Pantheon Report

Generated at 2017-08-17 09:15:47 (UTC).

Data path: GCE Iowa Ethernet (*local*) →GCE Tokyo Ethernet (*remote*).

Repeated the test of 15 congestion control schemes 10 times.

Each test lasted for 30 seconds running 1 flow.
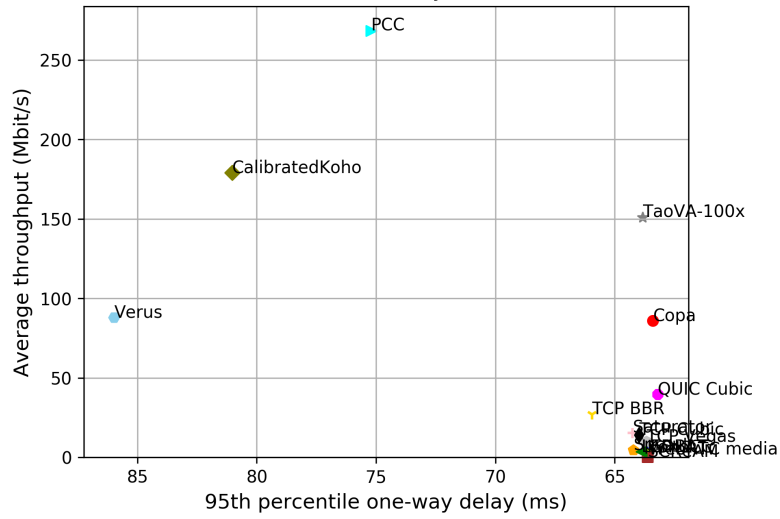
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

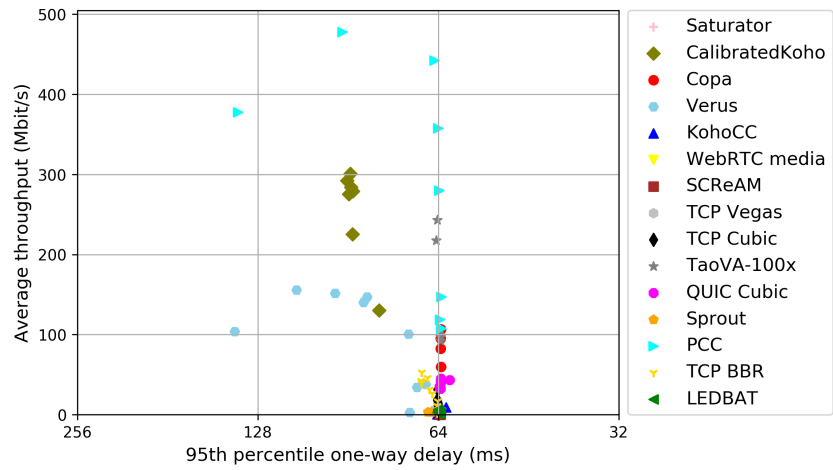Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: master @ e43be7582298d552838afcf6382342bf187fbbd6
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 GCE Iowa Ethernet to GCE Tokyo Ethernet, 10 runs of 30s each per scheme
(mean of all runs by scheme)

test from GCE Iowa Ethernet to GCE Tokyo Ethernet, 10 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	10	27.07	65.96	28.00
CalibratedKoho	10	179.14	81.03	28.14
Copa	4	85.93	63.40	0.20
TCP Cubic	8	14.18	63.98	1.62
KohoCC	9	3.27	63.64	63.56
LEDBAT	10	3.50	63.89	1.99
PCC	9	268.49	75.21	4.26
QUIC Cubic	9	39.59	63.20	0.04
Saturator	4	15.49	64.26	10.52
SCReAM	6	0.22	63.62	0.00
Sprout	10	4.64	64.22	8.90
TaoVA-100x	5	151.08	63.82	3.27
TCP Vegas	10	9.94	63.68	1.72
Verus	10	87.97	85.98	44.89
WebRTC media	10	2.00	63.60	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2017-08-17 06:15:17
End at: 2017-08-17 06:15:47

# Below is generated by plot.py at 2017-08-17 09:00:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 26.26 Mbit/s
95th percentile per-packet one-way delay: 65.541 ms
Loss rate: 27.26%
-- Flow 1:
Average throughput: 26.26 Mbit/s
95th percentile per-packet one-way delay: 65.541 ms
Loss rate: 27.26%
```
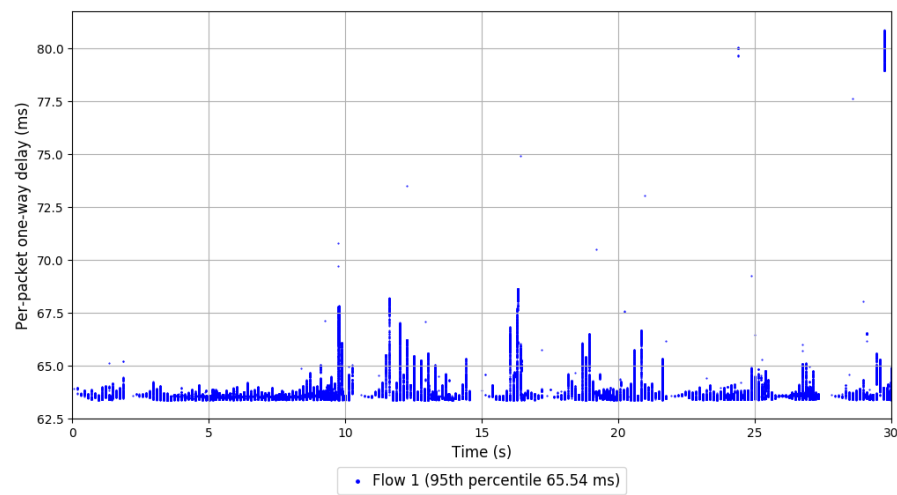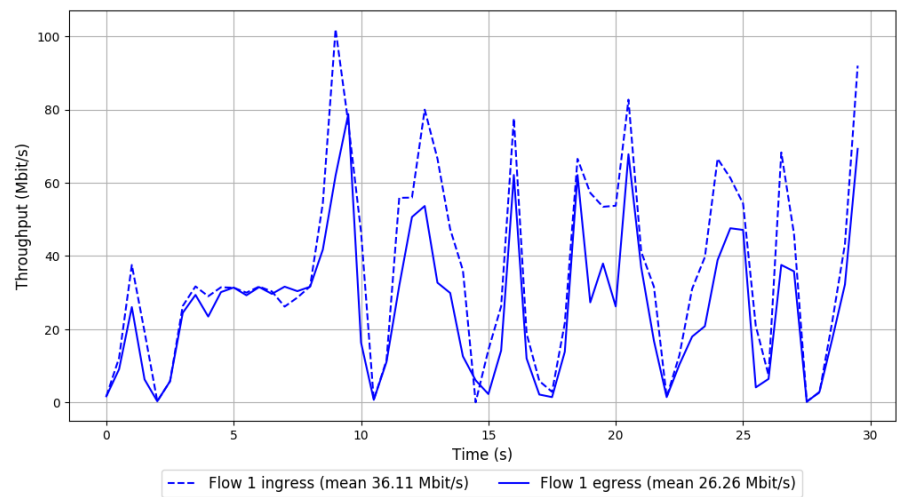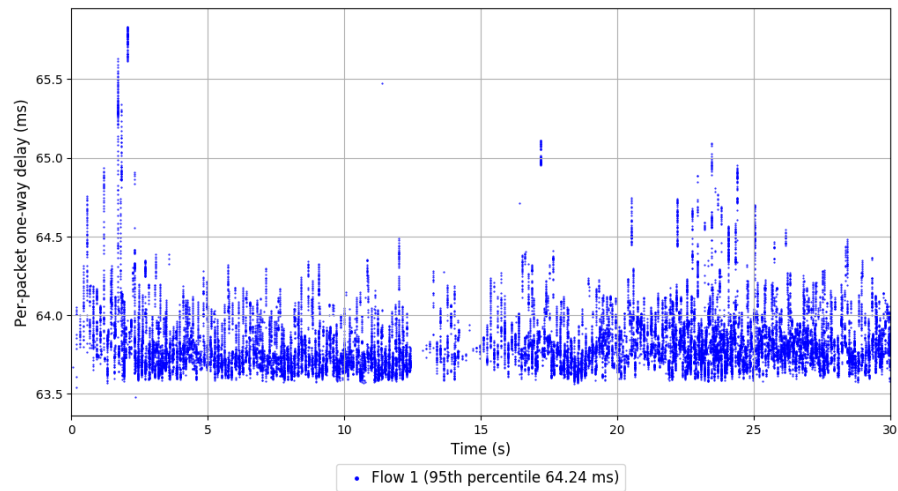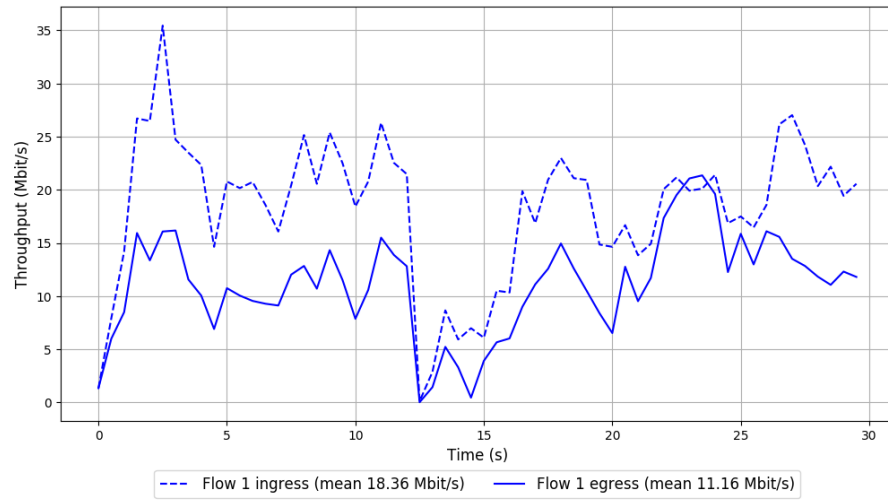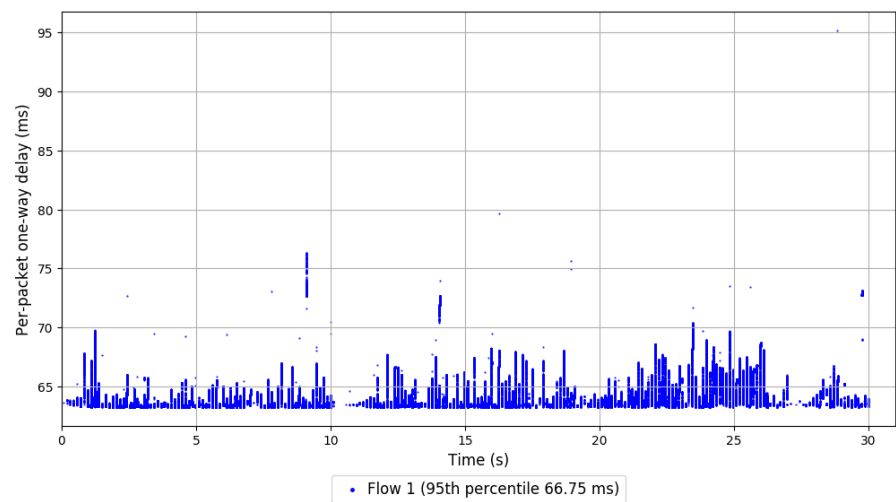
Run 1: Report of TCP BBR — Data Link

Flow 1 ingress (mean 36.11 Mbit/s)   Flow 1 egress (mean 26.26 Mbit/s)

Flow 1 (95th percentile 65.54 ms)

```
Run 2: Statistics of TCP BBR

Start at: 2017-08-17 06:25:36
End at: 2017-08-17 06:26:07

# Below is generated by plot.py at 2017-08-17 09:00:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.16 Mbit/s
95th percentile per-packet one-way delay: 64.240 ms
Loss rate: 39.22%
-- Flow 1:
Average throughput: 11.16 Mbit/s
95th percentile per-packet one-way delay: 64.240 ms
Loss rate: 39.22%
```
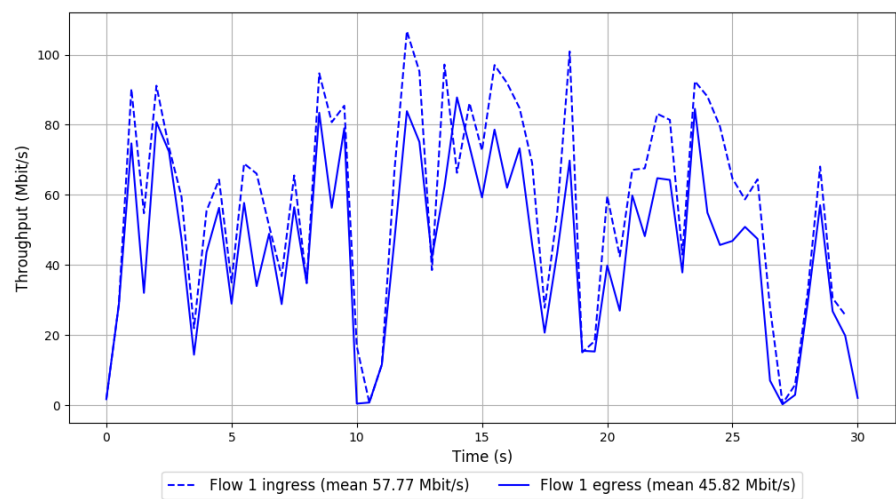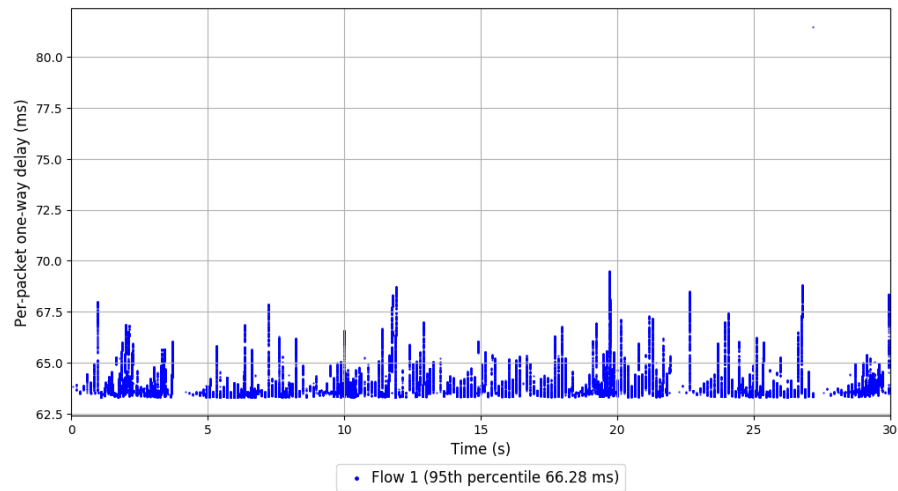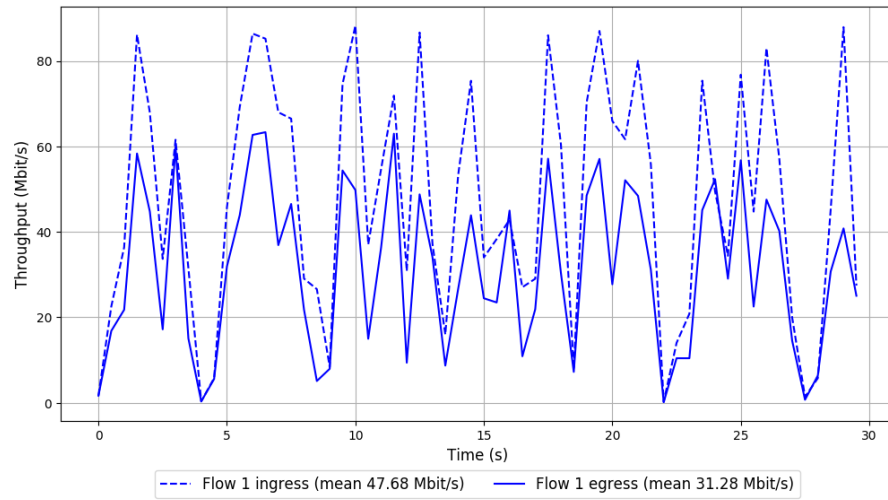
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2017-08-17 06:36:10
End at: 2017-08-17 06:36:40

# Below is generated by plot.py at 2017-08-17 09:01:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 45.82 Mbit/s
95th percentile per-packet one-way delay: 66.745 ms
Loss rate: 20.68%
-- Flow 1:
Average throughput: 45.82 Mbit/s
95th percentile per-packet one-way delay: 66.745 ms
Loss rate: 20.68%
```
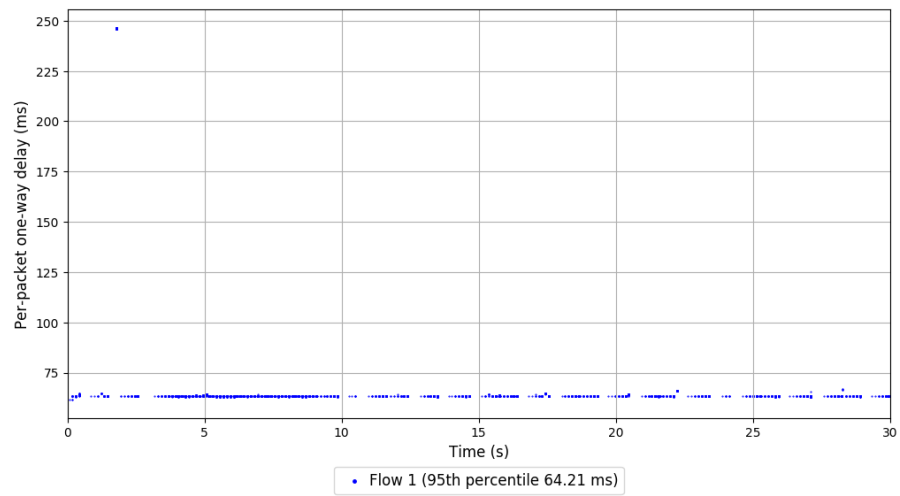
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2017-08-17 06:46:46
End at: 2017-08-17 06:47:16

# Below is generated by plot.py at 2017-08-17 09:01:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 31.28 Mbit/s
95th percentile per-packet one-way delay: 66.279 ms
Loss rate: 34.37%
-- Flow 1:
Average throughput: 31.28 Mbit/s
95th percentile per-packet one-way delay: 66.279 ms
Loss rate: 34.37%
```
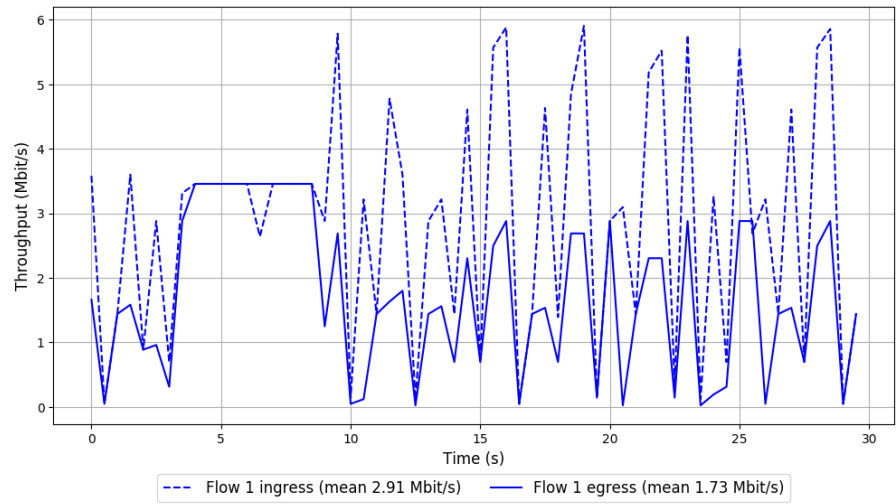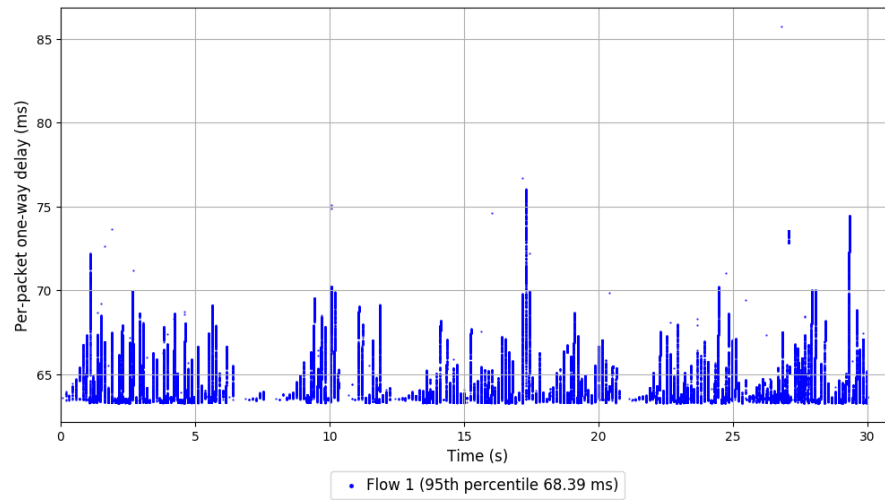
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 47.68 Mbit/s) --- Flow 1 egress (mean 31.28 Mbit/s)

Flow 1 (95th percentile 66.28 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2017-08-17 06:57:18
End at: 2017-08-17 06:57:48

# Below is generated by plot.py at 2017-08-17 09:01:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 64.210 ms
Loss rate: 40.61%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 64.210 ms
Loss rate: 40.61%
```
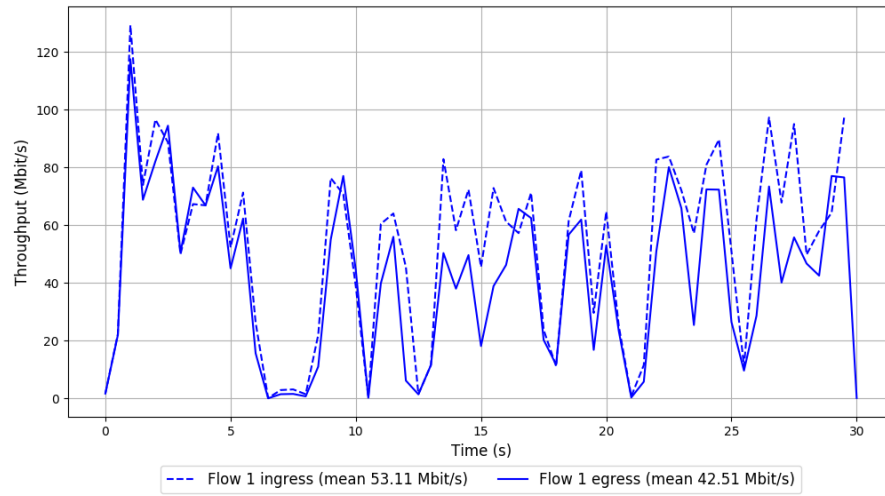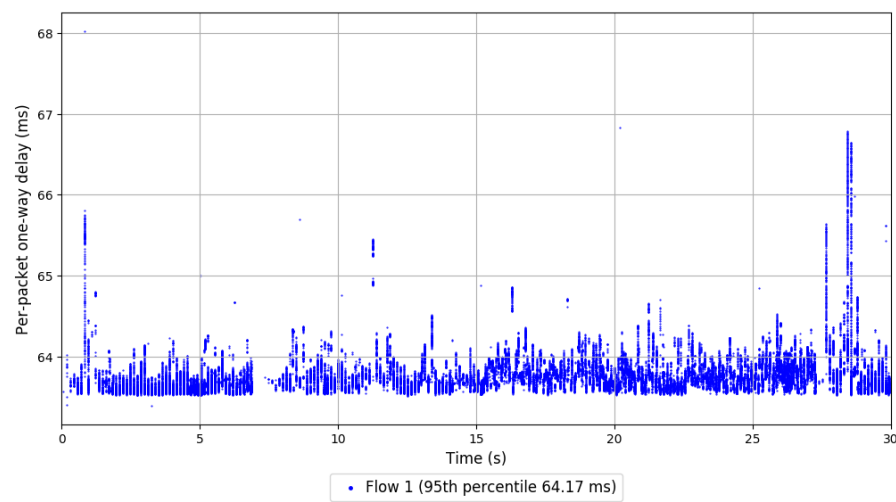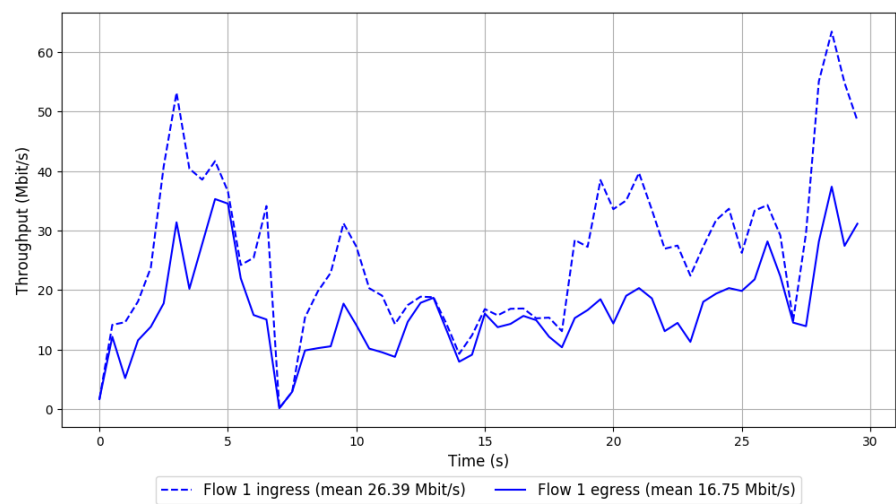
Run 5: Report of TCP BBR — Data Link

```
Run 6: Statistics of TCP BBR

Start at: 2017-08-17 07:07:28
End at: 2017-08-17 07:07:58

# Below is generated by plot.py at 2017-08-17 09:01:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.51 Mbit/s
95th percentile per-packet one-way delay: 68.391 ms
Loss rate: 19.95%
-- Flow 1:
Average throughput: 42.51 Mbit/s
95th percentile per-packet one-way delay: 68.391 ms
Loss rate: 19.95%
```
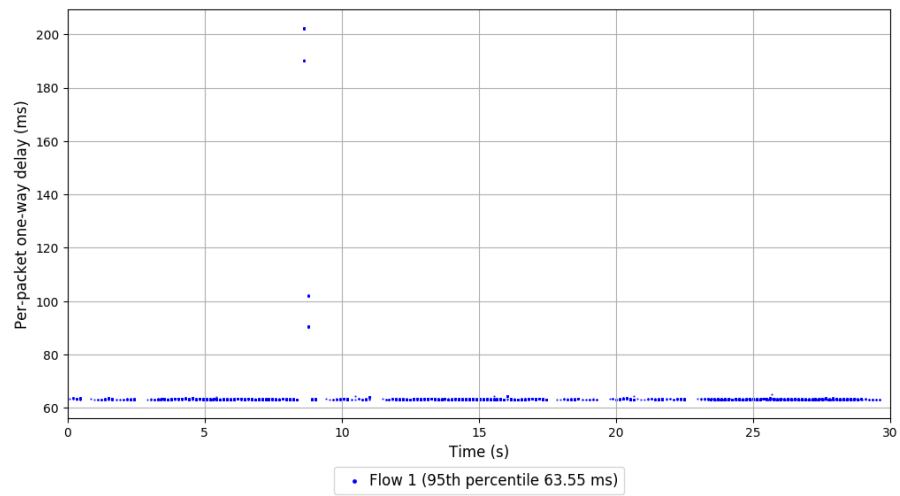
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 53.11 Mbit/s)   Flow 1 egress (mean 42.51 Mbit/s)

Flow 1 (95th percentile 68.39 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2017-08-17 07:17:43
End at: 2017-08-17 07:18:13

# Below is generated by plot.py at 2017-08-17 09:01:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 16.75 Mbit/s
95th percentile per-packet one-way delay: 64.166 ms
Loss rate: 36.53%
-- Flow 1:
Average throughput: 16.75 Mbit/s
95th percentile per-packet one-way delay: 64.166 ms
Loss rate: 36.53%
```
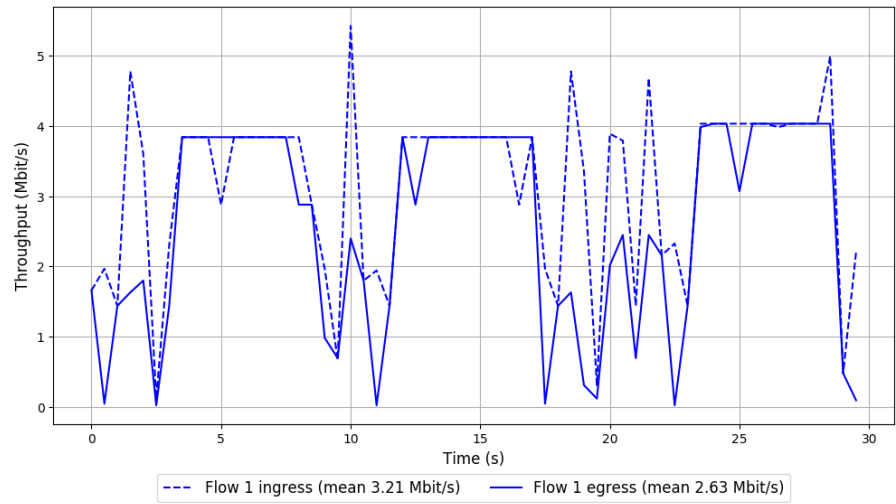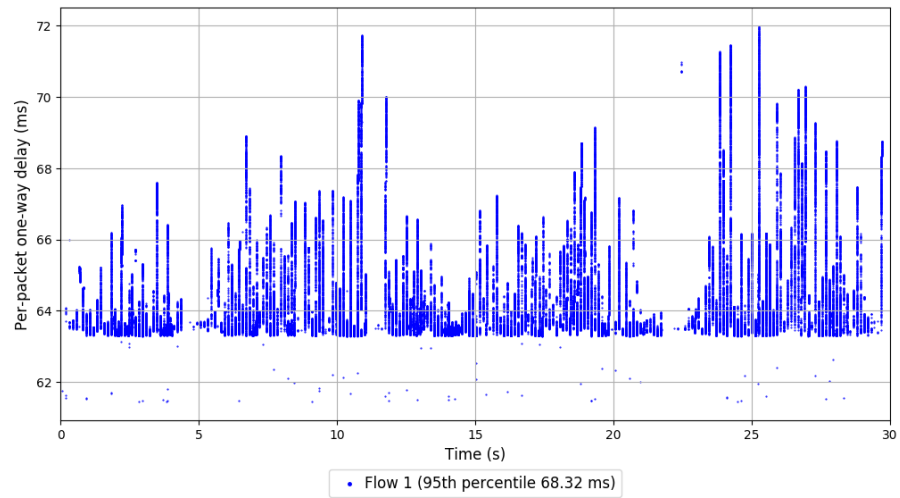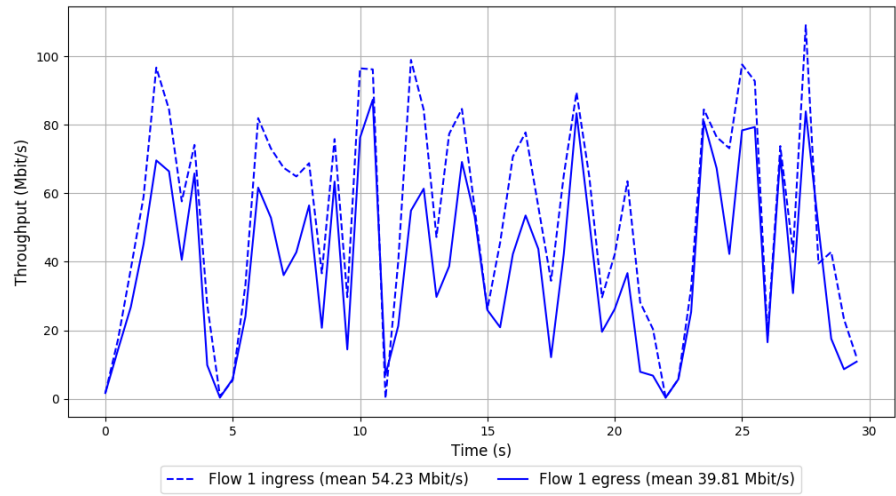
Run 7: Report of TCP BBR — Data Link

```
Run 8: Statistics of TCP BBR

Start at: 2017-08-17 07:28:11
End at: 2017-08-17 07:28:41


# Below is generated by plot.py at 2017-08-17 09:01:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 63.549 ms
Loss rate: 18.17%
-- Flow 1:
Average throughput: 2.63 Mbit/s
95th percentile per-packet one-way delay: 63.549 ms
Loss rate: 18.17%
```
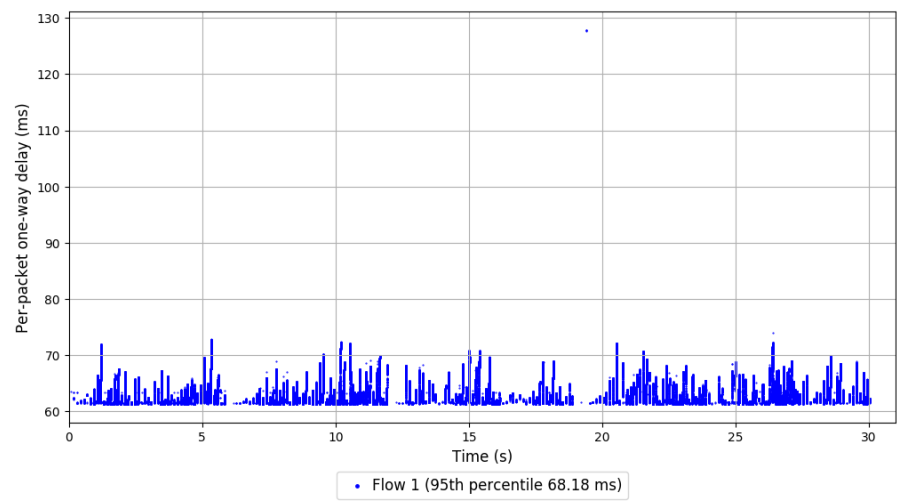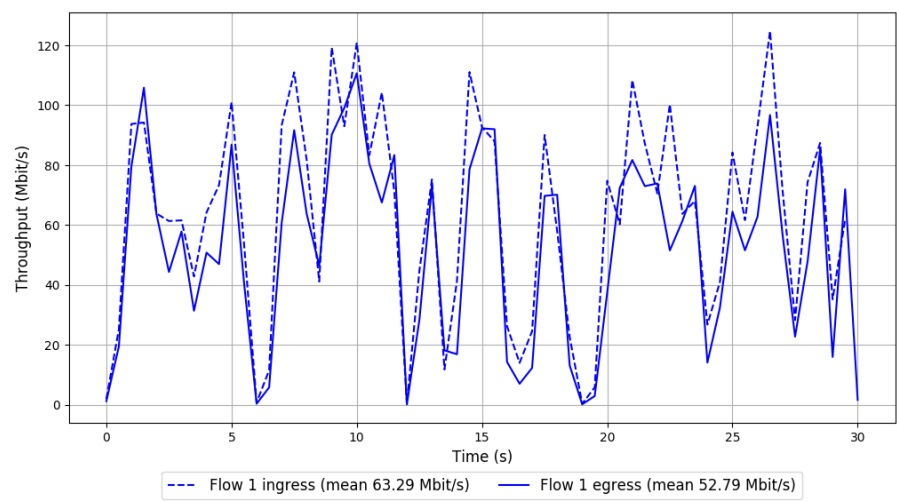
Run 8: Report of TCP BBR — Data Link

Flow 1 ingress (mean 3.21 Mbit/s) --- Flow 1 egress (mean 2.63 Mbit/s)

· Flow 1 (95th percentile 63.55 ms)

```
Run 9: Statistics of TCP BBR

Start at: 2017-08-17 07:38:28
End at: 2017-08-17 07:38:58

# Below is generated by plot.py at 2017-08-17 09:01:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.81 Mbit/s
95th percentile per-packet one-way delay: 68.316 ms
Loss rate: 26.58%
-- Flow 1:
Average throughput: 39.81 Mbit/s
95th percentile per-packet one-way delay: 68.316 ms
Loss rate: 26.58%
```
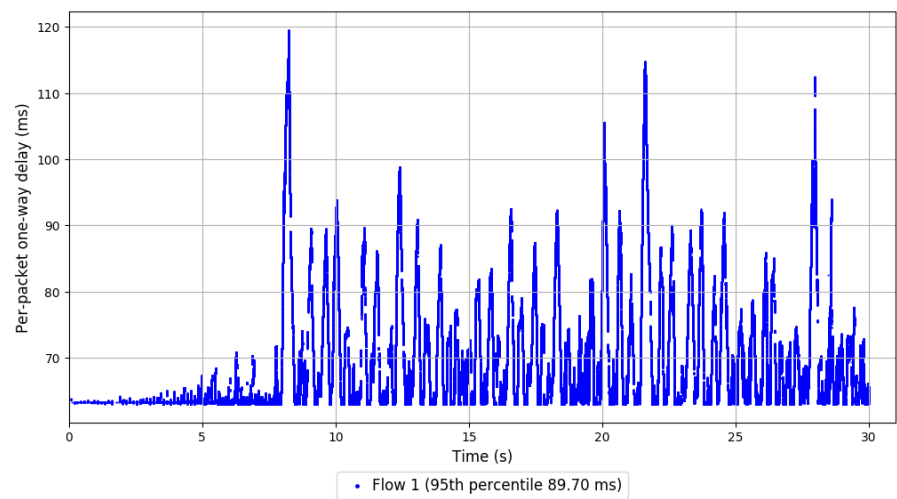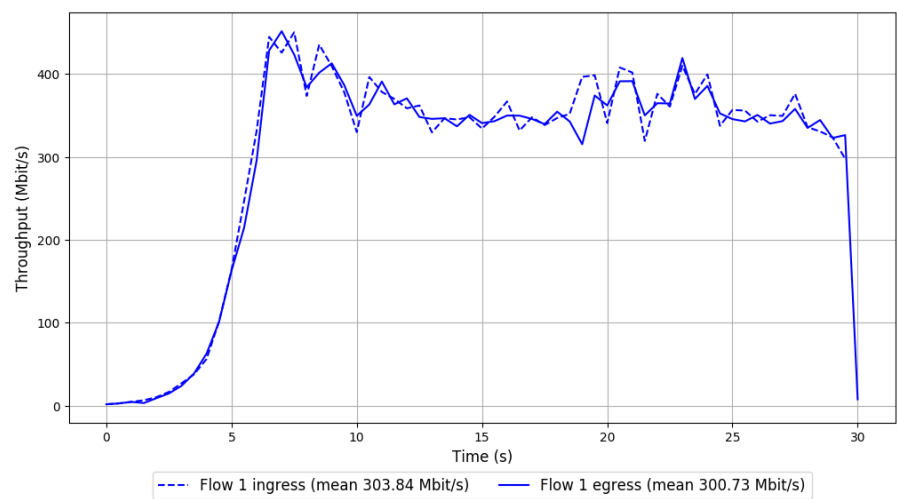
Run 9: Report of TCP BBR — Data Link

Flow 1 ingress (mean 54.23 Mbit/s) --- Flow 1 egress (mean 39.81 Mbit/s) ——

Flow 1 (95th percentile 68.32 ms)

```
Run 10: Statistics of TCP BBR

Start at: 2017-08-17 07:48:30
End at: 2017-08-17 07:49:00

# Below is generated by plot.py at 2017-08-17 09:01:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 52.79 Mbit/s
95th percentile per-packet one-way delay: 68.180 ms
Loss rate: 16.64%
-- Flow 1:
Average throughput: 52.79 Mbit/s
95th percentile per-packet one-way delay: 68.180 ms
Loss rate: 16.64%
```
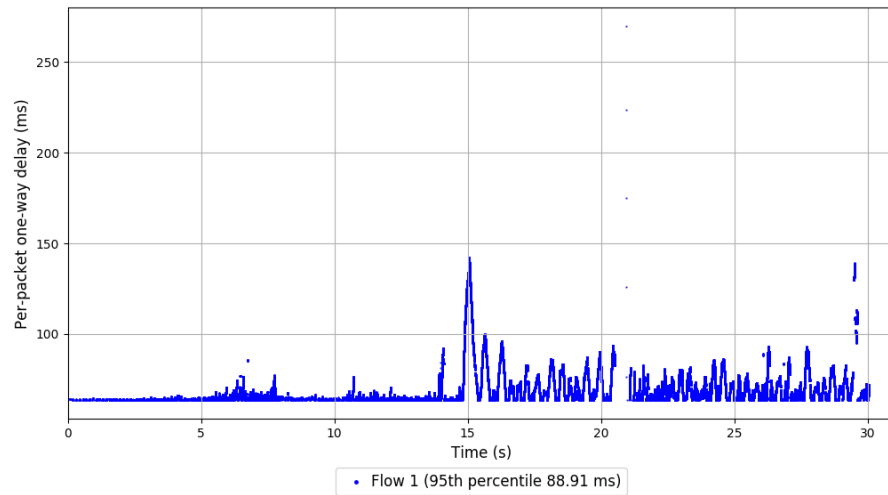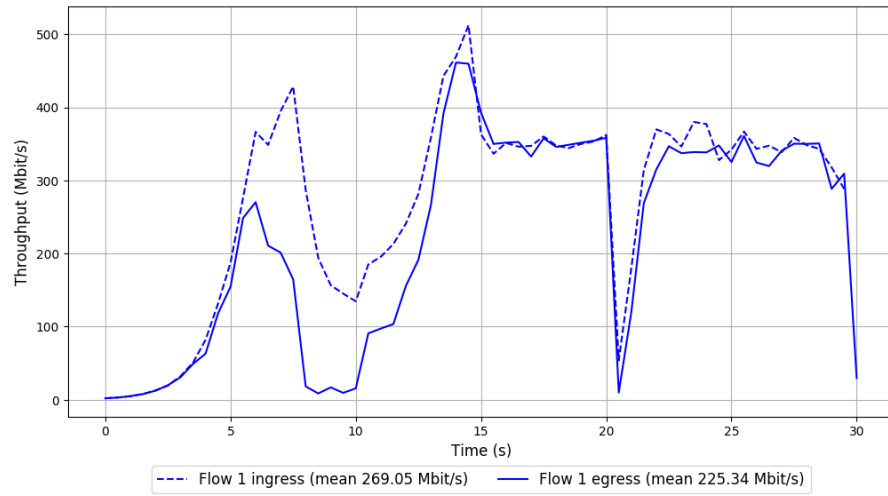
Run 10: Report of TCP BBR — Data Link

Flow 1 ingress (mean 63.29 Mbit/s)　　Flow 1 egress (mean 52.79 Mbit/s)

Flow 1 (95th percentile 68.18 ms)

```
Run 1: Statistics of CalibratedKoho

Start at: 2017-08-17 06:19:20
End at: 2017-08-17 06:19:50

# Below is generated by plot.py at 2017-08-17 09:02:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 300.73 Mbit/s
95th percentile per-packet one-way delay: 89.697 ms
Loss rate: 1.02%
-- Flow 1:
Average throughput: 300.73 Mbit/s
95th percentile per-packet one-way delay: 89.697 ms
Loss rate: 1.02%
```
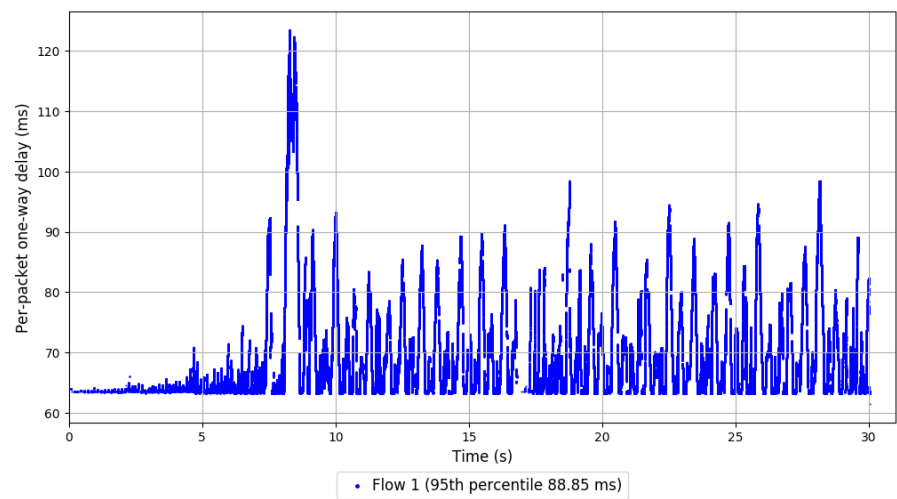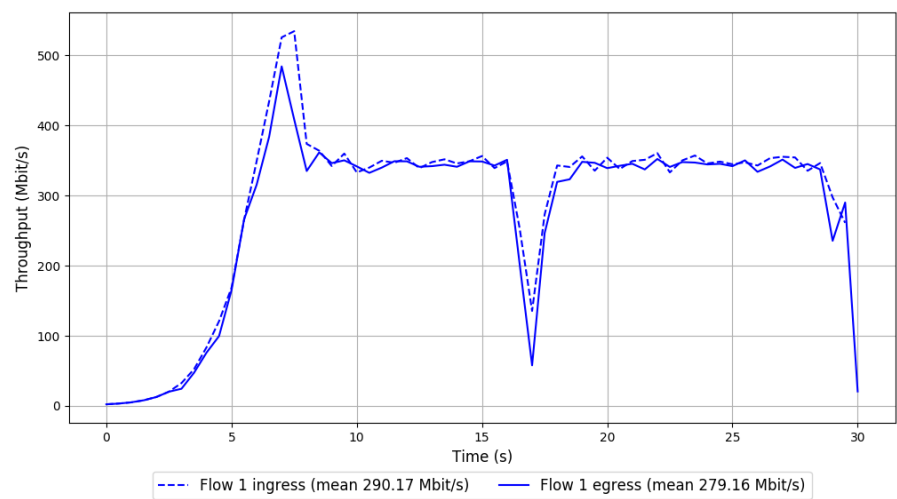
Run 1: Report of CalibratedKoho — Data Link

```
Run 2: Statistics of CalibratedKoho

Start at: 2017-08-17 06:29:59
End at: 2017-08-17 06:30:29

# Below is generated by plot.py at 2017-08-17 09:02:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 225.34 Mbit/s
95th percentile per-packet one-way delay: 88.911 ms
Loss rate: 16.24%
-- Flow 1:
Average throughput: 225.34 Mbit/s
95th percentile per-packet one-way delay: 88.911 ms
Loss rate: 16.24%
```
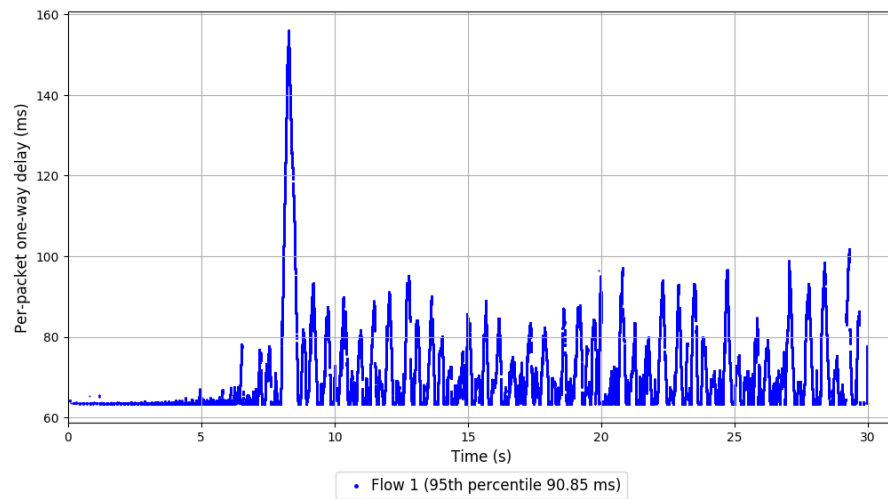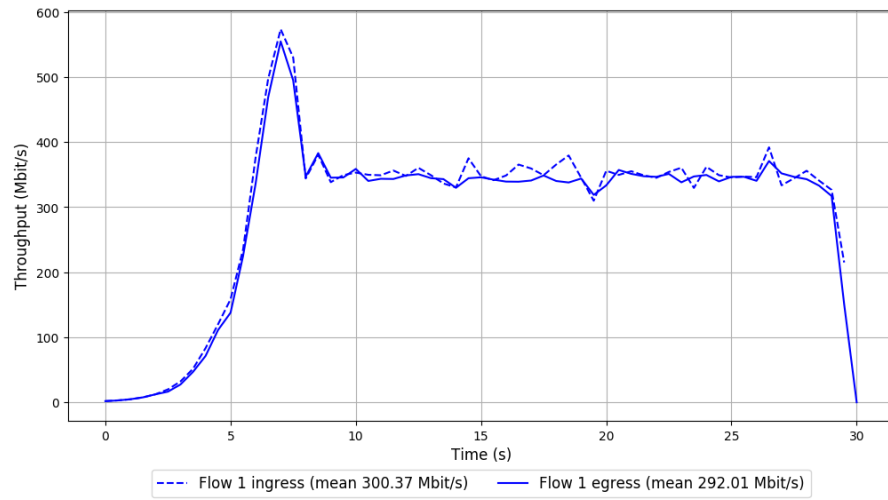
Run 2: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 269.05 Mbit/s)   Flow 1 egress (mean 225.34 Mbit/s)

Flow 1 (95th percentile 88.91 ms)

```
Run 3: Statistics of CalibratedKoho

Start at: 2017-08-17 06:40:33
End at: 2017-08-17 06:41:03

# Below is generated by plot.py at 2017-08-17 09:02:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 279.16 Mbit/s
95th percentile per-packet one-way delay: 88.854 ms
Loss rate: 3.80%
-- Flow 1:
Average throughput: 279.16 Mbit/s
95th percentile per-packet one-way delay: 88.854 ms
Loss rate: 3.80%
```
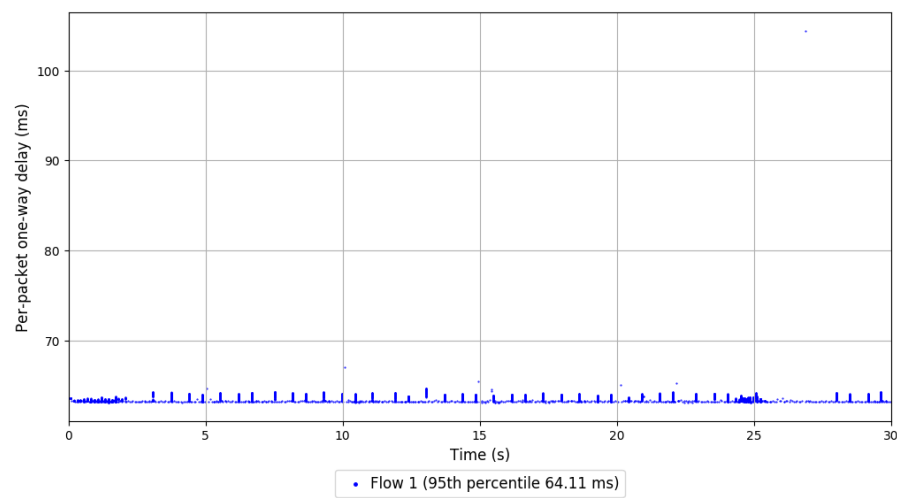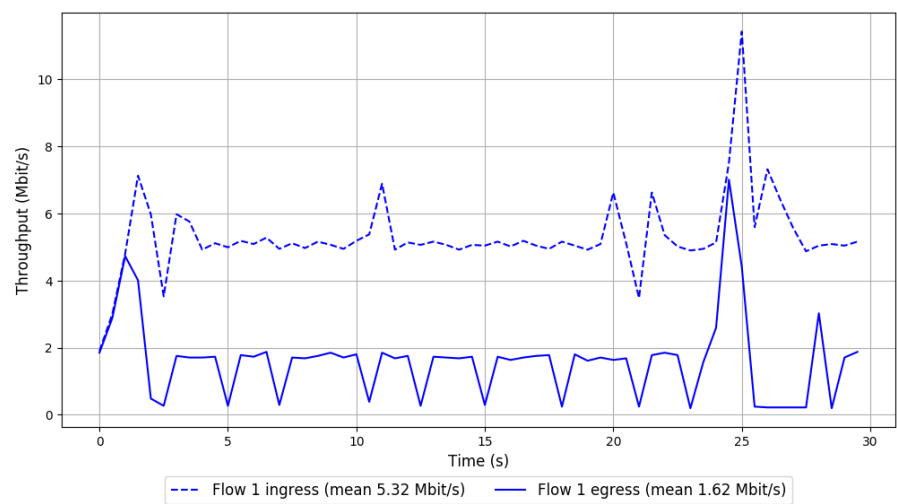
Run 3: Report of CalibratedKoho — Data Link

```
Run 4: Statistics of CalibratedKoho

Start at: 2017-08-17 06:50:50
End at: 2017-08-17 06:51:20

# Below is generated by plot.py at 2017-08-17 09:02:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 292.01 Mbit/s
95th percentile per-packet one-way delay: 90.853 ms
Loss rate: 2.78%
-- Flow 1:
Average throughput: 292.01 Mbit/s
95th percentile per-packet one-way delay: 90.853 ms
Loss rate: 2.78%
```
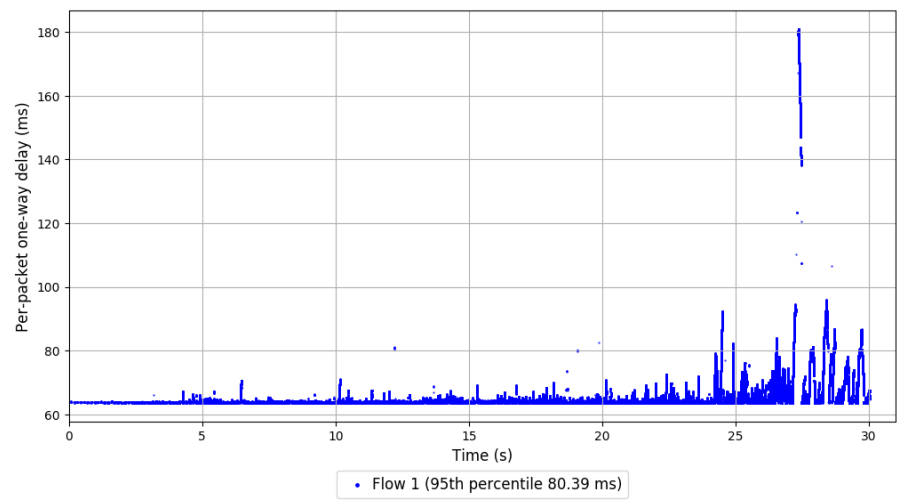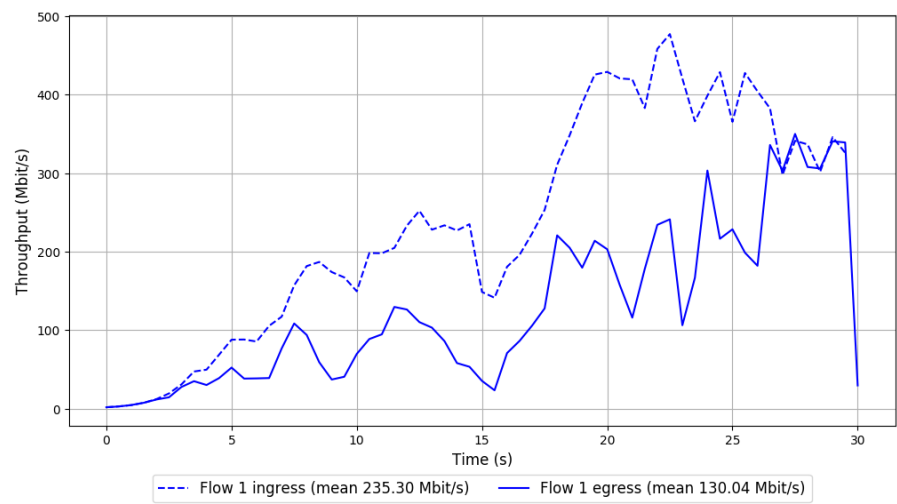
Run 4: Report of CalibratedKoho — Data Link

```
Run 5: Statistics of CalibratedKoho

Start at: 2017-08-17 07:01:22
End at: 2017-08-17 07:01:52

# Below is generated by plot.py at 2017-08-17 09:02:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 64.111 ms
Loss rate: 69.50%
-- Flow 1:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 64.111 ms
Loss rate: 69.50%
```
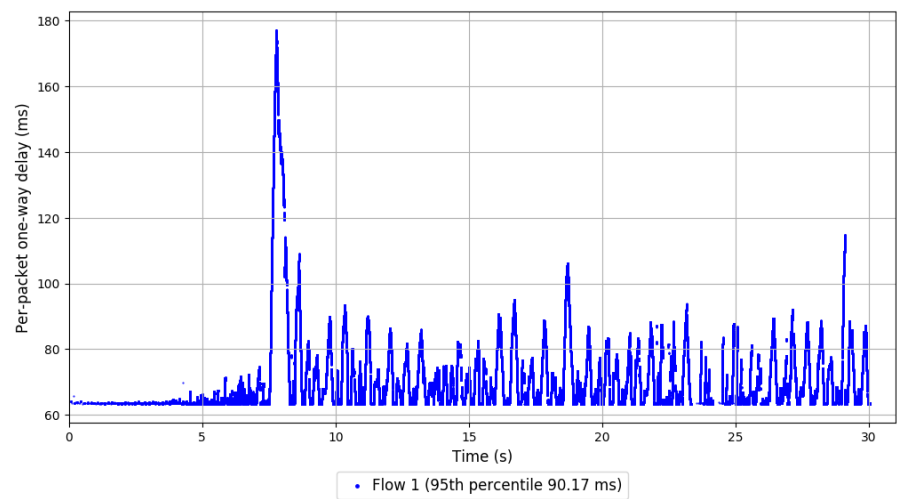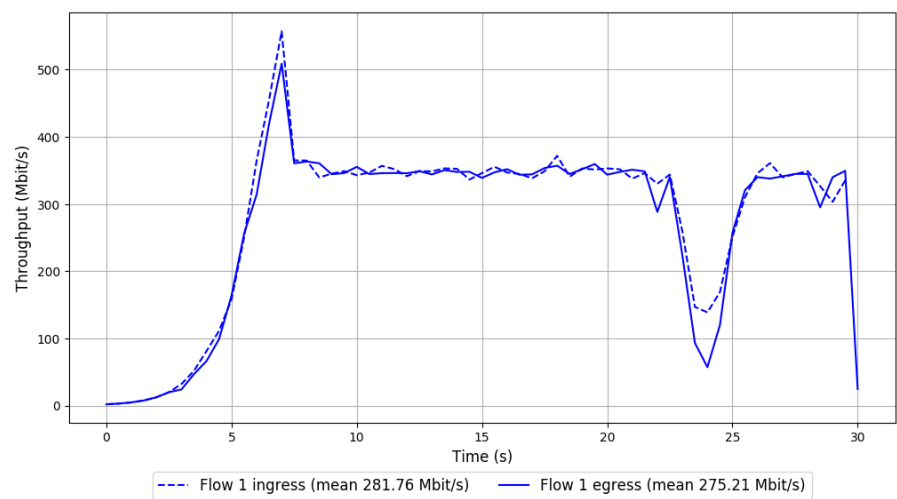
Run 5: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 5.32 Mbit/s) --- Flow 1 egress (mean 1.62 Mbit/s)

Flow 1 (95th percentile 64.11 ms)

