Pantheon Report

Generated at 2017-11-21 02:37:43 (UTC).

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

Repeated the test of 14 congestion control schemes 10 times.
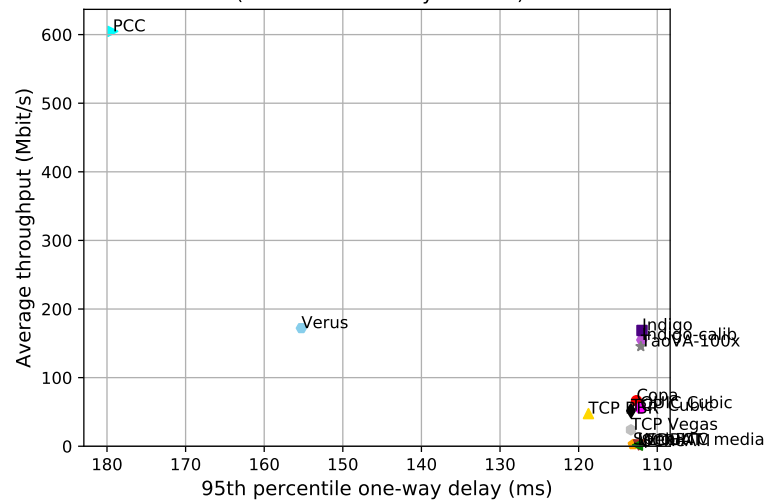
Each test lasted for 30 seconds running 1 flow.

Increased UDP receive buffer to 16 MB (default) and 32 MB (max).

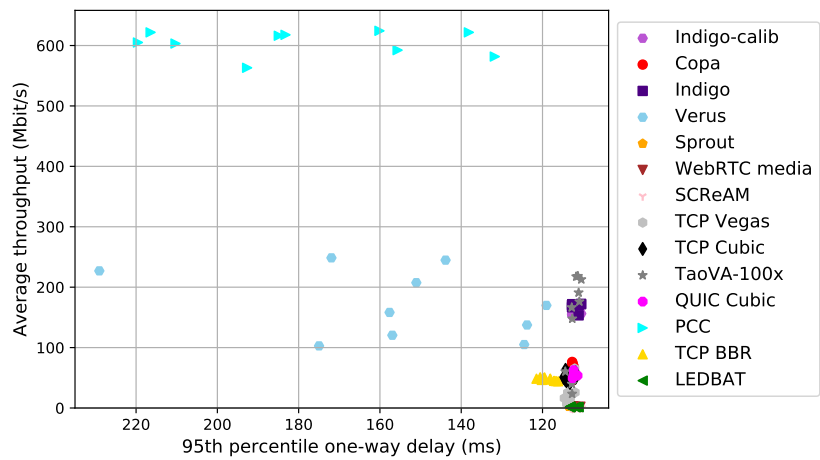Tested BBR with qdisc of Fair Queuing (`fq`), and other schemes with the default Linux qdisc (`pfifo_fast`).

```
Git summary:
branch: indigos @ e3a57ad5ac5cfcaca0e3f983c8dd4cc3509e0262
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
 M datagrump/sender.cc
third_party/genericCC @ b5b7c38e8391001927dc41c6cfa2627d03dde737
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 London Ethernet to GCE Tokyo Ethernet, 10 runs of 30s each per scheme
(mean of all runs by scheme)

test from GCE London Ethernet to GCE Tokyo Ethernet, 10 runs of 30s each per scheme

scheme	# runs	mean avg tput (Mbit/s) flow 1	mean 95th-%ile delay (ms) flow 1	mean loss rate (%) flow 1
TCP BBR	10	47.58	118.75	0.02
TCP Cubic	10	51.67	113.34	0.01
LEDBAT	10	1.57	112.52	0.47
PCC	10	604.74	179.26	0.98
QUIC Cubic	4	55.47	112.16	0.00
SCReAM	10	0.21	111.98	0.01
WebRTC media	10	1.94	112.36	0.00
Sprout	10	2.61	113.07	0.41
TaoVA-100x	10	145.41	112.09	0.00
TCP Vegas	10	23.94	113.35	0.03
Verus	10	172.15	155.28	0.74
Copa	10	66.33	112.64	0.00
Indigo	10	168.74	111.94	0.01
Indigo-calib	10	154.93	111.97	0.00

```
Run 1: Statistics of TCP BBR

Start at: 2017-11-20 23:37:24
End at: 2017-11-20 23:37:54

# Below is generated by plot.py at 2017-11-21 02:01:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.62 Mbit/s
95th percentile per-packet one-way delay: 116.678 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 44.62 Mbit/s
95th percentile per-packet one-way delay: 116.678 ms
Loss rate: 0.03%
```
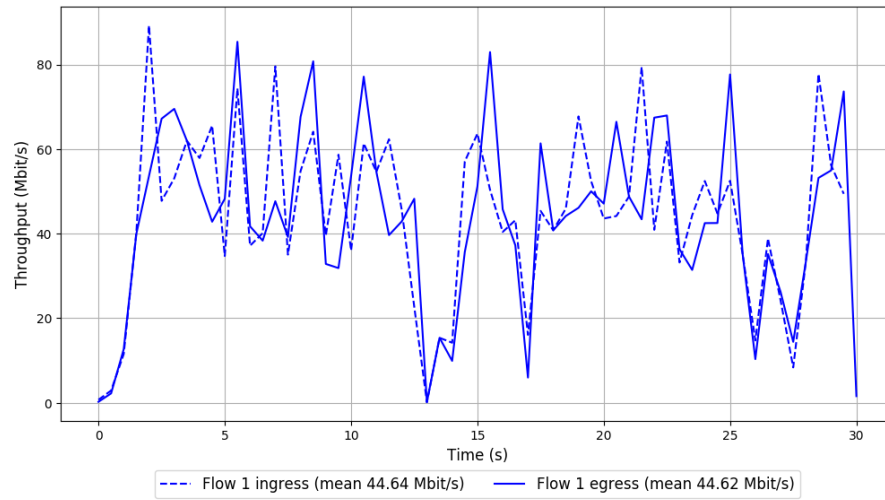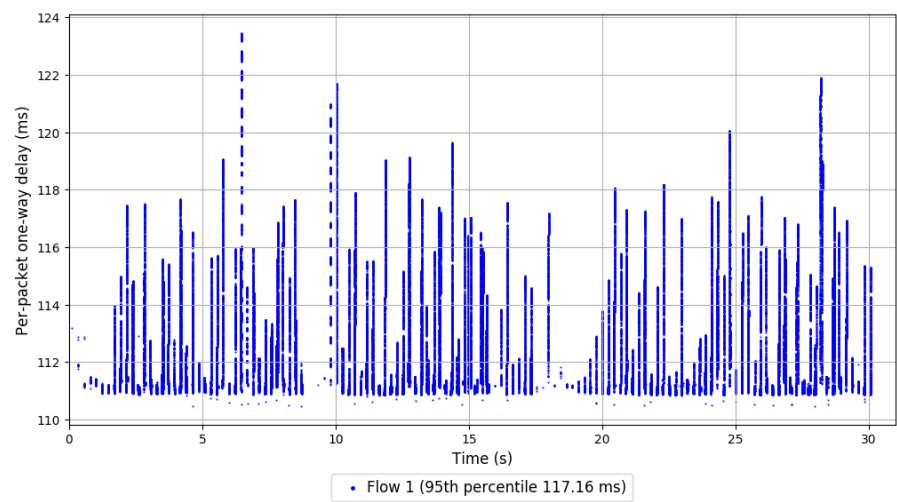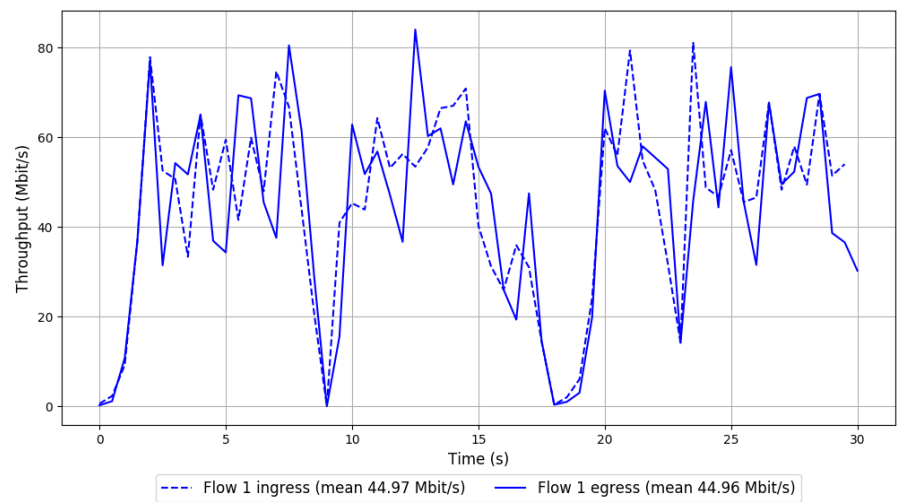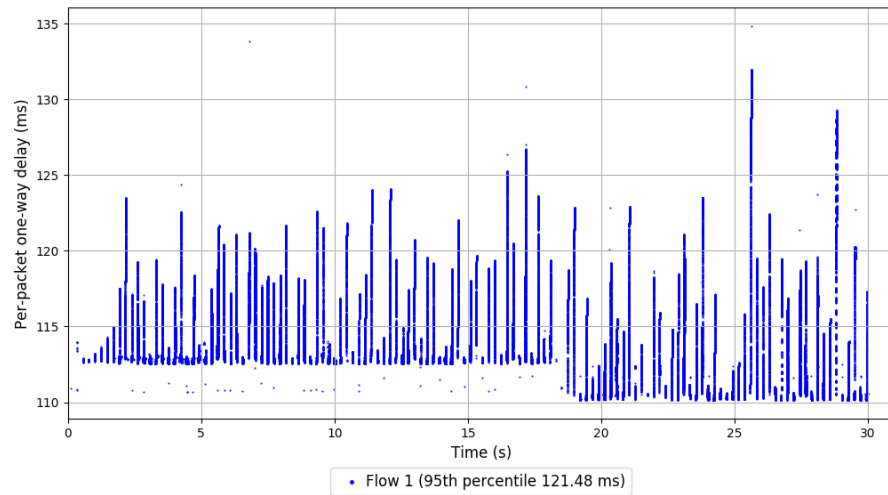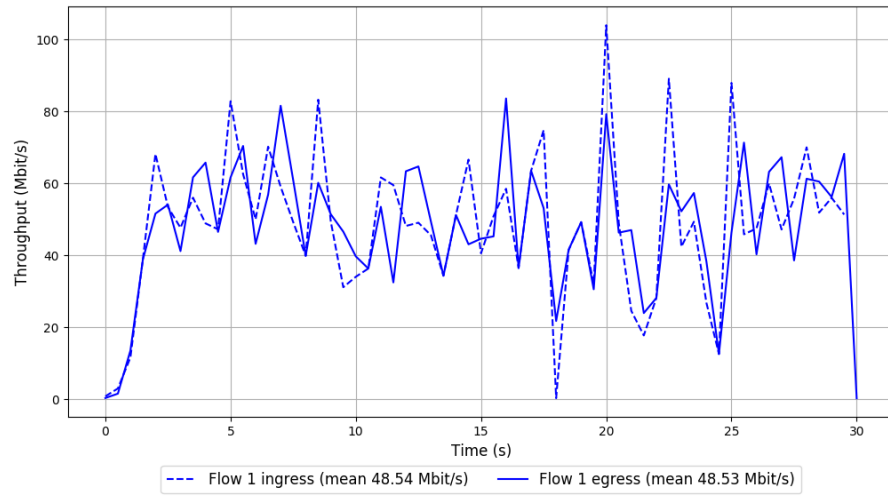
Run 1: Report of TCP BBR — Data Link

```
Run 2: Statistics of TCP BBR

Start at: 2017-11-20 23:48:35
End at: 2017-11-20 23:49:05

# Below is generated by plot.py at 2017-11-21 02:01:23
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.96 Mbit/s
95th percentile per-packet one-way delay: 117.163 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 44.96 Mbit/s
95th percentile per-packet one-way delay: 117.163 ms
Loss rate: 0.01%
```
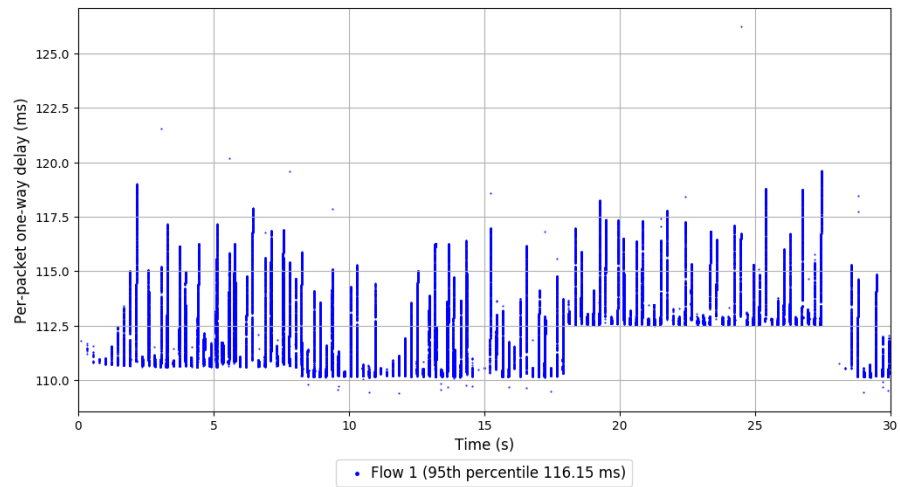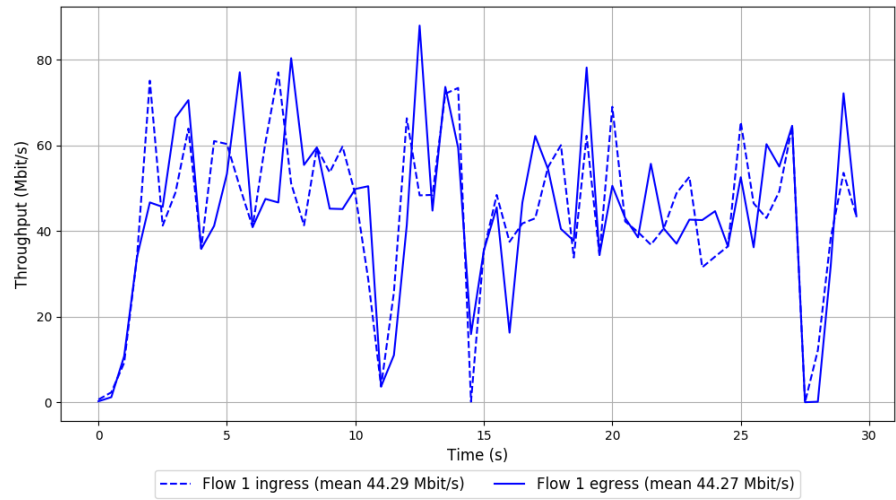
Run 2: Report of TCP BBR — Data Link

Flow 1 ingress (mean 44.97 Mbit/s) ----   Flow 1 egress (mean 44.96 Mbit/s) ——

Flow 1 (95th percentile 117.16 ms)

```
Run 3: Statistics of TCP BBR

Start at: 2017-11-20 23:59:51
End at: 2017-11-21 00:00:21

# Below is generated by plot.py at 2017-11-21 02:01:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.53 Mbit/s
95th percentile per-packet one-way delay: 121.483 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 48.53 Mbit/s
95th percentile per-packet one-way delay: 121.483 ms
Loss rate: 0.03%
```
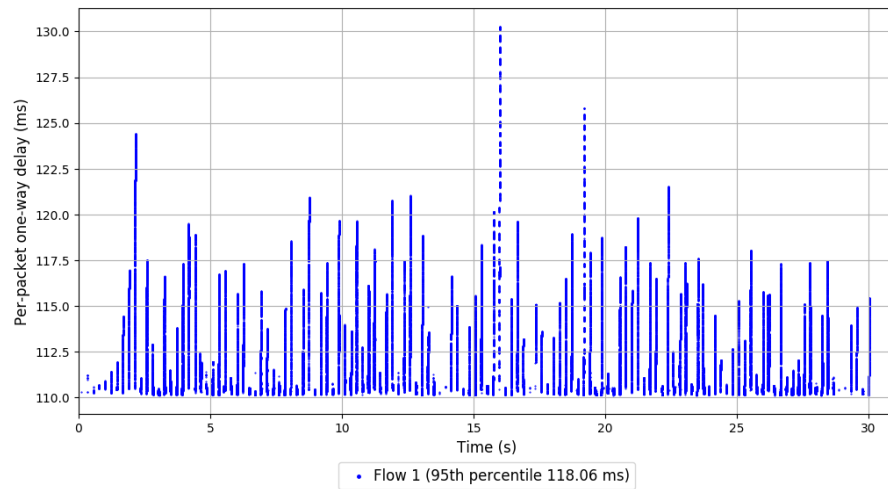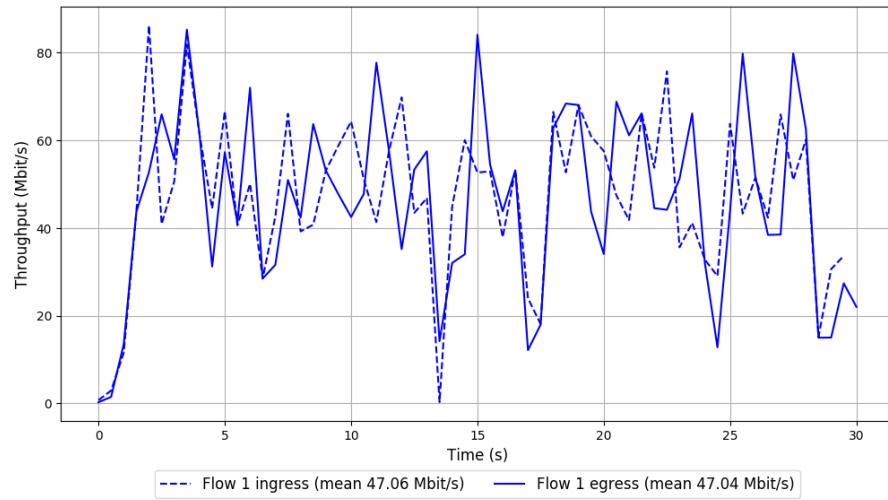
Run 3: Report of TCP BBR — Data Link

Flow 1 ingress (mean 48.54 Mbit/s) — Flow 1 egress (mean 48.53 Mbit/s)

Flow 1 (95th percentile 121.48 ms)

9

```
Run 4: Statistics of TCP BBR

Start at: 2017-11-21 00:11:12
End at: 2017-11-21 00:11:42

# Below is generated by plot.py at 2017-11-21 02:01:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.27 Mbit/s
95th percentile per-packet one-way delay: 116.146 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 44.27 Mbit/s
95th percentile per-packet one-way delay: 116.146 ms
Loss rate: 0.04%
```
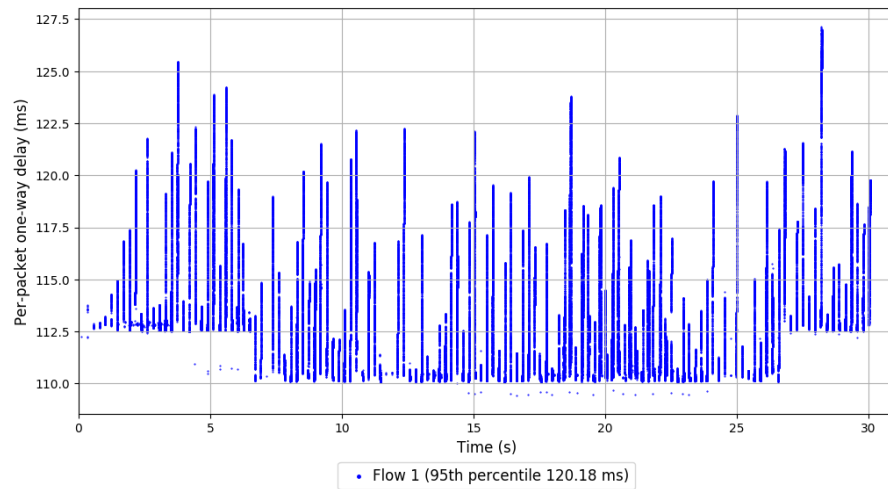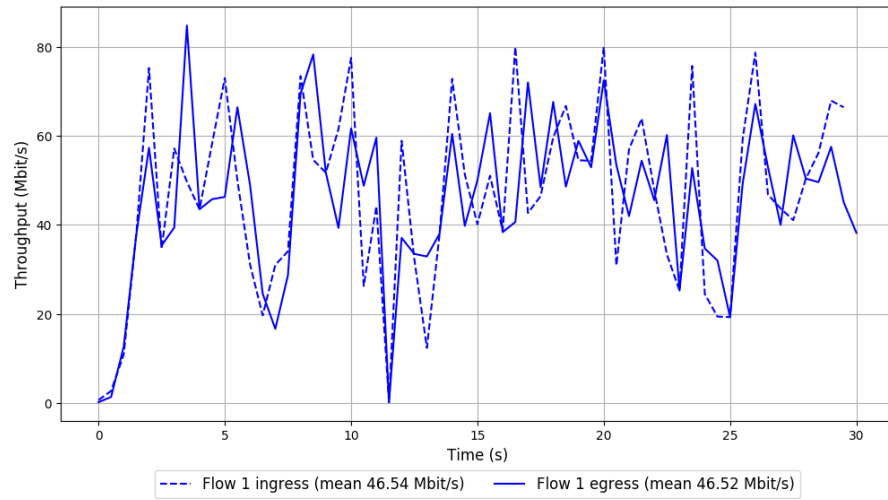
Run 4: Report of TCP BBR — Data Link

Flow 1 ingress (mean 44.29 Mbit/s)   Flow 1 egress (mean 44.27 Mbit/s)

Flow 1 (95th percentile 116.15 ms)

```
Run 5: Statistics of TCP BBR

Start at: 2017-11-21 00:22:14
End at: 2017-11-21 00:22:44

# Below is generated by plot.py at 2017-11-21 02:01:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 47.04 Mbit/s
95th percentile per-packet one-way delay: 118.062 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 47.04 Mbit/s
95th percentile per-packet one-way delay: 118.062 ms
Loss rate: 0.01%
```
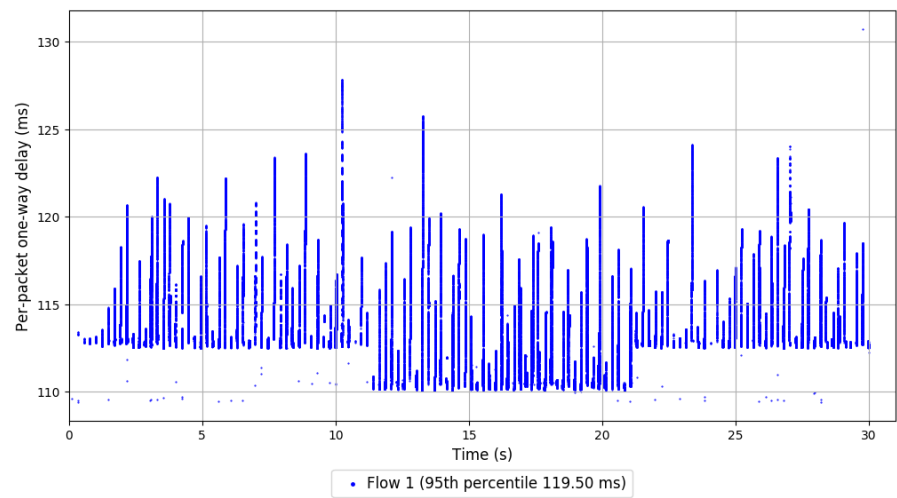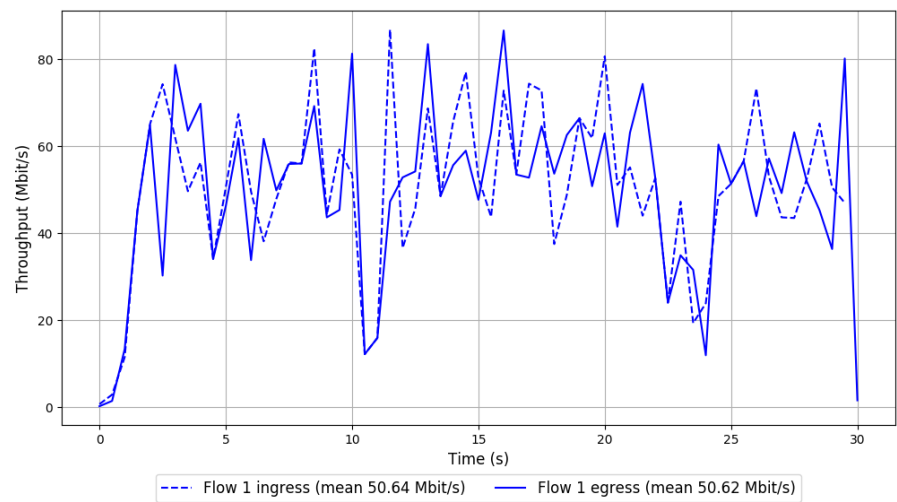
Run 5: Report of TCP BBR — Data Link

Flow 1 ingress (mean 47.06 Mbit/s) --- Flow 1 egress (mean 47.04 Mbit/s)

Flow 1 (95th percentile 118.06 ms)

```
Run 6: Statistics of TCP BBR

Start at: 2017-11-21 00:33:33
End at: 2017-11-21 00:34:03

# Below is generated by plot.py at 2017-11-21 02:01:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.52 Mbit/s
95th percentile per-packet one-way delay: 120.177 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 46.52 Mbit/s
95th percentile per-packet one-way delay: 120.177 ms
Loss rate: 0.02%
```
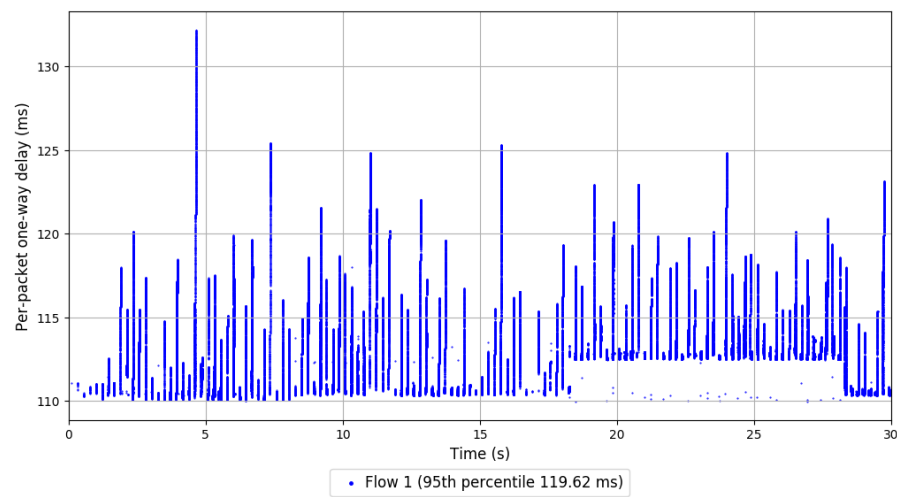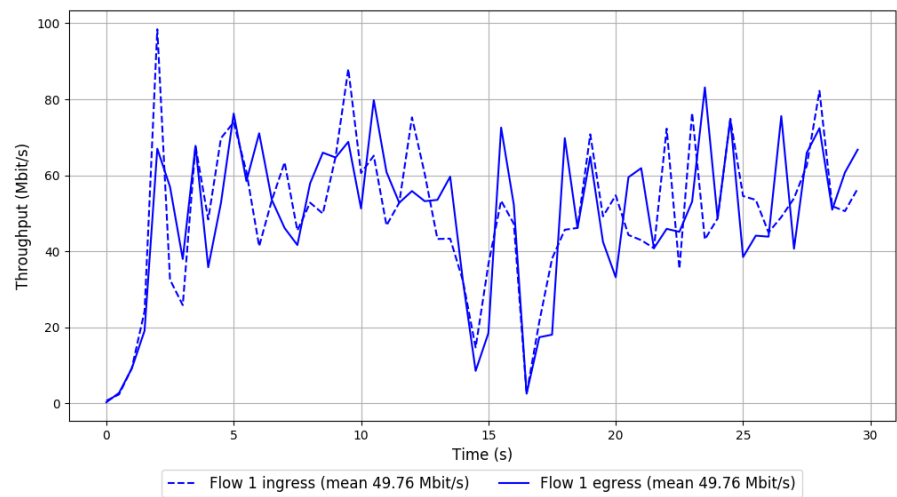
Run 6: Report of TCP BBR — Data Link

Flow 1 ingress (mean 46.54 Mbit/s)   Flow 1 egress (mean 46.52 Mbit/s)

Flow 1 (95th percentile 120.18 ms)

```
Run 7: Statistics of TCP BBR

Start at: 2017-11-21 00:44:38
End at: 2017-11-21 00:45:08

# Below is generated by plot.py at 2017-11-21 02:01:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.62 Mbit/s
95th percentile per-packet one-way delay: 119.499 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 50.62 Mbit/s
95th percentile per-packet one-way delay: 119.499 ms
Loss rate: 0.02%
```
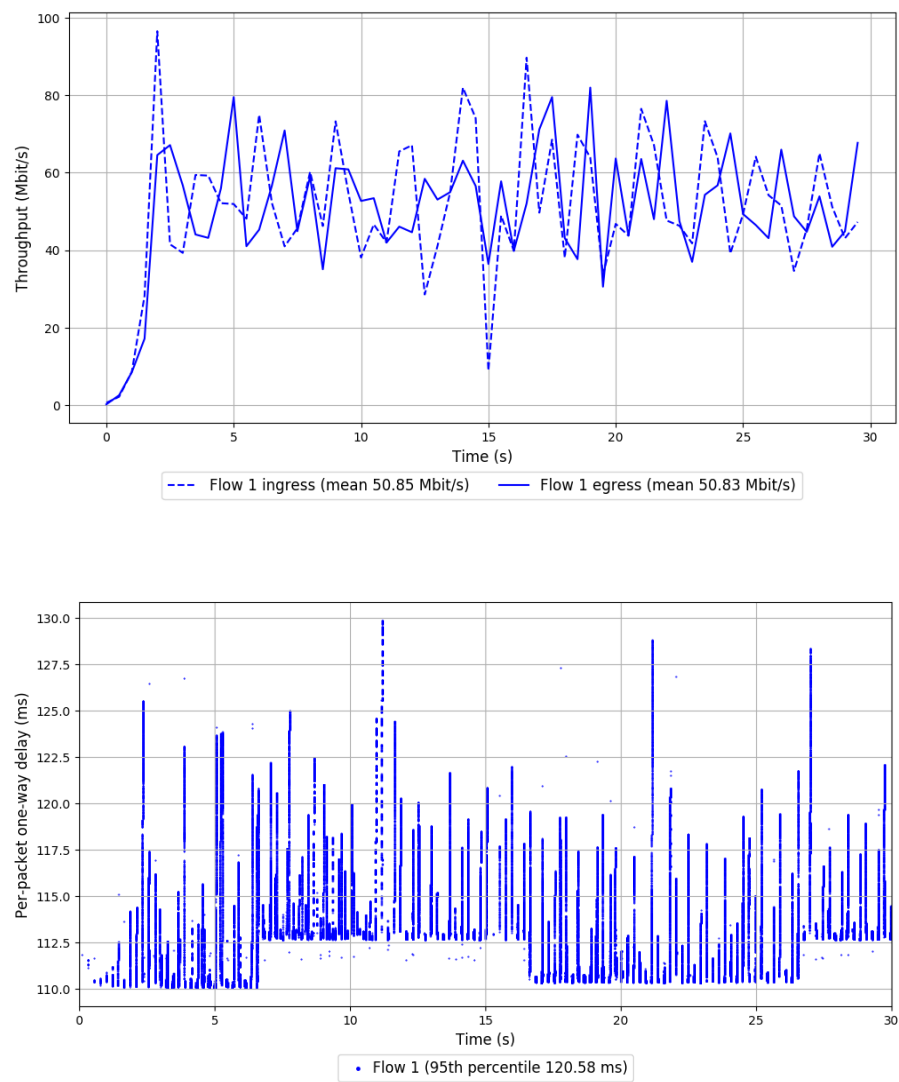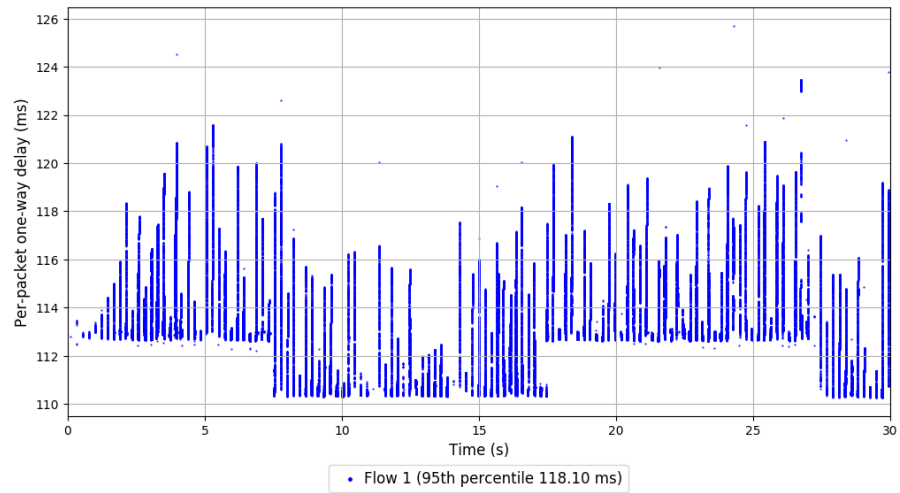
Run 7: Report of TCP BBR — Data Link

```
Run 8: Statistics of TCP BBR

Start at: 2017-11-21 00:55:41
End at: 2017-11-21 00:56:11

# Below is generated by plot.py at 2017-11-21 02:01:29
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.76 Mbit/s
95th percentile per-packet one-way delay: 119.623 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 49.76 Mbit/s
95th percentile per-packet one-way delay: 119.623 ms
Loss rate: 0.01%
```
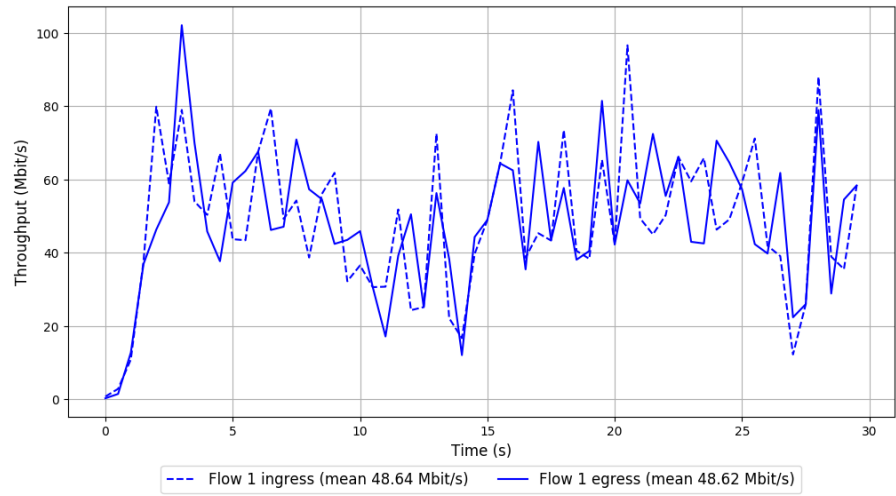
Run 8: Report of TCP BBR — Data Link

```
Run 9: Statistics of TCP BBR

Start at: 2017-11-21 01:06:53
End at: 2017-11-21 01:07:23

# Below is generated by plot.py at 2017-11-21 02:02:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.83 Mbit/s
95th percentile per-packet one-way delay: 120.576 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 50.83 Mbit/s
95th percentile per-packet one-way delay: 120.576 ms
Loss rate: 0.03%
```
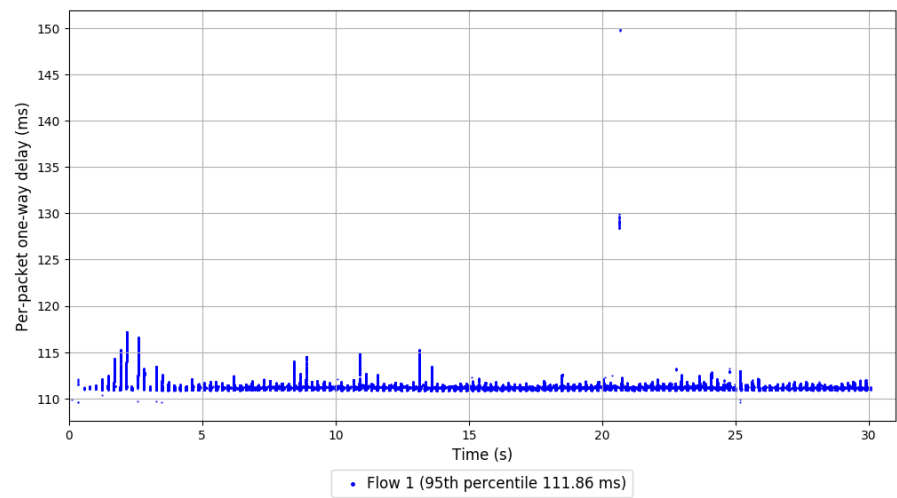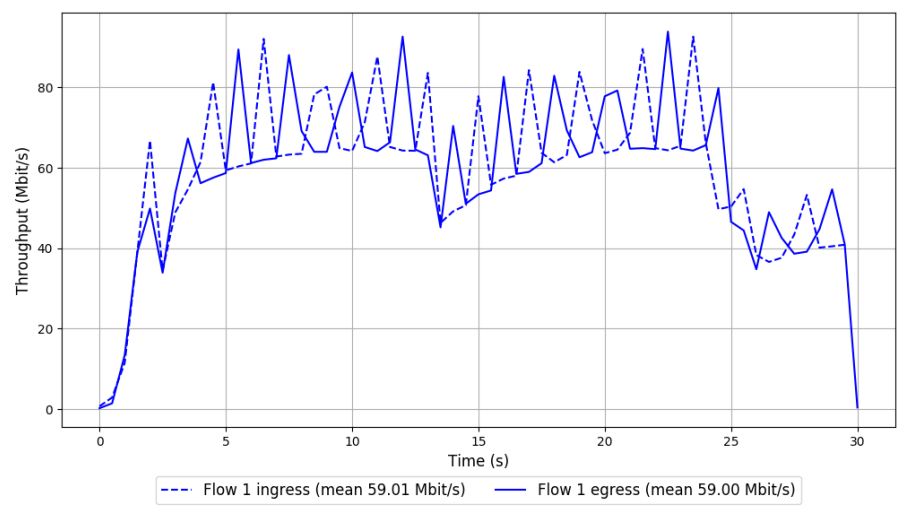
Run 9: Report of TCP BBR — Data Link

Flow 1 ingress (mean 50.85 Mbit/s)   Flow 1 egress (mean 50.83 Mbit/s)

Flow 1 (95th percentile 120.58 ms)

```
Run 10: Statistics of TCP BBR

Start at: 2017-11-21 01:17:52
End at: 2017-11-21 01:18:22

# Below is generated by plot.py at 2017-11-21 02:02:21
# Datalink statistics
-- Total of 1 flow:
Average throughput: 48.62 Mbit/s
95th percentile per-packet one-way delay: 118.096 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 48.62 Mbit/s
95th percentile per-packet one-way delay: 118.096 ms
Loss rate: 0.02%
```
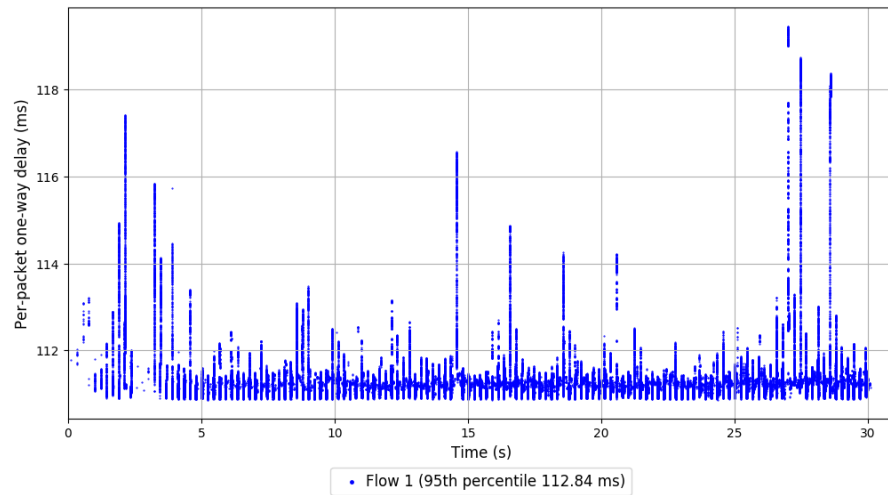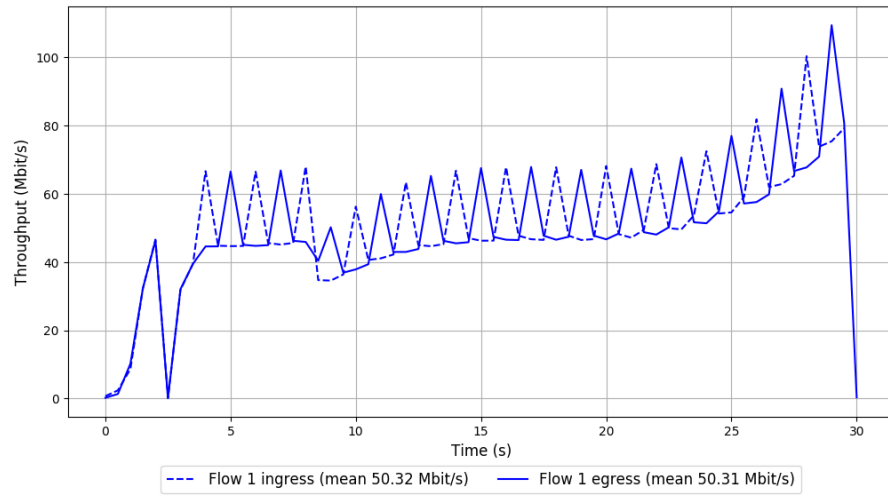
Run 10: Report of TCP BBR — Data Link

```
Run 1: Statistics of TCP Cubic

Start at: 2017-11-20 23:34:50
End at: 2017-11-20 23:35:20

# Below is generated by plot.py at 2017-11-21 02:02:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 59.00 Mbit/s
95th percentile per-packet one-way delay: 111.862 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 59.00 Mbit/s
95th percentile per-packet one-way delay: 111.862 ms
Loss rate: 0.01%
```
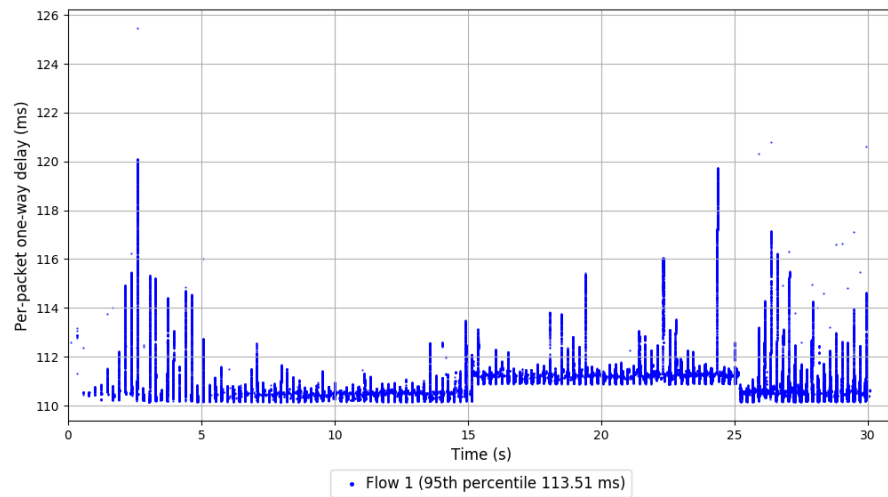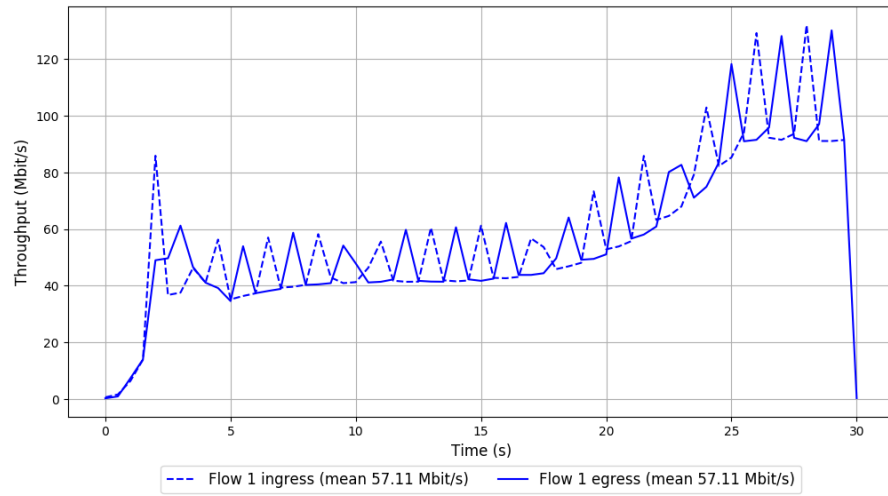
Run 1: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 59.01 Mbit/s) ----- Flow 1 egress (mean 59.00 Mbit/s) ——

• Flow 1 (95th percentile 111.86 ms)

```
Run 2: Statistics of TCP Cubic

Start at: 2017-11-20 23:46:12
End at: 2017-11-20 23:46:42

# Below is generated by plot.py at 2017-11-21 02:02:31
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.31 Mbit/s
95th percentile per-packet one-way delay: 112.841 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 50.31 Mbit/s
95th percentile per-packet one-way delay: 112.841 ms
Loss rate: 0.01%
```
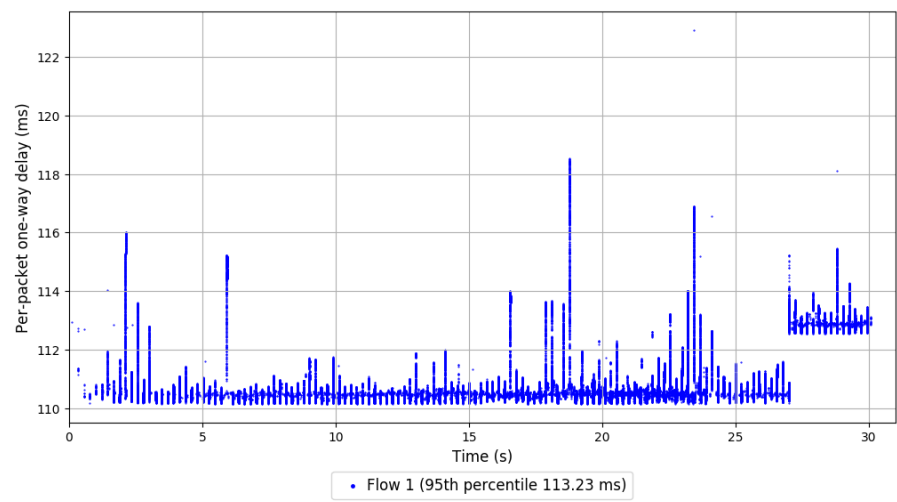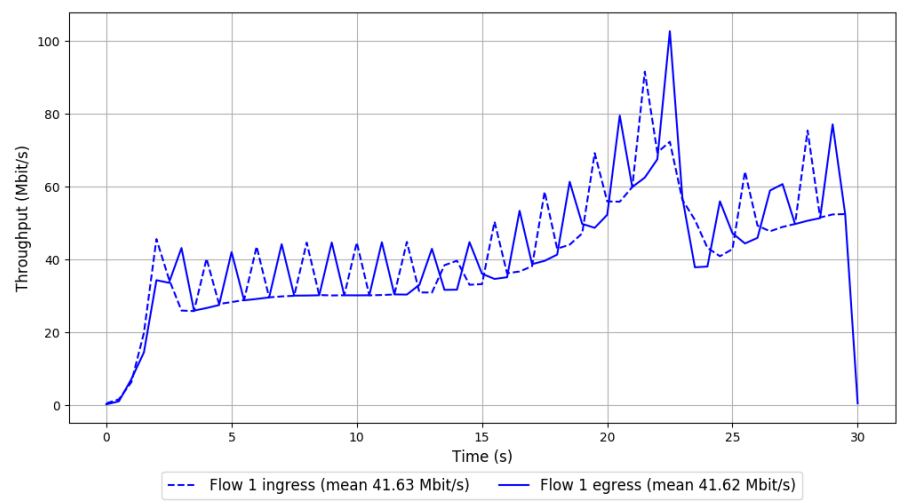
Run 2: Report of TCP Cubic — Data Link

```
Run 3: Statistics of TCP Cubic

Start at: 2017-11-20 23:57:24
End at: 2017-11-20 23:57:55

# Below is generated by plot.py at 2017-11-21 02:02:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 57.11 Mbit/s
95th percentile per-packet one-way delay: 113.509 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 57.11 Mbit/s
95th percentile per-packet one-way delay: 113.509 ms
Loss rate: 0.00%
```
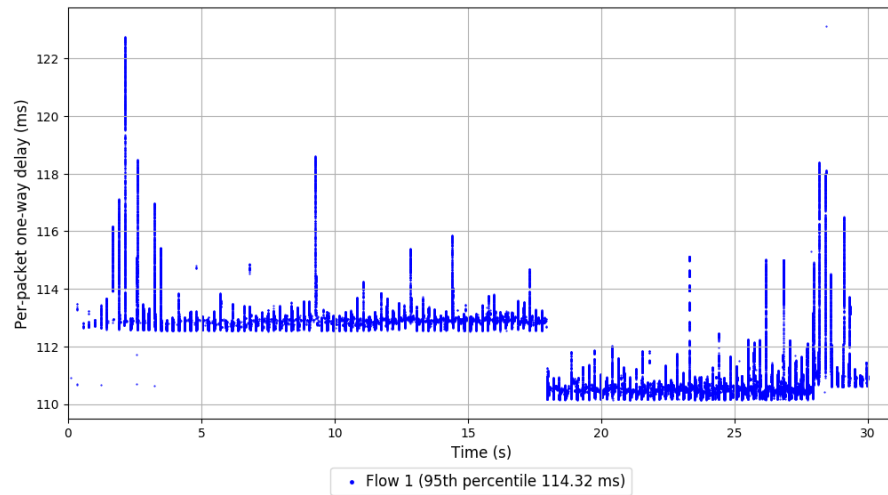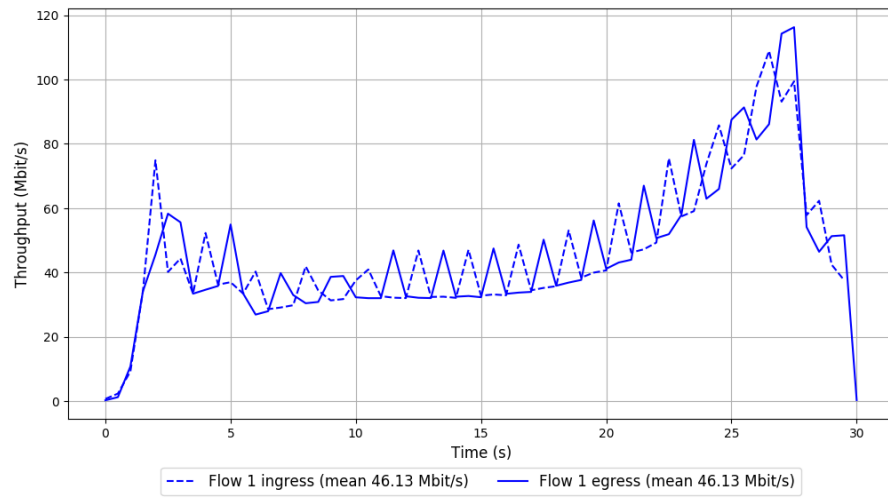
Run 3: Report of TCP Cubic — Data Link

```
Run 4: Statistics of TCP Cubic

Start at: 2017-11-21 00:08:43
End at: 2017-11-21 00:09:13

# Below is generated by plot.py at 2017-11-21 02:02:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 41.62 Mbit/s
95th percentile per-packet one-way delay: 113.229 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 41.62 Mbit/s
95th percentile per-packet one-way delay: 113.229 ms
Loss rate: 0.02%
```
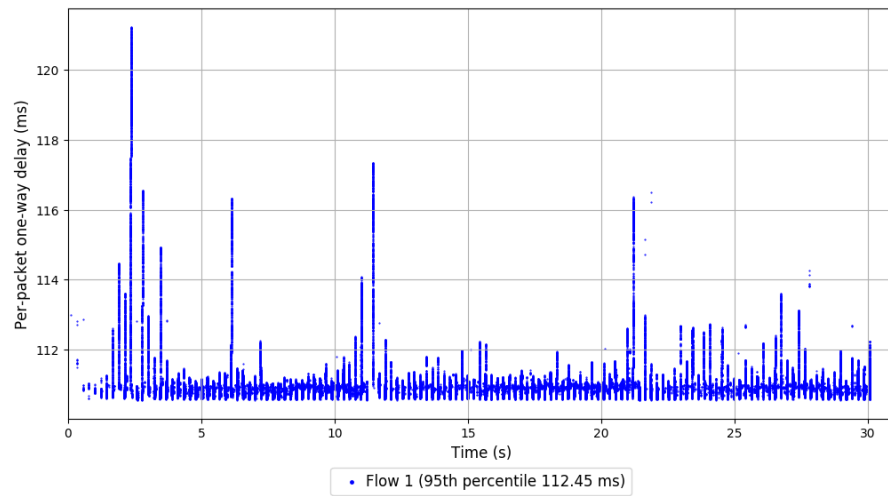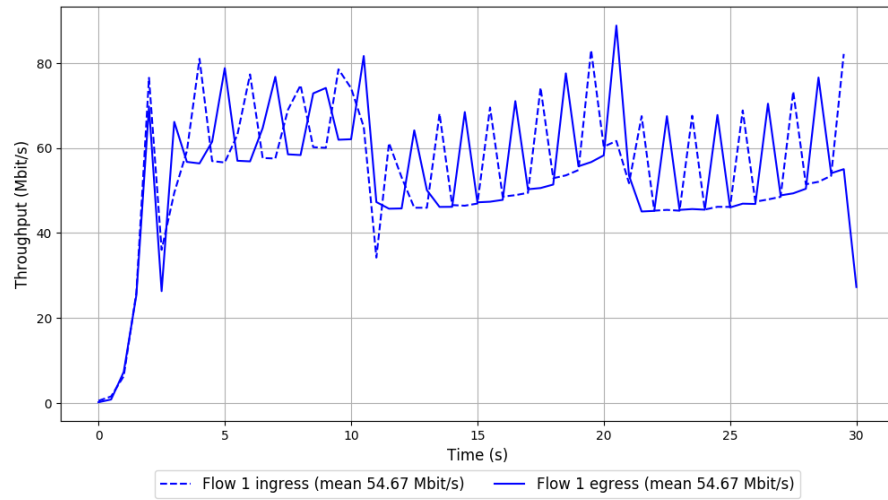
Run 4: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 41.63 Mbit/s) ---- Flow 1 egress (mean 41.62 Mbit/s) ——

• Flow 1 (95th percentile 113.23 ms)

