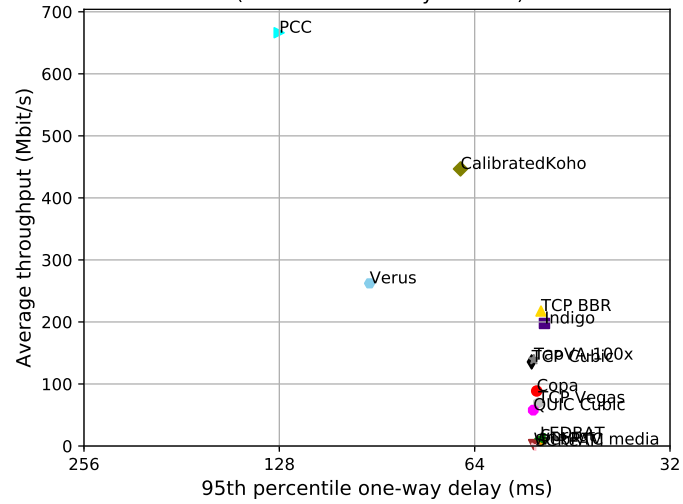# Pantheon Report

Generated at 2017-10-11 03:10:15 (UTC).

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

Repeated the test of 14 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).

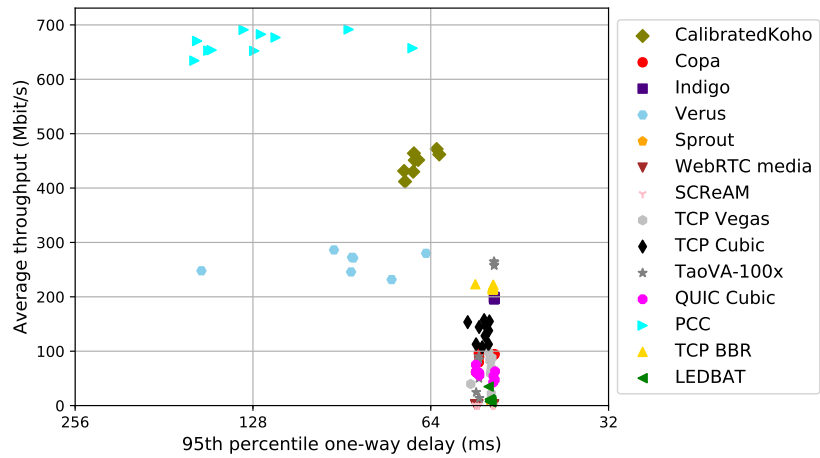Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: indigos @ 45998d6404be7c5106956530acb9cfc43bd06e7d
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ f7ca42f251bf49b432bb71de6d13fa903515c366
third_party/indigo @ b19f3730105f9aa95452552af924e3719b03cc55
third_party/indigo-cellular @ aee99e8eb842cb053f8c9a80e28cd256a930bbc2
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b983ad84360c53d89
third_party/indigo-no-cwnd @ 3e58442c04028a11d7b02456e137604633ba2d6c
third_party/indigo-no-delivery-rate @ 57caa40858b964906edff4876d5a7e5bfff666c5
third_party/indigo-no-queuing-delay @ 03455460fd1a8ffbdad86fabb936fdca204b80db
third_party/indigo-no-send-rate @ b39dfa6b2c5f19cb7cd89626cb4f5bb81f9fecda
third_party/koho_cc @ f0f2e693303aee82ea808e6928eac4f1083a6681
 M datagrump/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce6bb7cf3cf
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 Tokyo Ethernet to GCE Sydney Ethernet, 10 runs of 30s each per scheme
(mean of all runs by scheme)

test from GCE Tokyo Ethernet to GCE Sydney 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	217.64	50.58	0.35
TCP Cubic	10	135.59	52.29	0.35
LEDBAT	8	11.88	50.76	0.40
PCC	10	666.26	128.08	1.47
QUIC Cubic	10	57.83	51.99	0.52
SCReAM	9	0.21	51.63	0.35
WebRTC media	10	2.29	51.92	0.41
Sprout	9	7.94	50.63	0.38
TaoVA-100x	10	139.29	51.87	0.47
TCP Vegas	10	69.30	51.08	0.30
Verus	7	262.22	92.91	1.18
Copa	10	88.69	51.36	0.40
CalibratedKoho	8	446.70	67.30	0.40
Indigo	10	197.59	49.96	0.34

```
Run 1: Statistics of TCP BBR

Start at: 2017-10-10 22:53:53
End at: 2017-10-10 22:54:23

# Below is generated by plot.py at 2017-10-11 02:25:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 214.98 Mbit/s
95th percentile per-packet one-way delay: 50.180 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 214.98 Mbit/s
95th percentile per-packet one-way delay: 50.180 ms
Loss rate: 0.34%
```
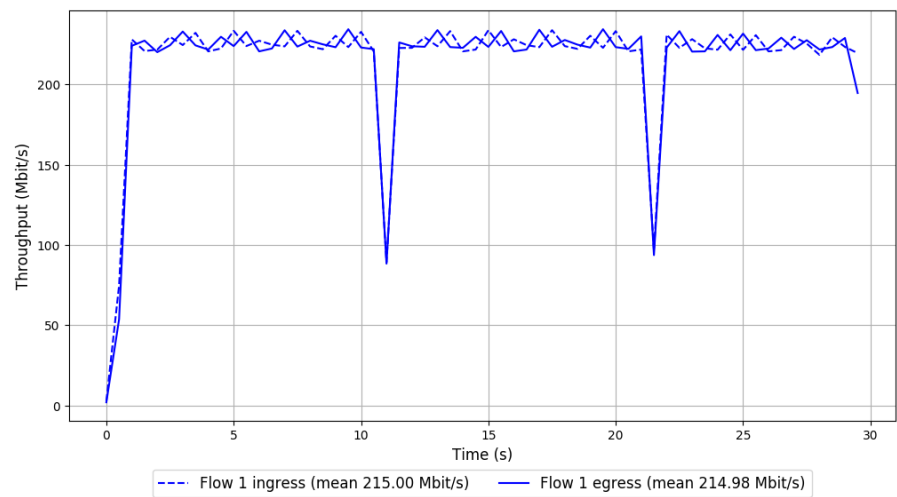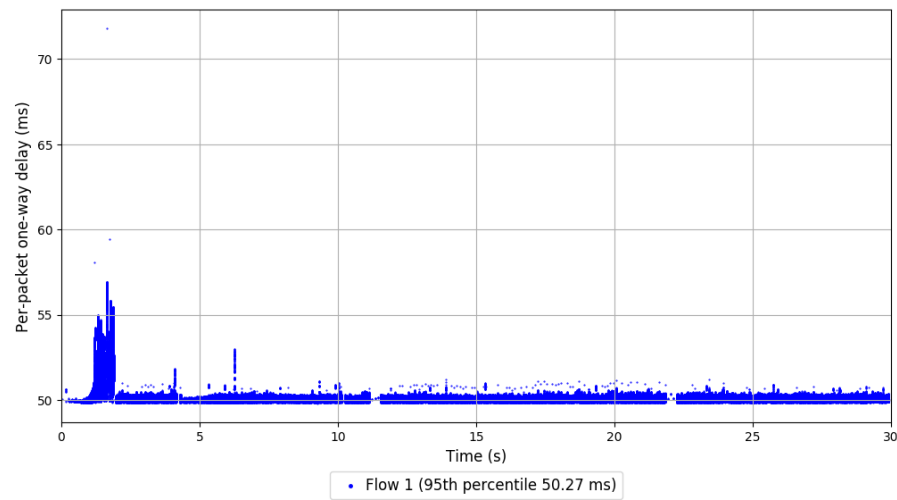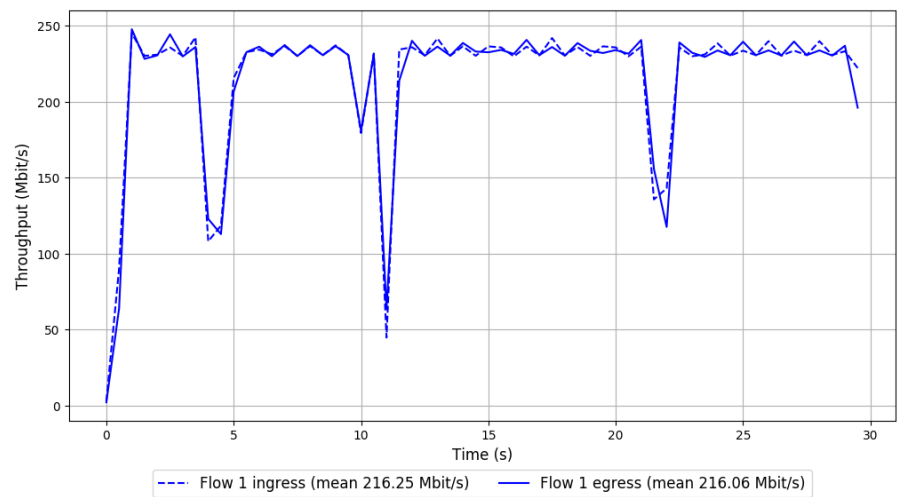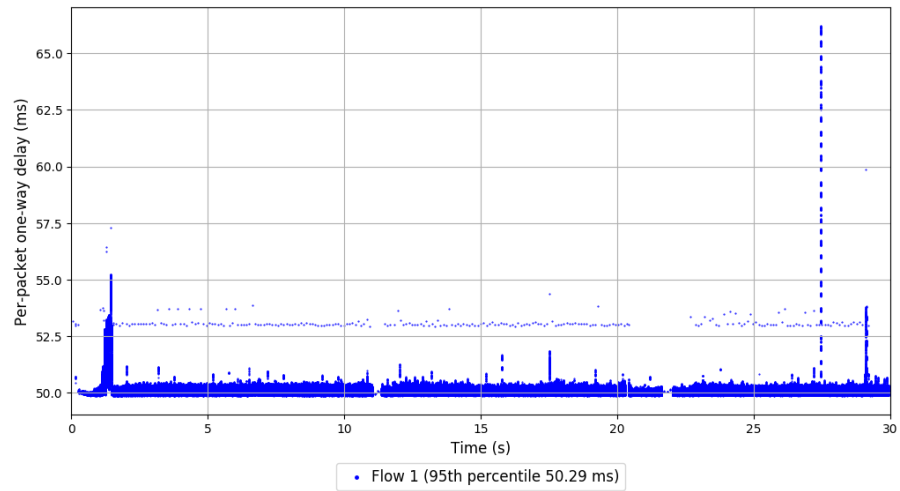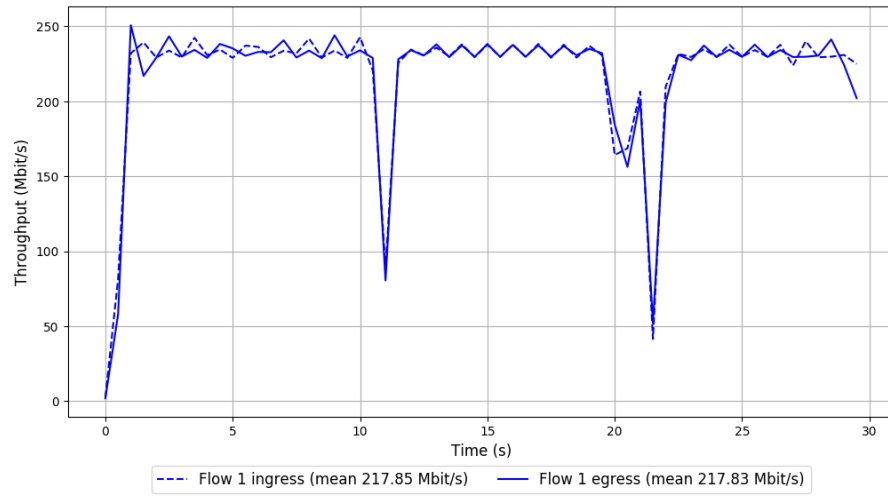
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2017-10-10 23:04:24
End at: 2017-10-10 23:04:54

# Below is generated by plot.py at 2017-10-11 02:25:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 216.06 Mbit/s
95th percentile per-packet one-way delay: 50.270 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 216.06 Mbit/s
95th percentile per-packet one-way delay: 50.270 ms
Loss rate: 0.38%
```
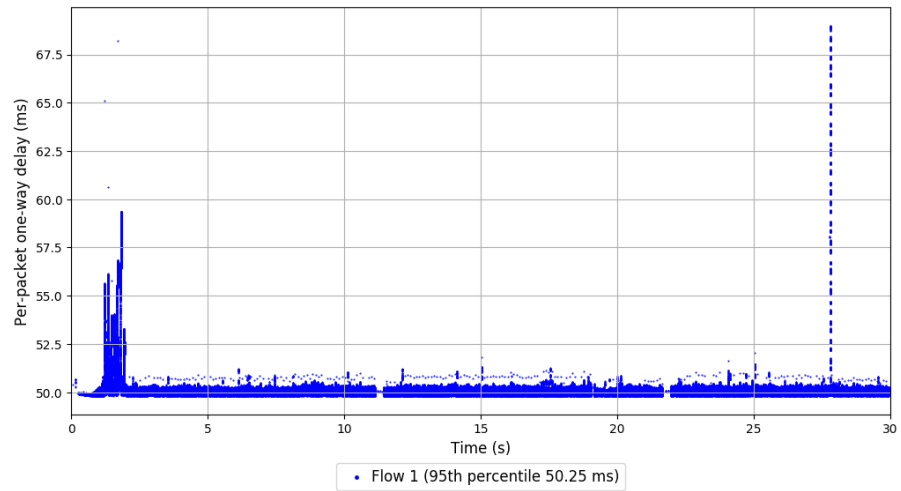
Run 2: Report of TCP BBR — Data Link

```
Run 3: Statistics of TCP BBR

Start at: 2017-10-10 23:15:18
End at: 2017-10-10 23:15:48

# Below is generated by plot.py at 2017-10-11 02:25:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 217.83 Mbit/s
95th percentile per-packet one-way delay: 50.293 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 217.83 Mbit/s
95th percentile per-packet one-way delay: 50.293 ms
Loss rate: 0.35%
```
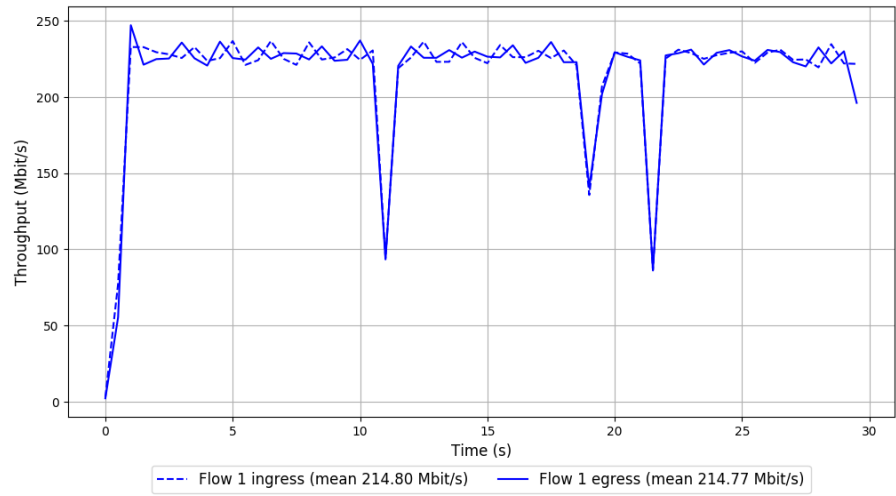
Run 3: Report of TCP BBR — Data Link

```
Run 4: Statistics of TCP BBR

Start at: 2017-10-10 23:26:07
End at: 2017-10-10 23:26:37

# Below is generated by plot.py at 2017-10-11 02:25:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 214.77 Mbit/s
95th percentile per-packet one-way delay: 50.254 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 214.77 Mbit/s
95th percentile per-packet one-way delay: 50.254 ms
Loss rate: 0.36%
```
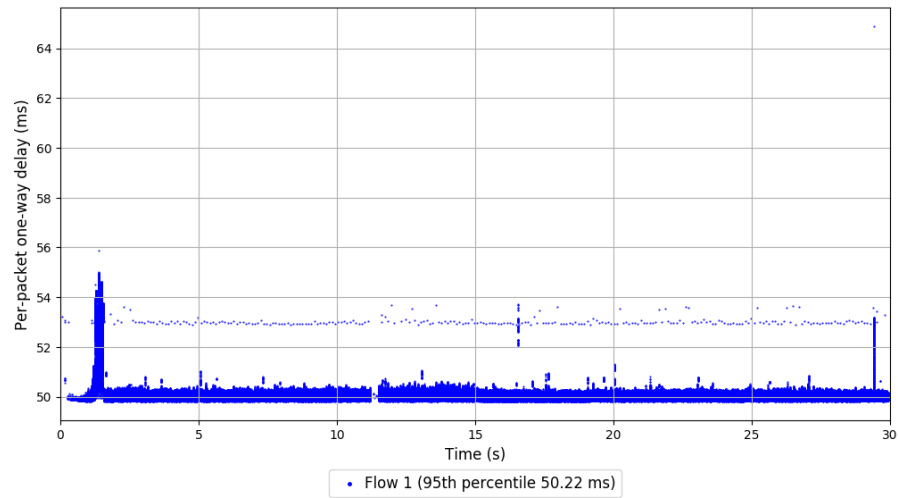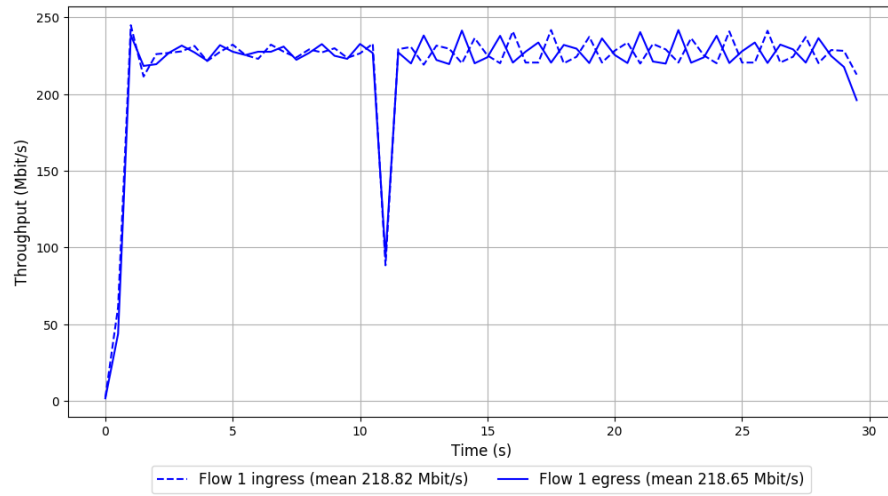
Run 4: Report of TCP BBR — Data Link

```
Run 5: Statistics of TCP BBR

Start at: 2017-10-10 23:36:34
End at: 2017-10-10 23:37:04

# Below is generated by plot.py at 2017-10-11 02:25:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 218.65 Mbit/s
95th percentile per-packet one-way delay: 50.223 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 218.65 Mbit/s
95th percentile per-packet one-way delay: 50.223 ms
Loss rate: 0.36%
```
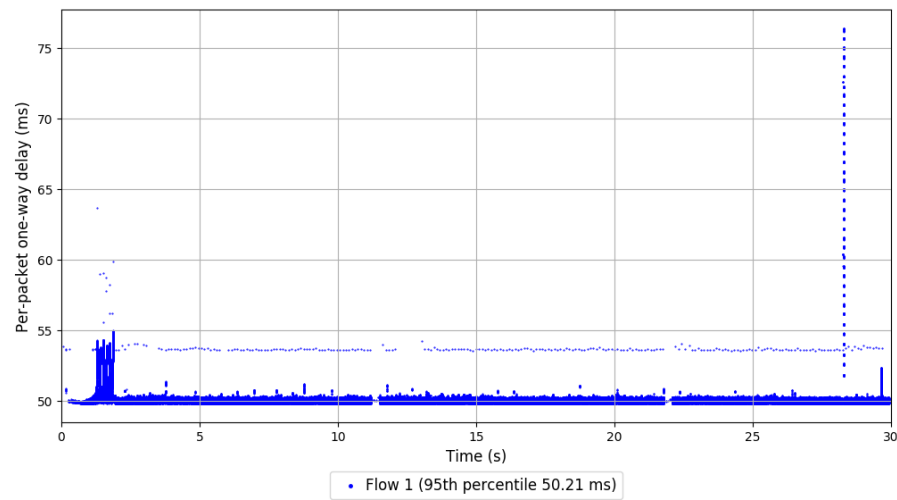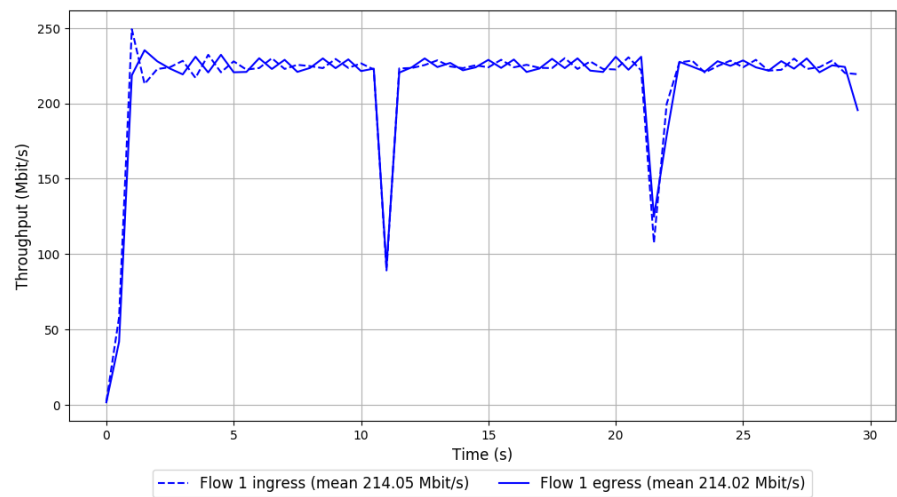
Run 5: Report of TCP BBR — Data Link

```
Run 6: Statistics of TCP BBR

Start at: 2017-10-10 23:47:05
End at: 2017-10-10 23:47:35

# Below is generated by plot.py at 2017-10-11 02:25:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 214.02 Mbit/s
95th percentile per-packet one-way delay: 50.210 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 214.02 Mbit/s
95th percentile per-packet one-way delay: 50.210 ms
Loss rate: 0.35%
```
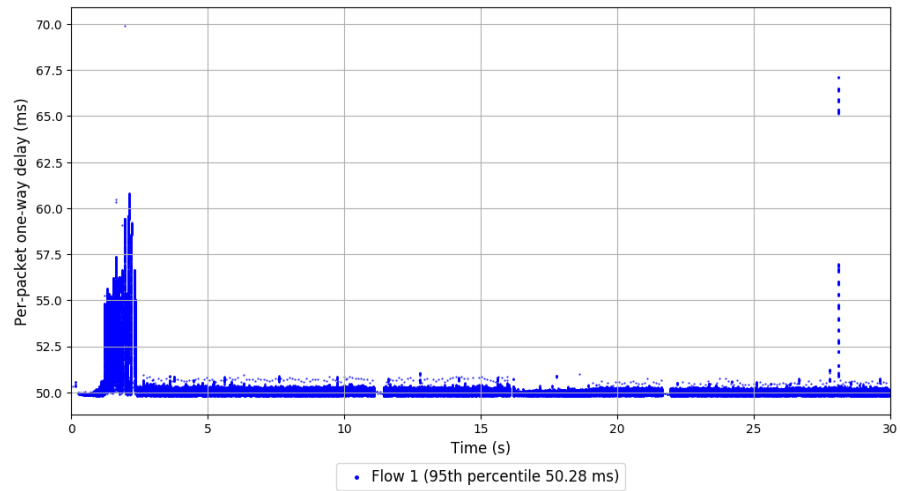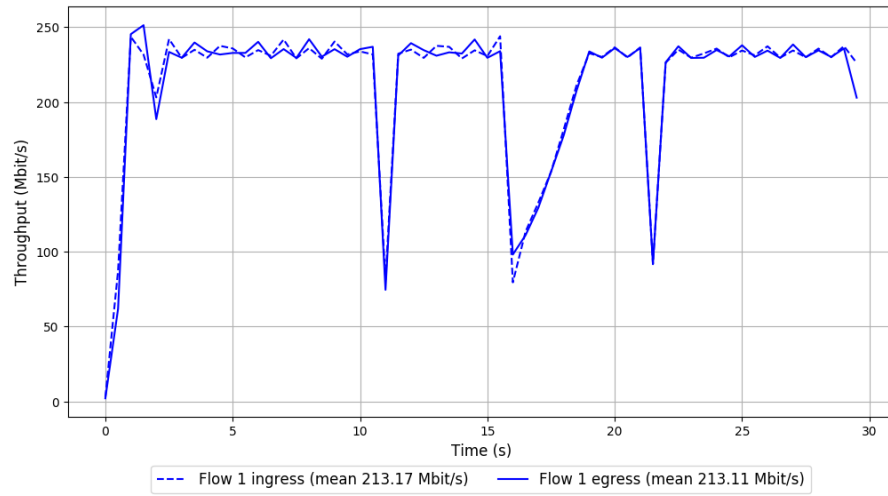
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 214.05 Mbit/s)   Flow 1 egress (mean 214.02 Mbit/s)

Flow 1 (95th percentile 50.21 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2017-10-10 23:57:45
End at: 2017-10-10 23:58:15

# Below is generated by plot.py at 2017-10-11 02:25:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 213.11 Mbit/s
95th percentile per-packet one-way delay: 50.282 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 213.11 Mbit/s
95th percentile per-packet one-way delay: 50.282 ms
Loss rate: 0.37%
```
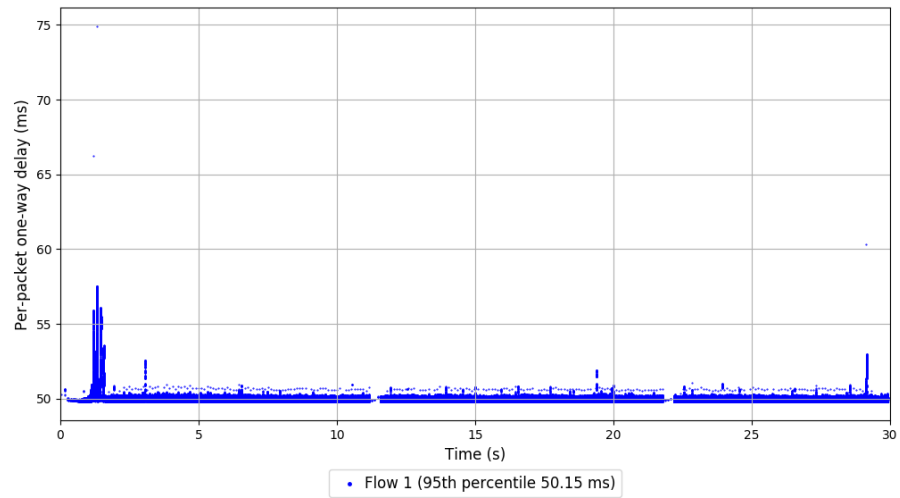
Run 7: Report of TCP BBR — Data Link

Flow 1 ingress (mean 213.17 Mbit/s)   Flow 1 egress (mean 213.11 Mbit/s)

• Flow 1 (95th percentile 50.28 ms)

17

```
Run 8: Statistics of TCP BBR

Start at: 2017-10-11 00:08:17
End at: 2017-10-11 00:08:47

# Below is generated by plot.py at 2017-10-11 02:25:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 222.23 Mbit/s
95th percentile per-packet one-way delay: 50.150 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 222.23 Mbit/s
95th percentile per-packet one-way delay: 50.150 ms
Loss rate: 0.37%
```
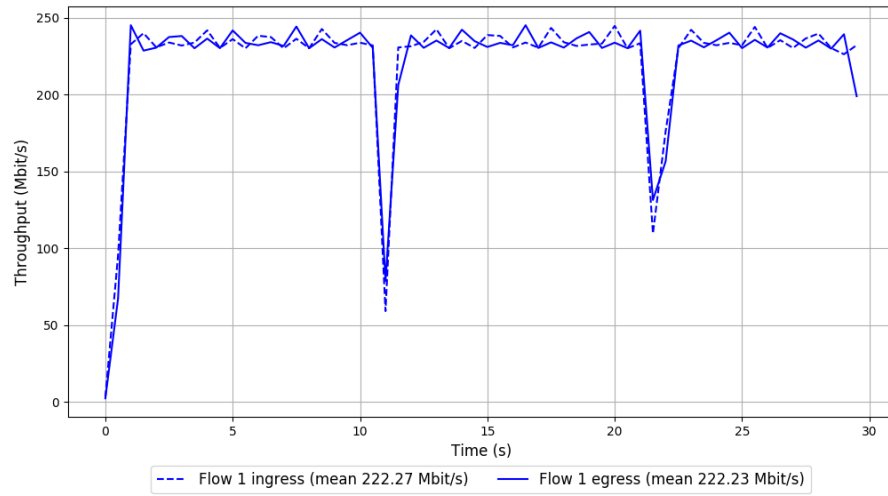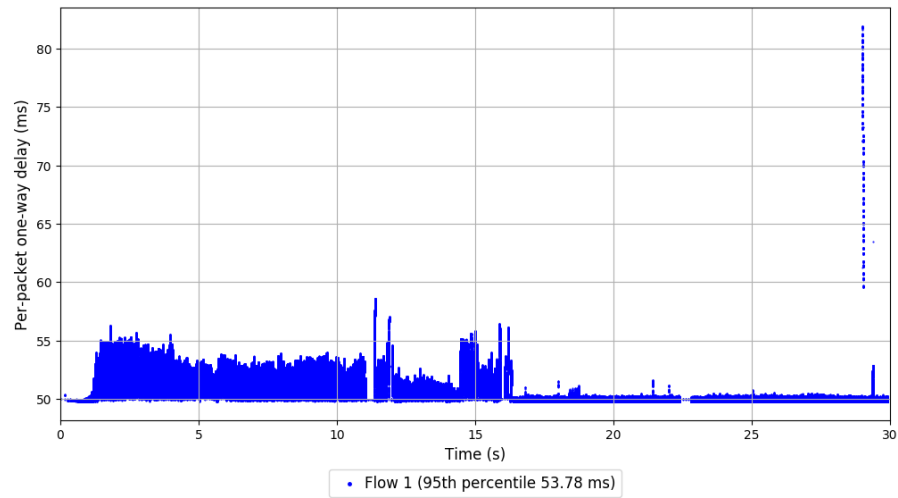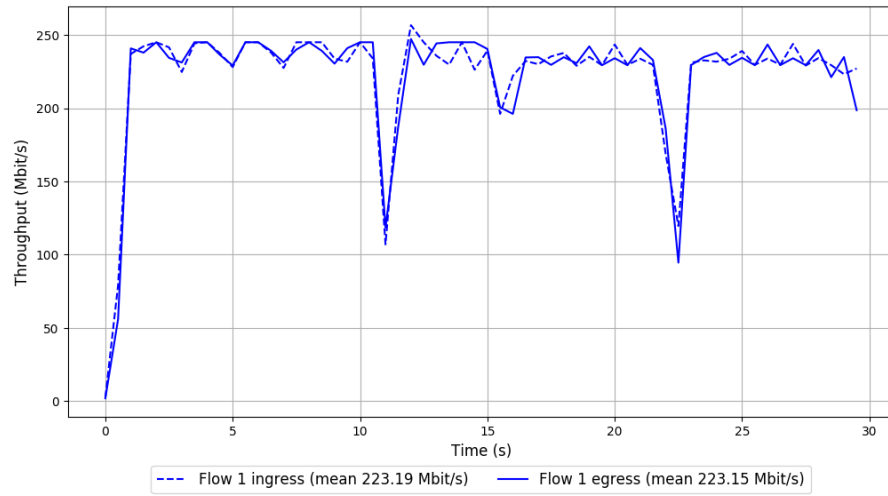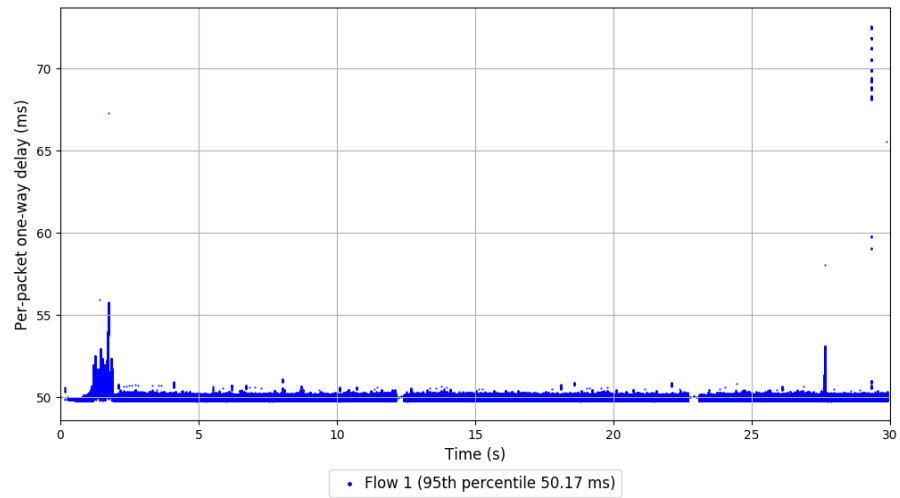
Run 8: Report of TCP BBR — Data Link

Flow 1 ingress (mean 222.27 Mbit/s) Flow 1 egress (mean 222.23 Mbit/s)

Flow 1 (95th percentile 50.15 ms)

```
Run 9: Statistics of TCP BBR

Start at: 2017-10-11 00:18:47
End at: 2017-10-11 00:19:17

# Below is generated by plot.py at 2017-10-11 02:29:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 223.15 Mbit/s
95th percentile per-packet one-way delay: 53.780 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 223.15 Mbit/s
95th percentile per-packet one-way delay: 53.780 ms
Loss rate: 0.36%
```
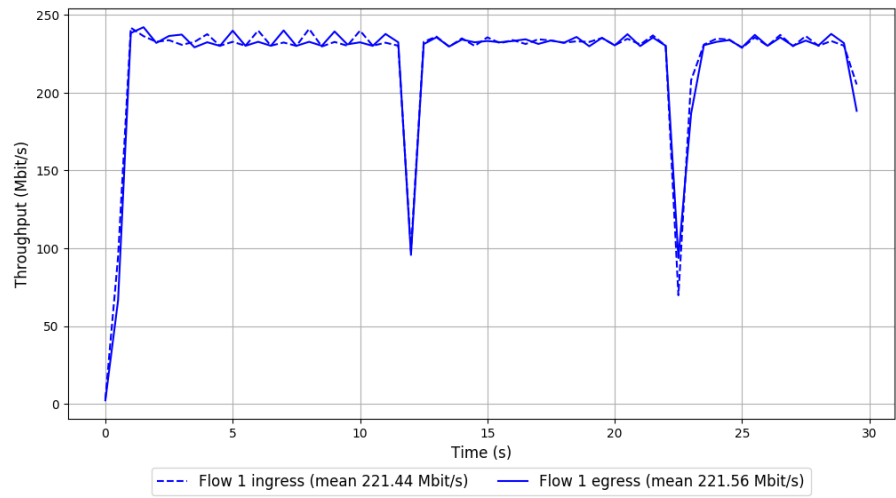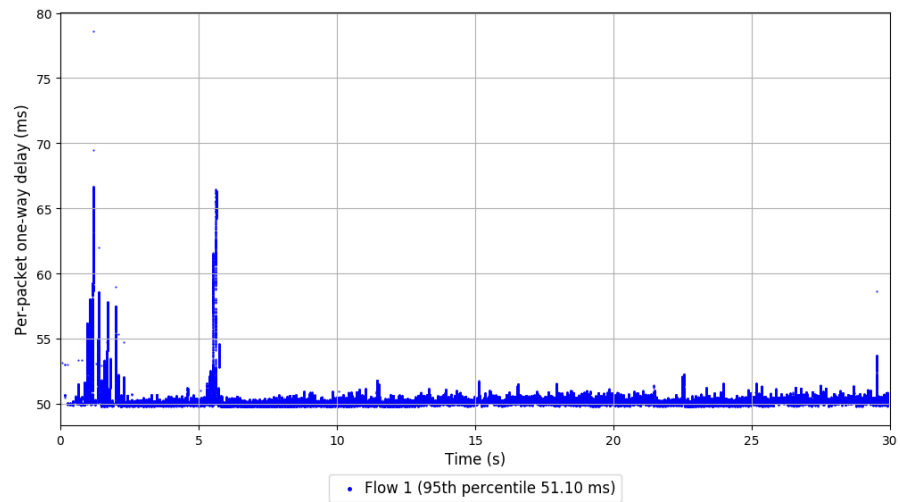
Run 9: Report of TCP BBR — Data Link

```
Run 10: Statistics of TCP BBR

Start at: 2017-10-11 00:29:11
End at: 2017-10-11 00:29:41

# Below is generated by plot.py at 2017-10-11 02:29:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 221.56 Mbit/s
95th percentile per-packet one-way delay: 50.169 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 221.56 Mbit/s
95th percentile per-packet one-way delay: 50.169 ms
Loss rate: 0.28%
```
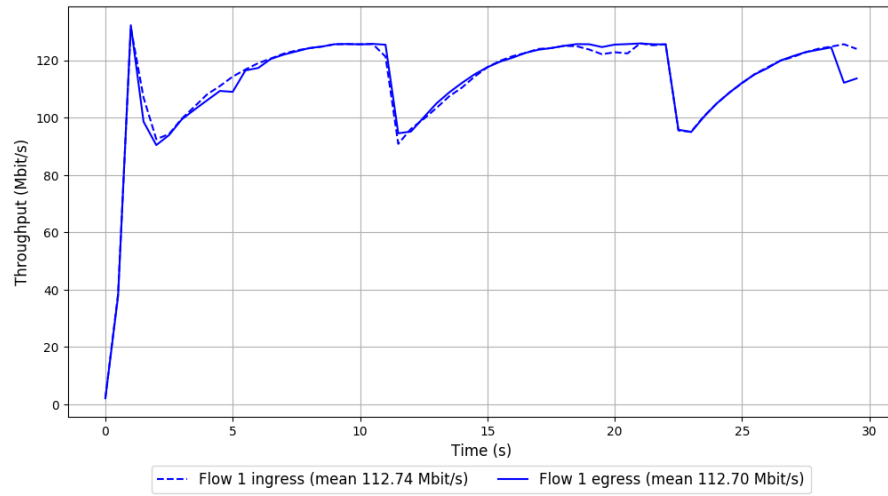
Run 10: Report of TCP BBR — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2017-10-10 22:54:40
End at: 2017-10-10 22:55:10

# Below is generated by plot.py at 2017-10-11 02:29:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 112.70 Mbit/s
95th percentile per-packet one-way delay: 51.099 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 112.70 Mbit/s
95th percentile per-packet one-way delay: 51.099 ms
Loss rate: 0.37%
```
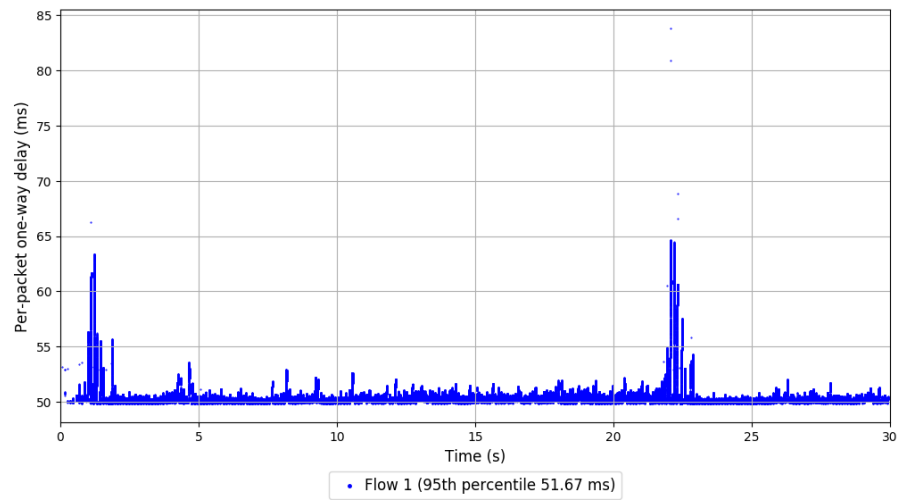
Run 1: Report of TCP Cubic — Data Link

```
Run 2: Statistics of TCP Cubic

Start at: 2017-10-10 23:05:11
End at: 2017-10-10 23:05:41


# Below is generated by plot.py at 2017-10-11 02:29:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 146.94 Mbit/s
95th percentile per-packet one-way delay: 51.669 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 146.94 Mbit/s
95th percentile per-packet one-way delay: 51.669 ms
Loss rate: 0.32%
```
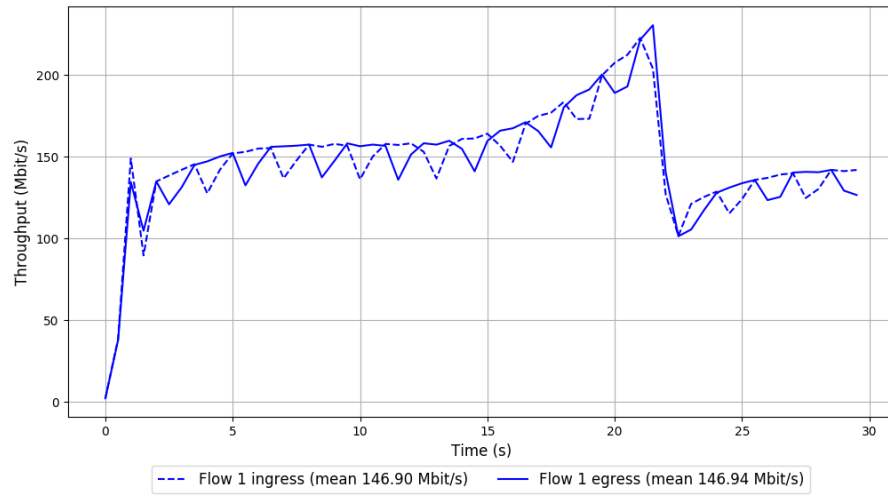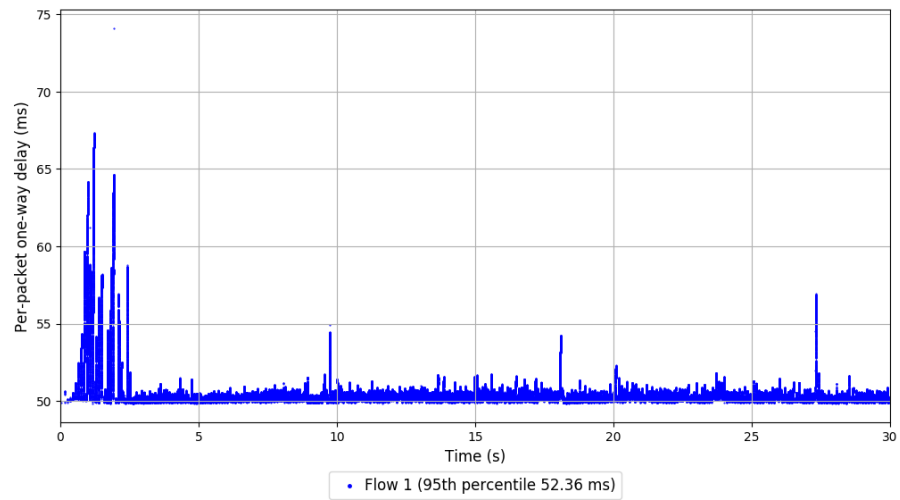
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2017-10-10 23:16:06
End at: 2017-10-10 23:16:36


# Below is generated by plot.py at 2017-10-11 02:29:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 107.28 Mbit/s
95th percentile per-packet one-way delay: 52.363 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 107.28 Mbit/s
95th percentile per-packet one-way delay: 52.363 ms
Loss rate: 0.35%
```
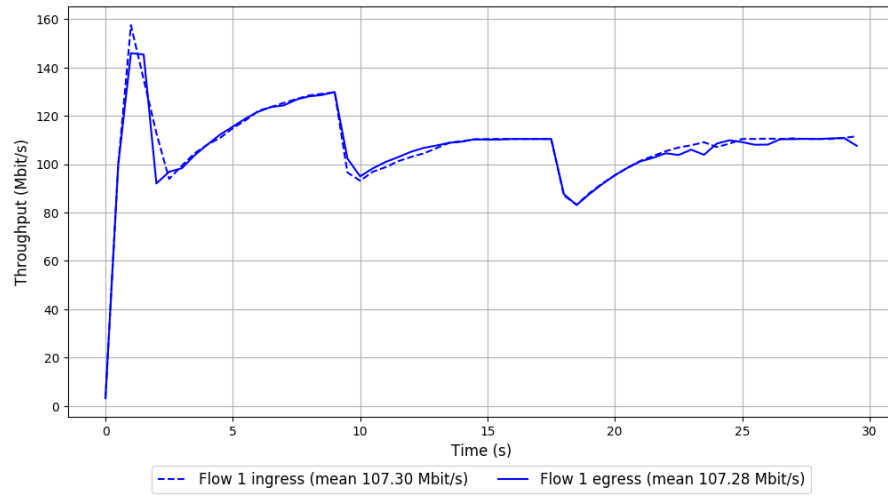
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2017-10-10 23:26:55
End at: 2017-10-10 23:27:25

# Below is generated by plot.py at 2017-10-11 02:29:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 128.32 Mbit/s
95th percentile per-packet one-way delay: 51.811 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 128.32 Mbit/s
95th percentile per-packet one-way delay: 51.811 ms
Loss rate: 0.35%
```
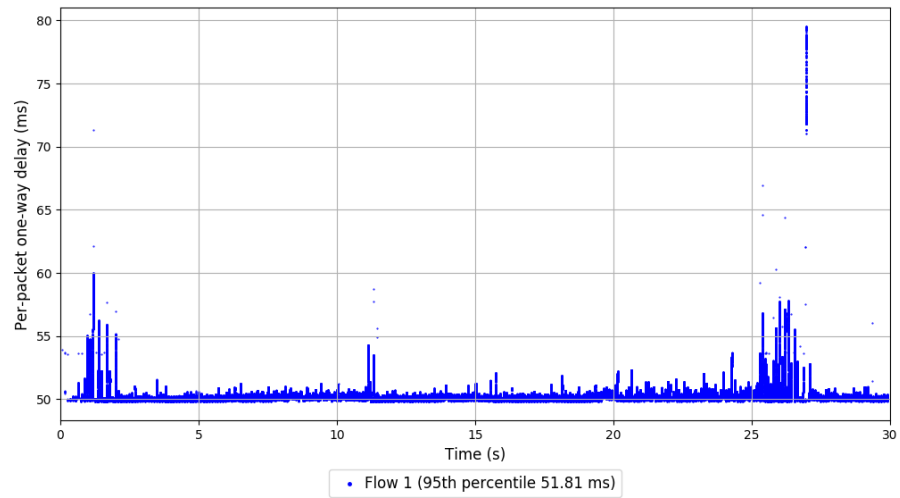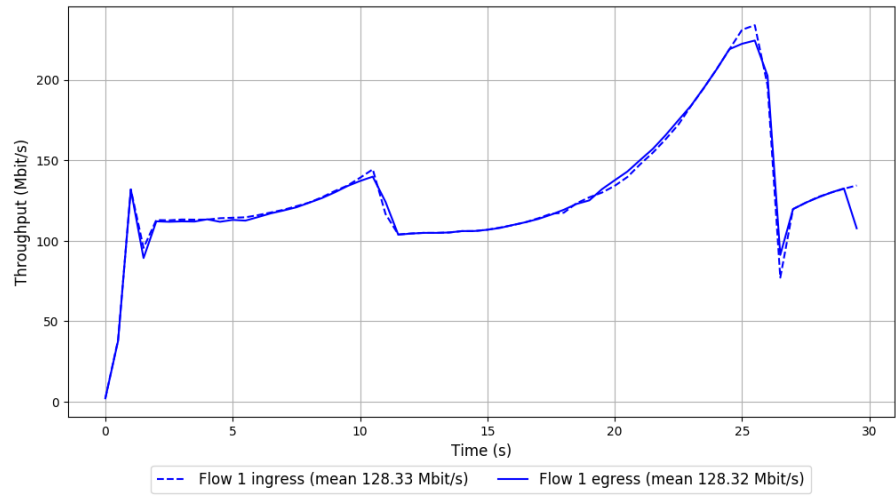
Run 4: Report of TCP Cubic — Data Link

```
Run 5: Statistics of TCP Cubic

Start at: 2017-10-10 23:37:22
End at: 2017-10-10 23:37:52

# Below is generated by plot.py at 2017-10-11 02:29:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 153.48 Mbit/s
95th percentile per-packet one-way delay: 55.414 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 153.48 Mbit/s
95th percentile per-packet one-way delay: 55.414 ms
Loss rate: 0.28%
```
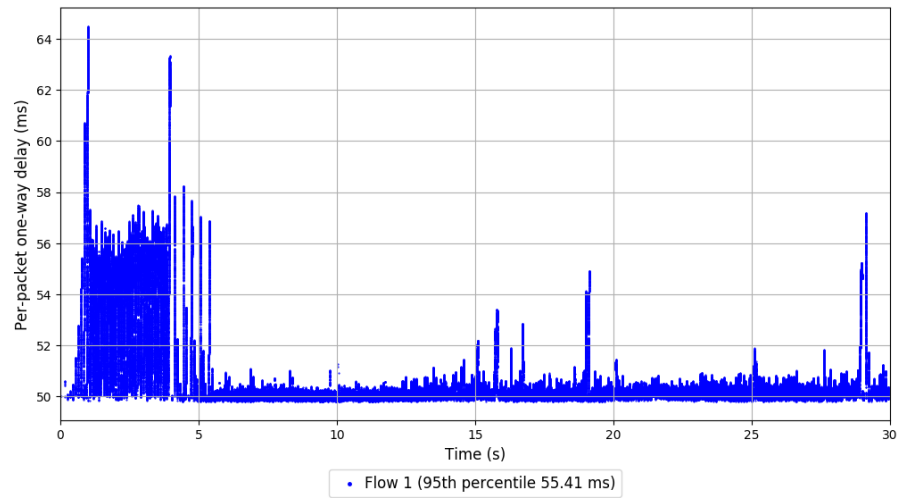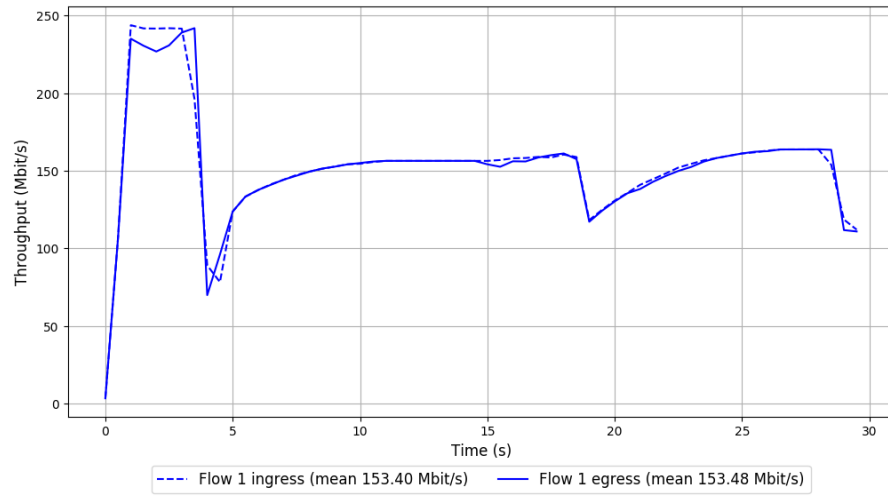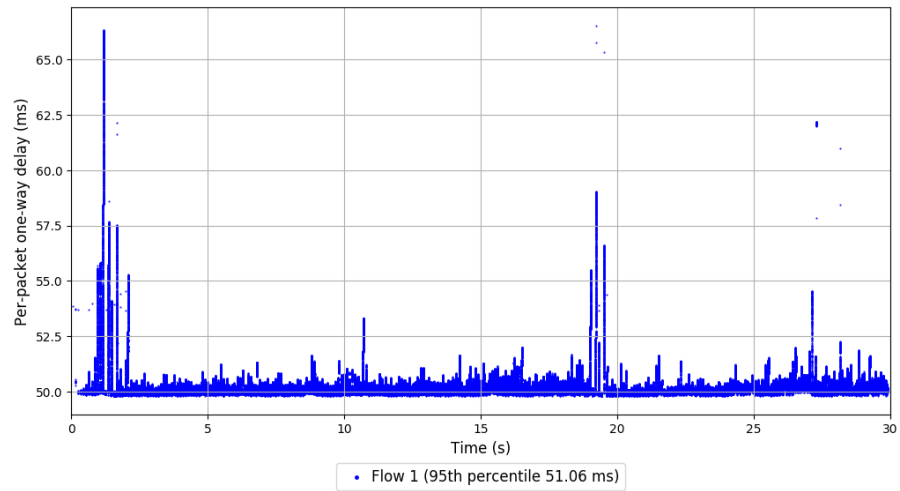
Run 5: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 153.40 Mbit/s)   Flow 1 egress (mean 153.48 Mbit/s)

Flow 1 (95th percentile 55.41 ms)

```
Run 6: Statistics of TCP Cubic

Start at: 2017-10-10 23:47:53
End at: 2017-10-10 23:48:23

# Below is generated by plot.py at 2017-10-11 02:29:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 137.89 Mbit/s
95th percentile per-packet one-way delay: 51.057 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 137.89 Mbit/s
95th percentile per-packet one-way delay: 51.057 ms
Loss rate: 0.35%
```
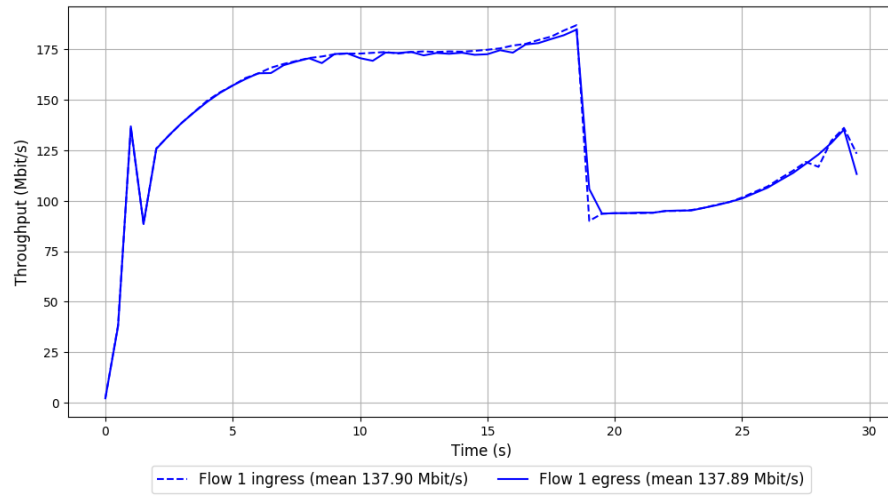
Run 6: Report of TCP Cubic — Data Link

```
Run 7: Statistics of TCP Cubic

Start at: 2017-10-10 23:58:33
End at: 2017-10-10 23:59:03

# Below is generated by plot.py at 2017-10-11 02:29:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 144.46 Mbit/s
95th percentile per-packet one-way delay: 52.993 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 144.46 Mbit/s
95th percentile per-packet one-way delay: 52.993 ms
Loss rate: 0.53%
```
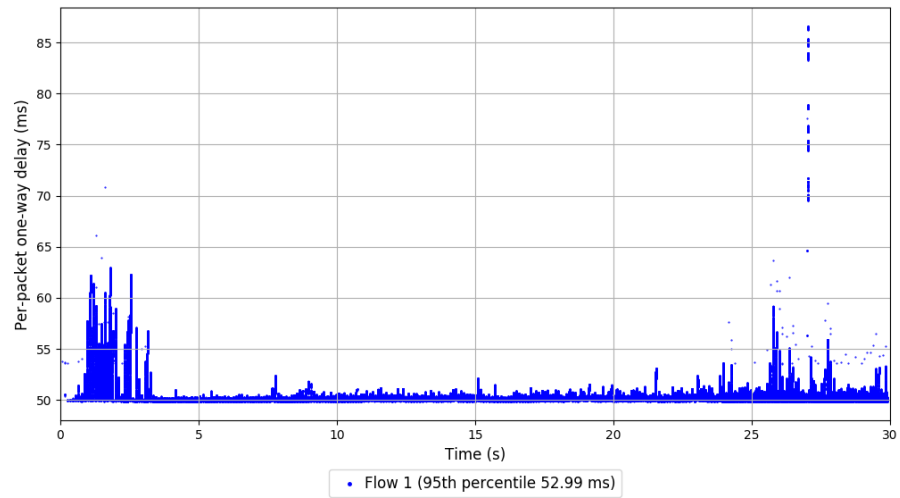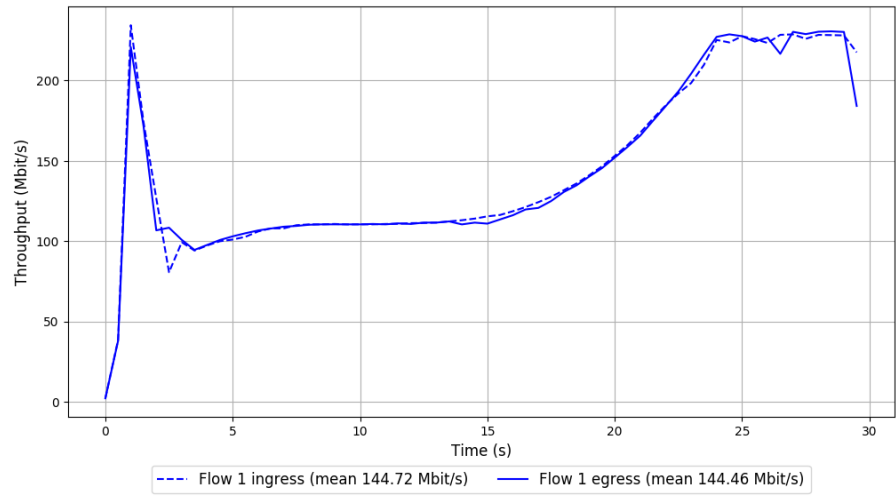
Run 7: Report of TCP Cubic — Data Link