```
Run 6: Statistics of CalibratedKoho

Start at: 2017-08-17 07:11:44
End at: 2017-08-17 07:12:14

# Below is generated by plot.py at 2017-08-17 09:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 130.04 Mbit/s
95th percentile per-packet one-way delay: 80.387 ms
Loss rate: 44.74%
-- Flow 1:
Average throughput: 130.04 Mbit/s
95th percentile per-packet one-way delay: 80.387 ms
Loss rate: 44.74%
```
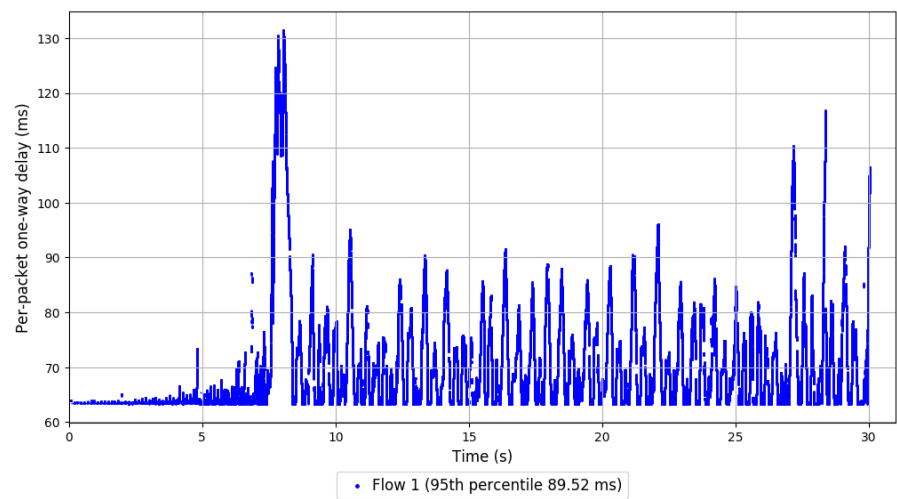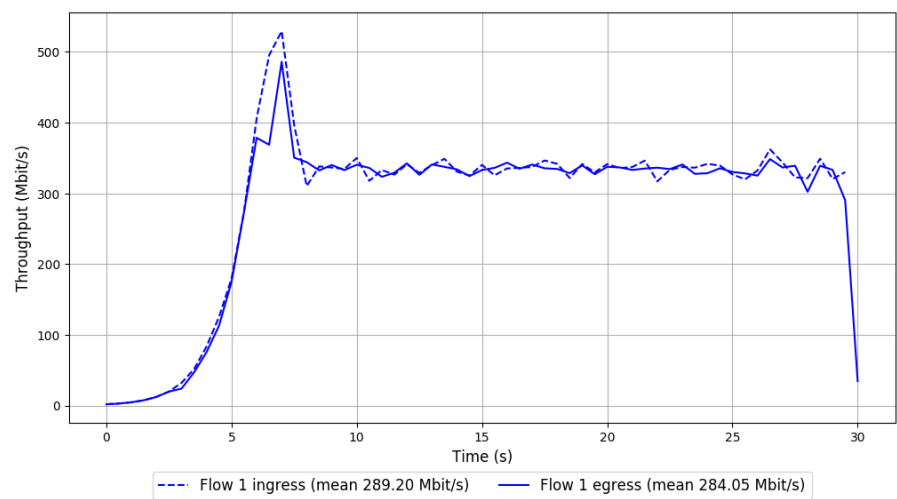
Run 6: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 235.30 Mbit/s)   Flow 1 egress (mean 130.04 Mbit/s)

Flow 1 (95th percentile 80.39 ms)

```
Run 7: Statistics of CalibratedKoho

Start at: 2017-08-17 07:21:56
End at: 2017-08-17 07:22:26

# Below is generated by plot.py at 2017-08-17 09:03:39
# Datalink statistics
-- Total of 1 flow:
Average throughput: 275.21 Mbit/s
95th percentile per-packet one-way delay: 90.167 ms
Loss rate: 2.33%
-- Flow 1:
Average throughput: 275.21 Mbit/s
95th percentile per-packet one-way delay: 90.167 ms
Loss rate: 2.33%
```
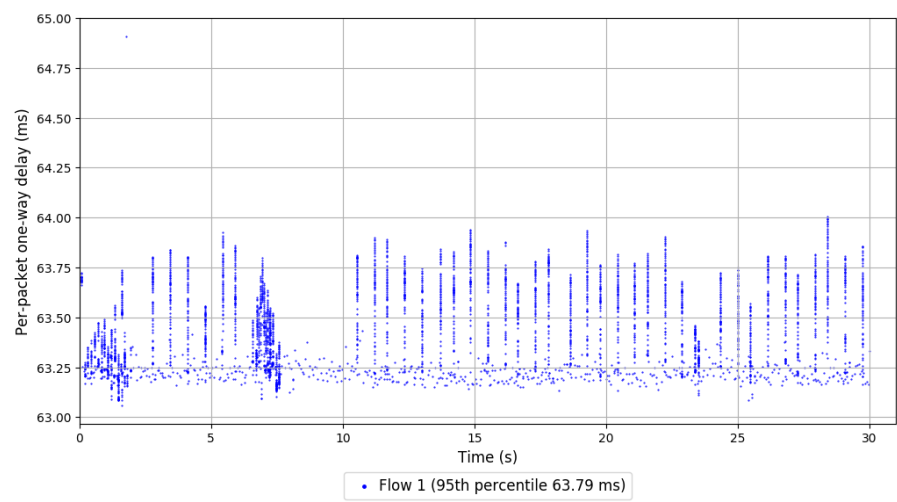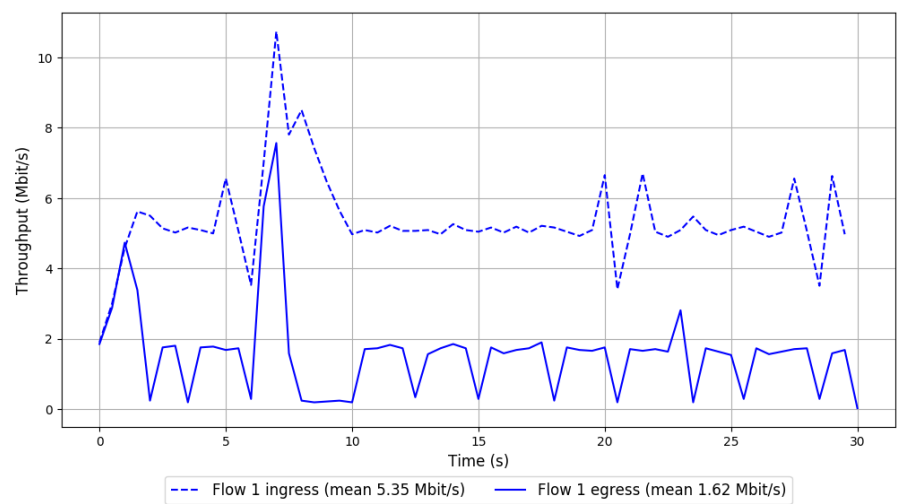
Run 7: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 281.76 Mbit/s)   Flow 1 egress (mean 275.21 Mbit/s)

Flow 1 (95th percentile 90.17 ms)

```
Run 8: Statistics of CalibratedKoho

Start at: 2017-08-17 07:32:16
End at: 2017-08-17 07:32:46

# Below is generated by plot.py at 2017-08-17 09:04:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 284.05 Mbit/s
95th percentile per-packet one-way delay: 89.521 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 284.05 Mbit/s
95th percentile per-packet one-way delay: 89.521 ms
Loss rate: 1.75%
```
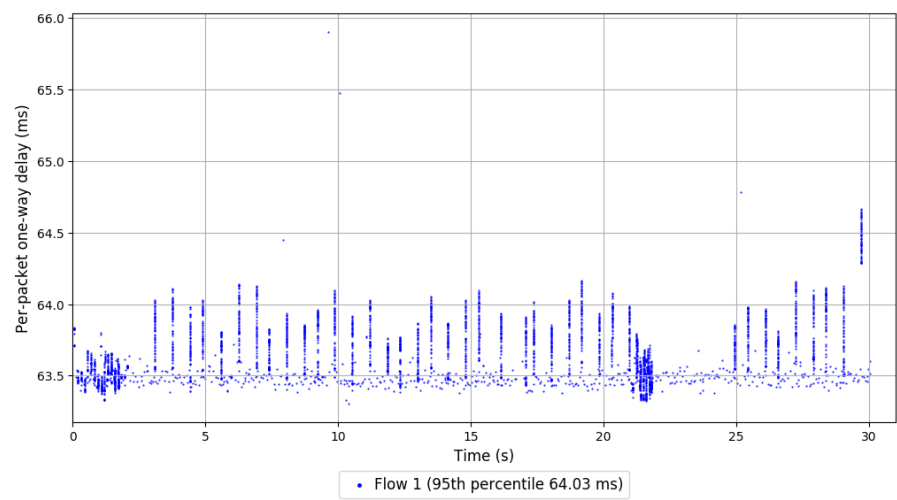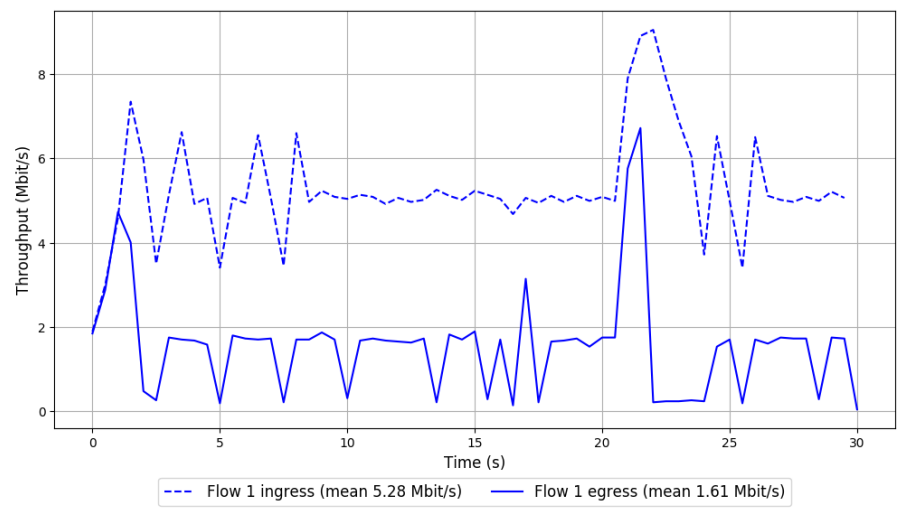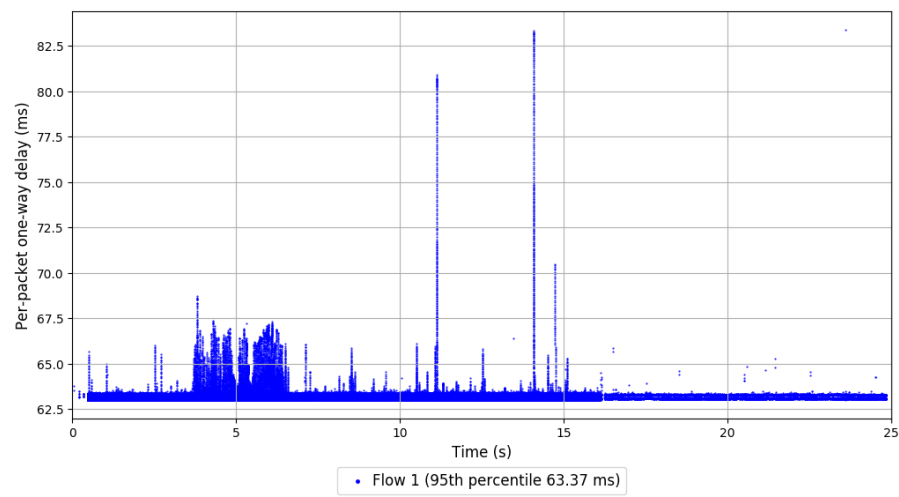
Run 8: Report of CalibratedKoho — Data Link

```
Run 9: Statistics of CalibratedKoho

Start at: 2017-08-17 07:42:31
End at: 2017-08-17 07:43:01


# Below is generated by plot.py at 2017-08-17 09:04:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 63.794 ms
Loss rate: 69.66%
-- Flow 1:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 63.794 ms
Loss rate: 69.66%
```
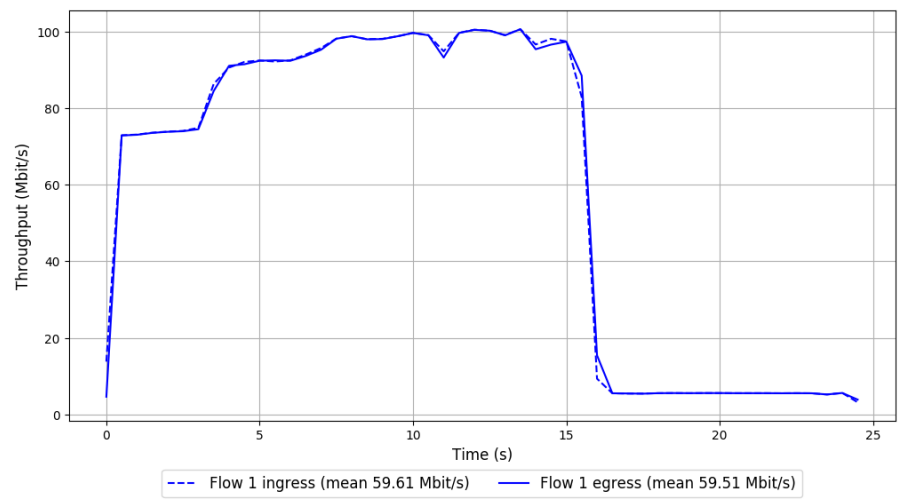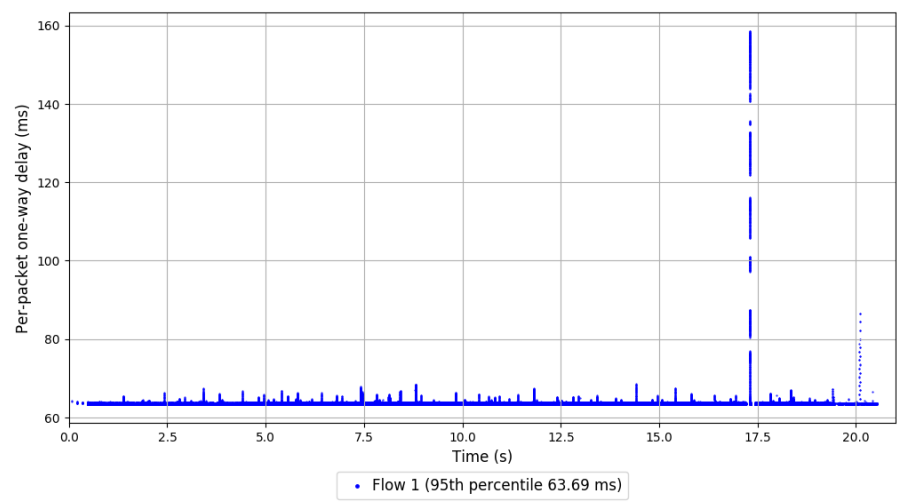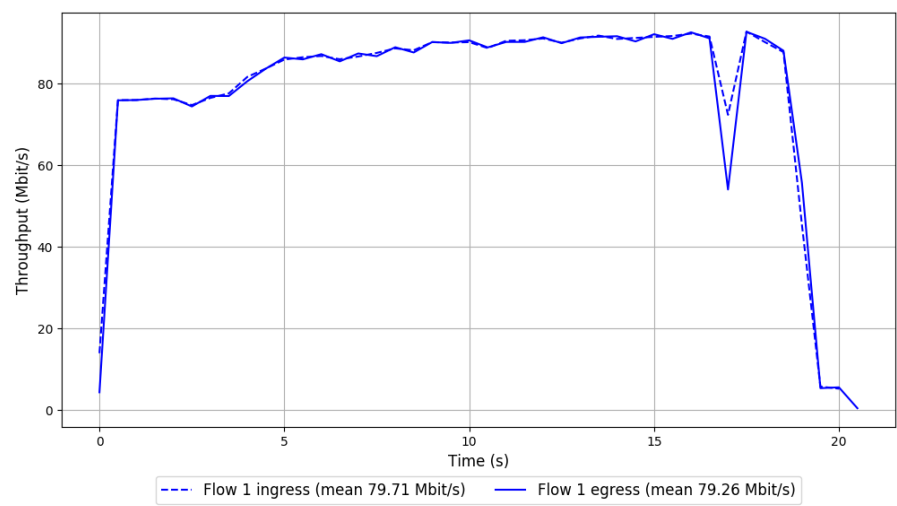
Run 9: Report of CalibratedKoho — Data Link

```
Run 10: Statistics of CalibratedKoho

Start at: 2017-08-17 07:52:33
End at: 2017-08-17 07:53:03

# Below is generated by plot.py at 2017-08-17 09:04:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.61 Mbit/s
95th percentile per-packet one-way delay: 64.031 ms
Loss rate: 69.56%
-- Flow 1:
Average throughput: 1.61 Mbit/s
95th percentile per-packet one-way delay: 64.031 ms
Loss rate: 69.56%
```

Run 10: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 5.28 Mbit/s) Flow 1 egress (mean 1.61 Mbit/s)

Flow 1 (95th percentile 64.03 ms)

```
Run 1: Statistics of Copa

Start at: 2017-08-17 06:22:21
End at: 2017-08-17 06:22:51

# Below is generated by plot.py at 2017-08-17 09:04:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.51 Mbit/s
95th percentile per-packet one-way delay: 63.374 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 59.51 Mbit/s
95th percentile per-packet one-way delay: 63.374 ms
Loss rate: 0.17%
```
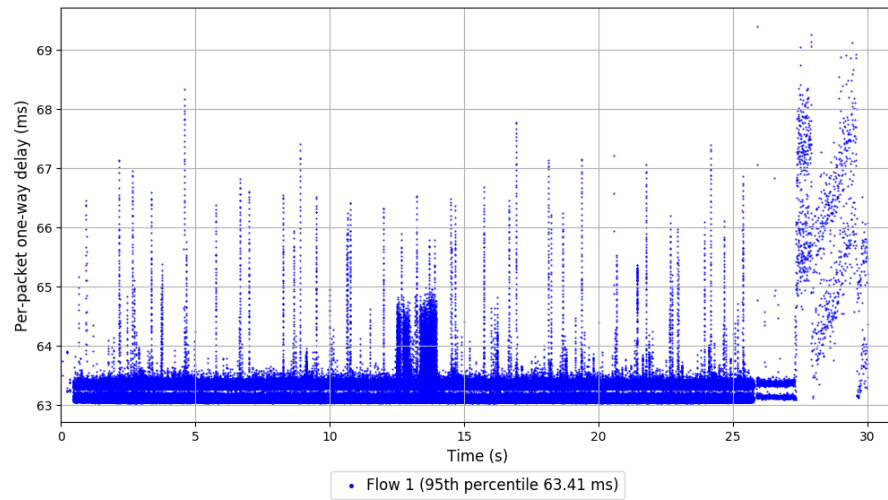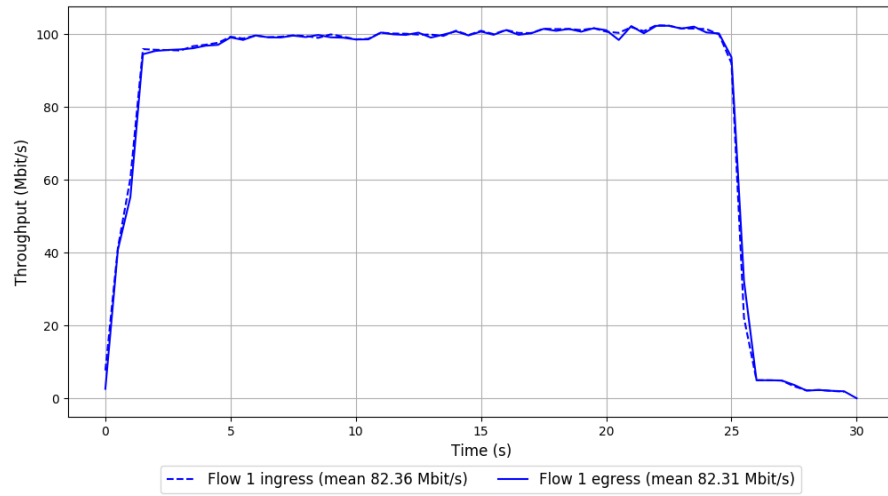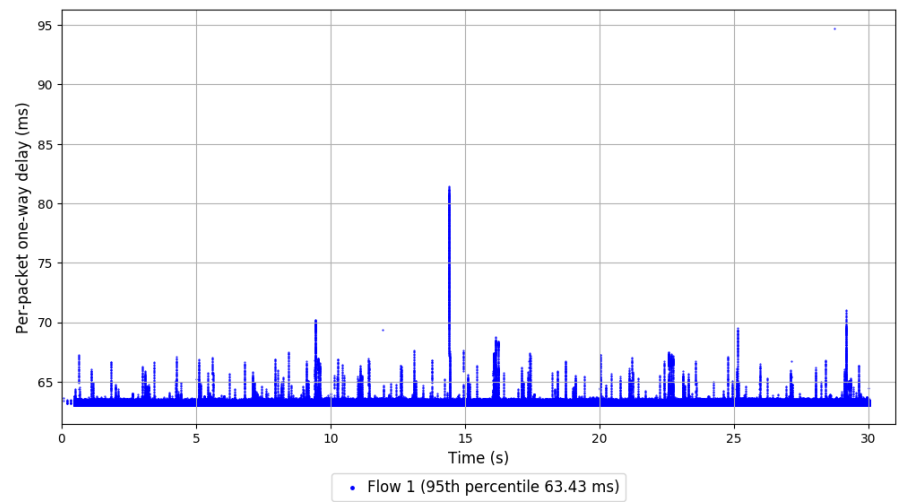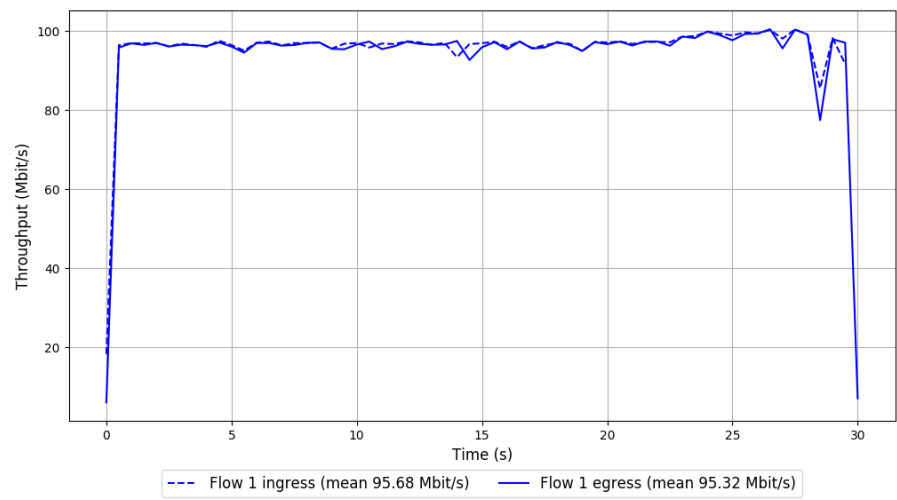
Run 1: Report of Copa — Data Link
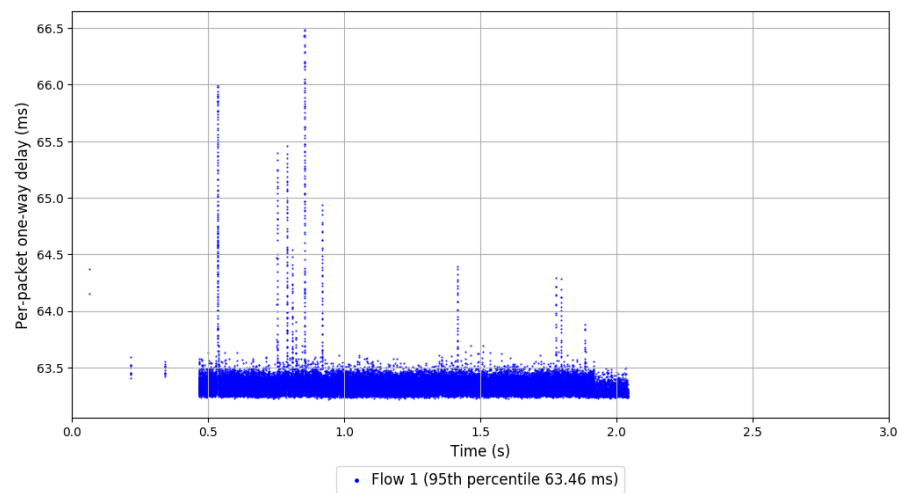
Run 2: Statistics of Copa

Start at: 2017-08-17 06:32:53
End at: 2017-08-17 06:33:23

Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 79.71 Mbit/s)   Flow 1 egress (mean 79.26 Mbit/s)

Flow 1 (95th percentile 63.69 ms)

```
Run 3: Statistics of Copa

Start at: 2017-08-17 06:43:28
End at: 2017-08-17 06:43:59
```

Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 71.18 Mbit/s) ---- Flow 1 egress (mean 71.12 Mbit/s) ——

• Flow 1 (95th percentile 63.39 ms)

```
Run 4: Statistics of Copa

Start at: 2017-08-17 06:53:54
End at: 2017-08-17 06:54:24

# Below is generated by plot.py at 2017-08-17 09:04:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 82.31 Mbit/s
95th percentile per-packet one-way delay: 63.409 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 82.31 Mbit/s
95th percentile per-packet one-way delay: 63.409 ms
Loss rate: 0.16%
```
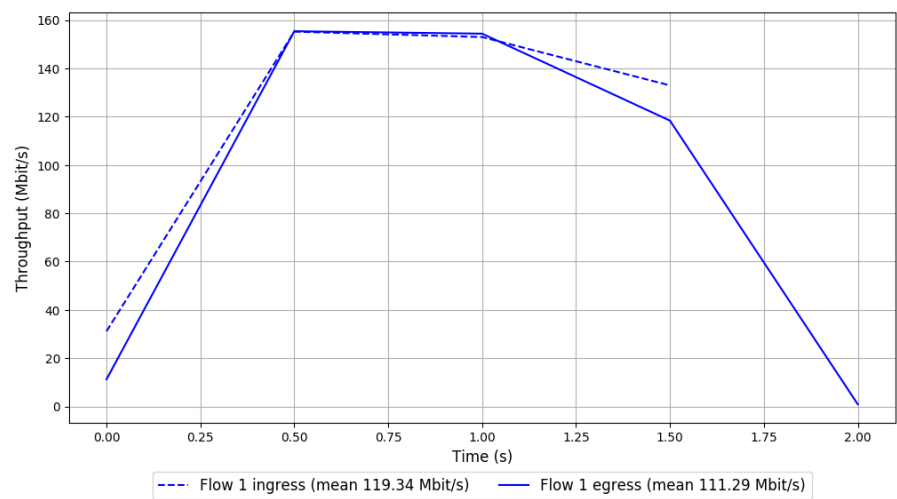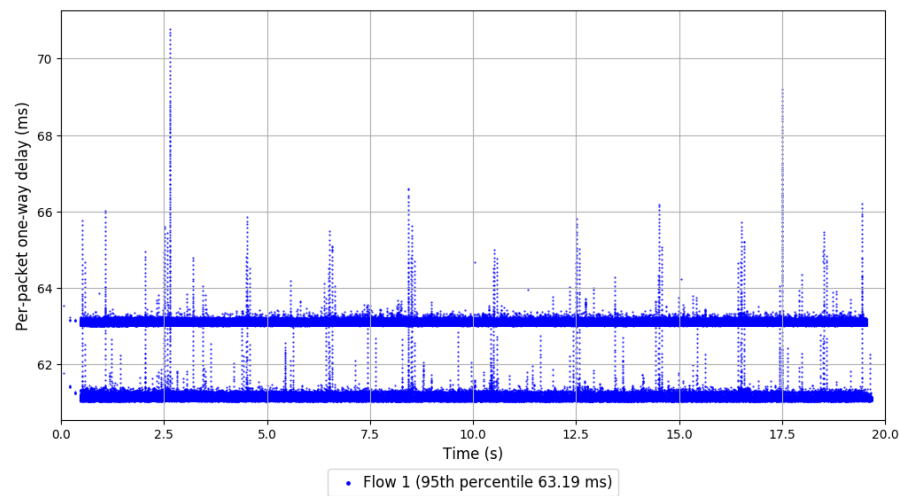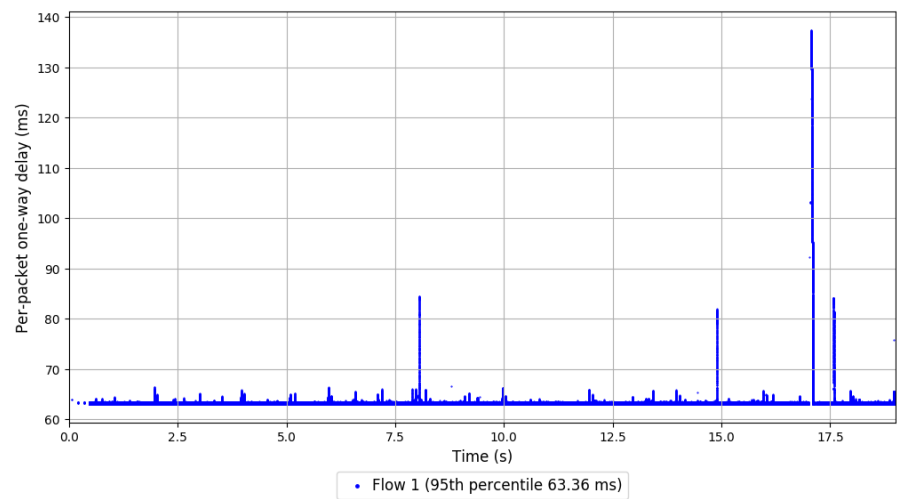
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 82.36 Mbit/s)   Flow 1 egress (mean 82.31 Mbit/s)

Flow 1 (95th percentile 63.41 ms)

```
Run 5: Statistics of Copa

Start at: 2017-08-17 07:04:05
End at: 2017-08-17 07:04:36

# Below is generated by plot.py at 2017-08-17 09:04:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 95.32 Mbit/s
95th percentile per-packet one-way delay: 63.434 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 95.32 Mbit/s
95th percentile per-packet one-way delay: 63.434 ms
Loss rate: 0.41%
```

Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 95.68 Mbit/s)   Flow 1 egress (mean 95.32 Mbit/s)

Flow 1 (95th percentile 63.43 ms)

Run 6: Statistics of Copa

Start at: 2017-08-17 07:14:30
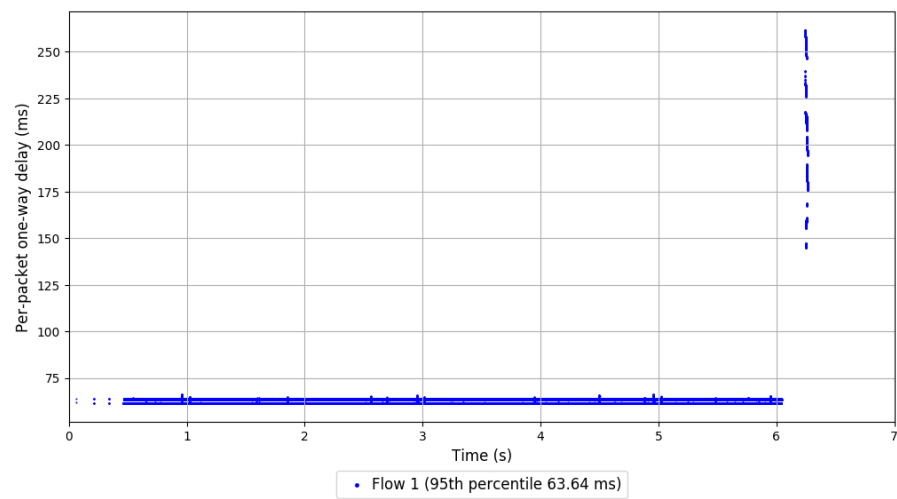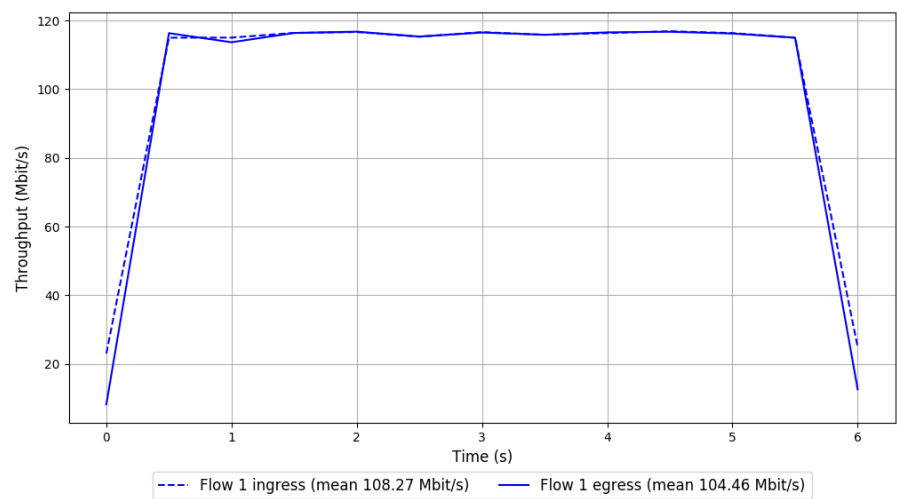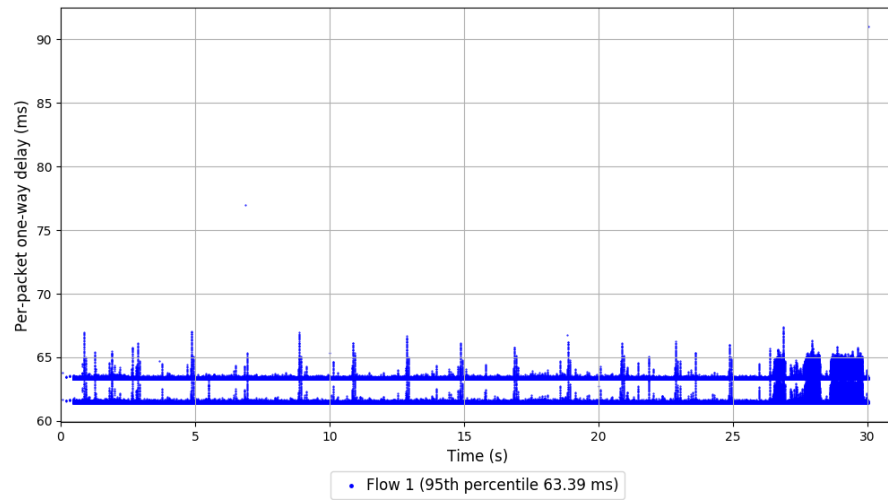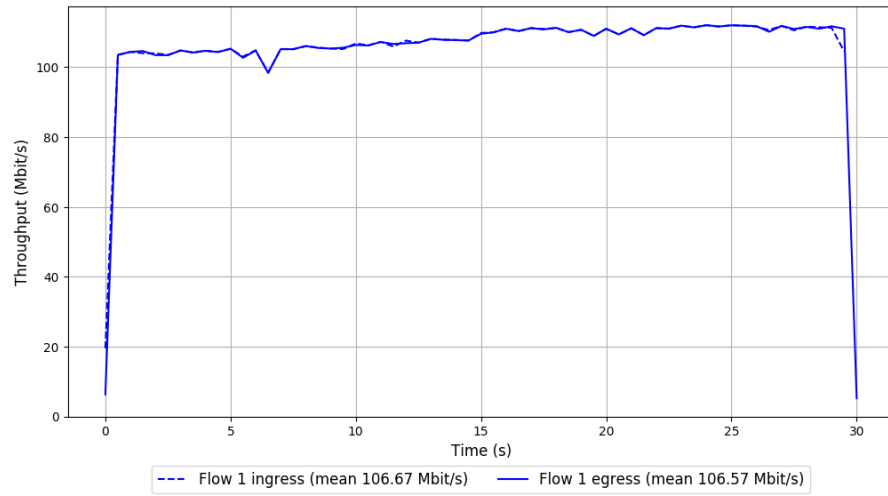End at: 2017-08-17 07:15:00

Run 6: Report of Copa — Data Link

Run 7: Statistics of Copa

Start at: 2017-08-17 07:24:54
End at: 2017-08-17 07:25:24

Run 7: Report of Copa — Data Link

Run 8: Statistics of Copa

Start at: 2017-08-17 07:35:10
End at: 2017-08-17 07:35:40

Run 8: Report of Copa — Data Link

Flow 1 ingress (mean 118.17 Mbit/s) — — — Flow 1 egress (mean 117.75 Mbit/s)

• Flow 1 (95th percentile 63.36 ms)

```
Run 9: Statistics of Copa

Start at: 2017-08-17 07:45:14
End at: 2017-08-17 07:45:44
```

Run 9: Report of Copa — Data Link

```
Run 10: Statistics of Copa

Start at: 2017-08-17 07:55:06
End at: 2017-08-17 07:55:36

# Below is generated by plot.py at 2017-08-17 09:05:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 106.57 Mbit/s
95th percentile per-packet one-way delay: 63.386 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 106.57 Mbit/s
95th percentile per-packet one-way delay: 63.386 ms
Loss rate: 0.04%
```
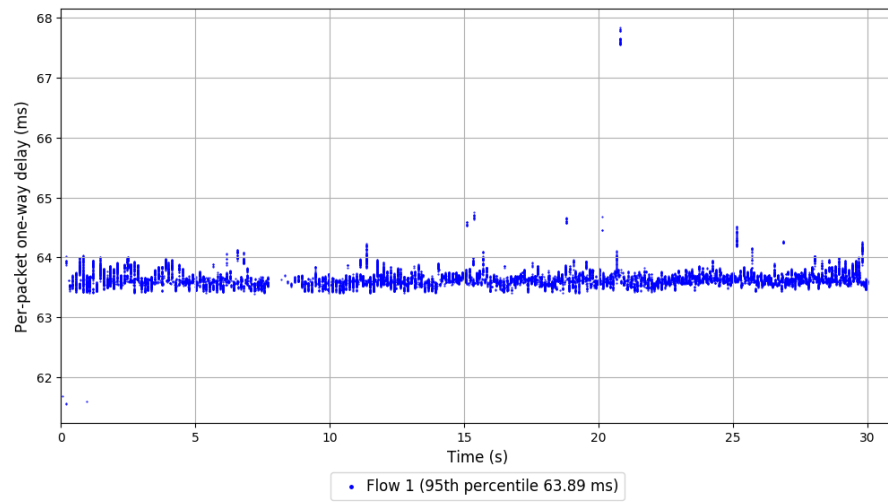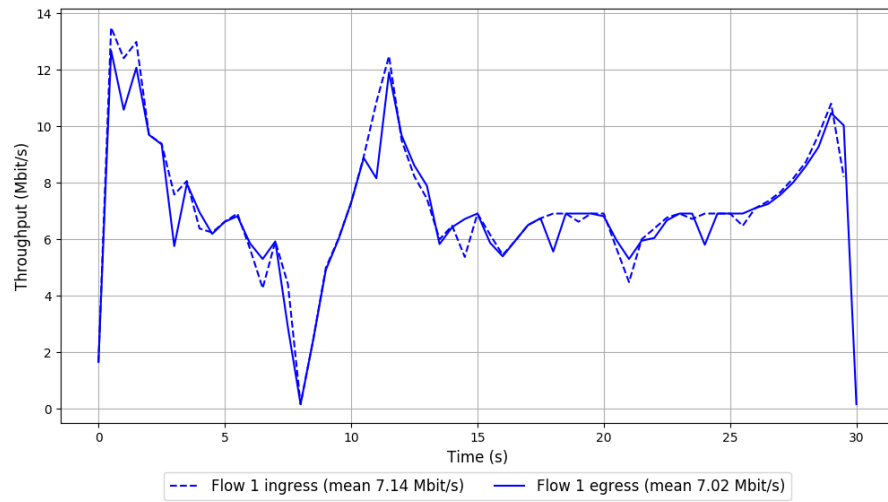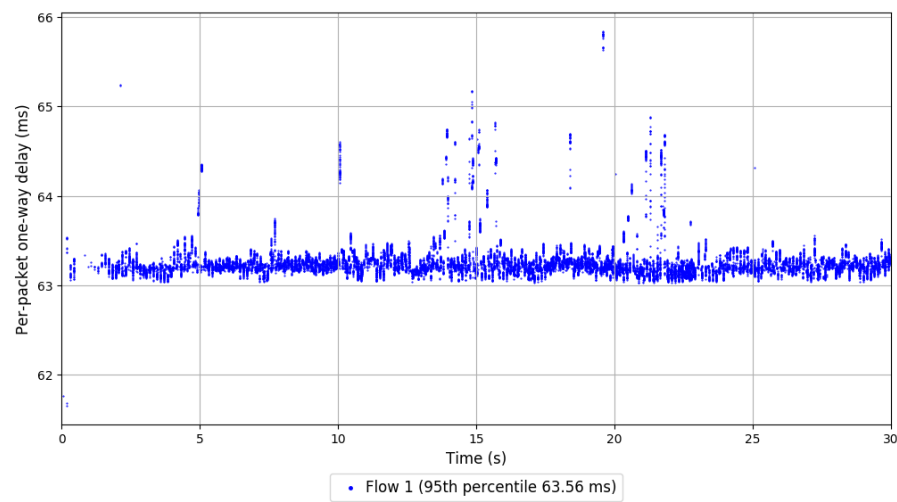
Run 10: Report of Copa — Data Link

Flow 1 ingress (mean 106.67 Mbit/s) --- Flow 1 egress (mean 106.57 Mbit/s)

Flow 1 (95th percentile 63.39 ms)

```
Run 1: Statistics of TCP Cubic

Start at: 2017-08-17 06:18:42
End at: 2017-08-17 06:19:12

# Below is generated by plot.py at 2017-08-17 09:05:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.02 Mbit/s
95th percentile per-packet one-way delay: 63.891 ms
Loss rate: 1.69%
-- Flow 1:
Average throughput: 7.02 Mbit/s
95th percentile per-packet one-way delay: 63.891 ms
Loss rate: 1.69%
```
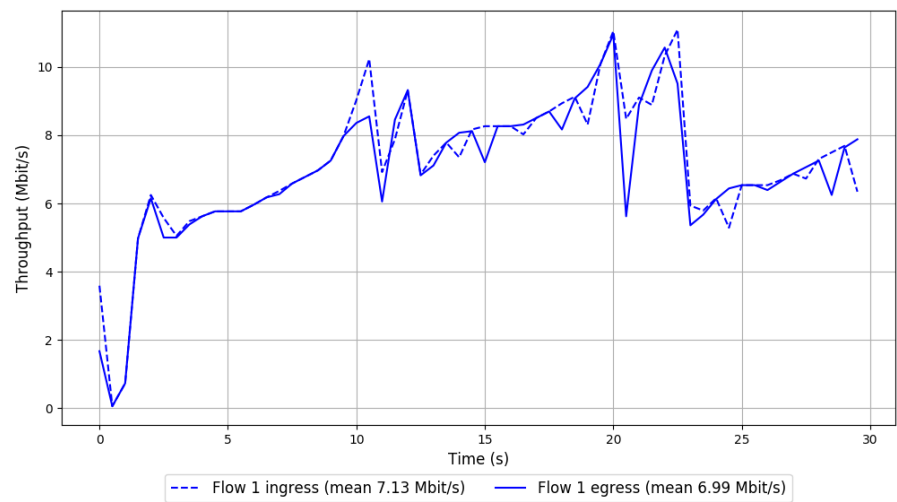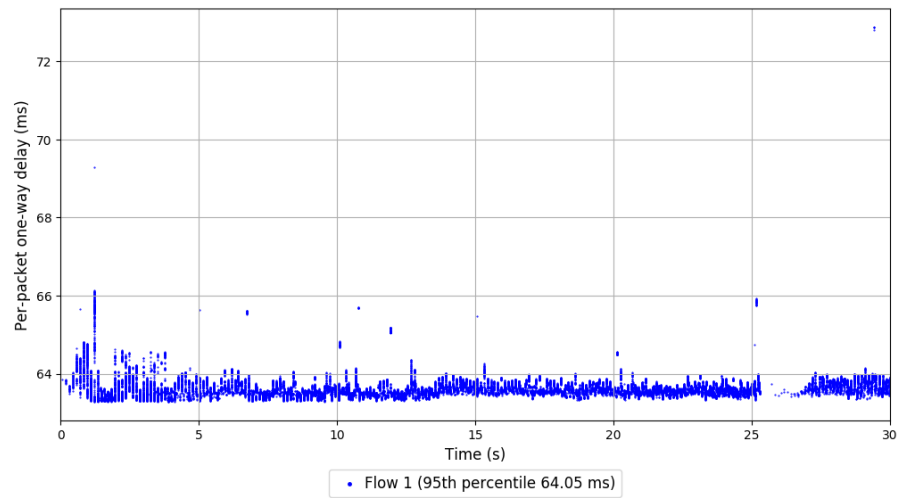
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2017-08-17 06:29:21
End at: 2017-08-17 06:29:51


# Below is generated by plot.py at 2017-08-17 09:05:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 63.556 ms
Loss rate: 1.95%
-- Flow 1:
Average throughput: 6.99 Mbit/s
95th percentile per-packet one-way delay: 63.556 ms
Loss rate: 1.95%
```
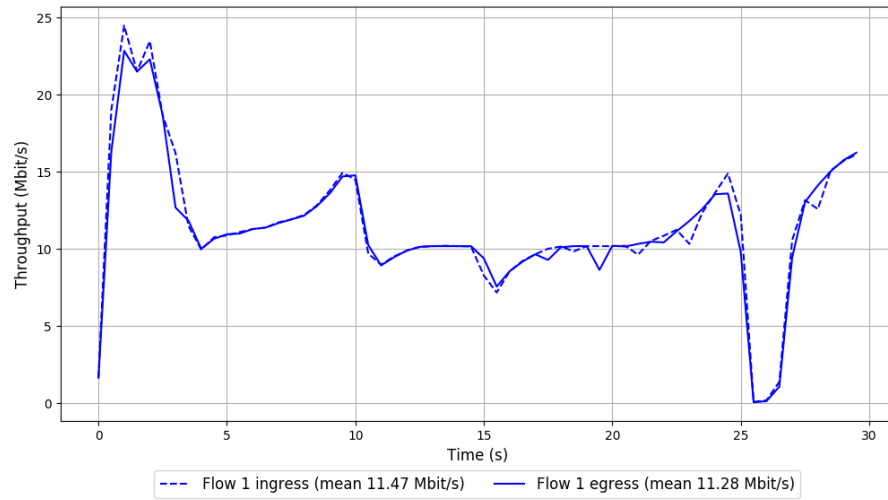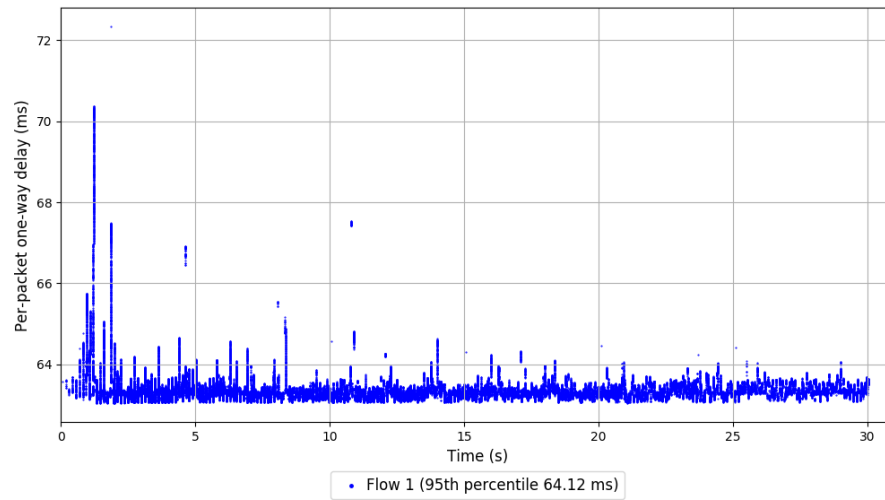
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2017-08-17 06:39:54
End at: 2017-08-17 06:40:24

# Below is generated by plot.py at 2017-08-17 09:05:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.28 Mbit/s
95th percentile per-packet one-way delay: 64.053 ms
Loss rate: 1.62%
-- Flow 1:
Average throughput: 11.28 Mbit/s
95th percentile per-packet one-way delay: 64.053 ms
Loss rate: 1.62%
```
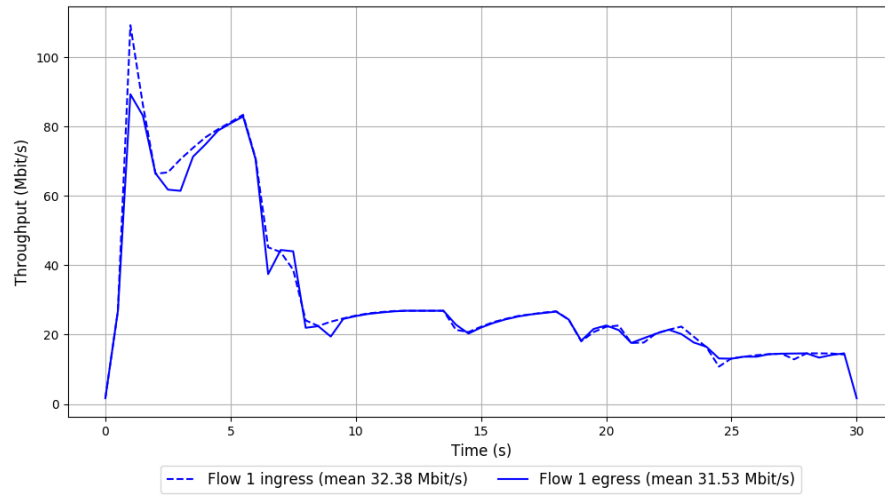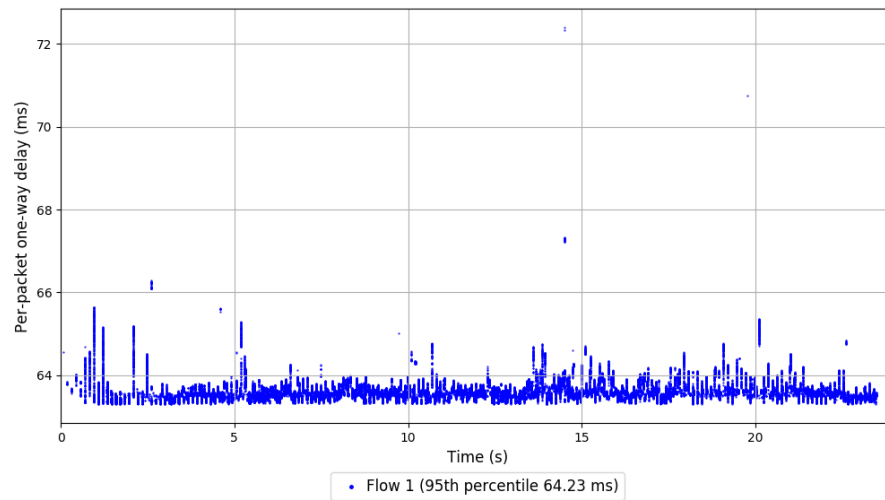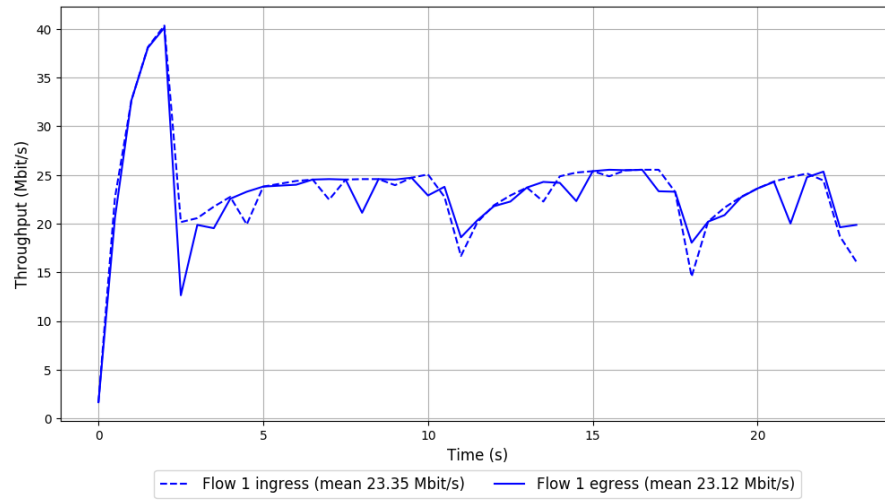
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2017-08-17 06:50:10
End at: 2017-08-17 06:50:40

# Below is generated by plot.py at 2017-08-17 09:05:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 31.53 Mbit/s
95th percentile per-packet one-way delay: 64.125 ms
Loss rate: 2.60%
-- Flow 1:
Average throughput: 31.53 Mbit/s
95th percentile per-packet one-way delay: 64.125 ms
Loss rate: 2.60%
```
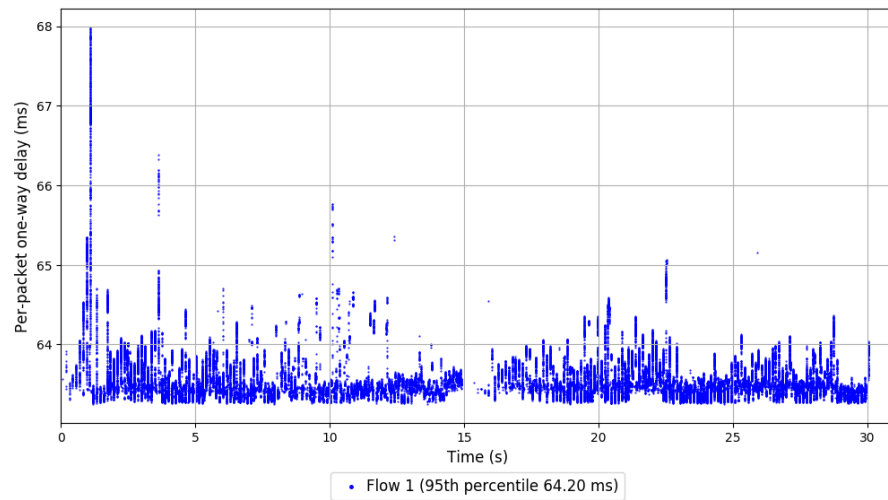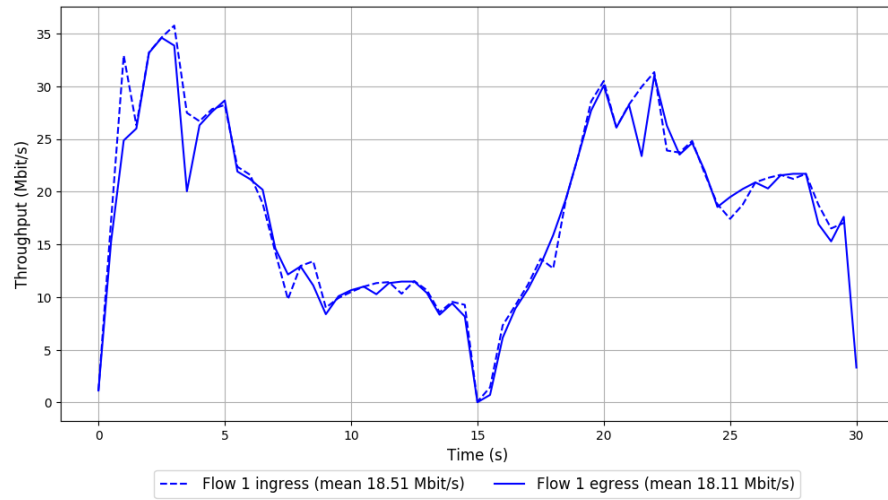
Run 4: Report of TCP Cubic — Data Link

Run 5: Statistics of TCP Cubic

Start at: 2017-08-17 07:00:43
End at: 2017-08-17 07:01:14

Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2017-08-17 07:11:05
End at: 2017-08-17 07:11:35


# Below is generated by plot.py at 2017-08-17 09:05:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 18.11 Mbit/s
95th percentile per-packet one-way delay: 64.205 ms
Loss rate: 2.14%
-- Flow 1:
Average throughput: 18.11 Mbit/s
95th percentile per-packet one-way delay: 64.205 ms
Loss rate: 2.14%
```

Run 6: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 18.51 Mbit/s) --- Flow 1 egress (mean 18.11 Mbit/s)

Flow 1 (95th percentile 64.20 ms)

```
Run 7: Statistics of TCP Cubic

Start at: 2017-08-17 07:21:17
End at: 2017-08-17 07:21:47

# Below is generated by plot.py at 2017-08-17 09:05:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 10.74 Mbit/s
95th percentile per-packet one-way delay: 63.900 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 10.74 Mbit/s
95th percentile per-packet one-way delay: 63.900 ms
Loss rate: 1.12%
```
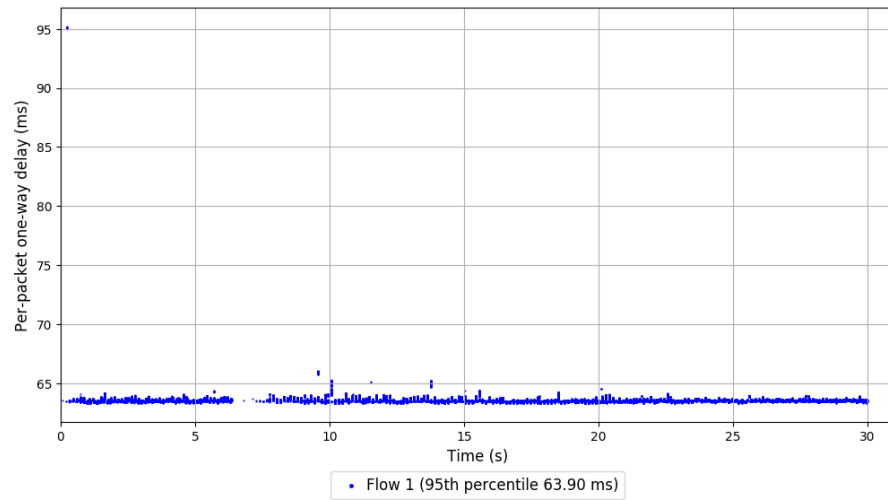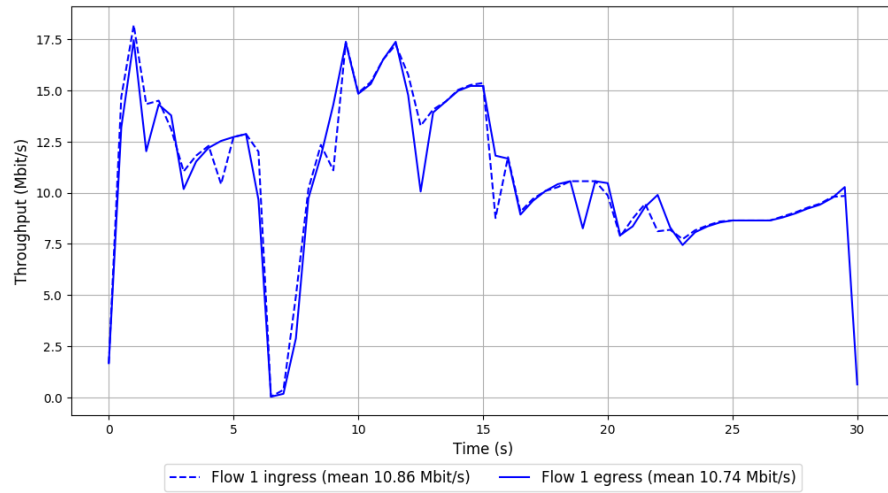
Run 7: Report of TCP Cubic — Data Link

