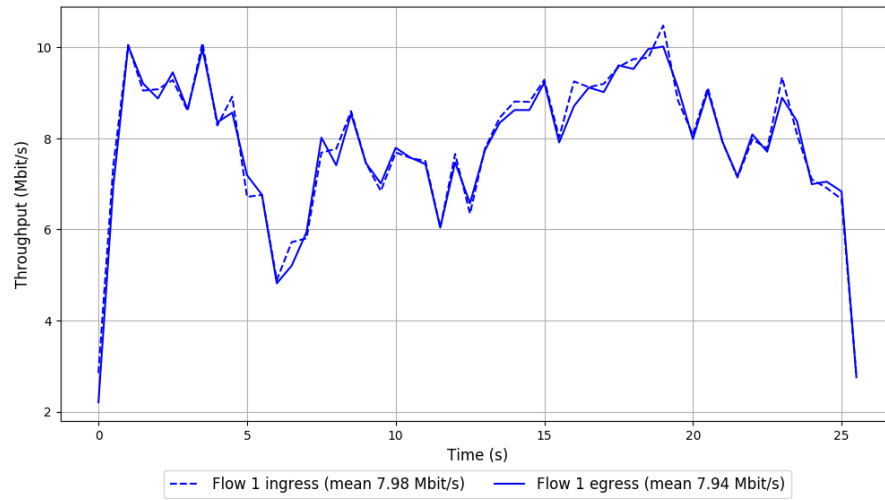
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: Mon, 07 Aug 2017 01:10:59 +0000
End at: Mon, 07 Aug 2017 01:11:29 +0000
Local clock offset: 0.323 ms
Remote clock offset: -1.519 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:00 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 80.338 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 8.23 Mbit/s
95th percentile per-packet one-way delay: 80.338 ms
Loss rate: 1.54%
```
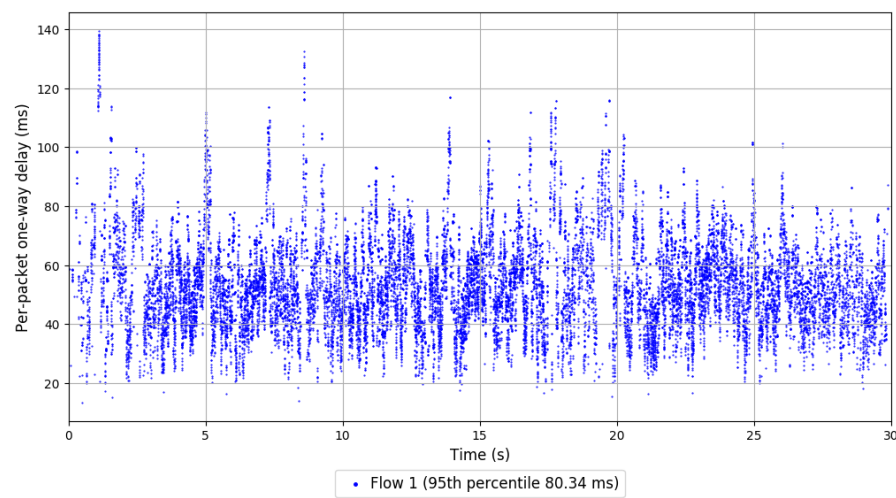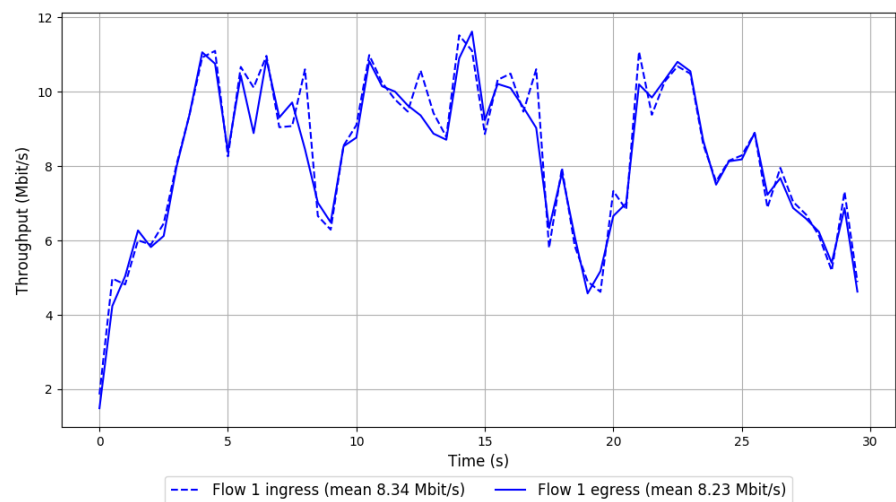
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: Mon, 07 Aug 2017 01:28:38 +0000
End at: Mon, 07 Aug 2017 01:29:08 +0000
Local clock offset: 0.341 ms
Remote clock offset: -1.222 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:01 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.05 Mbit/s
95th percentile per-packet one-way delay: 92.480 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 5.05 Mbit/s
95th percentile per-packet one-way delay: 92.480 ms
Loss rate: 0.38%
```
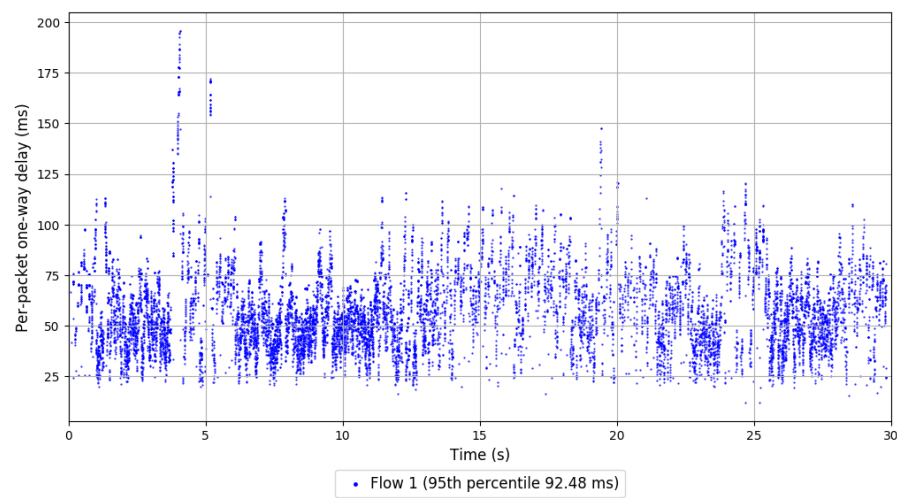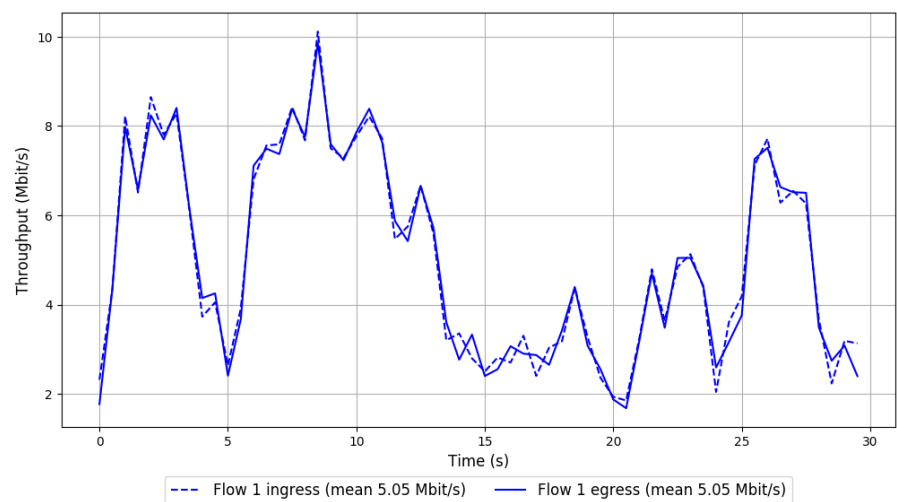
Run 3: Report of Sprout — Data Link