```
Run 8: Statistics of TCP Cubic

Start at: 2017-10-11 00:09:05
End at: 2017-10-11 00:09:35

# Below is generated by plot.py at 2017-10-11 02:29:53
# Datalink statistics
-- Total of 1 flow:
Average throughput: 154.89 Mbit/s
95th percentile per-packet one-way delay: 50.910 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 154.89 Mbit/s
95th percentile per-packet one-way delay: 50.910 ms
Loss rate: 0.30%
```
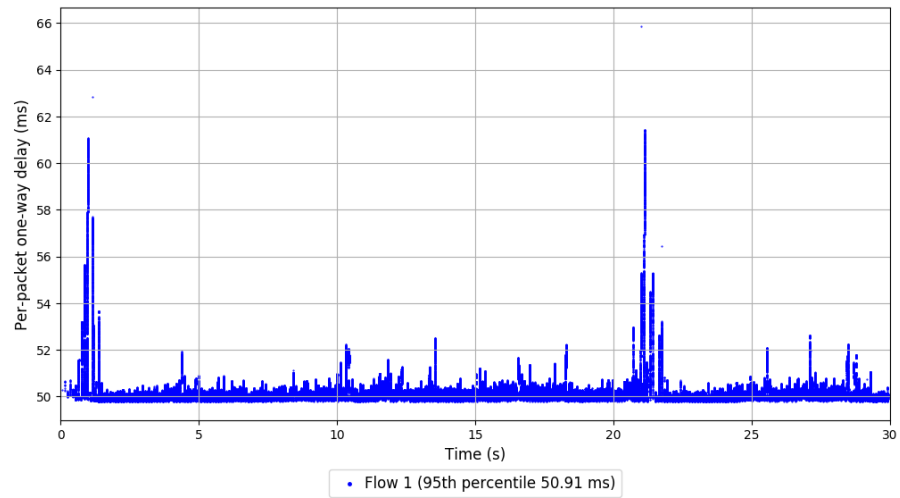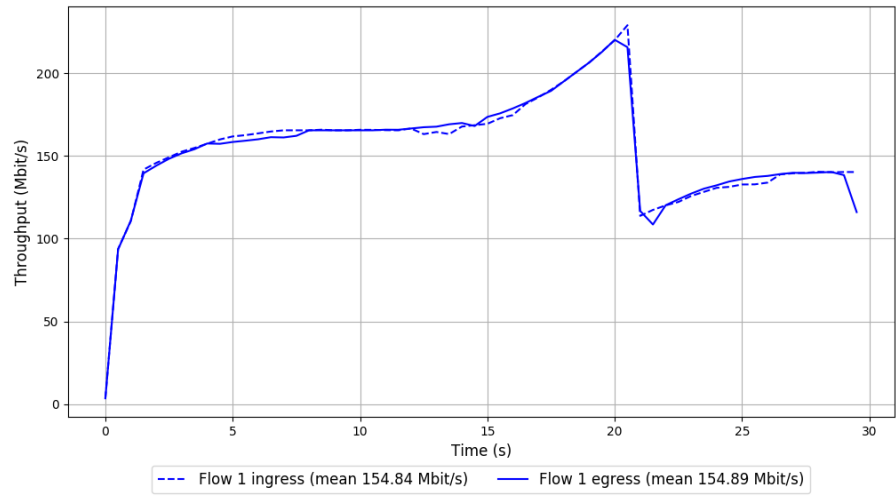
Run 8: Report of TCP Cubic — Data Link

```
Run 9: Statistics of TCP Cubic

Start at: 2017-10-11 00:19:36
End at: 2017-10-11 00:20:06

# Below is generated by plot.py at 2017-10-11 02:30:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 157.19 Mbit/s
95th percentile per-packet one-way delay: 51.968 ms
Loss rate: 0.25%
-- Flow 1:
Average throughput: 157.19 Mbit/s
95th percentile per-packet one-way delay: 51.968 ms
Loss rate: 0.25%
```
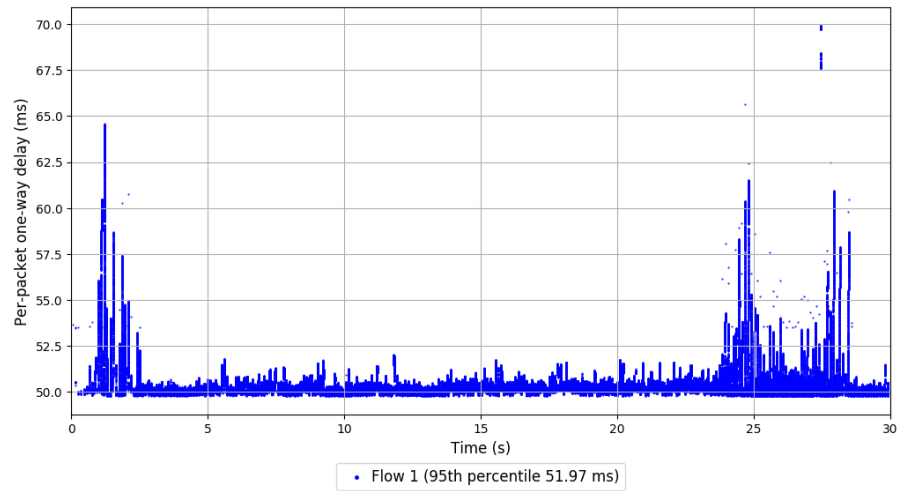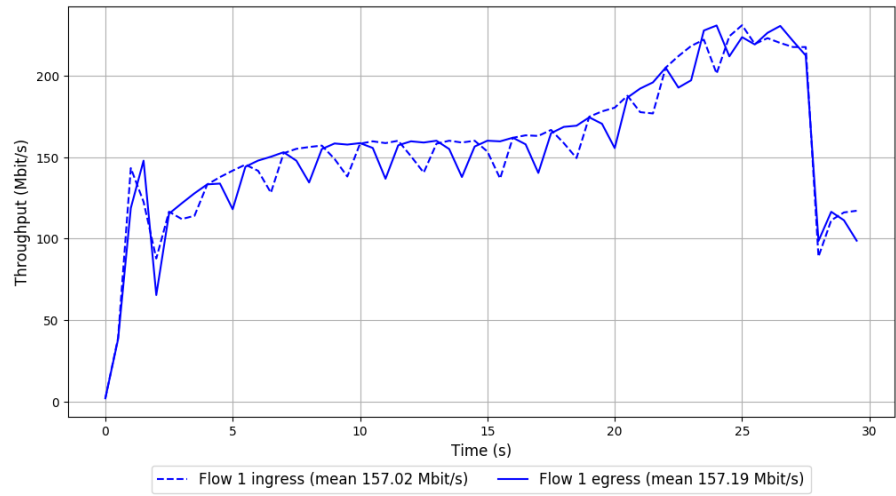
Run 9: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 157.02 Mbit/s)   Flow 1 egress (mean 157.19 Mbit/s)

Flow 1 (95th percentile 51.97 ms)

```
Run 10: Statistics of TCP Cubic

Start at: 2017-10-11 00:29:59
End at: 2017-10-11 00:30:29


# Below is generated by plot.py at 2017-10-11 02:30:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 112.70 Mbit/s
95th percentile per-packet one-way delay: 53.626 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 112.70 Mbit/s
95th percentile per-packet one-way delay: 53.626 ms
Loss rate: 0.36%
```
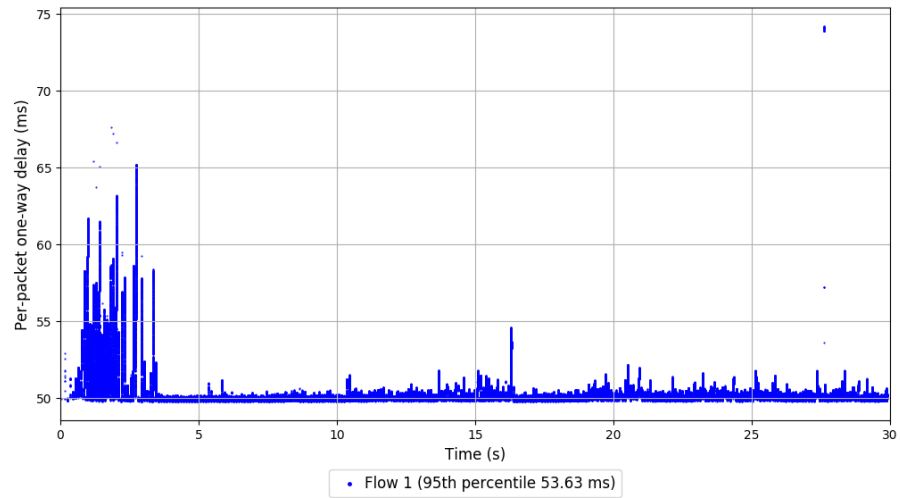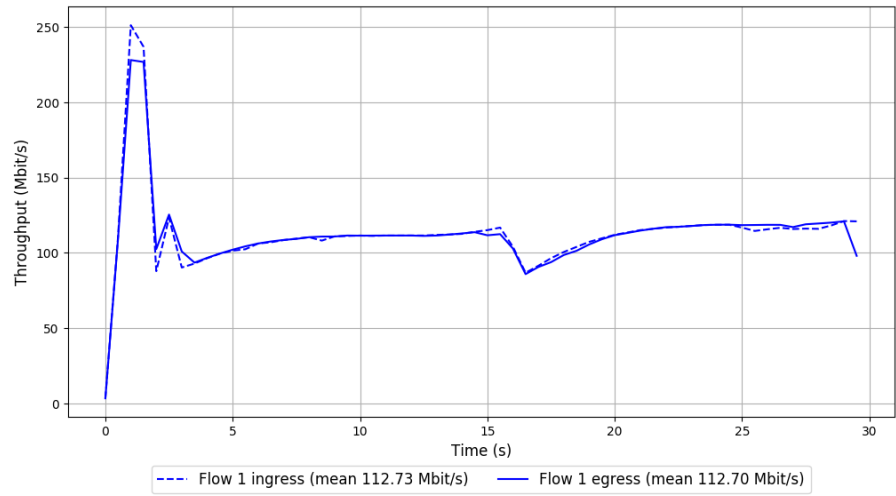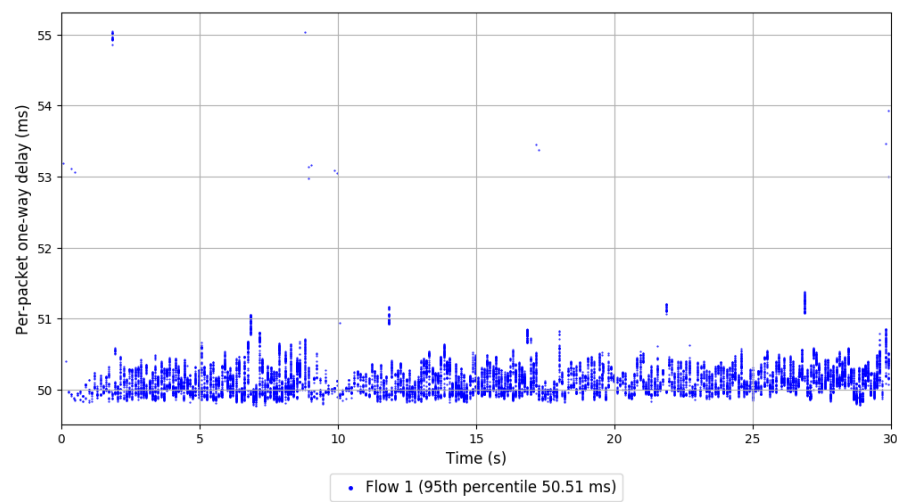
Run 10: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 112.73 Mbit/s) ----   Flow 1 egress (mean 112.70 Mbit/s) ——
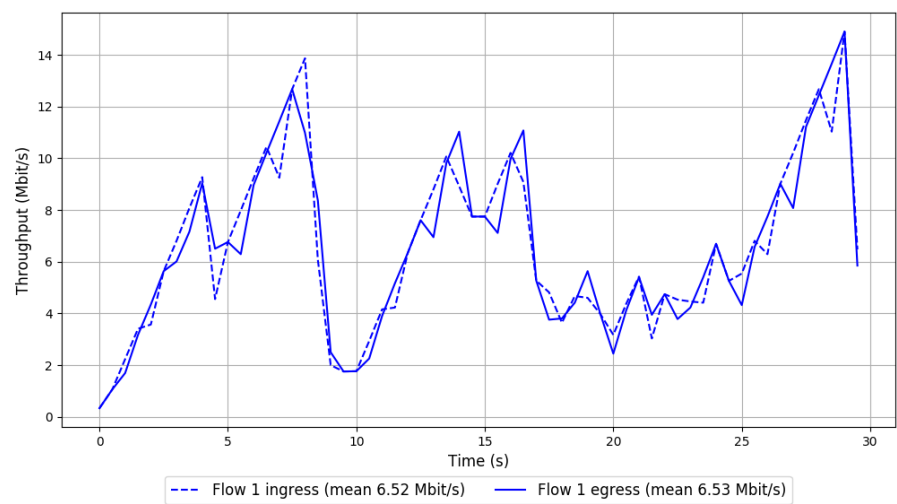

· Flow 1 (95th percentile 53.63 ms)

43

```
Run 1: Statistics of LEDBAT

Start at: 2017-10-10 22:46:11
End at: 2017-10-10 22:46:42

# Below is generated by plot.py at 2017-10-11 02:30:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 6.53 Mbit/s
95th percentile per-packet one-way delay: 50.509 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 6.53 Mbit/s
95th percentile per-packet one-way delay: 50.509 ms
Loss rate: 0.27%
```
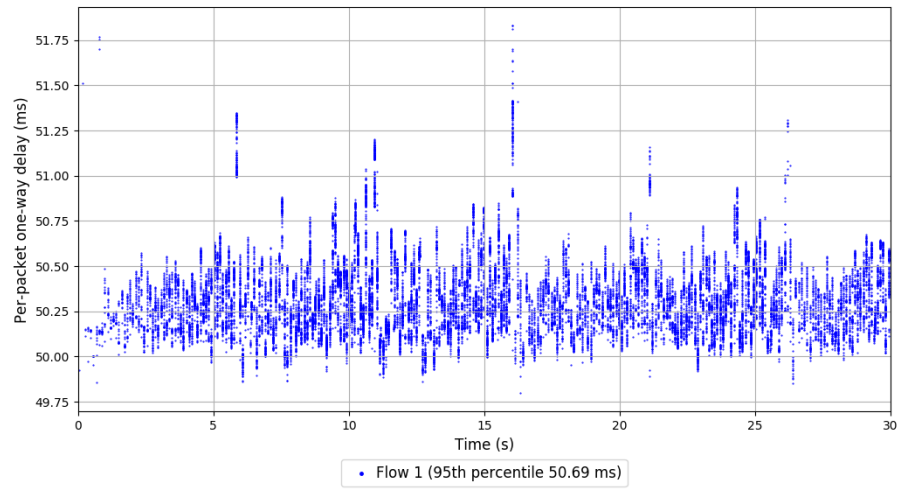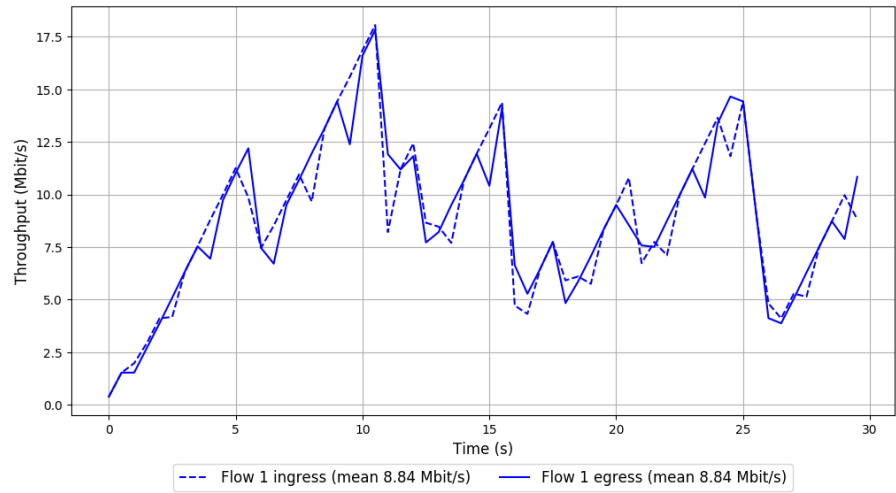
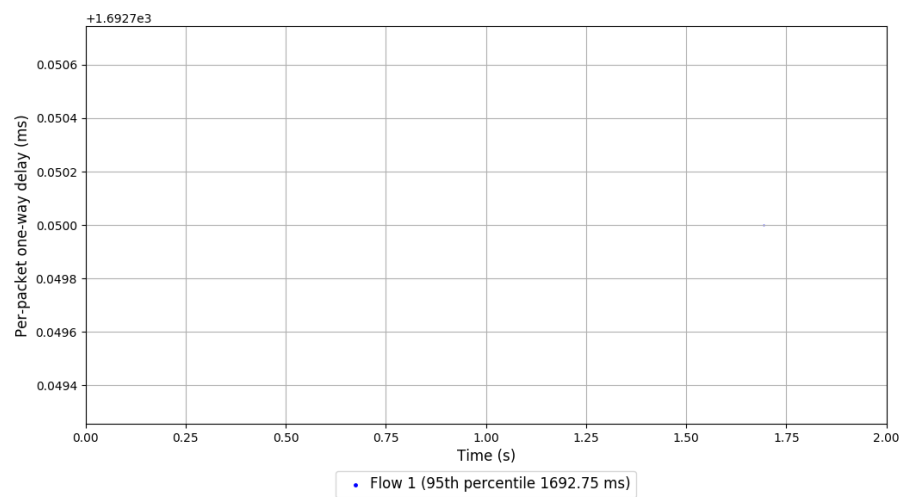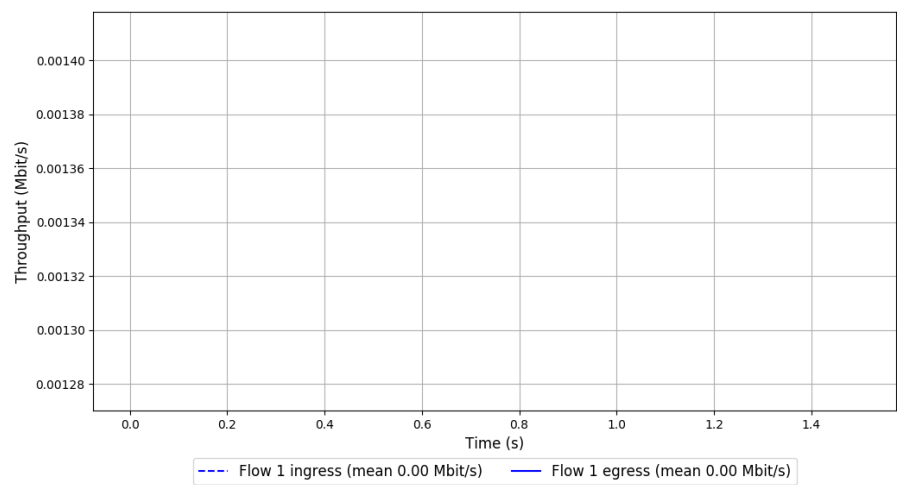## Run 1: Report of LEDBAT — Data Link

Flow 1 ingress (mean 6.52 Mbit/s) --- Flow 1 egress (mean 6.53 Mbit/s)

• Flow 1 (95th percentile 50.51 ms)

```
Run 2: Statistics of LEDBAT

Start at: 2017-10-10 22:56:46
End at: 2017-10-10 22:57:16

# Below is generated by plot.py at 2017-10-11 02:30:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 50.693 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 8.84 Mbit/s
95th percentile per-packet one-way delay: 50.693 ms
Loss rate: 0.04%
```
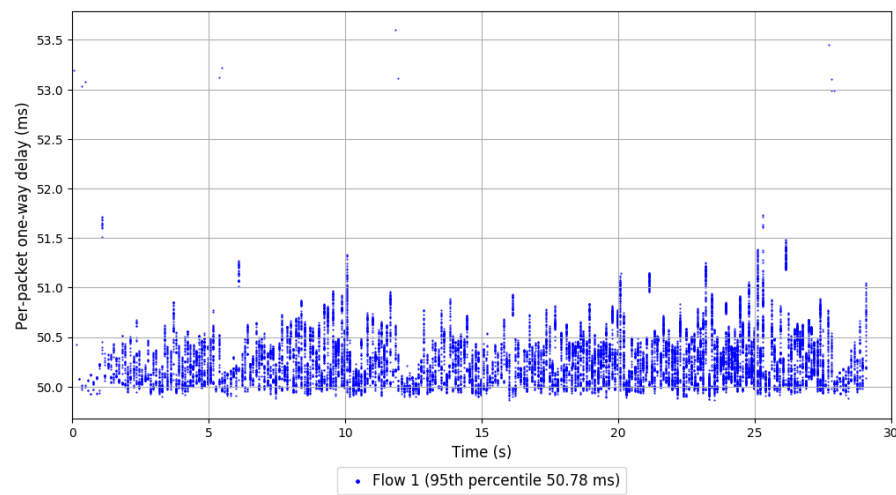
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 8.84 Mbit/s)   Flow 1 egress (mean 8.84 Mbit/s)

Flow 1 (95th percentile 50.69 ms)

Run 3: Statistics of LEDBAT

Start at: 2017-10-10 23:07:37
End at: 2017-10-10 23:08:07

Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2017-10-10 23:18:33
End at: 2017-10-10 23:19:03

# Below is generated by plot.py at 2017-10-11 02:30:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 50.780 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 8.13 Mbit/s
95th percentile per-packet one-way delay: 50.780 ms
Loss rate: 0.36%
```
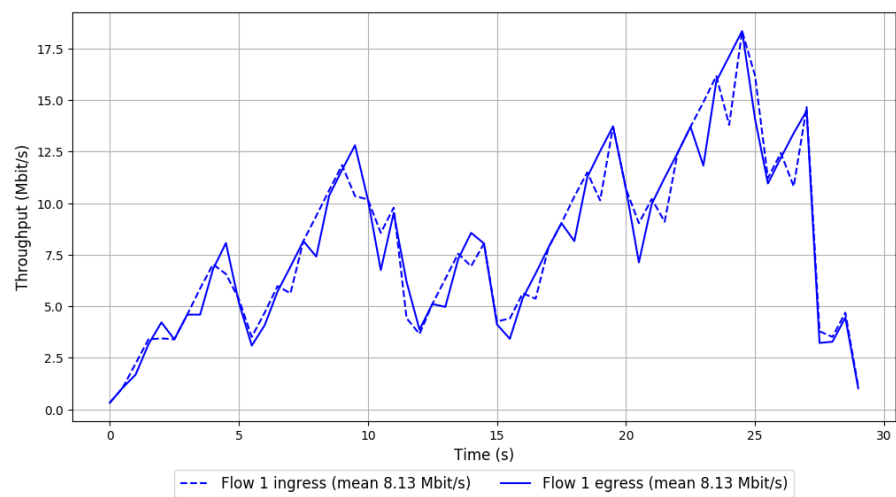
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2017-10-10 23:29:08
End at: 2017-10-10 23:29:38

# Below is generated by plot.py at 2017-10-11 02:30:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 50.841 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 11.78 Mbit/s
95th percentile per-packet one-way delay: 50.841 ms
Loss rate: 0.47%
```
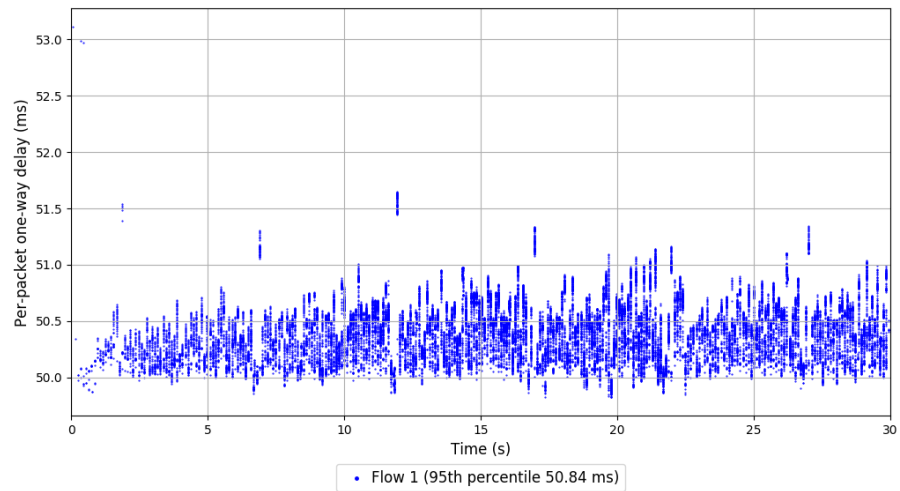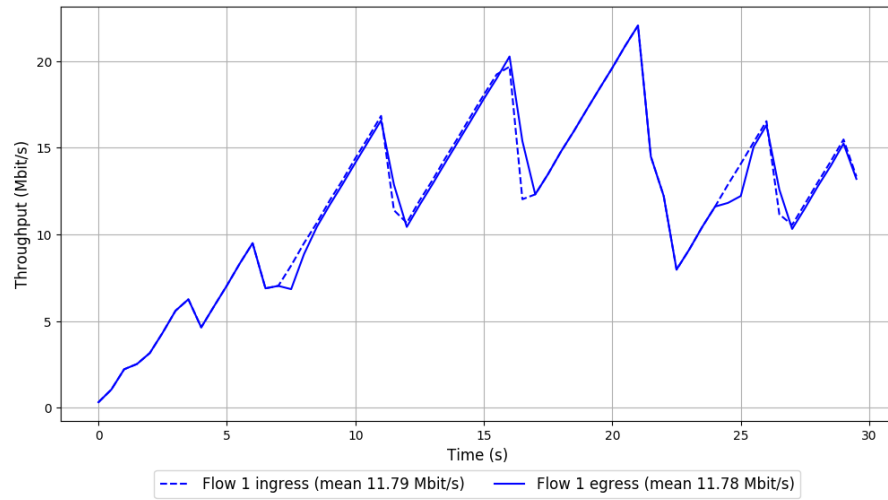
Run 5: Report of LEDBAT — Data Link

Flow 1 ingress (mean 11.79 Mbit/s) --- Flow 1 egress (mean 11.78 Mbit/s)

Flow 1 (95th percentile 50.84 ms)

```
Run 6: Statistics of LEDBAT

Start at: 2017-10-10 23:39:51
End at: 2017-10-10 23:40:21

# Below is generated by plot.py at 2017-10-11 02:30:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 34.90 Mbit/s
95th percentile per-packet one-way delay: 51.076 ms
Loss rate: 0.67%
-- Flow 1:
Average throughput: 34.90 Mbit/s
95th percentile per-packet one-way delay: 51.076 ms
Loss rate: 0.67%
```
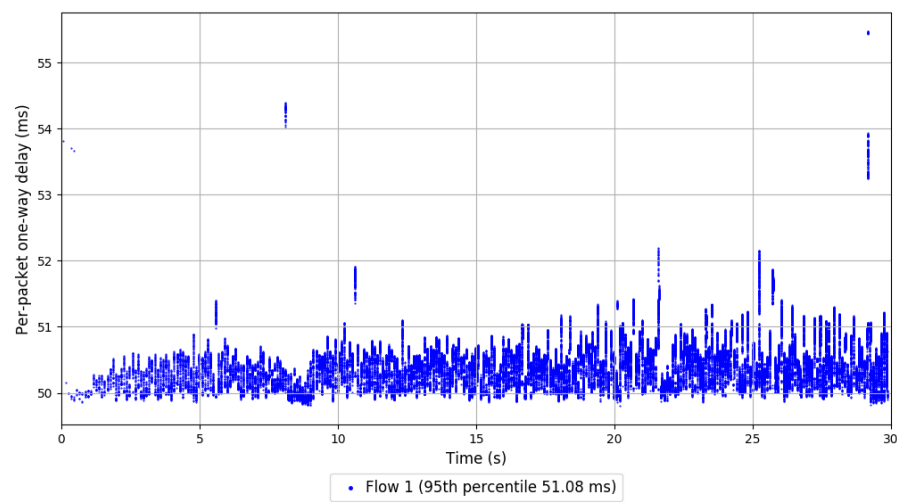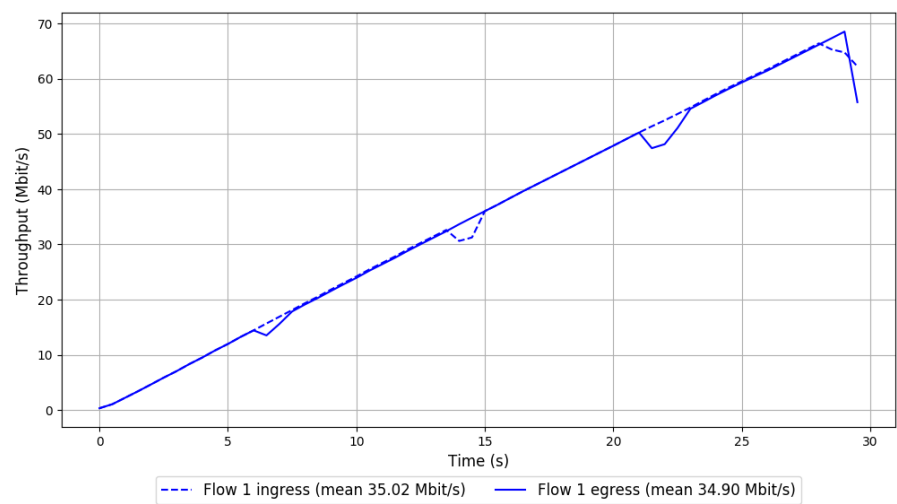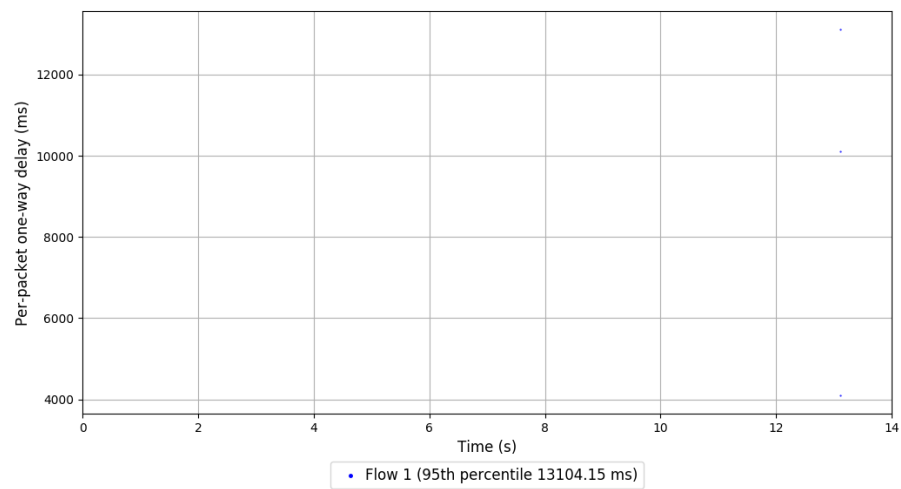
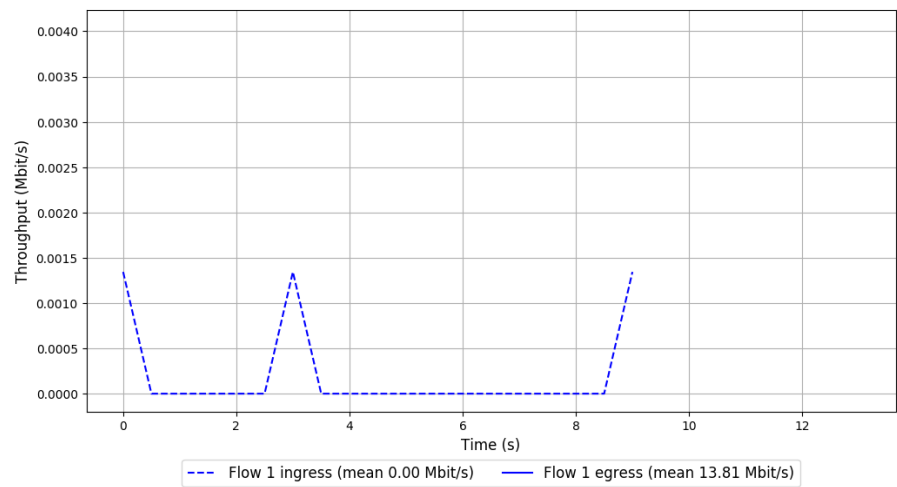# Run 6: Report of LEDBAT — Data Link

Flow 1 ingress (mean 35.02 Mbit/s)   Flow 1 egress (mean 34.90 Mbit/s)

• Flow 1 (95th percentile 51.08 ms)

Run 7: Statistics of LEDBAT

Start at: 2017-10-10 23:50:06
End at: 2017-10-10 23:50:36

Run 7: Report of LEDBAT — Data Link

```
Run 8: Statistics of LEDBAT

Start at: 2017-10-11 00:00:37
End at: 2017-10-11 00:01:07

# Below is generated by plot.py at 2017-10-11 02:30:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.55 Mbit/s
95th percentile per-packet one-way delay: 50.815 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 7.55 Mbit/s
95th percentile per-packet one-way delay: 50.815 ms
Loss rate: 0.56%
```
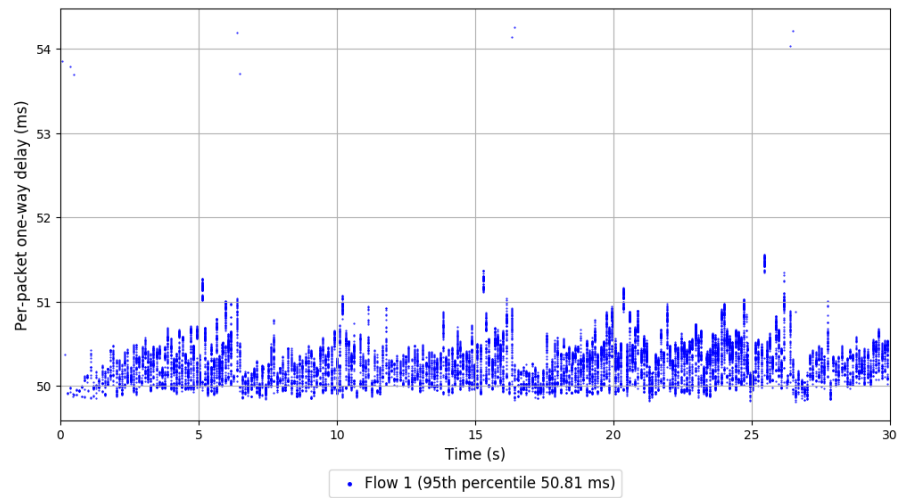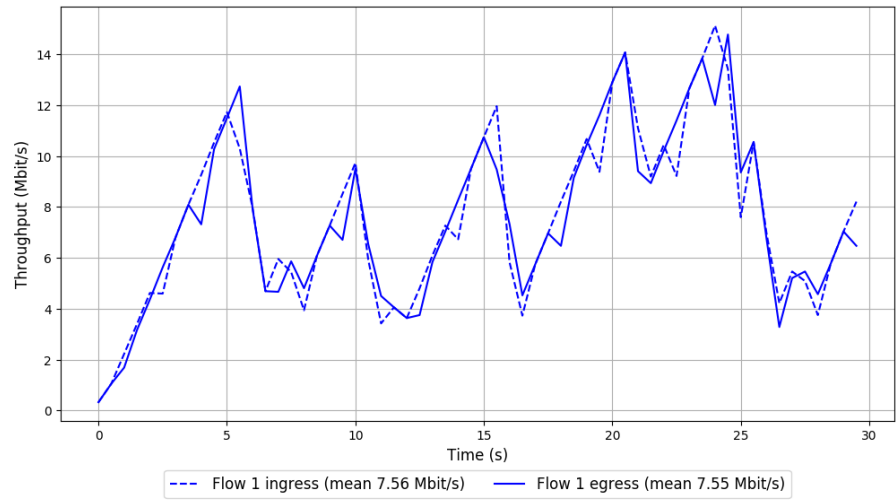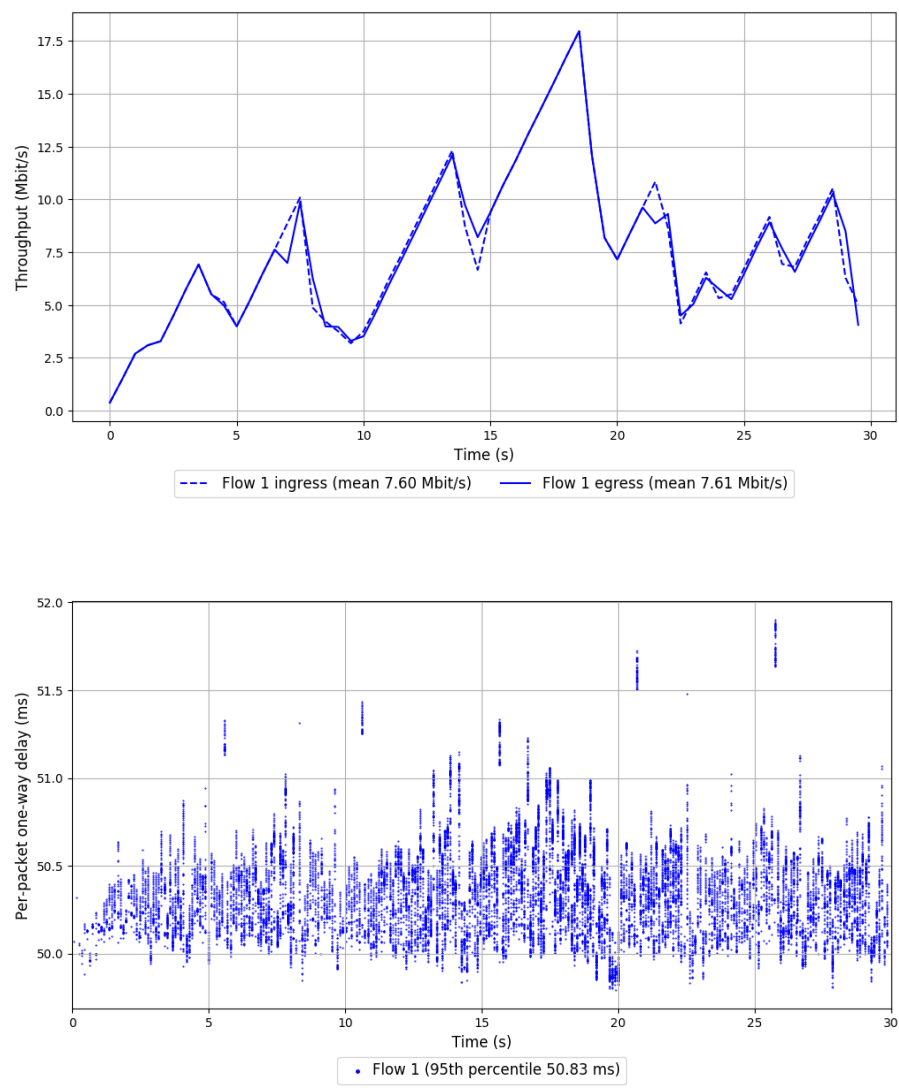
Run 8: Report of LEDBAT — Data Link

Flow 1 ingress (mean 7.56 Mbit/s) --- Flow 1 egress (mean 7.55 Mbit/s)

Flow 1 (95th percentile 50.81 ms)

```
Run 9: Statistics of LEDBAT

Start at: 2017-10-11 00:11:35
End at: 2017-10-11 00:12:05

# Below is generated by plot.py at 2017-10-11 02:30:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.61 Mbit/s
95th percentile per-packet one-way delay: 50.828 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 7.61 Mbit/s
95th percentile per-packet one-way delay: 50.828 ms
Loss rate: 0.26%
```
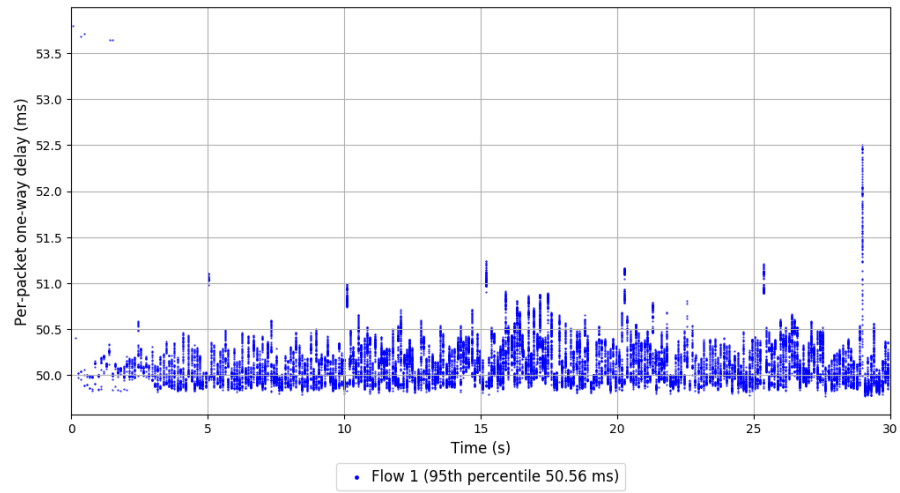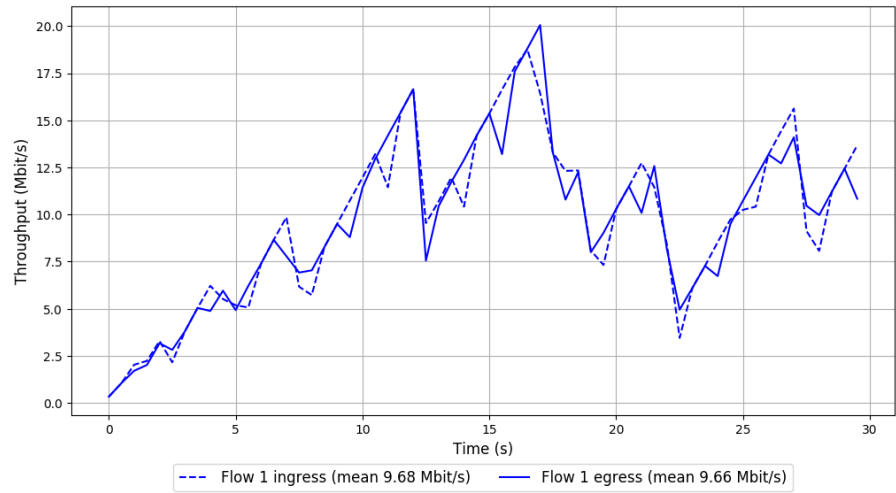
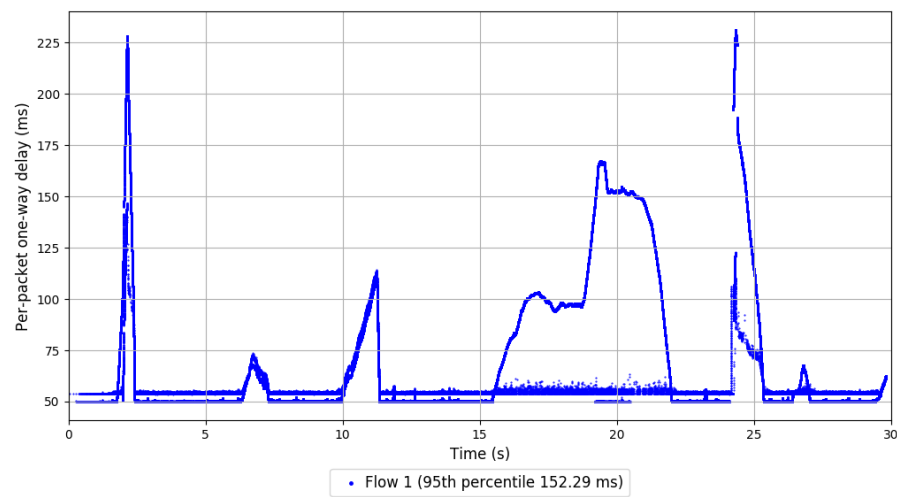Run 9: Report of LEDBAT — Data Link

Flow 1 ingress (mean 7.60 Mbit/s) ---- Flow 1 egress (mean 7.61 Mbit/s)

Flow 1 (95th percentile 50.83 ms)

```
Run 10: Statistics of LEDBAT

Start at: 2017-10-11 00:21:47
End at: 2017-10-11 00:22:17

# Below is generated by plot.py at 2017-10-11 02:30:11
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.66 Mbit/s
95th percentile per-packet one-way delay: 50.562 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 9.66 Mbit/s
95th percentile per-packet one-way delay: 50.562 ms
Loss rate: 0.54%
```
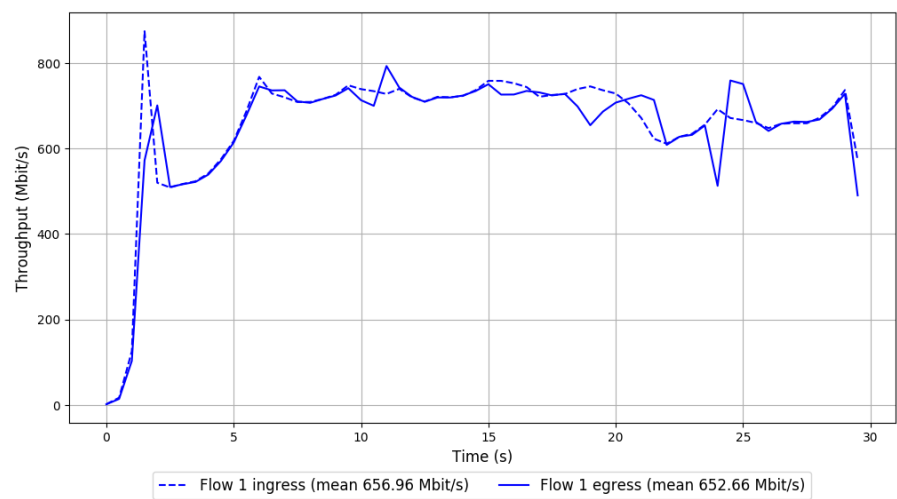
Run 10: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC

Start at: 2017-10-10 22:52:15
End at: 2017-10-10 22:52:45

# Below is generated by plot.py at 2017-10-11 02:40:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 652.66 Mbit/s
95th percentile per-packet one-way delay: 152.292 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 652.66 Mbit/s
95th percentile per-packet one-way delay: 152.292 ms
Loss rate: 1.00%
```

Run 1: Report of PCC — Data Link

```
Run 2: Statistics of PCC

Start at: 2017-10-10 23:02:46
End at: 2017-10-10 23:03:16

# Below is generated by plot.py at 2017-10-11 02:40:03
# Datalink statistics
-- Total of 1 flow:
Average throughput: 634.25 Mbit/s
95th percentile per-packet one-way delay: 160.812 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 634.25 Mbit/s
95th percentile per-packet one-way delay: 160.812 ms
Loss rate: 2.16%
```
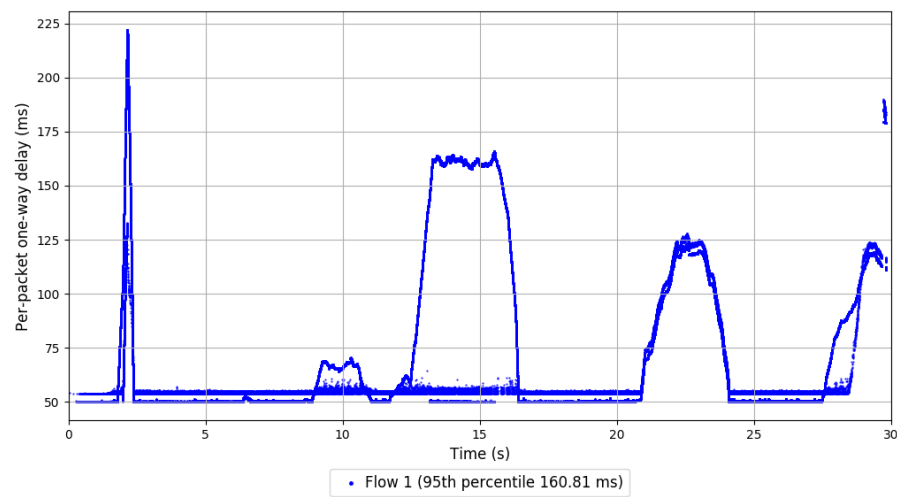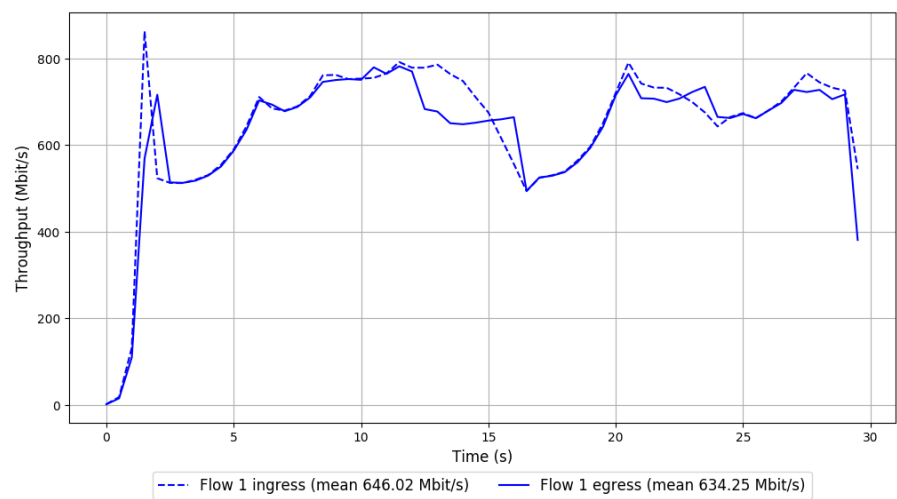
Run 2: Report of PCC — Data Link

```
Run 3: Statistics of PCC

Start at: 2017-10-10 23:13:39
End at: 2017-10-10 23:14:09

# Below is generated by plot.py at 2017-10-11 02:40:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 676.84 Mbit/s
95th percentile per-packet one-way delay: 117.186 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 676.84 Mbit/s
95th percentile per-packet one-way delay: 117.186 ms
Loss rate: 1.00%
```
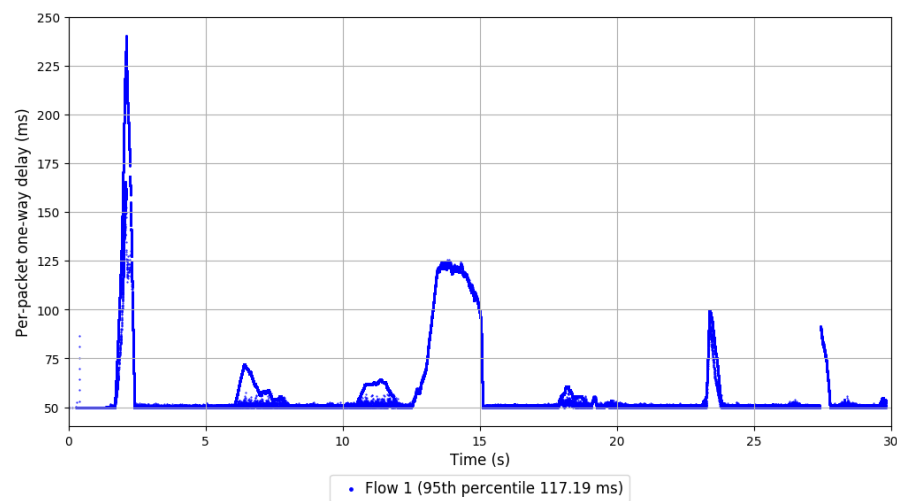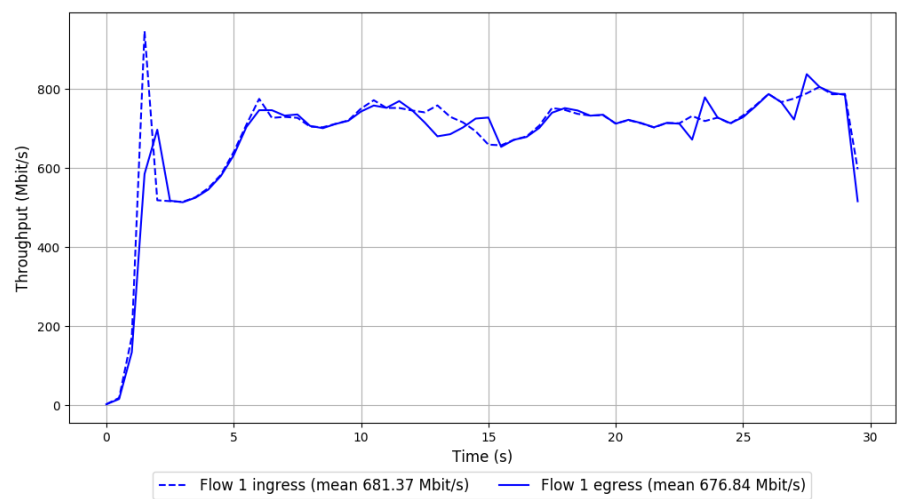
Run 3: Report of PCC — Data Link

Flow 1 ingress (mean 681.37 Mbit/s) —— Flow 1 egress (mean 676.84 Mbit/s)

• Flow 1 (95th percentile 117.19 ms)

```
Run 4: Statistics of PCC

Start at: 2017-10-10 23:24:29
End at: 2017-10-10 23:24:59

# Below is generated by plot.py at 2017-10-11 02:40:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 652.27 Mbit/s
95th percentile per-packet one-way delay: 127.358 ms
Loss rate: 1.66%
-- Flow 1:
Average throughput: 652.27 Mbit/s
95th percentile per-packet one-way delay: 127.358 ms
Loss rate: 1.66%
```
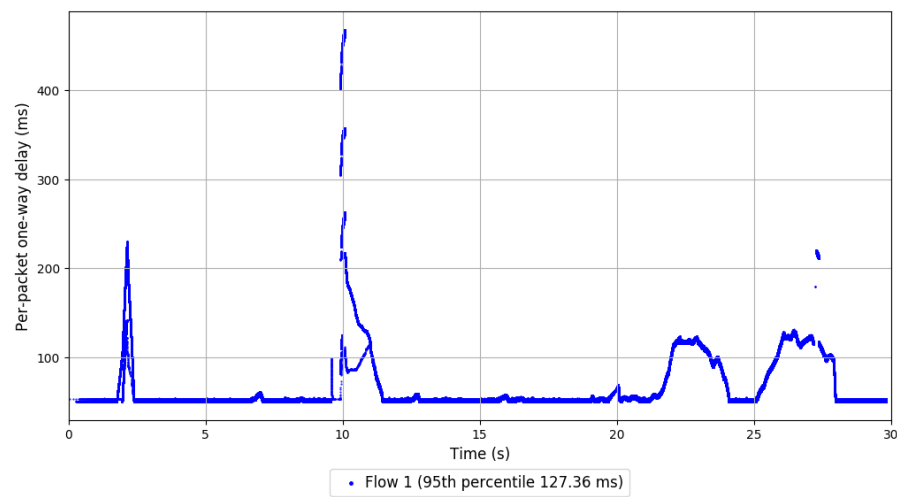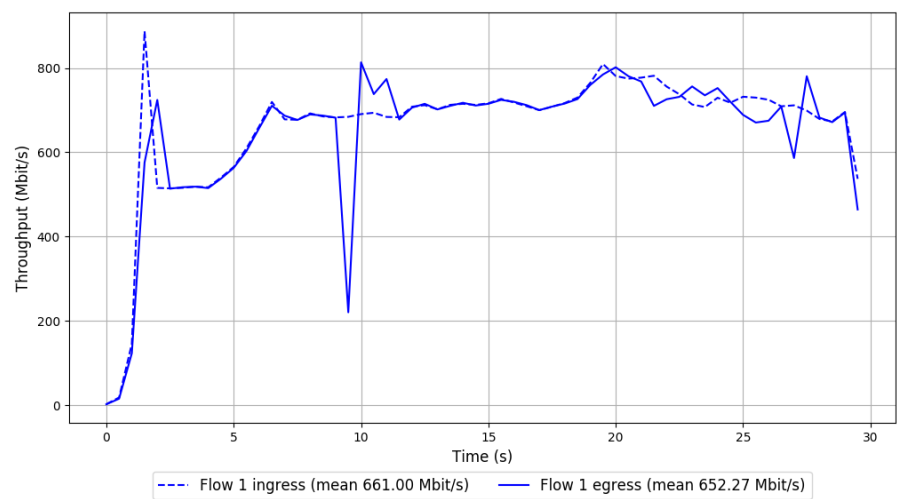
Run 4: Report of PCC — Data Link