```
Run 8: Statistics of TCP Cubic

Start at: 2017-08-17 07:31:37
End at: 2017-08-17 07:32:07

# Below is generated by plot.py at 2017-08-17 09:05:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 12.92 Mbit/s
95th percentile per-packet one-way delay: 64.029 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 12.92 Mbit/s
95th percentile per-packet one-way delay: 64.029 ms
Loss rate: 0.81%
```
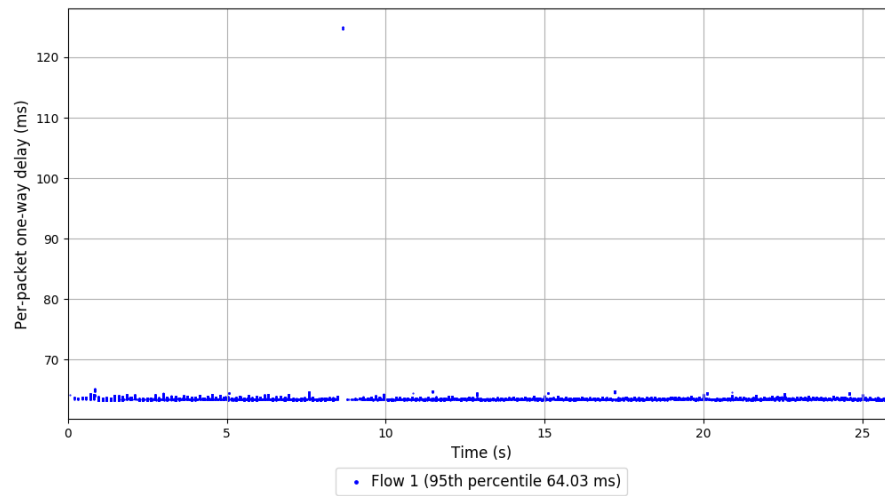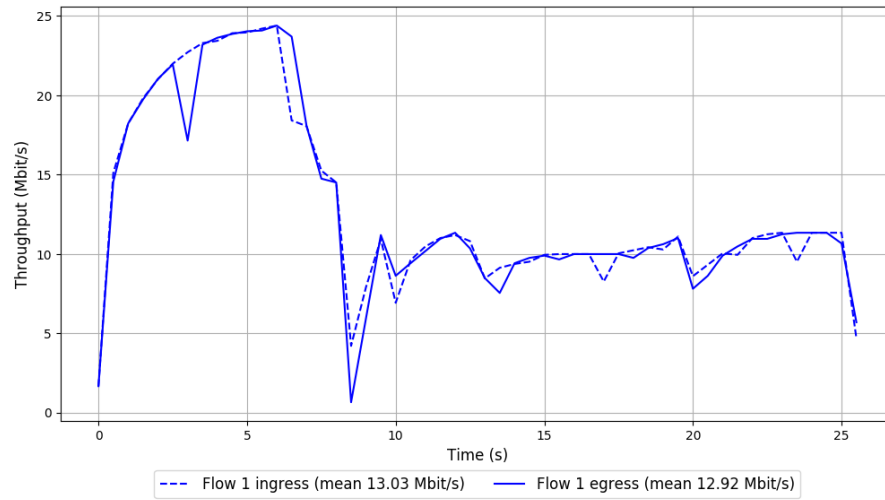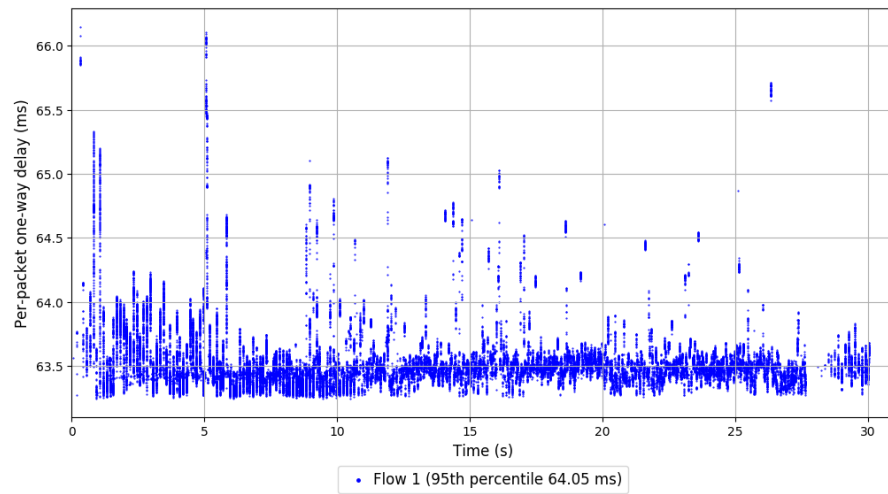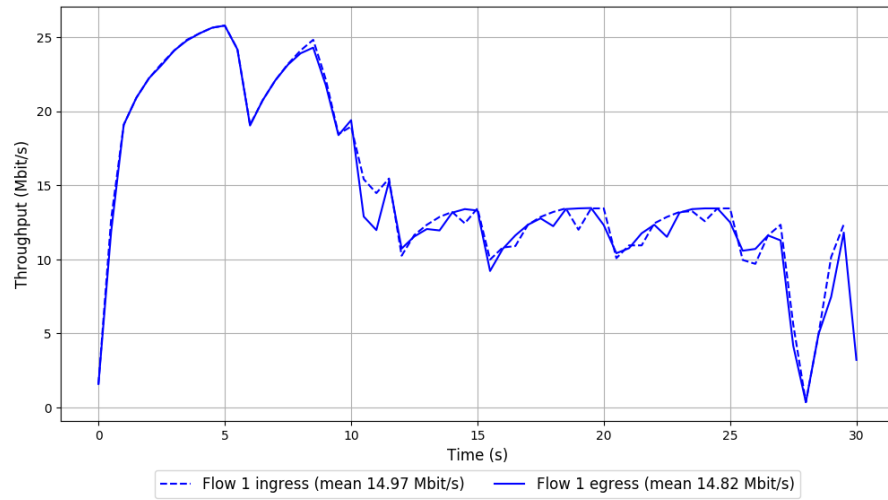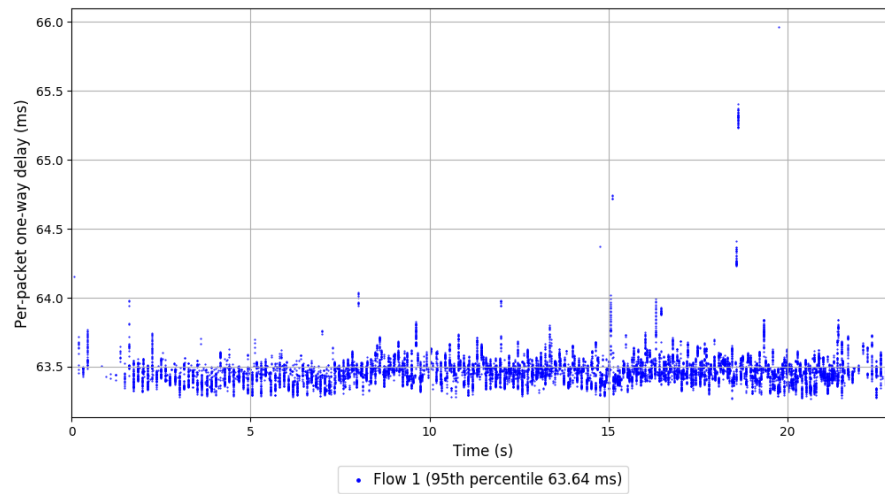
Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2017-08-17 07:41:52
End at: 2017-08-17 07:42:22


# Below is generated by plot.py at 2017-08-17 09:05:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 14.82 Mbit/s
95th percentile per-packet one-way delay: 64.050 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 14.82 Mbit/s
95th percentile per-packet one-way delay: 64.050 ms
Loss rate: 1.05%
```
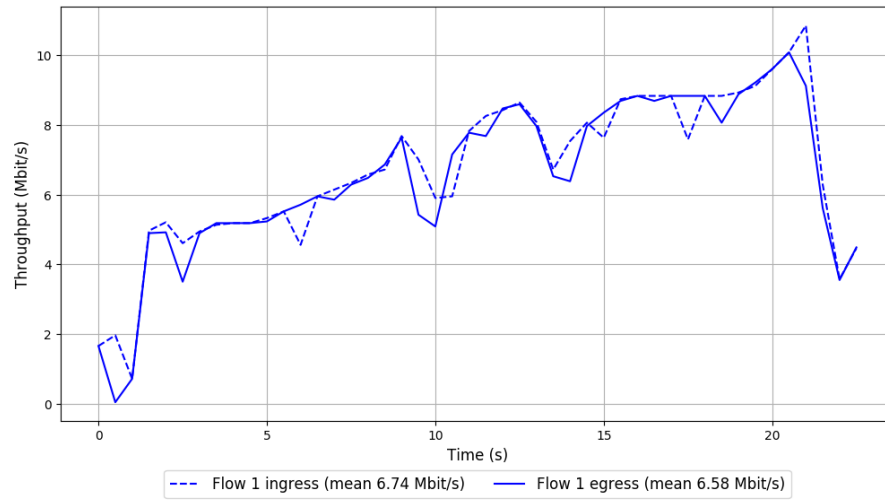
Run 9: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 14.97 Mbit/s)   Flow 1 egress (mean 14.82 Mbit/s)

Flow 1 (95th percentile 64.05 ms)

Run 10: Statistics of TCP Cubic

Start at: 2017-08-17 07:51:55
End at: 2017-08-17 07:52:25

Run 10: Report of TCP Cubic — Data Link

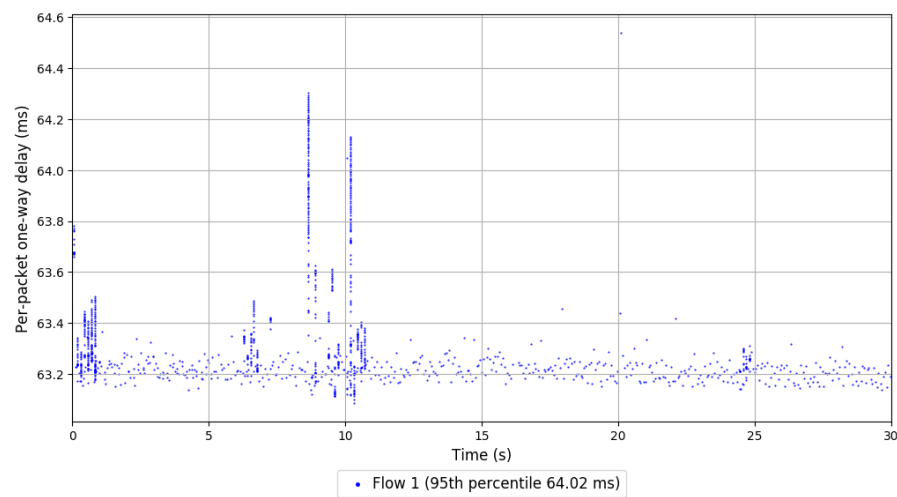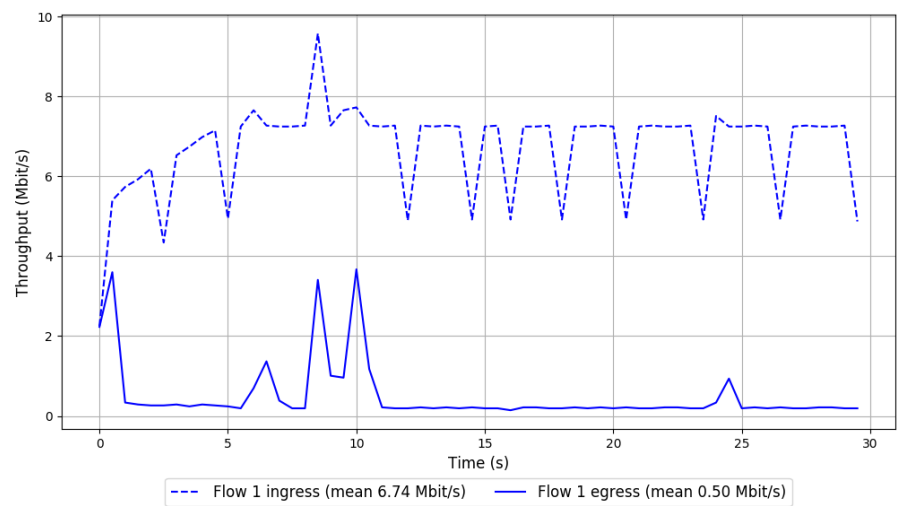Flow 1 ingress (mean 6.74 Mbit/s)　　Flow 1 egress (mean 6.58 Mbit/s)

Flow 1 (95th percentile 63.64 ms)

```
Run 1: Statistics of KohoCC

Start at: 2017-08-17 06:23:04
End at: 2017-08-17 06:23:34

# Below is generated by plot.py at 2017-08-17 09:05:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 64.016 ms
Loss rate: 92.54%
-- Flow 1:
Average throughput: 0.50 Mbit/s
95th percentile per-packet one-way delay: 64.016 ms
Loss rate: 92.54%
```

Run 1: Report of KohoCC — Data Link

```
Run 2: Statistics of KohoCC

Start at: 2017-08-17 06:33:36
End at: 2017-08-17 06:34:06

# Below is generated by plot.py at 2017-08-17 09:05:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 63.393 ms
Loss rate: 95.42%
-- Flow 1:
Average throughput: 0.31 Mbit/s
95th percentile per-packet one-way delay: 63.393 ms
Loss rate: 95.42%
```
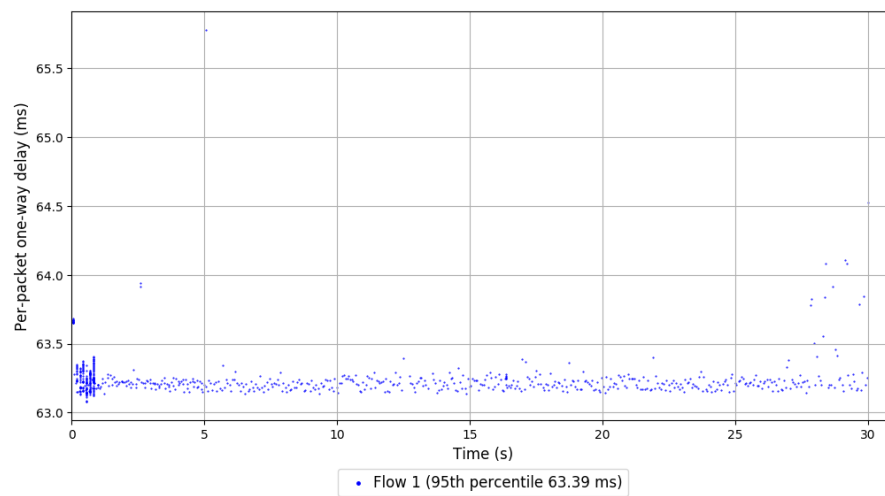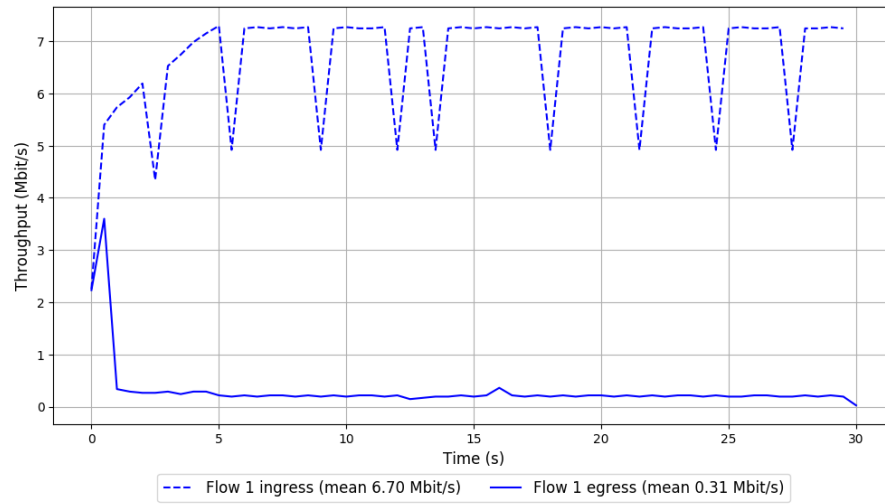
Run 2: Report of KohoCC — Data Link

Flow 1 ingress (mean 6.70 Mbit/s) --- Flow 1 egress (mean 0.31 Mbit/s)

Flow 1 (95th percentile 63.39 ms)

```
Run 3: Statistics of KohoCC

Start at: 2017-08-17 06:44:11
End at: 2017-08-17 06:44:41

# Below is generated by plot.py at 2017-08-17 09:05:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.07 Mbit/s
95th percentile per-packet one-way delay: 63.928 ms
Loss rate: 1.73%
-- Flow 1:
Average throughput: 9.07 Mbit/s
95th percentile per-packet one-way delay: 63.928 ms
Loss rate: 1.73%
```
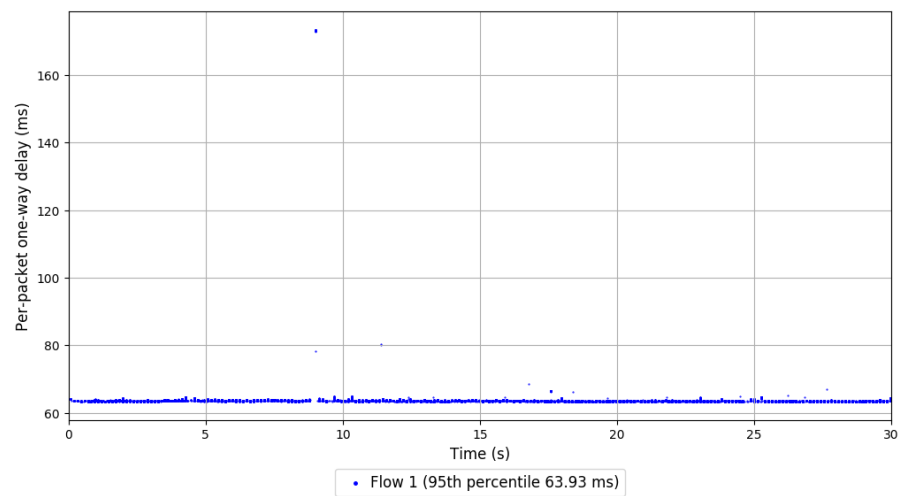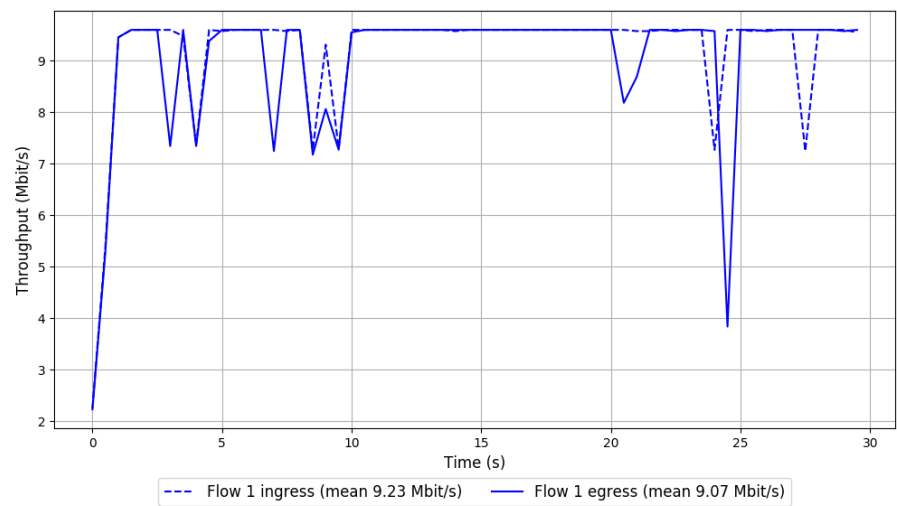
Run 3: Report of KohoCC — Data Link

Flow 1 ingress (mean 9.23 Mbit/s) --- Flow 1 egress (mean 9.07 Mbit/s)

Flow 1 (95th percentile 63.93 ms)

```
Run 4: Statistics of KohoCC

Start at: 2017-08-17 06:54:43
End at: 2017-08-17 06:55:13

# Below is generated by plot.py at 2017-08-17 09:05:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 63.501 ms
Loss rate: 94.61%
-- Flow 1:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 63.501 ms
Loss rate: 94.61%
```
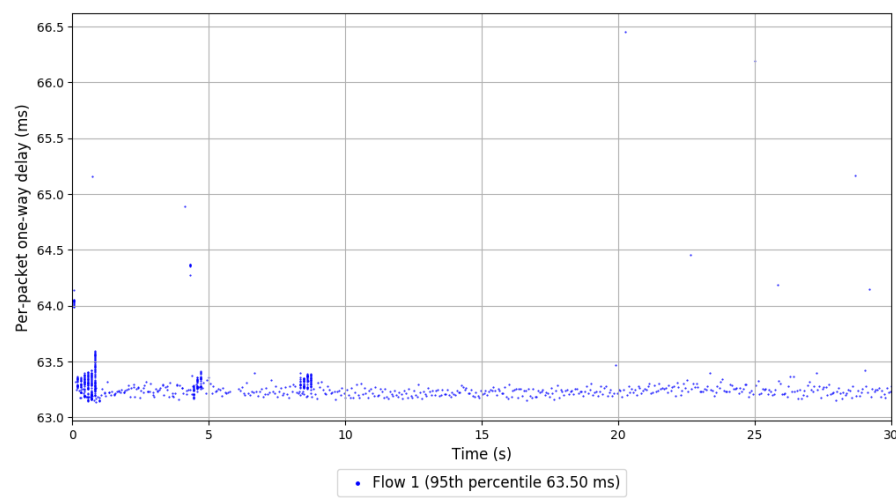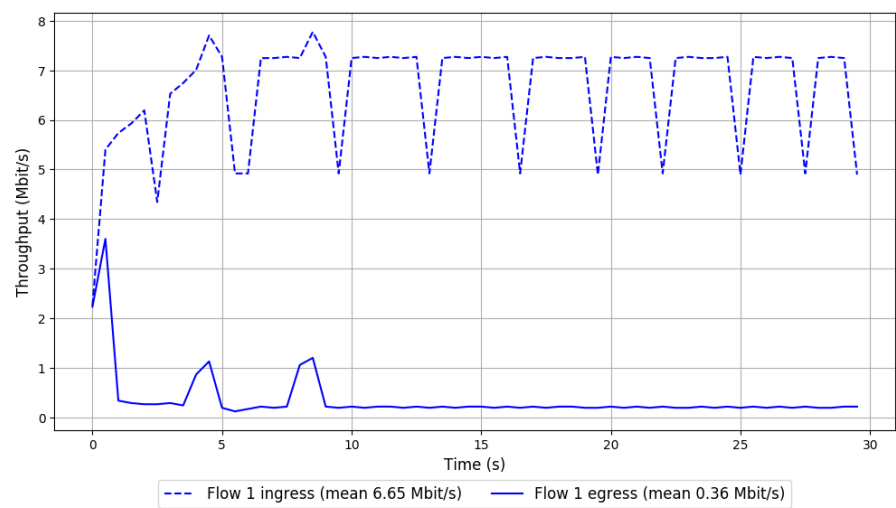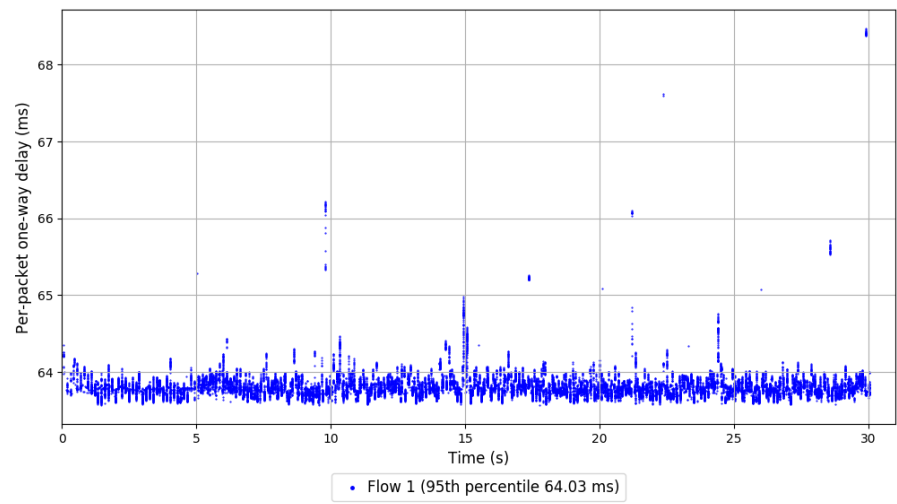
Run 4: Report of KohoCC — Data Link

Flow 1 ingress (mean 6.65 Mbit/s)   Flow 1 egress (mean 0.36 Mbit/s)

• Flow 1 (95th percentile 63.50 ms)

```
Run 5: Statistics of KohoCC

Start at: 2017-08-17 07:04:53
End at: 2017-08-17 07:05:23

# Below is generated by plot.py at 2017-08-17 09:05:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.94 Mbit/s
95th percentile per-packet one-way delay: 64.031 ms
Loss rate: 2.83%
-- Flow 1:
Average throughput: 8.94 Mbit/s
95th percentile per-packet one-way delay: 64.031 ms
Loss rate: 2.83%
```
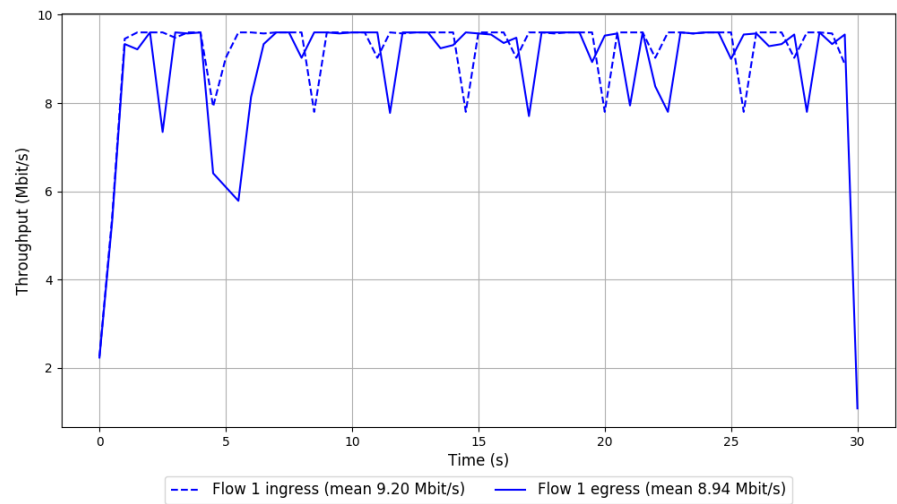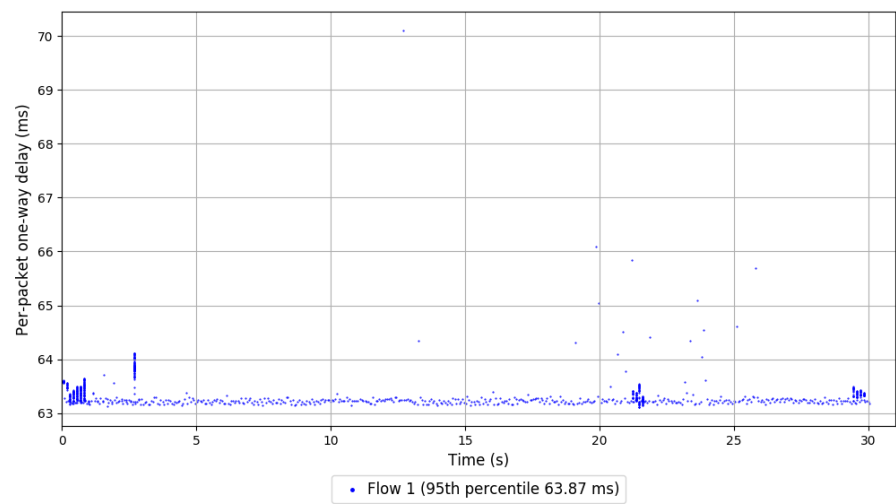
Run 5: Report of KohoCC — Data Link

Flow 1 ingress (mean 9.20 Mbit/s) Flow 1 egress (mean 8.94 Mbit/s)

Flow 1 (95th percentile 64.03 ms)

```
Run 6: Statistics of KohoCC

Start at: 2017-08-17 07:15:09
End at: 2017-08-17 07:15:39

# Below is generated by plot.py at 2017-08-17 09:05:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 63.866 ms
Loss rate: 93.99%
-- Flow 1:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 63.866 ms
Loss rate: 93.99%
```
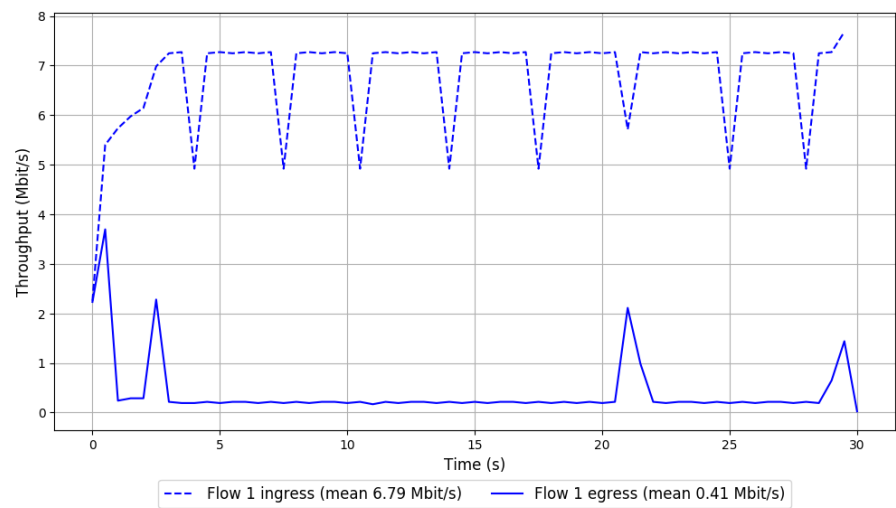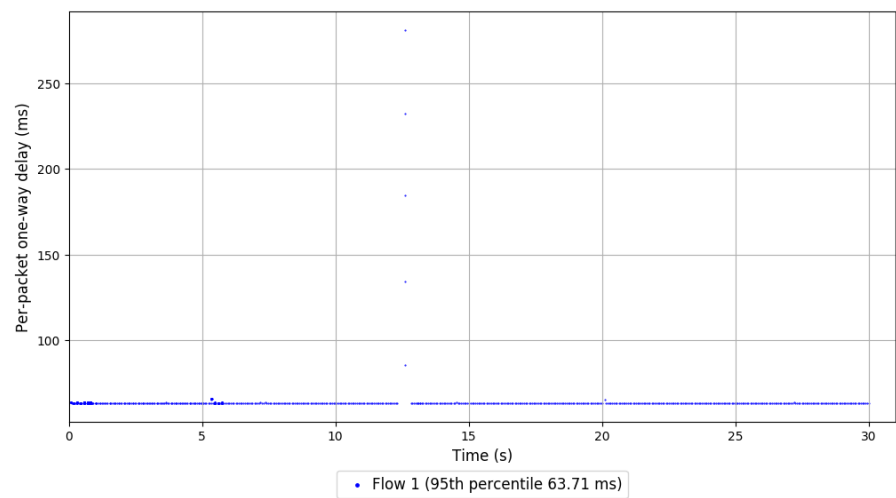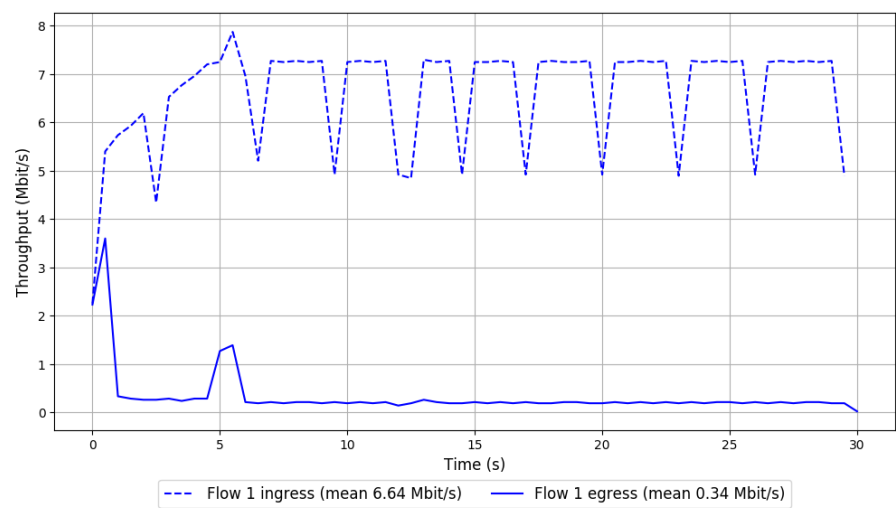
Run 6: Report of KohoCC — Data Link

```
Run 7: Statistics of KohoCC

Start at: 2017-08-17 07:25:37
End at: 2017-08-17 07:26:07

# Below is generated by plot.py at 2017-08-17 09:05:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 63.710 ms
Loss rate: 94.82%
-- Flow 1:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 63.710 ms
Loss rate: 94.82%
```
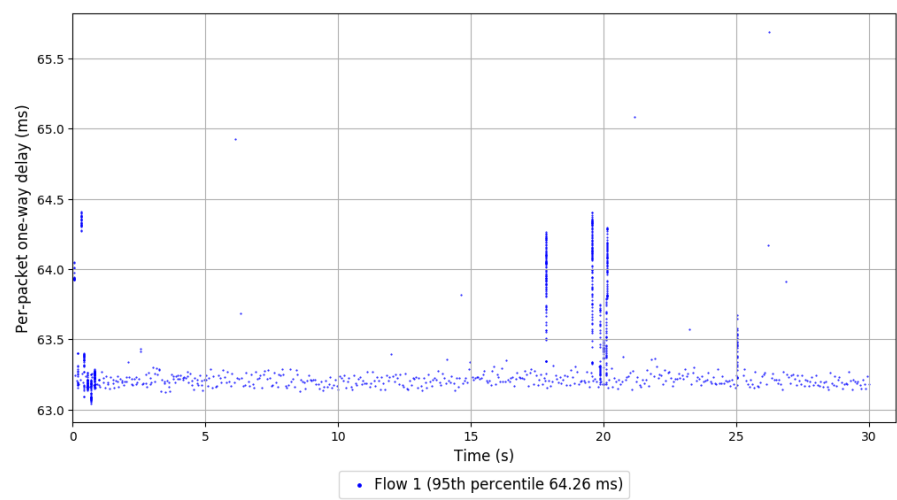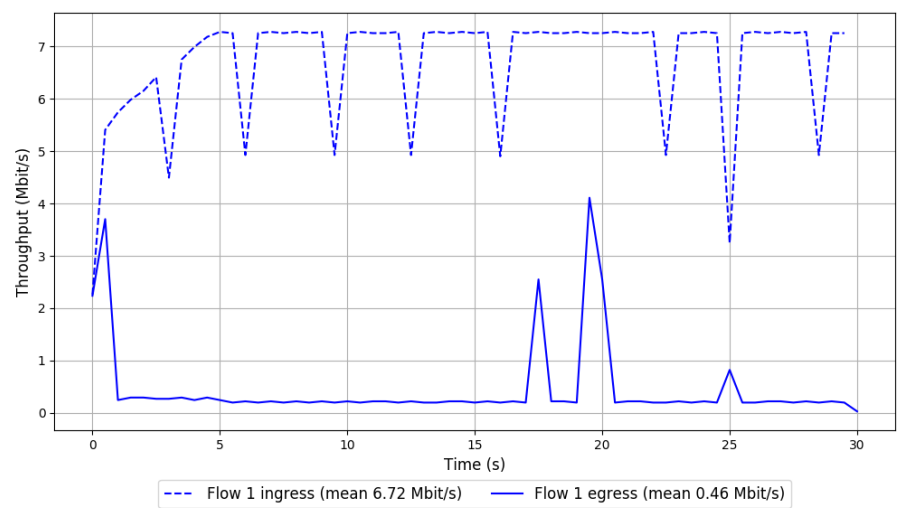
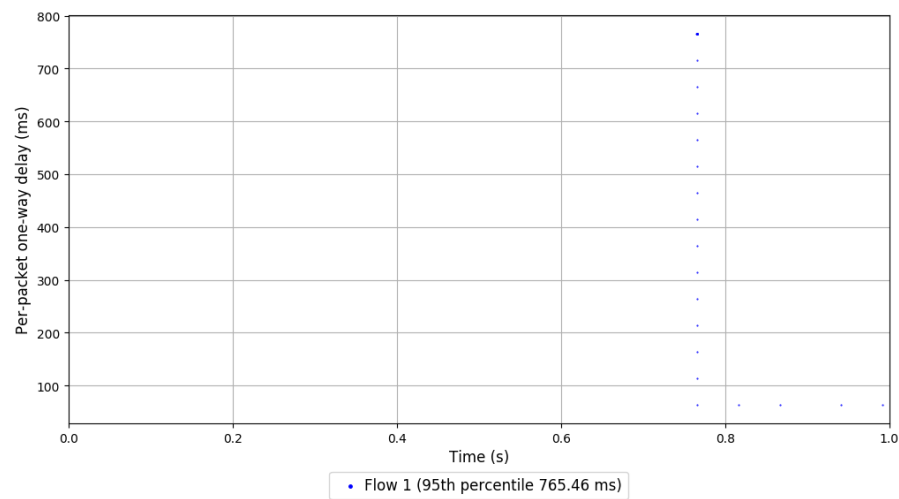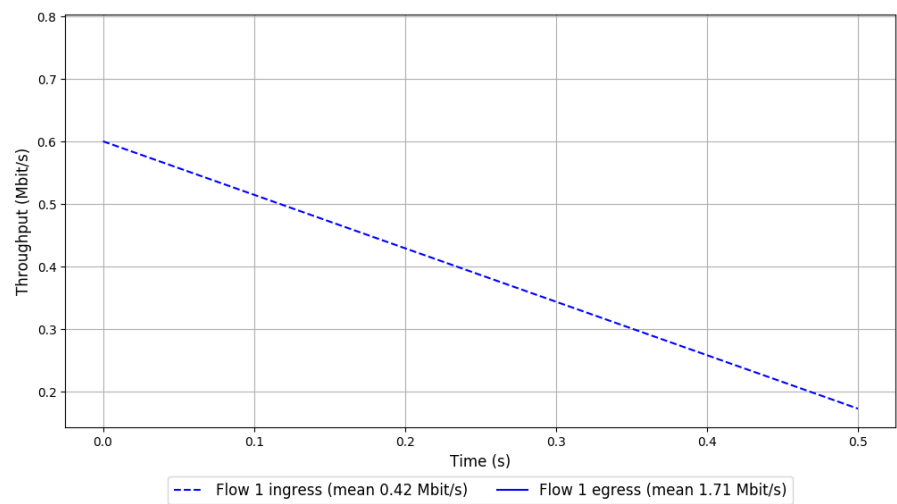Run 7: Report of KohoCC — Data Link

Flow 1 ingress (mean 6.64 Mbit/s) --- Flow 1 egress (mean 0.34 Mbit/s)

Flow 1 (95th percentile 63.71 ms)

```
Run 8: Statistics of KohoCC

Start at: 2017-08-17 07:35:54
End at: 2017-08-17 07:36:24

# Below is generated by plot.py at 2017-08-17 09:06:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 64.256 ms
Loss rate: 93.15%
-- Flow 1:
Average throughput: 0.46 Mbit/s
95th percentile per-packet one-way delay: 64.256 ms
Loss rate: 93.15%
```
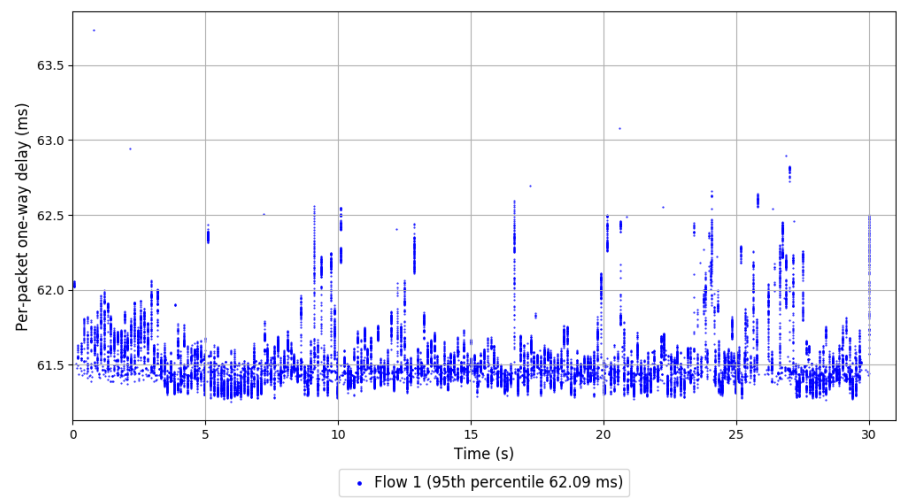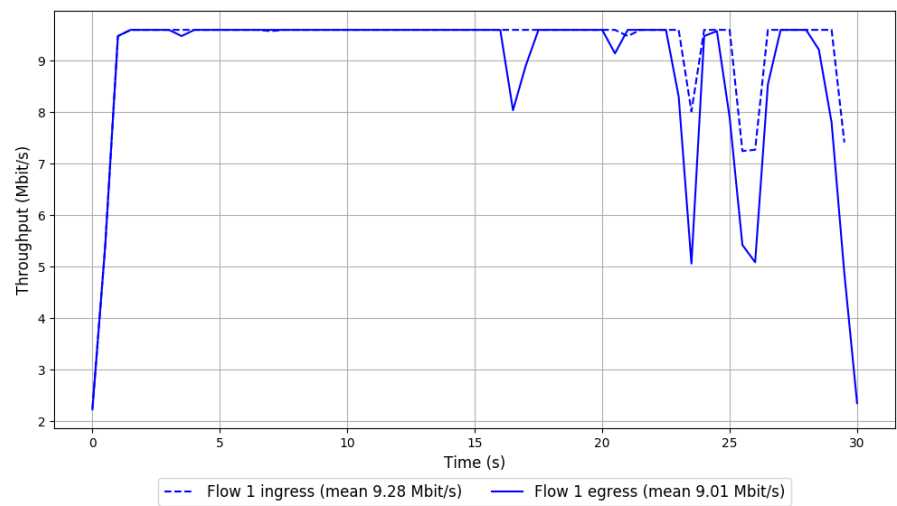
Run 8: Report of KohoCC — Data Link

Flow 1 ingress (mean 6.72 Mbit/s)　　Flow 1 egress (mean 0.46 Mbit/s)

Flow 1 (95th percentile 64.26 ms)

Run 9: Statistics of KohoCC

Start at: 2017-08-17 07:45:54
End at: 2017-08-17 07:46:24
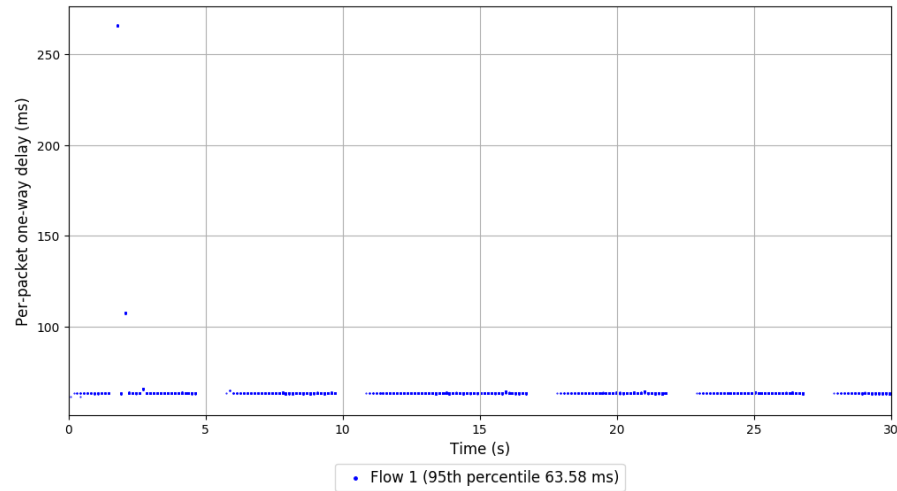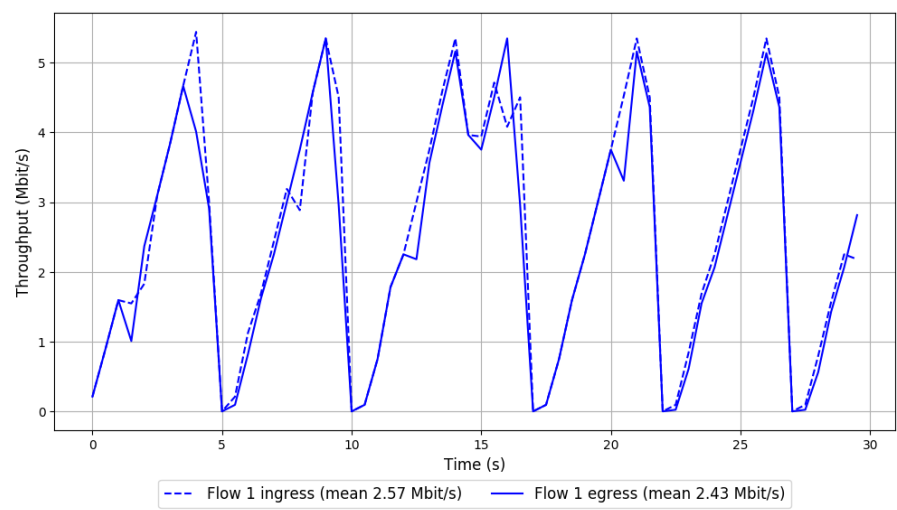
Run 9: Report of KohoCC — Data Link

```
Run 10: Statistics of KohoCC

Start at: 2017-08-17 07:55:54
End at: 2017-08-17 07:56:24

# Below is generated by plot.py at 2017-08-17 09:06:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.01 Mbit/s
95th percentile per-packet one-way delay: 62.091 ms
Loss rate: 2.92%
-- Flow 1:
Average throughput: 9.01 Mbit/s
95th percentile per-packet one-way delay: 62.091 ms
Loss rate: 2.92%
```

Run 10: Report of KohoCC — Data Link

Flow 1 ingress (mean 9.28 Mbit/s)　　Flow 1 egress (mean 9.01 Mbit/s)
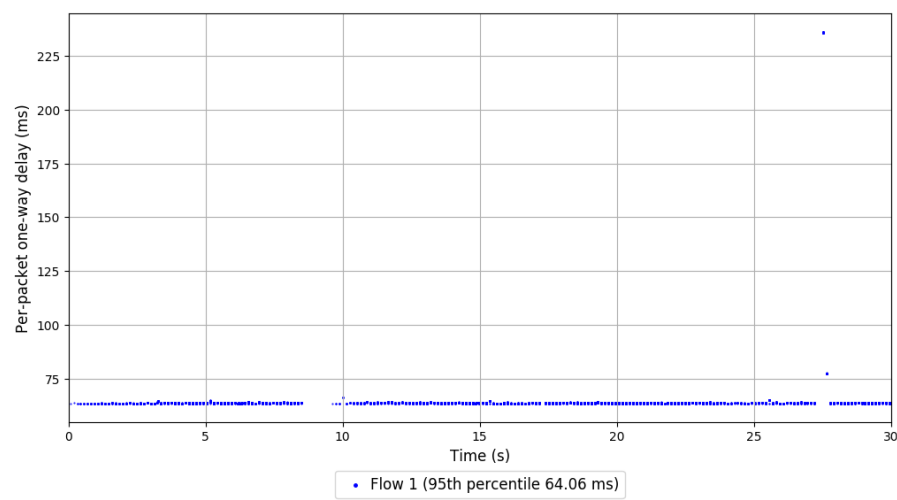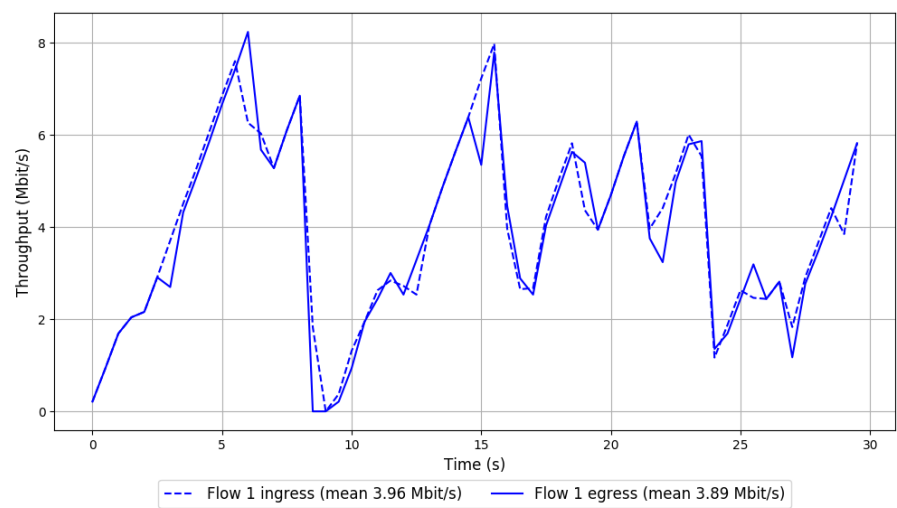

Flow 1 (95th percentile 62.09 ms)

```
Run 1: Statistics of LEDBAT

Start at: 2017-08-17 06:20:18
End at: 2017-08-17 06:20:48

# Below is generated by plot.py at 2017-08-17 09:06:02
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 63.580 ms
Loss rate: 5.38%
-- Flow 1:
Average throughput: 2.43 Mbit/s
95th percentile per-packet one-way delay: 63.580 ms
Loss rate: 5.38%
```
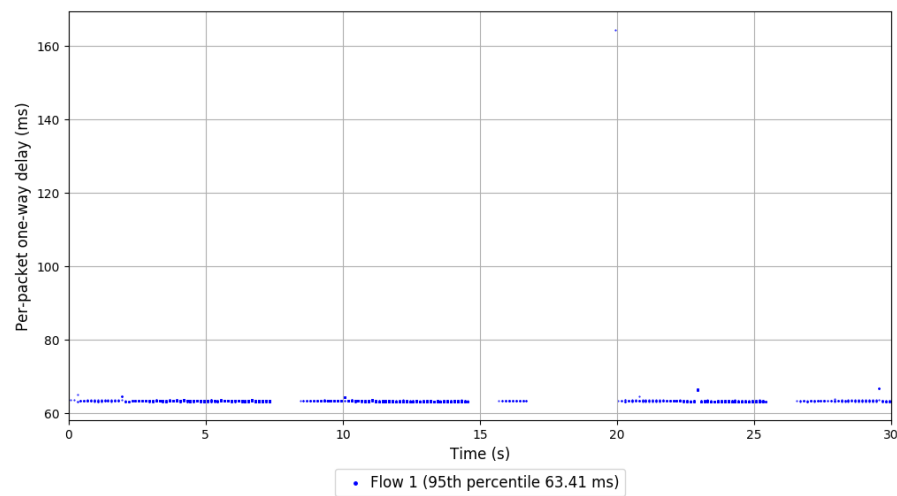
Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 2.57 Mbit/s) — — — Flow 1 egress (mean 2.43 Mbit/s)

• Flow 1 (95th percentile 63.58 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2017-08-17 06:30:52
End at: 2017-08-17 06:31:22

# Below is generated by plot.py at 2017-08-17 09:06:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 64.059 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 3.89 Mbit/s
95th percentile per-packet one-way delay: 64.059 ms
Loss rate: 1.74%
```
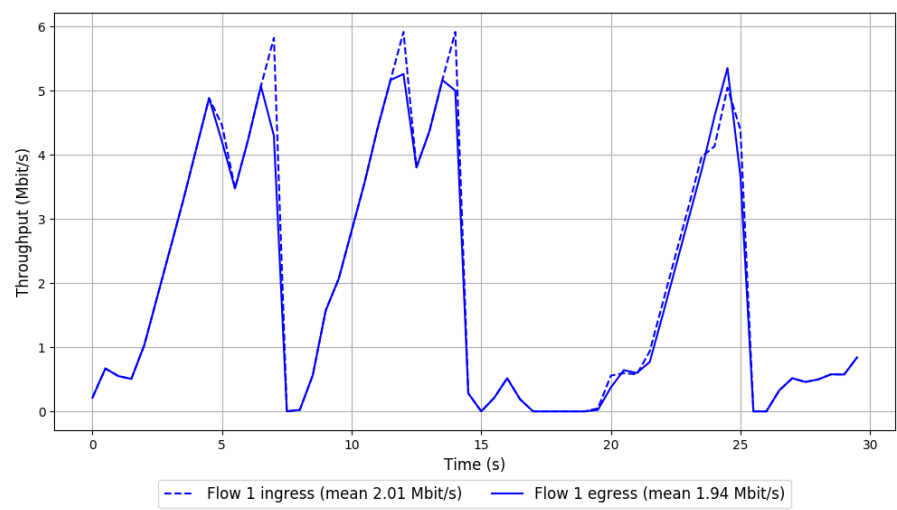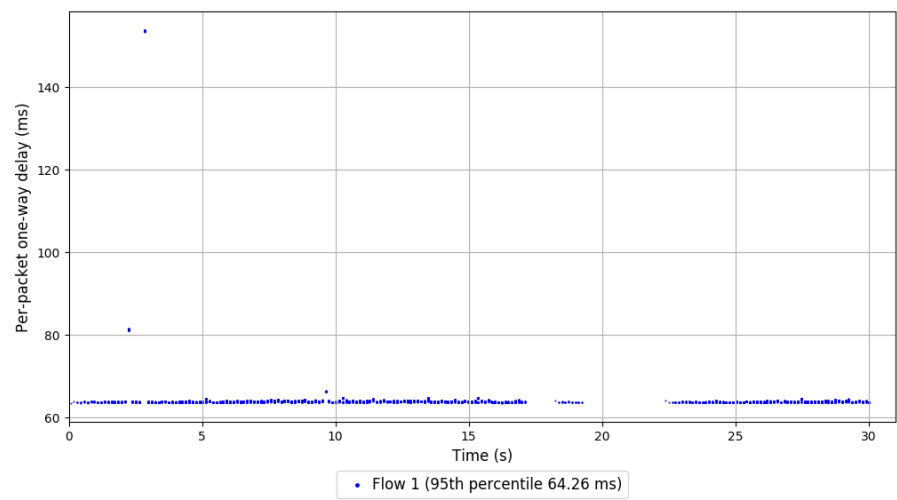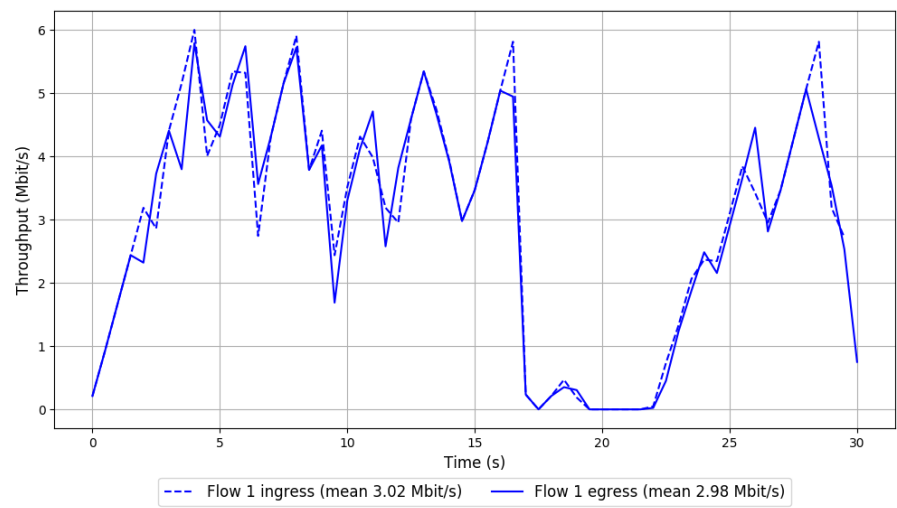
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 3.96 Mbit/s)   Flow 1 egress (mean 3.89 Mbit/s)

Flow 1 (95th percentile 64.06 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2017-08-17 06:41:30
End at: 2017-08-17 06:42:00

# Below is generated by plot.py at 2017-08-17 09:06:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 63.410 ms
Loss rate: 3.64%
-- Flow 1:
Average throughput: 1.94 Mbit/s
95th percentile per-packet one-way delay: 63.410 ms
Loss rate: 3.64%
```
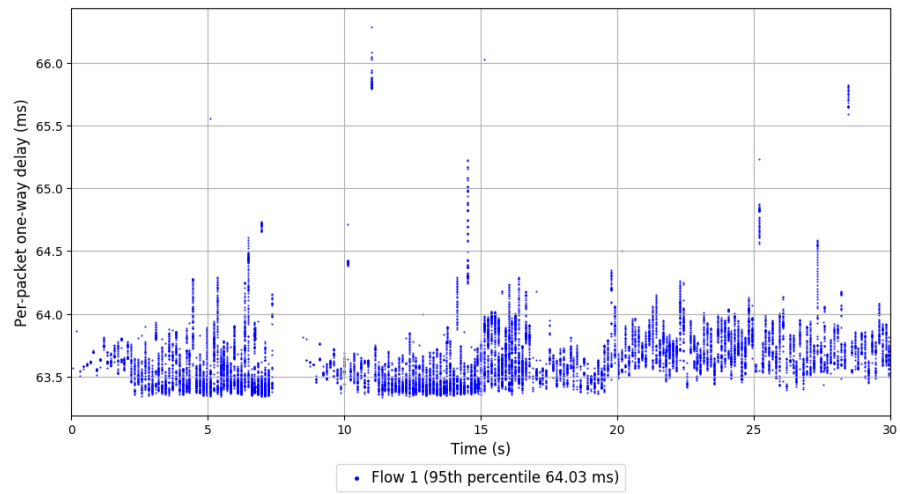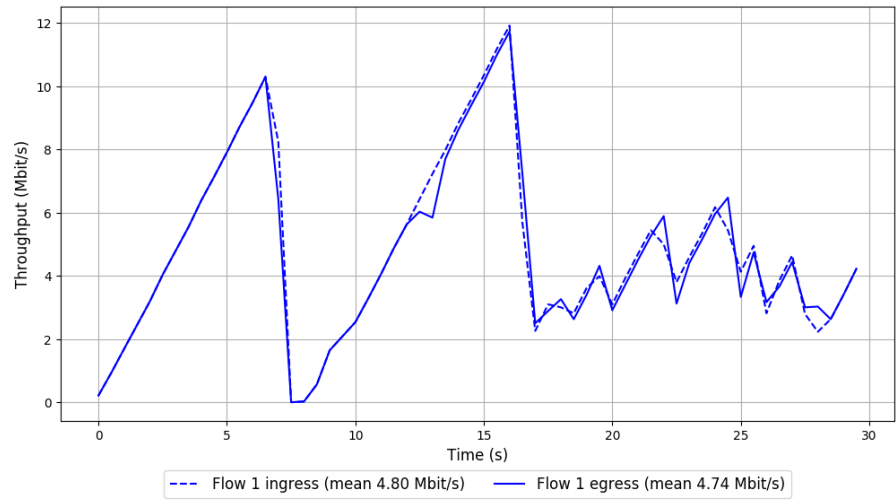
Run 3: Report of LEDBAT — Data Link

Flow 1 ingress (mean 2.01 Mbit/s)   Flow 1 egress (mean 1.94 Mbit/s)

Flow 1 (95th percentile 63.41 ms)

```
Run 4: Statistics of LEDBAT

Start at: 2017-08-17 06:51:47
End at: 2017-08-17 06:52:17

# Below is generated by plot.py at 2017-08-17 09:06:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 64.258 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 2.98 Mbit/s
95th percentile per-packet one-way delay: 64.258 ms
Loss rate: 1.36%
```
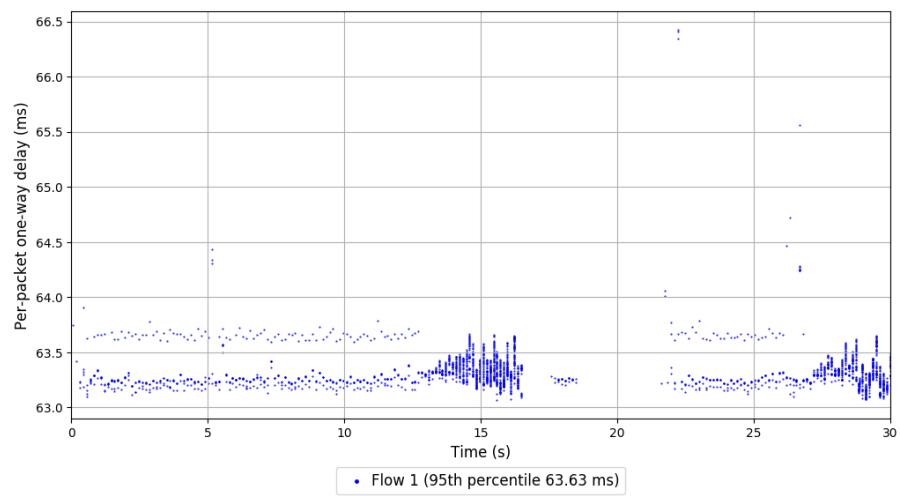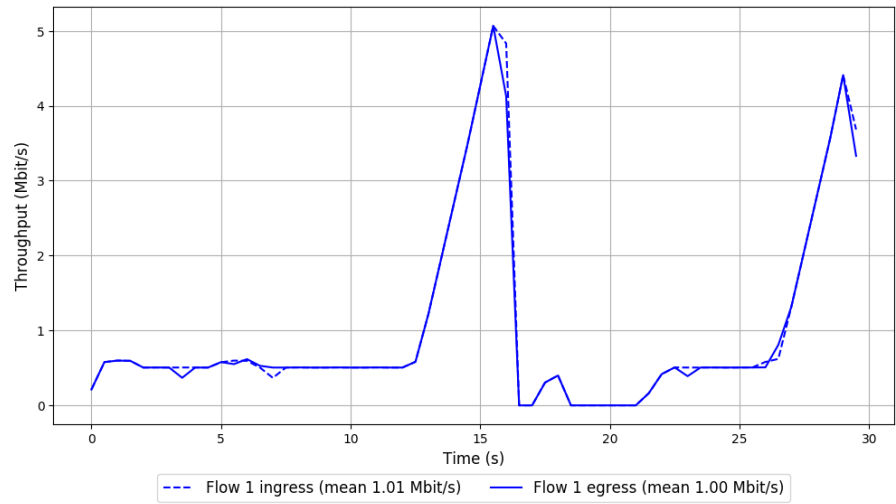
Run 4: Report of LEDBAT — Data Link

Flow 1 ingress (mean 3.02 Mbit/s)   Flow 1 egress (mean 2.98 Mbit/s)