```
Run 5: Statistics of TCP Cubic

Start at: 2017-11-21 00:19:52
End at: 2017-11-21 00:20:22

# Below is generated by plot.py at 2017-11-21 02:02:32
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.13 Mbit/s
95th percentile per-packet one-way delay: 114.324 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.13 Mbit/s
95th percentile per-packet one-way delay: 114.324 ms
Loss rate: 0.00%
```
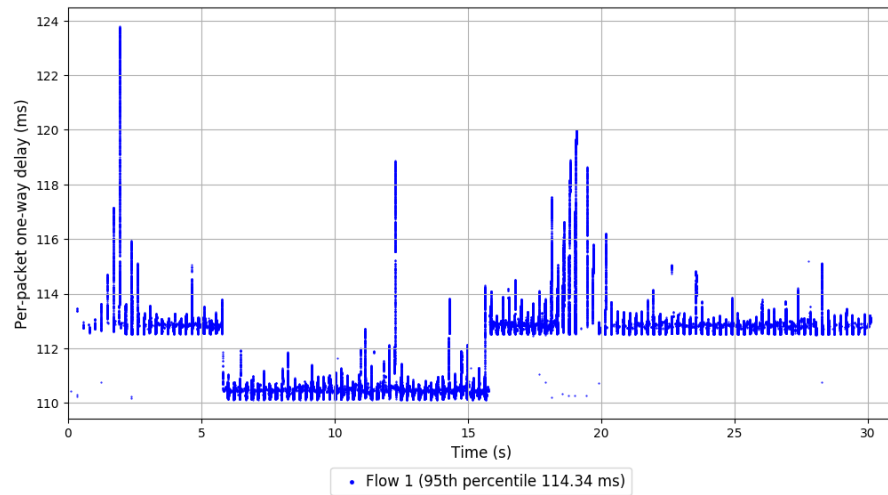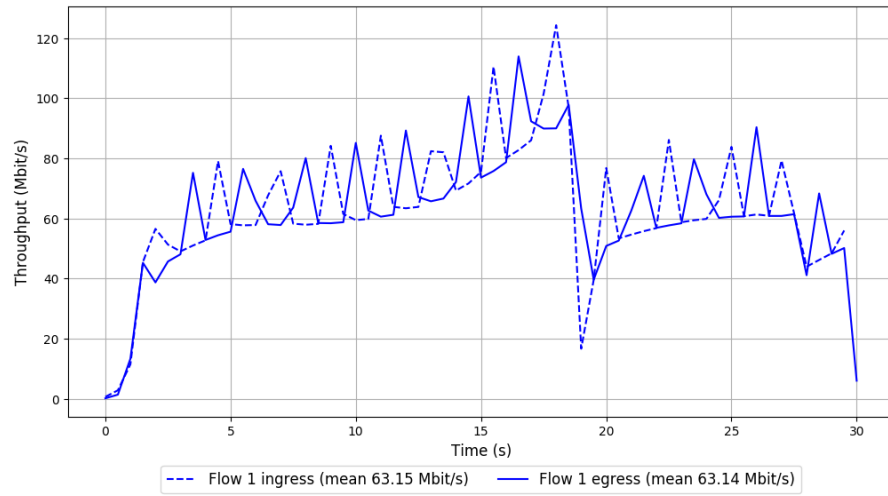
Run 5: Report of TCP Cubic — Data Link

```
Run 6: Statistics of TCP Cubic

Start at: 2017-11-21 00:31:03
End at: 2017-11-21 00:31:33


# Below is generated by plot.py at 2017-11-21 02:02:38
# Datalink statistics
-- Total of 1 flow:
Average throughput: 54.67 Mbit/s
95th percentile per-packet one-way delay: 112.452 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 54.67 Mbit/s
95th percentile per-packet one-way delay: 112.452 ms
Loss rate: 0.01%
```
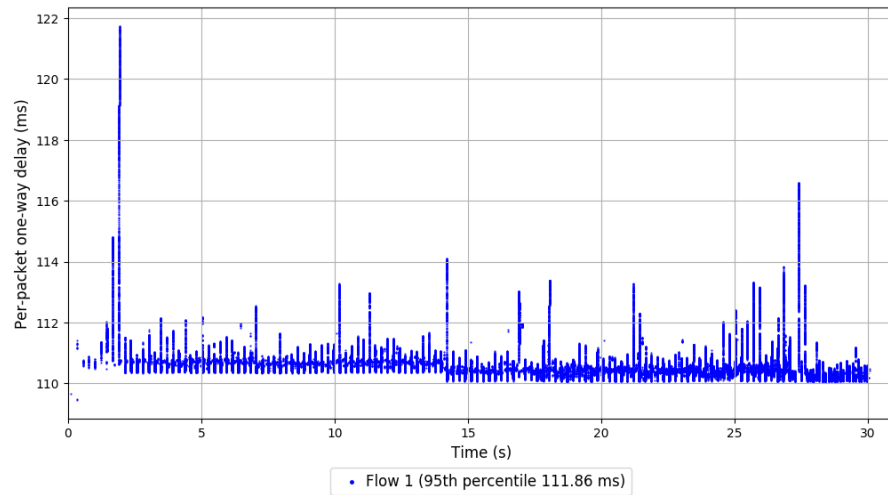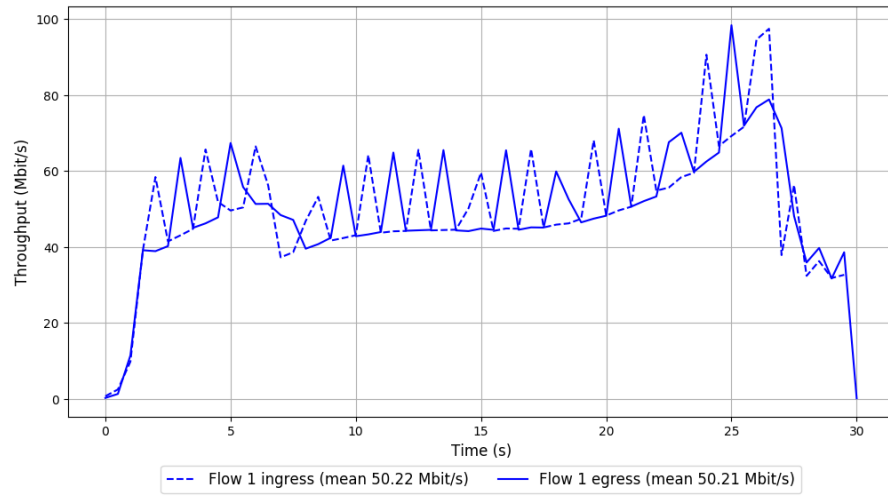
Run 6: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 54.67 Mbit/s)   Flow 1 egress (mean 54.67 Mbit/s)

• Flow 1 (95th percentile 112.45 ms)

```
Run 7: Statistics of TCP Cubic

Start at: 2017-11-21 00:42:04
End at: 2017-11-21 00:42:34

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 63.14 Mbit/s
95th percentile per-packet one-way delay: 114.336 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 63.14 Mbit/s
95th percentile per-packet one-way delay: 114.336 ms
Loss rate: 0.01%
```
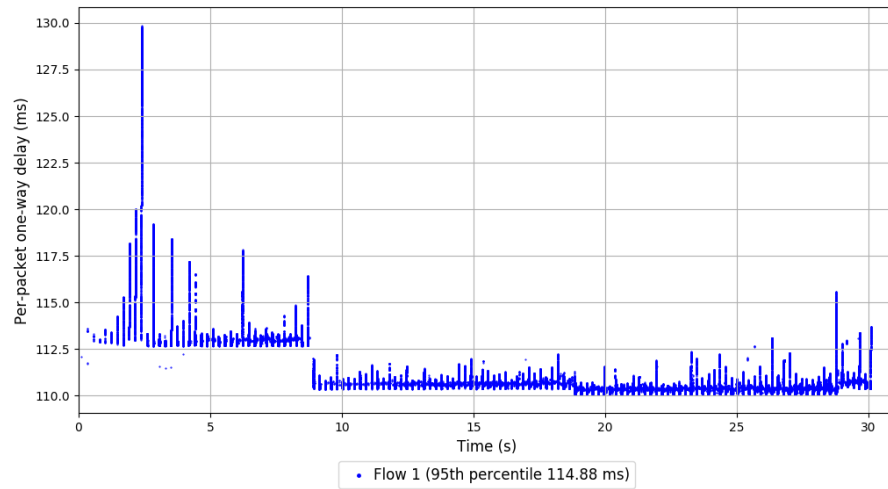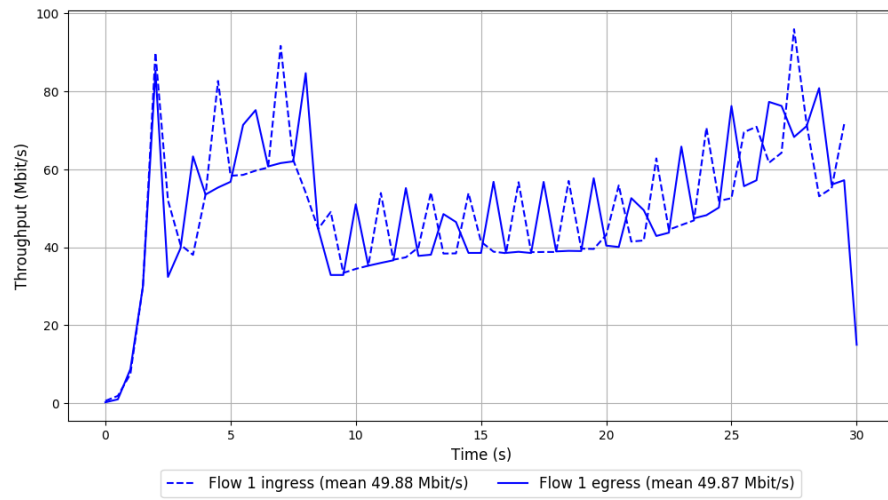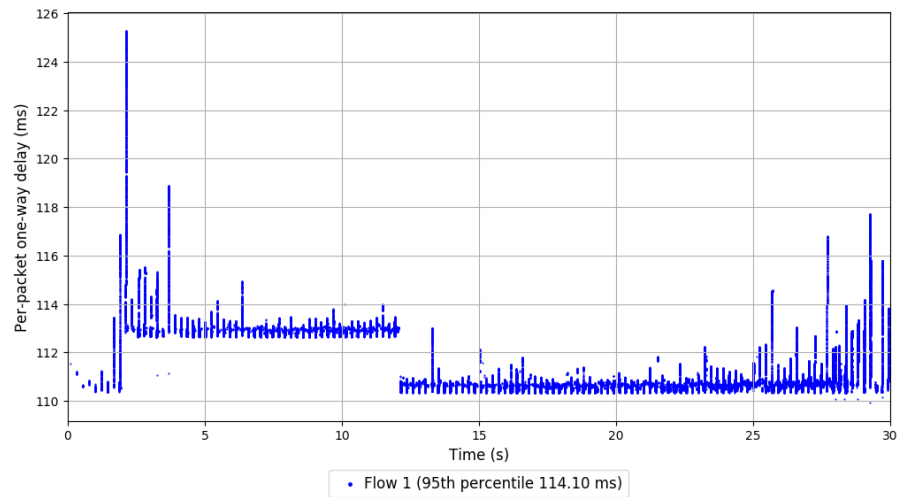
Run 7: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 63.15 Mbit/s)   Flow 1 egress (mean 63.14 Mbit/s)

· Flow 1 (95th percentile 114.34 ms)

37

```
Run 8: Statistics of TCP Cubic

Start at: 2017-11-21 00:53:16
End at: 2017-11-21 00:53:46

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 50.21 Mbit/s
95th percentile per-packet one-way delay: 111.865 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 50.21 Mbit/s
95th percentile per-packet one-way delay: 111.865 ms
Loss rate: 0.02%
```
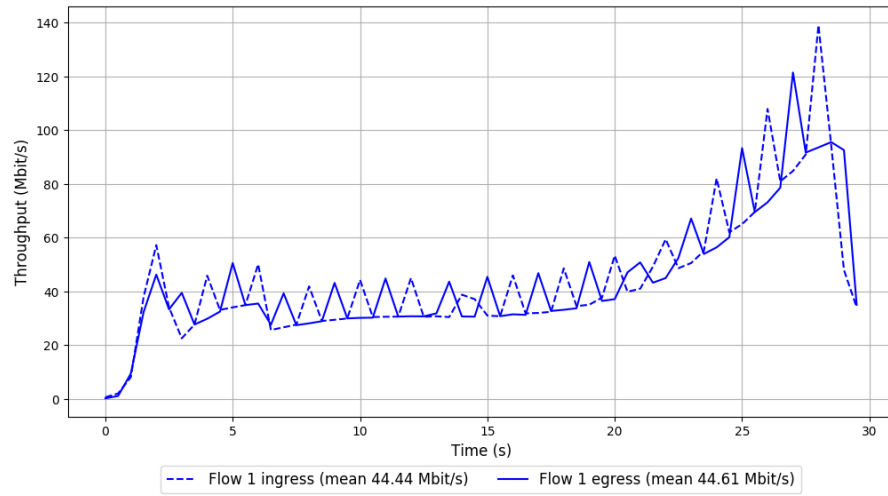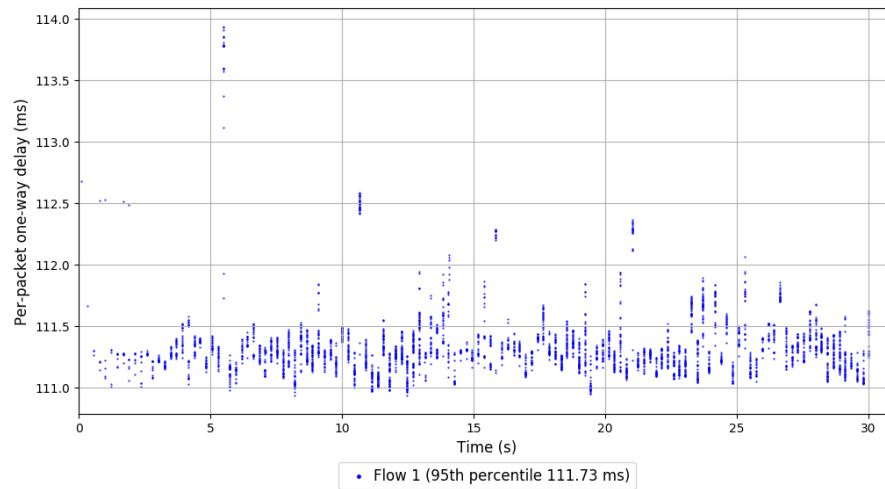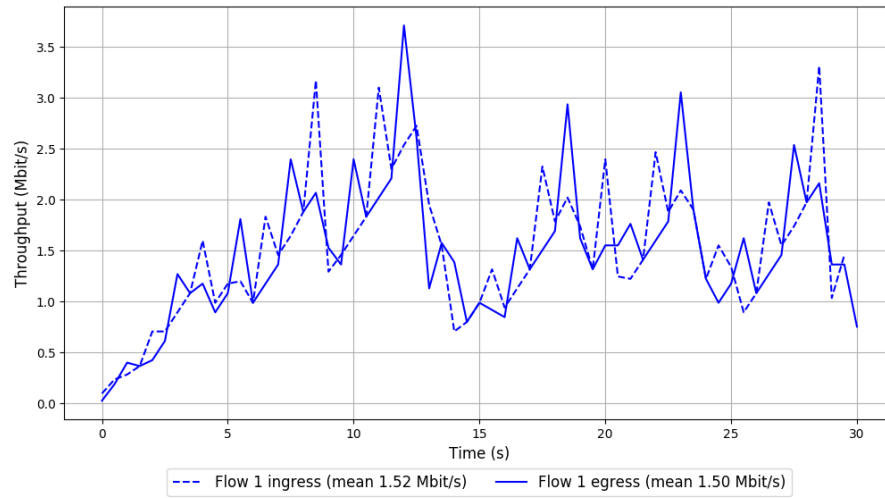
Run 8: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 50.22 Mbit/s)   Flow 1 egress (mean 50.21 Mbit/s)

Flow 1 (95th percentile 111.86 ms)

```
Run 9: Statistics of TCP Cubic

Start at: 2017-11-21 01:04:31
End at: 2017-11-21 01:05:01

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.87 Mbit/s
95th percentile per-packet one-way delay: 114.883 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 49.87 Mbit/s
95th percentile per-packet one-way delay: 114.883 ms
Loss rate: 0.01%
```
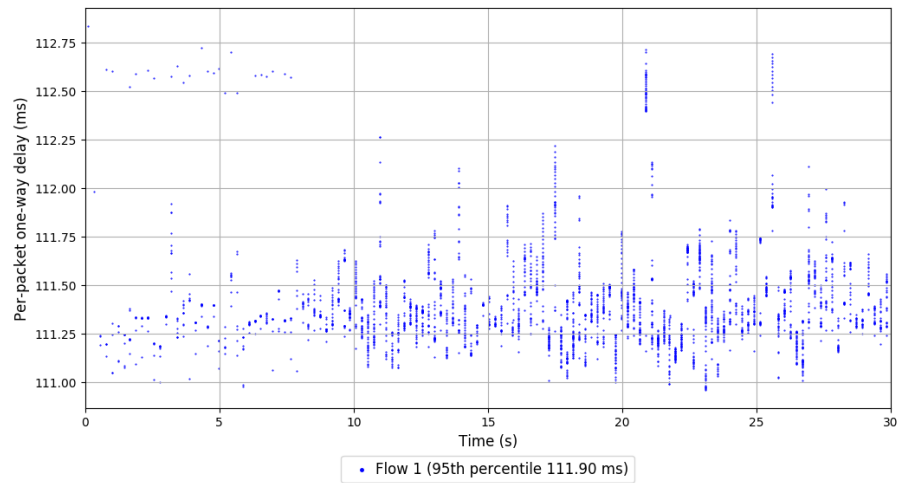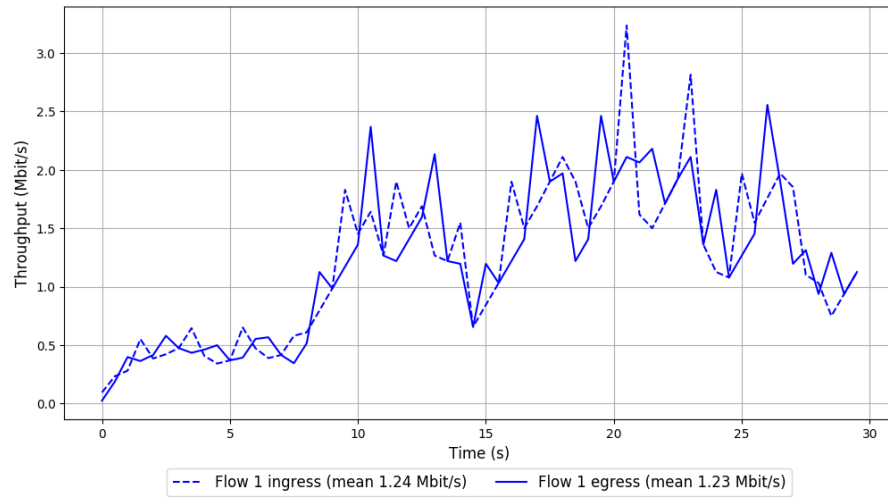
Run 9: Report of TCP Cubic — Data Link

```
Run 10: Statistics of TCP Cubic

Start at: 2017-11-21 01:15:28
End at: 2017-11-21 01:15:58

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.61 Mbit/s
95th percentile per-packet one-way delay: 114.103 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 44.61 Mbit/s
95th percentile per-packet one-way delay: 114.103 ms
Loss rate: 0.02%
```
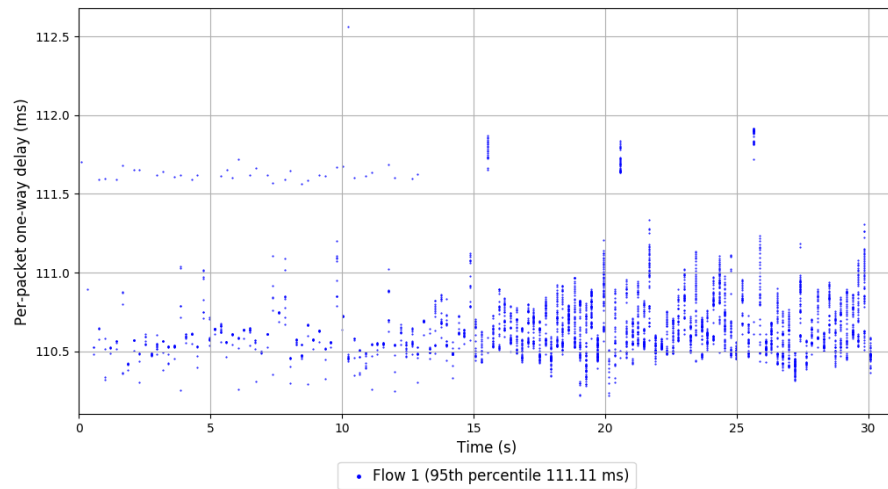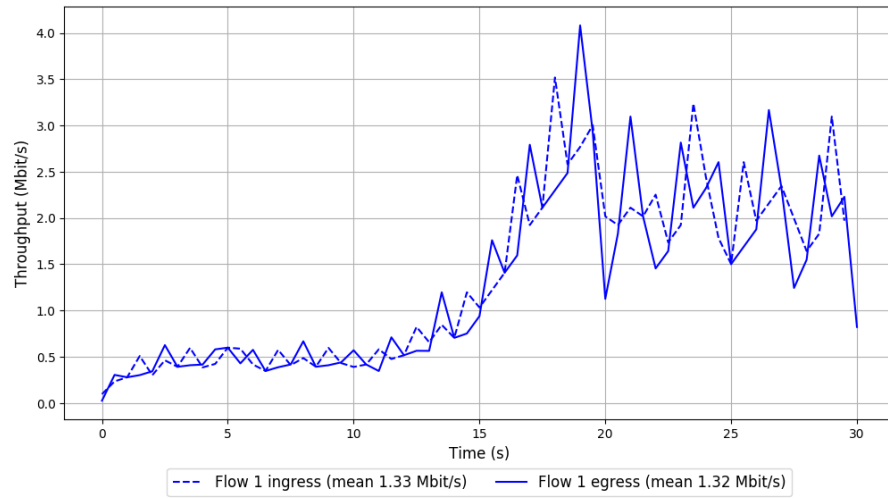
Run 10: Report of TCP Cubic — Data Link

Flow 1 ingress (mean 44.44 Mbit/s) — — — Flow 1 egress (mean 44.61 Mbit/s)

• Flow 1 (95th percentile 114.10 ms)

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```
Run 1: Statistics of LEDBAT

Start at: 2017-11-20 23:33:26
End at: 2017-11-20 23:33:56

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 111.735 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 111.735 ms
Loss rate: 0.80%
```
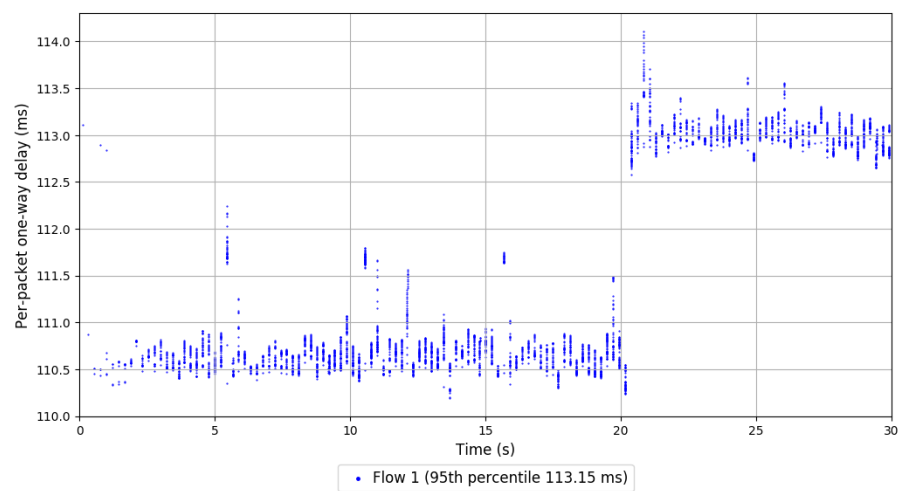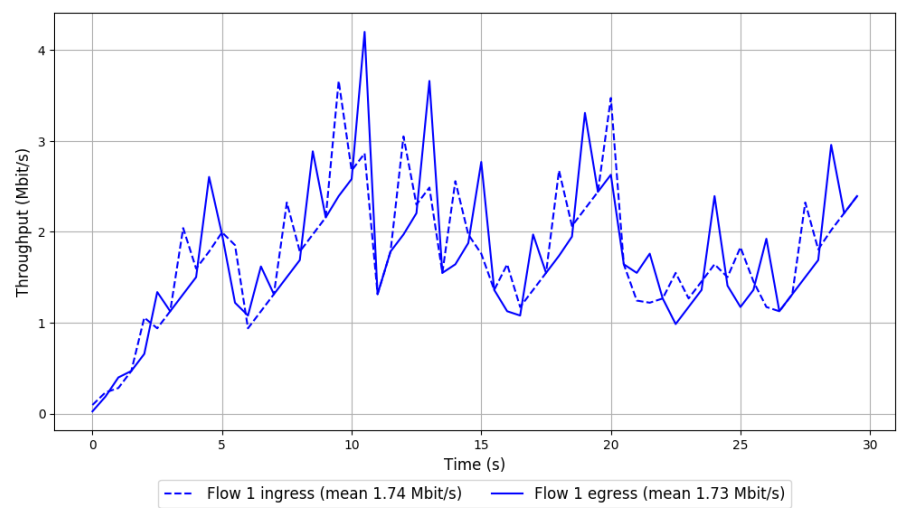
Run 1: Report of LEDBAT — Data Link

```
Run 2: Statistics of LEDBAT

Start at: 2017-11-20 23:44:49
End at: 2017-11-20 23:45:19

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 111.899 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 1.23 Mbit/s
95th percentile per-packet one-way delay: 111.899 ms
Loss rate: 0.32%
```
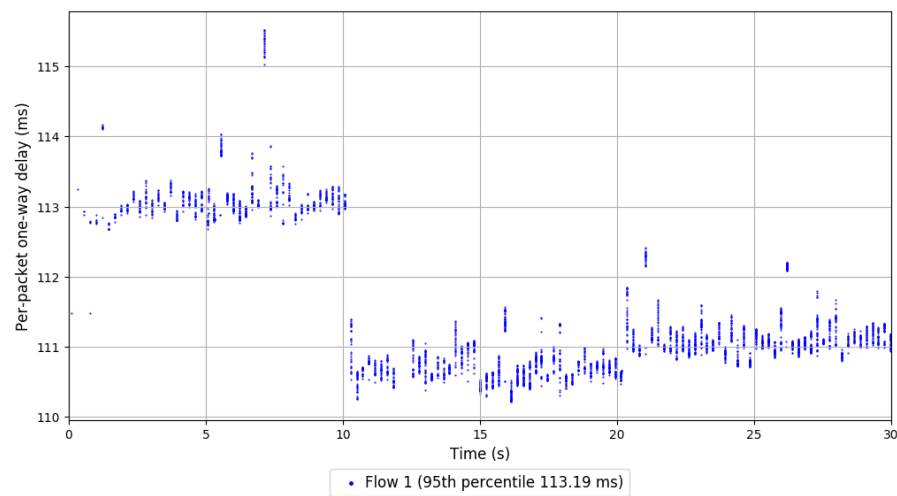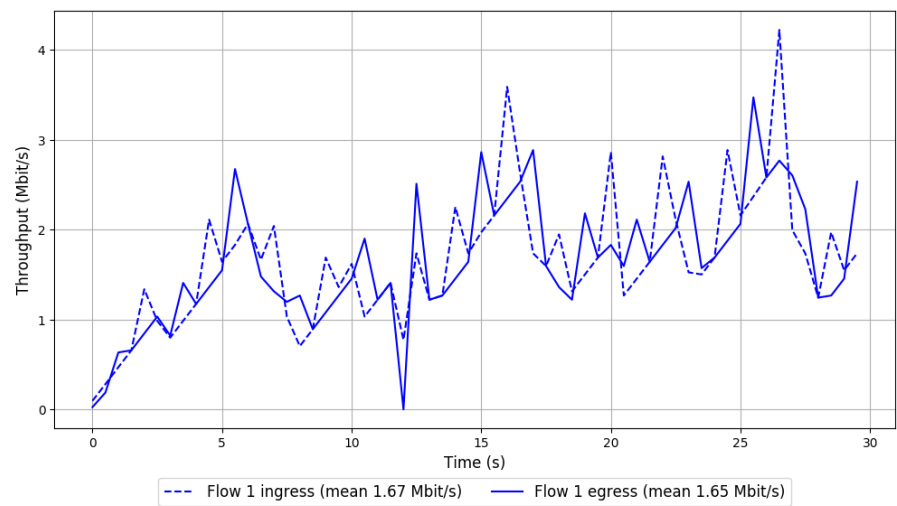
Run 2: Report of LEDBAT — Data Link

Flow 1 ingress (mean 1.24 Mbit/s)   Flow 1 egress (mean 1.23 Mbit/s)

Flow 1 (95th percentile 111.90 ms)

```
Run 3: Statistics of LEDBAT

Start at: 2017-11-20 23:55:59
End at: 2017-11-20 23:56:29

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 111.109 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 111.109 ms
Loss rate: 0.65%
```
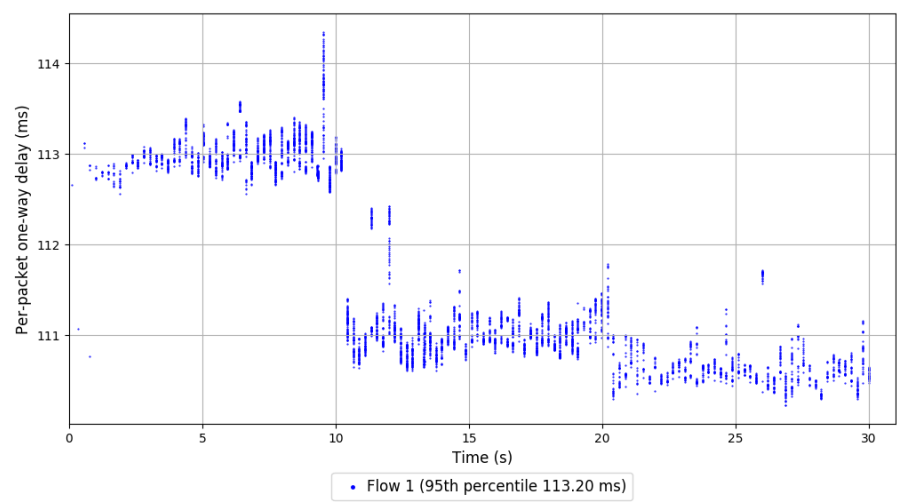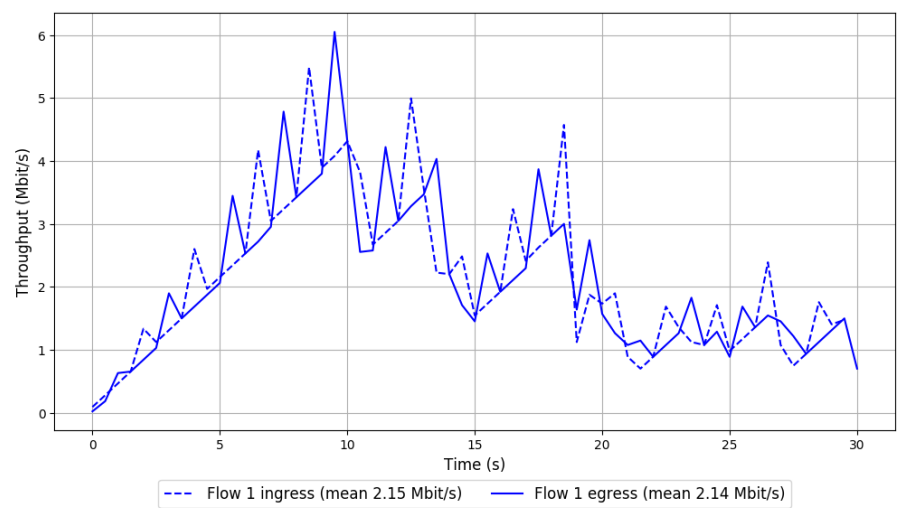
Run 3: Report of LEDBAT — Data Link

```
Run 4: Statistics of LEDBAT

Start at: 2017-11-21 00:07:19
End at: 2017-11-21 00:07:50

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 113.150 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 1.73 Mbit/s
95th percentile per-packet one-way delay: 113.150 ms
Loss rate: 0.14%
```
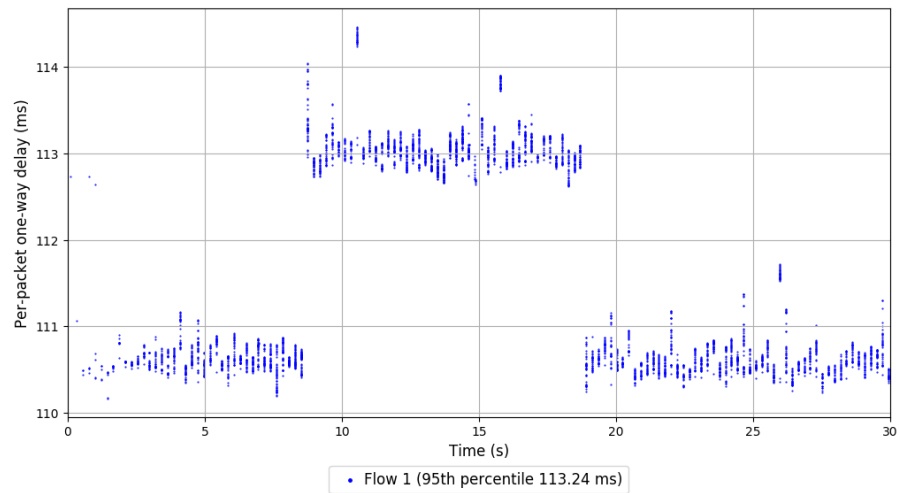
Run 4: Report of LEDBAT — Data Link

```
Run 5: Statistics of LEDBAT

Start at: 2017-11-21 00:18:29
End at: 2017-11-21 00:18:59

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 113.195 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 1.65 Mbit/s
95th percentile per-packet one-way delay: 113.195 ms
Loss rate: 0.78%
```
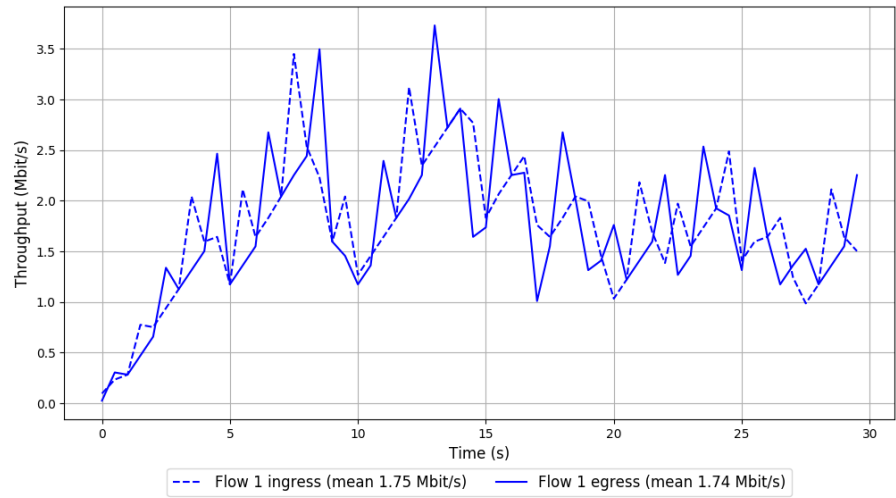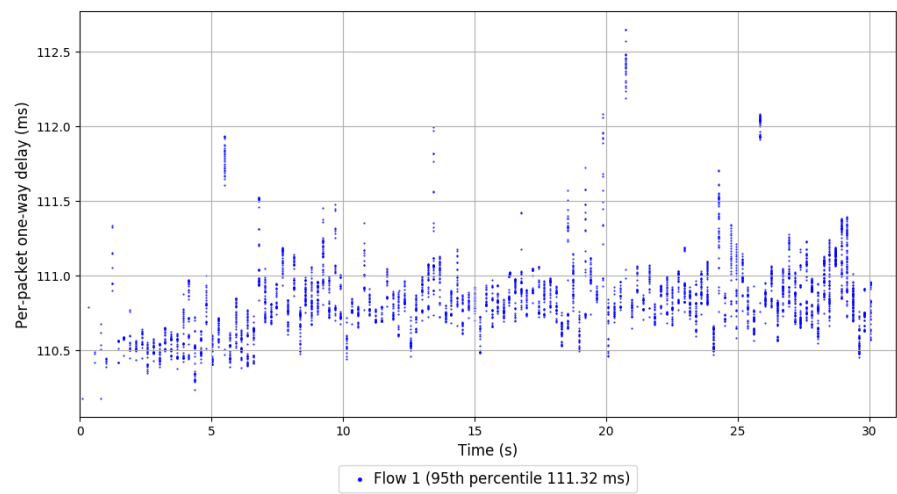
Run 5: Report of LEDBAT — Data Link

```
Run 6: Statistics of LEDBAT

Start at: 2017-11-21 00:29:39
End at: 2017-11-21 00:30:09

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 113.203 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 113.203 ms
Loss rate: 0.33%
```
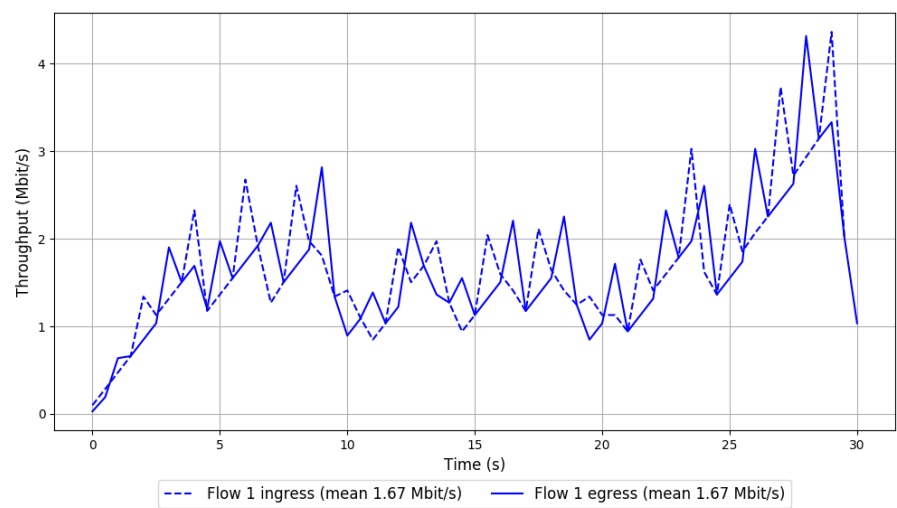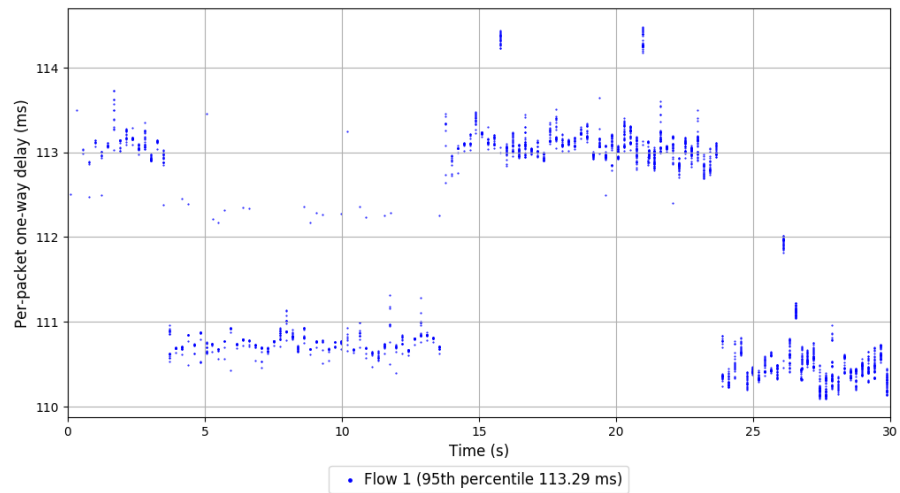
Run 6: Report of LEDBAT — Data Link

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

Flow 1 (95th percentile 113.20 ms)

```
Run 7: Statistics of LEDBAT

Start at: 2017-11-21 00:40:41
End at: 2017-11-21 00:41:11

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 113.240 ms
Loss rate: 0.58%
-- Flow 1:
Average throughput: 1.74 Mbit/s
95th percentile per-packet one-way delay: 113.240 ms
Loss rate: 0.58%
```
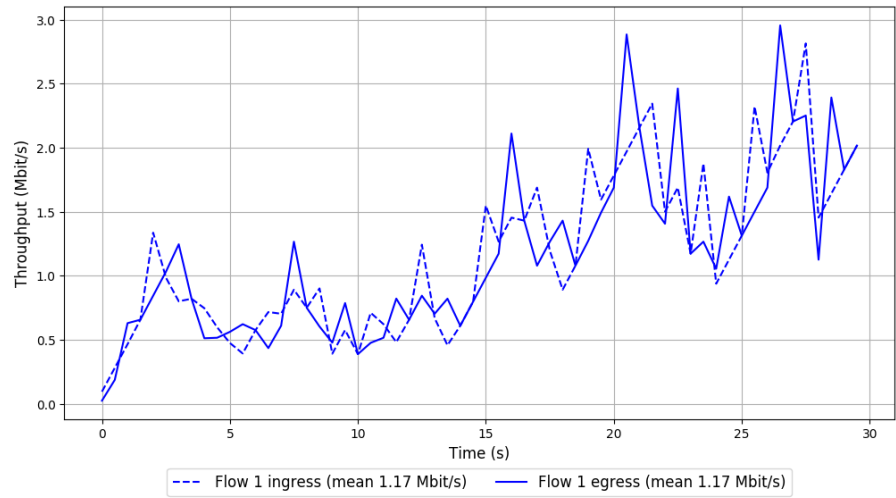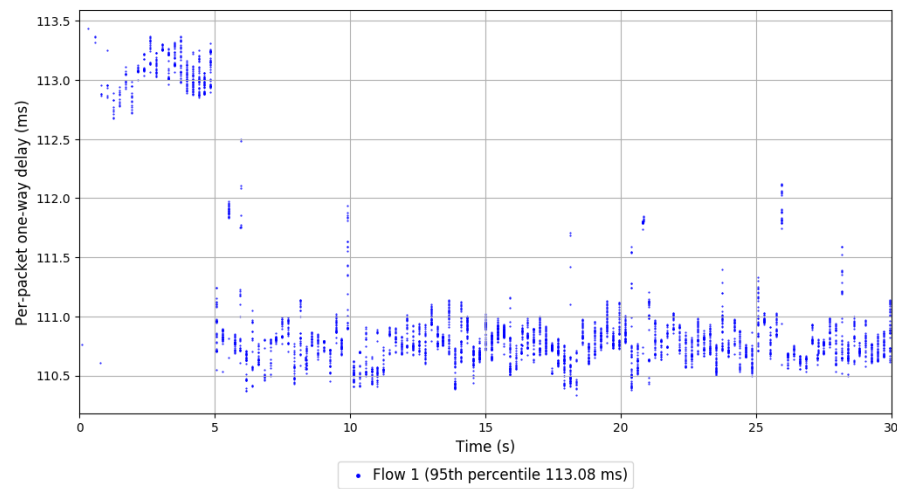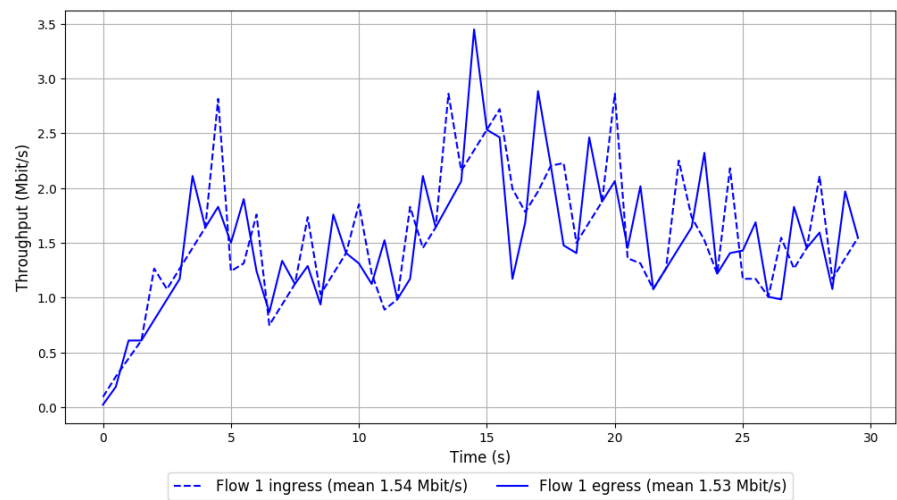
Run 7: Report of LEDBAT — Data Link

Flow 1 ingress (mean 1.75 Mbit/s)   Flow 1 egress (mean 1.74 Mbit/s)

Flow 1 (95th percentile 113.24 ms)

```
Run 8: Statistics of LEDBAT

Start at: 2017-11-21 00:51:53
End at: 2017-11-21 00:52:23

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 111.316 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 1.67 Mbit/s
95th percentile per-packet one-way delay: 111.316 ms
Loss rate: 0.09%
```

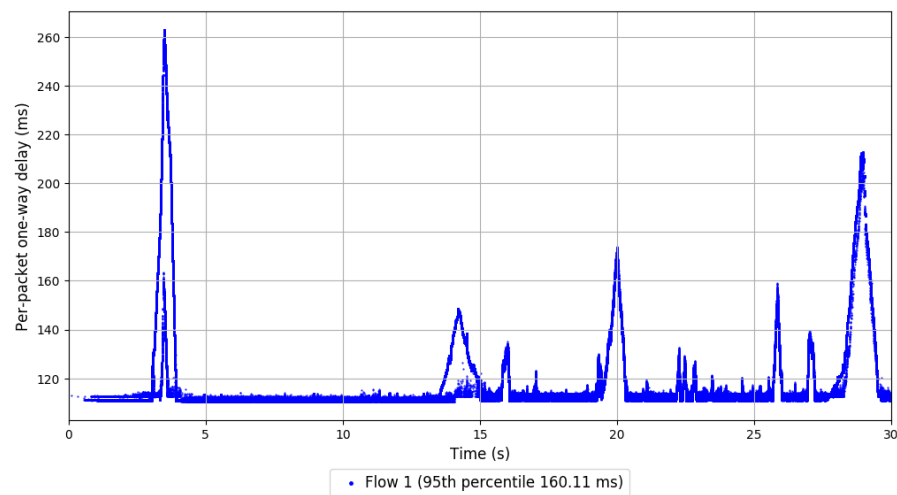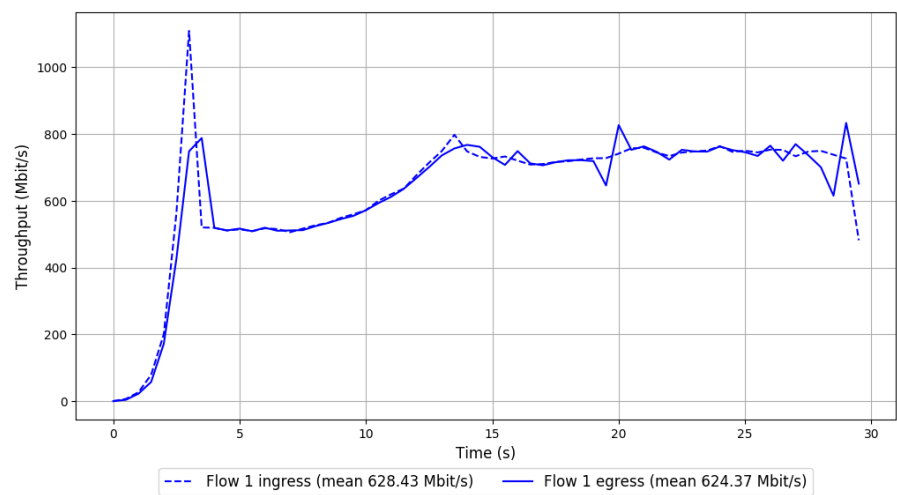Run 8: Report of LEDBAT — Data Link

```
Run 9: Statistics of LEDBAT

Start at: 2017-11-21 01:03:06
End at: 2017-11-21 01:03:36

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 113.293 ms
Loss rate: 0.37%
-- Flow 1:
Average throughput: 1.17 Mbit/s
95th percentile per-packet one-way delay: 113.293 ms
Loss rate: 0.37%
```
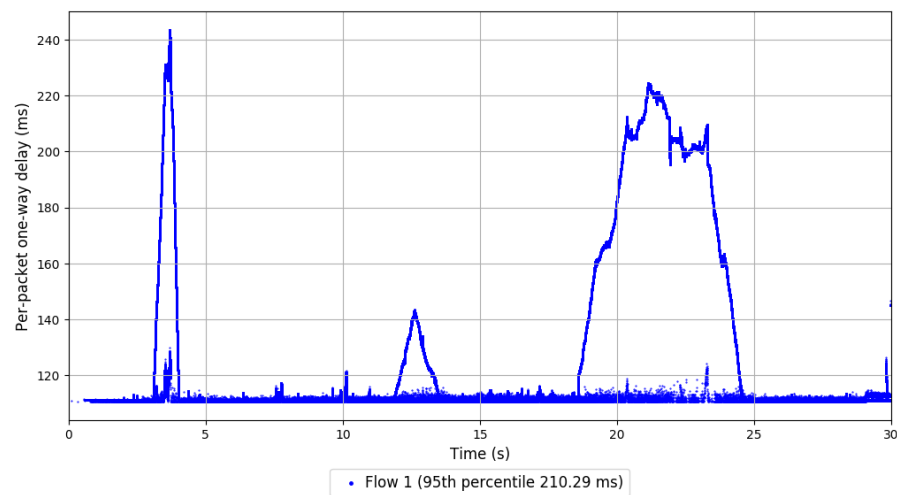
Run 9: Report of LEDBAT — Data Link

Flow 1 ingress (mean 1.17 Mbit/s)   Flow 1 egress (mean 1.17 Mbit/s)

Flow 1 (95th percentile 113.29 ms)

```
Run 10: Statistics of LEDBAT

Start at: 2017-11-21 01:14:05
End at: 2017-11-21 01:14:35

# Below is generated by plot.py at 2017-11-21 02:03:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 113.079 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 1.53 Mbit/s
95th percentile per-packet one-way delay: 113.079 ms
Loss rate: 0.61%
```
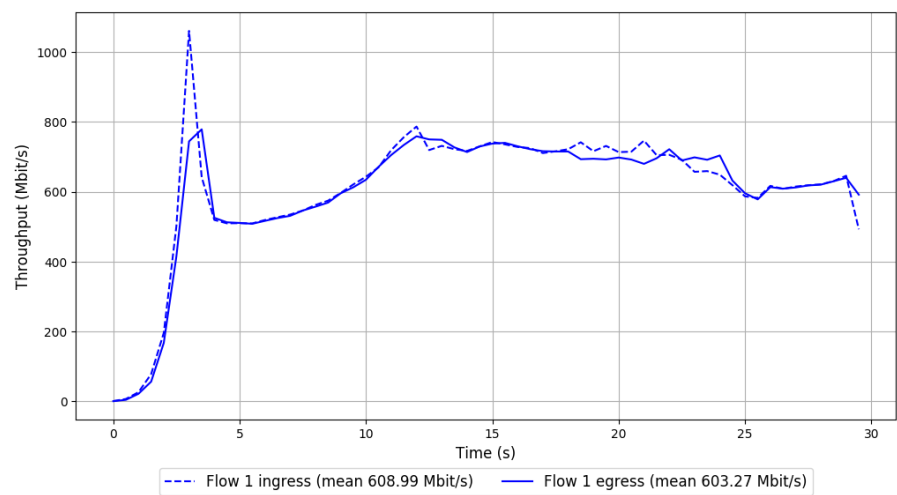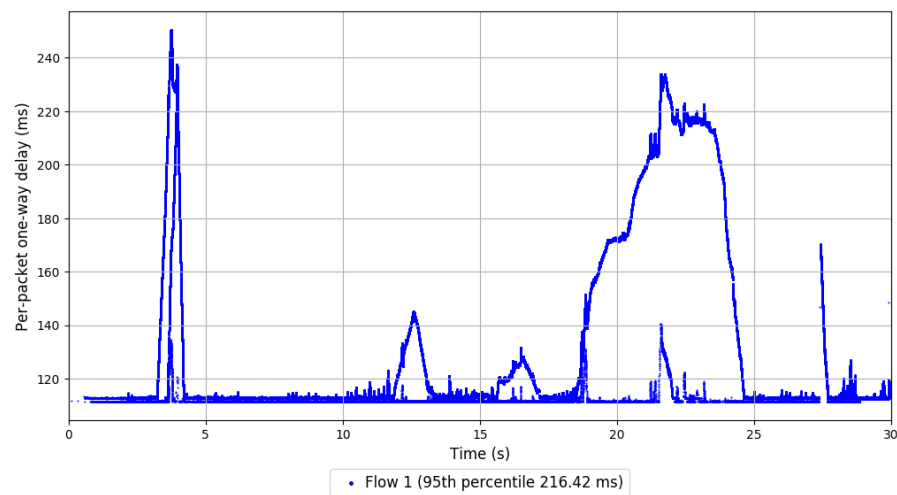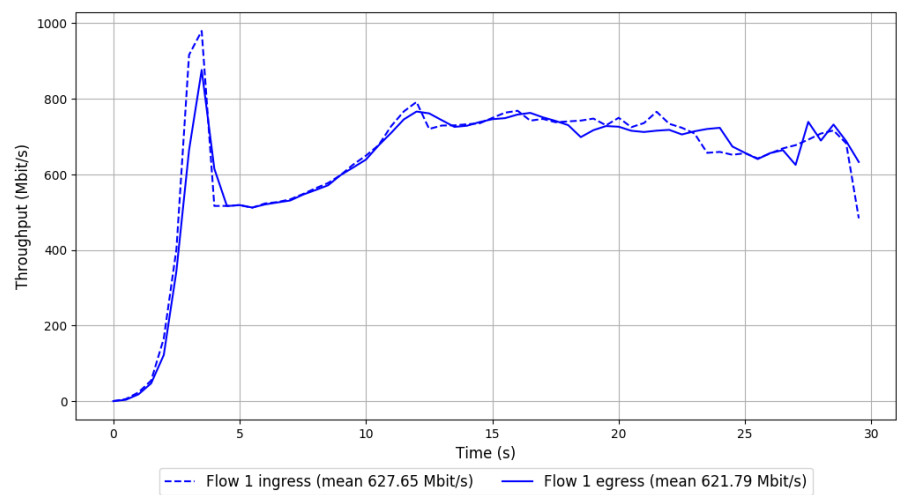
Run 10: Report of LEDBAT — Data Link

```
Run 1: Statistics of PCC

Start at: 2017-11-20 23:41:15
End at: 2017-11-20 23:41:45

# Below is generated by plot.py at 2017-11-21 02:13:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 624.37 Mbit/s
95th percentile per-packet one-way delay: 160.113 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 624.37 Mbit/s
95th percentile per-packet one-way delay: 160.113 ms
Loss rate: 0.65%
```
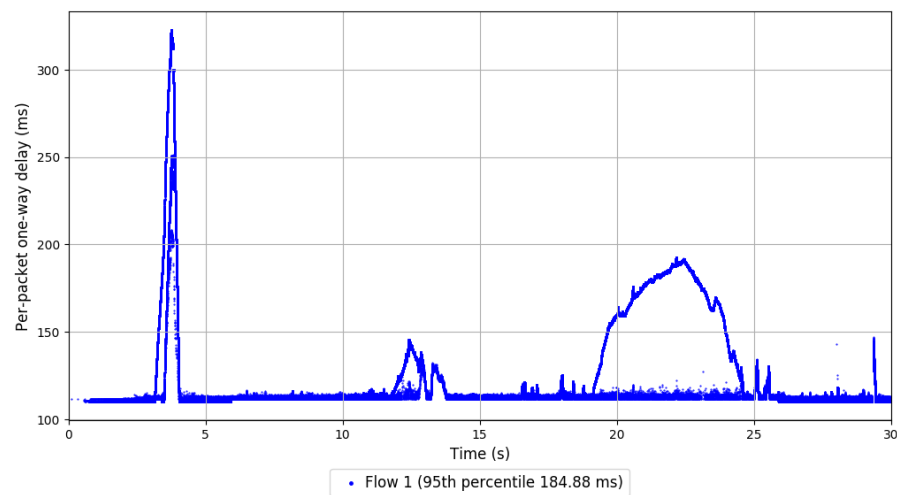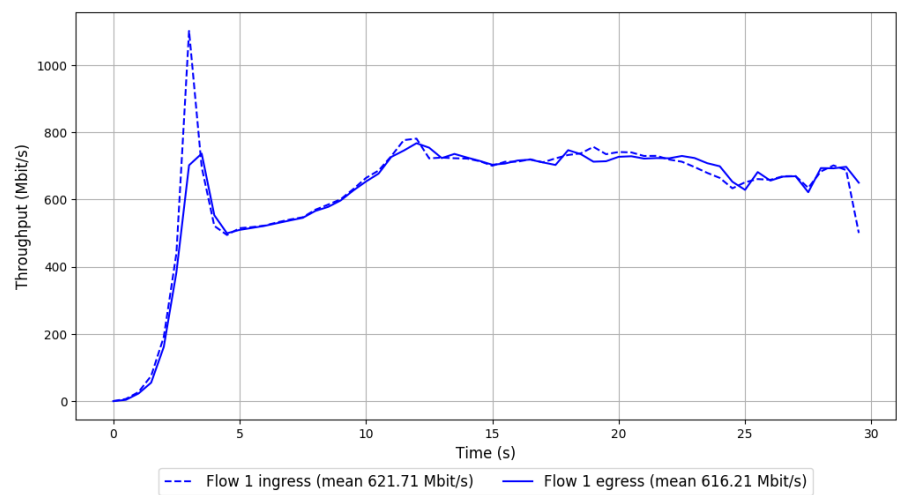
Run 1: Report of PCC — Data Link

Flow 1 ingress (mean 628.43 Mbit/s) --- Flow 1 egress (mean 624.37 Mbit/s)