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

Start at: Mon, 07 Aug 2017 00:43:56 +0000
End at: Mon, 07 Aug 2017 00:44:26 +0000
Local clock offset: 0.484 ms
Remote clock offset: -1.646 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:02 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 56.598 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 5.93 Mbit/s
95th percentile per-packet one-way delay: 56.598 ms
Loss rate: 0.26%
```
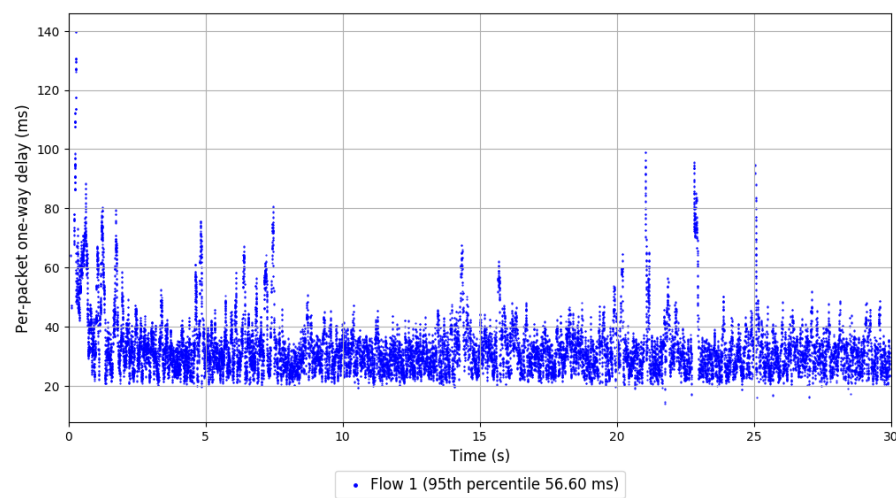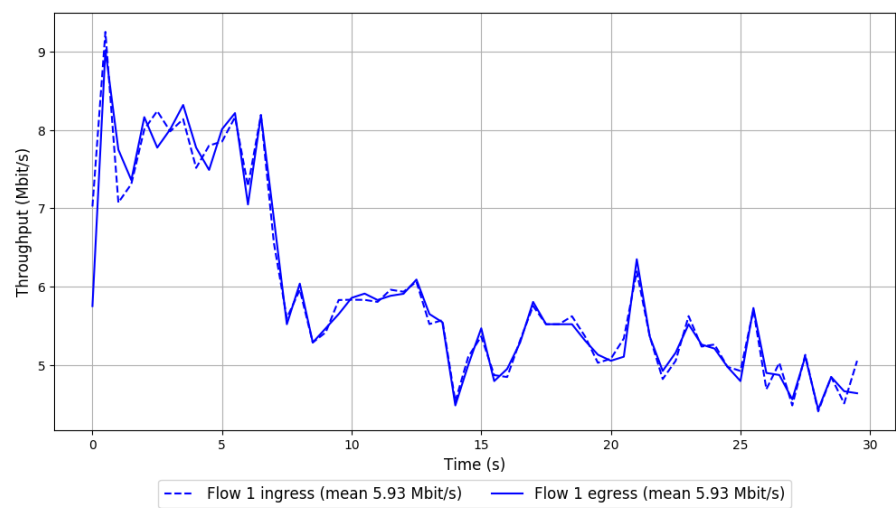
Run 1: Report of TaoVA-100x — Data Link

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

Start at: Mon, 07 Aug 2017 01:01:34 +0000
End at: Mon, 07 Aug 2017 01:02:04 +0000
Local clock offset: 0.371 ms
Remote clock offset: -1.5 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:03 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.39 Mbit/s
95th percentile per-packet one-way delay: 48.007 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 5.39 Mbit/s
95th percentile per-packet one-way delay: 48.007 ms
Loss rate: 0.38%
```
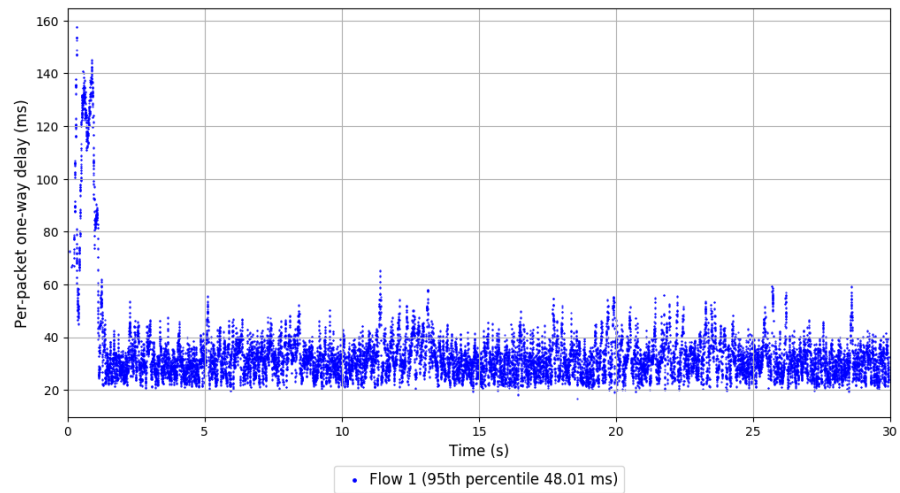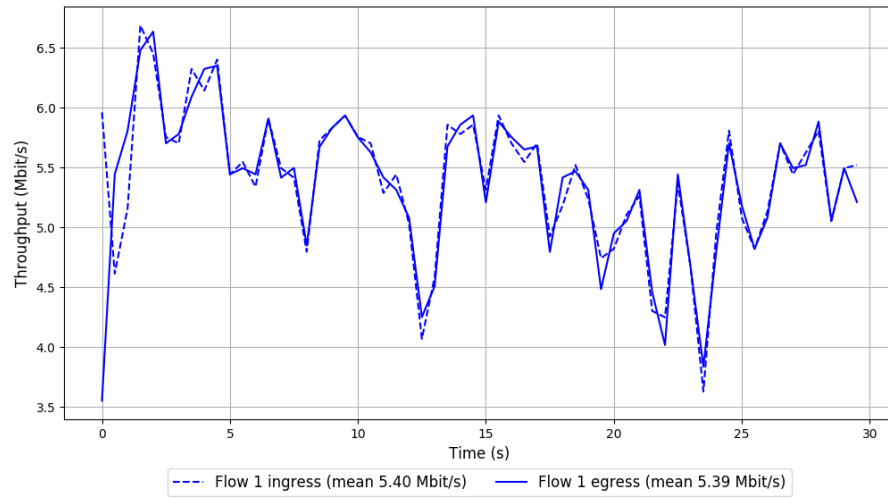
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 5.40 Mbit/s) ----- Flow 1 egress (mean 5.39 Mbit/s) ———