Flow 1 (95th percentile 64.26 ms)

```
Run 5: Statistics of LEDBAT

Start at: 2017-08-17 07:02:00
End at: 2017-08-17 07:02:30

# Below is generated by plot.py at 2017-08-17 09:06:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.74 Mbit/s
95th percentile per-packet one-way delay: 64.035 ms
Loss rate: 1.14%
-- Flow 1:
Average throughput: 4.74 Mbit/s
95th percentile per-packet one-way delay: 64.035 ms
Loss rate: 1.14%
```
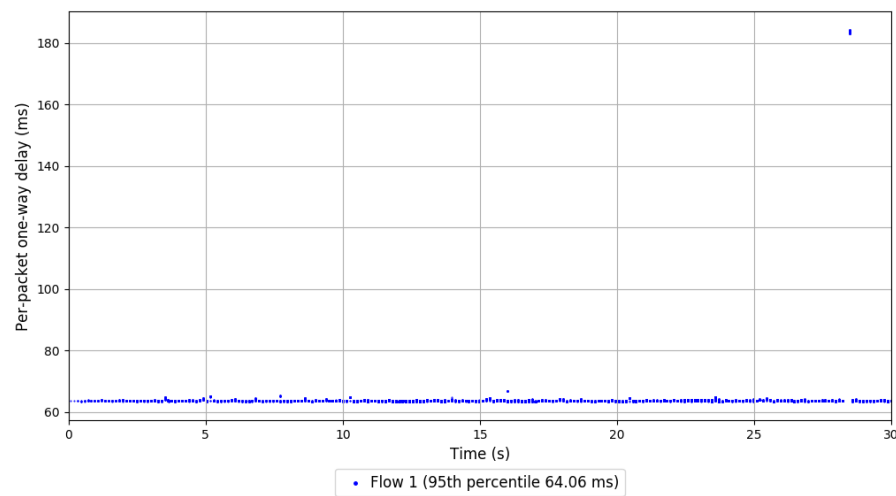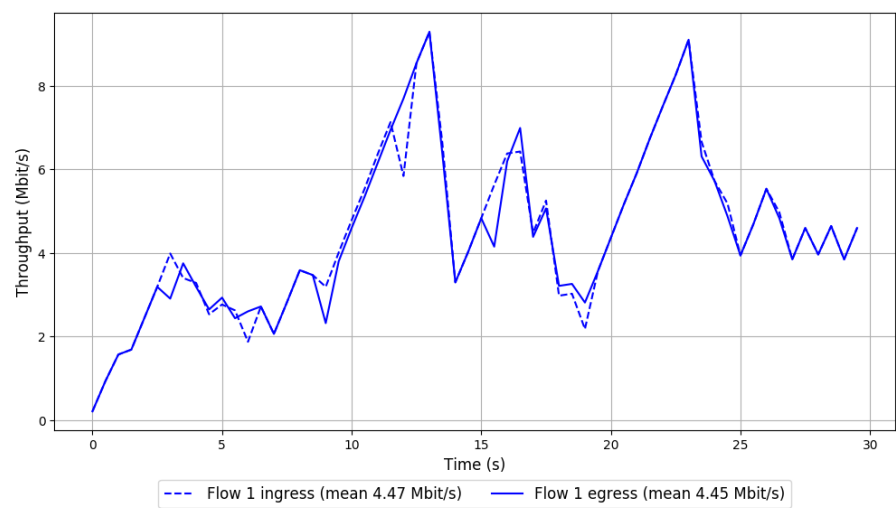
Run 5: Report of LEDBAT — Data Link

```
Run 6: Statistics of LEDBAT

Start at: 2017-08-17 07:12:32
End at: 2017-08-17 07:13:02

# Below is generated by plot.py at 2017-08-17 09:06:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 63.632 ms
Loss rate: 1.74%
-- Flow 1:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 63.632 ms
Loss rate: 1.74%
```
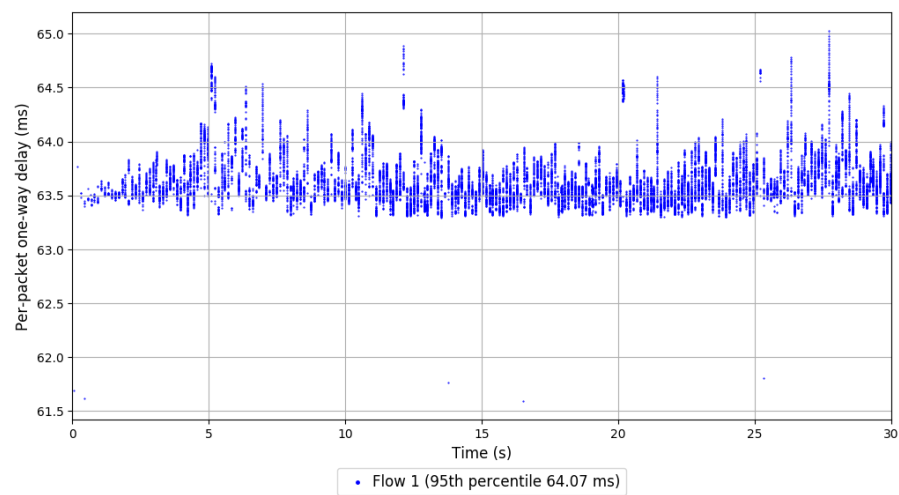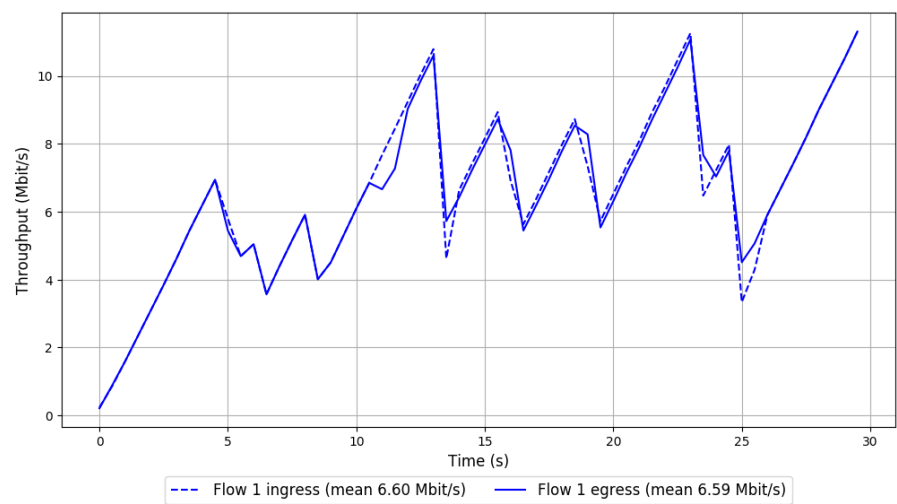
Run 6: Report of LEDBAT — Data Link

```
Run 7: Statistics of LEDBAT

Start at: 2017-08-17 07:22:51
End at: 2017-08-17 07:23:21


# Below is generated by plot.py at 2017-08-17 09:06:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.45 Mbit/s
95th percentile per-packet one-way delay: 64.063 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 4.45 Mbit/s
95th percentile per-packet one-way delay: 64.063 ms
Loss rate: 0.50%
```
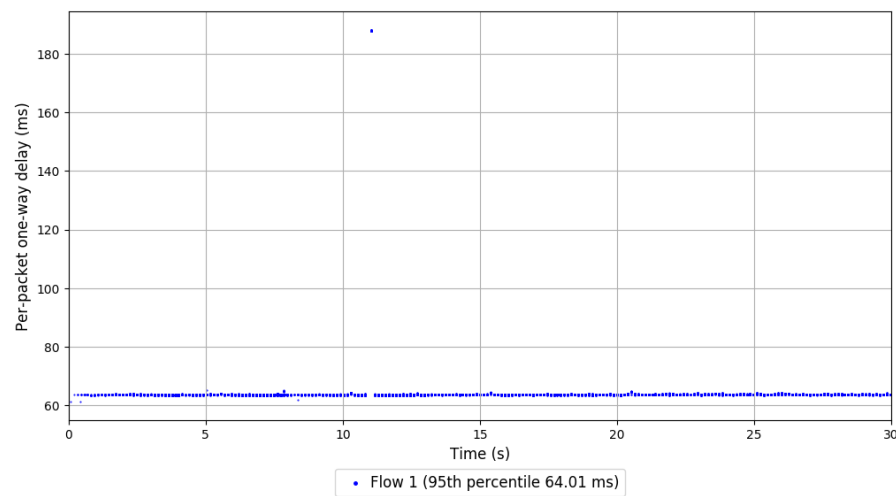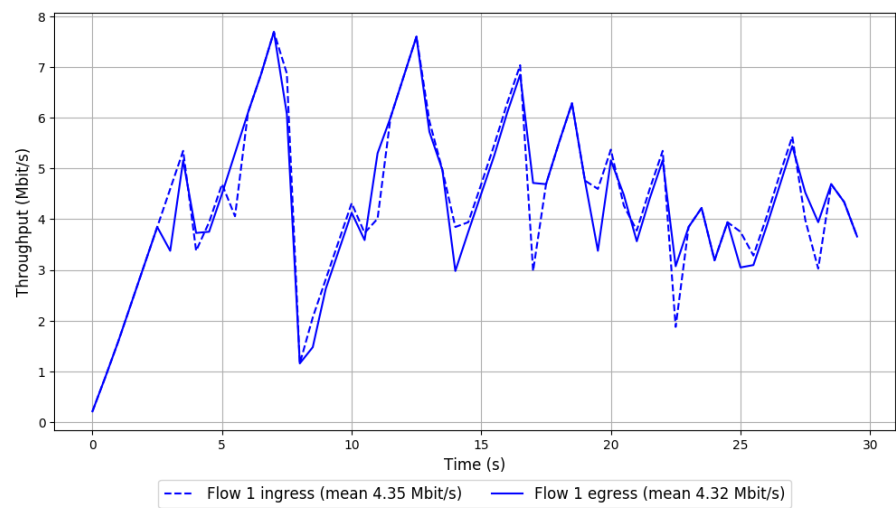
Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2017-08-17 07:33:13
End at: 2017-08-17 07:33:43

# Below is generated by plot.py at 2017-08-17 09:06:09
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.59 Mbit/s
95th percentile per-packet one-way delay: 64.070 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 6.59 Mbit/s
95th percentile per-packet one-way delay: 64.070 ms
Loss rate: 0.19%
```
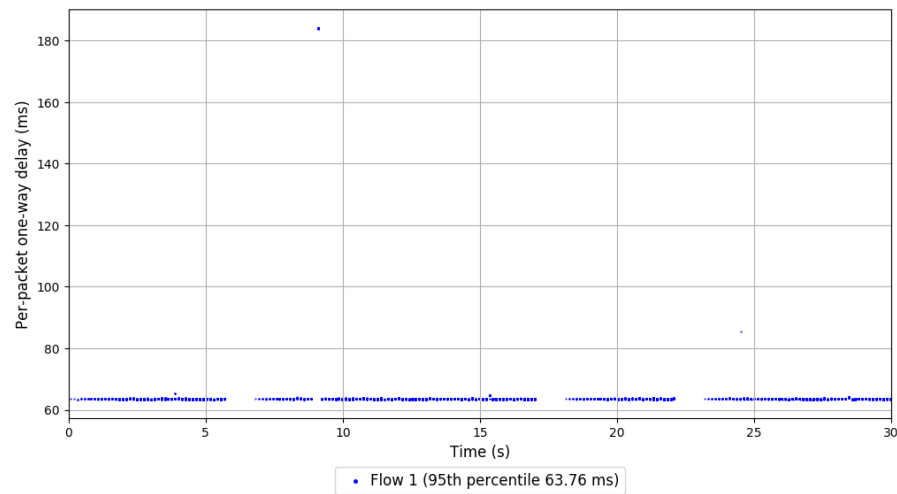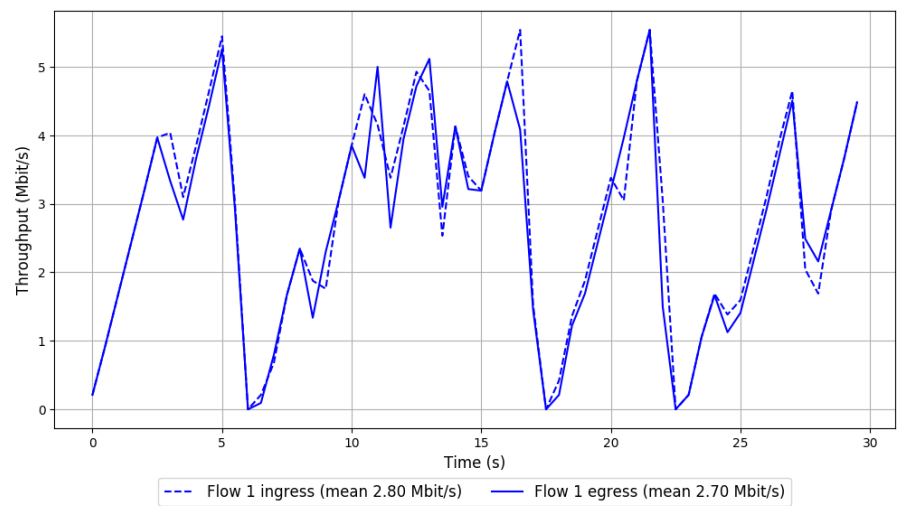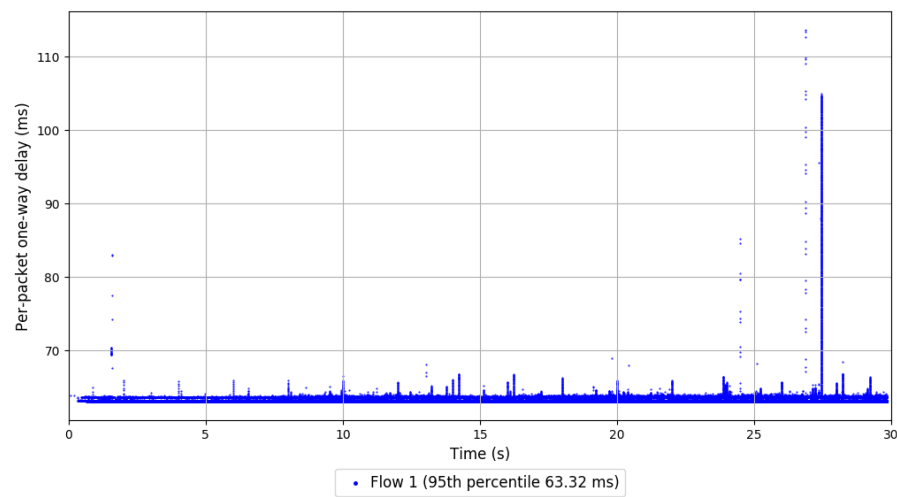
Run 8: Report of LEDBAT — Data Link

Flow 1 ingress (mean 6.60 Mbit/s) --- Flow 1 egress (mean 6.59 Mbit/s)

Flow 1 (95th percentile 64.07 ms)

```
Run 9: Statistics of LEDBAT

Start at: 2017-08-17 07:43:09
End at: 2017-08-17 07:43:39

# Below is generated by plot.py at 2017-08-17 09:06:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.32 Mbit/s
95th percentile per-packet one-way delay: 64.013 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 4.32 Mbit/s
95th percentile per-packet one-way delay: 64.013 ms
Loss rate: 0.74%
```

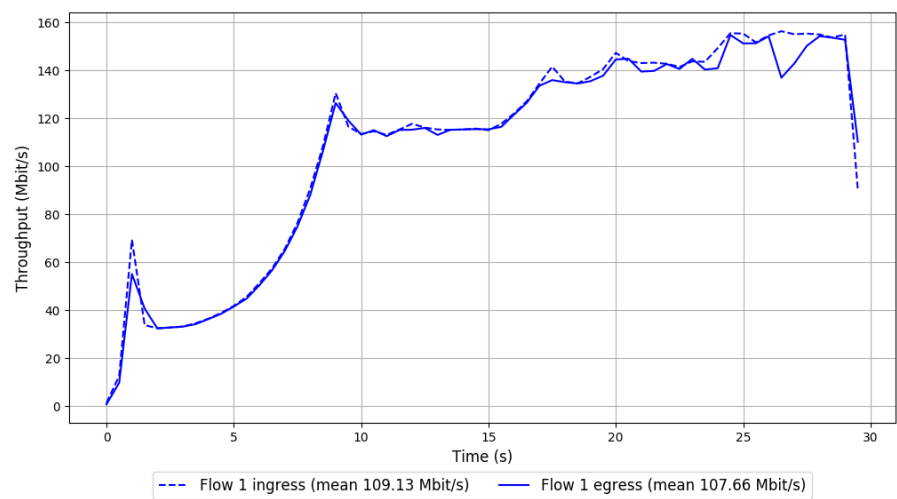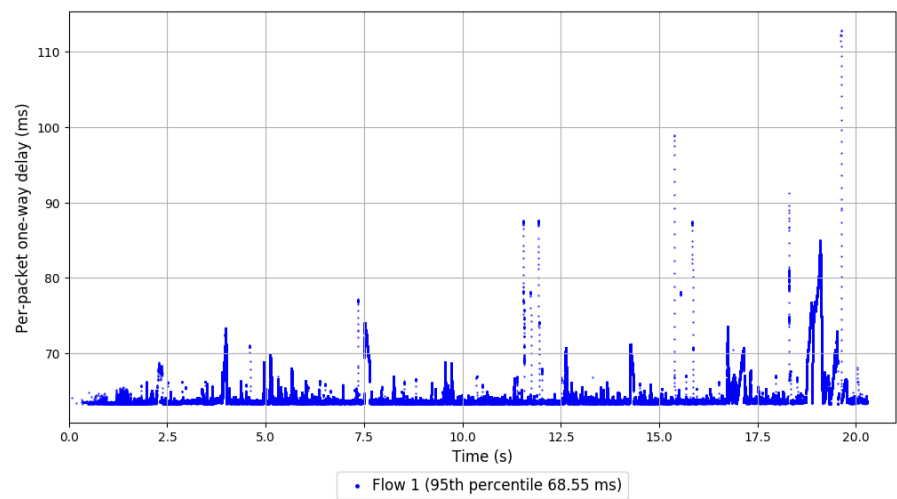# Run 9: Report of LEDBAT — Data Link

```
Run 10: Statistics of LEDBAT

Start at: 2017-08-17 07:53:11
End at: 2017-08-17 07:53:41

# Below is generated by plot.py at 2017-08-17 09:06:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.70 Mbit/s
95th percentile per-packet one-way delay: 63.763 ms
Loss rate: 3.50%
-- Flow 1:
Average throughput: 2.70 Mbit/s
95th percentile per-packet one-way delay: 63.763 ms
Loss rate: 3.50%
```

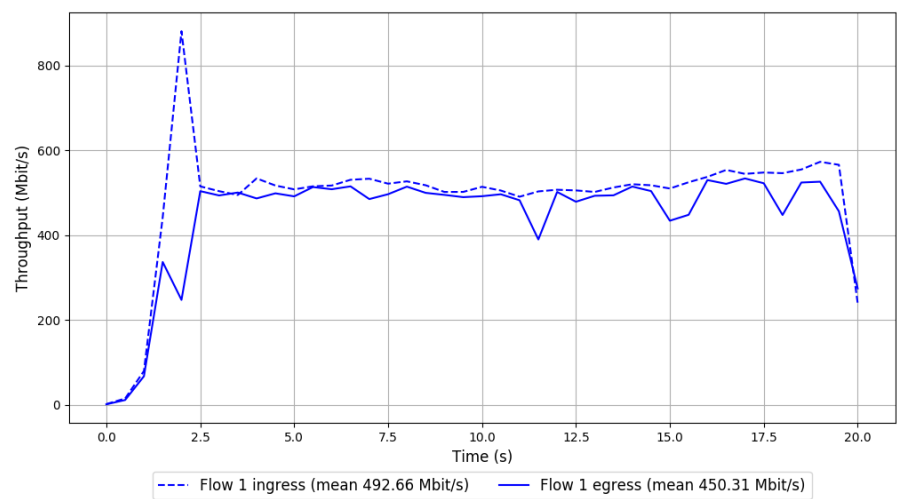# Run 10: Report of LEDBAT — Data Link

Flow 1 ingress (mean 2.80 Mbit/s)   Flow 1 egress (mean 2.70 Mbit/s)

Flow 1 (95th percentile 63.76 ms)

```
Run 1: Statistics of PCC

Start at: 2017-08-17 06:17:22
End at: 2017-08-17 06:17:52


# Below is generated by plot.py at 2017-08-17 09:06:42
# Datalink statistics
-- Total of 1 flow:
Average throughput: 107.66 Mbit/s
95th percentile per-packet one-way delay: 63.322 ms
Loss rate: 1.35%
-- Flow 1:
Average throughput: 107.66 Mbit/s
95th percentile per-packet one-way delay: 63.322 ms
Loss rate: 1.35%
```
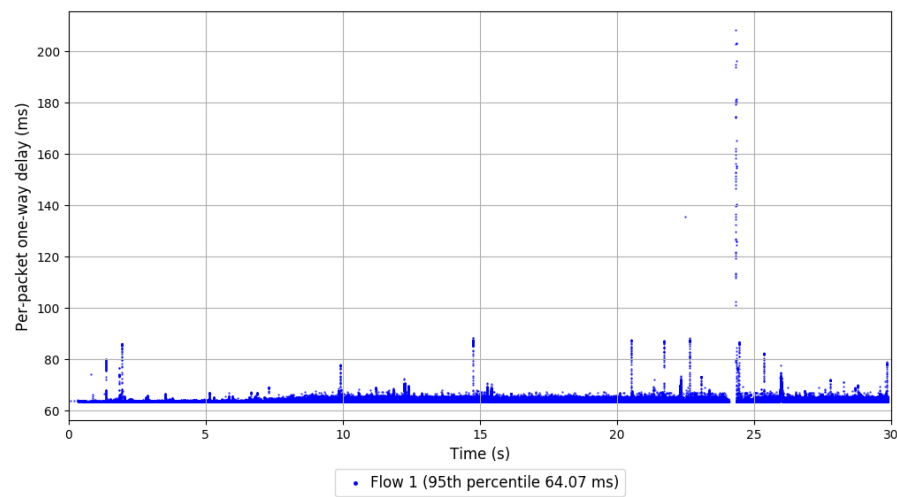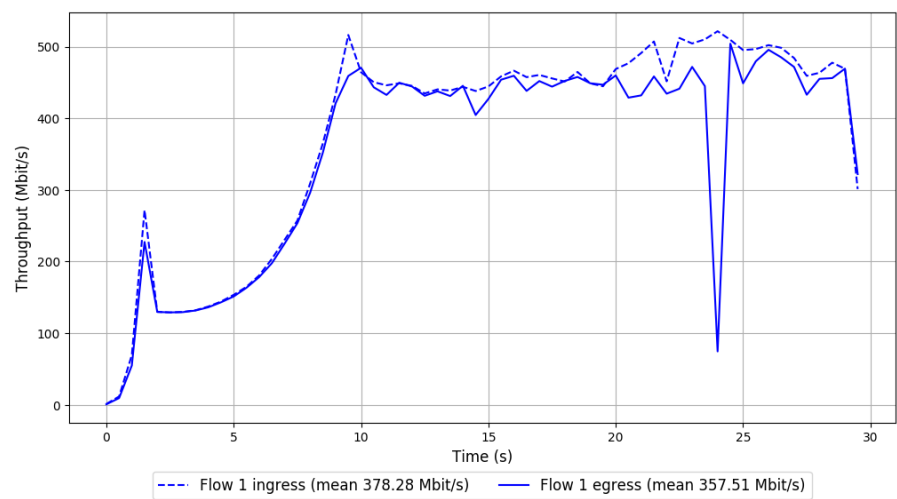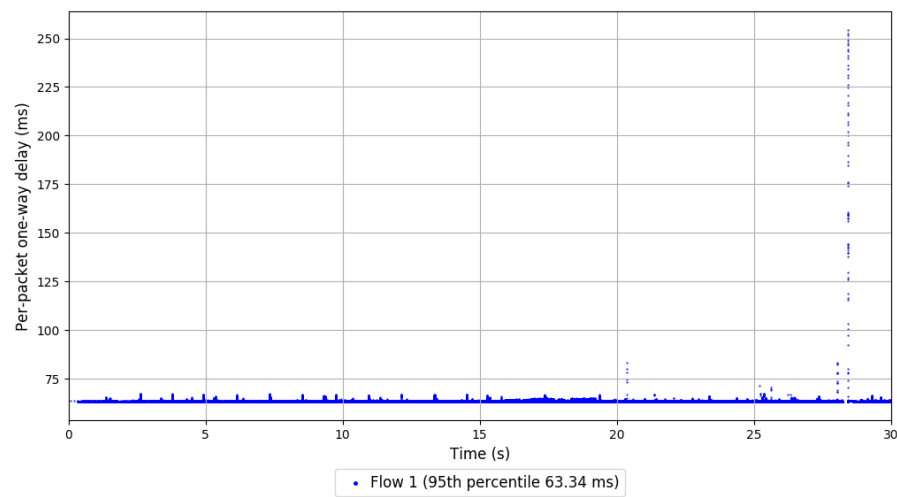
Run 1: Report of PCC — Data Link

Run 2: Statistics of PCC

Start at: 2017-08-17 06:27:54
End at: 2017-08-17 06:28:24

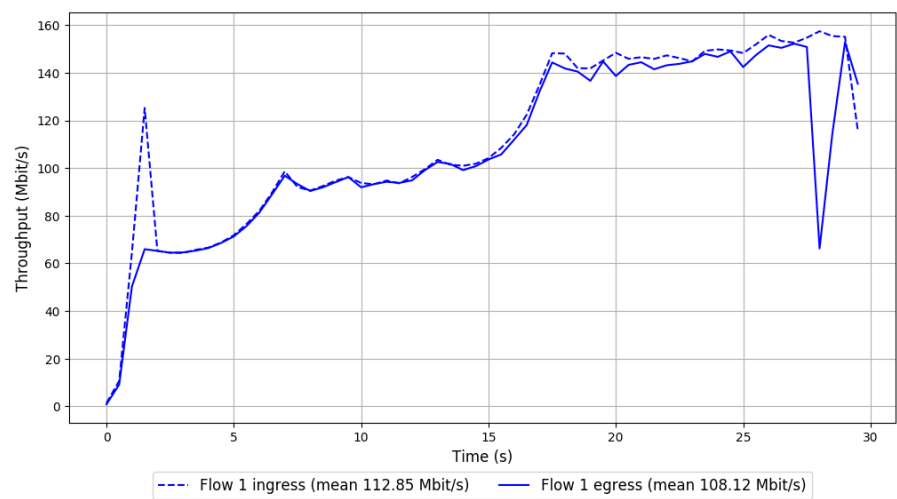Run 2: Report of PCC — Data Link

```
Run 3: Statistics of PCC

Start at: 2017-08-17 06:38:26
End at: 2017-08-17 06:38:56


# Below is generated by plot.py at 2017-08-17 09:07:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 357.51 Mbit/s
95th percentile per-packet one-way delay: 64.070 ms
Loss rate: 5.53%
-- Flow 1:
Average throughput: 357.51 Mbit/s
95th percentile per-packet one-way delay: 64.070 ms
Loss rate: 5.53%
```
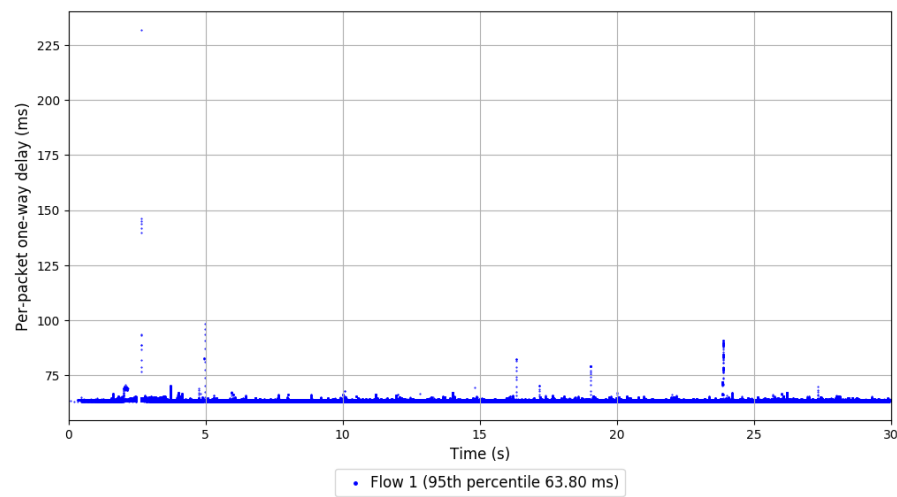
Run 3: Report of PCC — Data Link

Flow 1 ingress (mean 378.28 Mbit/s)   Flow 1 egress (mean 357.51 Mbit/s)

Flow 1 (95th percentile 64.07 ms)

```
Run 4: Statistics of PCC

Start at: 2017-08-17 06:48:51
End at: 2017-08-17 06:49:21


# Below is generated by plot.py at 2017-08-17 09:07:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 108.12 Mbit/s
95th percentile per-packet one-way delay: 63.336 ms
Loss rate: 4.23%
-- Flow 1:
Average throughput: 108.12 Mbit/s
95th percentile per-packet one-way delay: 63.336 ms
Loss rate: 4.23%
```
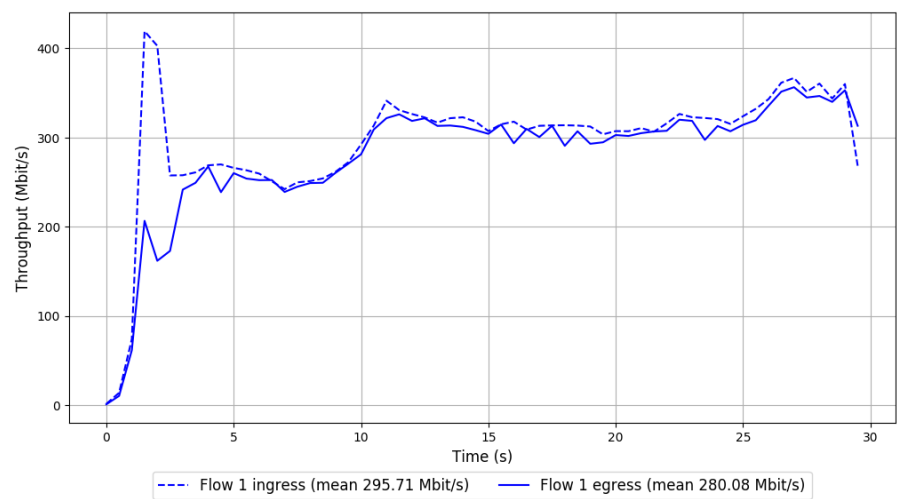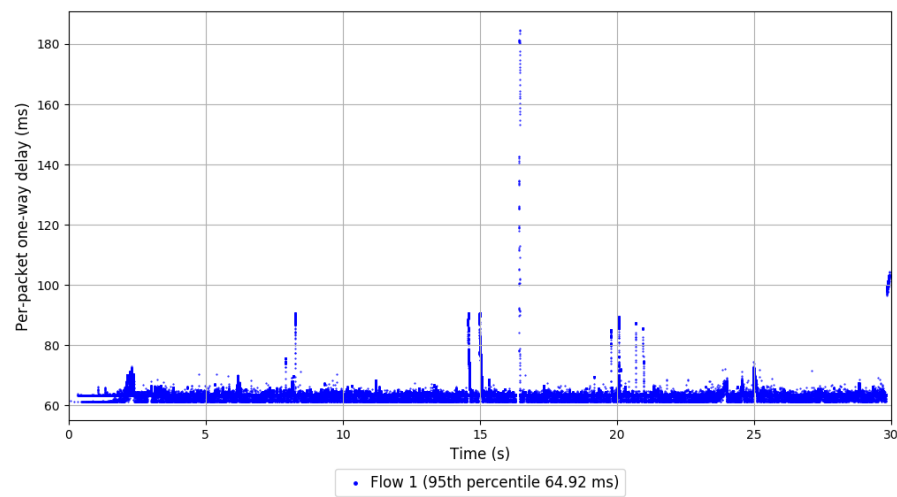
Run 4: Report of PCC — Data Link

```
Run 5: Statistics of PCC

Start at: 2017-08-17 06:59:16
End at: 2017-08-17 06:59:47

# Below is generated by plot.py at 2017-08-17 09:08:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 280.08 Mbit/s
95th percentile per-packet one-way delay: 63.797 ms
Loss rate: 5.33%
-- Flow 1:
Average throughput: 280.08 Mbit/s
95th percentile per-packet one-way delay: 63.797 ms
Loss rate: 5.33%
```
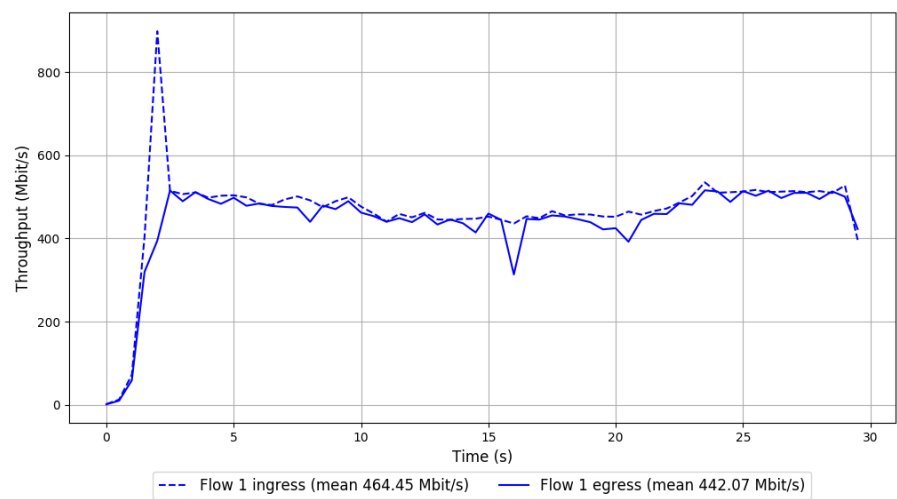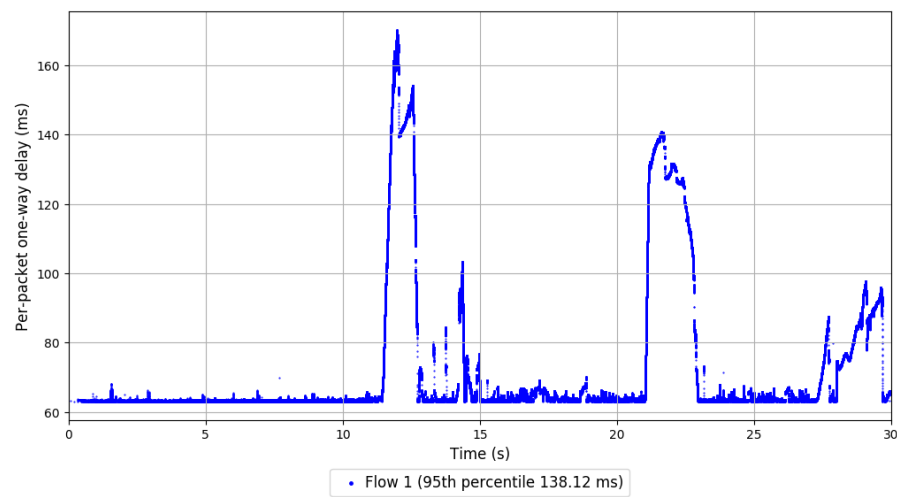
Run 5: Report of PCC — Data Link

```
Run 6: Statistics of PCC

Start at: 2017-08-17 07:09:33
End at: 2017-08-17 07:10:03

# Below is generated by plot.py at 2017-08-17 09:08:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 442.07 Mbit/s
95th percentile per-packet one-way delay: 64.922 ms
Loss rate: 4.81%
-- Flow 1:
Average throughput: 442.07 Mbit/s
95th percentile per-packet one-way delay: 64.922 ms
Loss rate: 4.81%
```
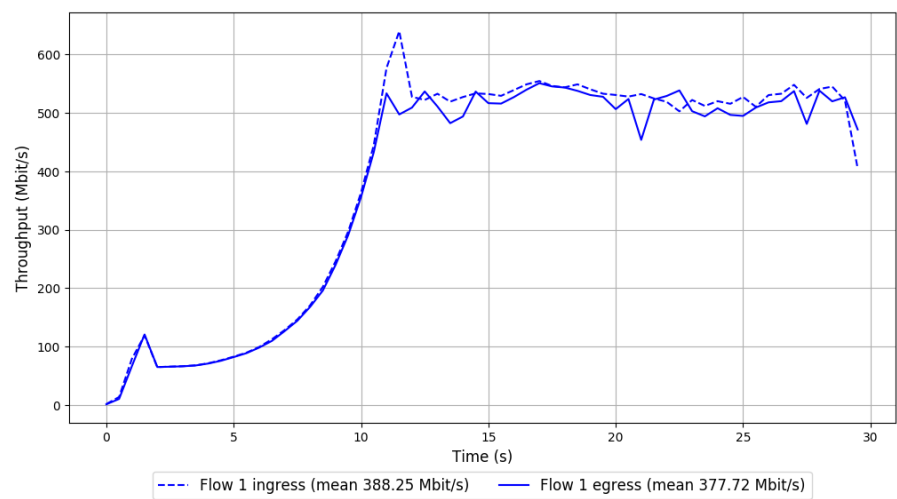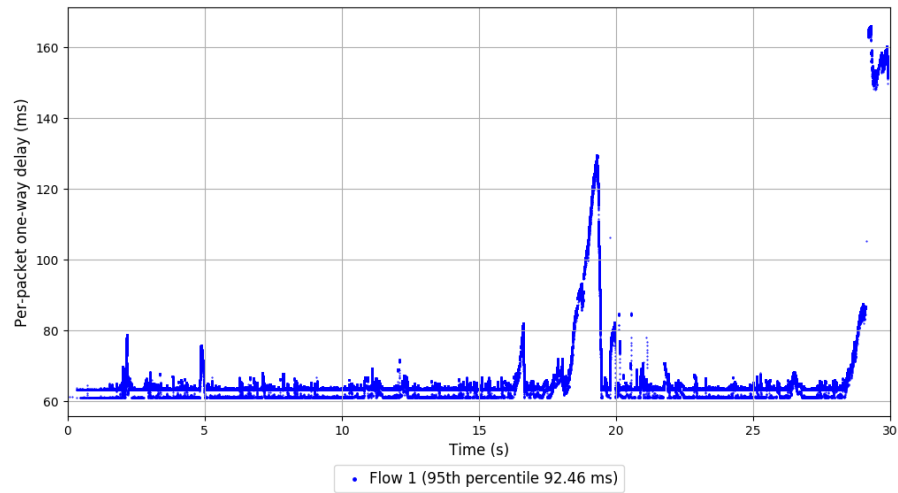
Run 6: Report of PCC — Data Link

Flow 1 ingress (mean 464.45 Mbit/s)   Flow 1 egress (mean 442.07 Mbit/s)

Flow 1 (95th percentile 64.92 ms)

```
Run 7: Statistics of PCC

Start at: 2017-08-17 07:19:48
End at: 2017-08-17 07:20:18


# Below is generated by plot.py at 2017-08-17 09:09:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 377.72 Mbit/s
95th percentile per-packet one-way delay: 138.123 ms
Loss rate: 2.71%
-- Flow 1:
Average throughput: 377.72 Mbit/s
95th percentile per-packet one-way delay: 138.123 ms
Loss rate: 2.71%
```
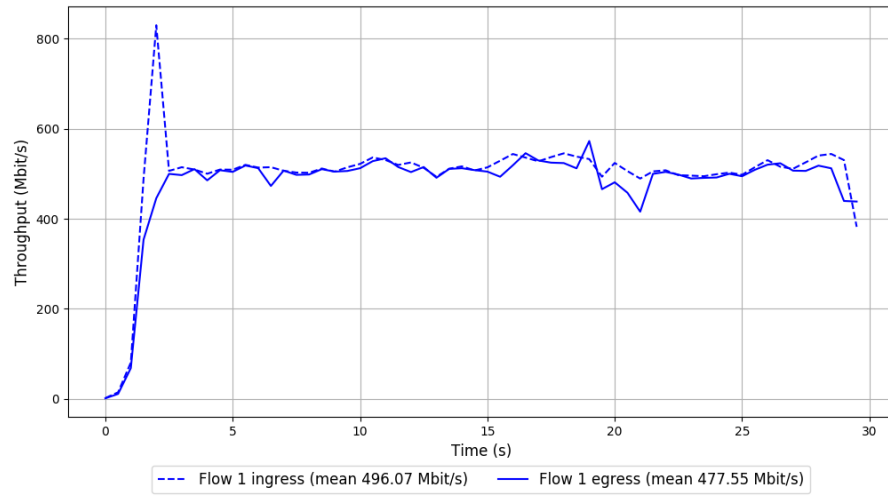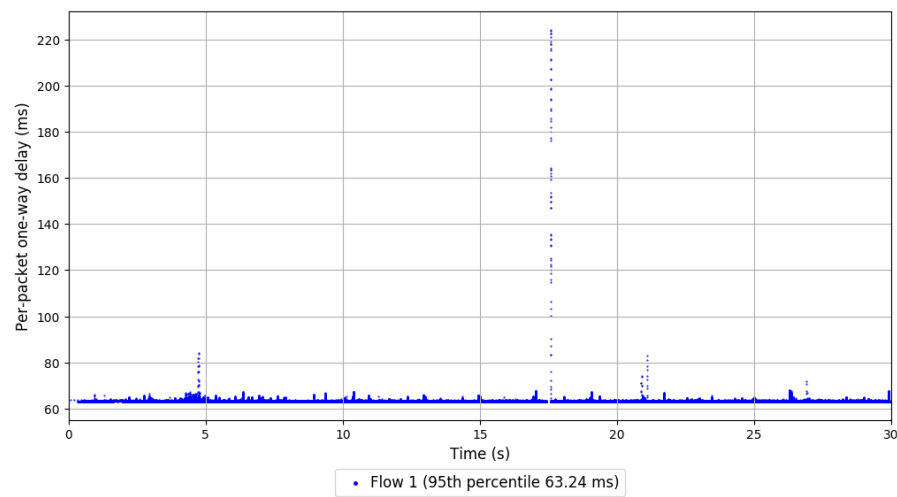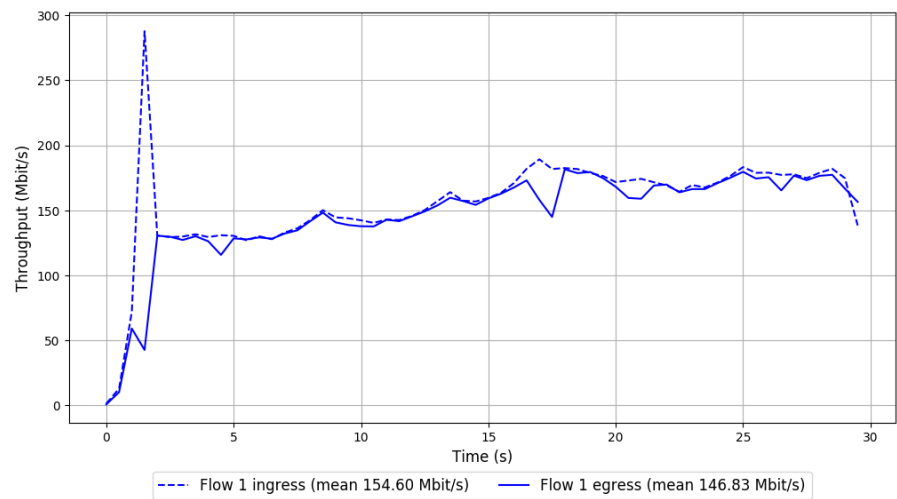
Run 7: Report of PCC — Data Link

Flow 1 ingress (mean 388.25 Mbit/s)   Flow 1 egress (mean 377.72 Mbit/s)

Flow 1 (95th percentile 138.12 ms)

```
Run 8: Statistics of PCC

Start at: 2017-08-17 07:30:04
End at: 2017-08-17 07:30:34


# Below is generated by plot.py at 2017-08-17 09:10:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 477.55 Mbit/s
95th percentile per-packet one-way delay: 92.457 ms
Loss rate: 3.74%
-- Flow 1:
Average throughput: 477.55 Mbit/s
95th percentile per-packet one-way delay: 92.457 ms
Loss rate: 3.74%
```

Run 8: Report of PCC — Data Link

Flow 1 ingress (mean 496.07 Mbit/s)   Flow 1 egress (mean 477.55 Mbit/s)

Flow 1 (95th percentile 92.46 ms)

139

```
Run 9: Statistics of PCC

Start at: 2017-08-17 07:40:32
End at: 2017-08-17 07:41:02

# Below is generated by plot.py at 2017-08-17 09:10:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 146.83 Mbit/s
95th percentile per-packet one-way delay: 63.241 ms
Loss rate: 5.08%
-- Flow 1:
Average throughput: 146.83 Mbit/s
95th percentile per-packet one-way delay: 63.241 ms
Loss rate: 5.08%
```
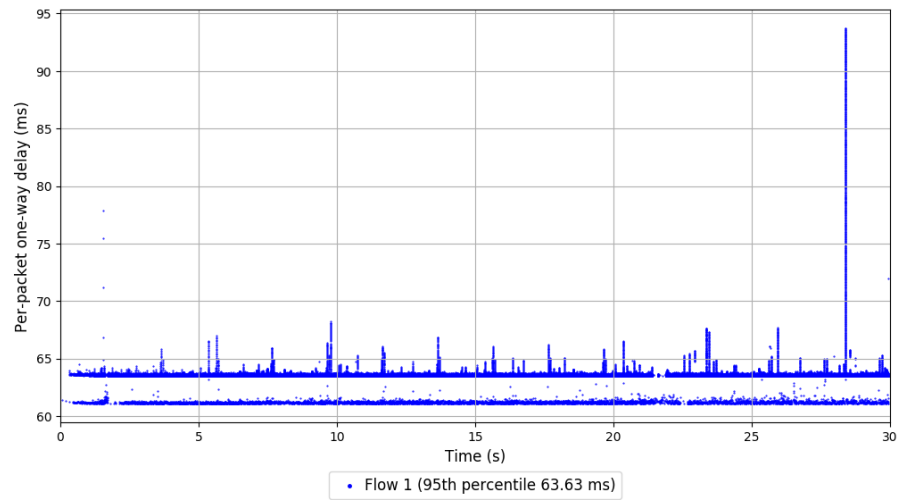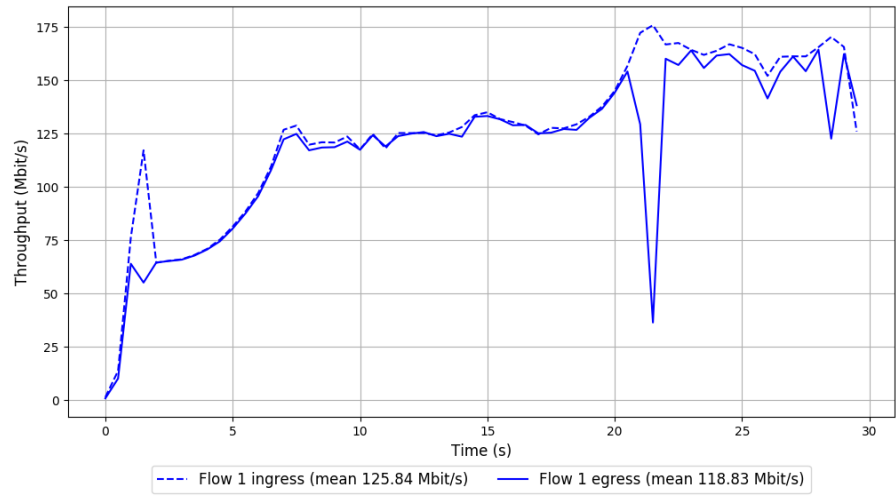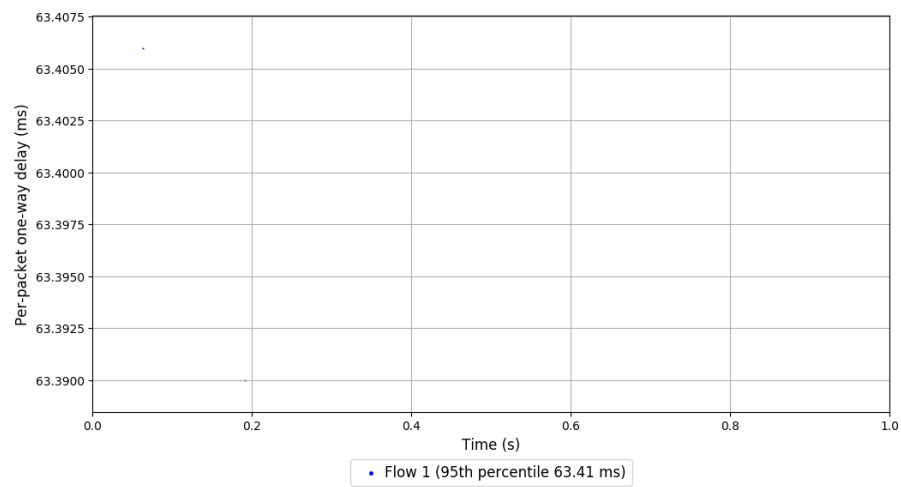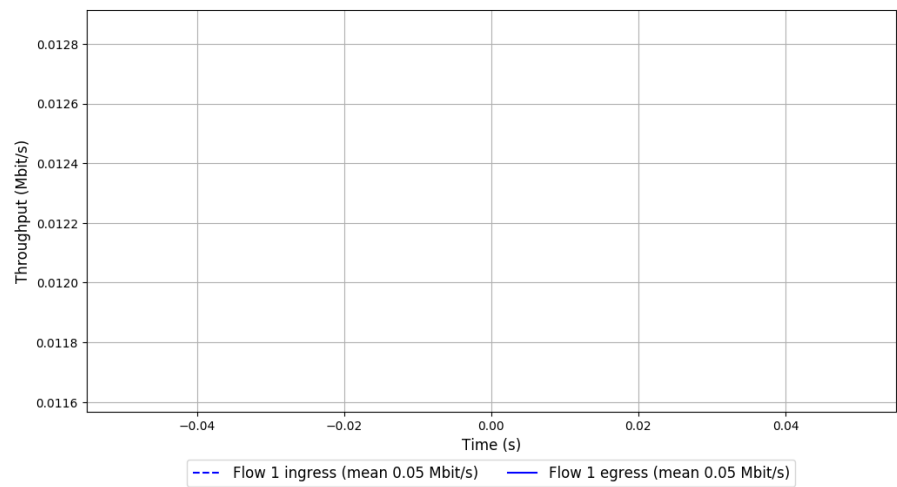
Run 9: Report of PCC — Data Link

```
Run 10: Statistics of PCC

Start at: 2017-08-17 07:50:35
End at: 2017-08-17 07:51:05

# Below is generated by plot.py at 2017-08-17 09:10:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 118.83 Mbit/s
95th percentile per-packet one-way delay: 63.633 ms
Loss rate: 5.54%
-- Flow 1:
Average throughput: 118.83 Mbit/s
95th percentile per-packet one-way delay: 63.633 ms
Loss rate: 5.54%
```
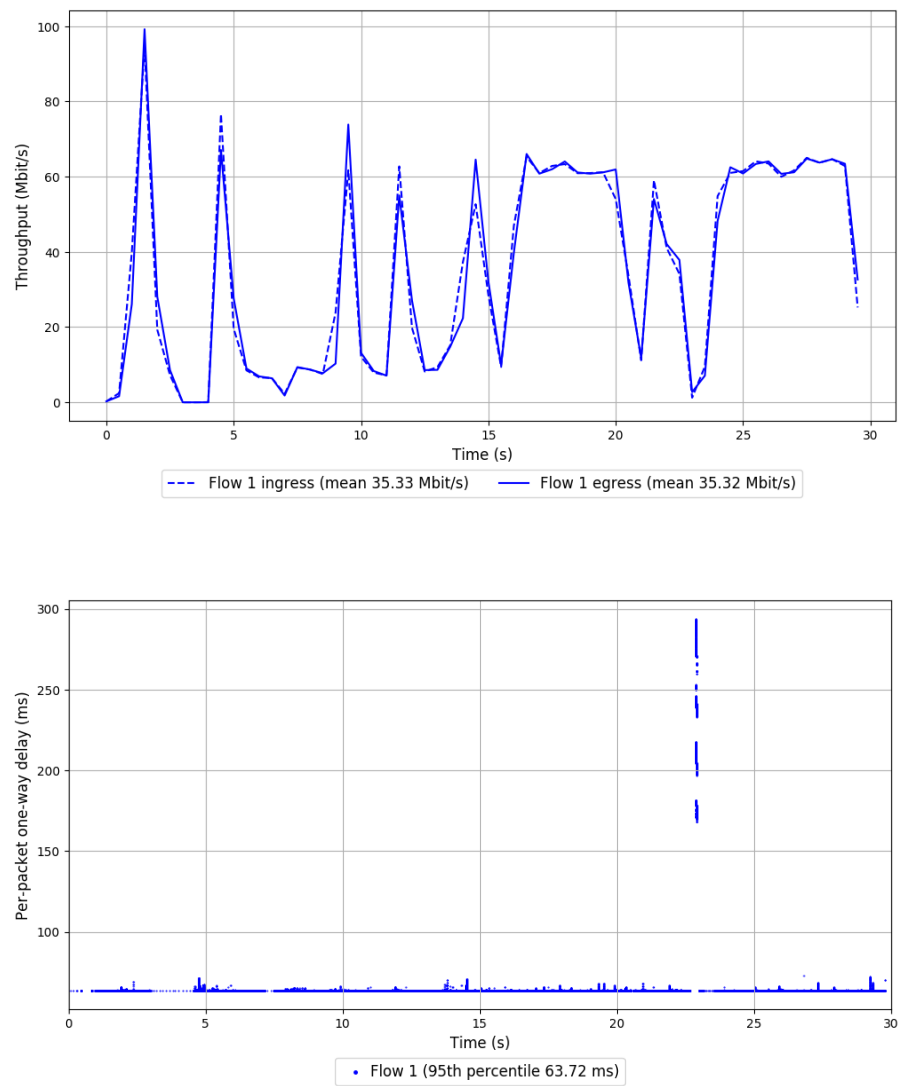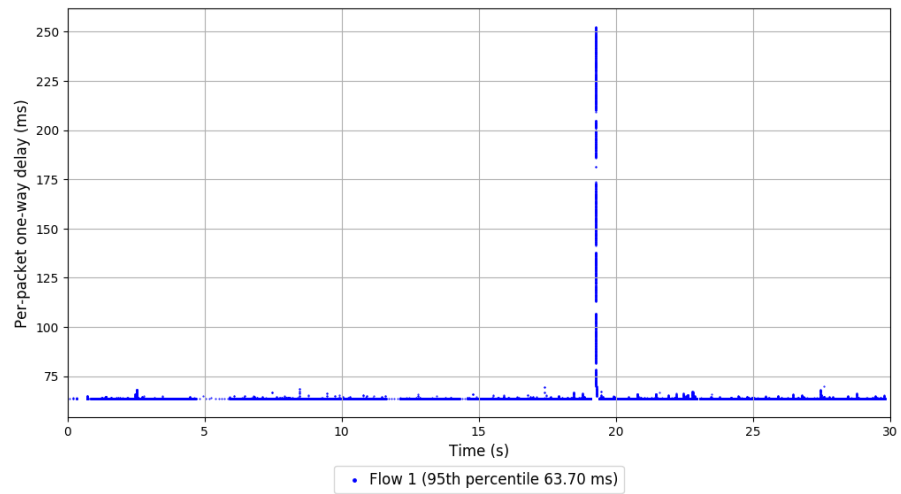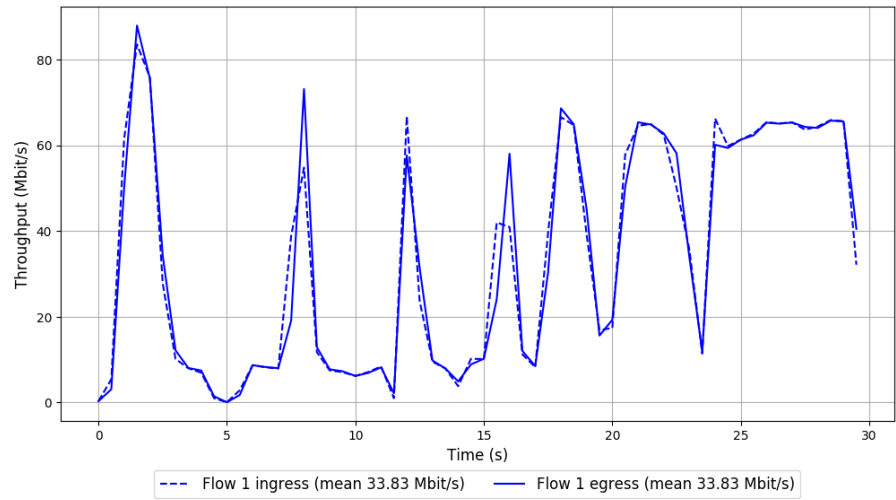
Run 10: Report of PCC — Data Link

Run 1: Statistics of QUIC Cubic

Start at: 2017-08-17 06:14:40
End at: 2017-08-17 06:15:10

Run 1: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 0.05 Mbit/s) --- Flow 1 egress (mean 0.05 Mbit/s)

Flow 1 (95th percentile 63.41 ms)