71

```
Run 5: Statistics of PCC

Start at: 2017-10-10 23:34:56
End at: 2017-10-10 23:35:26

# Below is generated by plot.py at 2017-10-11 02:40:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 653.67 Mbit/s
95th percentile per-packet one-way delay: 150.359 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 653.67 Mbit/s
95th percentile per-packet one-way delay: 150.359 ms
Loss rate: 0.75%
```
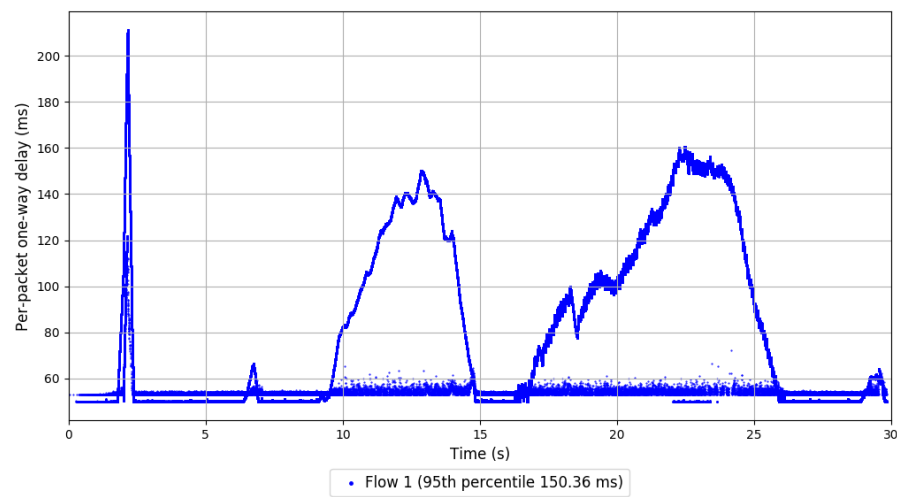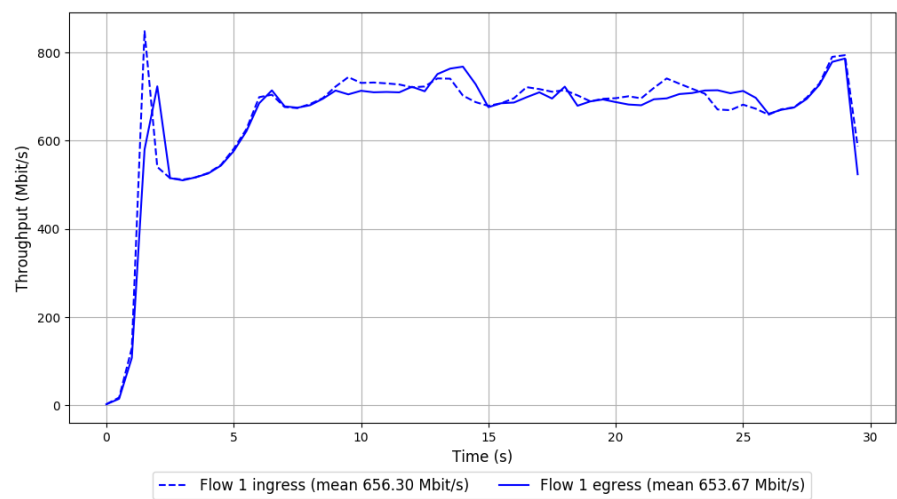
Run 5: Report of PCC — Data Link

Flow 1 ingress (mean 656.30 Mbit/s)   Flow 1 egress (mean 653.67 Mbit/s)

Flow 1 (95th percentile 150.36 ms)

```
Run 6: Statistics of PCC

Start at: 2017-10-10 23:45:26
End at: 2017-10-10 23:45:56

# Below is generated by plot.py at 2017-10-11 02:41:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 691.66 Mbit/s
95th percentile per-packet one-way delay: 88.147 ms
Loss rate: 0.79%
-- Flow 1:
Average throughput: 691.66 Mbit/s
95th percentile per-packet one-way delay: 88.147 ms
Loss rate: 0.79%
```
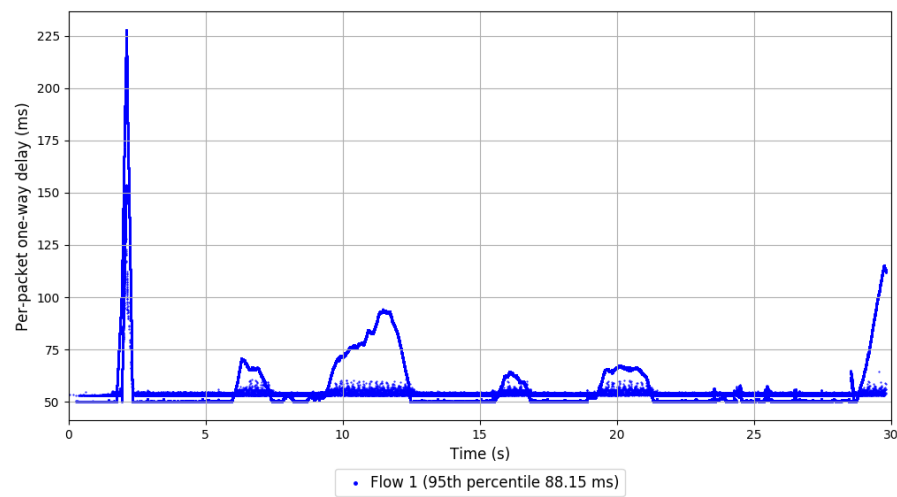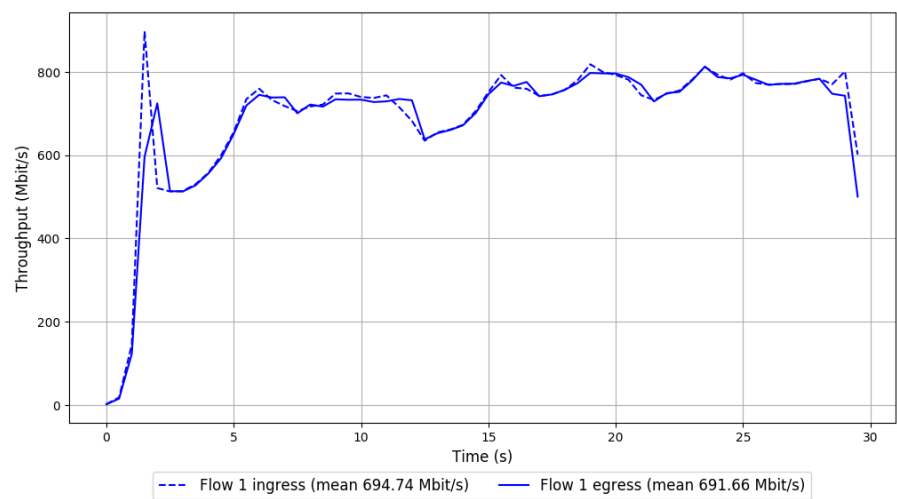
Run 6: Report of PCC — Data Link

Flow 1 ingress (mean 694.74 Mbit/s) — — —   Flow 1 egress (mean 691.66 Mbit/s) ———

Flow 1 (95th percentile 88.15 ms)

```
Run 7: Statistics of PCC

Start at: 2017-10-10 23:56:06
End at: 2017-10-10 23:56:36

# Below is generated by plot.py at 2017-10-11 02:41:15
# Datalink statistics
-- Total of 1 flow:
Average throughput: 682.70 Mbit/s
95th percentile per-packet one-way delay: 124.088 ms
Loss rate: 1.29%
-- Flow 1:
Average throughput: 682.70 Mbit/s
95th percentile per-packet one-way delay: 124.088 ms
Loss rate: 1.29%
```
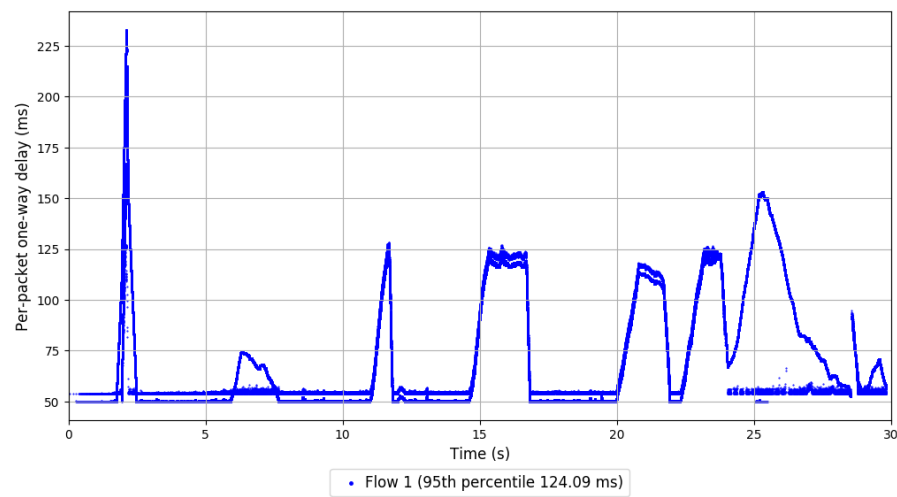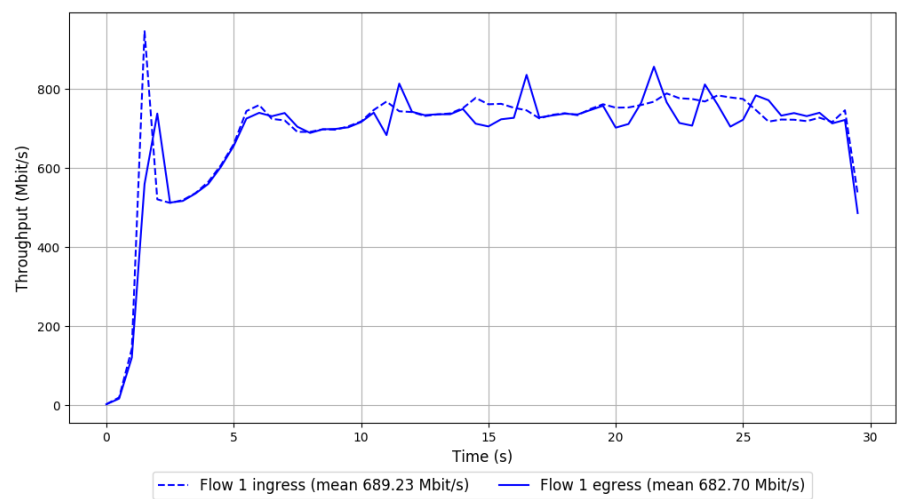
Run 7: Report of PCC — Data Link

```
Run 8: Statistics of PCC

Start at: 2017-10-11 00:06:38
End at: 2017-10-11 00:07:08

# Below is generated by plot.py at 2017-10-11 02:41:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 690.96 Mbit/s
95th percentile per-packet one-way delay: 132.736 ms
Loss rate: 1.17%
-- Flow 1:
Average throughput: 690.96 Mbit/s
95th percentile per-packet one-way delay: 132.736 ms
Loss rate: 1.17%
```
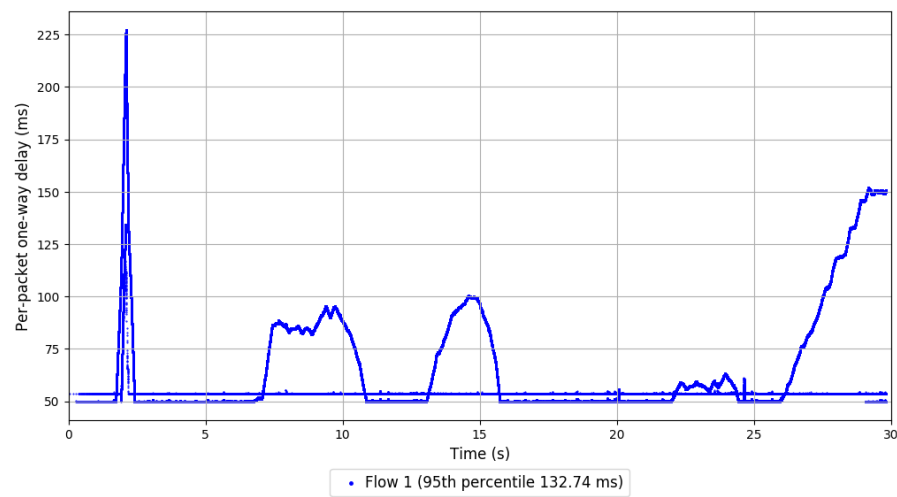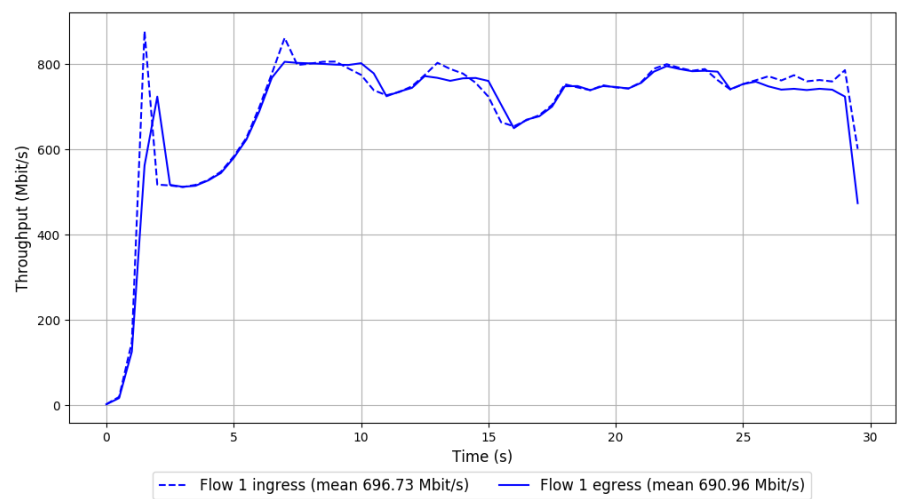
Run 8: Report of PCC — Data Link

Flow 1 ingress (mean 696.73 Mbit/s)   Flow 1 egress (mean 690.96 Mbit/s)

Flow 1 (95th percentile 132.74 ms)

```
Run 9: Statistics of PCC

Start at: 2017-10-11 00:17:09
End at: 2017-10-11 00:17:39

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 670.42 Mbit/s
95th percentile per-packet one-way delay: 159.087 ms
Loss rate: 3.91%
-- Flow 1:
Average throughput: 670.42 Mbit/s
95th percentile per-packet one-way delay: 159.087 ms
Loss rate: 3.91%
```
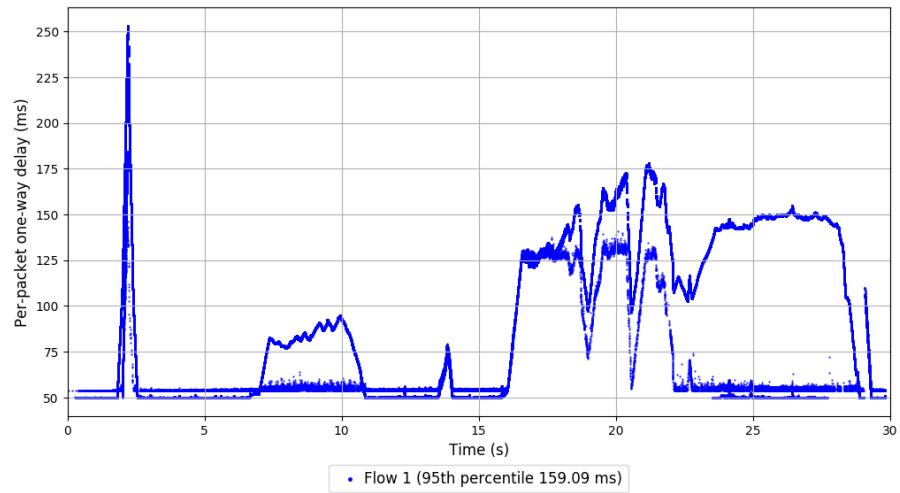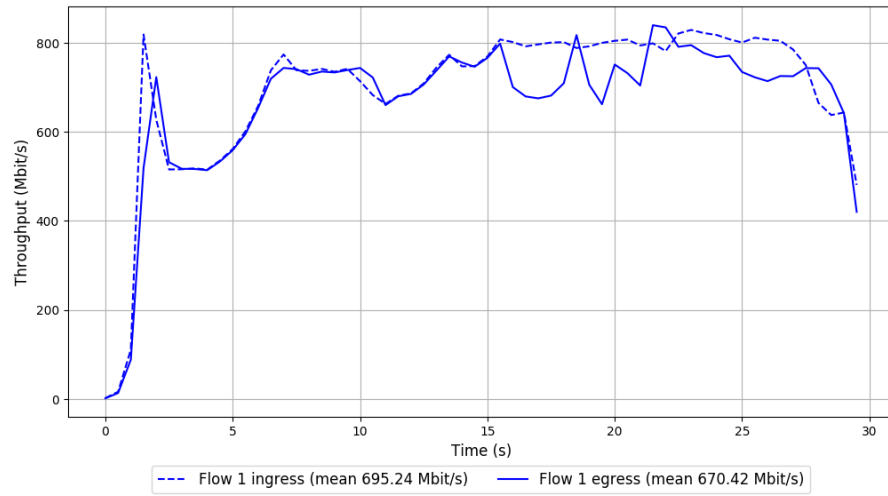
Run 9: Report of PCC — Data Link

Flow 1 ingress (mean 695.24 Mbit/s) — Flow 1 egress (mean 670.42 Mbit/s)

• Flow 1 (95th percentile 159.09 ms)

81

```
Run 10: Statistics of PCC

Start at: 2017-10-11 00:27:33
End at: 2017-10-11 00:28:03

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 657.21 Mbit/s
95th percentile per-packet one-way delay: 68.709 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 657.21 Mbit/s
95th percentile per-packet one-way delay: 68.709 ms
Loss rate: 0.98%
```
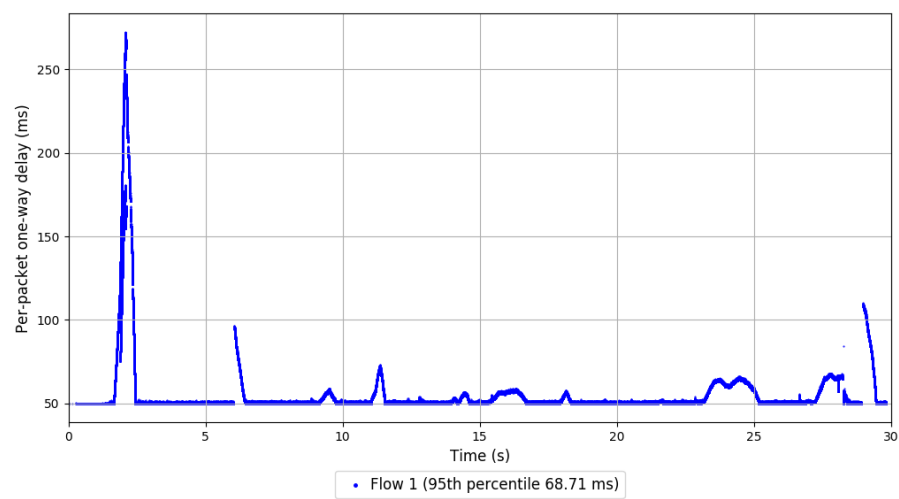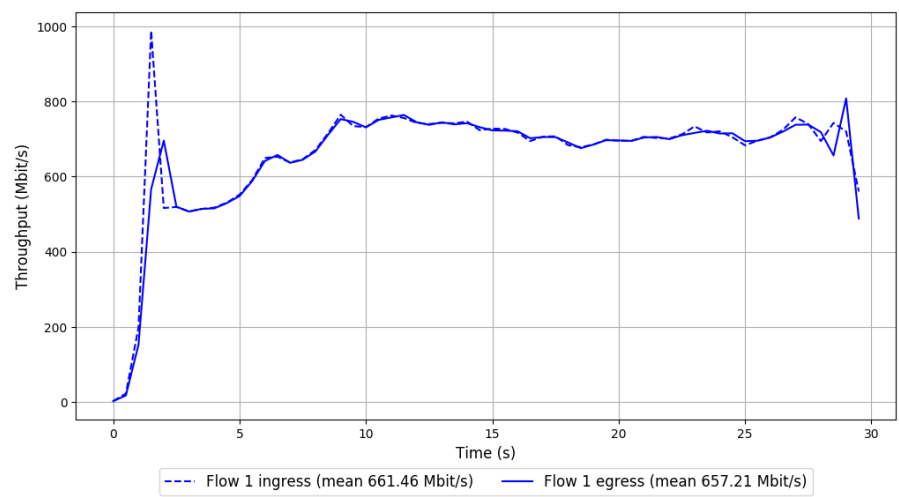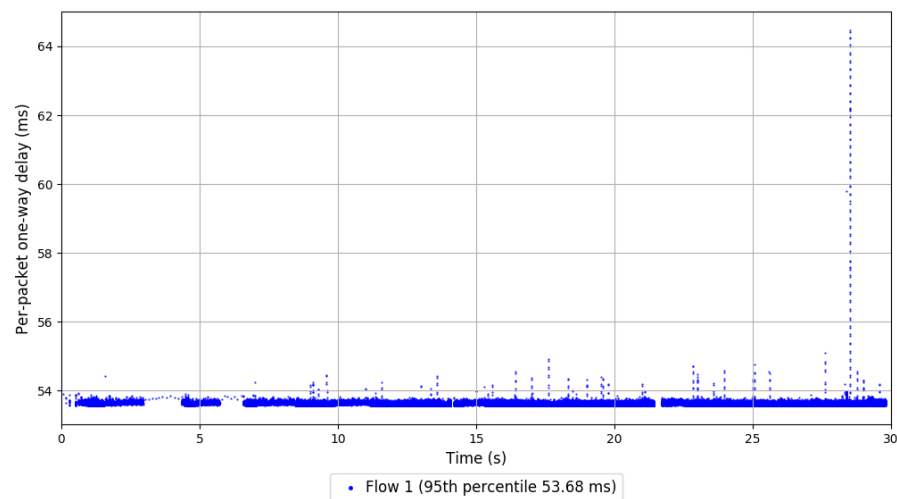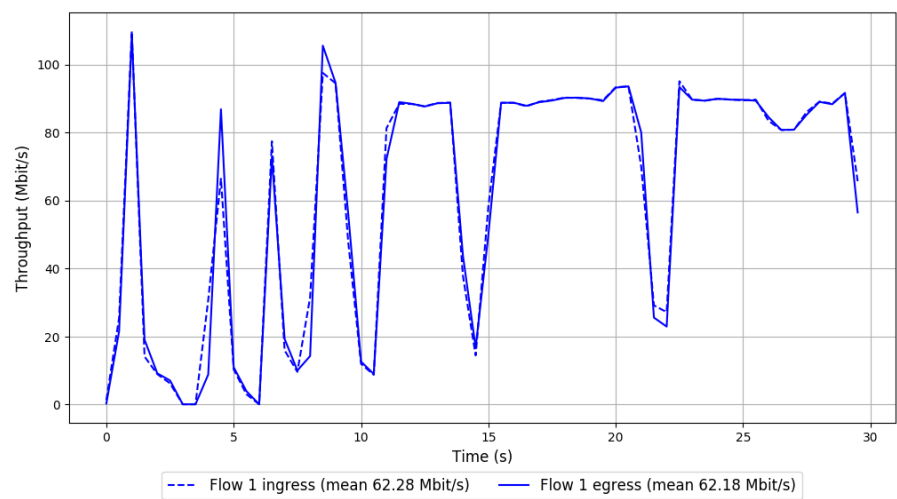
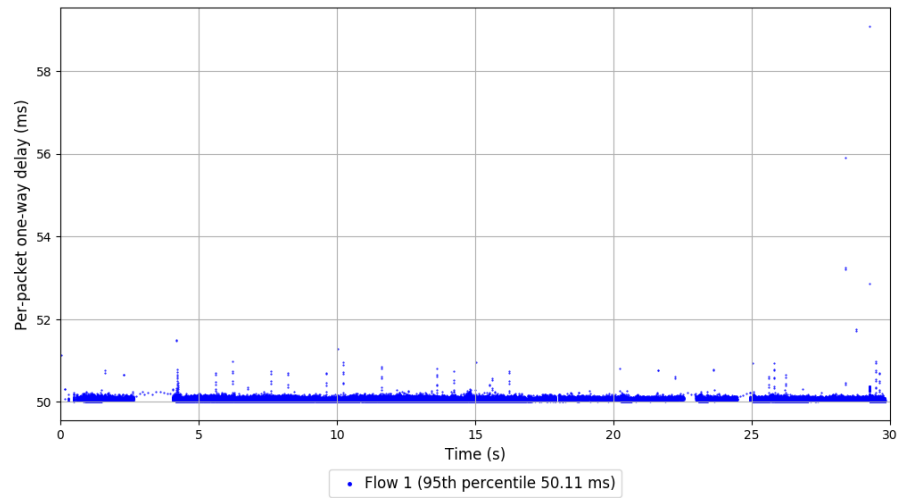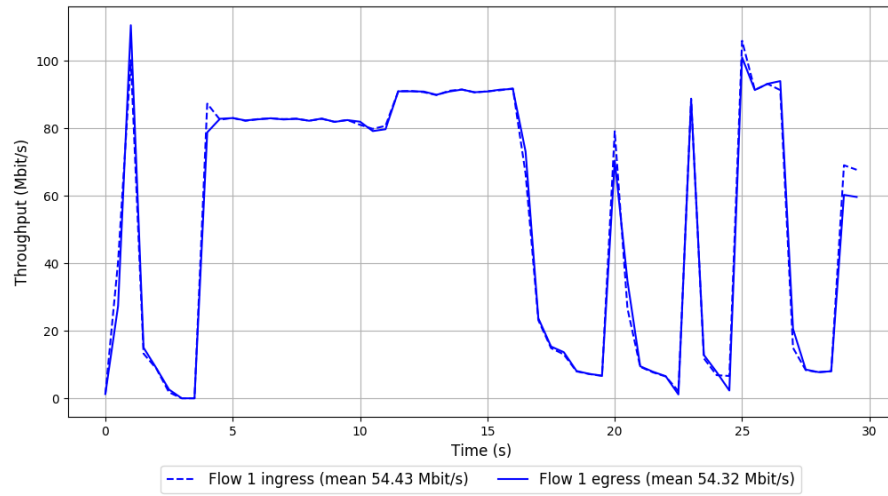# Run 10: Report of PCC — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2017-10-10 22:50:56
End at: 2017-10-10 22:51:26

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.18 Mbit/s
95th percentile per-packet one-way delay: 53.683 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 62.18 Mbit/s
95th percentile per-packet one-way delay: 53.683 ms
Loss rate: 0.51%
```

Run 1: Report of QUIC Cubic — Data Link

```
Run 2: Statistics of QUIC Cubic

Start at: 2017-10-10 23:01:25
End at: 2017-10-10 23:01:55

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.32 Mbit/s
95th percentile per-packet one-way delay: 50.113 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 54.32 Mbit/s
95th percentile per-packet one-way delay: 50.113 ms
Loss rate: 0.54%
```

Run 2: Report of QUIC Cubic — Data Link

```
Run 3: Statistics of QUIC Cubic

Start at: 2017-10-10 23:12:17
End at: 2017-10-10 23:12:47

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.91 Mbit/s
95th percentile per-packet one-way delay: 49.805 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 62.91 Mbit/s
95th percentile per-packet one-way delay: 49.805 ms
Loss rate: 0.47%
```
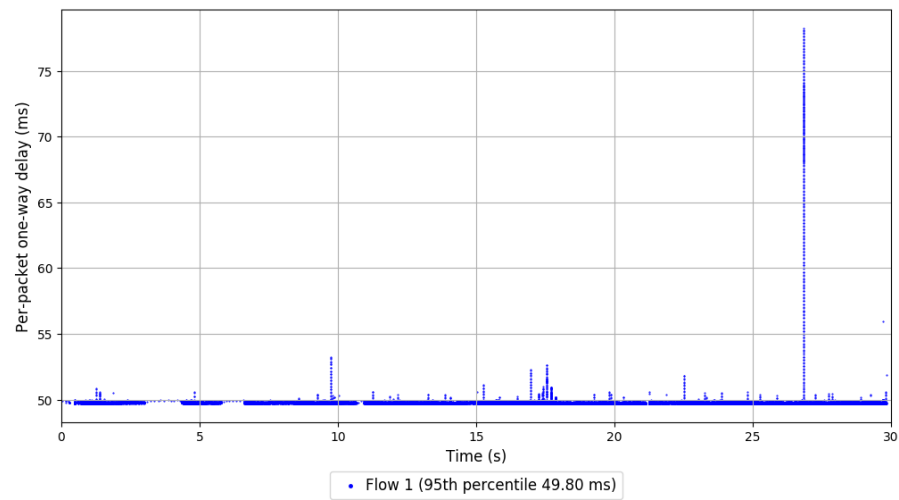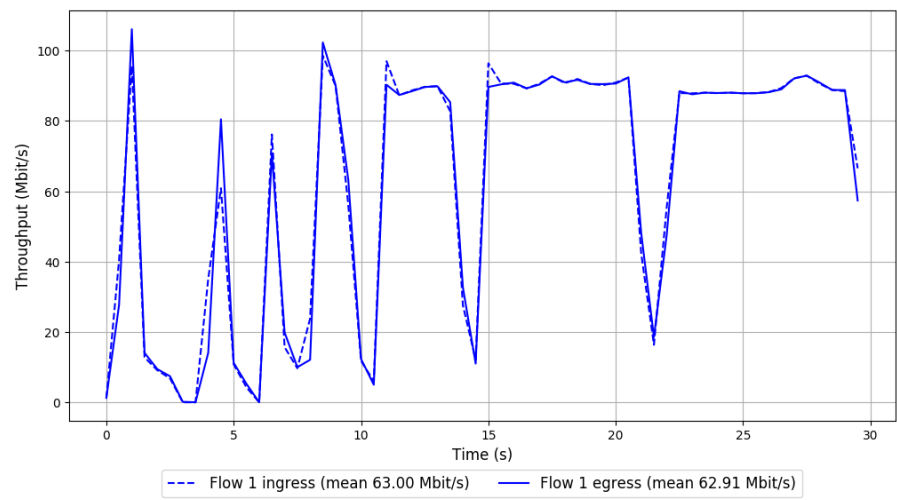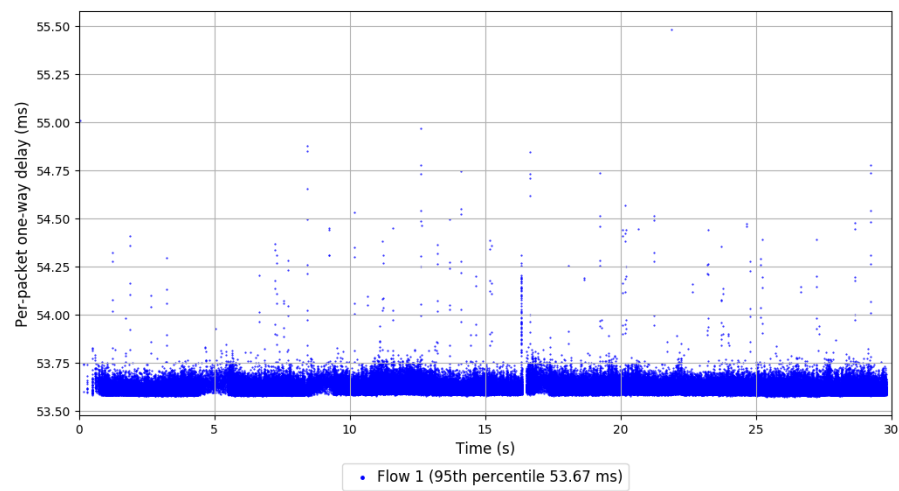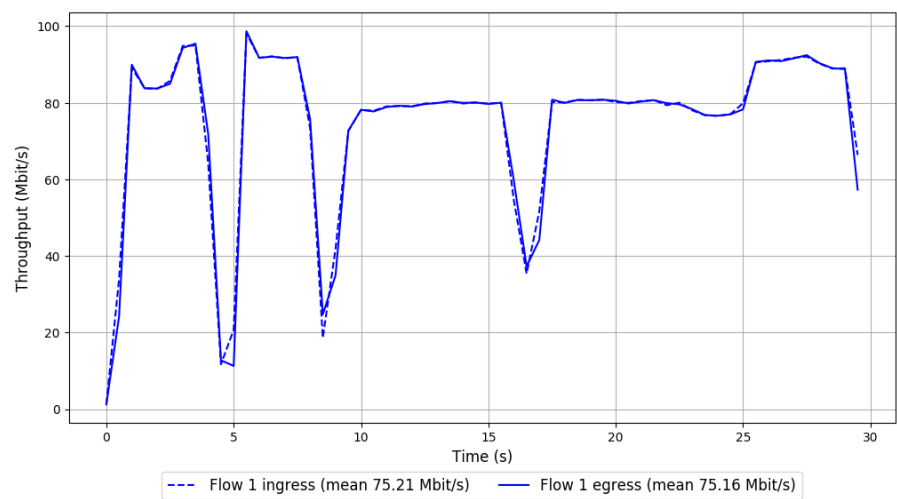
Run 3: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 63.00 Mbit/s) ----   Flow 1 egress (mean 62.91 Mbit/s) ——

Flow 1 (95th percentile 49.80 ms)

```
Run 4: Statistics of QUIC Cubic

Start at: 2017-10-10 23:23:08
End at: 2017-10-10 23:23:38

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.16 Mbit/s
95th percentile per-packet one-way delay: 53.674 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 75.16 Mbit/s
95th percentile per-packet one-way delay: 53.674 ms
Loss rate: 0.41%
```

Run 4: Report of QUIC Cubic — Data Link

```
Run 5: Statistics of QUIC Cubic

Start at: 2017-10-10 23:33:35
End at: 2017-10-10 23:34:05


# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.30 Mbit/s
95th percentile per-packet one-way delay: 49.855 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 47.30 Mbit/s
95th percentile per-packet one-way delay: 49.855 ms
Loss rate: 0.57%
```
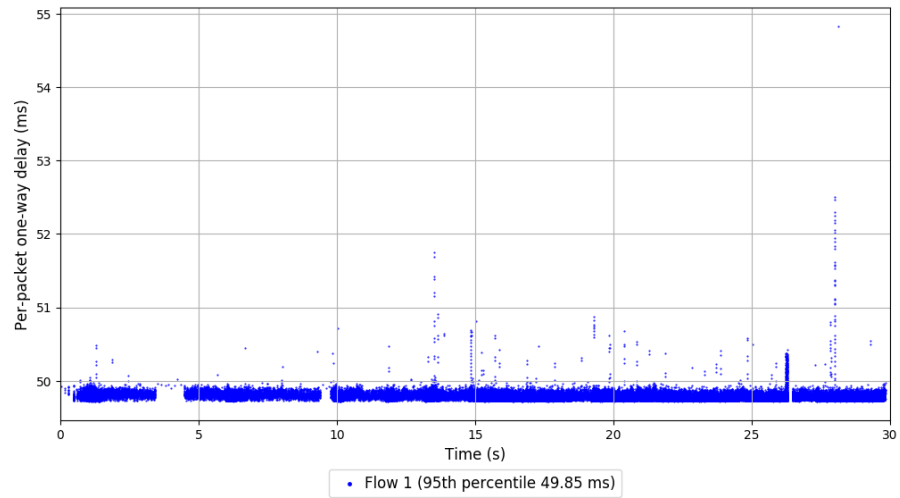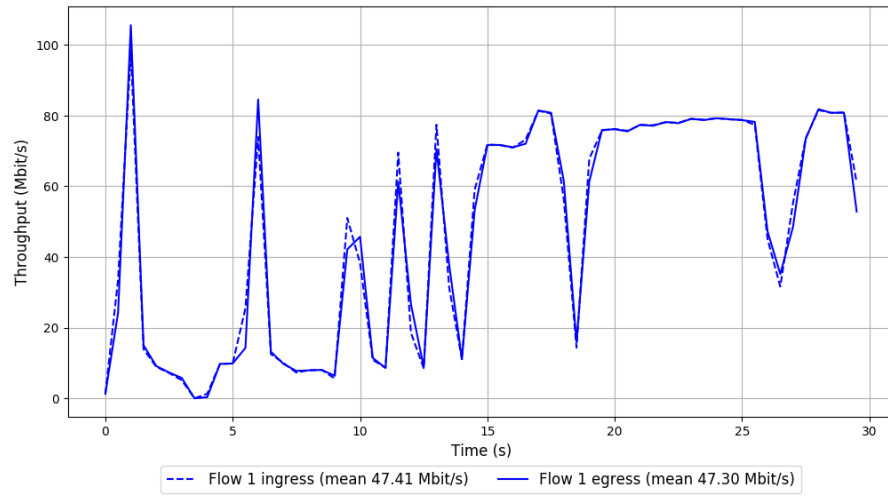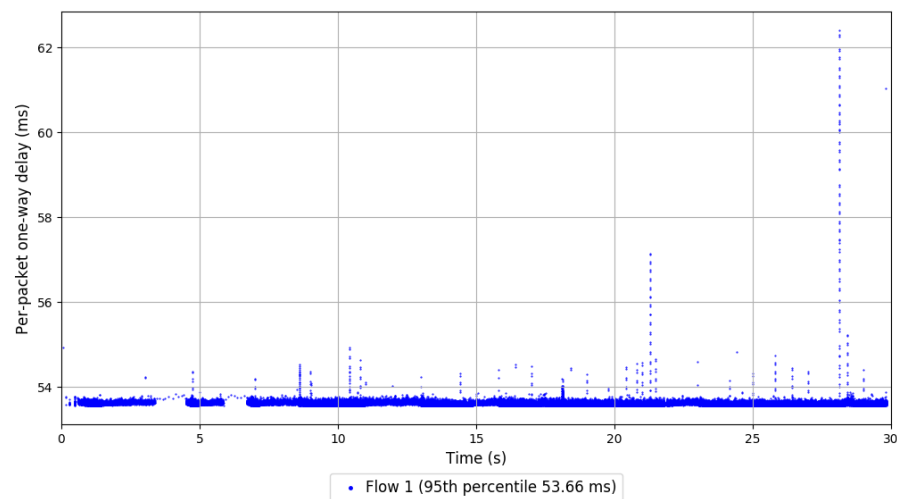
Run 5: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 47.41 Mbit/s)   Flow 1 egress (mean 47.30 Mbit/s)

Flow 1 (95th percentile 49.85 ms)

```
Run 6: Statistics of QUIC Cubic

Start at: 2017-10-10 23:44:04
End at: 2017-10-10 23:44:34

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.18 Mbit/s
95th percentile per-packet one-way delay: 53.655 ms
Loss rate: 0.54%
-- Flow 1:
Average throughput: 61.18 Mbit/s
95th percentile per-packet one-way delay: 53.655 ms
Loss rate: 0.54%
```
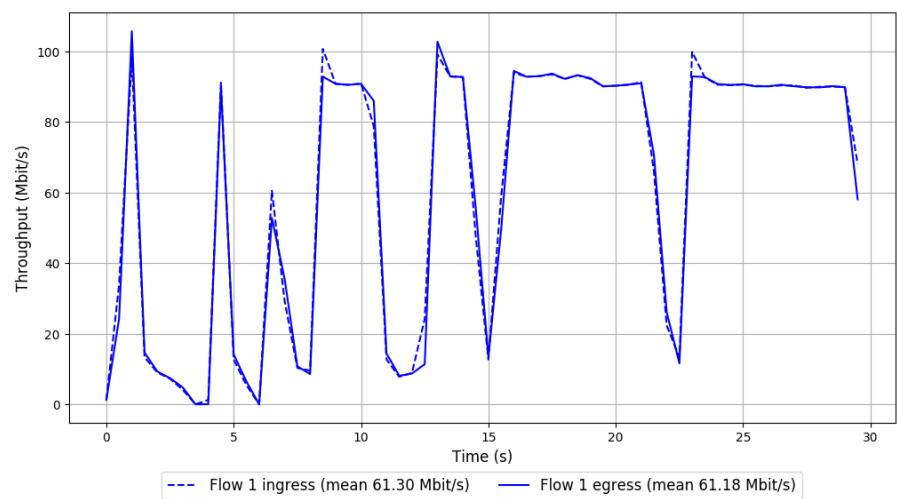
Run 6: Report of QUIC Cubic — Data Link

```
Run 7: Statistics of QUIC Cubic

Start at: 2017-10-10 23:54:47
End at: 2017-10-10 23:55:17

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 42.46 Mbit/s
95th percentile per-packet one-way delay: 50.183 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 42.46 Mbit/s
95th percentile per-packet one-way delay: 50.183 ms
Loss rate: 0.63%
```
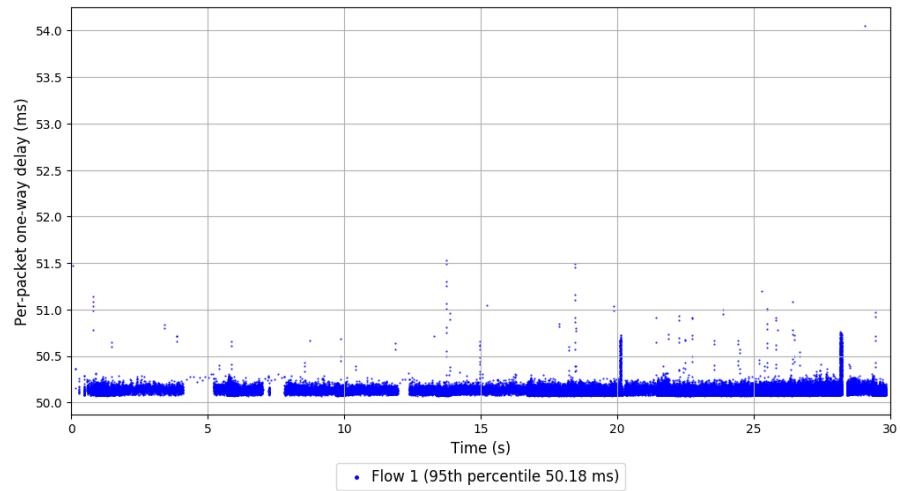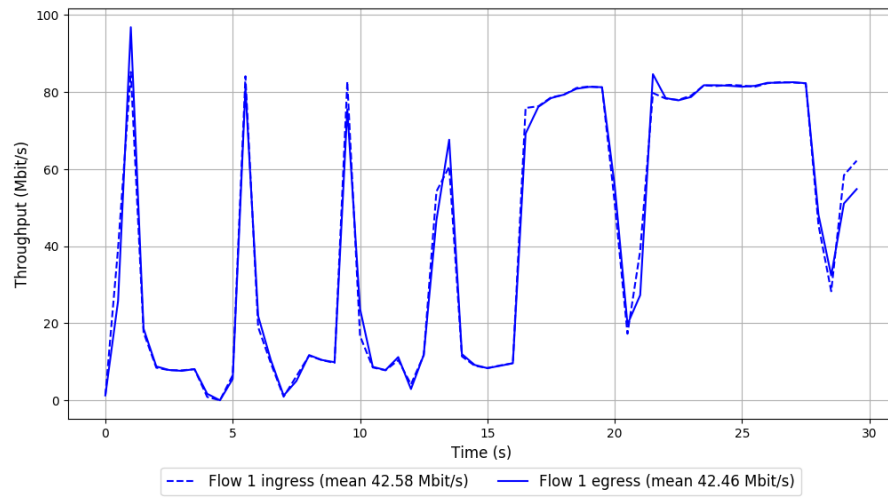
Run 7: Report of QUIC Cubic — Data Link

```
Run 8: Statistics of QUIC Cubic

Start at: 2017-10-11 00:05:19
End at: 2017-10-11 00:05:49

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.33 Mbit/s
95th percentile per-packet one-way delay: 52.983 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 60.33 Mbit/s
95th percentile per-packet one-way delay: 52.983 ms
Loss rate: 0.53%
```
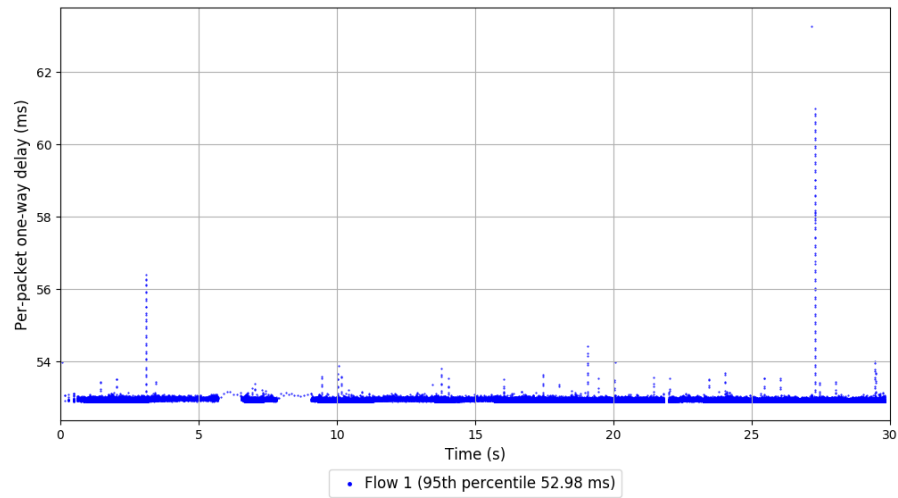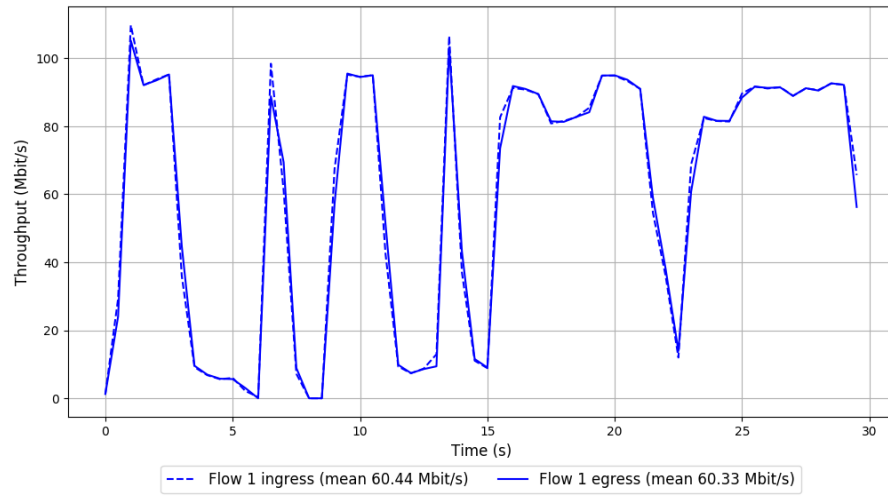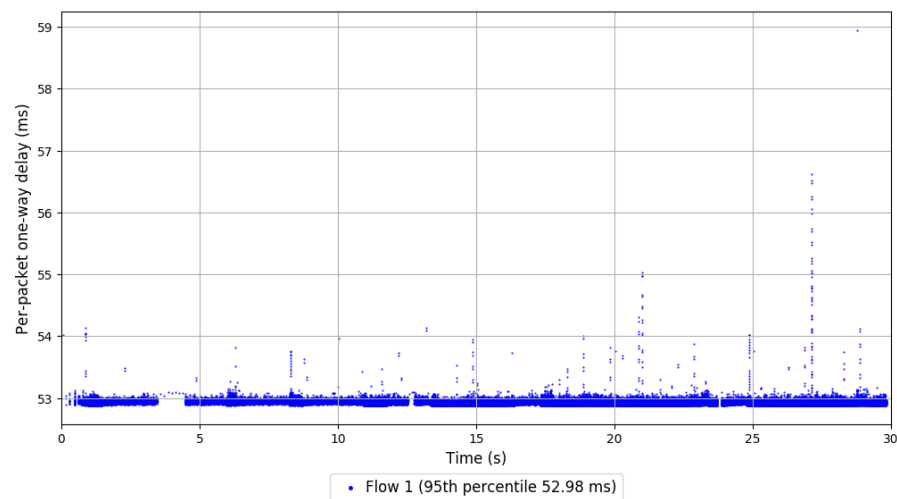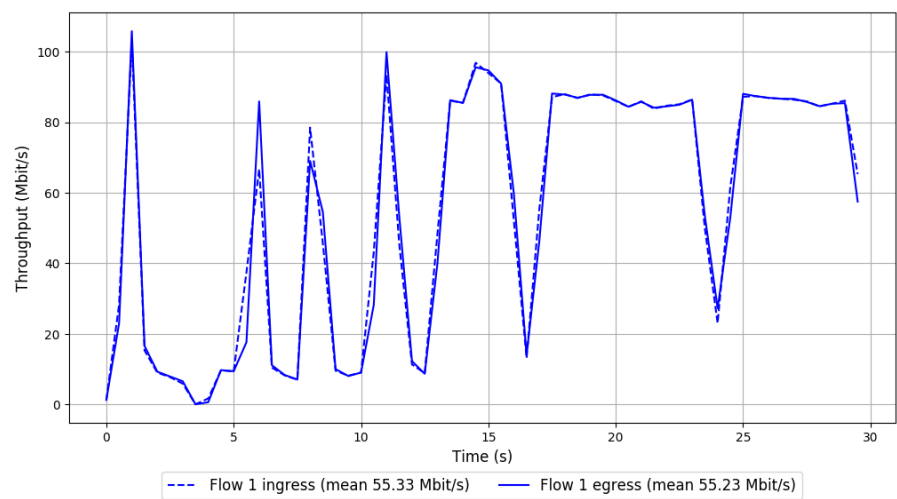
Run 8: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 60.44 Mbit/s)   Flow 1 egress (mean 60.33 Mbit/s)
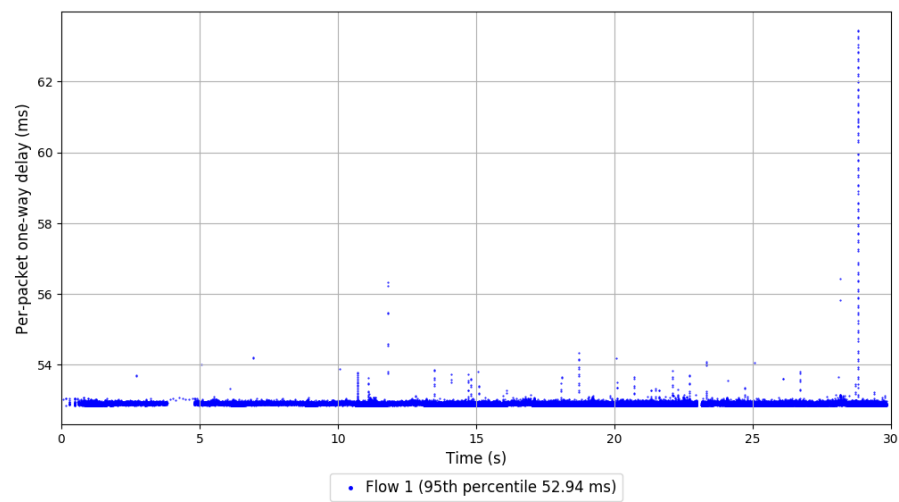

Flow 1 (95th percentile 52.98 ms)

```
Run 9: Statistics of QUIC Cubic

Start at: 2017-10-11 00:15:48
End at: 2017-10-11 00:16:18

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 55.23 Mbit/s
95th percentile per-packet one-way delay: 52.978 ms
Loss rate: 0.53%
-- Flow 1:
Average throughput: 55.23 Mbit/s
95th percentile per-packet one-way delay: 52.978 ms
Loss rate: 0.53%
```
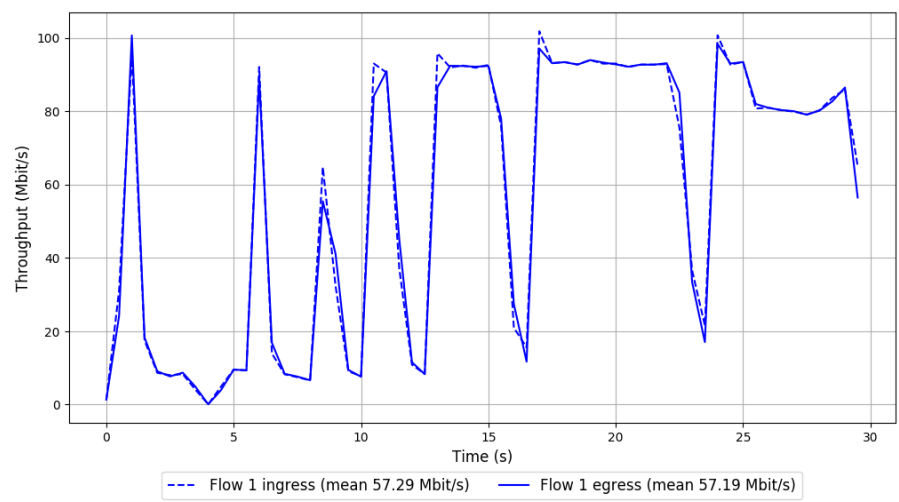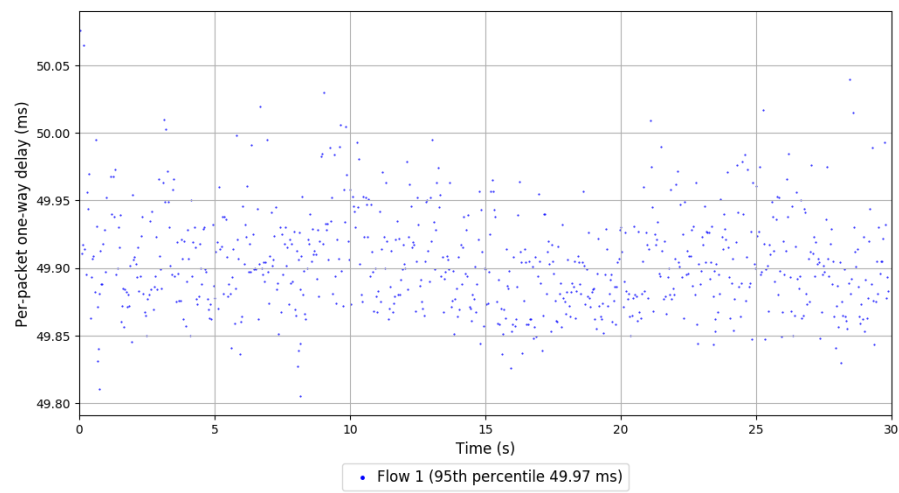
Run 9: Report of QUIC Cubic — Data Link

```
Run 10: Statistics of QUIC Cubic

Start at: 2017-10-11 00:26:11
End at: 2017-10-11 00:26:41


# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.19 Mbit/s
95th percentile per-packet one-way delay: 52.940 ms
Loss rate: 0.51%
-- Flow 1:
Average throughput: 57.19 Mbit/s
95th percentile per-packet one-way delay: 52.940 ms
Loss rate: 0.51%
```

Run 10: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 57.29 Mbit/s) --- Flow 1 egress (mean 57.19 Mbit/s)
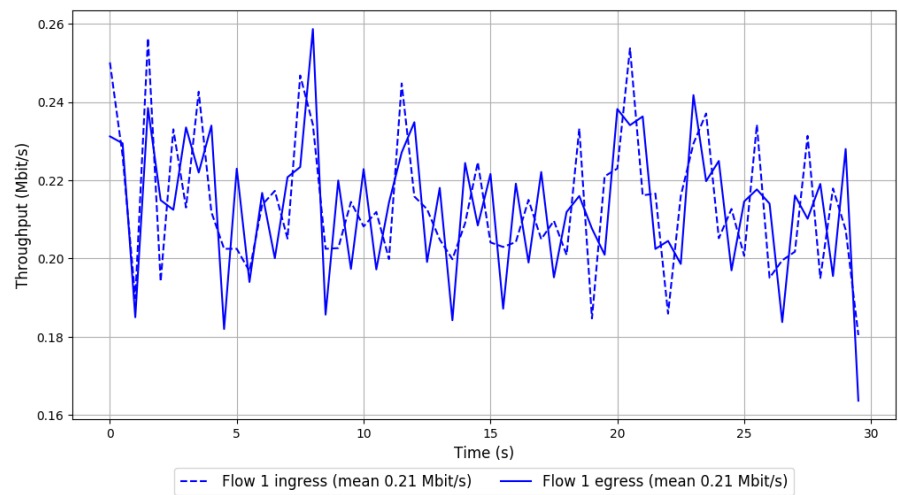

Flow 1 (95th percentile 52.94 ms)