• Flow 1 (95th percentile 160.11 ms)

```
Run 2: Statistics of PCC

Start at: 2017-11-20 23:52:28
End at: 2017-11-20 23:52:58

# Below is generated by plot.py at 2017-11-21 02:13:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 603.27 Mbit/s
95th percentile per-packet one-way delay: 210.292 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 603.27 Mbit/s
95th percentile per-packet one-way delay: 210.292 ms
Loss rate: 0.94%
```
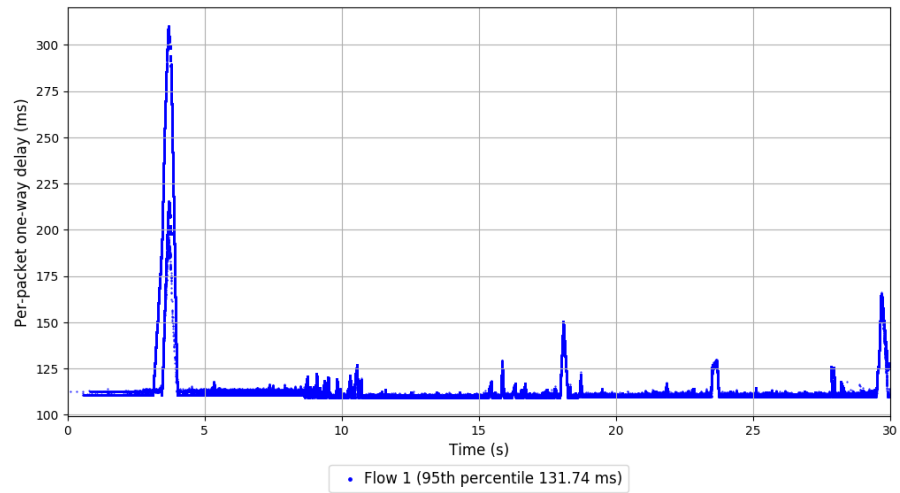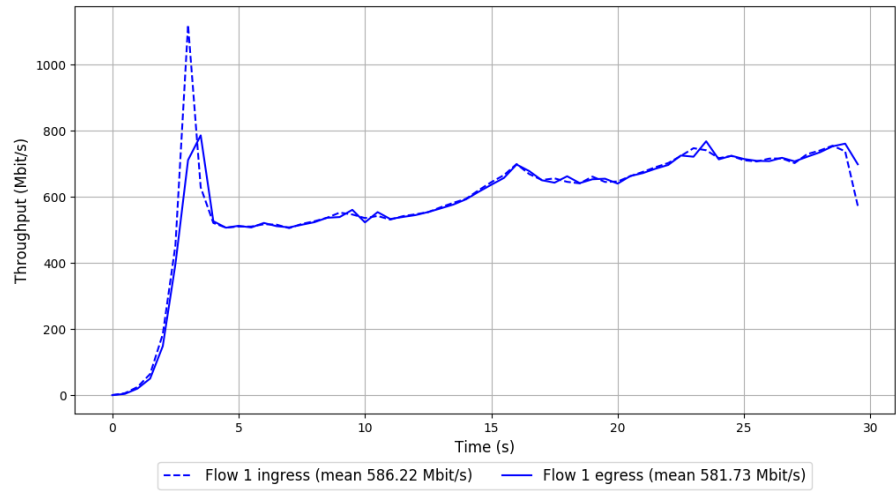
Run 2: Report of PCC — Data Link

Flow 1 ingress (mean 608.99 Mbit/s) —— Flow 1 egress (mean 603.27 Mbit/s)

• Flow 1 (95th percentile 210.29 ms)

```
Run 3: Statistics of PCC

Start at: 2017-11-21 00:03:48
End at: 2017-11-21 00:04:18

# Below is generated by plot.py at 2017-11-21 02:13:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 621.79 Mbit/s
95th percentile per-packet one-way delay: 216.419 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 621.79 Mbit/s
95th percentile per-packet one-way delay: 216.419 ms
Loss rate: 0.94%
```
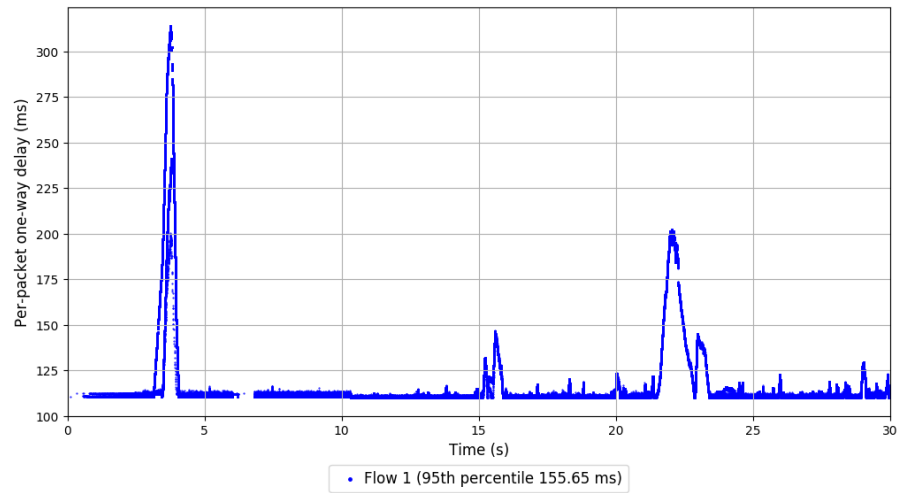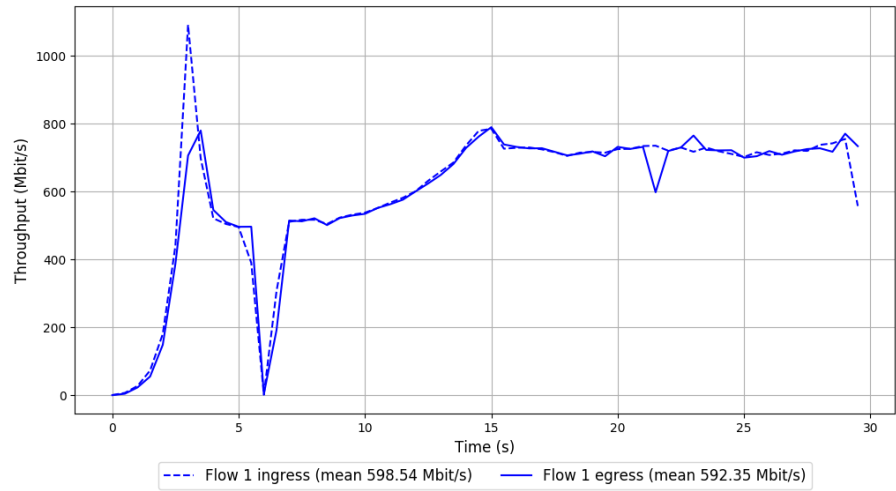
Run 3: Report of PCC — Data Link

Flow 1 ingress (mean 627.65 Mbit/s)   Flow 1 egress (mean 621.79 Mbit/s)

• Flow 1 (95th percentile 216.42 ms)

Run 4: Statistics of PCC

Start at: 2017-11-21 00:15:04
End at: 2017-11-21 00:15:34

Below is generated by plot.py at 2017-11-21 02:13:47
Datalink statistics
-- Total of 1 flow:
Average throughput: 616.21 Mbit/s
95th percentile per-packet one-way delay: 184.883 ms
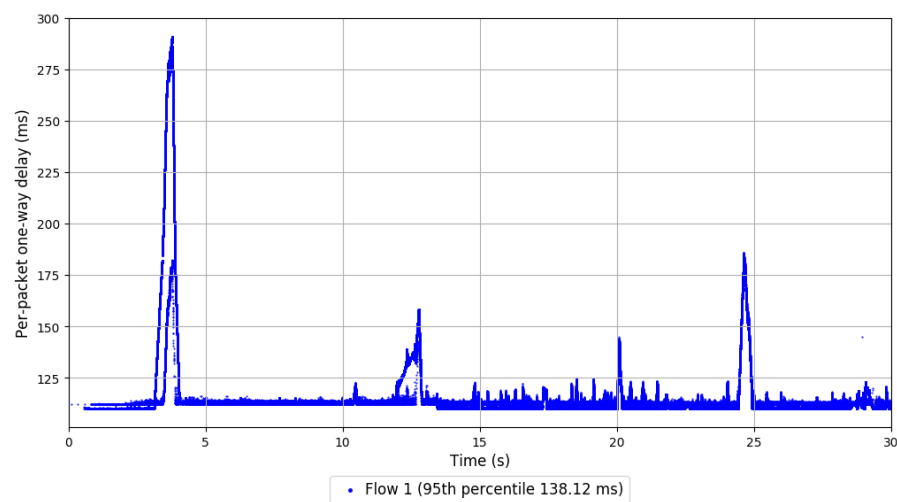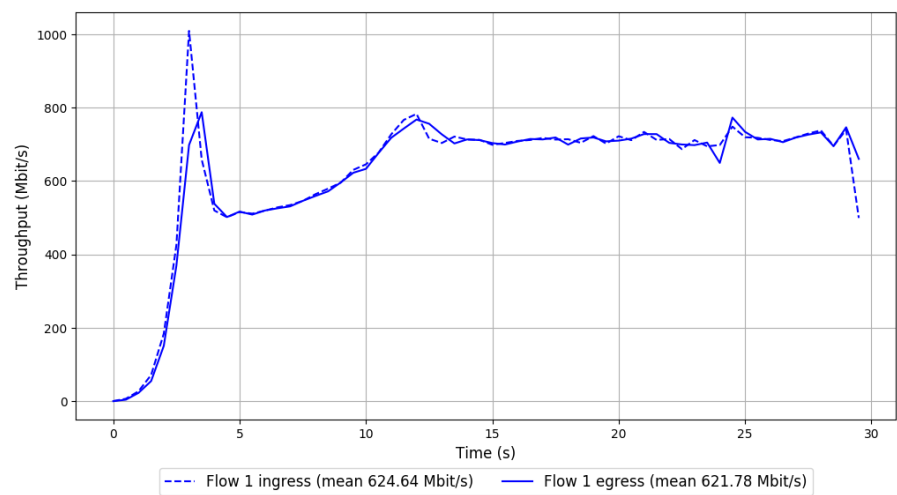Loss rate: 0.89%
-- Flow 1:
Average throughput: 616.21 Mbit/s
95th percentile per-packet one-way delay: 184.883 ms
Loss rate: 0.89%

Run 4: Report of PCC — Data Link

```
Run 5: Statistics of PCC

Start at: 2017-11-21 00:26:11
End at: 2017-11-21 00:26:41

# Below is generated by plot.py at 2017-11-21 02:13:47
# Datalink statistics
-- Total of 1 flow:
Average throughput: 581.73 Mbit/s
95th percentile per-packet one-way delay: 131.736 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 581.73 Mbit/s
95th percentile per-packet one-way delay: 131.736 ms
Loss rate: 0.77%
```
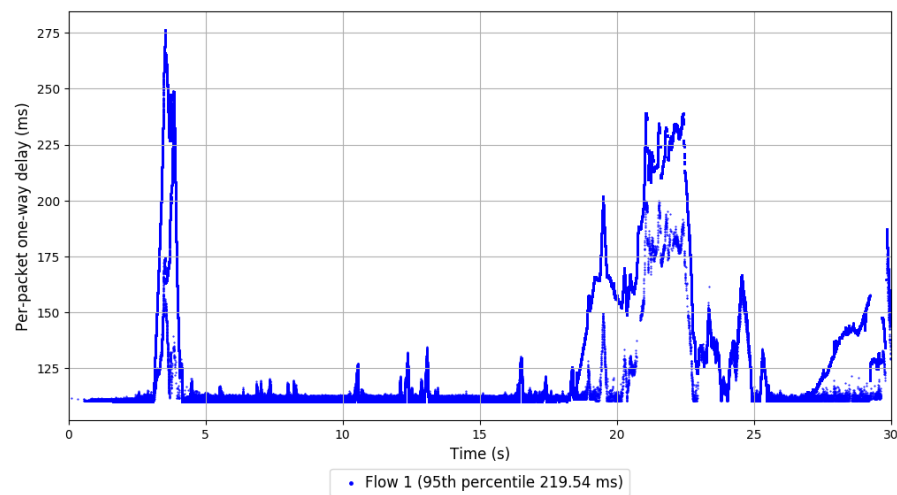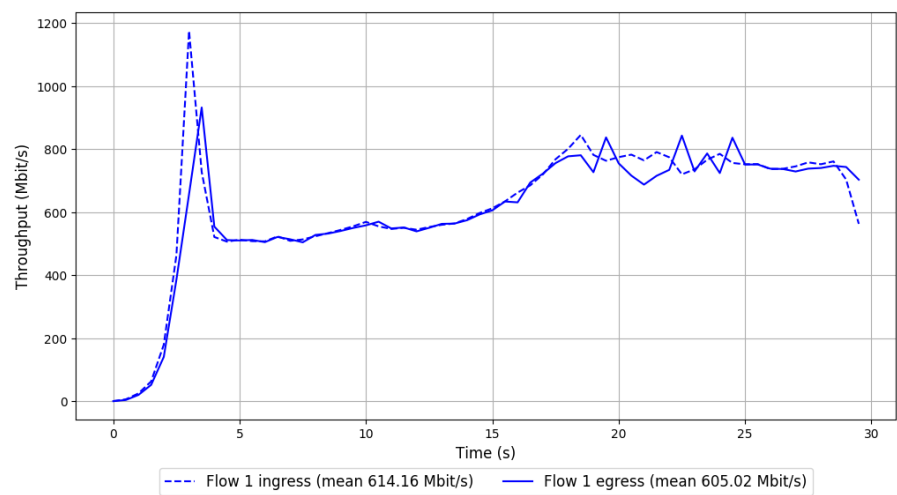
Run 5: Report of PCC — Data Link

```
Run 6: Statistics of PCC

Start at: 2017-11-21 00:37:29
End at: 2017-11-21 00:37:59

# Below is generated by plot.py at 2017-11-21 02:13:50
# Datalink statistics
-- Total of 1 flow:
Average throughput: 592.35 Mbit/s
95th percentile per-packet one-way delay: 155.646 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 592.35 Mbit/s
95th percentile per-packet one-way delay: 155.646 ms
Loss rate: 1.03%
```
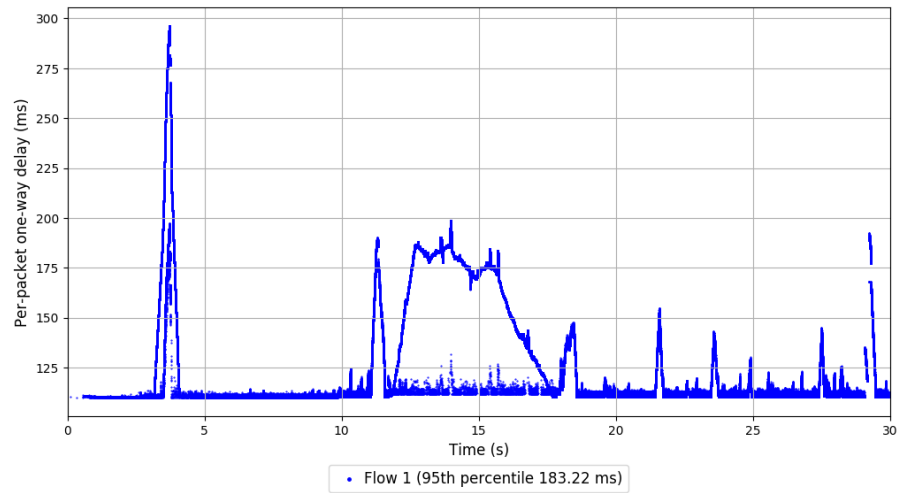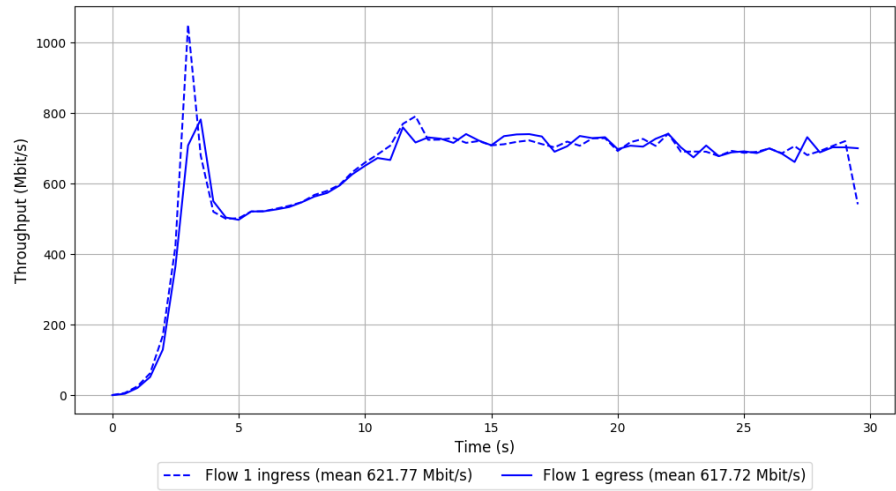
Run 6: Report of PCC — Data Link

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```
Run 7: Statistics of PCC

Start at: 2017-11-21 00:48:36
End at: 2017-11-21 00:49:06

# Below is generated by plot.py at 2017-11-21 02:14:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 621.78 Mbit/s
95th percentile per-packet one-way delay: 138.116 ms
Loss rate: 0.46%
-- Flow 1:
Average throughput: 621.78 Mbit/s
95th percentile per-packet one-way delay: 138.116 ms
Loss rate: 0.46%
```
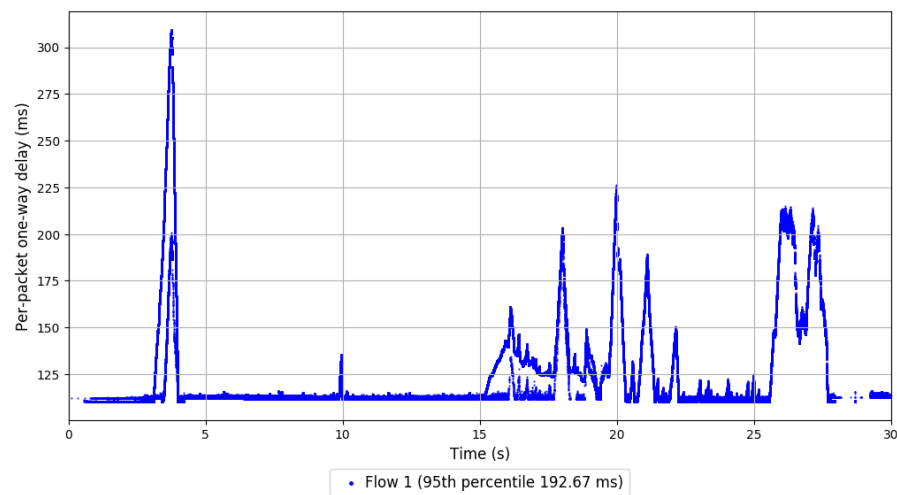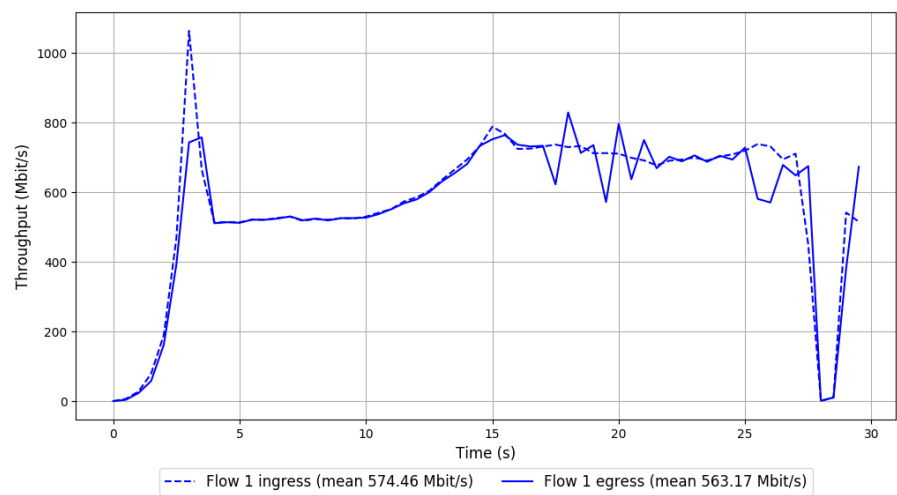
Run 7: Report of PCC — Data Link

```
Run 8: Statistics of PCC

Start at: 2017-11-21 00:59:38
End at: 2017-11-21 01:00:08

# Below is generated by plot.py at 2017-11-21 02:14:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 605.02 Mbit/s
95th percentile per-packet one-way delay: 219.538 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 605.02 Mbit/s
95th percentile per-packet one-way delay: 219.538 ms
Loss rate: 1.48%
```
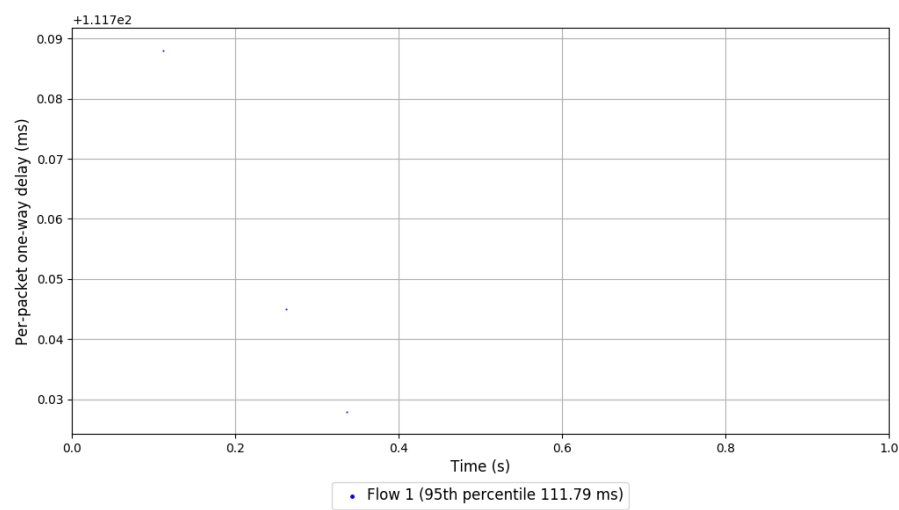
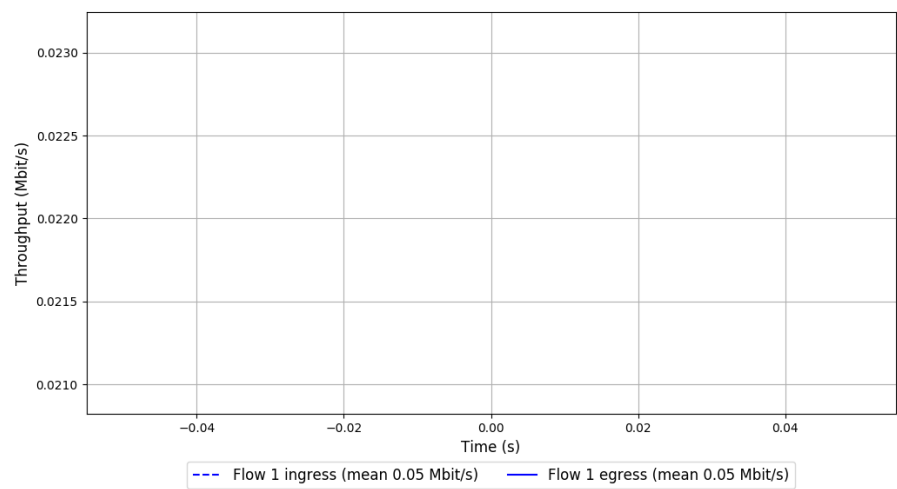# Run 8: Report of PCC — Data Link

Flow 1 ingress (mean 614.16 Mbit/s)   Flow 1 egress (mean 605.02 Mbit/s)

• Flow 1 (95th percentile 219.54 ms)

```
Run 9: Statistics of PCC

Start at: 2017-11-21 01:10:50
End at: 2017-11-21 01:11:20

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 617.72 Mbit/s
95th percentile per-packet one-way delay: 183.224 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 617.72 Mbit/s
95th percentile per-packet one-way delay: 183.224 ms
Loss rate: 0.65%
```
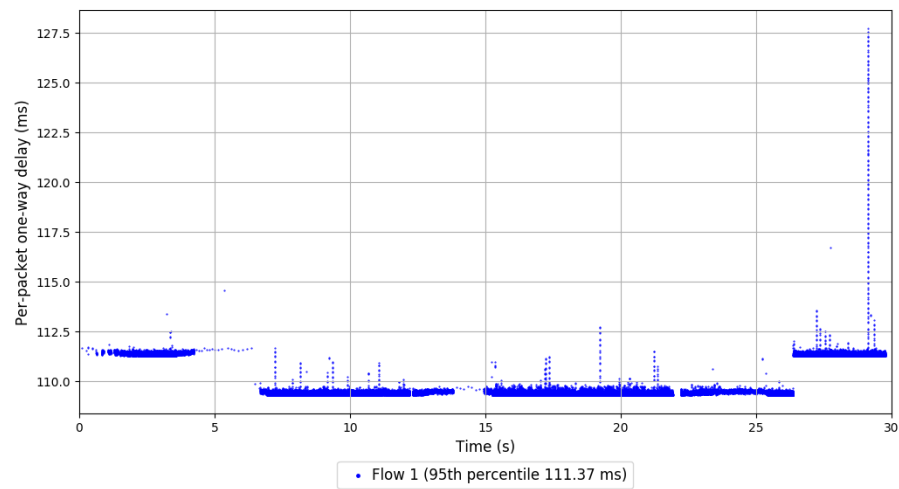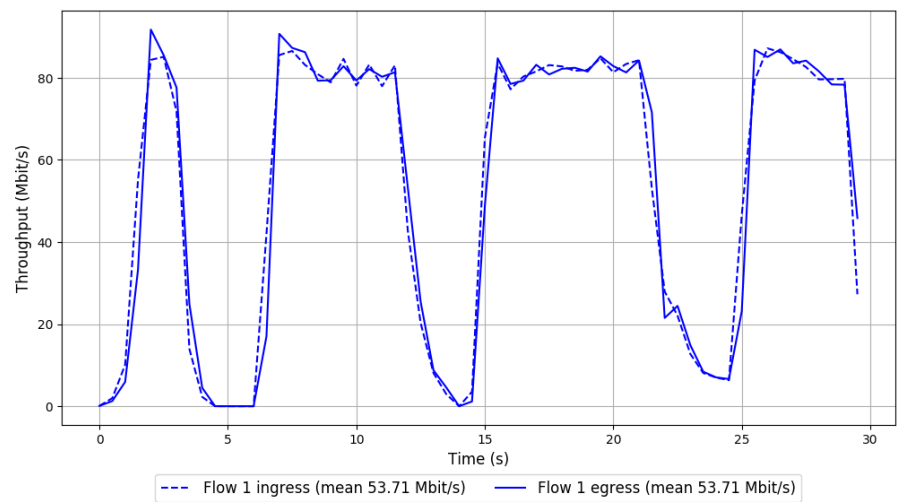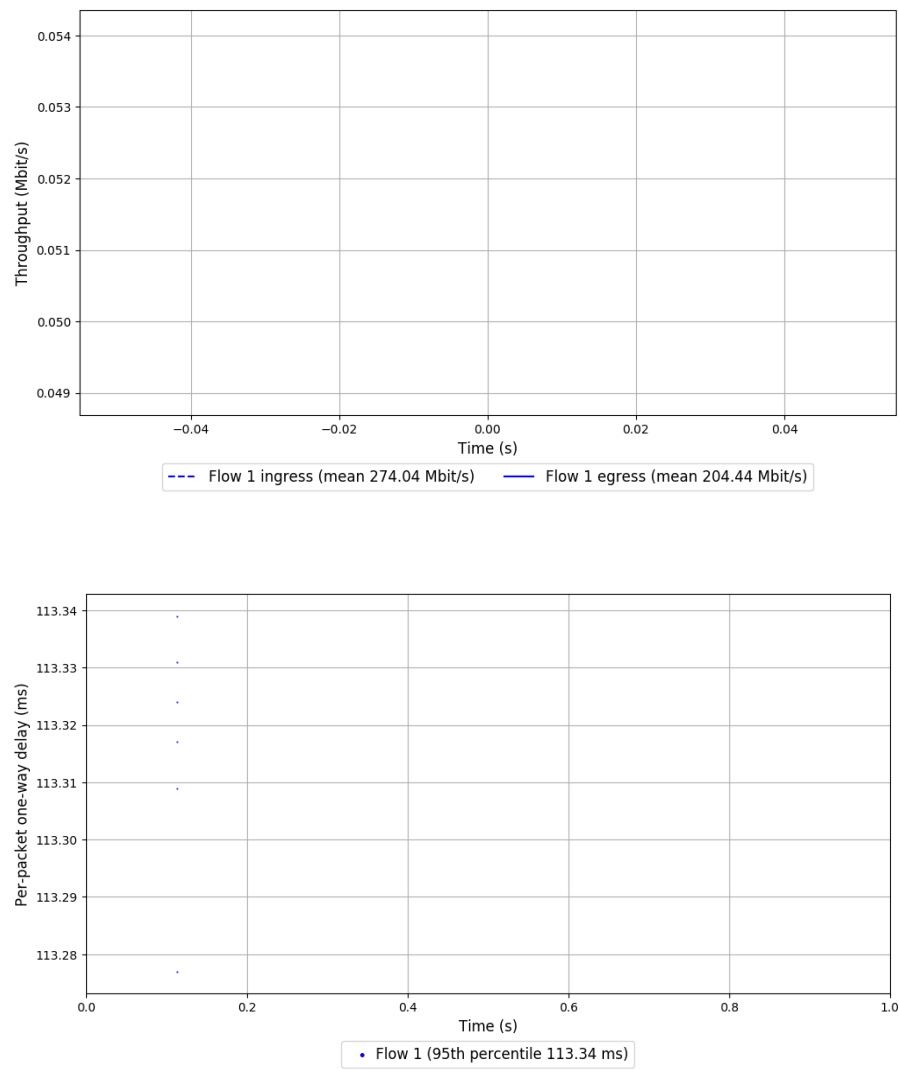
Run 9: Report of PCC — Data Link

Flow 1 ingress (mean 621.77 Mbit/s)   Flow 1 egress (mean 617.72 Mbit/s)

• Flow 1 (95th percentile 183.22 ms)

```
Run 10: Statistics of PCC

Start at: 2017-11-21 01:21:51
End at: 2017-11-21 01:22:21

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 563.17 Mbit/s
95th percentile per-packet one-way delay: 192.674 ms
Loss rate: 1.97%
-- Flow 1:
Average throughput: 563.17 Mbit/s
95th percentile per-packet one-way delay: 192.674 ms
Loss rate: 1.97%
```

Run 10: Report of PCC — Data Link

```
Run 1: Statistics of QUIC Cubic

Start at: 2017-11-20 23:39:54
End at: 2017-11-20 23:40:24
```

Run 1: Report of QUIC Cubic — Data Link

Run 2: Statistics of QUIC Cubic

Start at: 2017-11-20 23:51:07
End at: 2017-11-20 23:51:37

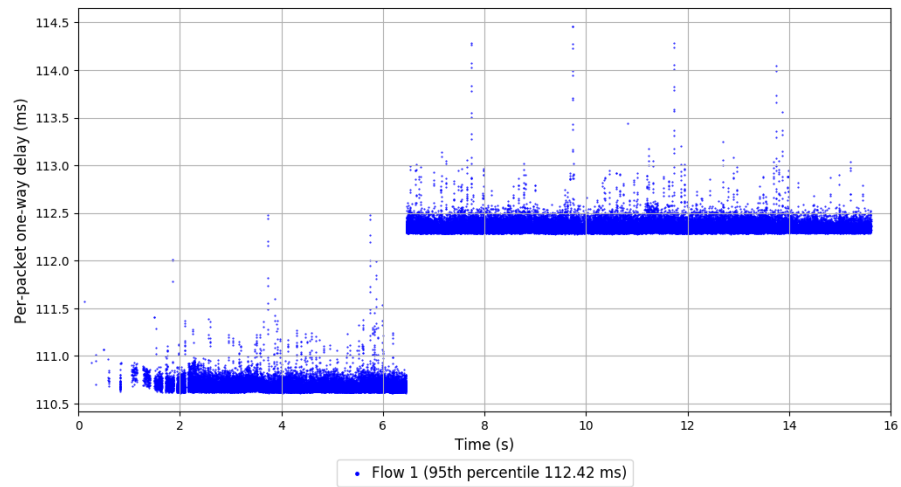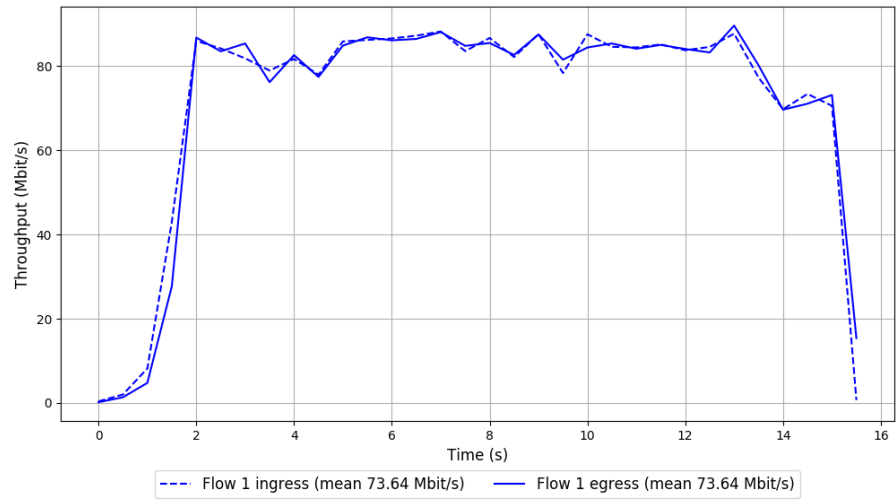# Run 2: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 247.69 Mbit/s)   Flow 1 egress (mean 22.44 Mbit/s)

Flow 1 (95th percentile 112.17 ms)

```
Run 3: Statistics of QUIC Cubic

Start at: 2017-11-21 00:02:23
End at: 2017-11-21 00:02:53

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 53.71 Mbit/s
95th percentile per-packet one-way delay: 111.371 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 53.71 Mbit/s
95th percentile per-packet one-way delay: 111.371 ms
Loss rate: 0.01%
```
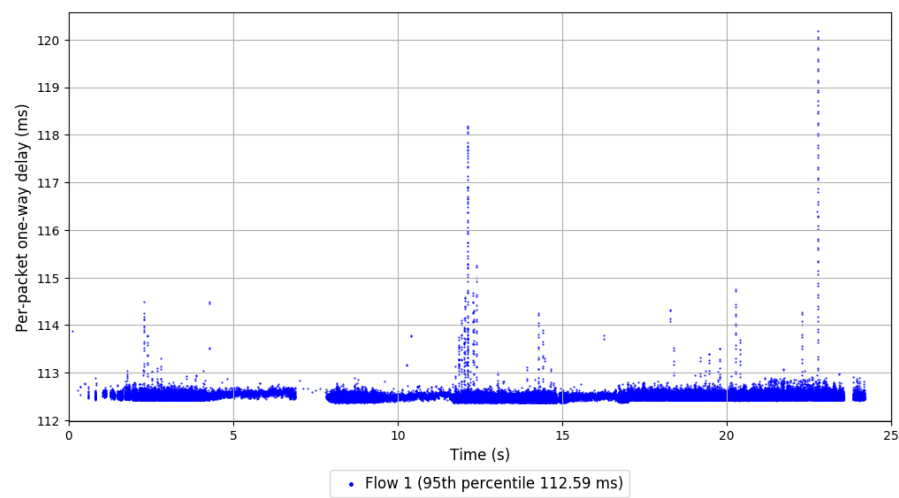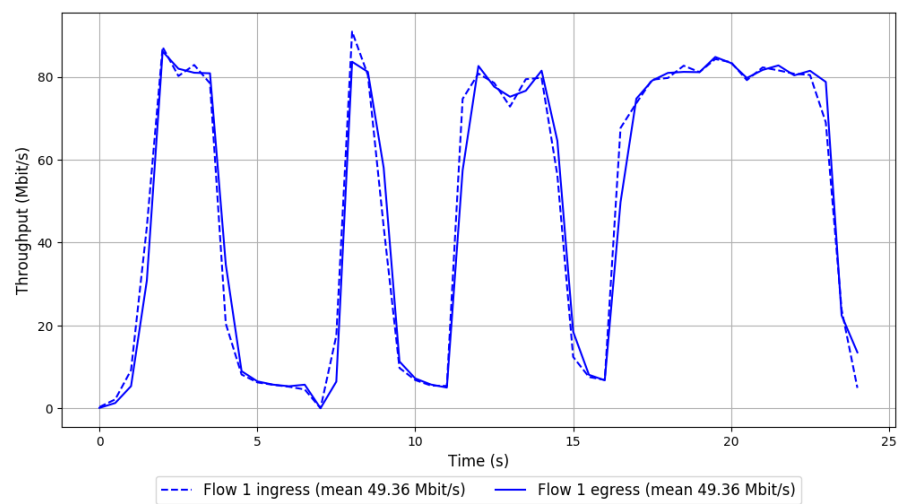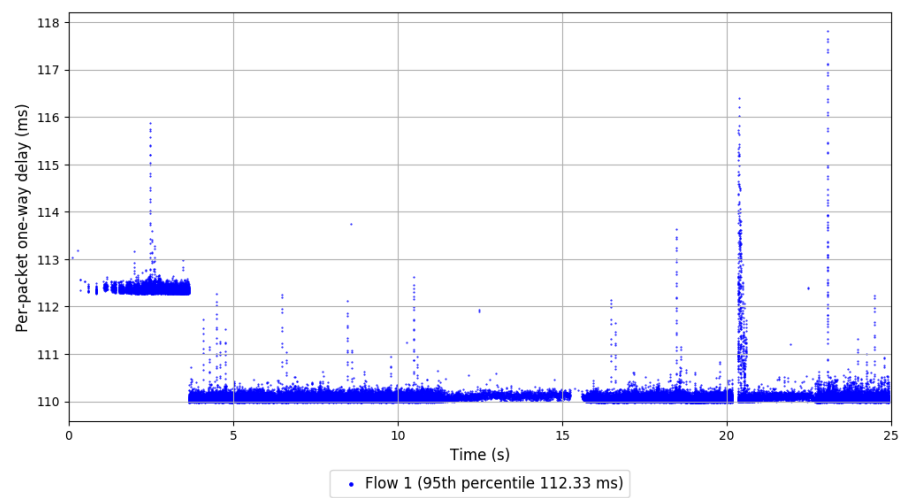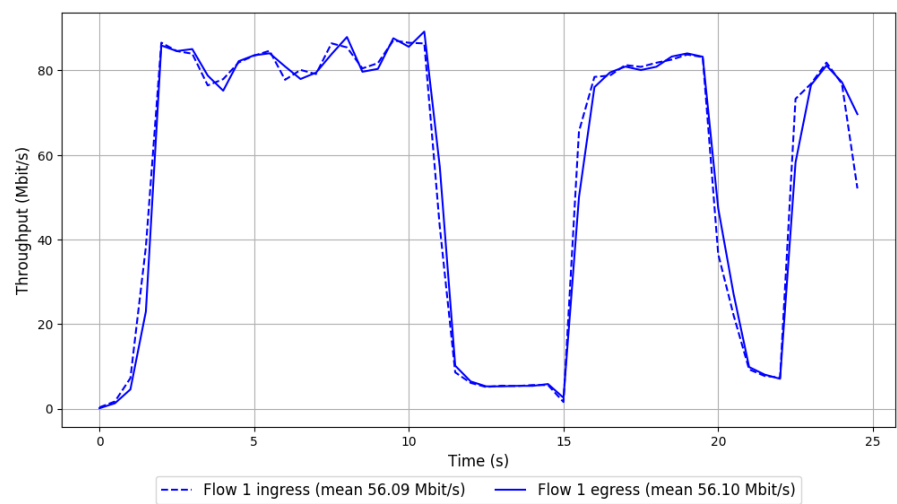
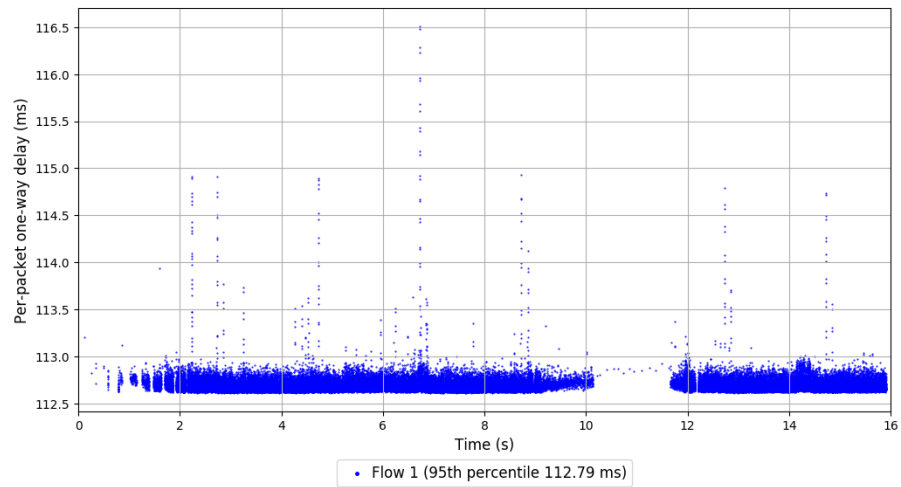Run 3: Report of QUIC Cubic — Data Link

Run 4: Statistics of QUIC Cubic

Start at: 2017-11-21 00:13:43
End at: 2017-11-21 00:14:13

Run 4: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 274.04 Mbit/s)   Flow 1 egress (mean 204.44 Mbit/s)
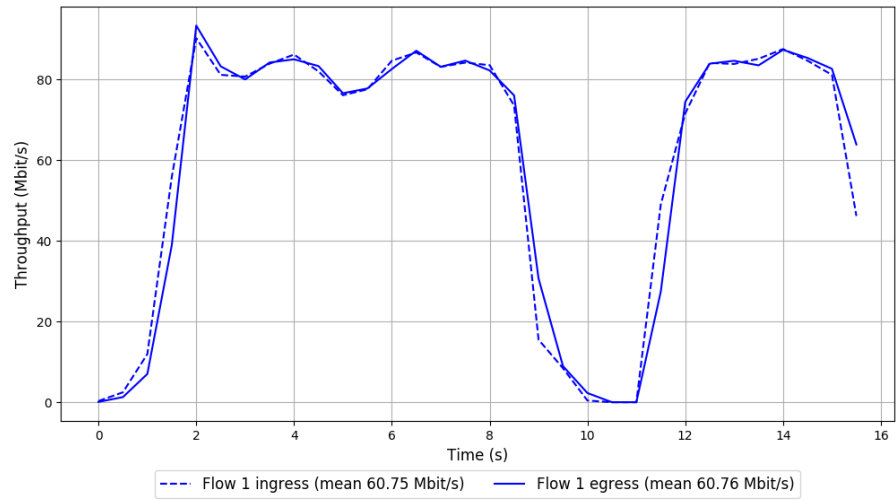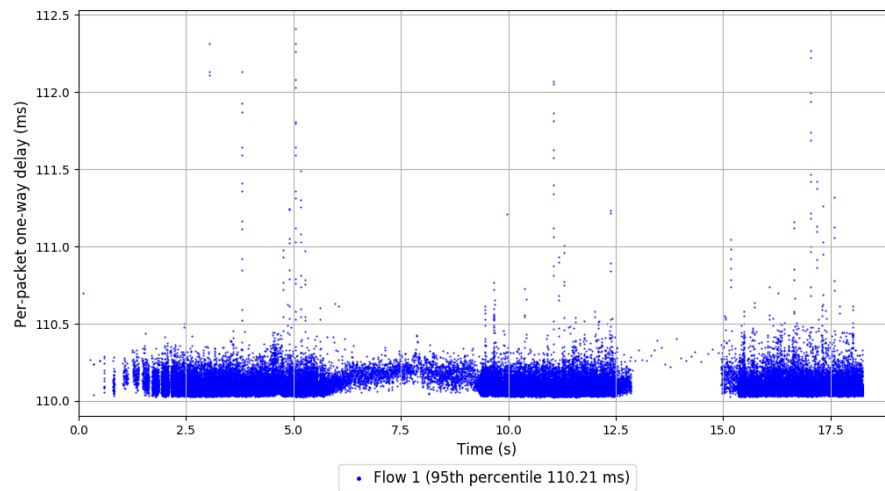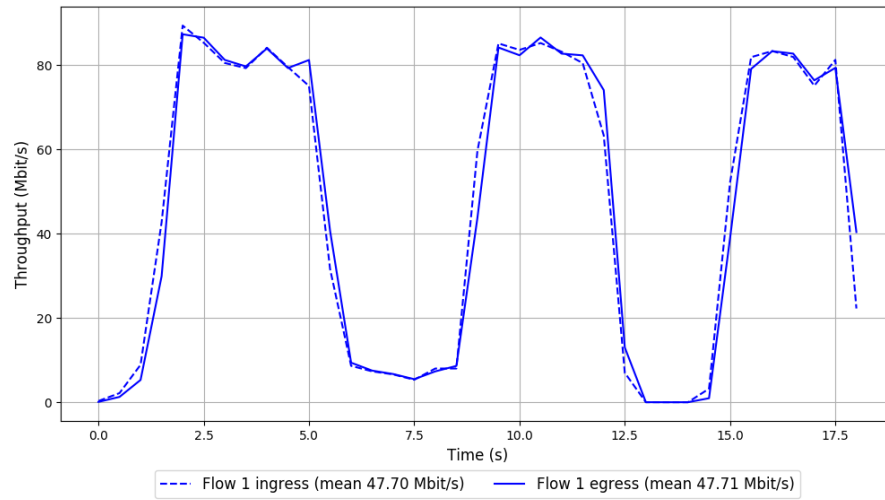

Flow 1 (95th percentile 113.34 ms)

Run 5: Statistics of QUIC Cubic

Start at: 2017-11-21 00:24:46
End at: 2017-11-21 00:25:16

Run 5: Report of QUIC Cubic — Data Link

```
Run 6: Statistics of QUIC Cubic

Start at: 2017-11-21 00:36:04
End at: 2017-11-21 00:36:34

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.36 Mbit/s
95th percentile per-packet one-way delay: 112.589 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.36 Mbit/s
95th percentile per-packet one-way delay: 112.589 ms
Loss rate: 0.00%
```

Run 6: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 49.36 Mbit/s) ----- Flow 1 egress (mean 49.36 Mbit/s) ———

• Flow 1 (95th percentile 112.59 ms)

```
Run 7: Statistics of QUIC Cubic

Start at: 2017-11-21 00:47:11
End at: 2017-11-21 00:47:41

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 56.10 Mbit/s
95th percentile per-packet one-way delay: 112.332 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 56.10 Mbit/s
95th percentile per-packet one-way delay: 112.332 ms
Loss rate: 0.00%
```
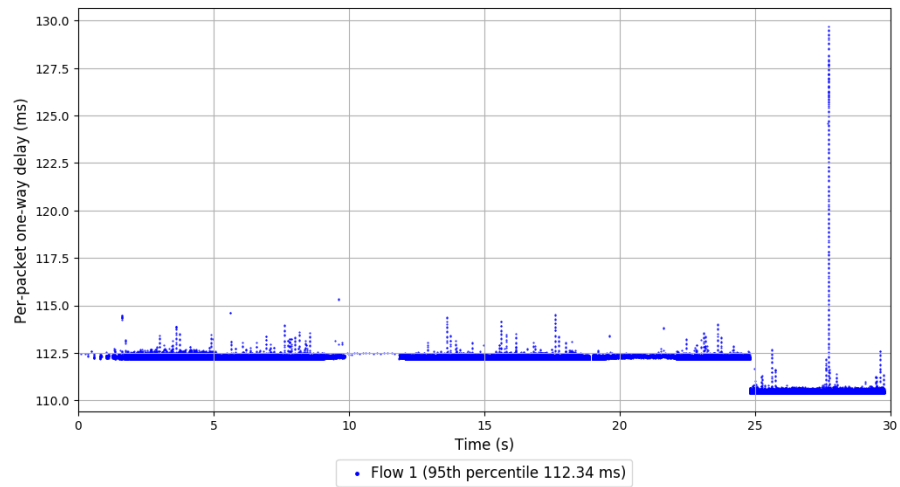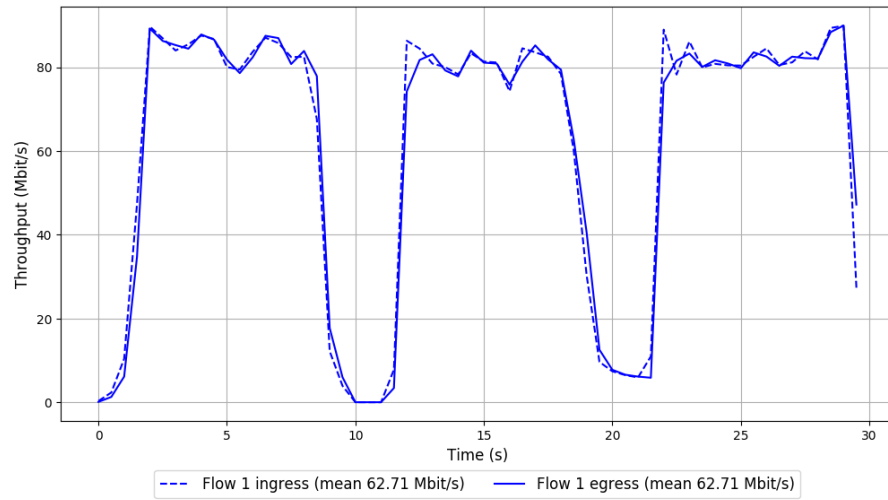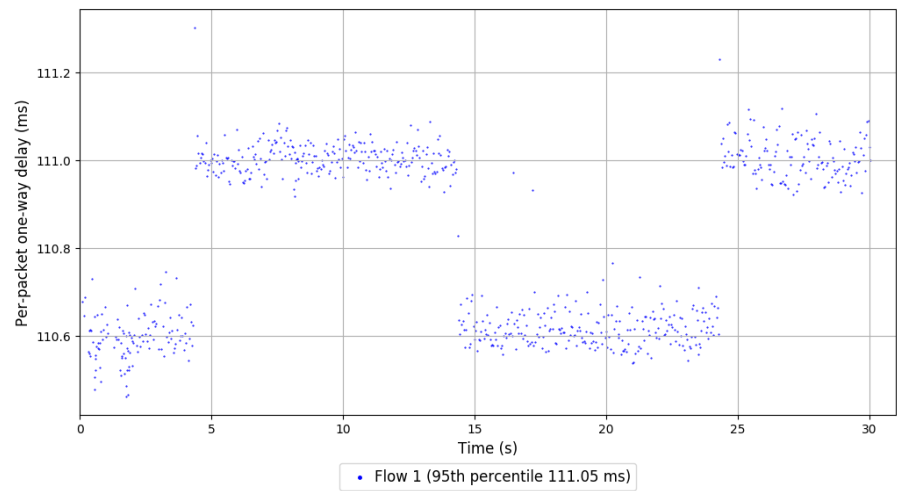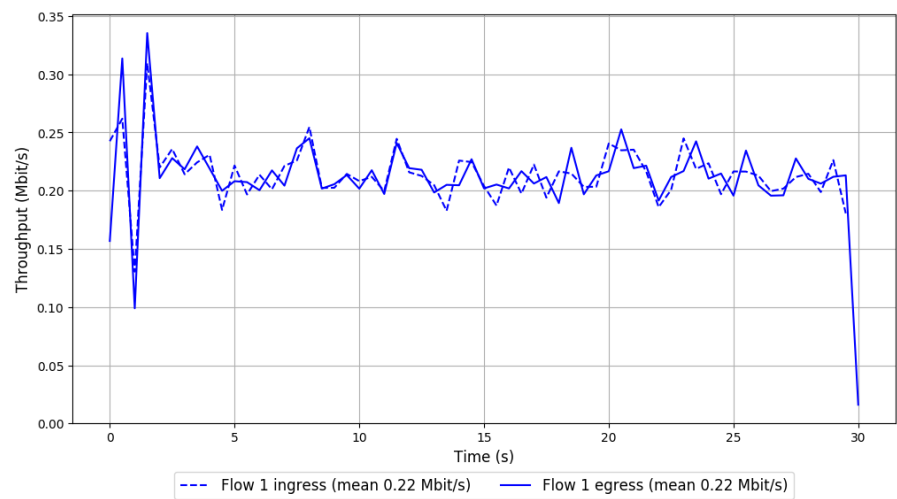
Run 7: Report of QUIC Cubic — Data Link

```
Run 8: Statistics of QUIC Cubic

Start at: 2017-11-21 00:58:14
End at: 2017-11-21 00:58:44
```

Run 8: Report of QUIC Cubic — Data Link

Run 9: Statistics of QUIC Cubic

Start at: 2017-11-21 01:09:26
End at: 2017-11-21 01:09:56

Run 9: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 47.70 Mbit/s)   Flow 1 egress (mean 47.71 Mbit/s)

Flow 1 (95th percentile 110.21 ms)

```
Run 10: Statistics of QUIC Cubic

Start at: 2017-11-21 01:20:25
End at: 2017-11-21 01:20:55


# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 62.71 Mbit/s
95th percentile per-packet one-way delay: 112.336 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 62.71 Mbit/s
95th percentile per-packet one-way delay: 112.336 ms
Loss rate: 0.00%
```
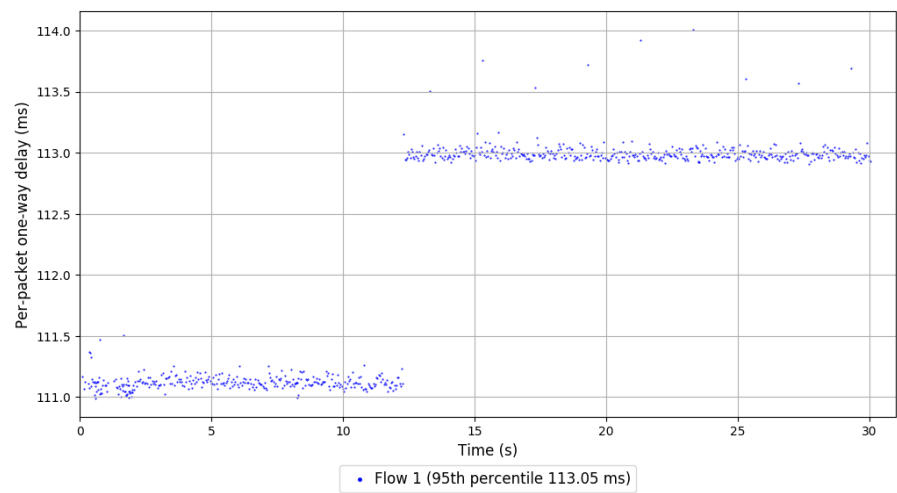
Run 10: Report of QUIC Cubic — Data Link

Flow 1 ingress (mean 62.71 Mbit/s) --- Flow 1 egress (mean 62.71 Mbit/s)
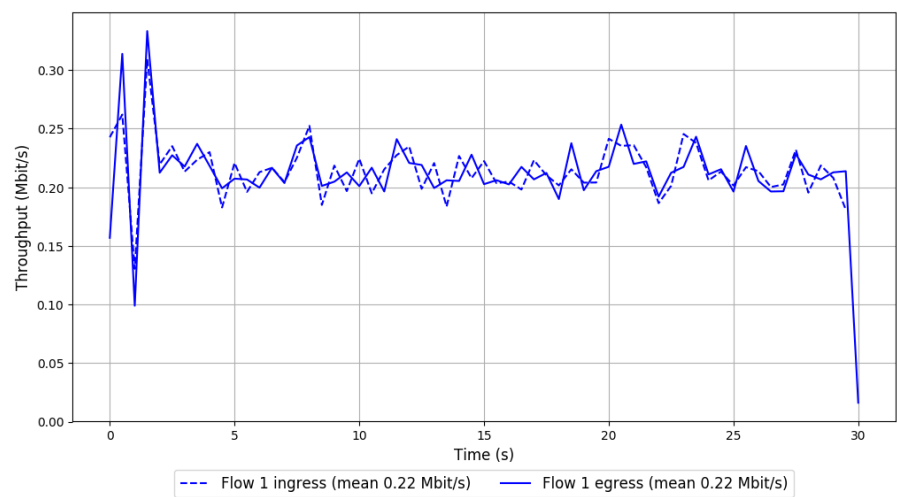

Flow 1 (95th percentile 112.34 ms)