```
Run 2: Statistics of QUIC Cubic

Start at: 2017-08-17 06:24:56
End at: 2017-08-17 06:25:26

# Below is generated by plot.py at 2017-08-17 09:10:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 35.32 Mbit/s
95th percentile per-packet one-way delay: 63.717 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 35.32 Mbit/s
95th percentile per-packet one-way delay: 63.717 ms
Loss rate: 0.01%
```
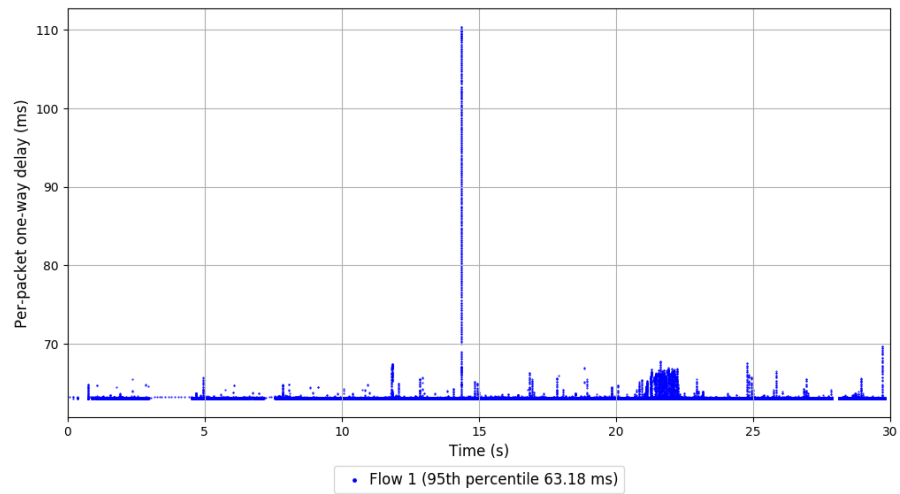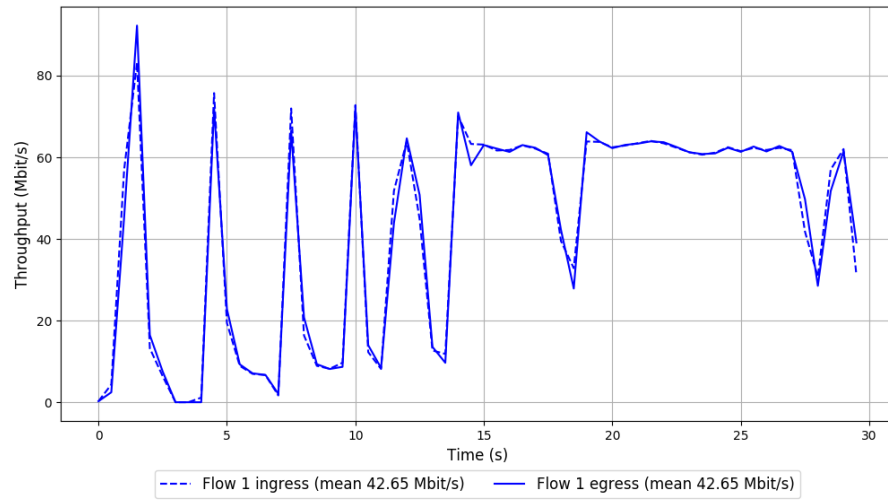
Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2017-08-17 06:35:30
End at: 2017-08-17 06:36:00

# Below is generated by plot.py at 2017-08-17 09:10:12
# Datalink statistics
-- Total of 1 flow:
Average throughput: 33.83 Mbit/s
95th percentile per-packet one-way delay: 63.698 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 33.83 Mbit/s
95th percentile per-packet one-way delay: 63.698 ms
Loss rate: 0.00%
```
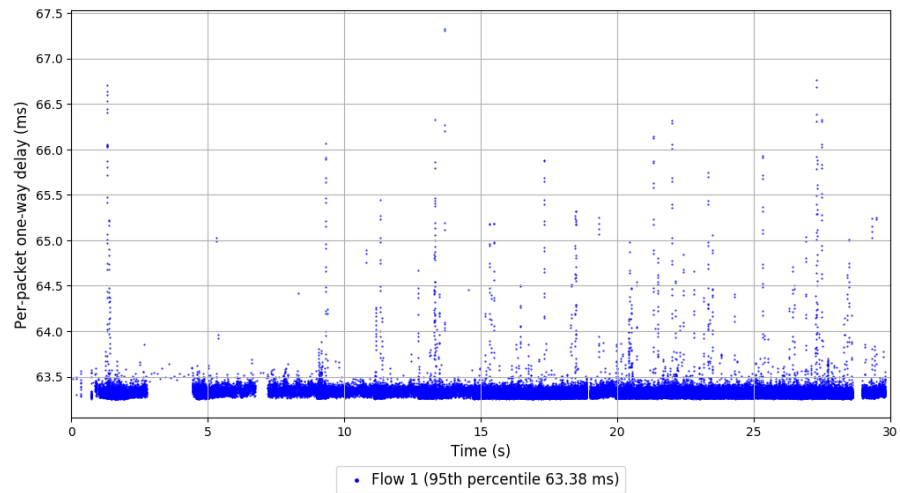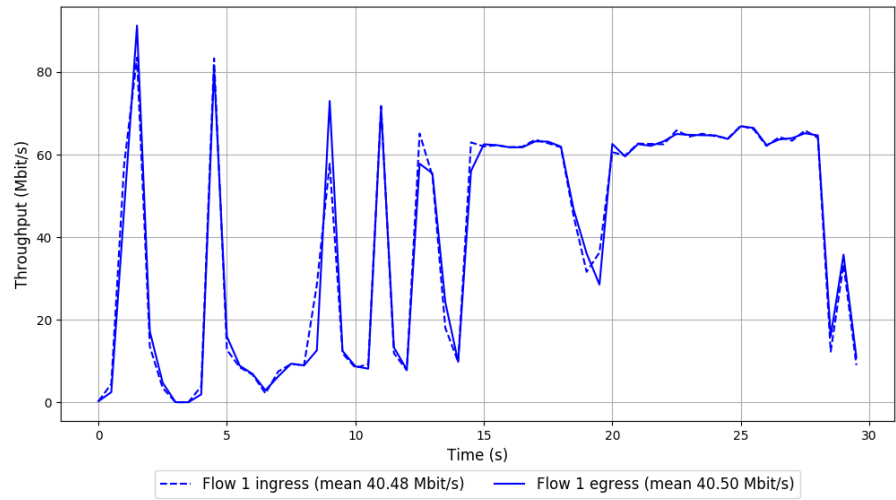
Run 3: Report of QUIC Cubic — Data Link

```
Run 4: Statistics of QUIC Cubic

Start at: 2017-08-17 06:46:05
End at: 2017-08-17 06:46:35


# Below is generated by plot.py at 2017-08-17 09:10:19
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.65 Mbit/s
95th percentile per-packet one-way delay: 63.181 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 42.65 Mbit/s
95th percentile per-packet one-way delay: 63.181 ms
Loss rate: 0.00%
```
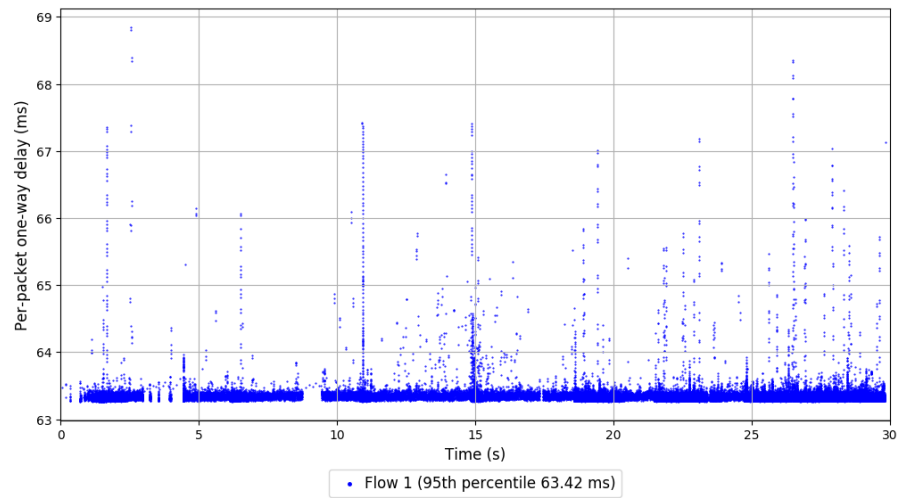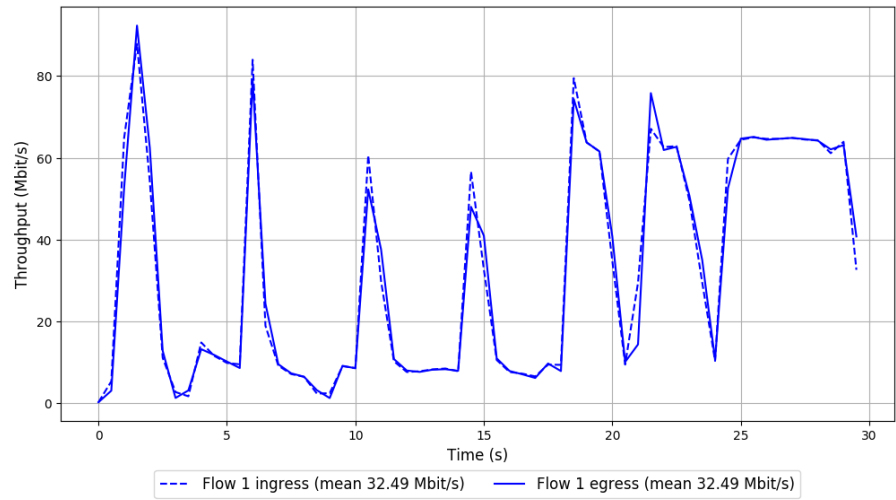
Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2017-08-17 06:56:37
End at: 2017-08-17 06:57:07

# Below is generated by plot.py at 2017-08-17 09:10:20
# Datalink statistics
-- Total of 1 flow:
Average throughput: 40.50 Mbit/s
95th percentile per-packet one-way delay: 63.383 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 40.50 Mbit/s
95th percentile per-packet one-way delay: 63.383 ms
Loss rate: 0.00%
```
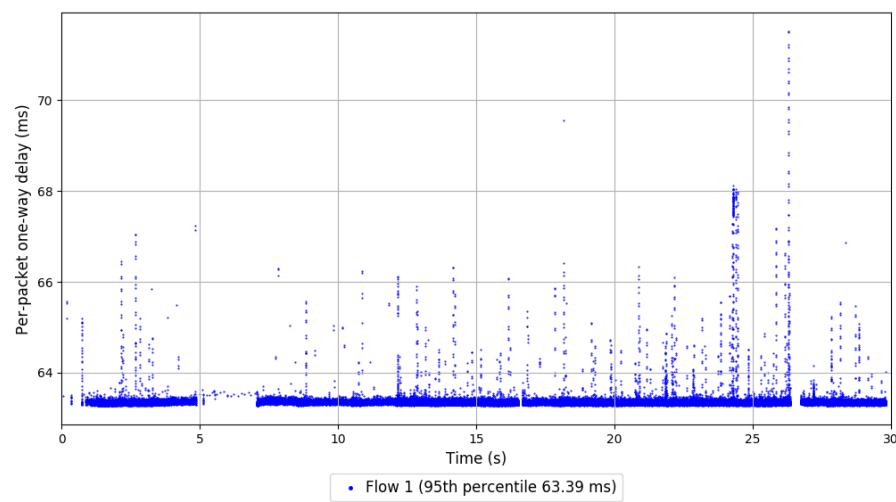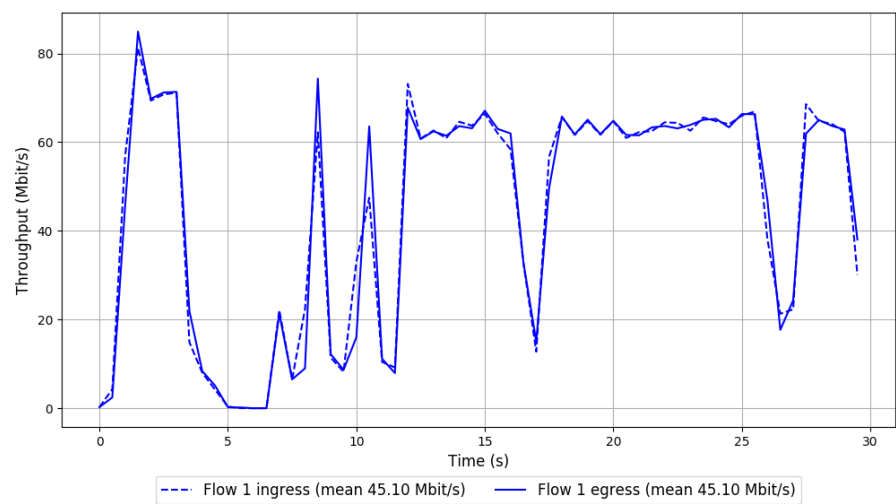
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 40.48 Mbit/s)   Flow 1 egress (mean 40.50 Mbit/s)

Flow 1 (95th percentile 63.38 ms)

```
Run 6: Statistics of QUIC Cubic

Start at: 2017-08-17 07:06:48
End at: 2017-08-17 07:07:18


# Below is generated by plot.py at 2017-08-17 09:10:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 32.49 Mbit/s
95th percentile per-packet one-way delay: 63.418 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 32.49 Mbit/s
95th percentile per-packet one-way delay: 63.418 ms
Loss rate: 0.00%
```
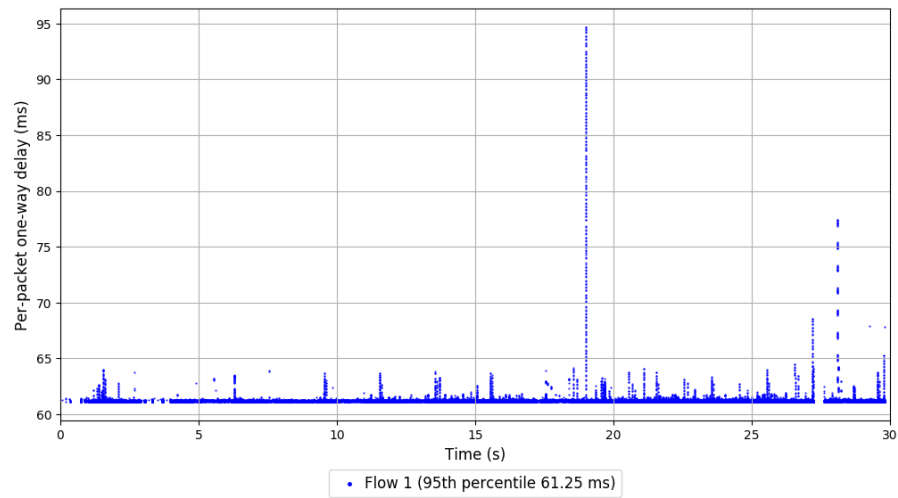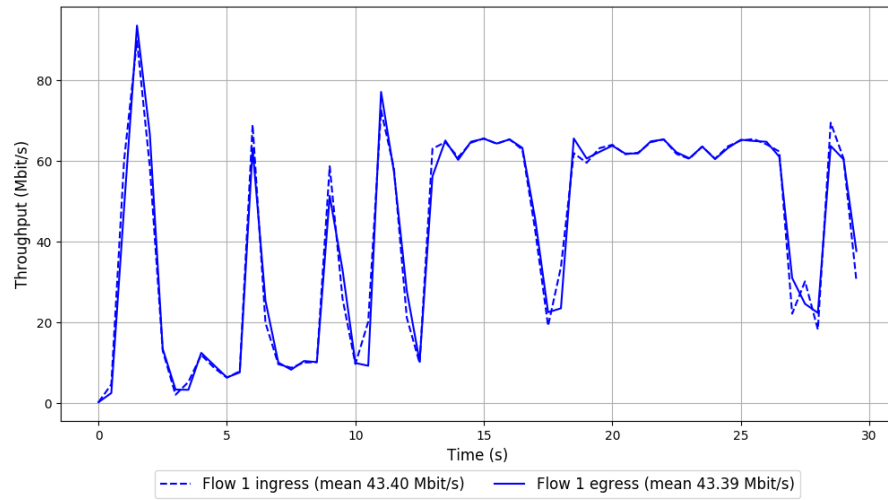
Run 6: Report of QUIC Cubic — Data Link

```
Run 7: Statistics of QUIC Cubic

Start at: 2017-08-17 07:17:02
End at: 2017-08-17 07:17:32

# Below is generated by plot.py at 2017-08-17 09:10:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 45.10 Mbit/s
95th percentile per-packet one-way delay: 63.390 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 45.10 Mbit/s
95th percentile per-packet one-way delay: 63.390 ms
Loss rate: 0.00%
```
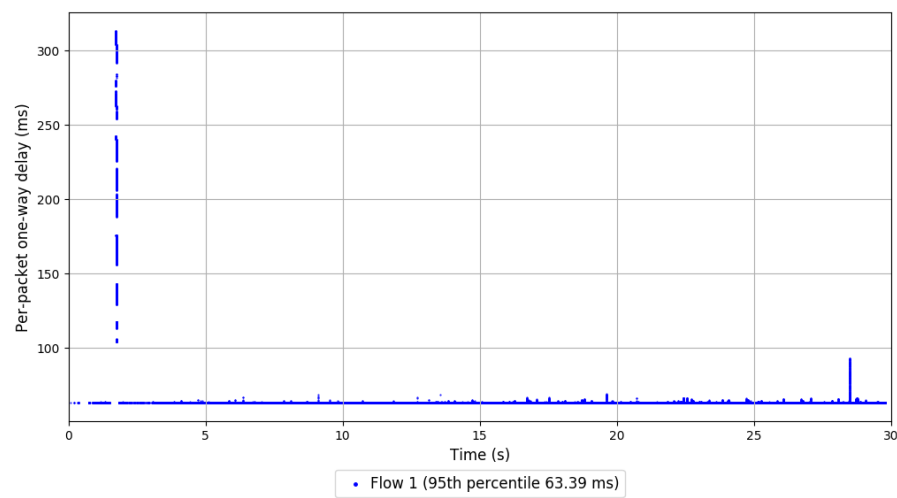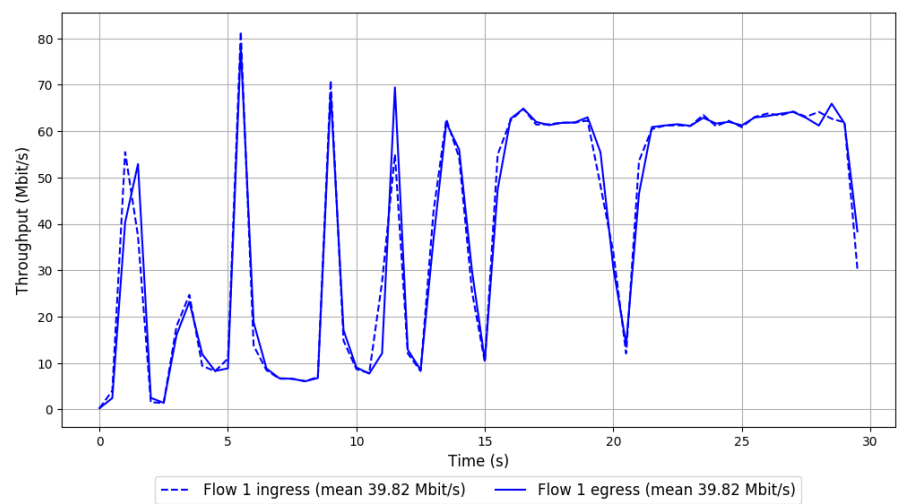
Run 7: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 45.10 Mbit/s)   Flow 1 egress (mean 45.10 Mbit/s)
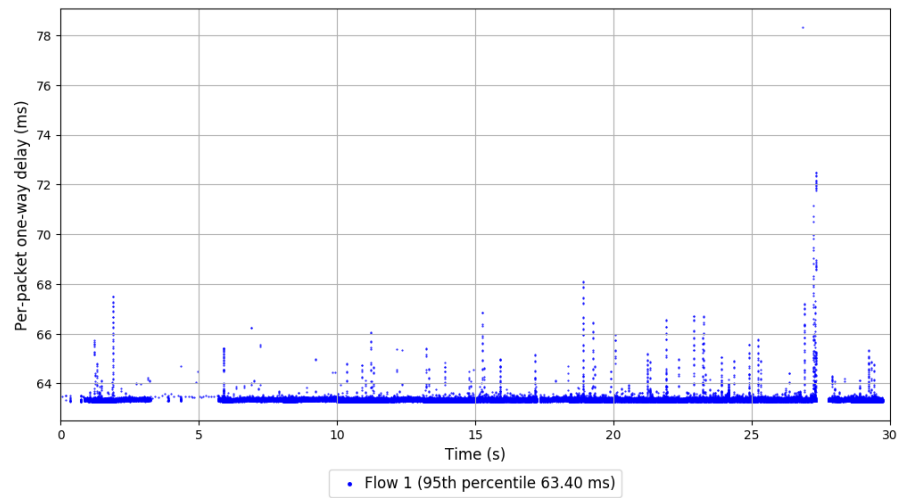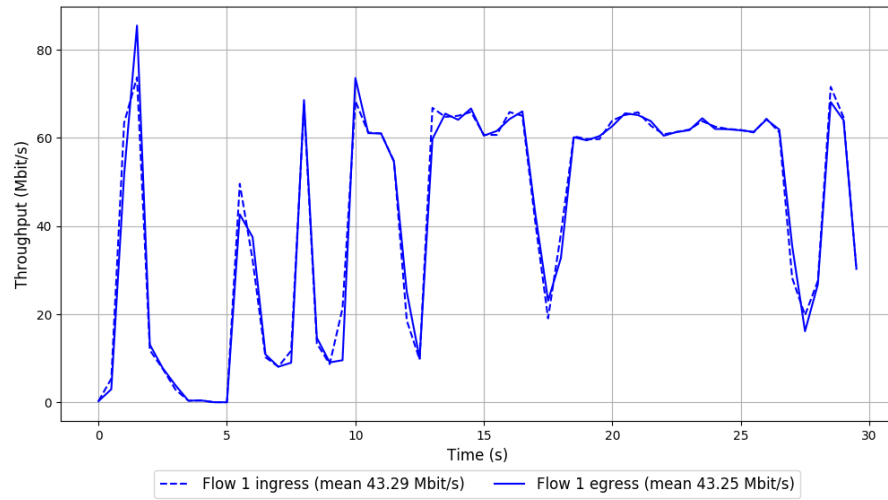

Flow 1 (95th percentile 63.39 ms)

```
Run 8: Statistics of QUIC Cubic

Start at: 2017-08-17 07:27:31
End at: 2017-08-17 07:28:01

# Below is generated by plot.py at 2017-08-17 09:10:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 43.39 Mbit/s
95th percentile per-packet one-way delay: 61.247 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 43.39 Mbit/s
95th percentile per-packet one-way delay: 61.247 ms
Loss rate: 0.00%
```
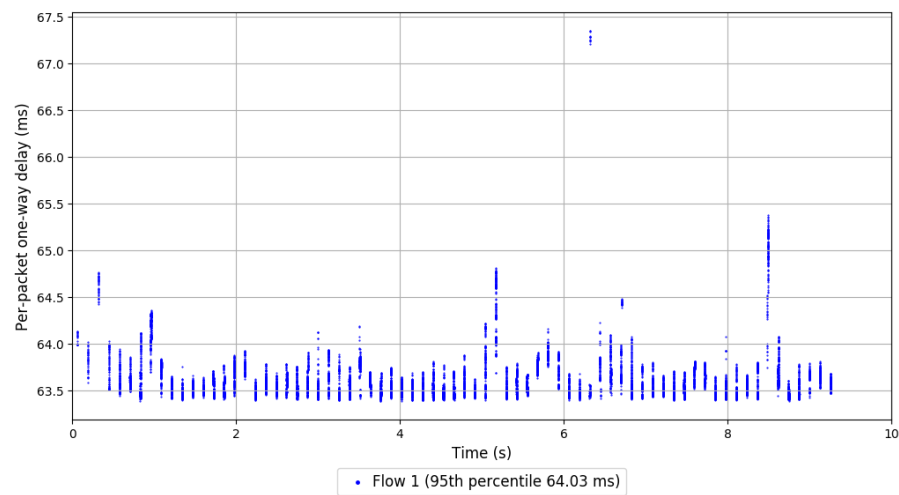
Run 8: Report of QUIC Cubic — Data Link

```
Run 9: Statistics of QUIC Cubic

Start at: 2017-08-17 07:37:48
End at: 2017-08-17 07:38:18

# Below is generated by plot.py at 2017-08-17 09:10:37
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.82 Mbit/s
95th percentile per-packet one-way delay: 63.393 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 39.82 Mbit/s
95th percentile per-packet one-way delay: 63.393 ms
Loss rate: 0.00%
```
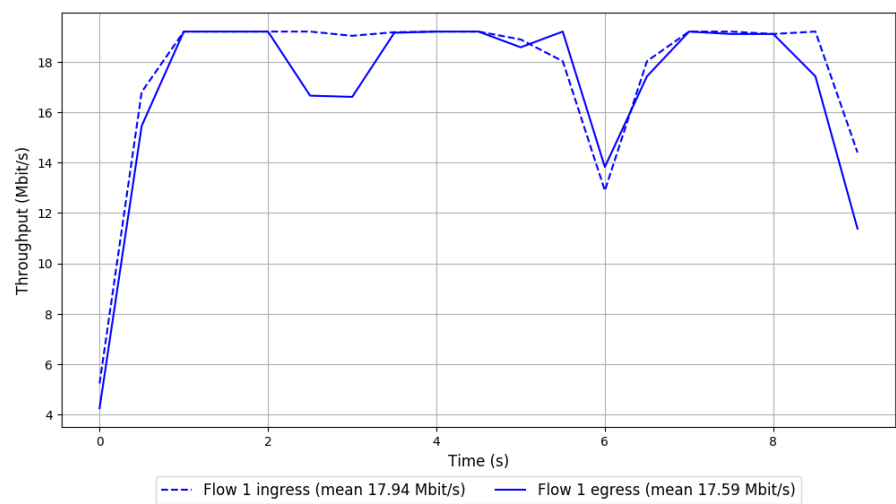
Run 9: Report of QUIC Cubic — Data Link

161

```
Run 10: Statistics of QUIC Cubic

Start at: 2017-08-17 07:47:49
End at: 2017-08-17 07:48:19


# Below is generated by plot.py at 2017-08-17 09:10:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 43.25 Mbit/s
95th percentile per-packet one-way delay: 63.397 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 43.25 Mbit/s
95th percentile per-packet one-way delay: 63.397 ms
Loss rate: 0.32%
```
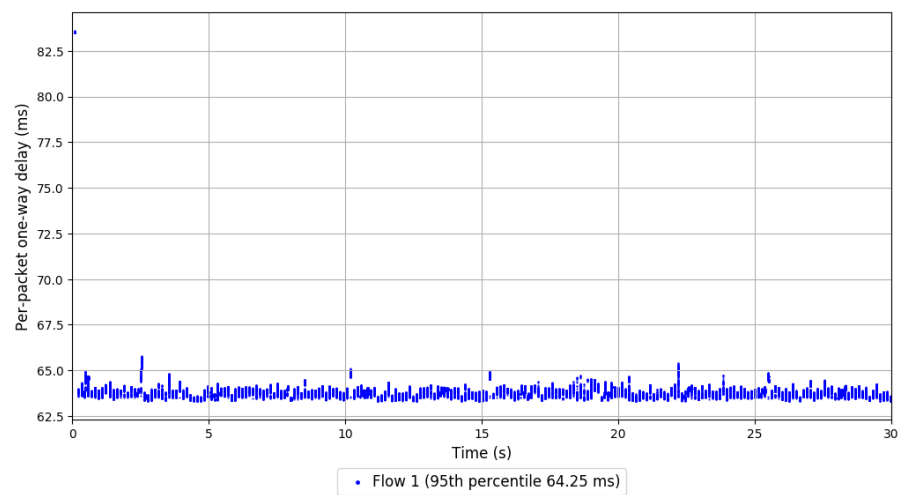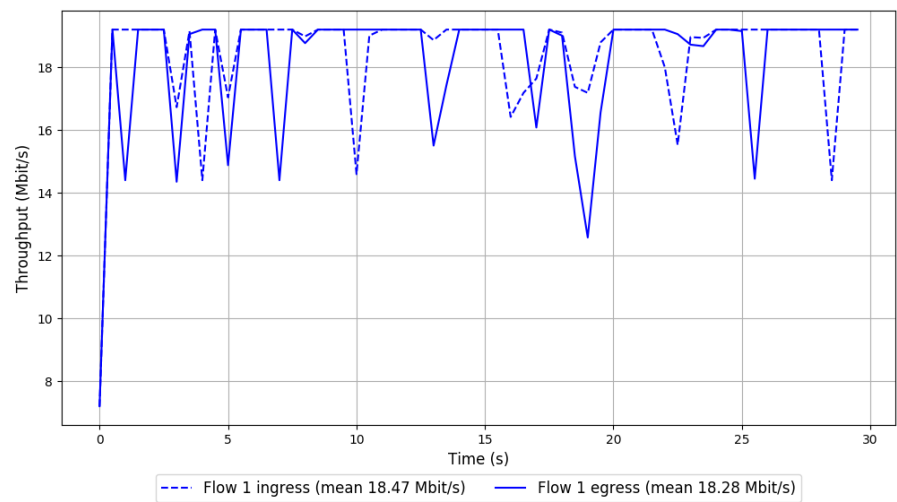
Run 10: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 43.29 Mbit/s) --- Flow 1 egress (mean 43.25 Mbit/s)
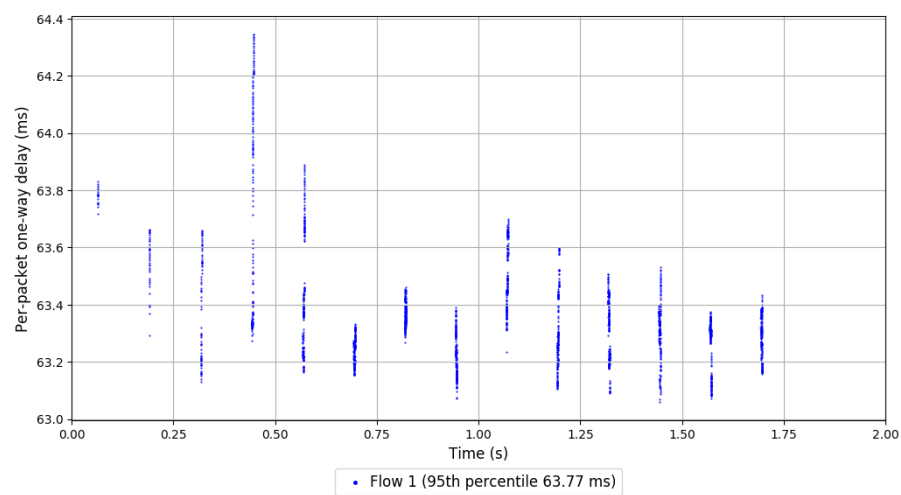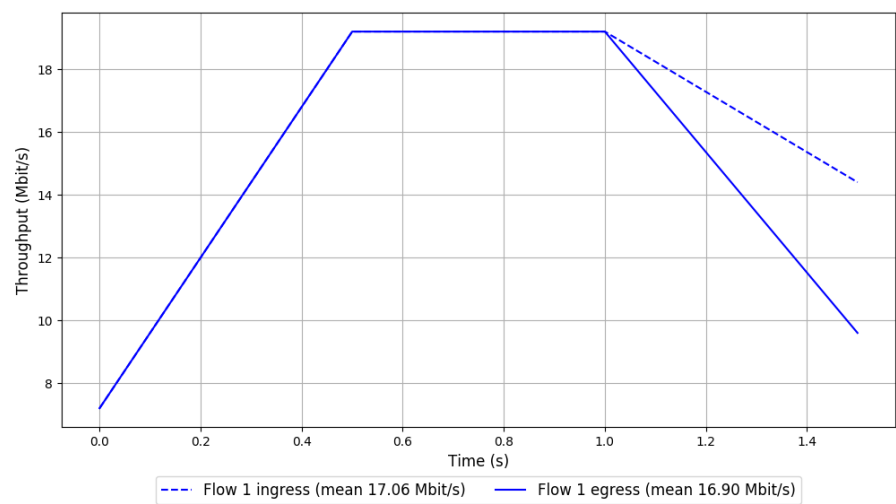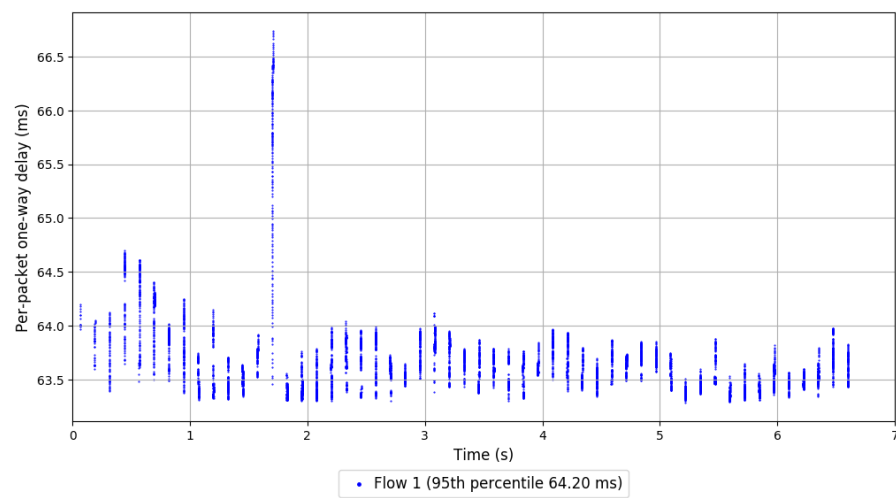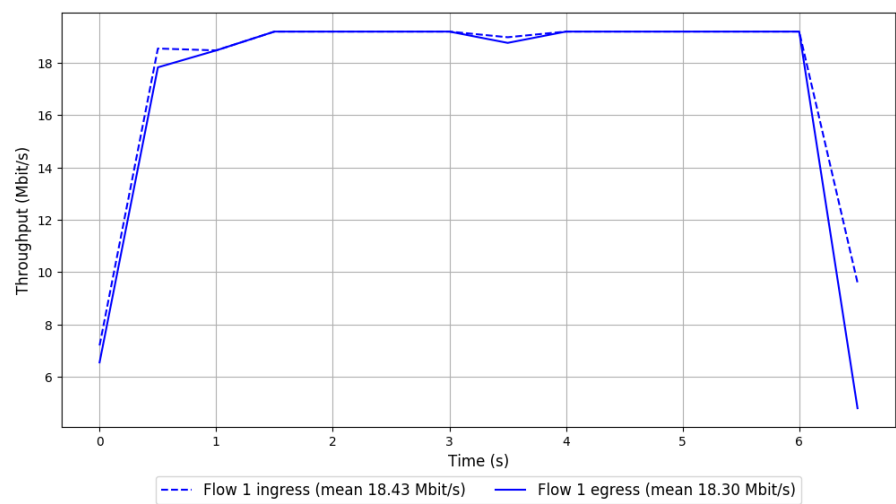

Flow 1 (95th percentile 63.40 ms)

Run 1: Statistics of Saturator

Start at: 2017-08-17 06:16:44
End at: 2017-08-17 06:17:14

Run 1: Report of Saturator — Data Link

```
Run 2: Statistics of Saturator

Start at: 2017-08-17 06:27:15
End at: 2017-08-17 06:27:45

# Below is generated by plot.py at 2017-08-17 09:10:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 18.28 Mbit/s
95th percentile per-packet one-way delay: 64.249 ms
Loss rate: 1.06%
-- Flow 1:
Average throughput: 18.28 Mbit/s
95th percentile per-packet one-way delay: 64.249 ms
Loss rate: 1.06%
```
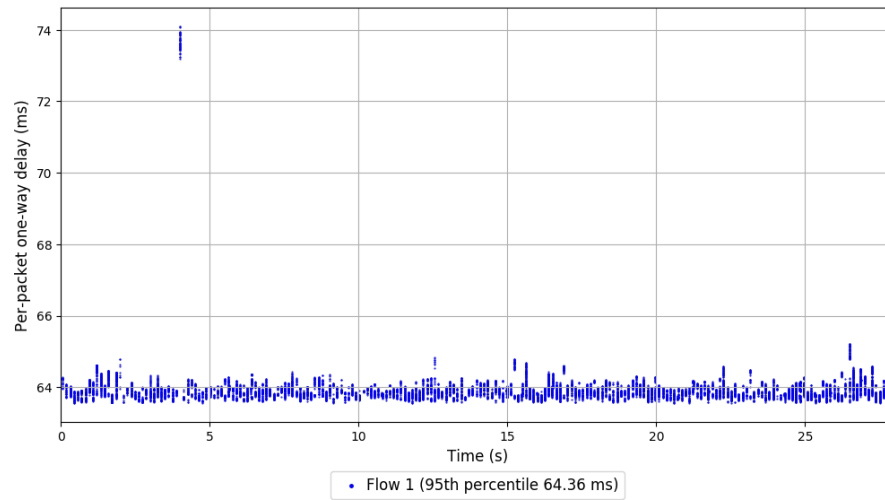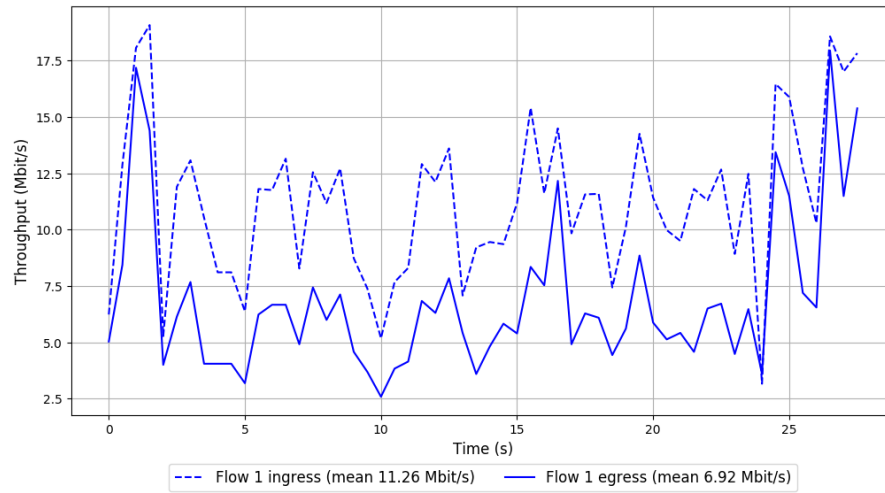
Run 2: Report of Saturator — Data Link

```
Run 3: Statistics of Saturator

Start at: 2017-08-17 06:37:48
End at: 2017-08-17 06:38:18
```

Run 3: Report of Saturator — Data Link

```
Run 4: Statistics of Saturator

Start at: 2017-08-17 06:48:13
End at: 2017-08-17 06:48:43
```

Run 4: Report of Saturator — Data Link

Flow 1 ingress (mean 18.43 Mbit/s)   Flow 1 egress (mean 18.30 Mbit/s)

Flow 1 (95th percentile 64.20 ms)

```
Run 5: Statistics of Saturator

Start at: 2017-08-17 06:58:38
End at: 2017-08-17 06:59:08

# Below is generated by plot.py at 2017-08-17 09:10:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.92 Mbit/s
95th percentile per-packet one-way delay: 64.361 ms
Loss rate: 38.89%
-- Flow 1:
Average throughput: 6.92 Mbit/s
95th percentile per-packet one-way delay: 64.361 ms
Loss rate: 38.89%
```

Run 5: Report of Saturator — Data Link

```
Run 6: Statistics of Saturator

Start at: 2017-08-17 07:08:54
End at: 2017-08-17 07:09:24


# Below is generated by plot.py at 2017-08-17 09:10:51
# Datalink statistics
-- Total of 1 flow:
Average throughput: 18.16 Mbit/s
95th percentile per-packet one-way delay: 64.156 ms
Loss rate: 1.19%
-- Flow 1:
Average throughput: 18.16 Mbit/s
95th percentile per-packet one-way delay: 64.156 ms
Loss rate: 1.19%
```
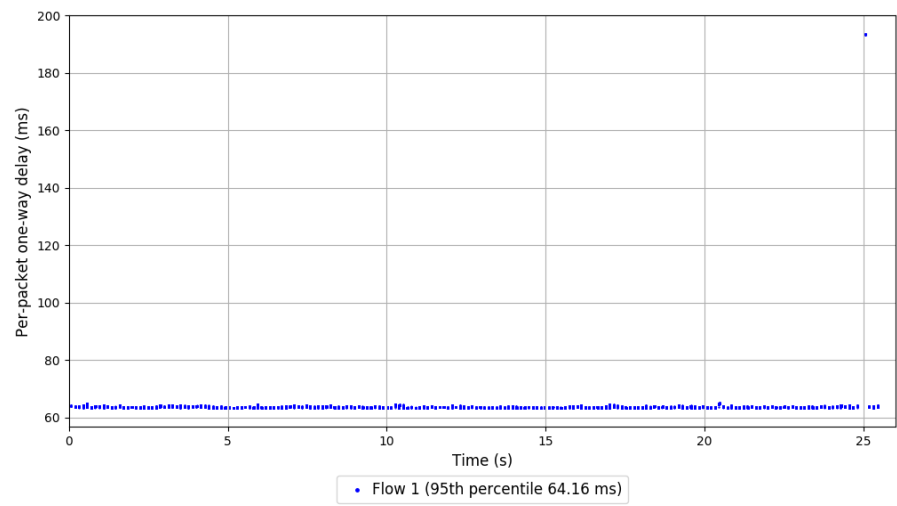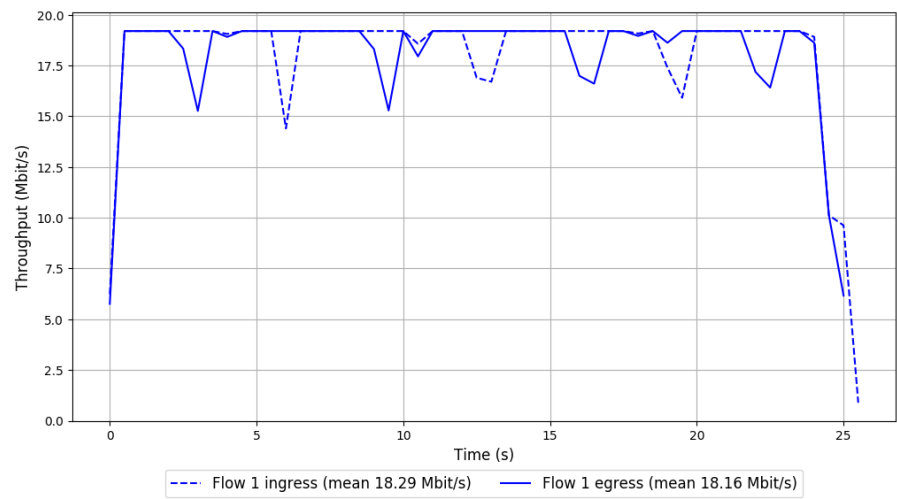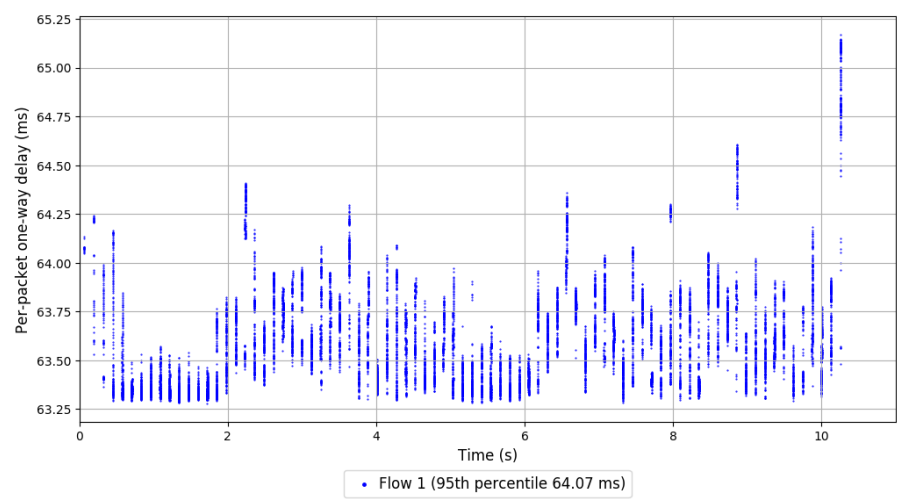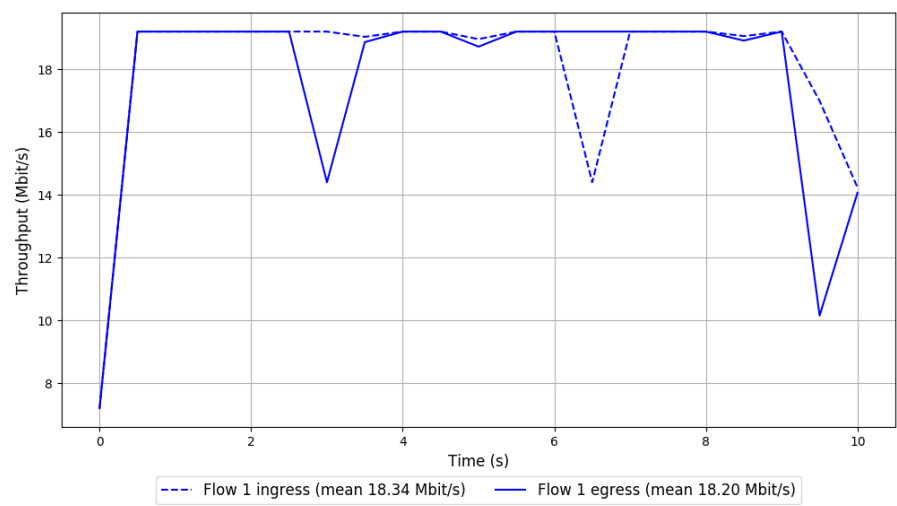
Run 6: Report of Saturator — Data Link

Flow 1 ingress (mean 18.29 Mbit/s) ---- Flow 1 egress (mean 18.16 Mbit/s) ——

• Flow 1 (95th percentile 64.16 ms)

Run 7: Statistics of Saturator

Start at: 2017-08-17 07:19:09
End at: 2017-08-17 07:19:39

Run 7: Report of Saturator — Data Link

Run 8: Statistics of Saturator

Start at: 2017-08-17 07:29:27
End at: 2017-08-17 07:29:57

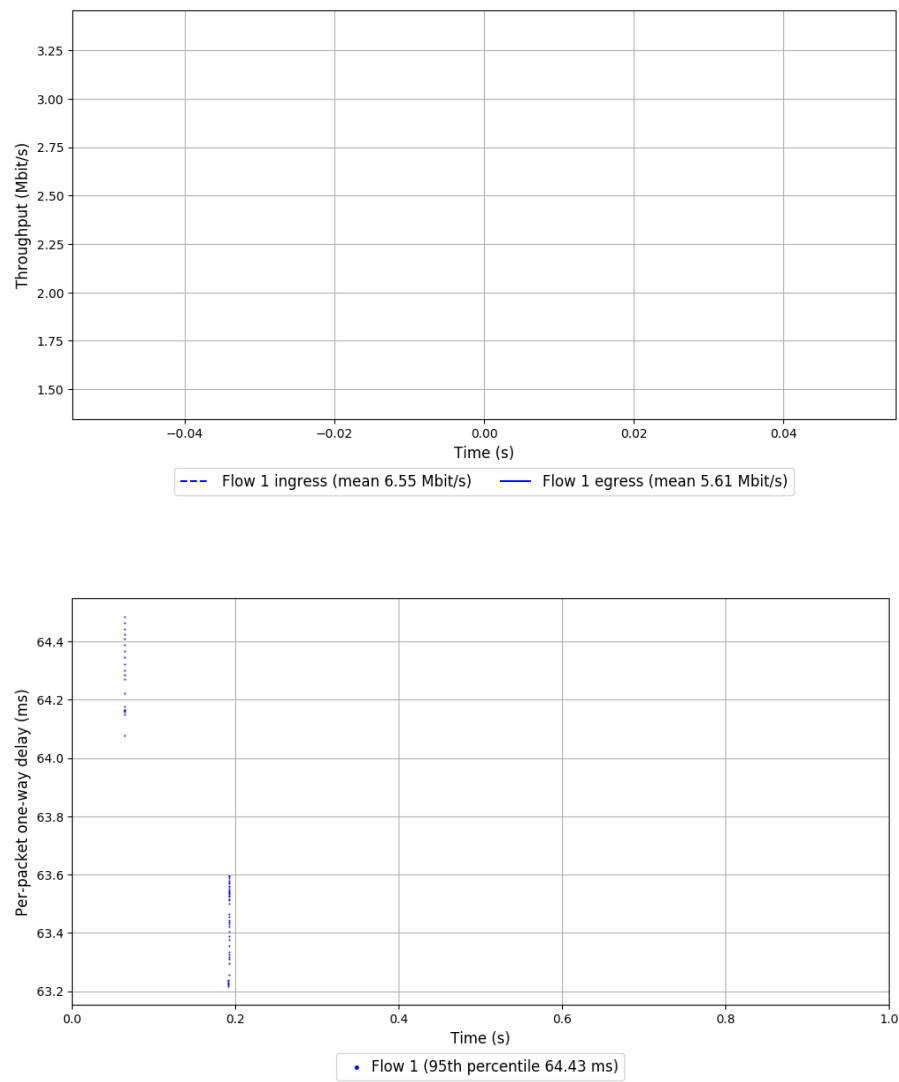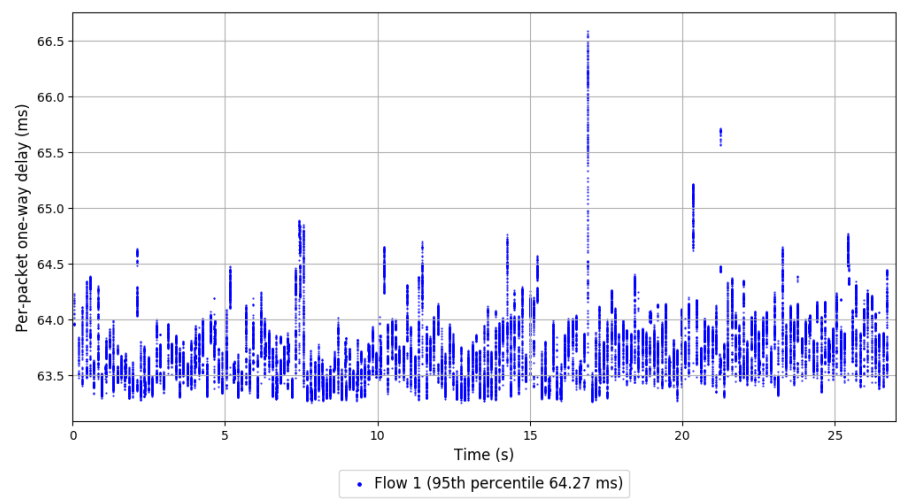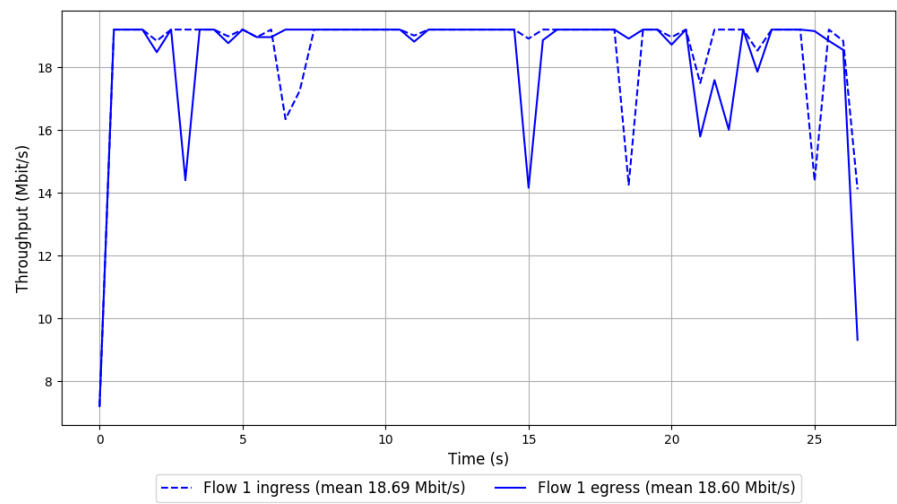## Run 8: Report of Saturator — Data Link

Flow 1 ingress (mean 6.55 Mbit/s) --- Flow 1 egress (mean 5.61 Mbit/s)

Flow 1 (95th percentile 64.43 ms)

```
Run 9: Statistics of Saturator

Start at: 2017-08-17 07:39:52
End at: 2017-08-17 07:40:22


# Below is generated by plot.py at 2017-08-17 09:10:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 18.60 Mbit/s
95th percentile per-packet one-way delay: 64.265 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 18.60 Mbit/s
95th percentile per-packet one-way delay: 64.265 ms
Loss rate: 0.95%
```
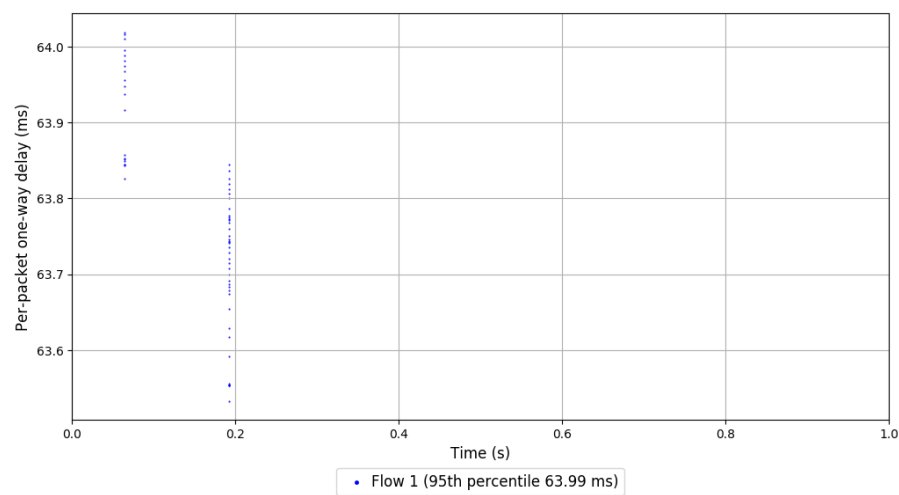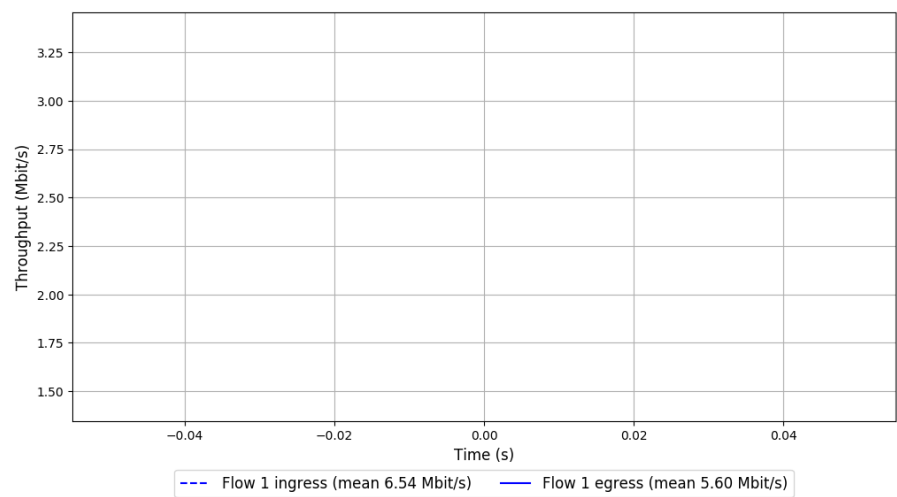
Run 9: Report of Saturator — Data Link

Flow 1 ingress (mean 18.69 Mbit/s) ----- Flow 1 egress (mean 18.60 Mbit/s)

• Flow 1 (95th percentile 64.27 ms)

Run 10: Statistics of Saturator

Start at: 2017-08-17 07:49:57
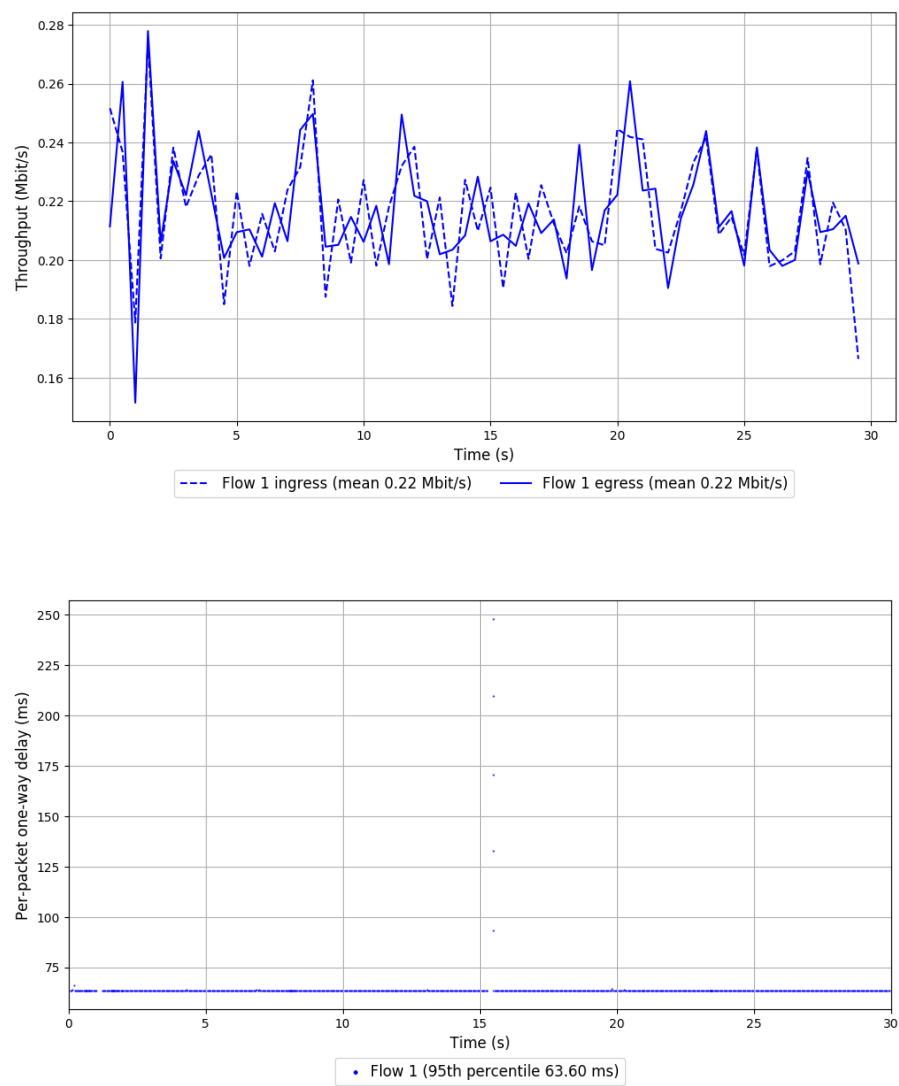End at: 2017-08-17 07:50:28

Run 10: Report of Saturator — Data Link

Flow 1 ingress (mean 6.54 Mbit/s) — Flow 1 egress (mean 5.60 Mbit/s)

Flow 1 (95th percentile 63.99 ms)

```
Run 1: Statistics of SCReAM

Start at: 2017-08-17 06:18:04
End at: 2017-08-17 06:18:34

# Below is generated by plot.py at 2017-08-17 09:10:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.601 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.601 ms
Loss rate: 0.00%
```
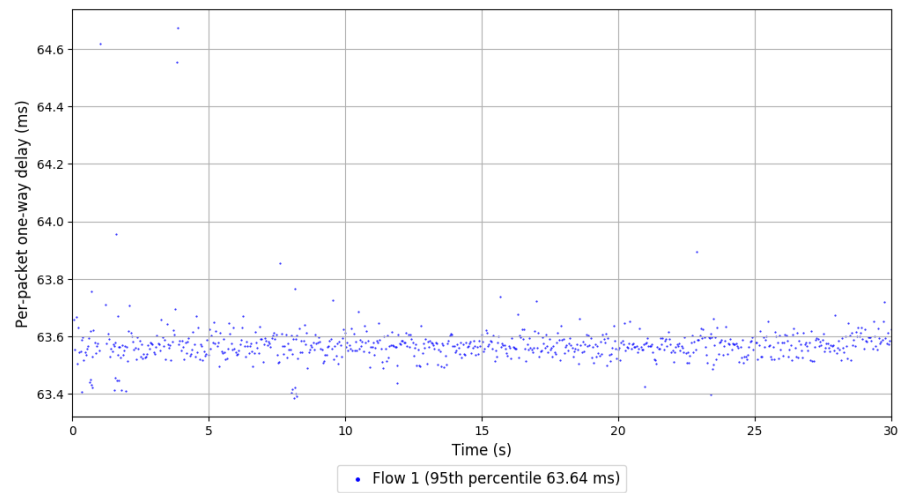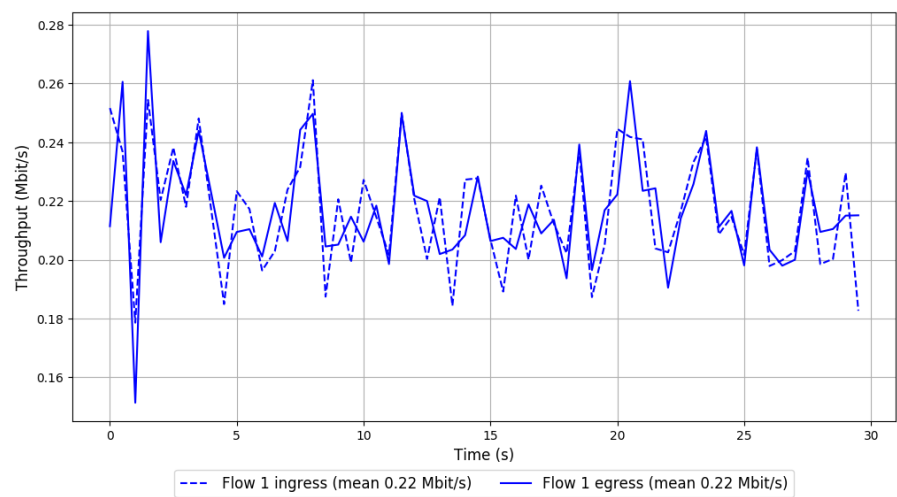
Run 1: Report of SCReAM — Data Link

185