```
Run 1: Statistics of SCReAM

Start at: 2017-10-10 22:47:26
End at: 2017-10-10 22:47:56

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 49.973 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 49.973 ms
Loss rate: 0.26%
```
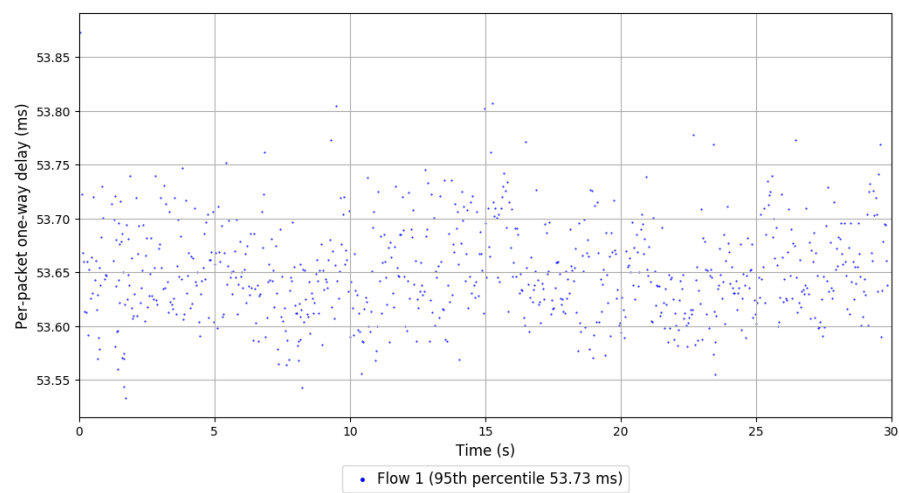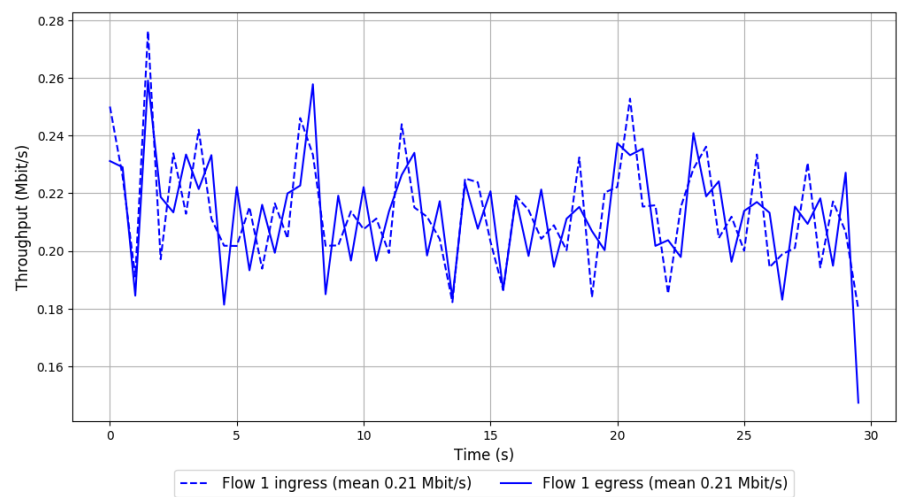
Run 1: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.21 Mbit/s) — — — Flow 1 egress (mean 0.21 Mbit/s)

Flow 1 (95th percentile 49.97 ms)

```
Run 2: Statistics of SCReAM

Start at: 2017-10-10 22:58:01
End at: 2017-10-10 22:58:31

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.725 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.725 ms
Loss rate: 0.38%
```
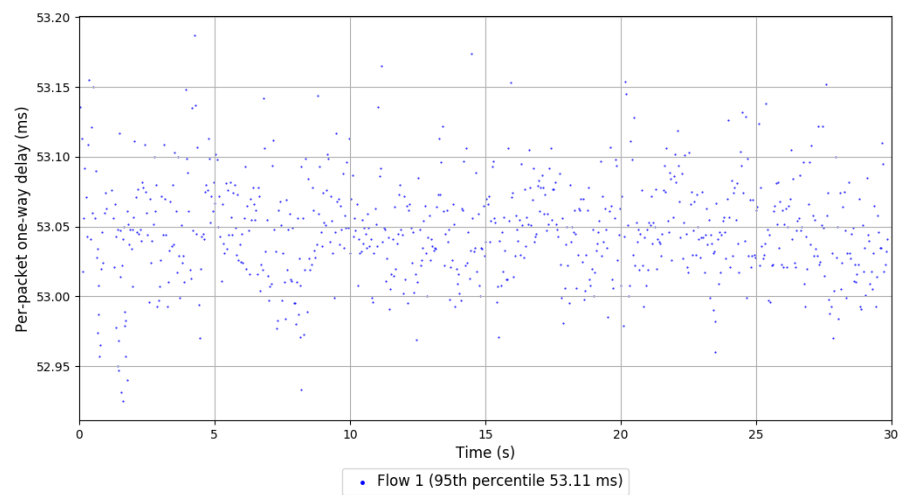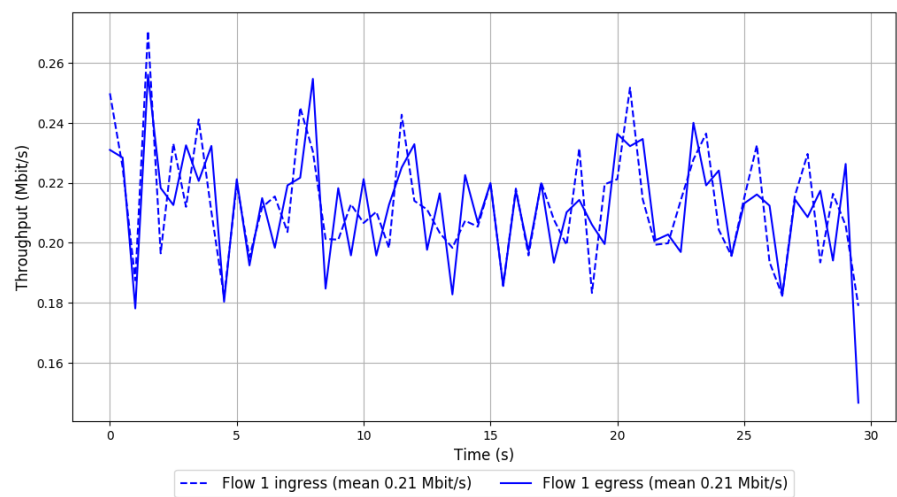
Run 2: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.21 Mbit/s) --- Flow 1 egress (mean 0.21 Mbit/s)

Flow 1 (95th percentile 53.73 ms)

```
Run 3: Statistics of SCReAM

Start at: 2017-10-10 23:08:51
End at: 2017-10-10 23:09:21

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.109 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.109 ms
Loss rate: 0.38%
```
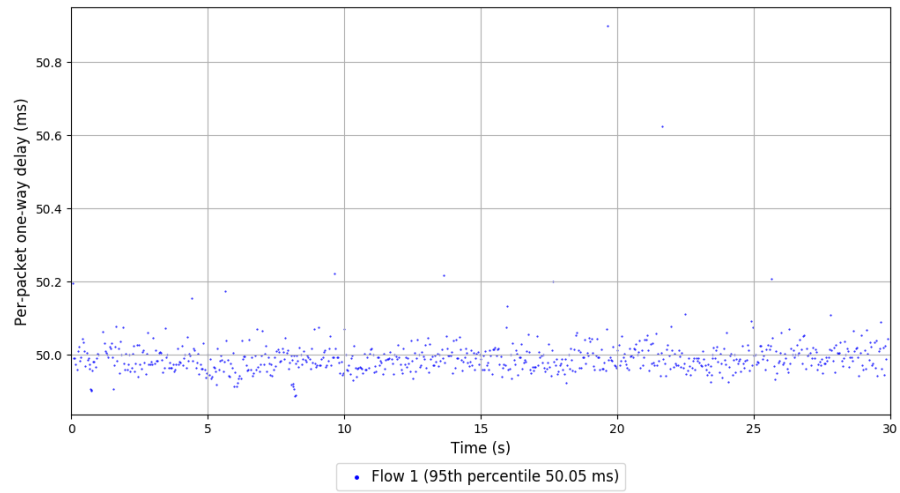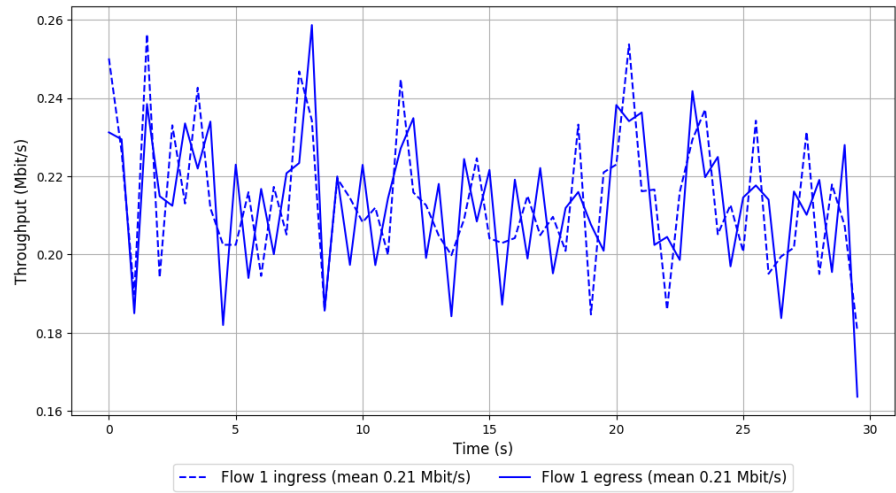
Run 3: Report of SCReAM — Data Link

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```
Run 4: Statistics of SCReAM

Start at: 2017-10-10 23:19:48
End at: 2017-10-10 23:20:18

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.052 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.052 ms
Loss rate: 0.26%
```
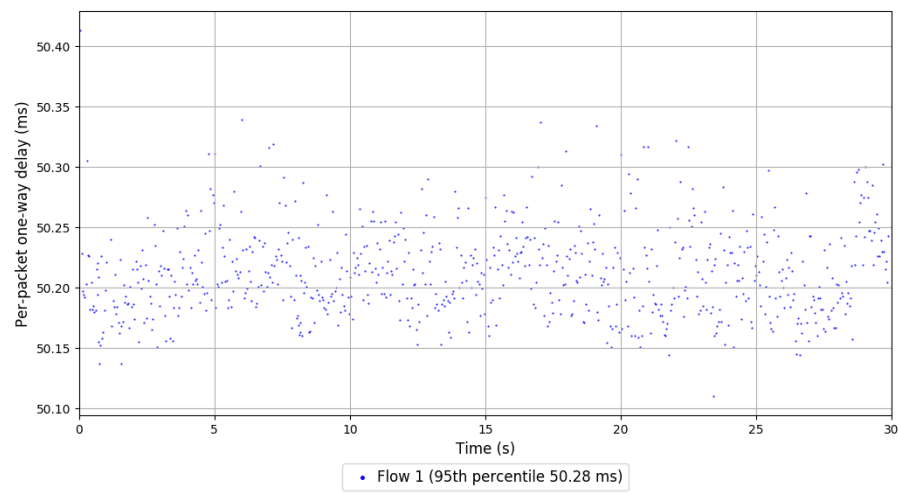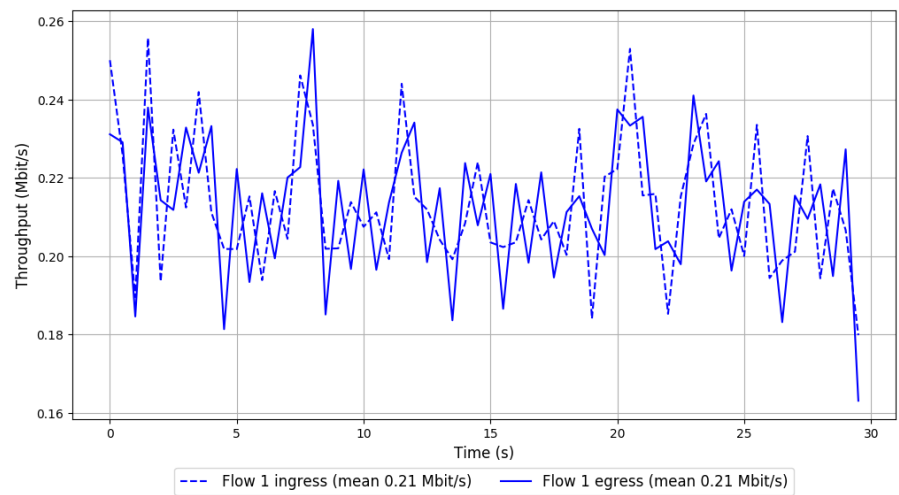
Run 4: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.21 Mbit/s) --- Flow 1 egress (mean 0.21 Mbit/s)

Flow 1 (95th percentile 50.05 ms)

```
Run 5: Statistics of SCReAM

Start at: 2017-10-10 23:30:23
End at: 2017-10-10 23:30:53

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.280 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.280 ms
Loss rate: 0.26%
```
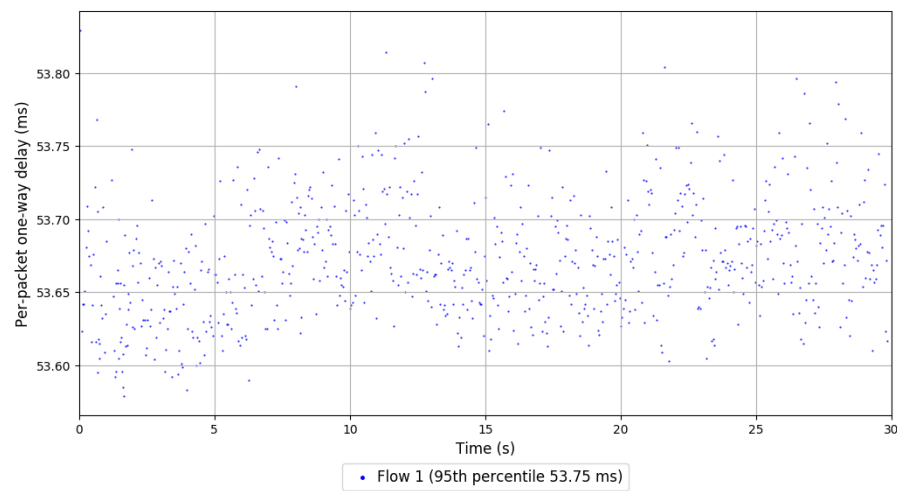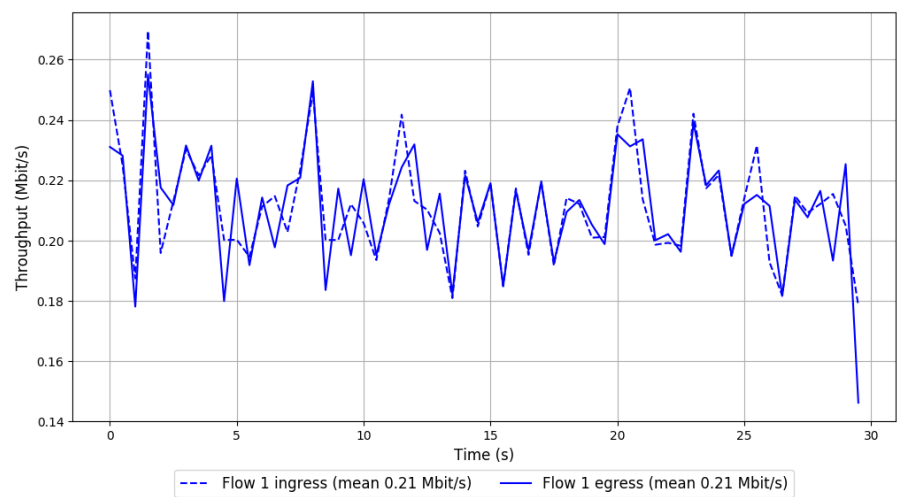
Run 5: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.21 Mbit/s) — Flow 1 egress (mean 0.21 Mbit/s)
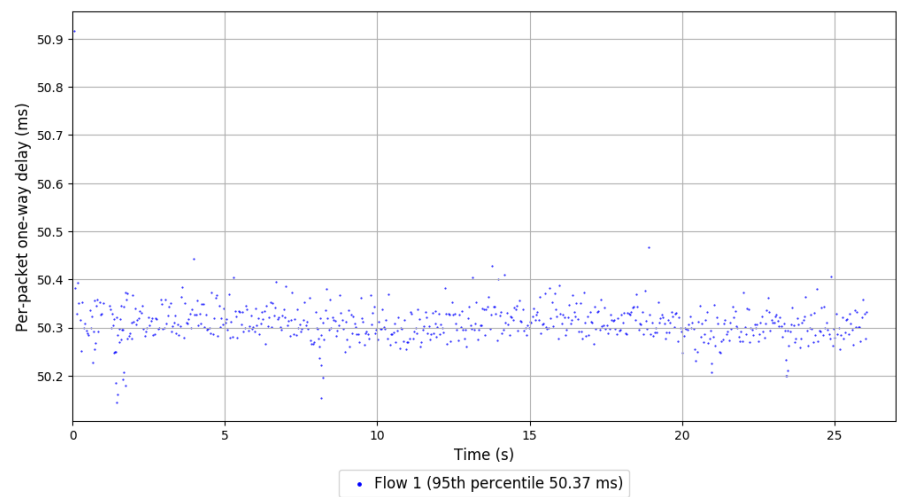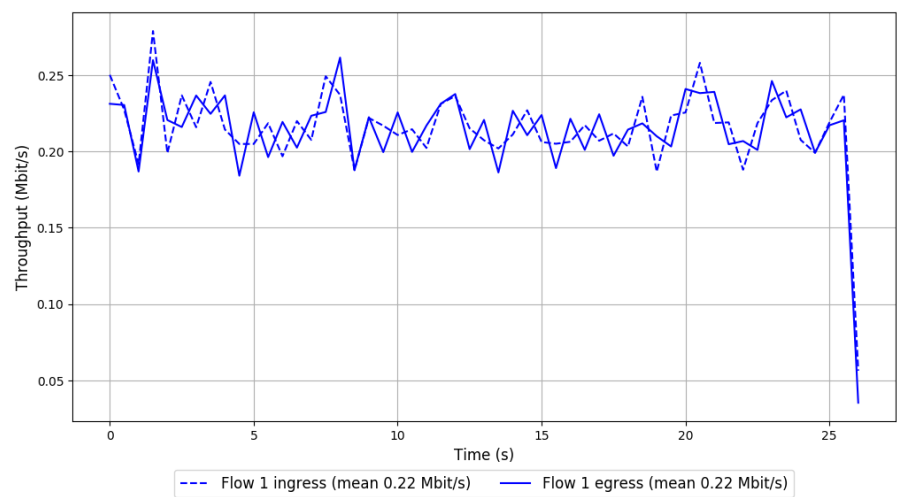

Flow 1 (95th percentile 50.28 ms)

```
Run 6: Statistics of SCReAM

Start at: 2017-10-10 23:41:08
End at: 2017-10-10 23:41:38

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.746 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 53.746 ms
Loss rate: 0.38%
```

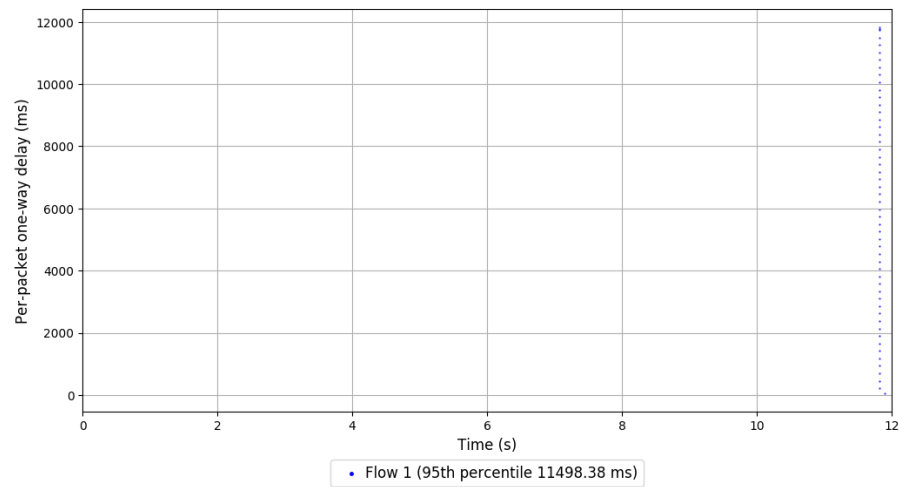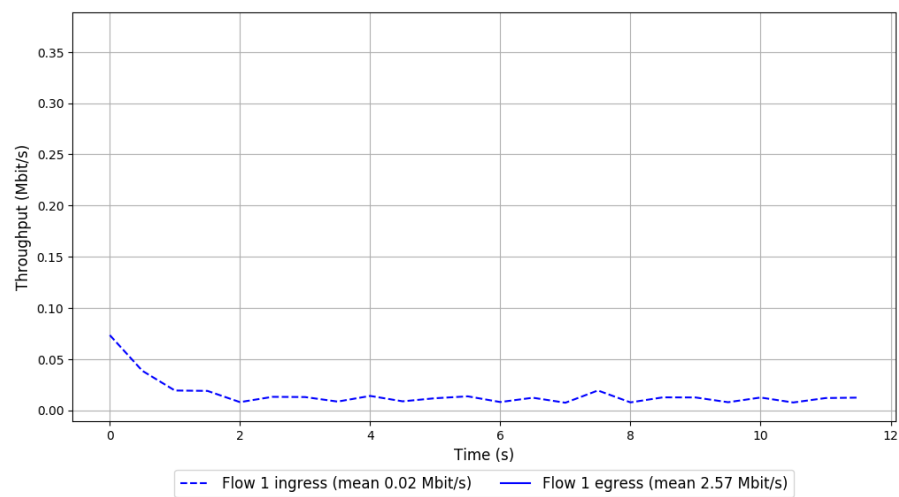## Run 6: Report of SCReAM — Data Link

```
Run 7: Statistics of SCReAM

Start at: 2017-10-10 23:51:20
End at: 2017-10-10 23:51:50

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.367 ms
Loss rate: 0.49%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 50.367 ms
Loss rate: 0.49%
```
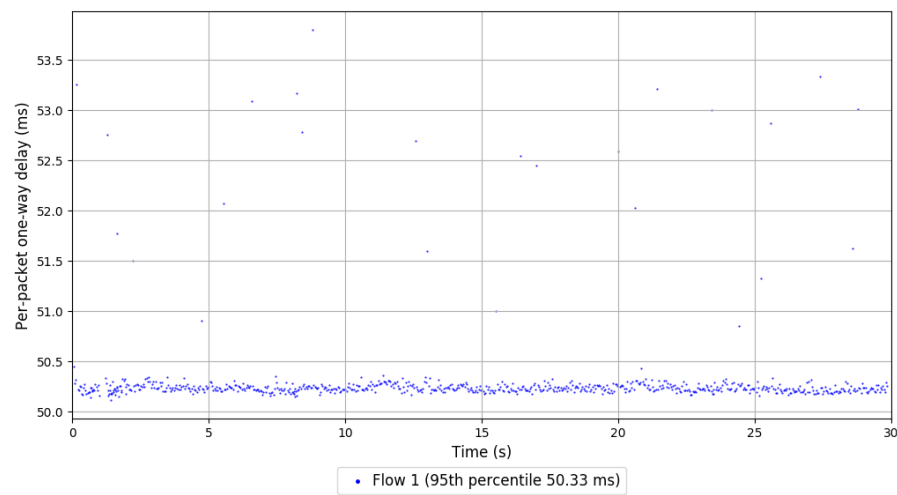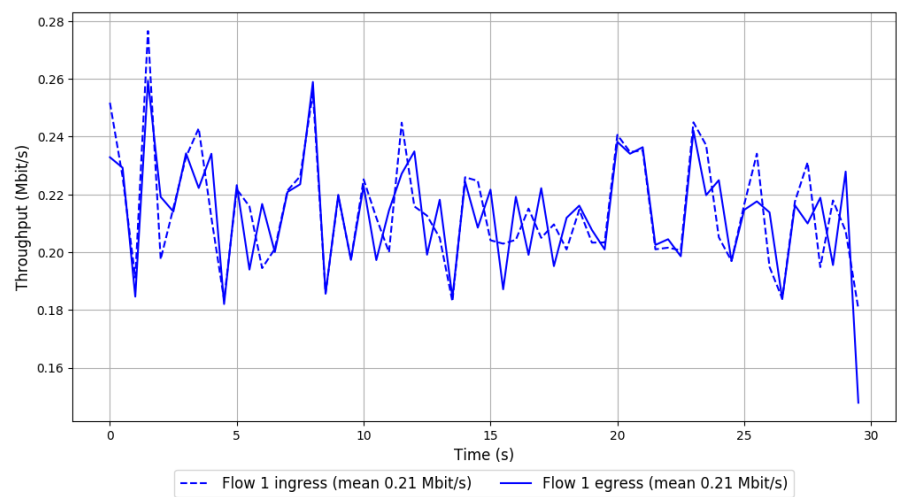
Run 7: Report of SCReAM — Data Link

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

Flow 1 (95th percentile 50.37 ms)

Run 8: Statistics of SCReAM

Start at: 2017-10-11 00:01:51
End at: 2017-10-11 00:02:21

Run 8: Report of SCReAM — Data Link
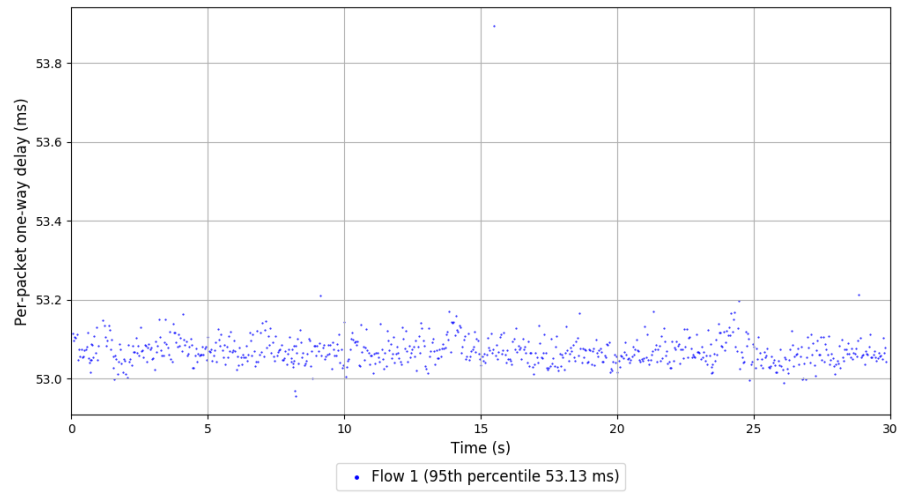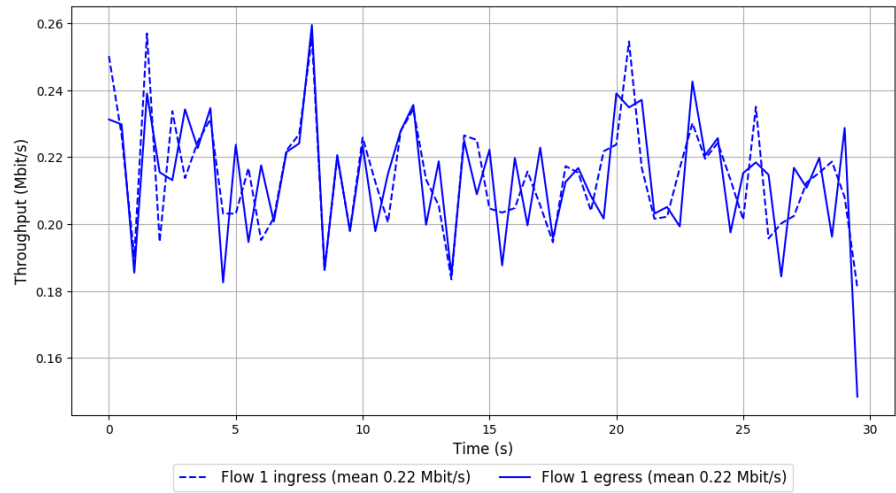

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```
Run 9: Statistics of SCReAM

Start at: 2017-10-11 00:12:49
End at: 2017-10-11 00:13:19


# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.330 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 50.330 ms
Loss rate: 0.38%
```
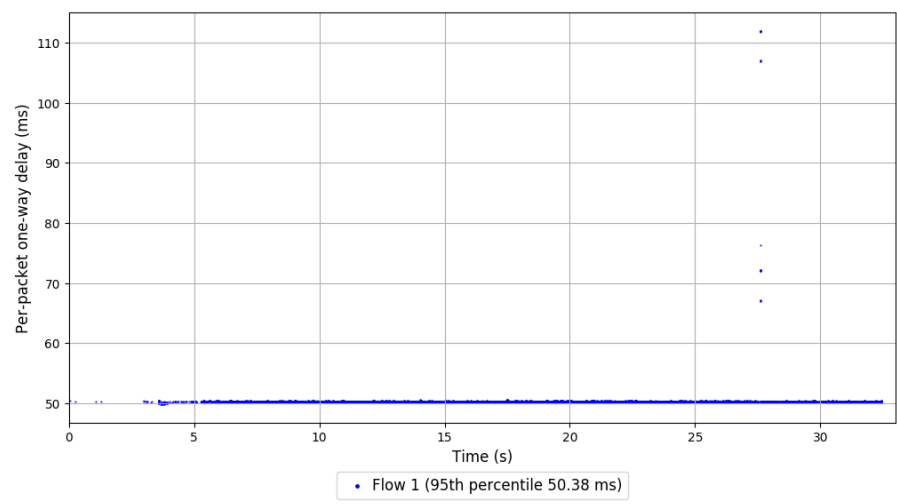
Run 9: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.21 Mbit/s)   Flow 1 egress (mean 0.21 Mbit/s)

Flow 1 (95th percentile 50.33 ms)

```
Run 10: Statistics of SCReAM

Start at: 2017-10-11 00:23:02
End at: 2017-10-11 00:23:32

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.128 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 53.128 ms
Loss rate: 0.38%
```
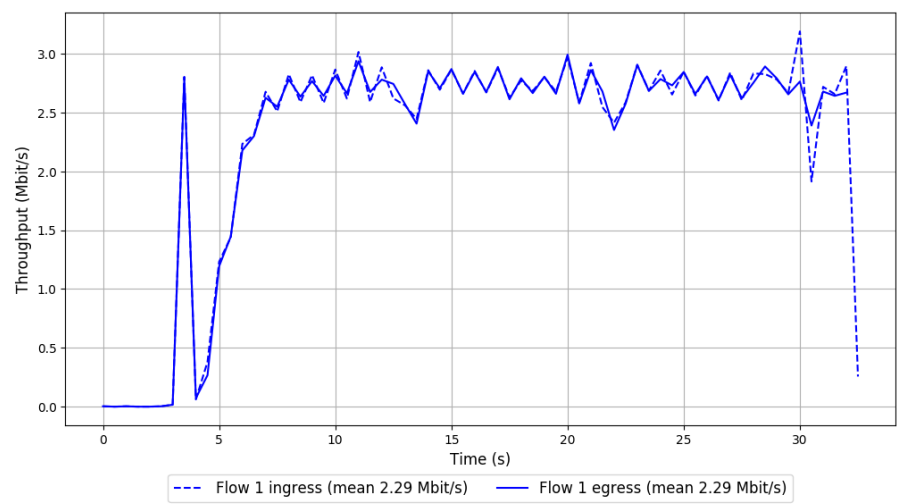
Run 10: Report of SCReAM — Data Link

```
Run 1: Statistics of WebRTC media

Start at: 2017-10-10 22:53:16
End at: 2017-10-10 22:53:46

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.385 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.385 ms
Loss rate: 0.48%
```
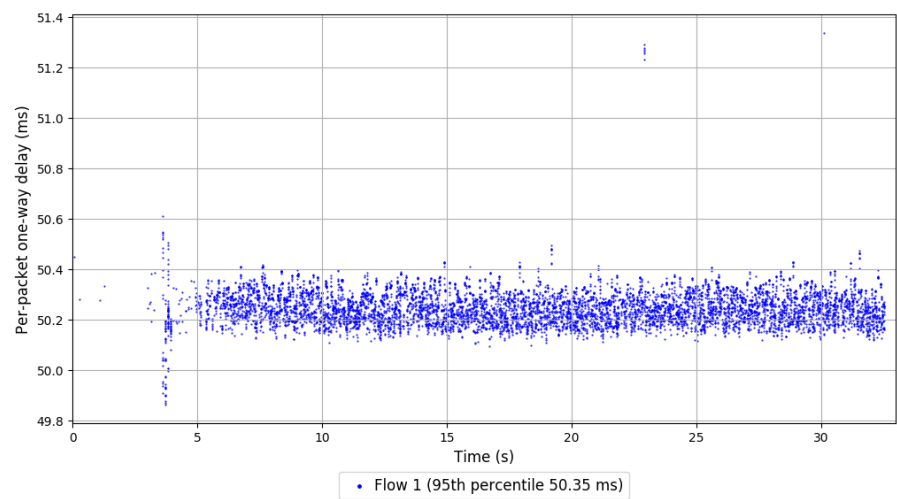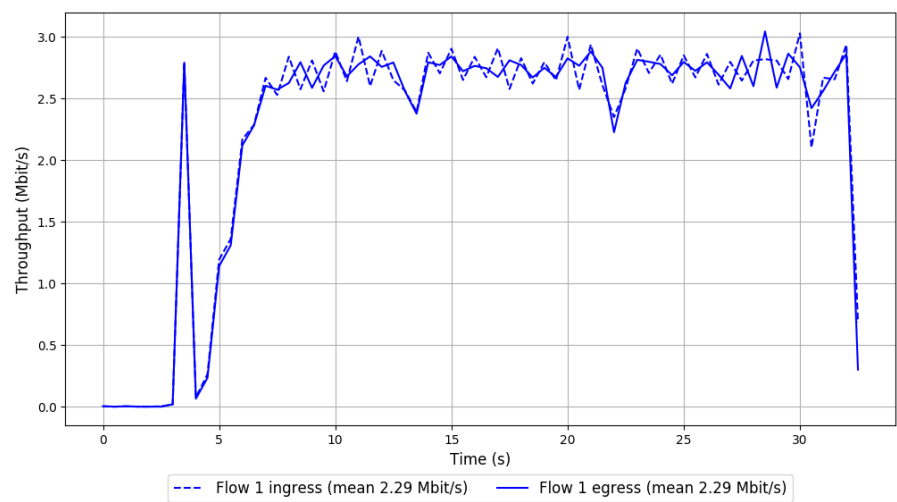
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2017-10-10 23:03:46
End at: 2017-10-10 23:04:16

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.348 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.348 ms
Loss rate: 0.46%
```
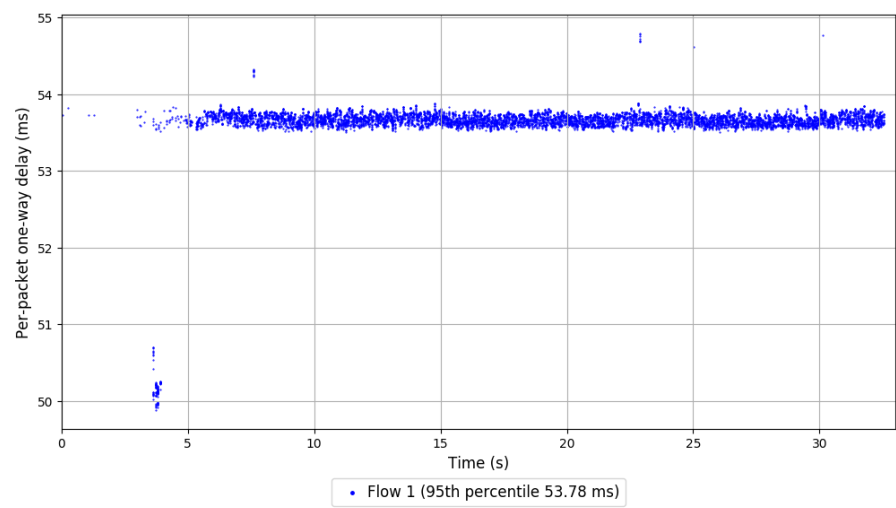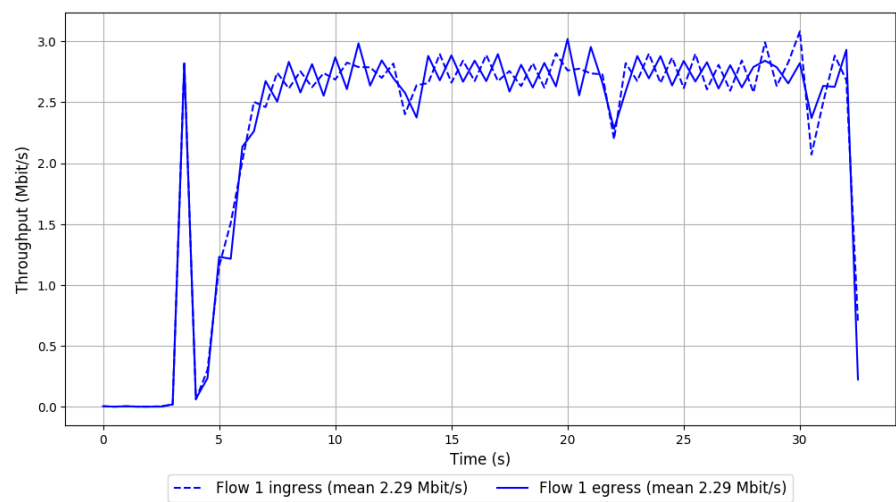
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2017-10-10 23:14:40
End at: 2017-10-10 23:15:10

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 53.778 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 53.778 ms
Loss rate: 0.46%
```
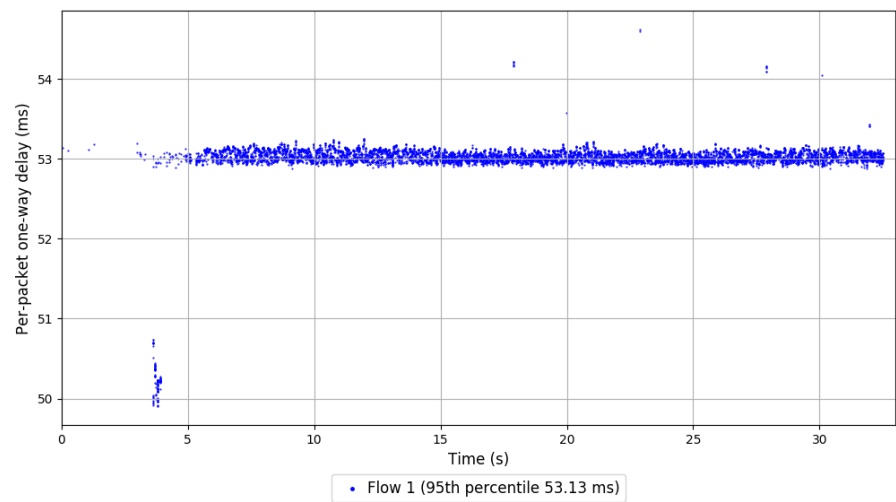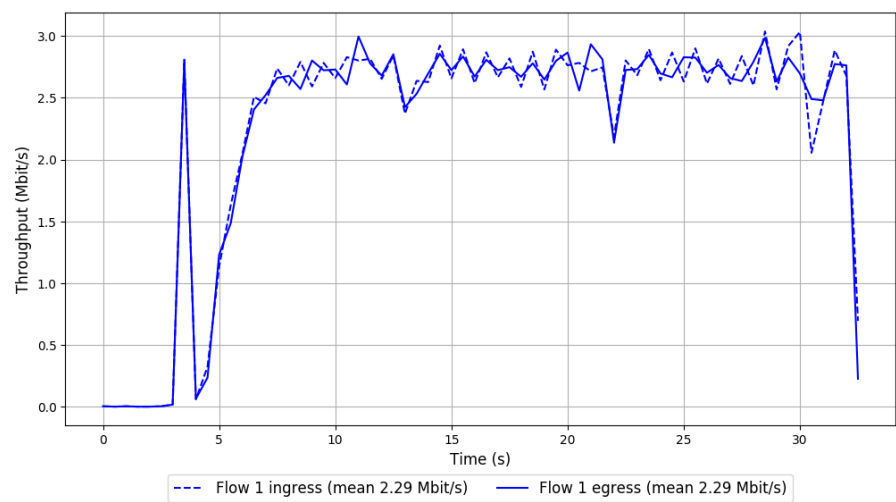
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2017-10-10 23:25:30
End at: 2017-10-10 23:26:00

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 53.132 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 53.132 ms
Loss rate: 0.46%
```
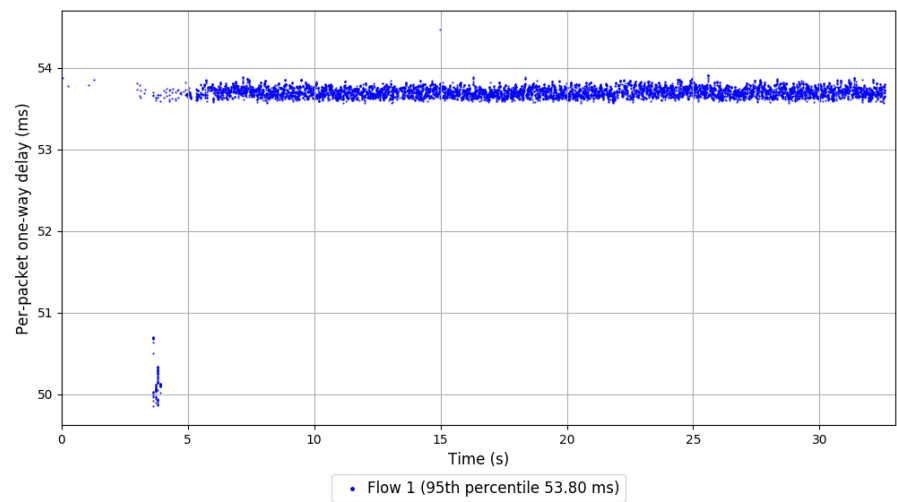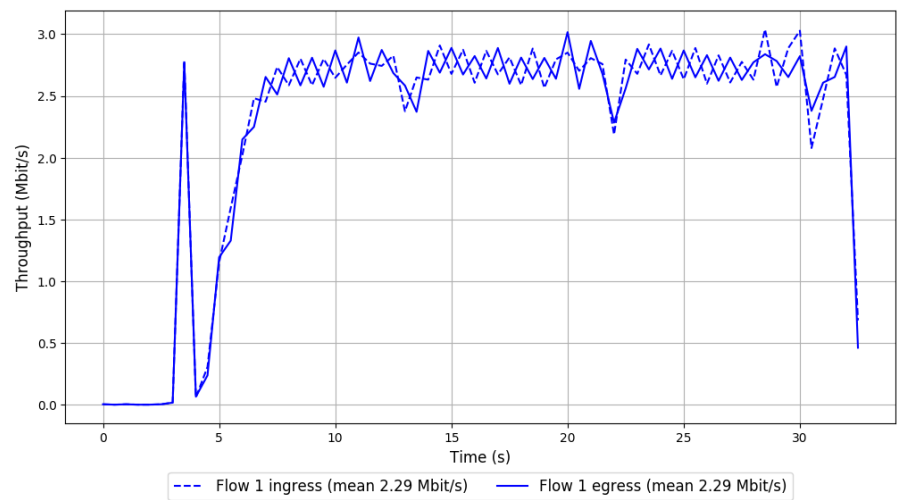
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2017-10-10 23:35:57
End at: 2017-10-10 23:36:27

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 53.804 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 53.804 ms
Loss rate: 0.30%
```
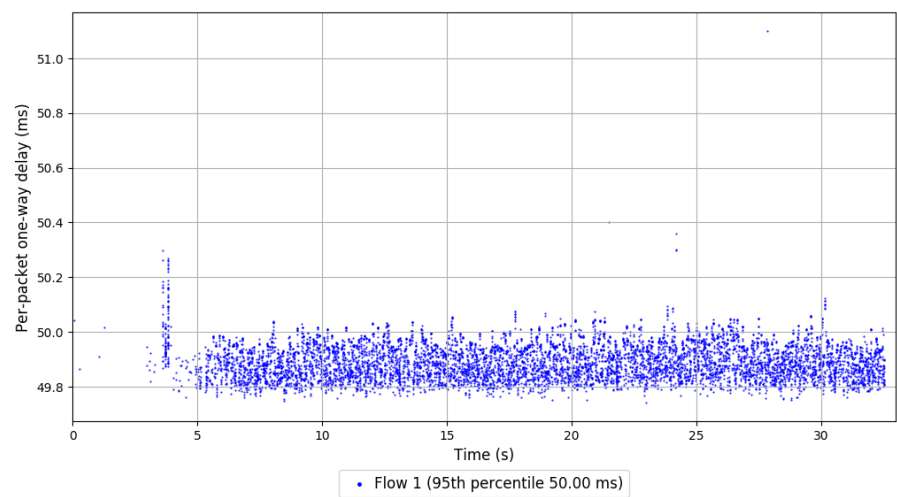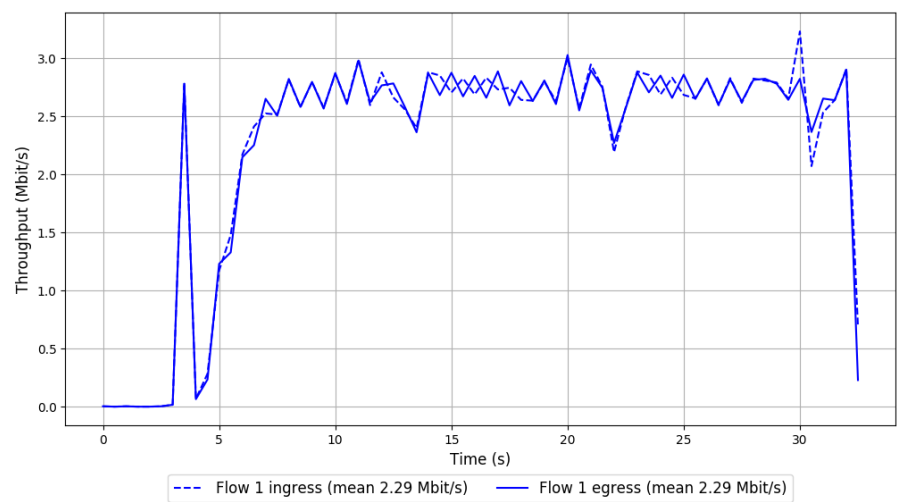
Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2017-10-10 23:46:28
End at: 2017-10-10 23:46:58

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.000 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.000 ms
Loss rate: 0.46%
```
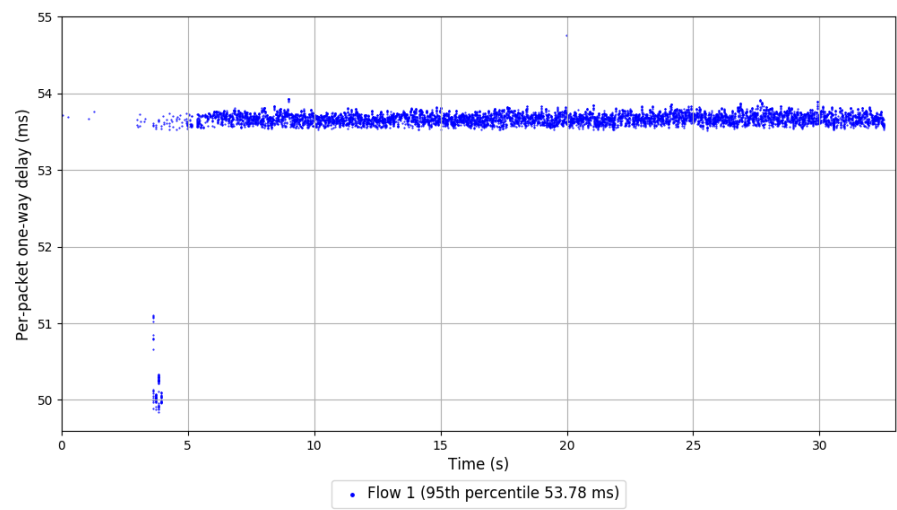
Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2017-10-10 23:57:08
End at: 2017-10-10 23:57:38

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 53.783 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 53.783 ms
Loss rate: 0.43%
```
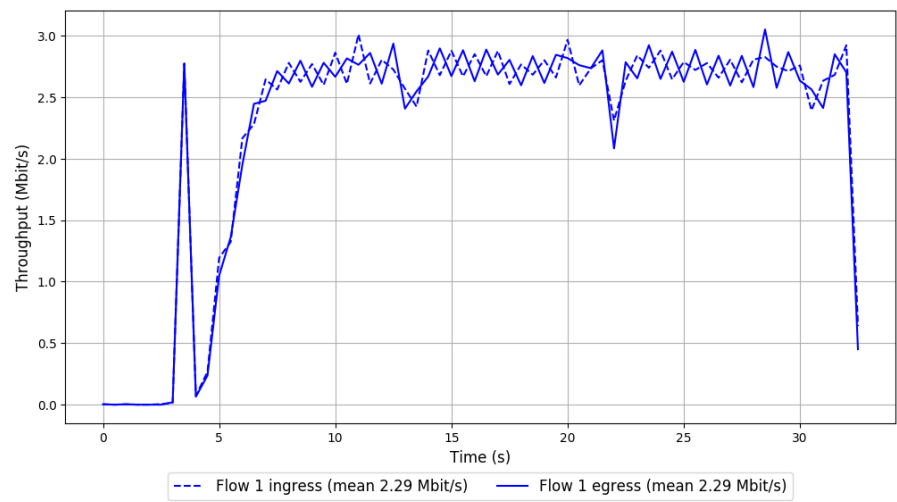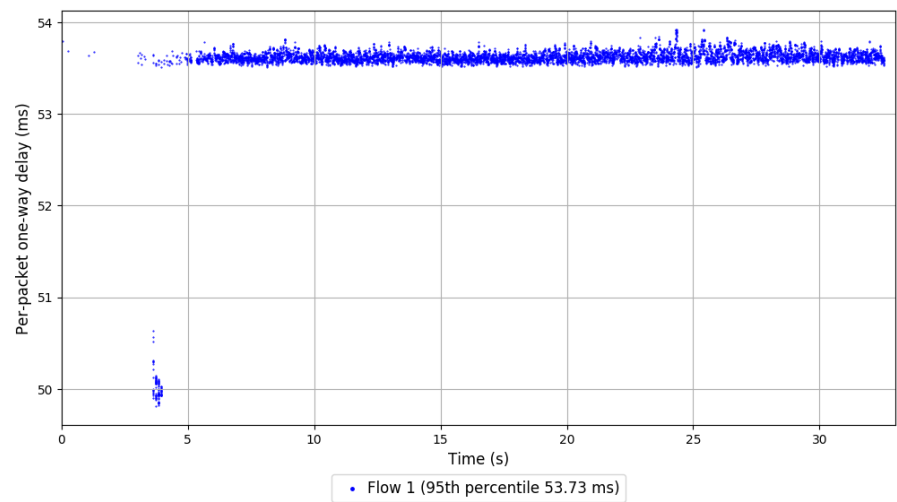
Run 7: Report of WebRTC media — Data Link

Flow 1 ingress (mean 2.29 Mbit/s)   Flow 1 egress (mean 2.29 Mbit/s)

Flow 1 (95th percentile 53.78 ms)

```
Run 8: Statistics of WebRTC media

Start at: 2017-10-11 00:07:40
End at: 2017-10-11 00:08:10

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 53.728 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 53.728 ms
Loss rate: 0.32%
```
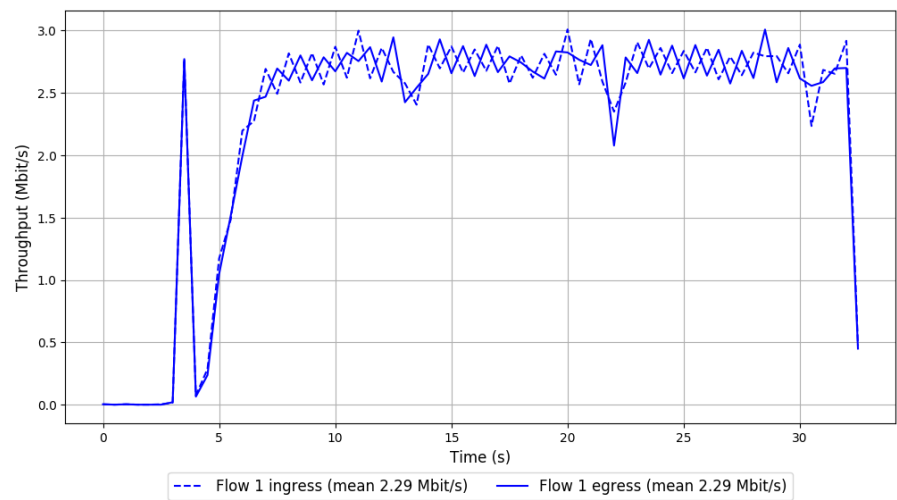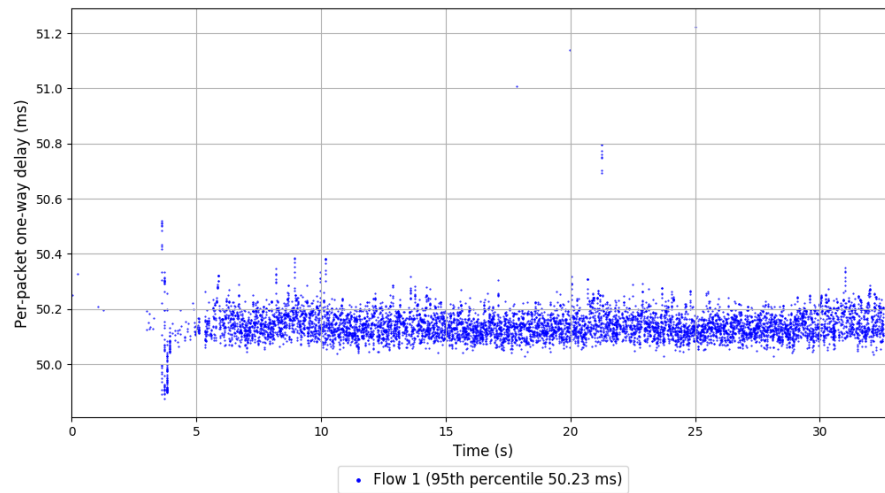
Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2017-10-11 00:18:10
End at: 2017-10-11 00:18:40

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.226 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.226 ms
Loss rate: 0.46%
```
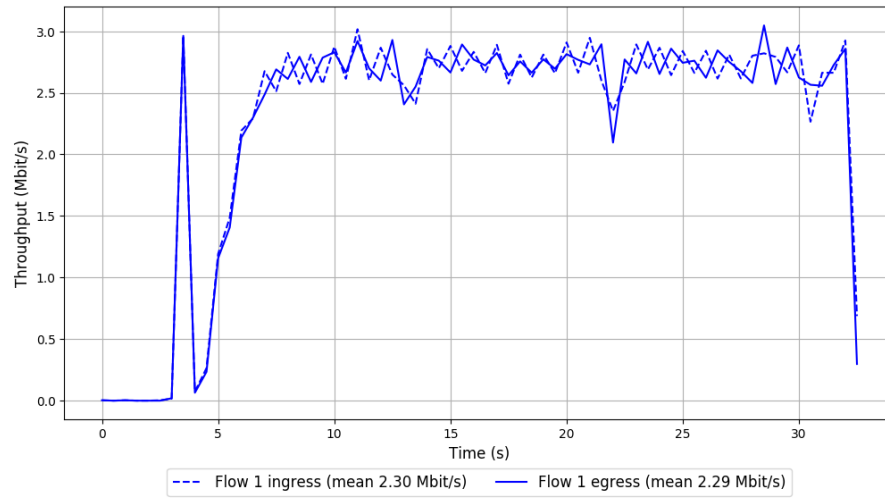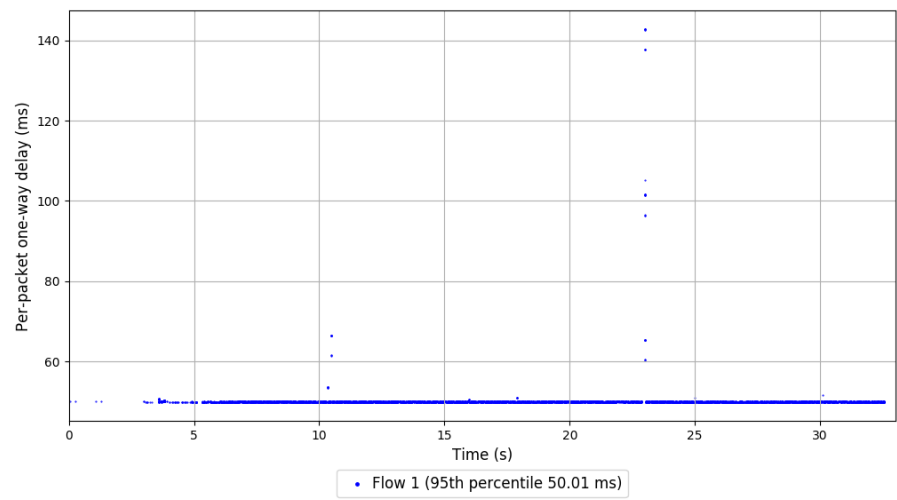
Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2017-10-11 00:28:34
End at: 2017-10-11 00:29:04