```
Run 1: Statistics of SCReAM

Start at: 2017-11-20 23:32:05
End at: 2017-11-20 23:32:35

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.051 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.051 ms
Loss rate: 0.00%
```
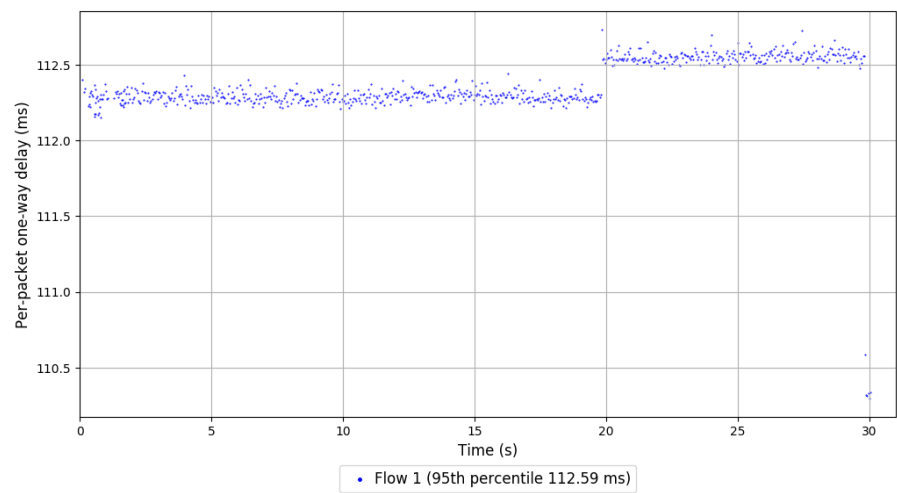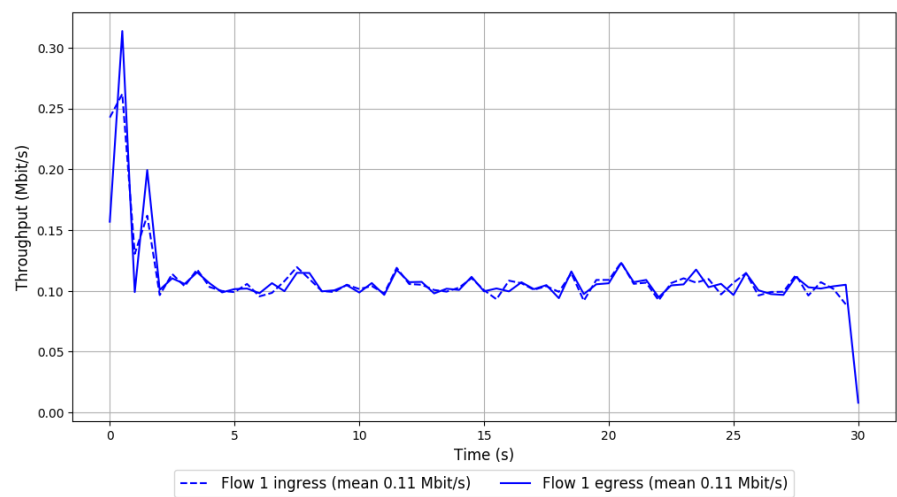
Run 1: Report of SCReAM — Data Link

```
Run 2: Statistics of SCReAM

Start at: 2017-11-20 23:43:27
End at: 2017-11-20 23:43:57

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 113.054 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 113.054 ms
Loss rate: 0.00%
```
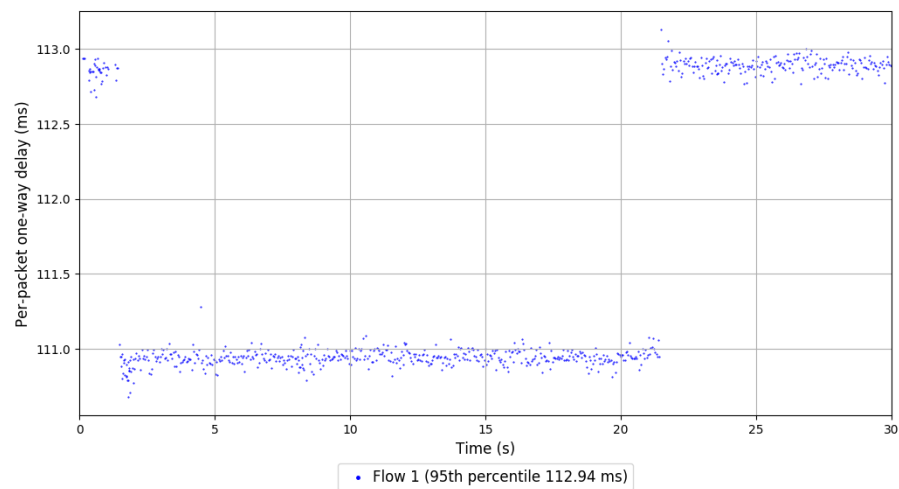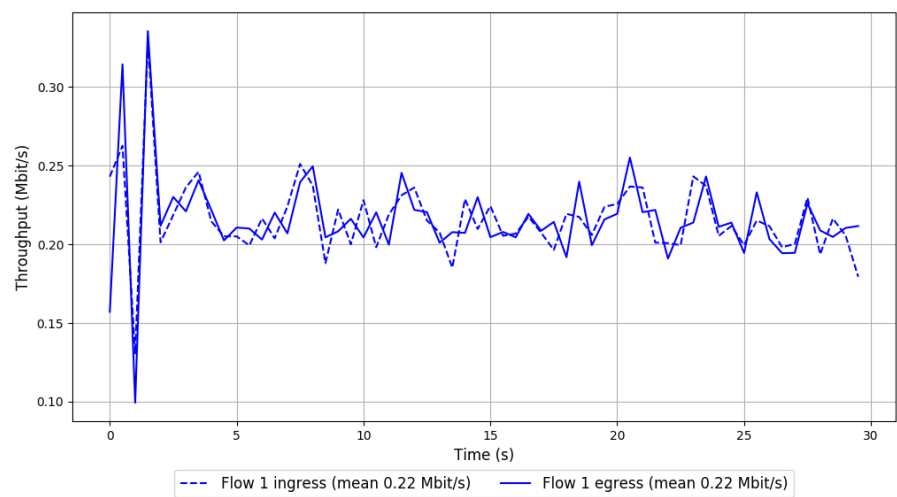
Run 2: Report of SCReAM — Data Link

```
Run 3: Statistics of SCReAM

Start at: 2017-11-20 23:54:37
End at: 2017-11-20 23:55:07

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 112.590 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 112.590 ms
Loss rate: 0.00%
```
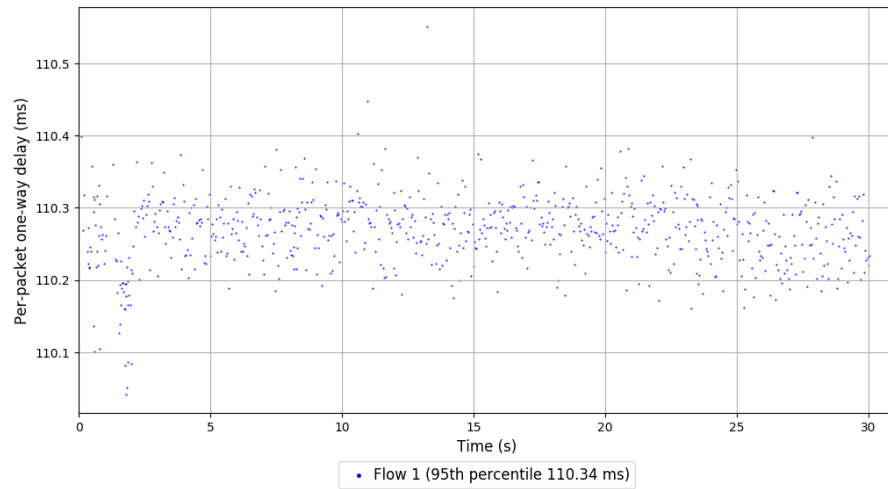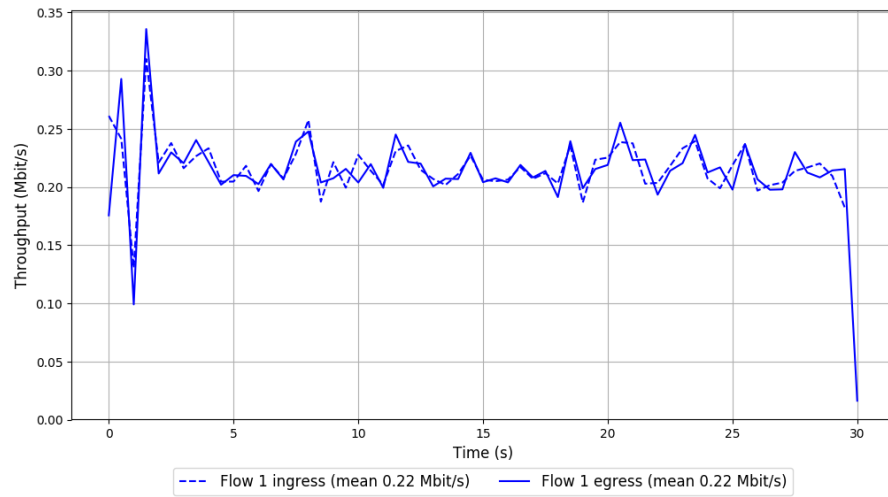
Run 3: Report of SCReAM — Data Link

Flow 1 ingress (mean 0.11 Mbit/s) --- Flow 1 egress (mean 0.11 Mbit/s)

Flow 1 (95th percentile 112.59 ms)

```
Run 4: Statistics of SCReAM

Start at: 2017-11-21 00:05:58
End at: 2017-11-21 00:06:28

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.936 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.936 ms
Loss rate: 0.12%
```
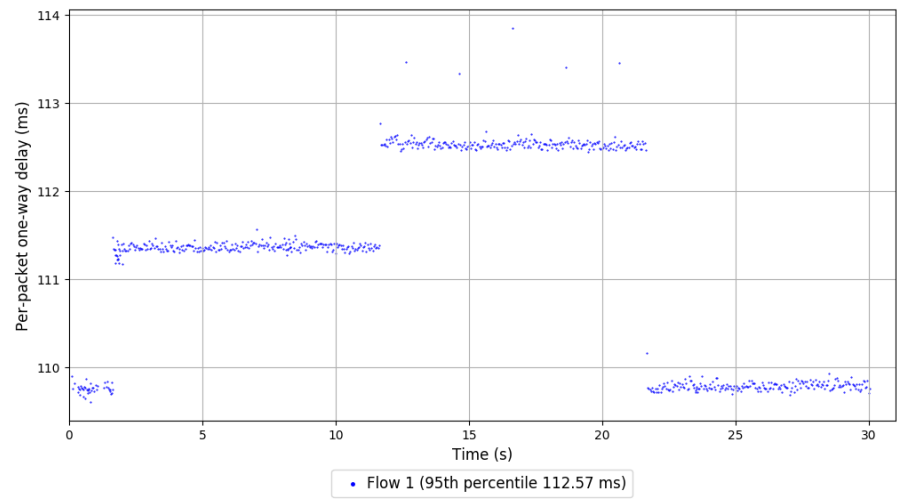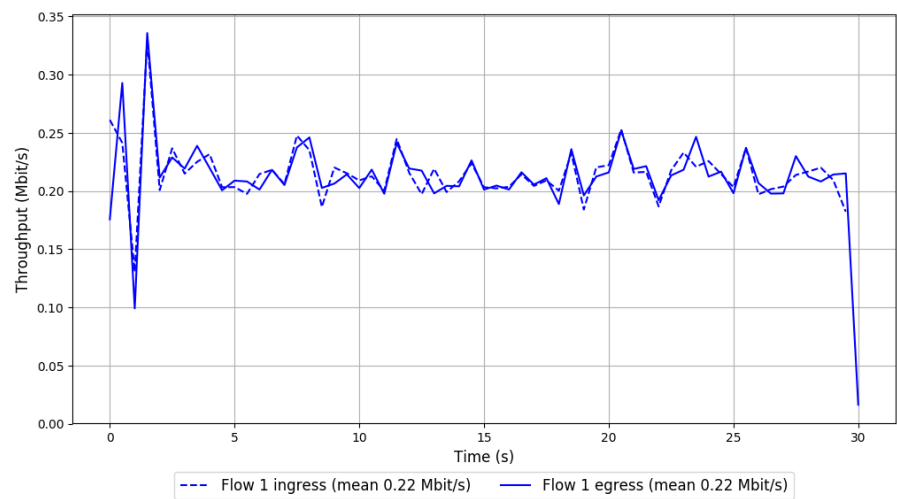
Run 4: Report of SCReAM — Data Link

```
Run 5: Statistics of SCReAM

Start at: 2017-11-21 00:17:08
End at: 2017-11-21 00:17:38

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.339 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.339 ms
Loss rate: 0.00%
```
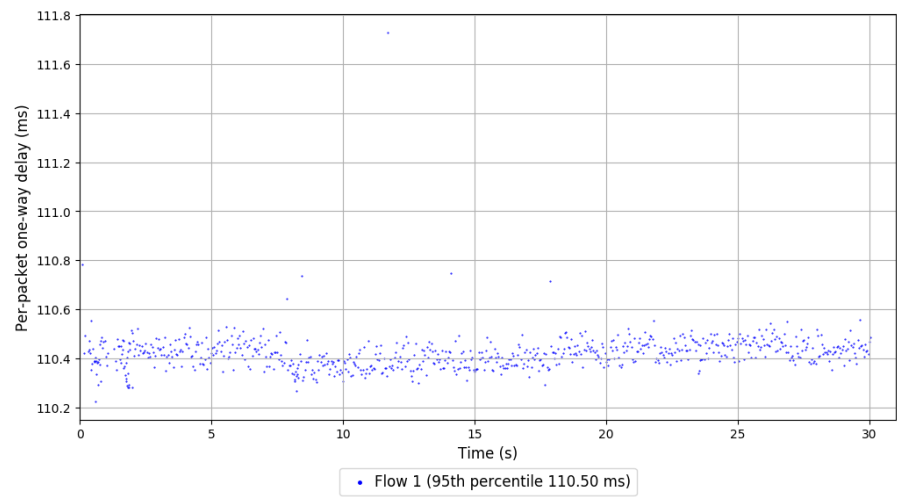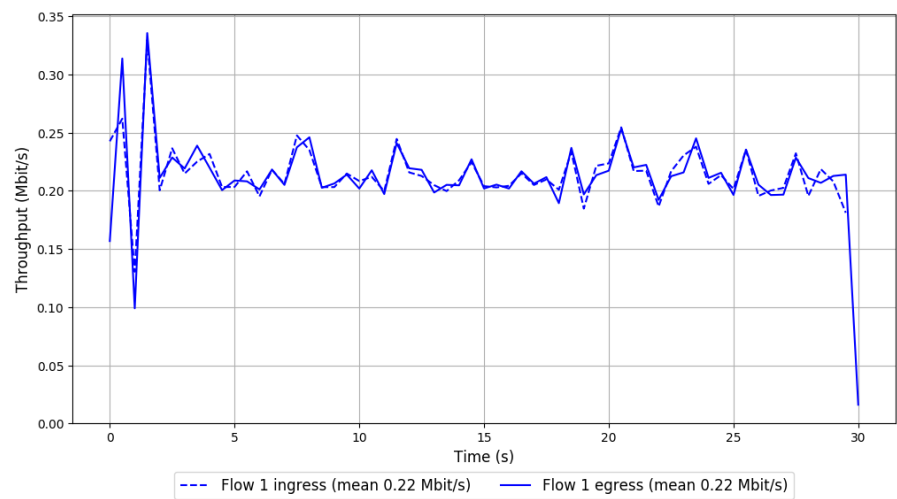
Run 5: Report of SCReAM — Data Link

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

• Flow 1 (95th percentile 110.34 ms)

113

```
Run 6: Statistics of SCReAM

Start at: 2017-11-21 00:28:18
End at: 2017-11-21 00:28:48

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.571 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.571 ms
Loss rate: 0.00%
```
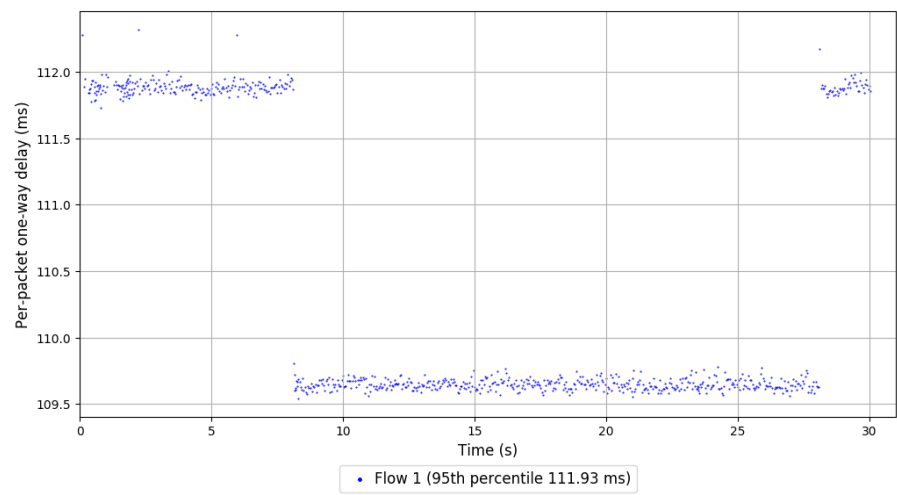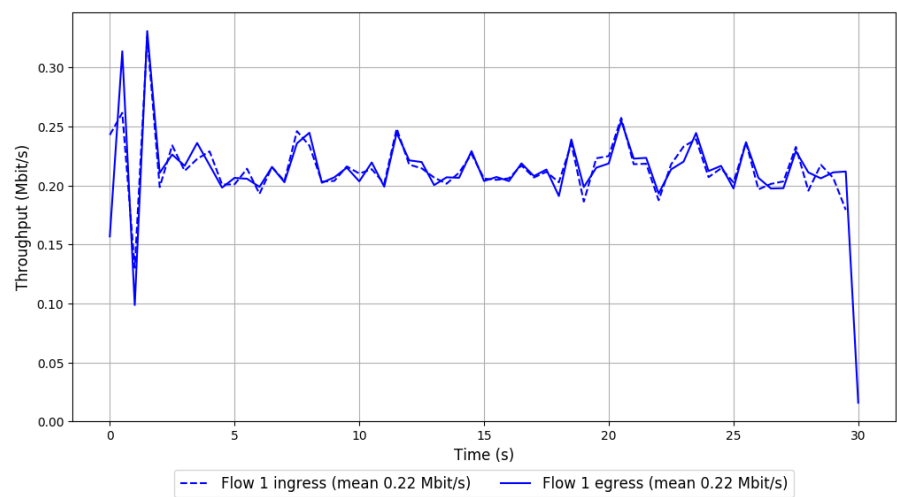
Run 6: Report of SCReAM — Data Link

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

• Flow 1 (95th percentile 112.57 ms)

```
Run 7: Statistics of SCReAM

Start at: 2017-11-21 00:39:19
End at: 2017-11-21 00:39:49

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.500 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 110.500 ms
Loss rate: 0.00%
```
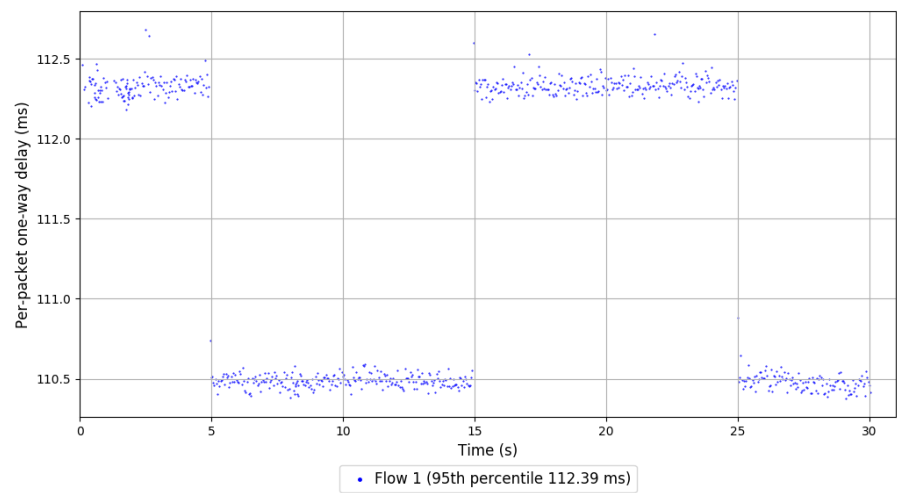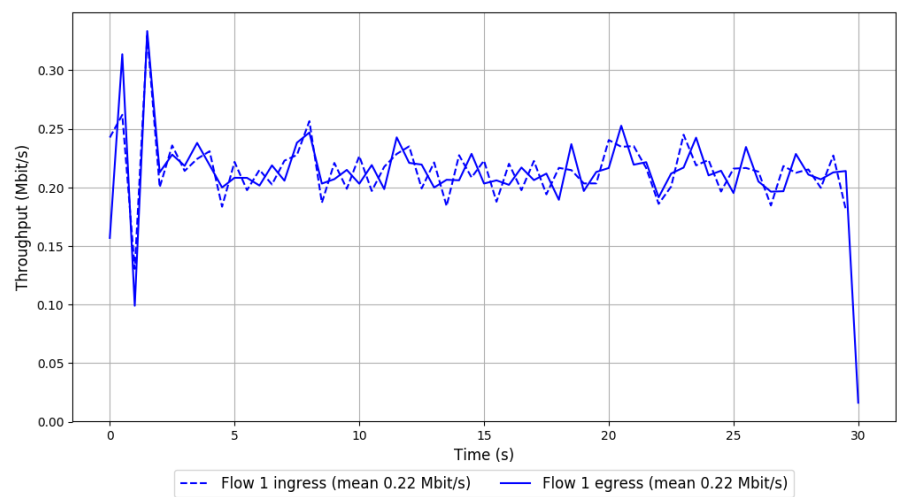
Run 7: Report of SCReAM — Data Link

```
Run 8: Statistics of SCReAM

Start at: 2017-11-21 00:50:31
End at: 2017-11-21 00:51:02

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.931 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 111.931 ms
Loss rate: 0.00%
```
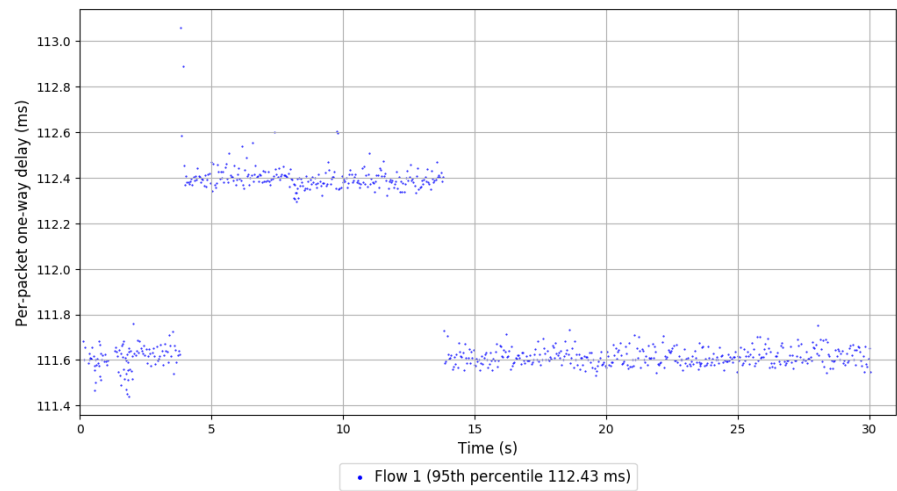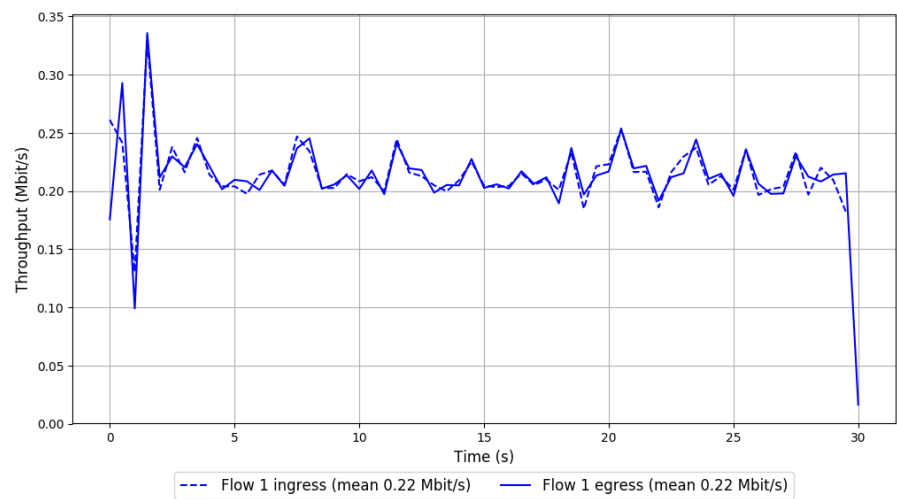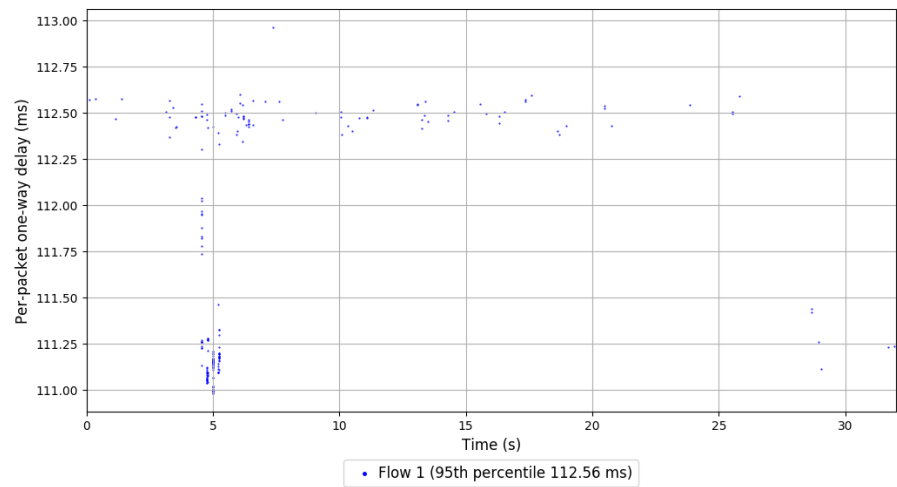
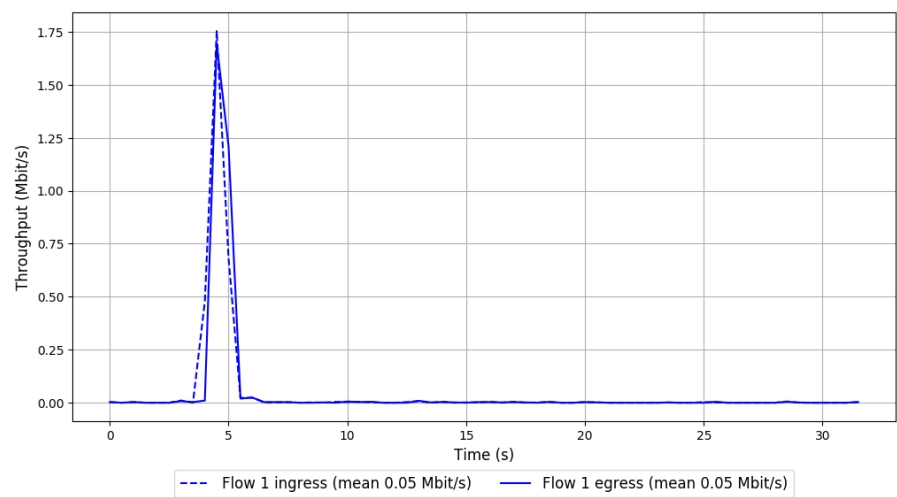## Run 8: Report of SCReAM — Data Link

```
Run 9: Statistics of SCReAM

Start at: 2017-11-21 01:01:45
End at: 2017-11-21 01:02:15


# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.389 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.389 ms
Loss rate: 0.00%
```

Run 9: Report of SCReAM — Data Link

```
Run 10: Statistics of SCReAM

Start at: 2017-11-21 01:12:43
End at: 2017-11-21 01:13:13

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.430 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 112.430 ms
Loss rate: 0.00%
```
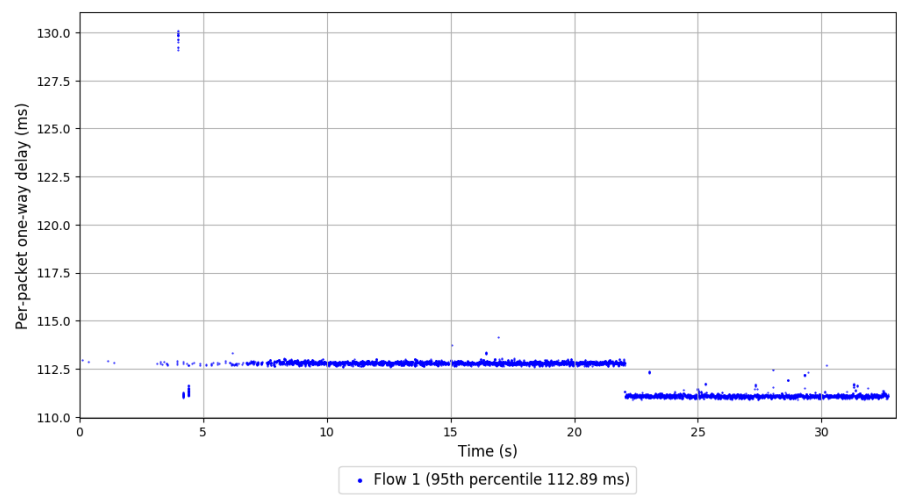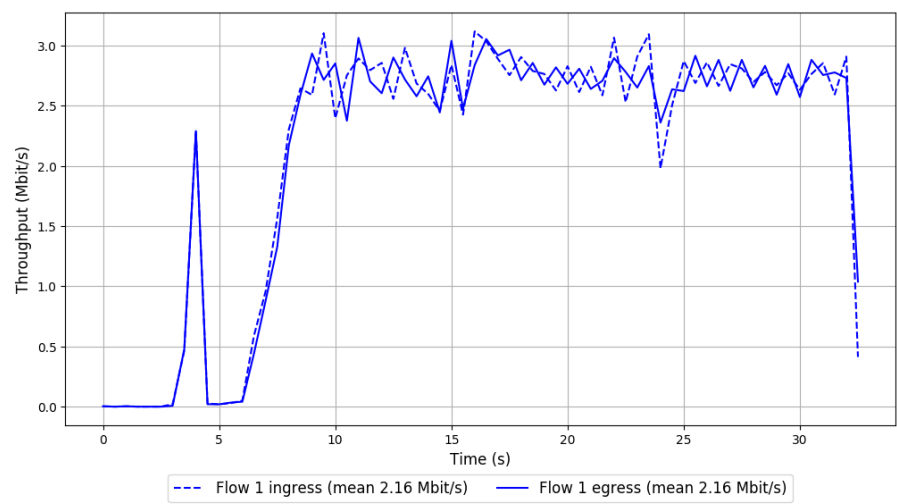
Run 10: Report of SCReAM — Data Link

123

```
Run 1: Statistics of WebRTC media

Start at: 2017-11-20 23:32:46
End at: 2017-11-20 23:33:16


# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 112.563 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 112.563 ms
Loss rate: 0.00%
```
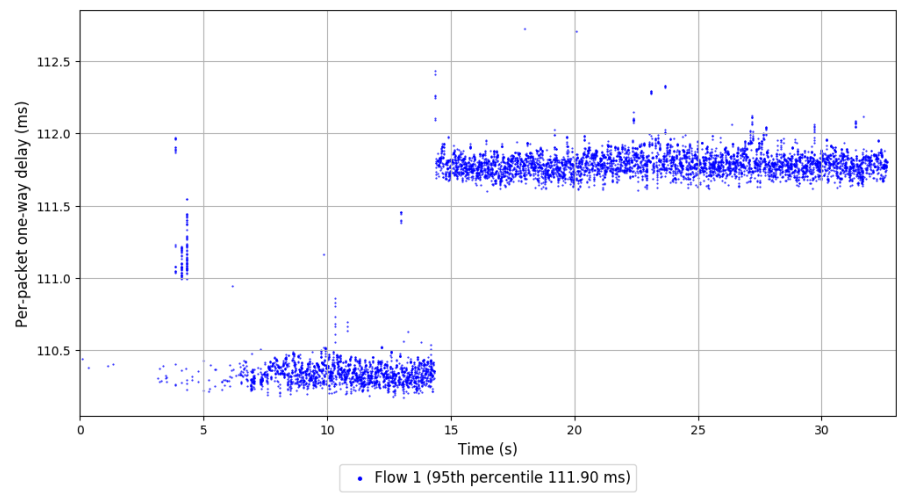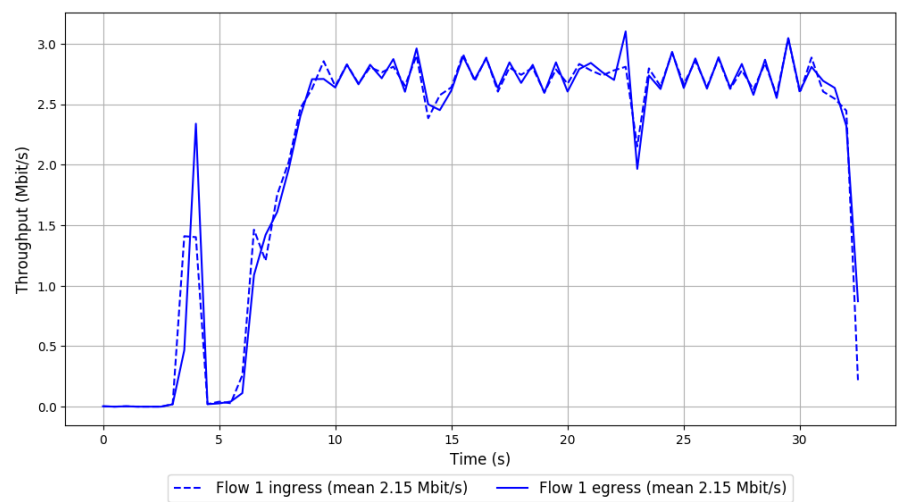
Run 1: Report of WebRTC media — Data Link

```
Run 2: Statistics of WebRTC media

Start at: 2017-11-20 23:44:08
End at: 2017-11-20 23:44:38

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 112.895 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.16 Mbit/s
95th percentile per-packet one-way delay: 112.895 ms
Loss rate: 0.00%
```
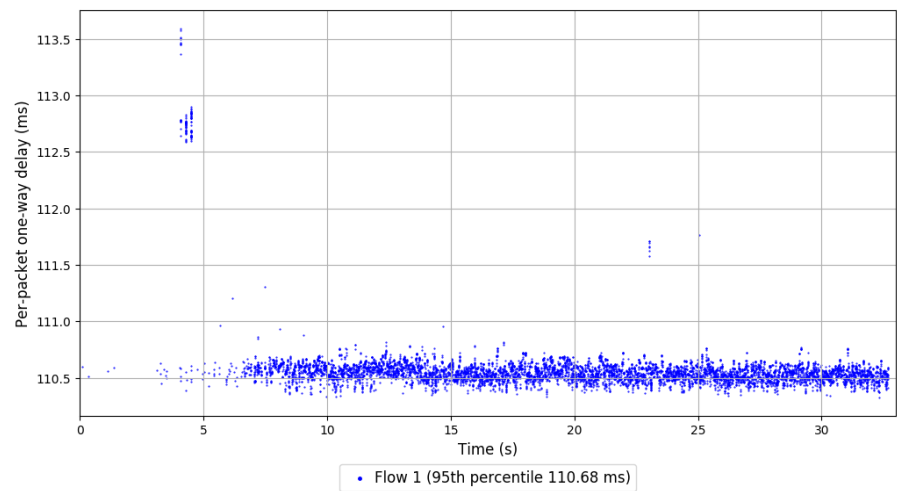
Run 2: Report of WebRTC media — Data Link

```
Run 3: Statistics of WebRTC media

Start at: 2017-11-20 23:55:18
End at: 2017-11-20 23:55:48

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 111.904 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 111.904 ms
Loss rate: 0.00%
```
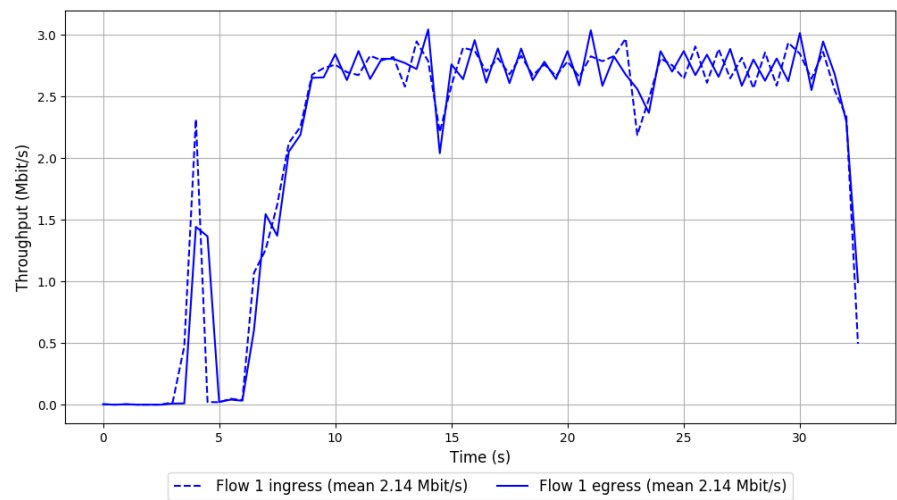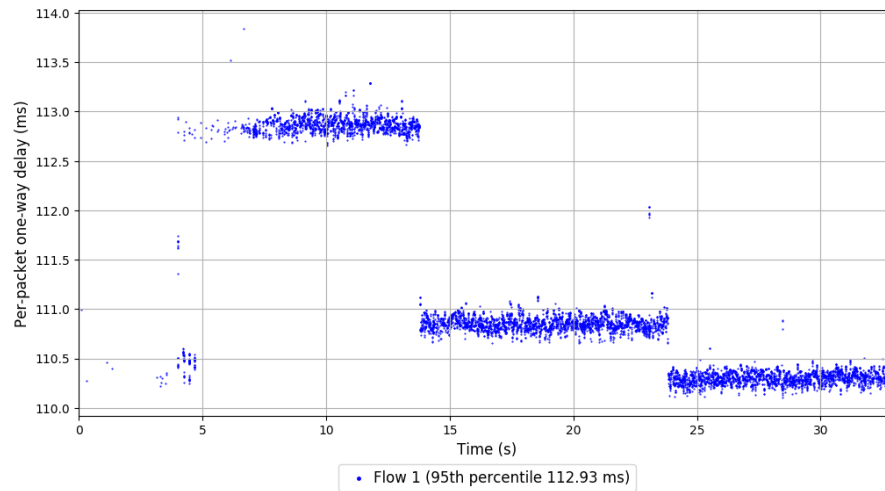
Run 3: Report of WebRTC media — Data Link

```
Run 4: Statistics of WebRTC media

Start at: 2017-11-21 00:06:39
End at: 2017-11-21 00:07:09

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 110.676 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 110.676 ms
Loss rate: 0.00%
```
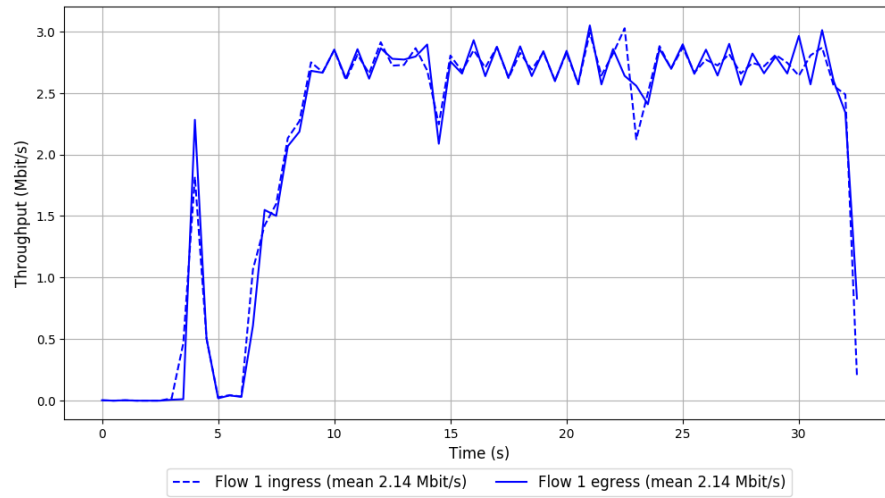
Run 4: Report of WebRTC media — Data Link

```
Run 5: Statistics of WebRTC media

Start at: 2017-11-21 00:17:48
End at: 2017-11-21 00:18:18

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 112.930 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 112.930 ms
Loss rate: 0.00%
```
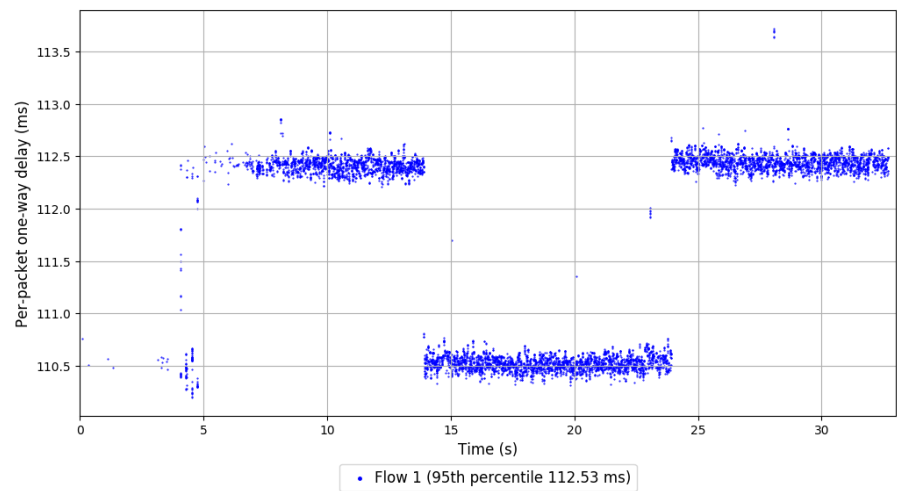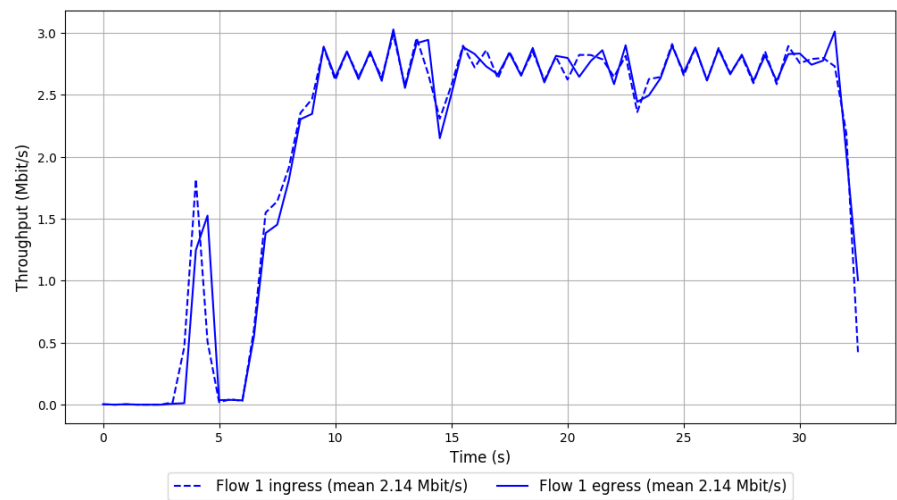
Run 5: Report of WebRTC media — Data Link

```
Run 6: Statistics of WebRTC media

Start at: 2017-11-21 00:28:58
End at: 2017-11-21 00:29:28

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 112.535 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.14 Mbit/s
95th percentile per-packet one-way delay: 112.535 ms
Loss rate: 0.00%
```
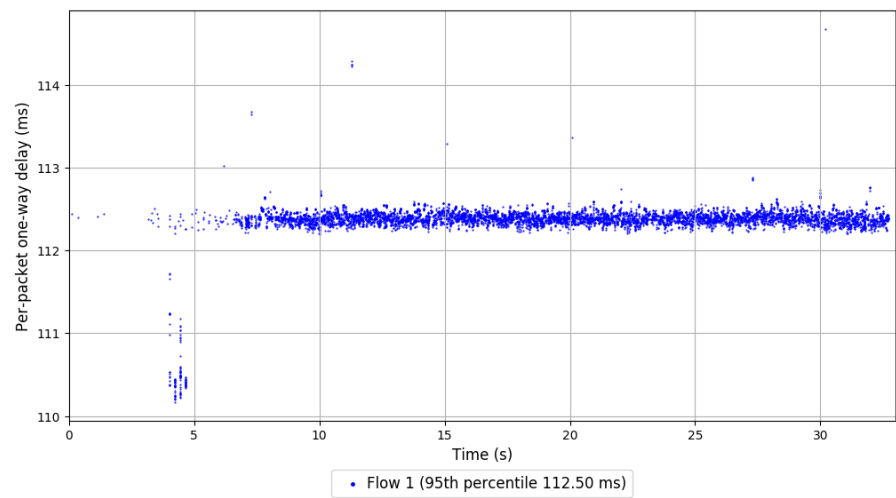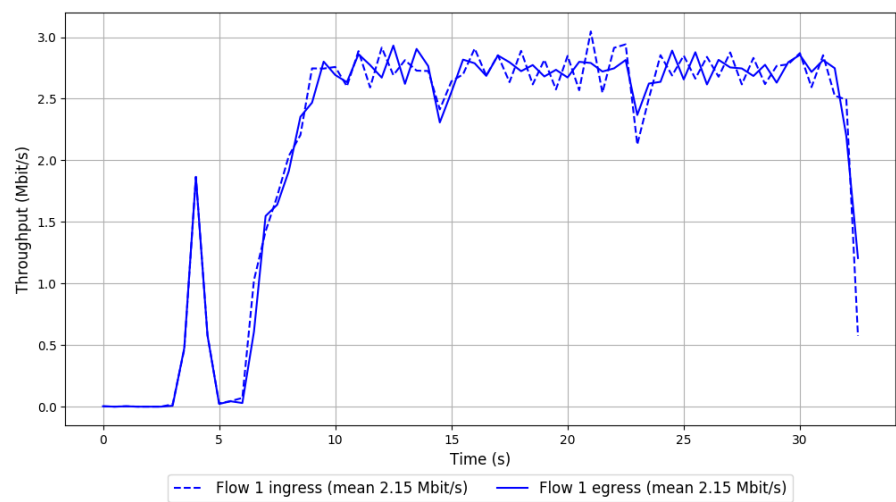
Run 6: Report of WebRTC media — Data Link

```
Run 7: Statistics of WebRTC media

Start at: 2017-11-21 00:40:00
End at: 2017-11-21 00:40:30

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 112.503 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 112.503 ms
Loss rate: 0.00%
```
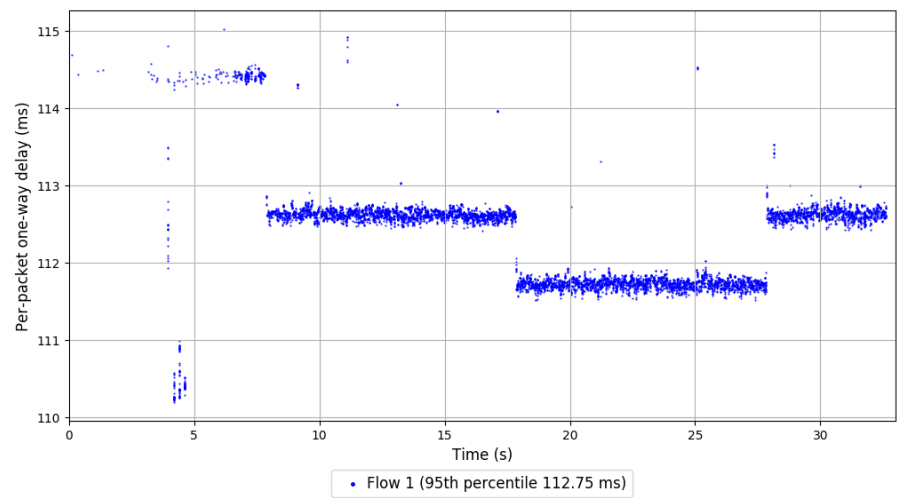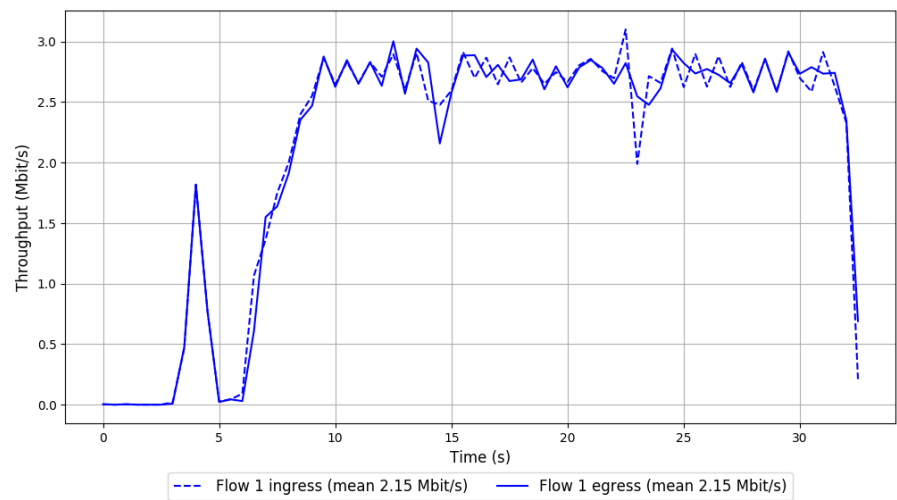
Run 7: Report of WebRTC media — Data Link

```
Run 8: Statistics of WebRTC media

Start at: 2017-11-21 00:51:12
End at: 2017-11-21 00:51:42

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 112.751 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 112.751 ms
Loss rate: 0.00%
```
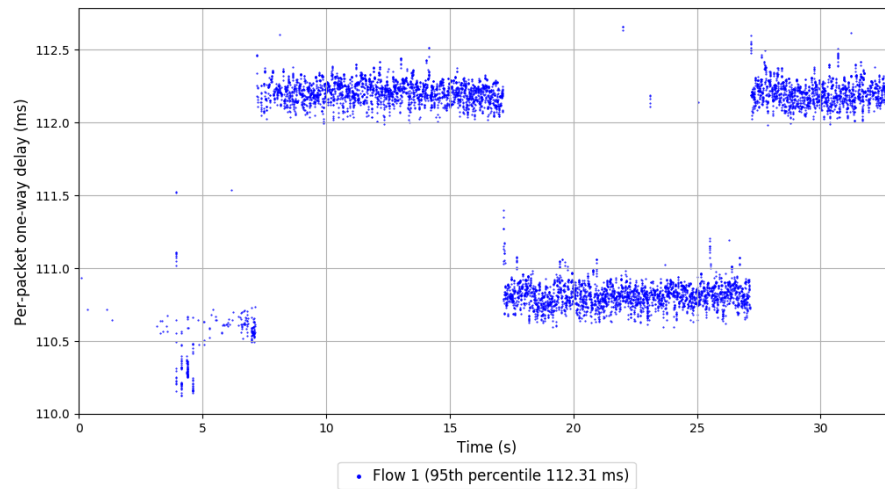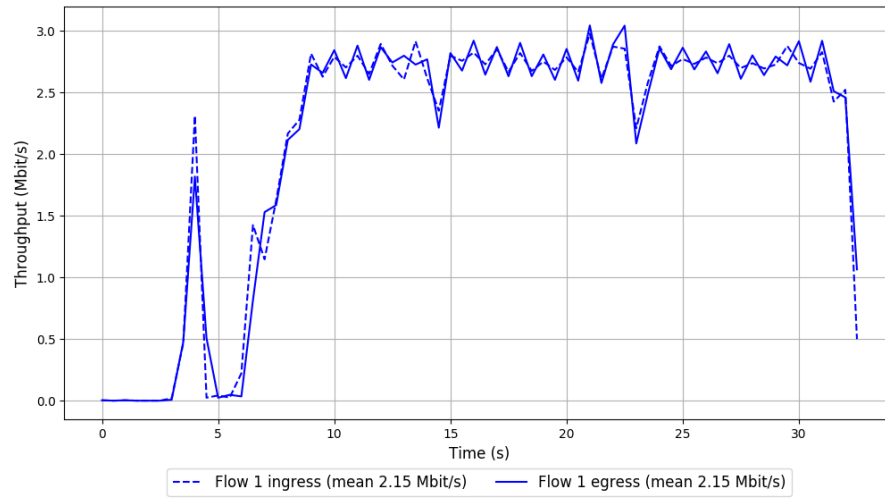
Run 8: Report of WebRTC media — Data Link

```
Run 9: Statistics of WebRTC media

Start at: 2017-11-21 01:02:25
End at: 2017-11-21 01:02:55

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 112.307 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 112.307 ms
Loss rate: 0.00%
```
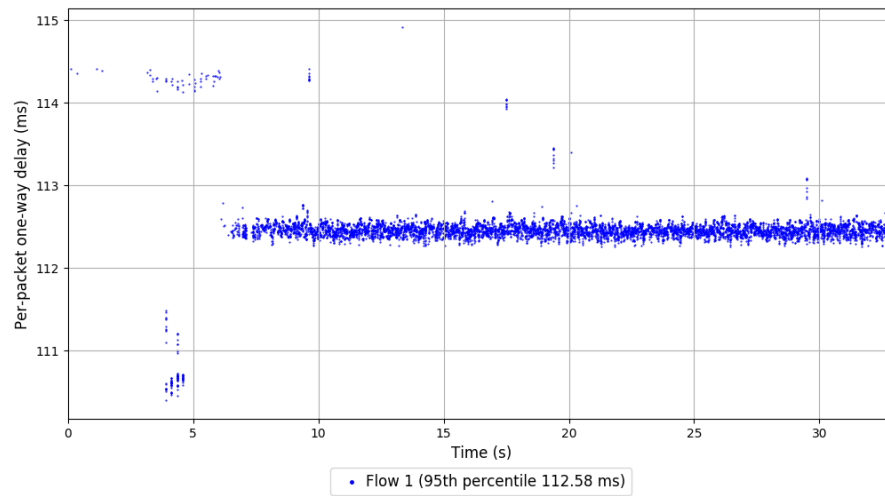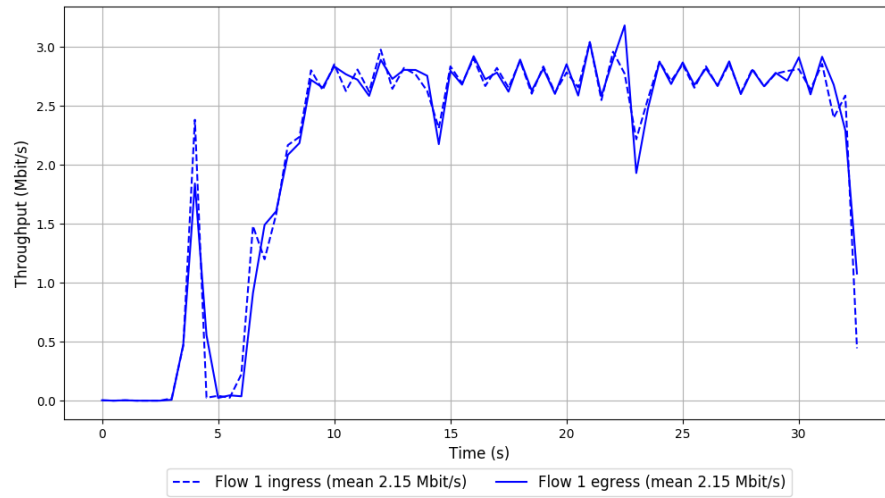
Run 9: Report of WebRTC media — Data Link