```
Run 2: Statistics of SCReAM

Start at: 2017-08-17 06:28:44
End at: 2017-08-17 06:29:14

# Below is generated by plot.py at 2017-08-17 09:10:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.637 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.637 ms
Loss rate: 0.00%
```
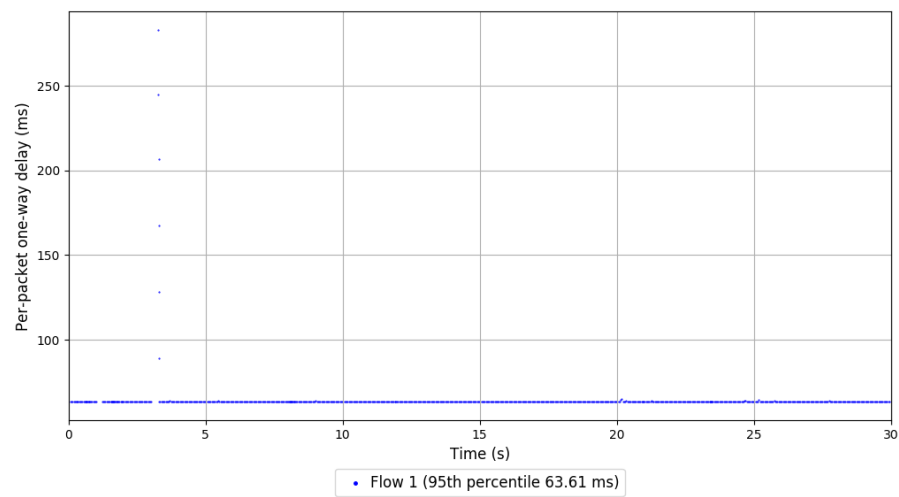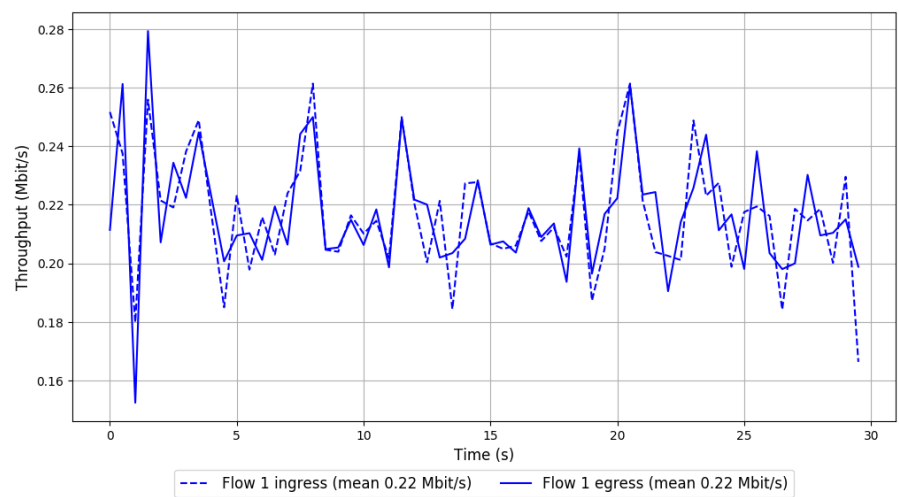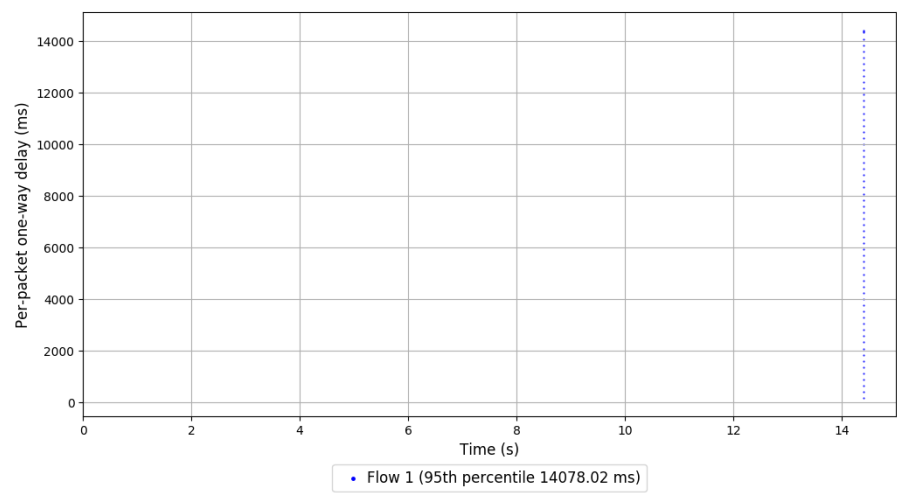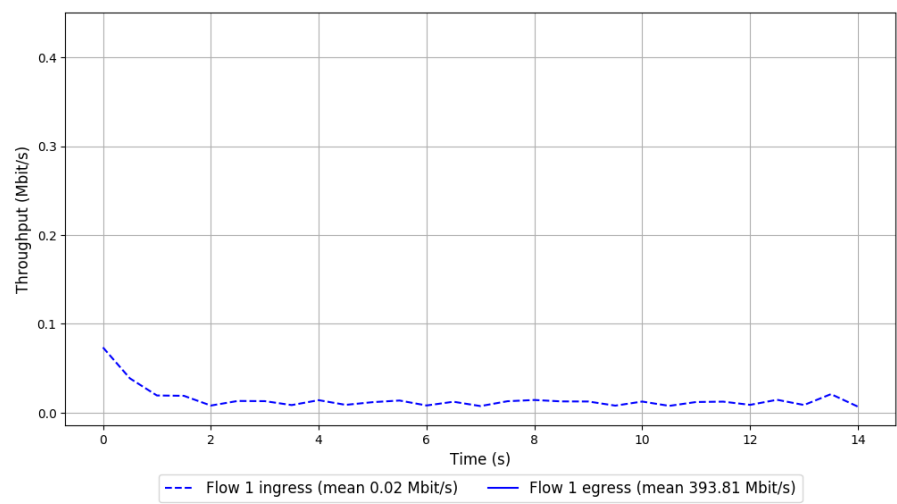
Run 2: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 63.64 ms)

```
Run 3: Statistics of SCReAM

Start at: 2017-08-17 06:39:17
End at: 2017-08-17 06:39:47

# Below is generated by plot.py at 2017-08-17 09:10:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.610 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.610 ms
Loss rate: 0.00%
```

Run 3: Report of SCReAM — Data Link

```
Run 4: Statistics of SCReAM

Start at: 2017-08-17 06:49:33
End at: 2017-08-17 06:50:03
```
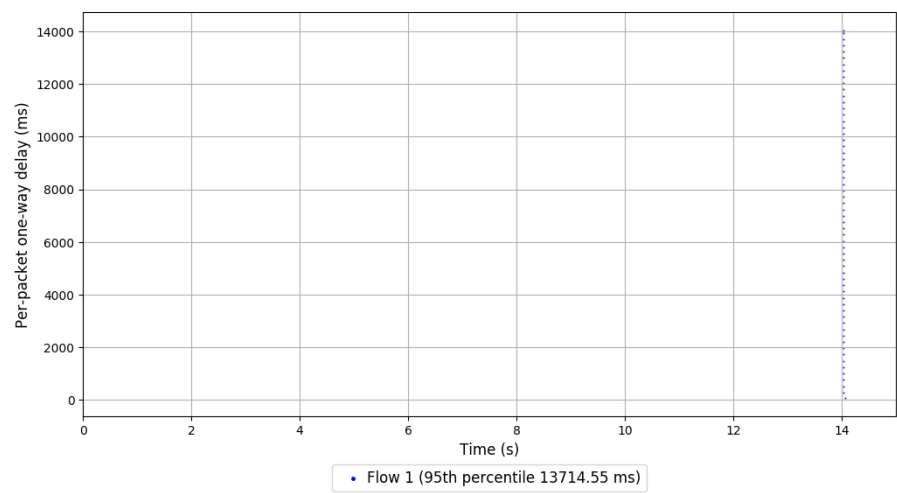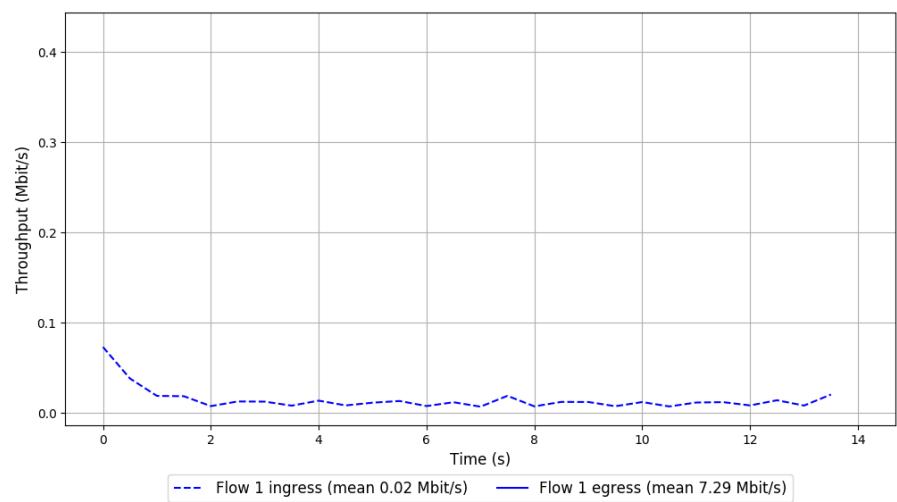
Run 4: Report of SCReAM — Data Link

Run 5: Statistics of SCReAM

Start at: 2017-08-17 07:00:06
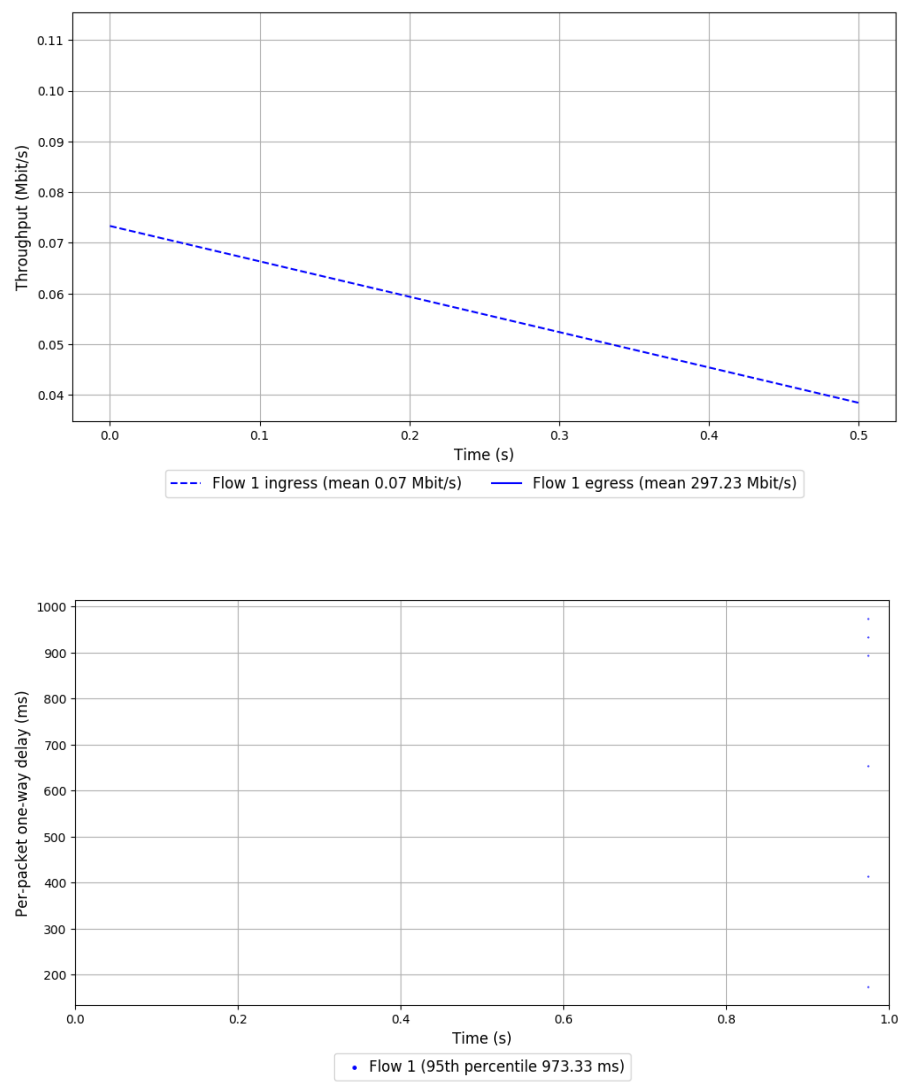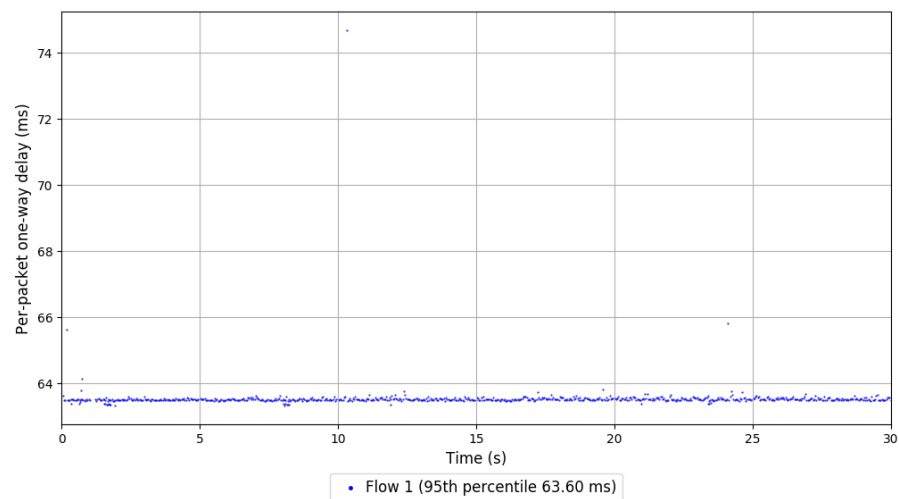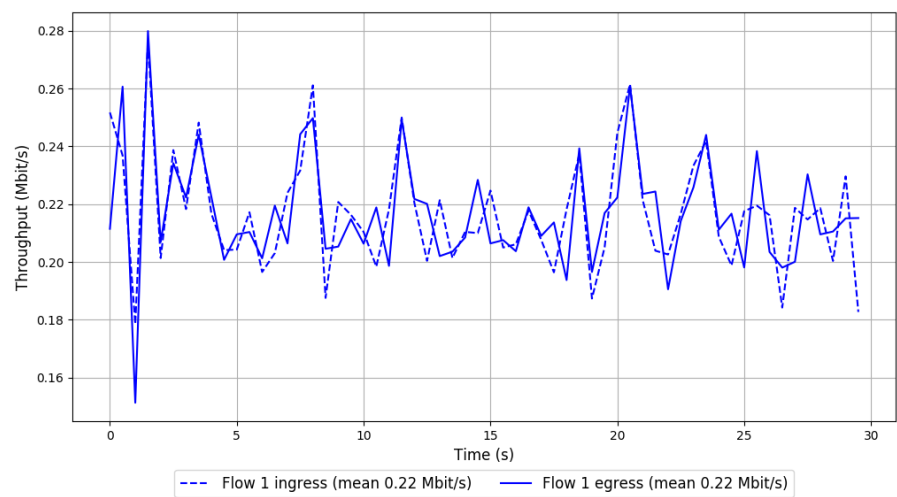End at: 2017-08-17 07:00:36

Run 5: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.02 Mbit/s)   Flow 1 egress (mean 7.29 Mbit/s)

Flow 1 (95th percentile 13714.55 ms)

Run 6: Statistics of SCReAM

Start at: 2017-08-17 07:10:28
End at: 2017-08-17 07:10:58

Run 6: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.07 Mbit/s) — — — — Flow 1 egress (mean 297.23 Mbit/s)

· Flow 1 (95th percentile 973.33 ms)

```
Run 7: Statistics of SCReAM

Start at: 2017-08-17 07:20:40
End at: 2017-08-17 07:21:10

# Below is generated by plot.py at 2017-08-17 09:10:59
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.605 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.605 ms
Loss rate: 0.00%
```
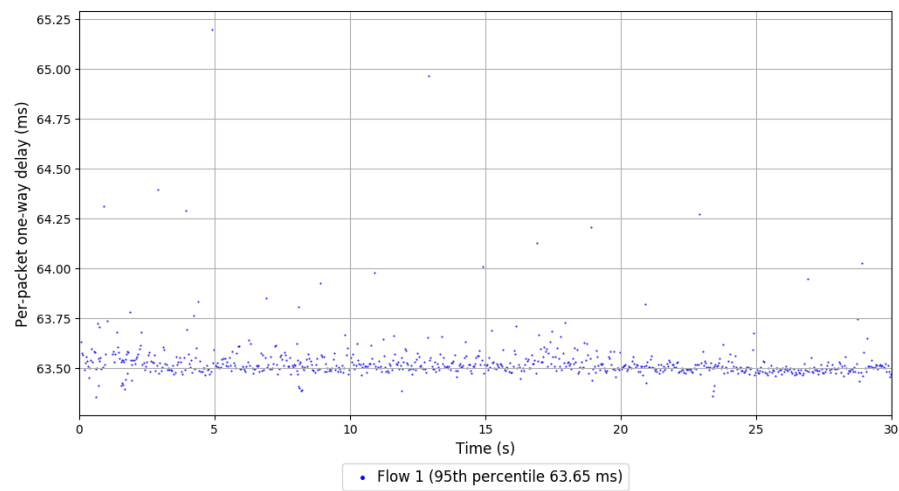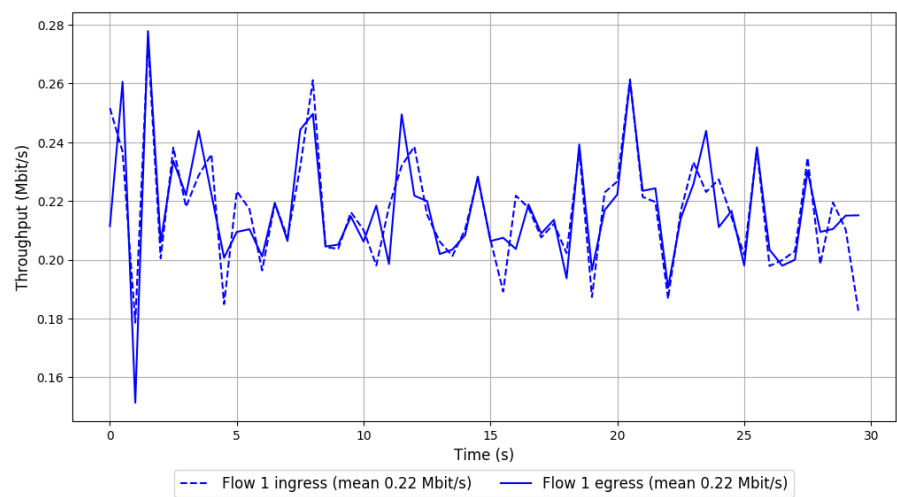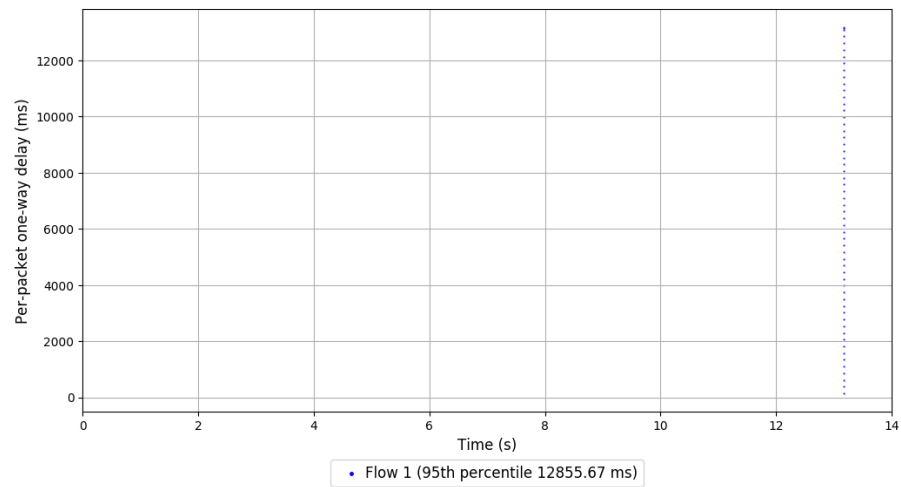
Run 7: Report of SCReAM — Data Link

```
Run 8: Statistics of SCReAM

Start at: 2017-08-17 07:31:00
End at: 2017-08-17 07:31:30


# Below is generated by plot.py at 2017-08-17 09:11:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.646 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.646 ms
Loss rate: 0.00%
```

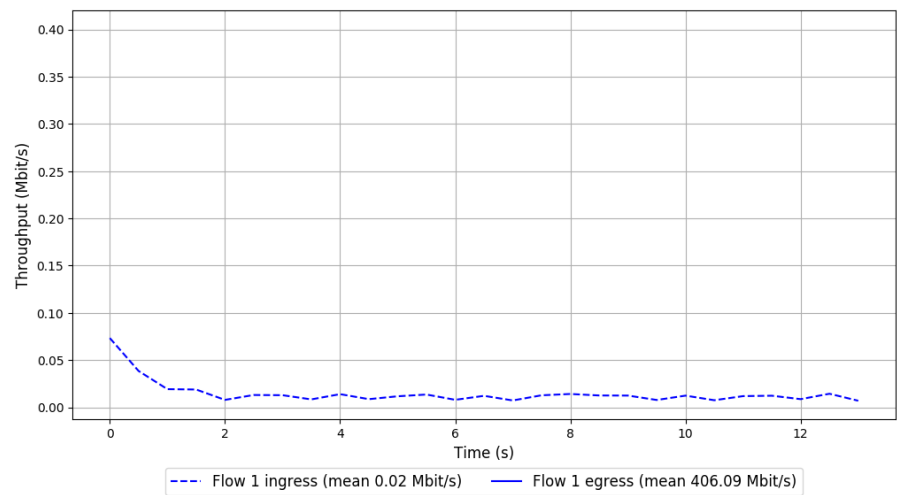Run 8: Report of SCReAM — Data Link

```
Run 9: Statistics of SCReAM

Start at: 2017-08-17 07:41:15
End at: 2017-08-17 07:41:45
```

Run 9: Report of SCReAM — Data Link

```
Run 10: Statistics of SCReAM

Start at: 2017-08-17 07:51:17
End at: 2017-08-17 07:51:47


# Below is generated by plot.py at 2017-08-17 09:11:01
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.641 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 63.641 ms
Loss rate: 0.00%
```
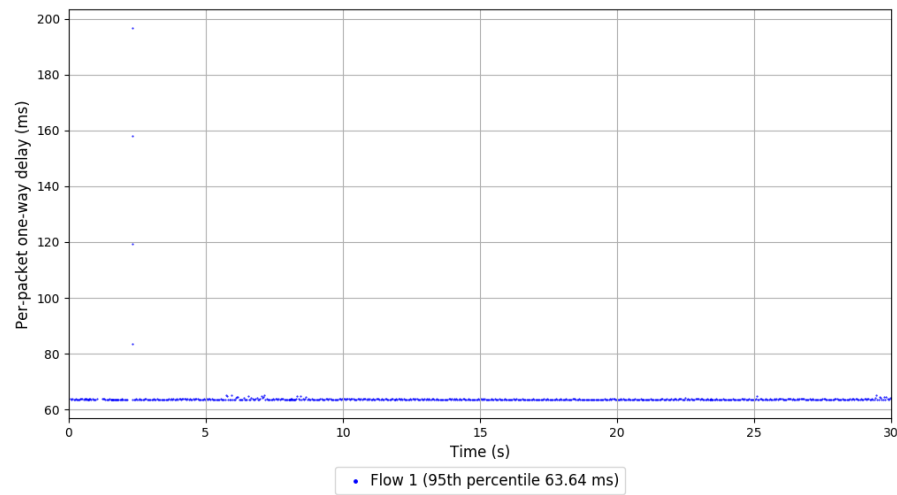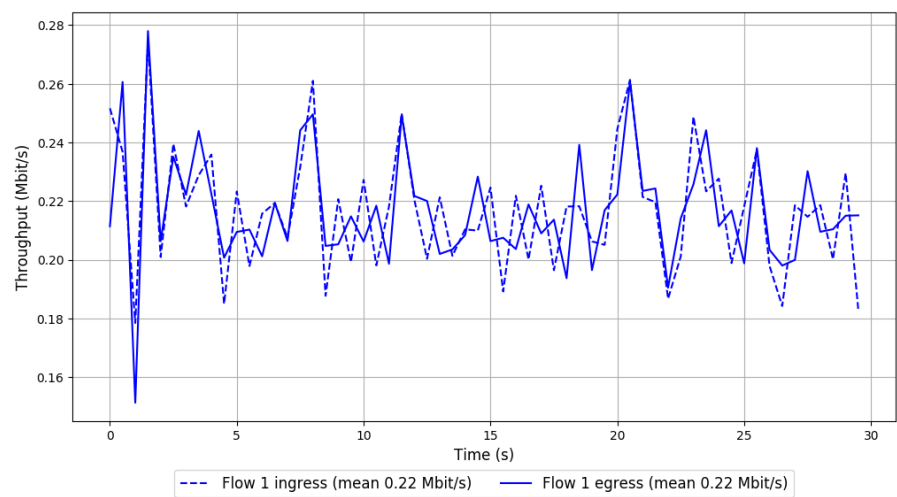
Run 10: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 63.64 ms)

```
Run 1: Statistics of Sprout

Start at: 2017-08-17 06:21:43
End at: 2017-08-17 06:22:13

# Below is generated by plot.py at 2017-08-17 09:11:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.77 Mbit/s
95th percentile per-packet one-way delay: 63.980 ms
Loss rate: 4.15%
-- Flow 1:
Average throughput: 5.77 Mbit/s
95th percentile per-packet one-way delay: 63.980 ms
Loss rate: 4.15%
```
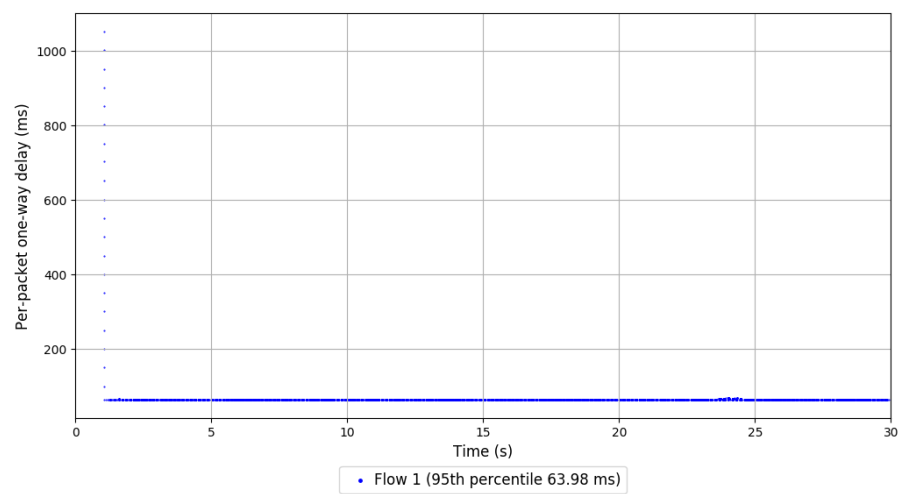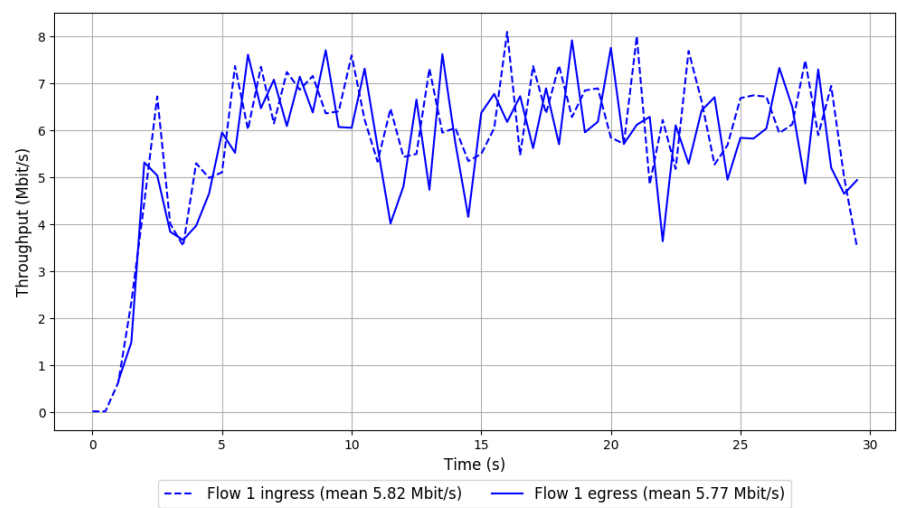
Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2017-08-17 06:32:15
End at: 2017-08-17 06:32:45

# Below is generated by plot.py at 2017-08-17 09:11:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 65.763 ms
Loss rate: 15.05%
-- Flow 1:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 65.763 ms
Loss rate: 15.05%
```
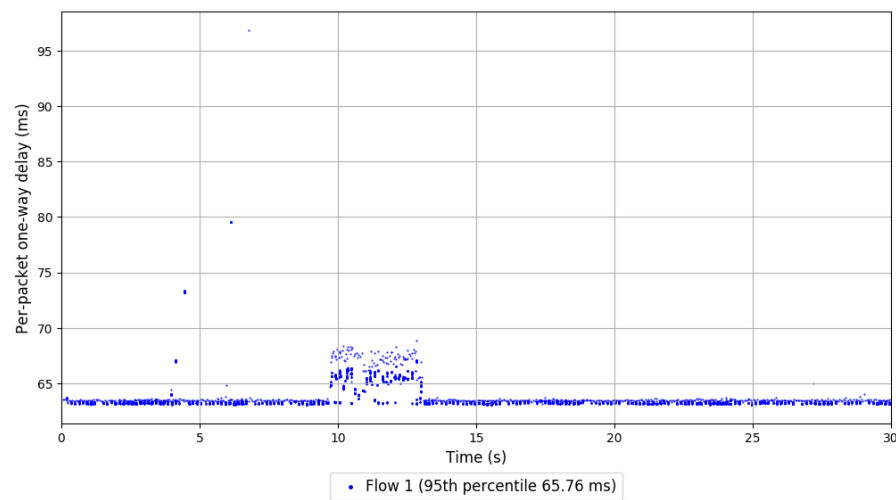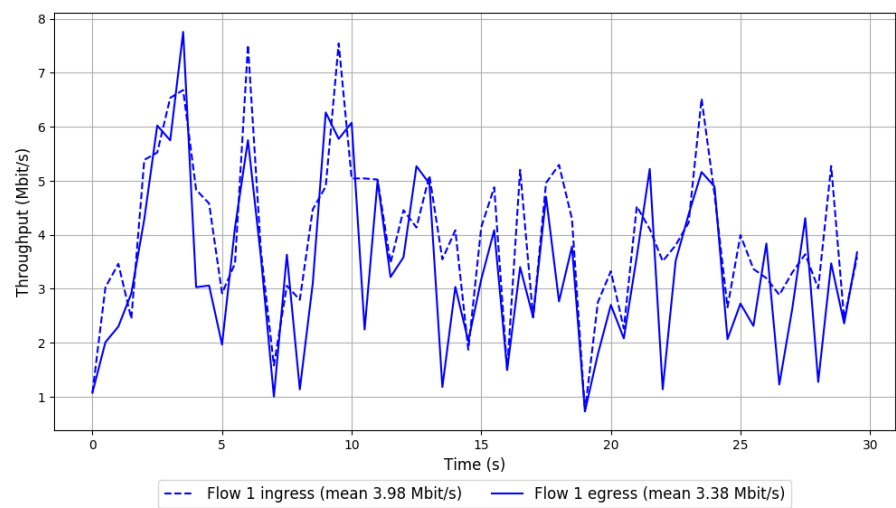
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2017-08-17 06:42:50
End at: 2017-08-17 06:43:20

# Below is generated by plot.py at 2017-08-17 09:11:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.05 Mbit/s
95th percentile per-packet one-way delay: 63.865 ms
Loss rate: 3.66%
-- Flow 1:
Average throughput: 6.05 Mbit/s
95th percentile per-packet one-way delay: 63.865 ms
Loss rate: 3.66%
```
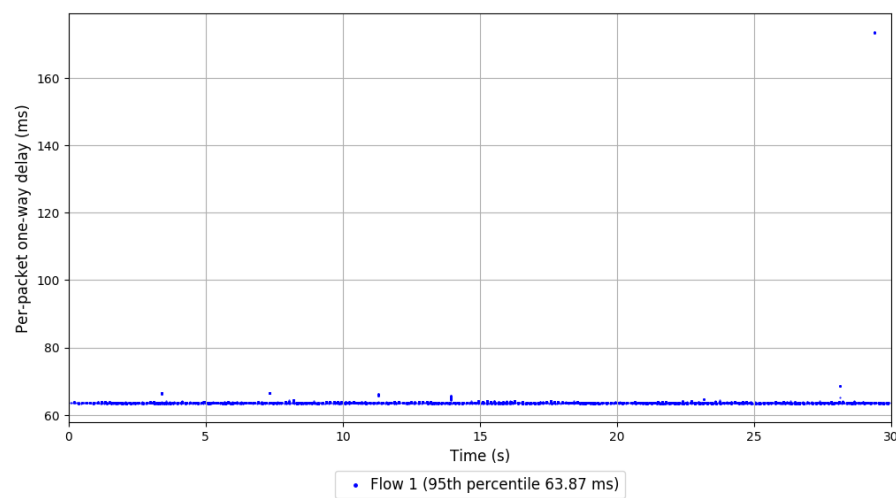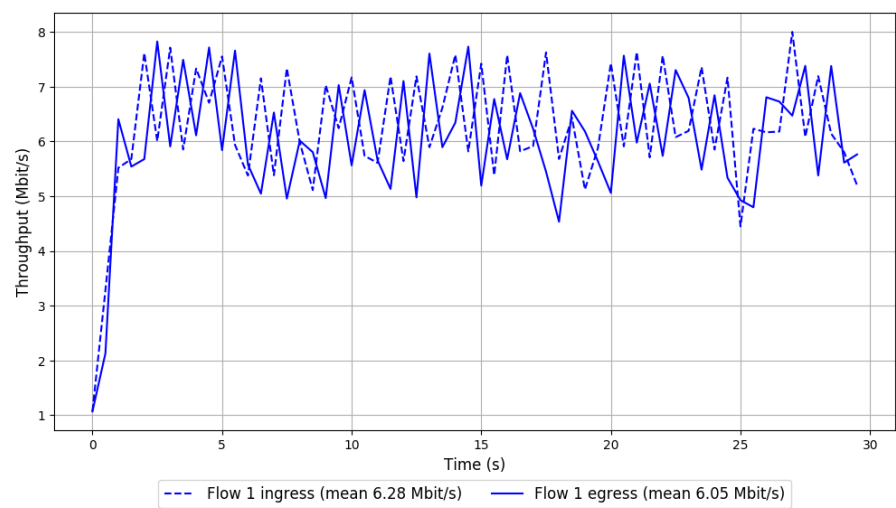
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2017-08-17 06:53:16
End at: 2017-08-17 06:53:46

# Below is generated by plot.py at 2017-08-17 09:11:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.76 Mbit/s
95th percentile per-packet one-way delay: 63.814 ms
Loss rate: 4.37%
-- Flow 1:
Average throughput: 5.76 Mbit/s
95th percentile per-packet one-way delay: 63.814 ms
Loss rate: 4.37%
```
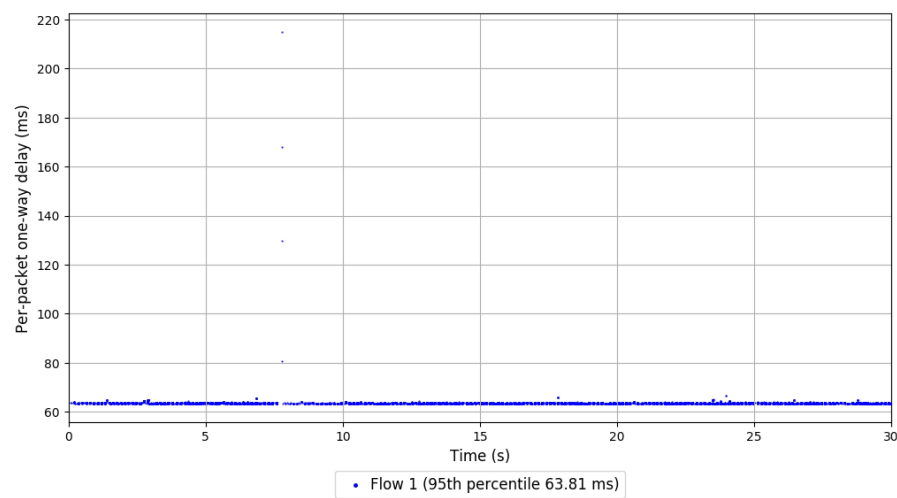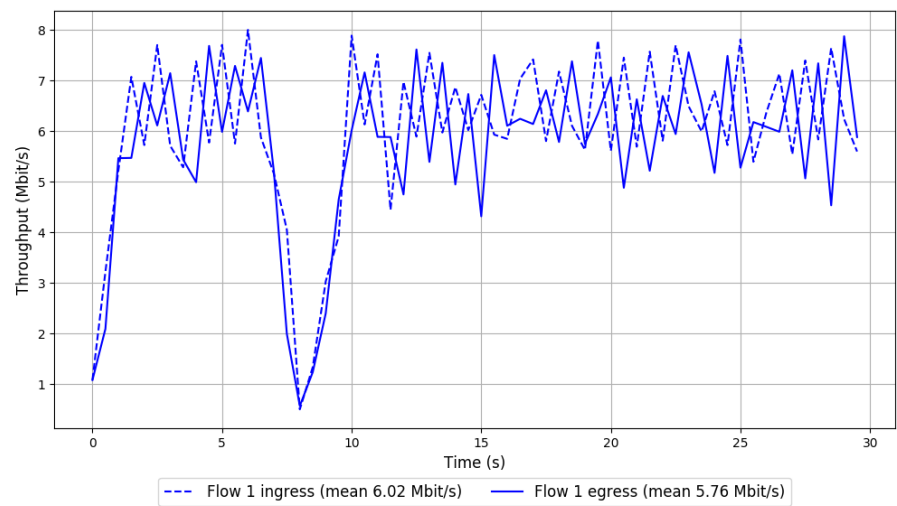
Run 4: Report of Sprout — Data Link

Flow 1 ingress (mean 6.02 Mbit/s)   Flow 1 egress (mean 5.76 Mbit/s)

Flow 1 (95th percentile 63.81 ms)

```
Run 5: Statistics of Sprout

Start at: 2017-08-17 07:03:27
End at: 2017-08-17 07:03:57


# Below is generated by plot.py at 2017-08-17 09:11:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.89 Mbit/s
95th percentile per-packet one-way delay: 63.798 ms
Loss rate: 2.72%
-- Flow 1:
Average throughput: 5.89 Mbit/s
95th percentile per-packet one-way delay: 63.798 ms
Loss rate: 2.72%
```
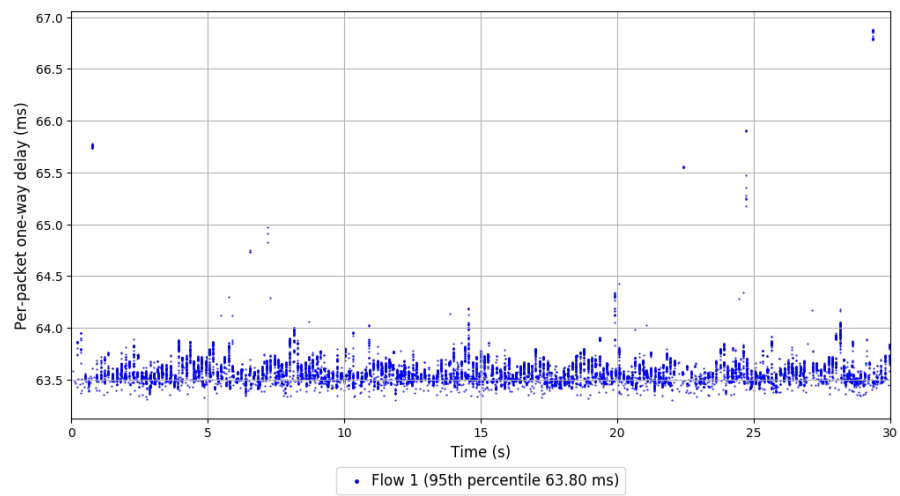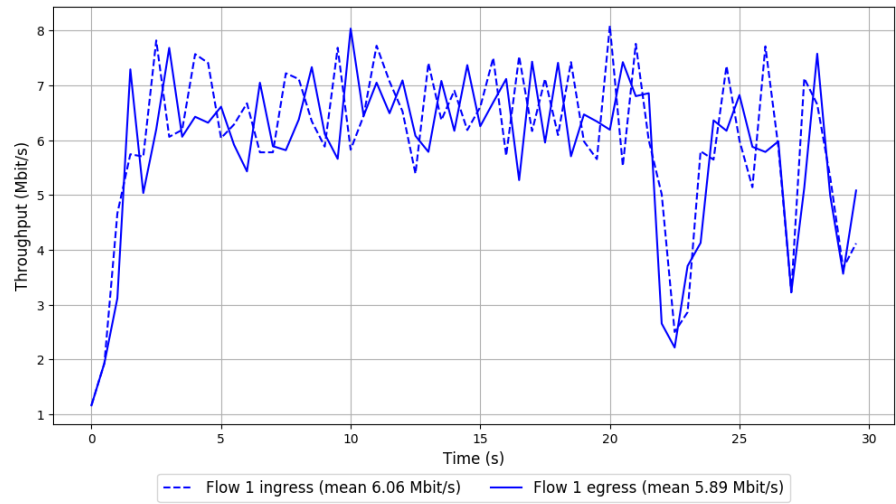
Run 5: Report of Sprout — Data Link

```
Run 6: Statistics of Sprout

Start at: 2017-08-17 07:13:52
End at: 2017-08-17 07:14:22

# Below is generated by plot.py at 2017-08-17 09:11:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.47 Mbit/s
95th percentile per-packet one-way delay: 66.582 ms
Loss rate: 11.98%
-- Flow 1:
Average throughput: 3.47 Mbit/s
95th percentile per-packet one-way delay: 66.582 ms
Loss rate: 11.98%
```
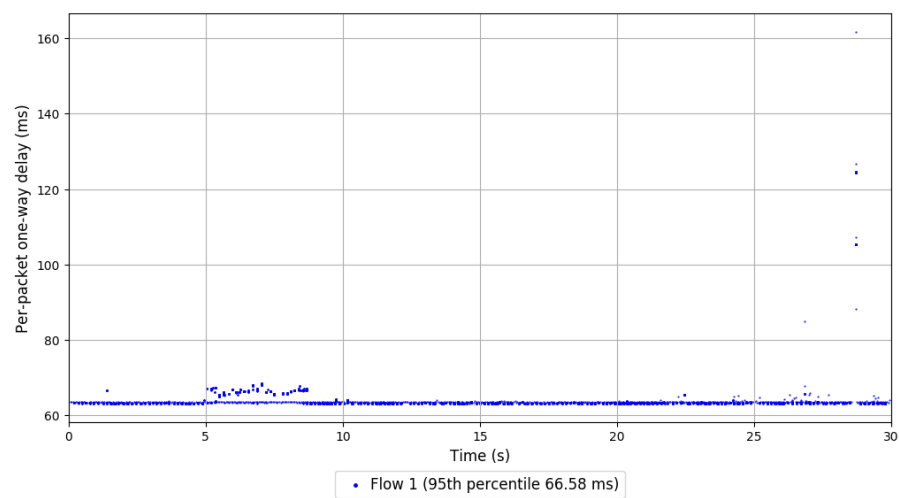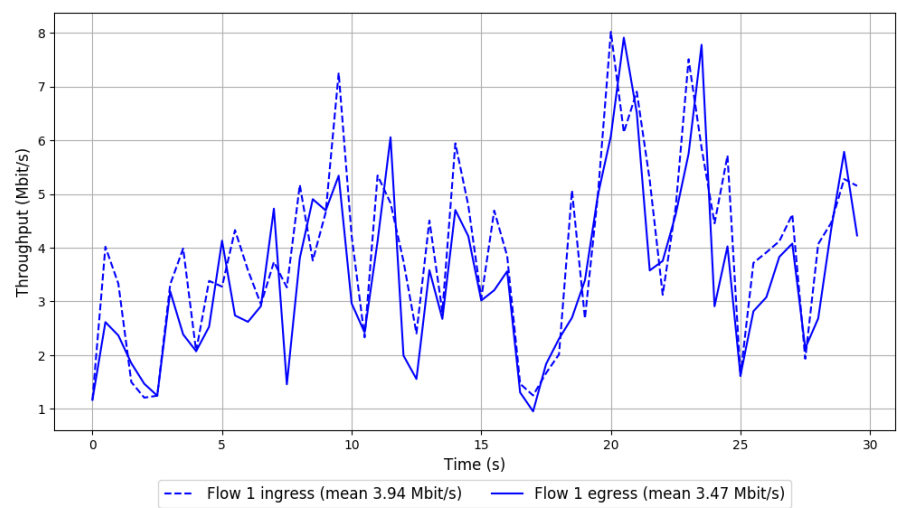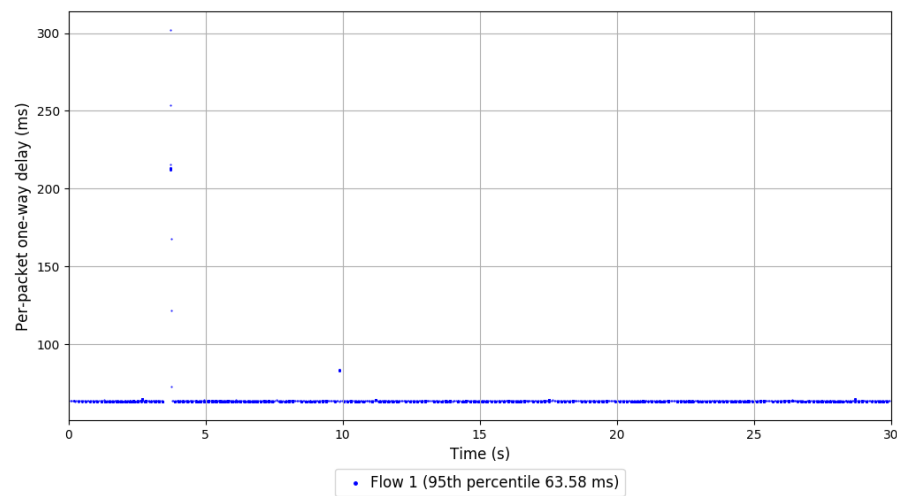
Run 6: Report of Sprout — Data Link

Flow 1 ingress (mean 3.94 Mbit/s) ---- Flow 1 egress (mean 3.47 Mbit/s) ——

Flow 1 (95th percentile 66.58 ms)

```
Run 7: Statistics of Sprout

Start at: 2017-08-17 07:24:16
End at: 2017-08-17 07:24:46


# Below is generated by plot.py at 2017-08-17 09:11:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.22 Mbit/s
95th percentile per-packet one-way delay: 63.582 ms
Loss rate: 16.59%
-- Flow 1:
Average throughput: 3.22 Mbit/s
95th percentile per-packet one-way delay: 63.582 ms
Loss rate: 16.59%
```
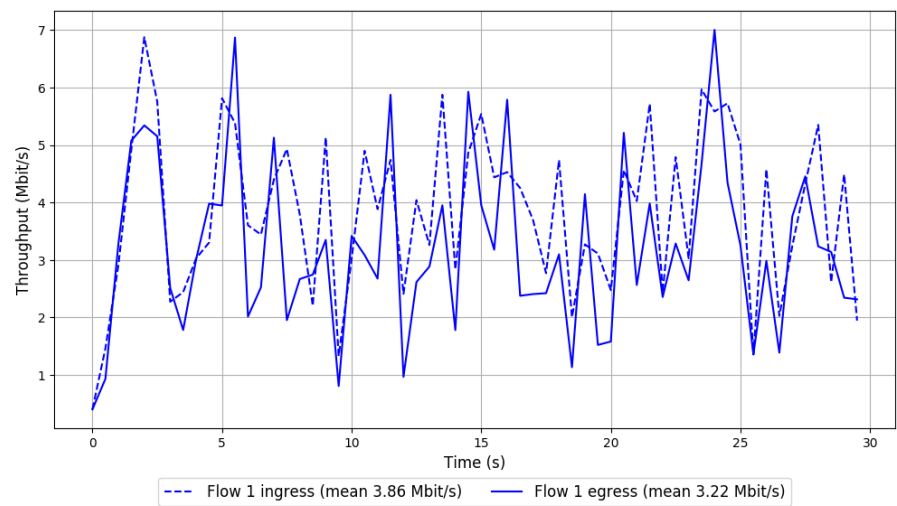
Run 7: Report of Sprout — Data Link

217

```
Run 8: Statistics of Sprout

Start at: 2017-08-17 07:34:31
End at: 2017-08-17 07:35:01

# Below is generated by plot.py at 2017-08-17 09:11:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.21 Mbit/s
95th percentile per-packet one-way delay: 63.813 ms
Loss rate: 2.05%
-- Flow 1:
Average throughput: 6.21 Mbit/s
95th percentile per-packet one-way delay: 63.813 ms
Loss rate: 2.05%
```
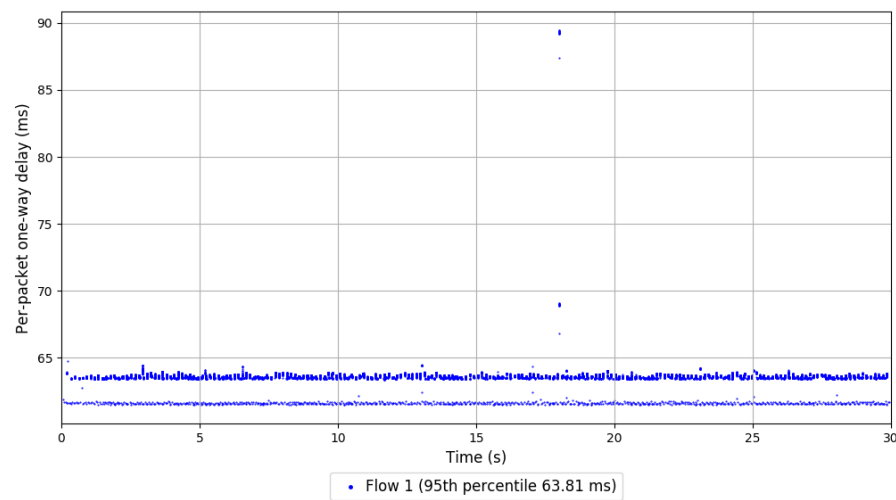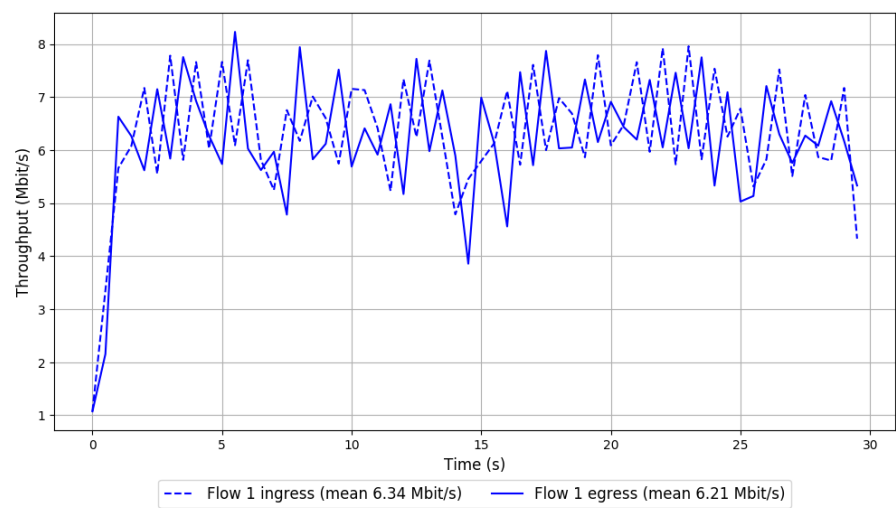
Run 8: Report of Sprout — Data Link

Flow 1 ingress (mean 6.34 Mbit/s) — — —   Flow 1 egress (mean 6.21 Mbit/s) ——

• Flow 1 (95th percentile 63.81 ms)

```
Run 9: Statistics of Sprout

Start at: 2017-08-17 07:44:36
End at: 2017-08-17 07:45:06

# Below is generated by plot.py at 2017-08-17 09:11:10
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 63.314 ms
Loss rate: 15.31%
-- Flow 1:
Average throughput: 3.38 Mbit/s
95th percentile per-packet one-way delay: 63.314 ms
Loss rate: 15.31%
```
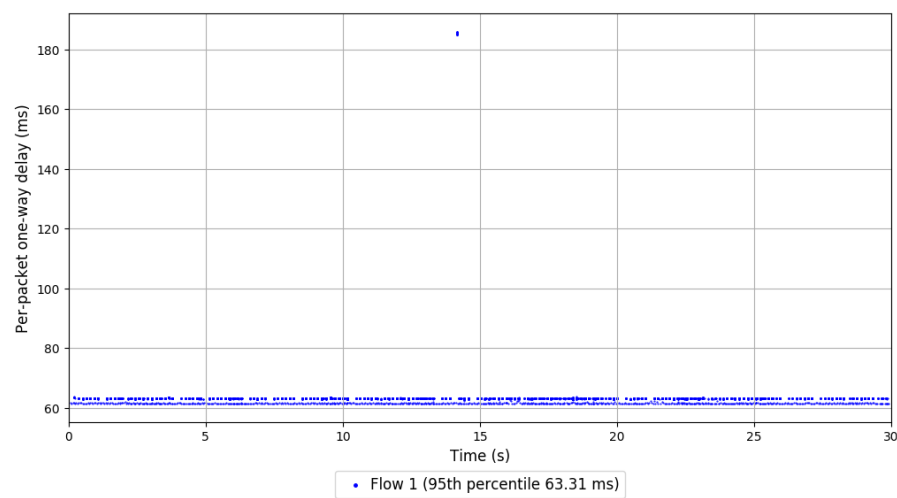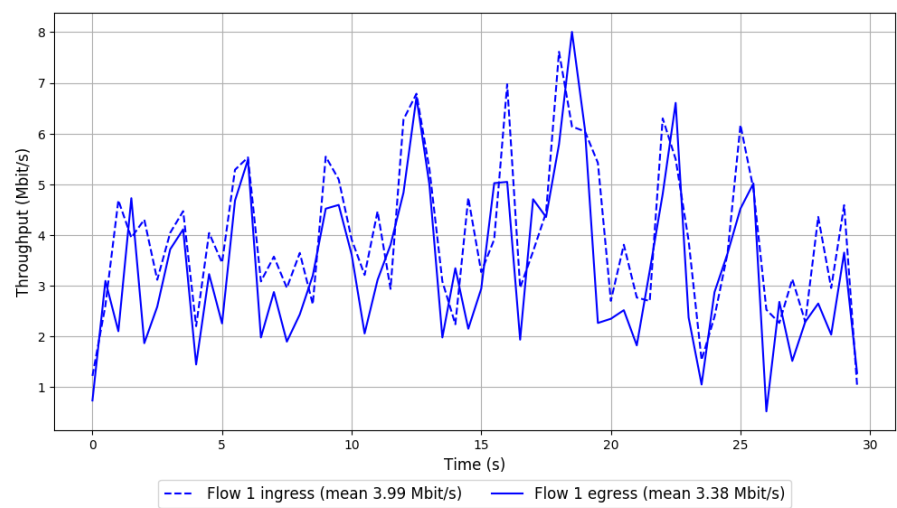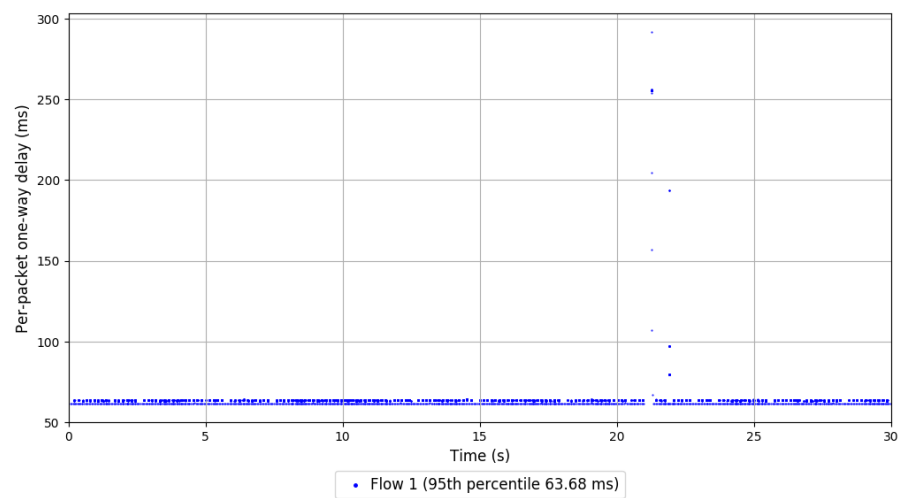
Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2017-08-17 07:54:28
End at: 2017-08-17 07:54:58

# Below is generated by plot.py at 2017-08-17 09:11:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.28 Mbit/s
95th percentile per-packet one-way delay: 63.683 ms
Loss rate: 13.10%
-- Flow 1:
Average throughput: 3.28 Mbit/s
95th percentile per-packet one-way delay: 63.683 ms
Loss rate: 13.10%
```
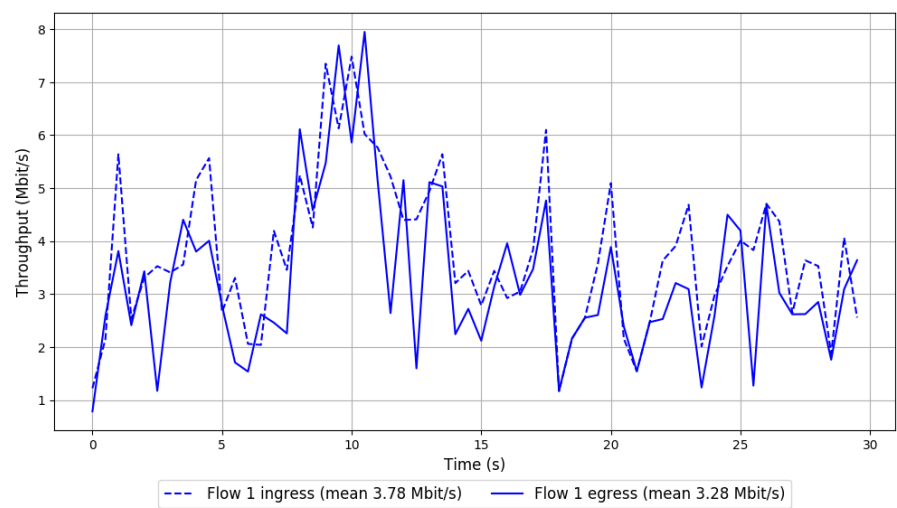
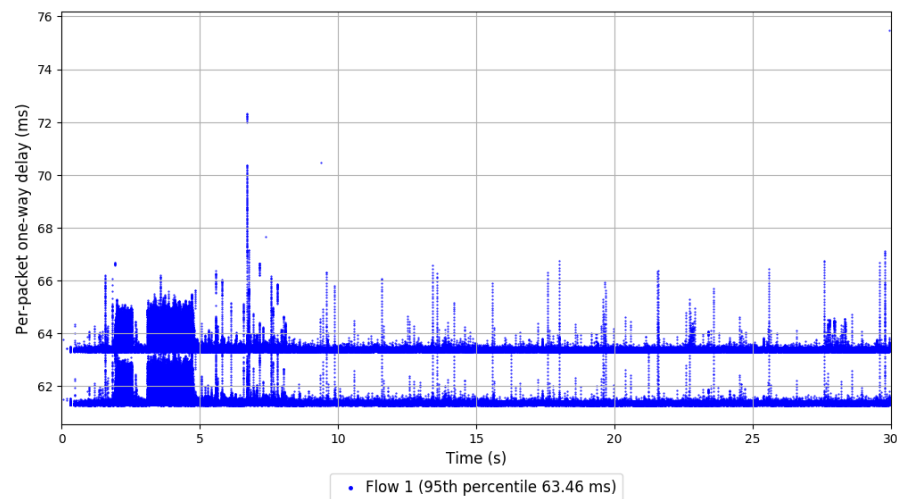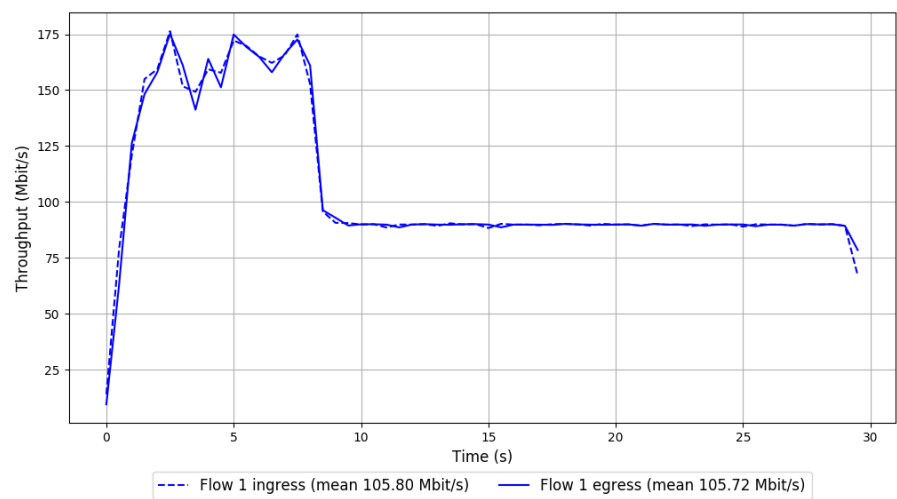## Run 10: Report of Sprout — Data Link

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

Start at: 2017-08-17 06:15:57
End at: 2017-08-17 06:16:27

# Below is generated by plot.py at 2017-08-17 09:12:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 105.72 Mbit/s
95th percentile per-packet one-way delay: 63.459 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 105.72 Mbit/s
95th percentile per-packet one-way delay: 63.459 ms
Loss rate: 0.11%
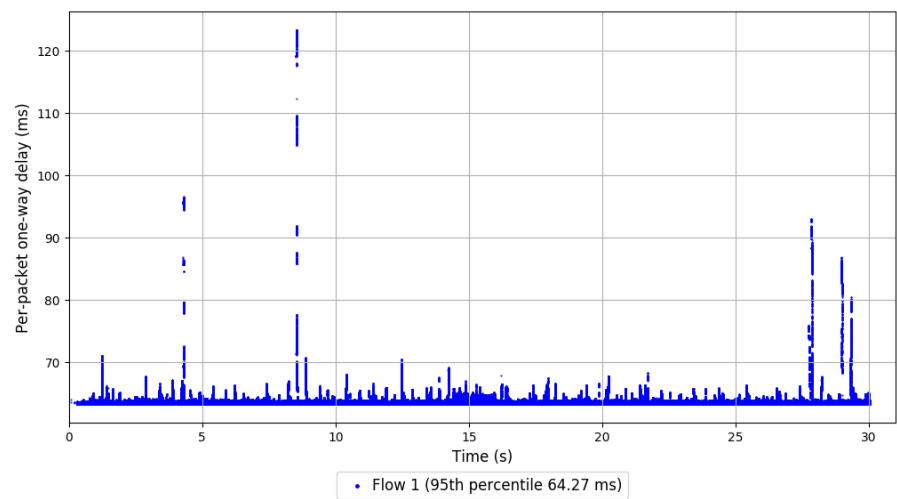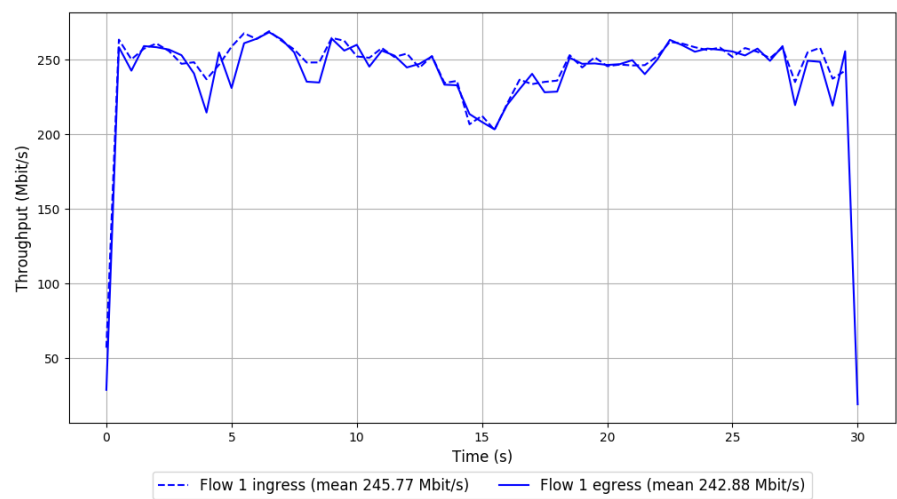```

Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2017-08-17 06:26:15
End at: 2017-08-17 06:26:45

# Below is generated by plot.py at 2017-08-17 09:12:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 242.88 Mbit/s
95th percentile per-packet one-way delay: 64.274 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 242.88 Mbit/s
95th percentile per-packet one-way delay: 64.274 ms
Loss rate: 1.18%
```