Flow 1 (95th percentile 48.01 ms)

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

Start at: Mon, 07 Aug 2017 01:19:13 +0000
End at: Mon, 07 Aug 2017 01:19:43 +0000
Local clock offset: 0.399 ms
Remote clock offset: -1.451 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:06 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.47 Mbit/s
95th percentile per-packet one-way delay: 54.092 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 5.47 Mbit/s
95th percentile per-packet one-way delay: 54.092 ms
Loss rate: 0.27%
```
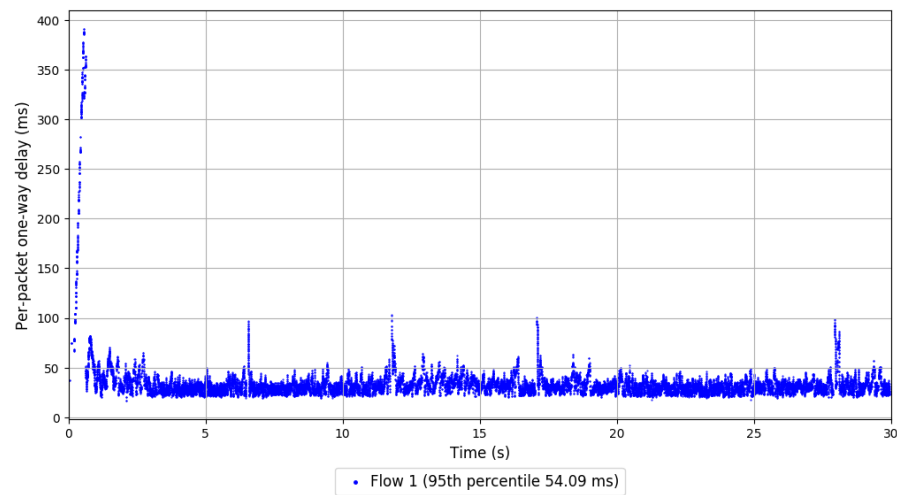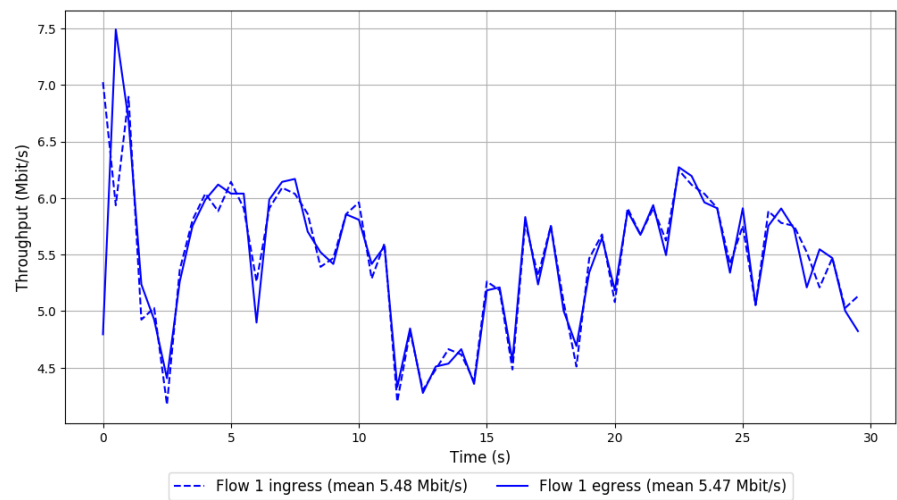
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 5.48 Mbit/s)   Flow 1 egress (mean 5.47 Mbit/s)

Flow 1 (95th percentile 54.09 ms)