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.007 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 2.29 Mbit/s
95th percentile per-packet one-way delay: 50.007 ms
Loss rate: 0.31%
```
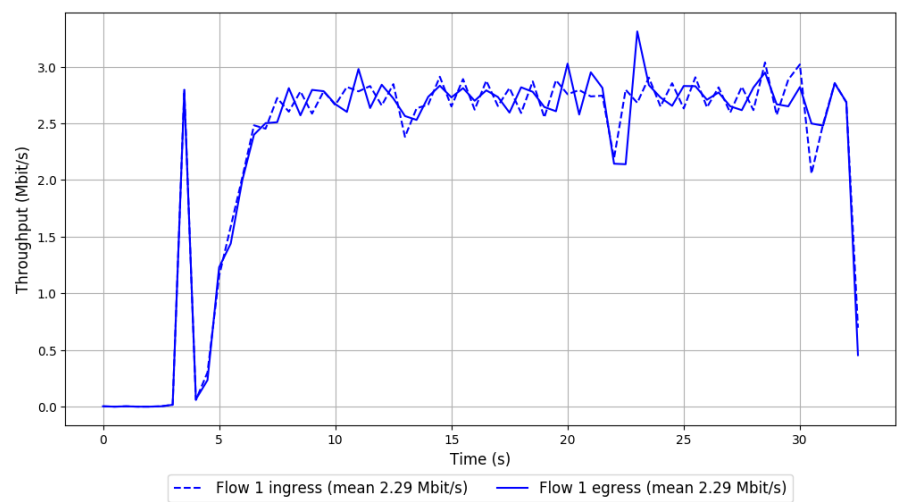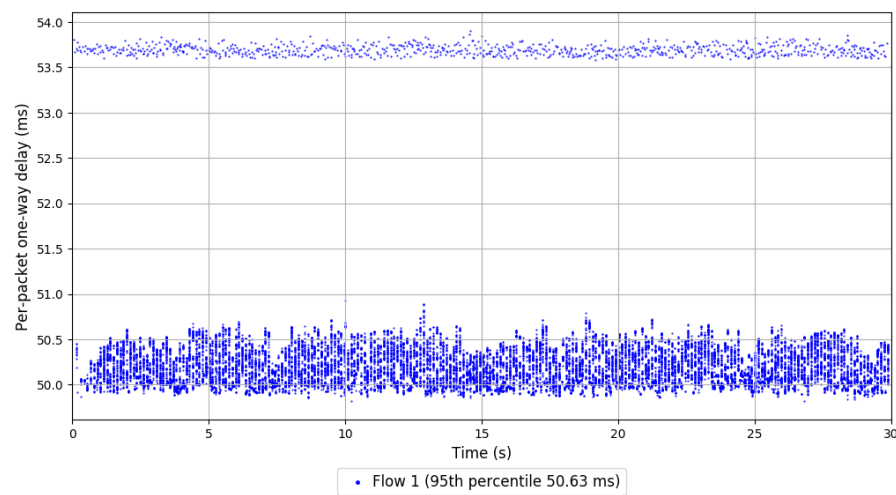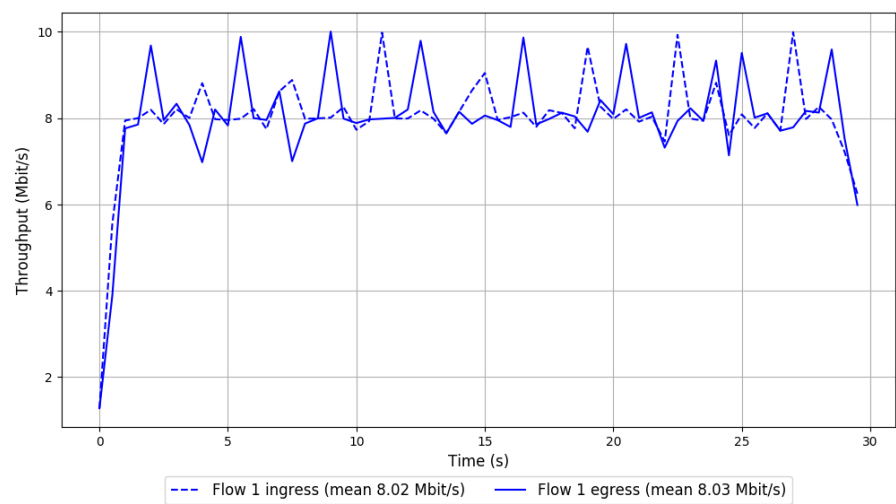
Run 10: Report of WebRTC media — Data Link

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```
Run 1: Statistics of Sprout

Start at: 2017-10-10 22:46:49
End at: 2017-10-10 22:47:19

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 8.03 Mbit/s
95th percentile per-packet one-way delay: 50.632 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 8.03 Mbit/s
95th percentile per-packet one-way delay: 50.632 ms
Loss rate: 0.24%
```

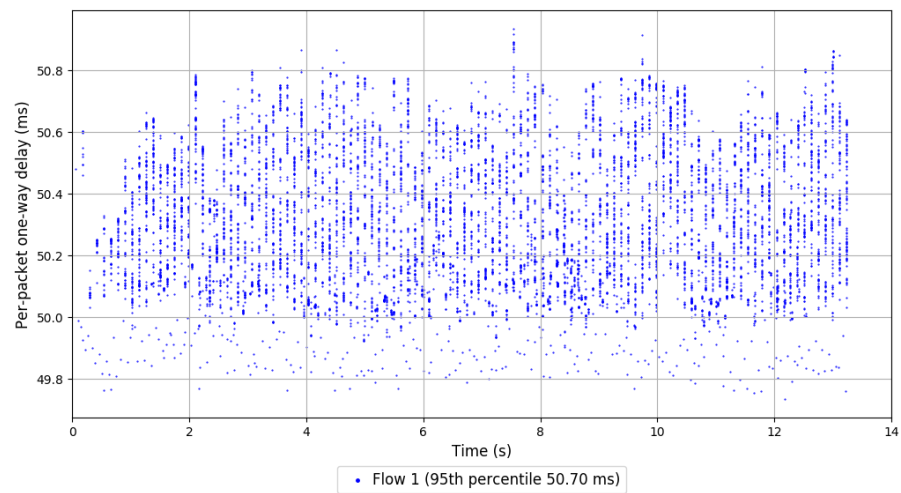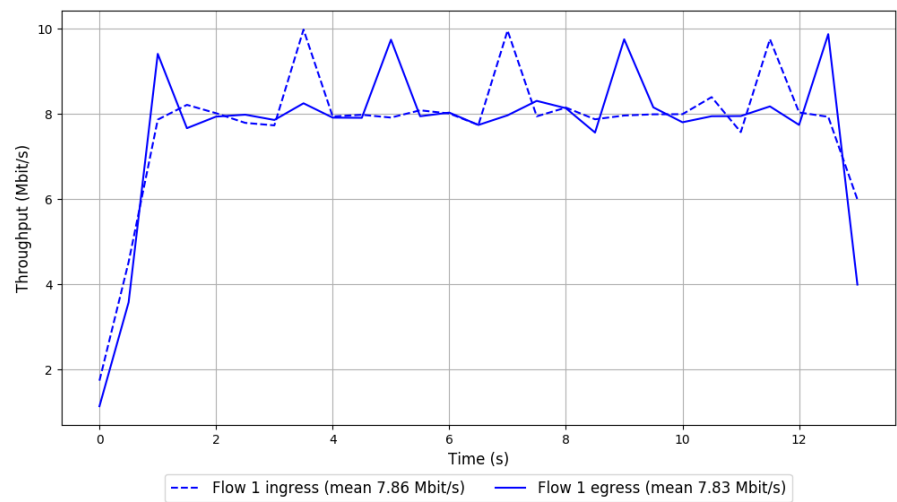Run 1: Report of Sprout — Data Link

Run 2: Statistics of Sprout

Start at: 2017-10-10 22:57:23
End at: 2017-10-10 22:57:53

Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2017-10-10 23:08:14
End at: 2017-10-10 23:08:44


# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.95 Mbit/s
95th percentile per-packet one-way delay: 50.599 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 7.95 Mbit/s
95th percentile per-packet one-way delay: 50.599 ms
Loss rate: 0.43%
```
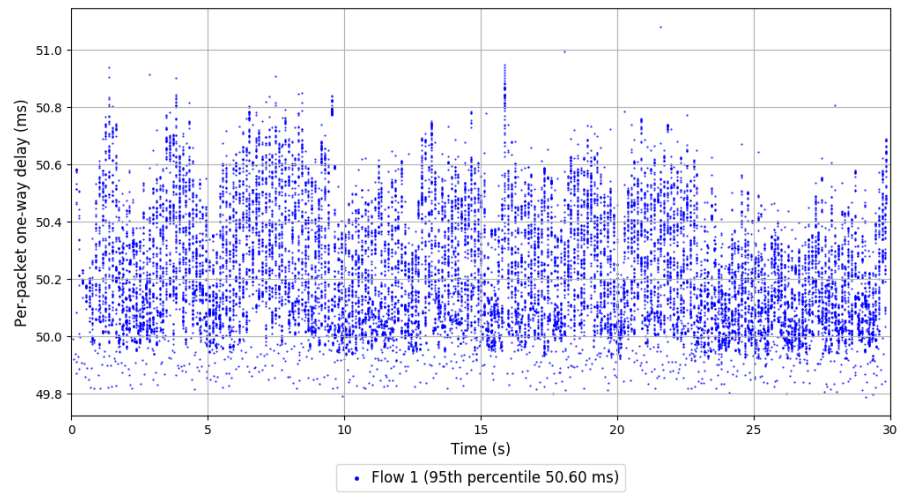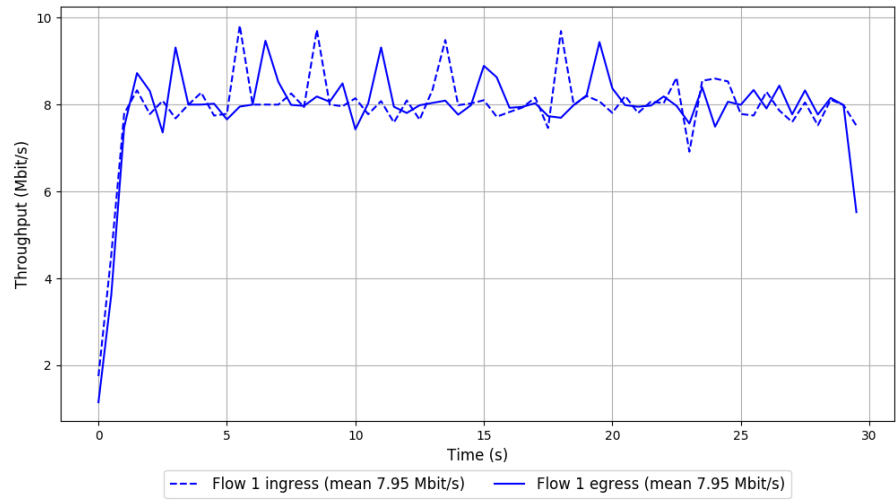
Run 3: Report of Sprout — Data Link

Flow 1 ingress (mean 7.95 Mbit/s)   Flow 1 egress (mean 7.95 Mbit/s)

Flow 1 (95th percentile 50.60 ms)

```
Run 4: Statistics of Sprout

Start at: 2017-10-10 23:19:10
End at: 2017-10-10 23:19:40

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 50.630 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 7.92 Mbit/s
95th percentile per-packet one-way delay: 50.630 ms
Loss rate: 0.48%
```
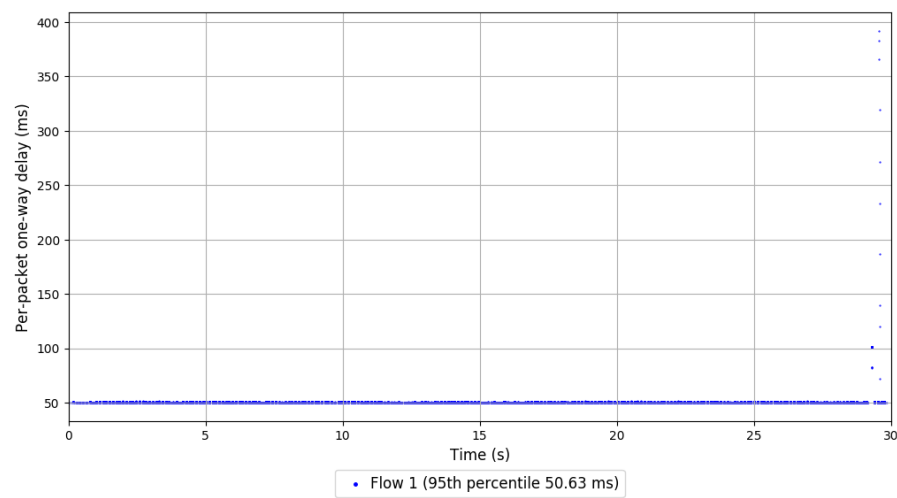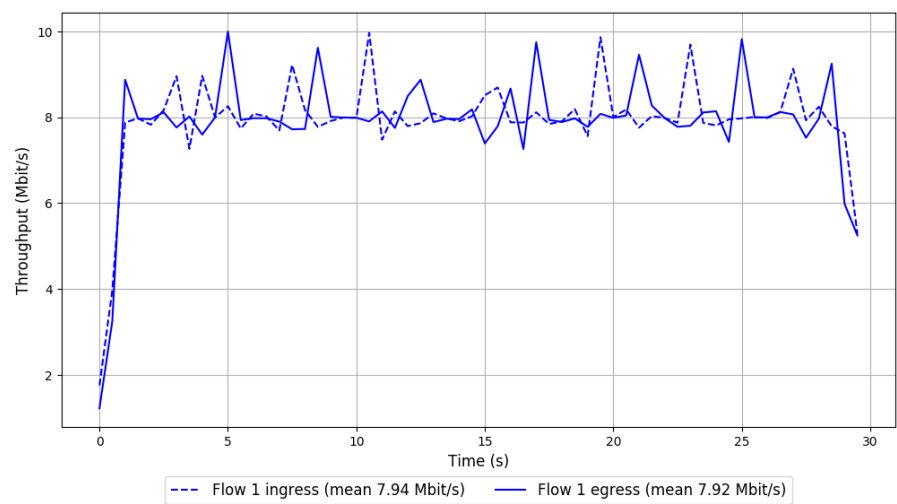
Run 4: Report of Sprout — Data Link

```
Run 5: Statistics of Sprout

Start at: 2017-10-10 23:29:46
End at: 2017-10-10 23:30:16

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 50.718 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 50.718 ms
Loss rate: 0.42%
```
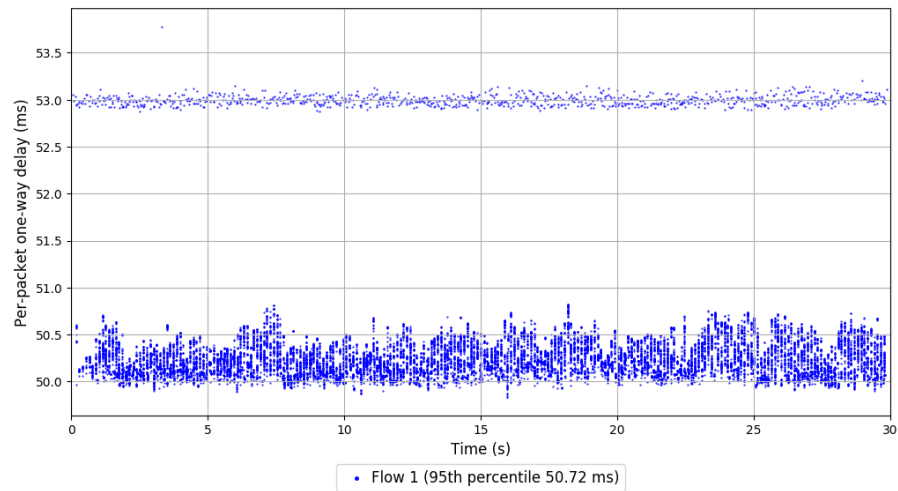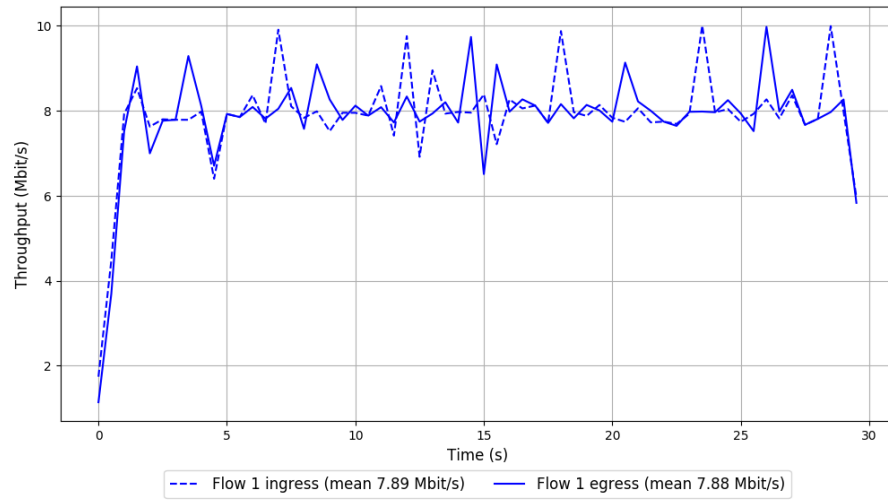
Run 5: Report of Sprout — Data Link

Flow 1 ingress (mean 7.89 Mbit/s) --- Flow 1 egress (mean 7.88 Mbit/s)

· Flow 1 (95th percentile 50.72 ms)

```
Run 6: Statistics of Sprout

Start at: 2017-10-10 23:40:31
End at: 2017-10-10 23:41:01

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 50.807 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 50.807 ms
Loss rate: 0.43%
```
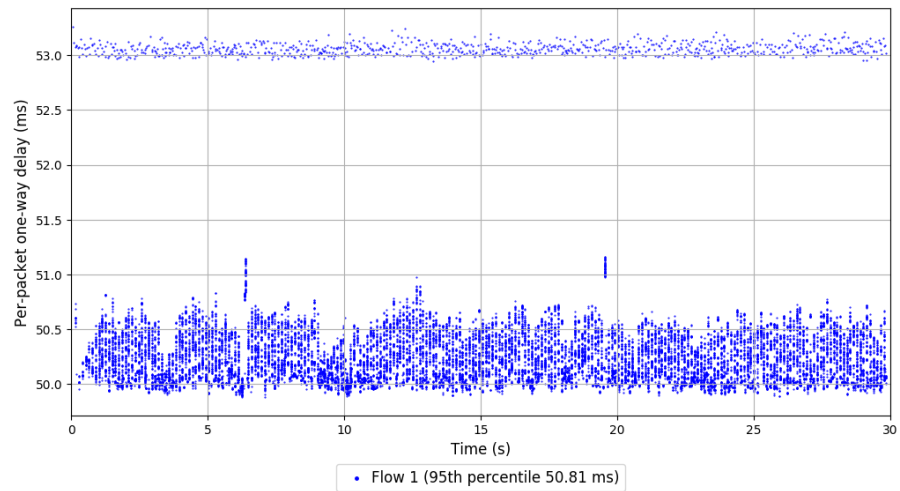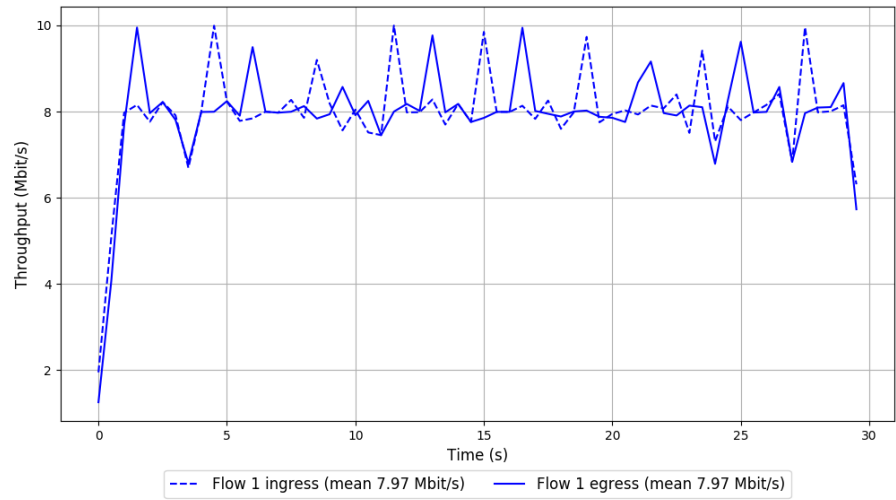
Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2017-10-10 23:50:42
End at: 2017-10-10 23:51:12

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 50.571 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 7.97 Mbit/s
95th percentile per-packet one-way delay: 50.571 ms
Loss rate: 0.42%
```
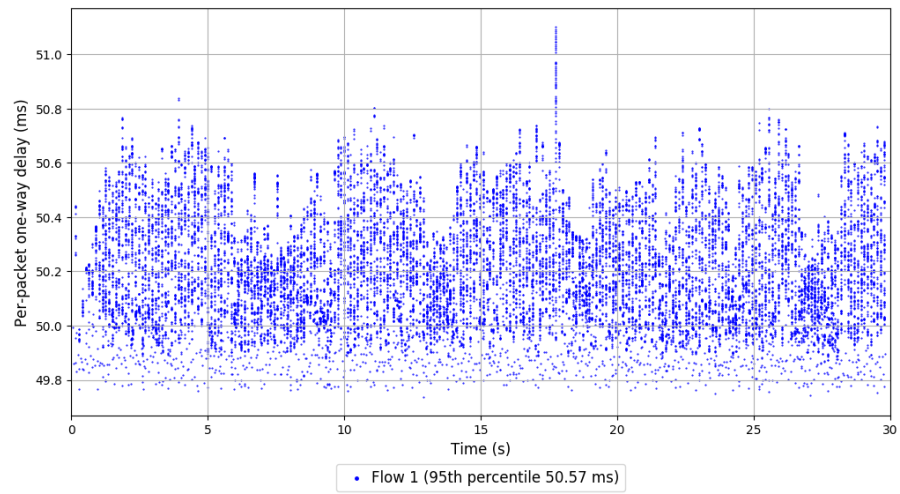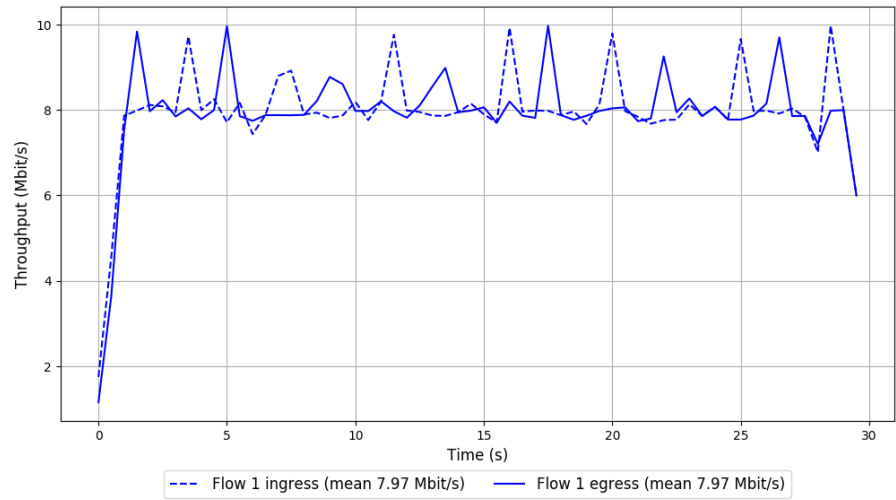
Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2017-10-11 00:01:14
End at: 2017-10-11 00:01:44

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 50.557 ms
Loss rate: 0.20%
-- Flow 1:
Average throughput: 7.98 Mbit/s
95th percentile per-packet one-way delay: 50.557 ms
Loss rate: 0.20%
```
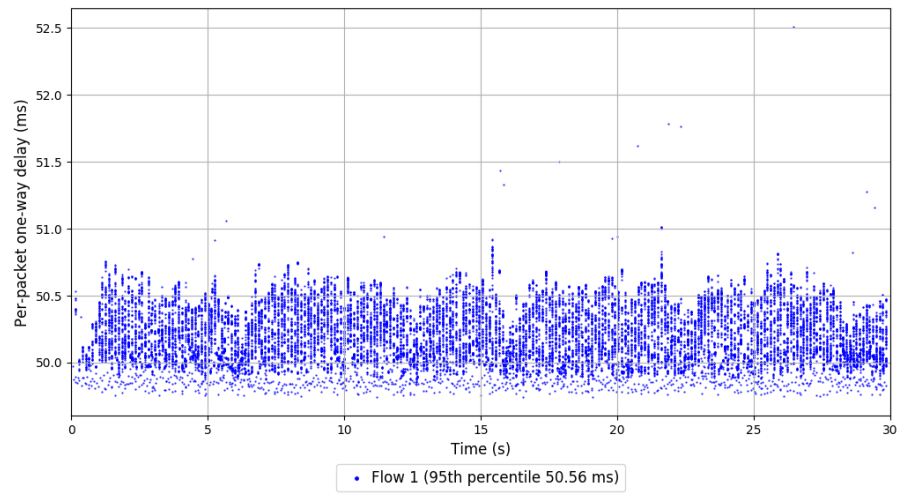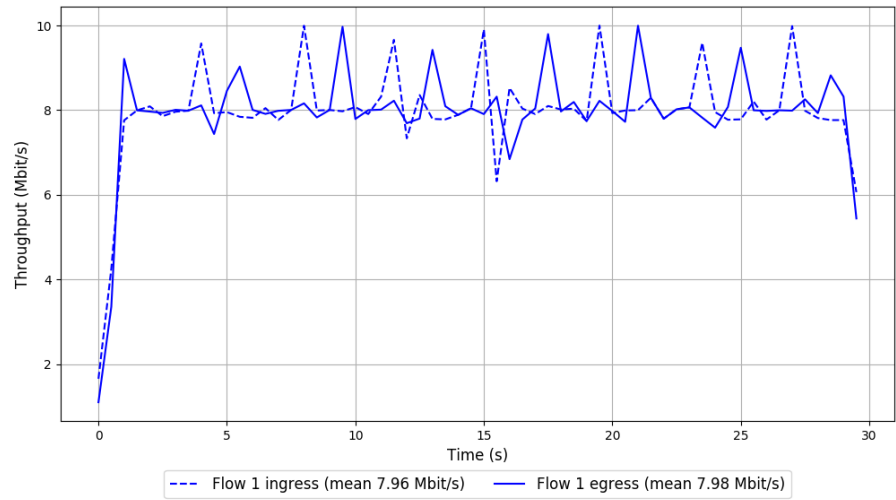
Run 8: Report of Sprout — Data Link

```
Run 9: Statistics of Sprout

Start at: 2017-10-11 00:12:12
End at: 2017-10-11 00:12:42


# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 50.697 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 7.88 Mbit/s
95th percentile per-packet one-way delay: 50.697 ms
Loss rate: 0.46%
```
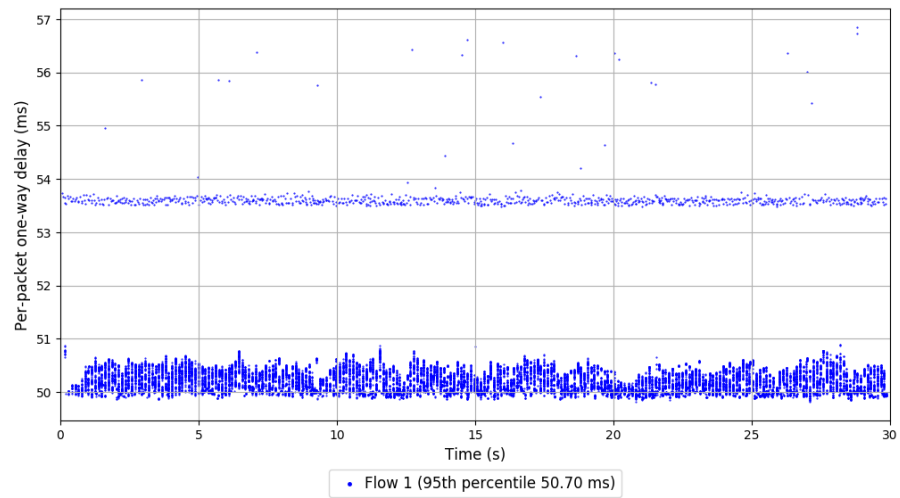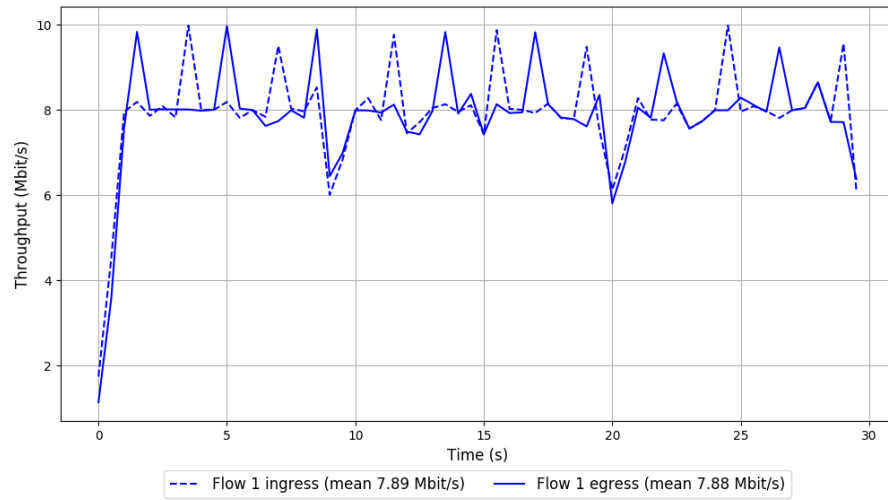
Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2017-10-11 00:22:25
End at: 2017-10-11 00:22:55


# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.90 Mbit/s
95th percentile per-packet one-way delay: 50.503 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 7.90 Mbit/s
95th percentile per-packet one-way delay: 50.503 ms
Loss rate: 0.32%
```
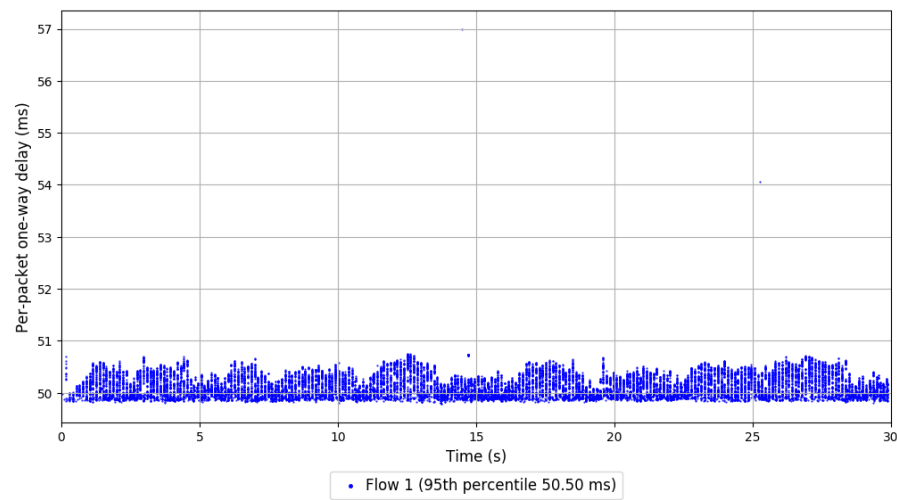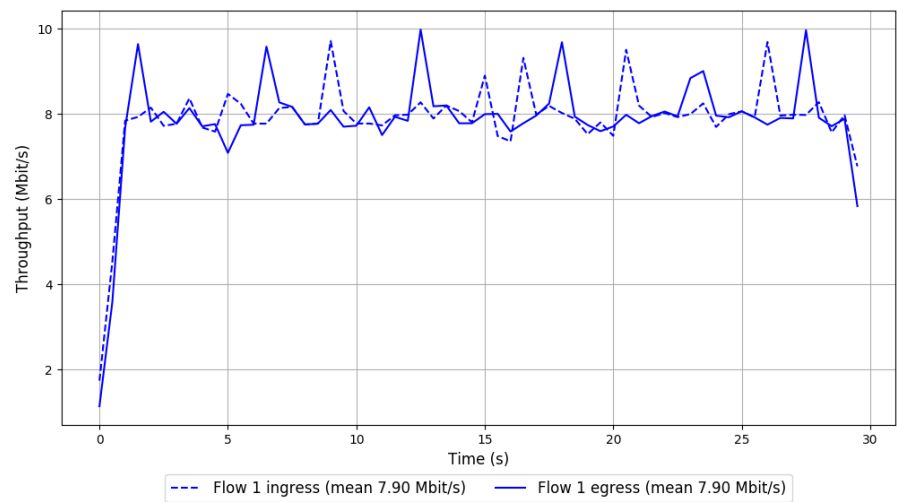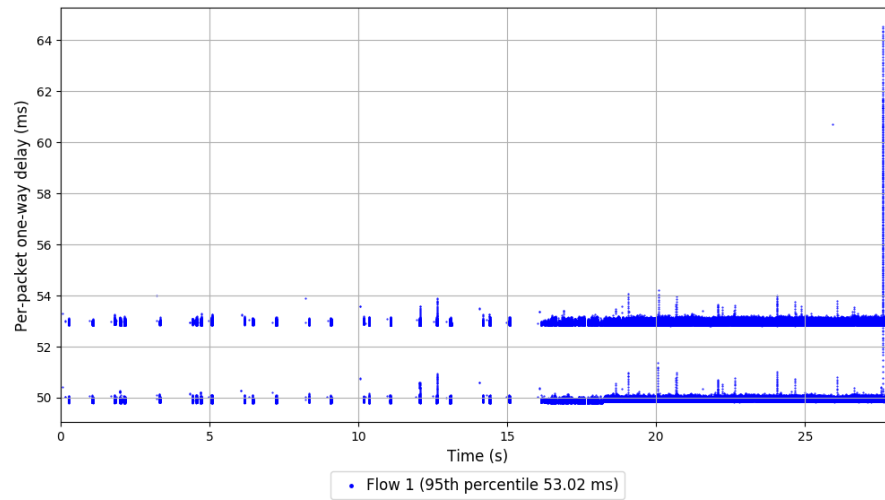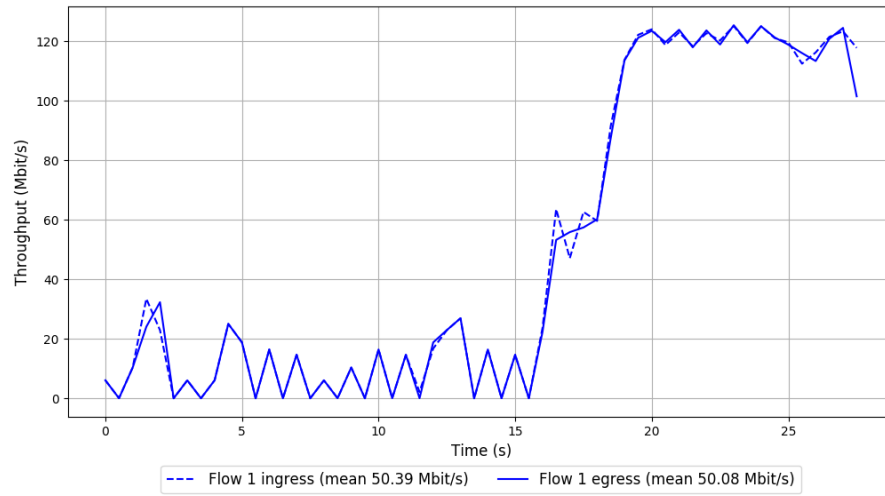
Run 10: Report of Sprout — Data Link

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

Start at: 2017-10-10 22:55:23
End at: 2017-10-10 22:55:53

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.08 Mbit/s
95th percentile per-packet one-way delay: 53.025 ms
Loss rate: 0.97%
-- Flow 1:
Average throughput: 50.08 Mbit/s
95th percentile per-packet one-way delay: 53.025 ms
Loss rate: 0.97%
```

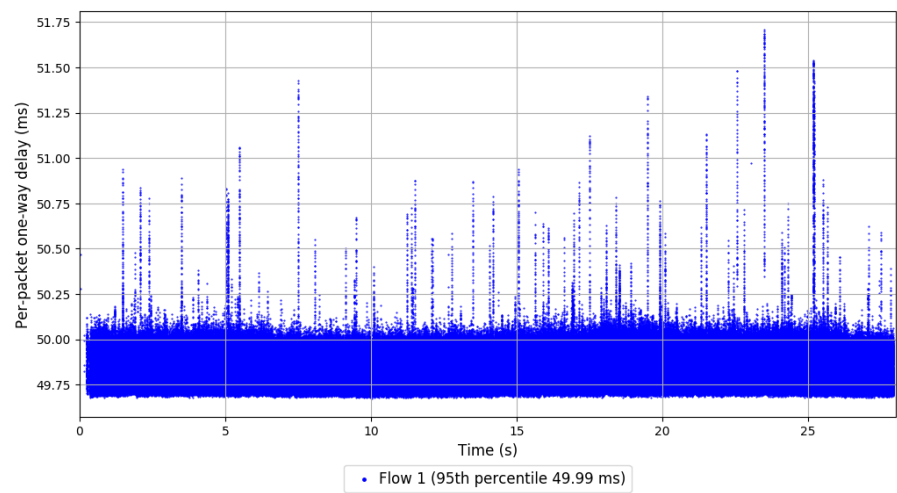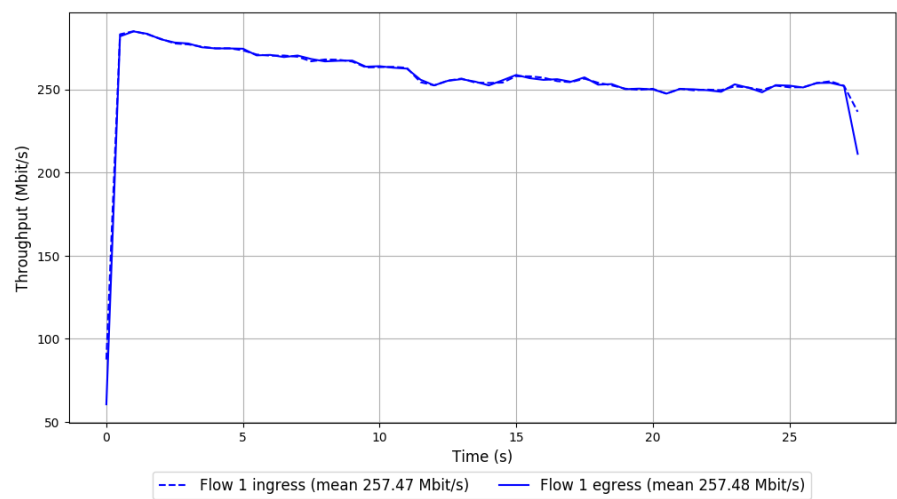Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2017-10-10 23:05:55
End at: 2017-10-10 23:06:25

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 257.48 Mbit/s
95th percentile per-packet one-way delay: 49.989 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 257.48 Mbit/s
95th percentile per-packet one-way delay: 49.989 ms
Loss rate: 0.35%
```

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

Flow 1 ingress (mean 257.47 Mbit/s) Flow 1 egress (mean 257.48 Mbit/s)

Flow 1 (95th percentile 49.99 ms)

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

Start at: 2017-10-10 23:16:48
End at: 2017-10-10 23:17:18

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 264.93 Mbit/s
95th percentile per-packet one-way delay: 50.033 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 264.93 Mbit/s
95th percentile per-packet one-way delay: 50.033 ms
Loss rate: 0.35%
```
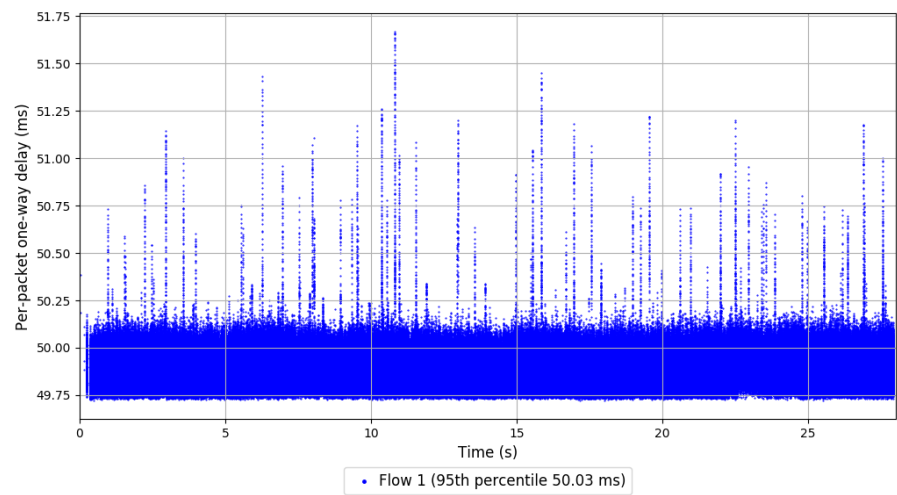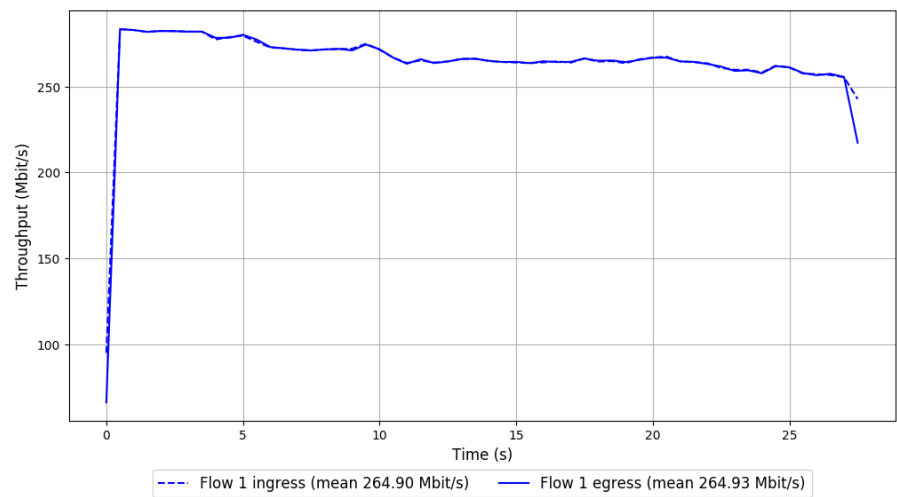
Run 3: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 264.90 Mbit/s) --- Flow 1 egress (mean 264.93 Mbit/s)

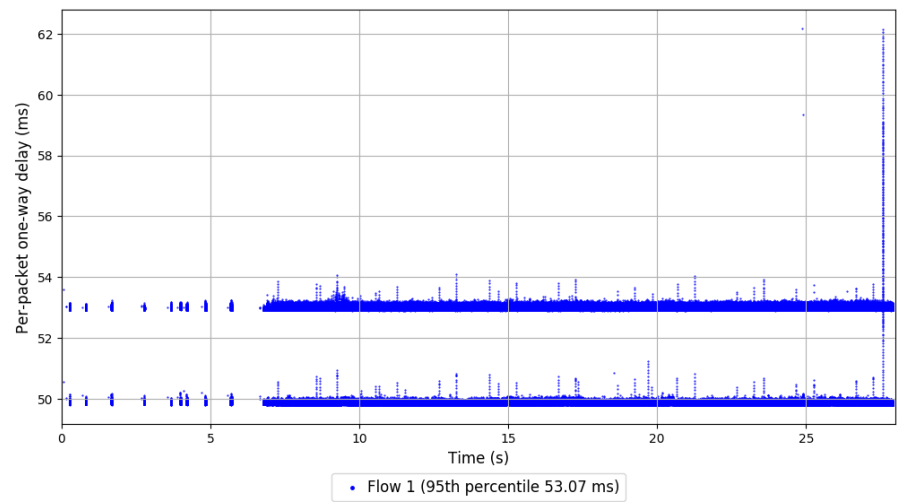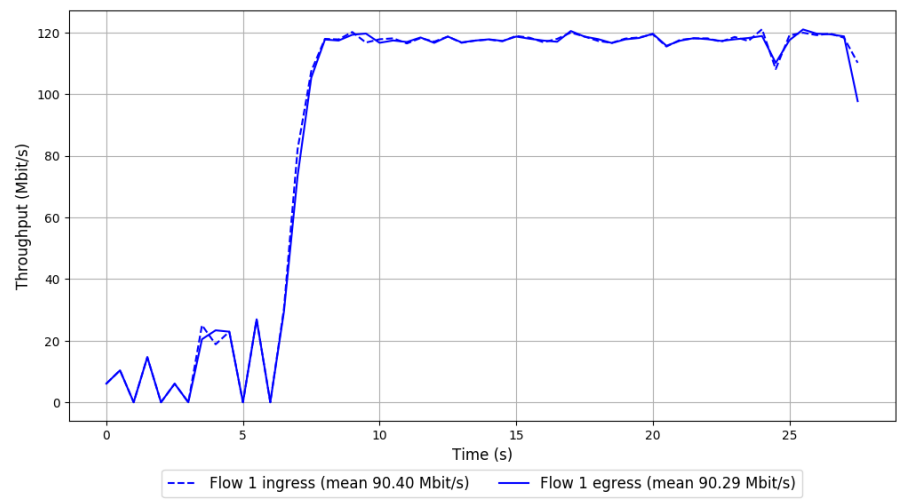Flow 1 (95th percentile 50.03 ms)

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

Start at: 2017-10-10 23:27:38
End at: 2017-10-10 23:28:08

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 90.29 Mbit/s
95th percentile per-packet one-way delay: 53.074 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 90.29 Mbit/s
95th percentile per-packet one-way delay: 53.074 ms
Loss rate: 0.47%
```

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

Flow 1 ingress (mean 90.40 Mbit/s)　　Flow 1 egress (mean 90.29 Mbit/s)

Flow 1 (95th percentile 53.07 ms)

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```
Run 5: Statistics of TaoVA-100x

Start at: 2017-10-10 23:38:06
End at: 2017-10-10 23:38:37

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 258.74 Mbit/s
95th percentile per-packet one-way delay: 49.969 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 258.74 Mbit/s
95th percentile per-packet one-way delay: 49.969 ms
Loss rate: 0.37%
```
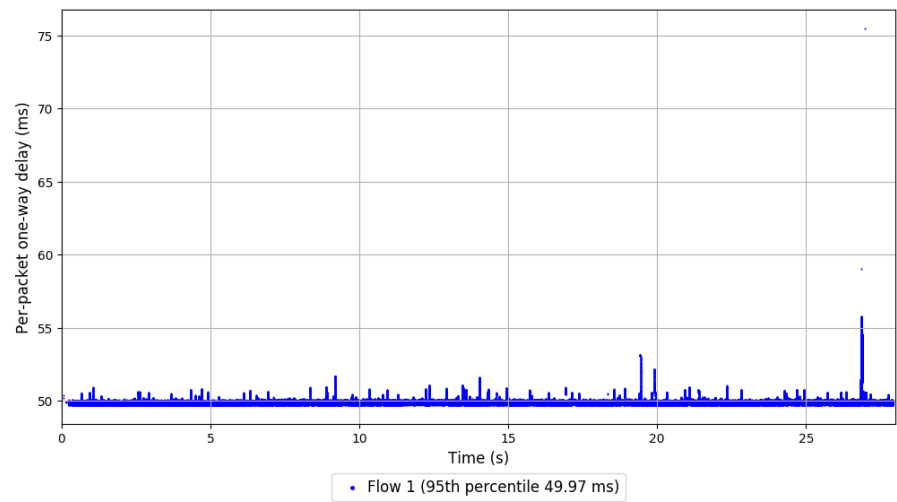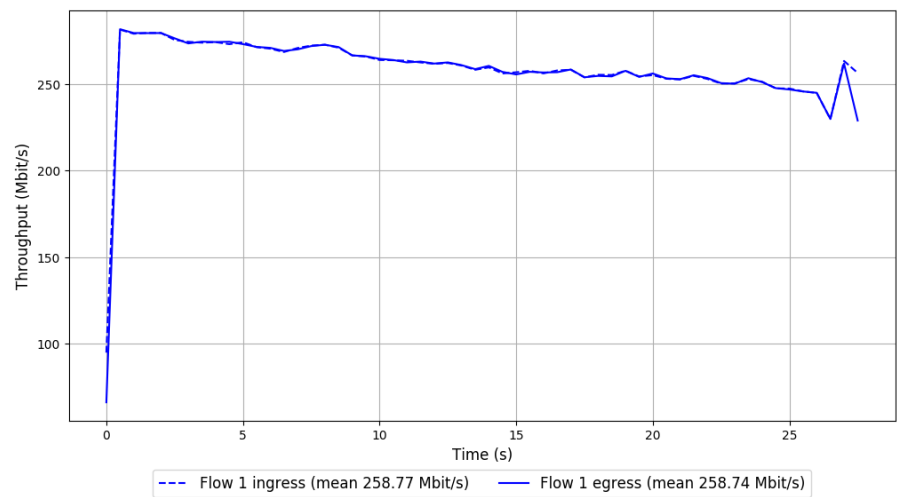
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 258.77 Mbit/s)   Flow 1 egress (mean 258.74 Mbit/s)

Flow 1 (95th percentile 49.97 ms)

```
Run 6: Statistics of TaoVA-100x

Start at: 2017-10-10 23:48:36
End at: 2017-10-10 23:49:07

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.69 Mbit/s
95th percentile per-packet one-way delay: 53.066 ms
Loss rate: 0.50%
-- Flow 1:
Average throughput: 84.69 Mbit/s
95th percentile per-packet one-way delay: 53.066 ms
Loss rate: 0.50%
```
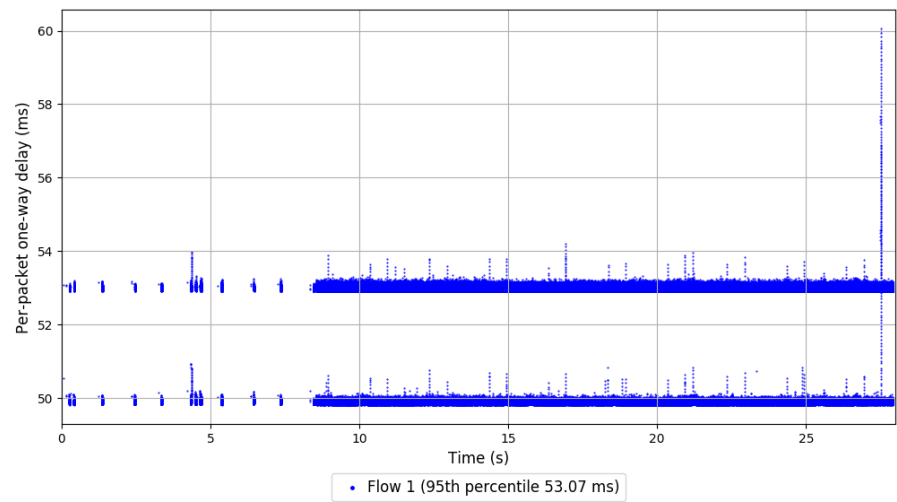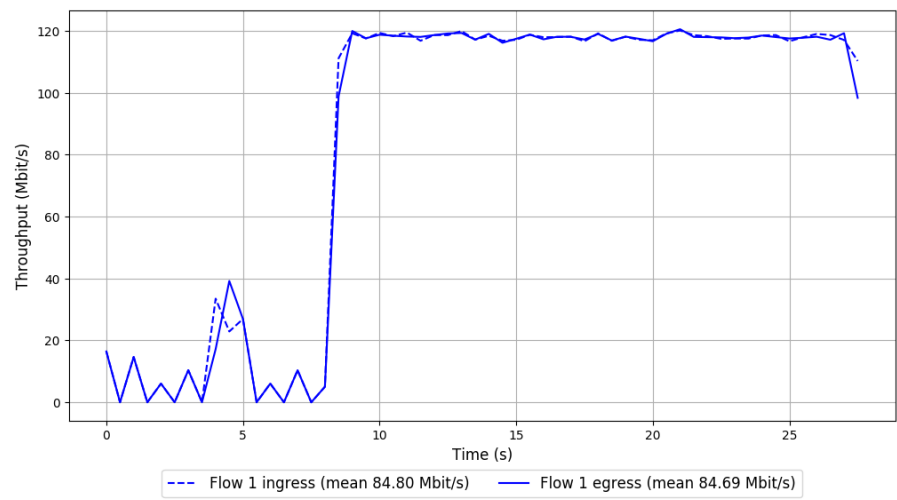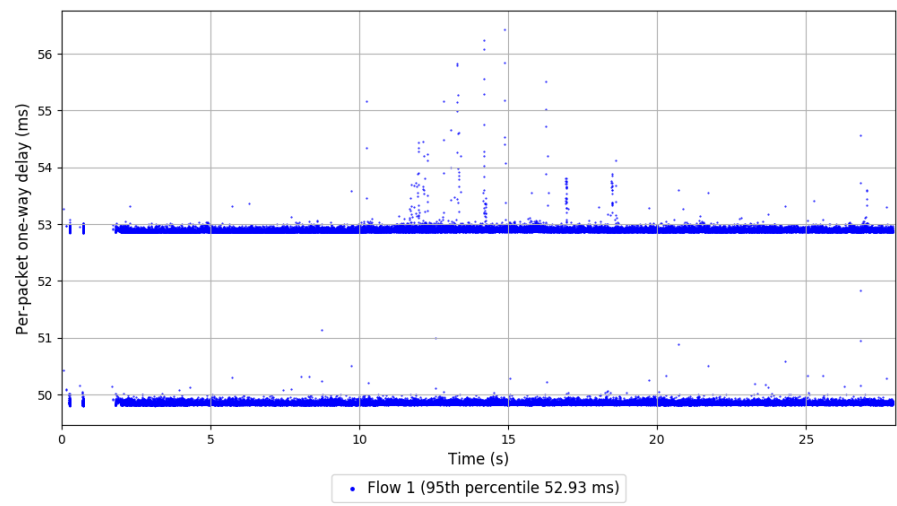
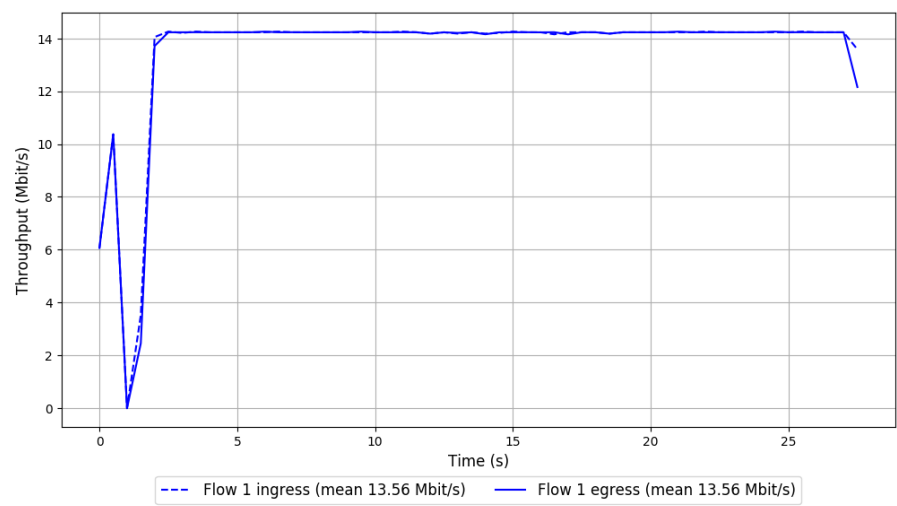Run 6: Report of TaoVA-100x — Data Link

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

Start at: 2017-10-10 23:59:17
End at: 2017-10-10 23:59:47

# Below is generated by plot.py at 2017-10-11 02:51:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 13.56 Mbit/s
95th percentile per-packet one-way delay: 52.934 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 13.56 Mbit/s
95th percentile per-packet one-way delay: 52.934 ms
Loss rate: 0.38%
```

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

Flow 1 ingress (mean 13.56 Mbit/s) —— Flow 1 egress (mean 13.56 Mbit/s)

• Flow 1 (95th percentile 52.93 ms)