Run 2: Report of TaoVA-100x — Data Link

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

Start at: 2017-08-17 06:36:51
End at: 2017-08-17 06:37:21

# Below is generated by plot.py at 2017-08-17 09:12:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 217.55 Mbit/s
95th percentile per-packet one-way delay: 64.542 ms
Loss rate: 3.82%
-- Flow 1:
Average throughput: 217.55 Mbit/s
95th percentile per-packet one-way delay: 64.542 ms
Loss rate: 3.82%
```
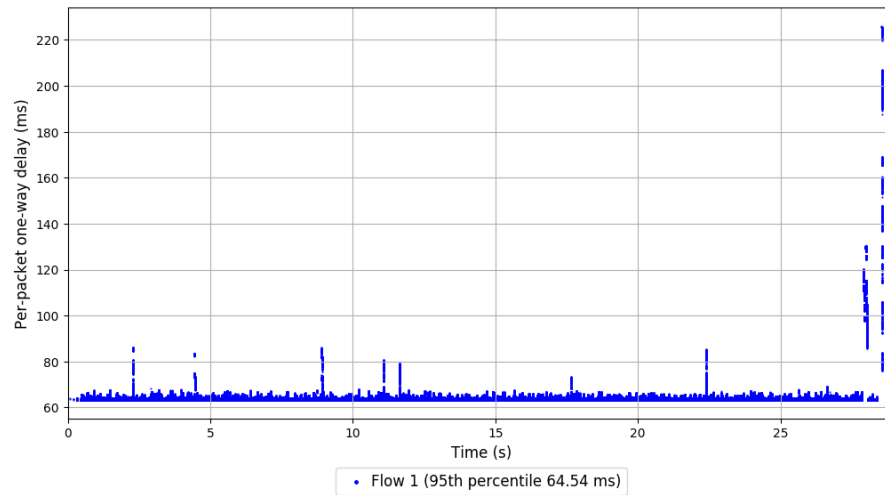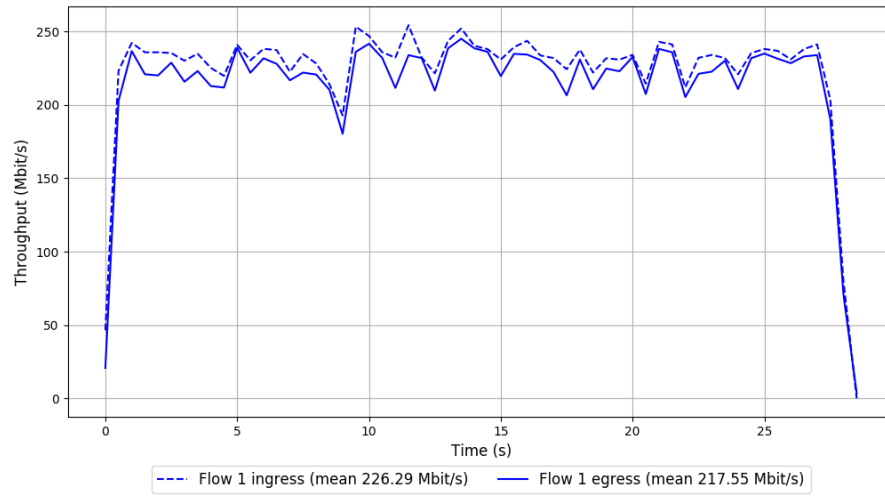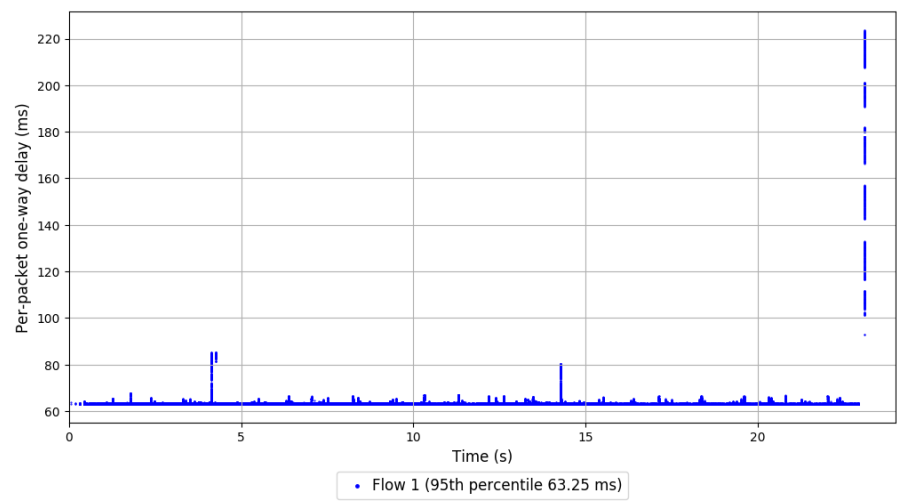
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 226.29 Mbit/s) ---- Flow 1 egress (mean 217.55 Mbit/s)
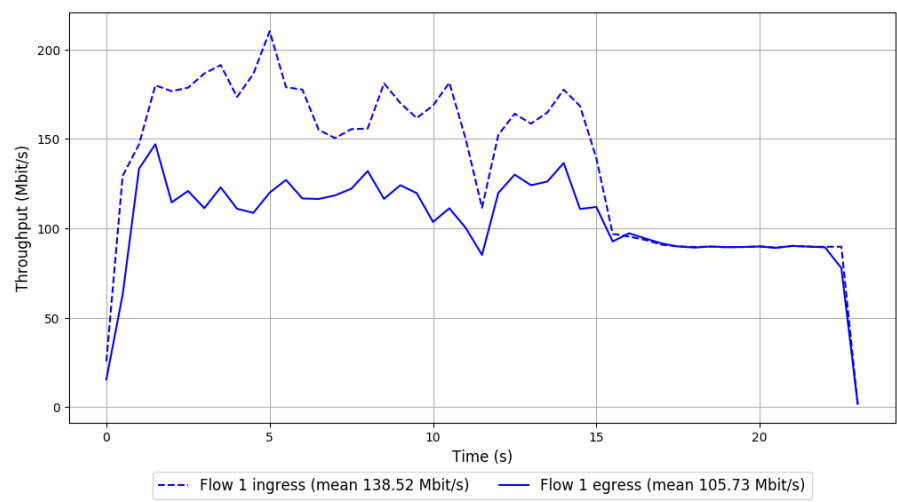

Flow 1 (95th percentile 64.54 ms)

```
Run 4: Statistics of TaoVA-100x

Start at: 2017-08-17 06:47:26
End at: 2017-08-17 06:47:56
```

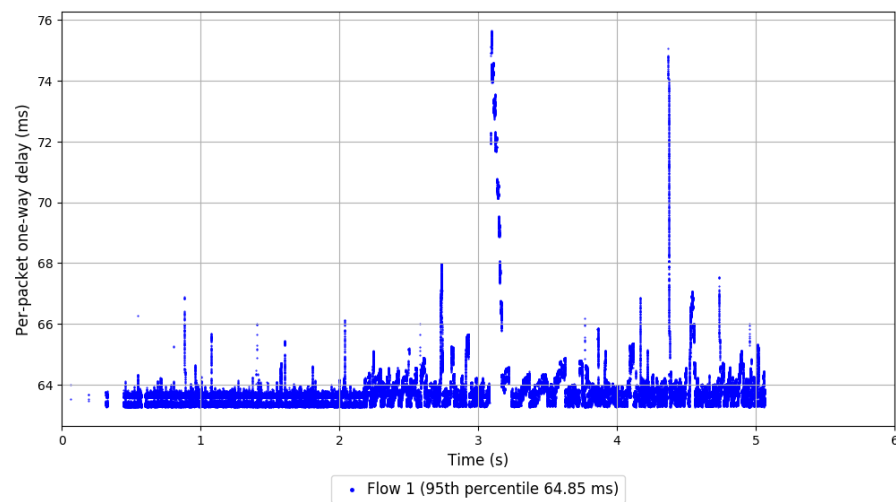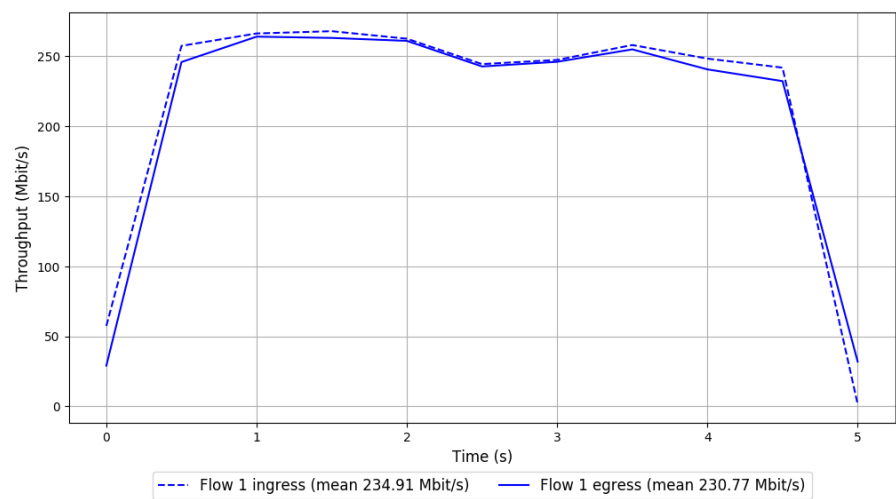# Run 4: Report of TaoVA-100x — Data Link

Run 5: Statistics of TaoVA-100x

Start at: 2017-08-17 06:57:56
End at: 2017-08-17 06:58:26
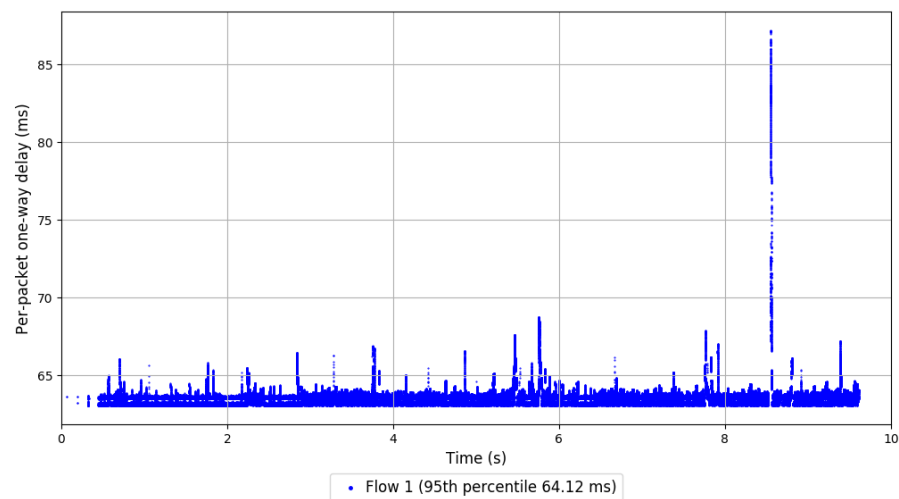
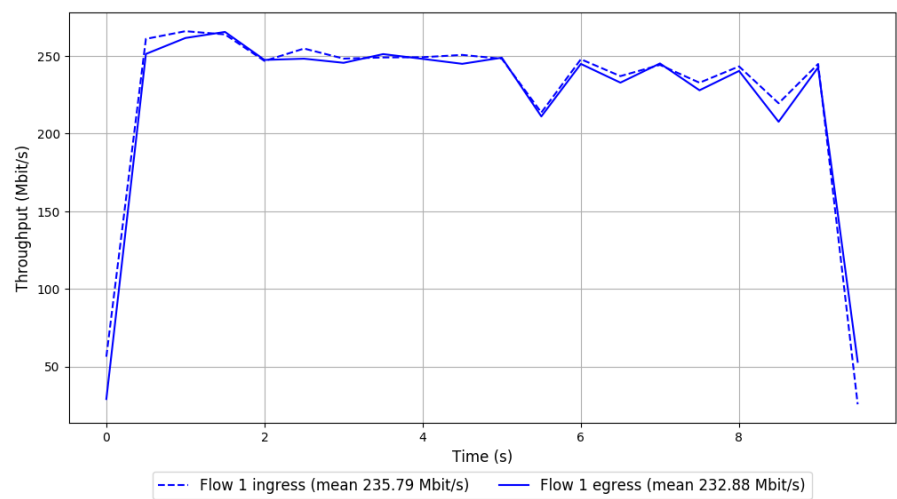Run 5: Report of TaoVA-100x — Data Link

Run 6: Statistics of TaoVA-100x

Start at: 2017-08-17 07:08:09
End at: 2017-08-17 07:08:39

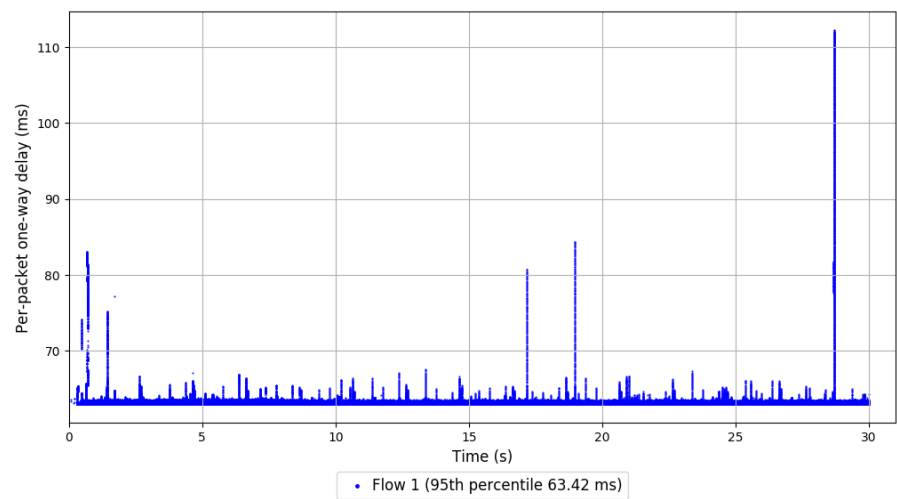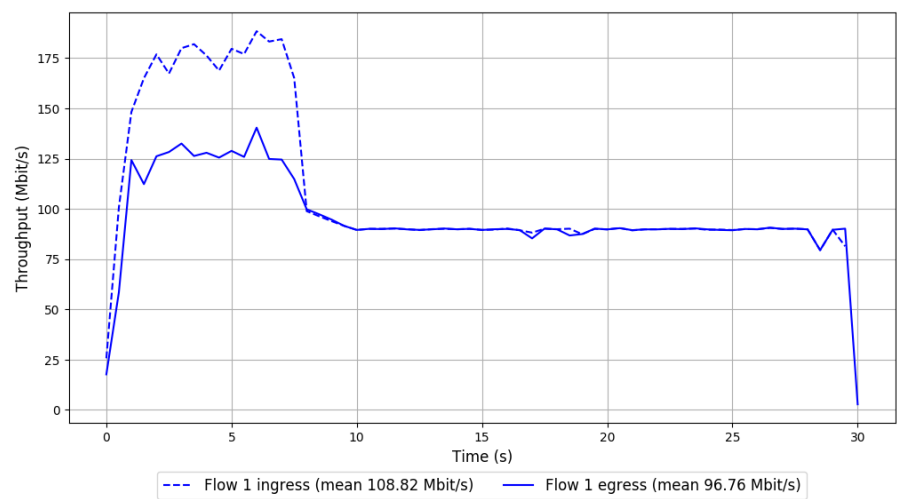## Run 6: Report of TaoVA-100x — Data Link

```
Run 7: Statistics of TaoVA-100x

Start at: 2017-08-17 07:18:22
End at: 2017-08-17 07:18:52

# Below is generated by plot.py at 2017-08-17 09:13:36
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.76 Mbit/s
95th percentile per-packet one-way delay: 63.421 ms
Loss rate: 11.08%
-- Flow 1:
Average throughput: 96.76 Mbit/s
95th percentile per-packet one-way delay: 63.421 ms
Loss rate: 11.08%
```

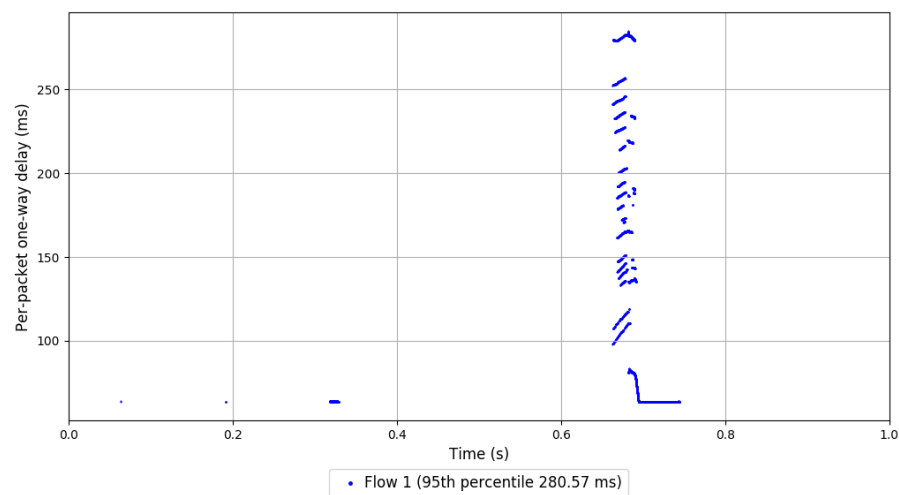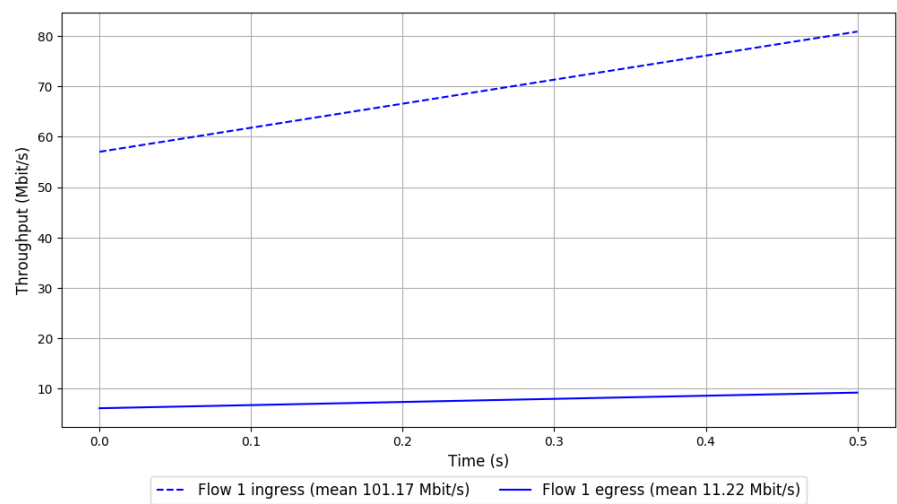Run 7: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 108.82 Mbit/s) ----- Flow 1 egress (mean 96.76 Mbit/s)

Flow 1 (95th percentile 63.42 ms)

237

```
Run 8: Statistics of TaoVA-100x

Start at: 2017-08-17 07:28:49
End at: 2017-08-17 07:29:19
```

Run 8: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 101.17 Mbit/s) --- Flow 1 egress (mean 11.22 Mbit/s)
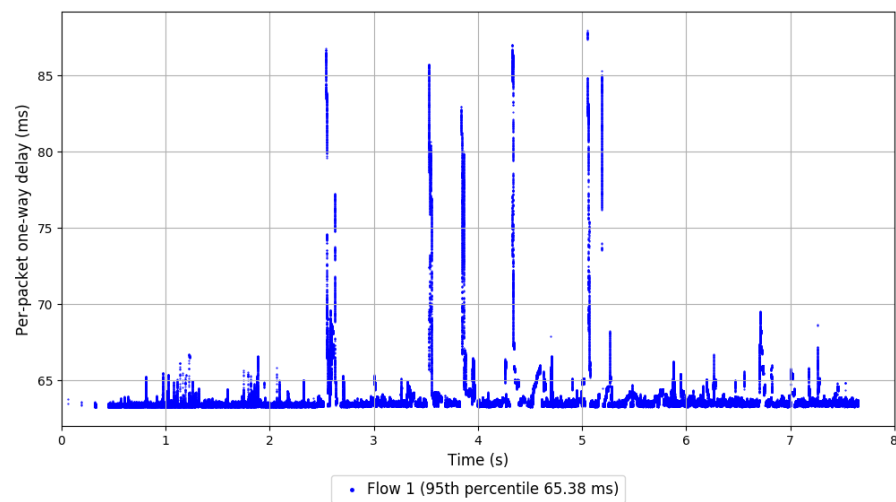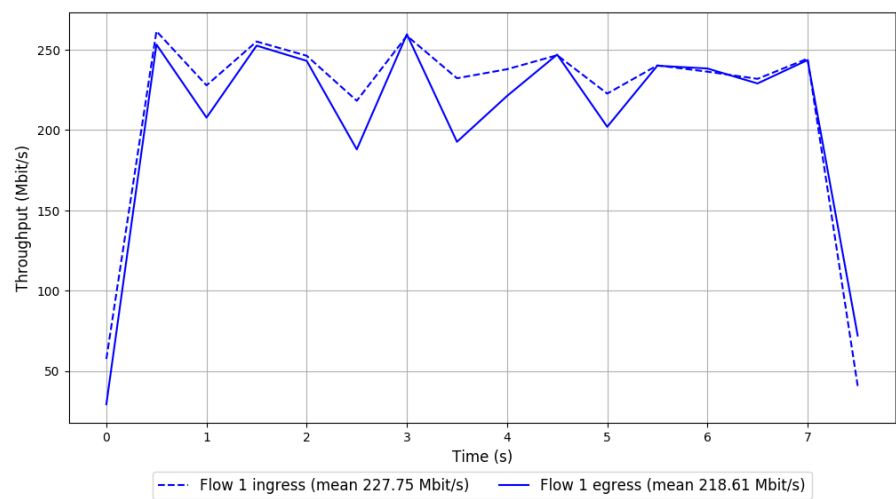

Flow 1 (95th percentile 280.57 ms)

Run 9: Statistics of TaoVA-100x

Start at: 2017-08-17 07:39:09
End at: 2017-08-17 07:39:39

Run 9: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 227.75 Mbit/s)   Flow 1 egress (mean 218.61 Mbit/s)
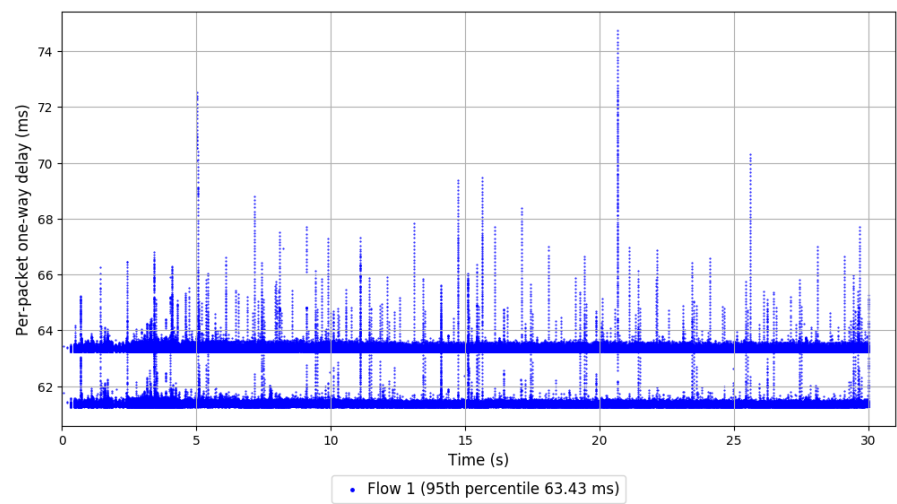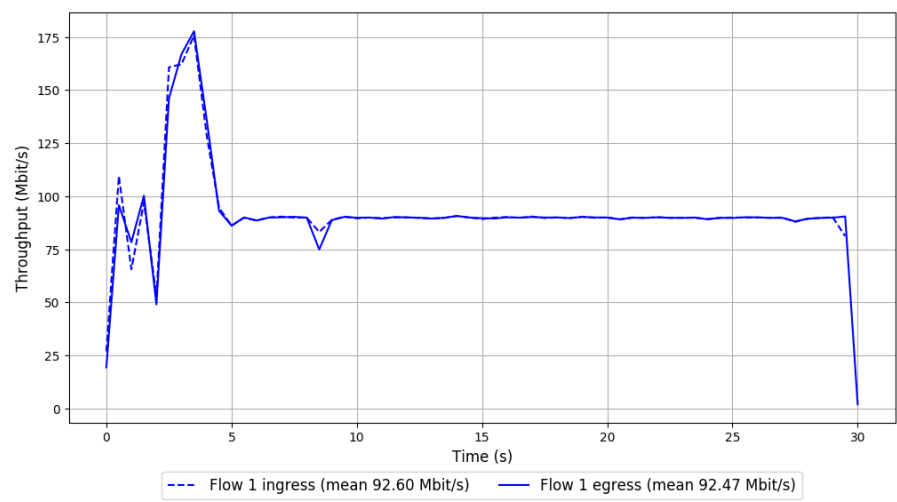

Flow 1 (95th percentile 65.38 ms)

```
Run 10: Statistics of TaoVA-100x

Start at: 2017-08-17 07:49:11
End at: 2017-08-17 07:49:41

# Below is generated by plot.py at 2017-08-17 09:14:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.47 Mbit/s
95th percentile per-packet one-way delay: 63.428 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 92.47 Mbit/s
95th percentile per-packet one-way delay: 63.428 ms
Loss rate: 0.15%
```

Run 10: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 92.60 Mbit/s)   Flow 1 egress (mean 92.47 Mbit/s)
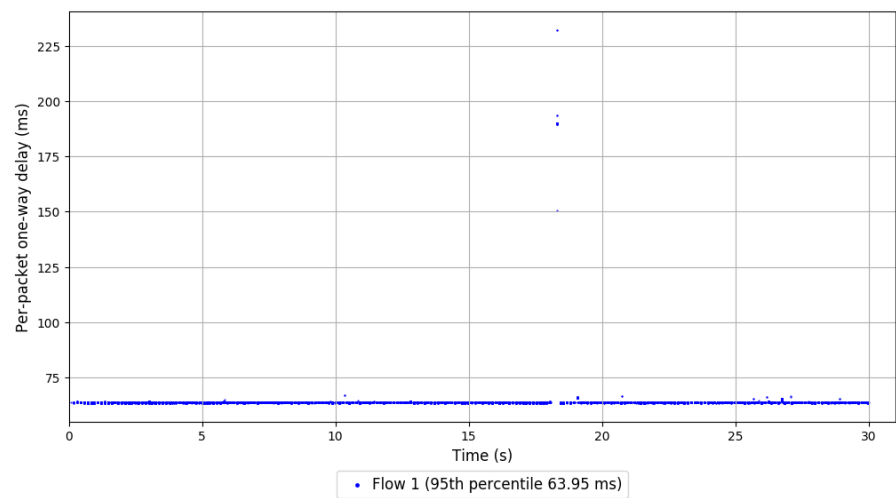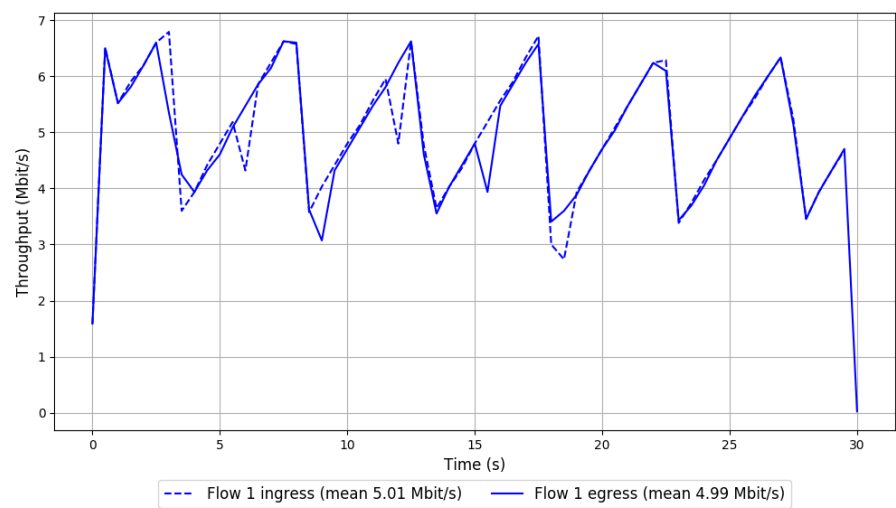

Flow 1 (95th percentile 63.43 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2017-08-17 06:14:02
End at: 2017-08-17 06:14:32

# Below is generated by plot.py at 2017-08-17 09:14:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.99 Mbit/s
95th percentile per-packet one-way delay: 63.949 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 4.99 Mbit/s
95th percentile per-packet one-way delay: 63.949 ms
Loss rate: 0.38%
```

Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2017-08-17 06:24:18
End at: 2017-08-17 06:24:48

# Below is generated by plot.py at 2017-08-17 09:14:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.84 Mbit/s
95th percentile per-packet one-way delay: 63.384 ms
Loss rate: 3.29%
-- Flow 1:
Average throughput: 4.84 Mbit/s
95th percentile per-packet one-way delay: 63.384 ms
Loss rate: 3.29%
```
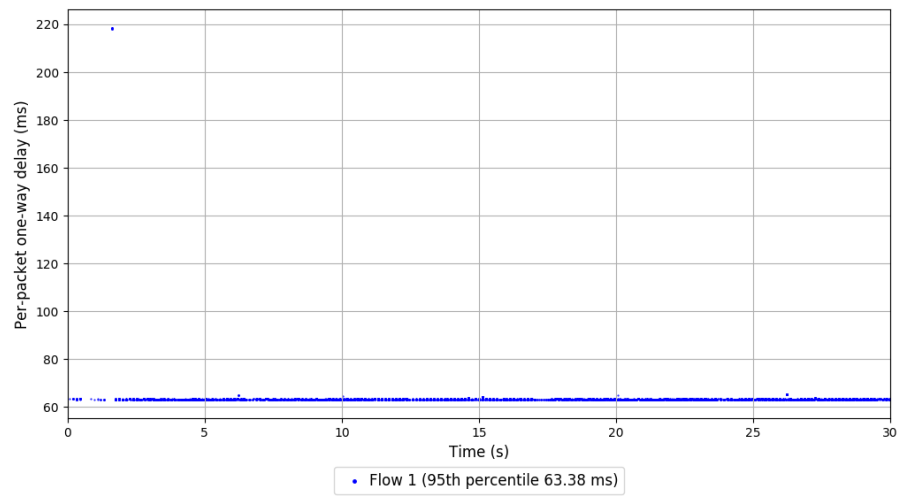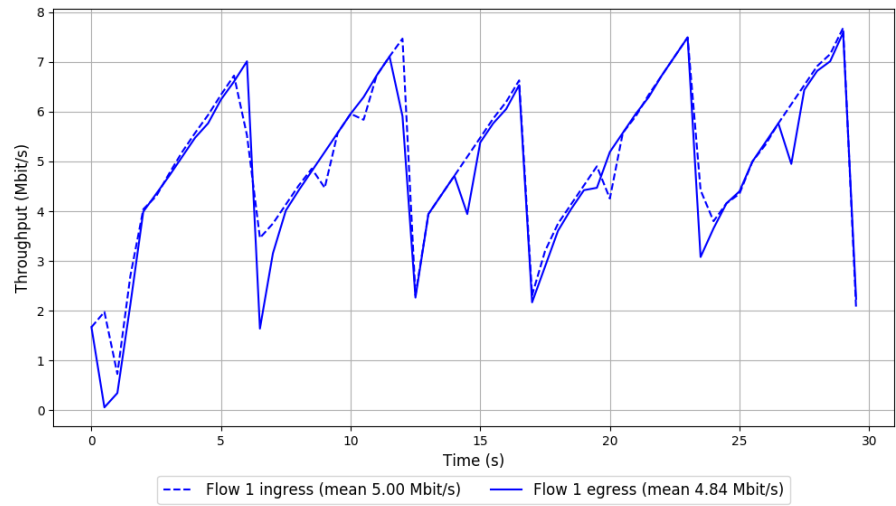
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2017-08-17 06:34:52
End at: 2017-08-17 06:35:22

# Below is generated by plot.py at 2017-08-17 09:14:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.00 Mbit/s
95th percentile per-packet one-way delay: 63.460 ms
Loss rate: 2.89%
-- Flow 1:
Average throughput: 5.00 Mbit/s
95th percentile per-packet one-way delay: 63.460 ms
Loss rate: 2.89%
```
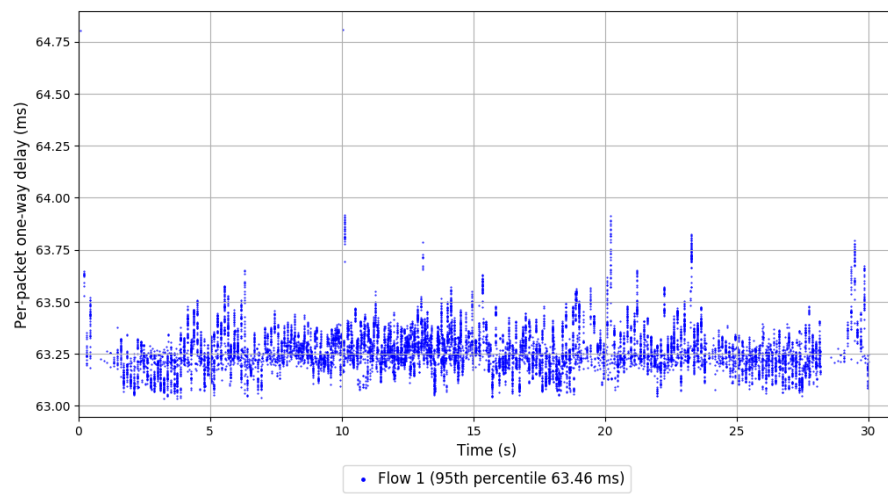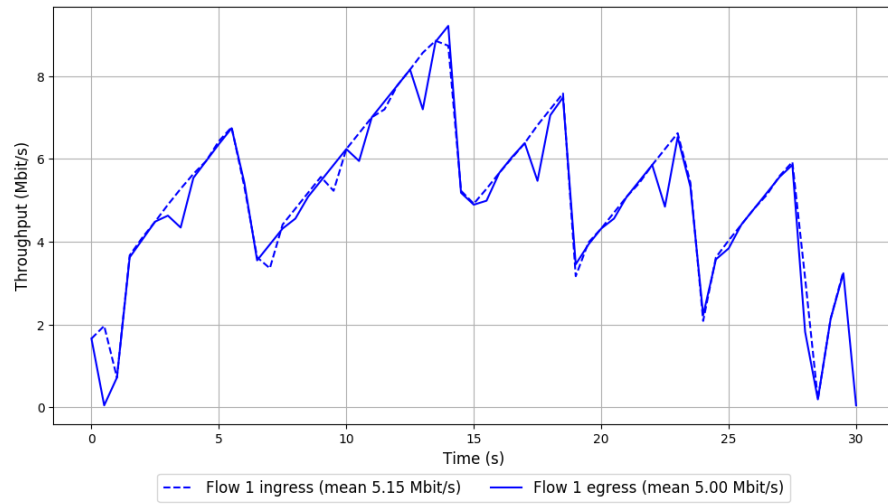
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2017-08-17 06:45:27
End at: 2017-08-17 06:45:57

# Below is generated by plot.py at 2017-08-17 09:14:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.70 Mbit/s
95th percentile per-packet one-way delay: 64.025 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 8.70 Mbit/s
95th percentile per-packet one-way delay: 64.025 ms
Loss rate: 0.84%
```
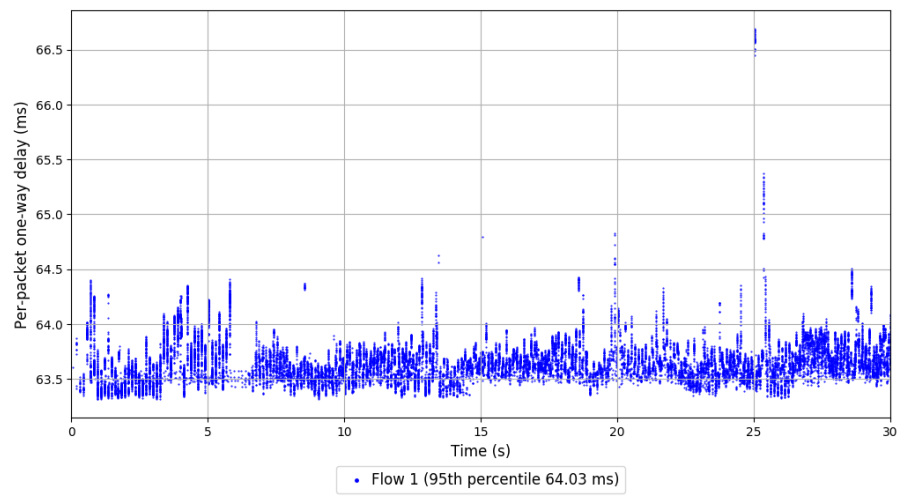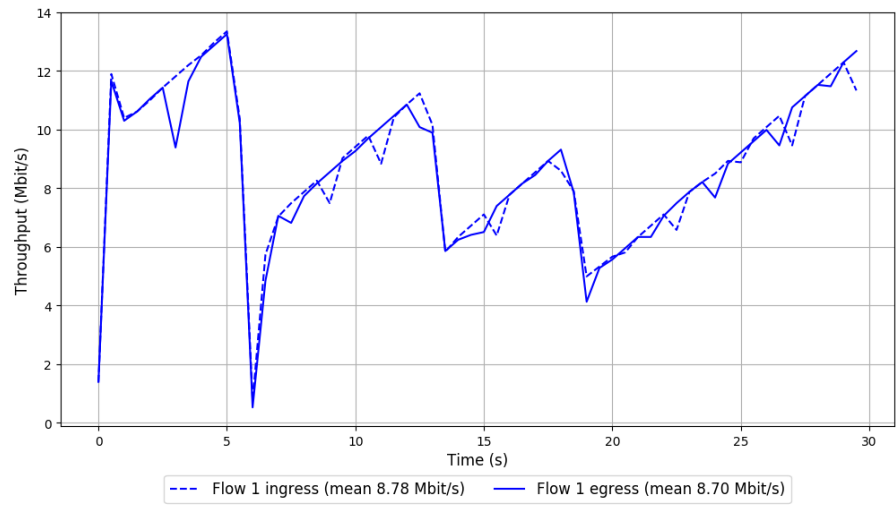
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2017-08-17 06:55:59
End at: 2017-08-17 06:56:29

# Below is generated by plot.py at 2017-08-17 09:14:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 63.885 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 7.53 Mbit/s
95th percentile per-packet one-way delay: 63.885 ms
Loss rate: 1.36%
```
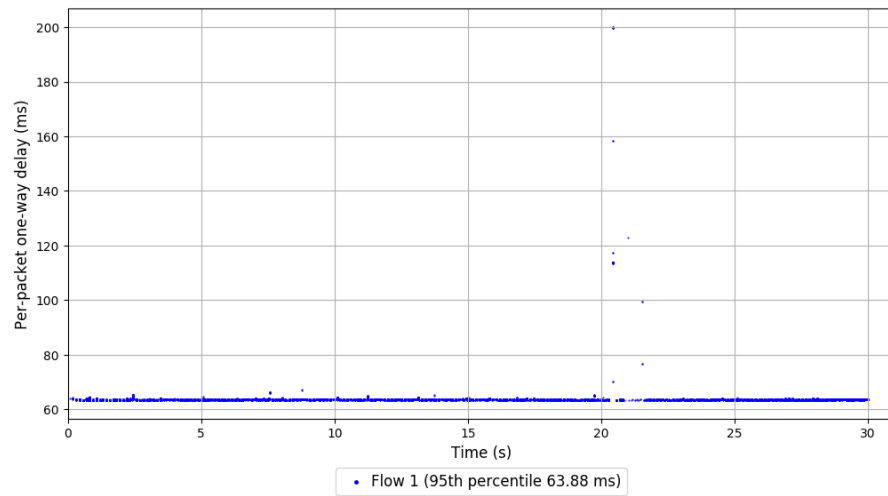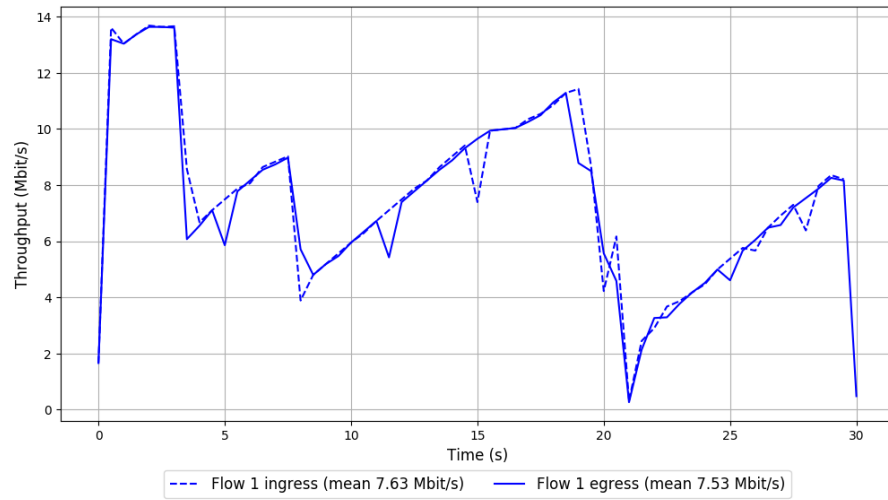
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 7.63 Mbit/s) --- Flow 1 egress (mean 7.53 Mbit/s)

Flow 1 (95th percentile 63.88 ms)

```
Run 6: Statistics of TCP Vegas

Start at: 2017-08-17 07:06:10
End at: 2017-08-17 07:06:40

# Below is generated by plot.py at 2017-08-17 09:14:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.50 Mbit/s
95th percentile per-packet one-way delay: 63.987 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 6.50 Mbit/s
95th percentile per-packet one-way delay: 63.987 ms
Loss rate: 0.86%
```
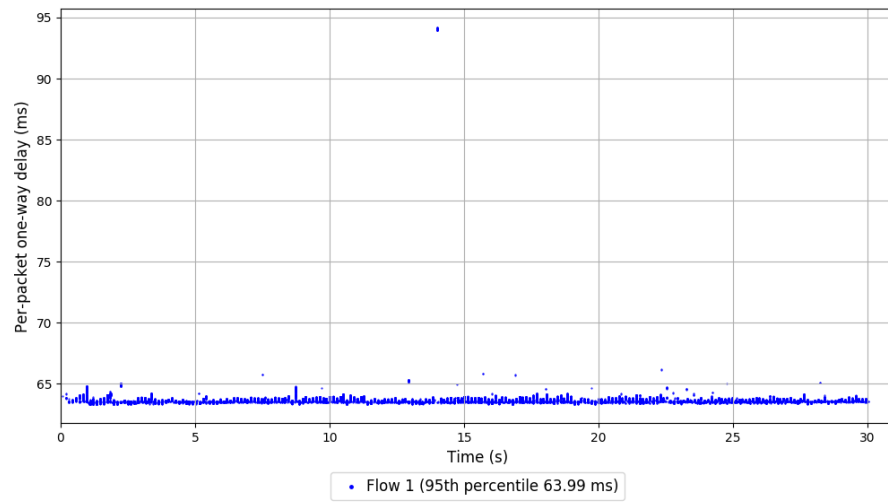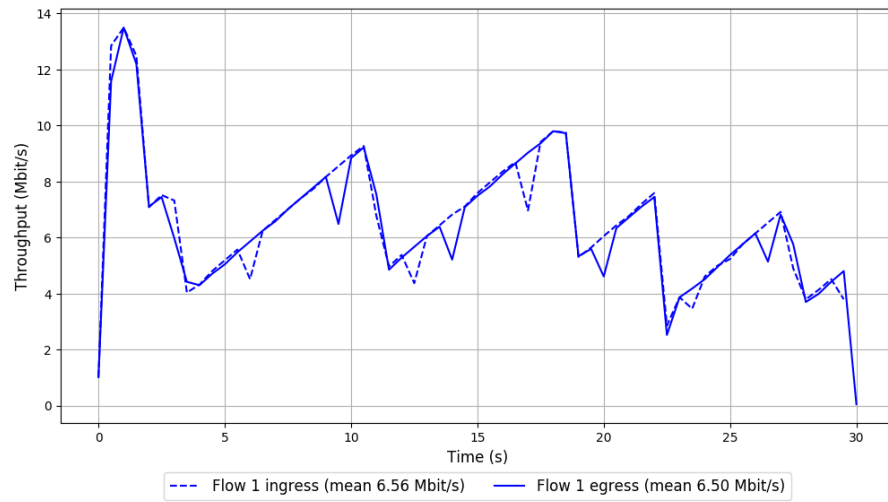
Run 6: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 6.56 Mbit/s) — — —   Flow 1 egress (mean 6.50 Mbit/s) ———

Flow 1 (95th percentile 63.99 ms)

```
Run 7: Statistics of TCP Vegas

Start at: 2017-08-17 07:16:24
End at: 2017-08-17 07:16:54

# Below is generated by plot.py at 2017-08-17 09:14:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.42 Mbit/s
95th percentile per-packet one-way delay: 63.425 ms
Loss rate: 2.06%
-- Flow 1:
Average throughput: 5.42 Mbit/s
95th percentile per-packet one-way delay: 63.425 ms
Loss rate: 2.06%
```
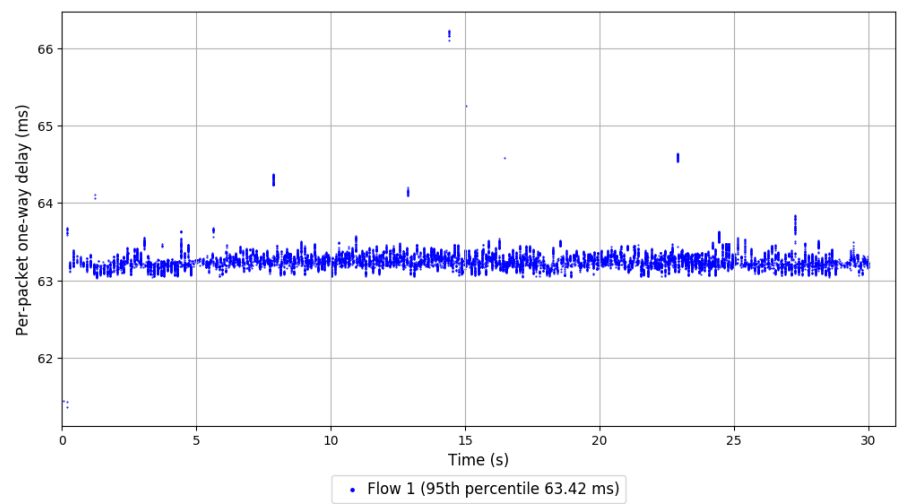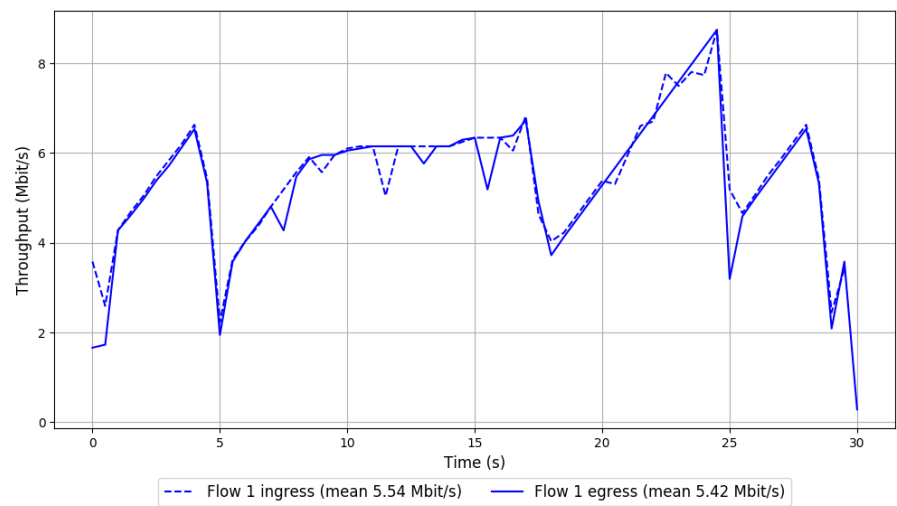
Run 7: Report of TCP Vegas — Data Link

```
Run 8: Statistics of TCP Vegas

Start at: 2017-08-17 07:26:53
End at: 2017-08-17 07:27:23


# Below is generated by plot.py at 2017-08-17 09:14:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.35 Mbit/s
95th percentile per-packet one-way delay: 63.663 ms
Loss rate: 2.41%
-- Flow 1:
Average throughput: 5.35 Mbit/s
95th percentile per-packet one-way delay: 63.663 ms
Loss rate: 2.41%
```
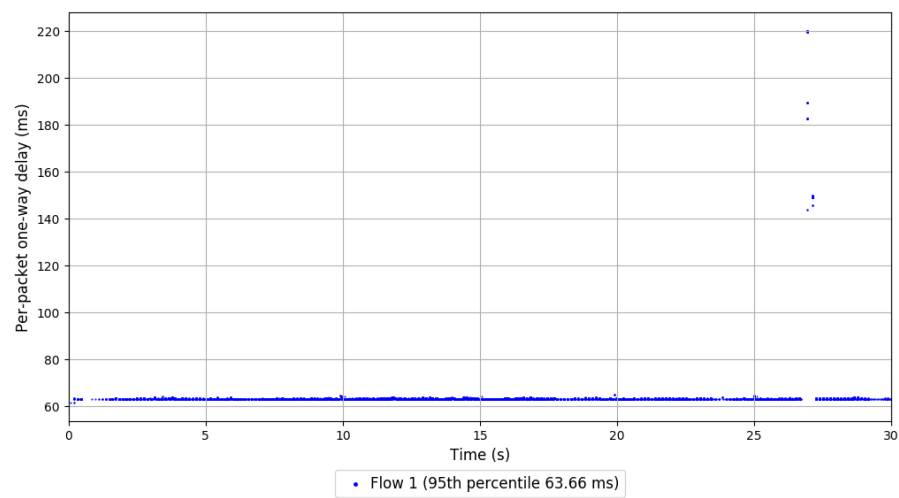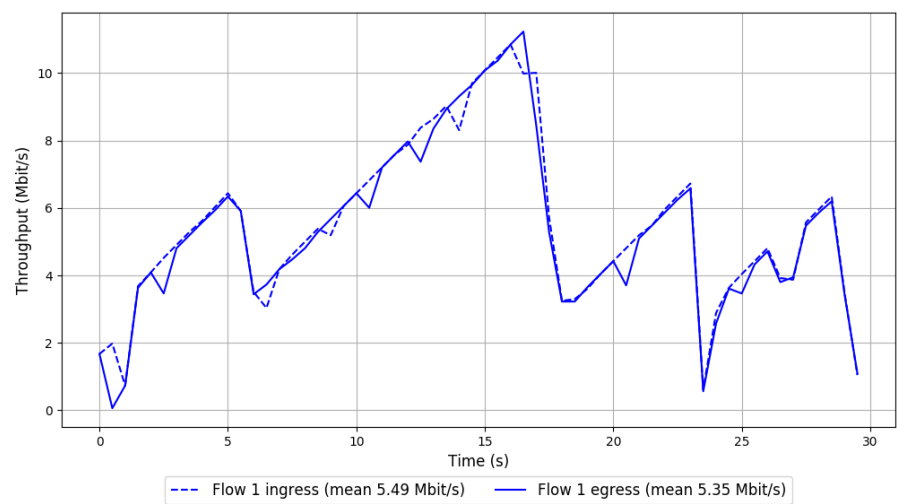
Run 8: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 5.49 Mbit/s)   Flow 1 egress (mean 5.35 Mbit/s)

Flow 1 (95th percentile 63.66 ms)

```
Run 9: Statistics of TCP Vegas

Start at: 2017-08-17 07:37:10
End at: 2017-08-17 07:37:40

# Below is generated by plot.py at 2017-08-17 09:14:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.78 Mbit/s
95th percentile per-packet one-way delay: 63.601 ms
Loss rate: 2.10%
-- Flow 1:
Average throughput: 5.78 Mbit/s
95th percentile per-packet one-way delay: 63.601 ms
Loss rate: 2.10%
```
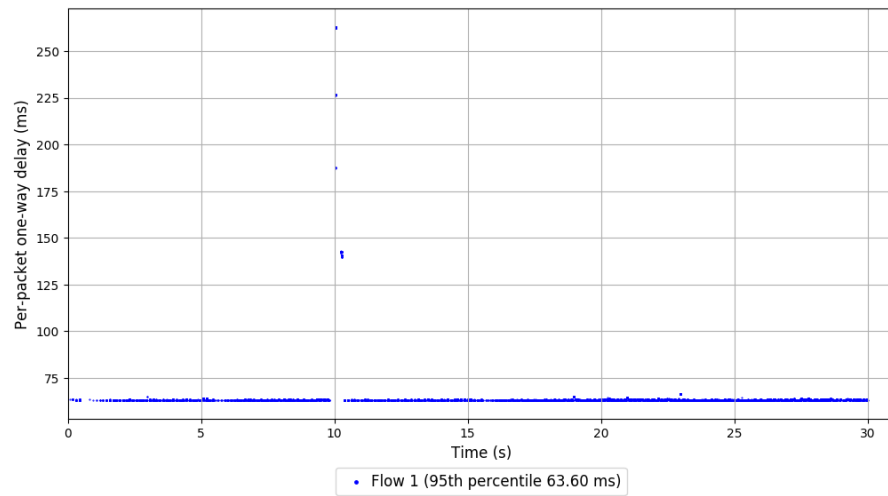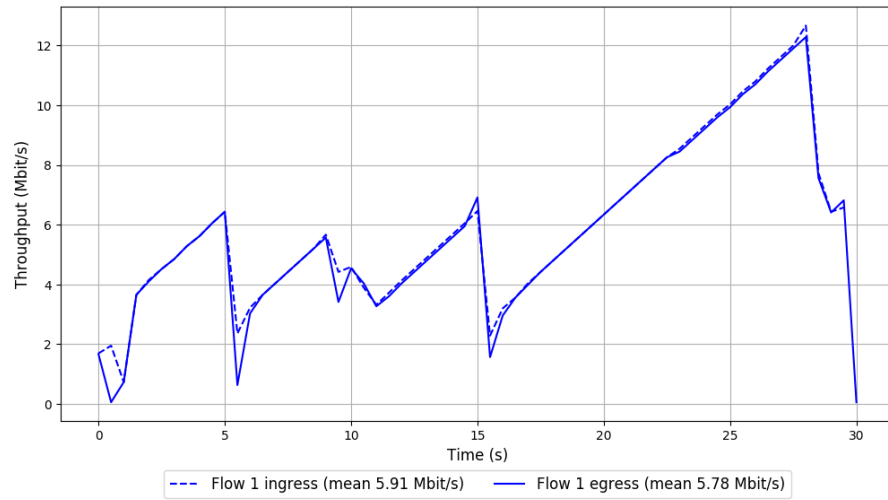
Run 9: Report of TCP Vegas — Data Link

```
Run 10: Statistics of TCP Vegas

Start at: 2017-08-17 07:47:09
End at: 2017-08-17 07:47:39


# Below is generated by plot.py at 2017-08-17 09:14:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 45.30 Mbit/s
95th percentile per-packet one-way delay: 63.373 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 45.30 Mbit/s
95th percentile per-packet one-way delay: 63.373 ms
Loss rate: 0.96%
```
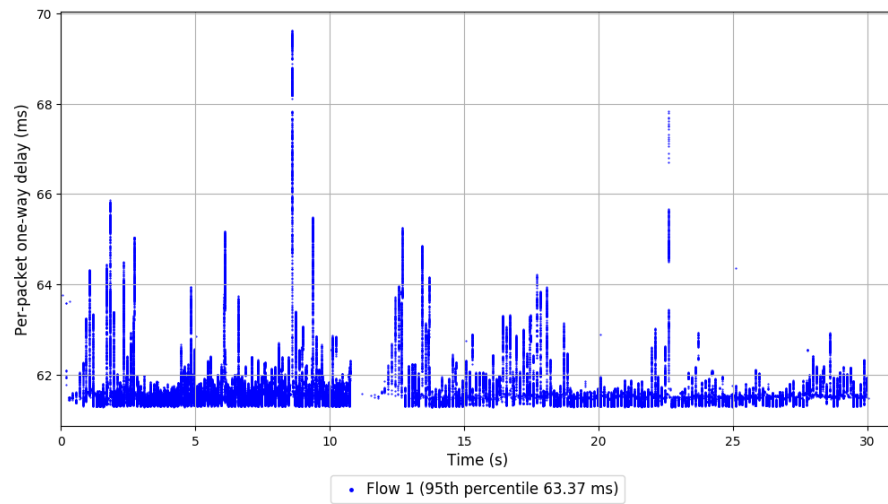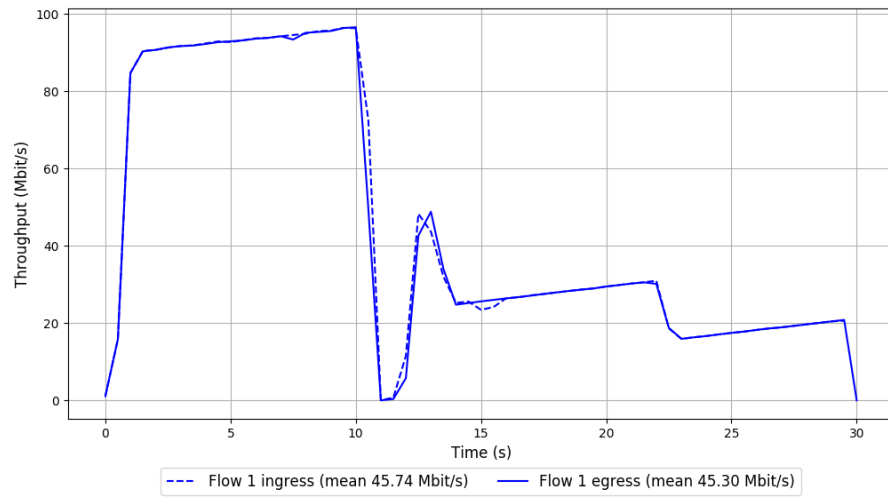
Run 10: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 45.74 Mbit/s) ---- Flow 1 egress (mean 45.30 Mbit/s)

• Flow 1 (95th percentile 63.37 ms)