```
Run 1: Statistics of TCP Vegas

Start at: Mon, 07 Aug 2017 00:58:02 +0000
End at: Mon, 07 Aug 2017 00:58:32 +0000
Local clock offset: 0.399 ms
Remote clock offset: -1.583 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:06 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 196.064 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 2.30 Mbit/s
95th percentile per-packet one-way delay: 196.064 ms
Loss rate: 0.71%
```
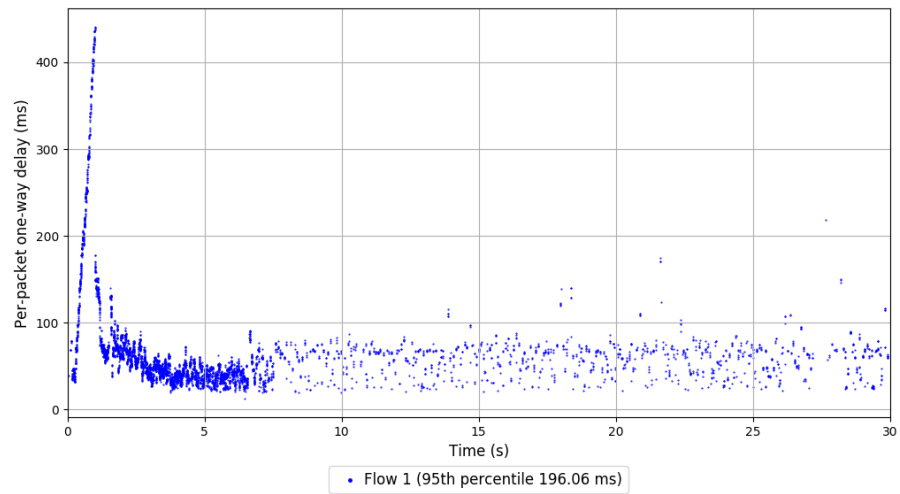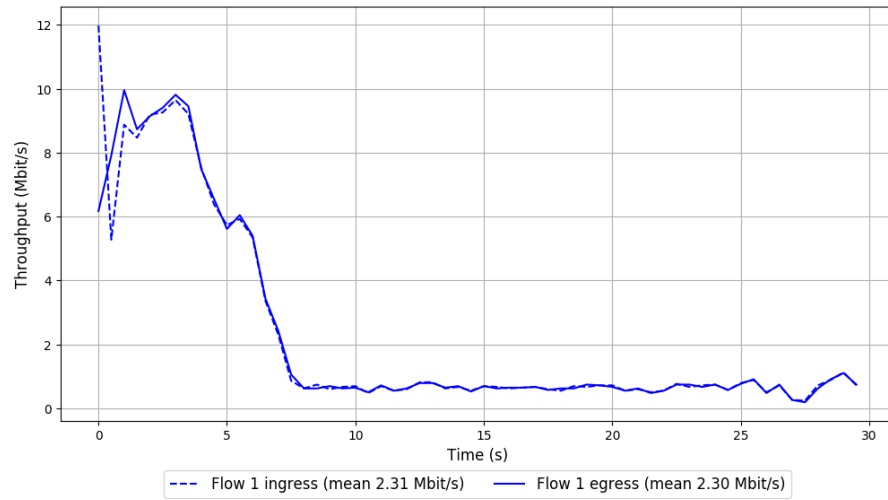
Run 1: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 2.31 Mbit/s)   Flow 1 egress (mean 2.30 Mbit/s)

Flow 1 (95th percentile 196.06 ms)