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

Start at: 2017-10-11 00:09:50
End at: 2017-10-11 00:10:20

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 264.06 Mbit/s
95th percentile per-packet one-way delay: 49.953 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 264.06 Mbit/s
95th percentile per-packet one-way delay: 49.953 ms
Loss rate: 0.36%
```
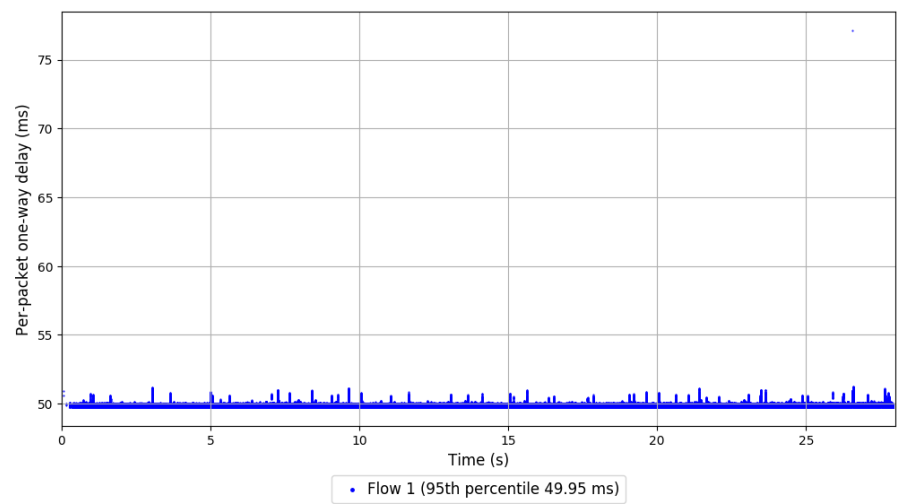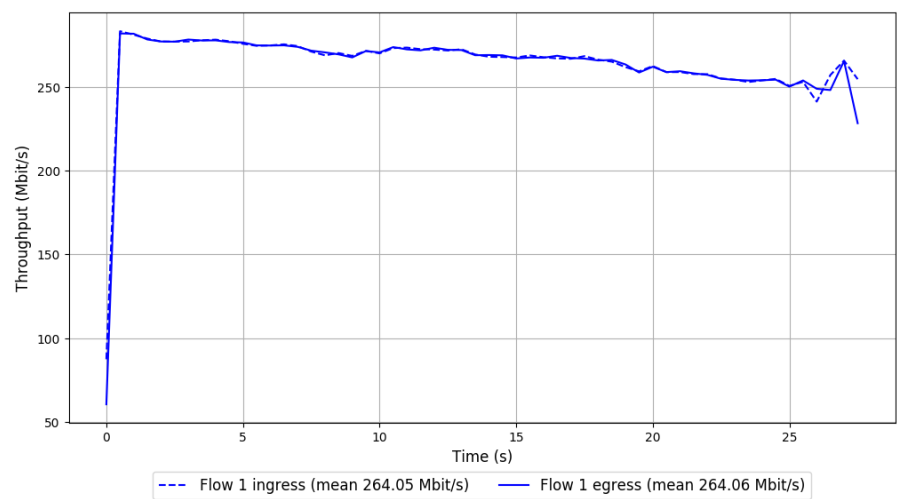
Run 8: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 264.05 Mbit/s)   Flow 1 egress (mean 264.06 Mbit/s)

Flow 1 (95th percentile 49.95 ms)

```
Run 9: Statistics of TaoVA-100x

Start at: 2017-10-11 00:20:21
End at: 2017-10-11 00:20:51

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 84.59 Mbit/s
95th percentile per-packet one-way delay: 53.035 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 84.59 Mbit/s
95th percentile per-packet one-way delay: 53.035 ms
Loss rate: 0.48%
```
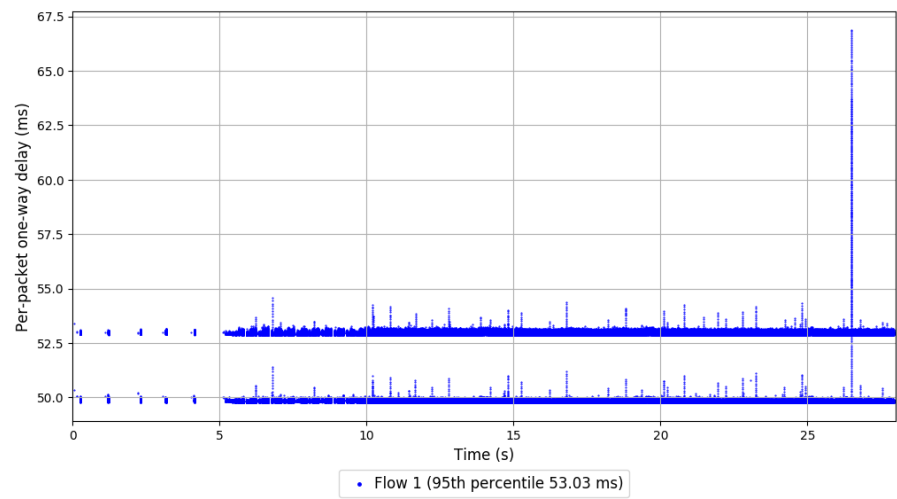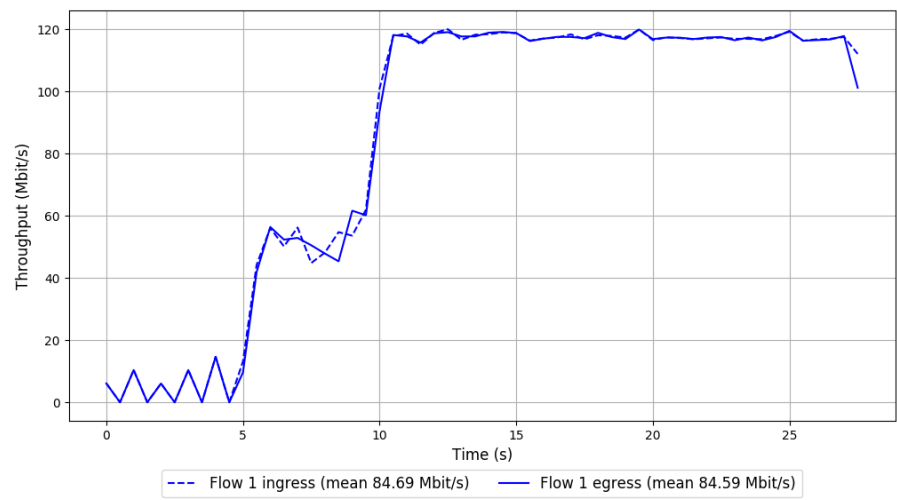
Run 9: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 84.69 Mbit/s)   Flow 1 egress (mean 84.59 Mbit/s)
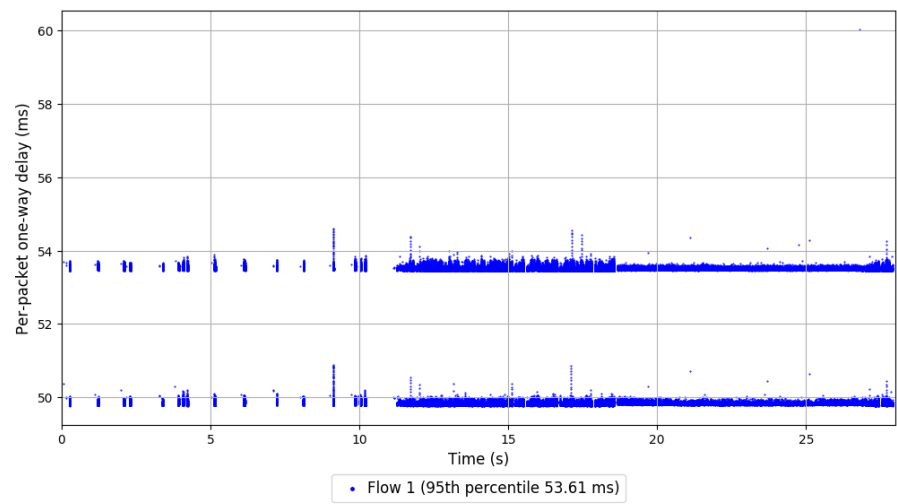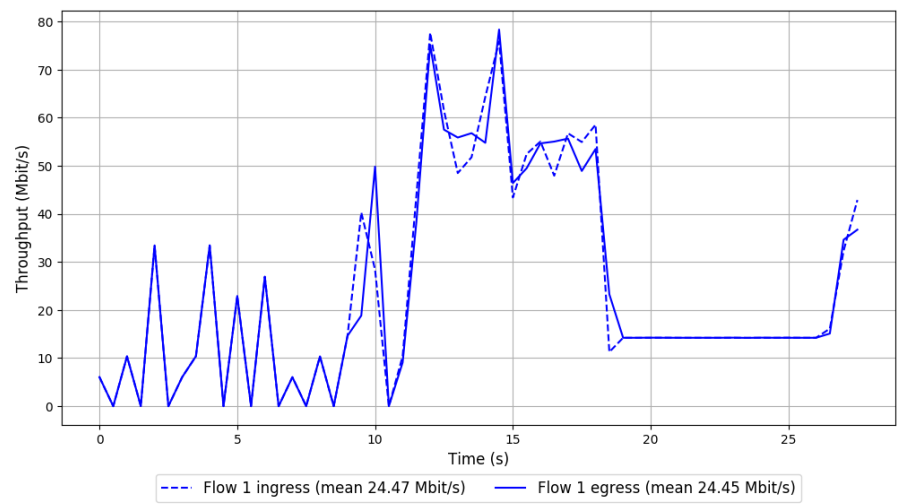

Flow 1 (95th percentile 53.03 ms)

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

Start at: 2017-10-11 00:30:42
End at: 2017-10-11 00:31:12

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 53.608 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 24.45 Mbit/s
95th percentile per-packet one-way delay: 53.608 ms
Loss rate: 0.46%
```

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

Flow 1 ingress (mean 24.47 Mbit/s)   Flow 1 egress (mean 24.45 Mbit/s)

Flow 1 (95th percentile 53.61 ms)

```
Run 1: Statistics of TCP Vegas

Start at: 2017-10-10 22:51:36
End at: 2017-10-10 22:52:06

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.68 Mbit/s
95th percentile per-packet one-way delay: 54.759 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 39.68 Mbit/s
95th percentile per-packet one-way delay: 54.759 ms
Loss rate: 0.33%
```
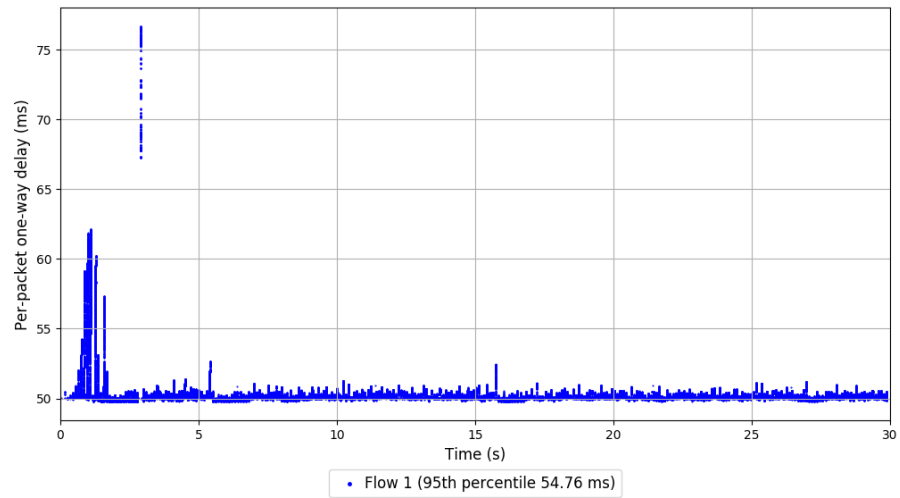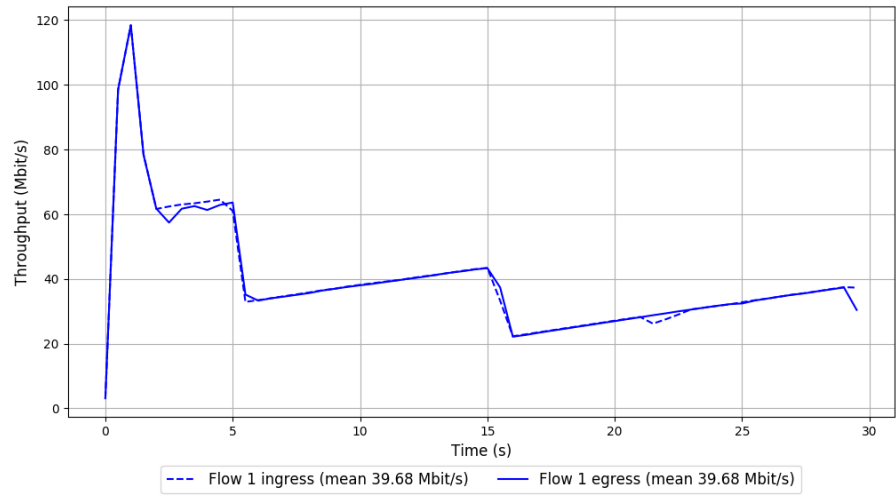
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2017-10-10 23:02:05
End at: 2017-10-10 23:02:35

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 81.88 Mbit/s
95th percentile per-packet one-way delay: 50.687 ms
Loss rate: 0.41%
-- Flow 1:
Average throughput: 81.88 Mbit/s
95th percentile per-packet one-way delay: 50.687 ms
Loss rate: 0.41%
```
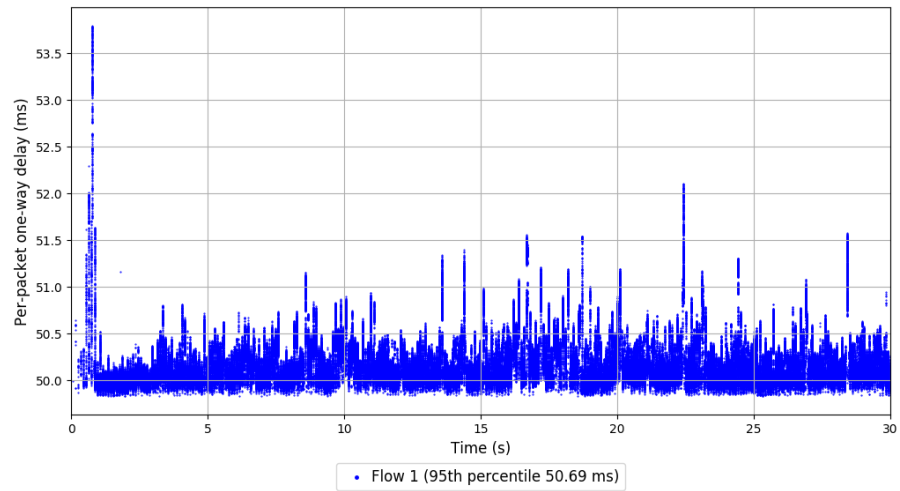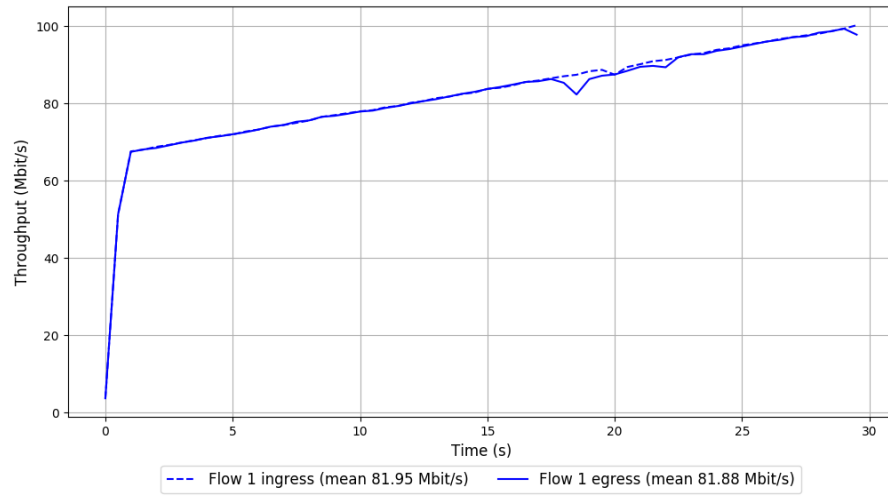
Run 2: Report of TCP Vegas — Data Link

```
Run 3: Statistics of TCP Vegas

Start at: 2017-10-10 23:12:58
End at: 2017-10-10 23:13:28

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 83.02 Mbit/s
95th percentile per-packet one-way delay: 50.809 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 83.02 Mbit/s
95th percentile per-packet one-way delay: 50.809 ms
Loss rate: 0.23%
```
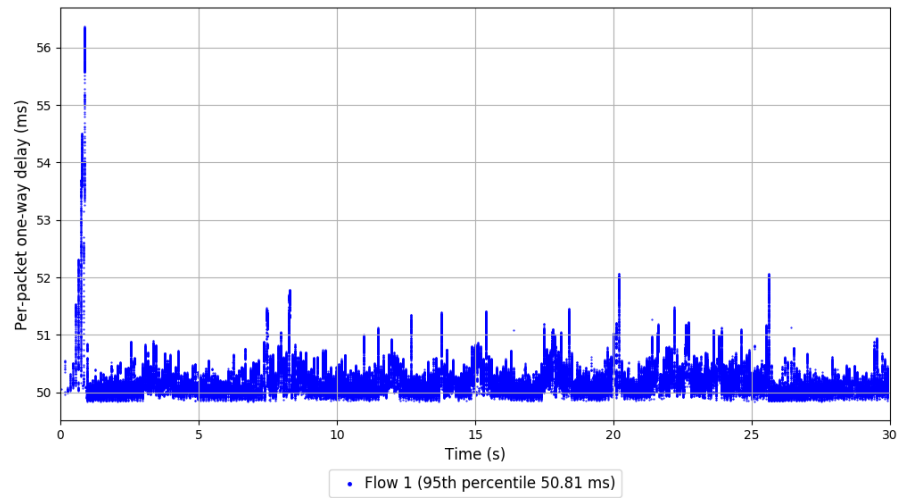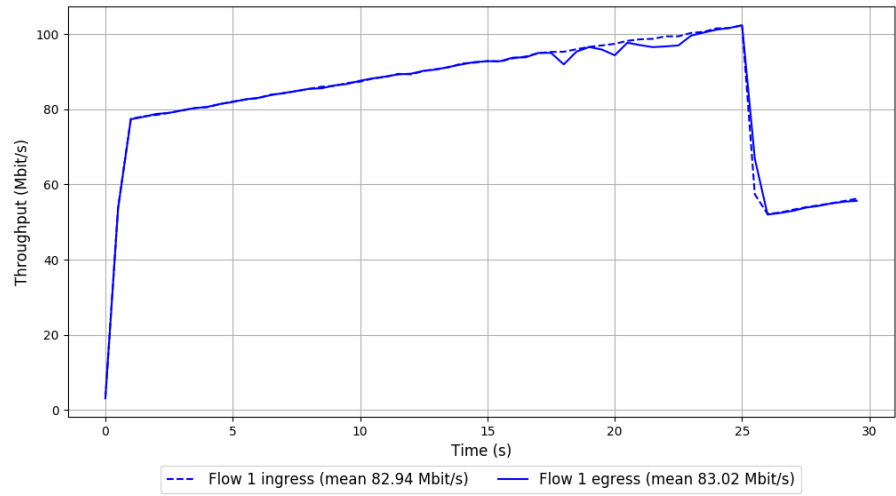
Run 3: Report of TCP Vegas — Data Link

```
Run 4: Statistics of TCP Vegas

Start at: 2017-10-10 23:23:49
End at: 2017-10-10 23:24:19

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 68.80 Mbit/s
95th percentile per-packet one-way delay: 50.519 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 68.80 Mbit/s
95th percentile per-packet one-way delay: 50.519 ms
Loss rate: 0.40%
```
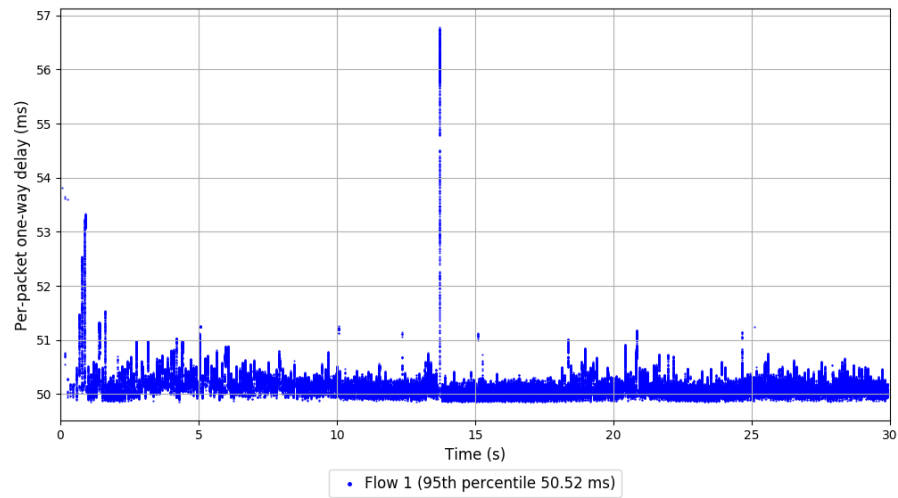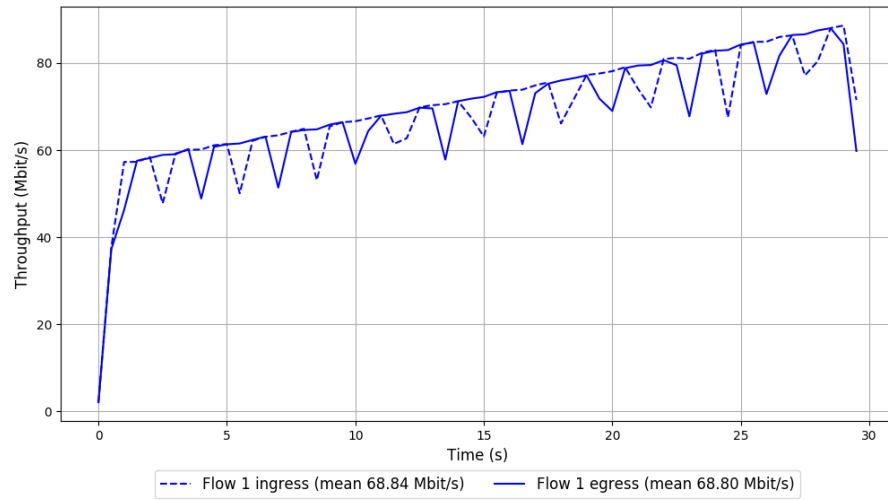
Run 4: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 68.84 Mbit/s) --- Flow 1 egress (mean 68.80 Mbit/s)

· Flow 1 (95th percentile 50.52 ms)

```
Run 5: Statistics of TCP Vegas

Start at: 2017-10-10 23:34:15
End at: 2017-10-10 23:34:45

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 87.83 Mbit/s
95th percentile per-packet one-way delay: 50.433 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 87.83 Mbit/s
95th percentile per-packet one-way delay: 50.433 ms
Loss rate: 0.22%
```
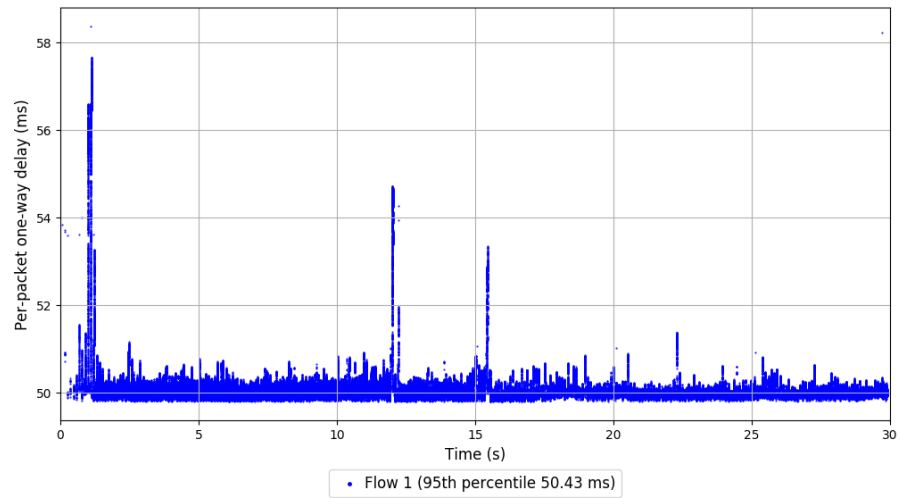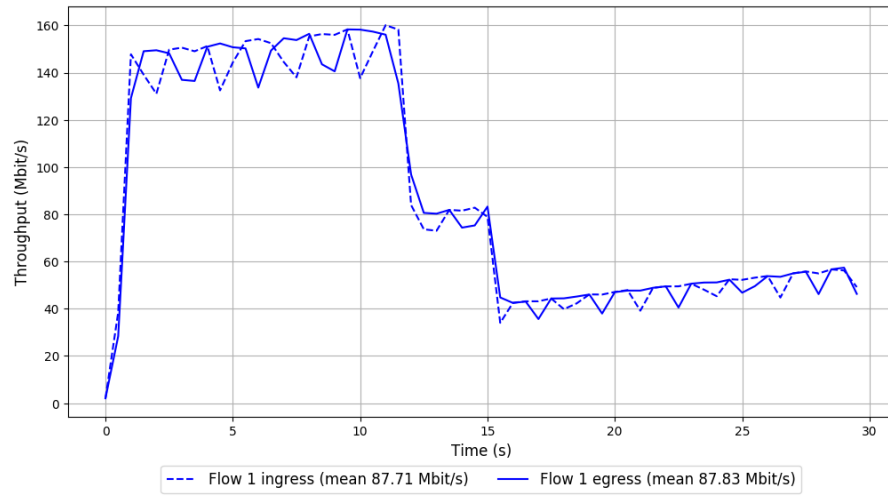
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 87.71 Mbit/s)   Flow 1 egress (mean 87.83 Mbit/s)

Flow 1 (95th percentile 50.43 ms)

```
Run 6: Statistics of TCP Vegas

Start at: 2017-10-10 23:44:45
End at: 2017-10-10 23:45:15

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 88.18 Mbit/s
95th percentile per-packet one-way delay: 50.754 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 88.18 Mbit/s
95th percentile per-packet one-way delay: 50.754 ms
Loss rate: 0.13%
```
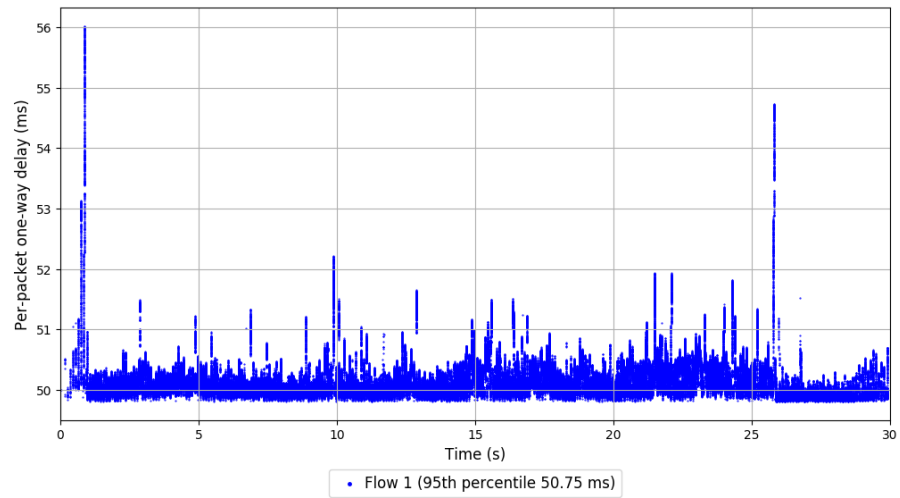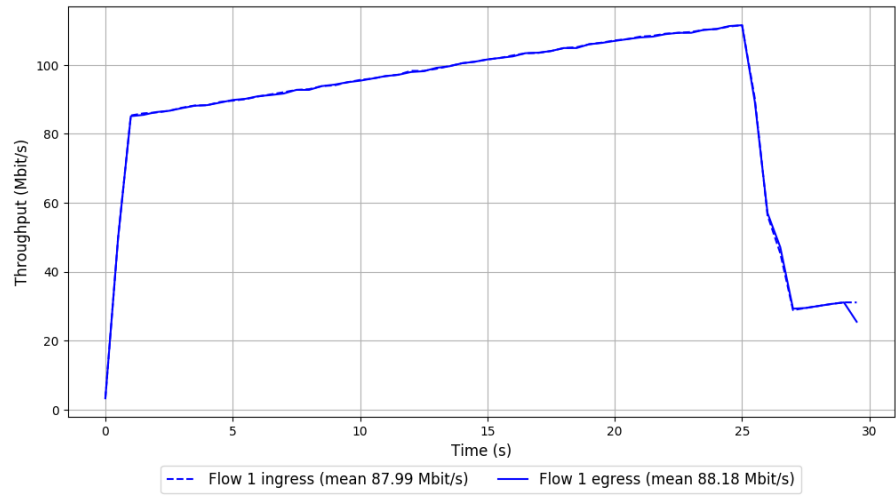
Run 6: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 87.99 Mbit/s)   Flow 1 egress (mean 88.18 Mbit/s)

Flow 1 (95th percentile 50.75 ms)

```
Run 7: Statistics of TCP Vegas

Start at: 2017-10-10 23:55:26
End at: 2017-10-10 23:55:56

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.20 Mbit/s
95th percentile per-packet one-way delay: 50.682 ms
Loss rate: 0.44%
-- Flow 1:
Average throughput: 59.20 Mbit/s
95th percentile per-packet one-way delay: 50.682 ms
Loss rate: 0.44%
```
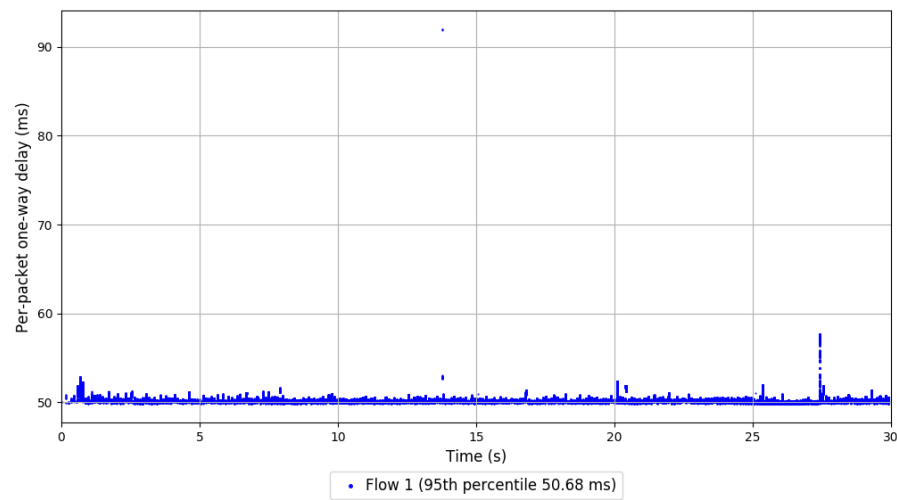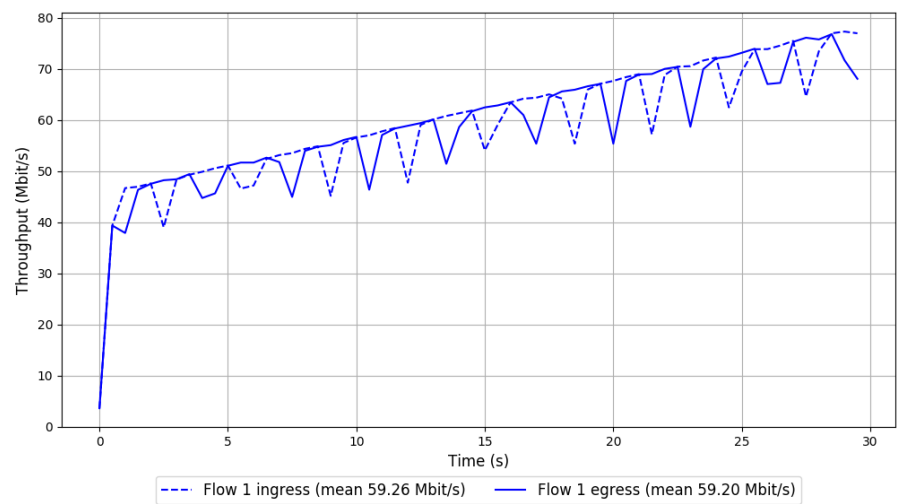
Run 7: Report of TCP Vegas — Data Link

```
Run 8: Statistics of TCP Vegas

Start at: 2017-10-11 00:06:00
End at: 2017-10-11 00:06:30

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 21.81 Mbit/s
95th percentile per-packet one-way delay: 50.552 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 21.81 Mbit/s
95th percentile per-packet one-way delay: 50.552 ms
Loss rate: 0.35%
```
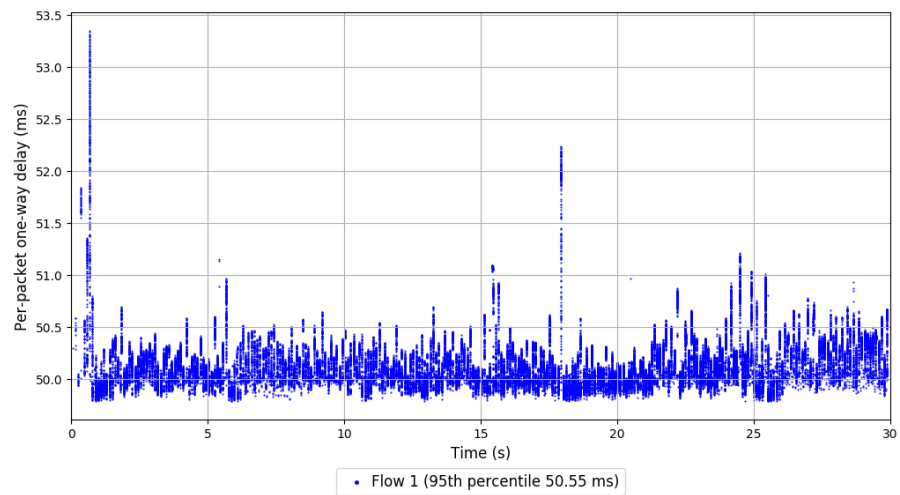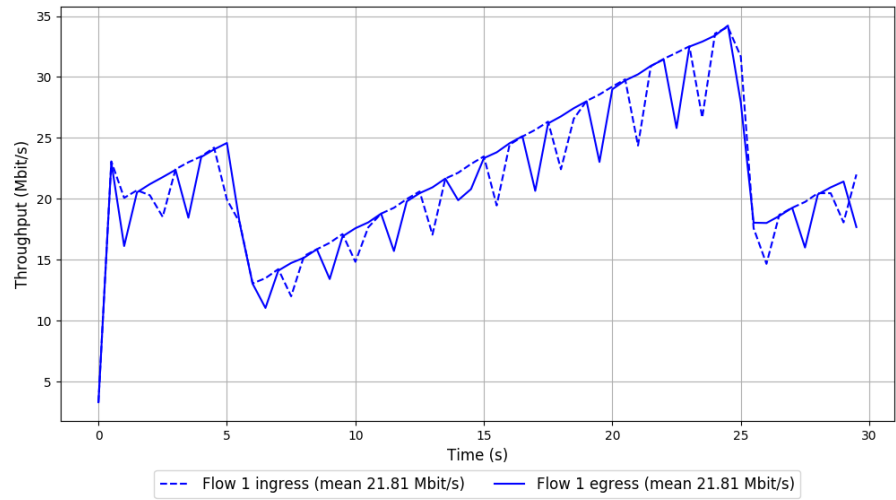
Run 8: Report of TCP Vegas — Data Link

```
Run 9: Statistics of TCP Vegas

Start at: 2017-10-11 00:16:28
End at: 2017-10-11 00:16:58

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.56 Mbit/s
95th percentile per-packet one-way delay: 50.531 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 64.56 Mbit/s
95th percentile per-packet one-way delay: 50.531 ms
Loss rate: 0.35%
```
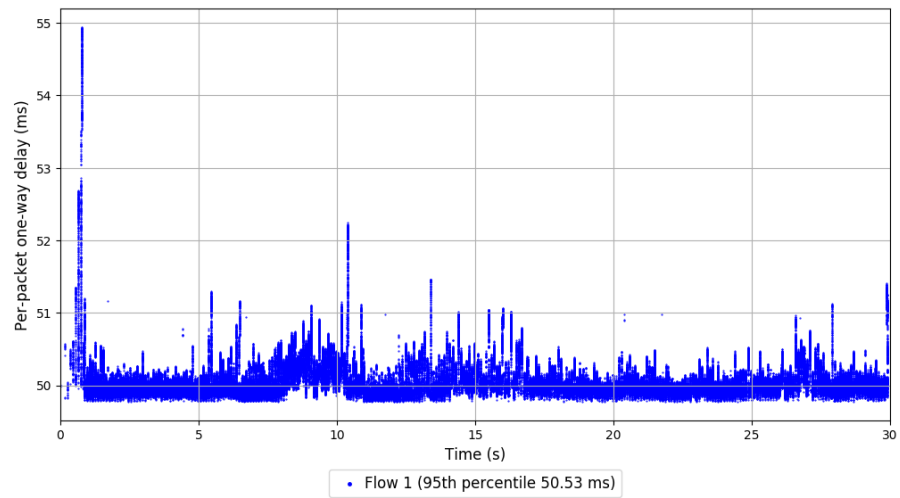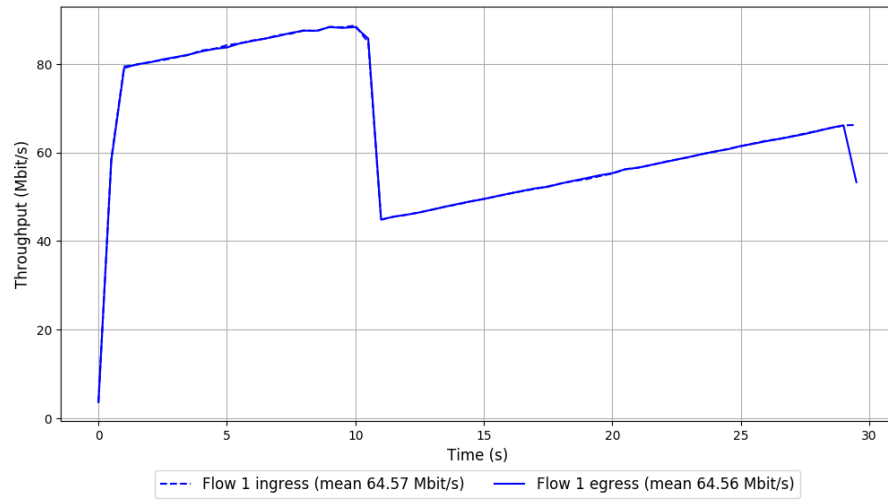
Run 9: Report of TCP Vegas — Data Link

```
Run 10: Statistics of TCP Vegas

Start at: 2017-10-11 00:26:51
End at: 2017-10-11 00:27:21

# Below is generated by plot.py at 2017-10-11 02:52:55
# Datalink statistics
-- Total of 1 flow:
Average throughput: 98.04 Mbit/s
95th percentile per-packet one-way delay: 51.082 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 98.04 Mbit/s
95th percentile per-packet one-way delay: 51.082 ms
Loss rate: 0.09%
```
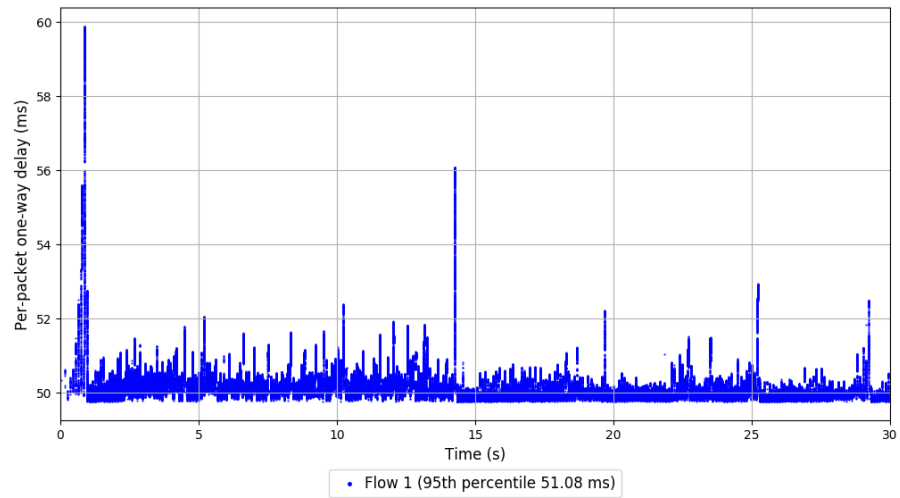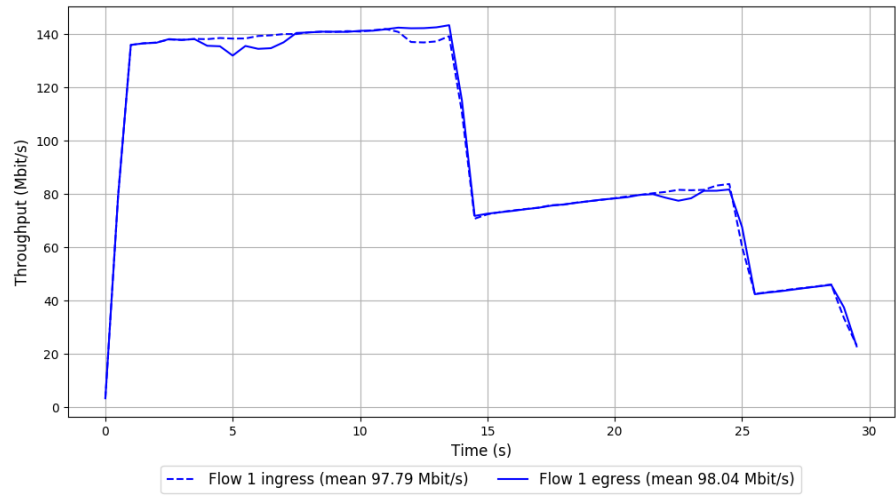
Run 10: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2017-10-10 22:48:03
End at: 2017-10-10 22:48:33

# Below is generated by plot.py at 2017-10-11 02:55:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 286.21 Mbit/s
95th percentile per-packet one-way delay: 93.327 ms
Loss rate: 0.55%
-- Flow 1:
Average throughput: 286.21 Mbit/s
95th percentile per-packet one-way delay: 93.327 ms
Loss rate: 0.55%
```
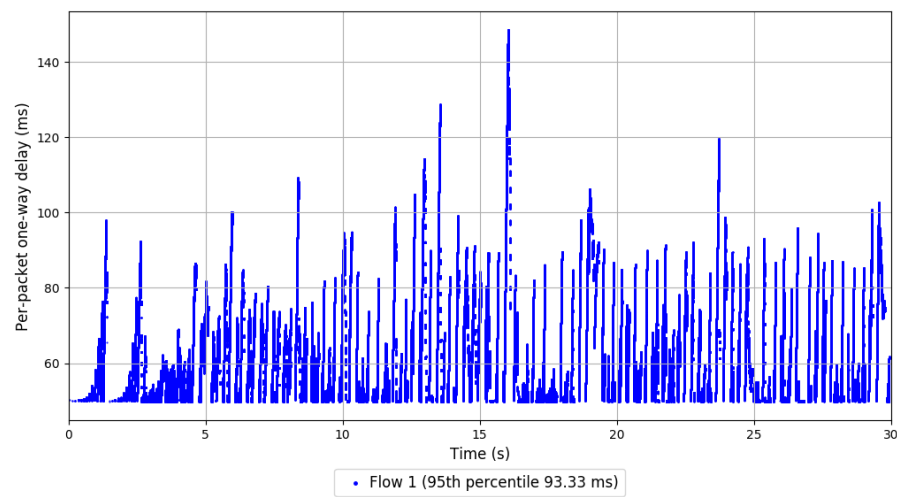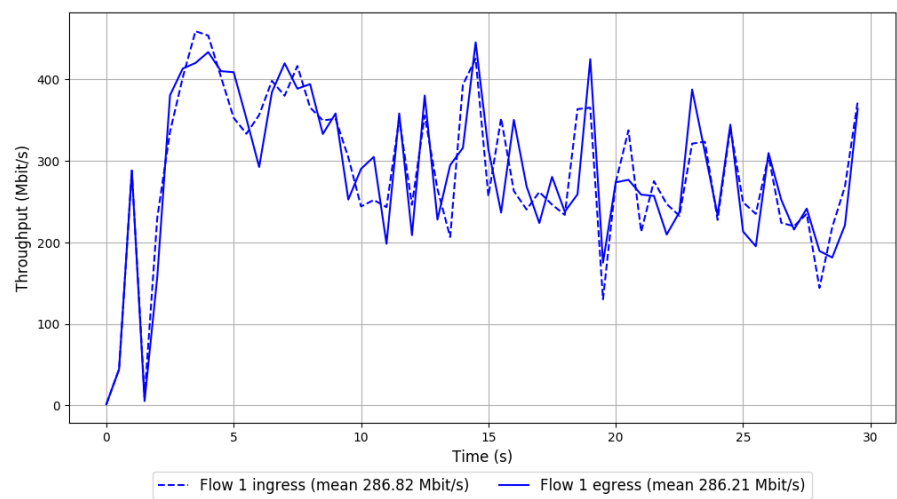
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2017-10-10 22:58:37
End at: 2017-10-10 22:59:07

# Below is generated by plot.py at 2017-10-11 02:55:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 231.71 Mbit/s
95th percentile per-packet one-way delay: 74.548 ms
Loss rate: 1.63%
-- Flow 1:
Average throughput: 231.71 Mbit/s
95th percentile per-packet one-way delay: 74.548 ms
Loss rate: 1.63%
```
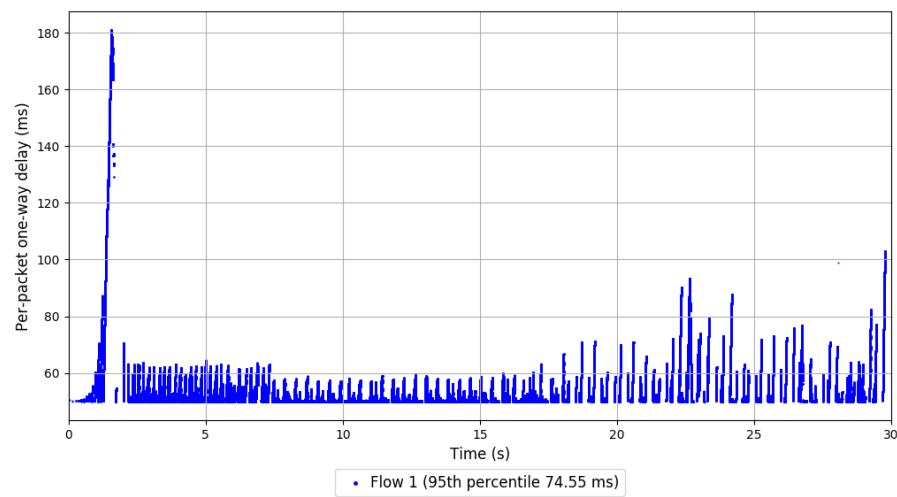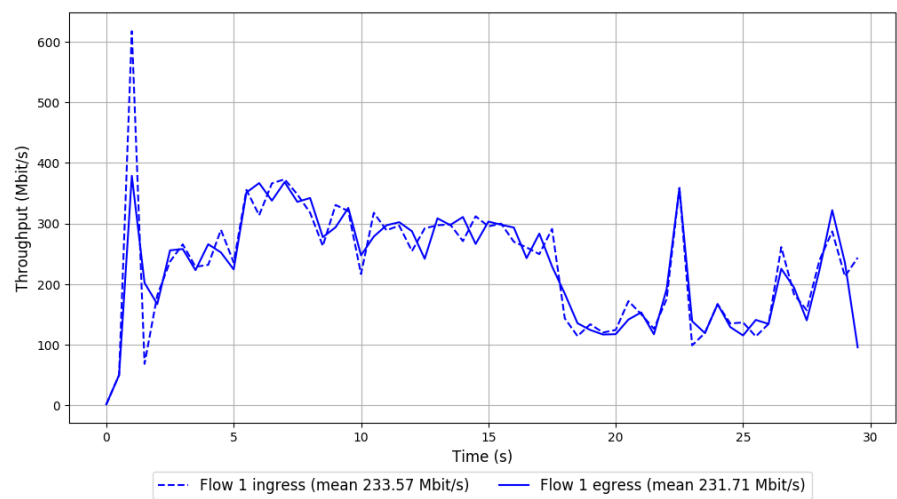
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2017-10-10 23:09:28
End at: 2017-10-10 23:09:58

# Below is generated by plot.py at 2017-10-11 02:55:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 272.66 Mbit/s
95th percentile per-packet one-way delay: 87.001 ms
Loss rate: 1.82%
-- Flow 1:
Average throughput: 272.66 Mbit/s
95th percentile per-packet one-way delay: 87.001 ms
Loss rate: 1.82%
```
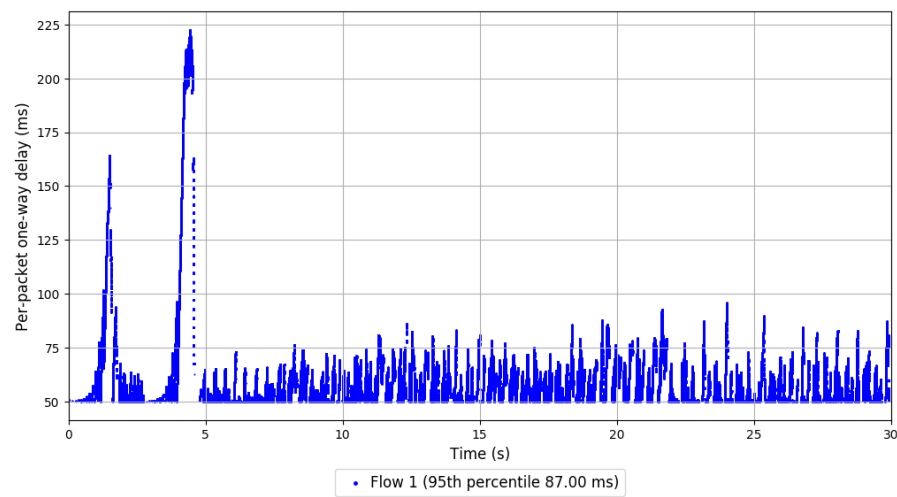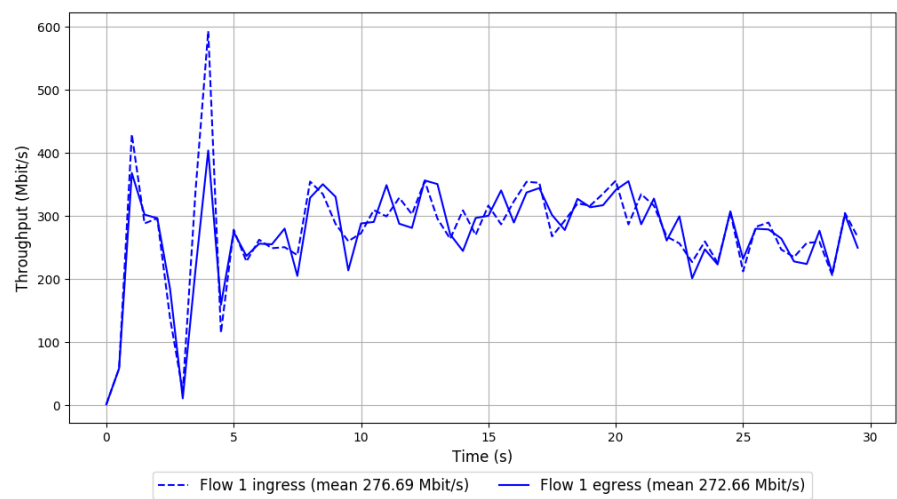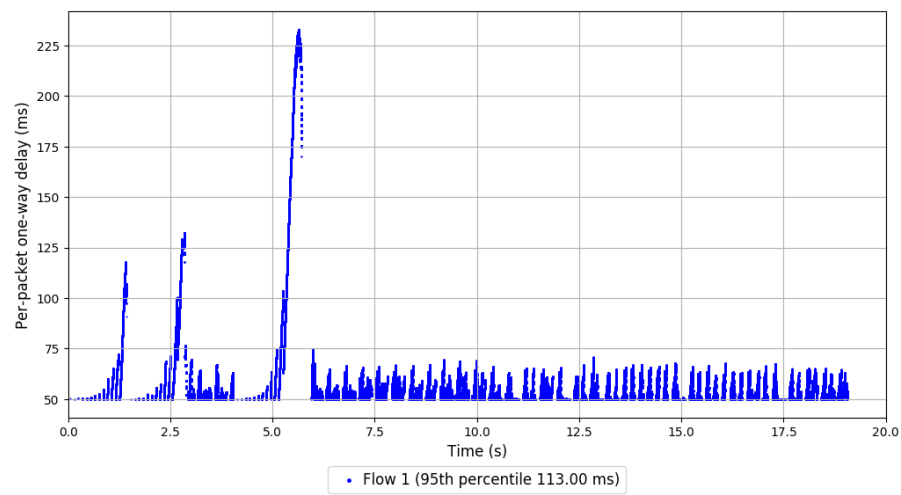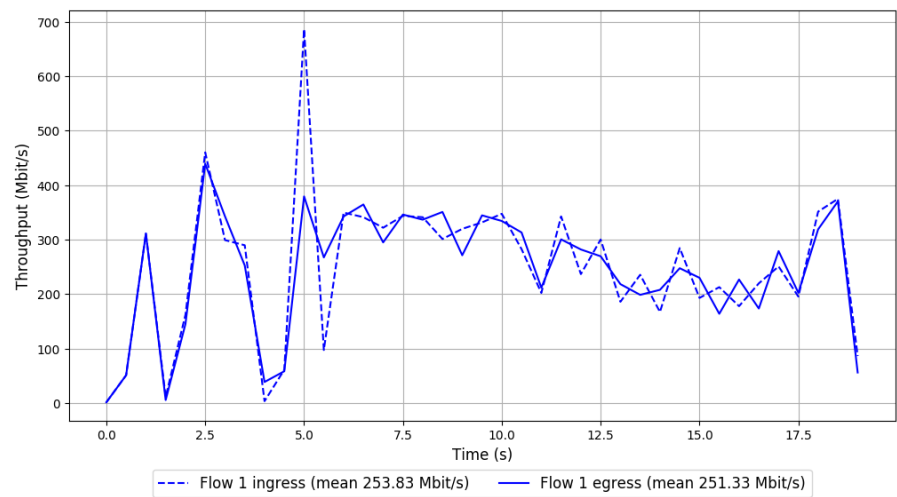
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2017-10-10 23:20:24
End at: 2017-10-10 23:20:54
```

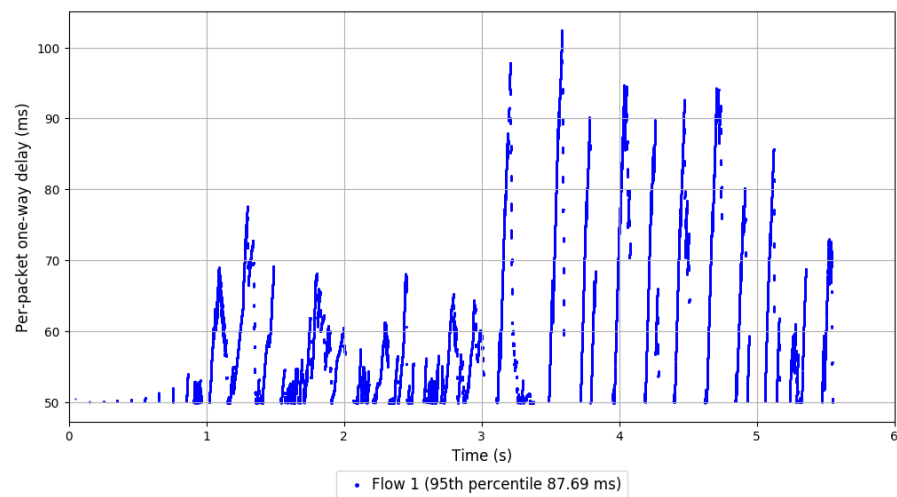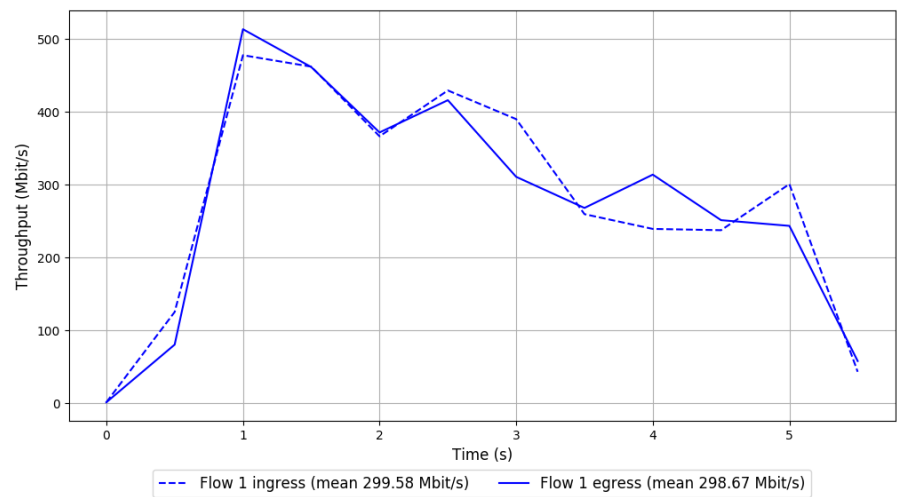Run 4: Report of Verus — Data Link

```
Run 5: Statistics of Verus

Start at: 2017-10-10 23:31:00
End at: 2017-10-10 23:31:30
```

Run 5: Report of Verus — Data Link