263

```
Run 1: Statistics of Verus

Start at: 2017-08-17 06:20:56
End at: 2017-08-17 06:21:26


# Below is generated by plot.py at 2017-08-17 09:14:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 140.09 Mbit/s
95th percentile per-packet one-way delay: 85.354 ms
Loss rate: 5.65%
-- Flow 1:
Average throughput: 140.09 Mbit/s
95th percentile per-packet one-way delay: 85.354 ms
Loss rate: 5.65%
```
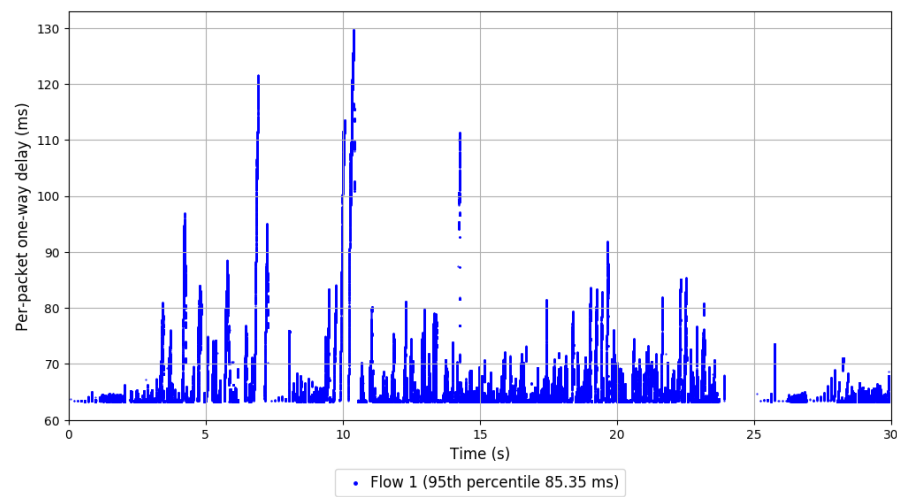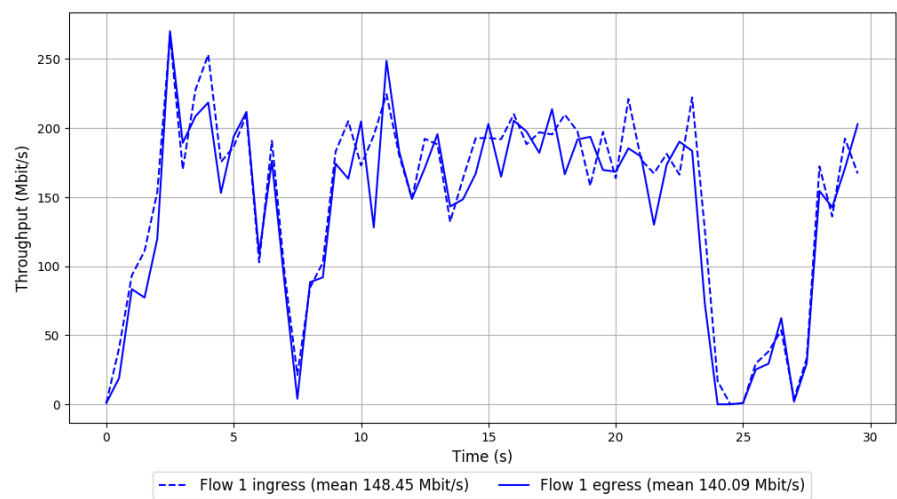
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2017-08-17 06:31:30
End at: 2017-08-17 06:32:00

# Below is generated by plot.py at 2017-08-17 09:14:30
# Datalink statistics
-- Total of 1 flow:
Average throughput: 103.93 Mbit/s
95th percentile per-packet one-way delay: 139.962 ms
Loss rate: 14.06%
-- Flow 1:
Average throughput: 103.93 Mbit/s
95th percentile per-packet one-way delay: 139.962 ms
Loss rate: 14.06%
```
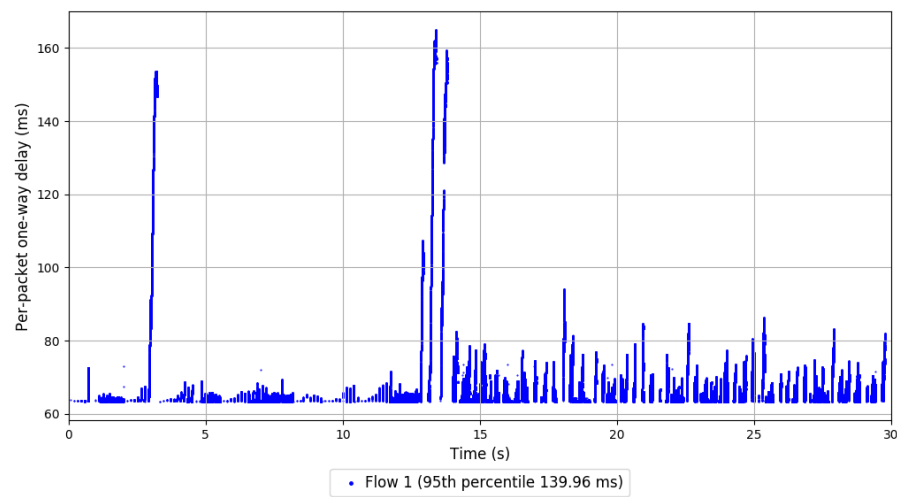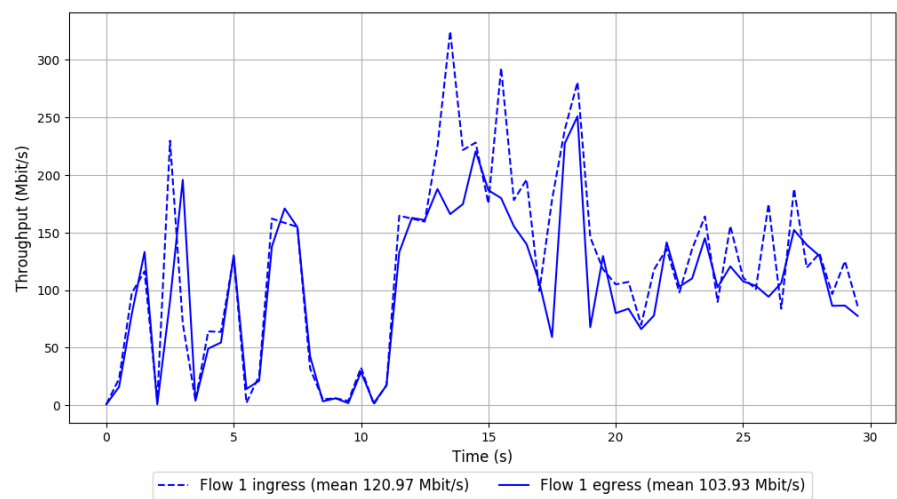
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2017-08-17 06:42:08
End at: 2017-08-17 06:42:38

# Below is generated by plot.py at 2017-08-17 09:14:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 37.98 Mbit/s
95th percentile per-packet one-way delay: 67.163 ms
Loss rate: 77.22%
-- Flow 1:
Average throughput: 37.98 Mbit/s
95th percentile per-packet one-way delay: 67.163 ms
Loss rate: 77.22%
```
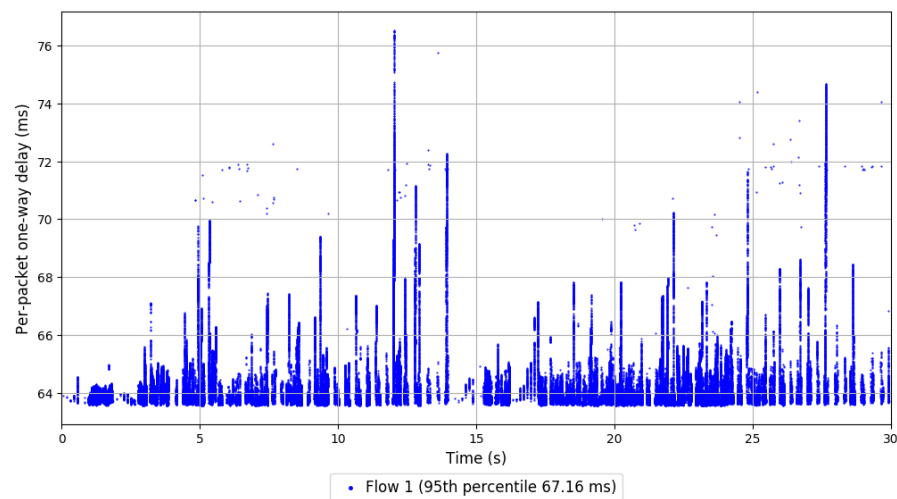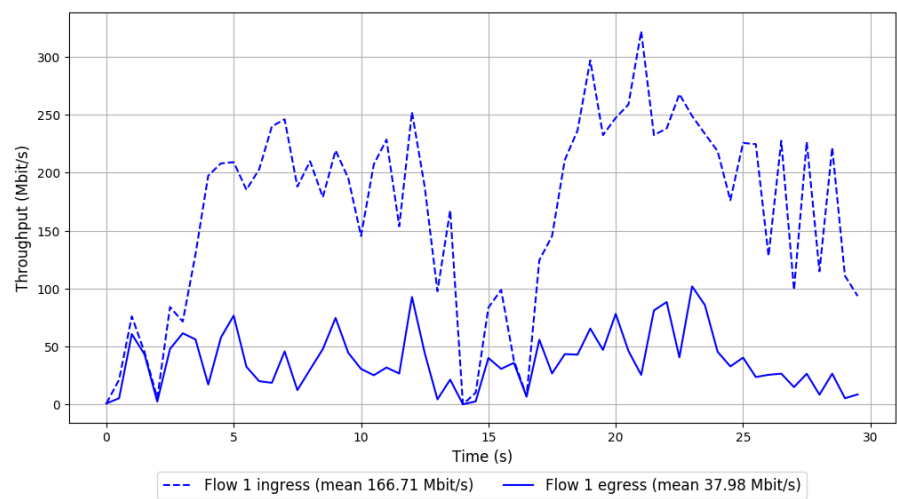
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2017-08-17 06:52:25
End at: 2017-08-17 06:52:55

# Below is generated by plot.py at 2017-08-17 09:15:00
# Datalink statistics
-- Total of 1 flow:
Average throughput: 147.13 Mbit/s
95th percentile per-packet one-way delay: 84.120 ms
Loss rate: 6.31%
-- Flow 1:
Average throughput: 147.13 Mbit/s
95th percentile per-packet one-way delay: 84.120 ms
Loss rate: 6.31%
```
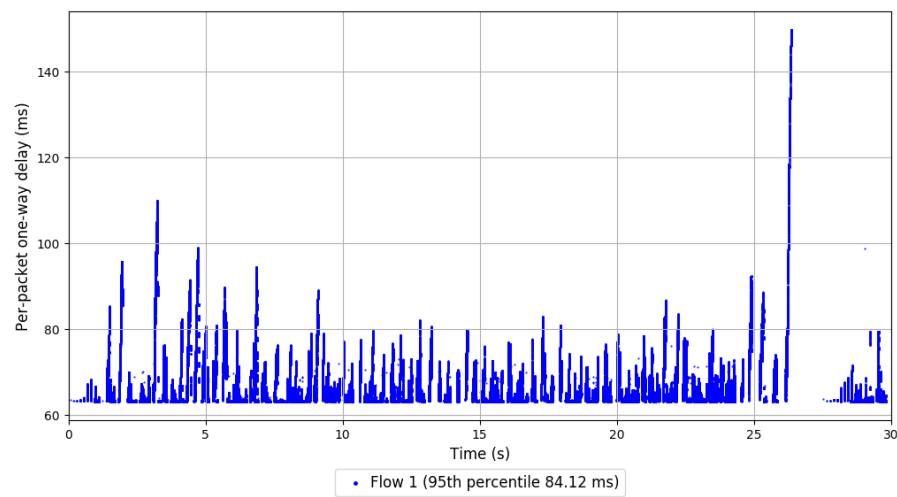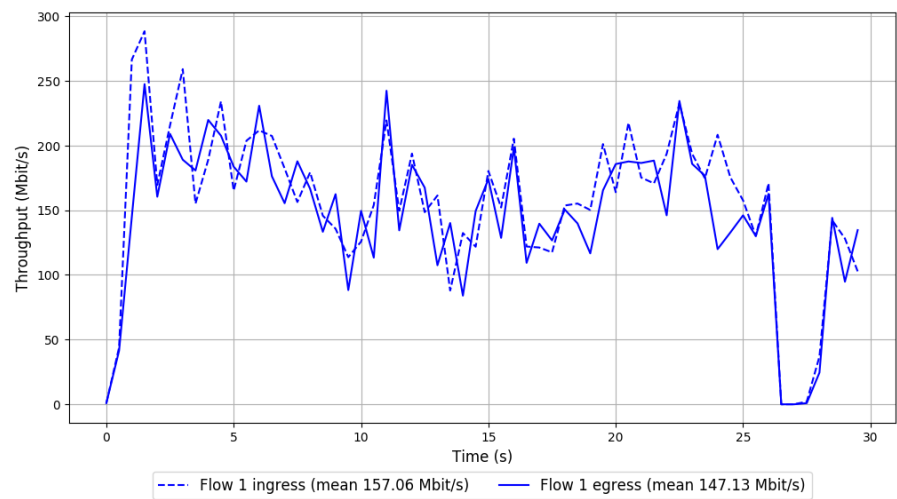
Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2017-08-17 07:02:38
End at: 2017-08-17 07:03:08

# Below is generated by plot.py at 2017-08-17 09:15:06
# Datalink statistics
-- Total of 1 flow:
Average throughput: 151.65 Mbit/s
95th percentile per-packet one-way delay: 95.179 ms
Loss rate: 9.88%
-- Flow 1:
Average throughput: 151.65 Mbit/s
95th percentile per-packet one-way delay: 95.179 ms
Loss rate: 9.88%
```
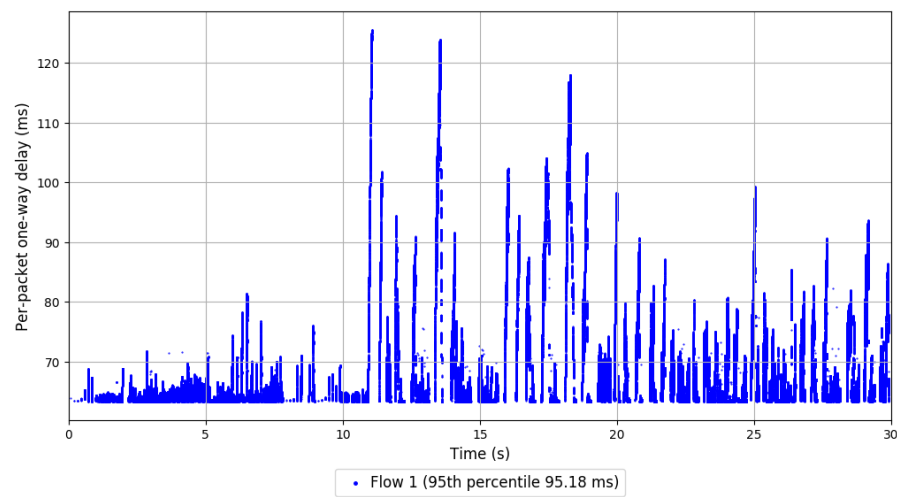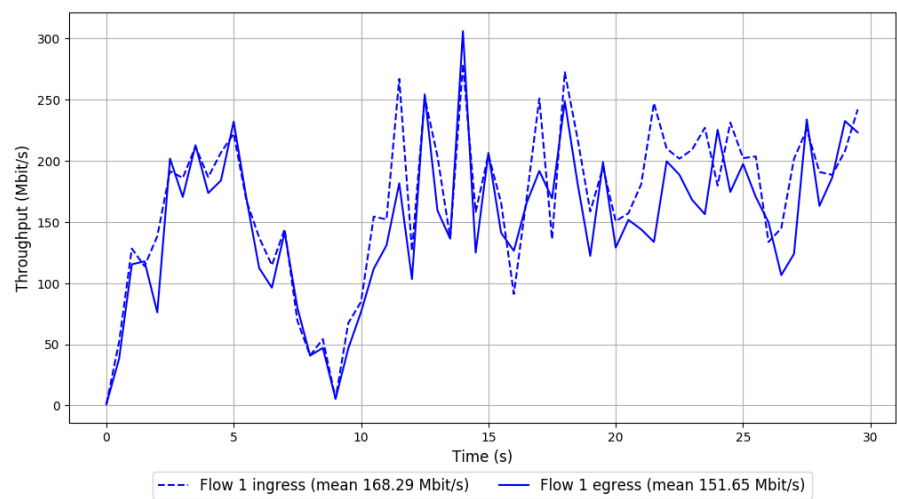
Run 5: Report of Verus — Data Link

```
Run 6: Statistics of Verus

Start at: 2017-08-17 07:13:10
End at: 2017-08-17 07:13:40


# Below is generated by plot.py at 2017-08-17 09:15:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 34.38 Mbit/s
95th percentile per-packet one-way delay: 69.432 ms
Loss rate: 81.96%
-- Flow 1:
Average throughput: 34.38 Mbit/s
95th percentile per-packet one-way delay: 69.432 ms
Loss rate: 81.96%
```
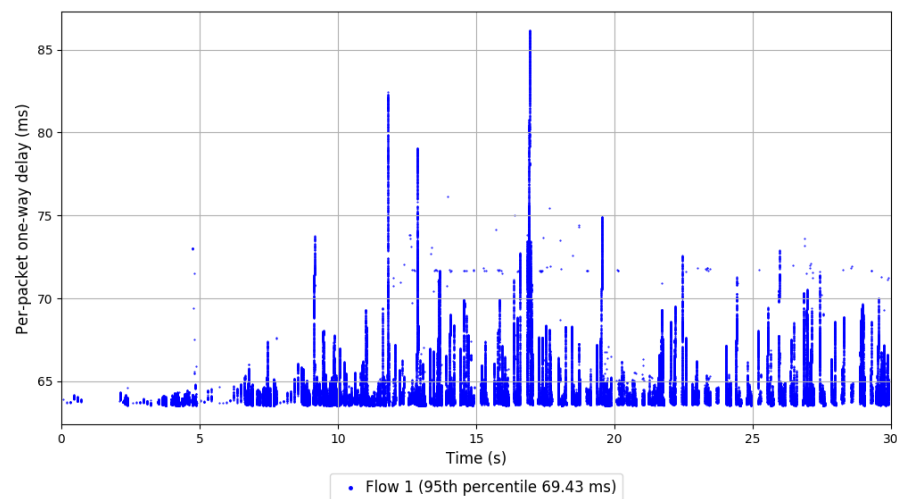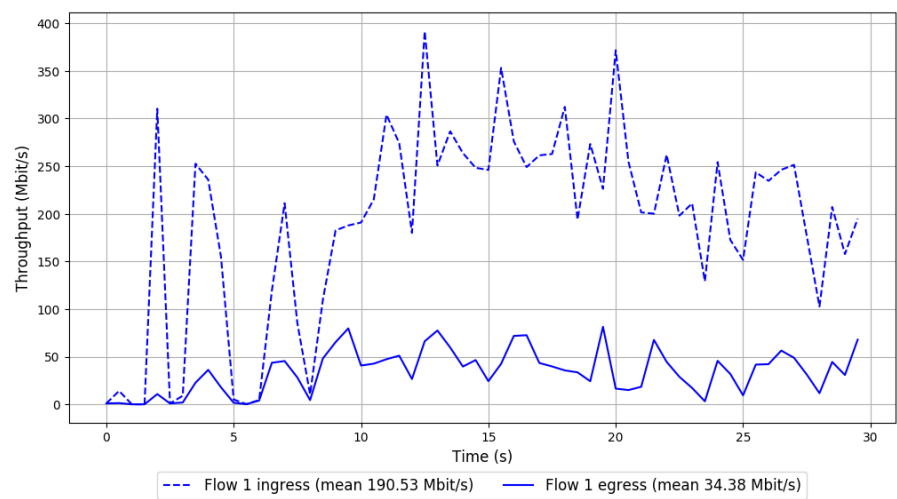
Run 6: Report of Verus — Data Link

Flow 1 ingress (mean 190.53 Mbit/s)   Flow 1 egress (mean 34.38 Mbit/s)

• Flow 1 (95th percentile 69.43 ms)

```
Run 7: Statistics of Verus

Start at: 2017-08-17 07:23:30
End at: 2017-08-17 07:24:00


# Below is generated by plot.py at 2017-08-17 09:15:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 100.82 Mbit/s
95th percentile per-packet one-way delay: 71.786 ms
Loss rate: 51.59%
-- Flow 1:
Average throughput: 100.82 Mbit/s
95th percentile per-packet one-way delay: 71.786 ms
Loss rate: 51.59%
```
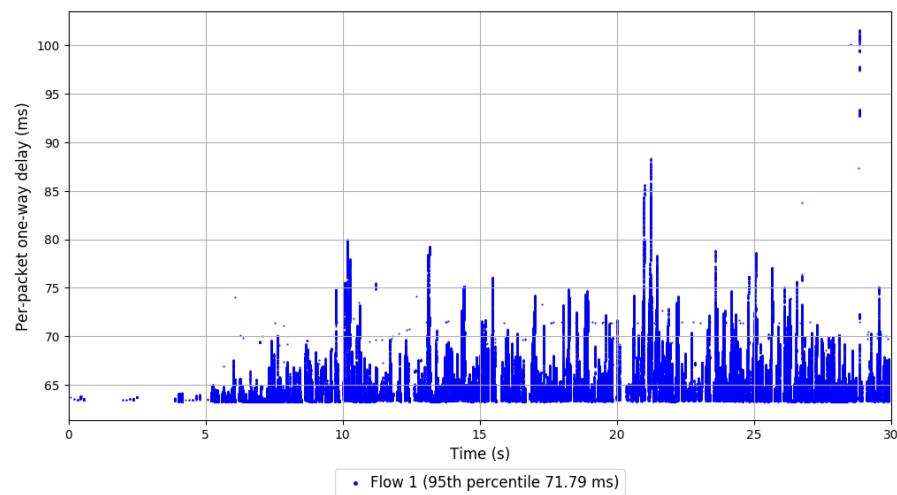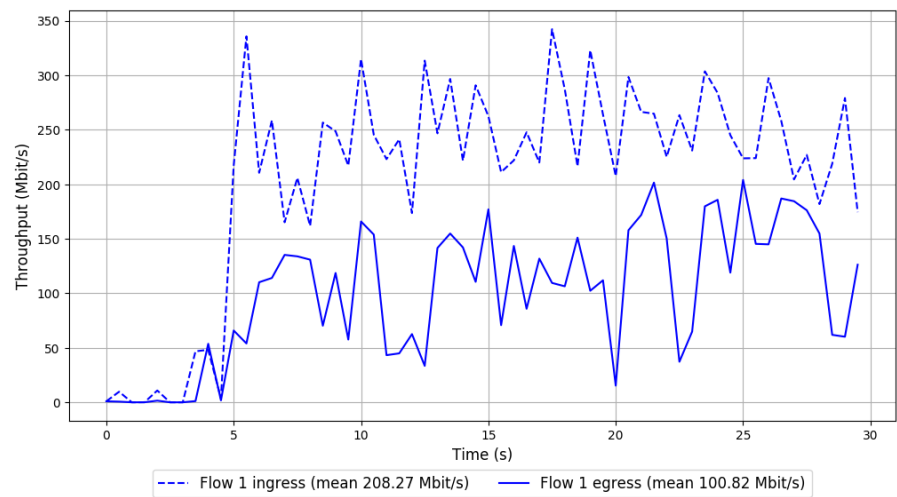
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2017-08-17 07:33:51
End at: 2017-08-17 07:34:21

# Below is generated by plot.py at 2017-08-17 09:15:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 71.411 ms
Loss rate: 97.97%
-- Flow 1:
Average throughput: 3.00 Mbit/s
95th percentile per-packet one-way delay: 71.411 ms
Loss rate: 97.97%
```
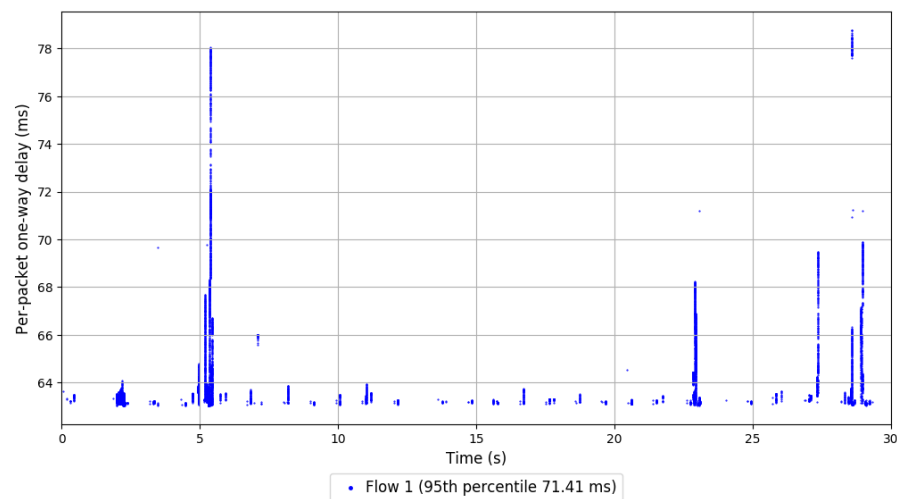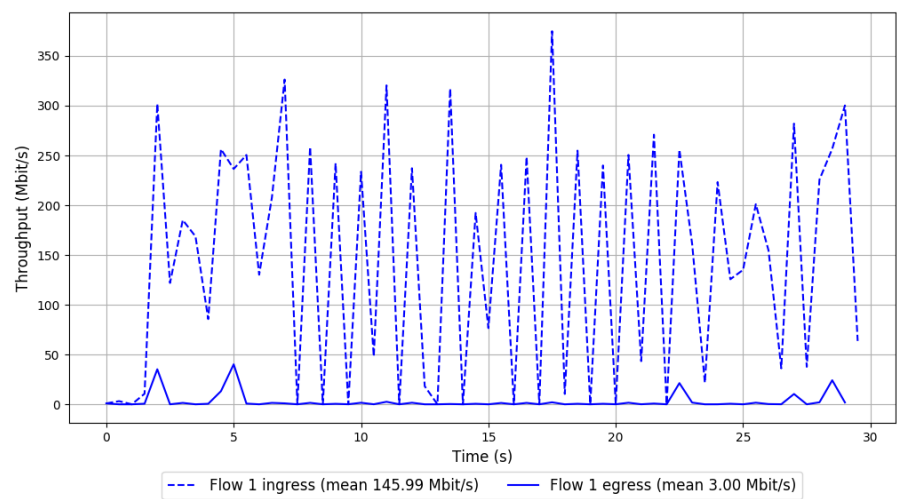
Run 8: Report of Verus — Data Link

```
Run 9: Statistics of Verus

Start at: 2017-08-17 07:43:47
End at: 2017-08-17 07:44:17


# Below is generated by plot.py at 2017-08-17 09:15:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 155.56 Mbit/s
95th percentile per-packet one-way delay: 110.292 ms
Loss rate: 11.98%
-- Flow 1:
Average throughput: 155.56 Mbit/s
95th percentile per-packet one-way delay: 110.292 ms
Loss rate: 11.98%
```
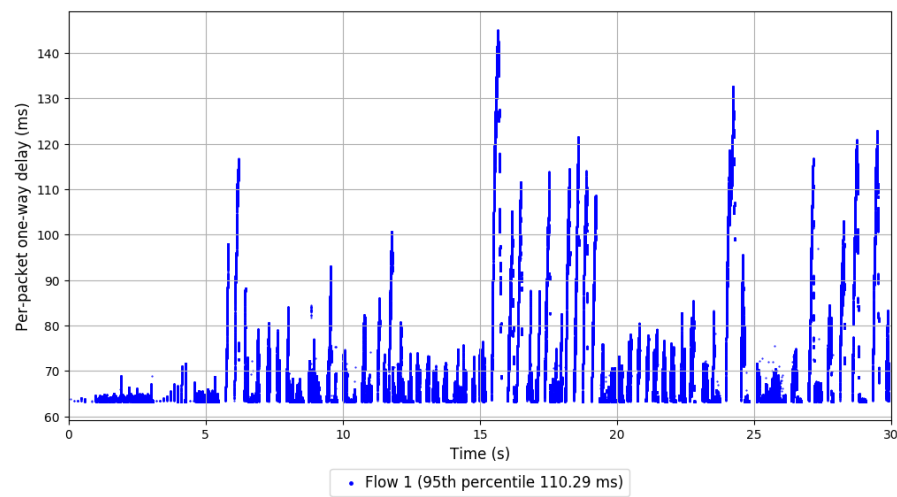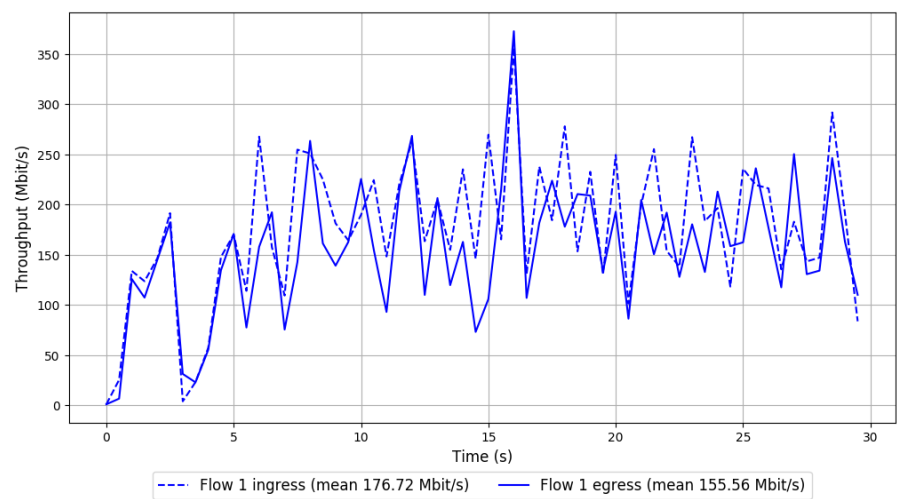
Run 9: Report of Verus — Data Link

```
Run 10: Statistics of Verus

Start at: 2017-08-17 07:53:49
End at: 2017-08-17 07:54:19


# Below is generated by plot.py at 2017-08-17 09:15:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 5.11 Mbit/s
95th percentile per-packet one-way delay: 65.118 ms
Loss rate: 92.28%
-- Flow 1:
Average throughput: 5.11 Mbit/s
95th percentile per-packet one-way delay: 65.118 ms
Loss rate: 92.28%
```
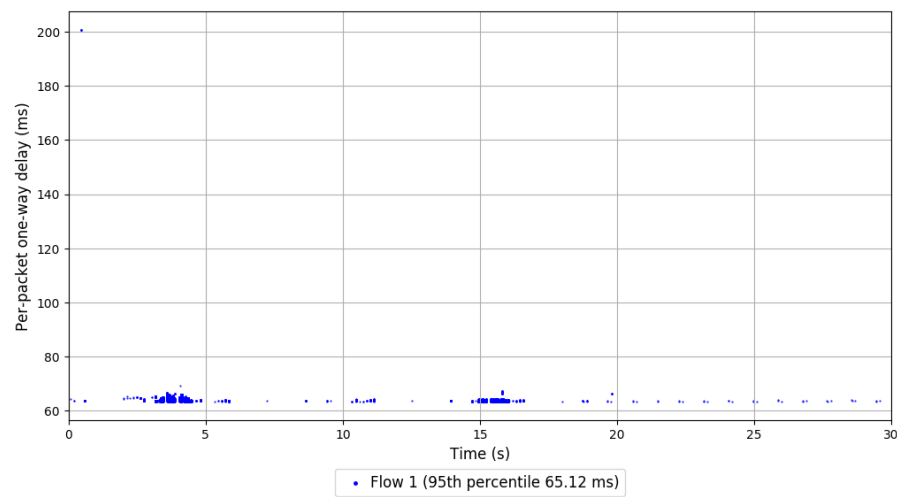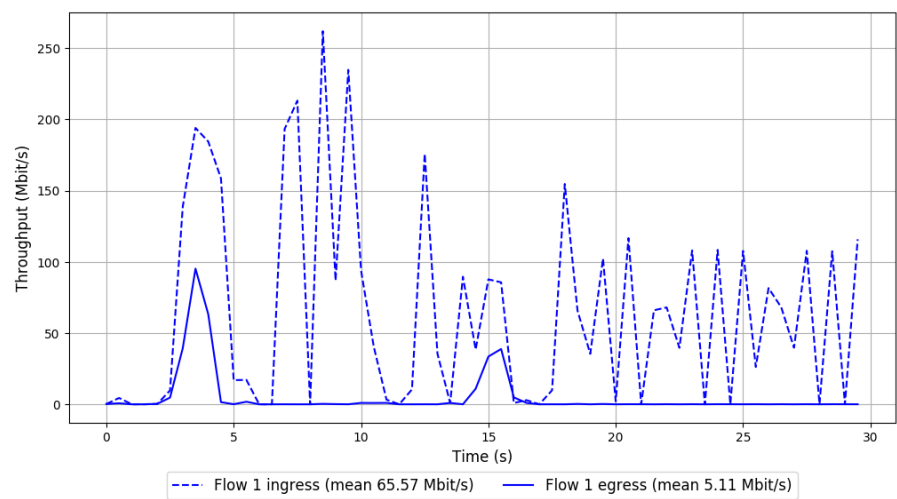
Run 10: Report of Verus — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2017-08-17 06:23:41
End at: 2017-08-17 06:24:11


# Below is generated by plot.py at 2017-08-17 09:15:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.910 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 63.910 ms
Loss rate: 0.00%
```

Run 1: Report of WebRTC media — Data Link

Flow 1 ingress (mean 0.05 Mbit/s)   Flow 1 egress (mean 0.05 Mbit/s)

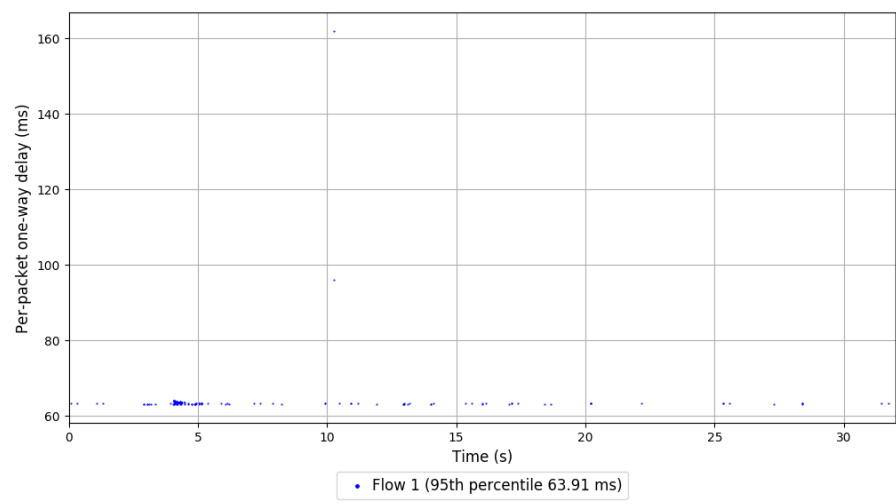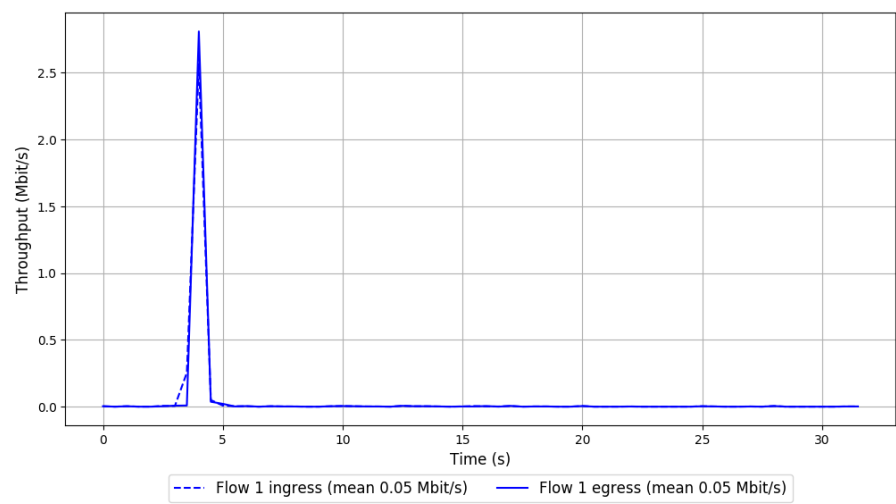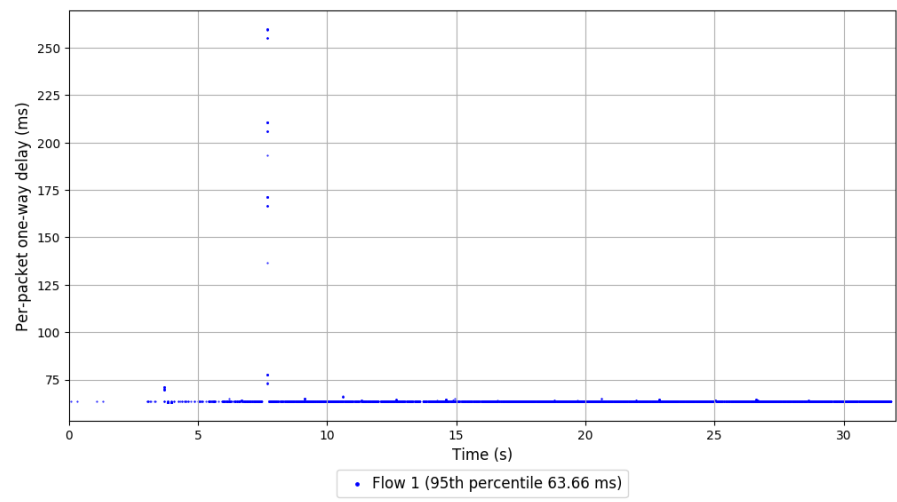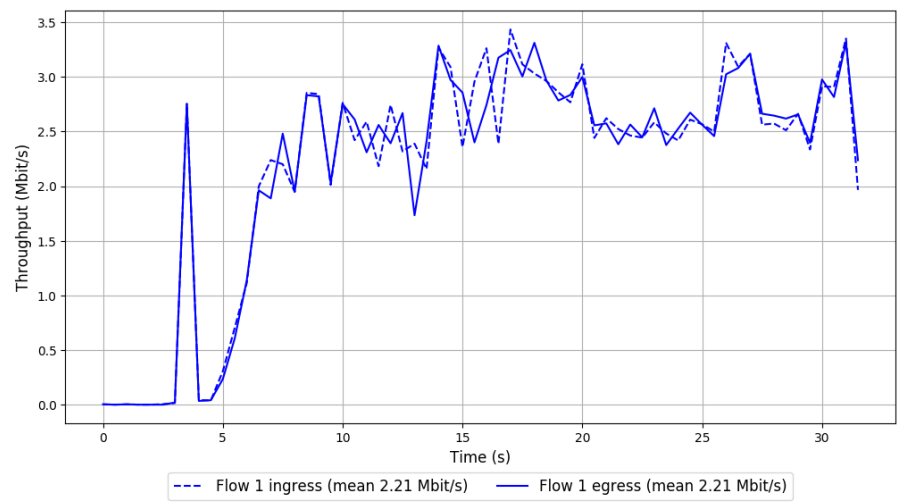
Flow 1 (95th percentile 63.91 ms)

```
Run 2: Statistics of WebRTC media

Start at: 2017-08-17 06:34:14
End at: 2017-08-17 06:34:44

# Below is generated by plot.py at 2017-08-17 09:15:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 63.665 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 63.665 ms
Loss rate: 0.00%
```

Run 2: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.21 Mbit/s)   Flow 1 egress (mean 2.21 Mbit/s)

Flow 1 (95th percentile 63.66 ms)

```
Run 3: Statistics of WebRTC media

Start at: 2017-08-17 06:44:49
End at: 2017-08-17 06:45:19

# Below is generated by plot.py at 2017-08-17 09:15:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 63.673 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 63.673 ms
Loss rate: 0.00%
```
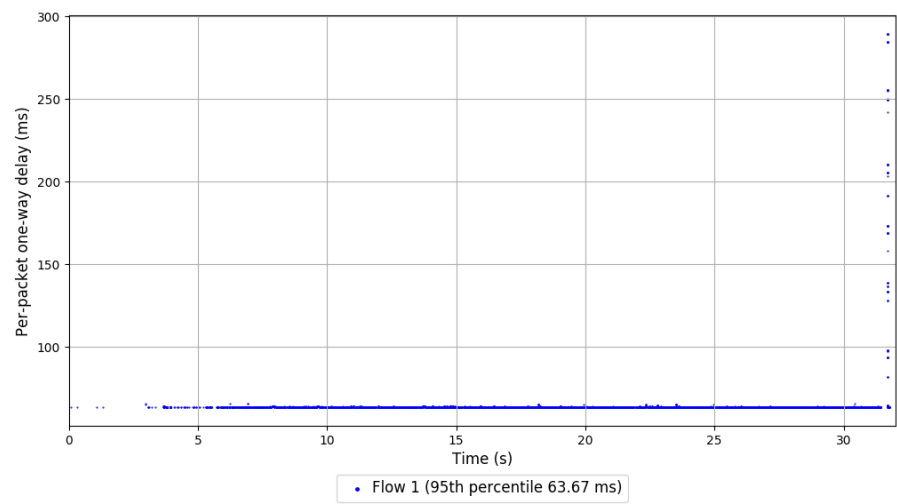
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2017-08-17 06:55:21
End at: 2017-08-17 06:55:51

# Below is generated by plot.py at 2017-08-17 09:15:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 63.647 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 63.647 ms
Loss rate: 0.00%
```
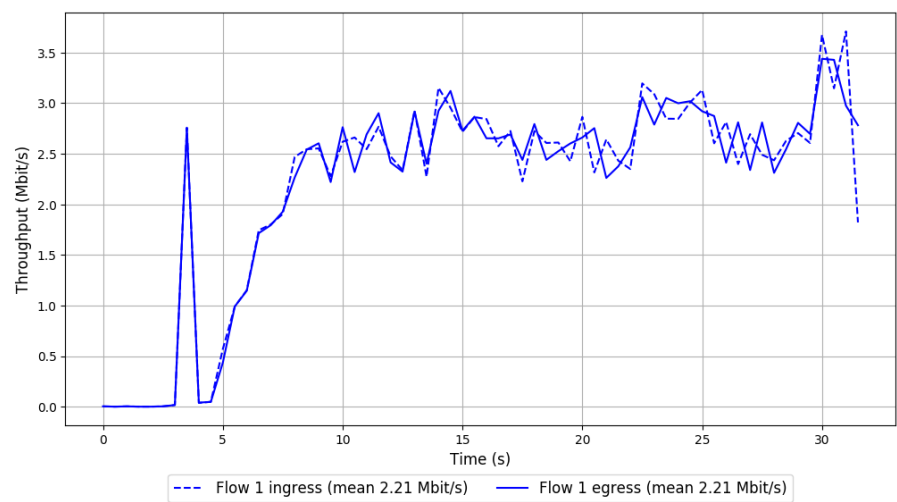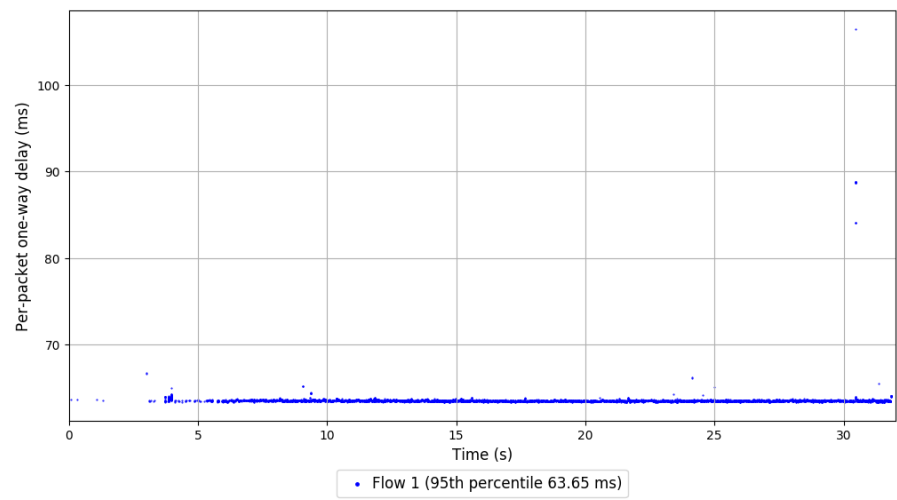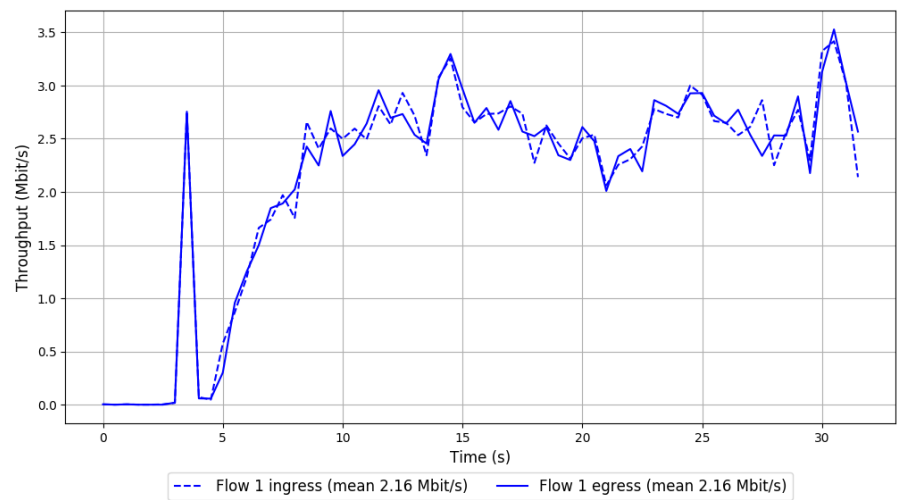
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2017-08-17 07:05:32
End at: 2017-08-17 07:06:02

# Below is generated by plot.py at 2017-08-17 09:15:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 63.663 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 63.663 ms
Loss rate: 0.00%
```
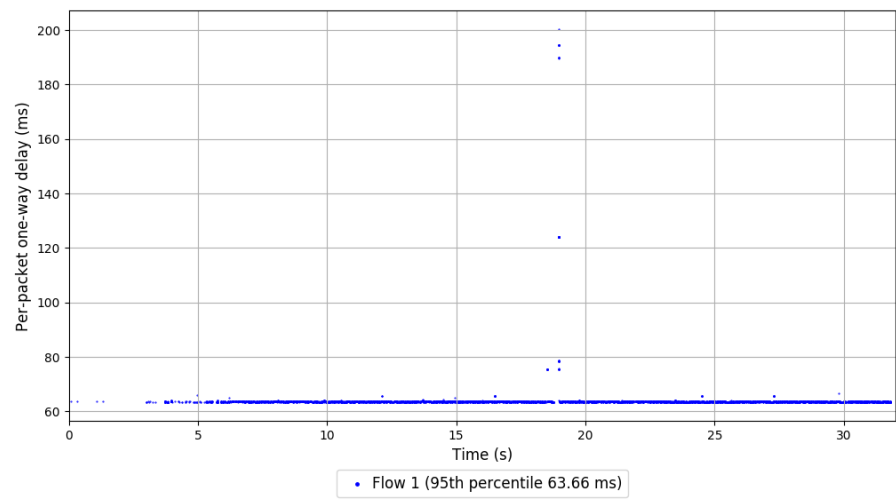
Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2017-08-17 07:15:46
End at: 2017-08-17 07:16:16

# Below is generated by plot.py at 2017-08-17 09:15:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 63.322 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.20 Mbit/s
95th percentile per-packet one-way delay: 63.322 ms
Loss rate: 0.00%
```
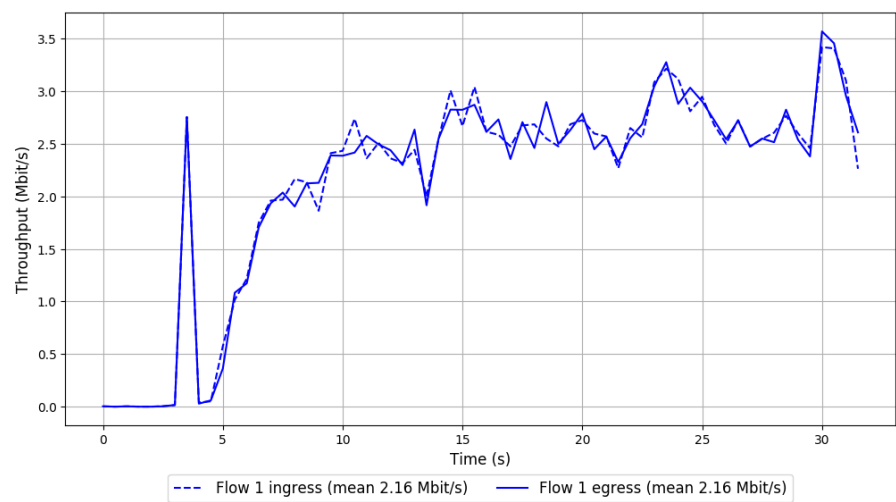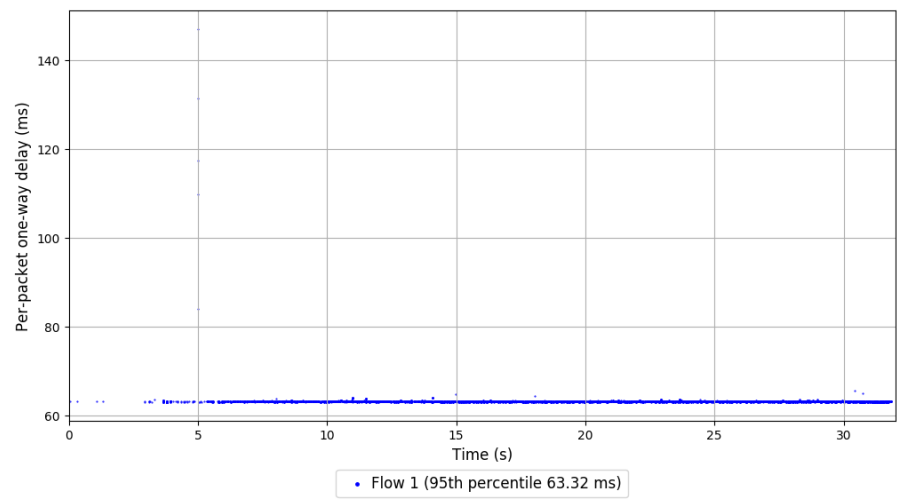
Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2017-08-17 07:26:15
End at: 2017-08-17 07:26:45

# Below is generated by plot.py at 2017-08-17 09:15:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 63.599 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.21 Mbit/s
95th percentile per-packet one-way delay: 63.599 ms
Loss rate: 0.00%
```
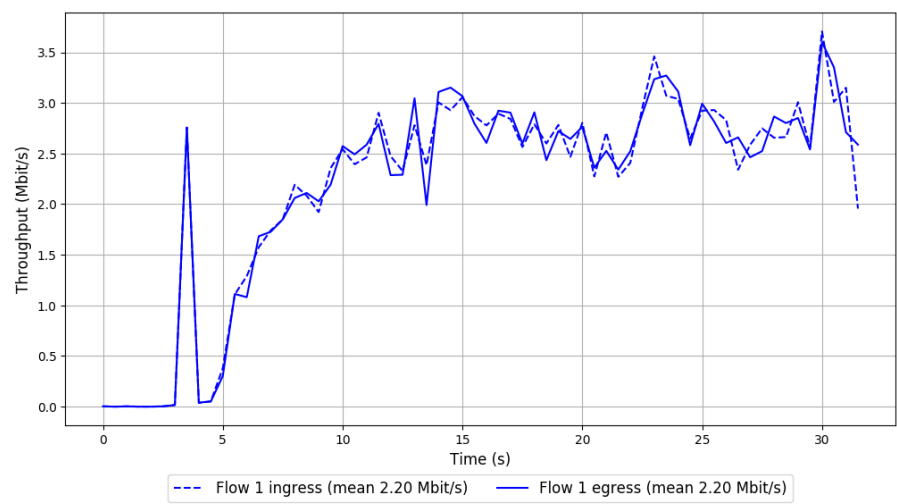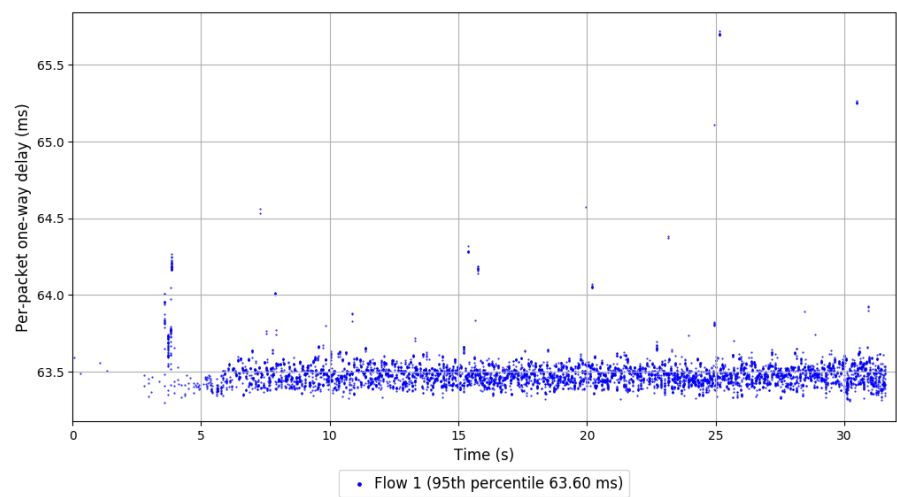
Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2017-08-17 07:36:32
End at: 2017-08-17 07:37:02

# Below is generated by plot.py at 2017-08-17 09:15:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 63.365 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.17 Mbit/s
95th percentile per-packet one-way delay: 63.365 ms
Loss rate: 0.00%
```
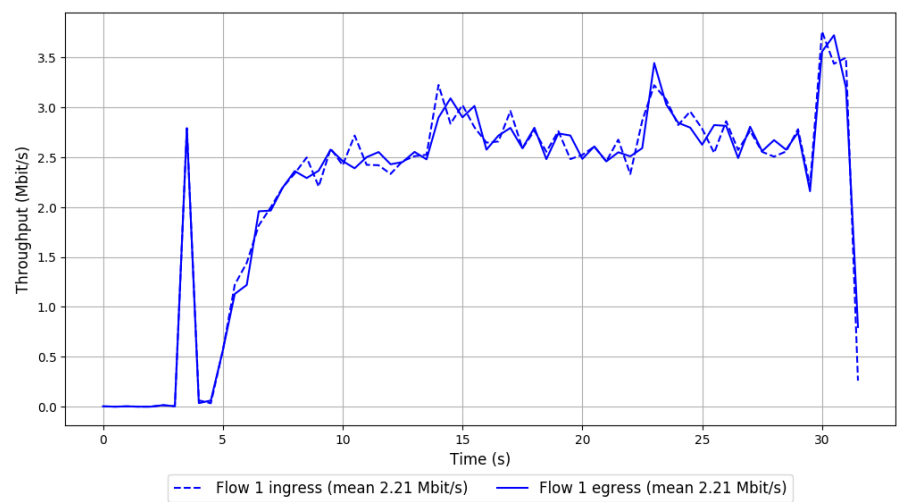
Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2017-08-17 07:46:31
End at: 2017-08-17 07:47:01

# Below is generated by plot.py at 2017-08-17 09:15:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 63.559 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.40 Mbit/s
95th percentile per-packet one-way delay: 63.559 ms
Loss rate: 0.00%
```
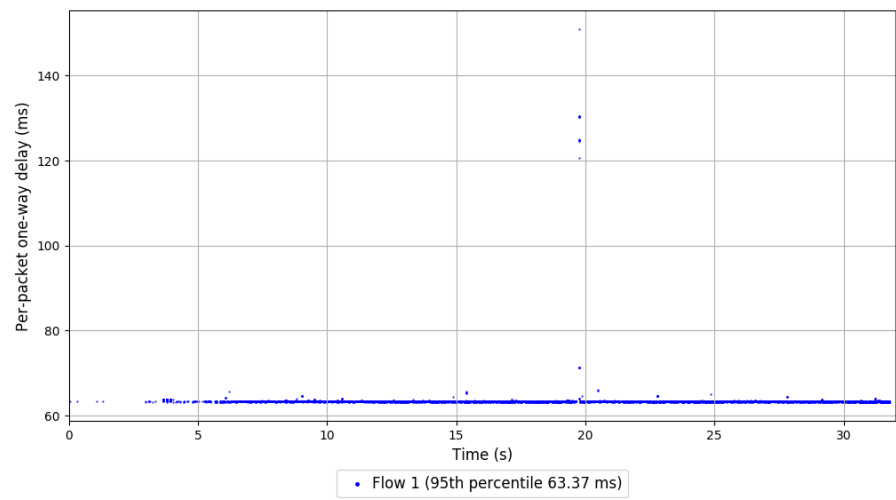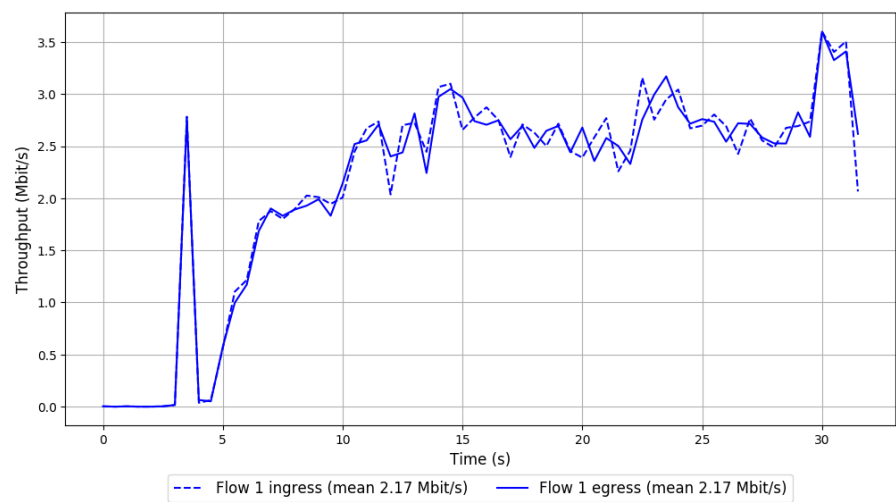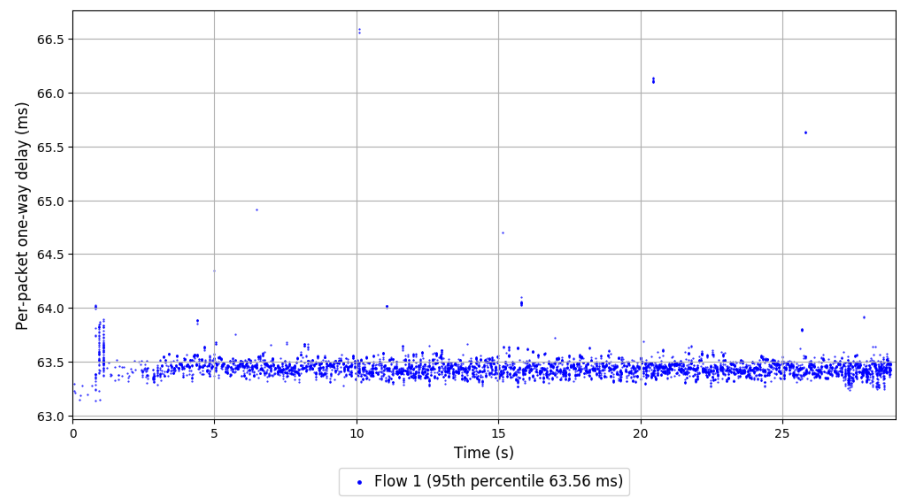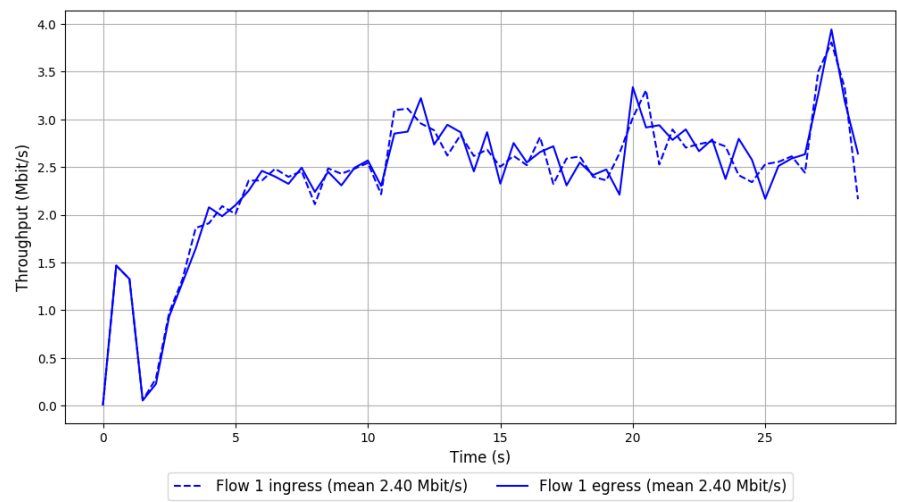
Run 9: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.40 Mbit/s) —— Flow 1 egress (mean 2.40 Mbit/s)

• Flow 1 (95th percentile 63.56 ms)

```
Run 10: Statistics of WebRTC media

Start at: 2017-08-17 07:56:32
End at: 2017-08-17 07:57:03

# Below is generated by plot.py at 2017-08-17 09:15:45
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 63.567 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.19 Mbit/s
95th percentile per-packet one-way delay: 63.567 ms
Loss rate: 0.00%
```

Run 10: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.19 Mbit/s)   Flow 1 egress (mean 2.19 Mbit/s)

Flow 1 (95th percentile 63.57 ms)