```
Run 2: Statistics of TCP Vegas

Start at: Mon, 07 Aug 2017 01:15:41 +0000
End at: Mon, 07 Aug 2017 01:16:11 +0000
Local clock offset: 0.401 ms
Remote clock offset: -1.386 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:06 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 108.157 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 108.157 ms
Loss rate: 0.10%
```
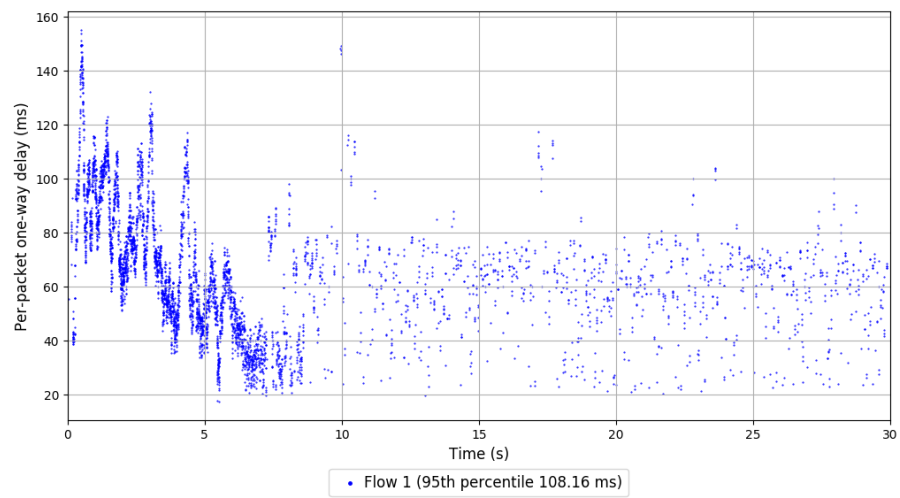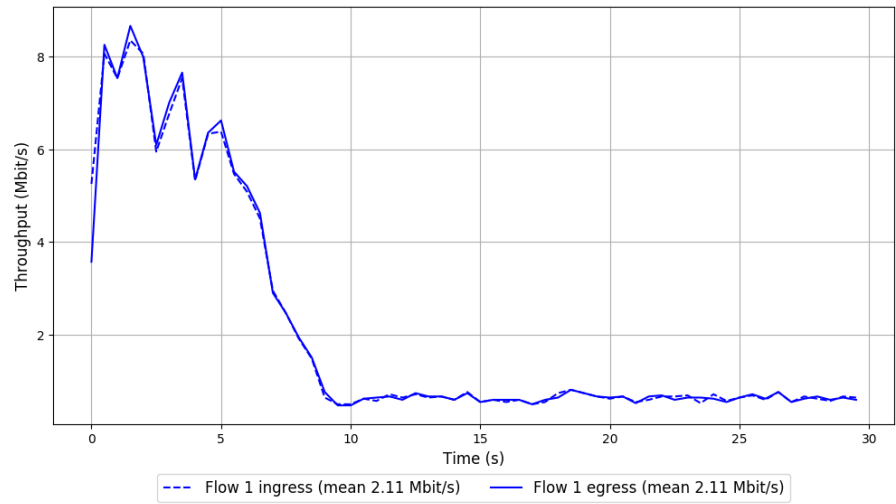
Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 2.11 Mbit/s) --- Flow 1 egress (mean 2.11 Mbit/s)

• Flow 1 (95th percentile 108.16 ms)

```
Run 3: Statistics of TCP Vegas

Start at: Mon, 07 Aug 2017 01:33:20 +0000
End at: Mon, 07 Aug 2017 01:33:50 +0000
Local clock offset: 0.235 ms
Remote clock offset: -1.296 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:06 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.78 Mbit/s