```
Run 6: Statistics of Verus

Start at: 2017-10-10 23:41:45
End at: 2017-10-10 23:42:15


# Below is generated by plot.py at 2017-10-11 02:55:49
# Datalink statistics
-- Total of 1 flow:
Average throughput: 245.74 Mbit/s
95th percentile per-packet one-way delay: 87.312 ms
Loss rate: 0.57%
-- Flow 1:
Average throughput: 245.74 Mbit/s
95th percentile per-packet one-way delay: 87.312 ms
Loss rate: 0.57%
```
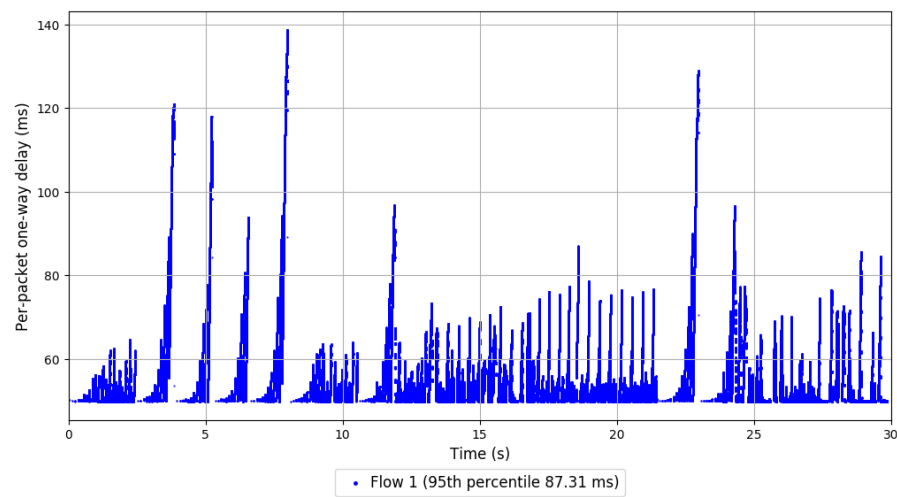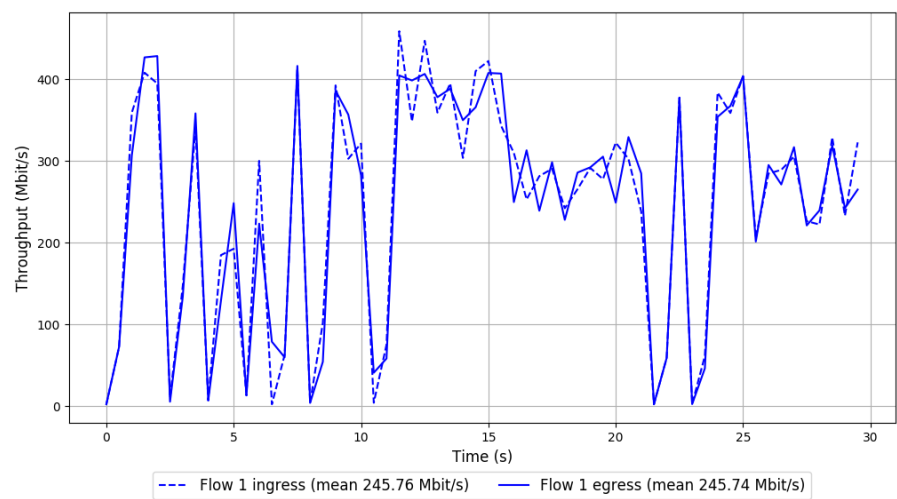
Run 6: Report of Verus — Data Link

```
Run 7: Statistics of Verus

Start at: 2017-10-10 23:51:56
End at: 2017-10-10 23:52:27

# Below is generated by plot.py at 2017-10-11 02:56:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 247.90 Mbit/s
95th percentile per-packet one-way delay: 156.458 ms
Loss rate: 3.01%
-- Flow 1:
Average throughput: 247.90 Mbit/s
95th percentile per-packet one-way delay: 156.458 ms
Loss rate: 3.01%
```
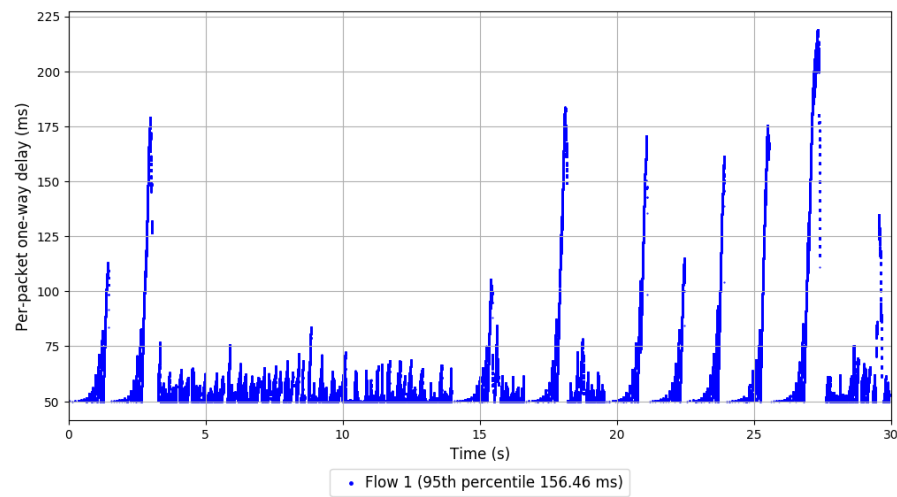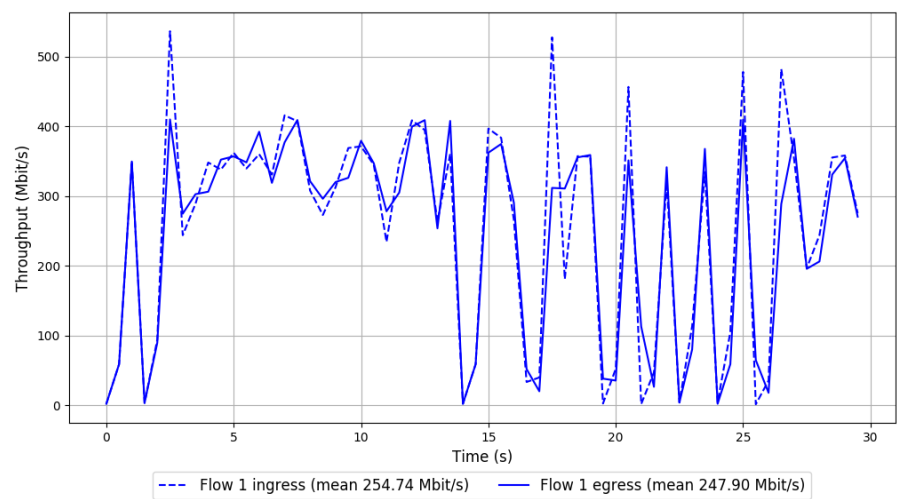
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2017-10-11 00:02:28
End at: 2017-10-11 00:02:58

# Below is generated by plot.py at 2017-10-11 02:56:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 271.36 Mbit/s
95th percentile per-packet one-way delay: 86.553 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 271.36 Mbit/s
95th percentile per-packet one-way delay: 86.553 ms
Loss rate: 0.10%
```
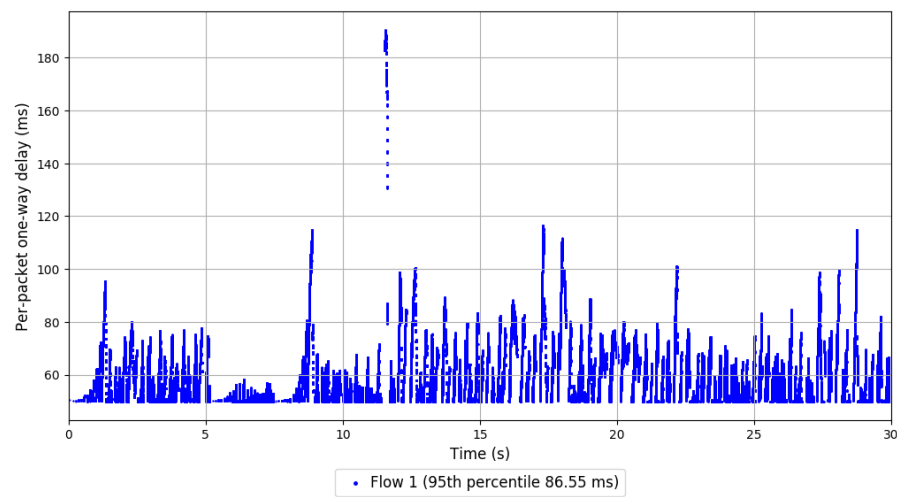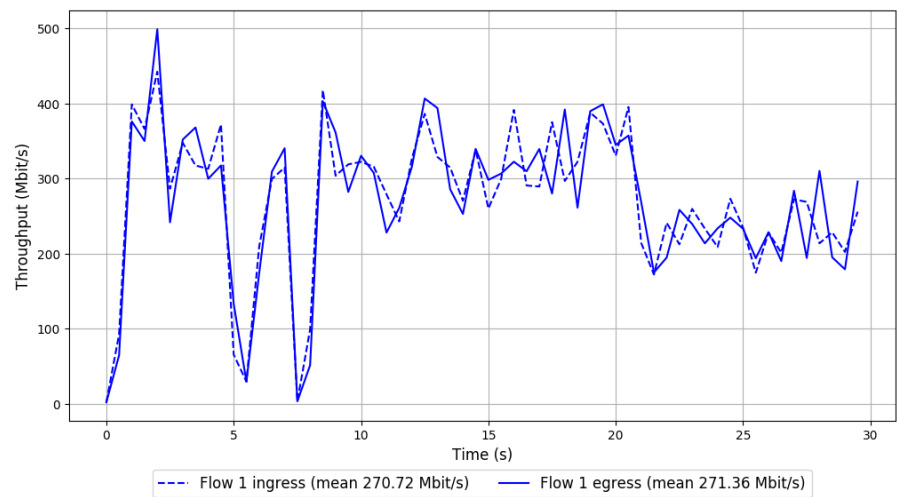
Run 8: Report of Verus — Data Link

Flow 1 ingress (mean 270.72 Mbit/s) — — — Flow 1 egress (mean 271.36 Mbit/s)

Flow 1 (95th percentile 86.55 ms)

```
Run 9: Statistics of Verus

Start at: 2017-10-11 00:13:26
End at: 2017-10-11 00:13:56

# Below is generated by plot.py at 2017-10-11 02:57:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 279.97 Mbit/s
95th percentile per-packet one-way delay: 65.184 ms
Loss rate: 0.56%
-- Flow 1:
Average throughput: 279.97 Mbit/s
95th percentile per-packet one-way delay: 65.184 ms
Loss rate: 0.56%
```
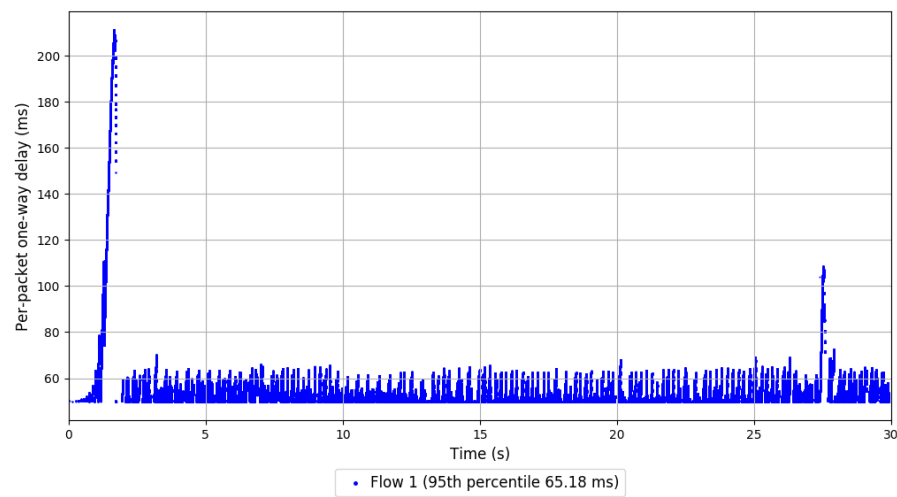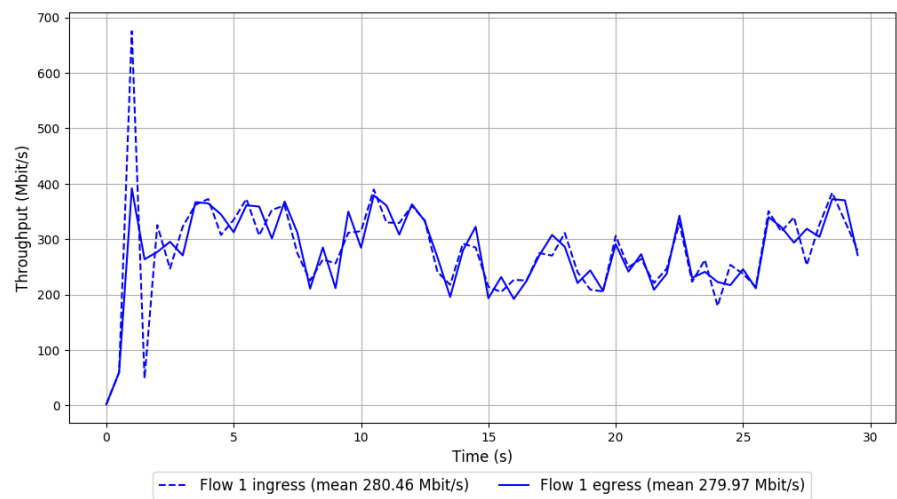
Run 9: Report of Verus — Data Link

Flow 1 ingress (mean 280.46 Mbit/s) — — — Flow 1 egress (mean 279.97 Mbit/s)

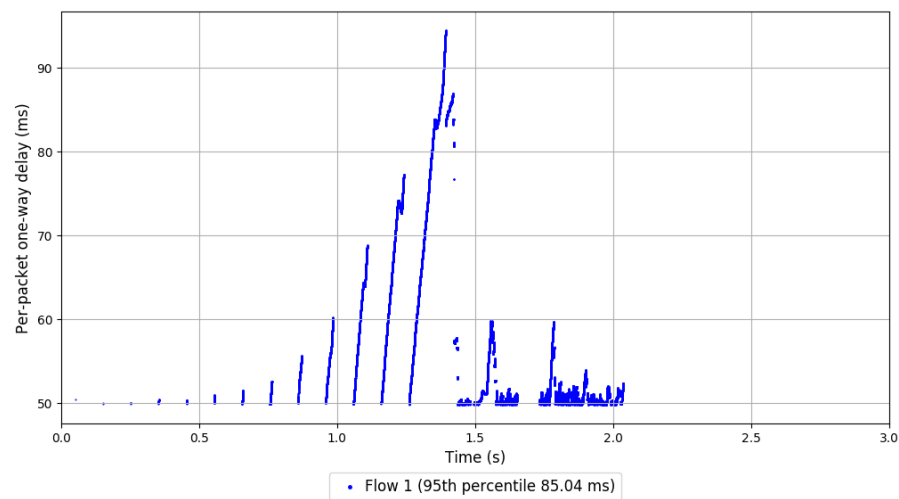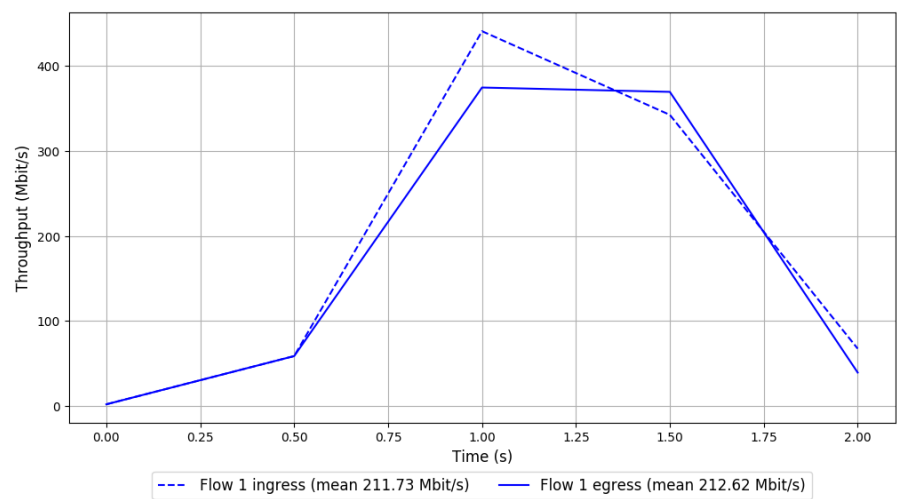• Flow 1 (95th percentile 65.18 ms)

Run 10: Statistics of Verus

Start at: 2017-10-11 00:23:39
End at: 2017-10-11 00:24:09

Run 10: Report of Verus — Data Link

```
Run 1: Statistics of Copa

Start at: 2017-10-10 22:45:26
End at: 2017-10-10 22:45:56

# Below is generated by plot.py at 2017-10-11 02:57:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.48 Mbit/s
95th percentile per-packet one-way delay: 49.890 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 94.48 Mbit/s
95th percentile per-packet one-way delay: 49.890 ms
Loss rate: 0.34%
```
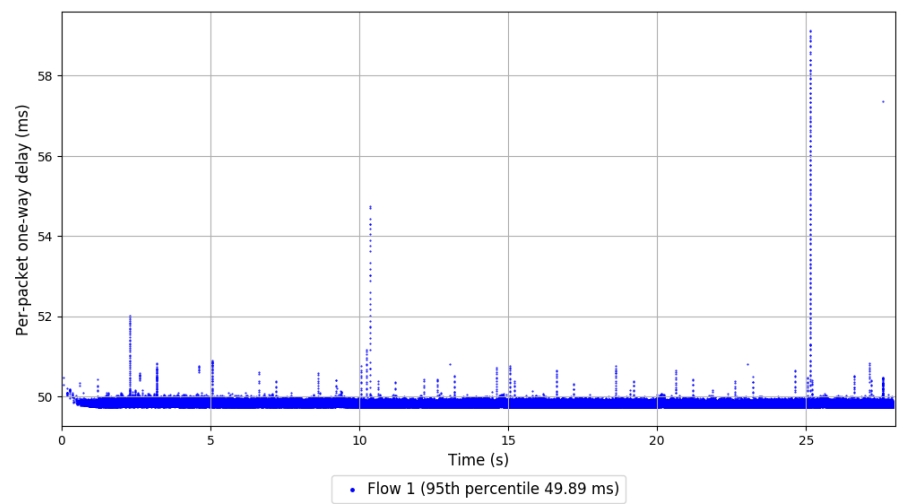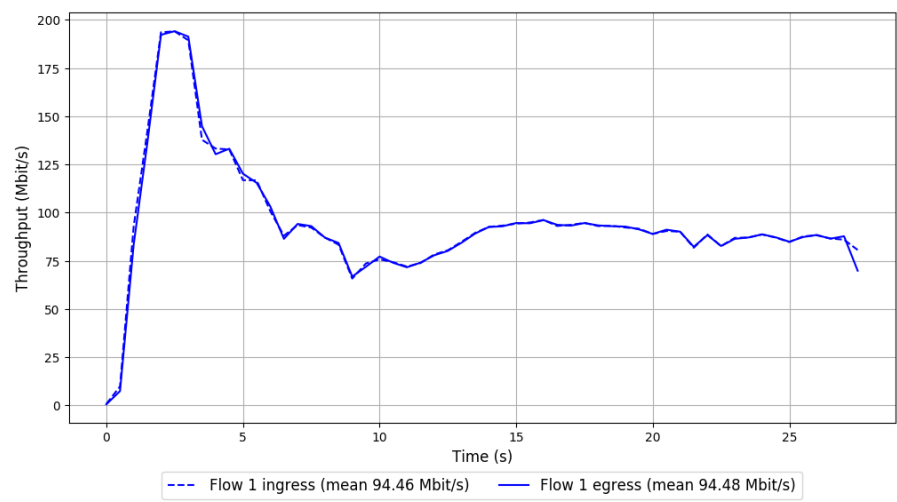
Run 1: Report of Copa — Data Link

Flow 1 ingress (mean 94.46 Mbit/s)   Flow 1 egress (mean 94.48 Mbit/s)

Flow 1 (95th percentile 49.89 ms)

```
Run 2: Statistics of Copa

Start at: 2017-10-10 22:56:04
End at: 2017-10-10 22:56:34

# Below is generated by plot.py at 2017-10-11 02:57:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 79.57 Mbit/s
95th percentile per-packet one-way delay: 53.055 ms
Loss rate: 0.52%
-- Flow 1:
Average throughput: 79.57 Mbit/s
95th percentile per-packet one-way delay: 53.055 ms
Loss rate: 0.52%
```
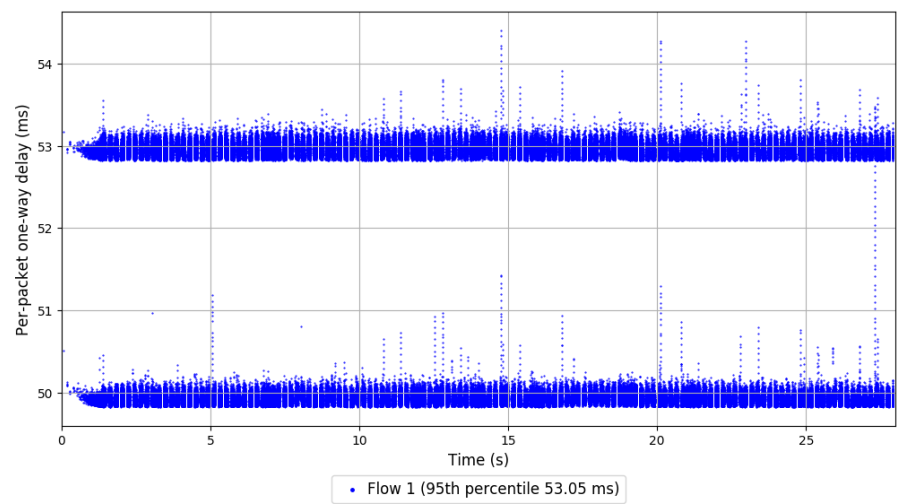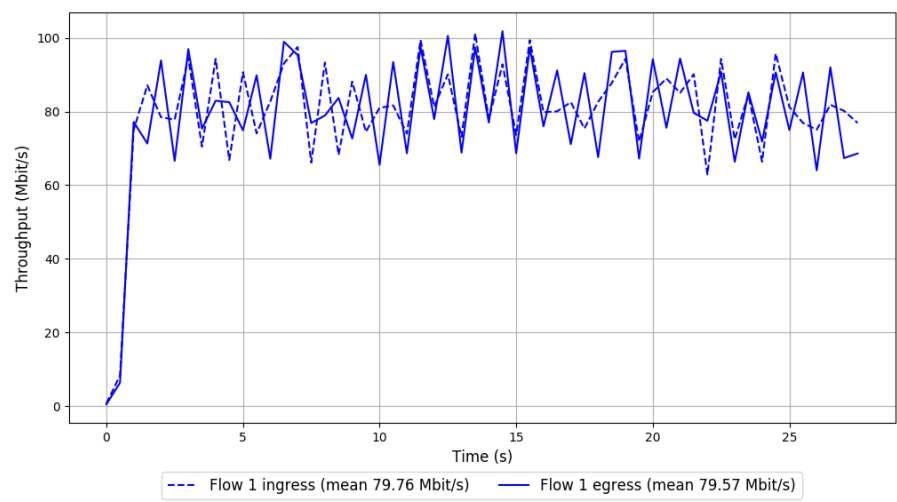
Run 2: Report of Copa — Data Link

Flow 1 ingress (mean 79.76 Mbit/s)   Flow 1 egress (mean 79.57 Mbit/s)

• Flow 1 (95th percentile 53.05 ms)

```
Run 3: Statistics of Copa

Start at: 2017-10-10 23:06:55
End at: 2017-10-10 23:07:25


# Below is generated by plot.py at 2017-10-11 02:58:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 53.060 ms
Loss rate: 0.42%
-- Flow 1:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 53.060 ms
Loss rate: 0.42%
```

Run 3: Report of Copa — Data Link

Flow 1 ingress (mean 96.22 Mbit/s)   Flow 1 egress (mean 96.02 Mbit/s)

Flow 1 (95th percentile 53.06 ms)

```
Run 4: Statistics of Copa

Start at: 2017-10-10 23:17:48
End at: 2017-10-10 23:18:18

# Below is generated by plot.py at 2017-10-11 02:58:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.17 Mbit/s
95th percentile per-packet one-way delay: 50.300 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 92.17 Mbit/s
95th percentile per-packet one-way delay: 50.300 ms
Loss rate: 0.34%
```
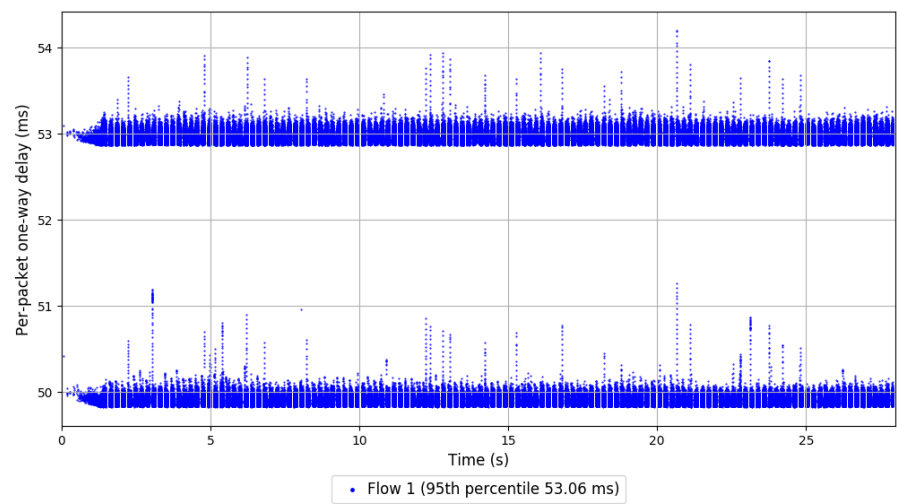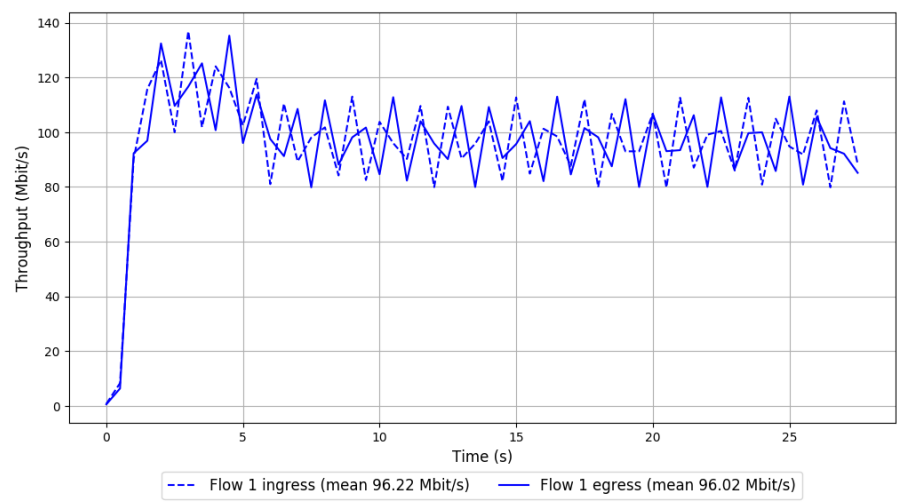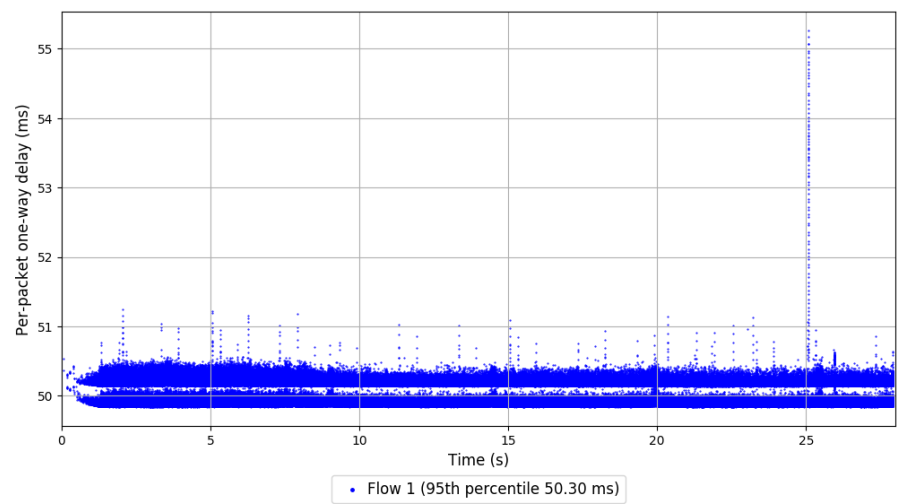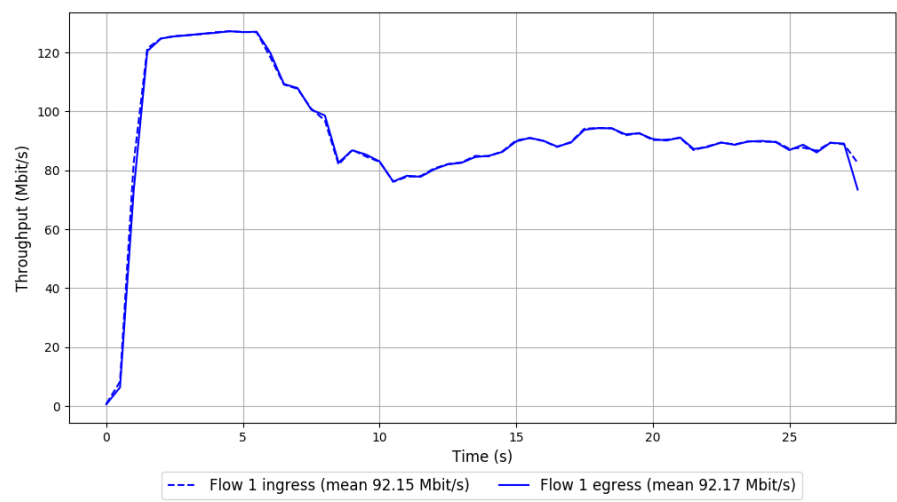
Run 4: Report of Copa — Data Link

Flow 1 ingress (mean 92.15 Mbit/s) Flow 1 egress (mean 92.17 Mbit/s)

Flow 1 (95th percentile 50.30 ms)

```
Run 5: Statistics of Copa

Start at: 2017-10-10 23:28:23
End at: 2017-10-10 23:28:53

# Below is generated by plot.py at 2017-10-11 02:58:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.22 Mbit/s
95th percentile per-packet one-way delay: 50.183 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 94.22 Mbit/s
95th percentile per-packet one-way delay: 50.183 ms
Loss rate: 0.34%
```
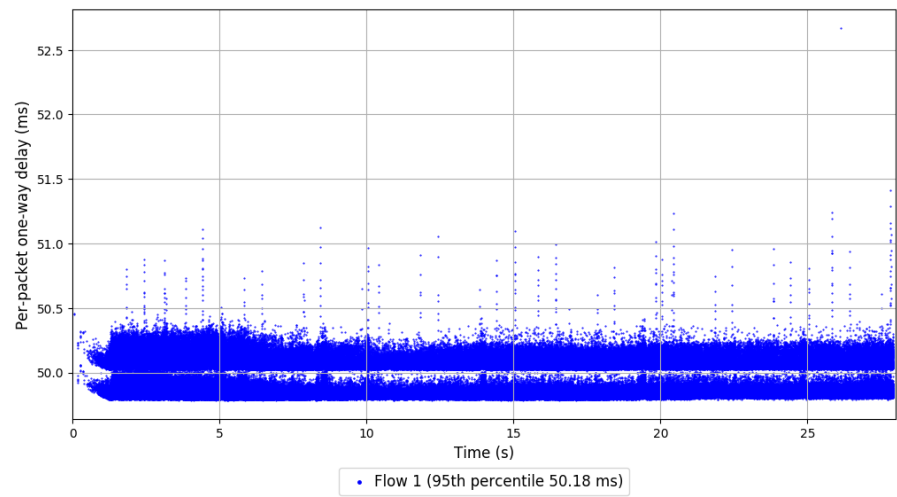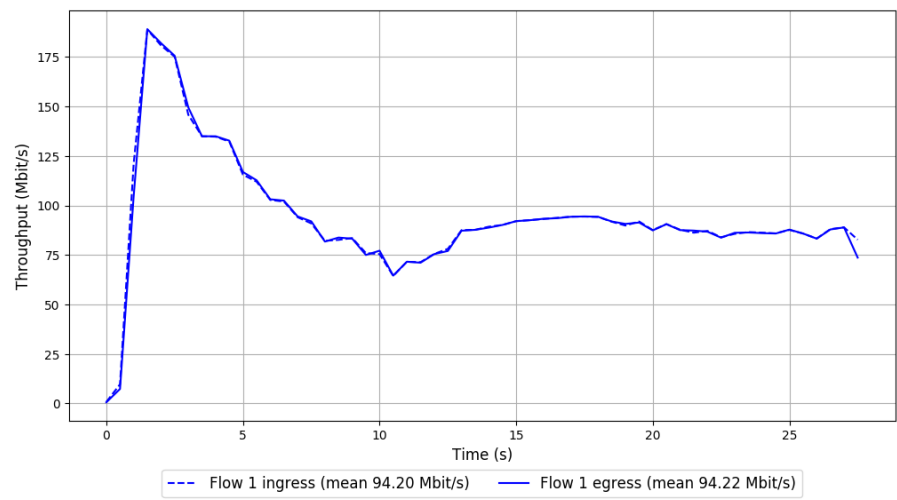
Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 94.20 Mbit/s)   Flow 1 egress (mean 94.22 Mbit/s)

Flow 1 (95th percentile 50.18 ms)

```
Run 6: Statistics of Copa

Start at: 2017-10-10 23:39:06
End at: 2017-10-10 23:39:36

# Below is generated by plot.py at 2017-10-11 02:59:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 93.54 Mbit/s
95th percentile per-packet one-way delay: 49.993 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 93.54 Mbit/s
95th percentile per-packet one-way delay: 49.993 ms
Loss rate: 0.34%
```
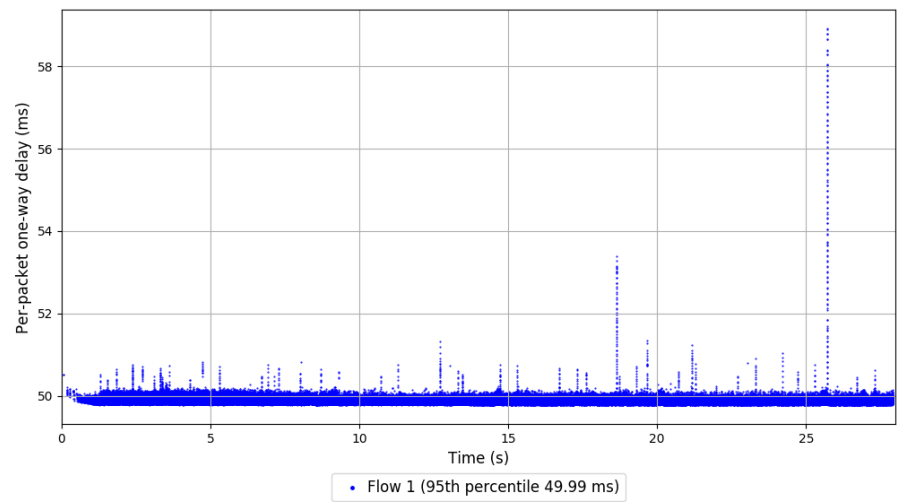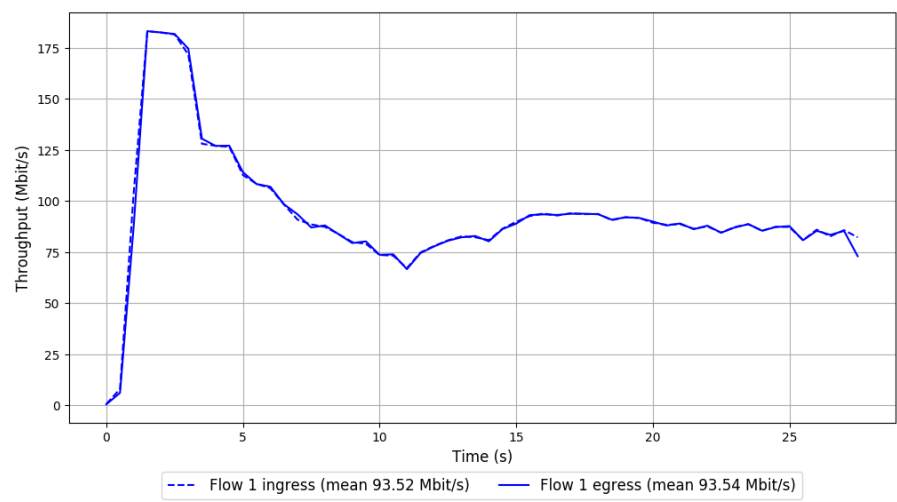
Run 6: Report of Copa — Data Link

Flow 1 ingress (mean 93.52 Mbit/s)   Flow 1 egress (mean 93.54 Mbit/s)

Flow 1 (95th percentile 49.99 ms)

```
Run 7: Statistics of Copa

Start at: 2017-10-10 23:49:21
End at: 2017-10-10 23:49:51

# Below is generated by plot.py at 2017-10-11 02:59:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 92.05 Mbit/s
95th percentile per-packet one-way delay: 50.260 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 92.05 Mbit/s
95th percentile per-packet one-way delay: 50.260 ms
Loss rate: 0.34%
```
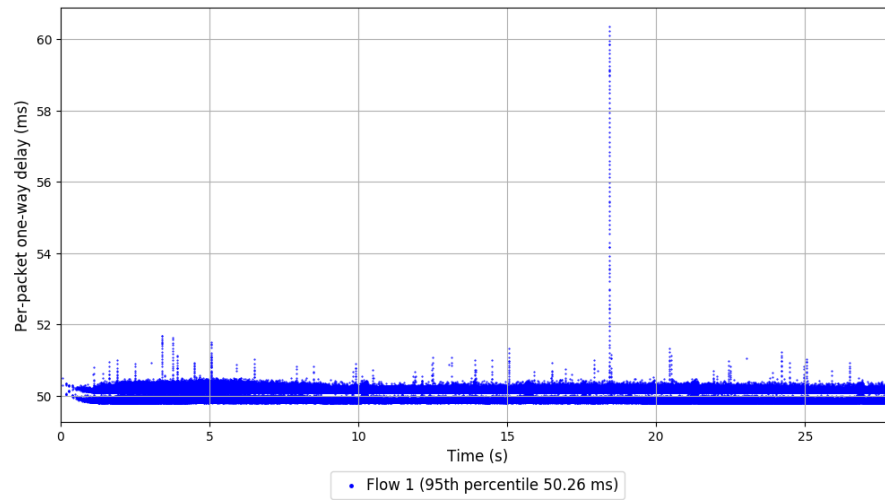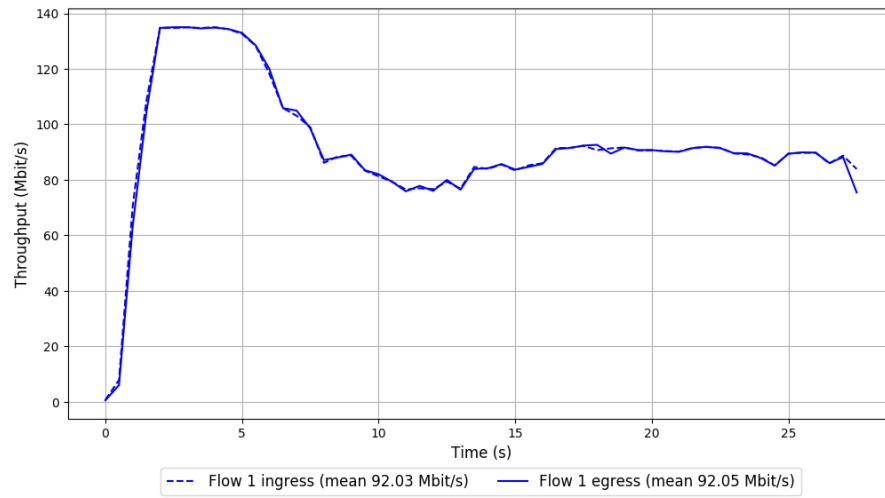
Run 7: Report of Copa — Data Link

Flow 1 ingress (mean 92.03 Mbit/s) --- Flow 1 egress (mean 92.05 Mbit/s)

• Flow 1 (95th percentile 50.26 ms)

```
Run 8: Statistics of Copa

Start at: 2017-10-10 23:59:56
End at: 2017-10-11 00:00:26

# Below is generated by plot.py at 2017-10-11 02:59:33
# Datalink statistics
-- Total of 1 flow:
Average throughput: 61.44 Mbit/s
95th percentile per-packet one-way delay: 53.653 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 61.44 Mbit/s
95th percentile per-packet one-way delay: 53.653 ms
Loss rate: 0.93%
```
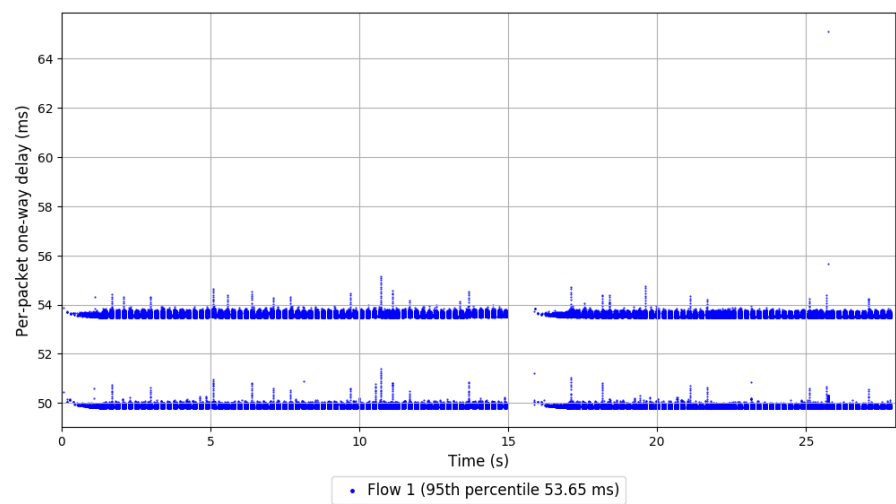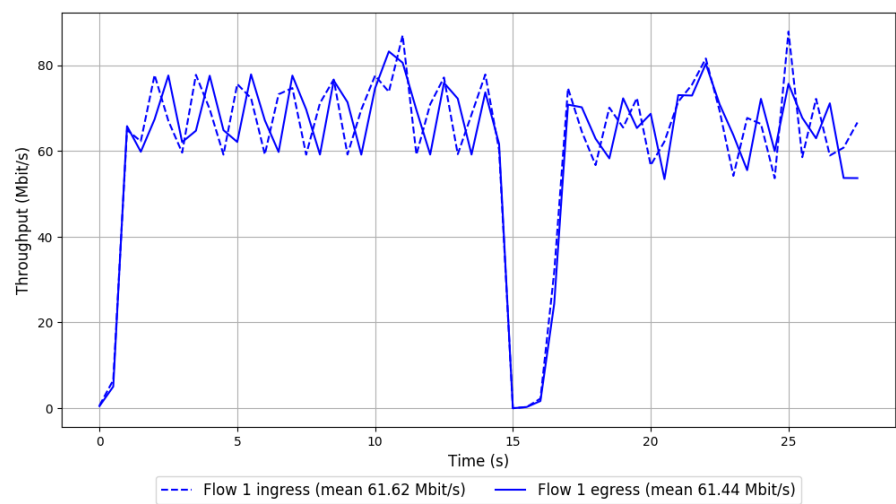
Run 8: Report of Copa — Data Link

Flow 1 ingress (mean 61.62 Mbit/s)   Flow 1 egress (mean 61.44 Mbit/s)

Flow 1 (95th percentile 53.65 ms)

```
Run 9: Statistics of Copa

Start at: 2017-10-11 00:10:50
End at: 2017-10-11 00:11:20

# Below is generated by plot.py at 2017-10-11 02:59:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 94.19 Mbit/s
95th percentile per-packet one-way delay: 50.214 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 94.19 Mbit/s
95th percentile per-packet one-way delay: 50.214 ms
Loss rate: 0.34%
```
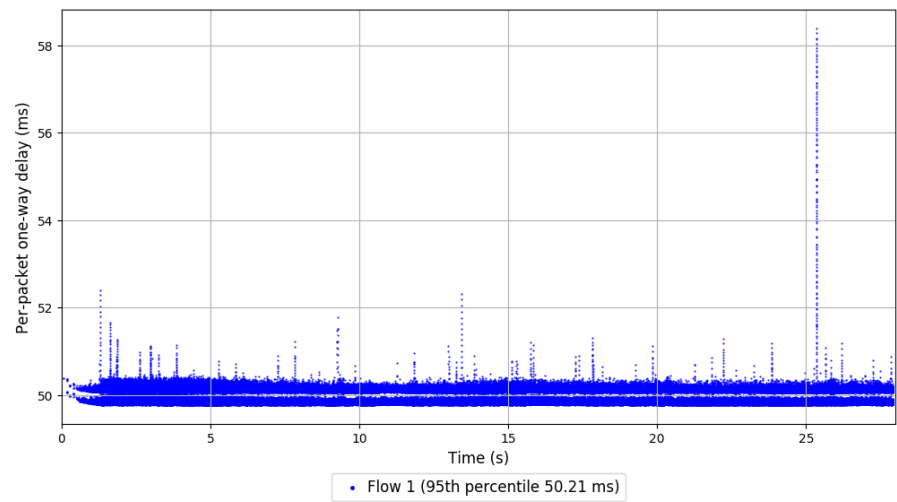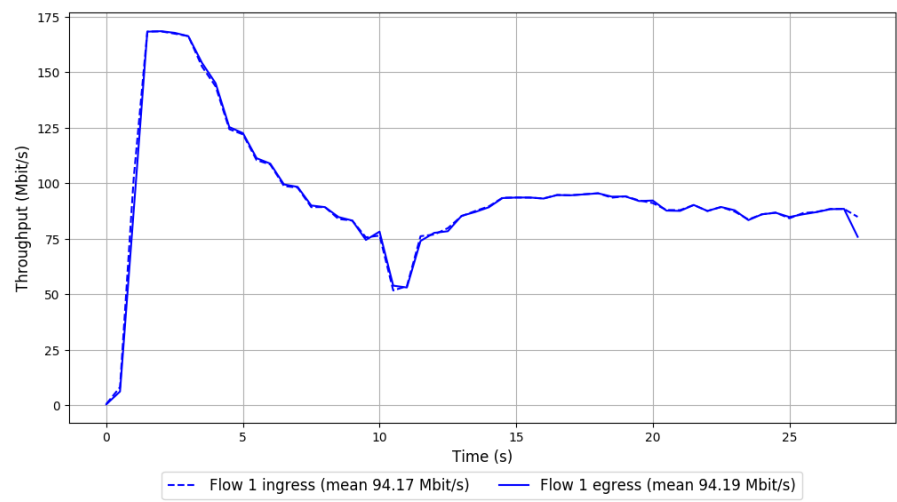
Run 9: Report of Copa — Data Link

Flow 1 ingress (mean 94.17 Mbit/s)   Flow 1 egress (mean 94.19 Mbit/s)

Flow 1 (95th percentile 50.21 ms)

```
Run 10: Statistics of Copa

Start at: 2017-10-11 00:21:05
End at: 2017-10-11 00:21:35

# Below is generated by plot.py at 2017-10-11 03:00:05
# Datalink statistics
-- Total of 1 flow:
Average throughput: 89.22 Mbit/s
95th percentile per-packet one-way delay: 52.999 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 89.22 Mbit/s
95th percentile per-packet one-way delay: 52.999 ms
Loss rate: 0.12%
```
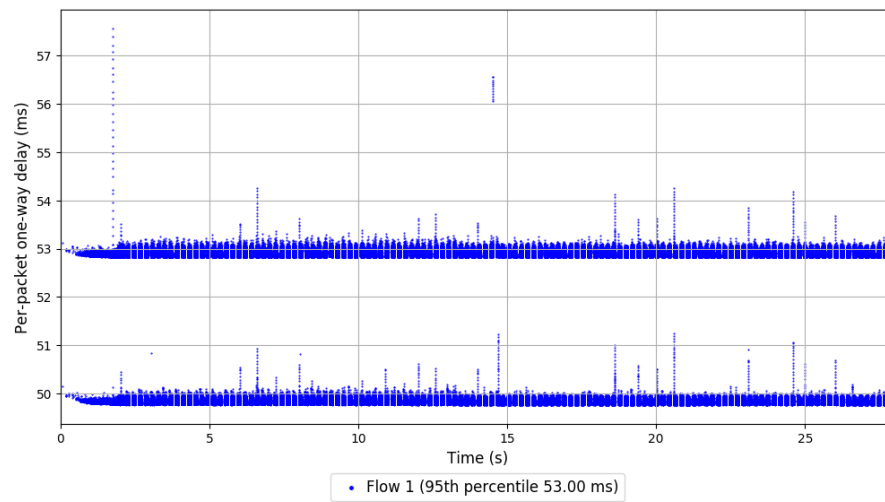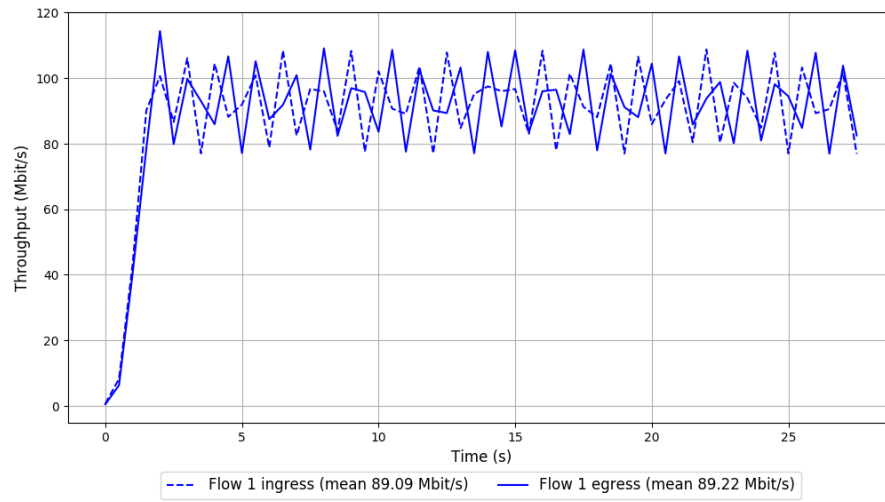
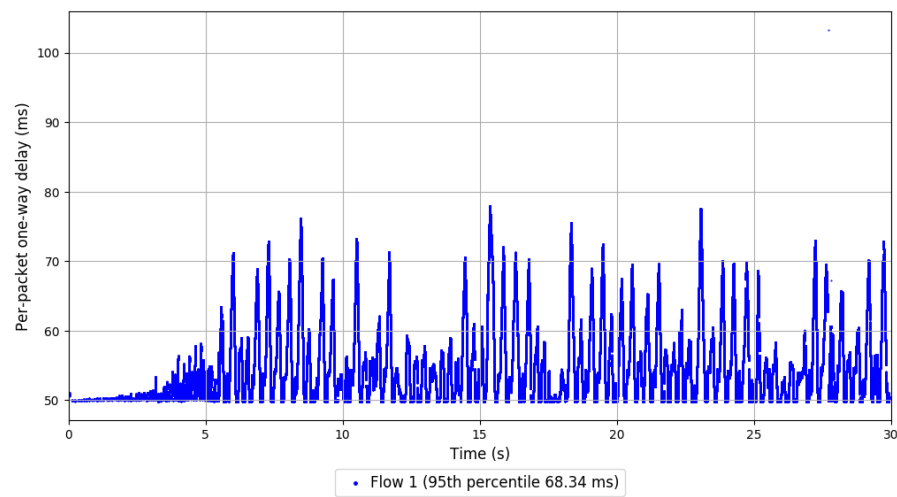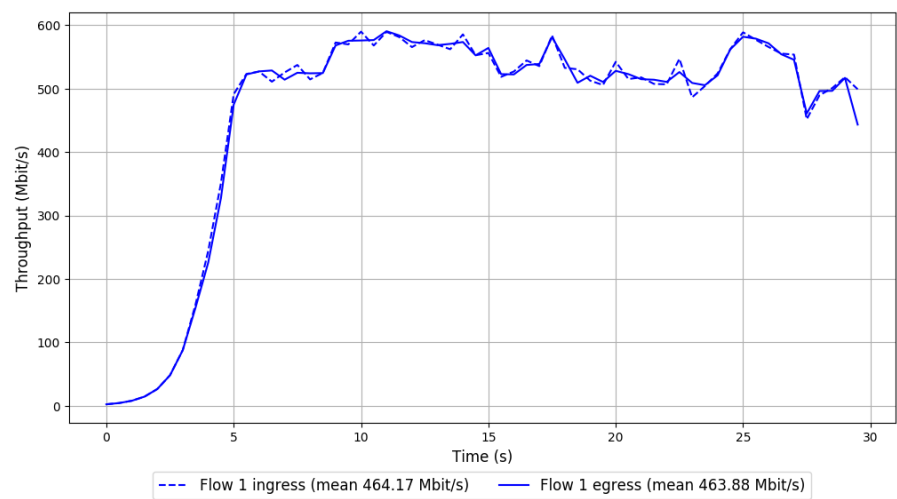## Run 10: Report of Copa — Data Link

```
Run 1: Statistics of CalibratedKoho

Start at: 2017-10-10 22:48:59
End at: 2017-10-10 22:49:29

# Below is generated by plot.py at 2017-10-11 03:06:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 463.88 Mbit/s
95th percentile per-packet one-way delay: 68.342 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 463.88 Mbit/s
95th percentile per-packet one-way delay: 68.342 ms
Loss rate: 0.40%
```

Run 1: Report of CalibratedKoho — Data Link

```
Run 2: Statistics of CalibratedKoho

Start at: 2017-10-10 22:59:29
End at: 2017-10-10 22:59:59

# Below is generated by plot.py at 2017-10-11 03:06:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 451.18 Mbit/s
95th percentile per-packet one-way delay: 68.108 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 451.18 Mbit/s
95th percentile per-packet one-way delay: 68.108 ms
Loss rate: 0.43%
```
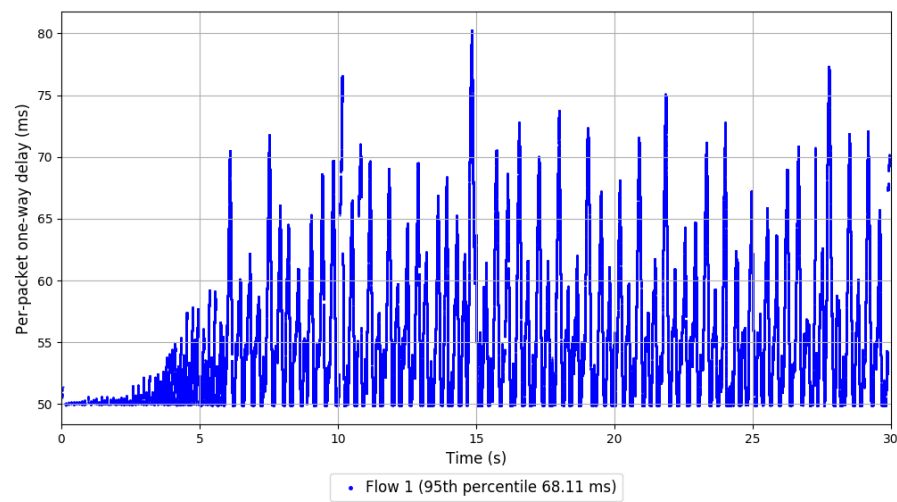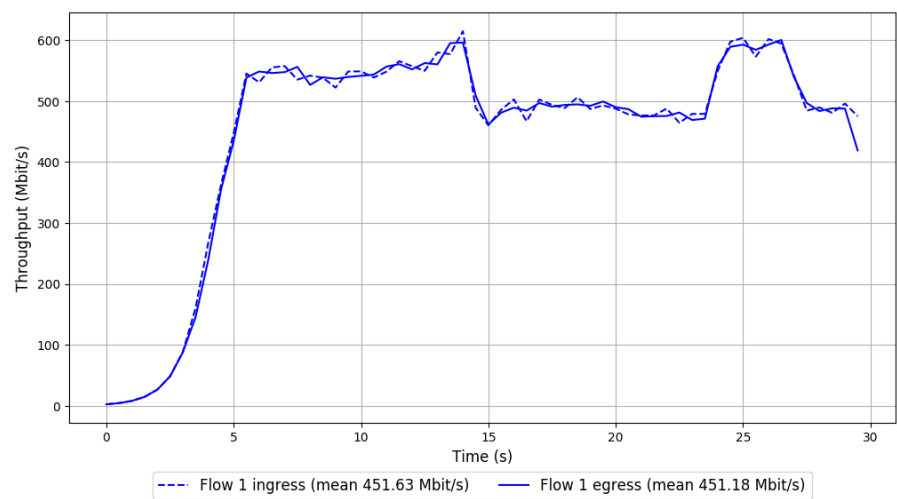
Run 2: Report of CalibratedKoho — Data Link

```
Run 3: Statistics of CalibratedKoho

Start at: 2017-10-10 23:10:23
End at: 2017-10-10 23:10:53

# Below is generated by plot.py at 2017-10-11 03:06:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 431.44 Mbit/s
95th percentile per-packet one-way delay: 70.999 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 431.44 Mbit/s
95th percentile per-packet one-way delay: 70.999 ms
Loss rate: 0.38%
```
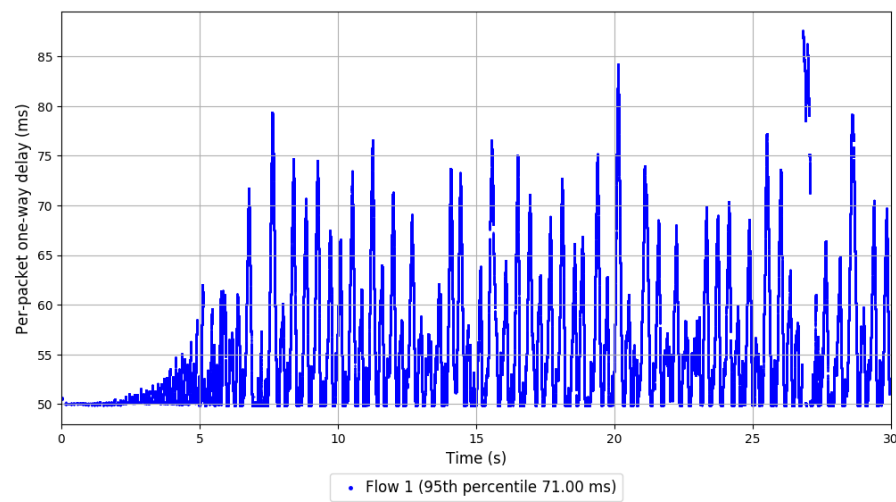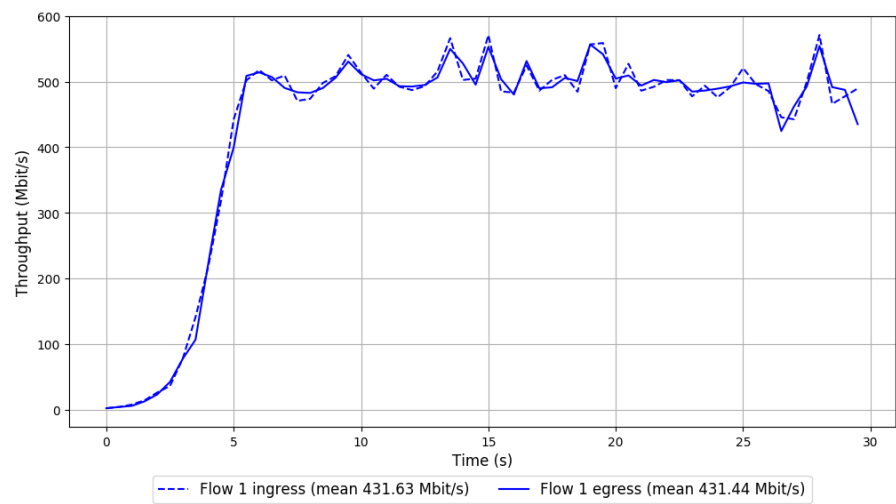
Run 3: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 431.63 Mbit/s)   Flow 1 egress (mean 431.44 Mbit/s)