```
Run 10: Statistics of WebRTC media

Start at: 2017-11-21 01:13:24
End at: 2017-11-21 01:13:54

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 112.580 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.15 Mbit/s
95th percentile per-packet one-way delay: 112.580 ms
Loss rate: 0.00%
```
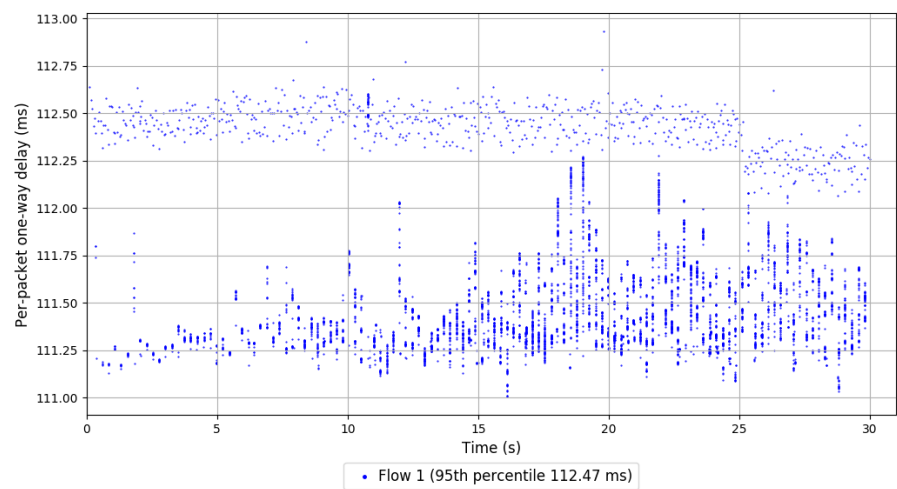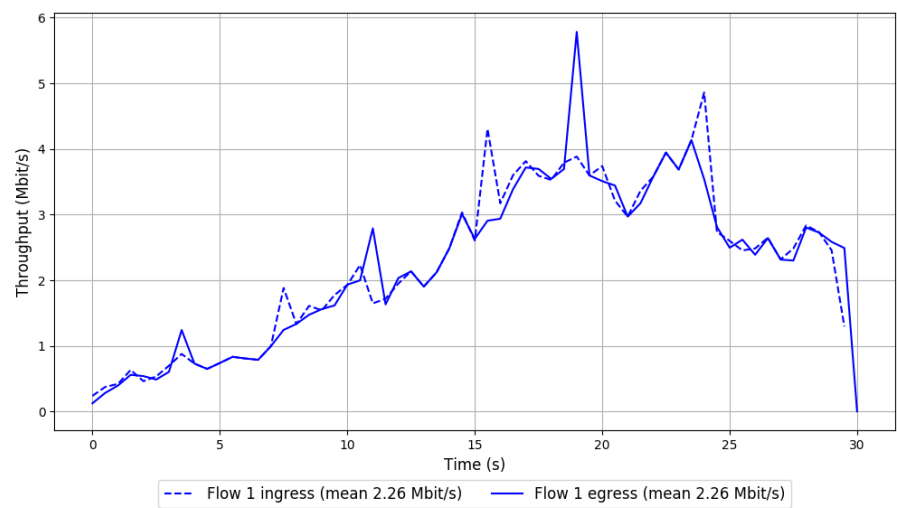
Run 10: Report of WebRTC media — Data Link

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

Flow 1 (95th percentile 112.58 ms)

```
Run 1: Statistics of Sprout

Start at: 2017-11-20 23:40:34
End at: 2017-11-20 23:41:04

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 112.466 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 112.466 ms
Loss rate: 0.30%
```

Run 1: Report of Sprout — Data Link

```
Run 2: Statistics of Sprout

Start at: 2017-11-20 23:51:47
End at: 2017-11-20 23:52:17

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 111.615 ms
Loss rate: 0.78%
-- Flow 1:
Average throughput: 3.11 Mbit/s
95th percentile per-packet one-way delay: 111.615 ms
Loss rate: 0.78%
```
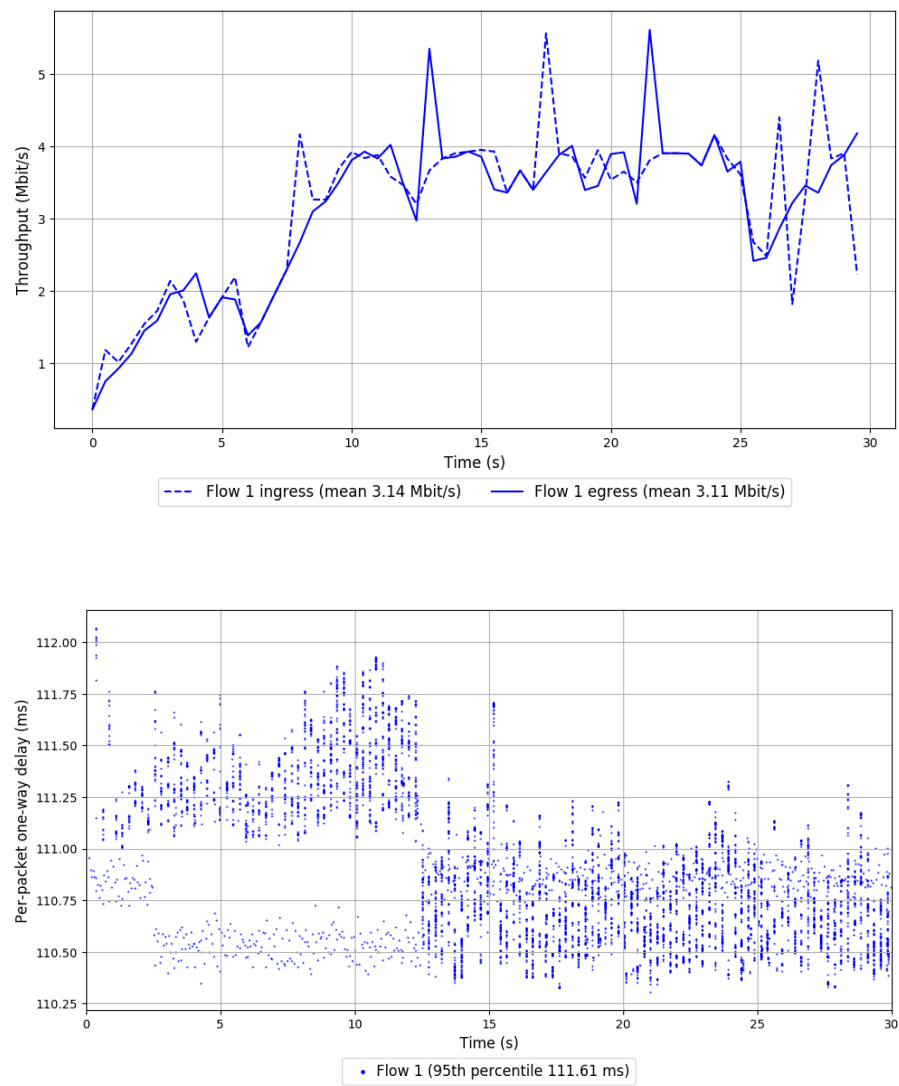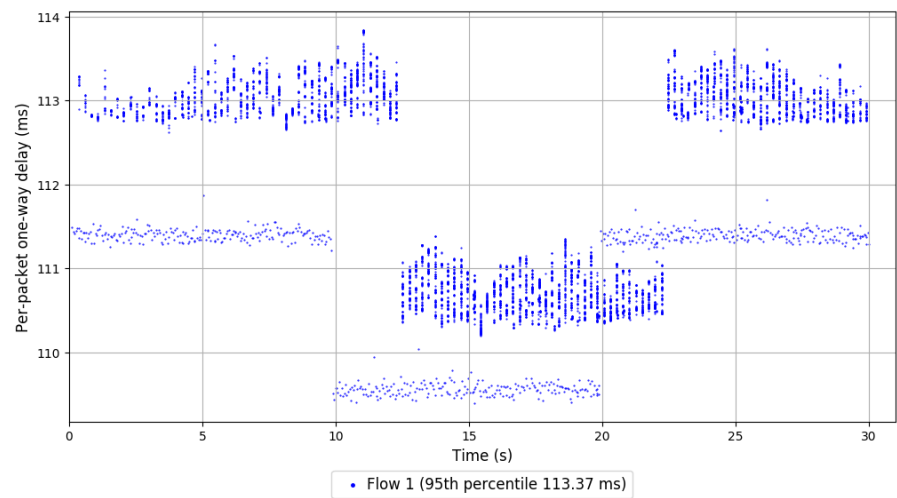
Run 2: Report of Sprout — Data Link

```
Run 3: Statistics of Sprout

Start at: 2017-11-21 00:03:07
End at: 2017-11-21 00:03:37

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 113.369 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 2.94 Mbit/s
95th percentile per-packet one-way delay: 113.369 ms
Loss rate: 0.01%
```
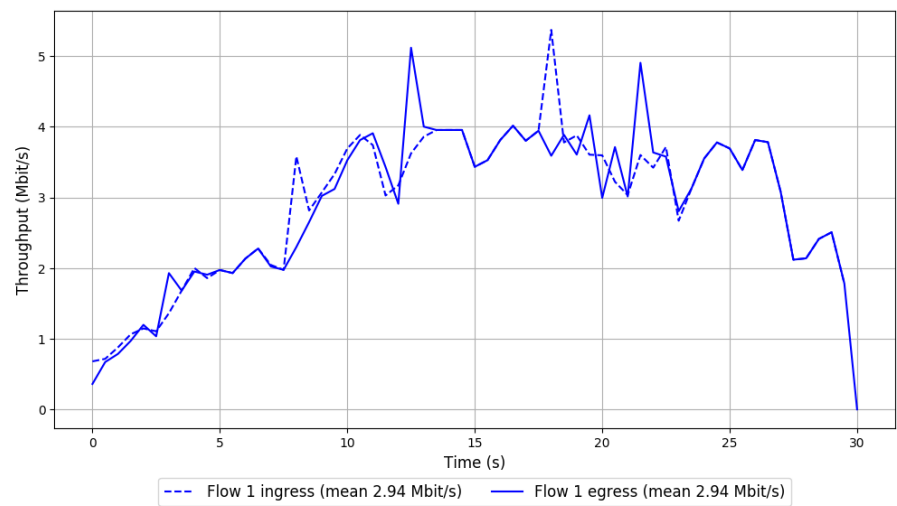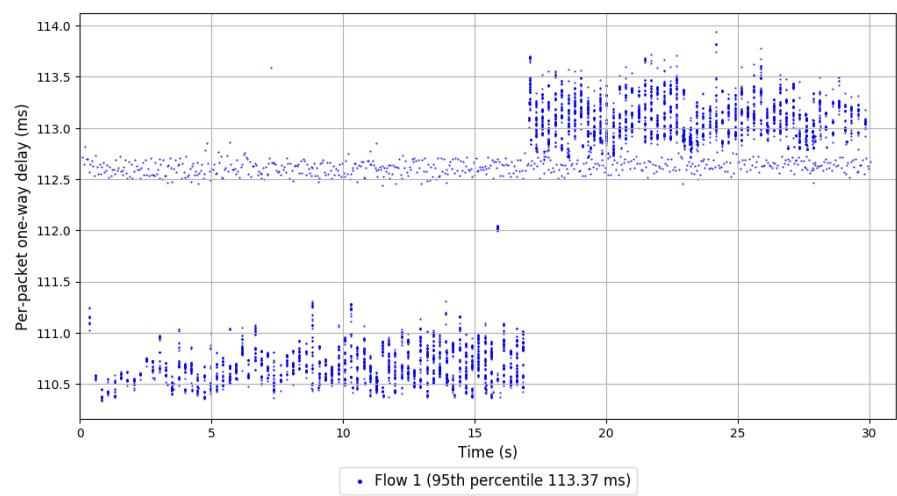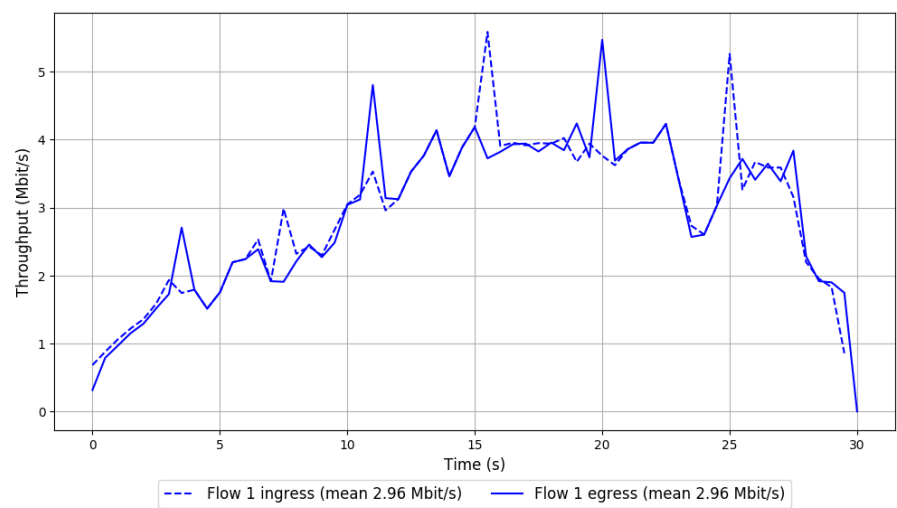
Run 3: Report of Sprout — Data Link

```
Run 4: Statistics of Sprout

Start at: 2017-11-21 00:14:23
End at: 2017-11-21 00:14:53

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 113.368 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 2.96 Mbit/s
95th percentile per-packet one-way delay: 113.368 ms
Loss rate: 0.28%
```
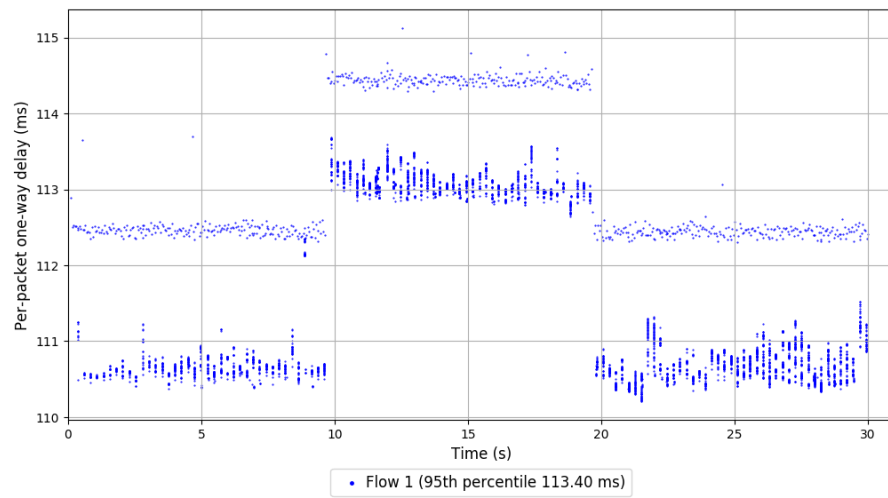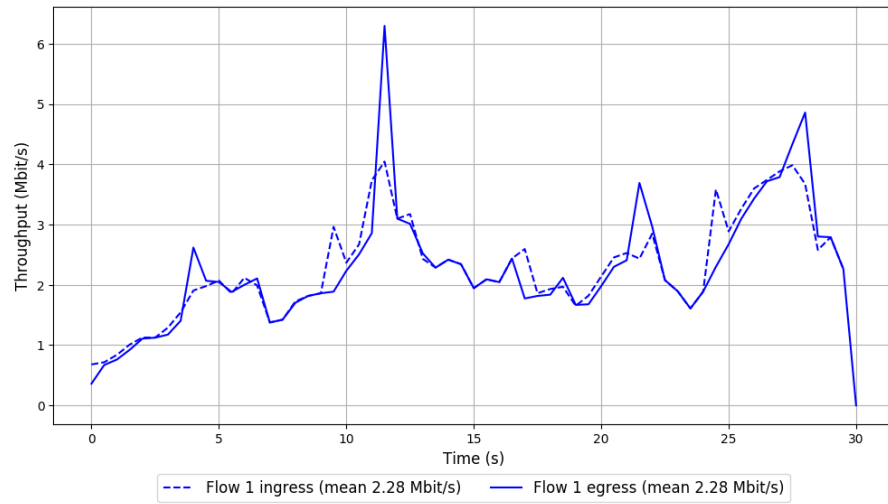
Run 4: Report of Sprout — Data Link

Flow 1 ingress (mean 2.96 Mbit/s) —— Flow 1 egress (mean 2.96 Mbit/s)

• Flow 1 (95th percentile 113.37 ms)

```
Run 5: Statistics of Sprout

Start at: 2017-11-21 00:25:30
End at: 2017-11-21 00:26:00

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 113.401 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 113.401 ms
Loss rate: 0.21%
```

Run 5: Report of Sprout — Data Link

Flow 1 ingress (mean 2.28 Mbit/s) ---- Flow 1 egress (mean 2.28 Mbit/s)

• Flow 1 (95th percentile 113.40 ms)

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```
Run 6: Statistics of Sprout

Start at: 2017-11-21 00:36:48
End at: 2017-11-21 00:37:18

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 113.398 ms
Loss rate: 0.40%
-- Flow 1:
Average throughput: 2.36 Mbit/s
95th percentile per-packet one-way delay: 113.398 ms
Loss rate: 0.40%
```
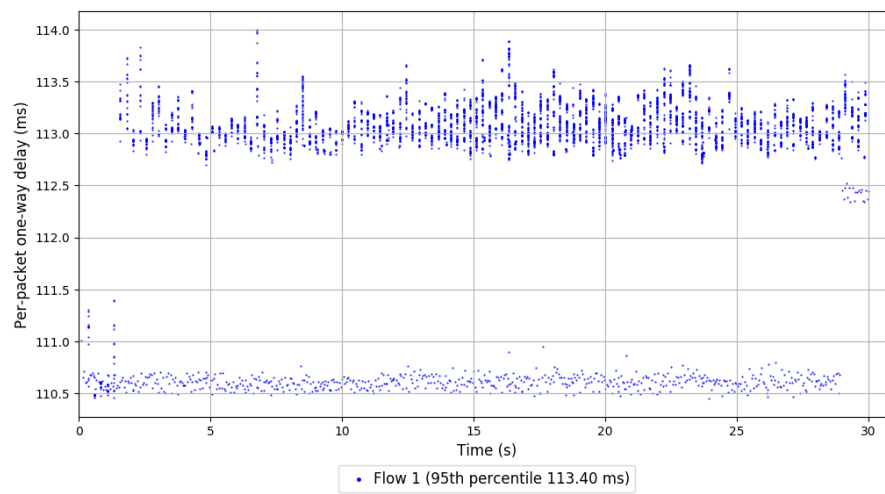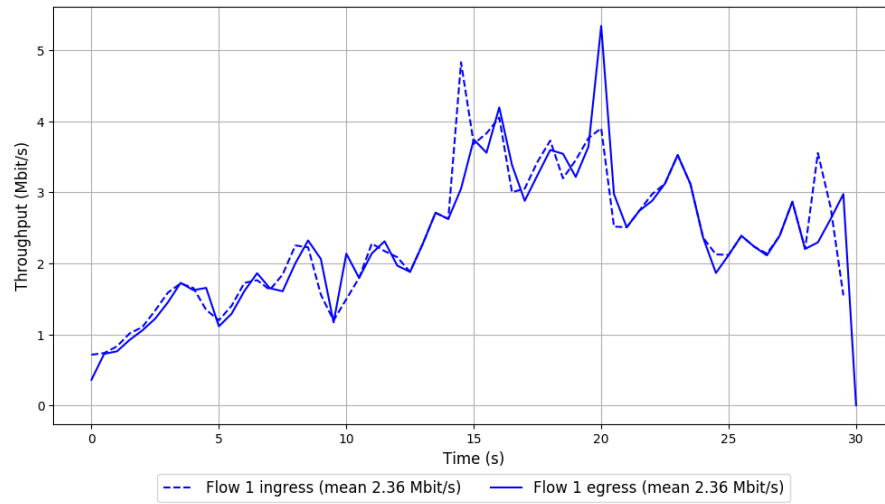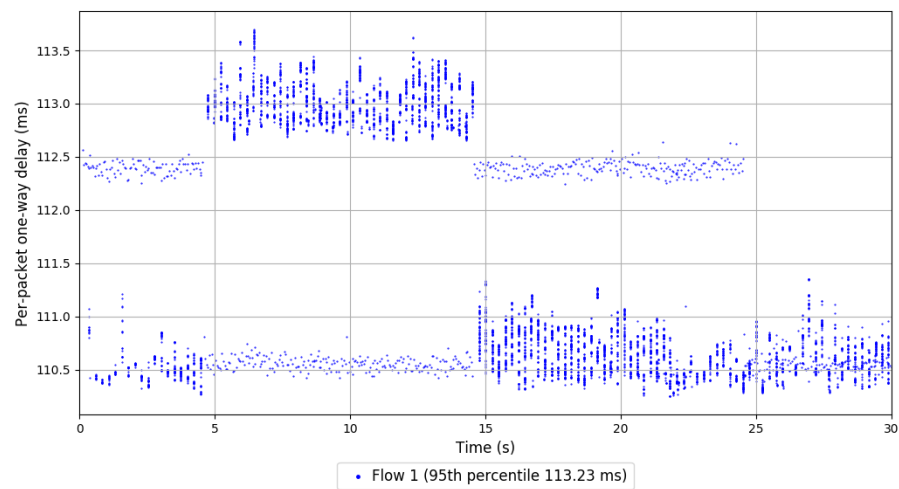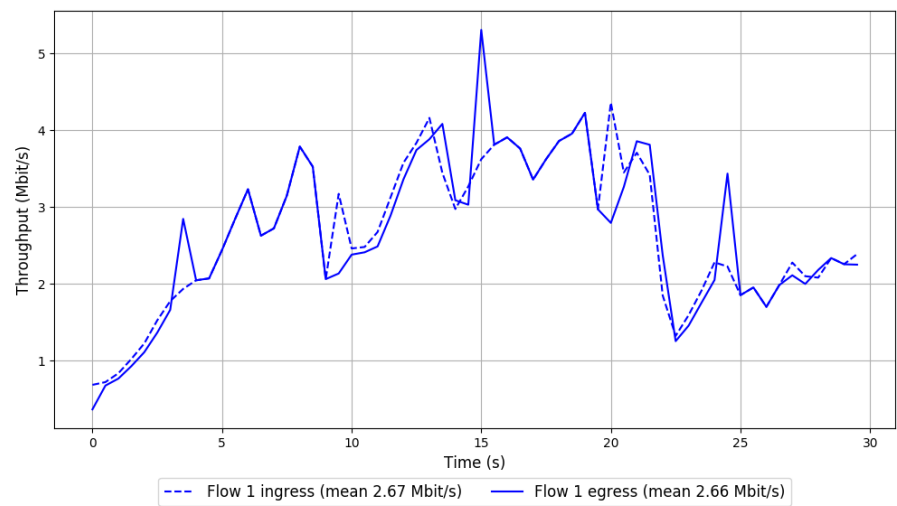
Run 6: Report of Sprout — Data Link

```
Run 7: Statistics of Sprout

Start at: 2017-11-21 00:47:55
End at: 2017-11-21 00:48:25

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.66 Mbit/s
95th percentile per-packet one-way delay: 113.230 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 2.66 Mbit/s
95th percentile per-packet one-way delay: 113.230 ms
Loss rate: 0.24%
```
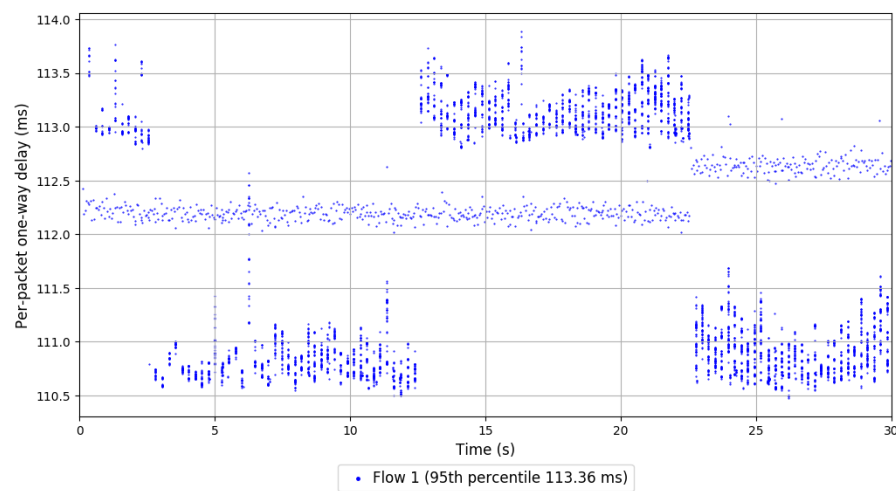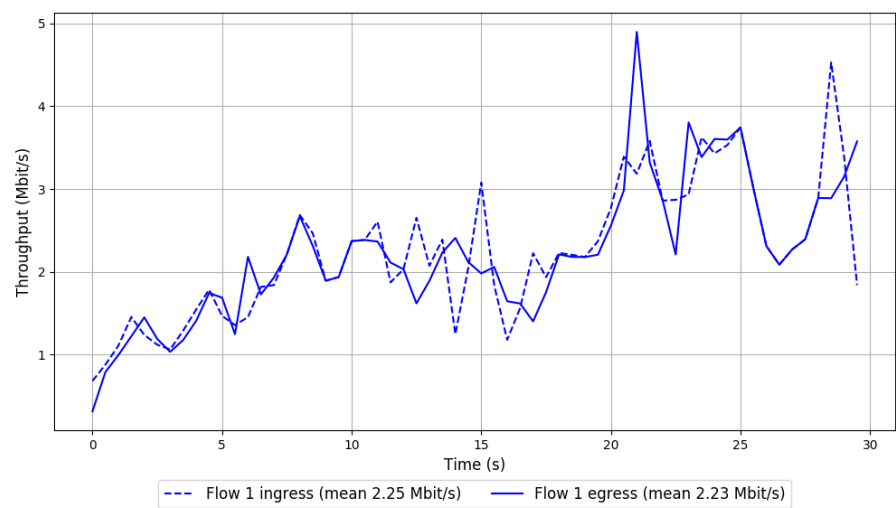
Run 7: Report of Sprout — Data Link

```
Run 8: Statistics of Sprout

Start at: 2017-11-21 00:58:57
End at: 2017-11-21 00:59:27

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 113.361 ms
Loss rate: 0.72%
-- Flow 1:
Average throughput: 2.23 Mbit/s
95th percentile per-packet one-way delay: 113.361 ms
Loss rate: 0.72%
```
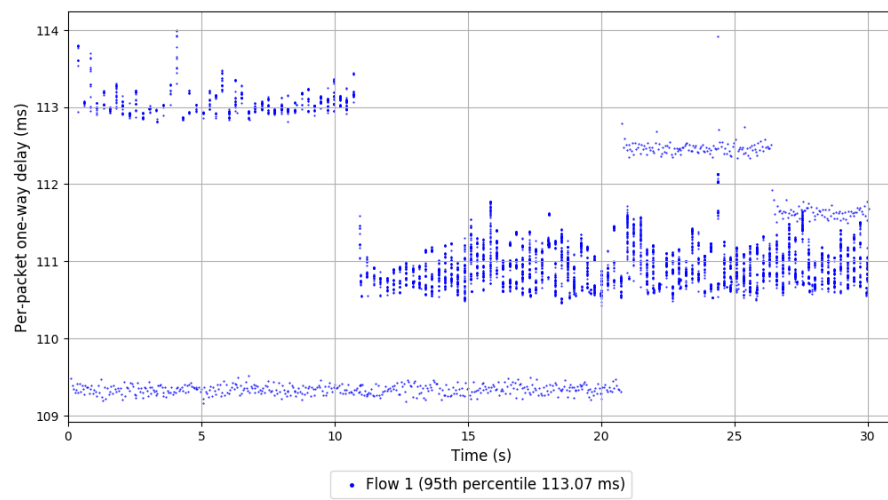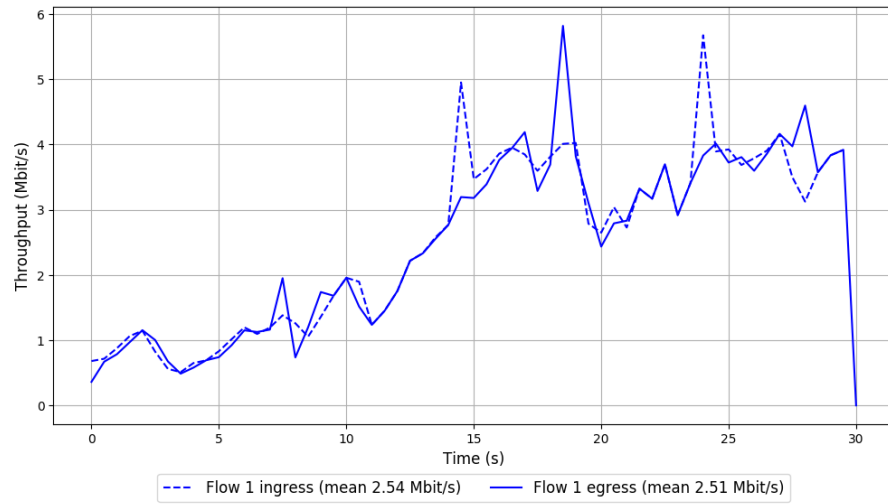
Run 8: Report of Sprout — Data Link

Flow 1 ingress (mean 2.25 Mbit/s)   Flow 1 egress (mean 2.23 Mbit/s)

Flow 1 (95th percentile 113.36 ms)

```
Run 9: Statistics of Sprout

Start at: 2017-11-21 01:10:09
End at: 2017-11-21 01:10:39

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.51 Mbit/s
95th percentile per-packet one-way delay: 113.067 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 2.51 Mbit/s
95th percentile per-packet one-way delay: 113.067 ms
Loss rate: 0.92%
```
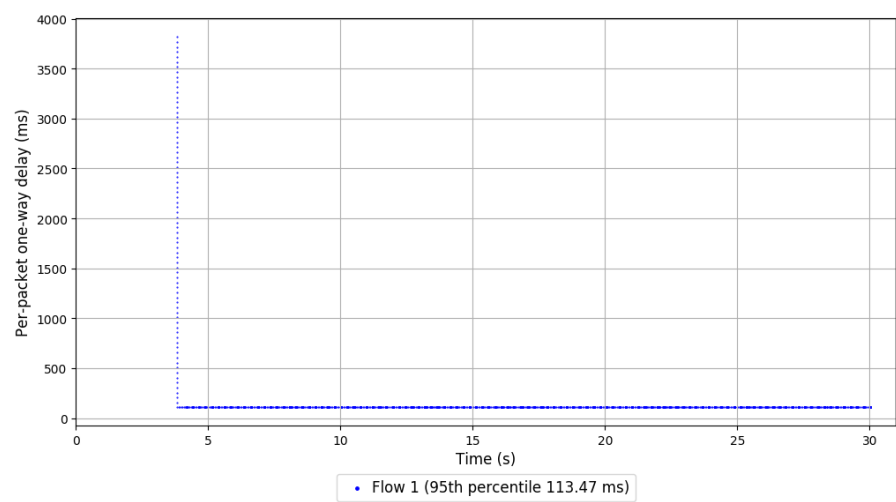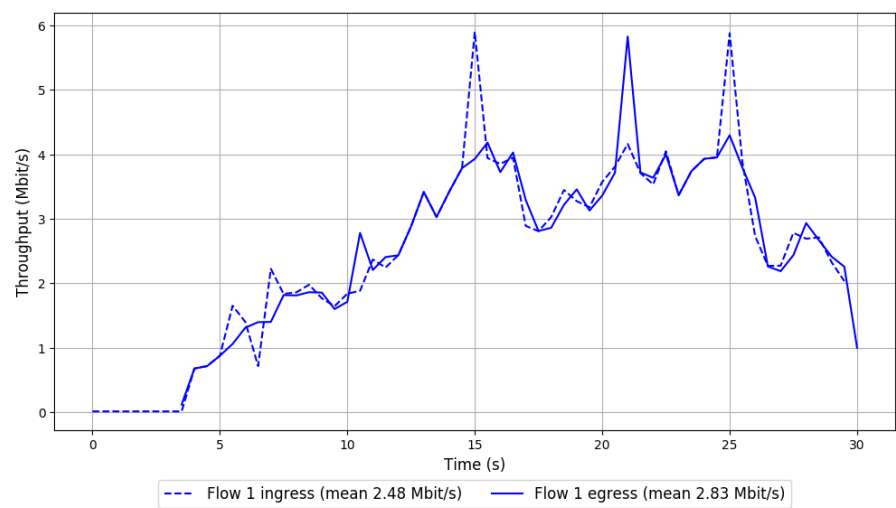
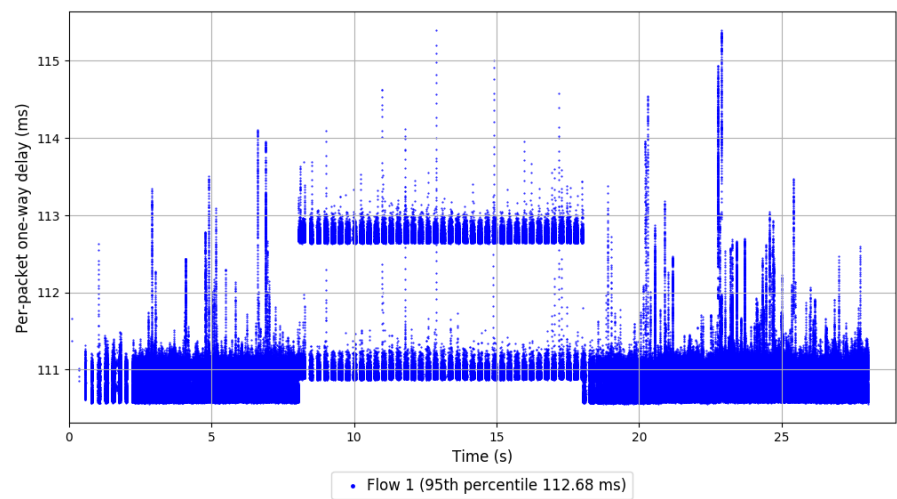Run 9: Report of Sprout — Data Link

```
Run 10: Statistics of Sprout

Start at: 2017-11-21 01:21:10
End at: 2017-11-21 01:21:40

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 2.83 Mbit/s
95th percentile per-packet one-way delay: 113.465 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 2.83 Mbit/s
95th percentile per-packet one-way delay: 113.465 ms
Loss rate: 0.27%
```

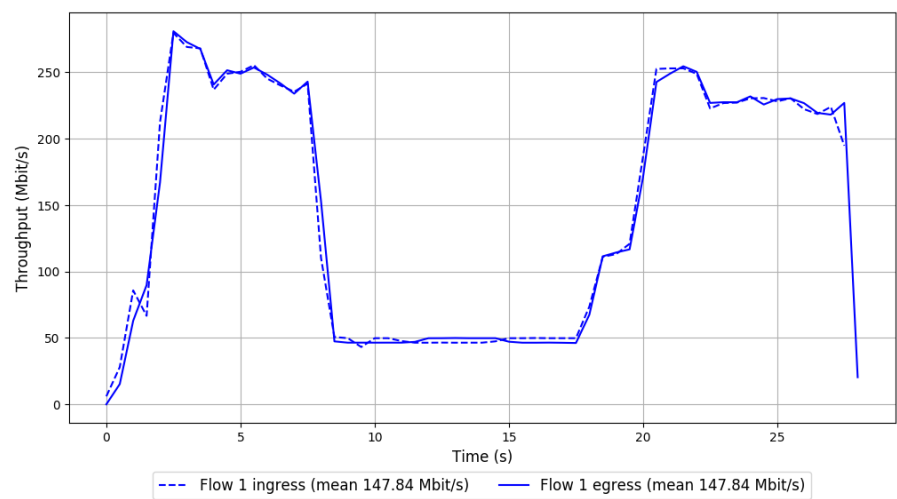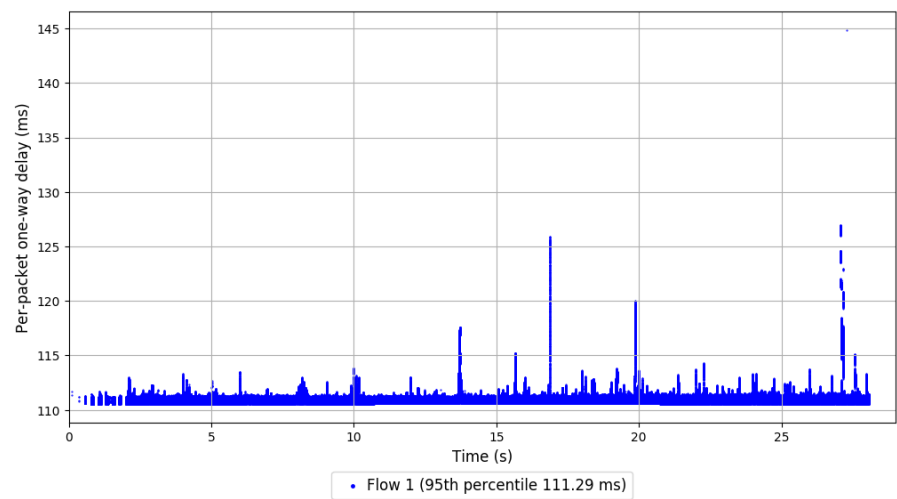# Run 10: Report of Sprout — Data Link

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

Start at: 2017-11-20 23:31:10
End at: 2017-11-20 23:31:40

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 147.84 Mbit/s
95th percentile per-packet one-way delay: 112.683 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 147.84 Mbit/s
95th percentile per-packet one-way delay: 112.683 ms
Loss rate: 0.00%
```
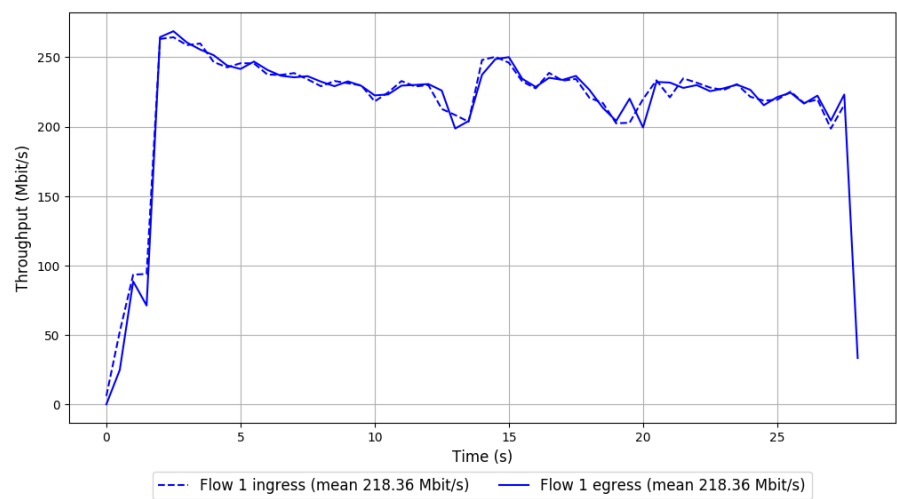
Run 1: Report of TaoVA-100x — Data Link

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

Start at: 2017-11-20 23:42:25
End at: 2017-11-20 23:42:55

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 218.36 Mbit/s
95th percentile per-packet one-way delay: 111.292 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 218.36 Mbit/s
95th percentile per-packet one-way delay: 111.292 ms
Loss rate: 0.01%
```
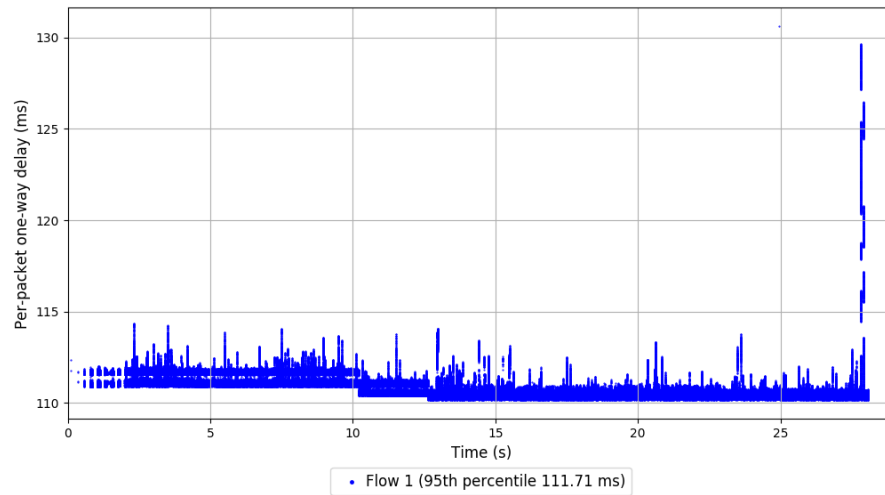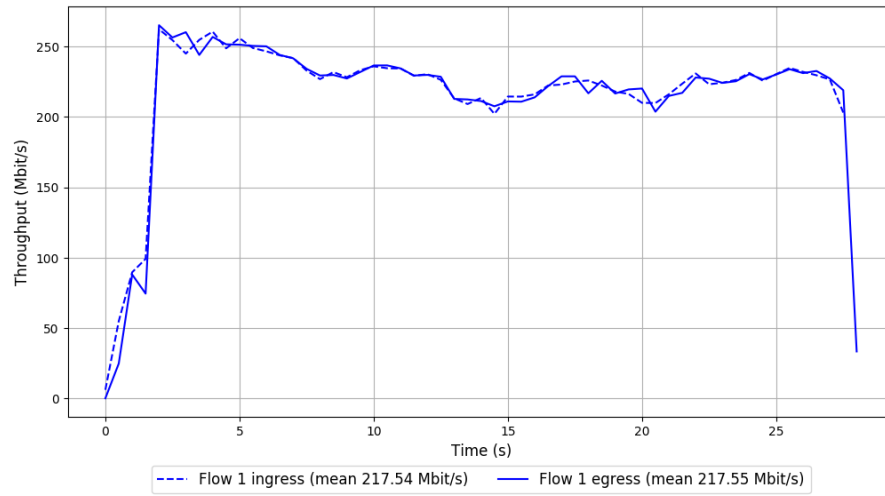
Run 2: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 218.36 Mbit/s) — Flow 1 egress (mean 218.36 Mbit/s)

• Flow 1 (95th percentile 111.29 ms)

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

Start at: 2017-11-20 23:53:35
End at: 2017-11-20 23:54:05

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 217.55 Mbit/s
95th percentile per-packet one-way delay: 111.709 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 217.55 Mbit/s
95th percentile per-packet one-way delay: 111.709 ms
Loss rate: 0.00%
```
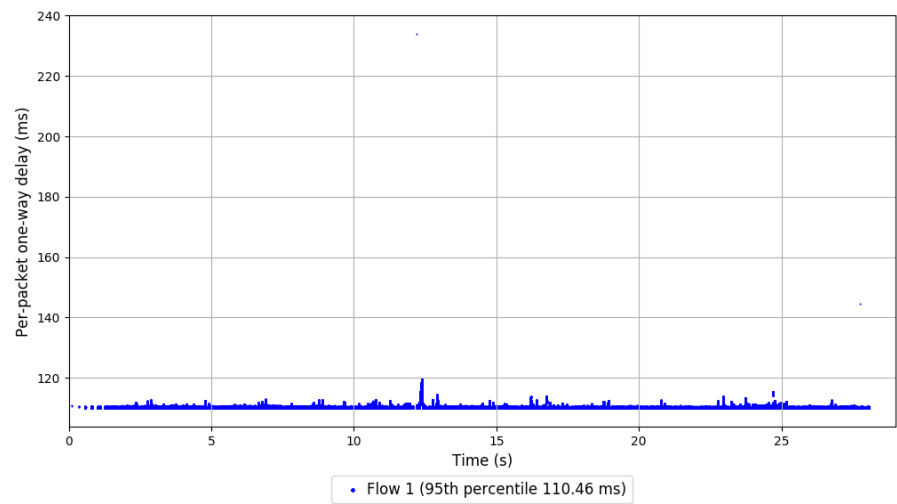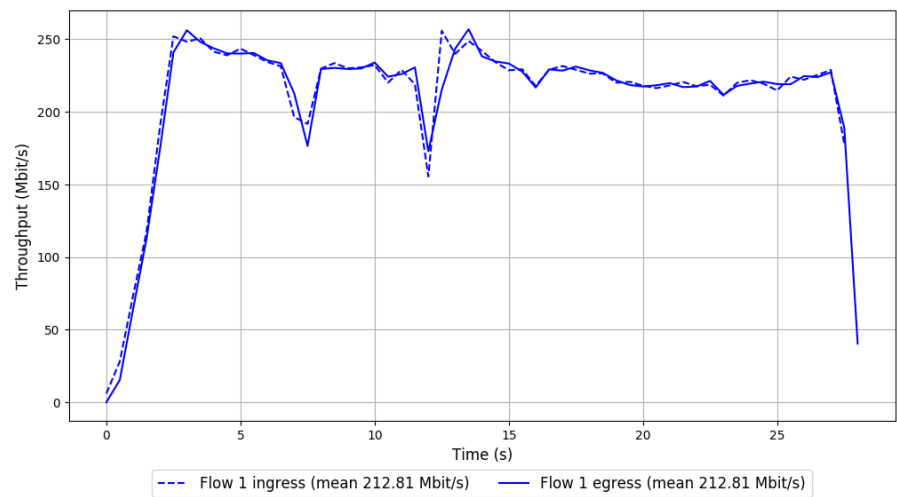
Run 3: Report of TaoVA-100x — Data Link

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

Start at: 2017-11-21 00:04:56
End at: 2017-11-21 00:05:26

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 212.81 Mbit/s
95th percentile per-packet one-way delay: 110.459 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 212.81 Mbit/s
95th percentile per-packet one-way delay: 110.459 ms
Loss rate: 0.00%
```
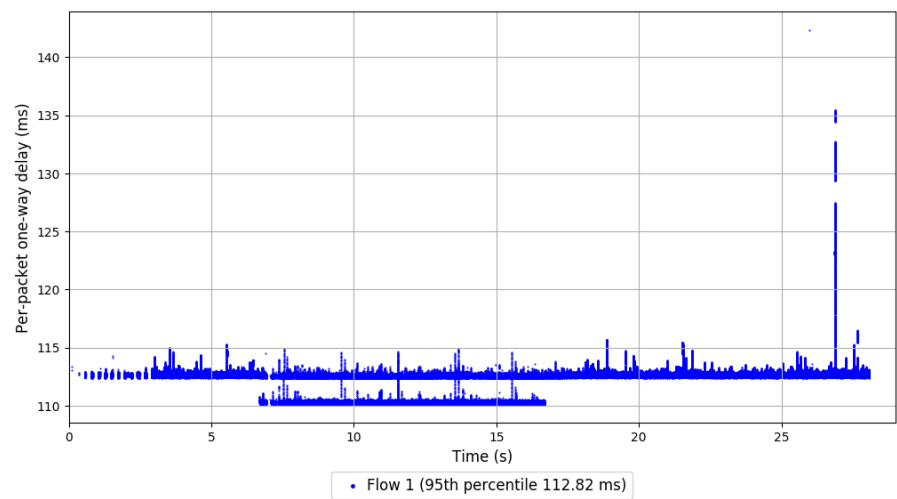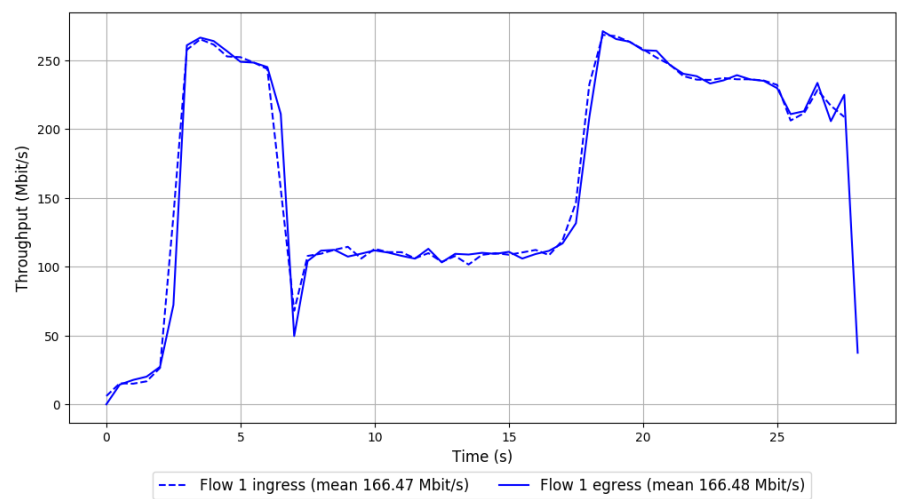
Run 4: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 212.81 Mbit/s)   Flow 1 egress (mean 212.81 Mbit/s)

Flow 1 (95th percentile 110.46 ms)

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

Start at: 2017-11-21 00:16:11
End at: 2017-11-21 00:16:41

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 166.48 Mbit/s
95th percentile per-packet one-way delay: 112.817 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 166.48 Mbit/s
95th percentile per-packet one-way delay: 112.817 ms
Loss rate: 0.01%
```
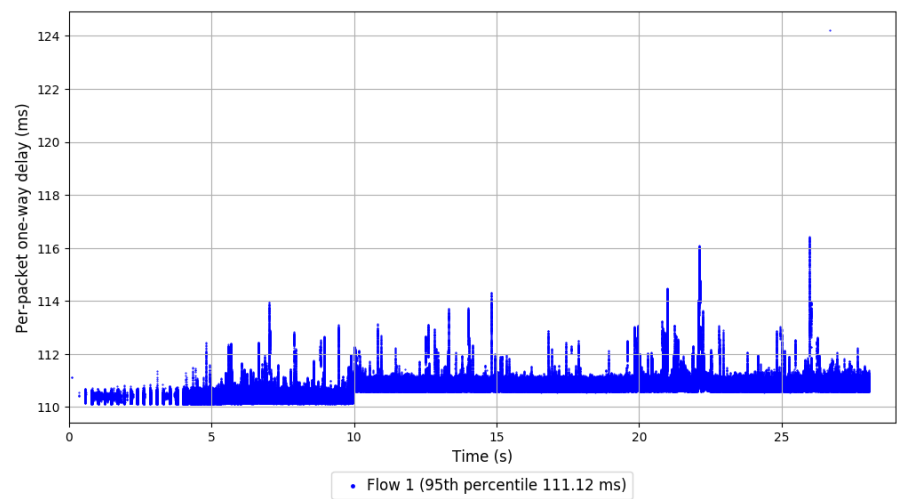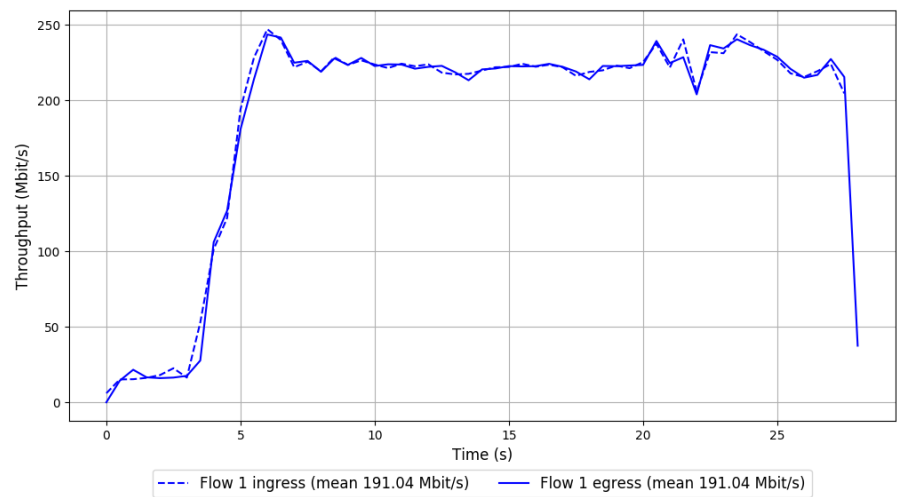
Run 5: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 166.47 Mbit/s)   Flow 1 egress (mean 166.48 Mbit/s)

Flow 1 (95th percentile 112.82 ms)

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

Start at: 2017-11-21 00:27:18
End at: 2017-11-21 00:27:48

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 191.04 Mbit/s
95th percentile per-packet one-way delay: 111.121 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 191.04 Mbit/s
95th percentile per-packet one-way delay: 111.121 ms
Loss rate: 0.00%
```
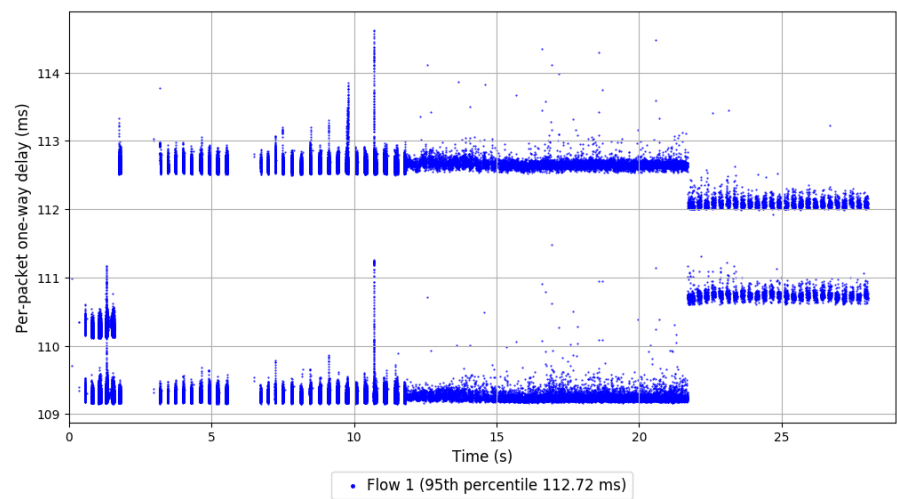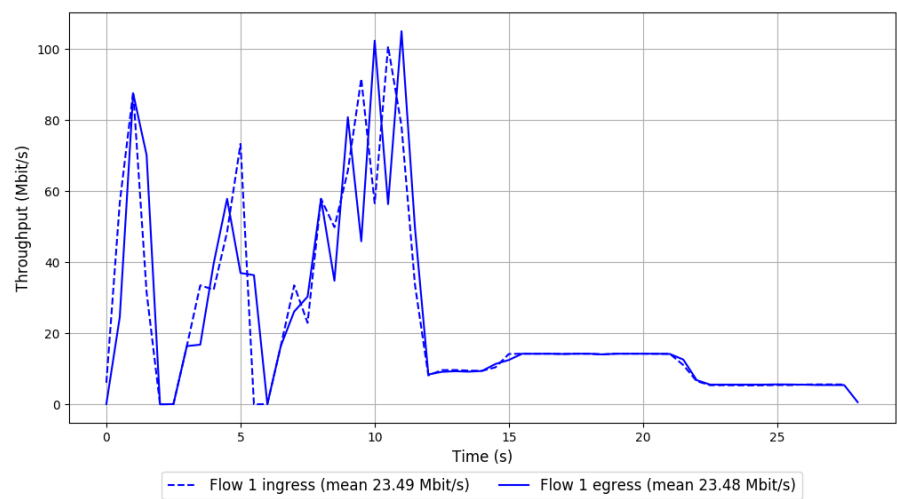
Run 6: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 191.04 Mbit/s)   Flow 1 egress (mean 191.04 Mbit/s)

Flow 1 (95th percentile 111.12 ms)

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

Start at: 2017-11-21 00:38:36
End at: 2017-11-21 00:39:06

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 23.48 Mbit/s
95th percentile per-packet one-way delay: 112.721 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 23.48 Mbit/s
95th percentile per-packet one-way delay: 112.721 ms
Loss rate: 0.00%
```
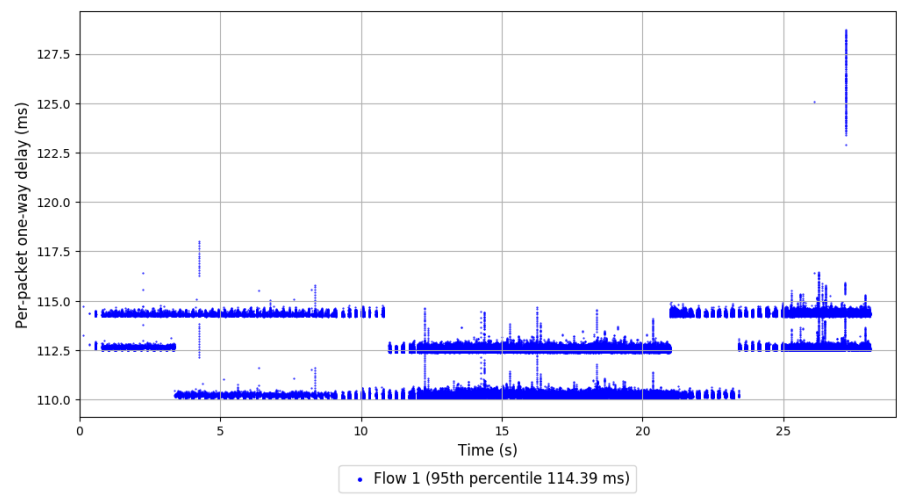
Run 7: Report of TaoVA-100x — Data Link

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

Start at: 2017-11-21 00:49:44
End at: 2017-11-21 00:50:14

# Below is generated by plot.py at 2017-11-21 02:25:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 60.39 Mbit/s
95th percentile per-packet one-way delay: 114.386 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 60.39 Mbit/s
95th percentile per-packet one-way delay: 114.386 ms
Loss rate: 0.00%
```
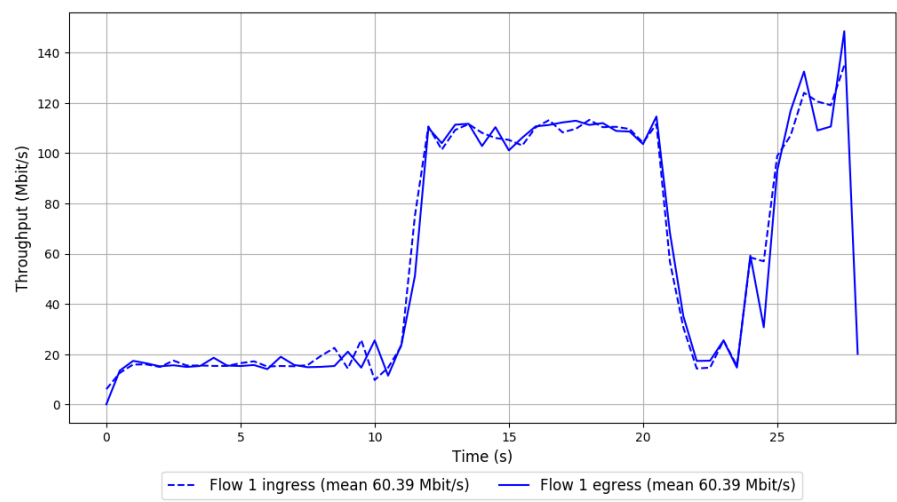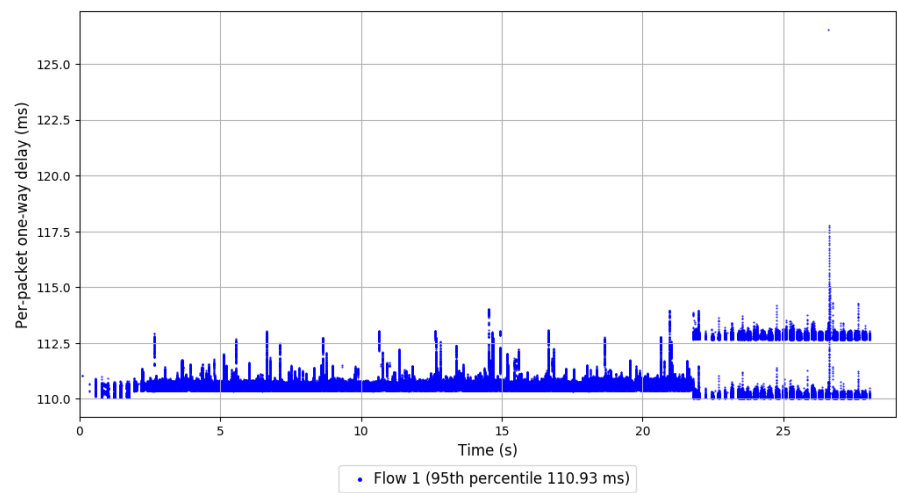
Run 8: Report of TaoVA-100x — Data Link