95th percentile per-packet one-way delay: 72.657 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.78 Mbit/s
95th percentile per-packet one-way delay: 72.657 ms
Loss rate: 0.06%
```
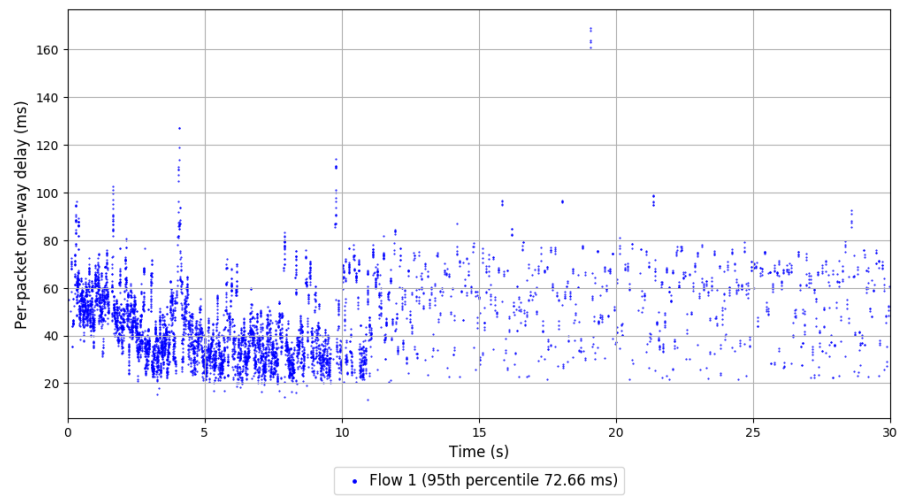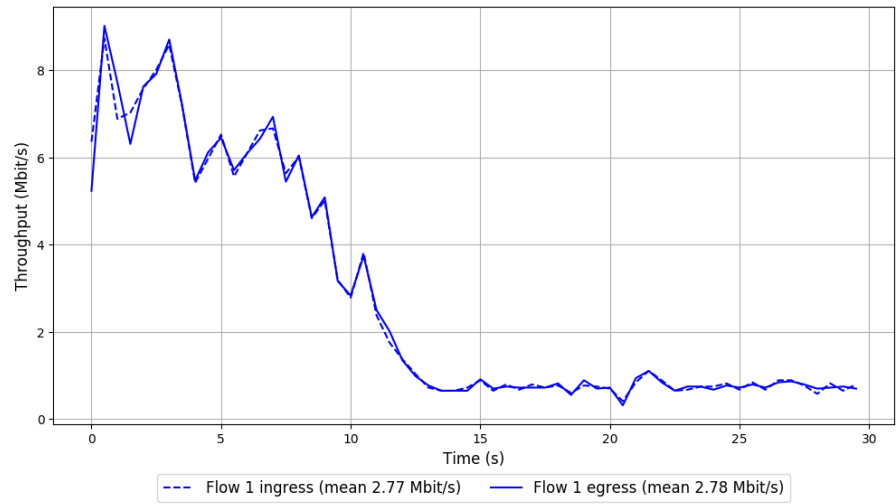
Run 3: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: Mon, 07 Aug 2017 00:41:35 +0000
End at: Mon, 07 Aug 2017 00:42:05 +0000
Local clock offset: 0.581 ms
Remote clock offset: -1.686 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:08 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.33 Mbit/s
95th percentile per-packet one-way delay: 240.696 ms
Loss rate: 1.91%
-- Flow 1:
Average throughput: 6.33 Mbit/s
95th percentile per-packet one-way delay: 240.696 ms
Loss rate: 1.91%
```
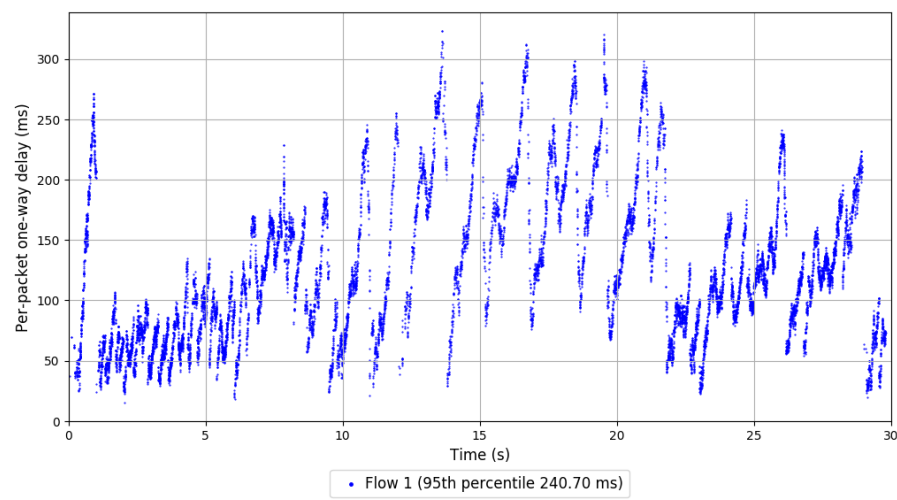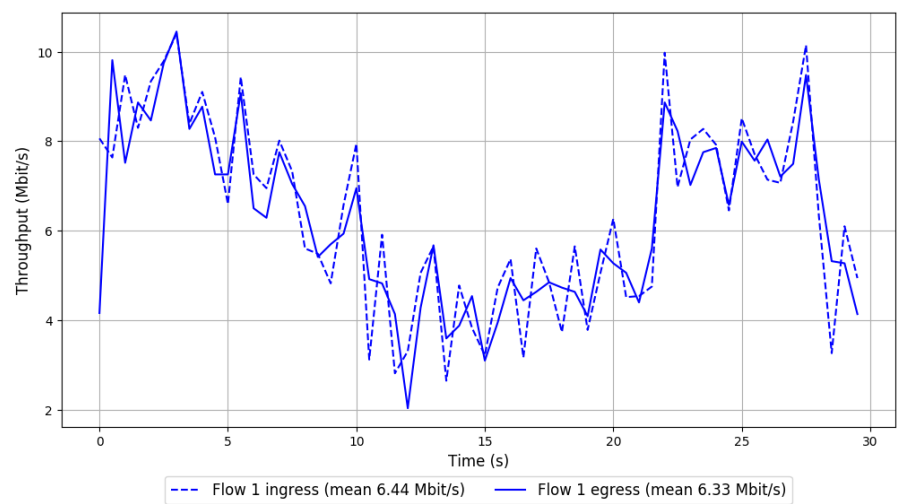
Run 1: Report of Verus — Data Link