Flow 1 (95th percentile 71.00 ms)

```
Run 4: Statistics of CalibratedKoho

Start at: 2017-10-10 23:21:12
End at: 2017-10-10 23:21:42

# Below is generated by plot.py at 2017-10-11 03:06:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 451.60 Mbit/s
95th percentile per-packet one-way delay: 67.220 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 451.60 Mbit/s
95th percentile per-packet one-way delay: 67.220 ms
Loss rate: 0.37%
```
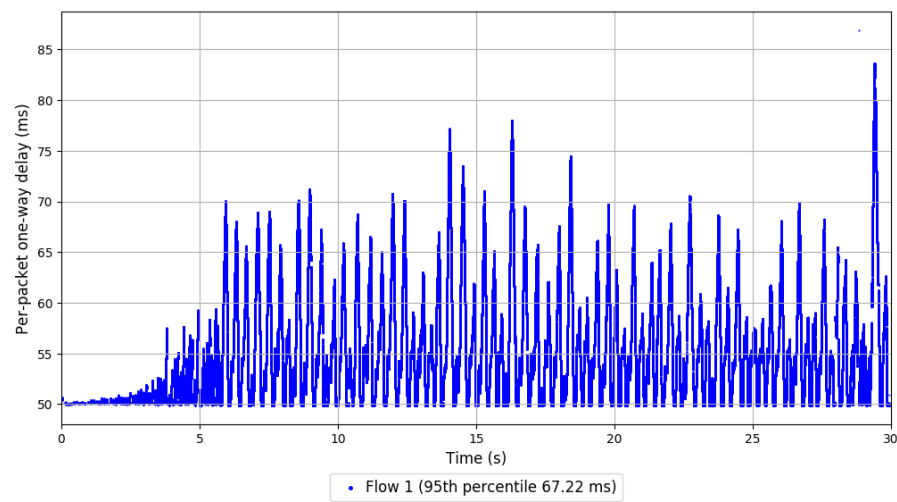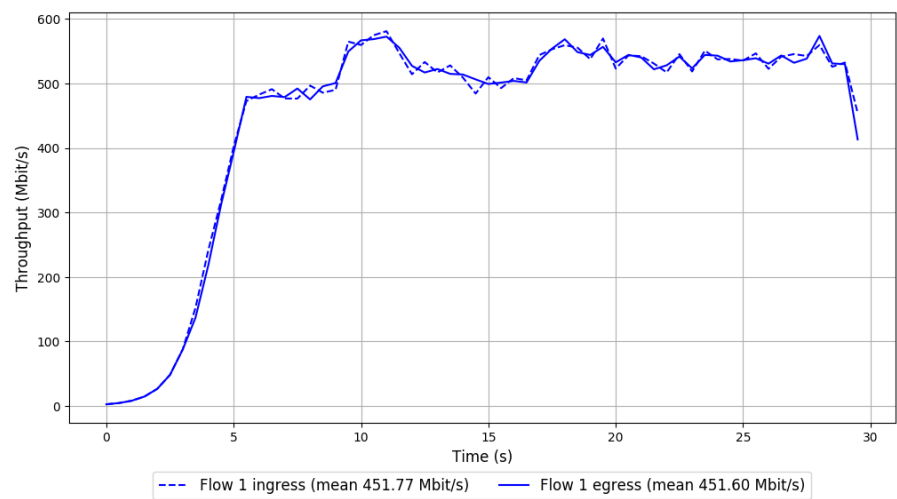
Run 4: Report of CalibratedKoho — Data Link

```
Run 5: Statistics of CalibratedKoho

Start at: 2017-10-10 23:31:41
End at: 2017-10-10 23:32:11

# Below is generated by plot.py at 2017-10-11 03:06:25
# Datalink statistics
-- Total of 1 flow:
Average throughput: 430.01 Mbit/s
95th percentile per-packet one-way delay: 68.532 ms
Loss rate: 0.45%
-- Flow 1:
Average throughput: 430.01 Mbit/s
95th percentile per-packet one-way delay: 68.532 ms
Loss rate: 0.45%
```
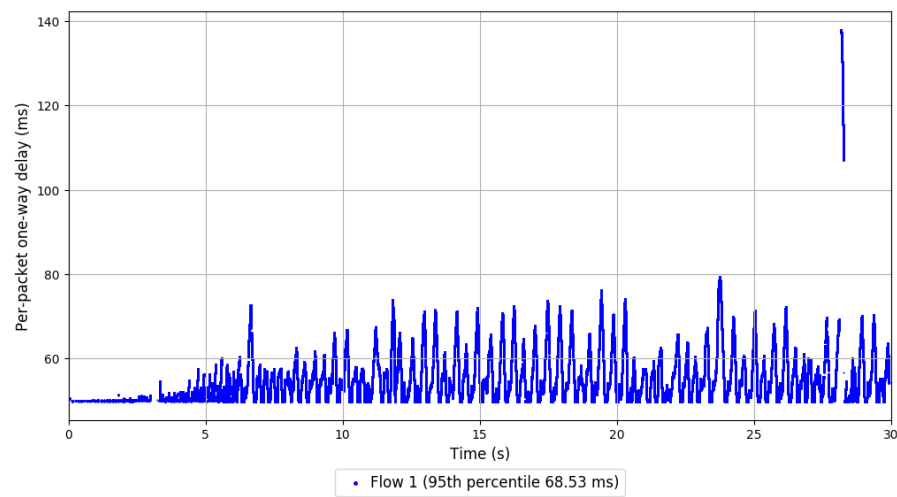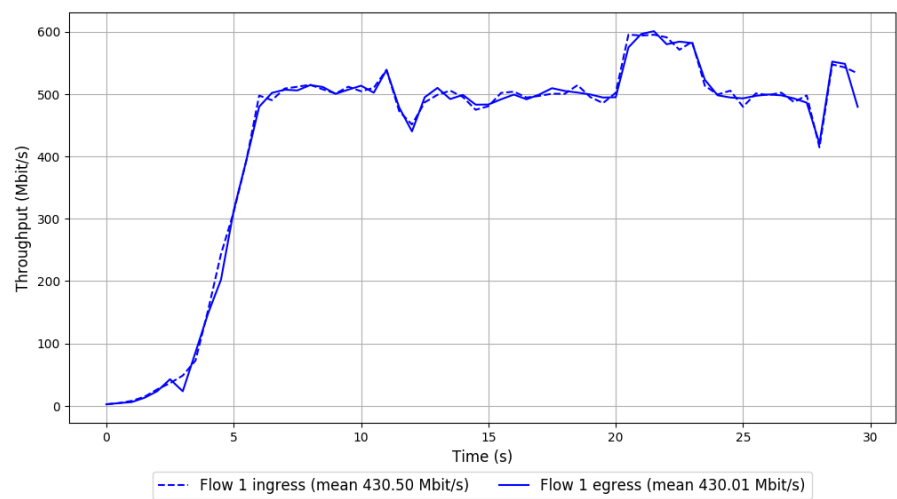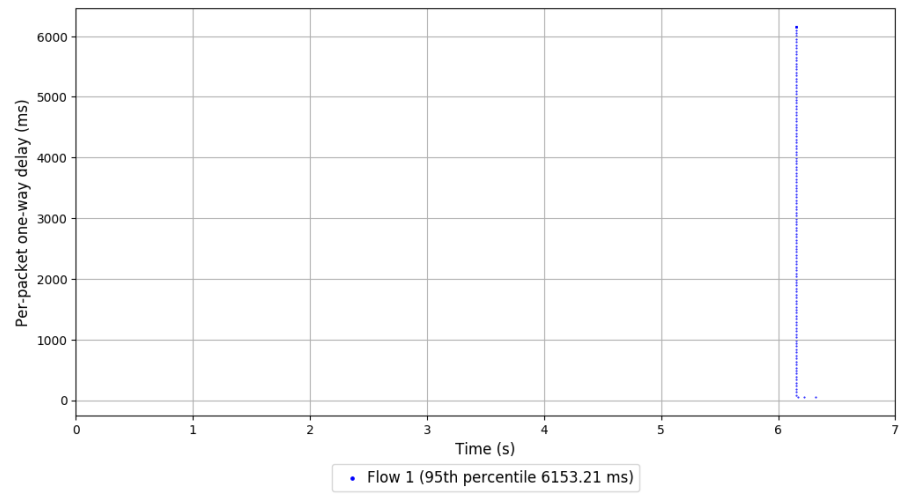
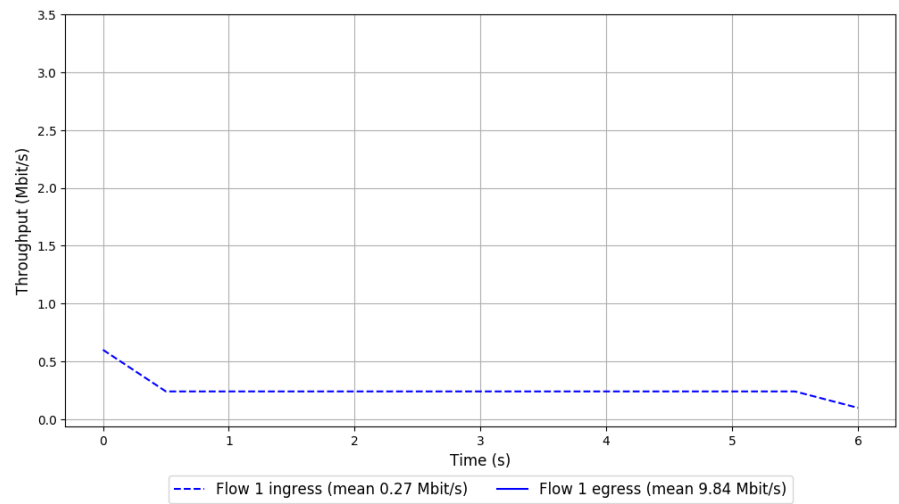Run 5: Report of CalibratedKoho — Data Link

Run 6: Statistics of CalibratedKoho

Start at: 2017-10-10 23:42:38
End at: 2017-10-10 23:43:08

Run 6: Report of CalibratedKoho — Data Link

Throughput (Mbit/s) vs Time (s)

- - - - Flow 1 ingress (mean 0.27 Mbit/s) ——— Flow 1 egress (mean 9.84 Mbit/s)

Per-packet one-way delay (ms) vs Time (s)

• Flow 1 (95th percentile 6153.21 ms)

```
Run 7: Statistics of CalibratedKoho

Start at: 2017-10-10 23:52:50
End at: 2017-10-10 23:53:20

# Below is generated by plot.py at 2017-10-11 03:07:08
# Datalink statistics
-- Total of 1 flow:
Average throughput: 471.79 Mbit/s
95th percentile per-packet one-way delay: 62.545 ms
Loss rate: 0.43%
-- Flow 1:
Average throughput: 471.79 Mbit/s
95th percentile per-packet one-way delay: 62.545 ms
Loss rate: 0.43%
```
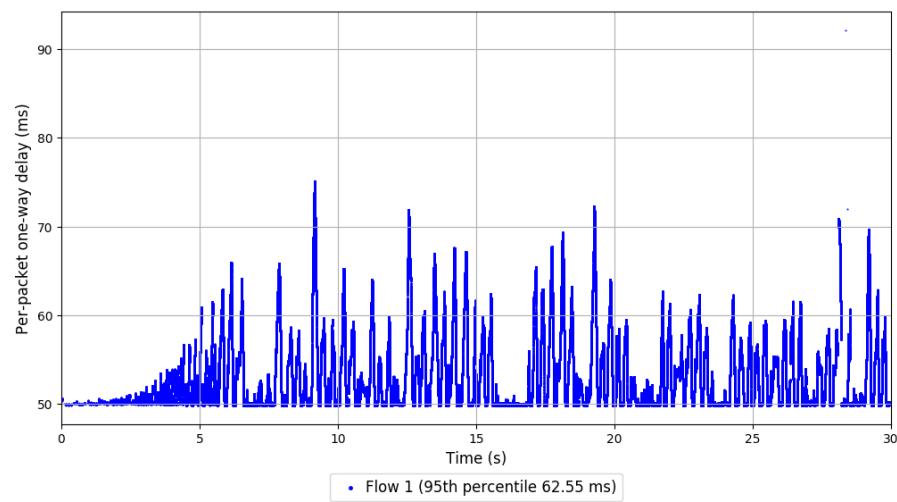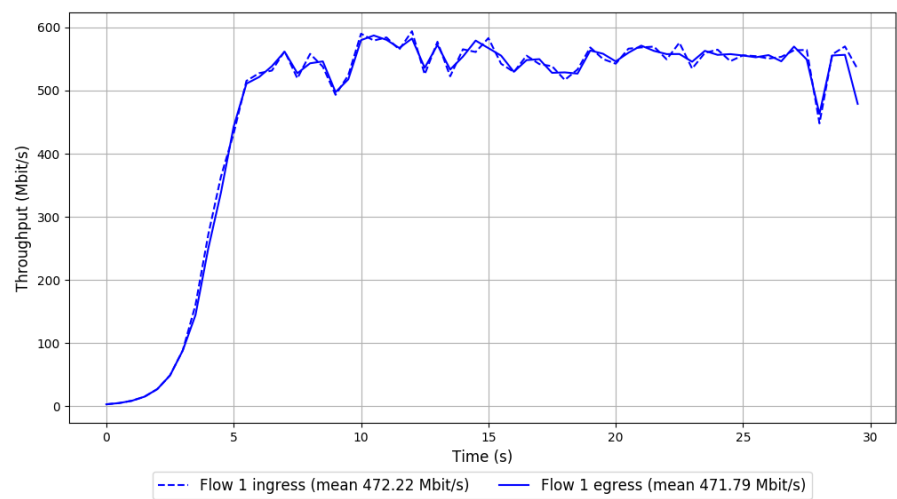
Run 7: Report of CalibratedKoho — Data Link

```
Run 8: Statistics of CalibratedKoho

Start at: 2017-10-11 00:03:23
End at: 2017-10-11 00:03:53


# Below is generated by plot.py at 2017-10-11 03:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 461.80 Mbit/s
95th percentile per-packet one-way delay: 61.913 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 461.80 Mbit/s
95th percentile per-packet one-way delay: 61.913 ms
Loss rate: 0.35%
```
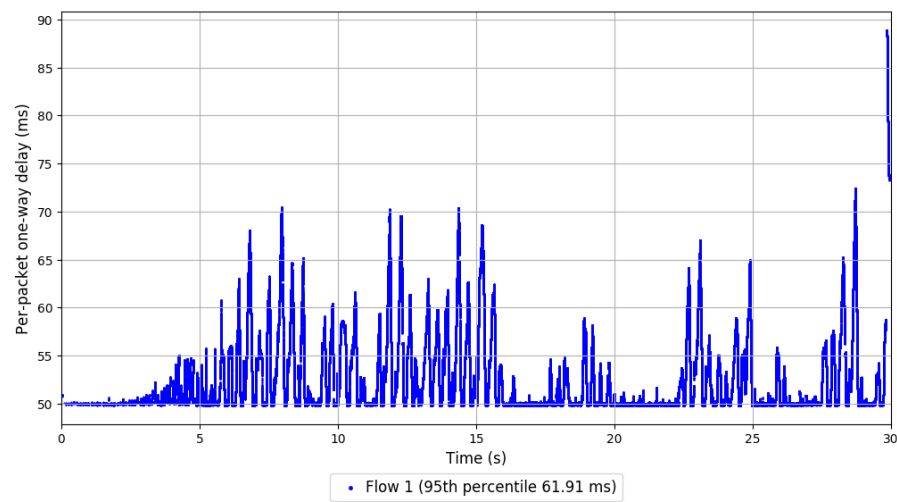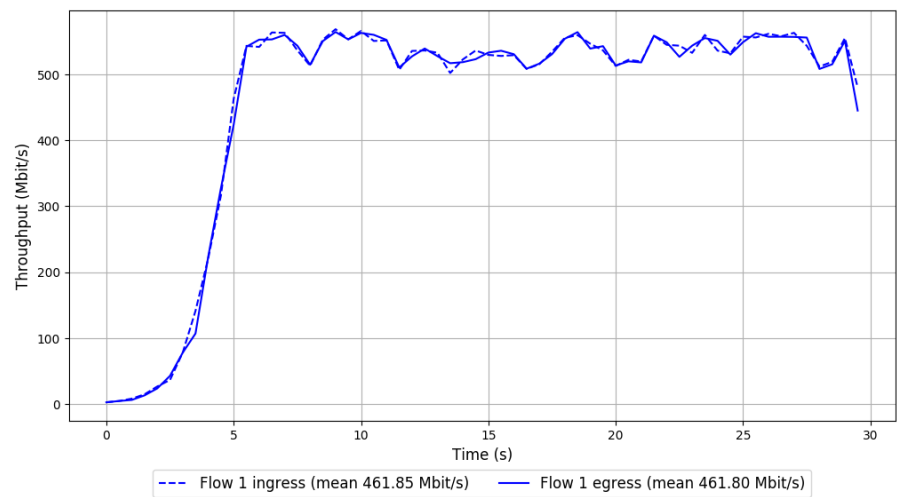
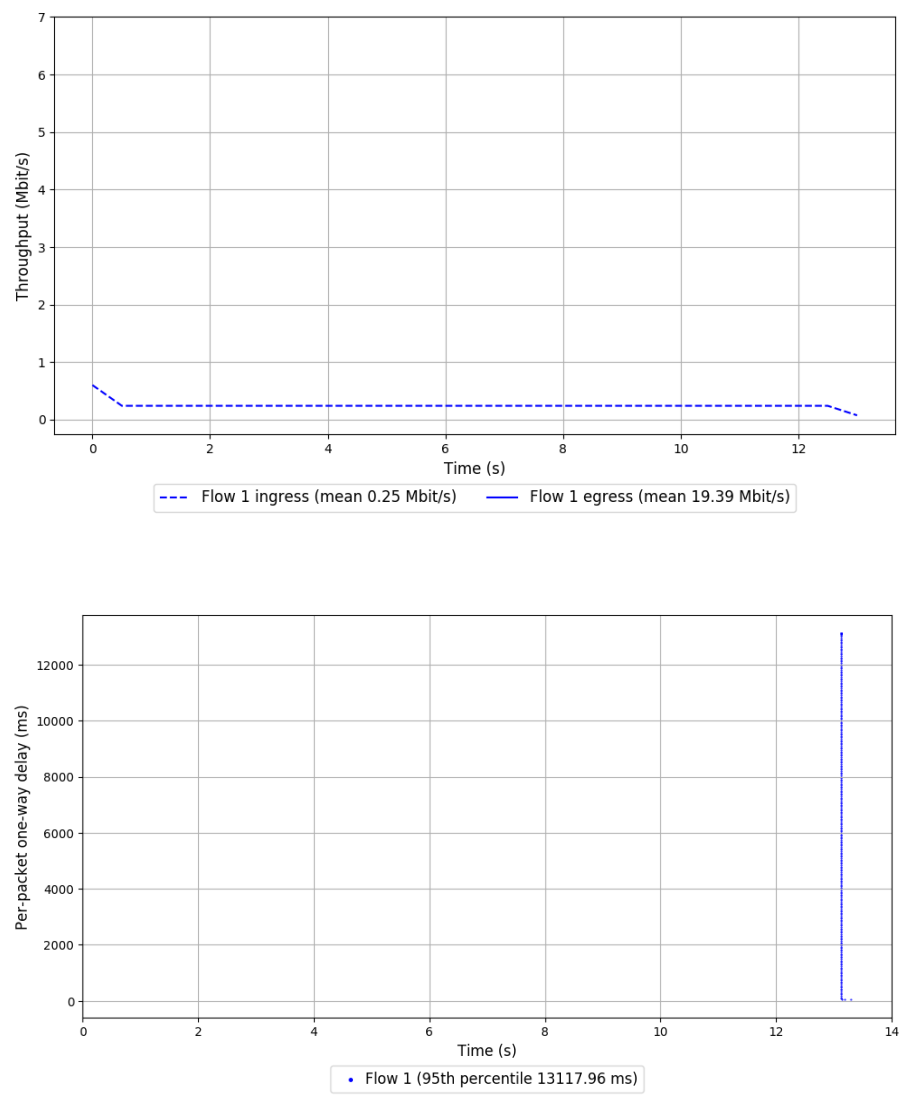# Run 8: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 461.85 Mbit/s) --- Flow 1 egress (mean 461.80 Mbit/s)

Flow 1 (95th percentile 61.91 ms)

Run 9: Statistics of CalibratedKoho

Start at: 2017-10-11 00:14:22
End at: 2017-10-11 00:14:52

Run 9: Report of CalibratedKoho — Data Link

Flow 1 ingress (mean 0.25 Mbit/s)　　Flow 1 egress (mean 19.39 Mbit/s)

Flow 1 (95th percentile 13117.96 ms)

```
Run 10: Statistics of CalibratedKoho

Start at: 2017-10-11 00:24:17
End at: 2017-10-11 00:24:47

# Below is generated by plot.py at 2017-10-11 03:07:44
# Datalink statistics
-- Total of 1 flow:
Average throughput: 411.93 Mbit/s
95th percentile per-packet one-way delay: 70.752 ms
Loss rate: 0.38%
-- Flow 1:
Average throughput: 411.93 Mbit/s
95th percentile per-packet one-way delay: 70.752 ms
Loss rate: 0.38%
```
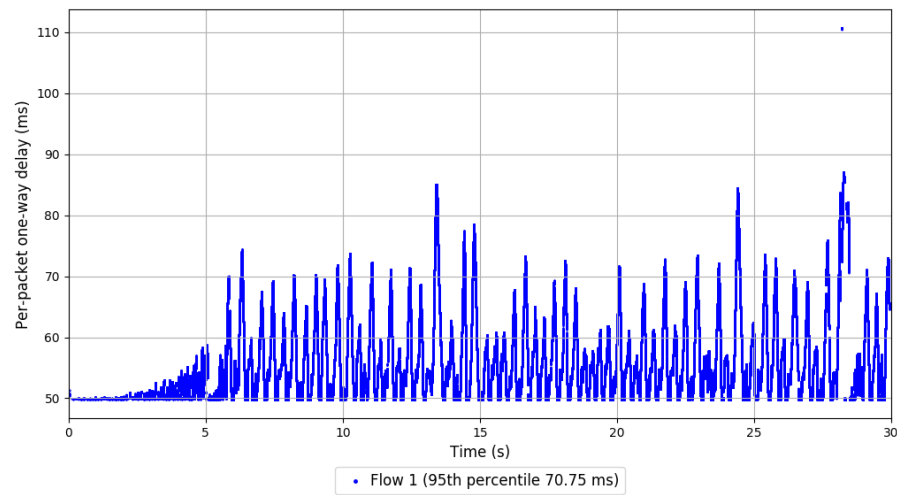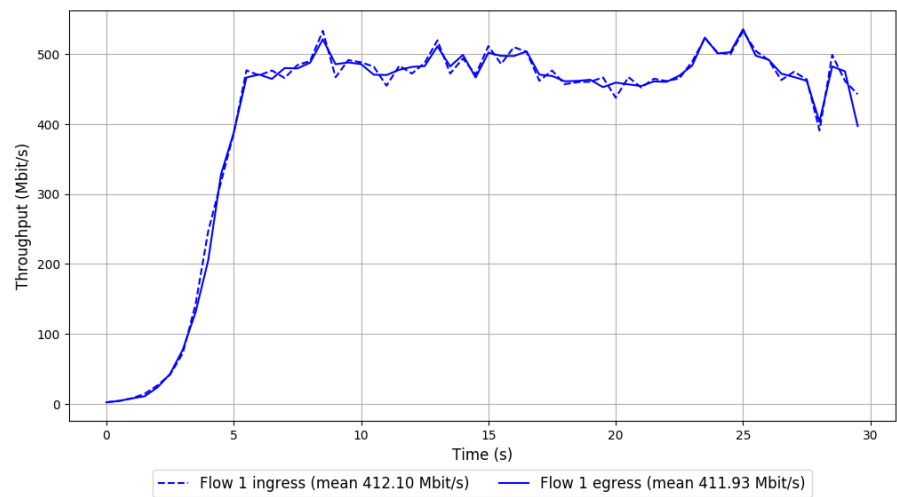
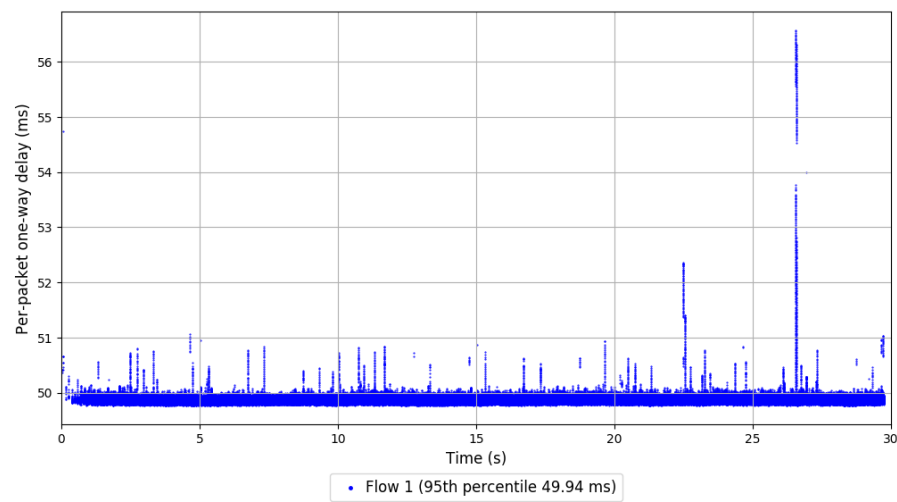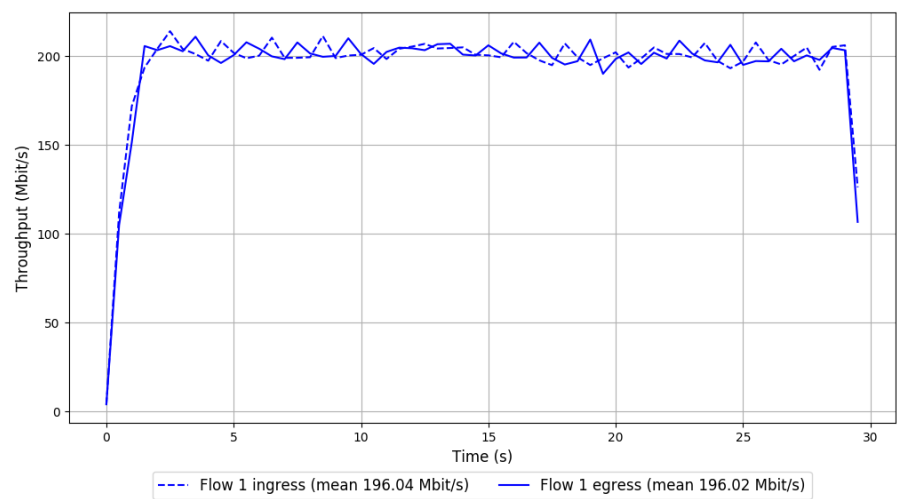Run 10: Report of CalibratedKoho — Data Link

```
Run 1: Statistics of Indigo

Start at: 2017-10-10 22:50:06
End at: 2017-10-10 22:50:36

# Below is generated by plot.py at 2017-10-11 03:08:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 196.02 Mbit/s
95th percentile per-packet one-way delay: 49.937 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 196.02 Mbit/s
95th percentile per-packet one-way delay: 49.937 ms
Loss rate: 0.35%
```

Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2017-10-10 23:00:35
End at: 2017-10-10 23:01:06

# Below is generated by plot.py at 2017-10-11 03:08:48
# Datalink statistics
-- Total of 1 flow:
Average throughput: 195.97 Mbit/s
95th percentile per-packet one-way delay: 49.999 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 195.97 Mbit/s
95th percentile per-packet one-way delay: 49.999 ms
Loss rate: 0.33%
```
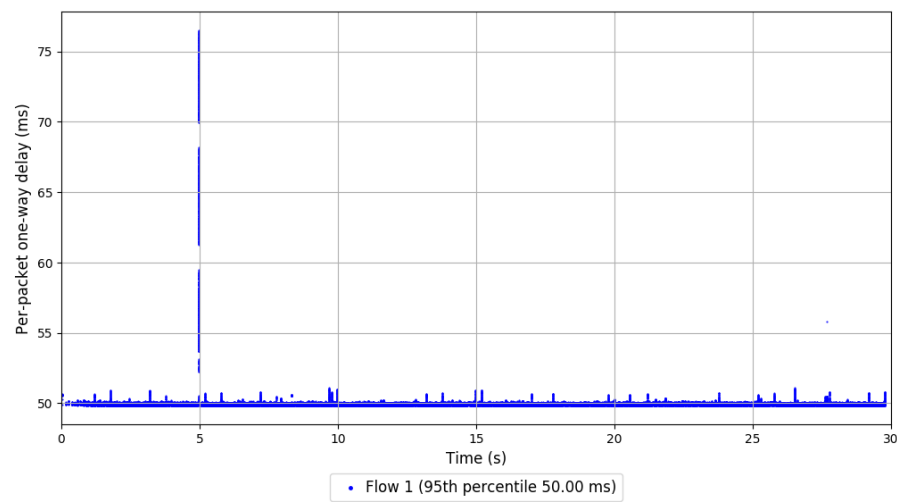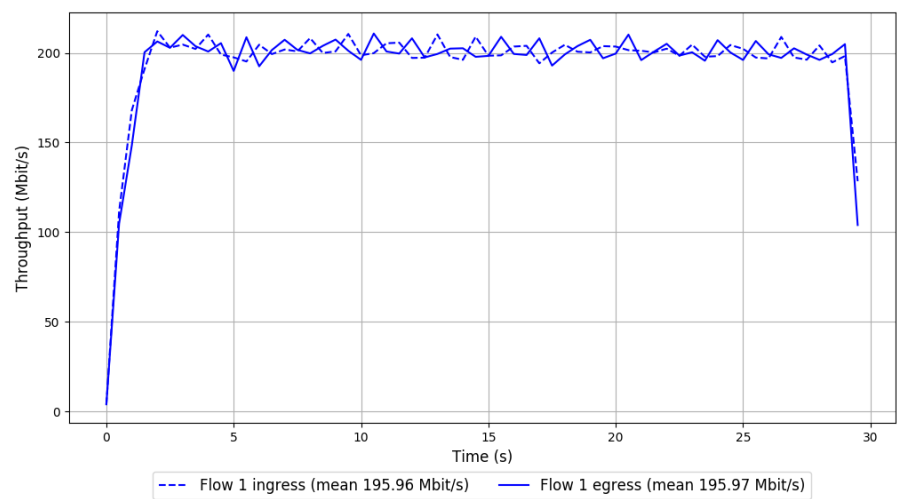
Run 2: Report of Indigo — Data Link

Flow 1 ingress (mean 195.96 Mbit/s)   Flow 1 egress (mean 195.97 Mbit/s)

• Flow 1 (95th percentile 50.00 ms)

```
Run 3: Statistics of Indigo

Start at: 2017-10-10 23:11:28
End at: 2017-10-10 23:11:58

# Below is generated by plot.py at 2017-10-11 03:08:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 197.80 Mbit/s
95th percentile per-packet one-way delay: 49.993 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 197.80 Mbit/s
95th percentile per-packet one-way delay: 49.993 ms
Loss rate: 0.35%
```
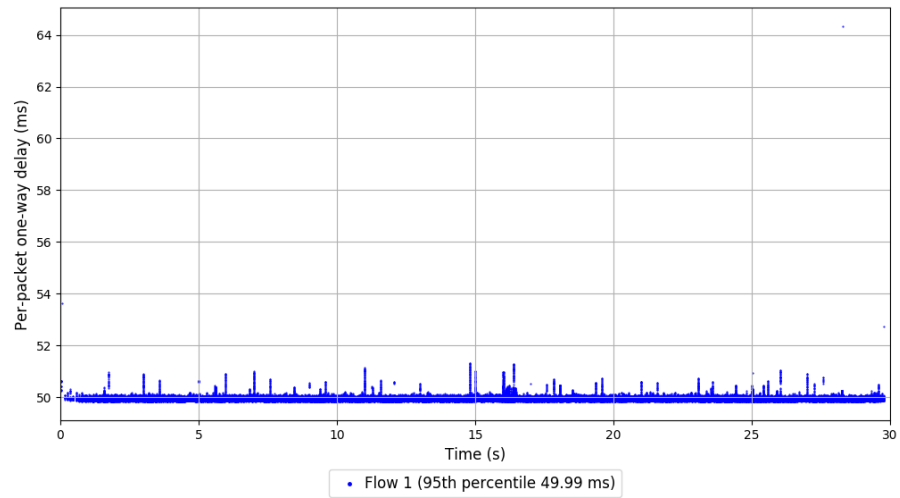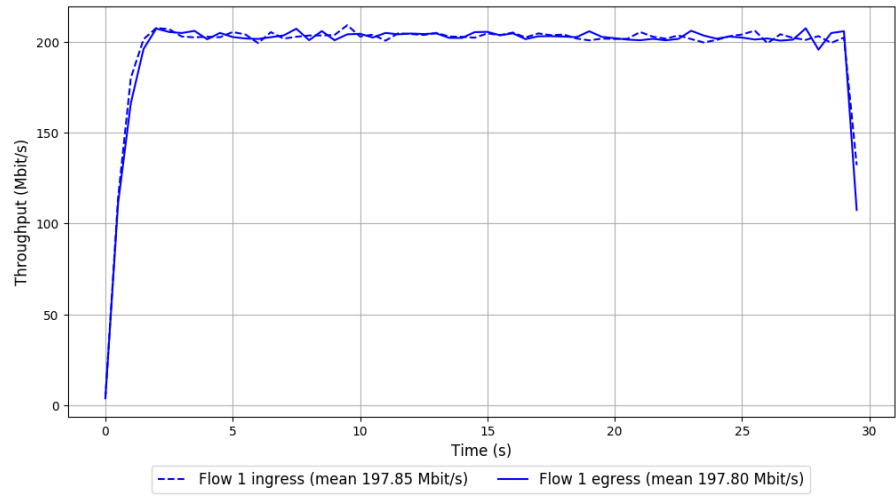
Run 3: Report of Indigo — Data Link

Flow 1 ingress (mean 197.85 Mbit/s)   Flow 1 egress (mean 197.80 Mbit/s)

Flow 1 (95th percentile 49.99 ms)

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```
Run 4: Statistics of Indigo

Start at: 2017-10-10 23:22:18
End at: 2017-10-10 23:22:48

# Below is generated by plot.py at 2017-10-11 03:09:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 198.66 Mbit/s
95th percentile per-packet one-way delay: 50.007 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 198.66 Mbit/s
95th percentile per-packet one-way delay: 50.007 ms
Loss rate: 0.34%
```
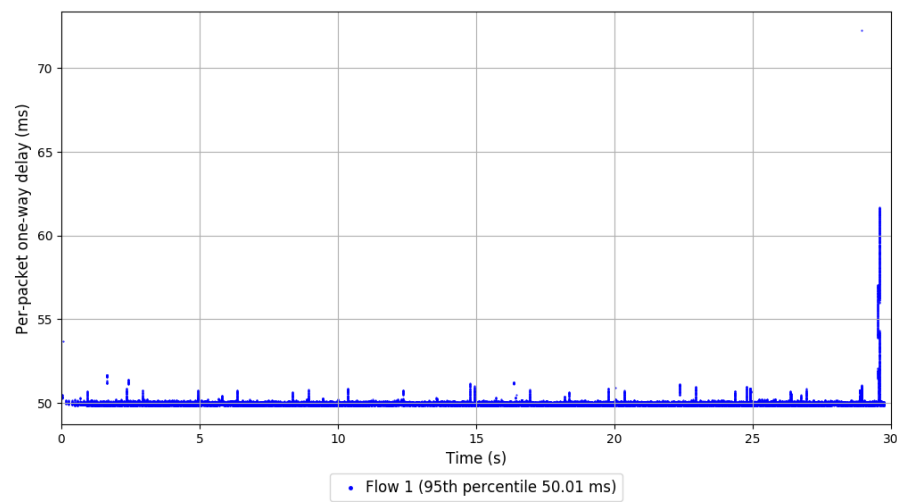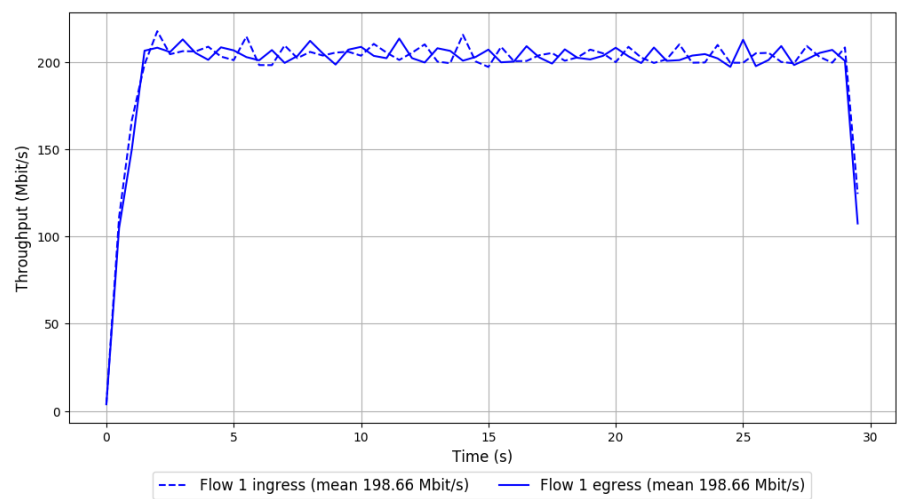
Run 4: Report of Indigo — Data Link

```
Run 5: Statistics of Indigo

Start at: 2017-10-10 23:32:45
End at: 2017-10-10 23:33:15

# Below is generated by plot.py at 2017-10-11 03:09:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 199.26 Mbit/s
95th percentile per-packet one-way delay: 49.966 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 199.26 Mbit/s
95th percentile per-packet one-way delay: 49.966 ms
Loss rate: 0.36%
```
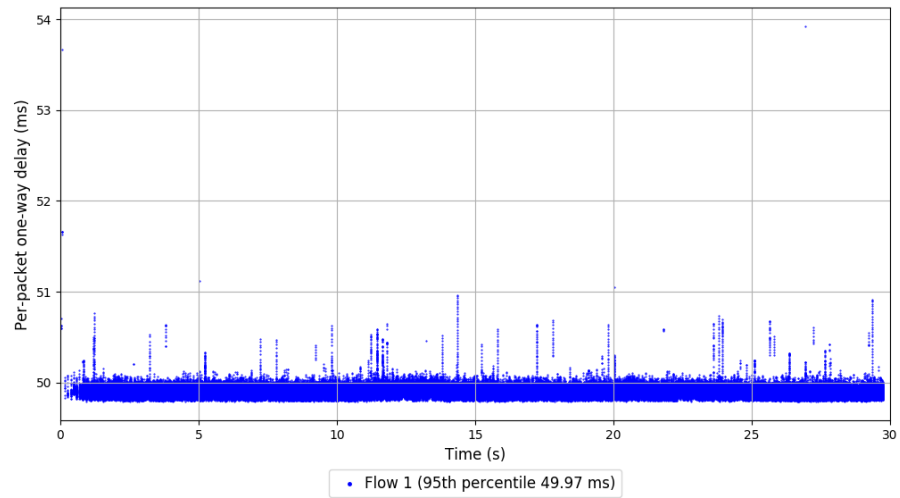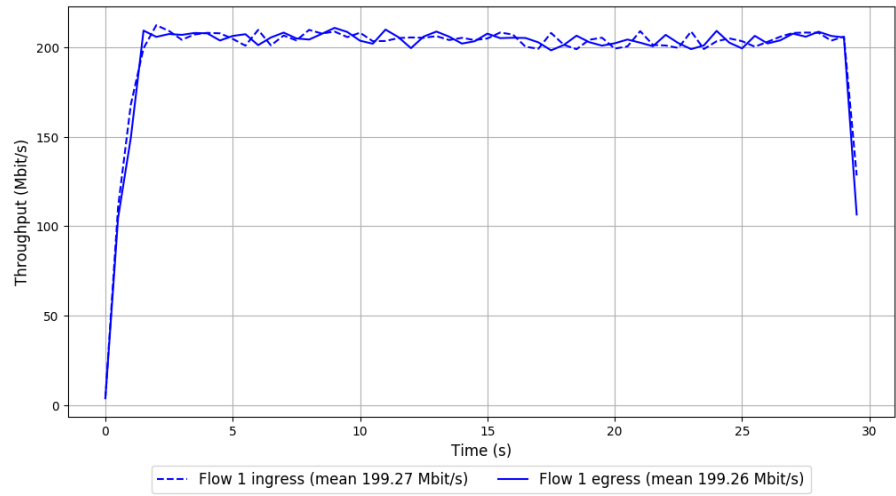
Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2017-10-10 23:43:15
End at: 2017-10-10 23:43:45

# Below is generated by plot.py at 2017-10-11 03:09:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 196.18 Mbit/s
95th percentile per-packet one-way delay: 49.963 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 196.18 Mbit/s
95th percentile per-packet one-way delay: 49.963 ms
Loss rate: 0.33%
```
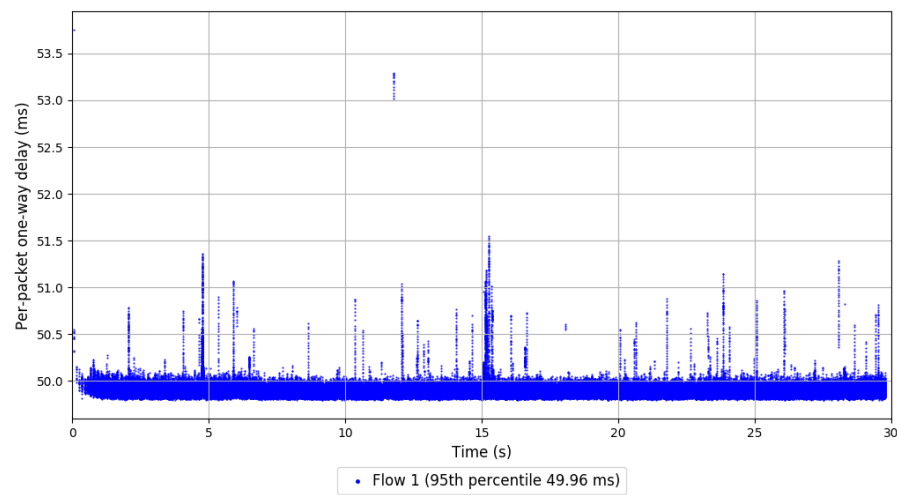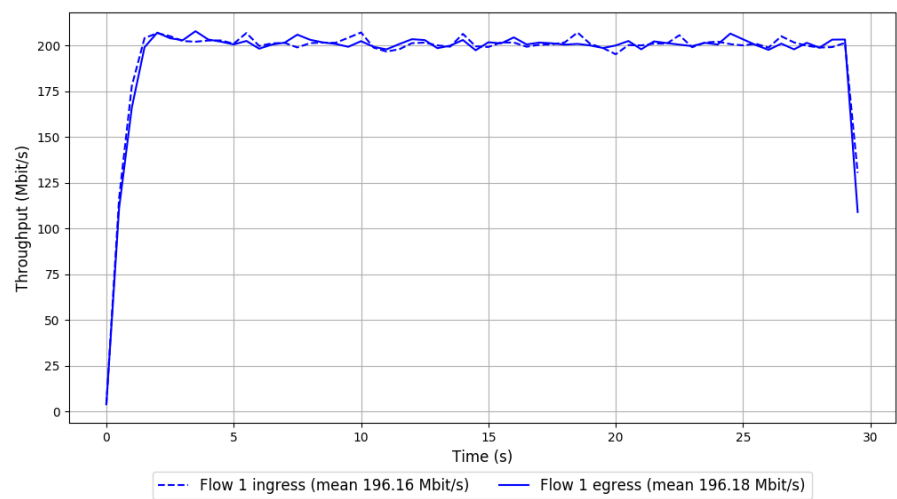
Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2017-10-10 23:53:57
End at: 2017-10-10 23:54:27


# Below is generated by plot.py at 2017-10-11 03:09:52
# Datalink statistics
-- Total of 1 flow:
Average throughput: 197.82 Mbit/s
95th percentile per-packet one-way delay: 49.944 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 197.82 Mbit/s
95th percentile per-packet one-way delay: 49.944 ms
Loss rate: 0.34%
```

Run 7: Report of Indigo — Data Link

Flow 1 ingress (mean 197.83 Mbit/s)   Flow 1 egress (mean 197.82 Mbit/s)

Flow 1 (95th percentile 49.94 ms)

Run 8: Statistics of Indigo

Start at: 2017-10-11 00:04:30
End at: 2017-10-11 00:05:00

Below is generated by plot.py at 2017-10-11 03:10:09
Datalink statistics
-- Total of 1 flow:
Average throughput: 195.73 Mbit/s
95th percentile per-packet one-way delay: 49.943 ms
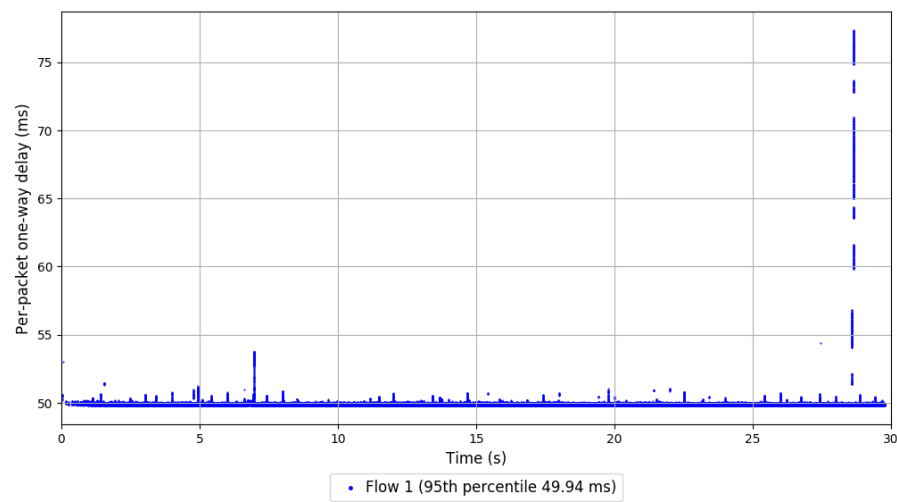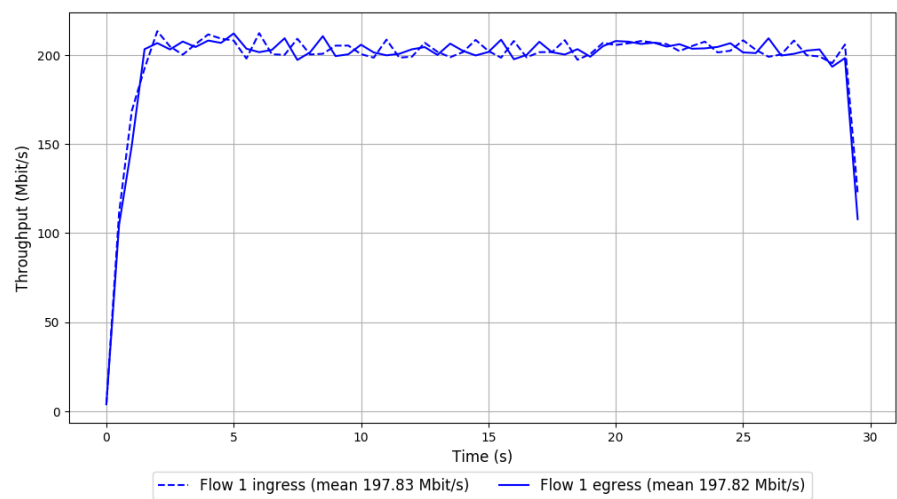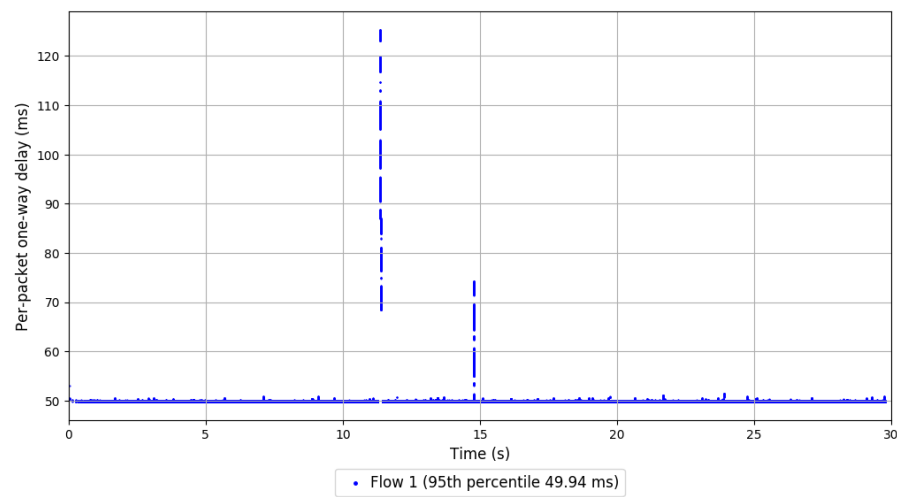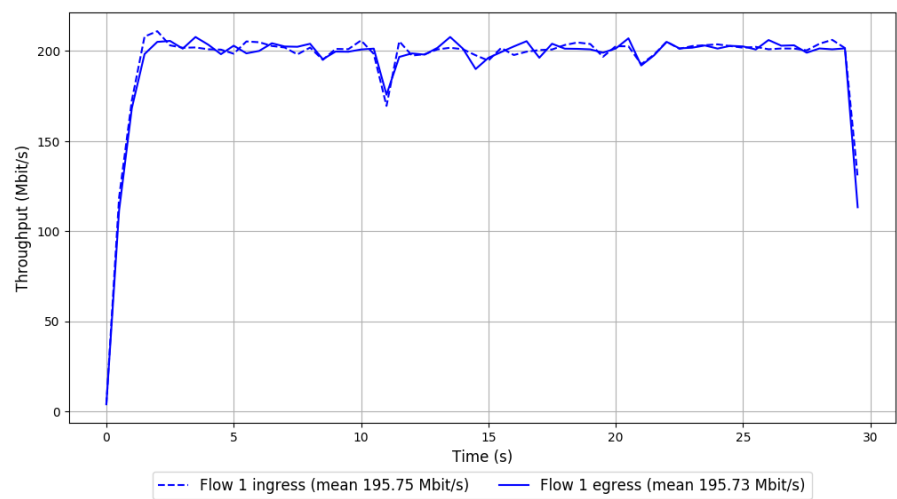Loss rate: 0.35%
-- Flow 1:
Average throughput: 195.73 Mbit/s
95th percentile per-packet one-way delay: 49.943 ms
Loss rate: 0.35%

Run 8: Report of Indigo — Data Link

```
Run 9: Statistics of Indigo

Start at: 2017-10-11 00:14:58
End at: 2017-10-11 00:15:28

# Below is generated by plot.py at 2017-10-11 03:10:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 198.47 Mbit/s
95th percentile per-packet one-way delay: 49.925 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 198.47 Mbit/s
95th percentile per-packet one-way delay: 49.925 ms
Loss rate: 0.34%
```
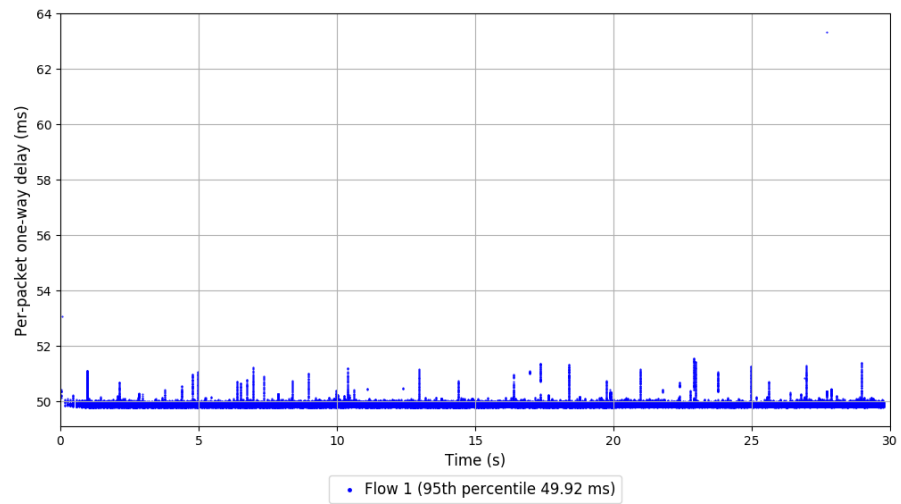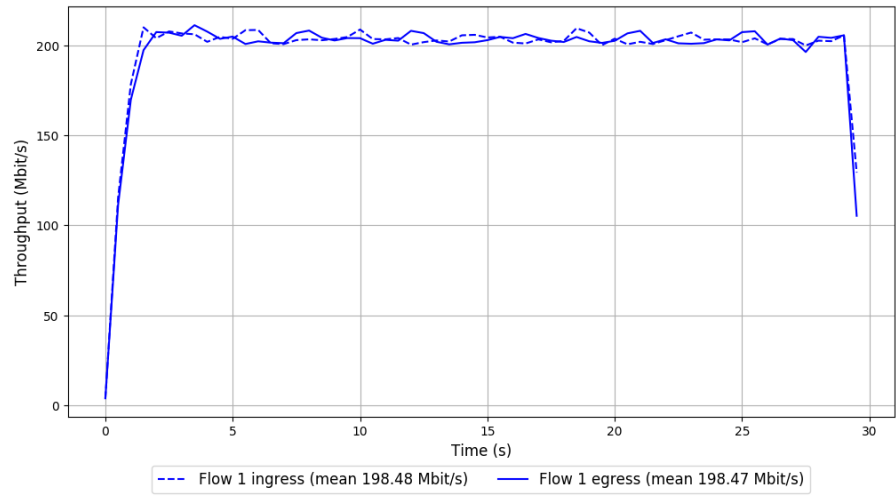
Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2017-10-11 00:25:21
End at: 2017-10-11 00:25:51

# Below is generated by plot.py at 2017-10-11 03:10:13
# Datalink statistics
-- Total of 1 flow:
Average throughput: 200.01 Mbit/s
95th percentile per-packet one-way delay: 49.935 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 200.01 Mbit/s
95th percentile per-packet one-way delay: 49.935 ms
Loss rate: 0.35%
```

Run 10: Report of Indigo — Data Link

Flow 1 ingress (mean 200.03 Mbit/s)   Flow 1 egress (mean 200.01 Mbit/s)

Flow 1 (95th percentile 49.94 ms)