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

Start at: 2017-11-21 01:00:46
End at: 2017-11-21 01:01:16

# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 176.20 Mbit/s
95th percentile per-packet one-way delay: 110.934 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 176.20 Mbit/s
95th percentile per-packet one-way delay: 110.934 ms
Loss rate: 0.00%
```
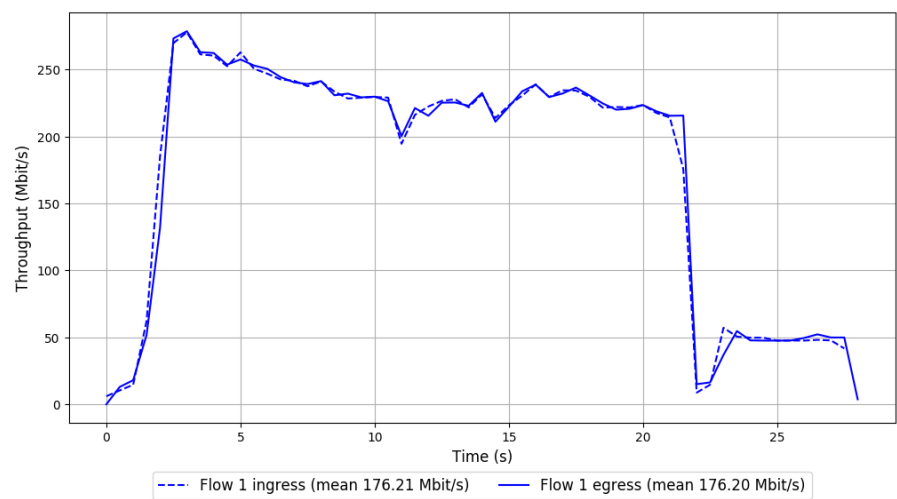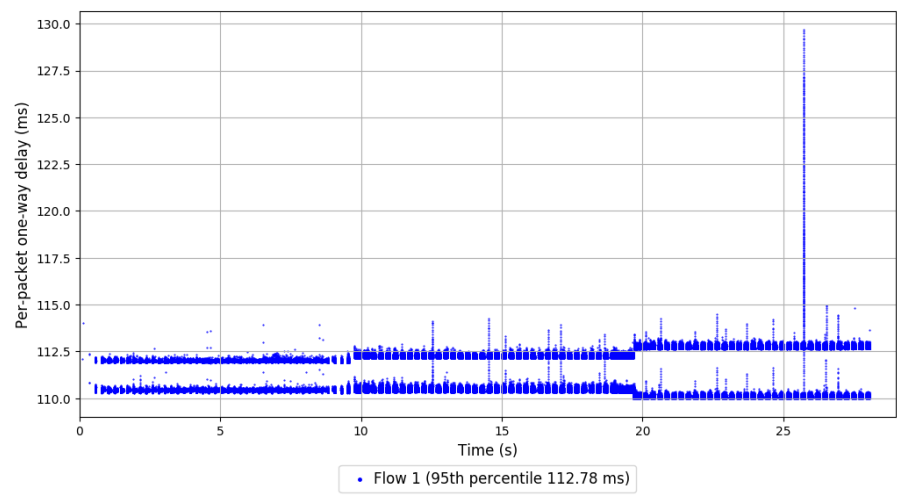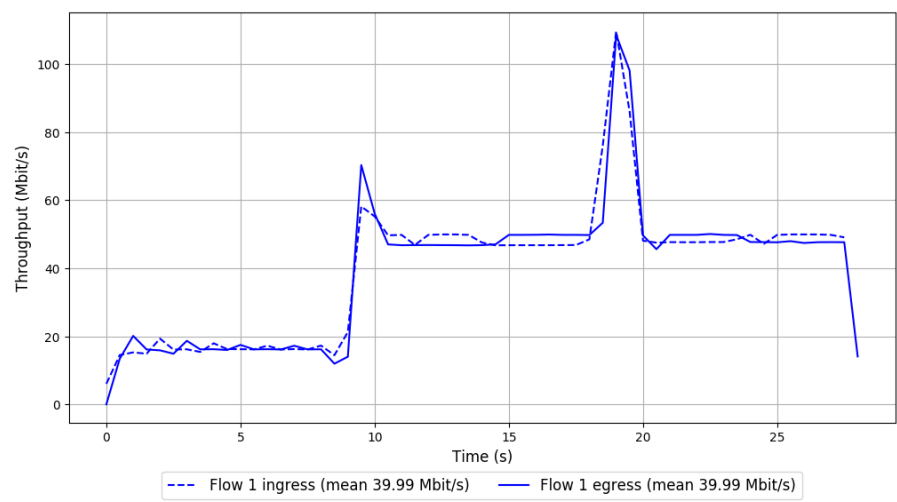
Run 9: Report of TaoVA-100x — Data Link

Flow 1 ingress (mean 176.21 Mbit/s)   Flow 1 egress (mean 176.20 Mbit/s)

Flow 1 (95th percentile 110.93 ms)

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

Start at: 2017-11-21 01:11:58
End at: 2017-11-21 01:12:28

# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 39.99 Mbit/s
95th percentile per-packet one-way delay: 112.785 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 39.99 Mbit/s
95th percentile per-packet one-way delay: 112.785 ms
Loss rate: 0.00%
```
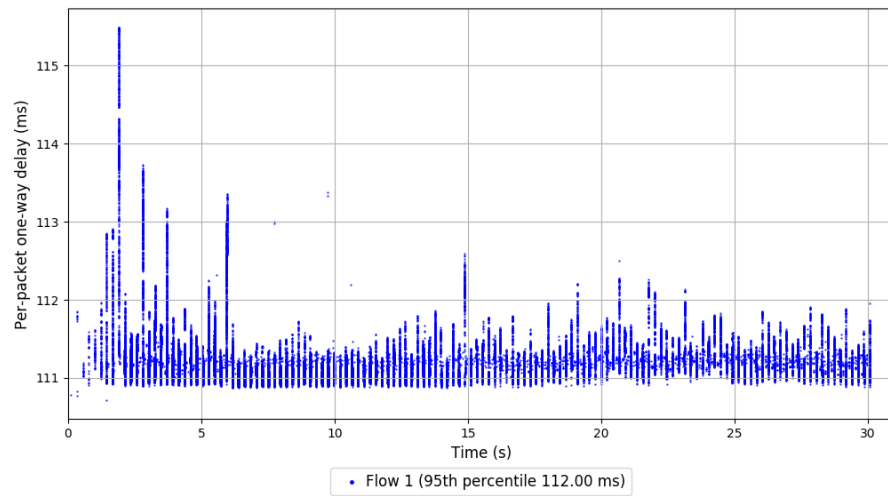
Run 10: Report of TaoVA-100x — Data Link

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```
Run 1: Statistics of TCP Vegas

Start at: 2017-11-20 23:34:07
End at: 2017-11-20 23:34:37

# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.76 Mbit/s
95th percentile per-packet one-way delay: 112.000 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 25.76 Mbit/s
95th percentile per-packet one-way delay: 112.000 ms
Loss rate: 0.03%
```
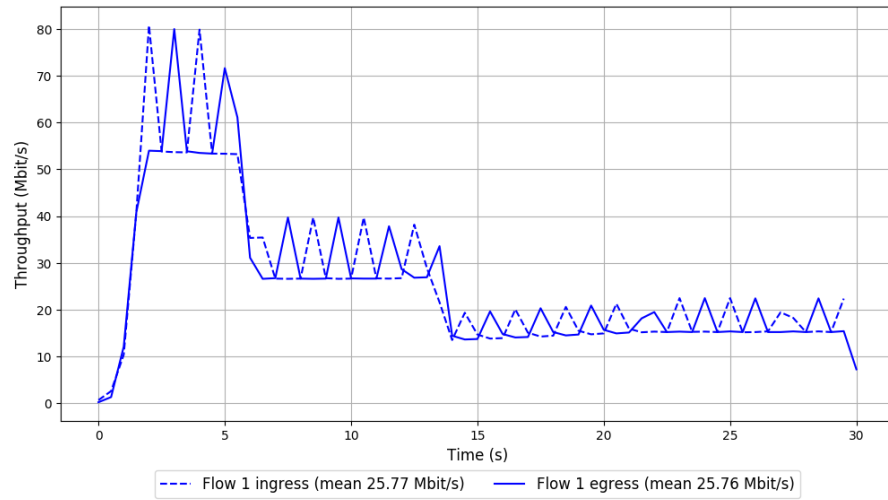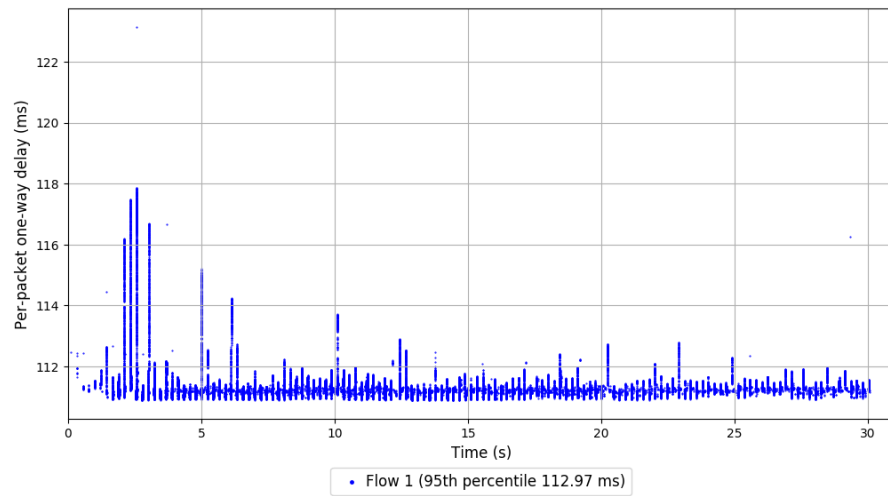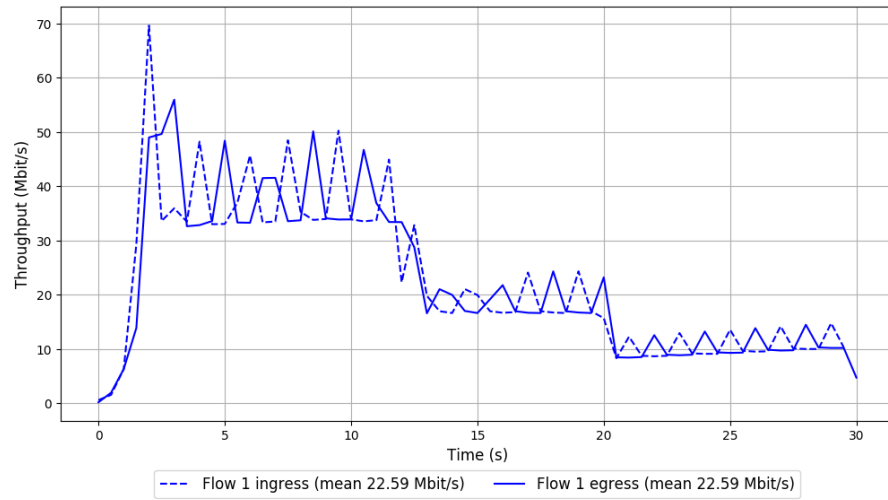
Run 1: Report of TCP Vegas — Data Link

```
Run 2: Statistics of TCP Vegas

Start at: 2017-11-20 23:45:29
End at: 2017-11-20 23:45:59

# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 22.59 Mbit/s
95th percentile per-packet one-way delay: 112.969 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 22.59 Mbit/s
95th percentile per-packet one-way delay: 112.969 ms
Loss rate: 0.03%
```
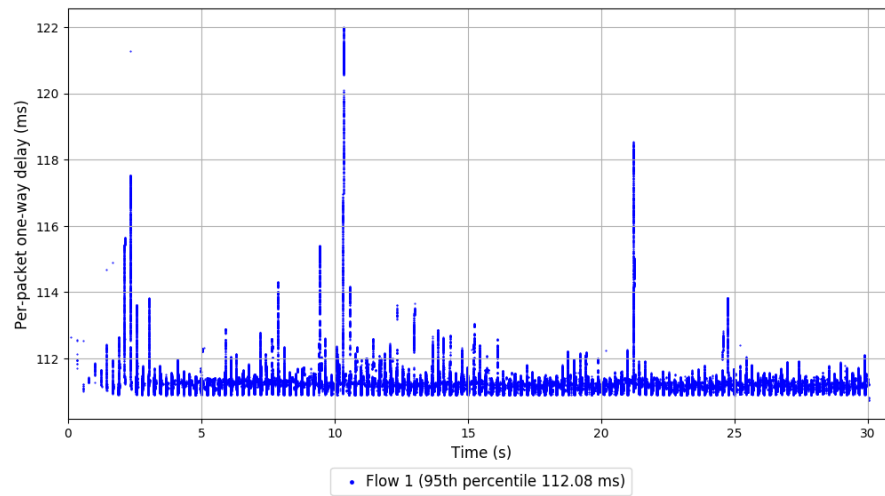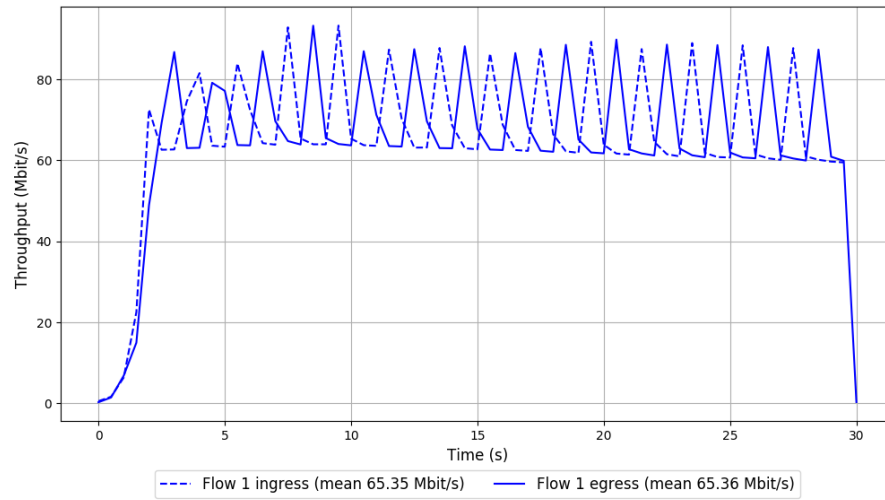
Run 2: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 22.59 Mbit/s) ----   Flow 1 egress (mean 22.59 Mbit/s) ———

Flow 1 (95th percentile 112.97 ms)

```
Run 3: Statistics of TCP Vegas

Start at: 2017-11-20 23:56:40
End at: 2017-11-20 23:57:10

# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 65.36 Mbit/s
95th percentile per-packet one-way delay: 112.083 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 65.36 Mbit/s
95th percentile per-packet one-way delay: 112.083 ms
Loss rate: 0.00%
```
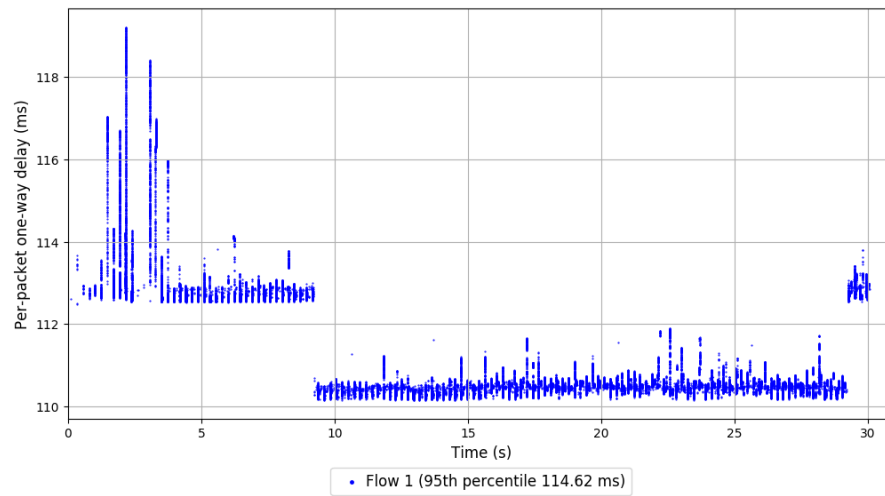
Run 3: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 65.35 Mbit/s)   Flow 1 egress (mean 65.36 Mbit/s)

Flow 1 (95th percentile 112.08 ms)

```
Run 4: Statistics of TCP Vegas

Start at: 2017-11-21 00:08:00
End at: 2017-11-21 00:08:30

# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 16.24 Mbit/s
95th percentile per-packet one-way delay: 114.625 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 16.24 Mbit/s
95th percentile per-packet one-way delay: 114.625 ms
Loss rate: 0.02%
```
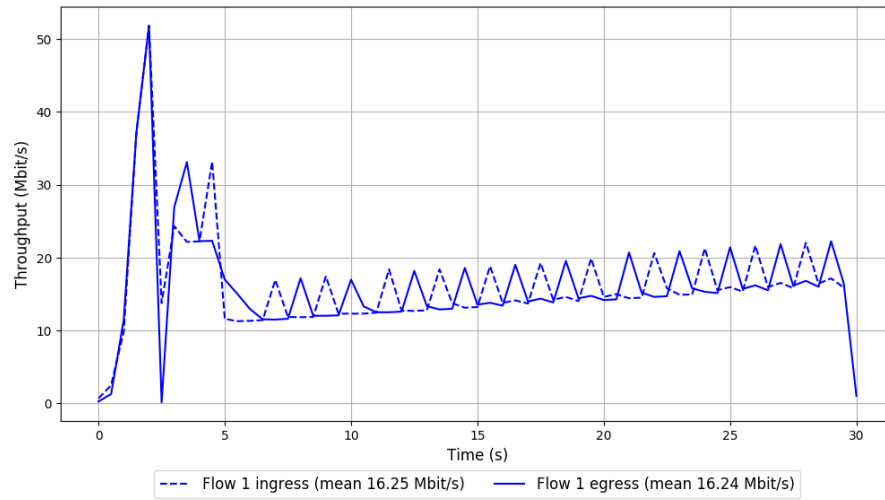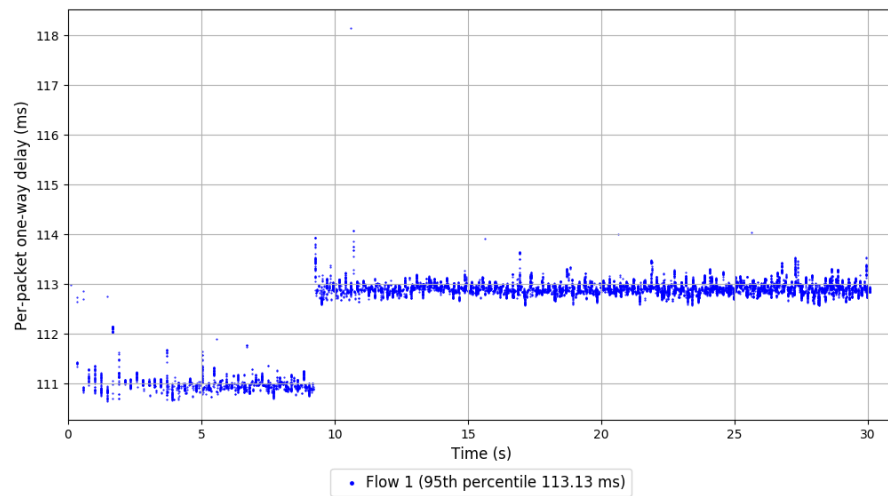
Run 4: Report of TCP Vegas — Data Link

```
Run 5: Statistics of TCP Vegas

Start at: 2017-11-21 00:19:10
End at: 2017-11-21 00:19:40

# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 4.80 Mbit/s
95th percentile per-packet one-way delay: 113.130 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 4.80 Mbit/s
95th percentile per-packet one-way delay: 113.130 ms
Loss rate: 0.05%
```
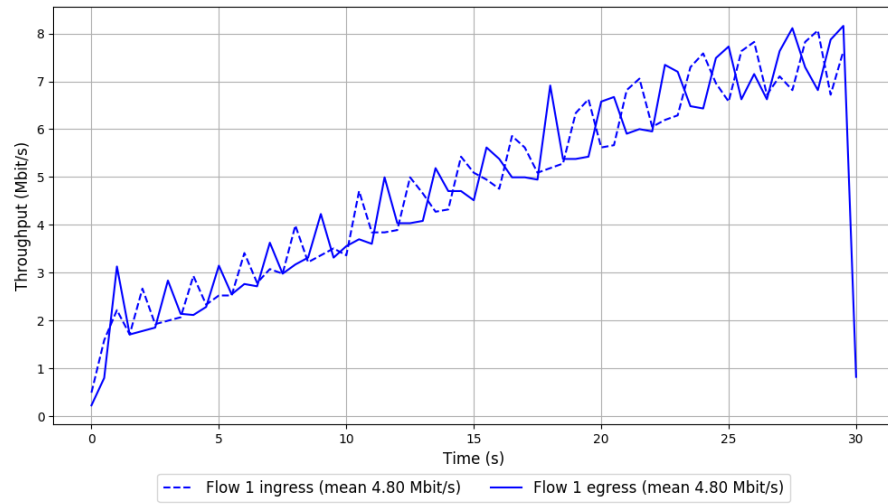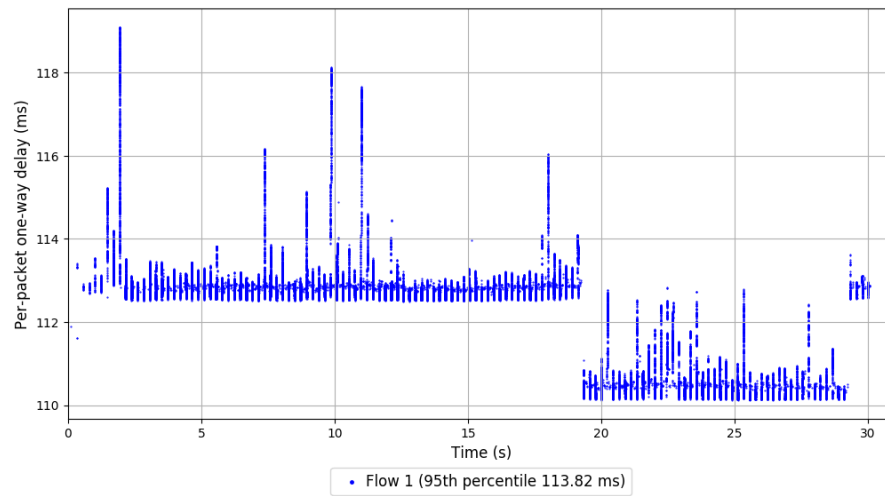
Run 5: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 4.80 Mbit/s) --- Flow 1 egress (mean 4.80 Mbit/s)

Flow 1 (95th percentile 113.13 ms)

```
Run 6: Statistics of TCP Vegas

Start at: 2017-11-21 00:30:20
End at: 2017-11-21 00:30:50

# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 25.36 Mbit/s
95th percentile per-packet one-way delay: 113.818 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 25.36 Mbit/s
95th percentile per-packet one-way delay: 113.818 ms
Loss rate: 0.03%
```
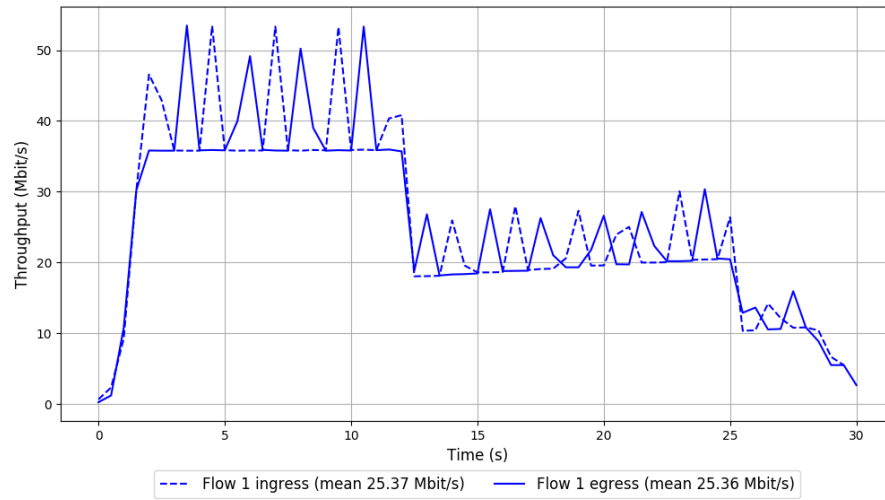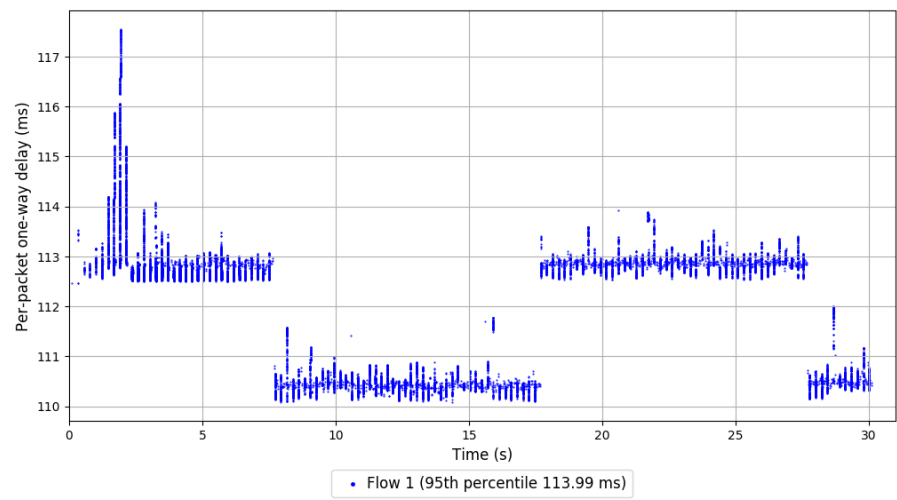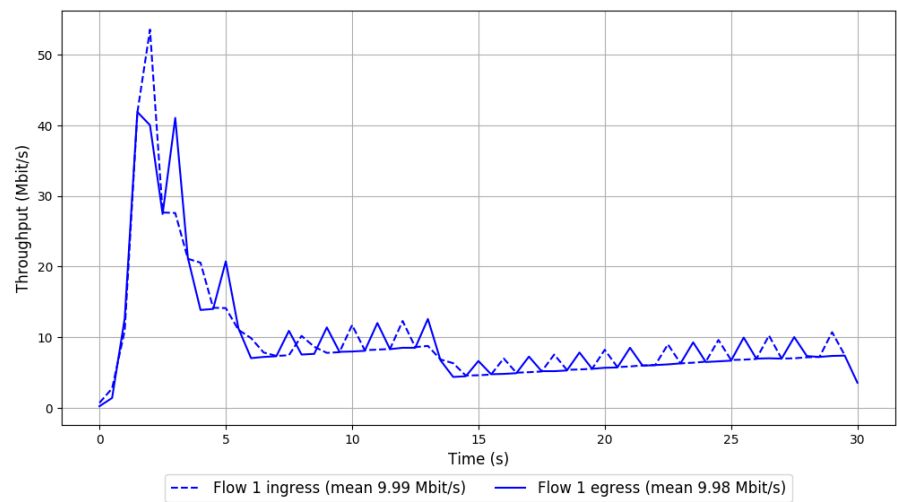
Run 6: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 25.37 Mbit/s)   Flow 1 egress (mean 25.36 Mbit/s)

• Flow 1 (95th percentile 113.82 ms)

```
Run 7: Statistics of TCP Vegas

Start at: 2017-11-21 00:41:22
End at: 2017-11-21 00:41:52

# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 9.98 Mbit/s
95th percentile per-packet one-way delay: 113.990 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 9.98 Mbit/s
95th percentile per-packet one-way delay: 113.990 ms
Loss rate: 0.07%
```
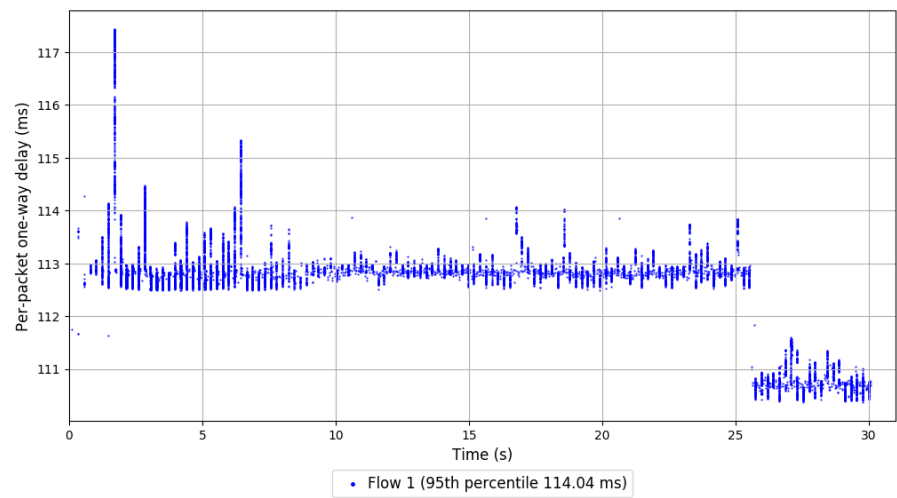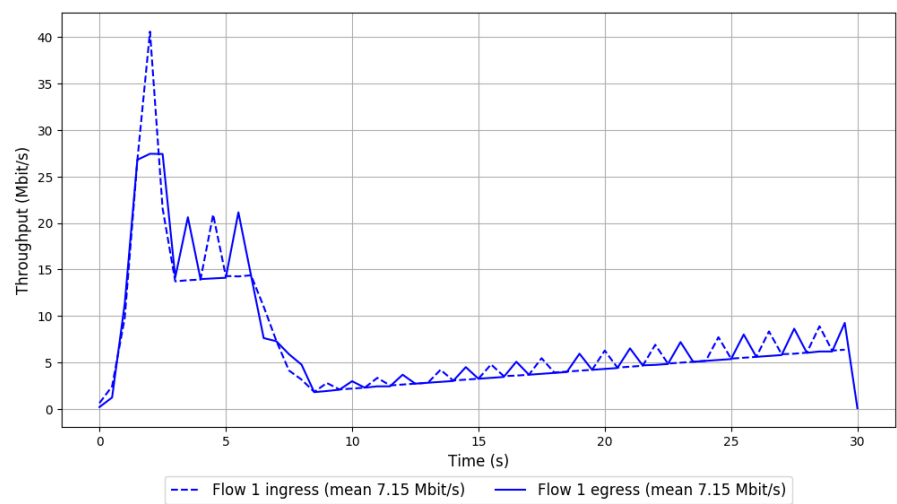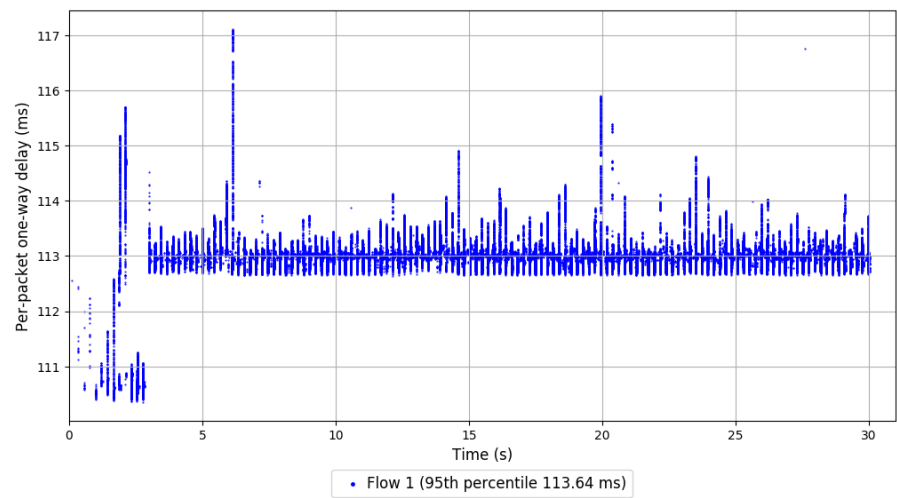
Run 7: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 9.99 Mbit/s) Flow 1 egress (mean 9.98 Mbit/s)

Flow 1 (95th percentile 113.99 ms)

```
Run 8: Statistics of TCP Vegas

Start at: 2017-11-21 00:52:34
End at: 2017-11-21 00:53:04

# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 7.15 Mbit/s
95th percentile per-packet one-way delay: 114.037 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 7.15 Mbit/s
95th percentile per-packet one-way delay: 114.037 ms
Loss rate: 0.07%
```
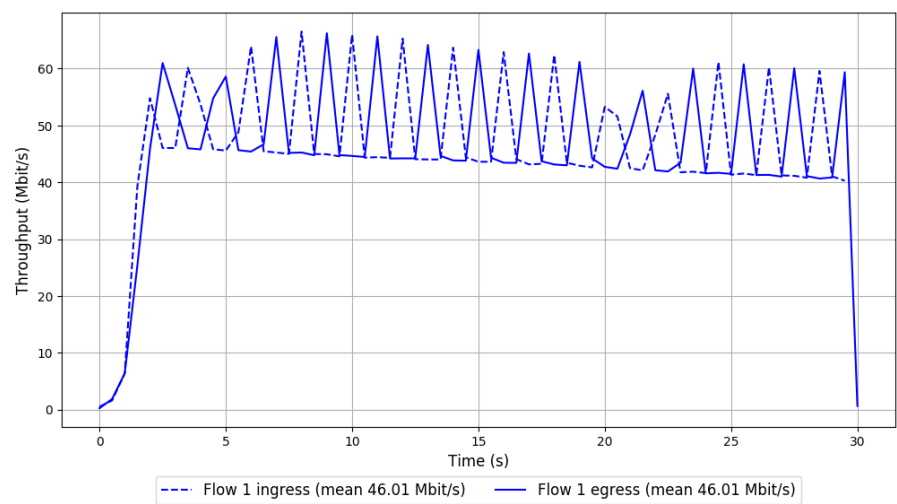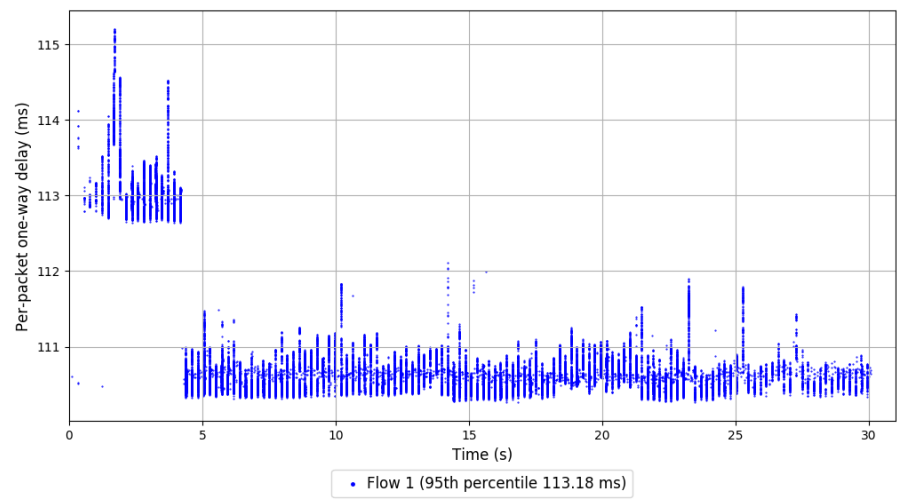
Run 8: Report of TCP Vegas — Data Link

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```
Run 9: Statistics of TCP Vegas

Start at: 2017-11-21 01:03:47
End at: 2017-11-21 01:04:17

# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 46.01 Mbit/s
95th percentile per-packet one-way delay: 113.644 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 46.01 Mbit/s
95th percentile per-packet one-way delay: 113.644 ms
Loss rate: 0.00%
```
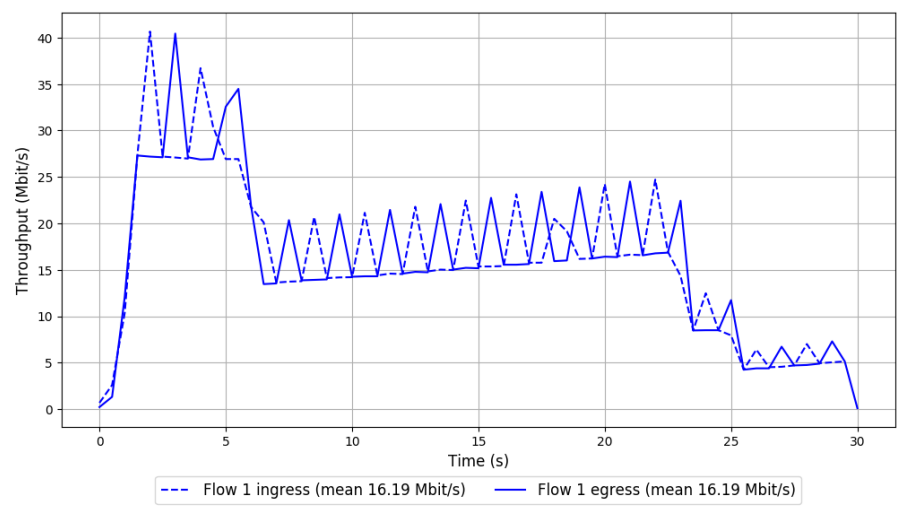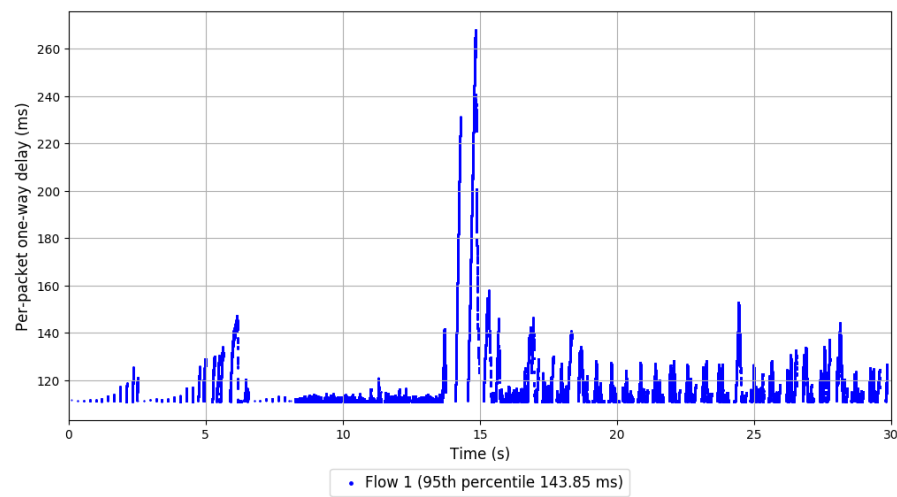
Run 9: Report of TCP Vegas — Data Link

Flow 1 ingress (mean 46.01 Mbit/s) ----   Flow 1 egress (mean 46.01 Mbit/s) ——

Flow 1 (95th percentile 113.64 ms)

```
Run 10: Statistics of TCP Vegas

Start at: 2017-11-21 01:14:45
End at: 2017-11-21 01:15:15


# Below is generated by plot.py at 2017-11-21 02:26:18
# Datalink statistics
-- Total of 1 flow:
Average throughput: 16.19 Mbit/s
95th percentile per-packet one-way delay: 113.176 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 16.19 Mbit/s
95th percentile per-packet one-way delay: 113.176 ms
Loss rate: 0.03%
```
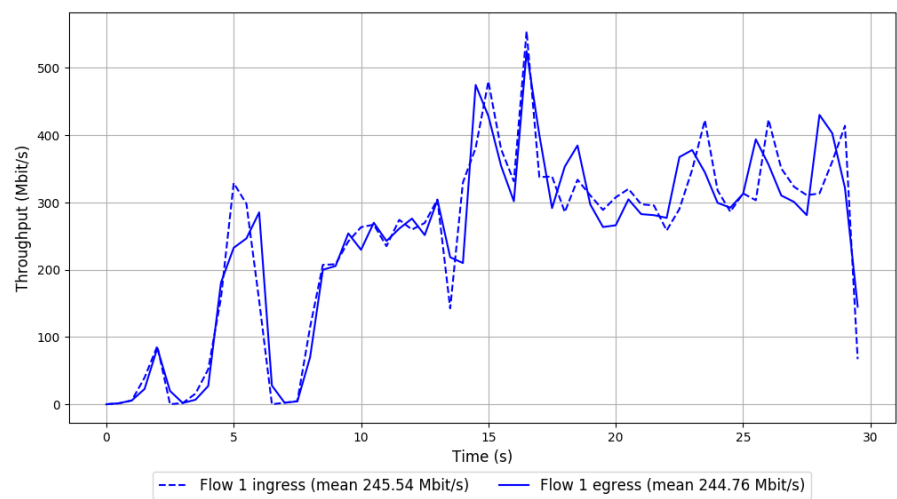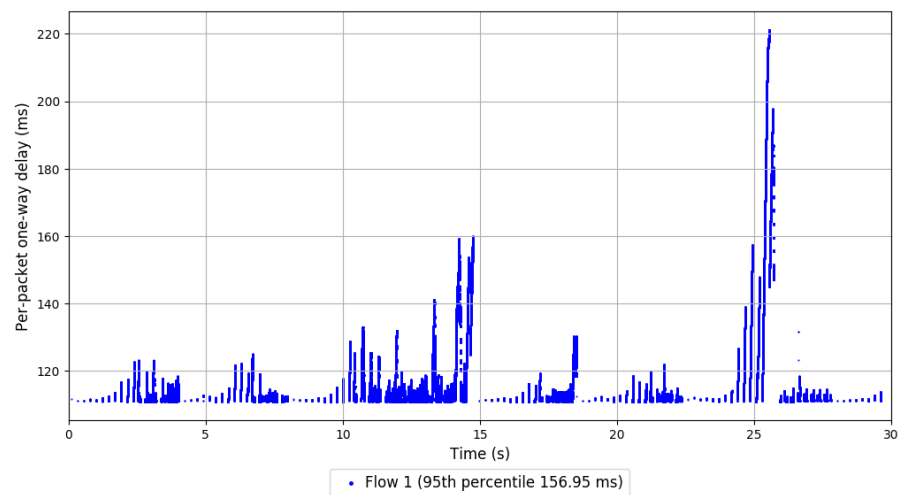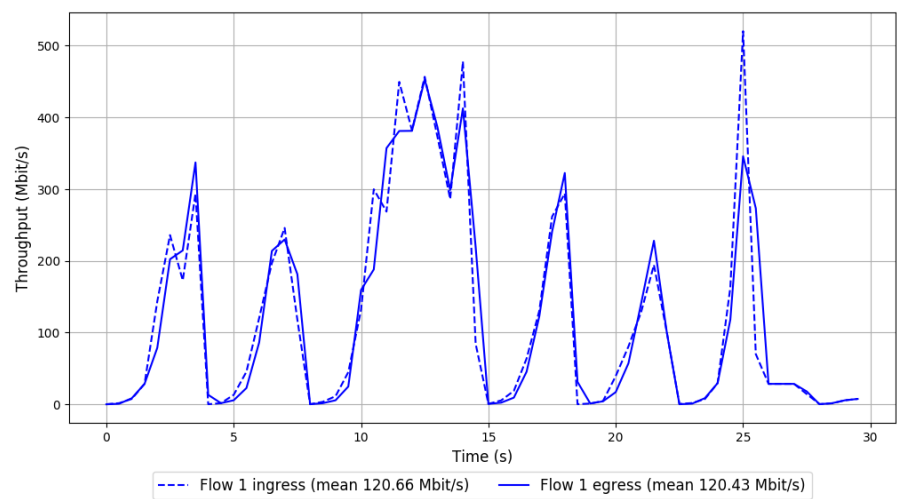
Run 10: Report of TCP Vegas — Data Link

```
Run 1: Statistics of Verus

Start at: 2017-11-20 23:36:23
End at: 2017-11-20 23:36:53

# Below is generated by plot.py at 2017-11-21 02:27:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 244.76 Mbit/s
95th percentile per-packet one-way delay: 143.847 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 244.76 Mbit/s
95th percentile per-packet one-way delay: 143.847 ms
Loss rate: 0.32%
```
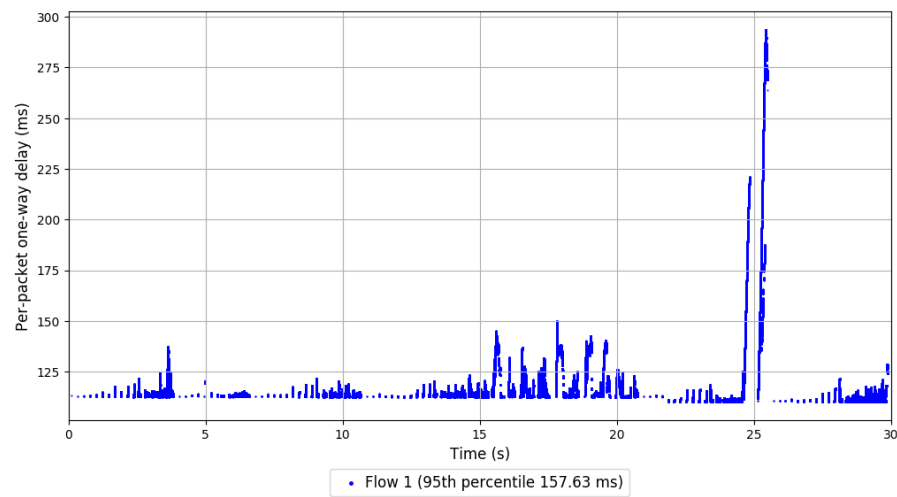
Run 1: Report of Verus — Data Link

```
Run 2: Statistics of Verus

Start at: 2017-11-20 23:47:44
End at: 2017-11-20 23:48:14

# Below is generated by plot.py at 2017-11-21 02:27:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 120.43 Mbit/s
95th percentile per-packet one-way delay: 156.950 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 120.43 Mbit/s
95th percentile per-packet one-way delay: 156.950 ms
Loss rate: 0.18%
```
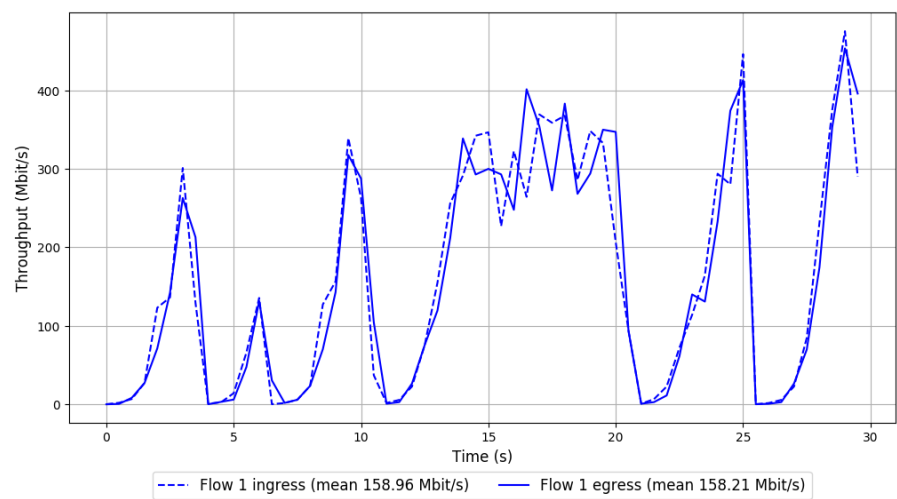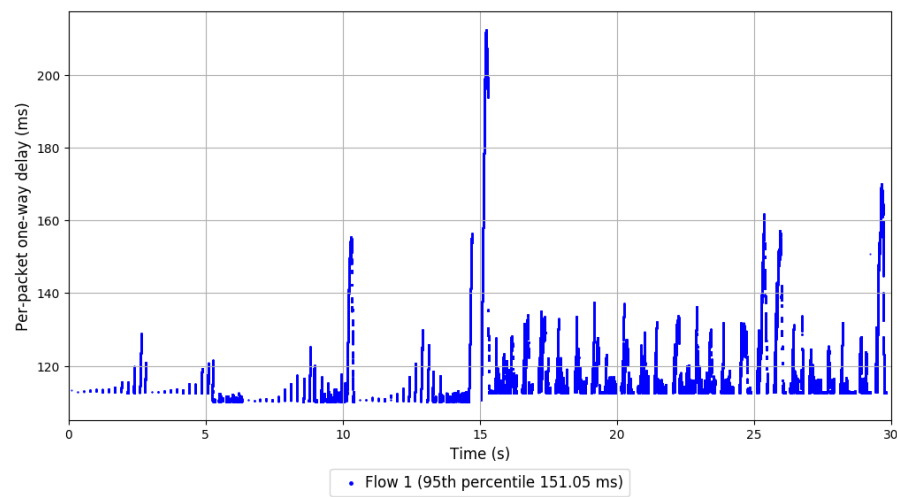
Run 2: Report of Verus — Data Link

```
Run 3: Statistics of Verus

Start at: 2017-11-20 23:58:58
End at: 2017-11-20 23:59:28

# Below is generated by plot.py at 2017-11-21 02:27:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 158.21 Mbit/s
95th percentile per-packet one-way delay: 157.633 ms
Loss rate: 0.47%
-- Flow 1:
Average throughput: 158.21 Mbit/s
95th percentile per-packet one-way delay: 157.633 ms
Loss rate: 0.47%
```
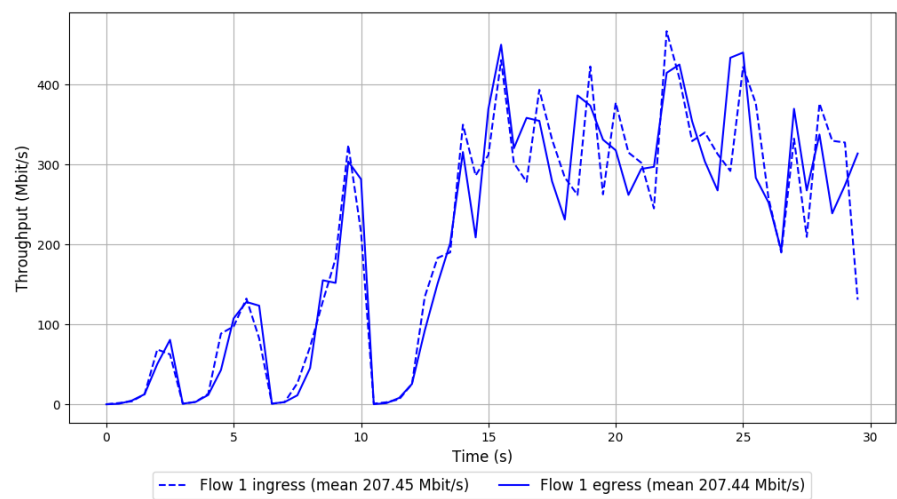
Run 3: Report of Verus — Data Link

```
Run 4: Statistics of Verus

Start at: 2017-11-21 00:10:14
End at: 2017-11-21 00:10:44

# Below is generated by plot.py at 2017-11-21 02:27:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 207.44 Mbit/s
95th percentile per-packet one-way delay: 151.047 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 207.44 Mbit/s
95th percentile per-packet one-way delay: 151.047 ms
Loss rate: 0.01%
```
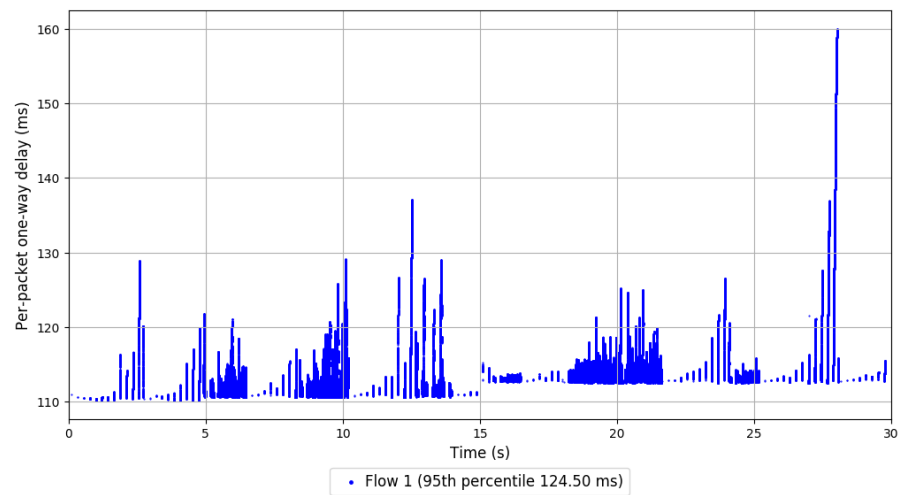
Run 4: Report of Verus — Data Link

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```
Run 5: Statistics of Verus

Start at: 2017-11-21 00:21:25
End at: 2017-11-21 00:21:55

# Below is generated by plot.py at 2017-11-21 02:27:26
# Datalink statistics
-- Total of 1 flow:
Average throughput: 105.03 Mbit/s
95th percentile per-packet one-way delay: 124.497 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 105.03 Mbit/s
95th percentile per-packet one-way delay: 124.497 ms
Loss rate: 0.01%
```
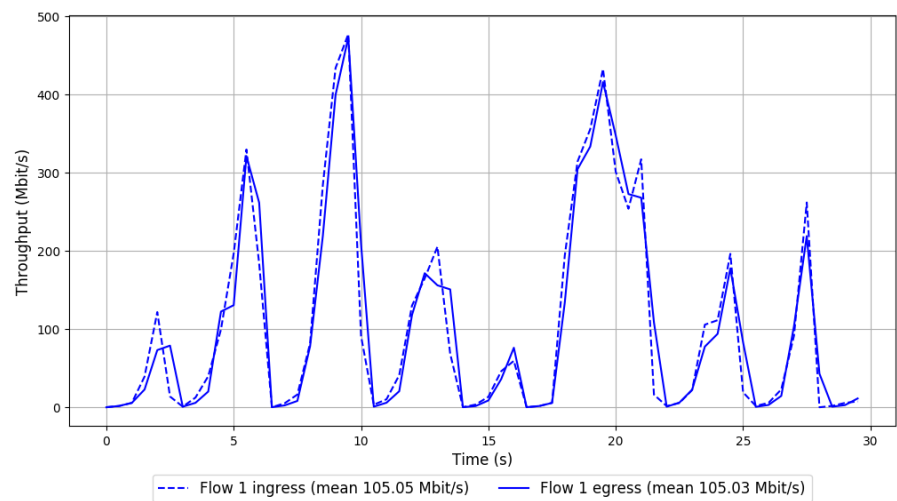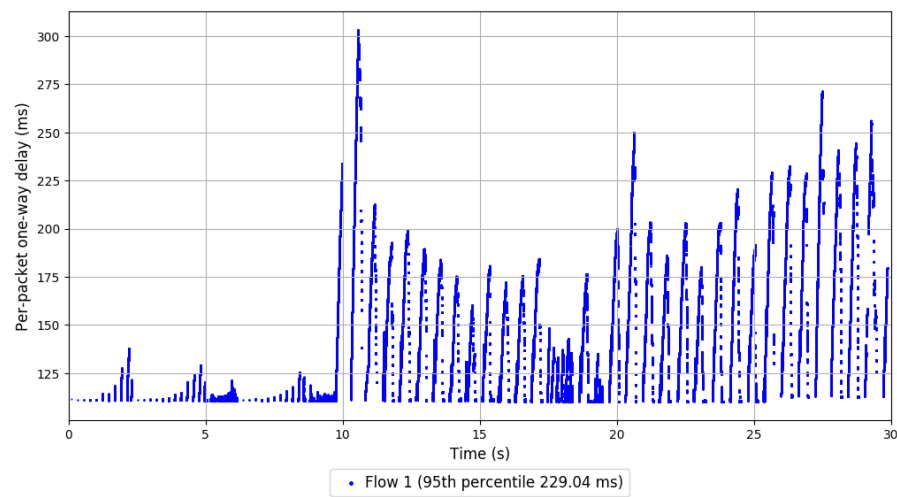
Run 5: Report of Verus — Data Link