Flow 1 ingress (mean 6.44 Mbit/s) — — — — Flow 1 egress (mean 6.33 Mbit/s) ————

· Flow 1 (95th percentile 240.70 ms)

```
Run 2: Statistics of Verus

Start at: Mon, 07 Aug 2017 00:59:13 +0000
End at: Mon, 07 Aug 2017 00:59:43 +0000
Local clock offset: 0.406 ms
Remote clock offset: -1.569 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:08 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.66 Mbit/s
95th percentile per-packet one-way delay: 231.868 ms
Loss rate: 3.68%
-- Flow 1:
Average throughput: 7.66 Mbit/s
95th percentile per-packet one-way delay: 231.868 ms
Loss rate: 3.68%
```
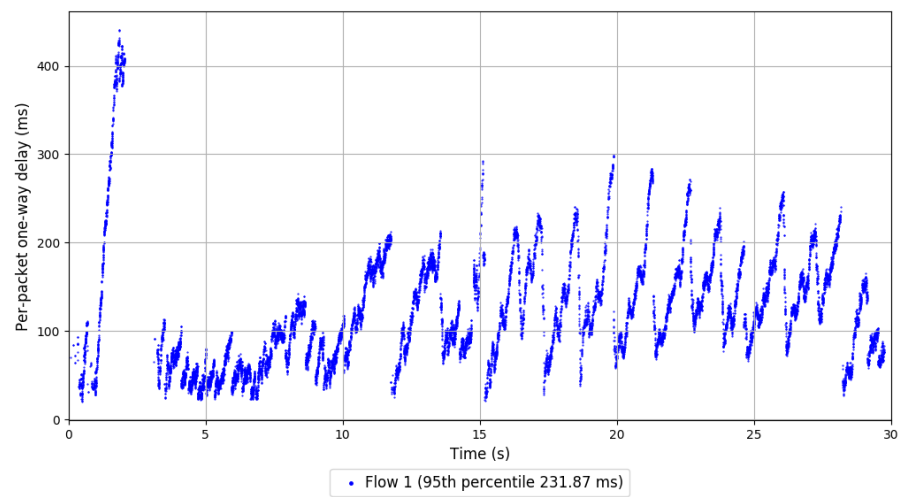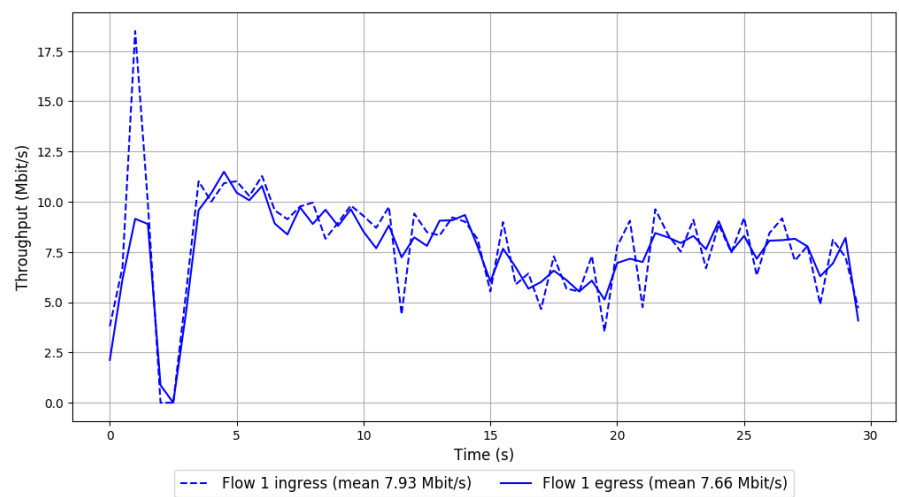
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: Mon, 07 Aug 2017 01:16:51 +0000
End at: Mon, 07 Aug 2017 01:17:21 +0000
Local clock offset: 0.378 ms
Remote clock offset: -1.423 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:10 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 266.807 ms
Loss rate: 3.90%
-- Flow 1:
Average throughput: 7.85 Mbit/s
95th percentile per-packet one-way delay: 266.807 ms
Loss rate: 3.90%
```
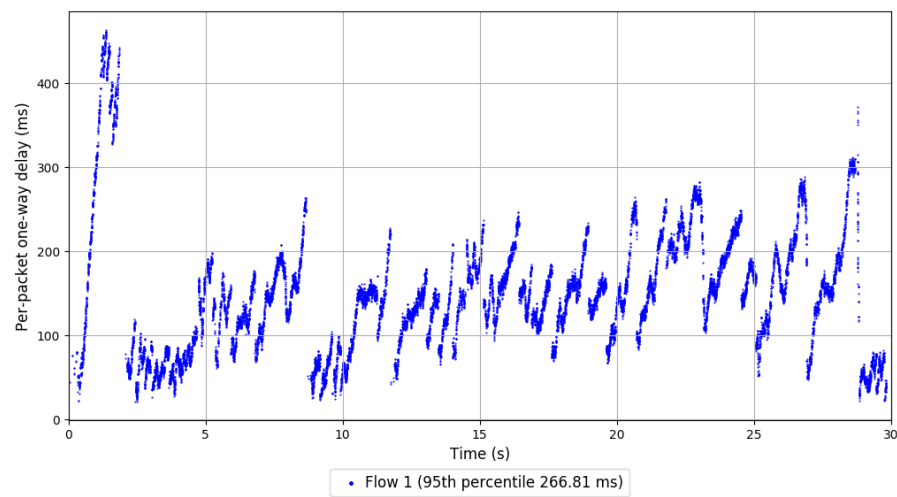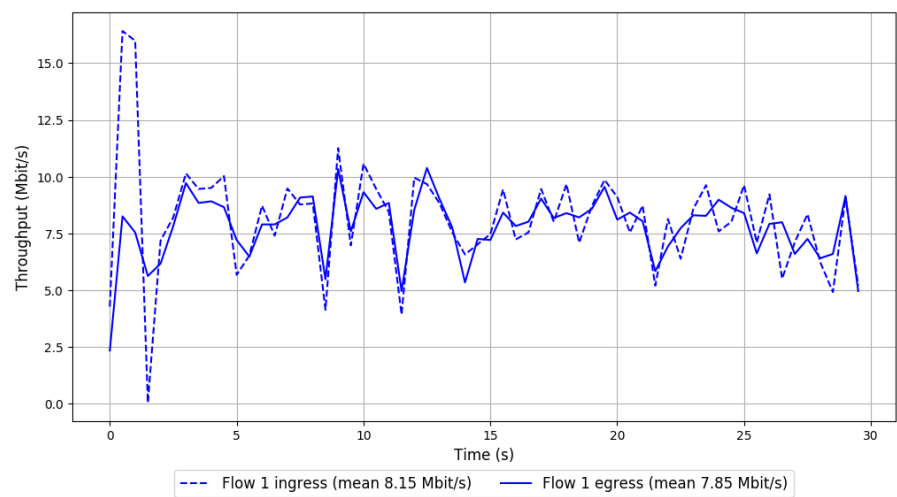
Run 3: Report of Verus — Data Link