```
Run 6: Statistics of Verus

Start at: 2017-11-21 00:32:34
End at: 2017-11-21 00:33:04

# Below is generated by plot.py at 2017-11-21 02:28:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 227.01 Mbit/s
95th percentile per-packet one-way delay: 229.040 ms
Loss rate: 4.92%
-- Flow 1:
Average throughput: 227.01 Mbit/s
95th percentile per-packet one-way delay: 229.040 ms
Loss rate: 4.92%
```
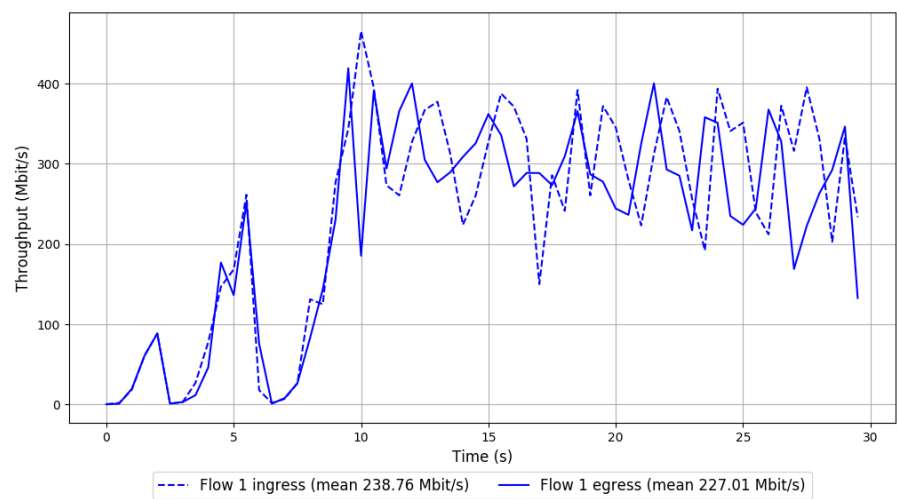
Run 6: Report of Verus — Data Link

```
Run 7: Statistics of Verus

Start at: 2017-11-21 00:43:37
End at: 2017-11-21 00:44:07

# Below is generated by plot.py at 2017-11-21 02:29:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 248.56 Mbit/s
95th percentile per-packet one-way delay: 171.934 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 248.56 Mbit/s
95th percentile per-packet one-way delay: 171.934 ms
Loss rate: 0.10%
```
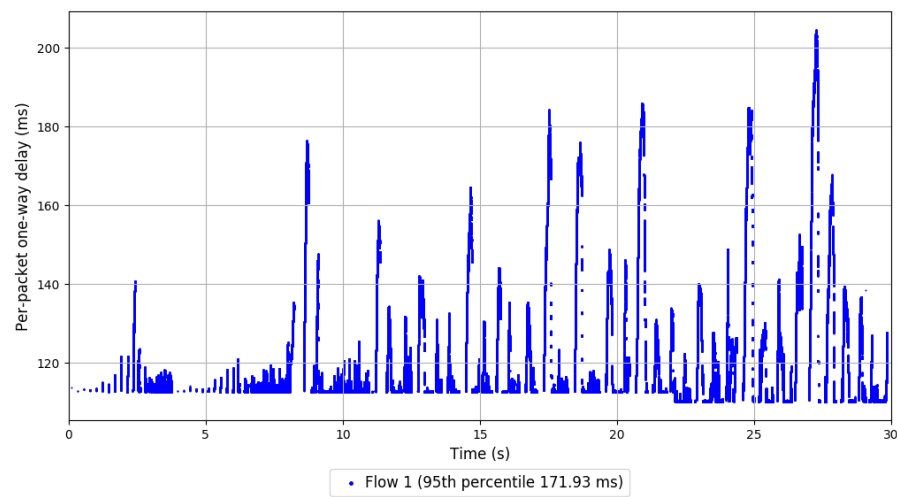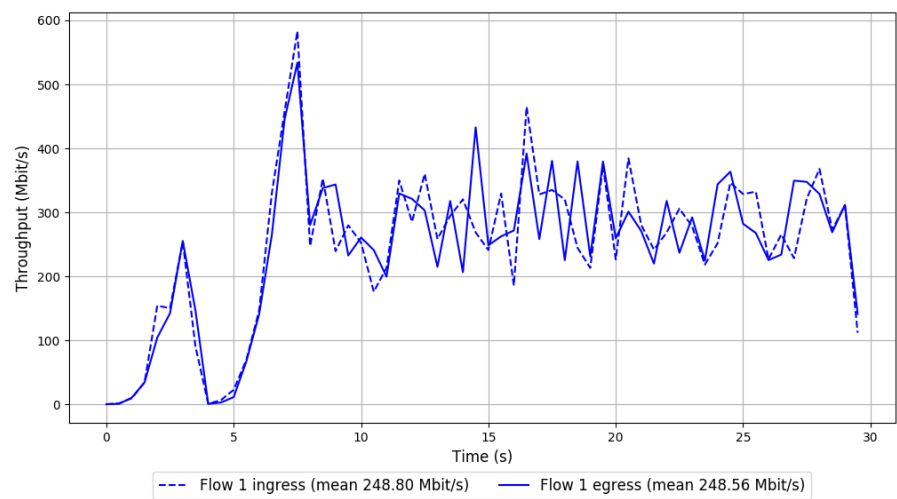
Run 7: Report of Verus — Data Link

```
Run 8: Statistics of Verus

Start at: 2017-11-21 00:54:49
End at: 2017-11-21 00:55:19

# Below is generated by plot.py at 2017-11-21 02:29:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 137.41 Mbit/s
95th percentile per-packet one-way delay: 123.805 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 137.41 Mbit/s
95th percentile per-packet one-way delay: 123.805 ms
Loss rate: 0.06%
```
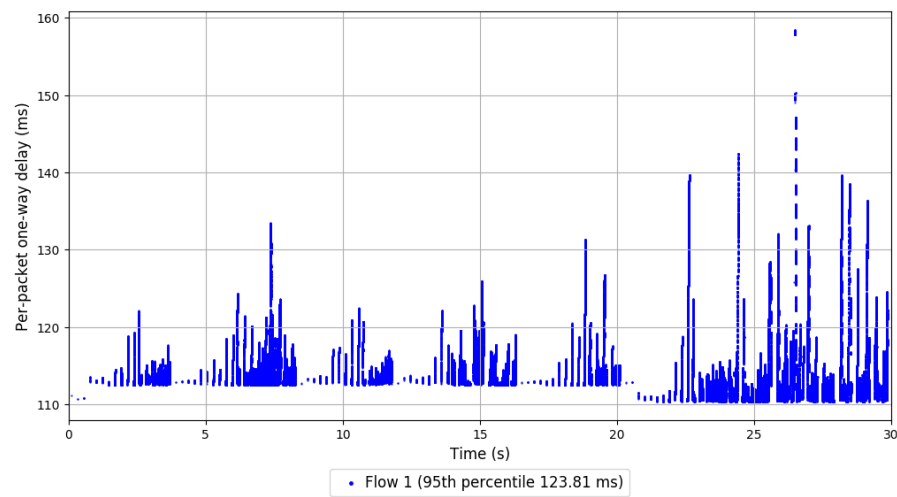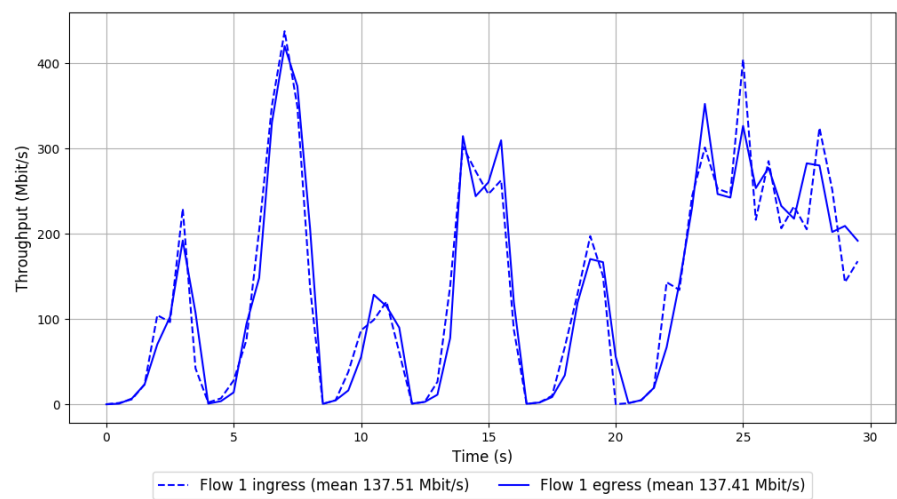
Run 8: Report of Verus — Data Link

```
Run 9: Statistics of Verus

Start at: 2017-11-21 01:06:03
End at: 2017-11-21 01:06:33

# Below is generated by plot.py at 2017-11-21 02:29:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 102.84 Mbit/s
95th percentile per-packet one-way delay: 174.979 ms
Loss rate: 1.30%
-- Flow 1:
Average throughput: 102.84 Mbit/s
95th percentile per-packet one-way delay: 174.979 ms
Loss rate: 1.30%
```
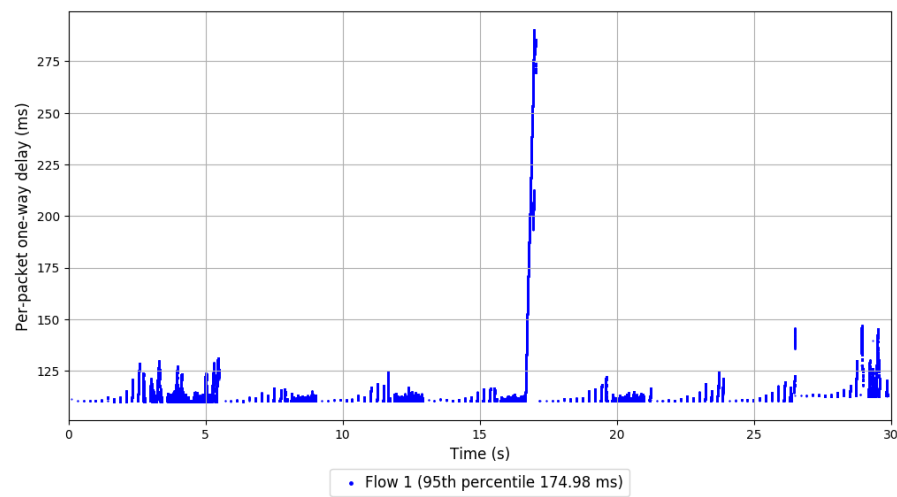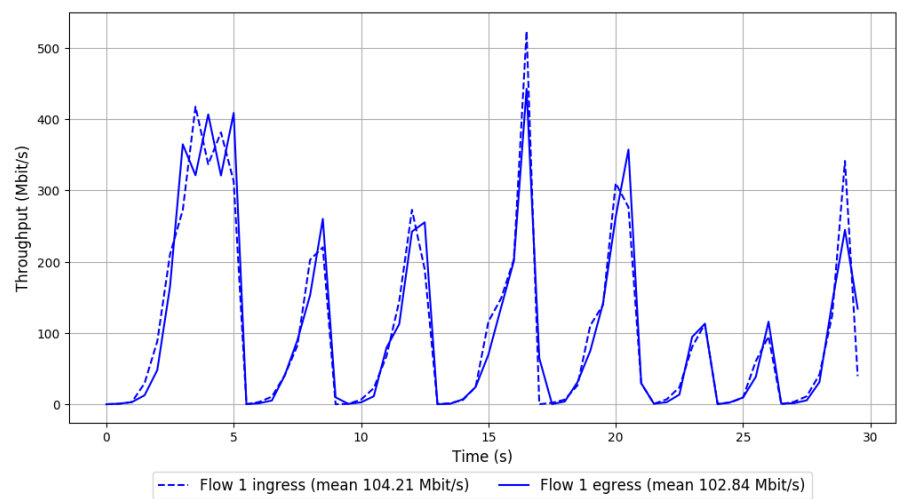
Run 9: Report of Verus — Data Link

```
Run 10: Statistics of Verus

Start at: 2017-11-21 01:16:57
End at: 2017-11-21 01:17:27

# Below is generated by plot.py at 2017-11-21 02:29:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 169.84 Mbit/s
95th percentile per-packet one-way delay: 119.036 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 169.84 Mbit/s
95th percentile per-packet one-way delay: 119.036 ms
Loss rate: 0.01%
```
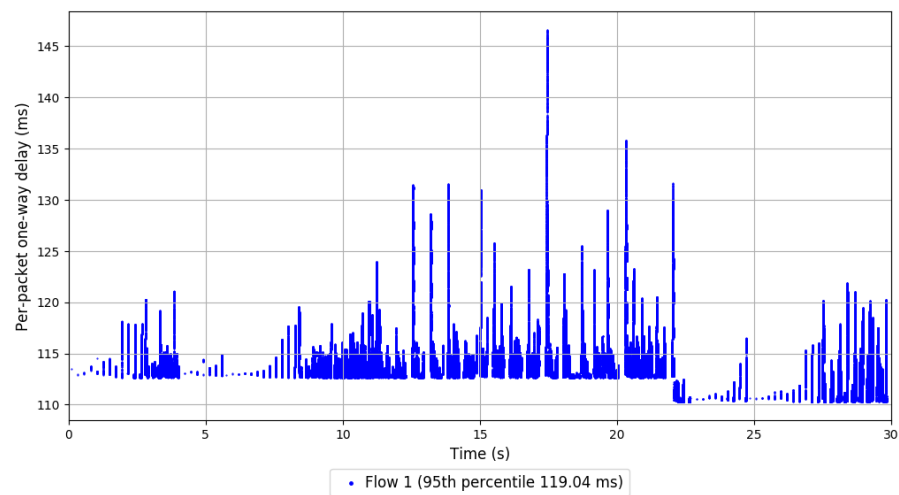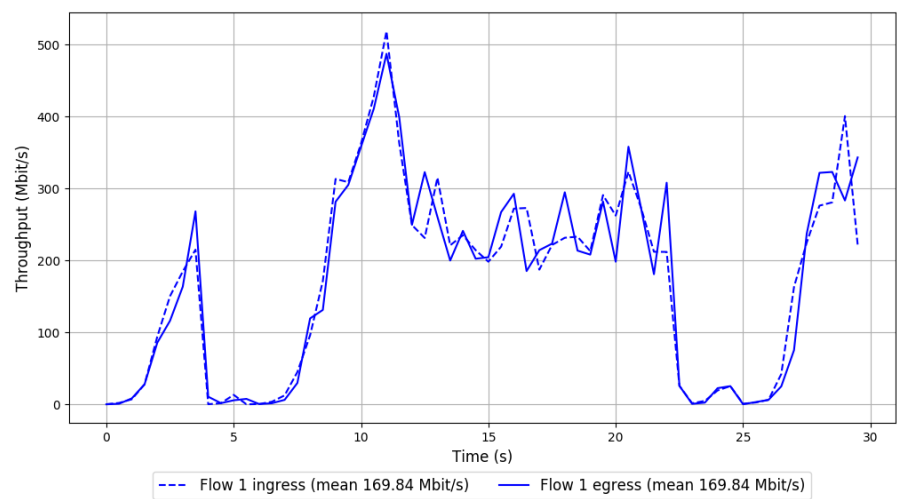
Run 10: Report of Verus — Data Link

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```
Run 1: Statistics of Copa

Start at: 2017-11-20 23:35:34
End at: 2017-11-20 23:36:04

# Below is generated by plot.py at 2017-11-21 02:29:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 70.00 Mbit/s
95th percentile per-packet one-way delay: 112.477 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 70.00 Mbit/s
95th percentile per-packet one-way delay: 112.477 ms
Loss rate: 0.00%
```
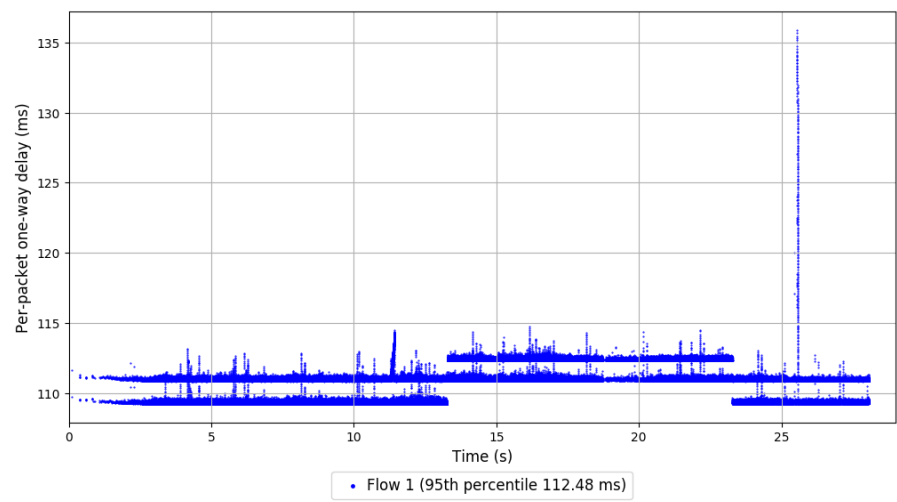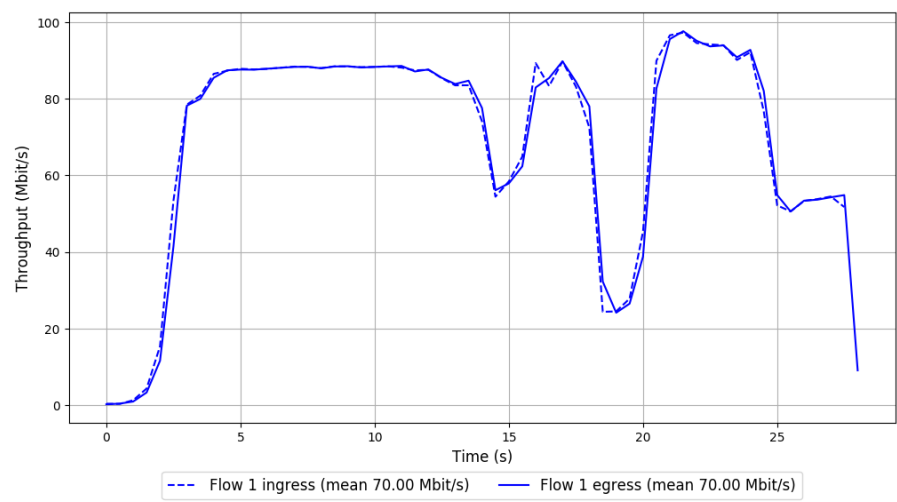
Run 1: Report of Copa — Data Link

```
Run 2: Statistics of Copa

Start at: 2017-11-20 23:46:56
End at: 2017-11-20 23:47:26

# Below is generated by plot.py at 2017-11-21 02:29:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 69.50 Mbit/s
95th percentile per-packet one-way delay: 112.382 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 69.50 Mbit/s
95th percentile per-packet one-way delay: 112.382 ms
Loss rate: 0.01%
```
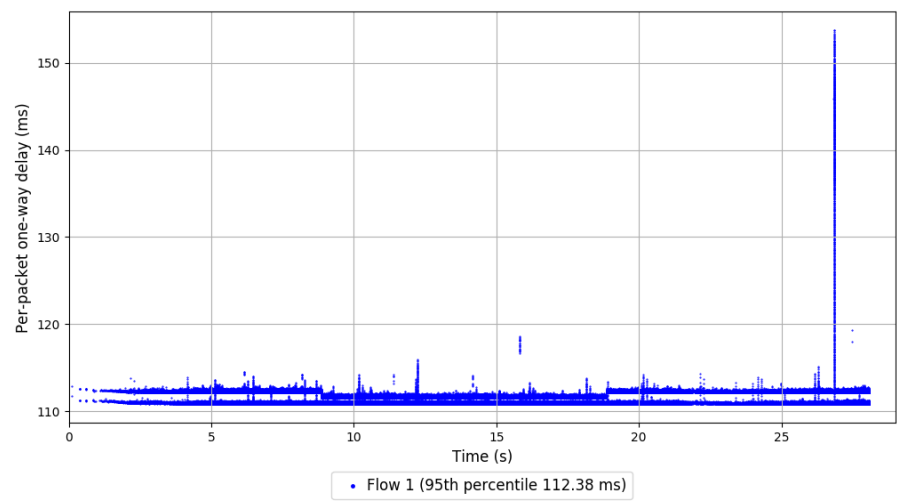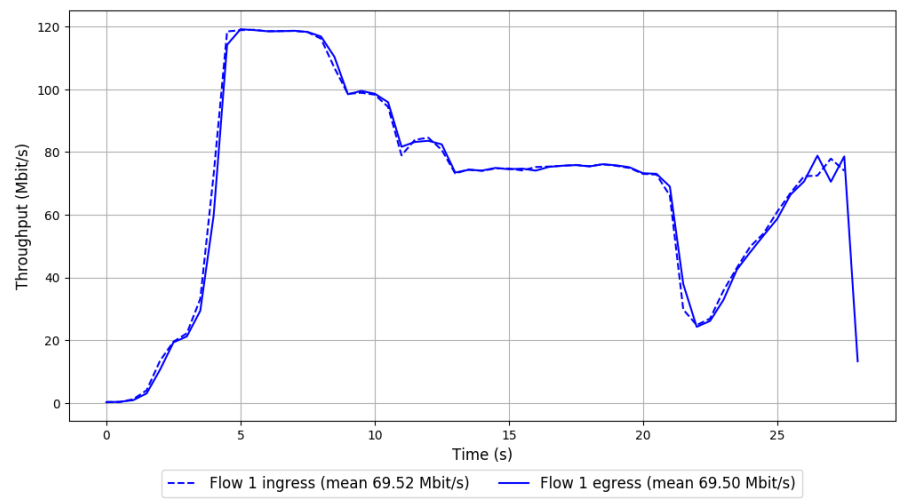
Run 2: Report of Copa — Data Link

```
Run 3: Statistics of Copa

Start at: 2017-11-20 23:58:09
End at: 2017-11-20 23:58:39

# Below is generated by plot.py at 2017-11-21 02:29:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 73.08 Mbit/s
95th percentile per-packet one-way delay: 112.646 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 73.08 Mbit/s
95th percentile per-packet one-way delay: 112.646 ms
Loss rate: 0.00%
```
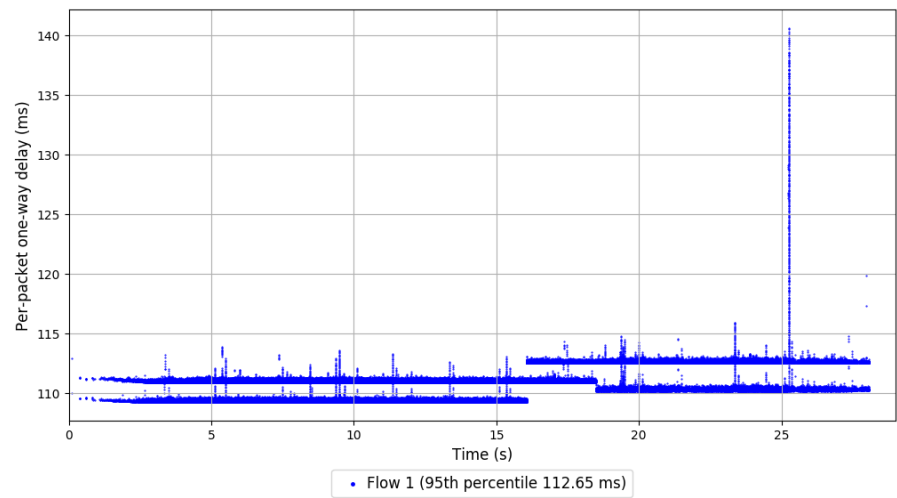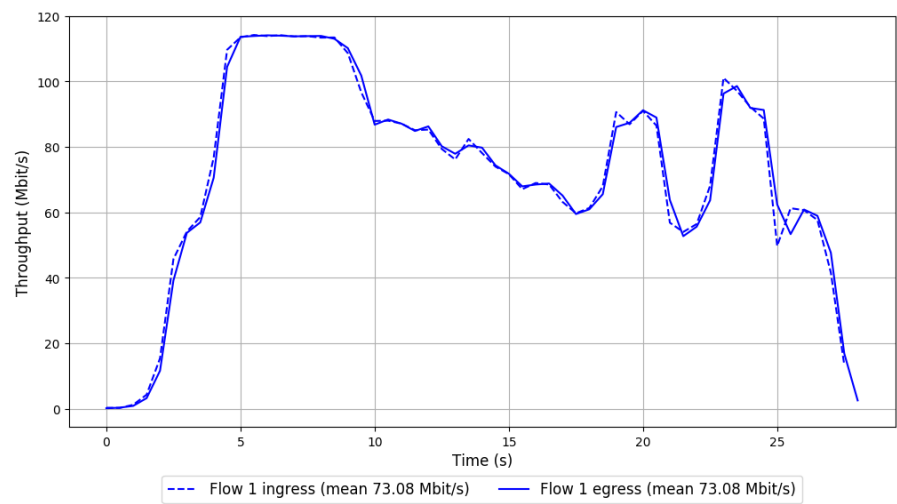
Run 3: Report of Copa — Data Link

```
Run 4: Statistics of Copa

Start at: 2017-11-21 00:09:26
End at: 2017-11-21 00:09:56

# Below is generated by plot.py at 2017-11-21 02:29:46
# Datalink statistics
-- Total of 1 flow:
Average throughput: 64.00 Mbit/s
95th percentile per-packet one-way delay: 112.693 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 64.00 Mbit/s
95th percentile per-packet one-way delay: 112.693 ms
Loss rate: 0.00%
```
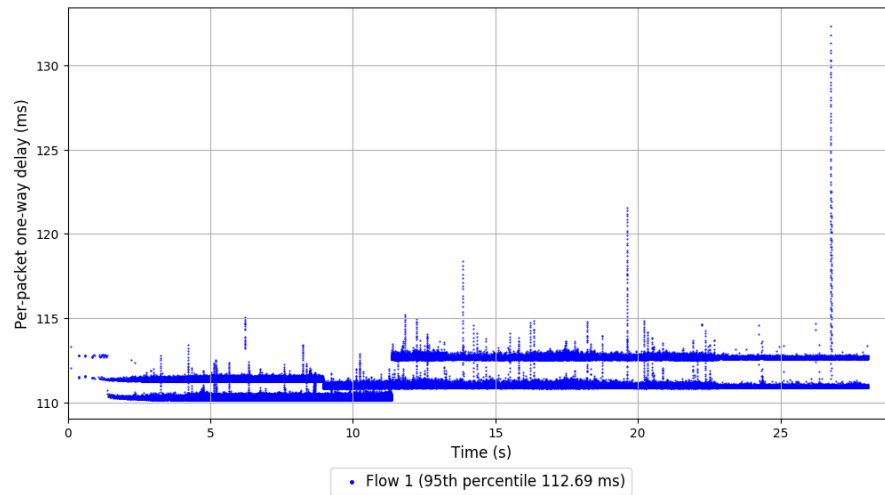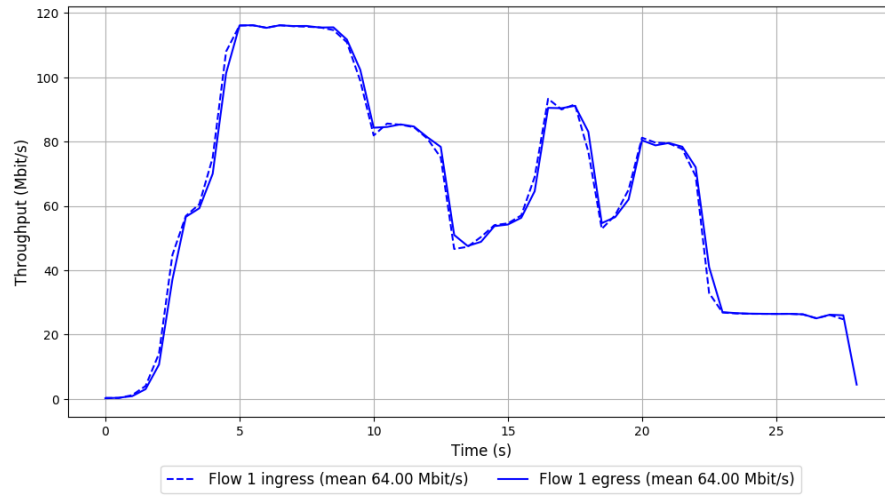
Run 4: Report of Copa — Data Link

```
Run 5: Statistics of Copa

Start at: 2017-11-21 00:20:36
End at: 2017-11-21 00:21:06

# Below is generated by plot.py at 2017-11-21 02:30:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 75.17 Mbit/s
95th percentile per-packet one-way delay: 112.678 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 75.17 Mbit/s
95th percentile per-packet one-way delay: 112.678 ms
Loss rate: 0.00%
```
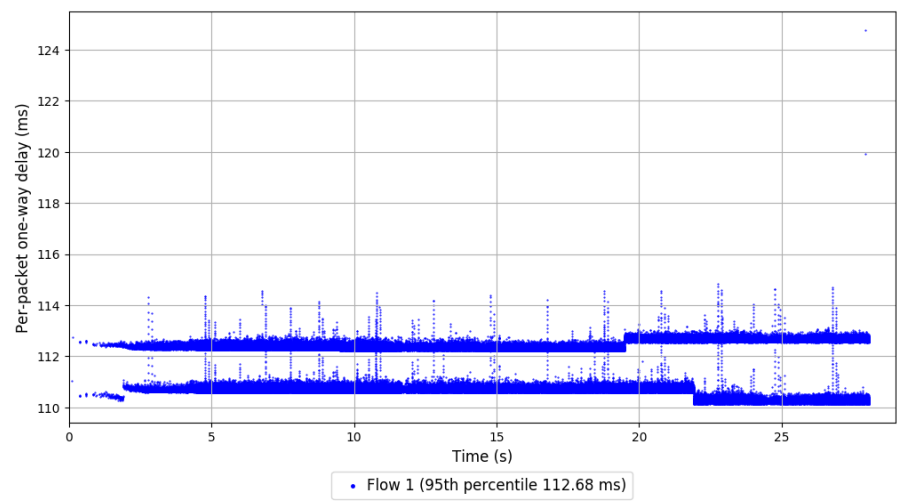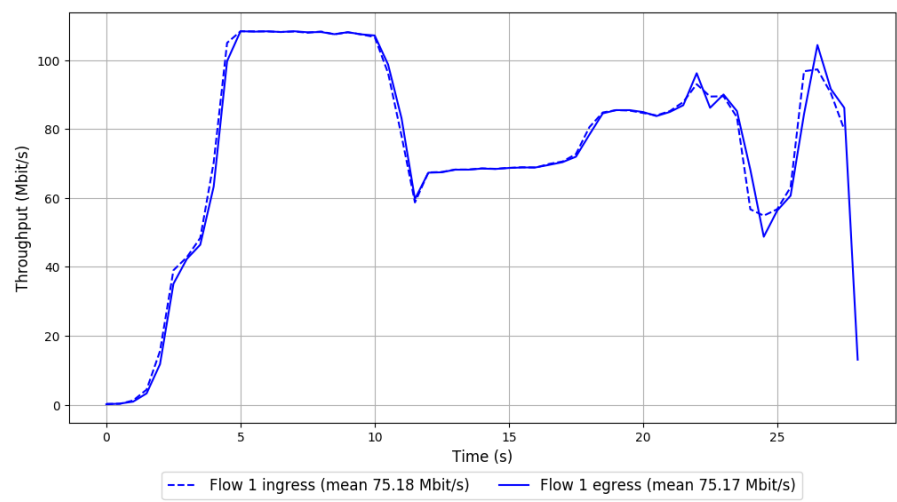
Run 5: Report of Copa — Data Link

Flow 1 ingress (mean 75.18 Mbit/s) — — — — Flow 1 egress (mean 75.17 Mbit/s)

• Flow 1 (95th percentile 112.68 ms)

233

```
Run 6: Statistics of Copa

Start at: 2017-11-21 00:31:48
End at: 2017-11-21 00:32:18

# Below is generated by plot.py at 2017-11-21 02:30:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 49.86 Mbit/s
95th percentile per-packet one-way delay: 112.627 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 49.86 Mbit/s
95th percentile per-packet one-way delay: 112.627 ms
Loss rate: 0.00%
```
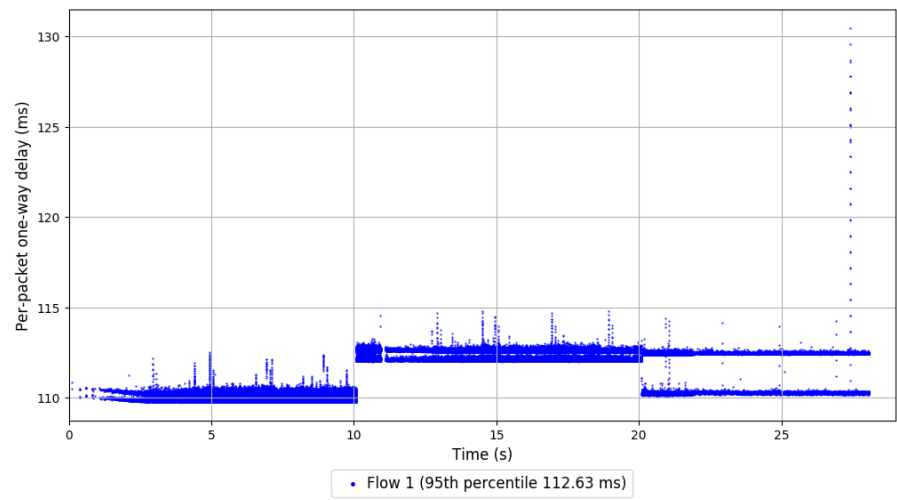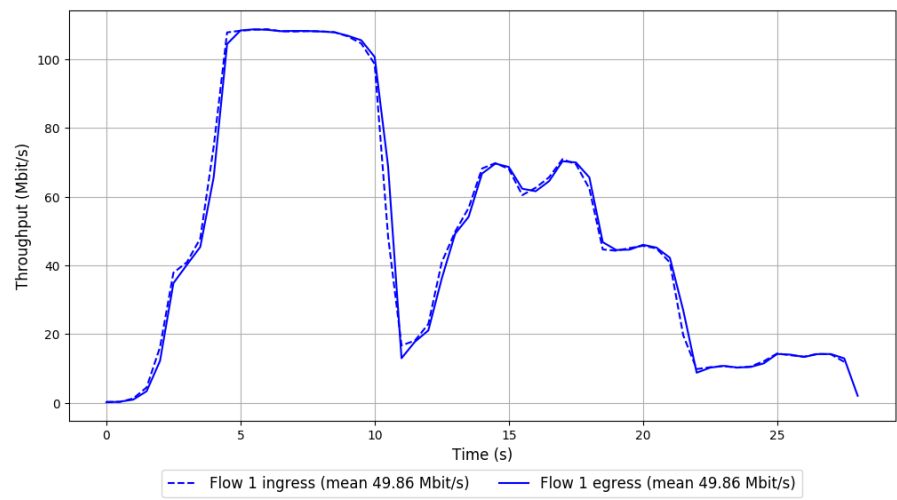
Run 6: Report of Copa — Data Link

Flow 1 ingress (mean 49.86 Mbit/s)   Flow 1 egress (mean 49.86 Mbit/s)

Flow 1 (95th percentile 112.63 ms)

```
Run 7: Statistics of Copa

Start at: 2017-11-21 00:42:49
End at: 2017-11-21 00:43:19

# Below is generated by plot.py at 2017-11-21 02:30:54
# Datalink statistics
-- Total of 1 flow:
Average throughput: 71.55 Mbit/s
95th percentile per-packet one-way delay: 112.691 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 71.55 Mbit/s
95th percentile per-packet one-way delay: 112.691 ms
Loss rate: 0.00%
```
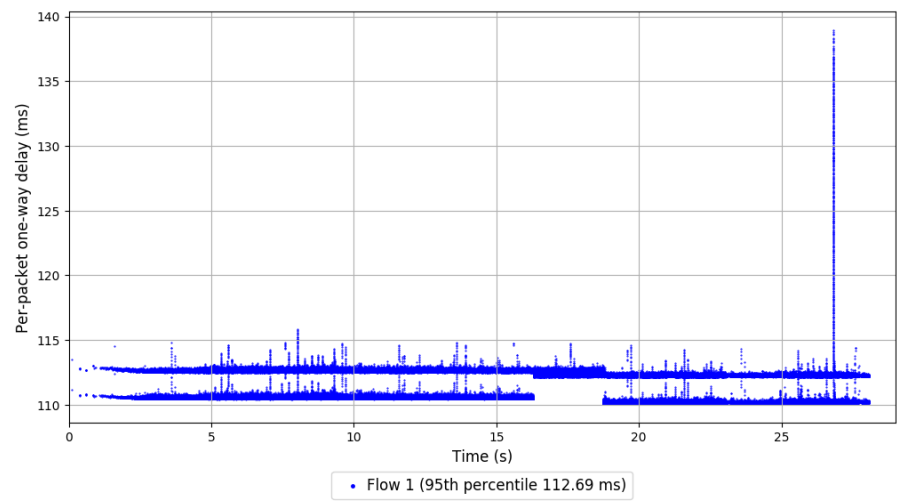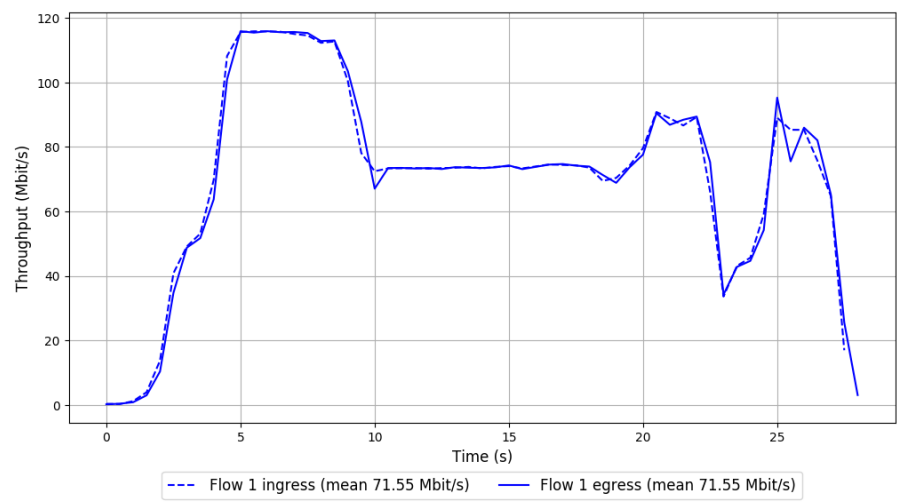
Run 7: Report of Copa — Data Link

```
Run 8: Statistics of Copa

Start at: 2017-11-21 00:54:00
End at: 2017-11-21 00:54:30

# Below is generated by plot.py at 2017-11-21 02:31:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 76.22 Mbit/s
95th percentile per-packet one-way delay: 112.698 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 76.22 Mbit/s
95th percentile per-packet one-way delay: 112.698 ms
Loss rate: 0.00%
```
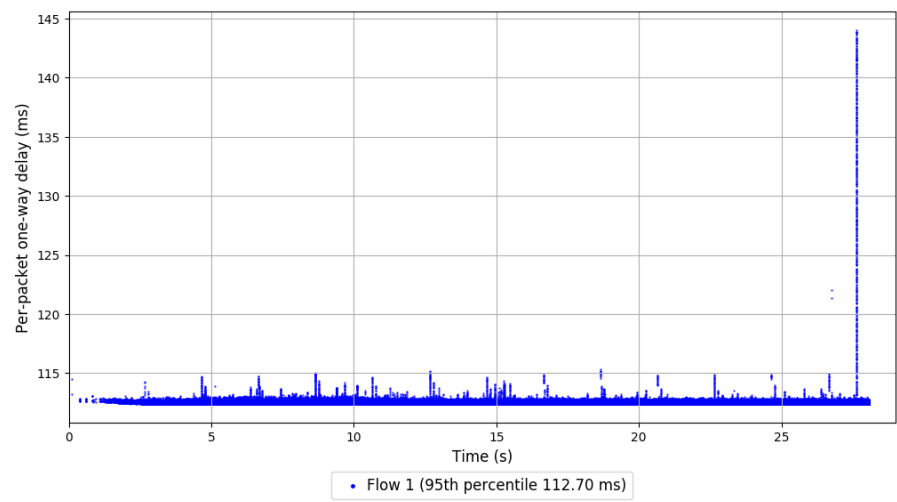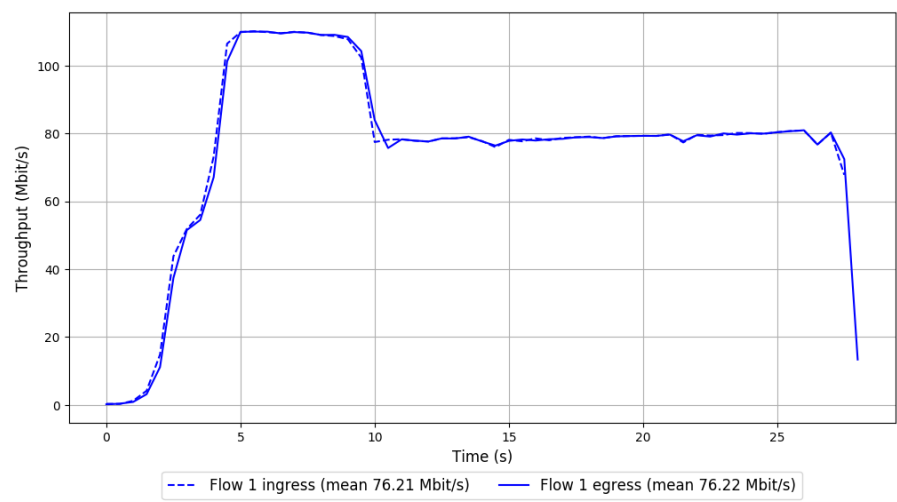
Run 8: Report of Copa — Data Link

```
Run 9: Statistics of Copa

Start at: 2017-11-21 01:05:15
End at: 2017-11-21 01:05:45

# Below is generated by plot.py at 2017-11-21 02:31:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 69.00 Mbit/s
95th percentile per-packet one-way delay: 112.683 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 69.00 Mbit/s
95th percentile per-packet one-way delay: 112.683 ms
Loss rate: 0.00%
```
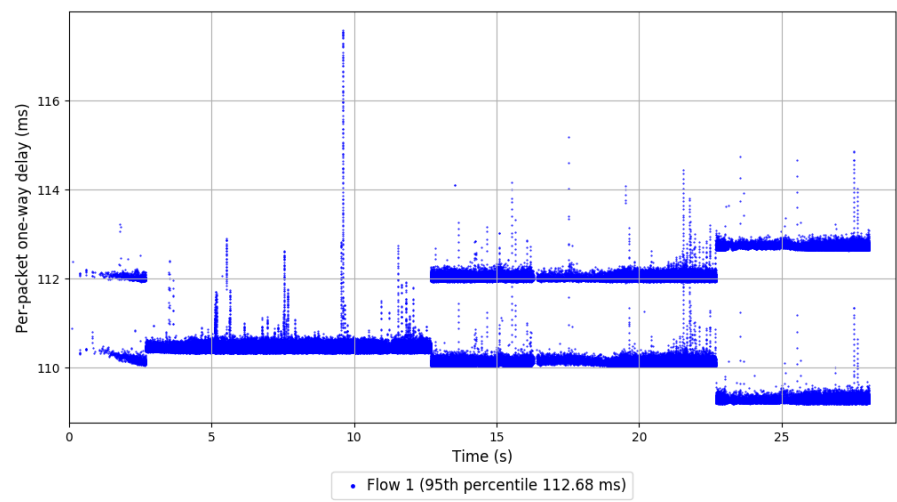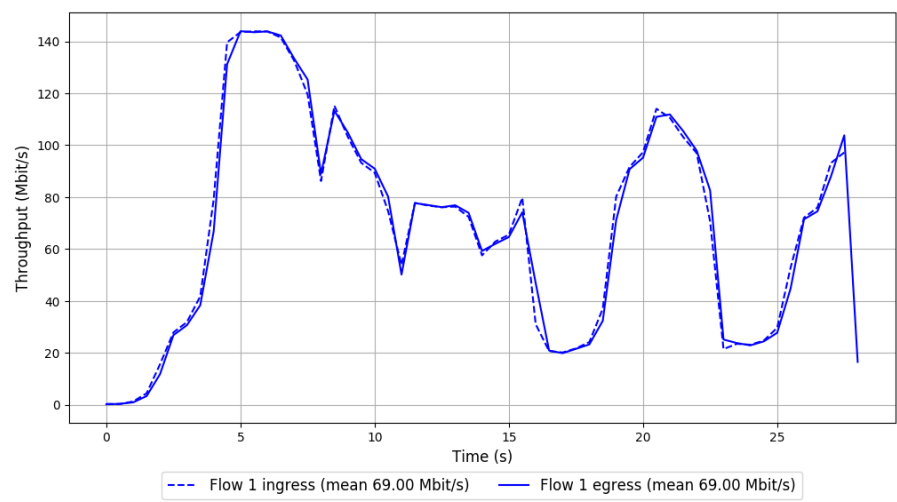
Run 9: Report of Copa — Data Link

```
Run 10: Statistics of Copa

Start at: 2017-11-21 01:16:12
End at: 2017-11-21 01:16:42

# Below is generated by plot.py at 2017-11-21 02:31:22
# Datalink statistics
-- Total of 1 flow:
Average throughput: 44.91 Mbit/s
95th percentile per-packet one-way delay: 112.789 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 44.91 Mbit/s
95th percentile per-packet one-way delay: 112.789 ms
Loss rate: 0.00%
```
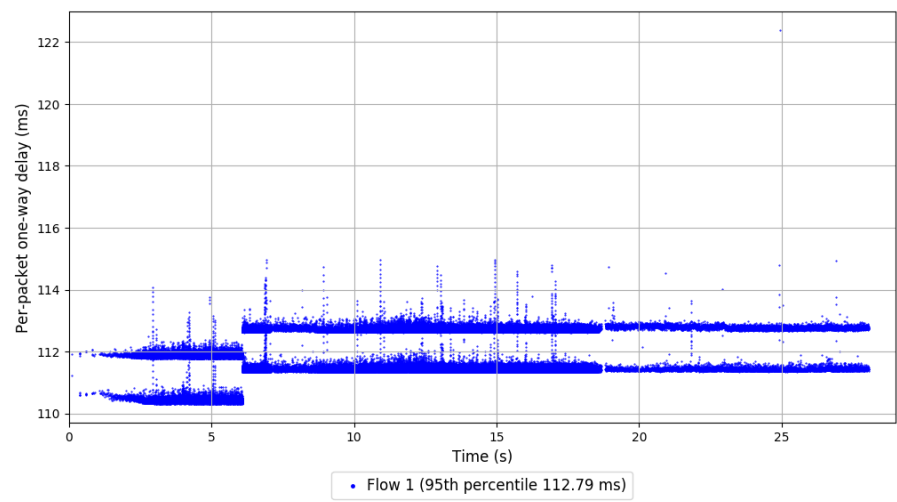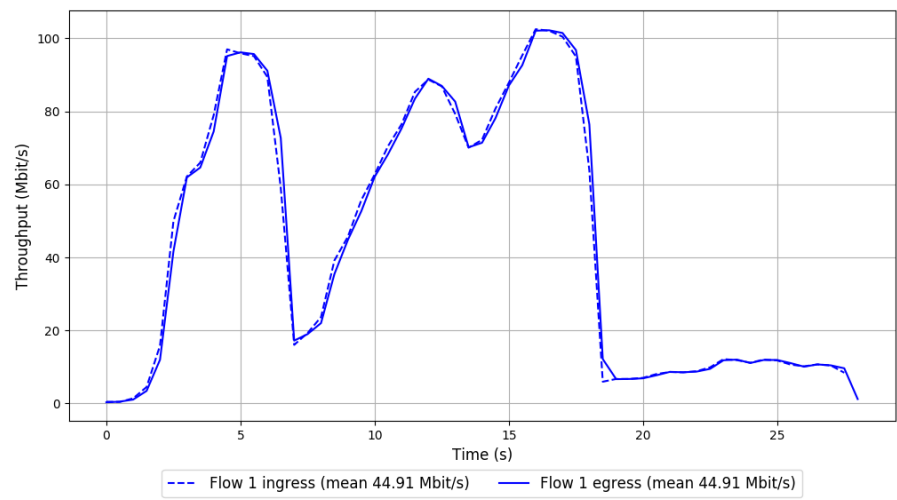
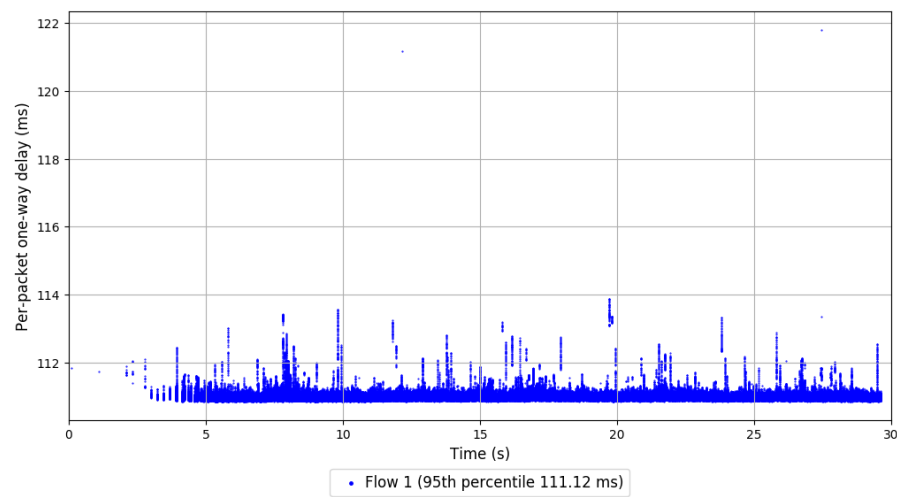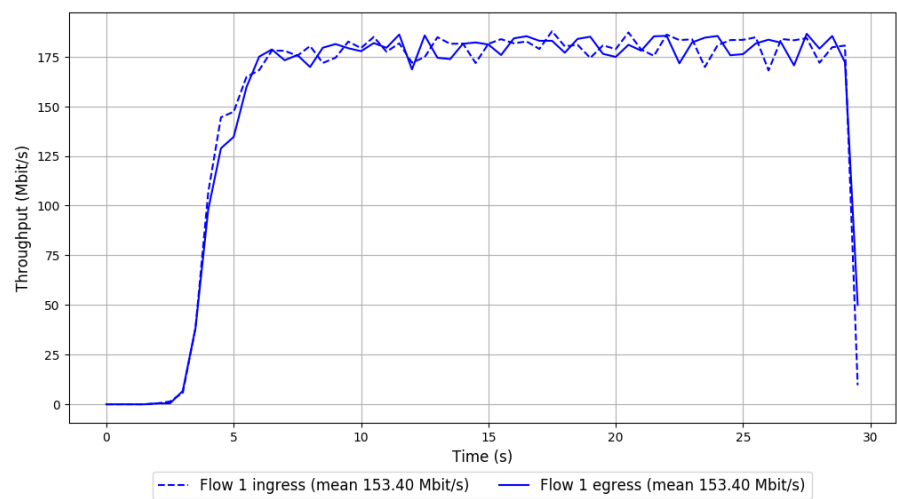## Run 10: Report of Copa — Data Link

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```
Run 1: Statistics of Indigo

Start at: 2017-11-20 23:38:08
End at: 2017-11-20 23:38:38

# Below is generated by plot.py at 2017-11-21 02:32:24
# Datalink statistics
-- Total of 1 flow:
Average throughput: 153.40 Mbit/s
95th percentile per-packet one-way delay: 111.116 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 153.40 Mbit/s
95th percentile per-packet one-way delay: 111.116 ms
Loss rate: 0.00%
```

Run 1: Report of Indigo — Data Link

```
Run 2: Statistics of Indigo

Start at: 2017-11-20 23:49:20
End at: 2017-11-20 23:49:50

# Below is generated by plot.py at 2017-11-21 02:32:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 170.59 Mbit/s
95th percentile per-packet one-way delay: 111.106 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 170.59 Mbit/s
95th percentile per-packet one-way delay: 111.106 ms
Loss rate: 0.01%
```
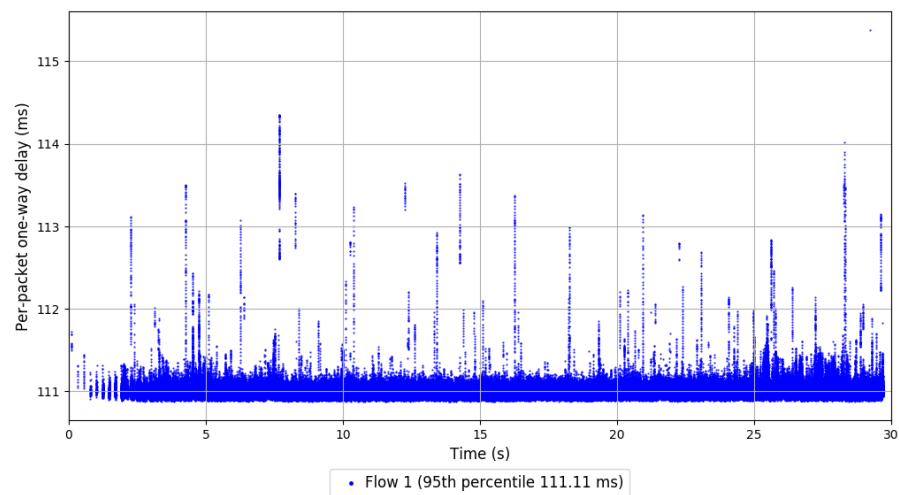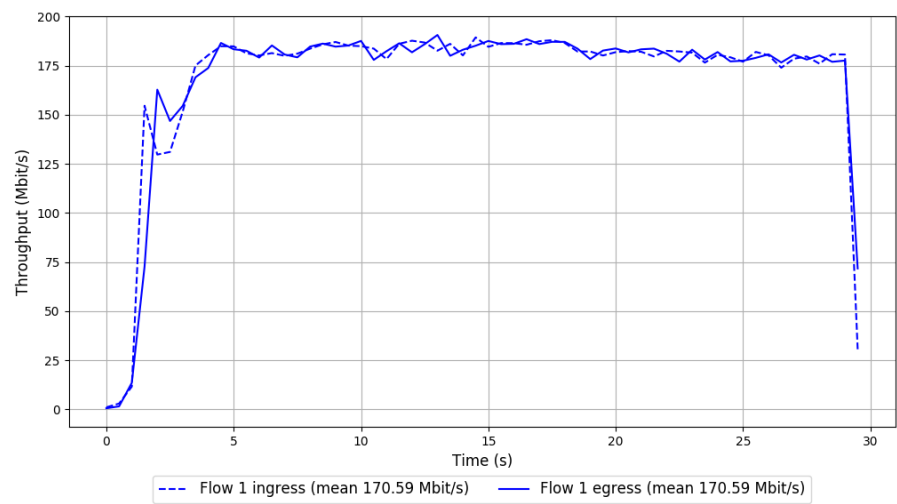
Run 2: Report of Indigo — Data Link