```
Run 1: Statistics of WebRTC media

Start at: Mon, 07 Aug 2017 00:56:52 +0000
End at: Mon, 07 Aug 2017 00:57:22 +0000
Local clock offset: 0.409 ms
Remote clock offset: -1.532 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:10 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 76.814 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 2.01 Mbit/s
95th percentile per-packet one-way delay: 76.814 ms
Loss rate: 0.53%
```
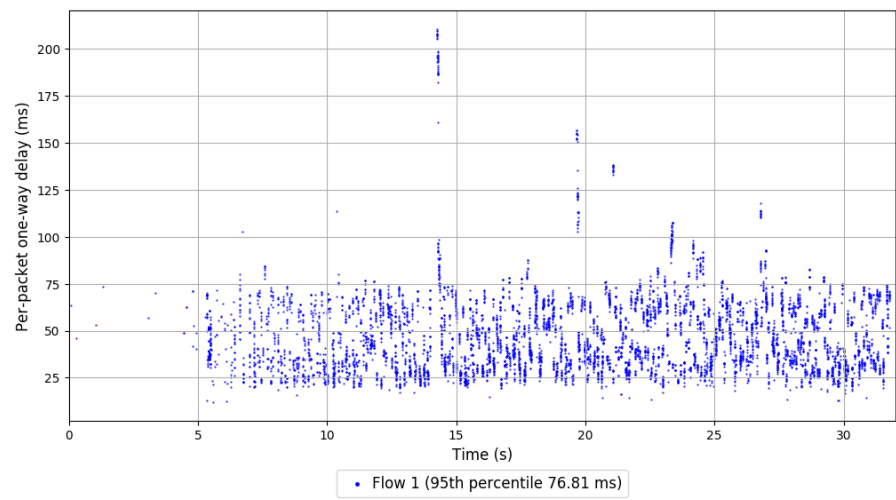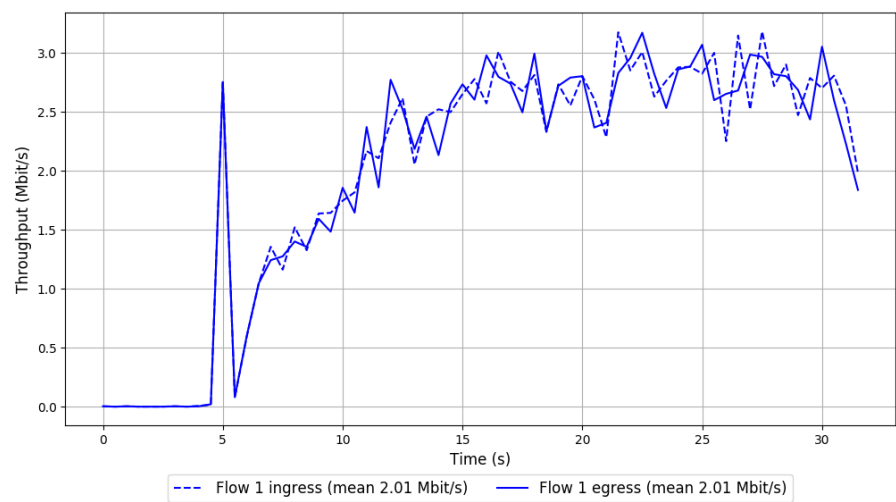
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: Mon, 07 Aug 2017 01:14:30 +0000
End at: Mon, 07 Aug 2017 01:15:00 +0000
Local clock offset: 0.4 ms
Remote clock offset: -1.388 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:11 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 72.203 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 0.94 Mbit/s
95th percentile per-packet one-way delay: 72.203 ms
Loss rate: 0.51%
```
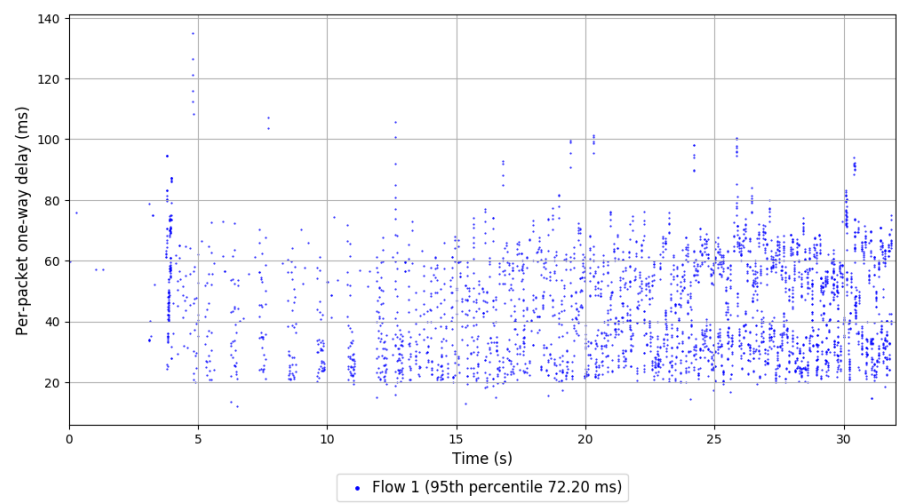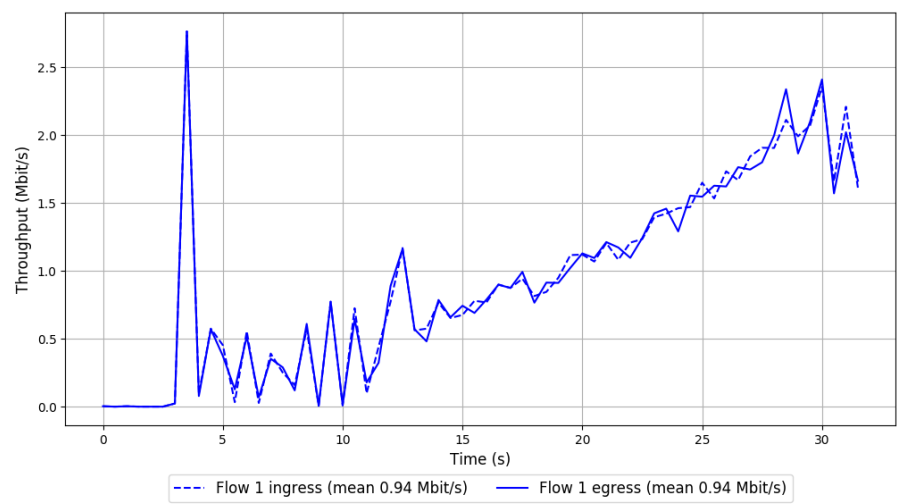
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: Mon, 07 Aug 2017 01:32:09 +0000
End at: Mon, 07 Aug 2017 01:32:39 +0000
Local clock offset: 0.318 ms
Remote clock offset: -1.392 ms


# Below is generated by plot.py at Mon, 07 Aug 2017 02:29:11 +0000
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 71.488 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 71.488 ms
Loss rate: 0.38%
```

Run 3: Report of WebRTC media — Data Link