```
Run 3: Statistics of Indigo

Start at: 2017-11-21 00:00:36
End at: 2017-11-21 00:01:06

# Below is generated by plot.py at 2017-11-21 02:33:07
# Datalink statistics
-- Total of 1 flow:
Average throughput: 170.46 Mbit/s
95th percentile per-packet one-way delay: 112.754 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 170.46 Mbit/s
95th percentile per-packet one-way delay: 112.754 ms
Loss rate: 0.01%
```
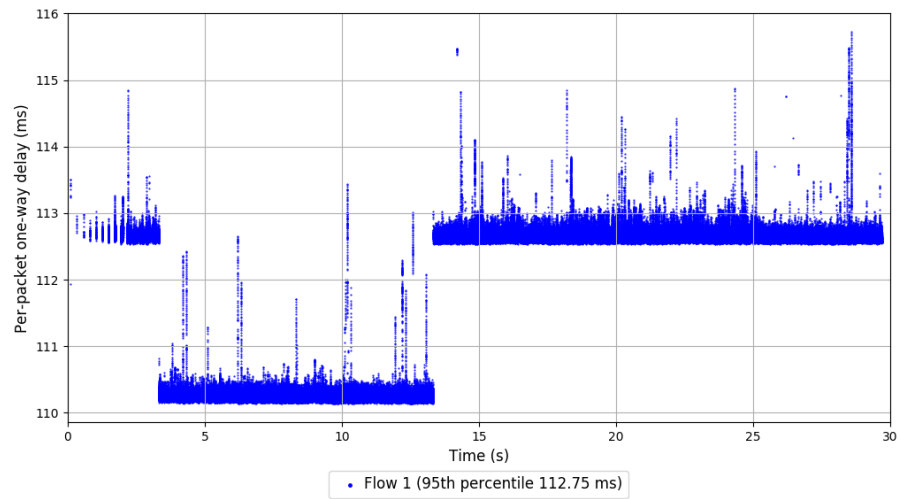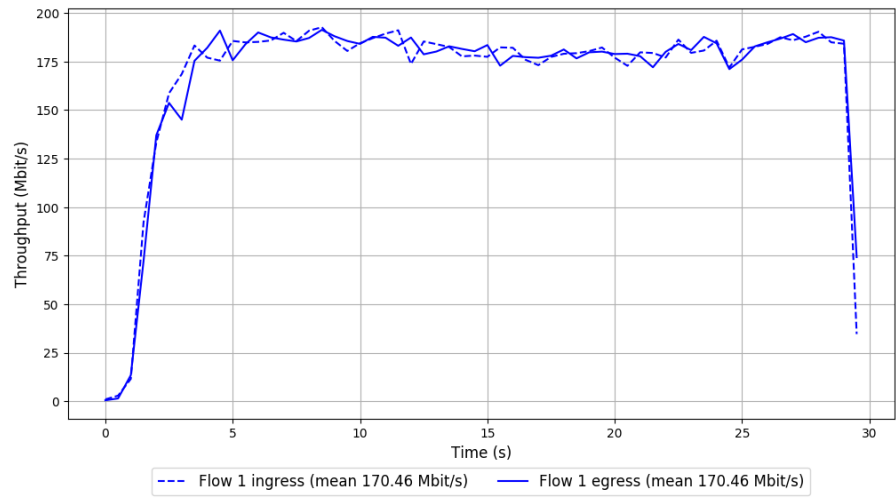
Run 3: Report of Indigo — Data Link

```
Run 4: Statistics of Indigo

Start at: 2017-11-21 00:11:56
End at: 2017-11-21 00:12:26

# Below is generated by plot.py at 2017-11-21 02:33:14
# Datalink statistics
-- Total of 1 flow:
Average throughput: 166.78 Mbit/s
95th percentile per-packet one-way delay: 112.745 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 166.78 Mbit/s
95th percentile per-packet one-way delay: 112.745 ms
Loss rate: 0.01%
```
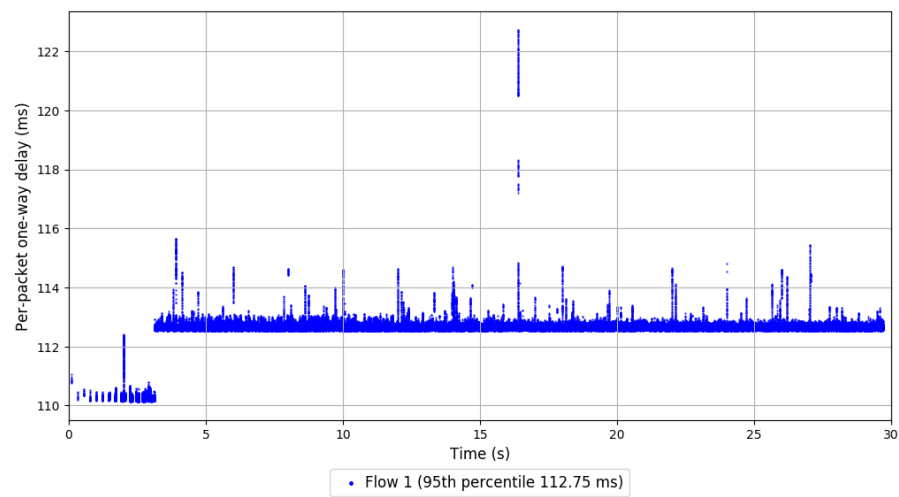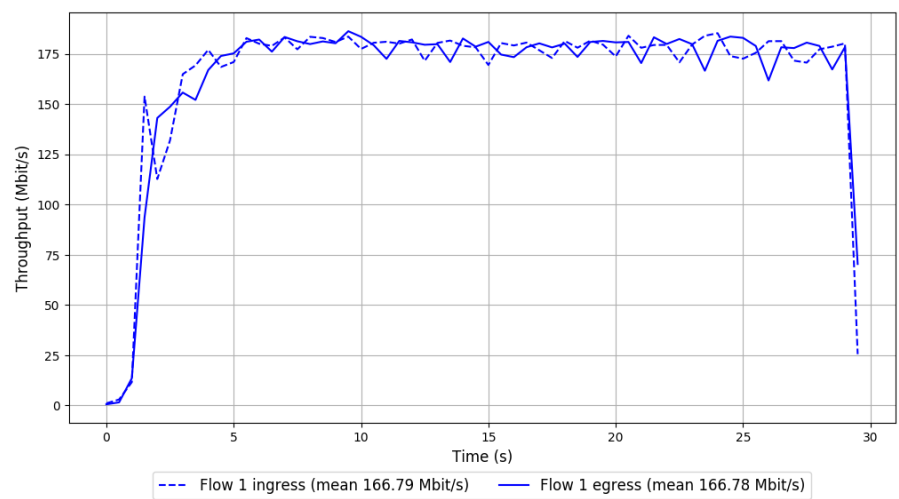
Run 4: Report of Indigo — Data Link

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```
Run 5: Statistics of Indigo

Start at: 2017-11-21 00:22:59
End at: 2017-11-21 00:23:29

# Below is generated by plot.py at 2017-11-21 02:33:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 171.86 Mbit/s
95th percentile per-packet one-way delay: 112.693 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 171.86 Mbit/s
95th percentile per-packet one-way delay: 112.693 ms
Loss rate: 0.00%
```
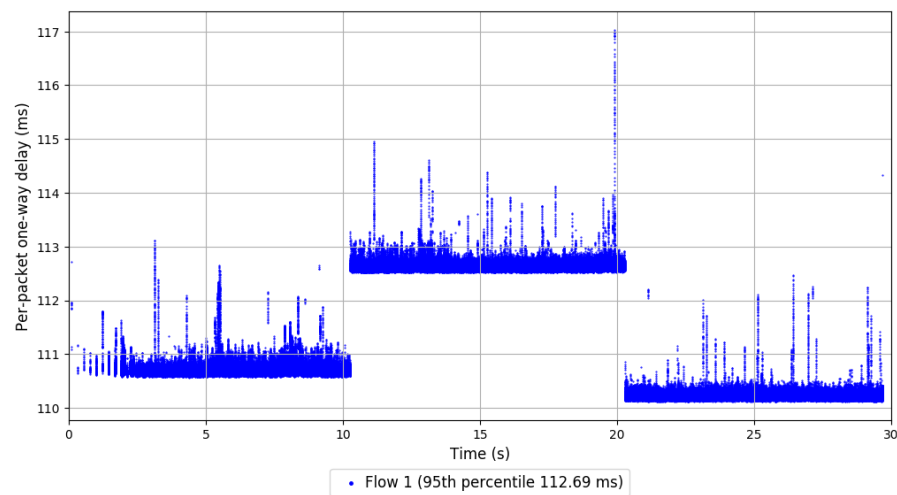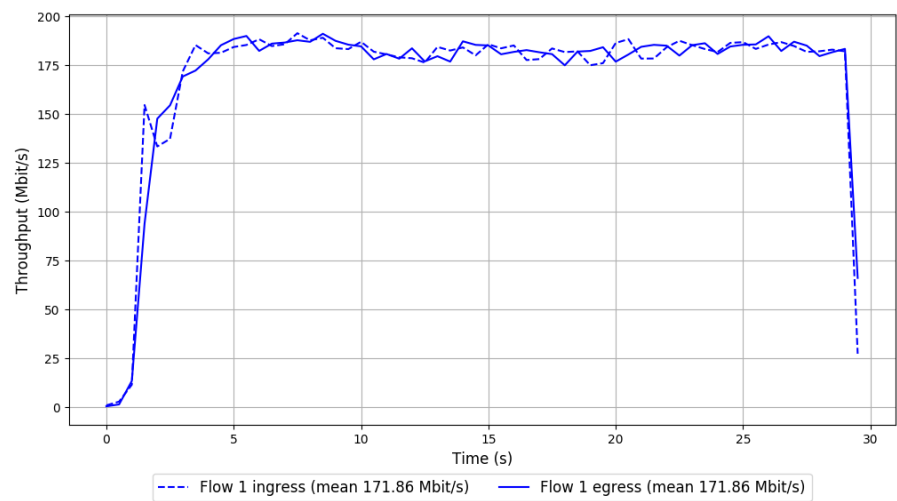
Run 5: Report of Indigo — Data Link

```
Run 6: Statistics of Indigo

Start at: 2017-11-21 00:34:18
End at: 2017-11-21 00:34:48

# Below is generated by plot.py at 2017-11-21 02:33:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 168.01 Mbit/s
95th percentile per-packet one-way delay: 112.670 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 168.01 Mbit/s
95th percentile per-packet one-way delay: 112.670 ms
Loss rate: 0.00%
```
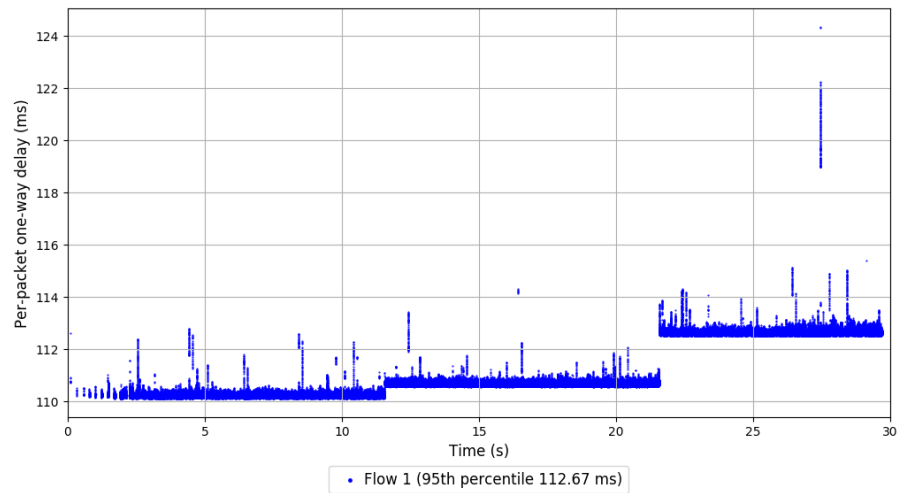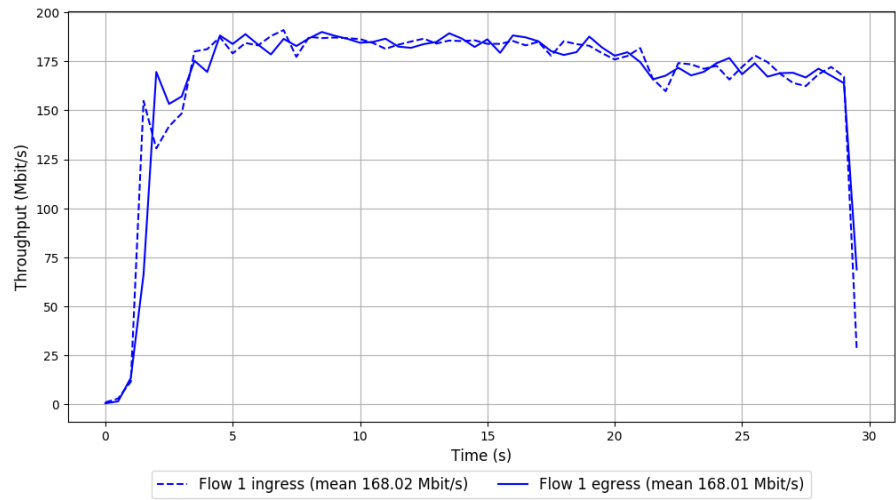
Run 6: Report of Indigo — Data Link

```
Run 7: Statistics of Indigo

Start at: 2017-11-21 00:45:24
End at: 2017-11-21 00:45:54

# Below is generated by plot.py at 2017-11-21 02:34:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 171.44 Mbit/s
95th percentile per-packet one-way delay: 112.646 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 171.44 Mbit/s
95th percentile per-packet one-way delay: 112.646 ms
Loss rate: 0.00%
```
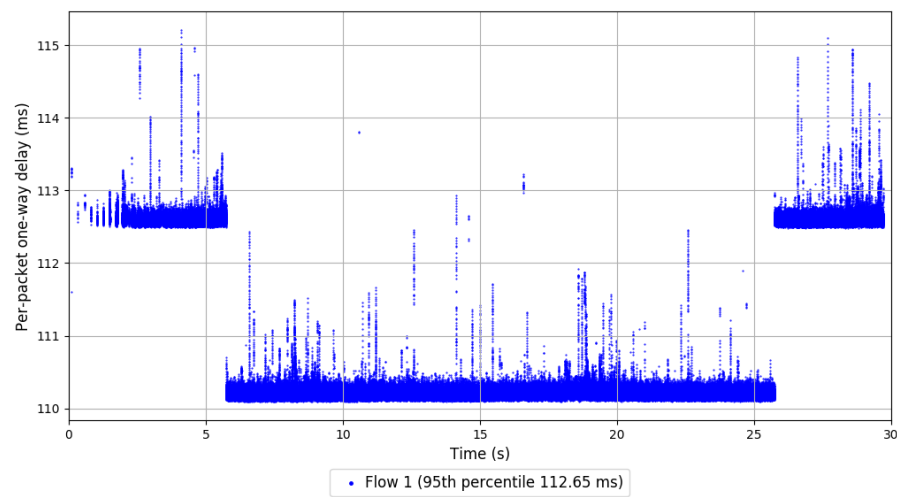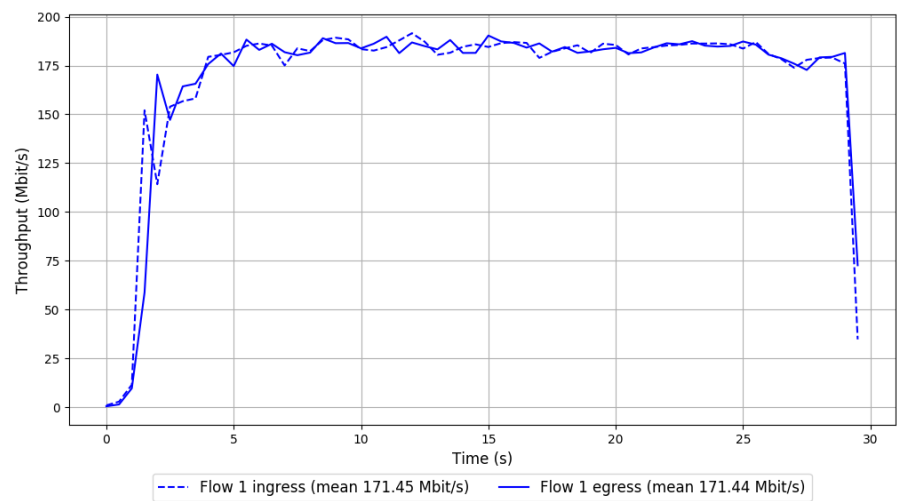
Run 7: Report of Indigo — Data Link

```
Run 8: Statistics of Indigo

Start at: 2017-11-21 00:56:26
End at: 2017-11-21 00:56:57

# Below is generated by plot.py at 2017-11-21 02:34:27
# Datalink statistics
-- Total of 1 flow:
Average throughput: 170.67 Mbit/s
95th percentile per-packet one-way delay: 112.639 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 170.67 Mbit/s
95th percentile per-packet one-way delay: 112.639 ms
Loss rate: 0.00%
```
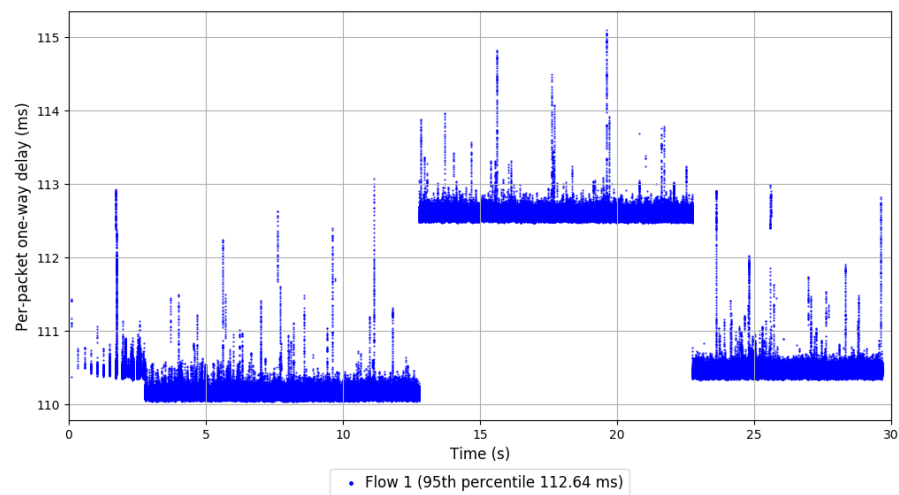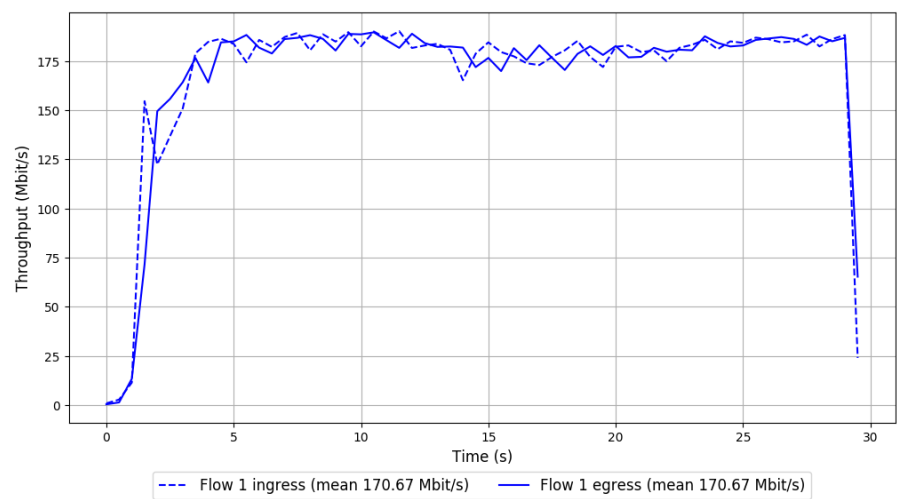
Run 8: Report of Indigo — Data Link

Flow 1 ingress (mean 170.67 Mbit/s)   Flow 1 egress (mean 170.67 Mbit/s)

• Flow 1 (95th percentile 112.64 ms)

```
Run 9: Statistics of Indigo

Start at: 2017-11-21 01:07:38
End at: 2017-11-21 01:08:08

# Below is generated by plot.py at 2017-11-21 02:35:28
# Datalink statistics
-- Total of 1 flow:
Average throughput: 172.43 Mbit/s
95th percentile per-packet one-way delay: 110.503 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 172.43 Mbit/s
95th percentile per-packet one-way delay: 110.503 ms
Loss rate: 0.01%
```
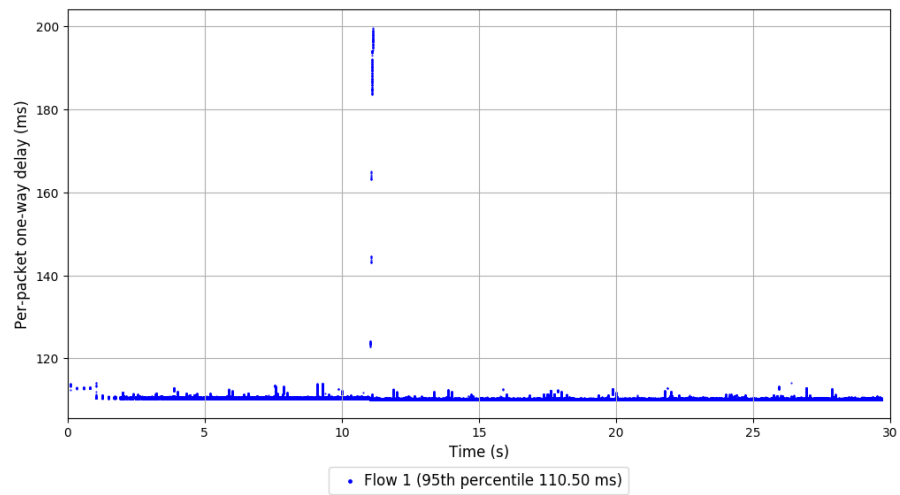
Run 9: Report of Indigo — Data Link

```
Run 10: Statistics of Indigo

Start at: 2017-11-21 01:18:37
End at: 2017-11-21 01:19:07

# Below is generated by plot.py at 2017-11-21 02:35:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 171.78 Mbit/s
95th percentile per-packet one-way delay: 110.517 ms
Loss rate: 0.01%
-- Flow 1:
Average throughput: 171.78 Mbit/s
95th percentile per-packet one-way delay: 110.517 ms
Loss rate: 0.01%
```
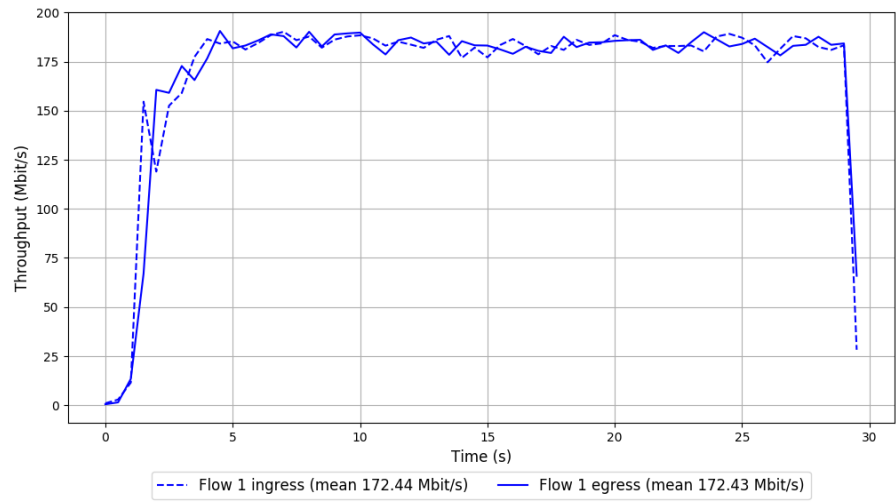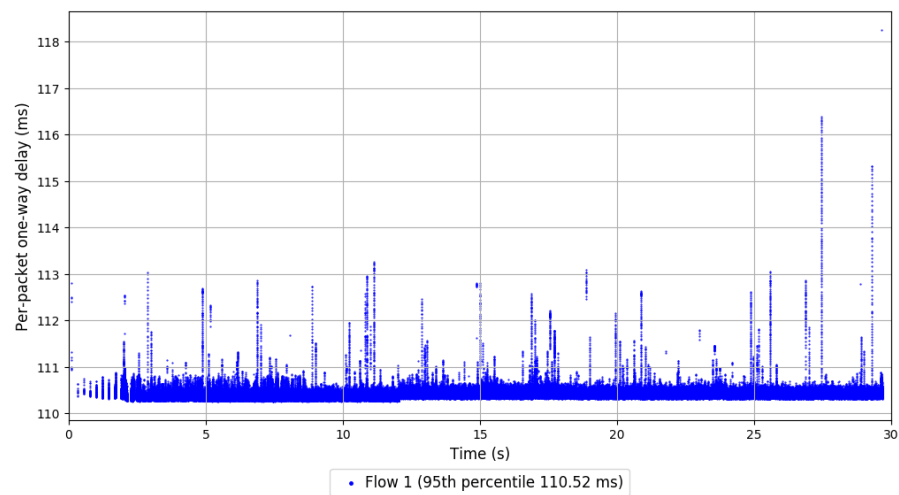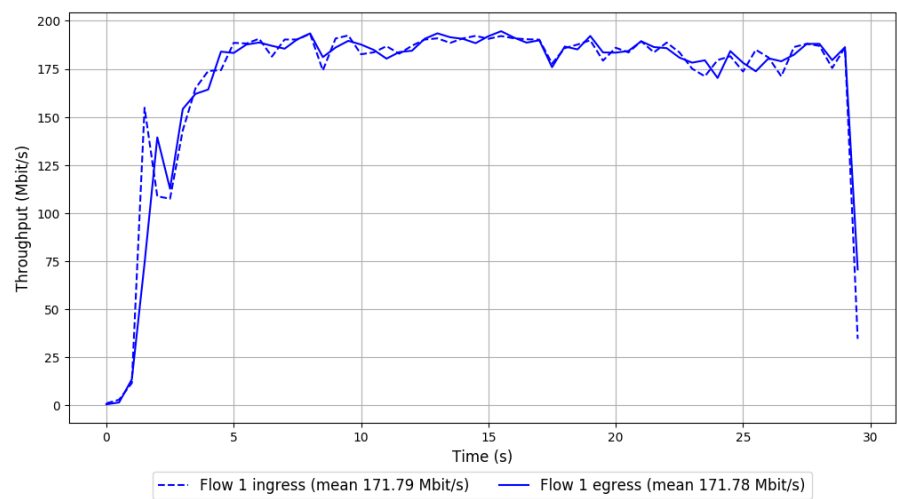
Run 10: Report of Indigo — Data Link

Flow 1 ingress (mean 171.79 Mbit/s)   —— Flow 1 egress (mean 171.78 Mbit/s)

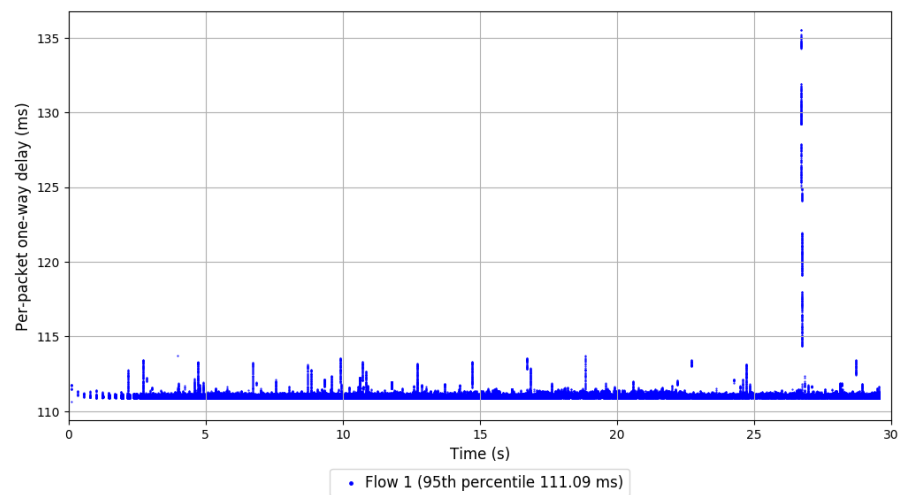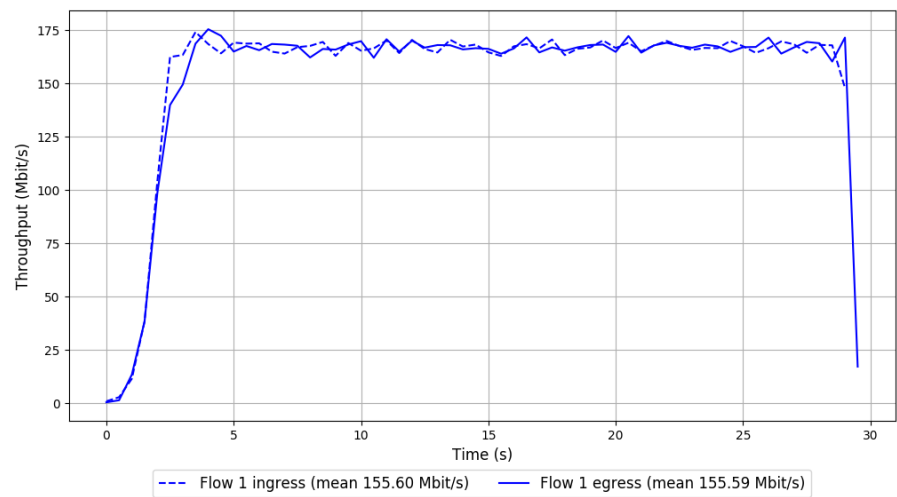
• Flow 1 (95th percentile 110.52 ms)

```
Run 1: Statistics of Indigo-calib

Start at: 2017-11-20 23:39:01
End at: 2017-11-20 23:39:31

# Below is generated by plot.py at 2017-11-21 02:35:57
# Datalink statistics
-- Total of 1 flow:
Average throughput: 155.59 Mbit/s
95th percentile per-packet one-way delay: 111.092 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 155.59 Mbit/s
95th percentile per-packet one-way delay: 111.092 ms
Loss rate: 0.00%
```

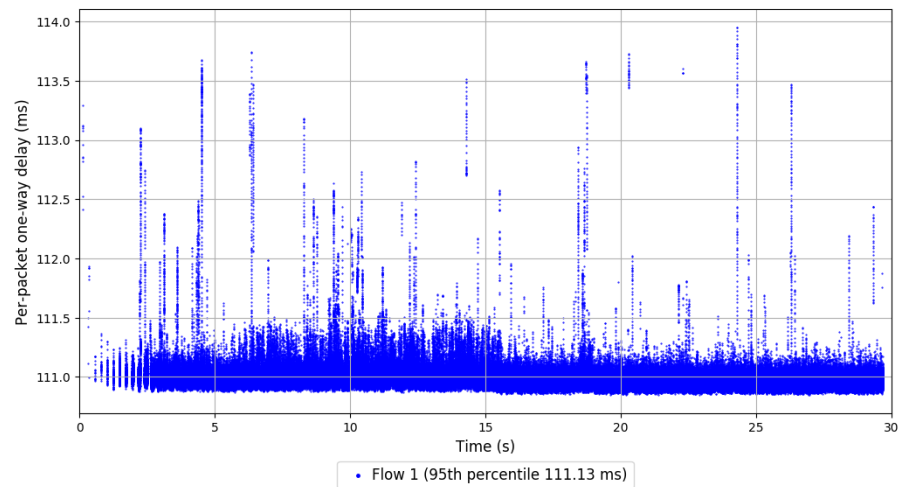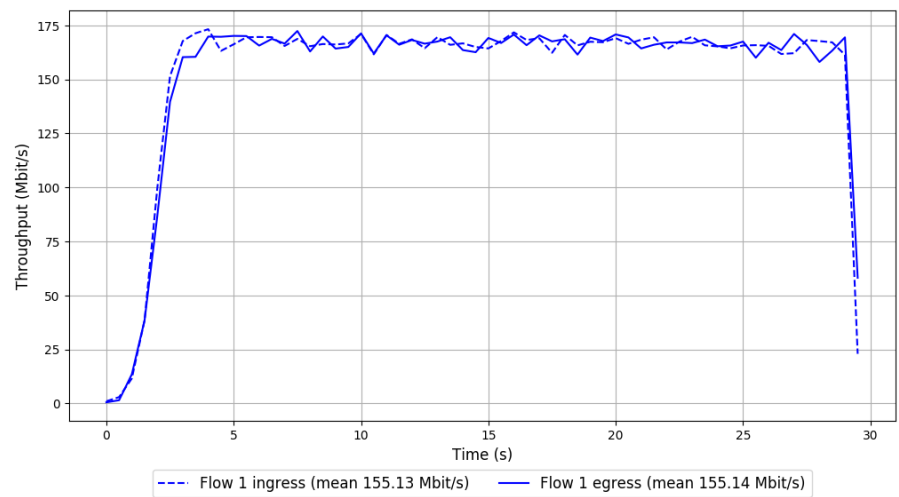Run 1: Report of Indigo-calib — Data Link

```
Run 2: Statistics of Indigo-calib

Start at: 2017-11-20 23:50:14
End at: 2017-11-20 23:50:44

# Below is generated by plot.py at 2017-11-21 02:36:04
# Datalink statistics
-- Total of 1 flow:
Average throughput: 155.14 Mbit/s
95th percentile per-packet one-way delay: 111.127 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 155.14 Mbit/s
95th percentile per-packet one-way delay: 111.127 ms
Loss rate: 0.00%
```

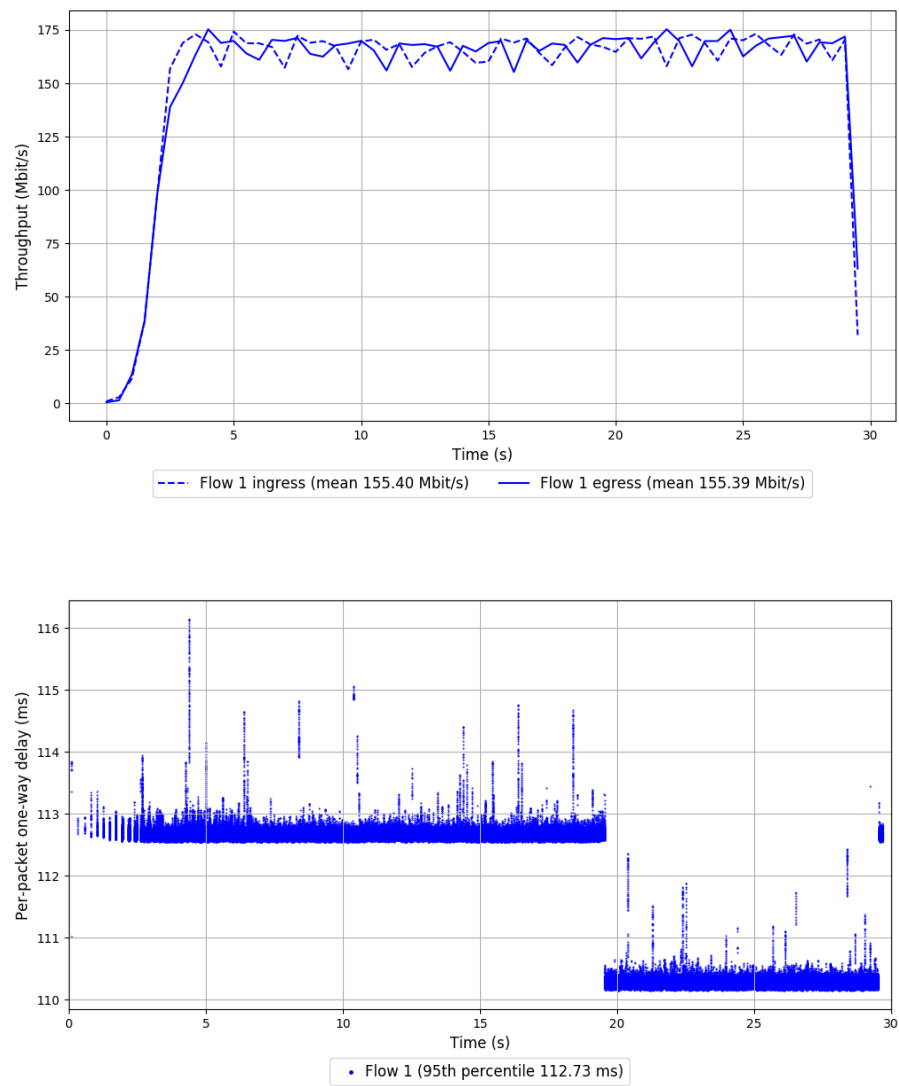Run 2: Report of Indigo-calib — Data Link

```
Run 3: Statistics of Indigo-calib

Start at: 2017-11-21 00:01:30
End at: 2017-11-21 00:02:00

# Below is generated by plot.py at 2017-11-21 02:36:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 155.39 Mbit/s
95th percentile per-packet one-way delay: 112.731 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 155.39 Mbit/s
95th percentile per-packet one-way delay: 112.731 ms
Loss rate: 0.02%
```

Run 3: Report of Indigo-calib — Data Link

```
Run 4: Statistics of Indigo-calib

Start at: 2017-11-21 00:12:50
End at: 2017-11-21 00:13:20

# Below is generated by plot.py at 2017-11-21 02:36:43
# Datalink statistics
-- Total of 1 flow:
Average throughput: 155.35 Mbit/s
95th percentile per-packet one-way delay: 112.741 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 155.35 Mbit/s
95th percentile per-packet one-way delay: 112.741 ms
Loss rate: 0.00%
```
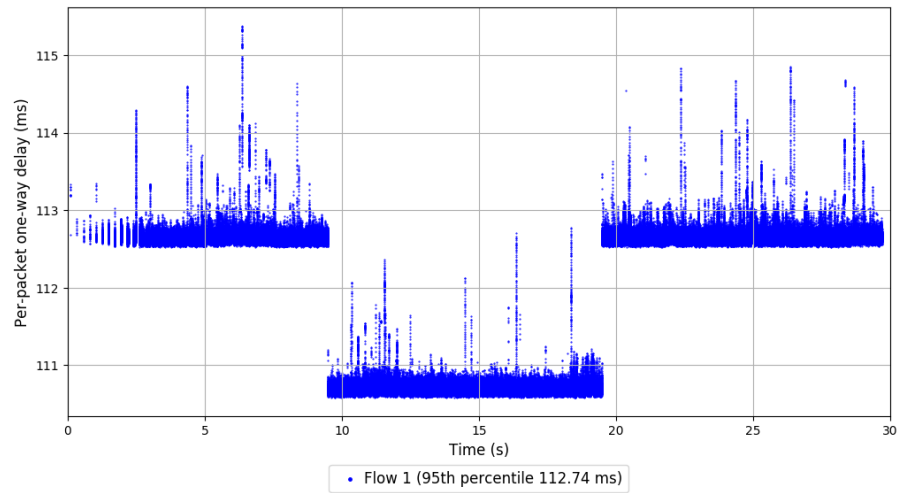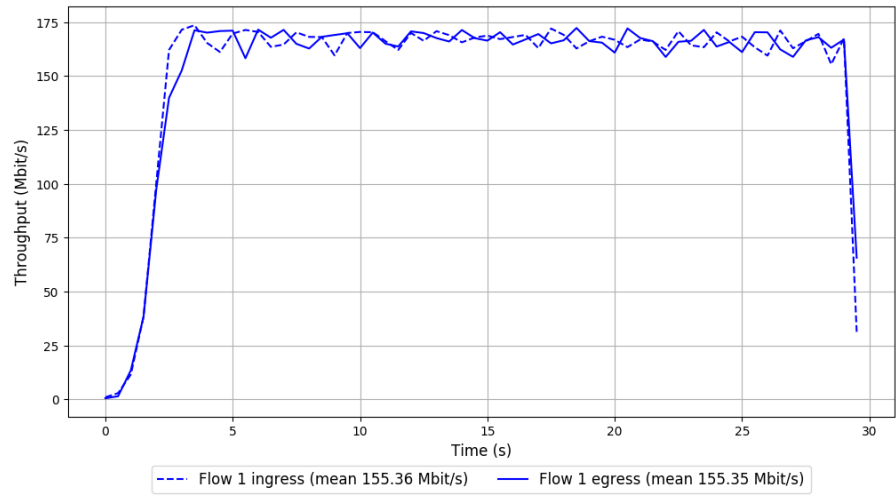
Run 4: Report of Indigo-calib — Data Link

```
Run 5: Statistics of Indigo-calib

Start at: 2017-11-21 00:23:53
End at: 2017-11-21 00:24:24

# Below is generated by plot.py at 2017-11-21 02:36:56
# Datalink statistics
-- Total of 1 flow:
Average throughput: 152.90 Mbit/s
95th percentile per-packet one-way delay: 112.704 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 152.90 Mbit/s
95th percentile per-packet one-way delay: 112.704 ms
Loss rate: 0.00%
```
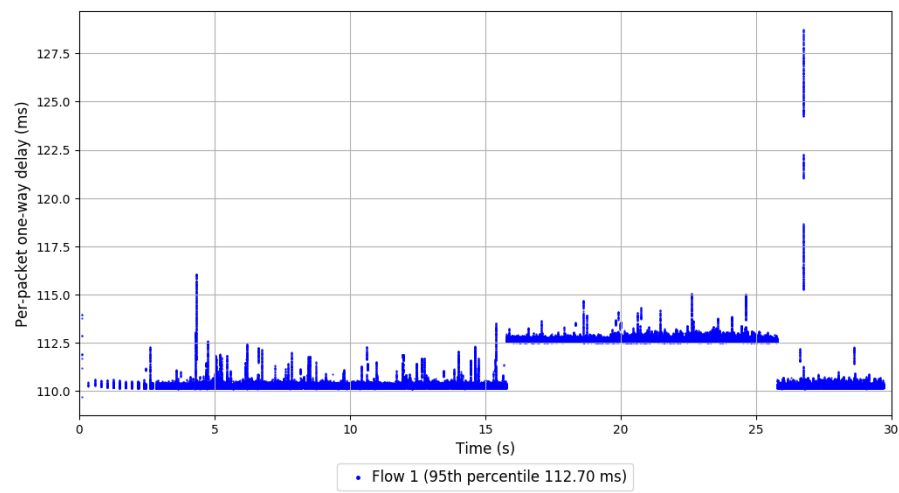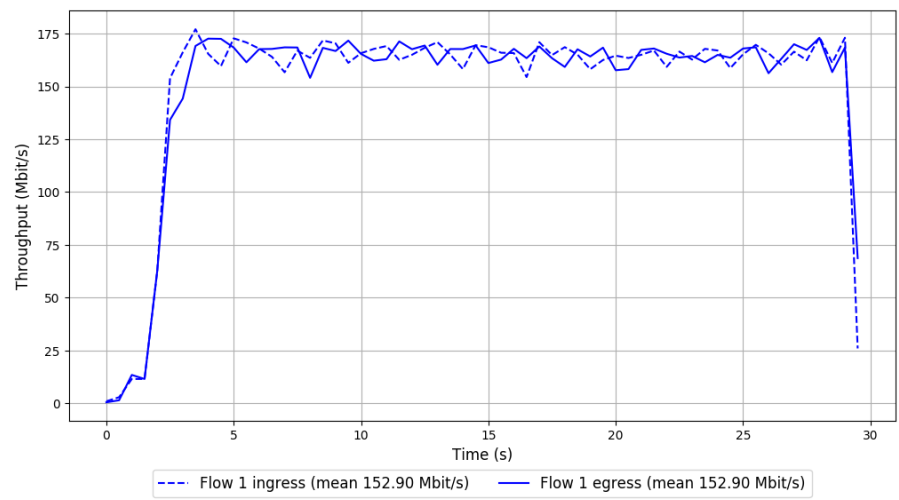
Run 5: Report of Indigo-calib — Data Link

```
Run 6: Statistics of Indigo-calib

Start at: 2017-11-21 00:35:11
End at: 2017-11-21 00:35:41

# Below is generated by plot.py at 2017-11-21 02:36:58
# Datalink statistics
-- Total of 1 flow:
Average throughput: 154.35 Mbit/s
95th percentile per-packet one-way delay: 110.775 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 154.35 Mbit/s
95th percentile per-packet one-way delay: 110.775 ms
Loss rate: 0.00%
```
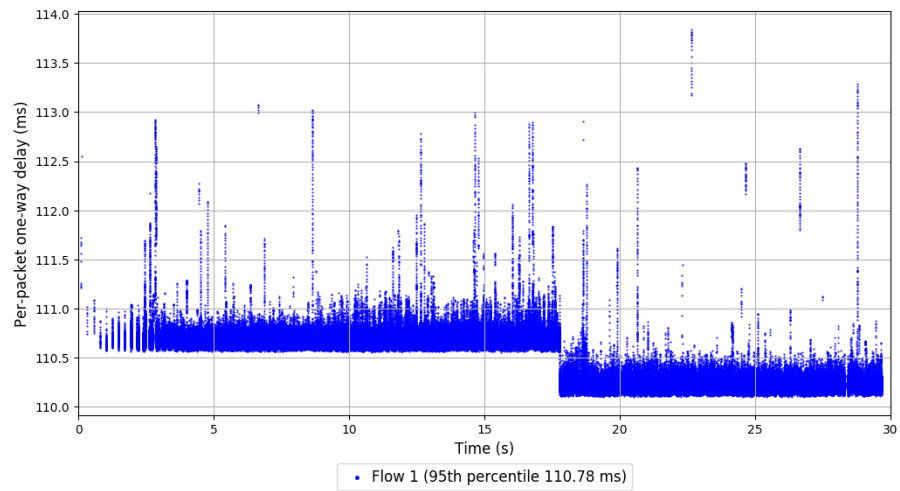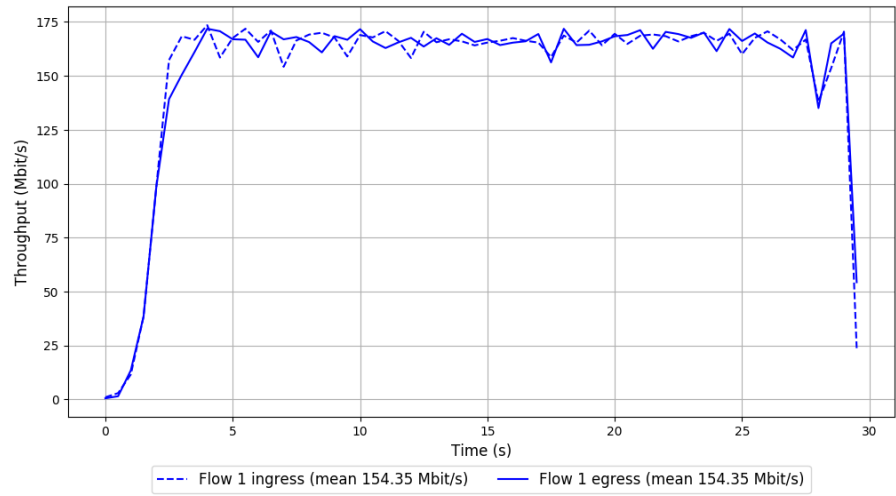
Run 6: Report of Indigo-calib — Data Link

```
Run 7: Statistics of Indigo-calib

Start at: 2017-11-21 00:46:18
End at: 2017-11-21 00:46:48

# Below is generated by plot.py at 2017-11-21 02:37:35
# Datalink statistics
-- Total of 1 flow:
Average throughput: 153.25 Mbit/s
95th percentile per-packet one-way delay: 112.696 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 153.25 Mbit/s
95th percentile per-packet one-way delay: 112.696 ms
Loss rate: 0.00%
```

Run 7: Report of Indigo-calib — Data Link

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```
Run 8: Statistics of Indigo-calib

Start at: 2017-11-21 00:57:20
End at: 2017-11-21 00:57:50

# Below is generated by plot.py at 2017-11-21 02:37:40
# Datalink statistics
-- Total of 1 flow:
Average throughput: 155.20 Mbit/s
95th percentile per-packet one-way delay: 112.657 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 155.20 Mbit/s
95th percentile per-packet one-way delay: 112.657 ms
Loss rate: 0.00%
```
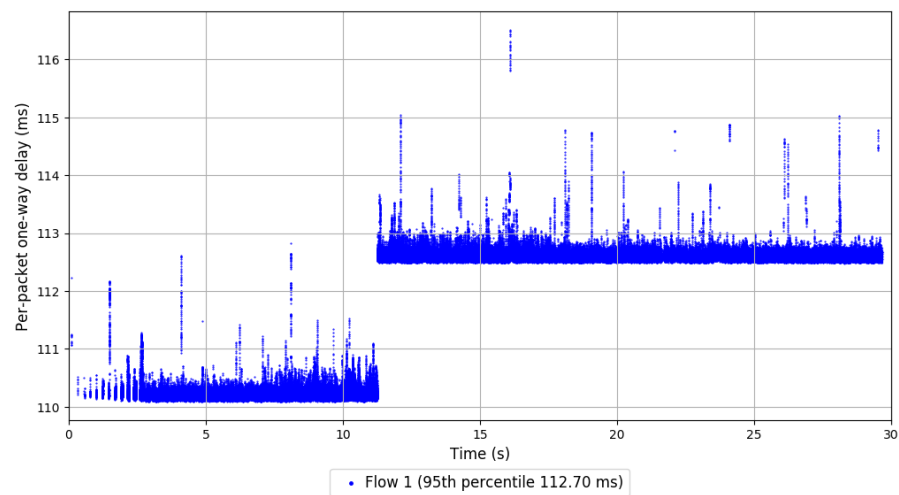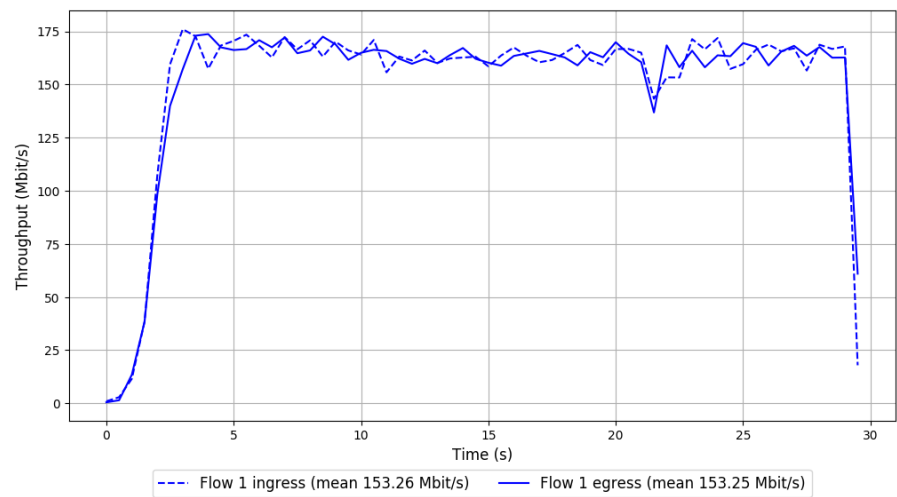
Run 8: Report of Indigo-calib — Data Link

Flow 1 ingress (mean 155.23 Mbit/s)   Flow 1 egress (mean 155.20 Mbit/s)

Flow 1 (95th percentile 112.66 ms)

```
Run 9: Statistics of Indigo-calib

Start at: 2017-11-21 01:08:32
End at: 2017-11-21 01:09:02

# Below is generated by plot.py at 2017-11-21 02:37:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 156.30 Mbit/s
95th percentile per-packet one-way delay: 110.470 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 156.30 Mbit/s
95th percentile per-packet one-way delay: 110.470 ms
Loss rate: 0.00%
```
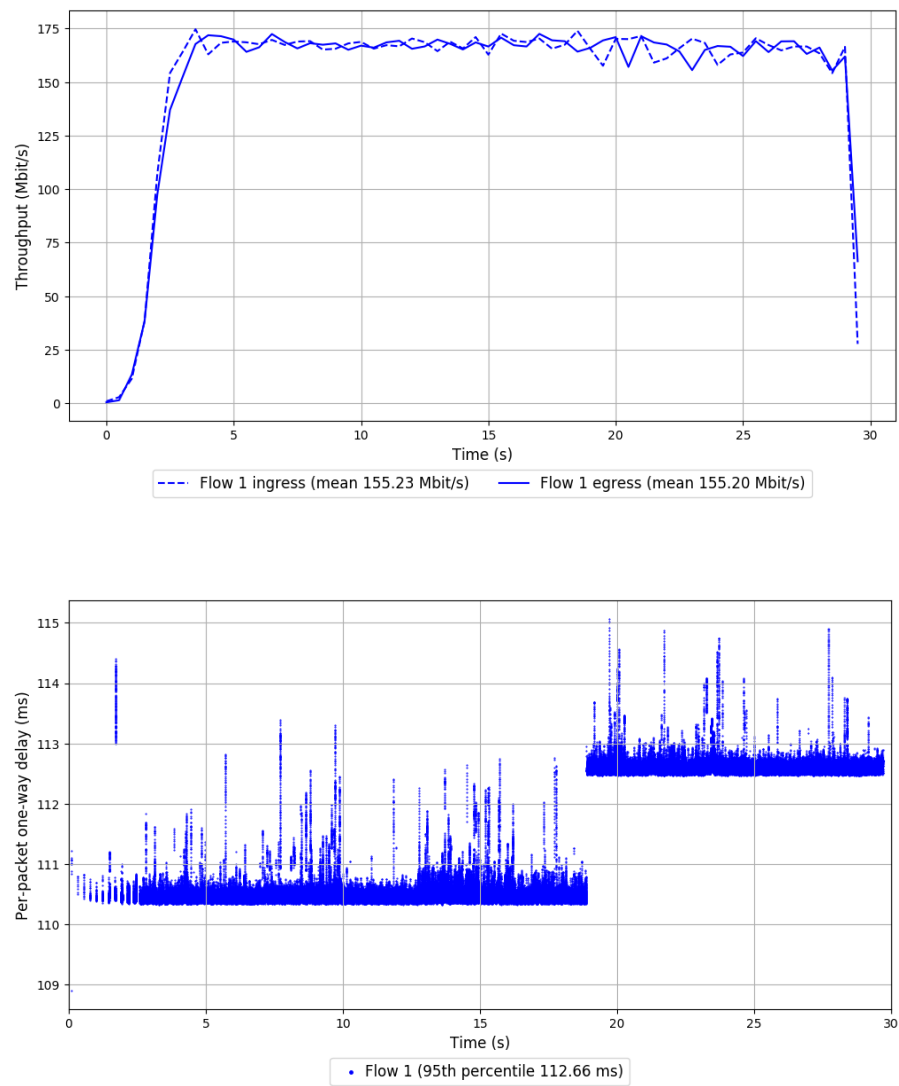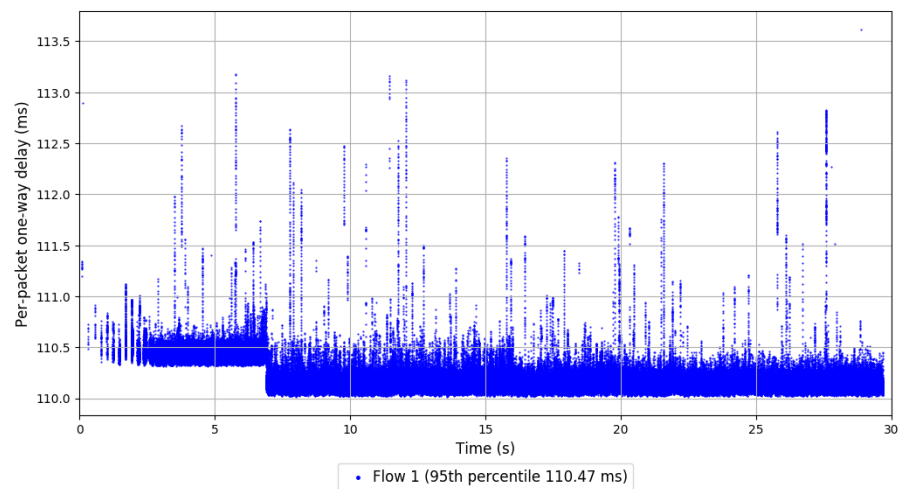
Run 9: Report of Indigo-calib — Data Link

```
Run 10: Statistics of Indigo-calib

Start at: 2017-11-21 01:19:32
End at: 2017-11-21 01:20:02

# Below is generated by plot.py at 2017-11-21 02:37:41
# Datalink statistics
-- Total of 1 flow:
Average throughput: 155.83 Mbit/s
95th percentile per-packet one-way delay: 112.707 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 155.83 Mbit/s
95th percentile per-packet one-way delay: 112.707 ms
Loss rate: 0.00%
```
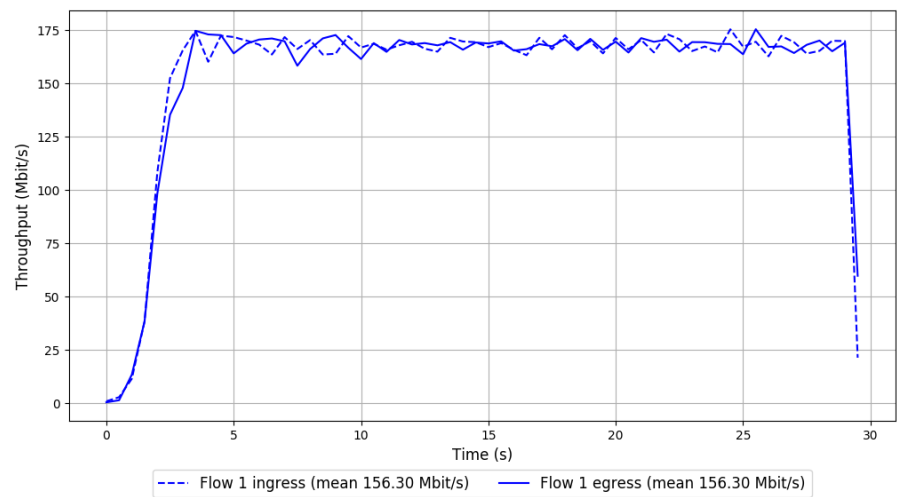
Run 10: Report of Indigo-calib — Data Link